



Tsunami MP.11 Model 2411 and Model 5054

Wireless Point-to-Multipoint System



APPLICATIONS

- Last Mile Access**
 Competitive broadband service alternative to DSL or cable modems for businesses and residences
- Security and Surveillance**
 Low cost connectivity for IP surveillance cameras
- Metropolitan Area Networks**
 Secure and reliable connectivity between city buildings
- Enterprise Campus Connectivity**
 Extend main network to remote branch offices, warehouses or other out buildings without leased lines

Superior Performance for a Broad Range of Enterprise and Service Provider Applications

The Tsunami MP.11 family offers the industry's highest performance and scalability for a variety of wireless WAN applications including last mile access, security and surveillance and metropolitan networks.

- Advanced Wireless Outdoor Routing Protocol (WORP) polling technique delivers up to 24 Mbps of usable throughput¹
- System dynamically adapts to the number of subscribers in the network for highest efficiency
- OFDM technology, enhances non-line of sight performance¹ improving deployment in challenging areas

Mobile Roaming Enables New Applications

Proxim innovation delivers another wireless industry first - mobile roaming of Subscriber Units (SU) between Base Station Units (BSU). Public safety first responder networks, transportation system monitoring and telemetry and mobile security and surveillance are now all possible with a low cost, robust system.

- Fast handoff at speeds up to 200 km per hour (120 miles per hour)
- Customizable roaming parameter maintains minimum bandwidth required for application performance

Designed for Business and Residential Last Mile Deployment

Service providers enjoy advanced features with the Tsunami MP.11 family, enabling faster and easier revenue generation. The Tsunami MP.11 family is designed with service providers in mind.

- Deliver multiple service plans simply with RADIUS-based bandwidth management
- Asymmetric bandwidth management allows service providers to upsell uplink bandwidth

- Dynamic Data Rate Selection (DDRS)¹ maximizes subscriber coverage by allowing each subscriber to receive the maximum data rate possible
- Up to 250 subscribers per BSU - 1500 per cell site - minimize CAPEX costs per subscriber

Advanced Security Protects Privacy

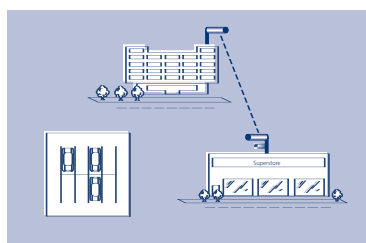
Multiple security mechanisms protect operator, residential customer and enterprise privacy.

- Wireless Outdoor Routing Protocol (WORP) prevents snooping common to Wi-Fi systems
- Advanced encryption protects over-the-air transmission
- Intracell blocking forbids direct communication between Subscriber Units
- BSU and SU mutual authentication eliminates unauthorized use of system by rogue SUs and man-in-the-middle attacks
- Password protection of all remote management methods ensures authorized access

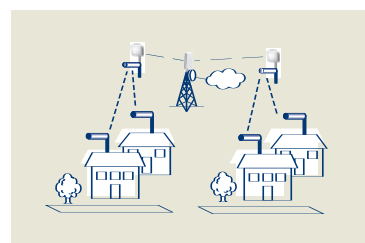
Easy to Deploy and Manage

Ease of deployment and integration with the wired network are critical factors in a successful rollout. Tsunami MP.11 family excels with key capabilities that simplify deployment.

- DDRS employs adaptive modulation delivering optimum performance under all link conditions, mitigating service calls
- Both business and self-installable residential Subscriber Units are available for a variety of customer types
- Deployment tools including antenna alignment and remote management and configuration eliminate the need for truck rolls
- Standard type-N connector and wide variety of antennas provide support for up to 6 sectors per cell site



