FCC TEST REPORT

For

Anker SOLIX Home Power Panel

Model Number: A17B1

FCC ID: 2AOKB-A17B1

Report Number : WT238001946

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection
Site Location	:	No.4, Tongfa Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China
Tel	:	0086-755-86928965
Fax	:	0086-755-86009898-31396
Web	:	www.smq.com.cn
E-mail		emcrf@smq.com.cn

Revision History

No	Date	Remark
V1.0	2023.12.29	Initial issue

TEST REPORT DECLARATION

Applicant	:	Anker Innovations Limited
Address	:	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, HONG KONG
Manufacturer	:	Anker Innovations Limited
Address	:	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, HONG KONG
EUT Description	:	Anker SOLIX Home Power Panel
Model No.	:	A17B1
Trade mark	:	Anker
Serial Number	:	/
FCC ID	:	2AOKB-A17B1

Test Standards:

FCC Part 15 Subpart B

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	周芳媛	Date:	Dec.29, 2023
	(Zhou Fangai 周芳媛)		
Checked by:	万晓婧	Date:	Dec.29, 2023
	(Wan Xiaojing 万晓婧)		
Approved by:	林奕翔	Date:	Dec.29, 2023
	(Lin Yixiang 林奕翔)		

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1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
Conducted Emission	15.107	Pass
Radiation Emission	15.109	Pass

Remark: “N/A” means “Not applicable.”

2. GENERAL INFORMATION

2.1. Report information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

The lab will not be liable for any loss or damage resulting for false, inaccurate, inappropriate or incomplete product information provided by the applicant/manufacturer.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

The Laboratory is registered to perform emission tests with VCCI, and the registration number are C-20048, G20076, R-20077, R-20078 and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for Laboratory Accreditation (A2LA) and certificate number is 3292.01.

2.3. Measurement Uncertainty

Conducted Emission
9 kHz~150 kHz *U*=3.7dB k=2
150 kHz~30MHz *U*=3.3dB k=2

Radiated Emission
30MHz~1000MHz *U*=4.3dB k=2
1GHz~6GHz *U*=4.6 dB k=2
6GHz~40GHz *U*=5.1dB k=2

3. PRODUCT DESCRIPTION

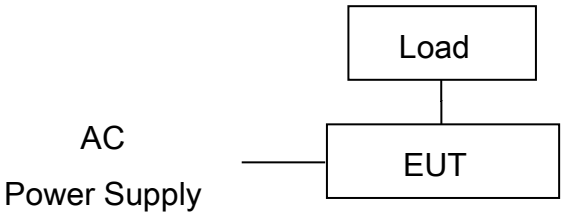
NOTE: The extreme test conditions for temperature and antenna gain were declared by the manufacturer.

3.1. EUT Description

Description	:	Anker SOLIX Home Power Panel
Manufacturer	:	Anker Innovations Limited
Model Number	:	A17B1
Operating voltage	:	120 /240Vac
Test voltage	:	AC 120V/60Hz
Frequency	:	2.4GWiFi:2412MHz~2462MHz BT:2402MHz~2480MHz
Type(s) of Modulation	:	DSSS (DBPSK, DQPSK, CCK) for 802.11b OFDM (BPSK, QPSK, 16QAM, 64QAM) for 802.11g/n Bluetooth: GFSK
Antenna Type	:	2.4G WiFi/BT: 2.4G rubber stick double copper tube antenna 4.24dBi

Remark: --

3.2. Block Diagram of EUT Configuration



Setup of test

3.3. Operating Condition of EUT

Test mode 1: Full Load
Test mode 2: Discharging
EUT has more than one typical operation, only the worst test mode will be recorded in this report.
The Radiated emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission (X plane).

3.4. Support Equipment List

Table 2 Support Equipment List

Name	Model No.	S/N	Manufacturer
Anker SOLIX BP3800 Expansion Battery	A1790111-85	---	Anker Innovations Limited
Anker SOLIX BP3800 Portable Power Station	A1790	---	Anker Innovations Limited
AC Loading	---	---	Anker Innovations Limited

3.5. Test Conditions

Date of test：Dec.14, 2023- Dec.20, 2023
Date of EUT Receive：Nov.09, 2023
Temperature: 21℃-23℃
Relative Humidity: 40%-50%

3.6. Modifications

No modification was made.

4. TEST EQUIPMENT USED

Table 3 Test Equipment List

No.	Equipment	Manufacturer	Model No.	LAST CALIB	Period
Conducted Emission					
SB16469	EMI Test Receiver	R&S	ESR7	Aug.17,2023	1 Year
SB8501/05	LISN	R&S	NNLK 8130	Jan.17,2023	1 Year
Radiated Emission					
SB18867	Test Receiver	R&S	ESR26	Feb.01,2023	1 Year
SB18826	Broadband Antenna	SCHWARZBECK	VULB9163	Mar.09,2023	1 Year
SB9054/09	Horn Antenna	R&S	HF907	Aug.21,2023	1 Year
SB8501/17	Pre-Amplifier	R&S	SCU18	Jan.17,2023	1 Year

5. CONDUCTED EMISSION TEST

5.1. Test Standard and Limit

5.1.1.Test Standard

FCC Part 15: Section 15.107

5.1.2.Test Limit

Table 4 Conducted Emission Test Limit (Class B)

Frequency	Power Port limits (dBμV)	
	Quasi-peak	Average
0.15MHz ~ 0.5MHz	66～56*	56~46*
0.5MHz ~ 5 MHz	56	46
5 MHz ~ 30MHz	60	50

* Decreasing linearly with logarithm of the frequency

5.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver is used to test the emissions from both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

5.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

5.4. Test Data

The emissions don’t show in below are too low against the limits. Refer to the test curves.

