**3GPP TSG-CT WG1 Meeting #137-eC1-22xxxx**

**E-Meeting, 18th – 26th August 2022 Revision of C1-224653**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **4473** | **rev** | **1** | **Current version:** |  |  |
|  |
| *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:***  | Correction to the 5GMM capability IE |
|  |  |
| ***Source to WG:*** | China Mobile, China Southern Power Grid Co |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc18 |  | ***Date:*** | 2022-08-08 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | -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)* |
|  |  |
| ***Reason for change:*** | Some of the bit indexes in Table 9.11.3.1.1 need to be corrected. |
|  |  |
| ***Summary of change:*** | Correct some of the bit indexes in Table 9.11.3.1.1. |
|  |  |
| ***Consequences if not approved:*** | Some of the bit indexes in Table 9.11.3.1.1 are incorrect. |
|  |  |
| ***Clauses affected:*** | 9.11.3.1 |
|  |  |
|  | **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:*** |  |

\* \* \* First Change \* \* \* \*

#### 9.11.3.1 5GMM capability

The purpose of the 5GMM capability information element is to provide the network with information concerning aspects of the UE related to the 5GCN or interworking with the EPS. The contents might affect the manner in which the network handles the operation of the UE.

The 5GMM capability information element is coded as shown in figure 9.11.3.1.1 and table 9.11.3.1.1.

The 5GMM capability is a type 4 information element with a minimum length of 3 octets and a maximum length of 15 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| 5GMM capability IEI | octet 1 |
| Length of 5GMM capability contents | octet 2 |
| SGC | 5G-IPHC-CP CIoT | N3 data | 5G-CP CIoT | RestrictEC | LPP | HO attach | S1 mode | octet 3 |
| RACS | NSSAA | 5G-LCS | V2XCNPC5 | V2XCEPC5 | V2X | 5G-UP CIoT | 5GSRVCC | octet 4\* |
| ProSe-l2relay | ProSe-dc | ProSe-dd | ER-NSSAI | 5G-EHC-CP CIoT | multipleUP | WUSA | CAG | octet 5\* |
| PR | RPR | PIV | NCR | NR-PSSI | ProSe-l3rmt | ProSe-l2rmt | ProSe-l3relay | octet 6\* |
| spare | spare | NSAG | Ex-CAG | SSNPNSI | EventNotification | MINT | NSSRG | octet 7\* |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | octet 8\*-15\* |
| Spare |

Figure 9.11.3.1.1: 5GMM capability information element

Table 9.11.3.1.1: 5GMM capability information element

|  |
| --- |
| EPC NAS supported (S1 mode) (octet 3, bit 1)Bit |
| 1 |  |  |  |  |
| 0 |  |  |  | S1 mode not supported |
| 1 |  |  |  | S1 mode supported |
|  |
| ATTACH REQUEST message containing PDN CONNECTIVITY REQUEST message for handover support (HO attach) (octet 3, bit 2)Bit |
| 2 |  |  |  |  |
| 0 |  |  |  | ATTACH REQUEST message containing PDN CONNECTIVITY REQUEST message with request type set to "handover" or "handover of emergency bearer services" to transfer PDU session from N1 mode to S1 mode not supported |
| 1 |  |  |  | ATTACH REQUEST message containing PDN CONNECTIVITY REQUEST message with request type set to "handover" or "handover of emergency bearer services" to transfer PDU session from N1 mode to S1 mode supported |
|  |
| LTE Positioning Protocol (LPP) capability (octet 3, bit 3)Bit |
| 3 |  |  |  |  |
| 0 |  |  |  | LPP in N1 mode not supported |
| 1 |  |  |  | LPP in N1 mode supported (see 3GPP TS 37.355 [26]) |
|  |
| Restriction on use of enhanced coverage support (RestrictEC) (octet 3, bit 4)This bit indicates the capability to support restriction on use of enhanced coverage.Bit |
| 4 |  |  |  |  |
| 0 |  |  |  | Restriction on use of enhanced coverage not supported |
| 1 |  |  |  | Restriction on use of enhanced coverage supported |
| Control plane CIoT 5GS optimization (5G-CP CIoT) (octet 3, bit 5)This bit indicates the capability for control plane CIoT 5GS optimization.Bit |
| 5 |  |  |  |  |
| 0 |  |  |  | Control plane CIoT 5GS optimization not supported |
| 1 |  |  |  | Control plane CIoT 5GS optimization supported |
| N3 data transfer (N3 data) (octet 3, bit 6)This bit indicates the capability for N3 data transfer.Bit |
| 6 |  |  |  |  |
| 0 |  |  |  | N3 data transfer supported |
| 1 |  |  |  | N3 data transfer not supported |
| IP header compression for control plane CIoT 5GS optimization (5G-IPHC-CP CIoT) (octet 3, bit 7)This bit indicates the capability for IP header compression for control plane CIoT 5GS optimization.Bit |
| 7 |  |  |  |  |
| 0 |  |  |  | IP header compression for control plane CIoT 5GS optimization not supported |
| 1 |  |  |  | IP header compression for control plane CIoT 5GS optimization supported |
|  |
| Service gap control (SGC) (octet 3, bit 8)Bit |
| 8 |  |  |  |  |
| 0 |  |  |  | service gap control not supported |
| 1 |  |  |  | service gap control supported |
|  |
| 5G-SRVCC from NG-RAN to UTRAN (5GSRVCC) capability (octet 4, bit 1)Bit |
| 1 |  |  |  |  |
| 0 |  |  |  | 5G-SRVCC from NG-RAN to UTRAN not supported |
| 1 |  |  |  | 5G-SRVCC from NG-RAN to UTRAN supported (see 3GPP TS 23.216 [6A]) |
| User plane CIoT 5GS optimization (5G-UP CIoT) (octet 4, bit 2)This bit indicates the capability for user plane CIoT 5GS optimization.Bit |
| 2 |  |  |  |  |
| 0 |  |  |  | User plane CIoT 5GS optimization not supported |
| 1 |  |  |  | User plane CIoT 5GS optimization supported |
|  |
| V2X capability (V2X) (octet 4, bit 3)  |
| This bit indicates the capability for V2X, as specified in 3GPP TS 24.587 [19B].Bit |
| 3 |  |  |  |  |
| 0 |  |  |  | V2X not supported |
| 1 |  |  |  | V2X supported |
|  |
| V2X communication over E-UTRA-PC5 capability (V2XCEPC5) (octet 4, bit 4) |
| This bit indicates the capability for V2X communication over E-UTRA-PC5, as specified in 3GPP TS 24.587 [19B]. |
| Bit |
| 4 |  |  |  |  |
| 0 |  |  |  | V2X communication over E-UTRA-PC5 not supported |
| 1 |  |  |  | V2X communication over E-UTRA-PC5 supported |
|  |
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| V2X communication over NR-PC5 capability (V2XCNPC5) (octet 4, bit 5) |
| This bit indicates the capability for V2X communication over NR-PC5, as specified in 3GPP TS 24.587 [19B]. |
| Bit |
| 5 |  |  |  |  |
| 0 |  |  |  | V2X communication over NR-PC5 not supported |
| 1 |  |  |  | V2X communication over NR-PC5 supported |
|  |

