



Digi XBee XR 900 Development Kit

Complete Digi XBee XR 900 development platform operates in the 902-928 MHz range, delivering superior performance and interference immunity

The **Digi XBee® XR 900 Development Kit** features Digi XBee XR 900 MHz micro-mount (MMT) modules, dipole antennas with U.FL connectors and Digi XBIB-C Development Boards. The pre-certified modules are a compact and reliable solution supporting deployment of long-range connectivity applications that operate between 902 and 928 MHz in compliance with standards.

Secure, robust and reliable

Digi XBee XR 900 modules can be configured using the easy-to-use **Digi XBee Studio** software or via Digi's simplified AT or API command sets. They are also pre-certified for use in multiple regions. This helps OEMs to accelerate RF development for fast time to market. The utilization of Frequency Hopping Spread Spectrum (FHSS) on the Digi XBee XR module, along with an industrial temperature range of -40 °C to 85 °C (-40 °F to 185 °F), make it ideal for applications in noisy, challenging environments.

The module supports both point-to-point and mesh networking protocols (**DigiMesh®**), with a line-of-sight range up to 10.5 miles (17 kilometers). It is well suited for agriculture and energy applications where long-distance communication is required.

Digi XBee XR 900 RF modules deliver a complete hardware and software solution that works directly out of the box. Development kits along with **Digi XBee Tools** support the complete IoT application lifecycle, from evaluation, testing and prototyping through manufacturing, deployment, and long-term network management and support.

Proven experience and expert support

With decades of experience enabling millions of globally connected products, Digi is a trusted embedded and IoT solutions provider, simplifying the way OEMs design, build and deploy connected applications. **Digi Wireless Design Services (WDS)** offers custom design and build services, configuration, certification assistance and additional services to support you wherever you are along your development path to get your products to market smarter and faster.



Connect this device with Digi XBee Studio.
Create. Configure. Deploy. Manage.

The kit includes:

- ✓ Three Digi XBee XR 900 MHz RF modules
- ✓ Three Digi XBIB-C Development Boards
- ✓ Three dipole antennas with U.FL connectors
- ✓ **Digi XBee Studio** and **Digi XBee Tools**
- ✓ Free Level 1 schematic review from **Digi WDS**
- ✓ Additional documentation and examples

PART NUMBER	DESCRIPTION
XK-9XR-DMM-0	Digi XBee XR 900 Development Kit

Key features, benefits and applications

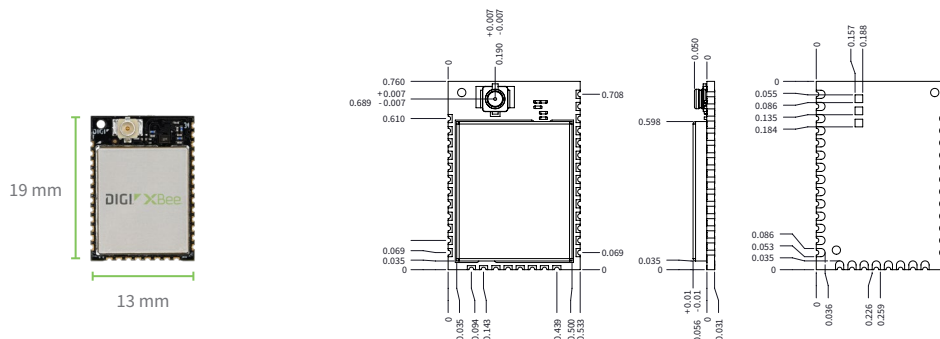
- Fully certified for use in unlicensed 900 MHz band
- RF modules based on Silicon Labs EFR32 microcontrollers
- Design includes SAW filter for optimal performance in noisy RF environments
- 256-bit AES encryption for secure data communication
- **DigiMesh®** networking topology for redundancy and reliability
- Simple configuration using **Digi XBee Studio**, AT or API command sets
- **Digi XBee Tools** to simplify tasks and get to market faster
- Custom development and gateway engineering services are available from **Digi WDS**

