Digi XBee XR 920 Development Kit

Complete Digi XBee XR 920 development platform operates in the 920.5 to 928.1 MHz range, delivering superior performance and interference immunity

The **Digi XBee® XR 920 Japan Development Kit** features Digi XBee XR 920 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 920.5 and 928.1 MHz in compliance with standards.

Secure, robust and reliable

Digi XBee XR 920 Japan 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 8.5 kilometers. It is well suited for agriculture and energy applications where long-distance communication is required.

Digi XBee XR 920 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 920 MHz RF modules (XB-9XR-DMUM-051)

✓ Three Digi XBIB-C Development Boards (XBIB-C-MMT)

✓ Three dipole antennas and cables with U.FL connectors (A09-HASM-675 and JF1R6-CR3-4I)

✓ **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-5	Digi XBee XR 920 Development Kit

Key features, benefits and applications

- Fully certified for use in unlicensed 920 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**

DIGI XBEE XR 920 DEVELOPMENT KIT
Specifications

Manage and configure Digi XBee XR 920 modules with Digi XBee Studio

Specifications	Digi XBee XR 920 Japan
HARDWARE	
PROCESSOR	EFR32FG13P231F512 transceiver at 40 MHz
FREQUENCY BAND	920.5 MHz – 928.1 MHz
AVAILABLE FORM FACTORS	Micro-mount (MMT)
ANTENNA OPTIONS	MMT: U.FL connector, RF pad
WEIGHT	MMT: 1.2 g (0.042 oz)
DIMENSIONS	MMT: 13 mm x 19 mm x 2 mm (0.533 in x 0.76 in x 0.087 in)
PERFORMANCE	
RF DATA RATE	Low data rate: 10 kbps; high data rate: 110 kbps
UART DATA RATE	Up to 921.6 kbps
SPI DATA RATE	Up to 5 Mbps
LINE-OF-SIGHT RANGE*	Up to 8.5 km (5 mi) rural, up to 1.5 km (1 mi) urban
INDOOR RANGE	Up to 70 m (230 ft)
TRANSMIT POWER	Up to 13 dBm ERP
RECEIVER SENSITIVITY	Low data rate: −113 dBm; high data rate: −108 dBm
RECEIVER BLOCKING	Below 900 MHz and above 930 MHz; >70 dB
FEATURES	
DIGITAL I/O	15
AVAILABLE CHANNEL FREQUENCIES	38 channels
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	79 mA
RECEIVE CURRENT	28 mA
SLEEP CURRENT	1.2 uA
REGULATORY APPROVALS**	
MIC-TELEC	Yes
ROHS	Yes

19 mm

13 mm

0.760
0.689 +0.007 −0.007
0.610

0.190 +0.007 −0.007

0.708

0.069
0.035

0.069

0.035
0.094
0.143

0.439
0.500
0.533

0.050

0.598

0.035

0.056
0.031

+0.01 −0.01

0.055
0.086
0.135
0.184

0.157
0.188

0.086
0.053
0.035

0.036

0.226
0.259

*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.
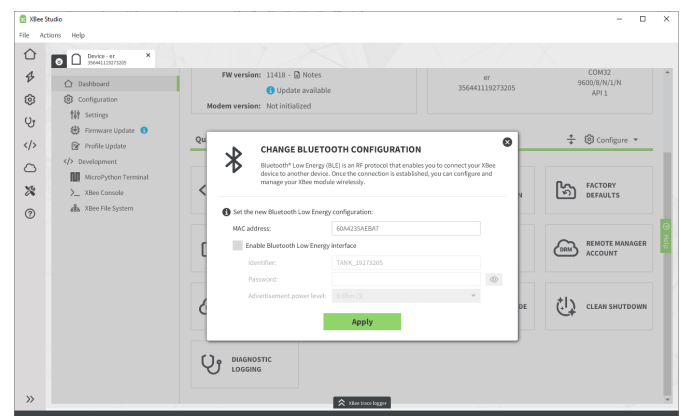
Proven experience and expert support

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.
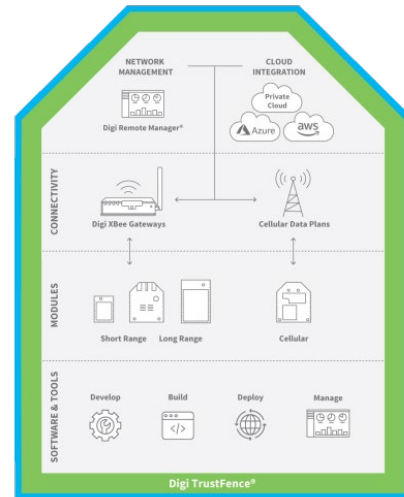
Digi XBee Ecosystem, Tools and Supporting Services

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.**

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.

Part Numbers

Part Numbers	Digi XBee XR 920 Development Kit — Japan
DIGI XBEE XR 920 DEVELOPMENT KIT — JAPAN	
XK-9XR-DMM-5	Digi XBee XR 920 Development Kit with Digi XBee XR 920 MHz, U.FL, MMT — Japan

Part Numbers	Digi XBee XR 920 — Japan
DIGI XBEE XR 920 MICRO-MOUNT (MMT) — JAPAN	
XB-9XR-DMRM-051	Digi XBee XR 920 MHz, DigiMesh, RF pad, MMT — Japan
XB-9XR-DMUM-051	Digi XBee XR 920 MHz, DigiMesh, U.FL, MMT — Japan
DIGI XBEE XR 920 SURFACE-MOUNT (SMT) — JAPAN	
XB-9XR-DMRS-051	Digi XBee XR 920 MHz, DigiMesh, RF pad, SMT — Japan
XB-9XR-DMUS-051	Digi XBee XR 920 MHz, DigiMesh, U.FL, SMT — Japan
DIGI XBEE XR 920 THROUGH-HOLE (TH) — JAPAN	
XB-9XR-DMST-051	Digi XBee XR 920 MHz, DigiMesh, SMA, TH — Japan
XB-9XR-DMUT-051	Digi XBee XR 920 MHz, DigiMesh, U.FL, TH — Japan

Part Numbers	Development Boards, Antennas and Cables
DEVELOPMENT BOARDS	
XBIB-C-MMT	Development board — Digi XBee 3, USB-C, micro (MMT)
ANTENNAS AND CABLES	
A09-HASM-675	Antenna — 900 MHz dipole antenna, 2.1 dBi gain, articulated, RPSMA connector
JF1R6-CR3-4I	Cable — U.FL female to RPSMA female 6"

For more information, please visit digi.com.

For more information about the Digi XBee XR 920 Development Kit, visit **digi.com/xbee-xr-920-kit**.

877-912-3444 I 952-912-3444

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