**3GPP TSG-RAN WG1 Meeting #106 *R1-21xxxxx***

**E-meeting, August 16th – August 27th, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **[DRAFT] CHANGE REQUEST** | | | | | | | | |
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|  | **38.213** | **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:*** | Corrections of Scell dormancy for power saving | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | RAN1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_UE\_pow\_sav-Core | | | | |  | ***Date:*** | | | 2021-08-16 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. According to 38.331, if configured, DCI format 0\_1 and 1\_1 are configured simultaneously for a search space set. According to 38.212, if the higher layer parameter(s) *dormancyGroupWithinActiveTime* are configured, both DCI format 0\_1 and 1\_1 should contain the field of "SCell dormancy indication" which has at least 1 bit.   The current description of "if one or both of DCI format 0\_1 and DCI format 1\_1 include a SCell dormancy indication field" causes misunderstanding that it allows only one of the DCI format 0\_1 and DCI format 1\_1 includes a SCell dormancy indication field.   1. Considering a SPS PDSCH release indication is carried by a DCI with CRC scrambled by a CS-RNTI, and a PDCCH is considered as a Case 2 PDCCH only if the CRC of DCI format 1\_1 is scrambled by a RNTI which includes C-RNTI and MCS-C-RNTI, therefore, the description of “the UE considers the DCI format 1\_1 as not indicating a SPS PDSCH release” should be removed to avoid confusion on the understanding. | | | | | | | | |
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| ***Summary of change:*** | | 1. Clarify that if configured, then both of DCI format 0\_1 and DCI format 1\_1 include a SCell dormancy indication field. 2. Delete the description that Case 2 PDCCH does not indicate a SPS PDSCH release. | | | | | | | | |
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| ***Consequences if not approved:*** | | 1. The description of "if one or both of" causes misunderstanding that it allows only one of the DCI format 0\_1 and DCI format 1\_1 includes a SCell dormancy indication field. 2. Description in the specification causes confusion. | | | | | | | | |
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| ***Clauses affected:*** | | 10.3 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

#### 10.3 PDCCH monitoring indication and dormancy/non-dormancy behaviour for SCells

========================= Unchanged parts =========================

If a UE is provided search space sets to monitor PDCCH for detection of DCI format 0\_1 and DCI format 1\_1 and if DCI format 0\_1 and DCI format 1\_1 include a SCell dormancy indication field,

- the SCell dormancy indication field is a bitmap with size equal to a number of groups of configured SCells, provided by *dormancyGroupWithinActiveTime*,

- each bit of the bitmap corresponds to a group of configured SCells from the number of groups of configured Scells

- if the UE detects a DCI format 0\_1 or a DCI format 1\_1 that does not include a carrier indicator field, or detects a DCI format 0\_1 or DCI format 1\_1 that includes a carrier indicator field with value equal to 0

- a '0' value for a bit of the bitmap indicates an active DL BWP, provided by *dormantBWP-Id*, for the UE for each activated SCell in the corresponding group of configured SCells

- a '1' value for a bit of the bitmap indicates

- an active DL BWP, provided by *firstWithinActiveTimeBWP-Id*, for the UE for each activated SCell in the corresponding group of configured SCells, if a current active DL BWP is the dormant DL BWP

- a current active DL BWP, for the UE for each activated SCell in the corresponding group of configured SCells, if the current active DL BWP is not the dormant DL BWP

- the UE sets the active DL BWP to the indicated active DL BWP

If a UE is provided search space sets to monitor PDCCH for detection of DCI format 1\_1, and if

- the CRC of DCI format 1\_1 is scrambled by a C-RNTI or a MCS-C-RNTI, and if

- a one-shot HARQ-ACK request field is not present or has a '0' value, and if

- the UE detects a DCI format 1\_1 on the primary cell that does not include a carrier indicator field, or detects a DCI format 1\_1 on the primary cell that includes a carrier indicator field with value equal to 0, and if

- *resourceAllocation* = *resourceAllocationType0* and all bits of the frequency domain resource assignment field in DCI format 1\_1 are equal to 0, or

- *resourceAllocation* = *resourceAllocationType1* and all bits of the frequency domain resource assignment field in DCI format 1\_1 are equal to 1, or

- *resourceAllocation = dynamicSwitch* and all bits of the frequency domain resource assignment field in DCI format 1\_1 are equal to 0 or 1

the UE considers the DCI format 1\_1 as indicating SCell dormancy, not scheduling a PDSCH reception, and for transport block 1 interprets the sequence of fields of

- modulation and coding scheme

- new data indicator

- redundancy version

and of

- HARQ process number

- antenna port(s)

- DMRS sequence initialization

as providing a bitmap to each configured SCell, in an ascending order of the SCell index, where

- a '0' value for a bit of the bitmap indicates an active DL BWP, provided by *dormantBWP-Id*, for the UE for a corresponding activated SCell

- a '1' value for a bit of the bitmap indicates

- an active DL BWP, provided by *firstWithinActiveTimeBWP-Id*, for the UE for a corresponding activated SCell, if a current active DL BWP is the dormant DL BWP

- a current active DL BWP, for the UE for a corresponding activated SCell, if the current active DL BWP is not the dormant DL BWP

- the UE sets the active DL BWP to the indicated active DL BWP

========================= Unchanged parts =========================