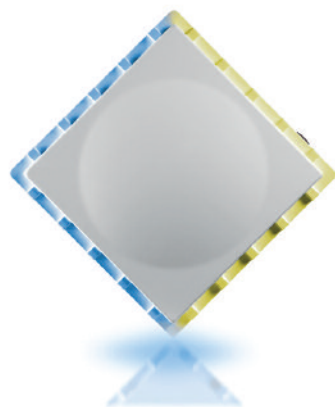




Tsunami MP.16 3500

Technical Specifications



APPLICATIONS

- Security and Surveillance**

Wireless solutions for bandwidth-intensive and high-definition IP-surveillance cameras located at important city and transportation infrastructure such as airports, bridges and trains

- Business and Residential Last Mile Access**

Competitive broadband service access alternative to DSL or cable modems for residences and business

Broadband service access for businesses and residences in developing countries and regions where cable infrastructure is not an option

- Metropolitan Area Networks**

Secure and reliable backhaul of WiFi Mesh cells

CONFIGURATIONS/ MODELS	3500-B00-EU0, 3500-B00-UK0, 3500-S00-AM0 – MP.16 3500 Base Station 3500-S00-EU0, 3500-S00-UK0, 3500-S00-AM0 – MP.16 3500 Subscriber Station 3500-S00-EU1, 3500-S00-UK1, 3500-S00-AM1 – MP.16 3500i Subscriber Station				
WIMAX COMPLIANCE	IEEE 802.16-2004 (WiMAX profile 3.5T1)				
WARRANTY	1 Year Parts and Labor				
FREQUENCY	3.400 GHz to 3.600 GHz				
DUPLEXING MODE	TDD				
CHANNEL BANDWIDTH	3.5 MHz				
MAX MAC ADDRESSES PER SECTOR AND CPE	8192/8192				
MAX SERVICE FLOWS PER SECTOR AND CPE	BS: Database to support up to 256 Service Flow Classes, 512 Packet Identification Rules, and 64 SS Classes 16 Service Flows per SS Class				
MAX VLANs PER SECTOR AND CPE	4096 VLAN IDs per sector supported, with 256 of them supported concurrently 16 VLAN ID's supported per CPE				
CENTER CHANNEL FREQUENCY RESOLUTION	1 KHz channel raster				
INTEGRATED ANTENNA (SS ONLY)	Gain Azimuth / Elevation Cross Polarization Polarization Return Loss	18 dBi Meets EN 302 085 TS2 Meets EN 302 085 TS2 Horizontal or Vertical 14 dB			
ANTENNA PORT	Connector Return Loss, BS Return Loss, Antenna	N-Type, 50 ohms -15dB, maximum -10dB, maximum			
DATA COMMUNICATION PORT	Standard Connector Compliance Max Packet Size	10/100 Base-TX Ethernet, Manual/Auto Negotiate, Half/Full Duplex RJ-45 IEEE 802.3, 802.3u, IPv4 Up to 1600 Bytes			
SERIAL CONFIGURATION PORT	RJ-45 Connector				
NLOS & INTERFERENCE MITIGATION FEATURES	OFDM 256 FFT, Adaptive Modulation, FEC				
OUTPUT POWER (AT ANTENNA PORT)	Output Power User Attenuation Control	Up to 21 dBm* Maximum BS OUtput Power configurable to 6-21 dMb in one dB steps			
MODULATION	OFDM modulation, 256 FFT points; BPSK, QPSK, 16QAM, 64QAM				
FRAME DURATION	5, 10, 20 ms				
FEC	Convolutional Coding: 1/2, 2/3, 3/4				
RADIO PERFORMANCE	3.5 MHz	Modulation & FEC	Rx Sensitivity (10 ⁻⁶)	Spectral Efficiency	Burst Data Rate, Mbps Tg/Tb = 1/16
		BPSK-1/2	-95.1 dBm	0.5 bps/Hz	2.8 Mbps
		QPSK-1/2	-93	1	5.6
		QPSK-3/4	-90.7	1.5	8.5
		16QAM-1/2	-87.7	2	11.3
		16QAM-3/4	-84.4	3	16.9
		64QAM-2/3	-80.3	4	22.6
		64QAM-3/4	-78.3	4.5	25.4