Security and Surveillance



Last Mile Access



Metropolitan Area Networking

¹ based on Model 5054

Tsunami MP.11 Model 2411 and Model 5054 Specifications

FEATURES	
Best-in-class performance with advanced Wireless Outdoor Router Protocol (WORP)	By eliminating in-the-air collisions and maximizing data content for each transmission, WORP significantly improves performance over standard 802.11-based products.
Highly secure communication	Unlike the 802.11 a/b/g standards, as a proprietary protocol, WORP eliminates the possibilities of unauthorized snooping.
Most flexible spectrum selection	2.4 – 2.497 GHz; 5.15 – 5.35 GHz; 5.47 – 5.725 GHz; 5.725 – 5.85 GHz (including 5.8 GHz for UK Licensed spectrum)
Non-line of sight capable	Line of sight and non-line of sight connectivity extends deployment flexibility in rural as well as high-density urban areas.
Mobile roaming	Fast hand-off at speeds up to 120 mph between overlapping BSUs enables mobile broadband services for transportation systems, emergency responders and even high-speed rail.
Guaranteed data rate while roaming	Allows bandwidth-intensive applications, such as high-definition video streaming, in mobile environments
High-sector count per cell (360°)	Supports 6 sectors per cell
High throughput per cell (360°)	With 6 sectors, up to 144 Mbps
250 subscriber support per BSU	Increasing the number of subscribers per cell allows the fastest ROI
Dynamic Data Rate Selection (DDRS)	Automatically optimizes throughput as link conditions change or as subscribers roam. Connectivity is automatically maintained when link quality degrades.
Flexible bandwidth provisioning	Bi-directional bandwidth rate limiting allows service providers to offer tiered services in 64 kbps increments. Service can be provisioned instantly from the central office, without costly truck rolls.
Concurrent asymmetrical and symmetrical communications per BSU	Both residential and business customers can be served by the same BSU. Asymmetrical mode (DSL-like) is used for residential and symmetrical mode (T1-like) is used for business services.
Built-in NAT service (Network Address Translation)	Enables private IP network deployment and extends IP services such as storage and e-mail at the subscriber site
Built-in DHCP service	DHCP complements the NAT service by provisioning private IP addresses in the subscriber's network
Flexible and secure remote management	Supports remote management via Telnet, SNMP and web interfaces with password protections
Enhanced Subscriber Unit privacy	Intracell blocking allows the BSU to act as the central policy enforcer for SU to SU communications and prevents unauthorized neighbor snooping.
Antenna alignment tool	Provides running statistics with real-time signal strength to aid antenna installation
Comprehensive station statistics	Unit and group statistics are available for monitoring, planning and management of a wireless network.

INTERFACE

Wired Ethernet	10/100Base-TX Ethernet (RJ-45)
Wireless Protocol	WORP
Antenna Connector	Standard-N male

RADIO AND TRANSMISSION SPECIFICATIONS

Unlicensed Frequencies	Model 5054: Americas (FCC): 5.15-5.35 GHz (3 channels); 5.725-5.850 GHz (5 channels) Europe (ETSI): 5.47-5.725 GHz (11 channels) Model 2411: Americas (FCC): 2.4-2.4835 GHz (11 channels) Europe (ETSI): 2.4-2.4835 GHz (13 channels) France: 2.4465-2.4835GHz (4 channels) Japan: 2.4-2.497 GHz (14 channels)
Licensed Frequency (for the UK)	Model 5054: 5.725-5.850 GHz (4 channels)
Modulation Method	Model 5054: OFDM Model 2411: PSK/DSSS
Transmission Rate	Model 5054: 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps Model 2411: 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps

PHYSICAL SPECIFICATIONS

Dimension	8.46 in x 6.89 in x 1.57 in (215 mm x 175 mm x 40 mm)
Weight (without metal base)	2.38 lb (1080 g)

ENVIRONMENTAL SPECIFICATIONS

Temperature	Operating: 0 to 55°C Storage: -20 to 75°C
Humidity	Operating: Max 95% relative humidity (non-condensing) Storage: Max 95% relative humidity (non-condensing)

POWER SUPPLY

Types	Wall unit: Input – Autosensing, 100/240V AC, 50/60 Hz Output – 12V DC, 1.5A Power over Ethernet (IEEE 802.3af) ² : Via RJ-45 Ethernet interface port
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LEDS

Types	Power Ethernet LAN Activity Wireless Interface Activity
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MANAGEMENT

SNMPv1, SNMPv2c Etherlike MIB, Bridge MIB TFTP support Telnet CLI, Serial Port CLI (no proxy required)

MTBF AND WARRANTY

150,000 hours 1-year on parts and labor
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PACKAGE CONTENTS

- One Tsunami MP.11 Unit with an external antenna connector
- One metal base for ceiling or desktop mounting
- Mounting hardware
- One wall-mount power supply
- One Tsunami MP.11 Documentation and Software CD-ROM

² Not available on Residential Subscriber Units

Tsunami MP.11 Model 2411 and Model 5054 Specifications

RELATED PRODUCTS

2.4 GHz Antennas	7 dBi Omni Directional Base Station Antenna 10 dBi Omni Directional Base Station Antenna 12 dBi Directional Wide Angle Antenna 12 dBi Window Antenna 14 dBi Directional Antenna 24 dBi Directional Parabolic Grid Antenna (FCC and unregulated countries only)
5 GHz Base Station Antennas	8 dBi Omni Directional Antenna 14 dBi Sector Antenna 17 dBi Sector Antenna
5 GHz Subscriber Antennas	15 dBi Panel Antenna for window and wall mount 18 dBi Panel Antenna 23 dBi Panel Antenna
Active Ethernet (IEEE 802.3af) Power Injectors	AE 3af 12 Port DC Injector AE 3af 6 Port DC Injector AE 3af 1 Port DC Injector