

Australian Standard<sup>®</sup>

**Information technology—Radio  
frequency identification for item  
management**

**Part 7: Parameters for active air  
interface communications at 433 MHz**

**STANDARDS**  
Australia



This Australian Standard® was prepared by Committee IT-034, Automatic Identification and Data Capture Techniques. It was approved on behalf of the Council of Standards Australia on 15 November 2006.

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The following are represented on Committee IT-034:

- Australian Custom Service
  - Australian Data Capture Association
  - Australian Electrical and Electronic Manufacturers Association
  - Australian Retailers Association
  - Australian Veterinary Association
  - Department of Communication, Information Technology and the Arts
  - Department of Defence
  - Department of Primary Industries, Vic
  - GS1 Australia
  - RFID Association of Australia
  - The University of Adelaide
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This Standard was issued in draft form for comment as DR 06526.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment received.

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## PREFACE

This Standard was prepared by the Standards Australia Committee IT-034, Automatic Identification and Data Capture Techniques.

The objective of this Standard is to provide a common technical specification for RFID devices operating as an active RF Tag in the 433 MHz band, used in item management applications.

This Standard is identical with, and has been reproduced from ISO/IEC 18000-7:2004, *Information technology—Radio frequency identification for item management—Part 7: Parameters for active air interface communications at 433 MHz*.

As this Standard is reproduced from an international standard, the following applies:

- (a) Its number appears on the cover and title page while the international standard number appears only on the cover
- (b) In the source text ‘part of ISO/IEC 18000’ should read ‘this Australian Standard.’
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by reference to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO/IEC 15963 Information technology—Radio frequency identification for item management—Unique identification for RF tags	AS ISO/IEC 15963 Information technology—Radio frequency identification for item management—Unique identification for RF tags
19762-1 Information technology—Automatic identification and data capture (AIDC) techniques—Harmonized vocabulary—Part 1: General terms relating to AIDC	19762.1 Information technology—Automatic identification and data capture (AIDC) techniques—Harmonized vocabulary—Part 1: General terms relating to AIDC
19762-3 Part 3: Radio frequency identification (RFID)	19762.3 Part 3: Radio frequency identification (RFID)

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## INTRODUCTION

This part of ISO/IEC 18000 is intended to address RFID devices operating in the 433 MHz frequency band, providing an air interface implementation for wireless, non-contact information system equipment for Item Management applications. Typical applications operate at ranges greater than one meter.

The RFID system includes a host system and RFID equipment (interrogator and tags). The host system runs an application program, which controls interfaces with the RFID equipment. The RFID equipment is composed of two principal components: tags and interrogators. The tag is intended for attachment to an item, which a user wishes to manage. It is capable of storing a tag ID number and other data regarding the tag or item and of communicating this information to the interrogator. The interrogator is a device, which communicates to tags in its RF communication range. The interrogator controls the protocol, reads information from the tag, directs the tag to store data in some cases, and ensures message delivery and validity. This system uses an active tag.

RFID systems defined by this part of ISO/IEC 18000 provide the following minimum features:

- Identify tag in range
- Read data
- Write data or handle read only systems gracefully
- Selection by group or address
- Graceful handling of multiple tags in the field of view
- Error detection

AUSTRALIAN STANDARD

# Information technology — Radio frequency identification for item management —

## Part 7: Parameters for active air interface communications at 433 MHz

### 1 Scope

This part of ISO/IEC 18000 defines the air interface for radio frequency identification (RFID) devices operating as an active RF Tag in the 433 MHz band used in item management applications. The purpose of this part of ISO/IEC 18000 is to provide a common technical specification for RFID devices that may be used by ISO committees developing RFID application standards. This part of ISO/IEC 18000 is intended to allow for compatibility and to encourage inter-operability of products for the growing RFID market in the international marketplace. This part of ISO/IEC 18000 defines the forward and return link parameters for technical attributes including, but not limited to, operating frequency, operating channel accuracy, occupied channel bandwidth, maximum power, spurious emissions, modulation, duty cycle, data coding, bit rate, bit rate accuracy, bit transmission order, and where appropriate, operating channels, frequency hop rate, hop sequence, spreading sequence, and chip rate. This part of ISO/IEC 18000 further defines the communications protocol used in the air interface.

### 2 Conformance

The rules for RFID device conformity evaluation will be given in a future Technical Report (ISO/IEC TR 18047-7).

### 3 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 15963, *Information technology — Radio frequency identification for item management — Unique identification for RFID tags*

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

ISO/IEC 19762-3, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 3: Radio frequency identification (RFID)*<sup>1)</sup>

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1) To be published.