

EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 1 of 41 FCC ID: UHW1204301

# TEST REPORT

Test Result:	Pass*				
Date of Issue:	2023-05-12				
Date of Test:	2023-03-24 to 2023-03-30				
Date of Receipt:	2023-03-20				
Standard(s) :	47 CFR Part 18				
Trade Mark:	Galanz				
*	Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.				
Model No.:	P12043(X)-(Y), P12043(X)H-(Y), P12043(X)H-(Y)-FR** 🌲				
EUT Name:	Microwave Oven				
Equipment Under Test (EUT)	:				
	2. 25 Ronggui Nan Road, Shunde, Foshan, Guangdong, China				
Address of Factory:	1. 3 Xingpu Avenue, Huangpu, Zhongshan, Guangdong, China.				
	2. Guangdong Galanz Microwave Oven and Electrical Appliances Manufacturing Co., Ltd.				
Factory:	1. Guangdong Galanz Microwave Electrical Appliances Manufacturing Co., Ltd.				
Address of Manufacturer:	3 Xingpu Avenue, Huangpu, Zhongshan, Guangdong, China.				
Manufacturer:	Guangdong Galanz Microwave Electrical Appliances Manufacturing Co., Ltd.				
Address of Applicant:	25 Ronggui Nan Road, Shunde, Foshan, Guangdong, China				
Applicant:	Guangdong Galanz Enterprises Co., Ltd.				
Application No.:	GZEM2303001300HS				

\* In the configuration tested, the EUT complied with the standards specified above.

Ridge Lin

Ricky Liu Manager



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 http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. 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 exconerate parties to a transaction from exercising all their rights and obligations under the transaction documents. 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) iseted 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: (80-755) 8307 1443, or emai

norman. Crit October 2015 (1997) Nr.138 Kazhi Kazi, Solandah Rak, Gaurghou Exonnoite & Technology Development District, Guargahou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 2 of 41

	Revision Record						
Version	Report No.	Date	Remark				
01	GZEM230300130002	2023-05-12	Original				

Authorized for issue by:		
	Damon. Guan	
	Damon Guan/Project Engineer	
	Tenz laj	
	Terry Lai/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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号

S Co., Ltd. 10. 198 Kadru Rad, Skainten Park, Gamghou Ecronom & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 3 of 41

## 2 Test Summary

Emission Part						
ltem	Standard	Method	Requirement	Result		
Conducted Emissions at Mains Terminals (150kHz-30MHz)		FCC/OST MP-5:1986	18.307	Pass		
Radiated Emissions (Magnetic field Strength)(9kHz- 30MHz)		FCC/OST MP-5:1986	18.305	Pass		
Radiated Emissions (30MHz-1GHz)	47 CFR Part 18	FCC/OST MP-5:1986	18.305	Pass		
Radiated Emissions (above 1GHz)		FCC/OST MP-5:1986	18.305	Pass		
Output Power Measurement		FCC OST/MP-5:1986	FCC OST/MP-5:1986 Clause 4.3	Pass		
Operating Frequency Measurement		FCC OST/MP-5:1986	18.301	Pass		
Radiation Hazard Test		FCC OST/MP-5:1986	1 mW/cm2	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.

Model No.: P12043(X)-(Y), P12043(X)H-(Y), P12043(X)H-(Y)-FR\*\*

P: with microwave function only 120: denote the output power is 1200W

43: denote different cavity in 43liters.

Variable (X) may be

AL, AP, ASL, ASP, ATL, ATP, EL, EP, ESL, ESP, ETL, ETP, ML, MP, MSL, MSP, MTL, MTP, MYL. Variable (Y) may compose by one to five characters from A to Z and/or numbers from 0 to 9. It represents the differences of the appearance.

\*could be from 0 to 9

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference on the outer appearance and model name.

Therefore only one model P12043APH-SUA was tested in this 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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 limitation is drawn to the Company's sole responsibility is to its Cilent's and 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) 83071443, or email: CN. Doccheck@ess.com

No.198 Karkarka Skalleka Pak, Gaargabou Economic & Technology Development Dishid, Guargabou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn 中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 4 of 41

