Cambium Networks™

PTP 820

LICENSED ETHERNET MICROWAVE FOR MULTI-SERVICE NETWORKS

Cambium PTP **820** Series

PTP **820S**
All-Outdoor

PTP **820C**
All-Outdoor / Multi-Core

PTP **820G**
Split-Mount / All-Indoor, Multi-Carrier Options

A single platform serving all radio transport requirements.

PTP 820 is a point-to-point licensed microwave backhaul platform that integrates leading networking functionality with the industry's most advanced microwave technologies, creating a superior microwave transport solution.

Supporting licensed frequency bands ranging from 6 to 38 GHz, the PTP 820 series delivers a wide range of configurations to offer a tailored solution for any deployment scenario.

Composed of high-density multi-technology nodes and integrated radio units, the PTP 820 series offers flexibility in choosing all-indoor, split-mount, and all-outdoor configuration options. Exploiting unique Line of Sight (LOS) Multiple Input Multiple Output (MIMO) technology, modulation up to 2048 QAM and wider channel bandwidths ensures industry-leading throughput and spectral efficiency.

The PTP 820C has dual-core functionality enabling the system to operate up to 2 Gbps via software upgrades, eliminating the need for future forklift upgrades, or major system overhaul by the network operator to deliver gigabit-plus capacity.

PTP 820 also offers both Synchronous Ethernet (SyncE) and IEEEv2 synchronization protocols required for large ISP and MPLS networks.

Operations, Administration and Maintenance (OA&M) tools coupled with a full suite of network and element management systems (NMS and EMS) simplify network provisioning and monitoring, reducing operators' total cost of ownership and enabling them to meet the most stringent service level agreements.

Combining technologies, equipment and services, PTP 820 enables network operators to meet accelerating demand for capacity cost-effectively under rapidly evolving conditions.

PTP 820 Product Series Highlights

- Licensed frequency bands 6-38 GHz

- Up to 2048 QAM, with 11-step hitless and errorless Adaptive Coding & Modulation (ACM) for high reliability

- Up to 80 MHz bandwidth supported

- Multi-gigabit radio capacity with high spectral efficiency

- TDM and/or packet supporting legacy services and evolution to all-packet

- Integrated Ethernet Switch, MEF Carrier Ethernet 2.0 compliant, MPLS-TP-ready

- Header de-duplication for additional capacity boost

- Intelligent service-centric management utilizing QoS and advanced OA&M capabilities

- Carrier-grade service resiliency (G.8032, MSTP)

- ITU-T Y.1731 Performance Management – MEF 35

- Integrated synchronization solution: Native/SyncE/IEEE 1588v2

- Lowest power consumption with adaptive green mode

- Low latency with unique frame cut-through for latency sensitive services

- Industry-leading system gain

PUBLIC SAFETY

ENTERPRISE

WIRELESS CARRIER

WIRELESS INTERNET
SERVICE PROVIDER

LINKPlanner

LINKPlanner is a free, easy-to-use link design tool that allows network operators to easily and quickly design networks. Microsoft® Windows® and Intel®-based Mac® versions of LINKPlanner can be downloaded from Cambium Networks' support pages.
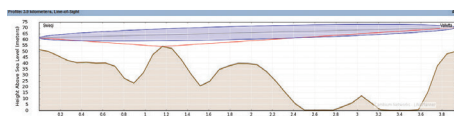
Key LINKPlanner features:

- Design a five-nines-reliable wireless link

- Plan and optimize a single link or multiple links simultaneously

- Perform calculations for both licensed and unlicensed products

- Automatically load path terrain profiles and environmental factors such as rain fade

- Display a comprehensive overview of your entire point-to-point wireless network via Google™ Earth

- Generate reports that validate projected performance and serve as time-saving deployment guidelines

- Create bills of material for point-to-mulitpoint and point-to-point networks including accessories

About Cambium Networks

Cambium Networks is a leading global provider of wireless connectivity solutions that strengthen connections between people, places and things. Specializing in providing an end-to-end wireless fabric of reliable, scalable, secure, cloud-managed platforms that perform under demanding conditions, Cambium Networks empowers service providers and enterprise, industrial and government network operators to build intelligent edge connectivity. Cambium Networks' commitment to continuous innovation and social responsibility in wireless access is demonstrated in the millions of radios deployed in thousands of networks that benefit communities around the world. Headquartered outside Chicago and with R&D centers in the U.S., U.K. and India, Cambium Networks sells through a range of trusted global distributors.
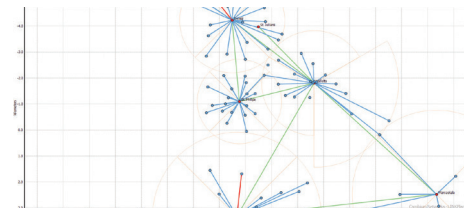
www.cambiumnetworks.com
www.connectingtheunconnected.org

