ABSTRACT

The number of cellular network users is increasing day by day, which requires the design of a more efficient microwave link. It aims to meet user needs that can be met, without having to install a lot of antenna devices and frequency spectrum. One way is to increase the value of availability on the microwave antenna. The design of the microwave link transmission network at the Bakalan Polokarto site and the Polokarto site located in Sukoharjo Regency, Polokarto District, Bakalan Village using pathloss 5.0 software with a frequency of 23 GHz. For comparison on the design using the results from Huawei. The results of the design using pathloss 5.0 software have an Effective Isotropic Radiated Power (EIRP) value of 52.21 dBm, Received Signal Level (RSL) -52.41 dBm, Fading Margin 22.09 dB, and Availability 99.99442%. While the design from Huawei has an Effective Isotropic Radiated Power (EIRP) 54.70 dBm, Received Signal Level (RSL) 33.97 dBm, Fading Margin 33.03 dB, and Availability 99.99223%. The results from the Pathloss 5.0 and Huawei designs resulted in availability values that already met the ITU-R G.827 and F.1703 standards. Which in the design of pathloss 5.0 is good and optimal for the availability value obtained.

Keywords: Pathloss 5.0*, link microwave, availability, ITU-R G.827 and F.1703*