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

JJF 1494-2014

**Calibration Specification for Network Cable Analyzers
(English Translation)**

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Table of Contents

Introduction (II)

1 Scope (1)

2. References (1)

3 Terminology and units of measurement (1)

3 Terminology and units of measurement (1)

The propagation delay of 3.1 (1)

5.1 DC loop resistance (1)

Propagation delay of 5.2 (2)

5.5 Equivalent far-end crosstalk (2)

Return Loss 5.6 (2)

Length 5.7 (2)

Calibration Condition 6 (2)

7.2 DC loop resistance (4)

Propagation delay of 7.3 (5) Insertion Loss 7.4 (5)

9 Recalibration interval (9)

Appendix A Calibration Record Form (10)

Appendix B DC loop resistance calibration Measurement Uncertainty (18)

Appendix C return loss aid and RJ45 calibration member (21)

Appendix D impedance converter (22)

Appendix E ELFEXT simulator (23)

Introduction

Prepared on the basis of the calibration standard is JJF 1071-2010 "national measurement calibration specifications writing rules" and JJF 1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement." this calibration technique based on the following main

specifications of international standards.

IEC 61156-1 "digital telecommunication use of quad-core symmetric multi-cable, Part 1. Generic specification"

(Multi-core and symmetrical pair/quad cables for digital communications-Part 1. Generic specification);

IEC 61935-1 "balanced and coaxial information technology cabling test specification, Part 1. The ISO/IEC 11801 Wiring and balance "(Specification for the testing of balanced and the relevant provisions of the standard installation coaxial information technology cabling-Part 1. Installed balanced cabling as specified in ISO/IEC 11801 and related standards);

ANSI/TIA/EIA-568 "Commercial Building Telecommunications Cabling Standard. balanced twisted-pair cabling and telecommunications hardware connection standard Quasi "(Commercial Building Telecommunications Cabling Standard. Balanced Twisted-Pair Telecommunications Cabling and components Standard);

IEEE Std 802.3-2008 "communication information between the local network and metropolitan area networks two systems exchange index requirements" (Telecommunications and information exchange between systems-Local and metropolitan area networks-Specific requirements).

This specification is the first release.

Cable network analyzer calibration specification

1 Scope

This standard applies to testing 5, 5E, 6 etc. twisted pair cable network analyzer calibration. Testing over 6 category, 7 twisted pair cable network analyzer can use reference.

2. References

TIA-1152 balanced twisted-pair cabling field test instruments and measurement requirements (Requirements for Field Test Instruments and Measurements for Balanced Twisted-Pair Cabling) 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 terminology and units of measurement 3.1 propagation delay Between the plane of the cable assembly, spread transverse electromagnetic (TEM) waves within the frequency range of each frequency Phase delay, in nanoseconds (ns).

3.2 NEXT near-end cross-talk, NEXT A link, send in a line on the cable side, the same side of the other adjacent (receiving) line through Signal coupling caused by the electromagnetic induction, in decibels (dB).

3.3 ELFEXT equal level far and cross talk, ELFEXT A link, send in a line on the cable side, the

other side of the other adjacent (receiving) line on Signal is coupled through electromagnetic induction caused, i.e., far-end crosstalk.

Equivalent far-end crosstalk refers to a distal end of the receiving line crosstalk and signal attenuation on the transmission line to the poor, in minutes Tony (dB).

4 Overview

Cable network analyzer consists of two parts of the test host and remote. Cable Analyzer host generates a signal, and then Closing the distal end of the signal sent back for data analysis and processing; of the remote host sends back a response signal.

Network cable analyzer for testing LAN physical layer parameters, the quality of network cabling used in network cabling in advance Installation or troubleshooting subsequent failure to maintain the network, is a cabling system certification testing to determine its communication and transmission Analytical instruments necessary to achieve national or international performance standards and use.

Cable network analyzer main digital testing technologies and time domain reflectometry technology to achieve quick test.

5 Metrological characteristics

5.1 DC loop resistance Measuring range. (0 ~ 50) ohm; maximum permissible error. $\pm$ (1% reading 1ohm).