



中认信通

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



TEST REPORT

Applicant: Backcountry Access, Inc.

Address: 2820 Wilderness Place, Unit H, Boulder, Colorado, 80301, United States

FCC ID: OUNBCLM

Product Name: FRS Radio

Model Number: BCLINK MINI

Standard(s): 47 CFR Part 15 Subpart B
ANSI C63.4-2014

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: CR230846469-00A

Date Of Issue: 2023/9/26

Reviewed By: Julie Tan

Julie Tan

Title: RF Engineer

Approved By: Sun Zhong

Sun Zhong

Title: Manager

Test Laboratory: China Certification ICT Co., Ltd (Dongguan)

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Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk “★”.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230846469-00A	Original Report	2023/9/26

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	FRS Radio
EUT Model:	BCLINK MINI
Highest Operation Frequency:	467.7125 MHz
Rated Input Voltage:	DC3.7V from battery or DC 5V from USB Port
Serial Number:	29PW-2
EUT Received Date:	2023/8/14
EUT Received Status:	Good

Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition

EUT Operation Mode:	The system was configured for testing in Typical Use Mode, which was provided by the manufacturer. Test Mode : Mode 1: charging and receiving 462.6375 MHz Mode 2: charging and receiving 467.6375 MHz
Equipment Modifications:	No
EUT Exercise Software:	No

1.2.2 Support Equipment List and Details

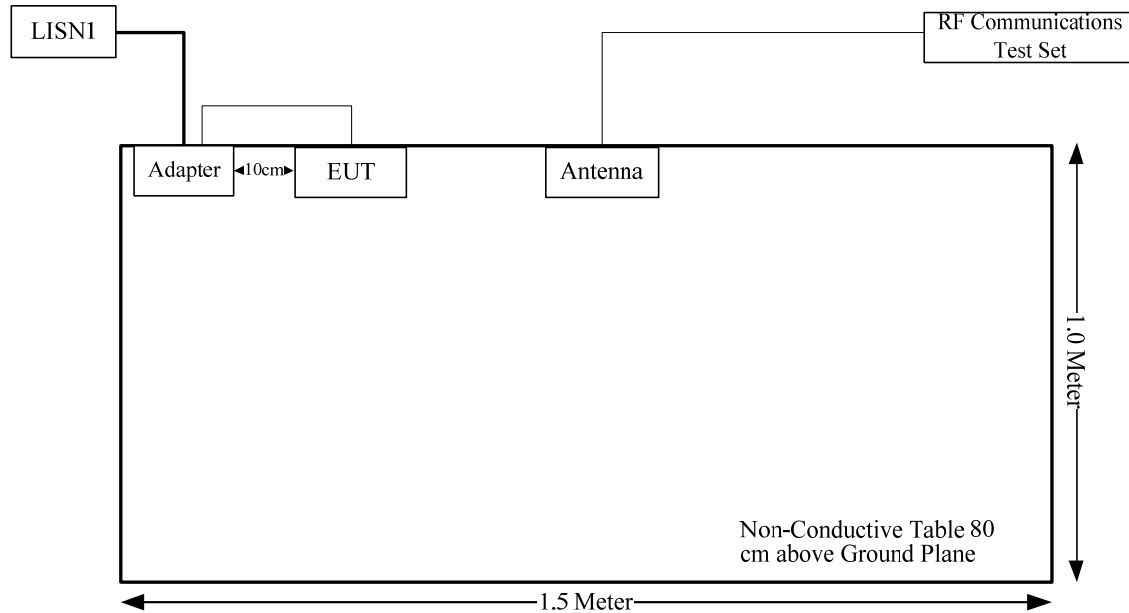
Manufacturer	Description	Model	Serial Number
Jian Aohai	Adapter	A8-050200U-US3	AD220930002
HP	RF Communications Test Set	8920A	3438A05201

