C-band 96-ch 50GHz Athermal AWG Module

Athermal modules are packaged using athermalization techniques with no electrical power and no temperature control units, can perform MUX/DeMUX functions.

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1. Product Information

- Description : C-band 96Ch 50GHz Athermal AWG
- Specification Revision : Version 1.36
- Issue Date : December 20th, 2017
- Product Application :

The specification serve for C-Band AWG Flat-Top Mux/DeMux in DWDM System.

2. Optical Specifications

All specifications guaranteed over the operating temperature range.

Parameter	Specifications Min	Specifications Max	Unit	Comment
Input Channel	1			
Output Channel	96			80, 96 channels available
Channel Spacing	50		GHz	
1dB Bandwidth	0.18		nm	Gaussion Type
3dB Bandwidth	0.28		nm	
I.L		7	dB	Worst case in ITU passband
I.L UNI.		1	dB	
Ripple		0.7	dB	Loss variation in ITU passband
PDL		0.5	dB	Max. value in ITU passband
Adjacent Crosstalk	22		dB	Worst case in ITU passband
Non-Adjacent Crosstalk	27		dB	Worst case in ITU passband
Total Crosstalk	20		dB	Cumulative crosstalk of all other channels
Return Loss	40		dB	
Maximum Continuous Optical Power		250	mW	Maximum input optical power
Chromatic Dispersion(CD)	-20	+20	ps/nm	
PMD		0.5	ps	

