As filed with the Securities and Exchange Commission on June 25, 2018

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Akoustis Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**3661**	**33-1229046**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
(704) 997-5735
(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Jeffrey B. Shealy
President and Chief Executive Officer
Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
(704) 997-5735
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copy to:

Sean M. Jones
K&L Gates LLP
214 North Tryon Street, 47th Floor
Charlotte, North Carolina 28202
(704) 331-7400

Approximate date of commencement of proposed sale to the public: **From time to time after the effective date of this registration statement.**

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box. ☑

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☑
		Emerging growth company	☑

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Note or Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
6.5% Convertible Senior Secured Notes due 2023 (the "Notes") (1)	$ 15,000,000	100%(2)	$ 15,000,000	$ 1,868
Subsidiary guarantees of the Notes	$ 15,000,000(3)	—	—	—(4)
Common stock, par value $0.001 per share ("Common Stock"), issuable upon conversion of the Notes	3,000,000(5)	—	—	—(6)
Common Stock issuable as additional shares in respect of the Notes	1,444,217(7)	$ 6.43(8)	$ 9,279,094	$ 1,155
Common Stock previously issued (9)	4,146,529	$ 6.43(8)	$ 26,641,449	$ 3,317
Total registration fee				$ 6,340

(1) Represents the aggregate principal amount of the Notes that were issued by Akoustis Technologies, Inc. (the "Registrant") on May 14, 2018 in a transaction exempt from the registration requirements of the Securities Act. The Notes may be sold by the Selling Noteholders from time to time in the open market, through privately negotiated transactions or a combination of these methods, at trading prices prevailing at the time of sale or at negotiated prices.

(2) Represents a bona fide estimate of the maximum aggregate offering price solely for the purpose of calculating the registration fee under Rule 457(a) under the Securities Act.

(3) Equals the aggregate principal amount of Notes being registered.

(4) No separate consideration will be paid in respect of the guarantees and no additional registration fee is required pursuant to Rule 457(n) under the Securities Act.

(5) Represents the maximum number of shares of common stock of the Registrant ("Common Stock") issuable upon conversion of the Notes being registered hereby. Pursuant to Rule 416 under the Securities Act, the Registrant is also registering such indeterminate number of shares of Common Stock as may be issued from time to time upon conversion of the notes registered above as a result of the anti-dilution provisions thereof.

(6) No separate consideration will be received for the shares of Common Stock issuable upon conversion of the Notes; therefore, no additional registration fee is required pursuant to Rule 457(i) under the Securities Act.

(7) Represents the maximum aggregate number of shares of Common Stock that the Registrant may issue as payment of accrued interest on the Notes, as make-whole payments made in connection with certain conversions of the Notes and as payments made in connection with certain fundamental changes in the Registrant, unless the Registrant obtains the requisite stockholder approval pursuant to the indenture governing the Notes.

(8) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on the average of the high and low prices of the Common Stock as reported by the NASDAQ Stock Market LLC on June 18, 2018.

(9) Represents shares of Common Stock previously issued by the Registrant in private offerings (i) in connection with the merger of a subsidiary of the Company with and into Akoustis, Inc. on May 22, 2015 and (ii) to a service provider in August 2016. The shares may be sold by the Selling Stockholders from time to time in the open market, through privately negotiated transactions or a combination of these methods, at market prices prevailing at the time of sale or at negotiated prices.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

ADDITIONAL REGISTRANT GUARANTOR

Exact name of additional registrant as specified in its charter*	State or other jurisdiction of incorporation or organization	I.R.S. Employer Identification No.
Akoustis, Inc.	Delaware	46-5645617

* The address of the additional registrant guarantor's principal executive office is 9805 Northcross Center Court, Suite A Huntersville, North Carolina 28078 and the phone number is (704) 997-5735.

The information in this prospectus is not complete and may be changed. The selling security holders may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and the selling security holders are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to completion, dated June 25, 2018

AKOUSTIS TECHNOLOGIES, INC.

AKOUSTIS, INC.

Prospectus

$15,000,000 of 6.5% Convertible Senior Secured Notes due 2023 for sale by the Selling Noteholders (fully and unconditionally guaranteed by Akoustis, Inc.)

4,444,217 Shares of Common Stock issuable in respect of the Notes for sale by the Selling Noteholders

4,146,529 Shares of Common Stock for sale by the Selling Stockholders

This prospectus relates to the sale or other disposition from time to time of up to $15,000,000 aggregate principal amount of our 6.5% Convertible Senior Secured Notes due 2023 (the "Notes"), up to 3,000,000 shares of common stock, par value $0.001 per share ("Common Stock"), that may be issued upon conversion of the Notes, and up to an additional 1,444,217 shares of Common Stock that may be issued, at our election, as payment of accrued interest on the Notes, as make-whole payments made in connection with certain conversions of the Notes or as payments made in connection with certain qualifying fundamental changes of Akoustis Technologies, Inc. (the "Company"), in each case as further described in the section of this prospectus entitled "Description of Notes" by the persons described in this prospectus, whom we call the "Selling Noteholders," identified in the section of this prospectus entitled "Selling Security Holders," or their transferees. The Notes are fully, unconditionally and irrevocably guaranteed (the "Guarantees") by our wholly-owned subsidiary and any future subsidiaries. We are registering the Notes, Guarantees, and shares of Common Stock issuable upon conversion and in respect of the Notes as required by the terms of the registration rights agreement among Oppenheimer & Co. Inc., the representative of the initial purchasers in the offering of the Notes, us, and the guarantor party thereto, for the benefit of the Selling Noteholders. Such registration does not mean that the Selling Noteholders will actually offer or sell any of the Notes, Guarantees or shares of Common Stock issuable upon conversion and in respect of the Notes. We will not receive any of the proceeds from the sale or other disposition of such securities offered by the Selling Noteholders.

Additionally, this prospectus relates to the sale of up to 4,146,529 shares of Common Stock by certain directors, officers, investors and consultants (the "Selling Stockholders" and, together with the Selling Noteholders, the "Selling Security Holders") who are listed in the section of this prospectus entitled "Selling Security Holders." The shares of Common Stock offered by the Selling Stockholders were previously issued by the Company (i) in connection with the merger of a subsidiary of the Company with and into Akoustis, Inc. on May 22, 2015 and (ii) to a service provider in a private offering in August 2016. We will not receive any of the proceeds from the sale or other disposition of the Common Stock offered by the Selling Stockholders.

The Notes, Guarantees and shares of Common Stock offered by this prospectus (collectively, the "Securities") may be sold by the Selling Security Holders from time to time in the open market, through privately negotiated transactions or a combination of these methods, at market prices prevailing at the time of sale or at negotiated prices. The distribution of the Securities by the Selling Security Holders is not subject to any underwriting agreement. We will not receive any proceeds from the sale of the Securities by the Security Holders. We will bear all expenses of registration incurred in connection with this offering, but all selling and other expenses incurred by the Selling Security Holders will be borne by them.

Our Common Stock is traded on the NASDAQ Capital Market ("NASDAQ") under the symbol "AKTS." On June 22, 2018, the last reported sale price for our Common Stock was $7.60 per share. There is no public market for the Notes and we do not intend to list or quote the Notes on any securities exchange or any quotation system.

We are an "Emerging Growth Company" as defined in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. See "Prospectus Summary − Implications of Being an Emerging Growth Company."

Our business and an investment in our securities involve a high degree of risk. Before making any investment in our securities, you should read and carefully consider risks described in the "Risk Factors" section beginning on page 7 of this prospectus.

You should rely only on the information contained in this prospectus or any prospectus supplement or amendment hereto. We have not authorized anyone to provide you with different information. This prospectus may only be used where it is legal to sell these securities. The information in this prospectus is only accurate on the date of this prospectus, regardless of the time of any sale of securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

This prospectus is dated , 2018.

You should rely only on the information contained in this prospectus. We have not authorized any other person to provide you with information that is different from that contained in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The Selling Security Holders are offering to sell and seeking offers to buy the Securities only in jurisdictions where offers and sales are permitted. You should assume that the information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our Securities. Our business, financial condition, results of operations and prospects may have changed since that date. We are not making an offer of any Securities in any jurisdiction where the offer is not permitted.

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PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus. This summary is not complete and does not contain all of the information that should be considered before investing in our Securities. Potential investors should read the entire prospectus carefully, including the more detailed information regarding our business provided in our Annual Report on Form 10-K for the fiscal year ended June 30, 2017 incorporated herein by reference, the risks of purchasing our Securities discussed under the "Risk Factors" section, and our financial statements and the accompanying notes to the financial statements incorporated herein by reference.

Unless the context indicates or requires otherwise, all references in this registration statement to "Akoustis Technologies," "Akoustis," the "Company," "we," "us" and "our" refer to Akoustis Technologies, Inc. and its wholly owned consolidated subsidiary, Akoustis, Inc., each a Delaware corporation.

This prospectus includes the trademarks of Akoustis, Inc., Akoustis™ and XBAW™, See "Description of Business − Intellectual Property." All references to Akoustis and XBAW in this prospectus are intended to include reference to such trademarks.

Overview

Akoustis is an early stage company focused on developing, designing and manufacturing innovative radio frequency ("RF") filter products for the mobile wireless device industry. We use a patented fundamentally new piezoelectric resonator technology that we call XBAW™ in the manufacturing of bulk acoustic wave ("BAW") resonators, the building blocks of high selectivity RF filters required to route signals in a smartphone or other mobile or wearable device, cellular infrastructure and WiFi routers. Filters are a critical component of the RF front-end ("RFFE"), and their use has multiplied with the launch and licensing of 4G/LTE, emerging 5G and WiFi frequency bands. They are used to define the range of frequencies of radio signals that are transmitted (the "passband") and simultaneously reject unwanted signals.

We plan to use single-crystal piezoelectric materials to develop a new class of BAW RF filters with a fundamental advantage to reduce losses over existing thin film RF filter technologies. We believe our technology will be disruptive to the RFFE market through the following expected advantages:

- Wider bandwidth coverage,
- Smaller filters support higher level of integration and lower manufacturing costs,
- Lower insertion loss,
- Improved power compression and linearity,
- Reduced power amplifier cost,
- Reduced heat generation and reduced battery loading, and
- Reduced guard band between adjacent frequency bands.

Once our technology is qualified for mass production, we expect to design and sell single-crystal BAW RF filter products using our XBAW™ technology. Our product focus is on innovative single-band filter products for the growing smartphone and RFFE module market, which can be used to make duplexer or multiplexer filter products necessary for the mobile market. These products present the greatest near-term potential for commercialization of our technology. According to a Mobile Experts May 2017 report, the mobile filter market is expected to grow from $8.2 billion in 2017 to greater than $12 billion by 2021.

Recent Developments

Purchase Orders for RF Filters

On May 10, 2018, we received two purchase orders for 4G/LTE BAW RF filters from a new tier-one infrastructure customer. The first purchase order covers development and delivery of pre-production units for evaluation and testing. The second purchase order is a placeholder order, containing the pricing terms for the first 500,000 production RF filters for future orders, assuming successful qualification and testing of the pre-production units. Assuming successful qualification by the customer, the Company expects to receive a production order from the customer's contract manufacturer(s) to deliver the pre-production units in the fourth quarter of 2018, with production shipments expected to begin in early 2019.

Acquisition of Manufacturing Facility

On March 23, 2017, we entered into an Asset Purchase Agreement and a Real Property Purchase Agreement (collectively, the "STC-MEMS Agreements") with The Research Foundation for the State University of New York ("RF-SUNY") and Fuller Road Management Corporation ("FRMC"), an affiliate of RF-SUNY, respectively, to acquire certain specified assets, including STC-MEMS, a semiconductor wafer-manufacturing and microelectromechanical systems ("MEMS") operation with associated wafer-manufacturing tools, and the associated real estate and improvements located in Canandaigua, New York used in the operation of STC-MEMS (the assets and real estate and improvements referred to together herein as the "STC-MEMS Business"). Pursuant to the STC-MEMS Agreements, the Company also agreed to assume substantially all of the ongoing obligations of the STC-MEMS Business incurred in the ordinary course of business.

We completed the acquisition of the STC-MEMS Business on June 26, 2017 for an aggregate purchase price of $2.8 million in cash. The Company recorded net assets acquired of $6.3 million for purchase consideration of $4.6 million (includes $2.85 million of cash paid at closing plus $1.7 million real estate contingent liability), which resulted in the recording of a bargain purchase gain of $1.7 million.

The STC-MEMS acquisition allows the Company to internalize manufacturing, increase capacity and control its wafer supply chain for single crystal BAW RF filters. We have now successfully transferred our R&D resonator filter process flow into the facility, which recently received ISO 9001:2015 certification. We plan to utilize the facility to optimize our XBAW™ technology and to consolidate all aspects of wafer manufacturing for our disruptive and patented high band BAW RF filters targeting the multi-billion dollar mobile and other wireless markets. This planned consolidation of the Company's supply chain into the STC-MEMS Business is expected to shorten time-to-market for our RF products, greatly enhancing our ability to service customers upon completion of development and design specifications. Furthermore, we believe that shorter time-to-market cycles provide us with the opportunity to increase the number of our potential customers.

About This Offering

This prospectus relates to the public offering, which is not being underwritten, (i) by the Selling Noteholders listed in this prospectus of up to $15,000,000 of 6.5% Convertible Senior Secured Notes due 2023, including the Guarantees of the Notes, and up to 4,444,217 shares of Common Stock issuable upon conversion or in respect of the Notes, and (ii) by the Selling Stockholders listed in this prospectus of up to 4,146,529 previously issued shares of our Common Stock. The Securities offered by this prospectus may be sold by the Selling Security Holders from time to time in the open market, through negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices. We will receive no proceeds from the sale of the Securities by the Selling Security Holders or from the issuance of Common Stock in respect of the Notes. We will bear all expenses of registration incurred in connection with this offering, but all selling and other expenses incurred by the Selling Security Holders will be borne by them.

Selected Risks Associated with an Investment in the Securities

An investment in the Securities is highly speculative and is subject to numerous risks described in the section entitled "Risk Factors" and elsewhere in this prospectus. You should carefully consider these risks before making an investment. Some of these risks include:

- We have a limited operating history upon which investors can evaluate our business and future prospects.
- We have a history of losses (we have incurred net losses of approximately $31.5 million for the period from May 12, 2014 (inception) to March 31, 2018), will need substantial additional funding to continue our operations and may not achieve or sustain profitability in the future.
- Servicing the debt represented by the Notes requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.
- If we are unable to obtain additional financing on acceptable terms, we may have to curtail our growth or cease our development plans and operations.
- You could lose all of your investment.
- You may experience dilution of your ownership interests because of the future issuance of additional shares of our common or preferred stock or other securities that are convertible into or exercisable for our common or preferred stock. Furthermore, the conversion price of the Notes may not be adjusted for all dilutive events, including third-party tender or exchange offers, that may adversely affect the trading price of the notes or the shares of our common stock issuable upon conversion of the notes.
- We may not generate revenues or achieve profitability.
- Our products may not be able to be commercialized or accepted in the market.
- If we are unable to establish effective marketing and sales capabilities or enter into agreements with third parties to market and sell our RF filters, we may not be able to effectively generate product revenues.
- If we fail to obtain, maintain and enforce our intellectual property rights, we may not be able to prevent third parties from using our proprietary technologies and may lose access to technologies critical to our products.
- Proceeds from any sale of the collateral upon foreclosure may be insufficient to repay the Notes in full.

Corporate Information

Our principal executive offices are located at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078. Our telephone number is (704) 997-5735. Our website address is *www.akoustis.com*. The information on, or that can be accessed through, our website is not part of this prospectus.

Implications of Being an Emerging Growth Company

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earliest of (i) June 30, 2019, the last day of the fiscal year following the fifth anniversary of the date of the first sale of our Common Stock pursuant to an effective registration statement under the Securities Act; (ii) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under applicable SEC rules. We cannot retain our emerging growth company status indefinitely and will no longer qualify as an emerging growth company after June 30, 2019. We refer to the Jumpstart Our Business Startups Act of 2012 herein as the "JOBS Act," and references herein to "emerging growth company" have the meaning associated with it in the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies.

These exemptions include:

- not being required to comply with the requirement of auditor attestation of our internal control over financial reporting,
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements,
- reduced disclosure obligations regarding executive compensation, and
- not being required to hold a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

For as long as we continue to be an emerging growth company, we expect that we will take advantage of the reduced disclosure obligations available to us as a result of that classification. We have taken advantage of certain of those reduced reporting burdens in this prospectus. Accordingly, the information contained or incorporated by reference herein may be different than the information you receive from other public companies in which you hold stock.

An emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected to avail ourselves of this extended transition period, and as a result, we will not be required to adopt new or revised accounting standards on the dates on which adoption of such standards is required for other public reporting companies.

We are also a "smaller reporting company" as defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and have elected to take advantage of certain of the scaled disclosure requirements available for smaller reporting companies.

THE OFFERING

Common stock currently outstanding	22,197,200 shares. (1)
Common stock offered by the Company	None.
Common stock offered by the Selling Stockholders	Up to 4,146,529 shares.
Notes currently outstanding	$15,000,000 aggregate principal amount.
Notes offered by the Company	None.
Notes offered by the Selling Noteholders	Up to $15,000,000 aggregate principal amount.
Common stock offered by the Selling Noteholders	Up to 4,444,217 shares.
Use of proceeds	We will not receive any of the proceeds from the sales of the Securities by the Selling Noteholders or Selling Stockholders or upon the issuance of Common Stock in respect of the Notes.
NASDAQ symbol for Common Stock	AKTS.
Risk factors	You should carefully consider the information set forth in this prospectus and, in particular, the specific factors set forth in the "Risk Factors" section beginning on page 7 of this prospectus before deciding whether or not to invest in the Notes or shares of our Common Stock.

(1) As of June 1, 2018. This number excludes:

- warrants to purchase 754,809 shares of Common Stock (including warrants currently exercisable to purchase up to 600,632 shares of Common Stock),
- options to purchase 1,331,859 shares of Common Stock (including options currently exercisable to purchase up to 120,000 shares of Common Stock),
- unvested restricted stock units for 991,494 shares of Common Stock, and
- 246,809 shares of Common Stock that may become issuable pursuant to the price-protected anti-dilution provision applicable to 2,468,094 outstanding shares that were sold in a private placement offering in December 2017.

See "Description of Capital Stock" and "Description of Notes" below.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and documents incorporated herein by reference contain forward-looking statements, including, without limitation, in the section of this prospectus captioned "Risk Factors." Any and all statements contained in this prospectus that are not statements of historical fact may be deemed forward-looking statements. Terms such as "may," "might," "would," "should," "could," "project," "estimate," "predict," "potential," "strategy," "anticipate," "attempt," "develop," "plan," "help," "believe," "continue," "intend," "expect," "future," and terms of similar import (including the negative of any of the foregoing) may be intended to identify forward-looking statements. However, not all forward-looking statements may contain one or more of these identifying terms. Forward-looking statements in this prospectus may include, without limitation, statements regarding (i) the plans and objectives of management for future operations, including plans or objectives relating to the development of commercially viable RF filters, (ii) a projection of income (including income/loss), earnings (including earnings/loss) per share, capital expenditures, dividends, capital structure or other financial items, (iii) our future financial performance, including any such statement contained in a discussion and analysis of financial condition by management or in the results of operations included pursuant to the rules and regulations of the SEC, and (iv) the assumptions underlying or relating to any statement described in items (i), (ii) or (iii) above.

The forward-looking statements are not meant to predict or guarantee actual results, performance, events or circumstances and may not be realized because they are based upon our current projections, plans, objectives, beliefs, expectations, estimates and assumptions and are subject to a number of risks and uncertainties and other influences, many of which are beyond our control. Actual results and the timing of certain events and circumstances may differ materially from those described by the forward-looking statements as a result of these risks and uncertainties. Factors that may influence or contribute to the inaccuracy of the forward-looking statements or cause actual results to differ materially from expected or desired results may include, without limitation:

- our inability to obtain adequate financing,
- our limited operating history,
- our inability to generate significant revenues or achieve profitability,
- our inability to service the debt represented by the Notes,
- the results of our research and development (R&D) activities,
- our inability to achieve acceptance of our products in the market,
- general economic conditions, including upturns and downturns in the industry,
- our limited number of patents,
- our failure to obtain, maintain and enforce our intellectual property rights,
- our inability to attract and retain qualified personnel,
- our reliance on third parties to complete certain processes in connection with the manufacture of our products,
- product quality and defects,
- existing or increased competition,
- our ability to market and sell our products,
- our inability to successfully integrate our New York fabrication facility and related operations into our business,
- our failure to innovate or adapt to new or emerging technologies,
- our failure to comply with regulatory requirements,
- results of any arbitration or litigation that may arise,
- stock volatility and illiquidity,
- our failure to implement our business plans or strategies,
- our failure to remediate the material weakness in our internal control over financial reporting, and
- our failure to maintain the Trusted Foundry accreditation of our New York fabrication facility.

A description of some of the risks and uncertainties that could cause our actual results to differ materially from those described by the forward-looking statements in this prospectus appears in the section captioned "Risk Factors" and elsewhere in this prospectus. Readers are cautioned not to place undue reliance on forward-looking statements because of the risks and uncertainties related to them and to the risk factors. Except as may be required by law, we do not undertake any obligation to update the forward-looking statements contained in this prospectus to reflect any new information or future events or circumstances or otherwise.

RISK FACTORS

An investment in the Securities is highly speculative and involves a high degree of risk. We face a variety of risks that may affect our operations or financial results and many of those risks are driven by factors that we cannot control or predict. Before investing in any Securities, you should carefully consider the following risks, together with the financial and other information contained in this prospectus as well as the risks described in our annual report on Form 10-K for the fiscal year ended June 30, 2017 and our subsequently filed quarterly reports on Form 10-Q, which are incorporated by reference herein. If any of the risks described herein or incorporated by reference actually occur, our business, prospects, financial condition and results of operations could be materially adversely affected. In that case, the value of the Securities would likely decline and you may lose all or a part of your investment. Only those investors who can bear the risk of loss of their entire investment should invest in the Securities.

Risks Related to the Notes

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.

Our ability to make scheduled payments of the principal of the Notes depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to repay our debt will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Our ability to pay interest on, and make certain other payments with respect to, the Notes with our common stock is subject to a maximum number of shares unless we obtain shareholder approval in accordance with the listing requirements of the NASDAQ Capital Market or such other national securities exchange on which our common stock is listed.

Unless we obtain the requisite approval of our shareholders pursuant to the applicable NASDAQ Marketplace rule or listing requirements of the relevant stock exchange, the number of shares we may deliver in respect of the Notes, including those delivered in lieu of cash interest, in connection with an interest make-whole payment, or as a qualifying fundamental change payment, will not exceed 19.99% of our Common Stock outstanding (as adjusted for stock splits, reverse stock splits, stock combinations, reclassifications and reorganizations) as of the close of the trading day immediately preceding the date of the indenture that governs the Notes. The number of shares of Common Stock issued to pay any portion of interest or certain other payments in respect of the Notes will be based on the average trading price of our Common Stock over the ten consecutive trading days preceding payment. Therefore, if the trading price of our Common Stock decreases, we would need to issue a greater number of shares of Common Stock in payment of a particular dollar amount. However, since the maximum number of shares we may issue in respect of the Notes without obtaining stockholder approval is limited, we may lose the ability to make these payments in shares of our Common Stock and may not have sufficient cash to service the debt in cash, which could result in a default on our debt obligations.

We may incur additional debt which could affect our ability to make payments on the Notes when due.

Subject to certain conditions and limitations in the indenture governing the Notes, we and our subsidiaries may be able to incur substantial additional debt in the future, some of which may be secured debt. Except for the limitation described under “Description of Notes—Limitation on Incurrence of Additional Indebtedness” with respect the incurrence of additional indebtedness, we and our subsidiaries will not be restricted under the terms of the indenture governing the Notes from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions that are not limited by the terms of the indenture governing the Notes that could have the effect of diminishing our ability to make payments on the Notes when due.

Recent and future regulatory actions and other events may adversely affect the trading price and liquidity of the Notes.

We expect that many investors in, and potential purchasers of, the Notes will employ, or seek to employ, a convertible arbitrage strategy with respect to the Notes. Investors would typically implement such a strategy by selling short our Common Stock underlying the Notes and dynamically adjusting their short position while continuing to hold the Notes. Investors may also implement this type of strategy by entering into swaps on our Common Stock in lieu of or in addition to short selling the Common Stock.

The Securities Exchange Commission (the "SEC") and other regulatory and self-regulatory authorities have implemented various rules and taken certain actions, and may in the future adopt additional rules and take other actions, that may impact those engaging in short selling activity involving equity securities (including our Common Stock). Such rules and actions include Rule 201 of SEC Regulation SHO, the adoption by the Financial Industry Regulatory Authority, Inc. and the national securities exchanges of a "Limit Up-Limit Down" program, the imposition of market-wide circuit breakers that halt trading of securities for certain periods following specific market declines, and the implementation of certain regulatory reforms required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Any governmental or regulatory action that restricts the ability of investors in, or potential purchasers of, the Notes to effect short sales of our Common Stock, borrow our Common Stock or enter into swaps on our Common Stock could adversely affect the trading price and the liquidity of the Notes.

We cannot assure you that an active trading market will develop for the Notes.

There is no active trading market for the Notes, and we do not intend to apply to list the Notes on any securities exchange or to arrange for quotation on any automated dealer quotation system. Any market-making activities relating to the Notes may cease at any time without notice. In addition, the liquidity of the trading market in the Notes, and the market price quoted for the Notes, may be adversely affected by changes in the overall market for this type of security and by changes in our financial performance or prospects or in the prospects for companies in our industry generally. As a result, we cannot assure you that an active trading market will develop for the Notes. If an active trading market does not develop or is not maintained, the market price and liquidity of the Notes may be adversely affected. In that case you may not be able to sell your Notes at a particular time or you may not be able to sell your Notes at a favorable price.

Because the Notes are held in book-entry form, holders must rely on DTC's procedures to receive communications relating to the notes and exercise their rights and remedies.

We initially issued the notes in the form of one or more global notes registered in the name of Cede & Co., as nominee of the Depository Trust Company ("DTC"). As a result, beneficial interests in global notes are shown on, and transfers of global notes will be effected only through, the records maintained by DTC. Except in limited circumstances, we will not issue certificated notes. See "Description of Notes—Book-Entry; Settlement and Clearance." Accordingly, if you own a beneficial interest in a global note, then you will not be considered a record owner or holder of the Notes. Instead, DTC or its nominee will be the sole holder of the Notes. Unlike persons who have certificated Notes registered in their names, owners of beneficial interests in global notes will not have the direct right to act on our solicitations for consents or requests for waivers or other actions from holders. Instead, those beneficial owners will be permitted to act only to the extent that they have received appropriate proxies to do so from DTC or, if applicable, a DTC participant. The applicable procedures for the granting of these proxies may not be sufficient to enable owners of beneficial interests in global notes to vote on any requested actions on a timely basis. In addition, notices and other communications relating to the notes will be sent to DTC. We expect DTC to forward any such communications to DTC participants, which in turn would forward such communications to indirect DTC participants. But we can make no assurances that you timely receive any such communications.

Volatility in the market price and trading volume of our Common Stock could adversely impact the trading price of the Notes.

The stock market in recent years has experienced significant price and volume fluctuations that have often been unrelated to the operating performance of companies. In addition, the market price of our Common Stock historically has been volatile. The market price of our Common Stock could fluctuate significantly for many reasons, including in response to the risks described in this section or our most recent annual report on Form 10-K or subsequently filed quarterly reports on Form 10-Q or elsewhere in this prospectus for reasons unrelated to our operations, such as reports by industry analysts, investor perceptions or negative announcements by our customers, competitors or suppliers regarding their own performance, as well as industry conditions and general financial, economic and political instability. A decrease in the market price of our Common Stock would likely adversely impact the trading price of the Notes. The market price of our Common Stock could also be affected by possible sales of our Common Stock by investors who view the Notes as a more attractive means of equity participation in us and by hedging or arbitrage trading activity that may develop involving our Common Stock. This trading activity could, in turn, affect the trading price of the Notes. This volatility in the market price of our Common Stock may affect the price at which you could sell the shares of our Common Stock you receive upon conversion of your Notes, if any, and the sale of substantial amounts of our Common Stock could adversely affect the price of our Common Stock and the value of your Notes.

Any adverse rating of the Notes may cause their market price to fall.

We do not intend to seek a rating on the Notes. However, if a rating service were to rate the Notes and if such rating service were to lower its rating on the Notes below the rating initially assigned to the Notes or otherwise announce its intention to put the Notes on credit watch, the trading price of the Notes could decline.

You may be subject to tax attributable to interest paid on the Notes even though you do not receive a corresponding cash payment.

The Notes permit us, at our option, to make certain payments in freely tradable shares of Common Stock in lieu of cash. You may be subject to tax attributable to such payments even if they are not paid in cash.

You may be subject to tax if we make or fail to make certain adjustments to the conversion rate of the Notes even though you do not receive a corresponding cash distribution.

The conversion rate of the Notes is subject to adjustment in certain circumstances, including the payment of cash dividends. If the conversion rate is adjusted as a result of a cash dividend paid to our common stockholders, you may be deemed to have received a dividend subject to U.S. federal income tax without the receipt of any cash. In addition, a failure to adjust (or to adjust adequately) the conversion rate after an event that increases your proportionate interest in us could be treated as a deemed taxable dividend to you. If you are a non-U.S. holder (as defined in "Material U.S. Federal Income Tax Considerations"), any deemed dividend would be subject to U.S. federal withholding tax at a 30% rate, or such lower rate as may be specified by an applicable treaty, and if you are a U.S. holder (as defined in "Material U.S. Federal Income Tax Considerations"), any deemed dividend may be subject to federal backup withholding tax at a 24% rate, which, in each case, may be withheld from subsequent payments on the notes or other amounts received by you. See "Material U.S. Federal Income Tax Considerations."

We intend to take the position that the Notes are not contingent payment debt instruments, which position is not free from doubt.

We may be required to make additional payments on Notes that are converted in certain circumstances, including settlement of the interest make-whole payment described in "Description of Notes—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions." Due to a lack of relevant authority regarding certain of these payments, the applicability to the Notes of Treasury Regulations governing contingent payment debt instruments is uncertain. In particular, the effect of the interest make-whole payment on the tax treatment of the Notes is unclear. Although the matter is not free from doubt, we intend to take the position for U.S. federal income tax purposes that the Notes are not contingent payment debt instruments. Our position that the Notes should not be treated as contingent payment debt instruments is binding on the holders of the Notes unless a contrary position is disclosed to the Internal Revenue Service (the "IRS") (but is not binding on the IRS). If the IRS were to successfully challenge our position, and the Notes were treated as contingent payment debt instruments, U.S. noteholders would be required, among other potential adverse consequences, to accrue interest income at a rate substantially higher than the stated interest rate on the Notes (regardless of such U.S. holder's regular method of accounting for U.S. federal income tax purposes), and to treat as ordinary income, rather than capital gain, any gain recognized on a sale, exchange or redemption of a Note. In addition, conversion of the Notes would be a taxable event, and any gain realized upon conversion would be required to be treated as ordinary income.

Investors are urged to consult with their own tax advisors regarding the tax consequences of purchasing, owning and disposing of the Notes and the Common Stock that may be received upon conversion of the notes. See "Material U.S. Federal Income Tax Considerations."

Future sales of our Common Stock in the public market could lower the market price for our Common Stock and adversely impact the trading price of the Notes.

In the future, we may sell additional shares of our Common Stock to raise capital. In addition, a substantial number of shares of our Common Stock are reserved for issuance upon the exercise of stock options and upon conversion of the Notes. We cannot predict the size of future issuances or the effect, if any, that they may have on the market price for our Common Stock. The issuance and sale of substantial amounts of Common Stock, or the perception that such issuances and sales may occur, could adversely affect the trading price of the Notes and the market price of our Common Stock and impair our ability to raise capital through the sale of additional equity securities.

Holders of Notes are not entitled to any rights with respect to our Common Stock, but they will be subject to all changes made with respect to our Common Stock to the extent our conversion obligation includes shares of our Common Stock.

Holders of Notes are not entitled to any rights with respect to our Common Stock (including, without limitation, voting rights and rights to receive any dividends or other distributions on our Common Stock) prior to the conversion date relating to such Notes, but holders of Notes will be subject to all changes affecting our Common Stock. For example, if an amendment is proposed to our certificate of incorporation or bylaws requiring stockholder approval and the record date for determining the stockholders of record entitled to vote on the amendment occurs prior to the conversion date related to a holder's conversion of its Notes, such holder will not be entitled to vote on the amendment, although such holder will nevertheless be subject to any changes affecting our Common Stock.

Upon conversion of the Notes, you may receive less valuable consideration than expected because the value of our Common Stock may decline after you exercise your conversion right but before we settle our conversion obligation.

Under the Notes, a converting holder will be exposed to fluctuations in the value of our Common Stock during the period from the date such holder surrenders Notes for conversion until the date we settle our conversion obligation, which may be two trading days following the relevant conversion date. Accordingly, if the price of our Common Stock decreases during this period, the value of the shares that you receive will be adversely affected and would be less than the conversion value of the Notes on the conversion date.

The qualifying fundamental change payment for Notes converted in connection with a qualifying fundamental change may not adequately compensate you for any lost value of your Notes as a result of such transaction.

Following the occurrence of a qualifying fundamental change, as described in "Description of Notes—Conversion Rights—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change," we will, under certain circumstances, make a payment to a holder who elects to convert its Notes in connection with such qualifying fundamental change equal to $130 per $1,000 of aggregate principal amount of Notes surrendered for conversion (a "qualifying fundamental change payment"). The qualifying fundamental change payment for Notes converted in connection with a qualifying fundamental change may not adequately compensate you for any lost value of your Notes as a result of such transaction.

Our obligation to make a qualifying fundamental change payment for Notes converted in connection with a qualifying fundamental change could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness and equitable remedies.

Bankruptcy laws may limit your ability to realize value from the collateral.

The right of the collateral agent to repossess and dispose of the collateral upon the occurrence of an event of default under the indenture governing the Notes is likely to be significantly impaired by applicable bankruptcy law if a bankruptcy case were to be commenced by or against us prior to the collateral agent having repossessed and disposed of, or otherwise exercised remedies in respect of, the collateral. Under the bankruptcy code, a secured creditor is prohibited from repossessing its security from a debtor in a bankruptcy case, or from disposing of security repossessed from such debtor, without bankruptcy court approval. Moreover, the bankruptcy code permits the debtor to continue to retain and to use collateral even though the debtor is in default under the applicable debt instrument, provided that the secured creditor is given "adequate protection." The meaning of the term "adequate protection" may vary according to circumstances, but it is intended in general to protect the value of the secured creditor's interest in the collateral and may include cash payments or the granting of additional security, if and at such times as the court in its discretion determines that the value of the secured creditor's interest in the collateral is declining during the pendency of the bankruptcy case. In view of the lack of a precise definition of the term "adequate protection" and the broad discretionary powers of a bankruptcy court, it is impossible to predict (1) how long payments under the Notes could be delayed following the commencement of a bankruptcy case, (2) whether or when the collateral agent could repossess or dispose of the collateral and (3) whether or to what extent holders of the Notes would be compensated for any delay in payment or loss of value of the collateral through the requirement of "adequate protection."

In the event a bankruptcy court determines the value of the collateral is not sufficient to repay all amounts due on the Notes and any other obligations secured by such collateral then the holders of the Notes and such other obligations would hold secured claims to the extent of the value of the collateral securing such claims, and would hold unsecured claims with respect to any shortfall. Applicable federal bankruptcy laws do not permit the payment and/or accrual of post-petition interest, costs and attorneys' fees during a debtor's bankruptcy case unless the claims are oversecured or the debtor is solvent at the time of reorganization. In addition, if we were to become the subject of a bankruptcy case, the bankruptcy court, among other things, may avoid certain pre-petition transfers made by us, including transfers held to be preferences or fraudulent conveyances.

Any future pledges of collateral may be avoidable.

Any further pledge of collateral in favor of the collateral agent might be avoidable by the pledgor (as debtor in possession) or by its trustee in bankruptcy or other third parties if certain events or circumstances exist or occur, including, among others, if the pledge or granting of the security interest is deemed a fraudulent conveyance or the pledgor is insolvent at the time of the pledge or granting of the security interest, the pledge permits the holders of the notes to receive a greater recovery than if the pledge had not been given and a bankruptcy proceeding in respect of the pledgor is commenced within 90 days following the pledge, or, in certain circumstances, a longer period.

The collateral agent's ability to exercise remedies with respect to collateral is limited.

The collateral documents provide the collateral agent on behalf of the holders of the Notes with significant remedies, including foreclosures and sale of all or parts of the collateral. However, the rights of the collateral agent to exercise remedies upon a specific event of default may be limited by the terms of the collateral documents and applicable law. Accordingly, remedies for a specific event of default may be inadequate to protect the interests of the holders.

Proceeds from any sale of the collateral upon foreclosure may be insufficient to repay the Notes in full.

We cannot assure you that the net proceeds from a sale of the collateral securing the Notes would be sufficient to repay all of the Notes following a foreclosure upon the collateral or a liquidation of our assets.

The value of the collateral and the amount to be received upon a sale of the collateral will depend upon many factors including, among others, the condition of the collateral, the ability to sell the collateral in an orderly sale, the condition of the international, national and local economies, the availability of buyers and similar factors. The book value of the collateral should not be relied on as a measure of realizable value for these assets. By their nature, portions of the collateral may be illiquid and may have no readily ascertainable market value. In addition, a significant portion of the collateral includes assets that may only be usable, and thus retain value, as part of our existing business operations. Accordingly, any sale of the collateral separate from the sale of our business operations may not be feasible or of significant value.

Additionally, applicable law requires that every aspect of any foreclosure or other disposition of collateral be "commercially reasonable." If a court were to determine that any aspect of the collateral agent's exercise of remedies was not commercially reasonable, the ability of the trustee and the noteholders to recover the difference between the amount realized through such exercise of remedies and the amount owed on the Notes may be adversely affected and, in the worst case, the noteholders could lose all claims for such deficiency amount.

Rights of noteholders in the collateral may be adversely affected by the failure to perfect security interest in certain collateral acquired in the future.

The collateral securing the Notes includes certain assets that we may acquire in the future. Applicable law requires that certain property and rights acquired after the grant of a general security interest can only be perfected at the time such property and rights are acquired and identified. There can be no assurance that we will inform the trustee of the future acquisition of property and rights that constitute collateral, or that the necessary action will be taken to properly perfect the security interest in such after-acquired collateral. The trustee and collateral agent have no obligation to monitor the acquisition of, or the perfection of any security interests in, additional property or rights that constitute collateral. Such failure may result in the loss of the security interest in the collateral or the priority of the security interest in favor of the Notes against third parties.

Federal and state statutes allow courts, under specific circumstances, to void subsidiary guarantees and require holders of the Notes to return payments received from guarantors.

Our wholly-owned subsidiary guarantees our obligations under the Notes. Under the federal bankruptcy law and comparable provisions of state fraudulent transfer laws, a subsidiary guarantee could be voided or claims in respect of a subsidiary guarantee could be subordinated to all other debts of that subsidiary guarantor. A court might do so if it found that when the subsidiary entered into its guarantee or, in some states, when payments became due under the guarantee, the subsidiary received less than reasonably equivalent value or fair consideration and either:

- was insolvent or rendered insolvent by reason of the incurrence;
- was engaged in a business or transaction for which its remaining assets constituted unreasonably small capital; or
- intended to incur, or believed that it would incur, debts beyond its ability to pay such debts as they mature.

The court might also void a subsidiary guarantee, without regard to the above factors, if the court found that the subsidiary entered into its guarantee with the actual intent to hinder, delay or defraud its creditors.

A court would likely find that a subsidiary guarantor did not receive reasonably equivalent value or fair consideration for its guarantee if the subsidiary guarantor did not substantially benefit directly or indirectly from the issuance of the Notes. If a court were to void a subsidiary guarantee, holders of the Notes would no longer have a claim against the guarantor. Sufficient funds to repay the Notes may not be available from other sources, including the remaining subsidiary guarantor, if any. In addition, the court might direct holders of the Notes to repay any amounts that they already received from the guarantor.

The measures of insolvency for purposes of these fraudulent transfer laws will vary depending upon the law applied in any proceeding to determine whether a fraudulent transfer has occurred. Generally, however, a subsidiary guarantor would be considered insolvent if:

- the sum of its debts, including contingent liabilities, were greater than the fair saleable value of all of its assets;
- the present fair saleable value of its assets were less than the amount that would be required to pay its probable liability on its existing debts, including contingent liabilities, as they become absolute and mature; or
- it could not pay its debts as they become due.

The subsidiary guarantee contains a provision intended to limit the guarantor’s liability to the maximum amount that it could incur without causing the incurrence of obligations under its subsidiary guarantee to be a fraudulent transfer. This provision may not be effective to protect the subsidiary guarantee from being voided under fraudulent transfer law.

Some significant restructuring transactions may not constitute a fundamental change, in which case we would not be obligated to offer to repurchase the Notes.

