

# PTP 550E

1.4 Gbit Capacity

## Product Name Quick Look

- 4.9 GHz to 6.2 GHz
- Up to 1.4 Gbps
- Built-in live spectrum analyzer
- IPv6/IPv4 dual-stack management support
- AES 128 encryption
- ARQ support



The PTP 550E is a point-to-point Gigabit throughput solution based on 802.11 ac Wave 2 operating in 5 GHz wireless space, addressing the gigabit capacity needs for high-speed backhaul solutions in mid- and long-range applications. The PTP 550E solution draws its attributes from Cambium Networks' point to point products such as PTP 650/670 and PTP 450i.

### Metal Housing

Each PTP 550E radio is enclosed in a rugged IP66/67-rated metal enclosure, which protects the radio from extreme conditions and solar radiation.

### Antenna Alignment

The e-alignment GUI provides the installer with an accurate and reliable way of installing PTP 550E.

### Channel Bonding

Each channel can have independent channel bandwidth that provides for flexibility in channel selection, band selection, and address throughput requirements. Using two 80 MHz channels, the PTP 550E achieves 1.4 Gbps.

### Dynamic Channel Selection

With dynamic channel selection (DCS), PTP 550E systems constantly optimize the channel of operation to maximize link reliability and performance. Responding to the radio interference environment, PTP 550E will search for the clearest spectrum and move to it seamlessly. The customer benefits from best available throughput with limited spectrum in the most challenging environments.

## PTP 550E

### Radio Technology

<b>Model</b>	PTP 550E Connectorized PTP 550E Integrated
<b>RF Bands</b>	Wide-band operation 4.9 GHz to 6.2 GHz (entire frequency range)
<b>Number of Radios</b>	2 independent radios 2x2:2 (each 2 streams), 4 streams total (4X4 MIMO)
<b>Channel Sizes</b>	Dual independent channels, each channel configurable as 10, 20, 40, and 80 MHz
<b>Spectral Efficiency</b>	8.5 bps/Hz maximum
<b>Channel Selection</b>	Fixed frequency or dynamic channel selection (DCS)
<b>Maximum Transmit Power</b>	Up to 26 dBm
<b>System Gain</b>	Up to 173 dB with integrated antenna
<b>Modulation</b>	MCS 0 to MCS 9 (256 QAM)
<b>Duplex Scheme</b>	Time division duplex (TDD) Multiple transmit/receive duty cycles
<b>Antenna</b>	Integrated flat panel: 23 dBi Connectorized: Single- and dual-polarity antennas through 2 x N-type connectors
<b>Range</b>	Up to 200 km (122 miles)
<b>UL/DL Ratio Supported</b>	50:50 , 70:30, and 75:25
<b>Security</b>	FIPS 197 compliant 128-bit AES encryption Factory mode recovery

### Ethernet Bridging

<b>Latency</b>	3 ms one direction
<b>Packet Classification</b>	Layer 2 and layer 3 IEEE 802.1p, Ethernet priority,VLAN
<b>Quality of Service (QoS)</b>	3 levels of QoS
<b>Maximum Packet Size</b>	1700 bytes
<b>TDD Sync</b>	Supports CMM5 and cnPulse
<b>Flexible I/O</b>	1 Gigabit port: Data + PoE power input 1 SFP port (single-mode fiber, multi-mode fiber, and copper Gigabit Ethernet options available)

### Management

<b>Network Management</b>	In-band and out-of-band management
<b>System Management</b>	IPv6/IPv4 dual-stack management support, TCP/IP, UDP,FTP, SSH SNMPv2 and SNMPv3, https, WPA-PSK2 , ICMP, Telnet online spectrum analyzer (no impact on payload traffic) cnMaestro™ management
<b>Installation</b>	Built-in e-alignment using GUI on radio to assist in installation

## PTP 550E

Throughput (UDP)		
Single Channel		
Channel Size	Aggregate Throughput	
10 MHz	83 Mbps	
20 MHz	166 Mbps	
40 MHz	332 Mbps	
80 MHz	725 Mbps	
Dual Channel		
Channel A	Channel B	Aggregate Throughput
10 MHz	10 MHz	166 Mbps
10 MHz	20 MHz	249 Mbps
10 MHz	40 MHz	415 Mbps
10 MHz	80 MHz	747 Mbps
20 MHz	20 MHz	332 Mbps
20 MHz	40 MHz	465 Mbps
20 MHz	80 MHz	840 Mbps
40 MHz	40 MHz	650 Mbps
40 MHz	80 MHz	1.025 Gbps
80 MHz	80 MHz	1.4 Gbps

