Long Reach, Client-Side SFP, Multi-Rate, Multi-Protocol, CWDM, 3R Transponder

WaveReady™ Transponder 740 LR CWDM

Key Features

- **Client-side SFP modules support either single-mode (SMF) or multi-mode fiber (MMF)**
- **Automatic bit rate detection and reporting**
- **Multiple protocols supported at discrete bit rates of 125 Mb/s to 2.7 Gb/s**
- **Network optics support eight CWDM channels using 20-nm channel spacing**
- **Facility loopback functionality on both network and client sides**
- **Remote management with SNMP traps or TL1**
- **3R functionality at all supported bit rates and protocols**

Applications

- Wavelength services
- Metro optical access overlay
- Storage area network (SAN) and GigE extension services

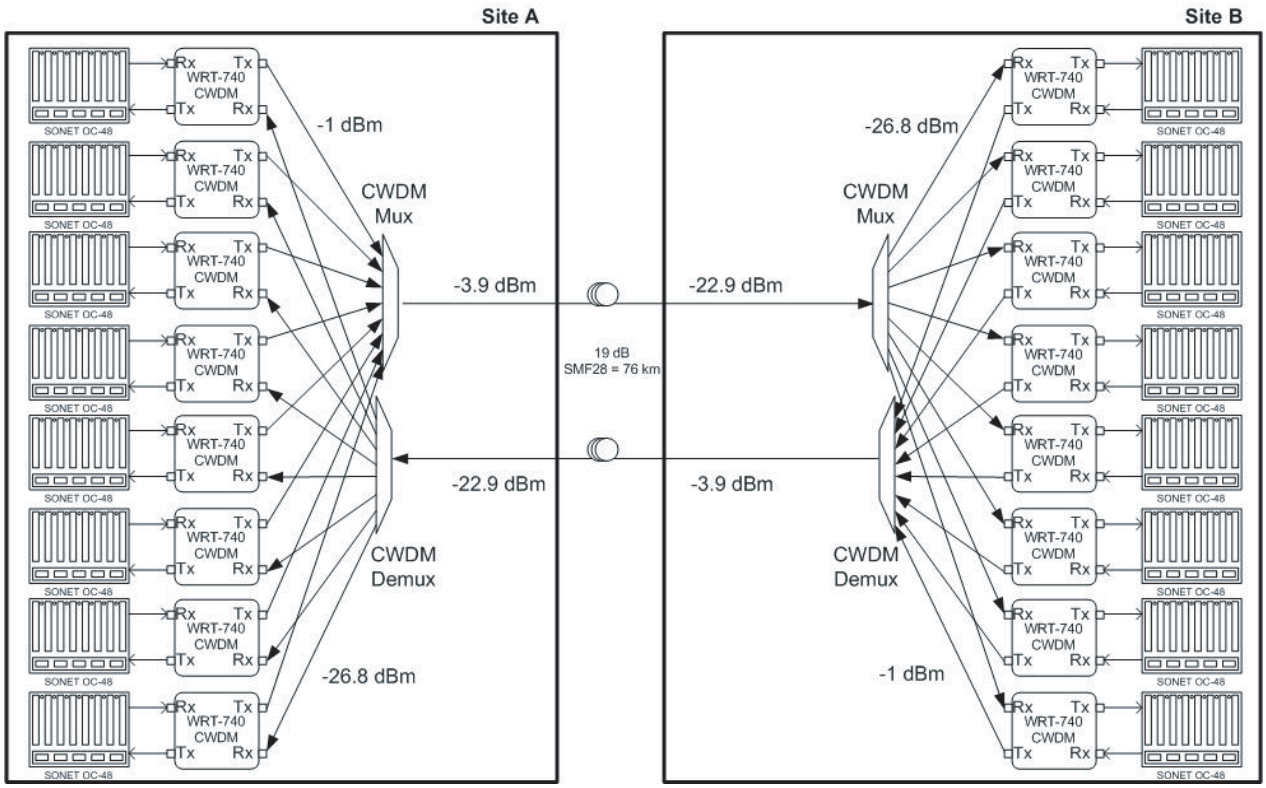
Compliance

- FCC Part 15 (Class A)
- UL 60950 3rd edition, December 2000
- CAN/CSA-C22.2 No. 950-95
- NEBS Level 3
- GR-63-CORE
- CE
- IEC 60950
- ETS300-386
- EN 55022 (Class B)
- 73/23/EEC

The WaveReady Transponder 740 LR CWDM (WRT-740 CWDM) is a multi-rate, multi-protocol, auto-lock module that translates optical signals between a variety of client-side interfaces into a long-reach, single-mode course wavelength division multiplexing (CWDM) interface. This module features small form factor pluggable (SFP) modules on the client side as well as loopback and 3R (reshape, re-time, and re-amplify/regenerate) functionalities.

