
**Identification cards — Contactless
integrated circuit cards — Proximity
cards —**

**Part 1:
Physical characteristics**

AMENDMENT 1: Additional PICC classes

*Cartes d'identification — Cartes à circuit(s) intégré(s) sans contact —
Cartes de proximité —*

Partie 1: Caractéristiques physiques

AMENDEMENT 1: Classes de PICC additionnelles

IECNORM.COM : Click to view the full PDF of ISO/IEC 14443-1:2008/AMD1:2012

IECNORM.COM : Click to view the full PDF of ISO/IEC 14443-1:2008/AMD1:2012



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

Amendment 1 to ISO/IEC 14443-1:2008 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

IECNORM.COM : Click to view the full PDF of ISO/IEC 14443-1:2008/Amd.1:2012

IECNORM.COM : Click to view the full PDF of ISO/IEC 14443-1:2008/AMD1:2012

Identification cards — Contactless integrated circuit cards — Proximity cards —

Part 1: Physical characteristics

AMENDMENT 1: Additional PICC classes

Page 1, Normative references

Replace “ISO/IEC 10373-6” with “ISO/IEC 10373-6:2011”.

Add the following normative reference:

“ISO/IEC 14443-2, *Identification cards — Contactless integrated circuit cards — Proximity cards — Part 2: Radio frequency power and signal interface*”

Page 2, 4.4

Replace the paragraph with the following:

“If the PICC meets the requirements of one particular class as specified in Annex A, then the PICC, whichever form the PICC has according to 4.1, shall continue to operate as intended after continuous exposure to a magnetic field of an average level of $4/3$ times H_{\max} at 13,56 MHz as specified in ISO/IEC 14443-2:2010/Amd.2:—¹⁾ 6.2 for this class. The averaging time is 30 seconds and the maximum level of the magnetic field is limited to $8/5$ times H_{\max} .”

If the PICC does not claim to meet the requirements of one particular class as specified in Annex A, then the PICC, whichever form the PICC has according to 4.1, shall continue to operate as intended after continuous exposure to a magnetic field of an average level of 10 A/m (rms) at 13,56 MHz. The averaging time is 30 seconds and the maximum level of the magnetic field is limited to 12 A/m (rms).”

Page 3, Annex A

Replace Annex A with the following:

¹⁾ To be published.

Annex A (normative)

PICC class definitions

A.1 “Class 1”

A “Class 1” PICC shall fulfil the requirements in A.1.1 and A.1.2. The support of “Class 1” PICCs is mandatory for PCDs.

A.1.1 Antenna location

The antenna of a “Class 1” PICC shall be located within a zone defined by two rectangles, as specified in Figure A.1:

- external rectangle: 81 mm × 49 mm;
- internal rectangle: 64 mm × 34 mm, centered in the external rectangle, with 3 mm corner radii;

except for the connections to the ends of the antenna coil, with a maximum area of 300 mm².

