**3GPP TSG-CT WG1 Meeting #137-eC1-225006**

**E-meeting, 18th – 26th August 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** | **4624** | **rev** | **-** | **Current version:** | **17.7.1** |  |
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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:***  | Clarification on handling related to #78 |
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| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc18 |  | ***Date:*** | 2022-08-11 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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:*** | For forbidden PLMN or Forbidden TAIs cases if UE registers successfully i.e. registration accept is received for emergency service corresponding entry from the list is not removed because an exception is provided for emergency service. In our view similar principle needs to be applied to "PLMNs not allowed to operate at the present UE location". i.e. UE should not remove PLMN from the list if it successfully registers for emergency services.Once an entry from the "PLMNs not allowed to operate at the present UE location" is deleted UE has to perform PLMN selection procedure to look for a PLMN and get the service. This aspect is clarified.When #78 is received in service reject, the UE deleting all the UE context seems unreasonable, because if UE performs PLMN selection, and select different PLMN there is a possibility of context transfer and continuity of the existing context. Or UE may return to a valid location. Thus its proposed to keep UE in registered state. |
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| ***Summary of change:*** | a) UE does not delete an entry from "PLMNs not allowed to operate at the present UE location" if it registers for emergency services. b) If an entry is removed from "PLMNs not allowed to operate at the present UE location" the UE performs PLMN selection procedure to select allowable PLMN. c) The UE is kept in registered state when service reject with #78 is received. |
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| ***Consequences if not approved:*** | a) UE deletes an entry from "PLMNs not allowed to operate at the present UE location" when it initiates an exceptional service like emergency service, allowing it to attempt for normal services later.b) When an entry is deleted from the list if UE does not perform PLMN selection it may remain in limited service which is not desirable.c) Unnecessarily UE will get into deregistered state when there is an opportunity to continue with existing context. |
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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:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\*\*\* changes \*\*\*\*\*

### 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.

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 in the Lower bound timer value IE, if any. If the Lower bound timer value IE was not provided by the network, the value of the timer shall be set based on the UE implementation.

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.

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).

NOTE: When the UE is accessing network for emergency services, it is up to operator and regulatory policies whether the network needs to determine if the UE is in a location where network is not allowed to operate.

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; 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.

If the UE is in 5GMM-DEREGISTERED.LIMITED-SERVICE state and an entry from the list of "PLMNs not allowed to operate at the present UE location" is removed, the UE shall perform PLMN selection according to 3GPP TS 23.122 [5].

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 changes \*\*\*\*\*