IEEE P802.11
Wireless LANs

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| REVme LB270 CR for 4047 4048 |
| Date: 2023-07-11 |
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Abstract

This document contains proposed resolutions for CIDs 4047, 4048 from LB 270 on IEEE P802.11-REVme/D3.0.

References to page and line numbers are to D1.0.

Change history:

r0 (2023-05-16): Initial draft.

r1 (2023-07-11): Revised proposed resolution for CID 4048, based on discussions during May meeting.

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| **CID****(Commenter)** | **Clause/ Page** | **Comment** | **Proposed Change** |
| **4047****(John Coffey)** | 10.41.10.3.1 / 2211.29 | "An asymmetric link is present between a pair of STAs when in one STA the difference between the maximum receive antenna gain and the quasi-omni receive antenna gain is higher than 15 dB, while for the other STA this difference is at most 15 dB." The wording here is odd. Certainly, when the conditions in the latter part of the sentence hold true, the link may be said to be asymmetric. But there are many other ways in which links can be said to be asymmetric. Something more needs to be said. | Change "An asymmetric link is present" to "For purposes of this subclause, an asymmetric link is present". |

Discussion:

This is a minor matter of style. However, it seems neater to accept the proposed change.

Proposed resolution:

ACCEPTED.

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| **CID****(Commenter)** | **Clause/ Page** | **Comment** | **Proposed Change** |
| **4048****(John Coffey)** | 11.22.3.3.17/2645.7 | "A Credential Types Tuple subfield shall be ignored if the value in the Validation, Category Group and/or Category Type subfield is reserved." There are hundreds of statements like this scattered throughout the spec, and we have discussed various aspects of this in previous letter ballots. This comment concerns what it means for a STA to "ignore" a bit or a subfield, here and in all other cases where "ignore" is used. Under long tradition, it is not the case that a STA that takes account of reserved bits or subfields in some way are considered non-compliant with the IEEE standard. But in that case, what does "ignore" mean? The spec should include a definition of this term. | At the end of Clause 1.4 (Word usage) (173.29), add new paragraph "A construction of the form "a [bit / subfield] shall be ignored" (for example, by a receiving STA) is to be understood as meaning that the set of normative requirements for the STA immediately after reception of the bit or subfield is the same as the set of normative requirememts for the STA immediately before reception." |

Discussion:

It might be important for some prurposes to be able to determine whether a given device is compliant with the IEEE spec. Since in the IEEE spec, the word *shall* is used to indicate a mandatory requirement (1.4 (Word usage)), a compliant device has to follow all shall statements.

In many places, as in the cited example, the phrase “shall be ignored” crops up. What exactly does this mean, and what kind of behavior would mean that a given device does *not* comply with the spec?

This is not completely straightforward. Here are some issues:

1. A subfield contains a reserved value. In computing the FCS, the STA takes account of the reserved value. Does this mean that the STA has not ignored the reserved value?

(Answer: “Of course not. That’s not what is meant by “ignore”.)

1. A subfield might contain a non-resreved value that signals “do X” and another non-reserved value that signals “do Y”, where X and Y together cover all possibilities. (Previous discussions in REVme have referred to examples of this.) A STA receives a PPDU in which the subfield has a reserved value. How does the STA “ignore” the reserved value?

(Answer: “A device cannot be considered non-compliant if there is no possible behavior that would render it compliant. So the device can do whatever.)

1. A field might contain a reserved bit. Some devices use the reserved bit to signal a mode that is beyond the scope of the IEEE spec (but has the same duration as would be understood by spec-compliant STAs in the vicinity). A STA that understands the intended meaning receives a PPDU in which the bit is set to the reserved value, and processes the received signal according to the understood rules. Has the STA “ignored” the reserved bit?

(Answer: “The general understanding / folk wisdom is that the STA is still compliant with the IEEE spec. The meaning of “ignore” contains an implied allowance of this beahvior.)

This is all a bit unsatisfactory. “Ignore” is defined on a “we know it when we see it” basis. It might help for some purposes if we spell out a universal meaning of what “ignore” means in the specification. The proposed resolution seems to do that. (If “ignore” means something else, what is it?)

Proposed resolution:

REVISED.

At the end of Clause 1.4 (Word usage) (173.29), add new paragraph:

“A construction of the form “x shall be ignored on reception” is to be understood as meaning that the state of any receiving STA is unaffected by x.”