Wavecom Wismo Quik Q2438F-M Module

RF Circuitry Description:

Frequency Tuning

This product has factory preset frequency adjustment. There is no frequency field adjustment for this product. In the field, frequency is locked to the base station and controlled by the VCTCXO adjustments to offset any possible error.

Limiting Power

Each mobile is individually calibrated at the factory to ensure a minimum MAX power of 23.0dBm (Cellular and PCS CDMA) and MIN power of –50dBm by employing proper frequency and temperature compensation schemes for both the RX and TX automatic gain control (AGC) amplifier.

Suppression of Spurious Radiations

Spurious and harmonic suppression is achieved by proper design with various filters and sufficient use of metallic shields. Rigorous testing at the factory ensures continuous compliance.

Frequency Stability

A voltage controlled temperature compensated crystal oscillator (VCTCXO) is utilized as a frequency reference for all of the transceiver local oscillators. This crystal oscillator is specified to a frequency stability of +/- 2.5ppm. The synthesizer lock status is constantly monitored by the microprocessor and transmission is disabled whenever an out of lock condition is detected. The mobile is locked to the base station and makes necessary frequency adjustments on the VCTCXO to correct and frequency errors between the mobile and the base station.

Limiting Modulation

The audio input is sampled, digitally limited, and then filtered to an amplitude and frequency limit the signal applied to the modulator. The device supports IS-2000 for CDMA operation, and IS-98 for AMPS operation. The device has an operating temperature of -30^{o}C to $+60^{o}$C. The functions include a compandor, PLL lock detector, filtering of received data, audio signal filtering for signals.