 |
| Location Services (5G-LCS) notification mechanisms capability (octet 4, bit 6)Bit |
| 6 |  |  |  |  |
| 0 |  |  |  | LCS notification mechanisms not supported |
| 1 |  |  |  | LCS notification mechanisms supported (see 3GPP TS 23.273 [6B]) |
| Network slice-specific authentication and authorization (NSSAA) (octet 4, bit 7)This bit indicates the capability to support network slice-specific authentication and authorization.Bit |
| 7 |  |  |  |  |
| 0 |  |  |  | Network slice-specific authentication and authorization not supported |
| 1 |  |  |  | Network slice-specific authentication and authorization supported |
|  |
| Radio capability signalling optimisation (RACS) capability (octet 4, bit 8)Bit |
| 8 |  |  |  |  |
| 0 |  |  |  | RACS not supported |
| 1 |  |  |  | RACS supported |
|  |
| Closed Access Group (CAG) capability (octet 5, bit 1)Bit |
| 1 |
| 0 CAG not supported1 CAG supportedWUS assistance (WUSA) information reception capability (octet 5, bit 2)Bit20 WUS assistance information reception not supported1 WUS assistance information reception supported |
|  |
| Multiple user-plane resources support (multipleUP) (octet 5, bit 3) |
| This bit indicates the capability to support multiple user-plane resources in NB-N1 mode.Bit |
|  |
|  |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3 |  |  |  |  |
| 0 |  |  |  | Multiple user-plane resources not supported |
| 1 |  |  |  | Multiple user-plane resources supported |

 |
| Ethernet header compression for control plane CIoT 5GS optimization (5G-EHC-CP CIoT) (octet 5, bit 4)Bit40 Ethernet header compression for control plane CIoT 5GS optimization not supported1 Ethernet header compression for control plane CIoT 5GS optimization supported |
| Extended rejected NSSAI support (ER-NSSAI) (octet 5, bit 5) |
| This bit indicates the capability to support extended rejected NSSAI.Bit |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5 |  |  |  |  |
| 0 |  |  |  | Extended rejected NSSAI not supported |
| 1 |  |  |  | Extended rejected NSSAI supported |

 |
| ProSe direct discovery (ProSe-dd) (octet 5, bit 6)This bit indicates the capability for ProSe direct discovery.Bit |
| 6 |  |  |  |  |
| 0 |  |  |  | ProSe direct discovery not supported |
| 1 |  |  |  | ProSe direct discovery supported |
| ProSe direct communication (ProSe-dc) (octet 5, bit 7)This bit indicates the capability for ProSe direct communication.

