

ePMP™ 1000 Hotsheet: The Game Changer



Initial Pitch (Hook)

- Highly Scalable GPS Synchronized PMP/PTP Solution with reliable and consistent performance at a game-changing, breakthrough price
- Simple to deploy, flexible radio models that support the 5.2, 5.4 and 5.8 GHz bands and contain functionality to serve as Access, Subscriber Modules or PTP radios all in one SKU
- Professional grade Quality of Service (QoS) to support VoIP, video and data
- Available from Cambium Networks the most trusted brand in outdoor wireless broadband

Questions (Probing)

For WISPs

ACCESS QUESTIONS

- What equipment are you currently utilizing?
- How many subscribers do you have in your network?
- What frequencies do you utilize for your network? (FSK/OFDM)
- What kind of services do you provide – VoIP, Video and/or Data?
- Are there any issues with your current equipment?
- Do you have any issues that you may foresee?

BACKHAUL QUESTIONS

- What equipment do you use for your backhaul?
- What frequencies are you using?
- What kind of path do you have? (Clear Line of Site, Near-Line-of-Sight (nLOS), Non-Line-of-Sight (NLOS) or a combination)
- What is the average distance of your links?
- What is the aggregate throughput on your link?
- What is the optimal throughput goal?
- Do you have interference issues?

For Enterprises

BACKHAUL QUESTIONS

- What PTP BH technology do you currently use for inter-building connectivity?
- Do you currently utilize your backhaul units for video surveillance?
- What are your uplink and downlink requirements?
- Do you have remote sites that need to be connected?
- What services are required for these remote locations? (Internet/VOIP/SCADA)
- Do you have a need for rapid deployment?

Key Selling Points

GPS Sync Features/Benefits

SPECTRUM EFFICIENCY. Fewer channels are needed to service customers (6.4 bps/Hz – for 20 MHz channel width), connectivity is delivered to more subscribers utilizing fewer access points, ultimately reducing the cost of equipment

SCALABILITY. From a few subscribers to region-wide coverage (up to 120 subscribers per access point and up to 480 subscribers per tower)

REDUCED SELF-INTERFERENCE. As devices and subscribers are added to the network, all subscribers experience predictable throughput (200+ Mbps) and a low roundtrip latency (17 ms) with guaranteed stability – perfect support of VoIP calls

FREQUENCY REUSE. Increased capacity in a noisy environment, servicing up to 4 times more subscribers than competitors using the same channel bandwidth

QoS (Quality of Service) Benefits

- Outstanding quality for triple play service offers – VoIP, video and data (25k PPS in a sector for VoIP)
- Automatic prioritization for VoIP – a “turnkey” solution (built-in feature)
- Packet prioritization balances all types of services for users preserving quality and avoiding starvation

Reliability Benefits

- Cambium’s renowned quality resulting in better ROI
- Improved customer satisfaction
- Less downtime and maintenance for providers

5 GHz Unlicensed Global Band

200+ Mbps throughput Benefits

- Accommodates modern needs for high data rates and latency sensitive services – voice, video and data

Integrated PTP and PMP Benefits

- One type of unit to configure, maintain and spare
- Quick network redesign

Robust Security

- 128-bit AES encryption provides security for sensitive data

Features

- 20 MHz or 40 MHz channel width
- 5 GHz unlicensed frequency band
- 2x2 MIMO/OFDM
- Integrated and connectorized versions
- PTP and PMP technologies combined in one device
- Frequency reuse due to a GPS sync solution
- Adaptive Modulation (from QPSK to 64-QAM)
- Automatic transmit power control
- Built in QoS for VoIP, video and data prioritization
- Long range: Up to 13 miles for PTP and PMP
- Up to 120 units configured for PMP
- High capacity: More than 200 Mbps aggregate throughput per sector
- Secure Over-the-Air Communications (128-bit AES Encryption)
- Low power consumption: 7-10 W

VERTICAL MARKETS AND SOLUTIONS

WIRELESS SERVICE PROVIDERS (WISPS)

- Rural Connectivity
- Municipal Connectivity
- Remote Office Connectivity
- Primary or Redundant Connectivity

ENTERPRISES

- Video Surveillance Backhaul
- Site Monitoring
- LAN Extension
- Leased Line Replacement

Options

GPS Synchronized, Connectorized Radio



Includes:

GPS Antenna, Power Supply, PoE Gigabit Ethernet

Sector Antennas Sector 90 or 120



Unsynchronized, Integrated Radio



Includes:

Power Supply, PoE Main Ethernet, Auxiliary Ethernet with PoE output

ePMP vs. PMP 450* Product Positioning Questions

Probing Questions	ePMP	PMP 450
What frequency are you planning to use?	5.4GHz, 5.8 GHz	2.4GHz, 5.4GHz, 5.8GHz
What is your primary customer base?	Residential/Light Enterprise	Residential/ All Enterprise/ Video Surveillance / Mission Critical
What is your expected number of subscribers per access point?	1-40	0-200
What is your maximum distance from a tower to a subscriber?	0-13 miles, 0-22 km	0-25 miles, 0-40 km
Is your spectrum highly congested?	No: 6.4 bps/Hz	Yes: 9.6 bps/Hz
Do you operate in demanding environmental conditions and convey demanding service level agreements?	No: IP55 Housing Commercial Grade Components -30 C to +55 C	Yes: IP67 Housing Industrial Grade Components -40°C to +55°C
Are you targeting video surveillance backhaul as an application?	DL/UL Configurations 75/25, 50/50, 30/70-	DL/UL Configurations 1% Variable, 85/15, 15/85

*Why PMP 450?

- Longer Range
- Higher Density
- 50% Better Spectral Efficiency
- Carrier-grade Hardware
- Optimal Video Backhaul