ABSTRACT

Ultra-Wideband (UWB) is a wireless application operated on the frequency of 3.1 GHz – 10.6 GHz. It has more than 500 MHz bandwidth transmission. This development of technology has attracted many industries and many researches in the world. Less power transmit, simpler and cheaper receiver, low path loss, less multipath propagation effect, low interference, and saver data security are the excess of UWB compared with other wireless radio technologies.

This UWB receiver scheme using DSP card TMS320VC33 series is designed and implemented in this final project; it refers to the previous UWB receiver design and implementation [1]. The UWB receiver scheme consist of pn code, pulse generator, multiplier, integral, inverter, reed solomon decoder (255,223), and gold code. The implementation is done using assembly language on DSP card TMS320VC33 series. ADC (Analog to Digital Converter) is not added, so that the data proceed in digital.

The implementation result shows that the system designed is working properly agreed with its design. The memory used are 9.565, while the time processing needed is 4807,257 μs; means that it proceed (1s / 4807,257 μs)*2040 bit=0,42 $*10^6 \approx$ 0,5 Mbps for each second.

Keywords: Ultra-Wideband, DSP Card, TMS320VC33, Reed Solomon