

ABSTRAK

FTTH (Fiber To The Home) ialah sistem yg menggunakan serat optik sebagai media transmisi buat mentransmisikan frekuensi optik asal pusat operator ke area pengguna, sedangkan GPON adalah teknologi FTTx yang mengirimkan informasi ke pelanggan melalui kabel optik. GPON mempunyai pasar yang lebih tinggi serta digunakan lebih cepat daripada GEPON (Gigabit Ethernet Passive Optical Network). Penelitian ini menganalisis teknologi GPON pada jaringan FTTH kompleks perumahan Bumi Jati Elok Tangerang. sesudah dilakukan perhitungan link power budget maka daya yang diterima downlink sebesar -16,13 dBm serta uplink sebesar -16,37. Memberikan bahwa daya terima downlink serta uplink kurang dari -28 dBm. Perhitungan link power budget jaringan FTTH STO Parung Panjang sudah memenuhi standar ITU-T G.984, dengan perhitungan rise time budget sebesar 0,252 ns buat downlink serta 0,250 ns buat uplink. Penggunaan teknologi GPON di jaringan Fiber To The Home layak dilakukan sesuai perhitungan rise time budget sinkron standar ITU-T.

Kata kunci : *Fiber To The Home, GPON, ITU-T*

ABSTRACT

FTTH (Fiber To The Home) is a system that uses optical fiber as a transmission medium to transmit optical frequencies from the operator's center to the user's area, while GPON is an FTTx technology that sends information to subscribers via optical cables. GPON has a higher market share and is used faster than GEAPON (Gigabit Ethernet Passive Optical Network). This study analyzes GPON technology on the FTTH network of the Bumi Jati Elok residential complex, Tangerang. After calculating the link power budget, the power received by the downlink is -16,13 dBm and the uplink is -16,37. Provides that the downlink and uplink receive power is less than -28 dBm. The calculation of the link power budget for the FTTH STO Parung Panjang network has met the ITU-T G.984 standard, with a rise time budget calculation of 0,252 ns for the downlink and 0,250 ns for the uplink. The use of GPON technology in the Fiber To The Home network is feasible according to the ITU-T standard synchronous rise time budget calculation.

Keywords: *Fiber To The Home, GPON, ITU-T*