

ABSTRACT

Plantation is one place that has a fairly wide area. Having observed the walk test method for multiple signals and operators around the plantation, indicating that the signal conditions that exist in the plantation are pretty bad. Weak signals due to the many obstacles and different types of loss - loss arising from the location of the plantation itself.

To overcome this we need a solution so that long-distance communication that exists for the better. Communication in the form of mobile communication is needed in the area at the time of the plantation as a job site. For that it is necessary to the development of trunking radio communication system in order to solve the problems of long-distance communication in the field. Design and simulation of radio trunking is useful as a first step for the construction of the radio communication network in order to know what is needed and with some parameter adjustment trunking radio itself. Simulations performed in outdoor communication software design, namely Atoll 2.8.

The results obtained in the design and simulation of this trunked radio network is using transmit power (transmit power) of 30 watts in order to signal to the receiver (receiver) with a receive sensitivity of -110 dBm. With the design of the location where the kountur's very diverse and device specifications and some assumptions are specified, the MAPL acquired at 146.77 dB for scenario 1, and 157.77 dB for scenario 2. The resulting signal coverage is different for these two scenarios. By considering the resulting coverage for these growing areas, the selected scenarios as a recommendation for the realization of this trunked radio network design.

Keywords: Radio Trunking, Atoll, Power Budget, Antenna Layout.

