ABSTRACT

One of many Improvements in tecnology on Ultra Wide-Band (UWB) antenna plays an importnat role as an application that widely used for communication facility such as radio and radar detection systems. UWB antenna has many advantages such as small size antenna, low cost, can penétrate walls and safe for health. Final Project titled "Design and Realization an Ultra Wideband (UWB) Dual Elliptical Microstrip Antenna for Through-Wall Radar" aim to design and create dual eliptical shaped microstrip antenna for through-wall radar aplication as a solution to fulfill of these developments.

Process of working was carried, to design UWB antenna with dielectrical material Roger 8550. UWB antnna which appliedfor through wall radar simulated using software CST 2010 as simulation tool before fabrication process. Simulation were performed to see the effect of reflector and slot for the antenna and to fit its parameters for characteristic of UWB antenna for through wall apliication. In order to validate the design, a prototype is also fabricated and measured. Measured results agree well with the simulated ones.

The measured results confirm that the proposed antenna features bandwidth 9.1 over the UWB range from 3,1 GHz to 10,6 GHz, a maximum gain around 9 dBi, radiation patern unidirectional, and polarization eliptical. Thus it is suitable for see-through-wall imaging applications.

Keyword : ***ultra wideband, microstrip, bandwidth, through-wall radar.***