

ABSTRACT

The need for access to high speed data services, voice, and video network access makes it less adequate copper cable, then the agreement is the use of FTTH (Fiber To The Home) using GPON technology by Telkom in Gunung Batu residence area which is the implementation of the triple play service.

In this final design done with technology GPON FTTH network in Bandung STO Geger Kalong with parameters such as Rise Time Budget and Power Link Budget and forecasting demand needs for 10 years to come.

The results showed that the design of the design for Gunung Batu residence's area using 3 pieces ODC and 176 ODP with 1148 subscribers ONT. Link Power Budget test results are produced at the total damping of 25.5208 dB uplink and downlink total attenuation in dB at 25.0649 , both damping is still under the appropriate standard GPON ITU-T G.984 standard is 28 dB and issued the Telkom by 26 dB. Rise Time Budget test results for the downlink direction is the furthest customer a total time of = 0.26 ns. When it is below the value of the system time of 0.2917 ns. For the uplink direction the farthest customers generate a total of = 0.25 ns. When it is below the value of the system time of 0.5833 ns. Forecasting the need for a package of 384Kbps bandwidth using S-curve models to the needs of 117 888 Kbps, package of 512Kbps bandwidth using the quadratic model to the needs of 113 280 kbps bandwidth. Package of 1Mbps using exponential models with 186 624 Mbps bandwidth requirements. Package of 2Mbps using quadratic models with 9216 Mbps bandwidth requirements. So the total bandwidth requirement in Gunung Batu Residence in 2022 with a total of 1112 customers are customers 427.008 Mbps.

Keywords: Gunung Batu, FTTH, GPON, Power Link Budget, Rise Time Budget, demand