



DESCRIPTION

FC7850 is a multi-band and multi-mode LTE and HSPA+ RF-to-baseband transceiver IC with receiver diversity of FCI's zipRF™ family. FC7850 covers almost all the frequency bands from 1 to 40.

It is a highly integrated chip working with dual supply voltage such as 1.2V and 1.8V. Because zero-IF architecture is used for FC7850, additional components such as bulky IF SAW filters and other IF matching components are no longer required. The 4-wired serial-to-parallel interface (SPI) enables FC7850 to operate in various modes. FC7850 contains complete multi-band receiver diversity path such as LNA, down-conversion mixer, channel selection filter (CSF), baseband programmable gain amplifier (PGA), Rx VCO, Rx PLL, and LO distribution block. FC7850 also contains complete transmitter path such as baseband amplifier, up-converter, RF programmable gain amplifier (PGA), programmable drive amplifier, Tx VCO, Tx PLL, and LO distribution block. FC7850 is available in 7mm x 7mm BGA package.

FC7850 support FDD/TDD duplexing method. For TDD operation, the TX_ON hardware pin exists. Also SPI controlled TDD operation is supported. During TDD operation, the TX PLL and TX VCO is deactivated and RX PLL and RX VCO is operating as a common PLL and VCO during TX and RX operation.

APPLICATIONS

- Multi-band HSPA+ mobile phone
- Multi-band LTE & HSPA+ mobile phone

REVISION HISTORY

- Preliminary version: Apr, 25, 2011.
- Preliminary version: May, 11, 2011.
- Preliminary version: July, 04, 2011.

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FEATURES

- Complete 2x1 MIMO receiver diversity transceiver covering multi-band (Band1~40) supporting HSPA+/HSPA/FDD-LTE/TDD-LTE applications
- Modem assisted TX LO leakage, TX I/Q and RX DC offset calibration
- Self-calibrated VCO and RX and TX filter cut-off frequency
- Fully integrated low phase noise Rx and Tx VCO and Fractional-N PLL with fine frequency resolution
- Greater than 85-dB transmitter output power control and greater than 95-dB receiver gain control
- 7mm x 7mm small leadless BGA package

BLOCK DIAGRAM

