

Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> 1 of 54 Page:

FCC ID: 2AWD4-ECHSLT05

# **TEST REPORT**

GZCR2411001326HS **Application No.:** 

Applicant: Echelon Fitness Multimedia, LLC

**Address of Applicant:** 605 Chestnut Street, Suite 700, Chattanooga, TN 37450

Manufacturer: Echelon Fitness Multimedia, LLC

Address of Manufacturer: 605 Chestnut Street, Suite 700, Chattanooga, TN 37450

OMA Fitness Equipment Co., Ltd Factory:

Address of Factory: 93 Tai An Road South, Yang'e Village, Lunjiao Town, Shunde, Foshan,

528000, Guangdong, China

**Product Name:** Summit Stairmill Pro

ECH-SC-PR Model No.: Trade Mark: **Echelon** 

47 CFR Part 15, Subpart C 15.247 Standard(s):

**Date of Receipt:** 2024-11-06

Date of Test: 2025-04-01 to 2025-04-21

2025-06-11 Date of Issue:

Pass\* **Test Result:** 



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the fullest extent of the many services as a sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

t (86-20) 82155555

<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 2 of 54

Revision Record					
Version Report No. Date Remark					
GZCR241100132602	2025-06-11	Original			
	Report No.	Report No. Date			

Authorized for issue by:		
	Luke Lin	
	Luke Lin/Project Engineer	
	vius cui	
	Vico Cui/Reviewer	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the law. Offices officially sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

es Co. Ltd. No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

3 of 54 Page:

## **Test Summary**

Radio Spectrum Technical Requirement							
Item	Standard	Method	Requirement	Result			
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass			

Radio Spectrum Matter Part							
Item	Standard	Method	Requirement	Result			
Conducted Emissions at AC Power Line (150kHz-30MHz)		ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass			
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2013) Section 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass			
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2013) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass			
Radiated Spurious Emissions Above 1GHz	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass			
Conducted Peak Output Power		ANSI C63.10 (2013) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass			
Minimum 6dB Bandwidth		ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass			
Power Spectrum Density		ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass			
Conducted Band Edges Measurement		ANSI C63.10 (2013) Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass			
Conducted Spurious Emissions		ANSI C63.10 (2013) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass			

#### Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retained for 30 days only to the fullest extent of the law. Since can be seen to the full sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

s Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 4 of 54

#### 3 **Contents**

			Page
1	Cover	r Page	1
2	Tast S	Summary	7
_	1631 0	Juliniary	
3	Conte	ents	4
4	Gener	ral Information	6
	4.1 E	Details of E.U.T.	F
		Description of Support Units	
		Measurement Uncertainty	
		Test Location	
		Test Facility	
	4.6 E	Deviation from Standards	8
	4.7 A	Abnormalities from Standard Conditions	8
5	Equip	oment List	g
6	Padia	Spectrum Technical Requirement	10
O			
	6.1 <i>A</i> 6.1.1	Antenna Requirement  Test Requirement:	
	6.1.1	Conclusion	
7	_	Spectrum Matter Test Results	
′		•	
		Conducted Emissions at AC Power Line (150kHz-30MHz)	
	7.1.1	E.U.T. Operation	
	7.1.2	Test Mode Description	
	7.1.3	Test Setup Diagram	
	7.1.4 7.2 F	Measurement Procedure and Data	
	7.2 F	Radiated Emissions which fall in the restricted bands  E.U.T. Operation	
	7.2.1	Test Mode Description	
	7.2.2	Test Setup Diagram	
	7.2.3	Measurement Procedure and Data	
		Radiated Spurious Emissions Below 1GHz	
	7.3.1	E.U.T. Operation	
		Test Mode Description	
	7.3.3	Test Setup Diagram	
	7.3.4	Measurement Procedure and Data	
		Radiated Spurious Emissions Above 1GHz	
	7.4.1	E.U.T. Operation	
	7.4.2	Test Mode Description	
	7.4.3	Test Setup Diagram	
	7.4.4	Measurement Procedure and Data	
	7.5	Conducted Peak Output Power	
	7.5.1	E.U.T. Operation	
	7.5.2	Test Mode Description	
	7.5.3	Test Setup Diagram	
	11服久	Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printe available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a> . Attention is drawn to the limitation	ed overleaf, of liability,

检验检测专用章 Inspection & Testing Services

available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in flu, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN. Doccheck@oss.com"

es Co., Ltd., No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555

sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 5 of 54

10	Appendix	42
9	EUT Constructional Details (EUT Photos)	41
8	Test Setup Photo	40
	7.9.4 Measurement Procedure and Data	39
	7.9.3 Test Setup Diagram	
	7.9.2 Test Mode Description	39
	7.9.1 E.U.T. Operation	39
7.9	9 Conducted Spurious Emissions	39
	7.8.4 Measurement Procedure and Data	38
	7.8.3 Test Setup Diagram	
	7.8.2 Test Mode Description	
	7.8.1 E.U.T. Operation	
	8 Conducted Band Edges Measurement	
	7.7.4 Measurement Procedure and Data	
	7.7.3 Test Setup Diagram	
	7.7.2 Test Mode Description	
	7.7.1 E.U.T. Operation	
	7 Power Spectrum Density	
	7.6.4 Measurement Procedure and Data	
	7.6.3 Test Setup Diagram	
	7.6.2 Test Mode Description	
	6 Minimum 6dB Bandwidth	
7.6		
	7.5.4 Measurement Procedure and Data	25



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the fullest extent of the law. Offices of the state of the sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

es Co., Ltd., No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 邮编:510663 中国・广东・广州高新技术产业开发区科学城科珠路198号

t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 6 of 54

### 4 General Information

#### 4.1 Details of E.U.T.

Power supply: AC 120V 60Hz Test voltage: AC 120V 60Hz

Cable(s): AC mains, 3 wires, 2.0m, unshielded.

Operation Frequency: 2402MHz to 2480MHz

Modulation Type: GFSK
Number of Channels: 40
Channel Spacing: 2MHz
Antenna Number: 1

Antenna Type: PCB Antenna

Antenna Gain: -3.03 dBi according to antenna specification

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable

to the accuracy, suitability, reliability or/and integrity of the information.

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Note Book Computer	LENOVO	ThinkPad T490	PF1D1MVJ



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

t (86–20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 7 of 54

### 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz- 30MHz)	±3.22dB
Radiated Emissions which fall in the restricted bands	±5.14dB (3m); ±4.90dB (10m);±4.88dB (1GHz-6GHz);±5.06dB (6GHz-18GHz); ±5.30dB (18GHz-40GHz)
Radiated Spurious Emissions Below 1GHz	±3.08dB (9kHz to 150kHz);±3.19dB(150kHz to 30MHz);±5.14dB (30MHz-1GHz) (3m); ±4.90dB (30MHz-1GHz) (10m)
Radiated Spurious Emissions Above 1GHz	±4.88dB (1GHz-6GHz);±5.06dB (6GHz- 18GHz); ±5.30dB (18GHz-40GHz)
Conducted Peak Output Power	± 0.75dB
Minimum 6dB Bandwidth	± 0.274%
Power Spectrum Density	± 2.84dB
Conducted Band Edges Measurement	± 0.75dB
Conducted Spurious Emissions	± 0.75dB

#### Remark:

The U<sub>lab</sub> (lab Uncertainty) is less than U<sub>cisor</sub> (CISPR Uncertainty) or U<sub>ETSI</sub>(ETSI Uncertainty).

#### Emission decision rule:

- Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit, marked as Pass in the report.
- Non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit, marked as Fail in the report.

#### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory, No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

Tel: +86 20 82155555

No tests were sub-contracted.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information containined hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's soil responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86–20) 82155555 sgs.china@sgs.com



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> 8 of 54 Page:

### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

#### • SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

#### FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

#### • ISED (Registration No.: 4620B, CAB identifier: CN0052)

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

#### VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

#### CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

#### 4.6 Deviation from Standards

None

#### 4.7 Abnormalities from Standard Conditions

None



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. to the initial solution of the control of the contr

No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555

sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 9 of 54

#### **Equipment List** 5

Conducted Emissions at AC Power Line (150kHz-30MHz)						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
Coaxial Cable	HangTianXing	2m	EMC0107	2023-08-24	2025-08-23	
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2022-10-16	2025-10-15	
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2024-09-02	2025-09-01	
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2024-12-04	2025-12-03	
Test Software E3r	Audix	Ver.6.191211	GZE100-77	N/A	N/A	

Radiated Emissions which fall in the restricted bands						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
1GHz-26.5 GHz Pre- Amplifier	Agilent	8449B	EMC0521	2024-10-14	2025-10-13	
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2024-09-02	2025-09-01	
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2024-08-19	2026-08-18	
Horn Antenna (1GHz- 18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22	
Horn Antenna (14- 40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17	
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2024-08-19	2025-08-18	
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2024-10-14	2025-10-13	
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2023-12-20	2026-12-19	
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the fullest extent of the law. Offices officially sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 10 of 54

Radiated Spurious Emissions Below 1GHz						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
966 Anechoic Chamber	Shenzhen C.R.T	CRTSGSSAC9 66	EMC2230	2025-03-22	2028-03-21	
EMI Test Receiver(1Hz- 8GHz)	Rohde & Schwarz	ESW8	EMC2229	2024-12-03	2025-12-02	
Amplifier(9k-1000MHz)	SONOMA	310	EMC2237	2024-12-03	2025-12-02	
Trilog Broadband Antenna (25MHz-2GHz)	Schwarzbeck Mess- Elektronik	VULB 9168	EMC2238	2022-04-20	2025-04-19	
Coaxial Cable	Mirco-COAX UTIFLEX ve	LA2-C125- 8000	EMC2239	2024-12-04	2026-12-03	
Test Software E3	Audix	Ver.6.191211	GZE100-81	N/A	N/A	
Active Loop Antenna- RED	ETS-Lindgren	6502	EMC2190	2024-04-08	2026-04-07	
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2022-10-16	2025-10-15	

Radiated Spurious Emissions Above 1GHz						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
1GHz-26.5 GHz Pre- Amplifier	Agilent	8449B	EMC0521	2024-10-14	2025-10-13	
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2024-09-02	2025-09-01	
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2024-08-19	2026-08-18	
Horn Antenna (1GHz- 18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22	
Horn Antenna (14- 40GHz)	SCHWARZBECK	BBHA 9170	EMC2041	2023-06-18	2026-06-17	
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2024-10-14	2025-10-13	
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2024-08-19	2025-08-18	
MXE EMI Receiver (10Hz-8.4GHz)	Keysight	N9038A	EMC2139	2024-10-14	2025-10-13	
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2023-12-20	2026-12-19	
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the law. Offices officially sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

es Co. Ltd. No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 11 of 54

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
MI CABLE	SGS-EMC	0.8M	EMC2137	2023-11-02	2025-11-01
4X4 Power sensor Unit	TST	TSPS2023R	EMC2226	2024-08-19	2025-08-18
Test Software	TST	V2.0	GZE100-78	N/A	N/A
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2024-08-19	2025-08-18

	General used equipmen	t				
	Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Ī	DMM	Fluke	73	EMC0006	2024-06-13	2025-06-12



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

to the fullest extent of the law. Onless of the state of the sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN.Doccheck@sgs.com">CN.Doccheck@sgs.com</a>

s Co..Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 boratory. 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

t (86–20) 82155555



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> 12 of 54 Page:

#### Radio Spectrum Technical Requirement 6

#### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

#### 6.1.2 Conclusion

#### Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1). (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **EUT Antenna:**

The antenna is integrated on the main PCB and no consideration of replacement.

The best case gain of the antenna is -3.03 dBi.

Antenna location:

Refer to internal photo.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. us the funescentary of the same sample (see that the sample) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 13 of 54

#### **Radio Spectrum Matter Test Results** 7

### 7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

47 CFR Part 15, Subpart C 15.207 Test Requirement Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Conducted ii	Conducted limit (dBμV)					
Quasi-peak	Average					
66 to 56*	56 to 46*					
56	46					
60	50					
*Decreases with the logarithm of the frequency.						
	<b>Quasi-peak</b> 66 to 56* 56 60					

#### 7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.6 °C Humidity: 53.3 % RH Atmospheric Pressure: 1020 mbar

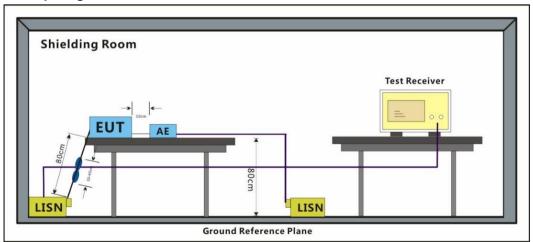
#### 7.1.2 Test Mode Description

Mode Pre-scan / Description Final test Code

TX mode(1Mbps) Keep the EUT in continuously transmitting mode with Final test 00

GFSK modulation.

#### 7.1.3 Test Setup Diagram





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only.

to the initial solution of the control of the contr No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 14 of 54

#### 7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50µH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: Level=Read Level+ Cable Loss+ LISN Factor



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retained for 30 days only. us the funescentary of the same sample (see that the sample) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

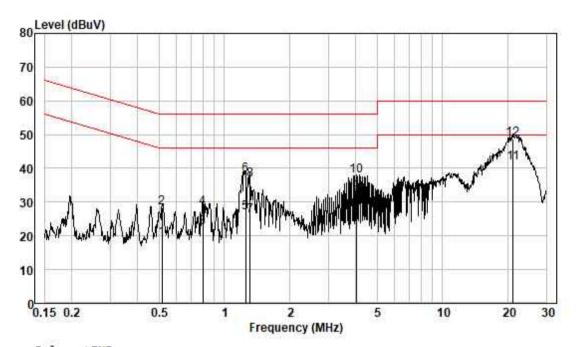


EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 15 of 54

Test Mode: 00; Line: Live line



Pol :LINE Mode :RT Model: Power:

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.518	9.63	0.05	9.58	19.26	46.00	-26.74	Average
2	0.518	18.57	0.05	9.58	28.20	56.00	-27.80	QP
3	0.796	12.65	0.06	9.61	22.32	46.00	-23.68	Average
4	0.796	18.63	0.06	9.61	28.30	56.00	-27.70	QP
4 5	1.249	17.23	0.09	9.54	26.86	46.00	-19.14	Average
6	1.249	28.43	0.09	9.54	38.06	56.00	-17.94	QP
7	1.310	16.45	0.09	9.56	26.10	46.00	-19.90	Average
8	1.310	26.97	0.09	9.56	36.62	56.00	-19.38	QP
9	4.027	23.05	0.18	9.64	32.87	46.00	-13.13	Average
10	4.027	28.04	0.18	9.64	37.86	56.00	-18.14	QP
11	21.035	31.54	0.39	9.82	41.75	50.00	-8.25	Average
12	21.035	38.52	0.39	9.82	48.73	60.00	-11.27	OP



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the initial solution of the control of the contr