Specifications



Manage and configure Digi XBee XR 900 modules with Digi XBee Studio

Specifications		Digi XBee XR 900
HARDWARE		
PROCESSOR		EFR32FG13P231F512 transceiver at 40 MHz
FREQUENCY BAND		902 MHz – 928 MHz; Australia / New Zealand: 915 – 928 MHz
AVAILABLE FORM FACTORS		Micro-mount (MMT), surface-mount (SMT), through-hole (TH)
ANTENNA OPTIONS		MMT: U.FL connector, RF pad; SMT: U.FL connector, RF pad, chip antenna; TH: SMA, U.FL connector
WEIGHT		MMT: 1.2 g (0.042 oz); SMT: 3.0 g (0.106 oz); TH: 3.1 g (0.109 oz)
DIMENSIONS		MMT: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in); SMT: 2.199 x 3.4 x 0.305 cm (0.866 x 1.33 x 0.120 in); TH: 2.438 x 2.761 cm (0.960 x 1.087 in)
PERFORMANCE		
RF DATA RATE		Low data rate: 10 kbps, middle data rate: 110 kbps, high data rate: 250 kbps
UART DATA RATE / SPI DATA RATE		Up to 921.6 kbps / Up to 5 Mbps
LINE-OF-SIGHT RANGE*		Up to 17 km (10.5 mi) rural, up to 3 km (1.8 mi) urban
INDOOR RANGE		Up to 140 m (460 ft)
TRANSMIT POWER		Up to 19 dBm ERP; New Zealand: up to 13 dBm
RECEIVER SENSITIVITY		Low data rate: –113 dBm, middle data rate: –108 dBm, high data rate: –104 dBm
RECEIVER BLOCKING		Below 900 MHz and above 930 MHz; >70 dB
FEATURES		
DIGITAL I/O		15
AVAILABLE CHANNEL FREQUENCIES		Low and middle data rate: 101**, high data rate: 50; Australia: 49 (low/middle), 24 (high); New Zealand: 41 (low/middle), 11 (high)
ANALOG INPUTS		(4) 10-bit ADC inputs
OPERATING TEMPERATURE		–40 °C to 85 °C (–40 °F to 185 °F)
NETWORKING TOPOLOGIES		Point-to-point/point-to-multipoint, DigiMesh; SX protocol compatible
SECURITY		256-bit AES encryption
POWER		
SUPPLY VOLTAGE		2.1 – 3.6 VDC, 3.3 VDC typical
TRANSMIT CURRENT		110 mA
RECEIVE CURRENT		28 mA
SLEEP CURRENT		1.2 uA
REGULATORY APPROVALS**		
FCC (USA)		Yes
ISED (CANADA)		Yes
ROHS		Yes
AUSTRALIA / NEW ZEALAND		Yes



*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.

**Visit digi.com/resources/certifications for latest updates.

Management and Configuration

Digi XBee Studio

Free multi-platform application that enables developers to manage Digi XBee devices through a simple-to-use graphical interface

Digi XBee Studio is the definitive tool to manage and configure Digi XBee devices. This next generation configuration tool suite supersedes **Digi XCTU** and offers an advanced set of tools that make it easy to set up, configure, communicate with and test Digi XBee modules and devices.

The first thing you need to do in order to work with XBee devices in XBee Studio is to add them to the tool. In XBee Studio, this is easier than ever.

Simple setup and connectivity

Just after startup, XBee Studio will automatically look for XBee devices connected to your computer. As modules are found, they will appear in the Device Browser view. The Device Browser view displays all the devices connected to your computer.

View and manage your Digi XBee devices

View all of your Digi XBee devices in one table, or if they are geo-located, you can switch to the map view and see the location of each one.

Digi XBee Studio also offers a simple and step-by-step way to access and manage devices, including additional options for configuration, diagnostics, development, remote management and other utilities.

