COHU INC

offices)

Form S-3 January 03, 2017 As filed with the Securities and Exchange Commission on January 3, 2017
Registration No. 333-
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933
Cohu, Inc.
(Exact name of registrant as specified in its charter)
Delaware 95-1934119 (State or other jurisdiction of (I.R.S. Employer
incorporation or organization) Identification Number)
12367 Crosthwaite Circle
Poway, CA 92064
(858) 848-8100

 $(Address, including\ zip\ code,\ and\ telephone\ number,\ including\ area\ code,\ of\ registrant's\ principal\ executive$

Jeffrey D. Jones
Vice President, Finance and Chief Financial Officer
Cohu, Inc.
12367 Crosthwaite Circle
Poway, CA 92064
(858) 848-8100
(Name, address, including zip code, and telephone number, including area code, of agent for service)
With a copy to:
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Tel: (858) 677-1400
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Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.
If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest

reinvestment plans, 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Non-accelerated filer Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered (1)	Proposed maximum aggregate offering price (2)	Amount of registration fee (3)
Common		
Stock, par		
value	_	
\$1.00 per		
share		
Preferred		
Stock, par		
value	_	
\$1.00 per		
share		
Debt		
Securities		
Warrants	_	
Units	_	
Total	\$150,000,000	\$ 17,385

(1) Includes an indeterminate number of securities that may be issued in primary offerings or upon exercise, conversion or exchange of any securities registered hereunder that provide for exercise, conversion or exchange.

Not specified as to each class of securities to be registered hereunder pursuant to General Instruction II(D) to Form S-3 under the Securities Act of 1933, as amended (the "Securities Act"). The proposed maximum aggregate offering price per class of securities will be determined from time to time by the registrant in connection with the issuance of the securities registered hereunder. The aggregate public offering price of the securities registered hereby will not exceed \$150,000,000. With respect to debt securities, the public offering price therefor excludes accrued interest and accrued amortization of discount, if any, to the date of delivery.

(3) Calculated pursuant to Rule 457(o) under the Securities Act.

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 S	Section 8(a), may determine.	
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The information in this prospectus is not complete and may be changed. We 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 it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.
Subject to completion, dated January 3, 2017
PROSPECTUS
COHU, INC.
\$150,000,000
Common Stock
Preferred Stock
Debt Securities
Warrants
Units
We may from time to time offer to sell any combination of the securities described in this prospectus, either

individually or in units, in one or more offerings. The aggregate initial offering price of all securities sold under this

prospectus will not exceed \$150,000,000.

This prospectus provides a general description of the securities we may offer. Each time we sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference herein or therein before you invest in any securities. This prospectus may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement.

Our common stock is listed on The NASDAQ Global Select Market under the symbol "COHU." On December 30, 2016, the last reported sale price for our common stock was \$13.90 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on The NASDAQ Global Select Market or any securities market or other exchange of the securities, if any, covered by the prospectus supplement.

Investing in our securities involves risks. See "Risk Factors" beginning on page 10.

We may sell these securities directly to investors, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable commissions or discounts will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

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.

The date of this prospectus is , 2017.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$150,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading "Where You Can Find Additional Information."

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus, the accompanying prospectus supplement or related free writing prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

This prospectus, the accompanying supplement to this prospectus and any related free writing prospectus, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, the accompanying supplement to this prospectus or any related free writing prospectus, if any, constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference therein is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered or the applicable securities are sold on a later date.

SUMMARY

This summary highlights selected information from this prospectus and the documents incorporated herein by reference and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, including the risks of investing in our securities discussed under "Risk Factors" beginning on page 10 of this prospectus, the information incorporated herein by reference, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part. All references in this prospectus to "we," "us," "our," "Cohu," the "Company" and similar designations refer to Cohu, Inc. and its consolidated subsidiaries, unless otherwise indicated or as the context otherwise requires.

