

## ABSTRACT

The progression of digital radio system is mounting fast lately, especially for cellular telecommunication operators which competing to reach for a lot of customers. PT. Indosat as one of *Universal Mobile Telecommunication System* (UMTS) operator in Indonesia is improving infrastructure and network quality. Make up of network infrastructure conducted by building transmission of microwave link applying Ethernet at access transport network in Radio Network Controller (RNC) (Kimia Industri Makassar (KIMA)) and Node B (Pasar Daya).

In this final project have been analysed performance by the result of transmission test microwave link, covering test at some performance parameters, among other things cover the throughput, frame loss and latency. The others will do analyze performance system by level of value availability system.

By the result of analysis obtained that as whole evaluated of equipment used for microwave link between RNC (KIMA) and Node B (Pasar Daya) have owned good performance. It is pursuant of values parameter performance that the larger ones from the good which have been determinated. The radio configuration of 28 MHz – 128 QAM – 0 E1 and 151 Mbp, traffic shaping 14 % at G1 (port Ethernet 1) at traffic load/maximum bandwidth of equal to 17 Mbps.

The value of the result SLF-H test are: throughput average equal to 17.002 %, frame loss average equal to 0.00 % and latency average at frame size 1518 Bytes equal to 0.4475 ms. Which availability system which can reached by 99.999985 %. Other result of drive test in Pasar Daya area after using the transmission of radio microwave SLF-H with achieved of entire value according to goals hence performance the transmission of radio microwave SLF-H have matching with expected.

Key Word: Microwave link, Ethernet inteface, throughput, frame loss, latency and availability