



CHP Max5000™ 1 GHz Forward Path QAM Transmitters (CHP-GQTX) Technical Specification

Specifications

Optical

Optical Wavelength	1529nm (ITU channel 61) to 1561 nm (ITU channel 21)
Wavelength Drift	0.15 nm
Optical Output Power, min./typ./max.	9.75/10.0/10.25 dBm

RF

Bandwidth (Note 1)	550 to 1002MHz
Response Flatness, P-V, typ./max. (Notes 2 and 3)	1.0/2.0dB
Response tilt, max. (Note 2)	±0.5dB
Input Return Loss, min. (Note 2)	16dB
Unit-to-Unit Isolation, min.	>65dB

Powering

Power Consumption, max.	17.4W
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Performance

Channel Plan	up to 75 256-QAM channels		
Nominal Total RF Input Power	37 dBmV for 33 Digital QAM Channels		
Carrier to Intermodulation Noise, min. (Note 4)	63dB		
Bit Error Rate (BER), min. (Note 5)	1 x 10 ⁻⁶		
Link Range (up to 150km)	30km	90km	145km
CNR, typ. (Notes 5, 6, and 7)	51dB	44dB	41dB
CTB, typ. (Notes 5 and 6)	-60dBc	-50dBc	-45dBc
CSO, typ. (Notes 5, 6, and 8)	-55dBc	-30dBc	-25dBc

Mechanical

Optical Connector	SC/APC
RF Connector	F-type
RF Input Testpoint (Note 9)	-20 ± 1.0dB
Dimensions (W x H x D) in (cm) (Note 10)	1.25 x 3.4 x 18.5 in (3.2 x 8.7 x 47.0cm)
Weight	2.75 lbs (1.24kg)

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Environmental

Operational Temperature (Note 11)	32 to 122°F (0 to 50°C)
Storage Temperature	-40 to 158°F (-40 to 70°C)
Humidity, noncondensing, max.	85%

Notes:

1. Please contact your ARRIS sales professional if you want to use QAM channels below 550MHz.
2. Specifications obtained with 0dB external PAD installed.
3. Typical specifications measured at 25°C and maximum specifications measured from 0 to 50°C.
4. CIN measurement obtained using a fiber length of 90km and a power level of -2dBm at the receiver input.
5. CSO, CTB, and CNR measurements obtained using an input of 22dBmV/channel with a channel loading of 33 256-QAM signals from 550 to 750MHz.
6. Test configuration consists of CHP-GQTX-10-S-xx → 55 km fiber → EDFA → 35 km fiber → TF520 receiver. The maximum optical power into the fiber should not exceed 8 dBm. Optical power to EDFA is -3±0.5dBm and input to receiver is -6.5±0.5 dBm. An EDFA with a noise figure better than 5.5dB must be used.
7. OMI is 4.4% at 33 QAM channel loading.
8. CSO performance for QAM channels measured from 110 to 1002MHz.
9. Relative to main port with 0 dB pad and 0 dB EQ at a temperature from 0 to 50°C. The tolerance is ±0.75 dB at a temperature of 25°C.
10. Includes handles and connectors.
11. Temperature measured at transmitter module's air inlet.
12. Distortions are measured using only CW analog carriers per SCTE recommendation by standard RF test methods. Performance shown represents typical performance for ≥85% of production units tested over typical Corning SMF-28 fiber (or equivalent). For minimum CSO and CTB, subtract 2dB from typical.

Ordering Information

				1	2	3	4		5	6		7		8	9
C	H	P	-	G	Q	T	X	-	1	0	-	S	-	x	x

1-4	Type of Module
GQTX	1GHz QAM forward transmitter
5-6	Optical Output Power
10	10dBm
7	Optical Connector
S	SC/APC

8-9	Optical Output Wavelength
21	ITU channel 21 (1560.6065nm)
23	ITU channel 23 (1558.9834nm)
25	ITU channel 25 (1557.3636nm)
27	ITU channel 27 (1555.7473nm)
29	ITU channel 29 (1554.1343nm)
31	ITU channel 31 (1552.5246nm)
33	ITU channel 33 (1550.9183nm)
35	ITU channel 35 (1549.3153nm)
xx	Odd ITU channels from 37 to 61
yy	Even ITU channels from 22 to 60
a) These ITU channels will be offered upon request	

Contact your ARRIS sales professional to discuss how our 1 GHz products can add value to your network.

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