

ABSTRACT

The public needs for communications services with fast information transmission, better signal quality, and more secure, make technology should be developed and updated. To achieve highspeed transmission of information required large *bandwidth*. Fiber To The Home (FTTH), which uses Fiber Optics as transmission media can meet the demand for greater *bandwidth*. Besides that, FTTH network can deliver a variety of digital information, such as voice, video, data, and so more effectively so as to support Triple Play services from PT. Telkom.

Ciganitri located in South Bandung is strategic as a residence, and began ogled by the housing developer. PT. Telkom initiative to build a FTTH network in Ciganitri to provide quality service for customers.

To determine the feasibility and performance of the system design of FTTH in this final will be calculated on the feasibility and performance parameters that wants implemented on a residential Ciganitri. These parameters are Power Link Budget and Rise Time Budget for the feasibility of the system and BER for the system performance will be obtained from the simulation results. The results of this research, the received power for the farthest distance is -21.1073 dBm for Downstream and upstream -6.6516 dBm for this is still fit with standard PT. Telkom which not more than -23 dBm. Rise Time Budget obtained 0.2138 ns for the downstream and upstream 0.21387078 ns for which they are met by using NRZ coding. BER value obtained in simulation for the configuration amounting 7.4869×10^{-32} downstream and upstream 0 is still in accordance with the feasibility performansi which is minimum value of BER of 10^{-9} .

Keywords: FTTH, Link Power Budget, Rise Time Budget, Bit Error Rate (BER)