Report Number: HAZT-E(B)2025070301E

Portable Oxygen Concentrator
Electromagnetic Compatibility Test Report

Total of 25 pages

Beijing HAZT Testing Co., Ltd

Portable Oxygen Concentrator
Electromagnetic Compatibility Test Report

Name of the Entrusting Unit: LONGFIAN SCITECH CO.,LTD.

Address of the entrusting unit: Building B5,Kechuang Branch,National University Science Park,No.666 Lixing Street,Baoding, 071051,Hebei,China

Name of the test item： Portable Oxygen Concentrator

The model of the test article： JAY-1000P

Date of trial： July 03, 2025

Portable Oxygen Concentrator
Electromagnetic Compatibility Test Report

Signature page

Compiler: Cui Xiaohe Date: July 11. 2025

Reviewer: Nong Zhaoming Date: July 11.2025

Approver: Jing Fengjian Date: July 11. 2025

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Conclusion

On July 3, 2025, the Electromagnetic Compatibility Laboratory of Beijing HAZT Testing Co., Ltd. completed the following tests on the Portable Oxygen Concentrator (1 unit, numbered MZJ2P0304 8) in sequence in accordance with the RTCA/DO160-G environment al conditions and test procedures for airborne equipment.

Serial number	Experimental project		Test status	Test results	Report Section	Limit requirements	Remarks
1	Radio frequency energy emission test	Emission of Radio Frequency Energy-Radiated RF Emission	Work Status 1	Pass	2.1	Class B	Test frequency：100MHz～6GHz Test location：One meter directly in front of the test subject

In conclusion, the Portable Oxygen Concentrator has passed this electromagnetic compatibility test.

Beijing HAZT Testing Co., Ltd

July 11, 2025

Contents

1 Overview of the experiment

1.1 Task source and compilation basis

1.1.1 Task source

According to the cooperation agreement reached between LONGFIAN SCITECH CO.,LTD. and Beijing HAZT Testing Co., Ltd., Beijing HAZT Testing Co., Ltd. undertakes the electromagnetic compatibility test task of the Portable Oxygen Concentrator developed by LONGFIAN SCITECH CO.,LTD.

1.1.2 Test basis

RTCA/DO160-G	Environmental conditions and test procedures for airborne equipment

1.1.3 Compilation basis

E(B)2025070301	Test status confirmation form

1.2 The nature and purpose of the test

The nature of the test is a commissioned test. Its purpose is to assess whether the technical performance indicators of the Portable Oxygen Concentrator meet the relevant regulations on environmental conditions and test procedures for airborne equipment as stipulated in RTCA/DO160-G.

1.3 Test subject

The test subject is a Portable Oxygen Concentrator, model JAY-1000P, number MZJ2P03048, with a quantity of 1 unit. The complete set composition table of the product is shown in Table 1-1.

Table 1-1 Composition Table of Product Completeness

Serial number	Name	Model	Number	Specification/ Quantity	Technical status	Manufacturing unit	Remarks
1	Portable	JAY-1000P	MZJ2P03048	1	Final	LONGFIAN	/

	Oxygen Concentrator				EMC Test Sample	SCITECH CO.,LTD	

During the test, no technical quality issues occurred with the test subjects, and there were no changes in their technical status.

The connection relationship is shown in the figure：

备注：以被试品朝向测试天线的面为正面参考。

Figure 1-1 Schematic diagram of the connection relationship of the test subjects

1.3.1 Test subject cable

Table 1-2 Connecting Cables

Serial number	Name	Code name	Model	Technical status	Length	Whether to block	Remarks
1	/	/	/	/	/	/	/

1.3.2 Power supply of the test subject

The test subject is powered by an internal battery.

1.3.3 The working status of the test subject

The working conditions of the test subjects during the test process are shown in Table 1-3.

Table 1-3 Working Status of the Test Subjects

Serial number	Name	State description	Remarks
1	Work Status 1	The test subject is turned on and set to 5 working states.	/

1.3.4 Criteria for the sensitivity of the test subject and monitoring methods

The sensitivity criteria and monitoring methods are shown in Table 1-4.

Table 1-4 Sensitivity Criteria and Monitoring Methods

Serial number	Monitoring content	Monitoring method	Qualification criteria	Remarks
1	/	/	/	/

1.4 Accompanying sample

Table 1-5 Summary Table of Test Samples

Serial number	Name	Model	Number	Specification/Quantity	Validity period of measurement	Provider	Remarks
1	/	/	/	/	/	/	/

1.5 The start and end times of the test and the test location

The date of receipt of the sample under test: July 3, 2025.