Our business

We are a leading supplier of semiconductor test and inspection handlers, micro-electro mechanical system (MEMS) test modules, test contactors and thermal sub-systems used by global semiconductor manufacturers and test subcontractors. We develop, manufacture, sell and service a broad line of equipment capable of handling a wide range of integrated circuits and light-emitting diodes (LEDs). Test handlers are electromechanical systems used to automate testing of integrated circuits and LEDs in the back-end of the semiconductor manufacturing process. Testing determines the quality and performance of the semiconductor device prior to shipment to customers. Testers are designed to verify the performance of semiconductor devices, such as microprocessors, logic, analog, memory or mixed signal devices. Handlers are automated systems engineered to thermally condition and present for testing the packaged semiconductor devices. The majority of test handlers use either pick-and-place, gravity-feed, turret or test-in-strip technologies. The type of packaged device, test parallelism, thermal requirements and signal interface requirements normally determines the appropriate handling approach.

Pick-and-place handling is the predominant solution for devices with leads on all four sides, such as the quad flat pack, or with balls or pads on the bottom or top of the package, such as ball grid array packages, and quad flat no-lead packages as well as certain low profile devices with leads on two sides, such as the thin small outline package, and wafer-level packages. Pick-and-place handlers use robotic mechanisms to move devices from JEDEC (Joint Electron Device Engineering Council) standard trays and place them in precision transport boats or carriers for processing through the system. After testing, devices are sorted and reloaded into designated trays, based on test results.

Gravity-feed handling is the predominant solution for temperature testing of high performance small outline leaded and non-leaded packages, as well as for large packages with leads on only one or two sides as is common in high power devices. In gravity-feed handlers, devices are unloaded from plastic tubes, metal magazines or a bowl at the top of the machine and flow through the system, from top to bottom, propelled by the force of gravity. After testing, devices are sorted and reloaded into tubes, magazines, bulk or tape for additional process steps or final shipment.

Turret handlers are ideally suited for high-volume and low-mix testing of smaller integrated circuit and LED devices. In turret handlers, devices are unloaded from tubes, a bowl, trays or film frame. Turret-based handlers use a rotating turret mechanism that provides very high device throughput and efficient integration of multiple back-end finishing operations.

Test-in-strip handlers accommodate devices in strips or panels prior to the final singulation step in the semiconductor manufacturing process flow and are typically used for high-parallel testing applications.

MEMS test modules are independent physical stimuli units for testing sensor integrated circuits typically used in the automotive and consumer electronics industries. These MEMS test modules can be integrated to our gravity-feed, pick-and-place, turret or test-in-strip handlers for testing a variety of sensors, including pressure, acoustic, magnetic field hall effect, optical and others.

To ensure quality, semiconductors are typically tested at hot and/or cold temperatures, which can simulate the final operating environment. Our test handler products are designed to provide a precisely controlled test environment, often over the range of -60 degrees Celsius to +175 degrees Celsius. As the speed and power of certain integrated circuits, such as microprocessors and mobile processors, have increased so has the need to actively manage the self-generated heat during the test process to maximize yield. This heat is capable of damaging or destroying the integrated circuit and can result in speed downgrading, when devices self-heat and fail to successfully test at their maximum possible speed. Device yields are extremely important and speed grading directly affects the selling price of the integrated circuit and the profitability of the semiconductor manufacturer. In addition to temperature capability, other key factors in the design of test handlers are handling speed, flexibility, parallel test capability, alignment to the test contactors, system size, reliability and cost.

Thermal sub-systems are used in advanced burn-in and system-level test applications to maintain and control the temperature of integrated circuits during the testing process. Burn-in stresses devices for detection of early failures (infant mortality) prior to distribution. The burn-in process is also used by semiconductor manufacturers to develop reliability models of newly introduced devices. The objective of reliability testing is to determine a device's fault-free operation and estimated useful life by exposing the device to various electrical and thermal conditions that impact its performance. System-level testing is required for functional testing of high-end microprocessors as well as mobile processors combined with memory. This is typically the last test operation of complex, expensive integrated circuits prior to the final electronic integration process.

Our products are complex electromechanical systems that are used in high-volume production environments and many are in service twenty-four hours per day, seven days a week. Customers continuously strive to increase the utilization of their production test equipment and expect high reliability from test handlers, MEMS test modules and thermal subsystems used in burn-in and system-level test. The availability of trained technical support personnel is an important competitive factor in the marketplace. Our semiconductor equipment companies deploy service engineers worldwide, often within customers' production facilities, who work with customer personnel to maintain, repair and continuously improve the performance of our equipment.

