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

GB/T 11313.201-2018

**Radio-frequency connectors - Part 201:Electrical test methods -
Reflection coefficient and voltage standing wave ratio**

射频连接器 第201部分：电气试验方法 反射系数和电压驻波比

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Foreword

The electrical test method of GB/T 11313 "RF Connector" is planned to release the following parts.

--- Part.201. Electrical test method reflection coefficient and voltage standing wave ratio;

--- Part 202. Electrical test method insertion loss;

--- Part 203. Electrical test methods for shielding efficiency;

--- Part 204. Electrical test methods resistant to RF high potential voltage; This part is part.201 of GB/T 11313. This part is drafted in accordance with the rules given in GB/T 1.1-2009. Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying these patents. This part was proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This part is under the jurisdiction of the National High-Tech Cable and Connector Standardization Technical Committee for Electronic Equipment (SAC/TC190). This section drafted by: China Electronics Technology Standardization Institute, China Electronics Technology Group Corporation, the 40th Institute, Tong Ding Internet Information Co., Ltd. The main drafters of this section. Wu Zhengping, Wang Feng, Yu Zhian. RF connector Part.201. Electrical test methods Reflection coefficient and voltage standing wave ratio

1 Scope

GB/T 11313.201-2018 is the Chinese national standard on radio-frequency connectors - part 201:electrical test methods - reflection coefficient and voltage standing wave ratio, in the field of telecommunications and audio-video engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 17 September 2018 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2019. Classification: ICS 33.120.10, CCS L27. This page is published from the official record of the standard held by the Chinese standards administration: the

identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This part of GB/T 11313 specifies the test method for the reflection coefficient, voltage standing wave ratio and return loss of the RF connector, including frequency. Domain method, time domain method, gated time domain method. This section applies to the RF connector of the cable (hereinafter referred to as the cable connector) and the microstrip RF connector (hereinafter referred to as the microstrip connection). And RF connector adapters (hereinafter referred to as adapters), etc., also apply to each of multi-channel RF connectors and hybrid connectors RF channel testing.

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.

GB/T 11313.1 RF connectors - Part 1. General specification and test methods

3 Terms and definitions

The following terms and definitions as defined in GB/T 11313.1 apply to this document.

3.1 Reflection coefficient reflectionfactor The ratio of the magnitude of the reflected wave vector on any section of the connector to the magnitude of the incident wave vector is expressed by equation (1). $\Gamma = \frac{V_r}{V_i} = \frac{Z_L - Z_0}{Z_L + Z_0}$ (1) In the formula. Γ

--- reflection coefficient; V_i

--- incident voltage; V_r

--- reflected voltage; Z_0

--- the nominal impedance of the transmission line in ohms (Ω); Z_L

--- Transmission line termination load impedance in ohms (Ω).

3.2 Voltage standing wave ratio voltagestandingwaveratio The ratio of the maximum voltage to the minimum voltage on any section of the connector, its expression and the relationship with the reflection coefficient are expressed by equation (2). $VSWR = \frac{V_{max}}{V_{min}} = \frac{V_i + V_r}{V_i - V_r} = \frac{1 + \Gamma}{1 - \Gamma}$ (2) In the formula. VSWR