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

GB/T 25102.100-2010

Replacing GB/T 6657-1986

**Electroacoustics -- Hearing aids -- Part 0: Measurement of
electroacoustic characteristics**

电声学 助听器 第0部分：电声特性的测量

(English Translation)

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Foreword

GB/T 25102 "electro-acoustics hearing" is divided into 14 parts.

--- Part 0. Measurement of electroacoustical characteristics;

--- Part 1. an induction pick-up coil input hearing aids;

--- Part 2. AGC circuit having a hearing aid;

--- Part 3. not entirely worn on the listener hearing aids;

--- Part 4. Magnetic field strength in the hearing aid induction loop systems;

--- Part 5. papillary insert earphone connector;

--- Part 6. hearing input characteristics of the circuit;

--- Part 7. When the hearing aid product delivery performance measurement quality inspection;

--- Part 8. Methods for measuring performance of hearing aids under simulated actual

working conditions;

--- Part 9. Methods of measurement characteristics of hearing aids with bone vibrator output;

--- Part 11. Symbols and marks of hearing aids and related equipment;

--- Part 12. Dimensions of electrical connector system;

--- Part 13. Electromagnetic compatibility (EMC);

--- Part 14. Specification of a digital interface.

This section GB/T 25102 Part 0.

The partial modification using IEC 60118-0. 1983 "Acoustic Electric hearing aids - Part 0. Measurement of electroacoustical characteristics" (in English) and IEC 60118-0. 1985/IEC 60118-0Amend.1. No. 19941 amendments.

This Part replaces GB/T 6657-1986 "Measurement of electroacoustical characteristics of hearing aids." Compared with the 1986 version, with some changes in this section, in addition to the original content has been supplemented and modified, but also made a version of the series Series modifications, the main changes are as follows.

--- This section according to GB/T 1.1-2000 version made editorial changes to the English version of IEC 60118-0 in Chapters 2 3 merge into an introduction, the terms and definitions in Chapter 3 of this standard, followed by other chapters recurrence;

--- According to IEC 60118-0Amend.1.1994, an increase of terminology and definitions to explain the contents of 3.17, in the text margins Identified at vertical wire (||);

--- Revised Chapter 7 measuring method measuring step presentation method (not listed in clause 1986 edition, this edition in terms of representation);

--- According to IEC 60118-0Amend.1.1994, modified the terms of individual numbers misquoted (GB/T 6657-1986 in 5.4.6 references 6.4.5, 4.4.6 edition modified to reference 5.4.4), the margin in the text are identified by a vertical wire (||);

--- Modify the environmental conditions parameters (original 6.4.4 of temperature, relative humidity and atmospheric pressure values);

--- Increasing the intermodulation distortion measurement;

--- Modify the presentation of the contents of Appendix A (GB/T 6657-1986 expressed are. measuring machine ear plugging ear simulator, edition is expressed. harmonic distortion and intermodulation distortion);

--- The original text of the coupling cavity to the ear simulator.

This section is informative Appendix A Appendix.

This part is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This part of the National Standardization Technical Committee electro-acoustics (SAC/TC23).

This section is responsible for drafting. Tianjin hearing plant, Institute of Otolaryngology, Chinese PLA General Hospital.

Introduction

This section describes the evaluation of hearing aid electroacoustic performance measurement method.

Selected measurement method is based on a range of optional fixed parameters based on its first consideration is the practicality and reproducibility. because Here, when different models and manufacturers of hearing aids should be noted that the test results were compared with the situation, but in each case can be seized the optional test parameters of the test results comparing the degree of impact.

According to the method specified in this part, under the experimental conditions are not necessarily measured performance under actual conditions of use of hearing aids performance fully Consistent.

This section does not limit the performance and features of the hearing aid diversification, nor hinder raise the level of technology.

In this part of the contents of the biggest changes is the use of a according to IEC 60711 "measuring insert earphones with ear clogging Simulator" in Under the ear simulator. Instead of using IEC 60318-5 "Measurement ear hearing aid with IEC reference coupler" acoustic coupling as specified in Cavity. The results of this change to gain and saturation sound pressure level at some frequencies the measured results with the use of acoustic coupling cavity measured in comparison it has improved significantly. Therefore, the results described in this section use the method can not be directly measured with the previously published GB/T 6657-1986 "hearing aid electroacoustic characteristics measuring method" or IEC 60118-7 "aids - Part 7. hearing aids for quality inspection of product delivery can be measured "or GB/T 11453-1989" aids - Part 8. Under simulate actual working conditions of hearing aids Performance Measurement "measured Results were compared.

Provisions of this Part are 20 μ Pa SPL reference. Where appropriate, may be abbreviated as SPL SPL.

Alternative methods should be point by point measurements measured as a reference, and do the interpretation of the results of comparative law and sound pressure method measured reference.

Electric acoustic hearing aids Part 0. Measurement of electroacoustical characteristics

1 Scope

This section provides the use of free-field measurement techniques and physical performance characteristics of air conduction hearing with the ear simulator approach.

This section applies to the measurement of air conduction hearing aid electroacoustic characteristics.

2 Normative references

The following documents contain provisions which, through reference GB/T 25102 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 3241-1998 octave and fractional octave filters GB/T 3769-1983 plotting frequency characteristics and polar diagrams of scale and size GB/T 25102.1-2010 electroacoustic aids - Part 1. an induction hearing aid telecoil input (IEC 60118-1:1999, IDT) GB/T 25102.2-2010 electroacoustic aids - Part 2. AGC circuit having a hearing aid (IEC 60118-2:1983, MOD) IEC 60711. 1981 measured using ear headset with a headset connected by plugging the ear simulator

3 Terms and Definitions

The following terms and definitions apply to this section.

Ear Simulator an apparatus for measuring sound pressure in the headphone output of known acoustic load conditions and predetermined frequency range. It mainly consists of a prescribed body Volume of the cavity, acoustic load networks and calibrated microphone components. Select the microphone position, such that the human ear drum sound pressure at the microphone Sound pressure at the close. (See IEC 60711. 1981) 3.2 **Substitution substitutionmethod** this measurement is the measurement of hearing aids and free-field sound pressure on the microphone alternately sound field in the same spot.

Comparative Law comparisonmethod this measurement is the measurement of hearing aids and free-field sound pressure on the microphone while the sound field in acoustic equivalent of two points.

Sound pressure pressuremethod this measurement is calibrated sound pressure control controls the microphone close to the hearing aid sound-inlet sound pressure level at the input, so, basically it eliminates the effects of diffraction from a hearing aid.