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LOCAL MANAGEMENT AND MONITORING	Serial/CLI RJ45 Port; Logging feature which logs to serial port, flash, RAM	
REMOTE MANAGEMENT AND MONITORING	Telnet/CLI, HTTP, TFTP; SNMP v1, v2 (MIBII, Proxim MIBs, Bridge MIB, 802.16 MIB, Etherlike MIB)	
REMOTE MANAGEMENT ACCESS	Wired-LAN or over-the-air	
RADIO DEPLOYMENT FEATURES	LED Indicator Light on BS/SS Radio for RF SNR; LED Indicator Light on BS/SS Radio for Ethernet Link Status; LED Indicator Light on Power Injector for Power Status;	
PASSWORD	Multi-Level Password (user, administrator, installer, factory, engineering)	
SUBSCRIBER AUTHENTICATION	MAC Address Table	
NETWORKING MODES (BS AND SS)	Bridging (802.1D)	
FILTERING AND FORWARDING (THROUGH CLASSIFIERS)	Ethernet Protocol Filtering; Broadcast/Multicast Storm Threshold Filtering; Layer-2 Multicast Filtering; Layer-2 Multicast Forwarding;	
VLAN	Support for 802.1Q VLAN tagging and filtering; Support for transparent passing of 802.1Q-compliant VLAN tagged frames	
QOS	Asymmetric Bandwidth Control:	Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow
	Packet Classification Capabilities:	802.1D/802.1Q/802.1p priority, IPTOS, VLAN ID, IP source/destination address, source/destination port, Ethernet source/destination address, IP protocol, and Ethertype
	Scheduling:	Best Effort, Universal Grant Services, Realtime Polling, Non-Realtime Polling Traffic is scheduled per service flow, enabling min/max bandwidth, priority, jitter and latency control for voice, video and data
DHCP	DHCP Server, Relay, Client (BS, SS)	
DNS	DNS Client	
PPPOE	Transparent Bridging of PPPoE traffic	
INPUT VOLTAGE RANGE OUTPUT VOLTAGE AND CURRENT	Outdoor Radio Unit (SS and BS)	
	42 to 60 VDC	Indoor Power Injector 90 to 260 VAC, 47 to 63 Hz
	NA	48 VDC up to 0.67 AMPs
INPUT CONNECTOR	RJ45	3-conductor male IEC320
POWER CONSUMPTION (TYPICAL)	Less than 10 Watts for SS Less than 12 Watts for BS	Up to 32 Watts Total Power Output
OPERATING TEMPERATURE	-40 to +60 C	-0 to +40 C (-40 to +60 C)
STORAGE TEMPERATURE	-55 to +85 C -40 to +60 C	-20 to +85 C
OPERATING ALTITUDE	up to 15,000 ft	up to 15,000 ft
WATER TIGHTNESS	IPx5 protection in accordance with IEC 60529, and UL50	IPx5 protection in accordance with IEC 60529, and UL50
STORAGE AND TRANSIT ALTITUDE	up to 40,000 ft	up to 40,000 ft
WIND	up to 115 mph	NA
HUMIDITY	up to 100%	up to 95%, non-condensing
DUST	IPx6 protection per IEC 60529	NA
SALT	Immune	NA
TRANSIT AND VIBRATION	per MIL-STD-810, methods 514.5 & 516	NA
WEIGHT	5.3 lbs	2.7 lbs
DIMENSIONS	Packaged:	
	14.57 x 13.70 x 8.19 in (370 x 348 x 208 mm)	5.12 x 3.62 x 2.64 in
	Unpackaged (BSR, SSR): 10.5 x 10.5 x 3.25 in (267 x 267 x 83 mm)	
SAFETY STANDARDS	Unpackaged (SSA): 12.60 x 12.60 x 3.50 in (320 x 320 x 89 mm)	
	EN 60950 (CE)	UL 1950 D3 CSA 22.2 No.950 or CUL VDE EN60950 or TUV
		Conduction: FCC docket 20780 curve "B" ETS 302 VDE 0871 curve" B Radiation: FCC class "B"
EMI STANDARDS	RSS-210 (Canada), ETS EN 301 489-1, ETS 301 021, 085 TS2 (SS), ETS 302 085 CS2 (BS)	

Tsunami MP.16 3500

Technical Specifications

BASE STATION	Tsunami MP.16 Base Station Radio (with Type-N antenna connector) 4" Pole Mount Bracket Serial Dongle for Antenna Alignment Cable Termination Kit (One RJ45 Connector, One Weatherproof Connector) Power Cord (for Indoor Power Injector) Printed Quick Installation Guide CD-ROM containing User Documentation Indoor Base Station Power Injector Product Registration Card		
SUBSCRIBER STATION	Tsunami MP.16 Subscriber Radio (either with Type-N or Integrated Antenna) 4" Pole Mount Bracket Cable Termination Kit (One RJ45 Connector, One Weatherproof Connector) Power Cord (for Indoor Power Injector) Indoor Subscriber Station Power Injector Printed Quick Installation Guide Product Registration Card Printed Warranty Card		
ANTENNA OPTIONS	Base Station	3336-A00-360 8 dBi Omni 3338-A00-060 60° Sector 3338-A00-090 90° Sector 3338-A00-120 120° Sector	Subscriber Station 3437-A00-001 18 dBi Panel
SPARE MP.16 32 WATT POWER INJECTOR KIT	Tsunami MP.16 32 Watt Power Injector (69823) Instruction Sheet Product Registration Card Printed Warranty Card		

* May have to be adjusted to comply with regulatory requirements of different countries. Please refer to user documentation for more information.



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