PTP 820S Licensed Microwave Radio

All-Outdoor

Specifications

RADIO

Supported Frequency Range
• 6-38 GHz

Configurations
• 1+0, 1+1 HSB. 2+0

Radio Features
• Protection: 1+1 HSB
• High spectral utilization: QPSK to 2048 QAM w/ACM

ETHERNET

Ethernet Interfaces
• Traffic Interfaces – 1 x 10/100/1000Base-T (RJ-45) and 2x1000base-X (Optical SFP) or 10/100/1000Base-T (Electrical SFP)
• Management Interface - 1 x 10/100 Base-T (RJ-45)
• SFP Types - Optical 1000Base-LX (1310 nm) or SX (850 nm)

Note: SFP devices must be of industrial grade (-40°C to +85°C)

Ethernet Features
• MTU – 9600 Bytes
• Quality of Service
  o Multiple Classification criteria (VLAN ID, p-bits, IP-DSCP, MPLS EXP, CoS)
  o Eight priority queues
  o Deep buffering (configurable up to 64 Mbit per queue)
  o WRED
  o Hierarchical QoS – high service granularity*
  o P-bit marking/remarking
• 4K VLANs
• VLAN add/re+1 (888) 858-6021move/translate
• Frame Cut Through – controlled latency and PDV for delay sensitive applications
• Header De-Duplication – Capacity boosting by eliminating inefficiency in all layers (L2,MPLS, L3,L4, Tunneling – GTP for LTE, GRE)
• Network Resiliency - G.8032 and Multiple Spanning Tree Protocol (MSTP)*
• Ethernet OAM – EFM (IEEE 802.3ah), CFM (IEEE 802.1ag), ITU-T Y.1731*

SYNCHRONIZATION

Synchronization Distribution
• Sync Distribution over any traffic interface (GE/FE)
• SyncE (ITU-T G.8261, G.8262)
• SSM/ESMC Support for ring/mesh applications (ITU-T G.8264)
• SyncE Regenerator mode, providing PRC grade (ITU-T G.811) performance for smart pipe applications.

IEEE-1588
• Optimized Transport for reduced PDV
• IEEE-1588 TC

STANDARDS

MEF
• Carrier Ethernet 2.0 (CE 2.0)**

Supported Ethernet Standards
• 10/100/1000base-T/X (IEEE 802.3)
• Ethernet VLANs (IEEE 802.3ac)
• Virtual LAN (VLAN, IEEE 802.1Q)
• Class of service (IEEE 802.1p)
• Provider bridges (QinQ – IEEE 802.1ad)
• Link aggregation (IEEE 802.3ad)
• Auto MDI/MDIX for 1000baseT
• RFC 1349: IPv4 TOS
• RFC 2474: IPv4 DSCP
• RFC 2460: IPv6 Traffic Classes

Standards Compliance
• EMC: EN 301 489-1, EN 301 489-4, Class B (Europe), FCC 47 CFR, part 15, class B (US), ICES-003, Class B (Canada), TEC/EMI/TEL-001/01, Class B (India)
• Surge: EN61000-4-5, Class 4 (for PWR and ETH1/PoE ports)
• Safety: EN 60950-1, IEC 60950-1, UL 60950-1, CSA-C22.2 No.60950-1, EN 60950-22, UL 60950-22, CSA C22.2.60950-22
• Ingress Protection: IP66-compliant
• Storage: ETSI EN 300 019-1-1 Class 1.2
• Transportation: ETSI EN 300 019-1-2 Class 2.3

TECHNICAL SPECIFICATIONS

Mechanical Specifications
• Dimensions – 230mm(H), 233mm(W), 98mm(D), 6kg
• Pole Diameter Range (for Remote Mount Installation) – 8.89 cm – 11.43 cm

Environmental Specifications
• -33°C to +55°C (-45°C to +60°C extended)

Power Input Specifications
• Standard Input: -48 VDC
• DC Input range: -40 to -60 VDC

Power Consumption Specifications
• Maximum Power Consumption 6-11 GHz: 40W; 13-38 GHz: 35W

PoE Injector Mechanical Specifications
• Dimensions – 134mm(H), 190mm(W), 62mm(D), 1 kg

PoE Injector Environmental Specifications
• 33°C to +55°C (-45°C to +60°C extended)

PoE Injector Power Input Specifications
• Standard Input: -48 or +24 VDC (Optional)
• DC Input range: ±(18/40.5 to 60) VDC (+18VDC extended range is supported as part of the nominal +24VDC support)

PoE Injector Interfaces
• GbE Data Port supporting 10/100/1000Base-T
• Power-Over-Ethernet (PoE) Port
• DC Power Port –40V to -60V (a PoE supporting two redundant DC feeds each supporting ±(18-60)V is available)

* Planned for future release.
** Certification pending.

