**3GPP TSG-RAN WG4 Meeting #79 *R4-164848***

**Nanjing, China, 23-27 May, 2016**

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| *CR-Form-v11.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.133** | **CR** | **3541** | **rev** | **1** | **Current version:** | **13.3.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 |  | Core Network |  |

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| ***Title:*** | Modifications on LAA SCell activation delay requirements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia | | | | | | | | | |
| ***Source to TSG:*** | RAN WG4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_LAA-Core | | | | |  | | ***Date:*** | | 2016-05-27 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **F** |  | | | | | | ***Release:*** | | Rel-13 |
|  | *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)* | |
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| ***Reason for change:*** | | Definition of L is missing from known SCell activation delay. | | | | | | | | |
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| ***Summary of change:*** | | Definition of L is added for known SCell activation delay. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unclear requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.7.10 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | |  | | | |
| ***Other specs*** | |  |  | Other core specifications | | | TS/TR ... CR ... | | | |
| ***affected:*** | |  |  | Test specifications | | | TS/TR ... CR ... | | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | TS/TR ... CR ... | | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

7.7.10 SCell Activation Delay Requirement for Deactivated SCell under Frame Structure 3

The requirements in this section shall apply for E-UTRA carrier aggregation of one FDD PCell or one TDD PCell and one SCell following the frame structure type 3 [16].

The delay within which the UE shall be able to activate the deactivated SCell depends upon the specified conditions.

Upon receiving SCell activation command in subframe *n*, the UE shall be capable to transmit valid CSI report and apply actions related to the activation command as specified in [17] for the SCell being activated no later than in subframe *n*+Tactivate\_basic\_FS3, provided the following conditions are met for the SCell:

- During the period equal to max(5 measCycleSCell, 5 DRX cycles) before the reception of the SCell activation command:

- the UE has sent a valid measurement report for the SCell being activated and

- the SCell being activated remains detectable according to the cell identification conditions specified in section 8.3.3.2,

- SCell being activated also remains detectable during the SCell activation delay according to the cell identification conditions specified in section 8.3.3.2.

Tactivate\_basic\_FS3 = 16 ms + TDMTC\_duration + (*L*+2) \* TDMTC\_periodicity, where

TDMTC\_duration = 6 ms is the DMTC duration [2],

TDMTC\_periodicity is the periodicity of the DMTC [2],

*L* is the number of times the discovery signal occasion is not available at the UE during the SCell activation time.

Otherwise upon receiving the SCell activation command in subframe *n*, the UE shall be capable to transmit a valid CSI report and apply actions related to the activation command as specified in [17] for the SCell being activated no later than in subframe *n*+Tactivate\_basic\_FS3, provided the SCell can be successfully detected on the first attempt. In this case, Tactivate\_basic\_FS3 is defined as follows.

Tactivate\_basic\_FS3 = 16 ms + TDMTC\_duration + (*L*+3) \* TDMTC\_periodicity, where

TDMTC\_duration = 6 ms is the DMTC duration [2],

TDMTC\_periodicity is the periodicity of the DMTC [2],

*L* is the number of times the discovery signal occasion is not available at the UE during the SCell activation time.

If there is no reference signal received for the CSI measurement over the delay corresponding to the minimum requirements specified above, then the UE shall report corresponding valid CSI for the activated SCell on the next available uplink reporting resource after receiving the reference signal.

If there are no uplink resources for reporting the valid CSI in subframe *n*+ Tactivate\_basic\_FS3 then the UE shall use the next available uplink resource for reporting the corresponding valid CSI.

The valid CSI is based on the UE measurement and corresponds to any CQI value specified in [3] with the exception of CQI index = 0 (out of range) provided:

- the conditions in section 7.7 are met over the entire SCell activation delay and

- the conditions for CQI reporting defined in Section 7.2.3 of [3] are met.

In addition to CSI reporting defined above, UE shall also apply other actions related to the activation command specified in [17] for an SCell at the first opportunities for the corresponding actions once the SCell is activated.

The PCell interruption specified in section 7.8.2 shall not occur before subframe n+5 and not occur after subframe *n+9* when PCell belongs to E-UTRA FDD.

The PCell interruption specified in section 7.8.2 shall not occur before subframe n+5 and not occur after subframe *n+11* when PCell belongs to E-UTRA TDD.

Starting from the subframe specified in Section 4.3 of [3] and until the UE has completed the SCell activation, the UE shall send CSI with CQI index = 0 (out of range) if the UE has available uplink resources to report for the SCell.