



AEROSPACE STANDARD	AS5678™	REV. B
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(R) Passive RFID Tags Intended for Airborne Equipment Use		

RATIONALE

Increased use of Radio Frequency Identification (RFID) in the aerospace industry in the area of maintenance, supply chain, and logistics has led to increasing demand for, and subsequent development of, flyable UHF Passive, RFID tags. Aerospace industry adoption of RFID technology will be enhanced significantly by standardization of these RFID tags.

The requirements for RFID tags to be used in the aerospace industry are different from many non-aviation uses. The aerospace industry requires a combination of reading and writing across both moderate and long distances, and which range from low cost, disposable, low memory tags, to extremely durable, higher memory tags that are expected to last the life of the product to which they attach. It is expected that these RFID tags will fulfill the promise of data automation for accuracy and cost savings. Furthermore, the aerospace industry is subject to unique considerations regarding qualification, regulations, and safety, which are enforced by national authorities such as the FAA, EASA, FCC, etc.

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1. SCOPE

The scope of this document is to:

1. Provide a requirements document for RFID tag manufacturers to produce passive-only UHF RFID tags for the aerospace industry.
2. Identify the minimum performance requirements specific to the Passive UHF RFID Tag to be used on airborne equipment, to be accessed only during ground operations.
3. Specify the test requirements specific to Passive UHF RFID tags for airborne equipment use, in addition to EUROCAE ED-14 / RTCA DO-160 compliance requirements separately called out in this document.
4. Identify existing standards applicable to Passive UHF RFID Tag.
5. Provide a certification standard for RFID tags which will use permanently-affixed installation on airborne equipment.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AS9100 Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations

2.1.2 ISO/IEC Publications

Available from International Organization for Standardization, ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland, Tel: +41 22 749 01 11, www.iso.org.

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 General

ISO/IEC 18000-63 Information technology - Radio frequency identification for item management - Part 63: Parameters for air interface communications at 860 MHz to 960 MHz Type C

2.1.3 RTCA Publications

Available from RTCA, Inc., 1150 18th Street, NW, Suite 910, Washington, DC 20036, Tel: 202-833-9339, www.rtca.org.

RTCA DO-160 Environmental Conditions and Test Procedures for Airborne Equipment