

TEST REPORT

REPORT NUMBER: I21W00031-EMC

ON

Type of Equipment: LTE Cat.1 cellular module
Type of Designation: SLM320-L
Brand Name: MEIG Link
Manufacturer: MeiG Smart Technology Co., Ltd

ACCORDING TO
Subpart B, PART 15, RADIO FREQUENCY DEVICES

Chongqing Academy of Information and Communication Technology

Month date, year
Sep 27, 2021

Signature



Xiang Luoyong
Director

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communication Technology.



Report No.: I21W00031-EMC

Revision Version

Report Number	Revision	Date	Memo
I21W00031-EMC	00	2021-09-27	Initial creation of test report

Chongqing Academy of Information and Communication Technology

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Report No.: I21W00031-EMC

FCC ID: 2APJ4-SLM320-L

Report Date: 2021-09-27

Test Firm Name: Chongqing Academy of Information and
Communication Technology

FCC Registration Number: CN1239

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 15B. The sample tested was found to comply with the requirements defined in the applied rules.

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1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part15B.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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1.2 Testers

Name: Chen Xin
Position: Engineer
Department: Department of EMC test
Date: 2021-09-27
Signature:



Editor of this test report:

Name: Xiao Yu
Position: Engineer
Department: Department of EMC test
Date: 2021-09-27
Signature:



Technical responsibility for area of testing:

Name: Xiang Luoyong
Position: Manager
Department: Department of EMC test
Date: 2021-09-27
Signature:



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1.3 Testing Laboratory information

1.3.1 Location

Name: Chongqing Academy of Information and Communications
Address: Building B, Technology Innovation Center, No.8, Yuma
Road, Chayuan New Area, Nan'an District, Chongqing,
People's Republic of China, 401336
Tel: +86 23 88069965
Fax: +86 23 88608777
Email: liqiao@caict.ac.cn

1.3.2 Details of accreditation status

Accredited by: --
Registration number: --
Standard: --

1.3.3 Test location, where different from section 1.3.1

Name: --
Address: --

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1.4 Details of applicant or manufacturer**1.4.1 Applicant**

Name: MeiG Smart Technology Co., Ltd
Address: 3/F, No.88, Qinjiang Road, Xuhui District, Shanghai
Country: CHINA
Telephone: 021-54278676
Fax: --
Contact: louxinwei
Email: louxinwei@meigsmart.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: MeiG Smart Technology Co., Ltd
Address: 3/F, No.88, Qinjiang Road, Xuhui District, Shanghai
Country: CHINA

2 Test Item

2.1 General Information

Manufacturer: MeiG Smart Technology Co., Ltd
Name: LTE Cat.1 cellular module
Model Number: SLM320-L
Serial Number: M320L16AHB071800060
IMEI: 863069057875412
Production Status: Smart module
Receipt date of test item: 2021-08-23

2.2 Outline of EUT

The EUT Porta is a Product supporting GSM 850, PCS 1900 and LTE BAND 2/4/5/7.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Smart module	MeiG Smart Technology Co., Ltd	SLM320-L	M320L16AH B071800060	None

2.5 Other Information

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3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

Configuration1		
Specification Clause	Name of Test	Result
15.107	Conducted limits	P
15.109	Radiated Emission limits	P

4. Test equipment and Test software

Test equipment Used:							
Number	Description	Manufacturer	Model Number	Serial Number	Cal. Date	Cal Due	State
1	Test Receiver	R&S	ESU 26 20Hz-26.5GHz	100350	2021-05-12	2022-06-11	Normal
2	Trilog Antenna	Schwarzbeck	VULB9163	01392	2021-02-05	2023-03-04	Normal
3	Double Ridged Guide Antenna	Schwarzbeck	HF907	100357	2021-01-11	2023-02-10	Normal
4	Fully-Anechoic Chamber	ETS	--	--	2020-05-26	2022-06-25	Normal
5	AMN	R/S	ENV216	101128	2021-05-12	2022-06-11	Normal
6	EMI Test Receiver	R/S	ESCI 9KHz-3GHZ	101214	2021-05-12	2022-06-11	Normal

