**3GPP TSG-RAN WG4 Meeting #94-e *R4-2002226***

**Electronic Meeting, 24 Feb. – 6 Mar., 2019**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.133** | **CR** | 0437 | **rev** | **1** | **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 |  | Core Network |  |

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| ***Title:***  | CR for Conditional PSCell addition/change RRM requirement |
|  |  |
| ***Source to WG:*** | Intel |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_Mob\_enh-Core |  | ***Date:*** | 2020-02-04 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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:*** | Conditoinal PSCell change requirement is missing. |
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| ***Summary of change:*** | 1. Introduce conditional PSCell change requirement.
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| ***Consequences if not approved:*** | Conditoinal PSCell change requirement is still missing. |
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| ***Clauses affected:*** | 8.11A |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS38.533 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

Start of Change

## 8.11A void

## 8.11B Conditional PSCell Change

### 8.11B.1 Introduction

This section defines requirements for the delay within which the UE shall be able to perform conditional PSCell change in EN-DC or NR-DC. The requirements in this section are applicable to EN-DC and NR-DC.

### 8.11B.2 Conditoinal PSCell Change delay

The requirements in this section shall apply for the UE configured with only PCell in FR1.

Upon receiving conditional PSCell change in subframe *n*, the UE shall be capable to transmit PRACH preamble towards the new target PSCell in FR2 no later than in subframe *n* + Tconfig\_PSCell\_Conditional:

Where:

Tconfig\_PSCell\_Conditional = TRRC\_processing + TEvent\_DU + Tmeasure + TUE\_preparation + Tprocessing + T∆ + TPSCell\_ DU + 2 ms

TRRC\_processing:is the RRC processing to process the conditional PSCell change command which is not larger than currently defined TRRC\_processing in TS 38.133 and begins when UE receives the RRC command for conditional PSCell change.

TEvent\_DU is the delay uncertainty which is the time from when the UE successfully decodes a conditional PSCell change command until a condition exists at the measurement reference point which will trigger the conditional PSCell change.

Tmeasure is the measurements time stated in clause 8.11B.2.1.

TUE\_preparation:is the UE preparation time for conditional PSCell change and starts after UE realizes the condition is met and identity of new PSCell is determined. Its value is 10ms.

 Tprocessing: is the SW processing time needed by UE, including RF warm up period. Tprocessing = 40 ms.

T∆ is time for fine time tracking and acquiring full timing information of the target cell. T∆ = 1\*Trs ms.

 TPSCell\_ DU is the delay uncertainty in acquiring the first available PRACH occasion in the PSCell. TPSCell\_ DU is up to the summation of SSB to PRACH occasion association period and 10 ms. SSB to PRACH occasion associated period is defined in Table 8.1-1 of TS 38.213 [3].

 Trs is the SMTC periodicity of the target cell if the UE has been provided with an SMTC configuration for the target cell in PSCell addition message, otherwise Trs is the SMTC configured in the measObjectNR having the same SSB frequency and subcarrier spacing. If the UE is not provided SMTC configuration or measurement object on this frequency, the requirement in this section is applied with Trs = 5 ms assuming the SSB transmission periodicity is 5 ms. There is no requirement if the SSB transmission periodicity is not 5 ms.

The PCell interruption specified in clause 8.2 is allowed only after measurement evaluation delay Tmeasure.

#### 8.11X.2.1 measurement time

The measurement time delay is defined as the time between the RRC procedure delay and the point when the UE executes a PSCell change to a target cell and interruption time starts.

The measurement time delay measured without Time To Trigger (TTT) and L3 filtering shall be less than Tidentify\_inter\_without\_index or Tidentify\_inter\_with\_index defined in clause 9.3.4. When TTT or L3 filtering is used an additional delay can be expected.

A cell is detectable only if at least one SSB measured from the cell being configured remains detectable during the time period Tidentify\_inter\_without\_index or Tidentify\_inter\_with\_index as defined in clause 9.3.4. If a cell which has been detectable at least for the time period Tidentify\_inter\_without\_index or Tidentify\_inter\_with\_index as defined in clause 9.3.4 becomes undetectable for a period and then the cell becomes detectable again and triggers a PSCell change, the measurement time delay shall be less than TSSB\_measurement\_period\_inter provided the timing to that cell has not changed more than ± 3200 Tc while the measurement gap has not been available and the L3 filter has not been used. When L3 filtering is used, an additional delay can be expected.

End of Change