



PTP 45600

Motorola 4.5 GHz Point-to-Point Bridges



Spectrum-Efficient, High-Availability Wireless Ethernet Bridges

Operating in the 4.4 to 4.6 GHz spectrum at data rates up to 300 Mbps, the Motorola wi4 Fixed Point-to-Point (PTP) 45600 Wireless Ethernet Bridges can support a variety of fixed and portable communications for U.S. Federal Government and NATO applications. With a unique combination of technologies that can deliver up to 99.999% availability in non-line-of-sight and long-distance line-of-sight environments, over water and open terrain, even in extreme weather conditions, PTP 45600 solutions deliver high-throughput and spectral efficiency while maintaining low latency.

As part of Motorola's MOTOwi4 portfolio of innovative wireless broadband solutions, the PTP 45600 bridges can form a standalone network or integrate easily with Motorola's wi4 Fixed Point-to-Multipoint, wi4 WiMAX, wi4 Mesh or wi4 Indoor solutions to meet a wide variety of application requirements, including:

- Battlefield communications
- Public safety
- Video surveillance
- Border security
- Training and simulation networks
- Building-to-building and campus connectivity
- Traffic backhaul

The PTP 45600's electronic components are encased in a robust outdoor enclosure that can withstand temperatures from -40° F to +140° F (-40° C to +60° C) and winds up to 202 mph (325 kph). The small-footprint, light weight units are easy to install, requiring no special expertise or training.

Motorola PTP 45600 Bridges 4.5 GHz Part Numbers

WB3040 PTP 45600 Integrated
WB3041 PTP 45600 Connectorized

SPECIFICATION SHEET

Motorola wi4 Fixed 4.5 GHz Point-to-Point Bridges – PTP 45600

Radio Technology	Remarks
RF band	4.4 – 4.6 GHz*
Channel size	Configurable to 5, 10, 15 or 30 MHz
Channel selection/ dynamic frequency control	By <i>intelligent</i> Dynamic Frequency Selection (<i>i</i> -DFS) or manual intervention; automatic selection on start-up and continual adaptation to avoid interference
Transmit power	Varies with modulation mode and settings from -10 dBm to +25 dBm
System gain	Integrated: Varies with modulation mode; up to 165.9 dBi using 21.5 dBi integrated antenna** Connectorized: Varies with modulation mode and antenna type**
Receiver sensitivity	Adaptive, varying between -97.8 dBm and -61.6 dBm
Modulation	Dynamic; adapting between BPSK and 256 QAM
Error correction	FEC
Duplex scheme	Time Division Duplex (TDD) and Half Duplex Frequency Division Duplex (HD-FDD), Dynamic or Fixed ratio
Antenna: type/gain/B/W	Integrated: Integrated flat plate 21.5 dBi / 11° Connectorized: Any commercially available single or dual polar antennas up to 40 dBi in gain
Range	Up to 124 miles (200 km)
Security and encryption	Proprietary scrambling mechanism; optional FIPS-197 compliant 128/256-Bit AES Encryption * Regulatory conditions for RF bands should be confirmed prior to system purchase ** Gain and maximum transmit power may vary based on regulatory domain

Ethernet Bridging & T1/E1

Protocol	IEEE 802.3
User data throughput	Dynamically variable up to 300 Mbps at the Ethernet (aggregate): 5 MHz Channel: Up to 45 Mbps 10 MHz Channel: Up to 90 Mbps 15 MHz Channel: Up to 135 Mbps 30 MHz Channel: Up to 300 Mbps
Latency (one way)	<1 ms typical in 30 MHz channels <1.2 ms typical in 15 MHz channels <1.5 ms typical in 10 MHz channels <2 ms typical in 5 MHz channels
QoS	802.1p (2 Levels)
Interface	10 / 100 / 1000 Base T (RJ-45), auto MDI/MDIX, optional 1000 Base SX
T1/E1 Interface	ITU-T G.703/G.704 G.823/G.824 Single T1/E1 with 10 MHz and 15 MHz channels Dual T1/E1 with 30 MHz channels

Management & Installation

LED indicators	Power status, Ethernet link status and activity
System management	Web or SNMP v1/v2c using MIB-II, WiMAX and proprietary PTP MIB; Canopy® Prizm
Installation	Built-in audio assistance for link optimization
Connection	Distance between outdoor unit and primary network connection: up to 330' (100 meters)

Physical

Dimensions	Integrated Outdoor Unit (ODU): Width 14.5" (370 mm), Height 14.5" (370 mm), Depth 3.75" (95 mm) Connectorized ODU: Width 12.2" (309 mm), Height 12.2" (309 mm), Depth 4.1" (105 mm) Powered Indoor Unit (PIDU Plus): Width 9.75" (250 mm), Height 1.5" (40 mm), Depth 3" (80 mm)
Weight	Integrated ODU: 12.1 lbs (5.5 kg) including bracket Connectorized ODU: 9.1 lbs (4.3 kg) including bracket PIDU Plus: 1.9 lbs (864 g)
Wind speed	202 mph (325 kph)
Power supply	Integrated with Indoor Unit
Power source	90–240 VAC, 50–60 Hz / 36-60V DC; redundant powering configurations supported
Power consumption	55 W max

Environmental & Regulatory

Operating temperature	-40°F (-40°C) to +140°F (+60°C), including solar radiation
Ingress Protection	IP65 (ODU), IP53 (PIDU Plus)
Humidity	100% Condensing
Protection and safety	UL60950; IEC60950; CB
Radio	NTIA Red Book Section 5.3.3
EMC	USA CFR 47 Part 15 Class B



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