1.2.3 Support Cable List and Details

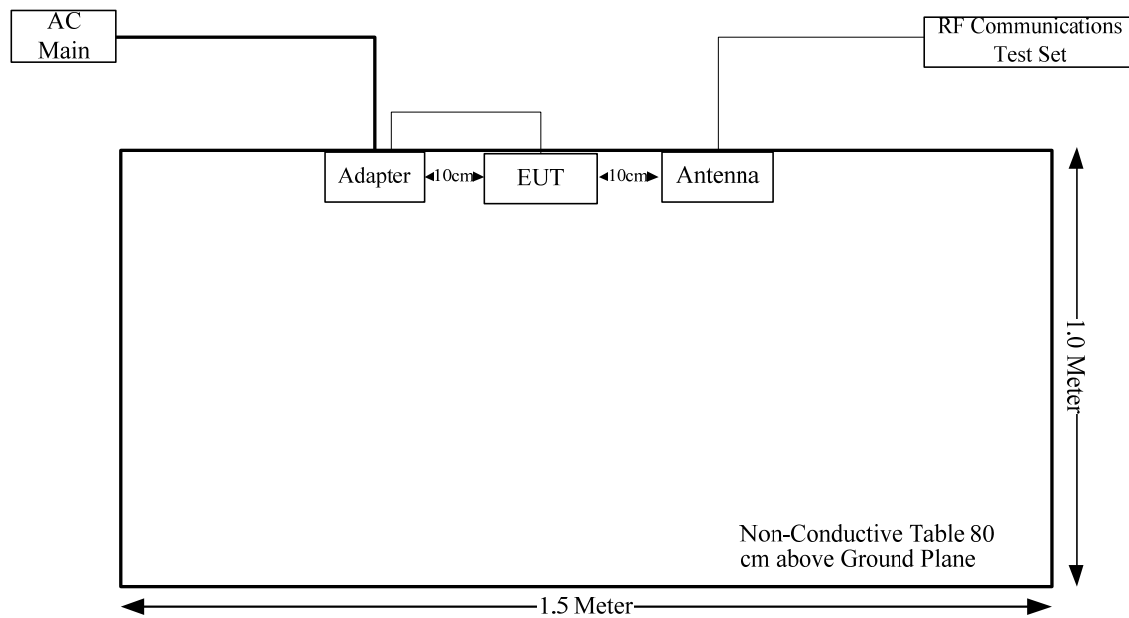
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB cable	No	No	1	Adapter	EUT
antenna cable	No	No	1.5	Antenna	8920A

1.2.4 Block Diagram of Test Setup

AC line conducted emissions:



Radiated emissions:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB, 200M~1GHz: 5.61 dB, 1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Temperature	$\pm 1^{\circ}\text{C}$
Humidity	$\pm 5\%$
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

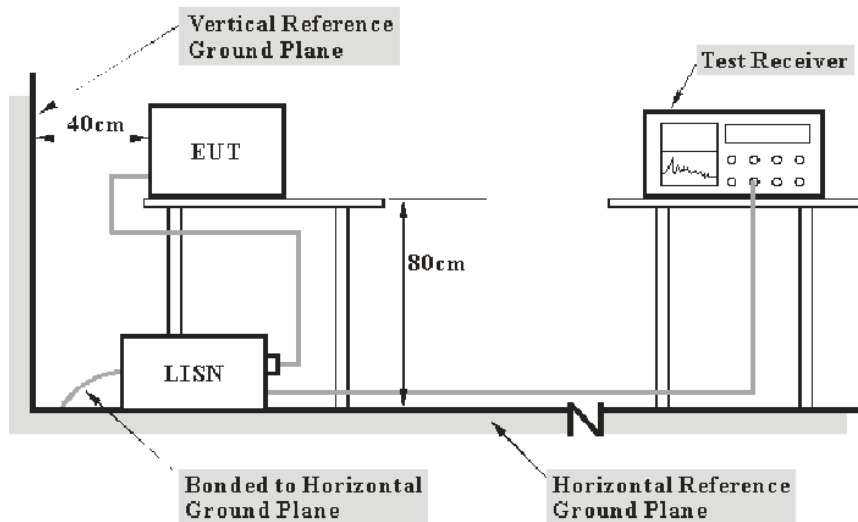
2. SUMMARY OF TEST RESULTS

Standard(s) Section	Description of Test	Result
§15.107	Conducted emissions	Compliant
§15.109	Radiated emissions	Compliant

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 EUT Setup



Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter or EUT was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.2 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.3 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT, the report shall list the six emissions with the smallest margin relative to the limit, unless the margin is greater than 20 dB.

All data was recorded in the Quasi-peak and average detection mode.

The report shall list the six emissions with the smallest margin relative to the limit, unless the margin is greater than 20 dB.