Table 5 Conducted Emission Test Data at mains Port

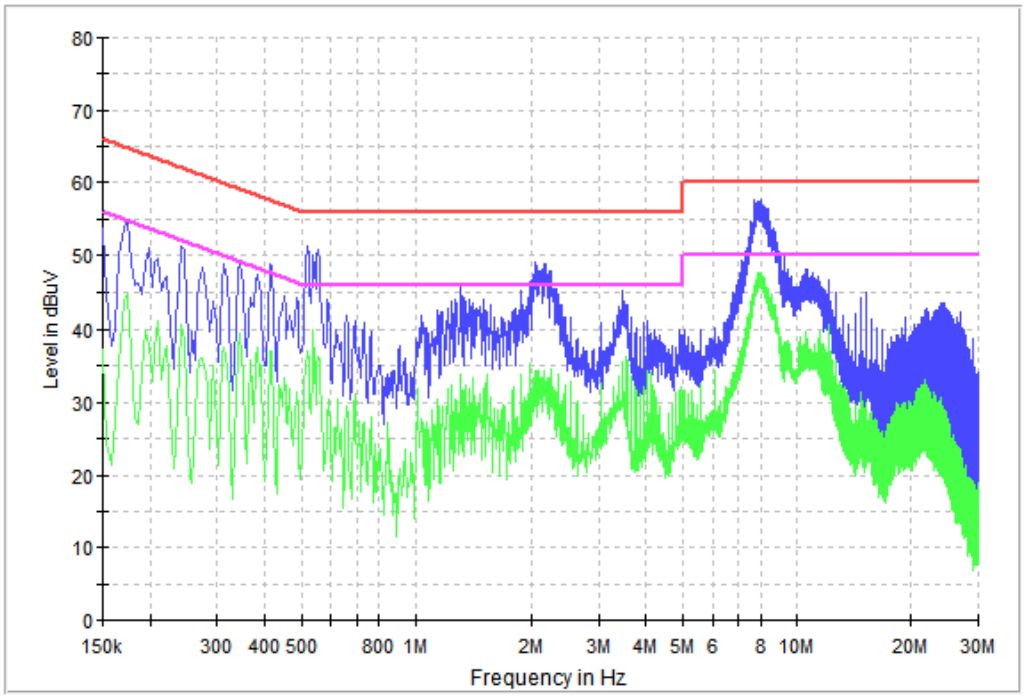
Test mode: 1								
	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)
Line1	0.174	9.7	43.7	53.4	64.8	33.5	43.2	54.8
	0.518	9.8	37.9	47.7	56	26.3	36.1	46
	1.318	9.8	32.2	42.0	56	22.5	32.3	46
	2.050	9.9	33.4	43.3	56	21.4	31.3	46
	8.010	10.0	43.9	53.9	60	37.1	47.1	50
	15.218	9.9	33.4	43.3	60	31.8	41.7	50
Line2	0.174	9.7	43.7	53.4	64.8	33.7	43.4	54.8
	0.522	9.8	38.8	48.6	56	27.1	36.9	46
	2.122	9.9	35.7	45.6	56	22.7	32.6	46
	3.442	9.9	30.5	40.4	56	20.1	30.0	46
	8.086	10.0	43.5	53.5	60	36.7	46.7	50
	24.302	10.2	31.7	41.9	60	30.9	41.1	50
Neutral	0.173	9.7	53.5	53.5	64.8	43.6	43.6	54.8
	0.522	9.8	49.4	49.4	56	37.3	37.3	46
	2.186	9.9	43.2	43.2	56	31.3	31.3	46
	3.466	9.9	40.8	40.8	56	31.2	31.2	46
	7.982	10.0	52.7	52.7	60	46.2	46.2	50
	25.526	10.2	44.9	44.9	60	44.4	44.4	50

REMARKS: 1. Emission level (dBuV) =Read Value (dBuV) + Correction Factor (dB)

