

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 1 of 32

TEST REPORT**Application No.:**

FYCR2206000259AT

Applicant:

ZK Technology LLC DBA ZK Teco

Address of Applicant:

200 Centennial Ave, Suite 211, Piscataway, New Jersey, 08854 United States

Manufacturer:

ZK Technology LLC DBA ZK Teco

Address of Manufacturer:

200 Centennial Ave, Suite 211, Piscataway, New Jersey, 08854 United States

Factory:

Armatura Tech Co.,Ltd

Address of Factory:

999/43 Moo 15 Bangsaothong, Samutprakarn 10570, Thailand

999/120-121 Moo15 Bangsaothong, Samutprakarn 10570, Thailand

Equipment Under Test (EUT):**EUT Name:** DATA COLLECTION TERMINAL**Model No.:** Please refer to section 2. ♣

♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Trade Mark:**FCC ID:**

2AUC7-ULT7G2

Standard(s) :

47 CFR Part 15, Subpart C 15.225

Date of Receipt:

2022-06-28

Date of Test:

2022-07-16 to 2022-07-28

Date of Issue:

2022-08-01

Test Result:

Pass*

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

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

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 2 of 32

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2022-08-01		Original

Authorized for issue by:			
		Tree Zhan	
		Tree Zhan/Project Engineer	
		Winkey Wang	
		Winkey Wang/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 <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-Documents.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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.225	N/A	47 CFR Part 15, Subpart C 15.203	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
20dB Bandwidth	47 CFR Part 15, Subpart C 15.225	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass
Conducted Emissions at Mains Terminals (150kHz-30MHz)		ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Emission Mask		ANSI C63.10 (2013) Section 6.4	47 CFR Part 15, Subpart C 15.225(a)&(b)&(C)	Pass
Frequency tolerance		ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.225(e)	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass
Radiated Emissions (9kHz-30MHz)		ANSI C63.10 (2013) Section 6.4&6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209	Pass

Declaration of EUT Family Grouping:

Model No.: ULTIMA-200-G2, ULTIMA-G2, ULTIMA-BAR, ULTIMA-MAG, ULTIMA-SILKID, ULTIMA-LUM, ULTIMA-PRO, ULTIMA-PLUS, ORION -G2, ORION-BAR, ORION-MAG, ORION-TC1, ORION-SILKID, ORION-LUM, ORION-PRO, Orion-PLUS, CRONUS-200-G2, CRONUS-G2, CRONUS-BAR, CRONUS-MAG, CRONUS-SILKID, CRONUS-LUM, CRONUS-PRO, CRONUS-PLUS, PLATO-G2, PLATO-BAR, PLATO-MAG, PLATO-SILKID, PLATO-LUM, PLATO-PRO, PLATO-PLUS, ULTIMA-FACE, ULTIMA-TOUCHLESS, ULTIMA--FT(face with thermal) , ULTIMA-T(thermal), ULTIMA-P(for printer), ULT-MAG, ULT-BAR, ULT-SILKID, ULT-FACE, ULT-FT, ULT-SLKID-MTPRO, ULT-face-MTPRO, ULT-FT-MTPRO, ULT-PRO, WTPURULT200-G2, ULTIMA-FACE-G2, ULT-FACE-G2, ULTIMA-FT-G2, ULT-FT-G2

Only the model ULTIMA-200-G2 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on model name and color.

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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	6
4.1 DETAILS OF E.U.T	6
4.2 DESCRIPTION OF SUPPORT UNITS	6
4.3 MEASUREMENT UNCERTAINTY	6
4.4 TEST LOCATION	7
4.5 TEST FACILITY	7
4.6 DEVIATION FROM STANDARDS	7
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	7
5 EQUIPMENT LIST	8
6 RADIO SPECTRUM TECHNICAL REQUIREMENT	11
6.1 ANTENNA REQUIREMENT	11
6.1.1 Test Requirement:	11
6.1.2 Conclusion	11
7 RADIO SPECTRUM MATTER TEST RESULTS	12
7.1 20dB BANDWIDTH	12
7.1.1 E.U.T. Operation	12
7.1.2 Test Mode Description	12
7.1.3 Test Setup Diagram	12
7.1.4 Measurement Procedure and Data	12
7.2 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz)	14
7.2.1 E.U.T. Operation	14
7.2.2 Test Mode Description	14
7.2.3 Test Setup Diagram	14
7.2.4 Measurement Procedure and Data	15
7.3 EMISSION MASK	18
7.3.1 E.U.T. Operation	18
7.3.2 Test Mode Description	18
7.3.3 Test Setup Diagram	19
7.3.4 Measurement Procedure and Data	19
7.4 FREQUENCY TOLERANCE	21
7.4.1 E.U.T. Operation	21
7.4.2 Test Mode Description	21
7.4.3 Test Setup Diagram	21
7.4.4 Measurement Procedure and Data	21
7.5 RADIATED EMISSIONS (30MHz-1GHz)	22
7.5.1 E.U.T. Operation	22

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/Terms-e-Documents.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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com

中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com



Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 5 of 32

7.5.2	<i>Test Mode Description</i>	22
7.5.3	<i>Test Setup Diagram</i>	23
7.5.4	<i>Measurement Procedure and Data</i>	23
7.6	RADIATED EMISSIONS (9kHz-30MHz).....	26
7.6.1	<i>E.U.T. Operation</i>	27
7.6.2	<i>Test Mode Description</i>	27
7.6.3	<i>Test Setup Diagram</i>	27
7.6.4	<i>Measurement Procedure and Data</i>	27
8	TEST SETUP PHOTO	30
9	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	32

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/Terms-e-Documents.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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com

