

PMB 2008

SMARTi™ WiMAX

Single-chip dual-band WiMAX / WLAN RF Transceiver IC with standard I&Q interface



SMARTi™ WiMAX (PMB 2008) is the first single-chip dual-band WiMAX and WLAN Transceiver IC with standard I&Q interface for multi-media and feature-rich mobile devices.

It integrates the functionality of a WiMAX and WLAN RF transceiver IC in a single chip CMOS RF transceiver supporting dual band operation (2.5 & 3.5GHz) according to IEEE WiMAX 802.16e and IEEE Wireless LAN standards 802.11b and 802.11g.

SMARTi™ WiMAX features a footprint of only 5x5mm² and provides full support for multiple channel bandwidths, from 3.5MHz to 20MHz, as well a wide range of reference clock frequencies, thus making the SMARTi™ WiMAX a highly flexible solution that can interface with a wide variety of standard WiMAX or WiFi baseband IC's using the chip's standard analog I/Q and serial programming interfaces.

Features

- Fully integrated sigma-delta synthesizer with digital frequency offset compensation
- Support of various external clock frequencies 38.4/26/52/40/44.8MHz
- Configurable channel filters to support all OFDM bandwidths from 3.5 to 20MHz
- Analogue I/Q voltage interface for RX and TX (current mode supported in TX)
- Low EVM: RX < -30dB; TX < -34dB
- Supports 64QAM modulation for up- and downlink
- TX PGA with output power range of 45dB
- Integrated feedback loop to support carrier feedthrough and SSB compensation in TX path
- RX PGC with 101 dB dynamic range
- Various power down modes
- Low current consumption
- Built-in calibration routines to reduce production testing effort & equipment
- Supports coexistence of WiMAX / WLAN with GSM, CDMA, UMTS and BT
- Compatible to a wide variety of Standard WiMAX PA's

Technology

- Based on Infineon's C11 130nm RF-CMOS technology
- PG-WF²SGA-81 package
- 5.0 x 5.0 mm²
- Green product (lead (Pb) and halogen free)

Applications

- IEEE 802.16e WiMAX and IEEE 802.11b/g WLAN mobile phone and modem applications
- PC Cards, PDAs
- Access points

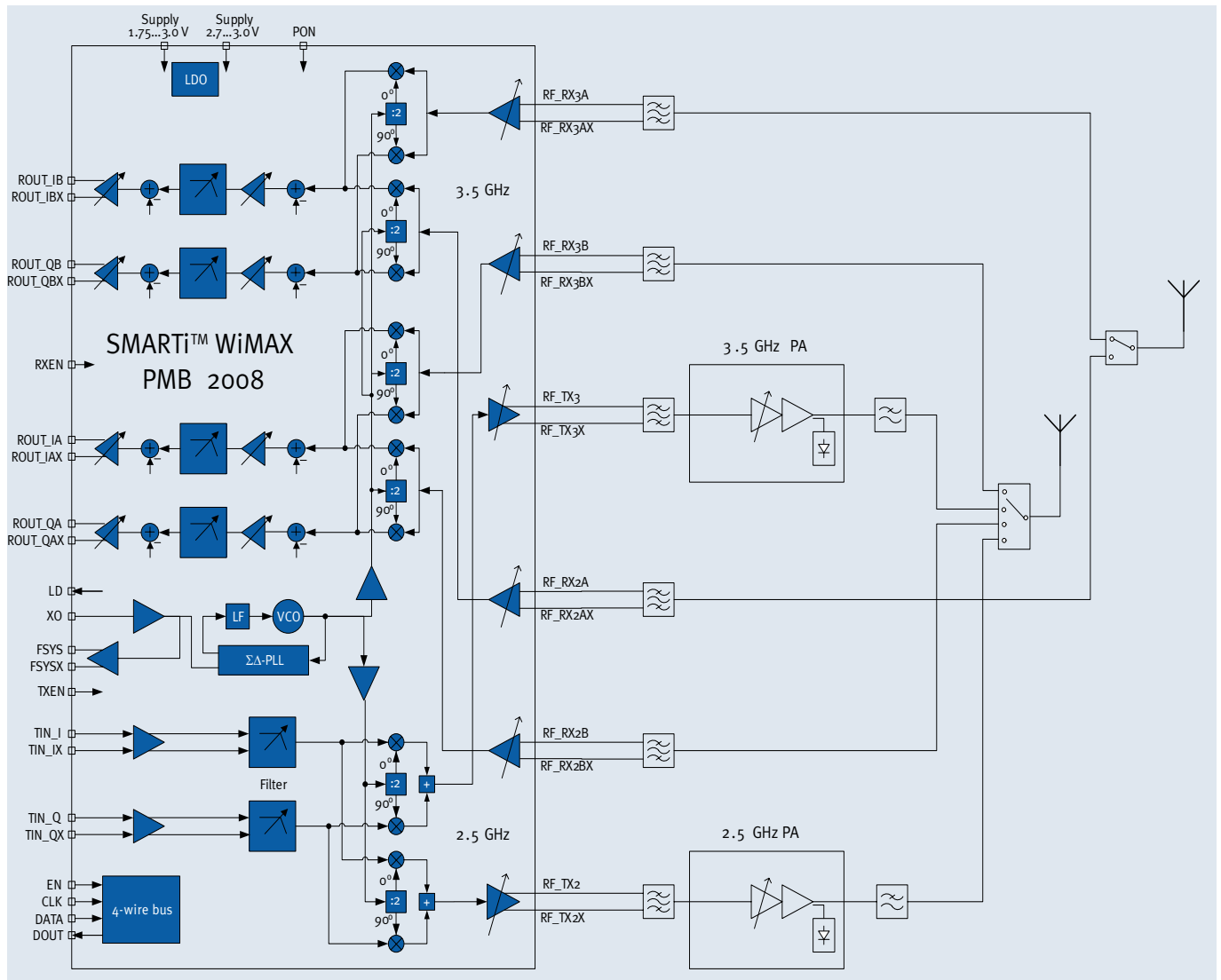
www.infineon.com/RFengine

Communication Solutions



Never stop thinking

Typical Dual Band RF Engine Block Diagram



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