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CNN0301 Operational Description

General Description

The CNN0301 Module utilizes the Qualcomm QSC1110 digital signal processor/digital radio processor (DSP/DRP) integrated circuit. This DSP/DRP is highly integrated and provides all modem functions including RF analog and power management. RF amplification and routing is accomplished on parallel paths for band selection, and combined at the antenna port through a passive diplexer.

Radio Interface

The QSC1110 DRP up-converters and DACs produce modulated CDMA TX signals for both BC0 and BC1 bands. Each band path includes an RF power amplifier for TX, and a diplexer to filter and separate TX and RX ports.

The receiver section encompasses the diplexers, matching networks, DRP ADCs and down converters. 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 DSP/DRP uses a digitally controlled crystal (19.2 MHz) oscillator (DCXO) that integrates the reference oscillator and varactor functionality.

Baseband Interface

The Qualcomm DSP provides all digital interfaces and control of the system. The QSC1110 analog and power management section controls all power domains and analog interfaces. The QSC derives its 32KHz from the main oscillator to provide real-time clock and synchronization for external interfaces. The QSC also performs analog to digital translation and amplification for all audio interfaces.