Test software Used:				
Number	Test item	Test software name	Manufacturer	Version:
1	Radiated Emission	EMC32	R/S	V8.51.0
2	Conducted Emission	EMC32	R/S	V8.51.0

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5 Test Results

5.1 Radiated Emission

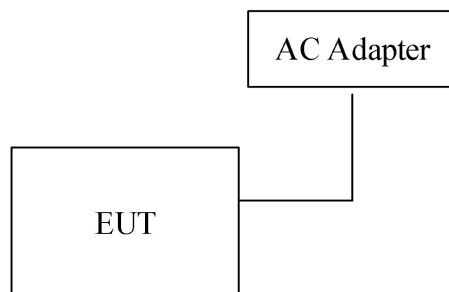
Specifications:	15.109
Date of Tests	2021-08-26
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	Normal
Test Results:	Pass

Limit Level Construction(Except for Class A digital devices):

Frequency Range (MHz)	Quasi-Peak (dBuV/m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Frequency Range (MHz)	Peak (dBuV/m)	Average (dBuV/m)
Above 1000	74	54

EUT Setup:



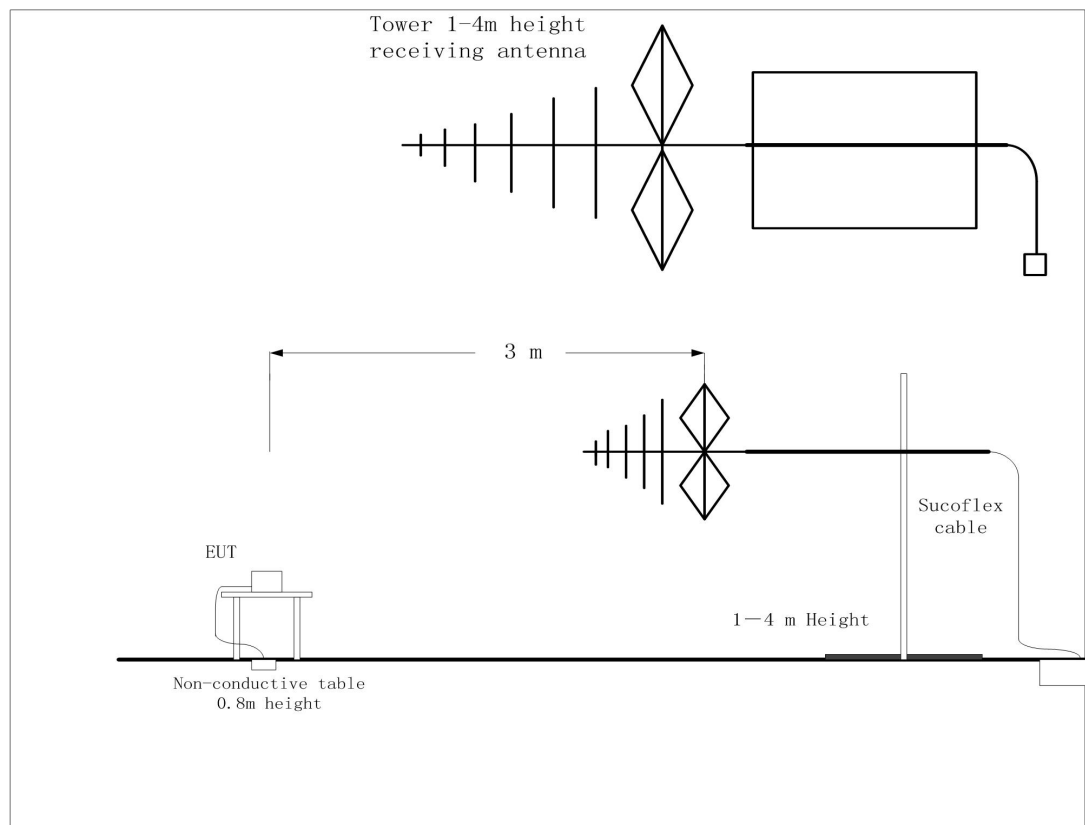
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Test Setup:



Test Method:

For 30-1000MHz, the EUT was placed on the top of a rotating 0.8m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement. Tested in accordance with the procedures of ANSI C63.4-2014, section 8.3.