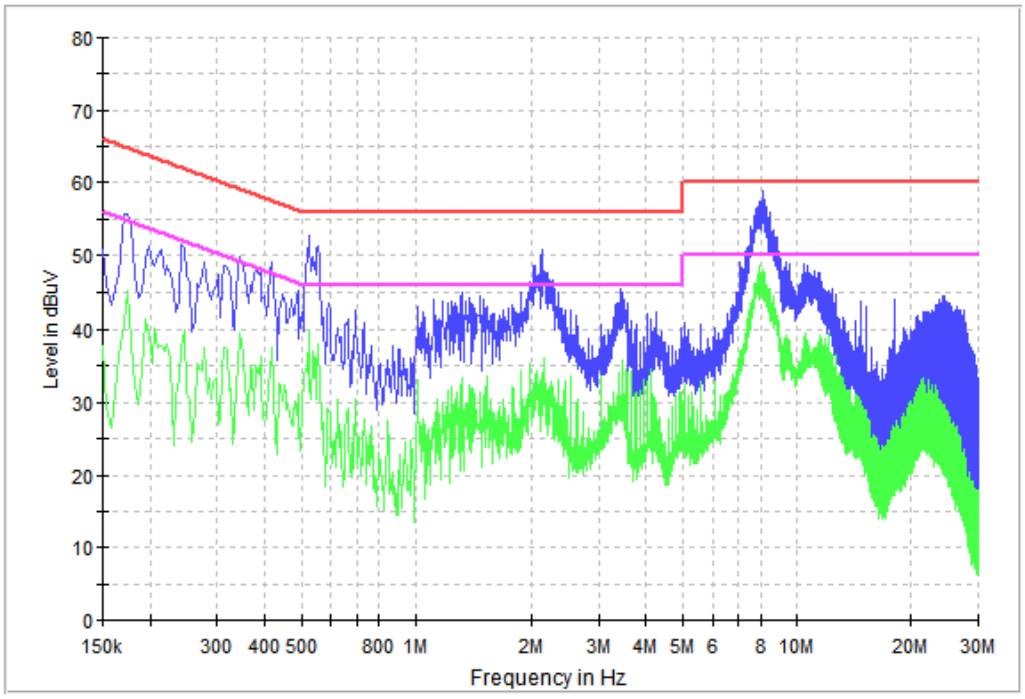
2. Correction Factor (dB) =LISN Factor (dB) + Cable Factor (dB) +Limiter Factor (dB)

3. The other emission levels were more than 20dB below the limits.

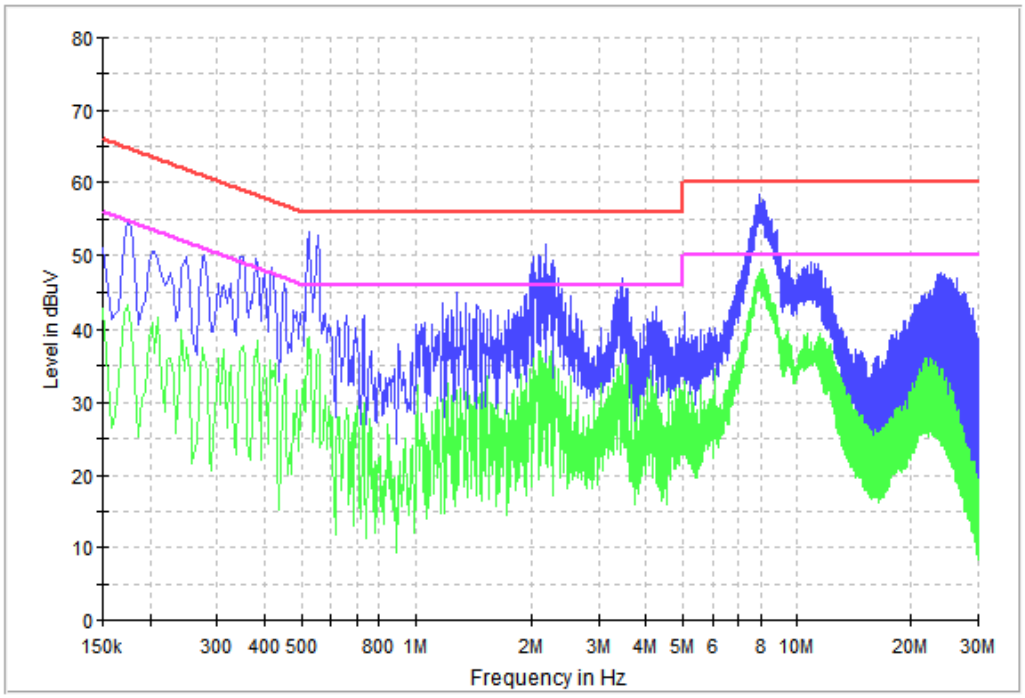
Line1


Level in dBuV
80
70
60
50
40
30
20
10
0
150k
300
400 500
800 1M
2M
3M
4M
5M
6
8
10M
20M
30M
Frequency in Hz

Line2


Level in dBuV
80
70
60
50
40
30
20
10
0
150k
300
400 500
800 1M
2M
3M
4M
5M
6
8
10M
20M
30M
Frequency in Hz

Neutral


80
70
60
50
40
30
20
10
0
Level in dBuV
150k
300
400
500
800
1M
2M
3M
4M
5M
6
8
10M
20M
30M
Frequency in Hz

6. RADIATION EMISSION TEST

6.1. Test Standard and Limit

6.1.1. Test Standard

FCC Part 15: Section 15.109

6.1.2. Test Limit

Table 6 Radiation Emission Test Limit for FCC (Class B)

Frequency	Test distance	Limit dB(μV/m)		
		Quasi-peak	Average	Peak
30MHz~88MHz	**3m**	40		
88MHz~216MHz	**3m**	43.5		
216MHz~960MHz	**3m**	46		
960MHz~1000MHz	**3m**	54		
>1000MHz	**3m**		54	74
Conditional testing procedure for above 1 GHz：				
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)		**Upper frequency of measurement range (MHz)**		
Below 1.705		30		
1.705~108		1000		
108~500		2000		
500~1000		5000		
Above 1000		5th harmonic of the highest frequency or 40 GHz, whichever is lower.		

