

Table of Contents – Optical Transport

	Page No.
Executive Summary	
Significant Changes	1
Overview	1
Definitions	7
Vendor Product Maps	11
Methodology	13
Worldwide Tables (Mfg. Revenue, Units, Ports/Wavelengths, Mfg. ASP)	
Table 1: Worldwide Optical Transport Market	1
Table 2: Worldwide Wavelength Division Multiplexer (WDM) Market	2
Table 3: Worldwide Wavelength Division Multiplexer (WDM) - Metro Market	3
Table 4: Worldwide Dense Wavelength Division Multiplexer (DWDM) - Long Haul Market	5
Table 5: Worldwide Multiservice Multiplexer Market	7
Table 6: Worldwide Optical Switch Market	9
Table 7: Worldwide Optical Packet Platform Market	10
Table 8: Worldwide Disaggregated WDM Systems	11
Table 9: Regional Optical Transport Market	12
Table 10: Regional WDM Market	14
Table 11: Regional Multiservice Multiplexer Market	16
Table 12: Regional Optical Switch Market	17
Table 13: Regional Optical Packet Platform Market	18
<u>Supplemental Analysis</u>	
Table 14: Regional China Market	19
Table 15: Worldwide Data Center Interconnect Market	20
Table 16: Regional Data Center Interconnect Market	21
Table 17: Total WDM Revenue by Customer Vertical	22
Table 18: Worldwide Internet Content Provider Market	23
Table 19: Worldwide Coherent DWDM Wavelength Shipment – Operating Speed	24
Table 20: Worldwide Coherent DWDM Wavelength Shipment – Highest Speed Capable	25
Appendix 1: Foreign Currency Exchange Rate	26
Appendix 2: Manufacturer Revenues by Select Submarine Line Terminal Vendors	27
Vendor Tables	
Total Optical Transport (WDM + Multiservice Multiplexer + Optical Switch)	
Worldwide – Total – Mfg. Revenue	28
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	29
Total Wavelength Division Multiplexer (WDM)	
Worldwide – Total – Mfg. Revenue	33
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	34
Worldwide – Total – Wavelengths	38
Worldwide – <10 Gbps Wavelengths	39
Worldwide – 10 Gbps Wavelengths	40
Worldwide – 40 Gbps Wavelengths	41
Worldwide – 100 Gbps Wavelengths	42
Worldwide – 150/200/250 Gbps Wavelengths	43
Worldwide – 300/400/600 Gbps Wavelengths	44
Worldwide – 700/800 Gbps Wavelengths	45
Wavelength Division Multiplexer (WDM) Metro	
Worldwide – Total – Mfg. Revenue, Units, Port ASP	46

Table of Contents – Optical Transport

	Page No.
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	49
Worldwide – Total – Ports	53
Worldwide – <10 Gbps Ports	54
Worldwide – 10 Gbps Ports	55
Worldwide – 40 Gbps Ports	56
Worldwide – 100 Gbps Ports	57
Worldwide – 150/200/250 Gbps Ports	58
Worldwide – 300/400/600 Gbps Ports	59
Worldwide – 700/800 Gbps Ports	60
Worldwide – Other Ports	61
 Dense Wavelength Division Multiplexer (DWDM) Long Haul	
Worldwide – Total – Mfg. Revenue, Units, Wavelength ASP	62
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	65
Worldwide – Total – Wavelengths	69
Worldwide – <10 Gbps Wavelengths	70
Worldwide – 10 Gbps Wavelengths	71
Worldwide – 40 Gbps Wavelengths	72
Worldwide – 100 Gbps Wavelengths	73
Worldwide – 150/200/250 Gbps Wavelengths	74
Worldwide – 300/400/600 Gbps Wavelengths	75
Worldwide – 700/800 Gbps Wavelengths	76
 Total Multiservice Multiplexer	
Worldwide – Total – Mfg. Revenue, Units, Mfg. ASP	77
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	80
Worldwide – OC-3 / STM-1 Units	84
Worldwide – OC-12 / STM-4 Units	85
Worldwide – OC-48 / STM-16 Units	86
Worldwide – OC-192 / STM-64 Units	87
Worldwide – Total – Tributary/Line Interfaces	88
Worldwide – DS-1 Tributary Interfaces	89
Worldwide – DS-3 Tributary Interfaces	90
Worldwide – OC-3 / STM-1 Tributary/Line Interfaces	91
Worldwide – OC-12 / STM-4 Tributary/Line Interfaces	92
Worldwide – OC-48 / STM-16 Tributary/Line Interfaces	93
Worldwide – OC-192 / STM-64 Tributary/Line Interfaces	94
Worldwide – Other Tributary/Line Interfaces	95
 Total Optical Switch	
Worldwide – Total – Mfg. Revenue, Units, Mfg. ASP	96
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	99
Worldwide – Total – Ports	103
Worldwide – 2.5 Gbps Ports	104
Worldwide – 10 Gbps Ports	105
Worldwide – ≥40 Gbps Ports	106
Worldwide – Other Ports	107
 Optical Packet Platform	
Worldwide – Total – Mfg. Revenue	108
Regions – (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	109
Worldwide – Metro – Mfg. Revenue	113
Worldwide – Long Haul – Mfg. Revenue	114

