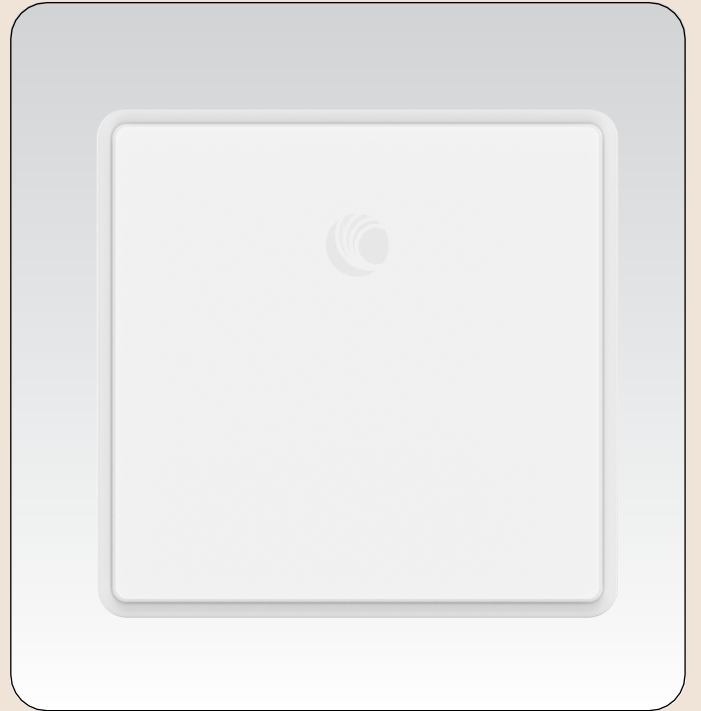


# PTP 45700 Beam Steering ODU

## QUICK LOOK :

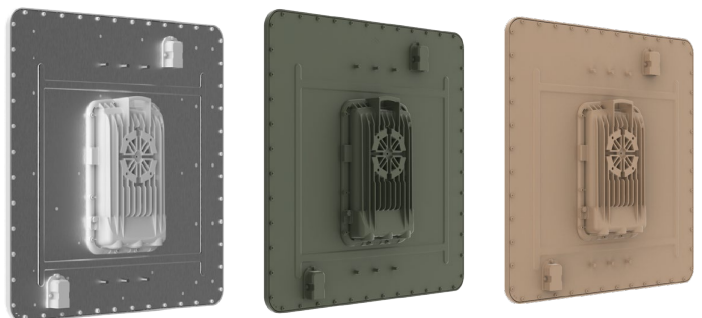
The PTP 45700 Beam Steering ODU with integrated Smart Antenna provides electronic beamforming that allows for easy tactical installation and best-in-class interference mitigation in addition to the industry-leading spectral efficiency and processing capabilities of the PTP 700 family of products.

- 120° azimuth and 30° elevation smart antenna for point-to-point links
- Maximizes gain through beamforming
- Reduces system cost, weight, and complexity, compared to mechanical positioners
- Supports quick tactical deployment



## FEATURES AND BENEFITS

- 4.4 GHz–5.875 GHz wideband radio
- Wide 120° azimuth and 30° elevation antenna, allowing for quick, tactical installation by pointing in the general direction of the desired radio
- High-gain antenna (up to 22 dBi at boresight)
- Reduced alignment time (seconds versus minutes) compared to manual alignment or mechanical positioners
- Reduced system cost (30% savings) and weight (60% lighter) without mechanical positioner
- Rugged design, tested to MIL-STD-810 and IP66/67 environmental specifications
- Commercial white and MIL-SPEC finishes
- Dynamic Spectrum Optimization (DSO), maximizing performance in dynamic spectrum environments
- Integrated Spectrum Analyzer, allowing real-time and historical monitoring of spectrum



