

ABSTRACT

The increase in voice and data services in urban areas, one of which is Bogor City, make service providers feel the need to improve the existing network so the network can cover a wider area. Long Term Evolution (LTE) Technology with high speed data rate and mobility can give the answers to the needs of voice and data.

In this present study, carried out planning LTE network in the 1800 MHz frequency in the city of Bogor. Planning is the planning that has been done in terms of coverage by measuring link budget with the process of re-farming and co-existing before. Then do the planning in accordance with the neighbour relations and Physical Cell Identity (PCI).

The parameters used in this thesis in accordance with the standard telecom vendor Huawei. The use of PCI is to give identity to a cell. Simulation in this thesis using software atoll of Forsk. The parameter value compared according to before and after PCI using. Total area of BLER coverage in the range 0 - 0:05 is 97.1 km² and became 97.7 km² after using PCI, increases 0.6 km² or 0.62%, so the value of $C / (I + N)$ increased by 0:16 dB after using PCI, before using PCI is 7.34 dB and to 7:50 dB after, and average throughput increased 489.35 kbps from 25.568,05 kbps to 26,057.4 kbps after using PCI.