



Comprehensive Radio Solutions

RFX300-20 RF Subsystem

WCDMA/EDGE radio solution

Overview

Since multiband and multimode functions are required for advanced cell phone design, small and easy-to-use RF solutions are mandatory for those who want to be competitive in the communications marketplace. Freescale's RFX300-20 RF subsystem provides a highly integrated, comprehensive radio solution for WCDMA/EDGE terminals. This solution reduces typical subsystems by 30 percent into less than 649 mm² of board space. Incorporating RFX300-20 full radio solution functions over the GSM850, EGSM900, DCS1800, PCS1900 and WCDMA/UMTS frequency bands. Based on Freescale's revolutionary Polar architecture, the RFX300-20 delivers an optimal balance of low current, small size and a highly manufacturable radio.

MMM6007 Tri-Band WCDMA Transceiver with Digital Interface

The MMM6007 is the integration of an RF transceiver, data converters and required passives into one 11 x 15 mm package. The solution is based on a direct-conversion/direct-launch architecture and integrates all necessary voltage-control oscillators (VCOs)/synthesizers. To complete the system, data converters, digital filters, down/up conversion and analog filtering, analog gain control and various control blocks are provided and allow a direct interface with the baseband processor. The MMM6007 is a full tri-band 3G radio supporting most 3GPP frequency bands.

MMM6000 Quad-Band GSM/EDGE Transceiver with DigRF

The MMM6000 includes data converters typically found in a separate analog baseband. The direct-conversion receiver architecture integrates the low-noise amplifiers (LNAs), as well as the receive and transmit voltage-control oscillators (VCOs). The transmit section is based on a polar modulation architecture with direct modulation of the VCO by a fractional-N synthesizer and allows a filter-free transmit lineup. This solution is the first DigRF digital interface standard-compliant radio on the market and is offered in a 9 x 11 mm package.

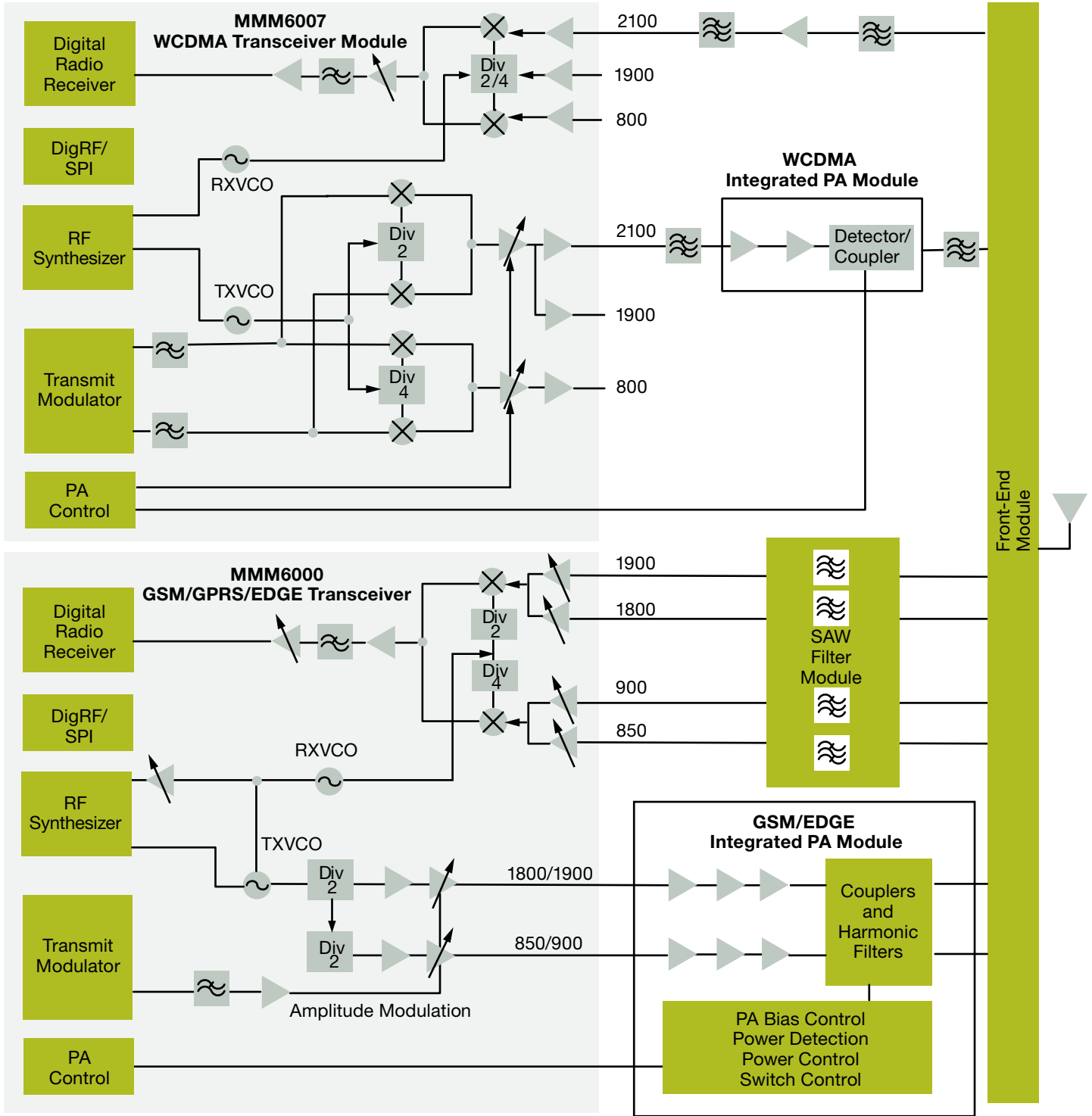
Key Benefits

- Receiving and transmitting of voice and data via WCDMA and GSM/EDGE technologies
- Full antenna-to-bits functionality, no separate analog baseband required
- Highest level of integration provides extremely compact 649 mm² board area and low eBOM
- Freescale's revolutionary Polar architecture provides complete closed-loop control for manufacturability ease and extremely low current consumption
- Digital interfacing to the baseband processor for ease of design
- Embedded microcontroller provides less dependency on Layer 1 software and simplifies software programming

Key Features

- Tri-band: UMTS, PCS, Japan 800 MHz and US 850 MHz WCDMA bands
- Quad-band: GSM850, EGSM900, DCS1800 and PCS1900
- WCDMA Power Class 3 operation
- EDGE Class 12 operation
- GMSK Power Class 4 operation in GSM850 and EGSM900 bands
- GMSK Power Class 1 operation in DCS1800 and PCS1900 bands
- EDGE Power Class E2 operation
- HSDPA capable
- Direct-conversion/filter-free revolutionary Polar architecture transmitter
- Low current consumption
- Closed-loop power control
- Streamlined programming model for rapid software implementation
- Digital interface to baseband processor
- Auto-calibrated transmitter
- Integrated passive components

RFX300-20 Block Diagram



Learn More: For more information about Freescale's products, please visit www.freescale.com/wireless.