IEEE P802.11
Wireless LANs

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| PDT PHY Interference Mitigation |
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Abstract

This document contains Proposed Draft Text (PDT) for the feature of Interference Mitigation (IM) of the TGbn (UHR, Ultra High Reliability) amendment to the 802.11 standard.

# Revision information

The following is a summary of the important changes that occurred within each revision of this document:

|  |  |
| --- | --- |
| **Revision** | **Major changes** |
| 0 | Initial revision |
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# Introduction

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbn Draft. The abstract, revision information, introduction, explanation of the proposed changes, and references sections are not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbn Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

## Explanation of the proposed changes:

The proposed changes to the 802.11 TGbn draft within this document are based on the following motions adopted by the TGbn task group.

### Relevant passing motions:

 [Motion #35, [1]]

* Define a mode with additional pilots, located within the data portion of the PPDU, which are used for interference estimation & mitigation.
	+ Note: zero-energy pilots alternative to be considered as well

[Motion #245, [2]]

* The Interference Mitigation feature is only defined with LDPC

[Motion #246, [2]]

* For each bandwidth, there is a fixed number of IM pilots (value TBD)

[Motion #247, [2]]

* Within any transmission that uses IM pilots, they are used in every data OFDM symbol and in the same corresponding subcarriers positions, for a given BW

# Text to be adopted begins here:

***TGbn editor: Please add the following new subclause 38.3.5 Interference Mitigation to the 802.11bn draft D0.2:***

# 38. Ultra High Reliablity (UHR) PHY specification

## 38.3 UHR PHY

### 38.3.5 Interference Mitigation

Interference Mitigation (IM) is a technique, used by a STA with multiple antennas, that enables reliable reception of the PPDU in the presence of an interfering signal (which is prevalent in the unlicensed bands). To enable mitigation of the interference, additional pilots shall be used within the data portion of the PPDU.

### 38.3.5.1 Supported Coding for IM

The transmission of IM pilots is used only with LDPC.

### 38.3.5.2 IM Pilot subcarriers

The IM pilots are used in every data OFDM symbol, and for a given BW, their subcarrier positions are fixed across all OFDM symbols. The subcarrier indices are TBD.

The number and indices of IM pilot subcarriers are defined in Table 38-IM1.

Table 38-IM1 – Number and indices of IM Pilot subcarriers

|  |  |  |
| --- | --- | --- |
| PPDU BW MHz (RU size) | Number of IM pilots | IM pilot indices |
| TBD | TBD | TBD |
| TBD | TBD | TBD |
| TBD | TBD | TBD |
| TBD | TBD | TBD |

# Text to be adopted ends here.

**References:**

1. [11-24-0171r21](https://mentor.ieee.org/802.11/dcn/24/11-24-0171-21-00bn-tgbn-motions-list-part-1.pptx): 11-24-0171-21-00bn-tgbn-motions-list-part-1, Alfred Asterjadhi (Qualcomm Inc.)
2. [11-25-0014r7](https://mentor.ieee.org/802.11/dcn/25/11-25-0014-07-00bn-tgbn-motions-list-part-2.pptx): 11-25-0014-01-00bn-tgbn-motions-list-part-2, Alfred Asterjadhi (Qualcomm Inc.)