If a fundamental change occurs at any time prior to the maturity date, subject to certain conditions, holders of the Notes will have the right, at their option, to require us to repurchase for cash all or part of each holder's Notes. However, the fundamental change provisions will not afford protection to holders of Notes in the event of other transactions that could adversely affect the Notes. For example, transactions such as leveraged recapitalizations, refinancings, restructurings, or acquisitions initiated by us may not constitute a fundamental change requiring us to repurchase the Notes. In the event of any such transaction, the holders would not have the right to require us to repurchase the Notes, even though each of these transactions could increase the amount of our indebtedness, or otherwise adversely affect our capital structure or any credit ratings, thereby adversely affecting the holders of Notes.

The conversion price of the Notes may not be adjusted for all dilutive events, including third-party tender or exchange offers, that may adversely affect the trading price of the Notes or the shares of our Common Stock issuable upon conversion of the Notes.

The conversion price of the Notes is subject to adjustment upon specified events, including the issuance of stock dividends on our Common Stock, the issuance of rights or warrants, subdivisions, combination, distributions of capital stock, indebtedness or assets, cash dividends and issuer tender or exchange offers. The conversion price will not be adjusted for other events, such as third-party tender or exchange offers or the sale of our equity securities or equity-related securities to third parties or so-called price protection provisions (other than to a limited extent under certain circumstances), that may adversely affect the trading price of the Notes or Common Stock issuable upon conversion of the Notes.

The terms of the Notes contain limited covenants and other protections.

The indenture governing the Notes contains covenants restricting our ability to take certain actions. However, each of these covenants contains specified exceptions. In addition, these covenants do not protect holders of the Notes and Common Stock issuable upon conversion of the Notes from all events that could have a negative effect on the creditworthiness of the Notes and the secondary market value of the Notes and Common Stock issuable upon conversion of the Notes.

We face several risks regarding holders' potential rights to require us to repurchase the Notes on the put date or upon a fundamental change.

Holders of the Notes will have the right, at their option, to require us to repurchase for cash all (but not less than all) of each holder's Notes on the put date or all or part of each holder's Notes upon a fundamental change prior to maturity. We may not have sufficient future cash flow from operations to make any required repurchase in cash at any later time or the ability to arrange additional financing, if necessary, on acceptable terms. In addition, our ability to repurchase the Notes in cash may be limited by law or the terms of other agreements relating to our debt outstanding at the time. If we fail to repurchase the Notes in cash as required by the indenture governing the Notes, it would constitute an event of default under the indenture, which, in turn, could also constitute an event of default under our then existing debt instruments.

If you do not properly exercise your one-time right to require us to repurchase your Notes on the put date, you will not be entitled to require us to repurchase your Notes at any other time.

As described under "Description of Notes—Holders' Put Right," your right to require us to repurchase your Notes is a one-time right that is only exercisable effective on May 31, 2021. If you do not properly exercise your right to require us to repurchase your Notes by delivering a proper notice as described under "Description of Notes—Holders' Put Right" prior to the put date, you will not be entitled to require us to repurchase your Notes at any other time (except in connection with a fundamental change). You will bear the risk of any defective notice and we do not have any obligation to notify holders of the Notes of any defect in their put notices.

If you hold Notes, you are not entitled to any rights with respect to our common stock, but you are subject to all changes made with respect to our Common Stock.

If you hold Notes, you are not entitled to any rights with respect to our Common Stock (including, without limitation, voting rights and rights to receive any dividends or other distributions on our Common Stock), but you are subject to all changes affecting the Common Stock. You will only be entitled to rights on the Common Stock if and when we deliver shares of Common Stock to you in exchange for your Notes and in limited cases under the anti-dilution adjustments of the Notes. For example, in the event that an amendment is proposed to our certificate of incorporation or by-laws requiring securityholder approval and the record date for determining the securityholders of record entitled to vote on the amendment occurs prior to delivery of the Common Stock, you will not be entitled to vote on the amendment, although you will nevertheless be subject to any changes in the powers, preferences or special rights of our Common Stock.

Certain provisions in the Notes and the indenture could delay or prevent an otherwise beneficial takeover or takeover attempt of us and, therefore, the ability of holders to exercise their rights associated with a fundamental change.

Certain provisions in the Notes and the indenture could make it more difficult or more expensive for a third party to acquire us. For example, if an acquisition event constitutes a fundamental change, we are required to offer to repurchase each holder's Notes in cash. In addition, if an acquisition event constitutes a qualifying fundamental change, we may be required to make a qualifying fundamental change payment to holders who convert their Notes in connection with such qualifying fundamental change. Accordingly, our obligations under the Notes and the indenture as well as provisions of our organizational documents and other agreements could increase the cost of acquiring us or otherwise discourage a third party from acquiring us or removing incumbent management.

SELLING SECURITY HOLDERS

This prospectus covers the resale from time to time (i) by the Selling Noteholders identified in the first table below of up to $15,000,000 aggregate principal amount of our 6.5% Convertible Senior Secured Notes due 2023, including the Guarantees of the Notes, as well as up to 3,000,000 shares of Common Stock that may be issued upon conversion of the Notes and up to an additional 1,444,217 shares of Common Stock that may be issued, at our election, as payment of accrued interest on the Notes, as make-whole payments made in connection with certain conversions of the Notes or as payments made in connection with certain qualifying fundamental changes of the Company, and (ii) by the Selling Stockholders identified in the second table below of up to 4,146,529 shares of Common Stock previously issued by the Company (a) in connection with the merger of a subsidiary of the Company with and into Akoustis, Inc. on May 22, 2015 and (b) to a service provider in a private offering in August 2016.

The Selling Noteholders identified in the first table below may from time to time offer and sell under this prospectus any or all of the Notes, including the Guarantees issuable in respect thereof, described under the column "Principal Amount of Notes Registered Hereby" as well as any or all of the shares of Common Stock issuable upon conversion or in respect thereof, described under the column "Shares of Common Stock Registered Hereby" in such first table below. The Selling Stockholders identified in the second table below may from time to time offer and sell under this prospectus any or all of the shares of Common Stock described under the column "Shares of Common Stock Registered Hereby" in such second table below.

Certain Selling Security Holders may be deemed to be "underwriters" as defined in the Securities Act. Any profits realized by such Selling Security Holders may be deemed to be underwriting discounts and commissions under the Securities Act.

The tables below have been prepared based upon the information furnished to us by the Selling Security Holders and/or our transfer agent as of the date of this prospectus. The Selling Security Holders identified below may have converted, sold, transferred or otherwise disposed of some or all of their Notes or shares of Common Stock since the date on which the information in the following tables is presented in transactions exempt from or not subject to the registration requirements of the Securities Act. Information concerning the Selling Security Holders may change from time to time and, if necessary, we will amend or supplement this prospectus accordingly. We cannot give an estimate as to the principal amount of Notes or number of shares of Common Stock that will actually be held by the Selling Security Holders upon termination of this offering because the Selling Security Holders may offer some or all of their Notes or Common Stock, as applicable, under the offering contemplated by this prospectus or may acquire additional shares of Common Stock. The aggregate principal amount of Notes and total number of shares of Common Stock that may be sold hereunder will not exceed the aggregate principal amount of Notes or number of shares of Common Stock offered hereby. Please read the section entitled "Plan of Distribution" in this prospectus.

The following tables set forth the name of each Selling Security Holder, the aggregate principal amount of Notes and number of shares of our Common Stock beneficially owned by such noteholder or stockholder, as applicable, before this offering, the aggregate principal amount of Notes and number of shares of Common Stock to be offered for such noteholder's or stockholder's account and the principal amount or number and (if one percent or more) the percentage of the class of stock to be beneficially owned by such noteholder or stockholder after completion of the offering. The principal amount of Notes and number of shares of Common Stock owned are those beneficially owned, as determined under the rules of the SEC, and such information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, the Selling Security Holders' beneficial ownership includes any shares of our Common Stock as to which a person has sole or shared voting power or investment power and any shares of Common Stock which the person has the right to acquire within 60 days after June 1, 2018 (as used in this section, the "Determination Date"), through the exercise of any option, warrant or right, through conversion of any security or pursuant to the automatic termination of a power of attorney or revocation of a trust, discretionary account or similar arrangement, and such shares are deemed to be beneficially owned and outstanding for computing the share ownership and percentage of the person holding such options, warrants or other rights, but are not deemed outstanding for computing the percentage of any other person.

Unless otherwise set forth below, based upon the information furnished to us, (a) the persons and entities named in the tables have sole voting and sole investment power with respect to the Notes or shares set forth opposite the Selling Security Holder's name, subject to community property laws, where applicable, (b) no Selling Security Holder had any position, office or other material relationship within the past three years with us or with any of our predecessors or affiliates, and (c) no Selling Security Holder is a broker-dealer or an affiliate of a broker-dealer. Based on information provided to us, no Selling Security Holders are broker-dealers or affiliates of broker-dealers. The principal amount of Notes or number of shares of Common Stock shown as beneficially owned before the offering is based on information furnished to us or otherwise based on information available to us at the timing of the filing of the registration statement of which this prospectus forms a part.

Selling Noteholders

Selling Noteholder	Principal Amount of Notes Beneficially Owned Prior to this Offering	Percentage of Outstanding Notes	Principal Amount of Notes Registered Hereby	Principal Amount of Notes Beneficially Owned upon Completion of this Offering (1)	Shares of Common Stock Beneficially Owned Prior to this Offering (2)	Shares of Common Stock Registered Hereby (3)	Shares of Common Stock Beneficially Owned upon Completion of this Offering (4)	Percentage of Common Stock Beneficially Owned upon Completion of this Offering (5)
Nineteen 77 Global Multi-Strategy Alpha Master Limited (6)	$7,500,000	50%	$7,500,000	$0	1,145,038	2,222,109	0	*
Blackwell Partners LLC - Series B (7)	$3,000,000	20%	$3,000,000	$0	458,015	888,843	0	*
LMAP Kappa Limited (8)	$3,000,000	20%	$3,000,000	$0	458,015	888,843	0	*
Silverback Opportunities Credit Master Fund Limited (9)	$1,500,000	10%	$1,500,000	$0	229,007	444,422	0	*

* Less than 1%

(1) Assumes all of the Notes to be registered on the registration statement of which this prospectus is a part are sold in the offering and that no additional Notes are purchased or otherwise acquired.

(2) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of Common Stock underlying options or warrants currently exercisable, or exercisable within 60 days of the Determination Date, are deemed outstanding for purposes of computing the beneficial ownership of the person holding such options or warrants but are not deemed outstanding for computing the beneficial ownership of any other person. Except where we had knowledge of such ownership, the number presented in this column may not include shares held in street name or through other entities over which the selling stockholder has voting and dispositive power. Includes shares issuable upon conversion of the Notes.

(3) Assumes (i) the issuance of the maximum number of shares issuable upon conversion of or in respect of the Notes and (ii) no fractional shares of our Common Stock will be issued upon conversion of Notes.

(4) Assumes all of the shares of Common Stock to be registered on the registration statement of which this prospectus is a part are sold in the offering, that shares of Common Stock beneficially owned by the Selling Noteholders but not being offered pursuant to this prospectus (if any) are not sold, and that no additional shares of Common Stock are purchased or otherwise acquired.

(5) Percentages are based on the 22,197,200 shares of Common Stock issued and outstanding as of the Determination Date. Shares of our Common Stock subject to options, warrants or conversion rights that are currently exercisable or convertible, or exercisable or convertible within 60 days of the Determination Date, are deemed to be outstanding for the purpose of computing the percentage ownership of the person holding those options, warrants or conversion rights, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

(6) UBS O'Connor LLC ("O'Connor") is the investment manager of Nineteen77 Global Multi-Strategy Alpha Master Limited ("Nineteen77") and accordingly has voting control and investment discretion over the securities described herein held by Nineteen77. Kevin Russell ("Mr. Russell"), the Chief Investment Officer of O'Connor, and Andrew Martin ("Mr. Martin"), a Portfolio Manager for O'Connor, each also have voting control and investment discretion over the securities described herein held by Nineteen77. As a result, each of O'Connor, Mr. Russell and Mr. Martin may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities described herein held by Nineteen77

(7) Voting or investment control over the securities held by Blackwell Partners LLC - Series B is held by Elliot Bossen ("Mr. Bossen"), CEO of Silverback Asset Management, trading advisor of Blackwell Partners LLC - Series B.

(8) Voting or investment control over the securities held by LMAP Kappa Limited is held by Mr. Bossen, CEO of Silverback Asset Management, trading advisor of LMAP Kappa Limited.

(9) Voting or investment control over the securities held by Silverback Opportunities Credit Master Fund Limited is held by Mr. Bossen, CEO of Silverback Asset Management, trading advisor of Silverback Opportunities Credit Master Fund Limited.

Selling Stockholders

Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to this Offering (1)	Shares of Common Stock Registered Hereby	Shares of Common Stock Beneficially Owned upon Completion of this Offering (2)	Percentage of Common Stock Beneficially Owned upon Completion of this Offering (3)
Steven P. DenBaars (4)	281,058	162,041	119,017	*
Greenstone, LLC (5)	310,968	301,339	9,629	*
Jeffrey K. McMahon (6)	567,342	330,888	236,454	1.1%
Richard T. Ogawa (7)	165,837	91,020	74,817	*
James R. Shealy (8)	447,082	259,266	187,816	*
Jeffrey B. Shealy (9)	3,182,762	3,001,975	180,787	*
Total	4,955,049	4,146,529	808,520	3.6%

* Less than 1%

(1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of Common Stock underlying options or warrants currently exercisable, or exercisable within 60 days of the Determination Date, are deemed outstanding for purposes of computing the beneficial ownership of the person holding such options or warrants but are not deemed outstanding for computing the beneficial ownership of any other person. Except where we had knowledge of such ownership, the number presented in this column may not include shares held in street name or through other entities over which the selling stockholder has voting and dispositive power.

(2) Assumes all of the shares of Common Stock to be registered on the registration statement of which this prospectus is a part are sold in the offering, that shares of Common Stock beneficially owned by the Selling Stockholders but not being offered pursuant to this prospectus (if any) are not sold, and that no additional shares of Common Stock are purchased or otherwise acquired. Some Selling Stockholders may have other shares of Common Stock registered pursuant to another registration statement. See "Description of Securities – Registration Rights" below.

(3) Percentages are based on the 22,197,200 shares of Common Stock issued and outstanding as of the Determination Date. Shares of our Common Stock subject to options or warrants that are currently exercisable, or exercisable within 60 days of the Determination Date, are deemed to be outstanding for the purpose of computing the percentage ownership of the person holding those options or warrants, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

(4) Steven P. DenBaars is a director of the Company and has held such position since May 22, 2015. Prior to becoming a director, Mr. DenBaars provided consulting services to Akoustis, Inc. Includes (i) 38,205 restricted shares that are subject to a repurchase option by the Company and (ii) 30,000 shares of Common Stock issuable upon the exercise of vested options that are exercisable until May 22, 2025

(5) Voting or investment control over the securities held by Greenstone, LLC is held by David Ngo, Managing Member of Greenstone, LLC.

(6) Jeffrey K. McMahon is a director of the Company. Includes (i) 22,000 restricted shares that are subject to a repurchase option by the Company and (ii) 30,000 shares of Common Stock issuable upon the exercise of vested options that are exercisable until May 22, 2025.

(7) Richard T. Ogawa is our Special Legal Counsel. Includes 26,204 restricted shares that are subject to a repurchase option by the Company, 10,000 of which are held by Ogawa Professional Corp, over which Mr. Ogawa holds voting and investment control.

(8) James R. Shealy is the brother of Jeffrey B. Shealy, the Company's Chief Executive Officer and a director. James R. Shealy has provided consulting services to the Company. Includes 23,205 restricted shares that are subject to a repurchase option by the Company.

(9) Jeffrey B. Shealy is the Company's President, Chief Executive Officer and a director. Includes (i) 4,000 shares owned by his spouse Lora Shealy and (ii) 40,000 restricted shares that are subject to a repurchase option.

USE OF PROCEEDS

We will not receive proceeds from sales of Notes or Common Stock made under this prospectus by the Selling Security Holders, or any proceeds from the issuance of Common Stock in respect of the Notes.

DETERMINATION OF OFFERING PRICE

There is no public market for our Notes and currently a limited public market for our Common Stock. The conversion price of the Notes was negotiated with the initial purchasers of the Notes and factors considered in connection therewith included, in addition to prevailing market conditions and the trading price of our common stock as traded on the NASDAQ, our historical financial and operating performance, estimates of our business potential and earnings prospects and those of our industry in general, an assessment of our management and the consideration of the above factors in relation to market valuation of companies in related businesses.

The Selling Security Holders will determine at what price they may sell the offered Securities, and such sales may be made at prevailing market prices or at privately negotiated prices. See “Plan of Distribution” below for more information.

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Market Information and Holders

Our Common Stock is currently traded on the NASDAQ Capital Market under the symbol "AKTS." Prior to March 13, 2017, our Common Stock was quoted on the OTC Market (OTCQB) under the same symbol. There has been limited trading in our Common Stock to date.

There is no public market for the Notes and we do not intend to list or quote the Notes on any securities exchange or quotation system.

As of June 1, 2018, 22,197,200 shares of our Common Stock were issued and outstanding and were held by approximately 200 stockholders of record.

The following table sets forth the high and low sales prices (or closing bid prices with respect to periods prior to March 13, 2017) for our Common Stock for the fiscal quarters indicated, as reported on NASDAQ (or on OTC Markets with respect to closing bids for periods prior to March 13, 2017). OTC Market quotations for periods prior to March 13, 2017 reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not represent actual transactions.

Period	High	Low
Fiscal year ended June 30, 2016		
Quarter ended September 30, 2015	$ 5.25	$ 3.50
Quarter ended December 31, 2015	3.70	1.60
Quarter ended March 31, 2016	2.14	1.51
Quarter ended June 30, 2016	4.90	1.85
Fiscal year ended June 30, 2017		
Quarter ended September 30, 2016	4.50	3.49
Quarter ended December 31, 2016	6.30	3.91
Quarter ended March 31, 2017	14.00	5.25
Quarter ended June 30, 2017	13.01	8.35
Fiscal year ended June 30, 2018		
Quarter ended September 30, 2017	8.77	5.11
Quarter ended December 31, 2017	7.30	4.91
Quarter ended March 31, 2018	7.13	5.43
Quarter ending June 30, 2018 (through June 22, 2018)	8.64	4.86

Dividends

We have never paid any dividends on our capital stock and do not anticipate paying any cash dividends on our Common Stock in the foreseeable future. We intend to retain future earnings to fund ongoing operations and future capital requirements. Any future determination to pay dividends will be at the discretion of our Board of Directors and will be dependent upon financial condition, results of operations, capital requirements and such other factors as the Board of Directors deems relevant.

Warrants, Options and Restricted Stock Units

As of June 1, 2018, there were warrants and options to purchase 754,809 shares of our Common Stock and 1,331,859 shares of our Common Stock, respectively, at prices ranging from $1.50 per share to $7.12 per share. The warrants had a weighted average exercise price of $3.93 as of June 1, 2018, and all such warrants are currently exercisable. Options for 120,000 shares of Common Stock are currently exercisable, with the remainder scheduled to vest at various times through May 18, 2022. The options had a weighted average exercise price of $6.04 as of June 1, 2018. In addition, there were unvested restricted stock units for 991,494 shares of Common Stock scheduled to vest between September 27, 2018 and May 18, 2022.

Except for the Notes, there are no other outstanding convertible securities of the Company.

Securities Authorized for Issuance under Equity Compensation Plans

The following table provides information as of our June 30, 2017 fiscal year end, relating to our equity compensation plans, under which grants of options, restricted stock, and other equity awards may be made from time to time:

Equity Compensation Plan Information

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	160,000(1)	$ 1.50	2,728,000(2)
Equity compensation plans not approved by security holders	-	-	-
Total	160,000(1)	-	2,728,000(2)

(1) The 160,000 shares of Common Stock to be issued upon the exercise of outstanding options are issuable under the 2015 Equity Incentive Plan (the "2015 Plan").

(2) As of June 30, 2017, 2,728,000 additional shares of Common Stock remained available for future issuance under the Company's 2016 Stock Incentive Plan (the "2016 Plan"). No additional grants will be made under the Company's 2014 Stock Plan (the "2014 Plan") or the 2015 Plan.

As of June 1, 2018, we had issued 111,000 shares of restricted stock, 1,056,994 restricted stock units, and 1,214,859 options under the 2016 Plan.

DESCRIPTION OF CAPITAL STOCK

We have authorized capital stock consisting of 45,000,000 shares of Common Stock and 5,000,000 shares of preferred stock. As of the date of this prospectus, we had 22,197,200 shares of Common Stock issued and outstanding, and no shares of preferred stock issued and outstanding.

Common Stock

The holders of outstanding shares of Common Stock are entitled to receive dividends out of assets or funds legally available for the payment of dividends at such times and in such amounts as the board from time to time may determine. Holders of Common Stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders. There is no cumulative voting of the election of directors then standing for election. The Common Stock is not entitled to pre-emptive rights and is not subject to conversion or redemption. Upon liquidation, dissolution or winding up of our company, the assets legally available for distribution to stockholders are distributable ratably among the holders of the Common Stock after payment of liquidation preferences, if any, on any outstanding payment of other claims of creditors. Each outstanding share of Common Stock is duly and validly issued, fully paid and non-assessable.

Preferred Stock

Shares of preferred stock may be issued from time to time in one or more series, each of which will have such distinctive designation or title as shall be determined by our Board of Directors prior to the issuance of any shares thereof. Preferred stock will have such voting powers, whole or limited, or no voting powers, and such preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions thereof, as shall be stated in such resolution or resolutions providing for the issue of such class or series of preferred stock as may be adopted from time to time by the Board of Directors prior to the issuance of any shares thereof. The number of authorized shares of preferred stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all the then outstanding shares of our capital stock entitled to vote generally in the election of the directors, voting together as a single class, without a separate vote of the holders of the preferred stock, or any series thereof, unless a vote of any such holders is required pursuant to any preferred stock designation.

While we do not currently have any plans for the issuance of additional preferred stock, the issuance of such preferred stock could adversely affect the rights of the holders of Common Stock and, therefore, reduce the value of the Common Stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of the Common Stock until the Board of Directors determines the specific rights of the holders of the preferred stock; however, these effects may include:

- Restricting dividends on the Common Stock;
- Diluting the voting power of the Common Stock;
- Impairing the liquidation rights of the Common Stock; or
- Delaying or preventing a change in control of the Company without further action by the stockholders.

Other than in connection with shares of preferred stock (as explained above), which preferred stock is not currently designated nor contemplated by us, we do not believe that any provision of our charter or bylaws would delay, defer or prevent a change in control.

Warrants

Warrants granted to the placement agents in a private placement offering with closings in May and June 2015 pursuant to which we issued 3,792,104 shares of Common Stock to accredited investors at a purchase price of $1.50 per share (the “2015 Offering”) entitled their holders to purchase 324,650 shares of Common Stock, with a term until June 2020 and an exercise price of $1.50 per share, and have a “cashless” net exercise option. Of these warrants, warrants to purchase 256,478 shares of Common Stock remain outstanding as of June 1, 2018.

Warrants granted to the placement agents in a private placement offering with closings in March and April 2016 pursuant to which we issued 2,235,310 shares of Common Stock to accredited investors at a purchase price of $1.60 per share (the "2016 Offering") entitled their holders to purchase 153,713 shares of Common Stock, with a term until April 2021 and an exercise price of $1.60 per share, and have a "cashless" net exercise option. Of these warrants, warrants to purchase 102,151 shares of Common Stock remain outstanding as of June 1, 2018.

Warrants granted to the placement agents in a private placement offering with closings in November and December 2016 and January and February 2017 pursuant to which we issued 2,142,000 shares of Common Stock to accredited investors at a purchase price of $5.00 per share (the "2016-2017 Offering") entitled their holders to purchase 205,126 shares of Common Stock, with a five-year term expiring between December 2021 and February 2022, and have an exercise price of $5.00 per share, and have a "cashless" net exercise option. Of these warrants, warrants to purchase 195,593 shares of Common Stock remain outstanding as of June 1, 2018.

Warrants granted to the placement agents in a private placement offering in May 2017 pursuant to which we issued 663,000 shares of Common Stock to accredited investors at a purchase price of $9.00 per share (the "First 2017 Offering") entitled their holders to purchase 46,410 shares of Common Stock, with a five-year term expiring in May 2022 and an exercise price of $9.00 per shares, and have a "cashless" net exercise option. Of these warrants, warrants to purchase 46,410 shares of Common Stock remain outstanding as of June 1, 2018.

Warrants granted to the placement agents in a private placement offering in December 2017 pursuant to which we issued 2,640,819 shares of common stock to accredited investors at a purchase price of $5.50 per share, for aggregate gross proceeds of $14,524,504 (the "Second 2017 Offering"), entitle their holders to purchase an aggregate of (i) 88,507 shares of Common Stock at a purchase price of $5.50 per share and (ii) 65,670 shares of Common Stock at a purchase price of $8.16 per share. These warrants are exercisable after six months and have a five and a half-year term.

See "Registration Rights" below for a description of the registration rights granted to (among others) the holders of the placement agent warrants, which description is incorporated herein by reference.

Copies of the forms of placement agent warrants are filed as exhibits to the registration statement of which this prospectus is a part.

Options

Options to purchase an aggregate of 160,000 shares of our Common Stock were granted under our 2015 Equity Incentive Plan in May 2015 to four non-employee directors, with an exercise price of $1.50 per share, vesting in equal annual installments over four years and exercisable until May 22, 2025.

Options to purchase an aggregate of 1,171,859 shares of our Common Stock have been granted under the 2016 Plan, to our officers, employees, and directors, with exercise prices ranging from $6.24 to $7.12 per share and vesting periods ranging from one to four years. The options expire between September 2024 and September 2027.

Restricted Stock Units

Restricted stock units for 991,494 shares of Common Stock have been granted under the 2016 Plan. These restricted stock units vest between one and four years.

Price-Protected Anti-Dilution Rights

The Company granted price-protection anti-dilution rights to investors in the First 2017 Offering, which were triggered by the Second 2017 Offering. Accordingly, in December 2017, the Company issued an additional 542,450 shares of Common Stock, for no additional consideration, to investors in the First 2017 Offering.

The Company granted price-protection anti-dilution rights to investors (other than directors, officers, employees, or other affiliates of the Company) in the Second 2017 Offering. Pursuant to these price-protection rights, if the Company issues additional shares of Common Stock or Common Stock equivalents (subject to certain customary exceptions, including but not limited to issuances of awards under Company employee stock incentive programs and certain issuances in connection with credit arrangements, equipment financings, lease arrangements, or similar transactions) prior to September 30, 2018 for a consideration per share less than $5.50 (as adjusted for any subsequent stock dividend, stock split, distribution, recapitalization, reclassification, reorganization, or similar event) (the "Lower Price"), each investor will be entitled to receive from the Company additional shares of Common Stock such that, when added to the number of shares of Common Stock initially purchased by such investor, will equal the number of shares of Common Stock that such investor's investment would have purchased at the greater of (i) the Lower Price and (ii) $5.00 (or $4.40 in the case of one investor).

Other Convertible Securities

As of the date hereof, other than the securities described above and the Notes, the Company does not have any outstanding convertible securities.

Registration Rights

The 2015 Offering

In connection with the 2015 Offering, we entered into a Registration Rights Agreement pursuant to which we agreed to file a registration statement with the SEC (the "2015 Registration Statement") covering (a) the shares of Common Stock issued in the 2015 Offering, (b) the shares of Common Stock issuable upon exercise of placement agent warrants, (c) any shares of Common Stock issuable to investors in the 2015 Offering pursuant to anti-dilution rights, and (d) 1,863,504 additional shares of Common Stock held by certain other stockholders (the "2015 Registrable Shares"). The 2015 Registration Statement was declared effective by the SEC on October 20, 2015. The 2015 Registration Statement must be maintained until the earlier of two years from its effective date or until Rule 144 is available to the holders of all 2015 Registrable Shares without volume limitations. We have continued to maintain the 2015 Registration Statement.

The 2016 Offering

In connection with the 2016 Offering, we entered into a Registration Rights Agreement, pursuant to which we agreed that promptly, but no later than 90 calendar days from the final closing of the First 2016 Offering, held April 16, 2016, the Company would file a registration statement with the SEC (the "2016 Registration Statement") covering the resale of (a) the shares of Common Stock issued in the 2016 Offering and (b) any shares of Common Stock issuable to investors in the 2016 Offering pursuant to applicable price-protected anti-dilution rights (the "2016 Registrable Shares"). The 2016 Registration Statement was declared effective by the SEC on July 22, 2016. The anti-dilution rights expired 90 days after the 2016 Registration Statement was declared effective by the SEC.

If (a) the 2016 Registration Statement ceases for any reason to remain effective or the holders of 2016 Registrable Shares are otherwise not permitted to utilize the prospectus therein to resell the 2016 Registrable Shares for a period of more than fifteen consecutive trading days; or (b) the 2016 Registrable Shares are not listed or included for quotation on OTC Markets, NASDAQ, the New York Stock Exchange or NYSE MKT, or trading of the Common Stock is suspended or halted for more than three consecutive trading days, the Company may be required make payments to each holder of 2016 Registrable Shares as monetary penalties at a rate equal to 12% of the First 2016 Offering Price per annum for each share affected during the period of such failure; provided, however, that in no event will the aggregate of any such penalties exceed 8% of the First 2016 Offering Price per share. No liquidated damages shall accrue with respect to any 2016 Registrable Shares after the shares may be resold under Rule 144 under the Securities Act or another exemption from registration under the Securities Act.

The Company must keep the 2016 Registration Statement effective until the earlier of (i) two years from the date it was declared effective by the SEC or (ii) the date Rule 144 is available to the holders of 2016 Registrable Shares with respect to all of their 2016 Registrable Shares without volume or other limitations.

The holders of 2016 Registrable Shares have "piggyback" registration rights for such 2016 Registrable Shares with respect to up to two registration statements filed by the Company following the effectiveness of the 2016 Registration Statement that would permit the inclusion of such shares, subject to customary cutback pro rata in an underwritten offering. The piggyback registration rights are not applicable to certain shares, including shares that may be sold pursuant to Rule 144 of the Securities Act without volume limitations and shares that are subject to an effective registration statement.

We are required to pay all expenses in connection with any registration obligation provided in the 2016 Registration Rights Agreement, including, without limitation, all registration, filing, stock exchange fees, printing expenses, all fees and expenses of complying with applicable securities laws, and the fees and disbursements of our counsel and of our independent accountants. Each investor will be responsible for its own sales commissions, if any, transfer taxes and the expenses of any attorney or other advisor such investor decides to employ.

The 2016-2017 Offering

In connection with the 2016-2017 Offering, we entered into a Registration Rights Agreement, pursuant to which we agreed that within 90 calendar days from the final closing of the 2016-2017 Offering, the Company would file a registration statement with the SEC (the "First 2017 Registration Statement") covering the resale of (a) the shares of Common Stock issued in the 2016-2017 Offering, (b) the shares of Common Stock issuable pursuant to warrants issued to the placement agents in the 2016-2017 Offering, and (c) any shares of Common Stock issuable to investors in the 2016-2017 Offering pursuant to applicable price-protected anti-dilution rights (the "2016-2017 Registrable Shares"). The First 2017 Registration Statement was declared effective by the SEC on June 5, 2017 and must be maintained until the earlier of (i) two years from the date it was declared effective by the SEC or (ii) the date Rule 144 is available to the holders of the 2016-2017 Registrable Shares with respect to all of the 2016-2017 Registrable Shares without volume or other limitations. The anti-dilution rights expired 90 days after the 2016 Registration Statement was declared effective by the SEC.

If the First 2017 Registration Statement ceases for any reason to remain effective, the holders of 2016-2017 Registrable Shares are otherwise not permitted to utilize the prospectus therein to resell the 2016-2017 Registrable Shares for a period of more than fifteen consecutive trading days, or the 2016-2017 Registrable Shares are not listed or included for quotation on OTC Markets, NASDAQ, the New York Stock Exchange or NYSE MKT, or trading of the Common Stock is suspended or halted for more than three consecutive trading days, the Company will make payments to each holder of 2016-2017 Registrable Shares as monetary penalties at a rate equal to 12% of the 2016-2017 Offering price per annum for each share affected during the period of such failure; provided, however, that in no event will the aggregate of any such penalties exceed 8% of the 2016-2017 Offering price per share. No liquidated damages shall accrue with respect to any 2016-2017 Registrable Shares removed from the First 2017 Registration Statement in response to a comment from the staff of the SEC limiting the number of shares of Common Stock which may be included in the First 2017 Registration Statement or after the shares may be resold under Rule 144 under the Securities Act or another exemption from registration under the Securities Act.

The holders of 2016-2017 Registrable Shares will have "piggyback" registration rights for such 2016-2017 Registrable Shares with respect to up to two registration statements filed by the Company following the effectiveness of the First 2017 Registration Statement that would permit the inclusion of such shares, subject to customary cutback pro rata in an underwritten offering. The piggyback registration rights are not applicable to certain shares, including shares that may be sold pursuant to Rule 144 of the Securities Act without volume limitations and shares that are subject to an effective registration statement.

We are required to pay all expenses in connection with any registration obligation provided in the 2016-2017 Registration Rights Agreement, including, without limitation, all registration, filing, stock exchange fees, printing expenses, all fees and expenses of complying with applicable securities laws, and the fees and disbursements of our counsel and of our independent accountants. Each investor will be responsible for its own sales commissions, if any, transfer taxes and the expenses of any attorney or other advisor such investor decides to employ.

The First 2017 Offering

In connection with the First 2017 Offering, we entered into a Registration Rights Agreement, pursuant to which we agreed that within 90 calendar days from the final closing of the First 2017 Offering, the Company would file the First 2017 Registration Statement covering the resale of (a) the shares of Common Stock issued in the First 2017 Offering, (b) any shares of Common Stock issuable to investors in the First 2017 Offering pursuant to the price-protected anti-dilution rights granted in the First 2017 Offering, and (c) the shares of Common Stock issuable pursuant to warrants issued to the placement agents in the First 2017 Offering (the "First 2017 Registrable Shares"). As noted above, the First 2017 Registration Statement was declared effective by the SEC on June 5, 2017 and must be maintained until the earlier of (i) two years from the date it was declared effective by the SEC or (ii) the date Rule 144 is available to the holders of the First 2017 Registrable Shares with respect to all of the First 2017 Registrable Shares without volume or other limitations.

If (a) the First 2017 Registration Statement ceases for any reason to remain effective, (b) the holders of First 2017 Registrable Shares are otherwise not permitted to utilize the prospectus therein to resell the First 2017 Registrable Shares for a period of more than 15 consecutive trading days, or (c) the First 2017 Registrable Shares are not listed or included for quotation on OTC Markets, NASDAQ, the New York Stock Exchange or NYSE MKT, or trading of the Common Stock is suspended or halted for more than three consecutive trading days, the Company will make payments to each holder of First 2017 Registrable Shares as monetary penalties at a rate equal to 12% of the First 2017 Offering price per annum for each share affected during the period of such failure; provided, however, that in no event will the aggregate of any such penalties exceed 8% of the First 2017 Offering price per share. No liquidated damages shall accrue with respect to any First 2017 Registrable Shares removed from the First 2017 Registration Statement in response to a comment from the staff of the SEC limiting the number of shares of Common Stock which may be included in the First 2017 Registration Statement or after the shares may be resold under Rule 144 under the Securities Act or another exemption from registration under the Securities Act.

The holders of First 2017 Registrable Shares will have "piggyback" registration rights for such First 2017 Registrable Shares with respect to up to two registration statements filed by the Company following the effectiveness of the First 2017 Registration Statement that would permit the inclusion of such shares, subject to customary cutback pro rata in an underwritten offering. The piggyback registration rights are not applicable to certain shares, including shares that may be sold pursuant to Rule 144 of the Securities Act without volume limitations and shares that are subject to an effective registration statement.

We are required to pay all expenses in connection with any registration obligation provided in the First 2017 Registration Rights Agreement, including, without limitation, all registration, filing, stock exchange fees, printing expenses, all fees and expenses of complying with applicable securities laws, and the fees and disbursements of our counsel and of our independent accountants. Each investor will be responsible for its own sales commissions, if any, transfer taxes and the expenses of any attorney or other advisor such investor decides to employ.

The Second 2017 Offering

In connection with the Second 2017 Offering, we entered into a Registration Rights Agreement, pursuant to which we agreed that within 90 calendar days from the final closing of the Second 2017 Offering, the Company would file a registration statement with the SEC (the "Second 2017 Registration Statement") covering the resale of (a) the shares of Common Stock issued in the Second 2017 Offering, (b) any shares of Common Stock issuable to investors in the Second 2017 Offering pursuant to the price-protection rights granted in the Second 2017 Offering, and (c) the shares of Common Stock issuable pursuant to the Common Stock purchase warrants issued to the placement agents in the Second 2017 Offering (the "Second 2017 Registrable Shares"). The Second 2017 Registration Statement was declared effective by the SEC on January 26, 2018 and must be maintained until the earlier of (i) two years from the date it was declared effective by the SEC or (ii) the date Rule 144 is available to the holders of the Second 2017 Registrable Shares with respect to all of their Second 2017 Registrable Shares without volume or other limitations.

If (a) the Second 2017 Registration Statement ceases for any reason to remain effective, (b) the holders of Second 2017 Registrable Shares are otherwise not permitted to utilize the prospectus therein to resell the First 2017 Registrable Shares for a period of more than 15 consecutive trading days, or (c) the Second 2017 Registrable Shares are not listed or included for quotation on OTC Markets, NASDAQ, the New York Stock Exchange or NYSE MKT, or trading of the Common Stock is suspended or halted for more than three consecutive trading days, the Company will make payments to each holder of Second 2017 Registrable Shares as monetary penalties at a rate equal to 12% of the Second 2017 Offering price per annum for each share affected during the period of such failure; provided, however, that in no event will the aggregate of any such penalties exceed 8% of the Second 2017 Offering price per share. No liquidated damages shall accrue with respect to any Second 2017 Registrable Shares removed from the Second 2017 Registration Statement in response to a comment from the staff of the SEC limiting the number of shares of Common Stock which may be included in the Second 2017 Registration Statement (the "Second 2017 Cutback Comment") or after the shares may be resold under Rule 144 under the Securities Act or another exemption from registration under the Securities Act.

The holders of Second 2017 Registrable Shares (including any shares of Common Stock removed from the Second 2017 Registration Statement as a result of a Second 2017 Cutback Comment) will have "piggyback" registration rights for such Second 2017 Registrable Shares with respect to up to two registration statements filed by the Company following the effectiveness of the Second 2017 Registration Statement that would permit the inclusion of such shares, subject to customary cutback pro rata in an underwritten offering.

We are required to pay all expenses in connection with any registration obligation provided in the Second 2017 Registration Rights Agreement, including, without limitation, all registration, filing, stock exchange fees, printing expenses, all fees and expenses of complying with applicable securities laws, and the fees and disbursements of our counsel and of our independent accountants. Each investor will be responsible for its own sales commissions, if any, transfer taxes and the expenses of any attorney or other advisor such investor decides to employ.

The Registration Rights Agreements referred to above are filed as exhibits to the registration statement of which this prospectus is a part.

Transfer Agent

The transfer agent for our Common Stock is Globex Transfer, LLC. The transfer agent's address is 780 Deltona Blvd., Suite 202, Deltona, FL 32725 and its telephone number is 813-344-4490.

Anti-Takeover Effects of Provisions of Our Certificate of Incorporation and By-Laws and Delaware State Law

The provisions of the General Corporation Law of the State of Delaware, or DGCL, and our Certificate of Incorporation and By-Laws could have the effect of discouraging others from attempting an unsolicited offer to acquire our company. Such provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Authorized but unissued shares. The authorized but unissued shares of our Common Stock and our preferred stock are available for future issuance without any further vote or action by our stockholders. These additional shares may be utilized for a variety of corporate purposes, including future public or private offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued shares of our Common Stock and our preferred stock could render more difficult or discourage an attempt to obtain control over us by means of a proxy contest, tender offer, merger or otherwise.

Special meeting of stockholders and advance notice requirements for stockholder proposals. Our By-Laws require that special meetings of stockholders be called only by a majority of our board of directors, by the chairman of the board, the Chief Executive Officer, the President, or the Secretary. In addition, our By-Laws provide that candidates for director may be nominated and other business brought before an annual meeting only by the board of directors or by a stockholder who gives written notice to us not less than 90 days, nor more than 120 days, prior to the one year anniversary of the date of the annual meeting of the previous year. These provisions may have the effect of deterring unsolicited offers to acquire our company or delaying stockholder actions, even if they are favored by the holders of a majority of our outstanding voting securities.

Business combinations. The DGCL generally prohibits a corporation from engaging in any business combination with any interested stockholder for a three-year period following the time that the stockholder became an interested stockholder, unless:

- prior to such time, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding certain shares; or
- at or subsequent to that time, the business combination is approved by our board of directors and by the affirmative vote of holders of at least 66 $^{2}/_{3}$% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a "business combination" includes a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an "interested stockholder" is a person who, together with that person's affiliates and associates, owns, or within the previous three years owned, 15% or more of our voting stock.

