NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 17737.104-2018

Coaxial communication cables -- Part 1-104: Electrical test methods -- Test for capacitance stability of cable

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Foreword

GB/T 17737 "Coax Cable" has been or is planned to release the following parts.

--- Part 1. General rules, definitions and requirements;

---Part 1-100. General requirements for electrical test methods;

--- Part 1-101. Electrical test method Conductor DC resistance test;

--- Part 1-102. Electrical test method cable dielectric insulation resistance test;

--- Part 1-1-3. Electrical test method for cable capacitance test;

--- Part 1-1-4. Electrical test method for the capacitance stability test of cables;

--- Part 1-105. Electrical test method for withstand voltage test of cable media;

---Parts 1-106. Electrical test method - Withstand voltage test for cable sheathing;

--- Part 1-107. Electrical test method cable trembling charge level (mechanical induction noise) test;

--- Part 1-108. Electrical test methods for characteristic impedance, phase delay, group delay, electrical length and propagation speed test;

--- Part 1-110. Electrical test method continuity;

--- Part 1-111. Stability test of phase constants of electrical test methods;

--- Part 1-112. Electrical test method return loss (impedance consistency) test;

--- Part 1-113. Electrical test method attenuation constant test;

--- Part 1-114. Electrical test method inductance;

--- Part 1-115. Electrical test method impedance uniformity (pulse/step function return loss) test;

--- Part 1-161. Electrical test method TDR method to measure characteristic impedance;

--- Part 1-119. Electrical test methods - RF rated power;

--- Part 1-122. Electrical test method Crosstalk test between coaxial cables;

This part is part 1-104 of GB/T 17737.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to IEC 61196-1-104.2015 "Coaxial Communication Cables Part 1-1-4. Electrical Test Methods

Stability test of cable capacitance with temperature.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

Coaxial communication cables - Part 1 . General rules, definitions and requirements (IEC 61196-1.

2005, IDT);

Coaxial communication cables - Part 1-3-3. Electrical test methods - Capacitance test

(IEC 61196-1-103..2015, IDT).

This section has made the following editorial changes.

--- Modified the standard name.

1 Scope

This part of GB/T 17737 applies to coaxial communication cables. It specifies the stability of the capacitor when it is subjected to temperature changes.

experiment method.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

IEC 60050 (all parts) International Electrotechnical Vocabulary

IEC 61196-1 coaxial communication cables - Part 1. General specification, definitions and requirements (Coaxialcommunicationca-

bles-Part 1. Genericspecification-General, definitionsandrequirements)

Coaxial communication cables - Part 1-113. Electrical test methods - Capacitance test for cables (Coaxialcom-

municationcables-Part 1-103. Electricaltestmethods-Testforcapacitanceofcable)

3 Terms and definitions

The terms and definitions defined in IEC 60050 and IEC 61196-1 apply to this document.

4.1 Equipment

The size of the specification can complete the thermostat required by this test.

Capacitance should be measured in accordance with IEC 61196-1-103.

4.2 Sample

The sample shall comply with the provisions of IEC 61196-1-103.

4.3 Procedure

Capacitance should be measured in accordance with IEC 61196-1-103.

Unless otherwise specified in the relevant sub-specification or detailed specification, the cable under test shall be subjected to the temperature cycle applicable in Table 1, for a total of three times.

The capacitance of the cable under test at the initial and actual test temperatures after each step shall be measured.

Table 1 Temperature cycle

step

temperature

Foamed PE medium PE medium PTFE medium

time

Initial 20+/-2 20+/-2 20+/-2 >=2

1 65+/-2 75+/-2 250+/-5 >=2

2 20+/-2 20+/-2 20+/-2 >=2

3 -40+/-2 -40+/-2 -55+/-2 >=2

4 20+/-2 20+/-2 20+/-2 >=2

For other dielectric materials, the test temperature and test time shall be specified in the sub-specification or detailed specification.

5 Expression of test results

The test results should be normalized to a value of 1 m of the reference length.

C=

Cm

In the formula.

C --- the capacitance of the reference length at the measured temperature, in pico-farm per meter (pF/m);

Cm --- capacitance measurement of the cable under test (CUT), the unit is picofarad (pF);

L --- sample length in meters (m).

6 test report

The test report should give the following.

---Test temperature;

---Number of cycles (if not three times);

---sample length;

---Test frequency;

--- Cable capacitance for each step.

The deviation of the capacitance of each step from the initial value (pF/m) is recorded according to the relevant sub-specification or detailed specification.

7 requirements

The deviation of the capacitance of each step of the tested cable from the initial value (pF/m) shall comply with the requirements of the relevant detailed specifications.

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