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OPTIMIZATION OF SLL OF APCP ANTENNA ARRAY

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ABSTRACT

An experimental study on multilayered printed antenna array is carried out to optimize SLL of the radiation pattern of APCP antenna. To reduce the size of the antenna to a reasonable extent as well as to enhance some selective properties of the radiation pattern multi-layered arrays are designed [1]. In this work a simple multi-layer Aperture Coupled Configuration is considered as a building block of a large array where the design parameters of the antenna such as gain, side lobe level, impedance bandwidth and efficiency are analyzed theoretically. In order to design and develop the antenna for optimum performance, theoretical computations with simulations are carried out to compute the VSWR and Radiation pattern of the same and details are included in this paper. The different parameters of the radiation pattern of the array antenna are modeled using ANN and optimized with GA algorithm. Finally measured radiation pattern of the fabricated array are compared with the computed results and found to be in close agreement.
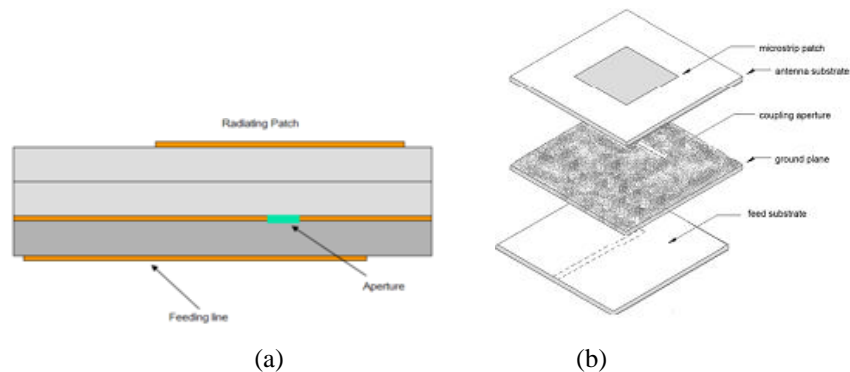
Figure 1: APCP Antenna Configuration (a) 2D View (b) 3D View

KEYWORDS: Optimize SLL, Optimal Design, Compute the VSWR, Modeled Using ANN