#### 3 **Contents**

			Page
1	Cove	er Page	1
~	Test	0	•
2	lest	Summary	
3	Cont	ents	4
	-		-
4	Gene	eral Information	6
	4.1	Details of E.U.T.	6
	4.2	Description of Support Units	6
	4.3	Measurement Uncertainty	6
	4.4	lest Location	6
	4.5		······ <u>/</u>
	4.6	Deviation from Standards	······ <u>/</u>
	4./	Abnormalities from Standard Conditions	
5	Equi	pment List	8
6	Emis	sion Test Results	10
	6.1	Conducted Emissions at Mains Terminals (150kHz-30MHz)	10
	6.1.1	E.U.T. Operation	10
	6.1.2	Test Mode Description	10
	6.1.3	Test Setup Diagram	10
	6.1.4	Measurement Procedure and Data	10
	6.2	Radiated Emissions (Magnetic field Strength)(9kHz-30MHz)	13
	6.2.1	E.U.T. Operation	13
	6.2.2	Test Mode Description	13
	6.2.3	Test Setup Diagram	14
	6.2.4	Measurement Procedure and Data	14
	6.3	Radiated Emissions (30MHz-1GHz)	19
	6.3.1	E.U.T. Operation	19
	6.3.2	Test Mode Description	19
	6.3.3	Test Setup Diagram	19
	6.3.4	Measurement Procedure and Data	20
	6.4	Radiated Emissions (above 1GHz)	
	6.4.1	E.U.T. Operation	
	6.4.2	Test Mode Description	
	6.4.3	Test Setup Diagram	
	6.4.4	Measurement Procedure and Data	
	6.5	Output Power Measurement	
	0.5.1	E.U.I. Operation	
	0.5.2	Lesi Mode Description	
	0.5.3	Operating Frequency Measurement	
	0.0		
	0.0.1	E.U.I. Operation	
	0.0.2	Massurament Procedure and Data	00 דר
	67	Dediation Hazard Test	
	0.7		



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 limitation to its to its to its Cilent's and 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) 83071443,

中国・广州・经济技术开发区科学城科珠路198号

S Co., Ltd. 10. 198 Kadru Rad, Skainten Park, Gamghou Ecronom & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-0	01 Rev 1.1	Report No.: GZEM230300130002		
		Page:	5 of 41	
6.7.1	1 E.U.T. Operation			
6.7.2	2 Test Mode Description			
6.7.3	3 Measurement Procedure and Data			39
7 Test	t Setup Photo			40
8 EUT	Constructional Details (EUT Photos)			41



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号

S Co., Ltd. 10. 198 Kadru Rad, Skainten Park, Gamghou Ecronom & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 6 of 41

#### **General Information** 4

## 4.1 Details of E.U.T.

Power supply:	120V, 60Hz
Microwave frequency:	2450MHz
Cable(s):	About 1.0m x 3 wires unscreened AC mains cable.

### 4.2 Description of Support Units

Load for microwave ovens for testing:

1200mL of water in the beaker for power output and frequency measurement. One of 840 and the other of 360mL of water for second and third harmonic radiation measurement. 840mL of water for all other measurement

### 4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at Mains Terminals	2.76dP (150kHz to 20MHz)
(150kHz-30MHz)	
Radiated Emissions (Magnetic field Strength)	3.08dB(9kHz to 150kHz),
(9kHz-30MHz)	3.12dB(150kHz to 30MHz) (LLAS)
Dedicted Emissions (20MHz 10Hz)	5.00dB (30MHz-1GHz):3m;
	4.38dB (30MHz-1GHz):10m
	5.12dB (1GHz-6GHz);
Radiated Emissions (above 1GHz)	5.38dB (6GHz-18GHz);
	5.61(18GHz-40GHz)

#### Remark:

The U<sub>lab</sub> (lab Uncertainty) is less than U<sub>cisor</sub> (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; - non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory, 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 Tel: +86 20 82155555 Fax: +86 20 82075059 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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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 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 of flenders 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 lang unspecificate, please contact us at telephone: (86-755) 8307 1443.

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 7 of 41

### 4.5 Test Facility

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

#### ACMA

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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 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 of flenders 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 lang unspecificate, please contact us at telephone: (86-755) 8307 1443.

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 8 of 41

#### **Equipment List** 5

Conducted Emissions at Mains Terminals (150kHz-30MHz)						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
Coaxial Cable	HangTianXing	2m	EMC0107	2022-08-24	2023-08-23	
Shielding Room	ChangZhou ZhongYu	8m x 3m x 3.8m	EMC0306	2022-10-16	2025-10-15	
Two-Line V-Network-GZ	Rohde & Schwarz	ENV216	EMC2135	2022-09-09	2023-09-08	
EMI Test Receiver (9kHz-3.6GHz)	Rohde & Schwarz	ESR3	EMC2221	2022-05-20	2023-05-19	
Test Software E3r	Audix	Ver.6.11812	GZE100-77	N/A	N/A	
Artificial Mains Network (LISN)	AFJ Instruments	LT32C	EMC2046	2022-10-21	2023-10-20	

Radiated Emissions (Magnetic field Strength)(9kHz-30MHz)						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2022-10-16	2025-10-15	
Chamber cable	HangTianXing	N/A	EMC0542	2022-08-24	2023-08-23	
Amplifier (9kHz-1.3GHz)	HP	8447F	EMC2065	2022-06-21	2023-06-20	
Active Loop Antenna- RED	ETS-Lindgren	6502	EMC2190	2022-04-06	2024-04-05	
EMI Test Receiver (1Hz- 8GHz)	Rohde & Schwarz	ESW8	EMC2220	2022-05-20	2023-05-19	
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A	

