

75.6 Dual-rate (coexistence) mode

To support coexistence of 10G-EPON and 1G-EPON ONUs on the same outside plant, the OLT may be configured to use a dual-rate mode. Dual-rate mode supports transmission ~~and~~ reception of both 10 Gb/s and 1 Gb/s data rates, and can be introduced as ~~an~~ options for 10G-EPON OLTs, functionally combining PMDs of 10Gb/s and 1Gb/s data rates.

~~BASE-PR-D or 10/1GBASE-PRX-D PMDs.~~

Table 75-12 depicts PMD coexistence mapping for dual-rate mode options.

Table 75-12—PMD coexistence mapping for dual-rate mode option^a

Dual-rate operation	OLT PMD combination	ONU PMDs coexisting on the same ODN
Downstream	1000BASE-PX-D + 10/1GBASE-PRX-D	(1) 1000BASE-PX-U (2) 10/1GBASE-PRX-U
Upstream	10GBASE-PR-D + 10/1GBASE-PRX-D	(1) 10GBASE-PR-U (2) 10/1GBASE-PRX-U
Downstream Upstream	1000BASE-PX-D + 10GBASE-PR-D	(1) 1000BASE-PX-U (2) 10/1GBASE-PRX-U (3) 10GBASE-PR-U

^aNote: Only PMDs with compatible power budgets can be connected to the same ODN.

75.6.1 Downstream dual-rate operation

When the downstream dual-rate operation is enabled, the OLT transmits both 10 Gb/s and 1 Gb/s downstream signals in WDM manner. The OLT should meet both 10 Gb/s and 1 Gb/s specifications defined in Table 75-5 (10GBASE-PR-D transmit ~~specification~~ characteristics) and in Table 60-3 or Table 60-6 (1000BASE-PX-D transmit characteristics).

75.6.2 Upstream dual-rate operation

When the upstream dual-rate operation is enabled, the OLT receives both 10 Gb/s and 1 Gb/s upstream signals in TDMA manner. Further implementation details are described in Annex 75A. The OLT should meet both 10 Gb/s and 1 Gb/s specifications defined in Table 75-6 (10GBASE-PR-D receive characteristics), and in Table 60-5, Table 60-8 (1000BASE-PX-D receive characteristics) and Table 75-7 (10/1GBASE-PRX-D receive characteristics).

NOTE—The damage threshold values in Table 60-5, Table 60-8 and Table 75-7 are considerably higher than those in Table 75-6 and the PMD should be appropriately labeled.