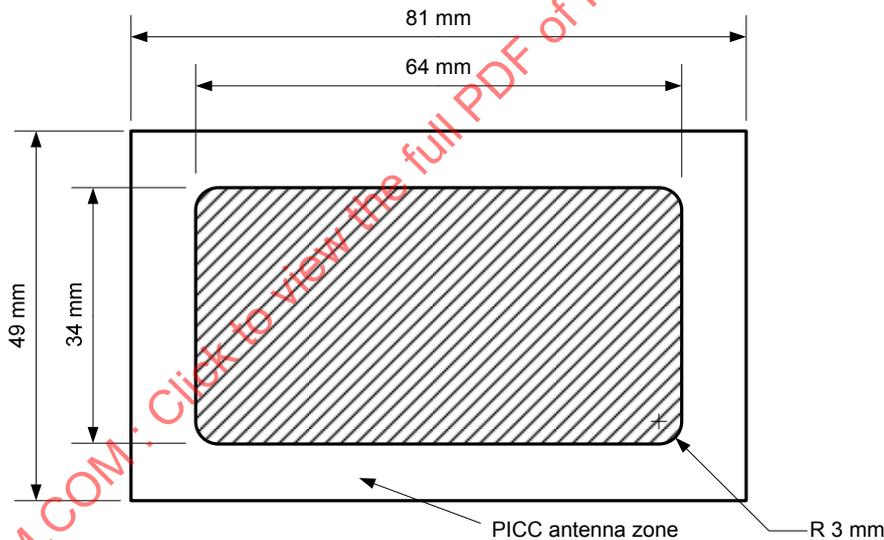


Figure A.1 — Location of the antenna of the “Class 1” PICC

The antenna of a PICC with ID-1 dimensions (as defined in ISO/IEC 7810 or ISO/IEC 15457-1) should be centered.

A.1.2 Electrical requirement

The “Class 1” PICC shall also pass the PICC maximum loading effect test defined in ISO/IEC 10373-6:2011/Amd.1:2012, 7.2.4.

A.2 “Class 2”

A “Class 2” PICC shall fulfil the requirements in A.2.1 and A.2.2. The support of “Class 2” PICCs is mandatory for PCDs.

A.2.1 Antenna location

The antenna of a “Class 2” PICC shall be located within a zone defined by two rectangles, as specified in Figure A.2:

- external rectangle: 81 mm × 27 mm;
- internal rectangle: 51 mm × 13 mm, located at 7 mm and 8,5 mm from the external rectangle, with 3 mm corner radii;

except for the connections to the ends of the antenna coil, with a maximum area of 300 mm².

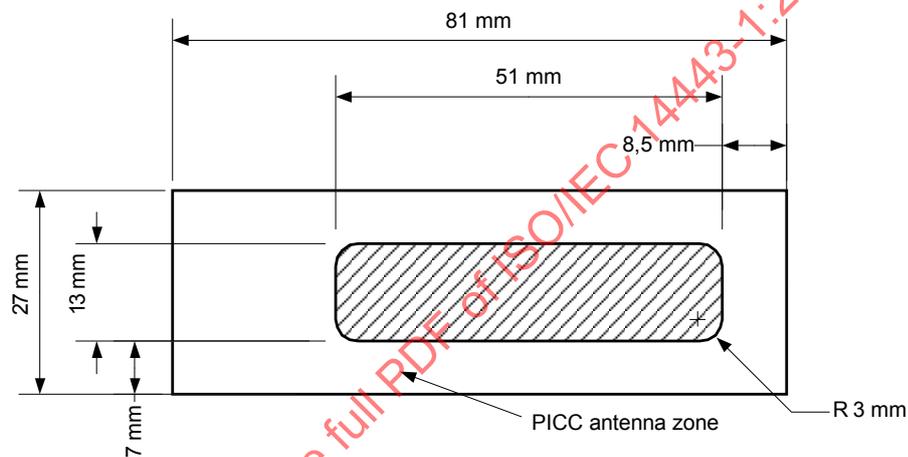


Figure A.2 — Location of the antenna of the “Class 2” PICC

A.2.2 Electrical requirement

The “Class 2” PICC shall also pass the PICC maximum loading effect test defined in ISO/IEC 10373-6:2011/Amd.1:2012, 7.2.4.

A.3 “Class 3”

A “Class 3” PICC shall fulfil the requirements in A.3.1 and A.3.2. The support of “Class 3” PICCs is mandatory for PCDs.

A.3.1 Antenna location

The antenna of a “Class 3” PICC shall be located within a zone defined by either:

- external rectangle: 50 mm × 40 mm;
- internal rectangle: 35 mm × 24 mm, centered in the external rectangle, with 3 mm corner radii;

or

- external circle with diameter 50 mm;
- internal circle with diameter 32 mm, concentric with the external circle;

as specified in Figure A.3, except for the connections to the ends of the antenna coil, with a maximum area of 300 mm².

