ABSTRACT

Radio Detection and Ranging (RADAR) works by emit the electromagnetic waves to the target then the antenna will received the reflected signal or commonly called echo signal. One of example of radar is continuous wave radar or CW radar. Radar is widely used in various sector such as in security and defense, communication systems, etc. Nowdays many technological devices use radar for example is Human to Machine Comunication (H2M). Software Defined Radio (SDR) can be applied to simplify the process of making radar.

This research discusses about how radar works with continuous wave signals and use SDR BladeRF and cantenna or can antenna to identify the gestures of human fingers with simulation radar system using GNU Radio. This radar system will use an input continous wave signal with a radar working frequency at 2.4 GHz.

The results of the CW radar system using SDR shows that each gesture has a different pattern, amplitude, and phases so we can conclude that each gesture has a character that can be distinguished through the characterization of reflected electromagnetic waves.

Keywords: Radar, SDR, BladeRF, CW radar, finger gestures.