



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-10GSFP-LR1	Single	Dual	Y	10km	1310	10G	MSA	-8.0 dBm	0.5 dBm	-14.4 dBm	0.5 dBm	6.4 dB
TN-10GSFP-LR2	Single	Dual	Y	20km	1310	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	1.0 dBm	11.4 dB
TN-10GSFP-LR4	Single	Dual	Y	40km	1310	10G	MSA	1.5 dBm	5.0 dBm	-15.0 dBm	1.0 dBm	16.5 dB
TN-10GSFP-LR7	Single	Dual	Y	70km	1310	10G	MSA	3.0 dBm	6.0 dBm	-22.0 dBm	-8.0 dBm	25.0 dB
TN-10GSFP-LRB11	Single	Single	Y	10km	1270 TX / 1330 RX	10G	MSA	-5.0 dBm	0.0 dBm	-14.0 dBm	0.5 dBm	9.0 dB
TN-10GSFP-LRB12	Single	Single	Y	10km	1330 TX / 1270 RX	10G	MSA	-5.0 dBm	0.0 dBm	-14.0 dBm	0.5 dBm	9.0 dB
TN-10GSFP-LRB21	Single	Single	Y	20km	1270 TX / 1330 RX	10G	MSA	-2.0 dBm	2.0 dBm	-14.0 dBm	0.5 dBm	12.0 dB
TN-10GSFP-LRB22	Single	Single	Y	20km	1330 TX / 1270 RX	10G	MSA	-2.0 dBm	2.0 dBm	-14.0 dBm	0.5 dBm	12.0 dB
TN-10GSFP-LRB41	Single	Single	Y	40km	1270 TX / 1330 RX	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-10GSFP-LRB42	Single	Single	Y	40km	1330 TX / 1270 RX	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-10GSFP-LRB61	Single	Single	Y	60km	1270 TX / 1330 RX	10G	MSA	3.0 dBm	7.0 dBm	-20.0 dBm	-5.0 dBm	23.0 dB
TN-10GSFP-LRB62	Single	Single	Y	60km	1330 TX / 1270 RX	10G	MSA	3.0 dBm	7.0 dBm	-20.0 dBm	-5.0 dBm	23.0 dB
TN-10GSFP-SR	Multi	Dual	Y	300 m with OM3 MMF 82 m with OM2 MMF 33 m with OM1 MMF	850	10G	MSA	-7.3 dBm	-1.5 dBm	-9.9 dBm	-1.0 dBm	2.6 dB
TN-CWDM-100LX-1270	Single	Dual	Y	80km	1270	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1290	Single	Dual	Y	80km	1290	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1310	Single	Dual	Y	80km	1310	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1330	Single	Dual	Y	80km	1330	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1350	Single	Dual	Y	80km	1350	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1370	Single	Dual	Y	80km	1370	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1390	Single	Dual	Y	80km	1390	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1410	Single	Dual	Y	80km	1410	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-100LX-1430	Single	Dual	Y	80km	1430	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1450	Single	Dual	Y	80km	1450	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1470	Single	Dual	Y	80km	1470	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1490	Single	Dual	Y	80km	1490	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1510	Single	Dual	Y	80km	1510	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1530	Single	Dual	Y	80km	1530	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1550	Single	Dual	Y	80km	1550	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1570	Single	Dual	Y	80km	1570	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1590	Single	Dual	Y	80km	1590	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-100LX-1610	Single	Dual	Y	80km	1610	100M	GLC-FE-100LX	-5.0 dBm	0.0 dBm	-33.0 dBm	-10.0 dBm	28.0 dB
TN-CWDM-10G-1470-40	Single	Dual	Y	40km	1470	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1470-80	Single	Dual	Y	80km	1470	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1490-40	Single	Dual	Y	40km	1490	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1490-80	Single	Dual	Y	80km	1490	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1510-40	Single	Dual	Y	40km	1510	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1510-80	Single	Dual	Y	80km	1510	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1530-40	Single	Dual	Y	40km	1530	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1530-80	Single	Dual	Y	80km	1530	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1550-40	Single	Dual	Y	40km	1550	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1550-80	Single	Dual	Y	80km	1550	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1570-40	Single	Dual	Y	40km	1570	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1570-80	Single	Dual	Y	80km	1570	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-10G-1590-40	Single	Dual	Y	40km	1590	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1590-80	Single	Dual	Y	80km	1590	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-10G-1610-40	Single	Dual	Y	40km	1610	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-16.0 dBm	-1.0 dBm	16.0 dB
TN-CWDM-10G-1610-80	Single	Dual	Y	80km	1610	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-24.0 dBm	-7.0 dBm	24.0 dB
TN-CWDM-SFP-1270	Single	Dual	Y	80km	1270	1G	CWDM-SFP-1270	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1270-40	Single	Dual	Y	40KM	1270	1G	CWDM-SFP-1270	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1290	Single	Dual	Y	80km	1290	1G	CWDM-SFP-1290	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1290-40	Single	Dual	Y	40KM	1290	1G	CWDM-SFP-1290	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1310	Single	Dual	Y	80km	1310	1G	CWDM-SFP-1310	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1310-40	Single	Dual	Y	40KM	1310	1G	CWDM-SFP-1310	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1330	Single	Dual	Y	80km	1330	1G	CWDM-SFP-1330	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1330-40	Single	Dual	Y	40KM	1330	1G	CWDM-SFP-1330	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1350	Single	Dual	Y	80km	1350	1G	CWDM-SFP-1350	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1350-40	Single	Dual	Y	40KM	1350	1G	CWDM-SFP-1350	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1370	Single	Dual	Y	80km	1370	1G	CWDM-SFP-1370	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1370-40	Single	Dual	Y	40KM	1370	1G	CWDM-SFP-1370	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1390	Single	Dual	Y	80km	1390	1G	CWDM-SFP-1370	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-SFP-1390-40	Single	Dual	Y	40KM	1390	1G	CWDM-SFP-1390	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1410	Single	Dual	Y	80km	1410	1G	CWDM-SFP-1410	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1410-40	Single	Dual	Y	40KM	1410	1G	CWDM-SFP-1410	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1430	Single	Dual	Y	80km	1430	1G	CWDM-SFP-1430	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1430-40	Single	Dual	Y	40KM	1430	1G	CWDM-SFP-1430	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1450	Single	Dual	Y	80km	1450	1G	CWDM-SFP-1450	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1450-40	Single	Dual	Y	40KM	1450	1G	CWDM-SFP-1450	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1450-16	Single	Dual	Y	160km	1450	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-CWDM-SFP-1470	Single	Dual	Y	80km	1470	1G	CWDM-SFP-1470	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1470-40	Single	Dual	Y	40KM	1470	1G	CWDM-SFP-1470	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1470-16	Single	Dual	Y	160km	1470	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1490	Single	Dual	Y	80km	1490	1G	CWDM-SFP-1490	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1490-40	Single	Dual	Y	40KM	1490	1G	CWDM-SFP-1490	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1490-16	Single	Dual	Y	160km	1490	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1510	Single	Dual	Y	80km	1510	1G	CWDM-SFP-1510	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1510-40	Single	Dual	Y	40KM	1510	1G	CWDM-SFP-1510	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1510-16	Single	Dual	Y	160km	1510	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-SFP-1530	Single	Dual	Y	80km	1530	1G	CWDM-SFP-1530	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1530-40	Single	Dual	Y	40KM	1530	1G	CWDM-SFP-1530	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1530-16	Single	Dual	Y	160km	1530	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1550	Single	Dual	Y	80km	1550	1G	CWDM-SFP-1550	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1550-40	Single	Dual	Y	40KM	1550	1G	CWDM-SFP-1550	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1550-16	Single	Dual	Y	160km	1550	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1570	Single	Dual	Y	80km	1570	1G	CWDM-SFP-1570	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1570-40	Single	Dual	Y	40KM	1570	1G	CWDM-SFP-1570	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1570-16	Single	Dual	Y	160km	1570	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1590	Single	Dual	Y	80km	1590	1G	CWDM-SFP-1590	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1590-40	Single	Dual	Y	40KM	1590	1G	CWDM-SFP-1590	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1590-16	Single	Dual	Y	160km	1590	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-SFP-1610	Single	Dual	Y	80km	1610	1G	CWDM-SFP-1610	0.0 dBm	5.0 dBm	-25.0 dBm	0.0 dBm	25.0 dB
