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JJG

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

JJG 2015-2013

Replacing JJG 2015-1987

**Verification Scheme of Measuring Instruments for Pulse
Waveform Parameter
(English Translation)**

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Introduction

The preparation of the Verification System is based JJF1001-2011 "common measurement terms and definitions", JJF1002-2011 "National verification procedures writing rules" and JJF1071-2010 "National Calibration Specifications writing rules" in the claim write. The verification system in substitution for 1987 by the National Measurement Bureau issued JJG 2015-1987 "pulse waveform parameters meter Amount after verification system. " Compared with JJG 2015-1987, in addition to editorial changes outside the main technical changes are as follows.

- Pulse waveform parameters of technical indicators to improve the national benchmark for the September 2006 AQSIQ approved Nose-to-Nose utilize calibration technology to establish national baseline pulse waveform parameters of technical indicators;
- Removed the timing generator pulse waveform parameter value transfer system has been unusual standard equipment;
- Added Oscilloscope Calibrator and other standard equipment;
- Refresh the kind and amount of pulse waveform parameters standards of measurement and pulse waveform parameters metrology instruments Value transfer relationship.

Pulse waveform parameter measuring instruments Verification System

1 Scope

The verification system applicable to money transfer pulse waveform parameter measurement apparatus, which includes a pulse waveform parameter measurement Reference equipment, standards of measurement pulse waveform parameter value passed until the waveform parameters between the measuring instruments work Uncertainty relations, money transfer and money transfer method when requirements. In carrying out the calibration, but also as the traceability in accordance with.

2 Terms and definitions 2.1 kick-out pulse Two sampling oscilloscope input docking, one of the built-in DC bias sampling oscilloscope for sampling by an Sampling head toward the end of the connector pulse input.

2.2 NTN calibration nose-to-nose calibration procedure the use of three sampling oscilloscope twenty-two butt, kick-out pulse results of three measurements simultaneous responder system Cheng group, and then deconvolution impulse response determined for each sampling oscilloscope, enabling sampling oscilloscope rise time calibration Technology.

3 Overview

Pulse waveform parameters through time domain measurement method to measure the pulse waveform of the transient response of a set of parameters, including pulse Characterizing waveform parameters and characteristics of the system rise time, pulse amplitude, overshoot. The reference pulse waveform parameters by NTN school Pulse rise time to establish quasi-technical parameters of the measuring system and pulse amplitude measurement system components. Using the reference system Reproduce and save the waveform parameters by means of standard measuring instruments deliver a pulse waveform parameter value to the work of measuring instruments, to ensure that the magnitude of the pulse waveform parameters unity.

4 pulse waveform baseline measurement instruments 4.1 pulse waveform parameters reference device component 4.1.1 pulse rise time measuring device. it consists of three

50GHz digital sampling oscilloscope composition using NTN (Nose-to-Nose) calibration technology to reproduce the magnitude of the reference pulse rise time parameter measurement system.

4.1.2 pulse amplitude measuring device. AC-DC pulse amplitude precision measurement method by the sampled digital voltmeter and other equipment consisting of Means.

Supporting devices 4.1.3 pulse waveform parameters reference system. not leveled sine amplitude flatness characteristic measurement apparatus, pulse Chong interval measuring devices.

4.1.4 pulse waveform parameters to achieve the baseline measurement reproducibility and the basic unit of measure is not saved, but indirectly traceable to the basic unit of measure. current Units (ampere) and time units (seconds).