Specifications

Transmit Power (dBm)	Frequency (GHZ)								
	6	7	8	10-11	13-15	18	23	26	28-38
QPSK	29	28	28	27	24	22	20	21	18
8 PSK	29	28	28	27	24	22	20	21	18
16 QAM	28	27	27	26	23	21	20	20	17
32 QAM	27	26	26	25	22	20	20	19	16
64 QAM	27	26	26	25	22	20	20	19	16
128 QAM	27	26	26	25	22	20	20	19	16
256 QAM	27	26	24	25		20	18	17	14
512 QAM	25	24	24	24	20	18	18	17	14
1024 QAM	25	24	24	23	20	18	17	16	13
2048 QAM	23	22	22	21	18	16	16	15	12

MODULATION		6	7	8	11	13	15	18	23	26	28	31	32	36	38
QPSK	7 MHz Channel Spacing	-93.0	-91.5	-91.0	-92.5	-92.0	-91.0	-92.0	-90.5	-90.0	-90.5	-90.5	-91.5	-89.0	-88.5
8 PSK		-87.0	-85.5	-85.0	-86.5	-86.0	-85.0	-86.0	-84.5	-84.0	-84.5	-84.5	-85.5	-83.0	-82.5
16 QAM		-86.5	-85.0	-84.5	-86.0	-85.5	-84.5	-85.5	-84.0	-83.5	-84.0	-84.0	-85.0	-82.5	-82.0
32 QAM		-83.0	-81.5	-81.0	-82.5	-82.0	-81.0	-82.0	-80.5	-80.0	-80.5	-80.5	-81.5	-79.0	-78.5
64 QAM		-80.0	-78.5	-78.0	-79.5	-79.0	-78.0	-79.0	-77.5	-77.0	-77.5	-77.5	-78.5	-76.0	-75.5
128 QAM		-77.0	-75.5	-75.0	-76.5	-76.0	-75.0	-76.0	-74.5	-74.0	-74.5	-74.5	-75.5	-73.0	-72.5
256 QAM		-73.5	-72.0	-71.5	-73.0	-72.5	-71.5	-72.5	-71.0	-70.5	-71.0	-71.0	-72.0	-69.5	-69.0
512 QAM		-71.5	-70.0	-69.5	-71.0	-70.5	-69.5	-70.5	-69.0	-68.5	-69.0	-69.0	-70.0	-67.5	-67.0
1024 QAM STRONG		-68.0	-66.5	-66.0	-67.5	-67.0	-66.0	-67.0	-65.5	-65.0	-65.5	-65.5	-66.5	-64.0	-63.5
1024 QAM LIGHT		-67.5	-66.0	-65.5	-67.0	-66.5	-65.5	-66.5	-65.0	-64.5	-65.0	-65.0	-66.0	-63.5	-63.0
QPSK	14 MHz Channel Spacing	-90.0	-88.5	-88.0	-89.5	-89.0	-88.0	-89.0	-87.5	-87.0	-87.5	-87.5	-88.5	-86.0	-85.5
8 PSK		-84.0	-82.5	-82.0	-83.5	-83.0	-82.0	-83.0	-81.5	-81.0	-81.5	-81.5	-82.5	-80.0	-79.5
16 QAM		-83.0	-81.5	-81.0	-82.5	-82.0	-81.0	-82.0	-80.5	-80.0	-80.5	-80.5	-81.5	-79.0	-78.5
32 QAM		-80.0	-78.5	-78.0	-79.5	-79.0	-78.0	-79.0	-77.5	-77.0	-77.5	-77.5	-78.5	-76.0	-75.5
64 QAM		-77.0	-75.5	-75.0	-76.5	-76.0	-75.0	-76.0	-74.5	-74.0	-74.5	-74.5	-75.5	-73.0	-72.5
128 QAM		-73.5	-72.0	-71.5	-73.0	-72.5	-71.5	-72.5	-71.0	-70.5	-71.0	-71.0	-72.0	-69.5	-69.0
256 QAM		-71.0	-69.5	-69.0	-70.5	-70.0	-69.0	-70.0	-68.5	-68.0	-68.5	-68.5	-69.5	-67.0	-66.5
512 QAM		-68.0	-66.5	-66.0	-67.5	-67.0	-66.0	-67.0	-65.5	-65.0	-65.5	-65.5	-66.5	-64.0	-63.5
1024 QAM STRONG		-65.0	-63.5	-63.0	-64.5	-64.0	-63.0	-64.0	-62.5	-62.0	-62.5	-62.5	-63.5	-61.0	-60.5
1024 QAM LIGHT		-64.5	-63.0	-62.5	-64.0	-63.5	-62.5	-63.5	-62.0	-61.5	-62.0	-62.0	-63.0	-60.5	-60.0

