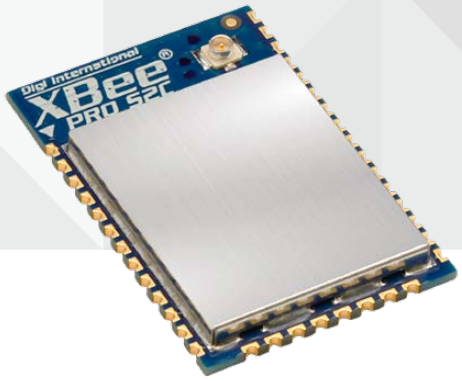
ZIGBEE
RF MODULES
FOR OEMS



DIGI XBEE-PRO ZIGBEE

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

Digi 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.

Digi XBee-PRO Zigbee modules are ideal for applications in the energy and controls markets where manufacturing efficiencies are critical.

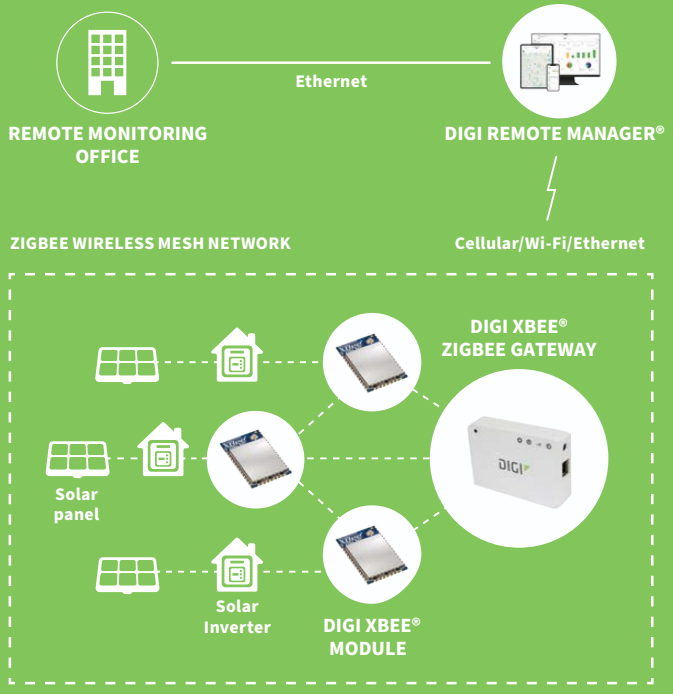
The Serial Peripheral Interface (SPI) provides a high-speed interface and optimizes integration with embedded microcontrollers, lowering development costs and reducing time to market.

Digi's Zigbee compatible module is based on the Ember EM35x (EM357 and EM3587) system on chip (SoC) radio ICs from Silicon Labs, utilizing 32-bit ARM® Cortex® M3 processor.

BENEFITS

- Surface mount form factors enable flexible design options
- Link budgets of 110 dB for Digi XBee and 119 dB for Digi XBee-PRO
- Industry-leading sleep current
- Firmware upgrades via UART, SPI or over the air (OTA)
- Turnkey development available from **Digi WDS**

APPLICATION EXAMPLE



RELATED PRODUCTS

Digi XBee® Gateways

Modules

Network Extenders

Development Kits

Digi Remote Manager®

SPECIFICATIONS	Digi XBee-PRO Zigbee
PERFORMANCE	
TRANSCEIVER CHIPSET	Silicon Labs EM357 SoC
DATA RATE	RF 250 Kbps, serial up to 1 Mbps
INDOOR/URBAN RANGE*	Up to 90 m (300 ft)
OUTDOOR/RF LINE-OF-SIGHT RANGE*	Up to 3200 m (2 miles)
TRANSMIT POWER	63 mW (+18 dBm)
RECEIVER SENSITIVITY (1% PER)	-101 dBm
FEATURES	
SERIAL DATA INTERFACE	UART, SPI
CONFIGURATION METHOD	API or AT commands, local or over-the-air (OTA)
FREQUENCY BAND	ISM 2.4 GHz
FORM FACTOR	Surface mount
INTERFERENCE IMMUNITY	DSSS (Direct Sequence Spread Spectrum)
ADC INPUTS	(4) 10-bit ADC inputs
DIGITAL I/O	15
ANTENNA OPTIONS	SMT: RF pad, PCB antenna, or U.FL connector
OPERATING TEMPERATURE	-40° C to 85° C (-40° F to 185° CF)
DIMENSIONS (L X W X H) AND WEIGHT	SMT: 2.199 x 3.4 x 0.305 cm (0.866 x 1.33 x 0.120 in)
NETWORKING AND SECURITY	
PROTOCOL	Zigbee PRO 2007, HA-Ready with support for binding/multicastingc
ENCRYPTION	128-bit AES
RELIABLE PACKET DELIVERY	Retries/Acknowledgements
IDS	PAN ID and addresses, cluster IDs and endpoints (optional)
CHANNELS	15 channels
POWER REQUIREMENTS	
SUPPLY VOLTAGE	2.7 to 3.6 V
TRANSMIT CURRENT	115 mA @ 3.3 VDC
RECEIVE CURRENT	34 mA @ 3.3 VDC
POWER-DOWN CURRENT	<1 µA @ 25° C (77° F)
REGULATORY APPROVALS	
FCC, IC (NORTH AMERICA)	Yes
ETSI (EUROPE)	No
RCM (AUSTRALIA AND NEW ZEALAND)	No

*Range figure estimates are based on free-air terrain with limited sources of interference. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting antenna, height of receiving antenna, weather conditions, interference sources in the area, and terrain between receiver and transmitter, including indoor and outdoor structures such as walls, trees, buildings, hills, and mountains.

PART NUMBERS	DESCRIPTION
DIGI XBEE-PRO ZIGBEE MODULES	
XBP24CZ7RIS-005	Digi XBee-PRO Zigbee SMT, RF Pad
XBP24CZ7UIS-005	Digi XBee-PRO Zigbee SMT, U.FL

FOR MORE INFORMATION PLEASE VISIT DIGI.COM

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