

# MACOM Debuts New Ultra Low Phase Noise Amplifier

December 19, 2018

- The MAAL-011151 delivers wideband performance versatility from 2 to 18 GHz for test and measurement, EW, ECM, and radar applications
- The MAAL-011151 enables superior signal generation and receiver sensitivity, integrating with high-performance MACOM comb generators and mixers
- MACOM's new low phase noise amplifier is sampling to customers today in bare-die and packaged formats

LOWELL, Mass.--(BUSINESS WIRE)--Dec. 19, 2018-- [MACOM Technology Solutions Inc.](#) ("MACOM"), today announced the first entries in its new portfolio of wideband, ultra low phase noise amplifiers. Available in 2.8 x 1.73 x 0.1 mm bare-die and 5x5mm, 32-lead AQFN packaged formats, the new [MAAL-011151](#) is ideally suited for use as a low phase noise amplifier stage for signal generation applications spanning a host of system designs targeting test and measurement (T&M), EW, ECM, and radar.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20181219005820/en/>



Available in 2.8 x 1.73 x 0.1 mm bare-die and 5x5mm, 32-lead AQFN packaged formats, the new MAAL-011151 is ideally suited for use as a low phase noise amplifier stage for signal generation applications spanning a host of system designs targeting test and measurement (T&M), EW, ECM, and radar. (Photo: Business Wire).

portfolio to include additional discrete amplifiers covering additional frequencies, and integrated low phase noise LO modules, system designers will benefit from seamless device compatibility and exceptional performance across the signal chain, with decades of MACOM application expertise to help them achieve their aggressive design goals."

Typical MAAL-011151-DIE Performance:

Parameter	Units	MAAL-011151-DIE
Frequency	GHz	2-18
Gain (10 GHz)	dB	16
Noise Figure (10 GHz)	dB	5
P1dB (10 GHz)	dBm	17.5
Phase Noise (12 GHz +3dBm, 1 KHz Offset) dBC/Hz		-150
Bias	V/mA	5/60

Phase noise is a critical specification in defining the frequency stability of a signal source, with significant implications for receiver sensitivity performance. MACOM's MAAL-011151 minimizes phase noise contribution in providing LO signal gain, enhancing spectral integrity for T&M and communications systems, target acquisition for radar, and aerospace and defense (A&D) applications.

The MAAL-011151 will provide 16 dB of linear gain across the 2 to 18 GHz frequency band, 17.5 dBm of P1dB and 5 dB of noise figure at 10 GHz with input and outputs that are fully matched to 50  $\Omega$  and are DC blocked. Amplifier control is available through the use of a control circuit or by direct bias injection. The MAAL-011151 is fabricated using a low phase noise HBT process which features full passivation for enhanced reliability.

"With the introduction of MACOM's new MAAL-011151 ultra low phase noise amplifiers, we're investing in a growing portfolio of signal generation components that encompasses high-performance [comb generators](#), [mixers](#), and more," said Graham Board, Senior Director of Product Marketing, MACOM. "As we expand this

MACOM's MAAL-011151 ultra low phase noise amplifiers are sampling to customers today in bare-die and packaged formats. For assistance identifying MACOM products optimized to substitute or replace offerings from other vendors, visit MACOM's Cross Reference tool. For more information about the MAAL-011151, please visit: <https://www.macom.com/products/product-detail/MAAL-011151>

Colin Boroski  
Rainier Communications  
508-475-0025 x142

[cboroski@rainierco.com](mailto:cboroski@rainierco.com)

Anja-Maria Hastenrath  
embedded PR  
+49 (0)89 64913634-11  
[ah@embedded-pr.de](mailto:ah@embedded-pr.de)