

ABSTRACT

Copper access network limitations that are judged not quite accommodate large bandwidth capacity, then a lot of operators competing each other to improve the quality of service by making infrastructure use FTTH. PBB I and II located in Bandung is the location of this Final Project.

The methods used in the design of the survey, namely the location of the previous events, forecasting, designing, as well as research results with analysis (power link budget, rise time budget, as well as bit error rate). This analysis is used in addition to the manual calculation also used simulation Optisystem7, then compared the results obtained.

The results of the design of downstream link power budget of the PBB I is -21,9288 dBm and for PBB II -21,7772 dBm. Counts on the upstream of the PBB I is -8,55426 dBm and for PBB II is -8,8272 dBm. This value is still below the receiver sensitivity of -29 dBm, so it is considered feasible. Analysis of rise time budget of PBB I or II for NRZ acquired delivery downstream and upstream 0,56270096 ns obtained 0,56270096 ns. Where the calculation result of t_{sys} PBB I is 0,06296 ns worth while for PBB II obtained 0,06289 ns. The second value of the t_{sys} is still far below the value of the encoding so that the limit is still disqualified pass. In addition the simulation used in the analysis are Optisystem BER downstream 9.4952×10^{-18} to the PBB, and the PBB II I 8.77867×10^{-264} . While the results of the BER upstream obtained 0 for either the PBB I or PBB II. Both of these values are still far below the 10^{-9} so it's still good.

Key words: *networks, FTTH, bandwidth, design, link budget, BER.*