Proven experience and expert support

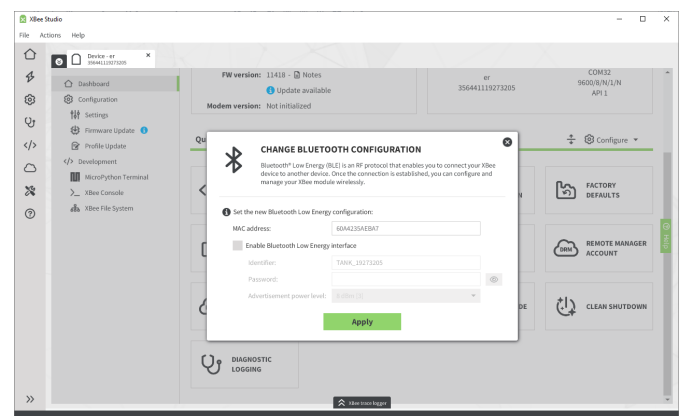
Our decades of embedded experience and millions of deployed devices tell our story; Digi is a trusted solutions provider dedicated to simplifying the way OEMs design, build, deploy and maintain secure connected products.

Digi Wireless Design Services (WDS) is an engineering team that provides additional connectivity integration support, certification assistance, and custom design and build services to get your products to market smarter and faster. The expert team of WDS engineers can support you wherever you are along your development path.



Key features

- **Deploy on multiple platforms:** Digi XBee Studio is compatible with the most popular operating systems, including Microsoft Windows, macOS and Linux.
- **Discover your devices:** Automatically discover XBee devices connected to your computer, regardless of their port connections or configured settings.
- **Configure any device:** Manage and configure multiple XBee devices at once, including devices enrolled in your Digi Remote Manager account located anywhere in the world.
- **Communicate with your devices:** Use the new smart XBee console to communicate with your devices regardless of whether they are configured for API mode or transparent mode..
- **Access a range of tools:** Use embedded tools to perform operations like creating XBee profiles or recovering your devices.
- **Get automatic updates:** Automatically update the application itself, as well as the radio firmware library, without downloading any extra files.

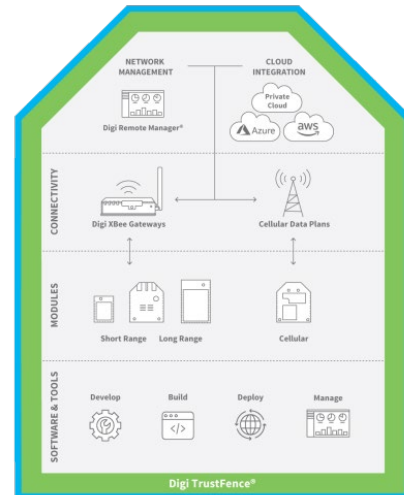


DIGI XBEE XR 900 DEVELOPMENT KIT

Digi XBee Ecosystem, Tools and Supporting Services

Digi XBee Ecosystem

The world-renowned XBee module is part of a family of cellular modems and RF modules that provide ultimate flexibility for IoT application developers, with three programmable form factors, and a range of popular wireless protocols. The XBee family also includes IoT gateways and management tools to connect, monitor and manage your XBee network. [Learn more at **digi.com/xbee**.](https://www.digi.com/xbee)



Digi XBee Tools

The **Digi XBee Ecosystem** is fully supported with the award-winning **Digi XBee Tools** suite. Designed to support the full product lifecycle, from prototyping and development to deployment and ongoing monitoring, Digi XBee Tools includes code libraries, testing and prototyping tools, product development and manufacturing support, and tools for deploying and managing end devices in the field.



DEVELOP



BUILD



DEPLOY



MANAGE

Digi Wireless Design Services



DEFINITION



DEVELOPMENT



CERTIFICATION



MANUFACTURING

Digi WDS Services

We offer services to support you wherever you are along your development path, with a record that speaks for itself.

- Proof of concept
- Architecture consultation
- Requirements definition
- System, software and electrical design
- Design reviews
- Certifications
- Prototype build
- Manufacturing test fixtures
- 250+ product development projects
- 100+ certification failure rescues
- 100 million connected devices around the globe

Get to market faster with Digi WDS

Digi Wireless Design Services (WDS) has a proven history of helping clients speed down the path to success by guiding them through the technological and regulatory certification pitfalls that botch budgets and disrupt product introductions.

