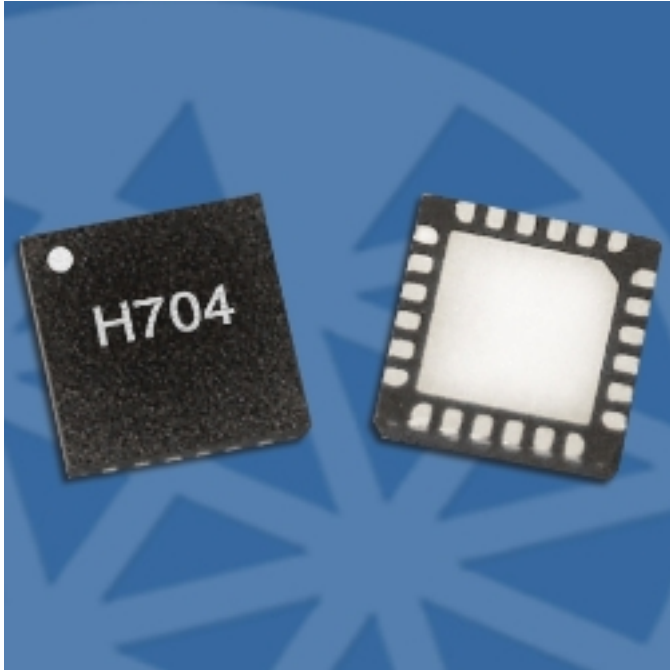


Phase Noise Synthesizer Suits High-Density Signal Constellation Applications



Hittite Microwave, a world-class supplier of complete MMIC based solutions for communication & military markets, announces the release of a new ultra-low phase noise synthesizer IC. The HMC704LP4E has been designed for best phase noise and lowest spurious content possible in an integrated synthesizer. The HMC704LP4E is the ideal synthesizer for use in high density signal constellation applications that require excellent integrated phase noise such as microwave point-to-point radio links. The excellent performance of this product makes it ideal for use in cellular, satellite and military applications operating at frequencies up to 8 GHz, especially where ultra-low phase noise and fast frequency switching are paramount.

The HMC704LP4E features a 4 GHz 19-bit fractional divider, 24-bit delta-sigma modulator, 14-bit reference path divider, ultra low noise phase frequency detector (PFD) and a precision controlled charge pump. The device also supports extensive access to various modes of operation via a read/write serial port. Exact frequency mode with 24-bit fractional modulator provides the ability to generate fractional frequencies with zero frequency error, an important feature for Digital Pre-Distortion (DPD) systems.

In its normal mode of operation, the HMC704LP4E floor Figure-of-Merit is -230/-227 dBc/Hz in integer and fractional modes. In a special HiK mode, these figures reach -233/-230 dBc/Hz. Phase noise is -112 dBc/Hz at 8 GHz, 50 KHz offset in fractional mode.

With common channel spacing (200 kHz, 20 kHz loop bandwidth), Spurious-Free

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Dynamic Range (SFDR) of 78 dB is typical. Even under worst case conditions, with the synthesizer tuned to within 20 KHz of an integer multiple of the comparison frequency, SFDR still exceeds 52 dB.

The HMC704LP4E is conveniently housed in a 4 x 4 mm RoHS compliant QFN leadless package and is specified for operation over -40 °C to +85 °C. Released data sheets may be found at www.hittite.com. Samples and evaluation PC boards are available from stock and can be ordered via the company's e-commerce site or via direct purchase order.

For more information visit

<https://www.hittite.com/products/view.html/view/HMC700LP4> [1]

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