IEC 62153-4-15

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INTERNATIONAL STANDARD

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Metallic cables and other passive components test methods – Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell

Méthodes d'essais des câbles métalliques et autres composants passifs – Partie 4-15: Compatibilité électromagnétique (CEM) – Méthode d'essai pour le mesurage de l'impédance de transfert et de l'affaiblissement d'écran – ou de l'affaiblissement de couplage avec cellule triaxiale

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CONTENTS

FOREWORD....5
1 Scope....7
2 Normative references....7
3 Terms and definitions....8
4 Physical background....10
5 Principle of the test methods....10
5.1 General....10
5.2 Transfer impedance....12
5.3 Screening attenuation....12
5.4 Coupling attenuation....12
5.5 Tube-in-tube method....12
6 Test procedures....12
6.1 General....12
6.2 Triaxial cell....12
6.3 Cut-off frequencies, higher-order modes....13
6.4 Test equipment....14
6.5 Calibration procedure....14
6.6 Test leads and connecting cables to the DUT....15
7 Sample preparation....15
7.1 Coaxial connector or assembly or quasi-coaxial component....15
7.2 Balanced or multipin connectors or components....15
7.3 Cable assemblies....16
7.4 Other screened devices....17
8 Transfer impedance (short-matched)....17
8.1 General....17
8.2 Principle block diagram of transfer impedance....17
8.3 Measuring procedure....18
8.4 Evaluation of test results....18
8.5 Test report....18
9 Screening attenuation....19
9.1 General....19
9.2 Impedance matching....19
9.3 Measuring with matched conditions....19
9.3.1 Procedure....19
9.3.2 Evaluation of test results....19
9.4 Measuring with mismatch....20
9.4.1 General....20
9.4.2 Evaluaton of test results....20
9.5 Test report....21
10 Coupling attenuation....21
10.1 General....21
10.2 Procedure....21
10.2.1 Coupling attenuation with balun....21
10.2.2 Balunless coupling attenuation....22
10.3 Expression of results....22

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10.4 Test report 23
Annex A (informative) Principle of the triaxial test procedure 24
A.1 General 24
A.2 Transfer impedance 25
A.3 Screening attenuation 25
A.4 Coupling attenuation 26
Annex B (informative) Triaxial cell 28
Annex C (normative) Triaxial absorber cell 30
C.1 Cut-off frequencies, higher order modes 30
C.2 Absorber 31
C.3 Influence of absorber 33
Annex D (informative) Application of a moveable shorting plane 34
D.1 Coupling transfer function 34
D.2 Effect of the measurement length on the measurement cut-off frequency 35
D.3 Details of the movable shorting plane 35
D.4 Measurement results 37
Annex E (informative) Correction in the case that the receiver input impedance R is higher than the characteristic impedance of the outer circuit Z_2 39
E.1 Impedance Z_2 lower than the input impedance of the receiver 39
E.2 Correction 40
Annex F (informative) Test adapter 41
Annex G (informative) Attenuation versus scattering parameter S_{21} 42
Bibliography 44

Figure 1 – Definition of Z_T 8
Figure 2 – Principle depiction of the triaxial test setup (tube) to measure transfer impedance and screening attenuation with tube in tube in accordance with IEC 62153-4-7 11
Figure 3 – Principle depiction of the triaxial cell to measure transfer impedance and screening attenuation of connectors or assemblies with tube in tube in accordance with IEC 62153-4-7 11
Figure 4 – Rectangular waveguide 13
Figure 5 – Preparation of balanced or multipin connectors for transfer impedance and screening attenuation 16
Figure 6 – Preparation of balanced or multipin connectors for coupling attenuation measurement 16
Figure 7 – Test setup (principle) for transfer impedance measurement in accordance with test method B of IEC 62153-4-3 17
Figure 8 – Principle test setup for balunless coupling attenuation measurement according to IEC 62153-4-9 22
Figure A.1 – Principle test setup to measure transfer impedance and screening attenuation 24
Figure A.2 – Equivalent circuit of the principle of the test setup in Figure A.1 25
Figure A.3 – Coupling attenuation, principle of test setup with balun and standard tube 26
Figure A.4 – Coupling attenuation, principle of setup with multiport VNA and standard head 27
Figure B.1 – Principle depiction of the triaxial cell to measure transfer impedance and screening attenuation on a connector with tube-in-tube according to IEC 62153-4-7 28

