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

**Electronic meeting, 19-27 August 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** | 3523 | **rev** | **1** | **Current version:** | **17.3.1** |  |
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| *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:***  | Update of general section for ID\_UAS |
|  |  |
| ***Source to WG:*** | Qualcomm Incorporated, Huawei, HiSilcon |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | ID\_UAS |  | ***Date:*** | 2021-07-28 |
|  |  |  |  |  |
| ***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 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)Rel-17 (Release 17)* |
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| ***Reason for change:*** | In CT1#130e, a definition of UE supporting UAS services was agreed. ID\_UAS feature description under the section 4 needs to update to use appropriate term with the definition. Editor's Note is resolved. |
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| ***Summary of change:*** |  Remove EN on the definition of UE acting as UAV/UAV-CChange 'UAV' to 'UE supporting UAS services' |
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| ***Consequences if not approved:*** | Ambigous terminology will be used, and the definition of UE supporting UAS services can be missing. |
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| ***Clauses affected:*** | 4.22.1, 4.22.2, 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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

### \*\*\*\*\* 1st change \*\*\*\*\*

### 4.22.1 General

A 5GS can support UAV identification, authentication, and authorization (see 3GPP TS 23.256 [6AB]). This subclause describes NAS-specific aspects of the 5GS features to support UAV identification, authentication, and authorization.

Before accessing 5GS for UAS services, the UE supporting UAS services must have an assigned CAA-level UAV ID. The UE can be registered to 5GS for UAS services if there is a valid aerial subscription in the UE's subscription.

### \*\*\*\*\* 2nd change \*\*\*\*\*

### 4.22.2 Authentication and authorization of UAV

The 5GS supports the USS UAV Authorization and Authentication (UUAA) procedure for a UE supporting UAS services. Depending on operator policy or regulatory requirements, the UUAA-MM procedure can be performed by the UE and the AMF at a registration procedure as specified in subclause 5.5.1 or the UUAA-SM procedure can be performed by the UE and the SMF at a PDU session establishment procedure as specified in subclause 6.4.1. The UE shall support UUAA-MM and UUAA-SM, and the network shall support UUAA-SM and may optionally support UUAA-MM. The UUAA procedure needs to be performed by 5GS with USS successfully before the connectivity for UAS services is established.

During a registration procedure, the UE supporting UAS services provides CAA-level UAV ID to the AMF (see subclause 5.5.1.2), and the AMF may trigger the UUAA-MM procedure.

When a UE supporting UAS services requests to establish a PDU session for communication with the USS, the UAV provides CAA-level UAV ID to the network (see subclause 6.4.1.2), and the SMF may trigger the UUAA-SM procedure.

A UE supporting UAS services may provide to the network the USS address or USS FQDN during the registration procedure or PDU session establishment procedure so that the network may use the information to discover the USS.

If the UUAA is revoked, the PDU session related to UAS services shall be released by the SMF. Based on operator policy, the AMF may decide to keep the UE registered or trigger a de-registration procedure.

Editor's note [ID\_UAS, CR3135]: Details of the UUAA procedure will be specified once stage-2 normative text is available.

### \*\*\*\*\* 3rd 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. The UE supporting UAS services may provide the SMF with an identification information of UAV-C to pair with, if available.

If a UE supporting UAS services uses a common PDU session for both communication with a USS and C2 communication with a UAV-C, the C2 comunication with the UAV-C 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.

Editor's note [ID\_UAS, CR3135]: It is FFS whether disabling C2 communication leads other actions than releasing of the PDU session.

If a UE supporting UAS services uses separate PDU sessions for, respectively, communication with a USS and C2 communication with a UAV-C, the C2 communication with the UAV-C 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.

Editor's note [ID\_UAS, CR3135]: Details of the authorization of C2 communication procedure will be specified once stage-2 normative text is available.

Editor's note [ID\_UAS, CR3135]: Details of UAV-C pairing change will be specified according to stage-2 normative text

### \*\*\*\*\* 4th change \*\*\*\*\*

### 4.22.4 Authorization of UAV flight

The 5GS supports USS authorization of UAV flight for the UE supporting UAS services. The authorization of UAV flight can be performed using UUAA-SM procedure during the PDU session establishment procedure or during PDU session modification procedure. The UE may provide flight authorization information to the SMF if the authorization information is already available in the UAV.

Editor's note [ID\_UAS, CR3135]: Details of the UAV flight authorization procedure will be specified once stage-2 normative text is available.

### \*\*\*\*\* End of change \*\*\*\*\*