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TD-SCDMA transceiver

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RDA8207 Fully integrated dual - band TD - SCDMA radio frequency transceiver



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The RDA8207 RF transceiver is a fully integrated single-chip CMOS RF transceiver, fabricated in proven CMOS technology, for the Third Generation Partnership Project (3GPP) specification for the Universal Mobile Telecommunication System (UMTS). The chip is specifically designed for UMTS Time Division Duplex (TDD) mode or TD-SCDMA standard that operates in the dual-band range of 1880 to 1920 MHz and 2010 to 2025 MHz (1.28 Mcps option).

The chipset consists of the RDA8207 transceiver and RDA8252 power amplifier for TD-SCDMA and RDAES11 TX/RX switch. This RF chipset provides a complete solution connecting antenna to baseband for TD-SCDMA standard, eliminating the expensive IF SAW filter. All bulky components, such as RF VCO, loop filters, and tuning inductors, are completely integrated on chip.

Features

- Fully integrated single-chip RF transceiver :
 - ? 3GPP TD-SCDMA 1900MHz/2010MHz band
 - ? Support 3GPP Release 5 TD-HSDPA
 - ? Support 3GPP Release 6 TD-HSUPA
- RF total solution for TD-SCDMA :
 - ? RDA8207 RF Transceiver
 - ? RDA8252 TD-SCDMA power amplifier
 - ? RDAES11 RX/TX Switch
- Digital zero-IF receiver for TD-SCDMA :
 - ? Low noise RF front-end
 - ? Image-reject down-converter
 - ? High performance A/D converter
 - ? On-chip DC offset cancellation
- Direct up-conversion transmitter for TD-SCDMA :
 - ? Highly linear I/Q modulator
 - ? RF VGA with over 80 dB APC control
 - ? Minimum Carrier Leakage
- Integrate on-chip analog baseband function, support 10~12 bit parallel digital I/O data interface
- ?-? Fractional-N Frequency Synthesizer :
 - ? Fully integrated on-chip VCO & loop filter
 - ? Low phase noise
 - ? Fast locking (<30?s)
- Support 26MHz TC-VCXO or DCXO, Can output two (13MHz or 26MHz) system clocks to baseband externally
- SPI 3-wire or 4-wire serial interface bus
- Support both analog I/Q baseband data interface and digital I/Q baseband data interface
- 1.8V/2.8V interface voltage level option
- Integrate on-chip LDO, support 3.3V ~ 4.2V external battery
- 40-PIN 6mm × 6mm QFN package
- 0.13?m CMOS technology process

Applications

- UMTS(TDD)/TD-SCDMA cellular handsets
- Wireless data modems and terminals



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