**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **LB213/D02 comment resolution -- various CIDs -- p.111 to p.201** |
| Date Submitted | July 28, 2025 |
| Sources | Alex Krebs (Apple)  krebs @ apple.com |
| Re: |  |
| Abstract |  |
| Purpose | To propose resolution for MMS related comments for “P802.15.4ab™/D02 Draft Standard for Low-Rate Wireless Networks”. |
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# CID 192

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| MAMAN, MICKAEL | 192 | 115 | 10.39.11.3.4 | 10 | missing value "one" for Message Control field of start of ranging compact frame | add "one" |

Discussion: Yes, "one" is apparently missing in this line.

Proposed resolution: Accepted.

Disposition detail: n/a

# CID 547

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 547 | 115 | 10.39.11.3.3 | 7 | In the MCPS-DATA.request, the NHL provides the IRK of the receiving device via the DstAddr and/or the IRK of the transmitting device in the SourceIrk paramete, so it is the NHL that is making this choice depending on which it provides? The wording here does not reflect how the primitive is used | Reword to say something like: RPA Hash field shall be calculated as specified using the IRK supplied in the MCPS-DATA.request. For a single responder the DstAddr parameter provides responders IRK, otherwise the initiator's IRK provided by the SourceIrk parameter is used. |

Discussion: That's a good suggestion to make the behaviour more comprehensive.

Proposed resolution: Revised.

Disposition detail: Instruction to editor: Change clause as follows:

When the Start of Ranging Compact frame is transmitted to a single responder selected during contention-

based initialization and setup (as described in 10.39.3.6), the RPA Hash field shall be calculated as specified

in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided the DstAddr parameter. Otherwise, the RPA Hash field shall be calculated as specified

in 10.39.11.1.2.1 using the IRK of the initiator provided by the SourceIrk parameter.

# CID 553

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 553 | 118 | 10.39.11.3.5 | 15 | In the MCPS-DATA.request, the NHL provides the IRK of the receiving device via the DstAddr and/or the IRK of the transmitting device in the SourceIrk paramete, so it is the NHL that is making this choice depending on which it provides? The wording here does not reflect this. | Reword to say something like: RPA Hash field shall be calculated as specified using the IRK supplied in the MCPS-DATA.request. For a single responder the DstAddr parameter provides responders IRK, otherwise the initiator's IRK provided by the SourceIrk parameter is used. And... Similarly review/revise similar statements on RPA Hash and IRKs for all compact frame descriptions where similar statements are made. |

Discussion: Good idea to make it more comprehensive.

Proposed resolution: Revised.

Disposition detail:

When the One-to-one Poll Compact frame is transmitted to a single responder selected during contention-

based initialization and setup (as described in 10.39.3.6), the RPA Hash field shall be calculated as specified

in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided in the DstAddr parameter. Otherwise, the RPA Hash field shall be calculated as specified

in 10.39.11.1.2.1 using the IRK of the initiator provided by the SourceIrk parameter.

# CID 556

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 556 | 120 | 10.39.11.3.6 | 26 | I guess this means in the MCPS-DATA.request, DstAddr mode is NONE and the SrcAddMode is COMPACT so tyhat the device sused the SourceIrk parameter | Say something about this IRK being supplied by the SourceIrk parameter in the MCPS-DATA.request. Similarly review/revise similar statements on RPA Hash and IRK for all compact frame descriptions where similar statements are made. |

Discussion: Good idea.

Proposed resolution: Revised.

Disposition detail: Instruction to editor: Change clause on p.120 l.26 as follows:

The Responder RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the IRK of the

responder supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.122 l.5 as follows:

The Initiator RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the initiator's IRK

supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.123 l.6 as follows:

The Responder RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.124 l.30 as follows:

The Initiator RPA Hash shall be calculated as specified in 10.39.11.1.2.1 using the initiator's IRK supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.131 l.1 as follows:

The Responder RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.132 l.10 as follows:

The Responder RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided by the SourceIrk parameter.

Instruction to editor: Change clause on p.133 l.27 as follows:

The Responder RPA Hash field shall be calculated as specified in 10.39.11.1.2.1 using the responder's IRK supplied in the MCPS-DATA.request provided by the DstAddr parameter.

