ICS 03.220.50, 35.240.60, 49.020

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Časť 002: Priama diaľková identifikácia

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Aerospace series - Unmanned Aircraft Systems - Part 002: Direct Remote identification

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Aerospace series - Unmanned Aircraft Systems - Part 002: Direct Remote identification

Série aérospatiale - Aéronefs télépilotés - Partie 002 : Exigences d'identification directe à distance

Luft- und Raumfahrt - Unbemannte Luftfahrzeugsysteme - Teil 002: Anforderungen an die direkte Fernidentifizierung

This European Standard was approved by CEN on 28 August 2023.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 4709-002:2023) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD STAN) and is now under the responsibility of CEN/TC 471 'Unmanned aircraft systems.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

A list of all parts in the 4709 series can be found on the CEN website: https://www.cencenelec.eu/.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

The European Commission adopted on the 12th of March 2019 the Delegated Regulation (EU) 2019/945 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems.

This document gives all economic operators (such as manufacturers, importers and distributors and their trade associations as well as bodies involved in the conformity assessment procedures) a viable way to prove compliance with the requirements laid out in the Delegated Regulation of 12th, March 2019.

The end user of this document assumes all responsibility for the safe application of these test methods. All relevant safety/quality procedures should be considered. Special consideration should be considered when operating the UAS for evaluations. All local, state, federal, and country laws should be considered when operating UAS.

For repeatability, it is assumed that environmental conditions (temperature, wind, pressure, humidity) are recorded during any tests and it is further assumed tests conducted unless otherwise noted within the following conditions: Temperature – 18 °C-28 °C, Pressure – Atmospheric from sea level up to 2 000 m, Humidity – 10 %-60 %, Wind Speed – Calm (less than 0,3 m/s or zero on the Beaufort Scale).

DRI display software

The following information is provided to clarify the assumptions made on the capability of compatible mobile receiver devices to get DRI data interpretation and display capability.

As described in 4.1 the interested third party uses a receiver mobile device (such as a smartphone) with specific RID Display Software to receive and display the information contained in Remote ID broadcasted by an UA.

To be easily accessible, the display software is expected to be largely available to all interested third parties.

The software is expected to display all mandatory information described in 4.2. A way to display remote ID could be a map view showing the position of the UA(s) together with the position of the smartphone.

All transport methods for remote ID described in Clause 5 is expected to be processed and displayed by the software to be used as a testing tool. As the transport methods have different hardware requirements, a specific mobile receiver device may not be able to receive all transport methods. The software is expected to show the user which transport methods are supported by the present mobile receiver device.

1 Scope

1.1 General

This document provides means of compliance with the “Direct Remote Identification” requirements set in Regulation (EU) 2019/945 on Unmanned Aircraft Systems.

“Direct remote identification” means a system that ensures the local broadcast of information about a UA in operation.

More specifically, this document addresses drone’s capability to be identified during the whole duration of the flight, in real time and with no specific connectivity or ground infrastructure link, by existing mobile devices when within the broadcasting range. Such functionality, based on an open and documented transmission protocol (described in this document) contributes to address security threats and to support drones’ operators’ obligations with respect to citizens’ fundamental rights to privacy and protection of personal data. It can be used by law enforcement people, critical infrastructure managers, and public to get an instantaneous information on the drone flying around, providing various information such as UA serial number, UA navigation data and operational status, UAS Operator registration number and position as defined in the Delegated Regulation (EU) 2019/945.

Since Regulation (EU) 2019/945 requires DRI information to be broadcasted using an “open and documented protocol”, this document does not define technological measures to protect the confidentiality and integrity of the data broadcasted.

1.2 Security

This document is limited to ensure conformity of the UAS with the requirements set in Parts 2, 3, 4 and 6 of Regulation (EU) 2019/945. Therefore:

— this document does not include the capability to protect communication against user and/or malicious modification of sensors output values involved in DRI information computation (like GNSS, barometer, magnetometer, and accelerometer…) and the DRI radio-transmitter interface;

— this document does not include the capability to protect against user and/or malicious software and hardware modification of the geographical position, the timestamp, the height, the take-off position, the speed, or the route course of the UA/add-on;

— this document does not include the capability to ensure DRI data integrity verification, or the capability to ensure detection that the UA/Add-on’s serial number is unique, when received by the receiver mobile device. However, to provide such capabilities, a digital signature may be added to the DRI message;

— this document does not include the capability to ensure DRI data received by the receiver mobile device are genuine and come from a UA/add-on belonging to a registered UAS operator, or the capability to ensure detection of spoofing of the UAS operator registration number. However, to provide such capabilities, a digital signature may be added to the DRI message.

1.3 DRI display software

Direct remote identification display software is not in the scope of this document. However, it is assumed that compatible mobile receiver devices will support DRI data interpretation and display capability.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ETSI EN 300-328, V2.2.2:2019-07, *Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum*

ETSI EN 300-440, V2.2.1:2018-07, *Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum*

ETSI EN 301-893, V2.1.1:2017-05, *5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU*

EN ISO 3166-1:2020, *Codes for the representation of names of countries and their subdivisions - Part 1: Country code (ISO 3166-1:2020)*