

ABSTRACT

Technological development, especially in Telecommunication industry affect people's lifestyles who are developing at this time. People no longer needs voice service only, but also requires triple play services that include voice, data and video services. To support the triple play service, it requires a much more reliable and capable transmission media to provide greater bandwidth. When compared with copper transmission media, optical fiber is considered more capable of handling the amount of traffic needed to support triple play services. So it makes telecommunication service providers. In this final project, the author designed a simulation of the FTTH network located at Perumahan Grand Duta, Tangerang to test the feasibility of the FTTH network performance. Unlike the design in general, this FTTH network design uses a higher split ratio method that is able to provide triple play services for more users. Design started with data collection which will be simulated in the OptiSystem software. Simulation is adjusted to data and device specification, which is used by PT. Indosat. And analyzed with using performance feasibility test parameter, that is Power Link Budget. Measurement of Power Link Budget in this simulation is done with 2 ONT as a sampling. Based on the simulation results obtained, the acceptability value on ONT 1 is -22.254 dBm while the acceptability value on ONT 2 is -22.283 dBm. This shows the value of the received power meets the eligibility standards used by PT. Indosat complies with ITU-T G.984, $P_r > -28$ dBm.

Keyword : FTTH, higher split ratio, Power Link Budget, OptiSystem.