**3GPP T****SG-RAN WG3 Meeting #115-e R3-222956**

**Electronic Meeting, February 21th – March 3rd, 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.401** | **CR** | **0192** | **rev** | **3** | **Current version:** | **16.8.0** |  |
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| *For* [***HELP***](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 |  | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  | RA-SDT BLCR to TS 38.401 |
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| ***Source to WG:*** | Intel Corporation, Nokia, Nokia Shanghai Bell, ZTE |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_SmallData\_INACTIVE-Core |  | ***Date:*** | 2022-03-03 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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:*** | To capture agreements for Rel-17 SDT WI. |
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| ***Summary of change:*** | **RAN3-114 (Electronic)**1. R3-216071 (Huawei) : Introduced the basic structures of RACH based SDT procedure with FFSes.

**RAN3-115 (Electronic)**1. R3-222774 (Intel Corporation, LG Electronics, ZTE, CATT, Ericsson, NEC, Samsung) : RACH based SDT procedure is completed.
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| ***Consequences if not approved:*** | Rel-17 SDT is missing in TS 38.401. |
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| ***Clauses affected:*** | 8.X |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.300 CRXXXX, TS 38.423 CR0720, TS 38.420 CR0024, TS 38.473 CR0834, TS 38.463 CR0681 |
| ***affected:*** |  | **x** |  Test specifications |  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev1: re-submitted for RAN3-114bis-e. Rev2: re-submitted for RAN3-115-e.Rev3: Incorporated R3-222774 agreed at RAN3-115-e.  |

//////////////////////////////////////////////////////////////irrelevant operations skipped/////////////////////////////////////////////////////////////////////

### 8.X Overall procedure for Small Data Transmission during RRC Inactive

#### 8.X.1 RACH based SDT

The procedure for RACH based small data transmission in RRC Inactive is shown in Figure 8.X.1-1.



Figure 8.X.1-1: RACH based Small Data Transmission in RRC Inactive state.

1. The UE in RRC Inactive sends *RRCResumeRequest* message together with UL SDT data and/or UL SDT signalling.

2. The gNB-DU buffers the UL SDT data and/or UL SDT signalling.

3. The step 3 is as defined in step 4 in clause 8.6.2, with including an indication of SDT access. The gNB-DU may also provide SDT assistance information.

4-5. The steps 4-5 are as defined in steps 6-7 in clause 8.9.6.2. The UL SDT data, if any, is forwarded to the gNB-CU-UP, and the UL signalling, if any, is forwarded to the gNB-CU-CP via the UL RRC MESSAGE TRANSFER message, in which any UL NAS PDU is delivered to AMF.

NOTE 1: In case that full UE context is retrieved from another gNB-CU-CP as specified in TS 38.300 [2], the gNB-CU-CP first establishes the UE context in the gNB-CU-UP via the Bearer Context Setup procedure and F1-U UL TEIDs are retreived before step 4. The BEARER CONTEXT SETUP REQUSET message may include an indication to suspend non-SDT bearers, and in this case, the BEARER CONTEXT MODIFICATION REQUEST message in step 6 does not include resume indication for SDT DRBs.

NOTE 2: In case that only partial UE context for SDT including F1-U UL TEIDs is retrieved from another gNB-CU-CP as specified in TS 38.300 [2], the gNB-CU-CP uses those F1-U UL TEIDs for steps 4-5, and the subsequent steps 6-7 are not executed. In addition, the UL SDT data, if any, is forwarded from the gNB-DU to the gNB-CU-UP of the other gNB-CU-CP for which the partial context is retrieved, and the UL signalling, if any, is forwarded from the gNB-CU-CP to the other gNB-CU-CP via the XnAP RRC TRANSFER message.

6. The gNB-CU-CP sends the BEARER CONTEXT MODIFICATION REQUEST message including an resume indication for SDT DRBs. The gNB-CU-CP also includes the F1-U DL TEIDs received from the gNB-DU in step 5.

7. The gNB-CU-CP responds with the BEARER CONTEXT MODIFICATION RESPONSE message.