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RN-41-R OPERATIONAL DESCRIPTION

The RN-41-R Class1 embedded Bluetooth module from Roving Networks, Inc. is a complete embedded 2.4Ghz, spread spectrum, Bluetooth compliant radio solution (minus an external Antennae). The device contains the CSR Bluecore 4 single chip radio and baseband IC, 16Mhz crystal, balun, filters, power amplifier, and RF switch.

The module contains an integrated RF transmitter has a direct IQ modulator to minimize frequency drift, with digital power level control. The receiver has on board LNA (low noise amplifier), integrated channel filters, digital demodulator, real time RSSI, fast AGC, and DQPSK and 8DPSK modulation modes. The on-board synthesizer requires no external VCO varactor diode, resonator, or loop filter, and needs only an external 16 Mhz xtal. An on board oscillator with digital trimming ensures precise frequency generation.

Physical IO interfaces include USB, serial UART, and general purpose IO.

On board firmware residing in the ROM memory handles all required baseband processing and interfaces to the UART for data communication. A resident EE prom is used to store and load configuration data such as Bluetooth address, radio power settings, and frequency trim information.

Example applications for the radio are serial cable replacement, remote data entry, wireless sensors and barcode scanners.

MODULE Specifications

- **Frequency Range**. 2401 – 2480 MHz
- **Emitter Designation**. 1M00F1W
- **Modulation Type**. GFSK (Guassian Frequency Shift Keying)
- **Number of Channels**. 79
- **Channel Spacing**. 1MHz
- **Output Power**. 10dBm