

## Prisma II Multi Wavelength Solutions

### 1550 nm Multi Wavelength SuperQAM Full Spectrum Transmitter 1550 nm Long Reach Multi Wavelength Transmitter

#### Description

Lower your initial capital costs. Provide a forward-looking multi wavelength solution for Hybrid Fiber-Coaxial (HFC) optical access. Both are possible with the Prisma II interoperable multi wavelength (iWDM) forward path optical transmitters. These transmitters enable best-in-class HFC architectures with future-proofed scalability to multiplex up to 16 dense wave division multiplexing (DWDM) wavelengths onto a single fiber. The Full Spectrum SuperQAM (FS QAM) and Long Reach Multi Wavelength (LRMW) transmitters let you add ITU-compatible C-band wavelengths incrementally. That approach can lower your initial capital costs. The FS QAM is capable of launching at 10 dBm per wavelength while the LRMW offers both an 8 dBm and high power 12 dBm versions.

The Prisma II multi wavelength transmitter products provide operators with rapid service capacity while enabling forward path segmentation and reduced node service group size in the optical access network. Cisco also offers ITU-compatible optical passives that enable wavelength multiplexing or demultiplexing in multi-wavelength digital transport architectures using wavelength division multiplexing (WDM). The optical passives are available in industry standard Light Guide Crossconnect (LGX) modules for the headend. For applications requiring signal reliability in high temperature environments inherent in an outdoor HFC cable plant, the passives are also available in GS7000 optical hub node modules or mountable cassettes.

**Figure 1.** Full Spectrum SuperQAM Transmitter (Available as High Density Modules for Prisma XD or Prisma II with Host Module)



**Figure 2.** Long Reach Multi Wavelength Transmitter (Available Only in Prisma II)



## Product Specifications

Product specifications are shown in Table 1.

**Table 1.** Product Specifications

	SuperQAM FS	LRMW
<b>Optical</b>		
<b>Wavelength</b>	DWDM ITU compatible between 20 thru ITU 62	DWDM ITU compatible between 20 thru ITU 62
<b>Output Power</b>	10 dBm	8 dBm 12.5 dBm
<b>Modulation Type</b>	Directly Modulated (DM)	Externally Modulated (EM)
<b>RF</b>		
<b>Operating Bandwidth</b>	45 to 1002Mhz	
<b>Channel Loading</b>	30 analog channels, 125 QAM channels 155 QAM channels	80 analog channels, 75 QAM channels 30 analog channels, 125 QAM channels 155 QAM channels
<b>RF Input Power per Channel</b>	Broadcast: All Digital: 14 ± 0.5 dBmV, Mixed: 18 ± 0.5 dBmV Narrowcast: Digital: 26 ± 0.5 dBmV	Broadcast: Analog 18 ± 0.5, Digital 12 ± 0.5 dBmV Narrowcast: Digital 18 ± 0.5 dBmV
<b>RF Input Return Loss</b>	16dB	16dB
<b>RF Input Impedance</b>	75 Ohm	
<b>Test Point</b>	-20 ± 1.0 dB	
<b>Typical Link Performance</b>		
<b>CNR (dB)</b>	16 Wavelengths, 40km 30A + 125Q 50	16 Wavelengths, 30km 79A + 75Q 51 30A + 125Q 52
<b>MER (dB)</b>	16 Wavelengths, 40km 30A + 125Q 38 155 QAM 38	16 Wavelengths, 30km 79A + 75Q 38 30A + 125Q 38 155Q 38
<b>BER (Annex B)</b>	30A + 125Q 1E-7 155 QAM 1E-9	1E-8

	SuperQAM FS	LRMW
<b>Electrical Mechanical Environmental</b>		
<b>Power Consumption</b>	7.5 Watts	15 Watts
<b>Connector Type</b>	SC/APC - Optical F-type - RF (Dual RF input for BC & NC)	SC/APC - Optical F-type - RF
<b>Management &amp; Control</b>	Prisma II LCI (Local Craft Interface) Prisma II Web Interface SNMP Telnet	
<b>Dimensions</b>	8.80 x 1.03 x 3.48 inches 22.35 x 2.62 x 8.84 centimeters	8.80 x 1.03 x 7.63 inches 22.35 x 2.62 x 19.60 centimeters
<b>Weight</b>	0.90 pounds 0.41 kilograms	1.5 pounds 0.68 kilograms
<b>Operational Temperature Range</b>	0 to 50 Celsius 32 to 122 Fahrenheit	0 to 50 Celsius 32 to 122 Fahrenheit
<b>Humidity</b>	5 to 95% Non-Condensing	5 to 95% Non-Condensing

## Ordering Information

The part numbers for the iWDM SuperQAM Full Spectrum and Long Reach Multiwave Transmitters are shown in Table 2. Please consult with your account representative, customer service representative, or systems engineer to determine the best configuration for your particular application.

