**3GPP TSG-RAN Meeting #97-e**

**Online, , 12th Sep 2022 - 16th Sep 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | 1195 | **rev** | 1 | **Current version:** | **16.12.1** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

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| ***Title:*** | Extension of operation in the n77 frequency range in US | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2022-09-16 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Requirements for intra-band non-contiguous CA in n77 where NS\_01 for an uplink component carrier in the range 3700-3980 MHz and NS\_01 or NS\_55 for another uplink component carrier in the range 3450-3550 MHz are indicated in *FrequencyInfoUL-SIB* are ambiguous. | | | | | | | | |
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| ***Summary of change:*** | | In 6.2A.3.1.1, texts are inserted to clarify that for UEs configured with intra-band non-contiguous CA in n77 and if NS\_01 is indicated for an uplink component carrier in the range 3700-3980 MHz and NS\_01 or NS\_55 for another uplink component carrier in the range 3450-3550 MHz, the allowed additional spurious emission and maximum output power reduction requirements are according to CA\_NC\_NS\_01. The additional RF conformance tests are not required.  It’s noted that the above changes follow the agreed RAN2 CR of R2-2209137. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE behaviours that support *extendedBand-n77-r16* may not be correctly implemented | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2A.3.1.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.521-1 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | **Isolated impact analysis**:  1. If the network is implemented according to the CR and the UE is not, the UE may reject the configuration and trigger re-establishment, since UE does not expect different NS values for UL carriers of the same band.  2. If the UE is implemented according to the CR and the network is not, there are no interoperability problems. However, the network may still not configure UL CA for n77 in some case. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | This CR is a revision of RP-222350. | | | | | | | | |

*< Start of the changes >*

##### 6.2A.3.1.2 UE additional maximum output power reduction for Intra-band non-contiguous CA

6.2A.3.1.2.0 General

Table 6.2A.3.1.2-1 specifies the additional requirements with their associated network signalling values and the allowed A-MPR and applicable CA band(s) for each CA\_NC\_NS value. The mapping of NR CA band numbers and values of the *additionalSpectrumEmission* to network signalling labels is specified in Table 6.2A.3.1.2-2.

Table 6.2A.3.1.2-1: Additional Maximum Power Reduction (A-MPR) for intra-band non-contiguous CA

|  |  |  |  |
| --- | --- | --- | --- |
| CA Network Signalling value | Requirements (clause) | Uplink CA Configuration | A-MPR for sub-blocks in order of increasing uplink carrier frequency |
| A-MPR [dB]  (clause) |
| CA\_NC\_NS\_01 |  | All applicaple NR CA configurations | N/A |
| CA\_NC\_NS\_04 | 6.5A.2.3.2.1  6.5A.3.3.2.1 | CA\_n41(2A) | 6.2A.3.1.2.1 |

For UEs configured with intra-band non-contiguous CA in n77 and if NS\_01 is indicated for an uplink component carrier in the range 3700-3980 MHz and NS\_01 or NS\_55 for another uplink component carrier in the range 3450-3550 MHz, the allowed additional spurious emission and maximum output power reduction requirements are according to CA\_NC\_NS\_01. The additional RF conformance tests are not required.

Table 6.2A.3.1.2-2: Mapping of network signaling label

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA band | Value of additionalSpectrumEmission | | | | | | | |
| **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| CA\_n41 | CA\_NC\_NS\_01 | CA\_NC\_NS\_04 |  |  |  |  |  |  |
| NOTE: *additionalSpectrumEmission* corresponds to an information element of the same name defined in clause 6.3.2 of TS 38.331 [7]. | | | | | | | | |

*< End of changes >*