IEEE P802.11
Wireless LANs

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| Comment Resolution subclause 5.4 |
| Date: 2021-03-10 |
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Abstract

This submission resolve the following comments for subclause 5.4 of 802.11bd D1.0:

* 1108, 1126, 1212, 1213, 1371, 1372, 1373, 1395,1397, 1490,
* 1744, 1746, 1481

Revisions:

R2 addresses the deferred comment 1213, 1371, 1490

R3: minor changes per the comments received in the session

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.***

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| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1108 | 21 | 34 | grammar issue with "This primitive provides status information on the state of the proximate radio environment." | did you mean "This primitive provides status information on an estimate of the state of the radio environment? Please clarify. | RevisedTGbd editor to make changes in 11-21/697r1 under CID 1108 |
| 1126 | 21 | 34 | "proximate" ? There is no definition for "proximate". This is the only place using "proximate". | Delete "proximate". | RevisedTGbd editor to make changes in 11-21/697r1 under CID 1126 |
| 1212 | 22 | 7 | The CBP in a MA-RADIOENVIRONMENT.indication primitive should be for a specific measurement period, not for "a given instance". | Change "during a given instance of dot11RadioEnvironmentMeasurementPeriod" to "during the most recent measurement of duration dot11RadioEnvironmentMeasurementPeriod" | Accepted |
| 1213 | 22 | 23 | CBP and Capability Percentage/Station Count should not be required to use the same measurement period. There should be a separate MIB variable for StationCount: dot11RadioEnvironmentStationMeasurementPeriod to define the measurement period for Station Count and CP, and this should be constrained to be at least as large as the CBP measurement period. The StationCount should be associated with the most recent completed station measurement, and not the most recent CBP measurement (which might use a different interval). When a RADIOENVIRONMENT.indication primitive is issued every CBP measurement, it might fall during the middle of a station measurement, and we should state that the CP and StationCount reported should be for the most recent complete measurement (not a partial measurement). We should also reorder the CP and StationCount in the table and in the parameter list: StationCount should come before Capability Percentage since the latter is derived from the former. | Change the first sentence of the description of Station Count to: "Indicates the number of unique individual station MAC addresses detected during the most recently completed station measurement of duration dot11RadioEnvironmentStationMeasurementPeriod." Insert a new second sentence "dot11RadioEnvironmentStationiMeasurementPeriod shall be greater than or equatl to dot11RadioEnvironmentMeasurementPeriod." Retain the existing final sentence covering the case StationCount = 0. Reorder the StationCount and the CapabilityPercentage in the table and in the primitive parameter list on page 21 so that StationCount precedes Capability Percentage. | RevisedDiscussion: Generally agree with the commenter. The new MIB variable is defined, and the STA count is undated accordingly.TGbd editor to make changes in 11-21/697r3 under CID 1213 |
| 1371 | 21 | 21 | There is zero normative text description of the behavior associated with the radio environment report. This report appears to be very similar to other statistics already in the baseline (radio measurements, etc.), reported via MIB attributes. Why aren't these new statistics treated similarly, and appear as an extension to those existing MIB interactions? (In fact, these statistics appear to be entirely local - locally generated and locally accessed/used. It is not clear they need to be standardized at all. But, if they are included in the amendment (with some justification), then they could be similar to the radio measurement concepts. | Re-do the Radio Environment Report in a manner similar to the existing Radio Measurement concepts. (Or delete it completely.) | RevisedTGbd editor to make changes in 11-21/697r3 under CID 1371 |
| 1372 | 21 | 21 | The radio environment report is not appropriate in the MAC SAP. The MAC SAP is a data plane concept, and with very few exceptions, the MAC SAP should match the expected service from all 802 MACs, per 802 specifications, and that service is designed to be focused on peer entity exchange of MSDUs per the 802 architecture model. Note that the data plane (which is what invokes the MAC SAP) has no knowledge of concepts such as these radio environment report items. This should be handled via the management plane. | Move the Radio Environment Report from the data plane SAP to the MLME SAP. | RevisedTGbd editor to make changes in 11-21/697 under CID 1372 |
| 1373 | 21 | 42 | CapabilityPercentage is a confusing name. | Change the name (in the primitive parameter list, and the descriptive text that follows) to something like "NGVCapabilityPercentage". | RevisedTGbd editor to make changes in 11-21/697r1 under CID 1373 |
| 1395 | 22 | 9 | "STA is either transmitting or its clear channelassessment function indicates the channel isbusy" -- CCA indicates busy when txing, so second bit covers first | Change to "STA's clear channelassessment function indicates the channel isbusy" | RejectedDiscussion: the commenter is incorrect since when the transmitter is transmitting a PPDU, the CCA doesn’t indicate the medium busy. |
| 1397 | 22 | 29 | "The primitive is generated periodically by the MAC entity every dot11RadioEnvironmentMeasurementPe-riod while dot11NGVActivated is True." -- it's confusing to say periodically and then "every X"; also it's confusing to suggest dot11NGVActivated might change during the lifetime of a STA instantiation | Change to "The primitive is generated by the MAC entity every dot11RadioEnvironmentMeasurementPe-riod if dot11NGVActivated is true." | Accepted |
| 1490 | 22 | 30 | There is no accompanying text to provide the behavioral rules for a STA with dot11RadioEnvironmentMeasurementPeriod set to a non-zero value. | provide behavioral text for how and what a STA is supposed to do when dot11RadioEnvironmentMeasurementPeriod is set to a non-zero value | RevisedTGbd editor to make changes in 11-21/697r3 under CID 1490 |
| 1744 | 21 | 34 | "proximate radio environment"? | Should it be rephrased such as "current radio environment" or "recent radio environment"? | RevisedTGbd editor to make changes in 11-21/697r1 under CID 1744 |
| 1746 | 22 | 20 | "during most recent measurement period of ChannelBusyPercentage and CapabilityPercentage" Shouldn't the period be the same with dot11RadioEnvironmentMeasurementPeriod? And CapabilityPercentage is derived using this StationCount, so it should not be referred to, or it will be in loops. | Change it to read "during dot11RadioEnvironmentMeasurementPeriod when ChannelBusyPercentage was derived". | RevisedTGbd editor to make changes in 11-21/697r1 under CID 1746 |
| 1841 | 21 | 21 | Radio environment report appears to be a procedure in the control plane. Why specify them as a part of the user plane, not as a part of MLME? | Move this subclause to Clause 6. | RevisedTGbd editor to make changes in 11-21/697 under CID 1841 |

