# ISO/IEC 10373-6:2001-05 (E)

## Identification cards - Test methods - Part 6: Proximity cards

## Contents

Page


Foreword ..... v

1 Scope ..... 1

2 Normative references ..... 1

3 Terms and definitions, abbreviations and symbols ..... 2
3.1 Terms and definitions ..... 2
3.2 Abbreviations and symbols ..... 2

4 Default items applicable to the test methods ..... 3
4.1 Test environment ..... 3
4.2 Pre-conditioning ..... 3
4.3 Default tolerance ..... 3
4.4 Spurious Inductance ..... 3
4.5 Total measurement uncertainty ..... 3

5 Static electricity test ..... 3
5.1 Apparatus ..... 3
5.2 Procedure ..... 4
5.3 Test report ..... 4

6 Test apparatus and test circuits ..... 5
6.1 Calibration coil ..... 5
6.1.1 Size of the Calibration coil card ..... 5
6.1.2 Thickness and material of the Calibration coil card ..... 5
6.1.3 Coil characteristics ..... 5
6.2 Test PCD assembly ..... 6
6.2.1 Test PCD antenna ..... 6
6.2.2 Sense coils ..... 6
6.2.3 Assembly of Test PCD ..... 7
6.3 Reference PICCs ..... 7
6.3.1 Reference PICC for Hmin, Hmax and PCD power ..... 7
6.3.2 Reference PICC for load modulation test ..... 7
6.3.3 Dimensions of the Reference PICCs ..... 8
6.3.4 Thickness of the Reference PICCs board ..... 8
6.3.5 Coil characteristics ..... 8
6.4 Digital sampling oscilloscope ..... 8

7 Functional test - PICC ..... 8
7.1 Purpose ..... 8
7.2 Test procedure ..... 8
7.3 Test report ..... 9

8 Functional test - PCD ..... 9
8.1 PCD field strength ..... 9
8.1.1 Purpose ..... 9
8.1.2 Test procedure ..... 9
8.1.3 Test report ..... 10
8.2 Power transfer PCD to PICC ..... 10
8.2.1 Purpose ..... 10
8.2.2 Test procedure ..... 10

8.2.3 Test report ..... 10
8.3 Modulation index and waveform ..... 10
8.3.1 Purpose ..... 10
8.3.2 Test procedure ..... 10
8.3.3 Test report ..... 10
8.4 Load modulation reception (informative only) ..... 11
8.4.1 Purpose ..... 11
8.4.2 Test procedure ..... 11

Annex A (normative) Test PCD Antenna ..... 12

A.1 Test PCD Antenna layout including impedance matching network ..... 12
A.2 Impedance matching network ..... 14

Annex B (informative) Test PCD Antenna tuning ..... 15

Annex C (normative) Sense coil ..... 17

C.1 Sense coil layout ..... 17
C.2 Sense coil assembly ..... 18

Annex D (normative) Reference PICC for field and power measurements ..... 19

Annex E (informative) Reference PICC for load modulation test ..... 20

Annex F (informative) Program for the evaluation of the spectrum ..... 21