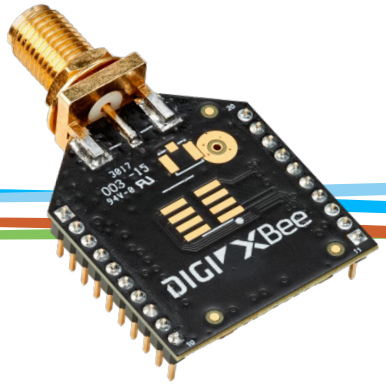


Digi XBee HPX 900

Long-range 900 MHz RF module with enhanced filtering, DigMesh networking and over-the-air compatibility with Digi XBee PRO 900HP

The **Digi XBee HPX 900** module is a compact, high-performance RF solution designed for long-range connectivity in demanding industrial and embedded applications. Fully compatible and over-the-air interoperable with existing **Digi XBee-PRO 900HP** deployments, Digi XBee HPX 900 provides a seamless migration path while delivering updated hardware architecture and improved RF filtering for enhanced wireless performance.

Digi XBee HPX 900 delivers 250 mW transmit power while incorporating an integrated SAW (Surface Acoustic Wave) filter to reduce out-of-band interference and improve receiver sensitivity in noisy RF environments. The enhanced filtering enables reliable communication and network performance in industrial and long-range deployments.

Digi XBee HPX 900 supports over-the-air firmware updates, and can be configured using **Digi XBee Studio** or Digi's simplified AT and API command sets. The modules are pre-certified for operation in multiple regions with integrated antenna options to simplify RF design, reduce development costs and accelerate time to market for OEM solutions.

Designed for harsh operating environments, Digi XBee HPX 900 supports an industrial temperature range of −40 °C to 85 °C (−40 °F to 185 °F). The module also provides best-in-class **DigiMesh** networking for reliable mesh or multipoint communications with advanced sleep modes and line-of-sight ranges up to 17 kilometers for agriculture, energy, industrial automation and remote monitoring applications.

Digi XBee HPX 900 is a complete hardware and software platform that works directly out of the box. **Digi XBee Tools** support the entire IoT development lifecycle — from evaluation, testing and prototyping through manufacturing, deployment and long-term network management.

Related Digi products and solutions


Modules


Gateways



Digi XBee Studio


Digi Remote Manager

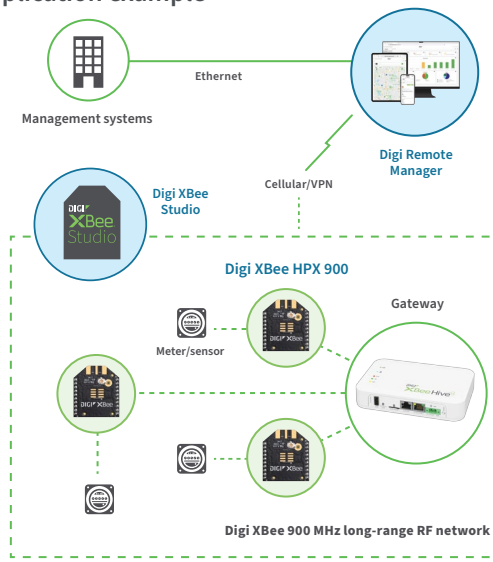


Digi Wireless Design Services

Key features, benefits and applications

- Over-the-air compatible and interoperable with **Digi XBee-PRO 900HP** RF devices
- 250 mW transmit power for long-range wireless cconnectivity
- Fully certified for operation in the unlicensed 900 MHz ISM band between 902 and 928 MHz
- Updated hardware architecture with integrated SAW filter for advanced noise reduction and improved RF performance
- Enhanced filtering improves reliability and performance in noisy RF environments
- RF module based on Silicon Labs EFR32 microcontroller
- 256-bit AES encryption for secure data communication
- **DigiMesh** networking topology for redundancy and reliability
- Configure with **Digi XBee Studio** to accelerate time to market
- **Digi XBee Tools** to simplify tasks and get to market faster

Application example



Need custom gateway engineering support?
Contact Digi Wireless Design Services.

