**3GPP TSG-RAN WG2 Meeting #115-e *R2-210xxxx***

**Electronic, 16th – 27th August 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.304** | **CR** |  | **rev** |  | **Current version:** | **15.7.0** |  |
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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 | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | Correction to cell selection and reselection due to SIB1 acquisition failure | | | | | | | | | |
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| ***Source to WG:*** | Lenovo, Motorola Mobility | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2021-08-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Acc. to current NR specifications, a cell is considered as "barred" if the UE is unable to acquire the SIB1. In this case the UE follows the signaled value of field *intraFreqReselection* in MIB (if received) and excludes the barred cell and cells on the same frequency as a candidate for cell selection/reselection for 300 seconds.  However, such behaviour is not favourable for UEs which are operated in network deployments in which only few cells on a single frequency provide coverage, e.g. in public safety. The current specifications disallow such UEs from getting service faster when the coverage situation in the network may improve in earlier than 300 seconds.  Therefore, in order to enable a UE to get service faster when SIB1 acquisition failure occurs the UE should be allowed to lift the current fixed barring time of 300 seconds earlier.  After discussion of R2-2108481 in **[AT115-e][030][NR15NR16] Idle Inactive (Qualcomm)**, see report in R2-2109109, the following agreement was made:  “If the UE is unable to acquire the SIB1 for a cell, the UE may exclude this cell as a candidate for cell selection/reselection for up to 300 seconds. The UE shall follow MIB IFRI for other cells on the same frequency.” | | | | | | | | |
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| ***Summary of change:*** | | In 5.3.1 new conditions have been introduced that allows a UE at SIB1 acquisition failure to consider the barred cell and cells on the same frequency as a candidate for cell selection/reselection earlier than 300s.  **Impact analysis**  Impacted 5G architecture options:  NR SA  Impacted functionality:  Cell selection/reselection due to SIB1 acquisition failure  Inter-operability:  There are no interoperability issues since the changes affect UE only. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unnecessary cell selection/reselection restriction due to SIB1 acquisition failure remains for UEs which are operated in network deployments in which only few cells on a single frequency provide coverage, e.g. in public safety. Such UEs will be disallowed from getting service faster when the coverage situation in the network may improve in earlier than 300 seconds. | | | | | | | | |
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| ***Clauses affected:*** | | 5.3.1 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*Start of changes*

### 5.3.1 Cell status and cell reservations

Cell status and cell reservations are indicated in the *MIB or SIB1* message as specified in TS 38.331 [3] by means of three fields:

- *cellBarred* (IE type: "barred" or "not barred")   
Indicated in *MIB* message. In case of multiple PLMNs indicated in *SIB1*, this field is common for all PLMNs

- *cellReservedForOperatorUse* (IE type: "reserved" or "not reserved")   
Indicated in *SIB1* message*.* In case of multiple PLMNs indicated in *SIB1*, this field is specified per PLMN.

- *cellReservedForOtherUse* (IE type: "true")   
Indicated in *SIB1* message. In case of multiple PLMNs indicated in *SIB1*, this field is common for all PLMNs.

When cell status is indicated as "not barred" and "not reserved" for operator use and not "true" for other use,

- All UEs shall treat this cell as candidate during the cell selection and cell reselection procedures.

When cell status is indicated as "true" for other use,

- The UE shall treat this cell as if cell status is "barred".

When cell status is indicated as "not barred" and "reserved" for operator use for any PLMN and not "true" for other use,

- UEs assigned to Access Identity 11 or 15 operating in their HPLMN/EHPLMN shall treat this cell as candidate during the cell selection and reselection procedures if the field *cellReservedForOperatorUse* for that PLMN set to "reserved".

- UEs assigned to an Access Identity 0, 1, 2 and 12 to 14 shall behave as if the cell status is "barred" in case the cell is "reserved for operator use" for the registered PLMN or the selected PLMN.

NOTE 1: Access Identities 11, 15 are only valid for use in the HPLMN/ EHPLMN; Access Identities 12, 13, 14 are only valid for use in the home country as specified in TS 22.261 [12].

When cell status "barred" is indicated or to be treated as if the cell status is "barred",

- The UE is not permitted to select/reselect this cell, not even for emergency calls.

- The UE shall select another cell according to the following rule:

- If the cell is to be treated as if the cell status is "barred" due to being unable to acquire the *MIB*:

- the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds.

- the UE may select another cell on the same frequency if the selection criteria are fulfilled.

- else if the cell is to be treated as if the cell status is "barred" due to being unable to acquire the *SIB1* and cell status "notbarred" is indicated in the *MIB*:

- the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds.

- the UE may select another cell on the same frequency if the selection criteria are fulfilled.

- If the cell status "barred" is indicated in the *MIB*:

- If the field *intraFreqReselection* in *MIB* message is set to "allowed", the UE may select another cell on the same frequency if re-selection criteria are fulfilled;

- If the UE is unable to acquire the *SIB1*:

- the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds;

- else:

- the UE shall exclude the barred cell as a candidate for cell selection/reselection for 300 seconds.

- If the field *intraFreqReselection* in *MIB* message is set to "not allowed" the UE shall not re-select a cell on the same frequency as the barred cell;

- If the UE is unable to acquire the *SIB1*:

- the UE may exclude the barred cell and the cells on the same frequency as a candidate for cell selection/reselection for up to 300 seconds;

- else:

- the UE shall exclude the barred cell and the cells on the same frequency as a candidate for cell selection/reselection for 300 seconds.

The cell selection of another cell may also include a change of RAT.

*End of changes*