

ABSTRACT

Electromagnetic waves absorbers have a very important role for electromagnetic devices especially devices that are susceptible to radiation from electromagnetic waves. Therefore, an electromagnetic wave absorbing research can work well with specifications.

In this final project designed an electromagnetic wave absorber based on AMC that can work on two frequencies (dualband) using a combination of octagonal patch and square patch at the frequency of 2,3 GHz and 7,3 GHz. AMC is an engineered PMC that realizes it by arranging patches on a scale at close range.

The first design made the electromanetic wave absorber based on AMC with one cell and the simulation result showed that absorbent can work at 2,3 GHz and 7,3 GHz frequency with S_{11} -31,07 dB but at 7,3 GHz frequency simulation result still above -20 dB. The absorber to be realized is an electromagnetic wave absorber based on AMC 6×3 cell with a size of 20,4 cm $\times$ 10,2 cm.

To obtain the $S_{11\text{absorbs}}$ value, a de-embedding technique is used which can separate $S_{11\text{absorbs}}$ from $S_{11\text{total}}$. The result of the realization gives good result at frequency 2,26 GHz with S_{11} -37,18 dB and at frequency of 7,6 GHz with S_{11} -53,58 dB.. From the simulation and realization results can be concluded that the absorber can work on two frequencies.

Keywords: AMC, electromagnetic wave absorber, De-embedding