Our Products

We offer products for the pick-and-place, gravity-feed, test-in-strip and turret handling, MEMS, burn-in and system-level test markets. We currently sell the following products:

Pick-and-place

The Delta EDGE is a pick-and-place handler that combines an economical design with a small footprint and fast index time (processing speed of the contactor placement mechanism). The EDGE handler is designed to meet the needs of integrated circuit manufacturers and subcontractors who test at ambient and hot temperatures.

The Delta MATRiX is a high performance pick-and-place handler capable of thermally conditioning devices from -60 degrees Celsius to +175 degrees Celsius. It provides increased productivity in several dimensions of performance: high throughput and test parallelism, scalability and active thermal control per test site. With an adjustable test site configuration, customers can reuse existing load-boards, including those made for competitor equipment and gravity handlers. The system also provides flexibility with field upgradeable options including a chamberless tri-temperature test site and auto contactor cleaning.

The Delta Pyramid is a high performance thermal handler for microprocessors, graphics processors and other high power integrated circuits. The Pyramid incorporates our proprietary T-Core thermal control technology that optimizes test yield of power dissipative integrated circuits.

The Delta Summit series of pick-and-place thermal handlers incorporate our proprietary thermal control technology. The Summit PTC, or Passive Thermal Control, and ATC, or Active Thermal Control, models dissipate the heat generated during test enabling the integrated circuit to be tested successfully at its maximum speed and performance.

Delta Eclipse is our next generation pick-and-place platform tailored for Fabless and Outsourced Semiconductor Assembly and Test (OSAT) customers, as well as integrated device manufacturers (IDMs). This is a highly configurable platform capable of handling general purpose integrated circuits to advanced computing and mobile processors that require Cohu's T-Core active thermal control during test.

Delta LinX is our platform serving assembly automation. Back-end semiconductor assembly is the major process step prior to device testing and validation. The LinX product line offers advanced JEDEC handing automation that efficiently links various assembly test processes.

Gravity-Feed

The Rasco SO1000 is a high throughput gravity-feed platform that provides an economical solution for testing up to 4 devices in parallel. This handler can be configured for tube-to-tube or metal magazine input and output, ambient-hot or tri-temperature testing and is easily kit-able for a wide range of integrated circuit packages.

The Rasco SO2000 is a modular platform that offers a reliable solution for testing small integrated circuit packages up to 4 devices in parallel. The base platform can be configured with various input and output modules: tube, metal magazine, bowl, bulk, tape and reel, and an optional laser marking unit. This handler can be configured for ambient-hot or tri-temperature testing.

Rasco Saturn and Jupiter are our next generation gravity handlers delivering a fast index time capability with up to 8 devices tested in parallel at cold and/or hot temperature. Saturn has a configuration that covers testing of very small to medium size packaged integrated circuits, and Jupiter is a version that enables testing of medium to very large packaged integrated circuits typically serving the power management device market.

Test-in-strip

The Rasco Jaguar test-in-strip handler can process an entire strip at once or index the strip for single/multiple device testing. The system has tri-temperature capability, accommodates either stacked or slotted input/output media and is configured with automated vision alignment. The Jaguar is also a solution for in-process testing of next generation multi-stacked packages.

Turret

Ismeca NY32 is a scalable, 32-position turret handler used for testing and inspection of integrated circuits, LEDs, and discrete devices. There are many configurations of the NY32 turret handler: handling wafers in film-frame for input and/or output that is common for LEDs and wafer level package (WLP) devices; tray and tube input and/or output used for integrated circuits and discrete devices; and bowl feeding, tape and de-taping, alignment, laser marking, inspection and test modules. The NY32 is capable of testing devices at ambient and hot temperature.

Ismeca NY20 is a turret handler platform that delivers high throughput combined with fast device change-over time for both high-volume and high-mix testing and inspection of integrated circuits, LEDs and discrete devices. The 20-position turret offers many of the functional modules and capabilities available on the NY32 platform in a smaller footprint, higher throughput handler.