TN-CWDM-SFP-1610-40	Single	Dual	Y	40KM	1610	1G	CWDM-SFP-1610	-5.0 dBm	0.0 dBm	-24.0 dBm	0.0 dBm	19.0 dB
TN-CWDM-SFP-1610-16	Single	Dual	Y	160km	1610	1G	GLC-ZX-SM	2.0 dBm	6.0 dBm	-34.0 dBm	-10.0 dBm	36.0 dB
TN-CWDM-X2-1470-40	Single	Dual	Y	40km	1470	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1470-80	Single	Dual	Y	80km	1470	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1490-40	Single	Dual	Y	40km	1490	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1490-80	Single	Dual	Y	80km	1490	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-X2-1510-40	Single	Dual	Y	40km	1510	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1510-80	Single	Dual	Y	80km	1510	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1530-40	Single	Dual	Y	40km	1530	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1530-80	Single	Dual	Y	80km	1530	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1550-40	Single	Dual	Y	40km	1550	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1550-80	Single	Dual	Y	80km	1550	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1570-40	Single	Dual	Y	40km	1570	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1570-80	Single	Dual	Y	80km	1570	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1590-40	Single	Dual	Y	40km	1590	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1590-80	Single	Dual	Y	80km	1590	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-X2-1610-40	Single	Dual	Y	40km	1610	10G	X2-10GB-ZR	-1.0 dBm	-4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-CWDM-X2-1610-80	Single	Dual	Y	80km	1610	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1470-40	Single	Dual	Y	40km	1470	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1470-80	Single	Dual	Y	80km	1470	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1490-40	Single	Dual	Y	40km	1490	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1490-80	Single	Dual	Y	80km	1490	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1510-40	Single	Dual	Y	40km	1510	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1510-80	Single	Dual	Y	80km	1510	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1530-40	Single	Dual	Y	40km	1530	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1530-80	Single	Dual	Y	80km	1530	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1550-40	Single	Dual	Y	40km	1550	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1550-80	Single	Dual	Y	80km	1550	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1570-40	Single	Dual	Y	40km	1570	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-CWDM-XFP-1570-80	Single	Dual	Y	80km	1570	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1590-40	Single	Dual	Y	40km	1590	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1590-80	Single	Dual	Y	80km	1590	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-CWDM-XFP-1610-40	Single	Dual	Y	40km	1610	10G	XFP-10GER-OC192IR	0.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	16.5 dB
TN-CWDM-XFP-1610-80	Single	Dual	Y	80km	1610	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-EX-SFP-1FE-FX	Multi	Dual	N	2km	1310	100M	Juniper	-20.0 dBm	-14.0 dBm	-28.0 dBm	-8.0 dBm	8.0 dB
TN-EX-SFP-1FE-LX	Single	Dual	N	10km	1310	100M	Juniper	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-EX-SFP-1GE-LX	Single	Dual	N	10km	1310	1G	Juniper	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-EX-SFP-1GE-SX	Multi	Dual	N	550M	850	1G	Juniper	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-EX-SFP-1GE-LX40K	Single	Dual	Y	40km	1310	1G	Juniper	-5.0 dBm	0.0 dBm	-25.0 dBm	-1.0 dBm	20.0 dB
TN-EX-SFP-1GE-LH	Single	Dual	Y	80km	1550	1G	Juniper	0.0 dBm	5.0 dBm	-27.0 dBm	-3.0 dBm	27.0 dB
TN-EX-SFP-1GE-LH12	Single	Dual	Y	120km	1550	1G	Juniper	0.0 dBm	5.0 dBm	-32.0 dBm	-10.0 dBm	32.0 dB
TN-EX-SFP-1GE-LH16	Single	Dual	Y	120km	1550	1G	Juniper	2.0 dBm	7.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-GB-ESX5	Multi	Dual	N	2km	1310	1G		-10.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	8.0 dB
TN-GB-ESX6	Multi	Dual	N	2km	1310	1G		-10.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	8.0 dB
TN-GB-MM5	Multi	Dual		220m	850	1G		-9.5 dBm	-4.0 dBm	-18.0 dBm	-3.0 dBm	8.5 dB
TN-GB-SM5	Single	Dual	N	10km	1310	1G		-13.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	7.0 dB
TN-GB-SM512	Single	Dual	N	120km	1550	1G		0.0 dBm	5.0 dBm	-32.0 dBm	-9.0 dBm	32.0 dB
TN-GB-SM53	Single	Dual	N	30km	1310	1G		-5.0 dBm	0.0 dBm	-24.0 dBm	-3.0 dBm	19.0 dB
TN-GB-SM58	Single	Dual	Y	80km	1550	1G		0.0 dBm	5.0 dBm	-24.0 dBm	-3.0 dBm	24.0 dB
TN-GLC-BX-D	Single	Single	Y	10km	1490 TX / 1310 RX	1G	GLC-BX-D	-9.0 dBm	-3.0 dBm	-19.0 dBm	-8.0 dBm	10.0 dB
TN-GLC-BX-DZ	Single	Single	Y	10km	1490 TX / 1310 RX	1G	GLC-BX-D	-9.0 dBm	-3.0 dBm	-19.0 dBm	-8.0 dBm	10.0 dB
TN-GLC-BX-D-20	Single	Single	Y	20km	1490 TX / 1310 RX	1G	GLC-BX-D	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-GLC-BX-D-40	Single	Single	Y	40km	1490 TX / 1310 RX	1G	GLC-BX-D	-5.0 dBm	0.0 dBm	-24.0 dBm	-1.0 dBm	19.0 dB



## SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-GLC-BX-D-60	Single	Single	Y	60km	1490 TX / 1310 RX	1G	GLC-BX-D	-2.0 dBm	4.0 dBm	-25.0 dBm	-1.0 dBm	23.0 dB
TN-GLC-BX-D-80	Single	Single	Y	80km	1550 TX / 1490 RX	1G	GLC-BX-D	0.0 dBm	5.0 dBm	-26.0 dBm	-3.0 dBm	26.0 dB
TN-GLC-BX-U	Single	Single	Y	10km	1310 TX / 1490 RX	1G	GLC-BX-U	-9.0 dBm	-3.0 dBm	-19.0 dBm	-8.0 dBm	10.0 dB
TN-GLC-BX-UZ	Single	Single	Y	10km	1310 TX / 1490 RX	1G	GLC-BX-U	-9.0 dBm	-3.0 dBm	-19.0 dBm	-8.0 dBm	10.0 dB
TN-GLC-BX-U-20	Single	Single	Y	20km	1310 TX / 1490 RX	1G	GLC-BX-U	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-GLC-BX-U-40	Single	Single	Y	40km	1310 TX / 1490 RX	1G	GLC-BX-U	-5.0 dBm	0.0 dBm	-24.0 dBm	-1.0 dBm	19.0 dB
TN-GLC-BX-U-60	Single	Single	Y	60km	1310 TX / 1490 RX	1G	GLC-BX-U	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-GLC-BX-U-80	Single	Single	Y	80km	1490 Tx / 1550 RX	1G	GLC-BX-U	0.0 dBm	5.0 dBm	-26.0 dBm	-3.0 dBm	26.0 dB
TN-GLC-BX-D-120	Single	Single	Y	120km	1550 TX / 1490 RX	1G	GLC-BX-D	0.0 dBm	5.0 dBm	-31.0 dBm	-10.0 dBm	31.0 dB
TN-GLC-BX-U-120	Single	Single	Y	120km	1490 Tx / 1550 RX	1G	GLC-BX-U	0.0 dBm	5.0 dBm	-31.0 dBm	-10.0 dBm	31.0 dB
TN-GLC-FE-100BX-D	Singe	Single	N	10km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-GLC-FE-100BX-DRGD	single	Single	Y	20km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-GLC-FE-100BX-D-20	Single	Single	N	20km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-15.0 dBm	-8.0 dBm	-28.0 dBm	-8.0 dBm	13.0 dB