* The lower limit shall apply at the transition frequency.
* The test distance is 3m.

6.2. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set **3 meters** away from the receiving antenna, which is mounted on an antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.
RBW = 100 kHz (less than or equal to 1 GHz); 1 MHz (above 1 GHz)
VBW ≥ 3 x RBW
Detector = Peak & Quasi-Peak (frequency range 30 MHz to 1 GHz);
Peak & Average (frequency range above 1 GHz);
Changing VBW to 10 Hz for average measurement
The use of a higher-than-specified video bandwidth produces a conservative measurement result.

6.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

6.4. Test Data

The emissions don't show in below are too low against the limits. Refer to the test curves.

Table 7 Radiated Emission Test Data

Test mode: 1								
Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limits (dBμV/m)	Margin (dB)	Note
30.121	0.6	12.3	24.9	37.8	Vertical	40.0	2.2	QP
53.765	0.7	13.3	16.9	30.9	Vertical	40.0	9.1	QP
84.684	0.9	8.5	21.7	31.1	Vertical	40.0	8.9	QP
99.840	1.1	12.8	19.5	33.4	Vertical	43.5	10.1	QP
155.130	1.4	8.3	21.7	31.4	Vertical	43.5	12.1	QP
200.356	1.6	10.6	22.3	34.5	Vertical	43.5	9.0	QP
30.364	0.6	12.3	13.0	25.9	Horizontal	40.0	14.1	QP
84.441	0.9	8.5	15.4	24.8	Horizontal	40.0	15.2	QP
104.690	1.3	13.2	11.8	26.3	Horizontal	43.5	17.2	QP
154.766	1.4	8.3	18.3	28.0	Horizontal	43.5	15.5	QP
217.210	1.6	10.6	23.2	35.4	Horizontal	46	10.6	QP
299.781	2.1	12.7	19.2	34.0	Horizontal	46	12.0	QP
2038.000	-40.4	28.6	57.8	46.0	Horizontal	74	28.0	PK
2473.600	-40.1	28.6	47.9	36.4	Horizontal	74	37.6	PK
3094.600	-39.1	30.4	56.0	47.3	Horizontal	74	26.7	PK
3287.800	-38.7	31.7	49.1	42.1	Horizontal	74	31.9	PK
4281.400	-39.3	33.6	45.8	40.1	Horizontal	74	33.9	PK
12784.600	-35.5	37.8	46.5	48.8	Horizontal	74	25.2	PK
1022.880	-41.1	24.4	47.7	31.0	Vertical	74	43.0	PK
2014.600	-40.5	28.6	48.8	36.9	Vertical	74	37.1	PK
2429.800	-40.2	28.6	54.2	42.6	Vertical	74	31.4	PK
3093.400	-39.1	30.4	42.7	34.0	Vertical	74	40.0	PK
3353.800	-38.8	31.7	43.9	36.8	Vertical	74	37.2	PK
12836.800	-35.6	38.0	46.5	48.9	Vertical	74	25.1	PK
2038.000	-40.4	28.6	33.9	22.1	Horizontal	54	31.9	AV
2473.600	-40.1	28.6	33.3	21.8	Horizontal	54	32.2	AV
3094.600	-39.1	30.4	30.5	21.8	Horizontal	54	32.2	AV
3287.800	-38.7	31.7	30.7	23.7	Horizontal	54	30.3	AV
4281.400	-39.3	33.6	32.7	27.0	Horizontal	54	27.0	AV

12784.600	-35.5	37.8	34.4	36.7	Horizontal	54	17.3	AV
1022.880	-41.1	24.4	34.7	18.0	Vertical	54	36.0	AV
2014.600	-40.5	28.6	30.7	18.8	Vertical	54	35.2	AV
2429.800	-40.2	28.6	33.6	22.0	Vertical	54	32.0	AV
3093.400	-39.1	30.4	30.2	21.5	Vertical	54	32.5	AV
3353.800	-38.8	31.7	30.3	23.2	Vertical	54	30.8	AV
12836.800	-35.6	38.0	34.0	36.4	Vertical	54	17.6	AV

