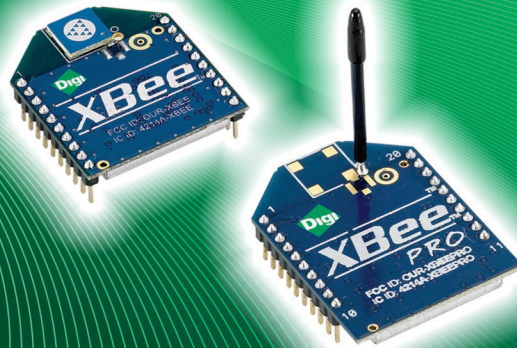


XBee® & XBee-PRO® DigiMesh™ 2.4

Mesh Networking Embedded RF Modules for OEMs

XBee and XBee-PRO DigiMesh 2.4 modules deliver wireless connectivity using the innovative and easy-to-deploy DigiMesh protocol.



Overview

XBee and XBee-PRO DigiMesh 2.4 embedded RF modules provide wireless connectivity to end-point devices using a globally deployable 2.4 GHz transceiver. These modules use the DigiMesh networking protocol. This innovative, peer-to-peer network offers users added network stability through self-healing, dense network operation and support for sleeping routers, extending the operational life of battery dependent networks.

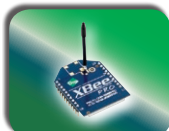
XBee modules are ideal for low-power, low-cost applications. XBee-PRO modules are power-amplified versions of XBee modules for extended-range applications. Products in the XBee family are easy to use, share a common hardware footprint, and are fully interoperable with other XBee products utilizing the same technology. They are available in a variety of different protocols to suit different applications, enabling users to substitute one XBee module for another with minimal development time and risk.

Digi's unsurpassed offering of Drop-in Networking products provide users with seamless communication between devices. XBee adapters deliver wireless connectivity to electronic devices in wired networks. XBee XTenders provide long-range backhaul and data conversion between 2.4 GHz and 900MHz. ConnectPort™ X gateways enable users to access and configure remote devices in a network.

Related Products



Gateways



Modules



Adapters



Dev Kits

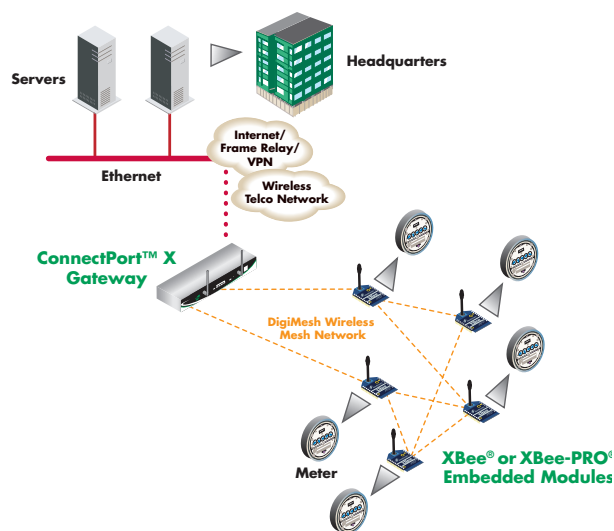


Network Extenders



Sensors

Application Highlight



Features/Benefits

- No configuration needed for out-of-the-box RF communications
- Common XBee footprint for a variety of RF modules
- Simple topology to deploy and grow
- 2.4 GHz for worldwide deployment
- Low-power XBee or extended-range XBee-PRO (pin/over-the-air compatible)
- Multiple antenna options
- Outdoor RF line-of-sight range up to 1 mile (1.6 km) with high-gain antennas
- DigiMesh peer-to-peer mesh networking protocol
 - Self-healing and discovery for network stability
 - Sleeping routers supported for long battery life



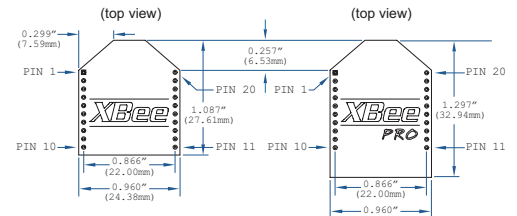
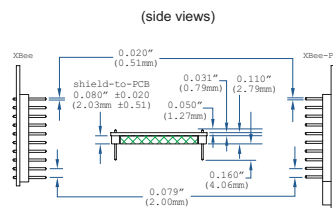
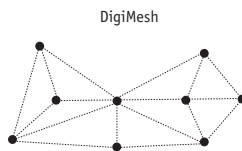
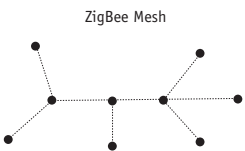
Platform

XBee® DigiMesh™ 2.4

XBee-PRO® DigiMesh™ 2.4

XBee-PRO® DigiMesh™ 2.4 (Int'l)

Performance			
RF Data Rate	250 Kbps	250 Kbps	250 Kbps
Indoor/Urban Range	100 ft (30 m)	300 ft (90 m)	200 ft (60 m)
Outdoor/RF Line-of-Sight Range	300 ft (90 m)	1 mile (1.6 km)	2500 ft (750 m)
Transmit Power	1 mW (+0 dBm)	63 mW (+18 dBm)	10 mW (+10 dBm)
Receiver Sensitivity (1% PER)	-92 dBm	-100 dBm	-100 dBm
Features			
Serial Data Interface	3.3V CMOS serial UART	3.3V CMOS serial UART	3.3V CMOS serial UART
Configuration Method	AT & API	AT & API	AT & API
Frequency Band	2.4 GHz ISM	2.4 GHz ISM	2.4 GHz ISM
Interference Immunity	DSSS	DSSS	DSSS
Serial Data Rate	Up to 115.2 Kbps	Up to 115.2 Kbps	Up to 115.2 Kbps
ADC Inputs	Coming in future firmware releases	Coming in future firmware releases	Coming in future firmware releases
Digital I/O	Coming in future firmware releases	Coming in future firmware releases	Coming in future firmware releases
Antenna Options	Wired whip, chip antenna, U.FL connector, RPSMA connector	Wired whip, chip antenna, U.FL connector, RPSMA connector	Wired whip, chip antenna, U.FL connector, RPSMA connector
Networking & Security			
Encryption	Coming in future firmware releases	Coming in future firmware releases	Coming in future firmware releases
Reliable Packet Delivery	Retries & Acknowledgements	Retries & Acknowledgements	Retries & Acknowledgements
Addressing Options	PAN ID, channel, 64-bit address	PAN ID, channel, 64-bit address	PAN ID, channel, 64-bit address
Channels	16	12	12
Power Requirements			
Supply Voltage	2.8 – 3.4VDC	2.8 – 3.4VDC	2.8 – 3.4VDC
Peak Current	45 mA	250 mA (Wire, Chip, U.FL), 340 mA (RPSMA)	150 mA (Wire, Chip, U.FL), 180 mA (RPSMA)
Receive Current	50 mA	55 mA	55 mA
Power-Down Current	<10 uA	<10 uA	<10 uA
Regulatory Approvals			
FCC (USA)	Yes	Yes	Yes
IC (Canada)	Yes	Yes	Yes
ETSI (Europe)	Yes	Yes	Yes
C-TICK (Australia)	Yes	Yes	Yes
Telec (Japan)	Yes	No	Yes



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