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JJF 1761-2019

Calibration Specification for Selective Level Meters

选频电平表校准规范

(English Translation)

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7 Recalibration time interval (13)

Appendix A Original Record Format (14)

Appendix B. Internal page format of the calibration certificate (21)

Appendix C Examples of Uncertainty Evaluation of Calibration for Major Projects (28)

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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 revised based on JJG777-1992 "Frequency Selection Level Meter", compared with JJG777-1992, in addition to editorial changes, the main technical changes in this specification are as follows.

--- The upper frequency limit is increased from 30MHz to 150MHz;

--- standardized the name of the calibration project;

--- According to the different level display methods, the corresponding technical indicators and calibration methods are refined;

--- Added the calibration method for unbalanced input level measurement under different nominal input impedances;

--- Modify the calibration method of frequency measurement;

--- Modify the calibration method of 0dBm level;

--- Modified the calibration method of the meter scale;

--- Modify the attenuation calibration method;

--- Modify the calibration method of return loss;

--- Modify the calibration method of input balance (input longitudinal interference);

--- Decompose the original selective measurement index into two indexes. frequency selection bandwidth and selectivity (stop band attenuation).

--- Appendix C gives an example of the uncertainty assessment method for level measurement.

Previous releases of this specification.

--- JJG777-1992.

Calibration Specification for Frequency Selective Level Meter

1 Scope

This specification applies to the calibration of frequency selective level meters with an upper frequency limit of 150MHz. The receiving part of the transmission tester the calibration can be performed by reference.

2 Overview

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The frequency selection level meter is constructed according to the principle of superheterodyne, which realizes the level measurement within the selected bandwidth and has the level measurement standard Features such as high accuracy and wide level measurement range. Frequency selection level meter can be divided into pointer type frequency selection level meter and digital indication selection Frequency level meter, frequency selection level meter has two measurement functions of broadband and frequency selection, usually the input port has balanced input and unbalanced Enter two types.

Frequency selection level meters are mainly used for the manufacture, installation, maintenance and testing of communication equipment, and the transmission of high-frequency signals in power systems.

It is widely used in level measurement in scientific research and production.

3 Measurement characteristics

3.1 Level measurement

3.1.1 Digital indication frequency selection level meter Measuring range. -110dBm ~ 20dBm (input impedance 75ohm);

Maximum allowable error. ± (0.15 ~ 2.0) dB.

3.1.2 Pointer frequency selection level meter

a) Zero level (0dBm) Basic error. ± (0.1 ~ 0.2) dB (reference frequency 1kHz);

Frequency response. ± (0.2 ~ 0.5) dB.

b) attenuation

Range. (0 ~ 70) dB;

Basic error. ± 0.2dB (reference frequency 1kHz);

Frequency response. ± (0.2 ~ 0.5) dB.

c) Head scale

Range. (-20 ~ 10) dBm;

Maximum allowable error. ± (0.2 ~ 0.5) dB.

3.2 Frequency measurement

3.2.1 Balanced input Frequency range. 20Hz ~ 2MHz;

Maximum allowable error. ± (1 x 10-3 ~ 1 x 10-6).

3.2.2 Unbalanced input Frequency range. 20Hz ~ 150MHz;

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