

Influence of Metallic Enclosures on Monopole-like Planar Antennas

黃郁翔、邱政男

E-mail: 364789@mail.dyu.edu.tw

ABSTRACT

Abstract-This paper investigates in detail the influence of neighboring conductive objects on the performance of planar monopole-like antennas for modern electronic devices. These objects influence not only the antenna radiating structures but also the antenna feeds, resulting in apparent degradation in antenna performance and device electromagnetic compatibility (EMC). For this investigation, four representatives of antenna feeds (single-ended microstrip-line, single-ended strip-line, balanced microstrip-line, and balanced strip-line) and two typical monopole-like antennas (monopole and T-monopole) are created; eight combinations are presented. According to their experimental results obtained, the influence of neighboring conductive objects is compared and the best combination with the highest immunity is highlighted.

Keywords : Wireless communications、 Monopole Antennas、 Planar Antennas、 Electromagnetic Compatibility (EMC)

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