

# XBee® & XBee-PRO® ZB

ZigBee® Embedded RF Modules for OEMs

XBee and XBee-PRO ZB embedded RF modules deliver low-cost, low-power wireless connectivity using the ZigBee PRO Feature Set.



## Overview

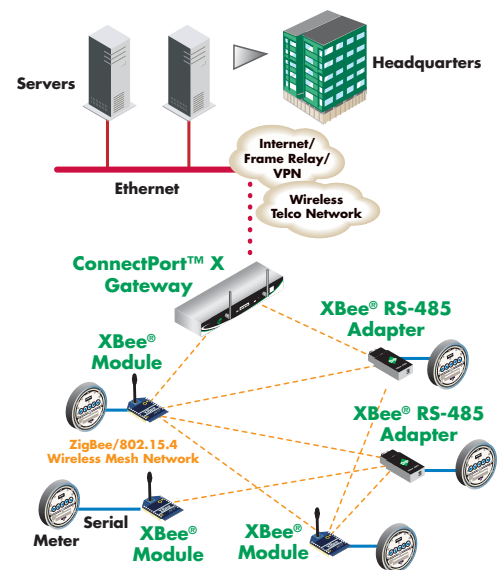
XBee and XBee-PRO ZB embedded RF modules provide wireless connectivity to end-point devices in ZigBee mesh networks. Utilizing the ZigBee PRO Feature Set, these modules are interoperable with other ZigBee devices, including devices from other vendors\*. XBee users can have their ZigBee network up-and-running in a matter of minutes, without configuration or additional development.

XBee modules are ideal for low-power, low-cost applications. XBee-PRO modules are power-amplified, extended-range versions of XBee modules. Products in the XBee family are easy to use, share a common hardware footprint, and are interoperable with other XBee products. Available in a variety of protocols for different applications, one XBee can be substituted for another with minimal development time and risk.

Digi's unsurpassed offering of Drop-in Networking products provides seamless communication between devices. XBee adapters provide wireless connectivity to devices in wired networks. XBee wall routers extend the range and strength of a ZigBee network. ConnectPort™ X gateways enable users to access remote devices in a network.

\*Interoperability requires the ZigBee Feature Set or ZigBee PRO Feature Set to be deployed on all devices. Contact Digi Support for details.

## Application Highlight



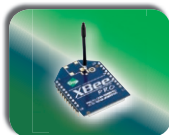
## Features/Benefits

- Interoperability with ZigBee devices from other vendors\*
- No configuration needed for out-of-the-box RF communications
- Advanced configuration options available via simple AT or API commands
- Common XBee footprint for a variety of RF modules
- Outdoor RF line-of-sight range up to 1 mile (1.6 km)
- ZigBee mesh networking protocol
  - Improved data traffic management
  - Remote firmware updates
  - Self-healing and discovery for network stability

## Related Products



Gateways



Modules



Adapters



Development Kits



Network Extenders



Sensors



# Platform

# XBee® ZB

# XBee-PRO® ZB

## Performance

RF Data Rate	250 Kbps	
Indoor/Urban Range	133 ft (40 m)	300 ft (90 m)
Outdoor/RF Line-of-Sight Range	400 ft (120 m)	1 mile (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

## Features

Serial Data Interface	3.3V CMOS UART	
Configuration Method	API or AT commands, local or over-the-air	
Frequency Band	2.4 GHz	
Interference Immunity	DSSS (Direct Sequence Spread Spectrum)	
Serial Data Rate	1200 bps - 1 Mbps	
ADC Inputs	(4) 10-bit ADC inputs	
Digital I/O	10	
Antenna Options	Chip, Wire Whip, U.FL, RPSMA	

## Networking & Security

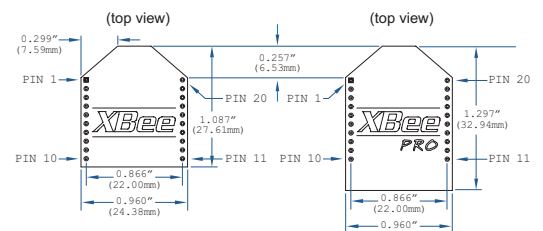
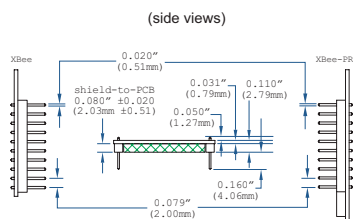
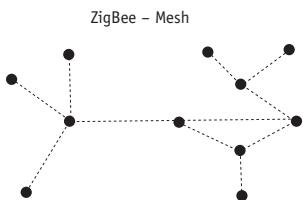
Encryption	128-bit AES	
Reliable Packet Delivery	Retries/Acknowledgments	
IDs and Channels	PAN ID, 64-bit IEEE MAC, 16 channels	PAN ID, 64-bit IEEE MAC, 13 channels

## Power Requirements

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

## Regulatory Approvals

FCC (USA)	Yes	
IC (Canada)	Yes	
ETSI (Europe)	Yes	Yes (int'l unit only)
C-TICK (Australia)	Yes	
Telec (Japan)	Yes	Yes (int'l unit only)



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