

ICS 33.120.10

CCS L 26



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

GB/T 17737.107-2018

**Coaxial communication cables -- Part 1-107: Electrical test
methods -- Test for cable microphone charge level
(mechanically induced noise)**

Issued on: September 17, 2018

Implemented on: April 1, 2019

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Overview

1 $\mu\text{C}/\text{m}$.

5 test equipment

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 1-104. 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 - Voltage withstand test of cable sheathing;
- Part 1-107. Electrical test method cable trembling charge level (mechanical induced noise) test;
- Part 1-108. Electrical test methods for characteristic impedance, phase delay, group delay, electrical length and propagation speed test;
- Part 1-109. Electrical test method spark 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 1-115. 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 1-107 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 61196-1-107.2005 "Coaxial Communication Cables Part 1-107. Electrical Test Methods

Cable Breathing Charge Level (Mechanical Induced Noise) Test.

This section has made the following editorial changes.

---Modify the common logarithm of the charge per unit elongation measured at the cable elongation $\Delta L(m)$ and the ratio of $1\mu C/m$ [20lg()]"

For the common logarithm of the charge per unit elongation measured in the cable elongation $\Delta L(m)$ and the ratio of $1\mu C/m$ [20lg()], see

Formula (4) and formula (5)" (see 3.1);

---Modify "8---test cable (CUT)" as "8---test cable" (see Chapter 5).

1 Scope

This part of GB/T 17737 applies to coaxial communication cables and specifies the internals of the cable when it is subjected to mechanical stress.

Test method for trembling charge level (mechanical induced noise).

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 rules, definitions and requirements (IEC 61196-1.2005,

IDT)

3 Terms and definitions

The following terms and definitions as defined in GB/T 17737.1-2013 apply to this document.

3.1

Cable trembling charge level cable microphony charge level

The common logarithm of the charge per unit elongation measured in the cable elongation $\Delta L(m)$ and the ratio of $1\mu C/m$ [20lg()], see equation (4) and

Formula (5).

4 Overview

When the coaxial cable is subjected to mechanical stress such as impact, tension, pressure or torsion, it will generate a non-negligible interference current or dry on the cable.

The charge that disturbs the voltage.

These disturbances are called "mechanical induced noise" or "cable chatter noise", which is superimposed on the signal transmitted by the cable.

Has a significant impact.

This electromechanical conversion can reach frequencies up to 20 kHz (in the published literature, fast pulses up to 1 GHz are described, but these

Not included in this section).

The test procedure has the advantage of providing precise and controlled excitation of the test cable sample and the measurement results are repeatable.

In order to simplify the classification of cables with different noise characteristics, the trembling charge level of the cable is expressed in dB ($\mu C/m$), and 0 dB is defined as

1 $\mu C/m$.

A specially designed cable has a trembling charge level of approximately -60 dB ($\mu C/m$), while a standard cable has a turbpet charge level of approximately

0dB ($\mu C/m$).

5 test equipment

The test equipment is shown in Figure 1.