ABSTRACT

The phenomena of development of wireless communication technology seems never ends. Today every operator competes to offer the best quality service to the customer, the best quality must be supported by the willingness network in the wide scope, it means every operator will develope the networking to whole scope in Indonesia by build the BTS as much as possible. In every area BTS reconstruction would be increased as the number of the operator in that area. In Indonesia inwrought tower has been seldom used. It because every operator has different superiority in making networking, whereas inwrought tower more efficient used so inwrought tower can be used together by every operator and the relocation cost is more cheaper. Besides that the inwrought tower planning is done optimally as possible, so that the quality of the signal is better than the quality of the signal before relocating to inwrought tower

In radio technology, the lower frequency that used more wider the coverage. The planning of Inwrought cellular network in Cilegon area used path loss 124,18 dB, a high tower of BTS : 60 meters, a high mobile station : 2 meters, and it used frequency 900 MHz. Radius of frequency 900 MHz is wider than frequency 1800 MHz. If radius of frequency 1800 MHz is up to 6 meters, Radius of frequency 900 MHz will be more than 6 kilo meters.

Frequency 900 MHz for urban area produce radius 1,24 kilometers, the width of cell space is 2,99 square meters, and the rate distance is 1,86 kilometers. For sub urban area produced radius 2,48 kilometers, the width of cell space is 11,99 square meters, and the rate distance is 3,72 kilometers. For rural area produced radius 8,99 kilometers, the width of cell space is 157,6 square meters, and the rate distance is 13,84 kilometers.

Frequency 1800 MHz, for urban area produced radius 0,64 kilometers, the width of cell space is 0,79 square meters, and the rate distance is 0,96 kilometers. For sub urban area produced radius 1,46 kilometers, the width of cell space is 4,15 square meters, and the rate distance is 2,19 kilometers. For rural area produced radius 5,48 kilometers, the cell space is 66,50 square meters, and the rate distance is 8,76 kilometers.

Key word : inwrought cellular network planning