Tsunami™ MP.11a
Wireless OFDM Non-Line-Of-Sight System

Affordable high performance point-to-multipoint solution
The Tsunami MP.11a is a robust and affordable 54 Mbps* wireless point-to-multipoint connectivity solution ideal for metropolitan area networking (MAN) and data backhaul. Easily providing an outdoor extension to your LAN, the system enables the instant creation of wireless WANs for a number of applications such as security and surveillance, enterprise backbone networks and broadband wireless access. With Tsunami MP.11a, Internet Service Providers can cost-effectively deploy business-class last mile access networks offering a variety of service levels using asymmetric and symmetric bandwidth control. Utilizing the new Wireless Outdoor Router Protocol (WORP), the system provides a high aggregate bandwidth for best-in-class performance and scalability.

Cost effective, complete business class last mile access networks
Consisting of a Base Station Unit and Subscriber Units, Tsunami MP.11a enables service providers to compete effectively against leased line, ADSL and SHDSL solutions. Subscriber units, available in residential and business versions, are extremely affordable and extremely easy to install. The system can be managed and configured remotely – eliminating the need for truck-rolls to the customer.

Secure and reliable LAN extension for metropolitan networks
Designed to operate in non-line-of-sight conditions, Tsunami MP.11a provides secure and reliable connectivity between city buildings. The system easily integrates into existing networks and management systems. Quick-to-deploy and cost-effective, Tsunami MP.11a provides rapid pay-back times.

Easy-to-deploy multi camera networks for security and surveillance
Tsunami MP.11a addresses the cost and installation challenges usually associated with deploying outdoor surveillance networks. The system is ideal for providing surveillance in a wide range of areas including shopping mall parking lots, enterprise warehouses and university campuses. Digital cameras are simply connected to Tsunami MP.11a Subscriber Units, which transmit the high-resolution video back to a centralized Base Station in real-time.

*Optimal performance is achieved at the default setting of 36Mbps.
**INTERFACE**

- **Ethernet Interface**: Ethernet 10/100 Base-T (RJ-45)
- **Wired LAN protocol**: IEEE 802.3 (CSMA/CD)
- **Wireless Interface**: Standard-N Male

**RADIO CHARACTERISTICS**

- **Frequency Channels**: 5.25-5.35 GHz; 4 channels, 5.47-5.725 GHz; 11 channels, 5.725-5.850 GHz; 5 channels
- **Channel Width**: 20 MHz
- **Modulation Technique**: OFDM
- **Media Access Protocol**: Wireless Outdoor Router Protocol (WORP)
- **Bit Error Rate (BER)**: Better than 10-5

**OUTPUT POWER**

<table>
<thead>
<tr>
<th>Output power @ St-N connector (Channels)</th>
<th>54 Mbps</th>
<th>48 Mbps</th>
<th>36 Mbps</th>
<th>6-24 Mbps</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.25-5.35 GHz (56 and 60)</td>
<td>14.5 dBm</td>
<td>15.5 dBm</td>
<td>17.4 dBm</td>
<td>17.4 dBm</td>
</tr>
<tr>
<td>5.25-5.35 GHz (64)</td>
<td>12.5 dBm</td>
<td>12.5 dBm</td>
<td>12.5 dBm</td>
<td>12.5 dBm</td>
</tr>
<tr>
<td>5.47-5.725 GHz (100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140)</td>
<td>14.5 dBm</td>
<td>15.5 dBm</td>
<td>17.5 dBm</td>
<td>17.5 dBm</td>
</tr>
<tr>
<td>5.725-5.850 GHz (149, 153, 157, 161)</td>
<td>13.5 dBm</td>
<td>15.5 dBm</td>
<td>17.5 dBm</td>
<td>18.5 dBm</td>
</tr>
<tr>
<td>5.725-5.850 GHz (165)</td>
<td>12.5 dBm</td>
<td>15.5 dBm</td>
<td>17.5 dBm</td>
<td>17.5 dBm</td>
</tr>
</tbody>
</table>

**Receiver Sensitivity (10% PER with 1000 byte packets)**

- **Normal Mode (Sensitivity)**: 54 Mbps (-68 dBm); 48 Mbps (-72 dBm); 36 Mbps (-76 dBm); 24 Mbps (-80 dBm); 18 Mbps (-83 dBm); 12 Mbps (-85 dBm); 9 Mbps (-86 dBm); 6 Mbps (-87 dBm)
- **Turbo Mode (Sensitivity)**: 108 Mbps (-65 dBm); 96 Mbps (-69 dBm); 72 Mbps (-73 dBm); 48 Mbps (-77 dBm); 36 Mbps (-80 dBm); 24 Mbps (-82 dBm); 18 Mbps (-83 dBm); 12 Mbps (-84 dBm)

**TRANSMIT POWER SETTING - STEPS (OUTPUT POWER REDUCTION)**

- Max (0 dB), One Half (-3 dB), One Quarter (-6 dB), One Eighth (-9 dB), Minimum (-10 dB)

**PHYSICAL SPECIFICATIONS**

- **Dimensions**: 215 mm x 175 mm x 40 mm (8.46 in x 6.89 in x 1.57 in)
- **Weight**: 1080 g (2.38 lb)

**ENVIRONMENTAL SPECIFICATIONS**

- **OPERATING / STORAGE**
  - 0 – 55°C / -20 to 75°C
- **HUMIDITY
  - Max 95% relative humidity (non-condensing)

**POWER SUPPLY**

- Wall unit, autosensing, 100/240 VAC; 50/60 Hz, output 12V DC, 1.5A; Active Ethernet (Power Over Ethernet) - IEEE 802.3af compliant (not on RSU)

**LEDs**

- 3 Power, Ethernet LAN Activity, Wireless Activity

**MANAGEMENT**

- SNMP MIB v2c compliant, TFTP, Telnet CLI and HTTP, web-based GUI

**WARRANTY**

- 12 months (parts and labor)

**MTBF**

- 50,000 hours

**DISTANCE**

- **5.725-5.850 GHz Point-to-Multipoint**
  - 2.9 miles at peak performance, up to 11.5 miles maximum
- **5.47 - 5.725 GHz Point-to-Multipoint**
  - 0.75 miles at peak performance, up to 2.6 maximum
- **5.25 - 5.35 GHz Point-to-Multipoint**
  - 0.8 miles at peak performance, up to 2.8 miles maximum

**PRODUCT FAMILY**

- Tsunami MP 11a Base Station Unit
- Tsunami MP 11a Residential Subscriber Unit
- Tsunami MP 11a Subscriber Unit
- Tsunami MP 11a Accessories (antennas, cables, surge arrestors)

The distances referenced here are approximations and should be used for estimations only. Maximum ranges are based on a clear line of sight, without any obstacles in the path of the antenna beam and using standard accessories, including antenna cable type LMR-400 (6 m/20 ft.)

Predicting the performance of non-line-of-sight implementations is generally not possible. The non-line-of-sight capabilities of this system improve coverage compared to systems without non-line-of-sight capabilities.

Product is certified and available in the following geographies: USA, Canada, Europe, Australia, Japan. To order, contact your nearest Proxim Value Added Reseller.

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