**3GPP TSG-CT WG4 Meeting #97eC4-202abc**

**E-Meeting, 15th – 23th April 2020 *was* C4-202151**

|  |
| --- |
| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **29.272** | **CR** | **0817** | **rev** | **1** | **Current version:** | **16.2.0** |  |
|  |
| *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)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Subscribed PC5 QoS Parameters for NR V2X |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT4 |
|  |  |
| ***Work item code:*** | eV2XARC |  | ***Date:*** | 2020-04-06 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-16 |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***Reason for change:*** | Clause 4.4.6 of TS23.285 mentions The HSS provide "PC5 QoS parameters for V2X communication over NR PC5 reference point" to MME as subscription information and the MME provides it to eNB as part of the UE context information, therefore "PC5 QoS parameters for V2X communication over NR PC5 reference point" should be added in Subscription data for NR V2X. |
|  |  |
| ***Summary of change:*** | Add PC5 QoS parameters for V2X communication over NR PC5 reference point in s6 and add some clarification in V2X-Subscription-Data.Correct some editorial errors. |
|  |  |
| ***Consequences if not approved:*** |  |
|  |  |
| ***Clauses affected:*** | 2, 7.3.1, 7.3.212, 7.3.235, 7.3.xxy(new), 7.3.xxy(new), 7.3.xxz(new), 7.3.xyx(new), 7.3.xyy(new), 7.3.xyz(new), 7.3.xzx(new), 7.3.xzy(new), 7.3.xzz(new) |
|  |  |
|  | **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 won't introduce impact in any OpenAPI files. |
|  |  |
| ***This CR's revision history:*** | Rev1:1. Added the reference of TS 23.501 in clause 2 References
2. Corrected the refernce of TS 23.501 in 7.3.xyx 5QI
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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The start of changes\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.401: "GPRS enhancements for E-UTRAN access ".

[3] 3GPP TS 23.003: "Numbering, addressing and identification".

[4] Void.

[5] 3GPP TS 33.401: "3GPP System Architecture Evolution: Security Architecture".

[6] Void".

[7] IETF RFC 2234: "Augmented BNF for syntax specifications".

[8] 3GPP TS 32.299: "Charging management; Diameter charging applications".

[9] 3GPP TS 29.229: "Cx and Dx interfaces based on the Diameter protocol".

[10] 3GPP TS 29.212: "Policy and Charging Control (PCC); Reference points".

[11] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".

[12] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[13] 3GPP TS 22.016: "International Mobile station Equipment Identities (IMEI)".

[14] IETF RFC 4960: "Stream Control Transmission Protocol".

[15] Void

[16] 3GPP TS 33.210: "3G Security; Network Domain Security; IP Network Layer Security"..

[17] 3GPP TS 29.228: "IP multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and Message Elements".

[18] 3GPP TS 33.102: "3G Security; Security Architecture".

[19] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[20] IETF RFC 5778: "Diameter Mobile IPv6: Support for Home Agent to Diameter Server Interaction".

[21] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting packet based services and Packet Data Networks (PDN)".

[22] 3GPP TS 32.298: "Charging Management; CDR parameter description".

[23] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[24] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[25] 3GPP TS 29.329: "Sh Interface based on the Diameter protocol".

[26] IETF RFC 5447: "Diameter Mobile IPv6: Support for Network Access Server to Diameter Server Interaction".

[27] IETF RFC 4004: "Diameter Mobile IPv4 Application".

[28] 3GPP2 A.S0022: "Interoperability Specification (IOS) for Evolved High Rate Packet Data (eHRPD) Radio Access Network Interfaces and Interworking with Enhanced Universal Terrestrial Radio Access Network (E-UTRAN)".

[29] 3GPP TS 23.011: "Technical realization of Supplementary Services - General Aspects".

[30] 3GPP TS 23.008: "Organization of subscriber data".

[31] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[32] IETF RFC 5516: "Diameter Command Code Registration for Third Generation Partnership Project (3GPP) Evolved Packet System (EPS)".

[33] 3GPP TS 32.251: "Telecommunication management; Charging management; Packet Switched (PS) domain charging".

[34] 3GPP TS 23.292: "IP Multimedia Subsystem (IMS) centralized services ".

[35] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC)".

[36] 3GPP TS 23.015:"Technical realization of Operator Determined Barring (ODB)".

[37] 3GPP TS 29.173: "Diameter-based SLh interface for Control Plane LCS".

[38] 3GPP TS 29.303: "Domain Name System Procedures; Stage 3".

[39] 3GPP TS 29.060: "General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp Interface".

[40] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[41] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[42] 3GPP TS 22.042: "Network Identity and TimeZone (NITZ); Service description; Stage 1".

[43] 3GPP TS 23.007: "Restoration procedures".

[44] 3GPP TS 23.272: "Circuit Switched (CS) fallback in Evolved Packet System (EPS); Stage 2".

[45] 3GPP TS 29.010: "Information element mapping between Mobile Station - Base Station System (MS - BSS) and Base Station System - Mobile-services Switching Centre (BSS - MSC)".

[46] 3GPP TS 29.118: "Mobility Management Entity (MME) –Visitor Location Register (VLR)SGs interface specification ".

