ABSTRACT

Cellular telecommunications networks are currently experiencing very rapid improvements, from their technology to their functionality. Cellular network technology has developed five generations, and now the fifth generation technology (5G) is still in the development stage even though in some areas it can be used by the public, and there are even some areas where fourth generation technology (4G) is still not reached. Therefore further research is needed so that 4G networks in general and 5G in particular can be used massively in Indonesia, implementation of simple 4G and 5G private networks can use Universal Software Radio Peripheral (USRP) hardware or use the ZeroMQ emulator which will be used as a signal transmitter (SDR) or replace the function of a radio signal transmitter (BTS). For software can use Open5GS which will be used as the 4G and 5G core network, then srsRAN is used as eNodeB. Later the mobile device will connect to the eNodeB that has been configured with SDR and Open5GS providing an internet connection to the eNodeB so that users can access the internet via 4G and 5G private networks. The research conducted by this author is focused on analyzing the message flow that exists at the interface between the core network and eNodeB so that it knows the processes that occur in 4G and 5G network communication, either initial attach or handover.

Keywords : 4G, 5G, Handover, *Initial Attach*, *Registration Reject*, SRSRAN, Open5GS