



# DIGI® WIRELESS CONNECTIVITY KIT

Provides a hands-on way to learn how to use XBee® RF modules for device connectivity and sensor networking

Starting with very simple examples, we provide step-by-step guidance in assembling the kit components to create reliable wireless communications, working control systems, and sensing networks with incredible battery life and robust security. The kit is designed for anyone getting started in the world of XBee: hardware/software engineers, product managers, educators, students and even young inventors.

All examples are explained in-depth and include videos showcasing wireless communication in action. Some examples also incorporate the XBee Java Library, which can be used to integrate XBees modules into Java-based devices and applications. Each example is designed to be easy for anyone to use, and those with some programming background should find it simple to extend the examples to additional applications or use-cases.

## XBee 802.15.4 Modules Included in the Kit

XBee and XBee-PRO 802.15.4 modules are embedded solutions providing wireless connectivity to devices. These modules use the IEEE 802.15.4 networking protocol for fast point-to-multipoint or peer-to-peer networking. They are designed for high-throughput applications requiring low latency and predictable communication timing.

## The Kit Includes:

- ✓ 2 XBee Grove Development Boards
- ✓ 2 XBee 802.15.4 Modules
- ✓ 2 Micro-USB Cables
- ✓ 2 XBee Stickers

PART NUMBER	DESCRIPTION
XKB2-AT-WWC	Wireless Connectivity Kit w/ XBee 802.15.4

XBee 802.15.4 modules are ideal for low-power, low-cost applications. These modules are easy-to-use, share a common footprint, and are fully interoperable with other XBee products utilizing the same technology. Module users have the ability to substitute one XBee module for another with minimal development time and risk.

# SPECIFICATIONS

## XBee® 802.15.4

## XBee-PRO® 802.15.4

### PERFORMANCE

RF DATA RATE	250 kbps	250 kbps
INDOR/URBAN RANGE	100 ft (30 m)	300 ft (100 m)
OUTDOOR/RF LINE-OF-SIGHT RANGE	300 ft (100 m)	1 mi (1.6 km)
TRANSMIT POWER	1 mW (+0 dBm)	60 mW (+18 dBm)*
RECEIVER SENSITIVITY (1% PER)	-92 dBm	-100 dBm

### FEATURES

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)Spectrum)
SERIAL DATA RATE	1200 bps - 250 kbps	1200 bps - 250 kbps
ADC INPUTS	(6) 10-bit ADC inputs	(6) 10-bit ADC inputs
DIGITAL I/O	8	8
ANTENNA OPTIONS	Chip, Wire Whip, U.FL, RPSMA	Chip, Wire Whip, U.FL, RPSMA

### NETWORKING & SECURITY

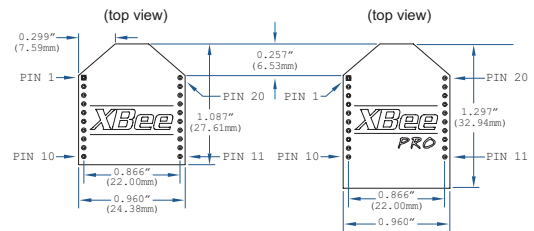
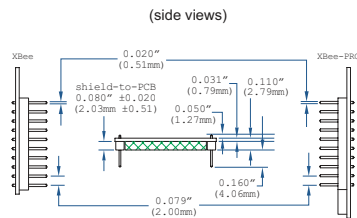
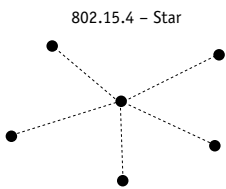
ENCRYPTION	128-bit AES	128-bit AES
RELIABLE PACKET DELIVERY	Retries/Acknowledgments	Retries/Acknowledgments
IDS AND CHANNELS	PAN ID, 64-bit IEEE MAC, 16 Channels	PAN ID, 64-bit IEEE MAC, 12 Channels

### POWER REQUIREMENTS

SUPPLY VOLTAGE	2.8 - 3.4 VDC	2.8 - 3.4 VDC
TRANSMIT CURRENT	45 mA @ 3.3 VDC	215 mA @ 3.3 VDC
RECEIVE CURRENT	50 mA @ 3.3 VDC	55 mA @ 3.3 VDC
POWER-DOWN CURRENT	<10 uA @ 25° C	<10 uA @ 25° C

### REGULATORY APPROVALS

FCC (USA)	OUR-XBEE	OUR-XBEEPRO
IC (CANADA)	4214A-XBEE	4214A-XBEEPRO
ETSI (EUROPE)	Yes	Yes Max TX 10 mW
C-TICK AUSTRALIA	Yes	Yes
TELEC (JAPAN)	Yes	Yes



It's the easy and fast way to build a wireless sensor network using Digi's XBee modules. To learn more visit [docs.digi.com](http://docs.digi.com).

877-912-3444 | 952-912-3444

