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PEOPLE'S REPUBLIC OF CHINA

# JJF 1737-2019

# Calibration Specification for Power Frequency Magnetic Field Simulators

工频磁场模器校准规范

**(English Translation)**

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## 9 Recalibration time interval (5)

Appendix A Original Record Format (6)

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Appendix C Examples of calibration uncertainty assessment of main items (9)

## Introduction

This specification is based on JJF 1071-2010 "Rules for Compiling National Measurement and Calibration Specifications" and JJF 1059.1-2012 the preparation of the "Measurement



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Uncertainty Evaluation and Expression".

This specification refers to GB/T 17626.8 "Electromagnetic compatibility test and measurement technology power frequency magnetic field immunity test" and IEC 61000-4-8.:2009 "Electromagnetic Compatibility (EMC) Part 4-8.Test and Measurement Technology Power Frequency the relevant clauses in "Magnetic Field Immunity Test" are prepared.

This specification is the first release.

Calibration Specification of Power Frequency Magnetic Field Simulator

1 Scope

This specification is applicable to power frequency magnetic field immunity according to GB/T 17626.8 "Electromagnetic Compatibility Test and Measurement Technology" Test "and IEC 61000-4-8.:2009" Electromagnetic Compatibility (EMC) Part 4-8.Test and Measurement Technology the calibration of the power frequency magnetic field simulator required in the Power Frequency Magnetic Field Immunity Test is also applicable to the comprehensive EMC immunity the calibration of the power frequency magnetic field simulator part in the test system.

2 Reference documents this specification refers to the following documents.

GB/T 17626.8 EMC test and measurement technology power frequency magnetic field immunity test IEC 61000-4-8.:2009 Electromagnetic Compatibility (EMC) Part 4-8.Test and Measurement Technology Power Frequency Electromagnetic Compatibility (EMC) -Part 4-8.Testing and measurementtechniques-Powerfrequencymagneticfieldimmunitytest) for dated reference documents, only the dated version applies to this specification; for those without date references the latest version (including all amendments) is applicable to this specification.

3 Terms and units of measurement

3.1 Inductive coil

A conductor ring with a certain shape and size, when current flows through the ring, it is generated in its plane and the enclosed space Definite magnetic field.

3.2 Inductive coil factor the ratio of the magnetic field strength generated by the induction coil of a certain size to the corresponding current.

In the case of equipment, measured at the center of the coil plane.

3.3 Standard induction coil standardinductivecoil Induction coil with 1 turn and size of 1m x 1m or 1m x 2.6m.

4 Overview



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The power frequency magnetic field simulator is generally composed of a power frequency current generator and an induction coil. Among them, the main frequency current generator it should be composed of voltage regulator, control loop and current transformer; the induction coil is made of copper, aluminum or other conductive non-magnetic materials Material.

The power frequency magnetic field simulator is mainly used to simulate the influence of the magnetic field generated by the power frequency current on the equipment under operating conditions.

Check the ability of the tested electronic equipment to resist power frequency magnetic fields.



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