

AVIAT NETWORKS, INC.  
Form 10-K  
September 06, 2017

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

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Form 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended June 30, 2017

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 001-33278

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AVIAT NETWORKS, INC.

(Exact name of registrant as specified in its charter)

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Delaware

(State or other jurisdiction of incorporation or organization)

860 N. McCarthy Blvd., Suite 200, Milpitas, California

(Address of principal executive offices)

Registrant's telephone number, including area code: (408) 941-7100

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

Title of Each Class

Common Stock, par value \$0.01 per share

Preferred Shares Purchase Rights

Securities registered pursuant to Section 12(g) of the Act: None

20-5961564

(I.R.S. Employer Identification No.)

95035

(Zip Code)

Name of Each Exchange on Which Registered

NASDAQ Stock Market LLC

(NASDAQ Global Select Market)

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

As of December 30, 2016, the aggregate market value of the registrant's common stock held by non-affiliates was approximately \$46.0 million. For purposes of this calculation, the registrant has assumed that its directors, executive officers and holders of 5% or more of the outstanding common stock are affiliates.

As of August 17, 2017, there was 5,317,957 shares of the registrant's common stock outstanding.

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**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's definitive Proxy Statement for its Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended June 30, 2017, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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Table of Contents

AVIAT NETWORKS, INC.  
ANNUAL REPORT ON FORM 10-K  
For the Fiscal Year Ended June 30, 2017  
Table of Contents

<u>PART I</u>	<u>5</u>
Item 1. <u>Business</u>	<u>5</u>
Item 1A. <u>Risk Factors</u>	<u>13</u>
Item 1B. <u>Unresolved Staff Comments</u>	<u>26</u>
Item 2. <u>Properties</u>	<u>26</u>
Item 3. <u>Legal Proceedings</u>	<u>26</u>
Item 4. <u>Mine Safety Disclosures</u>	<u>27</u>
<u>PART II</u>	<u>28</u>
Item 5. <u>Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	<u>28</u>
Item 6. <u>Selected Financial Data</u>	<u>30</u>
Item 7. <u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>31</u>
Item 7A. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>44</u>
Item 8. <u>Financial Statements and Supplementary Data</u>	<u>45</u>
Item 9. <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>81</u>
Item 9A. <u>Controls and Procedures</u>	<u>81</u>
Item 9B. <u>Other Information</u>	<u>82</u>
<u>PART III</u>	<u>83</u>
Item 10. <u>Directors, Executive Officers and Corporate Governance</u>	<u>83</u>
Item 11. <u>Executive Compensation</u>	<u>83</u>
Item 12. <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>83</u>
Item 13. <u>Certain Relationships and Related Transactions, and Director Independence</u>	<u>83</u>
Item 14. <u>Principal Accountant Fees and Services</u>	<u>83</u>
<u>PART IV</u>	<u>84</u>
Item 15. <u>Exhibits and Financial Statement Schedules</u>	<u>84</u>
<u>Signatures</u>	<u>85</u>
<u>Schedule II</u>	<u>86</u>
<u>Exhibit Index</u>	<u>87</u>

## Table of Contents

### CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they do not materialize or prove correct, could cause our results to differ materially from those expressed or implied by such forward-looking statements. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including statements of, about, concerning or regarding: our plans, strategies and objectives for future operations, including with respect to growing our business and sustaining profitability; our restructuring efforts; our research and development efforts and new product releases and services; trends in revenue; drivers of our business and the markets in which we operate; future economic conditions; performance or outlook and changes in our industry and the markets we serve; the outcome of contingencies; the value of our contract awards; beliefs or expectations; the sufficiency of our cash and our capital needs and expenditures; our intellectual property protection; our compliance with regulatory requirements and the associated expenses; expectations regarding litigation; our intention not to pay cash dividends; seasonality of our business; the impact of foreign exchange and inflation; taxes; and assumptions underlying any of the foregoing. Forward-looking statements may be identified by the use of forward-looking terminology, such as “anticipates,” “believes,” “expects,” “may,” “should,” “would,” “will,” “intends,” “plans,” “estimates,” “strategy,” “projects,” “targets,” “goals,” “seeing,” “delivering,” “could,” “future,” “predict,” “might,” “could,” “potential,” or the negative of these terms, and similar words or expressions.

These forward-looking statements are based on estimates reflecting the current beliefs of the senior management of Aviat Networks. These forward-looking statements involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. Forward-looking statements should therefore be considered in light of various important factors, including those set forth in this Annual Report on Form 10-K. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, but are not limited to, the following:

- continued price and margin erosion as a result of increased competition in the microwave transmission industry;
- the impact of the volume, timing and customer, product and geographic mix of our product orders;
- our ability to meet financial covenant requirements which could impact, among other things, our liquidity;
- the timing of our receipt of payment for products or services from our customers;
- our ability to meet projected new product development dates or anticipated cost reductions of new products;
- our suppliers’ inability to perform and deliver on time as a result of their financial condition, component shortages or other supply chain constraints;
- customer acceptance of new products;
- the ability of our subcontractors to timely perform;
- continued weakness in the global economy affecting customer spending;
- retention of our key personnel;
- our ability to manage and maintain key customer relationships;
- uncertain economic conditions in the telecommunications sector combined with operator and supplier consolidation;
- our failure to protect our intellectual property rights or defend against intellectual property infringement claims by others;
- the results of our restructuring efforts;
- the ability to preserve and use our net operating loss carryforwards;
- the effects of currency and interest rate risks;
- the conduct of unethical business practices in developing countries; and
- the impact of political turmoil in countries where we have significant business.

Other factors besides those listed here also could adversely affect us. See “Item 1A. Risk Factors” in this Annual Report on Form 10-K for more information regarding factors that may cause our results to differ materially from those expressed or implied by the forward-looking statements contained in this Annual Report on Form 10-K.

You should not place undue reliance on these forward-looking statements, which reflect our management’s opinions only as of the date of the filing of this Annual Report on Form 10-K. Forward-looking statements are made in reliance upon the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the

Securities Exchange Act of 1934, as amended, along with provisions of the Private Securities Litigation Reform Act of 1995, and we

Table of Contents

undertake no obligation, other than as imposed by law, to update any forward-looking statements to reflect further developments or information obtained after the date of filing of this Annual Report on Form 10-K or, in the case of any document incorporated by reference, the date of that document.

Table of Contents

PART I

Item 1. Business

Aviat Networks, Inc., together with its subsidiaries, is a global supplier of microwave networking solutions, backed by an extensive suite of professional services and support. Aviat Networks, Inc. may be referred to as “the Company,” “AVNW,” “Aviat Networks,” “we,” “us” and “our” in this Annual Report on Form 10-K.

We were incorporated in Delaware in 2006 to combine the businesses of Harris Corporation’s Microwave Communications Division (“MCD”) and Stratex Networks, Inc. (“Stratex”). On January 28, 2010, we changed our corporate name from Harris Stratex Networks, Inc. to Aviat Networks, Inc.

Our principal executive offices are located at 860 North McCarthy Boulevard, Suite 200, Milpitas, California 95035, and our telephone number is (408) 941-7100. Our common stock is listed on the NASDAQ Global Select Market under the symbol AVNW. As of June 30, 2017, we employed approximately 710 people, compared with approximately 720 people as of July 1, 2016.

Overview and Description of the Business

We design, manufacture and sell a range of wireless networking products, solutions and services to mobile and fixed public network operators, private network operators, Federal, State and Local government agencies, transportation, energy and utility companies, public safety agencies and broadcast network operators around the world. We sell products and services directly to our customers, and also, to a lesser extent, use agents and resellers.

Our products utilize microwave and millimeter wave technologies to create point to point wireless links for short, medium and long distance interconnections. Our products incorporate Ethernet switching and IP routing capabilities to form complete networking solutions. We also provide network management software tools to enable our customers to deploy, monitor and manage our systems; third party equipment such as antennas, routers, optical transmission equipment and other equipment necessary to build and deploy a complete telecommunications transmission network. We provide a full suite of professional services for planning, deployment, operations and maintenance of our customers’ networks.

Our wireless systems deliver urban, suburban, regional and country-wide communications links as the primary alternative to fiber optic connections. In dense urban and suburban areas, short range wireless solutions are faster to deploy and lower cost per mile than new fiber deployments. In developing nations, fiber infrastructure is scarce and wireless systems are used for both long and short distance connections. Wireless systems also have advantages over optical fiber in areas with rugged terrain, and to provide connections over bodies of water such as between islands or even oil and gas production platforms.

Revenue from our North America and international regions represented approximately 55% and 45%, respectively, of our revenue in fiscal 2017, 47% and 53%, respectively, of our revenue in fiscal 2016, and 46% and 54%, respectively, of our revenue in fiscal 2015. Information about our revenue attributable to our geographic regions is set forth in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in “Note 9. Segment and Geographic Information” of the accompanying consolidated financial statements in this Annual Report on Form 10-K.

Market Overview

We believe that future demand for microwave and millimeter wave transmission systems will be influenced by a number of factors across several market segments.

Mobile Networks

As mobile networks expand, add subscribers and increase the number of wirelessly connected devices, sensors and machines, they require investment in backhaul infrastructure. Whether mobile network operators choose to self-build this backhaul infrastructure or lease backhaul services from other network providers, the evolution of the network drives demand for transmission technologies such as microwave and millimeter wave wireless backhaul. Within this overall scope there are multiple individual drivers for investment in backhaul infrastructure.

New RAN Technologies. Mobile Radio Access Network (“RAN”) technologies are continually evolving. With evolution from 2G to 3G (HSPA), 4G (HSPA+ and LTE), and next 5G standards, technology is





## Table of Contents

rapidly advancing and providing subscribers with higher speed access to the Internet, social media, and video streaming services. The rapid increases in data to be transported through the RAN and across the backhaul infrastructure drives requirements for higher data transport links necessitating upgrades to or replacement of the existing backhaul infrastructure.

- **Subscriber Growth.** Traffic on the backhaul infrastructure increases as the number of unique subscribers grows.

**Connected Devices.** The number of devices such as smart phones and tablets connected to the mobile network is far greater than the number of unique subscribers and is continuing to grow as consumers adopt multiple mobile device types. There is also rapid growth in the number and type of wireless enabled sensors and machines being connected to the mobile network creating new revenue streams for network operators in healthcare, agriculture, transportation and education. As a result, the data traffic crossing the backhaul infrastructure continues to grow rapidly.

**IoT.** The Internet of Things (“IoT”) brings the potential of massive deployment of wireless end points for sensing and reporting data and remotely controlling machines and devices. The increase of data volume drives investment in network infrastructure.

**RAN Capacity.** RAN frequency spectrum is a limited resource and shared between all of the devices and users within the coverage area of each base station. Meeting the combined demand of increasing subscribers and devices will require the deployment of much higher densities of base stations with smaller and smaller range (small cells) each requiring backhaul.

**Geographic Coverage.** Expanding the geographic area covered by a mobile network requires the deployment of additional Cellular Base Station sites. Each additional base station site also needs to be connected to the core of the mobile network through expansion of the backhaul system.

**License Mandates.** Mobile Operators are licensed telecommunications service providers. Licenses will typically mandate a minimum geographic footprint within a specific period of time and/or a minimum proportion of a national or regional population served. This can pace backhaul infrastructure investment and cause periodic spikes in demand.

**Evolution to IP.** Network Infrastructure capacity, efficiency and flexibility is greatly enhanced by transitioning from legacy SDH (synchronous digital hierarchy) / SONET (synchronous optical network) / TDM (time division multiplexing) to IP (internet protocol) infrastructure. Our products offer integrated IP transport and routing functionality increasing the value they bring in the backhaul network.

**Expansion of Offered Services.** Mobile network operators especially in emerging markets now own and operate the most modern communications networks within their respective regions. These network assets can be further leveraged to provide high speed broadband services to fixed locations such as small, medium and large business enterprises, airports, hotels, hospitals, and educational institutions. Microwave and millimeter wave backhaul is ideally suited to providing high speed broadband connections to these end points due to the lack of fiber infrastructure.

### **Other Vertical Markets**

In addition to mobile backhaul, we see demand for microwave technology in other vertical markets, including utility, public safety, financial institutions and broadcast.

Many utility companies around the world are actively investing in Smart Grid solutions and energy demand management, which drive the need for network modernization and increased capacity of networks.

The investments in network modernization in the public safety market can significantly enhance the capabilities of security agencies. Improving border patrol effectiveness, enabling inter-operable emergency communications services for local or state police, providing access to timely information from centralized databases, or utilizing video and imaging devices at the scene of an incident requires a high bandwidth and reliable network. The mission critical nature of Public Safety and National security networks can require that these networks are built, operated and maintained independently of other public network infrastructure and microwave is very well suited to this environment because it is a cost-effective alternative to fiber.

Microwave technology can be used to engineer long distance and more direct connections than Optical Cable.

Microwave signals also travel through the air much faster than light through glass and the combined effect of shorter distance and higher speed reduces latency, which is valued for trading applications in the financial industry. Our products have already been used to create low latency connections between major centers in the United States (“U.S.”),

Europe and Asia and we see long-term interest in the creation of further low latency routes in various geographies around the world.

## Table of Contents

The enhancement of Border Security and Surveillance networks to counter terrorism and insurgency is aided by the use of wireless technologies including microwave backhaul.

These factors are combining to create a range of opportunities for continued investment in backhaul and transport networks favoring microwave and millimeter wave technologies. As we focus on our execution of the future generations of our technology, our goal is to make wireless a viable choice for an ever-broadening range of network types.

### Strategy

Over the past year, we focused on building a sustainably profitable business with future growth potential. We have invested in our people and processes to create a platform for operational excellence across sales, services, product development and supply chain areas while continuing to make investments in strengthening our product and services portfolio and expanding our reach into targeted market areas.

Our technology strategy has three main elements aligned to deliver a compelling Total Cost of Ownership (“TCO”) value proposition. The first is the integration of network routing functions into our wireless transport solution allowing our customers increased flexibility with a much better Total Cost. Second, we are expanding the data carrying capacity of our wireless products to address the increasing data demand in networks of all types. Third, in order to address the operational complexity of planning, deploying, owning and operating microwave networks, we are investing in a combination of software applications and services where our expertise can make a significant difference for our customers and partners.

We continued to develop our professional services portfolio as a key to our long-term strategy and differentiation. During the year, we continued to expand the number of customer networks managed from our North America Network Operations Center. We began offering cloud based network management to our customers and we continue to offer training and accreditation programs for microwave and IP network design, deployment and maintenance. Our strategy includes partnering with companies with technical expertise in areas outside of our core competencies to meet our customers’ demand for an end-to-end solution. Our partner product strategy enables us to go beyond wireless transmission to address the vendor consolidation trend whereby customers are “buying more from fewer vendors” and in doing so providing expanding market share opportunity. A comprehensive solutions portfolio comprised of our wireless product and intelligent partner products can allow us to compete with vendors that offer turnkey solution portfolios and serve to focus our research and development (“R&D”) efforts on core competency wireless innovations. Having a broader portfolio will enable us to further differentiate our offerings from other independent microwave equipment suppliers.

We expect to continue to serve and expand upon our existing customer base and develop business with new customers. We intend to leverage our customer base, our longstanding presence in many countries, our distribution channels, our comprehensive product line, our superior customer service and our turnkey solution capability to continue to sell existing and new products and services to current and future customers.

### Products and Solutions

Our strong product and solutions portfolio is key to building and maintaining our marquee base of customers. We offer a comprehensive product and solutions portfolio that meets the needs of service providers and network operators in every region of the world and addresses a broad range of applications, frequencies, capacities and network topologies.

**Broad product and solution portfolio.** We offer a comprehensive suite of wireless transmission networking systems for microwave and millimeter wave networking applications. Our solution consists of tailored offerings of our own wireless products and our own integrated ancillary equipment or that of other manufacturers and providers of element and network management systems and professional services. These solutions address a wide range of transmission frequencies, ranging from 2.4 GHz to 90 GHz, and a wide range of transmission capacities, ranging up to over 10 Gbps. The major product families included in these solutions are CTR 8000, WTM 4000 and AviatCloud. Our CTR 8000 platform merges the functionality of an indoor microwave modem unit and a cell site router into a single integrated solution, simplifying IP/MPLS deployments and creating a better performing network. The newest addition to our product portfolio is the WTM 4000, the highest capacity microwave radio ever produced and purpose built for SDN. To address the issues of operational complexity in our customers’ networks, AviatCloud is an app-based

platform to automate and virtualize networks and their operations.

7

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## Table of Contents

Low total cost of ownership. Our wireless-based solutions are focused on low total cost of ownership, including savings on the combined costs of initial acquisition, installation and ongoing operation and maintenance. Our latest generation system designs reduce rack space requirements, require less power, are software-configurable to reduce spare parts requirements, and are simple to install, operate, upgrade and maintain. Our advanced wireless features can also enable operators to save on related costs, including spectrum fees and tower rental fees.

