IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 203 Comment Resolution for  10.2.2.1, 10.2.2.2, 10.2.2.6, 10.2.2.8, 10.2.2.9 | | | | |
| Date: 2014-09-03 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Kaiying Lv | ZTE Corp. | Xi’an China | +86 15319738598 | lv.kaiying@zte.com.cn |

Abstract

This submission proposes resolutions for comments in clauses 10.2.2.1,10.2.2.2,10.2.2.6,10.2.2.8, 10.2.2.9 of TGah Draft 2.0 with the following CIDs (TOT 18 CIDs):

* 3055, 3056, 3175, 3176, 3177, 3178, 3183, 3184, 3185, 3186, 3408, 3590,3597,3598, 3854, 3855, 4133, 4167

Revisions:

* Rev 0: Initial version of the document.

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 TGah Draft. This introduction is not part of the adopted material.

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

***TGah Editor: Editing instructions preceded by “TGah Editor” are instructions to the TGah editor to modify existing material in the TGah draft. As a result of adopting the changes, the TGah editor will execute the instructions rather than copy them to the TGah Draft.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 3590 | 322.39 | 10.2.2.1 | What is this requirement to know the BSSID of "another AP"? | Clarify the requirement to know the BSSID of another AP. | Revised  Since the partial BSSIDs of different APs might be the same, it is beneficial to know the BSSID of another AP in order to determine whether the partial BSSIDs collide. If collision happens, the S1G STA shall not transmit NDP PS-Poll frames to its associated AP to avoid ambiguity.  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3590. |
| 3854 | 321.60 | 10.2.2.1 | Since Page Slicing is optional. It is better to change to "followed by TIM elements (if any) with Page Slice Number from 0 to 30 each of which are also ordered from page 0 to page 3 if Page Slicing is supported." | As in comment. | Accepted –    TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3854. |
| 3855 | 322.48 | 10.2.2.1 | "An S1G STA in PS mode shall set the More Data field to 1 in a frame transmitted to its AP when the STA intends to transmit another frame to the AP within this SP. An S1G STA in PS mode shall set the More Data field to 0 in a frame transmitted to its AP when the STA does not intend to transmit another frame to the AP within this SP."  EOSP should be used for this indication. | Change the sentence per the comment. | Rejected –  EOSP means end of service period, while by setting More Date field to 0 only means the STA does not intend to transmit another frame to the AP. The AP can still transmit frames to the STA within this SP if BDT is supported. |
| 4167 | 323.1 | 10.2.2.2 | "A STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence  is detected by which it can correctly set its NAV, or until a period of time equal to the ProbeDelay has  transpired."  The 802.11ah supports the RID mechanism as another virtual carrier sense mechanism because the PV1 frame does not set the NAV.  So, the above channel access mechanism of the Power Saving S1G STA have to be based on the RID condition | Modify the corresponding sentence as the following:  "A non-S1G STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence is detected by which it can correctly set its NAV, or until a period of time equal to the ProbeDelay has transpired. An S1G STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence is detected by which it can correctly set its RID, or until a period of time equal to the ProbeDelay has transpired." | Revised-  Both NAV and RID condition can be used.  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 4167. |
| 3055 | 323.32 | 10.2.2.2 | "An S1G STA uses AC\_VO to send PS-Poll frame as the default setting."  What does default mean?  Does this contradict the default values for .11ae? | Either remove the statement, or add a reference to where this is defined, if non-conflicting; or add an exception where it creates a conflict. | Revised –  Change to “An SIG STA uses AC\_VO to send PS-Poll frame by default unless the overridden PS-Poll ACI subfield in the Update EDCA Info field in an EDCA Parameter Set element indicates a different access catagory.”  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3055. |
| 3056 | 324.07 | 10.2.2.2 | "may additionally recommend"  What a STA may do is relevant, not the million and one other things this is additional to.  "additionally" is unnecessary and creates ambiguities in normative text. | Remove "additionally" | Accepted –    TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3056. |
| 3175 | 322.11 | 10.2.2.2 | This should be a PS-Poll or trigger frame instead of the generic individually addressed frame. Note that it is not sufficient that the STA transmits any frame, i.e., the AP needs to be polled by the non-TIM STA with a polling frame to deliver its DL BUs (see 10.2.2.6). To make it clear that there are certain cases the STA is excempt from sending these PS-Poll frames add the exeptions in the text. | replace "one frame that is individually addressed" with " one PS-Poll or trigger frame". And insert the following at the end of the sentence: "unless it follows the TWT or NDP Paging procedure." | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3175. |
| 3176 | 322.36 | 10.2.2.2 | An S1G STA shall set the Poll Type subfield to 0 also for a PS-Poll+BDT frame as well (see 8.3.1.5.1). Also add an acronym PS-Poll(+BDT) so that the use of "or" is avoided in the draft | Replace the 3rd sentence of this paragraph with: "An S1G STA shall set the Poll Type subfield in the Frame Control field of a transmitted PS-Poll(+BDT) frame to 0 except when the PS-Poll frame is transmitted by a non-TIM STA that follows the procedures described in 9.43.2(Rescheduling of awake/doze cycle). Add the following acronym in subclause 3.3: "PS-Poll(+BDT) PS-Poll or PS-Poll+BDT". Replace "PS-Poll or (a) PS-Poll+BDT" with "PS-Poll(+BDT)" throughout the draft. | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3176. |
