

P802.19.2

Submitter Email: shellhammer@ieee.org

Type of Project: New IEEE Standard

PAR Request Date: 29-Sep-2016

PAR Approval Date:

PAR Expiration Date:

Status: Unapproved PAR, PAR for a New IEEE Standard

1.1 Project Number: P802.19.2

1.2 Type of Document: Recommended Practice

1.3 Life Cycle: Full Use

2.1 Title: Recommended Practice for Local and Metropolitan Area Networks - Part 19: Coexistence of Unlicensed Wireless Systems in an Automotive Environment

3.1 Working Group: Wireless Coexistence Working Group (C/LM/WG802.19)

Contact Information for Working Group Chair

Name: Stephen Shellhammer

Email Address: shellhammer@ieee.org

Phone: (858) 658-1874

Contact Information for Working Group Vice-Chair

Name: Tuncer Baykas

Email Address: tbaykas@gmail.com

Phone: +905323764409

3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

Contact Information for Sponsor Chair

Name: Paul Nikolich

Email Address: p.nikolich@ieee.org

Phone: 8572050050

Contact Information for Standards Representative

Name: James Gilb

Email Address: gilb@ieee.org

Phone: 858-229-4822

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 06/2019

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 05/2020

5.1 Approximate number of people expected to be actively involved in the development of this project: 15

5.2 Scope: This recommended practice provides recommended dynamic parameter values for IEEE 802.4 GHz wireless devices and Bluetooth devices to enhance their performance in the automotive environment.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The purpose of the recommended practice is to identify performance enhancement settings that provide improvements in throughput, latency, reliability, PESQ (Perceptual Evaluation Speech Quality) score etc. for IEEE 802 wireless devices, for example IEEE 802.11 and IEEE 802.15 compliant devices. The wireless device parameters include both the physical layer (PHY) and the medium access control layer (MAC) settings of the devices. The typical scenarios the recommended practice will include:
Interference among IEEE 802.11 devices in the 2.4 GHz band.

Interference between IEEE 802.11 devices and non IEEE 802.11 devices in the 2.4 GHz band.

Non-IEEE 802.11 devices in the 2.4 GHz band include but are not limited to Bluetooth devices.

5.5 Need for the Project: Wireless LAN (WLAN) devices are used in diverse environments. One of the environments with rapidly increasing deployment is the automotive environment. However, this environment differs from the enterprise or residential environments. In particular, very high congestion of both access points and stations (e.g. in traffic jams) situations with inter-AP distance of about 2m-3m and rapid time varying channel due to automotive mobility. Additionally there is the mobility effect on the wireless channel even in the scenario of static AP

and STAs inside the vehicle caused by signal reflections from outside elements. Moreover, there is an extensive use of other non IEEE 802 technologies in the 2.4 GHz band, which requires consideration of coexistence issues.

As this environment is a challenging environment for IEEE 802 devices, the recommended practice aims to improve coexistence and hence improve the devices' performance.

5.6 Stakeholders for the Standard: Manufacturers and users of network semiconductors, consumer electronic devices, vehicle manufacturers.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes: 5.2 and 5.4

IEEE Std 802.11 Standard for Information technology--

Telecommunications and information exchange between systems

Local and metropolitan area networks-- Specific requirements

Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

IEEE 802.15.4: Low-Rate Wireless Networks

5.2

The term "automotive environment" means in-vehicle devices or devices in the immediate vicinity to the vehicle, as well as inter-vehicle environments and interaction between other IEEE 802 devices and in-vehicles devices.

Examples of vehicles include passenger cars and light trucks.