



WaveReady™ 100 Mbps to 11.3 Gbps SFP, XFP, and SFP+ Optical Transceiver Compatibility

JDSU WaveReady small form-factor pluggable (SFP) optical transceivers provide the network- and client-side interfaces for WaveReady muxponders and transponders, the JDSU WRM-782, and 3rd-party equipment.

The modules are optimized for a wide range of protocols and are available for both single-mode and multimode fiber. Supported protocols include:

- 100BaseFX Ethernet
- Gigabit Ethernet (GE)
- Enterprise systems connection (ESCON)
- Fibre Channel
- Fiber connectivity (FICON)
- OC-3/STM-1 to OC-192/STM-64
- 8/10 GFC, 10 GFC with FEC over OTN
- 10 GEWAN, WAN PHY and LAN PHY
- 10 GEWAN and LAN with FEC
- 10 GE over OTN
- CPRI 16

Supported data rates range from 125 Mbps to 11.3 Gbps.

The bit rate and protocol and equipment independence of WaveReady transponders and SFPs give service providers the flexibility they need to meet the shifting demands of customers without the need to change installed equipment.

Benefits

- Deploy with 3rd-party Ethernet switches and IP routers with proven compatibility
- Reduce sparing requirements with multirate and tri-speed models
- Support any rate and any network

Multirate Features

- Fully compliant with SONET/SDH and all reaches: SR-1, IR-1, IR-2, LR-1, and LR-2
- Enables the DDMI interface
- Automatic output power and extinction ratio control over temperature and lifetime
- Meets the -27 dB standard reflectance requirement

Ethernet and Fibre Channel Features

- Proven high reliability at <100 FIT
- Low bit error rate at <10⁻¹²
- Hot-plug surge protection
- Supports Ethernet and Fibre Channel data rates

SFP Compatibility

Not all WaveReady modules support all the data rates supported by a given SFP. Refer to the module's installation and user guide for rate coverage.

SFP and WaveReady Module Compatibility

SFP Product Number	WRT-740	WRT-760	WRT-780	WRT-781	WRM-782-CL'T	WRM-782-NTWK	WRM-8008-CL'T	ILA-WR-OSC	ILA-CUST-OSC	COM-300-OSC
WRT-SFPBT100SC	—	—	X	X	—	—	—	—	—	X
WRT-SFPBT100OSC	—	—	X	X	X	—	—	—	—	—
WRT-SFPI3C42SC-0xx	—	—	X	X	—	X	—	—	—	—
WRT-SFPL3C24SC-0xx	—	—	X	X	—	—	—	—	—	—
WRT-SFPL3T24SC-0xx	—	—	X	X	—	—	X	—	—	X
WRT-SFPL3T42SC-0xx	—	—	X	X	—	X	—	—	—	—
WRT-SFPM20SC0850	X	X	X	X	X	—	—	—	—	—
WRT-SFPM42SC0850	—	—	X	X	—	—	—	—	—	—
WRT-SFPS10SC1310	—	—	X	X	X	—	—	—	—	—
WRT-SFPS24SC1310	X	X	X	X	X	—	X	—	—	—
WRT-SFPS31SD1310IR1	—	—	X	X	X	—	X	—	—	—
WRT-SFPS42SC1310	—	—	X	X	—	—	—	—	—	—
WRT-SFPPT015SC	—	—	X	X	X	X	—	—	—	—
WRT-SFPPS015SC1310	Currently not compatible with WaveReady modules.									
WRT-SFPPM015SC0850	Compatible with 3rd-party equipment requiring an SFP+ in the 9.953 to 11.3 Gbps range.									
WRT-SFPL3C03SC510 and WRT-SFPL3C03SC610 ¹	—	—	X	X	—	—	—	X	X	X
WRT-SFPL3C03XC510 and WRT-SFPL3C03XC610 ¹	—	—	X	X	—	—	—	X	X	X
WRT-SFPL3C10SC-0xx	X	—	X	X	—	—	—	—	—	—
WRT-SFPL3C10XC-051 and WRT-SFPL3C10XC-061 Extended temperature XFP	—	—	—	—	—	—	—	—	X	X
WRT-SFPBV1485SBRXN	—	—	X	X	—	—	—	—	—	—
WRT-SFPBV1485SBTXN	—	—	X	X	—	—	—	—	—	—
WRT-SFPBV1485SBRXP	—	—	X	X	—	—	—	—	—	—
WRT-SFPBV1485SBTXP	—	—	X	X	—	—	—	—	—	—

1. For OSC (125 Mbps, 100 BaseT) only. Standard temperature XFP supported for 1RU ILA only. Not supported on 2 RU for thermal limitations.

