

PTP 850C Millimeter Wave Radio



Specifications

RADIO

- 11-18 GHz
- 1+0 up to 4+0 Single/Dual Polarization, 1+1/2+2 HSB, 1+1/2+2 HSB-SD, 2+0 XPIC, 2x2+0 East/West Single/Dual Polarization

Radio Features

- Enhanced Multi-Carrier ABC (up to 2+0)
- Protection: 1+1 HSB/2+2 HSB, 1+1 HSB-SD1
- High spectral utilization: BPSK to 4096 QAM w/ACM
- Channel bandwidth: 14 to 224 MHz²
- XPIC
- 2x2/4x4 LoS MIMO1
- Advanced Frequency Reuse (AFR)1
- Advanced Space Diversity (ASD)1
- Dual band (with PTP-850C, PTP-820S, PTP-820C)1
- Multiband (with PTP-820E or PTP-850E)1

ETHERNET

Ethernet Interfaces

- Port 1:

- DC Port
- Port 2:
RJ-45 - Electric Multi Rate 1/2.5/10 Gbps traffic interface/PoE port
- Port 3:
SFP – 1/2.5G traffic interface and Dual band port
- Port 4:
SFP – 1/10GE traffic interface/MIMO extension port (SFP+)
- Port 5:
SFP – 1/10GE traffic interface (SFP+)
- Port 6:
RJ-45 – Management/Protection interface - 100 Base-T
- Note: SFP and SFP+ devices must be of industrial grade (-40°C to +85°C)

Ethernet Features

- MTU – 9612 Bytes
- Quality of Service
 - Multiple Classification criteria (VLAN ID, p-bits, IPv4 DSCP, IPv6 TC, MPLS EXP)
 - 8 CoS queues per port

- Deep buffering (configurable up to 64 Mbit per queue)
- WRED
- P-bit marking/remarking
- 4K VLANs
- VLAN add/remove/translate
- Y.1731 Ethernet OAM
- Y.1731 Ethernet Bandwidth Notification (ETH-BN)

MANAGEMENT

- SNMP
- REST
- SDN Support:
 - NETCONF/YANG

SYNCHRONIZATION

- Enhanced Ethernet Equipment Clock (eEEC) Specification (G.8262.1)
- PTP Telecom Boundary Clock (T-BC) and Time Slave Clock (T-TSC) Specification (G.8273.2)
- PTP Telecom Transparent Clock (T-TC) Specification (G.8273.3)
- Enhanced SyncE Network Limits (G.8261, clause 9.2.1)
- Enhanced PTP Network Limits (G.8271.1)

1 Planned for future release.

2 224 MHz is planned for future release.

- Ethernet Synchronization Messaging Channel (ESMC) (G.8264, clause 11)
- PTP Telecom Profile for Time (Full Timing Support) (G.8275.1)

STANDARD

MEF

- Carrier Ethernet 2.0 (CE 2.0)
- Supported Ethernet Standards
- 10/100/1000base-T/X (IEEE 802.3)
- 10GBase-LR (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 802.1AX)
- Auto MDI/MDIX for 1000baseT
- RFC 1349: IPv4 TOS
- RFC 2474: IPv4 DSCP
- RFC 2460: IPv6 Traffic Classes

SECURITY

- HTTPS
- SNMPv3
- SSH
- SFTP
- RADIUS authentication and authorization
- TACACS+ Authentication, Authorization, and Accounting (session-based)
- AES Encryption – AES 256*

STANDARDS COMPLIANCE

- Radio Spectral Efficiency: EN 302 217-2-2
- 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
- Storage: ETSI EN 300 019-1-1 Class 1.2
- Transportation: ETSI EN 300 019-1-2 Class 2.
- Ingress Protection: IP67

TECHNICAL SPECIFICATION

Mechanical Specifications

- Dimensions (Direct Mount): 322mm(H), 227/270mm(W), 86mm(D), 6 kg
12.67”(H), 8.93”/10.62”(W), 3.38”(D), 13.2 lbs.
- Pole Diameter Range (for Remote Mount Installation): 8.89 cm – 11.43 cm
3.5” – 4.5”

Environmental Specifications

- -33°C to +55°C (-45°C to +60°C extended); -27°F to +131°F (-49°F to +140°F extended)

Power Input Specifications

- Standard Input: -48 VDC

PTP 850C SPECIFICATION SHEET

- DC Input range: -40.5 to -60 VDC

Power Consumption Specifications

- Active (Multicore operation) – 90W

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)

