**3GPP TSG-RAN2 Meeting #121-bis-e R2-230xxxx**

**e-Meeting, 17th – 26th Apr. 2023  *revision of R2-2303552***

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.331** | **CR** | **4015** | **rev** | **1** | **Current version:** | **17.4.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <http://www.3gpp.org/Change-Requests>.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | Misc correction to TS 38.331 on NR MBS |
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| ***Source to WG:*** | ZTE, Sanechips |
| ***Source to TSG:*** | RAN2 |
|  |  |
| ***Work item code:*** | NR\_MBS-Core |  | ***Date:*** | 2023-04-23 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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 canbe 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | 1. in section 6.3.6 for *mtch-neighbourCell* in *MBS-SessionInfoList*, current description is not complete and even wrong: "If this field is absent, the related service may or may not be available in any neighbouring cell, i.e. the UE cannot determine the presence or absence of an MBS service in neighbouring cells based on the absence of this field." As in some cases, e.g., when the MBS-SessionInfoList is empty, and mtch-neighbourCell is absent (it should be, otherwise it is a waste to configure mtch-neighbourCell), UE in such case is aware that the service is not available in any cell. Actually whether and how *mtch-neighbourCell* shall be configured depends on how *mbs-NeighbourCellList* is configured, e.g., - when the later is absent, *mtch-neighbourCell* shall be absent as well, and UE cannot determine the service availability- when a non-empty mbs-NeighbourCellList is configured, if mtch-neighbourCell is absent, UE cannot determine the service availability;- when the later is empty, *mtch-neighbourCell* shall be absent with the understanding that the service is not provided on any neighbouring cell.  |
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| ***Summary of change:*** | 1. Add the understanding for the case when *mtch-NeighbourCell* is absent in following above understanding. The updated field description is as follows for above three cases:"The field is absent when mbs-NeighbourCellList is absent or an empty mbs-NeighbourCellList is signalled. If this field is absent, when mbs-NeighbourCellList is absent or a non-empty mbs-NeighbourCellList is signalled, the related service may or may not be available in any neighbouring cell, i.e. the UE cannot determine the presence or absence of an MBS service in neighbouring cells based on the absence of this field. If this field is absent and an empty mbs-NeighbourCellList is signalled, then the UE shall assume that MBS broadcast services signalled in mbs-SessionInfoList in the MBSBroadcastConfiguration message are not provided in any neighbour cell." |
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| ***Consequences if not approved:*** | 1. The understanding to mtch-NeighbourCell is not correct, and there might be mis-configuration from network if not clearly defined. |
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| ***Clauses affected:*** | 6.3.6 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | 1. was R2-2303552. |

*START OF CHANGE*

6.3.6 MBS information elements

– *MBS-SessionInfoList*

The IE *MBS-SessionInfoList* provides the list of ongoing MBS broadcast sessions transmitted via broadcast MRB and, for each MBS broadcast session, the associated G-RNTI and scheduling information.

***MBS-SessionInfoList* information element**

-- ASN1START

-- TAG-MBS-SESSIONINFOLIST-START

MBS-SessionInfoList-r17 ::= SEQUENCE (SIZE (1..maxNrofMBS-Session-r17)) OF MBS-SessionInfo-r17

MBS-SessionInfo-r17 ::= SEQUENCE {

 mbs-SessionId-r17 TMGI-r17,

 g-RNTI-r17 RNTI-Value,

 mrb-ListBroadcast-r17 MRB-ListBroadcast-r17,

 mtch-SchedulingInfo-r17 DRX-ConfigPTM-Index-r17 OPTIONAL, -- Need S

 mtch-NeighbourCell-r17 BIT STRING (SIZE(maxNeighCellMBS-r17)) OPTIONAL, -- Need S

 pdsch-ConfigIndex-r17 PDSCH-ConfigIndex-r17 OPTIONAL, -- Need S

 mtch-SSB-MappingWindowIndex-r17 MTCH-SSB-MappingWindowIndex-r17 OPTIONAL -- Need R

}

DRX-ConfigPTM-Index-r17 ::= INTEGER (0..maxNrofDRX-ConfigPTM-1-r17)

PDSCH-ConfigIndex-r17 ::= INTEGER (0..maxNrofPDSCH-ConfigPTM-1-r17)

MTCH-SSB-MappingWindowIndex-r17 ::= INTEGER (0..maxNrofMTCH-SSB-MappingWindow-1-r17)

MRB-ListBroadcast-r17 ::= SEQUENCE (SIZE (1..maxNrofMRB-Broadcast-r17)) OF MRB-InfoBroadcast-r17

MRB-InfoBroadcast-r17 ::= SEQUENCE {

 pdcp-Config-r17 MRB-PDCP-ConfigBroadcast-r17,

 rlc-Config-r17 MRB-RLC-ConfigBroadcast-r17,

 ...

