

Plate-Laminated Slotted-Waveguide Fed 2×3 Planar Inverted F Antenna Array

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Abstract : Substrate Integrated waveguide based 6-element array of Planar Inverted F antenna (PIFA) has been presented and analyzed parametrically in this paper. The antenna is fed with coupled transverse slots on a plate laminated waveguide cavity to ensure wide bandwidth and simplicity of feeding network. The two-layer structure has one layer dedicated for feeding network and the top layer dedicated for radiating elements. It has been demonstrated that the presented feeding technique for feeding such class of array antennas can be far simple in structure and miniaturized in size when it comes to designing large phased array antenna systems. A good return loss and standing wave ratio of 2:1 has been achieved while maintaining properties of typical PIFA.

Keywords : feeding network, laminated waveguide, PIFA, transverse slots

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