

Evolution of a New Fiber Type - OM5, And Its Momentum.

All About Fiber

Digital transformation is driven by the increasing acceptance of the public cloud, growth in Big Data, the Internet of Things (IoTs), and other technologies. Because data the matter, data centers everywhere are moving quickly to manage ever-increasing bandwidth demands, the next-generation high speed Ethernet development such as 200G and 400G is around the corner.

New Type of Multimode Fiber – OM5 Enabling 400G:

In this high speed migration, a new type of Wideband Multimode Fiber (WBMMF) OM5, specified in ANSI/TIA492AAAE was approved for publication in June 2016. OM5 WBMMF can **support Short Wavelength Division Multiplexing (SWDM)** across the 850~953nm wavelength range, it enables sending four wavelengths over a single multimode fiber, and is backward compatible with OM4 multimode fiber at 850nm.

The wide specification range enhances SWDM technology's capability to transmit 40G and 100G over a single pair of fibers and to drastically increase the capacity of parallel-fiber infrastructure, **enabling 4-pair 400GE and terabit applications**. This technology provides the capability to either increase transmission speeds or reduce fiber strand counts by a factor of four.

Industrial Momentum for OM5 – SWDM MSA latest announced in March 2017

Some industry key players debated that there are no solid applications currently under development to operate over this medium, and OM5 carries a significant cost premium over OM4 on any future transmission equipment. So, they do not recommend OM5 at current status, in particular not recommend it for the use of large scale data centers.

However, the momentum of the new OM5 WBMMF in data centers and enterprise campus applications recently received several significant boosts. The Shortwave Wavelength Division Multi-Source Agreement Group (SWDM MSA) announced on March 16th 2017 its formation as an industry consortium to define optical specifications and promote adoption of shortwave WDM standards for use in data center and enterprise campus applications that deploy duplex multimode fiber. According to the consortium's announcement, in future, SWDM technology could be leveraged to enable 200G, 400G and 800G Ethernet traffic on multimode fiber cabling as well.

All these developments are key to the market's acceptance of OM5 and its applications. The convergence of applications and cabling infrastructure specifications for OM5 is proceeding at a rapid pace, positioning OM5 as the ideal choice for new multimode installations.