

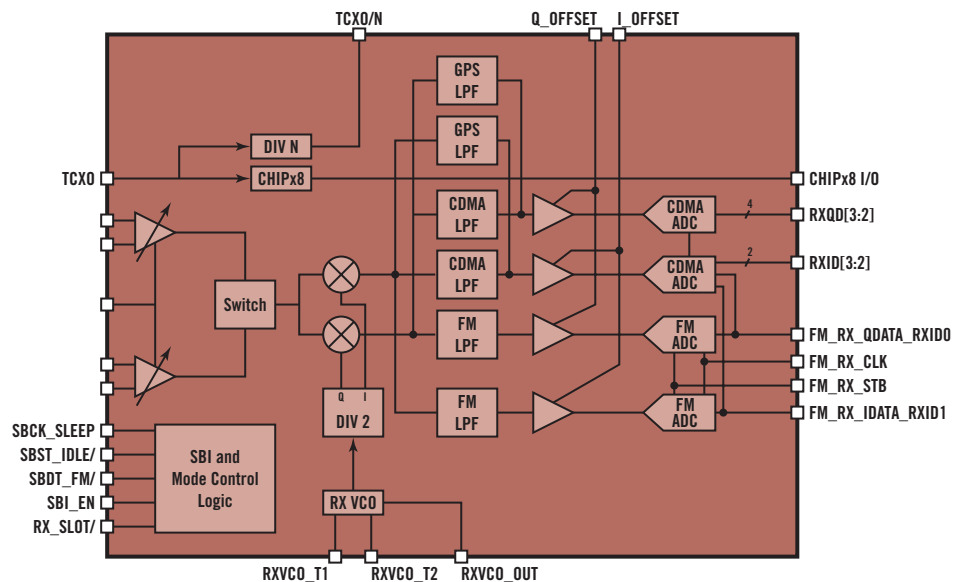
IFR3300™ Rx IF/BASEBAND PROCESSOR

QUALCOMM CDMA TECHNOLOGIES

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IFR3300™ Rx IF/BASEBAND PROCESSOR



IFR3300 Processor Function Block Diagram

Overview

The QUALCOMM IFR3300™ Rx IF-to-baseband processor offers significant advantages in size, cost and power. It integrates the Automatic Gain Controls (AGCs), I/Q demodulators, low-pass filters and Analog-to-Digital Converters (ADCs) into a single Application-Specific Integrated Circuit (ASIC). It performs the same IF-to-baseband processing as the IFR3000™ processor, but adds GPS capability. The integrated GPS functionality provides the most cost-effective GPS and IS-95B IF receiver solution. The IFR3300 processor is offered in a 48-pin BCC+ package.

The IFR3300 Rx IF-to-baseband processor is designed for use in dual-mode CDMA and FM portable cellular phones or single-mode plus gpsOne™ enabled phones. It interfaces at RF with the RFR3100™ or RFR3300™ Rx front-end and at baseband with the MSM3300™ Mobile Station Modem™ (MSM™) device.

Smaller Packaging

Even with the added capability of GPS, the IFR3300 device maintains the package size and pin compatibility with the IFR3000 device. The result is a more economical solution for performing CDMA, FM and GPS IF-to-baseband processing.

IFR3300 Features

- Supports IS-98 (CDMA) and IS-19 (AMPS) standards for dual-mode operation

- 2.7 to 3.15 V supply voltage
- Low current: 26 / 21 mA in CDMA Rx / FM Rx modes
- Rx power control through 90 dB dynamic range AGC amplifier
- IF mixer for down-converting IF to analog baseband for CDMA, FM and GPS
- Low-pass filtering for CDMA, FM and GPS I- and Q-component baseband signal demodulation
- 4-bit ADCs convert CDMA or GPS I and Q analog baseband components to digital baseband
- 8-bit ADCs convert FM I and Q analog baseband to digital baseband
- Clock generators for CDMA/AMPS/GPS operation
- VCO for generation of Rx LO mixing signal
- I- and Q-channel DC offset control inputs drive baseband DC voltage offset to zero in CDMA, FM and GPS signal paths
- CDMA and FM mode compatible with the MSM3000® and MSM3100™ devices
- GPS mode select through 3-line serial bus interface (SBI) from the MSM3300 device
 - Slotted FM mode
 - Selective power-down
 - Mode selection
- Pin compatible with IFR3000 processor
- 48-pin BCC+ package

