

ABSTRACT

Indonesia is building the necessary infrastructure and regulations to implement *5G New Radio (NR)* networks. Spectrum availability is an essential condition for the deployment of wireless-based services. The research was conducted to assess the feasibility of implementing *5G NSA* low band 700 MHz. Spectrum allocations at *703-748 MHz* UL and *758-803 MHz* DL will be allocated for 5G services. Increasing the allocation of radio frequency spectrum is one technique to improve network coverage.

The study found 576,247 potential 5G customers in the city over the next five years, requiring 73 gNodeBs for coverage. The simulation showed fair signal levels from SS-RSRP at -93.29 dBm and SS-SINR at 7.63 dB, and the economic analysis revealed that the project is financially viable. However, the PBP value back in fourth-year is due to the heavy BHP IPFR fees a financial burden for 5G operators. Overall, deploying the 5G network in Makassar City is technically and economically feasible.

Keyword : 5G NSA, 700 MHz, Coverage, Capacity, Feasibility.