IEEE P802.11
Wireless LANs

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| 802.11Addressing various LB 240 CIDs (relative to P802.11az/D1.4 ) |
| Date: 2018-09-18 |
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**Abstract**

This submission contains proposals to resolve LB#240 CIDs 1503, 1089, 1375, 1287, 1679, 1754, 2438, 1168, 1169, 1291, 1483, 1980, 2287, 1798, 2341, 2343, 2340.

Comments:

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 1503 | 30.00 | 9.3.3.3 | I don't think ANA manages the order of the Beacon frame body. | delete ANA. Similar to 30.4, | Revised. Agree in principle with the commenter. However, the exact value will be set prior to entering the MDR process when the order of publication is clear. TGaz editor, perform the changes shown in submission 11-19/1621r0. |
| 1089 | 51.01 | 9.4.2.167 | It is not clear how the Secret Key is derivated on both sides of the link | Add text to explain | Revised. Agree with the commenter. Refer to Section 11.22.6.4.6.3 (Secure LTF generation information) D1.4, page 144L4 and page 143L7. |
| 1375 | 62.29 | 9.4.2.286 | It is much more meaningful to use a standard deviation metric instead of a maximum error. In the Time-Stamp Error subfield, the absolute value should be replaced by a standard deviation. | Replace "The Time-Stamp Error subfield indicates the absolute value of the estimated max error." with "Time-Stamp Error subfield indicates the standard deviation of the estimated error." | Reject. The group consensus was to use the format as shown to make best use of the available field size.  |
| 1287 | 124.31 | 11.22.6.4.10.1 | dot11PassiveLocationRangingActivated, dot11PassiveLocationRangingRespoinderActivated - these MIB variables are not defined | define the MIB variables in annex C | Revised. Refer to Annex C D1.4 page 207L17and18. Agree with the commenter. There is a typo in page 116L15. TGaz editor, perform the changes shown in submission 11-19/1621r0. |
| 1679 | 66.00 | 9.4.2.288 | ISTA LCI Report Entry should have at least one of the ISTA LCI Report or ISTA Location Civic Report. If both these are not present then there is no point in including this entry in the Passive Location LCI Table Report element. | After P66L14 insert a new paragraph that states the following: An ISTA LCI Report Entry includes at least one of ISTA LCI Report or ISTA Location Civic Report.  | Revised. Agree with commenter. After P81L15 insert a new paragraph that states the following: An ISTA LCI Report Entry includes at least one of ISTA LCI Report or ISTA Location Civic Report. |
| 1754 | 65.11 | 9.4.2.288 | The 11az adds "ISTA Location Civic Report" and "RSTA Location Civic Report". The definition is confusing in light of the existing base standard definition of "Location Civic Report". Is it the intent of 11az to add two new field formats for these, or are they just the RSTA or ISTA's location in the base standards already defined "Location Civic Report" format? |  | Reject. These are local field names and as such are not conflicting with other similar uses elsewhere. The full definitions of these subfields are provided along with the field containing them. |
|  2438 | 65.12 |  | There are several fields having variable length. How can a receiver side know whether there is an optional field and how long the field is? Clarify or add a mechanism. | As in comment. | Revised. Agree with commenter. Moved the variable length fields to the end of the element. TGaz editor, perform the changes shown in submission 11-19/1621r0. |
| 1168 | 126.12 | 11.22.6.4.10.2 | Suggest making the max negotiated/used BW for passive location is <=80MHz as most 'passive' devices don't support 80+80/160MHz? For NSTS, it's better to be specific and mention both UL N\_STS and DL N\_STS subfields to be <=4 | As per comment | Reject. We don't know what bandwidths will be supported in future devices. As for the N\_STS, specifying that “The max number of Nsts used in the Passive Location Ranging exchanges is limited to 4.” Is a sufficient specification.  |
| 1169 | 126.25 | 11.22.6.4.10.3 | Add a normative behavior to mandate ISTA sending ToD regardless of it being valid or not along with its ToA measurements as it would have to be used for passive clients to correlate ToA results published in the broadcast LMR. | As per comment | Revised. Agree with commenter. Add paragraph after line 17 on page 155 stating "The ISTA Passive Location Measurement Report frame shall include an entry for the ISTA's I2R NDP TOD regardless of it being valid or not." TGaz editor, perform the changes shown in submission 11-19/1621r0. |
