**3GPP TSG-RAN WG2 Meeting #113e *R2-2102022***

**Online, Jan 25th - Feb 5th, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **2420** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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 | **X** | Core Network |  |

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| ***Title:*** | CR on the Parameters Selection | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Sanechips, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | RAN2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NG\_RAN\_PRN-Core | | | | |  | ***Date:*** | | | 2021-1-05 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | To include the agreement that “for the case when the UE is allowed to access both the legacy PLMN and the NPN (PLMN+CAG), the UE shall be able to pick either the PLMN or the NPN, at least in case of different UAC configuration on the PLMN and NPN” | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Clarify that when the UE is allowed to access both the legacy PLMN and the NPN (PLMN+CAG), and the UAC configuration on the PLMN and NPN are different, the UE shall be able to pick either the PLMN or the NPN. And more specifically, do so when the UE is:  * receiving SIB1, * receiving the RRCSetup message, * receiving the RRCResume message, * UAC check  1. Some other editorial issues   **Impact Analysis**  Impacted 5G architecture options:  NR SA, NE-DC,NR-DC  Impacted functionality:  NPN  Inter-operability:  No interoperability issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE may end up associating itself with a PLMN+CAG combination even when opportunity exist to associate itself with a (normal) PLMN. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2.4.2, 5.3.3.4, 5.3.13.4, 5.3.14,6.2.2,6.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

First change

##### 5.2.2.4.2 Actions upon reception of the *SIB1*

Upon receiving the *SIB1* the UE shall:

1> store the acquired *SIB1*;

1> if the *cellAccessRelatedInfo* contains an entry of a selected SNPN or PLMN and in case of PLMN the UE is either allowed or instructed to access the PLMN via a cell for which at least one CAG ID is broadcast:

2> in the remainder of the procedures use *npn-IdentityList, trackingAreaCode,* and *cellIdentity* for the cell as received in the corresponding entry of *npn-IdentityInfoList* containing the selected PLMN or SNPN;

1> else if the *cellAccessRelatedInfo* contains an entry with the *PLMN-Identity* of the selected PLMN:

2> in the remainder of the procedures use *plmn-IdentityList*, *trackingAreaCode*, and *cellIdentity* for the cell as received in the corresponding *PLMN-IdentityInfo* containing the selected PLMN;

1> if in RRC\_CONNECTED while T311 is not running:

2> disregard the *frequencyBandList*, if received, while in RRC\_CONNECTED;

2> forward the *cellIdentity* to upper layers;

2> forward the *trackingAreaCode* to upper layers;

2> forward the received *posSIB-MappingInfo* to upper layers, if included;

2> apply the configuration included in the *servingCellConfigCommon*;

2> if the UE has a stored valid version of a SIB or posSIB, in accordance with sub-clause 5.2.2.2.1, that the UE requires to operate within the cell in accordance with sub-clause 5.2.2.1:

3> use the stored version of the required SIB or posSIB;

2> else:

3> acquire the required SIB or posSIB requested by upper layer as defined in sub-clause 5.2.2.3.5;

1> if in RRC\_CONNECTED while T311 is not running:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Second change

#### 5.3.3.4 Reception of the *RRCSetup* by the UE

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1> set the content of *RRCSetupComplete* message as follows:

2> if upper layers provide a 5G-S-TMSI:

3> if the *RRCSetup* is received in response to an *RRCSetupRequest*:

4> set the *ng-5G-S-TMSI-Value* to *ng-5G-S-TMSI-Part2*;

3> else:

4> set the *ng-5G-S-TMSI-Value* to *ng-5G-S-TMSI*;

2> if the procedure in 5.2.2.4.2 resulted in use of information in *npn-IdentityInfoList*:

3> set the *selectedPLMN-Identity* from the *npn-IdentityInfoList*;

2> else:

3> set the *selectedPLMN-Identity* to the PLMN selected by upper layers from the *plmn-IdentityList*;

2> if upper layers provide the 'Registered AMF':

3> include and set the *registeredAMF* as follows:

4> if the PLMN identity of the 'Registered AMF' is different from the PLMN selected by the upper layers:

5> include the *plmnIdentity* in the *registeredAMF* and set it to the value of the PLMN identity in the 'Registered AMF' received from upper layers;

4> set the *amf-Identifier* to the value received from upper layers;

3> include and set the *guami-Type* to the value provided by the upper layers;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Third change

#### 5.3.13.4 Reception of the *RRCResume* by the UE

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1> set the content of the of *RRCResumeComplete* message as follows:

2> if the upper layer provides NAS PDU, set the *dedicatedNAS-Message* to include the information received from upper layers;

2> if the procedure in 5.2.2.4.2 resulted in use of information in *npn-IdentityInfoList*

3> set the *selectedPLMN-Identity* from the *npn-IdentityInfoList*;

2> else:

3> set the *selectedPLMN-Identity* to the PLMN selected by upper layers from the *plmn-IdentityList*;

2> if the *masterCellGroup* contains the *reportUplinkTxDirectCurrent*:

3> include the *uplinkTxDirectCurrentList* for each MCG serving cell with UL;

3> include *uplinkDirectCurrentBWP-SUL* for each MCG serving cell configured with SUL carrier, if any, within the *uplinkTxDirectCurrentList*;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Fourth change

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 5.3.14.2 Initiation

Upon initiation of the procedure, the UE shall:

1> if timer T390 is running for the Access Category:

2> consider the access attempt as barred;

1> else if timer T302 is running and the Access Category is neither '2' nor '0':

2> consider the access attempt as barred;

1> else:

2> if the Access Category is '0':

3> consider the access attempt as allowed;

2> else:

3> if *SIB1* includes *uac-BarringPerPLMN-List* that contains a *UAC-BarringPerPLMN* for the selected PLMN or SNPN:

4> set the PLMN, SNPN and CAG *UAC-BarringPerPLMN* entry to the *UAC-BarringPerPLMN* entry corresponding to the *plmn-IdentityIndex* of the selected PLMN or SNPN, or accessed CAG cell;

4> if the *cellAccessRelatedInfo* contains an entry of selected PLMN and the UE is either allowed or instructed to access the PLMN via a cell for which at least one CAG ID is broadcast:

5> if NAS has not set the CAG-only indication in the UE for selected PLMN:

6> if both the CAG and PLMN *UAC-BarringPerPLMN* entries are present:

7> if the PLMN *UAC-BarringPerPLMN* entry has a higher probability of allowing the access attempt in the Access barring check procedure (5.3.14.5) than the CAG *UAC-BarringPerPLMN* entry:

8> select the PLMN *UAC-BarringPerPLMN* entry that is present;

7>else:

8> select the CAG *UAC-BarringPerPLMN* entry that is present;

select the CAG or PLMN *UAC-BarringPerPLMN* entry with the highest probability of allowing the access attempt in the Access barring check procedure (5.3.14.5);

6> else if either the CAG or PLMN UAC *UAC-BarringPerPLMN* entry are present:

7> if SIB1 includes *uac-BarringForCommon* and the CAG or PLMN *UAC-BarringPerPLMN* entry has a higher probability of allowing the access attempt in the Access barring check procedure (5.3.14.5) than for the *uac-BarringForCommon*:

8> select the CAG or PLMN *UAC-BarringPerPLMN* entry that is present;

5> else:

6> select the CAG *UAC-BarringPerPLMN* entry, if any;

NOTE X: A UAC barring parameter has a higher probability of allowing the access attempt if either the bit corresponding to one of the UE’s access identities is set to zero in the *uac-BarringForAccessIdentity* bitmap or if the *uac-BarringFactor* is high.