}

MRB-PDCP-ConfigBroadcast-r17 ::= SEQUENCE {

 pdcp-SN-SizeDL-r17 ENUMERATED {len12bits} OPTIONAL, -- Need S

 headerCompression-r17 CHOICE {

 notUsed NULL,

 rohc SEQUENCE {

 maxCID-r17 INTEGER (1..16) DEFAULT 15,

 profiles-r17 SEQUENCE {

 profile0x0000-r17 BOOLEAN,

 profile0x0001-r17 BOOLEAN,

 profile0x0002-r17 BOOLEAN

 }

 }

 },

 t-Reordering-r17 ENUMERATED {ms1, ms10, ms40, ms160, ms500, ms1000, ms1250, ms2750} OPTIONAL -- Need S

}

MRB-RLC-ConfigBroadcast-r17 ::= SEQUENCE {

 logicalChannelIdentity-r17 LogicalChannelIdentity,

 sn-FieldLength-r17 ENUMERATED {size6} OPTIONAL, -- Need S

 t-Reassembly-r17 T-Reassembly OPTIONAL -- Need S

}

-- TAG-MBS-SESSIONINFOLIST-STOP

-- ASN1STOP

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| ***MBS-SessionInfoList* field descriptions** |
| ***g-RNTI***G-RNTI used to scramble the scheduling and transmission of MTCH. |
| ***headerCompression***If *rohc* is configured, the UE shall apply the configured ROHC profile(s) in downlink. When the field is absent the UE applies the value as specified in 9.1.1.7. |
| ***mbs-SessionId***Indicates an identifier of the MBS session provided by the MTCH. |
| ***mrb-listBroadcast***A list of broadcast MRBs to which the associated broadcast MBS session is mapped to. |
| ***mtch-neighbourCell***Indicates neighbour cells which provide this service on MTCH. The first bit is set to 1 if the service is provided on MTCH in the first cell in *mbs-NeighbourCellList*, otherwise it is set to 0. The second bit is set to 1 if the service is provided on MTCH in the second cell in *mbs-NeighbourCellList*, and so on. If the service is not available in any neighbouring cell and *mbs-NeighbourCellList* is signalled, the network sets all bits in this field to 0. The field is absent when mbs-NeighbourCellList is absent or an empty mbs-NeighbourCellList is signalled. If this field is absent, when mbs-NeighbourCellList is absent or a non-empty mbs-NeighbourCellList is signalled, the related service may or may not be available in any neighbouring cell, i.e. the UE cannot determine the presence or absence of an MBS service in neighbouring cells based on the absence of this field. If this field is absent and an empty mbs-NeighbourCellList is signalled, then the UE shall assume that MBS broadcast services signalled in mbs-SessionInfoList in the MBSBroadcastConfiguration message are not provided in any neighbour cell. |
| ***mtch-schedulingInfo***Indicates the index of DRX configuration entry in *drx-ConfigPTM-List* that is used for scheduling the MTCH. The value 0 corresponds to the first entry in *drx-ConfigPTM-List*, the value 1 corresponds to the second entry in *drx-ConfigPTM-List* and so on. In case *mtch-schedulingInfo* is absent for a G-RNTI (i.e. no PTM DRX), the UE shall monitor for PDCCH scrambled with G-RNTI in any slot according to the search space configured for MTCH [see TS 38.213 [13], clause 10.1]. |
| ***mtch-SSB-MappingWindowIndex***Indicates the index of *MTCH-SSB-MappingWindowCycleOffset* configuration entry in *MTCH-SSB-MappingWindowList*. The value 0 corresponds to the first entry in *MTCH-SSB-MappingWindowList*, the value 1 corresponds to the second entry in *MTCH-SSB-MappingWindowList* and so on. This field is set to the same value for all MBS sessions mapped to the same G-RNTI. |
| ***pdcp-SN-SizeDL***Indicates that PDCP sequence number size of 12 bits is used, as specified in TS 38.323 [5]. When the field is absent the UE applies the value as specified in 9.1.1.7. |
| ***pdschConfigIndex***Indicates the index of PDSCH configuration entry in *pdschConfigList* for MTCH. Value 0 corresponds to the first entry in *pdschConfigList*, the value 1 corresponds to the second entry in *pdschConfigList* and so on. When the field is absent the UE applies the first entry in pdschConfigList for MTCH. |
| ***sn-FieldLength***Indicates that the RLC SN field size of 6 bits is used, see TS 38.322 [4]. When the field is absent the UE applies the value as specified in 9.1.1.7. |
| ***t-Reassembly***Timer for reassembly in TS 38.322 [4], in milliseconds. Value ms0 means 0 ms, value ms5 means 5 ms and so on. When the field is absent the UE applies the value in specified in 9.1.1.7. |
| ***t-Reordering***Value in ms of t-Reordering specified in TS 38.323 [5]. Value ms1 corresponds to 1 ms, value ms10 corresponds to 10 ms, and so on. When the field is absent the UE applies the value as specified in 9.1.1.7. |

*END OF CHANGE*