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Short Communication

Analysis and Design of Fractal Antenna for Efficient Communication network in Vehicular model

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Abstract

Vehicular communication plays a dominant role in providing better safety and security with high rate of data communication in next generation networking infrastructure, and one of the prominent areas for research as well. This article reveals a comprehensive review and design of vehicular communication antenna and its impact with the help efficient archives for efficient solutions. Article also provides some of the critical features communication and its impact on vehicular communication for mobile ad-hoc network. As the technology is advancing towards higher frequencies, in-turn demands a better performing antenna which provides more energy-efficient networking for smart vehicular communication environments. We have provided a design of antenna which could be used for frequencies ranging from 10GHz to 15GHz, and the performance of the antenna measured in the form of Return losses, Voltage Standing Wave Ratio, and Gain. Literature also provides the importance of selecting the substrate for designing the antenna for real-time systems. Three different substrate materials are used in the paper, which are FR4_epoxy, Rogers RT/Duroid 5880tm, and Rogers RO4003. Eventually, the design made ready with altering/recessed ground, and its impact on the performance of the antenna for all the three different substrates is depicted which could be used for vehicle networks. The size of the patch selected as 40mm X 30 mm with an impedance of 50Ω and a lumped port is used to provide the feed.

Biography

Dr. Praveen Malik is a Professor in the School of Electronics and Electrical Engineering, Lovely Professional University, Phagwara, Punjab, India. He received his Ph.D. in with a specialization in Wireless Communication and Antenna Design. He has authored or coauthored more than 40 technical research papers published in leading journals and conferences from the IEEE, Elsevier, Springer, Wiley, etc.

Recent Publication:

- Liu, L. Lian, V. Lau, G. Liu and M. Zhao, "Cloud-Assisted Cooperative Localization for Vehicle Platoons: A Turbo Approach," in IEEE Transactions on Signal Processing, vol. 68, pp. 605-620, 2020.
- P. Kyösti, W. Fan, G. F. Pedersen and M. Latva-Aho, "On Dimensions of OTA Setups for Massive MIMO Base Stations Radiated Testing," in IEEE Access, vol. 4, pp. 5971-5981, 2016.
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