INTERNATIONAL STANDARD

ISO/IEC 18047-2

First edition
2012-01-15

Information technology — Radio frequency identification device conformance test methods —

Part 2: Test methods for air interface communications below 135 kHz

Technologies de l'information — Méthodes d'essai de conformité du dispositif d'identification de radiofréquence —

Partie 2: Méthodes d'essai pour des communications d'une interface d'air à moins de 135 kHz

Reference number
ISO/IEC 18047-2:2012(E)

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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

ISO/IEC 18047-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

This first edition of ISO/IEC 18047-2 cancels and replaces ISO/IEC TR 18047-2:2006, which has been technically revised.

ISO/IEC 18047 consists of the following parts, under the general title *Information technology — Radio frequency identification device conformance test methods*:

— *Part 2: Test methods for air interface communications below 135 kHz*

— *Part 3: Test methods for air interface communications at 13,56 MHz* [Technical Report]

— *Part 4: Test methods for air interface communications at 2,45 GHz* [Technical Report]

— *Part 6: Test methods for air interface communications at 860 MHz to 960 MHz* [Technical Report]

— *Part 7: Test methods for active air interface communications at 433 MHz* [Technical Report]

Introduction

ISO/IEC 18000 defines the air interfaces for radio frequency identification (RFID) devices used in item management applications. ISO/IEC 18000-2 defines the air interface for these devices operating in frequencies below 135 kHz.

The purpose of ISO/IEC 18047 is to provide test methods for conformance with the various parts of ISO/IEC 18000.

Each part of ISO/IEC 18047 contains all measurements required to be made on a product in order to establish whether it conforms with the corresponding part of ISO/IEC 18000. For this part of ISO/IEC 18047, each interrogator needs to be assessed with tags of both type A (FDX) and type B (HDX), while each tag needs to be assessed either with type A (FDX) or type B (HDX).

It should be noted that measurement of tag and interrogator performance is covered by ISO/IEC 18046.

Information technology — Radio frequency identification device conformance test methods —

Part 2:
Test methods for air interface communications below 135 kHz

1 Scope

This part of ISO/IEC 18047 defines test methods for determining the conformance of radio frequency identification (RFID) devices (tags and interrogators) for item management with the specifications given in ISO/IEC 18000-2, but does not apply to the testing of conformity with regulatory or similar requirements.

The test methods require only that the mandatory functions, and any optional functions which are implemented, be verified. This may, in appropriate circumstances, be supplemented by further, application-specific functionality criteria that are not available in the general case.

The interrogator and tag conformance parameters in this part of ISO/IEC 18047 are the following:

- mode-specific conformance parameters including nominal values and tolerances;
- parameters that apply directly affecting system functionality and inter-operability.

The following are not included in this part of ISO/IEC 18047:

- parameters that are already included in regulatory test requirements;
- high-level data encoding conformance test parameters (these are specified in ISO/IEC 15962).

Unless otherwise specified, the tests in this part of ISO/IEC 18047 are to be applied exclusively to RFID tags and interrogators defined in ISO/IEC 18000-2.

Clause 4 describes all necessary conformance tests.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 18000-2, *Information technology — Radio frequency identification for item management — Part 2: Parameters for air interface communications below 135 kHz*

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*