ABSTRAK

The development of communication technology continues, and now the company is preparing for the next generation network, namely the 6G network. An important part of the development of 6G networks is the introduction of mmWave frequencies in the Terahertz range. In this Paper, we aim to evaluate the signal-to-noise ratio (SNR) of 6G full-stack terahertz networks using the 3GPP NR standard. In mmWave frequencies, it is important to evaluate the SNR value in the context of a full 6G Terahertz network to improve network performance. Our research methodology includes a method for measuring SNR in a full 6G terahertz network using the 3GPP NR standard. We collect data about the environment and identify factors affecting SNR performance. In addition, we will compare the results of the SNR analysis with the standards set by the company. By comparing SNR values in full 6G Terahertz networks, our research results provide valuable insights for 6G network developers. The results show that varying transmitter power (Ptx) and antenna factor (F) did not significantly affect the average SNR value, which remained around 36.13327635. However, the distance between the sender and receiver had a crucial impact. At a distance of 30 meters, the SNR reached its most efficient value of 40.60682455. These findings contribute to understanding the effectiveness of mmWave frequencies in 6G networks and aid developers in designing more effective implementation strategies.

Kata Kunci: Jaringan 6G, *mmWave*. SNR, Terahetrz, 3GPP NR