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DIGI XBEE HPX 900

Specifications



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

Specifications	Digi XBee HPX 900
HARDWARE	
PROCESSOR	EFR32FG13P231F512 transceiver at 40 MHz
FREQUENCY BAND	902 MHz – 928 MHz
AVAILABLE FORM FACTORS	Through-hole (TH)
ANTENNA OPTIONS	TH: RPSMA, U.FL
WEIGHT	TH: 6.5 grams (0.23 oz)
DIMENSIONS	TH: 24.38 mm x 11.1 mm x 46.3 mm (0.957 in x 0.437 in x 1.823 in)
PERFORMANCE	
RF DATA RATE	Low data rate: 10 kbps; high data rate: 200 kbps
UART DATA RATE	Up to 921.6 kbps
SPI DATA RATE	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	Low data rate: up to 140 m (460 ft)
TRANSMIT POWER	Up to 24 dBm ERP
RECEIVER SENSITIVITY	Low data rate: −112 dBm; high data rate: −104 dBm
BLOCKING SELECTIVITY	Below 900 MHz and above 930 MHz; >70 dB
FEATURES**	
DIGITAL I/O	15
AVAILABLE CHANNEL FREQUENCIES	Available channels: 64; hopping: 25
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, HP protocol compatible
SECURITY	256-bit AES encryption
POWER	
SUPPLY VOLTAGE	2.1 – 3.6 VDC, 3.3 VDC typical
TRANSMIT CURRENT	Power Level 4: 215 mA
RECEIVE CURRENT	29 mA
SLEEP CURRENT	4.5 uA
NETWORKING AND SECURITY	
MODULATION	Gaussian Frequency Shift Keying
SPREADING TECHNOLOGY	Frequency Hopping Spread Spectrum (FHSS)
GENERAL	
MANUFACTURING	ISO 9001:2000 registered standards
ANTENNA IMPEDANCE	50 ohms
MAXIMUM INPUT RF LEVEL AT ANTENNNA PORT	6 dBm
REGULATORY APPROVALS***	
FCC (USA)	Compliant
ISED (CANADA)	Compliant
ROHS	Compliant

*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.
Digi LPX 900 is compatible with Digi 900HP devices with updates to replace **Digi XBee-PRO 900HP.
***Visit **digi.com/resources/certifications** for latest updates.

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Digi XBee Studio

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.

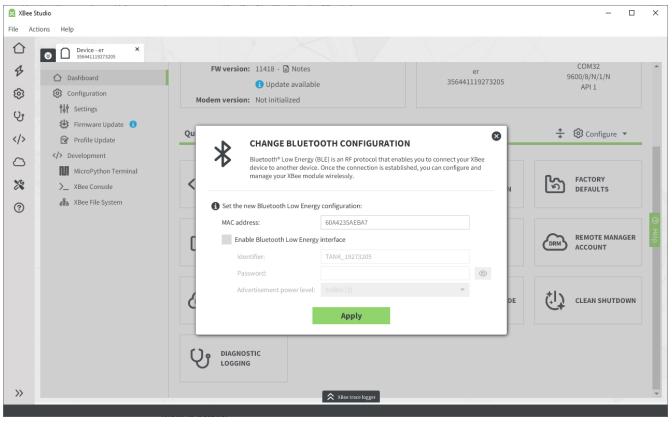
Proven experience and expert support

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.



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DIGI XBEE HPX 900

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.

Build. Deploy. Manage.



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.

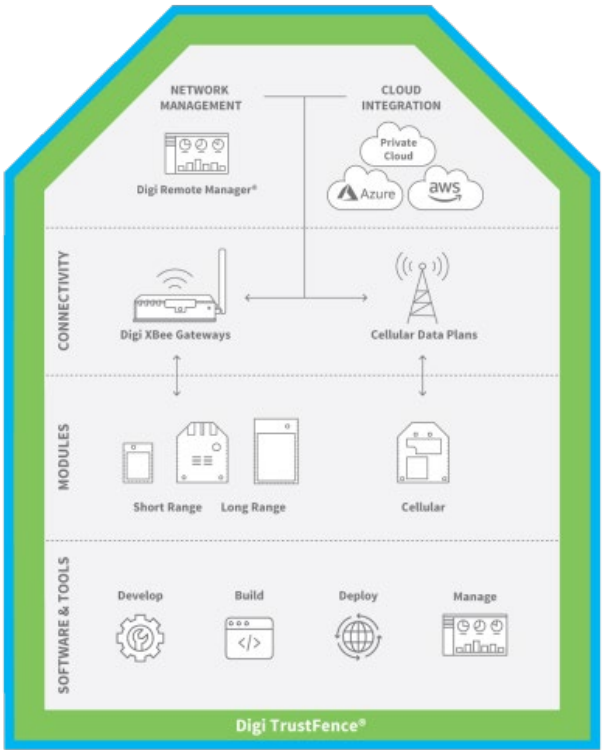
Digi Wireless Design Services

Digi WDS supports new designs and redesigns

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.

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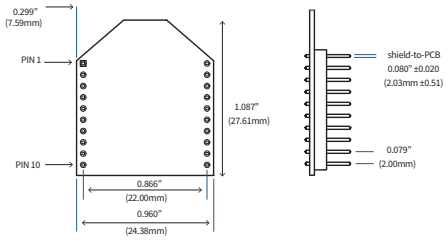
DIGI XBEE HPX 900

Photos and Part Numbers

Digi XBee HPX 900 images and dimensions







Part Numbers	Digi XBee HPX 900
DIGI XBEE HPX 900 THROUGH-HOLE (TH)	
XBP-HPX-ST-001	Digi XBee-PRO HPX 900 — 900 MHz, DigiMesh, 250 mW, RPSMA, TH
XBP-HPX-UT-001	Digi XBee-PRO HPX 900 — 900 MHz, DigiMesh, 250 mW, U.FL, TH

For more information, visit digi.com.

For more information about Digi XBee HPX 900, visit **digi.com/hpx900**.

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