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JJF

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

JJF 1173-2007

Replacing JJF 1173-2007

**Calibration Specification for Measuring Receivers
(English Translation)**

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Introduction

This specification is based on JJF 1071-2010 "National Metrology Calibration Specification Writing Rules", related terms and measurements Uncertainty assessment follows JJF 1001-2011 "General Terms and Definitions" and JJF 1059.1-2012 Two documents of Uncertainty Evaluation and Representation.

This specification is a revision of the JJF 1173-2007 Measurement Receiver Calibration Specification. Relative to the original specification, this regulation the main technical changes of Fan are as follows.

1) Extend the carrier frequency range to 100 kHz to 50 GHz, and increase the frequency offset to 500 kHz.

Measurement performance requirements; calibration project increases output reference frequency, measurement; adjustment amplitude calibration increases attenuator calibration Quasi-law

2) Delete power calibration, FM frequency response and amplitude modulation frequency response calibration.

The release of previous versions of this specification.

---JJF 1173-2007.

Measurement receiver calibration specification

1 Scope

This specification applies to the calibration of measurement receivers in the frequency range from 100 kHz to 50 GHz.

2 Overview

The measurement receiver is an instrument used to measure weak signals. The measurement receivers covered by this specification are mainly used for RF/Microwave signal generator (with analog modulation function) and attenuator measurement, mainly by frequency, tuning level and modulation Component measurement and other functional modules, with frequency, tuning level, amplitude modulation, frequency offset and demodulation distortion the number of measurement functions.

3 Measurement characteristics

3.1 Output reference frequency 10MHz, the maximum allowable error. $\pm 1 \times 10^{-9}$.

3.2 Frequency measurement

a) Frequency measurement range. 100kHz~50GHz;

b) Maximum allowable error. $\pm (1 \times 10^{-6} \sim 1 \times 10^{-9})$.

3.3 tuning level

a) Tuning level range.

-120dB~0dB (100kHz~26.5GHz);

-110dB~0dB (26.5GHz~50GHz);

b) Maximum allowable error. $\pm (0.02\text{dB} \sim 0.3\text{dB})$.

3.4 Frequency modulation, phase modulation

a) FM frequency offset measurement range. 0kHz~500kHz; maximum allowable error. $\pm(1\% \sim 1.5\%)$;

b) Phase modulation phase deviation measurement range. 0~500rad; maximum allowable error. $\pm(1\% \sim 4\%)$;

c) demodulation distortion. $\leq 0.3\%$;

d) Remaining frequency modulation. $\leq 1 \text{ Hz}$ (effective value);

e) Amplitude modulation suppression. $\leq 10\text{Hz}$.

3.5 amplitude modulation

a) Measurement range of amplitude adjustment. 5%~99%;

b) Relative maximum allowable error. $\pm (0.5\% \sim 1.5\%)$;

c) demodulation distortion. $\leq 0.3\%$;

d) Remaining amplitude modulation. $\leq 0.01\%$ (effective value);

e) Frequency modulation suppression. $\leq 0.2\%$.

Note: The above technical indicators are not qualified for judgment and are only for reference.