PATH PROFILE WITH OBSTRUCTIONS

GOOGLE EARTH NETWORK VIEW

MAP OF THE SITES AND LINKS
IN THE PROJECT

Cambium Networks™

TECHNICAL SPECIFICATIONS

	PTP 820S	PTP 820C AND PTP 820C HP	PTP 820G
Supported Frequency	6 - 38 GHz	6 - 38 GHz	6 - 38 GHz
Role in the Network	Compact all outdoor	Compact all outdoor w/multi-core	Split Mount or all indoor, multi-carrier options
Transport Technology	All packet	All packet	Hybrid and/or all packet
TDM Interface	None	None	16 x E1/T1
Modulation	QPSK to 2048 QAM w/ACM	QPSK to 2048 QAM w/ACM	QPSK to 2048 QAM w/ACM
Channel Size	3.5 to 80 MHz	3.5 to 80 MHz	3.5 to 60 MHz
Capacity (Layer 2)	633 Mbps	1.27 Gbps	527 Mbps 1.05 Gbps
Capacity with Multi-Layer Compression	833 Mbps	1.67 Gbps	833 Mbps (1+0) 1.67 Gbps (2+0)
Configuration	1+0, 1+1 HSB, 2+0	1+0 to 4+0, 1+1/2+2 HSB, E/W, 1+0 SD, 2+2 SD	1+0, 1+1 HSB, 2+0 (E/W), 2+0 XPIC, 2+0 MC-ABC
LOS MIMO	No	Yes, 4x4 or 2x2	No
XPIC	No	Yes	Yes
Ethernet Interface	1 x 10/100/1000Base-T and 2x1000base-X or 10/100/1000Base-T	1 x 10/100/1000Base-T and 1x1000base-X or 10/100/1000Base-T	4 x 10/100/1000Base-T and 2x1000base-X
Management Interface	1 x 10/100 Base-T	1 x 10/100 Base-T	1 x 10/100 Base-T
External Alarm	None	None	1 x DB9
Dimensions (HxWxD - mm)	230 x 233 x 98	PTP 820C: 230x233x98 PTP 820C HP: 315x284x107	IDU: 44 x 426 x 180 RFU-C: 200 x 200 x 85 RFU-A: 44 x 443 x 421
Environmental	-33ºC to +55ºC (-45ºC to +60ºC extended)	-33ºC to +55ºC (-45ºC to +60ºC extended)	IDU: -5ºC to +55ºC (-25ºC to +65ºC extended) RFU-C: -33ºC to +55ºC (-45ºC to +60ºC extended) RFU-A: -5°C to +55°C (-25°C to +65°C extended)
Power Input	-48 VDC	-48 VDC	-48 VDC
PoE Injector Power Input	-48 VDC or +24 VDC	PTP 820C ONLY: -48VDC or +24VDC	N/A

Maximum Power Consumption	6-11 GHz: 40W; 13-38 GHz: 35W	Multi-Core Operation:
		
		PTP 820C: 6 GHz: 65W; 7 GHz: 75W;
		11 GHz: 65W; 13-15 GHz: 55W;
		18-24 GHz:48W; 26-38 GHz: 55W
		
		PTP 820C HP: 135W
			IDU Eth-only with single modem: 23.5W, addition for second modem, 2.9W, additional for 16 E1/DS1: 11W
			• RFU-C: 6-26 GHz; 1+0 22W; 1+1 39W; 28-38 GHz, 1+0 26W; 1+1 43W
			  RFU-Ae / RFU-Aep
			• 1+0
			  High Level: 77W / 90W
			  Medium Level: 53W / 73W
			  Low Level: 43W / 47W
			  Mute: 24W / 24W
			• 1+1 HSB/SD BBS:
			  High Level: 101W / 114W
			  Medium Level: 77W / 97W
			  Low Level: 67W / 71W
			  Mute: 48W / 48W