**3GPP TSG-RAN WG1 Meeting #100-e *R1-200xxxx***

**E-meeting, 25 May – 5 June, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **38.212** | **CR** | **0039** | **rev** | **1** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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 for power saving | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_UE\_pow\_sav-Core | | | | |  | ***Date:*** | | | 2020-06-06 |
|  |  | | | |  | |  | | |  |
| ***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-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:*** | | 1. Align the terminology with higher layer specifications. 2. Clarification for the presence of ‘Minimum Applicable Scheduling Offset Indicator’ field and joint Indication with the following:  * ‘Minimum applicable scheduling offset indicator field’ is present in DCI format 1\_1 (0\_1) only when at least one value is configured by minimumSchedulingOffsetK0 (minimumSchedulingOffsetK2) for the active DL (UL) BWP * Joint indication when only one of active DL BWP and active UL BWP is configured with scheduling offset restriction | | | | | | | | |
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| ***Summary of change:*** | | RAN1#100bis\_e:   1. Align the name of higher layer parameters for minimum scheduling offset with the name specified in TS 38.331; 2. Align the name of higher layer parameters used for the DCI format 2\_6 with the name specified in TS 38.331.   RAN1#101\_e:   1. For Section 7.3.1 of TS 38.212, changes are added to clarify that ‘Minimum applicable scheduling offset indicator’ field appears only when the corresponding active DL/UL BWP is configured with restriction. For joint indication, clarification is added for the case only one of active DL BWP and active UL BWP is configured with restriction | | | | | | | | |
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| ***Consequences if not approved:*** | | 1. The terminology and parameter names are not the same between TS 38.212 and 38.331. 2. gNodeB and UE would not be aligned on the presence of ‘Minimum Applicable Scheduling Offset Indicator’ field in DCI format 1\_1 or 1\_0 and the joint indication | | | | | | | | |
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| ***Clauses affected:*** | | 7.3.1.1.2, 7.3.1.2.2, 7.3.1.3.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

7.3.1.1.2 Format 0\_1

<Unchanged parts are omitted>

- Minimum applicable scheduling offset indicator – 0 or 1 bit

- 0 bit if higher layer parameter *minimumSchedulingOffsetK2* is not configured;

- 1 bit if higher layer parameter *minimumSchedulingOffsetK2* is configured. The 1 bit indication is used to determine the minimum applicable K2 for the active UL BWP and the minimum applicable K0 value for the active DL BWP, if configured respectively, according to Table 7.3.1.1.2-33. If the minimum applicable K0 is indicated, the minimum applicable value of the aperiodic CSI-RS triggering offset for an active DL BWP shall be the same as the minimum applicable K0 value.

- SCell dormancy indication – 0 bit if higher layer parameter *Scell-groups-for-dormancy-within-active-time* is not configured; otherwise 1, 2, 3, 4 or 5 bits bitmap determined according to higher layer parameter *Scell-groups-for-dormancy-within-active-time,* where each bit corresponds to one of the SCell group(s) configured by higher layers parameter *Scell-groups-for-dormancy-within-active-time,* with MSB to LSB of the bitmap corresponding to the first to last configured SCell group. The field is only present when this format is carried by PDCCH on the primary cell within DRX Active Time and the UE is configured with at least two DL BWPs for an SCell.

<Unchanged parts are omitted>

**Table 7.3.1.1.2-33: Joint indication of minimum applicable scheduling offset K0/K2**

|  |  |  |
| --- | --- | --- |
| **Bit field mapped to index** | **Minimum applicable K0 for the active DL BWP, if *minimumSchedulingOffsetK0* is configured for the DL BWP** | **Minimum applicable K2 for the active UL BWP, if *minimumSchedulingOffsetK2* is configured for the UL BWP** |
| 0 | The first value configured by *minimumSchedulingOffsetK0* for the active DL BWP | The first value configured by *minimumSchedulingOffsetK2* for the active UL BWP |
| 1 | The second value configured by *minimumSchedulingOffsetK0* for the active DL BWP if the second value is configured; 0 otherwise | The second value configured by *minimumSchedulingOffsetK2* for the active UL BWP if the second value is configured; 0 otherwise |

<Unchanged parts are omitted>

##### 7.3.1.2.2 Format 1\_1

<Unchanged parts are omitted>

- Minimum applicable scheduling offset indicator – 0 or 1 bit

- 0 bit if higher layer parameter *minimumSchedulingOffsetK0* is not configured;

- 1 bit if higher layer parameter *minimumSchedulingOffsetK0* is configured. The 1 bit indication is used to determine the minimum applicable K0 for the active DL BWP and the minimum applicable K2 value for the active UL BWP, if configured respectively, according to Table 7.3.1.1.2-33. If the minimum applicable K0 is indicated, the minimum applicable value of the aperiodic CSI-RS triggering offset for an active DL BWP shall be the same as the minimum applicable K0 value.

<Unchanged parts are omitted>

7.3.1.3.7 Format 2\_6

DCI format 2\_6 is used for notifying the power saving information outside DRX Active Time for one or more UEs.

The following information is transmitted by means of the DCI format 2\_6 with CRC scrambled by PS-RNTI:

- block number 1, block number 2,…, block number *N*

where the starting position of a block is determined by the parameter *ps-PositionDCI-2-6* provided by higher layers for the UE configured with the block.

If the UE is configured with higher layer parameter *PS-RNTI* and *dci-Format2-6*, one block is configured for the UE by higher layers, with the following fields defined for the block:

- Wake-up indication - 1 bit

- SCell dormancy indication – 0 bit if higher layer parameter *Scell-groups-for-dormancy-outside-active-time* is not configured; otherwise 1, 2, 3, 4 or 5 bits bitmap determined according to higher layer parameter *Scell-groups-for-dormancy-outside-active-time,* where each bit corresponds to one of the SCell group(s) configured by higher layers parameter *Scell-groups-for-dormancy-outside-active-time,* with MSB to LSB of the bitmap corresponding to the first to last configured SCell group.

The size of DCI format 2\_6 is indicated by the higher layer parameter *sizeDCI-2-6*, according to Clause 10.3 of [5, TS 38.213].

<Unchanged parts are omitted>