DESIGN OF A PRACTICALLY FABRICATED MINIATURE SIZE PATCH ANTENNA

Author(s): Gulzar Ahmad¹, Asif Sultan², Muhammad Inayatullah Khan Babar³, Muhammad Irfan Khattak⁴

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Abstract:
This paper presents the results of simulation and experimental investigations on a locally fabricated patch antenna using a high dielectric ceramic (alumina) substrate. The antenna was designed for a centre frequency of 6.32 GHz within C-Band which was excited using micro-strip line feed. The bandwidth of the simulated antenna was achieved as 66.1 MHz with a return loss of 21.7 dB at the centre resonant frequency. The observed resonance frequency at the centre was found to be 6.32 GHz with a return loss of 37.55 dB for the locally fabricated antenna. The -10 dB bandwidth of the fabricated design was determined as 251 MHz. Impedance presented at central frequency was 51.2 ohm that indicates an outstanding impedance-matching between antenna and feed line. The obtained results indicate that the fabricated antenna is suitable for its applications in C-band.

For full paper, contact:
Prof Muhammad Masood Rafi
Editor-in-Chief, NED University Journal of Research
Ph: +92 (0)21 99261261-8 Ext: 2413; Fax: +92 (0)21 99261255
Email: NED-Journal@neduet.edu.pk
Website: http://www.neduet.edu.pk/NED-Journal

¹ Assistant Professor, Department of Electrical Engineering, University of Engineering and Technology, Peshawar, Pakistan, Ph. +92(0)334-3346390478, Fax: +92(0)91-9222221, Email: gulzar@uetpeshawar.edu.pk.
² Senior Engineer, Pakistan Telecom Company Ltd, Pakistan, Ph. +92(0)333-5309234, Fax: +92(0)51-4422995, Email: engr_asif23@hotmail.com.
³ Professor, Department of Electrical Engineering, University of Engineering and Technology, Peshawar, Pakistan, Ph. +92(0)321-9076151, Fax: +92(0)91-9222221, Email: babar@uetpeshawar.edu.pk.
⁴ Associate Professor, Department of Electrical Engineering, University of Engineering and Technology, Peshawar, Pakistan, Ph. +92(0)92-2864683, Fax: +92(0)92-284594, Email: m.i.khattak@uetpeshawar.edu.pk.