3 GHz PMP 450 High Gain Integrated Subscriber Module

Cambium Networks industry-leading 450 platform now offers additional options for 3 GHz Subscriber Modules (SMs). The 450 platform is the most scalable industrial-grade wireless broadband solution available.

Key Features:

- Available for either 3.3 – 3.6 or 3.55 – 3.8 GHz frequency bands, this SM provides a High Gain Integrated flat panel antenna with 19 dBi, to complete long or difficult links.
- Rugged metal enclosure designed to meet IP-66 and IP-67 standards to withstand harsh environments.

- **NOTE:** This device requires the 30 VDC power supply.

### PRODUCT

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>C035045C014A</th>
<th>3.3 – 3.6 GHz PMP 450 High Gain Directional Integrated Subscriber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C036045C014A</td>
<td>3.55 – 3.8 GHz PMP 450 High Gain Directional Integrated Subscriber</td>
</tr>
</tbody>
</table>

### SPECTRUM

<table>
<thead>
<tr>
<th>Channel Spacing</th>
<th>Configurable to 50 KHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>3300 - 3600 MHz</td>
</tr>
<tr>
<td></td>
<td>3550 – 3800 MHz</td>
</tr>
<tr>
<td>Channel Width</td>
<td>5 MHz, 7 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz or 40 MHz</td>
</tr>
</tbody>
</table>

### INTERFACE

<table>
<thead>
<tr>
<th>MAC (Media Access Control) Layer</th>
<th>Cambium Networks proprietary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Layer</td>
<td>2x2 MIMO OFDM</td>
</tr>
<tr>
<td>Ethernet Interface</td>
<td>10/100BaseT, full duplex, rate auto negotiated (802.3 compliant)</td>
</tr>
<tr>
<td>Protocols Used</td>
<td>IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP</td>
</tr>
<tr>
<td>Network Management</td>
<td>HTTP, HTTPS, Telnet, FTP, SNMP v3</td>
</tr>
<tr>
<td>VLAN</td>
<td>802.1ad (D VLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID</td>
</tr>
</tbody>
</table>

CN PMP 450 SM 05042017
## Specifications

### PERFORMANCE

<table>
<thead>
<tr>
<th>ARQ</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modulation Levels (Adaptive)</strong></td>
<td><strong>MCS</strong></td>
</tr>
<tr>
<td>2X</td>
<td>QPSK</td>
</tr>
<tr>
<td>4X</td>
<td>16QAM</td>
</tr>
<tr>
<td>6X</td>
<td>64QAM</td>
</tr>
<tr>
<td>8X</td>
<td>256QAM</td>
</tr>
</tbody>
</table>

- **Maximum Deployment Range**: Up to 40 miles (64 km)
- **Latency**: 3 - 5 ms, typical
- **GPS Synchronization**: Yes, via Autosync (CMM3, CMM4, uGPS)
- **Quality of Service**: Diffserve QoS

### LINK BUDGET

- **Antenna Beam Width**: 10° azimuth for 19 dBi integrated antenna
- **Antenna Gain**: +19 dB H+V, integrated
- **Transmit Power Range**: 40 dB dynamic range (to EIRP limit by region) (1 dB step)
- **Maximum Transmit Power**: +25 dBm combined output

### PHYSICAL

- **Antenna Connection**: Integrated
- **Surge Suppression**: IEC 61000-4-2 (ESD) 15kV (AIR), 8kV (contact)  
  IEC 61000-4-4 (EFT) 40A (5/50 ns)  
  IEC 61000-4-5 (LIGHTNING) 100A (8/20 µs)
- **Mean Time Between Failure**: > 40 Years
- **Environmental**: IP66, IP67
- **Temperature / Humidity**: -40°C to +60°C (-40°F to +140°F), 0-95% non-condensing
- **Weight**: Approx. 2.5 kg (5.5 lbs)
- **Wind Survival**: 200 km/h (124 mi/h)
- **Dimensions (HxWxD)**: 31.0 x 31.0 x 6.4 cm (12” x 12” x 2.5”)
- **Power Consumption**: 12 W typical, 15 W max
- **Input Voltage**: 20-32 V DC
- **Mounting**: Wall or Pole mount with Cambium Networks Model # N000045L002A

### SECURITY

- **Encryption**: 56-bit DES, FIPS-197 128-bit AES

### Certifications

- **Industry Canada**: 109W-0007 (3.5 GHz)  
  109W-0009 (3.65 GHz)
- **FCC ID**: Z8H89FT0009 (3.65 GHz)
- **CE**: EN 302 326-2 V1.2.2 (3 GHz)  
  EN 302 326-3 V1.3.1 (3 GHz)