MODULATION		6	7	8	11	13	15	18	23	26	28	31	32	36	38
QPSK		-87.0	-85.5	-85.0	-86.5	-86.0	-85.0	-86.0	-84.5	-84.0	-84.5	-84.5	-85.5	-83.0	-82.5
8 PSK		-82.5	-81.0	-80.5	-82.0	-81.5	-80.5	-81.5	-80.0	-79.5	-80.0	-80.0	-81.0	-78.5	-78.0
16 QAM		-80.5	-79.0	-78.5	-80.0	-79.5	-78.5	-79.5	-78.0	-77.5	-78.0	-78.0	-79.0	-76.5	-76.0
32 QAM	18 MHz ACCP Channel Spacing	-77.0	-75.5	-75.0	-76.5	-76.0	-75.0	-76.0	-74.5	-74.0	-74.5	-74.5	-75.5	-73.0	-72.5
64 QAM		-74.0	-72.5	-72.0	-73.5	-73.0	-72.0	-73.0	-71.5	-71.0	-71.5	-71.5	-72.5	-70.0	-69.5
128 QAM		-71.0	-69.5	-69.0	-70.5	-70.0	-69.0	-70.0	-68.5	-68.0	-68.5	-68.5	-69.5	-67.0	-66.5
256 QAM		-68.0	-66.5	-66.0	-67.5	-67.0	-66.0	-67.0	-65.5	-65.0	-65.5	-65.5	-66.5	-64.0	-63.5
512 QAM		-65.5	-64.0	-63.5	-65.0	-64.5	-63.5	-64.5	-63.0	-62.5	-63.0	-63.0	-64.0	-61.5	-61.0
1024 QAM STRONG		-62.5	-61.0	-60.5	-62.0	-61.5	-60.5	-61.5	-60.0	-59.5	-60.0	-60.0	-61.0	-58.5	-58.0
1024 QAM LIGHT		-61.5	-60.0	-59.5	-61.0	-60.5	-59.5	-60.5	-59.0	-58.5	-59.0	-59.0	-60.0	-57.5	-57.0
2048 QAM		-58.0	-56.5	-56.0	-57.5	-57.0	-56.0	-57.0	-55.5	-55.0	-55.5	-55.5	-56.5	-54.0	-53.5
QPSK		-87.5	-85.5	-85.0	-86.5	-86.0	-85.0	-86.0	-84.5	-84.0	-84.5	-84.5	-85.5	-83.0	-82.5
8 PSK		-82.5	-80.5	-80.0	-81.5	-81.0	-80.0	-81.0	-79.5	-79.0	-79.5	-79.5	-80.5	-78.0	-77.5
16 QAM		-81.0	-79.0	-78.5	-80.0	-79.5	-78.5	-79.5	-78.0	-77.5	-78.0	-78.0	-79.0	-76.5	-76.0
32 QAM	28U ACAP/30 MHz ACCP Channel Spacing	-77.0	-75.0	-74.5	-76.0	-75.5	-74.5	-75.5	-74.0	-73.5	-74.0	-74.0	-75.0	-72.5	-72.0
64 QAM		-74.5	-72.5	-72.0	-73.5	-73.0	-72.0	-73.0	-71.5	-71.0	-71.5	-71.5	-72.5	-70.0	-69.5
