



Table 1.1

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Low/Std. loss MTP/LC Modules (0.5 /1.0 )dB in the System							
			1	2	3	4	5	6	7	8
OM3	1000Base-SX	1 GbE	1145	1115	1090	1065	1040	1010	990	970
	10GBase-SR	10 GbE	325	325	325	325	325	325	325	325
	40GBase-BiDi	40GbE	110	110	110	110	110	105	105	100
OM4	1000Base-SX	1 GbE	1175	1150	1125	1105	1075	1050	1030	1010
	10GBase-SR	10 GbE	560	555	550	540	530	520	520	515
	40GBase-BiDi	40GbE	200	200	200	190	185	175	170	165
OS2	100G CWDM4	100G	2000	2000	2000	2000	2000	1250	100	N/A

Table 1.2

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Ultra Low Loss MTP/LC Modules (0.35/0.6) dB in the System							
			1	2	3	4	5	6	7	8
OM3-ULL	1000Base-SX	1 GbE	1155	1135	1115	1095	1070	1045	1020	1000
	10GBase-SR	10 GbE	325	325	325	325	325	325	325	325
	40GBase-BiDi	40GbE	110	110	110	110	110	110	105	105
OM4-ULL	1000Base-SX	1 GbE	1190	1170	1150	1130	1110	1085	1060	1030
	10GBase-SR	10 GbE	565	560	555	550	540	535	525	520
	40GBase-BiDi	40GbE	200	200	200	200	195	185	180	175
OS2-ULL	100G CWDM4	100G	2000	2000	2000	2000	2000	2000	2000	2000

Table 1.3

Ethernet - Parallel - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Low/Std. loss MTP Mated pairs (0.35 /0.5 )dB in the System							
			1	2	3	4	5	6	7	8
OM3	40GBase-SR4	40 GbE	160	145	135	125	120	105	95	90
	40GBase-eSR4	40 GbE	325	325	325	325	325	325	325	325
	100GBase-SR10	100 GbE	160	145	135	125	120	105	95	90
	100GBase-SR4	100 GbE	85	85	85	80	80	75	65	60
OM4	40GBase-SR4	40 GbE	210	195	180	165	145	125	125	120
	40GBase-eSR4	40 GbE	560	555	545	535	530	520	515	510
	100GBase-SR10	100 GbE	210	195	180	165	145	125	125	120
	100GBase-SR4	100 GbE	130	130	125	120	115	110	95	90
OS2	100G PSM4	100G	500	500	500	360	N/A	N/A	N/A	N/A

Table 1.4

Ethernet - Parallel - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Ultra Low Loss (ULL) MTP Mated pairs (0.25/.35)dB in the System							
			1	2	3	4	5	6	7	8
OM3-ULL	40GBase-SR4	40 GbE	165	160	150	145	140	130	125	125
	40GBase-eSR4	40 GbE	325	325	325	325	325	325	325	325
	100GBase-SR10	100 GbE	165	160	150	145	140	130	125	125
	100GBase-SR4	100 GbE	85	85	85	85	85	85	80	80
OM4-ULL	40GBase-SR4	40 GbE	220	210	200	190	185	170	165	150
	40GBase-eSR4	40 GbE	565	560	555	550	545	540	535	530
	100GBase-SR10	100 GbE	220	210	200	190	185	170	165	150
	100GBase-SR4	100 GbE	130	130	130	130	130	125	120	115
OS2-ULL	100G PSM4	100G	500	500	500	500	500	500	500	100

Table 2.1

Fibre Channel - Duplex - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Low/Std. Loss MTP/LC Modules (0.5/1.0) dB in the System							
			1	2	3	4	5	6	7	8
OM3	400-M5E-SN-I	4 GFC	540	515	490	470	445	420	400	390
	800-M5E-SN-I	8 GFC	215	215	210	195	185	175	165	155
	1200-M5E-SN-I	10 GFC	325	325	325	325	325	325	325	325
	1600-M5E-SN-I	16 GFC	150	140	135	125	115	105	95	90
	3200-M5E-SN-I	32 GFC	80	80	80	80	80	75	65	60
OM4	400-M5F-SN-I	4 GFC	655	625	595	570	540	510	490	470
	800-M5F-SN-I	8 GFC	290	275	260	250	235	220	210	200
	1200-M5F-SN-I	10 GFC	560	555	550	540	530	520	520	515
	1600-M5F-SN-I	16 GFC	205	190	180	170	155	140	130	120
	3200-M5F-SN-I	32 GFC	130	130	125	120	115	110	95	85
OS2	800-SM-LC-L	8 GFC	12150	10400	9050	7550	6150	4800	3500	2200
	1600-SM-LC-L	16 GFC	11750	10250	9050	7700	6350	5000	3750	2400
	3200-SM-LC-L	32 GFC	11850	10400	9250	8000	6750	5500	4350	3100

