9XTend-PKG™ RF Modems

1 Watt - 900 MHz - Stand-alone Radio Modems by MaxStream, Inc.

Long Range Performance

Indoor/urban Range:	up to 3000' (900 m)
Outdoor line-of-sight Range:	up to 40 miles (64 km)
Transmit Power Output:	1mW - 1W (software selectable)
	up to 4 Watts EIRP w/6 dB antenna
Receiver Sensitivity:	-110 dBm (@9600 bps)
Throughput Data Rate:	9600 or 115200 bps (software selectable)

Advanced Networking & Security

Encryption:	256-bit AES Encryption
	AES algorithm is FIPS-197 certified
Spread Spectrum Type:	FHSS (Frequency Hopping Spread Spectrum)

Streaming, Acknowledged & Multi-Transmit modes supported

Easy-to-Use

No configuration is necessary for out-of-box RF operation. Simply feed data into one modem, then the data is sent out the other end of a long range wireless link.

If more advanced functionality is needed, the modems support an extensive set of AT and binary commands.

Data Interface Options

9XTend-PKG-R™
RS-232/485

9XTend-PKG-U™
USB

9XTend-PKG-E™
Ethernet

9XTend-NEMA™
Weatherproof Enclosure Now Available

Highlights

$ Price-to-Performance Value.
Due to innovations stamped in its design, the 9XTend-PKGs yield 2-8x the range of competing modems. This allows OEMs & integrators to cover more ground with fewer devices.

Additionally, 9XTend Modems are easy-to-use and therefore greatly reduce the cost of data system development.

AES 256-bit AES Encryption.
The 9XTend provides security through data encryption that is not available on competing modems. The Advanced Encryption Standard (AES) is used with a 256-bit key.

No time penalty is incurred during encryption or decryption.

RxS Receiver Sensitivity.
MaxStream modems 'hear' what others cannot; therefore supplying greater range and reliability in wireless links.

XTend Modems outperform higher costing modems due in large part to range gained through superior RX sensitivity.

Transmit Power Output.
The 9XTend outputs 1 Watt (30 dBm) of conducted power while consuming only 730 mA current (5V power supply).

FC FCC (U.S.A.) & IC (Canada) Approved.
Contact MaxStream for complete list of certifications.

Sample Applications

Monitoring of remote systems

Sensor data capture in embedded systems

Home automation & building control

SCADA (Supervisory control & data acquisition)

Fleet management & asset tracking

Call today for:
- Free RF Consultation
- Volume Discounts
- Development Kit Pricing

MaxStream®

(866) 765-9885 toll-free in U.S. & Canada
(801) 765-9885 worldwide
www.maxstream.net

9XTend-PKG™ 900 MHz RF Modems

Specifications		9XTend-PKG-R™ (RS-232/485)	9XTend-PKG-U™ (USB)	9XTend-PKG-E™ (Ethernet)	9XTend-NEMA™ (Weatherproof)
Performance	Transmit Power Output (software selectable)	1 mW - 1 W (0 - 30 dBm)			
	Indoor/Urban Range (w/ 2.1 dB dipole antenna)	up to 3000' (900 m)			
	Outdoor RF line-of-sight Range (w/ 2.1 dB dipole antenna)	up to 14 miles (22 km)			
	Outdoor RF line-of-sight Range (w/ high gain antenna)	up to 40 miles (64 km)			
	Interface Data Rate (software selectable)	10 - 230400 bps (including non-standard baud rates)			
	Throughput Data Rate (software selectable)	9,600 or 115,200 bps			
	RF Data Rate	10,000 bps (@9,600 bps Throughput Data Rate) 125,000 bps (@115,200 bps)			
	Receiver Sensitivity	-110 dBm (@9,600 bps Throughput Data Rate) -100 dBm (@115,200 bps)			
Networking & Security	Frequency	ISM 902 - 928 MHz			
	Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)			
	Modulation	FSK (Frequency Shift Keying)			
	Supported Network Topologies	Peer-to-peer (no master/slave dependencies), Point-to-point, Point-to-multipoint & Multidrop			
	Channel Capacity	10 hop sequences share 50 frequencies			
	Encryption	256-bit AES Encryption - AES algorithm meets Federal Information Processing Standard-197 (FIPS-197)			
Antenna	Connector	RPSMA (reverse polarity SMA)			MMCX
	Impedance	50 ohms unbalanced			
Certifications (partial list)	FCC Part 15.247	OUR-9XTEND			
	Industry Canada (IC)	4214A-9XTEND			

		9XTend-PKG-R™	9XTend-PKG-U™	9XTend-PKG-E™	9XTend-NEMA™
Power Requirements	Power Supply Voltage	7 - 28 V	7 - 28 V	7 - 28 V	7 - 28 V
	Receive Current	110 mA	100 mA (Self Power)	270 mA	110 mA
	Pin Sleep Power-down	17 mA	17 mA	n/a	17 mA
	Serial Port Sleep Power-down	45 mA	45 mA	210 mA	45 mA
	Idle Current (Various Cyclic Sleep Intervals)	19 - 39 mA	21 - 35 mA (Self Power)	210 - 224 mA	19 - 39 mA
	Transmit Current (1mW - 1W TX Power Output)	110 - 900 mA	88 - 480 mA	270 - 830 mA	110 - 900 mA
Physical Properties	Size	2.750" x 5.500" x 1.125" (6.99cm x 13.97cm x 2.86cm)			5.125" x 7.125" x 1.500" (13.02cm x 18.10cm x 3.81cm)
	Weight	7.1 oz (200 g)			12.3 oz (348.7 g)
	Data Connection	DB-9	USB	RJ-45	DB-9 / screw terminal
	Operating Temperature	-40 to 85º C (industrial)			

Specifications are subject to change without notice.

The XTend-NEMA enclosure has been tested to the following standards:
IP 66/67 and IP 66; IK 08; NEMA 1, 4, 4X, 6 (12 and 13); UL 94-5V; UL 508