**3GPP TSG-CT WG1 Meeting #125-eC1-205xxx**

**Electronic meeting, 20-28 August 2020 was C1-205063**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.588** | **CR** | **0020** | **rev** | **1** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Radio parameters for UE neither served by E-UTRA nor served by NR | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT, Ericcson | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eV2XARC | | | | |  | ***Date:*** | | | 2020-08-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In 3GPP TS 23.287 v16.3.0, it is stated that the radio parameters information when the UE "not served by E-UTRA" and "not served by NR":  “  ……  1) Authorization policy:  - When the UE is "served by E-UTRA" or "served by NR":  - PLMNs in which the UE is authorized to perform V2X communications over PC5 reference point when "served by E-UTRA" or "served by NR".  For each above PLMN:  - RAT(s) over which the UE is authorized to perform V2X communications over PC5 reference point.  - When the UE is "not served by E-UTRA" and "not served by NR":  - Indicates whether the UE is authorized to perform V2X communications over PC5 reference point when "not served by E-UTRA" and "not served by NR".  - RAT(s) over which the UE is authorized to perform V2X communications over PC5 reference point.  NOTE 1: In this specification, *{When the UE is "served by E-UTRA" or "served by NR"}* and *{When the UE is "not served by E-UTRA" and "not served by NR"}* are relevant to V2X communications over PC5 reference point.  2) Radio parameters when the UE is "not served by E-UTRA" and "not served by NR":  - Includes the radio parameters per PC5 RAT (i.e. LTE PC5, NR PC5) with Geographical Area(s) and an indication of whether they are "operator managed" or "non-operator managed". These radio parameters (e.g., frequency bands) are defined in TS 36.331 [14] and TS 38.331 [15]. The UE uses the radio parameters to perform V2X communications over PC5 reference point when "not served by E-UTRA" and "not served by NR" only if the UE can reliably locate itself in the corresponding Geographical Area. Otherwise, the UE is not authorized to transmit.  ……  ”  The policy/parameter specified here refers to the the RATs (i.e. LTE PC5 and/or NR PC5) over which the UE is authorized to perform V2X communication and the radio parameter per PC5 RAT when the UE is “not served by E-UTRA” and “not served by NR”.  What is more, only the radio parameter for the RAT over which the UE is authorized to perform V2X communcations over PC5 reference point should be sent to UE.  But the description in 3GPP TS 24.588 v16.1.0 does not include E-URRA radio parameters and the corresponding information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Include the E-UTRA radio parameters information in UE V2X policy for the UE that is authorized to perform V2X communcations over E-UTRA PC5 reference point and is "not served by E-UTRA" and "not served by NR". | | | | | | | | |
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| ***Consequences if not approved:*** | | Missing E-UTRA radio parameters information in UE V2X policy for the UE that is authorized to perform V2X communcations over E-UTRA PC5 reference point and is "not served by E-UTRA" and "not served by NR". | | | | | | | | |
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| ***Clauses affected:*** | | 5.2.3, 6.1.3.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\*\*\*Start of change \*\*\*\*\*

### 5.3.1 General

\*\*\*\*\*\*skipped for clarity\*\*\*\*\*\*

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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of not served by E-UTRA and not served by NR contents | | | | | | | | octet o1+1  octet o1+2 |
| EPINENN | NPINENN | 0  Spare | 0  Spare | 0  Spare | 0  Spare | 0  Spare | VPNENNI | octet o1+3 |
| E-UTRA radio parameters per geographical area list | | | | | | | | octet (o1+4)\*  octet o121\* |
| NR radio parameters per geographical area list | | | | | | | | octect o122\*  (see NOTE)  octect o2\* |

NOTE: The field is placed immediately after the last present preceding field.

Figure 5.3.1.6: Not served by E-UTRA and not served by NR

Table 5.3.1.6: Not served by E-UTRA and not served by NR

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| V2X communication over PC5 when not served by E-UTRA and not served by NR indicator (VPNENNI):  The VPNENNI bit indicates whether the UE is authorized to use V2X communication over PC5 when not served by E-UTRA and not served by NR.  Bit  **1**  0 Not authorized  1 Authorized |
|  |
| E-UTRA-PC5 indicator when not served by E-UTRA and not served by NR (PEINENN):  The EPINENN bit indicates whether the UE is authorized to use V2X communication over E-UTRA-PC5 when not served by E-UTRA and not served by NR.  Bit  **8**  0 Not authorized  1 Authorized |
|  |
| NR-PC5 indicator when not served by E-UTRA and not served by NR (NPINENN):  The NPINENN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 when not served by E-UTRA and not served by NR.  Bit  **7**  0 Not authorized  1 Authorized |
|  |
| E-UTRA radio parameters per geographical area list:  If EPINENN bit is set to "Authorized", the E-UTRA radio parameters per geographical area list field is present otherwise the E-UTRA radio parameters per geographical area list field is absent. It is coded according to figure 5.3.1.7 and table 5.3.1.7. |
| NR radio parameters per geographical area list:  If NPINENN bit is set to "Authorized", the NR radio parameters per geographical area list field is present otherwise the NR radio parameters per geographical area list field is absent. It is coded according to figure 5.3.1.7 and table 5.3.1.7. |
| If the length of not served by E-UTRA and not served by NR contents field indicates a length bigger than indicated in figure 5.3.1.6, receiving entity shall ignore any superfluous octets located at the end of the not served by E-UTRA and not served by NR contents. |

