ABSTRACT

CDMA 2000 1x technology is a cellular communication technology that enables *user* to access service both in the form of voice and data at higher speed compared to the previous generations. With the growing number of service providers of CDMA 2000 1x network, forcing service providers to further strengthen its network and to optimize service and quality. In order to best serve customers a reliable network is needed. Hence, optimization is needed in that network, both in termsof quality and capacity of a Base Transceiver Station (BTS).

This thesis analyzed the performance of voice service of CDMA 2000 1x network operator Mobile 8 Bandung in BSC 0 with the characteristics of BTS urban, sub urban and rural. Network performance analysis were carried out by comparing the simulation results with the planning BTS existing with one of the RF planning software and the results from site measurements with the drive test. The parameters of voice performance were analyzed include Ec/Io and Received Signal Strength Indication (Rx Power).

From the simulation and measurement results gained error value or correction factor for parameters Ec/Io and Rx Power. For the parameters Ec/Io obtained error value of 0.29 dB in urban areas, suburbs areas at 0.07 dB, and rural areas accounted for 0.17 dB. Error value can be obtained by adjusting the power allocated to pilot power of (30.8 to 32.8) dBm. As for parameters Rx Power obtained error value in the urban areas of 3.07 dB, suburbs areas of 4.3 dB, and rural areas of 4.62 dB. Error value is obtained by reducing the BTS transmit power of 3.07 dBm in urban areas, 4.3 dBm in suburbs areas, and 4.62 dBm in rural areas.

Keywords: CDMA 2000 1x, Drive Test, RF Planning Software, Value Error