

XBee® and XBee-PRO® ZigBee

ZigBee® RF Modules for OEMs

Embedded ZigBee modules provide OEMs with a simple way to integrate mesh technology into their application.



Overview

XBee and XBee-PRO ZigBee RF modules provide cost-effective wireless connectivity to electronic devices. They are interoperable with other ZigBee PRO feature set devices, including devices from other vendors*.

XBee and XBee-PRO ZigBee modules are ideal for applications in the energy and controls markets where manufacturing efficiencies are critical. The Serial Peripheral Interface (SPI) provides a high-speed interface and optimizes integration with embedded microcontrollers, lowering development costs and reducing time to market. Features like binding and multicasting also allow for simple integration into a Home Automation device.

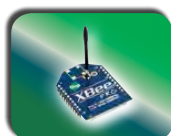
Products in the XBee family require no configuration or additional development. Programmable versions of the XBee and XBee-PRO ZigBee module make customizing applications easy. Programming directly on the module eliminates the need for a separate processor. Because the wireless software is isolated, applications can be developed with no risk to RF performance or security.

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

Related Products



XBee Gateways



Modules



Adapters



Development Kits

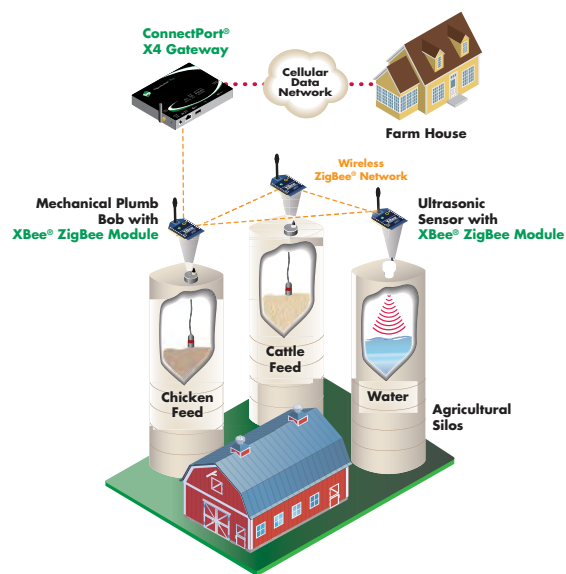


Network Extenders



Digi Remote Manager

Application Highlight



Features/Benefits

- Interoperable with other ZigBee compliant devices*
- Programmable versions with on-board microprocessor enable custom ZigBee application development
- Supports binding and multicasting, for easy integration into a Home Automation platform
- Through-Hole and Surface Mount form factors enable flexible design options
- 15 general-purpose I/O lines
- Link budgets of 110 dB for XBee and 119 dB for XBee-PRO ZB
- Industry leading sleep current of sub 1uA
- Firmware upgrades via UART, SPI or over the air



Platform	XBee® ZigBee		XBee-PRO® ZigBee	
	Standard	Programmable	Standard	Programmable
Performance				
Data Rate	RF 250 Kbps, Serial up to 1 Mbps			
Indoor/Urban Range	200 ft (60 m)		300 ft (90 m)	
Outdoor/RF Line-of-Sight Range	4000 ft (1200 m)		2 miles (3200 m)	
Transmit Power	3.1 mW (+5 dBm) / 6.3 mW(+8 dBm) boost mode		63 mW (+18 dBm)	
Receiver Sensitivity (1% PER)	-100 dBm / -102 dBm boost mode		-101 dBm	
Features				
Serial Data Interface	UART, SPI			
Configuration Method	API or AT commands, local or over-the-air			
Frequency Band	ISM 2.4 GHz			
Form Factor	Through-Hole, Surface Mount			
Interference Immunity	DSSS (Direct Sequence Spread Spectrum)			
ADC Inputs	(4) 10-bit ADC inputs			
Digital I/O	15			
Antenna Options	Through-Hole: PCB Antenna, U.FL Connector, RPSMA Connector, or Integrated Wire SMT: RF Pad, PCB Antenna, or U.FL Connector			
Operating Temperature	-40° C to +85° C			
Dimensions (L x W x H) and Weight	Through-Hole: 0.960 x 1.087 in (2.438 x 2.761 cm) SMT: 0.866 x 1.33 x 0.120 in (2.199 x 3.4 x 0.305 cm)		Through-Hole: 0.960 x 1.297 in (2.438 x 3.294 cm) SMT: 0.866 x 1.33 x 0.120 in (2.199 x 3.4 x 0.305 cm)	
Programmability				
Memory	N/A	32 KB Flash / 2 KB RAM	N/A	32 KB Flash / 2 KB RAM
CPU/Clock Speed	N/A	HCS08 / up to 50.33 MHz	N/A	HCS08 / up to 50.33 MHz
Networking and Security				
Protocol	ZigBee PRO 2007, HA-Ready with support for binding/multicasting			
Encryption	128-bit AES			
Reliable Packet Delivery	Retries/Acknowledgements			
IDs	PAN ID and addresses, cluster IDs and endpoints (optional)			
Channels	16 channels		15 channels	
Power Requirements				
Supply Voltage	2.1 to 3.6V		2.7 to 3.6V	
Transmit Current	33 mA @ 3.3 VDC / 45 mA boost mode	47 mA @ 3.3 VDC / 59 mA boost mode	120 mA @ 3.3 VDC	120 mA @ 3.3 VDC
Receive Current	28 mA @ 3.3 VDC / 31 mA boost mode	42 mA @ 3.3 VDC / 45 mA boost mode	31 mA @ 3.3 VDC	45 mA @ 3.3 VDC
Power-Down Current	<1 uA @ 25° C	1.5 uA @ 25° C	<1 uA @ 25° C	1.5 uA @ 25° C
Regulatory Approvals				
FCC, IC (North America)	Yes			
ETSI (Europe)	Yes		No	
C-TICK (Australia)	Yes			
TELEC (Japan)	Yes		No	

You can purchase with confidence knowing that Digi is always available to serve you with expert technical support and our industry leading warranty. For detailed information visit www.digi.com/support.

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