



# DIGI XBEE<sup>3</sup> ZIGBEE MESH KIT

Explore hands-on mesh networking and connectivity with Digi XBee3™ RF modules.

The Digi XBee3 ZigBee® Mesh Kit offers a great way to learn how to use Digi XBee3 RF modules for device connectivity and ZigBee-based mesh networking. ZigBee is one of the most popular open standard mesh networking protocols, specifically designed for low-data rate and low-power applications. With simple examples and step-by-step guidance, you can quickly assemble kit components to create reliable, low-power device communications and sensor networks.

Mesh networking is a powerful way to route data. Range is extended by allowing data to hop from node to node, and reliability is increased by “self-healing,” the ability to create alternate paths when one node fails or a connection is lost.

## Digi XBee3 ZigBee Modules Included in the Kit

Digi XBee3 and XBee3-PRO® ZigBee modules are ideal for applications in the energy and controls markets where time-to-market and reliability are critical. With Digi’s extensive and easy-to-use DIGI XBee API framework, customers can get their ZigBee product to market faster than any other module available in the industry. Features like binding and multicasting also allow for simple integration for building automation applications.

## The Kit Includes:

- ✓ 3 Digi XBee Grove Development Board
- ✓ 3 Digi3 XBee ZigBee SMT Modules
- ✓ 3 Micro-USB Cables
- ✓ 3 Antennas
- ✓ Comprehensive Web and Video-Based Instruction

NUMBER	DESCRIPTION
XK3-Z8S-WZM	Digi XBee3 ZigBee Mesh Kit, worldwide

Our modules are available in the popular Digi XBee through-hole, surface mount and now micro-mount form factors, providing customers the flexibility to substitute one Digi XBee technology for another with minimal development time and risk. Using the long-range Digi XBee3-PRO variant, customers can get up to two miles (3200 meters) LoS range.

## SPECIFICATIONS

## Digi XBee3™ ZigBee 3.0

## Digi XBee3™ PRO ZigBee 3.0

## PERFORMANCE

TRANSCEIVER CHIPSET	Silicon Labs EFR32MG SoC	
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	+8 dBm	+19 dBm
RECEIVER SENSITIVITY (1% PER)	-103 dBm Normal Mode	

## FEATURES

SERIAL DATA INTERFACE	UART, SPI, I <sup>2</sup> C	
CONFIGURATION METHOD	API or AT commands, local or over-the-air (OTA)	
FREQUENCY BAND	ISM 2.4 GHz	
FORM FACTOR	Micro, 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 SMT: RF Pad, PCB Antenna, or U.FL Connector Micro: U.FL Antenna, RF Pad, Chip Antenna	
OPERATING TEMPERATURE	-40° C to +85° C	
DIMENSIONS (L X W X H)	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) Micro: 0.533 x 0.76 x 0.087 in (13 x 19 x 2 mm)	

## PROGRAMMABILITY

MEMORY	1 MB / 128 KB RAM	
CPU/CLOCK SPEED	HCS08 / up to 50.33 MHz	

## NETWORKING AND SECURITY

PROTOCOL	ZigBee® 3.0	
ENCRYPTION	128/256 bit AES	
RELIABLE PACKET DELIVERY	Retries/Acknowledgements	
IDS	PAN ID and addresses, cluster IDs and endpoints (optional)	
CHANNELS	16 channels	

## POWER REQUIREMENTS

SUPPLY VOLTAGE	2.1 to 3.6V	
TRANSMIT CURRENT	40 mA @ 8 dBm	135 mA @ 19 dBm
RECEIVE CURRENT	15 mA	
POWER-DOWN CURRENT	1.7 micro Amp @ 25 degrees C	

## REGULATORY APPROVALS

FCC, IC (NORTH AMERICA)	Yes	Yes
ETSI (EUROPE)	Yes	No

