IEEE P802.11  
Wireless LANs

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| CID 20000 | | | | |
| Date: July 5 2019 | | | | |
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Abstract

This submission proposes resolutions for CID 20000 received for TGax LB238

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated based on feedback when the doc was presented 7/12 MAC ad-hoc

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

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

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 20000 | Abhishek Patil | 45.01 | 6 | HE Extended Capabilities, UL MU Power Capabilities and Known BSSID are missing in certain MLME methods. | Add missing elements to appropriate MLME methods | **Revised**  Clause 6 is updated to include missing elements in various MLME primitives.  Also fixed a typo for the element name on P436L55.  Several editorial changes based on offline feedback.  **TGax editor, please implement the changes shown in doc 11-19/1147r1** |

26.17.2.1 General

***TGax Editor: Please fix the element name ‘Extended HE Capabilities’ on P436L55 in D4.2 as ‘HE 6 GHz Band Capabilities element’:***

* MLME SAP interface

***TGax Editor: Please make changes to this clause as shown below:***

* Scan
* MLME-SCAN.request
* Semantics of the service primitive

***Change the primitive parameters as follows (not all existing parameters are shown):***

The primitive parameters are as follows:

MLME-SCAN.request(

...

Short SSID List,

HE Capabilities,

HE 6 GHz Band Capabilities,

VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Short SSID List | A list of short SSIDs | As defined in 9.4.2.255 (Short SSID List element) | One or more Short SSID fields that are optionally present if dot11ShortSSIDList is true |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |

* MLME-SCAN.confirm
* Semantics of the service primitive

***Insert the following rows at the end of the BSSDescriptionSet table:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Valid range | Description | IBSS adoption |
| TWT | As defined in frame format | As defined in 9.4.2.199 (TWT element) | The value from TWT element. The parameter is optionally present if dot11HEOptionImplemented is true, dot11TWTOptionActivated is true, and a TWT element was present in the broadcast Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| HE Capabilities | As defined in frame format | As defined in 9.4.2.242 (HE Capabilities element) | The value from HE Capabilities element. The parameter is present if dot11HEOptionImplemented is true and an HE Capabilities element was present in the Probe Response or Beacon frame from which the BSSDescription was determined. Otherwise, the parameter is not present. | Do not adopt |
| HE 6 GHz Band Capabilities | As defined in frame format | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | The value from HE 6 GHz Band Capabilities element. The parameter is present if dot11HE6GOptionImplemented is true and an HE 6 GHz Band Capabilities element was present in the Probe Response or Beacon frame from which the BSSDescription was determined. Otherwise, the parameter is not present. | Do not adopt |
| HE Operation | As defined in frame format | As defined in 9.4.2.243 (HE Operation element) | The value from HE Operation element. The parameter is present if dot11HEOptionImplemented is true and an HE Operation element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Adopt |
| UORA Parameter Set | As defined in frame format | As defined in 9.4.2.244 (UL OFDMA-based Random Access (UORA) Parameter Set element) | The value from UORA Parameter Set element. The parameter is optionally present if dot11OFDMARandom- AccessOptionImlemented is true and a UORA Parameter Set element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| MU EDCA Parameter Set | As defined in frame format | As defined in 9.4.2.245 (MU EDCA Parameter Set element) | The value from MU EDCA Parameter Set element. The parameter is optionally present if dot11HEOptionImplemented is true and a MU EDCA Parameter Set element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| Spatial Reuse Parameter Set | As defined in frame format | As defined in 9.4.2.246 (Spatial Reuse Parameter Set element) | The value from Spatial Reuse Parameter Set element. The parameter is optionally present if dot11HEOptionImplemented is true and a Spatial Reuse Parameter Set element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| NDP Feedback Report Parameter Set | As defined in frame format | As defined in 9.4.2.247 (NDP Feedback Report Parameter Set element) | The value from NDP Feedback Report Parameter Set element. The parameter is optionally present if dot11HEOptionImplemented is true and an NDP Feedback Report Parameter Set element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| BSS Color Change Announcement | As defined in frame format | As defined in 9.4.2.248 (BSS Color Change Announcement element) | The value from BSS Color Change Announcement element. The parameter is optionally present if dot11HEOptionImplemented is true and a BSS Color Change Announcement element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| ESS Report | As defined in frame format | As defined in 9.4.2.250 (ESS Report element) | The value from ESS Report element. The parameter is optionally present if dot11HEOptionImplemented is true and a ESS Report element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| HE BSS Load | As defined in frame format | As defined in 9.4.2.252 (HE BSS Load element) | The value from HE BSS Load element. The parameter is optionally present if dot11QBSSLoadImplemented and dot11HEOptionImplemented are true and an HE BSS Load element was present in the Probe Response or Beacon frame from which the BSSDescriptionSet was determined. Otherwise, the parameter is not present. | Do not adopt |
| Multiple BSSID Configuration | As defined in frame format | As defined in 9.4.2.253 (Multiple BSSID Configuration element) | The value from Multiple BSSID Configuration element. The parameter is present if dot11MultiBSSIDImplemented is true and the Multiple BSSID Configuration element was present in the Probe Response or Beacon frame from which the BSSDescription was determined. Otherwise, the parameter is not present. | Do not adopt |