Futureproof network. Our solutions are designed to protect the network operator's investment by incorporating software-configurable capacity upgrades and plug-in modules that provide a smooth migration path to Carrier Ethernet and IP/MPLS (multiprotocol label switching)-based networking, without the need for costly equipment substitutions and additions. Our products include key technologies we believe will be needed by operators for their network evolution to support new broadband services.

Flexible, easily configurable products. We use flexible architectures with a high level of software configurable features. This design approach produces high-performance products with reusable components while at the same time allowing for a manufacturing strategy with a high degree of flexibility, improved cost and reduced time-to-market. The software features of our products offer our customers a greater degree of flexibility in installing, operating and maintaining their networks.

Comprehensive network management. We offer a range of flexible network management solutions, from element management to enterprise-wide network management and service assurance that we can optimize to work with our wireless systems.

Complete professional services. In addition to our product offerings, we provide network planning and design, site surveys and builds, systems integration, installation, maintenance, network monitoring, training, customer service and many other professional services. Our services cover the entire evaluation, purchase, deployment and operational cycle and enable us to be one of the few complete turnkey solution providers in the industry.

### Business Operations

#### Sales and Service

Our primary route to market is through our own direct sales, service and support organization. This provides us with the best opportunity to leverage our role as a technology specialist and differentiate ourselves from competitors. Our focus on key customers and geographies allows us to consistently achieve high customer satisfaction ratings leading to a high level of customer retention and repeat business. Our highest concentrations of Sales and Service resources are in the United States, Western and Southern Africa, the Philippines, and the European Union. We maintain a presence in a number of other countries, some of which are based on customer locations and include, but not limited to, Canada, Mexico, Kenya, India, Saudi Arabia, Australia, New Zealand, and Singapore.

In addition to our direct channel to market, we also have informal, and in some cases formal, relationships with original equipment manufacturers ("OEMs") and system integrators especially towards large and complex projects in National Security and Government related applications. Our role in these relationships ranges from equipment supply only to being a sub-contractor for a portion of the project scope where we will supply equipment and a variety of design, deployment and maintenance services.

We also use indirect sales channels, including dealers, resellers and sales representatives, in the marketing and sale of some lines of products and equipment on a global basis. These independent representatives may buy for resale or, in some cases, solicit orders from commercial or governmental customers for direct sales by us. Prices to the ultimate customer in many instances may be recommended or established by the independent representative and may be above or below our list prices. These independent representatives generally receive a discount from our list prices and are free to set the final sales prices paid by the customer.

We have repair and service centers in India, Nigeria, Ghana, Mexico, the Philippines, the United Kingdom and the United States. We have customer service and support personnel who provide customers with training, installation, technical support, maintenance and other services on systems under contract. We install and maintain customer equipment directly in some cases and contract with third-party service providers in other cases, depending on the equipment being installed and customer requirements.



Table of Contents

The specific terms and conditions of our product warranties vary depending upon the product sold and country in which we do business. On direct sales, warranty periods generally start on the delivery date and continue for one to three years.

**Manufacturing**

Our global manufacturing strategy follows an outsourced manufacturing model using contract manufacturing partners in both the United States and Asia. Our strategy is based on balancing cost and supplier performance as well as taking into account qualification for localization requirements of certain market segments such as the Buy America statute. In accordance with our global logistics requirements and customer geographic distribution, we are engaged with contract manufacturing partners in Asia and the United States. All manufacturing operations have been certified to International Standards Organization 9001, a recognized international quality standard. We have also been certified to the TL 9000 standard, a telecommunication industry-specific quality system standard.

**Backlog**

Our backlog by geographic region is as follows:

(In thousands)	June 30,	July 1,
	2017	2016
North America	\$102,971	\$97,360
International	56,775	56,271
Total backlog	\$159,746	\$153,631

Our backlog consists primarily of contracts or purchase orders for both product and service deliveries and extended service warranties. Services include management's initial estimate of the value of a customer's commitment under a services contract. The calculation used by management involves estimates and judgments to gauge the extent of a customer's commitment, including the type and duration of the agreement, and the presence of termination charges or wind down costs. Contract extensions and increases in scope are treated as backlog only to the extent of the incremental new value. We regularly review our backlog to ensure that our customers continue to honor their purchase commitments and have the financial means to purchase and deploy our products and services in accordance with the terms of their purchase contracts. Backlog estimates are subject to change and are affected by several factors, including terminations, changes in the scope of contracts, periodic revalidations, adjustments for revenue not materialized and adjustments for currency.

We expect to substantially fill the backlog as of June 30, 2017 during fiscal 2018, but we cannot be assured that this will occur. Product orders in our current backlog are subject to changes in delivery schedules or to cancellation at the option of the purchaser without significant penalty. Accordingly, although useful for scheduling production, backlog as of any particular date may not be a reliable measure of sales for any future period because of the timing of orders, delivery intervals, customer and product mix and the possibility of changes in delivery schedules and additions or cancellations of orders. The backlog figures exclude advance payments and unearned income amounts.

**Customers**

Although we have a large customer base, during any given fiscal year or quarter, a small number of customers may account for a significant portion of our revenue.

During fiscal 2017, Mobile Telephone Networks Group ("MTN Group") in Africa accounted for 14% of our total revenue compared with 18% in fiscal 2016 and 14% in fiscal 2015. We have entered into separate and distinct contracts with MTN Group as well as separate arrangements with MTN Group subsidiaries. The loss of all or a substantial portion of MTN Group's business could adversely affect our results of operations, cash flows and financial position.

**Competition**

The microwave and millimeter wave wireless networking business is a specialized segment of the telecommunications industry that is sensitive to technological advancements and is extremely competitive. Our principal competitors include business units of large mobile and IP network infrastructure manufacturers such as Ericsson, Huawei, NEC and Nokia, as well as a number of smaller microwave specialist companies such as Ceragon and SIAE Microelectronica.





## Table of Contents

Some of our larger competitors may have greater name recognition, broader product lines (some including non-wireless telecommunications equipment and managed services), a larger installed base of products and longer-standing customer relationships. They may from time to time leverage their extensive overall portfolios into completely outsourced and managed network offerings restricting opportunities for specialist suppliers. In addition, some competitors may offer seller financing, which can be a competitive advantage under certain economic climates. Some of our larger competitors may also act as systems integrators through which we sometimes distribute and sell products and services to end users.

The smaller independent private and public specialist competitors typically leverage new technologies and low products costs, but are generally less capable of offering a complete solution including professional services, especially in the North America and Africa regions which form the majority of our addressed market.

We concentrate on market opportunities that we believe are compatible with our resources, overall technological capabilities and objectives. Principal competitive factors are cost-effectiveness, product quality and reliability, technological capabilities, service, ability to meet delivery schedules and the effectiveness of dealers in international areas. We believe that the combination of our network and systems engineering support and service, global reach, technological innovation, agility and close collaborative relationships with our customers are the key competitive strengths for us. However, customers may still make decisions based primarily on factors such as price, financing terms and/or past or existing relationships, where it may be difficult for us to compete effectively or profitably.

### Research and Development

We believe that our ability to enhance our current products, develop and introduce new products on a timely basis, maintain technological competitiveness and meet customer requirements is essential to our success. Accordingly, we allocate, and intend to continue to allocate, a significant portion of our resources to research and development efforts in key technology areas and innovation to differentiate our overall portfolio from our competition. The majority of such research and development resources will be focused on technologies in microwave and millimeter wave RF, digital single processing, networking protocols and software applications.

Our research and development expenditures totaled \$18.7 million, or 7.7% of revenue, in fiscal 2017, \$20.8 million, or 7.7% of revenue, in fiscal 2016, and \$25.4 million, or 7.6% of revenue, in fiscal 2015.

Research and development are primarily directed to the development of new products and to building technological capability. We are an industry innovator and intend to continue to focus significant resources on product development in an effort to maintain our competitiveness and support our entry into new markets.

Our product development teams numbered 142 employees as of June 30, 2017, and were located in the United States, New Zealand, Slovenia and Canada.

### Raw Materials and Supplies

Because of the range of our products and services, as well as the wide geographic dispersion of our facilities, we use numerous sources of raw materials needed for our operations and for our products, such as electronic components, printed circuit boards, metals and plastics. We are dependent upon suppliers and subcontractors for a large number of components and subsystems and upon the ability of our suppliers and subcontractors to adhere to customer or regulatory materials restrictions and meet performance and quality specifications and delivery schedules.

