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Metallic communication cable test methods –

Part 4-4:

Electromagnetic compatibility (EMC) – Shielded screening attenuation, test method for measuring of the screening attenuation a_S up to and above 3 GHz

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

METALLIC COMMUNICATION CABLE TEST METHODS –

**Part 4-4: Electromagnetic compatibility (EMC) –
Shielded screening attenuation, test method for measuring of
the screening attenuation a_s up to and above 3 GHz**

FOREWORD

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International Standard IEC 62153-4-4 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, r.f. connectors, r.f. and microwave passive components and accessories.

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

FDIS	Report on voting
46A/799/FDIS	46A/816/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.

IEC 62153 consists of the following parts under the general title *Metallic communication cable test methods*:

- Part 1-1: Electrical – Measurement of the pulse/step return loss in the frequency domain using the Inverse Discrete Fourier Transformation (IDFT)
- Part 1-2: Reflection measurement correction¹
- Part 4-0: Electromagnetic Compatibility (EMC) – Relationship between Surface transfer impedance and Screening attenuation, recommended limits¹
- Part 4-1: Electromagnetic Compatibility (EMC) – Introduction to electromagnetic (EMC) screening measurements¹
- Part 4-2: Electromagnetic compatibility (EMC) – Screening and coupling attenuation – Injection clamp method
- Part 4-3: Electromagnetic Compatibility (EMC) – Surface transfer impedance – Triaxial method
- Part 4-4: Electromagnetic Compatibility (EMC) – Shielded screening attenuation, test method for measuring of the screening attenuation "as " up to and above 3 GHz
- Part 4-5: Electromagnetic Compatibility (EMC) – Coupling or screening attenuation – absorbing clamp method
- Part 4-6: Electromagnetic Compatibility (EMC) – Surface transfer impedance – line injection method
- Part 4-7: Electromagnetic Compatibility (EMC) – Shielded screening attenuation, test method for measuring the Transfer impedance ZT, the screening attenuation as and the coupling attenuation ac of RF-Connectors up to and above 3 GHz; Tube in Tube method
- Part 4-8: Electromagnetic Compatibility (EMC) – Capacitive Coupling Admittance¹

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

A bilingual version of this publication may be issued at a later date.

¹ Under consideration.

METALLIC COMMUNICATION CABLE TEST METHODS –

Part 4-4: Electromagnetic compatibility (EMC) – Shielded screening attenuation, test method for measuring of the screening attenuation a_s up to and above 3 GHz

1 Scope

This part of IEC 62153 determines the screening attenuation a_s of metallic communication cable screens. Due to the concentric outer tube, measurements are independent of irregularities on the circumference and outer electromagnetic field.

A wide dynamic and frequency range can be applied to test even super-screened cables with normal instrumentation from low frequencies up to the limit of defined transverse waves in the outer circuit at approximately 4 GHz.

2 Normative references

The following referenced documents are indispensable for the application 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 61917:1998, *Cables, cable assemblies and connectors – Introduction to electromagnetic (EMC) screening measurements*²

² This is under revision and will be replaced by IEC 62153-4-1.