* Synchronization
* MLME-JOIN.request
* Semantics of the service primitive

***Change the primitive parameters as follows (not all existing parameters in the baseline are shown):***

The primitive parameters are as follows:

MLME-JOIN.request(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

VendorSpecificInfo

)

***Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |

* Effect of receipt

Insert the following at the end of the subclause:

If the MLME of an HE STA receives an MLME-JOIN.request primitive with a SelectedBSS parameter containing a Basic HE-MCS And NSS Set field in the HE Operation parameter that contains any unsupported <HE-MCS, NSS> tuple, then the MLME response in the resulting MLME-JOIN.confirm primitive shall not contain a ResultCode parameter that is set to SUCCESS.

* Associate
* MLME-ASSOCIATE.request
* Semantics of the service primitive

Change the primitive parameters as follows (not all parameters are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.request(

...,

Channel Switch Timing,

UL MU Power Capabilities,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Channel Switch Timing | As defined in the Channel Switch Timing element | As defined in 9.4.2.63 (Channel Switch Timing element) | Provides information regarding the channel switch timing. The parameter is optionally present if dot11HESubchannelSelectiveTransmissionImplemented is true; otherwise not present. |
| UL MU Power Capabilities | As defined in UL MU Power Capabilities element | As defined in 9.4.2.256 (UL MU Power Capabilities) | Provides information regarding the UL MU power capabilities for the non-AP STA. The UL MU Power Capability element is optionally present if dot11HEOptionImplemented is true; otherwise it is not present. |

* MLME-ASSOCIATE.confirm
* Semantics of the service primitive

Change the primitive parameters as follows (not all parameters are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.confirm(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

HE Operation,

BSS Color Change Announcement,

Spatial Reuse Parameter Set,

MU EDCA Parameter Set,

UORA Parameter Set,

ESS Report,

VendorSpecificInfo

)

***Change the unnumbered table in this subclause as follows:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| TWT | TWT element | As defined in 9.4.2.199 (TWT element) | Specifies the parameters in the TWT element. This parameter is optionally present if dot11TWTOptionActivated is true and the TWT element is present in the Association Request frame that elicited the Association Response frame or the TWT Requester Support field in the HE Capabilities element in the Association Request frame that elicited the Association Response frame is 1; otherwise not present. |

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |
| HE Operation | As defined in HE Operation element | As defined in 9.4.2.243 (HE Operation element) | Provides additional information for operating the HE BSS. The parameter is present if dot11HEOptionImplemented is true; otherwise not present. |
| UORA Parameter Set | As defined in UORA Parameter Set element | As defined in 9.4.2.244 (UL OFDMA-based Random Access (UORA) Parameter Set element) | Indicates the metrics of the OFDMA-based random access mechanism. The parameter is optionally present if dot11OFDMARandom- AccessOptionImlemented is true; otherwise not present. |
| MU EDCA Parameter Set | As defined in MU EDCA Parameter Set element | As defined in 9.4.2.245 (MU EDCA Parameter Set element) | Indicates MU EDCA parameters. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| Spatial Reuse Parameter Set | As defined in Spatial Reuse Parameter Set element | As defined in 9.4.2.246 (Spatial Reuse Parameter Set element) | Indicates parameters needed by STAs when performing OBSS PD-based spatial reuse. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| NDP Feedback Report Parameter Set | As defined in NDP Feedback Report Parameter Set element | As defined in 9.4.2.247 (NDP Feedback Report Parameter Set element) | Indicates NDP Feedback Report parameter values. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| BSS Color Change Announcement | As defined in BSS Color Change Announcement element | As defined in 9.4.2.248 (BSS Color Change Announcement element) | Indicates information on BSS Color Change. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| ESS Report | As defined in ESS Report element | As defined in 9.4.2.250 (ESS Report element) | Provides information on ESS to assist BSS transition. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present |

