**3GPP TSG-RAN WG1 Meeting #102-e *R1-200xxxx***

**e-Meeting, August 17th – 28th, 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.213** | **CR** |  | **rev** |  | **Current version:** | **16.2.0** |  |
|  |
| *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:***  | CR on Power Control for NR-DC |
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| ***Source to WG:*** | Moderator (Apple) |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | LTE\_NR\_DC\_CA\_enh-Core |  | ***Date:*** | 2020-08-27 |
|  |  |  |  |  |
| ***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 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 following updates and corrections are required:1. Remove the redundant paragraph in section 7.6.2 for dynamic power sharing
2. Add FR2 for corresponding NR-DC power control operation
3. Correction on the RRC parameter
4. Correction on the UE capability for the value of
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| ***Summary of change:*** | Implement the above updates and corrections. |
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| ***Consequences if not approved:*** | Incomplete/incorrect support for uplink power control for NR-DC. |
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| ***Clauses affected:*** | 7.6.2 |
|  |  |
|  | **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:*** |  |

### 7.6.2 NR-DC

If a UE is configured with an MCG using NR radio access in FR1 or in FR2 and with a SCG using NR radio access in FR2 or in FR1, respectively, the UE performs transmission power control independently per cell group as described in Clauses 7.1 through 7.5.

If a UE is configured with an MCG and a SCG using NR radio access in FR1 and/or in FR2, the UE is configured a maximum power for transmissions on the MCG by *p-NR-FR1* and/or by *p-NR-FR2-r16* and a maximum power for transmissions on the SCG by *p-NR-FR1* and/or by *p-NR-FR2-r16* and with an inter-CG power sharing mode by *nrdc-PCmode-FR1-r16* for FR1 and/or by *nrdc-PCmode-FR2-r16* for FR2. The UE determines a transmission power on the MCG and a transmission power on the SCG per frequency range.

If a UE is provided *semi-static-mode1* for *nrdc-PCmode-FR1-r16* or for *nrdc-PCmode-FR2-r16*,or *semi-static-mode2* for *nrdc-PCmode-FR1-r16* or for *nrdc-PCmode-FR2-r16*, the UE does not expect and to be configured such that , where is the linear value of , is the linear value of , and is the linear value of a configured maximum transmission power for NR-DC operation in FR1 or FR2 as defined in [8-3, TS 38.101-3].

If a UE is provided *semi-static-mode1* for *nrdc-PCmode-FR1-r16* or for *nrdc-PCmode-FR2-r16*, the UE determines a transmission power for the MCG or for the SCG as described in Clauses 7.1 through 7.5 using or as the maximum transmission power, respectively.

If a UE is provided *semi-static-mode2* for *nrdc-PCmode-FR1* or for *nrdc-PCmode-FR2*

- if at least one symbol of slot of the MCG or of the SCG that is indicated as uplink or flexible to a UE by *tdd-UL-DL-ConfigurationCommon* and *tdd*-*UL-DL-ConfigurationDedicated*, if provided, overlaps with a symbol for any ongoing transmission overlapping with slot of the SCG or of the MCG, respectively, the UE determines a power for the transmission on the SCG or the MCG overlapping with slot as described in Clauses 7.1 through 7.5 using or , respectively, as the maximum transmission power

- otherwise, the UE determines a power for the transmission on MCG or the SCG overlapping with slot , as described in [8-3, TS 38.101-3] and in Clauses 7.1 through 7.5 without considering or , respectively

The UE expects to be provided *semi-static-mode2* for *nrdc-PCmode-FR1-r16* or for *~~nrdc-PCmode-FR1-r16~~* *nrdc-PCmode-FR2-r16* only for synchronous NR-DC operation [10, TS 38.133].

If a UE

- is provided *dynamic* for *nrdc-PCmode-FR1-r16* or for *nrdc-PCmode-FR2-r16*, and

- indicates a capability to determine a total transmission power on the SCG at a first symbol of a transmission occasion on the SCG by determining transmissions on the MCG that

- are scheduled by DCI formats in PDCCH receptions with a last symbol that is earlier by more than from the first symbol of the transmission occasion on the SCG, or are configured by higher layers, and

- overlap with the transmission occasion on the SCG

the UE determines a maximum transmission power on the SCG at the beginning of the transmission occasion on the SCG as

- , if the UE determines transmissions on the MCG with a total power

- , if the UE does not determine any transmissions on the MCG

where

- ,

- and is the maximum of , , , , and based on the configurations on the MCG and the SCG, respectively, when the UE indicates the ~~a first~~ value of *long* for the capability,

- and is the maximum of , , based on the configurations on the MCG and the SCG, respectively, when the UE indicates the ~~a second~~ value of *short* for the capability, and

- is the total power for the transmissions on the MCG that overlap with the transmission occasion on the SCG where is determined based on transmissions configured by higher layers and on transmissions scheduled by DCI formats in PDCCH receptions with a last symbol that is at least before the first symbol of the transmission occasion on the SCG.

*<omitted text>*