TN-GLC-FE-100BX-D-40	Single	Single	N	40km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-7.0 dBm	-2.0 dBm	-32.0 dBm	-8.0 dBm	25.0 dB
TN-GLC-FE-D-40-RGD	Single	Single	N	40km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-7.0 dBm	-2.0 dBm	-32.0 dBm	-8.0 dBm	25.0 dB
TN-GLC-FE-100BX-D-80	Single	Single	N	80km	1550 TX / 1310 RX	100M	GLC-FE-100BX-D	-2.0 dBm	3.0 dBm	-34.0 dBm	-3.0 dBm	32.0 dB
TN-GLC-FE-100BX-D-12	Single	Single	Y	120km	1550 TX / 1490 RX	155M	GLC-FE-100BX-D	-2.0 dBm	3.0 dBm	-34.0 dBm	-3.0 dBm	32.0 dB
TN-GLC-FE-100BX-U	Single	Single	N	10KM	1310 TX / 1550 RX	100M	GLC-FE-100BX-U	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-GLC-FE-100BX-URGD	Single	Single	Y	20km	1310 TX / 1550 RX	100M	GLC-FE-100BX-U	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-GLC-FE-100BX-U-20	Single	Single	N	20km	1310 TX / 1550 RX	100M	GLC-FE-100BX-U	-15.0 dBm	-8.0 dBm	-28.0 dBm	-8.0 dBm	13.0 dB
TN-GLC-FE-100BX-U-40	Single	Single	N	40km	1550 TX / 1310 RX	1G	GLC-FE-100BX-U	-7.0 dBm	-2.0 dBm	-32.0 dBm	-8.0 dBm	25.0 dB
TN-GLC-FE-U-40-RGD	Single	Single	N	40km	1550 TX / 1310 RX	1G	GLC-FE-100BX-U	-7.0 dBm	-2.0 dBm	-32.0 dBm	-8.0 dBm	25.0 dB
TN-GLC-FE-100BX-U-80	Single	Single	N	80km	1310 TX / 1550 RX	100M	GLC-FE-100BX-U	-2.0 dBm	3.0 dBm	-34.0 dBm	-3.0 dBm	32.0 dB
TN-GLC-FE-100BX-U-12	Single	Single	Y	120km	1490 TX / 1550 RX	155M	GLC-FE-100BX-U	-2.0 dBm	3.0 dBm	-34.0 dBm	-3.0 dBm	32.0 dB
TN-GLC-FE-100FX	Multi	Dual	N	2km	1310	100M	GLC-FE-100FX	-20.0 dBm	-14.0 dBm	-28.0 dBm	-8.0 dBm	8.0 dB
TN-GLC-FE-100FX-RGD	Multi	Dual	Y	2km	1310	155M	GLC-FE-100FX	-20.0 dBm	-14.0 dBm	-28.0 dBm	-8.0 dBm	8.0 dB
TN-GLC-FE-100LX	Single	Dual	N	10km	1310	100M	GLC-FE-100LX	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-GLC-FE-100LX-RGD	Single	Dual	Y	10km	1310	155M	GLC-FE-100LX	-15.0 dBm	-8.0 dBm	-29.0 dBm	-8.0 dBm	14.0 dB
TN-GLC-FE-100EX-RGD	Single	Dual	Y	40km	1310	155M	GLC-FE-100LX	-7.0 dBm	-2.0 dBm	-32.0 dBm	-10.0 dBm	25.0 dB
TN-GLC-GE-100FX	Multi	Dual	N	2km	1310	100M	GLC-FE-100LX	-20.0 dBm	-8.0 dBm	-28.0 dBm	-8.0 dBm	8.0 dB
TN-GLC-LH-SM	Single	Dual	N	10km	1310	1G	GLC-LH-SM	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-GLC-LH-SMD	Single	Dual	Y	10km	1310	1G	GLC-LH-SMD	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-GLC-LHX-SM	Single	Dual	N	40km	1310	1G	GLC-LH-SM	-3.0 dBm	2.0 dBm	-25.0 dBm	-3.0 dBm	22.0 dB
TN-GLC-LHX-SM-RGD	Single	Dual	N	40km	1310	1G	GLC-LH-SM	-3.0 dBm	2.0 dBm	-25.0 dBm	-3.0 dBm	22.0 dB
TN-GLC-LX-SM-RGD	Single	Dual	Y	10km	1310	1G	GLC-LH-SM	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-GLC-SX-MM	Multi	Dual	N	550m	850	1G	GLC-SX-MM	-9.5 dBm	-4.0 dBm	-18.0 dBm	-3.0 dBm	8.5 dB
TN-GLC-SX-MMD	Multi	Dual	Y	550m	850	1G	GLC-SX-MMD	-9.5 dBm	-4.0 dBm	-18.0 dBm	-3.0 dBm	8.5 dB
TN-GLC-SX-MM-2K	Multi	Dual	N	2km	1310	1G	GLC-SX-MM	-11.0 dBm	-3.0 dBm	-19.0 dBm	-3.0 dBm	8.0 dB
TN-GLC-SX-MM-2K-RGD	Multi	Dual	Y	2km	1310	1G	GLC-SX-MM	-11.0 dBm	-3.0 dBm	-19.0 dBm	-3.0 dBm	8.0 dB
TN-GLC-SX-MM-RGD	Multi	Dual	Y	550m	850	1G	GLC-SX-MM	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-GLC-T	----	----	----	100m	RJ45	1G	GLC-T	----	----	----	----	----
TN-GLC-T-MG	----	----	----	100m	RJ45	10/100/1000M	GLC-T	----	----	----	----	----
TN-GLC-ZX-SM	Single	Dual	Y	80km	1550	1G	GLC-ZX-SM	0.0 dBm	5.0 dBm	-26.0 dBm	-3.0 dBm	26.0 dB
TN-GLC-ZX-SM-12	Single	Dual	Y	120km	1550	1G	GLC-ZX-SM	0.0 dBm	5.0 dBm	-31.0 dBm	-10.0 dBm	31.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-GLC-ZX-SM-15	Single	Dual	Y	150km	1550	1G	GLC-ZX-SM	2.0 dBm	7.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-GLC-ZX-SM-RGD	Single	Dual	Y	80km	1550	1G	GLC-ZX-SM	0.0 dBm	5.0 dBm	-26.0 dBm	-3.0 dBm	26.0 dB
TN-J4858C	Multi	Dual	N	550m	850	1G	HP	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-J4859C	Single	Dual	N	20km	1310	1G	HP	-9.0 dBm	-3.0 dBm	-25.0 dBm	-3.0 dBm	16.0 dB
TN-J4860C	Single	Dual	N	80km	1550	1G	HP	0.0 dBm	5.0 dBm	-24.0 dBm	-3.0 dBm	24.0 dB
TN-J9150A	Multi	Dual	Y	300m	850	10G	HP X132	-6.5 dBm	-1.0 dBm	-11.1 dBm	-1.0 dBm	4.6 dB
TN-J9151A	Single	Dual	Y	10km	1310	10G	HP X132	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-J9152A	Multi	Dual	Y	220m	1310	10G	HP X132	-6.5 dBm	0.5 dBm	-8.0 dBm	-1.5 dBm	1.5 dB
TN-J9153A	Single	Dual	Y	20km	1550	10G	HP X132	0.0 dBm	3.0 dBm	-15.8 dBm	-1.0 dBm	15.8 dB
TN-JD092B	Multi	Dual	Y	300m	850	10G	HP X130	-6.5 dBm	-1.0 dBm	-11.1 dBm	-1.0 dBm	4.6 dB
TN-JD093B	Multi	Dual	Y	220m	1310	10G	HP X130	-6.5 dBm	0.5 dBm	-8.0 dBm	-1.5 dBm	1.5 dB
TN-JD094B	Single	Dual	Y	10km	1310	10G	HP X130	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-JX-GE-100FX	Multi	Dual	N	2km	1310	1G	Juniper	-20.0 dBm	-14.0 dBm	-32.0 dBm	-8.0 dBm	12.0 dB
TN-SFP-10G-ER	Single	Dual	Y	40km	1550	10G	SFP-10G-LR	0.0 dBm	3.0 dBm	-15.8 dBm	-1.0 dBm	15.8 dB
TN-SFP-10G-LR	Single	Dual	Y	10km	1310	10G	SFP-10G-LR	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-SFP-10G-LRM	Multi	Dual	Y	220m	1310	10G	SFP-10G-LRM	-6.5 dBm	0.5 dBm	-8.0 dBm	-1.5 dBm	1.5 dB
TN-SFP-10G-SR	Multi	Dual	Y	300m	850	10G	SFP-10G-SR	-6.0 dBm	-1.0 dBm	-10.0 dBm	0.5 dBm	4.0 dB
TN-SFP-10G-ZR	Single	Dual	Y	80km	1550	10G	SFP-10G-LR	0.0 dBm	4.0 dBm	-24.0 dBm	-8.0 dBm	24.0 dB
TN-SFP-10G-ZR-10	Single	Dual	Y	100km	1550	10G	SFP-10G-ZR	1.0 dBm	5.0 dBm	-25.0 dBm	-6.0 dBm	26.0 dB
TN-SFP-10G-D-10	Single	Single	Y	10km	1330 TX / 1270 RX	10G	SFP-10G-LR	-8.2 dBm	0.5 dBm	-14.1 dBm	0.5 dBm	5.9 dB
TN-SFP-10G-D-20	Single	Single	Y	20km	1330 TX / 1270 RX	10G	SFP-10G-LR	-2.0 dBm	2.0 dBm	-14.1 dBm	0.5 dBm	12.1 dB
TN-SFP-10G-D-40	Single	Single	Y	40km	1330 TX / 1270 RX	10G	SFP-10G-LR	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	14.0 dB
TN-SFP-10G-D-60	Single	Single	Y	60km	1330 TX / 1270 RX	10G	SFP-10G-LR	0.0 dBm	5.0 dBm	-20.0 dBm	-6.0 dBm	20.0 dB
TN-SFP-10G-D-80	Single	Single	Y	80km	1550 TX/ 1490 RX	10G	SFP-10G-ER	-1.0 dBm	3.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-SFP-10G-U-10	Single	Single	Y	10km	1270 TX / 1330 RX	10G	SFP-10G-LR	-8.2 dBm	0.5 dBm	-14.1 dBm	0.5 dBm	5.9 dB
TN-SFP-10G-U-20	Single	Single	Y	20km	1270 TX / 1330 RX	10G	SFP-10G-LR	-2.0 dBm	2.0 dBm	-14.1 dBm	0.5 dBm	12.1 dB
TN-SFP-10G-U-40	Single	Single	Y	40km	1270 TX / 1330 RX	10G	SFP-10G-LR	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	14.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-10G-U-60	Single	Single	Y	60km	1270 TX / 1330 RX	10G	SFP-10G-LR	0.0 dBm	5.0 dBm	-20.0 dBm	-6.0 dBm	20.0 dB
TN-SFP-10G-U-80	Single	Single	Y	80km	1490 TX / 1550 RX	10G	SFP-10G-ER	0.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	23.0 dB
TN-SFP-BXD	Single	Single	Y	10km	1310TX / 1490RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-BXD2	Single	Single	Y	20km	1490TX / 1310RX	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-BXU	Single	Single	N	10km	1490TX / 1310RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-BXU2	Single	Single	N	20km	1310TX / 1490RX	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-EBXD	Single	Single	N	10km	1490TX / 1310RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-EBXU	Single	Single	N	10km	1310TX / 1490RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-ELX1	Single	Dual	N	10km	1310	1G	MSA	-9.5 dBm	-3.0 dBm	-21.0 dBm	-3.0 dBm	11.5 dB
TN-SFP-ESX5	Multi	Dual	Y	2km	1310	1G	MSA	-10.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	8.0 dB
TN-SFP-ESX6	Multi	Dual	Y	2km	1310	1G	MSA	-10.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	8.0 dB
TN-SFP-FC2XL40	Single	Dual	Y	40km	1550	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC2XM	Single	Dual	Y	150m for 62.5/125um fiber. 300m for 50/125um fiber.	850	2.5G	MSA	-9.0 dBm	-4.0 dBm	-15.0 dBm	-3.0 dBm	6.0 dB