We begin by actively listening to your business and technical requirements, and then leverage our proven methodology, world-class engineering expertise and library of IP to design a cost-effective solution that is tailored to your specific needs. Accelerate toward the solution that is right for you and your customers.

Contact **Digi WDS** to find out how we can guide you to success.

DIGI XBEE XR 900 DEVELOPMENT KIT

Part Numbers

Part Numbers	Digi XBee XR 900 Development Kit
DIGI XBEE XR 900 DEVELOPMENT KIT	
XK-9XR-DMM-0	Digi XBee XR 900 Development Kit with Digi XBee XR 900 MHz, U.FL, MMT

Part Numbers	Digi XBee XR 900
DIGI XBEE XR 900 MICRO-MOUNT (MMT)	
XB-9XR-DMRM-001	Digi XBee XR 900 MHz, DigiMesh, RF pad, MMT
XB-9XR-DMUM-001	Digi XBee XR 900 MHz, DigiMesh, U.FL, MMT
DIGI XBEE XR 900 SURFACE-MOUNT (SMT)	
XB-9XR-DMCS-001	Digi XBee XR 900 MHz, DigiMesh, chip, SMT
XB-9XR-DMRS-001	Digi XBee XR 900 MHz, DigiMesh, RF pad, SMT
XB-9XR-DMUS-001	Digi XBee XR 900 MHz, DigiMesh, U.FL, SMT
DIGI XBEE XR 900 THROUGH-HOLE (TH)	
XB-9XR-DMST-001	Digi XBee XR 900 MHz, DigiMesh, SMA, TH
XB-9XR-DMUT-001	Digi XBee XR 900 MHz, DigiMesh, U.FL, TH

Part Numbers	Digi XBee XR 900 — Australia
DIGI XBEE XR 900 MICRO-MOUNT (MMT) — AUSTRALIA	
XB-9XR-DMRM-021	Digi XBee XR 900 MHz, DigiMesh, RF pad, MMT — Australia
XB-9XR-DMUM-021	Digi XBee XR 900 MHz, DigiMesh, U.FL, MMT — Australia
DIGI XBEE XR 900 SURFACE-MOUNT (SMT) — AUSTRALIA	
XB-9XR-DMRS-021	Digi XBee XR 900 MHz, DigiMesh, RF pad, SMT— Australia
XB-9XR-DMUS-021	Digi XBee XR 900 MHz, DigiMesh, U.FL, SMT — Australia

DIGI XBEE XR 900 DEVELOPMENT KIT

Part Numbers

Part Numbers	Digi XBee XR 900 — New Zealand
DIGI XBEE XR 900 MICRO-MOUNT (MMT) — NEW ZEALAND	
XB-9XR-DMRM-031	Digi XBee XR 900 MHz, DigiMesh, RF pad, MMT — New Zealand
XB-9XR-DMUM-031	Digi XBee XR 900 MHz, DigiMesh, U.FL, MMT — New Zealand
DIGI XBEE XR 900 SURFACE-MOUNT (SMT) — NEW ZEALAND	
XB-9XR-DMRS-031	Digi XBee XR 900 MHz, DigiMesh, RF pad, SMT — New Zealand
XB-9XR-DMUS-031	Digi XBee XR 900 MHz, DigiMesh, U.FL, SMT — New Zealand

Part Numbers	Digi XBee XR 900 — South Korea
DIGI XBEE XR 900 MICRO-MOUNT (MMT) — SOUTH KOREA	
XB-9XR-DMRM-061	Digi XBee XR 900 MHz, DigiMesh, RF pad, MMT — South Korea
XB-9XR-DMUM-061	Digi XBee XR 900 MHz, DigiMesh, U.FL, MMT — South Korea
DIGI XBEE XR 900 SURFACE-MOUNT (SMT) — SOUTH KOREA	
XB-9XR-DMRS-061	Digi XBee XR 900 MHz, DigiMesh, RF pad, SMT — South Korea
XB-9XR-DMUS-061	Digi XBee XR 900 MHz, DigiMesh, U.FL, SMT — South Korea

For more information, please visit digi.com.



For more information about the Digi XBee XR 900 Development Kit, visit digi.com/xbee-xr-900-kit.

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