Our strategy for procuring raw material and supplies includes dual sourcing on strategic assemblies and components. In general, we believe this reduces our risk with regard to the potential financial difficulties in our supply base. In some instances, we are dependent upon one or a few sources, either because of the specialized nature of a particular item or because of local content preference requirements pursuant to which we operate on a given project. Examples of sole or limited source categories include metal fabrications and castings, for which we own the tooling and therefore limit our supplier relationships, ASIC's and MMICs (types of integrated circuit used in manufacturing microwave radios), which we procure at volume discount from a single source. Our supply chain plan includes mitigation plans for alternative manufacturing sources and identified alternate suppliers.

Although we have been affected by performance issues of some of our suppliers and subcontractors, we have not been materially adversely affected by the inability to obtain raw materials or products. In general, any performance issues causing short-term material shortages are within the normal frequency and impact range experienced by high-tech manufacturing companies. They are due primarily to the highly technical nature of many of our purchased

components.

10

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## Table of Contents

Looking ahead, we anticipate standard lead times for our raw materials and supplies.

### Patents and Other Intellectual Property

We consider our patents and other intellectual property rights, in the aggregate, to constitute an important asset. We own a portfolio of patents, trade secrets, know-how, confidential information, trademarks, copyrights and other intellectual property. We also license intellectual property to and from third parties. As of June 30, 2017, we held 173 U.S. patents and 82 international patents and had 20 U.S. patent applications pending and 44 international patent applications pending. We do not consider our business to be materially dependent upon any single patent, license or other intellectual property right, or any group of related patents, licenses or other intellectual property rights. From time to time, we might engage in litigation to enforce our patents and other intellectual property or defend against claims of alleged infringement. Any of our patents, trade secrets, trademarks, copyrights and other proprietary rights could be challenged, invalidated or circumvented, or may not provide competitive advantages. Numerous trademarks used on or in connection with our products are also considered to be valuable assets.

In addition, to protect confidential information, including our trade secrets, we require our employees and contractors to sign confidentiality and invention assignment agreements. We also enter into non-disclosure agreements with our suppliers and appropriate customers to limit access to and disclosure of our proprietary information.

Although our ability to compete may be affected by our ability to protect our intellectual property, we believe that, because of the rapid pace of technological change in the wireless telecommunications industry, our innovative skills, technical expertise and ability to introduce new products on a timely basis will be more important in maintaining our competitive position than protection of our intellectual property. Trade secret, trademark, copyright and patent protections are important but must be supported by other factors such as the expanding knowledge, ability and experience of our personnel, new product introductions and product enhancements. Although we continue to implement protective measures and intend to vigorously defend our intellectual property rights, there can be no assurance that these measures will be successful.

### Environmental and Other Regulations

Our facilities and operations, in common with those of our industry in general, are subject to numerous domestic and international laws and regulations designed to protect the environment, particularly with regard to wastes and emissions. We believe that we have complied with these requirements and that such compliance has not had a material adverse effect on our results of operations, financial condition or cash flows. Based upon currently available information, we do not expect expenditures to protect the environment and to comply with current environmental laws and regulations over the next several years to have a material impact on our competitive or financial position, but can give no assurance that such expenditures will not exceed current expectations. From time to time, we receive notices from the U.S. Environmental Protection Agency or equivalent state or international environmental agencies that we are a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act, which is commonly known as the Superfund Act, and equivalent laws. Such notices may assert potential liability for cleanup costs at various sites, which include sites owned by us, sites we previously owned and treatment or disposal sites not owned by us, allegedly containing hazardous substances attributable to us from past operations. We are not presently aware of any such liability that could be material to our business, financial condition or operating results, but due to the nature of our business and environmental risks, we cannot provide assurance that any such material liability will not arise in the future.

Electronic products are subject to environmental regulation in a number of jurisdictions. Equipment produced by us is subject to domestic and international requirements requiring end-of-life management and/or restricting materials in products delivered to customers. We believe that we have complied with such rules and regulations, where applicable, with respect to our existing products sold into such jurisdictions.

Radio communications are also subject to governmental regulation. Equipment produced by us is subject to domestic and international requirements to avoid interference among users of radio frequencies and to permit interconnection of telecommunications equipment. We believe that we have complied with such rules and regulations with respect to our existing products, and we intend to comply with such rules and regulations with respect to our future products.

Reallocation of the frequency spectrum also could impact our business, financial condition and results of operations. We have a comprehensive policy and procedures in effect concerning conflict minerals compliance.



Table of Contents

## Employees

As of June 30, 2017, we employed approximately 710 people, compared with approximately 720 as of the end of fiscal 2016 and approximately 780 as of the end of fiscal 2015. Approximately 270 of our employees are located in the U.S. We also utilized approximately 59 and 70 independent contractors as of June 30, 2017 and July 1, 2016, respectively. None of our employees in the U.S. are represented by a labor union. In certain international subsidiaries, our employees are represented by workers' councils or statutory labor unions. In general, we believe that our employee relations are good.

## Executive Officers of the Registrant

The name, age, position held with us, and principal occupation and employment during at least the past 5 years for each of our executive officers as of September 6, 2017, are as follows:

Name and Age	Position Currently Held and Past Business Experience
Michael A. Pangia, 56	Mr. Pangia has been our President and Chief Executive Officer and a member of our board of directors (the "Board") since July 18, 2011. From March 2009 to July 2011, he served as our Chief Sales Officer responsible for company-wide operations of the global sales and services organization. Prior to joining Aviat Networks, from 2008 to 2009, Mr. Pangia served as Senior Vice President, global sales operations and strategy at Nortel, where he was responsible for all operational aspects of the global sales function. From 2006 to 2008, he was President of Nortel's Asia region where his key responsibilities included sales and overall business management for all countries where Nortel did business in the region.
Ralph Marimon, 60	Mr. Marimon joined Aviat Networks in May 2015 as our Senior Vice President, Finance and Chief Financial Officer and is responsible for the finance and IT organizations. Before joining Aviat, Mr. Marimon served as Vice President, Finance and Chief Financial Officer of QuickLogic, a provider of ultra-low power, customizable semiconductor solutions for smartphone, tablet, wearable, and mobile enterprise OEMs, since 2008. Prior to QuickLogic, Mr. Marimon served as Chief Financial Officer within a variety of organizations including Anchor Bay Technologies, Inc., Tymphony Corporation, and Scientific Technologies Incorporated. From 1999 to 2003, he served at Com21 Corporation as Chief Financial Officer. Prior to Com21, Mr. Marimon was at KLA-Tencor Corporation for 11 years in a variety of senior executive financial management positions.
Meena Elliott, 54	Ms. Elliott was appointed Senior Vice President, Chief Legal and Administrative Officer, Corporate Secretary in February 2015 and is responsible for the global legal and human resources organizations. From September 2011 to February 2015, she served as Senior Vice President, General Counsel, Secretary and had responsibilities for the global legal organization and took on responsibilities for global human resources organizations in 2014. From July 2009 to August 2011, she served as Vice President, General Counsel and Secretary. She joined our company as Associate General Counsel and Assistant Secretary in January 2007 when Harris Corporation's MCD and Stratex Networks merged. Ms. Elliott joined MCD as Division Counsel in March 2006. Prior to joining MCD, she was Chief Counsel at the Department of Commerce from 2002 to 2006.
Heinz H. Stumpe, 62	Mr. Stumpe was appointed Chief Sales Officer on June 25, 2012. Before his appointment as Chief Sales Officer, Mr. Stumpe was our Senior Vice President and Chief Operation Officer since June 30, 2008. Previously, he was Vice President, Global Operations for Aviat Networks and Stratex Networks. He joined Stratex Networks as Director of Marketing in 1996. He was promoted to Vice President, Global Accounts in 1999, Vice President, Strategic Accounts in 2002 and Vice President, Global Operations in April 2006.
Shaun McFall, 57	Mr. McFall was appointed Chief Strategy Officer in 2015. He was our Chief Marketing Officer since July 2008. Previously, from 2000 to 2008, he served as Vice President, Marketing for Aviat Networks and Stratex Networks. He has been with us since 1989.

There is no family relationship between any of our executive officers or directors, and there are no arrangements or understandings between any of our executive officers or directors and any other person pursuant to which any of them was appointed or elected as an officer or director, other than arrangements or understandings with our directors.



## Table of Contents

### Web site Access to Aviat Networks' Reports; Available Information

We maintain an Internet Web site at <http://www.aviatnetworks.com>. Our annual reports on Form 10-K, proxy statements, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to such reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act") are available free of charge on our Web site as soon as reasonably practicable after these reports are electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"). Our website and the information posted thereon are not incorporated into this Annual Report on Form 10-K or any current or other periodic report that we file or furnish to the SEC.