TN-SFP-FC2XS15	Single	Dual	Y	15km	1310	2.5G	MSA	-5.0 dBm	0.0 dBm	-18.0 dBm	0.0 dBm	13.0 dB
TN-SFP-FC2XS2	Single	Dual	Y	2km	1310	2.5G	MSA	-9.5 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	8.5 dB
TN-SFP-FC2XS40	Single	Dual	Y	40km	1310	2.5G	MSA	-2.0 dBm	3.0 dBm	-28.0 dBm	-9.0 dBm	26.0 dB
TN-SFP-FC4XM	Multi	Dual	Y	At 4.25Gbd = 150m At 2.125Gbd = 300m At 1.063Gbd = 500m with 50um fiber	850	4G	MSA	-9.0 dBm	-2.5 dBm	-15.0 dBm	0.0 dBm	6.0 dB
TN-SFP-FC4XS10	Single	Dual	Y	10km	1310	1G/2G/4G		-8.0 dBm	-3.0 dBm	-18.0 dBm	0.0 dBm	10.0 dB
TN-SFP-FC4XS20	Single	Dual	Y	20km	1310	1G/2G/4G	MSA	-5.0 dBm	0.0 dBm	-18.0 dBm	0.0 dBm	13.0 dB
TN-SFP-FC4XS40	Single	Dual	Y	40km	1550	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-FC4XS5	Single	Dual	Y	10km@1.25 Gb/s 5km@4.25Gb/s	1310	1G/2G/4G	MSA	-8.0 dBm	-3.0 dBm	-18.0 dBm	0.0 dBm	10.0 dB
TN-SFP-FC4XS80	Single	Dual	Y	80km	1550	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-26.0 dBm	-9.0 dBm	26.0 dB
TN-SFP-FC4XS-C27	Single	Dual	Y	40km	1270	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C29	Single	Dual	Y	40km	1290	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C31	Single	Dual	Y	40km	1310	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C33	Single	Dual	Y	40km	1330	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C35	Single	Dual	Y	40km	1350	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C37	Single	Dual	Y	40km	1370	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C39	Single	Dual	Y	40km	1390	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C41	Single	Dual	Y	40km	1410	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C43	Single	Dual	Y	40km	1430	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C45	Single	Dual	Y	40km	1450	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C47	Single	Dual	Y	40km	1470	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C49	Single	Dual	Y	40km	1490	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C51	Single	Dual	Y	40km	1510	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C53	Single	Dual	Y	40km	1530	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C55	Single	Dual	Y	40km	1550	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C57	Single	Dual	Y	40km	1570	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C59	Single	Dual	Y	40km	1590	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-FC4XS-C61	Single	Dual	Y	40km	1610	1G/2G/4G	MSA	0.0 dBm	4.0 dBm	-18.0 dBm	0.0 dBm	18.0 dB
TN-SFP-GE-L	Single	Dual	N	10km	1310	1G	SFP-GE-L	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-SFP-GE-S	Multi	Dual	Y	300m for 62.5/125um fiber. 550m for 50/125um fiber.	850	1G	SFP-GE-S	-9.0 dBm	-3.0 dBm	-18.0 dBm	-3.0 dBm	9.0 dB
TN-SFP-GE-T	----	----	N	100m	----	10M/100M/1G	SFP-GE-T	----	----	----	----	----
TN-SFP-GE-Z	Single	Dual	Y	80km	1550	1G	SFP-GE-Z	0.0 dBm	5.0 dBm	-26.0 dBm	-3.0 dBm	26.0 dB
TN-SFP-LX1	Single	Dual	Y	10km	1310	1G	MSA	-9.5 dBm	-3.0 dBm	-21.0 dBm	-3.0 dBm	11.5 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-LX12	Single	Dual	Y	120km	1550	1G	MSA	0.0 dBm	5.0 dBm	-32.0 dBm	-9.0 dBm	32.0 dB
TN-SFP-LX16	Single	Dual	Y	160km	1550	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C27	Single	Dual	Y	Fiber dependent	1270	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C29	Single	Dual	Y	Fiber dependent	1290	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C31	Single	Dual	Y	Fiber dependent	1310	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C33	Single	Dual	Y	Fiber dependent	1330	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C35	Single	Dual	Y	Fiber dependent	1350	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C37	Single	Dual	Y	Fiber dependent	1370	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C39	Single	Dual	Y	Fiber dependent	1390	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C41	Single	Dual	Y	Fiber dependent	1410	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C43	Single	Dual	Y	Fiber dependent	1430	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C45	Single	Dual	Y	Fiber dependent	1450	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C47	Single	Dual	Y	Fiber dependent	1470	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C49	Single	Dual	Y	Fiber dependent	1490	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C51	Single	Dual	Y	Fiber dependent	1510	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C53	Single	Dual	Y	Fiber dependent	1530	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C55	Single	Dual	Y	Fiber dependent	1550	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C57	Single	Dual	Y	Fiber dependent	1570	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-LX16-C59	Single	Dual	Y	Fiber dependent	1590	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX16-C61	Single	Dual	Y	Fiber dependent	1610	1G	MSA	1.0 dBm	5.0 dBm	-36.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-LX1T	Single	Dual	Y	10km	1310	1G	MSA	-9.5 dBm	-3.0 dBm	-21.0 dBm	-3.0 dBm	11.5 dB
TN-SFP-LX20	Single	Dual	Y	200km	1550	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C27	Single	Dual	Y	200lm	1270	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C29	Single	Dual	Y	200lm	1290	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C31	Single	Dual	Y	200lm	1310	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C33	Single	Dual	Y	200lm	1330	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C35	Single	Dual	Y	200lm	1350	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C37	Single	Dual	Y	200lm	1370	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C39	Single	Dual	Y	200lm	1390	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C41	Single	Dual	Y	200lm	1410	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C43	Single	Dual	Y	200lm	1430	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C45	Single	Dual	Y	200lm	1450	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C47	Single	Dual	Y	200lm	1470	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C49	Single	Dual	Y	200lm	1490	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C51	Single	Dual	Y	200lm	1510	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C53	Single	Dual	Y	200lm	1530	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C55	Single	Dual	Y	200lm	1550	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C57	Single	Dual	Y	200lm	1570	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C59	Single	Dual	Y	200lm	1590	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX20-C61	Single	Dual	Y	200lm	1610	1G	MSA	5.0 dBm	8.0 dBm	-36.0 dBm	-10.0 dBm	41.0 dB
TN-SFP-LX3	Single	Dual	Y	30km	1310	1G	MSA	-5.0 dBm	0.0 dBm	-24.0 dBm	-3.0 dBm	19.0 dB
TN-SFP-LX3T	Single	Dual	Y	30km	1310	1G	MSA	-5.0 dBm	0.0 dBm	-24.0 dBm	-3.0 dBm	19.0 dB
TN-SFP-LX5	Single	Dual	Y	50km	1550	1G	MSA	-5.0 dBm	0.0 dBm	-24.0 dBm	-3.0 dBm	19.0 dB
TN-SFP-LX8	Single	Dual	Y	80km	1550	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-3.0 dBm	24.0 dB