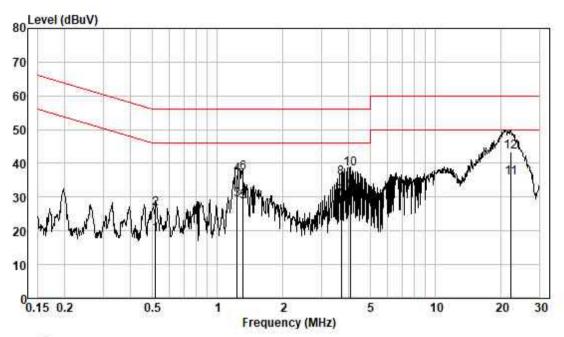


Rev 1.1 EMC-TRF-01

Report No.: GZCR241100132602

Page: 16 of 54

Test Mode: 00; Line: Neutral Line



Pol :NEUTRAL Mode :RT Model: Power:

	Frequenc MHz	Read Level dBuV	Cable Loss dB	LISN Factor dB	Measured Level dBuV	Limit Line dBuV	Over Limit dB	Remark
1	0.521	9.14	0.05	9.58	18.77	46.00	-27.23	Average
2	0.521	16.82	0.05	9.58	26.45	56.00	-29.55	QP
3	1.229	19.60	0.09	9.56	29.25	46.00	-16.75	Average
4	1.229	26.83	0.09	9.56	36.48	56.00	-19.52	QP
5	1.310	18.90	0.09	9.55	28.54	46.00	-17.46	Average
6	1.310	27.50	0.09	9.55	37.14	56.00	-18.86	QP
7	3.700	20.25	0.17	9.58	30.00	46.00	-16.00	Average
8	3.700	25.95	0.17	9.58	35.70	56.00	-20.30	QP
9	4.092	22.02	0.18	9.60	31.80	46.00	-14.20	Average
10	4.092	28.60	0.18	9.60	38.38	56.00	-17.62	QP
11	22.180	25.45	0.40	9.93	35.78	50.00	-14.22	Average
12	22,180	33.07	0.40	9.93	43,40	60.00	-16.60	OP



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retained for 30 days only to the initial solution of the control of the contr



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 17 of 54

#### 7.2 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 11.12

Limit:

Test Distance: 3 m

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

#### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C Humidity: 50.0 % RH Atmospheric Pressure: 1012 mbar

#### 7.2.2 Test Mode Description

Pre-scan / Mode

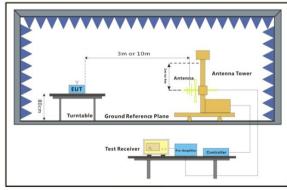
Final test Code

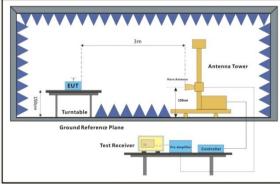
Description

Final test 00 TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with

GFSK modulation.

#### 7.2.3 Test Setup Diagram





30MHz-1GHz

Above 1GHz

Unless availab indemn the Co respon under t unauth to the fishing services Attent or email o

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in flu, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fulliest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

t (86–20) 82155555 sgs.china@sgs.com



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 18 of 54

#### 7.2.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.
- Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. Remark 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 4:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥1/T (Duty cycle<98%) or 10Hz (Duty cycle≥98%) for Average detection (AV) at frequency above 1GHz.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. to the fullest extent of the second s

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

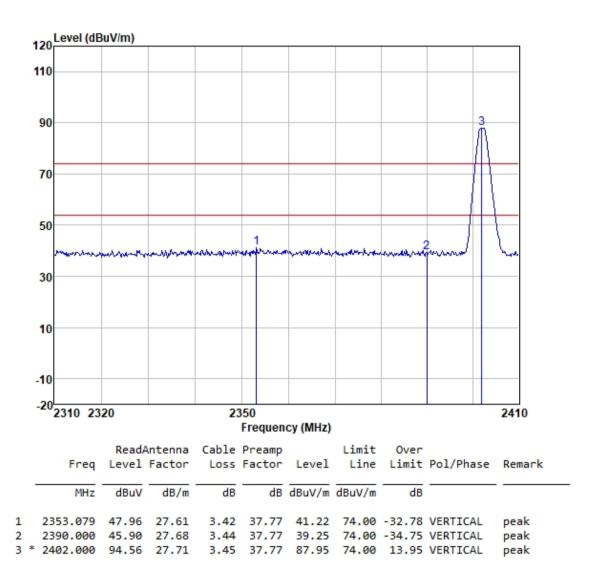
t (86-20) 82155555 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

19 of 54 Page:

Test Mode: 00; Polarity: Vertical; Modulation: GFSK; Channel:Low





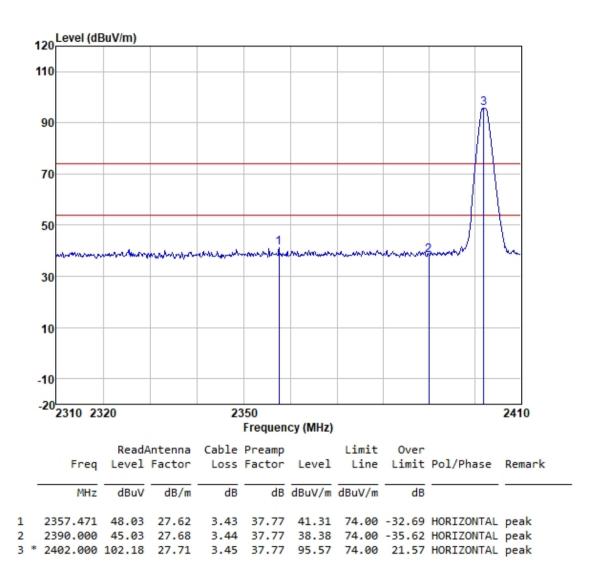
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

20 of 54 Page:

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low





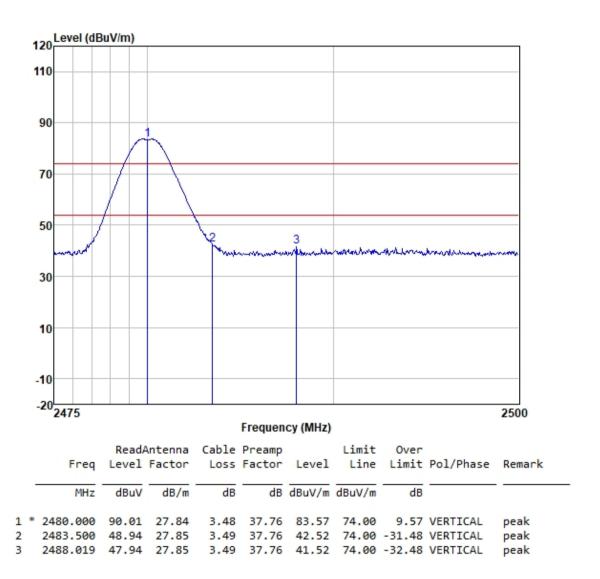
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 21 of 54

Test Mode: 00; Polarity: Vertical; Modulation: GFSK; Channel: High





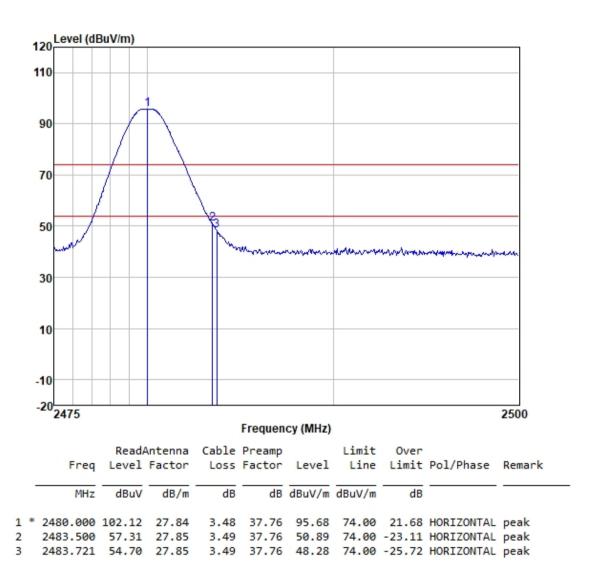
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 22 of 54

Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel: High





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

23 of 54 Page:

### 7.3 Radiated Spurious Emissions Below 1GHz

47 CFR Part 15, Subpart C 15.205 & 15.209 Test Requirement

Test Method: ANSI C63.10 (2013) Section 6.4,6.5

Limit:

3 m above 30MHz: 10 m below 30 MHz Test Distance:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

#### 7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 26.6 °C Humidity: 60.0 % RH Atmospheric Pressure: 1020 mbar

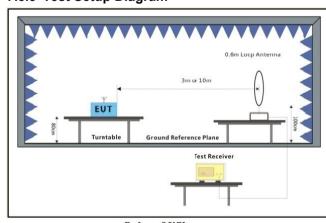
#### 7.3.2 Test Mode Description

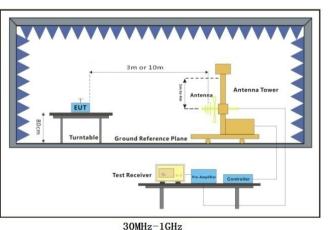
Mode Pre-scan /

Final test Code Description

Final test 00 TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with GFSK modulation.

### 7.3.3 Test Setup Diagram





Below 30MHz

检验检测专用章

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. us the funescentary of the same sample (see that the sample) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 24 of 54

#### 7.3.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete. Remark:
- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN.Doccheck@sgs.com">CN.Doccheck@sgs.com</a>

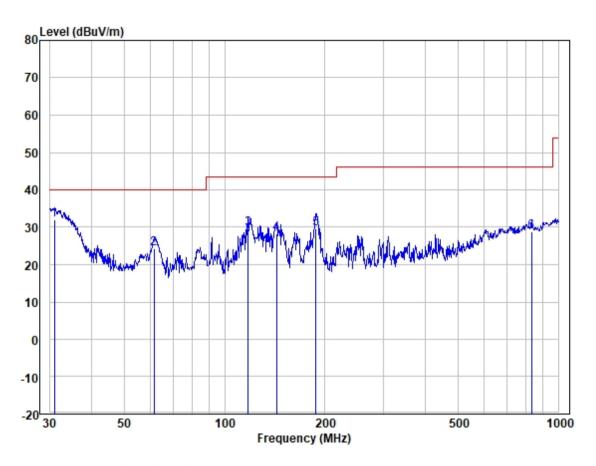


EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 25 of 54

Test Mode: 00; Polarity: Horizontal



Site : 966 Chamber

Job Model Power . Test Mode : BT

	Freq					Measured Level			Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	30.962	46.61	17.85	0.30	32.75	32.01	40.00	-7.99	HORIZONTAL	QP
2	61.562	37.78	18.70	0.42	32.77	24.13	40.00	-15.87	HORIZONTAL	QP
3	117.773	44.94	16.71	0.60	32.71	29.54	43.52	-13.98	HORIZONTAL	QP
4	143.326	41.47	18.88	0.65	32.74	28.26	43.52	-15.26	HORIZONTAL	QP
5	187.753	45.26	16.46	0.76	32.80	29.68	43.52	-13.84	HORIZONTAL	QP
6	830.400	29.60	29.18	1.68	31.55	28.91	46.02	-17.11	HORIZONTAL	QP



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the initial solution of the control of the contr

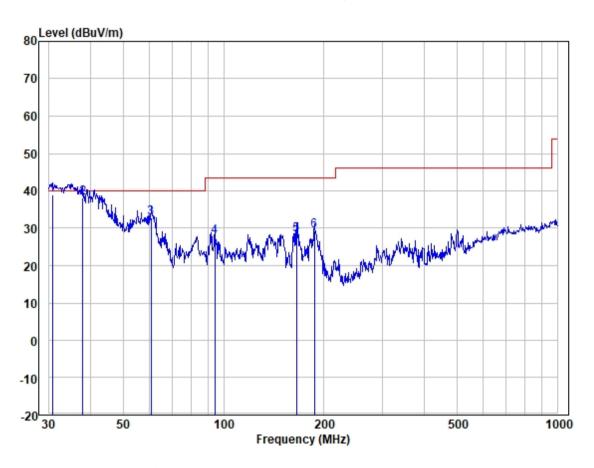


EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 26 of 54

Test Mode: 00; Polarity: Vertical



Site : 966 Chamber

Job Model Power . Test Mode : BT

	Freq					Measured Level				Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	30.745	53.50	17.85	0.30	32.75	38.90	40.00	-1.10	VERTICAL	QP
2	37.945	51.67	18.96	0.34	32.77	38.20	40.00	-1.80	VERTICAL	QP
3	60.704	46.22	18.82	0.41	32.78	32.67	40.00	-7.33	VERTICAL	QP
4	94.098	45.89	13.96	0.53	32.71	27.67	43.52	-15.85	VERTICAL	QP
5	165.487	41.40	18.89	0.71	32.78	28.22	43.52	-15.30	VERTICAL	QP
6	187.096	44.72	16.55	0.76	32.80	29.23	43.52	-14.29	VERTICAL	QP



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retained for 30 days only to the fullest extent of the control of the control



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

27 of 54 Page:

### 7.4 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2013) Section 6.6

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

#### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 21.3 °C Humidity: 50.0 % RH Atmospheric Pressure: 1012 mbar

#### 7.4.2 Test Mode Description

Mode Pre-scan /

Code

00

Description

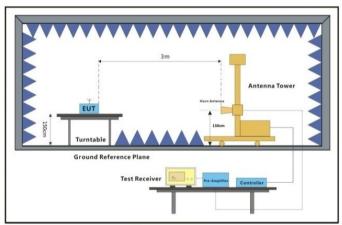
Final test

TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with

GFSK modulation.

#### 7.4.3 Test Setup Diagram

Final test



Above 1GHz



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law.

us the funescentary of the same sample (see that the sample) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1 1

> Page: 28 of 54

#### 7.4.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

#### Remark:

- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
- 4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.
- 5:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥1/T (Duty cycle<98%) or 10Hz (Duty cycle≥98%) for Average detection (AV) at frequency above 1GHz.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. to the fullest extent of the fair. Since the sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555 sgs.china@sgs.com

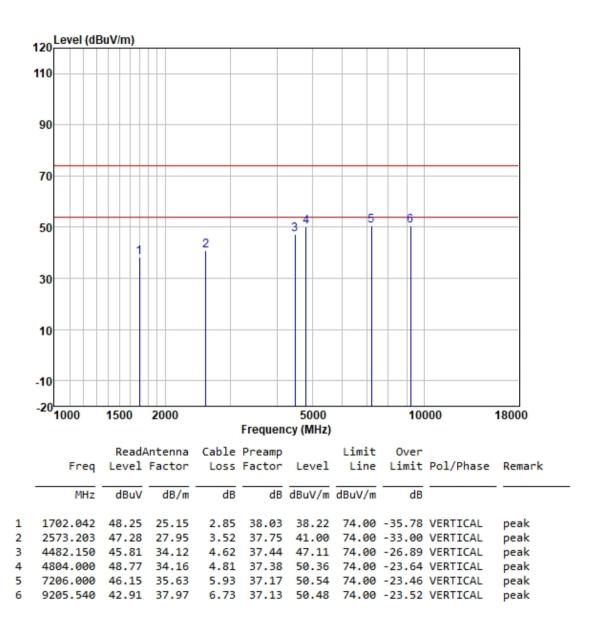
Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 29 of 54

