Digi® Wireless Connectivity Kit

Digi's 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.

The Wireless Connectivity Kit includes:

✓ 2 XBee Grove Development Boards

✓ 2 XBee 802.15.4 Modules

✓ 2 Micro-USB Cables

✓ 2 XBee Stickers

XKB2-AT-WWC: Wireless Connectivity Kit w/ XBee 802.15.4

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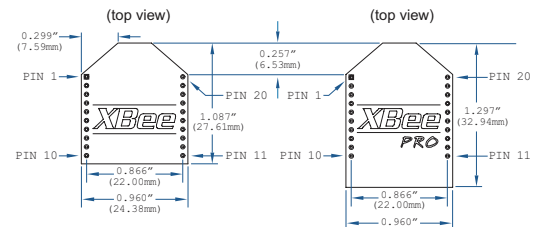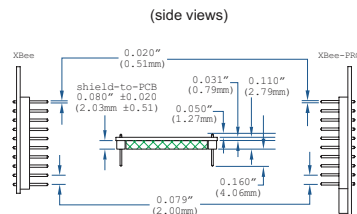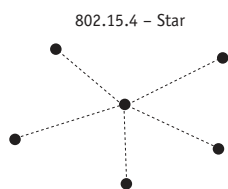
XBee 802.15.4 modules are ideal for low-power, low-cost applications. These modules are easy-to-use, share a common footprint, and are fully interoperable with other XBee products utilizing the same technology. Module users have the ability to substitute one XBee module for another with minimal development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

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.

877-912-3444 | 952-912-3444

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Platform	XBee® 802.15.4 (Series 1)	XBee-PRO® 802.15.4 (Series 1)
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 - 3.4VDC	2.8 - 3.4VDC
Transmit Current	45 mA @ 3.3VDC	215 mA @ 3.3VDC
Receive Current	50 mA @ 3.3VDC	55 mA @ 3.3VDC
Power-Down Current	<10 uA @ 25º C	<10 uA @ 25º 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*

802.15.4 – Star

(side views)

XBee   0.020" (0.51mm)   XBee-PRO

shield-to-PCB 0.080" ±0.020 (2.03mm ±0.51)
0.031" (0.79mm)   0.110" (2.79mm)
0.050" (1.27mm)
0.160" (4.06mm)
0.079" (2.00mm)

(top view)   (top view)

0.299" (7.59mm)
PIN 1
0.257" (6.53mm)
PIN 20   PIN 1
PIN 20
XBee   1.087" (27.61mm)
XBee PRO   1.297" (32.94mm)
PIN 10   PIN 11   PIN 10   PIN 11
0.866" (22.00mm)
0.960" (24.38mm)
0.866" (22.00mm)
0.960"

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