TN-SFP-LX8-C27	Single	Dual	Y	Fiber dependent	1270	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C29	Single	Dual	Y	Fiber dependent	1290	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C31	Single	Dual	Y	Fiber dependent	1310	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-LX8-C33	Single	Dual	Y	Fiber dependent	1330	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C35	Single	Dual	Y	Fiber dependent	1350	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C37	Single	Dual	Y	Fiber dependent	1370	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C39	Single	Dual	Y	Fiber dependent	1390	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C41	Single	Dual	Y	Fiber dependent	1410	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C43	Single	Dual	Y	Fiber dependent	1430	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C45	Single	Dual	Y	Fiber dependent	1450	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C47	Single	Dual	Y	Fiber dependent	1470	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C49	Single	Dual	Y	Fiber dependent	1490	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C51	Single	Dual	Y	Fiber dependent	1510	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C53	Single	Dual	Y	Fiber dependent	1530	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C55	Single	Dual	Y	Fiber dependent	1550	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C57	Single	Dual	Y	Fiber dependent	1570	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C59	Single	Dual	Y	Fiber dependent	1590	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LX8-C61	Single	Dual	Y	Fiber dependent	1610	1G	MSA	0.0 dBm	5.0 dBm	-24.0 dBm	-1.0 dBm	24.0 dB
TN-SFP-LXB11	Single	Single	Y	10km	1310 TX / 1550 RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-LXB11T	Single	Single	Y	10km	1310 TX / 1550 RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-LXB12	Single	Single	Y	10km	1550 DFB	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-LXB121	Single	Single	Y	120km	1510 TX / 1590 RX	1G	MSA	-2.0 dBm	3.0 dBm	-33.0 dBm	-9.0 dBm	31.0 dB
TN-SFP-LXB122	Single	Single	Y	120km	1590 TX / 1510 RX	1G	MSA	-2.0 dBm	3.0 dBm	-33.0 dBm	-9.0 dBm	31.0 dB
TN-SFP-LXB12T	Single	Single	Y	10km	1550 TX / 1310 RX	1G	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-LXB161	Single	Single	Y	160km	1510 DFB TX / 1590 RX	1G	MSA	3.0 dBm	6.0 dBm	-34.0 dBm	-9.0 dBm	37.0 dB
TN-SFP-LXB162	Single	Single	Y	160km	1590 DFB TX / 1510 RX	1G	MSA	3.0 dBm	6.0 dBm	-34.0 dBm	-9.0 dBm	37.0 dB
TN-SFP-LXB21	Single	Single	Y	20km	1310 TX / 1550 RX	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-LXB21T	Single	Single	Y	20km	1310 TX / 1550 RX	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-LXB22	Single	Single	Y	20km	1550	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-LXB22T	Single	Single	Y	20km	1550 TX / 1310 RX	1G	MSA	-8.0 dBm	-3.0 dBm	-22.0 dBm	-3.0 dBm	14.0 dB
TN-SFP-LXB41	Single	Single	Y	40km	1310 TX / 1550 RX	1G	MSA	-3.0 dBm	2.0 dBm	-23.0 dBm	-3.0 dBm	20.0 dB
TN-SFP-LXB42	Single	Single	Y	40km	1550 TX / 1310RX	1G	MSA	-3.0 dBm	2.0 dBm	-23.0 dBm	-3.0 dBm	20.0 dB
TN-SFP-LXB61	Multi	Single	Y	60km	1310 Tx/ 1550 Rx	1G	MSA	-1.0 dBm	4.0 dBm	-26.0 dBm	-3.0 dBm	25.0 dB
TN-SFP-LXB62	Multi	Single	Y	60km	1550 Tx/ 1310 Rx	1G	MSA	-3.0 dBm	2.0 dBm	-26.0 dBm	-3.0 dBm	23.0 dB
TN-SFP-LXB81	Single	Single	Y	80km	1510 TX/ 1590 RX	1G	MSA	-2.0 dBm	3.0 dBm	-26.0 dBm	-3.0 dBm	24.0 dB
TN-SFP-LXB82	Single	Single	Y	80km	1590 TX/ 1510 RX	1G	MSA	-2.0 dBm	3.0 dBm	-26.0 dBm	-3.0 dBm	24.0 dB
TN-SFP-LXMB11	Single	Single	Y	10km	1310 TX / 1550 RX	1G/100M	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-LXMB12	Single	Single	Y	10km	1550 TX / 1310 RX	1G/100M	MSA	-9.0 dBm	-3.0 dBm	-20.0 dBm	-3.0 dBm	11.0 dB
TN-SFP-OC12M	Multi	Dual	Y	1km	1310	622M	MSA	-19.0 dBm	-12.0 dBm	-26.0 dBm	-8.0 dBm	7.0 dB
TN-SFP-OC12S	Single	Dual	Y	20km	1310	622M	MSA	-14.0 dBm	-8.0 dBm	-28.0 dBm	-5.0 dBm	14.0 dB
TN-SFP-OC12S4	Single	Dual	Y	40km	1310	622M	MSA	-3.0 dBm	2.0 dBm	-28.0 dBm	-8.0 dBm	25.0 dB
TN-SFP-OC12S8	Single	Dual	Y	80km	1550	622M	MSA	-3.0 dBm	2.0 dBm	-29.0 dBm	-8.0 dBm	26.0 dB





# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC12SB41	Single	Single	Y	40km	1310 Tx / 1550 Rx	622M	MSA	-5.0 dBm	0.0 dBm	-28.0 dBm	-8.0 dBm	23.0 dB
TN-SFP-OC12SB42	Single	Single	Y	40km	1550 TX / 1310 RX	622M	MSA	-5.0 dBm	0.0 dBm	-28.0 dBm	-8.0 dBm	23.0 dB
TN-SFP-OC12S-C27	Single	Dual	Y	Fiber dependent	1270	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C29	Single	Dual	Y	Fiber dependent	1290	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C31	Single	Dual	Y	Fiber dependent	1310	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C33	Single	Dual	Y	Fiber dependent	1330	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C35	Single	Dual	Y	Fiber dependent	1350	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C37	Single	Dual	Y	Fiber dependent	1370	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C39	Single	Dual	Y	Fiber dependent	1390	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C41	Single	Dual	Y	Fiber dependent	1410	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C43	Single	Dual	Y	Fiber dependent	1430	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C45	Single	Dual	Y	Fiber dependent	1450	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C47	Single	Dual	Y	Fiber dependent	1470	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C49	Single	Dual	Y	Fiber dependent	1490	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C51	Single	Dual	Y	Fiber dependent	1510	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C53	Single	Dual	Y	Fiber dependent	1530	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C55	Single	Dual	Y	Fiber dependent	1550	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC12S-C57	Single	Dual	Y	Fiber dependent	1570	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C59	Single	Dual	Y	Fiber dependent	1590	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC12S-C61	Single	Dual	Y	Fiber dependent	1610	622M	MSA	0.0 dBm	5.0 dBm	-29.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC3M	Multi	Dual	Y	2km	1310	100M	MSA	-19.0 dBm	-12.0 dBm	-30.0 dBm	-8.0 dBm	11.0 dB
TN-SFP-OC3MB1	Multi	Single	Y	2km	1310 Tx/ 1550 Rx	100M	MSA	-15.0 dBm	-8.0 dBm	-30.0 dBm	-8.0 dBm	15.0 dB
TN-SFP-OC3MB2	Multi	Single	Y	2km	1550 TX / 1310 RX	100M	MSA	-15.0 dBm	-8.0 dBm	-30.0 dBm	-8.0 dBm	15.0 dB
TN-SFP-OC3MT	Multi	Dual	Y	2km	1310	100M	MSA	-19.0 dBm	-12.0 dBm	-30.0 dBm	-8.0 dBm	11.0 dB
TN-SFP-OC3S	Single	Dual	Y	20km	1310	100M	MSA	-14.0 dBm	-8.0 dBm	-31.0 dBm	-8.0 dBm	17.0 dB
TN-SFP-OC3S10	Single	Dual	Y	100km	1550	100M	MSA	-3.0 dBm	2.0 dBm	-34.0 dBm	-8.0 dBm	31.0 dB
TN-SFP-OC3S12	Single	Dual	Y	120km	1550	100M	MSA	0.0 dBm	5.0 dBm	-34.0 dBm	-8.0 dBm	34.0 dB
TN-SFP-OC3S16-C27	Single	Dual	Y	Fiber dependent	1270	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C29	Single	Dual	Y	Fiber dependent	1290	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C31	Single	Dual	Y	Fiber dependent	1310	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C33	Single	Dual	Y	Fiber dependent	1330	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C35	Single	Dual	Y	Fiber dependent	1350	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C37	Single	Dual	Y	Fiber dependent	1370	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C39	Single	Dual	Y	Fiber dependent	1390	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C41	Single	Dual	Y	Fiber dependent	1410	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C43	Single	Dual	Y	Fiber dependent	1430	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C45	Single	Dual	Y	Fiber dependent	1450	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC3S16-C47	Single	Dual	Y	Fiber dependent	1470	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C49	Single	Dual	Y	Fiber dependent	1490	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C51	Single	Dual	Y	Fiber dependent	1510	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C53	Single	Dual	Y	Fiber dependent	1530	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C55	Single	Dual	Y	Fiber dependent	1550	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C57	Single	Dual	Y	Fiber dependent	1570	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C59	Single	Dual	Y	Fiber dependent	1590	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S16-C61	Single	Dual	Y	Fiber dependent	1610	100M	MSA	2.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	37.0 dB
