

WiMAX RF Design Module

Our WiMAX RF modules are designed for interface with different PHY solutions based on 802.16e Mobile WiMax standard for Base station and CPE covering 2.3 - 2.5GHz, 2.5 - 2.7GHz and 3.4 - 3.8GHz bands.

The transceiver supports TDD/HFDD operation with either IF or IQ interface from the baseband. Direct conversion and Super Hetrodyne architecture are considered in design of RF modules achieving excellent EVM. Base station is available with 1W and 10W output while CPE is available with 250mW or 500mW option.

Existing Radio module designs are compatible with WiMAX PHY of Picochip, Runcom & Sequans.

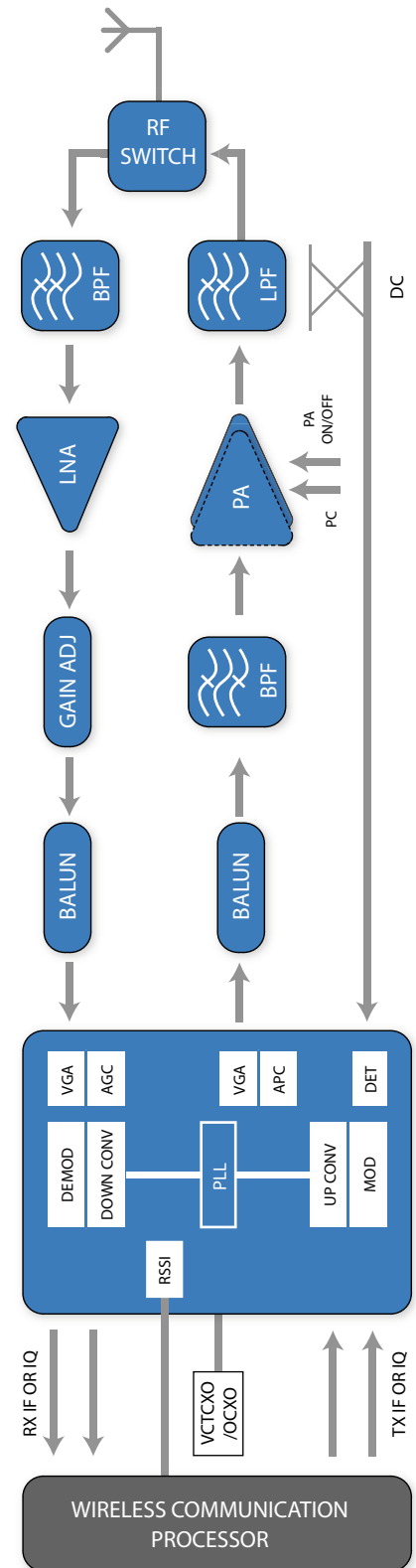
Radio Transceiver designs are customizable based [*] on Band of Operation, Channel Bandwidth, Transmit Power, Receive Sensitivity, Power Consumption etc.

Dynamic Transmit power control, PA power down mode, Receive AGC circuit adds to the performance of the Radio module.

Features

1. Compatible to various WiMAX PHY manufacturers
2. Operating Bands
 - 2.3 – 2.5GHz
 - 2.5 – 2.7GHz
 - 3.4 – 3.8 GHz
3. Operating Mode
 - TDD
 - HFDD modes.
 - Optional - Full Duplex Radio
4. IF or IQ interface to Base band
5. Transmit Gain control ~50dB or more
6. Receive AGC ~80dB or more
7. Low power consumption
8. 1W or 10W for Base station application
9. 250mW or 500mW for CPE application
10. Support 2X2 MIMO
11. Support Single Antenna

[*] - The Radio line up is based on the Transceiver modules from (Sierra Monolithics, SiGe, TI, ASIC Ahead, etc.). High performance Amplifier from (Freescale, Anadigics, MWT, Mimix, Filtronix, Sirenza) and better noise figure LNA (RFMD, Sirenza, Avago, CEL) devices are used.



RF BLOCK DIAGRAM

ADVANCED TECHNOLOGY DESIGN CENTER

Embedded Wireless Labs is an Advanced Technology Design Center established in 1998. A fully state-of-the-art facility based in Kuala Lumpur, Malaysia with an experienced staff from all over the world. EWL past developments include developmental projects across a wide range of Advanced Wireless Telecommunication and Internet Technology products and systems. High Value engineering design and development delivered at a lower cost from a world class location. Our lab has experienced Global Management and Advanced Design Engineering teams.

Facilities and Resources

Advanced facility in an ISO 9002 building, capital spent on advanced test equipment like R&S vector signal analyzers, Agilent RF test equipment, Tektronik GHz scopes and a wide range of Logic analyzers, protocol analyzers, JTAG devices and debugging tools. Test beds for Telecommunications using V5.2, SS7, MFR2 protocols and voice QoS Analysis. Call generation facilities simulates telecommunications switches world wide. Test bed for IP based applications. Microwave Engineering test beds.



Design Services

Microwave RF Engineering

Design of RF Transceivers, Amplifiers, LNA's, PLL's and interfaces for digitally modulated broadband radios. Simulations and modeling using Agilent ADS and co-simulation with Cadence tools.

Digital/Analog/FPGA

Design of Mixed signal and High speed on multi-layer PCBs and certification for various safety and communication standards. FPGA baseband processor development, IP core logic and Test bench developments.

Embedded Software Development :

TI based DSP, Motorola Power PC and High end Microprocessor RTOS using Thread X, VxWorks and Linux development platforms, feature addition to existing product line.

Software

Development of a wide range of Web based applications based on C++, Java, CORBA Languages, AJAX.

Support

Mechanical and Industrial Design, Web Design, Brochures, Graphics, Procurement, Project and Quality Management.

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