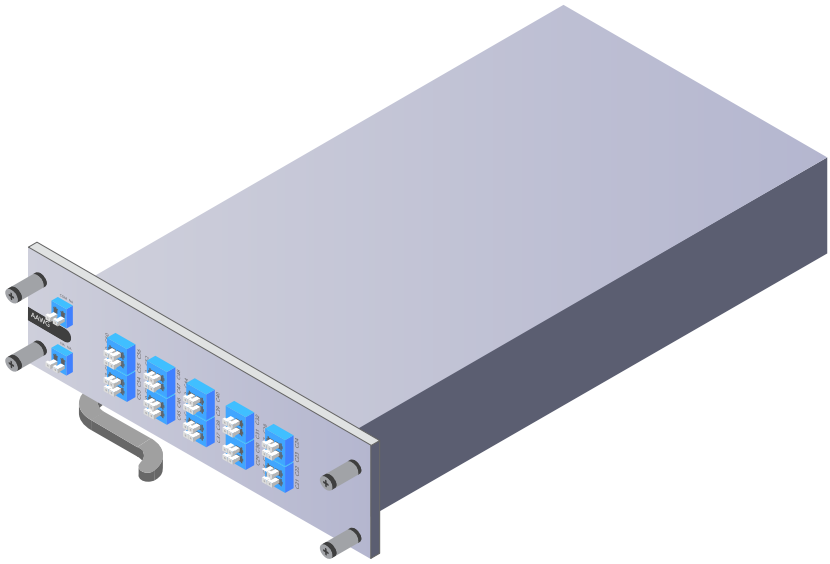
40-Channel AAWG DWDM Mux/Demux Card for WDM Chassis

The AAWG Mux/Demux Card combines 40 DWDM channels onto a single fibre and separates them back out again, using athermal arrayed-waveguide-grating (AAWG) technology on a silicon substrate. The heatless package holds precise channel coupling, low insertion loss and high channel isolation without active temperature control. Each card is built for the C-band Even Grid or Odd Grid wave plan; pairing a card with its complementary wave plan through an external comb filter (interleaver) expands the system to 80 channels. An optional combined power monitoring tap is available for centralised visibility.



HIGHLIGHTS

40 channels, C-band DWDM

Multiplexes and demultiplexes 40 optical channels at 0.8nm (100GHz) spacing on the ITU-T grid.

AAWG technology

Waveguide grating on a silicon substrate with a heatless package design, for stable performance without active temperature control.

Even Grid or Odd Grid, expandable to 80CH

Ordered as an Even Grid or Odd Grid card; combining both wave plans through an external comb filter (interleaver) doubles capacity to 80 channels.

Low insertion loss

≤5.5dB channel insertion loss with ≤1.5dB uniformity across all 40 channels.

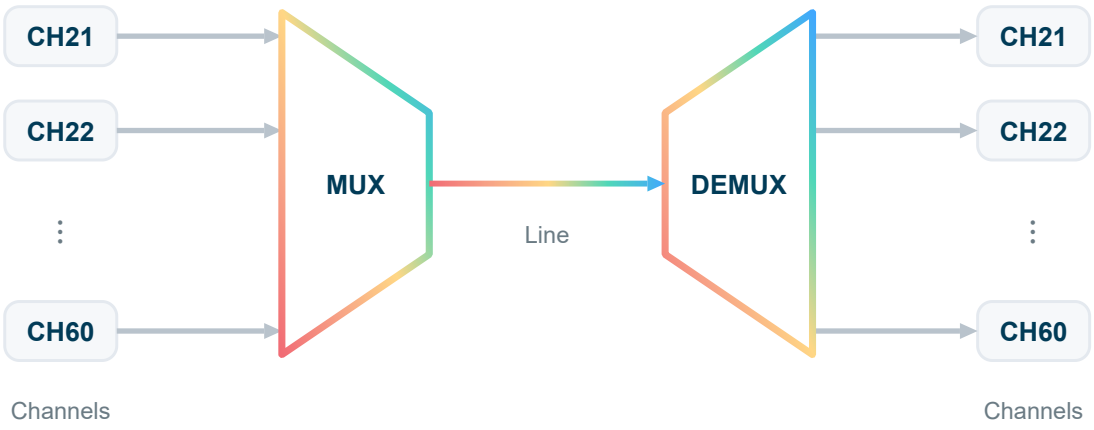
High channel isolation

≥15dB adjacent-channel and ≥30dB non-adjacent-channel isolation keep crosstalk low across the band.

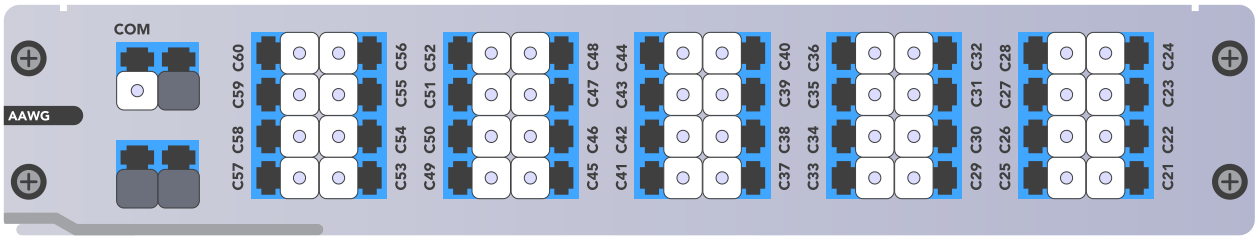
Optional combined power monitoring

An optional monitoring tap reports combined signal power on the line side for centralised network management.

