

ABSTRACT

In this final project, we design a HFC network as the expansion of existing HFC network on Setrasari Area – Bandung that is planned to cover 1000 homepassed and served by 2 Fiber Node. Then, we analyze its performance parameters, such as : *Carrier to Noise Ratio* (CNR), *Composite Second Order* (CSO), *Composite Triple Beat* (CTB), *Cross Modulation* (XMod), and *Hum Modulation*. The performance analysis result that data took from RisTI Division plan is compared with recommended HFC network standard.

This final project result shows HFC network built from several planning parameters that we proposed yields CNR, CSO, CTB, XMod and Hum parameter value that fulfill HFC network standard even on it worst condition (with much amplifier cascade). On this worst condition, expansion HFC network planning that served by fiber node 1 (Setra Murni) yields EOL performance value, that is : CNR = 48,64 dB ; CSO = 58,84 dB ; CTB = 54,59 db ; Xmod = 49,48 dB and Hum = 48,49 dB. Whereas, expansion HFC network planning that served by fiber node 2 (Terusan Sutami) yields CNR = 48,64 dB ; CSO = 58,60 dB ; CTB = 54,22 dB ; XMod = 48,79 dB dan Hum = 48,49 dB.

Bandwidth allocation on this expansion HFC network planning can serve 50 broadcast analog TV channel (PAL), 133 broadcast digital TV channel, 66 VOD channel with simultaneous user, 156 HSIA user and 112 telephony channel. This planning and performance analysis can be considered to support HFC network expansion on Setrasari area – Bandung for multiservice application.