



LONG-RANGE 900 MHZ
RF MODULE



DIGI XLR PRO® MODULE

1-Watt 900 MHz RF module features best-in-class range and interference immunity to enable data communications even in the noisiest RF environments.

The Digi XLR PRO Module is a high performance, industrial grade long-range 900 MHz embedded radio that offers reliable wireless communications for OEM devices.

Digi's patented Punch2® Technology leverages chirp spread spectrum (CSS) modulation to provide better receiver sensitivity, multipath performance, and interference rejection than is available through commonly used frequency hopping spread spectrum (FHSS) or direct sequence spread spectrum (DSSS) systems. Configuration with XCTU allows for quick development, testing and configuration of Digi XLR PRO modules.

The Digi XLR PRO Module is ideal for OEMs developing products used in industrial applications including oil/gas, precision agriculture and utilities. It is available in the PCIe form factor, with serial communications via UART or SPI between the module and the OEM's microcontroller.

BENEFITS

- Patented Punch2 Technology enables industry-leading interference immunity and receive sensitivity of -120 dBm
- Adjustable output power up to 1-Watt achieves exceptional range with high-gain antenna
- 128-bit AES encryption for secure data communications
- Fully certified for use in unlicensed 900 MHz band
- Up to 3.2 Mb/s for higher bandwidth applications

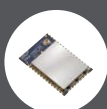
RELATED PRODUCTS



Digi XLR PRO® Radios



XCTU

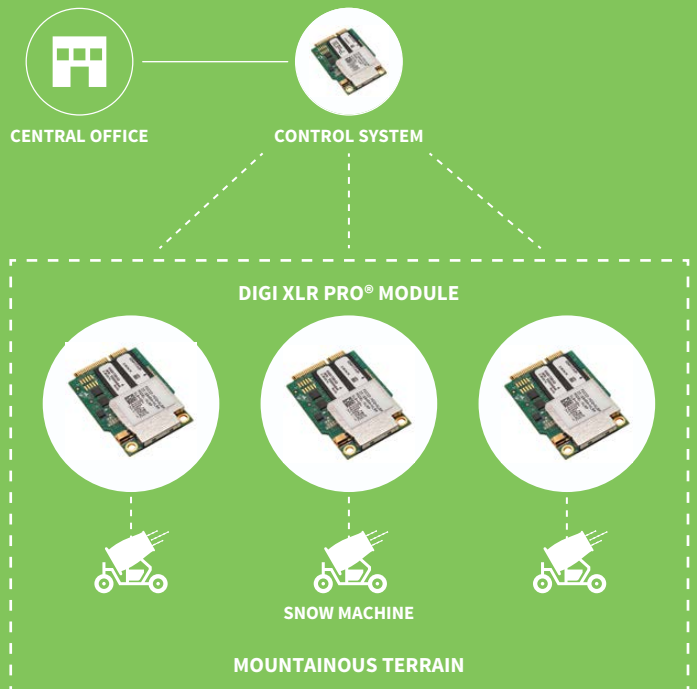


Digi XBee® SX Modules



Digi XBee-PRO® 900HP Modules

APPLICATION EXAMPLE



SPECIFICATIONS

Digi XLR PRO® Module

GENERAL	
DIMENSIONS	34 mm x 51 mm x 6.1 mm (1.34 in x 2.01 in x .240 in)
WEIGHT	11 g (.39 oz)
ROHS	Compliant
PERFORMANCE	
FREQUENCY RANGE	ISM 902 to 928 MHz
RF DATA RATE	9.4 kb/s to 3.2 Mb/s
MAXIMUM TRANSMIT POWER (SOFTWARE SELECTABLE)	+30 dBm (1 Watt)
IDEAL CONDITIONS LINE OF SIGHT	1.2 Mb/s: up to 100+ miles*
URBAN RANGE LINE OF SIGHT***	9.4 kb/s: up to 25 miles* 141 kb/s: up to 8 miles** 591 kb/s: up to 3.6 miles 3.2 Mb/s: up to 1 mile**
RECEIVER SENSITIVITY	9.4 kb/s: -120 dBm 141 kb/s: -112 dBm 3.2 Mb/s: -98 dBm
RECEIVER SELECTIVITY	141 kb/s: 70 dB (below 908 MHz, above 922 MHz); 40 dB (908 MHz to 922 MHz)
UART DATA RATE	Up to 921.6 kb/s
SPI DATA RATE	Up to 6 Mb/s
NETWORKING AND SECURITY	
MODULATION	Patented Punch2® technology
SUPPORTED NETWORK TOPOLOGIES	Point-to-point/Point-to-multipoint
ENCRYPTION	128-bit AES
POWER REQUIREMENTS	
SUPPLY VOLTAGE	3.8 to 5.5 VDC
RECEIVE CURRENT	295 mA @ 5 VDC (typical)
TRANSMIT CURRENT	1.58 A @ 5 VDC (typical)
SHUTDOWN/POWER DOWN CURRENT	3 uA typical at room temperature
ENVIRONMENTAL	
OPERATING TEMPERATURE	-40° C to +85° C
REGULATORY APPROVALS	
USA / CANADA	FCC ID: MCQ-XLRP IC: 1846A-XLRP
CONNECTORS	
ANTENNA	MMCX

* Based on 100-mile range results. Other data rates scale based on sensitivity levels. Results will vary based on noise levels and line of sight quality.

** Estimated based on 3.6-mile range results

***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.

PART NUMBERS	DESCRIPTION
XL9K-001	XLR PRO Module Development Kit, US/CA
XL9-ME-001	XLR PRO Module, 900MHz, 1W, P2MP, PCIe, MMCX Antenna, US/CA

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