IEEE 802.11
Wireless LANs

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| Comment Resolution for CIDs on Clause 8.3.3.10, 8.3.4.15c, and 8.4.2.170v |
| Date: 2013-09-15 |
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Abstract

This document provides resolution for CIDs on Clause 8.3.3.10, 8.3.4.15c, and 8.4.2.170v.

(CID 403, CIDs 348, 349, 351, 588, 937, CIDs 412, 413, 438, 656)

The changes are in the following subclauses: 8.3.3.10, 8.3.4.15c, and 8.4.2.170v.

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| **CID** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 403 | ProbeResponseOption is only used in Probe Request frame. 'ProbeResponseOption' should be removed from Table 8-31 (Probe Response frame body) | Remove 'ProbeResponseOption' entry from Table 8-31 (Probe Response frame body) | Revised.Since ProbeResponseOption is only used in Probe Request frame and not included in the Probe Response frame, 'ProbeResponseOption' should be removed from Table 8-31 (Probe Response frame body).TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 403. |

**Discussion:**

Since ProbeResponseOption is only used in Probe Request frame and not included in the Probe Response frame, 'ProbeResponseOption' should be removed from Table 8-31 (Probe Response frame body).

***Proposed changes:***

***Remove ‘ProbeResponseOption’ from Table8-31 (802.11ah D0.2)***

* Probe Response frame format

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| * Probe Response frame body
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| **Order** | **Information** | **Notes** |
| TBD | RPS | The RPS element is present only within Probe Response frames generated by APs for medium access of STAs. |
| TBD | Segment Count | The Segment Count element is used for indication of TIM and page segments present in DTIM intervals. |
| ~~TBD~~ | ~~ProbeResponseOption~~ | ~~The ProbeResponseOption element is optionally present if dot11S1GOptionImplemented is true.~~  |
| TBD | Change Sequence | The Change Sequence is optionally present if dot11ShortBeaconOptionImplemented is true. |
| TBD | TSF Timer Accuracy | The TSF Timer Accuracy element is optionally present when the dot11TSFTimerAccuracyImpemented is true.  |
| TBD | Relay Discovery | The Relay Discovery is optionally present if TBD is true. |
| TBD | Relay | The Relay element is optionally present if dot11RelayCapable is true. |
| TBD | S1G Capabilities | S1G Capabilities element is optionally present if dot11S1GOptionImplemented is true. |
| TBD | S1G Operation(#863,866) | The S1G Operation element is optionally present when the dot11S1GOptionImpemented is true. |

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| **CID** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 348 | wrong verb | change "indicates" to "contains" | Accept.TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 348. |
| 349 | Should the "can" here and a few lines down both be "may"? | consider changing "can" to "may" in a couple of places in this subclause. | Revised.TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 349. |
| 588 | Change text order to match figure, move The Next TBTT field description to before the Compressed SSID field. | Move Text TBTT field per comment. | Accept.TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 588. |
| 937 | Typo | change "Chance" to "Change" | Accept.TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 937 |

***Proposed changes:***

***Proposed changes: Modify the following paragraphs of 8.7.5.3 (Short Probe Response frame format) as shown in this document (802.11ah D0.2)***

* Short Probe Response frame format(#12)

The Short Probe Response frame is a shortened version of Probe Response frame and it ~~can~~ may be used instead of Probe Response frame as described in 10.1.4.1, 10.1.4.3.1, and 10.1.4.3.2.

 The Short Probe Response frame is shown in Figure 8-532i (Short Probe Response frame format).

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |
|  | FC | DA | SA | Timestamp | ~~Chance~~ChangeSequence | Next TBTT (Optional) | Compressed SSID | Access Network Options (optional) | Optional IEs | FCS  |
| Octets: | 2 | 6 | 6 | 4 | 1 | 3 | 4 | 1 | variable | 4 |
| * Short Probe Response frame format
 |

The Short Probe Response frame contains Timestamp, Change Sequence, and either Compressed SSID or full SSID. It optionally contains Next TBTT, Access Network Options, and Optional IEs.