| 1291 | 126.37 | 11.22.6.4.10.3 | "transmitted with a SIFS": remove strikethough text | as in comment | Revised. Technical editor, remove in page 155L29 redundant ‘~~with~~’ as this is a new section to 11az. |
| 1483 | 125.18 | 11.22.6.4.10.2 | The sentence seems to be incomplete. | Add "polling/measurement/reporting triplet" following "in the ". | Revised. Agree with commenter. Modified by D1.4, refer to page 154L10to13. |
| 1980 | 134.20 | 11.22.6.4.10.3 | "An ISTA addressed by the LMR Sub-variant Ranging Trigger Frame shall 20transmit an ISTA Passive Location Measurement Report frame a SIFS time after the LMR Sub- 21variant Ranging Trigger Frame transmission." is standard HE triggering behaviour and hence just duplication | Delete the cited text. Also at 133.25 "An ISTA addressed by the RID in the Passive Location Sounding Sub-variant Ranging Trigger 25Frame shall transmit an HE Ranging NDP a SIFS time after the reception of the Passive Location 26Sounding Sub-variant Ranging Trigger Frame. " delete "a SIFS time " | Rejected. This behavior is unique to 11az measurement sequence and the use of TF subvariant Passive Location Sounding, unlike 11ax the ISTA has to transmit a specific frame type. |
| 2287 | 124.26 |  | "An ISTA whose dot11PassiveLocationRangingInitiatorActivated is true and an RSTA whose dot11PassiveLocationRangingResponderActivated is true may activate passive location ranging exchanges in which case, the ISTA and RSTA follow the rules described in subclause 11.22.6.4.3 (Measurement Exchange in TB Mode) with the exceptions described in Section 11.22.6.4.9 (Measurement Exchange in TB Passive Range Location Ranging mode), with subsections." The RSTA and ISTA that perform passive ranging have distinct functionality from the RSTA and ISTA of active ranging. They should be given a separate name, e.g., anchor STAs. | As in comment. | Reject. Passive Location ranging is a variant of TB ranging and as such we need to refer to the stations that actively participate in this ranging, as the ISTA(s) and the RSTA. The group discussed the value of introducing a new set of station types for Passive Location Ranging and for spec development simplicity moved away from that. |
| 1798 | 63.12 | 9.4.2.287 | There are cases where the RSTA needs to know the location of multiple ISTAs around the RSTA (emergency, inventory) | Insert a broadcast LMR request, with priority option, enabling the RSTA to query the LMR of all ISTAs in range | Reject. This is an invalid comment.Fails to identify changes in sufficient detail so that the specific wording of the changes can be determined. |
| 2341 | 64.04 | 9.4.2.287 | The RSTA Passive Location LMR is likely transmitted with low MCS as it is used to broadcast LMR information. For this reason the 'RSTA Passive Location Measurement Report Element' should have a very small byte count. | Given that a STA doing passive locationing does only require the time difference of a TOA and TOD timestamp, the proposal is: Introduce another Type "time difference" in which case the time stamp field holds a time difference of TOA and subsequent TOD. The error field would need to be multiplied by 2 in this case, i.e. 2Emax. When implemented this saves signaling of N/2 time stamps | Reject. The group considered various mechanisms to provide measurement information to PSTAs considering power, medium efficiency and simplicity and converged on the described mechanism. |
| 2343 | 64.14 | 9.4.2.286 | The ISTA Passive Location LMR is likely transmitted with low MCS as it is used to broadcast LMR information. For this reason the 'RSTA Passive Location Measurement Report Element' should have a very small byte count. | Given that a STA doing passive locationing does only require the time difference of a TOA and TOD timestamp, the proposal is: Introduce another Type "time difference" in which case the time stamp field holds a time difference of TOA and subsequent TOD. The error field would need to be multiplied by 2 in this case, i.e. 2Emax. When implemented this saves signaling of N/2 time stamps | Reject. The group considered various mechanisms to provide measurement information to PSTAs considering power, medium efficiency and simplicity and converged on the described mechanism. |
| 2340 | 61.04 |  | Please unify subclause titles of 9.4.2.286 and 9.4.2.287 "ISTA Passive Location Measurement Report element" vs. "RSTA Passive Location LMR element" | as in comment | Revised. The ISTA Passive LMR Element require additional fields that does not exist in the RSTA Passive LMR element. As such the benefit of unification comes at the expense of medium efficiency. However, refer to D1.4 Figure 9-1023 and 9-1024 for shared formats of fields. |

