TECHNICAL REPORT

ISO/IEC TR 18047-4

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Information technology — Radio frequency identification device conformance test methods —

Part 4: Test methods for air interface communications at 2,45 GHz

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

Partie 4: Méthodes d'essai pour les communications d'une interface d'air à 2,45 GHz

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Contents

1 Scope ... 1
2 Normative references ... 1
3 Terms and definitions ... 2
4 Symbols and abbreviations ... 2
5 Conformance tests for ISO/IEC 18000-4 — 2,45 GHz ... 2
5.1 Default items applicable to the test methods ... 2
5.1.1 Test environment ... 2
5.1.2 Pre-conditioning ... 2
5.1.3 Default tolerance ... 2
5.1.4 Total measurement uncertainty ... 2
5.2 Conformance tests for ISO/IEC 18000-4 Mode 2 ... 3
5.2.1 Test set-up and measurement equipment for Mode 2 ... 3
5.2.1.1 Test set-up for interrogator testing ... 3
5.2.1.2 Test set-up for tag testing ... 4
5.2.1.3 Test equipment ... 4
5.2.2 Functional test – interrogator ... 5
5.2.2.1 Modulation ... 5
5.2.2.2 Operating frequency accuracy ... 6
5.2.3 Functional test – tag ... 7
5.2.3.1 Modulation ... 7
5.2.3.2 Coding ... 10
5.2.3.3 Sub-carrier frequency ... 10

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.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

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 TR 18047-4, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

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

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

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

Test methods for air interface communications below 135 kHz, at 860 MHz to 960 MHz, and at 433 MHz will form the subjects of the future Parts 2, 6 and 7, respectively.

Introduction

ISO/IEC 18000-4 defines the air interface for radio frequency identification (RFID) devices operating in the 2,45 GHz Industrial, Scientific, and Medical (ISM) band used in item management applications. The purpose of this part of ISO/IEC TR 18047 is to provide a test method for ISO/IEC 18000-4.

This part of ISO/IEC TR 18047 contains all compliance measurements required to be fulfilled by a product in order to be compliant to 18000-4 Mode 2.

Information technology — Radio frequency identification device conformance test methods —

Part 4:
Test methods for air interface communications at 2,45 GHz

1 Scope

This part of ISO/IEC TR 18047 defines test methods for determining the conformance of radio frequency identification devices (tags and interrogators) for item management with the specifications given in the corresponding part of ISO/IEC 18000, 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 TR 18047 are:

- 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 TR 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 TR 18047 apply exclusively to RFID tags and interrogator defined in ISO/IEC 18000-4 Mode 2.

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 18000-1, *Information technology — Radio frequency identification for item management — Part 1: Reference architecture and definition of parameters to be standardized*

ISO/IEC 18000-4, *Information technology — Radio frequency identification for item management — Part 4: Parameters for air interface communications at 2,45 GHz*

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture techniques — Harmonized vocabulary*[1)]

ISBN 92-67-10188-9, 1993, *ISO Guide to the expression of uncertainty in measurement*

1) To be published.