

## Abstract

HFC network is the network which is using optical fiber transmission media and some of again use coaxial cable with transferring service ability being based on video, and data of voice both for having the character of distributive and also interactive at is same network. HFC network is a result of Cable TV ( CATV) network evolution process which is in a whole of system begin with using coaxial cable for media transmission. This HFC network planning take PT. Semen Gresik area in Gresik as location to analyzed.

This Planning will divided into two session, fiber optic network planning from head end until fiber node and coaxial network at PT. Semen Gresik housing area. And also studying power link budget for optical network and rise time budget, network performance and bill of quantity.

Housing Of PT Cement Gresik divided to become some dwelling block with amount 578 housing customers and  $\pm$  229 business customers. At this Final Assignment will studied by HFC network planning with service " Full Access Network". A fiber node will serves 500 customers. These peripheral are: QR 540 as distribution cable, Extended Amplifier, Splitter, Tap, and Directional Coupler.

Finally, we conclude that performance end to end is: average CNR is 66,6 dB, total CSO is 74,8 dB, total CTB is 53,96 dB, total Xmod is 52,5 dB and total Hum is 40,45 dB. The result compile standard is : CNR > 46 dB, CSO < 52 dB, CTB < 52 dB, Xmod < 52 dB and Hum < 40 dB.