Radiated Emissions (30MHz-1GHz)						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
10m Semi-Anechoic Chamber	ETS	N/A	EMC0530	2022-10-16	2025-10-15	
Chamber cable	HangTianXing	N/A	EMC0542	2022-08-24	2023-08-23	
Amplifier (9kHz-1.3GHz)	HP	8447F	EMC2065	2022-06-21	2023-06-20	
EMI Test Receiver (1Hz- 8GHz)	Rohde & Schwarz	ESW8	EMC2220	2022-05-20	2023-05-19	
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A	
Trilog Broadband Antenna (25MHz-1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	EMC2174	2022-06-19	2025-06-18	



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 9 of 41

Radiated Emissions (above 1GHz)						
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	
1GHz-26.5 GHz Pre- Amplifier	Agilent	8449B	EMC0521	2022-12-16	2023-12-15	
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2022-12-16	2023-12-15	
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2022-08-24	2024-08-23	
Horn Antenna (1GHz- 18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22	
EXA Signal Analyzer (10Hz-44GHz)	Keysight	N9010A	EMC2138	2022-09-08	2023-09-07	
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19	
2.4GHz Filter	Micro-Tronics	BRM 50702	EMC2069	2022-12-16	2023-12-15	
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A	

Operating Frequency Measurement					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EMI Test Receiver (10Hz-26.5GHz)	Rohde & Schwarz	ESIB26	EMC0522	2022-12-16	2023-12-15
Chamber cable (Above 1GHz)	Scoflex	KMKM-8.0m	EMC0545	2022-08-24	2024-08-23
Horn Antenna (1GHz- 18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	EMC2026	2022-09-23	2025-09-22
966 Anechoic Chamber	C.R.T	9m x 6m x 6m	EMC2142	2020-12-20	2023-12-19
Test Software E3	Audix	Ver.6.120110a	GZE100-61	N/A	N/A

Radiation Hazard Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Electric Field Probe(100KHz-3GHz)	WANDEL & GOLTERMANN	EMR-20	EMC0907	2022-05-13	2023-05-12

General used equipmen	t				
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2022-06-24	2023-06-23



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 10 of 41

## 6 Emission Test Results

### 6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	47 CFR Part 18
Test Method:	FCC/OST MP-5:1986
Limit:	
Frequency Range:	150kHz to 30MHz
0.15 to 0.5 MHz:	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5 to 5 MHz:	56dB(μV) quasi-peak, 46dB(μV) average
5 to 30 MHz:	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

#### 6.1.1 E.U.T. Operation

Operating Environment:

<b>T</b>		1.1		Atom a sub suite Deserver	4000	
i emperature:	25.2 °C	Humiaity:	54.7 % RH	Atmospheric Pressure:	1020	mbar

#### 6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power.
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.

#### 6.1.3 Test Setup Diagram



### 6.1.4 Measurement Procedure and Data

Frequency range: 150KHz-30MHz

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

The red line show in graphic is the limit in standard used in this section.

Measured Level = Read level + Cable Loss + LISN Factor



中国・广州・经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 11 of 41



Test Mode: 00; Line: Live line

Pol	:LIN
Mode	:
Model	:
Power	:

		Read	Cable	LISN	Measured	Limit	Over	
	Frequenc	Level	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.152	23.97	0.06	9.61	33.64	55.87	-22.23	Average
2	0.152	42.33	0.06	9.61	52.00	65.87	-13.87	QP
3	0.188	17.08	0.06	9.61	26.75	54.11	-27.36	Average
4	0.188	35.36	0.06	9.61	45.03	64.11	-19.08	QP
5	0.302	2.80	0.06	9.62	12.48	50.19	-37.71	Average
6	0.302	20.73	0.06	9.62	30.41	60.19	-29.78	QP
7	0.400	-0.18	0.06	9.59	9.47	47.86	-38.39	Average
8	0.400	22.00	0.06	9.59	31.65	57.86	-26.21	QP
9	1.236	-6.48	0.08	9.60	3.20	46.00	-42.80	Average
10	1.236	7.37	0.08	9.60	17.05	56.00	-38.95	QP
11	13.337	-2.65	0.27	9.69	7.31	50.00	-42.69	Average
12	13.337	9.58	0.27	9.69	19.54	60.00	-40.46	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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 Cilent's instructions, if any. The Company's sole responsibility is to its Cilent 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,

中国・广州・经济技术开发区科学城科珠路198号

No. 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 12 of 41



Test Mode: 00; Line: Neutral Line

Pol :NEUTRAL Mode : Model : Power :

	-	Read	Cable	LISN	Measured	Limit	Over	<b>D</b>
	Frequenc	Level	LOSS	Factor	Level	Line	Limit	Remark
	MHZ	dBuv	aB	aв	dBuv	aBuv	aв	
1	0.152	24.83	0.06	9.63	34.52	55.91	-21.39	Average
2	0.152	43.07	0.06	9.63	52.76	65.91	-13.15	QP
3	0.183	16.30	0.06	9.60	25.96	54.33	-28.37	Average
4	0.183	35.40	0.06	9.60	45.06	64.33	-19.27	QP
5	0.317	4.90	0.06	9.59	14.55	49.80	-35.25	Average
6	0.317	21.03	0.06	9.59	30.68	59.80	-29.12	QP
7	0.373	2.18	0.06	9.62	11.86	48.43	-36.57	Average
8	0.373	21.51	0.06	9.62	31.19	58.43	-27.24	QP
9	1.345	-6.01	0.09	9.60	3.68	46.00	-42.32	Average
10	1.345	8.13	0.09	9.60	17.82	56.00	-38.18	QP
11	18.232	-0.77	0.33	9.83	9.39	50.00	-40.61	Average
12	18.232	6.57	0.33	9.83	16.73	60.00	-43.27	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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 limitation clients" is to its Cilent 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) 83071443, or email: CN Doccheck/@sss.com".

