INTERNATIONAL STANDARD

ISO/IEC 24730-21

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Information technology — Real time locating systems (RTLS) —

Part 21: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with a single spread code and employing a DBPSK data encoding and BPSK spreading scheme

Technologies de l'information — Systèmes de localisation en temps réel (RTLS) —

Partie 21: Protocole d'interface d'air à 2,4 GHz d'étalement de spectre à séquence directe (DSSS): Émetteurs fonctionnant avec un code d'étalement unique et utilisant un codage de données DBPSK et un schéma d'étalement BPSK

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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 24730-2 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 24730-21, together with ISO/IEC 24730-2 and ISO/IEC 24730-22, cancels and replaces the first edition of ISO/IEC 24730-2:2006, which has been technically revised.

ISO/IEC 24730 consists of the following parts, under the general title *Information technology — Real time locating systems (RTLS)*:

— *Part 1: Application program interface (API)*

— *Part 2: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol*

— *Part 21: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with a single spread code and employing a DBPSK data encoding and BPSK spreading scheme*

— *Part 22: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with multiple spread codes and employing a QPSK data encoding and Walsh offset QPSK (WOQPSK) spreading scheme*

— *Part 5: Chirp spread spectrum (CSS) at 2,4 GHz air interface*

— *Part 6: Ultra Wide Band Air Interface protocol*

— *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 24730-21 defines the physical layer for compliant RTLS transmitters operating with a single spread code and employing a DBPSK data encoding and BPSK spreading scheme.

Information technology — Real time locating systems (RTLS) —

Part 21:
Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with a single spread code and employing a DBPSK data encoding and BPSK spreading scheme

1 Scope

ISO/IEC 24730-2 is comprised of a main document and two additional parts and defines a networked location system that provides X-Y coordinates and data telemetry. The system utilizes RTLS transmitters that autonomously generate a direct sequence spread spectrum radio frequency beacon. These devices can be field programmable and support an optional exciter mode that allows modification of the rate of location update and location of the RTLS device. ISO/IEC 24730-2 defines these modes, but does not define the means by which they are accomplished.

This part of ISO/IEC 24730 specifies transmitters operating with a single spread code and employing a differential binary phase shift keying (DBPSK) data encoding and binary phase shift keying (BPSK) spreading scheme.

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 24730-2:2011, *Information technology — Real time locating systems (RTLS) — Part 2: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol*

ISO/IEC 24730-22:2011, *Information technology — Real time locating systems (RTLS) — Part 22: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with multiple spread codes and employing a QPSK data encoding and Walsh offset QPSK (WOQPSK) spreading scheme*

3 Terms and definitions

For the purposes of this document, the terms and definitions provided in ISO/IEC 24730-2 apply.

4 Symbols and abbreviated terms

For the purposes of this document, the symbols and abbreviated terms provided in ISO/IEC 24730-2 apply.