The Timestamp field is the 4 least significant bytes of the TSF timer value of the transmitting STA.

Change Sequence field is defined as an unsigned integer initialized to 0, that increments when a critical update to the Beacon frame has occurred.

The Next TBTT field is optionally present and indicates the most significant 3 bytes of the 4 least significant bytes of the next TBTT.

The Compressed SSID field ~~indicates~~ contains a 32-bit CRC calculated as defined in 8.2.4.8 FCS field, wherein the calculation fields is the SSID field in the Probe Response frame or Beacon frame.

When a Full SSID is requested to be included in the Short Probe Response frame, then SSID element as defined in 8.4.2.2 is included in the Optional IEs part of the Short Probe Response frame.

~~The Next TBTT field is optionally present and indicates the most significant 3 bytes of the 4 least significant bytes of the next TBTT.~~

The Access Network Options field is optionally present and is defined in 8.4.2.94 (Interworking element).

The Short Beacon Compatibility element as defined in 8.4.2.170g (Short Beacon Compatibility element) ~~can~~ may be included in the Optional IEs part of the Short Probe Response frame.

Other optional elements ~~can~~ may be included in the Optional IEs part of the Short Probe Response frame.

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| **CID** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 351 | Contradicts FC definition in 8.4.4.1 | Add an exception to FC definition back in 8.4.4.1 to call out the short probe response as not conforming to the definition of FC in 8.4.4.1 | Revised.In 11ah D0.2, Short Probe Response frame is classified into Short Management Frame. Since the Short Probe Response frame has redefined the Frame Control field of general Short frame, it should be described as an exception in the definition of the FC field in 8.7.3.1.TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 351. |

**Discussion:**

In 11ah D0.2, Short Probe Response frame is classified into Short Management Frame. Since the Short Probe Response frame has redefined the Frame Control field of general Short frame, it should be described as an exception in the definition of the FC field in 8.7.3.1.

***Proposed changes: Modify the following paragraphs of 8.7.3.1 (Frame Control field) as shown in this document (802.11ah D0.2)***

* Frame Control field

The format of the Frame Control field of the short MAC header except the Short Probe Response frame (8.7.5.3 Short Probe Response format) is illustrated in Figure 8-532b (Frame Control field).

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| **CID** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 412 | Some Subfield definitions in Table 8-191g, 8-191i, 8-191j, 8-191k, and 8-191l refer Table 8-30 (Probe Request frame body), but it should refer Table 8-31 (Probe Response frame body) of the REVmc since the information defined in the short probe response frame is from the information defined in existing probe response frame. | Globally change 'Table 8-30 (Probe Request frame body)' to 'Table 8-31 (Probe Response frame body)' in Table 8-191g, 8-191i, 8-191j, 8-191k, and 8-191l | Revised.Globally change 'Table 8-30 (Probe Request frame body)' to 'Table 8-31 (Probe Response frame body)' in Table 8-191g, 8-191i, 8-191j, 8-191k, and 8-191lTGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 412. |
| 413 | RootAP BSSID' is a subfield name of 'Relay' element. 'RootAP BSSID' should be changed to 'Relay' in the Subfield name, Definition, and Encoding in the table | Change 'RootAP BSSID' to 'Relay' in the Subfield name, Definition, and Encoding in the table ("Request Relay", "Indicates Relay element", and "Set to 1 to request Relay") | Accept.Change 'RootAP BSSID' to 'Relay' in the Subfield name, Definition, and Encoding in the table ("Request Relay", "Indicates Relay element", and "Set to 1 to request Relay")TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 413. |
| 656 | Subfield "Request RootAP BSSID" has a definition of "Indicates RootAP BSSID element is requested to be included in the short probe response". However, the RootAP BSSID element is not an element. It is part of the Relay element defined in Clause 8.4.2.170q. | Change the definition of subfield "Request RootAP BSSID" to be "Indicates Relay element is requested to be included in the short probe response". | Revised.Change 'RootAP BSSID' to 'Relay' in the Subfield name, Definition, and Encoding in the table ("Request Relay", "Indicates Relay element", and "Set to 1 to request Relay")TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 656. |
| 438 | For consistency with other entries in the first column of the table, " Request Short Beacon Compatibility IE" should be replaced with "Request Short Beacon Compatibility". | Replace "Request Short Beacon Compatibility IE" with "Request Short Beacon Compatibility". | Accept.Replace "Request Short Beacon Compatibility IE" with "Request Short Beacon Compatibility".TGah editor to make changes shown in 11-13-1202-00-00ah under the heading for CID 438. |