*Support in future release, for availability, please check release notes

Specifications

Capacity (Mbps)

Modulation	14 MHz	20 MHz	25 MHz	28/30 MHz	40 MHz
BPSK	6-8	10-13	14-17	18-22	25-31
QPSK	16-20	25-30	32-40	40-48	54-67
8 QAM	26-32	39-47	50-61	59-72	83-101
16 QAM	37-46	54-66	69-84	84-102	113-139
32 QAM	50-61	72-88	92-112	111-136	150-184
64 QAM	62-76	89-109	113-139	138-168	185-227
128 QAM	76-93	108-132	137-168	166-203	225-275
256 QAM	87-106	123-150	157-192	192-234	242-296
512 QAM	96-118	134-164	174-212	204-249	265-324
1024 QAM	102-125	143-175	185-226	223-272	301-368
1024 QAM Light	108-132	152-186	196-240	236-289	320-391
2048 QAM	–	–	211-258	258-315	346-423
4096 QAM	–	–	228-279	275-336	366-448
	50 MHz	56/60 MHz	80 MHz	112 MHz	224 MHz
BPSK	33-40	40-49	54-66	79-97	162-198
QPSK	67-82	83-102	111-135	162-198	328-401
8 QAM	105-129	123-150	158-193	242-296	489-597
16 QAM	144-176	172-210	227-277	330-404	665-812
32 QAM	181-222	227-277	298-365	435-532	875-1069
64 QAM	235-287	279-341	366-447	535-654	1111-1358
128 QAM	275-336	338-413	433-529	647-791	1298-1587
256 QAM	326-399	391-478	498-609	740-905	1484-1815
512 QAM	354-433	420-514	548-670	804-983	1678-2051
1024 QAM	386-472	457-559	596-729	872-1066	1860-2274
1024 QAM Light	410-501	486-594	633-774	926-1132	–
2048 QAM	442-541	527-644	670-820	999-1221	–
4096 QAM	459-561	542-663	708-865	1030-1262	–

TRANSMIT POWER (dBm)

Channel Size	6	7	8	11	13	15	18	23	26	28-32	38
BPSK – QPSK	28	28	28	28	24	24	24	24	23	18	22
8 QAM	28	28	28	28	24	24	24	24	23	18	22
16 QAM	28	27	27	28	23	24	24	24	23	17	21
32 QAM	28	27	26	28	23	24	24	24	23	16	21
64 QAM	28	26	26	27	23	24	23	24	23	16	20
128 QAM	27	26	26	26	22	24	23	24	23	16	20
256 QAM	27	26	26	26	21	22	23	23	21	14	19
512 QAM	27	25	24	26	21	22	22	22	21	14	19
1024 QAM	25	24	24	25	20	20	21	21	20	13	18
2048 QAM	25	23	22	24	20	20	20	20	18	12	18
4096 QAM	23	21	20	22	18	18	19	19	16		

RECEIVE SENSITIVITY (dBm @10E-6)

PTP 850C SPECIFICATION SHEET

14 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-91.5	-91.0	-90.5	-91.5	-90.5	-89.5	-91	-90.0	-89.5	-89.5	-89.5	-89.0	-89.0
QPSK	-90.5	-90.0	-89.5	-90.5	-89.5	-88.5	-90	-89.0	-88.5	-88.5	-88.5	-88.0	-88.0
8 PSK	-84.5	-84.0	-83.5	-85.5	-83.5	-82.5	-84	-83.0	-82.5	-82.5	-82.5	-82.0	-82.0
16 QAM	-83.5	-83.0	-82.5	-83.5	-82.5	-81.5	-83	-82.0	-81.5	-81.5	-81.5	-81.0	-81.0
32 QAM	-80.5	-79.5	-79.5	-80.5	-79.0	-78.5	-79.5	-79.0	-78.5	-78.5	-78.0	-78.0	-77.5
64 QAM	-77.5	-76.5	-76.5	-77.0	-76.0	-75.5	-76.5	-76.0	-75.5	-75.5	-75.0	-75.0	-74.5
128 QAM	-74.0	-73.5	-73.0	-74.0	-73.0	-72.0	-73.5	-72.5	-72.0	-72.0	-72.0	-71.5	-71.5
256 QAM	-71.5	-70.5	-70.5	-71.0	-70.0	-69.5	-70.5	-69.5	-69.0	-69.5	-69.0	-69.0	-68.5
512 QAM	-68.5	-68.0	-67.5	-68.5	-67.5	-66.5	-68.0	-67.0	-66.5	-66.5	-66.5	-66.0	-66.0
1024 QAM Strong	-65.5	-65.0	-64.5	-65.5	-64.5	-63.5	-65.0	-64.0	-63.5	-63.5	-63.5	-63.0	-63.0
1024 QAM Light	-65.0	-64.0	-64.0	-64.5	-63.5	-63.0	-64.0	-63.5	-63.0	-63.0	-62.5	-62.5	-62.0
20 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-91.5	-91.5	-91.0	-92.0	-91.0	-90.0	-91.5	-90.5	-87.0	-90.0	-90.0	-89.5	-89.0
QPSK	-88.5	-88.5	-88.5	-89.5	-88.0	-87.5	-88.5	-88.0	-84.0	-87.5	-87.0	-87.0	-86.5
8 PSK	-83.5	-83.5	-83.0	-84.0	-83.0	-82.0	-83.5	-82.5	-79.0	-82.0	-82.0	-81.5	-81.0
16 QAM	-82.0	-82.0	-81.5	-82.5	-81.5	-80.5	-82.0	-81.0	-77.5	-80.5	-80.5	-80.0	-79.5
32 QAM	-78.0	-78.0	-78.0	-79.0	-77.5	-77.0	-78.0	-77.5	-73.5	-77.0	-76.5	-76.5	-76.0
64 QAM	-75.5	-75.5	-75.0	-76.0	-75.0	-74.0	-75.5	-74.5	-71.0	-74.0	-74.0	-73.5	-73.0
128 QAM	-72.5	-72.5	-72.0	-73.0	-71.5	-71.0	-72.5	-71.5	-68.0	-71.0	-71.0	-70.5	-70.0
256 QAM	-69.0	-69.0	-69.0	-70.0	-68.5	-68.0	-69.0	-68.5	-64.5	-68.0	-67.5	-67.5	-67.0
512 QAM	-67.0	-67.0	-66.5	-67.5	-66.0	-65.5	-67.0	-66.0	-62.5	-65.5	-65.5	-65.0	-64.5
1024 QAM Strong	-64.0	-64.0	-64.0	-65.0	-63.5	-63.0	-64.0	-63.5	-59.5	-63.0	-62.5	-62.5	-62.0
1024 QAM Light	-63.0	-63.0	-63.0	-64.0	-62.5	-62.0	-63.0	-62.5	-58.5	-62.0	-61.5	-61.5	-61.0
