**IEEE P802.19.3a**

**Amendment to IEEE Std 802.19.3**

|  |  |
| --- | --- |
| Project | IEEE P802.19 Wireless Coexistence WG |
| Title | **Recommended Outline for P802.19.3a** |
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| Re: |  |
| Abstract | This document proposes the recommended outline for P802.19.3a, amendment to IEEE Std 802.19.3. Red texts indicate necessary amendments, blue texts indicate necessary additions, and orange texts indicate optional amendments.  |
| Purpose | To review and discuss TOC items in preparing the Draft. |
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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 improving coexistence

Introduction

IEEE Std 802.11ah →to IEEE Std 802.11 S1G

1. Overview
	1. Scope

IEEE Std 802.11ah → IEEE Std 802.11 S1G.

* 1. Word usage
1. Normative references

Add IEEE Std 802.15.4-2024

Add any amendment to IEEE Std 802.11-2020 that operates in S1G bands

1. Definitions, acronyms and abbreviations
	1. Definitions

Add backoff suspension definition

Add any other definitions if necessary

* 1. Acronyms and abbreviations
1. Overview of the Sub-1 GHz frequency band systems
	1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. IEEE Std 802.11ah

IEEE Std 802.11ah → IEEE Std 802.11 S1G

Add any amendment to IEEE 802.11-2020 that operates in S1G bands

* 1. IEEE Std 802.15.4g

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA specified in IEEE Std 802.15.4-2024, specify its coexistence impact.

* 1. IEEE Std 802.15.4w

IEEE Std 802.15.4w -> IEEE Std 802.15.4 LECIM PHY?

* 1. LoRa
	2. Sigfox
	3. ETSI TS 103 357

Any updates in ETSI standards?

* + 1. Telegram splitting ultra narrow band (TS-UNB) family
		2. Dynamic Downlink Ultra Narrow Band (DD-UNB) family
	1. Summary

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

1. Use cases of the Sub-1 GHz frequency band systems
	1. Introduction

IEEE Std 802.15.4w -> IEEE Std 802.15.4 LECIM PHY?

* 1. IEEE Std 802.11 use cases

IEEE Std 802.11ah → IEEE Std 802.11 S1G

* 1. IEEE Std 802.15.4g use cases

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. LoRa use cases
	2. Sigfox use cases
	3. IEEE Std 802.15.4w use cases

IEEE Std 802.15.4w -> IEEE Std 802.15.4 LECIM PHY?

1. Sub-1 GHz frequency band spectrum allocation
	1. Introduction
	2. United States

IEEE Std 802.11ah → IEEE Std 802.11 S1G

* 1. Japan

Add new ARIB standards that specify new S1G allocations

* 1. Europe

Any new S1G allocation in Europe?

1. Coexistence mechanisms and issues of the Sub-1 GHz frequency band system
	1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. IEEE Std 802.11ah coexistence mechanisms

 IEEE Std 802.11ah → IEEE Std 802.11 S1G

* 1. IEEE Std 802.15.4g coexistence mechanisms

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA specified in IEEE Std 802.15.4-2024

* 1. IEEE Std 802.15.4w coexistence mechanisms

IEEE Std 802.15.4w -> IEEE Std 802.15.4 LECIM PHY?

* 1. LoRa coexistence mechanisms
	2. Sigfox coexistence mechanisms
	3. Noise and interference measurement in the Sub-1 GHz bands
		1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. 920 MHz band measurements in Japan

IEEE Std 802.11ah-2016 → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add new measurement system setup, measurement results, and expected coexistence impact.

* + 1. 868 MHz band measurement in Europe

Any new measurement in Europe?

