Design of Meander Microstrip Antenna for Handset

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ABSTRACT

Two printed antennas are probed in this thesis for modern mobile applications: A compact dual-band planar antenna and a wideband printed monopole antenna. The compact dual-band planar antenna consists of a flared monopole with an additional sleeve, this antenna is Finite Ground CPW feeding mechanism and can achieve a dual-band covering DCS-1900/PCS/PHS, WCDMA/IMT-2000, and WLAN. The wideband printed monopole antenna consists of a rectangular monopole and a trapezoid conductor-backed planner for band broadening , this antenna for wireless local area network (WLAN) and world interoperability for microwave access (WiMAX). The analyzed return loss, radiation pattern, and current distribution of this antenna are studied and compare with simulated and measured results for various structures. The experimental results demonstrate the bandwidth and omnidirectional.

Keywords : Compact antenna、dual-band antenna、monopole antenna、DCS-1900、IMT-2000、PCS、PHS、WCDMA、WLAN、WiMAX

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REFERENCES

[1] G. Augustin, P.C. Bybi, V.P. Sarin, P. Mohanan, C.K. Aanandan, K. Vasudevan, " A Compact Dual-Band Planar Antenna for DCS-1900/ PCS/PHS, WCDMA/IMT-2000, and WLAN Applications, " IEEE Antennas Wireless Propag. Lett., Vol. 7, pp108-111,2007.

[2] W. C. Liu and W. R. Chen, " CPW-fed compact meandered patch an- tenna for dual-band operation, " Electron. Lett., vol. 40, no. 18, pp.1094-1095, Sep. 2004.

[3] Y.-L. Kuo and K.-L. Wong, " Printed double-T monopole antenna for 2.4/5.2 GHz dual-band WLAN operations, " IEEE Trans. Antennas Propag., vol. 51, no. 9, pp. 2187 – 2192, Sep. 2003.

[4] S. H. Choi, J. K. Park, S. K. Kim, and H. Y. S. Kim, " Design of dual-band antenna for the ISM band using a backed microstrip line, " Microw. Opt. Technol. Lett., vol. 41, no. 6, pp. 457 – 460, Jun. 2004.

[5] C.-Y. Huang and P.-Y. Chiu, " Dual-band monopole antenna with shorted parasitic element, " Electron. Lett., vol. 41, no. 21, pp. 1154-1155, Oct. 2005.

[6] R. Li, B. Pan, J. Laskar, and M. M. Tentzeris, " A compact Broadband planar antennas for GPS, DCS-1800, IMT-2000 and wlan applications, " IEEE Antennas Wireless Propag. Lett., vol. 6,pp. 25 – 27, 2007.

[7] C.-Y. Pan, T.-S. Horng, W.-S. Chen, and C.-H. Huang, " Dual wideband printed monopole antenna for WLAN/WiMax applications, " IEEE Antennas Wireless Propag. Lett., vol. 6, pp.149-151,2007.

[8] V. Zachou, C. G. Christodoulou, M. T. Chryssomallis, D.Anagnostou, and S. Barbin, " Planar monopole antenna with attached sleeves, " IEEE Antennas Propag. Lett., vol. 5, pp. 286 – 289, 2006.

[9] W.-C. Liu, " A coplanar waveguide-fed folded-slot monopole antenna for 5.8 GHz radio frequency identification application, " Microw. Opt. Technol. Lett., vol. 49, pp. 71 – 74, 2007.