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NSAI Standards

Irish Standard
I.S. EN 4817:2012

Aerospace series - Passive UHF RFID tags intended for aircraft use

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I.S. EN 4817:2012

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4817

May 2012

ICS 35.240.60; 49.035

English Version

Aerospace series - Passive UHF RFID tags intended for aircraft use

Série aérospatiale - Tags passifs d'identification par radiofréquence Ultra Haute Fréquence (RFID UHF) pour usage aéronautique

Luft- und Raumfahrt - UHF Passiv RFID-Tags für Luftfahrtverwendung

This European Standard was approved by CEN on 25 February 2012.

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Foreword

This document (EN 4817:2012) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

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

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of an identical text or by endorsement, at the latest by November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

The requirements for RFID tags to be used in the aerospace industry are very different from non-aviation uses. The parts identified by the RFID tags are high value items, which are often used for ten years or more. Reading and writing across a moderate distance, and over the life-spans of these tagged-parts, is expected to improve data accuracy and cost savings. Furthermore, the aerospace industry is subject to unique considerations regarding qualification, regulations, and safety, which are enforced by aviation authorities such as the EASA, FAA, etc.

These requirements, coupled with the relatively low manufacturing volumes, will drive up the per-part cost of tags developed for the aerospace industry. This will generate the need for a set of RFID tags specifically designed for use on aircraft. Adherence to this European Standard will decrease the development cost of these low-volume, high-capability RFID tags.

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1 Scope

The scope of this European Standard is to:

- Provide a requirements document for RFID Tag Manufacturers to produce passive UHF tags for the Aerospace industry.
- Identify the minimum performance requirements specific to passive UHF tags used on aircraft parts, accessed only during ground operations.
- Specify the test requirements specific to passive UHF tags for airborne use, in addition to EUROCAE ED-14 / RTCA DO-160 latest issue compliance requirements separately called out in this document.
- Identify existing standards applicable to passive UHF tags.
- Provide a qualification standard for passive UHF tags which will use permanently-affixed installation on aircraft and aircraft parts.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. All RFID applications must be compliant with local regulation in force (i.e. FCC for US, CEPT/ETSI for Europe).

ISO/IEC 18000-6, *Information technology — Radio frequency identification for item management — Part 6: Parameters for air interface communications at 860 MHz to 960 MHz* [1)]

ISO/IEC 18046-3, *Information technology — Radio frequency identification device performance test methods — Part 3: Test methods for tag performance* [1)]

ISO/IEC TR 18047-6, *Information technology — Radio frequency identification device conformance test methods — Part 6: Test methods for air interface communications at 860 MHz to 960 MHz* [1)]

DO-160 / ED-14, *Environmental Conditions and Test Procedures for Airborne Equipment* [2)]

ATA SPEC 2000, *E-Business Specification for Materials Management* [3)]

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1) Published by: ISO International Organization for Standardization http://www.iso.ch/.

2) Published by: International Radio Technical Commission for Aeronautics http://www.rtca.com/ and by EUROCAE Regional (EU) EURopean Organisation for Civil Aviation Equipment http://www.eurocae.org/.

3) Published by: Air Transport Association Publications.

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