DESIGN OF Ψ SHAPED PATCH ANTENNA FOR MILITARY APPLICATIONS

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ABSTRACT

Communication is the main area of the research in the world of communication systems. In the field of antenna is the huge one. Micro strip patch antenna have been well known for its advantages such as light weight, low profile, low fabrication cost and capable of dual and triple frequencies of operations. This is the main motive to focusing on this field. A 4.7GHz class of Ψ shaped micro strip patch antenna has been designed and simulated in this paper. The performance o the designed antenna was analyzed in terms of bandwidth, gain, return loss, VSWR, and radiation pattern the design was optimized to meet the best possible results. Substrate used was carbon with dielectric constant is 12. The results show the wide band antenna is able to the 4.3 GH to 4.8GHz frequency band with optimum frequency at 4.7GHz.

KEYWORDS : **Ψ shaped micro strip patch antenna, Carbon, wide band, Substrate, Return loss.**

I. INTRODUCTION

A micro strip patch antenna consists of a dielectric substrate, with the ground plane on the on the other side due to its advantages such as low weight, low profile planar configuration, low fabrication cost and capability to integrate to the integrated circuits technology. It is very well suited for application such as wireless communication systems, GPS, cellular phones, fabrics, papers, radar systems and satellite communication systems.

The micro strip feed line is also a conducting strip, usually a smaller width compared to the patch. It has simple formulae, simple to match by controlling the arrangements. The substrate depth increases , feed emission also increases. Generally the thickness depends on the type o the substrate, thickness used commonly in 0.8 or 1.6 mm.

II. LITERATURE SURVEY

Design and study of the Ψ Shape rectangular micro strip patch antenna for the use of biomedical applications for working 3GHz. It has easy to manufacture properties. It has dimension o 28.9 x 37.25 which includes the dielectric constant 4.6. And utilizes or several applications. Hugely Ψ shaped slot antennas are designed for wide band operations.