**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Wireless Specialty Networks (WSNs) | |
| Title | **D6 PICS Correction** | |
| Date Submitted | 16 May 2022 | |
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| Re: |  | |
| Abstract | This document contains an updated PICS for D7 | |
| Purpose | Aid comment resolution | |
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**Legend:**

* Arial size 13 indicates subsections for individual comments
* Red underlined text needs to be adapted during the comment implementation (e.g., because it is a reference).
* Bold italic text is an instruction to the editor to implement the text

R2-59 R2-60 R2-61 R2-62 R2-63 R2-64 R2-65 R2-66

Replace term “device” with “member” in the whole document when considering a device that is a member of an OWPAN.

Replace Tables in Annex D, D3 with the following tables:

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| **Table D.1—Optional item groups** | |
| **Item** | **Item description** |
| O.PHY | At least one PHY must be supported |
| O.TYPE | At least one device type must be supported. |

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| **Table D.1—Device types** | | | | |
| **Item** | **Item description** | **Reference** | **Status** | **Support** |
| DT-COO | Coordinator of an OWPAN. | 6 | O.TYPE |  |
| DT-MEM | Member device in an OWPAN. | 6 | O.TYPE |  |

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| **Table D.1—General device functions** | | | | |
| **Item** | **Item description** | **Reference** | **Status** | **Support** |
| GDF1 | Transmit an MPDU. | 6.2.3 | M |  |
| GDF1.1 | Assign sequence numbers to outgoing MPDUs. |  | M |  |
| GDF2 | Receive an MPDU. | 6.2.4 | M |  |
| GDF2.1 | Parse sequence numbers of incoming MPDUs | 6.2.4 | M |  |
| GDF2.2 | Filter duplicate MPDUs | 6.2.4 |  |  |
| GDF2.3 | Check MPDU FCS |  |  |  |
| GDF3 | Supports MD-SAP.request | 8.2.2 | M |  |
| GDF4 | Supports MD-SAP.indication | 8.2.3 | M |  |
| GDF5 | Supports coordinator core MLME interface | 8.3 | DT-COO:M |  |
| GDF6 | Supports member core MLME interface | 8.3 | DT-MEM:M |  |
| GDF7 | Set MAC and PHY PIB attributes | 8.3.6 | M |  |
| GDF8 | Get MAC and PHY PIB attributes. | 8.3.5 | M |  |

