**3GPP TSG-CT WG1 Meeting #134-eC1-221176-r01**

**E-Meeting, 17th – 25th February 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **3998** | **rev** | **-** | **Current version:** | **17.5.0** |  |
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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:*** | Storage and deletion of "PLMNs not allowed to operate at the present UE location" list | | | | | | | | | |
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| ***Source to WG:*** | OPPO | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSAT\_ARCH-CT | | | | |  | ***Date:*** | | | 2022-02-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 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:*** | | The storing of the list of "PLMNs not allowed to operate at the present UE location" in non-volatile memory – whilst mentioned in subclause 4.2.3.2 – is not yet mentioned in Annex C.  Presently, it is stated that the list of "PLMNs not allowed to operate at the present UE location" can be three or more entries. But who determines how many "more entries"? That should be an implementation decision. Also the value of three is covered by "one or more" and it is usual to state onne or more rather than impose a lower limit for such kind of lists.  It is well accepted and approved that the list of "PLMNs not allowed to operate at the present UE location" is not applicable in Terrestrial Networks (TN). However it is now stated that if the UE makes a success registration in a PLMN which has an entry in that list of "PLMNs not allowed to operate at the present UE location", then that entry is removed from that list. But what if that successful registration was in the TN with that same PLMN \_ID? If that PLMN entry is then removed just because the registration to the TN equivalent is successful, the UE could ping-pong back to the NTN of same PLMN ID. | | | | | | | | |
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| ***Summary of change:*** | | The maximum entries of the list is indicated as implementation specific.  An entry to that list is deleted in case of successful registration is to the corresponding PLMN over satellite access.  Annex C is updated to indicate that the list is stored in non-volatile memory. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect and missing requirements on the list of " PLMNs not allowed to operate at the present UE location " exist. | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* 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;

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

c) a UE implementation specific timer value which 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.

The UE shall not 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" 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 smaller 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; or

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 is running.

The list shall accommodate one 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; or

b) the timer instance associated with the entry expires.

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 \* \* \* \*