MoSys, Inc.
Form 10-K
March 30, 2017
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year December 31, 2016 or
TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number: 000-32929

MOSYS, INC.

(Exact name of registrant as specified in its charter)

Delaware	77-0291941
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)
3301 Olcott Street Santa Clara, California 95054 (Address of principal executive offices)	

(408) 418-7500

(Registrant’s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.001 per share	Capital Market of the NASDAQ Stock Market, LLC

Securities registered pursuant to Section 12(g) of the Act:

Title of each class	Name of each exchange on which registered
Series AA Preferred Stock, par value $0.01 per share	None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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," "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the common stock held by non-affiliates of the registrant, as of June 30, 2016 was $26,262,573 based upon the last sale price reported for such date on the Global Select Market of the NASDAQ Stock Market. For purposes of this disclosure, shares of common stock held by the Registrant and beneficial owners of more than 5% of the outstanding shares of common stock who the Registrant believes may be affiliates, if any, have been excluded as shares that might be deemed to be held by affiliates. The determination of affiliate status for this purpose is not necessarily a conclusive determination for any other purpose.

As of March 29, 2017, 6,638,120 shares of the registrant's common stock, $0.001 par value per share, were outstanding and reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017. See Note 1 of the consolidated financial statements for further discussion of the reverse stock split.

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ANNUAL REPORT ON FORM 10-K

FOR THE YEAR ENDED DECEMBER 31, 2016

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Part I

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, which include, without limitation, statements about the market for our products, technology, our strategy, competition, expected financial performance and other aspects of our business identified in this Annual Report, as well as other reports that we file from time to time with the Securities and Exchange Commission. Any statements about our business, financial results, financial condition and operations contained in this Annual Report that are not statements of historical fact may be deemed to be forward- looking statements. Without limiting the foregoing, the words “believes,” “anticipates,” “expects,” “intends,” “plans,” “projects,” or similar expressions are intended to identify forward-looking statements. Our actual results could differ materially from those expressed or implied by these forward-looking statements as a result of various factors, including the risk factors described in Part I., Item 1A, “Risk Factors,” and elsewhere in this report. We undertake no obligation to update publicly any forward-looking statements for any reason, except as required by law, even as new information becomes available or other events occur in the future.

MoSys®,1T-SRAM®, Bandwidth Engine® and GigaChip® are registered trademarks of MoSys, Inc. LineSpeed™ is a trademark of MoSys, Inc.

Item 1. Business

Overview

MoSys, Inc., together with its subsidiaries (“MoSys,” the “Company,” “we,” “our” or “us”), is a fabless semiconductor compar focused on the development and sale of integrated circuits, or ICs, for the high-speed networking, communications, storage and computing markets. Our solutions deliver time-to-market, performance, signal integrity, power, area and economic benefits for system original equipment manufacturers, or OEMs. We have developed two IC product lines under the Bandwidth Engine and LineSpeed product names. Bandwidth Engine ICs integrate our proprietary 1T-SRAM high-density embedded memory with our integrated macro function technology and a highly efficient serial interface protocol resulting in a monolithic memory IC solution optimized for transaction performance. As the bandwidth requirements and amount of processing per packet increase in high-speed networking systems, critical memory access bottlenecks occur. Our Bandwidth Engine IC, with its combination of serial I/O, high-speed memory, offload functions and efficient, intelligent access, drastically increases memory accesses per second, removing these bottlenecks. In addition, the serial interface and high memory capacity reduce the board footprint, number of pins and complexity while using less power. The LineSpeed IC product line, which we announced in March 2013, is comprised of non-memory, high-speed serialization-deserialization, or SerDes, I/O physical layer, or PHY, devices that ensure signal integrity between interfaces which is commonly referred to as clock data recovery, or CDR, or retimer functionality, which perform multiplexing to transition from one speed to another, commonly referred to as Gearbox functionality. These PHY devices reside within optical modules and networking equipment line cards designed for next-generation Ethernet and optical transport network applications.

We are currently supporting existing design win customers, primarily for Bandwidth Engine, and actively pursuing additional design wins for the use of our ICs in networking, communications and data center equipment. We have established initial pricing of our IC products ordered to date, but longer-term volume prices will be subject to negotiations with our customers and may vary substantially from these initial prices.

Prior to 2010, our primary business was the design, development, marketing, sale and support of differentiated intellectual property, or IP, including embedded memory and high-speed parallel and serial I/O used in advanced systems-on-chips, or SoCs. Currently, we are focused on developing differentiated IP-rich IC products and are

dedicating all our research and development, marketing and sales budgets to these IC products. Royalty and other revenue generated from our existing IP agreements represented 45% of our total revenue in 2015 and 24% in 2016. We expect royalty and other revenue to continue to decline in 2017 both in absolute dollars and as a percentage of revenues.

Our future success and ability to achieve and maintain profitability are dependent on the marketing and sales of our IC products into networking, communications and other markets. Since the beginning of 2010, we have invested substantially all of our of our research and development resources toward development of our ICs, and, as of the end of 2012, had ceased our efforts to actively market our IP and establish license agreements for customers' new SoC development projects.

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Industry Background

The amount of data being transferred by networking, storage and computing systems is increasing rapidly, primarily driven by the growth of the Internet and demand for real-time processing of bandwidth intensive applications, such as video-on-demand, Internet protocol TV, peer-to-peer and cloud computing, web2.0 applications, 4G/LTE wireless, voice-over-Internet protocol, and many others. In order to meet these demands, the network backbone, access, storage and data center infrastructure must scale in bandwidth and processing capability. In addition, system designers face the challenge of increasing the throughput of all subsystems for a variety of applications, such as video games, medical record and imaging transfers, and file sharing. These increased demands strain communication between onboard IC devices, limiting the data throughput in network switches and routers and the network backbone.

To meet these demands, carrier and enterprise networks are undergoing significant changes and, most significantly, are migrating to packet-based Ethernet networks that enable higher throughput, lower cost and uniform technology across access, core and metro network infrastructure. These networks are now being designed to deliver voice, video and high-speed Internet access on one converged, efficient and flexible network. These trends require networking systems, especially the high-speed switches and routers that primarily comprise these networks, to comply with evolving market requirements and be capable of providing new services and better quality of service while supporting new protocols and standards. To support these trends, OEM network and telecommunications equipment manufacturers, such as Alcatel-Lucent (a subsidiary of Nokia Corporation), Brocade Communications Systems, Inc., Cisco Systems, Inc., Tel. LM Ericsson, Fujitsu Ltd., Hitachi Ltd., Huawei Technologies, Juniper Networks, Inc., Nokia Corporation, and ZTE Corporation, must offer higher levels of packet forwarding rates, bandwidth density and be optimized to enable higher-density, lower power data path connectivity in the next generations of their networking systems.

Networking and telecommunications systems throughout the network must operate at higher speed and performance levels and so require new generations of packet processors and improved memory subsystems, as well as new physical interface products, to enable system performance. These systems and their component line cards generally need to support aggregate rates of 100 gigabits per second, or Gbps, and above to meet the continued growth in network traffic. Cloud services have accelerated this transition with applications such as security. Data centers and access equipment that were previously aggregating slower traffic such at 1Gbps to 10Gbps, and 40Gbps, now are being designed to aggregate traffic at 10Gbps to 100Gbps, or more. The transition to 100 Gbps networks has begun, and 100 Gbps networks are expected to grow rapidly over the coming years.

Several types of semiconductors are included on each line card, including PHY, one or more packet processors and multiple memory chips. Packet processors are complex ICs or IC chipsets that perform high speed processing for functions, such as traffic routing, shaping, metering, billing, statistics, detection and steering. The line cards use various types of memory ICs to facilitate temporary packet storage and assist in the analysis and tracking of information embedded within each packet flowing through the processors. After a packet enters the line card through a PHY, a packet or data processor helps separate the packet into smaller pieces for rapid analysis. Typically, the data is broken up into the packet header, which contains vital information on packet destination and type, such as the Internet protocol address, and the payload, which contains the data being sent. Generally, the line card operations must occur at full data rates and typically require accessing memory ICs many times. Simultaneously, the packet’s payload, which may be substantially larger than the packet header, is also stored in memory ICs until processing is complete and the packet can re-combine and be sent to its next system destination. Within the line card, communication between the packet processor and memory ICs occurs through an interface consisting of combinations of physical pins on each type of chip. These pins are grouped together in a parallel or a serial architecture to form a pathway, called a bus, through which information is transferred from one IC to the next.

Today, the majority of physical buses that connect networking equipment and components use a parallel architecture to communicate between processors and memory ICs, which means information can travel only in one direction and in one instance at a time. As processing speeds increase, the number of pins required and the speed of the bus in a parallel architecture become a limitation on system performance and capability. In contrast, the number of connections is reduced substantially across fewer, higher-rate pins in a serial architecture, and data is transferred simultaneously in both directions. Data transfer rates with high-speed serial bus architectures and more advanced I/O protocols are limited by the capabilities of the various ICs included on the line card, thus leading to bottlenecks when these ICs perform inadequately. In order to remove these bottlenecks and meet next-generation bandwidth requirements, the line card ICs must support high-speed serial bus architectures and these more advanced I/O protocols.

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Most networking and communication systems sold and in operation today include line cards that process data at speeds ranging from 10 Gbps, to 100 Gbps, and support many aggregated slower ports. To accommodate the substantial and growing increase in demand for networking communications and applications, networking systems manufacturers are developing and bringing to market next-generation systems that run at aggregate speeds of 100 to 400 Gbps or more with developments underway to scale to thousands of Gbps, or terabits, per second. However, although processor performance in applications such as computing and networking has continued to double nearly every 18 months, or even sooner, the performance of memory technology has generally been able to double only once every 10 years. Existing memory IC solutions based on parallel I/O architecture easily support speeds up to 40 Gbps, but are not optimal for meeting speeds of 100 Gbps and beyond due to system-level limitations for pin counts, power and performance. These networking and communications systems are generally comprised of a chassis populated by four to 16 line cards. Often, these systems are shipped to customers with only a portion of the line card slots populated, and the customer will add additional line cards subsequently to increase system performance and capacity.

Each line card requires a significant amount of memory to support its processing capabilities. Traditional external memory IC solutions currently used on line cards include both dynamic random access memory, or DRAM, and static random access memory, or SRAM. Line cards in networking systems use both specialized, high-performance DRAM ICs, such as reduced-latency DRAM, or RLDRAM, low-latency DRAM, or LLDRAM, and commodity DRAM, such as double data rate, or DDR ICs. In addition, networking systems use higher-performance SRAM ICs such as quad data rate, or QDR SRAM. Substantially all of these traditional memory IC solutions use parallel interfaces, which are slower than serial interfaces, so we believe they will be increasingly challenged to meet the performance, pin count, area and power requirements as networking systems expand beyond 100 Gbps. The result is a gap between processor and memory performance. To meet the higher performance requirements being demanded by the industry, while using current components and architectural approaches, system designers must add more discrete memory ICs to the line cards and/or add more embedded memory on the packet processor. This results in higher cost and power consumption, the use of more space on the line cards and additional communication interference between the ICs, which in turn results in additional bandwidth limitation problems. We believe our Bandwidth Engine family of products is well suited to address these challenges and replace these traditional memory solutions.

In addition, each line card requires PHY products to provide interoperability and signal integrity functions. As network speeds increase beyond 100Gbps, the serial data rates are transitioning from 10Gbps to 25Gbps. This means that the signal integrity challenges (maintaining the quality of the electrical signals) of moving these high speed signals around within line cards, or between line cards and systems using fiber optic or copper cable, increase as data rates increase. These networking systems often use copper or optical modules to modify signals for transmission over longer distances ranging from tens of meters to thousands of kilometers. Optical modules convert electrical signals to optical signals for transportation over longer distances from one system to another system. Because of the challenges arising from the increase in network speeds, new 100Gbps standards have emerged that specify a CDR or retimed interface on optical modules, which was not the case at 10Gbps based interfaces. Each 100Gbps module and above using 25Gbps per lane will require a CDR/retimer function inside the module to meet these requirements. In addition, the systems themselves also require additional support to move signals between the module and the system, and these challenges become more acute as the distance increases. Our LineSpeed products address these new line card and optical module challenges by providing unique signal integrity and feature sets that align with the industry standards, as well as provide backward compatibility for the previous data rates. We believe our LineSpeed PHY products are well suited ensure the quality of signals and/or increase the transmission distance for both short reach (e.g., between ICs on a line card) or long-reach (e.g., between line cards or systems).

We have developed our Bandwidth Engine and LineSpeed families of ICs to synergistically address the need for high-speed data access and throughput currently confronting networking system designers. We expect our IC products to meet the increasing demands placed on conventional memory technology used on the line cards in high-bandwidth networking systems. We believe that our products and technology are well positioned as replacements for existing IC

solutions in order to meet the needs of the next-generation networking systems that will require a large number of packet lookups and to support aggregated rates greater than 100 Gbps.

Our Approach

Our historical business was focused on the licensing of our proprietary 1T- SRAM and SerDes I/O technologies. We have leveraged our proprietary IP to design our Bandwidth Engine and LineSpeed IC product families

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to help networking OEMs address the growing bottlenecks in system performance. We have incorporated critical features into our product families to accomplish this objective.

On-Chip Functionality

One significant performance bottleneck in any network line card is the need to transfer data between discrete ICs. Many of these data-transfer operations are iterative in nature, requiring subsequent, back-to-back accesses of the memory IC by the processor IC. Our Bandwidth Engine ICs include an arithmetic logic unit, or ALU, which enables the Bandwidth Engine IC to perform mathematical operations on data. Moving certain processing functions from the processor IC to the Bandwidth Engine IC through the use of this embedded ALU, reduces the number of I/O transactions and frees the processor IC to perform other important networking or micro-processing functions.

High-Performance Interface

High-speed, efficient interface I/Os are critical building blocks to meet high data transfer rate requirements for communication between ICs on network line cards. We believe that current networking system requirements necessitate an industry transition from parallel to serial I/O. As a result, semiconductor companies are increasingly turning to serial I/O architectures to achieve needed system performance. For example, high-performance ICs that are sold into wide markets, such as field programmable gate arrays, or FPGAs, and network processing units, NPUs, are using serial I/Os to ensure they can compete with custom designed application specific ICs, or ASICs, by matching their performance. Using serial I/O, IC developers also are able to reduce pin count (the wired electrical pins that connect an IC to the network line card on which it is mounted) on the IC. With reducing geometries, the size of most high-performance ICs is dictated by the number of pins required, rather than the amount of logic and memory embedded in the chip. As a result, using serial I/O facilitates cost reduction and reduced system power consumption, while improving the performance of both the IC itself and the overall system. While SerDes I/Os provide significantly enhanced performance over parallel I/Os, SerDes I/Os traditionally have had higher power consumption, which is a challenge for IC designers. Our SerDes I/Os, however, are tuned for low power consumption to meet our customers' stringent power consumption requirements.

We make our I/O technologies compliant with industry standards so that they can interoperate with interfaces on existing ICs. In addition, we make them programmable to support multiple data rates, which allows for greater flexibility for the system designer, while lowering their development and validation costs. Interoperability reduces development time, thereby reducing the overall time to market of our customers' systems.

Analog Design Capabilities

We have invested in personnel needed to define, design and market high- performance analog IC products. We have built a team of experienced engineers who combine industry expertise with advanced semiconductor design expertise to meet customer requirements and develop new products to bring to market. We initially developed our team of analog engineers to develop the SerDes I/O used in our Bandwidth Engine families of products. We leveraged the capabilities of this team to produce our LineSpeed IC products, which are primarily comprised of analog circuitry.

GigaChip Interface Protocol

In addition to the physical characteristics of the serial I/O, the protocol used to transmit data is also an important element that impacts speed and performance. To address this and complement our Bandwidth Engine devices, we have developed the GigaChip Interface®, or GCI, which is an open-interface transport protocol optimized for efficient chip-to-chip communications. The GCI electrical interface is compatible with the current industry standard (Common Electrical Interface, release #11, or CEI-11G-SR and XFI) to simplify electrical interoperability between devices. GCI

can enable highly efficient serial chip-to-chip communications, and its transport efficiency averages 90% for the data transfers it handles. GCI is included in our Bandwidth Engine ICs, and is offered to customers and prospective partners on terms intended to encourage widespread adoption.

High-Performance and High-Density Memory Architecture

The high-density of our proprietary 1T-SRAM technologies stems from the use of a single-transistor, or 1T, which is similar to DRAM, with a storage cell for each bit of information. Embedded memory utilizing our 1T-SRAM technologies is typically two to three times denser than the six-transistor storage cells used by traditional SRAM, or 6T-

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SRAM. Embedded memory utilizing our 1T-SRAM technologies typically provides speeds essentially equal to or greater than the speeds of traditional SRAM and DRAM, particularly for larger memory sizes. Our 1T-SRAM memory designs can sustain random access cycle times of less than three nanoseconds, significantly faster than embedded 6T-SRAM technology. Embedded memory utilizing our 1T-SRAM technologies can consume as little as one-half the active power and generate less heat than traditional SRAM when operating at the same speed. This reduces system level heat dissipation and enables reliable operation using lower cost packaging.

Our Strategy

Our primary business objective is to be an IP-rich fabless semiconductor company offering ICs that deliver unparalleled memory bandwidth performance for packet processing and improved signal integrity performance for networking, security and data center systems. The key components of the expansion of our strategic plan to become an IC supplier include the following strategies:

Target Large and Growing Markets

Our initial strategy is to target the multi-billion dollar networking telecommunications, security and data center OEM equipment markets, and we have developed products to support the growth in 100 Gbps and higher networking speeds. We are currently supporting approximately 25 existing customers, with whom we have achieved over 85 design wins, which reflects broadening acceptance of our products. We define a design win as the point at which a customer has made a commitment to build a board against the fixed schematic for his system, and this board will utilize our IC products. We continue to actively pursue additional design wins for the use of our ICs in our target markets. We believe our design wins represent the potential for significant future revenues. With limited history to date, however, we cannot estimate how much revenue each design win is likely to generate, or how much revenue all of these (and future design wins) are likely to generate. For example, our first design wins from 2012 and 2013 are starting to ramp into production, and, while we cannot predict how steep these ramps might be, we expect our revenues from them to grow in successive periods over the next few years. There is no assurance that these customer designs will be shipped in large volume by our customers to their customers, however.

Leverage Technologies to Create New Products

Our strategy is to combine our proprietary IP and design and applications expertise to address the needs of several upcoming generations of advanced networking systems. We believe an IC combining our 1T-SRAM and serial I/O with logic, such as in an ALU, and other functions can provide a system-level solution and significantly improve overall system performance at lower cost while using less power. We also seek to leverage our high-speed serial I/O to create non-memory denominated ICs, such as our LineSpeed products. Our initial LineSpeed products targeted the line card and the same customers as our Bandwidth Engine products. This has given us the opportunity to provide both memory and PHY solutions during the sale process. In 2013, we introduced our first LineSpeed products to address the requirements new industry standards were placing on optical modules, as well as line cards.

Expand Adoption of the GigaChip Interface Protocol

We have provided our GCI interface protocol as an open industry standard that may be designed into other ICs in the system, as we believe this will further enable serial communication on network line cards and encourage adoption of our Bandwidth Engine IC products. A number of IC providers and partners have publicly announced their support of GCI and Bandwidth Engine, including the largest FPGA providers, Altera Corporation (a subsidiary of Intel Corporation), Xilinx, Inc., and EZchip Semiconductor Ltd. (a subsidiary of Mellanox Technologies Ltd.), with whom we work closely to support common customers. In addition, multiple networking systems companies, including actual and prospective customers, have adopted GCI.

Build Long-Term Relationships with Suppliers of Packet Processors

We believe that having long-term relationships with packet processor providers is critical to our success, as such relationships may enable us to reduce our time-to-market, provide us with a competitive advantage and expand our target markets. A key consideration of network system designers is to demonstrate interoperability between our Bandwidth Engine IC and the packet processors utilized in their systems. To obtain design wins for our Bandwidth Engine IC, we must demonstrate this interoperability, and also show that our IC works optimally with the packet

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processor to achieve the performance requirements. In addition, our current strategy requires packet processor suppliers to adopt our GCI interface. To that end, we have been working closely with FPGA, ASIC and NPU providers, to enable interoperability between our Bandwidth Engine IC products and their high-performance products. To facilitate the acceptance of our Bandwidth Engine ICs, we have made available development and characterization kits for system designers to evaluate and develop code for next-generation networking systems. Our characterization kits are fully-functional hardware platforms that allow FPGA and ASIC providers, and their customers, to demonstrate interoperability of the Bandwidth Engine IC with the ASIC or FPGA the designers use within their networking systems. Our recent announcement of the third-generation Bandwidth Engine Z30 device, designed for interoperability with the EZ-chip NPS-400, is an example and direct result of this strategy.

Our Products

Bandwidth Engine

The Bandwidth Engine is a memory-dominated IC that has been designed to be a high-performance companion IC to packet processors. While the Bandwidth Engine primarily functions as a memory device with a high-performance and high-efficiency interface, it also can accelerate certain processing operations by serving as a co-processor element. Our Bandwidth Engine ICs combine: (1) our proprietary high-density, high-speed, low latency embedded memory, (2) our high-speed serial interface technology, or SerDes, (3) an open-standard interface protocol and (4) intelligent access technology. We believe an IC combining our 1T-SRAM memory and serial I/O with logic and other intelligence functions provides a system-level solution and significantly improves overall system performance at lower cost, size and power consumption. Our Bandwidth Engine ICs can provide up to and over 4.5 billion memory accesses per second, which is more than twice the performance of current memory-based solutions. They also can enable system designers to significantly narrow the gap between processor and memory IC performance. Customers that design Bandwidth Engine ICs onto the line cards in their networking systems will re-architect their systems at the line-card level and use our product to replace traditional memory solutions. When compared with existing commercially available solutions, our Bandwidth Engine ICs may:

- provide up to four times the performance;
- reduce power by approximately 50%;
- reduce cost by greater than 50%; and
- result in a dramatic reduction in IC pin counts on the line card.

Our first generation Bandwidth Engine IC products contain 576 megabytes, or MB, of memory and use a serial I/O with up to 16 lanes operating at up to 10.3 Gbps per lane. Variations of this IC can have up to two interface ports, with up to eight serial receiver and eight serial transmitter lanes per port for a total of 16 lanes of 10.3 Gbps SerDes interface. These ICs include an ALU, which can perform read-modify-write operations. We have been shipping our initial Bandwidth Engine products since 2012.

Our second generation Bandwidth Engine IC products contain 576 MB of memory and use serial I/O with up to 16 lanes operating at up to 15 Gbps per lane. In addition to a speed improvement of up to 50%, the architecture will enable several family member parts with added specialized features. To date, we have announced three unique devices in this product family:

- MSR620 with burst features optimized for oversubscription buffer applications;
- MSR720 with a write cache and memory coherency capability that allows for deterministic look-ups optimized for state and queue type applications; and
- MSR820 with increased intelligence for lookup, metering and statistics applications by adding dual counters, atomic and extensive metering functions.

We have been shipping our Bandwidth Engine 2 IC products since 2013.

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Our third generation Bandwidth Engine IC products contain 1152 MB of memory and use serial I/O with up to 16 lanes operating at up to 30 Gbps per lane. Bandwidth Engine 3 targets support for packet-processing applications with up to five billion memory single word accesses per second, as well as burst mode to enable full duplex buffering up to 400Gbps for ingress, egress and oversubscription applications. To date, we have announced three unique devices in this product family:

- MSR630 enables high rate lookup or high-performance buffer capabilities; and
- MSR830 offers additional offload capabilities for functions such as statistics and metering to increase performance and add features for next-generation networking and communications equipment; and
- MSRZ30 builds upon the capabilities and performance of the MSR830, with data rates, interface protocol and data structures that are optimized for the EZchip NPS-400 network processing unit, or NPU, and can increase memory bandwidth by up to 50%.

We commenced sampling of these products in the first quarter of 2016.

The devices provide benefits of size, power, pin count and cost savings to our customers. We do not anticipate significant revenues from these products until 2018 or later.

Programmable Search Engine

We brought our Programmable Search Engine, or PSE, IC products to market in early 2016 to further leverage our proven serial interface technology and high-density integrated memory with the processor engine architecture to enable high-speed customizable search, security, and data analysis functions for networking, security, and data center applications. Our PSE architecture features 32 search-optimized processor engines, data flow schedulers, and over a terabit of internal access bandwidth. The device leverages our GCI technology and high-density integrated memory (1152 Mb of 1T-SRAM® embedded memory). The PSE device’s 32 processor elements have direct access to integrated table memory through an internal interconnect and scheduler architecture.

LineSpeed

Our first generation LineSpeed products consist of single-chip PHY ICs, including a 100G multi-mode gearbox and a 100G quad retimer. These devices are designed to support 10, 40 and 100Gbps standards for high-density line cards or modules for next generation ethernet and optical transport network applications. These devices are capable of supporting both short and long reach connections across different specifications. We have developed these PHY ICs to provide the CDR function and to provide signal conversion from lower rates to higher rates both on the line card and within the optical module. We have defined performance and form factor (sizes) for specific devices for optimization of features and performance to solve space challenges both on the line card and in the optical module. We introduced and began sampling these devices in 2013.

Our second generation of LineSpeed products consists of our 100G low power retimer, which is optimized for ultra low power consumption, integrated test features and small size. The low-power retimer is primarily targeting opportunities in 100G CFP2, CFP4 and QSFP28 optical modules and active copper cables. We introduced and began sampling this product in 2014.

Our third generation of LineSpeed products, the Flex family of 100G PHYs, is designed to support the latest industry standards and includes gearbox, Multi-Link Gearbox, or MLG, and high density CDR/retimer devices designed to enable existing and next generation Ethernet and OTN line card applications to support the latest high-density electrical and optical interfaces. To date, we have announced four unique devices in this product family:

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MSH320, a 100Gbps Gearbox with RS-FEC: For adapting 10x10 to 4x25 from 100Gbps optical standards to a host ASIC, MAC/Framer, NPU or FPGA with 10x10G interfaces. The MSH320 includes an integrated Reed-Solomon forward error correction, or RS-FEC, option to enable systems to also support new electrical and optical standards. The device also includes a 10x10Gbps retimer to allow seamless support of 10 and 40Gbps interfaces;

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- MSH225, a 10 Lane Full-Duplex Retimer: For high-density retiming applications where the line rates may be up to 28Gbps per lane and connect to host ASIC, framer, NPU or FPGA ICs equipped with 25Gbps interfaces. Each one of the 20 total independent lanes can be configured to support 10, 25, 40 or 100Gbps standards. The MSH225 integrates optional 100Gbps RS-FEC capability and includes a unique redundant link mode feature to support redundancy, scaling or monitoring features;
- MSH322, a 100Gbps Multi-Link Gearbox for Line Cards for support of high-density, independent 10GE and 40GE interfaces multiplexed into a 100GE (4x25Gbps) host interface, while supporting the latest optical industry standards. The device enables line cards with high-density switches based on 25Gbps interfaces to support two times the density of 10 and 40Gbps ports; and
- MSH321, a derivative Multi-Link Gearbox built into a highly compact package and optimized layout to support the MLG function in module and compact daughter card applications.

While we have a robust pipeline of design win opportunities, to date, less than 10% of our design wins claimed are for our LineSpeed products, and we expect these customers to take a minimum of 12 to 18 months to commence production.

IP Licensing and Distribution

Historically, we have offered our memory and I/O technologies on a worldwide basis to semiconductor companies, electronic product manufacturers, foundries, intellectual property companies and design companies through product development, technology licensing and joint marketing relationships. We licensed our IP technology to semiconductor companies who incorporated our technology into ICs that they sold to their customers. As a result of the change in our corporate strategy, since early 2012, our IP licensing activities have been limited, and we expect this to continue. However, during 2016, 24% of our total revenues were generated from royalties related to our existing licensing arrangements, as we continue to collect royalties from 1T-SRAM licensees. Licensing and royalty revenues have been declining since 2010, and we expect continued decline in 2017.

Research and Development

Our ability to compete in the future depends on successfully improving our technology to meet the market’s increasing demand for higher performance and lower cost requirements. We have assembled a team of highly skilled engineers whose activities are focused on developing higher density, higher bandwidth, higher speed and lower cost next generation IC products. Development of our IC products requires specialized chip design and product engineers, as well as significant fabrication and testing costs, including mask costs, as we bring these products to market. We expect our significant future research and development activities to include:

- designing next generation ICs with larger memory blocks and higher-speed SerDes;
- developing versions of our Bandwidth Engine ICs with alternative features, such as lower-speed SerDes, increased chip-level intelligence or smaller memory blocks to allow us to serve a broader range of applications and system requirements;
- developing derivative versions of our LineSpeed ICs to meet customer demands; and
- developing new products that can leverage our proprietary IP portfolio and expand our market opportunity.

No development efforts are being dedicated to creating new or enhanced technology solely for use in licensing offerings.

Sales and Marketing

We believe that networking and communications systems OEMs typically prefer to extend the use of traditional memory solutions and their parallel interfaces, despite performance and costs challenges and are reluctant to change their technology platforms and adopt new designs and technologies, such as serial interfaces, which are an integral

part of our

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product solutions. Therefore, our principal selling and marketing activities to date have been focused on persuading these OEMs and key component specialists that our solutions provide critical performance advantages, as well as on securing design wins with them.

Our sales and marketing personnel are located in the United States, Japan and China. In addition to our direct sales team, we sell through sales representatives and distributors in the United States and Asia. We also have multiple applications engineers who support our customer engagements and work closely with our engineering team on product definition. For our products, our applications engineers must engage with the customers' system architects and designers to propose our IC and IP solutions such as the GCI Interface, to address their systems challenges.

In the markets we serve, the time from initial customer engagement to design win to production volume shipments can range from 18-36 months. Networking and communications systems can have a product life from a few years to over 10 years once a product like ours has been designed into the system.

Our revenue has been highly concentrated, with a few customers accounting for a significant percentage of our total revenue. For the year ended December 31, 2016, Alcatel-Lucent, Kogent, Inc., our Japanese IC distributor and Taiwan Semiconductor Manufacturing Co., Ltd., or TSMC, represented 47%, 21% and 13% of total revenue, respectively. For the year ended December 31, 2015, Alcatel-Lucent, TSMC and Kogent, Inc. represented 34%, 31% and 12% of total revenue, respectively. For the year ended December 31, 2014, TSMC, Kogent, Inc. and Broadcom Ltd. represented 34%, 31% and 11% of total revenue, respectively.

Customers in North America accounted for 63%, 51% and 28% of our revenues for the years ended December 31, 2016, 2015 and 2014, respectively. Customers in Japan accounted for 22%, 15% and 36% of our revenues for the years ended December 31, 2016, 2015 and 2014, respectively. Customers in Taiwan accounted for 13%, 32% and 35% of our revenues for the years ended December 31, 2016, 2015 and 2014, respectively. Our remaining revenues were primarily from customers in the rest of Asia and in Europe.

Intellectual Property

We regard our patents, copyrights, trademarks, trade secrets and similar intellectual property as critical to our success, and rely on a combination of patent, trademark, copyright, and trade secret laws to protect our proprietary rights.

As of December 31, 2016, we held 67 U.S. and 36 foreign patents on various aspects of our technology, with expiration dates ranging from 2018 to 2035. We also held 18 pending patent applications in the U.S. and abroad. There can be no assurance that others will not independently develop or patent similar or competing technology or design around any patents that may be issued to us, or that we will be able to successfully enforce our patents against infringement by others.

In December 2011, we sold 43 United States and 30 related foreign memory technology patents for $35 million in cash pursuant to a patent purchase agreement. Under the agreement, we retained a license to all of the sold patents that is unlimited with respect to our development, manufacturing and distribution of our Bandwidth Engine IC product line and any other proprietary products that we develop as long as they are not DRAM ICs. We also retained the rights necessary to renew existing 1T-SRAM licenses and to grant licenses similar in scope to identified foundries. We also retained rights to grant licenses for our second source purposes, to enable certain kinds of technology development and, to a limited extent, for certain ASIC products that incorporate one of our technology macros. However, the patent purchase agreement limits our rights to grant licenses under the sold patents outside the scope of our retained license and, in particular, limits the number of future licenses of 1T-SRAM memory technology that we can grant to developers of SoCs, which used to be the principal focus of our 1T-SRAM licensing activities.

The semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. Our licensees or we might, from time to time, receive notice of claims that we have infringed patents or other intellectual property rights owned by others. Our successful protection of our patents and other intellectual property rights and our ability to make, use, import, offer to sell, and sell products free from the intellectual property rights of others are subject to a number of factors, particularly those described in Part I, Item 1A, “Risk Factors.”

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Competition

The markets for our products are highly competitive. We believe that the principal competitive factors are:

- processing speed and performance;
- density and cost;
- power consumption;
- reliability;
- interface requirements;
- ease with which technology can be customized for and incorporated into customers' products; and
- level of technical support provided.

We believe that our products compete favorably with respect to each of these criteria. Our proprietary 1T-SRAM embedded memory and high-speed serial I/O IP can provide our Bandwidth Engine ICs with a competitive advantage over alternative devices. Alternative solutions are either DRAM or SRAM-based and can support either the memory size or speed requirements of high-performance networking systems, but generally not both. DRAM solutions provide a significant amount of memory at competitive cost, but DRAM solutions do not have the required fast access and cycle times to enable high-performance. The DRAM solutions currently used in networking systems include RLDRAM from Micron Technology, Inc., or Micron, and Integrated Silicon Solutions, Inc., LLDRAM from Renesas and DDR from Samsung Electronics Co., Ltd., Micron and others. In addition, Micron has a hybrid memory cube DRAM product, which consists of multiple DRAMs connected with a serial interface. SRAM solutions can meet high-speed performance requirements, but often lack adequate memory size. The SRAM solutions currently used in networking systems primarily include QDR or similar SRAM products from Cypress Semiconductor Corporation and GSI Technology, Inc. The majority of the currently available SRAM and DRAM solutions use a parallel, rather than a serial I/O. To offset these drawbacks, system designers generally must use more discrete memory ICs, resulting in higher power consumption and greater utilization of space on the line card.

Our competitors include established semiconductor companies with significantly longer operating histories, greater name recognition and reputation, large customer bases, dedicated manufacturing facilities and greater financial, technical, sales and marketing resources. This may allow them to respond more quickly than us to new or emerging technologies or changes in customer requirements. Many of our competitors also have significant influence in the semiconductor industry. They may be able to introduce new technologies or devote greater resources to the development, marketing and sales of their products than we can. Furthermore, in the event of a manufacturing capacity shortage, these competitors may be able to manufacture products when we are unable to do so.

Our Bandwidth Engine ICs compete with embedded memory solutions, stand-alone memory ICs, including both DRAM and SRAM ICs, and ASICs designed by customers in-house to meet their system requirements. Our prospective customers may be unwilling to adopt and design-in our ICs due to the uncertainties and risks surrounding designing a new IC into their systems and relying on a supplier that has limited history of manufacturing such ICs. In addition, Bandwidth Engine ICs require the customer and its other IC suppliers to implement our chip-to-chip communication protocol, the GCI interface. These parties may be unwilling to do this if they believe it could adversely impact their own future product developments or competitive advantages, or, if they believe it might complicate their development process or increase the cost of their products. In order to remain competitive, we believe we must provide unparalleled memory IC solutions with the highest bandwidth capability for our target markets, which solutions are engineered and built for high-reliability carrier and enterprise applications.

Our LineSpeed ICs compete with solutions offered by Broadcom Ltd., Inphi Corporation, M/A-COM Technology Solutions Holdings, Inc. and Semtech Corp., as well as other smaller analog signal processing companies. We also may compete with ASICs designed by customers in-house to meet their system requirements, as well as by optical module OEMs. The market for our LineSpeed products is highly competitive, and customers have a number of

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suppliers they can choose from. We must provide differentiated features with a reasonable IC power budget, while offering competitive pricing.

Manufacturing

We depend on third-party vendors to manufacture, package, assemble and test our IC products, as we do not own or operate a semiconductor fabrication, packaging or production testing facility for boards and system assembly. By outsourcing manufacturing, we are able to avoid the high cost associated with owning and operating our own facilities, allowing us to focus our efforts on the design and marketing of our products.

We perform an ongoing review of product manufacturing and testing processes. Our IC products are subjected to extensive testing to assess whether their performance meets design specifications. Our test vendors provide us with immediate test data and the ability to generate characterization reports that are made available to our customers. We have achieved ISO 9001:2008 certification, and all of our manufacturing vendors have also achieved ISO 9001 certification.

Employees

As of December 31, 2016, we had 63 employees, consisting of 36 in research and development, 7 in sales and marketing, 11 in manufacturing operations and 9 in finance and administration. By location, we had 61 employees in the United States and 2 sales and marketing employees in Asia.

Available Information

We were founded in 1991 and reincorporated in Delaware in September 2000. Our website address is www.mosys.com. The information in our website is not incorporated by reference into this report. Through a link on the Investor section of our website, we make available our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after they are filed with, or furnished to, the Securities and Exchange Commission, or SEC. You can also read and obtain copies of any materials we file with the SEC at the SEC's Public Reference Room at 450 Fifth Street, NW, Washington, DC 20549. You can obtain additional information about the operation of the Public Reference Room by calling the SEC at 1.800.SEC.0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including us.

Item 1A. Risk Factors

If any of the following risks actually occur, our business, results of operations and financial condition could suffer significantly.

We have a history of losses and we will need to raise additional capital in the future and our inability to do so may adversely impact our ability to continue as a going concern.

Our consolidated financial statements have been prepared on a going concern basis that assumes we will be able to realize our assets and discharge our liabilities in the normal course of business for the foreseeable future. We recorded an operating loss of approximately $31 million for the year ended December 31, 2016 and we ended the period with an accumulated deficit of approximately $214 million. In addition, we recorded operating losses of approximately $31

million and $33 million for the years ended December 31, 2015 and 2014, respectively. These losses have resulted in significant negative cash flows for more almost a decade and have required us to raise substantial amounts of additional capital during this period. We expect to continue to incur operating losses for the foreseeable future as we secure customers for and continue to invest in the commercialization of our IC products. Due to the strong commitment of our resources to research and development and expansion of our product offerings to customers, we will need to increase revenues substantially beyond levels that we have attained in the past in order to generate sustainable operating profit and sufficient cash flows to continue doing business without raising additional capital from time to time. Given our history of fluctuating revenues and operating losses, the expected reduction in royalty and licensing revenues and challenges we face in securing customers for our IC products, we cannot be certain that we will be able to achieve profitability on either a quarterly or annual basis in the future. The possibility that we will not be able to meet our obligations as and when they become due over the next twelve months raises substantial doubt about our ability to

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continue as a going concern.

Accordingly, we have been pursuing, and will continue to pursue, the implementation of certain cost reduction strategies. Additionally, we are seeking additional financing and evaluating financing alternatives in order to meet our cash requirements for the next 12 months. We may not be able to obtain additional financing, as needed, on acceptable terms, or at all, which may require us to further reduce our operating costs and other expenditures, including additional reductions of personnel and capital expenditures. Alternatively, or in addition to such potential measures, we may elect to implement other cost reduction actions as we may determine are necessary and in our best interests, including the possible sale or cessation of certain of our business segments. Any such actions undertaken might limit our opportunities to realize plans for revenue growth, and we might not be able to reduce our costs in amounts sufficient to achieve break-even or profitable operations. If we issue additional equity or convertible debt securities to raise funds, the ownership percentage of our existing stockholders would be reduced and they may experience significant dilution. New investors may demand rights, preferences or privileges senior to those of existing holders of our common stock. If we are not successful in these actions, we may be forced to cease operations. See Management's Discussion and Analysis of Financial Condition, "Results of Operations, Liquidity and Capital Resources, and Going Concern-Working Capital."

Our auditor has expressed substantial doubt about our ability to continue as a going concern and, absent additional financing, we may be unable to remain a going concern.

In light of our recurring losses, accumulated deficit and negative cash flow, as described in the notes to our consolidated financial statements, the report of our independent registered public accounting firm on our financial statements for the year ended December 31, 2016 contains an explanatory paragraph raising substantial doubt about our ability to continue as a going concern. Our consolidated financial statements do not include any adjustments that may be necessary in the event we are unable to continue as a going concern. If we do not raise enough additional capital sufficient to allow for the removal of this going concern uncertainty, we will need to significantly modify our operational plans for us to continue as a going concern.

Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in the new products could reduce our ability to compete and could harm our business.

We intend to continue spending substantial amounts to grow our business. In March 2016, we issued $8 million aggregate principal amount of 10% Subordinate Senior Secured Convertible Notes due August 15, 2018 (the Notes). The Note principal is convertible into our common stock, as well as the interest on the Notes, as we have the option of paying the interest in-kind by converting such interest into additional note principal. In addition, the Notes also include limited anti-dilution protection, such that the conversion price will be reset to a lower conversion price in some situations. As a result, our stockholders may experience significant dilution of these Notes and any additional paid-in-kind principal are converted into our common stock and the conversion price is reset. We will still need to obtain additional financing to pursue our business strategy, develop new products, respond to competition and market

opportunities and acquire complementary businesses or technologies. There can be no assurance that such additional capital, whether in the form of debt or equity financing, will be sufficient or available and, if available, that such capital will be offered on terms and conditions acceptable to us. We are exploring various alternatives, and expect to implement cost reductions to successfully sustain the business. If we are unsuccessful in these efforts, we will need to implement significant cost reduction strategies that could affect our near- and long-term business plan. These efforts may include, but are not limited to reducing headcount and curtailing business activities, especially around new product development.

If we were to raise additional capital through sales of our equity securities, our stockholders would suffer dilution of their equity ownership. If we engage in a subsequent debt financing, we may be required to accept terms that restrict our ability to incur additional indebtedness, prohibit us from paying dividends, repurchasing our stock or making investments, and force us to maintain specified liquidity or other ratios, any of which could harm our business, operating results and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- Develop or enhance our products;
- Continue to expand our product development and sales and marketing organizations;
- Acquire complementary technologies, products or businesses;

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- Expand operations, in the United States or internationally;
- Hire, train and retain employees; or
- Respond to competitive pressures or unanticipated working capital requirements.

Our failure to do any of these things could seriously harm our ability to execute our business strategy and may force us to curtail our research and development plans or existing operations.

We currently lack the funds to repay the convertible notes due in August 2018.

In March 2016, we entered into a 10% Senior Secured Convertible Note Purchase Agreement with the purchasers of the Notes. Accrued interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at our option. Through February 2017, we have made the interest payments in-kind through the issuance of additional notes totaling approximately $765,000. The notes are secured by substantially all of our assets. If we fail to pay the Notes, including accrued interest, in full when due, the holders of the Notes, acting through their agent, will be entitled to pursue all of their remedies as secured creditors, including taking possession of the collateral securing the Notes and effecting a private sale of some or all of our assets securing the Notes. After the holders of the Notes take such actions, we may not have enough assets to make payments owed to other creditors, to continue operating our business, or distribute any funds to stockholders.

Our success depends upon the networking and communications systems markets' acceptance of our ICs.

The future prospects of our business depend on the adoption and acceptance by our target markets, networking communications and data center equipment providers, of our Bandwidth Engine and LineSpeed ICs. In 2011, we began focusing our engineering, marketing and sales efforts on our IC products and de-emphasizing our technology licensing activities, which historically have been our primary revenue source. Our prospective customers may be unwilling to adopt and design-in our ICs due to the uncertainties and risks surrounding designing a new IC into their systems and relying on a supplier that has almost no history of manufacturing such ICs. In addition, our Bandwidth Engine IC products require our customers and their other IC suppliers to implement our new and proprietary chip-to-chip communication protocol, GCI, which they may be unwilling to do. We have determined and negotiated prices with a few customers for our ICs and have gained only limited experience with the cost of making and selling these products. Thus, currently, we do not know whether we will be able to profitably make and sell these products. We are investing significant resources to develop our next generation IC products, but may not introduce these new products successfully or obtain significant revenue from them.

An important part of our strategy to gain market acceptance is to penetrate new markets by targeting market leaders to accept our IC solutions. This strategy is designed to encourage other participants in those markets to follow these leaders in adopting our solutions. If a high-profile industry participant adopts our ICs for one or more of its products but fails to achieve success with those products, or is unable to successfully implement our ICs, other industry participants' perception of our solutions could be harmed. Any such event could reduce the amount of future sales of our IC products.

Our future revenue depends on our winning designs with our customers, and those customers designing our solutions into their product offerings and successfully selling and marketing such products. If we do not continue to win designs in the short term, our product revenue in the following years will not grow.

We sell our ICs to original equipment manufacturer (OEM) customers that include our ICs in their products. Our technology is generally incorporated into products at the design stage, which we refer to as a design win, and which we define as the point at which a customer has made a commitment to build a board against a fixed schematic for his system, and this board will utilize our ICs. As a result, our future revenue depends on our OEM customers designing our ICs into their products, and on those products being produced in volume and successfully commercialized. If we

fail to convince our current or prospective customers to include our ICs in their products and fail to achieve a consistent number of design wins, our results of operations and business will be harmed. In addition, if a current or prospective customer designs a competitor's offering into its product, it becomes significantly more difficult for us to sell our IC solutions to that customer because changing suppliers involves significant cost, time, effort and risk for the OEM. Even if a customer designs one of our ICs into its product, we cannot be assured that the OEM's product will be commercially

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successful over time or at all or that we will receive or continue to receive any revenue from that customer. Furthermore, the customer product for which we obtain a design win may be canceled before the product enters production or is introduced into the market. Because of our extended sales cycle, our revenue in future years is highly dependent on design wins we are awarded today. Our lack of capital and uncertainty about our future technology roadmap also may limit our success in achieving additional design wins, as discussed under, "Our auditor has expressed substantial doubt about our ability to continue as a going concern, and, absent additional financing, we may be unable to remain a going concern," and "We may experience difficulties in transitioning to new wafer fabrication process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased costs."

The design win process is generally a lengthy, expensive and competitive process, with no guarantee of revenue, and if we fail to generate sufficient revenue to offset our expenses, our business and operating results would suffer.

Achieving a design win is typically a lengthy, expensive and competitive process because our customers generally take a considerable amount of time to evaluate our ICs. In the markets we serve, the time from initial customer engagement to design win to production volume shipments can range from two to three years, though it may take longer for new customers or markets we intend to address. In order to win designs, we are required to both incur design and development costs and dedicate substantial engineering resources in pursuit of a single customer opportunity. Even though we incur these costs, we may not prevail in the competitive selection process and, even if we do achieve a design win, we may never generate sufficient, or any, revenue to offset our development expenditures. Our customers have the option to decide whether or not to put our solutions into production after initially designing our products in the specification. The customer can make changes to its product after a design win has been awarded to us, which can have the effect of canceling a previous design win. The delays inherent in our protracted sales cycle increase the risk that a customer will decide to cancel, curtail, reduce or delay its product plans, causing us to lose anticipated revenue. In addition, any change, delay or cancellation of a customer's plans could harm our financial results, as we may have incurred significant expense while generating no revenue.

If our foundries do not achieve satisfactory yields or quality, our cost of goods sold will increase, our operating margins will decline, and our reputation and customer relationships could be harmed.

We depend not only on sufficient foundry manufacturing capacity and wafer prices, but also on good production yields (the number of good die per wafer) and timely wafer delivery to meet customer demand and maintain profit margins. The fabrication of our products is a complex and technically demanding process. Minor deviations in the manufacturing process can cause substantial decreases in yields, and in some cases, cause production to be suspended. Our foundry, Taiwan Semiconductor Manufacturing Company (TSMC), from time to time, experiences manufacturing defects and reduced manufacturing yields. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by our foundries could result in lower than anticipated manufacturing yields, which would harm our revenue or increase our costs. For example, recently, our foundry produced ICs and met its process specification range but did not meet our customer's specifications causing us to write off a portion of our production lot. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Poor yields from our foundry, or defects, integration issues or other performance problems in our ICs, could cause us significant customer relations and business reputation problems, harm our operating results and give rise to financial or other damages to our customers. Our customers might consequently seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend.

We may experience difficulties in transitioning to new wafer fabrication process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased costs.

We aim to use the most advanced manufacturing process technology appropriate for our solutions that is available from TSMC. As a result, we periodically evaluate the benefits of migrating our solutions to other technologies in order to improve performance and reduce costs. These ongoing efforts require us from time to time to modify the manufacturing processes for our products and to redesign some products, which in turn may result in delays in product deliveries. We are dependent on TSMC to support the production of wafers for future versions of our ICs, as TSMC is our sole foundry. Such production may require changes to TSMC's existing process technology. If TSMC elects to not alter their process technology to support future versions of our ICs, we would need to identify a new foundry.

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In addition, specifically with regard to our Bandwidth Engine products, our 1T-SRAM technology is not available at process nodes below 40 nanometers. To date, we have not developed any memory products below the 40 nanometer process node. To continue the product roadmap for our Bandwidth Engine and PSE products, we will need to identify a new foundry and/or no longer use our 1T-SRAM technology. We do not consider this to adversely affect our current product offerings, but we expect to face difficulties, delays and increased expense as we transition our products to new processes, and potentially to new foundries for future products. For example, we believe our next generation of products will need to be designed using a FinFET process, which will require us to incur significantly high development costs for mask tooling and computer-aided design software. We currently lack the funds to pay for such development costs. Moreover, an inability to continue our product roadmap can adversely affect, and has in the past affected our efforts to win new customers, secure additional design wins and significantly grow our future revenues.

Because the manufacturing of integrated circuits is extremely complex, the process of qualifying a new foundry is a lengthy process and there can be no assurance that we will be able to find and qualify replacement suppliers without materially adversely affecting our business, financial condition, results of operations and prospects for future growth. We cannot assure you that we will be able to maintain our relationship with our foundries or develop relationships with new foundries. If we or TSMC experience significant delays in transitioning to smaller geometries or fail to efficiently implement transitions, we could experience reduced manufacturing yields, delays in product deliveries and increased costs, any of which could harm our relationships with our customers and our operating results.

We may not achieve the anticipated benefits of becoming a fabless semiconductor company by developing and bringing to market the Bandwidth Engine and LineSpeed IC product lines.

In 2010, we expanded our business model to become a fabless semiconductor company through the development of a product line of memory ICs called the Bandwidth Engine. In March 2013, we announced a product line of SerDes ICs called LineSpeed. Our goal is to increase our total available market by creating high-performance ICs for networking communications and data center systems, using our proprietary technology and design expertise. This development effort has required that we add headcount and design resources, such as expensive software tools, which has increased our losses from and cash used in operations. We may not be successful in our development efforts to bring our ICs to market successfully nor be successful in selling ICs due to various risks and uncertainties, including, but not limited to:

- Our lack of working capital;
- customer acceptance;
- adoption of the GCI protocol, without which our Bandwidth Engine products cannot function;
- difficulties and delays in our product development, manufacturing, testing and marketing activities;
- timeliness of new product introductions;
- the anticipated costs and technological risks of developing and bringing ICs to market;
- the willingness of our manufacturing partners to assist successfully with fabrication;
- our ability to qualify our products for mass production and achieve wafer yield levels and the final test results necessary to be price competitive;
- the availability of quantities of ICs supplied by our manufacturing partners at a competitive cost;
- our ability to generate the desired gross margin percentages and return on our product development investment;
- competition from established IC suppliers;
- the adequacy of our intellectual property protection for our proprietary IC designs and technologies;

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- customer concerns over our financial condition and viability to be a long-term profitable supplier;
- the vigor and growth of markets served by our current and prospective customers; and
- our lack of recent experience as a fabless semiconductor company making and selling proprietary ICs.

If we experience significant delays in bringing our IC products to market or if customer adoption of our products is delayed, this could have a material adverse effect on our anticipated revenues in upcoming years due to the potential loss of design wins and future revenues. For example, we have experienced significant delays in bringing our third generation LineSpeed products to market, which has prevented us from achieving design wins and resulted in us introducing products after our competitors. We may continue to experience significant delays in the future.

Our main objective is the development and sale of our products to networking communications and data center systems providers and their subsystem and component vendors, and, if demand for these products does not grow, we may not achieve revenue growth and our strategic objectives.

We market and sell our ICs to networking communications and data center equipment providers and their subsystem and component vendors. We believe our future business and financial success depends on market acceptance and increasing sales of these products. In order to meet our growth and strategic objectives, networking infrastructure OEMs must incorporate our products into their systems, and the demand for their systems must grow as well. We cannot provide assurance that sales of our products to these OEMs will increase substantially in the future or that the demand for our customers' systems will increase. Our future revenues from these products may not increase in accordance with our growth and strategic objectives if instead our OEM customers modify their product designs, select products sold by our competitors or develop their own proprietary ICs. Moreover, demand for their products that incorporate our ICs may not grow or result in significant sales of such products due to factors affecting the customers and their business, such as industry downturns, declines in capital spending in the enterprise and carrier markets and unfavorable macroeconomic conditions. Thus, the future success of our business depends in large part on factors outside our control, and sales of our products may not meet our revenue growth and strategic objectives.

Our failure to continue to develop new products and enhance our products on a timely basis could diminish our ability to attract and retain customers.

The existing and potential markets for our products are characterized by ever-increasing performance requirements, evolving industry standards, rapid technological change and product obsolescence. These characteristics lead to frequent new product introductions and enhancements, shorter product life cycles and changes in industry demands. In order to attain and maintain a significant position in the market, we will need to continue to enhance and evolve our products and the underlying proprietary technologies in anticipation of these market trends.

Our future performance depends on a number of factors, including our ability to:

- identify target markets and relevant emerging technological trends;
- develop and maintain competitive technology by improving performance and adding innovative features that differentiate our products from alternative technologies;
- enable the incorporation of our products into the customers' products on a timely basis and at competitive prices;
- develop our products to be manufactured at smaller process geometries; and
- respond effectively to new technological developments or new product introductions by others.

Our failure to develop future products that achieve market acceptance could harm our competitive position and impede our future growth.

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Our ICs have a lengthy sales cycle, which makes it difficult to predict success in this market and the timing of future revenue.

Our ICs have a lengthy sales cycle, ranging from six to 24 months from the date of our initial proposal to a prospective customer until the date on which the customer confirms that it has designed our product into its system. As lengthy, or an even lengthier period, could ensue before we would know the volume of products that such customer will, or is likely to, order. A number of factors can contribute to the length of the sales cycle, including technical evaluations of our products by the customers, the design process required to integrate our products into the customers' products and the timing of the customers' new product announcements. In anticipation of product orders, we may incur substantial costs before the sales cycle is complete and before we receive any customer payments. As a result, in the event that a sale is not completed or is cancelled or delayed, we may have incurred substantial expenses, making it more difficult for us to become profitable or otherwise negatively impacting our financial results. Furthermore, because of this lengthy sales cycle, the recording of revenues from our selling efforts may be substantially delayed, our ability to forecast our future revenue may be more limited and our revenue may fluctuate significantly from quarter to quarter. We cannot provide any assurances that our efforts to build a strong and profitable business based on the sale of ICs will succeed. If these efforts are not successful, in light of the substantial resources that we have invested, our future operating results and cash flows could be materially and adversely affected.

The semiconductor industry is cyclical in nature and subject to periodic downturns, which can negatively affect our revenue.

The semiconductor industry is cyclical and has experienced pronounced downturns for sustained periods of up to several years. To respond to any downturn, many semiconductor manufacturers and their customers will slow their research and development activities, cancel or delay new product developments, reduce their workforces and inventories and take a cautious approach to acquiring new equipment and technologies. As a result, our business has been in the past and could be adversely affected in the future by an industry downturn, which could negatively impact our future revenue and profitability. Also, the cyclical nature of the semiconductor industry may cause our operating results to fluctuate significantly from year-to-year, which may tend to increase the volatility of the price of our common stock.

We expect our licensing and royalty revenues to decrease compared with our historical results, and there is no guarantee revenues from our IC products will replace these lost revenues in the near future.

In 2011, we began to place greater emphasis on our IC business and re-deploy engineering, marketing and sales resources from IP to IC activities. We are no longer actively pursuing new license arrangements, and, as a result, our license and royalty revenues in 2016 declined when compared with prior years. We do not expect to generate sufficient revenues from our IC business to allow us to achieve profitability in 2017. In addition, the production volumes of the current royalty-bearing products shipped by our licensees are expected to decrease; therefore we expect our royalty revenue to decrease in 2017 and future periods. Historically, royalties have generated a 100% gross margin, and any decrease in royalties adversely affects our gross margin, operating results and cash flows.

Our revenue has been highly concentrated among a small number of licensees and customers, and our results of operations could be harmed if we lose a key revenue source and fail to replace it.

Our overall revenue has been highly concentrated, with a few customers accounting for a significant percentage of our total revenue. For the year ended December 31, 2016, our three largest customers represented 47%, 21% and 13% of total revenue, respectively. For the year ended December 31, 2015, our three largest customers represented 34%, 31% and 12% of total revenue, respectively. For the year ended December 31, 2014, our three largest customers represented 34%, 31% and 11% of total revenue, respectively. We expect that a relatively small number of customers

will continue to account for a substantial portion of our revenue for the foreseeable future.

As a result of this revenue concentration, our results of operations could be adversely affected by the decision of a single key licensee or customer to cease using our technology or products or by a decline in the number of products that incorporate our technology that are sold by a single licensee or customer or by a small group of licensees or customers.

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Our revenue concentration may also pose credit risks, which could negatively affect our cash flow and financial condition.

We might also face credit risks associated with the concentration of our revenue among a small number of licensees and customers. As of December 31, 2016, four customers represented 88% of total trade receivables. Our failure to collect receivables from any customer that represents a large percentage of receivables on a timely basis, or at all, could adversely affect our cash flow or results of operations and might cause our stock price to fall.

