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Author Wen-Yen Chang
Author's Email Address No Public.
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Abstract
For recent years, as the age of wireless communication is coming, cellular and wireless communication systems are getting more and more popular. One of the best-selling consumer-electronics is cellphone (or mobile phone). Nowadays, mobile phone handsets has become a necessary daily tools for the modern people, they are not only for purely communicated with each other but also to combine other applications. As the demands for covering bands are increasing, however, designing of antenna are intending toward to small size and compact with multi-band operation. Instead of the traditional exposed antenna, the internal antenna is the current trend since it can place at inner of a handset. One of the drawbacks of the exposed antenna is that can be easily broken and inconvenient to carry. Also, the manufacturing cost of the exposed antenna is higher than internal antenna. For miniaturization of current handsets, internal antenna is easier than exposed antenna. In this thesis, we present a novel U-shaped strip-slot printed antenna with triple-band function. The printed antenna has been popular for various applications due to their low cost and easy to fabricated, low profile and compatible with integrated circuits. The antenna was first designed as U-shaped structure to operating at 2.4GHz for WLAN (IEEE 802.11b Band: 2.4-2.5GHz) and BlueTooth (Band: 2.4-2.8GHz) in chapter 2. Furthermore, by inserting a symmetric slot into ground plane, the other dual bands can be achieved. The proposed design combining the U-shaped radiation strip and symmetric slot to form triple-band operation is achieved. The design will be discussing and showing about simulation, experimental, and radiation pattern characteristics.
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