

ABSTRACT

The expansion of telecommunication technology is so fast, where the telecommunication needs is not voice service only but include the data and video service which need the large bandwidth and the high speed data transfer.while the capacity of the cooper cable is limited.because of the bandwidth of cooper cable is 4 Mbps only,so the telecommunication developer need to doing modernization of the network where the cooper cable has changed by fiber optic cable.the fiber optic cable have a large bandwidth which is more or less than 100 Mbps. there are three Method to finishing this final project. which is Observation method, Interview Method and Experiment method. Fiber To The X (FTTx) Network designed by three Configuration, which is 1:32, 1:4-1:8 dan 1:2-1:16. The average of Loss link budget for boundary with the total homepass 404 Hp designed by three configuration which is 1:32, 1:4-1:8 dan 1:2-1:16 appropriate with Loss tolerance. Every configuration in boundary which have 404 homepass have different requirement, especially distribution cable, ODP and drop cable. Configuration 1:32 need 2,91 km distribution cabel, 55 ODP with capacity 8 core and 40.400 m drop cable. Configuration 1:4 dan 1:8 need 2,97 km Distribution cable, 55 ODP with capacity 8 core dan 40.400 m drop cable. Configuration 1:2 dan 1:16 need 1,85 km Distribution Cable, 42 ODP with capacity 16 Core and 40.400 m drop cable. The right Configuration for Fiber To The X (FTTx) network in STO Majapahit area is 1:2-1:16 because that configuration is suitable with homepass location which the population crowded and concentrate.

Key Word : *Fiber Optic, Cooper cable, Fiber to The X (FTTx) network, Link Budget, BoQ, STO, Passive Splitter*