

ABSTRACT

Fiber to the Home (FTTH) technology is now deeply in the provision of access networks capable of providing fast and hi-capacity access services. One is the IPTV service that delivers high definition digital TV (HD) TV shows. But in practice, IPTV has limited number of users that can be served in the provision of Broadcast / Shared TV service.

This makes TV service not massivable with low-cost smaller than FTTH. One of the reasons is that IPTV based internet protocol through FTTH network provides services only based on server provider. So on this final project is made implementastion of HFC Headend which is a combination of optical and coaxial networks that will be built in the Laboratory of Optical Communication System. Implementation is equipped with FTTH devices that are OLT, ODC, passive splitter, patchcore, and rosette. The HFC network is equipped with Fiber Tx, Fiber Node, TV Tuner, Antena, and Amplifier.

The implementation of HFC headend in FTTH will add service feature that can be used analog TV Broadcast, so that TV broadcast can be felt by using only one antenna for the needs of many users. The test results show that the value of antenna receiving power with good service quality is -40 dB with fiber node device acceptance sensitivity of -5 dBm up to -27 dBm. In addition, the CNR value obtained was -47.7 dB.

Keywords: HFC Headend, FTTH, Laboratory of Optical Communication System, Power Receive, CNR.