Test Mode: 00; Polarity: Vertical; Modulation: GFSK; Channel:Low





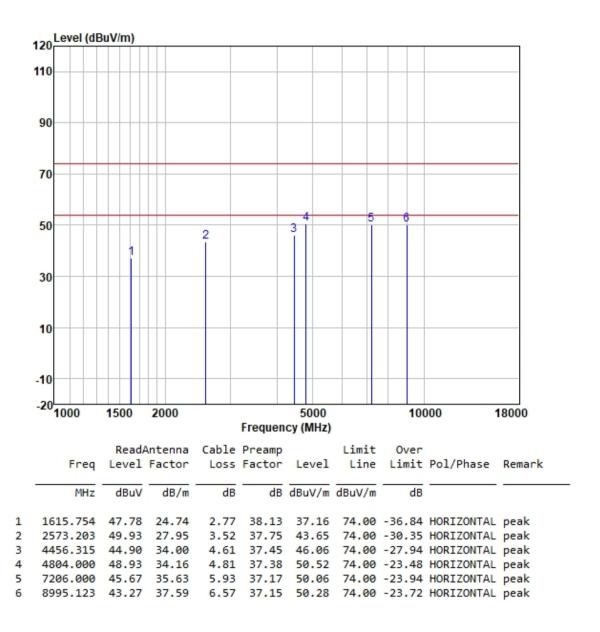
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 30 of 54

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low





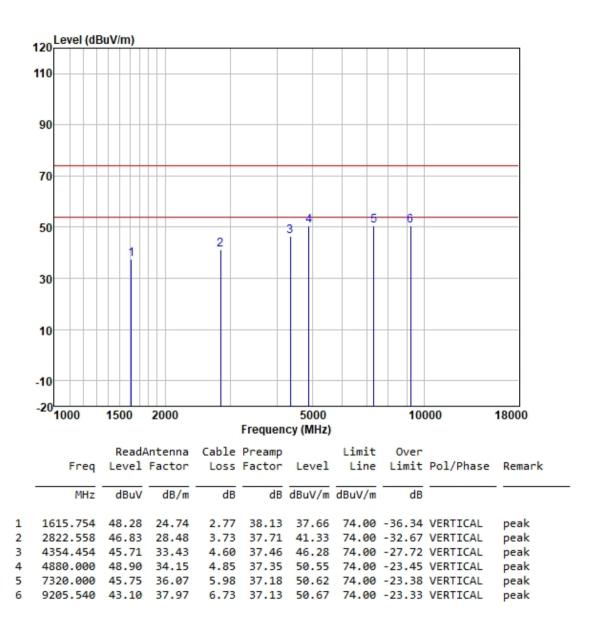
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 31 of 54

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control

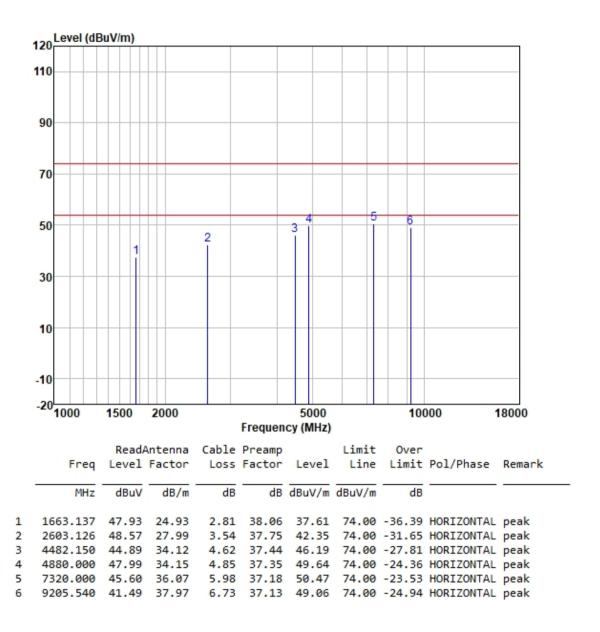
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 32 of 54

Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel: middle





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control

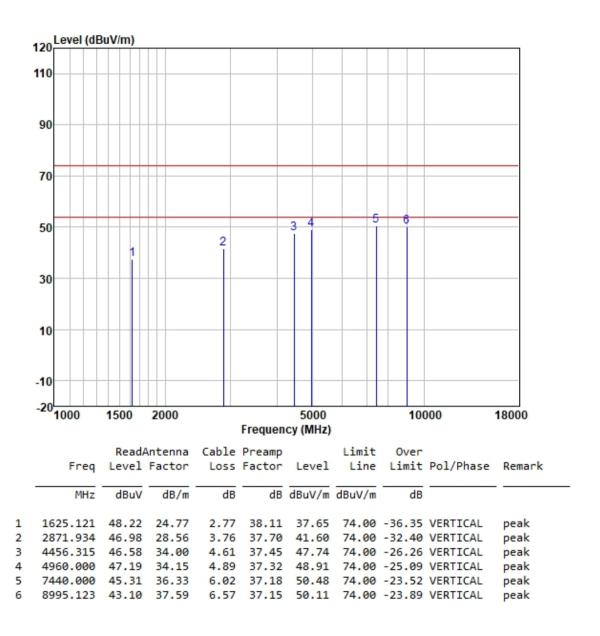
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 33 of 54

Test Mode: 00; Polarity: Vertical; Modulation: GFSK; Channel: High





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control

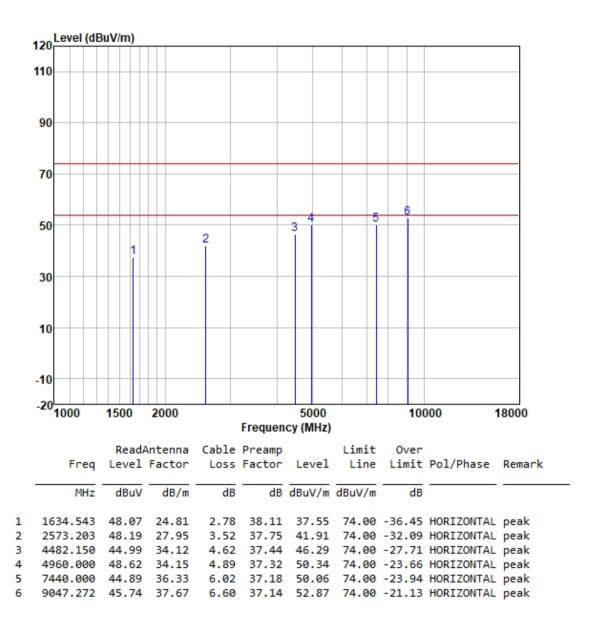
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 34 of 54

Test Mode: 00; Polarity: Horizontal; Modulation: GFSK; Channel: High





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the fullest extent of the control of the control

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 35 of 54

### 7.5 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3) Test Method: ANSI C63.10 (2013) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
	1 for ≥50 hopping channels
902-928	0.25 for 25≤ hopping channels <50
	1 for digital modulation
	1 for ≥75 non-overlapping hopping channels
2400-2483.5	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C Humidity: 57.0 % RH Atmospheric Pressure: 1020 mbar

#### 7.5.2 Test Mode Description

Mode Pre-scan / Final test

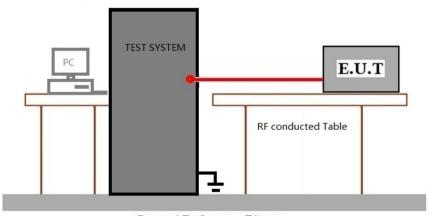
Code

Description

Final test 00 TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with

GFSK modulation.