| 3408 | 323.18 | 10.2.2.2 | "A non-TIM STA may send PS-Poll frames to an S1G AP regardless of whether individually addressed buffered BUs have been indicated by the S1G AP." Do the non-TIM STAs transmit PS-Poll frames or just NDP PS-Poll frames? | In case a non-TIM STA can only transmit NDP PS-Poll frames, then this sentence may be modified to "A non-TIM STA may send NDP PS-Poll frames to an S1G AP regardless of whether individually addressed buffered BUs have been indicated by the S1G AP." | Revised –  The non-TIM STAs may send (NDP) PS-Poll frames.  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3408. |
| 3177 | 323.32 | 10.2.2.2 | The normative behavior regarding which access category to use for transmitting PS-Poll frames does not belong here. Actually it is already covered in the last paragraph of 9.2.4 for both types of S1G STAs (where it is a more accurate description making these first two sentences non complete and partially redundant). | Remove "An S1G STA uses AC\_VO to send PS-Poll frame as the default setting. The S1G AP shall inform the S1G STA of the access category specified in the PS-Poll ACI subfield in the Update EDCA Info field in the EDCA Parameter Set element for sending PS-Poll frames at Beacon and Probe Response frames, over-writing the default value." | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3177. |
| 3178 | 323.54 | 10.2.2.2 | " An S1G AP that .... may set ... the Non-TIM Support field in the S1G Capabilities element to 0 anytime during operation" Actually the values in the S1G Capabilities element should not change during the BSS operation. Make the appropriate changes so that the S1G Capabilitites signaling is static during BSS operation | As in comment. | Revised –  Change “anytime during its operation” to “during the whole operation time”  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3178. |
| 3183 | 325.4 | 10.2.2.6 | This subclause is all about AP operation. Hence the TIM is transmitted not received. | Replace "received" with "transmitted". | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3183. |
| 3184 | 325.17 | 10.2.2.6 | These three paragraphs contain redundancy that can be gratuituously eliminated following the suggestions in the proposed change. | Replace the paragraphs from P325L17-L40 with: "An S1G AP that sends an acknowledgement frame of type (NDP) Ack or NDP PS-Poll-Ack in response to an (NDP)PS-Poll/trigger frame that is received from an S1G STA shall set the More Data subfield of the acknowledgement frame to 0 when no BU is buffered for the STA; otherwise, it shall set it to 1. The successful reception of the acknowledgement frame provides the following indications to the S1G STA:  - If the More Data subfield is equal to 0 it indicates to the S1G STA that no service period starts and that it may enter the doze state,  - If the More Data subfield is equal to 1 it indicates to the S1G STA that a service period starts after a time T, starting from the end of the acknowledgement frame, after which the S1G STA shall remain in the awake state until a frame is received from the S1G AP that has the EOSP subfield equal to 1. The time T is equal to:  -- 0 if the acknowledgment frame is an Ack frame or is an NDP(PS-Poll-)Ack frame with the Idle Indication subfield equal to 0  -- the value indicated in the Duration field of the frame if the frame is an NDP (PS-Poll-)Ack frame with the Idle Indication subfield equal to 1." | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3184. |
| 3597 | 326.6 | 10.2.2.8 | "The STA with dot11NonTIMModeActivated equal to false shall wake up early enough to be able to receive the first Beacon frame scheduled for transmission at the time corresponding to the last TBTT for which the STA was awake plus the ListenInterval. The STA with dot11NonTIMModeActivated equal to true is not required to wake up to receive a Beacon frame and shall transmit at least one frame that is individually addressed to the associated AP every listen interval starting from the last known transition of the non-TIM STA in doze state." This clause does not address backward compatibility with a legacy STA that does not know about the Non-TIM mode | Address backward compatibility with legacy STAs | Rejected-  There is no legacy devices in S1G channel band.  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3597. |
| 3185 | 326.7 | 10.2.2.8 | An S1G AP may transmit S1G Beacon frames in a TSBTT as well. | replace " TBTT" with "T(S)BTT" in P326L7 and in the NOTE that follows as well. | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3185. |
| 3186 | 326.22 | 10.2.2.9 | "sleep" or "doze" state. Be consistent using the baseline terminology "doze" state. Also the sentence does not read very well.See suggested change. | Replace the sentence with: " An S1G STA that receives an (NDP) Ack frame with the More Data subfield equal to 0 as a response to a PS-Poll frame may enter the doze state." | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3186. |
| 3598 | 326.22 | 10.2.2.9 | "sleep state" is not defined | Define sleep state or use "sleep mode" or "doze state" as appropriate for this clause | Accepted –  TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 3598. |
| 4133 | 326.22 | 10.2.2.9 | Withihn this sentence "e) An S1G STA may enter the sleep state after receiving...", what is the slleep state referring to. Is the doze state? | Change the text from "e) An S1G STA may enter the sleep state after receiving..." to  "e) An S1G STA may enter the doze state after receiving...". Check for similar occurances in the rest of the document. | Accepted –    TGah editor to make the changes shown in 11-14/xxxxr0 under all headings that include CID 4133. |