MEMS test modules generate physical stimuli for testing of sensor integrated circuits. These are typically used in the automotive (e.g. tire pressure, airbag sensors) and consumer electronics (e.g. tilt, motion, microphone and light sensors) industries. The MEMS modules are stand-alone units that can be integrated into our pick-and-place, turret, test-in-strip, or gravity-feed handlers

Thermal Sub-Systems

We have adapted our proprietary thermal control technology for use by integrated circuit manufacturers in high performance burn-in and system level test. The Delta T-Core thermal sub-systems provide fast and accurate temperature control of the integrated circuit during the testing process using the same technology available in the Pyramid handler. T-Core is also used in engineering device characterization applications.

Delta Fusion HD is a tri-temperature thermal sub-system that utilizes T-Core technology for testing mobile
processors. The Fusion HD thermal sub-system can test greater than 450 devices in parallel while thermally
conditioning and accurately controlling each device temperature through stringent, power dissipative test scripts.

Contactors

We design, manufacture, sell and support various lines of test contactor solutions. These are consumable, electro-mechanical assemblies that connect the device under test, inside our test handlers, and the automated test equipment.

Spares

We provide consumable and non-consumable items that are used to maintain, sustain or otherwise enable customer's equipment to meet its performance, availability and production requirements.

Tooling (kits)

We design and manufacture a wide range of device dedication kits that enable handlers to process different semiconductor packages. Our Philippines and China operations design and manufacture the majority of our handler kits and provide applications support to customers in the southeast Asia region.

Corporate Information

Cohu, Inc. was incorporated under the laws of California in 1947, as Kalbfell Lab, Inc. and commenced active operations in the same year. Our name was changed to Kay Lab in 1954. In 1957, Cohu was reincorporated under the laws of the State of Delaware as Cohu Electronics, Inc. and in 1972, our name was changed to Cohu, Inc.

Securities We May Offer

We may offer shares of our common stock and preferred stock, various series of debt securities and warrants to purchase any of such securities, either individually or in units, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

designation or classification;
aggregate principal amount or aggregate offering price;
maturity, if applicable;
original issue discount, if any;
rates and times of payment of interest or dividends, if any;
redemption, conversion, exchange or sinking fund terms, if any;
conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
ranking;
restrictive covenants, if any;
voting or other rights, if any; and
important United States federal income tax considerations.

A prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

We may sell the securities directly to or through underwriters, dealers or agents. We, and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

the names of those underwriters or agents;
applicable fees, discounts and commissions to be paid to them;
details regarding over-allotment options, if any; and
the net proceeds to us.
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Common Stock

We may offer shares of our common stock, par value \$1.00 per share, either alone or underlying other registered securities convertible into or exercisable for our common stock. Holders of our common stock are entitled dividends as our board of directors may declare from time to time out of legally available funds, subject to the preferential rights of the holders of any shares of our preferred stock that are outstanding or that we may issue in the future. Currently, we do not have any issued and outstanding preferred stock. Each holder of our common stock is entitled to one vote per share. In this prospectus, we provide a general description of, among other things, our dividend policy and the rights and restrictions that apply to holders of our common stock. Our common stock is described in greater detail in this prospectus under "Description of Capital Stock — Common Stock."

Preferred Stock

We may issue shares of preferred stock in one or more classes or series. Our board of directors or a committee designated by our board of directors will determine the dividend, voting and conversion rights and other provisions at the time of sale. The particular terms of each class or series of preferred stock, including redemption privileges, liquidation preferences, voting rights, dividend rights and/or conversion rights, will be more fully described in the applicable prospectus supplement relating to the preferred stock offered thereby. Our preferred stock is described in greater detail in this prospectus under "Description of Capital Stock — Preferred Stock."

Debt Securities

We may offer debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsubordinated debt that we may have and may be secured or unsecured. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all or some portion of our indebtedness. Any convertible debt securities that we issue will be convertible into or exchangeable for our common stock or other securities of ours. Conversion may be mandatory or at the holder's option and would be at prescribed conversion rates.