We will also provide the reports in electronic or paper form, free of charge upon request. All reports we file with or furnish to the SEC are also available free of charge via EDGAR through the SEC's website at <http://www.sec.gov>. The public may read and copy any materials filed by us with the SEC at the SEC's Public Reference Room, 100 F. Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

Additional information relating to our business and operations is set forth in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K.

### Item 1A. Risk Factors

In addition to the risks described elsewhere in this Annual Report on Form 10-K and in certain of our other filings with the SEC, the following risks and uncertainties, among others, could cause our actual results to differ materially from those contemplated by us or by any forward-looking statement contained herein. Prospective and existing investors are strongly urged to carefully consider the various cautionary statements and risks set forth in this Annual Report on Form 10-K and our other public filings.

We have many business risks including those related to our financial performance, investments in our common stock, operating our business and legal matters. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties may also impair our business operations. If any of these risks actually occur, our financial condition and results of operations could be materially and adversely affected.

We have not been profitable and must increase our revenues and/or reduce costs if we hope to achieve profitability. As measured under U.S. generally accepted accounting principles ("U.S. GAAP"), we incurred net losses attributable to our stockholders of \$0.8 million in fiscal 2017, \$29.9 million in fiscal 2016 and \$24.6 million in fiscal 2015 and have been unprofitable since we became a public company in January 2007. We also have incurred losses from operations in all fiscal years since we became a public company, although we generated cash from operations in fiscal 2017, 2016, 2013, 2012, 2010 and 2009.

Throughout fiscal 2017, we experienced strong price competition for new business in all regions while major customer consolidations from prior years also put pressure on revenue and gross margin. In addition, we saw pricing pressures in all markets, particularly in international markets. Customer consolidation may have an increasing negative impact on our revenue if Aviat is not selected as a vendor for the products and/or services we provide. In order to counter pricing pressures, we invested heavily in product improvements to reduce unit costs and enhance product features, decreased overall company expenses, and worked with our vendors to attain more favorable pricing. If we are unable to reduce product unit costs associated with enhanced product features, including payments to contract manufacturers and other suppliers, or achieve the projected cost reductions, we may not achieve profitability. We cannot be certain that these actions or others that we may take in the future will result in operating profitability or net income as determined under U.S. GAAP.

## Table of Contents

Our sales cycle may be lengthy, and the timing of sales, along with additional services such as warehousing, inventory management, installation and implementation of our products within our customers' networks, may extend over more than one period, which can make our operating results difficult to predict.

We anticipate difficulty in accurately predicting the timing of the sale of products and amounts of revenue generated from sales of our products, primarily in developing countries. The establishment of a business relationship with a potential customer is a lengthy process, generally taking several months and sometimes longer. Following the establishment of the relationship, the negotiation of purchase terms can be time-consuming, and a potential customer may require an extended evaluation and testing period. We expect that our product sales cycle, which results in our products being designed into our customers' networks, could take 12 to 24 months. A number of factors can contribute to the length of the sales cycle, including technical evaluations of our products, the design process required to integrate our products into our customers' networks and warehousing and/or inventory management services that may be requested by certain large customers. In anticipation of product orders, we may incur substantial costs before the sales cycle is complete and before we receive any customer payments. Specifically, should a customer require warehousing and/or inventory management services, such services may impact our operating results in any period due to the costs associated with providing such services and the fact that the timing of the revenue recognition may be delayed. As a result, in the event that a sale is not completed or is canceled 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 our lengthy sales cycle, our recognition of revenue 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.

Once a purchase agreement has been executed, the timing and amount of revenue, if applicable, may remain difficult to predict. The completion of services such as warehousing and inventory management, installation and testing of the customer's networks and the completion of all other suppliers' network elements are subject to the customer's timing and efforts and other factors outside our control, each of which may prevent us from making predictions of revenue with any certainty and could cause us to experience substantial period-to-period fluctuations in our operating results. Our average sales prices may decline in the future.

We are experiencing, and are likely to continue to experience, declining sales prices. This price pressure is likely to result in downward pricing pressure on our products and services. As a result, we are likely to experience declining average sales prices for our products. Our future profitability will depend upon our ability to improve manufacturing efficiencies, reduce costs of materials used in our products and to continue to introduce new lower-cost products and product enhancements and if we are unable to do so, we may not be able to respond to pricing pressures. If we are unable to respond to increased price competition, our business, financial condition and results of operations will be harmed. Because customers frequently negotiate supply arrangements far in advance of delivery dates, we may be required to commit to price reductions for our products before we are aware of how, or if, cost reductions can be obtained. As a result, current or future price reduction commitments and any inability on our part to respond to increased price competition could harm our business, financial condition and results of operations.

Credit and commercial risks and exposures could increase if the financial condition of our customers declines.

A substantial portion of our sales are to customers in the telecommunications industry. These customers may require their suppliers to provide extended payment terms, direct loans or other forms of financial support as a condition to obtaining commercial contracts. In addition, if local currencies cannot be hedged, we have an inherent exposure in our ability to convert monies at favorable rates from or to U.S. dollars. More generally, we expect to routinely enter into long-term contracts involving significant amounts to be paid by our customers over time. Pursuant to these contracts, we may deliver products and services representing an important portion of the contract price before receiving any significant payment from the customer. As a result of the financing that may be provided to customers and our commercial risk exposure under long-term contracts, our business could be adversely affected if the financial condition of our customers erodes. Over the past few years, certain of our customers have filed with the courts seeking protection under the bankruptcy or reorganization laws of the applicable jurisdiction, or have experienced financial difficulties. The financial healthiness may be exacerbated in many emerging markets, where our customers are being affected not only by recession, but by deteriorating local currencies and a lack of credit. Upon the financial failure of a



customer, we may experience losses on credit extended to such customer, losses relating to our commercial risk exposure and the loss of the customer's ongoing business. If customers fail to meet their obligations to us, we may experience reduced cash flows and losses in excess of reserves, which could materially adversely impact our results of operations and financial position.

## Table of Contents

Due to the volume of our international sales, we may be susceptible to a number of political, economic and geographic risks that could harm our business.

We are highly dependent on sales to customers outside the U.S. In each of fiscal 2017, 2016 and 2015, our sales to international customers accounted for 47%, 55% and 55%, respectively, of total revenue. Significant portions of our international sales are in less developed countries. Our international sales are likely to continue to account for a large percentage of our products and services revenue for the foreseeable future. As a result, the occurrence of any international, political, economic or geographic event could result in a significant decline in revenue. In addition, compliance with complex foreign and U.S. laws and regulations that apply to our international operations increases our cost of doing business in international jurisdictions. These numerous and sometimes conflicting laws and regulations include internal control and disclosure rules, data privacy and filtering requirements, anti-corruption laws, such as the Foreign Corrupt Practices Act, and other local laws prohibiting corrupt payments to governmental officials, and anti-competition regulations, among others. Violations of these laws and regulations could result in fines and penalties, criminal sanctions against us, our officers, or our employees, prohibitions on the conduct of our business and on our ability to offer our products and services in one or more countries, and could also materially affect our brand, our international expansion efforts, our ability to attract and retain employees, our business, and our operating results. Although we have implemented policies and procedures designed to ensure compliance with these laws and regulations, there can be no assurance that our employees, contractors, or agents will not violate our policies. Some of the risks and challenges of doing business internationally include:

- unexpected changes in regulatory requirements;
- fluctuations in international currency exchange rates including its impact on unhedgeable currencies and our forecast variations for hedgeable currencies;
- imposition of tariffs and other barriers and restrictions;
- management and operation of an enterprise spread over various countries;
- the burden of complying with a variety of laws and regulations in various countries;
- application of the income tax laws and regulations of multiple jurisdictions, including relatively low-rate and relatively high-rate jurisdictions, to our sales and other transactions, which results in additional complexity and uncertainty;
- the conduct of unethical business practices in developing countries;
- general economic and geopolitical conditions, including inflation and trade relationships;
- war and acts of terrorism;
- kidnapping and high crime rate;
- natural disasters;
- availability of U.S. dollars especially in countries with economies highly dependent on resource exports, particularly oil; and
- changes in export regulations.

While these factors and the impacts of these factors are difficult to predict, any one or more of them could adversely affect our business, financial condition and results of operations in the future.

