



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.

IoT management with Digi X-ON™

Digi XBee LR modules are pre-activated on the **Digi X-ON** IoT 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.

Related Digi devices



Intelligent Edge Controller



Development Kits



Gateways



Digi X-ON IoT Platform

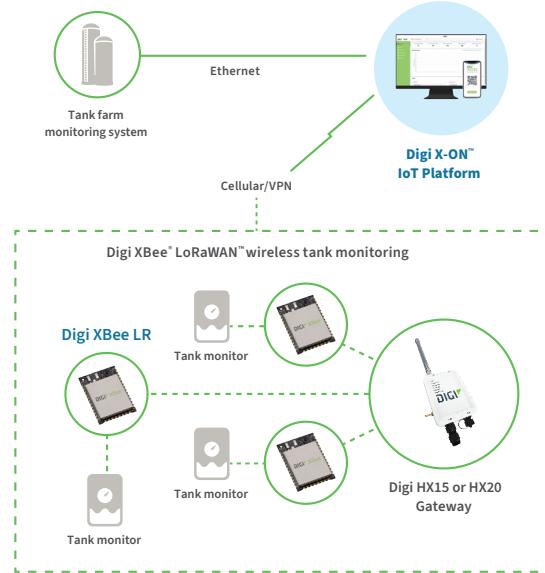


Wireless Design Services

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
- Versatility:** integrates with existing hardware in MMT footprint with 600 nA power consumption
- Zero-touch provisioning:** remotely provision and maintain devices that embed Digi XBee LR modules using **Digi X-ON**
- Single SKU:** one footprint with regional support for multiple bands, including US915, EU868 and more

Application example



DIGI XBEE LR

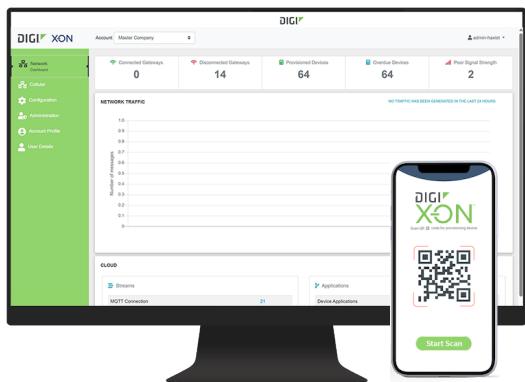
Specifications



Manage this device with
Digi X-ON IoT platform

Specifications	Digi XBee LR
PERFORMANCE	
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	US915, EU868
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)
NETWORKING AND SECURITY	
MODULATION	LoRa
SOFTWARE FEATURES	Digi XBee API or AT
DIGI X-ON IOT PLATFORM	Network server, OTA configuration, JOIN Server, Scan-and-Go Provisioning, Auto-JOIN, MQTT Cloud Connector
ENCRYPTION	LoRaWAN AES 128-bit
GENERAL	
DIMENSIONS	MMT: 13 mm x 19 mm x 2 mm (0.533 in x 0.76 in x 0.087 in)
WEIGHT	MMT: 1.2 g (0.042 oz)
ROHS	Compliant
MANUFACTURING	ISO 9001: 2000 registered standards
HOST INTERFACE OPTIONS	UART
ANTENNA CONNECTOR OPTIONS	U.FL or RF pad
ANTENNA IMPEDENCE	50 ohms
OPERATING TEMPERATURE	-40 °C to 85 °C (-40 °F to 185 °F)
POWER REQUIREMENTS	
SUPPLY VOLTAGE	1.8 to 3.6 VDC
TRANSMIT CURRENT	124 mA (VCC: 3.3 V)
RECEIVE CURRENT	10 mA (VCC: 3.3 V)
SLEEP CURRENT	2 uA (Class A)
REGULATORY APPROVALS	
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 X-ON is a complete device-to-cloud platform for connected IoT devices. The platform provides a data-ready device solution from development to operation. Digi X-ON contains an integrated LoRaWAN network server and JOIN server to support devices and gateways that use the LoRaWAN wireless connectivity standard. Digi X-ON also contains a web server for hosting web applications and platform management services. Digi 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 Digi 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. Digi 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 digi.com/x-on.

Capabilities

- Enables you to configure, monitor and diagnose your mission-critical devices or gateways from the Digi X-ON web and mobile interface
- Automates deployment of devices and gateways with the provisioning app
- The Stream feature provides inter-cloud API support 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

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

DIGI XBEE LR

Part Numbers

Part Numbers	Digi XBee LR
DIGI XBEE LR MMT MODULES	
XBLR-UM-001	Digi XBee LR 868/915 MHz MMT with U.FL antenna
XBLR-RM-001	Digi XBee LR 868/915 MHz MMT with RF Pad antenna

Part Numbers	Available Subscriptions and Accessories*
XON-PLT-1MTH	Digi X-ON Cloud IoT Platform Platinum Edition Subscription
XON-PRE-1MTH	Digi X-ON Cloud IoT Platform Premium Edition Subscription
XON-STD-1MTH	Digi X-ON Cloud IoT Platform Standard Edition Subscription
XON-SUP-MTH	Digi X-ON Cloud IoT Platform Advanced Technical Support
XON-CELL-2GB	Digi X-ON Cellular Connectivity 2 GB AT&T SIM card (North America)
XON-CELL-EU-2GB	Digi X-ON Cellular Connectivity 2 GB AT&T SIM card (Europe)
XON-CLOUD-TEST-1MTH	Digi X-ON Cloud IoT Platform Dedicated Development Server Subscription
XON-DEV-1MTH	Digi X-ON Cloud IoT Platform Developer Edition Subscription

*Subscriptions and accessories not included with Digi XBee LR unless otherwise noted.



For more information, visit digi.com.



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