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EDG0208 Operational Description

General Description

The EDG0208 Module utilizes the Texas Instruments Neptune baseband processor integrated circuit, TI Triton power management / analog integrated circuit, and Renesas RF transceiver, PA, and Front End Module (FEM).

Radio Interface

The Renesas transceiver, PA, and Front-End-Module (FEM) comprise the complete RF front-end for the GSM/GPRS/ EDGE functions.

The FEM contains the TX/RX RF switch, and the RF RX band-select SAW filters.

The transceiver contains the up-conversion circuits (for TX), down-conversion circuits (for RX), and PA and FEM control circuitry. The transceiver uses a digitally controlled crystal (26 MHz) oscillator (DCXO) that integrates the reference oscillator and varactor functionality.

The PA contains a high band (1800/1900 MHz) and low band (850/900 MHz) PA's, and automatic power control (APC) feedback elements.

Baseband Interface

The Neptune baseband processor provides all digital interfaces and control of the system. The Triton analog and power management chip controls all power domains and analog interfaces. It utilizes input from a 32KHz crystal oscillator to provide real-time clock and synchronization for external interfaces. Triton also performs digital to analog translation and amplification for all audio interfaces. The various external interface signals, power and ground are available via a 60 pin connector. The digital signals from the Neptune baseband processor interface to the 60 pin connector via a CPLD that serves as a voltage level translator. These signals include the UART, SIM card, and the various GPIO's.