The trial began on July 3, 2025 and ended on the same day.

On July 3, 2025, a radio frequency energy emission - radio frequency radiation emission test was conducted at Beijing HAZT Testing Co., Ltd.

The specific situation is shown in Table 1-6.

Table 1-6 Summary Table of Electromagnetic Compatibility Test Results of Products

Serial number	Experimental project	Test sample number	Start time	Completion time	Test site	Remarks
1	Radio frequency energy emission - radio frequency radiation emission	MZJ2P03048	July 3, 2025	July 3, 2025	Electromagnetic Compatibility Laboratory of Beijing HAZT	/

					Testing Co., Ltd	

1.6 Test environmental conditions

The actual atmospheric conditions for this electromagnetic compatibility test are：

a）Temperature: 22℃

b）Relative humidity: 44%

c）Air pressure: 101.0kPa

For the specific test conditions of each test, please refer to the relevant content in "Chapter Two, Test Contents and Results"

1.7 The completion status of the experimental project

The test completed the prescribed radio frequency energy emission - radio frequency radiation emission test.

1.8 Changes to the test outline

None.

1.9 Experimental outsourcing and data acceptance

None.

1.10 The situation of the participating units and personnel in the experiment

The test was conducted by the Electromagnetic Compatibility Laboratory of Beijing HAZT Testing Co., Ltd.

The test subjects were operated by personnel from LONGFIAN SCITECH CO.,LTD.

LONGFIAN SCITECH CO.,LTD、Beijing HAZT Testing Co., Ltd. participated in the test.

The main participants in the experiment are shown in Table 1-7：

Table 1-7 Information of Participating Units and Personnel

Unit name	Unit Address	List of personnel

Beijing HAZT Testing Co., Ltd	No. 33, Linhe South Street, Shunyi District, Beijing	Cui Xiaohe, Wang Zhaoming
LONGFIAN SCITECH CO.,LTD	Building B5,Kechuang Branch,National University Science Park,No.666 Lixing Street,Baoding, 071051,Hebei,China	Xue Yanling, Wang Yan

1.11 The condition of the equipment used in the experiment

1.11.1 Testing instrument

The testing instruments and equipment used in this electromagnetic compatibility test are shown in Table 1-8, and the test software information is presented in Table 1-9.

Table 1-8 Testing Instruments

Serial number	Device name	Equipment model	Equipment number	Equipment manufacturer	Validity period of equipment calibration	Experimental project
1	Measurement receiver	ESW44	103098	Rohde&Schwarz	February 17, 2026	Radio frequency energy emission - radio frequency radiation emission
2	Preamplifier	BBV 9745	00442	SCHWARZBECK	August 4, 2025	
3	Preamplifier	BBV 9718 D	00159	SCHWARZBECK	November 15, 2025	
4	Bicone antenna	VHBB9124+BBA9106	01550	SCHWARZBECK	February 28, 2026	
5	Double-ridge horn antenna	BBHA 9120F	00319	SCHWARZBECK	February 28, 2026	
6	Double-ridge horn antenna	BBHA 9120D	02471	SCHWARZBECK	February 28, 2026	
7	Linear impedance stable network	LISN4030S22	FA191937124	Suzhou Fengji Electromagnetic Technology Co., LTD	January 6, 2026	

Serial number	Device name	Equipment model	Equipment number	Equipment manufacturer	Validity period of equipment calibration	Experimental project
8	Linear impedance stable network	LISN4030S22	FA191937125	Suzhou Fengji Electromagnetic Technology Co., LTD	January 6, 2026	

Table 1-9 Test Software

Serial number	Experimental project	Manufacturer's name	Software name	Version	Remarks
1	Radio frequency energy emission - radio frequency radiation emission	Rohde&Schwarz	EMC32	V11.30.00	/

1.11.2 Test equipment

None

1.12 Test parameter setting

Table 1-10 Parameter Settings for Radio Frequency Energy Emission Test

Frequency band	6dB bandwidth (BW)	The minimum dwell time of sections 21.4 and 21.5 (s)	The minimum scanning time of the 21.6 band (s)	The minimum measurement time of the analog measurement receiver (s)
0.15MHz~30MHz	1kHz	0.015	N/A	0.015s/kHz
30MHz~100MHz	10kHz	0.015	N/A	1.5s/MHz
100MHz~400MHz	10kHz	0.015	9	1.5s/MHz
0.40GHz~0.96GHz	100kHz	0.015	1	0.15s/MHz
0.96GHz~6GHz	1MHz	0.015	1	15s/GHz

1. 13 Other issues that need to be explained

The test status confirmation form is not within the scope of CNAS accreditation.

