

ABSTRAK

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PENGUKURAN DAN ANALISIS PERBANDINGAN KINERJA SINYAL 4G LTE PROVIDER TELKOMSEL DI TERNATE SELATAN, TERNATE TENGAH DAN TERNATE UTARA MENGGUNAKAN G-NET TRACK PRO

Kata kunci: 4G LTE, BTS, RSRP, RSRQ, SNR

(xv + 45)

Peningkatan kualitas jaringan *Long Term Evolution* (LTE) dapat dilakukan dengan menganalisis kinerja dan cakupan masing-masing operator di Indonesia. Parameter yang menentukan kekuatan dan kualitas sinyal setiap penyedia layanan dikenal dengan *Reference Signal Received Power* (RSRP), *Reference Signal Received Quality* (RSRQ) dan *Signal Noise to Ratio* (SNR). Metode untuk mengumpulkan serangkaian Informasi frekuensi jaringan di lapangan digunakan untuk menganalisis dan mengukur kekuatan sinyal data adalah uji *drive test* menggunakan perangkat lunak G-Net Track Pro. Lokasi pengukuran di sepanjang jalan raya Ternate Selatan, Ternate Tengah dan ternate Utara. Hasil pengujian perbandingan menunjukkan bahwa sinyal 4G LTE *provider* Telkomsel di Ternate Selatan memiliki kualitas berdasarkan parameter RSRP di dominasi dengan kualitas cukup, Ternate Tengah di dominasi dengan kualitas cukup sedangkan Ternate Utara di dominasi dengan kualitas cukup buruk. Untuk parameter RSRQ di Ternate Selatan memiliki kualitas cukup buruk, di Ternate Tengah di dominasi dengan kualitas cukup buruk sedangkan Ternate Utara di dominasi dengan kualitas cukup buruk. Dan untuk parameter SNR di Ternate Selatan memiliki kualitas cukup buruk, di Ternate Tengah di dominasi dengan kualitas cukup buruk sedangkan Ternate Utara di dominasi dengan kualitas cukup buruk. Secara visual faktor-faktor penyebab kualitas jaringan baik atau buruk dikarena jarak BTS dengan lokasi pengujian dan juga karena faktor dari mobilitas manusia, sehingga menghalangi pancaran sinyal BTS ke pengguna ke lokasi pengujian tersebut.

ABSTRACT

HENI SOLEH

MEASUREMENT AND COMPARATIVE ANALYSIS OF 4G LTE SIGNAL PERFORMANCE OF TELKOMSEL PROVIDER IN SOUTH TERNATE, CENTRAL TERNATE AND NORTH TERNATE USING G-NET TRACK PRO

Keywords: 4G LTE, BTS, RSRP, RSRQ, SNR

(xii + 45)

Long Term Evolution (LTE) network quality improvement can be done by analyzing performance and covering each operator in Indonesia. The parameters that determine the strength and quality of each service provider's signal are known as Reference Signal Received Power (RSRP), Reference Signal Received Quality (RSRQ) and Signal Noise to Ratio (SNR). The method for collecting a series of network frequency information in the field is used to analyze and measure the strength of the data signal is a drive test using G-Net Track Pro software. The measurement location is along the highways of South Ternate, Central Ternate and North Ternate. The results of the comparative test show that the 4G LTE signal of Telkomsel Provider in South Ternate has a quality based on the RSRP parameter dominated by sufficient quality, Central Ternate is dominated by sufficient quality while North Ternate is dominated by fairly poor quality. For the RSRQ parameter in South Ternate has a fairly poor quality, in Central Ternate it is dominated by fairly poor quality while North Ternate is dominated by fairly poor quality. And for the SNR parameter in South Ternate has a fairly poor quality, in Central Ternate it is dominated by fairly poor quality while North Ternate is dominated by fairly poor quality. Visually, the factors causing good or bad network quality are due to the distance of the BTS from the test location and also due to human mobility factors, which hinder the transmission of BTS signals to users at the test location.