



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 Wi-Fi Mesh cells

CONFIGURATIONS/ MODELS	3650-B00-AM0 - MP.16 3650 Base Station 3650-S00-AM0 – MP.16 3650 Subscriber Station - connectorized 3650-S00-AM1 – MP.16 3650i Subscriber Station – integrated antenna					
WIMAX COMPLIANCE	IEEE 802.16-2004 (WiMAX profile 3.5T1)					
WARRANTY	1 Year Parts and Labor					
FREQUENCY	3.650 GHz to 3.675 GHz					
DUPLEXING MODE	TDD					
CHANNEL BANDWIDTH	3.5 MHz and 7 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	18 dBi				
	Azimuth / Elevation	Meets EN 302 085 TS2				
	Cross Polarization	Meets EN 302 085 TS2				
	Polarization	Horizontal or Vertical				
	Return Loss	14 dB				
ANTENNA PORT	Connector	N-Female, 50 ohms				
	Return Loss, BS	-15dB, maximum				
	Return Loss, Antenna	-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					
Cyclic Prefix	1x32, 1x16, 1x8, 1x4					
OUTPUT POWER (AT ANTENNA PORT)	Output Power User Attenuation Control	Up to 21 dBm* Maximum BS Output Power configurable to 5-21 db 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					
SYNCHRONIZATION	GPS based frame synchronization; based upon 1 PPS					
RADIO PERFORMANCE	3.5 MHz	Modulation & FEC	Rx Sensitivity (10 ⁻⁶)	Minimum C/I	Spectral Efficiency	Burst Data Rate, Mbps Tg/Tb = 1/16
		BPSK- 1/2	-95 dBm	4.5 dB	0.5 bps/Hz	1.4 Mbps
		QPSK- 1/2	-92 dBm	6.6 dB	1 bps/Hz	2.8 Mbps
		QPSK- 3/4	-90 dBm	8.9 dB	1.5 bps/Hz	4.2 Mbps
		16QAM- 1/2	-87 dBm	11.9 dB	2 bps/Hz	5.6 Mbps
		16QAM- 3/4	-84 dBm	15.2 dB	3 bps/Hz	8.5 Mbps
		64QAM- 2/3	-80 dBm	19.3 dB	4 bps/Hz	11.3 Mbps
		64QAM- 3/4	-78 dBm	21.3 dB	4.5 bps/Hz	12.7 Mbps
	7 MHz	BPSK- 1/2	-92 dBm	4.5 dB	0.5 bps/Hz	2.8 Mbps
		QPSK-1/2	-89 dBm	6.6 dB	1 bps/Hz	6.6 Mbps
		QPSK- 3/4	-87 dBm	8.9 dB	1.5 bps/Hz	8.5 Mbps
		16QAM- 1/2	-84 dBm	11.9 dB	2 bps/Hz	11.3 Mbps
		16QAM- 3/4	-81 dBm	15.2 dB	3 bps/Hz	16.9 Mbps
		64QAM- 2/3	-77 dBm	19.3 dB	4 bps/Hz	22.6 Mbps
		64QAM- 3/4	-75 dBm	21.3 dB	4.5 bps/Hz	25.4 Mbps

* Version 1.1

Tsunami MP.16 3650 Technical Specifications

LOCAL MANAGEMENT AND MONITORING	Serial/CLI RJ45 Port; Logging feature which logs to serial port or flash	
REMOTE MANAGEMENT AND MONITORING	SSH/CLI, HTTPS, TFTP; SNMP v1, v2 (MIBII, Proxim MIBs, Bridge MIB, 802.16 MIB, Etherlike MIB)	
REMOTE MANAGEMENT ACCESS	Wired-LAN or over-the-air	
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: Packet Classification Capabilities: Scheduling:	Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow 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 Best Effort, Universal Grant Services, Traffic is scheduled per service flow, enabling min/max bandwidth, priority, jitter and latency control for voice, video and data
PPPOE	Transparent Bridging of PPPoE traffic	
	Outdoor Radio Unit (SS and BS)	Indoor Power Injector
INPUT VOLTAGE RANGE	42 to 60 VDC	90 to 260 VAC, 47 to 63 Hz
OUTPUT VOLTAGE AND CURRENT	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) Unpackaged (BSR, SSR): 10.5 x 10.5 x 3.25 in (267 x 267 x 83 mm) Unpackaged (SSi): 12.60 x 12.60 x 3.50 in (320 x 320 x 89 mm)	5.12 x 3.62 x 2.64 in
SAFETY STANDARDS	EN 60950 (CE)	UL 1950 D3 CSA 22.2 No.950 or CUL VDE EN60950 or TUV
EMI STANDARDS	RSS-210 (Canada), ETS EN 301 489-1, ETS 301 021, 085 TS2 (SS), ETS 302 085 CS2 (BS)	Conduction: FCC docket 20780 curve "B" ETS 302 VDE 0871 curve "B" Radiation: FCC class "B"

Tsunami MP.16 3300 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		
ACCESSORY AND SPARE KITS	Spare Power DC Injector (69823) Surge Arrestor 5 GHz - Standard-N Female to Female (5054-SURGE) PoE (Power Over Ethernet) Surge Arrestor (70251)		

* 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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