

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Metallic cables and other passive components test methods –  
Part 4-16: Electromagnetic compatibility (EMC) – Extension of the frequency  
range to higher frequencies for transfer impedance and to lower frequencies for  
screening attenuation measurements using the triaxial set-up**

**Méthodes d'essai des câbles métalliques et autres composants passifs –  
Partie 4-16: Compatibilité électromagnétique (CEM) – Extension de la plage de  
fréquences à des fréquences supérieures pour l'impédance de transfert et à des  
fréquences inférieures pour mesurer l'affaiblissement d'écran à l'aide d'un  
montage triaxial**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**METALLIC CABLES AND OTHER  
PASSIVE COMPONENTS TEST METHODS –****Part 4-16: Electromagnetic compatibility (EMC) –  
Extension of the frequency range to higher frequencies  
for transfer impedance and to lower frequencies for screening  
attenuation measurements using the triaxial set-up**

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IEC 62153-4-16 has been prepared by IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

- Replacement of the conversion formula which was limited to a matched DUT by a new conversion formula suitable for any load conditions.

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

| FDIS        | Report on voting |
|-------------|------------------|
| 46/817/FDIS | 46/826/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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Future documents in this series will carry the new general title as cited above. Titles of existing documents in this series will be updated at the time of the next edition.

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## METALLIC CABLES AND OTHER PASSIVE COMPONENTS TEST METHODS –

### Part 4-16: Electromagnetic compatibility (EMC) – Extension of the frequency range to higher frequencies for transfer impedance and to lower frequencies for screening attenuation measurements using the triaxial set-up

## 1 Scope

This part of IEC 62153 specifies a method to extrapolate the test results of transfer impedance to higher frequencies and the test results of screening attenuation to lower frequencies when measured with the triaxial set-up in accordance with IEC 62153-4-3, IEC 62153-4-4 [1]<sup>1</sup> and IEC 62153-4-15. This method is applicable for homogenous screens, i.e. screens having a transfer impedance directly proportional to length. The transfer impedance can have any frequency behaviour, i.e. it could have a behaviour where it does not increase with 20 dB per decade as observed for screens made of a foil and a braid.

## 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 62153-4-3:2013, *Metallic communication cable test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

IEC 62153-4-15, *Metallic communication cable test methods – Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell*

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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<sup>1</sup> Numbers in square brackets refer to the bibliography.