

JJF

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**Calibration specification for spectrum analyzer
(English Translation)**

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Table of Contents

Introduction...	6
1 Scope...	7
2 Normative references...	7
3 Overview...	7
4 Metrological characteristics...	7
4.1 Reference frequency...	7
4.2 Calibration signal level...	7
4.3 Frequency marker...	8
4.4 Sweep width...	8
4.5 Resolution bandwidth...	8
4.6 Frequency stability...	8
4.7 Vertical display scale...	8
4.8 Reference level...	9
4.9 Input attenuator conversion effects...	9
4.10 Resolution bandwidth conversion effect...	9
4.11 Display average noise level...	9
4.12 Residual response...	9
4.13 Image response...	9
4.14 Scan time...	9
4.15 Absolute amplitude...	9
4.16 Input frequency response...	10
4.17 Second harmonic distortion...	10
4.18 Third-order intermodulation distortion...	10
4.19 Gain compression...	10
4.20 Input voltage standing wave ratio...	10
4.21 Power bandwidth...	10
5 Calibration conditions...	10
5.1 Environmental conditions...	10
5.2 Equipment used for calibration...	11
6 Calibration items and calibration methods...	12
6.1 Appearance and operation normality inspection...	13
6.2 Reference frequency...	13

6.3 Calibration signal level...	14
6.4 Frequency reading...	16
6.5 Sweep width...	16
6.6 Resolution bandwidth...	17
6.7 Noise sideband...	20
6.8 Residual frequency modulation...	21
6.9 Vertical display scale...	22
6.10 Reference level...	24
6.11 Input attenuator conversion effect...	24
6.12 Resolution bandwidth conversion effect...	25
6.13 Display average noise level...	26
6.14 Residual response...	27
6.15 Image response...	27
6.16 Scan time...	28
6.17 Absolute amplitude...	29
6.18 Input frequency response...	30
6.19 Second harmonic distortion...	31
6.20 Third-order intermodulation distortion...	32
6.21 Gain compression...	33
6.22 Input voltage standing wave ratio...	34
6.23 Frequency counting...	34
6.24 Power bandwidth...	35
7 Presentation of calibration results...	35
8 Recalibration Interval...	36
Appendix A Calibration record form...	37
Appendix B The inner page format of calibration certificate...	47
Appendix C Examples of measurement uncertainty evaluation...	59

1 Scope

This specification applies to the calibration of a spectrum analyzer in the frequency range from 3 Hz ~ 50 GHz.

2 Normative references

This specification refers to the following documents.

JJF 1071-2010 The rules for drafting national calibration specification

For the dated documents, only the versions with the dates indicated are applicable to this specification; for the undated documents, only the latest version (including all the amendments) are applicable to this specification.

3 Overview

Spectrum analyzer is a super-heterodyne receiver with display device. It consists of preselector, scanning local oscillator, mixer, middle amplifier, filter, detector, amplifier and display. It is mainly used for spectrum analysis, AND can also be used for the measurement of frequency, level, gain, attenuation, analog modulation and digital modulation, and distortion jitter, which is and indispensable instrument in communication, radio, television, radar, aerospace, and other technology areas.

4.1 Reference frequency

Frequency nominal value. 10 MHz;

Frequency accuracy. $1 \times 10^{-5} \sim 1 \times 10^{-10}$.

4.2 Calibration signal level

Level range. -30 dBm $\sim$ 0 dBm;

4.16 Input frequency response

Frequency range. 3 Hz $\sim$ 50 GHz;

Frequency response. ± 0.2 dB $\sim$ ± 5 dB.

4.17 Second harmonic distortion

Frequency range. 10 MHz $\sim$ 25 GHz.

4.18 Third-order intermodulation distortion

Frequency range. 10 MHz $\sim$ 50 GHz.

4.19 Gain compression

Frequency range. 10 MHz $\sim$ 50 GHz.

4.20 Input voltage standing wave ratio

Frequency range. 10 MHz ~ 50 GHz;

Input voltage standing wave ratio. 1.02 ~ 3.

4.21 Power bandwidth

3dB bandwidth range. 1 Hz ~ 10 MHz;

The maximum allowable error. ± 0.02 dB ~ ± 0.50 dB.

Note: The above lists the measurement range and technical parameter requirements of each calibration parameter of the spectrum analyzer; during calibration, it shall follow the technical parameter requirements as...

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