IEEE P802.11  
Wireless LANs

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| LB 200 NDP Probing comment resolution | | | | |
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Abstract

This submission proposes comment resolutions of the clause 10.1.4.3.3b and 8.3.5.2.1 from TGah Draft 1.0. (10 CIDs)

* 1080, 1379, 2065, 2397, 2807, 1280, 1396, 2480, 2638, 2826

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.***

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 1080 | 61.43 | 8.3.5.2.1 | "Propbe" -- speeling | Run the speel chequa. | Revised -  Replace every occurrence of "Propbe" in tables 8-55 and 8-56 with "Probe" |
| 1379 | 61.34 | 8.3.5.2.1 | Some typos in Tables 8-55 and 8-56 "Propbe Request". In addition it is not clear what desired SSID means. Especially when it is mentioned regarding " the calculated fields is the desired SSID". In this case is it the Full SSID? | Replace every occurrence of "Propbe" in tables 8-55 and 8-56 with "Probe" and replace every occurrence of "desired SSID" with "Compressed SSID" in the same tables unless in some cases the desired SSID is the full SSID as in comment. | Revised -  Replace every occurrence of "Propbe" in tables 8-55 and 8-56 with "Probe"  And, replace every occurrence of "is the desired SSID" in tables 8-55 and 8-56 with "is the Full SSID".  And, replace every occurrence of "contains the desired SSID" in tables 8-55 and 8-56 with "contains the Compressed SSID". |
| 2065 | 61.43 | 8.3.5.2.1 | Probe, not "Propbe" | Edit spelling | Revised -  Agree on the comment. See the resolution of CID 1080. |
| 2397 | 61.34 | 8.3.5.2.1 | What are bits 4-19? Ditto in Table 8-56 | This appears to be some hangover from a time when the frame was shown as a big sequence of bits. Change to refer to specific bits of the field in question | Revised-  Page 61 Line 47,  "Bit 4 – 19" is changed to "Compressed SSID/Access Network Option field[0:15]"  Page 61 Line 52,  "Bit 4 – 11" is changed to "Compressed SSID/Access Network Option field[0:7]"  Page 61 Line 55,  "Bit 12 – 19" is changed to "Compressed SSID/Access Network Option field[8:15]"  Page 62 Line 16,  "Bit 4 – 35" is changed to "Compressed SSID/Access Network Option field[0:31]"  Page 62 Line 21,  "Bit 4 – 11" is changed to "Compressed SSID/Access Network Option field[0:7]"  Page 62 Line 24,  "Bit 12 – 35" is changed to "Compressed SSID/Access Network Option field[8:31]" |
| 2807 | 61.47 | 8.3.5.2.1 | Within Table 8-55, 'Bit' should be 'Bits' on the ranges | Change 'Bit' to 'Bits' when a range of values is used. | Revised -  Agree on the comment. See the resolution of CID 2397. |
| 1280 | 217.02 | 10.1.4.3.3b | " Else, if it " - grammer. | "Otherise, if it" | Revised -  Page 217 Line 2, Change from  "Else, if it"  to  “Otherwise, if it” |
| 1396 | 216.61 | 10.1.4.3.3b | Some minor editorial comments and clarifications for this paragraph can be found in the resolution of this comment. | Replace "responses a (short) Probe" with responds with a (Short) Probe". Replace "a (short) Probe Response frame shall be broadcasted" with "the RA address of the (Short) Probe Response frame shall be broadcast." | Accepted-  Agree on the comment. |
| 2480 | 216.57 | 10.1.4.3.3b | What is a "specific compressed SSID"? | Delete "specific" | Accepted-  Agree on the comment. |
| 2638 | 216.49 | 10.1.4.3.3b | NDP probing presumes the STA knows the regulatory domain and Operating classes to be used. The text should caution that a STA should only use NDP probing where it is certain of the regulatory domain. | Add text after first sentence: "NDP probing is prohibited in some frequency bands and regulatory domains." | Revised-  TGah editor to make changes shown in 11-13-1424r1. |
| 2826 | 217.02 | 10.1.4.3.3b | Why does the STA need to trasmit a Probe Request frame for obtaining the more informatin even though it already received a Probe Response frame? | Replace "(short) Probe Response" with "short Probe Response" | Revised -  Because a NDP Probe Request frame does not have a Request information element, the Probe Response frame can not include any optional information element. Also, a NDP Probe Request should include the requested probe response type. TGah editor to make changes shown in 11-13-1424r1. |

***TGah editor: Modify the sub-clause 9.3.7 as the following:***

The NDP MAC frame body of NDP Probe Request for 1MHz has the structure defined in Table 8-55 (NDP MAC frame body of NDP Probe Request (1 MHz)).