Under certain circumstances, this provision could make it more difficult for a person who would be an "interested stockholder" to effect various business combinations with a corporation for a three-year period. However, this provision generally does not apply to a corporation that does not have a class of voting stock that is listed on a national securities exchange or held of record by more than 2,000 stockholders. Accordingly, this provision does not currently apply to us.

DESCRIPTION OF NOTES

The Notes and the guarantees were issued under an indenture dated as of May 14, 2018 among us, Akoustis, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee. The following description is a summary of the material provisions of the Notes, the guarantees, the indenture and collateral documents and does not purport to be complete. This summary is subject to and is qualified by reference to all of the provisions of the Notes, the guarantees, the indenture and collateral documents, including the definitions of certain terms used in the Notes, the guarantees, the indenture and the collateral documents. We urge you to read these documents because they, and not this description, define your rights as a holder of the notes. The indenture is not qualified under the Trust Indenture Act of 1939 (the "TIA") and we are not required to comply with the provisions of the TIA.

For purposes of this description, references to "we," "our" and "us" refer only to Akoustis Technologies, Inc. and not to its subsidiary, Akoustis, Inc.

General

The Notes:

- are our senior secured obligations secured by a perfected first priority lien, subject to permitted liens, on substantially all of our and our subsidiaries' assets, including the Canandaigua, New York manufacturing facility of our subsidiary, Akoustis, Inc. (together with any other guarantors, from time to time, under the indenture, the "guarantors"), our and our subsidiaries' U.S. patents and trademarks, and a pledge of our equity interest in the guarantors, subject to certain exceptions described below under "—Ranking and Security;"

- bear interest payable from the date of issuance at an annual rate of 6.5% payable at our option in cash and/or freely tradable shares of our Common Stock, subject to certain limitations, on February 28, May 31, August 31 and November 30 of each year, beginning on August 31, 2018;

- mature on May 31, 2023 (the "maturity date"), unless earlier converted or repurchased;

- are subject to repurchase by us for cash at the option of a holder effective on May 31, 2021 (the "put date") and exercisable in the manner described in the indenture at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest to, and including, the put date as described below under "Holders' Put Right";

- are subject to repurchase by us at the option of a holder following a fundamental change (as defined below under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes"), at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, *plus* accrued and unpaid interest to, but excluding, the fundamental change repurchase date;

- are redeemable by us after May 31, 2019, if the closing sale price per share of our Common Stock is greater than 175% of the then-effective conversion price for each of 20 days of any 30 consecutive trading day period immediately preceding our optional redemption notice, as described below under "—Optional Redemption";

- include a limitation on our ability and the ability of our subsidiaries to incur additional indebtedness, other than permitted debt (as defined below under "—Limitation on Incurrence of Additional Indebtedness");

- include a limitation on our ability and the ability of our subsidiaries to make certain payments, including the repurchase of our securities and the payment of dividends as described below under "—Limitation on Certain Payments;"

- include a limitation on our ability to restrict our subsidiaries from making dividend and other payments as described below under "—Limitation on Dividend and Other Payment Restrictions;"

- include a limitation on our ability and the ability of our subsidiaries to sell assets as described below under "—Limitation on Asset Sales;"

- include a limitation on our ability and the ability of our subsidiaries to engage in certain transactions with our affiliates as described under "—Limitation on Transactions with Affiliates;"

- include a limitation on liens, other than permitted liens as described under "—Limitation on Liens;"

- require us and our subsidiaries to maintain our properties and insurance to the extent described under "—Maintenance of Properties and Insurance;"

- include a limitation on the issuance or sale of our subsidiaries' capital stock as described under "—Issuance or Sale of Subsidiary Stock;"

- require us and the guarantors to take certain actions with respect to the collateral as described under "—Impairment of Security;"

- include a limitation on the businesses in which we and our subsidiaries engage other than permitted businesses and require us and our subsidiaries to keep our existence, licenses and franchises to the extent described under "—Line of Business; Corporate Existence;"

- were issued in denominations of $1,000 and integral multiples of $1,000; and

- are represented by one or more registered notes in global form, but in certain limited circumstances may be represented by Notes in definitive form. See "Book-Entry, Settlement and Clearance."

Subject to satisfaction of certain conditions, the Notes may be converted at an initial conversion rate of 152.6718 into shares of Common Stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $6.55 per share of Common Stock). The conversion rate is subject to adjustment if certain events occur as described under "—Conversion Rights—Conversion Rate Adjustments."

In the event that we issue, or are deemed to issue, shares of Common Stock other than "excluded securities" (as defined under "—Conversion Rights—Adjustment to Conversion Rate Adjustment to Conversion Rate Upon Dilutive Issuances of Common Stock") for a consideration per share less than the conversion price then in effect (the "trigger price"), then the conversion rate shall be adjusted to reduce the conversion price to the greater of (i) the trigger price and (ii) $5.00 (as adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction).

Upon conversion of a Note, we will deliver shares of our Common Stock, together with a cash payment in lieu of delivering any fractional share, as described under "Conversion Rights—Settlement upon Conversion" and an interest make-whole payment, if applicable. Holders will not receive any separate cash payment for interest, if any, accrued and unpaid to the conversion date except under the limited circumstances described below under "—Conversion Rights—General."

If a holder surrenders its Notes for conversion at any time on or after the date that is one year after the last date of original issuance of the Notes and prior to May 31, 2021, we will in certain circumstances make an interest make-whole payment equal to the remaining scheduled interest payments that would have been made on the notes converted had such notes remained outstanding through the put date to the converting holder as described under "—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions." At our option, make-whole payments may be paid in cash and/or freely tradable shares of our Common Stock, subject to certain limitations described under "—Conversion Rights—Share Limitation," valued at 95% of the volume weighted average price of the common stock for the ten trading days ending on and including the trading day immediately preceding the conversion date. See "—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions."

The indenture limits the amount of debt that may be issued or incurred by us or our subsidiaries under the indenture or otherwise, except as described under "—Limitation on Incurrence of Additional Indebtedness." The indenture also restricts us from making certain payments, including the repurchase of our securities and the payment of dividends, as described under "—Limitation on Certain Payments." The indenture does not contain any financial covenants. Other than the restrictions described under "—Limitation on Incurrence of Additional Indebtedness," "—Limitation on Certain Payments," "—Limitation on Dividend and Other Payment Restrictions," "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" and "—Consolidation, Merger and Sale of Assets" below and except for the provisions set forth under "—Conversion Rights—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change," the indenture does not contain any covenants or other provisions designed to afford holders of the Notes protection in the event of a highly leveraged transaction involving us or in the event of a decline in our credit rating as the result of a takeover, recapitalization, highly leveraged transaction or similar restructuring involving us that could adversely affect such holders.

The Notes are not listed on any securities exchange or quoted on any automated dealer quotation system.

Except to the extent the context otherwise requires, we use the term "Notes" in this prospectus to refer to each $1,000 principal amount of Notes. References in this prospectus to a "holder" or "holders" of Notes that are held through The Depository Trust Company ("DTC") are references to owners of beneficial interests in such Notes, unless the context otherwise requires. However, we and the trustee treat the person in whose name the Notes are registered (Cede & Co., in the case of notes held through DTC) as the owner of such Notes for all purposes. References herein to the "close of business" refer to 5:00 p.m., New York City time, and to the "open of business" refer to 9:00 a.m., New York City time.

Purchase and Cancellation

We will cause all Notes surrendered for payment, repurchase (but excluding Notes repurchased pursuant to cash-settled swaps or other derivatives), including as described immediately below and in "—Fundamental Change Permits Holders to Require Us to Repurchase Notes," registration of transfer or exchange or conversion, if surrendered to any person that we control other than the trustee, to be delivered to the trustee for cancellation and they will no longer be considered "outstanding" under the indenture upon their payment, repurchase, registration of transfer or exchange or conversion. All Notes delivered to the trustee shall be cancelled promptly by the trustee. Except for Notes surrendered for registration of transfer or exchange, no Notes shall be authenticated in exchange for any Notes cancelled as provided in the indenture.

We may, to the extent permitted by law, and directly or indirectly (regardless of whether such notes are surrendered to us), repurchase Notes in the open market or otherwise, whether by us or our subsidiaries or through a privately negotiated transaction or public tender or exchange offer or through counterparties to private agreements, including by cash-settled swaps or other derivatives, in each case, without prior notice to the holders of the notes.

Payments on the Notes; Paying Agent and Registrar; Transfer and Exchange

We will pay or cause the paying agent to pay the principal of, and interest on, Notes in global form registered in the name of or held by DTC or its nominee by wire transfer in immediately available funds to DTC or its nominee, as the case may be, as the registered holder of such global note.

We will pay or cause the paying agent to pay the principal of any certificated Notes at the office or agency designated by us for that purpose. We have initially designated the trustee as our paying agent and registrar and its office described under "—Maintenance of Office or Agency" below as a place where Notes may be presented for payment or for registration of transfer. We may, however, change the paying agent or registrar without giving prior notice to the holders of the Notes, and we may act as paying agent or registrar. Interest on certificated Notes will be payable (i) to holders holding certificated Notes having an aggregate principal amount of $2,000,000 or less, by check mailed to the holders of these Notes and (ii) to holders holding certificated Notes having an aggregate principal amount of more than $2,000,000, either by check mailed to each such holder or, upon written application by such a holder to the registrar not later than the relevant regular record date, by wire transfer in immediately available funds to that holder's account within the United States if such holder has provided us, the trustee or the paying agent with the requisite information necessary to make such wire transfer, which application shall remain in effect until the holder notifies, in writing, the registrar to the contrary.

A holder of Notes may transfer or exchange Notes at the office of the registrar in accordance with the indenture. The registrar and the trustee may require a holder, among other things, to furnish appropriate endorsements and transfer documents. No service charge will be imposed by us, the trustee or the registrar for any registration of transfer or exchange of Notes, but we may require a holder to pay a sum sufficient to cover any transfer tax or other similar governmental charge required by law or permitted by the indenture. We are not required to transfer or exchange any Notes surrendered for conversion or required repurchase. A holder of a beneficial interest in a Note in global form may transfer or exchange such beneficial interest in accordance with the indenture and the applicable procedures of DTC. See "—Book-Entry, Settlement and Clearance."

The registered holder of a Note is treated as its owner for all purposes.

Interest

The Notes bear interest at a rate of 6.5% per year until maturity. Interest on the notes accrue from the date of issuance or from the most recent date on which interest has been paid or duly provided for. Interest is payable quarterly in arrears on February 28, May 31, August 31 and November 30 of each year, beginning on August 31, 2018, in cash and/or freely tradable shares of our Common Stock, at our option, subject to certain limitations described under "—Conversion Rights—Share Limitation." If we elect to pay any portion of the interest payment in freely tradable shares of our Common Stock, the number of shares will equal the amount of the payment (or portion thereof) to be paid in shares divided by 95% of the simple average of the daily VWAP (as defined below under the heading "—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions") of our shares for the ten consecutive trading days ending on and including the trading day immediately preceding the interest payment date.

Interest will be paid to the person in whose name a Note is registered at the close of business on February 15, May 15, August 15 or November 15 (whether or not a business day), as the case may be, immediately preceding the relevant interest payment date (each, a "regular record date"). Interest on the Notes will be computed on the basis of a 360-day year composed of 12 30-day months and, for partial months, on the basis of the number of days actually elapsed in a 30-day month.

If any interest payment date, the maturity date, the put date or any earlier required repurchase date upon a fundamental change of a Note falls on a day that is not a business day, the required payment will be made on the next succeeding business day with the same force and effect as if made on such scheduled payment date, and no interest on such payment will accrue in respect of the delay. The term "business day" means, with respect to any note, any day other than a Saturday, a Sunday or a day on which the Federal Reserve Bank of New York is authorized or required by law or executive order to close or be closed or a day when the corporate trust office of the trustee or the depository is closed.

Unless the context otherwise requires, all references to interest in this prospectus include (i) special interest, if any, payable as the sole remedy during certain periods for an event of default relating to the failure to comply with our reporting obligations as described under "—Events of Default" and (ii) additional interest, if any, payable under the registration rights agreement as a result of our failure to comply with certain obligations thereunder as described under "Transfer Restrictions—Registration Rights Agreement."

Holders' Put Right

The holders of the Notes have a one-time right, exercisable prior to May 31, 2021 (the "put date") in the manner described in the indenture, to require us to repurchase for cash all (but not less than all) of their notes on the put date at a purchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest to, and including, the put date.

We will notify all holders of the notes, the trustee, the conversion agent (if other than the trustee) and paying agent (if other than the trustee), not more than 60 days and not less than 20 business days prior to the put date, of the holders' right to require us to repurchase their notes, the repurchase price, the last date on which a holder may exercise the repurchase right, the name and address of the paying agent, and the repurchase procedures that holders must follow to require us to repurchase their notes.

We may not have sufficient future cash flow from operations to make any required repurchase in cash or the ability to arrange additional financing, if necessary, on acceptable terms. See "Risk Factors—We face several risks regarding holders' potential rights to require us to repurchase the notes on the put date or upon a fundamental change." If we fail to repurchase the notes when required following the exercise of the holders' put right, we will be in default under the indenture.

Ranking and Security

The notes are secured by a perfected first priority lien (subject to permitted liens) on substantially all of our and our subsidiaries' assets, including the Canandaigua, New York manufacturing facility of our subsidiary, Akoustis, Inc., our and our subsidiaries' U.S. patents and trademarks, and a pledge of our equity interests of Akoustis, Inc. (the assets subject to a lien securing the notes being referred to as the "collateral" in this prospectus). Certain of our and our subsidiaries' assets and property are excluded from the collateral, including the following:

- any rights or interest in any lease, contract, license or license agreement covering our or any guarantor's assets, so long as under the terms of such lease, contract, license or license agreement, or applicable law with respect thereto, the grant of a security interest or lien therein is prohibited or would render such lease, contract, license or license agreement cancelled, invalid or unenforceable; and

- assets owned by us or any guarantor on the date of issuance of the notes or thereafter acquired and any proceeds thereof that are subject to a lien securing a purchase money obligation or capital lease obligation permitted to be incurred pursuant to the provisions of the indenture to the extent and for so long as the contract or other agreement in which such lien is granted (or the documentation providing for such purchase money obligation or capital lease obligation) prohibits the creation of any other lien on such assets and proceeds.

We and the guarantors are required to use our commercially reasonable efforts following the issuance of the notes to obtain and cause the collateral agent and our depository institutions to enter into and deliver deposit account control agreements with respect to our deposit accounts in order to perfect the collateral agent's lien in such deposit accounts. Under U.S. bankruptcy law, if a security interest in certain collateral is created or perfected within 90 days (or, in certain circumstances, a period longer than 90 days) prior to a bankruptcy filing, then such security interest is at risk of avoidance as a preferential transfer in bankruptcy. Therefore, creation or perfection of the security interests in any collateral after the closing date of this offering increases the risk that the liens granted therein become avoided or subject to the liens of intervening creditors.

The notes are our senior secured obligations. The notes rank senior to all of our existing and future unsecured indebtedness to the extent of the value of the collateral. We have the right to incur capital lease obligations and purchase money indebtedness for the purpose of financing the purchase price or cost of equipment used in our and our subsidiaries' production lines and up to an additional $1 million of such indebtedness for other purposes. The notes rank junior to that indebtedness to the extent of the assets acquired with the proceeds thereof.

We may not be able to pay cash for the repurchase price at the put date or upon a fundamental change if a holder requires us to repurchase notes as described under "—Holders' Put Right" or "—Fundamental Change Permits Holders to Require Us to Repurchase Notes." See "Risk Factors—We face several risks regarding holders' potential rights to require us to repurchase the notes on the put date or upon a fundamental change."

Guarantees

The guarantors and any successor of any guarantor under the indenture, jointly and severally with any other guarantors, have irrevocably and unconditionally guaranteed, on a senior basis, the following:

- the due and punctual payment of the principal of, premium, if any, and interest on the notes, whether at maturity of the notes, by acceleration or otherwise; the due and punctual payment of interest on any overdue principal or interest, if any, on the notes, to the extent lawful; and the due and punctual performance of all other obligations of the guarantors and any successor of the guarantor to the holders or to the trustee; and

- in case of any extension of time of payment or renewal of any notes or any such other obligations, that the obligations will be promptly paid in full when due or performed in accordance with the terms of the extension or renewal, whether at maturity of the notes, by acceleration or otherwise.

All of our now owned and hereafter acquired direct and indirect subsidiaries are and will be guarantors under the indenture.

The indenture provides that the guarantors will automatically and unconditionally be released:

- in the event of a sale or other transfer (including by way of merger or consolidation) of the capital stock of such guarantor in compliance with the terms of the indenture following which such guarantor ceases to be our direct or indirect subsidiary; or

- in connection with the satisfaction and discharge of the indenture.

Upon any release of a guarantor, such guarantor shall also be automatically and unconditionally released from its obligations under the security agreement and any other collateral documents.

Limitation on Incurrence of Additional Indebtedness

We will not and will not permit any of our subsidiaries to, directly or indirectly, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to any indebtedness (including acquired debt which, for the purposes of the indenture, means indebtedness of any other entity existing at the time the other entity is merged with or into or became a subsidiary of the specified entity and the indebtedness secured by a lien encumbering any real property or fixed assets acquired by the specified entity). Additionally, although we may issue shares of preferred stock, we will not issue any disqualified stock and will not permit any of our subsidiaries to issue any shares of preferred stock. However, the following indebtedness will be permitted (the "permitted debt"):

- the incurrence by us and our subsidiaries of existing indebtedness;

- the incurrence by us, the guarantee thereof by the guarantors, of indebtedness represented by Notes issued on the date of the indenture;

- the incurrence by us or any of our subsidiaries of (x) indebtedness represented by capital lease obligations or purchase money obligations, in each case incurred for the purpose of financing the purchase price or cost of equipment used in our and our subsidiaries' production lines and (y) additional indebtedness represented by capital lease obligations, mortgage financings or purchase money obligations, in each case, incurred for the purpose of financing all or any part of the purchase price or cost of design, construction, installation or improvement of property, plant or equipment used in our or our subsidiaries permitted businesses (other than as described in clause (x)), in an aggregate principal amount, not to exceed $1.0 million in the aggregate outstanding at any time outstanding;

- the incurrence by us or any of our subsidiaries of permitted refinancing indebtedness in exchange for, or the net proceeds of which are used to renew, refund, refinance, replace, defease or discharge certain indebtedness (other than indebtedness owed by one credit party to another credit party) permitted by the indenture;

- the incurrence by us or any of our subsidiaries of indebtedness not to exceed in the aggregate at any time outstanding $5.0 million; provided, however, that the indebtedness is expressly subordinated to the prior payment in full in cash of all obligations with respect to this indenture, the Notes and the Note guarantees and matures no less than 181 days following the maturity of the Notes;

- the incurrence by us or any of our subsidiaries of hedging obligations in the ordinary course of business (other than for speculative purposes);

- the incurrence by us or any of our subsidiaries of indebtedness in respect of workers' compensation claims, self-insurance obligations, bankers' acceptances, performance and surety bonds in the ordinary course of business;

- the incurrence by us or any of our subsidiaries of unsecured indebtedness not to exceed in the aggregate at any time outstanding $1.0 million;

- guarantees by us or our subsidiaries of indebtedness otherwise permitted under the indenture;

- the incurrence of indebtedness by us or our subsidiaries arising from agreements providing for indemnification, contribution, earnout, adjustment of purchase price or similar obligations, in each case, incurred or assumed in connection with the acquisition or disposition of any business, assets or capital stock of a subsidiary otherwise permitted under the indenture;

- the incurrence of intercompany indebtedness among us and our subsidiaries; and

- the incurrence by us or any of our subsidiaries of indebtedness arising from the honoring by a bank or other financial institution of a check, draft or similar instrument inadvertently drawn against insufficient funds, so long as such indebtedness is covered within five business days.

We will not incur and will not permit any guarantor to incur any indebtedness (including permitted debt) that is contractually subordinated in right of payment to any of our or our guarantor's other indebtedness unless such indebtedness is also contractually subordinated in right of payment to the notes and the note guarantees on substantially identical terms. However, no indebtedness will be deemed to be contractually subordinated in right of payment to any of our other indebtedness solely by virtue of being unsecured or by virtue of being secured on a first or junior lien basis.

For purposes of determining compliance with the provisions regarding permitted debt, if an item of proposed indebtedness meets the criteria of multiple permitted debt categories, we will be permitted to classify the indebtedness on the date of its incurrence, or later reclassify all or a portion of such item of indebtedness, in any manner that complies with this covenant.

The accrual of interest, the accretion or amortization of original issue discount, the payment of interest on any indebtedness in the form of additional indebtedness with the same terms, the reclassification of preferred stock as indebtedness due to a change in accounting principles and the payment of dividends on disqualified stock in the form of additional shares of the same class of disqualified stock will not be deemed to be an incurrence of indebtedness or an issuance of disqualified stock.

The amount of any indebtedness outstanding as of any date will be the accreted value of the indebtedness, in the case of any indebtedness issued with original issue discount; the principal amount of the indebtedness, in the case of any other indebtedness; and in respect of indebtedness of another individual or entity secured by a lien on the assets of the specified individual or entity, the lesser of the fair market value of such assets at the date of determination and the amount of the indebtedness of the other individual or entity.

Limitation on Liens

We will not, and will not permit any of our subsidiaries, directly or indirectly, to enter into, create, incur, assume or suffer to exist any liens of any kind, on or with respect to the collateral except permitted liens.

Limitation on Certain Payments

We will not and will not permit any of our subsidiaries to, directly or indirectly:

- declare or pay any dividend or make any other payment or distribution on account of its equity interests (as defined below), including any payment in connection with any merger or consolidation involving us or any of our subsidiaries, or to the direct or indirect holders of its equity interests in their capacity as such, other than dividends or distributions payable in our or our subsidiaries' equity interests other than disqualified stock (as defined below), to us or any of our subsidiaries, or, in the case of dividends or distributions payable by any of our subsidiaries, pro rata to the holders of that subsidiary's equity interests;

- purchase, redeem or otherwise acquire or retire for value (including without limitation, in connection with any merger or consolidation involving us) any of our equity interests;

- make any payment on or with respect to, or purchase, redeem, defease or otherwise acquire or retire for value any indebtedness of us or any of our subsidiaries that are contractually subordinated to the notes or any note guarantee (excluding any intercompany indebtedness between or among us and any of our subsidiaries), except a payment of interest or principal at the maturity date; or

- make any restricted investment (as defined below).

All of the payments and other actions set forth above are collectively referred to as "restricted payments." Notwithstanding the foregoing, restricted payments shall be permitted if at the time of and after giving effect to such restricted payment:

- no default or event of default has occurred and is continuing or would occur as a consequence of such restricted payment; and

- the restricted payment, together with the aggregate amount of all other restricted payments made by us and our subsidiaries since the date of the indenture (excluding certain permitted restricted payments described below), is less than the sum, without duplication, of:

    - 50% of our consolidated net income (as defined below) for the period, taken as one accounting period, from the beginning of the first fiscal quarter commencing after the date of the indenture to the end of our most recently ended fiscal quarter for which internal financial statements are available at the time of the restricted payment (or, if such consolidated net income for such period is a deficit, less 100% of such deficit);

    - 100% of the aggregate net cash proceeds received by us since the date of the indenture as a contribution to our common equity capital or from the issue or sale of our equity interests other than disqualified stock or from the issue or sale of convertible or exchangeable disqualified stock or our convertible or exchangeable debt securities that have been converted into or exchanged for such equity interests, other than equity interests or disqualified stock or debt securities sold to one of our subsidiaries; and

    - to the extent that any restricted investment that was made after the date of the indenture is sold for cash or otherwise liquidated or repaid for cash, the lesser of (i) the cash return of capital with respect to such restricted investment (less the cost of disposition, if any) and (ii) the initial amount of such restricted investment.

For purposes of the indenture, "consolidated net income" means, with respect to any specified individual or entity for any period, the aggregate of the net income of the person and its subsidiaries for the period, on a consolidated basis, determined in accordance with GAAP; provided that:

- the net income (but not loss) of any person that is not a subsidiary or that is accounted for by the equity method of accounting will be included only to the extent of the amount of dividends or similar distributions paid in cash to the specified individual or entity or a subsidiary of the individual or entity;

- the net income of any subsidiary will be excluded to the extent that the declaration or payment of dividends or similar distributions by that subsidiary of that net income is not at the date of determination permitted without any prior governmental approval (that has not been obtained) or, directly or indirectly, by operation of the terms of its charter or any agreement, instrument, judgment, decree, order, statute, rule or governmental regulation applicable to that subsidiary or its securityholders;

- the cumulative effect of a change in accounting principles will be excluded; and

- the net income of any person acquired during the specified period for any period prior to the date of acquisition will be excluded.

As long as no event of default has occurred and is continuing or would occur as a result of the payment, the provisions described above will not prohibit:

- the payment of any dividend or the consummation of any irrevocable redemption within 60 days after the date of declaration of the dividend or giving of the redemption notice, as the case may be, if at the date of declaration or notice, the dividend or redemption payment would have complied with the provisions of the indenture;

- the making of any restricted payment (other than certain restricted payments involving making payment to purchase, redeem, defease or otherwise acquire or retire for value certain indebtedness or securities) in exchange for, or out of the net cash proceeds of the substantially concurrent sale (other than to one of our subsidiaries) of, our equity interests (other than disqualified stock) or from the substantially concurrent contribution of common equity capital to us;

- the redemption, repurchase, defeasance or other acquisition or retirement for value of indebtedness of us or one of our subsidiaries that is contractually subordinated or subordinated with respect to security interests to the notes or any note guarantee with the net cash proceeds from a substantially concurrent incurrence of certain permitted refinancing indebtedness;

- the repurchase, redemption or other acquisition or retirement for value of any equity interests of us or any of our subsidiaries held by any of our or any of our subsidiaries' current or former officer, director, employee or contractor in order to pay or satisfy the officer's, director's, employee's or contractor's aggregate exercise price or withholding tax payment obligations or otherwise upon death, disability, retirement or termination of employment or engagement, pursuant to awards granted under our equity incentive, stock option, restricted stock or other long-term equity compensation plans; provided that the aggregate price paid for all such repurchased, redeemed, acquired or retired equity interests may not exceed $500,000 in the aggregate in any calendar year, provided, that any unused amounts in any calendar year may be carried forward to one or more future periods;

- the repurchase of our equity interests deemed to occur upon the exercise of stock options, warrants or other convertible or exchangeable securities to the extent the equity interests represent a portion of the exercise price of the stock options, warrants or other convertible or exchangeable securities; and

- restricted investments by us and our subsidiaries not otherwise permitted under the indenture, in an aggregate amount not to exceed $2 million at any time outstanding.

For purposes of the indenture, "restricted investments" means, with respect to any individual or entity, all direct or indirect investments by such individual or entity in other individuals or entities (including affiliates) in the forms of loans (including guarantees or other obligations), advances or capital contributions (excluding commission, travel and similar advances to officers and employees made in the ordinary course of business), purchases or other acquisitions for consideration of indebtedness, equity interests or other securities, together with all items that are or would be classified as investments on a balance sheet prepared in accordance with GAAP. However, restricted investments will not include any "permitted investments," which under the indenture will mean the following:

- any investment by us in ourselves or our subsidiaries;

- any investment in cash equivalents;

- any investment by us or a subsidiary in an individual or entity, if as a result of such investment such individual or entity becomes our subsidiary or such individual or entity is merged, consolidated or amalgamated with or into, or transfers or conveys substantially all of its assets to, or is liquidated into, us or a subsidiary;

- any investment made as a result of the receipt of non-cash consideration from an asset sale that was made pursuant to and in compliance with the terms of the indenture;

- any acquisition of assets or capital stock solely in exchange for the issuance of our equity interests (other than disqualified stock);

- any investments received in compromise or resolution of litigation, arbitration or other disputes;

- investments represented by hedging obligations; and

- repurchases of the notes, including the related note guarantees, in accordance with the terms of the indenture.

The amount of all restricted payments (other than cash) will be the fair market value on the date of the restricted payment of the assets or securities to be transferred or issued by us or our subsidiaries. The fair market value of any non-cash restricted payment will be determined by the Board of Directors and their resolution with respect to the restricted payment will be delivered to the trustee in an officer's certificate.

For purposes of the indenture, "equity interests" means capital stock and all warrants, options or other rights to acquire capital stock (but excluding any debt security that is convertible into, or exchangeable for, capital stock).

For purposes of the indenture, "disqualified stock" means any capital stock that, by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable, in each case, at the option of the holder of the capital stock), or upon the happening of any event, matures or is mandatorily redeemable, pursuant to a sinking fund obligation or otherwise, or redeemable at the option of the holder thereof, in whole or in part, on or prior to the date that is 91 days after the date on which the notes mature. Any capital stock that would constitute disqualified stock solely because the holders of the capital stock have the right to require us to repurchase the capital stock upon the occurrence of a fundamental change or an asset sale will not constitute disqualified stock if the terms of the capital stock provide that we may not repurchase or redeem any of the capital stock pursuant to those provisions unless the repurchase or redemption complies with the indenture. The amount of disqualified stock deemed to be outstanding at any time for purposes hereof shall be the maximum amount that we and our subsidiaries may become obligated to pay upon the maturity of, or pursuant to any mandatory redemption provisions of, such disqualified stock, exclusive of accrued dividends.

Limitation on Dividend and Other Payment Restrictions

We will not and we will not permit our subsidiaries to, directly or indirectly, create or otherwise permit, cause or suffer to exist or become effective any consensual encumbrance or restriction on the ability of any subsidiary to pay dividends or to make any other distributions on its capital stock us or any of our subsidiaries or with respect to any other interest or participation in, or measured by, its profits or pay any indebtedness owed to us or any of our subsidiaries; make loans or advances to us or any of our subsidiaries; or sell, lease or transfer any of its properties or assets to us or any of our subsidiaries. However, the indenture permits such encumbrances or restrictions existing under or by reason of:

- the indenture, the notes and the note guarantees;

- agreements governing existing indebtedness and credit facilities as in effect on the date of the indenture and any amendments, restatements, modifications, renewals, supplements, refundings, replacements or refinancings of those agreements; provided that the amendments, restatements, modifications, renewals, supplements, refundings, replacements or refinancings are not materially more restrictive with respect to such dividend and other payment restrictions than the agreements existing on the date of the indenture;

- any instrument governing indebtedness or capital stock of a person acquired by us or any of our subsidiaries as in effect at the time of such acquisition (except to the extent the indebtedness or capital stock was incurred in connection with or in contemplation of such acquisition), which encumbrance or restriction is not applicable to any entity, or the properties or assets of any entity, other than the entity, or the property or assets of the entity, so acquired; provided that, in the case of indebtedness, the indebtedness was permitted by the terms of the indenture;

- certain purchase money obligations for property acquired in the ordinary course of business and capital lease obligations that impose restrictions on the property purchased or leased;

- certain permitted refinancing indebtedness; provided that the restrictions contained in the agreements governing such permitted refinancing indebtedness are not materially more restrictive, taken as a whole, than those in the agreements governing the indebtedness being refinanced;

- applicable law, rule, regulation or order;

- customary non-assignment provisions in contracts and licenses entered into in the ordinary course of business;

- any agreement for the sale or other disposition of a subsidiary that restricts distributions by that subsidiary pending the sale or other disposition

- certain liens permitted to be incurred under the indenture provisions that limit the right of the debtor to dispose of the assets subject to such liens;

- provisions limiting the disposition or distribution of assets or property in joint venture agreements, asset sale agreements, sale-leaseback agreements, stock sale agreements and other similar agreements entered into with the approval of the our Board of Directors, which limitation is applicable only to the assets that are the subject of such agreements; and

- restrictions on cash or other deposits or net worth imposed by customers under contracts entered into in the ordinary course of business.

Limitation on Asset Sales

We will not and will not permit any of our subsidiaries to sell, lease, convey or otherwise dispose of any assets or rights other than the sale, lease, conveyance or other disposition of all or substantially all of the assets of us and our subsidiaries taken as a whole or to issue equity interests in any of the subsidiaries or sell equity interests in any of its subsidiaries (each an “asset sale”). However, certain asset sales will be permitted (each a “permitted asset sale”) as set forth below. It will be a permitted asset sale if we or our subsidiary, as the case may be, receives consideration at the time of the asset sale at least equal to the fair market value of the assets or equity interests issued or sold or otherwise disposed of; and at least 75% of the consideration received is in cash; provided, however, that the amounts of the following will be deemed to be cash for purposes of this provision: (i) any liabilities shown on our most recent consolidated balance sheet or in the notes thereto, for us or any of our subsidiaries (other than contingent liabilities or liabilities that are by their terms subordinated in right of payment or as to security interests to the notes or any note guarantee) that are assumed by the transferee of any such assets pursuant to a customary novation agreement that releases us or our subsidiary from further liability, (ii) any securities, notes or other obligations received by us or any of our subsidiaries from such transferee that are contemporaneously, subject to ordinary settlement periods, converted by us or the subsidiary into cash (to the extent of the cash received in that conversion) and (iii) any stock or assets received by us or any subsidiary used to acquire all or substantially all of the assets of, or any capital stock of, another permitted business if, after giving effect to any such acquisition of capital stock, the permitted business is or becomes our subsidiary and a guarantor or other assets that are not classified as current assets under GAAP and that are used or useful in a permitted business.

Additionally, the following transactions will be considered permitted asset sales: any single or series of related transactions that involves assets having an aggregate fair market value less than $1.0 million; the transfer, sale or lease of products, services or accounts receivable by us or any subsidiary in the ordinary course of business and any sale or other disposition of damaged, worn-out, replaced, retired or obsolete assets by us or any subsidiary in the ordinary course of business; the sale or other disposition by us or any subsidiary of cash or cash equivalents; a transfer of assets by us to a subsidiary or by a subsidiary to us or another subsidiary; an issuance of equity interests by a subsidiary to us or to another of our subsidiaries; and any restricted payment, permitted investment or permitted lien that is permitted under the indenture; leases or subleases in the ordinary course of business to third persons not interfering in any material respect with our business and otherwise not prohibited by the indenture; dispositions of accounts receivable in connection with the collection or compromise thereof in the ordinary course of business; licensing of intellectual property in accordance with industry practice in the ordinary course of business.

We or our subsidiaries may apply the net cash proceeds from the permitted asset sale for the following purposes: to repay indebtedness and other obligations under a credit facility, and if the indebtedness repaid is revolving credit indebtedness, to correspondingly reduce facility commitments; to repay indebtedness and correspondingly permanently reduce commitments with respect thereto; to acquire all or substantially all of the assets of, or any capital stock of, another permitted business if, after giving effect to any such acquisition of capital stock, the permitted business is or becomes a subsidiary and a guarantor; to make capital expenditures in a permitted business of a subsidiary; or to acquire other assets that are not classified as current assets under GAAP and that are used or useful in a permitted business of us or a subsidiary.

From an event of loss, we or our subsidiaries may apply the net cash proceeds for the following purposes: to repay secured indebtedness and to correspondingly reduce commitments with respect thereto; to acquire all or substantially all of the assets of, or any capital stock of, another permitted business, if, after giving effect to any such acquisition of capital stock, the permitted business is or becomes our subsidiary and a guarantor; to make capital expenditures in a permitted business of a subsidiary; or to acquire other assets that are not classified as current assets under GAAP and that are used or useful in a permitted business.

Pending the application of any net cash proceeds from an asset sale or event of loss, we may temporarily invest such net proceeds in cash or cash equivalents.

Limitation on Transactions with Affiliates

We will not and will not permit any of our subsidiaries to, make any payment to, or sell, lease, transfer or otherwise dispose of any of its properties or assets to, or purchase any property or assets from, or enter into or make or amend any contract, agreement, understanding, loan, advance, transaction or guarantee with, or for the benefit of, any of our affiliates (each of the foregoing, an "affiliate transaction"), unless the affiliate transaction is on terms that are not materially less favorable to us or our subsidiary than those that could reasonably have been obtained in a comparable transaction by us or our subsidiary with an unrelated individual or entity and we deliver to the trustee with respect to any affiliate transaction or series of related affiliate transactions involving aggregate consideration in excess of $1.0 million, a resolution of the Board of Directors set forth in an officers' certificate certifying that such affiliate transaction complies with the above requirements and that such affiliate transaction has been approved by a majority of the disinterested members of our Board of Directors; with respect to any affiliate transaction or series of related affiliate transactions involving aggregate consideration in excess of $1.0 million; provided, however, that we will not be required to comply with requirements in certain circumstances set forth below.

The following circumstances are excluded from the application of the preceding paragraph: any employment agreement, employee benefit plan, officer or director indemnification agreement or any similar arrangement entered into by us or any of our subsidiaries in the ordinary course of business and payments made pursuant thereto; transactions between or among us and/or our subsidiaries; restricted payments other than permitted investments that do not violate certain provisions of the indenture; transactions with an individual or entity that is our affiliate solely because we own, directly or through a subsidiary, an equity interest in, or controls, such individual or entity; payment of reasonable directors' fees to an individual who is not otherwise our affiliate; loans or advances to employees for expenses incurred or to be incurred in connection with the permitted business and such employee's employment in the ordinary course of business not to exceed $250,000 in the aggregate at any time outstanding, in each case. As used in the indenture, "permitted business" means any business similar in nature to any business conducted by us or our subsidiaries on the date of the indenture and any business reasonably ancillary, incidental, complementary or related thereto or a reasonable extension, development or expansion thereof, in each case, as determined in good faith by our Board of Directors.

Optional Redemption

We may not redeem the Notes before May 31, 2019. At any time on or after May 31, 2019, we may redeem the notes, in whole or in part, at 100% of the principal amount plus accrued and unpaid interest on such principal, if any, up to the redemption date; provided that the closing sale price of the Common Stock is greater than 175% of the then-effective conversion price for each of 20 of any 30 consecutive trading days immediately preceding the optional redemption notice, as defined below.

Notices to Trustee and Notice of Redemption

If we elect to exercise our optional redemption right, we will notify the trustee in writing of the optional redemption date and the principal amount of the Notes to be redeemed and will deliver an officers' certificate stating that all conditions precedent for the redemption have been satisfied and the redemption will comply with the provisions of the indenture.

We will give such notice to each of the trustee and the registrar at least 5 days prior to the date that any optional redemption notice is to be sent to holders unless the trustee consents to a shorter period.

At least 30 days but not more than 60 days before an optional redemption date, we will deliver a notice of redemption (an "optional redemption notice") to each holder of the Notes that we intend to redeem at the holder's registered address. We will also deliver a copy of the optional redemption notice to the trustee prior to delivery to the holders of the Notes. At our request, the trustee will give the optional redemption notice in our name and at our expense and, in that case, we will provide the trustee with the information required to be in that notice.

The optional redemption notice will identify the Notes to be redeemed and will state:

- each date when we elect to redeem the Notes in whole or in part (the "optional redemption date");
- the optional redemption price;
- the conversion price;
- the name and address of the paying agent where the Notes are to be surrendered;
- that Notes called for redemption may be converted at any time before the close of business on the business day immediately preceding the optional redemption date;
- that Notes called for redemption must be surrendered to the paying agent to collect the optional redemption price:
- if fewer than all the outstanding Notes are to be redeemed, the identification and principal amounts of the particular Notes to be redeemed;
- that, unless we default in making a redemption payment, the interest on the Notes or the portion thereof called for redemption will cease to accrue on and after the optional redemption date; an
- the CUSIP number or ISIN number, if any, printed on the Notes being redeemed.

Effect of Notice of Redemption

Once an optional redemption notice is delivered to the holders, the Notes or portions thereof called for redemption will become irrevocably due and payable on the optional redemption date and at the optional redemption price stated in the optional redemption notice. The optional redemption notice may not be conditional and will be irrevocable. Upon surrender to the paying agent, the Notes will be paid at the optional redemption price stated in the optional redemption notice. Even if the Notes are surrendered, if the optional redemption date is on or after a regular record date and on or prior to the interest payment date, the accrued and unpaid interest will be payable to the holder of the redeemed Notes registered on the relevant record date. Failure to give notice or the existence of any defect in the notice to any holder will not affect the validity of the notice to any other holder.

Deposit of Redemption Price

We will deposit with the paying agent money sufficient to pay the redemption price on all Notes to be redeemed on the applicable redemption date other than Notes or portions of the Notes called for redemption that are owned by us or one of our subsidiaries and have been delivered by us or one of our subsidiaries to the trustee for cancellation no later than 11:00 a.m., New York City time, on the business day prior to the date on which any redemption price on any Note is due and payable. If we or our subsidiary is the paying agent, we will segregate the money to pay the redemption price and hold it in trust. If we comply with the foregoing requirements, then on and after the applicable redemption date, interest will cease to accrue on the Notes or portions of the Note called for redemption.

Notes Redeemed in Part

Upon cancellation of a Note that is redeemed in part, at our expense, we will issue and the trustee will authenticate for the holder a new Note equal in principal amount to the unredeemed portion of the Note surrendered. The trustee will notify the registrar of the issuance of such new Note.