中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com



Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 6 of 32

4 General Information**4.1 Details of E.U.T.**

Power supply:	DC 12V 3A or powered by POE DC 48V . Adapter Model:FJ-SW1203000U Input: AC 100-240V 50/60Hz 1.5A Output: DC 12V 3A
---------------	---

Remark: The information in this section is provided by the applicant or manufacturer, CCS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Operation Frequency:	13.56MHz
Modulation Type:	ASK
Antenna Type:	Loop Antenna
Antenna Gain:	0dBi

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
20dB Bandwidth	± 0.3%
Conducted Emissions at Mains Terminals (150kHz-30MHz)	± 2.1 dB (9kHz to 30MHz)
Emission Mask	± 0.3%
Frequency tolerance	± 5.4 x 10-8
Radiated Emissions (30MHz-1GHz)	± 5.6 dB (30MHz-1GHz)
Radiated Emissions (9kHz-30MHz)	± 2.7 dB (9kHz-30MHz)



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 7 of 32

4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc. Shenzhen branch.

Fuyong lab. Xinlong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China

Tel: +86 755 8866 3988 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

- **A2LA (Certificate No. 6606.01)**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6606.01.

- **FCC –Designation Number: CN1322**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized as an accredited testing laboratory.

Designation Number: CN1322. Test Firm Registration Number: 718073

- **Innovation, Science and Economic Development Canada**

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0129.

IC#: 28189.

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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab. Xinlong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com



Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 8 of 32

5 Equipment List

20dB Bandwidth					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2022/7/12	2023/7/11
MXA Signal Analyzer	Agilent	N9020A	SEM004-20	2022/7/12	2023/7/11
Signal Generator	Agilent	N5173B	SEM006-05	2022/7/12	2023/7/11
ESG Vector Signal Generator	Agilent	E4438C	SEM006-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2022/7/12	2023/7/11
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08	2022/7/12	2023/7/11
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2022/7/12	2023/7/11
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2022/7/12	2023/7/11
Electric and Magnetic Field Probe - Analyzer	Narda	EHP-200AC	SEM022-20	2022/4/2	2023/4/1

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	CRT	N/A	SEM001-14	2021/7/13	2024/7/12
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-01	2022/7/12	2023/7/11
Two-Line V-Network	Rohde & Schwarz	ENV216	SEM007-16	2022/7/12	2023/7/11
Two-Line V-Network	Rohde & Schwarz	ESH3-Z5	SEM007-22	2022/1/10	2023/1/9

Emission Mask					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2022/7/12	2023/7/11
MXA Signal Analyzer	Agilent	N9020A	SEM004-20	2022/7/12	2023/7/11
Signal Generator	Agilent	N5173B	SEM006-05	2022/7/12	2023/7/11
ESG Vector Signal Generator	Agilent	E4438C	SEM006-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2022/7/12	2023/7/11
Wideband Radio	Rohde & Schwarz	CMW 500	SEM010-08	2022/7/12	2023/7/11

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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 9 of 32

Communication Tester					
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2022/7/12	2023/7/11
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2022/7/12	2023/7/11
Electric and Magnetic Field Probe - Analyzer	Narda	EHP-200AC	SEM022-20	2022/4/2	2023/4/1

Frequency tolerance					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2022/7/12	2023/7/11
MXA Signal Analyzer	Agilent	N9020A	SEM004-20	2022/7/12	2023/7/11
Signal Generator	Agilent	N5173B	SEM006-05	2022/7/12	2023/7/11
ESG Vector Signal Generator	Agilent	E4438C	SEM006-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2022/7/12	2023/7/11
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2022/7/12	2023/7/11
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08	2022/7/12	2023/7/11
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2022/7/12	2023/7/11
Attenuator	Huber+Suhner	6620_SMA-50-1	SEM021-09	2022/7/12	2023/7/11
Electric and Magnetic Field Probe - Analyzer	Narda	EHP-200AC	SEM022-20	2022/4/2	2023/4/1

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2024/7/12
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24
Biconical Antenna	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25
Loop Antenna	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25
MXE EMI receiver	Agilent	N9038A	SEM004-05	2022/7/12	2023/7/11
Pre-amplifier	HP	8447D	SEM005-02	2022/7/12	2023/7/11
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25
Double-ridged	ETS-LINDGREN	3117	SEM003-34	2021/9/25	2024/9/24

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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 10 of 32

waveguide horn					
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2022/7/12	2023/7/11
Low Noise Amplifier	CLAVIIO	BDLNA-0118-352810	SEM005-05	2022/7/12	2023/7/11
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2022/7/12	2023/7/11
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2022/7/12	2023/7/11

Radiated Emissions (9kHz-30MHz)

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2024/7/12
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24
Biconical Antenna	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25
Loop Antenna	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25
MXE EMI receiver	Agilent	N9038A	SEM004-05	2022/7/12	2023/7/11
Pre-amplifier	HP	8447D	SEM005-02	2022/7/12	2023/7/11
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25
Double-ridged waveguide horn	ETS-LINDGREN	3117	SEM003-34	2021/9/25	2024/9/24
Spectrum Analyzer	Rohde & Schwarz	101288	SEM004-08	2022/7/12	2023/7/11
Low Noise Amplifier	CLAVIIO	BDLNA-0118-352810	SEM005-05	2022/7/12	2023/7/11
Pre-amplifier	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2022/7/12	2023/7/11
Pre-amplifier	Rohde & Schwarz	CH14-H052	SEM005-17	2022/7/12	2023/7/11

General used equipment

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-22	2022-07-11	2023-07-10
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-23	2022-07-11	2023-07-10
Barometer	DUMAI	DYM3	SEM002-24	2022-07-11	2023-07-10



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com

中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

6.1.2 Conclusion

Standard Requirement:

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

EUT Antenna:

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

Antenna location: Refer to Internal photos.

