Compact Dual-Band Antenna Design using Metamaterial

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Abstract: Here, provide a composite right/left-handed transmission line (CRLH-TL) technique for a small, short-ended, coplanar waveguide (CPW) fed dual-band antenna boosted with metamaterial. Metamaterial, which is used in the suggested design to achieve miniaturization, also enables the antenna to function at double band frequency. In comparison to the conventional antenna, the size reduction of the suggested design is improved by the implementation of slots and vias in the structure. The antenna operating in dual band frequency 5.4 GHz - 5.6 GHz and 6.7 GHz to 6.9 GHz with reflection coefficient of 3.5GHz and 6.8GHz. This can be used for WLAN and wireless application of STM link. The antenna exhibits stable radiation properties over the operational bandwidths, reasonable gain, and good impedance matching.

Keywords: Metamaterials, Dual-Band Antenna, Antenna Miniaturization

REFERENCES