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Design of Spider Web Spaced Antenna for Medical Applications

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Abstract--

In field of wearable technology one challenging improvement is wearable textile antenna. Primary requirement for wearable textile antennas are flexible construction materials which includes fabric with planar structure. Properties of the textile antenna such as bandwidth, efficiency, input impedance etc. depend upon type of substrate materials used. These properties are mostly determined by the substrate dielectric constant. Fabric material dielectric constant accurate value is to be calculated from resonant frequency of patch antenna.In this project, we presented a simulation-based study on a wearable textile (jeans) antenna for wireless technologies with parametric analysis. Optimum lengths of dimensions for the antenna is present for best return loss,gain and VSWR, radiation efficiency and freespace path loss. The radiating element for patch and ground plane is made from thin- film copper foil.

Keywords : Antenna; Microchip; Bandwidth; Design; Simulator

I. INTRODUCTION

Generally communication is simply the act of exchanging information from one place to another. In the ever growing world we are networked with communication which may be either wired or wireless. Wireless communication involves the transmission of information over a distance without the help of wires, cables or any other forms of electricalconductors [1]. Wireless communication is a broad term that incorporates all procedures and forms of connecting and communicating between two or more devices using a wireless signal through wireless communication technologies and devices. The early wireless systems had a base station with a high-power transmitter and served a largearea. Each base station could serve only a minimum number of users and it was costly too [2]. The systems were isolated from each other and only some of them communicate with the public switched telephone networks. Today, the cellularsystems have a cluster of base stations with low-power radio transmitters. Each base station serves a small cell within a large area [3].

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