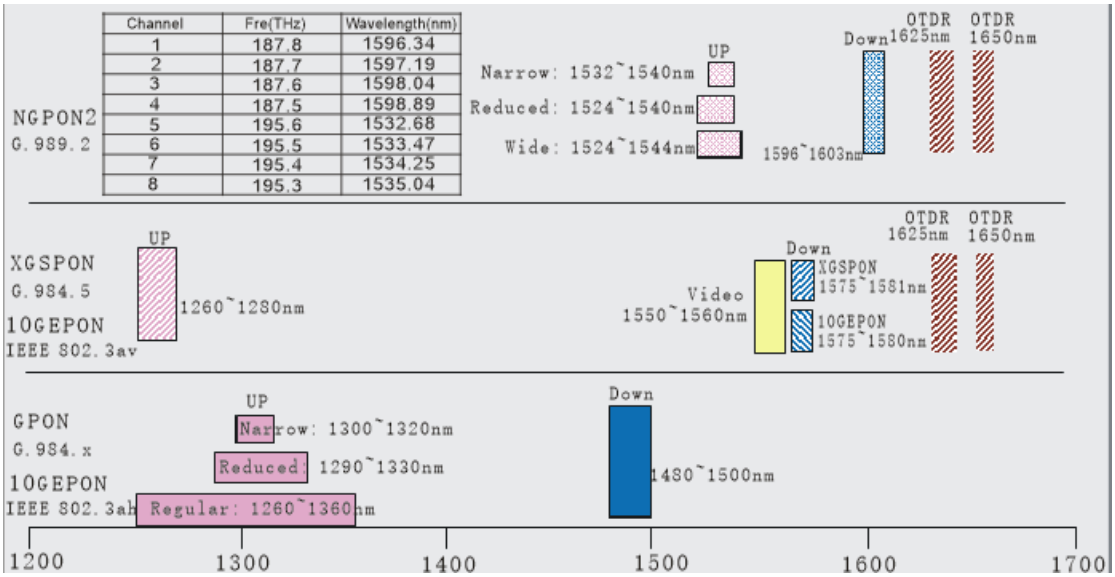
WDM modules for NGPON2 solutions

FTTx grew from a laboratory demonstration to being the heart of our communications world. It carries our phone calls, all the data that drives modern business, and an expanding level of video that defines the Broadband Universe.

A passive optical network is a last mile, FTTx telecommunications network that broadcasts data through fiber optic cables. PONs are managed by passive optics such as unpowered splitters and filters, offering high reliability and low cost compared to active networks. The PON data stream is generally converted to a more traditional service such as Ethernet and Wi-Fi at the subscriber's location.

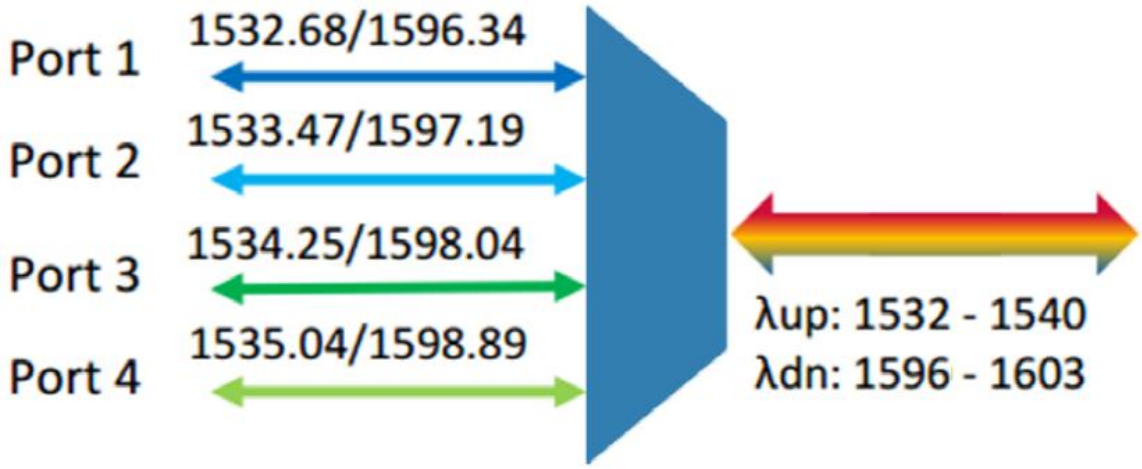
NG-PON2 (also known as TWDM-PON), Next-Generation Passive Optical Network 2 is a 2015 telecommunications network standard for a passive optical network (PON). The standard was developed by ITU and details an architecture capable of total network throughput of 40 Gbit/s, corresponding to up to 10 Gbit/s symmetric upstream/downstream speeds available at each subscriber.

NG-PON2 is compatible with existing PON fiber by replacing optical line terminal (OLT) at the central office, and the optical network unit (ONU) near each end-user.



NGPON2 uses more wavelengths at different wavelength windows to provide greatly increased performance. Auxora has been closely involved with leading equipment suppliers and carriers supporting this next-generation effort by supplying WM1 and CEx modules that fit the NGPON2 requirements.

WM1: The Wavelength Multiplexer (WM1) module multiplexes and demultiplexes up to 4 TWDM PON wavelengths for downstream and upstream connectivity between Optical Line Terminal (OLT) transceivers and Optical Network Units (ONUs) in an NG-PON2 system. All ports provide bi-directional connectivity for upstream and downstream wavelengths over a single fiber.



CEx: Backward compatibility and interoperability with previous generation PONs is provided by NG-PON2. Different wavelengths were chosen than those used in previous generation PONs, allowing NG-PON2 deployments to co-exist with legacy PON technologies, such as GPON and XGS-PON, on the same ODN.