3GPP TSG-RAN WG3 Meeting #127bis R3-252286

Wuhan, China, 07th – 11th April 2025

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.473** | **CR** | **1555** | **rev** | **1** | **Current version:** | 18.5.0 |  |
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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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Clarification on Carrier Bandwidth less than 5MHz | | | | | | | | | |
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| ***Source to WG:*** | ZTE Corporation, China Telecom, CATT, China Unicom, Huawei, Qualcomm, Lenovo, LG Electronics, Ericsson, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_FR1\_lessthan\_5MHz\_BW-Core | | | | |  | ***Date:*** | | | 2025-04-08 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | In the RAN2 #129 meeting, the feature on Less than 5MHz and carrier configuration has been discussed and make the following agreement.   * RAN2 confirms the following understanding for the case where only 12/20 PRB transmission bandwidth can be used:  1. The network shall configure carrierBandwidth to 15 PRB (for the 12 PRB case) and 25 PRB (for the 20 PRB case) respectively in SIB1 and in RRC dedicated signaling. 2. The UE shall use 12/20 PRB as the transmission bandwidth, even though carrierBandwidth is configured to 15 PRB (for the 12 PRB case) and 25 PRB (for the 20 PRB case) respectively in SIB1 and in RRC dedicated signaling.   The corresponding CR R2-2501513 is agreed, as below.   |  | | --- | | ***carrierBandwidth***  Width of this carrier in number of PRBs (using the *subcarrierSpacing* defined for this carrier) (see TS 38.211 [16], clause 4.4.2). For the case that 12PRB/20 PRB transmission bandwidth is used as specified in TS 38.101-1 [15], TS 38.211[16] and TS 38.213[13], the network shall configure the *carrierBandwidth* to 15 PRB (for the 12 PRB case) and 25 PRB (for the 20 PRB case) respectively and the UE shall use 12PRB/20 PRB as the transmission bandwidth respectively. |   Based on the RAN2’s clarification, for the same reason, RAN3’s specifications also need to clarify Carrier Bandwidth to support Less than 5MHz configuration. | | | | | | | | |
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| ***Summary of change:*** | | To introduce the clarification on Carrier Bandwidth to support Less than 5MHz configuration.  Impact Analysis:  Impact assessment towards the previous version of the specification (same release):  This CR has an isolated impact towards the previous version of the specification (same release). This CR only has an impact on the less than 5MHz function. | | | | | | | | |
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| ***Consequences if not approved:*** | | The actual Carrier Bandwidth to support Less than 5MHz configuration is not clear. | | | | | | | | |
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| ***Clauses affected:*** | | 9.3.1.137 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.423 CR 1466 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | Rev0: R3-251878. Update the sentence. | | | | | | | | |

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#### 9.3.1.137 NR Carrier List

This IE indicates the SCS-specific carriers per TDD, per DL, per UL or per SUL of an NR cell.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| --- | --- | --- | --- | --- |
| **NR Carrier Item** |  | *1..<maxnoofNRSCSs>* |  |  |
| >NR SCS | M |  | ENUMERATED (scs15, scs30, scs60, scs120, …, scs480, scs960) | SCS for the corresponding carrier. |
| >Offset to Carrier | M |  | INTEGER (0.. 2199, ...) | Offset in frequency domain between Point A (lowest subcarrier of common RB 0) and the lowest usable subcarrier on this carrier in number of PRBs (using the *NR SCS* IE defined for this carrier). The maximum value corresponds to 275×8−1. See TS 38.211 [33], clause 4.4.2. |
| >Carrier Bandwidth | M |  | INTEGER (1.. maxnoofPhysicalResourceBlocks, ...) | Width of this carrier in number of PRBs (using the *NR SCS* IE defined for this carrier). See TS 38.211 [33], clause 4.4.2.  For band n100 and specific GSCN values defined in in Table 5.4.3.1-3 of TS 38.104 [17], the utilized transmission bandwidth is less than the maximum transmission bandwidth configuration NRB specified in Table 5.3.2-1 of TS 38.104 [17]. |

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| Range bound | Explanation |
| maxnoofNRSCSs | Maximum no. of SCS-specific carriers per TDD, per DL, per UL or per SUL of an NR cell. Value is 5. |
| maxnoofPhysicalResourceBlocks | Maximum no. of Physical Resource Blocks. Value is 275. |

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