The debt securities will be issued under one or more documents called indentures, which are contracts between us and a trustee for the holders of the debt securities. In this prospectus, we have summarized certain general features of the debt securities under "Description of Debt Securities." We urge you, however, to read the prospectus supplements and any free writing prospectus that we may authorize to be provided to you related to the series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. Forms of indentures have been filed as exhibits to the registration statement of which this prospectus is a part, and supplemental indentures and forms

of debt securities containing the terms of debt securities being offered will be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

Warrants

We may from time to time offer warrants for the purchase of our common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from those securities.

The warrants may be evidenced by warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. In this prospectus, we have summarized certain general features of the warrants under "Description of Warrants." We urge you, however, to read the prospectus supplements and any free writing prospectus that we may authorize to be provided to you related to the series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement which includes this prospectus.

Units

We may offer units consisting of common stock, preferred stock, debt securities and/or warrants to purchase any of such securities in one or more series. In this prospectus, we have summarized certain general features of the units under "Description of Units." We urge you, however, to read the prospectus supplements and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the unit agreements that contain the terms of the units. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from a current report on Form 8-K that we file with the SEC, the form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of units.

We will evidence each series of units by unit certificates that we will issue under a separate agreement. We will enter into the unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

RISK FACTORS

Investment in our securities involves risks. Prior to making a decision about investing in our securities, you should consider carefully all of the information included and incorporated by reference or deemed to be incorporated by reference in this prospectus or the applicable prospectus supplement, including the risk factors incorporated by reference herein from our Form 10-Q for the quarter ended September 24, 2016, as updated by annual, quarterly and other reports and documents we file with the Securities and Exchange Commission (the "SEC") after the date of this prospectus and that are incorporated by reference herein or in the applicable prospectus supplement. Each of these risk factors could have a material adverse effect on our business, results of operations, financial position or cash flows, which may result in the loss of all or part of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING INFORMATION

This prospectus and the documents incorporated herein by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

All statements, other than statements of historical fact, included or incorporated herein regarding our strategy, future operations, financial position, future revenues, projected costs, plans, prospects and objectives are forward-looking statements. Words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "estimate," "think," "may," "could," "wi "should," "continue," "potential," "likely," "opportunity" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements.

Additionally, statements concerning future matters such as our expectations of business and market conditions, development and commercialization of new products, enhancements of existing products or technologies, and other statements regarding matters that are not historical are forward-looking statements. Such statements are based on currently available operating, financial and competitive information and are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in our forward-looking statements due to a number of factors including, but not limited to, those set forth above under the section entitled "Risk Factors" in this prospectus and any accompanying prospectus supplement. Given these risks, uncertainties and other factors, many of which are beyond our control, you should not place undue reliance on these forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if

new information becomes available in the future.

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth our consolidated ratio of earnings to fixed charges and our deficiency of earnings to fixed charges for each of the periods indicated. The ratio of earnings to fixed charges is computed by dividing fixed charges into earnings before income taxes plus fixed charges. The Company had no preferred stock outstanding for any period presented, and accordingly its ratio of earnings to combined fixed charges and preferred stock dividends is the same as its ratio of earnings to fixed charges. You should read this table in conjunction with the consolidated financial statements and notes incorporated by reference in this prospectus.

	Nine					
	Months					
	Ended	Year E	nded			
	September 24, 2016	Decem 26, 2015	ber December 27, 2014	December 28, 2013	December 29, 2012	December 31, 2011
Ratio of earnings to fixed charges (1)	5.14	18.82	43.52	N/A ⁽²⁾	N/A ⁽²⁾	60.24

For purposes of calculating the ratio of earnings to fixed charges, earnings represent income (loss) from continuing operations before income taxes, plus fixed charges and amortization of capitalized interest and less capitalized interest; and fixed charges include interest expense, capitalized interest, amortization of deferred financing costs and an interest component of rent expense.

Due to our losses for years ended December 28, 2013 and December 29, 2012, we would have needed to generate additional earnings of \$30.5 million and \$11.9 million, respectively, to cover fixed charges in those periods.

USE OF PROCEEDS

Except as described in any applicable prospectus supplement and in any free writing prospectuses in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered hereby for general corporate purposes, which may include working capital, capital expenditures, other corporate expenses and acquisitions of complementary products, technologies or businesses.

