

## Key Differentiators

**High Speed** 9.6 kbps – 200 kbps over-the-air throughput.

**Link Adaptation** Dynamic data rate automatically adapts communication parameters to achieve optimal link performance.

**Serial Bridge** Seamless integration for hybrid networks utilizing both Ethernet and legacy serial devices.

**Programmable Channel Size** Ability to adapt to regulations around the globe and maximize data throughput accordingly.

**0.61 Watts** Adjustable power output from 10 mW to 0.61W (+10dBm to +28dBm).

The **Xeta14x** is based on XetaWave's innovative software defined platform which offers you the flexibility needed to excel in this underutilized spectrum in the US as well as where local regulations allow outside the US. With channel sizes from 12.5 kHz to 50 kHz, the Xeta14x has the ability to transfer more than 200 kbps of data with four contiguous 12.5 kHz frequencies. XetaWave's software defined radio technology platform, pioneered in its market leading Xeta9, gives you a choice between serial (Xeta14x) or Ethernet (Xeta14x+) over the air in one radio. Seamless Serial, unique to XetaWave allows serial devices to talk to Ethernet networks.

As a software defined radio, the **Xeta14x** automatically optimizes parameters across three axes—power output, channel size and modulation. This dynamic modulation allows for data transfer rates from 9.6 kbps to 200 kbps, power output from 10mW to 0.61W, and channel sizing from 12.5 kHz to 50 kHz. The **Xeta14x** selectively switches modulation schemes to ensure required throughput given available channel sizes and environmental noise. Based on its patent pending Dual Decode Digital Architecture™, XetaWave's technology platform offers performance second to none in the commercial market today.

Lastly, with built-in support for **MultiSpeed MultiPoint™** networks, the **Xeta14x** enables both high and low speed remotes to operate on the same network with a single access point. This allows network planners to take advantage of the Xeta14x's high data rate or select it for its long range.



## Industry Applications

### Electric Power

- Distribution automation
- Substation automation
- SCADA
- Grid Sensors
- Voltage Optimization

### Industrial Controls

- Optional I/O allows seamless integration of ModBus RTU, ModBus TCP, and DNP3 protocols into a unified wireless network.

### Oil & Gas

- Bandwidth for expanding IP-based control systems & video
- Unified serial and IP/Ethernet infrastructure
- Licensed product where 1.427-1.432 GHz licenses are available
- Channel size selectivity to meet various global frequency deployment criteria

### Energy

- Sequential-relay mode provides optimal coverage for long-line distribution infrastructure
- 100% testing over full -40°C to +85°C operating range (-55°C available) ensures reliable communications across the harshest environments.


# Xeta14x *Performance Specifications*

Transmitter																									
Frequency Range	1.427–1.432 GHz																								
Output Power	10mW to 0.61W, step size 10mW																								
Range – Line of Sight	70+ miles																								
Modulation	MSK, BPSK, QPSK, 8-PSK, 16 & 32 Level QAM																								
RF Data Rate	9.6 kbps to 200 kbps																								
Occupied Bandwidth	12.25 kHz, 25 kHz, 50 kHz																								
Frequency Stability	Better than 0.5 ppm																								
Duty Cycle	Continuous																								
Output Impedance	50 Ohms																								
Receiver																									
Sensitivity																									
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RF Selectivity	40 dB																								
Data Transmission																									
Error Detection	Up to 32-bit CRC, X <sup>2</sup> ECC, Retransmit on error																								
Data Encryption	AES 256 ( <i>FIPS 140-2 Validation in Progress</i> )																								
Data Interfaces	Xeta14x: 1 Serial   Xeta14x+: 1 Serial & 1 Ethernet																								
Data Connector	Xeta14x: 10 pin (2x RJ45 optional)   Xeta14x+: 2x RJ45																								
Serial Interface Speed	Up to 230.4 kbps																								
Power / Physical																									
Operating Voltage	10 – 32 VDC																								
Transmit Current	430mA @ 12V for 0.61W RF																								
RF Connector	SMA																								
Dimensions (L x W x H)	5.0" x 2.4"																								
Weight	77 grams																								

*Specifications subject to change without notice.*

*January 2015*

## Environmental

- 40°C to +85°C operating temperature range. \*-55°C available.
- 95% operating humidity @ 40°C non-condensing.
- UL Class 1 Div 2 & 

## Security

- AES 256-bit encryption
- Password authentication
- VLAN network segregation for Xeta14x+

## Available Versions

### Board-Level

- Xeta14x** Serial Radio
- Xeta14x+** Ethernet Radio  
1 Serial & 1 Ethernet Port

