**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | TG4u Coexistence Assurance Document |
| Date Submitted | 15 March 2016 |
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| Re: | IEEE 802.15.4u Draft Amendment |
| Abstract | Analysis on coexistence of IEEE 802.15.4u with other IEEE 802 systems within the same frequency band |
| Purpose | To address the coexistence capability of IEEE 802.15.4u to satisfy requirements of the IEEE 802.19 Work Group and IEEE 802 Executive Committee to determine if a proposed IEEE 802 standard has made a reasonable effort to be able to coexist with devices compliant to other IEEE 802 standards in their operating band. |
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Table of Contents

* + 1. [1 Scope 1](#_Toc445848261)
    2. [2 References 1](#_Toc445848262)
    3. [3 IEEE 802.15.4u amendment overview 1](#_Toc445848263)
  1. [3.1 Operating frequency bands 1](#_Toc445848264)
  2. [3.2 Modulation parameters 2](#_Toc445848265)
  3. [3.3 Coexistence mechanisms 2](#_Toc445848266)
     1. [4 Other IEEE 802 standards occupying the same frequency bands 2](#_Toc445848267)

# Scope

The IEEE 802.19 Work Group has mandated that new wireless standards developed under IEEE 802 be accompanied by a *Coexistence Assurance* document. In [2], guidelines are provided for how coexistence can be quantified based on predicted packet error rates among IEEE 802 wireless devices. Hence, this coexistence assurance document is provided by the IEEE 802.15.4u Task Group to satisfy the requirements of the IEEE 802.19 Work Group and IEEE 802 Executive Committee.

The Department of Telecommunications, Ministry of Communications and Information Technology, Government of India [1] has allocated a frequency band 865 MHz to 867 MHz for RFID equipment and other low power wireless devices and uses. The 802.15.4u amendment to the IEEE Standard 802.15.4 [3] defines band plan for use of specific existing 802.15.4 Physical Layers in this band.

This document addresses the coexistence of the IEEE 802.15.4u India band systems with other IEEE 802 standards operating in the same frequency bands.

# References

1. Department of Telecommunications Ministry of Communications & Information Technology Government of India National Frequency Allocation Plan-2011, http://www.wpc.dot.gov.in
2. S. Shellhammer, “Writing a Coexistence Assurance Document,” IEEE 802.19-09/0001r0, 2009.
3. IEEE Std 802.15.4TM-2015.

# IEEE 802.15.4u amendment overview

Amendment 802.15.4u uses modulations and other PHY layer characteristics already defined in the 802.15.4 standard; the amendment specifies a regional channel plan.

## Operating frequency bands

The allocated frequency band for the IEEE 802.15.4u Amendment is:

|  |  |
| --- | --- |
| Band Identifier (MHz) | Frequency band (MHz) |
|
| 866 | 865-867 |

Table 1 – IEEE 802.15.4u Frequency bands

## Modulation parameters

No new modulation methods are introduced by this amendment.

## Coexistence mechanisms

This amendment makes no changes to the available coexistence mechanisms in 802.15.4.

# Other IEEE 802 standards occupying the same frequency bands

No other 802 standards operate in this regional frequency band. There is no coexistence impact.