***TGaz Editor: Edit the entry in Table 9-34 (Beacon frame body) as shown below:***

*Insert row in Table 9-34 (Beacon frame body):* ***(#1646)***

##### 9.3.3.3 Beacon frame format

**Table 9-34 – Beacon frame body**

|  |
| --- |
|  |
| **Order** | **Information** | **Notes** |
| 1 | Timestamp |  |
| … | … | … |
| 71 (M40) | Max Channel SwitchTime | The Max Channel Switch Time element is optionally presentwhen a Channel Switch Announcement or an Extended ChannelSwitch Announcement element is also present. |
| 72 | Passive Location Ranging Availability Window | The Passive Location Ranging Availability Window element is optionally present if dot11PassiveLocationRangingResponderActivted is true and a Passive Location Ranging Availability Window is present. |
| Last | Vendor Specific | One or more vendor-specific elements are optionally present. These elements follow all other elements. |

(#1503)

***TGaz Editor: Edit text in Subclause 11.22.6.3.8 (Passive Location Ranging Measurement Negotiation) as shown below:***

**11.22.6.3.8 Passive Location Ranging Measurement Negotiation**

The Passive Location Ranging measurement negotiation follows the rules and procedures of the TB Ranging measurement negotiation detailed in Section 11.22.6.3.3 (Trigger-based and non-Trigger-based Ranging Measurement Negotiation), unless explicitly stated otherwise**. (#1520, #1542, #1543, #1544, #1548, #1551, #1552, #1553, #1554, #1555, #1556, #1561, #1562, #1564, #1565, and #1574)**

An RSTA in which dot11PassiveLocationRangingRespoinderActivated is true shall set the Passive Location Ranging Responder Measurement Support field in the Extended Capabilities element to 1.

When an RSTA has set the Passive Location Ranging Responder Measurement Support field to 1 in the Extended Capabilities element it transmits, an ISTA with dot11PassiveLocationRangingInitiatorActivated equal to true may set the Passive Location Ranging field in the TB Specific Parameters field in an initial Fine Timing Measurement Request frame to 1 to request a Passive Location Ranging measurement session between the ISTA and the RSTA. **(#1287)**

***TGaz Editor: Edit text in Subclause 9.4.2.287 (Passive Location LCI Table element), on page 81L15 as shown below:***

**…**

The ISTA Location Civic Report field is optionally present. If present, it contains a Measurement Report element with Measurement Type field equal to Location Civic (see Table 9-118 (Measurement Type field definitions for measurement reports)), which either indicates the Civic address of the ISTA or an unknown Civic address (see 11.22.6.7 (LCI and Location Civic retrieval using FTM procedure)).

An ISTA LCI Report Entry includes at least one of ISTA LCI Report or ISTA Location Civic Report.

When a Measurement Type equal to ‘Relative Compact LCI’ is used in the ISTA LCI reporting, the reference location to which the ISTA’s relative location is reported is the location reported for the RSTA in the Passive Location LCI Table Report within which it is contained.

…

***TGaz Editor: Edit Section ‘9.4.2.287 (Passive Location LCI Table element) as shown below:***

**9.4.2.287 Passive Location LCI Table element**

The Passive Location LCI Table Report element, defined in Figure 9-1029, is used by an RSTA to broadcast LCI data for the ISTAs participating in its Passive Location Ranging exchanges.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Element Id | Element Length | Element ID Extension | Passive Location LCI Table Number | Number of ISTA LCI Report Entries | ISTA LCI Reports Entries | RSTA LCI Report (Optional) | RSTA Location Civic Report (Optional) |
|  | Octets: | 1 | 1 | 1 | 1 | Variable | Variable | Variable |

Figure 9-1029 - Passive Location LCI Table Report Element (#2438)

***TGaz Editor: Edit text in Subclause 11.22.6.4.9.4 (Passive Location Ranging Measurement Reporting) on page 155L10 as shown below:***

The ISTA Passive Location Measurement Report frame is defined in subclause 9.6.7.49 (ISTA Passive Location Measurement Report frame format). The ISTA Passive Location Measurement Report frame contains an ISTA Passive Location Measurement Report element, see Subclause 9.4.2.285 (ISTA Passive Location Measurement Report element), containing the TOD time stamp for the I2R NDP that the ISTA transmitted, the TOA time stamp of the R2I NDP that the ISTA received from the RSTA, the CFO of the ISTA with respect to the RSTA, and optionally the TOAs for I2R NDPs received from other ISTAs participating in the Passive Location Ranging Polling-Sounding-Reporting triplet identified by a Dialog Token included in the report.

The ISTA Passive Location Measurement Report frame shall include an entry for the ISTA's I2R NDP TOD regardless of it being valid or not. **(#1169)**

The RSTA shall send two RSTA Broadcast Passive Location Measurement Report frames a SIFS time after receiving the ISTA Passive Location Measurement Report frames from the ISTAs.