

ICS 33.100.20

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

GB/Z 6113.401-2018

**Specification for radio disturbance and immunity measuring
apparatus and methods -- Part 4-1: Uncertainties, statistics and
limit modelling -- Uncertainties in standardized EMC tests**

Issued on: March 15, 2018

Implemented on: October 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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Foreword

GB/T (Z) 6113 "Radio Disturbance and Immunity Measurement Equipment and Measurement Method Specification" is the basic standard for electromagnetic compatibility, and is composed of the following four major

Part of the composition.

Part 1. Specification for radio disturbance and immunity measuring equipment

--- Part 1-1. Measurement equipment for radio disturbance and immunity measuring equipment;

--- Part 1-2. Radio disturbance and immunity measurement equipment auxiliary equipment conducted disturbance;

--- Part 1-3. Radio disturbance and immunity measuring equipment auxiliary equipment disturbance power;

--- Part 1-4. Radio disturbance and immunity measuring equipment - Radiation disturbance measuring antennas and test sites;

--- Part 1-5. Radio disturbance and immunity measuring equipment 30MHz~1000MHz antenna calibration test site;

---Parts 1-6. EMC antenna calibration for radio disturbance and immunity measuring equipment.

Part 2. Radio disturbance and immunity measurement methods

--- Part 2-1. Radio disturbance and immunity measurement methods - Conductive disturbance measurement;

--- Part 2-2. Radio disturbance and immunity measurement methods - Harassment power measurement;

--- Part 2-3. Radio disturbance and immunity measurement methods - Radiance

disturbance measurement;

--- Part 2-4. Radio disturbance and immunity measurement methods - Immunity measurement;

--- Part 2-5. Field measurement of large equipment harassment emissions.

Part 3. Technical report on radio disturbance and immunity measurement

--- Part 3. Technical report on radio disturbance and immunity measurement.

Part 4. Uncertainty, statistics, and limit modeling

--- Part 4-1. Uncertainty, statistics and limit modeling standardized EMC test uncertainty;

--- Part 4-2. Uncertainty, statistics and limits modeling uncertainty of equipment and facilities;

--- Part 4-3. Uncertainty, statistics and limits modeling statistical considerations for the determination of EMC compliance for batch products;

--- Part 4-4. Calculation models for statistical and limit values for uncertainty, statistics and limit modeling;

--- Part 4-5. Uncertainty, statistics and limits modeling conditions for the use of alternative test methods.

This part is part 4-1 of GB/T (Z) 6113.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB /Z 6113.401-2007 "Radio Disturbance and Immunity Measurement Equipment and Measurement Methods Specification Part 4-1.

Standardized EMC Test Uncertainty for Uncertainty, Statistics, and Limit Modeling, compared with GB /Z 6113.401-2007

The changes are as follows.

--- The normative reference file has changed in part;

--- Added abbreviations (see 3.2);

--- Added 4.7.1.1.3 "Conformity determination considering uncertainty when setting limits";

--- Added 4.7.1.2 "Consideration of Uncertainty Categories";

--- Added 4.7.5 "Application of Uncertainty in Retesting";

--- Added Chapter 8 "Radiation Emission Measurement Using SAC or OATS in the 30MHz~1000MHz Frequency Range";

--- Added Appendix G "Evaluation of Uncertainty in Measurement Methods for Radiated

Emissions";

--- Added Appendix H "Results of different cyclic tests based on SAC/OATS-based radiation emission measurements";

--- Added Appendix I, "Additional Information on Differences Between Measurement Uncertainty and Standard Conformity Uncertainty."

This section uses the translation method equivalent to CISPR/T R16-4-1.2009 "Radio Disturbance and Immunity Measurement Equipment and Measurement Methods

Part 4-1. Uncertainty in Standardized EMC Tests for Uncertainty, Statistics, and Limit Modeling.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

-- GB/T 6113.102-2008 - Radio disturbance and immunity measuring equipment and measuring methods - Part 1-2. Radio

Harassment and Immunity Measurement Equipment Auxiliary Equipment Conducted Harassment (CISPR16-1-2.2006, IDT)

--- GB/T 6113.104-2016 Radio disturbance and immunity measuring equipment and measuring methods - Part 1-4. Radio

Antennas and test sites for harassment and immunity measurement equipment for radiation disturbance measurement (CISPR16-1-4.2012, IDT)

-- GB/T 6113.202-2008 - Radio disturbance and immunity measurement equipment and methods of measurement - Part 2-2. Radio

Harassment and Immunity Measurement Methods Disturbance Power Measurement (CISPR16-2-2.2004, IDT)

--- GB/T 6113.203-2016 Radio disturbance and immunity measuring equipment and measuring methods - Part 2-3. Radio

Harassment and Immunity Measurement Methods Radiation Disturbance Measurement (CISPR16-2-3.2010, IDT)

--- GB/T 6113.402-2018 Radio disturbance and immunity measurement equipment and methods of measurement - Part 4-2. Uncertain

Degree, statistical and limit modeling to measure the uncertainty of equipment and facilities (CISPR16-4-2.2014, IDT)

---GB/T 9254-2008 Radio disturbance limits and measurement methods for information technology equipment (CISPR22.2006, IDT)

---GB/T 27025-2008 General requirements for testing and calibration laboratory capabilities (ISO /IEC 17025.2005, IDT)

This part is proposed and managed by the National Radio Interference Standardization Technical Committee (SAC/TC79).

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1 Scope

This part of GB/T (Z) 6113 is intended to provide information to the developers and revisioners of the CISPR Electromagnetic Compatibility (EMC) standards.

A guide to the uncertainty. In addition, useful background information is provided for those who actually apply the uncertainty content in this section.

This section is limited to all uncertainties associated with compliance testing of EMC standards.

The purpose of this section.

a) Identify the impact uncertainty associated with the statement that "a given product meets the requirements of the CISPR standard" (standard compliance does not

The parameter or source of the degree of certainty (abbreviated SCU, see 3.1.16);

b) give an assessment guide on the magnitude of the uncertainty of the criteria compliance;

c) Give guidance on applying the criteria compliance uncertainty to the CISPR standardized conformance test.

Therefore, this section can be used as a manual to help standard writers consider how to deal with current or future uncertainties.

The "CISPR Standards" developed are supplemented, quoted or coordinated as necessary. This section also judges regulatory agencies, accreditation bodies and test engineers.

Provide guidance on the quality of work performed by EMC testing laboratories that are CISPR standardized compliance tests. When using different replacement test parties