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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

7 Radio Spectrum Matter Test Results

7.1 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215

Test Method: ANSI C63.10 (2013) Section 6.9

7.1.1 E.U.T. Operation

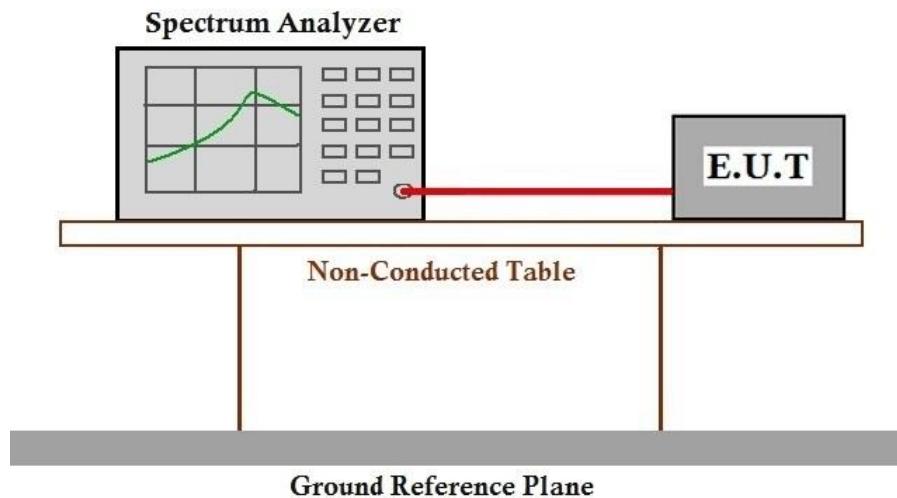
Operating Environment:

Temperature: 27.5 °C Humidity: 40.8 % RH Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation

7.1.3 Test Setup Diagram



7.1.4 Measurement Procedure and Data

The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



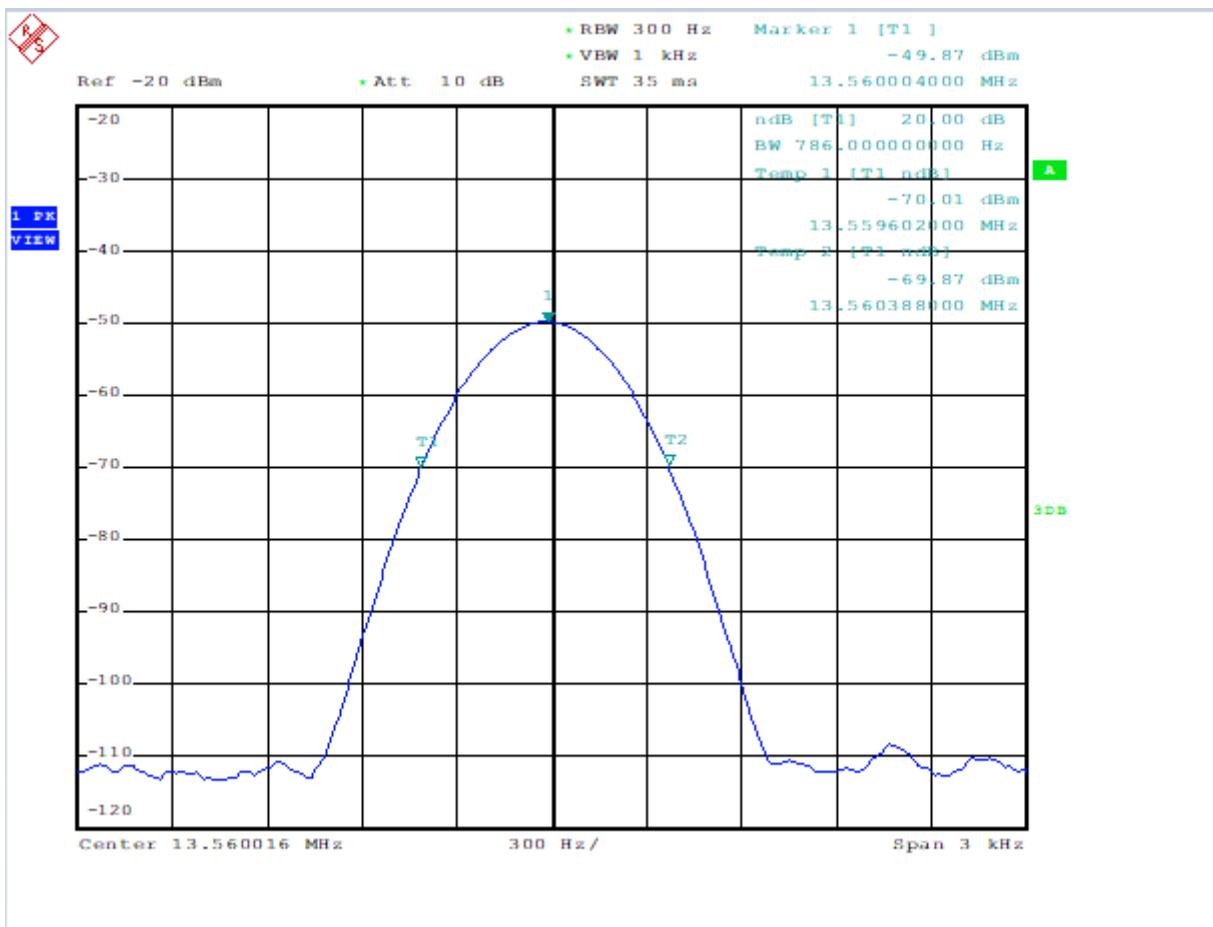
Fuyong lab, Xinxiong TechnoPark, Fuyong Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 13 of 32



