



WIT2410M4G WIT2410S4G

FHSS Transceiver Modules

Features:

- **High speed, low latency wireless serial data transmission**
- **Robust 2.4 GHz frequency hopping spread spectrum technology**
- **3.3 volt operation, low power consumption**
- **Small size, light weight**
- **Certified for unlicensed operation in the USA, Canada and Europe**

Benefits:

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

WIT2410 transceiver modules are designed to transmit serial data using highly robust 2.4 GHz frequency hopping spread spectrum (FHSS) technology. WIT2410 modules employ RFM's beacon-synchronized TDMA at an RF data rate of 460.8 kb/s to achieve very low transmission latency. WIT2410 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. WIT2410 modules are certified for unlicensed operation in the USA, Canada and Europe.



Shown with shield removed

General Specifications

RF Frequency Range	2400 to 2483 MHz					
Radio Certifications	FCC Part 15.247, Canadian RSS-210 and European ETS 300.328					
Operating Range	Indoor - 450 to 900 ft, outdoor - 3000 ft with dipole antenna, more than 6 miles with gain antennas					
Network Topologies	Point-to-point and point-to-multipoint (star)					
Network Protocol	Dynamically assigned TDMA with support for up to 62 remotes					
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 230.4 kb/s, software selectable					
RF Data Rate	460.8 kb/s					
Number of Frequency Channels	75					
RF Bandwidth	750 kHz					
Transmit Power Output	10 or 18 dBm, software selectable					
Receiver Sensitivity	-93 dBm for 10-5 BER					
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					
WIT2410M4G I/O Pin Direction	I/O connector pins point down (PCB interface)					
WIT2410S4G I/O Pin Direction	I/O connector pins point up (cable connector interface)					
Operating Temperature	-40 C to +70 C					
Humidity	20% to 90% (non-condensing)					

Fast

WIT2410 modules transmit at an RF data rate of 460.8 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 WIT2410 module and its host can run at up to 230.4 kb/s to further speed data communication.

Reliable

WIT2410 modules provide both reliable communication and reliable operation. Using highly robust frequency hopping spread spectrum technology, WIT2410 modules provide strong immunity to interference and multipath fading. Using a 24-bit CRC for error detection, automatic retransmit request (ARQ) and a 3K 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 WIT2410 modules are manufactured in an ISO9000 certified facility.

Simple

Simple to integrate and use, the WIT2410's default parameter settings work for most applications. For other applications, software control makes changing parameter settings easy. The WIT2410, with its small size and low power consumption, is simple to integrate into your product. The WIT2410's RS-232 style interface with standard 3.3 volt CMOS signal levels makes integration easy. Since WIT2410 modules are certified for license free operation in the USA, Canada and Europe, your WIT2410 based product does not have to repeat radio regulatory approval.

Versatile

WIT2410 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 230.4 kb/s are provided for serial communication between a WIT2410 and its host. A number of non-standard baud rates are supported as well. Measuring just 80.2 x 46.5 x 8.6 mm and weighing 35 grams, the WIT2410 can be integrated into fixed, portable or handheld devices with little impact on the size and weight. The low 3.3 volt operating voltage and 22 mA standby current makes the WIT2410 well suited to battery operation.

Connector I/O Pins

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 successful synchronization on remotes
8	CTS	Output	Clear to send output, used for receive flow control by the radio
10	Reset	Input	Active low module reset input
16	Vcc	Power	Positive supply - minimum 3.3 V, nominal 5.0 V, maximum 10.0 V

Physical Specifications - dimensions in inches (mm)

WIT2410M4G I/O pins point down for PCB interface as shown below.
WIT2410S4G I/O pins point up for cable connector interface.