* MLME-ASSOCIATE.indication
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.indication(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

UL MU Power Capabilities,

Channel Switch Timing,

VendorSpecificInfo

)

Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the peer STA. The parameter is present if dot11HEOptionImplemented is true and the HE Capabilities element is present in the Association Request frame received from the STA; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the peer STA. The parameter is present if dot11HE6GOptionImplemented is true and the HE 6 GHz Band Capabilities element is present in the Association Request frame received from the STA; otherwise, this parameter is not present. |
| Channel Switch Timing | As defined in the Channel Switch Timing element | As defined in 9.4.2.63 (Channel Switch Timing element) | Provides information regarding the channel switch timing. The parameter is optionally present if dot11HESubchannelSelectiveTransmissionImplemented is true and the Channel Switch Timing element is present in the Association Request frame received from the STA; otherwise not present. |
| UL MU Power Capabilities | As defined in UL MU Power Capabilities element | As defined in 9.4.2.256 (UL MU Power Capabilities) | Provides information regarding the UL MU power capabilities for the non-AP STA. The UL MU Power Capability element is present if dot11HEOptionImplemented is true and the HE Capabilities element and UL MU Power Capability element is present in the Association Request frame received from the STA; otherwise it is not present. |

* MLME-ASSOCIATE.response
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-ASSOCIATE.response(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

HE Operation,

UORA Parameter Set,

MU EDCA Parameter Set,

Spatial Reuse Parameter Set,

NDP Feedback Report Parameter Set,

BSS Color Change Announcement,

ESS Report,

VendorSpecificInfo

)

***Change the unnumbered table in this subclause as follows:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| TWT | TWT element | As defined in 9.4.2.199 (TWT element) | Specifies the parameters in the TWT element. This parameter is optionally present if dot11TWTOptionActivated is true and the TWT element is present in the Association Request frame that elicited the Association Response frame or the TWT Requester Support field in the HE Capabilities element in the Association Request frame that elicited the Association Response frame is 1; otherwise not present. |

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |
| HE Operation | As defined in HE Operation element | As defined in 9.4.2.243 (HE Operation element) | Provides additional information for operating the HE BSS. The parameter is present if dot11HEOptionImplemented is true; otherwise not present. |
| UORA Parameter Set | As defined in UORA Parameter Set element | As defined in 9.4.2.244 (UL OFDMA-based Random Access (UORA) Parameter Set element) | Indicates the metrics of the OFDMA-based random access mechanism. The parameter is optionally present if dot11OFDMARandom- AccessOptionImlemented is true; otherwise not present. |
| MU EDCA Parameter Set | As defined in MU EDCA Parameter Set element | As defined in 9.4.2.245 (MU EDCA Parameter Set element) | Indicates MU EDCA parameters. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| Spatial Reuse Parameter Set | As defined in Spatial Reuse Parameter Set element | As defined in 9.4.2.246 (Spatial Reuse Parameter Set element) | Indicates parameters needed by STAs when performing OBSS PD-based spatial reuse. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| NDP Feedback Report Parameter Set | As defined in NDP Feedback Report Parameter Set element | As defined in 9.4.2.247 (NDP Feedback Report Parameter Set element) | Indicates NDP Feedback Report parameter values. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| BSS Color Change Announcement | As defined in BSS Color Change Announcement element | As defined in 9.4.2.248 (BSS Color Change Announcement element) | Indicates information on BSS Color Change. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| ESS Report | As defined in ESS Report element | As defined in 9.4.2.250 (ESS Report element) | Provides information on ESS to assist BSS transition. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present |

