



VWM5600

System Overview

VWM-Max E series

Self Install WiMAX Subscriber Unit



Features

- **SoHo/SME and residential service gateway for WiMAX broadband services**
- **Powerful Transmitter – 27dBm**
- **Supporting 1.X, 2.X, 3.X GHz WiMAX bands**
- **WLAN - 802.11g Access-Point**

GENERAL DESCRIPTION

The Venceip VWM5600 Service Gateway is a self-installed member of the VWM-Max E family, a line of WiMAX Broadband Wireless Access systems based on the 802.16e mobile WiMAX standard, specially designed for quadruple-play applications. VWM-Max E systems are designed for robustness and simplicity, offering feature-rich services with low deployment and operation costs, for unmatched operator competitiveness and fast ROI.

VWM5600 is specifically tailored for the diverse needs of residential and Small office / Home office (SoHo) end-users bringing the WiMAX broadband functionality into the home and office.

The VWM5600 solution is a unique combination of WiMAX indoor modem, Wi-Fi Access-Point and high end gateway. Customers receive the benefits of simple installation, and enjoy the benefits of complete broadband functionality. The VWM5600 provides high data throughput to business users who needs both bandwidth and mobility in the residential area and at the same time provides VoIP functionalities for phone services over Internet.

The VWM5600 is equipped with a sophisticated QoS feature which allows differentiated services to different residential and SoHo data, voice and video applications over the WiMAX network.

The VWM5600 system is designed with high powered internal antenna (4dBi) enabling a longer reception range from the base station. This provides more efficient use of the network with a larger cell reach, guaranteed carrier class service, and service probability that gives customers the confidence needed for a self-install unit.

VWM5600 Highlights:

- **Mobile-WiMAX compliance** based on IEEE 802.16e standards
- **Support of worldwide WiMAX deployments** in the 1.X, 2.X and 3.X GHz bands
- **Excellent performance in NLOS conditions** - overcoming multi-path and deep fading, providing extended range and easy installation
- **Automatic Transmit Power Control (ATPC)** allowing for optimal network deployment, tight frequency reuse, and interference avoidance
- **Numerous applications and services** - guaranteed voice, video and data services based on advanced QoS levels and a variety of classification/prioritization schemes
- **Support wired & wireless** Ethernet and PSTN Interfaces
- **Up to 27dBm** output power
- **Software selectable** channel bandwidths

VWM5600 System Specifications

Radio and Modem:

Frequency	VWM5613: 1350 MHz to 1525 MHz VWM5623: 2300 MHz to 2400 MHz VWM5625: 2496 MHz to 2690 MHz VWM5635: 3300 MHz to 3800 MHz
Radio Access Method	IEEE802.16-2005 (16e OFDMA)
Operation Mode	TDD
Channel Bandwidth	5 MHz, 7MHz, 8.75 MHz, 10 MHz
Frequency Resolution	0.25 MHz
WiMAX Antenna	Two 4dBi external antennas (2T2R)
Wi-Fi Antenna	Two 2dBi internal antennas
Output Power @ antenna port	27dBm +/-1dB maximum auto power control ranging: 45dB
FFT	1024/512 FFT points
Modulation	QPSK, 16QAM, 64QAM
FEC	Convolution Code and Turbo Code
Dynamic range	Rx: -100dBm :-20 dBm Tx: -18dBm : +27 dBm
Mac Throughput	DL: 12Mbps, UL: 6Mbps

Configuration and Management:

Local Management	<ul style="list-style-type: none"> Telnet SNMPv2 Web Browser
Remote Management	SNMPv2 over wireless via the Base Station
SNMP Agent	SNMP ver 2 client: MIB II (RFC 1213), Private WiMAX MIBs
Authentication	EAP TTLS/TLS Device: X509v3 digital certificate Network: WiMAX Forum
Software Upgrade	FTP

Wi-Fi:

Standard	IEEE802.11b/g
Security	<ul style="list-style-type: none"> Password protected system management WEP (64/128bit), MAC address filtering

General:

Indicators	Voice Power Activity/Link Green flashing
Power	110-230 VAC external power supply
Operating Temperature	0° ~ 40° C (32° - 100° F)
Operating Humidity	10% - 90% non-condensing

VoIP Features:

Protocols	<ul style="list-style-type: none"> SIP MGCP
CODECs	<ul style="list-style-type: none"> G.711, G.726,G.729A (Optional), G.723.1(Optional) G.168 Echo Cancellation Jitter Buffer, Voice Activity Detection and Comfort Noise Generation Caller ID detection/generation G3 Fax/Modem tone detection Call hold/waiting/forwarding/transfer/ conferencing SIP only Call process tone ITU-T T.38 (optional)
QoS	IP ToS function (RFC 1349) support priority queues for upstream and downstream traffic based on ToS field

Router Features

Routing	<ul style="list-style-type: none"> RIP-1 and RIP-2 Static Routing NAT with ALGs /NAPT DNS Relay IGMP Proxy/Snooping Pocket filtering Access Control List
Embedded Server	DHCP Server/Relay/Client DMZ & SSH

Standards Compliance:

EMC	FCC part 15, subpart B, class B
Safety	TUV-UL 60950-1
Radio	FCC Part 27 ETSI EN 302 026

Interfaces:

LAN	<ul style="list-style-type: none"> 4 10/100BaseTX LAN ports 10/100BaseTX auto sending (IEEE 802.3u) Connector RJ-45 Transmission Full/half duplex, auto negotiation, auto detect, auto polarity, cross or straight cable 10BaseT UTP, Cat. 3, 4, 5 100m. 100BaseTX UTP, Cat. 5 100m
Telephone	<ul style="list-style-type: none"> 2 independent phone lines (FXS) Analog Connector RJ-11 (POTS)



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