IEEE P802.11
Wireless LANs

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| Proposed Specification Framework for TGax |
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Abstract

This document provides the framework from which the draft TGax 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.

# 0 Revision Notes

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| R0 | Initial draft document with a table of content |
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# 1 Definitions

**Orthogonal Frequency Division Multiple Access (OFDMA):** A technique where multiple STAs each with potentially multiple frequency resources, transmit and/or receive independent data streams simultaneously

**Downlink OFDMA (DL OFDMA):** OFDMA with multiple receiving non-AP STAs and a single transmitting AP.

# 2 Abbreviations and Acronyms

HE High Effcieincy

# 3 HE Physical Layer

This section describes the functional blocks of the physical layer.

## 3.1 Channelization

**R3.1.A:** The draft specification shall support operations in frequency bands between 1 GHz and 6 GHz.

## 3.2 HE Preamble

A HE mixed format (MF) preamble shall be supported in the draft specification and device support is mandatory. The HE mixed format preamble shall have the following characteristics:

**R3.2.A:** Robust legacy deferral. The HE mixed-format preamble shall be designed such that legacy devices will defer for the duration of the transmission.

**R3.2.B:** The HE mixed-format preamble shall permit a HE STA to distinguish HE preamble from Non-HT, HT MF, HT GF, and VHT preambles.

## 3.3 HE Timing-Related Parameters

# 4 Multi-User Transmission

This section describes the functional blocks of multi-user transmission.

## 4.1 DL OFDMA

**R4.1.A:** The draft specification shall include support for DL OFDMA

## 4.2 DL MU-MIMO

**R4.2.A:** The draft specification shall include support for DL MU-MIMO in frequency bands between 1 GHz and 6 GHz.

# 5 Coexistence

This section describes the functional blocks of coexistence.

**R5.A:** Channel access rules shall ensure fair access to the medium for TGax compliant devices and legacy devices operating within a BSS or in seprate overlapping BSSs.

**R5.B:** The draft specification shall provide a mechanism that ensures that TGax transmissions are protected from legacy channel access for the duration of the transmission.

**5.1 Spatial Reuse**

**R5.1.A** The draft specification shall include support for adjustment of CCA sensitivity of HE STA given that legacy device performance is not significantly degraded by operation or in proximity of 11ax network.

# 6 MAC Layer

This section describes the functional blocks of the MAC layer.

## 6.1 Channel Access

**R6.1.A:** The HE MAC protocol extensions shall work with EDCA.

## 6.2 Power Efficiency

**References:**

11-14-1009-02-00ax-proposed-802-11ax-functional-requirements

11-11-1137-02-00ah-specification-framework-for-tgah

11-09-0992-03-00ac-proposed-specification-framework-for-tgac