[47] 3GPP TS 29.172: "Evolved Packet Core (EPC) LCS Protocol (ELP) between the Gateway Mobile Location Centre (GMLC) and the Mobile Management Entity (MME)".

[48] 3GPP TS 29.338: "Diameter based protocols to support Short Message Service (SMS) capable Mobile Management Entities (MMEs)".

[49] 3GPP TS 29.344: "Proximity-services (ProSe) Function to Home Subscriber Server (HSS) aspects; Stage 3".

[50] IETF RFC 7683: "Diameter Overload Indication Conveyance".

[51] 3GPP TS 23.380: "IMS Restoration Procedures".

[52] 3GPP TS 22.153: "Multimedia Priority Service".

[53] 3GPP TS 23.221: "Architectural requirements".

[54] 3GPP TS 29.336: "Home Subscriber Server (HSS) diameter interfaces for interworking with packet data networks and applications".

[55] 3GPP TS 23.682: "Architecture enhancements to facilitate communications
with packet data networks and applications ".

[56] 3GPP TS 29.217: "Congestion reporting over Np reference point".

[57] IETF RFC 7944: "Diameter Routing Message Priority".

[58] 3GPP TS 43.020: "Security related network functions".

[59] 3GPP TS 29.273: "Evolved Packet System (EPS); 3GPP EPS AAA interfaces".

[60] IETF RFC 8583: "Diameter Load Information Conveyance".

[61] IETF RFC 6733: "Diameter Base Protocol".

[62] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[63] 3GPP TS 29.128: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) interfaces for interworking with packet data networks and applications".

[64] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3".

[65] 3GPP TS 36.423: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); X2 Application Protocol (X2AP)".

[66] 3GPP TS 29.503: "Unified Data Management Services".

[67] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[xx] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[xy] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.1 General

The following table specifies the Diameter AVPs defined for the S6a/S6d interface protocol, the S7a/S7d interface protocol and the S13/S13' interface protocol, their AVP Code values, types, possible flag values and whether or not the AVP may be encrypted. The Vendor-ID header of all AVPs defined in this specification shall be set to 3GPP (10415).

For all AVPs which contain bit masks and are of the type Unsigned32, e.g., ULR-Flags, DSR-Flags, PUA-Flags, etc., bit 0 shall be the least significant bit. For example, to get the value of bit 0, a bit mask of 0x0001 should be used.