## PTP 45700 Beam Steering ODU

### Radio

<b>RF Bands</b>	Wide-band operation 4.4 GHz to 5.875 GHz in a single SKU, supporting bands including: <ul style="list-style-type: none"> <li>• NATO Band IV / NTIA Compliant (4.4 GHz to 4.99 GHz)</li> <li>• 4.9 GHz Public Safety Band</li> <li>• 5.1/5.2/5.4/5.8 GHz FCC/ETSI</li> </ul>
<b>Configuration</b>	1+0, 2+0 (requires external switch)
<b>Channel Sizes</b>	5, 10, 15, 20, 30, 40, and 45 MHz channels. Channel sizes depend on individual country regulations.
<b>Spectral Efficiency</b>	10 bps/Hz maximum
<b>Channel Selection</b>	By Dynamic Spectrum Optimization (DSO) or manual intervention Automatic selection on startup and continual self-optimization to avoid interference
<b>Maximum Transmit Power</b>	Up to 29 dBm
<b>System Gain</b>	Up to 166 dB
<b>Modulation / Error Correction</b>	Fast Preemptive Adaptive Modulation, featuring 13 modulation / FEC coding levels ranging from BPSK to 256 QAM dual payload MIMO
<b>Duplex Scheme</b>	Time Division Duplex (TDD) Adaptive or fixed transmit/receive duty cycles Split-frequency operation allows separate transmit and receive frequencies, where allowed by regulation. Optional TDD synchronization using PTP-SYNC Module
<b>Antenna</b>	Integrated flat panel Boresight gain (dBi): 21.4 @ 4.4, 22.1 @ 5.0, 21.0 @ 5.875 GHz + 60° / - 60° gain (dBi): 14-16 dBi
<b>Security</b>	128/256-bit AES encryption (optional) HTTPS and SNMPv3, user authentication and RADIUS support identity-based user accounts Configurable password rules Event logging and management; optional logging via syslog

### Ethernet Bridging

<b>Protocol</b>	IEEE 802.3
<b>Latency</b>	1–3 ms one direction
<b>QoS</b>	Extensive QoS supporting up to 8 queues (PTP mode) and 4 queues (HCMP mode)
<b>Packet Classification</b>	Layer 2 and layer 3 IEEE 802.1p, MPLS, Ethernet priority
<b>Packet Performance</b>	Line rate (>850K packets per second)
<b>Timing Transport</b>	Synchronous Ethernet; IEEE 1588v2
<b>Frame Support</b>	PTP mode: Jumbo frame up to 9600 bytes
<b>Flexible I/O</b>	2 x Gigabit Ethernet copper ports: <ul style="list-style-type: none"> <li>• <b>Gigabit Port 1:</b> Data + PoE power input</li> <li>• <b>Gigabit Port 2:</b> Data + 802.3at PoE power output</li> </ul> 1 x SFP port: Single-mode fiber, multi-mode fiber or copper gigabit Ethernet options available

## PTP 45700 Beam Steering ODU

### Management

<b>Network Management</b>	In-band and out-of-band management (OOBM)
<b>System Management</b>	IPv6/IPv4 dual-stack management support Web access via browser using HTTP or HTTPS/TLS SNMP v1, v2c and v3, MIB-II, and proprietary PTP MIB Online spectrum analyzer (no impact on payload traffic or network operation)
<b>Installation</b>	Built-in audio and graphical assistance for link optimization (when automatic beam steering is disabled)

### Mechanical Specifications

<b>Dimensions (H x W x D)</b>	581 x 595 x 84 mm (22.9 x 23.4 x 3.3 in)
<b>Weight</b>	9.1 kg (20.1 lb)
<b>Operating Temperature</b>	-40° to 60°C (-40° to 140°F)
<b>Environmental Rating</b>	IP66 and IP67
<b>Shock/Vibration/Temperature</b>	MIL-STD-810
<b>Wind Speed Survival</b>	160 kph (99 mph)
<b>Power Consumption</b>	43W maximum (up to 70W with 802.3at device on auxiliary port)
<b>Available Colors</b>	Green, desert tan, white

### Environmental and Regulatory

<b>Protection and Safety</b>	UL 62368-1 and UL 60950-22; EN IEC 62368-1 and IEC 62368-3; EN 60529; CSA C22.2 62368-1 and CSA C22.2 60950-22; CB approval for global use
<b>Radio</b>	4.9 GHz: FCC Part 90Y, RSS-111 5.x GHz: FCC Part 15, sub-parts 15C and 15E; RSS 247 Issue 1 EN 302 502; EN 301 893; EN 302 625; Eire ComReg 02/71R1, UK Approval to IR2007 NTIA Redbook RSS-210
<b>EMC</b>	EN 301 489-1, EN 301 489-17; FCC Part 15B Class A, ICES-003 Class A