25 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-88.5	-87.5	-87.5	-88.0	-87.0	-86.5	-87.5	-86.5	-83.0	-86.5	-86.0	-86.0	-85.0
QPSK	-87.5	-86.5	-86.5	-87	-86.0	-85.5	-86.5	-85.5	-82.0	-85.5	-85.0	-85.0	-84.0
8 PSK	-82.5	-82.0	-81.5	-82.5	-81.5	-80.5	-82.0	-81.0	-77.5	-80.5	-80.5	-80.0	-79.5
16 QAM	-80.5	-80.0	-79.5	-80.5	-79.5	-78.5	-80.0	-79.0	-75.5	-78.5	-78.5	-78.0	-77.5
32 QAM	-77.5	-77.0	-76.5	-77.5	-76.0	-75.5	-77.0	-76.0	-72.5	-75.5	-75.5	-75.0	-74.5
64 QAM	-74.5	-74.0	-73.5	-74.5	-73.5	-72.5	-74.0	-73.0	-69.5	-72.5	-72.5	-72.0	-71.5
128 QAM	-71.5	-71.0	-70.5	-71.5	-70.5	-69.5	-71.0	-70.0	-66.5	-69.5	-69.5	-69.0	-68.5
256 QAM	-68.5	-67.5	-67.5	-68.5	-67.0	-66.5	-67.5	-67.0	-63.0	-66.5	-66.0	-66.0	-65.5
512 QAM	-66.0	-65.0	-65.0	-66.0	-64.5	-64.0	-65.0	-64.5	-60.5	-64.0	-63.5	-63.5	-63.0
1024 QAM Strong	-63.0	-62.5	-62.0	-63.0	-61.5	-61.0	-62.5	-61.5	-58.0	-61.0	-61.0	-60.5	-60.0
1024 QAM Light	-62.5	-61.5	-61.5	-62.5	-61.0	-60.5	-61.5	-61.0	-57.0	-60.5	-60.0	-60.0	-59.5
2048 QAM	-58.5	-58.0	-57.5	-58.5	-57.0	-56.5	-58.0	-57.0	-53.5	-56.5	-56.5	-56.0	-55.5
4096 QAM	-55.5	-55.0	-54.5	-55.5	-54.0	-53.5	-55.0	-	-	-	-	-	-
28 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-88.5	-88.0	-87.5	-88.5	-87.5	-86.5	-88.0	-87.0	-86.5	-86.5	-86.5	-86.0	-86.0
QPSK	-87.5	-87.0	-86.5	-87.5	-86.5	-85.5	-87.0	-86.0	-85.5	-85.5	-85.5	-85.0	-85.0
8 PSK	-83.0	-82.5	-82.0	-83.0	-82.0	-81.0	-82.5	-81.5	-81.0	-81.0	-81.0	-80.5	-80.5
16 QAM	-81.0	-80.5	-80.0	-81.0	-79.5	-79.0	-80.5	-79.5	-79.0	-79	-79.0	-78.5	-78.0
32 QAM	-77.5	-77.0	-76.5	-77.5	-76.0	-75.5	-77.0	-76.0	-75.5	-75.5	-75.5	-75.0	-74.5
64 QAM	-74.5	-74.0	-73.5	-74.5	-73.0	-72.5	-74.0	-73.0	-72.5	-72.5	-72.5	-72.0	-71.5
128 QAM	-71.5	-70.5	-70.5	-71.0	-70.0	-69.5	-70.5	-69.5	-69.0	-69.5	-69.0	-69.0	-68.5
256 QAM	-68.5	-67.5	-67.5	-68.0	-67.0	-66.5	-67.5	-66.5	-66.0	-66.5	-66.0	-66.0	-65.5
512 QAM	-66.0	-65.0	-65.0	-66.0	-64.5	-64.0	-65.0	-64.5	-64.0	-64.0	-63.5	-63.5	-63.0

