Sleep Mode on Delay Sensitive Traffic on Optical Network Unit

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Abstract—The search for energy efficient solution in communication networks has been a priority both in academia and in industrial research, especially in Access Networks. It is known that PONs contribute a significant amount of percentage (about 70 percent) of the fixed communication network energy consumption in fibre to the home system especially at ONU which consume about 60 percent of the power usage which originates from the user’s site. In this paper, the simulation of fast sleep mode technique is conducted to test both the power and latency performance of the ONU for delay sensitive traffic in Time Division Multiplexing (TDM) PON.

Keyword—Optical fiber, Optical network unit (ONU), Passive Optical Network (PON), Power consumption, Sleep mode

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