ABSTRACT

The Ultra Wide Band (UWB) Radar is widely used in the medical field, one of which is detecting breathing. UWB has the advantage of wide bandwidth and high resolution information so it is used in various applications on radar in the field of health.

The use of reflector on the antenna has a function to change the radiation pattern and antenna beam width to be more directed. The reflector chosen is the angle reflector because it can better adjust the energy toward the front and prevent radiation to the back and sides. Simulation used to design reflectors using CST Studio Suite software.

In this end-task research author modified A self-complementary bow-tie antenna with corner reflector to detect breathing in humans covering the UWB frequency range of 4 GHz - 10 GHz. S_{11} generated <-10 dB with VSWR < 2, and a directional radiation pattern. The result of simulation of radiation pattern is directional. In frequency 5,578 GHz, S_{11} of about -35,748 dB with bandwidth of about 80,95%.

Keywords: Ultra WideBand (UWB), antenna Bow-tie, Corner Reflector