3.1.4 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = attenuation caused by cable loss + voltage division factor of AMN

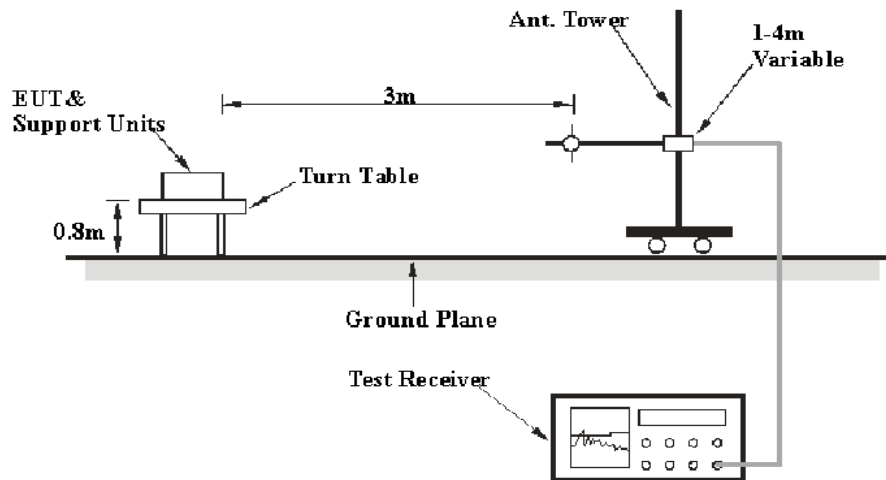
The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

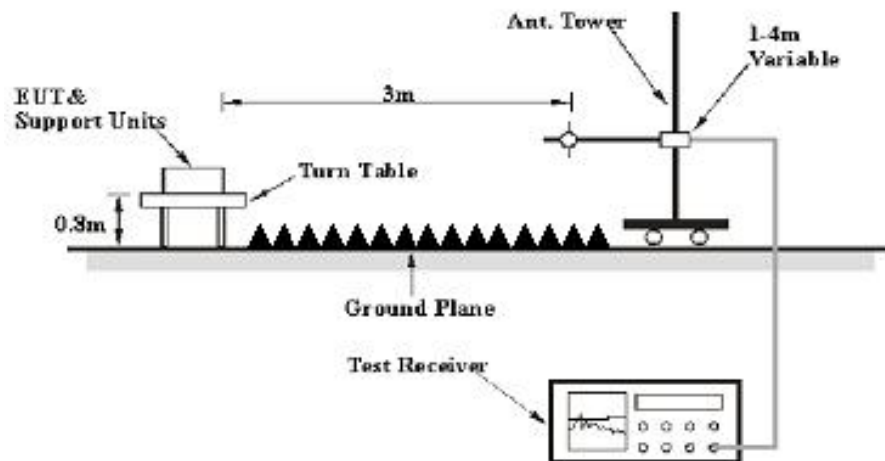
3.2 Radiation Spurious Emissions

3.2.1 EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emissions were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was with the FCC Part 15 B Class B limits.

3.2.2 EMI Test Receiver Setup

The system was investigated from 30 MHz to 2 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	Reduced video bandwidth	/	AVG

If the maximized peak measured value complies with under the limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.3 Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz.

All emissions under the average limit and under the noise floor have not recorded in the report.

3.2.4 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = Antenna Factor + Cable Loss- Amplifier Gain

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

4. TEST DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	29PW-2	Test Date:	2023/09/11 ~2023/09/26
Test Site:	CE	Test Mode:	charging and receiving
Tester:	Vic Du	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.8~25.3	Relative Humidity: (%)	50~52	ATM Pressure: (kPa)	99.9~100.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/03/31	2024/03/30
R&S	LISN	ENV216	101132	2023/03/31	2024/03/30
R&S	EMI Test Receiver	ESR3	102726	2023/03/31	2024/03/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/08/06	2024/08/05
Audix	Test Software	E3	190306 (V9)	N/A	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