2 Experimental content and results

2.1 Radio frequency energy emission test

2.1.1 Radio frequency energy emission - radio frequency radiation emission

2.1.1.1 Experimental purpose

This test is used to verify whether the equipment and its interconnection cables can operate normally within their performance specifications when exposed to RF modulation power formed by RF radiation or injection probe coupling. It aims to simulate the effects of airborne or external high-power RF transmitters (such as radar or communication transmitters).

2.1.1.2 Test conditions

2.1.1.2.1 Test limit

The test was conducted in accordance with the Class B limit values in Figure 21-7 of the RTCA/DO-160G standard. The test limit values are shown in Figure Radiation Emission -1.

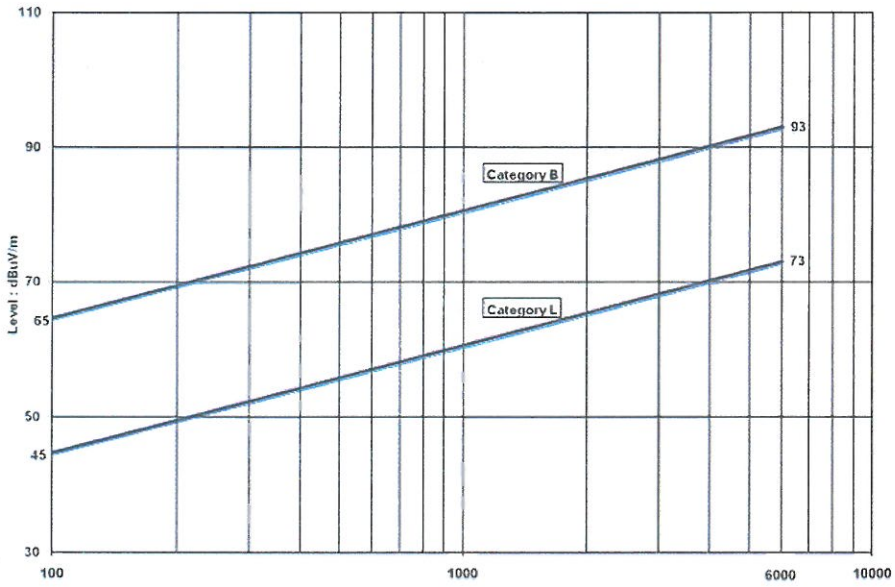

Figure Radio frequency radiation emission -1 limit value

2.1.1.2.2 Test working status and test position

Table 2-1 Test Working Status and Test Position

Serial number	Test the working status	Test location	Remarks
1	Work Status 1	One meter directly in front of the test subject	/

2.1.1.3 Test method

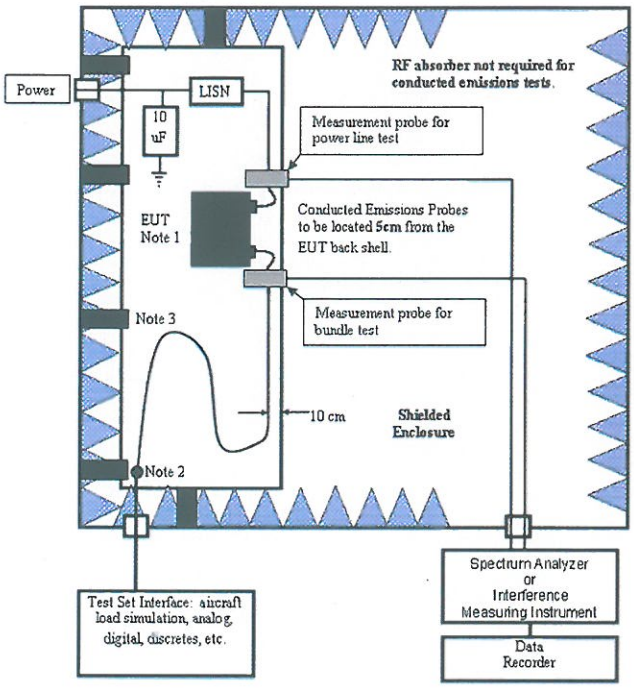

Figure 2 Configuration diagram of Radio frequency radiation emission test

a）Conduct the test configuration according to the radio frequency radiation emission -2 test configuration diagram shown in the figure;

b）Check the electromagnetic environment level of the anechoic chamber in accordance with the standards to ensure it meets the requirements;

c）The test subject is powered on and preheated to reach a stable working state;

d）By using the bandwidth and measurement time specified in the standard, the measurement receiver scans within the frequency range of 100MHz to 6GHz, records the test spectrum curve, and determines whether it exceeds the prescribed limit value;

e）The antenna was selected for scanning tests in both horizontal and vertical

polarization directions within the frequency range of 100MHz to 6GHz;

f) Test at each determined antenna position.

