

XBee-PRO PKG™ RF Modems

ZigBee™/IEEE® 802.15.4 Stand-alone Radio Modems by MaxStream, Inc.

XBee-PRO PKG™ RF Modems

Indoor/urban Range:	up to 300' (100 m)
Outdoor line-of-sight Range:	up to 1 mile (1.6 km)
Transmit Power Output:	100 mW (20 dBm) EIRP
Operating Frequency:	2.4 GHz
RF Data Rate:	250,000 bps
Receiver Sensitivity:	-100 dBm

Interfaces Available



***XBee-PRO PKG-R™
RS-232***



***XBee-PRO PKG-L™
USB***



***The benefits of the ZigBee & 802.15.4 protocols
wrapped into one easy-to-use RF solution***

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

Key Features



Price-to-Performance Value.

Due to innovations stamped in its design, the XBee-PRO yields 2-3x the range of standard ZigBee modems. This allows OEMs & integrators to cover more ground with fewer devices.

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



Receiver Sensitivity.

MaxStream Modems 'hear' what others cannot; therefore supplying greater range and reliability in wireless links.

For every 6 dB gained in TX power or RX sensitivity, OEMs and integrators can double the range of a wireless link. XBee-PRO modems outperform higher costing modems due in large part to range gained through superior RX sensitivity.



Transmit Power Output.

The XBee-PRO outputs 100 mW (20 dBm) EIRP while consuming only 300 mA current (5V power supply).



Worldwide Acceptance.

FCC (U.S.A.), IC (Canada) and ETSI (Europe)



Systems that contain XBee-PRO RF Modems can operate under the certifications obtained by MaxStream. No further testing is required. Contact MaxStream for more details.

Sample Applications

**Security systems
& lighting controls**



**Home automation
& building control**



**Home appliances
& fire/CO2 alarms**



**Monitoring of
remote systems**



**Sensor data capture
in embedded networks**



DIREKTRONIK

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XBee-PRO PKG™ 2.4 GHz RF Modems

Specifications		XBee-PRO PKG-R™ (RS-232)	XBee-PRO PKG-U™ (USB)
Performance	Indoor/Urban Range (w/ 2.1 dB dipole antenna)	up to 300 ft. (100 m)	
	Outdoor RF line-of-sight Range (w/ 2.1 dB dipole antenna)	up to 1 mile (1.6 km)	
	Transmit Power Output	60 mW (18 dBm)*, 100 mW (20 dBm) EIRP*	
	Receiver Sensitivity	-100 dBm (1% PER (Packet Error Rate))	
	Interface Data Rate (software selectable)	1200 - 115200 bps (non-standard baud rates also supported)	
	RF Data Rate	250,000 bps	
Networking & Security	Frequency Range	ISM 2.4 GHz	
	Spread Spectrum	DSSS (Direct Sequence Spread Spectrum)	
	Modulation	OQPSK (Offset Quadrature Phase Shift Keying)	
	Supported Network Topologies	Peer-to-peer (no master/slave dependencies), Point-to-point, Point-to-multipoint & Mesh (coming soon)	
	Number of channels (software selectable)	12 Direct Sequence Channels	
	Filtration Options	PAN ID, Channel & Destination/Source Addresses	
Antenna	Connector Options	RPSMA (reverse polarity SMA)	
	Impedance	50 ohms unbalanced	
Certifications (partial list)	United States (FCC Part 15.247)	OUR-XBEEPRO	
	Industry Canada (IC)	4214A-XBEEPRO	
	Europe (EC)	ETSI (10 dBm max TX output)	
		XBee-PRO PKG-R™	XBee-PRO PKG-U™
Power Requirements	Power Supply Voltage	5 - 14 VDC	USB bus power
	Transmit Current	300 mA (@ 9V) **	300 mA ***
	Receive Current	80 mA	90 mA
	Power Down Current	< 6 mA	< 25 mA
Physical Properties	Size	4.500" x 2.750" x 1.125" (11.4cm x 7.0cm x 2.9cm)	
	Weight	5.25 oz (150 g)	
	Data Connection	female DB-9	USB
	Operating Temperature	-40 to 85° C (Industrial)	0 to 70° C (Commercial)

* When operating in Europe: XBee-PRO Modems must be configured to operate at a maximum TX power output level of 10 dBm (power output level is set using the PL command). Additionally, European regulations stipulate an EIRP power maximum of 12.86 dBm (19 mW).

** Average current while streaming data (@9600 bps) = 86 mA

*** Average current while streaming data (@9600 bps) = 92 mA

Specifications are subject to change without notice.



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