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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 13837-2012

**[GB/T 13837-2012] Sound and television broadcast receivers
and associated equipment. Radio disturbance characteristics.
Limits and methods of measurement
(English Translation)**

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Foreword

All technical content of this standard is mandatory.

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard adopts IEC/CISPR 13.2009 "Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement" after modification.

The most important change of IEC/CISPR 13.2009 is to add the RMS-average limit and clearly stipulate the requirements for digital broadcast receivers. The difference between this standard and IEC/CISPR 13.2009 is the addition of the last paragraph in 4.1 and the note in A.5.3.3. In addition, in view of the differences between Chinese digital TV standards and international standards, the contents of Appendix B of this standard and CISPR 13.2009 Appendix B are somewhat different. This standard provides relevant information based on China's digital television broadcasting system. In view of the fact that the display characteristics of flat-panel TV receivers are very different from those of CRT TV receivers, appendix C flat-panel TV receiver settings are added.

This standard replaces GB 13837-2003 "Sound and television broadcast

receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement".

Compared with GB 13837-2003, the main changes of this standard are as follows.

- ADD the measurement and limits of the RMS-average detector;
- ADD the limit requirements and measurement methods for digital television receivers and digital sound receivers.

This standard was proposed by and shall be under the jurisdiction of the National Radio Interference Standardization Technical Committee (SAC/TC 79). Responsible drafting organization of this standard. The Third Research Institute of China Electronics Technology Group Corporation.

1 Scope

This standard specifies the measurement methods for sound and television receivers and related equipment, as well as the limits for the control of harassment from such equipment.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

3 Terms, definitions, abbreviations

The equipment used for receiving terrestrial, cable and satellite television broadcasting and similar services, the input signal of which can be analog or digital.

Outdoor unit of direct to home satellite receiving systems for individual reception

4 Disturbance limits

It shall be measured according to 5.4. The limits are as shown in Table 2.

The limit corresponds to the nominal antenna impedance of 75 ohm.

For receivers whose nominal antenna impedance is not 75 ohm, the limit shall be converted according to the formula (1).

5 Measurement method

The measured voltage includes narrow-band disturbances from time-base circuits, video circuits, as well as the broadband disturbances generated from semiconductor rectifiers, etc.

The tuned TV receiver receives the standard test signal specified in 5.2, for this, a small receiving antenna is connected to the receiver under test. If the receiver has an internal antenna, it can also use the internal antenna; at this time, it shall disconnect the external receiving antenna.

6 Explanation of CISPR radio disturbance limit

For type appraisal products, the significance of the limit value shall be established on the basis of statistics.

Based on the "non-central t distribution", no less than 5 samples of this type of product shall be sampled for testing at a time. In special circumstances, if 5 samples cannot be used, 3 samples shall be used for the test.

Appendix A

(Normative)

Digital signal broadcasting receiver

This Appendix gives additional information concerning measurement methods for digital signal broadcasting receivers.

Appendix B

(Informative)

Basic information of digital television useful signals¹⁾

See Table B.1 for information on the digital TV broadcasting source used for measurement in accordance with this standard.

Appendix C

(Informative)

Settings of flat-panel TV receiver

The purpose of adjusting the brightness of the TV receiver is to make it work at the rated power and to make the test results reproducible.

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