



TEST REPORT

REPORT NUMBER: I21W00040-EMC_Rev1

ON

Type of Equipment: Wireless communication module

Type of Designation: SNM900

Brand Name: MEIGLink

Manufacturer: MeiG Smart Technology Co., Ltd

FCC ID: 2APJ4-SNM900

ACCORDING TO

Subpart B, PART 15, RADIO FREQUENCY DEVICES

Chongqing Academy of Information and Communications Technology

Month date, year

Dec 23, 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 Communications Technology.



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Revision Version

Report Number	Revision	Date	Memo
I21W00040-EMC	00	2021-12-17	Initial creation of test report
I21W00040-EMC	01	2021-12-23	Added some information

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1. Test Laboratory

1.1. Testing Location

Name:	Chongqing Academy of Information and Communications Technology
FCC Registration Number:	CN1239
Address:	Building C, Technology Innovation Center, No.8, Yuma Road, Chayuan New Area, Nan'an District, Chongqing, People's Republic of China
	No.19 East Road, Xiantao Big-data Valley, Yubei District, Chongqing, People's Republic of China
Postal Code:	401336
Telephone:	0086-23-88069965
Fax:	0086-23-88608777

1.2. Testing Environment

Normal Temperature:	15-35°C
Relative Humidity:	30-60%

1.3. Project data

Testing Start Date:	2021-12-13
Testing End Date:	2021-12-17

1.4. Signature

	2021-12-23
Tan Haoyue (Prepared this test report)	Date
	2021-12-23
Xiao Yu (Reviewed this test report)	Date
	2021-12-23
Xiang Luoyong Director of the laboratory (Approved this test report)	Date

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2. Client Information

2.1. Applicant Information

Company Name:	MeiG Smart Technology Co., Ltd
Address /Post:	Floor 2, No.5 Office Building, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen
City:	Shenzhen
Country:	China
Telephone:	021-54278676
Fax:	--
Email:	louxinwei@meigsmart.com
Contact Person:	louxinwei

2.2. Manufacturer Information

Company Name:	MeiG Smart Technology Co., Ltd
Address /Post:	Floor 2, No.5 Office Building, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen
City:	Shenzhen
Country:	China
Telephone:	021-54278676
Fax:	--
Email:	louxinwei@meigsmart.com
Contact Person:	louxinwei

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3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Wireless communication module
Model name	SNM900
Brand name	MEIGLink
WLAN band	2.4GWLAN 11b/11g/11n(20M&40M) 5GWLAN 11a/11n(20M&40M)/11ac(20M&40M&80M)
Bluetooth	5.0

Note: Photographs of EUT are shown in ANNEX B of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID	SN or IMEI	HW Version	SW Version	Date of receipt
S2	M900332GYA11130 0009	SLM900_MB_V 1.01_PCB	SNM900Q_EQ000_277 4.DCF921C.0452224_2 01104_100_V01_T04	2021-12-06

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID	Description	SN
AE1	Antenna 1	--
AE2	Antenna 2	--

Note: There are two kinds of antennas in this test, and the data reflect the worst data with antennal.

*AE ID: is used to identify the test sample in the lab internally.

dB*: is provided customer.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC CFR Part 15, Subpart B,	RADIO FREQUENCY DEVICES	October 1, 2020

Note: There are two kinds of antennas in this test, and the data reflect the worst data with antenna1.

5. Test Equipments Utilized

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal. Date	Cal.Due Date
1	Test Receiver	ESU40	100350	01	4.43 SP3	R&S	2021-05-12	2022-06-11
2	Ultra-wideband Log Periodic Antenna	VULB 9163	9163-586	--	--	Schwarzbeck	2020-10-12	2022-11-11
3	Double Ridged Guide Antenna	9120D	9120D-1083	--	--	Schwarzbeck	2021-05-12	2022-06-11
4	Horn Antenna	DATE 1152	LM7127	--	--	ETS	2020-07-17	2022-08-16
5	Horn Antenna	DATE 1012	LM5945	--	--	ETS	2020-07-17	2022-08-16
6	Test Receiver	ESR 3	102477	03	3.48 SP2	R&S	2021-05-12	2022-06-11
7	Artificial Main Network	ENV 216	102368	--	--	R&S	2021-05-12	2022-06-11
8	Fully anechoic chamber	FAC-5	--	--	--	TDK	2020-07-31	2024-08-30
9	Semi-anechoic chamber	FAC-10	--	--	--	TDK	2020-07-29	2024-08-28

