ABSTRAK

Simulasi perancangan jaringan *Fiber To The Home* (FTTH) yaitu dengan penentuan perangkat berupa spesifikasi perangkat dan tataletak jaringan *Fiber To The Home* (FTTH) dan disimulasikan menggunakan *Optisystem.* Perancangan jaringan *Fiber To The Home* (FTTH) diatur dimana pusat titik jaringan yaituOLT (*Optical Line Terminal*) sebagai optical transmitter dan ONT (*Optical Network Terminal*) sebagai optical receiver. Dari simulasi pada ONT 1 nilai (Pr) = -21.625 dBm, nilai α tot = 24.625 dB, untuk perhitungan (Pr) = -21.625 dBm, dan nilai α tot = 24.625. ONT 2 nilai (Pr) = -21.597 dBm, nilai αtot = 24.597 dB, untuk perhitungan (Pr) = -21.5975 dBm, dan nilai α tot = 24.5975. Pada ONT 3 nilai (Pr) = -21.588 dBm, nilai α tot = 24.588 dB, untuk perhitungan nilai (Pr) = -21.58875 dBm, dan nilai α tot = 24.58875. Hal ini menunjukkan hasil dari setiap ONT memenuhi kelayakan PT. Telkom yaitu α tot maksimum 28 dB dengan Prx yang masih berada pada batas sensitivitas penerima yaitu [3;-28] dBm.

Kata kunci: *FTTH, Fiber Optik, Power Link Budget, OPM, Optisystem*

ABSTRACT

The simulation of Fiber To The Home (FTTH) network design is by determining the device in the form of device specifications and Fiber To The Home (FTTH) network layout and simulated using Optisystem. The design of Fiber To The Home (FTTH) network is set where the center of the network point is theOLT (Optical Line Terminal) as an optical transmitter and ONT (Optical Network Terminal) as an optical receiver. From the simulation on ONT 1 value (Pr) = -21,625 dBm, the value of α tot = 24,625 dB, for calculation (Pr) = -21,625 dBm, and the value of α tot = 24,625. ONT 2 value (Pr) = -21,597 dBm, value of αtot = 24,597 dB, for calculation (Pr) = -21.5975 dBm, and value of α tot = 24.5975. In ONT 3 values (Pr) = -21,588 dBm, the value of α tot = 24,588 dB, for the calculation of the value (Pr) = -21.58875 dBm, and the value of α tot = 24.58875. This shows that the results of each ONT meet the feasibility of PT. Telkom is α tot maximum 28 dB with Prx which is still at the receiver sensitivity limit, namely [3; -28] dBm.

Keywords: *FTTH, Fiber Optic, Power Link Budget, OPM, Optisystem*