

ABSTRACT

For Facilities and infrastructure to support learning activities of students, Campus IT.Telkom has done N building for the Faculty of Electro-Communications a new one. Following up on this, very necessary also the addition of WLAN (WiFi) network installation, (especially for the building in order to facilitate ease of access to intranet and the internet for students and lecturers who were inside the N building. In the making of wi-fi, calculation of power link budget take an important part, so that the result is optimum and efficient calculation of link budget is the calculation of loss and gain in a system with a parameters that fits the system.

The simulation in the research is using RPS (*Radiowave Propagation Simulation*) software with indoor propagation model. COST 231 Multiwall propagation model is fit to use in the inishing of the research because it count in the wall's loss so that the result of the calculation close to a real condition. With link budget calculation we get maximum three indoor antenna that needed to covered N building in every floor.

Using the calculation of link budget there are 6 AP that needed to cover N building in IT Telkom. And from the simulation we get where AP should be placed covering almost all the area with a good signal quality, that is approximately -70 dBm. But these things causing the variety of SIR value, from 0dB to 40dB so there's a lot of interference happens. When FAP centralized only in one point, then only the areas near to AP that received a good signal approximately -70dBm, but the value of SIR decreasing down until 0dB that causing a lot of interference.

Keyword: indoor antenna, link budget, COST 231 multiwall indoor