

IntegraOptics Pluggables Operability and Compatibility Testing

Testing was completed in Integra's Lab

Devices Under Test

Integra Part Number	OEM Compatible Part Number	Platform Tested	Product Description
SFP-25G-SR-S-IO	SFP-25G-SR-S	Nexus 9k	SFP28, 850nm, SR MMF 100m, 25G DDM, Cisco SFP-25G-SR-S Compatible

Responsible Engineers

Name	Email	Organization
Ryan Soler	rsoler@integraoptics.com	Integra

Results Overview

Integra Part Number	OEM	Recognition	Error/Alarm	Link	Compatibility Certified
SFP-25G-SR-S-IO	SFP-25G-SR-S	PASS	PASS	PASS	PASS

Standard Compatibility Test Plan

The IntegraOptics' standard test plan consists of installing transceivers into the required lab elements with their interfaces configured appropriately. Each device then undergoes the following procedure to determine OEM compatibility as well as to verify correct operating performance. All IntegraOptics' transceivers must receive a "pass" rating on each of the below criteria for 100% compatible certification and subsequent GA release.

1. Initial plug in observations

- a. *Verify laser turn on – Laser turn on is typically used as a quick indicator of a transceivers compatibility.*
 - i. *Upon insertion, the transmitter light levels shall be recorded*
- b. *Observe system for error free operation – Errors consist of anomalies that severely impact a transceivers operation. Issues that may flag errors include:*
 - i. *I2C Communication Failures*
 - ii. *Electrical and/or Pin Timing Issues*
 - iii. *Code Issues resulting in host rejection and/or disabled interfaces*
 - iv. *Critical deviations from optical or electrical operating specifications*
- c. *Verify Host Recognition – Host recognition consists of determining if a part is recognized correctly. Successful recognition indicates a transceiver is communicating correctly with the host device. Parameters directly observed include:*
 - i. *Revision, Serial Number, and OEM Part ID*
 - ii. *Vendor Name and Vendor Part Number*

2. CLI Performance Observation

- a. *Observe Alarms and Warnings – General alarms consist of warnings indicating a transceiver is operating out of spec or indicates operation may not be error free, this test is typically performed using an appropriately attenuated fiber loop or active connection to another device. Issues that may flag alarms include:*
 - i. *Operation at an undesirable bit error rate or errored seconds*
 - ii. *DDM related alarms, operation above or below alarm thresholds for:*
 - *Transmit Power and Laser Bias*
 - *Receive Power*
 - *Temperature*
 - *Voltage*

Compatibility Test #1: SFP-25G-SR-S-IO

Results:

1. Initial Plugin Observations
 - a. Verify Laser Turn On
 - i. Result: **Pass**
 - b. Observe System Error Free Operation
 - i. Errors: None
 - ii. Link: **Pass**
 - iii. Result: **Pass**
 - c. Verify Host Recognition
 - i. Revision, Serial Number, and OEM Part ID. Result: **Pass**
 - ii. Vendor Name and Vendor Part Number. Result: **Pass**
2. CLI Performance Observations
 - a. Observe Alarms and Warnings
 - i. Alarms: None
 - ii. Result: **Pass**
 - b. Observe Alarm Thresholds
 - i. Result: **Pass**

```

th1/35      --      xcvrAbsen 1      auto      auto      --
th1/36      --      xcvrAbsen 1      auto      auto      --
th1/37      --      xcvrAbsen 1      auto      auto      --
th1/38      --      xcvrAbsen 1      auto      auto      --
th1/39      --      connected 1      full      25G      SFP-H25GB-SR
th1/40      --      xcvrAbsen 1      auto      auto      --
th1/41      --      xcvrAbsen 1      auto      auto      --
th1/42      --      xcvrAbsen 1      auto      auto      --
th1/43      --      xcvrAbsen 1      auto      auto      --
th1/44      --      xcvrAbsen 1      auto      auto      --

```

```

NAME: Fan 1, DESCR: NEXUS3000-ES210010-X-CHASSIS-FAN-MODULE
PID: NXA-FAN-30CFM-F      , VID: V01 , SN: N/A

NAME: Ethernet1/39, DESCR: CISCO-INTEGRA
PID: SFP-H25GB-SR      , VID: SFP-25G-SR-S-IO, SN: EOPKB7130196

R4-U17-NEXUS-N9K#

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```

Ethernet1/39
  transceiver is present
  type is SFP-H25GB-SR
  name is CISCO-INTEGRA
  part number is SFP-25G-SR-S-IO
  revision is 01
  serial number is EOPKB7130196
  nominal bitrate is 25500 MBit/sec
  Link length supported for 50/125um OM3 fiber is 70 m
  cable type is unknown
  cisco id is 3
  cisco extended id number is 4
  cisco part number is 10-3227-01
  cisco product id is SFP-25G-SR-S

```

SFP Detail Diagnostics Information (internal calibration)

	Current Measurement	Alarms		Warnings	
		High	Low	High	Low
Temperature	27.34 C	80.00 C	-10.00 C	75.00 C	-5.00 C
Voltage	3.27 V	3.59 V	3.00 V	3.50 V	3.04 V
Current	5.75 mA	20.00 mA	0.50 mA	15.00 mA	1.00 mA
Tx Power	-1.47 dBm	4.39 dBm	-10.40 dBm	3.39 dBm	-9.43 dBm
Rx Power	-8.53 dBm	3.99 dBm	-14.31 dBm	2.99 dBm	-13.37 dBm
Transmit Fault Count = 0					

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning