



**NSAI**  
Standards

Irish Standard  
I.S. EN 60512-27-100:2012

Connectors for electronic equipment -  
Tests and measurements -- Part 27  
-100: Signal integrity tests up to 500  
MHz on IEC 60603-7 series connectors -  
Tests 27a to 27g (IEC 60512-27  
-100:2011 (EQV))

## I.S. EN 60512-27-100:2012

*Incorporating amendments/corrigenda issued since publication:*

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English version

**Connectors for electronic equipment -  
Tests and measurements -  
Part 27-100: Signal integrity tests up to 500 MHz on IEC 60603-7 series  
connectors -  
Tests 27a to 27g  
(IEC 60512-27-100:2011)**

Connecteurs pour équipements  
électroniques -  
Essais et mesures -  
Partie 27-100: Essais d'intégrité des  
signaux jusqu'à 500 MHz sur les  
connecteurs de la série CEI 60603-7 -  
Essais 27a à 27g  
(CEI 60512-27-100:2011)

Steckverbinder für elektronische  
Einrichtungen -  
Mess- und Prüfverfahren -  
Teil 27-100: Signalintegritätsprüfungen bis  
500 MHz an Steckverbindern der Reihe  
IEC 60603-7 -  
Prüfungen 27a bis 27g  
(IEC 60512-27-100:2011)

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Comité Européen de Normalisation Electrotechnique  
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**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

**I.S. EN 60512-27-100:2012**

EN 60512-27-100:2012

- 2 -

**Foreword**

The text of document 48B/2262/FDIS, future edition 1 of IEC 60512-27-100, prepared by SC 48B, "Connectors", of IEC TC 48, "Electromechanical components and mechanical structures for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60512-27-100:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-10-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-01-11

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**Endorsement notice**

The text of the International Standard IEC 60512-27-100:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- |               |                                  |
|---------------|----------------------------------|
| IEC 60603-7-4 | NOTE Harmonized as EN 60603-7-4. |
| IEC 60603-7-5 | NOTE Harmonized as EN 60603-7-5. |

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-581	-	International Electrotechnical Vocabulary - Part 581: Electromechanical components for electronic equipment	-	-
IEC 60512-1	-	Connectors for electronic equipment - Tests and measurements - Part 1: General	EN 60512-1	-
IEC 60512-1-100	-	Connectors for electronic equipment - Tests and measurements - Part 1-100: General - Applicable publications	EN 60512-1-100	-
IEC 60512-26-100	-	Connectors for electronic equipment - Tests and measurements - Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 - Tests 26a to 26g	EN 60512-26-100	-
IEC 60603-7	Series	Connectors for electronic equipment	EN 60603-7	Series
IEC 60603-7	2008	Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	EN 60603-7	2009
IEC 61076-1	-	Connectors for electronic equipment - Product requirements - Part 1: Generic specification	EN 61076-1	-
IEC 61156	Series	Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification	-	-
IEC 61169-16	-	Radio-frequency connectors - Part 16: Sectional specification - RF coaxial connectors with inner diameter of outer conductor 7 mm (0,276 in) with screw coupling - Characteristics impedance 50 ohms (75 ohms) (type N)	EN 61169-16	-
IEC 62153-4-12	-	Metallic communication cable test methods - Part 4-12: Electromagnetic compatibility (EMC) - Coupling attenuation or screening attenuation of connecting hardware - Absorbing clamp method	-	-

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## CONTENTS

FOREWORD.....	6
1 Scope and object.....	8
2 Normative references .....	8
3 Terms, definitions, acronyms and symbols .....	9
3.1 Terms and definitions .....	9
3.1.1 Test Free Connector (TFC).....	9
3.2 Acronyms .....	9
3.3 Symbols .....	10
4 Overall test arrangement .....	10
4.1 Test instrumentation.....	10
4.2 Coaxial cables and interconnect for network analysers .....	11
4.3 Measurement precautions .....	11
4.4 Balun requirements .....	11
4.5 Interfacing .....	12
4.6 Reference components for calibration .....	13
4.6.1 Reference loads for calibration .....	13
4.6.2 Reference cables for calibration .....	14
4.7 Termination loads for termination of conductor pairs .....	14
4.7.1 General .....	14
4.7.2 Resistor terminations.....	14
4.7.3 Balun terminations.....	15
4.7.4 Termination types .....	15
4.8 Termination of screens .....	15
4.9 Test specimen and reference planes .....	15
4.9.1 General .....	15
4.9.2 Interconnections between device under test (DUT) and the calibration plane .....	16
5 Connector measurement up to 500 MHz.....	17
5.1 General .....	17
5.2 Insertion loss, Test 27a .....	17
5.2.1 Object .....	17
5.2.2 Free connector for insertion loss.....	17
5.2.3 Test method .....	17
5.2.4 Test set-up .....	17
5.2.5 Procedure.....	18
5.2.6 Test report.....	18
5.2.7 Accuracy .....	19
5.3 Return loss, Test 27b .....	19
5.3.1 Object .....	19
5.3.2 Free connector for return loss.....	19
5.3.3 Test method .....	19
5.3.4 Test set-up .....	19
5.3.5 Procedure.....	19
5.3.6 Test report.....	19
5.3.7 Accuracy .....	19
5.4 Near-end crosstalk (NEXT), Test 27c .....	20

5.4.1	Object .....	20
5.4.2	Free connector for NEXT .....	20
5.4.3	Test method .....	20
5.4.4	Test set-up .....	20
5.4.5	Procedure.....	21
5.4.6	Test report.....	24
5.4.7	Accuracy .....	24
5.5	Far-end crosstalk (FEXT), Test 27d.....	24
5.5.1	Object .....	24
5.5.2	Free connector for FEXT .....	24
5.5.3	Test method .....	24
5.5.4	Test set-up .....	24
5.5.5	Procedure.....	25
5.5.6	Test report.....	25
5.5.7	Accuracy .....	26
5.6	Transfer impedance (Zt) .....	26
5.7	Transverse conversion loss (TCL), Test 27f .....	26
5.7.1	Object .....	26
5.7.2	Free connector for TCL.....	26
5.7.3	Test method .....	26
5.7.4	Test set-up .....	26
5.7.5	Procedure.....	27
5.7.6	Test report.....	30
5.7.7	Accuracy .....	30
5.8	Transverse conversion transfer loss (TCTL), Test 27g.....	30
5.8.1	Object .....	30
5.8.2	Free connector for TCTL .....	30
5.8.3	Test method .....	30
5.8.4	Test set-up .....	30
5.8.5	Procedure.....	31
5.8.6	Test report.....	32
5.8.7	Accuracy .....	32
5.9	Coupling attenuation .....	32
6	Construction and qualification of TFCs for NEXT, FEXT and return loss measurements.....	32
6.1	General.....	32
6.1.1	Introductory remarks.....	32
6.1.2	Delay measurements .....	33
6.2	TFC near-end crosstalk (NEXT).....	36
6.2.1	General .....	36
6.2.2	Procedure for mating a TFC to the direct fixture .....	36
6.2.3	TFC NEXT loss measurement.....	37
6.2.4	TFC NEXT loss requirements .....	38
6.3	TFC far-end crosstalk (FEXT).....	39
6.3.1	TFC FEXT loss measurement.....	39
6.3.2	TFC FEXT loss requirements.....	39
6.4	TFC return loss .....	40
6.4.1	General .....	40
6.4.2	TFC return loss reverse direction qualification procedure .....	40



6.4.3	Test plug return loss forward direction qualification procedure.....	40
6.4.4	TFC return loss requirements .....	46
6.5	Test fixtures for TFC testing .....	47
6.5.1	Requirements for TFC direct fixtures .....	47
Annex A (informative)	Impedance controlled measurement fixture .....	49
Annex B (normative)	Termination of balun .....	63
Bibliography.....		65
Figure 1	– 180° hybrid used as a balun .....	11
Figure 2	– Measurement configurations for test balun qualification .....	13
Figure 3	– Calibration of reference loads .....	14
Figure 4	– Resistor termination networks .....	14
Figure 5	– Definition of reference planes.....	16
Figure 6	– Measuring set-up .....	18
Figure 7	– Example for NEXT measurements.....	21
Figure 8	– Example for FEXT measurements for DM and CM terminations.....	25
Figure 9	– Example of TCL measurement .....	27
Figure 10	– Coaxial lead attenuation calibration.....	28
Figure 11	– Back-to-back balun insertion loss measurement.....	28
Figure 12	– Configuration for balun CM insertion loss calibration.....	29
Figure 13	– Schematic for balun CM insertion loss calibration.....	29
Figure 14	– Example of TCTL measurement .....	31
Figure 15	– Calibration and interface planes and port extensions.....	33
Figure 16	– Examples of direct fixture short, open, load, and through artefacts.....	35
Figure 17	– Modular free connector placed into the free connector clamp .....	36
Figure 18	– Guiding the free connector into position .....	37
Figure 19	– TFC direct fixture .....	37
Figure 20	– illustration of TFC NEXT measurement in the forward direction .....	38
Figure 21	– Example of suitable return loss de-embedding reference socket.....	42
Figure 22	– Flow chart for determination of reference fixed connector S-parameters.....	43
Figure 23	– Representation of a mated connection by two cascaded networks.....	43
Figure 24	– Return loss de-embedding reference plug terminated with LOAD resistors .....	44
Figure 25	– Return loss test plug calibration and interface planes.....	44
Figure 26	– Flow chart of determination of return loss test plug properties.....	46
Figure 27	– Direct fixture mating dimensions A .....	47
Figure 28	– Direct fixture mating dimensions B .....	48
Figure 29	– Direct fixture mating dimension C.....	48
Figure A.1	– Test head assembly with baluns attached .....	49
Figure A.2	– Test balun interface pattern .....	50
Figure A.4	– Test head assembly showing shielding between baluns .....	51
Figure A.5	– Balun test 2 fixture assembly .....	52
Figure A.6	– Free connector direct fixture, DPMF-2 view 1.....	53
Figure A.7	– Free connector direct fixture, DPMF-2 view 2.....	53
Figure A.8	– Exploded assembly of the direct fixture.....	54

Figure A.9 – PCB based free connector .....	55
Figure A.10 – TP6A PCB based free connector assembly with adapter .....	55
Figure A.11 – An example of a connecting hardware measurement configuration.....	56
Figure A.12 – Test fixture interface .....	57
Figure A.13 – Open calibration standard applied to test interface.....	57
Figure A.14 – Short calibration standard applied to test interface.....	58
Figure A.15 – Load calibration standard applied to test interface .....	58
Figure A.16 – Back-to-back through standard applied to test interface .....	59
Figure A.17 – TFC attached to the test interface .....	59
Figure A.18 – Direct fixture mounted to the test head interface .....	60
Figure A.19 – Calibration plane.....	60
Figure A.20 – Through calibration .....	61
Figure A.21 – Test setup for twisted-pair return 2 loss measurement .....	61
Figure A.22 – Method to minimize distance between planes.....	62
Figure B.1 – Balanced attenuator for balun centre tap grounded .....	63
Figure B.2 – Balanced attenuator for balun centre tap open .....	64
Table 1 – Test balun performance characteristics .....	12
Table 2 – Interconnection return loss .....	17
Table 3 – Uncertainty band of return loss measurement at frequencies below 100 MHz .....	20
Table 4 – Uncertainty band of return loss measurement at frequencies above 100 MHz.....	20
Table 5a – Free connector TFC NEXT loss limit vectors for connectors specified up to 100 MHz .....	23
Table 5b – Free connector TFC NEXT loss limit vectors for connectors specified from 1-250 MHz and from 1 MHz to 500 MHz.....	23
Table 6 – connecting hardware NEXT loss for Case 1 and Case 4 .....	24
Table 7 – TFC NEXT loss ranges.....	39
Table 8 – TFC FEXT loss ranges .....	40
Table 9 – De-embedding return loss reference fixed connector assembly standard vectors.....	42
Table 10 – Return loss requirements for TFCs .....	47
Table 11 – Direct fixture performance .....	48

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**CONNECTORS FOR ELECTRONIC EQUIPMENT –  
TESTS AND MEASUREMENTS –**
**Part 27-100: Signal integrity tests up to 500 MHz  
on 60603-7 series connectors –  
Tests 27a to 27g**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60512-27-100 has been prepared by subcommittee 48B: Connectors, of IEC technical committee 48: Electromechanical components and mechanical structures for electronic equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
4B/2262/FDIS	48B/2275/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 60512 series, under the general title *Connectors for electrical equipment – Tests and measurements* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

### Part 27-100: Signal integrity tests up to 500 MHz on 60603-7 series connectors – Tests 27a to 27g

#### 1 Scope and object

This part of IEC 60512 specifies the test methods for transmission performance for IEC 60603-7 series connectors up to 500 MHz. It is also suitable for testing lower frequency connectors if they meet the requirements of the detail specifications and of this standard.

The test methods provided here are:

- insertion loss, test 27a;
- return loss, test 27b;
- near-end crosstalk (NEXT) test 27c;
- far-end crosstalk (FEXT), test 27d;
- transverse conversion loss (TCL), test 27f;
- transverse conversion transfer loss (TCTL), test 27g;

For the transfer impedance ( $Z_t$ ) test, see IEC 60512-26-100, test 26e.

For the coupling attenuation, see IEC 62153-4-12.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050–581, *International Electrotechnical Vocabulary (IEV) – Part 581: Electromechanical components for electronic equipment*

IEC 60512-1, *Connectors for electronic equipment – Tests and measurements – Part 1: General*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General - Applicable publications*

IEC 60512-26-100, *Connectors for electronic equipment – Tests and measurements – Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 – Tests 26a to 26g*

IEC 60603-7 (all parts), *Connectors for electronic equipment*

IEC 60603-7, 2008: *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

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