If less than all of the outstanding Notes are to be redeemed, Notes shall be selected, with respect to global notes, in accordance with DTC's applicable policies and procedures and, with respect to certificated Notes, by lot, pro rata or by such other method as the trustee deems fair and reasonable. The Notes or portions of them selected will be redeemed in principal amounts of $1,000 or whole multiples of $1,000. If a portion of a holder's Notes is selected for partial redemption and such holder converts a portion of its Notes before termination of the conversion right in respect to the portion of the Note selected, the converted portion will be deemed to be of the portion selected for redemption and the amount designated for partial redemption will be reduced by the converted amount.

We may not redeem the Notes if we have failed to pay any interest or premium on the Notes and such failure to pay is continuing. We will issue a press release if we redeem the Notes.

Conversion Rights

General

Holders may convert all or any portion of their Notes at their option at any time prior to the close of business on the business day immediately preceding the maturity date.

The conversion rate is initially 152.6718 shares of common stock per $1,000 principal amount of Notes (equivalent to an initial conversion price of approximately $6.55 per share of Common Stock). The conversion rate is subject to adjustment if certain events occur. The conversion price at any given time will be computed by dividing $1,000 by the applicable conversion rate at such time. Accordingly, an adjustment to the conversion rate will result in a corresponding (but inverse) adjustment to the conversion price.

Upon conversion of a Note, we will satisfy our conversion obligation by delivering shares of our Common stock, together with a cash payment in lieu of delivering any fractional share, as set forth below under "—Settlement upon Conversion" and an interest make-whole payment, if applicable. We will settle our conversion obligation on the second business day immediately following the relevant conversion date. The trustee will initially act as the conversion agent.

A holder may convert fewer than all of such holder's Notes so long as the Notes converted are an integral multiple of $1,000 principal amount.

Upon conversion, a holder will not receive any separate cash payment for accrued and unpaid interest, if any, except as described below and under "—Interest Make-Whole Payment upon Certain Conversions." We will not issue fractional shares of our Common Stock upon conversion of Notes. Instead, we will pay cash in lieu of delivering any fractional share as described under "—Settlement upon Conversion." Our delivery to the holder of the full number of shares, together with a cash payment for any fractional share, into which a Note is convertible will be deemed to satisfy in full our obligation to pay:

- the principal amount of the Note; and

- accrued and unpaid interest, if any, to, but not including, the relevant conversion date.

As a result, accrued and unpaid interest, if any, to, but not including, the relevant conversion date will be deemed to be paid in full rather than cancelled, extinguished or forfeited.

Notwithstanding the immediately preceding paragraph, if Notes are converted after the close of business on a regular record date for the payment of interest, but prior to the open of business on the immediately following interest payment date, holders of such Notes at the close of business on such regular record date will receive the full amount of interest payable on such Notes on the corresponding interest payment date notwithstanding the conversion. However, Notes surrendered for conversion during the period from the close of business on any regular record date to the open of business on the immediately following interest payment date must be accompanied by funds equal to the amount of interest payable on the Notes so converted on the corresponding interest payment date (regardless of whether the holder was the holder of record on the corresponding regular record date); *provided* that no such payment need be made:

- for conversions following the regular record date immediately preceding the maturity date;

- for conversions in respect of which an interest make-whole payment is payable upon conversion;

- if we have specified a fundamental change repurchase date that is after a regular record date and on or prior to the business day immediately following the corresponding interest payment date, in respect of Notes converted; or

- to the extent of any overdue interest, if any overdue interest exists at the time of conversion with respect to such Note.

Therefore, for the avoidance of doubt, all record holders on the regular record date immediately preceding the maturity date, any record holders entitled to receive an interest make-whole payment upon conversion described in the second bullet in the immediately preceding paragraph and any fundamental change repurchase date described in the third bullet in the immediately preceding paragraph will receive the full interest payment due on the maturity date or other applicable interest payment date in cash regardless of whether their Notes have been converted or repurchased following such regular record date.

“Trading day” means a day on which (i) trading in our common stock (or other security for which a closing sale price must be determined) generally occurs on the NASDAQ Capital Market or, if our common stock (or such other security) is not then listed on the NASDAQ Capital Market, on the principal other U.S. national or regional securities exchange on which our Common Stock (or such other security) is then listed or, if our common stock (or such other security) is not then listed on a U.S. national or regional securities exchange, on the principal other market on which our common stock (or such other security) is then traded, and (ii) a last reported sale price for our Common Stock (or closing sale price for such other security) is available on such securities exchange or market. If our Common Stock (or such other security) is not so listed or traded, “trading day” means a “business day.”

Notwithstanding anything to the contrary in the indenture, unless we have obtained the requisite approval of our stockholders pursuant to the applicable NASDAQ Marketplace rule or listing requirements of the relevant stock exchange, the number of shares we may deliver in respect of the Notes, including those delivered in lieu of cash interest, in connection with an interest make-whole payment, or as a qualifying fundamental change payment, will not exceed 19.99% of our Common Stock outstanding (as adjusted for stock splits, reverse stock splits, stock combinations, reclassifications and reorganizations) as of the close of the trading day immediately preceding the date of the indenture that governs the Notes without shareholder approval or as otherwise required pursuant to the listing requirements of the NASDAQ Capital Market or such other national securities exchange on which the Common Stock is then listed.

Conversion Procedures

If you hold a beneficial interest in a global note, to convert you must comply with DTC's procedures for converting a beneficial interest in a global note and, if required, pay funds equal to interest payable on the next interest payment date to which you are not entitled and, if required, pay all transfer or similar taxes, if any. As such, if you are a beneficial owner of the notes, you must allow for sufficient time to comply with DTC's procedures if you wish to exercise your conversion rights. Your exercise of such conversion rights shall be irrevocable.

If you hold a certificated note, to convert you must:

- complete and manually sign the conversion notice on the back of the note, or a facsimile of the conversion notice;
- deliver the conversion notice, which is irrevocable, and the note to the conversion agent;
- if required, furnish appropriate endorsements and transfer documents;
- if required, pay funds equal to the interest payable on the next interest payment date to which you are not entitled; and
- if required, pay all transfer or similar taxes, if any.

We will pay any documentary, stamp or similar issue or transfer tax on the issuance of the shares of our Common Stock upon conversion of the Notes, unless the tax is due because the holder requests such shares to be issued in a name other than the holder's name, in which case the holder must pay the tax.

We refer to the date you comply with the relevant procedures for conversion described above as the "conversion date."

If a holder has already delivered a repurchase notice as described under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" with respect to a Note, the holder may not surrender that Note for conversion until the holder has withdrawn the repurchase notice in accordance with the relevant provisions of the indenture. If a holder submits its Notes for required repurchase, the holder's right to withdraw the repurchase notice and convert the Notes that are subject to repurchase will terminate at the close of business on the business day immediately preceding the relevant fundamental change repurchase date.

Settlement upon Conversion

Upon conversion, we will deliver to holders in respect of each $1,000 principal amount of Notes being converted a number of shares of our Common Stock equal to the conversion rate, together with a cash payment, if applicable, in lieu of delivering any fractional share of Common Stock issuable upon conversion based on the last reported sale price of our Common Stock on the relevant conversion date and an interest make-whole payment or a qualifying fundamental change payment, if applicable. We will deliver the consideration due in respect of conversion on the second business day immediately following the relevant conversion date.

Each conversion will be deemed to have been effected as to any Notes surrendered for conversion on the conversion date, and the person in whose name the shares of our common stock shall be issuable upon such conversion will become the holder of record of such shares as of the close of business on such conversion date.

The "last reported sale price" of our Common Stock on any date means, as determined by us, the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) on that date as reported in composite transactions for the principal U.S. national or regional securities exchange on which our Common Stock is traded. If our Common Stock is not listed for trading on a U.S. national or regional securities exchange on the relevant date, the "last reported sale price" will be the last quoted bid price for our Common Stock in the over-the-counter market on the relevant date as reported by OTC Markets Group Inc. or a similar organization. If our Common Stock is not so quoted, the "last reported sale price" will be the average of the mid-point of the last bid and ask prices for our Common Stock on the relevant date from each of at least three nationally recognized independent investment banking firms selected by us for this purpose.

Conversion Limitation

We will not effect any conversion of a Note and no holder will have the right to convert any portion of a Note to the extent that after giving effect to such conversion, the holder (together with the holder's affiliates) would beneficially own in excess of 4.99% of the number of shares of our Common Stock outstanding immediately after giving effect to such conversion (the "conversion limitation"). The number of shares of Common Stock beneficially owned by a holder and its affiliates will include the number of shares of Common Stock issuable upon the conversion of a Note with respect to which the determination is being made. The number of shares of Common Stock beneficially owned by a holder and its affiliates will exclude the number of shares of Common Stock which would be issuable upon (i) conversion of the remaining, nonconverted portion of any Note beneficially owned by the holder or any of its affiliates and (ii) exercise or conversion of the unexercised or nonconverted portion of any of our other securities subject to a limitation on conversion or exercise analogous to the conversion limitation beneficially owned by such holder or any of its affiliates. For purposes of the indenture, beneficial ownership will be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended.

In determining the number of outstanding shares of our Common Stock, the holder may rely on the number of outstanding shares of Common Stock reflected in our most recent annual, quarterly or current report on Form 10- K, Form 10-Q or Form 8-K, respectively, as the case may be; a more recent public announcement by us or any other notice by us setting forth the number of shares of our Common Stock outstanding. For any reason at any time, upon the written or oral request of a holder, we will within two business days confirm orally and in writing to the holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock will be determined after giving effect to the conversion or exercise of our securities, including the Note, by the holder or its affiliates since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to us, any holder may increase or decrease the conversion limitation to any other percentage not in excess of 9.99% specified in such notice; provided that any such increase will not be effective until the 61st day after the notice of the change in the conversion limitation is delivered to us and any such increase or decrease will apply only to the holder sending such notice and not to any other holder of the notes. The conversion limitation will not be applicable on any of the ten trading days up to and including the maturity date on May 31, 2023, or on any of the ten trading days up to and including the effective date of a fundamental change or during the period between the date that the fundamental change notice is sent and the fundamental change repurchase date.

Interest Make-Whole Payment upon Certain Conversions

If a holder surrenders its Notes for conversion at any time on or after the date that is one year after the last date of original issuance of the Notes and prior to May 31, 2021 (other than a conversion in connection with a qualifying fundamental change), we will make an interest make-whole payment to the holder of such Notes equal to the sum of the remaining scheduled payments of interest that would have been made on the Notes to be converted had such Notes remained outstanding from the conversion date through, and including, the put date (the "interest make-whole payment").

If a conversion date occurs after the close of business on a regular record date but prior to the open of business on the interest payment date corresponding to such regular record date, the interest make-whole payment will not include the accrued interest to any converting holder and instead we will pay the full amount of the relevant interest payment on such interest payment date to the holder of record on such regular record date. In such case, the interest make-whole payment to such converting holders will equal the value of all remaining interest payments, starting with the next interest payment date for which interest has not been provided for through May 31, 2021.

We will have the option to pay any interest make-whole payment in cash and/or by delivering freely tradable shares of our common stock, subject to certain limitations described under "Share Limitation." The number of shares a converting holder will receive will be the number of shares equal to the amount of the interest make-whole payment to be paid in Common Stock to such holder, divided by the product of (x) 95% and (y) the simple average of the daily VWAP (as defined below) of the shares for the ten consecutive trading days ending on and including the trading day immediately preceding the conversion date.

The "daily VWAP" means, for each of the ten consecutive trading days for the calculation of the interest make-whole payment, the per share volume-weighted average price as displayed under the heading "Bloomberg VWAP" on Bloomberg page "AKTS <equity> AQR" (or its equivalent successor if such page is not available) in respect of the period from the scheduled open of trading until the scheduled close of trading of the primary trading session on such trading day (or if such volume-weighted average price is unavailable, the market value of one share of our common stock on such trading day determined, using a volume-weighted average method, by a nationally recognized independent investment banking firm retained for this purpose by us). The "daily VWAP" will be determined without regard to after-hours trading or any other trading outside of the regular trading session trading hours.

For the purposes of determining the number of shares deliverable in respect of the interest make-whole payment only, "trading day" means a scheduled trading day on which (i) there is no "market disruption event" (as defined below) and (ii) trading in our Common Stock generally occurs on the relevant stock exchange on which our Common Stock is then listed or, if our Common Stock is not then listed on a U.S. national or regional securities exchange, on the principal other market on which our Common Stock is then listed or admitted for trading. If our Common Stock is not so listed or admitted for trading, "trading day" means a "business day." "Relevant stock exchange" means the NASDAQ Capital Market or, if our Common Stock is not then listed on the NASDAQ Capital Market, the principal other U.S. national or regional securities exchange or market on which our Common Stock is listed or admitted for trading.

"Scheduled trading day" means a day that is scheduled to be a trading day on the relevant stock exchange. If our Common Stock is not listed or admitted for trading on any U.S. national or regional securities exchange, "scheduled trading day" means a "business day."

"Market disruption event" means (i) a failure by the relevant stock exchange to open for trading during its regular trading session or (ii) the occurrence or existence prior to 1:00 p.m., New York City time, on any scheduled trading day for our Common Stock for more than one half-hour period in the aggregate during regular trading hours of any suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant stock exchange or otherwise) in our Common Stock or in any options contracts or futures contracts relating to our Common Stock.

Conversion Rate Adjustments

The conversion rate will be adjusted by us as described below, except that we will not make any adjustments to the conversion rate if holders of the notes participate (other than in the case of (x) a share split or share combination or (y) a tender or exchange offer), at the same time and upon the same terms as holders of our Common Stock and solely as a result of holding the Notes, in any of the transactions described below without having to convert their Notes as if they held a number of shares of our Common Stock equal to the conversion rate, *multiplied by* the principal amount (expressed in thousands) of Notes held by such holder.

(1) If we exclusively issue shares of our Common Stock as a dividend or distribution on shares of our Common Stock, or if we effect a share split or share combination, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_1}{OS_0}$$

where,

CR_0 = the conversion rate in effect immediately prior to the close of business on the record date (as defined below) of such dividend or distribution, or immediately prior to the open of business on the effective date of such share split or share combination, as applicable;

CR_1 = the conversion rate in effect immediately after the close of business on such record date or immediately after the open of business on such effective date, as applicable;

OS_0 = the number of shares of our Common Stock outstanding immediately prior to the close of business on such record date or immediately prior to the open of business on such effective date, as applicable (before giving effect to any such dividend, distribution, share split or share combination); and

OS_1 = the number of shares of our Common Stock outstanding immediately after giving effect to such dividend, distribution, share split or share combination.

Any adjustment made under this clause (1) shall become effective immediately after the close of business on the record date for such dividend or distribution, or immediately after the open of business on the effective date for such share split or share combination, as applicable. If any dividend or distribution of the type described in this clause (1) is declared but not so paid or made, the conversion rate shall be immediately readjusted, effective as of the date our board of directors or a committee thereof determines not to pay such dividend or distribution, to the conversion rate that would then be in effect if such dividend or distribution had not been declared.

(2) If we distribute to all or substantially all holders of our Common Stock any rights, options or warrants (other than pursuant to a stockholder rights plan) entitling them, for a period of not more than 45 calendar days after the announcement date of such distribution, to subscribe for or purchase shares of our Common Stock at a price per share that is less than the average of the last reported sale prices of our Common Stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of such distribution, the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_0 + X}{OS_0 + Y}$$

where,

CR_0 = the conversion rate in effect immediately prior to the close of business on the record date for such distribution;

CR_1 = the conversion rate in effect immediately after the close of business on such record date;

OS_0 = the number of shares of our Common Stock outstanding immediately prior to the close of business on such record date;

X = the total number of shares of our Common Stock distributable pursuant to such rights, options or warrants; and

Y = the number of shares of our Common Stock equal to the aggregate price payable to exercise such rights, options or warrants, *divided by* the average of the last reported sale prices of our common stock over the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of the distribution of such rights, options or warrants.

Any increase made under this clause (2) will be made successively whenever any such rights, options or warrants are distributed and shall become effective immediately after the close of business on such record date for such distribution. To the extent that such rights, options or warrants are not exercised prior to their expiration or shares of our Common Stock are not delivered after the expiration of such rights, options or warrants, the conversion rate shall be decreased to the conversion rate that would then be in effect had the increase with respect to the distribution of such rights, options or warrants been made on the basis of delivery of only the number of shares of Common Stock actually delivered. If such rights, options or warrants are not so distributed or if no such rights, options or warrants are not exercised prior to their expiration, the conversion rate shall be decreased to the conversion rate that would then be in effect if such record date for such distribution had not occurred.

For the purpose of this clause (2), in determining whether any rights, options or warrants entitle the holders to subscribe for or purchase shares of our common stock at less than such average of the last reported sale prices for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement of such distribution, and in determining the aggregate offering price of such shares of our Common Stock, there shall be taken into account any consideration received by us for such rights, options or warrants and any amount payable on exercise or conversion thereof, the value of such consideration, if other than cash, to be determined by us in good faith and in a commercially reasonable manner.

(3) If we distribute shares of our capital stock, evidences of our indebtedness, other assets or property of ours or rights, options or warrants to acquire our capital stock or other securities, to all or substantially all holders of our Common Stock, excluding:

- dividends, distributions or issuances as to which an adjustment was effected or will be so effected in accordance with the 1% provision (as defined below) pursuant to clause (1) or (2) above;
- except as otherwise described below, rights issued pursuant to any stockholder rights plan of ours then in effect;
- dividends or distributions paid exclusively in cash as to which the provisions set forth in clause (4) below shall apply;
- any dividends or distributions of reference property issued in exchange for our common stock as described under "— Recapitalizations, Reclassifications and Changes of Our Common Stock;" and
- spin-offs as to which the provisions set forth below in this clause (3) shall apply;

then the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{SP_0}{SP_0 - FMV}$$

where,

CR_0	=	the conversion rate in effect immediately prior to the close of business on such record date for the distribution;
CR_1	=	the conversion rate in effect immediately after the close of business on such record date;
SP_0	=	the average of the last reported sale prices of our Common Stock over the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the ex-dividend date for such distribution; and
FMV	=	the fair market value (as determined by us in good faith and in a commercially reasonable manner) of the shares of capital stock, evidences of indebtedness, assets, property, rights, options or warrants distributed with respect to each outstanding share of our Common Stock on the record date for such distribution.

Any increase made under the portion of this clause (3) above will become effective immediately after the close of business on the record date for such distribution. If such distribution is not so paid or made, the conversion rate shall be decreased to be the conversion rate that would then be in effect if such distribution had not been declared. In the case of any distribution of rights, options or warrants, to the extent such rights options or warrants expire unexercised, the applicable conversion rate shall be immediately readjusted to the applicable conversion rate that would then be in effect had the increase made for the distribution of such rights, options or warrants been made on the basis of delivery of only the number of shares of our common stock actually delivered upon exercise of such rights, options or warrants. Notwithstanding the foregoing, if "FMV" (as defined above) is equal to or greater than "SP_0" (as defined above), in lieu of the foregoing increase, each holder of a note shall receive, in respect of each $1,000 principal amount thereof, at the same time and upon the same terms as holders of our common stock, the amount and kind of our capital stock, evidences of our indebtedness, other assets or property of ours or rights, options or warrants to acquire our capital stock or other securities that such holder would have received if such holder owned a number of shares of Common Stock equal to the conversion rate in effect on the record date for the distribution.

With respect to an adjustment pursuant to this clause (3) where there has been a payment of a dividend or other distribution on our Common Stock of shares of capital stock of any class or series, or similar equity interest, of or relating to a subsidiary or other business unit, that are, or, when issued, will be, listed or admitted for trading on a U.S. national securities exchange, which we refer to as a "spin-off," the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{FMV_0 + MP_0}{MP_0}$$

where,

CR_0	=	the conversion rate in effect immediately prior to the end of the valuation period (as defined below);
CR_1	=	the conversion rate in effect immediately after the end of the valuation period;
FMV_0	=	the average of the last reported sale prices of the capital stock or similar equity interest distributed to holders of our common stock applicable to one share of our common stock (determined by reference to the definition of last reported sale price set forth under "—Settlement Upon Conversion" as if references therein to our common stock were to such capital stock or similar equity interest) over the first 10 consecutive trading day period after, and including, the ex-dividend date of the spin-off (the "valuation period"); and
MP_0	=	the average of the last reported sale prices of our Common Stock over the valuation period.

The increase to the conversion rate under the preceding paragraph will occur at the close of business on the last trading day of the valuation period; *provided* that in respect of any conversion of Notes, if the relevant conversion date occurs during the valuation period, the reference to "10" in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the ex-dividend date for such spin-off and such conversion date in determining the conversion rate. If any dividend or distribution that constitutes a spin-off is declared but not so paid or made, the conversion rate shall be immediately decreased, effective as of the date our board of directors or a committee thereof determines not to pay or make such dividend or distribution, to the conversion rate that would then be in effect if such dividend or distribution had not been declared or announced.

(4) If we pay or make any cash dividend or distribution to all or substantially all holders of our Common Stock, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{SP_0}{SP_0 - C}$$

where,

CR_0	=	the conversion rate in effect immediately prior to the close of business on the record date for such dividend or distribution;
CR_1	=	the conversion rate in effect immediately after the close of business on such record date for such dividend or distribution;
SP_0	=	the last reported sale price of our Common Stock on the trading day immediately preceding the ex-dividend date for such dividend or distribution; and
C	=	the amount in cash per share we distribute to all or substantially all holders of our Common Stock.

Any increase to the conversion rate made under this clause (4) shall become effective immediately after the close of business on the record date for such dividend or distribution. If such dividend or distribution is not so paid, the conversion rate shall be decreased, effective as of the date our board of directors or a committee thereof determines not to make or pay such dividend or distribution, to be the conversion rate that would then be in effect if such dividend or distribution had not been declared. Notwithstanding the foregoing, if "C" (as defined above) is equal to or greater than "SP_0" (as defined above), in lieu of the foregoing increase, each holder of a Note shall receive, for each $1,000 principal amount of Notes, at the same time and upon the same terms as holders of shares of our Common Stock, the amount of cash that such holder would have received if such holder owned a number of shares of our Common Stock equal to the conversion rate on the record date for such cash dividend or distribution.

(5) If we or any of our subsidiaries make a payment pursuant to a tender or exchange offer for our Common Stock that is subject to the then-applicable tender offer rules under the Securities Exchange Act of 1934, as amended (the "Exchange Act") (other than any odd-lot tender offer), to the extent that the cash and value of any other consideration included in the payment per share of our Common Stock exceeds the average of the last reported sale prices of our Common Stock over the 10 consecutive trading day period commencing on, and including, the trading day next succeeding the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer (the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer, the "expiration date"), the conversion rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{AC + (SP_1 \times OS_1)}{OS_0 \times SP_1}$$

where,

CR_0	=	the conversion rate in effect immediately prior to the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the expiration date;
CR_1	=	the conversion rate in effect immediately after the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the expiration date;
AC	=	the aggregate value of all cash and any other consideration (as determined by us in good faith and in a commercially reasonable manner) paid or payable for shares purchased or exchanged in such tender or exchange offer;
OS_0	=	the number of shares of our Common Stock outstanding immediately prior to the expiration date (prior to giving effect to the purchase or exchange of all shares accepted for purchase or exchange in such tender or exchange offer);
OS_1	=	the number of shares of our common stock outstanding immediately after the expiration date (after giving effect to the purchase or exchange of all shares accepted for purchase or exchange in such tender or exchange offer); and
SP_1	=	the average of the last reported sale prices of our Common Stock over the 10 consecutive trading day period commencing on, and including, the trading day next succeeding the expiration date.

The increase to the conversion rate under the preceding paragraph will occur at the close of business on the 10th trading day immediately following, and including, the trading day next succeeding the date such tender or exchange offer expires; *provided* that in respect of any conversion of Notes, if the relevant conversion date occurs during the 10 trading days immediately following, and including, the trading day next succeeding the expiration date of any tender or exchange offer, references to "10" or "10th" in the preceding paragraph shall be deemed replaced with such lesser number of trading days as have elapsed between the expiration date of such tender or exchange offer and such conversion date in determining the conversion rate.

In the event that we or one of our subsidiaries is obligated to purchase shares of our Common Stock pursuant to any such tender offer or exchange offer described in clause (5), but we are, or such subsidiary is, permanently prevented by applicable law from effecting any such purchase or all such purchases are rescinded, then the conversion rate shall again be adjusted to be the conversion rate that would then be in effect if such tender offer or exchange offer had not been made or had been made only in respect of the purchases that have been effected.

Except as stated herein, we will not adjust the conversion rate for the issuance of shares of our Common Stock or any securities convertible into or exchangeable for shares of our Common Stock or the right to purchase shares of our Common Stock or such convertible or exchangeable securities.

As used in this section, "ex-dividend date" means the first date on which the shares of our Common Stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive the issuance, dividend or distribution in question, from us or, if applicable, from the seller of our Common Stock on such exchange or market (in the form of due bills or otherwise) as determined by such exchange or market, and "effective date" means the first date on which the shares of our Common Stock trade on the applicable exchange or in the applicable market, regular way, reflecting the relevant share split or share combination, as applicable. For the avoidance of doubt, any alternative trading convention on the applicable exchange or market in respect of shares of our Common Stock under a separate ticker symbol or CUSIP number will not be considered "regular way" for this purpose.

As used in this section, "record date" means, with respect to any dividend, distribution or other transaction or event in which the holders of our Common Stock (or other applicable security) have the right to receive any cash, securities or other property or in which our common stock (or such other security) is exchanged for or converted into any combination of cash, securities or other property, the date fixed for determination of holders of our Common Stock (or such other security) entitled to receive such cash, securities or other property (whether such date is fixed by our board of directors or a duly authorized committee thereof, statute, contract or otherwise).

We are permitted to increase the conversion rate of the notes by any amount for a period of at least 20 business days if we determine that such increase would be in our best interest. We may also (but are not required to) increase the conversion rate to avoid or diminish income tax to holders of our common stock or rights to purchase shares of our Common Stock in connection with a dividend or distribution of shares (or rights to acquire shares) or similar event.

A holder may, in some circumstances, including a distribution of cash dividends to holders of our shares of Common Stock, be deemed to have received a distribution subject to U.S. federal income tax as a result of an adjustment or the nonoccurrence of an adjustment to the conversion rate. For a discussion of the U.S. federal income tax treatment of an adjustment to the conversion rate, see "Certain U.S. Federal Income Tax Considerations."

If we have a rights plan in effect upon conversion of the notes into Common Stock, you will receive, in addition to the shares of Common Stock received in connection with such conversion, the rights under the rights plan. However, if, prior to any conversion, the rights have separated from the shares of common stock in accordance with the provisions of the applicable rights plan, the conversion rate will be adjusted at the time of separation as if we distributed to all or substantially all holders of our common stock, shares of our capital stock, evidences of indebtedness, assets, property, rights, options or warrants as described in clause (3) above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

Notwithstanding any of the foregoing, the conversion rate will not be adjusted:

- upon the issuance of shares of our Common Stock at a price below the conversion price or otherwise, other than any such issuance described in clause (1), (2) or (3) above;

- upon the issuance of any shares of our Common Stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on our securities and the investment of additional optional amounts in shares of our common stock under any plan;

- upon the issuance of any shares of our Common Stock or options or rights to purchase those shares pursuant to any present or future employee, director or consultant benefit plan or program of or assumed by us or any of our subsidiaries;

- upon the issuance of any shares of our Common Stock pursuant to any option, warrant, right or exercisable, exchangeable or convertible security not described in the preceding bullet and outstanding as of the date the notes were first issued;

- for a third-party tender offer by any party other than a tender offer by one or more of our subsidiaries as described in clause (5) above;

- upon the repurchase of any of shares of our Common Stock pursuant to an open market share purchase program or other buy-back transaction, including structured or derivative transactions such as accelerated share repurchase transactions or similar forward derivatives, or other buy-back transaction, that is not a tender offer or exchange offer of the kind described under clause (5) above;

- solely for a change in the par value of our Common Stock; or

- for accrued and unpaid interest, if any.

If an adjustment to the conversion rate otherwise required by the provisions described above would result in a change of less than 1% to the conversion rate, then, notwithstanding the foregoing, we may, at our election, defer and carry forward such adjustment, except that all such deferred adjustments must be given effect immediately upon the earliest to occur of the following: (i) when all such deferred adjustments would result in an aggregate change of at least 1% to the conversion rate, and (ii) on the conversion date for any notes, in each case, unless the adjustment has already been made. The provisions described in the preceding sentence are referred to herein as the "1% provision."

Adjustments to the conversion rate will be calculated by us to the nearest 1/10,000th of a share.

Adjustment to Conversion Rate upon Dilutive Issuances of Common Stock

In the event that we issue, or are deemed to issue, shares of Common Stock, other than excluded securities (as defined below) for a consideration per share (the "trigger price") less than the conversion price in effect immediately prior to such issuance or deemed issuance (a "dilutive issuance"), then immediately after such dilutive issuance, the conversion rate then in effect shall be adjusted to reduce the conversion price to an amount equal to the higher of (i) the trigger price or (ii) $5.00 (appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction occurring after the issuance date of the Notes). As used herein, "excluded securities" means (i) capital stock, rights, warrants or options to subscribe for or purchase Common Stock or convertible securities (as defined below) ("options") issued to our or a guarantor's directors, officers, employees or consultants in connection with their service as our or a guarantor's directors, their employment by us or a guarantor or their retention as consultants by us or a guarantor pursuant to an employee benefit plan approved by our Board of Directors or the Compensation Committee of our Board of Directors, (ii) shares of Common Stock issued upon the conversion or exercise of options or any stock or securities (other than options) directly or indirectly convertible into or exercisable or exchangeable for shares of common stock ("convertible securities") that were issued and outstanding immediately preceding the execution and delivery of the Purchase Agreement (the "effective time"), provided such securities are not amended after the effective time to increase the number of shares of common stock issuable thereunder, lower the exercise or conversion price thereof or extend the term thereof, (iii) securities issued pursuant to the Purchase Agreement and shares of Common Stock issued in respect of such securities, (iv) shares of Common Stock issued or issuable by reason of a dividend, stock split or other distribution on shares of Common Stock (but only to the extent that such a dividend, stock split or distribution results in an adjustment in the conversion rate pursuant to the other provisions of the notes), and (v) capital stock, options or convertible securities issued as consideration for an acquisition or strategic transaction (including a joint venture, technology license agreement or other similar strategic arrangement relating to our business and operations) approved by a majority of our disinterested directors, provided that any such issuance shall only be a person or entity (or to the equityholders of an entity) which is, itself or through its subsidiaries, an operating company in a business which our Board of Directors in the good faith exercise of its business judgement believes is synergistic with our business and shall provide to us additional benefits in addition to the investment of funds, but shall not, for the purposes of this clause (v), include a transaction in which we are issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

Recapitalizations, Reclassifications and Changes of Our Common Stock

In the case of:

- any recapitalization, reclassification or change of our Common Stock (other than a change to par value, or from par value to no par value, or changes resulting from a share split or share combination),
- any consolidation, merger or combination involving us,
- any sale, lease or other transfer to a third party of all or substantially all of our and our subsidiaries' consolidated assets, taken as a whole, or
- any statutory share exchange,

in each case, as a result of which our Common Stock would be converted into, or exchanged for, stock, other securities, other property or assets (including cash or any combination thereof) (any such event, a "share exchange event"), then we or the successor or acquiring company, as the case may be, will execute with the trustee, without the consent of the holders, a supplemental indenture providing that, at and after the effective time of the share exchange event, the right to convert each $1,000 principal amount of Notes will be changed into a right to convert such principal amount of Notes into the kind and amount of shares of stock, other securities or other property or assets (including cash or any combination thereof) that a holder of a number of shares of Common Stock equal to the conversion rate immediately prior to such share exchange event would have owned or been entitled to receive (the "reference property") upon such share exchange event. However, at and after the effective time of the share exchange event, the number of shares of our Common Stock otherwise deliverable upon conversion of the Notes as set forth under "—Settlement upon Conversion" and "—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions" above will be deliverable in the amount and type of reference property that a holder of that number of shares of our Common Stock would have received in such transaction. If the share exchange event causes our Common Stock to be converted into, or exchanged for, the right to receive more than a single type of consideration (determined based in part upon any form of stockholder election), the reference property into which the Notes will be convertible will be deemed to be (i) the weighted average of the types and amounts of consideration received by the holders of our Common Stock that affirmatively make such an election or (ii) if no holders of our Common Stock affirmatively make such an election, the types and amounts of consideration actually received by the holders of our Common Stock. We will notify holders, the trustee and the conversion agent (if other than the trustee) in writing of the weighted average as soon as practicable after such determination is made.

If the reference property in respect of any share exchange event includes, in whole or in part, shares of common equity, the supplemental indenture providing that the Notes will be convertible into reference property will also provide for anti-dilution and other adjustments that are as nearly equivalent as possible to the adjustments described under "—Conversion Rate Adjustments" above with respect to the portion of the reference property consisting of such common equity. If the reference property in respect of any such share exchange event includes shares of stock, securities or other property or assets (other than cash and/or cash equivalents) of a company other than us or the successor or purchasing company, as the case may be, in such share exchange event, such other company, if an affiliate of us or the successor or acquiring company, will also execute such supplemental indenture, and such supplemental indenture will contain such additional provisions to protect the interests of the holders, including the right of holders to require us to repurchase their notes upon a fundamental change as described under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" below, as we in good faith reasonably consider necessary by reason of the foregoing. We agree in the indenture not to become a party to any such share exchange event unless its terms are consistent with the foregoing.

Adjustments of Prices

Whenever any provision of the indenture requires us to calculate the last reported sale prices over a span of multiple days (including, without limitation, the period, if any, for determining "stock price" for purposes of a qualifying fundamental change), we will make appropriate adjustments in good faith and in a commercially reasonable manner (to the extent no corresponding adjustment is otherwise made pursuant to the provisions described under "—Conversion Rate Adjustments" above) to each to account for any adjustment to the conversion rate that becomes effective, or any event requiring an adjustment to the conversion rate where the ex-dividend date, effective date or expiration date of the event occurs, at any time during the period when the last reported sale prices are to be calculated.

For the avoidance of doubt, the adjustments made pursuant to the foregoing paragraph will be made, solely to the extent we determine in good faith and in a commercially reasonable manner that any such adjustment is appropriate, without duplication of any adjustment made pursuant to the provision set forth under "—Conversion Rate Adjustments."

Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change

If the "effective date" (as hereinafter defined) of a "qualifying fundamental change" (as hereinafter defined) occurs prior to the maturity date of the Notes and a holder elects to convert its notes in connection with such qualifying fundamental change, we will, under certain circumstances, make a payment to the holder of the Notes so surrendered for conversion equal to $130 per $1,000 of aggregate principal of notes surrendered for conversion (a "qualifying fundamental change payment"). A "qualifying fundamental change" means any transaction or event that constitutes a fundamental change defined below in clause (1), (2) or (4) of the definition of "fundamental change" under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes", after giving effect to any exceptions or exclusions from such definition, but without regard to the proviso in clause (2) of the definition thereof. A conversion of Notes will be deemed for these purposes to be "in connection with" such qualifying fundamental change if the relevant conversion date occurs during the period from, and including, the effective date of the qualifying fundamental change up to, and including, the business day immediately prior to the related fundamental change repurchase date (or, in the case of a qualifying fundamental change that would have been a fundamental change but for the proviso in clause (2) of the definition thereof, the 35th trading day immediately following the effective date of such qualifying fundamental change) (such period, the "qualifying fundamental change period").

Upon surrender of Notes for conversion in connection with a qualifying fundamental change we will deliver shares of common stock as described under "—Settlement upon Conversion." However, for any conversion of Notes following the effective date of such qualifying fundamental change, the conversion obligation will be calculated by us based solely on the "stock price" (as defined below) for the transaction and will be deemed to be an amount of cash per $1,000 principal amount of converted Notes equal to the conversion rate, multiplied by such stock price. We will notify the trustee, the conversion agent (if other than the trustee) and holders, in writing, of the effective date of any qualifying fundamental change no later than five business days after such effective date. If the holders of our Common Stock receive in exchange for their Common Stock only cash in a qualifying fundamental change described in clause (2) of the definition of fundamental change, the stock price shall be the cash amount paid per share. Otherwise, the stock price shall be the average of the closing sale prices of our Common Stock over the five consecutive trading day period ending on, and including, the trading day immediately preceding the relevant effective date.

The Company will have the option to pay any qualifying fundamental change payment in cash and/or freely tradable shares of Common Stock, valued at 95% of the stock price determined as described above. Subject to the limitation described below above under "—Share Limitation," any fundamental change interest payments will be made all in shares of Common Stock unless the Company gives written notice to the holders that it intends to make future qualifying fundamental change payments either all or partially in cash. Such notice will not be effective until the end of the 15th trading day after such notice is given.

Notwithstanding the foregoing, if a holder of Notes converted in connection with a qualifying fundamental change receives a qualifying fundamental change payment, then the holder of such converted Notes will not receive the interest make-whole payment with respect to such Notes.

Our obligation to make a qualifying fundamental change payment for Notes converted in connection with a qualifying fundamental change could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness and equitable remedies.

Share Limitation

Notwithstanding the foregoing or anything to the contrary in the indenture, unless we have obtained the requisite approval of our stockholders pursuant to the applicable NASDAQ Marketplace rule or listing requirements of the relevant stock exchange, the number of shares we may deliver in respect of the Notes, including those delivered in lieu of cash interest, in connection with an interest make-whole payment, or as a qualifying fundamental change payment will not exceed 19.99% of our Common Stock outstanding (as adjusted for stock splits, reverse stock splits, stock combinations, reclassifications and reorganizations) as of the close of the trading day immediately preceding the date of the indenture that governs the Notes (the "maximum share reserve").

We will keep available at all times an amount of authorized and unissued shares of Common Stock to provide for issuance upon conversion of the Notes from time to time. No such shares shall be issued to the extent that the shares of Common Stock remaining in the maximum share reserve would, after giving effect to such issuance, be less than the remaining shares that could be issued upon the conversion of then outstanding Notes (assuming the maximum increase to the conversion rate upon a dilutive issuance described in "—Adjustment to Conversion Rate upon Dilutive Issuances of Common Stock"). We may increase the maximum share reserve to the extent that we obtain the requisite approval of our stockholders pursuant to the applicable NASDAQ Marketplace rule or listing requirements of the relevant stock exchange.

We will not be required to make any cash payments in lieu of any fractional shares or have any further obligation to deliver any shares of our Common Stock in excess of the threshold described above; provided, however, that we will make a cash payment in lieu of any whole shares of Common Stock that are not able to be delivered in excess of such threshold, calculated based upon the simple average of the daily VWAP (as defined above under the heading "—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions") of our shares for the ten consecutive trading days ending on and including the trading day immediately preceding relevant payment date.

Neither the trustee nor paying agent shall be responsible for determining or calculating the number of shares issuable in lieu of cash interest on the Notes, the amount of the interest make-whole payment, the daily VWAP, or the stock price.

Fundamental Change Permits Holders to Require Us to Repurchase Notes

If a "fundamental change" (as defined below in this section) occurs at any time prior to the maturity date, holders will have the right, at their option, to require us to repurchase for cash all of their Notes, or any portion of the principal amount thereof that is equal to $1,000 or an integral multiple of $1,000. The fundamental change repurchase date will be a date specified by us that is not less than 20 or more than 35 business days following the date of our fundamental change notice as described below.

The fundamental change repurchase price we are required to pay will be equal to 100% of the principal amount of the Notes to be repurchased, *plus* accrued and unpaid interest to, but excluding, the fundamental change repurchase date (unless the fundamental change repurchase date falls after a regular record date but on or prior to the interest payment date to which such regular record date relates, in which case we will instead pay the full amount of accrued and unpaid interest (to, but not including, such interest payment date) to the holder of record on such regular record date, and the fundamental change repurchase price will be equal to 100% of the principal amount of the Notes to be repurchased).

A "fundamental change" will be deemed to have occurred at the time after the Notes are originally issued if any of the following occurs:

(1) a "person" or "group" within the meaning of Section 13(d) of the Exchange Act, other than us, our wholly owned subsidiaries and our and their employee benefit plans, files a Schedule TO (or any successor schedule, form or report) or any schedule, form or report under the Exchange Act that discloses that such person or group has become the direct or indirect "beneficial owner," as defined in Rule 13d-3 under the Exchange Act, of our Common Stock representing more than 50% of the voting power of our Common Stock, unless such beneficial ownership arises solely as a result of a revocable proxy delivered in response to a public proxy or consent solicitation made pursuant to the applicable rules and regulations under the Exchange Act; *provided* that no person or group shall be deemed to be the beneficial owner of any securities tendered pursuant to a tender or exchange offer made by or on behalf of such person or group until such tendered securities are accepted for purchase or exchange under such offer;

(2) the consummation of (A) any recapitalization, reclassification or change of our Common Stock (other than changes resulting from a subdivision or combination or solely a change in par value) as a result of which our Common Stock would be converted into, or exchanged for, stock, other securities, other property or assets; (B) any share exchange, consolidation or merger of us pursuant to which our common stock will be converted into cash, securities or other property or assets; or (C) any sale, lease or other transfer in one transaction or a series of transactions of all or substantially all of the consolidated assets of us and our subsidiaries, taken as a whole, to any person other than one or more of our direct or indirect wholly owned subsidiaries; *provided*, *however*, that a transaction described in clauses (A) or (B) in which the holders of all classes of our common equity immediately prior to such transaction own, directly or indirectly, more than 50% of all classes of common equity of the continuing or surviving company or transferee or the parent thereof immediately after such transaction in substantially the same proportions (relative to each other) as such ownership immediately prior to such transaction shall not be a fundamental change pursuant to this clause (2);

(3) our stockholders approve any plan or proposal for our liquidation or dissolution; or

(4) our Common Stock (or other Common Stock, American depositary receipts, ordinary shares or other common equity interests underlying the notes) ceases to be listed or quoted on any of the NASDAQ Capital Market, the NYSE American, The New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or any of their respective successors) or an established over-the-counter trading market in the United States.

A transaction or transactions described in clause (1) or clause (2) above will not constitute a fundamental change, however, if at least 90% of the consideration received or to be received by our common stockholders, excluding cash payments for fractional shares and cash payments made pursuant to dissenters' appraisal rights, in connection with such transaction or transactions consists of shares of Common Stock, American depositary receipts, ordinary shares or other common equity interests, in each case, that are listed or quoted on any of the NASDAQ Capital Market, the NYSE American, The New York Stock Exchange, The NASDAQ Global Select Market or The NASDAQ Global Market (or any of their respective successors) or an established over-the-counter trading market in the United States or will be so listed or quoted when issued or exchanged in connection with such transaction or transactions and as a result of such transaction or transactions such consideration becomes reference property for the notes, excluding cash payments for fractional shares and cash payments made pursuant to dissenters' appraisal rights (subject to the provisions set forth above under "—Conversion Rights—Settlement upon Conversion").

Any event, transaction or series of related transactions that constitute a fundamental change under both clause (1) and clause (2) above (determined without regard to the proviso in clause (2) above) will be deemed to be a fundamental change solely under clause (2) above.

If any transaction in which our Common Stock is replaced by the securities of another entity occurs, following completion of any related qualifying fundamental change period (or, in the case of a transaction that would have been a fundamental change or a qualifying fundamental change but for the immediately preceding paragraph, following the effective date of such transaction), references to us in the definition of "fundamental change" above shall instead be references to such other entity.

On or before the 20th business day after the occurrence of a fundamental change, we will provide to all holders of the notes, the trustee, the conversion agent (if other than the trustee) and paying agent (if other than the trustee) a notice of the occurrence of the fundamental change and of the resulting repurchase right. Such notice shall state, among other things:

- the events causing a fundamental change;
- the effective date of the fundamental change;
- the last date on which a holder may exercise the repurchase right;

- the fundamental change repurchase price;
- the fundamental change repurchase date;
- the name and address of the paying agent and the conversion agent, if applicable;
- if applicable, the conversion rate and any adjustments to the conversion rate;
- that the notes with respect to which a fundamental change repurchase notice has been delivered by a holder may be converted only if the holder withdraws the fundamental change repurchase notice in accordance with the terms of the indenture; and
- the procedures that holders must follow to require us to repurchase their Notes.

If Notes are held in certificated form, to exercise the fundamental change repurchase right, holders of certificated Notes must deliver, prior to the close of business on the 2nd business day immediately preceding the fundamental change repurchase date, the notes to be repurchased, duly endorsed for transfer, together with a written repurchase notice, to the paying agent. Each repurchase notice must state:

- if certificated, the certificate numbers of the Notes to be delivered for repurchase;
- the portion of the principal amount of Notes to be repurchased, which must be $1,000 or an integral multiple thereof; and
- that the Notes are to be repurchased by us pursuant to the applicable provisions of the notes and the indenture.

If the Notes are not in certificated form, such repurchase notice must comply with applicable DTC procedures.

Holders of certificated Notes may withdraw any repurchase notice (in whole or in part) by a written notice of withdrawal delivered to the paying agent prior to the close of business on the 2nd business day immediately preceding the fundamental change repurchase date. The notice of withdrawal shall state:

- the principal amount of the withdrawn Notes, which must be $1,000 aggregate principal amount or an integral multiple thereof;
- if certificated Notes have been issued, the certificate numbers of the withdrawn Notes; and
- the principal amount, if any, which remains subject to the repurchase notice, which must be $1,000 aggregate principal amount or an integral multiple thereof.

If the Notes are not in certificated form, such notice of withdrawal must comply with applicable DTC procedures.

We will be required to repurchase the Notes on the fundamental change repurchase date, subject to postponement to comply with applicable law. Holders who have exercised the repurchase right will receive payment of the fundamental change repurchase price on the later of (i) the fundamental change repurchase date and (ii) the time of book-entry transfer or the delivery of the Notes. If the paying agent holds money sufficient to pay the fundamental change repurchase price of the Notes on the fundamental change repurchase date, then, with respect to the Notes that have been properly surrendered for repurchase and have not been validly withdrawn:

- the Notes will cease to be outstanding and interest will cease to accrue (whether or not book-entry transfer of the Notes is made or whether or not the Notes are delivered to the paying agent); and
- all other rights of the holder will terminate (other than the right to receive the fundamental change repurchase price).

In connection with any repurchase offer pursuant to a fundamental change repurchase notice, we will, if required:

- comply with the tender offer rules under the Exchange Act that may then be applicable;
- file a Schedule TO or any other required schedule under the Exchange Act; and
- otherwise comply in all material respects with all federal and state securities laws in connection with any offer by us to repurchase the Notes;

in each case, so as to permit the rights and obligations under this "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" to be exercised in the time and in the manner specified in the indenture.

No Notes may be repurchased by us on any date at the option of holders upon a fundamental change if the principal amount of the notes has been accelerated, and such acceleration has not been rescinded, on or prior to such date (except in the case of an acceleration resulting from a default by us in the payment of the fundamental change repurchase price with respect to such Notes).

The repurchase rights of the holders upon a fundamental change could discourage a potential acquirer of us. The fundamental change repurchase feature, however, is not the result of management's knowledge of any specific effort to obtain control of us by any means or part of a plan by management to adopt a series of anti-takeover provisions.

Notwithstanding anything to the contrary in the foregoing, we will not be required to repurchase or make an offer to repurchase the Notes upon a fundamental change if a third party makes such an offer in the same manner, at the same time and otherwise in compliance with the requirements for an offer made by us as set forth in the indenture and such third party purchases all Notes properly surrendered and not validly withdrawn under its offer in the same manner, at the same time and otherwise in compliance with the requirements for an offer made by us as set forth in the indenture.

To the extent that the provisions of any securities laws or regulations conflict with the provisions of the indenture relating to our obligations to repurchase the Notes upon a fundamental change, we will comply with the applicable securities laws and regulations and will not be deemed to have breached our obligations under such provisions of the indenture by virtue of such conflict.

The term fundamental change is limited to specified transactions and may not include other events that might adversely affect our financial condition. In addition, the requirement that we offer to repurchase the Notes upon a fundamental change may not protect holders in the event of a highly leveraged transaction, reorganization, merger or similar transaction involving us.

Furthermore, holders may not be entitled to require us to repurchase their Notes upon a fundamental change or entitled to a qualifying fundamental change payment upon conversion as described under "—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change" in circumstances involving a significant change in the composition of our board, unless such change is in connection with a fundamental change or qualifying fundamental change, as the case may be, as described herein.

The definition of fundamental change includes a phrase relating to the sale, lease or other transfer of "all or substantially all" of the consolidated assets of us and our subsidiaries, taken as a whole. There is no precise, established definition of the phrase "substantially all" under applicable law. Accordingly, the ability of a holder of the notes to require us to repurchase its notes as a result of the sale, lease or other transfer of less than all of the consolidated assets of us and our subsidiaries, taken as a whole may be uncertain.

We may not have sufficient future cash flow from operations to make any required repurchase in cash or the ability to arrange additional financing, if necessary, on acceptable terms. See "Risk Factors—We face several risks regarding holders' potential rights to require us to repurchase the Notes on the put date or upon a fundamental change." If we fail to repurchase the Notes when required following a fundamental change, we will be in default under the indenture.

Consolidation, Merger and Sale of Assets

The indenture provides that we shall not consolidate with or merge with or into, or sell, convey, transfer or lease all or substantially all of the consolidated properties and assets of us and our direct or indirect subsidiaries, taken as a whole, to another person (other than one or more of our direct or indirect wholly owned subsidiaries), unless (i) the resulting, surviving or transferee person (if not us) is a corporation organized and existing under the laws of the United States of America, any State thereof or the District of Columbia, and such corporation (if not us) expressly assumes by supplemental indenture all of our obligations under the notes and the indenture; and (ii) immediately after giving effect to such transaction, no default or event of default has occurred and is continuing under the indenture. Upon any such consolidation, merger or sale, conveyance, transfer or lease, the resulting, surviving or transferee person (if not us or any of our direct or indirect wholly owned subsidiaries) shall succeed to, and may exercise every right and power of, ours under the notes and the indenture, and we shall be discharged from our obligations under the notes and the indenture except in the case of any such lease.

Although these types of transactions are permitted under the indenture, certain of the foregoing transactions could constitute a fundamental change permitting each holder to require us to repurchase the Notes of such holder as described above.

This covenant includes a phrase relating to the sale, conveyance, transfer and lease of "all or substantially all" of the consolidated assets of us and our subsidiaries. There is no precise, established definition of the phrase "all or substantially all" under applicable law. Accordingly, whether a sale, conveyance, transfer or lease of less than all of the consolidated assets of us and our subsidiaries, taken as a whole, constitutes a sale or other disposition of "all or substantially all" may be uncertain.

Additional Covenants

Maintenance of Properties and Insurance

We will and will cause each of our subsidiaries to maintain all material properties in good working order and condition in all material respects (subject to ordinary wear and tear) and make all necessary repairs, renewals, replacements, additions, betterments and improvements thereto and actively conduct and carry on its business. However, this will not prevent us or our subsidiaries from discontinuing the operation and maintenance of any of its properties if discontinuance is, in the good faith judgment of our Board of Directors or other governing body of us or the subsidiary concerned desirable in the conduct of our business and is not disadvantageous in any material respect to the holders.

We have agreed to maintain insurance (including appropriate self-insurance) against loss or damage of the kinds that, in our good faith judgment, are adequate and appropriate for the conduct of our and our subsidiaries' business in a prudent manner, with reputable insurers or with the U.S. government or an agency or instrumentality thereof, in amounts, with deductibles, and by such methods as will be customary, in our good faith judgment, for companies similarly situated in the industry.

Issuance or Sale of Subsidiary Stock

We will not and will not permit any of our subsidiaries to sell any capital stock of a subsidiary, except to us or to one of our wholly owned subsidiaries, unless we and our subsidiaries, as the case may be, sell 100% of the capital stock of the subsidiary that we own in accordance with the applicable indenture requirements. In addition, none of our subsidiaries will issue any capital stock, other than to us or one of our subsidiaries.

Impairment of Security

Neither we nor any of our guarantors will take or omit to take any action that would adversely affect or impair the liens in favor of the collateral agent, on behalf of itself, the trustee and the holders of the notes, with respect to the collateral and neither we nor any of our subsidiaries will grant to any individual or entity, or permit any individual or entity to retain (other than the collateral agent), any interest whatsoever in the collateral other than permitted liens. Neither we nor any of our subsidiaries will enter into any agreement that requires the proceeds received from any sale of collateral to be applied to repay, redeem, defease or otherwise acquire or retire any indebtedness of any individual or entity, other than as permitted or required by the indenture, the notes or the collateral documents. We will and will cause each guarantor to at our sole cost and expense, execute and deliver all such agreements and instruments as the collateral agent or the trustee will reasonably request to more fully or accurately describe the property intended to be collateral or the obligations intended to be secured by the collateral documents. We will and will cause each guarantor to at our sole cost and expense, file any notice filings or other agreements or instruments as may be reasonably necessary or desirable under applicable law to perfect the liens created by the collateral documents at such times and at such places as shall be necessary to perfect such liens.

Line of Business; Corporate Existence

We will not and will not permit any of our subsidiaries to, engage in any business other than permitted businesses, except to such extent as would not be material to us or our subsidiaries taken as a whole. As used in the indenture, "permitted business" means any business similar in nature to any business conducted by us and our subsidiaries on the date of the indenture and any business reasonably ancillary, incidental, complementary or related thereto or a reasonable extension, development or expansion thereof, in each case, as determined in good faith by our Board of Directors.

We will do or cause to be done all things necessary to preserve and keep in full force and effect our corporate existence, and the corporate, partnership or other existence of each of our subsidiaries, in accordance with the respective organizational documents (as the same may be amended from time to time) of us and each subsidiary and our and our subsidiaries' rights (charter and statutory), licenses and franchises. However, we will not be required to preserve any such right, license or franchise, or the corporate, partnership or other existence of any of our subsidiaries, if the preservation thereof is no longer desirable in the conduct of the business, taken as a whole, and that the loss thereof would not reasonably be expected to have a material adverse effect.

Taxes

We will pay and will cause each of our subsidiaries to pay, prior to delinquency, all material taxes, assessments, and governmental levies except such as are contested in good faith and by appropriate proceedings or where the failure to effect such payment would not reasonably be expected to have a material adverse effect.

Events of Default

An "event of default" means any of the following events:

- our failure to comply with our obligation to convert the Notes in accordance with the indenture upon exercise of a holder's conversion right, including the payment of any interest make-whole payment or qualifying fundamental change payment, and such failure continues for a period of five (5) business days;

- our Common Stock is not listed on an eligible market;

- we default in the payment when due of interest (whether in cash or shares, as determined by us) on the Notes and such default continues for a period of 30 days;

- we default in the payment when due of principal of or premium, if any, on the Notes when the same becomes due and payable at maturity, upon redemption or repurchase or otherwise;

- we or any of our subsidiaries fail to comply with certain provisions regarding restricted payments, incurrence of indebtedness and issuance of preferred stock, asset sales and events of loss, liens, offers to repurchase upon a change of control and merger, consolidation or sale of assets;

- our failure to give a fundamental change notice as described under "—Fundamental Change Permits Holders to Require Us to Repurchase Notes" or notice of a qualifying fundamental change as described under "Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change," in each case, when due and such failure continues for three (3) business days after the due date for such notice;

- we or any guarantor fail to observe or perform any covenant, representation, warranty or other agreement in the indenture (other than a default specified above), the notes, the note guarantees or the collateral documents for 30 days after notice to us by the trustee or the holders of at least 25% in aggregate principal amount of the notes then outstanding voting as a single class;

- a default occurs under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any indebtedness for money borrowed by us or any of our subsidiaries (or the payment of which is guaranteed by us or any of our subsidiaries), whether such indebtedness or guarantee now exists, or is created after the date of the indenture, which default is caused by a failure to pay principal of, or interest or premium, if any, on such indebtedness prior to the expiration of the grace period provided in such indebtedness on the date of such default (a "payment default") or results in the acceleration of the indebtedness prior to its express maturity and, in each case, the principal amount of the indebtedness, together with the principal amount of any other such indebtedness under which there has been a payment default or the maturity of which has been so accelerated, aggregates $1 million or more, in any such case, after notice to us by the trustee or the holders of at least 25% in aggregate principal amount of the notes then outstanding voting as a single class;

- a final judgment or final judgments for the payment of money are entered by a court or courts of competent jurisdiction against us or any of our subsidiaries and the judgment or judgments remain undischarged, unpaid or unstayed for a period (during which execution will not be effectively stayed) of 60 days, provided that the aggregate of all such undischarged judgments exceeds $1 million (excluding amounts covered by insurance), after notice to us by the trustee or the holders of at least 25% in aggregate principal amount of the notes then outstanding voting as a single class;

- except as otherwise permitted by the indenture, any note guarantee is held in any judicial proceeding to be unenforceable or invalid or ceases for any reason to be in full force and effect, or any guarantor, or any person acting on behalf of any guarantor, denies or disaffirms its obligations under its note guarantee;

- except as otherwise permitted by the indenture, any lien purported to be granted under any collateral document on any collateral having a fair market value, individually or in the aggregate, in excess of $1.0 million is held in any judicial proceeding not to be an enforceable and perfected first priority lien or ceases for any reason to be in full force and effect (other than as a result of any action or inaction by the trustee, collateral agent or the holders of the notes), subject only to permitted liens;

- we, any of our significant subsidiaries (as defined in Rule 1-02 of Regulation S-X under the Securities Act and Exchange Act or any successor rule) or any group of subsidiaries that, taken as a whole, would constitute a significant subsidiary, under bankruptcy law commences a voluntary case, consents to the entry of an order for relief against it in an involuntary case, consents to the appointment of a custodian, receiver, trustee, assignee, liquidator or similar official under bankruptcy law of it or for all or substantially all of its property, makes a general assignment for the benefit of its creditors, or generally is not paying its debts as they become due; or a court of competent jurisdiction enters an order or decree under any bankruptcy law that is for relief against any of the aforementioned entities in an involuntary case; appoints a custodian, receiver, trustee, assignee, liquidator or similar official under bankruptcy law of any of the aforementioned entities or for all or substantially all of the property of any of the aforementioned entities; or orders the liquidation of any of the aforementioned entities and the order or decree remains unstayed and in effect for 60 consecutive days;

- any provision of any collateral document, at any time after the execution and delivery thereof, ceases to be in full force and effect, which adversely affects the validity, enforceability, perfection or priority of the liens purported to be granted pursuant to the collateral documents in any material respect, for any reason other than (x) as expressly permitted under the indenture or such collateral documents, (y) as a result of any action or inaction by the trustee, the collateral agent or the holders of the notes or (z) as a result of the satisfaction and discharge in full of the indenture;

- any collateral document, at any time after the execution and delivery thereof, ceases to create a valid and perfected lien, with the priority required by the collateral documents, on and security interest in any material portion of the collateral purported to be covered thereby, for any reason other than (x) as expressly permitted hereunder or thereunder, (y) as a result of any action or inaction by the trustee, the collateral agent or the holders of the notes, or (z) as a result of the satisfaction and discharge in full of the indenture; or

- any credit party (as defined in the indenture) contests in writing the validity, enforceability, perfection or priority of any liens on a material portion of the collateral.

Acceleration and Other Remedies

If any event of default (other than an event of default relating to bankruptcy law specified above), occurs and is continuing, the trustee or the holders of at least 25% in principal amount of the then outstanding Notes may declare all the notes to be due and payable immediately (the "event of default redemption price"). Upon any such declaration, the Notes will become due and payable immediately. Notwithstanding the foregoing, if an event of default relating to bankruptcy law specified above occurs with respect to us, any of our significant subsidiaries or any group of our subsidiaries that, taken as a whole, would constitute a significant subsidiary, all outstanding Notes will be due and payable immediately without further action or notice.

The majority holders (which mean the holders of a majority in aggregate principal amount of notes outstanding at any time) by written notice to the trustee and the collateral agent may, on behalf of all of the holders, rescind an acceleration and its consequences if the rescission would not conflict with any judgment or decree and if all existing events of default (except nonpayment of principal, interest or premium that has become due solely because of the acceleration) have been cured or waived.

In the event of a declaration of acceleration of the Notes solely because an event of default described in the eight bullet point above has occurred and is continuing, the declaration of acceleration of the Notes shall be automatically rescinded and annulled if the payment default or acceleration triggering such event of default pursuant to such eight bullet point shall be remedied or cured or waived by the holders of the relevant debt within 20 business days after the declaration of acceleration with respect thereto and if the rescission and annulment of the acceleration of the Notes would not conflict with any judgment or decree of a court of competent jurisdiction obtained by the trustee for the payment of amounts due on the notes.

If an event of default occurs and is continuing, the trustee may pursue any available remedy to collect the payment of principal, premium, if any, and interest on the notes then due or to enforce the performance of any provision of the notes or the indenture. The trustee may maintain a proceeding even if it does not possess any of the notes or does not produce any of them in the proceeding. A delay or omission by the trustee or any holder in exercising any right or remedy accruing upon an event of default will not impair the right or remedy or constitute a waiver of or acquiescence in the event of default and all remedies will be cumulative to the extent permitted by law.

However, the sole remedy for an event of default relating to any failure by us to comply with the indenture reporting requirements will, for the first 180 days after the occurrence of the event of default, consist exclusively of the right to receive special interest ("special interest") on the Notes at an annual rate equal to 0.50% of the principal amount of the Notes. Such special interest will be paid quarterly in arrears on each interest payment date, with the first quarterly payment due on the first interest payment date following the date on which such special interest began to accrue on the Notes and shall cease to accrue upon the cure or waiver of such event of default. Special interest will accrue on all outstanding Notes from and including the date on which an event of default relating to any failure by us to comply with the indenture reporting requirements first occurs to but not including the 180th day thereafter (or such earlier date on which such event of default will have been cured or waived). On the 180th day (or earlier, if such event of default is earlier cured or waived), the special interest will cease to accrue and, if the event of default relating to the reporting failure shall not have been cured or waived prior to such 180th day, the Notes will be subject to acceleration. The limitation on remedies related to reporting requirements will not affect the rights of holders in the event of the occurrence of any other event of default. Upon the occurrence of an event of default giving rise to the obligation to pay special interest, all references herein to interest accrued or payable on any date will include any special interest accrued or payable.

Waiver of Past Defaults

The majority holders by notice to the trustee and the collateral agent may on behalf of the holders of all of the notes waive an existing default and its consequences, except a default or event of default relating to bankruptcy or in respect of a covenant or provision of the indenture that cannot be modified or amended without the consent of the holder of each outstanding note affected (in which case such notice to waive such existing default and its consequences under the indenture shall be given to the trustee by all holders of affected notes). Upon any such waiver, the default will cease to exist, and any event of default arising therefrom will be deemed to have been cured for every purpose of the indenture but the waiver will not extend to any subsequent or other default or impair any right consequent thereon.

Control by Majority

Subject to the rights of the trustee to abstain from exercising certain of its rights under the indenture, the majority holders will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee, provided that such direction is not in conflict with any rule of law, the indenture or the collateral documents, the trustee may take any other action deemed proper by the trustee which is not inconsistent with such direction. The trustee may refuse to follow any direction that conflicts with law or that the trustee determines may involve the trustee in personal liability or may be prejudicial to the rights of the holders of Notes.

Limitation on Suits

No holder will have any right to institute any proceeding, judicial or otherwise with respect to the indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder (other than in the case of an event of default relating to bankruptcy law), unless such holder gives the trustee written notice of a continuing event of default; the holders of at least 25% in principal amount of the then outstanding Notes make a written request to the trustee to pursue the remedy; the holder or holders of the Notes offer and, if requested, provide the trustee indemnity reasonably satisfactory to the trustee against any loss, liability or expense; the trustee does not comply with the request within 60 days after receipt of the request and the offer and, if requested, the provision of indemnity; and during such 60-day period the majority holders do not give the trustee a direction inconsistent with the request.

No holders will have any right to avail itself of any provision of the indenture in a manner that will affect, disturb or prejudice the rights of any other holders, or to obtain or to seek to obtain priority or preference over any other holders or to enforce any right under the indenture, except in the manner herein provided and for the equal and ratable benefit of all the holders.

Unconditional Rights of Holders of Notes to Receive Payment

The right of any holder to receive payment of the principal, the redemption price, or interest, in respect of the Notes held by the holder, on or after the respective due dates expressed in the Notes or any redemption date, as applicable, and to convert the Notes, or to bring suit for the enforcement of any payment on or after such respective dates or the right to convert, will not be impaired or affected adversely without the consent of such holder.

Collection Suit and Proofs of Claim filed by Trustee

If an event of default relating to our failure to make certain payments of interest, principal, premium or other payments occurs and is continuing, the trustee is authorized to recover judgment in its own name and as trustee of an express trust against us and our subsidiaries for the whole amount of principal of, premium, if any, redemption price, interest and any other amounts remaining unpaid on the notes and interest on overdue principal and, to the extent lawful, interest and such further amount as will be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the trustee, its agents and counsel.

The trustee is authorized to file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the trustee, its agents and counsel), the collateral agent and the holders of the notes allowed in any judicial proceedings relative to us (or any other obligor upon the notes and the note guarantees, including the guarantors), its creditors or its property and will be entitled and empowered to collect, receive and distribute any money or other property payable or deliverable on any such claims and any custodian in any such judicial proceeding is authorized by each holder to make such payments to the trustee, and in the event that the trustee will consent to the making of such payments directly to the holders, to pay to the trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the trustee, its agents and counsel, and any other amounts due the trustee. To the extent that the payment of any such compensation, expenses, disbursements and advances of the trustee, the collateral agent, the respective agents and counsel of either one, and any other amounts due the trustee or the collateral agent out of the estate in any such proceeding, is denied for any reason, payment of the same will be secured by a lien on, and will be paid out of, any and all distributions, dividends, money, securities and other properties that the holders may be entitled to receive in such proceeding whether in liquidation or under any plan of reorganization or arrangement or otherwise. The trustee is not authorized to authorize or consent to or accept or adopt on behalf of any holder any plan of reorganization, arrangement, adjustment or composition affecting the notes or the rights of any holder, or to vote in respect of the claim of any holder in any such proceeding.

Priorities

If the trustee collects any money with respect to an event of default, it will pay out the money first to the trustee, the collateral agent, and their respective agents and attorneys for amounts due to each under the indenture, including payment of all compensation, expense and liabilities incurred, and all advances made, by the trustee or the collateral agent and the costs and expenses of collection. Second, the money will be paid to holders of notes for amounts due and unpaid on the notes for principal, premium, if any, and interest, ratably, without preference or priority of any kind, according to the amounts due and payable on the notes for principal, premium, if any, interest and any other amounts due, respectively. Finally, the remainder will be paid to us or to another party as a court of competent jurisdiction will direct. The trustee may fix a record date and payment date for any payment to holders of notes.

Undertaking for Costs

In any suit for the enforcement of any right or remedy under the indenture or in any suit against the trustee for any action taken or omitted by it as trustee, in either case in respect of the Notes, a court may require any party litigant in such suit to file an undertaking to pay the costs of the suit. The court may also assess reasonable costs, including reasonable attorney's fees, and expenses, against any party litigant in the suit having due regard to the merits and good faith of the claims or defenses made by the party litigant. However, the undertaking allowance will not apply to any suit instituted by us, to any suit instituted by the trustee, to any suit instituted by any holder, or group of holders, holding in the aggregate more than 10% in aggregate principal amount of the outstanding Notes, or to any suit instituted by any holder for the enforcement of the payment of the principal amount or interest, on any Note on or after the stated maturity of such Note or applicable redemption price on or after the applicable redemption date.

Waiver of Stay or Extension of Laws

We covenant (to the extent that we may lawfully do so) that we will not at any time insist upon, or plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, or extension law that may affect the covenants or the performance of the indenture. We, to the extent that we may lawfully do so, expressly waive all benefit or advantage of any such law and we covenant that we will not hinder, delay or impede the execution of any power granted to the trustee by the indenture.

Modification and Amendment

We and the trustee or, with respect to the collateral documents, we and the collateral agent may amend or supplement the indenture, the Note guarantees, the Notes and any collateral document with the consent of the majority holders voting as a single class, any existing default or event of default (other than in the payment of the principal of, premium, if any, interest or any other amounts due on the Notes, except a payment default resulting from an acceleration that has been rescinded) or compliance with any provision of this indenture, the Note guarantees, the Notes and any collateral document may be waived with the consent of the majority holders voting as a single class (including consents obtained in connection with a tender offer or exchange offer for, or purchase of, the notes), subject to certain conditions.

We will send a notice to the affected holders briefly describing the amendment, supplement or waiver. If we fail to send the notice or the notice is deficient, it will not impair or affect the validity of any amended or supplemented document or waiver. The majority holders may also waive compliance in a particular instance with any provision of the indenture or the notes, the note guarantees or any collateral document. Without the consent of each holder affected, an amendment or waiver may not with respect a non-consenting holder's Notes:

- reduce the principal amount of Notes whose holders must consent to an amendment, supplement or waiver;
- reduce the principal of, redemption price of, interest, premium, or any other amounts due under the indenture or change the fixed maturity of any note or alter or waive any of the provisions with respect to the redemption of the notes except as otherwise provided in the indenture;
- reduce the rate of or change the time for payment of interest on any Note;
- waive a default or event of default in the payment of principal of or premium, if any, interest or any other amounts due on the Notes (except a rescission of acceleration of the notes by the majority holders and a waiver of the payment default that resulted from such acceleration);
- make any Note payable in money or currency other than that stated in the Notes;
- make any change in the provisions of this indenture relating to waivers of past defaults or the rights of holders of Notes to receive payments of principal or interest or premium, if any, or any other amounts due on the Notes;
- make any change in certain provisions relating to events of default and the amendment and waiver provisions;
- impair the right to institute suit for the enforcement of any payment on or conversion of any Note;
- modify our obligation to purchase Notes at the option of holders or our right to redeem the Notes, in a manner adverse to the holders;
- make any change that adversely affects the repurchase option of holders upon a fundamental change;
- reduce the percentage in aggregate principal amount of Notes outstanding necessary to modify or amend this indenture or to waive any past default;
- modify the provisions requiring notice to the trustee in any manner adverse to holders;
- reduce the quorum or voting requirements under this indenture;
- modify in any manner the calculation of the interest make-whole or qualifying fundamental change payment;
- change the ranking of the Notes in a manner adverse to the holders;
- release any collateral from the liens of any collateral documents except as contemplated by the collateral documents;
- adversely affect the conversion rights of the holders of the Notes; or
- release any guarantor from any of its obligations under its Note guarantee or the indenture, except in accordance with the terms of the indenture.

Upon the satisfaction of and subject to certain conditions, the trustee and/or collateral agent, as applicable, will join us in the execution of such amended or supplemental indenture, the Notes, Note guarantees or collateral document.

We are permitted to modify certain provisions of the indenture without the consent of the holders of the Notes.

Neither we nor any of our subsidiaries will, directly or indirectly, pay or cause to be paid any consideration to or for the benefit of any holder of the Notes for or as an inducement to any consent, waiver or amendment of any of the terms or provisions of the indenture or the Notes unless such consideration is offered to be paid or is paid to all holders of the Notes that consent, waive or agree to amend in the time frame in solicitation documents relating to the consent, waiver or agreement.

Discharge

We may satisfy and discharge our obligations under the Notes and the indenture by delivering to the securities registrar for cancellation all outstanding notes or by depositing with the trustee or delivering to the holders, as applicable, after the Notes have become due and payable, whether at maturity, at any fundamental change repurchase date, upon conversion or otherwise, cash and/or (in the case of conversion) shares of Common Stock sufficient to pay all of the outstanding Notes and paying all other sums payable under the indenture by us. Such discharge is subject to terms contained in the indenture.

Calculations in Respect of Notes

Except as otherwise provided above, we will be responsible for making all calculations called for under the Notes. These calculations include, but are not limited to, determinations of the stock price, the last reported sale prices of our common stock, accrued interest payable on the notes, the interest make-whole payment, the daily VWAP and the conversion rate of the notes (including any adjustments thereof). We will make all these calculations in good faith and, absent manifest error, our calculations will be final and binding on holders of notes. We will provide a schedule of our calculations to each of the trustee and the conversion agent, and each of the trustee and the conversion agent is entitled to rely conclusively upon the accuracy of our calculations without independent verification. The trustee will forward our calculations to any holder of notes upon the written request of that holder.

Reports

The indenture provides that any annual or quarterly reports (on Form 10-K or Form 10-Q or any respective successor form) that we are required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act (excluding, for the avoidance of doubt, any such information, documents or reports, or portions thereof, subject to confidential treatment and any correspondence with the SEC) must be filed by us with the trustee within 15 days after the same are required to be filed with the SEC (giving effect to any grace period provided by Rule 12b-25 under the Exchange Act (or any successor rule)). Documents filed by us with the SEC via the EDGAR system (or any successor thereto) will be deemed to be delivered and filed with the trustee as of the time such documents are filed via EDGAR (or any successor thereto) it being understood that the trustee shall have no responsibility to determine if such filings have been made. Notwithstanding the foregoing, at any time we are otherwise not required to file documents or reports with the SEC pursuant to Section 13 or 15(d) of the Exchange Act and the conversion obligation for the notes may be satisfied by the delivery of reference property consisting of, in whole or in part, another entity's common stock, American depositary receipts, ordinary shares or other common equity, as the case may be, we may satisfy our obligations under this covenant by delivering or filing the financial information of such entity within the same time periods and in the same manner described above. Delivery of reports to the trustee is for information purposes only, and the trustee's receipt thereof shall not constitute actual or constructive notice of any information contained therein including our compliance with any covenants under the indenture (as to which the trustee is entitled to certificates).

Compliance Certificate

We and each guarantor will deliver to the trustee, within 90 days after the end of each fiscal year, an officers' certificate, one of the signatories of which will be our chief executive officer, chief financial officer or chief accounting officer, stating that a review of our activities and the activities of our subsidiaries during the preceding fiscal year has been made under the supervision of the signing officers with a view to determining whether we and each obligor under the Notes and the indenture has kept, observed, performed and fulfilled its obligations under the indenture, the Note guarantee and the collateral documents. The officers' certificate will also state, as to each such officer signing the certificate, that to the best of his or her knowledge we and each other obligor has kept, observed, performed and fulfilled each and every covenant contained in the indenture, the Notes, the Note guarantees and the collateral documents and is not in default in the performance or observance of any of the terms, provisions and conditions of this indenture, the Notes, the note guarantees and the collateral documents (or, if a default or event of default will have occurred, describing all such defaults or events of default of which he or she may have knowledge and what action we or such obligor is taking or proposes to take with respect thereto) and that to the best of his or her knowledge no event has occurred and remains in existence by reason of which payments on account of the principal of, interest or any other amounts due, if any, on the Notes is prohibited or if such event has occurred, a description of the event and what action we or the other obligor is taking or proposes to take with respect thereto.

As long as any of the Notes are outstanding, we will deliver to the trustee, an officers' certificate specifying any event of default of which the officer becomes aware and specifying the event of default and what action we are taking or we propose to take with respect to the event of default.

Trustee

We have appointed The Bank of New York Mellon Trust Company, N.A., the trustee under the indenture, as paying agent, conversion agent, note registrar, collateral agent and custodian for the notes. The trustee or its affiliates may provide banking and other services to us in the ordinary course of their business. The indenture contains certain limitations on the rights of the trustee, as long as it or any of its affiliates remains our creditor, to obtain payment of claims in certain cases or to realize on certain property received on any claim as security or otherwise. The trustee and its affiliates will be permitted to engage in other transactions with us. However, if the trustee or any affiliate continues to have any conflicting interest and a default occurs with respect to the notes, the trustee must eliminate such conflict or resign.

Maintenance of Office or Agency

We will maintain in the Borough of Manhattan, The City of New York, an office or agency (which may be an office of the trustee or an affiliate of the trustee, registrar or co-registrar) where the Notes may be surrendered for registration of transfer or for exchange. Notices and demands to or upon us in respect of the notes or the indenture may also be served at that office or agency. We will give prompt written notice to the trustee of the location, and any change in the location, of the office or agency in the Borough of Manhattan and any other designation or rescission of any other office or agency. If we fail to maintain the required office or agency or we fail to furnish the trustee with the address of that office or agency, such presentations, surrenders, notices and demands may be made or served at the corporate trust office of the trustee. We may also designate one or more other offices or agencies where the Notes may be presented or surrendered for any or all such purposes and may from time to time rescind such designations. However, no additional designation or rescission will relieve us of our obligation to maintain an office or agency in the Borough of Manhattan, The City of New York. We have initially designated the office of the trustee, presently located at 101 Barclay Street, New York, NY 10286, as one such office or agency.

Notices

Any notice or communication by us, any guarantor or the trustee to the others is duly given if in writing and delivered in person or mailed by first class mail (registered or certified, return receipt requested), telecopier or overnight air courier guaranteeing next day delivery, to the addresses set forth in the indenture or as otherwise later designated.

All notices and communications (other than those sent to holders) will be deemed to have been duly given: at the time delivered by hand, if personally delivered; five business days after being deposited in the mail, postage prepaid, if mailed; when receipt acknowledged, if telecopied; and the next business day after timely delivery to the courier, if sent by overnight air courier guaranteeing next day delivery.

Any notice of communication to a holder will be with respect to global notes, sent in accordance with DTC's customary policies and procedures and, with respect to certificated Notes, mailed by first class mail, certified or registered, return receipt requested, or by overnight air courier guaranteeing next day delivery to its address shown in the registrar's records. Failure to mail a notice or communication to a holder or any defect in it shall not affect its sufficiency with respect to other holders.

If we or a guarantor mails a notice or communication to holders, we or our guarantor will mail a copy to the trustee and each agent at the same time.

Governing Law

The indenture provides that it and the Notes, and any claim, controversy or dispute arising under or related to the indenture or the Notes, will be governed by and construed in accordance with the laws of the State of New York.

Book-Entry, Settlement and Clearance

The Global Notes

The Notes will be initially issued in the form of one or more registered notes in global form, without interest coupons (the "global notes"). Upon issuance, each of the global notes will be deposited with the trustee as custodian for DTC and registered in the name of Cede & Co., as nominee of DTC.

Ownership of beneficial interests in a global note will be limited to persons who have accounts with DTC ("DTC participants") or persons who hold interests through DTC participants. We expect that under procedures established by DTC:

- upon deposit of a global note with DTC's custodian, DTC will credit portions of the principal amount of the global note to the accounts of the DTC participants designated by the underwriter; and
- ownership of beneficial interests in a global note will be shown on, and transfer of ownership of those interests will be effected only through, records maintained by DTC (with respect to interests of DTC participants) and the records of DTC participants (with respect to other owners of beneficial interests in the global note).

Beneficial interests in global notes may not be exchanged for Notes in physical, certificated form except in the limited circumstances described below.

Book-Entry Procedures for the Global Notes

All interests in the global notes will be subject to the operations and procedures of DTC and, therefore, you must allow for sufficient time in order to comply with these procedures if you wish to exercise any of your rights with respect to the Notes. We provide the following summary of those operations and procedures solely for the convenience of investors. The operations and procedures of DTC are controlled by that settlement system and may be changed at any time. Neither we nor the underwriter are responsible for those operations or procedures.

DTC has advised us that it is:

- a limited purpose trust company organized under the laws of the State of New York;
- a "banking organization" within the meaning of the New York State Banking Law;
- a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the Uniform Commercial Code; and
- a "clearing agency" registered under Section 17A of the Exchange Act.

DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between its participants through electronic book-entry changes to the accounts of its participants. DTC's participants include securities brokers and dealers, including the underwriter; banks and trust companies; clearing corporations and other organizations. Indirect access to DTC's system is also available to others such as banks, brokers, dealers and trust companies; these indirect participants clear through or maintain a custodial relationship with a DTC participant, either directly or indirectly. Investors who are not DTC participants may beneficially own securities held by or on behalf of DTC only through DTC participants or indirect participants in DTC.

So long as DTC's nominee is the registered owner of a global note, that nominee will be considered the sole owner or holder of the Notes represented by that global note for all purposes under the indenture. Except as provided below, owners of beneficial interests in a global note:

- will not be entitled to have notes represented by the global note registered in their names;
- will not receive or be entitled to receive physical, certificated Notes; and
- will not be considered the owners or holders of the Notes under the indenture for any purpose, including with respect to the giving of any direction, instruction or approval to the trustee under the indenture.

As a result, each investor who owns a beneficial interest in a global note must rely on the procedures of DTC to exercise any rights of a holder of Notes under the indenture (and, if the investor is not a participant or an indirect participant in DTC, on the procedures of the DTC participant through which the investor owns its interest). Neither we nor the trustee, paying agent or conversion agent has any responsibility or liability for any act or omission of DTC.

Payments of principal and interest with respect to the Notes represented by a global note will be made by the trustee to DTC's nominee as the registered holder of the global note. Neither we nor the trustee will have any responsibility or liability for the payment of amounts to owners of beneficial interests in a global note, for any aspect of the records relating to or payments made on account of those interests by DTC, or for maintaining, supervising or reviewing any records of DTC relating to those interests.

Payments by participants and indirect participants in DTC to the owners of beneficial interests in a global note will be governed by standing instructions and customary industry practice and will be the responsibility of those participants or indirect participants and DTC.

Transfers between participants in DTC will be effected under DTC's procedures and will be settled in same-day funds.