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 14 of 32

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

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

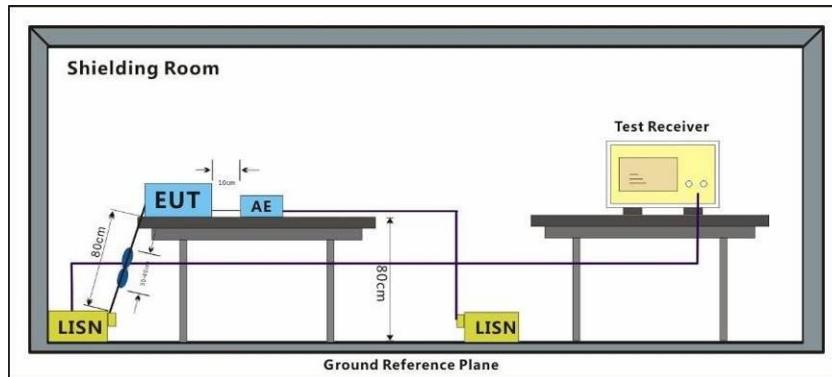
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22.8 °C Humidity: 52.6 % RH Atmospheric Pressure: 1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation

7.2.3 Test Setup Diagram

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 15 of 32

7.2.4 Measurement Procedure and Data

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

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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Compliance Certification Services (Kunshan) Inc.
Shenzhen BranchFuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

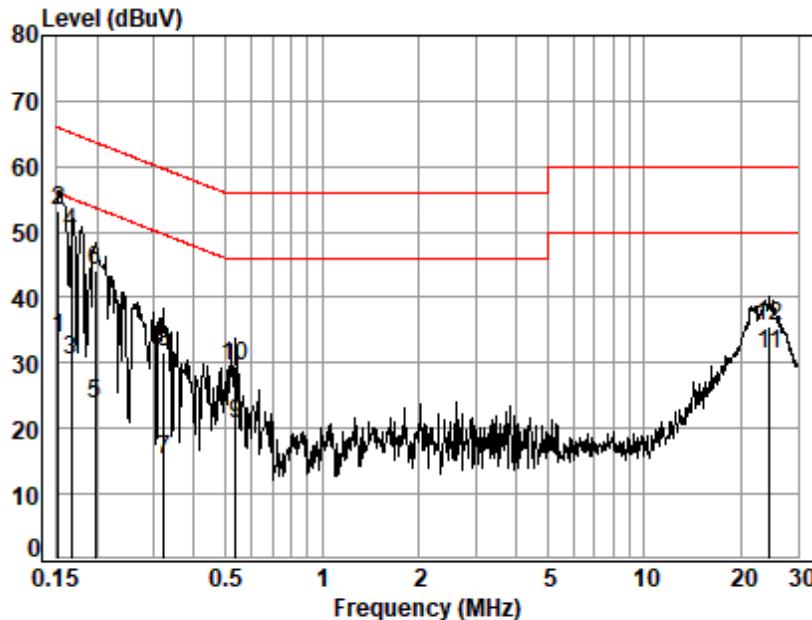
Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 16 of 32

Test Mode: 00; Line: Live line



Site : Shielding Room

Condition: Line

Job No. : 00259AT

Test mode: 00

Freq	Cable Loss	LISN Factor	Read	Limit Line	Over Limit	Remark
			Level			
MHz	dB	dB	dBuV	dBuV	dBuV	dB
1	0.1516	0.02	0.25	33.38	33.65	55.91 -22.26 Average
2	0.1516	0.02	0.25	53.02	53.29	65.91 -12.62 QP
3	0.1668	0.02	0.25	30.20	30.47	55.12 -24.65 Average
4	0.1668	0.02	0.25	49.76	50.03	65.12 -15.09 QP
5	0.1976	0.02	0.26	23.56	23.84	53.71 -29.87 Average
6	0.1976	0.02	0.26	43.76	44.04	63.71 -19.67 QP
7	0.3217	0.03	0.27	14.82	15.12	49.66 -34.54 Average
8	0.3217	0.03	0.27	31.38	31.68	59.66 -27.98 QP
9	0.5378	0.03	0.26	20.38	20.67	46.00 -25.33 Average
10	0.5378	0.03	0.26	29.18	29.47	56.00 -26.53 QP
11	24.3995	0.08	0.40	30.89	31.37	50.00 -18.63 Average
12	24.3995	0.08	0.40	34.96	35.44	60.00 -24.56 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

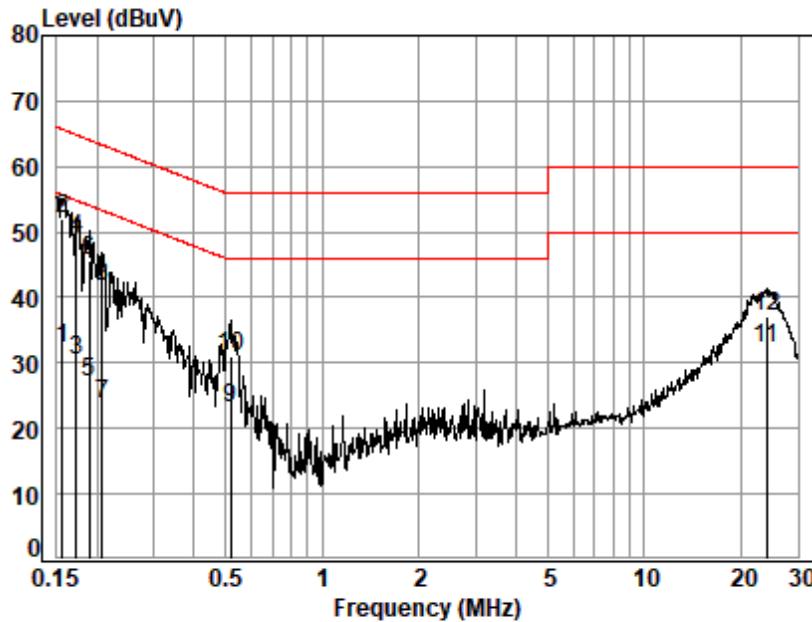
Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 17 of 32