128 QAM		-71.5	-69.0	-68.5	-70.5	-69.5	-68.5	-69.5	-68.0	-67.5	-68.0	-68.0	-69.0	-66.5	-66.0
256 QAM		-68.5	-66.0	-65.5	-67.5	-66.5	-65.5	-66.5	-65.0	-64.5	-65.0	-65.0	-66.0	-63.5	-63.0
512 QAM		-66.5	-64.0	-63.5	-65.5	-64.5	-63.5	-64.5	-63.0	-62.5	-63.0	-63.0	-64.0	-61.5	-61.0
1024 QAM STRONG		-63.0	-61.0	-60.5	-62.0	-61.5	-60.5	-61.5	-60.0	-59.5	-60.0	-60.0	-61.0	-58.5	-58.0
1024 QAM LIGHT		-62.0	-60.0	-59.5	-61.0	-60.5	-59.5	-60.5	-59.0	-58.5	-59.0	-59.0	-60.0	-57.5	-57.0
2048 QAM		-58.5	-56.0	-55.5	-57.5	-56.5	-55.5	-56.5	-55.0	-54.5	-55.0	-55.0	-56.0	-53.5	-53.0
QPSK		-85.5	-84.0	-83.5	-86.0	-84.5	-83.5	-84.5	-83.0	-82.5	-83.0	-83.0	-84.0	-81.5	-81.0
8 PSK		-80.5	-79.0	-78.5	-80.5	-79.5	-78.5	-79.5	-78.0	-77.5	-78.0	-78.0	-79.0	-76.5	-76.0
16 QAM		-79.0	-77.5	-77.0	-79.0	-78.0	-77.0	-78.0	-76.5	-76.0	-76.5	-76.5	-77.5	-75.0	-74.5
32 QAM	40 MHz ACCP Channel Spacing	-75.5	-74.0	-73.5	-75.5	-74.5	-73.5	-74.5	-73.0	-72.5	-73.0	-73.0	-74.0	-71.5	-71.0
64 QAM		-72.5	-71.0	-70.5	-72.5	-71.5	-70.5	-71.5	-70.0	-69.5	-70.0	-70.0	-71.0	-68.5	-68.0
128 QAM		-69.5	-68.0	-67.5	-70.0	-68.5	-67.5	-68.5	-67.0	-66.5	-67.0	-67.0	-68.0	-65.5	-65.0
256 QAM		-66.5	-65.0	-64.5	-67.5	-65.5	-64.5	-65.5	-64.0	-63.5	-64.0	-64.0	-65.0	-62.5	-62.0
512 QAM		-63.5	-62.0	-61.5	-65.0	-62.5	-61.5	-62.5	-61.0	-60.5	-61.0	-61.0	-62.0	-59.5	-59.0
1024 QAM STRONG		-61.0	-59.5	-59.0	-61.5	-60.0	-59.0	-60.0	-58.5	-58.0	-58.5	-58.5	-59.5	-57.0	-56.5
1024 QAM LIGHT		-60.0	-58.5	-58.0	-60.5	-59.0	-58.0	-59.0	-57.5	-57.0	-57.5	-57.5	-58.5	-56.0	-55.5
2048 QAM		-57.5	-56.0	-55.5	-57.5	-56.5	-55.5	-56.5	-55.0	-54.5	-55.0	-55.0	-56.0	-53.5	-53.0

