

8 Ports Optical Channel Monitor

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1 DESCRIPTION

1.1 Product Function

Accelink's Optical Channel Monitor (OCM) is subjected to DWDM system. The module de-multiplexes Flex Grid channel optical signals within the range of 1528nm to 1568nm through optical tunable filter, tapped from an optical network. The results, which including channel power, channel wavelength are provided to the customer.

1.2 Product Application

- Based on Optical tunable filter
- High dynamic range
- Telcordia GR-1312-CORE
- Compact size with 1x8 switch

2 OPTIC AND/OR ELECTRIC SPECIFICATION

2.1 Flexed Optical performance and Function requirements

No	Parameters	Unit	Min	Type	Max	Note
1	Operation Wavelength Range	nm	1528~1568nm			
2	Slice width	Ghz	6.25			
3	Slices per slot (m)		6		64	m is number of slice
4	Channel width range	GHz	37.5		400	
5	Sensitivity to modulation format		2.5G/5G/10G/40G/100G/400G			Note 1
6	Wavelength accuracy	pm			+/-50	Note 2
7	OSNR range	dB	10		25	
8	Channel Power Range	dBm	-40		-10	
9	Adjacent channel power Divergence	dB			6	For 40G /100G/400G,or Mixed(10G/40G/100G/400G),50GHz Channel width
					10	For 2.5G/5G/ 10G,50GHz Channel width
10	Non-Adjacent channel power Divergence	dB			10	For 40G /100G,or Mixed(10G/40G/100G/400G)
11	Absolute Power Detect Accuracy	dB			±0.8	Difference between the Power Detect by the OCM and the actual Power of any of the in-band channel

12	Relative Power Accuracy	dB			1	Difference between the absolute Power accuracy of any 2 channels
13	Power Resolution	dB		0.1		Power Detect Resolution
13	Repeatability	dB			±0.3	Test several times with the same scene
14	Scan time - all channels	s			0.5	For single port
15	Return Loss	dB			-30	
16	Sweep times	Million	1000			

Note1: Support all the modulation format.

Note2: The wavelength accuracy is depend on the signal format.

2.2 OSW Optical Performance and Function Requirements

NO.	Parameters	Unit	Min	Type	Max	Note
1	Wavelength Range	nm	1520~1610			
2	Polarization Dependent Loss	dB			0.15	
3	Return Loss	dB	45			
4	Cross talk	dB			-50	
5	Repeatability	dB	-0.05		0.05	
6	Switch Time	ms			75	
7	Optical Power	mW			500	
8	Durability	Cycles	1e9			

3 ABSOLUTE MAXIMUM RATINGS

NO	PARAMETER	SPECIFICATION	UNITS	NOTE
3.1	Operation Temperature	-5~65	°C	
3.2	Operation Humidity	5~95	%RH	
3.3	Storage Temperature	-40~85	°C	
3.4	Storage Humidity	5~95	%RH	

4 OPTIC PORTS DEFINITION

NO	CODE	PORT	DEFINITION OF PORT	CONNECTOR TYPE	NOTE
4.1	1	Input	Optical Input	LC / UPC	Customer define

5 ELECTRIC PORTS DEFINITION

Refer to SAMTEC SSW-120-21-F-D for module electrical interface . PIN assignment:

PIN Name	I/O	Pin	Pin	I/O	PIN Name
A1	Input	1	2	Input	A2
A3	Input	3	4	NA	NA
VCC	PWR	5	6	PWR	VCC
VCC	PWR	7	8	PWR	VCC
GND	PWR	9	10	PWR	GND
GND	PWR	11	12	PWR	GND
NA	NA	13	14	NA	NA
NA	NA	15	16	NA	NA
NA	NA	17	18	NA	NA
ONLINE	Output	19	20	Input	Soft_Reset
NA	NA	21	22	NA	NA
NA	NA	23	24	NA	NA
NA	NA	25	26	NA	NA
Output	ALARM	27	28	NA	NA
NA	NA	29	30	NA	NA
NA	NA	31	32	NA	NA
RS232-TX	Output	33	34	Input	RS232-RX
STROBE_N	Input	35	36	NA	NA
NA	NA	37	38	Input	MODE_SEL
Ready_N	Output	39	40	Input	Master_Reset

PIN description:

PIN Name	PIN	IN/OUT	PIN Description
VCC	5,6,7,8	PWR	+5V Power Supply
GND	9,10,11,12	PWR	Power Ground
RS232-TX	33	Output	Uart: Transmit, Baud rate:115200bit/s
RS232-RX	34	Input	Uart: Receive, Baud rate:115200bit/s
STROBE_N	35	Input	Internal OSW switch Start Mission,Active low
Ready_N	39	Output	OSW Switch Mission Done,Active low
A1-A3	1-3	Input	Internal OSW control IO, A1 for low , A3 for high
MODE_SEL	38	Input	Internal OSW control mode select High:control by RS232 command Low:control by IO
ONLINE	19	Output	Module in place signal, Active low
Master_Reset	40	Input	Master Reset Module, Strobe≥1ms, Active low
Soft_Reset	20	Input	Soft Reset Module, Strobe≥1ms, Active low
ALARM	27	Output	Module fault alarm signal,Active low
NA	4,13-18,21-26,28-32,36,37	Output	Reserved,Not Connected

6 SOFTWARE COMMAND SET

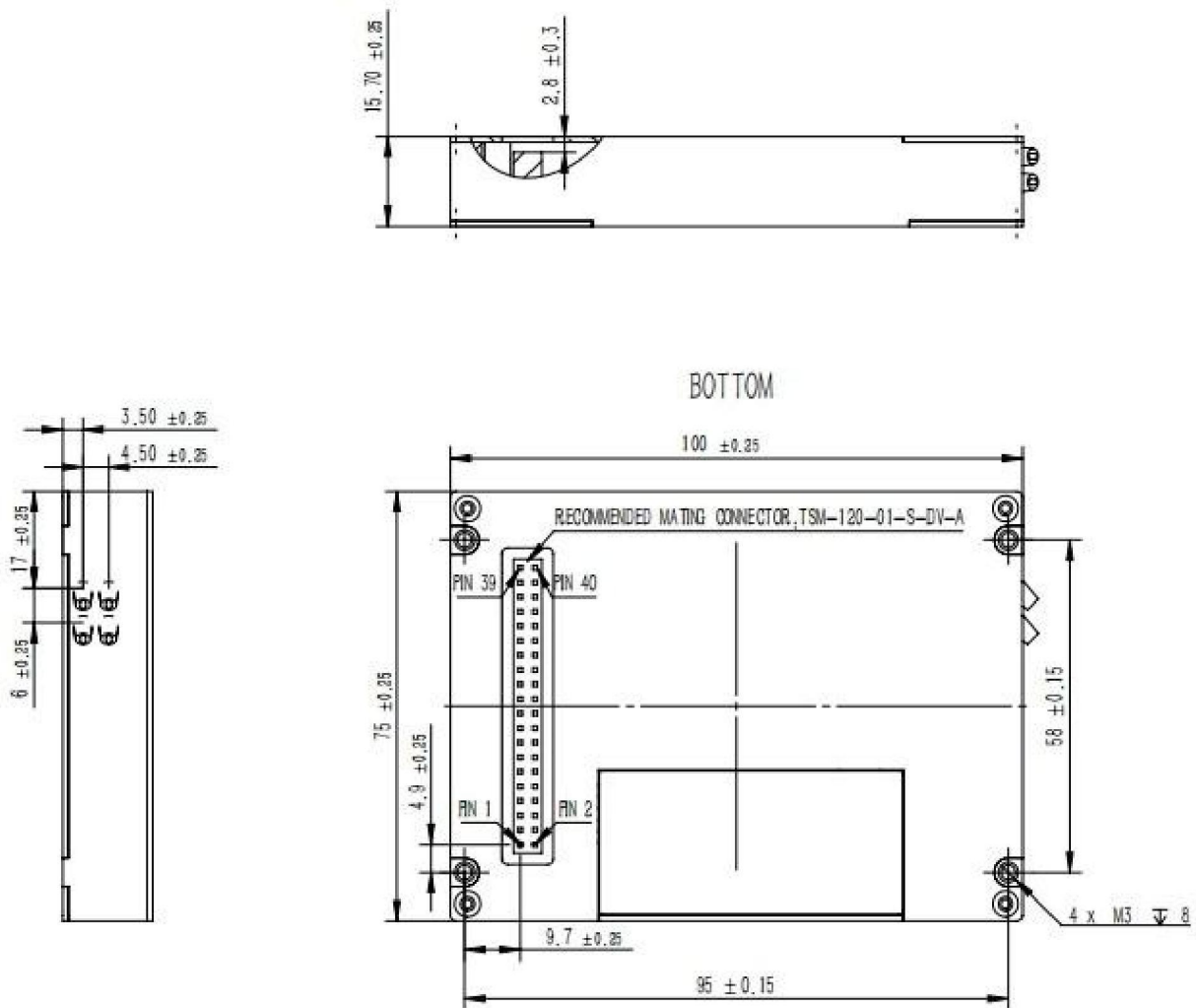
OCM module communicates with the host board through a RS232 interface, see “FLEX OCM RS232 Communication Protocol” for details.