Table 7.3.1/1: S6a/S6d, S7a/S7d and S13/S13' specific DiameterAVPs

|  | AVP Flag rules |  |
| --- | --- | --- |
| Attribute Name | AVP Code | Clause defined | Value Type | Must | May | Should not | Must not | May Encr. |
| Subscription-Data | 1400 | 7.3.2 | Grouped | M, V |  |  |  | No |
| Terminal-Information | 1401 | 7.3.3 | Grouped | M, V |  |  |  | No |
| IMEI | 1402 | 7.3.4 | UTF8String | M, V |  |  |  | No |
| Software-Version | 1403 | 7.3.5 | UTF8String | M, V |  |  |  | No |
| QoS-Subscribed | 1404 | 7.3.77 | OctetString | M, V |  |  |  | No |
| ULR-Flags | 1405 | 7.3.7 | Unsigned32 | M, V |  |  |  | No |
| ULA-Flags | 1406 | 7.3.8 | Unsigned32 | M, V |  |  |  | No |
| Visited-PLMN-Id | 1407 | 7.3.9 | OctetString | M, V |  |  |  | No |
| Requested-EUTRAN-Authentication-Info | 1408 | 7.3.11 | Grouped | M, V |  |  |  | No |
| Requested-UTRAN- GERAN-Authentication-Info | 1409 | 7.3.12 | Grouped | M, V |  |  |  | No |
| Number-Of-Requested-Vectors | 1410 | 7.3.14 | Unsigned32 | M, V |  |  |  | No |
| Re-Synchronization-Info | 1411 | 7.3.15 | OctetString | M, V |  |  |  | No |
| Immediate-Response-Preferred | 1412 | 7.3.16 | Unsigned32 | M, V |  |  |  | No |
| Authentication-Info | 1413 | 7.3.17 | Grouped | M, V |  |  |  | No |
| E-UTRAN-Vector | 1414 | 7.3.18 | Grouped | M, V |  |  |  | No |
| UTRAN-Vector | 1415 | 7.3.19 | Grouped | M, V |  |  |  | No |
| GERAN-Vector | 1416 | 7.3.20 | Grouped | M, V |  |  |  | No |
| Network-Access-Mode | 1417 | 7.3.21 | Enumerated | M, V |  |  |  | No |
| HPLMN-ODB | 1418 | 7.3.22 | Unsigned32 | M, V |  |  |  | No |
| Item-Number | 1419 | 7.3.23 | Unsigned32 | M, V |  |  |  | No |
| Cancellation-Type | 1420 | 7.3.24 | Enumerated | M, V |  |  |  | No |
| DSR-Flags | 1421 | 7.3.25 | Unsigned32 | M, V |  |  |  | No |
| DSA-Flags | 1422 | 7.3.26 | Unsigned32 | M, V |  |  |  | No |
| Context-Identifier | 1423 | 7.3.27 | Unsigned32 | M, V |  |  |  | No |
| Subscriber-Status | 1424 | 7.3.29 | Enumerated | M, V |  |  |  | No |
| Operator-Determined-Barring | 1425 | 7.3.30 | Unsigned32 | M, V |  |  |  | No |
| Access-Restriction-Data | 1426 | 7.3.31 | Unsigned32 | M, V |  |  |  | No |
| APN-OI-Replacement | 1427 | 7.3.32 | UTF8String | M, V |  |  |  | No |
| All-APN-Configurations-Included-Indicator | 1428 | 7.3.33 | Enumerated | M, V |  |  |  | No |
| APN-Configuration-Profile | 1429 | 7.3.34 | Grouped | M, V |  |  |  | No |
| APN-Configuration | 1430 | 7.3.35 | Grouped | M, V |  |  |  | No |
| EPS-Subscribed-QoS-Profile | 1431 | 7.3.37 | Grouped | M, V |  |  |  | No |
| VPLMN-Dynamic-Address-Allowed | 1432 | 7.3.38 | Enumerated | M, V |  |  |  | No |
| STN-SR | 1433 | 7.3.39 | OctetString | M, V |  |  |  | No |
| Alert-Reason | 1434 | 7.3.83 | Enumerate | M, V |  |  |  | No |
| AMBR | 1435 | 7.3.41 | Grouped | M, V |  |  |  | No |
| CSG-Subscription-Data | 1436 | 7.3.78 | Grouped | M. V |  |  |  | No |
| CSG-Id | 1437 | 7.3.79 | Unsigned32 | M, V |  |  |  | No |
| PDN-GW-Allocation-Type | 1438 | 7.3.44 | Enumerated | M, V |  |  |  | No |
| Expiration-Date | 1439 | 7.3.80 | Time | M, V |  |  |  | No |
| RAT-Frequency-Selection-Priority-ID | 1440 | 7.3.46 | Unsigned32 | M, V |  |  |  | No |
| IDA-Flags | 1441 | 7.3.47 | Unsigned32 | M, V |  |  |  | No |
| PUA-Flags | 1442 | 7.3.48 | Unsigned32 | M, V |  |  |  | No |
| NOR-Flags | 1443 | 7.3.49 | Unsigned32 | M, V |  |  |  | No |
| User-Id | 1444 | 7.3.50 | UTF8String | V |  |  | M | No |
| Equipment-Status | 1445 | 7.3.51 | Enumerated | M, V |  |  |  | No |
| Regional-Subscription-Zone-Code | 1446 | 7.3.52 | OctetString | M, V |  |  |  | No |
| RAND | 1447 | 7.3.53 | OctetString | M, V |  |  |  | No |
| XRES | 1448 | 7.3.54 | OctetString | M, V |  |  |  | No |
| AUTN | 1449 | 7.3.55 | OctetString | M, V |  |  |  | No |
| KASME | 1450 | 7.3.56 | OctetString | M, V |  |  |  | No |
| Trace-Collection-Entity | 1452 | 7.3.98 | Address | M, V |  |  |  | No |
| Kc | 1453 | 7.3.59 | OctetString | M, V |  |  |  | No |
