

ICS 33.120.30
CCS L 23



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

GB/T 48070.1-2026

**Multi-channel radio-frequency connectors - Part 1: Generic
specification - General requirements and test methods**
(English Translation)

Issued on: August 28, 2026

Implemented on: March 1, 2027

Issued by: State Administration for Market Regulation

Table of Contents

Foreword	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Design and Structure	
4.1 General Rules	
4.2 Materials and Surface Treatment	
4.4 RF Channel Interface Dimensions and Standards	
5 Ratings and Characteristics	
6 Climate Categories	
7 Model Naming	
8 Requirements and Test Methods	
8.1 General Rules	
8.2 Visual Inspection	
8.2.1 Requirement	
8.2.2 Inspection Procedures	
8.3 Dimensions and Interchangeability	
8.3.1 RF Channel Interface Dimensions	
8.3.2 Connector Interface Dimensions	
8.3.3 External Dimensions	
8.3.4 Mechanical interchangeability	
8.4 Electrical Testing	
8.4.1 Return Loss (Applicable to cable connectors and adapters)	
8.4.2 Insertion Loss (Applicable to cable connectors and adapters)	
8.4.3 Contact Resistance	
8.4.4 Insulation resistance	
8.4.6 Shielding efficiency (applicable to cable connectors and adapters)	
8.4.7 Discharge test (applicable to cable connectors and adapters)	
8.4.8 Passive Intermodulation (PIM)	
8.4.9 Isolation (applicable to cable connectors and adapters)	
8.4.10 Radio Frequency Power Tolerance (Specified)	

8.5 Mechanical Testing

8.5.1 Solderability (where applicable)

8.5.2 Fixation of the center contact (fixed center contact)

8.5.3 RF Channel Fixation (where applicable)

8.5.4 Meshing and Separating Forces

8.5.5 Standard holding force

8.5.6 Resistance to cable rotation (where applicable)

8.5.7 Resistance to cable tensile stress

8.5.8 Resistance to cable bending

8.5.9 Resistance to cable torsion (where applicable)

8.5.10 Strength of connecting mechanism (where applicable)

8.5.11 Low-frequency vibration

8.5.12 High-frequency vibration

8.5.13 Impact

8.5.15 Safety wire hole strength (where applicable)

8.6 Environmental Testing

8.6.1 Steady-state damp heat

8.6.2 Temperature shock

8.6.3 High-temperature durability

8.6.4 Low-temperature durability

8.6.5 Leakage (where applicable)

8.6.6 Hermetic seal (where applicable)

8.6.7 Salt spray

9 Quality Assessment

9.1 Overview

9.2 Identification and Testing

9.2.1 Test Samples

9.2.2 Inspection Procedure

9.2.3 Structurally Similar Elements

9.3 Quality Consistency Inspection

9.3.1 General Requirements

9.3.2 Batch-by-batch inspection

9.3.3 Periodic Inspection

9.4.1 Overview

9.4.2 Sub-specification (SS)

- 9.4.3 Detailed Specification (DS)
- 10 Signs
- 10.1 Component Marking
- 10.2 Packaging markings and contents

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 1 of GB/T 48070 "Multi-channel RF connectors". GB/T 48070 has the following parts published.

--Part 1: General Requirements and Test Methods of the General Specification this document is modified to adopt IEC 63138-1:2019 "Multichannel RF connectors - Part 1: General specifications - General requirements and tests".

method".

The technical differences between this document and IEC 63138-1:2019, and the reasons therefor, are as follows.

--The model naming structure in Chapter 7 has been changed to conform to my country's standard system;

--8.4.3.2a) has been deleted. The content of a) and b) in the original IEC text is redundant. b) can cover a) to meet the actual application needs in China.

--Change the content of 8.4.4.2c) and 8.4.5.2c) to "where applicable" because when the external contact of the RF channel is a single piece of metal housing.

Insulation resistance and dielectric withstand voltage cannot be tested;

--Added explanations for near-end ports and far-end ports in sections 8.4.9.2c) and d) to avoid ambiguity;

High operability;

--Change the title of 8.6.6 to "Air Tightness (where applicable)" because this test is only for sealed products. When the test product is a non-sealed product...

This test is not applicable when the product is in use.

The following editorial changes have been made to this document.

--Convert inches to millimeters;

- Correct the unit "m" for pulse duration in Table 3 to "ms";
- Correct "severity level not specified in Table 4" in 8.5.13.3c) to "severity level not specified in Table 3";
- The test item names in requirements 8.6.1 to 8.6.4 have been corrected.

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/TC 190).

Introduction

Multi-channel RF connectors are connectors consisting of two or more RF channels, and are currently widely used in aerospace applications.

In the fields of space, weaponry, and communication systems, it effectively solves the problems of a large number of components and large space occupation in single-channel RF coaxial connectors.

Multi-channel RF connectors feature a high-density layout and reliable locking characteristics, enabling rapid connection and disconnection of multiple microwave signals.

This integrated application greatly simplifies wiring and maintenance, increases installation and disassembly efficiency, improves system reliability, and reduces overall costs.

Machine system cost.

GB/T 48070 "Multi-channel RF connectors" is proposed to consist of 4 parts.

--Part 1: General Specifications and Test Methods. The purpose is to provide detailed specifications for various types of multi-channel RF connectors.

Provided as evidence.

--Part 2: MQ4 Series Circular Connector Specifications. The purpose is to define the performance requirements for the MQ4 series circular connectors.

Quality assurance regulations, etc.

--Part 3: MQ5 Series Circular Connector Specifications. The purpose is to specify the performance requirements of the MQ5 series circular connectors.

Quality assurance regulations, etc.