Breathing Light Into Your Network!

maXimux™

Mini NG-PON2 Multiplexer

Features…

- *Standard NG-PON2 wavelength plan*
- *Low-insertion loss*
- *High-density, mini footprint*
  - *≤ 12 OLT ports per per module (4 if using LCs only)*
  - *≤ 144 OLT ports per chassis (48 if using LCs only)*
- *Modular solution with 12 modules per 1RU*
- *OSP filters mux/demux wavelengths from feeder fibers*
- *FITS ensures secure seating and ease of use*

Benefits…

- *Ensures interoperability with existing and future services*
- *Expands the reach of your NG-PON2 service*
- *Reduces space while increasing capacity*
- *Pay as you grow model*
- *Maximizes available fiber*
- *Increases service flexibility and simplifies installation*

Do More with Less…

OptiX^{2}'s maXimux Mini NG-PON2 Multiplexer combines multiple NG-PON2 OLT ports onto a single fiber. Using the FSAN's standard wavelengths for NG-PON2 ensures OptiX^{2}'s interoperability with existing networks, but even more importantly, it enables operators to deliver new higher bandwidth services over the existing infrastructure. The net result for the operator is increased revenue with reduced OPEX.

Flexibility to Meet Your Needs

Our NG-PON2 solution is available as a pay-as-you-grow model with 1-3 muxes in our maXimux^{tm} mini modules. Up to 3 muxes can be housed in a single module and each mux serves 4 OLT ports. The maXimux^{tm} chassis can house 12 mini modules (36 muxes or 144 OLT ports) resulting in unprecedented density in a 1U footprint. Using OptiX^{2}'s maXimux^{tm} splitter modules in conjunction with the NG-PON2 muxes (all in 1RU), operators can increase their serving area per OLT port to achieve higher take rates. Furthermore, our modules can be ordered with additional ports for monitoring or merging existing services with the operator's NG-PON2 deployment.

Easy to Use

Furthermore, with maXimux^{tm}'s FITS technology, pushpins are no longer required. Simply push the module into a slot until it is secure. To remove, grab the handle and pull.

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NG-PON2 Using OptiX²'s maXimux™

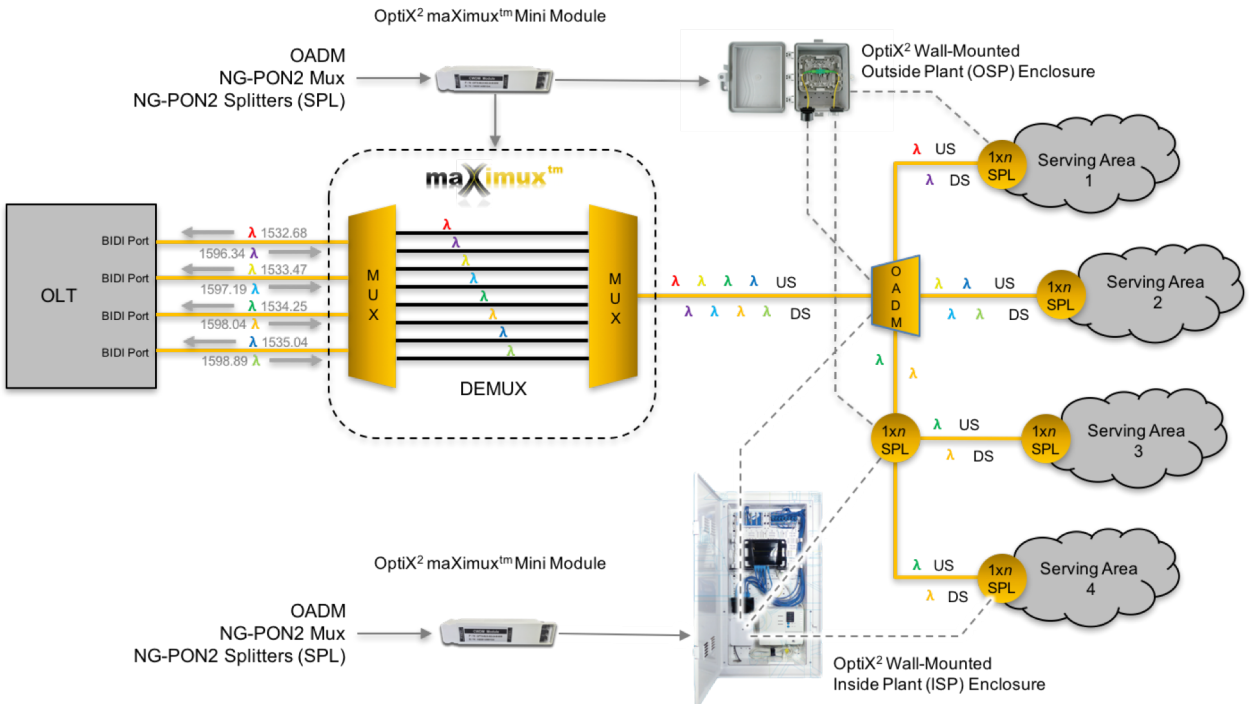
The maXimux™ provides the wavelength mux/demux function for NG-PON2 wavelengths. The maXimux™ uses mini modules to deliver maximum services. One maXimux™ module can house up to 3 NG-PON2 muxes using MTP/MPO adapters or 1 mux using LC adapters. MaXimux™ modules are housed in the maXimux™ chassis. The maXimux™ chassis is a 12-slot chassis that can support any of our passive optical devices. When using the MTP/MPO connectors to achieve maximum density, each connector is dedicated to an individual mux to ensure that services will not be disrupted on any other mux should a fault occur.

