### **IEEE P802.11Wireless LANs**

|  |
| --- |
| 11bp PDT AMP TSF |
| Date: 2025-09-08 |
| Author(s): |
| Name | Affiliation | Email |
| Chuanfeng He | OPPO | hechuanfeng@oppo.com |
| Sanket Kalamkar | Qualcomm Technologies, Inc. | sankal@qti.qualcomm.com |
| Rojan Chitrakar | Huawei | rojan.chitrakar@huawei.com |
| Ian Bajaj | Huawei | ian.bajaj@huawei.com |
| Lei Zhou | New H3C | zhou.leiH@h3c.com |
| Mahmoud Hasabelnaby | Huawei | mahmoud.hasabelnaby@huawei.com |
| Yaoshen Cui | TP-Link | cuiyaoshen@tp-link.com.hk |
| Sebastian Max | Ericsson | sebastian.max@ericsson.com |
| Li-Hsiang Sun | MediaTek | li-hsiang.sun@mediatek.com |
|  |  |  |
|  |  |  |

Abstract

This document contains Proposed Draft Text (PDT) for AMP TSF of the proposed TGbp (AMP, Ambient Power) 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 |
| 1 | Revised version based on the comments from task group members. |
|  |  |
|  |  |
|  |  |
|  |  |

# **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 TGbp 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 TGbp 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 TGbp draft within this document are based on the following motions adopted by the TGbp task group:

## Relevant passing motions [1]:

* **MM-1**: If AMP device is able to support AMP TSF, the maximum timing offset is ±104 ppm.

[Motion #13, [1] and [2]]

* **MM-23**: 802.11bp defines short timestamp to enable AMP NON-AP STA to monitor DL frames in duty-cycle operation.
	+ The length of short timestamp is TBD..

[Motion #82, [1], [63], [78] and [79]]

* **MM-26**: 802.11bp specifies, for a short timestamp, coarse timing granularity larger than 1µs.
	+ The detailed timing granularity are TBD.

[Motion #104, [1], [63], [78], [79] and [99]]

* **MM-?**: An AMP AP may transmit the AMP AP's partial timestamp in a broadcast AMP frame (name TBD). Length of the partial timestamp is TBD.
* **FM-7**: 802.11bp allows short timestamp to be carried in an AMP trigger Frame.
	+ Note: The presence of the short timestamp is configurable.

[Motion #99, [1], [78], [79], [63] and [99]]

# **Text to be adopted begins here.**

***TGbp editor: Please add the following text to the respective subclauses in 802.11bp draft D0.1:***

## 39.2 AMP TSF

In order to support AMP duty cycle operation specified in Clause 39.5.1, an active AMP non-AP STA shall maintain an AMP TSF timer accurate to within ±104 ppm. The AMP TSF timer operates with a modulus of 2TBD1 and increments in steps of *TBD2* microseconds. An AMP TSF timestamp is defined with *TBD1-bit* length and contained in the *NAMETBD1* field in an AMP trigger frame specified in Clause 9.10.2. Upon receiving the AMP TSF timestamp in an AMP trigger frame, an active AMP non-AP STA shall update its local AMP TSF timer according to the below algorithm.

AMP TSF timer update algorithm is TBD.

In order to support AMP service period operation specified in Clause 39.5.2, an active AMP non-AP STA shall maintain an AMP TSF timer accurate to within ±104 ppm. The AMP TSF timer operates with a modulus of 2TBD3 and increments in steps of *TBD4* microseconds. An AMP TSF timestamp is defined with *TBD3-bit* length and contained in the *NAMETBD2* field in an AMP *TBD5* frame specified in Clause 9.10.x. Upon receiving the AMP TSF timestamp in an AMP *TBD5* frame, an active AMP non-AP STA shall update its local AMP TSF timer according to the below algorithm.

AMP TSF timer update algorithm is TBD.

# **Text to be adopted ends here.**

**References:**

1. 11-24/1613r12: 11-24-1613-10-00bp-specification-framework-for-tgbp, Yinan Qi (OPPO)