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MACOM IMS 2025 Product Preview – Satellite Communications

Lowell, MA, June 16, 2025 -- MACOM Technology Solutions Inc. ("MACOM"), a leading supplier of semiconductor products, announced today new additions to its RF and optical portfolio, designed to meet the evolving needs of the SATCOM industry. These products include a high bandwidth Th-Mod optical transmitter, VPX RF over Fiber (RFoF) modules and high power amplifiers for Ka-, Ku-, X- and C-Band applications. Many of these solutions will be demonstrated in MACOM's Booth 943 at the upcoming International Microwave Symposium (IMS) on June 17 to 19, 2025 in San Francisco, CA.

RF Amplifiers:

C-Band and X-Band

MACOM announces new C-Band and X-Band Power Amplifiers (PAs), targeting both commercial SATCOM and defense applications. Utilizing MACOM's high performance, GaN-on-SiC production process, the C-Band PAs operate from 5.85 – 6.75 GHz and can achieve high linear power and efficiency with two power levels, 60 W (MAPC-A4019) and 130 W (MAPC-A4017). The X-Band PAs operate from 7.7 – 8.5 GHz and are capable of output power levels of 60 W (MAPC-A4020) and 130 W (MAPC-A4021). The amplifiers are offered in flange packages.

Ku-Band

MACOM's CMPA1E1F060 Ku-Band GaN-on-SiC SATCOM MMIC on a copper molybdenum (Cu-Mo) tab (or die on tab) offers high output power and efficiency. It is capable of 60 W continuous wave saturated output power and a power added efficiency (PAE) of 35%. The CMPA1E1F060 supports 25 W of linear output power at IM3 of -25 dBc. It is available as bare die, die on tab or flange packages.

Ka-Band

MACOM's CMPA2H3B025D GaN High Power PA is a new 25 W Ka-Band MMIC PA, targeting both commercial SATCOM and defense applications. Utilizing MACOM's high performance, 0.15 µm GaN-on-SiC production process, this amplifier operates from 27 – 31 GHz and achieves high linear power and efficiency reaching up to 25 W of typical saturated output power, 21 dB of large signal gain, and over 25% PAE. When targeting an IM3 level of -25 dBc or better, the CMPA2H3B025D can achieve as much as 10 W of output power with 26 dB of gain and 20% PAE. The amplifier is offered in die, tab and flange packages.

RFoF Modules:

Th-MOD Optical Transmitter

MACOM's Th-Mod MATT-60M1 transmitter and receiver modules offer up to 70 GHz bandwidth, making them ideal for antenna remoting and other RFoF applications. The modules provide a complete solution for transporting wide bandwidth signals over optical fiber, with a compact form factor that can be tailored to customer requirements. The Th-Mod modules provide a low noise, high linearity link with unrivaled performance and dynamic range.

VPX RFoF Modules
MACOM's new Open VPX RFoF solution is designed for 3U conductively cooled VPX and SOSA applications. The MAVT-50C1 modules provide up to 50 GHz of bandwidth over single mode fiber, making them suitable for antenna remoting, antenna distribution and other RFoF applications. They are available as custom transmitters, receivers or transceivers.

Information about these new RF solutions can also be found at www.macom.com.

About MACOM
MACOM designs and manufactures high-performance semiconductor products for the Telecommunications, Industrial and Defense, and Data Center industries. MACOM services over 6,000 customers annually with a broad product portfolio that incorporates RF, Microwave, Analog and Mixed Signal and Optical semiconductor technologies. MACOM has achieved certification to the IATF16949 automotive standard, the AS9100D aerospace standard, the ISO9001 international quality standard and the ISO14001 environmental management standard. MACOM operates facilities across the United States, Europe, Asia and is headquartered in Lowell, Massachusetts. To learn more, visit www.macom.com.

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