

Operational Description F-022

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All functional blocks are shown in the block diagram. This document describes main functional blocks according to RF signal stream.

1. Main communication blocks for W-CDMA or GSM/GPRS

(This is not on the block diagram. Detail explanations are described in following 2-8 blocks.)

2. Antenna block (ANT 101, and ANT 102)

There are two antennas for core communication which are for GSM and W-CDMA (includes HSDPA).

ANT 101 is for lower frequency bands which are GSM900, FDD V (US850), and VI (Japanese 850 which is in the band of US850). ANT 102 is for higher frequency bands which are FDDI W-CDMA, PCS1900 (GSM) and DCS1800 (GSM) band.

3. Antenna switching block (IC 101)

Antenna switching block switches the connection between RF circuits and antennas, or RF circuits and output connector. This switch works according to the radio access technology and radio frequency. This connection will be selected by the condition of NW system availabilities.

4. Filter blocks

FIL111, FIL141, FIL131, FIL161, FIL231 and FIL261 make filter blocks. These filter blocks stop spurious emissions from power amplifiers.

5. Amplifier block

IC211 and IC291 make amplifier blocks. These blocks amplify modulated signals to appropriate power of RF signals.

6. Frequency converting block

IC111 is the frequency converting block. This block has two of main functions. One converts modulated baseband signal to RF. The other converts RF signal to baseband signal for demodulation.

7. TCXO block

X101 creates reference clock for RF signal processing. This device has high stabilities. Also this clock is controlled by receiving signal in order to adjust with system signals. (52MHz)

8. Signal processing block

UBB4 LSI is the signal processing block. It has the functions of modulation and demodulation. Voice data, packet data and circuit switched communication data are processed modulated signal or demodulated original signal. System works with the clock of 48MHz crystal.