TN-SFP-OC3S20	Single	Dual	Y	200km	1550	100M	MSA	1.0 dBm	5.0 dBm	-45.0 dBm	-10.0 dBm	46.0 dB
TN-SFP-OC3S3	Single	Dual	Y	30km	1310	100M	MSA	-18.0 dBm	-8.0 dBm	-34.0 dBm	-8.0 dBm	16.0 dB
TN-SFP-OC3S8	Single	Dual	Y	80km	1550	100M	MSA	-5.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC3S8-C27	Single	Dual	Y	Fiber dependent	1270	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C29	Single	Dual	Y	Fiber dependent	1290	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C31	Single	Dual	Y	Fiber dependent	1310	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C33	Single	Dual	Y	Fiber dependent	1330	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C35	Single	Dual	Y	Fiber dependent	1350	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C37	Single	Dual	Y	Fiber dependent	1370	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C39	Single	Dual	Y	Fiber dependent	1390	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC3S8-C41	Single	Dual	Y	Fiber dependent	1410	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C43	Single	Dual	Y	Fiber dependent	1430	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C45	Single	Dual	Y	Fiber dependent	1450	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C47	Single	Dual	Y	Fiber dependent	1470	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C49	Single	Dual	Y	Fiber dependent	1490	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C51	Single	Dual	Y	Fiber dependent	1510	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C53	Single	Dual	Y	Fiber dependent	1530	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C55	Single	Dual	Y	Fiber dependent	1550	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C57	Single	Dual	Y	Fiber dependent	1570	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C59	Single	Dual	Y	Fiber dependent	1590	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3S8-C61	Single	Dual	Y	Fiber dependent	1610	100M	MSA	-4.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	30.0 dB
TN-SFP-OC3SB121	Single	Single	Y	120km	1510 TX / 1590 RX	100M	MSA	-2.0 dBm	3.0 dBm	-34.0 dBm	-8.0 dBm	32.0 dB
TN-SFP-OC3SB122	Single	Single	Y	120km	1590 TX / 1510 RX	100M	MSA	-2.0 dBm	3.0 dBm	-34.0 dBm	-8.0 dBm	32.0 dB
TN-SFP-OC3SB161	Single	Single	Y	160km	1510 TX / 1590 RX	100M	MSA	1.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	36.0 dB
TN-SFP-OC3SB162	Single	Single	Y	160km	1590 TX / 1510 RX	100M	MSA	1.0 dBm	5.0 dBm	-35.0 dBm	-10.0 dBm	36.0 dB
TN-SFP-OC3SB201	Single	Single	Y	200km	1510 TX / 1590 RX	100M	MSA	1.0 dBm	5.0 dBm	-45.0 dBm	-10.0 dBm	46.0 dB
TN-SFP-OC3SB202	Single	Single	Y	200km	1590 TX / 1510 RX	100M	MSA	1.0 dBm	5.0 dBm	-45.0 dBm	-10.0 dBm	46.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC3SB21	Single	Multi	Y	20km	1310 TX / 1550 RX	100M	MSA	-14.0 dBm	-8.0 dBm	-33.0 dBm	-8.0 dBm	19.0 dB
TN-SFP-OC3SB22	Single	Multi	Y	20km	1550 TX / 1310 RX	100M	MSA	-14.0 dBm	-8.0 dBm	-33.0 dBm	-8.0 dBm	19.0 dB
TN-SFP-OC3SB41	Single	Single	Y	40km	1310 TX / 1550 RX	100M	MSA	-8.0 dBm	-3.0 dBm	-33.0 dBm	-8.0 dBm	25.0 dB
TN-SFP-OC3SB42	Single	Single	Y	40km	1550 TX / 1310 RX	100M	MSA	-8.0 dBm	-3.0 dBm	-33.0 dBm	-8.0 dBm	25.0 dB
TN-SFP-OC3SB61	Single	Single	Y	60km	1310 TX / 1550 RX	100M	MSA	-5.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC3SB62	Single	Single	Y	60km	1550 TX / 1310 RX	100M	MSA	-5.0 dBm	0.0 dBm	-34.0 dBm	-8.0 dBm	29.0 dB
TN-SFP-OC3SB81	Single	Single	Y	80km	1310 TX / 1550 RX	100M	MSA	-2.0 dBm	3.0 dBm	-34.0 dBm	-8.0 dBm	32.0 dB
TN-SFP-OC3SB82	Single	Single	Y	80km	1550 TX / 1310 RX	100M	MSA	-3.0 dBm	2.0 dBm	-34.0 dBm	-8.0 dBm	31.0 dB
TN-SFP-OC3ST	Single	Dual	Y	20km	1310	100M	MSA	-14.0 dBm	-8.0 dBm	-31.0 dBm	-8.0 dBm	17.0 dB
TN-SFP-OC48L-C55	Single	Dual	Y	Fiber dependent	1550	2.5G	MSA	0.0 dBm	5.0 dBm	-38.0 dBm	-9.0 dBm	38.0 dB
TN-SFP-OC48S-C27	Single	Dual	Y	Fiber dependent	1270	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C29	Single	Dual	Y	Fiber dependent	1290	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C31	Single	Dual	Y	Fiber dependent	1310	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C33	Single	Dual	Y	Fiber dependent	1330	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C35	Single	Dual	Y	Fiber dependent	1350	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C37	Single	Dual	Y	Fiber dependent	1370	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C39	Single	Dual	Y	Fiber dependent	1390	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-OC48S-C41	Single	Dual	Y	Fiber dependent	1410	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C43	Single	Dual	Y	Fiber dependent	1430	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C45	Single	Dual	Y	Fiber dependent	1450	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C47	Single	Dual	Y	Fiber dependent	1470	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C49	Single	Dual	Y	Fiber dependent	1490	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C51	Single	Dual	Y	Fiber dependent	1510	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C53	Single	Dual	Y	Fiber dependent	1530	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C55	Single	Dual	Y	Fiber dependent	1550	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C57	Single	Dual	Y	Fiber dependent	1570	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C59	Single	Dual	Y	Fiber dependent	1590	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-OC48S-C61	Single	Dual	Y	Fiber dependent	1610	2.5G	MSA	-2.0 dBm	3.0 dBm	-20.0 dBm	0.0 dBm	18.0 dB
TN-SFP-STM1E	---	---	---	---	Coax	100M	MSA	---	---	---	---	---
TN-SFP-SX	Multi	Dual	N	300m for 62.5/125um fiber. 500m for 50/125um fiber.	850	1G	MSA	-9.0 dBm	-4.0 dBm	-17.0 dBm	-3.0 dBm	8.0 dB
TN-SFP-SXB1	Multi	Single	Y	500m	1310 TX / 1550 RX	1G	MSA	-10.0 dBm	-4.0 dBm	-17.0 dBm	-3.0 dBm	7.0 dB
TN-SFP-SXB2	Multi	Single	Y	500m	1550 TX / 1310 RX	1G	MSA	-10.0 dBm	-4.0 dBm	-17.0 dBm	-3.0 dBm	7.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-SFP-SXD	Multi	Dual	Y	300m for 62.5/125um fiber. 500m for 50/125um fiber.	850	1G	MSA	-9.0 dBm	-4.0 dBm	-17.0 dBm	-3.0 dBm	8.0 dB
TN-SFP-TLX1	Single	Dual	N	10km	1310	1G	MSA	-8.0 dBm	-3.0 dBm	-21.0 dBm	-3.0 dBm	13.0 dB
TN-SFP-T-MG	---	---	N	100m	RJ45	10M/100M/1G	MSA	---	---	---	---	---
TN-SFP-TX	---	---	N	100m	RJ45	100M	MSA	---	---	---	---	---
TN-X2-10GB-ER	Single	Dual	Y	40km	1550	10G	X2-10GB-ER	-1.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-X2-10GB-LR	Single	Dual	Y	10km	1310	10G	X2-10GB-LR	-5.0 dBm	0.5 dBm	-14.4 dBm	0.5 dBm	9.4 dB
TN-X2-10GB-SR	Multi	Dual	Y	500m for 50/125um fiber.	850	10G	X2-10GB-SR	-7.0 dBm	-1.3 dBm	-11.1 dBm	0.5 dBm	4.1 dB
TN-X2-10GB-ZR	Single	Dual	Y	80km	1550	10G	X2-10GB-ZR	0.0 dBm	5.0 dBm	-24.0 dBm	0.5 dBm	24.0 dB
TN-XFP-10G-D	Single	Single	Y	80km	1330 TX / 1270 RX	10G	XFP-10GLR-OC192SR	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-XFP-10G-D-40	Single	Single	Y	40km	1330 Tx / 1270 Rx	10G	XFP-10GLR-OC192SR	0.0 dBm	4.0 dBm	-15.0 dBm	0.5 dBm	15.0 dB
TN-XFP-10GER-OC192IR	Single	Dual	Y	40km	1550	10G	XFP-10GER-OC192IR	-1.0 dBm	4.0 dBm	-16.5 dBm	0.5 dBm	15.5 dB
TN-XFP-10GLR2-OC192S	Single	Dual	Y	20km	1310	10G	XFP-10GLR-OC192SR	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-XFP-10GLR-OC192SR	Single	Dual	Y	10km	1310	10G	XFP-10GLR-OC192SR	-5.0 dBm	0.5 dBm	-14.4 dBm	0.5 dBm	9.4 dB
