**3GPP TSG-CT WG6 Meeting #98eC6-200149**

**E-meeting; 25th – 28th February 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **31.121** | **CR** | **0317** | **rev** | **-** | **Current version:** | **15.6.1** |  |
|  |
| *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 | **X** | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:***  | Introduing a test case, SUCI calculation by ME using null scheme - priority list not provisioned in the USIM |
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| ***Source to WG:*** | China Mobile |
| ***Source to TSG:*** | CT6 |
|  |  |
| ***Work item code:*** | 5GS\_Ph1\_UEConTest |  | ***Date:*** | 2020-02-11 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-15 |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | According to 3GPP TS 33.501, the ME shall calculate the SUCI using the null-scheme if the Home Network Public Key or the priority list are not provisioned in the USIM. So when EFSUCI\_Calc\_Info doesn’t provision the priority list of the protection scheme, the ME shall use null-scheme to calculate SUCI. |
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| ***Summary of change:*** | Add test method of SUCI calculation by ME using null scheme when the priority list is not provisioned in the EFSUCI\_Calc\_Info. |
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| ***Consequences if not approved:*** | The current version doesn’t cover all of the null scheme test cases.  |
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| ***Clauses affected:*** | 3.8, 5.3 |
|  |  |
|  | **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:*** |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 3.8 Applicability table

| **Item** | **Description** | **Tested feature defined in Release** | **Test sequence(s)** | **R99 ME** | **Rel-4 ME** | **Rel-5 ME** | **Rel-6 ME** | **Rel-7 ME** | **Rel-8 ME** | **Rel-9 ME** | **Rel-10 ME** | **Rel-11 ME** | **Rel-12 ME** | **Rel-13 ME** | **Rel-14-ME** | **Rel-15 ME** | **Network Dependency** | **Support** | **Additional test case execution recommendation** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| … | ... | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … |
| 141 | SUCI calculation by ME using Profile A | Rel-15 | 5.3.11  | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | C056  | NG-SS |  |  |
| xxx | SUCI calculation by ME no Protection Scheme Identifier provisioned in the USIM | Rel-15 | 5.3.XX | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | C056  | NG-SS |  |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Next Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 5.3.XX SUCI calculation by ME – no Protection Scheme Identifier provisioned in the USIM

#### 5.3.XX.1 Definition and applicability

If the operator's decision is that ME shall calculate the SUCI, and the home network operator has not provisioned any Protection Scheme Identifier definition in the list of Protection Scheme Identifiers in USIM, the ME shall calculate the SUCI using the null-scheme.

#### 5.3.XX.2 Conformance requirement

1. SUCI calculation procedure shall be performed by the ME if Service n°124 is "available" and Service n°125 is not "available" in EFUST
2. As part of the SUCI calculation performed by the ME, the ME performs the reading procedure on EFSUCI\_Calc\_Info and EFRouting\_Indicator.
3. The ME shall calculate the SUCI using the null-scheme if no Protection Scheme Identifier is provisioned in the USIM or if there is no Home Network Public Key configured in the USIM for the highest priority protection scheme configured in the USIM that the ME supports.

Reference:

- TS 31.102 [4], clauses 4.4.11.8, 4.4.11.11, 5.3.47 and 5.3.51;

- TS 33.501 [41], clause 6.12.2, Annex C;

- TS 24.501 [42], clause 5.5.1.2, 5.5.1.2.4.

#### 5.3.XX.3 Test purpose

1. To verify that the READ EFSUCI\_Calc\_Info, EFRouting\_Indicator and EFIMSI commands are performed correctly by the ME.
2. To verify that the ME performs the SUCI calculation procedure using null-scheme.

#### 5.3.XX.4 Method of test

##### 5.3.XX.4.1 Initial conditions

The NG-SS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 244/083/000001.

- Access control: unrestricted.

The default 5G-NR UICC is used with the following exception:

**EFSUCI\_Calc\_Info (Subscription Concealed Identifier Calculation Information EF)**

Logically:

null

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| --- | --- | --- |
| **Coding:** | **B1** | **B2** |
| Hex | A0 | 00 |

The UICC is installed into the Terminal.

##### 5.3.XX.4.2 Procedure

a) The UE is switched on.

b) The UE sends REGISTRATION REQUEST to the NG-SS indicating the 5GS registration type IE as "initial registration" and 5GS mobile identity information element type "SUCI".

c) Upon reception of REGISTRATION ACCEPT message with a 5G-GUTI, the UE sends REGISTRATION COMPLETE message to the NG-SS.

#### 5.3.XX.5 Acceptance criteria

1) After step a) the ME shall readEFIMSI , EFRouting\_Indicator and EFSUCI\_Calc\_Info

2) After step b) the UE shall include the SUCI as coded below in the 5GS mobile identity IE in the *REGISTRATION REQUEST*.

SUPI format: 0

Home Network Identifier: 246/081

Routing indicator: 17

Protection scheme id: 00

Home network public key Id: 0

Scheme output: 357935793

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*End of Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*