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Amendment 1

Electromagnetic compatibility (EMC) –

Part 4-20:

**Testing and measurement techniques –
Emission and immunity testing in transverse
electromagnetic (TEM) waveguides**

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*

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FOREWORD

This amendment has been prepared by subcommittee 77B: High-frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility, in cooperation with CISPR subcommittee A: Radio interference measurements and statistical methods.

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

FDIS	Report on voting
77B/520/FDIS	77B/528/RVD

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

The committee has decided that the contents of this amendment and the base 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- withdrawn,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.

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1 Scope and object

Add, after the second paragraph, the following note and paragraph:

NOTE Test methods are defined in this standard for measuring the effects of electromagnetic radiation on equipment and the electromagnetic emissions from equipment concerned. The simulation and measurement of electromagnetic radiation is not adequately exact for quantitative determination of effects for all end-use installations. The test methods defined are structured for a primary objective of establishing adequate repeatability of results at various test facilities for qualitative analysis of effects.

This standard does not intend to specify the tests to be applied to any particular apparatus or system(s). The main intention of this standard is to provide a general basic reference for all interested product committees of the IEC. For radiated emissions testing, product committees should select emission limits and test methods in consultation with CISPR. For radiated immunity testing, product committees remain responsible for the appropriate choice of immunity tests and immunity test limits to be applied to equipment within their scope. This standard describes test methods that are separate from those of IEC 61000-4-3. These other distinct test methods may be used when so specified by product committees, in consultation with CISPR and TC 77.

2 Normative references

Delete the reference to IEC 61000-4-3.

Replace the references to CISPR 16-1 and CISPR 16-2, which have been withdrawn and replaced, with the following new references:

CISPR 16-1-1, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 16-1-4, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Ancillary equipment – Radiated disturbances*

CISPR 16-2-3, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements*

CISPR 16-2-4, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-4: Methods of measurement of disturbances and immunity – Immunity measurements*

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Annex B Immunity testing in TEM waveguides

B.1 Introduction

Replace this clause by the following:

This annex describes immunity testing in TEM waveguides. The intention is to enable the testing of electrical and electronic equipment for immunity to an incident electromagnetic field.

The test is performed with a specific arrangement of the EUT. This requires that the test set-up and the test limits or levels are defined by specific product or product family standards.

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B.2.2 Calibration of field

Replace the second paragraph (following Note 1) by the following:

The use of a transmission line avoids perturbation due to semi-anechoic chamber ground-reflected fields; thus, uniform fields may be established in the vicinity of the inner and outer conductors (in the normal direction only).

Replace, on page 81, the penultimate paragraph by the following:

Alternatively, an equivalent procedure is to establish a constant primary component electric field strength in the range of 3 V/m to 10 V/m and record the forward power delivered to the input port. The principles outlined in a), d), e), f) and g) shall be respected. This method is known as the “constant-field-strength” method.