

ABSTRACT

In 2015, PT.Telkom has a target that all of copper network has been replaced by fiber optic network. FTTH (Fiber To The Home) is a network infrastructure that will be developed throughout the Indonesian region without exception Taman Kopo Indah 3 Bandung. Taman Kopo Indah 3 located in the West Bandung is shophouses and residential complex complete and strategic with a number of demand are increasing every year. FTTH will be implemented with GPON technology.

In this final project will be forecasting demand for the next 10 years, and then design FTTH network and analyze the properness of the system design result by counting link power budget and rise time budget. The results of these calculations will be compared with the standard as a reference to look at the properness of the design results.

From the design results that has been done, the device required is 2 pieces of ODC and 111 pieces of ODP and 802 ONT. From the result of properness calculation, for link budget total attenuation obtained at the farthest distance the downlink is 22.9178 dB and the uplink is 23.3739 dB. For the nearest distance total attenuation is 22.7731 dB for downlink and 23.1076 for uplink. for rise time budget the downlink direction with bitrate of 2.4 Gbps at the farthest distance generate T_{total} 0.2545 ns and for uplink with the bitrate of 1.2 Gbps generate T_{total} 0.2502 ns. For the nearest distance generate T_{total} 0.2528 ns for downlink and T_{total} 0.2501 ns for uplink. This total time is below than the value of time system 0.2917 ns for downlink and 0.5833 ns for downlink. From the results of forecasting has been done, the total bandwidth requirement in 2022 is 949.792 Mbps.

Keyword : Taman Kopo Indah 3 Bandung, FTTH, GPON, *Forecasting Demand, Power Link Budget, Rise Time Budget*