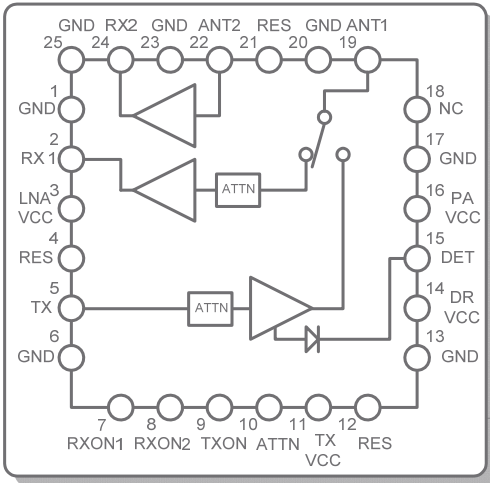


2.3 – 2.7GHz WiMAX 1x2 MIMO TX/RX RFeIC



Description

The RFX3012 is a fully integrated, single-chip, single-die RFeIC (RF Front-end Integrated Circuit) which incorporates all the RF transmit and receive functionality needed for WiMAX wireless communications. The RFX3012 architecture integrates the PA, LNA, Transmit and Receive switching circuitry, the associated matching network, step attenuators in the transmit and receive chain, and a harmonic filter all in a CMOS single-chip device. This RFeIC is designed for use in the 802.16e.2005 portable and mobile WiMAX applications operating at 2.5 - 2.7GHz.

Combining superior performance, high sensitivity and efficiency, low noise, small form factor, and low cost, RFX3012 is a highly integrated ideal solution for 1x2 MIMO antenna applications. The RFX3012 requires minimal external components including the external power supply bypass and the desired band-pass filters needed for system performance. The PA power detect circuit is also integrated.

Applications

- ▶ WiMAX Transceivers
- ▶ WiMAX Mobile Platforms

Parameters	Value	Conditions
TX		
Small-Signal Gain	30dB/10dB	TX Enabled, ATTN Low/High
Quiescent Current	125mA/15mA	TX Enabled, ATTN Low/High, No RF Applied
QPSK Max Output Power	+25dBm	Spectral Mask Compliant, EVM < 10%, TX Enabled, ATTN Low
QAM64 Max Output Power	+24dBm	EVM < 3%, TX Enabled, ATTN Low
Linear Output Current	440mA	+24dBm at ANT, TX Enabled, ATTN Low
2 nd and 3 rd Harmonic	-20dBm	+24dBm at ANT, TX Enabled, ATTN Low
Noise Figure	4dB	TX Enabled, ATTN Low
RX		
RX1 Small-Signal Gain	15dB/2dB	RX1 Enabled, ATTN Low/High
RX2 Small-Signal Gain	15dB	RX2 Enabled
RX1/RX2 Noise Figure	3.5dB/2.5dB	RX1/RX2 Enabled, RX1 with ATTN Low
Input P1dB	+0dBm/+0dBm	RX1/RX2 Enabled, RX1 with ATTN Low
Quiescent Current	7mA/5mA	RX1/RX2 Enabled
CHIP		
Operating Frequency	2.3-2.7GHz	TX or RX Enabled
Supply VCC	2.7 – 3.6 VDC	4.8V Max
Shut-down Current	0.05uA	Standby
Input Return Loss	-10dB	All RF Ports, In-Band, TX or RX Active
RF Port Impedance	50-Ohm	Single-ended
Control Signals	High Enable	CMOS Logic, <0.3V Low, >1.2V High
Package	24-QFN	4.0mm x 4.0mm x 0.5mm

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This product brief is a general list of parameters to provide information on the capabilities of this device and is subject to change without notice.