**IEEE P802.19**

**Wireless Coexistence**

|  |  |  |
| --- | --- | --- |
| Project | IEEE P802.19 Wireless Coexistence WG | |
| Title | **IEEE 802.19 Liaison to Wi-Fi Alliance, Sub-1GHz Usage Models** | |
| Date Submitted | June 12, 2019 | |
| Source | Benjamin A. Rolfe Blind Creek Associates P.O. Box 798  Los Gatos, CA, USA 95031 | Voice: (408) 395 7207  E-mail: ben.rolfe@ieee.org |
|  | Steve Shellhammer Qualcomm 5775 Morehouse Drive  San Diego, CA 92121 | Voice: (858) 658-1874  E-mail: shellhammer@ieee.org |
| Re: | Sub 1 GHz Coexistence Task Group | |
| Abstract | Informal liaison request to the Wi-Fi Alliance for information on usage models for sub-1GHz Wi-Fi based on 802.11ah (802.11 S1G). Request for input to the use case development for the Recommended Practice under development. | |
| Purpose | [] | |
| Notice | This document has been prepared to assist the IEEE P802.19. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. | |
| Release | The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by IEEE P802.19. | |

|  |  |  |
| --- | --- | --- |
| IEEE 802.19 Coexistence Working Group  Draft Liaison Communication  To request form the Wi-Fi Alliance information on sub-1GHz Wi-Fi usage models | | |
| Source: | 802.19 Working Group |  |
| To: | Edgar Figueroa | CEO, Wi-Fi Alliance  [efigueroa@wi-fi.org](mailto:efigueroa@wi-fi.org) |
|  | Ian Sherlock | Chairman, Wi-Fi Alliance  [isherlock@ti.com](mailto:isherlock@ti.com) |
| CC: | Paul Nikolich | Chair, IEEE 802 LMSC  p.nikolich@ieee.org |
|  | Tuncer Baykas | Vice-chair, IEEE 802.19 Working Group  [tbaykas@ieee.org](mailto:tbaykas@ieee.org) |
|  | Benjamin Rolfe | Sub 1GHz Task Group Chair  [Ben.rolfe@ieee.org](mailto:Ben.rolfe@ieee.org) |
| From: | Steve Shellhammer | Chair IEEE 802.19 Working Group  [shellhammer@ieee.org](mailto:shellhammer@ieee.org) |
| Subject: | Liaison communication to Wi-Fi Alliance | |
| Purpose: | To request input from the Wi-Fi Alliance on expected application of and usage models for 802.11ah based Wi-Fi products, to provide technical context and guidance for development of the Recommended Practice for Local and Metropolitan Area Networks - Part 19: Coexistence Methods for 802.11 and 802.15.4 based systems operating in the Sub-1 GHz Frequency Bands. | |
| Approval: | TBD | |

The 802.19 Working Group for Wireless Coexistence is developing a Recommended Practice for coexistence of simultaneously operating systems based on 802.11ah-2016 (S1G PHY) and 802.15.4 SUN FSK PHY (802.15.4g). The recommended practice is intended to provide guidance on the implementation, configuration and commissioning of systems sharing spectrum between IEEE Std 802.11ah-2016 and IEEE Std 802.15.4 Smart Utility Networking (SUN) Frequency Shift Keying (FSK) Physical Layer (PHY) operating in Sub-1 GHz frequency bands.

The Working Group is currently developing technical criteria for contributions to the Recommended Practice, both to guide contributors and facilitate evaluation of the contributions and proposals received. The group has so far received input from stakeholders including users of 802.15.4g based systems in a variety of geographical regions[[1]](#endnote-1), and is seeking information on existing and expected users of 802.11ah based systems. The information provided will be included in a usage models and scenarios document to be openly available as an IEEE-802.19 contribution.

The ultimate goal is to identify likely scenarios, geographic regions and use cases in which it is likely 802.11ah and 802.15.4 SUN FSK based systems are likely to be operated within overlapping sphere of influences, so that the group can focus on developing recommendations for users to achieve optimal performance from each.

For the expected usage scenarios, it would be helpful to provide an overview of each application, and some specific performance requirements and related characteristics such as the 802.11 features likely to be used. The following lists some of the applications which have been identified in the group as examples, as well as the type of application information requested. This is intended as a starting point only, please correct and expand upon as appropriate.

* Types of applications expected
  + Indoor
    - Home automation
    - Monitoring and control (HVAC, security)
    - Moderate/low rate extended range LAN
  + Outdoors
    - Internet of Things
      * Smart City, Grid Modernization
      * What specific applications in these areas ae expected?
    - Sensors and control
      * What specific types of monitor and control applications are expected?
    - “Last kilometer” broadband access
      * Does WFA expect deployments in urban, suburban and/or rural areas to be likely?
    - Metro area LAN
* Application requirements and characteristics
  + Expected data volumes and frequency
  + Latency requirement
  + QoS requirements
  + Other performance requirements (802.11 features needed and such)
  + Expected deployment densities
  + Limitations and Constraints
  + Deployment Timeline

Thank you in advance for your efforts.

Please contact Steve Shellhammer, IEEE 802.19 Working Group chair, and/or Benjamin Rolfe, Sub-1GHz Coexistence Task Group Chair, with any questions.

Sincerely,

Steve Shellhammer

Chair, IEEE 802.19 WLAN Working Group

1. Use Case References:

   <https://mentor.ieee.org/802.19/dcn/19/19-19-0036-00-0003-use-case-discussion.pptx>

   <https://mentor.ieee.org/802.19/dcn/19/19-19-0047-00-0003-ieee-802-11ah-use-cases-considered-by-ahpc.pptx>

   <https://mentor.ieee.org/802.15/dcn/19/15-19-0341-00-0000-802-15-4-sun-use-cases.pptx> [↑](#endnote-ref-1)