



د/ أحمد سعد الكوراني

قسم هندسة الالكترونيات والاتصالات الكهربائية

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البحث رقم(1)

Title

: FDTD ANALYSIS OF A NEW WIDEBAND INSERTED RDRA

A. S. Elkorany, S. M. Elhalafawy and H. A. Sharshar
Faculty of Electronic Engineering, Menoufia University
Menouf, Menoufia, Egypt 32952
elkoranyahmed@yahoo.com

Abstract

The present paper is devoted to the enhancement of the impedance bandwidth of a coaxial probe fed rectangular dielectric resonator antenna (RDRA) by introducing an air gap between the rectangular dielectric resonator (RDR) and the ground plane. An impedance bandwidth of approximately 31% is obtained when the coaxial probe only touches the bottom surface of the RDR. Good agreement between finite difference time domain (FDTD) and high frequency structure simulator (HFSS) results is obtained.

Keywords:

probe feed RDRA, wideband, air gap inserted, FDTD, HFSS

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البحث رقم (2)

Title

FOLDED U-SLOT WIDEBAND COMPACT PRINTED ANTENNA

Abstract

A new microstrip patch antenna (MPA) has been developed to enhance the radiation characteristics of the ordinary U-slot rectangular MPA with more low profile. The design is produced by folding the U-Slot patch to form the folded U-slot. A bandwidth of about 59% is obtained compared with 26% of the ordinary one.

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البحث رقم (3)

Title

The Impact of New Feeder Arrangement on RDRA Radiation Characteristics

A. S. Elkorany, A. A. Sharshar, and S. M. Elhalafawy

Department of Electronics and Electrical Comm., Faculty of Electronics Eng.
Menou[̄]a University, Menou[̄]f, Menou[̄]a 32952, Egypt

Published In

**Progress In Electromagnetics Research Symposium Proceedings,
Moscow, Russia, August 18/ 21, 2009.**

Abstract

In this paper, a new feeder arrangement for rectangular dielectric resonator antenna (RDRA) is proposed for ultra wideband applications. A short metallic patch is introduced in the air gap between the dielectric and the ground plane and attached to the coaxial probe that excites the RDRA. The patch dimensions have been varied to obtain the widest antenna impedance bandwidth (VSWR ≤ 2). An impedance bandwidth of about 4 : 1 between 10 GHz and 40 GHz is obtained. The proposed antenna has been examined using Finite Element Method (FEM) and Finite Integration Technique (FIT). Excellent agreement between both results is obtained.

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البحث رقم (4)

Title

Different Techniques for Widening the Bandwidth of Stacked Microstrip Patch Antennas

A. S. Elkorany, A. A. Sharshar, S. M. Elhalafawy
Department of Electronics and Communications, Faculty of Electronic Engineering,
Menoufia University, Menouf, 32952, Egypt.
E-mails: elkoranyahmed@yahoo.com,

amahsharshar@yahoo.com,
saidelhalafawy@yahoo.com

Abstract

A novel ultra wideband stacked microstrip patch antenna (MPA) is proposed. In the new design multi techniques have been considered for widening the antenna impedance bandwidth. A stacked patch is assumed and is taken larger than the excited one. The position of the stacked patch has been shifted many times and the effect of that on the impedance bandwidth has been tested. A shorting metallic pin was introduced between the stacked patch and the ground plane. The thickness of the whole antenna is small as 5.5 mm. The dielectric material between the ground plane and the stacked patch was made of two slices of different dielectric constants. The antenna bandwidth has been examined with changing the dielectric materials types. An impedance bandwidth of about 2.52:1 has been reached in the frequency range from 5.8 GHz to 14.6 GHz. Also an impedance bandwidth of about 2.54:1 has been reached in the frequency range from 7.1 GHz to 18 GHz. The proposed antenna has a monopole like radiation and is suitable for wireless networking, amateur radio, microwave links, and door openers.

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قائمة بالابحاث المنشوره باللغه الانجليزية:-

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