FLEX OCM RS232
Communication Pro

7 MECHANICAL DRAWINGS

7.1 Mechanical Structure



Module Connector: SSW-120-21-F-D, SAMTEC



SSW-120-21-F-D_SA
MTEC.pdf

8 DC ELECTRICAL INDEX

Item	Parameters	Min	Typical	Max	Units	Note
8.1	Steady stage operating power	/	/	5	W	
8.2	Startup operating power	/	/	10	W	Maximum power at power on moment
8.3	Operating Current	/	/	2	A	
8.4	Supply Voltage	4.75	5	5.25	V	

9 PIGTAIL AND CONNECTOR

NO	PARAMETER	SPECIFICATION	UNIT	NOTE
9.1	Pigtail Type(All ports)	Corning SMF-28 with 900um Loose Tube		
9.2	Pigtail Length(All ports)	45 (+/-2)	cm	
9.3	Connector Type(All ports)	LC/UPC		Customer define

10 PRODUCT APPEARANCE AND MATERIAL

10.1 Product Material

Metal.

10.2 Product Appearance

N/A

10.3 Product Label

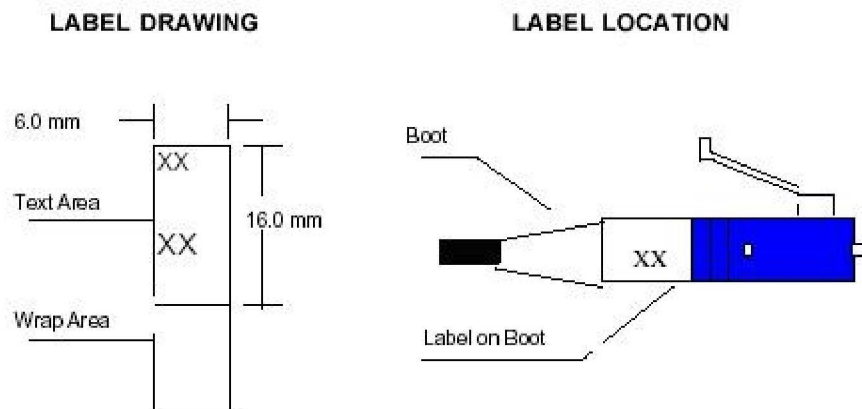
PN: OCM-X-X-X-XX

SN: XXXXXX

10.4 Electric/Optic Port Label

Optic Port is LC/PC , the label drawing is as follow, label content is IN1~IN8.

Connector labeling



Pic.9.1 Label drawing and location

11 PACKAGING ATTACHEMENT AND OTHER REQUIREMENT

11.1 Packaging attachments
N/A

11.2 Packaging Material
ESD、ROHS、red foam.

11.3Packaging Label PN:
OCM-X-X-X-XX SN:
XXXXXX

12 TEST REQUIREMENT

N/A

13 ORDERING INFORMATION : HC-OCM-CE-4-400-LC/UPC-R-8

OCM-

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Wavelength	Channel	Rate	Connector	Interface	Port Number
C : C- Band	1 : 1 00 GHz	10 : 10 Gb/s	FC, SC, LC, MU/ U PC, APC	D: DPRAM R: RS232	1:1
CE: Extended	2: 200 GHz	40 : 40 Gb /s			2:2
C BAND	3: 50 GHz	100 : 100Gb/s			4:4
L : L- band	4: FLEX	400 : 400Gb/s			8:8
		800: 800Gb/s			