**3GPP TSG RAN WG1 #112bis-e R1-230xxxx**

**e-Meeting, April 17th – April 26th, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.214** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.5.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <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 the antenna switching capability indication for more than 4 Rx antenna | | | | | | | | | |
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| ***Source to WG:*** | Moderator (ZTE), OPPO, Samsung | | | | | | | | | |
| ***Source to TSG:*** | RAN1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_feMIMO-Core | | | | |  | ***Date:*** | | | 2023-04-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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) Rel-19 (Release 19)* | |
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| ***Reason for change*** | | In TS 38.306 and TS 38.331, the RRC parameters *supportedSRS-TxPortSwitch* and *supportedSRS-TxPortSwitchBeyond4Rx* are used to report the supported antenna switching. Moreover, the antenna switching corresponding to more than 4 Rx antennas can only be reported via *supportedSRS-TxPortSwitchBeyond4Rx*. However, the current TS 38.214 only says “the indicated UE capability *supportedSRS-TxPortSwitch*” that can only indicates antenna switching with up to 4 Rx antennas. | | | | | | | | |
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| ***Summary of change:*** | | Modify “the indicated UE capability *supportedSRS-TxPortSwitch*” to be “the indicated UE capability *supportedSRS-TxPortSwitch* or *supportedSRS-TxPortSwitchBeyond4Rx*” | | | | | | | | |
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| ***Consequences if not approved:*** | | The antenna switching configurations corresponding to more than 4 Rx antennas (e.g., 2T8R) cannot be supported by RAN1 spec. | | | | | | | | |
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| ***Clauses affected:*** | | 6.2.1.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
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| ***Other comments:*** | | **Isolated impact analysis:**  This CR has no isolated impact on network and UE hehavior. | | | | | | | | |
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| ***This CR's revision history:*** | | First version. | | | | | | | | |

6.2.1.2 UE sounding procedure for DL CSI acquisition

When the UE is configured with the higher layer parameter *usage* in *SRS-ResourceSet* set as 'antennaSwitching', the UE may be configured with only one of the following configurations depending on the indicated UE capability *supportedSRS-TxPortSwitch* ('t1r2' for 1T2R, 't1r1-t1r2' for 1T=1R/1T2R, 't2r4' for 2T4R, 't1r4' for 1T4R, 't1r1-t1r2-t1r4' for 1T=1R/1T2R/1T4R, 't1r4-t2r4' for 1T4R/2T4R, 't1r1-t1r2-t2r2-t2r4' for 1T=1R/1T2R/2T=2R/2T4R, 't1r1-t1r2-t2r2-t1r4-t2r4' for 1T=1R/1T2R/2T=2R/1T4R/2T4R, 't1r1' for 1T=1R, 't2r2' for 2T=2R, 't1r1-t2r2' for 1T=1R/2T=2R, 't4r4' for 4T=4R, or 't1r1-t2r2-t4r4' for 1T=1R/2T=2R/4T=4R) or the UE may be configured with only one of the following configurations depending on the indicated UE capability *supportedSRS-TxPortSwitchBeyond4Rx* (‘t1r1’ for 1T=1R, ‘t2r2’ for 2T=2R, ‘t1r2’ for 1T2R, ‘t4r4’ for 4T=4R, ‘t2r4’ for 2T4R, ‘t1r4’ for 1T4R, ‘t2r6’ for 2T6R, ‘t1r6’ for 1T6R, ‘t4r8’ for 4T8R, ‘t2r8’ for 2T8R, ‘t1r8’ for 1T8R):

- For 1T2R, if the UE is indicating *srs-AntennaSwitching2SP-1Periodic* and/or *srs-ExtensionAperiodicSRS*:

<omitted text>

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| **Company** | **Comments** |
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