#### 7.5.3 Test Setup Diagram



Ground Reference Plane

#### 7.5.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the fullest extent of the control of the control

www.sgsgroup.com.cn

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

36 of 54 Page:

#### 7.6 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2) Test Method: ANSI C63.10 (2013) Section 11.8.1

Limit: ≥500 kHz

#### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C Humidity: 57.0 % RH Atmospheric Pressure: 1020 mbar

#### 7.6.2 Test Mode Description

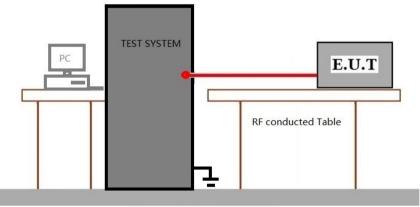
Mode Pre-scan /

Final test Code Description

Final test 00 TX mode(1Mbps) Keep the EUT in continuously transmitting mode with

GFSK modulation.

#### 7.6.3 Test Setup Diagram



Ground Reference Plane

#### 7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law. to the fullest extent of the control of the control

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

37 of 54 Page:

## 7.7 Power Spectrum Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e) Test Method: ANSI C63.10 (2013) Section 11.10.2

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

### 7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C Humidity: 57.0 % RH Atmospheric Pressure: 1020 mbar

#### 7.7.2 Test Mode Description

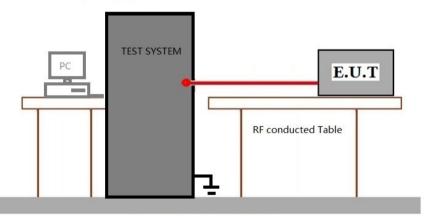
Mode Pre-scan /

Final test Code Description

Final test 00

TX mode(1Mbps) Keep the EUT in continuously transmitting mode with GFSK modulation.

## 7.7.3 Test Setup Diagram



Ground Reference Plane

#### 7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for 30 days only the sample(s) tested and such example(s) are retrieved for 10 days only the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days on the sample(s) tested and such example(s) are retrieved for 10 days of the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retrieved for the content is unlawful and offenders may be a such example to the content of the law.

to the initial extension of the second of th No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663 t (86-20) 82155555



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 38 of 54

## 7.8 Conducted Band Edges Measurement

Test Requirement

47 CFR Part 15. Subpart C 15.247(d)

Test Method:

ANSI C63.10 (2013) Section 11.13.3.2

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

## 7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C

Humidity: 57.0 % RH

Atmospheric Pressure: 1020 mbar

### 7.8.2 Test Mode Description

Pre-scan / Mode

Final test Code

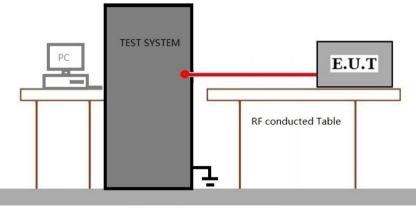
Description

Final test 00

TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with

GFSK modulation.

### 7.8.3 Test Setup Diagram



Ground Reference Plane

#### 7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <a href="mailto:CN.Doccheck@sgs.com">CN.Doccheck@sgs.com</a>

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

邮编: 510663 t (86-20) 82155555

www.sgsgroup.com.cn sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

Page: 39 of 54

## 7.9 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)
Test Method: ANSI C63.10 (2013) Section 11.11

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c).

### 7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 23.1 °C Humidity: 57.0 % RH Atmospheric Pressure: 1020 mbar

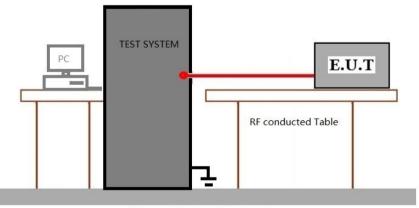
#### 7.9.2 Test Mode Description

Pre-scan / Mode Final test Code Description

Final test 00 TX mode(1Mbps)\_Keep the EUT in continuously transmitting mode with

GFSK modulation.

## 7.9.3 Test Setup Diagram



Ground Reference Plane

#### 7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information containined hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

t (86–20) 82155555

www.sgsgroup.com.cn sgs.china@sgs.com



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 40 of 54

#### **Test Setup Photo** 8

Refer to Appendix - Test Setup Photo for GZCR241100132602



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the fullest extent of the law. Offices of the state of the sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 41 of 54

#### **EUT Constructional Details (EUT Photos)** 9

Refer to External and Internal Photos for GZCR2411001326HS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr

S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

Page: 42 of 54

# 10 Appendix

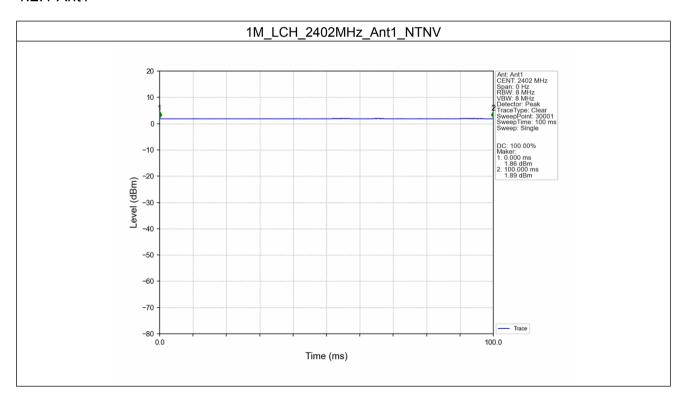
- 1. Duty Cycle
- 1.1 Test Result

## 1.1.1 Ant1

Ant1								
						Duty Cycle Correction Factor (dB)	Max. DC Variation (%)	
		2402	100.000	100.000	100.00	0.00	0.00	
1M	SISO	2440	100.000	100.000	100.00	0.00	0.00	
		2480	100.000	100.000	100.00	0.00	0.00	

## 1.2 Test Graph

## 1.2.1 Ant1





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only to the initial extension of the second of th

S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

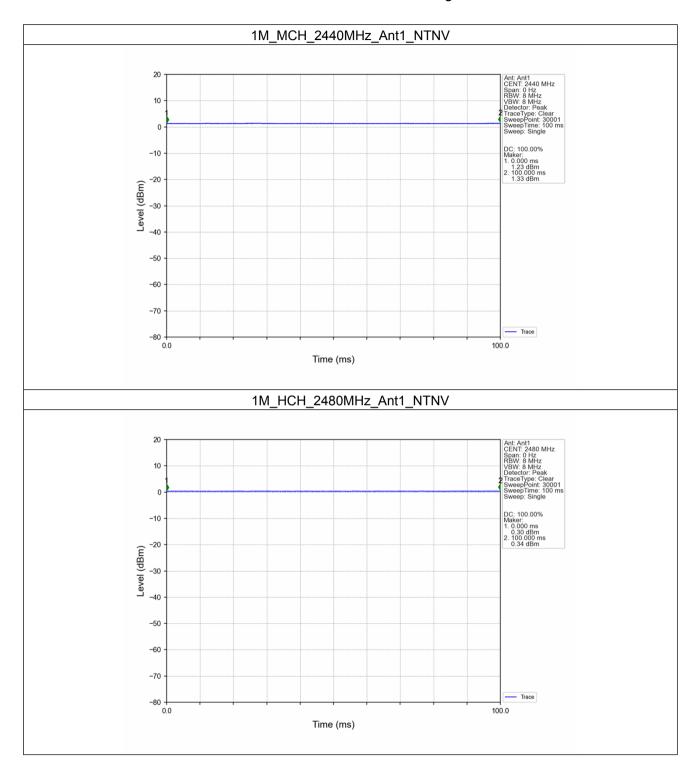
sgs.china@sgs.com t (86-20) 82155555



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

43 of 54 Page:





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555

sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 44 of 54

## 2. Bandwidth

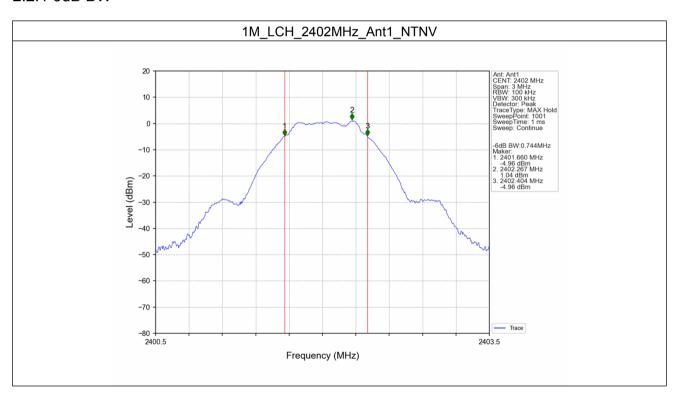
## 2.1 Test Result

## 2.1.1 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandv	\/andiat	
				Result	Limit	Verdict
1M		2402	1	0.744	>=0.5	Pass
	SISO	2440	1	0.750	>=0.5	Pass
		2480	1	0.759	>=0.5	Pass

## 2.2 Test Graph

### 2.2.1 6dB BW





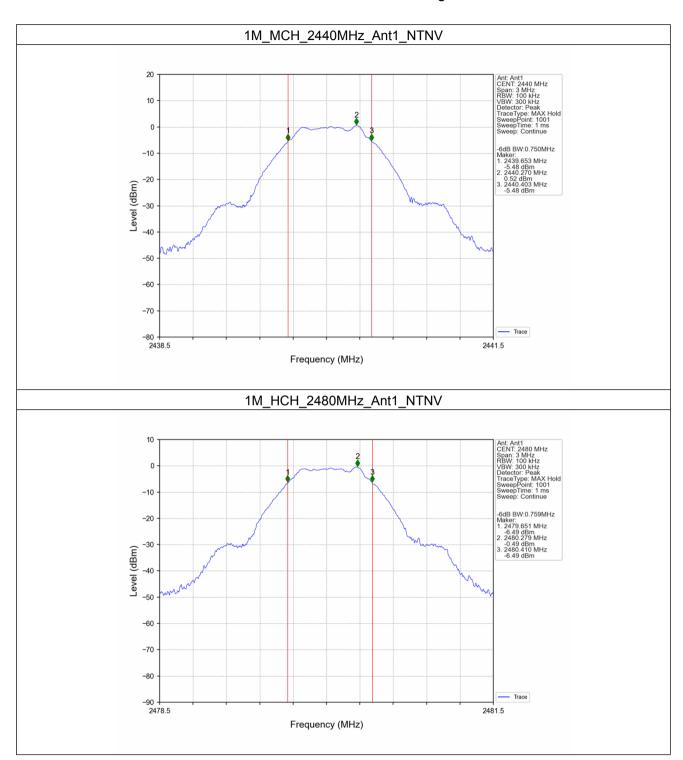
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are retained for 30 days only to the initial extension of the second of th

S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

45 of 54 Page:





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 46 of 54

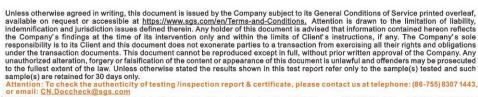
## 3. Maximum Conducted Output Power

## 3.1 Test Result

检验检测专用章 Inspection & Testing Services

## 3.1.1 Power

Mada	TX	Frequency (MHz)	Maximum Peak Conduc	Verdict	
Mode	Туре		ANT1	Limit	verdict
1M		2402	1.93	<=30	Pass
	SISO	2440	1.35	<=30	Pass
		2480	0.39	<=30	Pass



S Co. Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663

中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

> Page: 47 of 54

## 4. Maximum Power Spectral Density

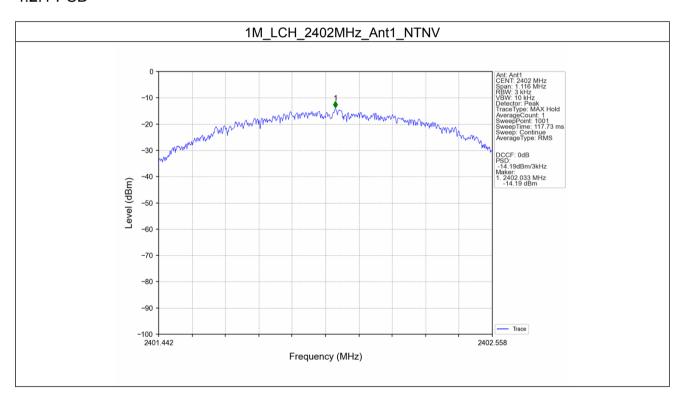
## 4.1 Test Result

## 4.1.1 PSD

Mode	TX	Frequency (MHz)	Maximum PSI	Vordict	
	Туре		ANT1	Limit	Verdict
1M		2402	-14.19	<=8	Pass
	SISO	2440	-14.89	<=8	Pass Pass
		2480	-14.85	<=8	Pass

## 4.2 Test Graph

## 4.2.1 PSD





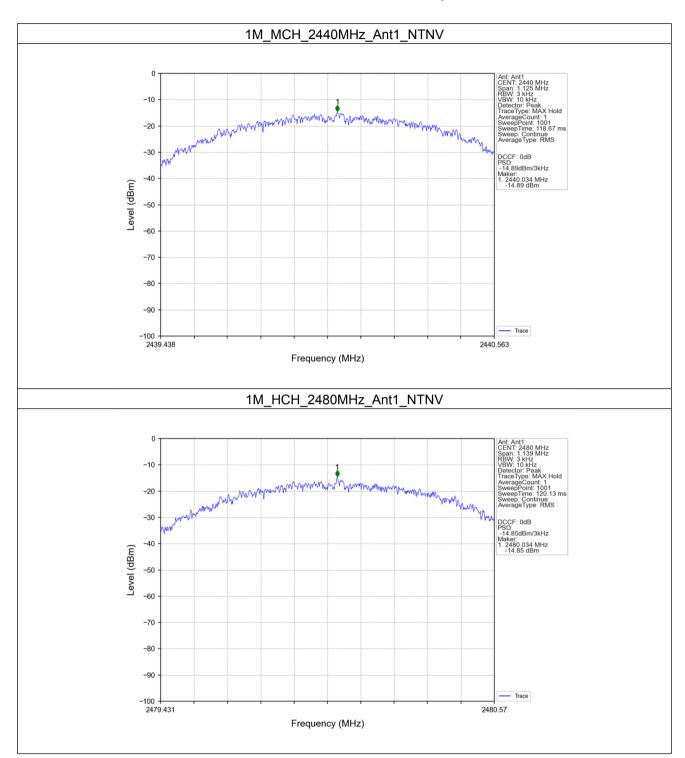
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

48 of 54 Page:





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 49 of 54

## 5. Unwanted Emissions In Non-restricted Frequency Bands

## 5.1 Test Result

## 5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M		2402	1	1.02
	SISO	2440 1	0.47	
		2480	1	-0.52

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

## 5.1.2 CSE and Band Edge

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M		2402	1	1.02	-18.98	Pass
	SISO	2440	1	1.02	-18.98	Pass
		2480	1	1.02	-18.98	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such expended for 30 days only to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663

t (86-20) 82155555

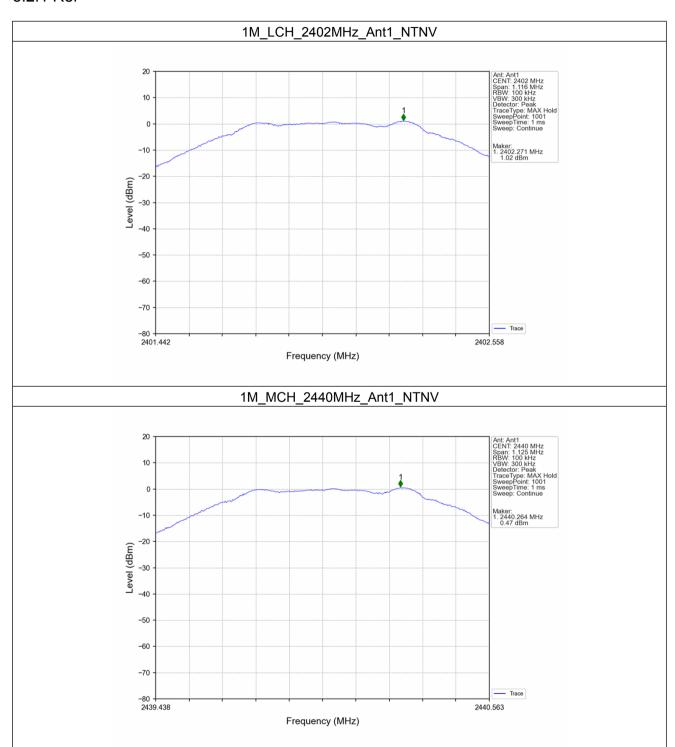


Report No.: GZCR241100132602 EMC-TRF-01 Rev 1.1

Page: 50 of 54

## 5.2 Test Graph

## 5.2.1 Ref





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

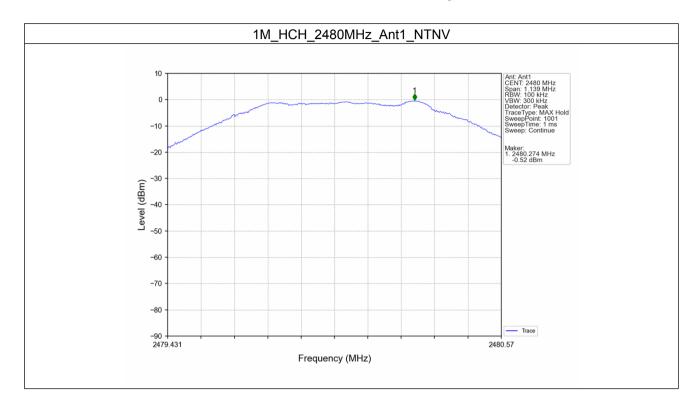
es Co., Ltd. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 51 of 54





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial solution of the control of the contr

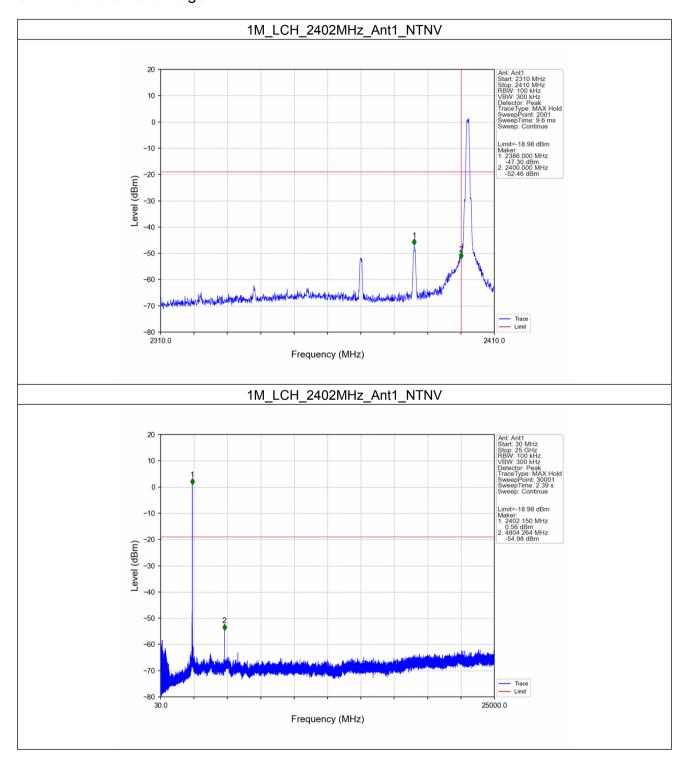
es Co., Ltd., No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

52 of 54 Page:

## 5.2.2 CSE and Band Edge





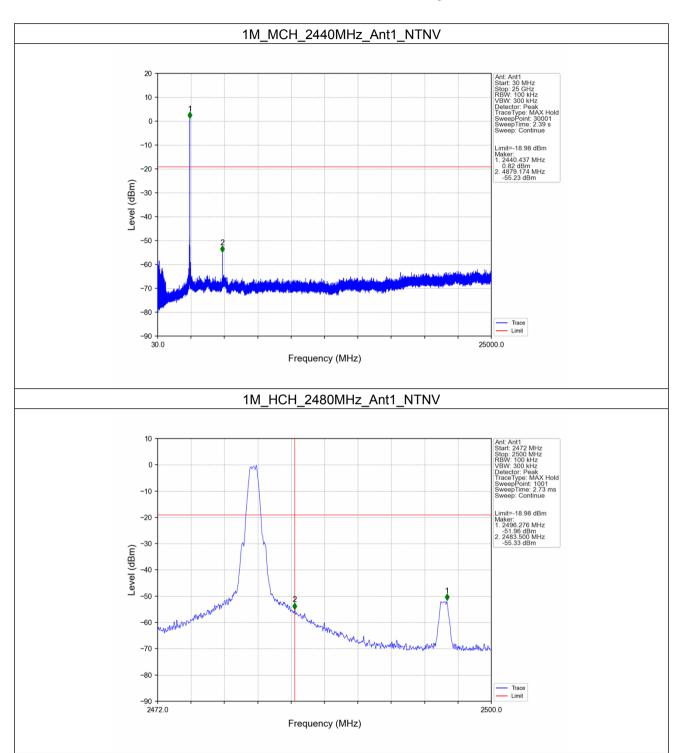
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the second of th

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1 Report No.: GZCR241100132602

53 of 54 Page:





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such example(s) are referred for 30 days only. to the initial extension of the state of the sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

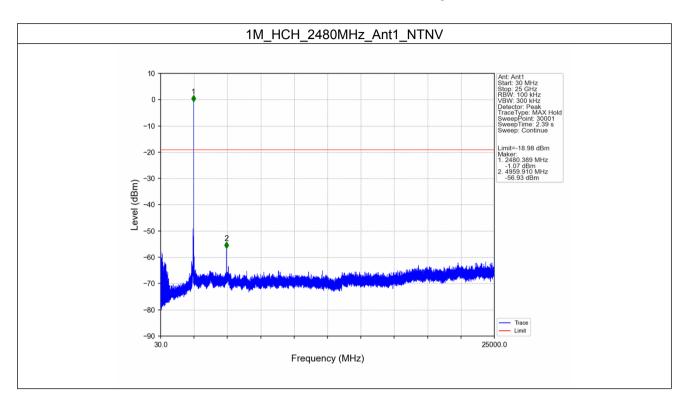
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编:510663



EMC-TRF-01 Rev 1.1

Report No.: GZCR241100132602

Page: 54 of 54



- End of the Report -



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com

s Co., Ltd. No. 198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 boratory. 中国・广东・广州高新技术产业开发区科学城科珠路198号 邮编: 510663

t (86–20) 82155555 sgs.china@sgs.com

Member of the SGS Group (SGS SA)