* Reassociate
* MLME-REASSOCIATE.request
* Semantics of the service primitive

Change the primitive parameters as follows (not all parameters are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.request(

...,

Channel Switch Timing,

UL MU Power Capabilities,

VendorSpecificInfo

)

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| Channel Switch Timing | As defined in the Channel Switch Timing element | As defined in 9.4.2.63 (Channel Switch Timing element) | Provides information regarding the channel switch timing. The parameter is optionally present if dot11HESubchannelSelectiveTransmissionImplemented is true; otherwise not present. |
| UL MU Power Capabilities | As defined in UL MU Power Capabilities element | As defined in 9.4.2.256 (UL MU Power Capabilities) | Provides information regarding the UL MU power capabilities for the non-AP STA. The UL MU Power Capability element is optionally present if dot11HEOptionImplemented is true; otherwise it is not present. |

* MLME-REASSOCIATE.confirm
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.confirm(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

HE Operation,

UORA Parameter Set,

MU EDCA Parameter Set,

Spatial Reuse Parameter Set,

NDP Feedback Report Parameter Set,

BSS Color Change Announcement,

ESS Report,

VendorSpecificInfo

)

***Change the unnumbered table in this subclause as follows:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| TWT | TWT element | As defined in 9.4.2.199 (TWT element) | Specifies the parameters in the TWT element. This parameter is optionally present if dot11TWTOptionActivated is true and the TWT element is present in the Reassociation Request frame that elicited the Reassociation Response frame or the TWT Requester Support field in the HE Capabilities element in the Reassociation Request frame that elicited the Reassociation Response frame is 1; otherwise not present. |

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |
| HE Operation | As defined in HE Operation element | As defined in 9.4.2.243 (HE Operation element) | Provides additional information for operating the HE BSS. The parameter is present if dot11HEOptionImplemented is true; otherwise not present. |
| UORA Parameter Set | As defined in UORA Parameter Set element | As defined in 9.4.2.244 (UL OFDMA-based Random Access (UORA) Parameter Set element) | Indicates the metrics of the OFDMA-based random access mechanism. The parameter is optionally present if dot11OFDMARandom- AccessOptionImlemented is true; otherwise not present. |
| MU EDCA Parameter Set | As defined in MU EDCA Parameter Set element | As defined in 9.4.2.245 (MU EDCA Parameter Set element) | Indicates MU EDCA parameters. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| Spatial Reuse Parameter Set | As defined in Spatial Reuse Parameter Set element | As defined in 9.4.2.246 (Spatial Reuse Parameter Set element) | Indicates parameters needed by STAs when performing OBSS PD-based spatial reuse. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| NDP Feedback Report Parameter Set | As defined in NDP Feedback Report Parameter Set element | As defined in 9.4.2.247 (NDP Feedback Report Parameter Set element) | Indicates NDP Feedback Report parameter values. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| BSS Color Change Announcement | As defined in BSS Color Change Announcement element | As defined in 9.4.2.248 (BSS Color Change Announcement element) | Indicates information on BSS Color Change. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| ESS Report | As defined in ESS Report element | As defined in 9.4.2.250 (ESS Report element) | Provides information on ESS to assist BSS transition. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present |

* MLME-REASSOCIATE.indication
* Semantics of the service primitive

Change the primitive parameters as follows (not all parameters are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.indication(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

UL MU Power Capabilities,

Channel Switch Timing,

VendorSpecificInfo

)

Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element. | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the peer STA. The parameter is present if dot11HEOptionImplemented is true and the HE Capabilities element is present in the Reassociation Request frame received from the STA; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true and the HE 6 GHz Band Capabilities element is present in the Reassociation Request frame received from the STA; otherwise, this parameter is not present. |
| Channel Switch Timing | As defined in the Channel Switch Timing element | As defined in 9.4.2.63 (Channel Switch Timing element) | Provides information regarding the channel switch timing. The parameter is optionally present if dot11HESubchannelSelectiveTransmissionImplemented is true and the Channel Switch Timing element is present in the Reassociation Request frame received from the STA; otherwise not present. |
| UL MU Power Capabilities | As defined in UL MU Power Capabilities element | As defined in 9.4.2.256 (UL MU Power Capabilities) | Provides information regarding the UL MU power capabilities for the non-AP STA. The UL MU Power Capability element is present if dot11HEOptionImplemented is true and the HE Capabilities element and UL MU Power Capability element is present in the Association Request frame received from the STA; otherwise it is not present. |