Table of Contents – Optical Transport

	Page No.
<u>Supplemental Analysis</u>	
Total WDM Revenue by Customer	
Communication Service Provider (CSP) Customer – Mfg. Revenue.....	115
Cable MSO Customer – Mfg. Revenue	116
Internet Content Provider (ICP) Customer – Mfg. Revenue.....	117
Internet Content Provider (ICP) Customer – ≤ 40 Gbps Wavelengths.....	118
Internet Content Provider (ICP) Customer – 100 Gbps Wavelengths.....	119
Internet Content Provider (ICP) Customer – 150/200/250 Gbps Wavelengths.....	120
Internet Content Provider (ICP) Customer – 300/400/600 Gbps Wavelengths.....	121
Internet Content Provider (ICP) Customer – 700/800 Gbps Wavelengths.....	122
Other Customer – Mfg. Revenue	123
Data Center Interconnect (DCI) Application	
Worldwide – DCI Application – Total (Metro and Long Haul) – Mfg. Revenue	124
Worldwide – DCI Application – Total (Metro and Long Haul) – ≤ 40 Gbps Wavelengths.....	125
Worldwide – DCI Application – Total (Metro and Long Haul) – 100 Gbps Wavelengths.....	126
Worldwide – DCI Application – Total (Metro and Long Haul) – 150/200/250 Gbps Wavelengths.....	127
Worldwide – DCI Application – Total (Metro and Long Haul) – 300/400/600 Gbps Wavelengths.....	128
Worldwide – DCI Application – Total (Metro and Long Haul) – 700/800 Gbps Wavelengths.....	129
Regions – DCI Application – Total (North America, EMEA, Asia Pacific, CALA) – Total – Mfg. Revenue	130
Worldwide – DCI Application – Metro – Mfg. Revenue.....	134
Worldwide – DCI Application – Metro – ≤ 40 Gbps Wavelengths	135
Worldwide – DCI Application – Metro – 100 Gbps Wavelengths	136
Worldwide – DCI Application – Metro – 150/200/250 Gbps Wavelengths	137
Worldwide – DCI Application – Metro – 300/400/600 Gbps Wavelengths	138
Worldwide – DCI Application – Metro – 700/800 Gbps Wavelengths	139
Worldwide – DCI Application – Long Haul – Mfg. Revenue	140
Worldwide – DCI Application – Long Haul – ≤ 40 Gbps Wavelengths.....	141
Worldwide – DCI Application – Long Haul – 100 Gbps Wavelengths	142
Worldwide – DCI Application – Long Haul – 150/200/250 Gbps Wavelengths	143
Worldwide – DCI Application – Long Haul – 300/400/600 Gbps Wavelengths	144
Worldwide – DCI Application – Long Haul – 700/800 Gbps Wavelengths	145
Subsea Application	
Worldwide – Mfg. Revenue.....	146
Disaggregated WDM Systems	
Transponder Units – Total – Mfg. Revenue.....	147
Transponder Units – Total – Wavelengths.....	148
Transponder Units – Total – 100 Gbps Wavelengths	149
Transponder Units – Total – 150/200/250 Gbps Wavelengths	150
Transponder Units – Total – 300/400/600 Gbps Wavelengths	151
Transponder Units – Total – 700/800 Gbps Wavelengths	152
Transponder Units – Metro – Mfg. Revenue	153
Transponder Units – Long Haul – Mfg. Revenue.....	154
China Optical Market	
Total Optical – Mfg. Revenue	155
Total WDM – Mfg. Revenue	156
Total Multiplexer – Mfg. Revenue	157

Table of Contents – Optical Transport

	Page No.
Europe Optical Market	
Total Optical – Mfg. Revenue	158
Total WDM – Mfg. Revenue	159
Total Multiplexer – Mfg. Revenue	160
India Optical Market	
Total Optical – Mfg. Revenue	161
Total WDM – Mfg. Revenue	162
Total Multiplexer – Mfg. Revenue	163
Japan Optical Market	
Total Optical – Mfg. Revenue	164
Total WDM – Mfg. Revenue	165
Total Multiplexer – Mfg. Revenue	166
Coherent DWDM Wavelength Shipment – Highest Speed Capable	
Worldwide – Total – Wavelengths	167
Worldwide – 100 Gbps Capable Wavelengths	168
Worldwide – 200/250 Gbps Capable Wavelengths	169
Worldwide – 400 Gbps Capable Wavelengths	170
Worldwide – 600 Gbps Capable Wavelengths	171
Worldwide – 800 Gbps Capable Wavelengths	172