DIGI XBEE 3 ZIGBEE 3.0

Easy-to-add connectivity in a compact, low-power, low-profile footprint

Digi XBee® 3 modules accelerate time to market for designers, OEMs and solution providers by quickly enabling wireless connectivity and easy-to-add functionality. Building on industry-leading technology, pre-certified Digi XBee 3 modules offer the flexibility to switch between multiple frequencies and wireless protocols as needed.

Digi XBee 3 Zigbee 3.0 offers a fully interoperable ecosystem covering all vertical markets including building automation, smart energy, digital health, intelligent lighting, and others.

With **Digi Remote Manager®**, Digi XBee 3 modules can be easily configured and controlled from a simple, central platform. Built-in **Digi TrustFence®** security, identity and data privacy features use more than 175 controls to protect against new and evolving cyber threats. MicroPython and **Digi XCTU®** software tools simplify adding functionality, configuration and testing.

From edge computing to future migration, Digi XBee modules offer size, weight, power and performance advantages ideal for scalable device connectivity. A versatile addition to the expanding **Digi XBee Ecosystem** of wireless modules, adapters and software, the Digi XBee 3 Series is engineered to accelerate development and deployment.

SIZE AND FLEXIBILITY

– At 13 mm x 19 mm, the new Digi XBee® 3 micro form factor allows for more compact and portable applications

– Digi XBee 3 is one module for all protocols including: Zigbee, 802.15.4, **DigiMesh®** and BLE, all configurable via **Digi XCTU**
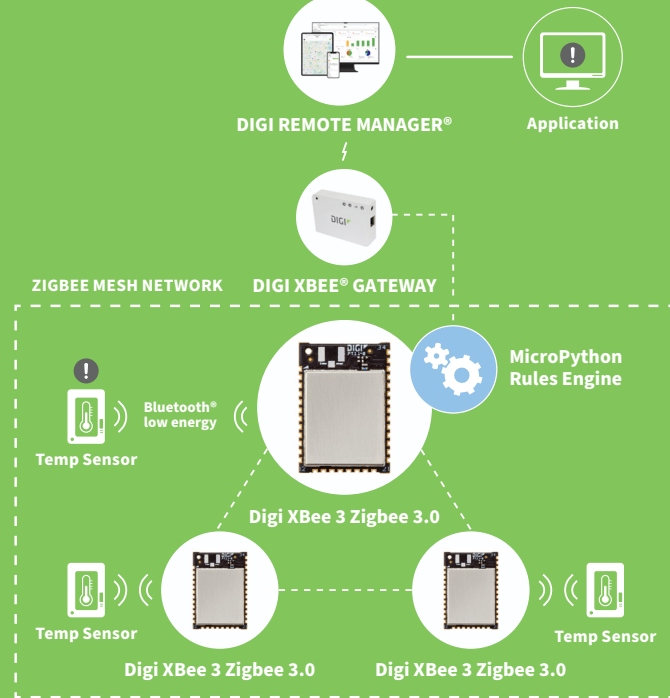
PROGRAMMABILITY

– Eliminate the need for an external microcontroller and create smart end nodes using MicroPython

– Bluetooth® Low Energy for beaconing, connecting to Bluetooth sensors and local configuration using the **Digi XBee Mobile app**

SECURITY

– Intrinsic IoT security with **Digi TrustFence®**, a layered approach securing the edge device, through the gateway, into and out of the IoT