Receiver Sensitivity																				
Frequency Band	4.9 GHz				5.1 GHz				5.2 GHz				5.4 GHz				5.8 – 6.2 GHz			
Bandwidth (MHz)	10	20	40	80	10	20	40	80	10	20	40	80	10	20	40	80	10	20	40	80
MCS1	-92.0	-90.0	-87.0	-84.0	-91.0	-89.0	-87.0	-84.0	-91.0	-88.0	-86.0	-84.0	-92.0	-89.5	-86.5	-84.0	-91.0	-88.0	-85.0	-83.0
MCS2	-90.0	-88.0	-85.0	-82.0	-89.0	-87.0	-85.0	-83.0	-90.0	-87.0	-84.0	-82.0	-89.5	-87.0	-84.5	-81.9	-89.0	-86.0	-83.0	-81.0
MCS3	-87.0	-85.0	-82.0	-79.0	-86.0	-84.0	-81.0	-78.0	-86.0	-83.0	-81.0	-79.0	-87.0	-84.5	-82.5	-80.5	-86.0	-83.0	-81.0	-79.0
MCS4	-85.0	-83.0	-80.0	-77.0	-84.0	-82.0	-79.0	-76.0	-84.0	-81.0	-78.0	-76.0	-84.0	-81.5	-78.9	-76.2	-83.0	-81.0	-79.0	-77.0
MCS5	-80.0	-78.0	-75.0	-72.0	-80.0	-78.0	-75.0	-73.0	-80.0	-77.0	-74.0	-72.0	-79.5	-77.5	-75.0	-72.5	-80.0	-77.0	-74.0	-72.0
MCS6	-79.0	-77.0	-74.0	-71.0	-78.0	-76.0	-73.0	-70.0	-78.0	-75.0	-73.0	-71.0	-78.5	-76.0	-73.5	-70.9	-78.0	-75.0	-73.0	-71.0
MCS7	-77.0	-75.0	-72.0	-69.0	-77.0	-75.0	-72.0	-69.0	-77.0	-74.0	-72.0	-70.0	-77.0	-74.5	-71.9	-69.2	-76.0	-73.0	-71.0	-69.0
MCS8	-73.0	-71.0	-68.0	-65.0	-73.0	-70.0	-67.0	-65.0	-72.0	-69.0	-67.0	-65.0	-72.5	-70.5	-67.9	-65.2	-72.0	-69.0	-67.0	-65.0
MCS9	-71.0	-69.0	-66.0	-63.0	-71.0	-68.0	-65.0	-63.0	-70.0	-67.0	-65.0	-63.0	-70.5	-68.5	-66.5	-63.9	-70.0	-67.0	-65.0	-63.0

## PTP 550E

Transmit Power (dBm)																									
		4.9–5.150 GHz Band				5.150–5.250 GHz Band				5.250–5.350 GHz Band				5.350–5.725 GHz Band				5.725–5.9 GHz Band				6.0–6.2 GHz Band			
MCS	Pay-loads	10 MH	20 MH	40 MH	80 MH	10 MH	20 MH	40 MH	80 MH	10 MH	20 MH	40 MH	80 MH	10 MH	20 MH	40 MH	80 MH	10 MH	20 MH	40 MH	80 MH	10 MH	20 MH	40 MH	80 MH
		z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z	z
MCS 1	Single	26	26	25	25	26	26	25	25	26	26	25	25	25	25	24	23	25	25	23	23	25	25	23	23
MCS 2	Single	26	26	25	25	26	26	25	25	26	26	25	25	25	25	23	23	25	25	23	23	25	25	23	23
MCS 3	Single	26	26	25	25	26	26	25	25	26	26	25	25	25	25	23	23	25	25	23	23	25	25	23	23
MCS 4	Single	25	25	25	25	25	25	25	25	25	25	25	25	23	23	23	23	23	23	23	23	23	23	23	23
MCS 5	Single	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	22	22	22	22	22	22	22	22	22
MCS 6	Single	22	22	22	22	22	22	22	22	22	22	22	22	21	21	21	21	21	21	21	21	21	21	21	21
MCS 7	Single	22	22	22	22	22	22	22	22	22	22	22	22	20	20	20	20	20	20	20	20	20	20	20	20
MCS 8	Single	21	21	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	20	20	20	20	20	20	20
MCS 9	Single	20	20	20	20	20	20	20	20	20	20	20	20	19	19	19	19	19	19	19	19	19	19	19	19
MCS 1	Dual	26	26	25	25	26	26	25	25	26	26	25	25	25	25	24	23	25	25	23	23	25	25	23	23
MCS 2	Dual	26	26	25	25	26	26	25	25	26	26	25	25	25	25	23	23	25	25	23	23	25	25	23	23
MCS 3	Dual	26	26	25	25	26	26	25	25	26	26	25	25	25	25	23	23	25	25	23	23	25	25	23	23
MCS 4	Dual	25	25	25	25	25	25	25	25	25	25	25	25	23	23	23	23	23	23	23	23	23	23	23	23
MCS 5	Dual	23	23	23	23	23	23	23	23	23	23	23	23	22	22	22	22	22	22	22	22	22	22	22	22
MCS 6	Dual	22	22	22	22	22	22	22	22	22	22	22	22	21	21	21	21	21	21	21	21	21	21	21	21
MCS 7	Dual	22	22	22	22	22	22	22	22	22	22	22	22	20	20	20	20	20	20	20	20	20	20	20	20
MCS 8	Dual	21	21	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	20	20	20	20	20	20	20
MCS 9	Dual	20	20	20	20	20	20	20	20	20	20	20	20	19	19	19	19	19	19	19	19	19	19	19	19

### Physical

**Dimensions** Integrated Outdoor Unit (ODU): 305 mm x (12") 305 mm (12") x 68 mm (12 in x 12 in x 2.2 in)  
**W x H x D** Connectorized ODU: 185 mm x 278 mm x 88 mm (7 in x 11 in x 3.5 in)

**Weight** Integrated ODU: 2.2 kg (4.85 lb), including bracket  
 Connectorized ODU: 1.6 kg (3.5 lb) including bracket

**Operating Temperature** -40° F to +140° F (-40° C to +60° C), including solar radiation

**Dust-Water** IP66 and IP67

**Intrusion Protection**

**Wind Speed** 322 kph (200 mph)

**Survival**

**Power Supply** AC power injector: 32° to 104° F (0° to +40° C); 30 W, 56V  
 Dimensions (W x H x D): 132 mm x 36 mm x 51 mm (5.2 in x 1.4 in x 2 in)

**Power Consumption** 30W maximum (22W typical)

## PTP 550E

### Environmental & Regulatory

Protection & Safety	UL60950-1/22; IEC60950-1/22; EN60950-1.22; CSA-C22.2 No. 60950-1/22; CB approval with all National Deviations
Radio	EN 302 502; EN 301 893
EMC	Europe – EN 301 489-1 and -17

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