

RFR3300 Functional Block Diagram

Overview



The RFR3300 device, successor to the RFR3100™ chip, integrates dual-band Low Noise Amplifiers (LNAs) and mixers for downconverting from RF to CDMA and FM IF, and contains a dedicated LNA and mixer designed for downconverting Global Positioning System (GPS)

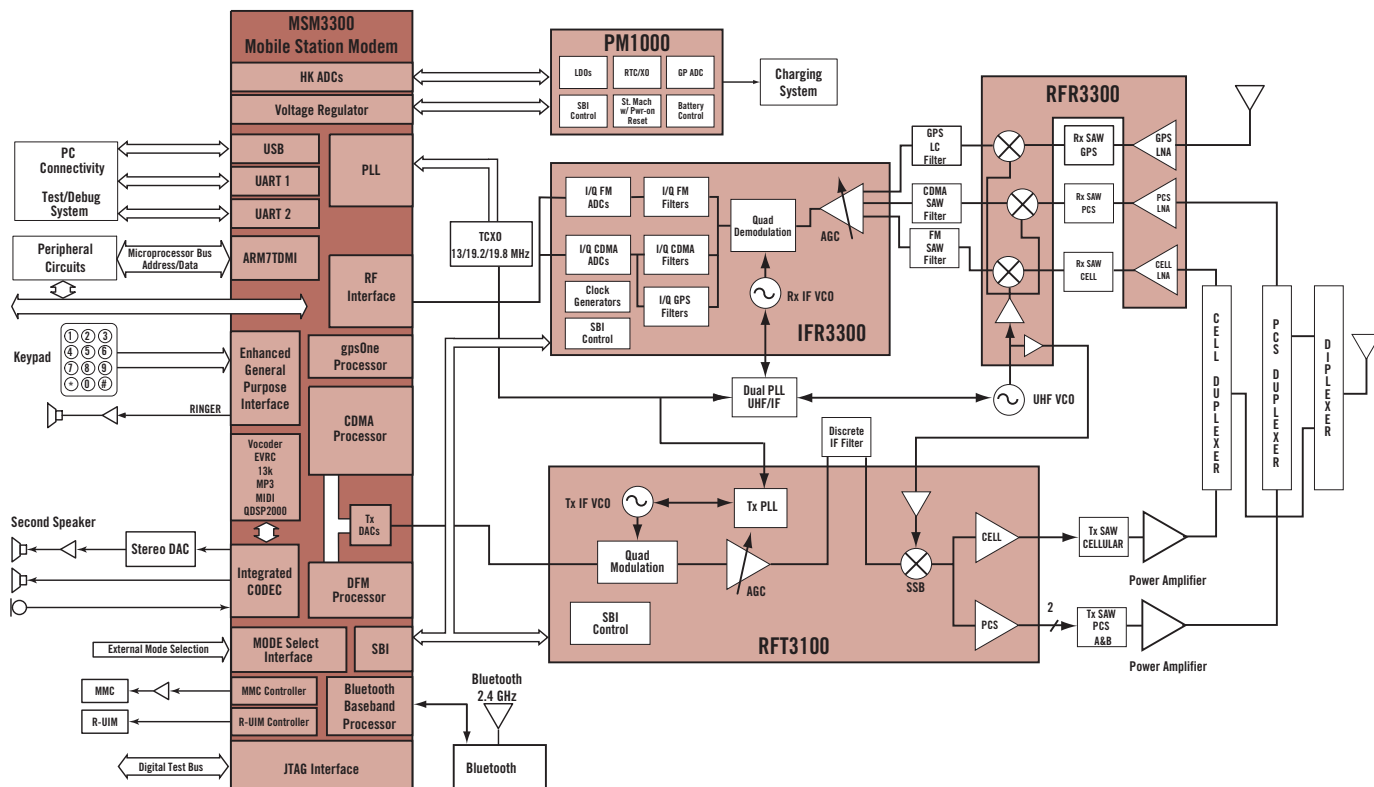
signals from RF to IF. The RFR3300 receiver operates in the 832 MHz-894 MHz cellular band, 1840 MHz-1990 MHz PCS band and 1575 MHz GPS band. The RFR3300 device meets cascaded Noise Figure (NF) and Third-Order Intercept Point (IIP3) requirements of IS-98 and JSTD-018 for sensitivity and two-tone intermodulation. Together with QUALCOMM's MSM3300™ Mobile Station Modem (MSM™) chipset and IFR3300™ baseband receiver, the RFR3300 device offers the most cost-effective and high-performance solution for CDMA dual-band or tri-mode phones with gpsOne™ capability.

The cellular LNA in the RFR3300 device offers gain control capability for improving dynamic range and performance in the presence of high levels of interference. Reducing the gain in the LNA also improves power consumption. Band selection and gain modes as well as enhanced features, including selective power-down modes which permit optimized power savings and extended stand-by time performance, are controlled directly from the MSM3300 device and system software.

The RFR3300 device is fabricated on an advanced silicon germanium BiCMOS process, which facilitates low-noise, low-power, high frequency analog circuits. The RFR3300 device is designed for voltage ranges from 2.7 V to 3.15 V and is available in a low profile 5 millimeter by 5 millimeter 32-pin BCC++ plastic package.

RFR3300 Device Features

- Performs downconversions from RF to IF
- Applications
 - CDMA: PCS and cellular
 - FM
 - GPS
- Designed to comply with NF and IIP3 requirements for IS-98 and JSTD-018
- Cellular LNA features three gain modes to provide improved dynamic range and performance in the presence of high level interferers
- Selective power-down modes for extended standby-time performance
- UHF LO divide by 2 circuit for flexible frequency planning
- Compatible with IFR3000™ or IFR3300 devices for IF-to-baseband processing
- Supply voltage from 2.7 V to 3.15 V
- 32-pin BCC++ plastic package (5 mm x 5mm x 0.8 mm)
- SiGe BiCMOS process



RFR3300 device used in QUALCOMM's MSM3300 Chipset Solution (Dual-Band: AMPS and PCS CDMA with GPS configuration shown)

Copyright © 2003 QUALCOMM Incorporated. All rights reserved. QUALCOMM is a registered trademark and service mark, and RFR3300, RFR3100, MSM3300, MSM, IFR3300, gpsOne, RFT3100 and PM1000 are trademarks of QUALCOMM Incorporated. All other trademarks contained herein are the property of their respective owners. Data subject to change without notice. Printed in USA 2/2003 RFR3300-SS X6