中国・广州・经济技术开发区科学城科珠路198号

No. 198 Ketty Read, Scientech Fark, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 13 of 41 Page:

### 6.2 Radiated Emissions (Magnetic field Strength)(9kHz-30MHz)

Test Requirement:	47 CFR Part 18
Test Method:	FCC/OST MP-5:1986
Limit:	
Measurement Distance:	10 m
Frequency Range:	9kHz to 30MHz
Detector:	Peak for pre-scan, Average for the final result
	(200Hz Resolution Bandwidth for 9kHz to 150kHz;

9kHz Resolution Bandwidth for 150kHz to 30MHz)

Equipment:	Operating frequency:	RF Power generated by equipment (watts):	Limit dB(uV/m) average:
Any type unless otherwise specified (miscellaneous)	Any type unless otherwise specified Any ISM frequency		Limit=20lg(25*SQRT( <b>1162.4</b> / 500))+20lg(300/10)= <b>61.17</b> <b>dBuV/m</b>
(miscellaneous)			@ 10m distance.

#### 6.2.1 E.U.T. Operation

**Operating Environment:** Temperature: 22.2 °C

Humidity: 52.3 % RH

Atmospheric Pressure: 1020 mbar

#### 6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power.
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 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 and befinder and befinders 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. one: (86-755) 8307 1443

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 14 of 41

#### 6.2.3 Test Setup Diagram



#### 6.2.4 Measurement Procedure and Data

Frequency range: 9KHz-30MHz

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by loop antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

Level=Read Level + Antenna Factor + Cable Loss - Preamp 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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecificate negative accurate us at telephoner: (86-755) 83071443. one: (86-755) 8307 1443

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 15 of 41



Test Mode: 00; Polarity: Horizontal

Site	:	SGS
Job	:	
Model	:	
Power	:	
Test Mode	:	

检验检测专用章

aboratory

Guanoz

		Read	Anterna	Cable	Preamp	Measured	Limit	Over	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.010	62.06	18.66	0.02	28.41	52.33	61.17	-8.84	HORIZONTAL	Average
2	0.012	62.78	17.96	0.02	28.44	52.32	61.17	-8.85	HORIZONTAL	Average
3	0.015	60.01	15.31	0.02	28.50	46.84	61.17	-14.33	HORIZONTAL	Average
4	0.024	59.57	13.71	0.02	28.66	44.64	61.17	-16.53	HORIZONTAL	Average
5	0.045	57.25	12.30	0.03	29.23	40.35	61.17	-20.82	HORIZONTAL	Average
6	0.063	55.73	12.08	0.04	29.32	38.53	61.17	-22.64	HORIZONTAL	Average



中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 16 of 41



Test Mode: 00; Polarity: Horizontal

Site	:	SGS
Job	:	
Model	:	
Power	:	
Test Mode	:	

检验检测专用章 a & Testing Ser le Technice

Guanozho

Laboratory.

		Read	Anterna	Cable	Preamp	Measured	Limit	Over	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.152	65.79	11.88	0.05	29.40	48.32	61.17	-12.85	HORIZONTAL	Average
2	0.211	64.15	11.85	0.05	29.40	46.65	61.17	-14.52	HORIZONTAL	Average
3	0.352	59.46	11.86	0.05	29.40	41.97	61.17	-19.20	HORIZONTAL	Average
4	1.898	48.51	11.84	0.18	29.40	31.13	61.17	-30.04	HORIZONTAL	Average
5	5.535	36.45	11.25	0.35	29.30	18.75	61.17	-42.42	HORIZONTAL	Average
6	15.226	33.47	9.75	0.59	29.20	14.61	61.17	-46.56	HORIZONTAL	Average

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 exoered the 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) 83071443, or email: CN Doccheck@sss.com</a>

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 17 of 41



Test Mode: 00; Polarity: Vertical

Site	:	SGS
Job	:	
Model	:	
Power	:	
Test Mode	:	

检验检测专用章

aboratory

Guanozho

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.009	62.16	18.89	0.02	28.40	52.67	61.17	-8.50	VERTICAL	Average
2	0.012	64.27	17.64	0.02	28.45	53.48	61.17	-7.69	VERTICAL	Average
3	0.015	62.61	15.21	0.02	28.50	49.34	61.17	-11.83	VERTICAL	Average
4	0.023	61.10	13.82	0.02	28.64	46.30	61.17	-14.87	VERTICAL	Average
5	0.041	58.95	12.41	0.03	29.19	42.20	61.17	-18.97	VERTICAL	Average
6	0.045	59.31	12.30	0.03	29.23	42.41	61.17	-18.76	VERTICAL	Average

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 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 and befinded and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing unspection report & certificate, plasse contact us at telephone: (86-755) 8307 1443. one: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 18 of 41



Test Mode: 00; Polarity: Vertical

Site	:	SGS
Job	:	
Model	:	
Power	:	
Test Mode	:	

检验检测专用章 n & Testing Service ds Technica

Guanozhoi

Laboratory.