Extending Service Areas Using OptiX²'s maXimux™

The following illustration shows OptiX²'s solution for expanding the service area of any PON (passive optical network) deployment. Expanding the service area enables service providers to achieve a higher customer "take" rate by geographically dispersing services. Using a coupler/splitter to divide the service area in two or more allows the service provider to reach more customers per OLT port, which in turn decreases the time it takes to achieve a positive ROI.

NG-PON2 takes this a step further than existing PONs. NG-PON2 has multiple wavelengths that can be used, which allows up to 4 OLT ports to be multiplexed onto the same fiber. Each OLT port has an upstream (US) and downstream (DS) wavelength assigned to it. As a result, optical filters in the outside plant (OSP) can be used to "peel" off one NG-PON2 at a time, which disperses the service even more.

In addition to housing the NG-PON2 multiplexers, OptiX²'s mini modules can also be used in our Inside Plant (ISP) and OSP enclosures for plug-n-play simplicity and reduced space in the field.



Technical Specifications

Parameter	Unit	Specification	
Channel Spacing	GHz	100	
Center Wavelength Accuracy	nm	±0.1	
Port 1 – 5* – 9*	nm	1596.34/1532.68	
Port 2 – 6* – 10*	nm	1597.19/1533.47	
Port 3 – 7* – 11*	nm	1598.04/1534.25	
Port 4 – 8* – 12*	nm	1598.89/1535.04	
Passband（ Min.）	GHz	+/- 20	
Insertion Loss** 1 Mux per Module		Initial Max.	EoL Max
Port 1 – 5	dB	2.0	2.2
Port 2 – 6		1.8	2.0
Port 3 – 7		1.6	1.8
Port 4 – 8		1.4	1.6
Connector		All Ports: LC/UPC	
Insertion Loss** 3 Muxes per Module		Initial Max.	EoL Max
Port 1* – 5* – 9* Com	dB	2.5	2.7
Port 2* – 6* – 10* Com		2.3	2.5
Port 3* – 7* – 11* Com		2.1	2.3
Port 4* – 8* – 12* Com		1.9	2.1
Connector		All Ports: MTP Male*（Premium）	
Uniformity**	dB	Initial Max.	EoL Max
		0.8	1
Adjacent Channel (Port)	dB	≥32	
Non Adjacent Channel (Port)	dB	≥36	
Return Loss	dB	≥50	
Directivity	dB	≥55	
PDL (Polarization Dependent Loss)		Initial Max	EoL Max.
All Ports	dB	0.2	0.3
PMD (Polarization Mode Dispersion)	ps	≤0.2	
Max Optical Power Handling	mW	200	
Fiber Type		SM, G657A2	
Environmental Performance		Normal	Short Term
Operating Temperature	°C	-5 to +40	-5 to +50
Operating Relative Humidity	% RH	5 to 85	5 to 90
Storage Temperature	°C	-40 to +85	
Operating Relative Humidity	% RH	up to 93	
Dimension	mm	201.1*41.4*34	
Reliability		Designed to meet the mechanical and environmental requirements of GR-1209 and GR-1221	

** Requires the use of MTP/MPO connectors*

*** Insertion Loss includes WDL, TDL, and PDL **WITH two sets** of mated connectors at both ends*

Available Modules

The following modules are generally available for NG-PON2 applications. Other modules not shown support EPON, GPON, NG-PON2, Splitters/Taps, CWDM and DWDM. For more information on these modules, please contact sales@optix2.com or call 1-888-250-7074.

NG-08 (OPTX-MUX-NG-08-M-C/C)

The NG-08 module supports a single NG-PON2 mux with four ports each with a dedicated upstream and downstream wavelength. NG-08 modules are terminated with LC/APC or LC/UPC adapters. The wavelength plan is as follows:

- Port 1 = 1596.34(DS)/1532.68(US)
- Port 2 = 1597.19(DS)/1533.47(US)
- Port 3 = 1598.04(DS)/1534.25(US)
- Port 4 = 1598.89(DS)/1535.04(US)

NG-4 (OPTX-MUX-NG-24-M-M/M)

The NG-24 module supports three NG-PON2 mux with four ports each with a dedicated upstream and downstream wavelength. NG-24 modules are terminated with MTP/MPO premium adapters to ensure the lowest insertion loss possible. Each adapter terminates one mux. The wavelength plan is as follows for each of the three muxes:

- Port 1 = 1596.34(DS)/1532.68(US) x 3
- Port 2 = 1597.19(DS)/1533.47(US) x 3
- Port 3 = 1598.04(DS)/1534.25(US) x 3
- Port 4 = 1598.89(DS)/1535.04(US) x 3