Certificated Notes

Notes in physical, certificated form will be issued and delivered to each person that DTC identifies as a beneficial owner of the related notes only if:

- DTC notifies us at any time that it is unwilling or unable to continue as depositary for the global notes and a successor depositary is not appointed within 90 days;
- DTC ceases to be registered as a clearing agency under the Exchange Act and a successor depositary is not appointed within 90 days; or
- an event of default with respect to the Notes has occurred and is continuing and such beneficial owner requests that its Notes be issued in physical, certificated form.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

This section is a summary of certain material U.S. federal income tax considerations relating to the ownership and disposition of the Notes and any shares of our Common Stock into which the Notes may be converted. This summary does not provide a complete analysis of all potential tax considerations. The information provided below is based on existing U.S. federal income tax authorities, all of which are subject to change or differing interpretations, possibly with retroactive effect. There can be no assurance that the Internal Revenue Service (the "IRS") will not challenge one or more of the tax consequences described herein, and we have not obtained, and do not intend to obtain, a ruling from the IRS with respect to the U.S. federal income tax consequences of owning or disposing of the Notes or Common Stock. The summary generally applies only to beneficial owners of the Notes that purchase their Notes for an amount equal to the "issue price" of the Notes, which is the first price at which a substantial amount of the Notes is sold for money to the public (not including sales to bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, initial purchasers, placement agents or wholesalers), and that hold the Notes and Common Stock as "capital assets" (generally, for investment). This discussion does not purport to deal with all aspects of U.S. federal income taxation that may be relevant to a particular beneficial owner in light of the beneficial owner's circumstances (for example, persons subject to the alternative minimum tax provisions of the Internal Revenue Code of 1986, as amended (the "Code"), a U.S. holder (as defined below) whose "functional currency" is not the U.S. dollar or purchasers of Notes in this offering whose shares of common stock we are repurchasing in certain privately negotiated transactions). Also, this discussion is not intended to be wholly applicable to all categories of investors, some of which may be subject to special rules (such as dealers in securities, traders in securities that elect to use a mark-to-market method of accounting, banks, thrifts, regulated investment companies, real estate investment trusts, insurance companies, tax-exempt entities, tax-deferred or other retirement accounts, certain former citizens or residents of the United States, persons holding Notes or Common Stock as part of a conversion or integrated transaction or straddle, or persons deemed to sell Notes or Common Stock under the constructive sale provisions of the Code). Finally, the summary does not address the potential application of the Medicare contribution tax, the effects of the U.S. federal estate and gift tax laws or the effects of any applicable non-U.S., state or local laws.

INVESTORS CONSIDERING THE PURCHASE OF NOTES SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES OF U.S. FEDERAL ESTATE OR GIFT TAX LAWS, NON-U.S., STATE AND LOCAL LAWS, AND TAX TREATIES.

As used herein, the term "U.S. holder" means a beneficial owner of Notes or the common stock into which the Notes may be converted that, for U.S. federal income tax purposes, is (1) a citizen or individual resident of the United States, (2) a corporation created or organized in or under the laws of the United States or any state of the United States, including the District of Columbia, (3) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (4) a trust if it (x) is subject to the primary supervision of a U.S. court and the control of one of more U.S. persons or (y) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

A "non-U.S. holder" is a beneficial owner (other than a partnership for U.S. federal income tax purposes) of Notes or the Common Stock into which the Notes may be converted that is not a U.S. holder.

If a partnership for U.S. federal income tax purposes is a beneficial owner of a note or shares of our Common Stock acquired upon conversion of a Note, the tax treatment of a partner in the partnership will depend upon the status of the partner and the activities of the partnership. A beneficial owner of Notes or shares of our Common Stock acquired upon conversion of a note that is a partnership, and partners in such a partnership, should consult their own tax advisors about the U.S. federal income tax consequences of owning and disposing of the Notes and the shares of our Common Stock into which the Notes may be converted.

U.S. Holders

The following discussion is limited to the U.S. federal income tax consequences relevant to a U.S. holder (as defined above).

Issue Price and Basis in the Notes

The "issue price" of a Note is generally the first price at which a substantial portion of the Notes are sold to persons other than bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. In general, if the stated principal amount of a debt instrument exceeds its issue price by at least a statutorily defined *de minimis* amount, a U.S. holder will be required to include such excess in income as "original issue discount" over the term of the instrument in accordance with a constant-yield method, irrespective of the holder's regular method of tax accounting. Generally, original issue discount is considered to be *de minimis* if it is less than 0.25% of the instrument's stated principal amount multiplied by the number of complete years from the issue date to maturity. We believe, and therefore this discussion assumes, that the Notes were not issued with original issue discount for U.S. federal income tax purposes.

If the IRS were to successfully challenge our determination of the issue price for the Notes, the income tax consequences for a U.S. holder might be materially different than as described below. For example, the Notes may be considered to have original issue discount (or a greater amount of original issue discount) which may adversely affect the market value of the Notes. U.S. holders should consult their own tax advisors as to the income tax consequences to them of such a successful challenge under the circumstances of this offering.

A U.S. holder's initial tax basis in the Notes should be equal to the price paid by the holder (excluding any amounts attributable to pre-purchase accrued interest (as defined below)).

Interest

A U.S. holder will be required to recognize as ordinary income any stated interest paid or accrued on the Notes and should be required to recognize as ordinary income any interest make-whole payment as described above under "Description of Notes—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions" and any payment made upon a conversion in connection with a qualifying fundamental change as described above under "Description of Notes—Conversion Rights—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change," whether in cash or shares of Common Stock, in accordance with such holder's regular method of tax accounting.

We may be required to make payments of additional interest to holders of the Notes if we do not make certain filings, as described under "Description of Notes—Events of Default—Acceleration and Other Remedies," or upon certain conversions of the Notes, as described under "Description of Notes—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions" and "Description of Notes—Conversion Rights—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change," above. Due to a lack of relevant authority regarding certain of these payments, the applicability to the Notes of Treasury Regulations governing contingent payment debt instruments is uncertain. In particular, the effect of the interest make-whole payment described in "Description of Notes—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions" on the tax treatment of the Notes is unclear. Although not free from doubt, we believe that there is only a remote possibility that we would be required to pay such additional interest, and we do not intend to treat the Notes as subject to the special rules governing certain "contingent payment debt instruments" (which, if applicable, would affect the timing, amount and character of income with respect to a Note). Our determination in this regard, while not binding on the IRS, is binding on U.S. holders unless they disclose their contrary position in the manner prescribed under applicable U.S. Treasury regulations. If the IRS successfully challenged this position, and the Notes were treated as contingent payment debt instruments, U.S. holders would, among other things, be required to accrue interest income at a higher rate than the stated interest rate on the Notes and to treat any gain recognized on the sale or other disposition of a Note (including gain realized on the conversion of a note) as ordinary income rather than as capital gain. In the event we pay additional interest on the Notes, U.S. holders should consult their own tax advisors regarding the treatment of such amounts. The remainder of this discussion assumes that the Notes are not treated as contingent payment debt instruments.

For investors who purchase their Notes after the date of original issuance of the Notes, a portion of the first stated interest payment received on the Notes will be allocable to interest that accrued prior to the date acquired by such holder ("pre-purchase accrued interest"). A U.S. holder may treat this portion as a non-taxable return of capital. All references to interest in the remainder of this discussion excludes pre-purchase accrued interest except where explicitly stated.

Sale, Exchange, Redemption or Other Taxable Disposition of the Notes

A U.S. holder generally will recognize capital gain or loss if such holder disposes of a Note in a sale, exchange, redemption or other taxable disposition (other than conversion of a note, the U.S. federal income tax consequences of which are described under "—Conversion of Notes" below). The U.S. holder's gain or loss generally will equal the difference between the amount realized by it (other than amounts attributable to accrued and unpaid interest) and its tax basis in the Note. The U.S. holder's tax basis in the Note generally will equal the amount it paid for the Note. The portion of any amount realized that is attributable to accrued interest will not be taken into account in computing the U.S. holder's capital gain or loss. Instead, the portion attributable to accrued and unpaid interest will be recognized as ordinary interest income to the extent that the U.S. holder has not previously included the accrued interest in income. The gain or loss recognized by the U.S. holder on the disposition of the Note will be long-term capital gain or loss if it has held the Note for more than one year, or short-term capital gain or loss if it has held the Note for one year or less, at the time of the disposition. Long-term capital gains of non-corporate taxpayers currently are taxed at preferential rates. Short-term capital gains are taxed at ordinary income rates. The deductibility of capital losses is subject to limitations.

Conversion of Notes

A U.S. holder generally should not recognize any gain or loss on the conversion of a Note solely into shares of Common Stock, except with respect to the fair market value of any cash or Common Stock attributable to (i) accrued and unpaid interest, (ii) any interest make-whole payment in connection with the conversion of a Note into shares of Common Stock as described in "Description of Notes—Conversion Rights—Interest Make-Whole Payment upon Certain Conversions," and/or (iii) any payment made upon a conversion in connection with a qualifying fundamental change as described in "Description of Notes—Conversion Rights—Qualifying Fundamental Change Payment Upon Conversion in Connection With a Qualifying Fundamental Change." The U.S. holder's tax basis in the Common Stock received (excluding shares attributable to accrued and unpaid interest, any interest make-whole payment, or any payment made upon a conversion in connection with a qualifying fundamental change) generally will equal its tax basis in the converted Note. The U.S. holder's holding period in the Common Stock (other than shares attributable to accrued and unpaid interest, any interest make-whole payment, or any payment made upon a conversion in connection with a qualifying fundamental change) will include the holding period in the converted Note.

Any portion of Common Stock that is attributable to accrued and unpaid interest on the Notes not yet included in income by a U.S. holder will be taxed as ordinary income, and any portion of Common Stock that is attributable to any interest make-whole payment in connection with the conversion of a Note into shares of Common Stock or any payment made upon a conversion in connection with a qualifying fundamental change should be taxed to such U.S. holder as ordinary income. A U.S. holder's basis in any shares of Common Stock attributable to accrued and unpaid interest, any interest make-whole payment, or any payment made upon conversion in connection with a qualifying fundamental change will equal the fair market value of such shares when received. A U.S. holder's holding period in any shares of Common Stock attributable to accrued and unpaid interest, any interest make-whole payment, or any payment made upon conversion in connection with a qualifying fundamental change will begin on the day after they are received.

If we undergo a transaction of the type described under "Description of Notes—Conversion Rights—Recapitalizations, Reclassifications and Changes of our Common Stock," the conversion obligation may be adjusted so that holders would be entitled to convert the Notes into the type of consideration that they would have been entitled to receive upon such transaction had the Notes been converted into shares of Common Stock immediately prior to such transaction. Depending on the facts and circumstances at the time of such transaction, such adjustment may result in a deemed exchange of the outstanding Notes, which may be a taxable event for U.S. federal income tax purposes. U.S. holders are urged to consult their tax advisors regarding the U.S. federal income tax consequences of such an adjustment.

Distributions

If, after a U.S. holder acquires shares of Common Stock upon a conversion of a Note, we make a distribution in respect of such Common Stock from our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes), the distribution will be treated as a dividend and will be includible in a U.S. holder's income as ordinary income when received. If the distribution exceeds our current and accumulated earnings and profits, the excess will be treated first as a tax-free return of the U.S. holder's tax basis in its shares of Common Stock and any remaining excess will be treated as capital gain from the sale or exchange of the Common Stock. If the U.S. holder is a U.S. corporation, it generally will be able to claim a dividends-received deduction on a portion of any distribution taxed as a dividend, provided that certain holding period requirements are satisfied. Subject to certain exceptions, dividends received by certain non-corporate U.S. holders currently are taxed at the preferential rates applicable to long-term capital gains, provided that certain holding period requirements are met.

Constructive Distributions

The terms of the Notes allow for changes in the conversion rate of the Notes under certain circumstances. A change in conversion rate that allows beneficial owners of Notes to receive more shares of Common Stock on conversion may increase such beneficial owners' proportionate interests in our earnings and profits or assets. In that case, the beneficial owners of Notes may be treated as though they received a taxable distribution in the form of Common Stock or additional rights to acquire Common Stock. A taxable constructive distribution would result, for example, if the conversion rate is adjusted to compensate beneficial owners of Notes for distributions of cash or property to our stockholders. If an event occurs that dilutes the interests of stockholders or increases the interests of beneficial owners of the Notes and the conversion rate of the Notes is not adjusted (or not adequately adjusted), this also could be treated as a taxable stock distribution to beneficial owners of the Notes. Conversely, if an event occurs that dilutes the interests of beneficial owners of the Notes and the conversion rate is not adjusted (or not adequately adjusted), the resulting increase in the proportionate interests of our stockholders could be treated as a taxable stock distribution to the stockholders. Not all changes in the conversion rate that result in beneficial owners of Notes receiving more Common Stock on conversion, however, increase such beneficial owners' proportionate interests in us. For instance, a change in conversion rate could simply prevent the dilution of the beneficial owners' interests upon a stock split or other change in capital structure. Changes to the conversion rate made pursuant to a *bona fide* reasonable adjustment formula are not treated as constructive distributions. Any taxable constructive distribution would be treated for U.S. federal income tax purposes in the same manner as an actual distribution on Common Stock as described in "—Distributions" above. It would result in a taxable dividend to the beneficial owners to the extent of our current or accumulated earnings and profits (with the beneficial owner's tax basis in its Note or Common Stock (as the case may be) being increased by the amount of such dividend), with any excess treated first as a tax-free return of the beneficial owner's tax basis in its Note or Common Stock (as the case may be) and then as capital gain. Non-corporate U.S. holders should consult their tax advisors regarding whether any taxable constructive dividend would be eligible for the preferential rates and corporate holders should consult their tax advisors regarding the dividends-received deduction, both described in "—Distributions" above.

On April 12, 2016, the IRS issued proposed regulations that address the amount and timing of constructive distributions, obligations of withholding agents and filing and notice obligations of issuers. The proposed regulations, if adopted as proposed, would provide generally that (1) the amount of a constructive distribution is the excess of (a) the fair market value of the right to acquire shares immediately after an "applicable adjustment," over (b) the fair market value of the right to acquire shares without the adjustment, (2) the constructive distribution occurs at the earlier of (a) the date the adjustment occurs under the terms of the Notes, or (b) the date of the actual distribution of cash or property that results in the constructive distribution, and (3) information reporting is required regarding the amount of any constructive distribution. Although the regulations would be effective for constructive distributions occurring on or after the date on which the regulations are adopted as final regulations, investors and withholding agents may rely on them prior to that date under certain circumstances. Any backup withholding required with respect to such a constructive distribution may be satisfied by withholding such amounts from shares or current or subsequent payments of cash payable to such U.S. holder.

Sale, Exchange or Other Disposition of Common Stock

A U.S. holder generally will recognize capital gain or loss on a sale, exchange or other disposition of shares of Common Stock. The U.S. holder's gain or loss will equal the difference between the amount realized by the holder and its tax basis in the shares of Common Stock. The amount realized by the U.S. holder will include the amount of any cash and the fair market value of any other property received for the shares of Common Stock. The gain or loss recognized by a U.S. holder on a sale, exchange or other disposition of shares of Common Stock will be long-term capital gain or loss if its holding period in the shares of Common Stock is more than one year, or short-term capital gain or loss if its holding period in the shares of Common Stock is one year or less, at the time of the transaction. Long-term capital gains of non-corporate taxpayers are currently taxed at preferential rates. Short-term capital gains are taxed at ordinary income rates. The deductibility of capital losses is subject to limitations.

Non-U.S. Holders

The following discussion is limited to the U.S. federal income tax consequences relevant to a non-U.S. holder (as defined above).

Interest

Subject to the discussions below regarding FATCA and under "—Income or Gains Effectively Connected with a U.S. Trade or Business," payments of interest on the Notes to non-U.S. holders generally will qualify as "portfolio interest," and thus will be exempt from U.S. federal income tax, including withholding of such tax, if the non-U.S. holder certifies its non-U.S. status as described below.

The portfolio interest exemption will not apply to payments of interest to a non-U.S. holder that:

- owns, actually or constructively, shares of our stock representing at least 10% of the total combined voting power of all classes of our stock entitled to vote; or

- is a "controlled foreign corporation" that is related, directly or indirectly, to us through sufficient actual or constructive stock ownership.

The portfolio interest exemption applies only if the non-U.S. holder certifies its non-U.S. status. A non-U.S. holder can meet this certification requirement by providing a properly completed and executed IRS Form W-8BEN or W-8BEN-E or appropriate substitute form prior to the payment. If the non-U.S. holder holds the Note through a financial institution or other agent acting on its behalf, it will be required to provide appropriate documentation to the agent. Special certification rules apply to non-U.S. holders that are pass-through entities.

Dividends

Subject to the discussion below under "—Income or Gains Effectively Connected with a U.S. Trade or Business" and the discussions below regarding backup withholding and FATCA, dividends paid to a non-U.S. holder on shares of our common stock received on conversion of a note, as well as any taxable constructive dividends resulting from certain adjustments (or failures to make adjustments) to the number of shares of common stock to be issued on conversion of a note (as described under "—U.S. Holders—Constructive Distributions" above), generally will be subject to U.S. withholding tax at a 30% rate. The withholding tax on dividends (including any taxable constructive dividends), however, may be reduced under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence. A non-U.S. holder should demonstrate its eligibility for a reduced rate of withholding under an applicable income tax treaty by timely delivering a properly completed and executed IRS Form W-8BEN or W-8BEN-E or appropriate substitute form. A non-U.S. holder that is eligible for a reduced rate of withholding under the terms of an applicable income tax treaty may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Because a taxable constructive dividend received by a non-U.S. holder would not give rise to any cash from which any applicable withholding tax could be satisfied, if a withholding agent pays withholding taxes on the non-U.S. holder's behalf with respect to amounts which are includible in the non-U.S. holder's income but which are not paid in cash, the withholding agent may set off any such withholding tax against any other payments owed to the non-U.S. holder, including cash payments of interest payable on the Notes, shares of Common Stock upon conversion, or proceeds from a sale subsequently paid or credited to the non-U.S. holder. Non-U.S. holders should consult their tax advisors as to whether they can obtain a refund for all or a portion of any tax withheld.

Sale, Exchange, Redemption, Conversion or Other Taxable Dispositions of Notes or Common Stock

Subject to the discussions below regarding backup withholding and FATCA, non-U.S. holders generally will not be subject to U.S. federal income or withholding tax on any gain realized on the sale, exchange, redemption, conversion or other disposition of Notes or shares of Common Stock (other than with respect to payments attributable to accrued interest, any interest make-whole payment, or any payment made upon conversion in connection with a qualifying fundamental change which will be taxed as described under "—Interest" above) unless:

- the gain is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business (and, generally, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment or fixed base maintained by the non-U.S. holder), in which case the gain would be subject to tax as described below under "—Income or Gains Effectively Connected with a U.S. Trade or Business";

- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the year of disposition and certain other conditions apply, in which case, except as otherwise provided by an applicable income tax treaty, the gain, which may be offset by certain U.S.-source capital losses, would be subject to a flat 30% tax, even though the individual is not considered a resident of the United States; or

- the rules of the Foreign Investment in Real Property Tax Act (or "FIRPTA") (described below) treat the gain as effectively connected with a U.S. trade or business.

The FIRPTA rules may apply to a sale, exchange or other disposition of Notes or shares of Common Stock by a non-U.S. holder if, at any time during the five-year period ending on the date of the sale, exchange or other disposition (or, if shorter, the non-U.S. holder's holding period for the Notes or Common Stock disposed of), we are or were a "U.S. real property holding corporation" (or "USRPHC") for U.S. federal income tax purposes. In general, we would be a USRPHC if interests in U.S. real estate composed at least 50% of the fair market value of our worldwide real property interests and assets used or held for use in a trade or business. We believe that we currently are not, and will not become in the future, a USRPHC.

Income or Gains Effectively Connected with a U.S. Trade or Business

If any interest or constructive dividends on the Notes, dividends on shares of Common Stock, or gain from the sale, exchange, redemption, conversion or other disposition of the Notes or shares of Common Stock is effectively connected with a U.S. trade or business conducted by a non-U.S. holder, then the income or gain will be subject to U.S. federal income tax on a net-income basis at the regular graduated rates and generally in the same manner applicable to U.S. holders. If the non-U.S. holder is eligible for the benefits of a tax treaty between the United States and its country of residence, any "effectively connected" income or gain generally will be subject to U.S. federal income tax on a net-income basis only if it is also attributable to a permanent establishment or fixed base maintained by it in the United States. Payments of interest or dividends that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder (and, if an applicable tax treaty requires, attributable to a U.S. permanent establishment or fixed base), and therefore included in the gross income of a non-U.S. holder, will not be subject to 30% withholding, provided that it claims exemption from withholding by timely filing a properly completed and executed IRS Form W-8ECI, or any appropriate substitute or successor form as the IRS designates, as applicable, prior to payment. If the non-U.S. holder is a corporation for U.S. federal income tax purposes, that portion of its earnings and profits that is effectively connected with its U.S. trade or business generally will also be subject to a "branch profits tax." The branch profits tax rate is generally 30%, although an applicable income tax treaty might provide for a lower rate.

Backup Withholding and Information Reporting

The Code and the U.S. Treasury regulations generally require persons who make specified payments to report the payments to the IRS. Among the specified payments are interest, dividends, and proceeds paid by brokers to their customers. This reporting regime is reinforced by "backup withholding" rules, which generally require the payor to withhold from payments subject to information reporting if the recipient has failed to provide a taxpayer identification number to the payor, furnished an incorrect identification number, failed to comply with applicable certification requirements or been repeatedly notified by the IRS that it has failed to report interest or dividends on its U.S. federal income tax returns. The backup withholding rate is currently 24%.

Payments of interest or dividends (including constructive dividends) to U.S. holders of Notes or shares of Common Stock and payments made to U.S. holders by a broker upon a sale of Notes or Common Stock generally will be subject to information reporting and backup withholding, unless the U.S. holder (1) is an exempt recipient, or (2) in the case of backup withholding, provides the payor with a correct taxpayer identification number and complies with applicable certification requirements. If a sale is made through a foreign office of a foreign broker, however, the sale generally will not be subject to either information reporting or backup withholding. This exception may not apply if the foreign broker is owned or controlled by U.S. persons, or is engaged in a U.S. trade or business.

The applicable withholding agent must report annually to the IRS the interest and/or dividends (including constructive dividends) paid to each non-U.S. holder and the amount of tax withheld, if any, with respect to such interest and/or dividends, including any tax withheld pursuant to the rules described under "—Non-U.S. Holders—Interest" and "—Non-U.S. Holders—Dividends" above and "—FATCA" below. Copies of these reports may be made available to tax authorities in the country where the non-U.S. holder resides. Payments to non-U.S. holders of dividends on our common stock or interest or constructive dividends on the Notes may be subject to backup withholding unless the non-U.S. holder certifies its non-U.S. status on a properly completed and executed IRS Form W-8BEN or W-8BEN-E or appropriate substitute form. Payments made to non-U.S. holders by a broker upon a sale of the Notes or Common Stock will not be subject to information reporting (except to the extent such payments are subject to withholding under FATCA, discussed below) or backup withholding as long as the non-U.S. holder certifies its non-U.S. status or otherwise establishes an exemption.

Any amounts withheld from a payment to a U.S. holder or non-U.S. holder with respect to the Notes or shares of Common Stock under the backup withholding rules generally will be allowed as a refund or can be credited against any U.S. federal income tax liability of the holder, provided the required information is timely furnished to the IRS.

FATCA

Provisions commonly referred to as FATCA generally impose a 30% U.S. withholding tax on certain U.S.- source payments, including interest (including original issue discount), dividends and other fixed or determinable annual or periodical gain, profits, and income, and on the gross proceeds from a sale or other disposition after December 31, 2018 of property of a type which can produce U.S.-source interest or dividends ("Withholdable Payments"), if paid to a foreign financial institution (whether as a beneficial owner or intermediary), unless such institution (i) enters into an agreement with the Treasury Department to collect and provide to the Treasury Department substantial information regarding its U.S. account holders, including certain account holders that are foreign entities with U.S. owners, (ii) satisfies the requirements of an intergovernmental agreement entered into by such institution's country of residence and the United States or (iii) qualifies for an exemption. The legislation also generally imposes a withholding tax of 30% on Withholdable Payments made to a non-financial foreign entity unless such entity provides the withholding agent with a certification that it does not have any substantial U.S. owners or a certification identifying the direct and indirect substantial U.S. owners of the entity, or unless an exemption applies. An intergovernmental agreement between the United States and the non-U.S. entity's jurisdiction may modify these requirements.

These withholding requirements generally currently apply to payments of interest and dividends (including constructive dividends) on the Notes or shares of Common Stock. They will apply to payments of gross proceeds from a sale or other disposition of Notes or shares of Common Stock after December 31, 2018. If FATCA withholding is imposed, a beneficial owner (other than certain foreign financial institutions) generally will be entitled to a refund of any amounts withheld by filing a U.S. federal income tax return and, in the case of a non-financial foreign entity, providing the IRS with certain information regarding its substantial U.S. owners (unless an exception applies). Holders are urged to consult their tax advisors regarding the possible implications of FATCA on their ownership and disposition of the Notes and any shares of Common Stock.

Dividend Equivalents

Section 871(m) of the Code requires withholding (of up to 30%, depending on whether a treaty applies) on certain financial instruments to the extent that the payments or deemed payments on the financial instruments are treated as being contingent upon or determined by reference to U.S.-source dividends. Under Treasury Regulations and other guidance issued in connection with Section 871(m), Section 871(m) will apply to financial instruments issued in 2018 only if they are "delta-one." A "delta-one" instrument is one in which, the ratio of the change in the fair market value of the instrument to a small change in the fair market value of the property referenced by the instrument is equal to 1.00. We do not believe that the Notes should be treated as delta-one instruments. Accordingly, non-U.S. holders of the Notes should not be subject to tax under Section 871(m). Non-U.S. holders should consult with their tax advisors regarding the application of Section 871(m) and the regulations thereunder in respect of their acquisition and ownership of the Notes.

PLAN OF DISTRIBUTION

The Selling Security Holders may, from time to time, sell any or all of their Securities on any stock exchange, market or trading facility on which the Securities are traded or in private transactions; however, there is no public market for the Notes or Guarantees and we do not intend to list or quote the Notes or Guarantees on any securities exchange or quotation system. If the Securities are sold through underwriters, the Selling Security Holders will be responsible for underwriting discounts or commissions or agent's commissions. Any Selling Security Holders who are broker-dealers are deemed to be underwriters. These sales may be at fixed prices, at prevailing market prices at the time of the sale (with respect to Common Stock), at varying prices determined at the time of sale or at negotiated prices. The Selling Security Holders may use any one or more of the following methods when selling Securities:

- any national securities exchange or quotation service on which the Securities may be listed or quoted at the time of sale;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the Securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- transactions other than on these exchanges or systems or in the over-the-counter market;
- through the writing of options, whether such options are listed on an options exchange or otherwise;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- broker-dealers may agree with the Selling Security Holders to sell a specified number of such Securities at a stipulated price;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The Selling Security Holders may also sell Securities under Rule 144 under the Securities Act, if available, rather than under this prospectus, or they may engage in short sales against the box, puts and calls and other transactions in our securities or derivatives of our securities and may sell or deliver shares in connection with these trades.

Broker-dealers engaged by the Selling Security Holders may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Security Holders (or, if any broker-dealer acts as agent for the purchaser of Securities, from the purchaser) in amounts to be negotiated. The Selling Security Holders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of Securities by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of Securities will be borne by a Selling Security Holders. Any Selling Security Holder may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

In connection with the sale of the Securities or otherwise, the Selling Security Holders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the Securities in the course of hedging in positions they assume. The Selling Security Holders may also sell Securities short and deliver Securities covered by this prospectus to close out short positions and to return borrowed Securities in connection with such short sales. The Selling Security Holders may also loan or pledge Securities to broker-dealers that in turn may sell such Securities.

The Selling Security Holders may from time to time pledge or grant a security interest in some or all of the Securities owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the Securities from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling security holders to include the pledgee, transferee or other successors in interest as a Selling Security Holder under this prospectus.

The Selling Security Holders also may transfer the Securities in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the Securities from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling security holders to include the pledgees, transferees or other successors in interest as a Security Holder under this prospectus. The Selling Security Holders also may transfer and donate the Securities in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The Selling Security Holders and any broker-dealers or agents that are involved in selling the Securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, such broker-dealers or agents and any profit realized on the resale of the Securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the Securities is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of Securities being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the Selling Security Holders, as applicable, and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers. Under the securities laws of some states, the Securities may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the Securities may not be sold unless such securities have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with. There can be no assurance that any Selling Security Holders will sell any or all of the Securities registered pursuant to the registration statement of which this prospectus forms a part.

Each Selling Security Holder has informed us that it does not have any agreement or understanding, directly or indirectly, with any person to distribute the Securities. Based on information provided to us, none of the Selling Security Holders are broker-dealers or affiliates of broker-dealers.

We are paying all fees and expenses incident to the registration of the Securities. Except with respect to indemnification of the Selling Noteholders pursuant to the Registration Rights Agreement entered into in connection with the Notes offering, we are not obligated to pay any of the expenses of any attorney or other advisor engaged by a Selling Security Holder. We have agreed to indemnify the Selling Noteholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

If we are notified by any Selling Security Holder that any material arrangement has been entered into with a broker-dealer for the sale of Securities, we will file a post-effective amendment to the registration statement. If the Selling Security Holders use this prospectus for any sale of the Securities, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of the Securities and activities of the Selling Security Holders, which may limit the timing of purchases and sales of any of the Securities by the Selling Security Holders and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the Securities to engage in passive market-making activities with respect to the Securities. Passive market making involves transactions in which a market maker acts as both our underwriter and as a purchaser of the Securities in the secondary market. All of the foregoing may affect the marketability of the Securities and the ability of any person or entity to engage in market-making activities with respect to the Securities.

Once sold under the registration statement of which this prospectus forms a part, the Securities will be freely tradable in the hands of persons other than our affiliates.

LEGAL MATTERS

The validity of the Securities offered hereby will be passed upon for us by K&L Gates LLP, Charlotte, North Carolina.

EXPERTS

The consolidated financial statements of Akoustis Technologies, Inc. as of June 30, 2017 and 2016 and for the years then ended incorporated by reference in this prospectus and the registration statement of which this prospectus forms a part, have been audited by Marcum LLP, independent registered public accounting firm, as set forth in its report thereon (which contains an explanatory paragraph relating to substantial doubt about the ability of Akoustis Technologies, Inc. to continue as a going concern as described in Note 2 to the consolidated financial statements incorporated by reference herein) appearing in our annual report on Form 10-K for the fiscal year ended June 30, 2017, and are incorporated by reference in reliance on such report given upon such firm's authority as an expert in auditing and accounting.

The special purpose combined financial statements of The Research Foundation for the State University of New York and Fuller Road Management Corporation, which comprise the special purpose statement of assets acquired and liabilities assumed as of June 26, 2017, and the related special purpose combined statements of revenues and direct expenses for the years ended June 30, 2016 and 2015, incorporated by reference in this prospectus and the registration statement of which this prospectus forms a part, have been audited by Marcum LLP, independent registered public accounting firm, as set forth in its report thereon incorporated herein by reference, and are incorporated by reference in reliance on such report given upon such firm's authority as an expert in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports and other information with the SEC. You may read or obtain a copy of these reports at our website address, www.akoustis.com, or at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room and their copy charges by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains registration statements, reports, proxy information statements and other information regarding registrants that file electronically with the SEC. The address of the website is *http://www.sec.gov*.

We have filed with the SEC a Registration Statement on Form S-1 under the Securities Act to register the Securities offered by this prospectus. The term "registration statement" means the original registration statement and any and all amendments thereto, including the schedules and exhibits to the original registration statement or any amendment. This prospectus is part of that registration statement. This prospectus does not contain all of the information set forth in the registration statement or the exhibits to the registration statement. For further information with respect to us and the Securities being offered pursuant to this prospectus, you should refer to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract, agreement or other document referred to are not necessarily complete, and you should refer to the copy of that contract or other documents filed as an exhibit to the registration statement. You may read or obtain a copy of the registration statement at the SEC's public reference facilities and Internet sites referred to above.

The information found on, or otherwise accessible through, any website referenced in this prospectus is not incorporated into, and does not form a part of, this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC:

- our annual report on Form 10-K for the fiscal year ended June 30, 2017 filed with the SEC on September 20, 2017 (as amended by Form 10-K/A filed with the SEC on September 26, 2017);

- our quarterly reports on Form 10-Q for the fiscal quarter ended September 30, 2017 filed with the SEC on November 14, 2017, for the fiscal quarter ended December 31, 2017 filed with the SEC on February 14, 2018 and for the fiscal quarter ended March 31, 2018 filed with the SEC on May 15, 2018;

- our Current Reports on Form 8-K filed with the SEC on July 17, 2017, July 18, 2017, July 20, 2017, August 10, 2017, September 6, 2017, September 12, 2017, September 29, 2017, October 6, 2017, November 17, 2017, December 7, 2017, December 15, 2017, December 21, 2017 (as amended by Form 8-K/A filed on January 10, 2018), March 5, 2018, and May 15, 2018; and

- the description of our Common Stock contained in our Registration Statement on Form 8-A (File No. 001-38029) filed with the SEC on March 10, 2017, including any amendment or report filed for the purpose of updating such description.

All documents we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or documents that is not deemed filed under such provisions, (1) on or after the date of filing of the registration statement containing this prospectus and prior to the effectiveness of the registration statement and (2) on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to Akoustis Technologies, Inc., 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078, Attention: Corporate Secretary; Telephone: (704) 997-5735. Copies of the above reports may also be accessed from our web site at *www.akoustis.com*. We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

AKOUSTIS TECHNOLOGIES, INC.

AKOUSTIS, INC.

$15,000,000 of 6.5% Convertible Senior Secured Notes due 2023 for sale by the Selling Noteholders
(fully and unconditionally guaranteed by Akoustis, Inc.)

4,444,217 Shares of Common Stock issuable in respect of the Notes for sale by the Selling Noteholders

4,146,529 Shares of Common Stock for sale by the Selling Stockholders

PROSPECTUS

, 2018

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

Set forth below is an estimate (except for registration fees, which are actual) of the approximate amount of the fees and expenses payable by us in connection with the issuance and distribution of the Notes and shares of our Common Stock. The selling security holders will not be responsible for any of the expenses of this offering.

SEC registration fee	$	6,340
Accounting fees and expenses	$	12,000
Legal fees and expenses	$	35,000
Miscellaneous	$	3,660
Total	$	57,000

Item 14. Indemnification of Directors and Officers.

Section 102(b)(7) of the DGCL allows a corporation to provide in its certificate of incorporation that a director of the corporation will not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. The Company's certificate of incorporation provides for this limitation of liability.

Section 145 of the DGCL, or Section 145, provides that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were or are a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, provided that no indemnification is permitted without judicial approval if the officer, director, employee or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses which such officer or director has actually and reasonably incurred.

Section 145 further authorizes a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against any liability asserted against him and incurred by him in any such capacity, or arising out of his or her status as such, whether or not the corporation would otherwise have the power to indemnify him under Section 145.

The Company's Certificate of Incorporation provides that the liability of directors for monetary damages shall be eliminated to the fullest extent under applicable law. The Company's By-Laws state that the Company shall indemnify every present or former director, officer, employee, or agent of the Company or person who is or was serving at the Company's request as a director, officer, member, manager, partner, trustee, fiduciary, employee or agent of another corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise (each an "Indemnitee").

The Company's By-Laws provide that the Company shall indemnify an Indemnitee against all judgments, fines, amounts paid in settlement and reasonable expenses actually and reasonably incurred by the Indemnitee in connection with any proceeding in which he was, or is threatened to be made, a party by reason of his serving or having served, if it is determined that the Indemnitee (a) acted in good faith, (b) reasonably believed that such action was in, or not opposed to, the Company's best interests and (c) in the case of any criminal proceeding, had no reasonable cause to believe that his conduct was unlawful; provided, however, that the Company shall not be obligated to indemnify an Indemnitee that was threatened to be made a party but does not become a party unless the incurring of such expenses was authorized by or under the authority of the Board of Directors, and the Company shall not be obligated to indemnify against any amount paid in settlement unless the Board of Directors has consented to such settlement. In any action brought by or in the right of the Company to procure a judgment in its favor, no indemnification shall be made in respect of any proceeding if a final adjudication establishes that the Indemnitee is liable to the Company, unless the court determines that such person is fairly and reasonably entitled to indemnity. The Company may indemnify an Indemnitee who has served, or prepared to serve, as a witness in, but is not a party to, any action, suit, or proceeding. The termination of any proceeding by judgment, order, settlement or conviction, or on a plea of nolo contendere or its equivalent, is not of itself determinative that the Indemnitee did not meet the requirements set forth in clauses (a) through (c) above.

Expenses incurred by any present or former director or officer of the Company in defending any civil, criminal, administrative, or investigative action, suit, or proceeding, shall be paid by the Company in advance of the final disposition of such action, suit, or proceeding upon receipt of an undertaking in writing by or on behalf of such person to repay such amount if it shall ultimately be determined that such person is not entitled to indemnification. Expenses and costs incurred by other Indemnitees may be paid by the Company in advance of the final disposition of such action, suit, or proceeding upon a similar undertaking.

Other than discussed above, neither the Company's By-Laws nor its Certificate of Incorporation includes any specific indemnification provisions for the Company's officers or directors against liability under the Securities Act. The Company has also purchased insurance providing for indemnification of its directors and officers. Additionally, insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Item 15. Recent Sales of Unregistered Securities.

The Private Placements

The 2015 Offering

We sold 3,792,104 shares of our Common Stock (including shares issued on conversion of convertible notes of Akoustis, Inc.) in the 2015 Offering to accredited investors at a purchase price of $1.50 per share, for gross proceeds of $5.7 million (before deducting expenses of the 2015 Offering).

In connection with the 2015 Offering, we paid Northland Securities, Inc. and Katalyst Securities LLC, each a U.S. registered broker-dealer, and their sub-agents a cash commission of $486,976. We also issued to the placement agents and their sub-agents warrants to purchase an aggregate of 324,650 shares of Common Stock with a term of five years and an exercise price of $1.50 per share.

The 2016 Offering

We sold 2,235,310 shares of Common Stock in the 2016 Offering to accredited investors at a purchase price of $1.60 per share, for gross proceeds of $3.6 million (before deducting expenses of the 2016 Offering).

In connection with the 2016 Offering, we paid Northland Securities, Inc. and Katalyst Securities LLC and their sub-agents an aggregate cash commission of $196,752. We also issued to the placement agents and their sub-agents warrants to purchase an aggregate of 153,713 shares of Common Stock with a term of five years and an exercise price of $1.60 per share. In partial satisfaction of legal expenses owed to the placement agents, we also issued to them 4,690 shares of Common Stock (valued at the 2016 Offering price).

The 2016-2017 Offering

We sold 2,142,000 shares of Common Stock in the 2016-2017 Offering to accredited investors at a purchase price of $5.00 per share, for gross proceeds of $10.7 million (before deducting expenses of the 2016-2017 Offering).

In connection with the 2016-2017 Offering, we paid Northland Securities, Inc., Katalyst Securities LLC, Drexel Hamilton, LLC, and Joseph Gunnar & Co, LLC, each a U.S. registered broker-dealer, and their sub-agents an aggregate cash commission of $854,010. We also issued to the placement agents and their sub-agents warrants to purchase an aggregate 205,126 shares of Common Stock with a term of five years and an exercise price of $5.00 per share.

The First 2017 Offering

We sold 663,000 shares of Common Stock in the First 2017 Offering to accredited investors at a purchase price of $9.00 per share, for gross proceeds of $6 million (before deducting expenses of the 2017 Offering). In addition, pursuant to the price-protection provisions discussed below, which provisions were triggered by the Second 2017 Offering, we issued an additional 542,455 shares of Common Stock, for no additional consideration, to investors in the First 2017 Offering.

In connection with the First 2017 Offering, we paid Katalyst Securities LLC and Drexel Hamilton LLC and their sub-agents an aggregate cash commission of $418,000. We also issued to the placement agents and their sub-agents warrants to purchase an aggregate 46,410 shares of Common Stock with a term of five years and an exercise price of $9.00 per share.

Investors in the 2017 Offering were given price-protected anti-dilution rights such that if, prior to May 1, 2019, the Company shall issue additional shares of Common Stock or Common Stock equivalents (subject to customary exceptions, including but not limited to issuances of awards under the 2016 Plan and certain other issuances of securities in connection with credit arrangements, equipment financings, lease arrangements or similar transactions) for a consideration per share less than the 2017 Offering price per share (as adjusted for any subsequent stock dividend, stock split, distribution, recapitalization, reclassification, reorganization or similar event) (the "2017 Lower Price"), each such investor would be entitled to receive from the Company additional shares of Common Stock in an amount such that, when added to the number of shares of Common Stock initially purchased by such investor, would equal (i)(a) the total purchase price paid for the shares in the First 2017 Offering that are then held by the investors, divided by (b) 90% of the 2017 Lower price minus (ii) the number of shares in the First 2017 Offering that are then held by the investors. In December 2017, these price protection provisions were amended such that, upon trigger, investors in the First 2017 Offering would receive additional shares of Common Stock in an amount such that, when added to the number of shares of Common Stock initially purchased by such investor, would equal (i)(a) the total purchase price paid for the shares in the First 2017 Offering that are then held by the investors, divided by (b) 90% of the greater of (A) the 2017 Lower price and (B) $5.50 minus (ii) the number of shares in the First 2017 Offering that are then held by the investors. These price-protected anti-dilution rights were triggered by the Second 2017 Offering, and as a result, in December 2017, the Company issued an additional 542,450 shares to investors in the First 2017 Offering for no additional consideration.

The Second 2017 Offering

The description of the Second 2017 Offering set forth above under "Selling Stockholders—The Second 2017 Offering" is incorporated by reference herein.

Each of the 2015 Offering, the 2016 Offering, the 2016-2017 Offering the First 2017 Offering, and the Second 2017 Offering were made in reliance on Rule 506(b) of Regulation D and Section 4(a)(2) of the Securities Act.