Our products must meet exact specifications, and defects and failures may occur, which may cause customers to return or stop buying our products.

Our customers generally establish demanding specifications for quality, performance and reliability that our products must meet. However, our products are highly complex and may contain defects and failures when they are first introduced or as new versions are released. If defects and failures occur in our products during the design phase or after, we could experience lost revenues, increased costs, including warranty and customer support expenses and penalties for non-performance stipulated in customer purchase agreements, delays in or cancellations or rescheduling of orders or shipments, product returns or discounts, diversion of management resources or damage to our reputation and brand equity, and in some cases consequential damages, any of which would harm our operating results. In addition, delays in our ability to fill product orders as a result of quality control issues may negatively impact our relationship with our customers. We cannot assure you that we will have sufficient resources to satisfy any asserted claims. Furthermore, any such defects, failures or delays may be particularly damaging to us as we attempt to establish our reputation as a reliable provider of IC products.

Because we sell our products on a purchase order basis and rely on estimated forecasts of our customers' needs, inaccurate forecasts could adversely affect our business.

We expect to sell our IC products pursuant to individual purchase orders, rather than long-term purchase commitments. Therefore, we will rely on estimated demand forecasts, based upon input from our customers, to determine how much product to manufacture. Because our sales will be based primarily on purchase orders, our customers may cancel, delay or otherwise modify their purchase commitments with little or no notice to us. For these reasons, we will generally have limited visibility regarding our customers' product needs. In addition, the product design cycle for networking OEMs is lengthy, and it may be difficult for us to accurately anticipate when they will commence commercial shipments of products that include our ICs.

Furthermore, if we experience substantial warranty claims, our customers may cancel existing orders or cease to place future orders. Any cancellation, delay or other modification in our customers' orders could significantly reduce our revenue, cause our operating results to fluctuate from period to period and make it more difficult for us to predict our revenue. In the event of a cancellation or reduction of an order, we may not have enough time to reduce operating expenses to mitigate the effect of the lost revenue on our business.

If we overestimate customer demand for our products, we may purchase products from our manufacturers that we cannot sell. Conversely, if we underestimate customer demand or if sufficient manufacturing and testing capacity were unavailable, we would forego revenue opportunities and could lose market share in the markets served by our products and could incur penalty payments under our customer purchase agreements. In addition, our inability to meet customer requirements for our products could lead to delays in product shipments, force customers to identify alternative sources and otherwise adversely affect our ongoing relationships with our customers.

We depend on contract manufacturers for a significant portion of our revenue from the sale of our IC products.

Many of our current and prospective OEM customers use third party contract manufacturers to manufacture their systems, and these contract manufacturers purchase our products directly from us on behalf of the OEMs. Although we expect to work with our OEM customers in the design and development phases of their systems, these OEMs often give contract manufacturers some authority in product purchasing decisions. If we cannot compete effectively for the business of these contract manufacturers, or, if any of the contract manufacturers that work with our OEM customers experience financial or other difficulties in their businesses, our revenue and our business could be adversely affected. For example, if a contract manufacturer becomes subject to bankruptcy proceedings, we may not be able to obtain our products held by the contract manufacturer or recover payments owed to us by the contract manufacturer for products

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already delivered to the contract manufacturer. If we are unable to persuade contract manufacturers to purchase our products, or if the contract manufacturers are unable to deliver systems with our products to OEMs on a timely basis, our business would be adversely affected.

We rely on independent foundries and contractors for the manufacture, assembly, testing and packaging of our integrated circuits, and the failure of any of these third parties to deliver products or otherwise perform as requested could damage our relationships with our customers and harm our sales and financial results.

As a fabless semiconductor company, we rely on third parties for substantially all of our manufacturing operations. We depend on these parties to supply us with material in a timely manner that meets our standards for yield, cost and quality. We do not have long-term supply contracts with any of our suppliers or manufacturing service providers, and therefore they are not obligated to manufacture products for us for any specific period, in any specific quantity or at any specified price, except as may be provided in a particular purchase order. Any problems with our manufacturing supply chain could adversely impact our ability to ship our products to our customers on time and in the quantity required, which in turn could damage our customer relationships and impede market acceptance of our IC solutions.

Our third party wafer foundries, testing and assembly vendors and sales offices are located in regions at high risk for earthquakes and other natural disasters. Any disruption to the operations of these foundries, vendors and offices resulting from earthquakes or other natural disasters could cause significant delays in the development, production, shipment and sales of our IC products.

TSMC, which manufactures our products, is located in Asia, as are other foundries we may use in the future. EAG, which handles the testing of our products, is headquartered in California. Our primary engineering design center is located in Santa Clara, California, and we have sales offices in Japan and China. The risk of an earthquake in the Pacific Rim region is significant due to the proximity of major earthquake fault lines. In September 1999, a major earthquake in Taiwan affected the facilities of several major foundries and other vendors. As a result of this earthquake, these vendors suffered power outages and disruptions that impaired their production capacity. In September 2003 and February 2016, additional disruptive earthquakes occurred in Taiwan. The occurrence of additional earthquakes or other natural disasters could result in the disruption of the wafer foundry or assembly and test capacity of the third parties that supply these services to us and may impede our research and development efforts, as well as our ability to market and sell our products. We may not be able to obtain alternate capacity on favorable terms, if at all.

Any claim that our products or technology infringe third party intellectual property rights could increase our costs of operation and distract management and could result in expensive settlement costs or the discontinuance of our technology licensing or product offerings. In addition, we may incur substantial litigation expense, which would adversely affect our profitability.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights or positions, which has resulted in often protracted and expensive litigation. We are not aware of any third party intellectual property that our products or technology would infringe. However, like many companies of our size with limited resources, we have not searched for all potentially applicable intellectual property in the public databases. It is possible that a third party now has, or may in the future obtain, patents or other intellectual property rights that our products or technology may now, or in the future, infringe. Our licensees and IC customers, or we, might, from time to time, receive notice of claims that we have infringed patents or other intellectual property rights of others. Litigation against us can result in significant expense and divert the efforts of our technical and management personnel, whether or not the litigation has merit or results in a determination adverse to us.

Royalty amounts owed to us might be difficult to verify, and we might find it difficult, expensive and time-consuming to enforce our license agreements.

The standard terms of our 1T-SRAM license agreements require our licensees to document the manufacture and sale of products that incorporate our technology and generally report this data to us after the end of each quarter. We have the right to audit these royalty reports periodically, although we have not conducted any such audits since 2010. These audits can be expensive, time-consuming and potentially detrimental to our business relationships. A failure to fully enforce the royalty provisions of our license agreements could cause our revenue to decrease and impede our ability to achieve and maintain profitability.

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We might not be able to protect and enforce our intellectual property rights, which could impair our ability to compete and reduce the value of our technology.

Our technology is complex and is intended for use in complex SoCs and networking systems. Our licensees' products utilize our embedded memory and/or I/O technology, and a large number of companies manufacture and market these products. Because of these factors, policing the unauthorized use of our intellectual property is difficult and expensive. We cannot be certain that we will be able to detect unauthorized use of our technology or prevent other parties from designing and marketing unauthorized products based on our technology. In the event we identify any past or present infringement of our patents, copyrights or trademarks, or any violation of our trade secrets, confidentiality procedures or licensing agreements, we cannot assure you that the steps taken by us to protect our proprietary information will be adequate to prevent misappropriation of our technology. Our inability to adequately protect our intellectual property would reduce significantly the barriers of entry for directly competing technologies and could reduce the value of our technology. Furthermore, we might initiate claims or litigation against third parties for infringement of our proprietary rights or to establish the validity of our proprietary rights. Litigation by us could result in significant expense and divert the efforts of our technical and management personnel, whether or not such litigation results in a determination favorable to us.

Our existing patents might not provide us with sufficient protection of our intellectual property, and our patent applications might not result in the issuance of patents, either of which could reduce the value of our core technology and harm our business.

We rely on a combination of patents, trademarks, copyrights, trade secret laws and confidentiality procedures to protect our intellectual property rights. As of December 31, 2016, we held 67 patents in the United States, and approximately 36 foreign patents, which expire at various times from 2018 to 2035. In addition, as of December 31, 2016, we also held 18 pending patent applications worldwide. We cannot be sure that any patents will be issued from any of our pending applications or that any claims allowed from pending applications will be of sufficient scope or strength, or issued in all countries where our products can be sold, to provide meaningful protection or any commercial advantage to us. In December 2011, we sold 43 United States and 30 related foreign patents, which reduced the size of our patent portfolio and diminishes our ability to assert counterclaims in the defense of actions against us that may arise. Also, competitors might be able to design around our patents. Failure of our patents or patent applications to provide meaningful protection might allow others to utilize our technology without any compensation to us.

The discovery of defects in our technology and products could expose us to liability for damages.

The discovery of a defect in our technologies and products could lead our customers to seek damages from us. Many of our agreements with customers include provisions waiving implied warranties regarding our technology and products and limiting our liability to our customers. We cannot be certain, however, that the waivers or limitations of liability contained in our agreements with customers will be enforceable.

If we fail to retain key personnel, our business and growth could be negatively affected.

Our business has been dependent to a significant degree upon the services of a small number of executive officers and technical employees. The loss of key personnel could negatively impact our technology development efforts, our ability to deliver under our existing agreements, maintain strategic relationships with our partners, and obtain new customers. We generally have not entered into employment or non-competition agreements with any of our employees and do not maintain key-man life insurance on the lives of any of our key personnel.

We may incur additional debt in the future, subject to certain limitations contained in our senior secured convertible notes.

The degree to which we are leveraged and the restrictions governing our indebtedness could have important consequences including, but not limited to:

- limiting our ability to service all of our debt obligations;
- impacting our ability to incur additional indebtedness or obtain additional financing in the future for working capital, capital expenditures, acquisitions or general corporate or other purposes;

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- increasing our vulnerability to general economic downturns and adverse industry conditions;
- limiting our flexibility in planning for, or reacting to, changes in our business and our industry; and
- limiting our ability to engage in certain transactions or capitalize on acquisition or other business opportunities.

If we are in violation of the terms of the Notes in the future and do not receive a waiver, the note holders could choose to accelerate payment on all outstanding loan balances. If we needed to obtain replacement financing, we may not be able to quickly obtain equivalent or suitable replacement financing. If we are unable to secure alternative sources of funding, such acceleration would have a material adverse impact on our financial condition.

Our failure to successfully address the potential difficulties associated with our international operations could increase our costs of operation and negatively impact our revenue.

We are subject to many difficulties posed by doing business internationally, including:

- foreign currency exchange fluctuations;
- unanticipated changes in local regulation;
- potentially adverse tax consequences, such as withholding taxes and transfer pricing issues;
- political and economic instability; and
- reduced or limited protection of our intellectual property.

Because we anticipate that integrated circuit sales to companies that operate primarily outside the United States may account for a substantial portion of our revenue in future periods, the occurrence of any of these circumstances could significantly increase our costs of operation, delay the timing of our revenue and harm our profitability.

Provisions of our certificate of incorporation and bylaws or Delaware law might delay or prevent a change of control transaction and depress the market price of our stock.

Various provisions of our certificate of incorporation and bylaws might have the effect of making it more difficult for a third party to acquire, or discouraging a third party from attempting to acquire, control of our company. These provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock. Certain of these provisions eliminate cumulative voting in the election of directors, limit the right of stockholders to call special meetings and establish specific procedures for director nominations by stockholders and the submission of other proposals for consideration at stockholder meetings.

We are also subject to provisions of Delaware law which could delay or make more difficult a merger, tender offer or proxy contest involving our company. In particular, Section 203 of the Delaware General Corporation Law prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years unless specific conditions are met. Any of these provisions could have the effect of delaying, deferring or preventing a change in control, including without limitation, discouraging a proxy contest or making more difficult the acquisition of a substantial block of our common stock.

Under our certificate of incorporation, our board of directors may issue up to 20,000,000 shares of preferred stock without stockholder approval on such terms as the board might determine. The rights of the holders of common stock will be subject to, and might be adversely affected by, the rights of the holders of any preferred stock that might be issued in the future.

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Our stockholder rights plan could prevent stockholders from receiving a premium over the market price for their shares from a potential acquirer.

We adopted a stockholder rights plan that generally entitles our stockholders to rights to acquire additional shares of our common stock when a third party acquires 15% of our common stock or commences or announces its intent to commence a tender offer for at least 15% of our common stock, other than for one group of related stockholders, as to whom this threshold is 20%. The plan also includes an exception to permit the acquisition of shares representing more than 15% of our common stock by a brokerage firm that manages independent customer accounts and generally does not have any discretionary voting power with respect to such shares. This plan could delay, deter or prevent an investor from acquiring us in a transaction that could otherwise result in stockholders receiving a premium over the market price for their shares of common stock. Our intention is to maintain and enforce the terms of this plan, which could delay, deter or prevent an investor from acquiring us in a transaction that could otherwise result in stockholders receiving a premium over the market price for their shares of common stock.

Potential volatility of the price of our common stock could negatively affect your investment.

We cannot assure you that there will continue to be an active trading market for our common stock. Historically, the stock market, as well as our common stock, has experienced significant price and volume fluctuations. Market prices of securities of technology companies have been highly volatile and frequently reach levels that bear no relationship to the operating performance of such companies. These market prices generally are not sustainable and are subject to wide variations. If our common stock trades to unsustainably high levels, it is likely that the market price of our common stock will thereafter experience a material decline. In the past, our board of directors approved stock repurchase programs, and any future program could impact the price of our common stock and increase volatility.

In the past, securities class action litigation has often been brought against a company following periods of volatility in the market price of its securities. We could be the target of similar litigation in the future. Securities litigation could cause us to incur substantial costs, divert management’s attention and resources, harm our reputation in the industry and the securities markets and negatively impact our operating results.

Our stock price could drop, and there could be significantly less trading activity in our stock, if securities or industry analysts downgrade our stock or do not publish research or reports about our business.

Our stock price and the trading market for our stock are likely to be affected significantly by the research and reports concerning our company and our business which are published by industry and securities analysts. We do not have any influence or control over these analysts, their reports or their recommendations. Our stock price and the trading market for our stock could be negatively affected if any analyst downgrades our stock, publishes a report which is critical of our business, or discontinues coverage of us.

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We are a "smaller reporting company" and, as a result of the reduced disclosure and governance requirements applicable to smaller reporting companies, our common stock may be less attractive to investors.

We are a "smaller reporting company," meaning that we are not an investment company, an asset-backed issuer, or a majority-owned subsidiary of a parent company that is not a "smaller reporting company," have a public float of less than $75 million and have annual revenues of less than $50 million during the most recently completed fiscal year. As a "smaller reporting company," we are subject to lesser disclosure obligations in our SEC filings compared to other issuers. Specifically, "smaller reporting companies" are able to provide simplified executive compensation disclosures in their filings, are exempt from the provisions of Section 404(b) of the Sarbanes-Oxley Act requiring that independent registered public accounting firms provide an attestation report on the effectiveness of internal control over financial reporting and have certain other decreased disclosure obligations in their SEC filings, including, among other things, only being required to provide two years of audited financial statements in annual reports. Decreased disclosures in our SEC filings due to our status a "smaller reporting company" may make it harder for investors to analyze our operating results and financial prospects.

If we fail to maintain compliance with the continued listing requirements of the Nasdaq Capital Market, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

Our common stock currently trades on The NASDAQ Stock Market (Nasdaq) under the symbol "MOSY." This market has continued listing standards that we must comply with in order to maintain the listing of our common stock. The continued listing standards include, among others, a minimum bid price requirement of $1.00 per share and any of: (i) a minimum stockholders' equity of $2.5 million; (ii) a market value of listed securities of at least $35.0 million; or (iii) net income from continuing operations of $500,000 in the most recently completed fiscal year or in the two of the last three fiscal years. Our results of operations and fluctuating stock price directly impact our ability to satisfy these continued listing standards. In the event we are unable to maintain these continued listing standards, our common stock may be subject to delisting from the Nasdaq Capital Market.

On July 14, 2016, we received a deficiency letter from the Listing Qualifications Department (the Staff) of Nasdaq providing notification that the Company was not in compliance with Nasdaq's audit committee composition requirements pursuant to Nasdaq Listing Rule 5605(c)(2). Nasdaq Listing Rule 5605 requires a listed company to have an audit committee comprised of at least three independent members and, during 2016, the number of independent directors on our Audit Committee was reduced from three to two.

The letter also states that we will be provided: (i) until the earlier of our next annual shareholders' meeting or June 24, 2017. If we do not regain compliance during this period, then the Staff will provide notice that our securities will be subject to delisting. At such time, we may appeal the delisting determination to a Nasdaq Listing Qualifications Panel (Panel). We would remain listed pending the Panel's decision. There can be no assurance that, if we do appeal a subsequent delisting determination by the Staff to the Panel, that such appeal would be successful.

In addition, due to the recent resignation of a director, we no longer have at least two independent members serving on the compensation committee of the board of directors. We intend to fill the vacant board of directors and committee seats prior to our next annual meeting of shareholders.

If we are delisted, we would expect our common stock to be traded in the over-the-counter market, which could adversely affect the liquidity of our common stock. Additionally, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our common stock;
- a reduced amount of analyst coverage;
- a decreased ability to issue additional securities or obtain additional financing in the future;
- reduced liquidity for our stockholders;
- potential loss of confidence by customers, collaboration partners and employees; and

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· loss of institutional investor interest.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal administrative, sales, marketing, support and research and development functions are located in a leased facility in Santa Clara, California. We currently occupy approximately 47,000 square feet of space in the Santa Clara facility, the lease for which extends through August 2020. We have leased office space in Tokyo, Japan, and Shanghai, China for our sales and support offices. We believe that our existing facilities are adequate to meet our current needs.

Item 3. Legal Proceedings

We are not a party to any material legal proceeding which could have a material adverse effect on our consolidated financial position or results of operations. From time to time, we may be subject to legal proceedings and claims in the ordinary course of business. These claims, even if not meritorious, could result in the expenditure of significant financial resources and diversion of management efforts.

Item 4. Mine Safety Disclosures

Not applicable.

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Part II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is currently listed on the Capital Market of the NASDAQ Stock Market under the symbol MOSY. The following table sets forth the range of high and low sales prices of our common stock for each period indicated. The table has been modified to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017. See Note 1 of the consolidated financial statements in Item 15 for further discussion of the reverse stock split.

Quarter ended	High	Low
December 31, 2016	$ 7.80	$ 2.30
September 30, 2016	$ 8.03	$ 4.10
June 30, 2016	$ 6.50	$ 3.23
March 31, 2016	$ 11.70	$ 5.70
December 31, 2015	$ 16.20	$ 10.80
September 30, 2015	$ 20.30	$ 13.80
June 30, 2015	$ 23.70	$ 18.30
March 31, 2015	$ 23.70	$ 16.80
December 31, 2014	$ 27.70	$ 15.30
September 30, 2014	$ 34.20	$ 23.30
June 30, 2014	$ 46.80	$ 28.60
March 31, 2014	$ 59.00	$ 43.90

We had 15 stockholders of record as of March 1, 2017.

Dividend Policy

We have not declared or paid any cash dividends on our common stock and presently intend to retain future earnings, if any, to fund the development and growth of our business and, therefore, do not anticipate paying any cash dividends in the foreseeable future.

Stock Performance Graph

The following graph compares cumulative total stockholder return on our common stock with that of the S&P 500 Index and the S&P Technology Sector Index from 2011 through 2016. The comparison assumes that $100 was invested on December 31, 2011 in our common stock, the stocks included in the S&P 500 Index and the stocks included in the S&P Technology Sector Index. We have never paid any cash dividends to holders of our common stock.

The comparisons shown in the graph below are based upon historical data, and we caution that the stock price performance shown in the graph below is not indicative of, nor intended to forecast, the potential future performance of our common stock. Information used in the graph was obtained from Standard and Poor's website, a source believed to be reliable, but we are not responsible for any errors or omissions in such information.

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Comparison of Five-Year Cumulative Return

	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016
MOSYS, INC.	$ 100.00	$ 82.86	$ 131.43	$ 44.52	$ 25.95	$ 5.48
S & P 500	100.00	113.41	146.98	163.72	162.53	178.02
S & P TECHNOLOGY SECTOR	100.00	110.73	141.71	170.73	175.97	197.06

Securities Authorized for Issuance under Equity Compensation Plan

For information regarding securities authorized for issuance under equity compensation plans, please refer to Item 12.—Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

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Item 6. Selected Financial Data

The selected financial data presented below is derived from our consolidated financial statements that are included under Item 15. The selected financial data should be read in conjunction with our consolidated financial statements and notes related to those statements and with "Management's Discussion and Analysis of Financial Condition and Results of Operations" included herein. The table has been modified to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017. See Note 1 of the consolidated financial statements for further discussion of the reverse stock split.

	Year Ended December 31,				
	2016(1)	2015(2)	2014(3)	2013(4)	2012(5)
	(In thousands, except per share data)				
Statement of Operations Data:					
Total net revenue	$ 6,024	$ 4,390	$ 5,380	$ 4,398	$ 6,082
Cost of net revenue	3,075	2,474	2,318	474	334
Gross profit	2,949	1,916	3,062	3,924	5,748
Operating expenses	34,313	33,407	35,780	28,856	33,407
Loss from operations	(31,364)	(31,491)	(32,718)	(24,932)	(27,659)
Other (expense) income, net	(639)	94	143	209	155
Loss before income taxes	(32,003)	(31,397)	(32,575)	(24,723)	(27,504)
Income tax provision	45	86	107	71	110
Net loss	$ (32,048)	$ (31,483)	$ (32,682)	$ (24,794)	$ (27,614)
Net loss per share:					
Basic	$ (4.86)	$ (5.04)	$ (6.60)	$ (5.50)	$ (7.00)
Diluted	$ (4.86)	$ (5.04)	$ (6.60)	$ (5.50)	$ (7.00)
Shares used in computing net income (loss) per share:					
Basic	6,601	6,249	4,952	4,524	3,917
Diluted	6,601	6,249	4,952	4,524	3,917
Allocation of stock-based compensation to cost of net revenue and operating expenses:					
Cost of net revenue	$ —	$ —	$ —	$ 7	$ 53
Research and development	1,597	2,733	3,419	2,565	2,694
Selling, general and administrative	558	917	1,172	1,126	1,064
	$ 2,155	$ 3,650	$ 4,591	$ 3,698	$ 3,811

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(In thousands)				
Balance Sheet Data:					
Cash, cash equivalents and investments	$ 9,768	$ 20,238	$ 25,794	$ 50,482	$ 40,710
Working capital	8,917	19,661	22,649	36,020	30,155
Total assets	27,145	48,692	52,626	77,989	69,534
Current liabilities	3,334	3,604	2,845	2,355	4,821
Long-term liabilities	8,483	247	241	216	171
Stockholders' equity	15,328	44,841	49,540	75,418	64,542

(1) Operating expenses include a goodwill impairment charge of $9.9 million, restructuring charges of $0.7 million and $0.1 million of amortization of acquired intangible assets.
(2) Operating expenses include $0.3 million of amortization of acquired intangible assets.
(3) Operating expenses include $1.0 million of amortization of acquired intangible assets.
(4) Operating expenses include a gain on the sale of assets of $0.6 million and $1.0 million of amortization of acquired intangible assets.

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(5) Operating expenses include a gain on the sale of assets of $3.3 million and $1.7 million of amortization of acquired intangible assets.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the accompanying consolidated financial statements and notes included in this report.

Overview

Our strategy and primary business objective is to become a fabless semiconductor company focused on the development and sale of integrated circuits, or ICs, for the high-speed networking, communications, storage and data center markets. Our solutions deliver time-to-market, performance, power, area and economic benefits for system original equipment manufacturers, or OEMs. We have developed two families of ICs under the Bandwidth Engine® and LineSpeed™ product names. Bandwidth Engine ICs combine our proprietary 1T-SRAM® high-density embedded memory, integrated macro functions and high-speed serial interface, or SerDes, I/O, with our intelligent access technology and a highly efficient interface protocol. The LineSpeed IC product line, which was announced in March 2013, is comprised of non-memory, high-speed SerDes I/O devices with clock data recovery, gearbox and retimer functionality, which convert lanes of data received on line cards or by optical modules into different configurations and/or ensure signal integrity. Historically, our primary business was the design, development, marketing, sale and support of differentiated intellectual property, or IP, including embedded memory and high-speed parallel and SerDes I/O used in advanced systems-on-chips, or SoCs. Currently, we are focused on developing differentiated IP-rich IC products and are dedicating all our research and development, marketing and sales budget to these IC products.

Our future success and ability to achieve and maintain profitability are dependent on the marketing and sales of our IC products into networking, communications and other markets requiring high-bandwidth memory access.

We incurred net losses of approximately $32 million and $31 million for the years ended December 31, 2016 and 2015, respectively, and had an accumulated deficit of approximately $214 million as of December 31, 2016. These and prior year losses have resulted in significant negative cash flows for almost a decade and have necessitated that we raise substantial amounts of additional capital during this period. To date, we have primarily financed our operations through multiple offerings of common stock to investors and affiliates, as well as asset sale transactions. In March 2016, we entered into a 10% Senior Secured Convertible Note Purchase Agreement with the purchasers of $8 million principal amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the Notes), at par, in a private placement transaction. The Notes bear interest at the annual rate of 10%. Accrued interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at our option. Through February 2017, we have made the interest payments in-kind through the issuance of additional notes totaling approximately $0.8 million. Further, the Notes restrict our ability to incur any indebtedness for borrowed money, unless such indebtedness by its terms is expressly subordinated to the Notes in right of payment and to the security interest of the Note holder(s) in respect to the priority and enforcement of any security interest in property of the Company securing such new debt; provided that the Note holder(s) security interest and cash payment rights under the Notes shall be subordinate to a maximum of $5 million of indebtedness for a secured accounts receivable line of credit facility under certain conditions. (See Note No. 11, Convertible Notes)

We expect to continue to incur operating losses for the foreseeable future as we secure customers for and continues to invest in the commercialization of our IC products. Due to the strong commitment of our resources to research and development and expansion of its product offerings to customers, we will need to increase revenues substantially beyond levels that we have attained in the past in order to generate sustainable operating profit and sufficient cash

flows to continue doing business without raising additional capital from time to time. As a result of our expected operating losses and cash burn for the foreseeable future, recurring losses from operations, and the need to repay the Notes and accrued interest in 2018, if we are unable to raise sufficient capital through additional debt or equity arrangements, there will be uncertainty regarding our ability to maintain liquidity sufficient to operate our business effectively, which raises substantial doubt as to our ability to continue as a going concern within one year from the date of issuance of these financial statements. These financial statements do not include any adjustments that might result from this uncertainty. There can be no assurance that such additional capital, whether in the form of debt or equity financing, will be sufficient or available and, if available, that such capital will be offered on terms and conditions acceptable to us. We are exploring various alternatives, and expect to implement cost reductions to successfully sustain

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the business. If we are unsuccessful in these efforts, we will need to implement significant cost reduction strategies that could affect our near- and long-term business plan. These efforts may include, but are not limited to: reducing headcount and curtailing business activities, especially around new product development.

Critical Accounting Policies and Use of Estimates

Our consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. Note 1 to the consolidated financial statements in Item 15 of this report describes the significant accounting policies and methods used in the preparation of our consolidated financial statements.

We have identified the accounting policies below as some of the more critical to our business and the understanding of our results of operations. These policies may involve estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. Although we believe our judgments and estimates are appropriate, actual future results may differ from our estimates, and if different assumptions or conditions were to prevail, the results could be materially different from our reported results.

Revenue Recognition

General

We generate revenue from the sales of IC products and licensing of our IP. We recognize revenue when persuasive evidence of an arrangement exists, delivery or performance has occurred, the sales price is fixed or determinable, and collectibility is reasonably assured. Evidence of an arrangement generally consists of signed agreements or customer purchase orders.

IC Products

Products are sold both directly to customers, as well as through distributors. Revenue from sales directly to customers is generally recognized at the time of shipment. We may record an estimated allowance, at the time of shipment, for future returns and other charges against revenue consistent with the terms of sale. IC product revenue and costs relating to sales made through distributors with rights of return or stock rotation are generally deferred until the distributors sell the product to end customers due to our inability to estimate future returns and credits to be issued. Distributors are generally able to return up to 10% of their purchases of slow, non-moving or obsolete inventory for credit every six months. At the time of shipment to distributors, an accounts receivable for the selling price is recorded, as there is a legally enforceable right to receive payment, and inventory is relieved, as legal title to the inventory is transferred upon shipment. Revenues are recognized upon receiving notification from the distributors that products have been sold to end customers. Distributors provide information regarding products and quantity, end customer shipments and remaining inventory on hand. The associated deferred margin is included in the accrued expenses and other line item in the consolidated balance sheets.

Royalty

Royalty revenue represents amounts earned under provisions in our memory licensing agreements that require our licensees to report royalties and make payments at a stated rate based on actual units manufactured or sold by licensees for products that include our memory IP. Our license agreements require the licensee to report the manufacture or sale of products that include our technology after the end of the quarter in which the sale or manufacture occurs. We recognize royalties in the quarter in which we receive the licensee’s report. The timing and level of royalties are difficult to predict, and depend on the licensee’s ability to market, produce and sell products incorporating our technology.