Table 2.2

Fibre Channel - Duplex - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of (MM/SM) Ultra Low Loss (ULL) MTP/LC Modules (0.35/0.6) dB in the System							
			1	2	3	4	5	6	7	8
OM3-ULL	400-M5E-SN-I	4 GFC	550	535	515	495	475	455	430	410
	800-M5E-SN-I	8 GFC	215	215	215	210	200	190	180	170
	1200-M5E-SN-I	10 GFC	325	325	325	325	325	325	325	325
	1600-M5E-SN-I	16 GFC	155	150	145	135	130	120	110	100
	3200-M5E-SN-I	32 GFC	80	80	80	80	80	80	75	65
OM4-ULL	400-M5F-SN-I	4 GFC	670	650	625	605	580	550	520	490
	800-M5F-SN-I	8 GFC	295	285	275	265	255	240	225	215
	1200-M5F-SN-I	10 GFC	565	560	555	550	540	535	525	520
	1600-M5F-SN-I	16 GFC	210	200	190	180	170	160	145	135
	3200-M5F-SN-I	32 GFC	130	130	130	125	120	115	110	95
OS2-ULL	800-SM-LC-L	8 GFC	13000	11950	11000	10300	9550	8750	8000	7250
	1600-SM-LC-L	16 GFC	12500	11600	10900	10150	9500	8750	8100	7400
	3200-SM-LC-L	32 GFC	12500	11700	11000	10300	9700	9000	8350	7700

Table 2.3

Fibre Channel - Parallel - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of Low Loss MTP Mated pairs (0.35 dB) in the System							
			1	2	3	4	5	6	7	8
OM3	12800-M5E-SN-I	128 GFC	70	70	70	70	70	70	65	65
OM4	12800-M5F-SN-I	128 GFC	105	105	105	105	105	105	95	90

Table 2.4

Fibre Channel - Parallel - Maximum Distance Capability (All Distances in Meters)										
Fiber Type	Data Rate Protocol	Speed	Number of Ultra Low Loss (ULL) MTP Mated pairs (0.25 dB) in the System							
			1	2	3	4	5	6	7	8
OM3-ULL	12800-M5E-SN-I	128 GFC	70	70	70	70	70	70	70	70
OM4-ULL	12800-M5F-SN-I	128 GFC	105	105	105	105	105	105	105	105

Table 3.1

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing LC/LC Non-Integrated TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped MM/SM Low/Std. Loss MTP/LC Modules (0.5/1.0)dB in the System							
				0	1	2	3	4	5	6	7
OM3	10GBase-SR	10 GbE	50/50	295	285	275	270	265	260	255	245
			70/30	325	325	320	315	310	310	305	300
	40GBase-BiDi	40GbE	50/50	80	65	55	45	35	20	N/A	N/A
OM4	10GBase-SR	10 GbE	50/50	460	440	430	420	410	400	390	380
			70/30	510	500	495	490	485	480	475	470
	40GBase-BiDi	40GbE	50/50	130	105	85	70	50	20	N/A	N/A
OS2	100G-CWDM4	100G	50/50	1750	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3.2

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing LC/LC Non-Integrated TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped (MM/SM) Ultra Low Loss (ULL) MTP/LC Modules (0.35/0.6)dB in the System							
				0	1	2	3	4	5	6	7
OM3-ULL	10GBase-SR	10 GbE	50/50	295	290	285	275	270	265	260	255
			70/30	325	325	320	320	315	315	310	305
	40GBase-BiDi	40GbE	50/50	80	70	65	55	50	40	25	N/A
OM4-ULL	10GBase-SR	10 GbE	50/50	460	445	440	430	420	415	405	395
			70/30	510	505	500	495	490	485	480	475
	40GBase-BiDi	40GbE	50/50	130	110	100	85	70	55	30	N/A
OS2-ULL	100G-CWDM4	100G	50/50	1750	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3.3

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing an Integrated MTP/LC TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped (MM/SM) Low/Std. Loss MTP/LC Modules (0.5/1.0)dB in the System							
				0	1	2	3	4	5	6	7
OM3	10GBase-SR	10 GbE	50/50	290	285	280	275	270	265	260	250
			70/30	325	325	320	315	315	310	310	305
	40GBase-BiDi	40GbE	50/50	75	65	60	50	45	35	20	N/A
OM4	10GBase-SR	10 GbE	50/50	455	440	435	425	415	405	400	390
			70/30	505	500	495	490	490	485	480	475
	40GBase-BiDi	40GbE	50/50	120	105	95	80	65	45	15	N/A
OS2	100G-CWDM4	100G	50/50	1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3.4