SFPs for Data Rates below 1 Gbps

SFP Product Number	125 Mbps 100BaseT/fast Ethernet	155 Mbps OC-3/OC-12/STM-1	270 Mbps SMPTE 259M	622 Mbps OC-12/STM-4
WRT-SFPBT100SC	X	—	—	—
WRT-SFPBT1000SC	X	—	—	—
WRT-SFPL3C24SC-0xx	X	X	X	X
WRT-SFPL3T42SC-0xx	X	X	X	X
WRT-SFPS24SC1310	X	X	X	X
WRT-SFPS31SD1310IR1	X	X	X	X
WRT-SFPS24SCIR1	X	X	X	X
WRT-SFPPT015SC	X	X	—	X
WRT-SFPL3C03SC510 and WRT-SFPL3C03SC610 ¹	X	X	—	—
WRT-SFPL3C03XC510 and WRT-SFPL3C03XC610 ²	X	X	—	—
WRT-SFPBV1485SBRXN	—	—	X	—
WRT-SFPBV1485SBTXN	—	—	X	—
WRT-SPFBV1485SBRXP	—	—	X	—
WRT-SPFBV1485SBTXP	—	—	X	—

1. For OSC (125 Mbps, 100 BaseT) only. Standard temperature XFP supported for 1 RU ILA only. Not supported on 2 RU for thermal limitations.

2. For OSC only (125 Mbps, 100 Base x). Extended temperature XFP supported on both 1 RU and 2 RU ILA units.

SFPs for Data Rates between 1 Gbps and 2.5 Gbps

SFP Product Number	1.0625 Gbps FC 100	1.25 Gbps GE	1.48 Gbps SMPTE 292M	2.125 Gbps FC 200	2.457 Gbps CPRI 4	2.488 Gbps OC48/STM16
WRT-SFPBT1000SC	—	X	—	—	—	—
WRT-SFPL3C24SC-0xx	X	X	X	X	—	—
WRT-SFPL3T24SC-0xx	X	X	X	X	—	—
WRT-SFPL3T42SC-0xx	X	—	—	X	—	—
WRT-SFPM20SC0850	X	X	—	X	—	—
WRT-SFPM42SC0850	X	—	—	X	—	—
WRT-SFPS10SC1310	X	X	—	—	—	—
WRT-SFPS24SC1310	X	X	X	X	—	—
WRT-SFPS31SD1310IR1	X	X	X	X	—	—
WRT-SFPS24SCIR1	X	X	X	X	—	—
WRT-SFPS42SC1310	X	—	—	X	—	—
WRT-SFPL3C10SC-0xx	—	X	—	—	—	—
WRT-SFPI3C42SC-0xx	X	—	—	X	—	—
WRT-SFPPT015SC	X	X	—	X	X	X
WRT-SFPL3C10XC-051 and WRT-SFPL3C10XC-061 Extended temperature SFP	—	X	—	—	—	—
WRT-SFPBV1485SBRXN	—	—	X	—	—	—
WRT-SFPBV1485SBTXN	—	—	X	—	—	—
WRT-SPFBV1485SBRXP	—	—	X	—	—	—
WRT-SPFBV1485SBTXP	—	—	X	—	—	—

SFPs for Data Rates between 2.5 Gbps and 4.25 Gbps

SFP Product Number	2.667 Gbps OC-48 FEC (G.709 OTU1)	2.7 Gbps SONET/OC-48 (G.709 OTU1)	3.1 Gbps CPRI 5	4.25 Gbps FC 400	4.25 Gbps OTU1-over clocked
WRT-SFPL3C24SC-0xx	X	X	—	—	—
WRT-SFPL3T24SC-0xx	X	X	X	—	—
WRT-SFPL3T42SC-0xx	—	—	—	X	X
WRT-SFPM42SC0850	—	—	—	X	—
WRT-SFPS24SC1310	X	X	—	—	—
WRT-SFPS31SD1310IR1	X	X	X	—	—
WRT-SFPS24SCIR1	X	X	—	—	—
WRT-SFPS42SC1310	—	—	—	X	—
WRT-SFPL3C10SC-0xx	—	—	—	—	—
WRT-SFPI3C42SC-0xx	—	—	—	X	X
WRT-SFPPT015SC	X	X	X	X	X

SFP+s for Data Rates between 8.5 Gbps and 10.312 Gbps

SFP Product Number	8.5 Gbps 8 G FC	9.8304 Gbps CPRI 16	9.953 Gbps OC-192/ STM-64/10 GE WAN/PHY	10.312 Gbps 10 GE LAN PHY
WRT-SFPPT015SC	X	X	X	X
WRT-SFPPS015SC1310	—	—	X	X
WRT-SFPPM015SC0850	—	—	X	X

SFP+s for Data Rates between 10.52 Gbps and 11.3 Gbps

SFP Product Number	10.520 Gbps 10 G FC	10.709 Gbps OC-192/STM-64/ 10 GE WAN with FEC	11.095 Gbps 10 GE LAN with FEC/ 10 GE over OTN	11.3 Gbps 10 G FC with FEC over OTN
WRT-SFPPT015SC	X	X	X	X
WRT-SFPPS015SC1310	X	X	X	X
WRT-SFPPM015SC0850	X	X	X	X

XFP Compatibility

Not all WaveReady modules support all the data rates supported by a given SFP. Refer to the module's installation and user guide for rate coverage.