		Read	Anterna	Cable	Preamp	Measured	Limit	0ver	Pol/	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	0.205	65.04	11.85	0.05	29.40	47.54	61.17	-13.63	VERTICAL	Average
2	0.246	64.12	11.86	0.05	29.40	46.63	61.17	-14.54	VERTICAL	Average
3	0.299	60.69	11.87	0.05	29.40	43.21	61.17	-17.96	VERTICAL	Average
4	0.471	59.28	11.81	0.07	29.40	41.76	61.17	-19.41	VERTICAL	Average
5	1.868	48.21	11.84	0.17	29.40	30.82	61.17	-30.35	VERTICAL	Average
6	15.146	36.52	9.75	0.59	29.20	17.66	61.17	-43.51	VERTICAL	Average

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 exoered the 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) 83071443, or email: CN Doccheck@sss.com</a>

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 19 of 41

### 6.3 Radiated Emissions (30MHz-1GHz)

Test Requirement:	47 CFR Part 18
Test Method:	FCC/OST MP-5:1986
Limit:	
Measurement Distance:	3 m
Frequency Range:	30 MHz to 1 GHz
Detector:	Peak for pre-scan, average for the final result
	(120 kHz Resolution Bandwidth for 30 MHz to 1 GHz)

Equipment:	Operating frequency:	RF Power generated by equipment (watts):	Limit dB(uV/m) average:
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	1162.4	Limit=20lg(25*SQRT( <b>1162.4</b> / 500))+20lg(300/3)= <b>71.62</b> <b>dBuV/m</b>
(miscenaricous)			@ 3m distance.

#### 6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.2 °C	Humidity: 52.3 % RH	Atmospheric Pressure:	1020	mbar
----------------------	---------------------	-----------------------	------	------

#### 6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.

#### 6.3.3 Test Setup Diagram





中国・广州・经济技术开发区科学城科珠路198号

邮编: 510663 t (86–20) 82155555 f (86–20) 82075058 sgs.china@sgs.com



#### EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 20 of 41

#### 6.3.4 Measurement Procedure and Data

Frequency range: 30MHz-1GHz

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

#### Test Mode: 00; Polarity: Horizontal



Site	: SGS
Job	:
Model	:
Power	:
Test Mode	: Microwave

检验检测专用章

Guar

	Freq	Read Level	Anterna Factor	Cable Loss	Preamp Factor	Measured Level	Limit Line	Over Limit	Pol/ Phase	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	60.704	28.76	13.20	1.26	27.60	15.62	71.62	-56.00	HORIZONTAL	Average
2	64.208	28.17	12.76	1.33	27.60	14.66	71.62	-56.96	HORIZONTAL	Average
3	127.218	24.17	11.91	1.91	27.54	10.45	71.62	-61.17	HORIZONTAL	Average
4	369.405	17.90	14.82	3.74	27.85	8.61	71.62	-63.01	HORIZONTAL	Average
5	506.479	17.20	18.03	4.44	28.61	11.06	71.62	-60.56	HORIZONTAL	Average
6	549.020	17.09	18.18	4.69	28.71	11.25	71.62	-60.37	HORIZONTAL	Average

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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: (86-75) 8307 1443, or email: CN\_Doccheck@gs.com</a>

中国・广州・经济技术开发区科学城科珠路198号

Member of the SGS Group (SGS SA)

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 21 of 41 Page:



Test Mode: 00; Polarity: Vertical



6

547.098 20.94 18.17

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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 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 and befinded and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing unspection report & certificate, plasse contact us at telephone: (86-755) 8307 1443.

中国·广州·经济技术开发区科学城科珠路198号

4.69 28.70 15.10

N.198 feath med. Sciented Fark, Guangzhu Economic & Technology Development District, Guangzhu, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

71.62 -56.52 VERTICAL

Member of the SGS Group (SGS SA)

Average



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 22 of 41

### 6.4 Radiated Emissions (above 1GHz)

Test Requirement:	47 CFR Part 18
Test Method:	FCC/OST MP-5:1986
Limit:	
Measurement Distance:	3 m
Frequency Range:	Above 1GHz
Detector:	Peak for pre-scan, Average for the final result
	(1MHz Resolution Bandwidth for 1000MHz Above)

Equipment:	Operating frequency:	RF Power generated by equipment (watts):	Limit dB(uV/m) average:
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	1162.4	Limit=20lg(25*SQRT( <b>1162.4</b> / 500))+20lg(300/3)= <b>71.62</b> <b>dBuV/m</b>
			@ 3m distance.

