

ICS 33.100
CCS L 06



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

GB/T 6113.105-2018

Replacing GB/T 6113.105-2008

**Specification for radio disturbance and immunity measuring apparatus and
methods -- Part 1-5: Radio disturbance and immunity measuring apparatus --
Antenna calibration sites and reference test sites for 5 MHz to 18 GHz**

Issued on: December 28, 2018

Implemented on: July 1, 2019

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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Foreword

GB/T 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 departments.

Composition.

Part 1. Specification for radio disturbance and immunity measuring equipment

--- Part 1-1. Radio disturbance and immunity measuring equipment measuring equipment;

--- Part 1-2. Coupling devices for measurement of conducted disturbances in radio disturbance and immunity measuring devices;

--- 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 5MHz~18GHz antenna calibration site and reference 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 method Radiative 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, statistical and limit modeling Modeling 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 1-5 of GB/T 6113.

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

This part replaces GB/T 6113.105-2008 "Radio Disturbance and Immunity Measurement

Equipment and Measurement Methods Specification Part 1-5.

Radio disturbance and immunity measuring equipment 30MHz~1000MHz antenna calibration test site", and GB/T 6113.105-

Compared to 2008, the main technical changes are as follows.

- Modified the standard name;
- Added 16 terms and definitions (see Chapter 3);
- Added abbreviations (see 3.2);
- Increased the vertical polarization confirmation of REFTS (see 4.7.3);
- Added confirmation of the calibration of the vertically polarized biconical and dipole antennas and the field of the biconical portion of the composite antenna (see 4.9);
- Added confirmation of CALTS using vertical polarization to calibrate 5MHz~30MHz monopole antennas (see 4.10)
- Increased FAR confirmation method in the frequency range of 30MHz~18GHz (see Chapter 5);
- Added site validation method for calibrating directional antennas (see Chapter 6);
- Increased the uncertainty of site verification by antenna coefficient comparison and the application of RSM to assess the uncertainty contribution of SAC (see Chapter 7);
- Increased the impact of the field cone pin on the vertical polarization site confirmation method on the antenna coefficient measurement results negligible evidence (see Appendix F).

This section uses the translation method equivalent to CISPR16-1-5:2014 "Radio Disturbance and Immunity Measurement Equipment and Measurement Methods

Part 1-5. Radio Disturbance and Immunity Measurement Equipment 5MHz~18GHz Antenna Calibration Site and Reference Test Site.

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

- GB/T 4365-2003 Electrotechnical terminology electromagnetic compatibility (idt IEC 60050 (161)..1990)

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

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Limited.

Introduction

This section describes the Antenna Calibration Test Site (CALTS) validation procedure for antenna calibration from 5MHz to 18GHz. Correct

See the GB/T 6113.106-2018 for the antenna calibration procedure.

For the ground reflection suppression problem of 30MHz~200MHz, the main function of the reflection ground plane is to match the dipole antenna and double

The cone antenna and the composite antenna are calibrated, and the pattern of the H-plane in these bands is uniform in this frequency band. For dipole antennas, freedom

The spatial antenna coefficient F_a can be measured by measurement in a free space environment of 200 MHz or more. Due to the reduction of the object around the antenna

Shooting is very difficult, especially from the ground, so a flat metal ground plane is used to ensure the reproducibility of the measurement results and can be reversed

The signal is accurately eliminated by mathematical calculations.

Appendix A gives the requirements for constructing CALTS, and Chapter 4 gives the technical specifications for CALTS and the Reference Test Site (REFTS).

And confirmation procedures. The most accurate way to confirm CALTS is to use a computable dipole antenna as the basis for this part of the validation process.

Appendix B gives the design principles for computable antennas. Appendix C and Appendix D give the theory and method for calculating site insertion loss (SIL).

Chapter 5 ~ Chapter 7 gives confirmation procedures for other antenna calibration sites.