Ethernet - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing an Integrated MTP/LC TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped Ultra (MM/SM) Low Loss (ULL) MTP/LC Modules (0.35/0.6)dB in the System							
				0	1	2	3	4	5	6	7
OM3-ULL	10GBase-SR	10 GbE	50/50	295	290	285	280	275	270	265	260
			70/30	325	325	325	320	320	315	310	310
	40GBase-BiDi	40GbE	50/50	80	70	65	60	55	45	35	25
OM4-ULL	10GBase-SR	10 GbE	50/50	460	450	445	435	425	420	410	400
			70/30	510	505	500	500	495	490	485	480
	40GBase-BiDi	40GbE	50/50	130	115	105	95	85	70	50	25
OS2-ULL	100G-CWDM4	100G	50/50	1640	830	150	N/A	N/A	N/A	N/A	N/A

Table 3.5

Ethernet - Parallel - Maximum Distance Capability (All Distances in Meters) Utilizing an integrated MTP/MTP TAP Module										
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped (MM/SM) Low/Std. Loss MTP Mated pairs 0.35 dB in the System						
				0	1	2	3	4	5	6
OM3	40GBase-eSR4	40 GbE	50/50	275	270	260	255	250	245	235
			70/30	320	315	310	305	305	300	295
OM4	40GBase-eSR4	40 GbE	50/50	425	415	405	395	385	375	365
			70/30	495	490	485	480	475	465	460

Table 3.6

Ethernet - Parallel - Maximum Distance Capability (All Distances in Meters) Utilizing an integrated MTP/MTP TAP Module										
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped Ultra Low Loss (ULL) MTP Mated pairs 0.25 dB in the System						
				0	1	2	3	4	5	6
OM3-ULL	40GBase-eSR4	40 GbE	50/50	280	275	275	270	265	260	255
			70/30	320	320	315	315	315	310	310
OM4-ULL	40GBase-eSR4	40 GbE	50/50	440	430	425	420	410	405	400
			70/30	500	495	495	490	485	485	480

Table 4.1

Fibre Channel - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing an Integrated MTP/LC TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped (MM/SM) Low Loss Modules (0.5/1.0 dB) in the System							
				0	1	2	3	4	5	6	7
OM3	400-M5E-SN-I	4 GFC	70/30	335	300	270	240	210	175	140	105
			80/20	390	360	340	315	290	265	240	210
	800-M5E-SN-I	8 GFC	70/30	125	100	80	55	25	N/A	N/A	N/A
			80/20	155	140	125	110	95	75	55	25
	1200-M5E-SN-I	10 GFC	70/30	325	325	320	315	310	310	305	300
			80/20	325	325	325	325	320	320	315	315
	1600-M5E-SN-I	16 GFC	70/30	55	30	N/A	N/A	N/A	N/A	N/A	N/A
			80/20	90	75	60	45	20	N/A	N/A	N/A
	3200-M5E-SN-I	32 GFC	70/30	45	30	15	N/A	N/A	N/A	N/A	N/A
			80/20	60	50	45	35	25	10	N/A	N/A
OM4	400-M5F-SN-I	4 GFC	70/30	400	355	320	280	240	200	160	115
			80/20	470	435	405	375	345	310	280	245
	800-M5F-SN-I	8 GFC	70/30	160	130	100	70	30	N/A	N/A	N/A
			80/20	200	180	160	140	120	95	65	30
	1200-M5F-SN-I	10 GFC	70/30	510	500	495	490	485	480	475	470
			80/20	515	510	510	505	500	495	490	490
	1600-M5F-SN-I	16 GFC	70/30	75	35	N/A	N/A	N/A	N/A	N/A	N/A
			80/20	125	100	80	55	25	N/A	N/A	N/A
	3200-M5F-SN-I	32 GFC	70/30	65	45	20	N/A	N/A	N/A	N/A	N/A
			80/20	90	75	65	55	35	15	N/A	N/A
OS2	800-SM-LC-L	8 GFC	50/50	4450	2650	1250	N/A	N/A	N/A	N/A	N/A
			70/30	7550	5800	4400	2900	1450	50	N/A	N/A
			80/20	9300	7550	6200	4700	3300	1900	600	N/A
			90/10	10650	8900	7500	6000	4600	3250	1950	650
	1600-SM-LC-L	16 GFC	50/50	4700	2900	1400	N/A	N/A	N/A	N/A	N/A
			70/30	7700	6000	4650	3100	1650	150	N/A	N/A
			80/20	9300	7700	6400	4900	3500	2050	700	N/A
			90/10	10450	8900	7650	6200	4850	3450	2150	750
	3200-SM-LC-L	32 GFC	50/50	5200	3550	2200	650	N/A	N/A	N/A	N/A
			70/30	8000	6450	5150	3750	2400	1000	N/A	N/A
			80/20	9500	8000	6800	5400	4100	2800	1550	N/A
			90/10	10600	9100	7950	6650	5350	4050	2850	1550

