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ICS 33.120.40
CCS M 51

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 21021.6-2026

Intermodulation level measurement for passive RF and microwave devices - Part 6: Measurement of passive intermodulation in antennas

无源射频和微波元器件的互调电平测量 第6部分：天线的无源互调测量

(English Translation)

Issued on: July 30, 2026 **Implemented on: February 1, 2027**

Issued by: State Administration for Market Regulation

Preview: page 1 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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Table of Contents

Preface
Introduction
1 Scope
2 Normative References
3 Terms, Definitions, and Abbreviations
3.1 Terms and Definitions
3.2 Abbreviations
4 The meaning of PIM for antennas
4.1 Antenna
4.3 Active Antenna
4.4 Antenna PIM
5 Antenna Design and On-site Installation Considerations
5.1 The Impact of Environment on PIM Performance
5.2 Antenna Interface Connection
5.3 Installation Precautions to Avoid PIM Issues
5.4 Adjacent Interference Sources
5.5 Common Practices and Guidelines for Material Selection
6 Precautions for PIM Measurement
6.1 Quality Assurance Methods and Procedures
6.2 Measurement accuracy
6.3 Test Environment
6.4 Safety
6.5 Test Apparatus
6.6 PIM Test Configuration
6.7 Environmental and PIM Synthesis Tests
6.8 Design of a PIM Darkroom
7 Precautions for Dynamic PIM Measurement
7.1 General Rules
7.3 Impact Test
References

Preview: page 2 of 5 shown, 9 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-21021-6-2026

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 6 of GB/T 21021 "Measurement of Intermodulation Levels of Passive Radio Frequency and Microwave Components". GB/T 21021 has been...

The following sections were published.

---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 Cables;

---Part 6: Passive Intermodulation Measurement of Antennas this document is equivalent to IEC 62037-6:2021 "Passive radio frequency and microwave components - Measurement of intermodulation levels - Part 6: Antennas without Source intermodulation measurement.

The following minimal editorial changes have been made to this document.

---To harmonize with existing standards, the standard name has been changed to "Intermodulation Level Measurement of Passive RF and Microwave Components - Part 6: Weather".

---Incorporating amendments to IEC 62037-6:2021/AMD1.2025, the outer margins of the relevant clauses are marked with vertical margins.

The double lines (||) are used to indicate this.

---Informative references have been added to IEC 62037-1:2025 (see 5.5) and ISO 2039-2 (see 7.3);

---The axis line in Figure 3 has been added.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of High-Frequency Cables and Connectors for Electronic Equipment (SAC/TC190).

Preview: page 3 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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Introduction

The intermodulation level test method for components. The corresponding IEC 62037 is written in different parts (or sections) to maintain consistency with the corresponding IEC standards.

The writing method is consistent, but the passive intermodulation test methods for different typical products are also different. Therefore, different parts are listed separately when compiling this series of standards.

To compile.

GB/T 21021 is proposed to consist of the following 6 parts.

---Part 1: General Requirements and Measurement Methods. The purpose is to determine the general requirements for intermodulation levels of passive RF and microwave components.

Summation measurement method.

---Part 2: Passive Intermodulation Measurement of Coaxial Cable Assemblies. The purpose is to determine the method for passive intermodulation measurement of coaxial cable assemblies.

---Part 3: Passive Intermodulation Measurement of Coaxial Connectors. The purpose is to determine the method for measuring passive intermodulation of coaxial connectors.

---Part 4: Passive Intermodulation Measurement of Coaxial Cables. The purpose is to determine the method for measuring passive intermodulation of coaxial cables.

---Part 5: Passive Intermodulation Measurement of Filters. The purpose is to determine the method for measuring passive intermodulation of filters.

---Part 6: Passive Intermodulation Measurement of Antennas. The purpose is to determine the method for measuring passive intermodulation of antennas.

An antenna is a device that converts high-frequency electromagnetic energy from information transmission lines into electromagnetic waves in free space, and is responsible for transmitting signals at the signal output end.

It can also be used to transmit electromagnetic waves in free space, or to convert electromagnetic waves into high-frequency electromagnetic energy in information transmission lines, and to use microwave elements responsible for signal reception at the signal receiving end.

Devices. They are important components in applications such as wireless access systems, satellite communication systems, and mobile communication systems, controlling electromagnetic wave radiation and induction.

Preview: page 4 of 5 shown, 9 in the full document. Complete English PDF, instant download:
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It is a component.

Intermodulation level measurement of passive RF and microwave components Part 6: Passive Intermodulation Measurement of Antennas

1 Scope

This document describes recommended test setups and procedures for measuring the passive intermodulation level of antennas (particularly those used in wireless communication systems).

2 Normative references

This document has no normative references.

3.1 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

The URLs for the terminology databases maintained by ISO and IEC for standardization are as follows.

3.2 Abbreviations

The following abbreviations apply to this document.

AUT. Antenna Under Test HPA. High Power Amplifier LNA. Low Noise Amplifier RF. Radio Frequency 4.The meaning of PIM for antennas

4.1 Antenna

An antenna is part of a radio transmitting or receiving system, designed to connect the transmitter or receiver to the medium through which radio waves propagate.

Provide the necessary coupling between them.

An antenna consists of many parts or components. These components include, but are not limited to, one or more radiating elements, one or more RF interfaces, etc.

Distribution or combination of power supply networks, internal support structures, devices for controlling or adjusting amplitude/phase response and distribution to radiating elements, filters, dual...

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