A compact 2-port coax feed MIMO antenna is presented in this paper to operate LTE and WiMAX frequency bands for the application of compact smart mobile terminals. The overall dimension of proposed slot antenna can reach 44mm×50mm. The proposed antenna structure contains two layers, which has a rectangular patch, a pair of small-N shaped strips and two G-shaped antenna structures. The previously mentioned structures are simulated with the
suitable FR4 substrate to achieve operating frequencies at 1.8 GHz and 2.3 GHz. In the proposed antenna design, certain parts of the patch respectively excited the two resonant frequencies of LTE and WiMAX operations. Here, one resonant frequency operation can be flexibly adjusted with minute effect on the other frequency. The parametric study on the antenna performance and principle of operation are provided in this letter. Simulation results illustrate the excellent radiation patterns for all the two bands and recommend that the proposed 2-port MIMO antenna is suitable for the LTE and WiMAX operations in compact mobile terminal.

References

Compact Coax Fed MIMO Antenna for LTE-Advanced and IEEE 802.16m Operations in 4G Mobile Terminals


Index Terms
Computer Science Communications

Keywords
Long Term Evolution (LTE) Worldwide Interoperability For Microwave Access (WiMAX)
MIMO Antenna
Compact Mobile Terminal
Dual-band Antenna.