IEEE P802.11  
Wireless LANs

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| Proposed Comment Resolution for location shapes | | | | |
| Date: 2022-02-24 | | | | |
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Abstract

This document proposes comment resolutions for CIDs 1497, 1498, 1499 and 1557 (REVme D1.1).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| | **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** | **Owning Ad-hoc** | | --- | --- | --- | --- | --- | --- | --- | | 1497 | 1271.32 | 9.4.2.21.13 | "All shape field value units that are 4-octet single precision floating point values are in meters and are represented by binary32 floating point values" is garbled | Change to "All shape fields that are 4-octet floating point values are in units of meters and are represented by binary32 floating point values" | Revised.  Editor please also see the changes shown in document:  <https://mentor.ieee.org/802.11/dcn/22/11-22-0365-01-000m-comment-resolution-for-location-shapes.docx> indicated by #1497 | MAC | | 1498 | 1272.17 | 9.4.2.21.13 | "The X-coordinate field contains a 4-octet single precision floating point value." is not useful. I can see it's a 4-octet value. The question is what it is the value of | Change to "The X-coordinate field contains the X-coordinate of the centre of the circle in metres, encoded as a floating point value." | Revised.  Please make the changes shown in document:  <https://mentor.ieee.org/802.11/dcn/22/11-22-0365-01-000m-comment-resolution-for-location-shapes.docx> indicated by #1498 | MAC | | 1499 | 1272.17 | 9.4.2.21.13 | "The X-coordinate field contains a 4-octet single precision floating point value." is not useful. I can see it's a 4-octet value. The question is what it is the value of | Change to "The X-coordinate field contains the X-coordinate of the centre of the circle in metres, encoded as a floating point value." and ditto for the other "contains a 4-octet single precision floating point value" | Revised.  Please make the changes shown in document: <https://mentor.ieee.org/802.11/dcn/22/11-22-0365-01-000m-comment-resolution-for-location-shapes.docx> indicated by #1499 | MAC | | 1557 | 1273.36 | 9.4.2.21.13 | "The Angle field contains an unsigned integer between 0 and 359┬░." -- it contains an integer. The units are degrees. And the encoding is already specified in 9.2.2 | Change to "The Angle field contains the angle in units of degrees." Ditto at 1273.63 | Revised.  Please make the changes shown in document: <https://mentor.ieee.org/802.11/dcn/22/11-22-0365-01-000m-comment-resolution-for-location-shapes.docx> indicated by #1557 | MAC | |
|  |

**CID 1497, 1498, 1499 & 1557 Discussion**

*The changes are reasonable and occurs in several places in clause 9.4.2.21.13, as shown below.*

**Proposed Comment Resolution**

Revised: Make the following changes:

**9.4.2.21.13 Location Civic report**

… Page 1271, Line 32

(#1497)All shape fields that are 4-octet floating point values are in units of meters and are represented by binary32 floating point values as defined in IEEE Std 754-2008, with the least significant bit of the fraction occurring in bit 0 of the field.

The format of the 2-Dimension Point Location Shape Value field is defined in Figure 9-318 (2-Dimension Point Location Shape Value format).

|  |  |  |
| --- | --- | --- |
|  | X-coordinate | Y-coordinate |
| Octets: | 4 | 4 |
| * 2-Dimension Point Location Shape Value format | | |

The X-coordinate field contains the X-coordinate of the point, encoded as a floating point value.

The Y-coordinate field contains the Y-coordinate of the point, encoded as a floating point value.

The format of the 3-Dimension Point Location Shape Value field is defined in Figure 9-319 (3-Dimension Point Location Shape Value format).

|  |  |  |  |
| --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Z-coordinate |
| Octets: | 4 | 4 | 4 |
| * 3-Dimension Point Location Shape Value format | | | |

The X-coordinate field contains the X-coordinate of the point, encoded as a floating point value.

The Y-coordinate field contains the Y-coordinate of the point, encoded as a floating point value.

The Z-coordinate field contains the Z-coordinate of the point, encoded as a floating point value.

The format of the Circle Location Shape Value field is defined in Figure 9-320 (Circle Location Shape Value format).

|  |  |  |  |
| --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Radius |
| Octets: | 4 | 4 | 4 |
| * Circle Location Shape Value format | | | |

(#1498)(#1499)The X-coordinate field contains the X-coordinate of the center of the circle, encoded as a floating point value.

(#1499)The Y-coordinate field contains the Y-coordinate of the center of the circle, encoded as a floating point value.