Test Mode: 00; Line: Neutral Line



Site : Shielding Room

Condition: Neutral

Job No. : 00259AT

Test mode: 00

Freq	Cable	LISN	Read	Limit	Over	Remark
	Loss	Factor	Level	Level	Line	
	MHz	dB	dB	dBuV	dBuV	dB
1	0.1557	0.02	0.30	31.86	32.18	55.69 -23.51 Average
2	0.1557	0.02	0.30	51.72	52.04	65.69 -13.65 QP
3	0.1731	0.02	0.30	30.00	30.32	54.81 -24.49 Average
4	0.1731	0.02	0.30	48.55	48.87	64.81 -15.94 QP
5	0.1894	0.02	0.29	26.63	26.94	54.06 -27.12 Average
6	0.1894	0.02	0.29	45.22	45.53	64.06 -18.53 QP
7	0.2072	0.02	0.29	23.56	23.87	53.32 -29.45 Average
8	0.2072	0.02	0.29	41.39	41.70	63.32 -21.62 QP
9	0.5182	0.02	0.26	22.82	23.10	46.00 -22.90 Average
10	0.5182	0.02	0.26	30.83	31.11	56.00 -24.89 QP
11	24.0148	0.08	0.38	31.68	32.14	50.00 -17.86 Average
12	24.0148	0.08	0.38	36.75	37.21	60.00 -22.79 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

7.3 Emission Mask

Test Requirement 47 CFR Part 15, Subpart C 15.225(a)&(b)&(C)

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

Limit:

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Below 30MHz

The limit at 30m test distance is below:

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right)$$

where

FS_{limit} is the calculation of field strength at the limit distance, expressed in dB μ V/m

FS_{max} is the measured field strength, expressed in dB μ V/m

d_{measure} is the distance of the measurement point from the EUT

d_{limit} is the reference distance or the distance of the $\lambda/2\pi$ point

The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 84dB μ V/m at 30 meters.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 27.5 °C Humidity: 40.8 % RH Atmospheric Pressure: 1020 mbar

7.3.2 Test Mode Description

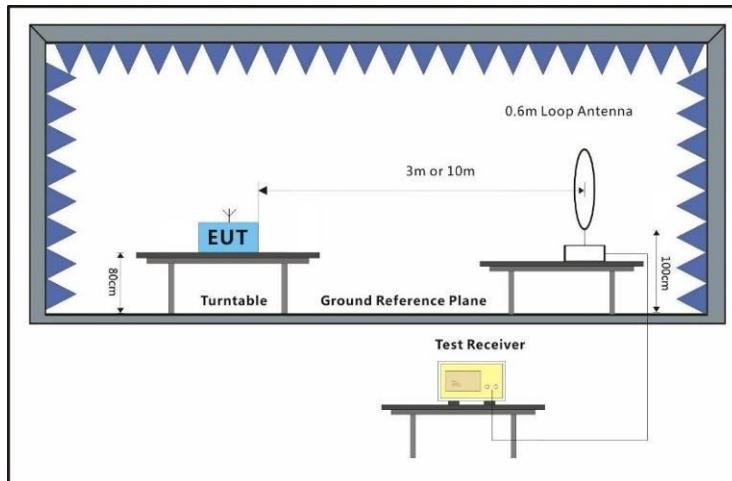
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

7.3.3 Test Setup Diagram**7.3.4 Measurement Procedure and Data**

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Compliance Certification Services (Kunshan) Inc.
Shenzhen Branch

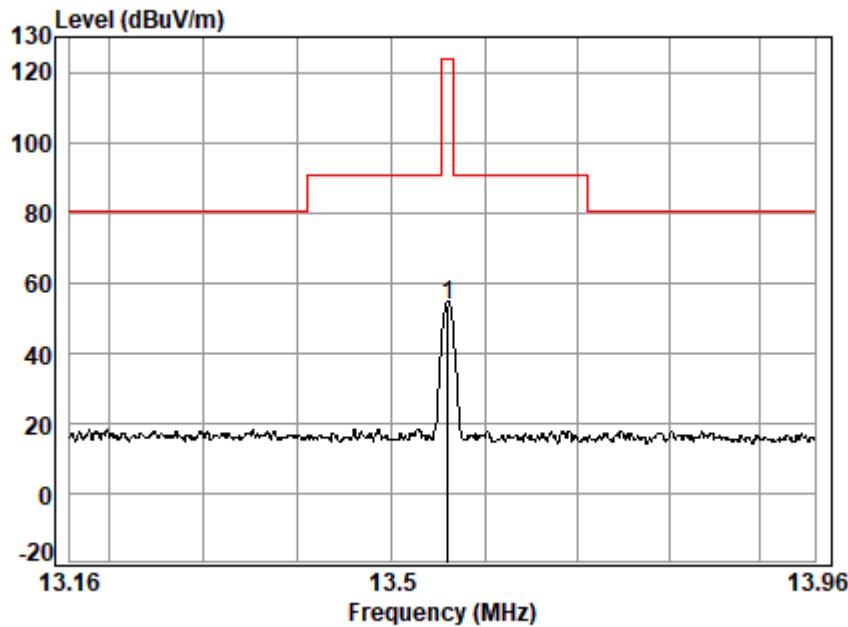
Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 20 of 32



Condition: 3m

Job No. : 00259AT

Test Mode: 00

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	13.5597	0.60	8.65	32.06	76.53	53.72	124.00	-70.28	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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 21 of 32

7.4 Frequency tolerance

Test Requirement 47 CFR Part 15, Subpart C 15.225(e)

Test Method: ANSI C63.10 (2013) Section 6.8

Limit:

±0.01%

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 27.5 °C Humidity: 40.8 % RH Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation

7.4.3 Test Setup Diagram**7.4.4 Measurement Procedure and Data**

The EUT was placed in an environmental test chamber and powered such that control element received normal voltage and the transmitter provided maximum RF output.