Test software

No.	Name	version	SN	Manufacture
1	EMC32	V10.20.10	--	R&S

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6. Test Results

6.1. Summary of Test Results

FCC Rules	Name of Test	Result
15.109	Radiated Emission	Pass
15.107	Conducted Emission	Pass
Note: There are two kinds of antennas in this test, and the data reflect the worst data with antenna1.		

7. Test Results

7.1. Radiated Emission

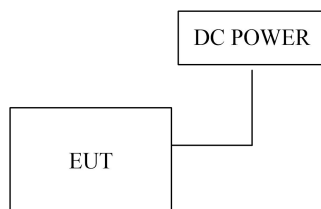
Specifications:	15.109
Date of Tests	2021-12-16
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	Normal
Test Results:	Pass

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

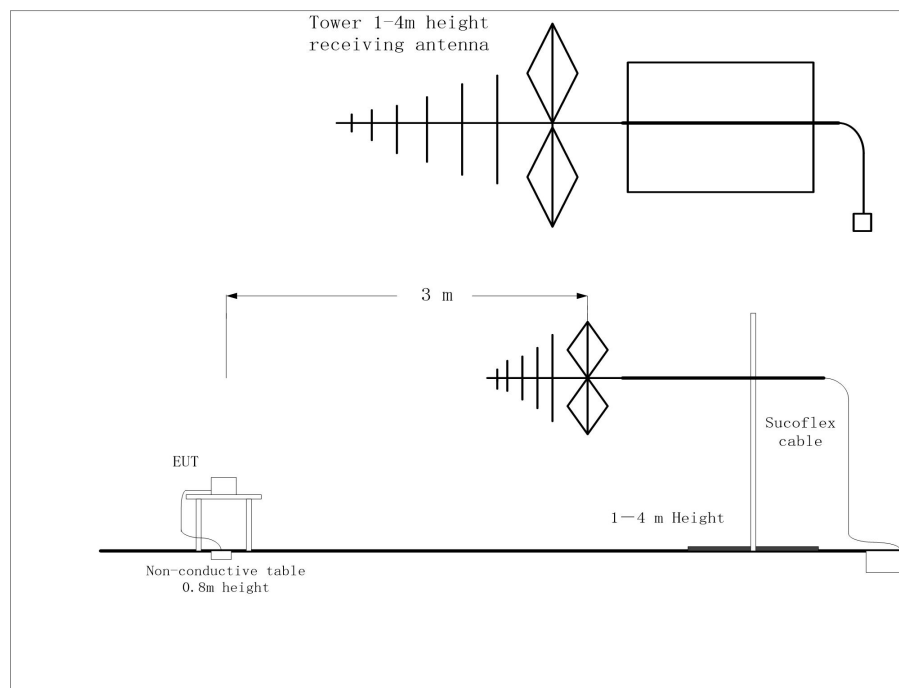
Frequency Range (MHz)	Peak (dBuV/m)	Average (dBuV/m)
Above 1000	74	54

EUT Setup:



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Test 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 4.09 dB (k=2).

The measurement uncertainty (1000MHz-6000MHz) is 4.84 dB (k=2).

The measurement uncertainty (6000MHz-18000MHz) is 4.52 dB (k=2).

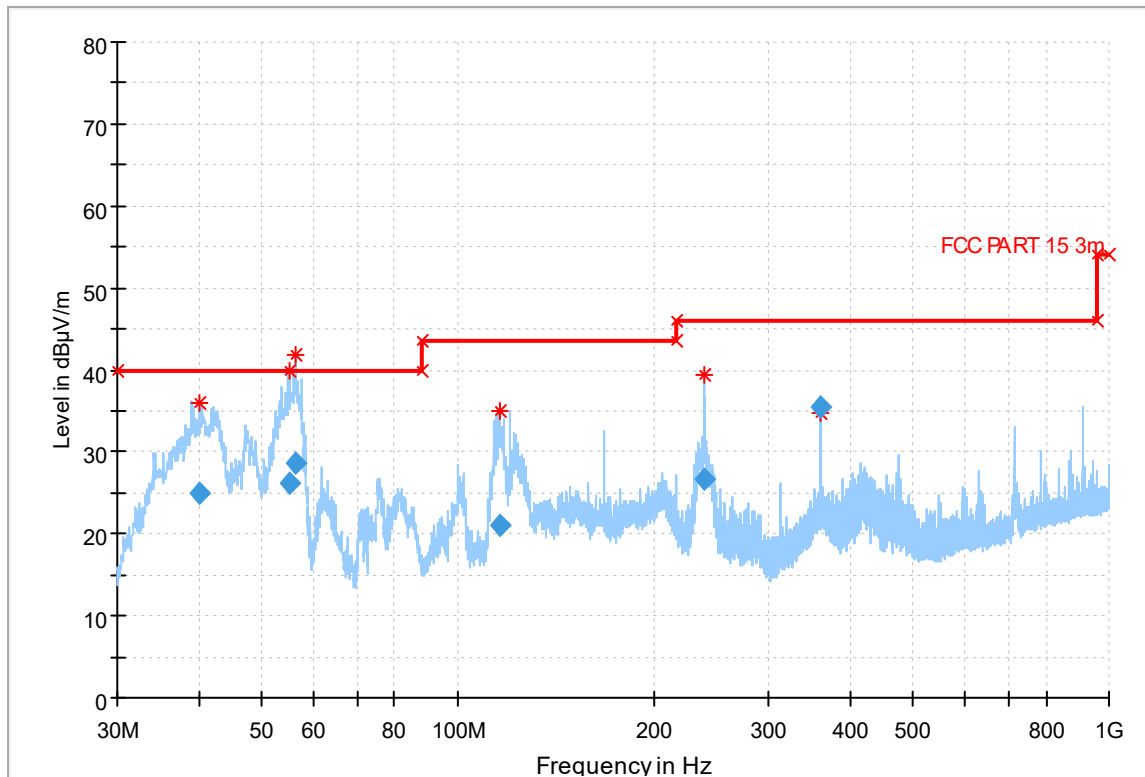
The measurement uncertainty (18000MHz-26500MHz) is 6.19 dB (k=2).

The measurement uncertainty (26500MHz-40000MHz) is 6.04 dB (k=2).

