**3GPP TSG-CT WG1 Meeting #138-eC1-21xxxx**

**E-Meeting, 10th – 14th October 2022**

**Source: InterDigital**

**Title: CT Aspects of Application Layer Support for Uncrewed Aerial Systems (UAS), Phase 2**

**Document for: Approval**

**Agenda Item: 18.1.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: CT Aspects of Application Layer Support for Uncrewed Aerial Systems (UAS), Phase 2

## Acronym: UASAPP\_Ph2

## Unique identifier: 9700xx

Potential target Release: Rel-18

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | X |  | X |  |
| **No** |  |  | X |  |  |
| **Don't know** | X |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| UASAPP\_Ph2 | SA6 | 970038 | Architecture for UAS Applications, Phase 2 |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
| 810049 | Remote Identification of Uncrewed Aerial Systems | Stage 1 requirements |
| 930012 | Study on enhanced application layer support for Uncrewed Aerial System (UAS) | Stage 2 study for 3GPP enhancements to the application layer support for UAS |
| 900014 | Support of Uncrewed Aerial Systems Connectivity, Identification, and Tracking  | Stage 2 work for 3GPP CN enhancements for supporting UAS |
|  |  |  |

## 3 Justification

3GPP CT1 within Rel-17 worked on TS 24.257 defined the Uncrewed Aerial System (UAS) Application Enabler (UAE) layer; Protocol aspects (UASAPP).

3GPP SA6 conducted a study on enhanced Application layer support for Uncrewed Aerial System (UAS) (FS\_eUASAPP) in Rel-18, which outlined enhancements to the application layer support for UAS. SA6 study lead to a WID on architecture for UAS Application, Phase 2 (UASAPP\_Ph2).

As the above work impacts CT WGs, hence a new work item needs to be established to specify the stage 3 aspects of Application layer support for Uncrewed Aerial System (UAS) in Rel-18 in order to implement these stage 2 requirements.

## 4 Objective

The objective of the work is to specify the CT aspects and update the CT WGs specifications to support the stage 2 requirements on Application layer support for Uncrewed Aerial System (UAS) defined in 3GPP TS 23.255.

The following areas of work are expected to be covered. They may of course be adjusted according to the final conclusions of the stage 2 normative work and associated requirements. The stage 3 work shall be started only after the applicable normative stage-2 requirements are available.

**CT1:**

- Enhance/Update the protocol for communication between UAE client and UAE server to support the multiple USS/UTM.

- Enhance/Update the protocol for direct communication between UAVs; and

- Enhance/Update the procedure for monitoring and coordination between Uu and PC5 for direct communication.

- Enhance/Update the protocol for C2 direct mode communication

**CT3:**

- Enhance/Update the protocol for communication between UAE server and UAE application specific server to support the multiple USS/UTM.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 27.007 | Potential enhancements on existing AT-commands to control MT supporting UAE layer for UAS applications. | TSG CT #102 (December 2022) | CT1 |
| TS 24.257 | Uncrewed Aerial System (UAS) Application Enabler (UAE) layer. | TSG CT #102 (December 2022) | CT1 |
| TS 29.257 | Application layer support for Uncrewed Aerial System (UAS). | TSG CT #102 (December 2022) | CT3 |

## 6 Work item Rapporteur(s)

Taimoor Abbas, InterDigital, taimoor.abbas@interdigital.com

## 7 Work item leadership

CT1

## 8 Aspects that involve other WGs

N/A

## 9 Supporting Individual Members

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| Supporting IM name |
| Interdigital |
| Lenovo |
| Motorola Mobility |
| Huawei |
| Qualcomm |
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