**Discussion:** *None.*

10.2.2.1 General

***Insert the following after the 4th paragraph of subclause 10.2.2.1:***

***TGah Editor: Change the paragraph below as follows (#3854):***

When dot11S1GOptionImplemented is false, the traffic-indication virtual bitmap, maintained by the AP, shall be transmitted in a TIM element. When dot11S1GOptionImplemented is true, the traffic-indication virtual bitmap may be divided into more than one page and each page shall be transmitted in a TIM element, hence, more than one TIM element may appear in an S1G Beacon frame. If more than one TIM element is present, then the TIM elements shall be ordered based their value of the Page Index and Page Slice Number subfields in the Bitmap Control field. TIM elements with Page Slice Number equal to 31 (if any) shall be the first ones and ordered from page 0 to page 3, followed by TIM elements (if any) with Page Slice Number from 0 to 30 each of which are also ordered from page 0 to page 3 if Page Slicing is supported. When dot11S1GOptionImplemented is true, the traffic virtual bitmap shall be encoded as defined in 8.4.2.6.1 (S1G Partial Virtual Bitmap encoding) where the ADE mode may be used by the AP only if the TIM ADE Support field in the most

***Change the 5th paragraph of subclause 10.2.2.1 as follows:***

***TGah Editor: Change the paragraph below as follows (#3175):***

A STA operating in PS mode with dot11NonTIMModeActivated equal to false that is not in WNM-Sleep mode shall periodically listen for Beacon frames, as determined by the STA’s ListenInterval and the ReceiveDTIMs parameter in the MLMEPOWERMGT.request primitive. STAs operating in PS modes with dot11NonTIMModeActivated equal to true transmit at least one PS-Poll or trigger frame that is individually addressed to the associated AP every ListenInterval Beacon Intervals starting from the last known transition of the non-TIM STA in doze state unless it follows the TWT or NDP Paging procedure.

***Change the 10th paragraph of subclause 10.2.2.1 as follows:***

***TGah Editor: Change the paragraph below as follows (#3590):***

In a BSS operating under the DCF, or during the CP of a BSS using the PCF, upon determining that a BU is currently buffered in the AP, a STA operating in the normal (non-APSD) PS mode transmits a (NDP) PS-Poll frame to the AP, which responds with the corresponding buffered BU immediately, or acknowledges the (NDP) PS-Poll and respond with the corresponding BU at a later time. If the TIM indicating the buffered BU is sent during a CFP, a CF-Pollable STA operating in the PS mode does not send a PS-Poll frame, but remains active until the buffered BU is received (or the CFP ends). An S1G STA may transmit NDP PS-Poll frames instead of PS-Poll frames to an S1G AP from which it has received a frame containing an S1G Capabilities element with the NDP PS-Poll Supported field equal to 1; otherwise the S1G STA shall not transmit NDP PS-Poll frames. If an S1G STA detects that the partial BSSID of its associated AP is equal to the partial BSSID of at least another AP (i.e., the other AP and the associated AP have a different BSSID) from which it successfully receives frames, then the S1G STA shall not transmit NDP PS-Poll frames to its associated AP to avoid ambiguouness. A non-S1G STA shall not transmit NDP PS-Poll frames.

10.2.2.2 Non-AP STA Power Management modes

***Change the second row of Table 10-2 as follows:***

***TGah Editor: Change the paragraph below as follows (#3048,#3175,):***

|  |  |
| --- | --- |
| PS | STA with dot11NonTIMModeActivated equal to false listens to selected Beacon frames (based upon the ListenInterval parameter of the MLME-ASSOCIATE.request or MLME-REASSOCI­ATE.request primitive) and sends PS-Poll frames to the AP if the TIM element in the most recent Beacon frame indicates an individually addressed BU is buffered for that STA. An S1G non-AP STA for which dot11NonTIMModeActivated is false is a TIM STA.  STA with dot11NonTIMModeActivated equal to true shall transmit at least one PS-Poll or trigger frame that is individually addressed to the associated AP every listen interval without being required to receive an S1G Beacon frame (based upon the ListenInterval parameter of the MLME-ASSO­CIATE.request or MLME-REASSOCIATE.request primitive). An S1G non-AP STA for which dot11NonTIMModeActivated is true is a non-TIM STA.  A non-TIM STA may send (NDP) PS-Poll frames to an S1G AP regardless of whether individually addressed buffered BUs have been indicated by the S1G AP.  The AP shall transmit buffered individually addressed BUs to a PS STA only in response to a PS-Poll from that STA, during the CFP in the case of a CF-Pollable PS STA, during a scheduled or unscheduled APSD service period for the STA, or during the SP of a scheduled GCR-SP. In PS mode, a STA shall be in the Doze state and shall enter the Awake state to receive selected Beacon frames, to receive group addressed transmissions following certain received Beacon frames, to receive transmissions during the SP of a scheduled GCRSP, to transmit, and to await responses to transmitted PS-Poll frames or (for CF-Pollable STAs) to receive CF transmissions |

***TGah Editor: Change the paragraph below as follows (#4167):***

A STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence

is detected by which it can correctly set its NAV, or until a period of time equal to the ProbeDelay has transpired.

A non-S1G STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence is detected by which it can correctly set its NAV, or until a period of time equal to the ProbeDelay has transpired. An S1G STA that is changing from Doze to Awake in order to transmit shall perform CCA until a frame sequence is detected by which it can correctly set its RID or NAV, or until a period of time equal to the ProbeDelay has transpired.

***Insert the following paragraphs at the end of this sub-clause:***

***TGah Editor: Change the paragraph below as follows (#3055):***

~~An S1G STA uses AC\_VO to send PS-Poll frame as the default setting.~~ The S1G AP shall inform the S1G STA of the access category specified in the PS-Poll ACI subfield in the Update EDCA Info field in the EDCA Parameter Set element for sending PS-Poll frames at Beacon and Probe Response frames, over-writing the default value. An S1G STA shall set the Poll Type subfield in the Frame Control field of the transmitted PS-Poll(+BDT) frame to 0 unless it is a non-TIM STA that follows the procedures described in 9.43.2 (Rescheduling of awake/doze cycle). An S1G TIM STA shall not send a PS-Poll with the Poll Type subfield equal to 1 to an S1G STA.

Upon receiving a PS-Poll or a PS-Poll+BDT frame, the S1G AP may use the RTS/CTS protection scheme to send buffered data until it transmits a frame with MORE DATA equal to 0 or until the duration of the exchange, including the initial PS-Poll(+BDT) ~~or PS-Poll+BDT~~ frame reaches the TXOP limit whichever comes first.