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| **Table D.3—MAC routines** | | | | |
| **Item number** | **Item description** | **Reference** | **Status** | **Support** |
| **OWPAN management** | | | | |
| MR-OM1 | Start and maintain an OWPAN as coordinator |  |  |  |
| MR-OM1.1 | Associate a new device as member |  |  |  |
| MR-OM1.2 | Disassociate a member |  |  |  |
| MR-OM1.3 | Change an attribute in a member device |  |  |  |
| MR-OM2 | Member of an OWPAN |  |  |  |
| MR-OM2.1 | Scan for active OWPANs | 6.4.2 | DT-MEM:M |  |
| MR-OM2.2 | Request association from a coordinator | 6.4.6 | DT-MEM:M |  |
| MR-OM2.3 | Disassociate from an OWPAN | 6.4.7 | DT-MEM:M |  |
| MR-OM2.4 | Change attribute according to coordinator | 7.6.9 | DT2:O |  |
| MR-OM |  |  |  |  |
| **Data transmission** | | | | |
| MR-DA1 | Transmit a single MSDU in a data frame |  |  |  |
| MR-DA2 | Transmit multiple MSDUs in a data frame |  |  |  |
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| **Beacon-enabled channel access** | | | | |
| MR-BECA1 | Respect MIFS when operating in half duplex mode |  | M |  |
| MR-BECA2 | Support beacon-enabled channel access as coordinator |  | DT-COO:M |  |
| MR-BECA2.1 | Synchronize members |  |  |  |
| MR-BECA2.2 | Allocate time slices (GTS and RTS) |  |  |  |
| MR-BECA2.3 | Assign time slices to members |  |  |  |
| MR-BECA2.4 | Respect guard time when allocating TS |  |  |  |
| MR-BECA3 | Support beacon-enabled channel access as member |  | DT-MEM:M |  |
| MR-BECA3.1 | Synchronize to a coordinator |  | DT-MEM:M |  |
| MR-BECA3.2 | Perform random channel access |  | DT-MEM:M |  |
| MR-BECA3.3 | Transmit in assigned GTS |  |  |  |
| MR-BECA3.4 | Report Queue state |  |  |  |
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| **Distributed MIMO transmission** | | | | |
| MR-MIMO1 | Transmit a single PPDU concurrently via multiple OFEs. | 6.9.2 | DT2:O |  |
| MR-MIMO2 | Feedback explicit MIMO CSI measured at the PHY | 6.9 | O |  |
|  |  | 7.6.9 | O |  |
|  |  |  |  |  |
| **Adaptive transmission** | | | | |
| MR-AT1 | Transmit essential elements with the PHYs base MCS |  |  |  |
| MR-AT2 | Request MCS from a device |  |  |  |
| MR-AT3 | Request use of a BAT from a device |  |  |  |
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| **Interference detection** | | | | |
| MR-ID1 | Detect interfering, non-decodable signals | 6.4.8 | O |  |
| MR-ID2 | Detect interfering transmissions by parsing MPDUs in case a supported PHY and MPDU version is used. | 6.4.8 | O |  |
| MR-ID3 | Notify the coordinator about observed interference based on an implementation specific trigger. | 6.4.8 | O |  |
|  |  |  |  |  |
| **Fragmentation** | | | | |
| MR-FRAG1 | Fragment outgoing MPDUs | 6.5 | O |  |
| MR-FRAG2 | Reassemble fragmented MPDUs | 6.5 | O |  |
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| **Retransmission** | | | | |
| MR-RT1 | Retransmit an MPDU on timeout | 6.7.4 | M |  |
| MR-RT2 | Send and receive single ACK |  |  |  |
| MR-RT3 | Send and receive block ACK |  |  |  |
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| **Relaying** | | | | |
| MR-RELAY2 | Relayed device | 6.10 | O |  |
| MR-RELAY3 | Relay device | 6.10 | O |  |
| MR-RELAY4 | Coordinator supporting relaying | 6.10 | O |  |
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| **Table D.4— MAC frames** | | | | | | |
| **Item** | **Item description** | **Reference** | **TX**  **Status** | **TX**  **Support** | **RX**  **Status** | **RX**  **Support** |
| MF-MPDU1 | MPDUs with type data | 7.3 | M |  | M |  |
| MF-MPDU2 | MPDUs with type management | 7.4 | M |  | M |  |
| MF-MPDU3 | MPDUs with type control | 7.5 | M |  | M |  |
| MF-MPDU4 | Relay Control field in the MPDU |  | O |  | O |  |
| MF-MPDU5 | Fragmentation Control field in the MPDU |  | O |  | O |  |
| MF-ELX | Association Request element |  |  |  |  |  |
| MF-ELX | Association Response element |  |  |  |  |  |
| MF-ELX | Supported MCS element |  |  |  |  |  |
| MF-ELX | Announcement element |  |  |  |  |  |
| MF-ELX | Disassociation Notification element | 7.6.4 | DTCOO1:M  DTMEM1:M |  | DTCOO1:M  DTMEM1:M |  |
| MF-ELX | Block ACK Request Element | 7.6.12 |  |  |  |  |
| MF-ELX | Capability List element |  |  |  |  |  |
| MF-ELX | Sync element |  |  |  |  |  |
| MF-ELX | GTS Descriptor List elements |  | M |  |  |  |
| MF-ELX | GTS Descriptor element | 7.6.8 | M |  |  |  |
| MF-ELX | RTS Descriptor |  | M |  |  |  |
| MF-ELX | BAT Request element |  |  |  |  |  |
| MF-ELX | Attribute Change Request element |  |  |  |  |  |
| MF-ELX | Attribute Change Response element |  |  |  |  |  |
| MF-ELX | Alien Signal element |  | MR-ID |  |  |  |
| MF-ELX | MCS Request element |  |  |  |  |  |
| MF-ELX | Explicit MIMO Feedback element | 7.6.9 | MR-MIMO2 |  |  |  |
| MF-ELX | Supported MCS element | 7.6.18 | M |  | M |  |
| MF-ELX | PM-PHY MCS element | 7.6.19 | PL-PMPHY1:M |  | PL-PMPHY1:M |  |
| MF-ELX | HB-PHY MCS element | 7.6.20 | PL-HBPHY1:M |  | PL-HBPHY1:M |  |
| MF-ELX | Relay Device Configuration Request element | 7.6.26 | MR-RELAY1:M |  | MR-RELAY1:M |  |
| MF-ELX | Relay Device Configuration Response element | 7.6.27 | MR-RELAY1:M |  | MR-RELAY1:M |  |
| MF-ELX | Relayed Device Configuration Request element | 7.6.28 | MR-RELAY1:M |  | MR-RELAY1:M |  |
| MF-ELX | Relayed Device Configuration Response element | 7.6.29 | MR-RELAY1:M |  | MR-RELAY1:M |  |
| MF-ELX | Vendor Specific element | 7.6.24 | O |  | O |  |
| MF-ELX | Multiple Element Container element | 7.6.23 | M |  | M |  |

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| **Table D.3—Physical layers** | | | | |
| **Item** | **Item description** | **Reference** | **Status** | **Support** |
| **PM-PHY** | | | | |
| PL-PMPHY1 | PM-PHY is supported | 10 | O.PHY |  |
| PL-PMPHY1.1 | PM-PHY MIMO Pilots | 10.2.6 | O |  |
| PL-PMPHY1.2 | 12.5 MHz rate | 10.2.8 | PL-PMPHY1:M |  |
| PL-PMPHY1.4 | 25 MHz rate | 10.2.8 | O |  |
| PL-PMPHY1.5 | 50 MHz rate | 10.2.8 | O |  |
| PL-PMPHY1.6 | 100 MHz rate | 10.2.8 | O |  |
| PL-PMPHY1.7 | 200 MHz rate | 10.2.8 | O |  |
| **HB-PHY** | | | | |
| PL-HBPHY1 | HB-PHY is supported | 11 | O.PHY |  |
| PL-HBPHY1.1 | 50 MHz bandwidth | 11 | PL-HBPHY1:M |  |
| PL-HBPHY1.1 | 100 MHz bandwidth | 11 | O |  |
| PL-HBPHY1.1 | 200 MHz bandwidth | 11 | O |  |