We have not determined the amount of net proceeds to be used specifically for the foregoing purposes. As a result, our management will have broad discretion in the allocation of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds of any sale of the securities. Pending these uses, we intend to invest the net proceeds in investment-grade, short-term, interest-bearing securities.

DESCRIPTION OF SECURITIES WE MAY OFFER

We may offer shares of our common stock and preferred stock, various series of debt securities and warrants to purchase any of such securities, either individually or in units, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities. We may offer up to \$150,000,000 of securities under this prospectus.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is not complete and may not contain all the information you should consider before investing in our capital stock. For the complete terms of our capital stock, please refer to our amended and restated certificate of incorporation, as amended (our "certificate of incorporation") and our amended and restated bylaws, as amended (our "bylaws"), that are incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any prospectus supplement. The terms of these securities may also be affected by the Delaware General Corporation Law (the "DGCL"). The summary below and that contained in any prospectus supplement are qualified in their entirety by reference to our certificate of incorporation and our bylaws.

Common Stock

We are authorized to issue 60,000,000 shares of common stock, of which 26,842,149 shares were issued and outstanding as of December 29, 2016. The holders of Common Stock possess exclusive voting rights in us, except to the extent our board of directors specifies voting power with respect to any other class of securities issued in the future. Each holder of our common stock is entitled to one vote for each share held of record on each matter submitted to a vote of stockholders, including the election of directors. Stockholders have the right to cumulate votes in the election of directors.

Subject to preferences that may be granted to the holders of preferred stock, each holder of our common stock is entitled to share ratably in distributions to stockholders and to receive ratably such dividends as may be declared by our board of directors out of funds legally available therefor. In the event of our liquidation, dissolution or winding up, the holders of our common stock will be entitled to receive, after payment of all of our debts and liabilities and of all sums to which holders of any preferred stock may be entitled, the distribution of any of our remaining assets. Holders of our common stock have no conversion, exchange, sinking fund, redemption or appraisal rights (other than such as may be determined by our board of directors in its sole discretion) and have no preemptive rights to subscribe for any of our securities.

All of the outstanding shares of our common stock are, and the shares of common stock issued upon the conversion of any securities convertible into our common stock will be, fully paid and non-assessable. The shares of common stock offered by this prospectus or upon the conversion of any preferred stock or debt securities or exercise of any warrants offered pursuant to this prospectus, when issued and paid for, will also be, fully paid and non-assessable.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "COHU."

Preferred Stock

We are authorized to issue 1,000,000 shares of preferred stock, none of which were issued and outstanding as of January 3, 2017. Our board is authorized, without action by our stockholders, to classify or reclassify any unissued portion of our authorized shares of preferred stock to provide for the issuance of shares of other classes or series, including preferred stock in one or more series. Our board may fix or alter the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including sinking fund provisions), the redemption price or prices, the liquidation preferences of any wholly unissued series of Preferred Stock, and the number of shares constituting any such series and the designation thereof, or any of them; and to increase or decrease the number of shares of any series subsequent to the issue of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be so decreased, the shares constituting such decrease shall resume the status which they had prior to the adoption of the resolution originally fixing the number of shares of such series.

Possible Anti-Takeover Effects of Delaware Law and our Certificate of Incorporation and Bylaws

Delaware Anti-Takeover Statute

We are subject to Section 203 of the DGCL, an anti-takeover statute. In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the time the person became an interested stockholder, unless the business combination or the acquisition of shares that resulted in a stockholder becoming an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns (or within three years prior to the determination of interested stockholder status did own) 15% or more of a corporation's voting stock. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by our board of directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by our stockholders. In addition, our certificate of incorporation provides that any business combination involving any stockholder who, together with affiliates and associates, owns 5% or more of our outstanding common stock, must be approved by affirmative vote of the holders of not less than 80% of the total voting power of all outstanding shares of stock, provided, however, that the foregoing shall not apply to any business combination which was approved by resolution of our Board of Directors prior to the acquisition of the ownership or control of ten (10%) percent of our outstanding shares by such related party, nor shall it apply to any business combination between Cohu and another corporation, fifty (50%) percent or more of the voting stock of which is owned by Cohu, and none of which is owned or controlled by a related party, provided that each Cohu stockholder receives the same type of consideration in such transaction in proportion to his stockholding.

