Data sheet

CTX Series

# ROADM

# Reconfigurable Optical Add-Drop Multiplexer

Figure 1: WSS8/4 Board

## Main Features

- Flexible express and add/drop fan-out of wavelength
- Up to 8/4-degree ROADM
- Flex-grid ready
- Supports 10G/100G/200G and 400G data rate
- Up to 80 C-band add/drop wavelengths (configurable)
- DWDM Grid spacing 100GHz/50GHz
- Power monitoring on common In/Out ports
- Power monitoring over all channels
- Optical power equalization

## Description

The WSS card provides advanced Reconfigurable Optical Add Drop Multiplexer (ROADM) functionality in a 2-slot pluggable module for the CTX6600 platform. Using a Wavelength Selective Switch (WSS)-based optical switch.

It offers highly flexible wavelength routing capabilities suitable for mesh, ring, linear add/drop, core and edge DWDM network topologies. The WSS card supports colorless, directionless, flex-grid, 50GHz grid and 100GHz grid (configurable).

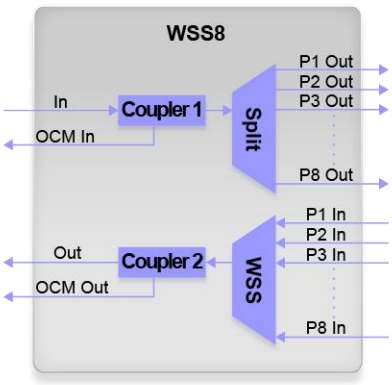
The user configures the WSS card dynamically to add/drop selected wavelengths at any node in the network and can seamlessly change the network node capacity as needed. it automatically equalizes and balances the power of the added and bypassed wavelengths when it can be combined with OCM card.

## Benefits

- Power monitoring for all channels and automatic power balancing
- Supports 2 to 8 degree ROADM node configurations
- Supports Flexgrid architecture

## Applications

- Optical Cross Connection
- Mesh and ring based DWDM network architecture
- Wavelength power balancer in amplified links
- Network management by remotely deploying new wavelengths



## Technical Specifications

| Parameter | 4 degree | | 8 degree | | Condition |
|---|---|---|---|---|---|
| | Min | Max | Min | Max | |
| Signal Spectral Range(THz) | 191.85 | 195.8 | 191.85 | 195.8 | |
| Spacing ITU grid(GHz) | | 50/100 | | 50/100 | |
| Number of channels | | 40/80 | | 40/80 | H18-C58 |
| Insertion Loss for any Active Channel(dB) | 2.5 | 7 | 3.0 | 8.0 | For all operating conditions |
| Loss Uniformity(dB) | | 1.5 | | 1.0 | All ports |
| VOA Range(dB) | 0 | 15 | 0 | 15 | |
| Attenuation Accuracy | Greater of ±0.5 or 10% x AS | | Greater of ±0.5 or 10% x AS | | For the entire attenuation range Excluding PDL, AS = Attenuation Setting |
| Attenuation Response(ms) | | 300 | | 300 | Single channel |
| | | 500 | | 500 | All channels |
| Switch time(ms) | | 2400 | | 2400 | Single channel |
| | | 3000 | | 3000 | All channels |
| Chromatic Dispersion | -30 | +30 | -30 | +30 | |
| Group Delay Ripple | | <3 Typical | | | Over clear channel passband |
| PMD(ps) | | 1.2 | | 1.2 | Within clear passband |
| Return loss | >30 | | >30 | | Including connectors |
| Total optical input power(dBm) | | 25 | | 25 | |
| Per channel optical power(dBm) | | 7 | | 7 | |
| **Port** | | | | | |
| In port | Pin 1,Pin2,Pin3,Pin4 | | Pin1,Pin2,Pin3...Pin 8 | | |
| Out port | D1,D2,D3,D4 | | D1,D2,D3...D8 | | |
| Common port | In, Out | | In, Out | | |
| OCM port | OCM In, OCM out | | OCM In, OCM out | | For Optical Channel Monitoring |
| Optical Power Monitoring | Optional | | Optional | | PD Integrated |
| **Performance Monitoring** | | | | | |
| Wavelength | Layer-1 PM for all wavelengths | | | | |
| Optical Monitoring | OCM for input and output directions | | | | |
| **Physical feature** | | | | | |
| Dimensions(HxWxD mm) | 20x192x223 | | | | |
| Weight (kg) | 0.3 | | | | |
| Package options | Plug-in Card | | | | |
| Platform | CTX6600 I/II/V | | | | |
| Slot assignment | 2 adjacent slots vertically | | | | |
| Connector | LC | | | | |
| **Environment** | | | | | |
| Operating Temperature | -5°C to 50°C | | | | |
| Storage | -20°C to 70°C | | | | |
| Humidity | 5% ~ 85% RH non-condensing | | | | |
| **Power Supply** | | | | | |
| Power Input | DC -48V input from backplane | | | | |
| Power Consumption | < 20 | | | | |
| **Compliance** | | | | | |
| Standards | RoHS 5/6 | | | | |