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# Design and analysis of a coupled-feed, reconfigurable antenna for wireless application

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ABOUT

## Abstract

In this research, a planar reconfigurable antenna consists of multi-frequency broadband characteristics is designed for wireless communication systems application. It consists of inverted C-structured feeding strip and a shorting strip with three twigs for Long Term Evolution (LTE) band 46, 47 is proposed. The proposed antenna can be used for U-NII (licensed assisted access) and U-NII-4 (cellular vehicle to everything) with Time Division Duplexing (TDD) mode having frequency of 5.2 to 5.9 GHz. The simulated bandwidth (3:1 VSWR) of the projected antenna is (3.92 to 4.04 GHz) is 121 MHz at low band and 1236 MHz (5.264 to 6.5 GHz) at the high band. By bending the strip line and the use of coupled feed we achieved the miniaturisation and broadbandisation of the projected antenna. The total volume of the antenna is 12 mm × 50 mm × 1 mm, which is suitable for different wireless communication systems applications.

## Keywords

WWAN, wireless wide area network, LTE, long-term evolution, TDD, time division duplexing, VSWR, coupled feed, shorting strip

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