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| 3GPP TS 33.256 V0.0.0 (2021-08) |
| Technical Specification  |
| 3rd Generation Partnership Project;Technical Specification Group Services and System Aspects;Security Aspects of Uncrewed Aerial Systems (Release 17) |
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| ***3GPP***Postal address3GPP support office address650 Route des Lucioles - Sophia AntipolisValbonne - FRANCETel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16Internethttp://www.3gpp.org |
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# Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, modal verbs have the following meanings:

**shall** indicates a mandatory requirement to do something

**shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

**should** indicates a recommendation to do something

**should not** indicates a recommendation not to do something

**may** indicates permission to do something

**need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

**can** indicates that something is possible

**cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

**will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

# Introduction

This clause is optional. If it exists, it shall be the second unnumbered clause.

# 1 Scope

This clause shall start on a new page.

The present document …

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

…

[x] <doctype> <#>[ ([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

It is preferred that the reference to 21.905 be the first in the list.

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**example:** text used to clarify abstract rules by applying them literally.

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

<symbol> <Explanation>

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

<ABBREVIATION> <Expansion>

# 4 Overview

Editor's note: This clause contains the overview of UAS security and links to other specifications

# 5 Security Procedures for UAS

## 5.1 General

## 5.2 UAV Authentication and Authorization (UAA)

### 5.2.1 UAA in 5GS

#### 5.2.1.1 General

#### 5.2.1.2 UAA Procedures at Registration

#### 5.2.1.3 UAA during PDU Session Establishment

#### 5.2.1.4 Re-Authentication

#### 5.2.1.5 UAA Revocation

### 5.2.2 UAA in EPS

#### 5.2.2.1 General

#### 5.2.2.2 UAA Procedures at Attach Request

#### 5.2.2.3 UAA during PDN Establishment

#### 5.2.2.4 Re-Authentication

#### 5.2.2.5 UAA Revocation

## 5.3 Pairing Authorization for UAV and UAVC

### 5.3.1 UAV pairing Authorization with UAVC in 5GS

### 5.3.2 Revocation and replacement for UAV and UAVC pairing in 5GS

### 5.3.3 UAV pairing Authorization with UAVC in EPS

### 5.3.4 Revocation and replacement for UAV and UAVC pairing in EPS

## 5.4 Location Information Veracity and Location Tracking Authorization

### 5.4.1 Location Information Veracity and Location Tracking Authorization in 5GS

### 5.4.2 Unknown UAV tracking in 5GS

### 5.4.3 Location Information Veracity and Location Tracking Authorization in EPS

### 5.4.4 Unknown UAV tracking in EPS

## 5.5 Transport security between UAV and USS and between UAV and UAVC

### 5.5.1 Transport security between UAV and USS in 5GS

### 5.5.2 Transport security between UAV and UAVC in 5GS

### 5.5.3 Transport security between UAV and USS in EPS

### 5.5.4 Transport security between UAV and UAVC in EPS

Annex <A> (normative):
<Normative annex for a Technical Specification>

Annex <B> (informative):
<Informative annex for a Technical Specification>

# Annex <X> (informative):Change history

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| **Change history** |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
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