***TGah Editor: Change the paragraph below as follows (#3178):***

An S1G AP that sets the STA Type Support in a transmitted S1G Capabilities element to 0 or 1, as described in 10.48 (Sensor Only BSS), shall set the dot11NonTIMModeActivated to true and shall set the Non-TIM Support field in the S1G Capabilities element to 1. An S1G AP that sets the STA Type Support in a transmitted S1G Capabilities element to 2, as described in 10.48 (Sensor Only BSS), may set the dot11NonTIMModeActivated to false and the Non-TIM Support field in the S1G Capabilities element to 0 ~~anytime~~ during the whole ~~its~~ operation time. An S1G AP that sets the STA Type Support in a transmitted S1G Capabilities element to 2, as described in 10.48 (Sensor Only BSS), may set the dot11NonTIMModeActivated to true and the Non-TIM Support field in the S1G Capabilities element to 1 ~~anytime~~ during the whole ~~its~~ operation time.

An S1G non-AP STA shall indicate its PS mode (TIM mode or non-TIM mode), during association, to the AP it intends to associate with. The STA shall set the Non-TIM Support field in the S1G Capabilities element included in the Association Request frame to 1 to request operation in non-TIM mode. Otherwise, it shall set the Non-TIM Support field to 0.

An S1G AP that sets the STA Type Support in the S1G Capabilities element to 2 in the Association Response frame transmitted to a STA may set the Non-TIM Support field in the S1G Capabilities element, included in the Association Response frame, to 1 if the Association Request frame previously sent by the STA had the Non-TIM Support field equal to 1.

***TGah Editor: Change the paragraph below as follows (#3056):***

The S1G AP may ~~additionally~~ recommend a value of listen interval different from that in Association Request frame based on its buffer management consideration in Association Response frame.

An S1G non-AP STA that has transmitted an Association Request frame with the Non-TIM Support field equal to 1 and that receives an Association Response frame with the Non-TIM Support field in the S1G Capabilities element equal to 1 shall set the dot11NonTIMModeActivated to true. Otherwise, it shall set the dot11NonTIMModeActivated to false. The STA shall operate in the negotiated PS mode during association unless a PS mode switch is negotiated as described in 10.45 (Dynamic AID assignment operation) or a temporary PS mode switch has occurred as described in 9.43.2 (Rescheduling of awake/doze cycle). The STA shall update its Listen Interval parameter to the value of the Listen Interval field of the Association Response frame.

***TGah Editor: Add the paragraph below as follows (#3183):***

**10.2.2.6 AP operation during the CP**

***Change item c) of the second paragraph as follows:***

c) At every beacon interval, the AP shall assemble the partial virtual bitmap containing the buffer status per destination for STAs in the PS mode and shall send this out in the TIM field of the Beacon frame. At every beacon interval, the APSD-capable AP shall assemble the partial virtual bitmap containing the buffer status of nondelivery-enabled ACs (if there exists at least one nondeliveryenabled AC) per destination for STAs in PS mode and shall send this out in the TIM field of the Beacon frame. When all ACs are delivery-enabled, the APSD-capable AP shall assemble the partial virtual bitmap containing the buffer status for all ACs per destination. If FMS is enabled, the AP shall include the FMS Descriptor element in every Beacon frame. The FMS Descriptor element shall indicate all FMS group addressed frames that the AP buffers. An S1G AP should set the value of the Duration field in the S1G Beacon frame to the estimated time required for all the S1G STAs that are indicated in the TIM elements and/or are allowed to access the first RAW immediately following the S1G Beacon frame as described in 9.21.5.4 (Slotted channel access procedure in RAW), to send the trigger or (NDP) PS-Poll frame and receive an acknowledgement from the AP. The operation described in this paragraph shall also be performed for every short beacon interval where a TIM is ~~received~~ transmitted.

***Change item g) of the second paragraph as follows:***

g) A single buffered BU for a STA in the PS mode shall be forwarded to the STA after a PS-Poll has been received from that STA. For a STA using U-APSD, the AP transmits one BU destined for the STA from any AC that is not delivery-enabled in response to PS-Poll from the STA. When all ACs associated with the STA are delivery-enabled, AP transmits one BU from the highest priority AC that has a BU. The AP can respond with either an immediate data or Management frame or with an Ack frame, while delaying the responding data or Management frame.

