IEEE P802.15

Wireless Personal Area Networks

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **IE Characteristic Table** | |
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| Abstract | [Pertinent Characteristics of all IEEE 802.15.4 Information Elements] | |
| Purpose | [For reference and possible insertion into 802.15.4 Guide | |
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| Header IEs | ID | Size <129 | Enh Beacon | Enh Ack | Data | MP | Com-mand | Format | Use Des-cription | Mode Type | RX: Used by | TX: Built by |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Vendor Specific | 0x00 | >3 | X | X | X | X | X | 7.4.4.30 |  | ALL | UL | UL |
| Device Announcement (DA) | 0x2b | >7 | X |  |  |  |  | 7.4.1.2 | 6.3.4, 6.7.7 | TVWS | UL | MAC |
| Coordinated Sample Listening (CSL) | 0x1a | 6, 8 | X | X | X | X |  | 7.4.1.3 | 6.12.2, 6.12.2.3,  6.12.2.4, 6.12.2.5, 6.3.4 | LE | MAC | MAC |
| Receiver Initiated Transmission (RIT) | 0x1b | 6 | X |  | X |  | X | 7.4.1.4 | 6.3.4 | LE | MAC | MAC |
| DSME PAN Descriptor | 0x1c | >24 | X |  |  |  |  | 7.4.1.5 | 5.8.1, 5.8.1.1, 6.3.4, 6.11.2 | DSME | UL,  MAC | UL |
| Rendezvous Time | 0x1d | 6 |  | X |  | X |  | 7.4.1.6 | 6.12.2 | LE | MAC | MAC |
| Time Correction | 0x1e | 4 |  | X |  |  |  | 7.4.1.7 | 6.5.3.1, 6.7.4.2 | TSCH | MAC | MAC |
| Extended DSME PAN Descriptor | 0x21 | >26 | X |  |  |  |  | 7.4.1.8 | 6.11.2 | DSME | UL,  MAC | UL |
| Fragment Sequence Context Description | 0x22 | >6 |  |  | X | X |  | 7.4.1.9 | 23.3.1 | LECIM | MAC | MAC |
| Simplified Superframe Specification | 0x23 | 8 | X |  |  |  |  | 7.4.1.10 | [B2] 6.2.3 | LECIM | MAC | MAC |
| Simplified GTS Specification | 0x24 | >5 | X |  |  |  |  | 7.4.1.11 | [B2] 6.2.3 | LECIM | MAC | MAC Check? |
| LECIM Capabilities | 0x25 | 6, 10 | X |  | X | X | X | 7.4.1.12 | 10.1.2.10 | LECIM | UL | UL |
| TRLE Descriptor | 0x26 | 4 | X | X | X | X | X | F.5.1.1 | 6.3.4, F.4.2, F.4.3 | TRLE | MAC | MAC Check? |
| RCC Capabilities | 0x27 | 8 | X |  | X | X |  | 7.4.1.13 | [B2] 3.9.1 | RCC | UL | UL |
| RCCN Descriptor | 0x28 | >13 | X |  |  |  |  | 7.4.1.14 | 6.2.9 | RCC | UL, MAC | UL |
| Global Time | 0x29 | 4 | X |  |  |  |  | 7.4.1.15 |  | RCC | UL | UL |
| Header Termination 1 | 0x7e | 2 | X | X | X | X | X | 7.4.2.16 | 7.4.1 | ALL | UL, MAC | UL, MAC |
| Header Termination 2 | 0x7f | 2 | X | X | X | X | X | 7.4.2.17 | 7.4.1 | ALL | UL, MAC | UL, MAC |

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| Payload IEs - Group | ID | Size <2049 | Enh Beacon | Enh Ack | Da-ta | MP | Com-mand | Format | Use Des-cription | Mode Type | RX  Used by | TX Built by |
| Encapsulated Service Data Unit | 0x0 | >3 | X |  | X | X | X | 7.4.3.1 |  | ALL | UL | UL |
| MLME | 0x1 | Nested IEs + 2 | X | X | X | X | X | 7.4.3.2 |  | ALL | UL, MAC | UL, MAC |
| Vendor Specific | 0x2 | >6 | X |  | X | X | X | 7.4.4.30 |  | ALL | UL | UL |
| Payload Termination | 0xf | 2 | X | X | X | X | X | 7.4.3.3 | 7.4.1 | ALL | UL, MAC | UL, MAC |

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| Nested IEs – Short | Sub ID | Size <257 | Enh Beacon | Enh Ack | Da-ta | MP | Com-mand | Format | Use Des-cription | Mode Type | RX  Used by | TX Built by |
| TSCH Synchronization | 0x1a | 8 | X |  |  |  |  | 7.4.3.2 | 6.3.6, 6.3.4 | TSCH | MAC | MAC |
| TSCH Slotframe and Link | 0x1b | >12 | X |  |  |  |  | 7.4.3.3 | 6.3.6, 6.3.4 | TSCH | UL | UL |
| TSCH Timeslot | 0x1c | 3, 28, 30 | X |  |  |  |  | 7.4.3.4 | 6.3.6, 6.5.3, 6.3.4 | TSCH | UL | MAC |
| Hopping timing | 0x1d | 7 | X |  |  |  |  | 7.4.3.5 | 6.3.4, 6.2.10 | Non-beacon enabled | MAC | MAC |
| Enhanced Beacon Filter | 0x1e | 3 - 8 |  |  |  |  | X | 7.4.3.6 | 6.3.4 | Non-beacon enabled | MAC | UL |
| MAC Metrics | 0x1f | 5 | X |  | X | X |  | 7.4.3.7 | 8.4.2.6 | All modes | UL | UL |
| All MAC Metrics | 0x20 | 42 | X |  | X | X |  | 7.4.3.8 | 8.4.2.6 | All modes | UL | UL |
| Coexistence Specification | 0x21 | 7 | X |  |  |  |  | 7.4.3.9 | 6.2.3, 6.3.3.1, 6.3.4, 6.14 | SUN | UL | MAC |
| SUN Device Capabilities | 0x22 | >9 |  |  | X | X |  | 7.4.3.10 | [B2] 3.9.1 | SUN | UL MAC | UL |
| SUN FSK Generic PHY | 0x23 | 18 | X |  | X | X | X | 7.4.3.11 | 10.1.2.8, 20.2.3, 20.3 | SUN | UL MAC | UL |
| Mode Switch Parameter | 0x24 | 5 | X |  | X | X | X | 7.4.3.12 | 20.2.3, 20.5 | SUN | MAC | UL |
| PHY Parameter Change | 0x25 | 10 | X |  | X | X |  | 7.4.3.13 | 6.10 | MBAN | MAC | UL |
| O-QPSK PHY Mode | 0x26 | 4 |  |  | X | X |  | 7.4.3.14 | 6.10 | MBAN | MAC | UL |
| PCA Allocation | 0x27 | 5 | X |  |  |  |  | 7.4.3.15 | 6.2.5.4 | PCA | MAC | UL |
| DSSS Operating Mode | 0x28 | 10 |  |  | X | X |  | 7.4.3.16 | 6.10 | LECIM | MAC | UL |
| FSK Operating Mode | 0x29 | 10 |  |  | X | X |  | 7.4.3.17 | 6.10 | LECIM | MAC | UL |
| TVWS PHY Operating Mode Description | 0x2b | 11 |  |  |  | X |  | 7.4.3.18 | 6.15 | TVWS | MAC | UL |
| TVWS Device Capabilities | 0x2c | >10 | X |  | X | X |  | 7.4.3.19 | 6.15 | TVWS | UL MAC | UL |
| TVWS Device Category | 0x2d | 3 | X |  |  |  |  | 7.4.3.20 | 6.15 | TVWS | UL | UL |
| TVWS Device Identification | 0x2e | >5 | X |  |  |  |  | 7.4.3.21 | 6.15 | TVWS | UL | UL |
| TVWS Device Location | 0x2f | >20 | X |  |  |  |  | 7.4.3.22 | 6.15 | TVWS | UL | UL |
| TVWS Channel Information Query | 0x30 | >4 | X |  |  |  |  | 7.4.3.23 | 6.15 | TVWS | UL | UL |
| TVWS Channel Information Source | 0x31 | 3 -35 | X |  |  |  |  | 7.4.3.24 | 6.15 | TVWS | UL | UL |
| CTM | 0x32 | >18 | X |  |  |  |  | 7.4.3.25 | 6.16 | TVWS | UL | UL |
| Timestamp | 0x33 | 6 | X |  |  |  |  | 7.4.3.26 | 6.95 | TVWS | MAC | MAC |
| Timestamp Difference | 0x34 | 6 | X |  |  |  |  | 7.4.3.27 | 6.9.5, 6.7.2.4 | TVWS | MAC | MAC |
| TMCTP Specification | 0x35 | >5 | X |  |  |  |  | 7.4.3.28 | 5.8.1.3, 6.13 | TVWS | UL | UL |
| RCC PHY Operating Mode | 0x36 | 6 |  |  | X | X |  | 7.4.3.29 | 6.10 | RCC | MAC | UL |

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| Nested IEs - Long | Sub ID | Size <2049 | Enh Beacon | Enh Ack | Da-ta | MP | Com-mand | Format | Use Des-cription | Mode Type | RX  Used by | TX Built by |
| Vendor Specific | 0x8 | >6 | X |  | X | X | X | 7.4.4.30 |  | All | UL | UL |
| Channel Hopping | 0x9 | 3, >18 | X |  |  |  |  | 7.4.3.31 | 6.3.6, 6.3.4, 6.2.10 | TSCH et al | MAC | MAC |