



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

GB/T 17737.100-2018

**Coaxial communication cables -- Part 1-100: Electrical test
methods -- General requirements**

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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 1-100 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 61196-1-100.2015 "Coaxial Communication Cables Part 1-100. Electrical Test Side

General Requirements for Law.

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)

1 Scope

This part of GB/T 17737 gives the general requirements and conditions for the electrical test of coaxial communication cables. This section applies to

GB/T 17737.1xx series standard, which specifies the electrical test method for coaxial communication cables.

Test details (eg temperature, duration) and/or test requirements will be given in the relevant cable standards.

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.

Coaxial communication cables - Part 1. General specification, definitions and requirements
(Coaxialcommunication

cables-Part 1. Genericspecification-General, definitionsandrequirements)

3 Terms and definitions

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

4.1 Test Cable (CUT)

Unless otherwise specified in the relevant test methods, the length of the cable to be tested (CUT) should be selected taking into account the dynamic range of the measuring equipment and the specified frequency.

Rate range to get the required measurement accuracy. Cable length measurement accuracy should be better than 1% unless otherwise specified in the relevant cable specification.

4.2 Pretreatment

The cable under test shall be pretreated at a constant ambient temperature for a certain period of time to stabilize the temperature of the sample within the temperature range specified in 6.1.

5 test

The test and performance characteristics required for cables of different sizes are specified by the relevant cable standards.

6.1 Environmental conditions

Unless otherwise specified, the test shall be carried out in the following environments.

- Temperature. 15 ° C ~ 35 ° C;
- Relative humidity. 25%~75% (no condensation phenomenon);
- Air pressure. 86kPa ~ 106kPa.

6.2 Temperature tolerance

Unless otherwise specified in the relevant specifications, the temperature tolerance shall be ± 2 °C.

6.3 Stability of frequency range and frequency dependent measurements

The required frequency range is specified by the relevant sub-specification.

The sweep should be linear or logarithmic. The linear sweep is performed according to equation (1); the log sweep is performed according to equation (2), namely.

$F_{step} =$

$F_{stop} - f_{start}$

$N - 1$

(1)

$K =$

F_{stop}

$F_{start} \{ \}$

$N - 1$

(2)

In the formula.

F_{step} ---linear frequency increment, constant over the entire specified frequency range;

F_{stop} ---the specified maximum frequency;

F_{start} ---the minimum frequency specified;

n --- frequency points;

K --- logarithmic frequency increment.

Unless otherwise specified, the minimum number of frequency points per decade may be 200.

7 test report

The test report shall include the measurement results and their maximum error, actual measurement conditions and their maximum error.

Appendix A

(informative appendix)

IEC 61196-1-1xx series electrical test method

IEC 61196-1-1xx consists of the following standards.

IEC 61196-1-100 (general requirements)