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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of radio parameters per geographical area list contents | | | | | | | | octet o1+4  octet o1+5 |
| Radio parameters per geographical area info 1 | | | | | | | | octet (o1+6)\*  octet o6\* |
| Radio parameters per geographical area info 2 | | | | | | | | octet (o6+1)\*  octet o7\* |
| ... | | | | | | | | octet (o7+1)\*  octet o8\* |
| Radio parameters per geographical area info n | | | | | | | | octet (o8+1)\*  octet o121\* |

Figure 5.3.1.7: Radio parameters per geographical area list

Table 5.3.1.7: Radio parameters per geographical area list

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| Radio parameters per geographical area info:  The radio parameters per geographical area info field is coded according to figure 5.3.1.8 and table 5.3.1.8. |
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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of radio parameters per geographical area contents | | | | | | | | octet o6+1  octet o6+2 |
| Geographical area | | | | | | | | octet o6+3  octet o9 |
| Radio parameters | | | | | | | | octet o9+1  octet o7-1 |
| MI | 0  Spare | 0  Spare | 0  Spare | 0  Spare | 0  Spare | 0  Spare | 0  Spare | octet o7 |

Figure 5.3.1.8: Radio parameters per geographical area info

Table 5.3.1.8: Radio parameters per geographical area info

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| Geographical area:  The geographical area field is coded according to figure 5.3.1.9 and table 5.3.1.9. |
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| Radio parameters:  The radio parameters field is coded according to figure 5.3.1.11 and table 5.3.1.11, applicable in the geographical area indicated by the geographical area field when not served by E-UTRA and not served by NR. |
|  |
| Managed indicator (MI):  The Managed indicator indicates how the radio parameters indicated in the radio parameters field in the geographical area indicated by the geographical area field are managed.  Bit  **8**  0 Non-operator managed  1 Operator managed |
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| If the length of radio parameters per geographical area contents field indicates a length bigger than indicated in figure 5.3.1.8, receiving entity shall ignore any superfluous octets located at the end of the radio parameters per geographical area contents. |

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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of geographical area contents | | | | | | | | octet o6+3  octet o6+4 |
| Coordinate 1 | | | | | | | | octet (o6+5)\*  octet (o6+10)\* |
| Coordinate 2 | | | | | | | | octet (o6+11)\*  octet (o6+16)\* |
| ... | | | | | | | | octet (o6+17)\*  octet (o6-2+6\*n)\* |
| Coordinate n | | | | | | | | octet (o6-1+6\*n)\*  octet (o6+4+6\*n)\* = octet o9\* |

Figure 5.3.1.9: Geographical area

Table 5.3.1.9: Geographical area

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| Coordinate:  The coordinate field is coded according to figure 5.3.1.10 and table 5.3.1.10. |
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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Latitude | | | | | | | | octet o6+11  octet o6+13 |
| Longitude | | | | | | | | octet o6+14  octet o6+17 |

Figure 5.3.1.10: Coordinate area

Table 5.3.1.10: Coordinate area

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| Latitude:  The latitude field is coded according to subclause 6.1 of 3GPP TS 23.032 [7]. |
|  |
| Longitude:  The longitude field is coded according to subclause 6.1 of 3GPP TS 23.032 [7]. |
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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of radio parameters contents | | | | | | | | octet o9+1  octet o9+2 |
| Radio parameters contents | | | | | | | | octet o9+3  octet o7-1 |

Figure 5.3.1.11: Radio parameters

Table 5.3.1.11: Radio parameters

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| Radio parameters contents:  In E-UTRA radio parameters per geographical area list, radio parameters are defined as *SL-V2X-Preconfiguration* in clause 9 of 3GPP TS 36.331 [16].  In NR radio parameters per geographical area list, radio parameters are defined as *SL-PreconfigurationNR* in clause 9.3 of 3GPP TS 38.331 [12]. |

\*\*\*\*\*\*skipped for clarity\*\*\*\*\*\*

\*\*\*\*\*End of changes \*\*\*\*\*