Table 8 Radiated Emission Test Data

Test mode: 2								
Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limits (dBμV/m)	Margin (dB)	Note
30.242	0.6	12.3	26.1	39.0	Vertical	40.0	1.0	QP
89.412	1.1	10.3	29.0	40.4	Vertical	43.5	3.1	QP
99.840	1.1	12.8	18.5	32.4	Vertical	43.5	11.1	QP
118.270	1.3	12.3	24.8	38.4	Vertical	43.5	5.1	QP
241.581	1.9	12.1	16.7	30.7	Vertical	46	15.3	QP
292.627	2.0	12.7	15.2	29.9	Vertical	46	16.1	QP
30.121	0.6	12.3	15.1	28.0	Horizontal	40.0	12.0	QP
25.370	0.5	14.1	10.8	25.4	Horizontal	40.0	14.6	QP
144.217	1.4	8.2	21.9	31.5	Horizontal	43.5	12.0	QP
203.630	1.6	10.6	25.8	38.0	Horizontal	43.5	5.5	QP
298.326	2.1	12.7	17.7	32.5	Horizontal	46	13.5	QP
600.117	3.1	18.5	4.3	25.9	Horizontal	46	20.1	QP
1840.000	-40.5	26.9	56.8	43.2	Vertical	74	30.8	PK
2473.600	-40.1	28.6	49.4	37.9	Vertical	74	36.1	PK
2958.400	-39.3	29.4	54.2	44.3	Vertical	74	29.7	PK
3970.600	-39.3	32.7	44.9	38.3	Vertical	74	35.7	PK
4403.800	-39.2	33.7	53.7	48.2	Vertical	74	25.8	PK
12811.600	-35.5	38.0	45.8	48.3	Vertical	74	25.7	PK
1468.600	-40.7	25.1	55.3	39.7	Horizontal	74	34.3	PK
2032.000	-40.4	28.6	42.0	30.2	Horizontal	74	43.8	PK
2456.200	-40.1	28.6	48.7	37.2	Horizontal	74	36.8	PK
3070.000	-39.1	30.4	43.9	35.2	Horizontal	74	38.8	PK
4527.400	-39.3	33.7	46.3	40.7	Horizontal	74	33.3	PK
12749.200	-35.4	37.8	46.9	49.3	Horizontal	74	24.7	PK
1840.000	-40.5	26.9	36.8	23.2	Vertical	54	30.8	AV
2473.600	-40.1	28.6	32.3	20.8	Vertical	54	33.2	AV
2958.400	-39.3	29.4	31.2	21.3	Vertical	54	32.7	AV
3970.600	-39.3	32.7	31.1	24.5	Vertical	54	29.5	AV
4403.800	-39.2	33.7	34.6	29.1	Vertical	54	24.9	AV

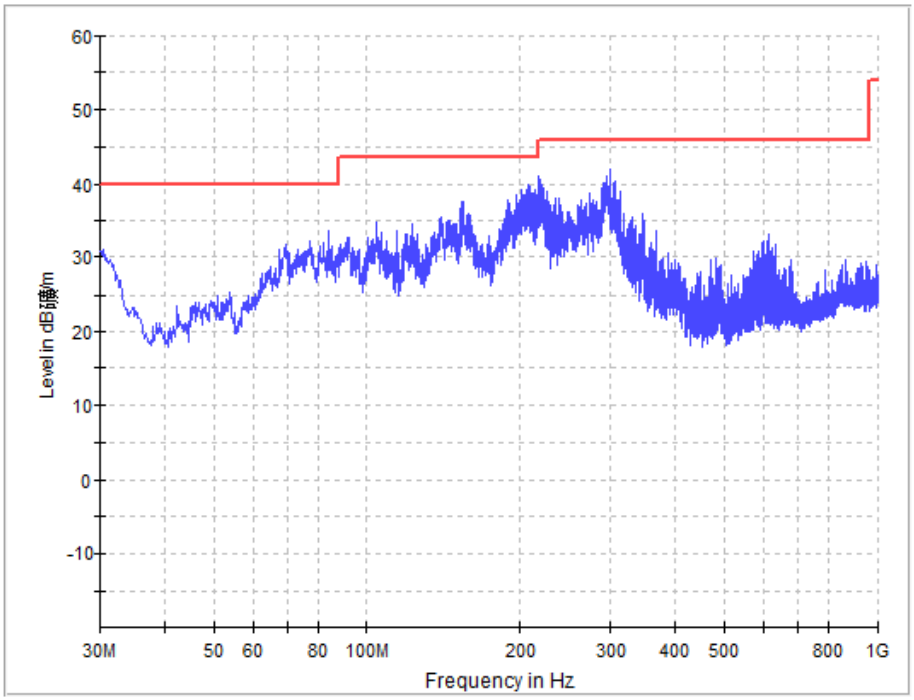
12811.600	-35.5	38.0	34.1	36.6	Vertical	54	17.4	AV
1468.600	-40.7	25.1	37.2	21.6	Horizontal	54	32.4	AV
2032.000	-40.4	28.6	29.8	18.0	Horizontal	54	36.0	AV
2456.200	-40.1	28.6	32.4	20.9	Horizontal	54	33.1	AV
3070.000	-39.1	30.4	30.4	21.7	Horizontal	54	32.3	AV
4527.400	-39.3	33.7	33.8	28.2	Horizontal	54	25.8	AV
12749.200	-35.4	37.8	34.2	36.6	Horizontal	54	17.4	AV

