

ABSTRAK

The Pinang sub-district in Tangerang City is home to a sizeable working-class population who hails from industrial cities. Village offices, schools and homes all benefit greatly from the performance of the Fiber To The Home network in the neighborhood. As part of this project, an FTTH design based on Gigabit Passive Optical Network (GPON) technology in Kabupaten Pinang will be investigated. In the AAWL sample there were 60 participants representing 10 each of the six villages in Pinang District. One STO, one ODC, and six ODP are required for this design. The overall attenuation value of STO has been calculated from the installation of optical network infrastructure so that the customer gets the lowest value of 19.0975 dB and the highest value of 21.345 dB. The result has reached the required threshold of 28 dB. In addition, the received power ranges from -14.09 dBm to -16.345 dBm, which is consistent with the normal range of -8 dBm to -27 dBm. To allow implementation of the design results, the maximum predictable system rise time is 0.26 ns, with a minimum rise time value of 0.56 ns. The maximum predictable overall rise time is 0.26 ns, with a minimum rise time value of 0.56 ns required to allow implementation of the design.

Keywords: *FTTH Network, GPON, Link Power Budget, Rise Time Budget*