* MLME-REASSOCIATE.response
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

The primitive parameters are as follows:

MLME-REASSOCIATE.response(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

HE Operation,

UORA Parameter Set,

MU EDCA Parameter Set,

Spatial Reuse Parameter Set,

NDP Feedback Report Parameter Set,

BSS Color Change Announcement,

ESS Report,

VendorSpecificInfo

)

***Change the unnumbered table in this subclause as follows:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| TWT | TWT element | As defined in 9.4.2.199 (TWT element) | Specifies the parameters in the TWT element. This parameter is optionally present if dot11TWTOptionActivated is true and the TWT element is present in the Reassociation Request frame that elicited the Reassociation Response frame or the TWT Requester Support field in the HE Capabilities element in the Reassociation Request frame that elicited the Reassociation Response frame is 1; otherwise not present. |

***Insert the following entries into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |
| HE Operation | As defined in HE Operation element | As defined in 9.4.2.243 (HE Operation element) | Provides additional information for operating the HE BSS. The parameter is present if dot11HEOptionImplemented is true; otherwise not present. |
| UORA Parameter Set | As defined in UORA Parameter Set element | As defined in 9.4.2.244 (UL OFDMA-based Random Access (UORA) Parameter Set element) | Indicates the metrics of the OFDMA-based random access mechanism. The parameter is optionally present if dot11OFDMARandom- AccessOptionImlemented is true; otherwise not present. |
| MU EDCA Parameter Set | As defined in MU EDCA Parameter Set element | As defined in 9.4.2.245 (MU EDCA Parameter Set element) | Indicates MU EDCA parameters. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| Spatial Reuse Parameter Set | As defined in Spatial Reuse Parameter Set element | As defined in 9.4.2.246 (Spatial Reuse Parameter Set element) | Indicates parameters needed by STAs when performing OBSS PD-based spatial reuse. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| NDP Feedback Report Parameter Set | As defined in NDP Feedback Report Parameter Set element | As defined in 9.4.2.247 (NDP Feedback Report Parameter Set element) | Indicates NDP Feedback Report parameter values. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| BSS Color Change Announcement | As defined in BSS Color Change Announcement element | As defined in 9.4.2.248 (BSS Color Change Announcement element) | Indicates information on BSS Color Change. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present. |
| ESS Report | As defined in ESS Report element | As defined in 9.4.2.250 (ESS Report element) | Provides information on ESS to assist BSS transition. The parameter is optionally present if dot11HEOptionImplemented is true; otherwise not present |

* Start
* MLME-START.request
* Semantics of the service primitive

Change the primitive parameters as follows (not all existing parameters in the baseline are shown):

MLME-START.request(

...,

HE Capabilities,

HE 6 GHz Band Capabilities,

HE Operation,

VendorSpecificInfo

)

***Insert the following entry into the unnumbered table in this subclause maintaining the primitive order above:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| HE Capabilities | As defined in HE Capabilities element. | As defined in 9.4.2.242 (HE Capabilities element) | Specifies the parameters within the HE Capabilities element that are supported by the STA. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |
| HE 6 GHz Band Capabilities | As defined in HE 6 GHz Band Capabilities element | As defined in 9.4.2.256 (HE 6 GHz Band Capabilities) | Specifies the parameters within the HE 6 GHz Band Capabilities element that are supported by the STA. The parameter is present if dot11HE6GOptionImplemented is true; otherwise, this parameter is not present. |
| HE Operation | As defined in HE Operation element. | As defined in 9.4.2.243 (HE Operation element) | Provides additional information for operating the HE BSS. The parameter is present if dot11HEOptionImplemented is true; otherwise, this parameter is not present. |

* Effect of receipt

Insert the following at the end of the subclause:

If the MLME of an HE STA receives an MLME-START.request primitive with a Basic HE-MCS And NSS Set field in the HE Operation parameter that contains any unsupported <HE-MCS, NSS> tuple, then the MLME response in the resulting MLME-START.confirm primitive shall not contain a ResultCode parameter that is set to SUCCESS.