Table 4.2

Fibre Channel - Duplex - Maximum Distance Capability (All Distances in Meters) Utilizing an Integrated MTP/LC TAP Module											
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped (MM/SM) Ultra Low Loss (ULL) MTP/LC Modules (0.35/0.6 dB) in the System							
				0	1	2	3	4	5	6	7
OM3-ULL	400-M5E-SN-I	4 GFC	70/30	350	325	300	275	250	220	190	155
			80/20	405	385	365	345	320	295	275	250
	800-M5E-SN-I	8 GFC	70/30	135	120	105	85	65	35	N/A	N/A
			80/20	165	155	140	130	115	100	85	65
	1200-M5E-SN-I	10 GFC	70/30	325	325	320	320	315	315	310	305
			80/20	325	325	325	325	325	325	320	320
	1600-M5E-SN-I	16 GFC	70/30	70	50	30	N/A	N/A	N/A	N/A	N/A
			80/20	100	85	75	65	50	30	N/A	N/A
	3200-M5E-SN-I	32 GFC	70/30	50	40	30	20	N/A	N/A	N/A	N/A
			80/20	65	60	55	45	40	30	15	N/A
OM4-ULL	400-M5F-SN-I	4 GFC	70/30	425	390	360	325	290	255	215	175
			80/20	490	465	435	410	385	355	325	290
	800-M5F-SN-I	8 GFC	70/30	170	150	130	105	80	40	N/A	N/A
			80/20	210	195	180	165	145	125	105	80
	1200-M5F-SN-I	10 GFC	70/30	510	505	500	495	490	485	480	475
			80/20	520	515	510	510	505	500	495	495
	1600-M5F-SN-I	16 GFC	70/30	95	70	40	N/A	N/A	N/A	N/A	N/A
			80/20	135	120	105	85	65	35	N/A	N/A
	3200-M5F-SN-I	32 GFC	70/30	70	60	45	25	N/A	N/A	N/A	N/A
			80/20	95	85	75	70	55	40	25	N/A
OS2-ULL	800-SM-LC-L	8 GFC	50/50	5350	4300	3400	2250	1750	950	150	N/A
			70/30	8450	7400	6500	5700	4900	4100	3300	2550
			80/20	10200	9150	8250	7450	6700	5850	5100	4350
			90/10	11500	10450	9600	8800	8000	7200	6400	5700
	1600-SM-LC-L	16 GFC	50/50	5550	4500	3600	2750	1950	1050	250	N/A
			70/30	8500	7500	6700	5900	5150	4300	3550	2750
			80/20	10100	9150	8350	7600	6850	6050	5350	4600
			90/10	11200	10300	9550	8800	8100	7350	6600	5900
	3200-SM-LC-L	32 GFC	50/50	6050	5050	4200	3450	2700	1850	1100	300
			70/30	8750	7850	7050	6350	5600	4850	4150	3450
			80/20	10250	9350	8600	7900	7200	6500	5800	5100
			90/10	11300	10450	9700	9050	8350	7650	7000	6350

Table 4.3

Fibre Channel - Parallel - Maximum Distance Capability (All Distances in Meters) Utilizing an integrated MTP/MTP TAP Module										
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped Low Loss MTP Mated pairs (0.35 dB) in the System						
				0	1	2	3	4	5	6
OM3	12800-M5E-SN-I	128 GFC	70/30	45	35	25	10	N/A	N/A	N/A
			80/20	60	50	45	40	35	25	15
OM4	12800-M5F-SN-I	128 GFC	70/30	60	50	35	15	N/A	N/A	N/A
			80/20	85	75	70	60	50	35	20

Table 4.4

Fibre Channel - Parallel - Maximum Distance Capability (All Distances in Meters) Utilizing an integrated MTP/MTP TAP Module										
Fiber Type	Data Rate Protocol	Speed	Splitter Ratio	Number of Non-Tapped Ultra Low Loss (ULL) MTP Mated pairs (0.25 dB) in the System						
				0	1	2	3	4	5	6
OM3	12800-M5E-SN-I	128 GFC	70/30	50	45	40	35	30	25	15
			80/20	65	60	55	55	50	45	40
OM4	12800-M5F-SN-I	128 GFC	70/30	75	65	60	55	45	35	25
			80/20	95	90	85	80	75	70	60