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Test Data



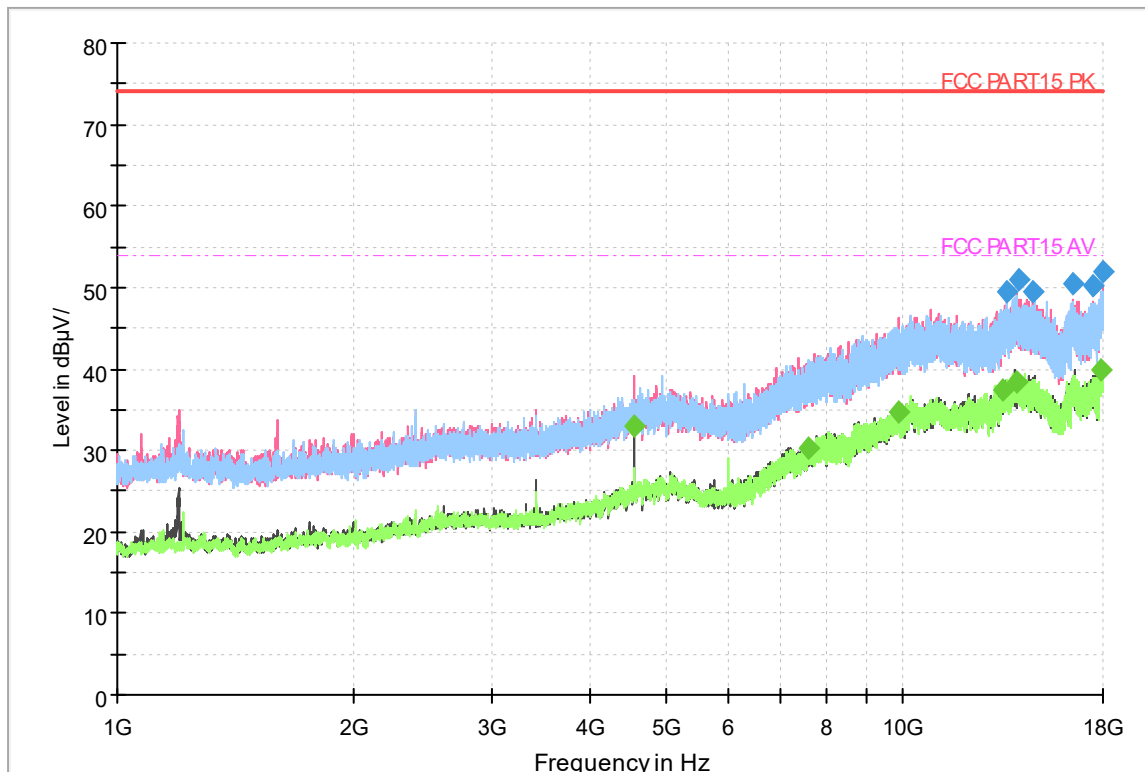
RE 30MHz-1GHz

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.244500	25.05	40.00	14.95	5000.0	120.000	127.0	V	262.0	-20.0
55.249000	26.13	40.00	13.87	5000.0	120.000	110.0	V	281.0	-18.6
56.264000	28.72	40.00	11.28	5000.0	120.000	113.0	V	261.0	-18.8
116.450000	21.15	43.50	22.35	5000.0	120.000	150.0	V	-3.0	-19.7
239.880000	26.62	46.00	19.38	5000.0	120.000	186.0	H	45.0	-17.3
359.994000	35.51	46.00	10.49	5000.0	120.000	139.0	V	139.0	-14.1

Note: Both H polarization and V polarization are tested. The figure shows the maximum value of H polarization and V polarization synthesis

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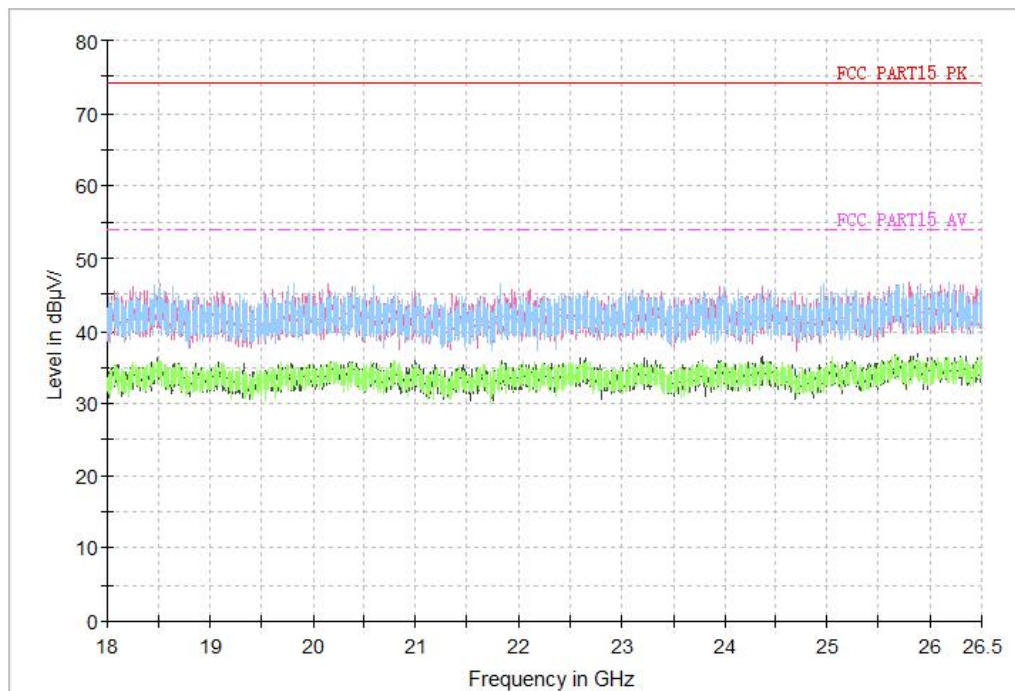
RE 1GHz-18GHz