**Table 2.** iWDM SuperQAM Transmitters

Description	Part Number
P2-HD-15TXQ-IWDM-SA-ITU21-FS	737824
P2-HD-15TXQ-IWDM-SA-ITU22-FS	737825
P2-HD-15TXQ-IWDM-SA-ITU24-FS	737826
P2-HD-15TXQ-IWDM-SA-ITU26-FS	737827
P2-HD-15TXQ-IWDM-SA-ITU28-FS	737828
P2-HD-15TXQ-IWDM-SA-ITU33-FS	737829
P2-HD-15TXQ-IWDM-SA-ITU36-FS	737830
P2-HD-15TXQ-IWDM-SA-ITU39-FS	737831
P2-HD-15TXQ-IWDM-SA-ITU44-FS	737832
P2-HD-15TXQ-IWDM-SA-ITU48-FS	737833
P2-HD-15TXQ-IWDM-SA-ITU52-FS	737834
P2-HD-15TXQ-IWDM-SA-ITU54-FS	737835
P2-HD-15TXQ-IWDM-SA-ITU57-FS	737836
P2-HD-15TXQ-IWDM-SA-ITU60-FS	737837
P2-HD-15TXQ-IWDM-SA-ITU61-FS	737838
P2-HD-15TXQ-IWDM-SA-ITU62-FS	737839

**Table 3.** iWDM Long Reach Multiwave Transmitters

Description	Part Number
P2-15TXM-12-EM-IWDM-SA-ITU21-1WD	4043191
P2-15TXM-12-EM-IWDM-SA-ITU22-1WD	4043192
P2-15TXM-12-EM-IWDM-SA-ITU24-1WD	4043193

Description	Part Number
P2-15TXM-12-EM-IWDM-SA-IUT26-1WD	4043194
P2-15TXM-12-EM-IWDM-SA-ITU28-1WD	4043195
P2-15TXM-12-EM-IWDM-SA-ITU33-1WD	4043196
P2-15TXM-12-EM-IWDM-SA-ITU36-1WD	4043197
P2-15TXM-12-EM-IWDM-SA-ITU39-1WD	4043198
P2-15TXM-12-EM-IWDM-SA-ITU44-1WD	4043199
P2-15TXM-12-EM-IWDM-SA-ITU48-1WD	4043200
P2-15TXM-12-EM-IWDM-SA-ITU52-1WD	4043201
P2-15TXM-12-EM-IWDM-SA-ITU54-1WD	4043202
P2-15TXM-12-EM-IWDM-SA-ITU57-1WD	4043203
P2-15TXM-12-EM-IWDM-SA-ITU60-1WD	4043204
P2-15TXM-12-EM-IWDM-SA-ITU61-1WD	4043205
P2-15TXM-12-EM-IWDM-SA-ITU62-1WD	4043206
P2-15TXM-08-EM-IWDM-SA-ITU21-1WD	4044130
P2-15TXM-08-EM-IWDM-SA-ITU22-1WD	4044131
P2-15TXM-08-EM-IWDM-SA-ITU24-1WD	4044132
P2-15TXM-08-EM-IWDM-SA-IUT26-1WD	4044133
P2-15TXM-08-EM-IWDM-SA-ITU28-1WD	4044134
P2-15TXM-08-EM-IWDM-SA-ITU33-1WD	4044135
P2-15TXM-08-EM-IWDM-SA-ITU36-1WD	4044136
P2-15TXM-08-EM-IWDM-SA-ITU39-1WD	4044137
P2-15TXM-08-EM-IWDM-SA-ITU44-1WD	4044138
P2-15TXM-08-EM-IWDM-SA-ITU48-1WD	4044139
P2-15TXM-08-EM-IWDM-SA-ITU52-1WD	4044140
P2-15TXM-08-EM-IWDM-SA-ITU54-1WD	4044141
P2-15TXM-08-EM-IWDM-SA-ITU57-1WD	4044142
P2-15TXM-08-EM-IWDM-SA-ITU60-1WD	4044143
P2-15TXM-08-EM-IWDM-SA-ITU61-1WD	4044144
P2-15TXM-08-EM-IWDM-SA-ITU62-1WD	4044145



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San Jose, CA

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