



X09-009PKC-UA shown

**Models: X09-009PKC-UA, X24-009PKC-UA**  
**USB Radio Frequency Modems** CE

### Overview

These USB RF Modems are long range, low power wireless OEM modules, coupled with a USB interface board and mounted in an aluminum enclosure. These radio modems is optimized for mobile applications, allowing you to quickly test, monitor and control their wireless systems through a laptop or stationary PC's USB port. Systems integrators love the functionality provided by the serial connection, power switch, indicator lights, high quality antenna, mounting plates and power source inputs.

The 900 MHz radio modem has the best sensitivity in the industry, making it one of the longest range, low cost radio modems available to date. The 2.4 GHz radio modem can provide high performance and dependable operation for deployment throughout the world.

These radio modems are perfect for applications in automatic meter reading (AMR), supervisory control and data acquisition (SCADA), home automation, security, instrument monitoring and point-of-sale (POS) systems among many others. These radio modems require no configuration to operate, simply plug-and-communicate. Output serial data from any USB port into the radio modem to send FCC & ETSI approved, frequency hopping spread spectrum data and capture it on all receivers within range on the network.

### Features

- Plug-and-communicate (no configuration required)
- USB (Universal Serial Bus) interface
- USB bus powered (no external power supply needed)
- Transparent operation supports existing software & systems
- Simple configuration using software & standard AT commands
- Retries & acknowledgements for guaranteed packet delivery
- Peer-to-peer, point-to-point & point-to-multipoint networks
- Up to 65,000 network addresses available
- Allows up to 7 Frequency Hopping Spread Spectrum independent pairs (networks) to operate in close proximity
- Low power modes for current consumption as low as 50 mA
- Host interface baud rates from 1200 bps to 57600 bps
- XON / XOFF or hardware flow control
- Signal strength reporting for link quality monitoring & debugging
- Support for multiple data formats (7/8 bits, Even/Odd/No Parity)



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### Applications

- Monitoring of remote systems
- Production reporting of active systems
- Home automation & building control
- Supervisory control & data acquisition
- Vehicle management & asset tracking

Specifications	900 MHz	2.4 GHz
<b>General</b>		
Frequency	902-928 MHz	2.4000 to 2.4835 GHz
Spreading Spectrum Type	Frequency hopping, direct FM	Frequency hopping, direct FM
Network Topology	Point-to-multipoint, point-to-point, multi-drop transparent	Point-to-multipoint, point-to-point, multi-drop transparent
Channel Capacity	7 hop sequences share 25 frequencies	7 hop sequences share 25 frequencies
Serial Data Interface	USB 1.1, 11 Mbps	USB 1.1, 11 Mbps
I/O Data Rate	Software selectable 1200-57,600 bps	Software selectable 1200-57,600 bps
<b>Power Requirements</b>		
Supply Voltage	5-12 VDC external or USB bus power	5-12 VDC external or USB bus power
Transmit Current	250 mA	250 mA
Receive Current	120 mA	120 mA
Power Down Current	50 mA	50 mA
<b>Physical Properties</b>		
Enclosure Type	Extruded aluminum, black anodized	Extruded aluminum, black anodized
Enclosure Size	7.9 x 13.9 x 3.8 cm (2.8 x 5.5 x 1.1 in)	7.9 x 13.9 x 3.8 cm (2.8 x 5.5 x 1.1 in)
Weight	200 g (7.1 oz)	200 g (7.1 oz)
Operating Temperature	0 to 70 °C (commercial)	0 to 70 °C (commercial)
<b>Antenna</b>		
Type	½ wave dipole whip	½ wave dipole whip
Gain	2.1 dBi	2.1 dBi
Length	17.1 cm (6.8 in)	13.3 cm (5.3 in)
Connector	Reverse-polarity SMA	Reverse-polarity SMA
Impedance	50 Ohms unbalanced	50 Ohms unbalanced
<b>Certifications</b>		
FCC Part 15.247	OUR9XSTREAM	OUR-24XSTREAM
Industry Canada	4214A-9XSTREAM	4214A 12008
Europe	n/a	ETSI
<b>Performance</b>		
Indoor/Urban Range	Up to 457m (1500 ft)	Up to 183 m (600 ft)
Outdoor LOS Range	Up to 11 km (7 mi) w/dipole Up to 32 km (20 mi) w/high-gain	Up to 5 km (3 mi) w/dipole Up to 16 km (10 mi) w/high-gain
Serial Data Throughput	<b>9600 bps</b>	<b>9600 bps</b>
RF Baud Rate	10,000 bps	10,000 bps
Transmit Power Output	140 mW (21.5 dBm)	50 mW (17 dBm)
Receiver Sensitivity	-110 dBm	-105 dBm

### Ordering Information

**X09-009PKC-UA            900 MHz USB Radio Modem**

**X24-009PKC-UA            2.4 GHz USB Radio Modem**

*Includes: USB Radio Modem, Quick Start Guide, CD (software & documentation), ½ wave antenna, USB cable, 1.8 m (6 ft)*



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