



August 11, 2008

GSM0128 Operational Description

General Description

The GSM0128 Module utilizes the Texas Instruments Locosto digital signal processor/digital radio processor (DSP/DRP) integrated circuit. This DSP/DRP is highly integrated and provides all modem functions when combined with the TI Triton Lite analog and power management IC. RF amplification and routing is accomplished with a combined RF power amplifier/switch module.

Radio Interface

The Locosto DRP and RF amplifier/switch provide the complete RF front-end for the GSM/GPRS functions.

The receiver section encompasses the RF switch, RF band-select SAW filters and the DRP. The DRP is directly integrated to the DSP on the same IC. All down conversion and signal processing is done directly within the DRP.

The transmit section consists of a direct connection from DRP through the power amplifier/switch module to the RF connector port. All carrier generation and modulation is performed within the DRP.

The DSP/DRP uses a digitally controlled crystal (26 MHz) oscillator (DCXO) that integrates the reference oscillator and varactor functionality.

Baseband Interface

The Locosto DSP provides all digital interfaces and control of the system. The Triton Lite 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 GPIO's and UART signals to and from the connector are level translated through a CPLD.