IEEE P802.19  
Wireless Coexistence

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| 802.19 WAC SG Proposed PAR | | | | |
| Date: 2016-05-18 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Igal Kotzer | General Motors | 7 Hamada st., Hertzeliya, Israel | +972-9-9720659 | [igal.kotzer@gm.com](mailto:osama.aboulmagd@huawei.com) |
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# Abstract

This submission includes the IEEE 802.19 Wireless Automotive Coexistence (WAC) Study Group PAR.

# PAR

**P802.11**

**Submitter Email:** [igal.kotzer@gm.com](mailto:igal.kotzer@gm.com)   
**Type of Project:** TBD Amendment to IEEE Standard 802.11  
**PAR Request Date:** TBD  
**PAR Approval Date:** TBD **PAR Expiration Date:** TBD **Status:** Unapproved PAR, PAR for an amendment to an existing IEEE Standard

**1.1 Project Number:** P802.19??  
**1.2 Type of Document:** Standard   
**1.3 Life Cycle:** Full Use

**2.1 Title:** Standard for Information technology--Telecommunications and information exchange between systems Local and metropolitan area networks--Specific requirements Part 19: ????

**3.1 Working Group:** Wireless Coexistence Working Group (C/LM/WG802.19)   
**Contact Information for Working Group Chair**

**Name:** Steve Shellhammer  
**Email Address:** sshellha@qti.qualcomm.com  
**Phone:** ???

**Contact Information for Working Group Vice-Chair Name:** ???  
**Email Address:** ???  
**Phone:** ???

**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:** 857.205.0050

**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:**TBD  
**4.3 Projected Completion Date for Submittal to RevCom:**TBD

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20

**5.2.a. Scope of the complete standard:**

The scope of this standard is to define either a recommended practice or a set of changes to the current 802.11ax standard.which in turn can either be implemented in Wave 2 of the standard or in the standard that would succeed 802.11ax.

**5.2.b. Scope of the project:**

This standard defines standardized modifications to both the IEEE 802.11 physical layers (PHY) and the IEEE 802.11 Medium Access Control layer (MAC) that enable methods to jointly operate multiple IEEE802.11 devices and IEEE802.11 in conjunction with other technologies in the 2.4GHz ISM band with lower mutual interference, with emphasis on the automotive environment.

This amendment defines operations in frequency bands between 1 GHz and 6 GHz. The new amendment shall enable backward compatibility and coexistence with legacy IEEE 802.11 devices operating in the same band.

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

**5.4 Purpose:**

The purpose of this standard is to provide means to improve the connectivity quality of IEEE802.11 wirless devices in an automotive anvironment, as well as improve coexistence of IEEE802.11 devices with other devices on the 2.4GHz ISM band.

**5.5 Need for the Project:**

Wireless LAN (WLAN) devices are currently being deployed in diverse environments. One of the environments with rapidly increasing deployment is the automotive environment. However, this environment differs from the enterprise or residential envrionments that are the focus of the majority of the other standards. In particular, very high conjestion in traffic jam situations with inter-AP distance of 3m and rapid time varying channel due to automotive mobility. Additionally the effect of a mobile channel even in the scenario of static AP and STAs inside the vehicle due to the vehicle’s mobility and signal reflection from outside elements, as well as the use of other non IEEE802 technologies in the 2.4GHz ISM band that are also affected.

**5.6 Stakeholders for the Standard:**Manufacturers and users of semiconductors, consumer electronic devices, vehicle manufacturers, mobile devices, and cellular operators.

**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 (Item Number and Explanation):**

**5.2.b**

* The focus of this amendment is on WLAN operation in the 2.4 GHz and the 5 GHz frequency bands. Additional bands between 1 GHz and 6 GHz may be added as they become available.
* Typical scenarios the standard will focus on are:
  + Interference among IEEE802.11 devices
  + Mutual interference of IEEE802.11 devices to/from non IEEE802 devices
* Since the values of the metrics of interest will depend on the scenario, the focus will be on the relative improvement of these metrics compared to previous comparable performance in the automotive environment.

# References: