Prisma II 1 GHz SuperQAM Full Spectrum Transmitter

The Prisma® II optical networks allow for best in class architectures with increased reliability, scalability, and cost-effectiveness. The Prisma II 1 GHz SuperQAM Full Spectrum Transmitter offers flexibility and ease of setup for point-to-point links that use the full spectrum.

Figure 1. Prisma II 1 GHz SuperQAM Full Spectrum Transmitter (Two Transmitters in Host Module)

Features

- 1 GHz operation
- Designed to operate within the Prisma II platform, and Prisma XD platform
- Superior Fiber Dispersion Compensation
- High linearity for robust MER and BER performance, for high symbol rate QAM
- 100 GHz DWDM, channel availability
- Small CO_2 footprint: lowest power consumption per transmitter in the industry
- Status LEDs indicate module condition and simplify troubleshooting
- Blind-mate (push-on) RF and DC connectors
- RF input test points
- Nonvolatile storage of pre-set operating parameters simplifies installation procedures
- User selectable Automatic Gain Control (AGC)
- Local control via Local Craft Interface (LCI)
- Local control via Intelligent Communications Interface Module (ICIM)
- Remote monitoring via ROSA Element Manager
- SNMP remote monitoring

Product Specifications

Table 1. Optical

Specification	Units	Forward QAM Tx & High Density QAM Tx	Notes
Wavelength Range DWDM	ITU	Ch 20, 21, 23, 27, 28, 30, 34, 35	1
Connector Type		Standard	
Output Power (minimum)	dBm	+10	
Modulation Type		Direct	1

Table 2. Electrical

Specification	Units	High Density QAM Tx	Notes
Bandwidth	MHz	50 - 1002	
Required Nominal RF Input Level per Channel: 153 Channel Setting (All Digital)	dBmV	13 ± 0.5	2
Front Panel RF Test Point Relative to Input	dB	-20 ± 1.0	
RF Input Return Loss 50 - 1002 MHz	dB	16	
Frequency Response 50 - 1002 MHz	dB	± 0.75	
Power Consumption (maximum)	W DC	7.5	

Notes:

1. See **Ordering Information** for available ITU wavelengths.
2. RF input levels specified are with Tx AGC off.

Unless otherwise noted, specifications are based on measurements made in accordance with NCTA Practices for Measurements made on Cable Television Systems using standard frequency assignments, and are referenced to the ambient air temperature at the inlet to the Prisma II or Prisma XD chassis.

Table 3. Environmental

Specification	Units	High Density Forward QAM Tx	Notes
Temperature Range Operational, Full-Specification	°C °F	0 to 50 32 to 122	1
Humidity	%	0 to 95	1

Note:

1. Recommended for use in non-condensing environments only.

Unless otherwise noted, specifications are based on measurements made in accordance with NCTA Practices for Measurements made on Cable Television Systems using standard frequency assignments, and are referenced to the ambient air temperature at the inlet to the Prisma II or Prisma XD chassis.

Table 4. Mechanical

Specification	Units	High Density Forward QAM Tx	Notes
Depth	in. cm	8.80 22.35	
Width	in. cm	1.03 2.62	
Height	in. cm	3.48 8.84	
Weight	lb kg	0.90 0.41	
Module Width	slots	1	

Table 5. Link Performance

Channel Loading	MER *	BER	CNR	Notes
30 analog + 124 QAM	38	≤ 1 e-7	50.5	1, 2, 3, 4, 5, 6
153 QAM (all digital)	38	≤ 1 e-9		1, 2, 3, 4, 5, 6

* All MER measurements are equalized; test equipment may limit measured performance.

Notes:

1. Specifications above are based on a single transmitter; link performance for a multi-wavelength system will differ. Consult with Cisco System Engineering for system performance.
2. With specified RF input levels and optical link conditions. CNR values referenced to CW carriers.
3. For use with 256 QAM modulation; use of 64 QAM modulation may exhibit improved performance.
4. Receiver with NEP = 7 pa / √Hz; ρ = 0.9 A/W.
5. BER is before Forward Error Correction (pre-FEC), with ITU-B J.83 Annex B QAM modulation.
6. Performance specifications are valid up to 40 km.

Unless otherwise noted, specifications are based on measurements made in accordance with NCTA Practices for Measurements made on Cable Television Systems using standard frequency assignments, and are referenced to the ambient air temperature at the inlet to the Prisma II or Prisma XD chassis.

Ordering Information

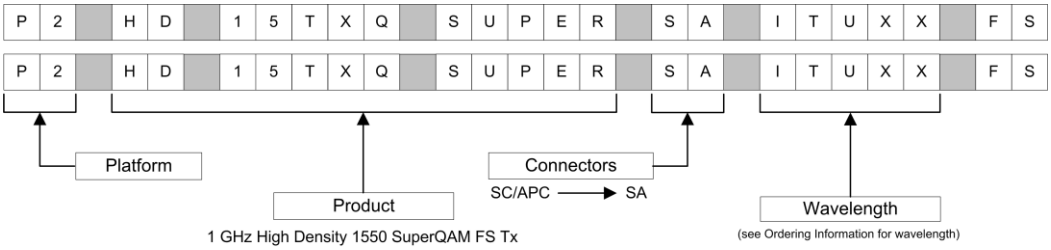

Table 6. Ordering Information - 1550 Forward High Density SuperQAM Full Spectrum 10 dBm Model P2-HD-15TXQFS

ITU Channels	Wavelength (nm)	Part Number
20	1561.42	737675
21	1560.61	737676
24	1558.17	737684
26	1556.56	737686

ITU Channels	Wavelength (nm)	Part Number
29	1554.13	737687
31	1552.52	737688
34	1550.12	737681
35	1549.32	737682

Platform

Prisma II products include some of the industry's most complete range of high-performance optical components. See list below.

- 1310 nm Transmitters
- Forward Optical Receivers
- Reverse Optical Receivers
- 1550 nm Optical Amplifiers
- Receiver
- Ancillary Modules
- bdr Digital Reverse 1:2 Multiplexing System

For more information, refer to the following documents:

- Prisma II Data Sheet, part number 739199
- Prisma II Data Sheet, part number 739200
- Prisma II Data Sheet, part number 7011887
- Prisma II Data Sheet, part number 7011888
- Prisma II Data Sheet, part number 739202
- Prisma II Data Sheet, part number 739203
- Prisma II Data Sheet, part number 739205
- Prisma II Data Sheet, part number 744484

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed by technology and by network complexity to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

For More Information

To learn more about this product, contact your local account representative.

To subscribe to receive end-of-life/end-of-sale information, go to http://www.cisco.com/cgi-bin/Support/FieldNoticeTool/field-notice.

Cisco Systems, Inc.
800 722-2009 or 678 277-1120
www.cisco.com

Part Number 7022558 Rev A
July 2011