**3GPP TSG-CT WG1 Meeting #131-eC1-21XXX**

**Electronic meeting, 19 – 27 Aug 2021 *was C1-214625***

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3530** | **rev** | **1** | **Current version:** | **17.3.1** |  |
|  | | | | | | | | |
| *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 |  | ME | **x** | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | UE radio capability ID contains an odd number of hexadecimal digits | | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | | |
|  |  | | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17, RACS | | | | | |  | ***Date:*** | | | 2021-08-12 |
|  |  | | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | | |
| ***Reason for change:*** | | | * As the text quoted from clause 29.2 of TS 23.003 specified, the length of UE radio capability ID is 20 hexadecimal digits (when TF=0), or 14 hexadecimal digits (when TF=1), or 12 hexadecimal digits (when TF=2~F).     *Figure 29.2-1: Structure of UE radio capability ID*  *The UE radio capability ID is composed of the following elements (each element shall consist of hexadecimal digits only):*  *1) Type Field (TF): identifies the type of UE radio capability ID. The following values are defined:*  *- 0: manufacturer-assigned UE radio capability ID;*  *- 1: network-assigned UE radio capability ID; and*  *- 2 to F: spare values for future use.*  *2) The Vendor ID is an identifier of UE manufacturer. This is defined by a value of Private Enterprise Number issued by Internet Assigned Numbers Authority (IANA) in its capacity as the private enterprise number administrator, as maintained at https://www.iana.org/assignments/enterprise-numbers/enterprise-numbers. Its length is 8 hexadecimal digits. This field is present only if the Type Field is set to 0;*  *NOTE: The private enterprise number issued by IANA is a decimal number in the range between 0 and 4294967295 that needs to be converted to a fixed length 8 digit hexadecimal number when used within the UE Radio Capability ID. E.g. 32473 is converted to 00007ED9.*  *3) The Version ID is the current Version ID configured in the UCMF. This field is present only if the Type Field is set to 1. Its length is 2 hexadecimal digits.*   * Furthermore, according to the following text quoted from Table 9.11.3.68.1 of TS 24.501 specified, each hexadecimal digit coded over 4 bits. That is a UE radio capability ID occupy 80 bits (i.e., 10 octets, when TF=0), or 56 bits (i.e., 7 octets, when TF=1), or 48 bits (i.e., 6 octets, when TF=2~F).   *Table 9.11.3.68.1: UE radio capability ID information element*   |  | | --- | | *UE radio capability ID (octets 3 to n)* | | *The UE radio capability ID contents contain the UE radio capability ID as specified in 3GPP TS 23.003 [4], with each hexadecimal digit coded over 4 bits, starting with the first hexadecimal digit coded in bits 4 to 1 of octet 3, the second hexadecimal digit coded in bits 8 to 5 of octet 3, and so on. If the UE radio capability ID contains an odd number of hexadecimal digits, bits 8 to 5 of the last octet (octet n) shall be coded as "1111".* |   Base on the above 2 points we know, the length of the UE radio capability ID IE only can be 12 octets (when TF=0), 9 octets (when TF=1), or 8 octets (when TF=2~F). | | | | | | | | |
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| ***Summary of change:*** | | Clarify that the length of the UE radio capability ID IE can only be 12, 9 or 8 octets | | | | | | | | | |
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| ***Consequences if not approved:*** | | Clarification for the value of n | | | | | | | | | |
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| ***Clauses affected:*** | | 9.11.3.68 | | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | | |
|  | |  | | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | | |

\*\*\*\*\* start of 1st change \*\*\*\*\*

#### 9.11.3.68 UE radio capability ID

The purpose of the UE radio capability ID information element is to carry a UE radio capability ID.

The UE radio capability ID information element is coded as shown in figure 9.11.3.68.1 and table 9.11.3.68.1.

The UE radio capability ID is a type 4 information element with a length of n octets (NOTE X).

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| UE radio capability ID IEI | | | | | | | | octet 1 |
| Length of UE radio capability ID contents | | | | | | | | octet 2 |
| UE radio capability ID | | | | | | | | octet 3 |
| octet n |

Figure 9.11.3.68.1: UE radio capability ID information element

Table 9.11.3.68.1: UE radio capability ID information element

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| --- |
| UE radio capability ID (octets 3 to n) |
| The UE radio capability ID contents contain the UE radio capability ID as specified in 3GPP TS 23.003 [4], with each hexadecimal digit coded over 4 bits, starting with the first hexadecimal digit coded in bits 4 to 1 of octet 3, the second hexadecimal digit coded in bits 8 to 5 of octet 3, and so on. If the UE radio capability ID contains an odd number of hexadecimal digits, bits 8 to 5 of the last octet (octet n) shall be coded as "1111". |
| NOTE X: The value of n is equal to 12 (when the type field of the UE radio capability ID is "manufacturer-assigned UE radio capability ID"), 9 (when the type field of the UE radio capability ID is "network-assigned UE radio capability ID"), or 8 (when the type field of the UE radio capability ID is other values). |

\*\*\*\*\* end of 1st change \*\*\*\*\*