|  |
| --- |
| Bit |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7 |  |  |  |  |
| 0 |  |  |  | ProSe direct communication not supported |
| 1 |  |  |  | ProSe direct communication supported  |

 |

ProSe layer-2 UE-to-network-relay (ProSe-l2relay) (octet 5, bit 8)This bit indicates the capability to act as a layer-2 ProSe UE-to-network relay UE |
| Bit |
| 8 |  |  |  |  |
| 0 |  |  |  | Acting as a ProSe layer-2 UE-to-network relay UE not supported |
| 1 |  |  |  | Acting as a ProSe layer-2 UE-to-network relay UE supported |
| ProSe layer-3 UE-to-network-relay (ProSe-l3relay) (octet 6, bit 1)This bit indicates the capability to act as a layer-3 ProSe UE-to-network relay UEBit |
| 1 |  |  |  |  |
| 0 |  |  |  | Acting as a ProSe layer-3 UE-to-network relay UE not supported |
| 1 |  |  |  | Acting as a ProSe layer-3 UE-to-network relay UE supported |
| ProSe layer-2 UE-to-network-remote (ProSe-l2rmt) (octet 6, bit 2)This bit indicates the capability to act as a layer-2 ProSe UE-to-network remote UEBit |
| 2 |  |  |  |  |
| 0 |  |  |  | Acting as a ProSe layer-2 UE-to-network remote UE not supported |
| 1 |  |  |  | Acting as a ProSe layer-2 UE-to-network remote UE supported |
| ProSe layer-3 UE-to-network-remote (ProSe-l3rmt) (octet 6, bit 3)This bit indicates the capability to act as a layer-3 ProSe UE-to-network remote UE |
| Bit |  |  |  |  |
| 3 |  |  |  |  |
| 0 |  |  |  | Acting as a ProSe layer-3 UE-to-network remote UE not supported |
| 1 |  |  |  | Acting as a ProSe layer-3 UE-to-network remote UE supported |
|  |
| NR paging subgroup support indication (NR-PSSI) (octet 6, bit 4) |
| This bit indicates the capability to support NR paging subgrouping |
| Bit |  |  |  |  |
| 4 |  |  |  |  |
| 0 |  |  |  | NR paging subgrouping not supported |
| 1 |  |  |  | NR paging subgrouping supported |
|  |
| N1 NAS signalling connection release (NCR) (octet 6, bit 5) |
| This bit indicates whether N1 NAS signalling connection release is supported. |
| Bit |
| 5 |  |  |  |  |
| 0 |  |  |  | N1 NAS signalling connection release not supported |
| 1 |  |  |  | N1 NAS signalling connection release supported |
|  |
| Paging indication for voice services (PIV) (octet 6, bit 6) |
| This bit indicates whether paging indication for voice services is supported. |
| Bit |
| 6 |  |  |  |  |
| 0 |  |  |  | paging indication for voice services not supported |
| 1 |  |  |  | paging indication for voice services supported |
|  |
| Reject paging request (RPR) (octet 6, bit 7) |
| This bit indicates whether reject paging request is supported. |
| Bit |
| 7 |  |  |  |  |
| 0 |  |  |  | reject paging request not supported |
| 1 |  |  |  | reject paging request supported |
|  |
| Paging restriction (PR) (octet 6, bit 8) |
| This bit indicates whether paging restriction is supported. |
| Bit |
| 8 |  |  |  |  |
| 0 |  |  |  | paging restriction not supported |
| 1 |  |  |  | paging restriction supported |
|  |
| NSSRG (octet 7, bit 1) |
| This bit indicates the capability to support the NSSRG. |
| Bit |  |  |  |  |
| 1 |  |  |  |  |
| 0 |  |  |  | NSSRG not supported |
| 1 |  |  |  | NSSRG supported |
| Minimization of service interruption (MINT) (octet 7, bit 2) |
| This bit indicates the capability to support Minimization of service interruption (MINT) |
| Bit |  |  |  |  |
| 2 |  |  |  |  |
| 0 |  |  |  | MINT not supported |
| 1 |  |  |  | MINT supported |
| Event notification (EventNotification) (octet 7, bit 3) |
| This bit indicates the capability to support event notification for upper layers |
| Bit |  |  |  |  |
| 3 |  |  |  |  |
| 0 |  |  |  | Event notification not supported |
| 1 |  |  |  | Event notification supported |
|  |
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| SOR-SNPN-SI (SSNPNSI) (octet 7, bit 4) |
| This bit indicates the capability to support SOR-SNPN-SI |

 |
| Bit |  |  |  |  |
| 4 |  |  |  |  |
| 0 |  |  |  | SOR-SNPN-SI not supported |
| 1 |  |  |  | SOR-SNPN-SI supported |
|  |
| Extended CAG information list support (Ex-CAG) (octet 7, bit 5) |
| This bit indicates the capability to support extended CAG information list. |
| Bit |  |  |  |  |
| 5 |  |  |  |  |
| 0 |  |  |  | Extended CAG information list not supported |
| 1 |  |  |  | Extended CAG information list supported |
|  |
| NSAG (octet 7, bit 6) |
| This bit indicates the capability to support NSAG. |
| Bit |  |  |  |  |
| 6 |  |  |  |  |
| 0 |  |  |  | NSAG not supported |
| 1 |  |  |  | NSAG supported |
| Bits 7-8 in octet 7 and bits in octets 8 to 15 are spare and shall be coded as zero, if the respective octet is included in the information element. |
|  |

\* \* \* End of Changes \* \* \* \*