TN-XFP-10G-MM-SR	Multi	Dual	Y	300m	850	10G	XFP-10G-MM-SR	-5.0 dBm	-1.0 dBm	-9.5 dBm	0.5 dBm	4.5 dB
TN-XFP-10G-U	Single	Single	Y	10km	1270 TX / 1330 RX	10G	XFP-10GLR-OC192SR	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB
TN-XFP-10G-U-40	Single	Single	Y	40km	1270Tx / 1330 Rx	10G	XFP-10GLR-OC192SR	0.0 dBm	4.0 dBm	-15.0 dBm	0.5 dBm	15.0 dB
TN-XFP-10GZR-OC192LR	Single	Dual	Y	80km	1550	10G	XFP-10GER-OC192IR	0.0 dBm	5.0 dBm	-24.0 dBm	5.0 dBm	24.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-XFP-ER	Single	Dual	Y	40km	1310	10G	MSA	1.5 dBm	5.0 dBm	-15.0 dBm	1.0 dBm	16.5 dB
TN-XFP-LRM	Multi	Dual	Y	300m	1310	10G	MSA	-6.5 dBm	0.5 dBm	-11.0 dBm	1.0 dBm	4.5 dB
TN-XFP-LR1	Single	Dual	Y	10km	1310	10G	MSA	-8.2 dBm	0.5 dBm	-14.4 dBm	0.5 dBm	6.2 dB
TN-XFP-LR10	Single	Dual	Y	100km	1550	10G	MSA	1.0 dBm	4.0 dBm	-24.0 dBm	-7.0 dBm	25.0 dB
TN-XFP-LR1-C27	Single	Dual	Y	10km	1270	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C29	Single	Dual	Y	10km	1290	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C31	Single	Dual	Y	10km	1310	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C33	Single	Dual	Y	10km	1330	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C35	Single	Dual	Y	10km	1350	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C37	Single	Dual	Y	10km	1370	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C39	Single	Dual	Y	10km	1390	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C41	Single	Dual	Y	10km	1410	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C43	Single	Dual	Y	10km	1430	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C45	Single	Dual	Y	10km	1450	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C47	Single	Dual	Y	10km	1470	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C49	Single	Dual	Y	10km	1490	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C51	Single	Dual	Y	10km	1510	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C53	Single	Dual	Y	10km	1530	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C55	Single	Dual	Y	10km	1550	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C57	Single	Dual	Y	10km	1570	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C59	Single	Dual	Y	10km	1590	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-C61	Single	Dual	Y	10km	1610	10G	MSA	-3.0 dBm	1.0 dBm	-14.4 dBm	0.5 dBm	11.4 dB
TN-XFP-LR1-T	Single	Dual	Y	10lm	1310	10G	MSA	-8.2 dBm	0.5 dBm	-14.4 dBm	0.5 dBm	6.2 dB
TN-XFP-LR2	Single	Dual	Y	20km	1310	10G	MSA	-3.0 dBm	1.0 dBm	-15.0 dBm	1.0 dBm	12.0 dB
TN-XFP-LR2-T	Single	Dual	Y	20km	1310	10G	MSA	-3.0 dBm	1.0 dBm	-15.0 dBm	1.0 dBm	12.0 dB
TN-XFP-LR4-C29	Single	Dual	Y	40km	1290	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C31	Single	Dual	Y	40km	1310	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C33	Single	Dual	Y	40km	1330	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C35	Single	Dual	Y	40km	1350	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C37	Single	Dual	Y	40km	1370	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C39	Single	Dual	Y	40km	1390	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C41	Single	Dual	Y	40km	1410	10G	MSA	1.0 dBm	5.0 dBm	-15.0 dBm	0.5 dBm	16.0 dB
TN-XFP-LR4-C47	Single	Dual	Y	40km	1470	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C49	Single	Dual	Y	40km	1490	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-XFP-LR4-C51	Single	Dual	Y	40km	1510	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C53	Single	Dual	Y	40km	1530	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C55	Single	Dual	Y	40km	1550	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C57	Single	Dual	Y	40km	1570	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C59	Single	Dual	Y	40km	1590	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR4-C61	Single	Dual	Y	40km	1610	10G	MSA	-1.0 dBm	2.0 dBm	-16.0 dBm	-1.0 dBm	15.0 dB
TN-XFP-LR7-C47	Single	Dual	Y	70km	1470	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C49	Single	Dual	Y	70km	1490	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C51	Single	Dual	Y	70km	1510	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C53	Single	Dual	Y	70km	1530	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C55	Single	Dual	Y	70km	1550	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C57	Single	Dual	Y	70km	1570	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C59	Single	Dual	Y	70km	1590	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LR7-C61	Single	Dual	Y	70km	1610	10G	MSA	0.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	23.0 dB
TN-XFP-LRM	Multi	Dual	Y	300m	1310	10G	MSA	-6.5 dBm	0.5 dBm	-11.0 dBm	1.0 dBm	4.5 dB
TN-XFP-SR	Multi	Dual	Y	300 m with OM3 MMF 82 m with OM2 MMF 33 m with OM1 MMF	850	10G	MSA	-6.5 dBm	-1.5 dBm	-9.9 dBm	-1.0 dBm	3.4 dB
TN-XFP-ZR	Single	Dual	Y	80km	1550	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-7.0 dBm	22.0 dB
TN-SFP-LX20-C47	Single	Dual	Y	200lm	1470	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C49	Single	Dual	Y	200lm	1490	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C51	Single	Dual	Y	200lm	1510	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C53	Single	Dual	Y	200lm	1530	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C55	Single	Dual	Y	200lm	1550	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C57	Single	Dual	Y	200lm	1570	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C59	Single	Dual	Y	200lm	1590	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-LX20-C61	Single	Dual	Y	200lm	1610	1G	MSA	5.0 dBm	8.0 dBm	-39.0 dBm	-10.0 dBm	44.0 dB
TN-SFP-BC55-I	Single	Single	Y	40KM	1550	1G/100M	MSA	-2.0 dBm	1.0 dBm	-23.0 dBm	N/A	21.0 dB
TN-SFP-BC55	Single	Single	Y	40KM	1550	1G/100M	MSA	-2.0 dBm	1.0 dBm	-23.0 dBm	N/A	21.0 dB
TN-10GSFP-SRM	Multi	Dual	Y	300m	850	10G	MSA	-6.0 dBm	-1.0 dBm	-10.0 dBm	0.5 dBm	4.0 dB
TN-10GSFP-LR1M	Single	Dual	Y	10km	1310	10G	MSA	-6.0 dBm	-1.0 dBm	-15.0 dBm	0.5 dBm	9.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-10GSFP-LR4M	Single	Dual	Y	40km	1550	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR8M	Single	Dual	Y	80km	1550	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C47	Single	Dual	Y	80km	1470	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C49	Single	Dual	Y	80km	1490	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C51	Single	Dual	Y	80km	1510	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C53	Single	Dual	Y	80km	1530	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C55	Single	Dual	Y	80km	1550	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C57	Single	Dual	Y	80km	1570	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C59	Single	Dual	Y	80km	1590	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-C61	Single	Dual	Y	80km	1610	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR4M-D21	Single	Dual	Y	40km	1560.61	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D22	Single	Dual	Y	40km	1559.76	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D23	Single	Dual	Y	40km	1558.98	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D24	Single	Dual	Y	40km	1558.17	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D25	Single	Dual	Y	40km	1557.36	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D26	Single	Dual	Y	40km	1556.55	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D27	Single	Dual	Y	40km	1555.75	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D28	Single	Dual	Y	40km	1554.94	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D29	