For 1000-18000MHz, the maximal emission value was acquired by adjusting the antenna height, and the table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

Uncertainty Measurement:

The measurement uncertainty (30MHz-1000MHz) is 5.15 dB (k=2).

The measurement uncertainty (1000MHz-6000MHz) is 4.68 dB (k=2).

The measurement uncertainty (6000MHz-18000MHz) is 3.91 dB (k=2).

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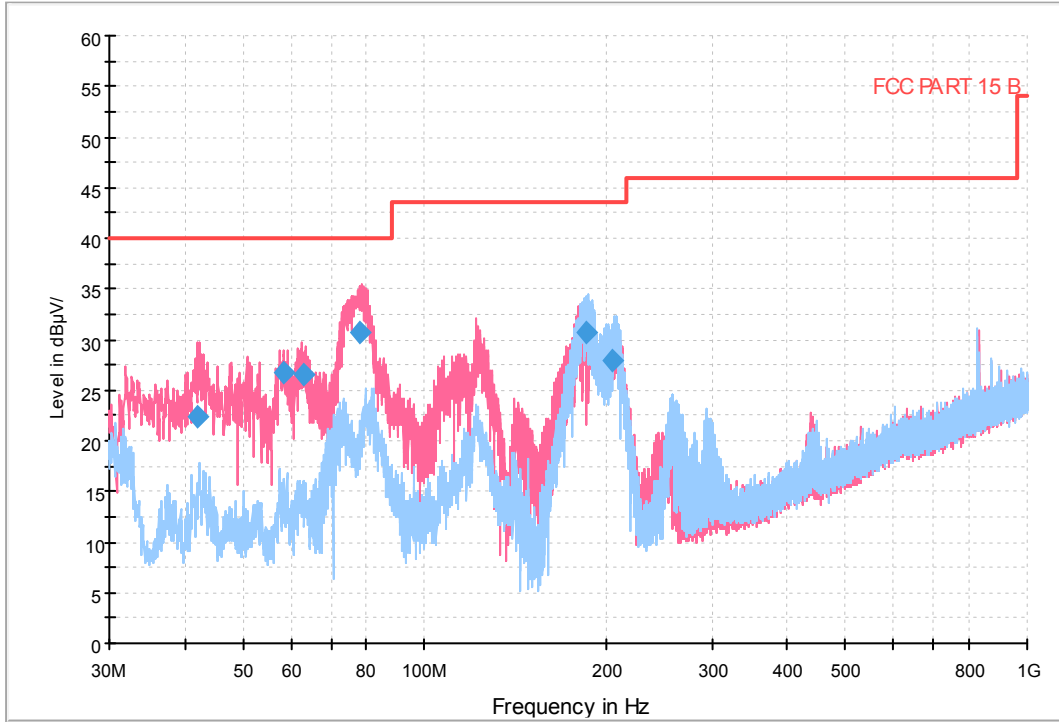
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Test Data

RE 30MHz-1GHz



RE 30M-1G

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
42.167500	22.3	40.0	17.7	5000.0	120.000	100.0	V	9.0	-18.4
58.548500	26.7	40.0	13.3	5000.0	120.000	100.0	V	9.0	-19.0
63.043500	26.5	40.0	13.5	5000.0	120.000	100.0	V	-3.0	-20.2
78.291000	30.8	40.0	9.2	5000.0	120.000	100.0	V	190.0	-22.9
186.264000	30.6	43.5	12.9	5000.0	120.000	100.0	H	270.0	-18.9
204.936500	27.9	43.5	15.6	5000.0	120.000	100.0	H	269.0	-17.9

Note: The red curve represents V polarization, the blue curve represents H polarization.