We may not be able to obtain capital when desired on favorable terms, if at all, or without dilution to our stockholders. We believe that our existing cash and cash equivalents, the available line of credit under our credit facility and future cash collections from customers will be sufficient to provide for our anticipated requirements for working capital and capital expenditures for the next 12 months and the foreseeable future. However, it is possible that we may not generate sufficient cash flow from operations or otherwise have the capital resources to meet our longer-term capital needs. If this occurs, we may need to sell assets, reduce capital expenditures, or obtain additional equity or debt financing. We cannot assure you that additional financing will be available on terms favorable to us, or at all. If adequate funds are not available or are not available on acceptable terms if and when needed, our business, financial condition and results of operations could be harmed.

If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly-issued securities may have rights, preferences or privileges senior to those of existing stockholders.



## Table of Contents

We may undertake further restructuring activities, which may adversely impact our operations, and we may not realize all of the anticipated benefits of these activities or any potential future restructurings. Any restructuring activities may harm our business.

We continue to evaluate our business to determine the potential need to realign our resources as we continue to transform our business in order to achieve desired cost savings in an increasingly competitive market. In prior years, we have undertaken a series of steps to restructure our operations involving, among other things and depending on the year, reductions of our workforce, the relocation of our corporate headquarters and the reduction and outsourcing of manufacturing activities. We incurred restructuring charges of \$0.6 million, \$2.5 million and \$4.9 million in fiscal 2017, 2016 and 2015, respectively.

We have based our restructuring efforts on assumptions and plans regarding the appropriate cost structure of our business based on our product mix and projected sales, among other factors. Some of our assumptions include the elimination of jobs and the outsourcing of certain functions to reduce our operating expenses. These assumptions may not be accurate and we may not be able to operate in accordance with our plans. Should this occur we may determine that we must incur additional restructuring charges in the future. Moreover, we cannot assure you that we will realize all of the anticipated benefits of our restructuring actions or that we will not further reduce or otherwise adjust our workforce or exit, or dispose of, certain businesses and product lines. Any decision to further limit investment, exit, or disposal of businesses or product lines may result in the recording of additional restructuring charges. Consequently, the costs actually incurred in connection with the restructuring efforts may be higher than originally planned and may not lead to the anticipated cost savings and/or improved results. For example, if we consolidate additional facilities in the future, we may incur additional restructuring and related expenses, which could have a material adverse effect on our business, financial condition or results of operations.

Our restructuring actions could harm our relationships with our employees and impact our ability to recruit new employees.

Employees, whether or not directly affected by any restructuring actions that we undertake, may seek employment with our business partners, customers or competitors. We cannot assure you that the confidential nature of our proprietary information will not be compromised by any such employees who terminate their employment with us. Further, we believe that our future success will depend in large part upon our ability to attract, motivate and retain highly skilled personnel. We may have difficulty attracting and retaining such personnel as a result of a perceived risk of future workforce reductions, and we may terminate the employment of employees as part of a restructuring and later determine that such employees were important to the success of the ongoing business.

Our business could be adversely affected if we are unable to attract and retain key personnel.

Our success and ability to invest and grow depend largely on our ability to attract and retain highly skilled technical, professional, managerial, sales and marketing personnel. Historically, competition for these key personnel has been intense. The loss of services of any of our key personnel, the inability to retain and attract qualified personnel in the future, delays in hiring required personnel, particularly engineering and sales personnel, or the loss of key personnel to competitors could make it difficult for us to meet key objectives, such as timely and effective product introductions and financial goals.

Our success will depend on new products introduced to the marketplace in a timely manner, successfully completing product transitioning and achieving customer acceptance.

The market for our products and services is characterized by rapid technological change, evolving industry standards and frequent new product introductions. Our future success will depend, in part, on continuous, timely development and introduction of new products and enhancements that address evolving market requirements and are attractive to customers. If we fail to develop or introduce on a timely basis new products or product enhancements or features that achieve market acceptance, our business may suffer. Additionally, we work closely with a variety of third party partners to develop new product features and new platforms. Should our partners face delays in the development process, then the timing of the rollout of our new products may be significantly impacted which may negatively impact our revenue and gross margin. Another factor impacting our future success is the growth in the customer demand of our new products. Rapidly changing technology, frequent new products introductions and enhancements, short product life cycles and changes in customer requirements characterize the markets for our products. We believe

that successful new product introductions provide a significant competitive advantage because of the significant resources committed by customers in adopting new products and their reluctance to change products after these resources have been expended. We have spent, and expect to continue to spend, significant resources on internal research and development to support our effort to develop and introduce new products and enhancements.

## Table of Contents

As we transition to new product platforms, we face significant risk that the development of our new products may not be accepted by our current customers or by new customers. To the extent that we fail to introduce new and innovative products that are adopted by customers, we could fail to obtain an adequate return on these investments and could lose market share to our competitors, which could be difficult or impossible to regain. Similarly, we may face decreased revenue, gross margins and profitability due to a rapid decline in sales of current products as customers hold spending to focus purchases on new product platforms. We could incur significant costs in completing the transition, including costs of inventory write-downs of the current product as customers transition to new product platforms. In addition, products or technologies developed by others may render our products noncompetitive or obsolete and result in significant reduction in orders from our customers and the loss of existing and prospective customers.

Our quarterly results may be volatile, which can adversely affect the trading price of our common stock.

Our quarterly operating results may vary significantly for a variety of reasons, many of which are outside our control.

These factors could harm our business and include, among others:

- seasonality in the purchasing habits of our customers;
- the volume and timing of product orders and the timing of completion of our product deliveries and installations;
- our ability and the ability of our key suppliers to respond to changes on demand as needed;
- margin variability based on geographic and product mix;
- our suppliers' inability to perform and deliver on time as a result of their financial condition, component shortages or other supply chain constraints;
- retention of key personnel;
- the length of our sales cycle;
- litigation costs and expenses;
- continued timely rollout of new product functionality and features;
- increased competition resulting in downward pressure on the price of our products and services;
- unexpected delays in the schedule for shipments of existing products and new generations of the existing platforms;
- failure to realize expected cost improvement throughout our supply chain;
- order cancellations or postponements in product deliveries resulting in delayed revenue recognition;
- restructuring and streamlining of our operations;
- war and acts of terrorism;
- natural disasters;
- the ability of our customers to obtain financing to enable their purchase of our products;
- fluctuations in international currency exchange rates;
- regulatory developments including denial of export and import licenses;
- general economic conditions worldwide that affect demand and financing for microwave and millimeter wave telecommunications networks; and
- the timing and size of future restructuring plans and write-offs.

Our quarterly results are expected to be difficult to predict and delays in product delivery or closing a sale can cause revenue, margins and net income or loss to fluctuate significantly from anticipated levels. A substantial portion of our contracts are completed in the latter part of a quarter and a significant percentage of these are large orders. Because a significant portion of our cost structure is largely fixed in the short term, revenue shortfalls tend to have a disproportionately negative impact on our profitability and can increase our inventory. The number of large new transactions also increases the risk of fluctuations in our quarterly results because a delay in even a small number of these transactions could cause our quarterly revenues and profitability to fall significantly short of our predictions. In addition, we may increase spending in response to competitive actions or in pursuit of new market opportunities. Accordingly, we cannot provide assurances that we will be able to achieve profitability in the future or that if profitability is attained, that we will be able to sustain profitability, particularly on a quarter-to-quarter basis.

## Table of Contents

We face strong competition for maintaining and improving our position in the market, which can adversely affect our revenue growth and operating results.

The wireless access, interconnection and backhaul business is a specialized segment of the wireless telecommunications industry and is extremely competitive. Competition in this segment is intense, and we expect it to increase. Some of our competitors have more extensive engineering, manufacturing and marketing capabilities and significantly greater financial, technical and personnel resources than we have. In addition, some of our competitors have greater name recognition, broader product lines, a larger installed base of products and longer-standing customer relationships. Our competitors include established companies, such as Ericsson, Huawei, NEC and Nokia, as well as a number of other public and private companies, such as Ceragon, DragonWave and SIAE. Some of our competitors are OEMs or systems integrators through whom we market and sell our products, which means our business success may depend on these competitors to some extent. One or more of our largest customers could internally develop the capability to manufacture products similar to those manufactured or outsourced by us and, as a result, the demand for our products and services may decrease.

In addition, we compete for acquisition and expansion opportunities with many entities that have substantially greater resources than we have. Our competitors may enter into business combinations in order to accelerate product development or to compete more aggressively and we may lack the resources to meet such enhanced competition.

Our ability to compete successfully will depend on a number of factors, including price, quality, availability, customer service and support, breadth of product lines, product performance and features, rapid time-to-market delivery capabilities, reliability, timing of new product introductions by us, our customers and competitors, the ability of our customers to obtain financing and the stability of regional sociopolitical and geopolitical circumstances, and the ability of large competitors to obtain business by providing more seller financing especially for large transactions. We can give no assurances that we will have the financial resources, technical expertise, or marketing, sales, distribution, customer service and support capabilities to compete successfully, or that regional sociopolitical and geographic circumstances will be favorable for our successful operation.

