**3GPP TSG-CT WG1 Meeting #136-eC1-22xxxx**

**E-Meeting, 12th – 20th May 2022 Revision of C1-223571**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **3** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update the description on the lists of 5GS forbidden tracking areas | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Mobile, Nokia, Nokia Shanghai Bell, China Southern Power Grid Co. | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSAT\_ARCH-CT | | | | |  | ***Date:*** | | | 2022-05-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***Release:*** | | | -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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 23.501 subclause 5.4.11.8 specifies the modification of Forbidden Area functionality for NR satellite access:  *The AMF receives the broadcast TAI (if a single TAI is broadcast) or all broadcast TAIs (if multiple TAIs are broadcast) from the NG-RAN as described clause 5.4.11.7. The AMF rejects the UE from accessing the network if the only received TAI is forbidden or if all received TAIs are forbidden based on subscription data. The UE is not permitted to initiate any communication with the network for this PLMN if the only broadcast TAI is forbidden or if all broadcast TAIs are forbidden. The UE considers it is not within a Forbidden Area in case at least one broadcast TAI is not forbidden.*  In addition, CP-220147 appoved in CT#95 introduces Forbidden TAI(s) for the list of "5GS forbidden tracking areas for roaming" and Forbidden TAI(s) for the list of "5GS forbidden tracking areas for regional provision of service" IEs from the network.  It is suggested to consider the above in 5.3.13.. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the description on the lists of 5GS forbidden tracking areas in 5.3.13 to cover NW acception cases. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 2 requirement and the case NW provides Forbidden TAI(s) are not completely supported in current TS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.13 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

### 5.3.13 Lists of 5GS forbidden tracking areas

If the UE is not operating in SNPN access operation mode, the UE shall store a list of "5GS forbidden tracking areas for roaming", as well as a list of "5GS forbidden tracking areas for regional provision of service". Otherwise the UE shall store a list of "5GS forbidden tracking areas for roaming":

- per SNPN; and

- if the UE supports access to an SNPN using credentials from a credentials holder, per entry of the "list of subscriber data" or PLMN subscription;

and store a list of "5GS forbidden tracking areas for regional provision of service":

- per SNPN; and

- if the UE supports access to an SNPN using credentials from a credentials holder, per entry of the "list of subscriber data" or PLMN subscription.

Within the 5GS, these lists are managed independently per access type, i.e., 3GPP access or non-3GPP access. These lists shall be erased when:

a) the UE is switched off, the UICC containing the USIM is removed, an entry of the "list of subscriber data" with the subscribed SNPN identity identifying the current SNPN is updated or, if the UE supports access to an SNPN using credentials from a credentials holder, the entry of the "list of subscriber data" associated with the lists is updated; and

b) periodically (with a period in the range 12 to 24 hours).

Over 3GPP access, when the lists are erased, the UE performs cell selection according to 3GPP TS 38.304 [28] or 3GPP TS 36.304 [25C]. A tracking area shall be removed from the list of "5GS forbidden tracking areas for roaming", as well as the list of "5GS forbidden tracking areas for regional provision of service", if the UE receives the tracking area in the TAI list or the Service area list of "allowed tracking areas" in REGISTRATION ACCEPT message or a CONFIGURATION UPDATE COMMAND message. The UE shall not remove the tracking area from "5GS forbidden tracking areas for roaming" or "5GS forbidden tracking areas for regional provision of service" if the UE is registered for emergency services.

In N1 mode, the UE shall update the suitable list whenever a REGISTRATION REJECT, SERVICE REJECT or DEREGISTRATION REQUEST message is received with the 5GMM cause #12 "tracking area not allowed", #13 "roaming not allowed in this tracking area", or #15 "no suitable cells in tracking area", or a REGISTRATION ACCEPT or SERVICE ACCEPT message is received with the forbidden TAI(s).Each list shall accommodate 40 or more TAIs. When the list is full and a new entry has to be inserted, the oldest entry shall be deleted.

\* \* \* End of Changes \* \* \* \*