| SRES | 1454 | 7.3.60 | OctetString | M, V |  |  |  | No |
| PDN-Type | 1456 | 7.3.62 | Enumerated | M, V |  |  |  | No |
| Roaming-Restricted-Due-To-Unsupported-Feature | 1457 | 7.3.81 | Enumerated | M, V |  |  |  | No |
| Trace-Data | 1458 | 7.3.63 | Grouped | M, V |  |  |  | No |
| Trace-Reference | 1459 | 7.3.64 | OctetString | M, V |  |  |  | No |
| Trace-Depth | 1462 | 7.3.67 | Enumerated | M, V |  |  |  | No |
| Trace-NE-Type-List | 1463 | 7.3.68 | OctetString | M, V |  |  |  | No |
| Trace-Interface-List | 1464 | 7.3.69 | OctetString | M, V |  |  |  | No |
| Trace-Event-List | 1465 | 7.3.70 | OctetString | M, V |  |  |  | No |
| OMC-Id | 1466 | 7.3.71 | OctetString | M, V |  |  |  | No |
| GPRS-Subscription-Data | 1467 | 7.3.72 | Grouped | M, V |  |  |  | No |
| Complete-Data-List-Included-Indicator | 1468 | 7.3.73 | Enumerated | M, V |  |  |  | No |
| PDP-Context | 1469 | 7.3.74 | Grouped | M, V |  |  |  | No |
| PDP-Type | 1470 | 7.3.75 | OctetString | M, V |  |  |  | No |
| 3GPP2-MEID | 1471 | 7.3.6 | OctetString | M, V |  |  |  | No |
| Specific-APN-Info | 1472 | 7.3.82 | Grouped | M, V |  |  |  | No |
| LCS-Info | 1473 | 7.3.84 | Grouped | M, V |  |  |  | No |
| GMLC-Number | 1474 | 7.3.85 | OctetString | M, V |  |  |  | No |
| LCS-PrivacyException | 1475 | 7.3.86 | Grouped | M, V |  |  |  | No |
| SS-Code | 1476 | 7.3.87 | OctetString | M, V |  |  |  | No |
| SS-Status | 1477 | 7.3.88 | OctetString | M, V |  |  |  | No |
| Notification-To-UE-User | 1478 | 7.3.89 | Enumerated | M, V |  |  |  | No |
| External-Client | 1479 | 7.3.90 | Grouped | M, V |  |  |  | No |
| Client-Identity | 1480 | 7.3.91 | OctetString | M, V |  |  |  | No |
| GMLC-Restriction | 1481 | 7.3.92 | Enumerated | M, V |  |  |  | No |
| PLMN-Client | 1482 | 7.3.93 | Enumerated | M, V |  |  |  | No |
| Service-Type | 1483 | 7.3.94 | Grouped | M, V |  |  |  | No |
| ServiceTypeIdentity | 1484 | 7.3.95 | Unsigned32 | M, V |  |  |  | No |
| MO-LR | 1485 | 7.3.96 | Grouped | M, V |  |  |  | No |
| Teleservice-List | 1486 | 7.3.99 | Grouped | M, V |  |  |  | No |
| TS-Code | 1487 | 7.3.100 | OctetString | M, V |  |  |  | No |
| Call-Barring-Info | 1488 | 7.3.101 | Grouped | M, V |  |  |  | No |
| SGSN-Number | 1489 | 7.3.102 | OctetString | M, V |  |  |  | No |
| IDR-Flags | 1490 | 7.3.103 | Unsigned32 | M, V |  |  |  | No |
| ICS-Indicator | 1491 | 7.3.104 | Enumerated | V |  |  | M | No |
| IMS-Voice-Over-PS-Sessions-Supported | 1492 | 7.3.106 | Enumerated | V |  |  | M | No |
| Homogeneous-Support-of-IMS-Voice-Over-PS-Sessions | 1493 | 7.3.107 | Enumerated | V |  |  | M | No |
| Last-UE-Activity-Time | 1494 | 7.3.108 | Time | V |  |  | M | No |
| EPS-User-State | 1495 | 7.3.110 | Grouped | V |  |  | M | No |
| EPS-Location-Information | 1496 | 7.3.111 | Grouped | V |  |  | M | No |
| MME-User-State | 1497 | 7.3.112 | Grouped | V |  |  | M | No |
| SGSN-User-State | 1498 | 7.3.113 | Grouped | V |  |  | M | No |
| User-State | 1499 | 7.3.114 | Enumerated | V |  |  | M | No |
| MME-Location Information | 1600 | 7.3.115 | Grouped | V |  |  | M | No |
| SGSN-Location-Information | 1601 | 7.3.116 | Grouped | V |  |  | M | No |
| E-UTRAN-Cell-Global-Identity | 1602 | 7.3.117 | OctetString | V |  |  | M | No |
| Tracking-Area-Identity | 1603 | 7.3.118 | OctetString | V |  |  | M | No |
| Cell-Global-Identity | 1604 | 7.3.119 | OctetString | V |  |  | M | No |
| Routing-Area-Identity | 1605 | 7.3.120 | OctetString | V |  |  | M | No |
| Location-Area-Identity | 1606 | 7.3.121 | OctetString | V |  |  | M | No |
| Service-Area-Identity | 1607 | 7.3.122 | OctetString | V |  |  | M | No |
| Geographical-Information | 1608 | 7.3.123 | OctetString | V |  |  | M | No |
| Geodetic-Information | 1609 | 7.3.124 | OctetString | V |  |  | M | No |
| Current-Location-Retrieved | 1610 | 7.3.125 | Enumerated | V |  |  | M | No |
| Age-Of-Location-Information | 1611 | 7.3.126 | Unsigned32 | V |  |  | M | No |
