ePMP™ 1000 Integrated Radio

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Network operators are challenged to deliver reliable connectivity in overcrowded RF environments. As available spectrum becomes more congested, having the right broadband access solution that allows network operators to deliver efficient quality cost effectively, is vital for all types of deployments.

Maximize network performance using ePMP software with eFortify™ and eCommand™ features and tools. eFortify enhances the performance of the ePMP 1000 in high noise environments. eCommand provides a suite of management features and tools to assist network operators in planning, provisioning and monitoring of their network. The ePMP 1000 Integrated Radio is a compact and powerful platform that can operate as an Access Point, Subscriber Module or PTP radio. When configured to operate as a Subscriber Module or PTP Radio, its gain can be enhanced by the ePMP 1000 Reflector Dish.

Available in both 5 GHz and 2.4 GHz frequency bands the platform delivers high performance and reliable broadband connectivity to customers, with services such as VoIP, video and data. The ePMP 1000 is the most effective connectivity solution for reaching the under-and unconnected around the world.

Main Differentiators

- **INNOVATIVE GPS SYNC TECHNOLOGY** enables unparalleled spectrum efficiency. This allows for the configuration of more subscribers in your network while preserving consistency and quality of service in spectrum-constrained environments. GPS Sync leads directly to CAPEX and OPEX reductions, resulting in lower installation costs and maintenance, allowing your business to concentrate on growth and profitability.
- **QUALITY OF SERVICE (QOS)** allows you to confidently offer triple play services – VoIP (Voice over IP), video and data. Providing your customers with excellent service quality ensures their continued loyalty and transforms them into advocates, helping WISPs and enterprises expand their business.
- **PROVEN RELIABILITY** has created an unsurpassed connectivity standard in many industries that depend on fixed wireless broadband. Our products undergo rigorous testing and are made from high-quality components.

Powerful Features

The Cambium Networks ePMP 1000 Integrated Radio provides more than 200 Mbps of real user throughput. Using 2x2 MIMO-OFDM technologies, ePMP deployments achieve industry leading data rates.

Utilizing GPS sync, the ePMP is an ideal fit for networks that require capacity and reliability for superior QoS in remote and underserved areas. This integrated PTP and PMP solution features an efficient GPS synchronized operational mode that permits highly scalable frequency reuse.

The ePMP 1000 Integrated Radio can be configured as a Subscriber Module, an unsynchronized Access Point or a Backhaul radio. This radio will function as a client (slave) to an ePMP GPS Synchronized Radio in either a PMP or PTP deployment forming a GPS Synchronized solution.

