



WIT2411D

2.4 GHz High-Speed FHSS Transceiver Module

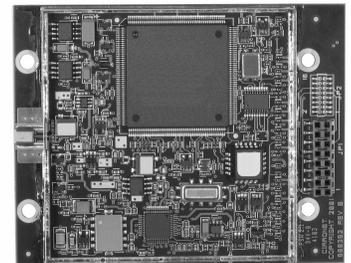
Features:

- **Very 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**

WIT2411D transceiver modules are designed to transmit serial data using highly robust 2.4 GHz frequency hopping spread spectrum (FHSS) technology. WIT2411D modules employ RFM's beacon-synchronized TDMA at an RF data rate of 1.2288 Mb/s to achieve very high data throughput and very low transmission latency. WIT2411D 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. WIT2411D modules are certified for unlicensed operation in the USA, Canada and Europe.



Shown with shield removed

General Specifications

RF Frequency Range	2401 to 2480 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					
Error Detection and Correction	24-bit CRC and ARQ					
Serial Data Interface	Asynchronous (UART) CMOS signals, 3.3 V, 5 V tolerant					
I/O Data Rate	115.2 and 921.6 kb/s, software selectable					
Channel Data Rate	1.2288 Mb/s					
Number of Frequency Channels	43					
RF Bandwidth	1.55 MHz					
Transmit Power Output	10 or 18 dBm, software selectable					
Receiver Sensitivity	-88 dBm for 10-5 BER					
Supply voltage	3.3 to 10 V					
Current Consumption 18 dBm Transmit Power, 921.6 kb/s Serial Data Rate	Remote Operation:	Sleep Receive	100 mA 175 mA	Base Station Operation:	Receive Transmit	200 mA 245 mA
Size	88.9 x 70.0 x 10.5 mm					
Weight	48 g					
Operating Temperature	-30 C to +70 C					
Humidity	20% to 90% (non-condensing)					

High Speed

WIT2411D modules transmit at an RF data rate of 1.228 Mb/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 WIT2411D module and its host can run at up to 921.6 kb/s to further speed data communication.

Reliable

WIT2411D modules provide both reliable communication and reliable operation. Using highly robust frequency hopping spread spectrum technology, WIT2411D modules provide strong immunity to interference and multipath fading. Using a 24-bit CRC for error detection, automatic retransmit request (ARQ) and a 12K 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 WIT2411D modules are manufactured in an ISO9000 certified facility.

Simple

Simple to integrate and use, the WIT2411D's default parameter settings work for most applications. For other applications, software control makes changing parameter settings easy. The WIT2411D, with its small size and low power consumption, is simple to integrate into your product. The WIT2411D's RS-232 style interface with standard 3.3 volt CMOS signal levels makes integration easy. Since WIT2411D modules are certified for license free operation in the USA, Canada and Europe, your WIT2411D based product does not have to repeat radio regulatory approval.

Versatile

WIT2411D 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. Two baud rates, 115.2 and 921.6 kb/s are provided for serial communication between a WIT2411D and its host. Measuring just 88.9 x 70.0 x 10.5 mm and weighing 48 grams, the WIT2411D 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 100 mA standby current makes the WIT2411D suited to low power applications.

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 successful synchronization on remotes
8	CTS	Output	Clear to send output, used for receive flow control by the module
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 - dimension in mm