| Active-APN | 1612 | 7.3.127 | Grouped | V |  |  | M | No |
| Error-Diagnostic | 1614 | 7.3.128 | Enumerated | V |  |  | M | No |
| Ext-PDP-Address | 1621 | 7.3.129 | Address | V |  |  | M | No |
|  |  |  |  |  |  |  |  |  |
| UE-SRVCC-Capability | 1615 | 7.3.130 | Enumerated | V |  |  | M | No |
| MPS-Priority | 1616 | 7.3.131 | Unsigned32 | V |  |  | M | No |
| VPLMN-LIPA-Allowed | 1617 | 7.3.132 | Enumerated | V |  |  | M | No |
| LIPA-Permission | 1618 | 7.3.133 | Enumerated | V |  |  | M | No |
| Subscribed-Periodic-RAU-TAU-Timer | 1619 | 7.3.134 | Unsigned32 | V |  |  | M | No |
| Ext-PDP-Type | 1620 | 7.3.75A | OctetString | V |  |  | M | No |
| SIPTO-Permission | 1613 | 7.3.135 | Enumerated | V |  |  | M | No |
| MDT-Configuration | 1622 | 7.3.136 | Grouped | V |  |  | M | No |
| Job-Type | 1623 | 7.3.137 | Enumerated | V |  |  | M | No |
| Area-Scope | 1624 | 7.3.138 | Grouped | V |  |  | M | No |
| List-Of-Measurements | 1625 | 7.3.139 | Unsigned32 | V |  |  | M | No |
| Reporting-Trigger | 1626 | 7.3.140 | Unsigned32 | V |  |  | M | No |
| Report-Interval | 1627 | 7.3.141 | Enumerated | V |  |  | M | No |
| Report-Amount | 1628 | 7.3.142 | Enumerated | V |  |  | M | No |
| Event-Threshold-RSRP | 1629 | 7.3.143 | Unsigned32 | V |  |  | M | No |
| Event-Threshold-RSRQ | 1630 | 7.3.144 | Unsigned32 | v |  |  | M | No |
| Logging-Interval | 1631 | 7.3.145 | Enumerated | V |  |  | M | No |
| Logging-Duration | 1632 | 7.3.146 | Enumerated | V |  |  | M | No |
| Relay-Node-Indicator | 1633 | 7.3.147 | Enumerated | V |  |  | M | No |
| MDT-User-Consent | 1634 | 7.3.148 | Enumerated | V |  |  | M | No |
| PUR-Flags | 1635 | 7.3.149 | Unsigned32 | V |  |  | M | No |
| Subscribed-VSRVCC | 1636 | 7.3.150 | Enumerated | V |  |  | M | No |
| Equivalent-PLMN-List  | 1637 | 7.3.151 | Grouped | V |  |  | M | No |
| CLR-Flags | 1638 | 7.3.152 | Unsigned32 | V |  |  | M | No |
| UVR-Flags | 1639 | 7.3.153 | Unsigned32 | M, V |  |  |  | No |
| UVA-Flags | 1640 | 7.3.154 | Unsigned32 | M, V |  |  |  | No |
| VPLMN-CSG-Subscription-Data | 1641 | 7.3.155 | Grouped | M, V |  |  |  | No |
| Time-Zone | 1642 | 7.3.163 | UTF8String | V |  |  | M | No |
| A-MSISDN | 1643 | 7.3.157 | OctetString | V |  |  | M | No |
| MME-Number-for-MT-SMS | 1645 | 7.3.159 | OctetString | V |  |  | M | No |
| SMS-Register-Request | 1648 | 7.3.162 | Enumerated | V |  |  | M | No |
| Local-Time-Zone | 1649 | 7.3.156 | Grouped | V |  |  | M | No |
| Daylight-Saving-Time | 1650 | 7.3.164 | Enumerated | V |  |  | M | No |
| Subscription-Data-Flags | 1654 | 7.3.165 | Unsigned32 | V |  |  | M | No |
| Measurement-Period-LTE | 1655 | 7.3.166 | Enumerated | V |  |  | M | No |
| Measurement-Period-UMTS | 1656 | 7.3.167 | Enumerated | V |  |  | M | No |
| Collection-Period-RRM-LTE | 1657 | 7.3.168 | Enumerated | V |  |  | M | No |
| Collection-Period-RRM-UMTS | 1658 | 7.3.169 | Enumerated | V |  |  | M | No |
| Positioning-Method | 1659 | 7.3.170 | OctetString | V |  |  | M | No |
| Measurement-Quantity | 1660 | 7.3.171 | OctetString | V |  |  | M | No |
| Event-Threshold-Event-1F | 1661 | 7.3.172 | Integer32 | V |  |  | M | No |
| Event-Threshold-Event-1I | 1662 | 7.3.173 | Integer32 | V |  |  | M | No |
| Restoration-Priority | 1663 | 7.3.174 | Unsigned32 | V |  |  | M | No |
| SGs-MME-Identity | 1664 | 7.3.175 | UTF8String | V |  |  | M | No |
| SIPTO-Local-Network-Permission | 1665 | 7.3.176 | Unsigned32 | V |  |  | M | No |
| Coupled-Node-Diameter-ID | 1666 | 7.3.177 | DiameterIdentity | V |  |  | M | No |
| WLAN-offloadability | 1667 | 7.3.181 | Grouped | V |  |  | M | No |
| WLAN-offloadability-EUTRAN | 1668 | 7.3.182 | Unsigned32 | V |  |  | M | No |
| WLAN-offloadability-UTRAN | 1669 | 7.3.183 | Unsigned32 | V |  |  | M | No |
| Reset-ID | 1670 | 7.3.184 | OctetString | V |  |  | M | No |
| MDT-Allowed-PLMN-Id | 1671 | 7.3.185 | OctetString | V |  |  | M | No |
| Adjacent-PLMNs | 1672 | 7.3.186 | Grouped | V |  |  | M | No |
