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MACOM Announces New Family of High-Performance GaN Power Transistors for Wireless Basestations

Sampling to customers today, MACOM's new **MAG**b series of power transistors offer world-leading GaN performance at LDMOS like cost structures

LOWELL, Mass.--(BUSINESS WIRE)-- M/A-COM Technology Solutions Inc. ("MACOM") (NASDAQ:MTSI), a leading supplier of high-performance analog RF, microwave, millimeterwave and photonic semiconductor products, today announced its highly-anticipated *MAGb* series of GaN power transistors for use in <u>wireless macro basestations</u>. Leveraging MACOM's Gen4 GaN technology, the new *MAGb* series is the industry's first commercial basestation-optimized family of GaN transistors to achieve leadership efficiency, bandwidth and power gain with a linearity and cost structure like LDMOS, and a path to better than LDMOS cost at scaled volume production levels.

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This product series delivers power efficiency improvement of up to 10% and package size reduction greater than 15% over legacy LDMOS offerings. Based on linear Gen 4 technology, the MAGb is easy to linearize and correct with digital-predistortion (DPD) schemes compared to other GaN technologies. (Photo: Business Wire)

The **MAG**b series of power transistors target all cellular bands within the 1.8 GHz to 3.8 GHz frequency range. Initial entries in the product series include single-ended transistors providing up to 400 W peak power in small packages, dual-transistors and single-package Doherty configuration providing up to 700 W peak power in both symmetric and asymmetric power options. This product series delivers power efficiency improvement of up to 10% and package size reduction greater than 15% over legacy LDMOS offerings. Based on linear Gen 4 technology, the MAGb is easy to linearize and correct with digital-predistortion (DPD) schemes compared to other GaN technologies.

The power transistors in the *MAGb* family cover much wider bandwidth than LDMOS, reducing the number of parts needed to cover the major cellular bands. The new product family delivers these advantages while simplifying the Doherty implementation over LDMOS-based transistors and maintaining over 200 MHz of video bandwidth - The MAGB-101822-120B0S is the first product in this family and covers 500 MHz of RF bandwidth between 1.7GHz to 2.2GHz. It is housed in a small AC-400 ceramic package and delivers over 160 W of peak power and a peak efficiency of 74% with fundamental tuning only and linear gain over 19 dB across the 500 MHz band.

Second in this series is the MAGB-101822-240B0S, which has double the output power of the MAGB-101822-120B0S with peak power over 320 W, 19 dB of linear gain and peak efficiency over 72% with fundamental tuning only across the 500 MHz RF bandwidth, housed in the AC-780 ceramic package. The peak efficiency of both parts can be further improved to well above 80% when the devices are presented with the proper harmonic terminations.

This new series unleashes the efficiency, size and broadband advantages of MACOM's Gen4 GaN. It enables wireless carriers to deploy the latest LTE releases and significantly reduce operating expenses at highly competitive price points, with a scalable supply chain combined with MACOM's best in class applications and design support team with decades of experience.

"We believe that Gen4 GaN positions MACOM at the vanguard of a transformative evolution in basestation power amplifiers, enabling a price/performance breakthrough that can't be achieved with alternative semiconductor technologies," said Preet Virk, Senior Vice President and General Manager, Carrier Networks, MACOM. "We anticipate that the wireless application

expertise and commercial manufacturing scalability that MACOM brings to this domain via the *MAGb* product platform will vault GaN-based PAs into the mainstream, unlocking a host of benefits for the next generation of wireless basestations."

To schedule a private demonstration of MACOM's **MAG**b products at Mobile World Congress (MWC 2016, February 22 - 25th, Barcelona), contact your local Sales Representative. MACOM will also be demonstrating this technology at the International Microwave Symposium (IMS 2016, May 22 - 27th, San Francisco).

Select products in MACOM's new *MAGb* series of GaN power transistors are sampling to qualified customers today. For more information about MACOM's GaN solutions for wireless infrastructure, visit www.macom.com/wirelessinfra.

Special Note Regarding Forward-Looking Statements:

This press release contains forward-looking statements based on MACOM management's beliefs and assumptions and on information currently available to our management. Forward-looking statements include, among others, information concerning future activities or trends, business strategies, industry conditions, market opportunities and all statements that are not historical facts, and generally may be identified by terms such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "seeks," "should," "will," "would" or similar expressions and the negatives of those terms.

Forward-looking statements contained in this press release reflect MACOM's current views about future events and are subject to risks, uncertainties, assumptions and changes in circumstances that may cause those events or our actual activities or results to differ materially from those expressed in any forward-looking statement. Although MACOM believes that the expectations reflected in the forward-looking statements are reasonable, it cannot and does not guarantee future events, results, actions, levels of activity, performance or achievements. MACOM cannot assure security of chain of supply for its GaN on Si power transistors, that it will win any particular amount of business in the GaN on Si power transistor market or translate such wins into revenue in any particular period or that it will be able to achieve its anticipated price and performance targets for its basestation-optimized GaN on Si power transistors. Readers are cautioned not to place undue reliance on these forward-looking statements. A number of important factors could cause actual results to differ materially from those indicated by the forward-looking statements, including those factors described in "Risk Factors" in MACOM's fillings with the SEC, including its Quarterly Report on Form 10-Q for the fiscal quarter ended January 1, 2016 as filed with the SEC on January 27, 2016 and its Annual Report on Form 10-K for the fiscal year ended October 2, 2015 as filed with the SEC on November 24, 2015. MACOM undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

ABOUT MACOM:

M/A-COM Technology Solutions Holdings, Inc. (www.macom.com) is a leading supplier of high-performance analog RF, microwave, millimeterwave and photonic semiconductor products that enable next-generation internet and modern battlefield applications. Recognized for its broad catalog portfolio of technologies and products, MACOM serves diverse markets, including high speed optical, satellite, radar, wired & wireless networks, automotive, industrial, medical and mobile devices. A pillar of the semiconductor industry, we thrive on more than 60 years of solving our customers' most complex problems, serving as a true partner for applications ranging from RF to Light.

Headquartered in Lowell, Massachusetts, MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard. MACOM has design centers and sales offices throughout North America, Europe, Asia and Australia.

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For more information about MACOM, please visit <u>www.macom.com</u>, follow <u>@MACOMtweets</u> on Twitter, join MACOM on LinkedIn, or visit the MACOM YouTube Channel.

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