XFP and WaveReady Module Compatibility

SFP Product Number	WRT-840	WRT-852	WRM-8008 Network Port	WRT-882
WRT-XFPMMR8	X	X	—	—
WRT-XFPMMR8B	X	X	—	X
WRT-XFPSMR3A	X	X	X	X
WRT-XFPSMR3B	X	X	X	X
WRT-XFPSMTLR2-001	—	X	X	X
WRT-XFPSMTLR2	—	X	X	X
WRT-XFPSMTLR2B	—	X	X	X
WRT-XFPSMCLR2-0xx	—	X	X	X

XFPs for Data Rates below 10.5 Gbps

SFP Product Number	8.5 Gbps 8 G FC	9.8304 Gbps CPRI 16	9.953 Gbps OC-192/STM-64/ 10 GE WAN/10 GE WAN PHY	10.312 Gbps 10 GELAN PHY
WRT-XFPMMR8	—	—	X	X
WRT-XFPMMR8B	X	—	—	X
WRT-XFPSMR3A	—	—	X	X
WRT-XFPSMR3B	X	X	X	X
WRT-XFPSMTLR2-001	—	—	X	X
WRT-XFPSMTLR2	—	—	X	X
WRT-XFPSMTLR2B	—	X	X	X
WRT-XFPSMCLR2-0xx	—	—	X	X

XFPs for Data Rates above 10.5 Gbps

SFP Product Number	10.520 Gbps 10 G FC	10.709 Gbps OC-192/ STM-64/10 GE WAN with FEC	11.095 Gbps 10 GELAN with FEC/10 GE over OTN	11.3 Gbps 10 G FC with FEC over OTN
WRT-XFPMMR8	X	—	—	—
WRT-XFPMMR8B	X	—	—	X
WRT-XFPSMR3A	X	X	X	
WRT-XFPSMR3B	X	X	X	X
WRT-XFPSMTLR2-001	X	X	X	X
WRT-XFPSMTLR2	X	X	X	X
WRT-XFPSMTLR2B	X	X	X	X
WRT-XFPSMCLR2-0xx	X	X	X	X

Compliance

- GR-253-CORE
- ITU-TG.957
- SFF-8472
- Class 1 laser safe
- EMI emission below FCC Class B
- UL
- CDRH, and TUV
- SFP MSA
- IEC 60825 and IEC 60950
- Ethernet 802.3
- Fibre Channel FC-PI
- CE mark
- CTIK
- Telcordia GR-468-CORE stress tested
- RoHS (exemptions 7b, 8a)

Technical Specifications

Full technical specifications for WaveReady SFP, SFP+, and XFP transceivers are available in the WaveReady Pluggables Reference Guide, document number 22028376, available at www.JDSU.com or from your local JDSU account manager.

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.

