



## Digi XBee LR

Digi XBee LR is a wireless communications module that OEMs can easily incorporate into end-node sensor products enabling the LoRaWAN protocol for device-to-cloud connectivity

**Digi XBee® LR** modules accelerate time to market for developers, OEMs and solution providers to rapidly deploy LoRaWAN wireless connected solutions.

The Digi XBee LR module is available in a range of embedded form factors with a software-defined radio that supports multiple global regional profiles from a single device across multiple LoRaWAN™ markets. Digi XBee LR modules are ideally suited for very narrowband industrial communications for sensors and control systems, with a temperature rating for -40 °C to 85 °C.

The Digi XBee LR uses LoRa™ modulation for Non-Line-of-Sight (NLOS) two-way communications for long-range and high-noise RF environments. The XBee LR supports the LoRaWAN communications protocol, enabling direct communication with standards-compliant LoRaWAN gateways and Network Server cloud software over long range with very low-power consumption.

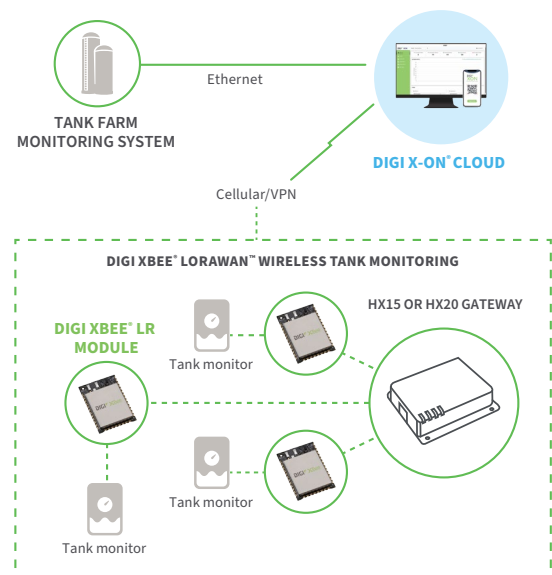
### CLOUD MANAGEMENT WITH DIGI X-ON

Digi XBee LR modules are pre-activated on the Digi X-ON cloud platform for automated connection and two-way device management. The Digi XBee LR module provides a simplified Digi Embedded API and AT command interpreter to interface with your sensor over serial.

### Key features, benefits and applications

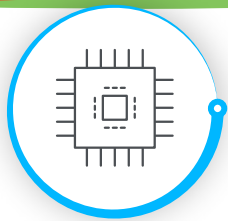
- **Pre-certification:** modular certifications for FCC, IC, and CE standards
- **LoRaWAN compatibility:** supports the low-power, long-range wide area networking protocol built on the LoRa radio modulation technique
- **Footprint versatility:** integrates with existing hardware in MMT, SMT, and TH footprints with 600nA power consumption
- **Zero-touch provisioning:** remotely provision and maintain devices that embed Digi XBee LR modules using Digi X-ON cloud
- **Single SKU:** one footprint with regional support for multiple bands, including US915, EU868, AS923, and more

### APPLICATION EXAMPLE



### Related Digi devices





# DIGI XBEE LR Specifications

SPECIFICATIONS		DIGI XBEE LR
<b>PERFORMANCE</b>		
FREQUENCY RANGE	ISM 902 to 928 MHz, 868 to 870 MHz	
TRANSMIT POWER (SOFTWARE SELECTABLE)	Up to +21 dB (US), +14 dB (EU)	
RECEIVER SENSITIVITY	-148 dBm	
STANDARDS COMPLIANCE	LoRaWAN 1.0.4, OTAA, ABP	
REGIONAL BANDS	US 915, EU 868	
LORAWAN CLASSES	A, C	
RURAL RANGE LINE-OF-SIGHT*	Up to 20 km (12.43 miles)	
URBAN RANGE LINE-OF-SIGHT*	Up to 3 km (1.86 miles)	
<b>NETWORKING AND SECURITY</b>		
MODULATION	LoRa	
SOFTWARE FEATURES	Digi XBee API or AT	
DIGI X-ON CLOUD	Network server, OTA configuration, JOIN Server, Scan-and-Go Provisioning, Auto-JOIN, MQTT Cloud Connector	
ENCRYPTION	LoRaWAN AES 128-bit	
<b>GENERAL</b>		
DIMENSIONS	MMT: 13.6 mm x 19.3 mm (in x in); TH: 24.38 mm x 27.61 mm (in x in)	
WEIGHT	MMT: 1.2 g (x lb); TH: 3 g (lb)	
ROHS	Compliant	
MANUFACTURING	ISO 9001: 2000 registered standards	
HOST INTERFACE OPTIONS	UART, SPI, GPIO, ADC	
ANTENNA CONNECTOR OPTIONS	U.FL or RF Pad	
ANTENNA IMPEDENCE	50 ohms	
OPERATING TEMPERATURE	-40 °C to 85 °C (-40 °F to 185 °F)	
<b>POWER REQUIREMENTS</b>		
SUPPLY VOLTAGE	2.1 to 3.3 VDC	
TRANSMIT CURRENT	88 mA (VCC: 3.3 V)	
RECEIVE CURRENT	15 mA (VCC: 3.3 V)	
SLEEP CURRENT	2 uA (VCC: 3.3 V)	
<b>REGULATORY APPROVALS</b>		
UNITED STATES	FCC	
CANADA	IC	
EUROPE	CE	
AUSTRALIA	Compliant	
NEW ZEALAND	Compliant	
BRAZIL	Compliant	
MEXICO	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 XBEE LR**

