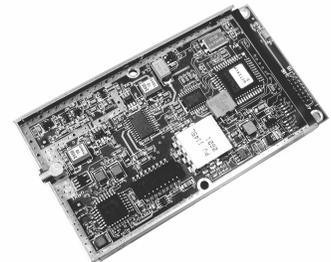




WIT2492

2.4 GHz FHSS Transceiver Module



Shown with shield removed

Features:

- *Fast wireless serial data transmission*
- *Robust 2.4 GHz frequency hopping spread spectrum technology*
- *More than 1/2 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, Canada and Europe*

Benefits:

- *High immunity to interference and multipath fading*
- *Suitable for point-to-point and point-to-multipoint networks*
- *Worldwide license-free operation*
- *Easy to integrate*
- *Efficient in battery powered applications*
- *RoHS Compliant*

WIT2492 transceiver modules are designed to transmit serial data using highly robust, low latency 2.4 GHz frequency hopping spread spectrum (FHSS) technology. WIT2492 modules employ RFM's patented beacon-synchronized TDMA at an RF data rate of 921.6 kb/s, and can simultaneously support up to five continuously transmitting remotes. WIT2492 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 the WIT2492 makes it suitable for a wide variety of applications. WIT2492 modules are certified for unlicensed operation in the USA, Canada and Europe.

Fast and Versatile

WIT2492 modules transmit at an RF data rate of 921.6 kb/s using beacon-synchronized TDMA to achieve very low transmission latency in point-to-point cable replacement applications or point-to-multipoint (star) network applications. Serial communications between a WIT2492 module and its host can run at up to 460.8 kb/s to further speed data communication.

Efficient Battery Operation

With +18 dBm of transmit power and a receive sensitivity of -90 dBm, the WIT2492 can achieve ranges in excess of 1/2 miles using 3 dBi omni-directional antennas. The WIT2492, measuring just 80.2 x 46.5 x 8.6 mm and weighing only 35 grams, is a powerful performer at low power. Consuming only 40 mA average current while streaming data continuously, WIT2492 remote units are ideal for lightweight battery powered applications.

Reliable

The WIT2492 provides both reliable communications and reliable operation. The frequency hopping spread spectrum technology used by the WIT2492 resists jamming by in-band signals and minimizes the effects of multipath fading. Using a 24-bit CRC for error detection and automatic retransmit request (ARQ), error-free communication is automatic. A network lockout key provides security from eavesdropping. Reliable operation is assured through RFM's stringent QA processes. All WIT2492s are manufactured in an ISO9000 certified facility.

Simple

The WIT2492, with its small size and low power consumption, is simple to integrate into your product. The WIT2492's RS-232 style interface with standard 3.3 volt CMOS signal levels makes integration easy. Since WIT2492 modules are certified for license free operation, WIT2492 based product does not have to repeat radio regulatory approval.

General Specifications

RF Frequency	2400 to 2483.5 MHz					
Radio Certifications	FCC Part 15, Canadian RSS-210 and European ETS300 328					
Operating Range	Indoor: 300 to 700 ft, Outdoor - more than 1/2 mile with omni-directional antenna					
Network Topologies	Point-to-point and point-to-multipoint (star)					
Network Protocol	Low latency 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	9.6 to 460.8 kb/s, software selectable					
Channel Data Rate	921.6 kb/s					
Number of Frequency Channels	43					
Transmit Power Output	+8 or +18 dBm, software selectable					
Receiver Sensitivity	-90 dBm for 10 ⁻⁵ BER					
RF Bandwidth	1.5 MHz					
Supply voltage	3.3 to 10 V					
Current Consumption 18 dBm Transmit Power, 115.2 kb/s Serial Data Rate	Remote Operation:	Sleep Standby	50 μ A 22 mA Typical 40 mA Peak (TX)	Base Station Operation:	Continuous Peak (TX)	90 mA 100 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)					

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

Physical Specifications - dimensions in inches (mm)