Emission level (dBuV)=Read Value(dBuV/m) + Antenna Factor(dB)+ Cable Loss +preamp(dB)

Test Mode 1

30MHz-1GHz

Horizontal



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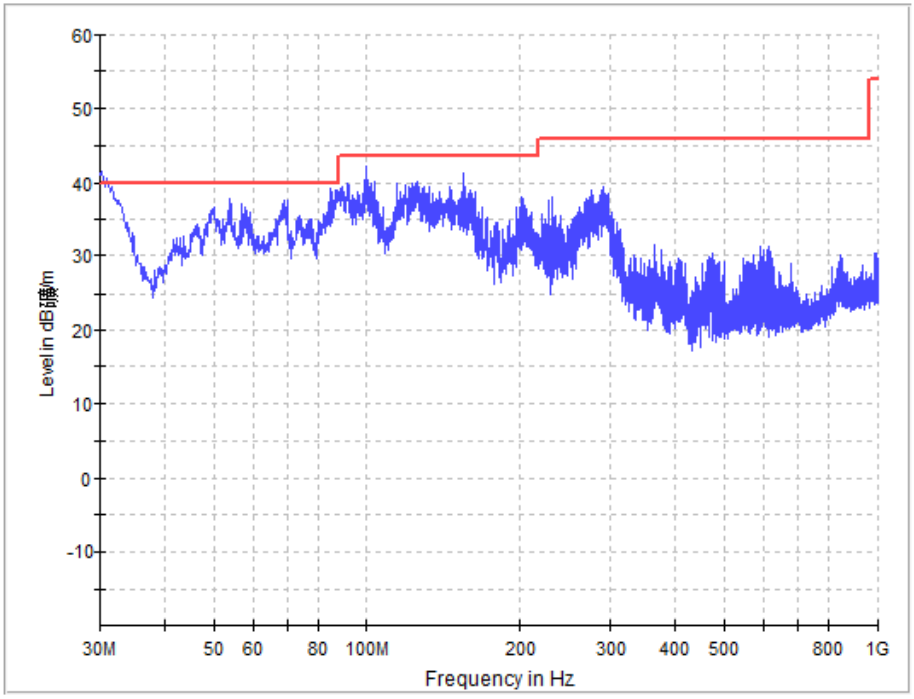
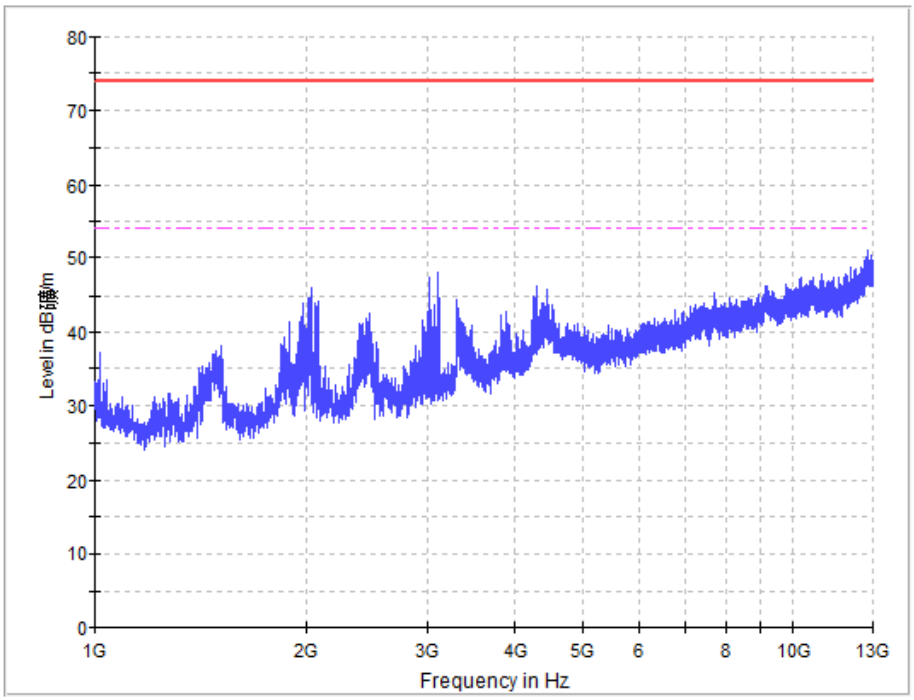


