**3GPP TSG-RAN WG3 Meeting #114b-e *R3-221214***

**E-meeting, 17-26 Jan 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.423** | **CR** | **0736** | **rev** | **1** | **Current version:** | 16.8.0 |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Correction of frequency information for DL only or UL only cell | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, China Telecom, Deutsche Telekom, Orange | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core, TEI16 | | | | |  | ***Date:*** | | | 2022-01-17 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | In served/neighbour information NR IE, the UL/DL NR frequency info and UL/DL transmission bandwidth are mandatory.  How as indicated in the section 5.2 in TS 38.401, the SDL is operating in the DL operating band only.  This means if the cell is SDL cell, the UL FreqInfo/UL transmission bandwidth are indicated as well, which potentially lead to confusion and errors.  Note that for LTE UL EARFCN in the Served Cell Information E-UTRA, it is already clearly indicated that   * *Corresponds to NUL in TS 36.104 [25] for E-UTRA operating bands for which it is defined; ignored for E-UTRA operating bands for which NUL is not defined*   Then the similar semantic descriptions can be included for NR UL frequency info as well. | | | | | | | | |
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| ***Summary of change:*** | | * Update the semantic descriptions that for SDL cell, the UL related frequency information shall be ignored.   Impact Analysis:  Impact assessment towards the previous version of the specification (same release):  This CR has isolated impact with the previous version of the specification (same release).  The impact can be considered isolated because the change only affects the NR served/neighbor cell information. | | | | | | | | |
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| ***Consequences if not approved:*** | | The mandatory inclusion of UL related frequency information may lead to confusion for SDL cell. | | | | | | | | |
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| ***Clauses affected:*** | | 9.2.11, 9.2.2.13 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS38.473 CR 0854 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
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| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | Rev0: R3-220689  Rev1: R3-221214  Update the semantic descriptions based on the online comments. | | | | | | | | |

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| **Change Begins** |

#### 9.2.2.11 Served Cell Information NR

This IE contains cell configuration information of an NR cell that a neighbouring NG-RAN node may need for the Xn AP interface.