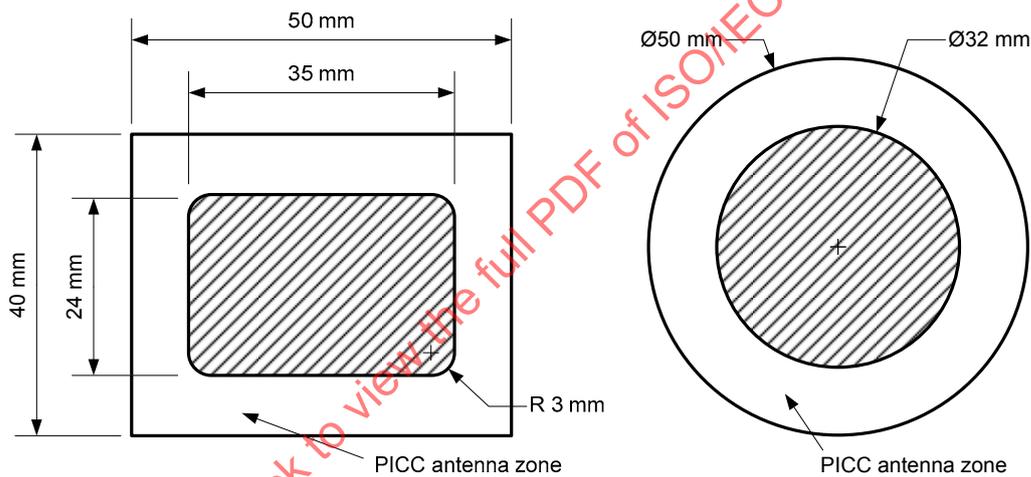


Figure A.3 — Location of the antenna of the “Class 3” PICC

A.3.2 Electrical requirement

The “Class 3” PICC shall also pass the PICC maximum loading effect test defined in ISO/IEC 10373-6:2011/Amd.1:2012, 7.2.4.

A.4 “Class 4”

A “Class 4” PICC shall fulfil the requirements in A.4.1 and A.4.2. The support of “Class 4” PICCs is optional for PCDs.

A.4.1 Antenna Location

The antenna of a “Class 4” PICC shall be located within a zone defined by either:

- external rectangle: 50 mm × 27 mm;
 - internal rectangle: 35 mm × 13 mm, centered in the external rectangle, with 3 mm corners radii;
- or
- external circle with diameter 41 mm;
 - internal circle with diameter 24 mm, concentric with the external circle;

as specified in Figure A.4, except for the connections to the ends of the antenna coil, with a maximum area of 300 mm².

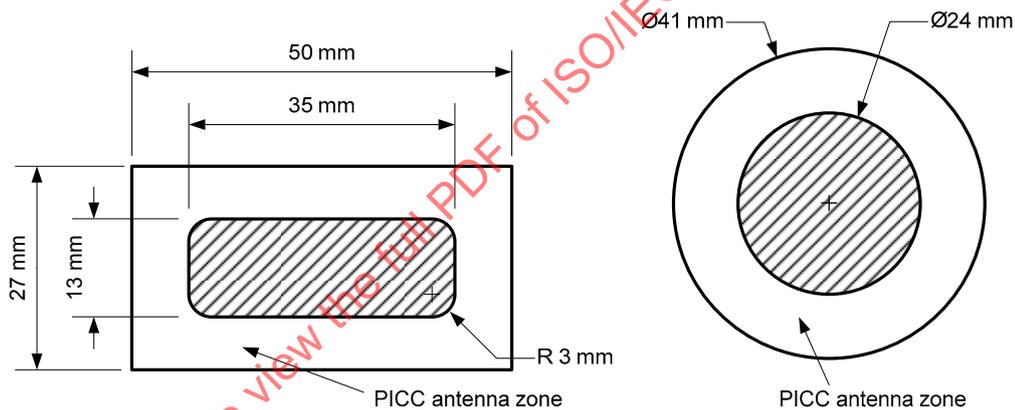


Figure A.4 — Location of the antenna of the “Class 4” PICC

A.4.2 Electrical requirement

The “Class 4” PICC shall also pass the PICC maximum loading effect test defined in ISO/IEC 10373-6:2011/Amd.1:2012, 7.2.4.