| Adjacent-Access-Restriction-Data | 1673 | 7.3.187 | Grouped | V |  |  | M | No |
| DL-Buffering-Suggested-Packet-Count | 1674 | 7.3.188 | Integer32 | V |  |  | M | No |
| IMSI-Group-Id | 1675 | 7.3.189 | Grouped | V |  |  | M | No |
| Group-Service-Id | 1676 | 7.3.190 | Unsigned32 | V |  |  | M | No |
| Group-PLMN-Id | 1677 | 7.3.191 | OctetString | V |  |  | M | No |
| Local-Group-Id | 1678 | 7.3.192 | OctetString | V |  |  | M | No |
| AIR-Flags | 1679 | 7.3.201 | Unsigned32 | V |  |  | M | No |
| UE-Usage-Type | 1680 | 7.3.202 | Unsigned32 | V |  |  | M | No |
| Non-IP-PDN-Type-Indicator | 1681 | 7.3.204 | Enumerated | V |  |  | M | No |
| Non-IP-Data-Delivery-Mechanism | 1682 | 7.3.205 | Unsigned32 | V |  |  | M | No |
| Additional-Context-ID | 1683 | 7.3.206 | Unsigned32 | V |  |  | M | No |
| SCEF-Realm | 1684 | 7.3.207 | DiameterIdentity | V |  |  | M | No |
| Subscription-Data-Deletion | 1685 | 7.3.208 | Grouped | V |  |  | M | No |
| Preferred-Data-Mode | 1686 | 7.3.209 | Grouped | V |  |  | M | No |
| Emergency-Info | 1687 | 7.3.210 | Grouped | V |  |  | M | No |
| V2X-Subscription-Data | 1688 | 7.3.212 | Grouped | V |  |  | M | No |
| V2X-Permission | 1689 | 7.3.213 | Unsigned32 | V |  |  | M | No |
| PDN-Connection-Continuity | 1690 | 7.3.214 | Unsigned32 | V |  |  | M | No |
| eDRX-Cycle-Length | 1691 | 7.3.215 | Grouped | V |  |  | M | No |
| eDRX-Cycle-Length-Value | 1692 | 7.3.216 | OctetString | V |  |  | M | No |
| UE-PC5-AMBR | 1693 | 7.3.217 | Unsigned32 | V |  |  | M | No |
| MBSFN-Area | 1694 | 7.3.219 | Grouped | V |  |  | M | No |
| MBSFN-Area-ID | 1695 | 7.3.220 | Unsigned32 | V |  |  | M | No |
| Carrier-Frequency | 1696 | 7.3.221 | Unsigned32 | V |  |  | M | No |
| RDS-Indicator | 1697 | 7.3.222 | Enumerated | V |  |  | M | No |
| Service-Gap-Time | 1698 | 7.3.223 | Unsigned32 | V |  |  | M | No |
| Aerial-UE-Subscription-Information | 1699 | 7.3.224 | Unsigned32 | V |  |  | M | No |
| Broadcast-Location-Assistance-Data-Types | 1700 | 7.3.225 | Unsigned64 | V |  |  | M | No |
| Paging-Time-Window | 1701 | 7.3.226 | Grouped | V |  |  | M | No |
| Operation-Mode | 1702 | 7.3.227 | Unsigned32 | V |  |  | M | No |
| Paging-Time-Window-Length | 1703 | 7.3.228 | OctetString | V |  |  | M | No |
| Core-Network-Restrictions | 1704 | 7.3.230 | Unsigned32 | V |  |  | M | No |
| eDRX-Related-RAT | 1705 | 7.3.229 | Grouped | V |  |  | M | No |
| Interworking-5GS-Indicator | 1706 | 7.3.231 | Enumerated | V |  |  | M | No |
| Ethernet-PDN-Type-Indicator | 1707 | 7.3.232 | Enumerated | V |  |  | M | No |
| Subscribed-ARPI | 1708 | 7.3.233 | Unsigned32 | V |  |  | M | No |
| IAB-Operation-Permission | 1709 | 7.3.234 | Enumerated | V |  |  | M | No |
| V2X-Subscription-Data-Nr | 1710 | 7.3.235 | Grouped | V |  |  | M | No |
| UE-PC5-QoS | 17xy | 7.3.xxy | Grouped | V |  |  | M | No |
| PC5-QoS-Flow | 17xz | 7.3.xxz | Grouped | V |  |  | M | No |
| 5QI | 17yx | 7.3.xyx | Integer32 | V |  |  | M | No |
| PC5-Flow-Bitrates | 17yy | 7.3.xyy | Grouped | V |  |  | M | No |
| Guaranteed-Flow-Bitrates | 17yz | 7.3.xyz | Integer32 | V |  |  | M | No |
| Maximum-Flow-Bitrates | 17zx | 7.3.xzx | Integer32 | V |  |  | M | No |
| PC5-Range | 17zy | 7.3.xzy | Integer32 | V |  |  | M | No |
| PC5-Link-AMBR | 17zz | 7.3.xzz | Integer32 | V |  |  | M | No |
| NOTE 1: The AVP header bit denoted as "M", indicates whether support of the AVP is required. The AVP header bit denoted as "V", indicates whether the optional Vendor-ID field is present in the AVP header. For further details, see IETF RFC 6733 [61]. NOTE 2: If the M-bit is set for an AVP and the receiver does not understand the AVP, it shall return a rejection. If the M-bit is not set for an AVP, the receiver shall not return a rejection, whether or not it understands the AVP. If the receiver understands the AVP but the M-bit value does not match with the definition in this table, the receiver shall ignore the M-bit. |