***Proposed changes:***

***Proposed changes: Modify the Table 8-191g, 8-191h, 8-191i, 8-191j, 8-191k, and 8-191l as shown in this document (802.11ah D0.2)***

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| * Probe Response Option bitmap 0 (Default Bitmap)
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| **Subfield** | **Bits** | **Definition** | **Encoding** |
| Request Full SSID | 1 | Indicates whether Full SSID or Compressed SSID is requested to be included in the short probe response | Set to 1 to request Full SSID Set to 0 to request Compressed SSID |
| Request Next TBTT | 1 | Indicates Next TBTT field is requested to be included in the short probe response | Set to 1 to request Next TBTTSet to 0 otherwise.  |
| Request Access Network Options | 1 | Indicates Request Access Network Options field is requested to be included in the short probe response | Set to 1 to request Access Network OptionsSet to 0 otherwise.  |
| Request Short Beacon Compatibility ~~IE~~ | 1 | Indicates Short Beacon Compatibility element (8.4.2.170g) is requested to be included in the short probe response | Set to 1 to request Short Beacon Compatibility elementSet to 0 otherwise. |
| Request Supported Rates  | 1 | Indicates Supported Rates in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Supported Rates.Set to 0 otherwise. |
| Request S1G Capability | 1 | Indicates S1G Capabilities element (8.4.2.170k) is requested to be included in the short probe response | Set to 1 to request S1G Capabilities element.Set to 0 otherwise. |
| Request Extended Capabilities | 1 | Indicates Extended Capabilities in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Extended Capabilities.Set to 0 otherwise. |
| Reserved | 1 | Reserved |  |

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| * Probe Response Option bitmap 1
 |
| **Subfield** | **Bits** | **Definition** | **Encoding** |
| Request RPS | 1 | Indicates RPS element (8.4.2.170b) is requested to be included in the short probe response | Set to 1 to request RPS elementSet to 0 otherwise.  |
| Request Segment Count | 1 | Indicates Segment Count element (8.4.2.170c) is requested to be included in the short probe response | Set to 1 to request Segment CountSet to 0 otherwise.  |
| Request TSF Timer Accuracy | 1 | Indicates TSF Timer Accuracy element (8.4.2.170o) is requested to be included in the short probe response | Set to 1 to request TSF Timer Accuracy.Set to 0 otherwise.  |
| Request Relay Discovery | 1 | Indicates Relay Discovery element (8.4.2.170r) is requested to be included in the short probe response | Set to 1 to request Relay Discovery.Set to 0 otherwise. |
| Request ~~RootAP BSSID~~ Relay | 1 | Indicates ~~RootAP BSSID~~ Relay element (8.4.2.170p) is requested to be included in the short probe response | Set to 1 to request ~~RootAP BSSID~~ Relay.Set to 0 otherwise. |
| Reserved | 1 | Reserved |  |
| Reserved | 1 | Reserved |  |
| Reserved | 1 | Reserved |  |