PTP 850C SPECIFICATION SHEET

1024 QAM Strong	-63.0	-62.5	-62.0	-63.0	-61.5	-61.0	-62.5	-61.5	-61.0	-61.0	-61.0	-60.5	-60.0
1024 QAM Light	-62.0	-61.5	-61.0	-62.0	-60.5	-60.0	-61.5	-60.5	-60.0	-60.0	-60.0	-59.5	-59.0
2048 QAM	-58.5	-58.0	-57.5	-58.5	-57.0	-56.5	-58.0	-57.0	-56.5	-56.5	-56.5	-56.0	-55.5
4096 QAM	-55.5	-55.0	-54.5	-55.5	-54.0	-53.5	-55.0	-	-	-	-	-	-
30 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-88.5	-88.0	-87.5	-88.5	-87.0	-86.5	-88.0	-87.0	-83.5	-86.5	-86.5	-86.5	-86.0
QPSK	-87.5	-87.0	-86.5	-87.5	-86.0	-85.5	-87.0	-86.0	-82.5	-85.5	-85.5	-85.5	-85.0
8 PSK	-82.5	-81.5	-81.5	-82.5	-81.0	-80.5	-81.5	-81.0	-77.0	-80.5	-80.0	-80.0	-79.5
16 QAM	-81.0	-80.0	-80.0	-80.5	-79.5	-79.0	-80.0	-79.0	-75.5	-79.0	-78.5	-78.5	-78.0
32 QAM	-77.0	-76.5	-76.0	-77.0	-76.0	-75.0	-76.5	-75.5	-72.0	-75.0	-75.0	-75.0	-74.5
64 QAM	-74.5	-73.5	-73.5	-74.0	-73.0	-72.5	-73.5	-72.5	-69.0	-72.5	-72.0	-72.0	-71.5
128 QAM	-71.0	-70.5	-70.0	-71.0	-70.0	-69.0	-70.5	-69.5	-66.0	-69.0	-69.0	-69.0	-68.5
256 QAM	-68.0	-67.5	-67.0	-68.0	-67.0	-66.0	-67.5	-66.5	-63.0	-66.0	-66.0	-66.0	-65.5
512 QAM	-66.0	-65.5	-65.0	-66.0	-64.5	-64.0	-65.5	-64.5	-61.0	-64.0	-64.0	-64.0	-63.5
1024 QAM Strong	-63.0	-62.0	-62.0	-62.5	-61.5	-61.0	-62.0	-61.0	-57.5	-61.0	-60.5	-60.5	-60.0
1024 QAM Light	-62.0	-61.0	-61.0	-62.0	-60.5	-60.0	-61.0	-60.5	-56.5	-60.0	-59.5	-59.5	-59.0
2048 QAM	-58.0	-57.5	-57.0	-58.0	-56.5	-56.0	-57.5	-56.5	-53.0	-56.0	-56.0	-56.0	-55.5
4096 QAM	-55.0	-54.5	-54.0	-55.0	-53.5	-53.0	-54.5	-	-	-	-	-	-
40 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-87.0	-86.5	-86.0	-87.0	-86.0	-85.0	-86.5	-85.5	-85.0	-85.0	-85.0	-84.5	-84.5
QPSK	-86.0	-85.5	-85.0	-86.0	-85.0	-84.0	-85.5	-84.5	-84.0	-84.0	-84.0	-83.5	-83.5
8 PSK	-81.0	-80.5	-80.0	-81.0	-79.5	-79.0	-80.5	-79.5	-79.0	-79.0	-79.0	-78.5	-78.0
16 QAM	-79.5	-79.0	-78.5	-79.5	-78.0	-77.5	-79.0	-78.0	-77.5	-77.5	-77.5	-77.0	-76.5
32 QAM	-76.0	-75.0	-75.0	-75.5	-74.5	-74.0	-75.0	-74.0	-73.5	-74.0	-73.5	-73.5	-73.0
64 QAM	-73.0	-72.0	-72.0	-73.0	-71.5	-71.0	-72.0	-71.5	-71.0	-71.0	-70.5	-70.5	-70.0
128 QAM	-70.0	-69.0	-69.0	-70.0	-68.5	-68.0	-69.0	-68.5	-68.0	-68.0	-67.5	-67.5	-67.0
256 QAM	-67.0	-66.0	-66.0	-66.5	-65.5	-65.0	-66.0	-65.0	-64.5	-65.0	-64.5	-64.5	-64.0
512 QAM	-64.0	-63.5	-63.0	-64.0	-62.5	-62.0	-63.5	-62.5	-62.0	-62.0	-62.0	-61.5	-61.0
1024 QAM Strong	-61.5	-61.0	-60.5	-61.5	-60.0	-59.5	-61.0	-60.0	-59.5	-59.5	-59.5	-59.0	-58.5
1024 QAM Light	-60.5	-60.0	-59.5	-60.5	-59.5	-58.5	-60.0	-59.0	-58.5	-58.5	-58.5	-58.0	-58.0
2048 QAM	-58.0	-57.0	-57.0	-58.0	-56.5	-56.0	-57.0	-56.5	-56.0	-56.0	-55.5	-55.5	-55.0
4096 QAM	-55.0	-54.0	-54.0	-55.0	-53.5	-53.0	-54.0	-	-	-	-	-	-
50 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-86.5	-85.5	-85.5	-86.0	-85.0	-84.5	-85.5	-84.5	-81.0	-84.5	-84.0	-84.0	-83.5
QPSK	-85.5	-84.5	-84.5	-85.0	-84.0	-83.5	-84.5	-83.5	-80.0	-83.5	-83.0	-83.0	-82.5
8 PSK	-80.0	-79.5	-79.0	-80.0	-79.0	-78.0	-79.5	-78.5	-75.0	-78.0	-78.0	-78.0	-77.5
16 QAM	-78.5	-77.5	-77.5	-78.0	-77.0	-76.5	-77.5	-76.5	-73.0	-76.5	-76.0	-76.0	-75.5
32 QAM	-74.5	-74.0	-73.5	-74.5	-73.5	-72.5	-74.0	-73.0	-69.5	-72.5	-72.5	-72.5	-72v
64 QAM	-71.5	-70.5	-70.5	-71.5	-70.0	-69.5	-70.5	-70.0	-66.0	-69.5	-69.0	-69.0	-68.5
128 QAM	-68.5	-68.0	-67.5	-68.5	-67.5	-66.5	-68.0	-67.0	-63.5	-66.5	-66.5	-66.5	-66.0
256 QAM	-66.0	-65.0	-65.0	-66.0	-64.5	-64.0	-65.0	-64.5	-60.5	-64.0	-63.5	-63.5	-63.0
512 QAM	-63.5	-63.0	-62.5	-63.5	-62.0	-61.5	-63.0	-62.0	-58.5	-61.5	-61.5	-61.5	-61.0
1024 QAM Strong	-60.0	-59.5	-59.0	-60.0	-58.5	-58	-59.5	-58.5	-55.0	-58.0	-58.0	-58.0	-57.5
1024 QAM Light	-59.0	-58.0	-58.0	-59.0	-57.5	-57.0	-58.0	-57.5	-53.5	-57.0	-56.5	-56.5	-56.0
2048 QAM	-57.0	-56.0	-56.0	-56.5	-55.5	-55.0	-56.0	-55.0	-51.5	-55.0	-54.5	-54.5	-54.0
4096 QAM	-54.0	-53.0	-53.0	-53.5	-52.5	-52.0	-	-	-	-	-	-	-
56 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-85.5	-85.0	-84.5	-85.5	-84.0	-83.5	-85.0	-84.0	-83.5	-83.5	-83.5	-83.0	-82.5

