NEC SpectralWave® WX Series for Driving Openness and Value

NEC is driving expansion of All Optical Networks with the introduction of its “SpectralWave WX Series,” a lineup of open specifications-compliant, open optical transport products. The lineup is built based on standards defined by Open ROADM and Telecom Infra Project’s (TIP) Phoenix initiative.

NEC SpectralWave® WX Series – part of our NEC Open Networks solution suite – is designed to meet CSPs’ evolving needs and leverage an open ecosystem of industry leading network and software suppliers.

The compliance with open specifications such as Open ROADM and TIP’s Phoenix enable these devices to support configurations that connect to the function blocks of APN-T, APN-G and APN-I as defined by Open APN of the IOWN Global Forum.

SpectralWave® WX Series will help deploy All Optical Networks with large capacity, low latency and multiple connections, as well as advanced security, robustness and power-saving.

Deploying an NEC SpectralWave® WX Series will give you the ability to:
• Scale your communications on demand to meet your changing network needs
• Accelerate innovation with intelligence
• Uncover new revenue opportunities

Transformation by SpectralWave WX Series

Conventional model

Open model (disaggregated architecture)

Benefits
• Network Design and Optimization on demand from greenfield to sophisticated
• Agile and fine programmable optical provisioning
• Unified SDN control and management of the disaggregated, multi-vendor components with multiple data models such as OpenConfig, TAPI, Open ROADM to enable end-to-end service orchestration
Features & Benefits

◆ Greater Capacity & Extreme Reach
67.2 Tbps over a single optical fiber and extreme reach with Raman amplification. This also helps the reduction of TCO and lower power consumption.

◆ Network Design and Optimization on demand
Supporting CDC-ROADM to offer additional flexibility and operational simplicity with improving line redundancy and shortening recovery times.

◆ Simplified and Sophisticated Operation
  ■ Control and management of the disaggregated, multi-vendor components with multiple data models such as OpenConfig, TAPI, Open ROADM
  ■ AI-Based fault detection and predictive maintenance
  ■ Automatic restoration and provisioning

◆ Flex-Grid technology
Facilitating dynamic and bandwidth intense traffic demands and enabling capacity gains by a flexible spectrum, allocating minimum bandwidth, for a given channel configuration.

WX-D Degree L-band

Open ROADM compliant, L-Band multi-degree switch
  ● 1x32 WSS (Wavelength Selective Switch)
  ● Variable-gain Amplifier (up to 27dB)
  ● Optical Supervisory Channel (OSC)
  ● Optical Channel Monitor and pluggable OTDR (Optical Time Domain Reflectometer)

WX-D Degree C-band

Open ROADM compliant, C-Band multi-degree switch
  ● 1x32 WSS
  ● Variable-gain Amplifier (up to 27dB)
  ● Optical Channel Monitor
  ● Add-on L-Band system for C+L-Band transmission
WX-D ILA

Open ROADM compliant, C+L-Band Inline Amplifier
- Consolidated C-Band and L-Band
- Variable-gain Amplifier (up to 27dB)
- Optical Supervisory Channel
- Optical Channel Monitor and pluggable OTDR

WX-D RAMAN

Open ROADM compliant, C+L-Band Raman Amplifier
- Consolidated C-Band and L-Band
- Expand transmission distance

WX-D ASE

Open ROADM compliant, ASE transmitter
- Stabilization of C+L-Band transmission
- Robustness of transmission characteristic

WX-S SRG L-band / C-band

Open ROADM compliant, C-Band/L-Band CDC function
- Supporting CDC-ROADM
- 8 Degree × 24 Transponder Multi-cast switch
WX-A GW Center/ Remote

Wavelength access gateway remote at user site
- Accommodation of user wavelength traffic at user site
- Small size, fan-less
- Remote control using Optical Supervisory Channel (OSC)

WX-T 400G/1.2T -TPND

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Application

NEC Transport Network Department
Learn more at www.nec.com/en/global/solutions/open-opt/

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