

ABSTRACT

Easton park apartement residence is residence that have been equipped with *Fiber To The Building* (FTTB) network to fullfill customer's needs of internet networks, multimedia access and communication by phone. However, as long as FTTB networks under construction, spesific analyze about the FTTB device performance isn't available yet. FTTB device analyze is needed to see if the used device is proper or not.

This final project will analyze the device performance at easton park residence with some parameters such as *Power Link Budget*, *Rise Time Budget*, and *Bit Error Rate*. Those parameters will use manual calculation then compared with result from optisystem simulation. The analysis is doing some studies of literature first then continued with collecting data in the real area.

Based on link test that done by calculating the real network condition by *power link budget* calculation we found that device receptivity (prx) at *downstream* side have lower value than the value of detector sensitivity that is -27 dB. The BER value that can be seen by simulation for optical *downstream* link gain low result too. Then after doing some optimalization we get the value of *power link budget* on simulation at *downstream* is -21,651 dBm and *upstream* is -6,133 dBm and for BER value is $4,547^{-050}$ for *downstream* and 0 for *upstream*. This value is better than before. And so with the result from calculation of *power link budget* for receptivity device (Prx) is -25,242 dBm and total attenuation is 22,242 dB. Based on that result we get a better and bigger value for (Prx) than detector sensitivity that used.