Final_Result

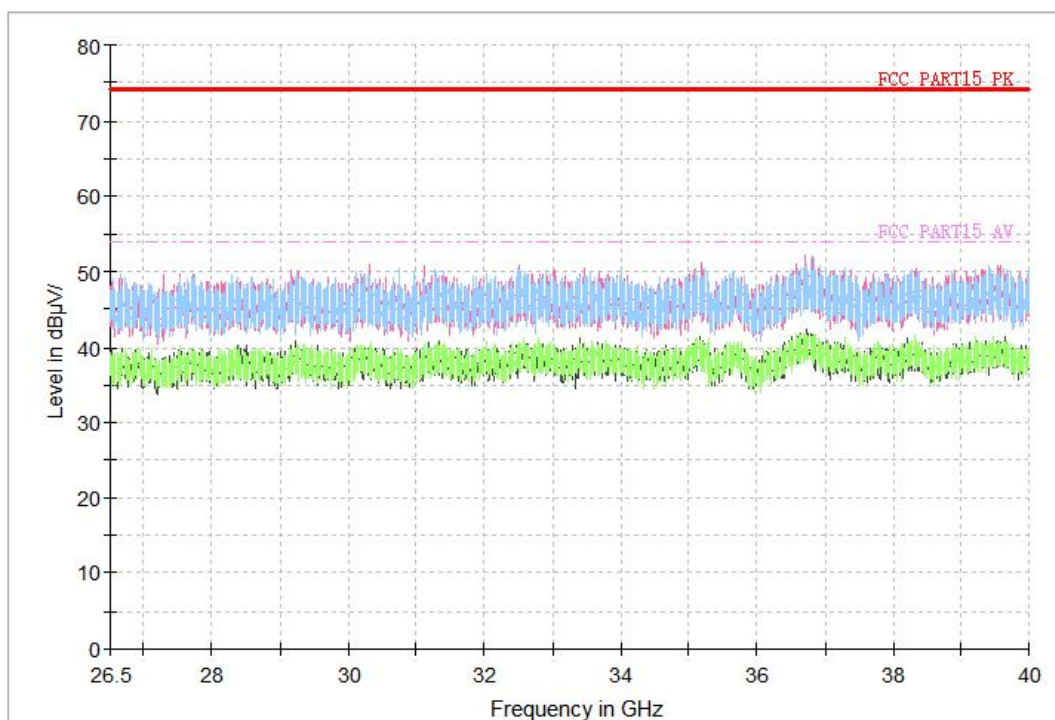
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
4563.682500	---	32.94	54.00	21.06	50.0	1000.000	150.0	V	90.0
7599.910500	---	30.35	54.00	23.65	50.0	1000.000	150.0	H	90.0
9869.723500	---	34.77	54.00	19.23	50.0	1000.000	150.0	H	90.0
13423.38900	---	37.30	54.00	16.70	50.0	1000.000	150.0	H	0.0
13601.46150	49.51	---	74.00	24.49	50.0	1000.000	150.0	V	90.0
13966.83300	---	38.39	54.00	15.61	50.0	1000.000	150.0	V	180.0
14023.45100	50.95	---	74.00	23.05	50.0	1000.000	150.0	V	0.0
14641.63450	49.37	---	74.00	24.63	50.0	1000.000	150.0	V	270.0
16524.52350	50.34	---	74.00	23.66	50.0	1000.000	150.0	V	90.0
17468.37900	50.32	---	74.00	23.68	50.0	1000.000	150.0	V	90.0
17911.813500	---	39.85	54.00	14.15	50.0	1000.000	150.0	V	0.0
17994.98600	51.83	---	74.00	22.17	50.0	1000.000	150.0	V	90.0