SFP and SFP+ Ordering Codes

Description	Supported Modules	Product Code
100 BT copper	WRT-780, WRT-781, COM-300 OSC	WRT-SFPBT100SC
100/1000 BT copper	WRT-780, WRT-781, WRM-782 client	WRT-SFPBT1000SC
Unidirectional SDI/HD-SDI SFP transmitter (PAL/SECAM). Supports video signals over fiber optic links.	WRT-780, WRT-781	WRT-SFPBV1485SBRXP
Unidirectional SDI/HD-SDI SFP transmitter (PAL/SECAM). Supports video signals over fiber optic links.	WRT-780, WRT-781	WRT-SFPBV1485SBTX
Unidirectional SDI/HD-SDI SFP transmitter (NTSC). Supports video signals over fiber optic links.	WRT-780, WRT-781	WRT-SFPBV1485SBRXN
Unidirectional SDI/HD-SDI SFP transmitter (NTSC). Supports video signals over fiber optic links	WRT-780, WRT-781	WRT-SFPBV1485SBTXN
Tri rate (2.125, 4.25 Gbps) with DDM, CWDM, 30-50 km	WRT-780, WRT-781, WRM-782 network	WRT-SFPI3C425C-0xx
SONET OC-3/SDH STM-1, 1510 nm CWDM, for OSC applications	WRT-780, WRT-781, ILA WaveReady and customer OSC, COM-300 OSC	WRT-SFPL3C035C510
SONET OC-3/SDH STM-1, 1510 nm CWDM, for OSC applications	WRT-780, WRT-781, ILA WaveReady and customer OSC, COM-300 OSC	WRT-SFPL3C03XC510
SONET OC-3/SDH STM-1, 1510 nm CWDM, for OSC applications	WRT-780, WRT-781, ILA WaveReady and customer OSC, COM-300 OSC	WRT-SFPL3C035C610
SONET OC-3/SDH STM-1, 1610 nm CWDM, for OSC applications	WRT-780, WRT-781, ILA WaveReady and customer OSC, COM-300 OSC	WRT-SFPL3C03XC610
Single rate (1.25 Gbps) with DDM, CWDM, 120 km	WRT-740, WRT-780, WRT-781	WRT-SFPL3C105C-0xx
Multirate (125 Mbps – 3.1 Gbps) with DDM, CWDM, 80 km (1600 ps/nm)	WRT-780, WRT-781	WRT-SFPL3C245C-0xx
Multirate (125 Mbps – 2.66 Gbps) with DDM, DWDM, 120 km (2400 ps/nm)	WRT-780, WRT-781, WRM-8008 client, COM-300 OSC	WRT-SFPL3T245C-0xx
Tri rate (1.06/2.125/4.25 Gbps) with DDM, DWDM, 80 km (1600 ps/nm)	WRT-780, WRT-781, WRM-782 network	WRT-SFPL3T425C-0xx
GE only for OSC applications	ILA customer OSC, COM-300 OSC	WRT-SFPL3C10XC-051
GE only for OSC applications	ILA customer OSC, COM-300 OSC	WRT-SFPL3C10XC-061
Tri speed (1.06/1.25/2.125 Gbps) with DDM, 850 nm, short reach	WRT-740, WRT-760, WRT-780, WRT-781, WRM-782 client	WRT-SFPM20SC0850
Tri rate (1.06/2.125/4.25 Gbps) with DDM, 850 nm, short reach	WRT-780, WRT-781	WRT-SFPM425C0850
SONET OC-3/SDH STM-1, 1610 nm CWDM, for OSC applications	WRT-780, WRT-781, ILA WaveReady and customer OSC, COM-300 OSC	WRT-SFPL3C035C610
Tunable DWDM SFP+ transceiver, DWDM, tunable, (9.95 to 11.3 Gbps), 80 km	WRT-780, WRT-781, WRM-782	WRT-SFPPT015SC
Multirate (9.95 to 10 GE compliant), 850 nm, short reach	Not compatible with WaveReady equipment	WRT-SFPPM015SC0850
Multirate (9.95 to 10 GE compliant), 1310 nm, long reach	Not compatible with WaveReady equipment	WRT-SFPPS015SC1310
Dual rate (1.06/1.25 Gbps) with DDM, 1310 nm, 10 km	WRT-780, WRT-781, WRM-782 client	WRT-SFPS10SC1310
Multirate (125 Mbps – 2.6 Gbps) with DDM, 1310 nm, 10 km	WRT-740, WRT-760, WRT-780, WRT-781, WRM-8008 CLIENT	WRT-SFPS24SC1310
Multirate (155 Mbps – 2.7 Gbps) with DDM, 1310 nm, 20 km	WRT-780, WRT-781, WRM-8008 client	WRT-SFPS24SCIR1
Multirate (125 Mbps – 3.1 Gbps) with DDM, 1310 nm, single-channel intermediate reach, 20 km	WRT-780, WRT-781	WRT-SFPS31SD1310IR1
Tri rate (1.06/2.125/4.25 Gbps) with DDM, 1310 nm, 30 km	WRT-780, WRT-781	WRT-SFPS42SC1310

XFP Ordering Codes

Description	Supported Modules	Product Code
Multimode XFP, 850 nm, short reach	WRT-840, WRT-852	WRT-XFPMMR8
Multimode XFP, 850 nm, short reach	WRT-840, WRT-852, WRT-882	WRT-XFPMMR8B
Multi-protocol XFP, C-band, single mode, long reach	WRT-852, WRM-8008 network, WRT-882	WRT-XFPSMCLR2-0xx
Multi-protocol XFP, single mode, 1310 nm, medium reach	WRT-840, WRT-852, WRM-8008 network, WRT-882	WRT-XFPSMR3A
Multi-protocol XFP, single mode, 1310 nm, medium reach	WRT-840, WRT-852, WRM-8008 network, WRT-882	WRT-XFPSMR3B
Tunable multi-protocol XFP, C-band, single mode, long reach	WRT-852, WRM-8008 network	WRT-XFPSMTLR2
Tunable multi-protocol XFP, C-band, single mode, long reach	WRT-852, WRM-8008 network, WRT-882	WRT-XFPSMTLR2-001
Tunable multi-protocol XFP, C-band, single mode, long reach	WRT-852, WRM-8008 network, WRT-882	WRT-XFPSMTLR2B



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