**3GPP TSG-CT6 Meeting #91 *C6-180670***

**West Palm Beach, Florida, United States, 27th Nov 2018 - 30th Nov 2018**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v11.4* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **31.121** | **CR** | **0273** | **Rev** | **1** | **Current version:** | **15.1.0** |  |
|  | | | | | | | | |
| *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 | **x** | ME | **x** | Radio Access Network | **x** | Core Network | **x** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Modification of test requirements for UICC re-activation/re-initialisation during PSM and eDRX | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Comprion GmbH, Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI15\_Test | | | | |  | ***Date:*** | | | 2018-11-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Requirements for the USIM re-activation/re-initialisation during PSM and eDRX in TS 31.102 have been changed in CR 0822 and CR 0824. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Apply the change in requirements to test cases 13.3 and 14.3 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | ME might unfairly fail the tests | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 13.3.2, 13.3.3, 13.3.5, 14.3.2, 14.3.3 and 14.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS 31.102 CR 0822 and CR 0824 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

13.3 UICC interface in PSM handling for E-UTRAN – UICC deactivation in PSM

13.3.1 Definition and applicability

PSM is intended for UEs that are expecting only infrequent mobile originating and terminating services and that can accept a corresponding latency in the mobile terminating communication. In order to reduce power consumption while in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC after entering the PSM.

13.3.2 Conformance requirement

In order to reduce power consumption while the ME is in PSM, and only in case the PIN of the USIM is disabled, the ME may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) after entering the PSM.

In this case, the ME shall perform these steps before it can leave the PSM:

- re-activate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]),

- re-initialize the USIM (as specified in clause 5.1.1 [4]), with the exception of re-reading EFs that are not required for the verification of the USIM,

- take appropriate steps to verify that the same USIM is used.

Verification shall include at least the check of the content of the following EFs: EFICCID, EFIMSI and EFLOCI, and/or EFPSLOCI and/or EFEPSLOCI (depending on which of these specific EFs containing LOCI the ME used prior to entering PSM).

Reference:

- TS 31.102 [4], subclause 5.1.10;

- TS 24.301 [26], subclauses 5.3.5 and 5.3.11.

- TS 31.101 [39] in clause 6A.1.

13.3.3 Test purpose

1) To verify that when the UE enters PSM it deactivates the UICC in case the PIN for the USIM is disabled.

2) To verify that UE when it leaves the PSM performs the following steps:

- re-activates the UICC;

- re-initializes the USIM;

- verifies the following EFs: EFICCID, EFIMSI and EFEPSLOCI.

13.3.4 Method of test

13.3.4.1 Initial conditions

The UE is configured to use Power Saving Mode.

The UE is configured to use the timer T3324 set to T3324\_V.

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal.

The PIN of the USIM is disabled.

13.3.4.2 Procedure

a) The UE is switched on.

b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including T3324 set to T3324\_V.

c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message contains T3324 set to T3324\_V and T3412 set to T3412\_V. It shall not contain the eDRX parameters.

d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.

e) After the T3412 timer expires the UE sends *TRACKING AREA UPDATE REQUEST*.

f) The E-USS/NB-SS sends *TRACKING AREA UPDATE ACCEPT*.

g) The UE is switched off.

13.3.5 Acceptance criteria

1) After step d) and the expiration of T3324 timer, the UE deactivates the UICC.

2) After step e) the UE leaves the PSM and re-activates the UICC, re-initializes the USIM and verifies the following EFs: EFICCID, EFIMSI and EFEPSLOCI.

[….]

14.3 UICC interface during eDRX for E-UTRAN – UICC deactivation during eDRX

14.3.1 Definition and applicability

In order to reduce power consumption when the UE uses extended idle mode DRX cycle, the UE may optionally deactivate the UICC during the extended idle mode DRX cycle.

