

ABSTRACT

In this study, a comparison of the coverage area of 5G NR at 2.6 GHz with 28 GHz frequencies will be made. 5G NR technology, which uses Millimeter Wave (mm Wave) frequencies, can achieve multi Gigabit-per-second (Gbps) data rates for users. Atoll is used for radio network planning and optimization in which comprehensive features are available, making it possible to support coverage planning in the Pulogadung Industrial Estate with an area of 5 km². This design uses the 5G NR design method, so it is determined by the appropriate propagation model for planning, namely the Urban Macro (UMa) model based on the standard of 3GPP TR 38.901, and using design scenarios for outdoor-to-outdoor (O2O) line of sight (LOS) conditions. From the observed parameter (SS-RSRP), it shows that Scenario 1 Carrier 28 GHz (Uplink-O2O-LOS) has the lowest average SS-RSRP value, which is -98.18 dBm and the highest SS-RSRP average value generated by scenario 1 Carrier 2.6 GHz (Downlink-O2O-LOS), which is -84.34 dBm

Keywords : 5G Planning, Coverage Area, 2.6 GHz, 28 GHz, Link Budget 5G, Atoll