
Information technology — Real-time locating systems (RTLS) device conformance test methods —

**Part 2:
Test methods for air interface
communication at 2,4 GHz**

Technologies de l'information — Méthodes d'essai de conformité du dispositif des systèmes de localisation en temps réel (RTLS) —

Partie 2: Méthodes d'essai pour la communication d'interface d'air à 2,4 GHz

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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 24769-2 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 24769-2, together with other parts of ISO/IEC 24769, cancels and replaces ISO/IEC TR 24769:2008, which has been technically revised.

ISO/IEC 24769 consists of the following parts, under the general title *Information technology — Real-time locating systems (RTLS) device conformance test methods*:

- *Part 2: Test methods for air interface communication at 2,4 GHz*
- *Part 5: Test methods for chirp spread spectrum (CSS) at 2,4 GHz air interface*

The following parts are under preparation:

- *Part 61: Low rate pulse repetition frequency Ultra Wide Band (UWB) air interface*
- *Part 62: High rate pulse repetition frequency Ultra Wide Band (UWB) air interface*

Introduction

ISO/IEC 24730 defines the air interfaces and an application programming interface for Real Time Locating Systems (RTLS) devices used in asset management applications.

This International Standard contains all measurements required to be made on a product in order to establish whether it conforms to ISO/IEC 24730-2.

Test methods for measuring performance of equipment compliant with ISO/IEC 24730-2 are given in ISO/IEC 24770.

Information technology — Real-time locating systems (RTLS) device conformance test methods —

Part 2:

Test methods for air interface communication at 2,4 GHz

1 Scope

This International Standard defines the test methods for determining the conformance of 2,4 GHz real-time locating system (RTLS) tags with the specifications given in the corresponding subclauses of ISO/IEC 24730-2, 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 to the general case.

The RTLS tag conformance parameters included in this International Standard include the mandatory direct sequence spread spectrum (DSSS) 2,4 GHz radio frequency beacon. It also includes the optional on-off keyed, frequency shift keyed (OOK/FSK) short-range radio frequency link and the optional magnetic air interface.

Unless otherwise specified, the tests in this International Standard apply exclusively to RTLS tags defined in ISO/IEC 24730-2.

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.

ISO/IEC 19762-1, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 1: General terms relating to AIDC*

ISO/IEC 19762-3, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 3: Radio frequency identification (RFID)*

ISO/IEC 24730-2, *Information technology — Real time locating systems (RTLS) — Part 2: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO/IEC 19762-1, ISO/IEC 19762-3 and the following apply.

3.1 Terms and definitions

3.1.1

error vector magnitude

EVM

difference between the measured signal and a reference

Note 1 to entry: A reference is a perfectly modulated signal.