

ABSTRACT

This research uses 5G NR technology, as a solution for today's networks. Researchers realize the importance of the urgency of 5G for the future. The increasing use of social media is a reference for this research, especially on social media Twitter. Traffic Maps is a feature that is used to see how many users are in an area using social media as a reference, with social media being used, namely Twitter. This research was conducted to compare the impact of Twitter Traffic Maps produced between the 2 frequencies that this study used, namely at the frequency of 700 MHz and 2600 MHz, by using the Twitter Traffic impact data as a reference site point placed. This study uses the Carrier Aggregation Interband-Non contiguous technique at 2 frequencies in the Central Jakarta area, using the Rural Macrocell and Urban Macrocell propagation models. It was found that site/gNodeB results increased due to Traffic Maps, for O2O Uplinks without Traffic Maps it required 122 sites/gNodeB, and when Traffic Maps were performed, site/gNodeB increased to 180 gNodeB. SS-RSRP obtained the maximum value of SS-RSRP reaching -38.05 dB in the O2O Uplink scenario without Traffic Maps. SS-SINR, the best maximum value is obtained on O2O Uplink with Traffic Maps with 35.26 dB. In the Average Data Rate, the maximum value reaches 1277.33 mbps in the O2O Downlink scenario with Traffic Maps. Aggregated Data Rate reaches a maximum value of 2101.76 mbps in the Downlink O2O LOS scenario with Traffic Maps. The result is Traffic Maps heavily influencing site warnings by area, with the resulting site/gNodeB expansion not being a bad impact, but a better path than the site/gNodeB reference and the resulting parameters.

Keywords: 5G, New Radio, Low-Band, Mid-band, Carrier Aggregation.