**3GPP TSG-WG1 Meeting #102-e *R1-2007433***

**E-meeting, August 17 – 28, 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.211** | **CR** | **0048** | **rev** | **-** | **Current version:** | **16.2.0** |  |
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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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | CR on correction half duplex operation during DAPS HO |
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| ***Source to WG:*** | Moderator (Intel Corporation) |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_Mob\_Enh-Core |  | ***Date:*** | 08-31-2020 |
|  |  |  |  |  |
| ***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:*** | Handling of DAPS for half duplex UEs is missing. |
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| ***Summary of change:*** | Add that in DAPS half duplex UEs are not expected to transmit (or receive) earlier than NRx-Tx\*Tc (or NTx-Rx\*Tc) after the last receive (or transmit) symbol.  |
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| ***Consequences if not approved:*** | Half duplex UE may be required to transmit and receive simultaneously during DAPS HO, which is not feasible.  |
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| ***Clauses affected:*** | 4.3.2 |
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|  | **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:*** | **Isolated Impact Analysis:**UE that has implemented this CR connected gNB that has not implemented this CR:* gNB may schedule signal/channels in source and target cell for DAPS handover operation that the UE may not required to handle, and may result in undefined UE behavior.

UE that has not implemented this CR connected to gNB that has implemented this CR:* UE will not be scheduled with signal/channels that overlap and violate half-duplexing rules, and therefore no impact to UE or gNB are expected.
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| ***This CR's revision history:*** |  |

### 4.3.2 Slots

For subcarrier spacing configuration , slots are numbered $n\_{s}^{μ}\in \left\{0, …,N\_{slot}^{subframe,μ}-1 \right\}$ in increasing order within a subframe and $n\_{s,f}^{μ}\in \left\{0, …,N\_{slot}^{frame,μ}-1 \right\}$ in increasing order within a frame. There are  consecutive OFDM symbols in a slot where  depends on the cyclic prefix as given by Tables 4.3.2-1 and 4.3.2-2. The start of slot $n\_{s}^{μ}$ in a subframe is aligned in time with the start of OFDM symbol  in the same subframe.

OFDM symbols in a slot in a downlink or uplink frame can be classified as 'downlink', 'flexible', or 'uplink'. Signaling of slot formats is described in clause 11.1 of [5, TS 38.213].

In a slot in a downlink frame, the UE shall assume that downlink transmissions only occur in 'downlink' or 'flexible' symbols.

In a slot in an uplink frame, the UE shall only transmit in 'uplink' or 'flexible' symbols.

A UE not capable of full-duplex communication and not supporting simultaneous transmission and reception as defined by parameter *simultaneousRxTxInterBandENDC, simultaneousRxTxInterBandCA or simultaneousRxTxSUL* [10, TS 38.306] among all cells within a group of cells is not expected to transmit in the uplink in one cell within the group of cells earlier than $N\_{Rx-Tx}T\_{c}$ after the end of the last received downlink symbol in the same or different cell within the group of cells where $N\_{Rx-Tx}$ is given by Table 4.3.2-3.

A UE not capable of full-duplex communication and not supporting simultaneous transmission and reception as defined by parameter *simultaneousRxTxInterBandENDC*, *simultaneousRxTxInterBandCA* *or simultaneousRxTxSUL* [10, TS 38.306] among all cells within a group of cells is not expected to receive in the downlink in one cell within the group of cells earlier than $N\_{Tx-Rx}T\_{c}$ after the end of the last transmitted uplink symbol in the same or different cell within the group of cells where $N\_{Tx-Rx}$ is given by Table 4.3.2-3.

For DAPS handover operation, a UE not capable of full-duplex communication is not expected to transmit in the uplink to a cell earlier than $N\_{Rx-Tx}T\_{c}$ after the end of the last received downlink symbol in the different cell where $N\_{Rx-Tx}$ is given by Table 4.3.2-3.

For DAPS handover operation, A UE not capable of full-duplex communication is not expected to receive in the downlink from a cell earlier than $N\_{Tx-Rx}T\_{c}$ after the end of the last transmitted uplink symbol in the different cell where $N\_{Tx-Rx}$ is given by Table 4.3.2-3.A UE not capable of full-duplex communication is not expected to transmit in the uplink earlier than $N\_{Rx-Tx}T\_{c}$ after the end of the last received downlink symbol in the same cell where $N\_{Rx-Tx}$ is given by Table 4.3.2-3.

A UE not capable of full-duplex communication is not expected to receive in the downlink earlier than $N\_{Tx-Rx}T\_{c}$ after the end of the last transmitted uplink symbol in the same cell where $N\_{Tx-Rx}$ is given by Table 4.3.2-3.