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Figure B.2 – Examples of different designs of triaxial cells 29
Figure C.1 – Cavity or rectangular waveguide 30
Figure C.2 – Comparison of the measurements of a RG 214 cable with 40 mm tube and triaxial cells 31
Figure C.3 – Principle of the triaxial cell with tube in tube and ferrite tiles as absorber 31
Figure C.4 – Comparison of the measurements of an RG 214 with 40 mm tube and triaxial cells with magnetic absorber 32
Figure C.5 – Examples of magnetic flat absorber 32
Figure C.6 – Setup for correction measurement 33
Figure C.7 – Correction measurement 33
Figure D.1 – Measured coupling transfer function of a braided screen versus frequency with the triaxial cell 34
Figure D.2 – Cross-section of triaxial cell with movable shorting plane 36
Figure D.3 – Crosscut of plane shortening housing and tube-in-tube 36
Figure D.4 – Detail H of Figure D.3: contact between plane and housing 37
Figure D.5 – Detail G of Figure D.3: contact between plane and tube-in-tube 37
Figure D.6 – Compilation of transfer impedance test results with different shorting plane distances 38
Figure E.1 – Example of forward transfer scattering parameter S_{21} for different impedances in the outer circuit where the receiver input impedance is 50 Ω 39
Figure E.2 – DUT with uniform cylindrical shape in the centre of the cell 40
Figure F.1 – Principle of the test setup to measure transfer impedance and screening or coupling attenuation of connectors 41
Figure F.2 – Principle of the test setup to measure transfer impedance and screening attenuation on a cable assembly 41
Figure G.1 – Measurement with HP8753D of S_{21} of a 3 dB attenuator 42
Figure G.2 – Measurement with ZVR of S_{21} of a 3 dB attenuator 43

Table 1 – IEC 62153-4 series Metallic communication cable test methods – Test procedures with triaxial test setup 10

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METALLIC CABLES AND OTHER PASSIVE COMPONENTS TEST METHODS –

Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell

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International Standard IEC 62153-4-15 has been prepared by IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) measurement of coupling attenuation of balanced connectors, assemblies and components with balun and balunless added;
b) application of a test adapter was added;
c) application of a moveable shorting plane;

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d) application of the triaxial "absorber" cell;

e) correction of test results in the case that the receiver input impedance R is higher than the characteristic impedance of the outer circuit Z_2.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
46/814/FDIS	46/822/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all the parts in the IEC 62153-4 series, published under the general title *Metallic communication cable test methods – Electromagnetic compatibility (EMC)*, can be found on the IEC website.

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METALLIC CABLES AND OTHER PASSIVE COMPONENTS TEST METHODS –

Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell

1 Scope

This part of IEC 62153 specifies the procedures for measuring with triaxial cell the transfer impedance, screening attenuation or the coupling attenuation of connectors, cable assemblies and components, for example accessories for analogue and digital transmission systems, and equipment for communication networks and cabling.

Measurements can be achieved by applying the device under test directly to the triaxial cell or with the tube-in-tube method in accordance with IEC 62153-4-7.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61196-1, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*

IEC TS 62153-4-1:2014, *Metallic communication cable test methods – Part 4-1: Electromagnetic Compatibility (EMC) – Introduction to electromagnetic screening measurements*

IEC 62153-4-3, *Metallic communication cable test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

IEC 62153-4-4:2013, *Metallic communication cable test methods – Part 4-4: Electromagnetic compatibility (EMC) – Test method for measuring of the screening attenuation a_S up to and above 3 GHz – Triaxial method*

IEC 62153-4-7, *Metallic communication cable test methods – Part 4-7: Electromagnetic compatibility (EMC) – Test method for measuring the transfer impedance Z_T and the screening attenuation a_s or coupling attenuation a_c of connectors and assemblies up to and above 3 GHz – Triaxial tube in tube method*

IEC 62153-4-8, *Metallic cables and other passive components – Test methods – Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance*

IEC 62153-4-9:2018, *Metallic communication cable test methods – Part 4-9: Electromagnetic compatibility (EMC) – Coupling attenuation of screened balanced cables, triaxial method*

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