**3GPP TSG-CT WG1 Meeting #138-eC1-22xxxx**

**E-Meeting, 10th – 14th October 2022 *was* C1-225744**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **4722** | **rev** | **1** | **Current version:** | **17.8.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Clarification on authorization of UAV flight | | | | | | | | | |
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| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ID\_UAS | | | | |  | ***Date:*** | | | 2022-10-13 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Excerpt from subclause 5.2.5.1 of TS 23.256:  "  *A UAV shall be authorized by the USS to use a PDU Session/PDN connection for C2. Authorization for C2 includes the following:*  *- UAV to UAV-C pairing authorization: Authorization for pairing with a networked UAV-C or a UAV-C that connects to the UAV via Internet connectivity, before the UAV and the UAV-C can exchange C2 communication. One UAV can be paired with only one UAV-C at the any time. One UAV-C may be paired with one or more UAVs at the same time.*  *- Flight Authorization: Authorization for flight when UAV also provides Flight Authorization information.*  "  Based on the above, the UAV flight authorization is performed as part of C2 authorization procedure other than a separate authorization procedure from C2 authorization procedure.  Existing subclause 4.22.4 for UAV flight authorization only states: "The 5GS supports USS authorization of UAV flight." which is lack of the description on how UAV flight authorization is performed. | | | | | | | | |
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| ***Summary of change:*** | | - In subclause 4.22.3, clarify that the authorization of UAV flight can be performed during the authorization of C2 communication. The UE supporting UAS services provides to the network with UAV flight authorization information if provided by upper layers.  - Void 4.22.4.  Backward compatibility analysis:  This CR is backward compatible since it clarifies the UAV flight authorization which aligns with stage 2. | | | | | | | | |
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| ***Consequences if not approved:*** | | How the UAV flight authorization is performed is unclear in stage 3 specification. | | | | | | | | |
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| ***Clauses affected:*** | | 4.22.3, 4.22.4 | | | | | | | | |
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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:*** | |  | | | | | | | | |

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

### 4.22.3 Authorization of C2 communication

The 5GS supports USS authorization of C2 communication for pairing of UAV and UAV-C. The pairing of UAV and UAV-C needs to be authorized by USS successfully before the user plane connectivity for C2 communication is enabled. For C2 authorization procedure, the UE supporting UAS services provides to the network with CAA-level UAV ID.

The USS authorization of UAV flight can also be performed during the C2 authorization procedure. The UE supporting UAS services provides the UAV flight authorization information to the network if provided by upper layers.

NOTE 1: The C2 authorization payload in the service-level-AA payload can include the flight authorization information (see subclause 6.4.1.2 and 6.4.2.2).

If a UE supporting UAS services uses a common PDU session for both USS communication and C2 communication, the C2 comunication can be authorized using UUAA-SM procedure during the PDU session establishment procedure or during the PDU session modification procedure. If the pairing of UAV and UAV-C is revoked, the network shall disable C2 communication for the PDU session.

NOTE 2: The network can disable C2 communication for the PDU session e.g., by removing the QoS flow for C2 communication during PDU session modification procedure as decribed in subclauses 6.3.2.2.

If a UE supporting UAS services uses separate PDU sessions for, respectively, USS communication and C2 communication, the C2 communication is authorized using UUAA-SM during the PDU session establishment procedure. If the pairing of UAV and UAV-C is revoked, the PDU session for C2 communication shall be released by the SMF.

\* \* \* Next Change \* \* \* \*

### 4.22.4 Void

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