Specifications

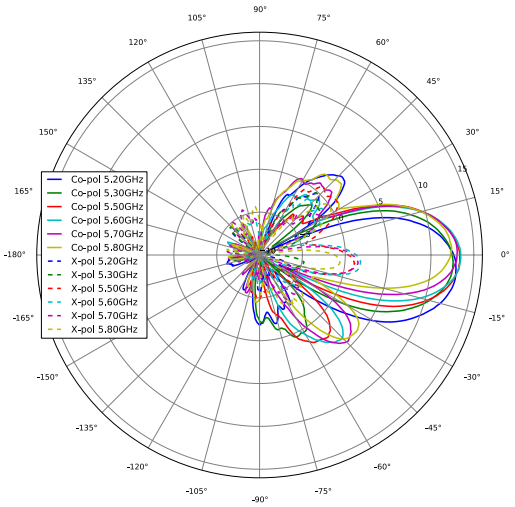
Product	
MODEL NUMBER	5 GHz: C058900P132A/C058900C132A (US/FCC), C050900P033A/C050900C033A (EU), C050900P031A/C050900C031A (Other) 2.4 GHz: XXXXX
Spectrum	
CHANNEL SPACING	Configurable on 5 MHz increments
FREQUENCY RANGE	5 GHz 5150 – 5970 MHz (exact frequencies as allowed by local regulations) 2.4 GHz: 2402 – 2472 MHz
CHANNEL WIDTH	20 MHz or 40 MHz
Interface	
MAC (MEDIA ACCESS CONTROL) LAYER	Cambium Proprietary
PHYSICAL LAYER	2x2 MIMO/OFDM
ETHERNET INTERFACE	100 BaseT, Cambium PoE (V+ = pins 7 & 8, Return = pins 4 & 5)
PROTOCOLS USED	IPv4, UDP, TCP, IP, ICMP, SNMPv2c, HTTPs, FTP
NETWORK MANAGEMENT	HTTPs, FTP, SNMPv2c
VLAN	802.1Q with 802.1p priority
Performance	
ARQ	Yes
NOMINAL RECEIVE SENSITIVITY (W/ FEC) @ 20MHZ CHANNEL	MCS1 = -90 dBm to MCS15 = -62 dBm (per branch)
NOMINAL RECEIVE SENSITIVITY (W/ FEC) @ 40MHZ CHANNEL	MCS1 = -87 dBm to MCS15 = -59 dBm (per branch)
MODULATION LEVELS (ADAPTIVE)	MCS1 (QPSK 1/2) to MCS15 (64QAM 5/6)
LATENCY (nominal, roundtrip)	6 ms (Flexible Frame Mode) , 17 ms (GPS Sync Mode)
QUALITY OF SERVICE	Three level priority (Voice, High, Low) with packet classification by DSCP, COS, VLAN ID, IP & MAC Address, Broadcast, Multicast and Station Priority
Link Budget	
TRANSMIT POWER RANGE	-17 to +30 dBm (combined, to regional EIRP limit) (1 dB interval)
ANTENNA INTEGRATED GAIN	5 GHz: integrated 2.4 GHz: integrated
MAXIMUM TRANSMIT POWER	2.4/5 GHz : 30 dBm combined (subject to regional regulatory restrictions)
Physical	
ANTENNA CONNECTION	Integrated antenna
SURGE SUPPRESSION	1 Joule Integrated
ENVIRONMENTAL	IP55
TEMPERATURE	-30°C to +60°C (-22°F to +140°F)
WEIGHT	0.49 kg (1.1 lb.)
WIND SURVIVAL	145 km/hour (90 mi/hour) with antenna
DIMENSIONS (H x W x D)	29.1 x 14.5 x 8.3 cm (11.4 x 5.7 x 3.3 in)
POWER CONSUMPTION	7 W Maximum, 5 W Typical
INPUT VOLTAGE	10 to 30 V
Security	
ENCRYPTION	128-bit AES (CCMP mode)
Certifications	
FCCID	2.4 GHz: Z8H89FT0011 / 5 GHz: Z8H89FT0006
INDUSTRY CANADA CERT	2.4 GHz: 109W-0011 / 5 GHz: 109W-0006
CE	5 GHz: EN 302 502 v1.2.1 5 GHz: EN 301 893 v1.7.1

Specifications

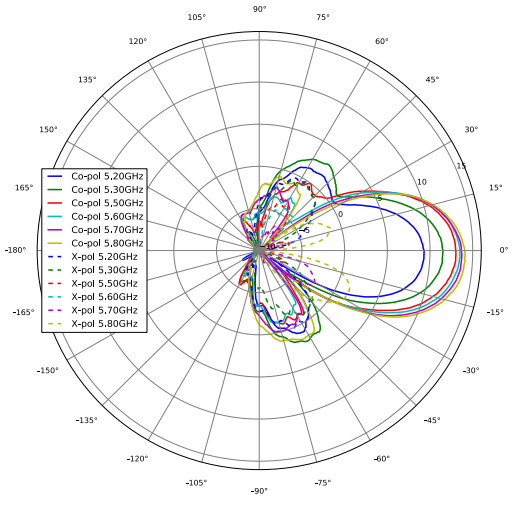
PARAMETER	2.4 GHz SPECIFICATION	5 GHz SPECIFICATION
FREQUENCY RANGE	2400 - 2480 MHZ	5150 – 5970 MHz
ANTENNA TYPE	INTEGRATED	INTEGRATED
TYPICAL GAIN	11 dBi	14 dBi
3dB BEAMWIDTH-AZIMUTH	65°	30°
3dB BEAMWIDTH-ELEVATION	30°	20°
POLARIZATION(S)	DUAL LINEAR, H/ V	DUAL LINEAR, H/ V
FRONT-TO-BACK ISOLATION	> 20 dB	>20 dB
CROSS POLARIZATION	15 dB	15 dB

ePMP 1000 5 GHz Integrated Antenna Azimuth Patterns

H-POL ELEVATION GAIN (dBi) FOR ZERO AZIMUTH

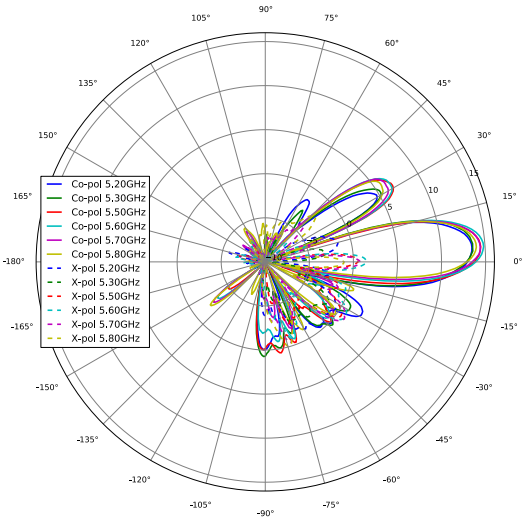


V-POL ELEVATION GAIN (dBi) FOR ZERO AZIMUTH

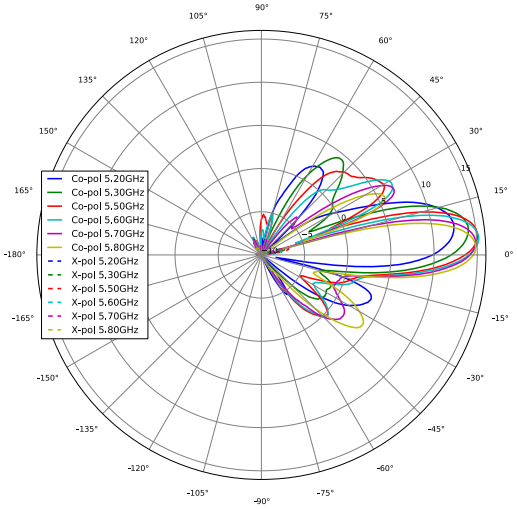


ePMP 1000 5 GHz Integrated Antenna Elevation Patterns

H-POL AZIMUTH GAIN (dBi) FOR ZERO ELEVATION

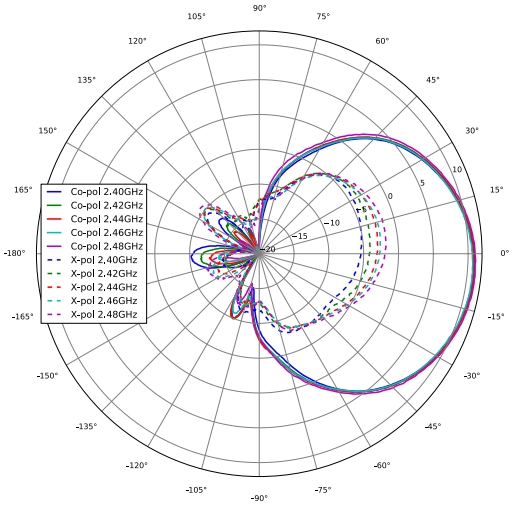


V-POL AZIMUTH GAIN (dBi) FOR ZERO ELEVATION

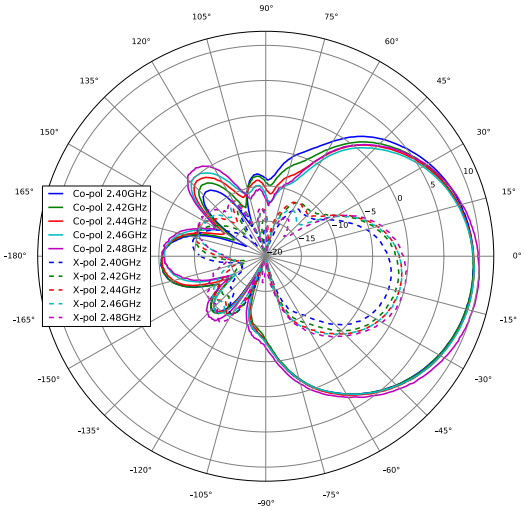


ePMP 1000 2.4 GHz Integrated Antenna Azimuth Patterns

H-POL AZIMUTH GAIN (DBI) FOR ZERO ELEVATION

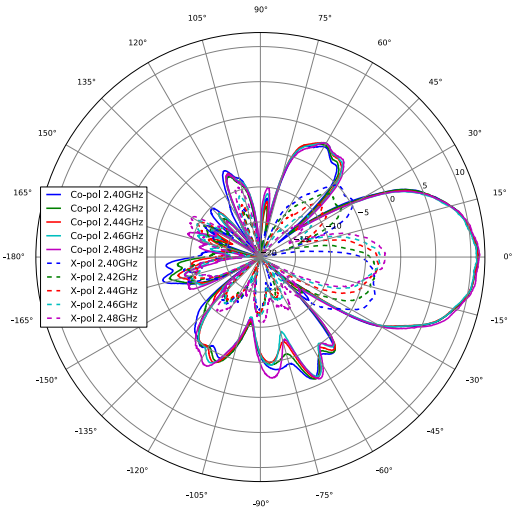


V-POL AZIMUTH GAIN (DBI) FOR ZERO ELEVATION



ePMP 1000 2.4 GHz Integrated Antenna Elevation Patterns

H-POL ELEVATION GAIN (DBI) FOR ZERO AZIMUTH



V-POL ELEVATION GAIN (DBI) FOR ZERO AZIMUTH