The WRT-740 CWDM contains an embedded management channel, which allows for remote management, lowering operating, administration, and management costs. The transponder's WaveReady communication module manages the WRT-740 CWDM using TL1, SNMP, command line interface, or JDSU Node Manager software

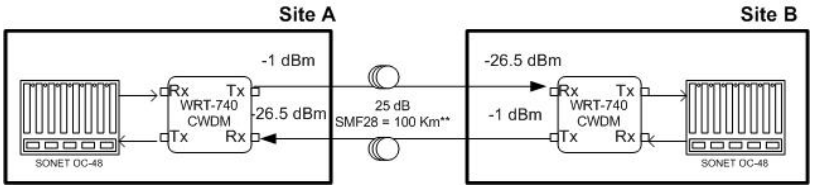
Point-to-Point Eight-Channel CWDM Link



Typical Link Budget

Data Rate	Minimum Rx Power	Total Power Budget	Maximum Distance
OC-48	-28.5 dBm	27.5 dB	76 km
Gigabit Ethernet	-30 dBm	29.0 dB	82 km

Point-to-Point Single-Channel CWDM Link



Note: Power budget is 25 dB, but to go from 80 to 100 km, a dispersion compensation module (DCM) is required.

Typical Link Budget

Data Rate	Minimum Rx Power	Total Power Budget	Maximum Distance
OC-48	-28.5 dBm	27.5 dB	110 km
Gigabit Ethernet	-30 dBm	29.0 dB	116 km

Network Optical Specifications

Parameter		Specifications
Optical Path between Transmitter and Receiver Connectors		
Dispersion penalty at OC-48 (80 km)	Maximum	2 dB
Dispersion at OC-48	Minimum	1600 ps/nm
Optical return loss of cable plant, including any connectors	Minimum	24 dB
Discrete reflectance between transmitter and receiver connectors	Maximum	27 dB
Maximum link budget at OC-48,	Minimum	25.5 dB
including dispersion penalty at BER = $1x10^{-12}$	Typical	27 dB
Transmitter		
Output wavelengths		1471, 1491, 1511, 1531, 1551, 1571, 1591, and 1611 nm
Wavelength accuracy		± 6.5 nm
Mean output power	Minimum	-1 dBm
	Typical	1 dBm
	Maximum	4 dBm
Extinction ratio	Minimum	8.2 dB[1]
Receiver		
Sensitivity at 100Base-F to GigE, BER = $1x10^{-12}$	Minimum	-30 dBm
Sensitivity at OC-48, BER = $1x10^{-12}$	Minimum	-28.5 dBm
Overload	Minimum	-8 dBm[2]
LOS activation threshold	Typical	-36 dBm
LOS deactivation threshold	Typical	-34 dBm

Note: All specifications are guaranteed over the life, operating temperatures, wavelengths, and input voltage range specified. This product should be deployed in accordance with each company's deployment directives.

1. At OC-48
2. Management communications at OC-3 require input power less than -15 dBm

Other Specifications

Parameter	Condition		Specifications
Electrical			
Power dissipation	Over temperature range EOL	Typical Maximum	15.5 W 19 W
Supply voltage[1]		Minimum Maximum	38 V 60 V
Environmental			
Storage temperature			-40 to 85°C
Ambient operating temperature	-5 to 55°C short term; 96 hours continuous; no more than 15 days per year		-5 to 55 °C
Humidity	Non-condensing		5 to 95%
Mechanical			
Weight (approximate)			1.4 kg (3.1 lb)
Dimensions (H x W x D)			25.4 x 223.5 x 175 mm (1.0 x 6.89 x 8.8 inches)
Mounting options			WaveReady 3500-F or WaveReady 3100 shelf in standard 19- or 23-inch or ETSI rack

1. The DC power supply must be -48 V SELV output and certified by a nationally recognized test laboratory (NRTL). UL tested at -48 V.

Interface Specifications

Parameter	Specification
Operations, administration, maintenance, and provisioning (OAM&P)	Via the WaveReady Communication Module 200; remote management: SNMP and TL1 command mode through JDSU Node Manager software or through telnet or command-line application or SNMP; Communication with remote modules through an embedded supervisory channel
Front panel LEDs	CARD (power), MAJ/CRIT (major/critical alarm), MIN (minor alarm), LOS B, LOS D, LOOPBK (loopback), MGT (management)
Front panel ports	Client-side ports: A and B single-mode or multi-mode fiber (SMF or MMF); Network-side ports: C and D, SMF
Alarms	CARD (power), MAJ/CRIT (major/critical) alarm; MIN (minor alarm), LOS B, LOS D (loss of lock); Alarm relay open under normal operation; relay closed when power is off and alarm is active

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: WRT-740DC240B-057

WRT-740DC240B- □□□

Code	Frequency
047	1471 nm
049	1491 nm
051	1511 nm
053	1531 nm
055	1551 nm
057	1571 nm
059	1591 nm
061	1611 nm

Note: For current compatible SFPs, please contact your local JDSU account manager.

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