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**Calibration Specification for Oscilloscope Voltage Probes
(English Translation)**

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Introduction

This specification based JJF 1071-2010 "National Calibration Specifications writing rules" establishment, where measurement uncertainty Evaluation of in accordance JJF 1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement" in.

The scope of this specification means for providing a voltage probe and oscilloscope are test points between the physical and electrical connection Connect voltage probes, current probes and does not include the logic probe.

The specification for the first time to develop.

Oscilloscope voltage probe calibration specifications

1 Scope

This specification defines the oscilloscope voltage probe calibration items, processing methods and results for all kinds of frequencies below Oscilloscope voltage probe calibration to 6GHz.

2. References

This specification refers to the following documents.

JJF 1057-1998 digital storage oscilloscope calibration specification JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement JJF 1071-2010 National Calibration Specifications writing rules GB/T 15289-1994 digital storage oscilloscope General technical requirements and test methods for dated references, only the dated edition applies to this specification; undated reference documents Member, the latest edition (including any amendments) applies to this specification.

3 Terms and Definitions

3.1 DC voltage attenuation ratio DCattenuationratio Oscilloscope voltage probe to measure the ratio of the input voltage and output voltage. It is defined as the voltage oscilloscope probe Within the first measurement range, the input DC voltage and output DC voltage ratio.

3.2 passive probe it does not contain the active device that requires no external power supply can work properly probe.

3.3 Active Probe Comprises an active device, you need to probe external power to function properly. In general, the input capacitance is small, the output the resistance is small, it can reduce interference to the circuit under test to achieve a wide measurement bandwidth. Non-differential active probes the maximum input voltage is generally small, and the need to guard against electrostatic discharge damage and other factors active probe, and Active Differential Probes can be used for differential measurement of high voltage.

3.4 Differential Probe There is a positive and negative input terminals and two separate ground active probe. Voltage output voltage between the two inputs Proportional to the difference. The reference signal is used as a reference instead of the mutual observation ground level, and observed a significant dc Bias or other common-mode component of the signal, such as a small power supply noise superimposed signal.

4 Overview

Oscilloscope probe voltage is measured using an oscilloscope important equipment can be different forms of transmission line According to certain rules to convert the voltage signal to a voltage signal coaxially provided oscilloscope measurements. According to whether to include active devices