Restricted Share Awards under the 2015 Plan

Since our merger with Akoustis, Inc. on May 22, 2015, we have issued 487,000 shares of our Common Stock to our directors and executive officers, 356,200 shares of our Common Stock to several employees, and 365,000 shares of our Common Stock to independent contractors under the 2015 Plan. Each of these issuances was exempt from registration under Section 4(a)(2) of the Securities Act, in reliance upon the exemption provided by Regulation D promulgated by the SEC thereunder, and/or in reliance on a "no sale" theory. These issuances constituted transactions by an issuer not involving any public offering, were made only to persons with access to information about the Company and, with respect to certain issuances made to employees, as bonuses in exchange for no consideration. None of the securities were sold through an underwriter and, accordingly, there were no underwriting discounts or commissions involved.

Shares Issued to Consultants

On December 9, 2015, pursuant to the terms of an Independent Consulting Agreement between the Company, The Del Mar Consulting Group, Inc. ("Del Mar") and Alex Partners, LLC ("Alex Partners"), we issued 138,000 restricted shares of our Common Stock to Del Mar and 92,000 restricted shares of Common Stock to Alex Partners. In March 2016, the above consulting agreements originally executed in December 2015 were amended so that the consultants would receive shares of Common Stock over the remaining term of the agreement in lieu of the monthly cash retainer. Pursuant to the amended agreement, the Company granted an aggregate of 60,000 restricted shares to the two consultants with a fair value of $126,600 at March 31, 2016.

In August 2016, pursuant to the terms of a consulting agreement between the Company and Integra Consulting Group, LLC ("Integra"), we issued 40,000 shares of our Common Stock to Integra Consulting in partial consideration for consulting services provided by Integra to the Company.

In January, 2017, pursuant to the terms of a second Independent Consulting Agreement between the Company and Del Mar, we issued 30,000 restricted shares of our Common Stock to Del Mar in partial consideration for consulting services provided by Del Mar to the Company.

In January, 2017, pursuant to the terms of a second Independent Consulting Agreement between the Company and Alex Partners, we issued 20,000 restricted shares of Common Stock to Alex Partners in partial consideration for consulting services provided by Alex Partners to the Company.

These issuances were exempt from registration pursuant to Section 4(a)(2) of the Securities Act as not involving any public offering and were only made after the consultants made certain representations and warranties to the Company and had an opportunity to ask questions of our officers. None of the securities were sold through an underwriter and, accordingly, there were no underwriting discounts or commissions involved.

Convertible Notes

On May 14, 2018, the Company issued $15 million aggregate principal amount of its 6.5% Convertible Senior Secured Notes due 2023, guaranteed by Akoustis, Inc. (the "Initial Guarantor") and any other future subsidiaries of the Company, which Notes and guarantees (collectively, the "Securities") are included in this registration statement. The Securities were sold pursuant to a Purchase Agreement dated May 10, 2018 to Oppenheimer & Co. Inc., as representative of the initial purchasers named therein. The Company sold the Securities to the initial purchasers at a purchase price of 93.75% of the principal amount thereof. Additionally, the Company reimbursed expenses of the initial purchasers of $322,500 pursuant to the Purchase Agreement. The net proceeds of the offering, after deducting the initial purchasers' discounts and commissions and the offering expenses payable by the Company, were approximately $13.5 million.

Under the Indenture, the Notes are fully, unconditionally and irrevocably guaranteed on a senior secured basis by the Initial Guarantor and any future subsidiaries of the Company, jointly and severally. The Notes are the Company's senior secured obligations and, subject to certain exceptions, rank senior to all of its existing and future unsecured indebtedness to the extent of the value of the collateral.

The issuance of the Securities was exempt from registration under Section 4(a)(2) of the Securities Act, and/or in reliance upon the exemption provided by Regulation D promulgated by the SEC thereunder, as transactions by an issuer not involving any public offering.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

The exhibits to the registration statement are listed in the Exhibit Index to this registration statement and are incorporated by reference herein.

(b) Financial Statement Schedules

Financial statement schedules have been omitted, as the information required to be set forth therein is included in the consolidated financial statements or notes thereto incorporated by reference into the prospectus forming part of this registration statement.

Item 17. Undertakings.

(a) Each of the undersigned registrants hereby undertakes:

1. To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

i. To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

ii. To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

iii. To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

2. That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities, other than the payment by the registrant of expenses incurred and paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding, is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

(c) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(d) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

EXHIBIT INDEX

Exhibit Number	Description
3.1	Articles of Conversion of the Company, as filed with the Nevada Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)*
3.2	Certificate of Conversion of the Company, as filed with the Delaware Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on December 15, 2016)*
3.3	Certificate of Incorporation, as filed with the Delaware Secretary of State on December 15, 2016 *(incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K filed with the SEC on December 15, 2016)*
3.4	Bylaws of the Company *(incorporated by reference to Exhibit 3.4 to the Company's Current Report on Form 8-K filed with the SEC on December 15, 2016)*
3.5*	Restated Certificate of Incorporation of Akoustis, Inc., as filed with the Delaware Secretary of State on June 13, 2014, as amended
3.6*	Bylaws of Akoustis, Inc., as amended
4.1	Indenture, dated as of May 14, 2018, by and among the Company, the Initial Guarantor and The Bank of New York Mellon Trust Company, N.A. *(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)*
5.1*	Legal Opinion of K&L Gates LLP
10.1.1†	Akoustis, Inc. 2014 Stock Plan *(incorporated by reference to Exhibit 10.10 to the Company's Transition Report on Form 10-K filed with the SEC on October 31, 2016)*
10.1.2†	Form of Restricted Stock Purchase Agreement under the 2014 Stock Plan between the Company (as assignee of Akoustis, Inc.) and each of Steve DenBaars, Mark Boomgarden and Arthur Geiss *(incorporated by reference to Exhibit 10.12 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*

10.1.3†	Form of Amendment to Restricted Stock Purchase Agreement under the 2014 Stock Plan between the Company and each of Steve DenBaars and Mark Boomgarden *(incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K filed with the SEC on June 29, 2016)*
10.1.4†	Declaration of Amendment to the Akoustis, Inc. 2014 Stock Plan *(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.2	Joint Development Agreement, dated February 27, 2015, between Akoustis, Inc. and Global Communication Semiconductors, LLC *(incorporated by reference to Exhibit 10.13 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.3	Foundry Agreement, dated February 27, 2015, between Akoustis, Inc. and Global Communication Semiconductors, LLC *(incorporated by reference to Exhibit 10.14 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.4	Form of 2015 Placement Agent Warrant for Common Stock of the Company in connection with the Company's 2015 private placement offering *(incorporated by reference to Exhibit 10.8 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.5	Form of 2015 Registration Rights Agreement *(incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.6.1†	Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.10 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.6.2†	Form of Stock Option Agreement under the Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K filed with the SEC on May 29, 2015)*
10.6.3†	Form of Restricted Stock Agreement, under the Akoustis Technologies, Inc. 2015 Equity Incentive Plan, between the Company and each of Mark Boomgarden, Dave Aichele and Cindy Payne *(incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed with the SEC on June 29, 2016)*
10.6.4†	Declaration of Amendment to the Akoustis Technologies, Inc. 2015 Equity Incentive Plan *(incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.7†	Employment Agreement between the Company and Jeffrey Shealy dated as of June 15, 2015 *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 19, 2015)*
10.7.1†	Amendment No. 1 to the Employment Agreement between the Company and Jeffrey Shealy, effective as of September 6, 2017 *(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.8.1†	Employment Agreement between the Company and David M. Aichele dated as of June 15, 2015 *(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on June 19, 2015)*
10.8.2†	Offer Letter from the Company to David M. Aichele *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 30, 2017)*
10.9.1†	Employment Agreement between the Company and Mark Boomgarden dated as of June 15, 2015 *(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the SEC on June 19, 2015)*

10.9.2†	Offer Letter from the Company to Mark D. Boomgarden *(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on May 30, 2017)*
10.9.3†	Separation Agreement and General Release, dated as of September 25, 2017, by and between Akoustis Technologies, Inc. and Mark D. Boomgarden *(incorporated by reference to Exhibit 10.11 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.10.1†	Employment Agreement between the Company and Cindy C. Payne dated as of June 15, 2015 *(incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed with the SEC on June 19, 2015)*
10.10.2†	Offer Letter from the Company to Cindy C. Payne *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 26, 2017)*
10.11	Form of 2016 Subscription Agreement between the Company and the investors party thereto *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on April 20, 2016)*
10.12	Form of 2016 Placement Agent Warrant for Common Stock of the Company in connection with the Company's 2016 private placement offering *(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on April 20, 2016)*
10.13	Form of 2016 Registration Rights Agreement *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on March 11, 2016)*
10.14.1	Form of Registration Rights Agreement by and among the Company and the investors in the 2016-2017 Offering *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on November 25, 2016)*
10.14.2	Amendment No. 1 to Registration Rights Agreement by and among the Company and the investors in the 2016-2017 Offering *(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on December 28, 2016)*
10.15	Form of Placement Agent Warrant in the 2016-2017 Offering *(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the SEC on December 28, 2016)*
10.16.1	Form of Subscription Agreement by and among the Company and the investors in the 2016-2017 Offering *(incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.16.2	Form of Amended Subscription Agreement by and among the Company and the investors in the 2016-2017 Offering *(incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.17.1	Placement Agent Agreement, dated December 8, 2016, by and between the Company and Katalyst Securities LLC in connection with the 2016-2017 Offering *(incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.17.2	Amendment to Placement Agent Agreement, dated May 8, 2017, by and between the Company and Katalyst Securities LLC *(incorporated by reference to Exhibit 10.40 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.18.1	Placement Agent Agreement, dated December 12, 2016, by and between the Company and Drexel Hamilton, LLC in connection with the 2016-2017 Offering *(incorporated by reference to Exhibit 10.9 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*

10.18.2	Amendment to Placement Agent Agreement by and between the Company and Drexel Hamilton LLC *(incorporated by reference to Exhibit 10.39 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.19	Placement Agent Agreement, dated December 14, 2016, by and between the Company and Joseph Gunnar & Co., LLC in connection with the 2016-2017 Offering *(incorporated by reference to Exhibit 10.11 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.20	Placement Agent Agreement, dated December 19, 2016, by and between the Company and Northland Securities, Inc. in connection with the 2016-2017 Offering *(incorporated by reference to Exhibit 10.10 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.21	Form of Amended and Restated Placement Agent Warrant for Common Stock of the Company in connection with the Company's 2015 private placement offering and 2016 private placement offering *(incorporated by reference to Exhibit 10.12 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.22.1†	Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)*
10.22.2†	Form of Restricted Stock Award Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the SEC on February 14, 2017)*
10.22.3†	Revised Form of Restricted Stock Award Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 23, 2017)*
10.22.4†	Form of Nonqualified Stock Option Agreement for Employees under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.22.5†	Form of Restricted Stock Unit Agreement for Employees under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.22.6†	Form of Nonqualified Stock Option Agreement for Directors under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.22.7†	Form of Restricted Stock Unit Agreement for Directors under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan *(incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.23.1	Form of Subscription Agreement by and among the Company and the investors in the First 2017 Offering *(incorporated by reference to Exhibit 10.35 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.23.2	Form of Amended Subscription Agreement by and among the Company and the investors in the First 2017 Offering *(incorporated by reference to Exhibit 10.36 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.23.3	Form of Amendment No. 1 to Amended Subscription Agreement by and among the Company and the investors in the First 2017 Offering *(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on December 15, 2017)*

10.24	Form of Registration Rights Agreement by and among the Company and the investors in the First 2017 Offering *(incorporated by reference to Exhibit 10.37 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.25	Form of Placement Agent Warrant in the First 2017 Offering *(incorporated by reference to Exhibit 10.38 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
10.26	Purchase Order for Deposition Tool *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on June 20, 2017)*
10.27.1†	Employment Agreement by and between John T. Kurtzweil and the Company, dated July 14, 2017 *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on July 17, 2017)*
10.27.2†	Restricted Stock Award Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan by and between the Company and John T. Kurtzweil, entered into in connection with Mr. Kurtzweil's employment *(incorporated by reference to Exhibit 10.9 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.27.3†	Stock Option Agreement under the Akoustis Technologies, Inc. 2016 Stock Incentive Plan by and between Akoustis Technologies, Inc. and John T. Kurtzweil, entered into in connection with Mr. Kurtzweil's employment *(incorporated by reference to Exhibit 10.10 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.28†	Summary of Akoustis Technologies, Inc. Director Compensation Program, effective October 3, 2017 *(incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2017)*
10.29.1	Form of Subscription Agreement by and among the Company and the director investors in the first round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.1 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.29.2	Form of Subscription Agreement by and among the Company and the non-director investors in the first round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.2 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.29.3	Form of Subscription Agreement by and among the Company and certain investors in the second round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.3 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.29.4	Form of Subscription Agreement by and among the Company and the certain investors in the second round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.4 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.29.5	Form of Subscription Agreement by and among the Company and the investors in the third round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.5 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.29.6	Form of Subscription Agreement by and among the Company and the director investors in the fourth round of the Second 2017 Offering *(incorporated by reference to Exhibit 10.29.6 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.30	Form of Registration Rights Agreement by and among the Company and the investors in the Second 2017 Offering *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on November 17, 2017)*

10.31	Placement Agent Agreement by and between the Company and Katalyst Securities, LLC in connection with the Second 2017 Offering *(incorporated by reference to Exhibit 10.31 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.32	Placement Agent Agreement by and between the Company and Drexel Hamilton, LLC in connection with the Second 2017 Offering *(incorporated by reference to Exhibit 10.32 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.33	Placement Agent Agreement by and between the Company and Joseph Gunnar in connection with the Second 2017 Offering *(incorporated by reference to Exhibit 10.33 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.34	Form of Placement Agent Warrant in the Second 2017 Offering *(incorporated by reference to Exhibit 10.34 to the Company's Registration Statement on Form S-1 (SEC File No. 333-222552) filed with the SEC on January 16, 2018)*
10.35	Purchase Agreement, dated as of May 10, 2018, by and among the Company, the Initial Guarantor and Oppenheimer & Co. Inc., as representative of the several Initial Purchasers named in Schedule 1 thereto *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)*
10.36	Registration Rights Agreement, dated as of May 14, 2018, by and among the Company, the Initial Guarantor and Oppenheimer & Co. Inc., as representative of the several Initial Purchasers named in Schedule 1 thereto *(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)*
10.37	Pledge and Security Agreement, dated as of May 14, 2018, by and among the Company, the Initial Guarantor and The Bank of New York Mellon Trust Company, N.A., as Collateral Agent *(incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2018)*
21.1	Subsidiaries of the Company *(incorporated by reference to Exhibit 21.1 to the Company's Registration Statement on Form S-1 (SEC File No. 333-218245) filed with the SEC on May 25, 2017)*
23.1*	Consent of Marcum LLP
23.2*	Consent of K&L Gates LLP *(included in Exhibit 5.1)*
24.1*	Power of Attorney *(included on Signature Page)*

* Filed herewith

† Management contract or compensatory plan or arrangement

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Huntersville, State of North Carolina, on June 25, 2018.

AKOUSTIS TECHNOLOGIES, INC.

By: */s/ Jeffrey B. Shealy*
Name: Jeffrey B. Shealy
Title: President and Chief Executive Officer (Principal Executive Officer)

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jeffrey B. Shealy, John T. Kurtzweil, and Andrew Wright, or any of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all amendments or supplements to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents or any one of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or any of them, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on June 25, 2018.

/s/Jeffrey B. Shealy
Jeffrey B. Shealy
President, Chief Executive Officer, and Director (Principal Executive Officer)

/s/ John T. Kurtzweil
John T. Kurtzweil
Chief Financial Officer (Principal Financial and Accounting Officer)

/s/ Arthur E. Geiss
Arthur E. Geiss
Co-Chairman of the Board

/s/ Jerry D. Neal
Jerry D. Neal
Co-Chairman of the Board

/s/ Steven P. DenBaars
Steven P. DenBaars
Director

/s/ Jeffrey K. McMahon
Jeffrey K. McMahon
Director

/s/ Steven P. Miller
Steven P. Miller
Director

/s/ Suzanne B. Rudy
Suzanne B. Rudy
Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Huntersville, State of North Carolina, on June 25, 2018.

AKOUSTIS, INC.

By: */s/ Jeffrey B. Shealy*
Name: Jeffrey B. Shealy
Title: President and Chief Executive Officer (Principal Executive Officer)

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jeffrey B. Shealy, John T. Kurtzweil, and Andrew Wright, or any of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all amendments or supplements to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents or any one of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or any of them, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on June 25, 2018.

/s/Jeffrey B. Shealy
Jeffrey B. Shealy
President, Chief Executive Officer, and Director (Principal Executive Officer)

/s/ John T. Kurtzweil
John T. Kurtzweil
Chief Financial Officer and Director (Principal Financial and Accounting Officer)

/s/ Andrew Wright
Andrew Wright
Secretary and Director

Exhibit 3.5

AKOUSTIS, INC.

RESTATED CERTIFICATE OF INCORPORATION

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Akoustis, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the **General Corporation Law**), does hereby certify as follows.

1. The name of this corporation is Akoustis. Inc. and that this corporation was originally incorporated pursuant to the General Corporation Law on May 12, 2014 under the name Akoustis, Inc.

2. The Board of Directors of this corporation duly adopted resolutions proposing to amend and restate the Certificate or incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows.

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as set forth on Exhibit A attached hereto and incorporated herein by this reference.

3 . Exhibit A referred to above is attached hereto as Exhibit A and is hereby incorporated herein by this reference. This Restated Certificate of Incorporation was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. This Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this corporation's Certificate of Incorporation has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 13th day of June, 2014.

By: /s/ Jeffrey B. Shealy
Jeffrey B. Shealy, President & CEO

Exhibit A

AKOUSTIS, INC.

RESTATED CERTIFICATE OF INCORPORATION

ARTICLE I: ARTICLE I: NAME.

The name of this corporation is Akoustis, Inc. (the "***Corporation***").

ARTICLE II: REGISTERED OFFICE.

The address of the registered office of the Corporation in the State of Delaware is Corporation Trust Center 1209 Orange Street, in the City of Wilmington, County of New Castle, 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III: DEFINITIONS.

As used in this Restated Certificate (the "Restated Certificate"), the following terms have the meanings set forth below:

"***Board Composition***" means that for so long as at least 25% percent of the initially issued shares of Preferred Stock remain outstanding, the holders of record of the shares of Series Seed Preferred Stock exclusively and as a separate class, are entitled to elect one (1) director of the Corporation (the "***Series Seed Director***"), the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation, and any additional directors will be elected by the affirmative vote of a majority of the Preferred Stock and Common Stock, voting together as a single class on an as-converted basis. For administrative convenience, the initial Series Seed Director may also be appointed by the Board in connection with the approval of the initial issuance of Series Seed Preferred Stock without a separate action by the holders of a majority of Series Seed Preferred Stock.

"***Original Issue Price***" means $100 per share for the Series Seed Preferred Stock.

"***Requisite Holders***" means the holders of at least a majority of the outstanding shares of Preferred Stock (voting as a single class on an as-converted basis).

ARTICLE IV: PURPOSE.

The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

ARTICLE V: AUTHORIZED SHARES.

The total number of shares of all classes of stock that the Corporation has authority to issue is 15,300, consisting of (a) 10,000 shares of Common Stock, $.0001 per share and (b) 5,300 shares of Preferred Stock,$.0001 per share. The Preferred Stock may be issued from time to time in one or more series, each of such series to consist of such number of shares and to have such terms, rights, powers and preferences, and the qualifications and limitations with respect thereto, as stated or expressed herein. As of the effective date of this Restated Certificate, all shares of the Preferred Stock of the Corporation are hereby designated "***Series Seed Preferred Stock***".

A. COMMON STOCK

The following rights, powers privileges and restrictions, qualifications, and limitations apply to the Common Stock.

1. **General**. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and privileges of the holders of the Preferred Stock set forth in this Restated Certificate.

2. **Voting**. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). Unless required by law, there shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Restated Certificate) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

The following rights, powers and privileges, and restrictions, qualifications and limitations, shall apply to the Preferred Stock. Unless otherwise indicated, references to "Sections" in this Part B of this Article V refer to sections of this Part B.

1. Liquidation, Dissolution, or Winding Up; Certain Mergers, Consolidations and Asset Sales.

1.1 Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Corporation or any Deemed Liquidation Event (as defined below), before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, the holders of shares of Preferred Stock then outstanding must be paid out of the funds and assets available for distribution to its stockholders, an amount per share equal to the greater of (a) the Original Issue Price for such share of Preferred Stock, plus any dividends declared but unpaid thereon, or (b) such amount per share as would have been payable had all shares of Preferred Stock been converted into Common Stock pursuant to Section 3 immediately prior to such liquidation, dissolution or winding up or Deemed Liquidation Event. If upon any such liquidation, dissolution, or winding up or Deemed Liquidation Event of the Corporation, the funds and assets available for distribution to the stockholders of the Corporation are insufficient to pay the holders of shares of Preferred Stock the full amount to which they are entitled under this Section 1.1, the holders of shares of Preferred Stock will share ratably in any distribution of the funds and assets available for distribution in proportion to the respective amounts that would otherwise be payable in respect of the shares of Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

1.2 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution, or winding up or Deemed Liquidation Event of the Corporation, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock as provided in Section 1.1, the remaining funds and assets available for distribution to the stockholders of the Corporation will be distributed among the holders of shares of Common Stock, pro rata based on the number of shares of Common Stock held by each such holder.

1.3 Deemed Liquidation Events.

1.3.1 Definition. Each of the following events is a "***Deemed Liquidation Event***" unless the Requisite Holders elect otherwise by written notice received by the Corporation at least five (5) days prior to the effective date of any such event:

(a) a merger or consolidation in which (i) the Corporation is a constituent party or (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation, except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for equity securities that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the equity securities of (1) the surviving or resulting party or (2) if the surviving or resulting party is a wholly owned subsidiary of another party immediately following such merger or consolidation, the parent of such surviving or resulting party; *provided* that, for the purpose of this Section 1.3.1, all shares of Common Stock issuable upon exercise of options outstanding immediately prior to such merger or consolidation or upon conversion of Convertible Securities (as defined below) outstanding immediately prior to such merger or consolidation shall be deemed to be outstanding immediately prior to such merger or consolidation and, if applicable, deemed to be converted or exchanged in such merger or consolidation on the same terms as the actual outstanding shares of Common Stock are converted or exchanged; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or, if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, the sale or disposition (whether by merger or otherwise) of one or more subsidiaries of the Corporation, except where such sale, lease, transfer or other disposition is to the Corporation or one or more wholly owned subsidiaries of the Corporation.

1.3.2 Amount Deemed Paid or Distributed. The funds and assets deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer or other disposition described in this Section 1.3 will be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board.

2. Voting.

2.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock may cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Fractional votes shall not be permitted and any fractional voting rights available on an as-converted basis (after aggregating all shares into which shares of Preferred stock held by each holder could be converted) will be rounded to the nearest whole number (with one-half being rounded upward). Except as provided by law or by the other provisions of this Restated Certificate, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class on an as-converted basis, shall have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and shall be entitled, notwithstanding any provision of this Restated Certificate, to notice of any stockholder meeting in accordance with the Bylaws of the Corporation.

2.2 Election of Directors. The holders of record of the Company's capital stock are entitled to elect directors as described in the Board Composition. Any director elected as provided in the preceding sentence may be removed without cause by the affirmative vote of the holders of the shares of the class, classes, or series of capital stock entitled to elect the director or directors, given either at a special meeting of the stockholders duly called for that purpose or pursuant to a written consent of stockholders. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class, classes, or series entitled to elect the director constitutes a quorum for the purpose of electing the director.

2.3 Preferred Stock Protective Provisions. At any time when at least 25% of the initially issued shares of Preferred Stock remain outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Restated Certificate) the written consent or affirmative vote of the Requisite Holders, given in writing or by vote at a meeting, consenting, or voting (as the case may be) separately as a single class:

(a) alter the rights, powers or privileges of the Preferred Stock set forth in the Restated Certificate or Bylaws, as then in effect, in a way that adversely affects the Preferred Stock;

(b) increase or decrease the authorized number of shares of any class or series of capital stock;

(c) authorize or create (by reclassification or otherwise) any new class or series of capital stock having rights, powers, or privileges set forth in the certificate of incorporation of the Corporation, as then in effect, that arc senior to or on a parity with any series of Preferred Stock;

(d) redeem or repurchase any shares of Common Stock or Preferred Stock (other than pursuant to employee, consultant or other agreements or plans giving the Corporation the right to repurchase shares upon the termination of services pursuant to the terms of the applicable agreement);

(e) declare or pay any dividend or otherwise make a distribution to holders of Preferred Stock or Common Stock;

(f) increase or decrease the number of directors of the Corporation;

(g) liquidate, dissolve, or wind-up the business and affairs of the Corporation, effect any Deemed Liquidation Event, or consent, agree or commit to do any of the foregoing without conditioning such consent, agreement or commitment upon obtaining the approval required by this Section 2.3.

3. Conversion. The holders of the Preferred Stock have the following conversion rights (the "***Conversion Rights***"):

3.1 Right to Convert.

3.1.1 Conversion Ratio. Each share of Preferred Stock is convertible, at the option of the holder thereof, at any time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Original Issue Price for the series of Preferred Stock by the Conversion Price for that series of Preferred Stock in effect at the time of conversion. The "***Conversion Price***" for each series of Preferred Stock means the Original Issue Price for such series of Preferred Stock, which initial Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of Common Stock, is subject to adjustment as provided in this Restated Certificate.

3.1.2 Termination of Conversion Rights. Subject to Section 3.3.1 in the case of a Contingency Event herein, in the event of a liquidation, dissolution, or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights will terminate at the close of business on the last full day preceding the date fixed for the first payment of any funds and assets distributable on such event to the holders of Preferred Stock.

3 . 2 Fractional Shares. No fractional shares of Common Stock will be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board. Whether or not fractional shares would be issuable upon such conversion will be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

3.3 Mechanics of Conversion.

3.3.1 Notice of Conversion. To voluntarily convert shares of Preferred Stock into shares of Common Stock, a holder of Preferred Stock shall surrender the certificate or certificates for the shares of Preferred Stock (or, if such registered holder alleges that any such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that the holder elects to convert all or any number of the shares of the Preferred Stock represented by the certificate or certificates and, if applicable, any event on which the conversion is contingent (a "***Contingency Event***"). The conversion notice must state the holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form reasonably satisfactory to the Corporation, duly executed by the registered holder or such holder's attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of the certificates (or lost certificate affidavit and agreement) and notice (or, if later, the date on which all Contingency Events have occurred) will be the time of conversion (the "***Conversion Time***"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such time The Corporation shall, as soon as practicable after the Conversion Time, (a) issue and deliver to the holder, or to the holder's nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon the conversion in accordance with the provisions of this Restated Certificate and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (b) pay in cash such amount as provided in Section 12 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (c) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

3 . 3 . 2 Reservation of Shares. For the purpose of effecting the conversion of the Preferred Stock, the Corporation shall at all times while any share of Preferred Stock is outstanding. reserve and keep available out of its authorized but unissued capital stock, that number of its duly authorized shares of Common Stock as may from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock is not sufficient to effect the conversion of all then-outstanding shares of the Preferred Stock, the Corporation shall use its best efforts to cause such corporate action to be taken as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes. including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Restated Certificate. Before taking any action that would cause an adjustment reducing the Conversion Price of a series of Preferred Stock below the then-par value of the shares of Common Stock issuable upon conversion of such series of Preferred Stock, the Corporation shall take any corporate action that may be necessary so that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

3.3.3 Effect of Conversion. All shares of Preferred Stock that shall have been surrendered for conversion as provided in this Restated Certificate shall no longer be deemed to be outstanding and all rights with respect to such shares will immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Section 3.2, and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued.

3 . 3 . 4 No Further Adjustment. Upon any conversion of shares of Preferred Stock, no adjustment to the Conversion Price of the applicable series of Preferred Stock will be made with respect to the converted shares for any declared but unpaid dividends on such series of Preferred Stock or on the Common Stock delivered upon conversion.

3.4 Adjustment for Stock Splits and Combinations. If the Corporation at any time or from time to time after the date on which the first share of a series of Preferred Stock is issued by the Corporation (such date referred to herein as the "***Original Issue Date***" for such series of Preferred Stock) effects a subdivision of the outstanding Common Stock, the Conversion Price for each series of Preferred Stock in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable cm conversion of each share of that series will be increased in proportion to the increase in the aggregate number of shares of Common Stock outstanding. If the Corporation at any time or from time to time after the Original Issue Date for a series of Preferred Stock combines the outstanding shares of Common Stock, the Conversion Price for each series of Preferred Stock in effect immediately before the combination will be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this Section 3.4 becomes effective at the close of business on the date the subdivision or combination becomes effective.

3.5 Adjustment for Certain Dividends and Distributions. If the Corporation at any time or from time to time after the Original Issue Date for a series of Preferred Stock makes or issues, or fixes a record date for the determination of holders of Common Stock entitled to receive a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price for such series of Preferred Stock in effect immediately before the event will be decreased as of the time of such issuance or, in the event a record date has been fixed, as of the close of business on such record date, by multiplying such Conversion Price then in effect by a fraction:

(a) the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of the issuance or the close of business on the record date, and

(b) the denominator of which is the total number of shares of Common Stock issued and outstanding immediately before the time of such issuance or the close of business on the record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (i) if such record date has have been fixed and the dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, such Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter such Conversion Price shall be adjusted pursuant to this Section 3.5 as of the time of actual payment of such dividends or distributions; and (ii) no such adjustment shall be made if the holders of such series of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock that they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of the event.

3.6 Adjustments for Other Dividends and Distributions. If the Corporation at any time or from time to time after the Original Issue Date for a series of Preferred Stock shall makes or issues, or fixes a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock), then and in each such event the Corporation shall make, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution to the holders of the series of Preferred Stock in an amount equal to the amount of securities as the holders would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.

3 . 7 Adjustment for Reclassification, Exchange and Substitution. If at any time or from time to time after the Original Issue Date for a series of Preferred Stock the Common Stock issuable upon the conversion of such series of Preferred Stock is changed into the same or a different number of shares of any class or classes of stock of the Corporation, whether by recapitalization, reclassification, or otherwise (other than by a stock split or combination, dividend, distribution, merger or consolidation covered by Sections 3.4, 3.5, 3.6 or 3.8 or by Section 1.3 regarding a Deemed Liquidation Event), then in any such event each holder of such series of Preferred Stock may thereafter convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification or other change by holders of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted immediately prior to such recapitalization, reclassification or change.

3.8 Adjustment for Merger or Consolidation. Subject to the provisions of Section 1.3, if any consolidation or merger occurs involving the Corporation in which the Common Stock (but not a series of Preferred Stock) is converted into or exchanged for securities, cash, or other property (other than a transaction covered by Sections 3.5, 3.6 or 3.7), then, following any such consolidation or merger, the Corporation shall provide that each share of such series of Preferred Stock will thereafter be convertible, in lieu of the Common Stock into which it was convertible prior to the event, into the kind and amount of securities, cash, or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of such series of Preferred Stock immediately prior to the consolidation or merger would have been entitled to receive pursuant to the transaction; and, in such case, the Corporation shall make appropriate adjustment (as determined in good faith by the Board) in the application of the provisions in this Section 3 with respect to the rights and interests thereafter of the holders of such series of Preferred Stock, to the end that the provisions set forth in this Section 3 (including provisions with respect to changes in and other adjustments of the Conversion Price of such series of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of such series of Preferred Stock.

3.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price of a series of Preferred Stock pursuant to this Section 3, the Corporation at its expense shall. as promptly as reasonably practicable but in any event not later than 15 days thereafter, compute such adjustment or readjustment in accordance with the terms of this Restated Certificate and furnish to each holder of such series of Preferred Stock a certificate setting forth the adjustment or readjustment (including the kind and amount of securities, cash, or other property into which such series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of any series of Preferred Stock (but in any event not later than 10 days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (a) the Conversion Price of such series of Preferred Stock then in effect and (b) the number of shares of Common Stock and the amount, if any, of other securities, cash, or property which then would be received upon the conversion of such series of Preferred Stock.

3.10 Mandatory Conversion. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Holders at the time of such vote or consent, voting as a single class on an as-converted basis (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent, the "***Mandatory Conversion Time***"), (i) all outstanding shares of Preferred Stock will automatically convert into shares of Common Stock, at the applicable ratio described in Section 3.1.1 as the same may be adjusted from time to time in accordance with Section 3 and (ii) such shares may not be reissued by the Corporation.

3.11 Procedural Requirements. The Corporation shall notify in writing all holders of record of shares of Preferred Stock of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to Section 3.10. Unless otherwise provided in this Restated Certificate, the notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of the notice, each holder of shares of preferred Stock shall surrender such holder's certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice, and shall thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 3, If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form reasonably satisfactory to the Corporation, duly executed by the registered holder or such holder's attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Section 3.10, including the rights, if any, to receive notices and vote (other than as a holder Of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender the certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Section 3.11. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock. the Corporation shall issue and deliver to such holder, or to such holder's nominee(s), a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Section 3.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock (and the applicable series thereof) accordingly.

4 . **Dividends**. The Corporation shall declare all dividends pro rata on the Common Stock and the Preferred Stock on a pari passu basis according to the number of shares of Common Stock held by such holders. For this purpose each holder of shares of Preferred Stock will be treated as holding the greatest whole number of shares of Common Stock then issuable upon conversion of all shares of Preferred Stock held by such holder pursuant to Section 3.

5 . **Redeemed or Otherwise Acquired Shares**. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries will be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following any such redemption.

6 . **Waiver**. Any of the rights, powers, privileges and other terms of the Preferred Stock set forth herein may be waived prospectively or retrospectively on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the holders of the Requisite Holders.

7. **Notice of Record Date**. In the event:

(a) the Corporation takes a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation shall send or cause to be sent to the holders of the Preferred Stock a written notice specifying, as the case may be, (i) the record date for such dividend, distribution, or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) will be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. The Corporation shall send the notice at least 20 days before the earlier of the record date or effective date for the event specified in the notice.

8 . **Notices**. Except as otherwise provided herein, any notice required or permitted by the provisions of this Article V to be given to a holder of shares of Preferred Stock must be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and will be deemed sent upon such mailing or electronic transmission.

ARTICLE VI: PREEMPTIVE RIGHTS.

No stockholder of the Corporation has a right to purchase shares of capital stock of the Corporation sold or issued by the Corporation except to the extent that such a right may from time to time be set forth in a written agreement between the Corporation and the stockholder.

ARTICLE VII: STOCK REPURCHASES.

In accordance with Section 500 of the California Corporations Code, a distribution can be made without regard to any preferential dividends arrears amount (as defined in Section 500 of the California Corporations Code) or any preferential rights amount (as defined in Section 500 of the California Corporations Code) in connection with (i) repurchases of Common Stock issued to or held by employees, officers, directors, or consultants of the Corporation or its subsidiaries upon termination of their employment or services pursuant to agreements providing for the right of said repurchase, (ii) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation or its subsidiaries pursuant to rights of first refusal contained in agreements providing for such right, (iii) repurchases of Common Stock or Preferred Stock in connection with the settlement of disputes with any stockholder, or (iv) any other repurchase or redemption of Common Stock or Preferred Stock approved by the holders of Preferred Stock of the Corporation.

ARTICLE VIII: BYLAW PROVISIONS.

A . **AMENDMENT OF BYLAWS**. Subject to any additional vote required by this Restated Certificate or bylaws of the Corporation (the "***Bylaws***"), in furtherance and not in limitation of the powers conferred by statute, the Board is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws.

B . **NUMBER OF DIRECTORS**. Subject to any additional vote required by this Restated Certificate, the number of directors of the Corporation will be determined in the manner set forth in the Bylaws.

C. **BALLOT**. Elections of directors need not be by written ballot unless the Bylaws so provide.

D . **MEETINGS AND BOOKS**. Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board or in the Bylaws.

ARTICLE IX: DIRECTOR LIABILITY.

A . LIMITATION. To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article IX to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended. Any repeal or modification of the foregoing provisions of this Article IX by the stockholders will not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

B . INDEMNIFICATION. To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

C . MODIFICATION. Any amendment, repeal, or modification of the foregoing provisions of this Article IX will not adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification.

ARTICLE X: CORPORATE OPPORTUNITIES.

The Corporation renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, or in being informed about, an Excluded Opportunity. "***Excluded Opportunity***" means any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any affiliate, partner, member, director, stockholder, employee, agent or other related person of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (a "***Covered Person***"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

Any Bylaw of the Corporation in conflict with this Restated Certificate of Incorporation is a nullity.

* * * * *

STATE OF DELAWARE
CERTIFICATE OF CORRECTION

Akoustis, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware.

DOES HEREBY CERTIFY:

1. The name of the corporation is Akoustis, Inc.

2. That a Restated Certificate of Incorporation was filed by the Secretary of State of Delaware on June 13, 2014 and that said Certificate requires correction as permitted by Section 103 of the General Corporation Law of the State of Delaware.

3. The inaccuracy or defect of said Certificate is: (must be specific)

The first sentence of the first paragraph of Article V refers to "15,300" total shares of all classes of stock and "10,000" shares of Common Stock and the reference should have been to "20,600" total shares of all classes of stock and "15,300" shares of Common Stock.

4. The first paragraph of Article V of the Certificate is corrected to read as follows:

> The total number of shares of all classes of stock that the Corporation has authority to issue is 20,600 consisting of (a) 15,300 shares of Common Stock, $.0001 per share and (b) 5,300 shares of Preferred Stock, $.0001 per share. The Preferred Stock may be issued from time to time in one or more series, each of such series to consist of such number of shares and to have such terms, rights, powers and preferences, and the qualification and limitations with respect thereto, as stated or expressed herein. As of the effective date of the Restated Certificate, all shares of the Preferred Stock of the Corporation are hereby designated "Series Seed Preferred Stock".

IN WITNESS WHEREOF, said corporation has caused this Certificate of Correction this 18th day of March, AD 2015.

/s/ Jeffrey B. Shealy
Jeffrey B. Shealy, President & CEO

AKOUSTIS, INC.
Certificate of Validation

1. The name of this Corporation is Akoustis. Inc. (the "Company").

2. On March 20, 2015, the Company's Board of Directors (the "Board") adopted a ratifying resolution in accordance with Section 204(b) of the General Corporation Law of the Slate of Delaware (the "General Corporation Law") attached hereto and incorporated herein (without the schedule attached thereto) as Exhibit A (the "Resolution").

3. On March 23, 2015, the Company's stockholders (the "Stockholders") adopted the Resolution. acting by written consent in lieu of a meeting in accordance with Section 228 of the General Corporation Law.

4. The Resolution was duly adopted by the Board and the Stockholders in accordance with Section 204 of the General Corporation Law.

5. On June 13, 2014. the Company filed a Restated Certificate of Incorporation (the -Restated Certificate") under Section 103 of the General Corporation Law in respect to the defective corporate act, and on March 19, 2015, the Company filed a Certificate of Correction to the Restated Certificate.

6. Because the defective corporate act ratified under Section 204 of the General Corporation Law required the filing of a certificate in accordance with Section 103 of the General Corporation Law, in lieu of filing a Certificate of Amendment of the Restated Certificate, the Company is filing this Certificate of Validation to amend the Restated Certificate as follows:

   That the Restated Certificate be tin-tended by deleting the first paragraph of the Article thereof numbered "V" inserting in lieu thereof the following:

   > The total number of shares of all classes of stock that the Corporation has authority to issue is 20,600 consisting of (a) 15,300 shares of Common Stock, $.0001 per share and (b) 5,300 shares of Preferred Stock, $.0001 per share. The Preferred Stock may be issued from time to time in one or more series, each of such series to consist of such number of shares and to have such terms. rights, powers and preferences, and the qualifications and limitations with respect thereto, as slated or expressed herein. As or the effective date of this Restated Certificate, all shares of the Preferred Stock of the Corporation arc hereby designated "Series Seed Preferred Stock".

I, the undersigned, for the purpose of ratifying a defective corporate act and putative stock, do make, file and record this Certificate of Validation, and do certify that the facts herein stated are true, and I have accordingly hereunto set my hand this 24th day March, 2015.

AKOUSTIS, INC.

