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(57) Abstract :
Implementation of Effective Wideband Cavity Backed Patch Antenna for Air surveillance Radar application Abstract: This research discusses in detail how to construct a small rectangular patch antenna that performs well over a broad frequency range. The antennas in this case are probe-fed micro strip antennas (r = 2.22, thickness = 1.16mm). Before adding a load to a specific frequency band, the impedance of a cavity structure is measured to determine how it affects the antenna's impedance bandwidth. The return loss is less than ten decibels in S-band, and each antenna element gains more than seven decibels. This antenna operates at a frequency of 400 MHz (more than 12 percent). The HFSS 3D-EM FEM simulator was used to model this design.

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