**3GPP TSG-CT WG4 Meeting #125C4-244325**

**Hefei, P.R.China; 14 – 18 October 2024** **(***revision of CP-242062***)**

**Source: LG Electronics, Ericsson**

**Title: Revised WID on CT Aspects of Phase 3 for UAS, UAV and UAM**

**Document For: Approval**

**Agenda Item: 19.3**

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 Phase3 for UAS, UAV and UAM

Acronym: UAS\_Ph3

Unique identifier: 1050013

Potential target Release: Rel-19

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

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

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
| X | Normative – Stage 3 |
|  | Normative – Other\* |

## 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| UAS\_Ph3 | SA2 | 1040037 | Phase 3 for UAS, UAV and UAM |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 1000032 | Stage 1 of Uncrewed Aerial System Phase 3 | SA1  |
| 1030033 | UAS security enhancements | SA3 study |

# 3 Justification

The stage 2 study on Phase 3 for UAS, UAV and UAM is captured in 3GPP TR 23.700-59, the related normative work will be specified in 3GPP TS 23.256, TS 23.288, TS 23.501, TS 23.502, TS 23.503 and TS 23.401.

As the above work gives impacts to CT WGs, hence a new work item needs to be established to specify the stage 3 CT aspects of phase 3 for UAS, UAV and UAM in Rel-19 to implement these stage 2 requirements.

# 4 Objective

The objective of the work item is to develop the stage 3 specifications for the stage 2 requirements agreed under the stage 2 work item UAS\_Ph3. The following areas of work are expected to be covered:

**CT1:**

- Support of multiple USS serving different geographical areas corresponding to the UAV flight path

- Support of implementation specific enforcement of the NTZ restriction by the UE

- (Potential) Update for corresponding AT command

**CT3:**

- Updates to the NEF northbound, NEF(UAS-NF) southbound, and USS interface to support

- Pre-mission flight planning assistance service

- In-mission flight monitoring service

- Multiple-USS service (e.g. USS/UTM changeover procedure for an UAV)

- Network-assisted DAA service

- Updates to the NWDAF interface to enhance the inputs of NWDAF analytic service (e.g. Movement Behaviour Analytics with height information, QoS Sustainability Analytics with 3D location waypoints)

**CT4:**

- Updates to the AMF Event Exposure service for new event filter includes new elements for assigned trajectory.

- Update to UDM Services for expected UE behavior provisioning, e.g. for new elements for assigned trajectory.

- Enhancements to NEF (UAS-NF) southbound service in Nnef\_Authentication API

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR {One line per specification. Create/delete lines as needed}** |
| **TS/TR No.** | **Description of change**  | **Target completion plenary#** | **Remarks** |
| 24.501 | Handling of support of multiple USS serving different geographical areas corresponding to the UAV flight path,Support of implementation specific enforcement of the NTZ restriction by the UE | TSG#109(September 2025) | CT1 Responsibility |
| 24.301 | Handling of support of multiple USS serving different geographical areas corresponding to the UAV flight path, Support of implementation specific enforcement of the NTZ restriction by the UE | TSG#109(September 2025) | CT1 Responsibility  |
| 27.007 | (Potential) New AT command to configure NTZ restriction or modified AT command | TSG#109(September 2025) | CT1 Responsibility |
| 29.122 | Enhancements to the MonitoringEvent API  | TSG#109(September 2025) | CT3 Responsibility |
| 29.255 | USS service to support - pre-mission flight planning assistance service- in-mission flight monitoring service- Multiple-USS service (e.g. USS/UTM changeover procedure for an UAV)- Network-assisted DAA service | TSG#109(September 2025) | CT3 Responsibility |
| 29.256 | Enhancements to NEF (UAS-NF) southbound service in Nnef\_Authentication API | TSG#109(September 2025) | CT4 Responsibility |
| 29.503 | Update to UDM services for expected UE behavior provisioning, e.g. for new elements for assigned trajectory. | TSG#109(September 2025) | CT4 Responsibility |
| 29.518 | Updates to the AMF Event Exposure service for new event filter includes new elements for assigned trajectory. | TSG#109(September 2025) | CT4 Responsibility |
| 29.520 | Updates NWDAF interface to enhance the inputs of Movement Behavior Analytics with height information and QoS Sustainability Analytics with 3D location waypoints | TSG#109(September 2025) | CT3 Responsibility |
| 29.522 | Updates to the NEF northbound, and USS interface to support - pre-mission flight planning assistance service- in-mission flight monitoring service - Multiple-USS service (e.g. USS/UTM changeover procedure for an UAV)- Network-assisted DAA service | TSG#109(September 2025) | CT3 Responsibility |
|  |  |  |  |

# 6 Work item Rapporteur(s)

Sunhee Kim, LG Electronics, sunhee.kim@lge.com

# 7 Work item leadership

CT3

# 8 Aspects that involve other WGs

SA3 for the security aspects.

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| LG Electronics |
| InterDigital Inc. |
| SHARP |
| Verizon |
| vivo |
| Huawei |
| HiSilicon |
| ZTE |
| CATT |
| Qualcomm Incorporated |
| Ericsson |