
Zvokovni in radiodifuzijski sprejemniki s pripadajočo opremo – Karakteristike odpornosti proti motnjam – Mejne vrednosti in metode merjenja – Dopnilo A2 (CISPR 20:2002/A2:2005)

Sound and television broadcast receivers and associated equipment – Immunity characteristics – Limits and methods of measurement (CISPR 20:2002/A2:2005)

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EUROPEAN STANDARD

EN 55020/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2005

ICS 33.100.20

English version

**Sound and television broadcast receivers and associated equipment –
Immunity characteristics –
Limits and methods of measurement
(CISPR 20:2002/A2:2004)**

Récepteurs de radiodiffusion
et de télévision et équipements associés –
Caractéristiques d'immunité –
Limites et méthodes de mesure
(CISPR 20:2002/A2:2004)

Ton- und Fernseh-Rundfunkempfänger
und verwandte Geräte der
Unterhaltungselektronik –
Störfestigkeitseigenschaften –
Grenzwerte und Prüfverfahren
(CISPR 20:2002/A2:2004)

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This amendment A2 modifies the European Standard EN 55020:2002; it was approved by CENELEC on 2005-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document CISPR/1/126/FDIS, future amendment 2 to CISPR 20:2002, prepared by CISPR SC 1, Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 55020:2002 on 2005-02-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2005-11-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2008-02-01

Endorsement notice

The text of amendment 2:2002 to the International Standard CISPR 20:2002 was approved by CENELEC as an amendment to the European Standard without any modification.

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AMENDEMENT 2
AMENDMENT 2
2004-12

COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES
INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

Amendement 2

**Récepteurs de radiodiffusion et de télévision
et équipements associés –
Caractéristiques d'immunité –
Limites et méthodes de mesure**

Amendment 2

**Sound and television broadcast receivers
and associated equipment –
Immunity characteristics –
Limits and methods of measurement**

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FOREWORD

This amendment has been prepared by CISPR subcommittee I: Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers.

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

FDIS	Report on voting
CISPR/1/126/FDIS	CISPR/1/134/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.

Page 3

CONTENTS

Add, after the title of Annex J, the title of the following new Annex K:

Annex K (informative) Objective evaluation of picture quality

Page 5

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FOREWORD

Modify the seventh paragraph as follows:
[SIST EN 55020:2003/A2:2005](https://standards.iteh.ai/catalog/standards/sist/9643fbc0-a6d5-49cd-9e7c-5b6909153a1b/sist-en-55020-2003-a2-2005)
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Annexes H, J and K are for information only.

Page 17

4.1.1.2 Evaluation of picture quality

Insert the following new paragraph after the 2nd paragraph:

The picture quality can also be evaluated by using objective measurement methods; one such method is described in Annex K.

Page 35

Table 9 – Loudspeakers/headphone output port

Delete “Ass. radio” from the “Applicability” column in this table.

Page 37

Table 10 – Audio input/output port (excluding loudspeakers and /headphone)

Delete “Ass. radio” from the “Applicability” column in this table.

Table 11 – Power input port

Delete “Ass. radio” from the “Applicability” column in this table.

Page 41

Table 15 – Enclosure port

Delete “Ass. radio” from the “Applicability” column in this table.

Page 65

5.5.3 Measurement procedure for FM sound receivers

Delete the second paragraph.

Delete Note 1. <https://standards.iteh.ai/catalog/standards/sist/9643fbc0-a6d5-49cd-9e7c-5b6909153a1b/sist-en-55020-2003-a2-2005>

Amend the third paragraph to include the type of modulation for the wanted signal, as follows:

The FM sound receiver is fed by a generator providing a wanted signal with a level of 60 dB(μ V) frequency modulated with 1 kHz at a frequency deviation of 40 kHz at the antenna terminal at the tuned frequency of the receiver.

Renumber Note 2 as Note 1.

Page 89

Figure 7 – Measuring set-up for the screening effectiveness of the antenna terminals of a television receiver

Replace the existing title of Figure 7 with the following new title:

Figure 7 – Measuring set-up for the screening effectiveness of the antenna terminals of FM sound and television receivers

Page 117

Annex D – Matching networks and mains stop filter

Figure D.2 – RC network for audio outputs (RC_o)

Replace the label “To audio input” with “To audio output”.

Page 119

Figure D.3 – Mains stop filter (MSF)

Modify the figure by adding a connecting point where R2 crosses the connection between R and R.

Page 121

Annex E – Construction information for the open stripline and for the mains and loudspeaker band-stop filter

Figure E.8 – Band-stop filter type LBS (for loudspeaker connection)

Replace in the figure, on page 131, the label “Plug and socket” with “Connection to EUT” and “Connection to equipment under test – Bushing for B and pass filter (see figure B.1)” with “Connection to band pass filter (see figure B.1)”

Add, after Annex J, the following new Annex K:

[SIST EN 55020:2003/A2:2005](https://standards.iteh.ai/catalog/standards/sist/9643fbc0-a6d5-49cd-9e7c-5b6909153a1b/sist-en-55020-2003-a2-2005)

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Annex K (informative)

Objective evaluation of picture quality

K.1 Introduction

This annex gives information concerning the method of objective picture evaluation for the immunity measurements of analogue and digital broadcast receivers and associated equipment.

The method of objective picture evaluation uses the same unwanted and wanted signal requirements as defined in Clause 5 of CISPR 20. It can be introduced as an alternative method for the evaluation of picture quality with the benefit of a direct correlation with the subjective method.

Correlation with the subjective method is given, when the objective method fulfils the following demands:

- detection of analogue degradations within a range of ± 6 dB related to the average subjective measurement result;
- detection of digital degradations within a range of ± 2 dB related to the average subjective measurement result;
- reproducibility in a range of ± 2 dB.

The average subjective measurement result is defined as the average value of the subjective measurement results from at least 5 different experienced operators.

K.2 References

CISPR 29:2004, *Television broadcast receivers and associated equipment – Immunity characteristics – Methods of objective picture assessment*

K.3 Definitions and abbreviations

K.3.1 Definitions

K.3.1.1

analogue degradations

analogue degradations are defined by:

- superimposed pattern, moiré; [SIST EN 55020:2003/A2:2005](https://standards.iteh.ai/catalog/standards/sist/9643fbc0-a6d5-49cd-9e7c-5b6909153a1b/sist-en-55020-2003-a2-2005)
- loss of luminance and contrast;
- loss of colour;
- loss of synchronisation.

K.3.1.2

digital degradations

digital degradations are defined by:

- blocking;
- frozen pattern, stop of moving element;
- irrecoverable data stream error, black screen.

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