Our bylaws provide that any vacancy or vacancies in the Board resulting from the death, resignation or removal of any director, or an increase in the authorized number of directors, may be filled by a majority of the remaining directors, though less than a quorum.

Undesignated Preferred Stock

The authority that will be possessed by our board of directors to issue preferred stock could potentially be used to discourage attempts by third parties to obtain control of our company through a merger, tender offer, proxy contest or otherwise by making such attempts more difficult or more costly. Our board of directors may issue preferred stock with voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of our common stock:

Special Meeting Requirements

Our bylaws provide that special meetings of our stockholders may only be called at the request of a majority of our Board of Directors or at the request, in writing, of stockholders owning a majority of our then issued and outstanding capital stock provided such meeting is for the sole purpose of considering the removal from office of a director who has been convicted of a felony by a court of competent jurisdiction and such conviction is no longer subject to a direct repeal, or a director who has been adjudged to be liable for negligence or misconduct in the performance of his duty to the Company by a court of competent jurisdiction and such adjudication is no longer subject to direct appeal.

Classified Board

Our certificate of incorporation provides that our board of directors is divided into three classes, each comprised of three directors. The directors designated as a Class 1 directors have a term expiring at our annual meeting of stockholders in 2017. The directors designated as a Class 2 directors have a term expiring at our annual meeting of stockholders in 2018, and the directors designated as Class 3 directors have a term expiring at our annual meeting of stockholders in 2019. Directors for each class will be elected at the annual meeting of stockholders held in the year in which the term for that class expires and thereafter will serve for a term of three years. At any meeting of stockholders for the election of directors at which a quorum is present, the election will be determined by a plurality of the votes cast by the stockholders entitled to vote at the election. Under the classified board provisions, it will take at least two elections of directors for any individual or group to gain control of our board. Accordingly, these provisions could discourage a third party from initiating a proxy contest, making a tender offer or otherwise attempting to gain control of us.

Stockholder Action by Written Consent

Our bylaws expressly eliminates the right of our stockholders to act by writt	en consent. Stockholder action must take
place at the annual or a special meeting of our stockholders.	

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuance without stockholder approval. We may use additional shares for a variety of purposes, including future public offerings to raise additional capital, to fund acquisitions and as employee compensation. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

The above provisions may deter a hostile takeover or delay a change in control or management of us.

Transfer Agent and Registrar

The transfer agent and registrar for our capital stock is ComputerShare Investor Services, LLC.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements or free writing prospectuses, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement may differ from the terms we describe below. However, no prospectus supplement shall fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness. As of the date of this prospectus, we have no outstanding registered debt securities. Unless the context requires otherwise, whenever we refer to the "indentures," we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture and any supplemental indentures that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The indentures will be qualified under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"). We use the term "trustee" to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture and any supplemental indentures applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indentures that contains the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers' certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

the title;
the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
any limit on the amount that may be issued;
whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depositary will be;
the maturity date;
whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
the terms of the subordination of any series of subordinated debt;
the place where payments will be made;
restrictions on transfer, sale or other assignment, if any;
our right, if any, to defer payment of interest and the maximum length of any such deferral period;
the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities

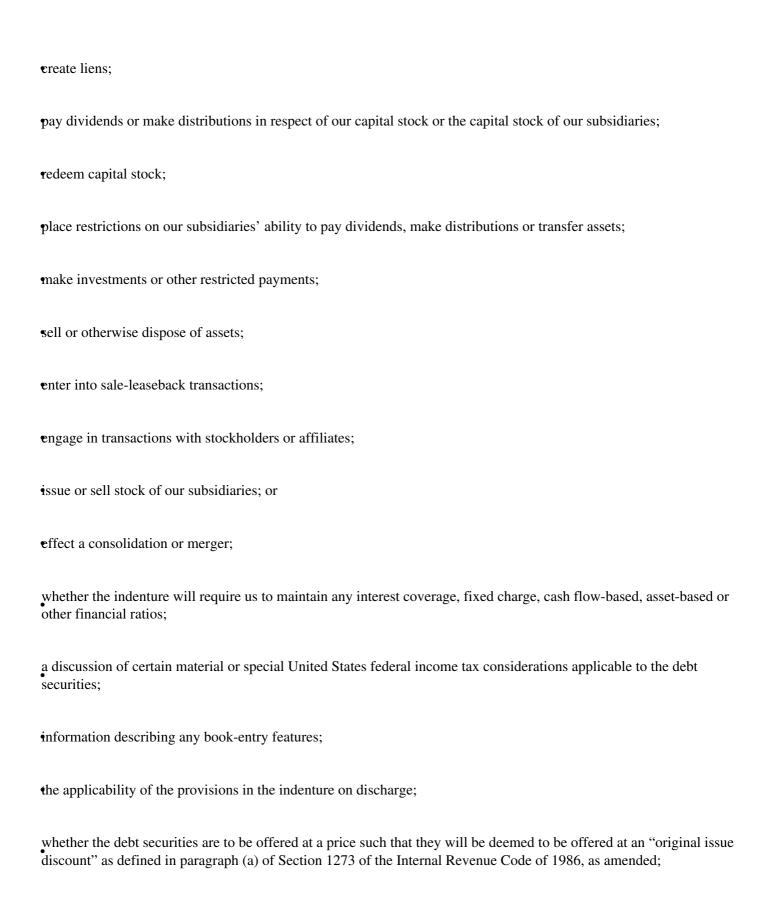
pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;

provisions for a sinking fund purchase or other analogous fund, if any, including the date, if any, on which, and the price at which we are obligated, pursuant thereto or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;

•	whether the indenture will restrict our ability or the ability of our
	subsidiaries to:

incur additional indebtedness;

issue additional securities;



the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;

the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and

any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement the terms under which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third party) that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for our other securities or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;

if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;

if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or we and the trustee receive notice from the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and

if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default arises due to the occurrence of certain specified bankruptcy, insolvency or reorganization events, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. The holders of a majority in principal amount of the outstanding debt securities of any series 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, with respect to the debt securities of that series, provided that:

the direction so given by the holder is not in conflict with any law or the applicable indenture; and

subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

The indentures provide that if an event of default has occurred and is continuing, the trustee will be required in the exercise of its powers to use the degree of care that a prudent person would use in the conduct of its own affairs. The trustee, however, may refuse to follow any direction that conflicts with law or the indenture, or that the trustee determines is unduly prejudicial to the rights of any other holder of the relevant series of debt securities, or that would involve the trustee in personal liability. Prior to taking any action under the indentures, the trustee will be entitled to indemnification against all costs, expenses and liabilities that would be incurred by taking or not taking such action.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies only if:

the holder has given written notice to the trustee of a continuing event of default with respect to that series;

the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and

the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities, or other defaults that may be specified in the applicable prospectus supplement.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indentures.

The indentures provide that if a default occurs and is continuing and is actually known to a responsible officer of the trustee, the trustee must mail to each holder notice of the default within the earlier of 90 days after it occurs and 30 days after it is known by a responsible officer of the trustee or written notice of it is received by the trustee, unless such default has been cured or waived. Except in the case of a default in the payment of principal or premium of, or interest on, any debt security or certain other defaults specified in an indenture, the trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors, or responsible officers of the trustee, in good faith determine that withholding notice is in the best interests of holders of the relevant series of debt securities.

Modification of Indenture; Waiver

Subject to the terms of the indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

to fix any ambiguity, defect or inconsistency in the indenture;

to comply with the provisions described above under "Description of Debt Securities — Consolidation, Merger or Sale;"

to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;

to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;

to provide for the issuance of, and establish the form and terms and conditions of, the debt securities of any series as provided under "Description of Debt Securities — General," to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;

to evidence and provide for the acceptance of appointment hereunder by a successor trustee;

to provide for uncertificated debt securities and to make all appropriate changes for such purpose;

to add such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the indenture; or

to change anything that does not adversely affect the interests of any holder of debt securities of any series in any material respect.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the indenture for any series of debt securities that we may issue or otherwise provided in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

extending the stated maturity of the series of debt securities;

reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or