ABSTARCT

The migration 4G to 5G networks is a development / advancement of the current telecommunications technology. With the 4G network migration to 5G, several aspects of change have show in its architecture. In the 4G network migration pattern to 5G the architecture are used is EPC and 5G core where the development of the network is an update of the previous technology. There are several configuration options for the network migration including options 3a and 7a where these options have different cores, so it is necessary to know how the ideal values of each parameter are generated. Both of these options are Non-Standalone (NSA) models.

In this research of final project, the comparison simulation conducted is to find out which is the best of the two options at the time of simulation using simulink software. This comparison analysis is done by designing the network architecture on NSA model options 3a and option 7a by relying on the parameters set in Release 15 3GPP, so that when analyzing the comparison of the two options it can help to find out how the quality of the 5G NSA network for options 3a and 7a when testing data.

Based on simulation analysis and comparison obtained from the simulation results is when given a frequency value of 2300 MHz and 27500 MHz for each option, the value generated from the simulink simulation is conform with the standard, for the results of the value of the SNR has a good category that is> 10, 9 dB and both have the same value. Then the results of other parameters such as jitter have shown results in the good category that is <75 ms and the best value is 33 ms, while the delay and throughput in the very good category that is throughput has a value> 100 bps and has the best value of 333.6 bps and delay <150 ms, the best result is 2.3 ms.

Keyword: Study of migration of 5G, EPC and 5G core networks, Non-standalone