Declared Frequency (MHz)		13.56MHz			
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Frequency Tolerance (%)	Limit (%)	Result
50	12	13.560726	0.00535	±0.01	Pass
40		13.560435	0.00321		Pass
30		13.560518	0.00382		Pass
20		13.560526	0.00388		Pass
10		13.560453	0.00334		Pass
0		13.560126	0.00093		Pass
-10		13.560563	0.00415		Pass
-20		13.560674	0.00497		Pass
20		13.80	13.560146		Pass
		10.20	13.560087		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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com



Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 22 of 32

7.5 Radiated Emissions (30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.5 °C Humidity: 51.1 % RH Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

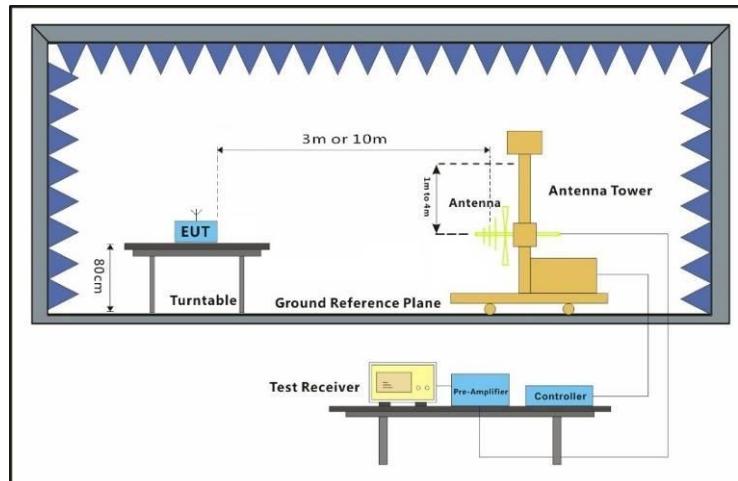
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

7.5.3 Test Setup Diagram**7.5.4 Measurement Procedure and Data**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

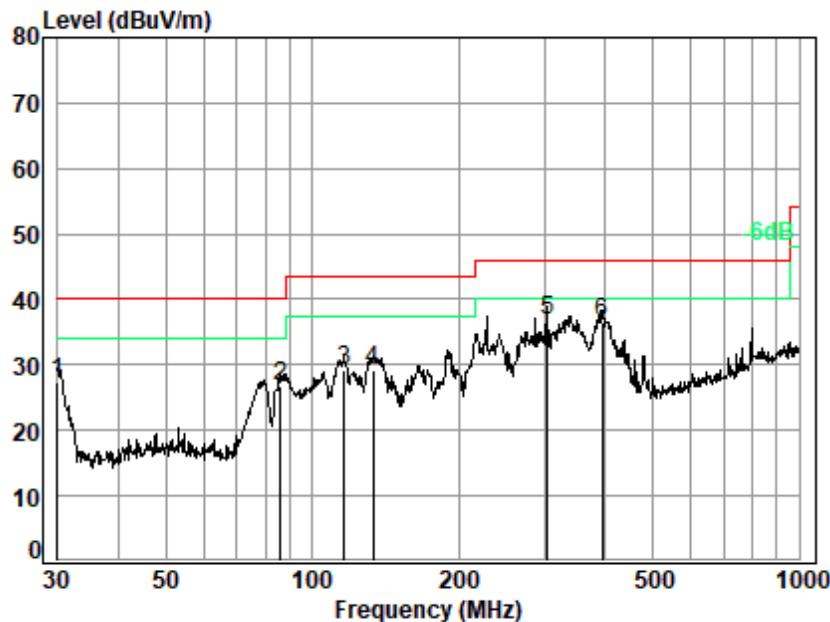
Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 24 of 32

Test Mode: 00; Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No : 00259AT
Mode : 00

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.0000	0.18	16.39	25.00	35.89	27.46	40.00	-12.54	QP
2	85.8984	0.58	13.76	25.02	37.32	26.64	40.00	-13.36	QP
3	116.1321	0.91	15.33	25.51	38.51	29.24	43.50	-14.26	QP
4	133.6188	0.92	16.92	25.53	37.03	29.34	43.50	-14.16	QP
5	303.5437	1.05	18.48	25.60	42.98	36.91	46.00	-9.09	QP
6	394.8545	1.69	20.63	25.65	39.72	36.39	46.00	-9.61	QP

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed online at <http://www.sci.com/en/termsofuse.aspx> and, for electronic documents, to the document terms and conditions at <http://www.sci.com/en/termsofcondition.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 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.