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RE 18GHz-26.5GHz



RE 26.5GHz-40GHz

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7.2. Conducted Emission

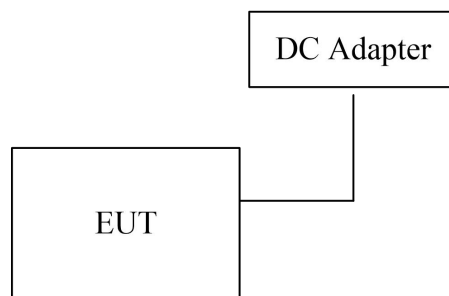
Specifications:	15.107
Date of Tests	2021-12-17
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	Normal
Test Results:	Pass

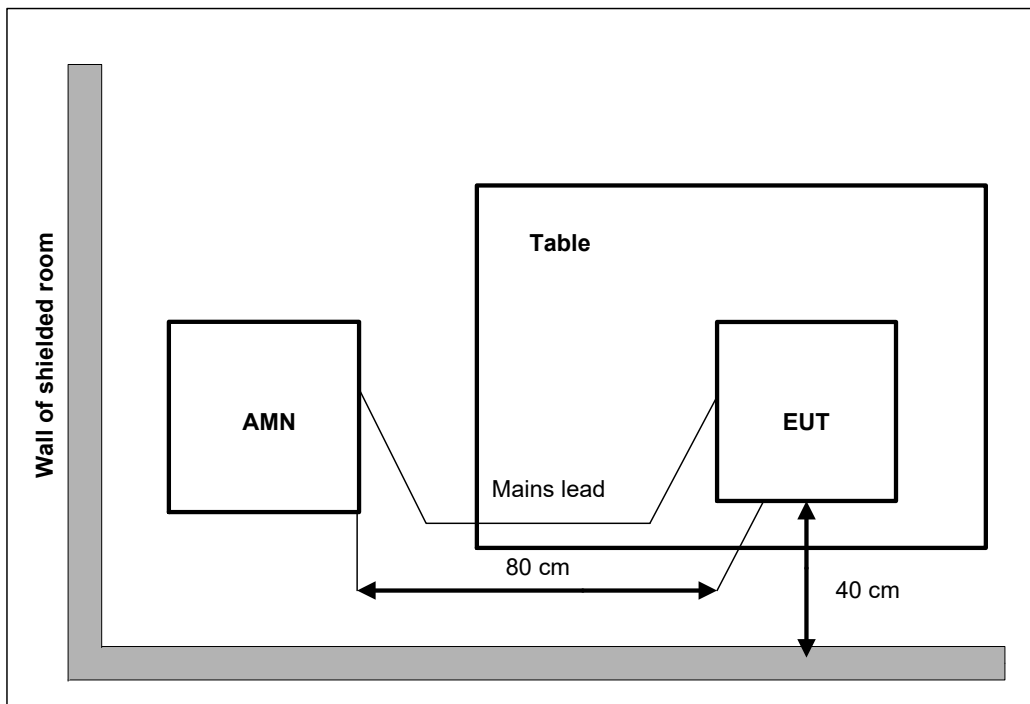
Limit Level Construction:

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:



**Test Method:**

For equipment that is designed to be connected to the public utility (DC) power line, the radio frequency voltage that is conducted back onto the DC 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

