XTend® OEM RF Modules

1 Watt/900 MHz OEM RF Modules

Long-range wireless modules enable communication from UART serial data with peer-to-peer, point-to-multipoint, repeater and DigiMesh® networking topologies.

Overview

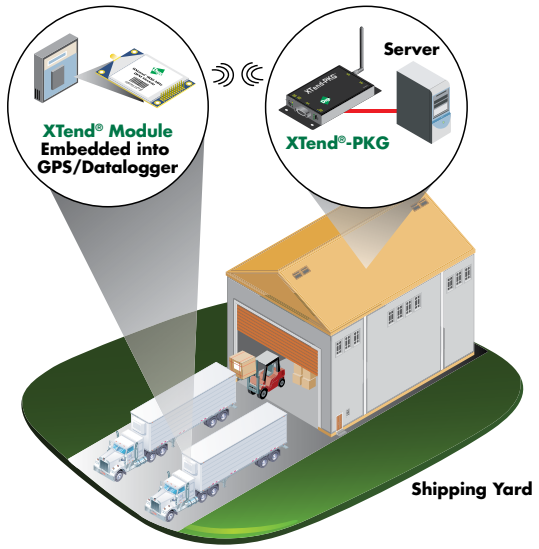
The XTend OEM RF module provides unprecedented range in a low-cost wireless data solution. The module is easy to use, requires minimal power, provides reliable delivery of critical data between devices, and its small form factor saves valuable board space.

The XTend module utilizes FHSS (Frequency Hopping Spread Spectrum) agility to avoid interference by hopping to a new frequency on every packet transmission or re-transmission. Its transmit power is software adjustable from 1 mW to 1 W—the maximum output power allowable by governments that use 900 MHz as a license-free band. The XTend module is approved for use in the United States, Canada, Australia and other countries (contact Digi for a complete listing).

Innovations stamped in its design enable the XTend module to supply two- to eight-times the range of other modules operating within the unlicensed 900 MHz frequency band. The range gained by OEMs and integrators is due to proprietary technologies embedded into each module, including superior RX (receiver) sensitivity, interference immunity, modulation/demodulation techniques, and others.

No configuration is necessary for out-of-the-box RF communication. The XTend module's default configuration supports a wide range of data system applications. Advanced configurations can be implemented using simple AT or binary commands.

Application Highlight



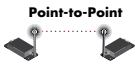
Features/Benefits

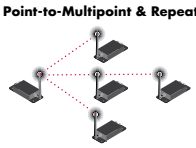
- Indoor/urban range up to 3000 feet
- Outdoor line-of-sight range up to 40 miles (with high gain antenna)
- Outstanding receiver sensitivity (-110 dBm @ 9600 bps)
- Peer-to-peer, point-to-multipoint, repeater and DigiMesh® networking topologies
- Adjustable power output from 1 mW to 1 W; up to 4 W EIRP (with 6 dBi antenna)
- Low power consumption for power-sensitive applications
  - Pin, serial port and cyclic sleep modes available
- Fully interoperable with Digi's other Drop-in Networking products, including extenders and XTend-PKG modems
- RPSMA and MMCX antenna options

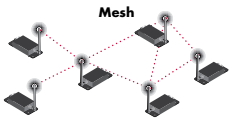
Platform	XTend® OEM RF Module
Performance	
Frequency Range	ISM 902 – 928 MHz
Indoor/Urban Range	Up to 3000 feet (900 m) with 2.1 dB dipole antenna
Outdoor RF Line-of-sight Range	Up to 40 miles (64 km) with high gain antenna; Up to 14 miles (22 km) with 2.1 dB dipole antenna
Transmit Power (Software Selectable)	1 mW - 1 W (0 - 30 dBm)
Interface Data Rate	1,200 - 230,400 bps (including non-standard baud rates)
Receiver Sensitivity (1% PER)	-110 dBm (@9,600 bps throughput data rate), -100 dBm (@115,200 bps)
Throughput Data Rate (Software Selectable)	9,600 or 115,200 bps
RF Data Rate	10,000 bps (@9,600 bps throughput data rate), 125,000 bps (@115,200 bps)
Networking and Security	
Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)
Modulation	FSK (Frequency Shift Keying)
Supported Network Topologies	Point-to-Point, Point-to-Multipoint, Repeater, Mesh (Mesh networking and 256-bit AES Encryption capabilities are currently only available in separate releases)
Channel Capacity	10 hop sequences share 50 frequencies
Encryption	256-bit / 128-bit AES
Power Requirements	
Supply Voltage	2.8 – 5.5 VDC
RX Current	80 mA
Transmit Current	See chart below
Shutdown Mode Power Down	5 µA typical
Pin Sleep Power Down	147 µA
Cyclic Sleep (Idle Current)	0.3 – 0.8 mA (16 sec cyclic sleep)
Environmental	
Operating Temperature	-40° C to 85° C (Industrial)
Certifications	
FCC ID (U.S. Certification Part 15.247)	OUR-9XTEND
IC ID (Canada)	4214A-9XTEND
C-Tick (Australia)	Approved (XTH9)

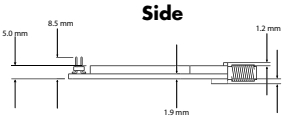
Power Requirements (Relative to Each Transmit Power Output Option)

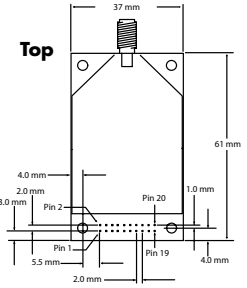
Transmit Power Output	1 mW	10 mW	100 mW	500 mW	1 W
Supply Voltage	2.8 - 5.5 VDC			3.0 - 5.5 VDC	4.75 - 5.5 VDC
Transmit Current (5V) Typical	110 mA	140 mA	270 mA	500 mA	730 mA
Transmit Current (3.3V) Typical	90 mA	100 mA	260 mA	600 mA	N/A











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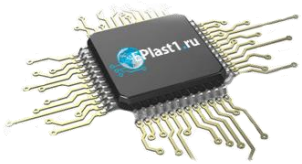

Как с нами связаться

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