

## ABSTRACT

The demand of broadband services (voice, high speed data, and video) nowadays, has been growing rapidly at various of community : business, education, government, and also residential such as apartments. This trending happened especially since the rise of social media applications. One of the broadband access technology which has capable of those services and currently has adopted widely, is the Fiber To The Building (FTTB) and Fiber To The Home (FTTH) which have varieties of technologies or interface standard such as Ethernet Passive Optical Networks (EPON), Gigabit Ethernet Passive Optical Networks (GPON), Gigabit Ethernet Passive Optical Networks (GEPON) and so on. The problems discussed in this final project is, how to test the feasibility of FTTB architecture by taking a case study in Apartment Panoramic Tamansari Bandung.

The feasibility test is based on a standard (recommendation) of ITU-T, which includes testing the range of attenuation based on the Power Link Budget principle. The method carried out as follows : first we map the access networks of Panoramic apartment, then we performed some theoretical calculations of attenuation and rise time, then we made some measurements directly on the site, and finally we compared between both result to avoid mistakes on measurements. It should be noted, that we used to analyse of feasibility is based on the measurement results.

From the test results, we obtained, that the access network FTTB Apartment Panoramic Tamansari comply with ITU-T standards, i.e : the maximum 26.38 dB of attenuation, the -25.90 dBm of minimum received power level at the Customer Premises Equipment (CPE). Where the maximum 28 dB of attenuation, the -28 dBm of minimum received power level at the Customer Premises Equipment (CPE).

**Keywords: : *Fiber Optic, Fiber to the building (ftb), EPON.***