ABSTRACT

Ultra Wide-Band is a wireless communication technology which has attracted the international world. Less power transmit, simpler and cheaper receiver, low path loss, less multipath propagation effect, low interference, and high transmission security are the ideal targets of UWB system. Federal Communication Commission (FCC) has decided that the frequencies where UWB operate are in the range of 3.1GHz – 10.6GHz with 20 % more bandwidth than its center frequency. Very wide bandwidth and low power makes the transmission on UWB looks like background noise.

The implementation done in this final project is refers to the previous design and implementation titled [7], "Perancangan Dan Simulasi Transceiver Ultra Wide-Band", DSP Card type TM320VC33 is used, also the assembler which consists of transmitter blocks. After the conversion, the program would be injected on this TM320VC33.

The system designed are scrambling block (gold code), channel encoding using Reed Solomon, code generator using PN code, BPM modulation (only until mapping), and pulse triggering using Matlab.

After the testing, it can be concluded that the realization of the system has been succeeded in 1,511 milliseconds, counted based on duty cycle. The efficient memory usage is also proved, because only 7,652 memory addresses used from 34K available. Capacities Transmission of transmitter UWB is 34.98 Mbps.