

ABSTRACT

The rapid of technology development causing increasement of society demand about service telecommunication access speed. So media access with large bandwidth were required to fulfill it. Copper technologies which we using nowadays, have some lack in fulfill customer needs. FTTH network design to be implemented at Subang Jaya Village, Sukabumi.

On this final project research, process of FTTH network design started with designing feeder cable and distribution cable to the customer house. Application GE SmallWorld is the method for this network design.

Result of the network design is calculation value of Power Link Budget and Rise Time Budget on the furthest, medium and the shortest distance. These three distance has power limit ITU-T G.984 standard and the regulation from PT. Telkom which is the distance should less than 20 km and receive gain less than -28 dBm. Rise Time Budget analysis with Non Return to Zero encoding in the design declared eligible with value limit 0.292 ns on the downstream and 0.583 ns on the upstream. The value of Power Link Budget and Rise Time Budget from this design already meet the standard so this design eligible to be implemented.

Keywords: fiber to the home, power link budget, rise time budget