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Millimeter wave radio channel characterization for 5G vehicle-to-vehicle communications

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TITLE

Millimeter wave radio channel characterization for 5G vehicle-to-vehicle communications

SHORT TITLE

V2V 5G mm-wave radio channel

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ABSTRACT

Future 5G communication services will comply with new requirements that will facilitate its use in vehicle-to-vehicle (V2V) communications. These systems may operate at millimeter wave frequencies where the needed bandwidth may be available. V2V millimeter wave radio channel characterization and modelling has to be completed to describe wideband effects, such as the power delay profile and delay spread. We have experimentally characterized this radio channel at 38 GHz and 60 GHz frequency bands and related the channel behavior we observed with the measurement environment and setup. Finally we propose a two branch tapped delay wideband model for the radio channel.

KEYWORDS

Millimeter wave; Radio channel; Vehicle to vehicle communication; Wideband; 5G; Measurement.

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