

## 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*