PTP 850C SPECIFICATION SHEET

QPSK	-84.5	-84.0	-83.5	-84.5	-83.0	-82.5	-84.0	-83.0	-82.5	-82.5	-82.5	-82.0	-81.5
8 PSK	-80.0	-79.0	-79.0	-79.5	-78.5	-78.0	-79.0	-78.0	-77.5	-78.0	-77.5	-77.5	-77.0
16 QAM	-77.5	-77.0	-76.5	-77.5	-76.0	-75.5	-77.0	-76.0	-75.5	-75.5	-75.5	-75.0	-74.5
32 QAM	-74.0	-73.0	-73.0	-73.5	-72.5	-72.0	-73.0	-72.0	-71.5	-72.0	-71.5	-71.5	-71.0
64 QAM	-70.5	-70.0	-69.5	-70.5	-69.5	-68.5	-70.0	-69.0	-68.5	-68.5	-68.5	-68.0	-68.0
128 QAM	-68.0	-67.0	-67.0	-67.5	-66.5	-66.0	-67.0	-66.0	-65.5	-66.0	-65.5	-65.5	-65.0
256 QAM	-64.5	-64.0	-63.5	-64.5	-63.5	-62.5	-64.0	-63.0	-62.5	-62.5	-62.5	-62.0	-62.0
512 QAM	-62.5	-62.0	-61.5	-62.5	-61.5	-60.5	-62.0	-61.0	-60.5	-60.5	-60.5	-60.0	-60.0
1024 QAM Strong	-59.0	-58.5	-58.0	-59.0	-58.0	-57.0	-58.5	-57.5	-57.0	-57.0	-57.0	-56.5	-56.5
1024 QAM Light	-58.0	-57.5	-57.0	-58.0	-57.0	-56.0	-57.5	-56.5	-56.0	-56.0	-56.0	-55.5	-55.5
2048 QAM	-55.5	-54.5	-54.5	-55.0	-54.0	-53.5	-54.5	-53.5	-53.0	-53.5	-53.0	-53.0	-52.5
4096 QAM	-52.5	-51.5	-51.5	-52.0	-51.0	-50.5	-51.5	-	-	-	-	-	-
60 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-86.0	-85.0	-84.5	-85.5	-84.0	-83.5	-85.0	-84.0	-83.5	-83.5	-83.5	-83.0	-82.5
QPSK	-85.0	-84.0	-83.5	-84.5	-83.0	-82.5	-84.0	-83.0	-82.5	-82.5	-82.5	-82.0	-81.5
8 PSK	-80.5	-79.0	-79.0	-79.5	-78.5	-78.0	-79.0	-78.0	-77.5	-78.0	-77.5	-77.5	-77.0
16 QAM	-78.0	-77.0	-76.5	-77.5	-76.0	-75.5	-77.0	-76.0	-75.5	-75.5	-75.5	-75.0	-74.5
32 QAM	-74.5	-73.0	-73.0	-73.5	-72.5	-72.0	-73.0	-72.0	-71.5	-72.0	-71.5	-71.5	-71.0
64 QAM	-71.5	-70.0	-69.5	-70.5	-69.5	-68.5	-70.0	-69.0	-68.5	-68.5	-68.5	-68.0	-68.0
128 QAM	-69.0	-67.0	-67.0	-67.5	-66.5	-66.0	-67.0	-66.0	-65.5	-66.0	-65.5	-65.5	-65.0
256 QAM	-65.5	-64.0	-63.5	-64.5	-63.5	-62.5	-64.0	-63.0	-62.5	-62.5	-62.5	-62.0	-62.0
512 QAM	-63.5	-62.0	-61.5	-62.5	-61.5	-60.5	-62.0	-61.0	-60.5	-60.5	-60.5	-60.0	-60.0
1024 QAM Strong	-60.0	-58.5	-58.0	-59.0	-58.0	-57.0	-58.5	-57.5	-57.0	-57.0	-57.0	-56.5	-56.5
1024 QAM Light	-59.0	-57.5	-57.0	-58.0	-57.0	-56.0	-57.5	-56.5	-56.0	-56.0	-56.0	-55.5	-55.5
