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Design of a Compact UWB Microstrip Patch Antenna for Wireless Application

Design of a Compact UWB Microstrip Patch Antenna for Wireless Application

Primary author: Debajit Patir
Track Classification: Track 02
Department of Physics, Silapathar Science College
Dibrugarh University
*debajit.patir@gmail.com

Abstract: In this paper, a novel configuration of microstrip line fed ultra wide band (UWB) patch antenna using a defected ground plane structure is proposed for wireless application. The patch antenna is extended by etching slots in the patch and ground plane to achieve the operating bandwidth from 2.63 GHz to 6.81 GHz (VSWR ≤ 2). The proposed patch antenna has promising performance with UWB impedance matching, good radiation pattern and stable gain. Ansoft HFSS software is used to simulate the patch antenna installed on FR-4 substrate with dimension (25x38x1.6) mm3, having relative dielectric constant of 4.4 and loss tangent of 0.02.

Keywords: Microstrip line fed, Patch Antenna, Defected Ground Structure, Ansoft HFSS, VSWR, UWB

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Author: PATIR, Debajit (Silapathar Science College, Dibrugarh University)

Presenter: PATIR, Debajit (Silapathar Science College, Dibrugarh University)

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