



Wideband 2GHz to 14GHz Mixer with Integrated LO Frequency Doubler Delivers IF Bandwidth from DC to 6GHz

MILPITAS, CA – March 7, 2016 – Linear Technology announces the [LTC5548](#), a double balanced mixer that operates either as an up- or downconverter with an exceptionally wide frequency range from 2GHz to 14GHz. The LTC5548 features integrated balun transformers at the RF and LO ports, providing 50Ω match from 2GHz to 13.6GHz and from 1GHz to 12GHz at each port, respectively, while enabling single-ended operation. Additionally, the IF port is capable of DC to 6GHz, supporting wideband transmitters and receivers at the baseband. The LTC5548 has high linearity of 24.4dBm IIP3 at 5.8GHz, and 21.4dBm at 9GHz.

The LTC5548 simplifies microwave transmitter and receiver designs with its integrated LO buffer, requiring only a 0dBm drive, effectively eliminating an external high power LO amplifier circuit. Moreover, the LTC5548 has a selectable on-chip LO frequency doubler, enabling the device to use lower cost, commonly available low frequency synthesizers. The LTC5548 mixer features exceptional port-to-port isolation, minimizing undesirable LO leakage, easing external filtering requirements.

The LTC5548's performance is ideal for a wide range of microwave applications, including broadband microwave backhaul, the emerging 5.8GHz unlicensed band and 14GHz LTE-Advanced broadband wireless services, satellite broadband transceivers, radar systems, X-band and Ku band transceivers, spectrum analyzers, RF test equipment and satellite modems.

The LTC5548 has exceptionally robust ESD handling capability of 2,000V ESD human body model (HBM) rating on all pins. The device comes in a tiny 12-lead 3mm x 2mm plastic QFN package, providing a compact solution footprint, requiring minimal external components. The device is rated for operation from –40°C to 105°C case temperature. The mixer is powered from a single 3.3V supply, drawing a nominal supply current of 120mA. Additionally, the LTC5548 has an enable pin to shut down the IC. When deactivated, the device draws only 100μA maximum standby current. The enable pin can be driven directly to turn the device on and off rapidly in less than 0.2μs, supporting time-division duplex (TDD) or burst mode type radios. The

LTC5548 is priced starting at \$9.50 each in 1,000-piece quantities. Samples and production quantities are available immediately. For more information, visit

www.linear.com/product/LTC5548.

Photo Caption: Wideband Microwave Mixer Solution in Small Size


Summary of Features: **LTC5548**

Operating RF Frequency	2GHz to 14GHz
Up- or Downconversion	
IF Frequency Range	DC to 6GHz
High Input IP3	24.4dBm at 5.8GHz 21.4dBm at 9GHz
Low Conversion Loss	7.1dB at 5.8GHz
SSB Noise Figure	8dB
Low LO Drive Level	0dBm
Integrated Bypassable LO Frequency Doubler	

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About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937