

ICS 17.220

CCS L85



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

GB/T 12498-2012

Replacing GB 12499-1990

Generic specification of rubidium frequency standard

铷原子频率标准通用规范

Issued on: December 31, 2012

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Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

This standard rule according to GB/T 1.1-2009 given draft. This standard replaces GB/T 12498-1990 "rubidium atomic frequency standard general technical conditions", GB/T 12499-1990 "rubidium atomic frequency Standard Test Method. " This standard and GB/T 12498-1990, GB/T 12499-1990 compared to the main changes are as follows:

- Delete references to normative documents repealed standards;
- Increasing the normative references in standards currently in force;
- Modify the terms and definitions related content;
- Revised Categories related content;
- Modify the technical requirements of the relevant content;
- Revised test methods related content. The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This standard by the National Standardization Technical Committee Electronic Measuring Instruments (SAC/TC153) centralized. This standard was drafted. Beijing Dahua Radio Instrument Factory. The main drafters. Zhang Jing true force Jia Wei, Guo first, Li Xuan Min. This standard superseded standard previously issued as follows:
- GB/T 12498-1990;
- GB/T 12499-1990. Rubidium atomic frequency standard universal norms

1 Scope

GB/T 12498-2012 is the Chinese national standard on generic specification of rubidium frequency standard, in the field of metrology and measurement. 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 31 December 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2013.

Classification: ICS 17.220, CCS L85. 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 standard specifies the terms rubidium atomic frequency standard (hereinafter referred to as "rubidium frequency standard"), definitions, classifications, technical requirements, testing and test side Method, inspection rules and signs, packaging, transportation and storage requirements. This standard applies to all models rubidium frequency standard product is the main technical basis for product development, design, production and acceptance testing. Develop each Model rubidium frequency standard product standard shall comply with the requirements of this standard.

2 Normative references

The following documents for the application of this document is essential For dated references, only the dated edition applies to this article Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191-2008 packaging Pictorial marking

GB 1002-2008 household and similar purposes single-phase plug and socket type, basic parameters and dimensions

GB/T 3873-1983 Telecommunication Equipment for packaging technology

GB/T 6587-2012 General specification for electronic measuring instruments

GB/T 6592 Electrical and electronic measurement equipment - Expression of performance

GB/T 11463-1989 electronic measuring instrument reliability test

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Rubidium atomic frequency standards rubidiumfrequencystandard A passive atomic frequency standards, rubidium isotopes between R87b \u200b\u200batom ground state hyperfine energy level transition frequency (6834682608Hz) to control the output frequency of the crystal oscillator, to obtain high stability frequency source frequency.

3.2 Frequency deviation frequencyoffset The actual value of the frequency difference between the nominal value of the frequency, usually with relative values \u200b\u200bsee formula (1). $y = \frac{f - f_0}{f_0}$ (1) Where. y

--- frequency deviation; f_0

--- nominal frequency value; f_x

--- frequency found.

3.3 Frequency accuracy frequencyaccuracy The maximum range of frequency deviation. Indicates how close to the nominal value of frequency actual value expressed in numerical quantitation without sign.