

INOVASI LINTAS MEDIA

Proof of Concept Network Configuration PSS-4 Alien Wavelength Insertion Over Fiberhome DWDM

ABSTRACT

This document describes inform the scenario to insert the DWDM NOKIA as Alien Wavelength over DWDM Fiberhome

Domain	:	INOVASI LINTAS MEDIA
Process Owner	:	TECHNICAL OPTICS
Type	:	INSTRUCTIONS, USER GUIDE
Originator	:	ADINOTO SANTOSO
Distrib. Codes	:	Internal: Y External: Y

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1. OBJECTIVE

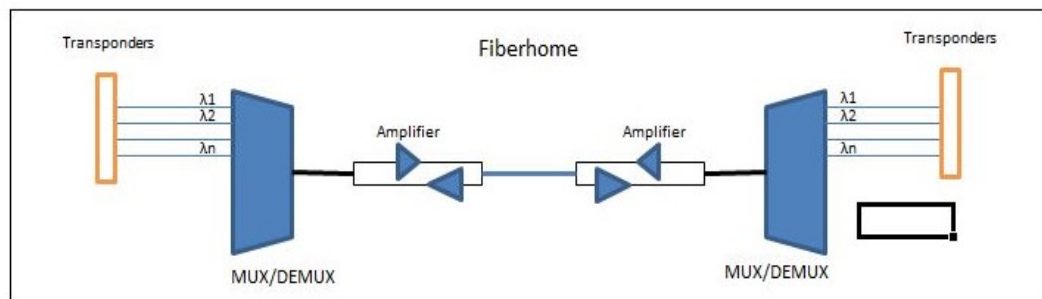
Provide the Guidelines the technical requirement to Insert PSS-4 NOKIA over DWDM Fiber home. To proof the alien wavelength can be operated in the Fiberhome network.

2. CONFIGURATION PROPOSED

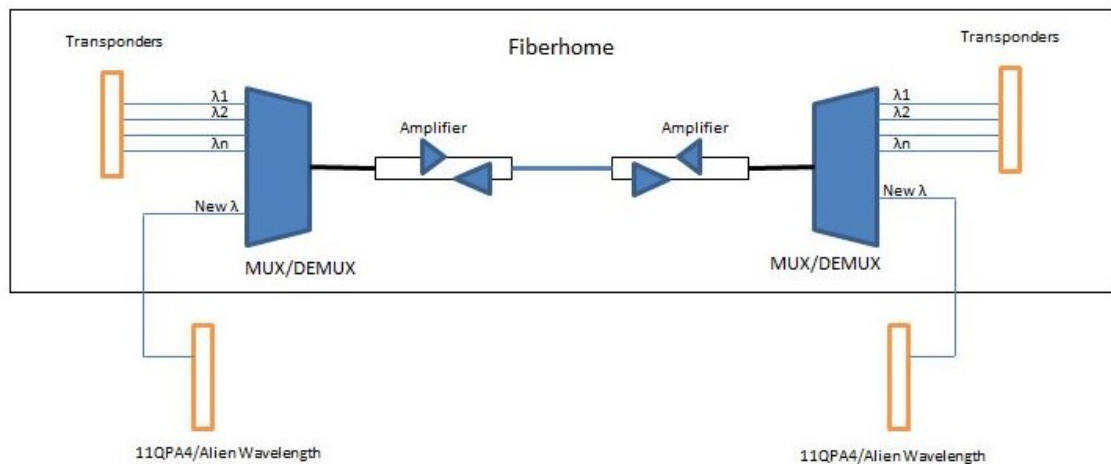
- BOQ of NOKIA DWDM

Acronym	Part Name	Part Number	Qty
E4KITH	ED PSS 4 Shelf Kit (E4SHF, E4EC, E4FAN) Hardened	3KC12959ABXX	2
E4PFDCAK	ED 4 POWER FILTER (-48V DC) with WT EM- HARDENED	3KC12831ABXX	2
CAED4-3.6M	CA-ED 4 DC POWER SUPPLY, 3.6M (ETSI, -48V/24V)	3KC12955BCXX	2
DUJMSME3	Duplex Jumper (3.5m)	1AB215120056	4
11QPA4	11G QUAD PORT PLUGGABLE ANYRATE (4 CLIENT)	8DG60349AAXX	2
	ALU XFP I-64.1/10GBE BASE-L	1AB375380013	2
	ALU XFP DWDM TUNABLE CT	1AB375650046	2

- Illustration configuration of Fiberhome DWDM link



- Illustration configuration after insertion



- Data and Power requirement as following information
 - a. Minimum Transmit power (from NOKIA transponder)
 - NOKIA transponder Transmit Power: -1 up to +5 dBm (normally we get in +2 dBm)
 - Fiberhome WDM side Rx (expected): -7.00 dBm
 - b. Minimum Receive power [to NOKIA Transponder]
 - NOKIA transponder Rx range level : -10 up to -28 dBm
 - Fiberhome Tx side power (expected) : +2 dBm
 - c. Power per channel launched for all signals
 - d. OSNR evolution existing channels [either measured or predicted]
 - e. Residual Dispersion at each span for 1530, 1546 and 1560 nm
 - f. Amount of Dispersion precompensation at each span for 1530, 1546, and 1560 nm
 - g. Filter bandpass [1 dB and 3dB] for all optical filters in the path