Licensing

Licensing revenue consists of fees earned from license agreements, development services and support and maintenance. For stand-alone license agreements or license deliverables in multi-deliverable arrangements that do not require significant development, modification or customization, revenue is recognized when all revenue recognition criteria have been met. Delivery of the licensed technology is typically the final revenue recognition criterion met, at which time revenue is recognized. If any of the criteria are not met, revenue recognition is deferred until such time as all

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criteria have been met. Support and maintenance revenue is recognized ratably over the period during which the obligation exists, typically 12 months.

Fair Value Measurements of Financial Instruments

We measure the fair value of financial instruments using a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels, as follows:

Level 1—Inputs used to measure fair value are unadjusted quoted prices that are available in active markets for the identical assets or liabilities as of the reporting date.

Level 2—Pricing is provided by third party sources of market information obtained from investment advisors rather than models. We do not adjust for or apply any additional assumptions or estimates to the pricing information we receive from advisors. Our Level 2 securities include cash equivalents and available-for-sale securities, which consisted primarily of corporate debt, and government agency and municipal debt securities from issuers with high quality credit ratings. Our investment advisors obtain pricing data from independent sources, such as Standard & Poor's, Bloomberg and Interactive Data Corporation, and rely on comparable pricing of other securities because the Level 2 securities we hold are not actively traded and have fewer observable transactions. We consider this the most reliable information available for the valuation of the securities.

Level 3—Unobservable inputs that are supported by little or no market activity and reflect the use of significant management judgment are used to measure fair value. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions. The determination of fair value for Level 3 investments and other financial instruments involves the most management judgment and subjectivity.

Valuation of long-lived Assets

We evaluate our long-lived assets for impairment at least annually, or more frequently when a triggering event is deemed to have occurred. This assessment is subjective in nature and requires significant management judgment to forecast future operating results, projected cash flows and current period market capitalization levels. If our estimates and assumptions change in the future, it could result in a material write-down of long-lived assets. We amortize our finite-lived intangible assets, such as developed technology and patent license, on a straight-line basis over their estimated useful lives of three to seven years. We recognize an impairment charge as the difference between the net book value of such assets and the fair value of the assets on the measurement date.

Goodwill

We review goodwill for impairment on an annual basis or whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. We first assess qualitative factors to determine whether it is more-likely-than-not that the fair value of the reporting unit is less than the carrying amount as a basis for determining whether it is necessary to perform the two-step impairment test. If the qualitative assessment warrants further analysis, we compare the fair value of the reporting unit to its carrying value. The fair value of the reporting unit is determined using the market approach. If the fair value of the reporting unit exceeds the carrying value of net assets of the reporting unit, goodwill is not impaired, and no further testing is performed. If the carrying value of the reporting unit's goodwill exceeds its implied fair value, then we must record an impairment charge equal to the difference. We have determined that we have a single reporting unit for purposes of performing the goodwill impairment test. We use the market approach to assess impairment in the second step of the analysis. We performed the annual impairment test in September 2016, and the test did not indicate impairment of goodwill.

During the fourth quarter of 2016, we concluded a triggering event had occurred due to a sustained decrease in the price per share of our common stock and related reduced market capitalization. We performed the first step of the impairment test to identify potential goodwill impairment, and the test results indicated the goodwill carrying value was greater than its fair value. We then performed a step-two analysis to compare the carrying amount of goodwill to the implied fair value of the goodwill, and we determined the estimated fair values of the assets and liabilities of its single reporting unit. The fair values of the assets and liabilities identified in the impairment test were determined using the

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combination of the income approach and the market approach. The implied fair value of goodwill was measured as the excess of the fair value of our single reporting unit over the fair value of its assets and liabilities. As a result of the step-two test, we recorded a non-cash impairment charge of $9,858,000 during the fourth quarter of 2016.

Deferred tax valuation allowance

When we prepare our consolidated financial statements, we estimate our income tax liability for each of the various jurisdictions where we conduct business. This requires us to estimate our actual current tax exposure and to assess temporary differences that result from differing treatment of certain items for tax and accounting purposes. These differences result in deferred tax assets, which we show on our consolidated balance sheet under the category of other current assets. The net deferred tax assets are reduced by a valuation allowance if, based upon weighted available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. We must make significant judgments to determine our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance to be recorded against our net deferred tax asset.

Stock-based compensation

We recognize stock-based compensation for equity awards on a straight-line basis over the requisite service period, usually the vesting period, based on the grant-date fair value. We estimate the value of employee stock options on the date of grant using the Black-Scholes model. The determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by our stock price, as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of options granted is derived from historical data on employee exercises and post-vesting employment termination behavior. The expected volatility is based on the historical volatility of our stock price.

Results of Operations

Net Revenue

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Product	$ 4,604	$ 2,400	$ 2,280	$ 2,204	92%	$ 120	5 %
Percentage of total net revenue	76 %	55 %	42 %				

Product revenue increased in 2016 and 2015 due to increased volume of shipments for our ICs, mainly Bandwidth Engine, as additional customer design wins commenced production and we gained more customers. In 2016 and 2015, our Bandwidth Engine 2 IC products were the primary source of IC revenue, while in 2014, our Bandwidth Engine 1 IC products accounted for most of our IC revenue. In 2014, we recognized $0.3 million of revenue from the reversal of sales return reserves recorded in prior periods following the completion of system-level tests in the field by customers, which reduced our expected risk of returns. We expect our product revenues to increase in the future in absolute dollars, as we expect additional customer design wins to commence their production ramps.

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Royalty and other	$ 1,420	$ 1,990	$ 3,100	$ (570)	(29)%	$ (1,110)	(36)%

Percentage of total net revenue	24	%	45	%	58	%

Royalty and other revenue is primarily comprised of revenue generated from licensing agreements. The decrease from 2015 to 2016 was primarily due to a decrease in shipment volumes by licensees whose products incorporate our licensed IP. The decrease from 2014 to 2015 was primarily due to a decrease in shipment volumes by licensees, as well as a decrease in revenue recognized from residual licensing agreements entered into in 2011 and prior years. We expect royalty and other revenue to decline in 2017, as we expect a decline in shipments of units incorporating our technology by licensees, as their products approach their end of life.

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Cost of Net Revenue and Gross Profit

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Cost of net revenue	$ 3,075	$ 2,474	$ 2,318	$ 601	24%	$ 156	7 %
Percentage of total net revenue	51 %	56 %	43 %				

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Gross profit	$ 2,949	$ 1,916	$ 3,062	$ 1,033	54%	$ (1,146)	(37)%
Gross margin	49 %	44 %	57 %				

In each of 2016, 2015 and 2014, cost of net revenue consisted of direct and indirect costs related to the sale of IC products.

Cost of net revenue increased in 2016 and 2015, primarily due to the increase in material and production costs related to our increased IC shipments and non-recurring inventory reserves recorded in 2015. We expect the cost of net revenue to increase in the future in absolute dollars, because we anticipate an increase in sales of our IC products.

Gross profit increased from 2015 to 2016, primarily due to the increase in IC shipments, partially offset by the decrease in our royalty revenue, which has no associated costs. Gross profit decreased from 2014 to 2015 primarily due to the decrease in our royalty revenue, which has no associated costs, partially offset by an increase in IC shipments with lower associated costs. The deferred margin recognized from the reversal of sales return reserves in 2014 and 2015 was not material.

Research and Development

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Research and development	$ 18,086	$ 27,108	$ 29,261	$ (9,022)	(33)%	$ (2,153)	(7)%
Percentage of total net revenue	300 %	617 %	544 %				

Our research and development expenses include costs related to the development of our IC products and amortization of intangible assets. We expense research and development costs as they are incurred.

The $9.0 million decrease in 2016 over the prior year was primarily due to a decrease in salaries and related expenses, non-recurring mask tooling costs for our Bandwidth Engine 3 product incurred in 2015, a decrease in computer-aided software license fees, and a decrease in stock-based compensation charges.

The $2.2 million decrease in 2015 over the prior year was primarily due to decreases in consulting expenses, computer-aided software license fees, amortization of intangibles and stock-based compensation charges, partially offset by an increase in mask tooling costs, primarily for our Bandwidth Engine 3 product.

Research and development expenses included stock-based compensation expense of $1.6 million, $2.7 million and $3.4 million for the years ended December 31, 2016, 2015 and 2014, respectively. We expect that research and development expenses will decrease in absolute dollars due to reduced headcount, including the full-year effects of a reduction-in-force initiated in the first quarter of 2016, a reduced emphasis on new product development and reductions in computer-aided software license fees.

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Selling, General and Administrative

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Selling, general and administrative	$ 5,693	$ 6,299	$ 6,519	$ (606)	(10)%	$ (220)	(3)%
Percentage of total net revenue	95 %	143 %	121 %				

Selling, general and administrative expenses consist primarily of personnel and related overhead costs for sales, marketing, finance, human resources and general management.

Selling, general and administrative expenses decreased $0.6 million for 2016, compared with the prior year, primarily as a result of a decrease in stock-based compensation charges and salaries and related expenses.

Selling, general and administrative expenses decreased $0.2 million for 2015, compared with the prior year, primarily as a result of a decrease in stock-based compensation charges.

Selling, general and administrative expenses included stock-based compensation expense of $0.6 million, $0.9 million and $1.2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

We expect total selling, general and administrative expenses to decrease slightly in absolute dollars in 2017.

Impairment of Goodwill

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Impairment of goodwill — Year Ended	$ 9,858	$ —	$ —	$ 9,858	100%	$ —	—%
Percentage of total net revenue	164 %	—%	—%				

In the fourth quarter of 2016, we recorded a goodwill impairment charge. See Note 1 of the consolidated financial statements in Item 15 of this Report for additional disclosure.

Restructuring Charges

	Year ended December 31,			Year-Over-Year Change	
	2016	2015	2014	2015 to 2016	2014 to 2015
	(dollar amounts in thousands)				

Restructuring charges — Year Ended	$ 676	$ —	$ —	$ 676	100%	$ —	—%
Percentage of total net revenue	11 %	—%	—%				

In the first quarter of 2016, we recorded restructuring charges attributable to a reduction in force in the United States and the closure of our operations at our Indian subsidiary. See Note 10 in the consolidated financial statements in Item 15 of this Report for additional disclosure.

Interest expense and other income (expense), net

	Year Ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Interest expense and other income (expense), net	$ (639)	$ 94	$ 143	$ (733)	(780)%	$ (49)	(34)%
Percentage of total net revenue	(11) %	2 %	3 %				

Interest expense and other income (expense), net primarily consisted of interest expense on our senior secured convertible notes, partially offset by interest income on our investments, as well as foreign currency transaction activity and other non-operating items. We paid the accumulated interest for the period from issuance of the convertible notes through August 15, 2016 in-kind through the issuance of an identical new senior-secured convertible note. On February 15, 2017, we paid the accumulated interest for the period from August 2016 to February 15, 2017 in-kind through the issuance of an identical new senior-secured convertible note.

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Income Tax Provision

	Year ended December 31,			Year-Over-Year Change			
	2016	2015	2014	2015 to 2016		2014 to 2015	
	(dollar amounts in thousands)						
Income tax provision	$ 45	$ 86	$ 107	$ (41)	(48)%	$ (21)	(20)%
Percentage of total net revenue	1 %	2 %	2 %				

Our income tax provisions were primarily attributable to taxes on earnings of our foreign subsidiaries and branches.

As of December 31, 2016, we had net operating loss carryforwards of approximately $184 million for U.S. federal income tax purposes and approximately $117 million for state income tax purposes that are available to reduce future income tax liabilities to the extent permitted under federal and state income tax laws. These net operating loss carryforwards expire from 2017 to 2036. Utilization of our net operating loss and tax credit carryforwards may be subject to a substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code (IRC); and similar state provisions. Section 382 of the IRC (Section 382) imposes limitations on a corporation's ability to utilize its NOLs, if it experiences an "ownership change." In general terms, an ownership change may result from transactions increasing the ownership percentage of certain stockholders in the stock of the corporation by more than 50% over a three year period. In the event of an ownership change, utilization of the NOLs would be subject to an annual limitation under Section 382 determined by multiplying the value of our common stock at the time of the ownership change by the applicable long-term tax exempt rate. We have not completed a Section 382 study in recent years; however, should a study be completed, certain NOLs may be subject to such limitations. Any future annual limitation may result in the expiration of NOLs before utilization.

In 2017, we anticipate that our effective income tax rate will continue to be less than the federal statutory tax rate because of expected losses.

As of December 31, 2016 and 2015, we had net deferred tax assets of approximately $89 million and $80 million, respectively. Because of uncertainties regarding the realization of these deferred tax assets, we had recorded a full valuation allowance as of December 31, 2016 and 2015.

Liquidity and Capital Resources

As of December 31, 2016, we had cash, cash equivalents and short-term investments totaling $9.8 million compared with a combined balance of $20.2 million at December 31, 2015. On March 14, 2016, the Company entered into a 10% Senior Secured Convertible Note Purchase Agreement (the "Purchase Agreement") with the purchasers of $8,000,000 principal amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the "Notes"), at par, in a private placement transaction effected pursuant to an exemption from the registration requirements under the Securities Act of 1933, as amended. The Notes bear interest at the annual rate of 10% and interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at our option.

In 2016, we used $17.9 million in operating activities, which primarily resulted from the net loss of $32.0 million, adjusted for non-cash charges and gains, which included impairment of goodwill of $9.9 million, stock-based compensation expenses of $2.2 million, depreciation and amortization expenses of $1.1 million, accrued interest of $0.7 million, and changes to operating assets and liabilities of $0.3 million. The changes in assets and liabilities

primarily related to the timing of the collection of receivables from customers and payments to vendors, including purchases of and increases in inventory.

In 2015, we used $27.5 million in operating activities, which primarily resulted from the net loss of $31.5 million, adjusted for non-cash charges and gains, which included stock-based compensation expenses of $3.7 million and depreciation and amortization expenses of $0.9 million, and changes to operating assets and liabilities of $0.6 million. The changes in assets and liabilities primarily related to the timing of the collection of receivables from customers and payments to vendors, including purchases of and increase in inventory.

In 2014, we used $26.3 million in operating activities, which primarily resulted from the net loss of $32.7 million, adjusted for non-cash charges and gains, which included stock-based compensation expenses of

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$4.6 million and depreciation and amortization expenses of $1.4 million, and changes to operating assets and liabilities of $0.3 million. The changes in assets and liabilities primarily related to the payments to vendors, including purchases of inventory.

Our investing activities in 2016 primarily consisted of $0.6 million expended for purchases of fixed assets. Remaining investing activities consisted of investing our cash in marketable securities, which did not affect our liquidity. Our investing activities in 2015 primarily consisted of $1.2 million expended for purchases of fixed assets. Remaining investing activities consisted of investing our cash in marketable securities, which did not affect our liquidity. Our investing activities in 2014 primarily consisted of $0.6 million expended for purchases of fixed assets. Remaining investing activities consisted of investing our cash in marketable securities, which did not affect our liquidity.

Our financing activities in 2016 primarily consisted of $7.9 million in net proceeds received from the issuance of senior secured convertible notes and $0.4 million in proceeds purchases of common stock under our employee stock purchase plan. Our financing activities in 2015 primarily consisted of $21.4 million in net proceeds received from the sale of common stock though a public offering and $1.8 million in proceeds from the exercise of stock options and purchases of common stock under our employee stock purchase plan. Our financing activities in 2014 primarily consisted of proceeds from the exercise of stock options and sales under our employee stock purchase plan.

Our future liquidity and capital requirements are expected to vary from quarter to quarter, depending on numerous factors, including:

- level of revenue;
- cost, timing and success of technology development efforts;
- inventory levels, timing of product shipments and length of billing and collection cycles;
- fabrication costs, including mask costs, of our ICs, currently under development;
- variations in manufacturing yields, materials costs and other manufacturing risks;
- costs of acquiring other businesses and integrating the acquired operations;
- profitability of our business; and
- whether interest payments on the Notes are paid in cash or, at our election, in kind through the issuance of new Notes with identical terms for the accrued interest.

Going Concern-Working Capital

We expect our cash expenditures to continue to exceed receipts in 2017, as our revenues will not be sufficient to offset our operating expenses, which include significant research and development expenditures for the expansion and fabrication of our IC products. The consolidated financial statements presented in Part II, Item 15 of this Report have been prepared assuming that we will continue as a going concern, and do not include any adjustments that might result from the outcome of this uncertainty. We have incurred recurring losses from operations, had recurring negative cash flows, and have a significant accumulated deficit. These conditions raise substantial doubt about our ability to continue as a going concern. We are currently seeking additional financing in order to meet our cash requirements for the foreseeable future. We may not be able to obtain additional financing as needed on acceptable terms, or at all, which may require us to reduce our operating costs and other expenditures, including reductions of personnel, salaries and capital expenditures. Alternatively, or in addition to such potential measures, we may elect to implement other cost reduction actions as we may determine are necessary and in our best interests, including the possible sale or cessation of certain of our business segments. Any such actions undertaken might limit our opportunities to realize plans for revenue growth and we might not be able to reduce our costs in amounts sufficient to achieve break-even or profitable operations.

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If we were to raise additional capital through sales of our equity securities, our stockholders would suffer dilution of their equity ownership. If we engage in debt financing, we may be required to accept terms that restrict our ability to incur additional indebtedness, prohibit us from paying dividends, repurchasing our stock or making investments, and force us to maintain specified liquidity or other ratios, any of which could harm our business, operating results and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

· develop or enhance our products;
· continue to expand our product development and sales and marketing organizations;
· acquire complementary technologies, products or businesses;
· expand operations, in the United States or internationally;
· hire, train and retain employees; or
· respond to competitive pressures or unanticipated working capital requirements.

Our failure to do any of these things could seriously harm our ability to execute our business strategy and may force us to curtail our research and development plans or existing operations.

Disclosures about Contractual Obligations and Commercial Commitments

The impact that our contractual obligations as of December 31, 2016 are expected to have on our liquidity and cash flow in future periods is (in thousands):

	Payment Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating leases	$ 2,804	$ 753	$ 1,537	$ 514	$ —
Software licenses	1,104	760	344	—	—
	$ 3,908	$ 1,513	$ 1,881	$ 514	$ —

Our software licenses related to computer-aided design software.

Off-Balance Sheet Arrangements

We do not maintain any off-balance sheet arrangements or obligations that are reasonably likely to have a material current or future effect on our financial condition, results of operations, liquidity or capital resources.

Indemnifications

In the ordinary course of business, we enter into contractual arrangements under which we may agree to indemnify the counter-party from losses relating to a breach of representations and warranties, a failure to perform certain covenants, or claims and losses arising from certain external events as outlined within the particular contract, which may include, for example, losses arising from litigation or claims relating to past performance. Such indemnification clauses may not be subject to maximum loss clauses. We have also entered into indemnification agreements with our officers and directors. No material amounts related to these indemnifications are reflected in our consolidated financial statements for the years ended December 31, 2016, 2015 or 2014.

Recent Accounting Pronouncements

See Note 1 to the consolidated financial statements in Item 15 of this report for a full description of recent accounting pronouncements, including the respective expected dates of adoption and effects on results of operations and financial condition.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest rate risk

We have exposure to interest rate risk due to our investment portfolio. Our investments are made in accordance with an investment policy under the guidance of the audit committee of our board of directors. The primary objective of our investment activities is to preserve principal and meet liquidity needs. To achieve this objective, we maintain our portfolio of cash equivalents and short-term and long-term investments in a variety of securities, including money market accounts, certificates of deposit, corporate debt, government-sponsored enterprise bonds and municipal bonds. We place our investments with high-credit quality issuers and, by policy, limit the amount of credit exposure with any one issuer or fund. The investments, other than money market funds, are classified as available-for-sale and are recorded on the balance sheet at fair value with unrealized gains and losses reported as a separate component of accumulated other comprehensive income (loss). Securities with an original maturity of three months or less are considered cash equivalents. Securities with original maturities greater than three months and remaining maturities less than one year are classified as short-term investments. Securities with remaining maturities greater than one year are classified as long-term investments. All investments have a maturity of less than two years. No single security should exceed 5% of the portfolio or $2.0 million at the time of purchase. The portfolio's dollar-weighted average maturity of investments is within 12 months. These securities, which approximated $8.4 million as of December 31, 2016 and earned an average annual interest rate of approximately 0.4% in 2016, are subject to interest rate and credit risks. As of December 31, 2016, we performed a sensitivity analysis on our investment portfolio. According to our analysis, parallel shifts in the yield curve of both +/−0.5% would result in changes in fair market values for these investments of less than $2,000. We do not have any investments denominated in foreign currencies, and therefore are not subject to foreign currency risk on such investments.

Foreign currency exchange rate risk

Currently, all of our international sales are denominated in U.S. dollars and, as a result, we have not experienced significant foreign exchange gains or losses to date. However, the expenses of our foreign entities are primarily denominated in their local currencies, therefore we have risk of foreign exchange gains and losses through the funding of those expenditures. We do not currently enter into forward exchange contracts to hedge exposures denominated in foreign currencies or any other derivative financial instruments for trading or speculative purposes. However, in the event our exposure to foreign currency risk increases, we may choose to hedge those exposures. For most currencies, we are a net payer of foreign currencies and, therefore, benefit from a stronger U.S. dollar and are adversely affected by a weaker U.S. dollar relative to those foreign currencies.

Item 8. Financial Statements and Supplementary Data

Reference is made to the consolidated financial statements listed under the heading (a) (1) Financial Statements and Report of BPM LLP. of Item 15, which consolidated financial statements are incorporated by reference in response to this Item 8.

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Quarterly Results of Operations

The following table sets forth unaudited results of operations data for each of the eight quarters in the two-year period ended December 31, 2016. This unaudited information has been prepared on a basis consistent with our audited financial statements appearing elsewhere in this report and, in the opinion of our management, includes all adjustments, consisting only of normal recurring adjustments, except as disclosed below, necessary for a fair presentation of the information for the periods presented. The unaudited quarterly information should be read in conjunction with the financial statements and notes included elsewhere in this report. The table has been modified to reflect the impact of a 10-for-1 reverse stock split effected February 16, 2017. See Note 1 of the consolidated financial statements for further discussion of the reverse stock split.

	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015	Sep. 30, 2015	Jun. 30, 2015	Mar. 31, 2015
	(In thousands, except per share data) (Unaudited—All periods)							
Net revenue:								
Product	$ 992	$ 1,205	$ 1,287	$ 1,120	$ 1,112	$ 565	$ 543	$ 180
Royalty and other	375	368	346	331	486	457	451	596
Total net revenue	1,367	1,573	1,633	1,451	1,598	1,022	994	776
Cost of net revenue	591	658	963	863	881	793	563	237
Gross profit	776	915	670	588	717	229	431	539
Operating expenses:								
Research and development	4,043	3,927	4,884	5,232	5,633	8,793	5,789	6,893
Selling, general and administrative	1,150	1,450	1,577	1,516	1,588	1,547	1,550	1,614
Impairment of goodwill	9,858	—	—	—	—	—	—	—
Restructuring charges	—	—	—	676	—	—	—	—
Total operating expenses	15,051	5,377	6,461	7,424	7,221	10,340	7,339	8,507
Operating loss	(14,275)	(4,462)	(5,791)	(6,836)	(6,504)	(10,111)	(6,908)	(7,968)
Other (expense) income, net	(218)	(219)	(193)	(9)	23	19	29	23
Loss before income taxes	(14,493)	(4,681)	(5,984)	(6,845)	(6,481)	(10,092)	(6,879)	(7,945)
Income tax (benefit) provision	(15)	20	20	20	26	13	27	20
Net loss	$ (14,478)	$ (4,701)	$ (6,004)	$ (6,865)	$ (6,507)	$ (10,105)	$ (6,906)	$ (7,965)

Net loss per share:								
Basic and diluted	$ (2.18)	$ (0.71)	$ (0.91)	$ (1.05)	$ (0.99)	$ (1.55)	$ (1.07)	$ (1.47)
Shares used in computing net loss per share:								
Basic and diluted	6,630	6,609	6,598	6,567	6,549	6,531	6,473	5,428

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure

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controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934. Based on this evaluation, our management concluded that as of December 31, 2016, our disclosure controls and procedures were effective.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control—Integrated Framework (2013 Framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2016.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the fourth fiscal quarter of 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

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Part III

Item 10. Directors, Executive Officers and Corporate Governance

The names of our directors and certain information about each of them are set forth below.

Name	Age	Position(s) with the Company
Leonard Perham	73	Chief Executive Officer, President and Director
Stephen L. Domenik(1)(2)	65	Director
Tommy Eng(1)(3)	59	Director

(1)Member of Audit Committee

(2)Member of Compensation Committee

(3)Member of Technology Strategy Committee

The principal occupations and positions for at least the past five years of our directors are described below. There are no family relationships among any of our directors or executive officers.

Len Perham. Mr. Perham was appointed to be our chief executive officer and president and a member of our board of directors in November 2007. Mr. Perham was one of the original investors in MoSys and initially served on our board of directors from 1991 to 1997. In 2000, Mr. Perham retired from Integrated Device Technology, Inc., where he served as chief executive officer from 1991 to 2000 and as president and a board member from 1986. From March 2000 to February 2012, Mr. Perham served as a member of the board of directors of NetLogic Microsystems, Inc., a fabless semiconductor company, including as chairman for a portion of that time. Mr. Perham also has been a private investor holding officer and director positions with various private companies. Mr. Perham holds a B.S. in electrical engineering from Northeastern University. We believe that Mr. Perham's qualifications to serve as a director include his tenure as our chief executive officer and as a member of the board of directors, during which time he has gained a unique and extensive understanding of our company, our business and our long-term strategy, as well as his experience in the semiconductor industry generally.

Tommy Eng. Mr. Eng was appointed to our board of directors in August 2004. Mr. Eng is a founding partner of EXA Ventures, a venture-capital investment firm specializing in IT, semiconductor, communications, multimedia

technology/services/content, software, and the incubation of early-stage technology companies. Mr. Eng has been an investor holding officer and director positions with various private companies. Prior to founding EXA Ventures, Mr. Eng was an entrepreneur and executive in the semiconductor, software and communications industries. Mr. Eng held various executive and engineering positions at Tera Systems, Mentor Graphics, Silicon Compiler Systems, and Bell Labs. Mr. Eng holds a B.S. in electrical engineering from Polytechnic University in New York and a M.S. in electrical engineering from the University of California at Berkeley. We believe that Mr. Eng's qualifications to serve on our board of directors include his extensive business experience, including senior management positions at several different companies in the semiconductor industry. He brings strategic and technical insight to the board of directors.

Stephen L. Domenik. Mr. Domenik was appointed to our board of directors in June 2012. Since 1995, Mr. Domenik has been a general partner with Sevin Rosen Funds, a venture capital firm. Since August 2010, Mr. Domenik has served on the board of directors of Pixelworks, Inc., and, from February 2016 to April 2016, served as its Interim Chief Executive Officer. Mr. Domenik served on the board of directors of Meru Networks, Inc., from January 2014, and as its chairman from January 2015, until it was acquired in July 2015. Since December 2013, Mr. Domenik has served on the board of directors of Emcore Corporation. He also served on the board of PLX Technology, Inc. prior to its acquisition by Avago and on the board of directors of NetLogic Microsystems, Inc. from January 2001 until it was acquired in February 2012. Mr. Domenik holds a B.S. in Physics and a M.S.E.E. from the University of California at Berkeley. We believe that Mr. Domenik's qualifications to serve on our board of directors include his extensive business experience, having held senior-management positions at several companies in the semiconductor and software industries and having served on the boards of directors of multiple public semiconductor companies. In addition, he has considerable relevant experience in corporate investments and the strategic development of high-technology companies.

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The names of our executive officers and certain information about them are set forth either above or below, as the case may be:

Name	Age	Position(s) with the Company
Leonard Perham	73	President and Chief Executive Officer
James W. Sullivan	48	Vice President of Finance and Chief Financial Officer
Thomas Riordan	60	Chief Operating Officer and Executive Vice President
John Monson	54	Vice President of Marketing and Sales

James W. Sullivan. Mr. Sullivan became our Vice President of Finance and Chief Financial Officer in January 2008. From July 2006 until January 2008, Mr. Sullivan served as Vice President of Finance and Chief Financial Officer at Apptera, Inc., a venture-backed company providing software for mobile advertising, search and commerce. From July 2002 until June 2006, Mr. Sullivan was the Chief Financial Officer at 8x8, Inc., a provider of voice-over-internet-protocol communication services. Mr. Sullivan's prior experience includes various positions at 8x8, Inc. and PricewaterhouseCoopers LLP. He received a Bachelor of Science degree in Accounting from New York University and is a certified public accountant.

