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

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| 11bp PDT Duty-cycle operation |
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Abstract

This document contains Proposed Draft Text (PDT) for Duty-cycle operation 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:

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| **Revision** | **Major changes** |
| 0 | Initial revision |
| 1 | Revised version based on the comments from task group members. |
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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 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-4**: If an AMP device is able to support TSF, it can monitor AMP DL Frame in a duty-cycle manner.

[Motion #32, [1], [21] and [22]]

* **MM-24**: 802.11bp defines one mechanism that a non-AP AMP STA can derive its specific AMP service period in order to monitor AMP DL Frame.

[Motion #101, [1], [100], [101] and [103]]

* **MM-22**: IEEE 802.11bp defines an AMP Service Period, that allows an Active Tx non-AP AMP STA to enter doze state after a minimum wake up time since the start of the AMP Service Period, if the Active Tx non-AP AMP STA does not receive any AMP DL PPDU from the AMP AP.

[Motion #75, [1], [22], [74] and [75]]

* **FM-8**: 802.11bp allows duty-cycle configuration to be carried in an AMP trigger Frame.
	+ Details of Duty-cycle configuration (e.g., AMP service period) are TBD.
	+ Note: The presence of the duty-cycle configuration is configurable.

[Motion #100, [1], [100], [101], [102] and [103]]

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

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

## 39.5.1 Duty-cycle operation

AMP duty cycle operation identifies an amount of time that an non-AP AMP STA needs to be in the awake state during a time period. AMP duty cycle operation is determined by the following parameters: AMP service period, duty cycle period, start time (see Figure 39-X).



**Figure 39-X—Duty Cycle Operation**

A non-AP AMP STA can be in awake state within an AMP service period of each duty cycle period. The start time refers to the time an AMP service period starts. The start time of subsequent AMP service period is equal to the start time of the previous AMP service period plus the duty cycle period.

For an AMP service period, the non-AP AMP STA can stay in awake state for a minimum wake up time since the start of the AMP service period, after which time the non-AP AMP STA may enter doze state if it does not receive any AMP DL PPDU from the AMP AP.

The duty cycle parameters to support duty cycle operation are indicated by the AMP AP and contained in the NAMETBD1 field in an AMP trigger frame specified in Clause 9.10.2. Upon receiving the duty cycle parameters in an AMP trigger frame, obtained from NAMETBD1 field, an non-AP AMP STA shall derive its specific AMP service period based on the obtained duty cycle parameters, and enter awake state to monitor AMP DL frame at the start of the AMP service period.

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

**References:**

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