

ABSTRACT

Bandung is a city surrounded by highlands as well as the capital of the province of West Java. One of the areas in Bandung that is often visited is Dago and Ciumbuleuit areas located in the northern part of Bandung. However, both regions have poor LTE network performance. This is exacerbated during holidays that tend to be visited more by tourists and will almost certainly use a mobile phone that has been integrated with Long Term Evolution (LTE).

On Tuesday, November 23, 2021 at 15.00 – 16.25 WIB, data collection was carried out using the Drive Test method using the Tems Pocket application to be able to find out the performance value of LTE parameters, namely Reference Signal Received Power (RSRP), Signal to Interference Noise Ratio (SINR), and Throughput. The results of the Drive Test when accessed using the Actix Analyzer showed that there were 5 Bad Spot areas detected with an average value of RSRP parameters of -112.51 dBm, SINR parameters of -5.98 dB, and Throughput parameters of 0.52 Kbps. Average values of all these parameters have not been able to meet the operator's KPI parameter standards, namely for RSRP > - 100 dBm, SINR > 0 and throughput > 2500 Kbps.

To overcome the Bad Spot area, a physical tuning method is applied consisting of azimuth tilting and mechanical tilting as well as a power configuration method, namely regulating the transmit power on the transmitter. However, 4 out of 5 Bad Spots require a proposed site addition because the two previous methods have not been able to solve the problems that occur. After improvements were made to the entire Bad Spot area using Atoll software, there was an increase in the average value of each parameter. The average value for the RSRP parameter is -97,146 dBm, the average value for the SINR parameter is 14,334 dB, and the average value for the Throughput parameter is 47,324,887 Kbps or 47.32 Mbps. All average values obtained after the repair process have met the operator's KPI parameter standards.

Keyword: LTE, Drive Test, Bad spot, RSRP, SINR, Throughput