

*To be added at the end of 3.3 Different ODN Topologies*

It should be noted that, for WDM based systems, the ODN can be constructed using wavelength mux/demux devices in lieu of power splitters. Such ODNs, typically referred to as wavelength routed ODNs, can take any of the afore mentioned topologies. The advantages of a wavelength routed ODN becomes obvious when one compares the optical power loss of a power splitter to that of a wavelength mux/demux. Power splitters typically lose approximately  $N \times 3$  dB for a  $2^N$  split whereas a wavelength mux/demux may lose between 2.5 and 0.7 dB regardless of the port count.

*mux/demux loss based on dai\_ngepon\_01\_0314.pfd*