Thomas Riordan. Mr. Riordan became our Chief Operating Officer and Executive Vice President in May 2011. Prior to joining the Company, Mr. Riordan was President and Chief Executive Officer of Exclara, Inc., a fabless semiconductor supplier of ICs for solid-state lighting from 2006 until 2010. From 2000 to 2004, Mr. Riordan served as Vice President of PMC-Sierra's microprocessor division. Mr. Riordan joined PMC-Sierra in August 2000 when it purchased Quantum Effect Devices, which he had co founded and served as President and Chief Executive Officer. Mr. Riordan serves on the board of directors of Mellanox Technologies. Mr. Riordan holds Bachelor of Science and Master of Science degrees in Electrical Engineering as well as a Bachelor of Arts degree in Government from the University of Central Florida and has done post-graduate work in Electrical Engineering at Stanford University.

John Monson. Mr. Monson became our Vice President of Marketing in February 2012. In early 2014, he assumed, on a permanent basis, additional responsibilities for our sales and business development activities and became our Vice President of Marketing and Sales. Prior to joining the Company, Mr. Monson was Vice President of Marketing for Mellanox Technologies, a supplier of interconnect solutions and services, from 2009 to 2012. From 2007 to 2008, Mr. Monson was Vice President of the EDC/PhyOptik business line at Inphi Corporation. He joined Inphi Corporation through a business unit acquisition of Scintera Networks, where he was Vice President of Sales and Marketing from 2005 to 2007. Previously, he held various management positions at PMC-Sierra, Inc., Lucent Technologies and AT&T Microelectronics. Mr. Monson received a Bachelor of Science degree in Electrical Engineering from the University of Minnesota.

CORPORATE GOVERNANCE

Director Independence

Our board of directors has determined that each of the current directors, with the exception of Mr. Perham, is "independent," as defined by the listing rules of the NASDAQ Stock Market, or NASDAQ, and the rules and regulations of the Securities and Exchange Commission, or SEC. Our board of directors has standing Audit and Compensation Committees, each of which is comprised solely of independent directors in accordance with the NASDAQ listing rules. No director qualifies as independent unless the board of directors affirmatively determines that he has no direct or indirect relationship with us that would impair his independence. We independently review the relationship of the Company to any entity employing a director or on whose board of directors he is serving currently.

Audit Committee

Our board of directors established the Audit Committee for the purpose of overseeing the accounting and financial reporting processes and audits of our financial statements. The Audit Committee also is charged with reviewing reports regarding violations of our code of ethics and complaints with respect thereto, and internal control violations under our whistleblower policy are directed to the members of the Audit Committee. The responsibilities of our Audit Committee are described in the Audit Committee Charter adopted by our board of directors, a current copy of which can be found on the investors section of our website, www.mosys.com.

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Messrs. Eng and Domenik are the members of the Audit Committee. Our board of directors has determined that they are independent as determined in accordance with Rule 5605(a)(2) of the NASDAQ listing rules and Rule 10A-3 of the Securities Exchange Act of 1934, as amended (the Exchange Act). Victor Lee, a former independent director and chairman of the Audit Committee, declined to stand for reelection at the 2016 annual meeting held June 24, 2016. As a result, the number of independent directors on the Audit Committee was reduced from three to two.

On July 14, 2016, we received a deficiency letter from the Listing Qualifications Department (the Staff) of Nasdaq providing notification that the Company was not in compliance with Nasdaq's audit committee composition requirements pursuant to Nasdaq Listing Rule 5605(c)(2). Nasdaq Listing Rule 5605 requires a listed company to have an audit committee comprised of at least three independent members. The letter also states that we will be provided: (i) until the earlier of our next annual shareholders' meeting or June 24, 2017. If we do not regain compliance during this period, then the Staff will provide notice that our securities will be subject to delisting. Our board of directors has been seeking to identify a candidate to fill this vacancy by the 2017 annual meeting and allow to regain compliance with Nasdaq Listing Rule 5605(c)(2).

Compensation Committee

The Compensation Committee is responsible for reviewing, recommending and approving our compensation policies and benefits, including the compensation of all of our executive officers and directors. Our Compensation Committee also has the principal responsibility for the administration of our equity incentive and stock purchase plans. The responsibilities of our Compensation Committee are described in the Compensation Committee Charter adopted by our board of directors, a current copy of which can be found on the investors section of our website, www.mosys.com.

During 2016 and until February 28, 2017, our Compensation Committee was comprised of Messrs. Domenik and Chi-Ping Hsu, with Mr. Domenik serving as the chairman. Mr. Hsu resigned as our director on February 28, 2017. As a result of Mr. Hsu's departure, the Compensation Committee has a vacancy, which we will endeavor to fill by the 2017 annual meeting.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than 10% of a registered class of our equity securities to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of ours. Directors, executive officers and greater than 10% holders are required by SEC regulation to furnish us with copies of all Section 16(a) reports they file. Based solely on our review of Forms 3 and 4 received during 2016 (and any written representations to us by such persons), we believe that all directors, executive officers and 10% stockholders complied with all applicable Section 16(a) filing requirements during 2016.

Compensation Committee interlocks and insider Participation

During 2016, none of our executive officers served as a member of the board of directors or compensation committee of any entity that had one or more of its executive officers serving as a member of our board of directors or Compensation Committee. Messrs. Domenik and Hsu, the Compensation Committee members, were not officers or employees of ours during 2016 or at any other time.

Code of Ethics

We have adopted a code of ethics that applies to all of our employees. The code of ethics is designed to deter wrongdoing and to promote, among other things, honest and ethical conduct, full, fair, accurate, timely, and understandable disclosures in reports and documents submitted to the SEC and other public communications, compliance with applicable governmental laws, rules and regulations, the prompt internal reporting of violations of the code to an appropriate person or persons identified in the code and accountability for adherence to such code.

The code of ethics is available on our website, www.mosys.com. We will provide to any person without charge, upon request, a copy of our code of ethics. Such a request can be made by contacting us via telephone at 408.418.7500 or via mail addressed to MoSys, Inc., 3301 Olcott Street, Santa Clara, CA 95054, Attention: Corporate Secretary. If we make any substantive amendments to the code of ethics or grant any waiver, including any implicit waiver, from a

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provision of the code to our Chief Executive Officer or Chief Financial Officer, or persons performing similar functions, where such amendment or waiver is required to be disclosed under applicable SEC rules, we intend to disclose the nature of such amendment or waiver on our website.

Item 11. Executive Compensation

The information presented below has been modified to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017. See Note 1 of the consolidated financial statements in Item 15 of this Report for further discussion of the reverse stock split.

Compensation Discussion and Analysis

Overview of Compensation Program

The Compensation Committee of the board of directors has responsibility for establishing, implementing and monitoring adherence to our compensation philosophy. The board of directors has delegated to the Compensation Committee the responsibility for determining our compensation policies and procedures for senior management, including the named executive officers, periodically reviewing these policies and procedures, and making recommendations concerning executive compensation to be considered by the full board of directors, when such approval is required under any of our plans or policies or by applicable laws. The Compensation Committee also has the principal responsibility for the administration of our stock plans, including the approval of equity awards to the named executive officers.

The compensation received by our named executive officers in fiscal year 2016 is set forth in the Summary Compensation Table, below. For 2016, the named executive officers included Leonard Perham, President and Chief Executive Officer, James Sullivan, Vice President of Finance and Chief Financial Officer, Thomas Riordan, Chief Operating Officer, and John Monson, Vice President of Marketing and Sales.

Compensation Philosophy

In general, our executive compensation policies are designed to recruit, retain and motivate qualified executives by providing them with a competitive total compensation package based in large part on the executive’s contribution to our financial and operational success, the executive’s personal performance and increases in stockholder value as measured by the price of our common stock. We believe that the total compensation paid to our executives should be fair, reasonable and competitive.

We seek to have a balanced approach to executive compensation with each primary element of compensation (base salary, variable compensation and equity incentives) designed to play a specific role. Overall, we design our compensation programs to allow for the recruitment, retention and motivation of the key executives and high-level talent required in order for us to:

- supply high-value and high-quality integrated circuit solutions to our customer base;
- achieve or exceed our annual financial plan and be profitable;
- make continuous progression towards achieving our long-term strategic objectives to be a high-growth company with growing profitability; and
- increase our share price to provide greater value to our stockholders.

Role of Executive Officers in Compensation Decisions

The chief executive officer (CEO) makes recommendations based on guidelines for equity and non-equity compensation for executives that have been approved by the Compensation Committee. The Compensation Committee reviews these guidelines annually. The CEO annually reviews the performance of our executives (other than himself) and presents his recommendations for proposed salary adjustments, bonuses and equity awards to the Compensation Committee once a year. In its discretion, the Compensation Committee may accept, modify or reject the CEO’s

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recommendations. The Compensation Committee evaluates the compensation of the CEO on its own without the participation or involvement of the CEO. Only the Compensation Committee and the board of directors are authorized to approve the compensation for any named executive officer. Compensation of new executives is based on hiring negotiations between the individuals and our CEO and/or Compensation Committee.

Elements of Compensation

Consistent with our compensation philosophy and objectives, we offer executive compensation packages consisting of the following three components:

- base salary;
- annual incentive compensation; and
- equity awards.

In each fiscal year, the Compensation Committee determines the amount and relative weighting of each component for all executives, including the named executive officers. Base salaries are paid in fixed amounts and thus do not encourage risk taking. Our widespread use of long-term compensation consisting of stock options and restricted stock units (RSUs) focuses recipients on the achievement of our longer-term goals and conserves cash for other operating expenses. For example, the RSUs granted to our executives in 2016 vest in increments over three years and will fully vest in 2019, and the stock options and RSUs granted to our non-executive employees vest in increments over three to four years from the date of grant. The Compensation Committee does not believe that these awards encourage unnecessary or excessive risk taking because the ultimate value of the awards is tied to our stock price, and the use of multi-year vesting schedules helps to align our employees' interests even more closely with those of our long-term investors.

Base Salary

Because our compensation philosophy stresses performance-based awards, base salary is intended to be a smaller portion of total executive compensation relative to long-term equity. The Compensation Committee takes into account the executive's scope of responsibility and significance to the execution of our long-term strategy, past accomplishments, experience and personal performance and compares each executive's base salary with those of the

other members of senior management. The Compensation Committee may give different weighting to each of these factors for each executive, as it deems appropriate. The Compensation Committee did not retain a compensation consultant or determine a compensation peer group for 2016. No changes to executive officers' base salaries occurred in 2016.

Annual Incentive Compensation

On April 26, 2016, the Compensation Committee implemented a bonus plan for Messrs. Sullivan and Monson providing for bonuses of 26% and 5%, respectively, of their base salary. The Compensation Committee determined that these bonuses were warranted based on the executives' performance and increases in the cost of living, as the executives would not receive any salary increases in 2016. These bonuses were paid in full during 2016 and 2017.

In addition, during 2016, Mr. Monson was eligible for payments totaling $60,000 under a sales incentive plan because of his responsibility for managing our sales efforts. Under this incentive plan, Mr. Monson was awarded additional compensation of $48,000 for his service in 2016.

Equity Awards

Although we do not have a mandated policy regarding the ownership of shares of common stock by officers and directors, we believe that granting equity awards to executives and other key employees on an ongoing basis gives them a strong incentive to maximize stockholder value and aligns their interests with those of our other stockholders on a long-term basis. Our Amended and Restated 2010 Equity Incentive Plan (the Equity Plan) enables us to grant equity awards, as well as other types of stock-based compensation, to our executive officers and other employees. The Compensation Committee reviews and approves all equity awards granted under the Equity Plan to the named executive

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officers. We grant equity awards to achieve retention and motivation:

- upon the hiring of key executives and other personnel;
- annually, when we review progress against corporate and personal goals; and
- when we believe that competitive forces or economic conditions threaten to cause our key executives to lose their motivation and/or where retention of these key executives is in jeopardy.

With the Compensation Committee's approval, we grant options to purchase shares of common stock when we initially hire executives and other employees, as a long-term performance incentive. The Compensation Committee has determined the size of the initial option grants to newly hired executives with reference to option grants held by existing executives, the percentage that such grant represents of our total shares outstanding and hiring negotiations with the individual. In addition, the Compensation Committee would consider other relevant information regarding the size and type of compensation package considered necessary to enable us to recruit, retain and motivate the executive.

Typically, when we hire an executive, the options vest with respect to one-fourth of the total number of shares subject to the grant on the first anniversary of the grant date and with respect to 1/48th of the shares monthly thereafter. The options granted to executives in connection with annual performance reviews typically vest over a four-year period at the rate of 1/48th of the shares monthly, and RSUs granted typically vest annually over a period of from three-to-five years, as the Compensation Committee may decide. As matters of policy and practice we grant stock options with an exercise price equal to fair market value, although the Equity Plan allows us to use a different exercise price. In determining fair market value, we use the closing price of the common stock on the Nasdaq Capital Market, or Nasdaq CM, on the grant date.

Historically, no employee has been eligible for an annual performance grant until the employee has been employed for at least six months. Annual performance reviews are generally conducted in the first quarter of each fiscal year. Our CEO conducts the performance review of all other executives, and makes his recommendations to the Compensation Committee. The Compensation Committee also reviews the CEO's annual performance and determines whether he should receive additional equity awards. Aside from equity award grants in connection with annual performance reviews, we do not have a policy of granting additional awards to executives during the year. The board of directors and Compensation Committee have not adopted a policy with respect to setting the dates of award grants relative to the timing of the release of material non-public information. Our policy with respect to prohibiting insider trading restricts sales of shares during specified black-out periods, including at all times that our insiders are considered to possess material non-public information.

In determining the size of equity awards in connection with the annual performance reviews of our executives, the Compensation Committee takes into account the executive's current position with and responsibilities to us, and current and past equity awards to the executive. In July 2016, in connection with Mr. Perham's review of the executives' annual performance, upon the recommendation of Mr. Perham, the Compensation Committee approved awards of restricted stock units for 10,000 shares of common stock to each of Messrs. Sullivan and Riordan and 6,000 shares to Mr. Monson. Those grants were consistent with our practice of awarding annual refresh equity awards to our executives after considering each executive's outstanding awards and the percentage that total equity awards held by each executive represent as a percentage of our total shares outstanding, in light of our annual performance.

Stock Option Exchange

In July 2016, we initiated a one-time option exchange program pursuant to which employees (excluding our chief executive officer and non-employees, including members of our board of directors) who held certain options to purchase shares of the Company's common stock (such options, eligible options) were given the opportunity to exchange such eligible options for a lesser number of replacement options with a lower exercise price. For the named executive officers, eligible option shares represented stock options granted prior to July 1, 2013. Upon the expiration of the option exchange program on August 23, 2016, all of our named executive officers tendered their eligible options and received new options at a rate of 1 replacement option share for every 1.75 option shares tendered. The replacement options have an exercise price of $7.20 per share and vest monthly over three years and have a 10-year term.

While only the board of directors or the Compensation Committee may approve options or other equity-based

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compensation to our executives, the board of directors has authorized the CEO to approve option grants to employees at the senior director level and below for the purchase of not more than 100,000 shares by any employee during any calendar year. All such grants must be consistent with equity incentive guidelines approved by the Compensation Committee. The exercise price for such grants must be equal to the closing price of a share of the common stock on the Nasdaq CM on the date of grant.

Going forward, we intend to continue to evaluate and consider equity grants to our executives on an annual basis. We expect to consider potential equity awards for executives at the same time as we annually review our employees' performance and determine whether to award grants for all employees.

Accounting and Tax Considerations

Our Compensation Committee has reviewed the impact of tax and accounting treatment on the various components of our executive compensation program. Section 162(m) of the Internal Revenue Code (the "Code") generally disallows a tax deduction to publicly-held companies for compensation paid to "covered" executive officers, to the extent that compensation paid to such an officer exceeds $1 million during the taxable year. We endeavor to award compensation that will be deductible for income tax purposes, though other factors will also be considered. Our Compensation Committee may authorize compensation payments that do not comply with the exemptions to Section 162(m) when we believe that such payments are appropriate to attract and retain executive talent.

Say-on-Pay

In 2014, we gave our stockholders an opportunity to provide feedback on our executive compensation through an advisory vote at our annual stockholder meeting. Stockholders were asked to approve, on an advisory basis, the compensation paid to our named executive officers. A majority of stockholders indicated approval of the compensation of the named executive officers, with approximately 95% of the shares that voted on such matter voting in favor of the proposal.

In light of the results of the advisory vote, the Compensation Committee has continued to apply principles that were substantially similar to those applied historically in determining compensation policies and decisions and did not make any significant changes to executive compensation decisions and policies with respect to 2016 executive compensation. The Compensation Committee will consider the results of the current advisory vote in its compensation policies and decisions.

COMPENSATION COMMITTEE REPORT

The Compensation Committee has reviewed and discussed with management the Compensation Discussion and Analysis provisions to be included in our Annual Report on Form 10-K for the year ended December 31, 2016. Based on this review and discussion, the Compensation Committee has recommended to the board of directors that the Compensation Discussion and Analysis be included in our Annual Report on Form 10-K for the year ended December 31, 2016.

The Compensation Committee of the Board of Directors:

Stephen L. Domenik (Chairman)

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SUMMARY COMPENSATION TABLE

The following table sets forth compensation information for fiscal years 2016, 2015 and 2014 for each of our named executive officers.

Name and principal position	Year	Salary ($)	Stock Option Awards ($)(1)(2)	Restricted Stock Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)		Total ($)
Leonard Perham	2016	150,000	—	—	—		150,000
Chief Executive Officer & President	2015	150,000	164,400	—	—		314,400
	2014	150,000	—	—	—		150,000
James Sullivan	2016	234,990	63,114	53,000	55,876	(3)	406,980
Chief Financial Officer &	2015	234,990	59,748	—	—		294,738
Vice President of Finance	2014	209,625	—	138,600	—		348,225
Thomas Riordan	2016	160,000	156,960	53,000	—		369,960
Chief Operating Officer &	2015	160,000	99,580	—	—		259,580
Executive Vice President	2014	160,000	—	—	—		160,000
John Monson(4)	2016	225,750	71,701	31,800	48,000	(4)	
Vice President of Marketing & Sales					5,644	(3)	382,895
	2015	225,750	59,748	—	51,000	(4)	336,498
	2014	215,000	—	92,400	37,500	(4)	344,900

(1)Award amounts reflect the aggregate grant date fair value with respect to awards granted during the years indicated, as determined pursuant to FASB ASC Topic 718. The assumptions used to calculate the aggregate grant date fair value of option and stock awards are set forth in the notes to the audited consolidated financial statements included in item 15 of this Report. These amounts do not reflect actual compensation earned or to be earned by our named executive officers.

(2)As discussed above under Stock Option Exchange, in August 2016, each of the named executive officers, except Mr. Perham, tendered their eligible options and received new options at a rate of 1 replacement option share for each 1.75 option shares tendered. No other stock option awards were granted to the named executive officers in 2016.

(3)Earned as bonuses in 2016.

(4)Mr. Monson became our vice president of marketing in February 2012. In early 2014, he assumed, on a permanent basis, additional responsibilities for our sales and business development activities and became our vice president of

marketing and sales. Mr. Monson earned the amounts listed for him in the non-equity incentive plan compensation column for performance pursuant to a sales incentive plan.

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GRANTS OF PLAN-BASED AWARDS

The following table provides information on plan-based awards granted in 2016 to each of the named executive officers.

Name	Grant Date	All Other Stock Awards: Number of Shares of Stock or Units (#)(1)	All Other Option Awards: Number of Securities Underlying Options (#)(2)	Exercise or Base Price of Option Awards ($/Share)(3)	Grant Date Fair Value of Stock and Option Awards ($)(4)
James Sullivan	7/22/16	10,000	—	—	$ 53,000
James Sullivan	8/23/16	—	15,785	$ 7.20	$ 63,114
Tom Riordan	7/22/16	10,000	—	—	$ 53,000
Tom Riordan	8/23/16	—	45,714	$ 7.20	$ 156,960
John Monson	7/22/16	6,000	—	—	$ 31,800
John Monson	8/23/16	—	12,851	$ 7.20	$ 71,701

(1)Represents restricted stock units granted pursuant to the Equity Plan.

(2)As discussed above under Stock Option Exchange, officers tendered their eligible options and received new options at a rate of 1 replacement option share for each 1.75 option shares tendered.

(3)Each option was granted at an exercise price equal to the fair market value of our common stock on the grant date which was equal to the closing price of our common stock on the Nasdaq CM on the date of grant.

(4)Award amounts shown reflects the aggregate grant date fair value for financial statement reporting purposes, as determined pursuant to FASB ASC Topic 718, which utilizes certain assumptions as outlined in the notes to the audited consolidated financial statements included in Item 15 of this Report.

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OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

The following table sets forth information regarding the outstanding equity awards held by our named executive officers as of December 31, 2016.

	Option Awards						Stock Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable		Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price($)	Option Expiration Date(1)	Number of Units That Have Not Vested (#)		Market Value of Units That Have Not Vested ($)	
Leonard Perham	20,000	(2)	—	—	35.40	11/1/17	—		—	
	96,752	(3)	3,248	—	44.60	6/6/23	—		—	
	239,583	(4)	10,417	—	20.50	3/30/25	—		—	
James Sullivan	—		—	—	—	—	1,200	(5)	2,760	(6)
	2,875	(7)	3,125	—	20.50	3/30/25	—		—	
	—		—	—	—	—	10,000	(8)	23,000	(6)
	1,753	(9)	14,032	—	7.20	8/23/26	—		—	
Thomas Riordan	4,792	(4)	5,208		20.50	3/30/25	—		—	
	—		—	—	—	—	10,000	(8)	23,000	(6)
	5,080	(9)	40,634	—	7.20	8/23/26	—		—	
John Monson	—		—	—	—	—	800	(5)	1,840	(6)
	2,875	(7)	3,125	—	20.50	3/30/25	—		—	
	—		—	—	—	—	6,000	(8)	13,800	(6)
	1,428	(9)	11,423	—	7.20	8/23/26	—		—	

(1)The standard option term is generally six to ten years, but all of the options expire automatically unless exercised within 90 days after the cessation of service as an employee, director or consultant of ours.

(2)The stock option was granted on November 1, 2011, and the shares subject to this option vested monthly over 24 months.

(3)The stock option was granted on June 6, 2013, and the shares subject to this option vest monthly such that 17,000, 45,000, 25,000, 9,752 and 3,248 shares vest during each fiscal year ending December 31, 2013, 2014, 2015, 2016, and 2017, respectively, subject to continued employment (or service as a director or consultant).

(4)The stock option was granted on March 30, 2015, and the shares subject to this option vest monthly over 24 months subject to continued employment (or service as a director or consultant).

(5)The shares subject to each restricted stock unit grant vest annually over a four-year period commencing on February 18, 2014 subject to continued employment (or service as a director or consultant).

(6)The amount is calculated using the Company’s closing price of $2.30 per share of common stock on December 31, 2016.

(7)The stock option was granted on March 30, 2015, and the shares subject to this option vest monthly over 48 months subject to continued employment (or service as a director or consultant).

(8)The shares subject to each restricted stock unit grant vest annually over a three-year period commencing on March 1, 2017 subject to continued employment (or service as a director or consultant).

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(9)As discussed above under Stock Option Exchange, officers tendered their eligible options and received new options at a rate of 1 replacement option share for each 1.75 option shares tendered. Upon expiration of the stock option exchange, the stock option was granted on August 23, 2016, and the shares subject to this option vest monthly over 48 months subject to continued employment (or service as a director or consultant).

OPTION EXERCISES AND STOCK VESTED

The following table sets forth the number of shares acquired and aggregate dollar amount realized pursuant to the exercise of options and vesting of stock awards by our named executive officers during 2016.

	Option Awards		Stock Awards	
Name	Number of Shares Acquired on Exercise(#)	Value Realized on Exercise($)	Number of Shares Acquired on Vesting(#)	Value Realized on Vesting($)(1)
James Sullivan	—	—	933	6,306
John Monson	—	—	400	2,760

(1)The aggregate dollar value realized upon vesting represents the closing price of a share of common stock on the Nasdaq CM at the date of vesting, multiplied by the total number of shares vested.

EMPLOYMENT AND CHANGE-IN-CONTROL ARRANGEMENTS AND AGREEMENTS

On April 26, 2016, our Compensation Committee adopted our Executive Change-in-Control and Severance Policy (the “Policy”). The benefits provided by the Policy are intended to encourage the continued dedication of our executive officers and to mitigate potential disincentives to the consideration of a transaction that would result in a change in control, particularly where the services of our named executive officers may not be required by a potential acquirer. The Policy provides for benefits for our named executive officers in the event of a “Change-in-Control,” which is generally defined as:

an acquisition of 45% or more of our common stock or voting securities by any “person” as defined under the Exchange Act; or

consummation of a complete liquidation or dissolution of the Company or a merger, consolidation, reorganization or sale of all or substantially all of our assets (collectively, a "Business Combination") other than a Business Combination in which (A) our stockholders receive 50% or more of the stock of the corporation resulting from the Business Combination and (B) at least a majority of the board of directors of such resulting corporation were our incumbent directors immediately prior to the consummation of the Business Combination, and (C) after which no individual, entity or group (excluding any corporation or other entity resulting from the Business Combination or any employee benefit plan of such corporation or of ours) who did not own 45% or more of the stock of the resulting corporation or other entity immediately before the Business Combination owns 45% or more of the stock of such resulting corporation or other entity.

Under the Policy, the following compensation and benefits are to be provided to our chief executive officer upon the occurrence of a Change-in-Control, and in the case of our other named executive officers, upon a Change-in-Control combined with a termination of the named executive officer's employment without cause, or due to disability or resignation for good reason (as defined in the Policy) in connection with the Change-in-Control or within 24 months after it:

any base salary earned but not yet paid through the date of termination;

any annual or discretionary bonus earned but not yet paid to him for any calendar year prior to the year in which his termination occurs;

any compensation under any deferred compensation plan of ours or deferred compensation agreement with us then in effect;

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any other compensation or benefits, including without limitation any benefits under long-term incentive compensation plans, any benefits under equity grants and awards and employee benefits under plans that have vested through the date of termination or to which he may then be entitled in accordance with the applicable terms of each grant, award or plan;

reimbursement of any business expenses incurred by him through the date of termination but not yet paid;

reimbursement of the cost of continuation of medical benefits for a period of 12 months; and

acceleration of vesting of then-outstanding stock options and RSUs which are subject solely to time-based vesting.

Under the Policy, "cause" means the executive's:

·willful failure to attend to the executive's duties that is not cured by the executive within 30 days of receiving written notice from the CEO (or, in the case of the CEO, from the board of directors) specifying such failure;

·material breach of the executive's then-current employment agreement (if any) that is not cured by the executive within 30 days of receiving written notice from the CEO (or, in the case of the CEO, from the board of directors) specifying such breach;

·conviction of (or plea of guilty or nolo contendere to) any felony or any misdemeanor involving theft or embezzlement; or

·misconduct resulting in material harm to our business or reputation, including fraud, embezzlement, misappropriation of funds or a material violation of the executive's Employment, Confidential Information, Invention Assignment and Arbitration Agreement; and

Under the Policy, "good reason" means the occurrence of any of the following conditions without the executive's consent, but only if such condition is reported by the executive within 90 days of the executive's knowledge of such condition and remains uncured 30 days after written notice from the executive to the board of directors of said condition:

·a material reduction in the executive's then-current base salary or annual target bonus (expressed as a percentage of Executive's then-current base salary), except for a reduction proportionate to reductions concurrently imposed on all other members of the Company's executive management;

·a material reduction in the executive's then-current employee benefits package, taken as a whole, except for a reduction proportionate to reductions concurrently imposed on all other members of executive management;

·a material reduction in the executive's responsibilities with respect to our overall operations, such that continuity of responsibilities with respect to business operations existing prior to a corporate transaction will serve as a material reduction in responsibilities if such business operations represent only a subsidiary or business unit of the larger enterprise after the corporate transaction;

·a material reduction in the responsibilities of the executive's direct reports, including a requirement for the chief executive officer to report to another officer as opposed to our board of directors or a requirement for any other executive to report to any officer other than our chief executive officer;

·a material breach by us of any material provision of the executive's then-current employment agreement (if any);

·a requirement that the executive relocate to a location more than 35 miles from the executive's then-current office location, unless such office relocation results in the distance between the new office and Executive's home being closer or equal to the distance between the prior office and the executive's home;

·a failure of a successor or transferee to assume our obligations under this Policy; or

·a failure to nominate the executive for election as a Board director, if, at the proper time for nomination, the executive is a member of the board of directors

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The information below describes the severance benefits payable to our named executive officers under the Policy as if the Policy had been in effect and a Change-in-Control occurred on December 31, 2016, and the employment of each of our named executive officers was terminated without cause, except as set forth below, immediately following the Change-in-Control:

Name	Base Salary($) (1)	Incentive Plan($) (2)	Continuation of Benefits($)(3)	Stock Option Vesting($)(4)	Stock Award Vesting($)(5)	Total($)
Leonard Perham(6)	150,000	—	30,932	—	—	180,932
James Sullivan	234,990	18,625	9,731	—	25,760	270,481
Thomas Riordan	160,000	—	724	—	23,000	183,724
John Monson	225,750	47,381	33,667	—	15,640	320,557

(1)Represents cash severance payments based on the executive's salary at December 31, 2016, in an amount equal to one year of his base salary.

(2)Represents the average of executive's annual performance and sales incentive payments in the preceding three years.

(3)Represents the aggregate amount of all premiums payable for the continuation of the executive's health benefits for one year, based on the amounts of such premiums at December 31, 2016.

(4)The value is calculated as the intrinsic value per share, multiplied by the number of shares that would become fully vested upon the Change-in-Control. The intrinsic value per share would be calculated as the excess of the closing price of the common stock on the Nasdaq CM of $2.30 on December 31, 2016 over the exercise price of the option. If the value is less than zero, it is deemed to be zero for the purposes of these calculations.

(5)The value is calculated as the intrinsic value per share, multiplied by the number of shares that would become fully vested upon the Change-in-Control. The intrinsic value per share is considered as the closing price of the common stock on the Nasdaq CM of $2.30 on December 31, 2016.

(6)The benefits payable to Mr. Perham would be realized immediately upon the Change-in-Control, notwithstanding whether his employment was terminated.

If a Change-in-Control occurred on December 31, 2016, under the Policy, the following numbers of option and award shares would have vested immediately as a result of acceleration on December 31, 2016:

Name	Number of Accelerated Option and Award Shares
Leonard Perham	1,367
James Sullivan	28,357
Thomas Riordan	55,842
John Monson	21,348

Employment Agreements

In addition to the agreements containing the Change-in-Control provisions summarized above, we have entered into our standard form of employment, confidential information, invention assignment and arbitration agreement with each of the named executive officers.

We also have entered into agreements to indemnify our current and former directors and certain executive officers, in addition to the indemnification provided for in our certificate of incorporation and bylaws. These agreements, among other things, provide for indemnification of our directors and certain executive officers for many expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by any such person in any action or proceeding, including any action by or in the right of the Company, arising out of such person's services as a director or

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executive officer of the Company, any subsidiary of the Company or any other company or enterprise to which the person provided services at our request.

DIRECTOR COMPENSATION

The following table summarizes the compensation we paid to our non-employee directors in 2016:

Name	Option Awards ($)(1)(2)	Total ($)
Tommy Eng	4,996	4,996
Chi-Ping Hsu(3)	4,996	4,996
Stephen L. Domenik	9,992	9,992
Victor K. Lee (4)	9,992	9,992

(1)Option award amounts reflect the aggregate grant date fair value with respect to stock options granted to the non-employee directors, as determined pursuant to FASB ASC Topic 718..The assumptions used to calculate the aggregate grant date fair value of option awards are set forth in the notes to the audited consolidated financial statements included in Item 15 of this Report. These amounts do not reflect actual compensation earned or to be earned by our non-employee directors. Option award amounts consist of: options granted to Mr. Eng and Dr. Hsu on July 22, 2016 to purchase 2,000 shares each and options granted to Mr. Domenik on July 22, 2016, to purchase 4,000 shares.

(2)As of December 31, 2016, our non-employee directors held outstanding options to purchase the following number of shares of our common stock: Tommy Eng, 120,000; Chi-Ping Hsu, 120,000; and Stephen L. Domenik, 300,000.

(3)Mr. Hsu resigned from our board of directors in February 2017.

(4)Mr. Lee ceased to be a director in June 2016.

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Our Amended and Restated 2010 Equity Incentive Plan (the "Equity Plan") permits the board of directors to establish by resolution the number of shares, up to a maximum of 40,000 each year for each non-employee director, to be covered by annual option grants or other awards for each year of service on our board. The awards are to be granted at the first regular meeting of the board of directors following the date of each annual meeting of stockholders and vest in full on the first anniversary of the grant date, subject to continuous service during the period. The Equity Plan also provides that each non-employee director shall be granted an award to acquire up to 120,000 shares upon his or her initial appointment or election to our board of directors, vesting over a four-year period at the rate of one fourth of the total number of shares each year, subject to the non-employee director's continuous service on the board, with the exercise price of the award equal to 100% of the fair market value of a share of common stock on the date that he becomes a director. We did not elect any new directors in 2016. The Equity Plan also provides that each non-employee director shall be granted an award to purchase up to 20,000 shares for his or her role as chairperson of the Compensation and Audit Committees. The Equity Plan also permits a disinterested majority of the board of directors, in its discretion, to authorize additional shares to be awarded or granted under stock options to committee chairs and other non-employee directors for extraordinary service on the board. The board of directors did not exercise this discretion in 2016. The exercise price per share under each option grant is equal to the fair market value of a share of our common stock on the date of grant on the principal trading market for our common stock at the time of grant, which is the NASDAQ Captial Market, or the Nasdaq CM. In the event of a merger, sale of substantially all of our assets or similar transaction, vesting of all director options would accelerate as to 100% of the unvested shares subject to the award. All awards to directors have a term of not longer than six years.

In 2016, members of our board of directors did not receive any cash compensation for their service as directors. Historically, our basic annual service award to a director has been an option to purchase 20,000 shares of common stock. In 2016, the board of directors once again determined that this was an appropriate grant size. On July 22, 2016, we granted options to purchase 2,000 shares to each of Messrs. Eng, Hsu and Domenik at an exercise price of $5.30 per share. These options vest in full on the first anniversary of the date of grant. Mr. Domenik, as the chairman of the Compensation Committee was granted an additional option to purchase 2,000 shares for his service in this capacity.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The following table sets forth certain information as of February 28, 2017 concerning the ownership of our common stock by:

- each stockholder known by us to be the beneficial owner of more than 5% of the outstanding shares of our common stock (currently our only class of voting securities);
- each of our directors;
- each of the named executive officers; and

all directors and executive officers as a group.

Beneficial ownership is determined in accordance with Rule 13d-3 of the Exchange Act, and includes all shares over which the beneficial owner exercises voting or investment power. Shares that are issuable upon the exercise of options, warrants and other rights to acquire common stock that are presently exercisable or exercisable within 60 days of February 28, 2017 are reflected in a separate column in the table below. These shares are taken into account in the calculation of the total number of shares beneficially owned by a particular holder and the total number of shares outstanding for the purpose of calculating percentage ownership of the particular holder. We have relied on information supplied by our officers, directors and certain stockholders and on information contained in filings with the SEC. Except as otherwise indicated, and subject to community property laws where applicable, we believe, based on information provided by these persons, that the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. The percentage of beneficial ownership is based on 6,638,120 shares of common stock outstanding as of February 28, 2017.

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Unless otherwise stated, the business address of each of our directors and named executive officers listed in the table is 3301 Olcott Street, Santa Clara, California 95054.

	Amount and Nature of Beneficial Ownership		
Name and Address of Beneficial Owner	Number of Shares Beneficially Owned (Excluding Outstanding Options)(1)	Number of Shares Issuable on Exercise of Outstanding Options or Convertible Securities(2)	Percent of Class
Ingalls & Snyder LLC 1325 Avenue of the Americas New York, NY 10019	1,005,921 (3)	578,855 (4)	23.9
Directors and Officers:			
Leonard Perham	176,854	55,000	3.5
Tommy Eng	—	10,000	*
Chi-Ping Hsu (5)	—	10,000	*
Stephen L. Domenik	—	26,000	*
James Sullivan	3,738	6,883	*
Thomas Riordan	11,650	15,783	*
John Monson	1,991	6,231	*
All current directors and executive officers as a group (7 persons)	194,233	129,897	4.9

*Represents holdings of less than one percent.

(1)Excludes shares subject to outstanding options, warrants, convertible securities or other rights to acquire common stock that are exercisable within 60 days of February 28, 2017.

(2)Represents the number of shares subject to outstanding options, warrants, convertible securities or other rights to acquire common stock that are exercisable within 60 days of February 28, 2017.

(3)In a Schedule 13G/A filed with the SEC on February 14, 2017, Ingalls & Snyder LLC (Ingalls) reported that it had shared dispositive power over all shares, but no voting authority with respect to any such shares. According to the Schedule 13G/A, these shares include securities owned by clients of Ingalls, a registered broker dealer and a registered investment advisor, in accounts managed under investment advisory contracts.

(4)The beneficial ownership of Ingalls includes shares of common stock issuable upon conversion of $5,209,700 par amount of our 10% senior secured convertible notes due August 15, 2018, which are held by Ingalls & Snyder Value Partners, an investment partnership managed under an investment advisory contract with Ingalls, and for which Ingalls & Snyder Value Partners would have voting and dispositive power if such shares were converted. The individual at Ingalls with dispositive power or voting power with respect to the shares included in the table is Thomas O. Boucher, Managing Director.

(5)Mr. Hsu resigned from our board of directors on February 28, 2017.

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SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table provides information as of December 31, 2016 regarding equity compensation plans approved by our security holders. As of December 31, 2016, we had no awards outstanding under equity compensation plans that have not been approved by our security holders.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (excluding Securities reflected in Column (a))(1) (c)
Equity compensation plans approved by security holders	670,358	$ 13.88	261,690

(1) Consists of shares of common stock available for future issuance under the Equity Plan and shares of common stock available for future issuance under the Amended and Restated 2010 Employee Stock Purchase Plan. The Equity Plan provides for an annual increase of 50,000 shares on January 1 of each year.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Our Audit Committee Charter requires that the members of our Audit Committee, all of whom are independent directors, review and approve all business transactions between us and a director, officer, affiliate or other related party, as determined by the Audit Committee, including all related party transactions as defined in Item 404 of Regulation S-K promulgated by the SEC.

Director Independence

For information regarding director independence, please see Item 10 above under the caption “Corporate Governance.”

Transactions with Related Persons

As previously reported on a Form 8-K filed with the SEC on March 14, 2016, we entered into a 10% Senior Secured Convertible Note Purchase Agreement (the Purchase Agreement) with Ingalls with respect to $8,000,000 principal

amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the Notes), at par, in a private placement transaction effected pursuant to an exemption from the registration requirements under the Securities Act of 1933, as amended (the Offering). The conversion price of the Notes is $0.90 per share and is subject to adjustment upon certain events, as set forth in the Purchase Agreement. Pursuant to a security agreement entered into by the Company, the Notes are secured by a security interest in all of the assets of the Company.

The Notes bear interest at the annual rate of 10%. Accrued interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at the Company's option. The Notes are noncallable and nonredeemable by the Company. The Notes are redeemable at the election of the holders if the Company experiences a fundamental change (as defined in the Notes), which generally would occur in the event (i) any person acquires beneficial ownership of shares of common stock of the Company entitling such person to exercise at least 40% of the total voting power of all of the shares of capital stock of the Company entitled to vote generally in elections of directors, (ii) an acquisition of the Company by another person through a merger or consolidation, or the sale, transfer or lease of all or substantially all of the Company's assets, or (iii) the Company's current directors cease to constitute a majority of the board of directors of the Company within a 12-month period, disregarding for this purpose any director who voluntarily resigns as a director or dies while serving as a director. The redemption price is 120% of the principal amount of the Note to be repurchased plus accrued and unpaid interest as of the redemption date.

In August 2016, the first semi-annual interest payment was made in-kind with the issue of an additional note (Interest Note) to Ingalls. The Interest Note has a principal amount of approximately $336,000 and has terms identical to the Notes. In February 2017, we made an additional payment of interest on the notes and the interest note for the period from August 2016 to February 15, 2017 in-kind with the issue of an additional note to Ingalls (Interest Note 2). Interest

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Note 2 has a principal amount of approximately $420,000 and has terms identical to the Notes and the Interest Note.

Item 14. Principal Accountant Fees and Services

The following table shows the fees billed (in thousands of dollars) to us by BPM LLP, or BPM, our independent registered public accounting firm, for the audit and other services provided for fiscal 2016 and 2015.

	2016	2015
Audit Fees(1)	$ 255	$ 316
Audit-Related Fees(2)	2	53
Total(3)	$ 257	$ 369

(1)Audit fees consisted of fees for professional services rendered for the audit of our annual consolidated financial statements, including the audit of our internal control over financial reporting in compliance with regulatory requirements under the Sarbanes-Oxley Act, review of our quarterly financial statements and services normally provided in connection with statutory and regulatory filings.

(2)Audit-related fees consisted of fees related to the issuance of SEC registration statements and sale of common stock.

(3)BPM did not provide any non-audit or other services other than those reported under “Audit Fees” and “Audit-Related Fees.”

The Audit Committee meets with our independent registered public accounting firm at least four times a year. At such times, the Audit Committee reviews both audit and non-audit services performed by the independent registered public accounting firm, as well as the fees charged for such services. The Audit Committee is responsible for pre-approving all auditing services and non-auditing services (other than non-audit services falling within the de minimis exception set forth in Section 10A(i)(1)(B) of the Exchange Act and non-audit services that independent auditors are prohibited from providing to us) in accordance with the following guidelines: (1) pre-approval policies and procedures must be detailed as to the particular services provided; (2) the Audit Committee must be informed about each service; and (3) the Audit Committee may delegate pre-approval authority to one or more of its members, who shall report to the full committee, but shall not delegate its pre-approval authority to management. Among other things, the Audit Committee examines the effect that performance of non-audit services may have upon the independence of the auditors.

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Part IV

Item 15. Exhibits

(a)The following documents are filed as part of this report:

(1)Consolidated Financial Statements and Report of Independent Registered Public Accounting Firm, which are set forth in the Index to Consolidated Financial Statements on pages 65 through 91 of this report.

Reports of Independent Registered Public Accounting Firm—BPM LLP	66
Consolidated Balance Sheets	67
Consolidated Statements of Operations and Comprehensive Loss	68
Consolidated Statements of Stockholders' Equity	69
Consolidated Statements of Cash Flows	70
Notes to Consolidated Financial Statements	71

(2)Exhibits

3.1(1)	Restated Certificate of Incorporation of the Registrant
3.1.1(1A)	Certificate of Amendment to Restated Certificate of Incorporation of the Registrant
3.2(2)	Amended and Restated Bylaws of the Registrant
4.1(3)	Specimen Common Stock Certificate
4.4(4)	Rights Agreement, dated November 10, 2010, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
4.4.1(4)	Form of Right Certificate
4.4.2(4)	Summary of Rights to Purchase Preferred Shares
4.4.3(5)	Amendment No. 1 to Rights Agreement, dated July 22, 2011, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
4.4.4(6)	Amendment No. 2 to Rights Agreement, dated May 18, 2012, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
10.1(3)	Form of Indemnity Agreement between Registrant and each of its directors and executive officers
10.2	Reserved
10.3(7)*	2000 Stock Option Plan and form of Option Agreement thereunder
10.3.1(8)*	Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.4(9)*	Form of Stock Option Agreement pursuant to Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.5(10)*	Form of New Employee Inducement Grant Stock Option Agreement
10.6(11)*	Employment offer letter agreement and Mutual Agreement to Arbitrate between Registrant and Leonard Perham dated as of November 8, 2007
10.7	Reserved
10.8(12)*	Employment offer letter agreement between Registrant and James Sullivan dated December 21, 2007
10.9(13)*	Change-in-control Agreement between Registrant and James Sullivan dated January 18, 2008
10.10(14)*	Amended and Restated 2010 Equity Incentive Plan
10.11(15)*	Form of Option Agreement for Stock Option Grant pursuant to 2010 Equity Incentive Plan

10.12(16)*	2010 Employee Stock Purchase Plan
10.13	Reserved
10.14(17)*	Form of Notice of Restricted Stock Unit Award and Agreement
10.15(18)	Lease Agreement between Registrant and M West Propco XII, LLC. dated July 19, 2010
10.16(19)*	Employment offer letter agreement between Registrant and Thomas Riordan dated May 6, 2011
10.17(19)*	New Employee Inducement Grant Stock Option Agreement between Registrant and Thomas Riordan dated May 10, 2011
10.18	Reserved
10.19(20)*	Form of New Employee Inducement Grant Stock Option Agreement (revised February 2012)

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	Stock Option Agreement between Registrant and Leonard Perham dated as of November 1, 2011
10.20(21)*	
10.21(22)*	Stock Option Agreement between Registrant and Thomas Riordan dated as of December 21, 2011
10.22(23)	Form of Indemnification Agreement used from June 5, 2012
10.23	Reserved
10.24(24)*	Form of Notice of Grant of Restricted Stock Unit Award and Agreement under the Amended and Restated 2010 Equity Incentive Plan
10.25(25)*	Employment Offer Letter Agreement between Registrant and John Monson dated February 21, 2012
10.26(26)	10% Senior Secured Convertible Note Purchase Agreement
10.27(27)	Security Agreement
10.28(28)	10% Senior Secured Convertible Note due August 15, 2018
10.29(29)*	Offer to Exchange Certain Outstanding Stock Options for a Number of Replacement Stock Options
10.30(30)*	Executive Change-in-Control and Severance Policy
21.1	List of Subsidiaries
23.1	Consent of Independent Registered Public Accounting Firm—BPM LLP
24.1	Power of Attorney (see signature page)
31.1	Rule 13a-14 certification
31.2	Rule 13a-14 certification
32	Section 1350 certification
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(1) Incorporated by reference to Exhibit 3.6 to Form 8-K filed by the Company on November 12, 2010 (Commission File No. 000-32929).

(1A)Incorporated by reference to Exhibit 3.1 to Form 8-K filed by the Company on February 14, 2017 (Commission File No. 000-32929).

(2) Incorporated by reference to Exhibit 3.4 to Form 8-K filed by the Company on October 29, 2008 (Commission File No. 000-32929).

(3) Incorporated by reference to the same-numbered exhibit to the Company's Registration Statement on Form S-1, as amended, originally filed August 4, 2000, declared effective June 27, 2001 (Commission file No. 333-43122).

(4) Incorporated by reference to the same-numbered exhibit to Form 8-K filed by the Company on November 12, 2010 (Commission File No. 000-32929).

(5) Incorporated by reference to Exhibit 4.2.3 to the Current Report on Form 8-K, filed on July 27, 2011 (Commission File No. 000-32929).

(6) Incorporated by reference to Exhibit 4.2.4 to Current Report on Form 8-K filed by the Company on May 24, 2012 (Commission File No. 000-32929).

(7) Incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1, as amended, originally filed August 4, 2000, declared effective June 17, 2001 (Commission File No. 333-43122).

(8) Incorporated by reference to Appendix B to the Company's proxy statement on Schedule 14A filed by the Company on October 7, 2004 (Commission File No. 000-32929).

(9) Incorporated by reference to Exhibit 10.15 to Form 10-Q filed by the Company on August 9, 2005 (Commission File No. 000-32929).

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(10) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).
(11) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).
(12) Incorporated by reference to Exhibit 10.26 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).
(13) Incorporated by reference to Exhibit 10.27 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).
(14) Incorporated by reference to Exhibit 4.8 to From S-8 filed by the Company on August 8, 2014 (Commission File No. 000-197989).
(15) Incorporated by reference to Exhibit 4.10 to Form S-8 filed by the Company on July 28, 2010 (Commission File No. 333-168358).
(16) Incorporated by reference to Appendix B to the proxy statement on Schedule 14A filed by the Company on May 26, 2010 (Commission File No. 000-32929).
(17) Incorporated by reference to Exhibit 4.8 to Form S-8 filed by the Company on June 5, 2009 (Commission File No. 333-159753).
(18) Incorporated by reference to Exhibit 10.35 to Form 8-K filed by the Company on July 22, 2010 (Commission File No. 000-32929).
(19) Incorporated by reference to the same-numbered exhibit to Form 10-Q filed by the Company on August 8, 2011 (Commission File No. 000-32929).
(20) Incorporated by reference to Exhibit 10.19 to Form 10-K filed by the Company on March 15, 2012 (Commission File No. 000-32929).
(21) Incorporated by reference to Exhibit 10.20 to Form 10-Q filed by the Company on May 9, 2012 (Commission File No. 000-32929).
(22) Incorporated by reference to Exhibit 10.21 to Form 10-Q filed by the Company on May 9, 2012 (Commission File No. 000-32929).
(23) Incorporated by reference to Exhibit 10.22 to Form 10-Q filed by the Company on August 9, 2012 (Commission File No. 000-32929).
(24) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Company on March 14, 2014 (Commission File No. 000-32929).
(25) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Company on March 14, 2014 (Commission File No. 000-32929).
(26) Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).
(27) Incorporated by reference to Exhibit 10.2 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).
(28) Incorporated by reference to Exhibit 10.3 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).

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(29) Incorporated by reference to Exhibit 99 to Schedule TO filed by the Company on July 26, 2016 (Commission File No. 005-78033), as amended
(30) Incorporated by reference to Exhibit 99 to Schedule TO filed by the Company on July 26, 2016 (Commission File No. 005-78033), as amended
*Management contract, compensatory plan or arrangement.

Item 16. Form 10-K Summary

Not applicable.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 30th day of March 2017.

MOSYS, INC.

By: /s/ Leonard Perham
Leonard Perham
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Leonard Perham and James W. Sullivan as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in- fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Leonard Perham Leonard Perham	President, Chief Executive Officer, and Director (Principal Executive Officer)	March 30, 2017
/s/ James W. Sullivan James W. Sullivan	Vice President of Finance and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 30, 2017
/s/ Stephen L. Domenik Stephen L. Domenik	Director	March 30, 2017
/s/ Tommy Eng Tommy Eng	Director	March 30, 2017

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MOSYS, INC.

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

of MoSys, Inc.

We have audited the accompanying consolidated balance sheets of MoSys, Inc. and its subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of MoSys, Inc. and its subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has incurred recurring net losses and negative cash flows. These conditions raise substantial doubt about its ability to continue as a going concern. Management's plans regarding those matters also are described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ BPM LLP

San Jose, California

March 30, 2017

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MOSYS, INC.

CONSOLIDATED BALANCE SHEETS

(In thousands, except par value data)

	December 31, 2016	2015
ASSETS		
Current assets		
Cash and cash equivalents	$ 8,766	$ 5,640
Short-term investments	1,002	14,598
Accounts receivable, net	559	729
Inventories	1,451	1,597
Prepaid expenses and other	473	701
Total current assets	12,251	23,265
Property and equipment, net	1,274	1,630
Goodwill	13,276	23,134
Intangible assets, net	223	334
Other	121	329
Total assets	$ 27,145	$ 48,692
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 561	$ 940
Accrued expenses and other	2,773	2,664
Total current liabilities	3,334	3,604
Long-term liabilities	233	247
Convertible notes payable	8,250	—
Total liabilities	11,817	3,851
Commitments and contingencies (Note 9)		
Stockholders' equity		
Preferred stock, $0.01 par value; 20,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.001 par value; 120,000 shares authorized; 6,630 shares and 6,549 shares issued and outstanding at December 31, 2016 and December 31, 2015 respectively	7	7
Additional paid-in capital	229,341	226,822
Accumulated other comprehensive loss	—	(16)
Accumulated deficit	(214,020)	(181,972)

Total stockholders' equity	15,328	44,841
Total liabilities and stockholders' equity	$ 27,145	$ 48,692

Note: Share and per share amounts have been adjusted to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017, as discussed in Note 1.

The accompanying notes are an integral part of these consolidated financial statements.

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MOSYS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except per share data)

	Year Ended December 31,		
	2016	2015	2014
Net revenue			
Product	$ 4,604	$ 2,400	$ 2,280
Royalty and other	1,420	1,990	3,100
Total net revenue	6,024	4,390	5,380
Cost of net revenue	3,075	2,474	2,318
Gross profit	2,949	1,916	3,062
Operating expenses			
Research and development	18,086	27,108	29,261
Selling, general and administrative	5,693	6,299	6,519
Impairment of goodwill	9,858	—	—
Restructuring charges	676	—	—
Total operating expenses	34,313	33,407	35,780
Loss from operations	(31,364)	(31,491)	(32,718)
Interest expense	687	—	—
Other income, net	48	94	143
Loss before income taxes	(32,003)	(31,397)	(32,575)
Income tax provision	45	86	107
Net loss	$ (32,048)	$ (31,483)	$ (32,682)
Other comprehensive income (loss), net of tax:			
Net unrealized gains (losses) on available-for-sale securities	16	(6)	(23)
Comprehensive loss	$ (32,032)	$ (31,489)	$ (32,705)
Net loss per share			
Basic and diluted	$ (4.86)	$ (5.04)	$ (6.60)
Shares used in computing net loss per share			
Basic and diluted	6,601	6,249	4,952

Note: Share and per share amounts have been adjusted to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017, as discussed in Note 1.

The accompanying notes are an integral part of these consolidated financial statements.

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MOSYS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands)

	Common Stock		Additional Paid-In	Accumulated Other Comprehensive Income	Accumulated	
	Shares	Amount	Capital	(Loss)	Deficit	Total
Balance at January 1, 2014	4,889	$ 5	$ 193,207	$ 13	$ (117,807)	$ 75,418
Issuance of common stock for exercise of options, employee stock purchase plan and release of awards	90	—	2,236	—	—	2,236
Stock-based compensation	—	—	4,591	—	—	4,591
Change in unrealized gain on available-for-sale investments	—	—	—	(23)	—	(23)
Net loss					(32,682)	(32,682)
Balance at December 31, 2014	4,979	5	200,034	(10)	(150,489)	49,540
Issuance of common stock for exercise of options, employee stock purchase plan and release of awards	133	—	1,772	—	—	1,772
Issuance of common stock, net of costs of $1,632	1,437	2	21,366	—	—	21,368
Stock-based compensation	—	—	3,650	—	—	3,650
Change in unrealized loss on available-for-sale investments	—	—	—	(6)	—	(6)
Net loss					(31,483)	(31,483)
Balance at December 31, 2015	6,549	7	226,822	(16)	(181,972)	44,841
Issuance of common stock for exercise of options, employee stock purchase plan and release of awards	81	—	364	—	—	364
Stock-based compensation	—	—	2,155	—	—	2,155
Change in unrealized loss on available-for-sale investments	—	—	—	16	—	16
Net loss	—	—	—	—	(32,048)	(32,048)
Balance at December 31, 2016	6,630	$ 7	$ 229,341	$ —	$ (214,020)	$ 15,328

Note: Share and per share amounts have been adjusted to reflect the impact of a 1-for-10 reverse stock split effected February 16, 2017, as discussed in Note 1.

The accompanying notes are an integral part of these consolidated financial statements.

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MOSYS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net loss	$ (32,048)	$ (31,483)	$ (32,682)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	998	607	449
Stock-based compensation	2,155	3,650	4,591
Amortization of intangible assets	111	321	1,000
Impairment of goodwill	9,858	—	—
Amortization of debt issuance costs	37	—	—
Accrued interest	650	—	—
Loss on disposal of assets	4	—	—
Changes in assets and liabilities:			
Accounts receivable	170	(552)	(29)
Inventories	146	(716)	(314)
Prepaid expenses and other assets	459	104	405
Accounts payable	(419)	261	(23)
Accrued expenses and other liabilities	(64)	334	296
Net cash used in operating activities	(17,943)	(27,474)	(26,307)
Cash flows from investing activities:			
Purchases of property and equipment	(646)	(1,202)	(596)
Proceeds from sales and maturities of marketable securities	50,486	44,953	39,270
Purchases of marketable securities	(36,874)	(36,873)	(15,859)
Net cash provided by investing activities	12,966	6,878	22,815
Cash flows from financing activities:			
Proceeds from sale of common stock, net of issuance costs	—	21,368	—
Net proceeds from issuance of common stock	364	1,772	2,238
Proceeds from the issuance of notes payable, net of issuance costs	7,877	—	—
Payments on capital lease obligations	(138)	(14)	—
Net cash provided by financing activities	8,103	23,126	2,238
Net increase (decrease) in cash and cash equivalents	3,126	2,530	(1,254)
Cash and cash equivalents at beginning of period	5,640	3,110	4,364
Cash and cash equivalents at end of period	$ 8,766	$ 5,640	$ 3,110
Supplemental disclosure:			
Issuance of convertible notes in settlement of accrued interest	$ 336	$ —	$ —
Cash paid for income taxes	$ 21	$ 56	$ 111

The accompanying notes are an integral part of these consolidated financial statements.

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MOSYS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1: The Company and Summary of Significant Accounting Policies

The Company

MoSys, Inc. (the Company) was incorporated in California in September 1991, and reincorporated in September 2000 in Delaware. The Company's strategy and primary business objective is to be an IP-rich fabless semiconductor company focused on the development and sale of integrated circuit (IC) products. Prior to 2011, the Company's primary business activities were designing, developing, marketing and licensing high-performance semiconductor memory and high-speed parallel and serial interface, or SerDes, intellectual property (IP) used by the semiconductor industry and communications, networking and storage equipment manufacturers. Since 2011, the Company has developed two IC product lines under the "Bandwidth Engine" and "LineSpeed" product names. Bandwidth Engine ICs combine the Company's proprietary high-density embedded memory with its high-speed 10 gigabits per second and higher interface technology. The LineSpeed IC product line is comprised of non-memory based, high-speed SerDes devices with gearbox or retimer functionality that convert lanes of data received on line cards or by optical modules into different configurations and/or ensure signal integrity. Both product lines are being marketed to networking and communications systems companies. The Company's future success and ability to achieve and maintain profitability depends on its success in developing a market for its ICs.