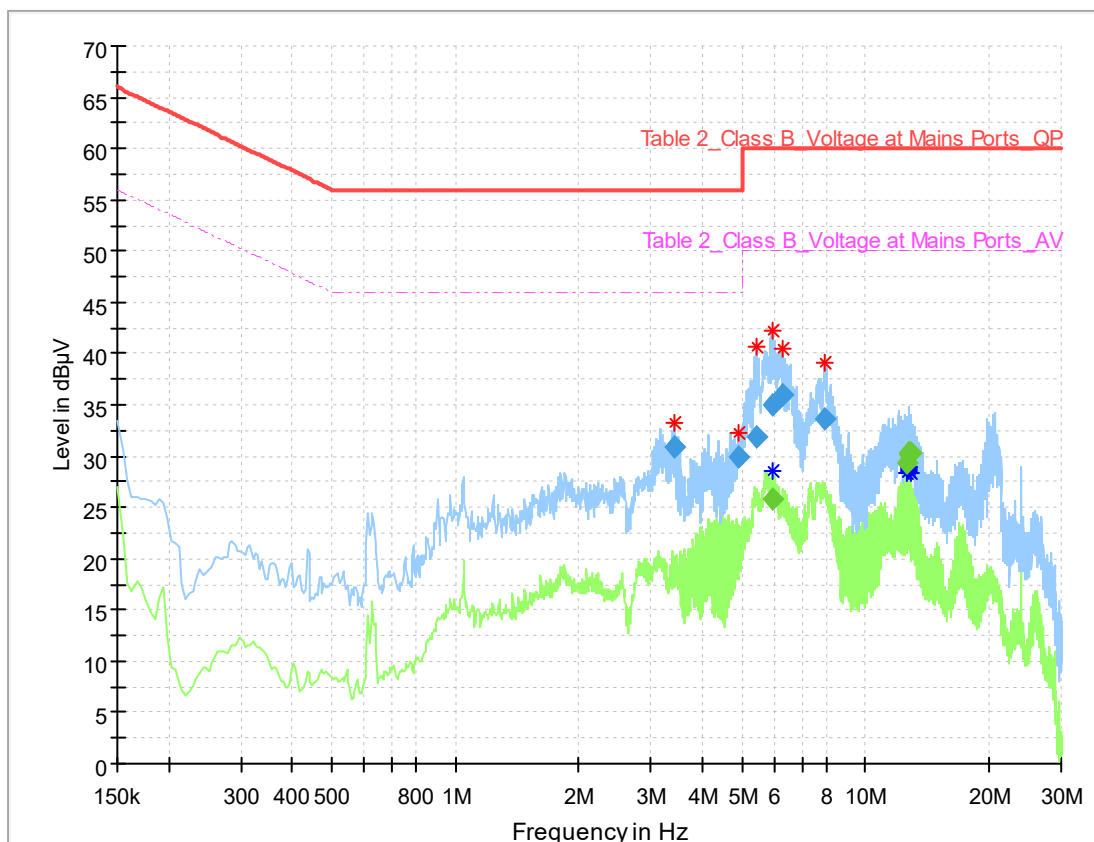
Uncertainty Measurement:

The measurement uncertainty is 1.97 dB (k=2).

