IEEE P802.11
Wireless LANs

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| **Specification Framework for TGbn** |
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Abstract

This document provides the framework from which the draft TGbn amendment will be developed. The document provides an outline of each the functional blocks that will be a part of the final amendment. The document is intended to reflect the working consensus of the group on the broad outline for the draft specification. As such it is expected to begin with minimal detail reflecting agreement on specific techniques and highlighting areas on which agreement is still required. It may also begin with an incomplete feature list with additional features added as they are justified. The document will evolve over time until it includes sufficient detail on all the functional blocks and their inter-dependencies so that work can begin on the draft amendment itself.

# Revision history

|  |  |  |
| --- | --- | --- |
| Revision | Date | Changes |
| 0 | Jan 25, 2024 | Initial version |
| 1 | Mar 25, 2024 | Add motions passed in 2024 March meeting |

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# Abbreviations and acronyms

BW bandwidth

DRU distributed tone RU

UL uplink

OFDMA orthogonal frequency division multiple access

MAC medium access control

MLD multi-link device

PHY physical layer

RRU regular RU

SS spatial stream

STA station

TB trigger-based

UHR ultra high reliability

# UHR PHY

1.
2.

## General

This section describes the functional blocks in the UHR PHY.

## Distributed-tone RU

### General

* 11bn will define distributed tone RU (“DRU”) transmission

[Motion #3, [1] and [4]]

* 11bn supports a distributed tone RU (DRU) for a TB PPDU transmission
	+ The DRU means an RU which consists of subcarriers spreading across a certain bandwidth

[Motion #1, [1] and [2]]

* DRU is allowed in a punctured UHR TB transmission

[Motion #4, [1] and [5]]

* 11bn supports the hybrid mode with DRUs (Distributed tone RU) and RRUs (Regular RU as existing RU defined in 11ax/be) in UHR UL TB OFDMA transmissions
	+ Minimum PPDU BW for hybrid mode is TBD

[Motion #7, [1] and [8]]

### Pilot

* 11bn supports hierarchical pilot structure for DRU
	+ Pilot locations of a larger DRU is a subset of pilot locations of smaller component DRUs within the same PPDU BW

[Motion #5, [1] and [6]]

* The number of pilot tones for the same size DRU and RRU (regular RU) is the same
	+ The RRU means the existing RU defined in 11ax and 11be

[Motion #6, [1] and [7]]

## PHY feature #2

Description for PHY feature #2

# UHR MAC

1.

## General

This section describes the functional blocks in the UHR MAC.

## Roaming

* 11bn defines a mechanism that enables a non-AP MLD to roam from one AP MLD to another AP MLD and the non-AP MLD remains in state 4 (see 11.3) during and after roaming to the other AP MLD

[Motion #2, [1] and [3]]

## Power save

* TGbn defines a power save mode for a STA that is a UHR Mobile AP or a UHR non-AP STA wherein the STA may transition from a lower capability mode to a higher capability mode upon reception of an initial control frame
	+ Lower capability mode (e.g., 20 MHz BW, one SS, limited data rates, PPDU format)
	+ Higher capability mode (e.g., operating BW, NSS and MCSs, with at least one higher capability than that in the lower power capability mode)
	+ Initial Control frame is TBD
	+ Whether that applies for a non-mobile AP is TBD

[Motion #9, [1] and [9]]

* TGbn defines cross link power save signaling mechanism
	+ Allowing a non-AP MLD to indicate to its associated AP MLD that supports the mechanism, in a frame sent on one enabled link, the power management mode for one or more of its affiliated non-AP STAs
	+ Whether support for the mechanism is mandatory or optional is TBD
* [Motion #9, [1] and [10]]

## MAC feature #3

Description for MAC feature #3

# Frame format

1.

## General

This section describes the frame formats.

## Field #1

Description for Field #1

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