IEEE P802.11
Wireless LANs

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| Liaison from SAE DSRC TC re: NGV Use cases and requirements |
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Abstract

This document contains a liaison statement received from the SAE Dedicated Short Range Communications (DSRC) Technical Committee (TC) in response to the IEEE 802.11 WG request for comments on NGV use cases and requirements, see <https://mentor.ieee.org/802.11/dcn/18/11-18-1303-02-0ngv-liaison-requesting-feedback-on-ngv-usage-scenarios.docx> .

The received liaison is embedded below and reproduced on the following pages.



SAE DSRC Technical Committee

November 28, 2018

**Title: Response to IEEE 802.11 Next Generation V2X Study Group (NGV SG) Liaison Request**

**Source:** SAE DSRC Technical Committee

**To:** IEEE 802.11 NGV SG

**Status:** For information

**Contact Person:**

#### Name: **Sue Bai, SAE DSRC Technical Committee Chair**

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The SAE DSRC Technical Committee (TC) is pleased to respond to the IEEE 802.11 Next Generation V2X Study Group (NGV SG) liaison request. The SAE DSRC TC standardizes DSRC message sets and DSRC application system requirements.

We applaud the IEEE 802.11 Working Group (WG) for forming the NGV SG. With regard to use cases that can be supported by short range communication in 10 MHz channels, we believe that IEEE 802.11p (DSRC) is capable of meeting the requirements of planned safety, mobility, environmental sustainability, and automation use cases (for example, those supported by our SAE J2735 and SAE J2945/x standards). Therefore, we view the benefit of new PHY and MAC features that may be introduced in an NGV amendment to be primarily for improving the communication performance of those use cases, and secondarily for supporting new use cases like positioning or high capacity mmWave data transfers.

For ad hoc V2X communication we think interoperable communication among devices is of primary importance. In the future, IEEE 802.11p[[1]](#footnote-1) and IEEE 802.11NGV devices will need to communicate directly to interoperate, i.e. to decode each other’s packets. Therefore, we advise the IEEE NGV SG to require that all IEEE 802.11NGV devices be capable of interoperating directly with IEEE 802.11p devices (i.e., capable of decoding all IEEE 802.11p packets and of at least one mode of transmission that can be decoded by IEEE 802.11p receivers). We also advise the IEEE NGV SG to require that all IEEE 802.11NGV devices are able to share the channel they occupy fairly with IEEE 802.11p devices, e.g. by using a preamble that can be detected by IEEE 802.11p CCA-carrier sensing functions and by adopting sensing requirements and channel access priorities that are on par with those of IEEE 802.11p. Finally, we suggest that the IEEE NGV SG consider standardizing a means by which IEEE 802.11NGV devices can identify each other, for example with an explicit capability indication that accompanies all IEEE 802.11NGV packets, even those that follow the IEEE 802.11p standard. We think that the combination of these three characteristics:

(a) At least one mode of direct interoperability,

(b) Same-channel fair co-existence, and

(c) Capability identification,

form the basis for a seamless evolution strategy from IEEE 802.11p to IEEE 802.11NGV and beyond. Such a seamless evolution strategy will be important now and in the future to encourage IEEE 802.11p deployments while the IEEE 802.11NGV amendment is being developed and tested, and will encourage IEEE 802.11NGV deployments when they are fully ready.

We look forward to continued correspondence with the IEEE 802.11 NGV Study Group/Task Group to help realize our mutual goals. We generally meet monthly by teleconference, and also hold regular face-to-face meetings.

**References:**

<https://mentor.ieee.org/802.11/dcn/18/11-18-1303-02-0ngv-liaison-requesting-feedback-on-ngv-usage-scenarios.docx>

1. We use “IEEE 802.11p” as short hand for 10 MHz OFDM communication outside the context of a BSS (OCB). [↑](#footnote-ref-1)