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Study of a flexible antenna for intelligent transport system application (Conference Paper)

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Abstract

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This paper presents flexible microstrip antenna designs that can be used for Intelligent Transportation System (ITS) operating at a frequency of 5.9 GHz. Designing the flexible antennas for ITS provides alternative to automotive industry to place the antennas at various shapes and conditions. Two antenna arrangements are introduced to produce two different radiation patterns; omnidirectional and directional. Both antenna arrangements consist of a radiating patch and a ground plane which were printed on different side of dielectric substrate. In order to identify a suitable substrate for ITS application, each antenna arrangement is designed on three different substrates. Numerical predictions of the performance parameter from six different antennas, are compared and used to investigate the antennas flexibility, where the antennas are bent towards a cylinder with different radius. © 2017 IEEE.

Author keywords

flexible antenna Intelligent Transport System (ITS) microstrip antenna

Indexed keywords

Engineering controlled terms:

Antenna grounds Automotive industry Dielectric materials Directive antennas Intelligent systems Intelligent vehicle highway systems Microstrip antennas Microwave antennas Omnidirectional antennas Slot antennas Substrates Traffic control

Engineering uncontrolled terms

Dielectric substrates Different substrates Flexible antennas Flexible microstrip antennas Intelligent transport systems Intelligent transportation systems Numerical predictions Performance parameters

Engineering main heading:

Directional patterns (antenna)

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