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Test Data

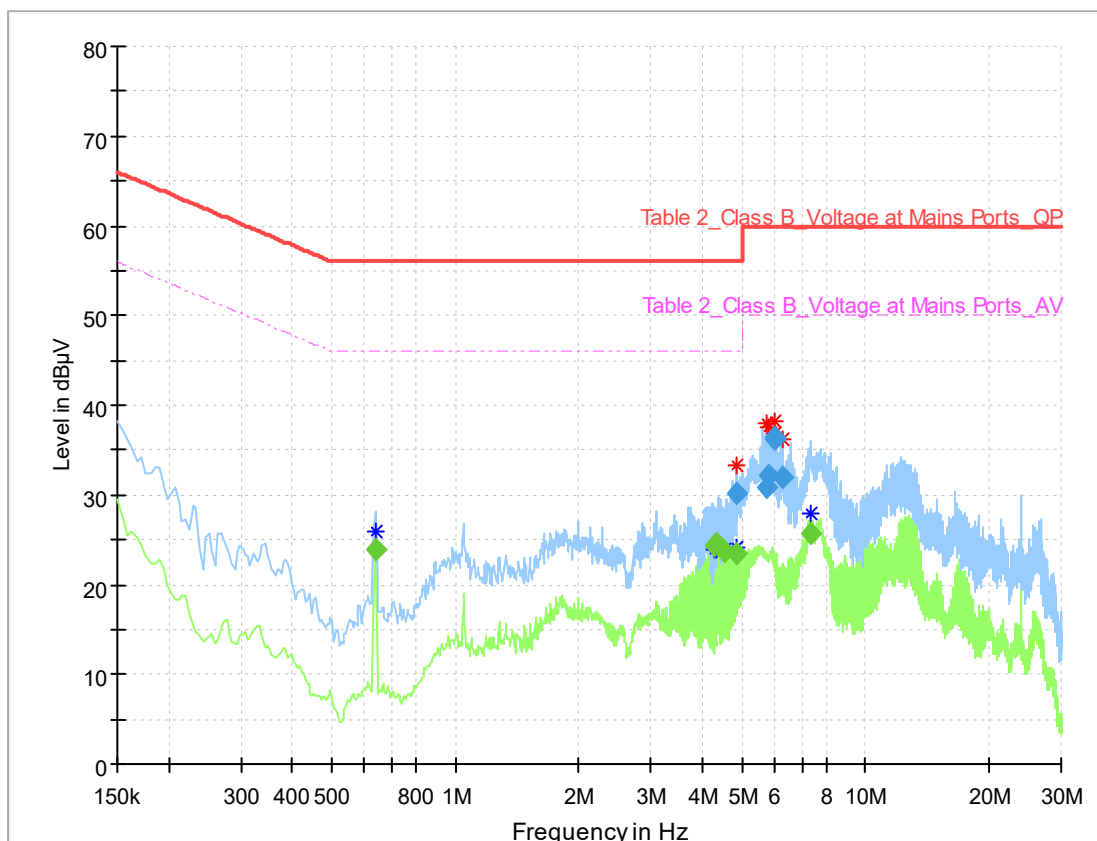


Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time	Bandwidth h	Line
3.420331	30.98	---	56.00	25.02	100.0	9.000	+
4.904052	29.86	---	56.00	26.14	100.0	9.000	+
5.422037	31.83	---	60.00	28.17	100.0	9.000	+
5.904904	34.97	---	60.00	25.03	100.0	9.000	+
5.948802	---	25.72	50.00	24.28	100.0	9.000	+
6.247302	36.00	---	60.00	24.00	100.0	9.000	+
7.976846	33.67	---	60.00	26.33	100.0	9.000	+
12.616765	---	29.38	50.00	20.62	100.0	9.000	+
12.713338	---	30.09	50.00	19.91	100.0	9.000	+
12.761625	---	30.23	50.00	19.77	100.0	9.000	+
12.809912	---	30.38	50.00	19.62	100.0	9.000	+
12.950382	---	30.29	50.00	19.71	100.0	9.000	+

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Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time	Bandwidth h	Line
0.637257	---	23.92	46.00	22.08	100.0	9.000	-
4.285103	---	24.31	46.00	21.69	100.0	9.000	-
4.333390	---	24.64	46.00	21.36	100.0	9.000	-
4.522147	---	23.77	46.00	22.23	100.0	9.000	-
4.855765	30.14	---	56.00	25.86	100.0	9.000	-
4.855765	---	23.45	46.00	22.55	100.0	9.000	-
5.742485	30.86	---	60.00	29.14	100.0	9.000	-
5.817110	32.25	---	60.00	27.75	100.0	9.000	-
5.988309	36.28	---	60.00	23.72	100.0	9.000	-
6.019037	36.45	---	60.00	23.55	100.0	9.000	-
6.264860	32.00	---	60.00	28.00	100.0	9.000	-
7.331559	---	25.62	50.00	24.38	100.0	9.000	-

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Annex A EUT Photos

See the document "I21W00040-External Photos".

See the document "I21W00040-Internal Photos".

Test photo See the document "I21W00040_EMC Test Setup Photos".

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ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

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