2.1.1.4 Test results

The test data are detailed in Table 2-2.

Table 2-2 Test Data

Test venue: Darkroom							
Environmental conditions: Temperature: 22℃ Humidity: 44%RH Air pressure: 101.0kPa							
Serial number	Work status	Test location	Polarization direction	Data curve graph	Test results	Explanation of exceeding standard	Remarks
1	Work Status 1	One meter directly in front of the test subject	Vertical polarization	See Attachment A1	pass	/	/
			Horizontal polarization				
Inspector/Time: Cui Xiaohe July 3rd, 2025			Proofreader/Time: Wang Zhaoming July 3rd, 2025				

2.1.1.5 Project Conclusion

The radio frequency radiation emission values of the Portable Oxygen Con centrator did not exceed the limits specified in 2.1.1.2.1, meeting the environm ental conditions and test procedures requirements of RTCA/DO160-G airborne e quipment. The test results were qualified.

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3 The main problems that occurred during the experiment and their handling situations

None.

4 Conclusion

4. 1 The compliance status of electromagnetic compatibility tests

Based on the test results, in accordance with the environmental conditions and test procedures of RTCA/DO160-G airborne equipment, the radio frequency energy emission - radio frequency radiation emission test of the Portable Oxygen Concentrator was conducted, and the test results met the requirements.

4. 2 Overall evaluation

During the electromagnetic compatibility test of this Portable Oxygen Concentrator, a total of one test, namely the radio frequency energy emission test and the radio frequency radiation emission test, was conducted for verification. The electromagnetic compatibility test meets the requirements of RTCA/DO160-G Airborne equipment environmental Conditions and test procedures.

In conclusion, the Portable Oxygen Concentrator has passed this electromagnetic compatibility test.

5 Existing problems and suggestions

None.

