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**Antennas and reception systems for radio interference - Part 4:
Radio receiving system - EMC test method for electronic
equipment incorporated with radio module**

天线及接收系统的无线电干扰 第4部分：无线接收系统 集成无线模块电子设备电
磁兼容测试方法

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Table of Contents

1	Scope
2	Normative reference documents
3	Terms, definitions and abbreviations
3.1	Terms and definitions The terms and definitions defined in
3.2	Abbreviations
4	Overview
4.1	Electromagnetic compatibility test standard for integrated wireless module electronic equipment
5	Principles for electromagnetic compatibility testing of integrated wireless module electronic equipment
5.1	Integrity testing principles
5.2	The main functions of the equipment are based on test principles
5.3	Module independent testing, host adaptation principle
5.4	Principles of common testing of modules
6	Test Method
6.1	General requirements
6.2	Harassment test requirements
21	Reference

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 4 of GB/T (Z) 40602 "Radio Interference from Antennas and Receiving Systems". GB/T (Z) 40602 "Antenna and Radio Interference in Receiving Systems" has published the following sections.

1. Indoor far-field measurement method for basic measurement of antenna pattern;
2. Basic measurement method of indoor plane near-field measurement of high-gain antenna pattern;
3. Site measurement and compaction site performance confirmation methods;
4. Test methods for electromagnetic compatibility of electronic equipment with integrated

wireless modules in wireless receiving systems. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the National Radio Interference Standardization Technical Committee (SAC/TC79). This document was drafted by: Shanghai Electrical Apparatus Research Institute, Huawei Technologies Co., Ltd., Zhuhai Quality Supervision and Inspection Institute of Guangdong Province, Shanghai Haitaifeng Testing and Certification Co., Ltd., Midea Group Co., Ltd., Hunan University, Institute of Biomedical Engineering, Chinese Academy of Medical Sciences, Shi Nide Electric (China) Co., Ltd. Shanghai R&D Branch, Shanghai Hollevo Electronic System Technology Co., Ltd., Xi'an Xinchuang Electronic Technology Co., Ltd., Dongguan Erbit Robot Co., Ltd., Shanghai Robot Industry Technology Research Institute Co., Ltd., Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd., Dongguan Nandouxing Technology Co., Ltd., Shanghai Electrical Equipment Testing Institute Co., Ltd., Enping Haitian Electronic Technology Co., Ltd. Co., Ltd., Shenzhen Alon Electronics Co., Ltd., Shenzhen Wangliantianxia Technology Co., Ltd., Shanghai Tianwei Certification Technology Co., Ltd., Jiangsu Ze Yu Intelligent Power Co., Ltd. The main drafters of this document. Zhang Xinghai, Zheng Junqi, He Zhihui, Han Fu, Hu Jian, Li Gaosheng, Pu Jiangbo, Yin Jun, Zhou Jianhua, Wang Jia, Zhang Dalong, Li Jinxin, Yu Chao, Chen Hao, Qing Maorong, Pan Yinjun, Zhang Yuming, Ye Qiongyu, Zhang Fengxian, Zhang Xiaoping, Lu Zhonggang, Yang Xian, Xue Haifeng, Li Shun, Deng Qing, Hao Xu.

The radio interference of antennas and receiving systems is based on the "antenna" (invisible antenna-wireless receiving system) as the entry point to establish antennas and radio Electromagnetic compatibility standards for receiving systems, covering antennas, measurement sites and wireless receiving systems. GB/T (Z) 40602 "Radio Interference from Antennas and Receiving Systems" is intended to consist of four parts.

1. Indoor far-field measurement method for basic measurement of antenna pattern. The purpose is to specify the antenna radiation pattern in micro Measurement method for equal elevated far fields in anechoic chambers.
2. Basic measurement method of indoor plane near-field measurement of high-gain antenna pattern. The purpose is to specify high gain antennas Planar near-field scanning method is a method for measuring antenna pattern in a microwave anechoic chamber.
3. Site measurement and compression site performance confirmation method. The purpose is to specify the compact field shielding effectiveness and static field radiation characteristics. properties, phase characteristics and cross-polarization performance.
4. Test methods for electromagnetic compatibility of electronic equipment with integrated wireless modules in wireless receiving systems. The purpose is to provide for industrial use Electromagnetic compatibility test requirements and test methods for integrated wireless module electronic equipment such as industrial, scientific, medical, automotive, and household appliances. GB/T (Z) 40602 "Radio Interference of Antennas and Receiving

Systems" and GB/T 38889 together constitute the radio interference of antennas and receiving systems. Line interference standard system. Radio interference from antennas and receiving systems Part

4. Wireless Receiving System Integrated Wireless Test methods for electromagnetic compatibility of module electronic equipment

1 Scope

This document sets out the electromagnetic compatibility test method for electronic equipment that has a radio module built into it, as part 4 of the GB/Z 40602 series on antennas and receiving systems. Almost every product now contains a radio it was not designed around - a Wi-Fi module in an appliance, a Bluetooth chip in a tool, a cellular modem in a meter. Testing such a product is awkward because the radio is both the victim of interference and a source of it, and the classic EMC procedures assume it is one or the other. This part addresses exactly that case. Issued on 7 September 2023 by SAMR and SAC as a guiding technical document, in force from the same day. Relevant to any manufacturer putting a connected product through Chinese EMC testing.

This document specifies the electromagnetic compatibility test method for electronic and electrical equipment with integrated wireless modules, including an overview, electromagnetic compatibility test evaluation guidelines guidelines and testing requirements. This document applies to electronic and electrical equipment that integrates wireless module devices to achieve wireless functions in residential, commercial and industrial environments. The test methods specified in this document are used together with the electromagnetic compatibility standards for electronic and electrical equipment. The relevant electronic and electrical equipment includes but does not Limited to.

---Information technology equipment, multimedia equipment and receivers;

---Industrial, scientific and medical equipment;

---Household appliances, power tools and similar appliances;

---Electrical lighting and similar equipment;

---Automobiles, vehicle components and equipment, etc.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 4365 Electrical Terminology Electromagnetic Compatibility

3.1 Terms and definitions The terms and definitions defined in

GB/T 4365 and below apply to this document.

3.1.1 Wireless equipment/modules occupy the electromagnetic wave frequency band when operating according to the frequency band division regulations of the Radio Regulations.

3.1.2 associated equipment Equipment that enables the EUT to operate and/or monitors the operation of the EUT.

Note. Auxiliary equipment is located in the measurement area, or operates remotely outside the measurement area. [Source:

GB/T 9254.1-2021, 3.1.5, with modifications]

3.1.3 wireless equipment/radio equipment Electronic equipment that completes functions such as detection and perception, communication and interconnection, navigation and positioning, control and adjustment by emitting and/or receiving electromagnetic waves.