



FCC prescanned Wireless Module 915 MHz, 152.34 kbit/sec.

### DESCRIPTION

The Wi.232FHSS-250<sup>™</sup> module combines a state-of-the art low power wireless transceiver with a powerful multipoint-to-multipoint frequency protocol controller to form a complete wireless communication solution. With a simple UART interface, a 125dB link budget, and very low power operation modes, the Wi.232FHSS-250<sup>™</sup> module is excellent for AMR, RFID, Home Automation, and any other application requiring long range (7 miles LOS, 1500 feet indoors) and long battery life.

The module can operate as a transparent wire replacement solution; it can also operate in a peer-to-peer networked mode that supports node addressing and assured delivery. The module is designed to be totally transparent. Data is validated using an internally generated CRC-16 and encoded using a proprietary algorithm. Multiple modules can operate on the same channel because of the built-in carrier-sense-multiple-access (CSMA) protocol.

A wide range of data rates can be supported, allowing the designer to tune the module's performance to meet the application's throughput and range requirements. The RF data rate is programmed to optimally match the UART data rate, which can be programmed from 2.4 to 115.2 kbit/second. The maximum RF data rate is 152.34kbit/second.

The Wi.232FHSS-250<sup>™</sup> module employs frequency hopping spread spectrum modulation. There are thirty-two separate hopping channels in a hopping table, and the designer can program the module to use one of six hopping sequences. These techniques allow the Wi.232FHSS-250<sup>™</sup> to operate co-located networks without interference. The Wi.232FHSS-250<sup>™</sup> is a very cost effective solution for any wireless application where range, cost, size, and power consumption are key design issues.

### **APPLICATIONS**

Automated Meter Reading (AMR) Oil and Gas detection sensing Robotic and Industrial Controls Cable replacement Medical

# **ORDERING INFORMATION**

Wi.232FHSS-250<sup>™</sup>

Embedded Radio Module

## **FEATURES**

- 1. Frequency Hopping Spread Spectrum
- 2. 250mW Power amplifier
- 3. True UART to Antenna solution
- 4. 152.34 kbit/ sec. Max RF data rate
- 5. MAC addressing mode
- 6. Link layer supports assured delivery
- 7. 2.7 V 3.6 V power supply
- 8. Size 1.2" x 1.2"

### **SPECIFICATIONS**

- 1. Frequency Band: 902 to 928 MHz
- 2. RF Performance
  - a. 32 Channels
  - b. 6 Hopping Sequences
  - c. 115 kbps Max RF Data Rate (effective)\*
  - d. +23.5 dBm TX Power\*\*
  - e. -104 dBm Max RX Sensitivity\*\*\*
- 3. Power

5.

- a. VDD: 2.7 V to 3.6 V
- b. TX IDD: 158 mA @ +23.5 dBm
- d. RX IDD: 22 mA\*\*
- e. Deep Sleep: 5 µA
- f. Sleep/ Standby: 950 μA/ 1800 μA
- 4. Operating temperature:
  - -40 degrees C to +85 degrees C
  - FCC prescanned

\*Single packet with overhead \*\*50 ohm load, VDD= 3.3 V \*\*\*measured @ 2400 baud