
**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



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Published in Switzerland

Foreword

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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*.

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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 $\frac{4}{3}$ 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 $\frac{8}{5}$ 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.

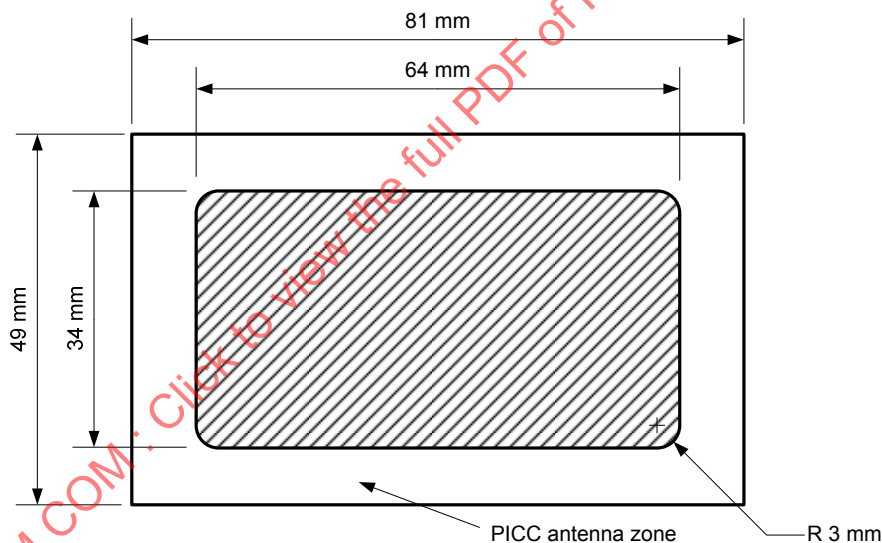


Figure A.1 — Location of the antenna of the “Class 1” PICC

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.

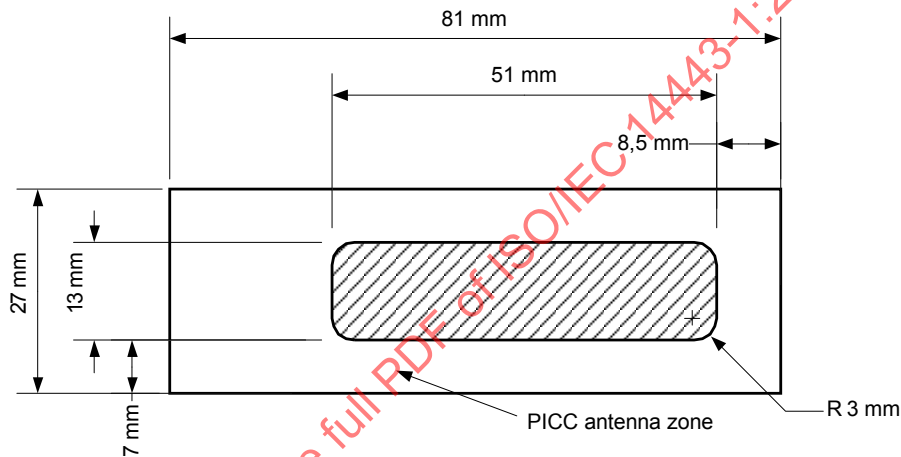


Figure A.2 — Location of the antenna of the “Class 2” PICC

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.

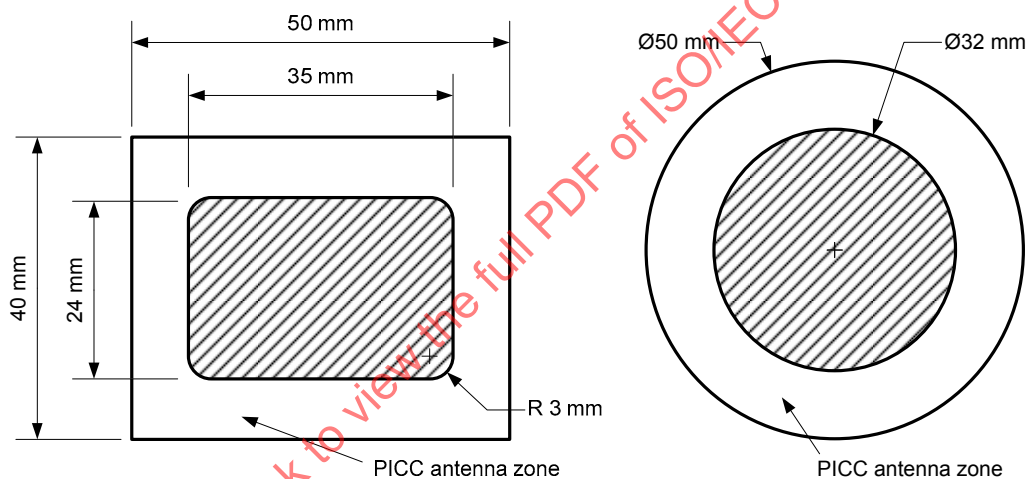


Figure A.3 — Location of the antenna of the “Class 3” PICC

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.

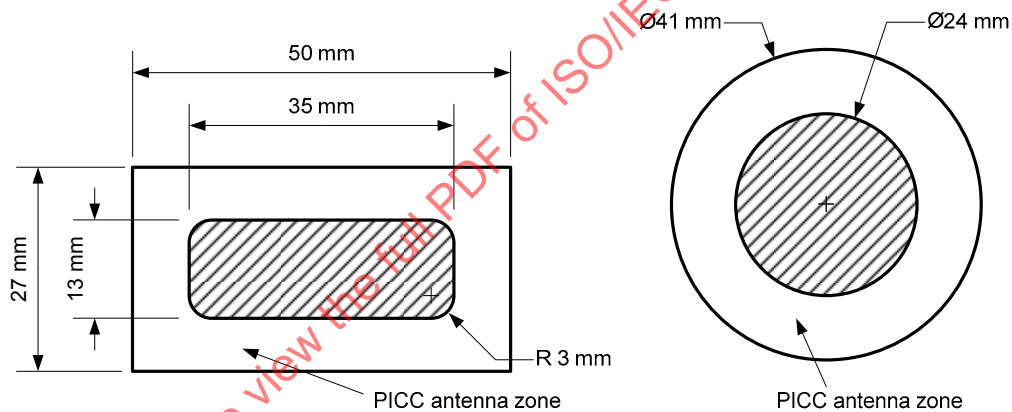


Figure A.4 — Location of the antenna of the “Class 4” PICC

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.