# CID 272, 273, 274, 275

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| QIAN, BIN | 272 | 118 | 10.39.11.3.5 | 26 | The reason for having all-zero Message Content may not be clear to readers not involved in the standard development | Change the sentence to "When the Message Control field value is zero the Message Content field shall consist of two octets with the value of zero as shown in Figure 87 to assist CFO estimation" |
| QIAN, BIN | 273 | 120 | 10.39.11.3.6 | 30 | The reason for having all-zero Message Content may not be clear to readers not involved in the standard development | Change the sentence to "When the Message Control field value is zero the Message Content field shall consist of five octets with the value of zero as shown in Figure 91 to assist CFO estimation" |
| QIAN, BIN | 274 | 125 | 10.39.11.3.9 | 8 | The reason for having all-zero Message Content may not be clear to readers not involved in the standard development | Change the sentence to "When the Message Control field value (within the Message ID field) is zero the Message Content field shall be formatted as shown in Figure 101 to assist CFO estimation" |
| QIAN, BIN | 275 | 130 | 10.39.11.3.10 | 4 | The reason for having all-zero Message Content may not be clear to readers not involved in the standard development | Change the sentence to "When the Message Control field value is zero, the Message Content field shall be formatted as shown in Figure 113 to assist CFO estimation" |

Discussion: Adding "to assist CFO estimation" makes it more comprehensible.

Proposed resolution: Accepted.

Disposition detail: n/a

# CID 555

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 555 | 120 | 10.39.11.3.5 | 17 | "Either the NB Channel Map field or the NB Channel field may be present, but not both. "... Given that they are mutually exclusive. We can save having the NB Channel Present bit in the presence bitmap and reuse the NB Channel Map Present field to also signal presence of the NB Channel field. (I have already identified a need for another presence bit, see my comment on p121-L12 | Rationalise to a single bit, to indicate that channel specification info is present in the message. Which type then being determined by the value of the Long-Term Parameters Update field. |

Discussion: Pooria and Rojan are more knowledgeable about this eventually.

Proposed resolution: Reassign to tbd.

Disposition detail: n/a

# CID 558

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 558 | 121 | 10.39.11.3.6 | 5 | The format Figure 92,can could cover all the cases with a single format definition, i.e., set the presence octet to all 0 and allow 4 padding octets, and give exactly same content as Figure 91. Even if there is good reason for having as sepcial frame for the figure 91 case. We could still allow the more general encodeing to also have that same ability by deleting the paragraph on line 20, and allowing for up to 4 padding bytes. | Consider reducing to a single format, or, allowing for the Figure 91 format to also reduce to a five 0x00 octets when the other fields are not needed. |

Discussion: Message Control 0 was introduced to form a basic O2O ranging set of messages, without the need for more elaborate MAC data/length/bitmap processing. Let's keep it as such.

Proposed resolution: Rejected.

Disposition detail: Current design is preferred.

# CID 626

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| VERSO, BILLY | 626 | 201 | 11.1.3.15 | 14 | Just wondering about the pre-existing O-QPSK PHY channel numbering in the base standard. I assume there is also a channel 1, 2, 3 there also. Since we are amending it, we should be clear that any O-QPSK PHY channel we mention is not confused with the original O-QSPK channels, and if so add some qualifier. | Review the rest of the 4ab text (and base standard text?) and decide if this is an issue or not, and if it is make sure to add band modifiers 5800 MHz and 6200 MHz (and the bands of the base standard in the base standard?) as appropriate to make it unambiguous.. |

Discussion: In the base standard, channel numbering starts per band at k=0, always. Section **10.39.8.2 Channel bands** in this amendment says " the 250 channels defined in 11.1.3.15". Therefore I think it's sufficiently defined.

Proposed resolution: Rejected.

Disposition detail: Sufficiently defined it is.

# CID 7

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Aldana, Carlos | 7 | 201 | 11.1.1 | 10 | I've heard the response "more channels is better" when discussing NB channel maps. The spectrum from 5850-5875 is available in Europe. | Change Table 11-1 and equations in lines 17 and 18 to reflect this. |

Discussion: UNII-4 is not available for narrowband, or has indoor restrictions in most regulatory domains globally, including the US and Canada.

Proposed resolution: Rejected.

Disposition detail: UNII-4 is not available for narrowband, or has indoor restrictions in most regulatory domains globally, including the US and Canada.