Single	Dual	Y	40km	1554.13	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D30	Single	Dual	Y	40km	1553.33	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D31	Single	Dual	Y	40km	1552.52	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D32	Single	Dual	Y	40km	1551.73	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D33	Single	Dual	Y	40km	1550.92	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D34	Single	Dual	Y	40km	1550.12	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D35	Single	Dual	Y	40km	1549.32	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D36	Single	Dual	Y	40km	1558.51	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D37	Single	Dual	Y	40km	1547.72	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D38	Single	Dual	Y	40km	1546.92	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D39	Single	Dual	Y	40km	1546.12	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D40	Single	Dual	Y	40km	1545.32	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D41	Single	Dual	Y	40km	1544.53	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D42	Single	Dual	Y	40km	1543.73	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D43	Single	Dual	Y	40km	1542.94	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D44	Single	Dual	Y	40km	1541.35	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB



# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-10GSFP-LR4M-D25	Single	Dual	Y	40km	1540.56	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D46	Single	Dual	Y	40km	1539.77	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D47	Single	Dual	Y	40km	1538.98	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D48	Single	Dual	Y	40km	1538.19	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D49	Single	Dual	Y	40km	1537.40	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D50	Single	Dual	Y	40km	1536.61	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D51	Single	Dual	Y	40km	1535.82	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D52	Single	Dual	Y	40km	1535.04	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D53	Single	Dual	Y	40km	1534.25	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D54	Single	Dual	Y	40km	1533.47	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D55	Single	Dual	Y	40km	1532.68	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D56	Single	Dual	Y	40km	1531.9	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D57	Single	Dual	Y	40km	1531.12	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D58	Single	Dual	Y	40km	1530.33	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D59	Single	Dual	Y	40km	1529.55	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR4M-D60	Single	Dual	Y	40km	1529.55	10G	MSA	-1.0 dBm	3.0 dBm	-16.0 dBm	0.0 dBm	15.0 dB
TN-10GSFP-LR8M-D21	Single	Dual	Y	80km	1560.61	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D22	Single	Dual	Y	80km	1559.76	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D23	Single	Dual	Y	80km	1558.98	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D24	Single	Dual	Y	80km	1558.17	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D25	Single	Dual	Y	80km	1557.36	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D26	Single	Dual	Y	80km	1556.55	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D27	Single	Dual	Y	80km	1555.75	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D28	Single	Dual	Y	80km	1554.94	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D29	Single	Dual	Y	80km	1554.13	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D30	Single	Dual	Y	80km	1553.33	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D31	Single	Dual	Y	80km	1552.52	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D32	Single	Dual	Y	80km	1551.73	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D33	Single	Dual	Y	80km	1550.92	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D34	Single	Dual	Y	80km	1550.12	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D35	Single	Dual	Y	80km	1549.32	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D36	Single	Dual	Y	80km	1558.51	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D37	Single	Dual	Y	80km	1547.72	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D38	Single	Dual	Y	80km	1546.92	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB

# SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-10GSFP-LR8M-D39	Single	Dual	Y	80km	1546.12	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D40	Single	Dual	Y	80km	1545.32	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D41	Single	Dual	Y	80km	1544.53	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D42	Single	Dual	Y	80km	1543.73	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D43	Single	Dual	Y	80km	1542.94	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D44	Single	Dual	Y	80km	1541.35	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D45	Single	Dual	Y	80km	1540.56	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D46	Single	Dual	Y	80km	1539.77	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D47	Single	Dual	Y	80km	1538.98	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D48	Single	Dual	Y	80km	1538.19	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D49	Single	Dual	Y	80km	1537.40	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D50	Single	Dual	Y	80km	1536.61	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D51	Single	Dual	Y	80km	1535.82	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D52	Single	Dual	Y	80km	1535.04	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D53	Single	Dual	Y	80km	1534.25	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D54	Single	Dual	Y	80km	1533.47	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D55	Single	Dual	Y	80km	1532.68	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D56	Single	Dual	Y	80km	1531.9	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D57	Single	Dual	Y	80km	1531.12	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D58	Single	Dual	Y	80km	1530.33	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D59	Single	Dual	Y	80km	1529.55	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-10GSFP-LR8M-D60	Single	Dual	Y	80km	1529.55	10G	MSA	-1.0 dBm	4.0 dBm	-23.0 dBm	-6.0 dBm	22.0 dB
TN-QSFP-40G-SR4	Multi	MPO	Y	4000m with OM4 MMF 300m on OM3 MMF	850	40G	QSFP-40G-SR4	-7.6 dBm	0.5 dBm	-9.9 dBm	2.4 dBm	2.3 dB
TN-QSFP-40G-LR4	Single	Dual	Y	10KM	1271 1291 1311 1310	40G	QSFP-40G-LR4	-4.5 dBm	2.3 dBm	-11.5 dBm	2.3 dBm	7.0 dB
TN-QSFP-40G-LR4-3	Single	Dual	Y	30KM	1271 1291 1311 1310	40G	QSFP-40G-LR4	-2.5 dBm	2.3 dBm	-11.5 dBm	2.3 dBm	9.0 dB

## SFP Specifications

Product	Single/Multi Mode	Single/Dual Fiber	DMI Y/N	Distance	Wavelength nm	Data Rate Bit/s	Compatibility	Min. Tx Pwr	Max. Tx Pwr	RX Sensitivity	RX Max In Pwr	Link Budget
TN-QSFP-40G-SR-BD	Multi	Dual	Y	150m with OM4 MMF 100m with OM3 MMF	850 900	40G	QSFP-40G-SR-BD	-4.0 dBm	5.0 dBm	-7.0 dBm	5.0 dBm	3.0 dB
TN-QSFP-40G-IR4	Single	Dual	Y	2KM	1271 1291 1311 1310	40G	QSFP-40G-LR4	-5.9 dBm	0.5 dBm	-12.6 dBm	0.5 dBm	6.7 dB
TN-QSFP-100G-SR4	Multi	MPO	Y	100m with OM4 MMF 70m with OM3 MMF	850	100G	QSFP-100G-SR4	-8.4 dBm	2.4 dBm	-10.7 dBm	2.4 dBm	2.3 dB
TN-QSFP-100G-LR4	Single	Dual	Y	10KM	1295 1300 1304 1309	100G	QSFP-100G-LR4	-4.3 dBm	2.5 dBm	-10.6 dBm	4.5 dBm	6.3 dB
TN-QSFP-100G-CWDM4	Single	Dual	Y	2KM	1295 1300 1304 1309	100G	QSFP-100G-CWDM4	-4.3 dBm	2.5 dBm	-10.6 dBm	4.5 dBm	6.3 dB
TN-SFP-BC55-I	Single	Single	Y	40KM	1550	1G/100M	MSA	-2.0 dBm	1.0 dBm	-23.0 dBm	N/A	21.0 dB