



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

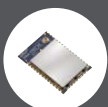
RELATED PRODUCTS



Digi XLR PRO®
Radios



XCTU

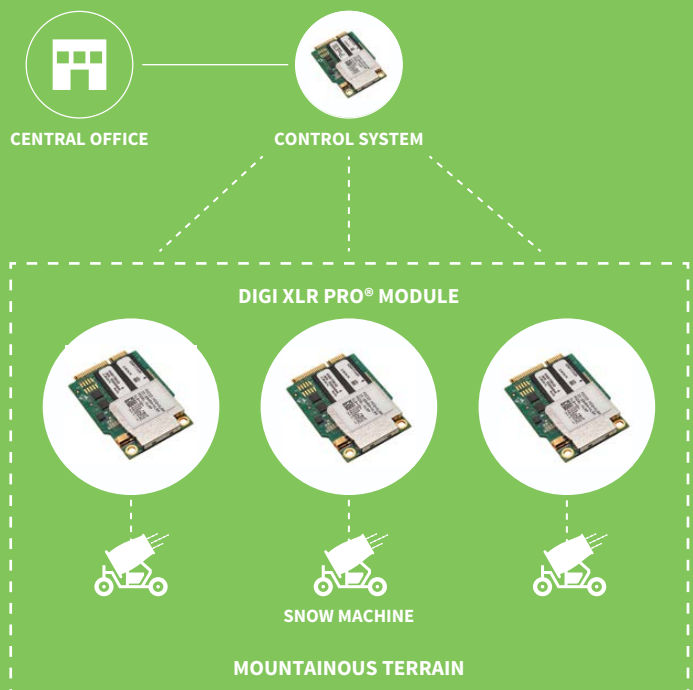


Digi XBee®
SX Modules



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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