**3GPP TSG-RAN WG4 Meeting # 110R4-2403899**

**Athens, Greece, 26 February – 1 March 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.104** | **CR** | **0599** | **rev** | **-** | **Current version:** | **18.4.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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:*** | CR to TS 38.104 CR implementation correction | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_FR1\_lessthan\_5MHz\_BW-Core | | | | |  | ***Date:*** | | | 2024-03-05 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In RAN4#109 R4-2318566 was agreed, however some of the changes were missed in the CR implementation. This CR corrects the implementation errors making the specification content as originally intended in R4-2318566. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Remove undefined term DCH. | | | | | | | | |
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| ***Consequences if not approved:*** | | Errors remain and may lead to incorrect interpretation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 captures the endorsed draft CR R4-2402738. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**<Start of change>**

### 5.4.3 Synchronization raster

#### 5.4.3.1 Synchronization raster and numbering

The synchronization raster indicates the frequency positions of the synchronization block that can be used by the UE for system acquisition when explicit signalling of the synchronization block position is not present.

A global synchronization raster is defined for all frequencies. The frequency position of the SS block is defined as SSREF with corresponding number GSCN. The parameters defining the SSREF and GSCN for all the frequency ranges are in table 5.4.3.1-1 for above 3 MHz channel bandwidth and in table 5.4.3.1-2 for 3 MHz channel bandwidth.

For band n100, additional parameters defining the SSREF and GSCN are specified in table 5.4.3.1-3.

The resource element corresponding to the SS block reference frequency SSREF is given in clause 5.4.3.2. The synchronization raster and the subcarrier spacing of the synchronization block is defined separately for each band.

The synchronization raster and the corresponding SS block do not cover all possible RF channel bandwidths and locations on Enhanced channel raster.

Table 5.4.3.1-1: GSCN parameters for the global frequency raster for above 3 MHz channel bandwidth

|  |  |  |  |
| --- | --- | --- | --- |
| Range of frequencies (MHz) | SS block frequency position SSREF | GSCN | Range of GSCN |
| 0 – 3000 | N \* 1200 kHz + M \* 50 kHz,  N = 1:2499, M ϵ {1,3,5} (Note) | 3N + (M-3)/2 | 2 – 7498 |
| 3000 – 24250 | 3000 MHz + N \* 1.44 MHz,  N = 0:14756 | 7499 + N | 7499 – 22255 |
| 24250 – 100000 | 24250.08 MHz + N \* 17.28 MHz,  N = 0:4383 | 22256 + N | 22256 – 26639 |
| NOTE: The default value for *operating bands* which only support SCS spaced channel raster(s) is M=3. | | | |

**Table 5.4.3.1-2: GSCN parameters for the global frequency raster for 3 MHz channel bandwidth**

|  |  |  |  |
| --- | --- | --- | --- |
| **Range of frequencies (MHz)** | **SS block frequency position SSREF** | **GSCN** | **Range of GSCN** |
| 0 – 1000 | N \* 600 kHz + M \* 50 kHz + 300 kHz,  N = 1:1665, M ϵ {1,3,5} (Note 1) | 26638 + 3N + (M-3)/2 | 26640 – 31634 |
| NOTE 1: Only applicable for 15 PRB transmission bandwidth configuration within 3 MHz channel bandwidth with punctured PBCH defined in TS 38.211 [9] clause 7.4.3.1. | | | |

**Table 5.4.3.1-3: Additional GSCN parameters for the global frequency raster and for band n100**

|  |  |  |
| --- | --- | --- |
| **SS block frequency position SSREF**  **(MHz)** | **GSCN** | **Note** |
| 920.73 | 41637 | Only applicable for 12 PRB transmission bandwidth configuration within 3 MHz channel with punctured PBCH defined in TS 38.211 [9] clause 7.4.3.1. |
| 921.45 | 41638 | Only applicable for 20 PRB transmission bandwidth configuration within 5 MHz channel with unpunctured PBCH defined in TS 38.211 [9] clause 7.4.3.1. |

**<End of change>**