In this case, the UE shall re-activate the UICC, re-initialize the USIM and take appropriate steps to verify that the same USIM is used, before the end of the extended idle mode DRX cycle or before any other transmission to the network

14.3.2 Conformance requirement

In case the UICC does not support the UICC suspension mechanism, the PIN of the USIM is disabled and deactivation of UICC is authorized in EFAD, the UE may optionally deactivate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]) during the extended idle mode DRX cycle.

In this case, the UE shall re-activate the UICC (as specified in clause 6A.1 of 3GPP TS 31.101 [39]), re-initialize the USIM (as specified in clause 5.1.1 from [4]) and take appropriate steps to verify that the same USIM is used, before the end of the extended idle mode DRX cycle or before any other transmission to the network.

Verification shall include at least the check of the content of the following EFs: EFICCID, EFIMSI and EFLOCI, and/or EFPSLOCI and/or EFEPSLOCI (depending on which of these specific EFs containing LOCI the ME used prior to entering PSM).

Reference:

- 3GPP TS 31.102 [4], subclause 5.1.11;

- TS 24.301 [26], subclauses 5.3.12.

- TS 23.401 [37], subclause 5.13a

- 3GPP TS 31.101 [39] in clause 6A.1.

14.3.3 Test purpose

1) To verify that UE does not deactivate the UICC in case the ME is not authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle in EFAD in USIM.

2) To verifies that UE when it leaves the PSM performs the following steps:

- re-activates the UICC.

- re-initializes the USIM

- verifies the following EFs: EFICCID, EFIMSI and EFEPSLOCI.

14.3.4 Method of test

14.3.4.1 Initial conditions

The UE is configured to request the use of eDRX (in the ATTACH REQUEST and TRACKING AREA UPDATE messages).

The E-USS transmits on the BCCH, with the following network parameters:

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

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

- TAI (MCC/MNC/TAC): 246/081/0001.

- Access control: unrestricted.

The default E-UTRAN UICC is installed into the Terminal with following exception:

EFAD (Administrative Data)

Logically: the ME is authorized to modify the polling interval and/or disable the UICC interface during extended DRX cycle.

|  |  |  |  |
| --- | --- | --- | --- |
| Byte: | B1 | B2 | B3 |
| Coding: | 00 | 00 | 08 |

The PIN of the USIM is disabled.

14.3.4.2 Procedure

a) The UE is switched on.

b) The UE requests RRC Connection and transmits an *ATTACH REQUEST* message to the E-USS/NB-SS including eDRX parameters:

c) The E-USS/NB-SS sends the *ATTACH ACCEPT* message containing eDRX set to eDRX\_V and PTW set to PTW\_V. If ATTACH REQUEST in step b) above also contains T3324, the ATTACH ACCEPT message shall contain T3324 set to "deactivated". If ATTACH REQUEST in step b) does not contain T3324, the ATTACH ACCEPT message shall not contain T3324.

d) After receipt of the *AttachComplete* during registration from the UE, the E-USS/NB-SS sends *RRCConnectionRelease/RRCConnectionRelease-NB*, to the UE.

e) The E-USS/NB-SS transmits *Paging/Paging-NB* to the UE using the S-TMSI in a valid paging occasion within the PTW of the paging Hyperframes as per Idle eDRX.

f) After receipt of a *RRCConnectionRequest/RRCConnectionRequest-NB* message from the UE, the E-USS/NB-SS sends *RRCConnectionSetup/RRCConnectionSetup-NB* message to the UE, followed by *RRCConnectionSetupComplete/RRCConnectionSetupComplete*-*NB* sent by the UE to the E-USS/NB-SS.

g) The terminal sends *Service Request*, the E-USS/NB-SS sends *SERVICE ACCEPT* followed by *RRCConnectionRelease/RRCConnectionRelease-NB* to the UE.

h) The UE is switched off.

14.3.5 Acceptance criteria

1) After step d) the UE the UE deactivates the UICC.

2) After step e) the UE shall re-activate the UICC, re-initialize the USIM and verify the following EFs: EFICCID, EFIMSI and EFEPSLOCI