* 1. Coexistence performance of IEEE Std 802.11ah and IEEE Std 802.15.4g

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Data packet delivery rate

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

1Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

1Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

* + 1. Data packet latency

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN FSK PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

1Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (1MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), without Suspendable CSMA/CA of IEEE 802.15.4 SUN

1Add results for IEEE 802.15.4 SUN OFDM PHY (4kHz channel) and IEEE 802.11 S1G (4MHz channel), with Suspendable CSMA/CA of IEEE 802.15.4 SUN

* + 1. IEEE Std 802.11ah and IEEE Std 802.15.4g coexistence issues to be addressed

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Coexistence performance of IEEE Std 802.11ah and IEEE Std 802.15.4w

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4w → IEEE Std 802.15.4 LECIM PHY

* 1. Cause of coexistence issue between IEEE Std 802.11ah and IEEE Std 802.15.4g

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update this section based on the use of IEEE 802.15.4 CSMA/CA backoff suspension

* 1. IEEE Std 802.11ah and IEEE Std 802.15.4g coexistence performance improvement

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add coexistence improvements based on use of Suspendable CSMA/CA of IEEE 802.15.4 SUN

1. IEEE Std 802.11ah and IEEE Std 802.15.4g coexistence model

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Coexistence operation

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Centralized coexistence

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA as additional operation for IEEE 802.15.4 SUN

* + 1. Cooperated (or collaborated) coexistence

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA as example operation for IEEE 802.15.4 SUN

* + 1. Distributed network level coexistence

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA as additional operation for IEEE 02.15.4 SUN

* + 1. Distributed device level coexistence

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add Suspendable CSMA/CA as additional operation for IEEE 02.15.4 SUN

* 1. Coexistence model

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Coexistence model based on network coordination
		2. Coexistence model based on scope of coexistence operation
1. IEEE Std 802.11ah and IEEE Std 802.15.4g coexistence methods and recommendations

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Coordinated coexistence methods and recommendations
		1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add IEEE 02.15.4 SUN PANC may report if Suspendable CSMA/CA is in operation or not

* + 1. Centralized coexistence methods
			1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add IEEE 02.15.4 SUN Suspendable CSMA/CA

* + - 1. Centralized channel switching

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. Centralized IEEE 802.11ah RAW and IEEE 802.15.4g superframe construction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. Centralized IEEE 802.11ah beamforming

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. Centralized transmission power setting
			2. Add IEEE 802.15.4 SUN Suspendable CSMA/CA
		1. Cooperated/collaborated coexistence methods
			1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add IEEE 02.15.4 SUN Suspendable CSMA/CA

* + - 1. Cooperated channel switching

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. Cooperated RAW

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. Cooperated IEEE 802.11ah beamforming
			2. Cooperated transmission power setting
			3. Add IEEE 802.15.4 SUN superframe construction, which is listed as one coexistence operation but not described.
			4. Add IEEE 802.15.4 SUN Suspendable CSMA/CA as a new coexistence operation
		1. Recommendations for centralized and cooperated/collaborated coexistence

Add a section to describe IEEE 802.15.4 SUN Suspendable CSMA/CA

Update Table 5 to include IEEE 802.15.4 SUN Suspendable CSMA/CA

* 1. Distributed coexistence methods and recommendations
		1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add IEEE 802.15.4 SUN Suspendable CSMA/CA into device level operation

* + 1. Distributed channel switching
		2. Distributed ED threshold setting

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Distributed transmission power setting
		2. Distributed beamforming

IEEE Std 802.11ah → IEEE Std 802.11 S1G

* + 1. Distributed transmission time delay

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. α–Fairness based ED-CCA

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Q-Learning based CSMA/CA

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Prediction-based transmission time delay

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Hybrid CSMA/CA

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + 1. Add a section to describe IEEE 802.15.4 SUN Suspendable CSMA/CA
		2. Renumber Section Recommendations for distributed coexistence

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 6 to include IEEE 802.15.4 SUN Suspendable CSMA/CA

* 1. Frequency hopping and recommendation
		1. Overview
		2. Control methods

IEEE 802.15.4w → IEEE 802.15.4 LECIM PHY

* + 1. Hopping sequence selection
		2. Hopping sequence adaptation
		3. Channel access
		4. Recommendation for frequency hopping
	1. Network offered load and duty cycle recommendation

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* 1. Network size recommendation

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any network size recommendation for IEEE 802.15.4 SUN OFDM PHY?