#### 6.4.1 E.U.T. Operation

Operating Environment:

Temperature:	22.7 °C	Humidity:	64.3 % RH	Atmospheric Pressure:	1020	mbar
--------------	---------	-----------	-----------	-----------------------	------	------

#### 6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.

#### 6.4.3 Test Setup Diagram





中国・广州・经济技术开发区科学城科珠路198号

Member of the SGS Group (SGS SA)

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 23 of 41

#### 6.4.4 Measurement Procedure and Data

Frequency range: Above 1GHz

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

Test Mode: 00: Polarity: Horizontal



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 in report efficient results at the endpence: (86-755) 83071443.

中国·广州·经济技术开发区科学城科珠路198号

检验检测专用章

Guanoz



Rev 1.1 EMC-TRF-01

Report No.: GZEM230300130002 Page: 24 of 41



1001	(Discrete)										
		Read/	Antenna	Cable	Preamp		Limit	0ver			
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
1	18723.740	25.64	37.98	16.82	35.60	44.84	71.62	-26.78	HORIZONTAL	Average	
2	19419.080	24.46	38.00	17.04	35.60	43.90	71.62	-27.72	HORIZONTAL	Average	
3	20936.280	25.61	37.90	17.97	35.45	46.03	71.62	-25.59	HORIZONTAL	Average	
4	21907.240	23.67	38.18	18.57	35.31	45.11	71.62	-26.51	HORIZONTAL	Average	
5	22780.600	21.40	39.39	19.11	35.57	44.33	71.62	-27.29	HORIZONTAL	Average	
6	24407.610	22.34	39.49	20.67	36.12	46.38	71.62	-25.24	HORIZONTAL	Average	



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecificate negative accurate us at telephoner: (86-755) 83071443. one: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 25 of 41





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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecificate negative accurate us at telephoner: (86-755) 83071443. one: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 26 of 41



7388.679 52.84 36.40 6.30 36.78 58.76 71.62 -12.86 HORIZONTAL Average



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecificate negative accurate us at telephoner: (86-755) 83071443. ne: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 27 of 41





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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecificate negative accurate us at telephoner: (86-755) 83071443. one: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号

No. 198 Kerzin Rad, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China. 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 28 of 41 Page:

Test Mode: 00; Polarity: Vertical





中国·广州·经济技术开发区科学城科珠路198号

检验检测专用章

Guanoz



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 29 of 41



ReadAntenna       Cable Preamp       Limit       Over         Freq       Level Factor       Loss Factor       Level       Line       Limit       Pol/Phase       Remark         MHz       dBuV       dB/m       dB       dB       dB       dBuV/m       dB	ReadAntenna         Cable         Preamp Loss         Limit Factor         Over Loss         Limit Factor         Over Loss         Limit Factor         Over Line         Limit Factor         Pol/Phase         Remark           MHz         dBuV         dB/m         dB         dB         dBuV/m         dBuV/m         dB         dB         dBuV/m         dB         dB         dB         dBuV/m         dB         dB         Average           1         18202.170         22.41         37.91         16.55         35.60         41.27         71.62         -30.35         VERTICAL         Average           2         20146.860         23.06         37.99         17.36         35.58         42.83         71.62         -28.79         VERTICAL         Average           3         20595.210         22.71         37.93         17.78         35.53         42.89         71.62         -28.73         VERTICAL         Average           4         20963.810         24.18         37.90         17.99         35.45         44.62         71.62         -27.00         VERTICAL         Average           5         22720.810         20.35         39.31         19.09         35.57         43.18         71.62	ice.	(Discrete)										
MHz         dBuV         dB/m         dB         dB         dB dB uV/m         dBuV/m         dB         dB         dB uV/m         dB         dB         du u         dB         dB         dB uV/m         dB         dB         du u         dB         dU u         du u         dB         du u         du u <thdu th="" u<=""> <thdu th="" u<=""> <thdu th="" u<=""></thdu></thdu></thdu>	MHz         dBuV         dB/m         dB         dB         dB dB uV/m         dBuV/m         dB           1         18202.170         22.41         37.91         16.55         35.60         41.27         71.62         -30.35         VERTICAL         Average           2         20146.860         23.06         37.99         17.36         35.58         42.83         71.62         -28.79         VERTICAL         Average           3         20595.210         22.71         37.93         17.78         35.53         42.89         71.62         -28.73         VERTICAL         Average           4         20963.810         24.18         37.90         17.99         35.45         44.62         71.62         -28.44         VERTICAL         Average           5         22720.810         20.35         39.31         19.09         35.57         43.18         71.62         -28.44         VERTICAL         Average           6         23642.130         21.56         39.60         20.05         36.01         45.20         71.62         -26.42         VERTICAL         Average		Freq	ReadA	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Pol/Phase	Remark	
1       18202.170       22.41       37.91       16.55       35.60       41.27       71.62       -30.35       VERTICAL       Average         2       20146.860       23.06       37.99       17.36       35.58       42.83       71.62       -28.79       VERTICAL       Average         3       20595.210       22.71       37.93       17.78       35.53       42.89       71.62       -28.73       VERTICAL       Average         4       20963.810       24.18       37.90       17.99       35.45       44.62       71.62       -27.00       VERTICAL       Average         5       22720.810       20.35       39.31       19.09       35.57       43.18       71.62       -28.44       VERTICAL       Average         6       23642.130       21.56       39.60       20.05       36.01       45.20       71.62       -26.42       VERTICAL       Average	1       18202.170       22.41       37.91       16.55       35.60       41.27       71.62       -30.35       VERTICAL       Average         2       20146.860       23.06       37.99       17.36       35.58       42.83       71.62       -28.79       VERTICAL       Average         3       20595.210       22.71       37.93       17.78       35.53       42.89       71.62       -28.73       VERTICAL       Average         4       20963.810       24.18       37.90       17.99       35.45       44.62       71.62       -27.00       VERTICAL       Average         5       22720.810       20.35       39.31       19.09       35.57       43.18       71.62       -28.44       VERTICAL       Average         6       23642.130       21.56       39.60       20.05       36.01       45.20       71.62       -26.42       VERTICAL       Average		MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB			
A FRANCING FRANCE FRANCING TRACE FRANCING VALUE		1 2 3 4 5 6	18202.170 20146.860 20595.210 20963.810 22720.810 23642.130	22.41 23.06 22.71 24.18 20.35 21.56	37.91 37.99 37.93 37.90 39.31 39.60	16.55 17.36 17.78 17.99 19.09 20.05	35.60 35.58 35.53 35.45 35.57 36.01	41.27 42.83 42.89 44.62 43.18 45.20	71.62 71.62 71.62 71.62 71.62 71.62	-30.35 -28.79 -28.73 -27.00 -28.44 -26.42	VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL	Average Average Average Average Average Average	



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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 limitation contained hereon reflects the Company's 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) 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, </a>

中国・广州・经济技术开发区科学城科珠路198号

or email: <u>CN.Doccheck@sgs.com</u> No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 30 of 41





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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecifican report & certificate, nearse contact us at the lephoner: (86-755) 8307 1443. one: (86-755) 8307 1443

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 31 of 41





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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 limitation of the Company's sole responsibility is to its Client's 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) lested and such sample(s) are relained for 30 days only. Attention: To cneck the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, Attention: To cneck the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, Attention: To cneck the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, Attention: To cneck the authenticity of testing /inspection report & certificate, please contact us at telephone: (80-755) 8307 1443, Attention: To cneck the authenticity of testing /inspection report & certificate,

中国・广州・经济技术开发区科学城科珠路198号

or email: <u>CN.Doccheck@sgs.com</u> No.198 Kezhu Road, Scientech Park, Guangzhou Economic& Technology Development District, Guangzhou, China 510663 t (86–20) 821555555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1 Report No.: GZEM230300130002 Page: 32 of 41





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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx</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 document. 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 inalwful 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 unspecifican report & certificate, nearse contact us at the lephoner: (86-755) 8307 1443. one: (86-755) 8307 1443

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 33 of 41

### 6.5 Output Power Measurement

Test Requirement: 47 CFR Part 18 Test Method: FCC OST/MP-5:1986 Limit: **Power output Measurement:** 

Formula:

$$P = \frac{4,187 \cdot m_{\rm w} (T_2 - T_1) + 0,55 \cdot m_{\rm c} (T_2 - T_0)}{t}$$

NOTE :

P is the microwave power output, in watts mw is the mass of the water, in grams mc is the mass of the container, in grams To is the ambient temperature, in degrees Celsius T1 is the initial temperature of the water, in degrees Celsius T<sub>2</sub> is the final temperature of the water, in degrees Celsius t is the heating time, in seconds, excluding the magnetron filament heating-up time.

#### **Input Power Measurement:**

The EUT was set up according to the MP-5 for input power measurement, the input power and current was measured using a power analyzer. Water load in a beaker was located in the center of the oven and the microwave oven was set to maximum power.

Base on the measured input power it was found that the microwave oven can operating as the user manual's specifications.

#### 6.5.1 E.U.T. Operation

**Operating Environment:** Temperature: 22.4 °C Humidity: 52.1 % RH Atmospheric Pressure: 1020 mbar

#### 6.5.2 Test Mode Description

Pre-scan / Mode Description Final test Code Final test 00 Test the EUT in microwave mode with maximum power.



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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 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 of flenders 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 lang unspecificate, please contact us at telephone: (86-755) 8307 1443.

中国·广州·经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 34 of 41

#### 6.5.3 Measurement Procedure and Data

Output F	Power Data					
Mass of water	Mass of the container	Ambient Initial temperature		Final temperature	Heating	Power output
(g)	(g)	(°C)	(°C)	(°C)	time(s)	(watts)
1201	410	19.8	10.3	20.0	42	1162.4

#### Input Power Data

Input Voltage (V)	Input Current (A)	Power Factor	Measured input power (W)	Rated input power (W)
120.04	14.63	0.931	1635	1700



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 35 of 41

### 6.6 Operating Frequency Measurement

Test Requirement:	47 CFR Part 18
Test Method:	FCC OST/MP-5:1986
Limit:	
Frequency Range:	2400-2500 MHz
Detector:	Average for the final result for outside ISM band(2450MHz±50MHz)
Outside band limit:	(a) ISM equipment operation on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.

