ABSTRACT

This final project is to design the link HFC distribution network Fiber to the Serving Area (FSA) dan Optical Serving Area (OSA), which are expected to provide CATV broadband access services to customers. HFC network design is to make the network able to transmit signals up to each of the devices on the customer with the value and quality meet. In each stage of the design calculations required in determining the type, value, and location of the devices on the network so that it meets the parameters specified transmission. Those parameters are Power Link Budget and Rise Time Budget for the feasibility of the system. The parameters manually counted and compared with the results of the measurement design for system performance.

The purpose of HFC network design is to make the network capable of sending signals to every CATV service device in customers with value and quality that meet. In each stage of design required calculations in determining the type, value, and location of the device in the network so as to meet the specified calculation parameters.

The results of manual power link budget calculation on the FSA method is the total attenuation produced for the downstream Fiber Node downstream is 26,083 dB. As for the design of OSA method in get value link downstream power link budget on Fiber Node furthest is equal to 27,584 dB. The results of both calculations are still above the standards determined by ITU-T and PT. Telkom, which is 28 dB. For the calculation of the rise time budget in FSA method in obtaining the t_{system} value of 0.408 ns. While in OSA method obtained t_{system} value of 0,505 ns. So the system feasibility calculation for the rise time budget on the downstream link of the two design methods meets the feasibility with NRZ coding.

Keyword : *HFC, CATV, FSA,OSA,FTTH*