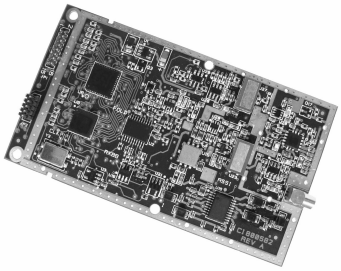
DEVELOPER KIT
(Info: **click here**)

WIT910M

900 MHz FHSS Transceiver Module



Shown with shield removed

Features:

- ***Fast, low latency wireless serial data transmission***
- ***Robust 900 MHz frequency hopping spread spectrum technology***
- ***More than 20 mile outdoor range with omni-directional antennas***
- ***3.3 volt operation, low power consumption***
- ***Small size, light weight***
- ***Certified for unlicensed operation in the USA and Canada***

Benefits:

- ***Suitable for point-to-point and point-to-multipoint networks***
- ***Supports large number of nodes***
- ***High immunity to interference and multipath fading***
- ***Supports long range applications***
- ***Easy to integrate***
- ***Ideal for battery powered devices***
- ***RoHS Compliant***

WIT910M transceiver modules are designed to transmit serial data using highly robust 900 MHz frequency hopping spread spectrum (FHSS) technology. WIT910M modules employ RFM's beacon-synchronized TDMA at an RF data rate of 172.8 kb/s to achieve low transmission latency. WIT910M transceivers are suitable for both point-to-point and point-to-multipoint networks. FHSS technology provides strong immunity to both interference and multipath fading. The small size, light weight and low power consumption of these transceiver modules make them suitable for a wide variety of applications. WIT910M modules are certified for unlicensed operation in the USA, Canada, Australia, Israel and New Zeland.

General Specifications

RF Frequency	902 to 927 MHz
Radio Certifications	FCC Part 15, Canadian RSS-210
Operating Range	Indoor - 1000 ft, Outdoor - more than 20 miles with omni-directional antenna
Network Topologies	Point-to-point and point-to-multipoint (star)
Network Protocol	Dynamically assigned TDMA
Error Detection and Correction	24-bit CRC and ARQ
Serial Data Interface	Asynchronous (UART) CMOS signals, 3.3 V, 5 V tolerant
Serial Data Rate	up to 115.2 kb/s, software selectable
Channel Data Rate	172.8 kb/s
Number of Frequency Channels	54
RF Bandwidth	460 kHz
Transmit Power Output	10, 20, 27 or 29 dBm, software selectable
Receiver Sensitivity	-103 dBm for 10-5 BER
Supply voltage	3.3 to 10 V for up to 27 dBm transmit power, 5 to 10 V for 29 dBm transmit power
Current Consumption 29 dBm Transmit Power, 57.6 kb/s Serial Data Rate	Remote Operation: Sleep 250 µA; Standby 43 mA; Receive 100 mA; Transmit 800 mA Base Station Operation: Receive 125 mA; Transmit 800 mA
Size	80.2 x 46.5 x 8.6 mm
Weight	35 g
Operating Temperature	-40 C to 70 C
Humidity	20% to 90% (non-condensing)

Long Operating Range
With 29 dBm of transmit power and a receive sensitivity of -103 dBm, the WIT910M can achieve ranges in excess of 20 miles using 3 dBi omni-directional antennas. When long range isn't needed, the WIT910M, measuring just 80.2 x 46.5 x 8.6 mm and weighing just 35 grams, is a powerful performer at low power, consuming only 100 mA at 3.3 volts. With the same size and mounting dimensions of the industry-leading WIT2410M4G module, the WIT910M can be used in place of the WIT2410M4G in existing designs, creating a 900 MHz product with little development effort.

Reliable
The WIT910M provides both reliable communication and reliable operation. Using robust frequency hopping spread spectrum technology, the WIT910M provides immunity to jamming as well as immunity to multipath fading. Using a 24-bit CRC for error detection, automatic retransmit request (ARQ) and a 512 byte data buffer, error-free transparent communication is automatic. Built-in data scrambling adds a measure of security. Reliable operation is assured through RFM's stringent QA processes. All WIT910Ms are manufactured in an ISO9000 certified facility.

Simple
Simple to integrate and use, the WIT910M's default parameter settings work for most applications. For other applications, software control makes changing parameter settings easy. The WIT910M, with its small size and low power consumption, is simple to integrate into your product. The WIT910M's RS-232 style interface with standard 3.3 volt CMOS signal levels makes integration easy. Since WIT910M modules are certified for license free operation in the USA and Canada, your WIT910M based product does not have to repeat radio regulatory approval.

Versatile
WIT910M operating parameters are configurable under software control. Even the transmitter power level can be selected using a straight-forward command set. Both point-to-point and point-to-multipoint modes are supported. Baud rates from 1.2 to 115.2 kb/s are provided for serial communication between a WIT910M and its host.

Connector Pinout

Pin	Signal	Type	Description
1	Gnd	-	Signal and chassis ground
2	TxD	Input	Data input to be transmitted
3	RxD	Output	Received data output
4	CFG	Input	Configuration select, used to switch radio between data and control mode
5	RTS	Input	Request to send input, used for receive flow control by the host
6	Sleep/DTR	Input	Module sleep/DTR input, sleep is active high
7	DCD	Output	Data carrier detect, indicates FHSS synchronization on remotes
8	CTS	Output	Clear to send output, used for receive flow control by the radio
10	Power Down	Input	Low power mode input, active low
16	Vcc		Positive supply - minimum 3.3 V, 5 V minimum for 29 dBm transmit power, maximum 10.0 V

Physical Specifications - dimensions in inches (mm)