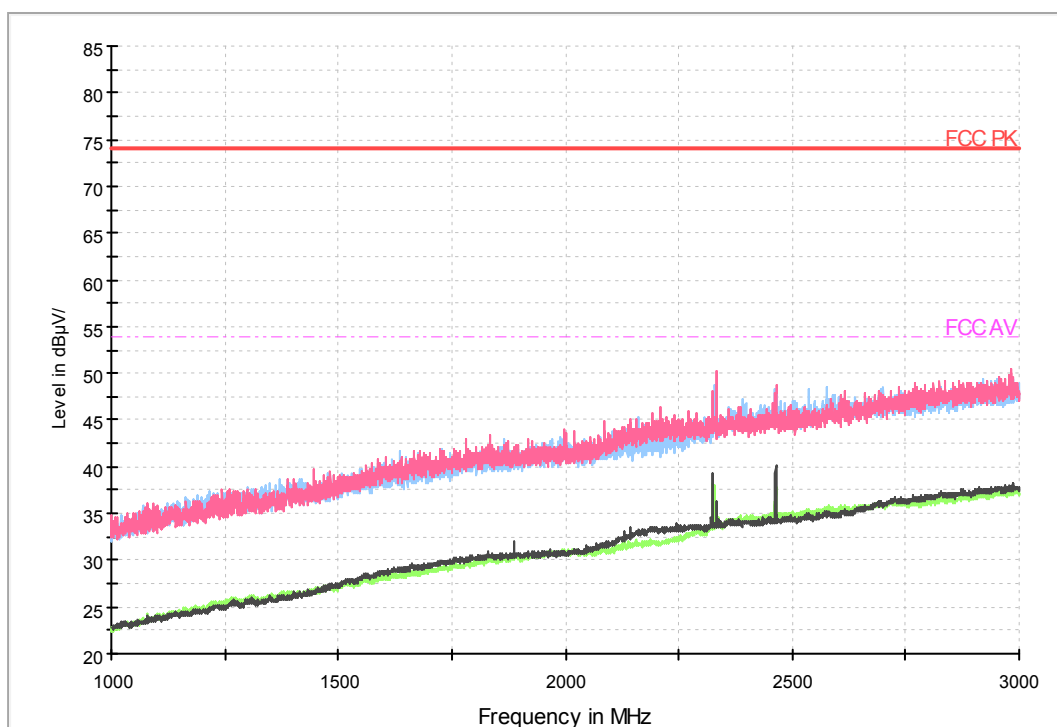
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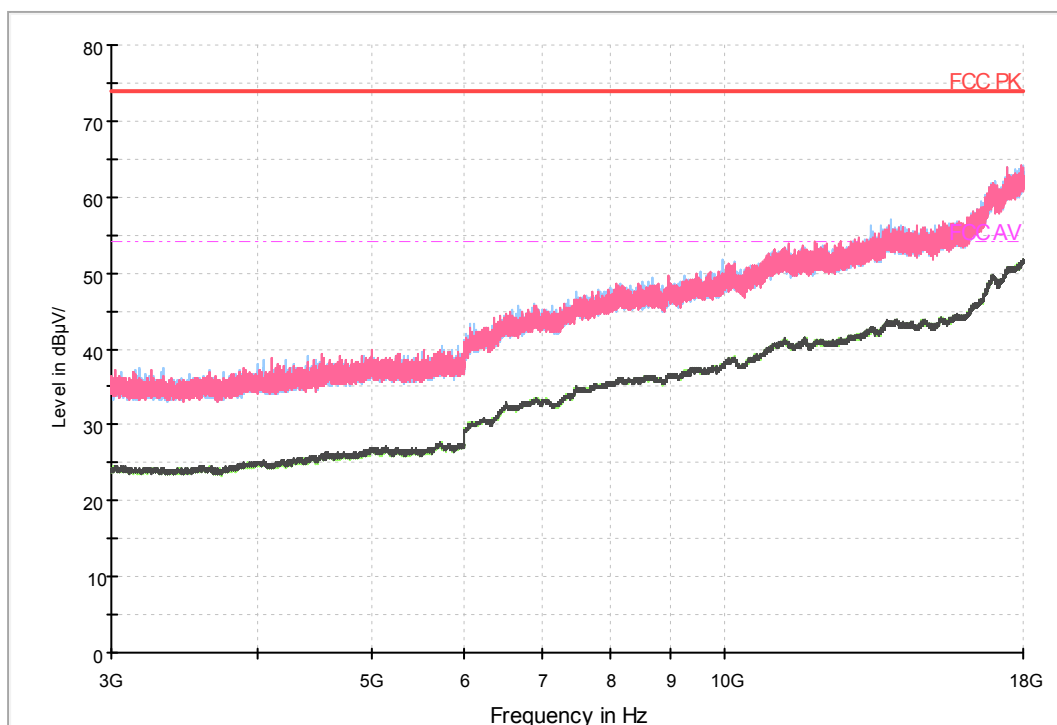
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RE 1GHz-3GHz