1GHz-13GHz

Horizontal



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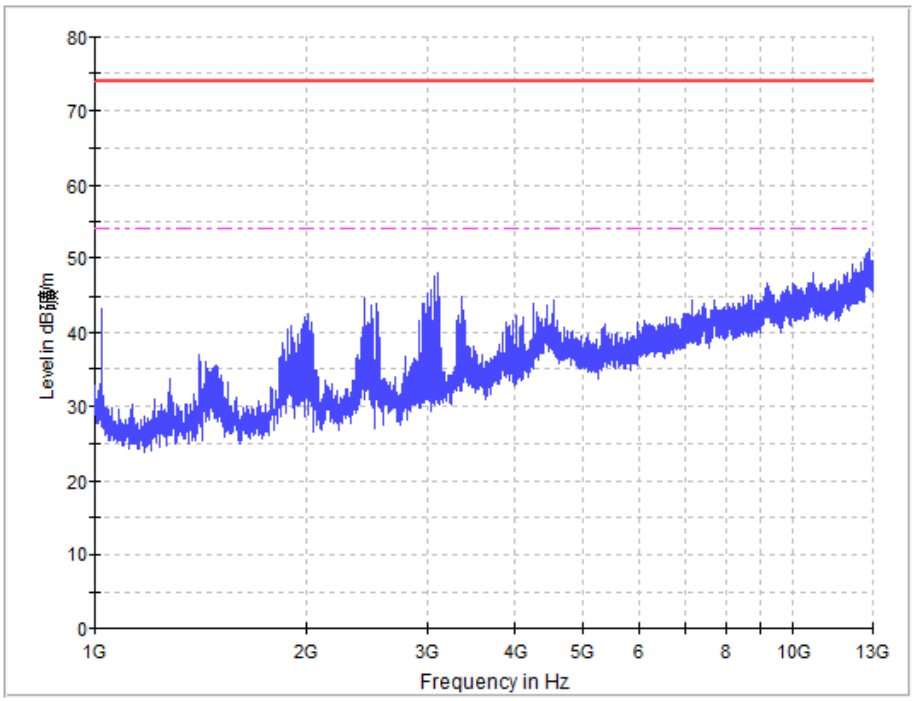
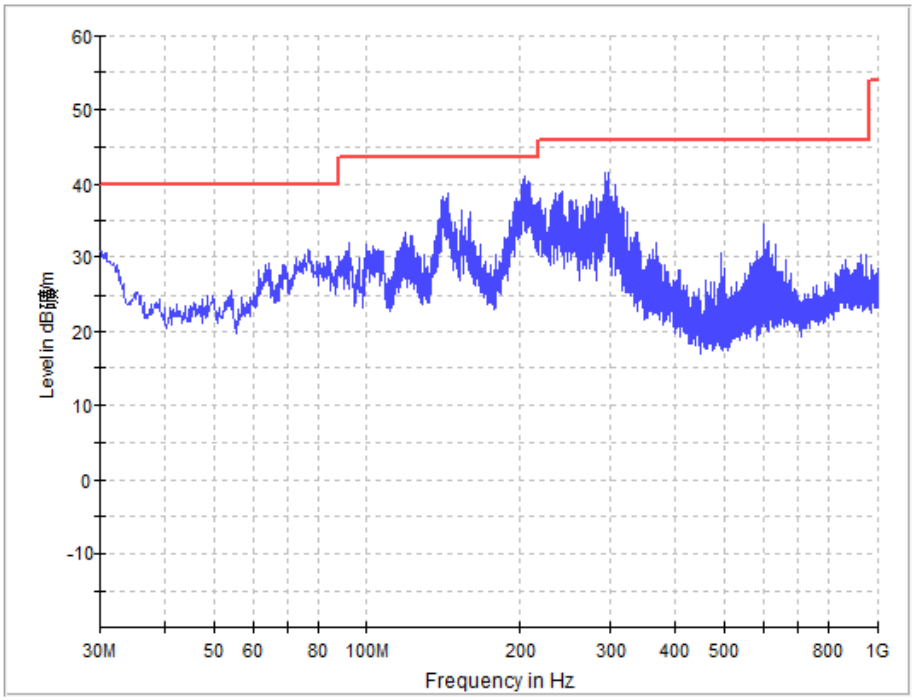