If we fail to accurately forecast our manufacturing requirements or customer demand, we could incur additional costs, which would adversely affect our business and results of operations.

If we fail to accurately predict our manufacturing requirements or forecast customer demand, we may incur additional costs of manufacturing and our gross margins and financial results could be adversely affected. If we overestimate our requirements, our contract manufacturers may experience an oversupply of components and assess us charges for excess or obsolete components that could adversely affect our gross margins. If we underestimate our requirements, our contract manufacturers may have inadequate inventory or components, which could interrupt manufacturing and result in higher manufacturing costs, shipment delays, damage to customer relationships and/or our payment of penalties to our customers. Our contract manufacturers also have other customers and may not have sufficient capacity to meet all of their customer's needs, including ours, during periods of excess demand.

Part of our inventory may be written off, which would increase our cost of revenues. In addition, we may be exposed to inventory-related losses on inventories purchased by our contract manufacturers.

During fiscal 2017, 2016 and 2015, we recorded charges to reduce the carrying value of our inventory which totaled \$1.1 million, \$9.9 million and \$8.0 million, respectively. Such charges equaled 0.5%, 3.7% and 2.4% of our revenue in fiscal 2017, 2016 and 2015, respectively. These charges were primarily due to excess and obsolete inventory resulting from lower forecast, product transitioning or discontinuance.

Inventory of raw materials, work in-process or finished products may accumulate in the future, and we may encounter losses due to a variety of factors, including:

- rapid technological change in the wireless telecommunications industry resulting in frequent product changes;
- the need of our contract manufacturers to order raw materials that have long lead times and our inability to estimate exact amounts and types of items thus needed, especially with regard to the frequencies in which the final products ordered will operate; and
- cost reduction initiatives resulting in component changes within the products.

Further, our inventory of finished products may accumulate as the result of inaccuracies in the forecasting process, cancellation of customer orders or our customers' refusal to confirm the acceptance of our products. Our forecasting

process is based on information discussed with customers concerning future orders. If a customer chooses to revise or

18

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## Table of Contents

hold on placing the order, we may see an unfavorable impact on our inventory given the customization that is involved in our products. Our contract manufacturers are required to purchase inventory based on manufacturing projections we provide to them. If actual orders from our customers are lower than these manufacturing projections, our contract manufacturers will have excess inventory of raw materials or finished products which we would be required to purchase. In addition, we require our contract manufacturers from time to time to purchase more inventory than is immediately required, and to partially assemble components, in order to shorten our delivery time in case of an increase in demand for our products. In the absence of such increase in demand, we may need to compensate our contract manufacturers. If we are required to purchase excess inventory from our contract manufacturers or otherwise compensate our contract manufacturers for purchasing excess inventory, our business, financial condition and results of operations could be materially adversely affected. We also may purchase components or raw materials from time to time for use by our contract manufacturers in the manufacturing of our products. These purchases are based on our own manufacturing projections. If our actual orders are lower than these manufacturing projections, we may accumulate excess inventory, which we may be required to write down. If we are forced to write down inventory other than in the normal course of business, our business, financial condition and results of operations could be materially adversely affected.

The effects of the poor global financial and economic conditions in certain markets has had, and may continue to have, significant effects on our customers and suppliers, and has in the past, and may in the future have, a material adverse effect on our business, operating results, financial condition and stock price.

The effects of poor global financial and economic conditions in certain markets include, among other things, significant reductions in available capital and liquidity from banks and other providers of credit, substantial reductions and/or fluctuations in equity and currency values worldwide.

Poor economic conditions in certain markets have adversely affected and may continue to adversely affect our customers' access to capital and/or willingness to spend capital on our products, and/or their levels of cash liquidity and/or their ability and/or willingness to pay for products that they will order or have already ordered from us, or result in their ceasing operations. Further, we have experienced an increasing number of our customers, principally in emerging markets, requesting longer payment terms, lease or vendor financing arrangements, longer terms for the letters of credit securing purchases of our products and services, which could potentially negatively impact our orders, revenue conversion cycle, and cash flows.

In seeking to reduce their expenses, we have also seen significant pressure from our customers to lower prices for our products as they try to improve their operating performance and procure additional capital equipment within their reduced budget levels. To the extent that we lower prices on our products and services, our orders, revenues, and gross margins may be negatively impacted. Additionally, certain emerging markets are particularly sensitive to pricing as a key differentiator. Where price is a primary decision driver, we may not be able to effectively compete or we may choose not to compete due to unacceptable margins.

In addition, poor economic conditions in certain markets could materially adversely affect our suppliers' access to capital and liquidity with which to maintain their inventories, production levels, and/or product quality, could cause them to raise prices or lower production levels, or result in their ceasing operations. Further, with respect to our credit facility discussed under "Liquidity, Capital Resources and Financial Strategies" in Item 7 of this Annual Report on Form 10-K, if continued uncertain economic conditions adversely affect Silicon Valley Bank, our ability to access the funds available under our credit facility could be materially adversely affected.

The potential effects of these economic factors are difficult to forecast and mitigate. As a consequence, our operating results for a particular period are difficult to predict and prior results are not necessarily indicative of results to be expected in future periods. Any of the foregoing effects could have a material adverse effect on our business, results of operations, and financial condition and could adversely affect our stock price.

## Table of Contents

If we fail to effectively manage our contract manufacturer relationships, we could incur additional costs or be unable to timely fulfill our customer commitments, which would adversely affect our business and results of operations and, in the event of an inability to fulfill commitments, would harm our customer relationships.

We outsource all of our manufacturing and a substantial portion of our repair service operations to independent contract manufacturers and other third parties. Our contract manufacturers typically manufacture our products based on rolling forecasts of our product needs that we provide to them on a regular basis. The contract manufacturers are responsible for procuring components necessary to build our products based on our rolling forecasts, building and assembling the products, testing the products in accordance with our specifications and then shipping the products to us. We configure the products to our customer requirements, conduct final testing and then ship the products to our customers. Although we currently partner with multiple major contract manufacturers, there can be no assurance that we will not encounter problems as we are dependent on contract manufacturers to provide these manufacturing services or that we will be able to replace a contract manufacturer that is not able to meet our demand.

In addition, if we fail to effectively manage our relationships with our contract manufacturers or other service providers, or if one or more of them should not fully comply with their contractual obligations or should experience delays, disruptions, component procurement problems or quality control problems, then our ability to ship products to our customers or otherwise fulfill our contractual obligations to our customers could be delayed or impaired which would adversely affect our business, financial results and customer relationships.

We depend on sole or limited sources for some key components and failure to receive timely delivery of any of these components could result in deferred or lost sales.

In some instances, we are dependent upon one or a few sources, either because of the specialized nature of a particular item or because of local content preference requirements pursuant to which we operate on a given project. Examples of sole or limited sourcing categories include metal fabrications and castings, for which we own the tooling and therefore limit our supplier relationships, and MMICs (a type of integrated circuit used in manufacturing microwave radios), which we procure at a volume discount from a single source. Our supply chain plan includes mitigation plans for alternative manufacturing sources and identified alternate suppliers. However, if these alternatives cannot address our requirements when our existing sources of these components fail to deliver them on time, we could suffer delayed shipments, canceled orders and lost or deferred revenues, as well as material damage to our customer relationships. Should this occur, our operating results, cash flows and financial condition could be materially adversely affected.

As a result of changes in tax laws, treaties, rulings, regulations or agreements, or their interpretation, of any country in which we operate, the loss of a major tax dispute or a successful challenge to our operating structure, intercompany pricing policies or the taxable presence of our key subsidiaries in certain countries, or other factors, our effective tax rate could be highly volatile and could adversely affect our operating results.

We operate in multiple jurisdictions and our profits are taxed pursuant to the tax laws of these jurisdictions. Our future effective tax rate may be adversely affected by a number of factors, many of which are outside of our control, including:

- the jurisdictions in which profits are determined to be earned and taxed;
- adjustments to estimated taxes upon finalization of various tax returns;
- increases in expenses not deductible for tax purposes, including write-offs of acquired in-process research and development and impairment of goodwill in connection with acquisitions;
- ability to utilize net operating loss;
- changes in available tax credits;
- changes in share-based compensation expense;
- changes in the valuation of our deferred tax assets and liabilities;
- changes in domestic or international tax laws or the interpretation of such tax laws;
- the resolution of issues arising from tax audits with various tax authorities;
- the tax effects of purchase accounting for acquisitions and restructuring charges that may cause fluctuations between reporting periods; and
- taxes that may be incurred upon a repatriation of cash from foreign operations.

