



CAMBIUM PTP 800 SERIES

HIGH-SPEED LICENSED MICROWAVE FOR FEDERAL NETWORKS

Our Cambium Point-to-Point (PTP) 800 Licensed Ethernet Microwave solutions can efficiently and affordably transport the data, voice and video that your U.S. Federal Government applications require. With models in the 7 GHz and 8 GHz dedicated bands, you do not have to contend with other communicators in your chosen radio-frequency (RF) band.

NTIA-COMPLIANT

Our 7 and 8 GHz PTP 800 models are National Telecommunications and Information Administration (NTIA) compliant and operate at speeds up to 301 Mbps¹ (full duplex) over user-configurable channel bandwidths from 10 to 50 MHz. The radios provide high-performance, ultra-reliable and secure connectivity and backhaul for a wide array of Department of Defense (DoD) and non-DoD applications such as:

- Leased-line and fiber replacements and extensions
- Video surveillance extensions beyond a wired infrastructure
- Network redundancy for a wired or fiber network
- Building-to-building and office campus connectivity
- Added capacity for voice and video communications
- · High-capacity backhaul for WiMAX and LTE networks
- Border security connectivity and backhaul

EXTREME DURABILITY

PTP systems have logged more than four billion field hours. As a result, our radios are proven to withstand the rigors of outdoor use. Radios perform steadfastly in winds up to 150 miles per hour (242 kph) and temperatures from -27° to 131° F (-33° to 55° C).

RADIO TECHNOLOGY RF bands* 7 GHz Band: 7.125 – 7.75 GHz 8 GHz Band: 7.75 – 8.47 GHz Channel size Configurable from 10 to 50 MHz Maximum Tx powers* 27 dBm Bost Rx sensitivity* 9.00 dBm Modulation OPSK, BPSK, 16/32/64/128/256 QAM Fixed mode or Adaptive Coding and Modulation (ACM) Fror correction Low Density Parity Check (LDPC) code Duplex scheme FDD Troprietary air interface Optional FIPS-197 compliant 128/256-Bit AES Encryption Optional FIPS-197		
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Channel size Configurable from 10 to 50 MHz Maximum Tx power ² 22 dBm Best Rx sensitivity* 90.0 dBm Modulation CPSK, 8PSK, 16/32/64/128/256 QAM Fixed mode or Adaptive Coding and Modulation (ACM) Fror correction Low Density Parity Check (LDPC) code Duplex scheme FDD Security and encryption Proprietary air interface Optional FIPS-197 compliant 128/256-Bit AES Encryption Optional FIPS-197 compli	TII banas	
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Duplex scheme FDD Security and encryption Proprietary air interface Optional FIPS-197 compliant 128/256-Bit AES Encryption Optional FIPS 140-2° ETHERNET BRIDGING Protocol IEEE 802.3 802.1p/10 (served by 8 queues) 802.1a/ (0-in-0) Frame size Up to 9800 bytes User data throughput* Io to 301 Mbps at the Ethernet (full duplex); use our Cambium PTP LINKPlanner to determine actual throughput for the deployment Latency To < 115 ps @ full capacity with 64 bytes User traffic interface 100 / 1000 Base T (RJ-45) – auto MDI/MDIX, 1000 Base SX and LX options MANAGEMENT & INSTALLATION Network management IPv6/IPv4 dual-stack management support Web access via browser using HTTP or HTTPS/TLS' SNMP v1, v2c, v3, MIB II, and proprietary PTP MIB Cambium Wireless Manager, release 3.0 or higher Remote authentication using RADIUS and syslog Out-of-band interface 10, 100 Base T (RJ-45) Installation ODU — RSS output assistance for link alignment Connection IF cable between outdoor unit (ODU) and compact modem unit (CMU); distance up to 1000 ft. (300 meters) using the LMR600 cable; 630 ft. (190 meters) is achievable with the CNT400 IF cable available from Cambium Networks. PHYSICAL Physical configuration Split mount — Compact Modem Unit (CMU) and Outdoor Unit (ODU) Dimensions ODU: 150 mph (242 kph) ODU: 10.1 lbs (4.6 kg) CMU: 2,4 lbs (1.1 kg) Wind speed survival ODU: 150 mph (242 kph) Power source -48V DC (-40.5V DC to -60V DC) Power consumption -7 & 8 GHz: 120 Watts maximum 1+1 Configuration (2-00Us +2-CMUs per end) 7 & 8 GHz: 120 Watts maximum 1+1 Configuration (2-00Us +2-CMUs per end) 7 & 8 GHz: 170 Watts maximum 1+1 Configuration (2-00Us +2-CMUs per end) 7 & 8 GHz: 170 Watts maximum ENVIRONMENTAL & RECULATORY Operating temperature Outdoor Unit: -27° to +131° F (-33° to +55° C) — EN 300 019-1-3 Humidity Outdoor Unit: Up to 100% Compact Modem Unit: Up to 59%, non-condensing		Fixed mode or Adaptive Coding and Modulation (ACM)
Proprietary air interface Optional FIPS 197 compliant 128/256-Bit AES Encryption Optional FIPS 140-2°		
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R02.1p/10 (served by 8 queues) R02.1p/10 (served by 8 queues) R02.1pd (Loin-O)	ETHERNET BRIDGING	
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Compact Modem Unit: Up to 95%, non-condensing	Humidity	
	Safety	

