**3GPP TSG-CT WG1 Meeting #146C1-240221**

**E-meeting, 22 – 26 January 2024**

**Source: Xiaomi, vivo**

**Title: Information elements coding for UE discovery procedures**

**Spec: 3GPP TS 24.514 v0.5.0**

**Agenda item: 18.2.23**

**Document for: Agreement**

**1. Introduction**

This p-CR provides the information elements coding for UE discovery procedures and some update on the message for UE discovery.

**2. Reason for Change**

The procedures for Ranging and sidelink positioning UE discovery with 5G ProSe capable UE are defined in clause 6.2 3GPP TS 24.514, the corresponding "Message functional definition and contents" are defined in clause 10.2 3GPP TS 24.514, the corresponding information elements coding are should be defined.

Additionally, some update on the message for UE discovery is provided to align with the corresponding procedures.

**3. Proposal**

It is proposed to agree the following changes to 3GPP TS 24.514 v0.5.0.

\* \* \* First Change \* \* \* \*

## 10.2 5G ProSe direct discovery for ranging and sidelink positioning procedure messages

### 10.2.1 Message definition

This message is sent by the UE over the PC5 interface for 5G ProSe direct discovery for ranging and sidelink positioning procedure.

Message type: PROSE PC5 DISCOVERY

Significance: dual

Direction: UE to peer UE

Table 10.2.1.1: PROSE PC5 DISCOVERY message for ranging and sidelink positioning UE discovery announcement

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
|  | RSPP metadata | RSPP metadata11.2.x1 | M | LV-E | 3-4 |
|  | Announcer info | Application layer ID11.2.x2 | M | LV | 2-256 |
|  | Serving PLMN ID | PLMN ID11.2.x3 | M | LV | 4 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Ranging and sidelink positioning UE discovery announcement" |

Table 10.2.1.2: PROSE PC5 DISCOVERY message for ranging and sidelink positioning UE discovery solicitation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
| X1 | RSPP metadata | RSPP metadata11.2.x1 | O | TLV-E | 4-5 |
| X2 | Discoveree user info | Application layer ID11.2.x2 | O | TLV | 3-257 |
| xx | Discoverer user info | Application layer ID11.2.x2 | O | TLV | 3-257 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Ranging and sidelink positioning UE discovery solicitation" |

Table 10.2.1.3: PROSE PC5 DISCOVERY message for ranging and sidelink positioning UE discovery response

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
|  | RSPP metadata | RSPP metadata11.2.x1 | M | LV-E | 3-4 |
|  | Discoveree user info | Application layer ID11.2.x2 | M | LV | 2-256 |
|  | Serving PLMN ID | PLMN ID11.2.x3 | M | LV | 4 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Ranging and sidelink positioning UE discovery response" |

Table 10.2.1.4: PROSE PC5 DISCOVERY message group member discovery announcement for ranging and sidelink positioning

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
|  | Application layer group ID | Application layer group ID11.2.x4 | M | LV | 2-256 |
|  | Announcer info | Application layer ID11.2.x2 | M | LV | 2-256 |
|  | RSPP metadata | RSPP metadata11.2.x1 | M | LV-E | 3-4 |
|  | Serving PLMN ID | PLMN ID11.2.x3 | M | LV | 4 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Group member discovery announcement for ranging and sidelink positioning" |

Table 10.2.1.5: PROSE PC5 DISCOVERY message for group member discovery solicitation for ranging and sidelink positioning

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
|  | Application layer group ID | Application layer group ID11.2.x4 | M | LV | 2-256 |
|  | Discoverer info | Application layer ID11.2.x2 | M | LV | 2-256 |
| X1 | RSPP metadata | RSPP metadata11.2.x1 | O | TLV-E | 4-5 |
| 28 | Target user info | Application layer ID11.2.x2 | O | TLV | 3-257 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Group member discovery solicitation for ranging and sidelink positioning" |

Table 10.2.1.6: PROSE PC5 DISCOVERY message for group member discovery response for ranging and sidelink positioning

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | ProSe direct discovery PC5 message type (NOTE) | ProSe direct discovery PC5 message type11.2.1 | M | V | 1 |
|  | Application layer group ID | Application layer group ID11.2.x4 | M | LV | 2-256 |
|  | Discoveree info | Application layer ID11.2.x2 | M | LV | 2-256 |
|  | RSPP metadata | RSPP metadata11.2.x1 | M | LV-E | 3-4 |
|  | Serving PLMN ID | PLMN ID11.2.x3 | M | LV | 4 |
| NOTE: The discovery type is set to "Restricted discovery", the content type is set to "Group member discovery response for ranging and sidelink positioning" |

\* \* \* Next Change \* \* \* \*

## 11.2 PC5 direct discovery message formats

### 11.2.1 ProSe direct discovery PC5 message type

This parameter is used to indicate the type of ProSe direct discovery message over PC5 interface as specified in clause 11.2.1 of 3GPP TS 24.554 [6].

\* \* \* Next Change \* \* \* \*

### 11.2.x1 RSPP metadata

This parameter carries the metadata information.

The RSPP metadata information element is coded as shown in Figure 11.2.x1.1 and Table 11.2.x1.1.

The RSPP metadata is a type 6 information element.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| RSPP Metadata IEI | octet 1 |
| Length of RSPP Metadata contents | octet 2 |
|  | octet 3 |
| RSPP Metadata contents | octet 4octet 5\* |

Figure 11.2.x1.1: RSPP metadata information element

Table 11.2.x1.1: RSRP metadata information element

|  |
| --- |
| The length of RSPP metadata contents field contains the binary coded representation of the length of the Metadata contents field.The RSPP Metadata contents field contains the octets indicating the RSPP metadata parameter. The format of the RSPP metadata parameter is coded as RSPP-Metadata as specified in clause 6.11 of 3GPP TS 38.355 [12]. |

\* \* \* Next Change \* \* \* \*

### 11.2.x2 Application layer ID

The user info ID parameter carries an application layer ID as specified in clause 11.2.15 of 3GPP TS 24.554 [6].

\* \* \* Next Change \* \* \* \*

### 11.2.x3 PLMN ID

The PLMN ID information element is coded as the PLMN identity information element specified in clause 9.11.3.85 of 3GPP TS 24.501 [3].

\* \* \* Next Change \* \* \* \*

### 11.2.x4 Application layer group ID

This parameter carries an identifier of an application layer group that the UE belongs to as specified in clause 11.2.6 of 3GPP TS 24.554 [6].

\* \* \* End of Changes \* \* \* \*