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

**E-Meeting, 12th – 20th May 2022 Revision of C1-22570**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **5** | **Current version:** |  |  |
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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:***  | Update the condition of deleting an entry in the PLMN List for #78 |
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| ***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:*** | 2022-05-05 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***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 canbe 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:*** | TS 24.501 subclause 4.23.2 defines a List of "PLMNs not allowed to operate at the present UE location" for NR satellite access, and also specifies its usage, storage and update. Some important information is mentioned as follows:*For 3GPP satellite NG-RAN the UE shall store a list of "PLMNs not allowed to operate at the present UE location". Each entry consists of:**a) the PLMN identity of the PLMN which sent a message including 5GMM cause value #78 "PLMN not allowed to operate at the present UE location" via satellite NG-RAN access technology;**b) the geographical location, if known by the UE, where 5GMM cause value #78 was received on satellite NG-RAN access technology; and**c) if the geographical location exists, a UE implementation specific distance value. The UE implementation specific distance value shall not be set to a value smaller than the value indicated by the network, if any**……* *Each entry shall be removed if for the entry:**a) the UE successfully registers to the PLMN stored in the entry; or**b) the timer instance associated with the entry expires.**The UE may delete the entry in the list, if the current UE location is known, a geographical location is stored for the entry of this PLMN, and the distance to the current UE location is larger than a UE implementation specific value*Consider：1. If UE has a location capability and each entry contains a geographical location, deleting the entry for the registered PLMN will result in a rejection or deregistration, while keeping it can help the UE avoid the location/area during cell selection/reselection;
2. Another deletion condition for “the entry with a geographical location” is already stated; and
3. The entries with/without a geographical location can be treated independently;

it is suggested to update the condition of deleting an entry in this PLMN List for a registered UE. |
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| ***Summary of change:*** | Update the condition of deleting an entry in the List of "PLMNs not allowed to operate at the present UE location" for NR satellite access for a registered UE. |
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| ***Consequences if not approved:*** | The registered UE could enter the location/area the registered PLMN is not allowed to operate repeatedly and be rejected or deregistered. |
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| ***Clauses affected:*** | 4.23.2 |
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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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | 1.Add Nokia, Nokia Shanghai Bell to the Souce.2.Update the description of the revised text. |

\* \* \* First Change \* \* \* \*

### 4.23.2 List of "PLMNs not allowed to operate at the present UE location"

For 3GPP satellite NG-RAN the UE shall store a list of "PLMNs not allowed to operate at the present UE location". Each entry consists of:

a) the PLMN identity of the PLMN which sent a message including 5GMM cause value #78 "PLMN not allowed to operate at the present UE location" via satellite NG-RAN access technology; and

b) the geographical location, if known by the UE, where 5GMM cause value #78 was received on satellite NG-RAN access technology; and

c) if the geographical location exists, a UE implementation specific distance value. The UE implementation specific distance value shall not be set to a value smaller than the value indicated by the network, if any.

Editor's note: A minimum value can be optionally provided by the network in the same message as cause value #78, but IE naming and definition is FFS.

Before storing a new entry in the list, the UE shall delete any existing entry with the same PLMN identity. Upon storing a new entry, the UE starts a timer instance associated with the entry with an implementation specific value that shall not be set to a value smaller than the timer value indicated by the network, if any.

The UE is allowed to attempt to access a PLMN via satellite NG-RAN access technology which is part of the list of "PLMNs not allowed to operate at the present UE location" only if:

a) the current UE location is known, a geographical location is stored for the entry of this PLMN, and the distance to the current UE location is larger than a UE implementation specific value. This UE implementation specific value shall not be set to a value smaller than the value indicated by the network, if any;

Editor's note: A minimum value can be optionally provided by the network in the same message as cause value #78, but IE naming and definition is FFS.

b) the timer associated with the entry of this PLMN has expired; or

c) the access is for emergency services (see 3GPP TS 23.122 [5] for further details).

The list shall accommodate three or more entries. The maximum number of entries is an implementation decision. When the list is full and a new entry has to be inserted, the oldest entry shall be deleted.

Each entry shall be removed if for the entry:

a) the UE successfully registers via satellite NG-RAN access technology to the PLMN stored in the entry and no geographical location is stored for the entry of this PLMN; or

b) the timer instance associated with the entry expires.

The UE may delete the entry in the list, if the current UE location is known, a geographical location is stored for the entry of this PLMN, and the distance to the current UE location is larger than a UE implementation specific value.

When the UE is switched off, the UE shall keep the list of "PLMNs not allowed to operate at the present UE location" in its non-volatile memory. The UE shall delete the list of "PLMNs not allowed to operate at the present UE location" if the USIM is removed.

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