Operational Description

The DSS02 uses direct-sequence spread spectrum IQ modulation in the ISM band 902-928MHz. A time division duplexing rate of 1ms is used to switch between handset and base RX/TX frames. The RF output path starts at the baseband ASIC which is connected directly to the RF105 transceiver. The transmit path from the RF105 is a variable gain direct conversion modulator. The single ended output of the modulator in connected via a 33pF capacitor to the RF106 29dB gain PA. The PA is then capacitively connected through a transmit/receive (TR) switch to the antenna. The receive path starts at the antenna and is connected again through the TR switch and a ceramic bandpass filter to the RF105. The RF105 provides complete RF-to-baseband in-phase quadrature demodulation through a LNA, double-balanced quadrature mixer, channel selection filter, and baseband variable-gain amplifier. This output is then directly connected back to the input of the baseband ASIC.