Enhancement of Performance Parameters of Printed E-Shaped Slot and Microstrip Patch Antennas using CPW

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Authors:
Swarnima Sharma
Dhruva Chaudhary
Gurjeet Kaur

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Abstract

Two printed wide-slot antennas with E-shaped patches and slots for broadband applications are proposed. They are fed by a coplanar waveguide (CPW) and a Microstrip line with the performances that are almost same. Detailed simulation and experimental investigations are conducted to understand their behaviour and optimize for operations of broadband. Good agreement between the measurement and simulation has been achieved. We have obtained the large operating bandwidth by choosing suitable combinations of feed and shapes of slot. In order to achieve wider operation bandwidth both of the designed antennas have round corners on the wide patch and slot. Meanwhile the proposed antennas exhibit almost omnidirectional radiation patterns and low cross polarization and relatively high gain. A comprehensive numerical sensitivity analysis has been done to understand the effects of various dimensional parameters and to optimize the performance of the designed antennas.

References


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Index Terms

Computer Science Communications

Keywords

Bandwidth E-shaped slot antennas Microstrip Antenna coplanar waveguide (CPW).