Any network size recommendation for IEEE 802.11 S1G 4MHz channel?

* 1. Frame size recommendation
		1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size recommendation for IEEE 802.15.4 SUN OFDM PHY?

Any frame size recommendation for IEEE 802.11 S1G 4MHz channel?

* + 1. Small network size, high IEEE 802.11ah offered load, and low IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. IEEE 802.11ah frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Small network size, low IEEE 802.11ah offered load, and high IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. IEEE 802.11ah frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Large network size, high IEEE 802.11ah offered load, and low IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

* + - 1. IEEE 802.11ah frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Large network size, low IEEE 802.11ah offered load, and high IEEE 802.15.4g offered load
			1. IEEE 802.11ah frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g frame size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any frame size impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Summary of frame size recommendations

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 7 to include frame size impact for IEEE 802.11 S1G 4MHz channel and frame size impact for IEEE 802.15.4 SUN OFDM PHY?

* 1. Backoff parameter recommendation
		1. Introduction

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff parameter recommendation for IEEE 802.11 S1G 4MHz channel?

Any backoff parameter recommedation for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Small network size, high IEEE 802.11ah offered load, and low IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 8 to include backoff parameters for IEEE 802.11 S1G 4MHz channel and backoff parameters for IEEE 802.15.4 SUN OFDM PHY?

* + - 1. IEEE 802.11ah backoff contention window size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff contention window size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g backoff parameter impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff contention window size impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Small network size, low IEEE 802.11ah offered load, and high IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 9 to include backoff parameter impact for IEEE 802.11 S1G 4MHz channel and backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + - 1. IEEE 802.11ah backoff contention window size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff contention window size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g backoff parameter impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Large network size, high IEEE 802.11ah offered load, and low IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 10 to include backoff parameter impact for IEEE 802.11 S1G 4MHz channel and backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + - 1. IEEE 802.11ah backoff contention window size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff contention window size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g backoff parameter impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Large network size, low IEEE 802.11ah offered load, and high IEEE 802.15.4g offered load

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 11 to include backoff parameter impact for IEEE 802.11 S1G 4MHz channel and backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + - 1. IEEE 802.11ah backoff contention window size impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff contention window size impact for IEEE 802.11 S1G 4MHz channel?

* + - 1. IEEE 802.15.4g backoff parameter impact

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* + 1. Summary of backoff parameter recommendations

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Update Table 12 to include backoff parameter impact for IEEE 802.11 S1G 4MHz channel and backoff parameter impact for IEEE 802.15.4 SUN OFDM PHY?

* 1. PHY parameter recommendation

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Any PHY parameter recommendation for IEEE 802.11 S1G 4MHz channel?

Any PHY parameter recommendation for IEEE 802.15.4 SUN OFDM PHY?

* 1. Application-based recommendation
	2. Coexistence method selection recommendation

IEEE Std 802.11ah → IEEE Std 802.11 S1G

IEEE Std 802.15.4g → IEEE Std 802.15.4 SUN

Add IEEE 802.15.4 SUN Suspendable CSMA/CA in Figure 18

* 1. Add section: Use of IEEE 802.15.4 SUN Suspendable CSMA/CA recommendation

In general, if the primary performance metric of IEEE 802.15.4 SUN network is reliability, IEEE 802.15.4 SUN network should apply the Suspendable CSMA/CA. On the other hand, if the primary performance metric of IEEE 802.15.4 SUN network is latency, IEEE 802.15.4 SUN network should not apply the Suspendable CSMA/CA.

Annex A (informative) Coexistence fairness assessment

Annex B (informative) Bibliography

 Updates are needed.