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| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| NR-PCI | M |  | INTEGER (0..1007, …) | NR Physical Cell ID | – |  |
| NR CGI | M |  | 9.2.2.7 |  | – |  |
| TAC | M |  | 9.2.2.5 | Tracking Area Code | – |  |
| RANAC | O |  | RAN Area Code  9.2.2.6 |  | – |  |
| **Broadcast PLMNs** |  | *1..<maxnoofBPLMNs>* |  | Broadcast PLMNs in SIB1 associated to the NR Cell Identity in the *NR CGI* IE. | – |  |
| >PLMN Identity | M |  | 9.2.2.4 |  | – |  |
| CHOICE *NR-Mode-Info* | M |  |  |  | – |  |
| >*FDD* |  |  |  |  |  |  |
| >>**FDD Info** |  | *1* |  |  | – |  |
| >>>UL NR Frequency Info | M |  | NR Frequency Info  9.2.2.19 | This IE is ignored for NR operating bands for which uplink range of NREF is not defined in section 5.4.2.3 of TS 38.104 [24]. | – |  |
| >>>DL NR Frequency Info | M |  | NR Frequency Info  9.2.2.19 |  | – |  |
| >>>UL Transmission Bandwidth | M |  | NR Transmission Bandwidth  9.2.2.20 | This IE is ignored for NR operating bands for which uplink range of NREF is not defined in section 5.4.2.3 of TS 38.104 [24]. | – |  |
| >>>DL Transmission Bandwidth | M |  | NR Transmission Bandwidth  9.2.2.20 |  | – |  |
| >>>UL Carrier List | O |  | NR Carrier List  9.2.2.63 | If included, the *UL Transmission Bandwidth* IE shall be ignored. | YES | ignore |
| >>>DL Carrier List | O |  | NR Carrier List  9.2.2.63 | If included, the *DL Transmission Bandwidth* IE shall be ignored. | YES | ignore |
| >*TDD* |  |  |  |  |  |  |
| >>**TDD Info** |  | *1* |  |  | – |  |
| >>>Frequency Info | M |  | NR Frequency Info  9.2.2.19 |  | – |  |
| >>>Transmission Bandwidth | M |  | NR Transmission Bandwidth  9.2.2.20 |  | – |  |
| >>>Intended TDD DL-UL Configuration NR | O |  | 9.2.2.40 |  | YES | ignore |
| >>>TDD UL-DL Configuration Common NR | O |  | OCTET STRING | The *tdd-UL-DL-ConfigurationCommon* as defined in TS 38.331 [10] | YES | ignore |
| >>>Carrier List | O |  | NR Carrier List  9.2.2.63 | If included, the *Transmission Bandwidth* IE shall be ignored. | YES | ignore |
| Measurement Timing Configuration | M |  | OCTET STRING | Contains the *MeasurementTimingConfiguration* inter-node message for the served cell, as defined in TS 38.331 [10]. | – |  |
| Connectivity Support | M |  | 9.2.2.28 |  | – |  |
| **Broadcast PLMN Identity Info List NR** |  | *0..<maxnoofBPLMNs>* |  | This IE corresponds to the *PLMN-IdentityInfoList* IE and the *NPN-IdentityInfoList* IE (if available) in *SIB1* as specified in TS 38.331 [8]. All PLMN Identities and associated information contained in the *PLMN-IdentityInfoList* IE and NPN identities and associated information contained in the *NPN-IdentityInfoList* IE (if available) are included and provided in the same order as broadcast in SIB1.  NOTE: In case of NPN-only cell, the PLMN Identities and associated information contained in the *PLMN-IdentityInfoList* IE are not included. | YES | ignore |
| **>Broadcast PLMNs** |  | *1..<maxnoofBPLMNs>* |  | Broadcast PLMNs in SIB1 associated to the *NR Cell Identity* IE. | – |  |
| >>PLMN Identity | M |  | 9.2.2.4 |  | – |  |
| >TAC | M |  | 9.2.2.5 |  | – |  |
| >NR Cell Identity | M |  | BIT STRING (SIZE(36)) |  | – |  |
| >RANAC | O |  | RAN Area Code  9.2.2.6 |  | – |  |
| >Configured TAC Indication | O |  | 9.2.2.39a | NOTE: This IE is associated with the TAC in the *Broadcast PLMN Identity Info List NR* IE | YES | ignore |
| >NPN Broadcast Information | O |  | 9.2.2.71 | If this IE is included the content of the *Broadcast PLMNs* IE in the *Broadcast PLMN Identity Info List NR* IE is ignored. | YES | reject |
| Configured TAC Indication | O |  | 9.2.2.39a | NOTE: This IE is associated with the TAC on top-level of the *Served Cell Information NR* IE | YES | ignore |
| NPN Broadcast Information | O |  | 9.2.2.71 | If this IE is included the content of the *Broadcast PLMNs* IE in the top *Served Cell Information NR* IE is ignored. | YES | reject |
| SSB Positions In Burst | O |  | 9.2.2.64 |  | YES | ignore |
| NR Cell PRACH Configuration | O |  | OCTET STRING | Containing 9.3.1.139 NR Cell PRACH Configuration as of TS 38.473 [41]. | YES | ignore |
| CSI-RS Transmission Indication | O |  | ENUMERATED (activated, deactivated, ...) | This IE indicates the CSI-RS transmission status of the given cell. | YES | ignore |
| SFN Offset | O |  | 9.2.2.75 |  | YES | Ignore |

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| Range bound | Explanation |
| maxnoofBPLMNs | Maximum no. of broadcast PLMNs by a cell. Value is 12. |

**<Unchanged Text Omitted>**

#### 9.2.2.13 Neighbour Information NR

This IE contains cell configuration information of NR cells that a neighbour NG-RAN node may need to properly operate its own served cells.

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| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Neighbour Information NR |  | *1 .. <maxnoofNeighbours>* |  |  |
| >NRPCI | M |  | INTEGER (0..1007) | NR Physical Cell ID |
| >NR CGI | M |  | 9.2.2.7 |  |
| >TAC | M |  | 9.2.2.5 | Tracking Area Code |
| >RANAC | O |  | RAN Area Code  9.2.2.6 |  |
| >CHOICE *NR-Mode-Info* | M |  |  |  |
| *>>FDD* |  |  |  |  |
| **>>>FDD Info** |  | *1* |  |  |
| >>>>UL NR FreqInfo | M |  | NR Frequency Info  9.2.2.19 | This IE is ignored for NR operating bands for which uplink range of NREF is not defined in section 5.4.2.3 of TS 38.104 [24]. |
| >>>>DL NR FreqInfo | M |  | NR Frequency Info  9.2.2.19 |  |
| *>>TDD* |  |  |  |  |
| **>>>TDD Info** |  | *1* |  |  |
| >>>>NR FreqInfo | M |  | NR ARFCN Frequency Info  9.2.2.19 |  |
| >Connectivity Support | M |  | 9.2.2.28 |  |
| >Measurement Timing Configuration | M |  | OCTET STRING | Contains the *MeasurementTimingConfiguration* inter-node message for the neighbour cell, as defined in TS 38.331 [10]. |

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| Range bound | Explanation |
| maxnoofNeighbours | Maximum no. of neighbour cells associated to a given served cell. Value is 1024. |

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| **Change Ends** |