**3GPP TSG-SA5 Meeting #133e *S5-205085r1***

**e-meeting 12th Oct-21st Oct 2020** Revision of S5-205085

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| *CR-Form-v11.4* | | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | | |
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|  | **32.255** | **CR** | **0255** | **rev** | **1** | **Current version:** | **16.6.1** |  |
|  | | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Add Highly reliable URLLC services Charging | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_URLLC | | | | |  | ***Date:*** | | | 2020-10-14 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | As per TS 23.501 and TS 23.502, the 5GS to support Ultra Reliable Low Latency Communication (URLLC) is specified. The corresponding charging should be added. | | | | | | | | |
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| ***Summary of change:*** | | Add highly reliable URLLC services charging. | | | | | | | | |
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| ***Consequences if not approved:*** | | The highly reliable URLLC services charging is absent. | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.X (New) | | | | | | | | |
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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:*** | |  | | | | | | | | |

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| **First change** |

5.1.X Highly reliable URLLC services Charging

5.1.X.1 General

The enhancement of the5GS to support Ultra Reliable Low Latency Communication (URLLC) is specified in the clause 5.33 of TS 23.501 [200]. For the redundant transmission for high reliability communication, the SMF shall collect the charging information for redundant transmission and report to CHF for the following cases.

- Dual Connectivity based end to end Redundant User Plane Paths;

- Redundant transmission on N3/N9 interfaces;

- Redundant transmission at transport layer.

5.1.X.2 Support redundant transmission for high reliability communication

The SMF reports the redundant transmission type to the CHF to indicate which redundant transmission type is used for the PDU session or service data flow.

For redundant PDU sessione, the charging information is collected per PDU session efor each charging session.The quota granted is based on the redundant transmission for each redundant PDU session independently. The SMF reports the usage with redundant information per redundant PDU session.

Editor’s note: how to report the usage for redundant transmission on N3/N9 interfaces and transport layer is still FFS.

5.1.X.3 QoS Monitoring to Assist URLLC Service

For the QoS Monitoring to Assist URLLC Service, the SMF may report the packet delay measurement per QoS Flow per UE to CHF.

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| **End of change** |