FUNCTIONAL STRUCTURE



FRONT PANEL



FORMAT

CARD FOR WDM CHASSIS 2 SLOTS

SPECIFICATIONS

Optical	
Number of Optical Channels	40 (C-band), Even Grid or Odd Grid wave plan
Channel Spacing	0.8nm (100GHz)
ITU Passband	±12.5GHz
Centre Frequency Deviation	±2.5GHz
Channel Insertion Loss	≤5.5dB
Insertion Loss Uniformity	≤1.5dB
-1dB Bandwidth	≥0.4nm
-3dB Bandwidth	≥0.6nm
Adjacent Channel Isolation	≥15dB
Non-Adjacent Channel Isolation	≥30dB
Return Loss	≥40dB
Expansion	
80-Channel Expansion	Pair an Even Grid and an Odd Grid card through an external comb filter (interleaver) to combine both 40-channel wave plans into one 80-channel system
Management & Mechanical	
Number of Slots Occupied	2 slots (OTN WDM chassis)
Optical Interface	LC/UPC
Power Monitoring	Combined signal power monitoring (optional)

Maximum Power Consumption	3W

CHANNEL PLAN

Even Grid and Odd Grid centre frequencies and wavelengths, ITU-T 100GHz C-band grid.

	EVEN GRID		ODD GRID	
CHANNEL	FREQUENCY (THZ)	WAVELENGTH (NM)	FREQUENCY (THZ)	WAVELENGTH (NM)
CH21	192.10	1560.61	192.15	1560.20
CH22	192.20	1559.79	192.25	1559.39
CH23	192.30	1558.98	192.35	1558.58
CH24	192.40	1558.17	192.45	1557.77
CH25	192.50	1557.36	192.55	1556.96
CH26	192.60	1556.55	192.65	1556.15
CH27	192.70	1555.75	192.75	1555.34
CH28	192.80	1554.94	192.85	1554.54
CH29	192.90	1554.13	192.95	1553.73
CH30	193.00	1553.33	193.05	1552.93
CH31	193.10	1552.52	193.15	1552.12
CH32	193.20	1551.72	193.25	1551.32
CH33	193.30	1550.92	193.35	1550.52
CH34	193.40	1550.12	193.45	1549.72
CH35	193.50	1549.32	193.55	1548.91
CH36	193.60	1548.51	193.65	1548.11
CH37	193.70	1547.72	193.75	1547.32
CH38	193.80	1546.92	193.85	1546.52
CH39	193.90	1546.12	193.95	1545.72
CH40	194.00	1545.32	194.05	1544.92
CH41	194.10	1544.53	194.15	1544.13
CH42	194.20	1543.73	194.25	1543.33
CH43	194.30	1542.94	194.35	1542.54

	EVEN GRID		ODD GRID	
CHANNEL	FREQUENCY (THZ)	WAVELENGTH (NM)	FREQUENCY (THZ)	WAVELENGTH (NM)
CH44	194.40	1542.14	194.45	1541.75
CH45	194.50	1541.35	194.55	1540.95
CH46	194.60	1540.56	194.65	1540.16
CH47	194.70	1539.77	194.75	1539.37
CH48	194.80	1538.98	194.85	1538.58
CH49	194.90	1538.19	194.95	1537.79
CH50	195.00	1537.40	195.05	1537.00
CH51	195.10	1536.61	195.15	1536.22
CH52	195.20	1535.82	195.25	1535.43
CH53	195.30	1535.04	195.35	1534.64
CH54	195.40	1534.25	195.45	1533.86
CH55	195.50	1533.47	195.55	1533.07
CH56	195.60	1532.68	195.65	1532.29
CH57	195.70	1531.90	195.75	1531.51
CH58	195.80	1531.12	195.85	1530.72
CH59	195.90	1530.33	195.95	1529.94
CH60	196.00	1529.55	196.05	1529.16

ORDERING INFORMATION

NAME	40-Channel AAWG DWDM Mux/Demux Card for WDM Chassis
DESCRIPTION	40-Channel AAWG DWDM Mux/Demux Card, 2 slots. Combines DWDM channels onto a single fibre and separates them back out, using athermal arrayed-waveguide-grating (AAWG) technology on a silicon substrate. Heatless package holds precise channel coupling without active temperature control. Pairing a card with its complementary wave plan through an external interleaver expands the system to 80 channels. Optional combined power monitoring available.
PART NUMBER	WDM-AAWG-**{Wave}**[-**M**]-2S

{Wave}	E (Even Grid) · O (Odd Grid), required
[-M]	omitted = without combined power monitoring · present = with combined power monitoring

To reach 80 channels, order one Even Grid and one Odd Grid card together with an ITL comb filter (interleaver).

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