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NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

JJF 1897-2021

Calibration Specification for Measurement Antennas from 30 MHz to 1 GHz

30MHz～1GHz测量天线校准规范

(English Translation)

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Introduction

This specification is based on JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications" and JJF 1059.1-2012 Compilation of "Evaluation and Expression of Measurement Uncertainty".

The following documents are used in this specification.

The conventional antenna coefficient calibration method is equivalent to ANSIC63.5:2017 (including CISPR16-1-6.2017) the standard field method in the standard field; the antenna coefficient calibration method of the dipole antenna is equivalent to using the CISPR16-1-6.2017 Standard antenna method; log-periodic antenna absolute gain calibration method is equivalent to IEEEStd149TM-1979 (R2008)(RevisionofIEEEStd149-1965); the gain calibration of other antennas is done by antenna coefficient Conversion method.

The calibration method for the attenuation of the antenna to the reference site for site confirmation is equivalent to the one in CISPR16-1-4.2019 with reference to the field method, the antenna coefficient calibration method for normalized field attenuation is equivalent to ANSIC63.5:2017.antenna the value traceability method adopts GB/T 6113.105-2018.

The main body of this specification provides the most commonly used calibration methods, and other methods are shown in the appendix.

This specification is released for the first time.

30MHz~1GHz measurement antenna calibration specification

1 Scope

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This specification applies to dipole antennas, biconical antennas, log-periodic antennas, complex antennas in the 30MHz~1GHz frequency band.

Calibration of combined antennas, sleeve antennas and other measurement antennas (hereinafter referred to as antennas) used in this frequency band.

2 Reference documents the following documents are cited in this specification.

GB/T 6113.105-2018 Specification for Radio Disturbance and Immunity Measurement Equipment and Measurement Methods Part 1-5 Points. radio disturbance and immunity measurement equipment 35MHz~18GHz antenna calibration site and reference test site CISPR16-1-4..2019 Radio Disturbance and Immunity Measurement Equipment and Measurement Method Specification Part 1-4 Sub. Radio disturbance and immunity measurement equipment radiated disturbance measurement antenna and test site (Specificationfor radiodisturbanceandimmunitymeasuringapparatusandmethods-Part 1-4.Radiodis-turbanceandimmunitymeasuringapparatus-Antennasandtestsitesforradiateddis-turbancemeasurements) CISPR16-1-6.2017 Part 1-6 of Specification for Radio Disturbance and Immunity Measurement Equipment and Measurement Methods Sub. Radio disturbance and immunity measurement equipment EMC antenna calibration (Specificationforradiodisturbance andimmunitymeasuringapparatusandmethods-Part 1-6.Radiodisturbanceandim-munitymeasuringapparatus-EMCantennacalibration) ANSIC63.5:2017 U.S. National Standard for Electromagnetic Compatibility. Measurement of Radiated Emissions in Electromagnetic Interference Suppression Antenna calibration (9kHz~40GHz) (AmericanNationalStandardforElectromagneticCompat-ibility-RadiatedEmissionMeasurementsinElectromagneticInterference(EMI)Con-trol-CalibrationofAntennas(9kHzto40GHz)] IEEEStd145-1993 (R2004) IEEE Standard Antenna Term Definition (IEEEStandardDefini-tionsofTermsforAntennas) IEEEStd149TM-1979(R2008) (revision of IEEEStd149-1965) IEEE antenna test Measurement procedure standard (IEEEStandardTestProceduresforAntennas) for dated reference documents, only the dated version applies to this specification; for all undated references the latest version (including all amendments) is applicable to this specification.

3 Terms and units of measurement

3.1 Site insertion loss when the output of the signal generator and the input of the receiver are directly connected by cables and attenuators, the electrical connection is when the transmitting antenna and the receiving antenna at the specified position of the calibration site are replaced, the transmission between two pairs of polarization-matched antennas loss.

3.2 site attenuation

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