3GPP TSG-RAN WG2 Meeting #116-e R2-2111538

Online, November 1 - November 12, 2021 Revision of R2-2110579

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| *CR-Form-v11.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.331** | **CR** | **2837** | **rev** | **1** | **Current version:** | **16.6.0** |  |
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| *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 | **x** | Core Network |  |

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| ***Title:*** | Correction on description of absoluteFrequencySSB | | | | | | | | | |
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| ***Source to WG:*** | ZTE Corporation, Sanechips | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
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| ***Work item code:*** | NR\_unlic-Core | | | | |  | | ***Date:*** | | 2021-10-18 |
|  |  | | | |  | | |  | |  |
| ***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)* | |
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| ***Reason for change:*** | | In the section 4.1 of TS 38.213 g60, for a serving cell without SSB, the description for acquiring time and frequency synchronization is as below:  *For a serving cell without transmission of SS/PBCH blocks, a UE acquires time and frequency synchronization with the serving cell based on receptions of SS/PBCH blocks on the PCell, or on the PSCell, or on an SCell if applicable as described in [10, TS 38.133], of the cell group for the serving cell.*  According to the description above, the UE may acquire time and frequency synchronization with the serving cell based on reception of SSB on an SCell if applicable when LBT fails for the SSB reception on PSCell or PCell. Similarly, if *absoluteFrequencySSB* is absent, it means that there is no SSB transmission for this serving cell, and according to the field description in TS 38.331, the UE obtains timing reference from SpCell, while SCell as another option is not mentioned. Thus, the description for the absence of *absoluteFrequencySSB* is not consistent with that of TS 38.213. So, some modifications are needed for the field description of this parameter. | | | | | | | | |
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| ***Summary of change:*** | | For case when *absoluteFrequencySSB* is absent, the description is aligned with that in the L1 spec (TS 38.213). The corresponding modified text is as follows:  If the field is absent, the UE obtains timing reference from the SpCell or an SCell if applicable as described in TS 38.213 [13], clause 4.1. This is only supported in case the serving cell is in the same frequency band as the SpCell or the SCell, respectively  **Impact analysis**  Impacted functionality:  Field descriptions of *absoluteFrequencySSB* in *FrequencyInfo*  Inter-operability:   * If the network is implemented according to the CR and the UE is not, there is no interoperability issue but the network may assume that the UE would obtain the synchronisation from an SCell whilst the UE may not do so and this might result in the UE failing to obtain cell synchronisation. * If the UE is implemented according to the CR and the network is not, there is no inter-operability issue. | | | | | | | | |
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| ***Consequences if not approved:*** | | The field description of *absoluteFrequencySSB* in *FrequencyInfo* is not accurate. | | | | | | | | |
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| ***Clauses affected:*** | | 6.3.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | |  | | | |
| ***Other specs*** | | **X** |  | Other core specifications | | |  | | | |
| ***affected:*** | |  | **x** | Test specifications | | |  | | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | |  | | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

### 6.3.2 Radio resource control information elements

*Start of Changes*

– *FrequencyInfoDL*

The IE *FrequencyInfoDL* provides basic parameters of a downlink carrier and transmission thereon.

***FrequencyInfoDL* information element**

-- ASN1START

-- TAG-FREQUENCYINFODL-START

FrequencyInfoDL ::= SEQUENCE {

absoluteFrequencySSB ARFCN-ValueNR OPTIONAL, -- Cond SpCellAdd

frequencyBandList MultiFrequencyBandListNR,

absoluteFrequencyPointA ARFCN-ValueNR,

scs-SpecificCarrierList SEQUENCE (SIZE (1..maxSCSs)) OF SCS-SpecificCarrier,

...

}

-- TAG-FREQUENCYINFODL-STOP

-- ASN1STOP

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| ***FrequencyInfoDL* field descriptions** |
| ***absoluteFrequencyPointA***  Absolute frequency position of the reference resource block (Common RB 0). Its lowest subcarrier is also known as Point A (see TS 38.211 [16], clause 4.4.4.2). Note that the lower edge of the actual carrier is not defined by this field but rather in the *scs-SpecificCarrierList*. |
| ***absoluteFrequencySSB***  Frequency of the SSB to be used for this serving cell. SSB related parameters (e.g. SSB index) provided for a serving cell refer to this SSB frequency unless mentioned otherwise. The cell-defining SSB of the PCell is always on the sync raster. Frequencies are considered to be on the sync raster if they are also identifiable with a GSCN value (see TS 38.101-1 [15]). If the field is absent, the SSB related parameters should be absent, e.g. *ssb-PositionsInBurst*, *ssb-periodicityServingCell* and *subcarrierSpacing* in *ServingCellConfigCommon* IE. If the field is absent, the UE obtains timing reference from the SpCell or an SCell if applicable as described in TS 38.213 [13], clause 4.1. This is only supported in case the SCell for which the UE obtains the timing reference is in the same frequency band as the cell (i.e. the SpCell or the SCell, respectively) from which the UE obtains the timing reference. |
| ***frequencyBandList***  List containing only one frequency band to which this carrier(s) belongs. Multiple values are not supported. |
| ***scs-SpecificCarrierList***  A set of carriers for different subcarrier spacings (numerologies). Defined in relation to Point A. The network configures a *scs-SpecificCarrier* at least for each numerology (SCS) that is used e.g. in a BWP (see TS 38.211 [16], clause 5.3). |

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| **Conditional Presence** | **Explanation** |
| *SpCellAdd* | The field is mandatory present if this *FrequencyInfoDL* is for SpCell. Otherwise the field is optionally present, Need S. |

*End of Changes*