MODULATION		6	7	8	11	13	15	18	23	26	28	31	32	36	38
QPSK		-85.0	-83.5	-83.0	-84.5	-84.0	-83.0	-84.0	-82.5	-82.0	-82.5	-82.5	-83.5	-81.0	-80.5
8 PSK		-79.5	-78.0	-77.5	-79.0	-78.5	-77.5	-78.5	-77.0	-76.5	-77.0	-77.0	-78.0	-75.5	-75.0
16 QAM		-78.0	-76.5	-76.0	-77.5	-77.0	-76.0	-77.0	-75.5	-75.0	-75.5	-75.5	-76.5	-74.0	-73.5
32 QAM		-74.0	-72.5	-72.0	-73.5	-73.0	-72.0	-73.0	-71.5	-71.0	-71.5	-71.5	-72.5	-70.0	-69.5
64 QAM	50 MHz ACCP Channel Spacing	-71.0	-69.5	-69.0	-70.5	-70.0	-69.0	-70.0	-68.5	-68.0	-68.5	-68.5	-69.5	-67.0	-66.5
128 QAM		-68.0	-66.5	-66.0	-67.5	-67.0	-66.0	-67.0	-65.5	-65.0	-65.5	-65.5	-66.5	-64.0	-63.5
256 QAM		-65.5	-64.0	-63.5	-65.0	-64.5	-63.5	-64.5	-63.0	-62.5	-63.0	-63.0	-64.0	-61.5	-61.0
512 QAM		-63.0	-61.5	-61.0	-62.5	-62.0	-61.0	-62.0	-60.5	-60.0	-60.5	-60.5	-61.5	-59.0	-58.5
1024 QAM STRONG		-59.5	-58.0	-57.5	-59.0	-58.5	-57.5	-58.5	-57.0	-56.5	-57.0	-57.0	-58.0	-55.5	-55.0
1024 QAM LIGHT		-58.5	-57.0	-56.5	-58.0	-57.5	-56.5	-57.5	-56.0	-55.5	-56.0	-56.0	-57.0	-54.5	-54.0
2048 QAM		-56.5	-55.0	-54.5	-56.0	-55.5	-54.5	-55.5	-54.0	-53.5	-54.0	-54.0	-55.0	-52.5	-52.0
QPSK		-83.5	-82.0	-81.5	-83.0	-82.5	-81.5	-82.5	-81.0	-80.5	-81.0	-81.0	-82.0	-79.5	-79.0
8 PSK		-79.5	-78.0	-77.5	-79.0	-78.5	-77.5	-78.5	-77.0	-76.5	-77.0	-77.0	-78.0	-75.5	-75.0
16 QAM		-77.0	-75.5	-75.0	-76.5	-76.0	-75.0	-76.0	-74.5	-74.0	-74.5	-74.5	-75.5	-73.0	-72.5
32 QAM		-74.0	-72.5	-72.0	-73.5	-73.0	-72.0	-73.0	-71.5	-71.0	-71.5	-71.5	-72.5	-70.0	-69.5
64 QAM	56 MHz ACCP Channel Spacing	-70.5	-69.0	-68.5	-70.0	-69.5	-68.5	-69.5	-68.0	-67.5	-68.0	-68.0	-69.0	-66.5	-66.0
128 QAM		-68.0	-66.5	-66.0	-67.5	-67.0	-66.0	-67.0	-65.5	-65.0	-65.5	-65.5	-66.5	-64.0	-63.5
256 QAM		-64.5	-63.0	-62.5	-64.0	-63.5	-62.5	-63.5	-62.0	-61.5	-62.0	-62.0	-63.0	-60.5	-60.0
512 QAM		-62.5	-61.0	-60.5	-62.0	-61.5	-60.5	-61.5	-60.0	-59.5	-60.0	-60.0	-61.0	-58.5	-58.0
1024 QAM STRONG		-59.0	-57.5	-57.0	-58.5	-58.0	-57.0	-58.0	-56.5	-56.0	-56.5	-56.5	-57.5	-55.0	-54.5
1024 QAM LIGHT		-58.0	-56.5	-56.0	-57.5	-57.0	-56.0	-57.0	-55.5	-55.0	-55.5	-55.5	-56.5	-54.0	-53.5
2048 QAM		-53.5	-52.0	-51.5	-53.0	-52.5	-51.5	-52.5	-51.0	-50.5	-51.0	-51.0	-52.0	-49.5	-49.0
QPSK		-84.5	-82.5	-82.0	-83.5	-83.0	-82.0	-83.0	-81.5	-81.0	-81.5	-81.5	-82.5	-80.0	-79.5
8 PSK		-80.0	-78.0	-77.5	-79.0	-78.5	-77.5	-78.5	-77.0	-76.5	-77.0	-77.0	-78.0	-75.5	-75.0
16 QAM		-77.5	-75.5	-75.0	-76.5	-76.0	-75.0	-76.0	-74.5	-74.0	-74.5	-74.5	-75.5	-73.0	-72.5
32 QAM		-74.0	-72.0	-71.5	-73.0	-72.5	-71.5	-72.5	-71.0	-70.5	-71.0	-71.0	-72.0	-69.5	-69.0
64 QAM	56 MHz ACCP/60 MHz Channel Spacing	-71.0	-68.5	-68.0	-69.5	-69.0	-68.0	-69.0	-67.5	-67.0	-67.5	-67.5	-68.5	-66.0	-65.5
128 QAM		-68.5	-66.0	-65.5	-67.0	-66.5	-65.5	-66.5	-65.0	-64.5	-65.0	-65.0	-66.0	-63.5	-63.0
256 QAM		-65.0	-62.5	-62.0	-63.5	-63.0	-62.0	-63.0	-61.5	-61.0	-61.5	-61.5	-62.5	-60.0	-59.5
512 QAM		-63.0	-60.5	-60.0	-61.5	-61.0	-60.0	-61.0	-59.5	-59.0	-59.5	-59.5	-60.5	-58.0	-57.5
1024 QAM STRONG		-59.5	-57.0	-56.5	-58.0	-57.5	-56.5	-57.5	-56.0	-55.5	-56.0	-56.0	-57.0	-54.5	-54.0
1024 QAM LIGHT		-58.5	-56.0	-55.5	-57.0	-56.5	-55.5	-56.5	-55.0	-54.5	-55.0	-55.0	-56.0	-53.5	-53.0
2048 QAM		-56.0	-53.5	-53.0	-54.5	-54.0	-53.0	-54.0	-52.5	-52.0	-52.5	-52.5	-53.5	-51.0	-50.5