***TGah Editor: Add the paragraph below as follows (#3184):***

~~An S1G AP that sends an (NDP) Ack frame in response to a PS-Poll/trigger frame or an NDP PS-Poll-Ackframe in response to a NDP PS-Poll frame received from an S1G STA shall set the More Data subfield of the (NDP) Ack frame to 0 when no BU is buffered for the S1G STA and to 1 otherwise.~~

~~A More Data subfield equal to 0 in an (NDP) Ack frame that is sent by an S1G AP in response to a PS-Poll/trigger frame or in an NDP PS-Poll-Ack frame in response to a NDP PS-Poll frame received from an S1G STA indicates to the S1G STA that no service period starts and that it may enter the doze state.~~

~~A More Data subfield equal to 1 in an (NDP) Ack frame that is sent by an S1G AP in response to a PS-Poll/trigger frame or in an NDP PS-Poll-Ack frame in response to a NDP PS-Poll frame received from an S1G STA indicates to the S1G STA that a service period starts, after which the S1G STA shall remain in the wake state until a frame is received from the S1G AP with the EOSP subfield equal to 1. If the response with the More Data subfield equal to 1 is an NDP Ack with a Idle Indication subfield equal to 1, the service period starts at a time T after the end of the NDP Ack frame, where T is the time value indicated in the Duration field of the NDP Ack; if the Idle Indication subfield is 0, the service period starts immediately after the end of the NDP Ack frame. If the response with the More Data subfield equal to 1 is an NDP PS-Poll-Ack with a Idle Indication subfield equal to 1, the service period starts at a time T after the end of the NDP PS-Poll-Ack frame, where T is the time value indicated in the Duration field of the NDP PS-Poll-Ack; if the Idle Indication subfield is 0, the service period starts immediately after the end of the NDP PS-Poll-Ackframe.~~

An S1G AP that sends an acknowledgement frame of type (NDP) Ack or NDP PS-Poll-Ack in response to an (NDP)PS-Poll/trigger frame that is received from an S1G STA shall set the More Data subfield of the acknowledgement frame to 0 when no BU is buffered for the STA; otherwise, it shall set it to 1. The successful reception of the acknowledgement frame provides the following indications to the S1G STA:

- If the More Data subfield is equal to 0 it indicates to the S1G STA that no service period starts and that it may enter the doze state,

- If the More Data subfield is equal to 1 it indicates to the S1G STA that a service period starts after a time T, starting from the end of the acknowledgement frame, after which the S1G STA shall remain in the awake state until a frame is received from the S1G AP that has the EOSP subfield equal to 1. The time T is equal to:

-- 0 if the acknowledgment frame is an Ack frame or is an NDP(PS-Poll-)Ack frame with the Idle Indication subfield equal to 0

-- the value indicated in the Duration field of the frame if the frame is an NDP (PS-Poll-)Ack frame with the Idle Indication subfield equal to 1

**10.2.2.8 Receive operation for STAs in PS mode during the CP**

***Change item a) of the second paragraph in subclause 10.2.2.8 as following:***

***TGah Editor: Add the paragraph below as follows (#3175, #3185):***

a) The STA with dot11NonTIMModeActivated equal to false shall wake up early enough to be able to receive the first Beacon frame scheduled for transmission at the time corresponding to the last T(S)BTT for which the STA was awake plus the ListenInterval. The STA with dot11NonTIMModeActivated equal to true is not required to wake up to receive a Beacon frame and shall transmit at least one PS-Poll or trigger frame that is individually addressed to the associated AP every listen interval starting from the last known transition of the non-TIM STA in doze state.

NOTE—the STA might wake for a T(S)BTT that is earlier than this deadline. In that case the previous requirement is reset based on a new “last TBTT”.

***TGah Editor: Add the paragraph below as follows (#3186, #3598, #4133):***

**10.2.2.9 Receive operation for STAs in PS mode during the CFP**

***Insert a new item e) after the item d):***

~~e) An S1G STA may enter the sleep state after receiving from an S1G AP, and in response to a PS-Poll frame sent to the S1G AP, an (NDP) Ack frame with the More Data subfield equal to 0.~~

e) An S1G STA that receives an (NDP) Ack frame with the More Data subfield equal to 0 as a response to a PS-Poll frame may enter the doze state.

***TGah Editor: Add the following acronym in subclause 3.3(#3176):***

3.3 Abbreviations and acronyms

Insert the following acronym definitions (maintaining alphabetical order):

PS-Poll(+BDT) PS-Poll or PS-Poll+BDT

***TGah Editor: Replace "PS-Poll or (a) PS-Poll+BDT" with "PS-Poll(+BDT)" throughout the draft. (#3176)***