Fuyang lab, Xintong TechnoPark, Fengting Road, Fuyang Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN_Doccheck@sgs.com



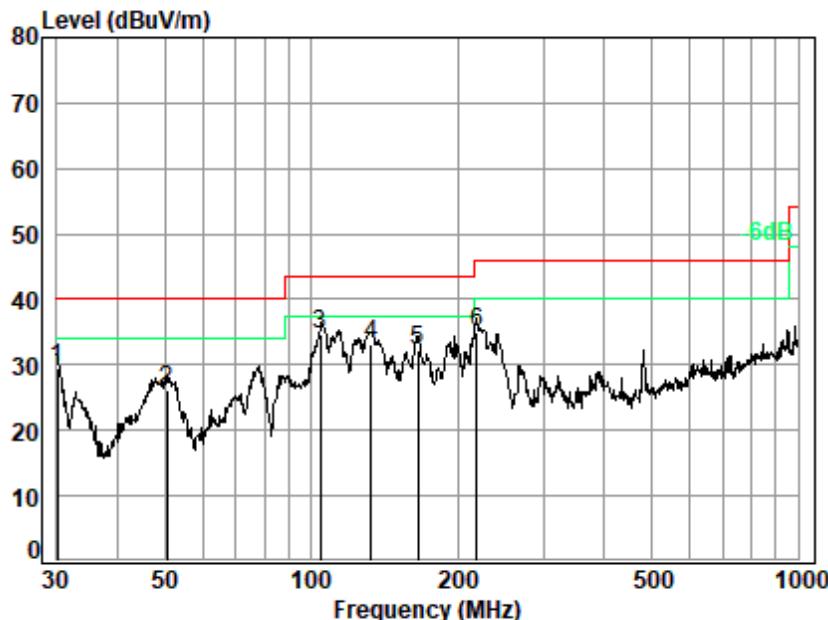
Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 25 of 32

Test Mode: 00; Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
Job No : 00259AT
Mode : 00

Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Line Limit	Over Limit	Remark	
								MHz	dB
1	30.1054	0.18	16.30	24.99	37.98	29.47	40.00	-10.53	QP
2	50.4089	0.22	17.36	24.90	33.55	26.23	40.00	-13.77	QP
3	104.5360	0.86	14.93	25.50	44.30	34.59	43.50	-8.91	QP
4	132.6850	0.92	16.85	25.53	40.83	33.07	43.50	-10.43	QP
5	165.4867	0.75	17.03	25.55	40.13	32.36	43.50	-11.14	QP
6	218.3085	0.75	15.79	25.57	44.14	35.11	46.00	-10.89	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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Compliance Certification Services (Kunshan) Inc.
Shenzhen Branch

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 26 of 32

7.6 Radiated Emissions (9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.225(d) & 15.209

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

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30

Below 30MHz

If field strength is measured at only a single point, then that point shall be at the radial from the EUT that produces the maximum emission at the frequency being measured, as described in 5.4. If that point is closer to the EUT than $\lambda/2\pi$ and the limit distance is greater than $\lambda/2\pi$, the measurement shall be extrapolated to the limit distance by conservatively presuming that the field strength decreases at a 40 dB/decade of distance rate to the $\lambda/2\pi$ distance, and at a 20 dB/decade of distance rate beyond $\lambda/2\pi$. This shall be accomplished using Equation (2):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(near field)}/d_{(10m)}\} + 20\log\{d_{(30/300m)}/d_{(near field)}\} \quad (2)$$

If the single point measured is at a distance greater than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (3):

$$FS_{(10m)} = FS_{(30/300m)} + 20\log\{d_{(30/300m)}/d_{(10m)}\} \quad (3)$$

If both the single point and the limit distance are equal to or closer to the EUT than $\lambda/2\pi$, then extrapolation to the limit distance shall be calculated using Equation (4):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(30/300m)}/d_{(10m)}\} \quad (4)$$

Remark:

$$d_{near field} = 47.77 / f_{MHz}$$

where f_{MHz} is the frequency of the emission being measured in MHz.

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right)$$

where

FS_{limit} is the calculation of field strength at the limit distance, expressed in dB μ V/m
 FS_{max} is the measured field strength, expressed in dB μ V/m
 d_{measure} is the distance of the measurement point from the EUT
 d_{limit} is the reference distance or the distance of the $\lambda/2\pi$ point

7.6.1 E.U.T. Operation

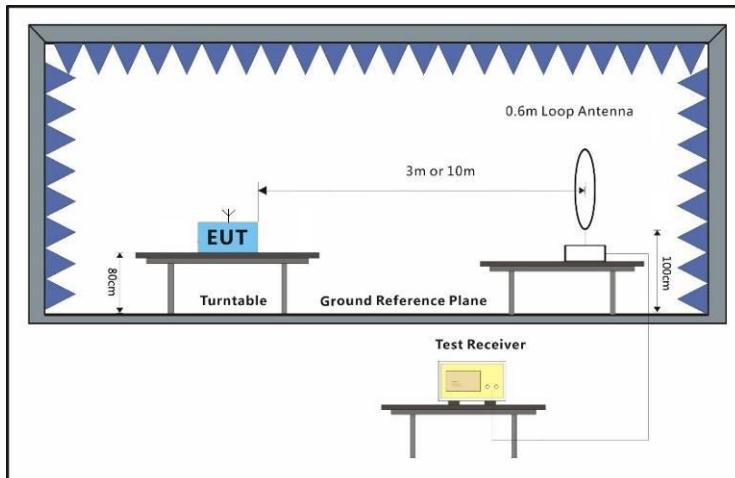
Operating Environment:

Temperature: 23.9 °C Humidity: 49.7 % RH Atmospheric Pressure: 1020 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode with modulation