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| * Probe Response Option bitmap 2
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| Subfield | Bits | Definition | Encoding |
| Request Country | 1 | Indicates Country element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Country elementSet to 0 otherwise.  |
| Request Power Constraint | 1 | Indicates Power Constraint element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Power ConstraintSet to 0 otherwise.  |
| Request TPC Report | 1 | Indicates TPC Report element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request TPC Report.Set to 0 otherwise.  |
| Request Extended Supported Rates | 1 | Indicates Extended Supported Rates in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Extended Supported Rates.Set to 0 otherwise. |
| Request RSN | 1 | Indicates RSN element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request RSN.Set to 0 otherwise. |
| Request BSS Load | 1 | Indicates BSS Load element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request BSS Load.Set to 0 otherwise. |
| Request EDCA Parameter Set | 1 | Indicates EDCA Parameter in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request EDCA Parameter.Set to 0 otherwise. |
| Request Supported Operating Classes | 1 | Indicates Supported Operating Classes in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Supported Operating Classes.Set to 0 otherwise. |

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| * Probe Response Option bitmap 3
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| Subfield | Bits | Definition | Encoding |
| Request Measurement Pilot Transmission | 1 | Indicates Measurement Pilot Transmission element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Measurement Pilot TransmissionSet to 0 otherwise.  |
| Request Multiple BSSID | 1 | Indicates Multiple BSSID element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Multiple BSSIDSet to 0 otherwise.  |
| Request RM Enabled Capabilities | 1 | Indicates RM Enabled Capabilities element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request RM Enabled Capabilities.Set to 0 otherwise.  |
| Request AP Channel Report | 1 | Indicates AP Channel Report in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request AP Channel Report.Set to 0 otherwise. |
| Request BSS Average Access Delay | 1 | Indicates BSS Average Access Delay element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request BSS Average Access Delay.Set to 0 otherwise. |
| Request Antenna | 1 | Indicates Antenna element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Antenna.Set to 0 otherwise. |
| Request BSS Available Admission Capacity | 1 | Indicates BSS Available Admission Capacity in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request BSS Available Admission Capacity.Set to 0 otherwise. |
| Request BSS AC Access Delay | 1 | Indicates BSS AC Access Delay in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request BSS AC Access Delay.Set to 0 otherwise. |

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| * Probe Response Option bitmap 4
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| Subfield | Bits | Definition | Encoding |
| Request Mobility Domain | 1 | Indicates Mobility Domain element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Mobility DomainSet to 0 otherwise.  |
| Request DSE registered location | 1 | Indicates DSE registered location element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request DSE registered locationSet to 0 otherwise.  |
| Request CF Parameter Set | 1 | Indicates CF Parameter Set element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request CF Parameter Set.Set to 0 otherwise.  |
| Request QoS Traffic Capability | 1 | Indicates QoS Traffic Capability in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request QoS Traffic Capability.Set to 0 otherwise. |
| Request Channel Usage | 1 | Indicates Channel Usage element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Channel Usage.Set to 0 otherwise. |
| Request Time Advertisement | 1 | Indicates Time Advertisement element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Time Advertisement.Set to 0 otherwise. |
| Request Time Zone | 1 | Indicates Request Time Zone in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Time Zone.Set to 0 otherwise. |
| Reserved | 1 | Reserved |  |

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| * Probe Response Option bitmap 5
 |
| **Subfield** | **Bits** | **Definition** | **Encoding** |
| Request Interworking | 1 | Indicates Interworking element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request InterworkingSet to 0 otherwise.  |
| Request Advertisement Protocol | 1 | Indicates Advertisement Protocol element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Advertisement ProtocolSet to 0 otherwise.  |
| Request Roaming Consortium | 1 | Indicates Roaming Consortium element in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Roaming Consortium.Set to 0 otherwise.  |
| Request Emergency Alert Identifier | 1 | Indicates Emergency Alert Identifier in ~~Table 8-30 (Probe Request frame body)~~ Table 8-31 (Probe Response frame body) is requested to be included in the short probe response | Set to 1 to request Emergency Alert Identifier.Set to 0 otherwise. |
| Reserved | 1 | Reserved |  |
| Reserved | 1 | Reserved |  |
| Reserved | 1 | Reserved |  |
| Reserved | 1 | Reserved |  |