Any significant increase in our future effective tax rates could impact our results of operations for future periods adversely.

## Table of Contents

Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal income tax purposes and other tax benefits may be limited.

Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”) imposes an annual limitation on the amount of taxable income that may be offset if a corporation experiences an “ownership change” as defined in Section 382 of the Code. An ownership change occurs when a company’s “five-percent shareholders” (as defined in Section 382 of the Code) collectively increase their ownership in the company by more than 50 percentage points (by value) over a rolling three-year period. Additionally, various states have similar limitations on the use of state net operating losses (“NOL”) following an ownership change.

If we experience an ownership change, our ability to use our NOLs, any loss or deducting attributable to a “net unrealized built-in loss” and other tax attributes (collectively, the “Tax Benefits”) could be substantially limited, and the timing of the usage of the Tax Benefits could be substantially delayed, which could significantly impair the value of the Tax Benefits. There is no assurance that we will be able to fully utilize the Tax Benefits and we could be required to record an additional valuation allowance related to the amount of the Tax Benefits that may not be realized, which could adversely impact our result of operations.

We believe that these Tax Benefits are a valuable asset for us. On September 6, 2016, the Board approved a Tax Benefit Preservation Plan (the “Plan”) in an effort to protect our Tax Benefits during the effective period of the Plan. Further, on September 6, 2016, the Board adopted certain amendments to our Amended and Restated Certificate of Incorporation, as amended (the “Charter Amendments”), which are intended to preserve the Tax Benefits by restricting certain transfers of our common stock. The Plan and the Charter Amendments were approved by our stockholders at our 2016 annual meeting of stockholders on November 16, 2016. Although the Plan and the Charter Amendments are intended to reduce the likelihood of an “ownership change” that could adversely affect us, there is no assurance that the restrictions on transferability in the Plan and the Charter Amendments will prevent all transfers that could result in such an “ownership change.” There also can be no assurance that the transfer restrictions in the Charter Amendments will be enforceable against all of our stockholders absent a court determination confirming such enforceability. The transfer restrictions may be subject to challenge on legal or equitable grounds.

The Plan and the Charter Amendments could make it more difficult for a third party to acquire, or could discourage a third party from acquiring, us or a large block of our common stock. A third party that acquires 4.9% or more of our common stock could suffer substantial dilution of its ownership interest under the terms of the Plan through the issuance of common stock or common stock equivalents to all stockholders other than the acquiring person. The acquisition may also be void under the Charter Amendments.

The foregoing provisions may adversely affect the marketability of our common stock by discouraging potential investors from acquiring our stock. In addition, these provisions could delay or frustrate the removal of incumbent directors and could make more difficult a merger, tender offer or proxy contest involving us, or impede an attempt to acquire a significant or controlling interest in us, even if such events might be beneficial to us and our stockholders. Our customers may not pay for products and services in a timely manner, or at all, which would decrease our cash flows and adversely affect our working capital.

Our business requires extensive credit risk management that may not be adequate to protect against customer nonpayment. A risk of non-payment by customers is a significant focus of our business. We expect a significant amount of future revenue to come from international customers in developing countries. We do not generally expect to obtain collateral for sales, although we require letters of credit or credit insurance as appropriate for international customers. For information regarding the percentage of revenue attributable to certain key customers, see the risks discussed in the following risk factor. Our historical accounts receivable balances have been concentrated in a small number of significant customers. Unexpected adverse events impacting the financial condition of our customers, bank failures or other unfavorable regulatory, economic or political events in the countries in which we do business may impact collections and adversely impact our business, require increased bad debt expense or receivable write-offs and adversely impact our cash flows, financial condition and operating results, which could also result in a breach of our bank covenants.



## Table of Contents

Because a significant amount of our revenue may come from a limited number of customers, the termination of any of these customer relationships may adversely affect our business.

Sales of our products and services historically have been concentrated in a small number of customers. Principal customers for our products and services include domestic and international wireless/mobile service providers, OEMs, as well as private network users such as public safety agencies; government institutions; and utility, pipeline, railroad and other industrial enterprises that operate broadband wireless networks. During fiscal 2017, 2016 and 2015, we had one customer in Africa, MTN Group that accounted for 14%, 18% and 14%, respectively, of our total revenue. Although we have a large customer base, during any given quarter a small number of customers may account for a significant portion of our revenue.

It is possible that a significant portion of our future product sales also could become even more concentrated in a limited number of customers. In addition, product sales to major customers have varied widely from period to period. The loss of any existing customer, a significant reduction in the level of sales to any existing customer, or our inability to gain additional customers could result in declines in our revenue or an inability to grow revenue. In addition, further consolidation of our potential customer base could result in purchasing decision delays as consolidating customers integrate their operations and could generally reduce our opportunities to win new customers to the extent that the number of potential customers decreases. Furthermore, as our customers become larger, they may have more leverage to negotiate better pricing which could adversely affect our revenues and gross margins.

Consolidation within the telecommunications industry could result in a decrease in our revenue.

The telecommunications industry has experienced significant consolidation among its participants, and we expect this trend to continue. Some operators in this industry have experienced financial difficulty and have filed, or may file, for bankruptcy protection. Other operators may merge and one or more of our competitors may supply products to the customers of the combined company following those mergers. This consolidation could result in purchasing decision delays and decreased opportunities for us to supply products to companies following any consolidation. This consolidation may also result in lost opportunities for cost reduction and economies of scale.

We continually evaluate strategic transaction opportunities which could involve merger, restructuring, divestiture, sale and/or acquisition activities that could disrupt our operations and harm our operating results.

Our growth depends upon market growth, our ability to enhance our existing products and our ability to introduce new products on a timely basis. We intend to continue to address the need to develop new products and enhance existing products through acquisitions, or “tuck-ins,” product lines, technologies, and personnel. Strategic transactions involve numerous risks, including the following:

- difficulties in integrating the operations, systems, technologies, products, and personnel of the combined companies, particularly companies with large and widespread operations and/or complex products;
- diversion of management’s attention from normal daily operations of the business and the challenges of managing larger and more widespread operations resulting from business combinations, sales, divestitures and /or restructurings;
- potential difficulties in completing projects associated with in-process research and development intangibles;
- difficulties in entering markets in which we have no or limited direct prior experience and where competitors in each market have stronger market positions;
- initial dependence on unfamiliar supply chains or relatively small supply partners;
- insufficient revenue to offset increased expenses associated with acquisitions; and
- the potential loss of key employees, customers, resellers, vendors and other business partners of our company or the companies with which we engage in strategic transactions following and continuing after announcement of an anticipated strategic transaction.

Strategic transactions may also cause us to:

- issue common stock that would dilute our current stockholders or cause a change in control of the combined company;
- use a substantial portion of our cash resources, or incur debt;
- significantly increase our interest expense, leverage and debt service requirements if we incur additional debt to pay for an acquisition;
- assume material liabilities;



Table of Contents

- record goodwill and non-amortizable intangible assets that are subject to impairment testing on a regular basis and potential periodic impairment charges;

- incur amortization expenses related to certain intangible assets;

- incur tax expenses related to the effect of acquisitions on our intercompany R&D cost sharing arrangement and legal structure;

- incur large and immediate write-offs and restructuring and other related expenses; and

- become subject to intellectual property or other litigation.

Mergers, restructurings, sales and acquisitions of high-technology companies are inherently risky and subject to many factors outside of our control. No assurance can be given that any future strategic transactions will be successful and will not materially adversely affect our business, operating results or financial condition. Failure to manage and successfully complete a strategic transaction could materially harm our business and operating results. Even when an acquired or acquiring company has already developed and marketed products, there can be no assurance that product enhancements will be made in a timely fashion or that pre-acquisition due diligence will have identified all possible issues that might arise with respect to such products.

If we are unable to adequately protect our intellectual property rights, we may be deprived of legal recourse against those who misappropriate our intellectual property.

Our ability to compete will depend, in part, on our ability to obtain and enforce intellectual property protection for our technology in the U.S. and internationally. We rely upon a combination of trade secrets, trademarks, copyrights, patents and contractual rights to protect our intellectual property. In addition, we enter into confidentiality and invention assignment agreements with our employees, and enter into non-disclosure agreements with our suppliers and appropriate customers so as to limit access to and disclosure of our proprietary information. We cannot give assurances that any steps taken by us will be adequate to deter misappropriation or impe