2048 QAM	-56.5	-54.5	-54.5	-55.0	-54.0	-53.5	-54.5	-53.5	-53.0	-53.5	-53.0	-53.0	-52.5
4096 QAM	-53.5	-51.5	-51.5	-52.0	-51.0	-50.5	-	-	-	-	-	-	-
80 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-85.0	-85.0	-84.5	-85.5	-84.5	-83.5	-85.0	-84.0	-83.5	-83.5	-83.5	-83.0	-83.5
QPSK	-82.5	-82.5	-82.5	-83.0	-82.0	-81.5	-82.5	-81.5	-81.0	-81.5	-81.0	-81.0	-81.0
8 PSK	-79.0	-79.0	-78.5	-79.5	-78.5	-77.5	-79.0	-78.0	-77.5	-77.5	-77.5	-77.0	-77.5
16 QAM	-76.0	-76.0	-75.5	-76.5	-75.0	-74.5	-76.0	-75.0	-74.5	-74.5	-74.5	-74.0	-74.0
32 QAM	-72.5	-72.5	-72.0	-73.0	-71.5	-71.0	-72.5	-71.5	-71.0	-71.0	-71.0	-70.5	-70.5
64 QAM	-69.0	-69.0	-69.0	-70.0	-68.5	-68.0	-69.0	-68.5	-68.0	-68.0	-67.5	-67.5	-67.5
128 QAM	-66.5	-66.5	-66.0	-67.0	-66.0	-65.0	-66.5	-65.5	-65.0	-65.0	-65.0	-64.5	-65.0
256 QAM	-63.5	-63.5	-63.0	-64.0	-63.0	-62.0	-63.5	-62.5	-62.0	-62.0	-62.0	-61.5	-62.0
512 QAM	-61.0	-61.0	-61.0	-62.0	-60.5	-60.0	-61.0	-60.5	-60.0	-60.0	-59.5	-59.5	-59.5
1024 QAM Strong	-58.0	-58.0	-57.5	-58.5	-57.5	-56.5	-58.0	-57.0	-56.5	-56.5	-56.5	-56.0	-56.5
1024 QAM Light	-57.0	-57.0	-57.0	-58.0	-56.5	-56.0	-57.0	-56.5	-56.0	-56.0	-55.5	-55.5	-55.5
2048 QAM	-54.5	-54.5	-54.5	-55.5	-54.0	-53.5	-54.5	-54.0	-53.5	-53.5	-53.0	-53.0	-
112 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-82.0	-81.5	-81.0	-82.0	-80.5	-80.0	-81.5	-80.5	-80.0	-80.0	-80.0	-79.5	-79.0
QPSK	-81.0	-80.5	-80.0	-81.0	-79.5	-79.0	-80.5	-79.5	-79.0	-79.0	-79.0	-78.5	-78.0
8 PSK	-76.5	-75.5	-75.5	-76.0	-75.0	-74.5	-75.5	-74.5	-74.0	-74.5	-74.0	-74.0	-73.5
16 QAM	-74.0	-73.5	-73.0	-74.0	-72.5	-72.0	-73.5	-72.5	-72.0	-72.0	-72.0	-71.5	-71.0
32 QAM	-70.5	-69.5	-69.5	-70.0	-69.0	-68.5	-69.5	-68.5	-68.0	-68.5	-68.0	-68.0	-67.5
64 QAM	-67.0	-66.5	-66.0	-67.0	-66.0	-65.0	-66.5	-65.5	-65.0	-65.0	-65.0	-64.5	-64.5
128 QAM	-64.5	-63.5	-63.5	-64.0	-63.0	-62.5	-63.5	-62.5	-62.0	-62.5	-62.0	-62.0	-61.5
256 QAM	-61.0	-60.5	-60.0	-61.0	-60.0	-59.0	-60.5	-59.5	-59.0	-59.0	-59.0	-58.5	-58.5

