

ABSTRACT

The work to get data directly going to the field for optimizing a network or named the Drive Test is the job that has a rule in the current of communication development. The implementation of Drive Test by directly down to the field has several *obstacles*, such as the condition of the terrain is insufficient and at risky to be passed by car. Several problems such as traffic congestion, risky environmental conditions and narrow road areas between buildings cause the research is conducted on the implementation of Drive Test by using Unmanned Aerial Vehicle (UAV) or known by drone.

In this Final Project the Drive Test is carried out on the 4G LTE Network and uses an Android *smartphone* that has been installed the G-NetTrack application. The Data parameters of the Drive Test and QoS that searched are Reference Signal Receive Power (RSRP), Reference Signal Receiving Quality (RSRQ), Signal to Noise Ratio (SNR), *delay* and *throughput*. The obtained data were uploaded through the website and sent to the Firebase database so that it can be securely stored securely and anyone with the access can see the update of the data.

This research compares two methods, which are Drive Test with normal condition and with the implementation of a UAV. The result of the Drive Test with normal condition is obtained average value of RSRP -90.32 dBm, RSRQ-9.58 dB and SNR 3.99 dB. Meanwhile, in the Drive Test by using UAV is obtained average value RSRP-90.8 dBm, RSRQ 9.32 dB and SNR 4.77 dB. The results of this research showed that all parameters in the comparison of both methods have meet the standard of Key Performance Indicator (KPI) with small value difference because Drive Test by using UAV equals with normal Drive Test that is to know the real condition of obstacle in the field.

Keywords: Drive Test, Unmanned Aerial Vehicles, RSRP, RSRQ, SINR, *Delay Throughput*, Website, Database