Specifications

MODULATION		6	7	8	11	13	15	18	23	26	28	31	32	36	38
QPSK		-83.0	-81.5	-81.0	-82.5	-82.0	-81.0	-82.0	-80.5	-80.0	-80.5	-80.5	-81.5	-79.0	-78.5
8 PSK		-78.0	-76.5	-76.0	-77.5	-77.0	-76.0	-77.0	-75.5	-75.0	-75.5	-75.5	-76.5	-74.0	-73.5
16 QAM		-76.0	-74.5	-74.0	-75.5	-75.0	-74.0	-75.0	-73.5	-73.0	-73.5	-73.5	-74.5	-72.0	-71.5
32 QAM	80 MHz Channel Spacing	-72.5	-71.0	-70.5	-72.0	-71.5	-70.5	-71.5	-70.0	-69.5	-70.0	-70.0	-71.0	-68.5	-68.0
64 QAM		-69.5	-68.0	-67.5	-69.0	-68.5	-67.5	-68.5	-67.0	-66.5	-67.0	-67.0	-68.0	-65.5	-65.0
128 QAM		-67.0	-65.5	-65.0	-66.5	-66.0	-65.0	-66.0	-64.5	-64.0	-64.5	-64.5	-65.5	-63.0	-62.5
256 QAM		-64.0	-62.5	-62.0	-63.5	-63.0	-62.0	-63.0	-61.5	-61.0	-61.5	-61.5	-62.5	-60.0	-59.5
512 QAM		-61.0	-59.5	-59.0	-60.5	-60.0	-59.0	-60.0	-58.5	-58.0	-58.5	-58.5	-59.5	-57.0	-56.5
1024 QAM STRONG		-58.5	-57.0	-56.5	-58.0	-57.5	-56.5	-57.5	-56.0	-55.5	-56.0	-56.0	-57.0	-54.5	-54.0
1024 QAM LIGHT		-57.5	-56.0	-55.5	-57.0	-56.5	-55.5	-56.5	-55.0	-54.5	-55.0	-55.0	-56.0	-53.5	-53.0
2048 QAM		-55.5	-54.0	-53.5	-55.0	-54.5	-53.5	-54.5	-53.0	-52.5	-53.0	-53.0	-54.0	-51.5	-51.0

Modulation		Ethernet Throughput (Mpbs)			Ethernet Throughput (Mpbs)		
		No Compression	L2 Compression	Multi-Layer Compression	No Compression	L2 Compression	Multi-Layer Compression
QPSK	7 MHz	8	8-10	9-27	12	12-14	13-40
8 PSK		13	13-14	13-40	19	19-21	20-61
16 QAM		18	18-20	19-58	26	26-30	27-83
32 QAM		24	24-27	25-77	34	35-39	36-111
64 QAM		30	30-34	31-95	42	43-48	45-137
128 QAM		36	36-41	37-114	51	51-58	53-164
256 QAM		41	41-47	43-132	58	59-67	61-188
512 QAM		44	44-50	46-141	64	65-73	67-206
1024 QAM Strong		47	47-54	49-151	67	68-77	71-216
1024 QAM Light		50	51-57	53-161	72	72-82	75-230
QPSK	14 MHz	19	19-22	20-62			
8 PSK		29	29-33	30-93			
16 QAM		40	40-45	42-128			
32 QAM		53	53-60	55-169			
64 QAM		65	65-74	68-208			
128 QAM		78	79-89	82-251			
256 QAM		89	90-102	94-287			
512 QAM		98	99-112	103-316			
1024 QAM Strong		104	105-119	109-335			
1024 QAM Light		111	111-126	116-355			

