**3GPP TSG-RAN WG3 Meeting #129 R3-255873**

**Bengaluru, India, 25th – 29th August, 2025**

**Agenda Item: 20.2**

**Source: Huawei, Ericsson, Xiaomi, Nokia**

**Title: (TP to NRPPa BL CR): Support of Case 3a remaining issue**

**Document for: Agreement**

# Introduction

This is a TP for the NRPPa BLCR to reflect the following decision from the AI/ML for PHY offline session:

**Proposal 1: re-encode the Inferred Measurement IE as a bitmap size (8), same structure as Data Collection needed IE**

**Proposal 2: add a new bit “inferred timing measurement” in the MCRI**

**Proposal 3: delete the semantics of the LoS/NLoS Information IE in 9.2.Z2**

**Proposal 4: shorten the codepoints to “not supported”, “not available”**

# TP for the AI/ML BLCR to TS 38.455 for Case 3a (based on R3-255098)

**<Start of changes>**

9.1.X Messages for Positioning Data Collection Information Transfer Procedures

9.1.X.1 POSITIONING DATA COLLECTION REPORT

This message is sent to report positioning information for data collection.

Direction: LMF → NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3 |  | YES | reject |
| NRPPa Transaction ID | M |  | 9.2.4 |  | - |  |
| LMF Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| RAN Measurement ID | M |  | INTEGER (1..65536, …) |  | YES | reject |
| Positioning Data Information | O |  | 9.2.Z2 |  | YES | ignore |
| Positioning Data Unavailable | O |  | ENUMERATED(not supported, not available, …) |  | YES | ignore |

*Next change*

9.2.37 TRP Measurement Result

This information element contains the measurement result.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| **Measured Result Item** |  | *1 .. <maxnoPosMeas>* |  |  | - |  |
| >CHOICE *Measured Results Value* | M |  |  |  | - |  |
| *>>UL Angle of Arrival* |  |  | 9.2.38 |  |  |  |
| *>>UL SRS-RSRP* |  |  | INTEGER (0..126) |  |  |  |
| *>>UL RTOA Measurement* |  |  | 9.2.39 |  |  |  |
| *>>gNB Rx-Tx Time Difference* |  |  | 9.2.40 |  |  |  |
| *>>Z-AoA* |  |  | 9.2.67 |  | YES | reject |
| *>>Multiple UL-AoA* |  |  | 9.2.71 |  | YES | reject |
| *>>UL SRS-RSRPP* |  |  | 9.2.72 |  | YES | reject |
| *>>UL RSCP* |  |  | 9.2.92 |  | YES | reject |
| *>>Sample-based UL-RTOA* |  |  | 9.2.X |  | YES | reject |
| >Time Stamp | M |  | 9.2.42 |  | - |  |
| >Measurement Quality | O |  | 9.2.43 |  | - |  |
| >Measurement Beam Information | O |  | 9.2.57 |  | - |  |
| >SRS Resource type | O |  | 9.2.73 |  | YES | ignore |
| >ARP ID | O |  | 9.2.75 |  | YES | ignore |
| >LoS/NLoS Information | O |  | 9.2.77 |  | YES | ignore |
| >Mobile TRP Location Information | O |  | 9.2.88 |  | YES | ignore |
| >Measured Frequency Hops | O |  | ENUMERATED (singleHop, multiHop, …) |  | YES | ignore |
| **>Aggregated Positioning SRS Resource ID List** |  | *0..1* |  | Indicates the used Positioning SRS resources across aggregated carriers. | YES | ignore |
| **>>Aggregated Positioning SRS Resource ID Item** |  | 2..< *maxnoaggregatedPosSRS-Resources* > |  |  | - |  |
| >>>Positioning SRS Resource ID | M |  | INTEGER (0..63) |  |  |  |
| >>>Point A | M |  | INTEGER (0..3279165) |  | YES | ignore |
| **>>>SCS Specific Carrier** |  | *1* |  |  | YES | ignore |
| >>>>Offset To Carrier | M |  | INTEGER (0..2199, …) |  |  |  |
| >>>>Subcarrier Spacing | M |  | ENUMERATED(kHz15, kHz30, kHz60, kHz120, …, kHz480, kHz960) |  |  |  |
| >>>>Carrier Bandwidth | M |  | INTERGER (1..275, …) |  |  |  |
| >>>PCI | O |  | INTEGER (0..1007) |  | YES | ignore |
| >Measurement Based On Aggregated Resources | O |  | ENUMERATED(true, …) |  | YES | ignore |
| >Inferred Measurement | O |  | BIT STRING (SIZE(8)) | First Bit: Timing information  Second Bit: LoS/NLoS information  Value ‘1’ indicates ‘inferred’, Value ‘0’ indicates ‘not inferred’.  Other bits reserved for future use.  This IE is only valid for UL-RTOA and gNB Rx-Tx Time Difference. | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoPosMeas | Maximum no. of measured quantities that can be configured and reported with one positioning measurement message. Value is 16384. |
| maxnoaggregatedPosSRS-Resources | Maximum no of aggregated Positioning SRS resources per UL BWP. Value is 3. |

*Next change*

9.2.81 Measurement Characteristics Request Indicator

This IE contains the measurement characteristic information requested by LMF.

| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| --- | --- | --- | --- | --- |
| Measurement characteristic request indicator | M |  | BIT STRING (SIZE(16)) | Each position in the bitmap represents a requested measurement characteristic:  first bit: Measurement Beam Information  *\*\*\* skip unmodified text \*\*\**  Twelfth bit: Aggregated Positioning SRS resources IDs used for joint UL positioning measurement.  Thirteen bit: UL SRS-RSRPP in sample-based UL-RTOA.  Fourteenth bit: Inferred timing information.  Other bits reserved for future use. Value ‘1’ indicates ‘requested measurement characteristic’, Value ‘0’ indicates ‘not requested’. |

*Next change*

9.2.Z2 Positioning Data Information

This information element contains positioning information for data collection.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| **TRP Measurement List** |  | *0..1* |  | Indicates the area of interest. |
| **>TRP Measurement Item** |  | *1..<maxnoofMeasTRPs>* |  |  |
| >>TRP ID | M |  | 9.2.24 |  |
| >>UL RTOA | O |  | 9.2.39 |  |
| >>gNB Rx-Tx Time Difference | O |  | 9.2.40 |  |
| >>LoS/NLoS Information | O |  | 9.2.77 |  |
| >>Time Stamp | M |  | 9.2.42 |  |
| >>Measurement Quality | O |  | 9.2.43 |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofMeasTRPs | Maximum no. of TRPs that can be included within one message. Value is 64. |

*Next change*

9.3.5 Information Element definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Information Element Definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NRPPA-IEs {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) nrppa (4) version1 (1) nrppa-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-MeasurementQuantities-Item,

*\*\*\* skip unmodified text \*\*\**

maxnoAggregatedPosSRSCombinations,

maxnoofChannelRes,

id-Cell-ID,

*\*\*\* skip unmodified text \*\*\**

id-ValidityAreaSpecificSRSInformationExtended,

id-ChannelResponseInformation,

id-sample-based-UL-RTOA,

id-Inferred-measurement

*\*\*\* skip unmodified text \*\*\**

Inferred-measurement ::= BIT STRING (SIZE (8))

*\*\*\* skip unmodified text \*\*\**

PositioningDataUnavailable ::= ENUMERATED {

not-supported,

not-available,

...}

*\*\*\* skip unmodified text \*\*\**

END

-- ASN1STOP

*\*\*\* skip unmodified text \*\*\**

**<End of changes>**