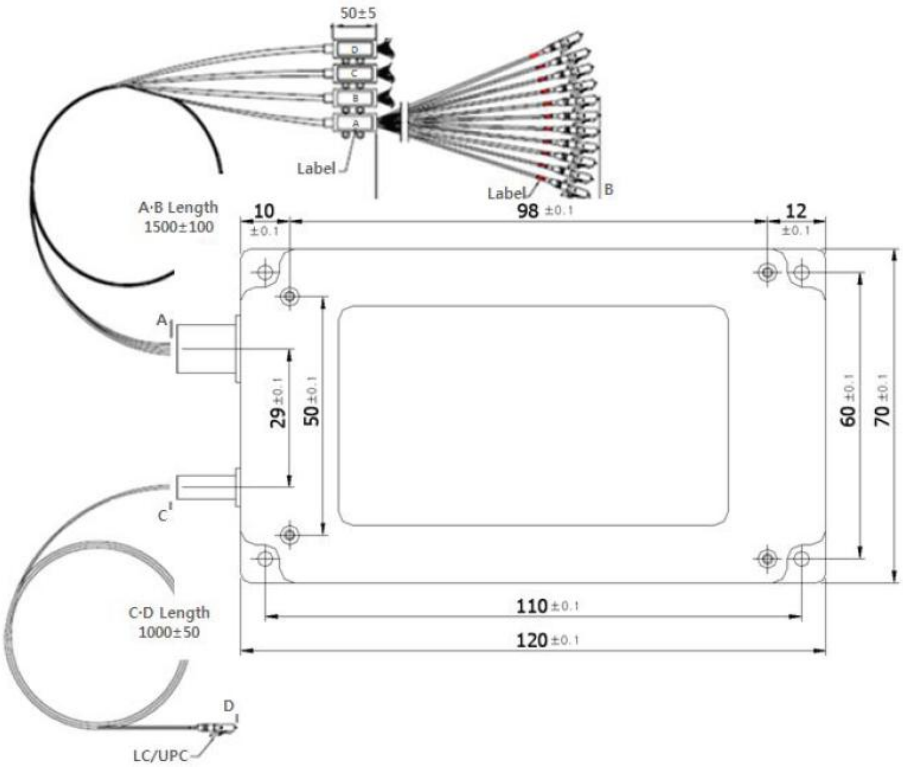
3. WAVELENGTH PLAN

Channel Number	ITU Channel	Frequency [THz]	Wavelength [nm]	Channel Number	ITU Channel	Frequency [THz]	Wavelength [nm]
1	64.5	196.45	1526.050	49	40.5	194.05	1544.924
2	64.0	196.40	1526.438	50	40.0	194.00	1545.322
3	63.5	196.35	1526.827	51	39.5	193.95	1545.720
4	63.0	196.30	1527.216	52	39.0	193.90	1546.119
5	62.5	196.25	1527.605	53	38.5	193.85	1546.518
6	62.0	196.20	1527.994	54	38.0	193.80	1546.917
7	61.5	196.15	1528.384	55	37.5	193.75	1547.316
8	61.0	196.10	1528.773	56	37.0	193.70	1547.715
9	60.5	196.05	1529.163	57	36.5	193.65	1548.115
10	60.0	196.00	1529.553	58	36.0	193.60	1548.515
11	59.5	195.95	1529.944	59	35.5	193.55	1548.915
12	59.0	195.90	1530.334	60	35.0	193.50	1549.315
13	58.5	195.85	1530.725	61	34.5	193.45	1549.715
14	58.0	195.80	1531.116	62	34.0	193.40	1550.116
15	57.5	195.75	1531.507	63	33.5	193.35	1550.517
16	57.0	195.70	1531.898	64	33.0	193.30	1550.918
17	56.5	195.65	1532.290	65	32.5	193.25	1551.319
18	56.0	195.60	1532.681	66	32.0	193.20	1551.721
19	55.5	195.55	1533.073	67	31.5	193.15	1552.122
20	55.0	195.50	1533.465	68	31.0	193.10	1552.524
21	54.5	195.45	1533.858	69	30.5	193.05	1552.926
22	54.0	195.40	1534.250	70	30.0	193.00	1553.329
23	53.5	195.35	1534.643	71	29.5	192.95	1553.731
24	53.0	195.30	1535.036	72	29.0	192.90	1554.134
25	52.5	195.25	1535.429	73	28.5	192.85	1554.537
26	52.0	195.20	1535.822	74	28.0	192.80	1554.940
27	51.5	195.15	1536.216	75	27.5	192.75	1555.343
28	51.0	195.10	1536.609	76	27.0	192.70	1555.747
29	50.5	195.05	1537.003	77	26.5	192.65	1556.151
30	50.0	195.00	1537.397	78	26.0	192.60	1556.555
31	49.5	194.95	1537.792	79	25.5	192.55	1556.959
32	49.0	194.90	1538.186	80	25.0	192.50	1557.363
33	48.5	194.85	1538.581	81	24.5	192.45	1557.768
34	48.0	194.80	1538.976	82	24.0	192.40	1558.173
35	47.5	194.75	1539.371	83	23.5	192.35	1558.578
36	47.0	194.70	1539.766	84	23.0	192.30	1558.983
37	46.5	194.65	1540.162	85	22.5	192.25	1559.389
38	46.0	194.60	1540.557	86	22.0	192.20	1559.794
39	45.5	194.55	1540.953	87	21.5	192.15	1560.200
40	45.0	194.50	1541.349	88	21.0	192.10	1560.606
41	44.5	194.45	1541.746	89	20.5	192.05	1561.013
42	44.0	194.40	1542.142	90	20.0	192.00	1561.419
43	43.5	194.35	1542.539	91	19.5	191.95	1561.826
44	43.0	194.30	1542.936	92	19.0	191.90	1562.233
45	42.5	194.25	1543.333	93	18.5	191.85	1562.640
46	42.0	194.20	1543.730	94	18.0	191.80	1563.047
47	41.5	194.15	1544.128	95	17.5	191.75	1563.455
48	41.0	194.10	1544.526	96	17.0	191.70	1563.863

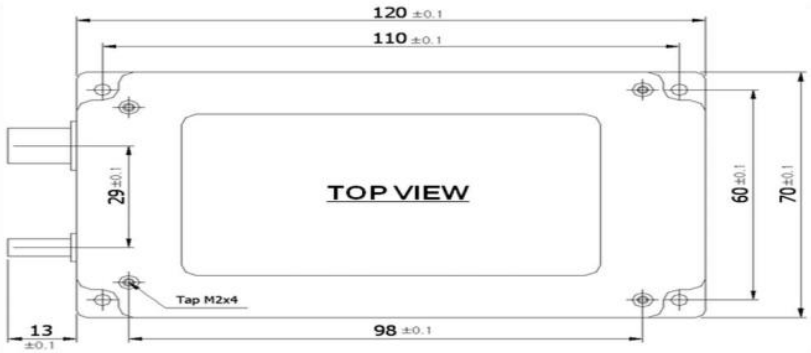
5. TEMPERATURE CONDITIONS

Parameter	Specification	Unit	Note
Operating Temperature Range	-10 ~ +65	°C	
Storage Temperature Range	-40 ~ +85	°C	

