

Editorial

Compact Microstrip Antenna Structures with Multiband, Broadband, and Band-Notched Properties, for Portable Devices

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Received 18 March 2014; Accepted 18 March 2014; Published 14 April 2014

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It is difficult to list all the current applications for microstrip antennas; it could be said that they are the transducers that control modern life. Yet, every year, new applications are required which challenge the performance limits of current designs. Some of those challenges are associated with controlling the spectrum performance and continuing to seek techniques to tailor the shape to the applications.

This special issue brings some of the latest thinking in compact microstrip antenna design. However, the variety of approaches presented in the papers shows the possibilities that exist for future developments: this special issue is as much about setting out possibilities as it is about presenting new thinking.

The papers in this special issue are as follows. An approach to design microstrip antennas is presented in “*Design of arbitrarily shaped planar microstrip antenna arrays with improved efficiency*” which considers improved radiation efficiency. Focusing on the application areas of Bluetooth and WLAN, a dual-band planar inverted-E antenna (PIEA) is presented in “*Compact dual-band planar inverted-e-shaped antenna using defected ground structure*” with a novel ground. A mesh grid structure planar wideband zero index metamaterial (ZIM) antenna is presented in “*Zero index metamaterial for designing high-gain patch antenna*” that provides a bandwidth of 9.9 GHz to 11.4 GHz. An arc H-shaped slot on the radiating patch provides dual band-notched characteristics which is discussed in “*Design and analysis of a novel dual band-notched UWB antenna*.”

The paper entitled “*Printed modified bow-tie dipole antenna for DVB/WLAN applications*” presents a printed modified bow-tie dipole antenna which consists of asymmetric feed and inserted slots. A frequency range of 3.1–10.6 GHz is achieved by an antenna of only 30 mm × 36 mm and is discussed in “*A compact UWB diversity antenna*.” A modified compact planar ultrawideband (UWB) monopole antenna with triple controllable band-notched characteristics is presented in “*A compact planar UWB antenna with triple controllable band-notched characteristics*,” which consists of a modified staircased V-shaped radiating element and partial ground plane. The radiation pattern is controlled using elliptical and rectangular patches, which is discussed in “*A compact size 4–19.1 GHz heart shape UWB antenna with triangular patches*.”

Acknowledgments

The editors would like to extend their gratitude to the many anonymous referees and to the authors for responding so positively to the questions asked and the suggestions made by those referees.

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