(b) The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

RF Power generated by equipment(watts)	Field strength Limit(uV/m) @300m
Below 500	25
500 or more	25*SQRT(power/500)

Power =1162.4 W according to clause 6.1.2

Limit=20lg(25\*SQRT(1162.4/500))+20lg(300/3)=71.62dBuV/m @ 3m distance.

ISM band:

ISM equipment may be operated on any frequency above 9 kHz. And the frequency band 2400-2500MHz is allocated for use by ISM equipment.

(§18.301)	
-----------	--

ISM frequency	Tolerance
6.78MHz	±15.0kHz
13.56MHz	±7.0kHz
27.12MHz	±163.0kHz
40.68MHz	±20.0kHz
915MHz	±13.0MHz
2450MHz	±50.0MHz
5800MHz	±75.0MHz
24125MHz	±125.0MHz
61.25GHz	±250.0MHz
122.5GHz	±500.0MHz
245.00GHz	±1.0GHz



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx">http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</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 limitato Cilent's instructions, if any. The Company's sole responsibility is to its Cilent 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 faisfication 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 refor only to the esample(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, excentile (3D Decement/Generation).

中国·广州·经济技术开发区科学城科珠路198号

or email: CN.Doccheck@sgs.com No.198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn

邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 36 of 41

#### 6.6.1 E.U.T. Operation

**Operating Environment:** 

#### 6.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power.
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 37 of 41

#### 6.6.3 Measurement Procedure and Data

Test Mode: 00; The variation of frequency with line voltage



The variation of frequency with line voltage.

Guano

The operating frequency was measured using a spectrum analyzer, the supply voltage was setting at the rated AC voltage, measured was start with EUT at room temperature. The EUT was started to warm by at least 10 minutes, the operating frequency was monitored as the rated voltage was varied from 80% to 125%.

Test record v	was lound the	worst sit	uation is when	i ine line	e voltage is	125% 011	aled AC	VO
							7	

ISM frequency(MHz)	Tolerance(MHz)	Measurement Data(MHz)
2450	±50	2474

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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditio</u>



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 38 of 41



Test Mode: 00; The variation of frequency with time

The variation of frequency with time

The operating frequency was measured using a spectrum analyzer, the supply voltage was setting at the rated AC voltage, measured was start with EUT at room temperature, the operating frequency was monitored until the water load was reduced to 20 percent of the original quantity.

Test record was found the worst situation is when the water load is reduced to 20 percent of the original quantity.

ISM frequency(MHz)	Tolerance(MHz)	Measurement Data(MHz)
2450	±50	2470

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 <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, abject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, at the initial contained herein approximation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein 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 and this document and this document cannot be reproduced that information to the limits of the company. Any unauthorized alteration, forgery or faisification of the content or appearance of this document is esample(s) tested and such sample(s) are retained for 30 days only. A tention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN\_Doccheck@ggs.com
No.198/katuRad, Saenteh Park, Ganghou Econome Bischadong Development Distid, Ganghou, China 510663 t (86-20) 82075058 www.sgsgroup.com.cn
Pm · Jr M · 经济技术开发区科学城科路1989 m48: 510663 t (86-20) 82075058 sys.china@gsgs.com



/ 1.1

Report No.: GZEM230300130002 Page: 39 of 41

### 6.7 Radiation Hazard Test

Test Requirement:	47 CFR Part 18
Test Method:	FCC OST/MP-5:1986

#### 6.7.1 E.U.T. Operation

Operating Environ	ment:					
Temperature:	23.6 °C	Humidity:	56.3 % RH	Atmospheric Pressure:	1020	mbar

#### 6.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Test the EUT in microwave mode with maximum power.
Pre-scan	01	Test the EUT in microwave mode with middle power.
Pre-scan	02	Test the EUT in microwave mode with lowest power.

#### 6.7.3 Measurement Procedure and Data

Maximum measure level (mW/cm²)	Limit (mW/cm²)	Test Result
0.382	1	Pass



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 40 of 41

#### **Test Setup Photo** 7

Refer to Appendix - Test Setup Photo for GZEM230300130002



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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号

No. 198 Kerzin Rad, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China. 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



EMC-TRF-01 Rev 1.1

Report No.: GZEM230300130002 Page: 41 of 41

#### **EUT Constructional Details (EUT Photos)** 8

Refer to External and Internal Photos for GZEM2303001300HS

- 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="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a> and, for electronic format documents, 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 fore exercising all their rights and obligations under the transaction document. 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,

中国・广州・经济技术开发区科学城科珠路198号

No. 198 Kerzin Rad, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, China. 510663 t (86–20) 82155555 f (86–20) 82075058 www.sgsgroup.com.cn 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

Member of the SGS Group (SGS SA)