6. Configuration: Fiber connectors per customer choice



7. The packaged size is 120mm X 75mm X 12.7mm for Mux/Demux.



(Top Drawing of 50GHz 96Ch Athermal AWG)

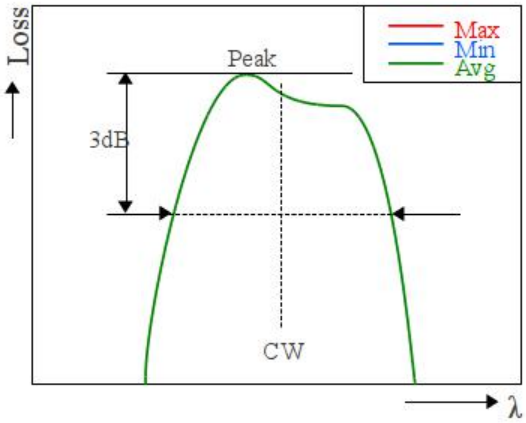
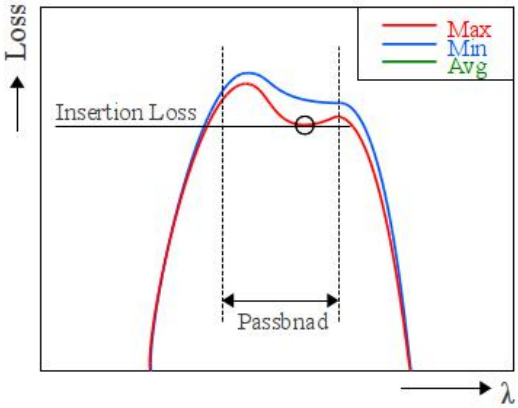
(Side Drawing of 50GHz 96Ch Athermal AWG)

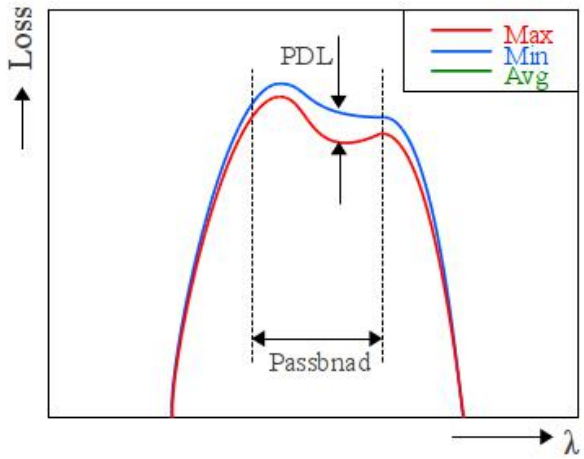
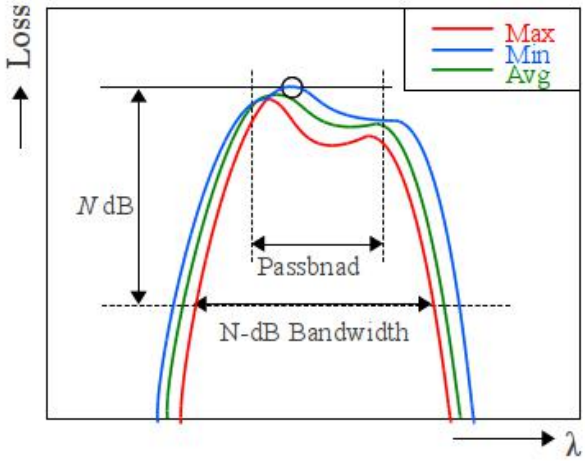
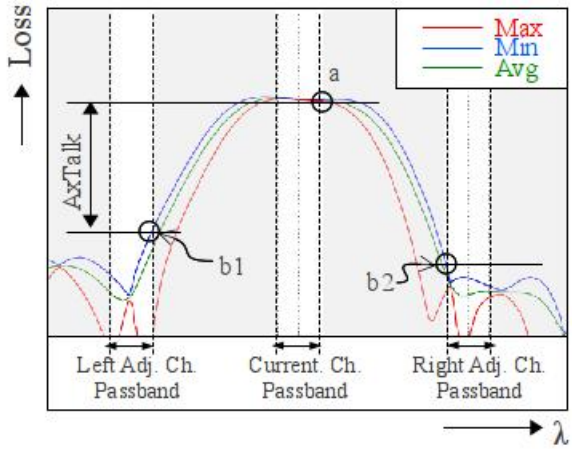
8. PIGTAIL AND CONNECTOR

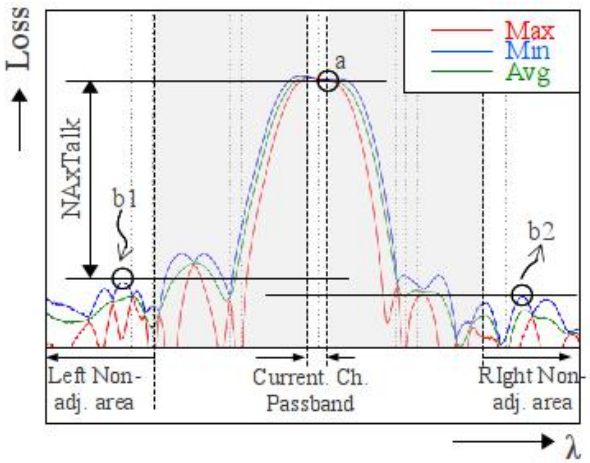
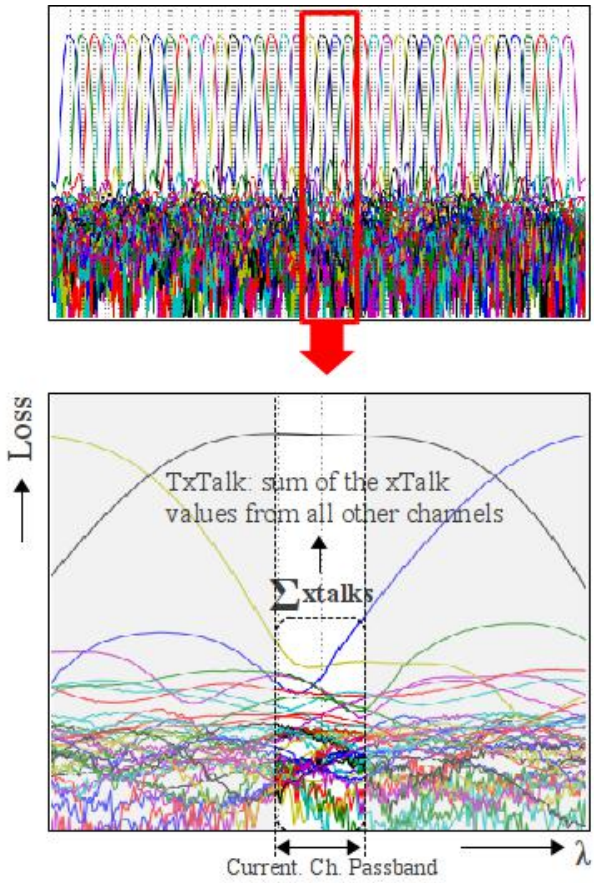
Parameter	Specification	Unit	Note
Pigtail Type	SMF28 with 900um Loose Tube Fiber		
Input Common Fiber	1000±50	mm	
Ribbon Fiber	1000±50	mm	8X12 Ribbon Fiber
Fanout Fiber	500±50	mm	
Connector Type	LC/UPC		

Fiber length and Connector Type is available to change by customer's request.

9. DEFINITIONS

Description	Image
Center Wavelength (CW): Average of wavelengths where transmission has dropped 3dB form the peak transmission.	
Insertion Loss (IL): The minimum transmission within passband for all polarization states. It represents the worst possible loss within passband.	

Description	Image
Polarization Dependent Loss (PDL): The maximum value that the transmission can vary over all polarization states at a fixed wavelength over the entire passband.	
N-dB Bandwidth: Miminum effective bandwidth reflecting the PDW for worst case of polarization states where transmission has dropped N-dB down from the peak. (N=1, 3, 20)	
Adjacent Crosstalk (AxTalk): The highest transmission within adjacent passbands referenced to the worst case transmission (a) within the selected channel passband. Where, the highest and lowest tramsmissions are determined for any possibly different polarization states within each passband. (i.e., min(a-b1, a-b2))	

Description	Image
Non-adjacent Crosstalk (NAxTalk): The highest transmission within a non-adjacent passband referenced to the worst case transmission within the selected channel passband. Where, the highest and lowest tramsmissions are determined for any possibly different polarization states within each passband. (i.e., a - max(b1, b2))	
Total Crosstalk (TxTalk): The cumulative sum of all tramsmissions of all other channels referenced to the worst case transmission within the selected channel passband.