RELATED PRODUCTS AND SERVICES

Development Kits

Digi XCTU®

Digi TrustFence®

Digi Remote Manager®

Digi Design Services

APPLICATION EXAMPLE

DIGI REMOTE MANAGER®

Application

ZIGBEE MESH NETWORK

DIGI XBEE® GATEWAY

MicroPython Rules Engine

Temp Sensor

Bluetooth® low energy

Digi XBee 3 Zigbee 3.0

Temp Sensor

Digi XBee 3 Zigbee 3.0

Digi XBee 3 Zigbee 3.0

Temp Sensor

SPECIFICATIONS	Digi XBee® 3 Zigbee 3.0	Digi XBee® 3 PRO Zigbee 3.0
ZIGBEE PERFORMANCE		
TRANSCEIVER CHIPSET	Silicon Labs EFR32MG SoC	
DATA RATE	RF 250 Kbps, serial up to 1 Mbps	
INDOOR/URBAN RANGE*	Up to 60 m (200 ft)	Up to 90 m (300 ft)
OUTDOOR/RF LINE-OF-SIGHT RANGE*	Up to 1200 m (4000 ft)	Up to 3200 m (2 miles)
TRANSMIT POWER	+8 dBm	+19 dBm
RECEIVER SENSITIVITY (1% PER)	-103 dBm Normal Mode	
BLUETOOTH® PERFORMANCE		
TRANSCEIVER CHIPSET	Silicon Labs EFR32MG SoC	
BLE VERSION	Supports BLE 4.2 and capable of interoperating with BLE 5.0 devices that support 1M PHY. Hardware is software upgradable to 5.0, but not yet enabled except payload extensions (future release).	
MAXIMUM DATA RATE	1 Mbps	
INDOOR/URBAN RANGE*	Up to 15 m (49 ft)	
OUTDOOR/RF LINE-OF-SIGHT RANGE*	Up to 300 m (984 ft)	
TRANSMIT POWER	+8 dBm	
RECEIVER SENSITIVITY (1% PER)	-95 dBm normal mode	
FEATURES		
SERIAL DATA INTERFACE	UART, SPI, I2C	
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 ºC to 85 ºC (-40 ºF to 185 ºF)	
DIMENSIONS (L X W X H)	Through-hole: 2.438 x 2.761 cm (0.960 x 1.087 in) SMT: 2.199 x 3.4 x 0.305 cm (0.866 x 1.33 x 0.120 in) Micro: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in)	
PROGRAMMABILITY		
MEMORY	1 MB / 128 KB RAM (32 KB are available for MicroPython)	
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	

*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.

SPECIFICATIONS	Digi XBee® 3 Zigbee 3.0	Digi XBee® 3 PRO Zigbee 3.0
POWER REQUIREMENTS		
SUPPLY VOLTAGE	2.1 to 3.6 V	
TRANSMIT CURRENT	40 mA at 8 dBm	140 mA at 19 dBm
RECEIVE CURRENT	17 mA	
POWER-DOWN CURRENT	2 micro Amp at 25 ºC (77 ºF)	
REGULATORY APPROVALS		
FCC, IC (NORTH AMERICA)	Yes	Yes
ETSI (EUROPE)	Yes	No
RCM (AUSTRALIA)	Yes	Yes
ANATEL (BRAZIL)	Yes	Yes
TELECK MIC (JAPAN)	Yes	No
KCC (SOUTH KOREA)	Yes	No

PRODUCT DIMENSIONS

ACTUAL SIZE

19 mm

13 mm

ACTUAL SIZE

DIGI XBEE 3 MICRO

PART NUMBERS	DESCRIPTION
XB3-24Z8RM-J	Digi XBee 3 Zigbee 3.0, 2.4 GHz, Micro, RF Pad Ant, MMT
XB3-24Z8UM-J	Digi XBee 3 ZigBee 3.0, 2.4 GHz, Micro, U.FL Ant, MMT
XB3-24Z8CM-J	Digi XBee 3 ZigBee 3.0, 2.4 GHz, Micro, Chip Ant, MMT
XB3-24Z8RM	Digi XBee 3 PRO ZigBee 3.0, 2.4 GHz, Micro, RF Pad Ant, MMT
XB3-24Z8UM	Digi XBee 3 PRO ZigBee 3.0, 2.4 GHz, Micro, U.FL Ant, MMT
XB3-24Z8CM	Digi XBee 3 PRO ZigBee 3.0, 2.4 GHz, Micro, Chip Ant, MMT
XB3-24Z8ST-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, SMA Ant, TH MT
XB3-24Z8UT-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, U.FL Ant, TH MT
XB3-24Z8PT-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, PCB Ant, TH MT
XB3-24Z8ST	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, SMA Ant, TH MT
XB3-24Z8UT	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, U.FL Ant, TH MT
XB3-24Z8PT	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, PCB Ant, TH MT
XB3-24Z8RS-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, RF Pad Ant, SMT
XB3-24Z8US-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, U.FL Ant, SMT
XB3-24Z8PS-J	Digi XBee 3, 2.4 Ghz Zigbee 3.0, PCB Ant, SMT
XB3-24Z8RS	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, RF Pad Ant, SMT
XB3-24Z8US	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, U.FL Ant, SMT
XB3-24Z8PS	Digi XBee 3 PRO, 2.4 Ghz Zigbee 3.0, PCB Ant, SMT
A24-HABUF-P5I	Antenna - 2.4 GHz, half wave dipole, 2.1 dBi, U.FL female, articulating
A24-HASM-450	Antenna - 2.4 GHz, half wave dipole, 2.1 dBi, RPSMA male, articulating
A24-HASM-525	Antenna - 2.4 GHz, half wave dipole, 2.1 dBi, RPSMA male, articulating
DC-ANT-24DT	Antenna - Wi-Fi, table-top mount, 2450 Mhz, 0.5 m cable

FOR MORE INFORMATION
PLEASE VISIT DIGI.COM

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