

# Reconfigurable Slot Antenna for Switchable Multiband Operation in a Wide Frequency Range

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**Abstract**—A reconfigurable antenna with switchable multiband functionalities is presented. The antenna operates one at a time at five adjacent frequency subbands in the upper ultrawideband (UWB) frequency band of 6.0–10.6 GHz. The switching from one subband to another is done electronically by means of five PIN diode switches. The antenna also has a nearly omnidirectional radiation pattern, with vertical polarization at each of its frequency subbands. Simulated and measured results are compared and are shown to be in good agreement.

**Index Terms**—Multiband antennas, PIN diode switches, reconfigurable antennas, slot antennas, switchable antennas.

subbands, each of approximately 10% bandwidth, and covers the entire upper part of the UWB frequency band. The antenna also has a nearly omnidirectional radiation pattern with vertical polarization.

This letter is organized as follows. The antenna design is described in Section II. Simulation and measurement results are given in Section III. Finally, the conclusion is presented in Section IV.