ICS 31.100
CCS L37

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 42742-2023

Technical requirements for L band 75 kW continuous wave magnetron

L波段75kW连续波磁控管技术要求

Issued on: May 23, 2023 **Implemented on: December 1, 2023**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting: Please note that some content of this document may involve patents, and the issuing organization of this document does not undertake the responsibility for identifying patents: This document is 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 Electric Vacuum Device Standardization Technical Committee (SAC/TC167): This document is drafted by: Nanjing Sanle Group Co:, Ltd:, Nanjing Sanle Microwave Technology Development Co:, Ltd:, Anhui Huadong Photoelectric Technology Research Institute Research Institute Co:, Ltd:, Kunshan Guoli Electronic Technology Co:, Ltd: The main drafters of this document: Wang Rongchuan, Zhao Qingliang, Chen Yang, Yang Zhaohui, Zhang Li, Huang Hao, Liu Aixin: Technical Requirements for L-Band 75kW CW Magnetron

1 Scope

GB/T 42742-2023 sets the technical requirements for the L band 75 kW continuous wave magnetron. A CW magnetron at this power is not a kitchen component: it is the RF source of a particle accelerator or an industrial heating plant, running continuously at a power where the anode must be water cooled and the magnetic circuit is part of the tube. It is also a consumable with a definite life, so the warranty period and the life test are commercial terms rather than technical footnotes. The standard sets the requirements on the structure, the dimensions and electrode connections, the absolute maximum ratings, the operating conditions and typical characteristics, the general test conditions, the warranty period, the marking, the safety requirements and the appearance quality, followed by the quality assessment procedure, with an annex covering the filament continuity test, the life test, the judgement of non-operating defects and the efficiency calculation. It took effect on 1 December 2023.

This document specifies the performance requirements, quality assessment procedures,

packaging and instructions, etc: of L-band 75kW continuous wave magnetrons: This document applies to L-band 75kW continuous wave magnetrons with frequencies of 896MHz, 915MHz, 922MHz, and 929MHz (with hereinafter referred to as "magnetron") production, testing, packaging and use:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 191-2008 Packaging, storage and transportation icon marks

GB/T 2423:1-2008 Environmental testing for electrical and electronic products - Part 2: Test methods Test A: Low temperature

GB/T 2423:2-2008 Environmental testing for electrical and electronic products - Part 2: Test methods Test B: High temperature

GB/T 2423:3-2016 Environmental Testing Part 2: Test Method Test Cab: Constant Damp Heat Test

GB/T 2828:1-2012 Counting sampling inspection procedure Part 1: Batch-by-batch inspection sampling retrieved by acceptance quality limit (AQL) plan

GB/T 4597-2012 Electron Tube Vocabulary

GB/T 4857:5-1992 Drop test method for packaging and transportation packages

GB/T 4857:10-2005 Basic tests for packaging and transportation packages - Part 10: Test method for sinusoidal frequency conversion vibration

GB 5959:6-2008 Safety of Electric Heating Devices Part 6: Safety Specifications for Industrial Microwave Heating Equipment

GB/T 9602-1988 Test method for electrical performance of continuous wave magnetron

GB/T 12852-2001 General Specifications for Magnetrons SJ/T 11082-2000 Test method for electric tube heating wire or filament current and voltage

3 Terms and Definitions

The terms and definitions defined in GB/T 12852-2001 and GB/T 4597-2012 apply to this document:

4 Requirements

1 General The magnetron shall comply with the requirements of this document and GB/T 12852-2001: When the requirements of this document In case of inconsistency, this document shall prevail: 4:

2 Structure The structure of the magnetron is as follows: