**3GPP TSG RAN WG4 Meeting #104-e R4-2213942**

**E-meeting, 15 Aug. 2022 – 26 Aug. 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **2558** | **rev** | **1** | **Current version:** | **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:*** | Maintenance CR on inter-cell beam management | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_feMIMO-Core | | | | |  | ***Date:*** | | | 2022-08-26 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RAN4 introduced L1-RSRP measurements for a cell with different PCI from serving cell in last meeting. Some part of the CR needs fine tuning as per the last meeting agreement. | | | | | | | | |
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| ***Summary of change:*** | | L1-RSRP measurements for a cell with different PCI from serving cell are revised | | | | | | | | |
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| ***Consequences if not approved:*** | | L1-RSRP measurements for a cell with different PCI from serving cell are not complete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.13.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | R4-2213942 | | | | | | | | |

<Start of Change 1>

9.13 L1-RSRP measurements for a cell with different PCI from serving cell

9.13.1 Introduction

When configured by the network, the UE shall be able to perform L1-RSRP measurements of configured measurement resources from a cell with different PCI in addition to serving cell (PCI indicated in *additionalPCI-r17*), with the measurement resources configured as SSBs of the cell with different PCI.

The UE shall be able to measure all SSB resources of the cell with different PCI in *csi-SSB-ResourceSet* within the CSI-Resource*Config* settings for the active BWP, while the *additionalPCI-r17* of the SSB resources are different from serving cell PCI. The number of resources, including the number of resources configured for serving cell L1-RSRP measurement in 9.5, does not exceed the UE capability indicated by *beamManagementSSB-CSI-RS*.

The UE shall report the measurement quantity (*reportQuantity*) and send periodic, semi-persistent or aperiodic reports, according to the higher layer parameter *reportConfigType* of each reporting setting *CSI-ReportConfig* for the active BWP.

[In EN-DC and NE-DC operation, when the UE is configured to perform E-UTRA SRS carrier-based switching an additional delay can be expected in FR1 if the UE is capable of per-FR gap, or an additional delay can be expected in both FR1 and FR2 if the UE is not capable of per-FR gap.]

9.13.2 Requirements Applicability

The requirements in the clause 9.13 are applicable to inter-cell beam management and inter-cell multi-TRP scenarios.

The requirements in clause 9.13 apply, provided the SSB from cell with PCI different from serving cell configured for L1-RSRP if the following conditions are met:

- the number of cells with PCI different from seving cells Nmax = 1 for FR2 and Nmax = maxNrofAdditionalPCI for FR1. Where, maxNrofAdditionalPCI is defined in TS 38.331 [2].

- The cell with different PCI from serving cell is known

- The SSB resources configured for L1-RSRP measurements are measurable

An SSB resource configured for L1-RSRP for cell with different PCI from serving cell shall be considered measurable when for each relevant SSB the following conditions are met:

- L1-RSRP related side conditions given in clauses 10.1.19.1 and 10.1.20.1 for FR1 and FR2, respectively, for a corresponding band,

- SSB\_RP and SSB Ês/Iot according to Annex B.2.4.1 for a corresponding band.

The cell with different PCI from serving cell is considered as known if the following conditions are met in this requirement:

- The SSB from the cell with different PCI completely contained in the active BWP or associated with initial downlink BWP of the UE

- The SSB of the cell with different PCI from serving cell has the same SCS, *sfn-SSB-Offset* and center frequency as the SSB of the serving cell

- The timing difference of arrival at UE between the SSBs of serving cell and cell with different PCI is less than CP length of the corresponding SCS

- The UE has sent a valid L3 measurement report during the last 5 seconds, and

- The SSB from the cell with different PCI remains detectable according to the cell identification requirements specified in clause 9.2.

Otherwise, the cell is unknown.

<End of Change 1>