The following table specifies the Diameter AVPs re-used by the S6a/S6d interface protocol from existing Diameter Applications, including a reference to their respective specifications and when needed, a short description of their use within S6a and S6d.

Any other AVPs from existing Diameter Applications, except for the AVPs from Diameter base protocol specified in IETF RFC 6733 [61], do not need to be supported. The AVPs from the Diameter base protocol specified in IETF RFC 6733 [61] are not included in table 7.3.1/2, but they may be re-used for the S6a/S6d protocol, the S7a/S7protocol and the S13/S13' protocol.

Table 7.3.1/2: S6a/S6d, S7a/S7d and S13/S13' re-used Diameter AVPs

| Attribute Name | Reference | Comments | M-bit |
| --- | --- | --- | --- |
| Service-Selection | IETF RFC 5778 [20] | See clause 7.3.36 |  |
| 3GPP-Charging-Characteristics | 3GPP TS 29.061 [21] | See 3GPP TS 32.251 [33] Annex A and 3GPP TS 32.298 [22] clause 5.1.2.2.7This attribute holds the EPS PDN Connection Charging Characteristics data for an EPS APN Configuration, or the PDP context Charging Characteristics for GPRS PDP context, or the Subscribed Charging Characteristics data for the subscriber level 3GPP Charging Characteristics; refer to 3GPP TS 23.008 [30]. |  |
| Supported-Features | 3GPP TS 29.229 [9] |  |  |
| Feature-List-ID | 3GPP TS 29.229 [9] |  |  |
| Feature-List | 3GPP TS 29.229 [9] | See clause 7.3.10 |  |
| Served-Party-IP-Address | 3GPP TS 32.299 [8] | holds the PDN IP Address of the user |  |
| QoS-Class-Identifier | 3GPP TS 29.212 [10] |  |  |
| Allocation-Retention-Priority | 3GPP TS 29.212 [10] | See clause 7.3.40 |  |
| Priority-Level | 3GPP TS 29.212 [10] |  |  |
| Pre-emption-Capability | 3GPP TS 29.212 [10] |  |  |
| Pre-emption-Vulnerability | 3GPP TS 29.212 [10] |  |  |
| Max-Requested-Bandwidth-DL | 3GPP TS 29.214 [11] |  |  |
| Max-Requested-Bandwidth-UL | 3GPP TS 29.214 [11] |  |  |
| Extended-Max-Requested-BW-DL | 3GPP TS 29.214 [11] |  |  |
| Extended-Max-Requested-BW-UL | 3GPP TS 29.214 [11] |  |  |
| RAT-Type | 3GPP TS 29.212 [10] | See clause 7.3.13 | Must set |
| MSISDN | 3GPP TS 29.329 [25] |  |  |
| MIP6-Agent-Info | IETF RFC 5447 [26] |  |  |
| MIP-Home-Agent-Address | IETF RFC 4004 [27] |  |  |
| MIP-Home-Agent-Host | IETF RFC 4004 [27] |  |  |
| PDP-Address | 3GPP TS 32.299 [8] |  |  |
| Confidentiality-Key | 3GPP TS 29.229 [9] | See clause 7.3.57 |  |
| Integrity-Key | 3GPP TS 29.229 [9] | See clause 7.3.58 |  |
| Visited-Network-Identifier | 3GPP TS 29.229 [9] | See clause 7.3.105 | Must not set |
| GMLC-Address | 3GPP TS 29.173 [37] | See clause 7.3.109 | Must not set |
| User-CSG-Information | 3GPP TS 32.299 [8] |  | Must not set |
| ProSe-Subscription-Data | 3GPP TS 29.344 [49] | See clause 7.3.180 | Must not set |
| OC-Supported-Features | IETF RFC 7683 [50] | See clause 7.3.178 | Must not set |
| OC-OLR | IETF RFC 7683 [50] | See clause 7.3.179 | Must not set |
| SCEF-Reference-ID | 3GPP TS 29.336 [54] |  | Must not set |
| SCEF-ID | 3GPP TS 29.336 [54] |  | Must not set |
| AESE-Communication-Pattern | 3GPP TS 29.336 [54] | see clause 7.3.193 | Must not set |
| Communication-Pattern-set | 3GPP TS 29.336 [54] | see clause 7.3.194 | Must not set |
| Monitoring-Event-Configuration | 3GPP TS 29.336 [54] | See clause 7.3.195 | Must not set |
| Monitoring-Event-Report | 3GPP TS 29.336 [54] | See clause 7.3.196  | Must not set |
| UE-Reachability-Configuration | 3GPP TS 29.336 [54] | See clause 7.3.197 | Must not set |
| eNodeB-ID | 3GPP TS 29.217 [56] | See clause 7.3.198 | Must not set |
| SCEF-Reference-ID-for-Deletion | 3GPP TS 29.336 [54] |  | Must not set |
| Monitoring-Type | 3GPP TS 29.336 [54] |  | Must not set |
| Maximum-Number-of-Reports | 3GPP TS 29.336 [54] |  | Must not set |
| Monitoring-Duration | 3GPP TS 29.336 [54] |  | Must not set |
| Charged-Party | 3GPP TS 29.336 [54] |  | Must not set |
| UE-Reachability-Configuration | 3GPP TS 29.336 [54] |  | Must not set |
| Location-Information-Configuration | 3GPP TS 29.336 [54] |  | Must not set |
| Reachability-Type | 3GPP TS 29.336 [54] |  | Must not set |
| Maximum-Response-Time | 3GPP TS 29.336 [54] |  | Must not set |
| Reachability-Information | 3GPP TS 29.336 [54] |  | Must not set |
| Monitoring-Event-Config-Status | 3GPP TS 29.336 [54] |  | Must not set |
| Supported-Services | 3GPP TS 29.336 [54] | See clause 7.3.199 | Must not set |
| Supported-Monitoring-Events | 3GPP TS 29.336 [54] | See clause 7.3.200 | Must not set |
| DRMP | IETF RFC 7944 [57] | See clause 7.3.203 | Must not set |
| Reference-ID-Validity-Time | 3GPP TS 29.336 [54] |  | Must not set |
| Maximum-UE-Availability-Time | 3GPP TS 29.338 [48] | See clause 5.3.3.22 | Must not set |
| Emergency-Services | 3GPP TS 29.273 [59] |  |  |
| Load | IETF RFC 8583 [60] | See clause 7.3.211 | Must not set |
| Extended-eNodeB-ID | 3GPP TS 29.217 [56] | See clause 7.3.218 | Must not set |
| External-Identifier | 3GPP TS 29.336 [54] |  | Must not set |
| Loss-Of-Connectivity-Reason | 3GPP TS 29.336 [54] |  | Must not set |
| Active-Time | 3GPP TS 29.128 [63] |  | Must not set |
| Idle-Status-Indication | 3GPP TS 29.128 [63] |  | Must not set |
| MTC-Provider-Info | 3GPP TS 29.336 [54] |  | Must not set |
| Traffic-Profile | 3GPP TS 29.336 [54] |  | Must not set |
| PDN-Connectivity-Status-Configuration | 3GPP TS 29.336 [54] | See clause 7.3.195 | Must not set |
| PDN-Connectivity-Status-Report | 3GPP TS 29.336 [54] | See clause 7.3.196 | Must not set |
| Battery-Indicator | 3GPP TS 29.336 [54] |  | Battery-Indicator |
| NOTE 1: The M-bit settings for re-used AVPs override those of the defining specifications that are referenced. Values include: "Must set", "Must not set". If the M-bit setting is blank, then the defining specification applies. NOTE 2: If the M-bit is set for an AVP and the receiver does not understand the AVP, it shall return a rejection. If the M-bit is not set for an AVP, the receiver shall not return a rejection, whether or not it understands the AVP. If the receiver understands the AVP but the M-bit value does not match with the definition in this table, the receiver shall ignore the M-bit. |

