**3GPP TSG-RAN WG2 Meeting #115-e *R2-210xxxx***

**Electronic meeting, August 16 – 27, 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.306** | **CR** | **0619** | **rev** | **1** | **Current version:** | **16.5.0** |  |
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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 | **x** | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  | Definition of fallback per CC feature set |
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| ***Source to WG:*** | Ericsson, ZTE Corporation, Sanechips |
| ***Source to TSG:*** | R2  |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core  |  | ***Date:*** | 2021-08-06 |
|  |  |  |  |  |
| ***Category:*** | **A** |  | ***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 canbe 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:*** | The definition below (38.306) was made explicitly for MIMO and BW, the subcarrier spacing was intentionally excluded, since SubcarrierSpacing fallback is not allowed. Fallback per CC feature set: A feature set per CC that has lower value of UE supported MIMO layers and BW **while keeping the numerology and other parameters the same** from the reported feature set per CC for a given carrier per band.But the sentence above about subcarrier spacing also states that other parameters shall remain the same in case of a fallback per CC feature set. This is not correct since such fallback should also be applicable to ModulationOrder, which was also confirmed previously in RAN2 (R2-1810975), e.g. if the UE indicated 64-QAM it could as well do 16-QAM, which contradicts the fallback definition that states “while keeping the numerology and other parameters the same” and makes an exception only for MIMO and BW. To avoid further confusion, a more general wording could be used, in order to exclude solely SubcarrierSpacing from the definition of fallback per CC feature set. This should avoid further updates to this definition since the UE capabilities in general are applicable to the fallback definition, e.g. as recently indicated by RAN1 feedback for multiDCI-MultiTRP (R1-2106133).**Impact analysis**Impacted 5G architecture options: Standalone, EN-DC, NGEN-DC, NE-DC, NR-DC  Impacted functionality: Fallback aspect of Feature set per CC  Inter-operability: 1. If the network implements the CR and the UE does not, the network may assume the UE supports lower values for the other capabilities which are not explicitly listed, which the UE may not support, for parameters signaled within a feature set per CC.
2. If the UE implements the CR and the network does not, there is no inter-operability issue, since the UE would support the lower values for parameters signaled within a feature set per CC. Hence, whether the network assumes or does not assume that the UE supports such lower values would not impact the UE but may result in a sub-optimal configuration as the network does not have the right information.
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| ***Summary of change:*** | 3.1 Definitions- Update definition of “Fallback per CC feature set” |
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| ***Consequences if not approved:*** | Parameters not explicitly mentioned in the definition of “Fallback per CC feature set” may be considered as not supporting lower values, which would degrade what the UE can actually support. There could also be a case where the network may assume the UE supports lower values, which the UE may not support, for parameters signaled within a feature set per CC. |
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| ***Clauses affected:*** | 3.1 |
|  |  |
|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

START OF CHANGE

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

**Fallback band combination:** A band combination that would result from another band combination (parent band combination) by releasing at least one SCell or uplink configuration of SCell, or SCG. An intra-band non-contiguous band combination is not considered to be a fallback band combination of an intra-band contiguous band combination. A fallback band combination supports the same channel bandwidth(s) for each carrier as its parent band combination(s).

**Fallback per band feature set:** A feature set per band that has same or lower capabilities than the reported capabilities from the reported feature set per band for a given band.

**Fallback per CC feature set:** A feature set per CC that has same or lower capabilities than the capabilities of UE (e.g. supported MIMO layers, BW, modulation order) while keeping the numerology the same from the reported feature set per CC for a given carrier per band.

END OF CHANGE