6 Attachment

Attachment A Test data

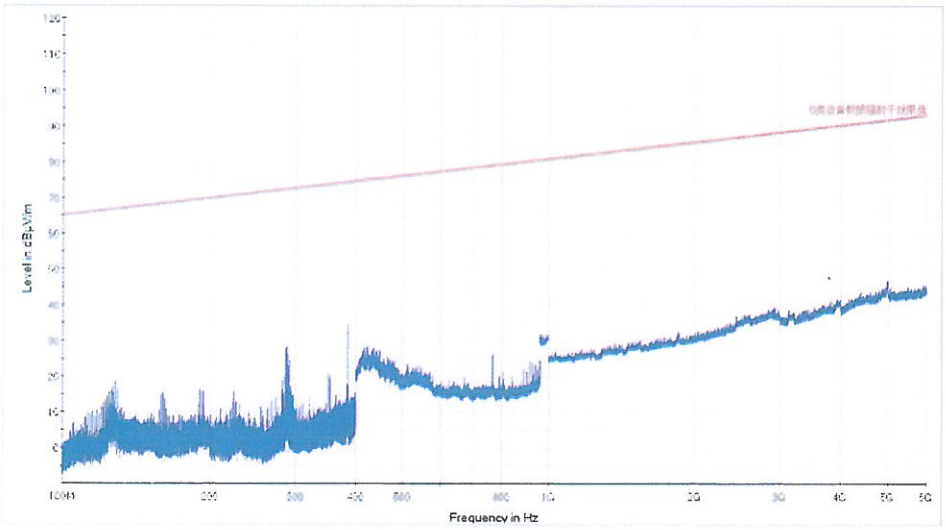
Attachment B Test layout photo

Attachment C Photo of the test subject

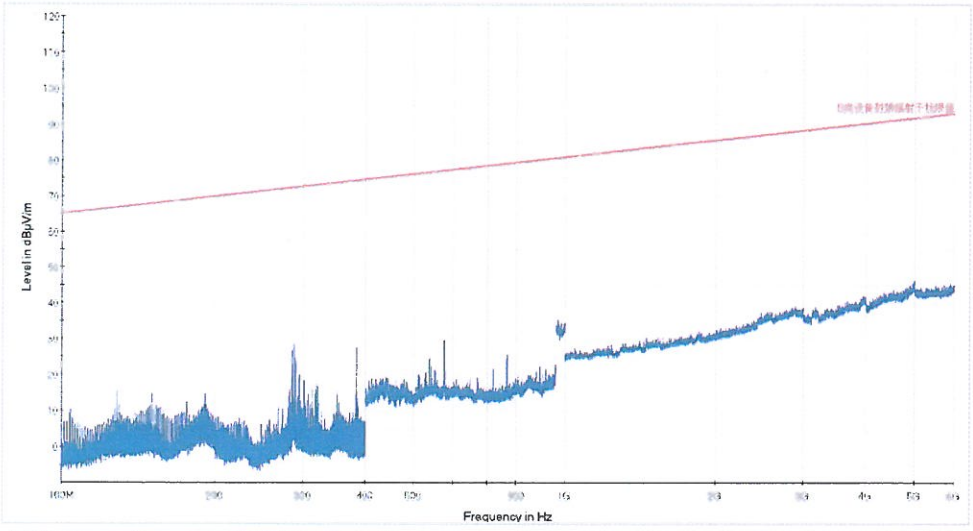
Attachment D Test status confirmation form

Attachment A　Test data

A1 Radio frequency energy emission - radiation emission test data



100MHz～6GHz　Vertical polarization



100MHz～6GHz　Horizontal polarization

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邮箱：haztlab@hazt.cn
联系电话：010-52293879
传　　真：010-56845578

图 B1.3 Test setup for radio frequency radiation emission（1GHz～6GHz）

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Attachment C　Photo of the test subject

