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JJF

NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE PEOPLE'S REPUBLIC OF CHINA

JJF 1759-2019

Calibration Specification for Attenuation Calibrators

衰减校准装置校准规范

(English Translation)

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7 Recalibration time interval (3)

Appendix A Original Record Format (4)

Appendix B. Internal page format of the calibration certificate (5)

Appendix C Examples of Uncertainty Evaluation of Calibration Results of Main Items (6)

Introduction

This specification is based on JJF 1071-2010 "Rules for Compiling National Measurement and Calibration Specifications" and JJF 1059.1-2012 Compilation of "Measurement Uncertainty Evaluation and Representation". This specification is for JJG424-1986 "TO7 (TO7A) type attenuation the main changes in the revision of the Calibration Regulations for Calibration Devices are as follows.

--- The scope of application of the original regulations was revised, and the original only applies to TO7 (TO7A), TO6, VM-3 it is adapted to the current general attenuation calibration device, and the name of the specification is changed to "Attenuation Calibration Device Calibration Specification";

--- The frequency range of the original regulations has been extended;

--- The range of standard instruments used for verification in the original regulations was

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changed.

The previous releases of this specification are.

--- JJG424-1986.

Calibration specifications for attenuation calibration devices

1 Scope

This specification applies to the calibration of attenuation calibration devices in the frequency range of 100kHz to 50GHz.

2 Overview

There are many types of attenuation calibration devices, and their measurement principles mainly use alternative methods and measurement receiver methods, Now the measurement of attenuation. Attenuation calibration device is a commonly used equipment in radio measurement, used to measure various types of attenuation Minus.

3 Measurement characteristics

a) Attenuation. 0dB ~ 100dB (100kHz ~ 18GHz); 0dB ~ 80dB (18GHz ~ 50GHz);

b) Maximum allowable error. ± (0.02dB 0.002 x A) (A. 0dB ~ 80dB); ± 0.30dB (90dB), ± 0.40dB (100dB).

4 Calibration conditions

4.1 Environmental conditions

a) Ambient temperature. 23 °C ± 5 °C;

b) Relative humidity. <=80%;

c) Power requirements. 220V ± 11V, 50Hz ± 1Hz;

d) Others. There are no electromagnetic interference and mechanical vibrations that affect the normal operation of the instrument.

4.2 Calibration equipment

4.2.1 Standard attenuator

a) Frequency range. 100kHz ~ 50GHz;

b) Attenuation. 0dB ~ 100dB (100kHz ~ 18GHz), 0dB ~ 80dB (18GHz ~ 50GHz);

c) Uncertainty. 0.01dB ~ 0.13dB (k = 2).

4.2.2 Signal generator

a) Frequency range. 100kHz ~ 50GHz;

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b) Level range. -40dBm ~ 10dBm;

With time base input and output functions.

4.2.3 Fixed attenuator

a) Frequency range. 100kHz ~ 50GHz;

b) Attenuation. 6dB/10dB;

c) Voltage standing wave ratio. <=1.1 (100kHz ~ 18GHz); <=1.2 (18GHz ~ 40GHz); <=1.25

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