3. ACTIVITY PROSES

Preparation and prerequisite

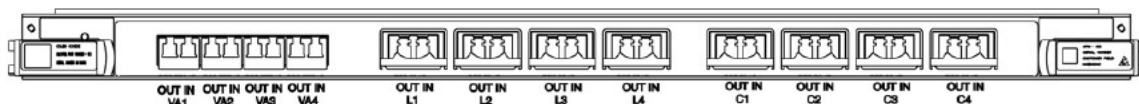
- 1) NE PSS-4 NOKIA
The NE was configured and mapping all modul connectivity per direction.
- 2) DWDM network Fiberhome :
Activate a new channel in the Fiberhome and recognize where the port is

Activity of Insertion

- 1) Connect new patchcore from NOKIA alien wavelength to Optical MuxDemux/filter (new channel of Fiberhome) and add attenuator if necessary.
- 2) Config channel of alien wavelength regarding to a new channel of Fiberhome that already activated

4. DATASHEET OF TRANSPONDER

Figure 8-32 11QPA4/11QPA4A faceplate



Legend:

VA1	VOA port 1
VA2	VOA port 2
VA3	VOA port 3
VA4	VOA port 4
L1	Line port 1
L2	Line port 2
L3	Line port 3
L4	Line port 4
C1	Client port 1
C2	Client port 2
C3	Client port 3
C4	Client port 4

11QPA4/11QPA4A - 11G quad port tunable AnyRate 4-client transponder

Overview

The 11QPA4 supports various protocols at around 10 Gbps rate on client ports. It contains four independent transponders. Each transponder has one pluggable client port and one pluggable line port, with a fixed association between them, for example, C1 port to L1 port, C2 port to L2 port and so on. There is no multiplexing function. The board supports E-SNCP (intra-board). Slow eVOA for output power equalization, and fast eVOA for WT encoding are supported. Terminal loopback and facility loopback are supported independently for each port (except VOA). B &W or CWDM XFP interfaces are used in client ports. B &W, CWDM, or DWDM interfaces are used in line ports. Latency optimization on 11QPA4 is implemented through a new T-XFP that supports no FEC for the following rates. This provides an error free performance in NO FEC mode.

This new tunable XFP with enhanced optical performance covers a wider range of NOFEC rates. The ModuleType will be same as before, that is, “XL-64TU” .

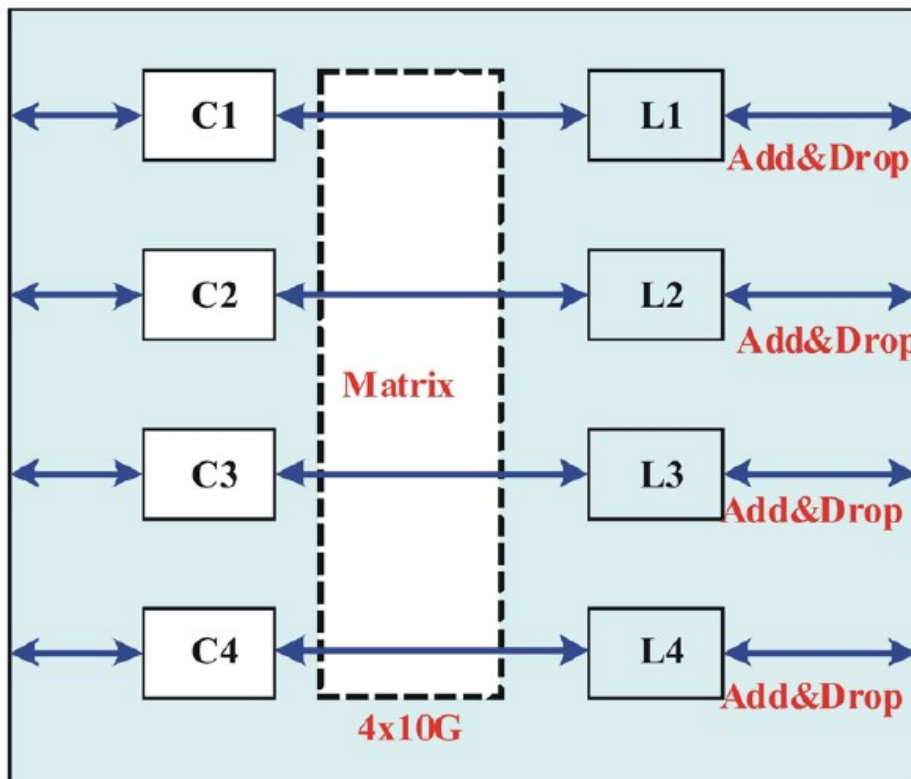
No FEC rates covered are:

- ☐ 10GbE (CBR mapping) at 11.096 Gb/s
- ☐ 10GbE LAN/CBRLAN 11.049 Gb/s
- ☐ 10G FC (CBR mapping) at 11.27 Gb/s

11QPA4/11QPA4A provides the management (that is, ability to provision, de-provision and retrieve) and external behavior (facility alarms, default signals, maintenance signals, and so on) of the six TCM levels of each ODUk supported in the client and line ports. Each one of the TCM levels can be independently configured, can be either non-existent, or can be provisioned as a Non-Intrusive Monitoring or TCM Termination.

The 11QPA4/11QPA4A supports the following ODUk TCM overhead processing:

- ☐ Trail Trace Identifier (TTI)
- ☐ Performance Monitoring (BIP-8)
- ☐ Generation of BEI/BIAE
- ☐ Generation of BDI and STAT bits





End document