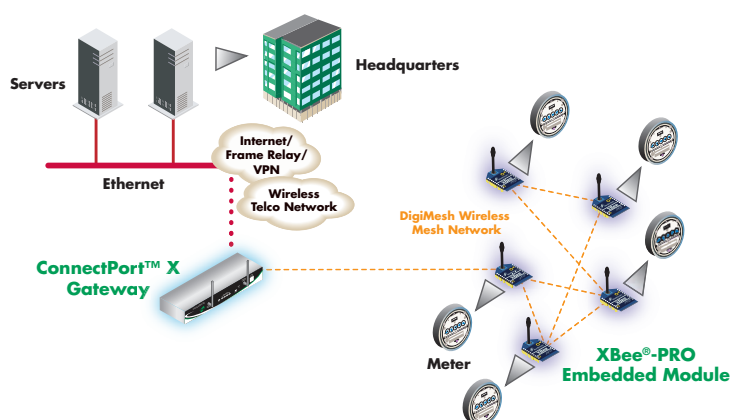


XBee® & XBee-PRO® DigiMesh™ 2.4

Mesh Networking Embedded RF Modules for OEMs

XBee and XBee-PRO DigiMesh 2.4 modules provide end-point connectivity using a peer-to-peer mesh architecture in a globally deployable 2.4 GHz solution.



Features/Benefits

- DigiMesh peer-to-peer mesh
- Support for sleeping routers for long battery life
- Advanced mesh networking including self healing, self discovery
- Over-the-air configuration
- Up to 1 mile/1.6 km RF LOS range
- Available in low-power XBee or extended-range XBee-PRO (pin/over-the-air compatible)
- Interoperable with Digi's Drop-in Networking products utilizing XBee-PRO DigiMesh 2.4 technology, including device adapters, network extenders and gateways
- Common XBee footprint for a variety of RF modules
- Multiple antenna options
- Industrial temperature rating (-40° to +85° C)

Overview

XBee and XBee-PRO DigiMesh 2.4 embedded RF modules combine easy-to-use mesh networking with a globally deployable 2.4 GHz transceiver. Low-cost XBee and extended-range XBee-PRO modules leverage the peer-to-peer architecture of DigiMesh to simplify mesh networks, while providing advanced networking features such as support for sleeping routers and dense network operation. This allows OEMs to greatly extend the operational life of battery-dependent networks and ensure network stability.

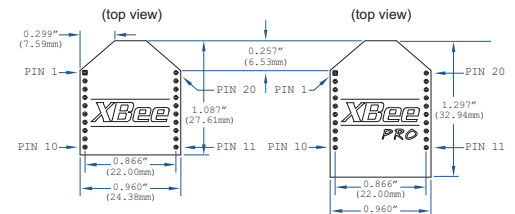
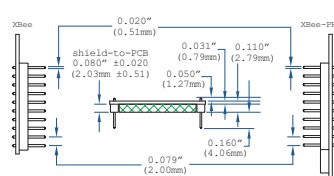
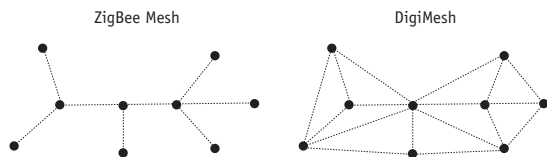
XBee Protocols

XBee embedded RF modules are available with different protocols to suit a variety of applications and networking topologies. Supported protocols include IEEE 802.15.4, the ZigBee PRO Feature Set, proprietary long range and DigiMesh. XBee modules share a common hardware footprint and are modeled after a common software API. Once deployed into an application, OEMs can rapidly change from one protocol to another with reduced time and development risk.

Drop-in Networking Compatibility

XBee embedded RF modules are compatible with Digi's Drop-in Networking adapters, network extenders and gateways that use the same protocol. This allows OEMs to embed XBee solutions into an application and have seamless communication to other devices using USB, RS-232, RS-485, digital/analog I/O, Ethernet, Wi-Fi and cellular IP with plug-and-play ease.

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



Please visit www.digi.com for part numbers.

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Digi International

11001 Bren Road E.
Minnetonka, MN 55343
U.S.A.
PH: 877-912-3444
952-912-3444
FX: 952-912-4952
email: info@digi.com

Digi International France

31 rue des Poissonniers
92200 Neuilly sur Seine
PH: +33-1-55-61-98-98
FX: +33-1-55-61-98-99
www.digi.fr

Digi International KK

NES Building South 8F
22-14 Sakuragaoka-cho,
Shibuya-ku
Tokyo 150-0031, Japan
PH: +81-3-5428-0261
FX: +81-3-5428-0262
www.digi-intl.co.jp

Digi International (HK) Limited

Unit 3206 - 08A, 32/F,
AIA Tower
183 Electric Road
North Point, Hong Kong
PH: +852-2833-1008
FX: +852-2572-9989
www.digi.cn

Digi International, the leader in device networking for business, develops reliable products and technologies to connect and securely manage local or remote electronic devices over the network or via the web. With over 20 million ports shipped worldwide since 1985, Digi offers the highest levels of performance, flexibility and quality.

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