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| **NDP MAC frame body of NDP Probe Request (1 MHz)** | | |
| **Field** | **Size (bits)** | **Description** |
| NDP MAC Frame Type | 3 | The NDP MAC Frame Type field is set to 7(#901). |
| SSID/  Interworking Present | 1 | Indicates the desired criteria of the probe response.  Set to 0 if the NDP Pro~~p~~be Request contains the ~~desired~~ Compressed SSID.  Set to 1 if the NDP Pro~~p~~be Request contains the Access Network Option. |
| Compressed SSID/Access Network Option | 16 | When SSID/Interworking Present bit field is set 0,  Compressed SSID/Access Network Option [0:15] ~~Bit 4 – 19~~ are set to Compressed SSID which is the 2 LSBs of 32-bit CRC calculated as defined 8.2.4.8 FCS field, wherein the calculated field~~s~~ is the ~~desired~~ Full SSID.  When SSID/Interworking Present bit field is set 1,  Compressed SSID/Access Network Option [0:7] ~~Bit 4 – 11~~ are set to Access Network Option which is defined in 8.4.2.91 Interworking element (see Figure 8-386-Access Network Options field format).  Compressed SSID/Access Network Option [8:15] ~~Bit 12 – 19~~ are reserved. |
| Requested Probe Response Type | 1 | Indicates the Probe Response type. Set to 0 if the AP with dot11ShortProbeResponseOptionImplemented equal to true responds with a Short Probe Response frame. Set to 1 if the AP responds with a Probe Response frame. |
| Reserved | ~~5~~ 4 | Reserved. Set to 1. |

The NDP MAC frame body of NDP Probe Request for >=2MHz has the structure defined in Table 8-56 (NDP MAC frame body of NDP Probe Request (2 MHz)).

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| **NDP MAC frame body of NDP Probe Request (>=2 MHz)** | | |
| **Field** | **Size (bits)** | **Description** |
| NDP MAC Frame Type | 3 | The NDP MAC Frame Type field is set to 6. |
| SSID/  Interworking Present | 1 | Indicates the desired criteria of the probe response.  Set to 0 if the NDP Pro~~p~~be Request contains the ~~desired~~ Compressed SSID.  Set to 1 if the NDP Pro~~p~~be Request contains the Access Network Option. |
| Compressed SSID/Access Network Option | 32 | When SSID/Interworking Present bit field is set 0,  Compressed SSID/Access Network Option [0:31] ~~Bit 4 – 35~~ are set to Compressed SSID which is 32-bit CRC calculated as defined 8.2.4.8 FCS field, wherein the calculated field~~s~~ is the ~~desired~~ Full SSID.  When SSID/Interworking Present bit field is set 1,  Compressed SSID/Access Network Option [0:7] ~~Bit 4 – 11~~ are set to Access Network Option which is defined in 8.4.2.91 Interworking element (see Figure 8-386-Access Network Options field format). Compressed SSID/Access Network Option [8:31] ~~Bit 12 – 35~~ are reserved. |
| Requested Probe Response Type | 1 | Indicates the Probe Response type. Set to 0 if the AP with dot11ShortProbeResponseOptionImplemented equal to true responds with a Short Probe Response frame. Set to 1 if the AP responds with a Probe Response frame. |
| ~~Reserved~~ | ~~1~~ | ~~Reserved. Set to 1.~~ |

***TGah editor: Modify the sub-clause 10.1.4.3.3b as the following:***

The NDP Probing is used to reduce the energy consumption during the scanning. Upon receipt of the MLME-SCAN.request primitive with ScanType indicating a NDP Probing, a STA for which dot11NDPProbingActivated is true shall transmit a NDP Probe Request frame that has either a compressed SSID or an access network option. NDP probing is allowed when a S1G STA knows the operating frequency bands and regulatory domains.

APs receiving a NDP Probe Request frames shall respond with a (short) Probe Response frame only if:

* The compressed SSID in the NDP Probe Request frame is the ~~specific~~ compressed SSID of the AP.
* The access network option in the NDP Probe Request frame is the access network option of the AP.

If the Requested Probe Response Type field in the NDP Probe Request frame is set to 0, the responding AP with dot11ShortProbeResponseOptionImplemented equal to true shall respond with a Short Probe Response frame. Otherwise it shall respond with a Probe Reponse frame. When an AP ~~responses a (short) Probe Response frame~~ responds with a (short) Probe Response frame, it shall perform the Basic Access procedure as defined in 9.3.4.2. Because a NDP Probe Request frame does not have a MAC Address of STA requesting a NDP Probing, ~~a (short) Probe Response frame shall be broadcasted~~ the RA address of the (Short) Probe Response frame shall be broadcast.

If PHY-CCA.indication (busy) primitive has not been detected before the ProbeTimer reaches MinChannelTime, then set NAV to 0 and scan the next channel. ~~Else, if it~~ Otherwise, if it receives (short) Probe Response frame, STA may transmit a Probe Request frame/Association Request frame or listen to full Beacon frame for obtaining the more information.

An illustration of the NDP probing procedure is shown in Figure 10-5a (NDP Probing Procedure).