

A NOVEL PLANAR PRINTED DUAL- BAND MAGNETO-ELECTRIC DIPOLE ANTENNA

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ABSTRACT

- A novel planar printed dual-band magneto-electric dipole antenna is proposed. The proposed antenna is composed of a conventional bow-tie patch as an electric dipole, a semi-circular loop that operates as a magnetic dipole, a coplanar ground plane, and a wideband microstrip to coplanar stripline (CPS) transition balun.
- A pair of complementary capacitively loaded loop (CCLL) slots on the bow-tie radiation patch, a notched band is introduced to form the dual-band antenna.
- And a coplanar ground is adopted to make the entire antenna become a planar printed structure



EXISTING SYSTEM

- The fast development of the wireless communication technologies, the wideband or multiband antennas are in good need to satisfy the increasing number of service bands, especially the WLAN, WiMAX, and LTE operating frequency bands.
- Compared with the conventional single band antenna, the multiband antenna can effectively decrease the number of the antenna elements and covering areas.
- Therefore, the multiband antenna has become a research hotspot. Recently, lots of dual- and triple-band antenna



PROPOSED SYSTEM

- The proposed antenna loads the periodical inter digital capacitance (IDC) structure on the semi-circular loop for the purpose of making the current flowing along the loop maintain the same phase and improving the performances of the magnetic dipole.
- The proposed antenna was fabricated and measured. The measured results keep in good accordance with the simulated ones. Consequently, the proposed antenna achieves a dual-band operation at 2.37~2.82GHz (17.3%) and 3.14~4.10GHz (26.5%) with the VSWR less than 2, so it can be applied for WLAN (2.4-2.484GHz) and WiMAX (2.5-2.69GHz/3.4-3.69GHz).



SOFTWARE REQUIREMENT

- Ansoft HFSS(High Frequency Structure Stimulator)
- CST

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