***TGbd editor : Delete 5.4 from the draft (#1372, 1841)***

**6 Layer management**

**TGbd editor: add the following subclause in subclause 6 (*#1372, 1841*)**

**6.x NGV Radio Environment Report**

**6.x.1 Introduction**

The mechanism provides periodic reports on the radio environment for use in rapidly-varying radio environments.

**6.x.1.1 MA-RADIOENVIRONMENT.indication**

**6.x.1.1.1 Function**

This primitive provides status information on the state of the STA’s radio environment. (#1108, 1126, 1744)

**6.x.1.1.2 Semantics of the service primitive**

The primitive parameters are as follows:

(#1213) MA-RADIOENVIRONMENT.indication(

,

NGV capability percentage, (#1373)

channel busy percentage,

)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  | $$\frac{100 × duration as indicated channel busy}{dot11RadioEnvironmentMeasurementPeriod}$$ |
|  |  |  |  |
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|  |  |  |  |
| StationCount | Integer | >=0 | Indicates the number of unique individualstation MAC addresses detected during the mostrecent complete measurement period ofduration dot11StationMeasurementPeriod (#1213). When StationCount isequal to 0, the NGVCapabilityPercentage shall be setto 0. (#1373) |
| NGVCapabilityPercentage (#1373) | Integer | 0-100 | Indicates the percentage of the stationsindicated in StationCount, whose transmissionscontain indication of NGV capability |
|  |  |  | themostrecent complete measurement period duration (#1746)$$\frac{100 × duration as indicated channel busy}{dot11RadioEnvironmentMeasurementPeriod}$$ |

**6.x.1.1.3 When generated**

The primitive is generated periodically by the MAC entity every dot11RadioEnvironmentMeasurementPeriod while dot11NGVActivated is True.

**31. Next Generation V2X (NGV) MAC specification**

***TGbd editor: add the following subclause in clause 31(Next Generation V2X (NGV) MAC specification)(#1490, 1371)***

31.x Radio envirment measurement

An NGV STA provides periodic reports on the radio environment for use in rapidly-varying radio environments.

An NGV STA whose dot11RadioEnvironmentMeasurementPeriod is not 0 shall measure the channel busy percentage and report the measurement results to the up layer as defined in subclause 6.x (NGV Radio Environment Report) if the NGV STA is requested by the up layer.

An NGV STA whose dot11STAMeasurementPeriod is not 0 shall measure the number of neogihbor STAs, the number of neogihbor NGV STAs and report the measurement results to the up layer as defined in subclause 6.x (NGV Radio Environment Report) if the NGV STA is requested by the up layer.

An NGV STA whose dot11STAMeasurementPeriod and dot11RadioEnvironmentMeasurementPeriod are not 0 shall start a STA measurement period at the same time as a radio environment measurement period.

**Annex C**

(normative)

**ASN.1 encoding of the MAC and PHY MIB**

**C.3 MIB Detail**

***TGbd editor: change C.3 as follows (the text not shown is same as the baseline spec): (#1213)***

……

Dot11StationConfigEntry::= SEQUENCE

{

…,

dot11NGVActiviated TruthValue,

dot11RadioEnvironmentMeasurementPeriod Unsigned32,

dot11StationMeasurementPeriod Unsigned32,

}

……

dot11StationMeasurementPeriod OBJECT-TYPE

SYNTAX Unsigned32 (100..1000)

UNITS “milliseconds”

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. This attribute indicates the amount of time in millissecond

the NGV STA conducts the STA measurement before reporting its radio environment."

DEFVAL { 1000 }

::= { dot11StationConfigEntry xxx }

……