

## Performance Analysis of a Hybrid Channel for Foglet Assisted Smart Asset Reporting

**Authors :** Hasan Farahneh

**Abstract :** Smart asset management along roadsides and in deserted areas is a topic of deprived attention. We find most of the work in emergency reporting services in intelligent transportation systems (ITS) and rural areas but not much in asset reporting. Currently, available asset management mechanisms are based on scheduled maintenance and do not effectively report any emergency situation in a timely manner. This paper is the continuation of our previous work, in which we proposed the usage of Foglets and VLC link between smart vehicles and road side assets. In this paper, we propose a hybrid communication system for asset management and emergency reporting architecture for smart transportation. We incorporate Foglets along with visible light communication (VLC) and radio frequency (RF) communication. We present the channel model and parameters of a hybrid model to support an intelligent transportation system (ITS) system. Simulations show high improvement in the system performance in terms of communication range and received data. We present a comparative analysis of a hybrid ITS system.

**Keywords :** Internet of Things, Foglets, VLC, RF, smart vehicle, roadside asset management

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