4> else:

5> select the SNPN or *UAC-BarringPerPLMN* entry, if any;

3> if any *UAC-BarringPerPLMN* entry is selected:

4> in the remainder of this procedure, use the selected *UAC-BarringPerPLMN* entry (i.e. presence or absence of access barring parameters in this entry) irrespective of the *uac-BarringForCommon* included in *SIB1*;

3> else if SIB1 includes *uac-BarringForCommon*:

4> in the remainder of this procedure use the *uac-BarringForCommon* (i.e. presence or absence of these parameters) included in *SIB1*;

3> else:

4> consider the access attempt as allowed;

3> if *uac-BarringForCommon* is applicable or the *uac-ACBarringListType* indicates that *uac-ExplicitACBarringList* is used:

4> if the corresponding *UAC-BarringPerCatList* contains a *UAC-BarringPerCat* entry corresponding to the Access Category:

5> select the *UAC-BarringPerCat* entry;

5> if the *uac-BarringInfoSetList* contains a *UAC-BarringInfoSet* entry corresponding to the selected *uac-barringInfoSetIndex* in the *UAC-BarringPerCat*:

6> select the *UAC-BarringInfoSet* entry;

6> perform access barring check for the Access Category as specified in 5.3.14.5, using the selected *UAC-BarringInfoSet* as "UAC barring parameter";

5> else:

6> consider the access attempt as allowed;

4> else:

5> consider the access attempt as allowed;

3> else if the *uac-ACBarringListType* indicates that *uac-ImplicitACBarringList* is used:

4> select the *uac-BarringInfoSetIndex* corresponding to the Access Category in the *uac-ImplicitACBarringList*;

4> if the *uac-BarringInfoSetList* contains the *UAC-BarringInfoSet* entry corresponding to the selected *uac-BarringInfoSetIndex*:

5> select the *UAC-BarringInfoSet* entry;

5> perform access barring check for the Access Category as specified in 5.3.14.5, using the selected *UAC-BarringInfoSet* as "UAC barring parameter";

4> else:

5> consider the access attempt as allowed;

3> else:

4> consider the access attempt as allowed;

1> if the access barring check was requested by upper layers:

2> if the access attempt is considered as barred:

3> if timer T302 is running:

4> if timer T390 is running for Access Category '2':

5> inform the upper layer that access barring is applicable for all access categories except categories '0', upon which the procedure ends;

4> else

5> inform the upper layer that access barring is applicable for all access categories except categories '0' and '2', upon which the procedure ends;

3> else:

4> inform upper layers that the access attempt for the Access Category is barred, upon which the procedure ends;

2> else:

3> inform upper layers that the access attempt for the Access Category is allowed, upon which the procedure ends;

1> else:

2> the procedure ends.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Fifth change

##### 6.2.2 Message definitions

##### – *SIB1*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* omitted unchanged parts\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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| --- |
| ***uac-BarringForCommon***  Common access control parameters for each access category. Common values are used for all PLMNs/SNPNs, unless overwritten by the PLMN/SNPN specific configuration provided in *uac-BarringPerPLMN-List*. The parameters are specified by providing an index to the set of configurations (*uac-BarringInfoSetList*). UE behaviour upon absence of this field is specified in clause 5.3.14.2. |

Sixth change

##### 6.3.2 Radio resource control information elements

##### – *UAC-BarringPerPLMN-List*

The IE *UAC-BarringPerPLMN-List* provides access category specific access control parameters, which are configured per PLMN or SNPN.

*UAC-BarringPerPLMN-List* information element

-- ASN1START

-- TAG-UAC-BARRINGPERPLMN-LIST-START

UAC-BarringPerPLMN-List ::= SEQUENCE (SIZE (1.. maxPLMN)) OF UAC-BarringPerPLMN

UAC-BarringPerPLMN ::= SEQUENCE {

plmn-IdentityIndex INTEGER (1..maxPLMN),

uac-ACBarringListType CHOICE{

uac-ImplicitACBarringList SEQUENCE (SIZE(maxAccessCat-1)) OF UAC-BarringInfoSetIndex,

uac-ExplicitACBarringList UAC-BarringPerCatList

} OPTIONAL -- Need S

}

-- TAG-UAC-BARRINGPERPLMN-LIST-STOP

-- ASN1STOP

End of change