The Radius field contains the radius of the circle, encoded as a floating point value.

The format of the Sphere Location Shape Value field is defined in Figure 9-321 (Sphere Location Shape Value format).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Z-coordinate | Radius |
| Octets: | 4 | 4 | 4 | 4 |
| * Sphere Location Shape Value format | | | | |

(#1499)The X-coordinate field contains the X-coordinate of the center of the sphere, encoded as a floating point value.

(#1499)The Y-coordinate field contains the Y-coordinate of the center of the sphere, encoded as a floating point value.

(#1499)The Z-coordinate field contains the Z-coordinate of the center of the sphere, encoded as a floating point value.

The Radius field contains the radius of the circle, encoded as a floating point value.

The format of the Polygon Location Shape Value field is defined in Figure 9-322 (Polygon Location Shape Value format).

|  |  |  |
| --- | --- | --- |
|  | Number of Points | List of 2-Dimension Points |
| Octets: | 1 | variable |
| * Polygon Location Shape Value format | | |

The Number of Points field (#1727)specifies the number of points defined in the polygon. The value 0 is reserved.

The List of 2-Dimension Points field is a sequence of 2D Point field values that define the closed polygon.

The format of the Prism Location Shape Value field is defined in Figure 9-323 (Prism Location Shape Value format).

|  |  |  |
| --- | --- | --- |
|  | Number of Points | List of 3-Dimension Points |
| Octets: | 1 | variable |
| * Prism Location Shape Value format | | |

The Number of Points field (#1727)specifies the number of points defined in the prism. The value 0 is reserved.

The List of 3-Dimension Points field is a sequence of 3-Dimension Point field values that define the closed prism.

The format of the Ellipse Location Shape Value field is defined in Figure 9-324 (Ellipse Location Shape Value format).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Angle | Semi-Major Axis | Semi-Minor Axis |
| Octets: | 4 | 4 | 2 | 4 | 4 |
| * Ellipse Location Shape Value format | | | | | |

(#1499)The X-coordinate field contains the X-coordinate of the center of the ellipse, encoded as a floating point value.

(#1499)The Y-coordinate field contains the Y-coordinate of the center of the ellipse, encoded as a floating point value.

(#1557)The Angle field contains the angle of the ellipse in degrees.

The Semi-Major Axis field contains the semi-major axis of the ellipse, encoded as a floating point value.

The Semi-Minor Axis field contains the semi-minor axis of the ellipse, encoded as a floating point value.

The format of the Ellipsoid Location Shape Value field is defined in Figure 9-325 (Ellipsoid Location Shape Value format).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Z-coordinate | Angle | Semi-Major Axis | Semi-Minor Axis | Semi-Vertical Axis |
| Octets: | 4 | 4 | 4 | 2 | 4 | 4 | 4 |
| * Ellipsoid Location Shape Value format | | | | | | | |

(#1499)The X-coordinate field contains the X-coordinate of the center of the ellipsoid, encoded as a floating point value.

(#1499)The Y-coordinate field contains the Y-coordinate of the center of the ellipsoid, encoded as a floating point value.

(#1499)The Z-coordinate field contains the Z-coordinate of the center of the ellipsoid, encoded as a floating point value.

(#1557)The Angle field contains the angle of the ellipsoid in degrees.

The Semi-Major Axis field contains the semi-major axis of the ellipsoid, encoded as a floating point value.

The Semi-Minor Axis field contains the semi-minor axis of the ellipsoid, encoded as a floating point value.

The Semi-Vertical Axis field contains the semi-vertical axis of the ellipsoid, encoded as a floating point value.

The format of the Arcband Location Shape Value field is defined in Figure 9-326 (Arcband Location Shape Value format).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | X-coordinate | Y-coordinate | Inner Radius | Outer Radius | Start Angle | Opening Angle |
| Octets: | 4 | 4 | 4 | 4 | 2 | 2 |
| * Arcband Location Shape Value format | | | | | | |

(#1499)The X-coordinate field contains the X-coordinate of the central point of the arcband, encoded as a floating point value.

(#1499)The Y-coordinate field contains the Y-coordinate of the central point of the arcband, encoded as a floating point value.

The Inner Radius field contains the inner radius of the arcband, encoded as a floating point value.

The Outer Radius field contains the outer radius of the arcband, encoded as a floating point value.

The Start Angle field contains the start angle of the arcband in degrees.

The Opening Angle field contains the opening angle of the arcband in degrees.