

ABSTRACT

Information technology development grows so fast especially in multimedia services such as videos, voices, and data. In order to improve the services to customers, and to respond the public demands on multimedia services, so we use the HFC (Hybrid Fiber Coax) Network. HFC is one of the network access technologies which formed from optical and coaxial networks. In order to make the HFC can handle the interactive services, it is important to make a network architecture design with holding to network infrastructures, network architecture form, power link budget, system performance, and HFC bandwidth capability which are available for the services that will be offered.

In this Final Project, HFC network planning on Villa Mutiara Cibubur housing complex will be discussed which are expected to provide broadband access services, such as: Cable TV, internet, video on demand, and multimedia based services. On the plan, bandwidth width for downstream will be used approximately 750 MHz and 60 MHz for the upstream. In amount of 423 MHz will be allocated to serve 56 canals of TV broadcast. For the downstream, internet will use 1 canal as wide as 6 MHz, and the upstream will use 2.8 MHz for 7 digital canals. The upstream for video on demand will use the band as width as 0.8 MHz, while its downstream is 60 MHz.

The planning result of the HFC (Hybrid Fiber Coax) network on Villa Mutiara Cibubur housing complex shows that the planning is suitable the HFC network performance standards from FCC and PT.Telkom. They are: for CNR=55,02 dB, CSO=62,91 dB, CTB=61,54 dB and Xmod= 58,55 dB.

Keywords : Hybrid Fiber Coax, CNR, CSO, CTB, XMOD