# Digi X-ON Cloud

## Digi X-ON Cloud

Digi X-ON™ is a complete device-to-cloud platform for connected IoT devices. The platform provides a data-ready device solution from development through to operation. X-ON contains an integrated LoRaWAN™ network server and join server to support devices and gateways that use the LoRaWAN wireless connectivity standard. X-ON also contains a web server for hosting web applications and platform management services. X-ON with LoRaWAN provides cloud-enabled secure, long-range and low-power wireless connectivity for self-built or commercial off-the-shelf LoRaWAN devices.

The X-ON platform is designed to collect and analyze data directly from devices and manage the wireless network base stations that provide campus, city or nationwide coverage. X-ON and LoRaWAN support many different applications and use cases such as connected cities, smart utility, industrial IoT and smart agriculture.

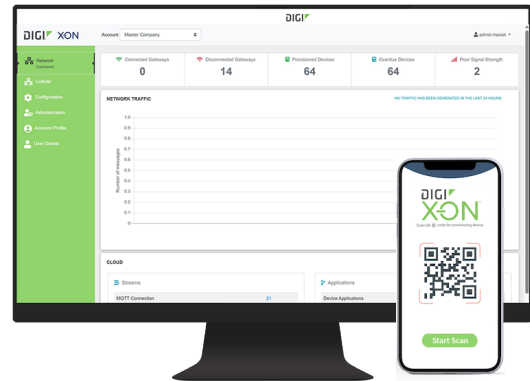
Learn more at [www.digi.com/lorawan](http://www.digi.com/lorawan)

### INFRASTRUCTURE

- Hosted in a commercial-grade cloud server environment that meets SOC 1®, SOC 2® and SOC 3® standards
- Superior availability, operating to 99.9% or greater with N+1 high-availability microservices
- Open APIs available to support application development
- Auto-scale elastic capacity 2M devices/min, 20k gateways/min, 6k users/min

### SECURITY

- TLS PKI security across all applications
- Member of the Center for Internet Security® (CIS®)
- AES encryption for LoRaWAN



### ADDITIONAL HIGHLIGHTS

- Enables you to configure, monitor and diagnose your mission-critical devices or gateways from the X-ON web and mobile interface
- Automates deployment of devices and gateways with provisioning app
- The Stream feature provides inter-cloud API for real-time two-way device data between multiple cloud platforms
- Data templates include Transform functions for simplified integration of device data to multiple cloud platforms, including support for MQTT, WebSocket and cloud service providers including Microsoft Azure and Amazon AWS)
- Provides a multi-tenant hierarchy of accounts for OEMs, resellers and end users for managing complex business structures with role-based access controls
- Users can create comprehensive IoT applications by utilizing the X-ON platform AppEngine
- Provides advanced scheduling for events or timers for proactive maintenance, automated business operations and process control
- Enables real-time alerts and notifications with email, SMS or API
- Provides on-demand or scheduled reporting with business insights, network health or custom reports
- Enables logging and tracing of real-time data messages for interactive operations and troubleshooting with devices and gateways
- Lets you integrate data through open APIs to develop more complex applications with third-party utilities
- Ability to configure custom triggers using the intuitive IEC Configuration Tool



## DIGI XBEE LR

# Part Numbers

### PART NUMBERS

### DIGI XBEE LR

#### DIGI XBEE LR TH

XBLR-UT-001	Digi XBee LR 868/915 MHz TH with U.FL antenna
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#### DIGI XBEE LR SMT

XBLR-US-001	Digi XBee LR 868/915 MHz SMT with RF Pad antenna
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#### DIGI XBEE LR MMT

XBLR-UM-001	Digi XBee LR 868/915 MHz MMT with U.FL antenna
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XBLR-RM-001	Digi XBee LR 868/915 MHz MMT with RF Pad antenna
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### PART NUMBERS

### DIGI XBEE IEC

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IEC-LR-0-003	Digi XBee IEC LoRaWAN 868/900 MHz, PCA only
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### PART NUMBERS

### DIGI XBEE LR AND IEC DEVELOPMENT KITS

#### DIGI XBEE LR DEVELOPMENT KIT

XK9-LRM-0	Digi XBee LR Development Kit with Digi XBee LR TH, XBIB-C and HX15 (US) + X-ON Cloud bundle
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XK8-LRM-1	Digi XBee LR Development Kit with Digi XBee LR TH, XBIB-C and HX15 (EU) + X-ON Cloud bundle
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#### DIGI IEC DEVELOPMENT KIT

IK9-LR-0	Digi XBee IEC Development Kit with Digi IEC and HX15 (US) + X-ON Cloud bundle
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IK8-LR-1	Digi XBee IEC Development Kit with Digi IEC and HX15 (EU) + X-ON Cloud bundle
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The information provided in this document is preliminary and may be subject to change without notice.

For more information, visit [digi.com](https://www.digi.com).



For more information about Digi XBee LR,  
visit [www.digi.com/xbee-lr](https://www.digi.com/xbee-lr).