Specifications

Modulation		Ethernet Throughput (Mpbs)			Ethernet Throughput (Mpbs)		
		No Compression	L2 Compression	Multi-Layer Compression	No Compression	L2 Compression	Multi-Layer Compression
QPSK	30 MHz	41	41-47	43-132	57	57-65	60-183
8 PSK		61	62-70	65-197	85	86-97	89-273
16 QAM		84	85-96	88-270	116	117-132	121-372
32 QAM		111	111-126	116-355	152	154-174	160-490
64 QAM		136	137-155	143-437	187	189-214	197-602
128 QAM		164	166-188	173-528	226	228-258	238-728
256 QAM		188	190-215	198-604	243	245-278	256-782
512 QAM		209	211-238	220-672	267	269-304	280-833
1024 QAM Strong		222	224-253	233-714	302	305-345	318-833
1024 QAM Light		236	238-269	248-758	321	324-366	337-833
2048 QAM		256	258-292	268-821	347	350-396	365-833
QPSK	50 MHz	69	70-79	73-223	86	86-98	90-276
8 PSK		108	108-123	113-346	125	126-143	131-402
16 QAM		146	147-166	153-469	174	175-198	182-558
32 QAM		183	185-209	193-589	229	230-261	240-734
64 QAM		237	239-270	249-761	281	283-320	295-833
128 QAM		276	278-315	290-833	339	342-387	356-833
256 QAM		327	330-374	344-833	391	394-447	411-833
512 QAM		355	358-405	373-833	421	424-480	442-833
1024 QAM Strong		387	390-441	406-833	458	461-522	481-833
1024 QAM Light		411	414-468	431-833	486	490-555	511-833
2048 QAM		443	446-505	465-833	527	531-601	553-833
QPSK	80 MHz	113	114-129	119-363			
8 PSK		160	161-183	168-515			
16 QAM		228	230-260	240-733			
32 QAM		300	302-342	315-833			
64 QAM		367	369-418	385-833			
128 QAM		433	436-494	455-833			
256 QAM		499	503-569	524-833			
512 QAM		548	552-625	576-833			
1024 QAM Strong		596	601-680	626-833			
1024 QAM Light		633	638-722	665-833			
2048 QAM		N/A	N/A	N/A			

(30 MHz column: left Ethernet Throughput block; 40 MHz column: right block for first section. 50 MHz: left block; 60 MHz: right block for second section. 80 MHz: left block for third section.)

Specifications

Modulation		Ethernet Throughput (Mpbs)				Ethernet Throughput (Mpbs)		
		No Compression	L2 Compression	Multi-Layer Compression		No Compression	L2 Compression	Multi-Layer Compression
QPSK	28 MHz ACCP	40	40-45	42-127	28 MHz ACAP	42	42-48	44-135
8 PSK		59	60-68	62-191		61	62-70	64-197
16 QAM		81	82-93	85-261		86	87-98	90-277
32 QAM		107	108-122	112-344		113	114-129	119-364
64 QAM		132	133-150	138-424		140	141-159	147-449
128 QAM		159	160-181	166-509		168	169-192	176-540
256 QAM		181	182-206	190-580		193	195-220	203-621
512 QAM		199	201-227	209-640		206	208-235	216-662
1024 QAM Strong		212	214-242	223-681		225	226-256	236-722
1024 QAM Light		225	227-257	236-723		238	240-271	250-764
2048 QAM		241	243-275	253-775		260	262-296	273-833
QPSK	56 MHz ACCP	81	82-93	86-262	56 MHz ACAP	86	86-98	90-276
8 PSK		121	122-138	127-390		125	126-143	131-402
16 QAM		165	166-188	173-531		174	175-198	182-558
32 QAM		217	219-248	228-699		229	230-261	240-734
64 QAM		267	269-304	280-833		281	283-320	295-833
128 QAM		323	325-368	339-833		339	342-387	356-833
256 QAM		369	372-421	388-833		391	394-447	411-833
512 QAM		401	404-457	421-833		421	424-480	442-833
1024 QAM Strong		436	439-497	458-833		458	461-522	481-833
1024 QAM Light		462	466-528	486-833		486	490-555	511-833
2048 QAM		502	505-572	527-833		527	531-601	553-833