**3GPP TSG-RAN WG1 Meeting #107-e *R1-21xxxxx***

e-Meeting, 11th – 19th November, 2021

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| *CR-Form-v12.1* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **37.213** | **CR** | **xxxx** | **rev** | **-** | **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:*** | UL transmissions in wideband operation | | | | | | | | | |
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| ***Source to WG:*** | Moderator (Ericsson), Nokia, NSB, LG Electronics, Qualcomm, Huawei, HiSilicon, OPPO | | | | | | | | | |
| ***Source to TSG:*** | TSG RAN WG1 | | | | | | | | | |
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| ***Work item code:*** | NR\_unlic-Core | | | | |  | ***Date:*** | | | 2021-11-11 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | The below two agreements are captured in 37.213 Section 4.2.1.0.4, but only for the case when Type 1 channel access procedure (Cat 4 LBT) is applied on one channel (RB set) and Type 2 channel access procedure (Cat 2 LBT) is applied on the remaining channels (RB sets), also known as Type B multi-channel access procedure.  The issue is that the agreements apply also for the case where Type 1 channel access procedure (Cat 4 LBT) is performed on all channels (RB sets), also known as Type A multi-channel access procedure. For type A multi-channel access procedure there is no need to restrict the channel frequencies to be within a subset of a set of channel frequencies defined by Clause 5.7.4 of 36.104 as specified currently.  Agreement #1 (RAN1#98bis):   * For UL transmissions in a serving cell with carrier bandwidth greater than the LBT bandwidth, for the case where UE performs CCA before UL transmission, UE transmits on the UL only if CCA is successful at UE in all LBT bandwidths that overlap with the resource allocation for the UL transmission * The UE is not expected to receive resource allocations in discontiguous LBT bandwidths within a wideband carrier   Agreement #2 (RAN1 #99):   * The RRC parameters *intraCellGuardBandDL-r16* and *intraCellGuardBandUL-r16* include a mechanism to indicate that no intra-carrier guard-bands are configured   + Note: This configuration may be used for the case where transmission only occurs in a BWP if LBT is successful in all RB sets within the BWP | | | | | | | | |
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| ***Summary of change:*** | | Clarification that multi-channel transmission on carrier(s) both with and without guard bands applies also to the case when Type 1 channel access procedure (Cat 4 LBT) is performed on all channels (RB sets), also known as Type A multi-channel access procedure. | | | | | | | | |
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| ***Consequences if not approved:*** | | Undefined UE behavior for multi-channel transmission on carrier(s) both with and without guard bands applies for the case when Type 1 channel access procedure (Cat 4 LBT) is performed on all channels (RB sets), also known as Type A multi-channel access procedure. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.1.0.4 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\* Unchanged text omitted \*\*\*

4.2.1.0.4 Channel access procedures for UL multi-channel transmission(s)

If a UE

- is scheduled to transmit on a set of channels , and if the UL transmissions are scheduled to start transmissions at the same time on all channels in the set of channels , or

- intends to perform an uplink transmission on configured resources on the set of channels , and if UL transmissions are configured to start transmissions at the same time on all channels in the set of channels ,

the following is applicable:

- if Type 1 channel access procedure is indicated or intended for the scheduled or configured UL transmissions, respectively, to be transmitted on the set of channels ,

- the UE may transmit on channel using Type 2 channel access procedure as described in clause 4.2.1.2,

- if the channel frequencies of the set of channels is a subset of the sets of channel frequencies defined in clause 5.7.4 in [2], and

- if Type 2 channel access procedure is performed on channel immediately before the UE transmission on channel , , and

- if the UE has accessed channel using Type 1 channel access procedure as described in clause 4.2.1.1,

- where channel is selected by the UE uniformly randomly from the set of channels before performing Type 1 channel access procedure on any channel in the set of channels .

- the UE may transmit on channel using Type 1 channel access procedure as described in clause 4.2.1.1

- the UE may not transmit on channel within the bandwidth of a carrier, if the UE fails to access any of the channels, of the carrier bandwidth, on which the UE is scheduled or configured with UL resources.

- the UE may not transmit on a channel within the bandwidth of a carrier if the UE is configured without intra-cell guard band(s) on an UL bandwidth part as described in clause 7 of [8], and the UE fails to access any of the channels of the UL bandwidth part.

\*\*\* Unchanged text omitted \*\*\*