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

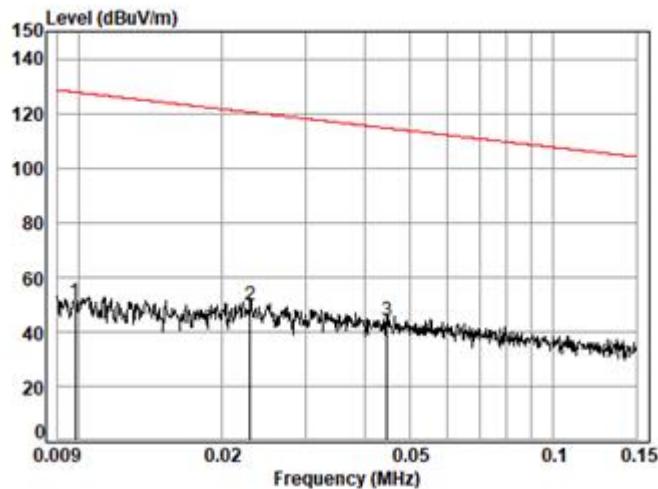
Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 28 of 32



Condition: 3m

Job No. : 00259AT

Test Mode: 00

Freq	Cable	Ant	Preamp	Read	Limit	Over	Remark	
	Loss	Factor	Factor	Level				
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	0.0098	0.29	18.39	31.45	63.43	50.66	127.76	-77.10 Average
2	0.0230	0.30	13.10	31.67	67.65	49.38	120.38	-71.00 Average
3	0.0446	0.31	11.19	31.73	64.16	43.93	114.61	-70.68 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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

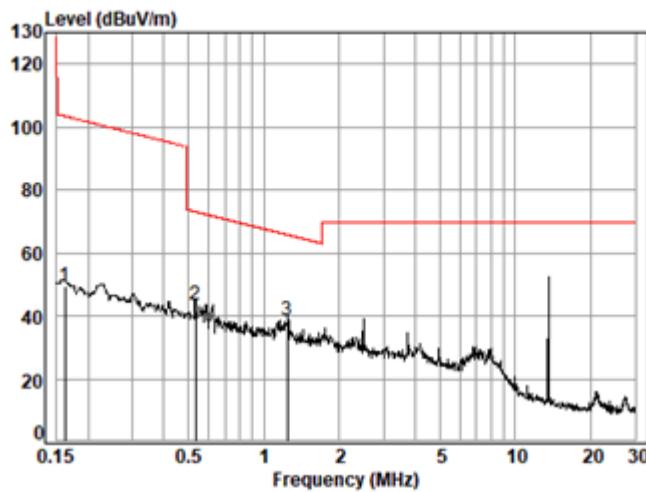
Compliance Certification Services (Kunshan) Inc.
Shenzhen BranchFuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 29 of 32



Condition: 3m

Job No. : 00259AT

Test Mode: 00

Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level		Limit Line	Over Limit	Remark	
				MHz	dB	dB/m	dB	dBuV	dBuV/m
1	0.1615	0.32	10.40	31.78	70.55	49.49	103.44	-53.95	Average
2	0.5350	0.29	10.30	31.73	64.40	43.26	73.04	-29.78	QP
3	1.2422	0.32	10.29	31.73	59.78	38.66	65.72	-27.06	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 <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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

Compliance Certification Services (Kunshan) Inc.
Shenzhen Branch

8 Test Setup Photo

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



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

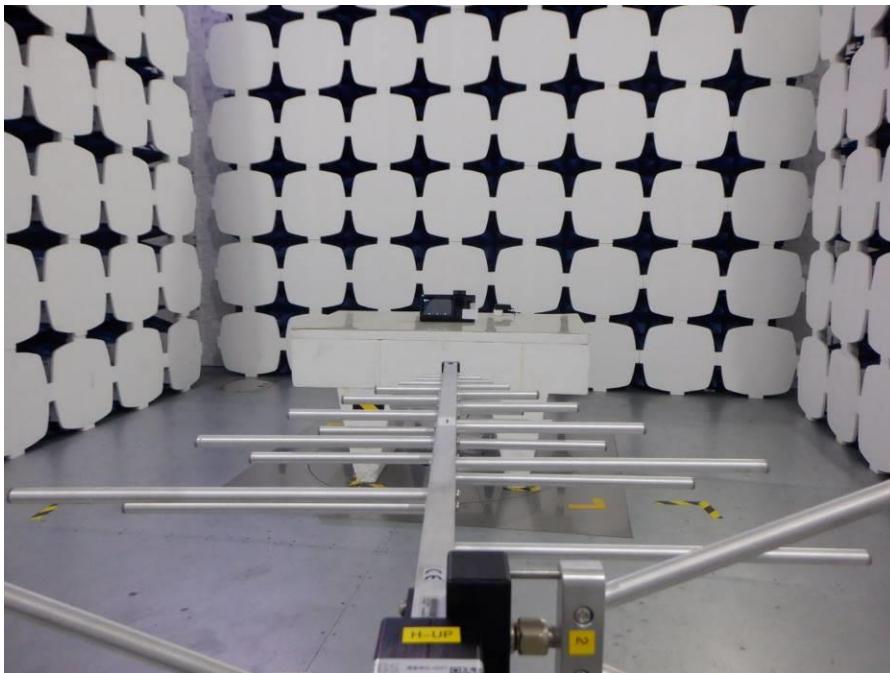
Compliance Certification Services (Kunshan) Inc. Shenzhen Branch

SZCCS-TRF-01 Rev. A/0 Aug01,2022

Report No.: FYCR220600025903

Page: 31 of 32

Radiated Emissions (30MHz-1GHz)



Radiated Emissions (9kHz-30MHz)



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/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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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



Compliance Certification Services (Kunshan) Inc.
Shenzhen Branch

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com

9 EUT Constructional Details (EUT Photos)

Refer to Appendix – External and Internal Photos for FYCR2206000259AT.

- 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 <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-Documents.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 exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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

Fuyong lab, Xinxiong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China 518103 t (86-755) 88663988 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·宝安区福永街道凤塘大道鑫龙科技园福永实验室 邮编: 518103 t (86-755) 88663988 f (86-755) 26710594 sgs.china@sgs.com