



VWM5200-2

System Overview

VWM-Max E series

WiMAX Subscriber Unit

Mobile WiMAX Wave 2 Profile (MIMO)



Features

- **Intelligent WiMAX subscriber unit for wireless triple-play service delivery**
- **Outdoor unit with ETH interface to indoor unit**
- **Automatic, self-configured, plug-n-play**
- **Supporting 1.X, 2.X and 3.X GHz bands**

GENERAL DESCRIPTION

The Venceip VWM5200 is a 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.

VWM5200 is a high-performance outdoor unit that provides complete 802.16e mobile WiMAX broadband wireless access functionality to a range of indoor multi-service gateways by standard ETH cable. The self-learning smart antenna automatically detects the base station on the best signal available allowing for plug-n-play installations and maintenance free operation. The automatic switching and monitoring features guarantee on-going operation in changing conditions which results in low maintenance and considerable savings in OPEX.

The VWM5200 enables the full scope of triple-play (including telephony, data, Video-on-Demand) over the WiMAX network. In the home, triple play services are distributed through the ETH to a single gateway for a simple home-networking solution.

The VWM200 is based on the IEEE 802.16e standards to effectively meet the unique requirements of the wireless Metropolitan Area Network (MAN) environment and to deliver broadband access services to a wide range of customers. Specifically designed for point-to-multipoint broadband wireless access applications, the VWM5200 provides efficient use of the wireless spectrum, supporting a range of user environments. The access and bandwidth allocation mechanisms accommodate hundreds of subscriber units per sector, supporting differentiated services to a multiple of end users.

VWM5200 Highlights:

- **Mobile-WiMAX compliance** based on IEEE 802.16e standard and WiMAX Forum Wave 2 Profiles
- **Triple play solution** for Data, Voice and Video
- **High Gain Integrated Antenna**
- **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
- **Low cost of ownership** through simple installation and demand-based build-out, enabling operators to rapidly penetrate new market segments with minimal CAPEX

VWM5200 Specifications

Radio and Modem:

Frequency	VWM5213: 1350 MHz to 1525 MHz VWM5225: 2496 MHz to 2690 MHz VWM5235: 3300 MHz to 3800 MHz
Radio Access Method	IEEE802.16-2005 (16e OFDMA)
Operation Mode	TDD
Compatibility	VWM52XX-2: Wave 2 Profile (MIMO)
Channel Bandwidth	3.5 MHz, 5 MHz, 7MHz, 10 MHz
Frequency Resolution	0.25 MHz
Antenna Support	Integral External Antenna (optional)
Number of Antennas	VWM52XX-2: 2
Antenna Diversity Support	VWM52XX-2: STC/MIMO
Output Power [P1dB]	2W
Output Power (average)	23 dBm +/-1dB maximum
TPC	45dB
FFT/Modulation	1024/512 FFT points; QPSK, 16QAM, 64QAM
FEC	Convolution Code and Turbo Code
Dynamic range	RX: -100dBm :-20 dBm TX: -20dBm : +24 dBm

Data Communication (Through indoor unit):

Ethernet Standard Compliance	IEEE 802.3 CSMA/CD
Ethernet Port	10/100 Mbps, Half/Full Duplex with Auto Negotiation
VLAN Support	IEEE 802.1Q
Traffic Classification	<ul style="list-style-type: none">IEEE 802.1pDiffServ (DSCP)
Max User Throughput	DL: 12Mbps, UL: 6Mbps

Indoor Unit (ETH) Compatibility:

VWM1010	Data Adapter
VWM1020	Home Gateway
VWM1030	Office Gateway

Configuration and Management:

Local Management	<ul style="list-style-type: none">TelnetSNMPv2Web Browser
Remote Management	SNMPv2 over wireless via the base station
SNMP Agent	SNMP ver 2 client: MIB II (RFC 1213), Private Win-Max MIBs
Authentication	EAP-TTLS: Device: X509 digital certificate User: MS-CHAP
Software Upgrade	FTP
Remote Configuration	FTP

Mechanical, Electrical and Environmental:

Dimensions (w/o the antenna) [H, W, D]	224 x 92 x 61 mm
Weight	1.5 kg
Power Source	48VDC from the indoor unit over the indoor-outdoor cable
Power Consumption	17W maximum
Operating Temperature	-40°C to +55°C
Operating Humidity	5%-95% non condensing, Weather protected

Standards Compliance:

EMC	FCC part 15, subpart B, class B ETSI EN 301489-1/4
Safety	TUV-UL 60950-1 EN 60950-1
Radio	FCC Part27 ETSI EN 302 326-1/2/3
Environmental	ETS 300 019

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