## PTP 45700 Beam Steering ODU

Receiver Sensitivity and Transmit Power dBm @ 4.7 GHz								
Modulation Mode	5 MHz	10 MHz	15 MHz	20 MHz	30 MHz	40 MHz	45 MHz	Transmit Power (dBm)
<b>BPSK 0.63 Single</b>	-93.5	-92.0	-90.2	-89.0	-87.2	-86.0	-85.5	28.0
<b>QPSK 0.63 Single</b>	-90.0	-88.5	-86.7	-85.5	-83.7	-82.5	-82.0	27.0
<b>QPSK 0.87 Dual</b>	-86.0	-84.5	-82.7	-81.5	-79.7	-78.5	-77.9	26.0
<b>16QAM 0.63 Single</b>	-84.1	-82.6	-80.8	-79.5	-77.8	-76.5	-76.0	25.0
<b>16QAM 0.63 Dual</b>	-81.0	-79.5	-77.8	-76.5	-74.8	-73.5	-73.0	25.0
<b>16QAM 0.87 Single</b>	-79.4	-77.9	-76.1	-74.8	-73.1	-71.8	-71.3	24.0
<b>16QAM 0.87 Dual</b>	-76.3	-74.8	-73.0	-71.8	-70.0	-68.8	-68.3	24.0
<b>64QAM 0.75 Single</b>	-76.4	-74.9	-73.1	-71.9	-70.1	-68.9	-68.4	23.0
<b>64QAM 0.75 Dual</b>	-73.3	-71.8	-70.0	-68.8	-67.0	-65.8	-65.3	23.0
<b>64QAM 0.92 Single</b>	-72.6	-71.1	-69.4	-68.1	-66.3	-65.1	-64.6	23.0
<b>64QAM 0.92 Dual</b>	-69.4	-67.9	-66.1	-64.8	-63.1	-61.8	-61.3	23.0
<b>256QAM 0.81 Single</b>	-69.4	-67.9	-66.1	-64.8	-63.1	-61.8	-61.3	23.0
<b>256QAM 0.81 Dual</b>	-65.8	-64.3	-62.5	-61.3	-59.5	-58.3	-57.8	23.0

Throughput (Mbps @ 5 km)							
Modulation Mode	5 MHz	10 MHz	15 MHz	20 MHz	30 MHz	40 MHz	45 MHz
<b>BPSK 0.63 Single</b>	2.3	4.8	7.2	9.6	14.5	19.8	21.7
<b>QPSK 0.63 Single</b>	4.7	9.6	14.5	19.2	29.1	39.7	43.5
<b>QPSK 0.87 Dual</b>	6.5	13.4	20.2	26.8	40.5	55.2	60.5
<b>16QAM 0.63 Single</b>	9.3	19.3	29.0	38.5	58.1	79.4	87.0
<b>16QAM 0.63 Dual</b>	12.9	26.8	40.3	53.5	80.9	110.4	121.0
<b>16QAM 0.87 Single</b>	16.6	34.5	51.8	68.8	103.9	141.9	155.5
<b>16QAM 0.87 Dual</b>	20.4	42.2	63.4	84.2	127.2	173.7	190.3
<b>64QAM 0.75 Single</b>	24.2	50.0	75.3	99.9	151.0	206.1	225.9
<b>64QAM 0.75 Dual</b>	18.6	38.5	58.0	77.0	116.3	158.7	173.9
<b>64QAM 0.92 Single</b>	25.9	53.6	80.7	107.1	161.7	220.8	241.9
<b>64QAM 0.92 Dual</b>	33.3	68.9	103.7	137.6	207.9	283.8	311.0
<b>256QAM 0.81 Single</b>	40.7	84.2	126.9	168.4	254.4	347.3	380.6
<b>256QAM 0.81 Dual</b>	48.4	100.1	150.6	199.9	301.9	412.2	451.7

### ABOUT CAMBIUM NETWORKS

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences, and device connectivity, with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We deliver connectivity that just works.

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