**3GPP SA WG2 Meeting #153ES2-2209002**

**10-17 October 2022, Electronic meeting**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.501** | **CR** | **XXX** | **rev** | **3742** | **Current version:** | **17.6.0** |  |
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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 | | | | | **X** | Core Network |  |
|  | | | | | | | | | | | | | | | | | |
| ***Title:*** | Correction of reference for RedCap indication from UE | | | | | | | | | | | | | | | | |
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| ***Source to WG:*** | Qualcomm Inc. | | | | | | | | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | | | | | | | | |
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| ***Work item code:*** | ARCH\_NR\_REDCAP / TEI17 | | | | | | | | |  | ***Date:*** | | | 2022-09-28 | | | |
|  |  | | | | |  | | | | |  | | |  | | | |
| ***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-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:*** | | In the context of Rel-17 NR RedCap, the following text was included in clause 5.41:  “An NR RedCap UE using NR shall provide an NR RedCap indication to the NG-RAN during RRC Connection Establishment procedure as defined in TS 38.331 [28].”  The text implies that the indication is provided by UE in RRC signalling. However, TS 38.331 makes no mention of this indication. That is because the indication as defined by RAN2 is not in RRC, but rather in Random Access, which is mentioned in 38.300 and in 38.321. Therefore, a reference to TS 38.331 is incorrect.  Of 38.300 and 38.321 the more descriptive reference is TS 38.300:  “16.13.3 Identification, access and camping restrictions  A RedCap UE can be identified by the network during Random Access procedure via MSG3/MSGA from a RedCap specific LCID(s) and optionally via MSG1/MSGA (PRACH occasion or PRACH preamble). For RedCap UE identification via MSG1/MSGA, RedCap specific Random Access configuration may be configured by the network. For MSG3/MSGA, a RedCap UE is identified by the dedicated LCID(s) indicated for CCCH identification (CCCH or CCCH1) regardless if RedCap specific Random Access configuration is configured by the network.”  Therefore, it is proposed to use TS 38.300 as the reference to Stage 3 RAN specifications for UE indication of NR RedCap. | | | | | | | | | | | | | | | |
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| ***Summary of change:*** | | Replace TS 38.331 with the correct reference TS 38.300 for RAN specfiication of UE indication of NR RedCap. | | | | | | | | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage 2 specification incorrectly implies UE indication of NR RedCap is in RRC, when as defined in TS 38.300 and TS 38.321 it is in Random Access. This could potentially lead to incorrect implementations. | | | | | | | | | | | | | | | |
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| ***Clauses affected:*** | | 5.41 | | | | | | | | | | | | | | | |
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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:*** | |  | | | | | | | | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | | | | | | | | |

\*\*\*\*\* First change \*\*\*\*\*

## 5.41 NR RedCap UEs differentiation

This functionality is used by the network to identify traffic to/from UEs accessing over NR RedCap, e.g. for charging differentiation.

An NR RedCap UE using NR shall provide an NR RedCap indication to the NG-RAN during RRC Connection Establishment procedure as defined in TS 38.300 [27].

When the UE has provided an NR RedCap indication to the NG-RAN during RRC Connection Establishment, the NG-RAN shall provide an NR RedCap Indication to the AMF in the Initial UE Message (see clause 4.2.2.2.1 of TS 23.502 [3] and TS 38.413 [34]).

When the AMF receives an NR RedCap Indication from NG-RAN in an Initial UE Message, the AMF shall store the NR RedCap Indication in the UE context, consider that the RAT type is NR RedCap and signal it accordingly to the SMSF during registration procedure for SMS over NAS, to the SMF during PDU Session Establishment or PDU Session Modification procedure. The PCF will also receive the NR RedCap RAT type indication when applicable, from the SMF during SM Policy Association Establishment or SM Policy Association Modification procedure.

During handover from E-UTRA to NR, the target NG-RAN (i.e. gNB) provides the NR RedCap indication to AMF in NGAP Path Switch Request message during Xn handover, or NGAP Handover Request Acknowledge message during N2 handover (including intra 5GS N2 handover and EPS to 5GS handover) based on the UE capability information provided by the source RAN to the target RAN as specified in TS 38.300 [27].

The NFs interacting with CHF shall include the NR RedCap as RAT type.

Upon AMF change, the source AMF shall provide the "NR RedCap Indication" to the target AMF.

\*\*\*\*\* End change \*\*\*\*\*