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.212 V2X-Subscription-Data

The V2X-Subscription-Data AVP is of type Grouped. It shall contain the V2X related subscription data for the network scheduled LTE sidelink communication..

AVP format:

V2X-Subscription-Data ::= <AVP header: 1688 10415>

[ V2X-Permission ]

[ UE-PC5-AMBR ]

\*[AVP]

The UE-PC5-AMBR AVP within the V2X-Subscription-Data AVP indicates the UE AMBR used for LTE PC5 interface.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.235 V2X-Subscription-Data-Nr

The V2X-Subscription-Data-Nr AVP is of type Grouped. It shall contain the V2X related subscription data for the network scheduled NR sidelink communication.

AVP format:

V2X-Subscription-Data-Nr ::= <AVP header: 1710 10415>

[ V2X-Permission ]

[ UE-PC5-AMBR ]

[ UE-PC5-QoS ]

\*[AVP]

The UE-PC5-AMBR AVP within the V2X-Subscription-Data AVP indicates the UE AMBR used for NR PC5 interface.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xxy UE-PC5-QoS

The UE-PC5-QoS AVP is of type Grouped. It shall contain the PC5 QoS parameters for V2X communication over NR PC5 reference point.

AVP format:

UE-PC5-QoS ::= <AVP header: 17xy 10415>

1\*{ PC5-QoS-Flow }

[ PC5-Link-AMBR ]

\*[AVP]

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xxz PC5-QoS-Flow

The PC5-QoS-Flow AVP is of type Grouped. It shall contain the QoS parameters for a PC5 flow.

AVP format:

PC5-QoS-Flow ::= <AVP header: 17xz 10415>

{ 5QI }

[ PC5-Flow-Bitrates ]

[ PC5-Range ]

\*[AVP]

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xyx 5QI

The 5QI AVP is of type Integer32. It shall contain the 5QI. See 3GPP TS 23.501 [xy] for allowed values.If the 5QI is used in PC5 QoS parameter, it shall contain PQI, PQI is a special 5QI (see clause 5.4.2.1 of 3GPP TS 23.287 [xx]).

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xyy PC5-Flow-Bitrates

The PC5-Flow-Bitrates AVP is of type Grouped. It shall contain the PC5 Flow Bit Rates, it's for GBR QoS Flows only.

AVP format:

PC5-Flow-Bitrates ::= <AVP header: 17yy 10415>

[ Guaranteed-Flow-Bitrates ]

[ Maximum-Flow-Bitrates ]

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xyz Guaranteed-Flow-Bitrates

The Guaranteed-Flow-Bitrates AVP is of type Integer32. It indicates the guaranteed bits delivered for the PC5 QoS flow by UE over the PC5 interface within a period of time. The unit of Guaranteed-Flow-Bitrates is bits/s.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xzx Maximum-Flow-Bitrates

The Maximum-Flow-Bitrates AVP is of type Integer32. It indicates the maximum bits delivered for the PC5 QoS flow by UE over the PC5 interface within a period of time. The unit of Maximum-Flow-Bitrates is bits/s.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xzy PC5-Range

The PC5-Range AVP is of type Integer32. It indicates the Range in the unit of meters. See clause 5.4.2.4 of 3GPP TS 23.287 [xx].

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 7.3.xzz PC5-Link-AMBR

The PC5-Link-AMBR AVP is of type Integer32. It indicates t the PC5 Link Aggregated Bit Rates for all the Non-GBR QoS Flows. The unit of PC5-Link-AMBR is bits/s.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The end of changes\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*