PTP 850C SPECIFICATION SHEET

512 QAM	-59.0	-58.5	-58.0	-59.0	-58.0	-57.0	-58.5	-57.5	-57.0	-57.0	-57.0	-56.5	-56.5
1024 QAM Strong	-55.5	-55.0	-54.5	-55.5	-54.5	-53.5	-55.0	-54.0	-53.5	-53.5	-53.5	-53.0	-53.0
1024 QAM Light	-54.5	-54.0	-53.5	-54.5	-53.5	-52.5	-54.0	-53.0	-52.5	-52.5	-52.5	-52.0	-52.0
2048 QAM	-52.0	-51.0	-51.0	-51.5	-50.5	-50.0	-51.0	-50.0	-49.5	-5.00	-49.5	-49.5	-
224 MHz	6	7-8	10	11	13	15	18	23	24	26	28-31	32	38
BPSK	-85.0	-84.5	-84.0	-85.0	-83.5	-83.0	-84.5	-83.5	-83.0	-83.0	-83.0	-82.5	-82.0
QPSK	-84.0	-83.5	-83.0	-84.0	-82.5	-82.0	-83.5	-82.5	-82.0	-82.0	-82.0	-81.5	-81.0
8 PSK	-79.5	-78.5	-78.5	-79.0	-78.0	-77.5	-78.5	-77.5	-77.0	-77.5	-77.0	-77.0	-76.5
16 QAM	-77.0	-76.5	-76.0	-77.0	-75.5	-75.0	-76.5	-75.5	-75.0	-75.0	-75.0	-74.5	-74.0
32 QAM	-73.5	-72.5	-72.5	-73.0	-72.0	-71.5	-72.5	-71.5	-71.0	-71.5	-71.0	-71.0	-70.5
64 QAM	-70.0	-69.5	-69.0	-70.0	-69.0	-68.0	-69.5	-68.5	-68.0	-68.0	-68.0	-67.5	-67.5
128 QAM	-67.5	-66.5	-66.5	-67.0	-66.0	-65.5	-66.5	-65.5	-65.0	-65.5	-65.0	-65.0	-64.5
256 QAM	-64.0	-63.5	-63.0	-64.0	-63.0	-62.0	-63.5	-62.5	-62.0	-62.0	-62.0	-61.5	-61.5
512 QAM	-62.0	-61.5	-61.0	-62.0	-61.0	-60.0	-61.5	-60.5	-60.0	-60.0	-60.0	-59.5	-59.5
1024 QAM Strong	-58.5	-58.0	-57.5	-58.5	-57.5	-56.5	-58.0	-57.0	-56.5	-56.5	-56.5	-56.0	-56.0

THROUGHPUT CAPACITY (Mbps)

Channel Size	62.5 MHz	125 MHz	250 MHz	500 MHz	750 MHz	1000 MHz	1500 MHz	2000 MHz
BPSK – 1/4 channel spacing	37-48	39-51	46-60	95-123	134-175	185-239	268-351	323-419
BPSK – 1/2 channel spacing	77-99	81-104	92-120	192-248	268-351	370-480	551-721	663-859
BPSK – full channel spacing	116-150	163-211	186-241	384-498	551-721	761-985	1101-1443	1326-1717
4 QAM	155-201	246-318	373-484	791-1024	1100-1444	1524-1974	2207-2891	2652-3436
8 QAM	195-252	328-425	576-747	1188-1539	1654-2167	2287-2962	3312-4338	4128-5347
16 QAM	234-303	421-546	768-995	1585-2053	2207-2891	3050-3951	4418-5787	5505-7131
32 QAM	273-354	505-654	960-1244	1982-2567	2759-3614	3813-4939	5523-7234	6869-8897
64 QAM	313-405	590-764	1154-1494	2377-3080	3311-4337	4575-5927	6623-8675	8243-9439
128 QAM	-	674-873	1346-1743	2774-3594	3864-5061	5339-6916	7718-9438	9439-9941
256 QAM	-	759-983	1538-1993	3171-4108	4416-5784	6101-7904	-	-
512 QAM	-	-	1731-2242	3568-4622	-	-	-	-