ABSTRACT

Surface textured technology, which is one of the techniques for the development of electromagnetic wave absorbers, has developed quite rapidly in the last decade. In absorbent applications, this technology is able to reduce the thickness of the material thus allowing the realization of thinner materials. In principle, this technique uses an AMC (artificial magnetic conductor) layer which has a high impedance surface. In order to obtain high absorption which can work at the desired absorption frequency, the metal patch of the absorber is made in a specific shape.

In this final project, an investigation of the shape of a rectangular patch was carried out using the addition of a resistor between symmetrical and asymmetrical patches on two types of boundary, namely the PEC and PMC which aim to represent an infinite shape and boudadry radiation to represent the absorber's performance in actual or natural conditions. Which is printed on a dielectric substrate FR4 Epoxy with a thickness of 1.6 mm. The size of the unit cell dielectric substrate obtained for a rectangular shape of 22 mm 22 mm. Furthermore, to make comparisons, a resistive element was added to the patch. The resistor value that needs to be added to the patch is 100Ohm to 6000 Ohm. With the absorption rate obtained on the symmetrical patch 18.01 dB and the symmetrical patch with the resistor is -23.41 dB on the PEC and PMC boundary with a resistor value of 6000 Ohm, and -16.65 dB with a resistor value of 5600 Ohm.

Keywords: *Absorber*, *Ring Resonator*, *Resistive*, *Return Loss*, *Cell Unit*, Asimetris,Simetris.