



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

GB/T 21021.3-2021

**Intermodulation level measurement for passive RF and
microwave devices - Part 3: Measurement of passive
intermodulation in coaxial connectors**

Issued on: November 26, 2021

Implemented on: June 1, 2022

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

Table of Contents

Foreword

1 Scope

2 Normative references

3 Abbreviations

4 Test method

4.1 Test sample

Foreword

GB/T 21021 "Intermodulation level measurement of passive radio frequency and microwave components" has released the following parts.

---Part 1.General requirements and measurement methods;

---Part 2.Passive intermodulation measurement of coaxial cable assemblies;

---Part 3.Passive intermodulation measurement of coaxial connectors;

---Part 4.Passive intermodulation measurement of coaxial cable.

This part is Part 3 of GB/T 21021.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this part is equivalent to IEC 62037-3.2012 "Intermodulation Level Measurement of Passive Radio Frequency and Microwave Components Part 3"

Sub. Passive Intermodulation Measurement of Coaxial Connectors.

The Chinese documents that have a consistent correspondence with the normatively cited international documents in this section are as follows.

---GB/T 21021.1-2021 Intermodulation level measurement of passive radio frequency and microwave components Part 1.General requirements and measurements

Method (IEC 62037-1.2012, IDT);

---GB/T 21021.4-2021 Intermodulation level measurement of passive radio frequency and microwave components Part 4.Passive coaxial cable

Intermodulation measurement (IEC 62037-4.2012, IDT).

1 Scope

This part of GB/T 21021 describes the passive intermodulation (PIM) test method when coaxial connectors are subjected to an impact test. This test is used

To evaluate the robustness of the coaxial connector, prevent weak connections and particles inside the connector, and be independent of passive intermodulation (PIM) as much as possible

Impact.

For other connectors (such as panel mount connectors), the cable can be replaced by a suitable transmission line (such as air line, ribbon line). for

To evaluate the impact of mechanical stress on the connector, a series of impact forces need to be applied to the connector when measuring PIM.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

IEC 62037-1 Intermodulation level measurement of passive radio frequency and microwave components Part 1.General requirements and measurement methods (Passive

RFandmicrowavedevices,intermodulationlevelmeasurement-Part

1.Generalrequirementsand

measuringmethods)

IEC 62037-4 Intermodulation level measurement of passive radio frequency and microwave components Part 4.Passive intermodulation measurement of coaxial cable

(PassiveRFandmicrowavedevices,intermodulationlevelmeasurement-Part 4.Measurementof passiveintermodulationincoaxialcables)

3 Abbreviations

The following abbreviations apply to this document.

DUT. device under test (deviceundertest)

IM. Intermodulation (intermodulation)

PIM. Passive Intermodulation (passive intermodulation)

4.1 Test sample

A test sample of one of the following two devices can be used.

Note. The correct mounting method and technology are very important for the mating of the cable and the connector.

a) Device 1---Multi-port DUT

In order to minimize the influence of the transmission line, it is advisable to test short-length components. The same connector should be assembled at each end. Should be constructed

A component that is as short as possible and practicable.

b) Device 2---Single port DUT

A single connector can be installed on a certain length of lossy or low-consumption transmission line, and the design ensures that the transmission line is at the lowest receiving frequency band

The one-way attenuation in frequency is at least 10dB.