Test Mode 2

30MHz-1GHz

Horizontal



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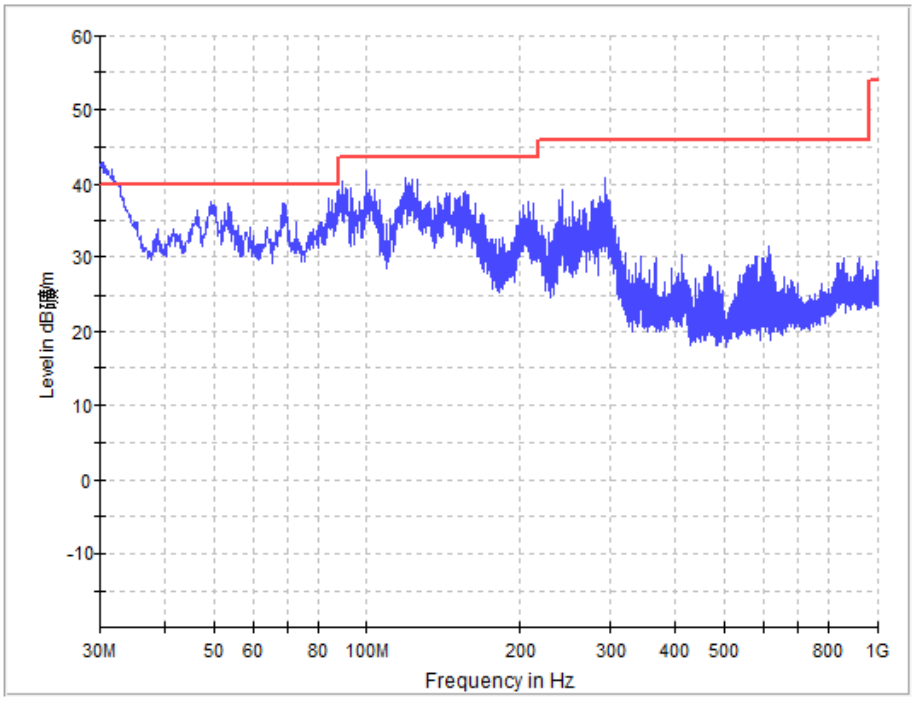
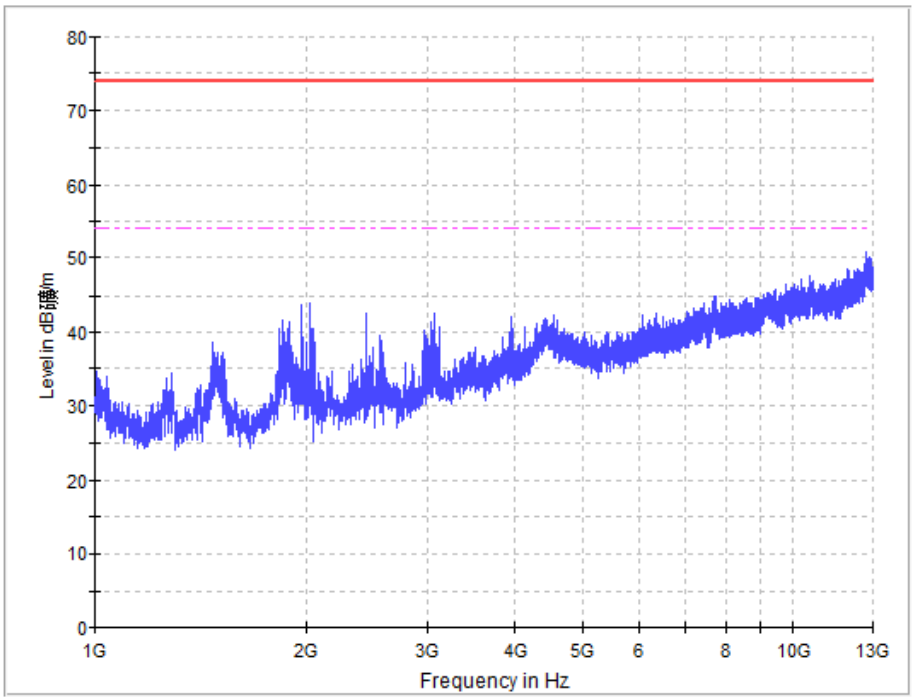


1GHz-13GHz

Horizontal



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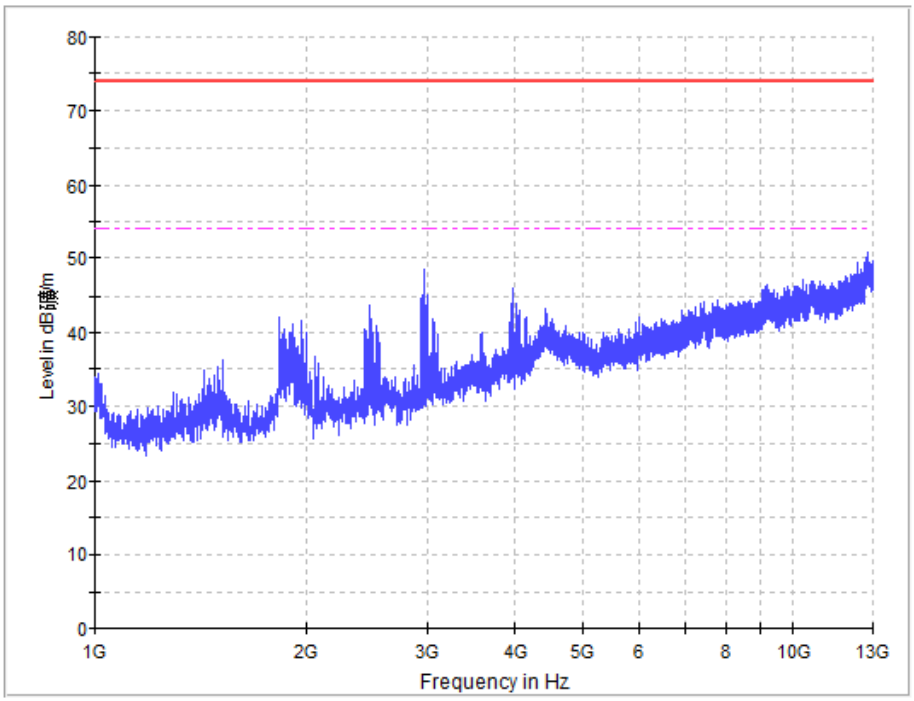

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