

Identification cards — Test methods —

Part 7: Vicinity cards

ICS 35.240.15

National foreword

This British Standard reproduces verbatim ISO/IEC 10373-7:2001 and implements it as the UK national standard.

The UK participation in its preparation was entrusted to Technical Committee IST/17, Identification cards and related devices, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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This British Standard, having been prepared under the direction of the DISC Board, was published under the authority of the Standards Committee and comes into effect on 15 August 2001

Summary of pages

This document comprises a front cover, an inside front cover, the ISO/IEC title page, pages ii to v, a blank page, pages 1 to 23 and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

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ISBN 0 580 38088 2

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Part 7:
Vicinity cards

Cartes d'identification — Méthodes d'essai —
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. 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 part of ISO/IEC 10373 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 10373-7 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Identification cards and related devices*.

ISO/IEC 10373 consists of the following parts, under the general title *Identification cards — Test methods*:

- *Part 1: General characteristics tests*
- *Part 2: Cards with magnetic stripes*
- *Part 3: Integrated circuit(s) cards with contacts and related interface devices*
- *Part 4: Close-coupled cards*
- *Part 5: Optical memory cards*
- *Part 6: Proximity cards*
- *Part 7: Vicinity cards*

Annexes A, C and D form a normative part of this part of ISO/IEC 10373. Annexes B, E and F are for information only.

Identification cards — Test methods —

Part 7: Vicinity cards

1 Scope

This International Standard defines test methods for characteristics of identification cards according to the definition given in ISO/IEC 7810. Each test method is cross-referenced to one or more base standards, which may be ISO/IEC 7810 or one or more of the supplementary standards that define the information storage technologies employed in identification cards applications.

NOTE Criteria for acceptability do not form part of this International Standard but will be found in the International Standards mentioned above.

NOTE Test methods described in this International Standard are intended to be performed separately. A given card is not required to pass through all the tests sequentially.

This part of ISO/IEC 10373 deals with test methods, which are specific to contactless integrated circuit(s) cards technology (vicinity cards). ISO/IEC 10373-1, General characteristics, deals with test methods which are common to one or more ICC technologies and other parts deal with other technology-specific tests.

Unless otherwise specified, the tests in this part of ISO/IEC 10373 shall be applied exclusively to Vicinity cards defined in ISO/IEC 15693-1 and ISO/IEC 15693-2.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 10373. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 10373 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC 7810, *Identification cards – Physical characteristics*.

ISO/IEC 15693-1:2000, *Identification cards — Contactless integrated circuit(s) cards — Vicinity cards — Part 1: Physical characteristics*.

ISO/IEC 15693-2:2000, *Identification cards — Contactless integrated circuit(s) cards — Vicinity cards — Part 2: Air interface and initialization*.

ISO/IEC 15693-3:2001, *Identification cards — Contactless integrated circuit(s) cards — Vicinity cards — Part 3: Anti-collision and transmission protocol*.

IEC 61000-4-2:1995, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 2: Electrostatic discharge immunity test*.

BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML, 1993, *Guide to the Expression of Uncertainty in Measurement (Gum)*.

3 Terms and definitions, abbreviations and symbols

For the purposes of this part of ISO 10373, the following terms and definitions and abbreviations apply.

3.1 Terms and definitions

3.1.1

base standard

standard which the test method is used to verify conformance to

3.1.2

testably functional

surviving the action of some potentially destructive influence to the extent that any integrated circuit(s) present in the card continues to show a response¹⁾ as defined in ISO/IEC 15693-3 which conforms to the base standard

NOTE If other technologies exist on the same card they shall be testably functional in accordance with their respective standard.

3.1.3

test method

method for testing characteristics of identification cards for the purpose of confirming their compliance with International Standards

3.2 Abbreviations and symbols

DUT	Device under test
ESD	Electrostatic Discharge
f_c	Frequency of the operating field
f_{s1}, f_{s2}	Frequencies of the subcarriers
$H_{\max}$	Maximum fieldstrength of the VCD antenna field
$H_{\min}$	Minimum fieldstrength of the VCD antenna field
VCD	Vicinity Coupling Device
VICC	Vicinity Card

4 Default items applicable to the test methods

4.1 Test environment

Unless otherwise specified, testing shall take place in an environment of temperature $23\text{ °C} \pm 3\text{ °C}$ ($73\text{ °F} \pm 5\text{ °F}$) and of relative humidity 40 % to 60 %.

4.2 Pre-conditioning

Where pre-conditioning is required by the test method, the identification cards to be tested shall be conditioned to the test environment for a period of 24 h before testing.

1) This International Standard does not define any test to establish the complete functioning of integrated circuit(s) cards. The test methods require only that the minimum functionality (testably functional) be verified. This may, in appropriate circumstances, be supplemented by further, application specific functionality criteria which are not available in the general case.