/s/ Jeffrey B. Shealy
Jeffrey B. Shealy, President & CEO

Date:3-24-15

Exhibit A

The Resolution

WHEREAS, on May 12, 2014, Akoustis, Inc. (the "Company") filed a Certificate of Incorporation with the Delaware Secretary of State Division of Corporations (the "Delaware Secretary of State"), which authorized 10,000 shares of Common Stock of the Corporation (the "Common Stock");

WHEREAS, on May 12, 2014, the Company issued 8,050 shares of Common Stock;

WHEREAS, on June 12, 2014, all members of the Board of the Company (the "Board") executed a written consent (the "2014 Board Written Consent") approving a Restated Certificate of Incorporation (the "Restated Certificate") for the purpose of increasing the number of authorized shares of Common Stock to 15,300 shares and creating the Series Seed Preferred Stock (the ''Preferred Stock");

WHEREAS, on June 12, 2014, all holders of the Common Stock also executed a written consent (the "2014 Stockholder Written Consent") approving the Restated Certificate for the purpose of increasing the number of authorized shares of Common Stock to 15,300 shares and creating the Preferred Stock;

WHEREAS, both the 2014 Board Written Consent and the 2014 Stockholder Written Consent expressly resolved to increase the number of shares of Common Stock to 15,300 shares;

WHEREAS, it cannot be confirmed that a form of the Restated Certificate was attached to the 2014 Board Written Consent or the 2014 Stockholder Written Consent (even though both referred to it as being, attached) or that any form of the Restated Certificate that was actually attached correctly included an increase in the number of authorized shares of Common Stock to 15,300 shares, and it cannot be confirmed that the Restated Certificate was adopted in accordance with the sequence of events prescribed by Section 242 of the General Corporation Law (collectively the "Potential Failures of Authorization");

WHEREAS, on June 13, 2014, at 10:18 a.m. Eastern Time, the Company filed the Restated Certificate with the Delaware Secretary of State;

WHEREAS, the Restated Certificate as filed with the Delaware Secretary of State created 5,300 shares of Preferred Stock convertible to Common Stock on a one-to-one basis; but did not increase the number of shares of authorized Common Stock to 15,300 shares (the "Inaccurate Restated Certificate");

WHEREAS, on June 16, 2014, 5,300 shares of Preferred Stock were issued, which are convertible into Common Stock on a one-to-one basis so that as of June 16, 2014, 5,300 shares of Common Stock should have been committed to be issued in any conversion old Preferred Stock;

WHEREAS, on the following dates, shares of Common Stock were issued pursuant to the Company's 2014 Stock Plan (the "Stock Plan"):

Number of Shares of Common Stock Issued	Date of Issuance
950	June 16, 2014
100	July 21, 2014
100	August 4, 2014
250	August 1 8, 2014
400	September 9, 2014

WHEREAS, the 100 shares of Common Stock issued under the Stock Plan on August 4. 2014 were redeemed by the Company on November 26, 2014;

WHEREAS, on March 19, 2015, a Certificate of Correction was filed to correct the following inaccuracies in the Restated Certificate in the case that the Restated Certificate is an inaccurate record oldie corporate action:

> The first sentence of the first paragraph of Article V of the Restated Certificate refers to "15.300" total shares °Call classes of stock and "10,000" shares of Common Stock and the reference should have been to "20.600" total shares of all classes of stock and "15.300" shares of Common Stock.

WHEREAS, in the case that the Restated Certificate is an accurate record of the corporate action because of the Potential Failures of Authorization, as of March 19, 2015, there are 10,000 shares of Common Stock authorized, with 9,750 total shares of Common Stock issued and 5.300 shares of Common Stock that should be committed to be issued upon any conversions of the Preferred Stock, resulting in 5,050 putative shares of Common Stock (the "Potentially Putative Stock");

WHEREAS, the issuance of the Potentially Putative Stock could constitute an issuance of shares of capital stock in excess of the number of shares the Company had the power to issue under Section 161 of the General Corporation Law (the "Potential Overissue");

WHEREAS, the Board wishes to ratify any potentially defective corporate acts and the Potentially Putative Stock pursuant to Section 204 of the Delaware General Corporation Law,

NOW, THEREFORE BE IT RESOLVED, that the Board hereby adopts the following resolutions (the "Resolution") and incorporates the recitals set forth above in the Resolution:

RESOLVED, that the Board hereby ratifies: (i) the authorization of the increase of the number of authorized shares of Common Stock to 15,300 shares effective as of June 12, 2014, and the filing of' a certificate with the Delaware Secretary of State to increase the number of authorized shares of Common Stock to 15,300 shares effective as of June 13, 2014 (collectively the "Common Stock Increase"); and (ii) the Potentially Putative Stock;

FURTHER RESOLVED, the Common Stock Increase, the Potentially Putative Stock and the Potential Overissue could be a defective corporate act because of the Potential Failures of Authorization and the Inaccurate Restated Certificate (collectively the "Potentially Defective Corporate Act");

FURTHER RESOLVED, that the Potentially Defective Corporate Act is the defective corporate act to be ratified by the Board:

FURTHER RESOLVED, that the times of the Potentially Defective Act are as follows:

The 2014 Board Written Consent and the 2014 Stockholder Written Consent are as described in the recitals to this Resolution:

The time of the Inaccurate Restated Certificate is as described in the recitals to this Resolution;

The time of the Potential Overissue (and the time of the issuance of the Potentially Putative Stock) is as described in the recitals to this Resolution;

FURTHER RESOLVED, that the number and type of shares of the Potentially Putative Stock issued and the dates upon which such shares of Potentially Putative Stock were purported to have been issued are as described in the recitals to this Resolution:

FURTHER RESOLVED, that the nature of the Potential Failures of Authorization in respect of the defective corporate act to be ratified is as described in the recitals to this Resolution:

FURTHER RESOLVED, that the Board hereby approves the ratification of the Potentially Defective Corporate Act:

FURTHER RESOLVED, that the Board hereby adopts the Resolution and submits the Resolution to all of the stockholders of the Company, including the holders offal valid and putative stock, whether voting or non-voting, as of March 20, 2015, and as of the time of the defective corporate act (the "Stockholders"), for adoption;

FURTHER RESOLVED, by this Resolution notice is given to the Stockholders of the Resolution and that any claim that the defective corporate act or putative stock ratified hereunder is void or voidable due to the identified failure of authorization, or that the Court of Chancery should declare in its discretion that a ratification in accordance Section 204 of the General Corporation Law not be effective or be effective only on certain conditions must be brought within 120 days from the validation effective time:

FURTHER RESOLVED, that upon receipt of the written consent of all of the stockholders of the Company, the officers of the Company are hereby authorized and directed to prepare, execute, and file with the Delaware Secretary of State, in accordance with Sections 204(e) and 103 of the General Corporation Law, a certificate of validation attached hereto as Schedule I and incorporated herein by reference (the "Certificate of Validation") in lieu of filing a Certificate of Amendment of the Restated Certificate because the defective corporate act ratified herein under Section 204 of the General Corporation Law requires the filing of a certificate in accordance with Section 103 of the General Corporation Law; and

FURTHER RESOLVED, that each of the officers of the Company is authorized and empowered to take such other actions and sign such other documents as may be necessary or advisable to carry out the intent and accomplish the purposes of the foregoing resolutions.

STATE OF DELAWARE
CERTIFICATE OF AMENDMENT
OF RESTATED CERTIFICATE OF INCORPORATION

The corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware does hereby certify!

FIRST: That by written consent of all the members of the Board of Directors of Akoustis, resolutions were duly adopted setting forth a proposed amendment of the Certificate of Incorporation of said corporation, declaring said amendment to be advisable and calling for the consideration thereof by the stockholders by written consent in lieu of calling a meeting of the stockholders of said corporation. The resolution setting forth the proposed amendment is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the first sentence of the Article thereof numbered "V" so that, as amended, said sentence shall be and read as follows:

> The total number of shares of all classes of stock that the Corporation has authority to issue is 22,300 consisting of (a) 17,000 shares of Common Stack, with a par value of $.0001 per share and (b) 5,300 shares of Preferred Stock, with a par value of $.0001 per share.

SECOND: That thereafter, pursuant to resolution of its Board of Directors, said amendment was duly adopted by all of the stockholders by written consent given in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, said corporation has caused this certificate to be signed this 13th day of May, 2015.

By: /s/ Jeffrey B. Shealy
Authorized Officer

Title: President & CEO
Name:Jeffrey B. Shealy
President and Chief Executive Officer

Exhibit 3.6

BYLAWS

OF

AKOUSTIS, INC.

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BYLAWS

OF

AKOUSTIS, INC.

ARTICLE I

CORPORATE OFFICES

1.1 Offices

In addition to the corporation's registered office set forth in the Certificate of Incorporation, the Board of Directors may at any time establish other offices at any place or places where the corporation is qualified to do business.

ARTICLE II

MEETINGS OF STOCKHOLDERS

2.1 Place Of Meetings

Meetings of stockholders shall be held at any place, within or outside the state of Delaware, designated by the Board of Directors. In the absence of any such designation, stockholders' meetings shall be held at the registered office of the corporation.

2.2 Annual Meeting

The annual meeting of stockholders shall be held on such date, time and place, either within or without the state of Delaware, as may be designated by resolution of the Board of Directors each year. At the meeting, directors shall be elected and any other proper business may be transacted.

2.3 Special Meeting

A special meeting of the stockholders may be called at any time by the Board of Directors, the chairman of the board, the chief executive officer, the president or by one or more stockholders holding shares in the aggregate entitled to cast not less than 10% of the votes at that meeting.

If a special meeting is called by any person or persons other than the Board of Directors, the chairman of the board, the chief executive officer or the president, the request shall be in writing, specifying the time of such meeting and the general nature of the business proposed to be transacted, and shall be delivered personally or sent by registered mail or by email, fax, telegraphic or other facsimile or electronic transmission to the chairman of the board, the chief executive officer, the president or the secretary of the corporation. No business may be transacted at such special meeting otherwise than specified in such notice. The officer receiving the request shall cause notice to be promptly given to the stockholders entitled to vote, in accordance with the provisions of Sections 2.4 and 2.5 of this Article II, that a meeting will be held at the time requested by the person or persons calling the meeting, not less than 35 nor more than 60 days after the receipt of the request. If the notice is not given within 20 days after the receipt of the request, the person or persons requesting the meeting may give the notice. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board of Directors may be held.

2.4 Notice Of Stockholders' Meetings

All notices of meetings with stockholders shall be in writing and shall be sent or otherwise given in accordance with Section 2.5 of these bylaws not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place (if any), date and hour of the meeting, and in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.5 Manner Of Giving Notice: Affidavit Of Notice

Written notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his address as it appears on the records of the corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders may be given by electronic mail or other electronic transmission, in the manner provided in Section 232 of the Delaware General Corporation Law. An affidavit of the secretary or an assistant secretary or of the transfer agent of the corporation that the notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.6 Quorum

The holders of a majority of the shares of stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum is not present or represented at any meeting of the stockholders, then either (a) the chairman of the meeting or (b) holders of a majority of the shares of stock entitled to vote who are present, in person or by proxy, shall have power to adjourn the meeting to another place (if any), date or time.

2.7 Adjourned Meeting: Notice

When a meeting is adjourned to another place (if any), date or time, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time and place (if any), thereof and the means of remote communications (if any) by which stockholders and proxyholders may be deemed to be present and vote at such adjourned meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting the corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than 30 days, or if after the adjournment a new record date is fixed for the adjourned meeting, notice of the place (if any), date and time of the adjourned meeting and the means of remote communications (if any) by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

2.8 Organization; Conduct of Business

Such person as the Board of Directors may have designated or, in the absence of such a person, the chief executive officer, or in his or her absence, the president or, in his or her absence, such person as may be chosen by the holders of a majority of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chairman of the meeting. In the absence of the secretary of the corporation, the secretary of the meeting shall be such person as the chairman of the meeting appoints.

The chairman of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including the manner of voting and the conduct of business. The date and time of opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

2.9 Voting

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.12 of these bylaws, subject to the provisions of Sections 217 and 218 of the General Corporation Law of Delaware (relating to voting rights of fiduciaries, pledgers and joint owners of stock and to voting trusts and other voting agreements).

Except as may be otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder. All elections shall be determined by a plurality of the votes cast, and except as otherwise required by law, all other matters shall be determined by a majority of the votes cast affirmatively or negatively.

2.10 Waiver Of Notice

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, or waiver by electronic mail or other electronic transmission by such person, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice, or any waiver of notice by electronic transmission, unless so required by the certificate of incorporation or these bylaws.

2.11 Stockholder Action By Written Consent Without A Meeting

Unless otherwise provided in the certificate of incorporation, any action required to be taken at any annual or special meeting of stockholders of the corporation, or any action that may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice, and without a vote if a consent in writing, setting forth the action so taken, is (a) signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted, and (b) delivered to the corporation in accordance with Section 228(a) of the Delaware General Corporation Law.

Every written consent shall bear the date of signature of each stockholder who signs the consent and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the date the earliest dated consent is delivered to the corporation, a written consent or consents signed by a sufficient number of holders to take action are delivered to the corporation in the manner prescribed in this Section. A telegram, cablegram, electronic mail or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for purposes of this Section to the extent permitted by law. Any such consent shall be delivered in accordance with Section 228(d)(1) of the Delaware General Corporation Law.

Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing (including by electronic mail or other electronic transmission as permitted by law). If the action which is consented to is such as would have required the filing of a certificate under any section of the General Corporation Law of Delaware if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section shall state, in lieu of any statement required by such section concerning any vote of stockholders, that written notice and written consent have been given as provided in Section 228 of the General Corporation Law of Delaware.

2.12 Record Date For Stockholder Notice: Voting: Giving Consents

In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which shall not be more than 60 nor less than 10 days before the date of such meeting, nor more than 60 days prior to any other action.

If the Board of Directors does not so fix a record date:

(a) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(b) The record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first written consent (including consent by electronic mail or other electronic transmission as permitted by law) is delivered to the corporation.

(c) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting, if such adjournment is for 30 days or less; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

2.13 Proxies

Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by an instrument in writing or by an electronic transmission permitted by law filed with the secretary of the corporation, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be deemed signed if the stockholder's name is placed on the proxy (whether by manual signature, typewriting, facsimile, electronic or telegraphic transmission or otherwise) by the stockholder or the stockholder's attorney-in-fact. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212(e) of the General Corporation Law of Delaware.

ARTICLE III

DIRECTORS

3.1 Powers

Subject to the provisions of the General Corporation Law of Delaware and any limitations in the certificate of incorporation or these bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board of Directors.

3.2 Number Of Directors

The number of directors constituting the entire Board of Directors shall be three. This number may be changed by a resolution of the Board of Directors or of the stockholders, subject to Section 3.4 of these bylaws. No reduction of the authorized number of directors shall have the effect of removing any director before such director's term of office expires.

3.3 Election, Qualification And Term Of Office Of Directors

Except as provided in Section 3.4 of these bylaws, and unless otherwise provided in the certificate of incorporation, directors shall be elected at each annual meeting of stockholders to hold office until the next annual meeting. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws, wherein other qualifications for directors may be prescribed. Each director, including a director elected to fill a vacancy, shall hold office until his or her successor is elected and qualified or until his or her earlier resignation or removal.

Unless otherwise specified in the certificate of incorporation, elections of directors need not be by written ballot.

3.4 Resignation And Vacancies

Any director may resign at any time upon written notice to the attention of the Secretary of the corporation. Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the Delaware General Corporation Law, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of this Restated Certificate, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office (including any directors that have tendered a resignation effective at a future date), though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or series of stock, the holders of shares of such class or series may override the Board of Directors' action to fill such vacancy by (i) voting for their own designee to fill such vacancy at a meeting of the Corporation's stockholders or (ii) written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders.

If at any time, by reason of death or resignation or other cause, the corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the provisions of the certificate of incorporation or these bylaws, or may apply to the Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the General Corporation Law of Delaware.

If, at the time of filling any vacancy or any newly created directorship, the directors then in office constitute less than a majority of the whole board (as constituted immediately prior to any such increase), then the Court of Chancery may, upon application of any stockholder or stockholders holding at least 10% of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 211 of the General Corporation Law of Delaware as far as applicable.

3.5 Place Of Meetings: Meetings By Telephone

The Board of Directors of the corporation may hold meetings, both regular and special, either within or outside the state of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.6 Regular Meetings

Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the board.

3.7 Special Meetings: Notice

Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the chairman of the board, the chief executive officer, the president, the secretary or any two directors.

Notice of the time and place of special meetings shall be delivered personally or by telephone to each director or sent by first-class mail, facsimile, electronic transmission, or telegram, charges prepaid, addressed to each director at that director's address as it is shown on the records of the corporation. If the notice is mailed, it shall be deposited in the United States mail at least 4 days before the time of the holding of the meeting. If the notice is delivered personally or by facsimile, electronic transmission, telephone or telegram, it shall be delivered at least 24 hours before the time of the holding of the meeting. Any oral notice given personally or by telephone may be communicated either to the director or to a person at the office of the director who the person giving the notice has reason to believe will promptly communicate it to the director. The notice need not specify the purpose of the meeting. The notice need not specify the place of the meeting, if the meeting is to be held at the principal executive office of the corporation. Unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

3.8 Quorum

At all meetings of the Board of Directors, a majority of the total number of directors shall constitute a quorum for the transaction of business and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the Board of Directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

3.8 Waiver Of Notice

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, or waiver by electronic mail or other electronic transmission by such person, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors, or members of a committee of directors, need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

3.9 Board Action By Written Consent Without A Meeting

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the board or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

3.10 Fees And Compensation Of Directors

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have the authority to fix the compensation of directors. No such compensation shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

3.11 Approval Of Loans To Officers

The corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiary, including any officer or employee who is a director of the corporation or its subsidiary, whenever, in the judgment of the directors, such loan, guaranty or assistance may reasonably be expected to benefit the corporation. The loan, guaranty or other assistance may be with or without interest and may be unsecured, or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in this section shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

3.12 Removal Of Directors

Unless otherwise restricted by statute, by the certificate of incorporation or by these bylaws, any director or the entire Board of Directors may be removed, with or without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at the meeting or pursuant to written consent; provided, however, that if the stockholders of the corporation are entitled to cumulative voting, if less than the entire Board of Directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire Board of Directors.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director’s term of office.

3.13 Chairman Of The Board Of Directors

The corporation may also have, at the discretion of the Board of Directors, a chairman of the Board of Directors who shall not be considered an officer of the corporation.

ARTICLE IV

COMMITTEES

4.1 Committees Of Directors

The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board may designate 1 or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors, or in these bylaws, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the General Corporate Law of Delaware to be submitted to stockholders for approval or (ii) adopting, amending or repealing any Bylaw of the corporation.

4.2 Committee Minutes

Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

4.3 Meetings And Action Of Committees

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Section 3.5 (place of meetings and meetings by telephone), Section 3.6 (regular meetings), Section 3.7 (special meetings and notice), Section 3.8 (quorum), Section 3.9 (waiver of notice), and Section 3.10 (action without a meeting) of these bylaws, with such changes in the context of such provisions as are necessary to substitute the committee and its members for the Board of Directors and its members; provided, however, that the time of regular meetings of committees may be determined either by resolution of the Board of Directors or by resolution of the committee, that special meetings of committees may also be called by resolution of the Board of Directors and that notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board of Directors may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

ARTICLE V

OFFICERS

5.1 Officers

The officers of the corporation shall be a president and a secretary. The corporation may also have, at the discretion of the Board of Directors, a chief executive officer, a chief financial officer, a treasurer, one or more vice presidents, one or more assistant secretaries, one or more assistant treasurers, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws. Any number of offices may be held by the same person.

5.2 Appointment Of Officers

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Sections 5.3 or 5.5 of these bylaws, shall be appointed by the Board of Directors, subject to the rights (if any) of an officer under any contract of employment.

5.3 Subordinate Officers

The Board of Directors may appoint, or empower the chief executive officer or the president to appoint, such other officers and agents as the business of the corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the Board of Directors may from time to time determine.

5.4 Removal And Resignation Of Officers

Subject to the rights (if any) of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the Board of Directors at any regular or special meeting of the board or, except in the case of an officer chosen by the Board of Directors, by any officer upon whom the power of removal is conferred by the Board of Directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights (if any) of the corporation under any contract to which the officer is a party.

5.5 Vacancies In Offices

Any vacancy occurring in any office of the corporation shall be filled by the Board of Directors.

5.6 Chief Executive Officer

Subject to such supervisory powers (if any) as may be given by the Board of Directors to the chairman of the board (if any), the chief executive officer of the corporation (if such an officer is appointed) shall, subject to the control of the Board of Directors, have general supervision, direction, and control of the business and the officers of the corporation and shall have the general powers and duties of management usually vested in the office of chief executive officer of a corporation and shall have such other powers and duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as chief executive officer shall also be the acting president of the corporation whenever no other person is then serving in such capacity.

5.7 President

Subject to such supervisory powers (if any) as may be given by the Board of Directors to the chairman of the board (if any) or the chief executive officer, the president shall have general supervision, direction, and control of the business and other officers of the corporation. He or she shall have the general powers and duties of management usually vested in the office of president of a corporation and such other powers and duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as president shall also be the acting chief executive officer, secretary or treasurer of the corporation, as applicable, whenever no other person is then serving in such capacity.

5.8 Vice Presidents

In the absence or disability of the chief executive officer and president, the vice presidents (if any) in order of their rank as fixed by the Board of Directors or, if not ranked, a vice president designated by the Board of Directors, shall perform all the duties of the president and when so acting shall have all the powers of, and be subject to all the restrictions upon, the president. The vice presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the Board of Directors, these bylaws, the president or the chairman of the board.

5.9 Secretary

The secretary shall keep or cause to be kept, at the principal executive office of the corporation or such other place as the Board of Directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and stockholders. The minutes shall show the time and place of each meeting, the names of those present at directors' meetings or committee meetings, the number of shares present or represented at stockholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive office of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the Board of Directors, a share register, or a duplicate share register, showing the names of all stockholders and their addresses, the number and classes of shares held by each, the number and date of certificates (if any) evidencing such shares, and the number and date of cancellation of every certificate (if any) surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the stockholders and of the Board of Directors required to be given by law or by these bylaws. He or she shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or by these bylaws.

5.10 Chief Financial Officer

The chief financial officer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings and shares. The books of account shall at all reasonable times be open to inspection by any member of the Board of Directors.

The chief financial officer shall render to the chief executive officer, the president, or the Board of Directors, upon request, an account of all his or her transactions as chief financial officer and of the financial condition of the corporation. He or she shall have the general powers and duties usually vested in the office of chief financial officer of a corporation and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as the chief financial officer shall also be the acting treasurer of the corporation whenever no other person is then serving in such capacity. Subject to such supervisory powers (if any) as may be given by the Board of Directors to another officer of the corporation, the chief financial officer shall supervise and direct the responsibilities of the treasurer whenever someone other than the chief financial officer is serving as treasurer of the corporation.

5.11 Treasurer

The treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records with respect to all bank accounts, deposit accounts, cash management accounts and other investment accounts of the corporation. The books of account shall at all reasonable times be open to inspection by any member of the Board of Directors.

The treasurer shall deposit, or cause to be deposited, all moneys and other valuables in the name and to the credit of the corporation with such depositories as may be designated by the Board of Directors. He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors and shall render to the chief financial officer, the chief executive officer, the president or the Board of Directors, upon request, an account of all his or her transactions as treasurer. He or she shall have the general powers and duties usually vested in the office of treasurer of a corporation and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or these bylaws.

The person serving as the treasurer shall also be the acting chief financial officer of the corporation whenever no other person is then serving in such capacity.

5.12 Representation Of Shares Of Other Corporations

The chairman of the board, the chief executive officer, the president, any vice president, the chief financial officer, the secretary or assistant secretary of this corporation, or any other person authorized by the Board of Directors or the chief executive officer or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

5.13 Authority And Duties Of Officers

In addition to the foregoing authority and duties, all officers of the corporation shall respectively have such authority and perform such duties in the management of the business of the corporation as may be designated from time to time by the Board of Directors or the stockholders.

ARTICLE VI

INDEMNIFICATION OF DIRECTORS. OFFICERS, EMPLOYEES. AND OTHER AGENTS

6.1 Indemnification Of Directors And Officers

The corporation shall, to the maximum extent and in the manner permitted by the General Corporation Law of Delaware, indemnify each of its directors and officers against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.1, a "director" or "officer" of the corporation includes any person (a) who is or was a director or officer of the corporation, (b) who is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or (c) who was a director or officer of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.2 Indemnification Of Others

The corporation shall have the power, to the maximum extent and in the manner permitted by the General Corporation Law of Delaware, to indemnify each of its employees and agents (other than directors and officers) against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.2, an "employee" or "agent" of the corporation (other than a director or officer) includes any person (a) who is or was an employee or agent of the corporation, (b) who is or was serving at the request of the corporation as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or (c) who was an employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.3 Payment Of Expenses In Advance

Expenses incurred in defending any action or proceeding for which indemnification is required pursuant to Section 6.1 or for which indemnification is permitted pursuant to Section 6.2 following authorization thereof by the Board of Directors shall be paid by the corporation in advance of the final disposition of such action or proceeding upon receipt of an undertaking by or on behalf of the indemnified party to repay such amount if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that the indemnified party is not entitled to be indemnified as authorized in this Article VI.

6.4 Indemnity Not Exclusive

The indemnification provided by this Article VI shall not be deemed exclusive of any other rights to which those seeking indemnification may be entitled under any Bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office, to the extent that such additional rights to indemnification are authorized in the certificate of incorporation

6.5 Insurance

The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liability under the provisions of the General Corporation Law of Delaware.

6.6 Conflicts

No indemnification or advance shall be made under this Article VI, except where such indemnification or advance is mandated by law or the order, judgment or decree of any court of competent jurisdiction, in any circumstance where it appears:

(a) That it would be inconsistent with a provision of the certificate of incorporation, these bylaws, a resolution of the stockholders or an agreement in effect at the time of the accrual of the alleged cause of the action asserted in the proceeding in which the expenses were incurred or other amounts were paid, which prohibits or otherwise limits indemnification; or

(b) That it would be inconsistent with any condition expressly imposed by a court in approving a settlement.

ARTICLE VII

RECORDS AND REPORTS

7.1 Maintenance And Inspection Of Records

The corporation shall, either at its principal executive offices or at such place or places as designated by the Board of Directors, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books, and other records.

Any stockholder of record, in person or by attorney or other agent, shall, upon written demand under oath stating the purpose thereof, have the right during the usual hours for business to inspect for any proper purpose the corporation’s stock ledger, a list of its stockholders, and its other books and records and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person’s interest as a stockholder. In every instance where an attorney or other agent is the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing that authorizes the attorney or other agent to so act on behalf of the stockholder.

The demand under oath shall be directed to the corporation at its registered office in Delaware or at its principal place of business.

A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in each such stockholder's name, shall be open to the examination of any such stockholder for a period of at least 10 days prior to the meeting in the manner provided by law. The stock list shall also be open to the examination of any stockholder during the whole time of the meeting as provided by law. This list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

7.2 Inspection By Directors

Any director shall have the right to examine the corporation's stock ledger, a list of its stockholders, and its other books and records for a purpose reasonably related to his or her position as a director. The Court of Chancery is hereby vested with the exclusive jurisdiction to determine whether a director is entitled to the inspection sought. The Court may summarily order the corporation to permit the director to inspect any and all books and records, the stock ledger, and the stock list and to make copies or extracts therefrom. The Court may, in its discretion, prescribe any limitations or conditions with reference to the inspection, or award such other and further relief as the Court may deem just and proper.

ARTICLE VIII

GENERAL MATTERS

8.1 Checks

From time to time, the Board of Directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the corporation, and only the persons so authorized shall sign or endorse those instruments.

8.2 Execution Of Corporate Contracts And Instruments

The Board of Directors, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

8.3 Stock Certificates and Notices: Uncertificated Stock: Partly Paid Shares

The shares of the corporation may be certificated or uncertificated, as provided under Delaware law, and shall be entered in the books of the corporation and recorded as they are issued. Any or all of the signatures on any certificate may be a facsimile or electronic signature. In case any officer, transfer agent or registrar who has signed or whose facsimile or electronic signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he or she were such officer, transfer agent or registrar at the date of issue.

Within a reasonable time after the issuance or transfer of uncertificated stock, the corporation shall send to the record owner thereof a written notice that shall set forth the name of the corporation, that the corporation is organized under the laws of Delaware, the name of the stockholder, the number and class (and the designation of the series, if any) of the shares, and any restrictions on the transfer or registration of such shares of stock imposed by the corporation's certificate of incorporation, these bylaws, any agreement among stockholders or any agreement between stockholders and the corporation.

The corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate (if any) issued to represent any such partly paid shares, or upon the books and records of the corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

8.4 Special Designation On Certificates and Notices of Issuance

If the corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the corporation shall issue to represent such class or series of stock or the notice of issuance to the record owner of uncertificated stock; provided, however, that, except as otherwise provided in Section 202 of the General Corporation Law of Delaware, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the corporation shall issue to represent such class or series of stock or the notice of issuance to the record owner of uncertificated stock a statement that the corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

8.5 Lost Certificates

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and cancelled at the same time. The corporation may issue a new certificate of stock or notice of uncertificated stock in the place of any certificate previously issued by it, alleged to have been lost, stolen or destroyed, and the corporation may require the owner of the lost, stolen or destroyed certificate, or the owner's legal representative, to give the corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

8.6 Construction: Definitions

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the Delaware General Corporation Law shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

8.7 Dividends

The directors of the corporation, subject to any restrictions contained in (a) the General Corporation Law of Delaware or (b) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property, or in shares of the corporation's capital stock.

The directors of the corporation may set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the corporation, and meeting contingencies.

8.8 Fiscal Year

The fiscal year of the corporation shall be fixed by resolution of the Board of Directors and may be changed by the Board of Directors.

8.9 Transfer Restrictions

Notwithstanding anything to the contrary, except as expressly permitted in this Section 8.9, a stockholder shall not transfer, whether by sale, gift or otherwise, any shares of the corporation's stock to any person unless such transfer is approved by the Board of Directors prior to such transfer, which approval may be granted or withheld in the Board of Directors' sole and absolute discretion. Any purported transfer of any shares of the corporation's stock effected in violation of this Section 8.9 shall be null and void and shall have no force or effect and the corporation shall not register any such purported transfer.

Any stockholder seeking the approval of the Board of Directors of a transfer of some or all of its shares shall give written notice thereof to the Secretary of the corporation that shall include: (a) the name of the stockholder; (b) the proposed transferee; (c) the number of shares of the transfer of which approval is thereby requested; and (d) the purchase price (if any) of the shares proposed for transfer. The corporation may require the stockholder to supplement its notice with such additional information as the corporation may request.

Certificates representing, and in the case of uncertificated securities, notices of issuance with respect to, shares of stock of the corporation shall have impressed on, printed on, written on or otherwise affixed to them the following legend:

> THE SECURITIES REFERENCED HEREIN HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

The corporation shall take all such actions as are practicable to cause the certificates representing, and notices of issuance with respect to, shares that are subject to the restrictions on transfer set forth in this Section to contain the foregoing legend.

The transfer restrictions in this Section 8.9 shall only apply to the corporation's Common Stock as defined in the corporation's certificate of incorporation.

8.10 Transfer Of Stock

Upon receipt by the corporation or the transfer agent of the corporation of proper transfer instructions from the record holder of uncertificated shares or upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate or, in the case of uncertificated securities, a notice of issuance of shares, to the person entitled thereto, cancel the old certificate (if any) and record the transaction in its books.

8.11 Stock Transfer Agreements

The corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the General Corporation Law of Delaware.

8.12 Stockholders of Record

The corporation shall be entitled to recognize the exclusive right of a person recorded on its books as the owner of shares to receive dividends and to vote as such owner, shall be entitled to hold liable for calls and assessments the person recorded on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

8.13 Facsimile or Electronic Signature

In addition to the provisions for use of facsimile or electronic signatures elsewhere specifically authorized in these bylaws, facsimile or electronic signatures of any stockholder, director or officer of the corporation may be used whenever and as authorized by the Board of Directors or a committee thereof.

ARTICLE IX

AMENDMENTS

The Bylaws of the corporation may be adopted, amended or repealed by the stockholders entitled to vote; provided, however, that the corporation may, in its certificate of incorporation, confer the power to adopt, amend or repeal Bylaws upon the directors. The fact that such power has been so conferred upon the directors shall not divest the stockholders of the power, nor limit their power to adopt, amend or repeal Bylaws.

Exhibit 5.1

June 25, 2018

Akoustis Technologies, Inc.
Akoustis, Inc.
9805 Northcross Center Court, Suite A
Huntersville, NC 28078

Ladies and Gentlemen:

We have acted as special counsel to Akoustis Technologies, Inc., a Delaware corporation (the "Company"), and Akoustis, Inc., a Delaware corporation (the "Initial Guarantor"), in connection with the Registration Statement on Form S-1 (the "Registration Statement") filed on the date hereof with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), to register:

a) the resale by certain selling noteholders listed in the Registration Statement under the heading "Selling Security Holders — Selling Noteholders" (the "Selling Noteholders") of up to $15,000,000 aggregate principal amount of the Company's 6.5% Convertible Senior Secured Notes due 2023 (the "Notes"), including the guarantee of the Notes contained in Article 14 of the Indenture (as defined below) made by the Initial Guarantor (the "Note Guarantee"; and together with the Notes, the "Securities");

b) the resale by the Selling Noteholders of up to an aggregate of (i) 3,000,000 shares of the Company's $0.001 par value common stock ("Common Stock") issuable upon conversion of the Notes and (ii) 1,444,217 shares of Common Stock issuable as payment of accrued interest on the Notes, as make-whole payments in connection with certain conversions of the Notes, and as payments made in connection with certain qualifying fundamental changes of the Company (such shares of Common Stock in clauses (i) and (ii) are referred to as the "Convertible Note Shares");

c) the resale by certain selling stockholders listed in the Registration Statement under the heading "Selling Security Holders — Selling Stockholders" of up to 4,146,529 outstanding shares of Common Stock (the "Selling Stockholder Shares").

The Securities were sold pursuant to that certain Purchase Agreement, dated as of May 10, 2018, by and among the Company, the Initial Guarantor and Oppenheimer & Co. Inc., as representative of the several initial purchasers named therein (the "Purchase Agreement"), and issued pursuant to that certain indenture (the "Indenture") dated May 14, 2018 by and among the Company, the Initial Guarantor and the Bank of New York Mellon Trust Company, N.A., as trustee (the "Trustee").

K&L GATES LLP
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You have requested our opinion as to the matters set forth below in connection with the Registration Statement. For purposes of rendering that opinion, we have examined the Registration Statement, the Company's certificate of incorporation and its bylaws, the Initial Guarantor's certificate of incorporation and its bylaws, the Purchase Agreement, the Indenture (including the Note Guarantee), the Notes (as represented by a global note deposited with the Depository Trust Company) and the corporate actions of the Company's and the Initial Guarantor's boards of directors that provide for (i) the execution, delivery and performance of the Purchase Agreement, the Indenture and the issuance of the Securities and the Convertible Note Shares, and (ii) the execution, delivery and performance of the agreements by which the Selling Stockholder Shares were issued, as well as the issuance of the Selling Stockholder Shares, and we have made such other investigation as we have deemed appropriate. We also have assumed that (i) the Company will have sufficient authorized and unissued shares of its Common Stock upon any issuance of Convertible Note Shares, (ii) that the corporate action of the Company authorizing the issuance of the Convertible Note Shares has not been, and will not be, revoked, modified or amended, and (iii) the issuance of the Convertible Note Shares will be noted in the Company's stock ledger. We have examined and relied upon certificates of public officials and, as to certain matters of fact that are material to our opinions, we have also relied on a certificate of an officer of the Company. In rendering our opinion, we also have made the assumptions that are customary in opinion letters of this kind. We have not verified any of those assumptions.

Our opinions set forth below are limited to the Delaware General Corporation Law and reported judicial decisions interpreting the Delaware General Corporation Law, and, as to the Notes and the Note Guarantee constituting binding obligations of the Company and the Initial Guarantor, respectively, the laws of the State of New York.

Based upon and subject to foregoing, it is our opinion that:

1. The issuance of the Notes has been duly authorized by the Company, and the Notes are binding obligations of the Company, enforceable against the Company in accordance with their terms.

2. The issuance of the Note Guarantee has been duly authorized by the Initial Guarantor, and the Note Guarantee is a binding obligation of the Initial Guarantor, enforceable against the Initial Guarantor in accordance with its terms.

3. The issuance of the Convertible Note Shares has been duly authorized and, when issued and delivered in accordance with the Indenture and the Notes, the Convertible Note Shares will be validly issued, fully paid and non-assessable.

4. The Selling Stockholder Shares have been duly authorized and validly issued and are fully paid and non-assessable.

All of our opinions are subject to and limited by (i) the effect of bankruptcy, insolvency, fraudulent conveyance, reorganization, receivership, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or secured parties generally; (ii) the application of general principles of equity (regardless of whether considered in a proceeding in equity or at law), including, without limitation, the possible unavailability of specific performance, injunctive relief or another equitable remedy; (iii) concepts of materiality, reasonableness, good faith and fair dealing; and (iv) public policy against indemnification for violations of securities laws or for losses caused by the indemnified person's gross negligence or willful misconduct.

We express no opinion with respect to any provision of the Securities that purports to: (a) waive equitable rights, remedies, or defenses; (b) authorize a party to act in its sole discretion or provide that determination by a party is conclusive; (c) require notices, waivers, amendments, modifications or supplements to be made only in writing; (d) effect waivers of statutory or equitable rights or the effect of applicable laws; (e) waive or modify any party's diligence obligations; (f) impose liquidated damages to the extent constituting a penalty; (g) relieve any party of the consequences of its own unlawful, willful or negligent acts or omissions; (h) grant indemnity or a right of contribution to the extent violating applicable public policy; (i) create rights of setoff or subrogation; (j) impose an increased interest rate, interest on interest, late charge, or any additional obligation or burden upon the occurrence of a default of any obligation thereunder to the extent constituting a penalty; (k) limit or preclude the liability of any party for consequential, special, punitive or indirect damages; (l) permit the declaration of a default for an immaterial breach of provisions thereof; (m) waive the right to trial by jury; (n) designate the jurisdiction, forum or venue for resolution of any cause of action or dispute or the method of service of process; (o) require enforcement of one or more provisions thereof notwithstanding that one or more other provisions thereof may be unenforceable; (p) provide that enumerated remedies are not exclusive or that a party has the right to pursue multiple remedies without regard to other remedies elected or that all remedies are cumulative; (q) establish evidentiary standards by which it is to be construed; (r) permit the exercise, under certain circumstances, of rights without notice or without providing opportunity to cure failures to perform; (s) bind persons that are not party thereto; or (t) grant a power of attorney or proxy.

We also express no opinion as to (i) whether a federal court of the United States outside of the State of New York, a state court outside the State of New York, or a foreign court would give effect to the choice of New York law provided for in the Indenture and the Securities; (ii) whether a federal court of the United States outside the State of New York, or a state court outside the State of New York, would have personal jurisdiction over any party; or (iii) whether a federal court of the United States would have subject matter jurisdiction over any action brought against any party.

Our opinions as to enforceability in numbered paragraphs 1 and 2 above are based on Section 5-1401 of the New York General Obligations Law ("GOL 5-1401"). GOL 5-1401 provides, in pertinent part, that "the parties to any contract . . . may agree that the law of this state shall govern their rights and duties in whole or in part, whether or not such contract, agreement or undertaking bears a reasonable relation to this state." Although the New York Court of Appeals has recently upheld the application of that statute in *IRB-Brasil Resseguros, S.A. v. Inepur Invs., S. A*., 82 N.E.2d 609 (N.Y. 2012), we note that legal commentators have questioned the validity thereof under the Constitution of the United States, and we express no opinion as to the constitutionality of such law. We draw your attention to the fact that at least one federal court has, notwithstanding the terms of GOL 5-1401, in dictum noted possible constitutional limitations upon GOL 5-1401, in both domestic and international transactions. *See e.g., Lehman Brothers Commercial Corp. v. Minmetals Non-Ferrous Metals Trading Co.*, No. 94 Civ. 8301, 2000 WL 1702039 S.D.N.Y. Nov. 13, 2000.

With respect to the opinion set forth in numbered paragraph 2, we note that the Note Guarantee purports to waive certain rights and defenses that the Guarantors might otherwise have with respect to, among other things, (a) the validity, regularity or enforceability of the Notes or the Indenture; (b) the absence of any action to enforce the same, any waiver or consent by any holder of the Notes; (c) the recovery of any judgment against the Company; (d) any action to enforce the same; or (e) any other circumstance which might otherwise constitute a legal or equitable discharge or defense of a Guarantor. Although we believe that the provisions of the Note Guarantee are generally enforceable (subject to the limitations and qualifications set forth in this opinion letter), we advise you that certain waivers and other provisions may be further limited or rendered unenforceable by applicable law but that, in our opinion, such law does not render the Note Guarantee invalid as a whole or preclude the judicial enforcement of the Note Guarantee upon a material default by any Guarantor thereunder.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to this firm in the related prospectus under the caption "Legal Matters." In giving our consent we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Yours truly,

/s/ K&L Gates LLP

Exhibit 23.1

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Akoustis Technologies, Inc. (the "Company") on Form S-1 of our report dated September 19, 2017, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audits of the consolidated financial statements of Akoustis Technologies, Inc. and Subsidiaries as of June 30, 2017 and 2016 and for the years then ended, appearing in the Annual Report on Form 10-K of Akoustis Technologies, Inc. for the year ended June 30, 2017, and the incorporation by reference of our report dated September 11, 2017, with respect to our audit of the special purpose combined financial statements of The Research Foundation for the State University of New York and Fuller Road Management Corporation as of June 26, 2017 and for the years ended June 30, 2016 and 2015, appearing in the Current Report on Form 8-K/A of Akoustis Technologies, Inc. filed on September 12, 2017. We also consent to the reference to our firm under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ Marcum llp

Marcum llp
New York, NY
June 25, 2018