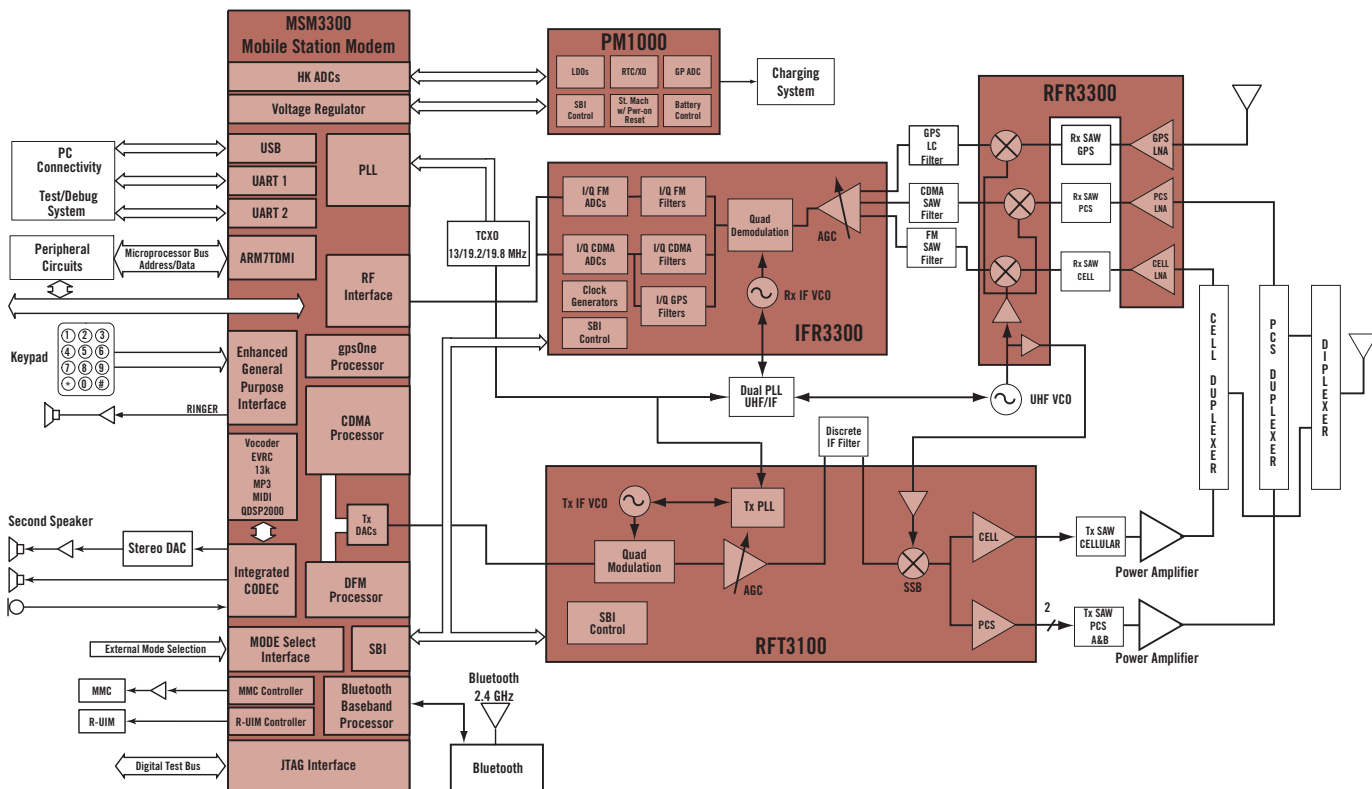
IFR3300 Interface



The IFR3300 processor interfaces directly with QUALCOMM's MSM ASICs. The MSM ASICs are CMOS VLSI integrated circuits that perform all digital processing in the CDMA/FM/GPS subscriber unit. The combination of IFR3300, power management devices, power amplifiers, and the MSM family ASICs form the core of the portable CDMA/FM/GPS subscriber unit.

Part Number	Functionality
IFR3000	CDMA, AMPS IF-to-baseband receiver
IFR3300	CDMA, AMPS, GPS IF-to-baseband receiver

IFR Selection Guide



IFR3300 as Part of QUALCOMM's MSM3300 Chipset Architecture (Dual Band AMPS and PCS CDMA with GPS configuration shown)

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