

Asymmetrical Dualband Dipole Antenna Design for DTV/GPS Applications

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Abstract

The unconventional design of a dualband dipole antenna with two asymmetrical elements suitable for signal reception in DTV/GPS systems is presented. Triple-resonance of the proposed antenna fed by a probe is excited from embedding an inverted U-shaped slot into a rectangle patch and extending the dipole with an additional strip. By properly choosing the geometrical parameters of the designed antenna, dual operating bands with bandwidths of 345 MHz (0.485-0.83 GHz) and 77 MHz (1.168-1.245 GHz), defined by $VSWR < 3$, and dipole-like radiation pattern have been measured. Also, a stable in-band antenna gain has been obtained.

Keywords: Dipole antenna · Dualband · DTV · GPS

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