

## **ABSTRACT**

*A large population in an area requires communication network infrastructure to make it easier for residents to use communication technology with the surrounding area. Supporting telecommunications infrastructure can facilitate the flow and processing of information so that communication between each customer can run well. The use of microwave devices is suitable for use because of its efficiency and is more suitable for long-distance communication that takes into account geographic and infrastructure conditions. The areas of Jatisumberlawang and Peleman which are located in Sragen Regency have a large number of population growth so it is necessary to design a microwave transmission network using Pathloss 5.0 with a frequency of 15,000 MHz so that communication between regions can run well. The results of the design using Pathloss 5.0 get an RSL value of -56.03 dBm, Fading Margin 19.47 dB, and Availability 99.99164%. The resulting availability value complies with the ITU-R G.827 and F.1703 standards.*

*Keywords: link microwave, pathloss, availability.*