RE 1-3G

RE 3GHz-18GHz



RE 3-18G

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5.2 Conducted Emission

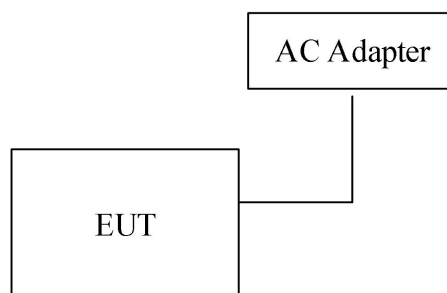
Specifications:	15.107
Date of Tests	2021-08-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	Normal
Test Results:	Pass

Limit Level Construction:

Frequency Range (MHz)	Conducted 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

EUT Setup:



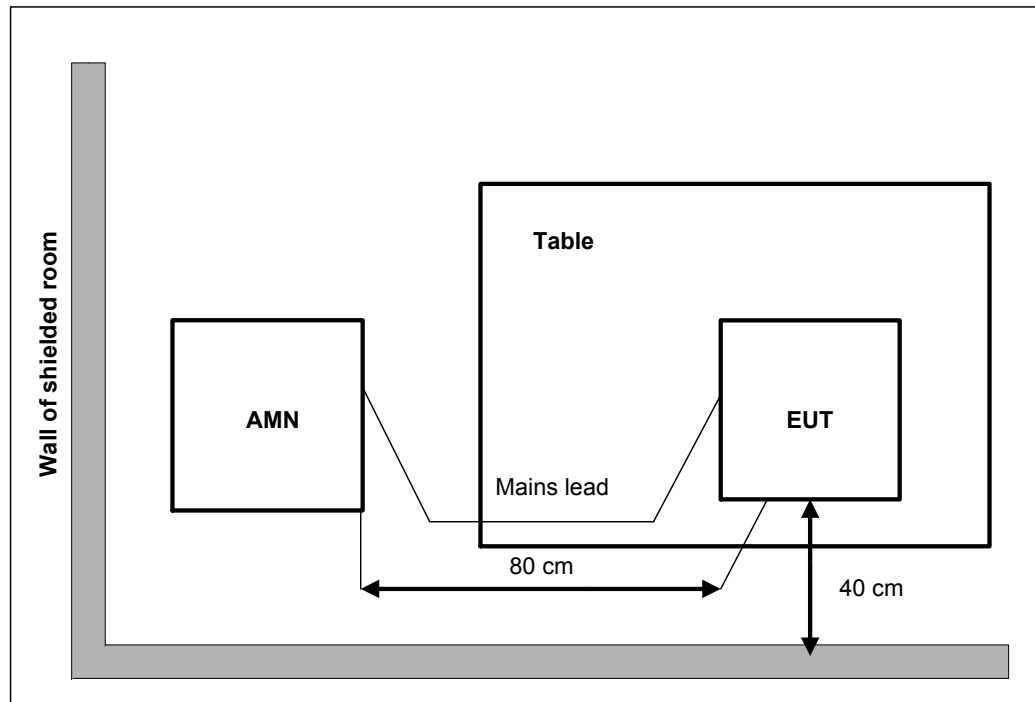
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Test Setup:



Test Method:

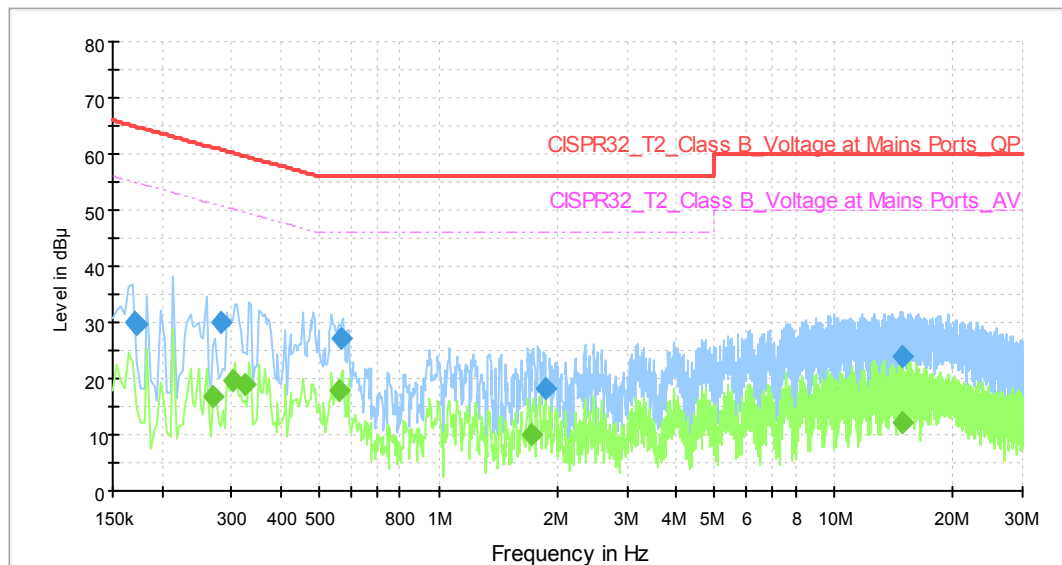
For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies with the band 150 kHz to 30MHz shall not exceed the limits. Both lines of the power mains connected to the EUT were checked for maximum conducted interference. Tested in accordance with the procedures of ANSI C63.4-2014, section 7.3

Uncertainty Measurement:

The measurement uncertainty is 1.83 dB (k=2).

Test Data

CISPR N&L1 Voltage 150k to 30MHz-Class B



CISPR32_T2_Class B_Voltage at Mains Ports_QPLimitLine
 CISPR32_T2_Class B_Voltage at Mains Ports_AV.LimitLine
 Preview Result 1-PK+
 Preview Result 2-AVG
 Final Result 1-QPK
 Final Result 2-CAV

L&N 150KHz-30MHz

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.170000	29.9	1000.0	9.000	On	L1	9.7	35.1	65.0
0.172206	29.8	1000.0	9.000	On	L1	9.7	35.1	64.9
0.282831	30.1	1000.0	9.000	On	L1	9.7	30.7	60.7
0.570438	27.3	1000.0	9.000	On	L1	9.7	28.7	56.0
1.870019	18.3	1000.0	9.000	On	L1	9.7	37.7	56.0
14.951512	24.1	1000.0	9.000	On	L1	9.9	35.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.269488	16.8	1000.0	9.000	On	L1	9.7	34.3	51.1
0.303431	19.7	1000.0	9.000	On	L1	9.7	30.5	50.1
0.322831	19.0	1000.0	9.000	On	L1	9.7	30.6	49.6
0.561631	17.7	1000.0	9.000	On	L1	9.7	28.3	46.0
1.716944	9.9	1000.0	9.000	On	L1	9.7	36.1	46.0
14.962706	12.2	1000.0	9.000	On	L1	9.9	37.8	50.0

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Test photo

See the Pic1~3 in document" I21W00031_JAB".

Annex A External Photos

See the document" I21W00031-External Photos".

Annex B Internal Photos

See the document" I21W00031-Internal Photos".

ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

_____ **The End of this Report** _____

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