

# WIMAX SYSTEM - ELWIMAX



**ELWIMAX™** is a wireless access point with an 802.11b/g radio that interacts with 802.11b and 802.11g user devices, such as laptop computers and personal digital assistants. ELWIMAX™ also retransmits packets it receives from other ELWIMAX™, which improves the coverage of the network and eliminates the need for hard-wire Internet connections to ELWIMAX™. ELWIMAX™ firmware is a secure, QoS capable, portable Linux based OSI layer 2 wireless mesh networking software platform which targets enterprise, campus, WISP networks covering large areas with 802.11 wireless access. It is capable of functioning on numerous embedded hardware platforms with single or multiple chipset based radio modules as well as ordinary PCs.

- OSI layer 2 wireless mesh, auto discovery and dynamic configuration of new network
- Provides infrastructure for multiple branded wireless services with diverse security policies
- Wide range of supported hardware platforms
- Single and multiple 802.11 radio modules for low latency, high bandwidth applications
- Industry standard WPA2 (AES) protocol provides security for intra-mesh traffic
- Preservation of 802.1Q and 802.1P tags in intra-mesh transport
- 802.11e wireless QoS support for services and intra-mesh data transfers

- Platform independent graphical mesh monitoring software
- Remote Configuration Management support

### **ELWIMAX™ WiFi Mesh Features**

- 802.11g Internet service and VoIP phone coverage of up to 8 km radius per node
- Connectivity between WiFi of up to 80 km with directional antennas
- Easy and automatic scaling by simply adding additional nodes
- Advanced routing technology for shortest path routing
- Self-healing redundant networks - 108 Mb/s peak bandwidth at minimal latencies
- Remote administration from any location
- Maintenance free and available for any voltage and outlet type
- Self-powered nodes for areas without electricity grid available upon request
- Up to 400mW output power and -95dBm receive sensitivity
- 802.16 (WiMAX) cards available soon

### **Radio Specs – 802.11B**

- Frequency band
  - 2.4 - 2.483GHz (US, Canada & ETSI)
  - 2.4 - 2.497GHz (Japan)
- Radio technology — Direct Sequence Spread Spectrum (DSSS)
- Modulation type — CCK, BPSK, QPSK
- Transmit power — configurable by system administrator
- MAC — CSMA/CA with ACK

### **Operating Channels:**

- US & Canada: 11
- ETSI: 13
- Japan: 13
- Data Rates: 1, 2, 5.5, 11 Mbps per channel

### **Radio Specs – 802.11G**

- Frequency band
- 2.412 - 2.462GHz (US, Canada)
- 2.412 - 2.472GHz (ETSI)
- 2.412 - 2.484GHz (Japan)

- Radio technology — OFDM
- Modulation type — CCK, BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power — configurable by system administrator
- MAC — CSMA/CA with ACK
  - Operating Channels:
  - US & Canada: 11
  - ETSI: 13
  - Japan: 14
  - Data Rates: 6, 9, 12, 18, 24, 36, 48, 54 Mbps per channel Multi-mode radio band 802.11a or 802.11b/g selectable via software

## **ELWIMAX™ Gateway**

ELWIMAX™ Gateway is a system that utilizes an 802.11g radio, an 802.11a radio, a USB port and an Ethernet port. ELWIMAX™ Gateway links the wireless mesh network with the Internet through a link to an Internet provider or a peripheral device that links to an Internet provider.

### **Network Configuration**

- Wireless Access Point (802.11a/b/g)
- Air Monitor (802.11a/b/g)

### **Antennas**

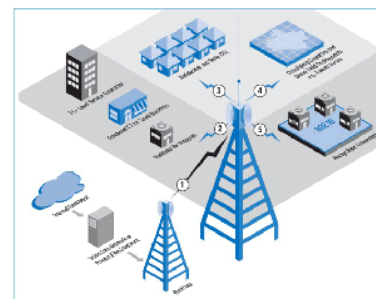
- None. Antennas supplied separately.

### **Radio Specs - 5GHZ**

- IEEE 802.11a
- Frequency Bands Supported
  - 5.150 - 5.250GHz, country specific
  - 5.250 - 5.350GHz, country specific
  - 5.470 - 5.725GHz, country specific
  - 5.725 - 5.825/5.850GHz, country specific
- Radio technology: orthogonal frequency division multiplexing (OFDM)
- Modulation type -BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power -configurable by system administrator/professional installer
- MAC -CSMA/CA with ACK
- Operating channels:
  - US, Canada - 13
  - ETSI - up to 19
  - Japan - Disabled
- Data rates: 6, 9, 12, 18, 24, 36, 48, 54 Mbps per channel
- Radio band selectable via software

## Radio Specs -2.4GHZ

- IEEE 802.11b
  - Frequency Bands Supported
  - 2.400 - 2.4835GHz, channels country specific
  - Radio technology -direct sequence spread spectrum (DSSS)
  - Modulation type -CCK, BPSK, QPSK
  - Transmit power -configurable by system administrator
  - Operating channels:
    - US, Canada - 11
    - ETSI - 13
    - Japan - 14
  - Data rates: 1, 2, 5.5, 11 Mbps per channel
  - Radio band selectable via software
  - IEEE 802.11g
  - Frequency Bands Supported
    - 2.400 - 2.4835GHz, channels country specific
  - Radio technology: orthogonal frequency division multiplexing (OFDM)
  - Modulation type -BPSK, QPSK, 16-QAM, 64-QAM
  - Transmit power -configurable by system administrator
  - MAC -CSMA/CA with ACK
  - Operating channels:
    - US, Canada - 11
    - ETSI - 13
    - Japan 13
- Data rates: 6, 9, 12, 18, 24, 36, 48, 54 Mbps per channel



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