**3GPP TSG-WG4 Meeting # 111 *R4-240xxxx***

**Fukuoka, Japan, 20- 24 May 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.133** | **CR** | **Draft CR** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *For* ***[HELP](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 |  | Core Network |  |

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| ***Title:*** | Draft CR: Cell Re-selection for NR UE satellite access in RRC\_IANCTIVE state | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_enh-Core | | | | |  | ***Date:*** | | | 2024-05-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | To supplement the contents related to the earth-moving cell scenario. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Supplement the contents related to the earth-moving cell scenario, including the time-based and location-based method. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The cell re-selection related requirements of earth-moving cell scenario will be vague for RAN4. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

**<START OF CHANGE 1>**

## 5.1 Cell Re-selection

### 5.1.3 Requirements with NTN carrier

This clause considers the inter-frequency cell reselection from TN to NTN only in FR1-NTN since the scenario where TN and NTN cells are in the same frequency is deprioritized.

#### 5.1.3.1 Measurement of inter-frequency NR cells

The requirements in clause 4.2.3.1 shall apply.

**<END OF CHANGE 1>**

**<START OF CHANGE 2>**

## 5.1C Cell Re-selection

### 5.1C.1 Introduction

The cell reselection procedure allows the UE to select a more suitable cell and camp on it.

When the UE is in *Camped Normally* state on a cell, the UE shall attempt to detect, synchronize, and monitor intra-frequency, inter-frequency cells indicated by the serving cell. For intra-frequency and inter-frequency cells the serving cell may provide explicit neighbour list, or only carrier frequency information and bandwidth information. UE measurement activity is also controlled by measurement rules defined in TS38.304 [1], allowing the UE to limit its measurement activity.

The requirements in this clause shall apply for the quasi-earth\_fixed cell and the earth\_ moving cell.

### 5.1C.2 Requirements

#### 5.1C.2.1 UE measurement capability

The requirements in clause 4.2C.2.1 shall apply.

#### 5.1C.2.2 Measurement and evaluation of serving cell

The requirements in clause 4.2C.2.2 shall apply.

#### 5.1C.2.3 Measurements of intra-frequency NR cells

The requirements in clause 4.2C.2.3 shall apply. The requirements in clause 4.2C.2.7 apply for UE configured with relaxed measurement criterion.

#### 5.1C.2.4 Measurements of inter-frequency NR cells

The requirements in clause 4.2C.2.4 shall apply. The requirements in clause 4.2C.2.8 apply for UE configured with relaxed measurement criterion.

#### 5.1C.2.5 Maximum interruption in paging reception

The requirements in clause 4.2C.2.5 shall apply.

#### 5.1C.2.6 General requirements

The requirements in clause 4.2C.2.9 shall apply.

**<END OF CHANGE 2>**

**<START OF CHANGE 3>**

### 5.1C.3 Requirements with TN carrier

UE is allowed to skip TN neighbour cells measurement in an area where there is no coverage of the frequency based on the provided TN cell coverage information and UE GNSS position information. Otherwise, UE shall perform TN measurement if its estimated distance to tn-ReferenceLocation is smaller than tn-DistanceRadius. The requirements apply provided that the actual distance between UE to tn-ReferenceLocation is smaller than tn-DistanceRadius – 50m. This clasue considers the inter-frequency cell reselection from NTN to TN in FR1-NTN to TN since the scenario where TN and NTN cells are in the same frequency is deprioritized.

#### 5.1C.3.1 Measurements of inter-frequency NR cells

The requirements in clause 4.2C.3.1 shall apply.

#### 5.1C.3.2 Measurements of inter-RAT E-UTRAN cells

The requirements in clause 4.2C.3.2 shall apply.

**<END OF CHANGE 3>**