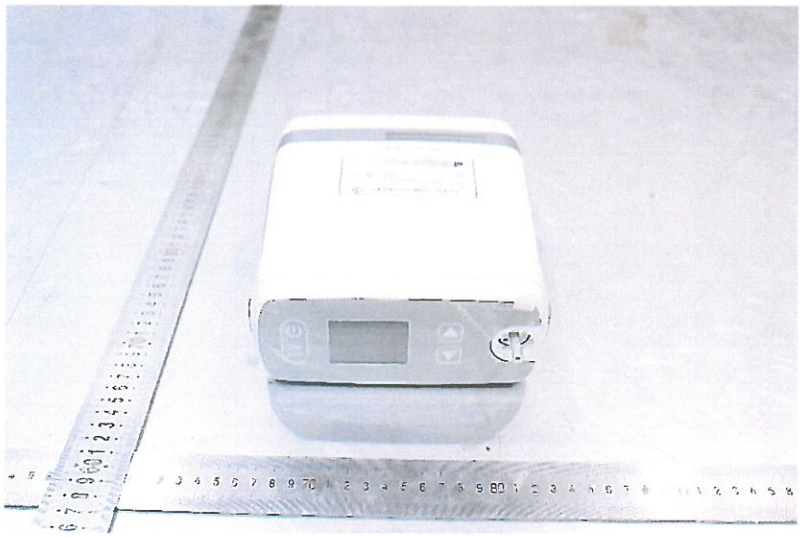

图 C. 1 Front view

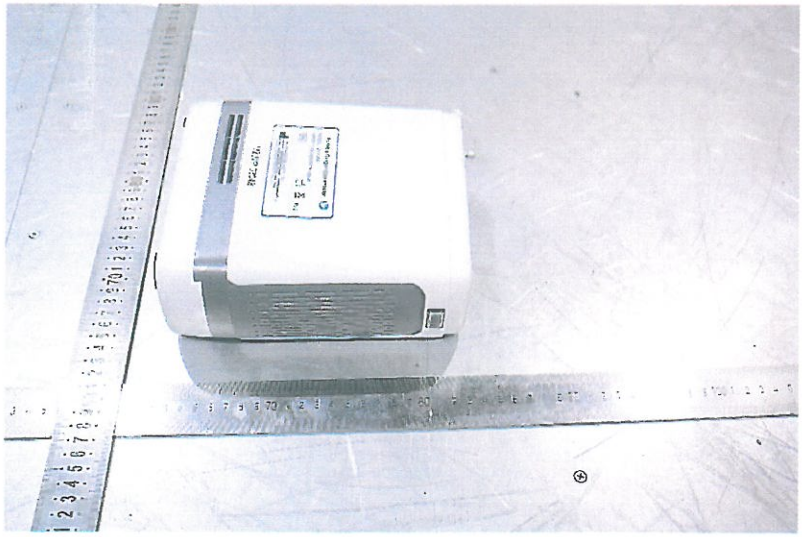

图 C. 2 Side view

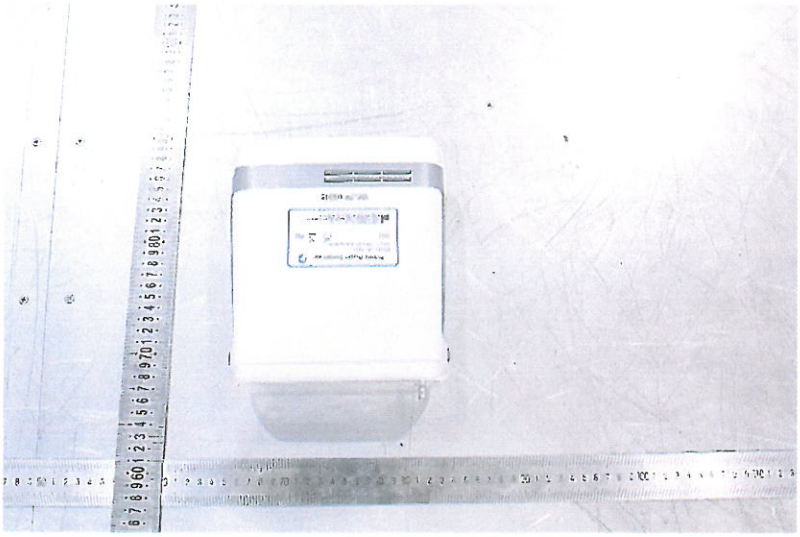

图 C. 3 Above

图 C. 4 Nameplate surface

Attachment D　Test status confirmation form

北京华安中泰检测技术有限公司
Beijing HAZT Testing Co.,Ltd

测试状态确认表

编号：E(B)2025070301　　HAZT-QR174-A/02

委托单号	E(B)2025070301
委托方公司名称	保定迈卓医疗器械有限公司
委托方参试人员	王强　薛艳玲
检测方法/标准依据为	RTCA/DO-160G 机载设备环境条件和试验程序

被试品

备注：以被试品朝向测试天线的面为正面参考。

图 1 被试品连接图

表 1 被试品信息

序号	名称	型号	编号	规格/数量	技术状态	承制单位	备注
1	便携式制氧机	JAY-1000P	MZJ>P03048	1	正样	保定迈卓医疗器械有限公司	\
供电要求	☐ DC__/__V,电流：__/__A ☐ AC __/__V，__/__Hz，__/__相，__/__线,电流：__/__A ☑ 其他：被试品自内置电池供电						
接地情况	☐壳体接地　☐接地端子接地　☑不接地　☐其他：__/__						
机箱机柜等其他描述	☑台式　☐落地式						
应用平台	☐水面舰艇　☐潜艇　☐陆军飞机 ☐海军飞机　☐空军飞机　☐空间系统 ☐海军地面　☐空军地面　☐陆军地面				☑其他：民用飞机		

表 2 陪试品汇总表

序号	名称	型号	编号	规格/数	计量有效期	提供单位	备注

1 / 2

北京华安中泰检测技术有限公司
Beijing HAZT Testing Co.,Ltd

				量			
1	\	\	\	\	\	\	\

表 3 连接线缆汇总表

序号	名称	代号	型号	技术状态	长度	是否屏蔽	备注
1	\	\	\	\	\	\	\

表 4 被试品工作状态表

序号	状态名称	状态描述	备注
1	工作状态1	被试品开机，处于5档工作状态	/

表 5 测试项目列表

序号	项目	需测试的工作状态	限值要求	备注
1	射频能量发射-射频辐射发射试验	工作状态1	B类	测试频段：100MHz~6GHz 测试位置：被试品正前方1m

表 6 敏感度判据

指标	内容	监测方法	结果判据
1	\	\	\

表 7 风险提示

敏感度类试验存在被试品损坏的风险，委托方应了解相关风险，决定试验项目及试验量级，相关内容如实记录在本测试状态确认表中，本测试状态确认表是开展 EUT 测试的依据。

华安中泰确认栏：	委托方确认栏：
我单位同意按照以上测试要求进行测试。	我单位同意按照以上测试要求进行测试。
签名：程果架 日期：2025 年 7 月 3 日	签名：王乃强 日期：2025 年 7 月 3 日

----------End of report----------