ENVIRONMENTAL & RE	GULATORY		
Operating temperature	Outdoor Unit: -27° to +131° F (-33° to +55° C) — EN 300 019-1-4		
	Compact Modem Unit: -27° to +131° F (-33° to +55° C) — EN 300 019-1-3		
Humidity	Outdoor Unit: Up to 100%		
	Compact Modem Unit: Up to 95%, non-condensing		
Safety	UL 60950; IEC 60950; EN 60950;		
	CSA 22.2 No. 60950		
EMC	USA: FCC Part 15, Class B		
	Europe: EN 301 489-1 and EN 301 489-4		
Radio standard	ETSI Harmonized Standard EN 302 217-2-2		
	FCC Regulation Title 47, Part 101		
	Industry Canada Specification RSS-GEN and relevant SRSP Specifications		
	NTIA Redbook		

Radio Configuration – 7 and 8 GHz					
Frequency (GHz)		7	8		
Standard		FCC / NTIA	FCC / NTIA		
Frequency Range (GHz)		7.125 ~ 7.75	7.75 ~ 8.47		
	T/R Spacing (MHz)	300	360		
F C C	Channel Bandwidth (MHz)	10 20 30 40 50	10 20 30 40 50		
RF Channel Selection		Via Web GUI			
System Configuration 1 + 0, 1+1 HSB and 2+		ISB and 2+0			
ATPC Range (dB)		Transmit Power Control — Adaptive, lower power limit varies with RF band down to 9dBm minimum.			

Transmit Power – 7 and 8 GHz			
Modulation	Maximum Transmit Power FCC / NTIA (dBm) 7 and 8 GHz Frequencies		
QPSK	22		
8PSK	22		
16 QAM	22		
32 QAM	22		
64 QAM	22		
128 QAM	22		
256 QAM	22		

Cambium PTP 800 NTIA Models			
PTP 07800	7 GHz		
PTP 08800	8 GHz		

User Ethernet Data Throughput – 7 and 8 GHz						
	Maximum Throughput – Mbps (1518 Bytes/ Frame)					
Modulation	Channel Bandwidth (MHz)					
	10	20	30	40	50	
256 QAM	N/A	113.6	177.4	236.7	301.6	
128 QAM	50.9	102.2	155.1	206.9	258.6	
64 QAM	42.8	84.9	135.5	181.9	217.4	
32 QAM	33.7	67.8	103.6	150.7	178.6	
16 QAM	29.1	58.5	77.9	103.9	150.5	
8PSK	20.4	40.3	59.1	78.9	103.7	
QPSK	13.8	28.5	39.4	52.6	65.7	

Receive Sensitivity – 7 and 8 GHz					
	BER = 1e-6				
Modulation	7 and 8 GHz Receive Sensitivity (dBm) At Each Channel (MHz)				
	50	40	30	20	10
256 QAM	-65.3	-66.8	-67.8	-69.9	-
128 QAM	-68.5	-69.5	-70.7	-72.0	-74.2
64 QAM	-71.5	-71.9	-73.0	-75.4	-77.4
32 QAM	-73.8	-74.0	-76.3	-77.8	-80.0
16 QAM	-75.8	-78.9	-80.1	-80.1	-82.5
8PSK	-79.1	-81.1	-82.3	-83.1	-85.1
QPSK	-83.7	-84.7	-85.9	-87.1	-90.0

NOTE: While the information presented herein is, to the best of our knowledge, true and accurate, the information provided in this document is subject to change without notice.

- 1 301 Mbps maximum throughput requires a 50 MHz channel and 256 QAM which may not be available in certain regions due to regulatory restrictions.
- ² Regulatory conditions for RF bands may vary by geographic location and should be confirmed prior to system purchase.
- ³ Transmit power depends on frequency, modulation and regulations.
- 4 Receive sensitivity depends on frequency, channel bandwidth and modulation (-90.0 dBm is based on a 7 GHz model with 10 MHz channel bandwidth and the QPSK mode).
- While FIPS 140-2 is compatible with existing systems, certain hardware limitations may apply. Certification status may be confirmed at: http://csrc.nist.gov/groups/STM/cmvp/inprocess.html
- ⁶ User throughput depends on the configuration of channel bandwidth, modulation and capacity license key. Radios ship with factory-set 10 Mbps throughput capacity cap; additional capacity may be purchased at time of order or anytime after deployment. Full capacity is not available for all combinations of bands and regulations.
- ⁷ Web access via HTTPS/TLS is available on AES-enabled radios.

PTP 800 7-8 GHZ SPECIFICATION SHEET from Release 06-00

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