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Design of S-Shape GPS Application Electrically Small Antenna

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Abstract : The micro strip antennas area has seen some inventive work in recent years and is now one of the most dynamic fields of antenna theory. A novel and simple printed wideband monopole antenna is presented. Printed on a single dielectric substrate and easily fed by using a 50 ohm microstip line, low-profile antenna structure with two parallel S-shaped meandered line of same size. In this research, S–form micro strip patch antenna is designed from measuring the prototypes of the proposed antenna one available bands with 10db return loss bandwidths of about GPS application (GPS L2 1490 MHz) and covering the 1400 to 1580 MHz frequency band at 1.5 GHz The simulated results for main parameters such as return loss, impedance bandwidth, radiation patterns and gains are also discussed herein. The modeling study shows that such antennas, in simplicity design and supply, and can satisfy GPS application. Two parallel slots are incorporated to disturb the surface flow path, introducing local inductive effect. This antenna is fed by a coaxial feeding tube.

Keywords : bandwidth, electrically small antenna, microstrip, patch antenna, GPS
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