P802.19.3a

Type of Project: Amendment to IEEE Standard 802.19.3-2021
Project Request Type: Initiation / Amendment
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft
Root Project: 802.19.3-2021

1.1 Project Number: P802.19.3a
1.2 Type of Document: Recommended Practice
1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Recommended Practice for Local and Metropolitan Area Networks--Part 19: Coexistence Methods for IEEE 802.11 and IEEE 802.15.4 Based Systems Operating in the Sub-1 GHz Frequency Bands Amendment: Additional recommendations for improved coexistence

3.1 Working Group: Wireless Coexistence Working Group(C/LAN/MAN/802.19 WG)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Jul 2025
4.3 Projected Completion Date for Submittal to RevCom:

5.1 Approximate number of people expected to be actively involved in the development of this project: 12
5.2.a Scope of the complete standard: This recommended practice provides guidance on the implementation, configuration, and commissioning of systems sharing spectrum between IEEE Std 802.11-2020 and IEEE Std 802.15.4 smart utility networking (SUN) frequency shift keying (FSK) physical layer (PHY) and SUN Orthogonal Frequency Division Multiplexing PHY operating in sub-1 GHz frequency bands.
Change to scope of the complete standard: This recommended practice provides guidance on the implementation, configuration, and commissioning of systems sharing spectrum between IEEE Std 802. ~~11ah~~ 11 ~~2016~~ 2020 and IEEE Std 802.15.4 smart utility networking (SUN) frequency shift keying (FSK) physical layer (PHY) and SUN Orthogonal Frequency Division Multiplexing PHY operating in sub-1 GHz frequency bands.
5.2.b Scope of the project: This amendment updates and expands coexistence recommendations to address new market requirements, address increasing data traffic, greater device density of devices based on both IEEE Std 802.11 and IEEE Std 802.15.4 sub-1GHz standards, and increased potential for congestion. This project will include recommendations that consider expected deployments of new devices based on both IEEE Std 802.11 and IEEE Std 802.15.4 sub-1GHz standards as well as compatibility with deployed legacy devices. This project will include updated recommendations based on changes to IEEE Std 802.11 and IEEE Std 802.15.4 since the initial revision of this recommended practice.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: Since publication of the initial recommended practice, both underlying standards and the market needs have changed.
Changes in the markets and rules changes have resulted in new requirements that are driving new solutions which will use both IEEE Std 802.11 Sub-1 Giga Hertz (S1G) and IEEE Std 802.15.4 S1G standards. New requirements include need to support increased data traffic per device, many more devices per unit area and a corresponding increase in congestion potential. There are many millions of deployed legacy 802.15.4 S1G devices (commonly referred to as 802.15.4g in the industry). Devices based on IEEE Std 802.11 S1G (commonly referred to as 802.11ah in the industry) are expected to begin widespread deployment. The need for new devices using different technologies to coexist with each other and the deployed base of legacy devices is critical to support and sustain growth in the markets.
Changes in IEEE Std 802.15.4 and IEEE Std 802.11 include new features that can be used to enhance coexistence. This project will add new recommendations and update existing recommendations incorporating new and expanded features of both standards. Also experience within the industry can be used to update recompensates.
The limited amount of spectrum available in S1G bands drives an increasing need to share the spectrum efficiency. This project will enhance the ability of users of this standard to address ongoing and growing coexistence challenges.
This recommended practice enables IEEE Std 802.15.4 and IEEE Std 802.11ah-2016 to most effectively operate in license exempt Sub-1 GHz frequency bands, by providing best practices and coexistence methods. This recommended practice uses existing features of the referenced standards and provides guidance to implementers and users of IEEE 802(R) wireless standards.
5.6 Stakeholders for the Standard: Silicon vendors, equipment manufacturers, and utility network operators, with applications including smart grid, smart city, internet of things (IoT), home automation, medical and environmental monitoring

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6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project? No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project? No

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7.1 Are there other standards or projects with a similar scope? No
7.2 Is it the intent to develop this document jointly with another organization? No

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8.1 Additional Explanatory Notes: As indicated in 5.2, the recommended practice will cite IEEE Std 802.11-2020 and IEEE Std 802.15.4-2020.