The accompanying consolidated financial statements of the Company have been prepared on a basis that assumes that the Company will continue as a going concern and contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business.

Liquidity

In December 2016, the Company adopted Financial Accounting Standards Board (FASB) Accounting Standard Update (ASU) No. 2014-15 (ASU 2014-15), Going Concern. ASU 2014-15 requires management to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued. If management identifies conditions or events that raise substantial doubt about an entity's ability to continue as a going concern, management must consider if there are plans that are probable to be implemented, and whether it is probable that the plans will mitigate the conditions or events raising the substantial doubt about the entity's ability to continue as a going concern. If the substantial doubt is not alleviated after consideration of management's plans, the entity must include a statement in the notes to the financial statements indicating that there is substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued including: 1) the principal conditions or events that raise substantial doubt about the entity's ability to continue as a going concern, 2) management's evaluation of the significance of those conditions or events in relation to the entity's ability to meet its obligations, and 3) management's plans to attempt to mitigate the conditions or events causing the substantial doubt about the entity's ability to continue as a going concern.

The Company incurred net losses of approximately $32.0 million and $31.5 million for the years ended December 31, 2016 and 2015, respectively, and had an accumulated deficit of approximately $214.0 million as of December 31, 2016. These and prior year losses have resulted in significant negative cash flows for almost a decade and have required the Company to raise substantial amounts of additional capital during this period. To date, the Company has primarily financed its operations through multiple offerings of common stock to investors and affiliates, as well as asset sale transactions. In March 2016, the Company entered into a 10% Senior Secured Convertible Note Purchase

Agreement with the purchasers of $8.0 million principal amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the Notes), at par, in a private placement transaction. The Notes bear interest at the annual rate of 10%. Accrued interest is payable semi-annually in cash or in-kind through the issuance of identical new Notes, or with a combination of the two, at the Company's option. As of February 15, 2017, the Company has made the interest payments in-kind through the issuance of additional notes totaling approximately $0.8 million. Further, the Notes restrict the ability of the Company to incur any indebtedness for borrowed money, unless such indebtedness by its terms is expressly subordinated to the Notes in right of payment and to the security interest of the Note holder(s) in respect to the priority and enforcement of any security interest in property of the Company securing such new debt; provided that

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the Note holder(s) security interest and cash payment rights under the Notes shall be subordinate to a maximum of $5 million of indebtedness for a secured accounts receivable line of credit facility under certain conditions. (See Note No. 11, Convertible Notes)

The Company expects to continue to incur operating losses for the foreseeable future as it secures customers for and continues to invest in the commercialization of its IC products. Due to the strong commitment of the Company's resources to research and development and expansion of its product offerings to customers, the Company will need to increase revenues substantially beyond levels that it has attained in the past in order to generate sustainable operating profit and sufficient cash flows to continue doing business without raising additional capital from time to time. As a result of the Company's expected operating losses and cash burn for the foreseeable future, recurring losses from operations, and the need to repay the Notes and accrued interest in 2018, if the Company is unable to raise sufficient capital through additional debt or equity arrangements, there will be uncertainty regarding the Company's ability to maintain liquidity sufficient to operate its business effectively, which raises substantial doubt as to the Company's ability to continue as a going concern within one year from the date of issuance of these consolidated financial statements. These consolidated financial statements do not include any adjustments that might result from this uncertainty. There can be no assurance that such additional capital, whether in the form of debt or equity financing, will be sufficient or available and, if available, that such capital will be offered on terms and conditions acceptable to the Company. The Company is exploring various alternatives, and expects to implement cost reductions to successfully sustain the business. If the Company is unsuccessful in these efforts, it will need to implement significant cost reduction strategies that could affect its near- and long-term business plan. These efforts may include, but are not limited to reducing headcount and curtailing business activities, especially around new product development.

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany transactions and balances have been eliminated in consolidation. The Company's fiscal year ends on December 31 of each calendar year.

Reverse Stock Split

On February 16, 2017, the Company effected a one-for-10 reverse stock split of its common stock. As a result of the reverse stock split, every ten shares of the Company's pre-reverse split outstanding common stock was combined and reclassified into one share of common stock. Proportionate voting rights and other rights of common stock holders were not affected by the reverse stock split. No fractional shares were issued in connection with the reverse stock split; stockholders who would otherwise hold a fractional share of common stock received cash in an amount equal to the product obtained by multiplying (i) the closing sale price of the Company's common stock on the effective date of the reverse stock split, by (ii) the number of shares of the Company's common stock held by the stockholder that would otherwise have been exchanged for the fractional share interest. All stock options and restricted stock units outstanding and common stock reserved for issuance under the Company's equity incentive plans immediately prior to the reverse stock split were adjusted by dividing the number of affected shares of common stock by 10 and, as applicable, multiplying the exercise price by 10, as a result of the reverse stock split. The common stock par value was adjusted to $0.001 in conjunction with the reverse stock split. All of the share numbers, share prices, and exercise prices have been adjusted, on a retroactive basis to reflect this 1-for-10 reverse stock split.

Use of Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses recognized during the reported period. Actual results could differ from those estimates.

Foreign Currency

The functional currency of the Company’s foreign entities is the U.S. dollar. The financial statements of these entities are translated into U.S. dollars and the resulting gains or losses are included in other income, net in the

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consolidated statements of operations and comprehensive loss. Such gains and losses were not material for any period presented.

Cash Equivalents and Investments

The Company has invested its excess cash in money market accounts, certificates of deposit, corporate debt, government-sponsored enterprise bonds and municipal bonds and considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents. Investments with original maturities greater than three months and remaining maturities less than one year are classified as short-term investments. Investments with remaining maturities greater than one year are classified as long-term investments. Management generally determines the appropriate classification of securities at the time of purchase. All securities are classified as available-for-sale. The Company's available-for-sale short-term and long-term investments are carried at fair value, with the unrealized holding gains and losses reported in accumulated other comprehensive loss. Realized gains and losses and declines in the value judged to be other-than-temporary are included in the other income, net line item in the consolidated statements of operations and comprehensive loss. The cost of securities sold is based on the specific identification method.

Fair Value Measurements

The Company measures the fair value of financial instruments using a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels:

Level 1—Inputs used to measure fair value are unadjusted quoted prices that are available in active markets for the identical assets or liabilities as of the reporting date.

Level 2—Pricing is provided by third party sources of market information obtained through the Company's investment advisors, rather than models. The Company does not adjust for, or apply, any additional assumptions or estimates to the pricing information it receives from advisors. The Company's Level 2 securities include cash equivalents and available-for-sale securities, which consisted primarily of certificates of deposit, corporate debt, and government agency and municipal debt securities from issuers with high-quality credit ratings. The Company's investment advisors obtain pricing data from independent sources, such as Standard & Poor's, Bloomberg and Interactive Data Corporation, and rely on comparable pricing of other securities because the Level 2 securities are not actively traded and have fewer observable transactions. The Company considers this the most reliable information available for the valuation of the securities.

Level 3—Unobservable inputs that are supported by little or no market activity and reflect the use of significant management judgment are used to measure fair value. These values are generally determined using pricing models for which the assumptions utilize management's estimates of market participant assumptions. The determination of fair value for Level 3 investments and other financial instruments involves the most management judgment and subjectivity.

Allowance for Doubtful Accounts

The Company establishes an allowance for doubtful accounts to ensure that its trade receivables balances are not overstated due to uncollectibility. The Company performs ongoing customer credit evaluations within the context of the industry in which it operates and generally does not require collateral from its customers. A specific allowance of up to 100% of the invoice value is provided for any problematic customer balances. Delinquent account balances are written off after management has determined that the likelihood of collection is remote. The Company grants credit only to customers deemed creditworthy in the judgment of management. There was no allowance for doubtful

accounts receivable at December 31, 2016 and 2015.

Inventory

The Company values its inventories at the lower of cost, which approximates actual cost on a first-in, first-out basis, or market value. The Company records inventory reserves for estimated obsolescence or unmarketable inventories based upon assumptions about future demand and market conditions. Once a reserve is established, it is maintained until the product to which it relates is sold or otherwise disposed of. If actual market conditions are less favorable than those expected by management, additional adjustment to inventory valuation may be required. Charges for obsolete and slow

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moving inventories are recorded based upon an analysis of specific identification of obsolete inventory items and quantification of slow moving inventory items. The Company recorded no inventory reserves during the years ended December 31, 2016 and 2014, and inventory reserves of $0.3 million during the year ended December 31, 2015.

Property and Equipment

Property and equipment are originally recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally three to five years. Depreciation is recorded in operating expenses in the consolidated statements of operations and comprehensive loss. Leasehold improvements and assets acquired through capital leases are amortized over the shorter of their estimated useful life or the lease term and are recorded with depreciation expense in the consolidated statements of operations and comprehensive loss.

Valuation of Long-lived Assets

The Company evaluates the recoverability of long-lived assets with finite lives whenever events or changes in circumstances occur that indicate that the carrying value of the asset or asset group may not be recoverable. Finite-lived intangible assets are being amortized on a straight-line basis over their estimated useful lives of three to seven years. An impairment charge is recognized as the difference between the net book value of such assets and the fair value of such assets at the date of measurement. The measurement of impairment requires management to estimate future cash flows and the fair value of long-lived assets.

Intangible Assets

Intangible assets acquired in business combinations, referred to as purchased intangible assets, are accounted for based on the fair value of assets purchased and are amortized over the period in which economic benefit is estimated to be received.

Goodwill

The Company reviews goodwill for impairment on an annual basis or whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. The Company first assesses qualitative factors to determine whether it is more-likely-than-not that the fair value of the reporting unit is less than the carrying amount as a basis for determining whether it is necessary to perform the two-step impairment test. If the qualitative assessment warrants further analysis, the Company compares the fair value of the reporting unit to its carrying value. The fair value of the reporting unit is determined using the market approach. If the fair value of the reporting unit exceeds the carrying value of net assets of the reporting unit, goodwill is not impaired, and the Company is not required to perform further testing. If the carrying value of the reporting unit’s goodwill exceeds its implied fair value, then the Company must record an impairment charge equal to the difference. The Company has determined that it has a single reporting unit for purposes of performing its goodwill impairment test. As the Company uses the market approach to assess impairment in the second step of the analysis, the price of its common stock is an important component of the fair value calculation. If the Company’s stock price continues to experience significant price and volume fluctuations, this will impact the fair value of the reporting unit, which can lead to potential impairment in future periods. The Company performed step one of the annual impairment test in September 2016, and concluded no factors indicated impairment of goodwill.

During the fourth quarter of 2016, the Company concluded a triggering event had occurred due to a sustained decrease in the price per share of its common stock and related reduced market capitalization. The Company performed the first step of the impairment test to identify potential goodwill impairment, and the test results indicated the goodwill carrying value was greater than its fair value. The Company then performed a step-two analysis to compare the

carrying amount of goodwill to the implied fair value of the goodwill, and the Company determined the estimated fair values of the assets and liabilities of its single reporting unit. The fair values of the assets and liabilities identified in the impairment test were determined using the combination of the income approach and the market approach. The implied fair value of goodwill was measured as the excess of the fair value of the Company's single reporting unit over the fair value of its assets and liabilities. As a result of the step-two test, the Company recorded a non-cash impairment charge of $9.9 million during the fourth quarter of 2016.

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Revenue Recognition

General

The Company generates revenue from the sales of IC products and licensing of its IP. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery or performance has occurred, the sales price is fixed or determinable, and collectibility is reasonably assured. Evidence of an arrangement generally consists of signed agreements or customer purchase orders.

IC products

The Company sells products both directly to customers, as well as through distributors. Revenue from sales directly to customers is generally recognized at the time of shipment. The Company may record an estimated allowance, at the time of shipment, for future returns and other charges against revenue consistent with the terms of sale. IC product revenue and costs relating to sales made through distributors with rights of return or stock rotation are generally deferred until the distributors sell the product to end customers due to the Company's inability to estimate future returns and credits to be issued. Distributors are generally able to return up to 10% of their purchases for slow, non-moving or obsolete inventory for credit every six months. At the time of shipment to distributors, an accounts receivable for the selling price is recorded, as there is a legally enforceable right to receive payment, and inventory is relieved, as legal title to the inventory is transferred upon shipment. Revenues are recognized upon receiving notification from the distributors that products have been sold to end customers. Distributors provide information regarding products and quantity, end customer shipments and remaining inventory on hand. The associated deferred margin is included in the accrued expenses and other line item in the consolidated balance sheets.

Royalty

The Company's licensing contracts typically also provide for royalties based on the licensees' use of the Company's memory technology in their currently shipping commercial products. The Company recognizes royalties in the quarter in which it receives the licensees' reports.

Licensing

Licensing revenue consists of fees earned from license agreements, development services and support and maintenance. For stand-alone license agreements or license deliverables in multi-deliverable arrangements that do not require significant development, modification or customization, revenues are recognized when all revenue recognition criteria have been met. Delivery of the licensed technology is typically the final revenue recognition criterion met, at which time revenue is recognized. If any of the criteria are not met, revenue recognition is deferred until such time as all criteria have been met. Support and maintenance revenue is recognized ratably over the period during which the obligation exists, typically 12 months. Licensing revenue was zero for the years ended December 31, 2016 and 2015, and was $155,000 for the year ended December 31, 2014.

Cost of Net Revenue

Cost of net revenue consists primarily of direct and indirect costs of IC product sales and engineering personnel costs directly related to maintenance and support services specified in licensing agreements. Maintenance and support typically includes engineering support to assist in the commencement of production of a licensee's products.

Advertising Costs

Advertising costs are expensed as incurred. Advertising costs were not significant in the years ended December 31, 2016, 2015 and 2014.

Research and Development

Engineering costs are recorded as research and development expense in the period incurred.

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Stock-Based Compensation

The Company recognizes stock-based compensation for awards on a straight-line basis over the requisite service period, usually the vesting period, based on the grant-date fair value.

The Company records stock-based compensation expense for stock options granted to non-employees, excluding non-employee directors, based upon the estimated then-current fair value of the equity instrument using the Black-Scholes pricing model. Assumptions used to value the equity instruments are consistent with equity instruments issued to employees. The Company charges the value of the equity instrument to earnings over the term of the service agreement and the unvested shares underlying the option are subject to periodic revaluation over the remaining vesting period.

Per Share Amounts

Basic net loss per share is computed by dividing net loss for the period by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share gives effect to all potentially dilutive common shares outstanding during the period. Potentially dilutive common shares consist of incremental shares of common stock issuable upon the exercise of stock options, vesting of stock awards and purchases under the employee stock purchase plan. The following table sets forth securities outstanding which were excluded from the computation of diluted net loss per share as their inclusion would be anti-dilutive (in thousands):

	December 31, 2016	December 31, 2015	December 31, 2014
Options outstanding to purchase common stock	522	839	822
Employee stock purchase plan	44	44	21
Unvested restricted common stock units	148	24	39
Convertible debt	926	—	—
Total	1,640	907	882

Income Taxes

The Company determines deferred tax assets and liabilities based upon the differences between the financial statement and tax bases of the Company’s assets and liabilities using tax rates in effect for the year in which the Company expects the differences to affect taxable income. A valuation allowance is established for any deferred tax assets for which it is more likely than not that all or a portion of the deferred tax assets will not be realized.

The Company files U.S. federal and state and foreign income tax returns in jurisdictions with varying statutes of limitations. The 2006 through 2016 tax years generally remain subject to examination by federal, state and foreign tax authorities.

As of December 31, 2016, the Company did not have any unrecognized tax benefits nor expect its unrecognized tax benefits to change significantly over the next 12 months. The Company recognizes interest related to unrecognized tax benefits in its income tax expense and penalties related to unrecognized tax benefits as other income and expenses. During the years ended December 31, 2016, 2015 and 2014, the Company did not recognize any interest or penalties related to unrecognized tax benefits.

Comprehensive Loss

Comprehensive loss includes unrealized gains and losses on available-for-sale securities. Realized gains and losses on available-for-sale securities are reclassified from accumulated other comprehensive loss and included in other income, net in the consolidated statements of operations and comprehensive loss. All amounts recorded were not significant in the years ended December 31, 2016, 2015 and 2014.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09 (ASU 2014-09), Revenue from Contracts with Customers,

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which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods and services to customers. In March, April and May 2016, the FASB issued additional updates to the new revenue standard relating to reporting revenue on a gross versus net basis, identifying performance obligations and licensing arrangements, and narrow-scope improvements and practical expedients, respectively. ASU 2014-09 will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The accounting standard is effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2017. Early adoption is permitted for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2016. ASU 2014-09 provides for one of two methods of transition: retrospective application to each prior period presented; or recognition of the cumulative effect of retrospective application of the new standard in the period of initial application. The Company does not intend to early adopt this standard and plans to use the full retrospective approach to the transition. The Company does not expect that the adoption of ASU 2014-09 will have a material impact on its consolidated financial statements. However, assuming all other revenue recognition criteria have been met, it is likely that ASU 2014-09 would require the Company to recognize revenue and cost relating to distributor sales upon product delivery, subject to estimated allowances for distributor price adjustments and rights of return.

In February 2016, the FASB issued ASU No. 2016-02 (ASU 2016-02), Leases. ASU 2016-02 requires lessees to recognize a right-of-use asset and a lease liability equal to the present value of the lease payments for virtually all leases not classified as short term. Consistent with current U.S. GAAP, the recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee primarily depend on its classification as a finance or operating lease. The ASU also will require disclosures to provide additional qualitative and quantitative information about the amounts recorded in the financial statements. ASU 2016-02 is effective for annual and interim reporting periods beginning after December 15, 2018, with early adoption permitted. The new standard requires a modified retrospective transition for application at the beginning of the earliest comparative period presented. The Company is currently evaluating the impact that ASU 2016-02 will have on its consolidated financial statements and related disclosures.

Note 2: Consolidated Balance Sheets and Statements of Operations and Comprehensive Loss Components

	December 31,	
	2016	2015
	(in thousands)	
Inventories:		
Work-in-process	$ 1,270	$ 1,478
Finished goods	181	119
	$ 1,451	$ 1,597
Prepaid expenses and other:		
Prepaid software	$ 250	$ 287
Prepaid insurance	116	134
Interest receivable	17	48
Prepaid expenses and other	90	232
	$ 473	$ 701
Property and equipment, net:		
Equipment, furniture and fixtures and leasehold improvements	$ 5,906	$ 5,646
Acquired software	304	334

	6,210	5,980
Less: Accumulated depreciation and amortization	(4,936)	(4,350)
	$ 1,274	$ 1,630

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Intangible assets, net:

Identifiable intangible assets were (dollar amounts in thousands):

	December 31, 2016			
	Life (years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		$	$	$
Patent license	7	780	557	223

	December 31, 2015			
	Life (years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		$	$	$
Patent license	7	780	446	334

Amortization expense has been included in research and development expense in the consolidated statements of operations and comprehensive loss. The estimated aggregate amortization expense to be recognized in future years is approximately $0.1 million annually for 2017 through 2018.

Accrued expenses and other:

	December 31,	
	2016	2015
	(in thousands)	
Accrued wages and employee benefits	$ 1,051	$ 1,076
IC development and wafer costs	598	921
Interest payable	314	—
Professional fees and consulting	282	158
Deferred revenue	271	31
Employee stock purchase plan withholdings	200	323
Capital lease obligation	—	138
Other	57	17
	$ 2,773	$ 2,664

As of December 31, 2016 and 2015, the amounts in long-term liabilities comprised deferred rent.

Note 3: Fair Value of Financial Instruments

The estimated fair values of financial instruments outstanding were (in thousands):

	December 31, 2016			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Cash and cash equivalents	$ 8,766	$ —	$ —	$ 8,766
Short-term investments:				
U.S. government-sponsored enterprise bonds	$ 762	$ —	$ —	$ 762
Corporate notes	240	—	—	240
Total short-term investments	$ 1,002	$ —	$ —	$ 1,002

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	December 31, 2015			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Cash and cash equivalents	$ 5,640	$ —	$ —	$ 5,640
Short-term investments:				
U.S. government-sponsored enterprise bonds	$ 6,243	$ —	$ —	$ 6,243
Municipal bonds	200	—	—	200
Corporate notes	8,171	—	(16)	8,155
Total short-term investments	$ 14,614	$ —	$ (16)	$ 14,598

The unrealized losses from available-for-sale securities as of December 31, 2016 and 2015 were not material.

The estimated fair values of available-for-sale securities with unrealized losses as of December 31, 2015 were (in thousands):

	December 31, 2015		
	Cost	Unrealized Losses	Fair Value
Short-term investments:			
Corporate notes	$ 8,171	$ (16)	$ 8,155
Total short-term investments	$ 8,171	$ (16)	$ 8,155

As of December 31, 2015, substantially all of the available-for-sale securities with unrealized losses had been in a loss position for less than 12 months.

Cost and fair value of investments based on two maturity groups were (in thousands):

	December 31, 2016			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Due within 1 year	$ 1,002	$ —	$ —	$ 1,002

	December 31, 2015			
	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Due within 1 year	$ 14,614	$ —	$ (16)	$ 14,598

The following table represents the Company’s fair value hierarchy for its financial assets (cash equivalents and investments) as of December 31, 2016 and 2015 (in thousands):

	December 31, 2016

	Fair Value	Level 1	Level 2	Level 3
Money market funds	$ 84	$ 84	$ —	$ —
U.S. government-sponsored enterprise bonds	3,767	—	3,767	—
Municipal bonds	4,027	—	4,027	—
Corporate notes	480	—	480	—
Total assets	$ 8,358	$ 84	$ 8,274	$ —

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	December 31, 2015			
	Fair Value	Level 1	Level 2	Level 3
Money market funds	$ 2,238	$ 2,238	$ —	$ —
U.S. government-sponsored enterprise bonds	7,525	—	7,525	—
Municipal bonds	200	—	200	—
Corporate notes	8,255	—	8,255	—
Certificates of deposit	240	—	240	—
Total assets	$ 18,458	$ 2,238	$ 16,220	$ —

There were no transfers in or out of Level 1 and Level 2 securities during the years ended December 31, 2016 and 2015.

Note 4: Income Taxes

The income tax provision consisted of the following (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Current portion:			
Federal	$ —	$ —	$ —
State	3	3	3
Foreign	42	83	104
	$ 45	$ 86	$ 107

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Significant components of the Company’s deferred tax assets and liabilities were (in thousands):

	December 31,	
	2016	2015
Deferred tax assets:		
Federal and state loss carryforwards	$ 68,829	$ 60,831
Reserves, accruals and other	519	761
Depreciation and amortization	1,718	1,304
Deferred stock-based compensation	4,287	4,504
Research and development credit carryforwards	13,867	12,886
Foreign tax and other credits	536	1,131
Total deferred tax assets	89,756	81,417
Deferred tax liabilities:		
Acquired intangible assets and other	328	1,781
Less: Valuation allowance	(89,428)	(79,636)
Net deferred tax assets	$ —	$ —

The valuation allowance increased by $9.8 million and $12.9 million for the years ended December 31, 2016 and 2015, respectively.

As of December 31, 2016, the Company had net operating loss carryforwards (NOLs) of approximately $184.1 million for federal income tax purposes and approximately $116.5 million for state income tax purposes. These losses are available to reduce future taxable income and expire at various times from 2017 through 2036. Approximately $5.7 million of federal net operating loss carryforwards and $4.8 million of state net operating loss carryforwards are related to excess tax benefits from stock-based compensation and would be charged to additional paid-in capital, if realized.

The Company also had federal research and development tax credit carryforwards of approximately $8.8 million, which will begin expiring in 2018, and California research and development credits of approximately

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$7.8 million, which do not have an expiration date. The Company had remaining foreign tax credits available for federal income tax purposes of approximately $0.3 million, which will began expiring in 2017.

Utilization of the Company's net operating loss and tax credit carryforwards may be subject to a substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code (IRC); and similar state provisions. Section 382 of the IRC (Section 382) imposes limitations on a corporation's ability to utilize its NOLs, if it experiences an "ownership change." In general terms, an ownership change may result from transactions increasing the ownership percentage of certain stockholders in the stock of the corporation by more than 50% over a three year period. In the event of an ownership change, utilization of the NOLs would be subject to an annual limitation under Section 382 determined by multiplying the value of the Company's stock at the time of the ownership change by the applicable long-term tax exempt rate. The Company has not completed a Section 382 study in recent years; however, should a study be completed, certain NOLs may be subject to such limitations. Any future annual limitation may result in the expiration of NOLs before utilization.

The Company considers its undistributed earnings of its foreign subsidiary permanently reinvested in foreign operations and has not provided for U.S. income taxes on such earnings. As of December 31, 2016, the Company's unremitted earnings from its foreign subsidiary were $1.0 million. The determination of the unrecognized deferred U.S. income tax liability, if any, is not practicable.

A reconciliation of income taxes provided at the federal statutory rate (35%) to the actual income tax provision follows (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Income tax benefit computed at U.S. statutory rate	$ (11,229)	$ (10,989)	$ (11,401)
State income tax (net of federal benefit)	3	3	3
Foreign income tax at rate different from U.S. statutory rate	(7)	(15)	(12)
Research and development credits	(981)	(1,580)	(1,614)
Stock-based compensation	75	123	130
Amortization of intangible assets	(100)	(100)	(100)
Goodwill impairment	1,856	—	—
Valuation allowance changes affecting tax provision	10,022	12,588	13,027
Other	406	56	74
Income tax provision	$ 45	$ 86	$ 107

The domestic and foreign components of (loss) income before income tax provision were (in thousands):

	Year Ended December 31,		
	2016	2015	2014
U.S.	$ (31,115)	$ (31,580)	$ (32,735)
Non-U.S	(888)	183	160
	$ (32,003)	$ (31,397)	$ (32,575)

Note 5: Stock-Based Compensation

Equity Compensation Plans

Common Stock Option Plans

In 2000, the Company adopted the 2000 Stock Plan, which was amended in 2004 (Amended 2000 Plan), and terminated in 2010. As of December 31, 2016, no options were available for future issuance under the Amended 2000 Plan, as the remaining options outstanding under the Amended 2000 Plan expired in June 2016.

In June 2010, the Company's stockholders approved the 2010 Equity Incentive Plan, which was amended in 2014 (Amended 2010 Plan). The Amended 2010 Plan authorizes the board of directors or the compensation committee of the board of directors to grant a broad range of awards including stock options, stock appreciation rights, restricted

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stock, performance-based awards, and restricted stock units. Under the Amended 2010 Plan, 400,000 shares were initially reserved for issuance. In June 2014, the Company's stockholders approved an amendment increasing the number of shares reserved for issuance by 150,000 shares. In addition, the terms of the Amended 2010 Plan provide for an automatic annual increase in the share reserve of 50,000 on January 1 of each year. The Amended 2010 Plan has a 10 year term and provides for annual option grants or other awards to non-employee directors to acquire up to 4,000 shares and for a one-time grant of an option or other award to a non-employee director to acquire up to 12,000 shares upon initial appointment or election to the board of directors. The term of options granted under the Amended 2010 Plan may not exceed ten years. The term of all incentive stock options granted to a person who, at the time of grant, owns stock representing more than 10% of the voting power of all classes of the Company's stock may not exceed five years.

The exercise price of stock options granted under the Amended 2010 Plan must be at least equal to the fair market value of the shares on the date of grant. Generally, options granted under the Amended 2010 Plan will vest over a four-year period and will have a six or ten-year term. In addition, the Amended 2010 Plan provides for automatic acceleration of vesting for options granted to non-employee directors upon a change of control of the Company.

The Amended 2000 Plan and Amended 2010 Plan are referred to collectively as the "Plans."

The Company may also award shares to new employees outside the Plans, as material inducements to the acceptance of employment with the Company, as permitted under the Listing Rules of the Nasdaq Stock Market. These grants must be approved by the compensation committee of the board of directors, a majority of the independent directors or, below a specified share level, by an authorized executive officer. As of December 31, 2016, no such grants were outstanding.

Employee Stock Purchase Plan

In June 2010, the Company's stockholders approved the 2010 Employee Stock Purchase Plan (ESPP). A total of 200,000 shares of common stock were initially reserved for issuance under the ESPP in 2010. On September 1, 2010, the Company commenced the first offering period under the ESPP. In May 2015, the Company's stockholders approved an amendment increasing the number of shares reserved for issuance by 200,000 shares. The ESPP, which is intended to qualify under Section 423 of the Internal Revenue Code, is administered by the board of directors or the compensation committee of the board of directors. The ESPP provides that eligible employees may purchase up to $25,000 worth of the Company's common stock annually over the course of two six-month offering periods. The purchase price to be paid by participants is 85% of the price per share of the Company's common stock either at the beginning or the end of each six-month offering period, whichever is less.

On February 29, 2016, approximately 37,300 shares of common stock were issued at an aggregate purchase price of $197,000 under the ESPP. On August 31, 2016, approximately 31,900 shares of common stock were issued at an aggregate purchase price of $167,000 under the ESPP. As of December 31, 2016, there were approximately 150,000 shares authorized and unissued under the ESPP. In February 2017, the Company's board of directors canceled the current purchase period under the ESPP, decided not to authorize a new purchase period and directed the Company to refund payroll contributions made under the ESPP during the purchase period that began September 1, 2016.

Stock-Based Compensation Expense

The unamortized compensation cost, net of expected forfeitures, as of December 31, 2016 was $2.6 million related to stock options and is expected to be recognized as expense over a weighted average period of approximately 2.6 years. The unamortized compensation cost, net of expected forfeitures, as of December 31, 2016 was $0.6 million related to restricted stock units and is expected to be recognized as expense over a weighted average period of approximately 2.0

years. For the year ended December 31, 2016 the fair value of options and awards vested was approximately $2.0 million.

The Company is required to present the tax benefits resulting from tax deductions in excess of the compensation cost recognized from the exercise of stock options as financing cash flows in the consolidated statements of cash flows. For the years ended December 31, 2016, 2015 and 2014, there were no such tax benefits associated with the exercise of stock options.

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Valuation Assumptions and Expense Information for Stock-based Compensation

The fair value of the Company's share-based payment awards for the years ended December 31, 2016, 2015 and 2014 was estimated on the grant dates using the Black-Scholes valuation option-pricing model with the following assumptions:

	Year Ended December 31,		
Employee stock options:	2016	2015	2014
Risk-free interest rate	1% - 2.1%	0.6% -1.7%	1.3% - 1.7%
Volatility	61.4% - 65.0%	55.7% - 59.3%	53.7% - 57.5%
Expected life (years)	3.0 - 5.0	3.0 - 5.0	4.0 - 5.0
Dividend yield	0%	0%	0%

The risk-free interest rate was derived from the Daily Treasury Yield Curve Rates as published by the U.S. Department of the Treasury as of the grant date for terms equal to the expected terms of the options. The expected volatility was based on the historical volatility of the Company's stock price over the expected term of the options. The expected term of options granted was derived from historical data based on employee exercises and post-vesting employment termination behavior. A dividend yield of zero is applied because the Company has never paid dividends and has no intention to pay dividends in the near future.

The stock-based compensation expense recorded is adjusted based on estimated forfeiture rates. An annualized forfeiture rate has been used as a best estimate of future forfeitures based on the Company's historical forfeiture experience. The stock-based compensation expense will be adjusted in later periods if the actual forfeiture rate is different from the estimate.

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Common Stock Options and Restricted Stock

A summary of option activity under the Plans is presented below (in thousands, except exercise price):

		Options outstanding	
	Shares Available for Grant	Number of Shares	Weighted Average Exercise Prices
Balance at January 1, 2014	42	672	$ 38.64
Additional shares authorized under the Amended 2010 Plan	200	—	—
Restricted stock units granted	(50)	—	—
Options granted	(17)	17	$ 35.34
Options cancelled and returned to Plan	49	(49)	$ 43.08
Options exercised	—	(41)	$ 30.64
Options expired	(48)	—	$ 43.20
Balance at December 31, 2014	176	599	$ 38.73
Additional shares authorized under the Amended 2010 Plan	50	—	—
Restricted stock units cancelled and returned to Plan	2	—	—
Options granted	(154)	154	$ 20.22
Options cancelled and returned to Plan	70	(70)	$ 35.23
Options exercised	—	(8)	$ 16.37
Options expired	(38)	—	$ 32.00
Balance at December 31, 2015	106	675	$ 35.14
Additional shares authorized under the Amended 2010 Plan	50	—	—
Restricted stock units granted	(144)	—	—
Restricted stock units cancelled and returned to Plan	7	—	—
Options granted	(384)	384	$ 6.96
Options cancelled and returned to Plan	479	(479)	$ 35.64
Options cancelled and expired	—	(58)	$ 44.80
Balance at December 31, 2016	114	522	$ 13.88

A summary of the inducement grant option activity is presented below (in thousands, except exercise price):

	Options Outstanding	
	Number of Shares	Weighted Average Exercise Prices
Balance at January 1, 2014	318	$ 44.23
Granted	41	$ 36.80
Exercised	(7)	$ 25.87
Expired	(129)	$ 55.75
Balance at December 31, 2014	223	$ 36.78
Exercised	(52)	$ 15.48
Expired	(7)	$ 31.79
Balance at December 31, 2015	164	$ 43.74
Cancelled	(164)	$ 43.74

Balance at December 31, 2016	—	$ —

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On July 26, 2016, the Company initiated a one-time option exchange program pursuant to which employees (excluding the chief executive officer and non-employees, including members of the Company's board of directors) who held certain options to purchase shares of the Company's common stock (such options, eligible options) were given the opportunity to exchange such eligible options for a lesser number of replacement options with a lower exercise price. Upon the expiration of the option exchange program on August 23, 2016, the Company accepted for cancellation exchanged options to purchase an aggregate of 456,995 shares of common stock and issued replacement options covering 334,027 shares of common stock from the Amended 2010 Plan. The exchanged eligible options included options to purchase 113,531 shares of the Company's common stock, which were originally inducement grants. The replacement options have an exercise price of $7.20 per share and vest monthly over three years. This one-time option exchange was treated as a modification for accounting purposes and resulted in incremental expense of approximately $926,000, which was calculated using the Black-Scholes option pricing model. The incremental expense and the unamortized expense remaining on the exchanged options are being amortized over the three-year vesting period of the replacement options.

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A summary of restricted stock unit activity under the Plans is presented below (in thousands, except fair value):

	Number of Shares	Weighted Average Grant-Date Fair Value
Non-vested shares at January 1, 2014	2	$ 44.60
Granted	50	$ 46.11
Vested	(13)	$ 45.83
Cancelled	—	$ 46.20
Non-vested shares at December 31, 2014	39	$ 46.11
Vested	(13)	$ 45.97
Cancelled	(2)	$ 46.20
Non-vested shares at December 31, 2015	24	$ 46.17
Granted	144	$ 5.30
Vested	(12)	$ 46.06
Cancelled	(8)	$ 15.67
Non-vested shares at December 31, 2016	148	$ 8.13

The total intrinsic value of the restricted stock units outstanding as of December 31, 2016 was $0.3 million.

The following table summarizes significant ranges of outstanding and exercisable options as of December 31, 2016 (in thousands, except contractual life and exercise price):

	Options Outstanding			Options Exercisable		
Range of Exercise Price	Number Outstanding	Weighted Average Remaining Contractual Life (in Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price	Aggregate Intrinsic value
$3.80 - $7.19	45	8.68	$ 5.12	8	$ 5.30	
$7.20 - $16.99	325	9.39	$ 7.20	36	$ 7.20	
$17.00 - $30.99	84	6.33	$ 22.39	66	$ 22.92	
$31-00 - $54.29	58	2.72	$ 38.41	57	$ 38.32	
$54.30 - $61.09	6	0.50	$ 54.30	6	$ 54.30	
$61.10 - $61.10	4	0.32	$ 61.10	4	$ 61.10	
$3.80 - $61.10	522	7.82	$ 13.88	177	$ 25.83	$ —
Vested and expected to vest	522	7.82	$ 14.34			$ —
Exercisable	177	5.38	$ 25.83			$ —

There were no stock options exercised during the year ended December 31, 2016. The aggregate intrinsic value of employee stock options exercised during the years ended December 31, 2015 and 2014 was $0.3 million and $0.8 million, respectively.

Note 6: Stockholders’ Equity

In March 2015, the Company completed a public offering and issued approximately 1,437,000 shares of its common stock for approximately $21.4 million in net proceeds. Two of the Company’s executive officers between them

purchased a total of 40,625 shares at the public offering price.

Stockholder Rights Plan

On November 10, 2010, the Company executed a rights agreement in connection with the declaration by the Company's board of directors of a dividend of one preferred stock purchase right (a Right) to be paid on November 10, 2010 (the Record Date) for each share of the Company's common stock issued and outstanding at the close of business on the Record Date. Each Right entitles the registered holder to purchase one one-thousandth of a share of Series AA

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Preferred Stock, $0.01 par value per share (a Preferred Share), of the Company at a price of $4.80 per one one-thousandth of a Preferred Share, subject to adjustment. The rights will not be exercisable until a third party acquires 15.0% of the Company's common stock or commences or announces its intent to commence a tender offer for at least 15.0% of the common stock, other than holders of "grandfathered stock" as defined below.

"Grandfathered stock" refers to stock held by Carl E. Berg and his affiliates. The beneficial ownership threshold for a holder of grandfathered stock is 20%, rather than 15%. Under the rights agreement, certain shares beneficially owned by the firm of Ingalls & Snyder, or I&S, and its managed account beneficial owners collectively will not count toward the 15% beneficial ownership threshold that would trigger the rights as long as none of such shares are held for the purpose of acquiring control or effecting change or influence in control of the Company. Further, this exclusion applies only to shares of common stock for which I&S possesses only shared dispositive power and non-discretionary voting power. The rights agreement could delay, deter or prevent an investor from acquiring the Company in a transaction that could otherwise result in its stockholders receiving a premium over the market price for their shares of common stock.

Note 7: Retirement Savings Plan

Effective January 1997, the Company adopted the MoSys 401(k) Plan (the Savings Plan) which qualifies as a thrift plan under Section 401(k) of the Internal Revenue Code. Full-time and part-time employees who are at least 21 years of age are eligible to participate in the Savings Plan at the time of hire. Participants may contribute up to 15% of their earnings to the Savings Plan. No matching contributions were made by the Company in the years ended December 31, 2016, 2015 and 2014.

Note 8: Business Segments, Concentration of Credit Risk and Significant Customers

The Company operates in one business segment and uses one measurement of profitability for its business. Revenue attributed to the United States and to all foreign countries is based on the geographical location of the customer.

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash, cash equivalents, short-term and long-term investments and accounts receivable. Cash, cash equivalents and short-term and long term investments are deposited with high credit-quality institutions.

The Company recognized revenue from licensing of its technologies and shipment of ICs to customers in North America, Asia and Europe as follows (in thousands):

	Year Ended December 31,		
	2016	2015	2014
North America	$ 3,816	$ 2,222	$ 1,485
Japan	1,303	667	1,961
Taiwan	804	1,396	1,894
Rest of world	101	105	40
Total net revenue	$ 6,024	$ 4,390	$ 5,380

Customers who accounted for at least 10% of total net revenues were:

	Years Ended December 31,					
	2016		2015		2014	
Customer A	47	%	34		*	
Customer B	21	%	12	%	31	%
Customer C	13	%	31	%	34	%
Customer D	*		*		11	%

*Represents percentage less than 10%.

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One customer accounted for 72% of net accounts receivable at December 31, 2016. Three customers accounted for 94% of net accounts receivable at December 31, 2015.

Net long-lived assets (property and equipment), classified by major geographic areas, was (in thousands):

	December 31,	
	2016	2015
	(in thousands)	
U.S.	$ 1,274	$ 1,578
Non-U.S.	—	52
Total	$ 1,274	$ 1,630

Note 9: Commitments and Contingencies

Leases and Purchase Commitments

The Company leases its facilities under non-cancelable operating leases that expire at various dates through 2020. Rent expense was approximately $783,000, $798,000 and $802,000 for the years ended December 31, 2016, 2015 and 2014, respectively. The leases provide for monthly payments and are being charged to operations ratably over the lease terms. In addition to the minimum lease payments, the Company is responsible for property taxes, insurance and certain other operating costs.

Future minimum lease payments under non-cancelable operating leases and purchase commitments are (in thousands):

Year ended December 31,	Operating leases	Purchase commitments	Total
2017	$ 753	$ 760	$ 1,513
2018	781	344	1,125
2019	756	—	756
2020	514	—	514
2021	—	—	—
Total minimum payments	$ 2,804	$ 1,104	$ 3,908

Purchase commitments include software licenses related to computer-aided design software payable through 2018.

Indemnification

In the ordinary course of business, the Company enters into contractual arrangements under which it may agree to indemnify the counterparties from any losses incurred relating to breach of representations and warranties, failure to perform certain covenants, or claims and losses arising from certain events as outlined within the particular contract, which may include, for example, losses arising from litigation or claims relating to past performance. Such indemnification clauses may not be subject to maximum loss clauses. The Company has entered into indemnification agreements with its officers and directors. No material amounts were reflected in the Company’s consolidated financial statements for the years ended December 31, 2016, 2015 or 2014 related to these indemnifications.

The Company has not estimated the maximum potential amount of indemnification liability under these agreements due to the limited history of prior claims and the unique facts and circumstances applicable to each particular agreement. To date, the Company has not made any payments related to these indemnification agreements.

Legal Matters

The Company is not a party to any material legal proceeding that the Company believes is likely to have a material adverse effect on its consolidated financial position or results of operations. From time to time, the Company may be subject to legal proceedings and claims in the ordinary course of business. These claims, even if not meritorious, could result in the expenditure of significant financial resources and diversion of management efforts.

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Note 10: Restructuring

In the first quarter of 2016, the Company effected a reduction in its workforce and associated operating expenses, net loss and cash burn and realigned resources, as the Company had substantially concluded development of new products, including its third generation Bandwidth Engine IC product family, and brought these products to market in 2016. The Company reduced United States headcount by 12 positions and ceased operations at its subsidiary in Hyderabad, India, which had 18 employees. As a result of these reductions, the Company incurred total charges of approximately $0.7 million, including $0.6 million of charges for severance benefits and other one-time termination costs. The remaining charges represent lease obligations, asset impairments and other expenses related to the Company's Indian subsidiary. Substantially all of these charges were realized and resulted in cash expenditures of $0.6 million in the first quarter of 2016. Expenses related to the restructure are included in the restructuring charges line on the condensed consolidated statements of operations and comprehensive loss and the remaining liability is included in accrued expenses and other on the condensed consolidated balance sheet consisting of (in thousands):

	Workforce reduction	Facility related and other termination costs	Total
Balance as of December 31, 2015	$ —	$ —	$ —
Restructuring charge	561	115	676
Non-cash settlements	—	(46)	(46)
Cash payments	(561)	(64)	(625)
Balance as of December 31, 2016	$ —	$ 5	$ 5

Note 11: Convertible Notes

On March 14, 2016, the Company entered into a 10% Senior Secured Convertible Note Purchase Agreement (the Purchase Agreement) with the purchasers of $8,000,000 principal amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the Notes), at par, in a private placement transaction effected pursuant to an exemption from the registration requirements under the Securities Act of 1933, as amended. The conversion price of the Notes is $9.00 per share and is subject to adjustment upon certain events, as set forth in the Purchase Agreement. Pursuant to a security agreement entered into by the Company, the Notes are secured by a security interest in all of the assets of the Company.

The Notes bear interest at the annual rate of 10%. Accrued interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at the Company's option. The Notes are

noncallable and nonredeemable by the Company. The Notes are redeemable at the election of the holders if the Company experiences a fundamental change (as defined in the Notes), which generally would occur in the event (i) any person acquires beneficial ownership of shares of common stock of the Company entitling such person to exercise at least 40% of the total voting power of all of the shares of capital stock of the Company entitled to vote generally in elections of directors, (ii) an acquisition of the Company by another person through a merger or consolidation, or the sale, transfer or lease of all or substantially all of the Company's assets, or (iii) the Company's current directors cease to constitute a majority of the board of directors of the Company within a 12-month period, disregarding for this purpose any director who voluntarily resigns as a director or dies while serving as a director. The redemption price is 120% of the principal amount of the Note to be repurchased plus accrued and unpaid interest as of the redemption date.

The conversion price of $9.00 per share of common stock shall be reset, if, prior to the maturity date, the Company sells new shares of capital stock, or other securities convertible into or exercisable for capital stock, in a financing with one or more accredited investors that yields proceeds to the Company (net of transaction fees, expenses and discounts and commission) of at least $1,000,000 at a price lower than the then applicable conversion price in effect immediately before the closing of such financing; provided that in no event shall the applicable conversion price be reset to less than $8.50 per share of common stock. The Notes are subject to anti-dilution adjustments for stock splits, stock dividends, and the like.

No Note holder shall be entitled to convert such holder's Notes if effective upon the applicable conversion date (i) the holder would have beneficial ownership of more than 9.9% of the voting capital stock of the Company as determined in accordance with Rule 13d-3 under the Securities Exchange Act of 1934, as amended, (with exceptions

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specified in the Purchase Agreement), or (ii) if the shares are being acquired or held with a purpose or effect of changing or influencing control of the Company, or in connection with or as a participant in any transaction having that purpose or effect, as determined in the sole discretion of the board of directors of the Company. There is no required sinking fund for the Notes. The Notes have not been registered for resale, and the holder(s) do not have registration rights.

The Notes restrict the ability of the Company to incur any indebtedness for borrowed money, unless such indebtedness by its terms is expressly subordinated to the Notes in right of payment and to the security interest of the Note holder(s) in respect to the priority and enforcement of any security interest in property of the Company securing such new debt; provided that the Note holder(s) security interest and cash payment rights under the Notes shall be subordinate to a maximum of $5,000,000 of indebtedness for a secured accounts receivable line of credit facility provided to the Company by a bank or institutional lender; and, provided further, that in no event may the amount of indebtedness to which the security interest of the Note holder(s) is subordinated exceed the outstanding balance of accounts receivable less than 90 days old for which the Company has not recorded an allowance for doubtful accounts pledged under such credit facility.

The Notes define an event of default generally as any failure by the Company to pay an amount owed under the Notes when due (subject to cure periods), a default with respect to other indebtedness of the Company resulting in acceleration of such indebtedness, the commencement of bankruptcy or insolvency proceedings, or the cessation of business. If an event of default occurs under the Notes, the holder(s) of a majority-in-interest of the outstanding principal amount of the Notes may declare the outstanding principal amount thereof to be immediately due and payable and pursue all available remedies, including taking possession of the assets of the Company and selling them to pay the amount of debt then due, plus expenses, in accordance with applicable laws and procedures.

The Company incurred debt issuance costs of approximately $0.1 million, which were recorded as a debt discount and are being amortized to interest expense over the repayment period for the loan using the effective interest rate method. The interest expense related to the debt discount during the year ended December 31, 2016 was approximately $37,000 and the remaining unamortized debt discount was approximately $0.1 million.

In August 2016, the first semi-annual interest payment was made in-kind with the issue of an additional note (Interest Note) to the Purchasers. The Interest Note has a principal amount of approximately $336,000 and has terms identical to the Notes. As of December 31, 2016, the Notes and Interest Note could be converted into a maximum of 980,649 shares of common stock at $8.50 per share, excluding the effects of future payments of interest in-kind.

Future repayments on outstanding convertible notes payable (excluding unamortized discount of $0.1 million as of December 31, 2016) are as follows: (in thousands):

Year ending December 31,	
2017	$ —
2018	$ 8,336
	$ 8,336

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Note 12: Related Party

In February 2012, the Company entered into a strategic development and marketing agreement with Credo Semiconductor (Hong Kong) Ltd. (Credo), a privately-funded, fabless semiconductor company, to develop, market and sell integrated circuits. Two of the Company's executive officers between them loaned a total of $250,000 to Credo for a portion of the seed funding needed by Credo to commence its integrated circuit design efforts. These loans were repaid by Credo in August 2015. The strategic development and marketing agreement, as amended, calls for the Company to make payments to Credo upon Credo achieving certain development and verification milestones towards the development of IC products and provides the Company with exclusive sales and marketing rights for such IC products. As of December 31, 2016, the Company has paid Credo $4.8 million for achievement of development milestones, as well as for mask costs and wafer purchases from third-party vendors. All amounts incurred have been recorded as research and development expenses. Currently, under the strategic development and marketing agreement, the Company is entitled to a remaining reimbursement amount of $3.5 million of development costs based on payments made to Credo to date. This amount is subject to increase as additional payments are made to Credo. The reimbursement will be funded by the gross profits earned by the Company from the sale of the products, with the initial gross profits being primarily applied to reimbursing the Company for these development payments and a portion paid to Credo. Once the full amount has been reimbursed, the gross profits will be shared equally by the Company and Credo.

Note 13: Subsequent Events

Reverse Stock Split

On February 14, 2017, the Company filed a certificate of amendment to its amended and restated certificate of incorporation with the Secretary of State of the State of Delaware to effect a one-for-ten reverse stock split of the Company’s shares of common stock. Such amendment and ratio were previously approved by the Company’s stockholders and board of directors, respectively.

On February 16, 2017, the Company effected the one-for-10 reverse stock split of its common stock. As a result of the reverse stock split, every ten shares of the Company’s pre-reverse split outstanding common stock was combined and reclassified into one share of common stock. Proportionate voting rights and other rights of common stock holders were not affected by the reverse stock split. No fractional shares were issued in connection with the reverse stock split; stockholders who would otherwise hold a fractional share of common stock received cash in an amount equal to the product obtained by multiplying (i) the closing sale price of the Company’s common stock on the effective date of the reverse stock split, by (ii) the number of shares of the Company’s common stock held by the stockholder that would otherwise have been exchanged for the fractional share interest. All stock options and restricted stock units outstanding and common stock reserved for issuance under the Company’s equity incentive plans immediately prior to the reverse stock split were adjusted by dividing the number of affected shares of common stock by 10 and, as applicable, multiplying the exercise price by 10, as a result of the reverse stock split. The common stock par value was adjusted to $0.001 in conjunction with the reverse stock split..

Conversion of Interest Payable to Note

In February 2017, the Company made payment of interest on the Notes and the Interest Note for the period from August 2016 to February 15, 2017 in-kind with the issue of an additional note to the Purchasers (Interest Note

2). Interest Note 2 has a principal amount of approximately $420,000 and has terms identical to the Notes and the Interest Note.

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INDEX OF EXHIBITS

3.1(1)	Restated Certificate of Incorporation of the Registrant
3.1.1(1A)	Certificate of Amendment to Restated Certificate of Incorporation of the Registrant
3.2(2)	Amended and Restated Bylaws of the Registrant
4.1(3)	Specimen Common Stock Certificate
4.4(4)	Rights Agreement, dated November 10, 2010, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
4.4.1(4)	Form of Right Certificate
4.4.2(4)	Summary of Rights to Purchase Preferred Shares
4.4.3(5)	Amendment No. 1 to Rights Agreement, dated July 22, 2011, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
4.4.4(6)	Amendment No. 2 to Rights Agreement, dated May 18, 2012, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
10.1(3)	Form of Indemnity Agreement between Registrant and each of its directors and executive officers
10.2	Reserved
10.3(7)*	2000 Stock Option Plan and form of Option Agreement thereunder
10.3.1(8)*	Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.4(9)*	Form of Stock Option Agreement pursuant to Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.5(10)*	Form of New Employee Inducement Grant Stock Option Agreement
10.6(11)*	Employment offer letter agreement and Mutual Agreement to Arbitrate between Registrant and Leonard Perham dated as of November 8, 2007
10.7	Reserved
10.8(12)*	Employment offer letter agreement between Registrant and James Sullivan dated December 21, 2007
10.9(13)*	Change-in-control Agreement between Registrant and James Sullivan dated January 18, 2008
10.10(14)*	Amended and Restated 2010 Equity Incentive Plan
10.11(15)*	Form of Option Agreement for Stock Option Grant pursuant to 2010 Equity Incentive Plan
10.12(16)*	2010 Employee Stock Purchase Plan
10.13	Reserved
10.14(17)*	Form of Notice of Restricted Stock Unit Award and Agreement
10.15(18)	Lease Agreement between Registrant and M West Propco XII, LLC. dated July 19, 2010
10.16(19)*	Employment offer letter agreement between Registrant and Thomas Riordan dated May 6, 2011
10.17(19)*	New Employee Inducement Grant Stock Option Agreement between Registrant and Thomas Riordan dated May 10, 2011
10.18	Reserved
10.19(20)*	Form of New Employee Inducement Grant Stock Option Agreement (revised February 2012)
10.20(21)*	Stock Option Agreement between Registrant and Leonard Perham dated as of November 1, 2011
10.21(22)*	Stock Option Agreement between Registrant and Thomas Riordan dated as of December 21, 2011
10.22(23)	Form of Indemnification Agreement used from June 5, 2012
10.23	Reserved
10.24(24)*	Form of Notice of Grant of Restricted Stock Unit Award and Agreement under the Amended and Restated 2010 Equity Incentive Plan
10.25(25)*	Employment offer letter agreement between Registrant and John Monson dated February 21, 2012
10.26(26)	10% Senior Secured Convertible Note Purchase Agreement
10.27(27)	Security Agreement
10.28(28)	10% Senior Secured Convertible Note due August 15, 2018
10.29(29)*	Offer to Exchange Certain Outstanding Stock Options for a Number of Replacement Stock Options

10.30(30)*	Executive Change-in-Control and Severance Policy
21.1	List of subsidiaries
23.1	Consent of Independent Registered Public Accounting Firm—BPM LLP
24.1	Power of Attorney (see signature page)
31.1	Rule 13a-14 certification
31.2	Rule 13a-14 certification

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	Section 1350 certification
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101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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(1) Incorporated by reference to Exhibit 3.6 to Form 8-K filed by the Company on November 12, 2010 (Commission File No. 000-32929).

(1A) Incorporated by reference to Exhibit 3.1 to Form 8-K filed by the Company on February 14, 2017 (Commission File No. 000-32929).

(2) Incorporated by reference to Exhibit 3.4 to Form 8-K filed by the Company on October 29, 2008 (Commission File No. 000-32929).

(3) Incorporated by reference to the same-numbered exhibit to the Company's Registration Statement on Form S-1, as amended, originally filed August 4, 2000, declared effective June 27, 2001 (Commission file No. 333-43122).

(4) Incorporated by reference to the same-numbered exhibit to Form 8-K filed by the Company on November 12, 2010 (Commission File No. 000-32929).

(5) Incorporated by reference to Exhibit 4.2.3 to the Current Report on Form 8-K, filed on July 27, 2011 (Commission File No. 000-32929).

(6) Incorporated by reference to Exhibit 4.2.4 to Current Report on Form 8-K filed by the Company on May 24, 2012 (Commission File No. 000-32929).

(7) Incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1, as amended, originally filed August 4, 2000, declared effective June 17, 2001 (Commission File No. 333-43122).

(8) Incorporated by reference to Appendix B to the Company's proxy statement on Schedule 14A filed by the Company on October 7, 2004 (Commission File No. 000-32929).

(9) Incorporated by reference to Exhibit 10.15 to Form 10-Q filed by the Company on August 9, 2005 (Commission File No. 000-32929).

(10) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).

(11) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).

(12) Incorporated by reference to Exhibit 10.26 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).

(13) Incorporated by reference to Exhibit 10.27 to Form 10-K filed by the Company on March 17, 2008 (Commission File No. 000-32929).

(14) Incorporated by reference to Exhibit 4.8 to From S-8 filed by the Company on August 8, 2014 (Commission File No. 000-197989).

(15) Incorporated by reference to Exhibit 4.10 to Form S-8 filed by the Company on July 28, 2010 (Commission File No. 333-168358).

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(16) Incorporated by reference to Appendix B to the proxy statement on Schedule 14A filed by the Company on May 26, 2010 (Commission File No. 000-32929).
(17) Incorporated by reference to Exhibit 4.8 to Form S-8 filed by the Company on June 5, 2009 (Commission File No. 333-159753).
(18) Incorporated by reference to Exhibit 10.35 to Form 8-K filed by the Company on July 22, 2010 (Commission File No. 000-32929).
(19) Incorporated by reference to the same-numbered exhibit to Form 10-Q filed by the Company on August 8, 2011 (Commission File No. 000-32929).
(20) Incorporated by reference to Exhibit 10.19 to Form 10-K filed by the Company on March 15, 2012 (Commission File No. 000-32929).
(21) Incorporated by reference to Exhibit 10.20 to Form 10-Q filed by the Company on May 9, 2012 (Commission File No. 000-32929).
(22) Incorporated by reference to Exhibit 10.21 to Form 10-Q filed by the Company on May 9, 2012 (Commission File No. 000-32929).
(23) Incorporated by reference to Exhibit 10.22 to Form 10-Q filed by the Company on August 9, 2012 (Commission File No. 000-32929).
(24) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Company on March 14, 2014 (Commission File No. 000-32929).
(25) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Company on March 14, 2014 (Commission File No. 000-32929).
(26) Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).
(27) Incorporated by reference to Exhibit 10.2 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).
(28) Incorporated by reference to Exhibit 10.3 to Form 8-K filed by the Company on March 15, 2016 (Commission File No. 000-32929).
(29) Incorporated by reference to Exhibit 99 to Schedule TO filed by the Company on July 26, 2016 (Commission File No. 005-78033), as amended
(30) Incorporated by reference to Exhibit 99 to Schedule TO filed by the Company on July 26, 2016 (Commission File No. 005-78033), as amended

*Management contract, compensatory plan or arrangement.