

## ABSTRACT

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Communication technology is an aspect that is needed for today's society. With the condition that case, the current reality of existing cellular operators are still not able to provide a thorough and adequate coverage for the entire community. Some cellular base stations still uneven and not affordable in remote areas.

To overcome these problems, there are some technologies that can be used. One kind of is OpenBTS-UMTS radio using USRP board B210, N210. OpenBTS able to be an alternative of some of the functions of the BTS. However OpenBTS-UMTS development requires free space on a frequency.

with the existance of this OpenBTS-UMTS that already tested for this final project, it show that this OpenBTS-UMTS success to transmitting the signal of W-CDMA (3G) with the trial frequency. the test for signal transmission produce the log signal on the trial area, that shows us the result of this test, the result is : knowing the empty space for W-CDMA signal ( 3G ) on 905Mhz which is not covered yet with the BTS cellular operator, the transmission with this frequency also knowing the quality signal produced by W-CDMA ( 3G ).

**Keywords :** *OpenBTS-UMTS, W-CDMA, Telecommunications*