

ABSTRACT

The increasing number of people who need the internet with large bandwidth capacity and high speed to do activities such as streaming, gaming, communications and others, triggers to enable upgrading customer service. Limitations of the copper access network is considered not able to accommodate is need for surfing, so to do improvement the quality of internet services with fiber optic as a transmission medium that has a greater bandwidth and faster transfers. Technology Fiber To The Home (FTTH) is a progress of telecommunication technology network from a central to the customer where the transmission medium is optic fiber. And do the FTTH network design on boundary 45-ULN-46 with three kinds of configurations, the one stage configuration of passive splitter 1:32, passive splitter two stage configuration 1: 4 and 1: 8, and passive splitter two stage configuration 1: 2 and 1:16 a configuration comparison which one is better in terms of material usage and value of the link budget. Of the three configurations the passive splitter, passive splitter two stage configuration 1: 2 and 1:16 passive splitter configuration is most effectively used in the 45-ULN-46 because of the condition of the crowded homepass evenly. Link budget parameter values obtained from the results of the design are still fit for use on the real situation because it is still below the maximum value of the total attenuation is, configuration of passive splitters 1:32 one stage had an average value of 22.77 dB, two-stage configuration of passive splitter 1 : 2 and 1:16 is worth an average of 23 dB, and the two-stage configuration of passive splitter 1: 4 and 1: 8 worth an average of 22.71 dB. The parameter is the reference in the selection of passive splitter configuration is the most effective use of the Bill Of Quantity (BOQ) which use the distribution cable is 4.87 Km, ODP is 42 pieces, the pole is 109 pieces, and connectors 4599 pieces. The use of these materials is less than other configurations.

Keywords: Fiber To The Home (FTTH), Passive Splitter One Stage, Passive Splitter Two Stage, Link Budget, Bill Of Quantity (BOQ).