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JJF

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

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**Calibration Specification for White Gaussian Noise Generators
(English Translation)**

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Introduction

This specification based JJF 1071-2010 "national measurement calibration specifications write rules" Writing, terminology and measurement Uncertainty Evaluation follow JJF 1001-2011 "common measurement terms and definitions" and JJF 1059.1-2012 "measure Evaluation and Expression of Uncertainty. " this specification relates primarily white noise signal generator maximum output power, amplitude-frequency characteristics, flatness, attenuation correction quasi. Power meter calibration using a white noise signal generator maximum power output; with a spectrum analyzer or noise source calibration device Amplitude-frequency characteristics and flatness calibration white noise signal generator; using a power meter or spectrum analyzer calibration white noise signal Attenuation number generator.

This specification is the first release.

White noise signal generator calibration specification

1 Scope

This specification applies to the frequency range of 10Hz ~ 40GHz, the maximum output power range of -28dBm ~ Calibration 35dBm white noise signal generator.

2 Overview

White noise signal generator to produce the actual test system analog noise receiver for demodulation threshold (E_b/N_0), carrier to noise ratio (C/N), signal to noise ratio (SNR), bit error rate (BER) testing, and electromagnetic filters Compatible (EMI) testing. White noise signal from the noise source generator, amplifier, and filter network attenuators and other components.

3 Metrological characteristics

3.1 Frequency Range

Frequency range. 10Hz ~ 40GHz.

The maximum output power of 3.2 Maximum output power. (- 28 ~ 35) dBm.

3.3 Flatness

Flatness. ± 0.5 dB.

3.4 Attenuation

Attenuation. (0 ~ 100) dB;

Power output range. (- 65 ~ 40) dBm;

Power spectral density. (- 120 ~ -20) dBm/Hz;

The maximum permissible error. ± 0.3 dB.

Note: The above indicators are not used to determine eligibility for reference only.

4 calibration conditions

4.1 Calibration environmental conditions Ambient temperature. (23 ± 5) °C;

Relative humidity. $\leq 80\%$;

Power supply. voltage (220 ± 11) V, frequency (50 ± 1) Hz;

Other. no effect on calibration work around the normal mechanical vibration and electromagnetic interference.

4.2 Calibration Equipment Calibration equipment should be certified by measurement technology through the organization and within the validity period or calibrated to meet the

requirements.

Major equipment calibration as follows.

4.2.1 Spectrum Analyzer Frequency range. 3Hz ~ 43GHz;