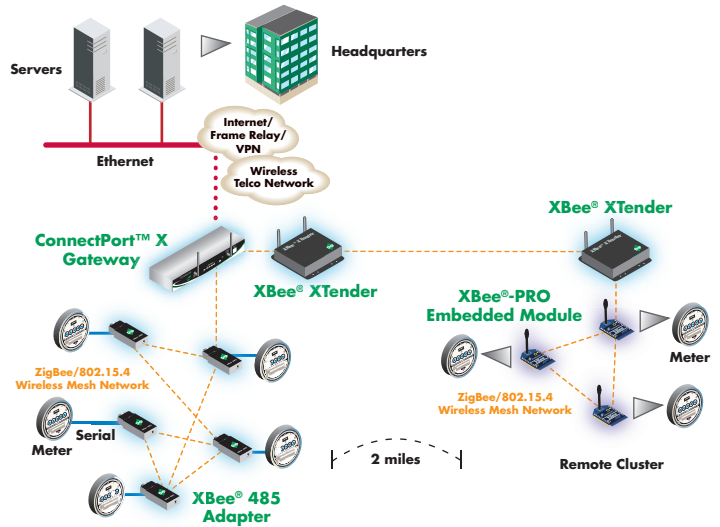


# XBee® & XBee-PRO® ZB

ZigBee® Embedded RF Modules for OEMs

A critical component to Drop-in Networking, XBee and XBee-PRO ZB embedded RF modules deliver low-cost and low-power wireless end-point connectivity using the ZigBee PRO Feature Set.



## Features/Benefits

- ZigBee PRO Feature Set
- Advanced mesh networking
- Over-the-air firmware updates
- ZigBee Certification coming soon
- Low-power/low-cost XBee modules
- Extended-range XBee-PRO modules
- 2.4 GHz for worldwide deployment
- Fully interoperable with other Digi Drop-in Networking products, including gateways, device adapters and extenders
- Common XBee footprint for a variety of RF modules
- Multiple antenna options
- Industrial temperature rating (-40° C to 85° C)

## Overview

XBee and XBee-PRO ZB are the most advanced ZigBee modules available in the XBee footprint and are ideal for deployment in ZigBee networks. Available in the low-cost XBee or extended-range XBee-PRO, and utilizing the ZigBee PRO Feature Set, these embedded RF modules are interoperable with ZigBee PRO Feature Set devices from other vendors. With advanced mesh networking functionality, XBee and XBee-PRO ZB modules improve data traffic management, allow for greater node density, and provide OEMs with the ability to change firmware remotely with over-the-air updates.

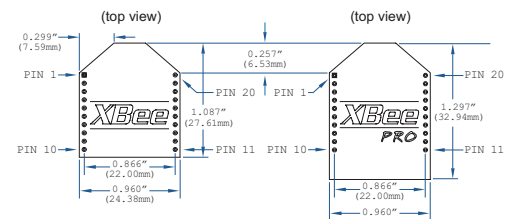
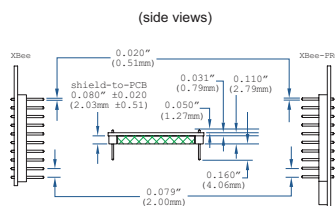
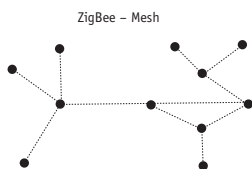
### XBee Protocols

XBee embedded 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 embedded RF 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 minimal 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 I/O, analog I/O, Ethernet, Wi-Fi and even cellular connections with plug-and-play ease.

Platform	XBee® ZB	XBee-PRO® ZB
<b>Performance</b>		
RF Data Rate	250 Kbps	250 Kbps
Indoor/Urban Range	133 ft (40 m)	300 ft (90 m)
Outdoor/RF Line-of-Sight Range	400 ft (120 m)	1 mi (1.6 km)
Transmit Power	1.25 mW (+1 dBm) / 2 mW (+3 dBm) boost mode	50 mW (+17 dBm) / Int'l 10 mW (+10 dBm)
Receiver Sensitivity (1% PER)	-96 dBm in boost mode	-102 dBm
<b>Features</b>		
Serial Data Interface	3.3V CMOS UART	3.3V CMOS UART
Configuration Method	API or AT commands, local or over-the-air	API or AT commands, local or over-the-air
Frequency Band	2.4 GHz	2.4 GHz
Interference Immunity	DSSS (Direct Sequence Spread Spectrum)	DSSS (Direct Sequence Spread Spectrum)
Serial Data Rate	1200 bps - 1 Mbps	1200 bps - 1 Mbps
ADC Inputs	(4) 10-bit ADC inputs	(4) 10-bit ADC inputs
Digital I/O	10	10
Antenna Options	Chip, Wire Whip, U.FL, RPSMA	Chip, Wire Whip, U.FL, RPSMA
<b>Networking &amp; Security</b>		
Encryption	128-bit AES	128-bit AES
Reliable Packet Delivery	Retries/Acknowledgments	Retries/Acknowledgments
IDs and Channels	PAN ID, 64-bit IEEE MAC, 16 channels	PAN ID, 64-bit IEEE MAC, 13 channels
<b>Power Requirements</b>		
Supply Voltage	2.1 - 3.6VDC	3.0 - 3.4VDC
Transmit Current	35 mA / 45 mA boost mode @ 3.3VDC	295 mA @ 3.3VDC
Receive Current	38 mA / 40 mA boost mode @ 3.3VDC	45 mA @ 3.3VDC
Power-Down Current	<1 uA @ 25° C	<10 uA @ 25° C
<b>Regulatory Approvals</b>		
FCC (USA)	Yes	Yes
IC (Canada)	Yes	Yes
ETSI (Europe)	Yes	Yes (int'l unit only)
C-TICK (Australia)	Yes	Pending
Telec (Japan)	Yes	Pending (int'l unit only)



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