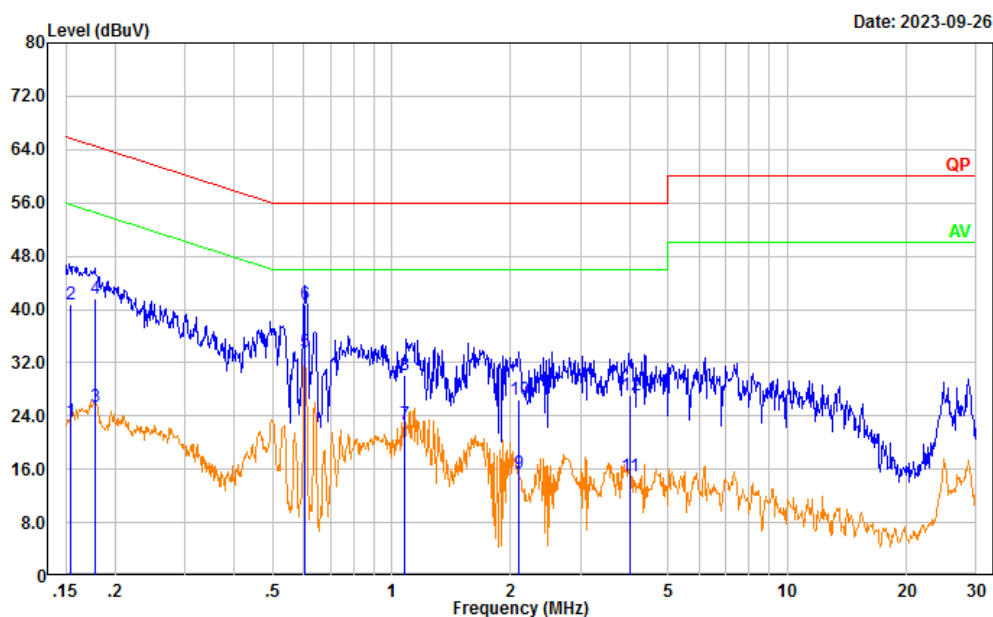
462.6375MHz:

Project No.: CR230846469-RF

Tester: Vic Du

Port: Line

Note:



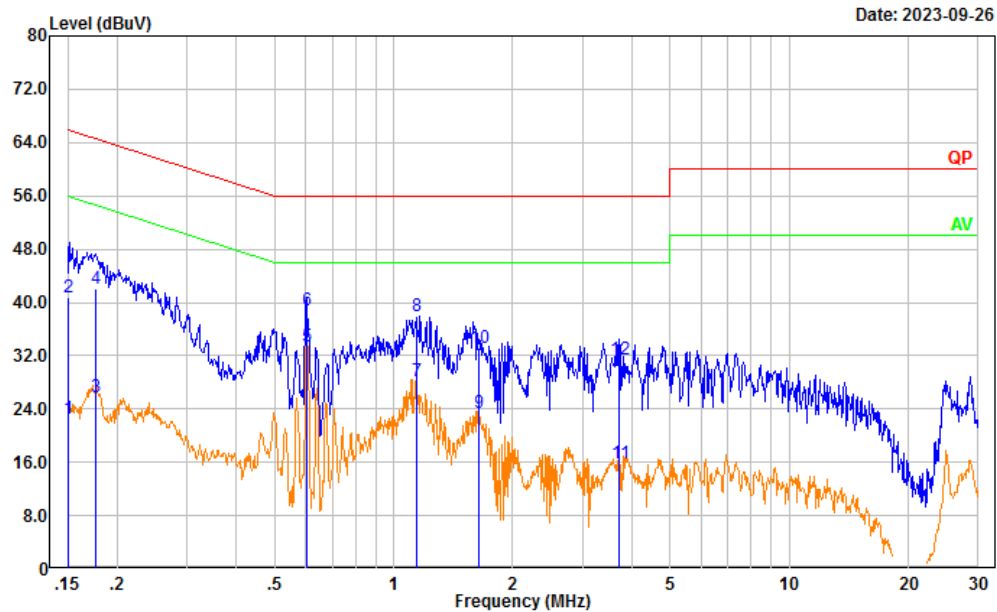
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.154	13.66	9.61	23.27	55.78	32.51	Average
2	0.154	31.07	9.61	40.68	65.78	25.10	QP
3	0.178	15.66	9.61	25.27	54.58	29.31	Average
4	0.178	32.03	9.61	41.64	64.58	22.94	QP
5	0.606	23.99	9.62	33.61	46.00	12.39	Average
6	0.606	31.08	9.62	40.70	56.00	15.30	QP
7	1.081	13.15	9.62	22.77	46.00	23.23	Average
8	1.081	20.46	9.62	30.08	56.00	25.92	QP
9	2.096	5.84	9.63	15.47	46.00	30.53	Average
10	2.096	16.78	9.63	26.41	56.00	29.59	QP
11	4.008	5.20	9.65	14.85	46.00	31.15	Average
12	4.008	17.55	9.65	27.20	56.00	28.80	QP

Project No.: CR230846469-RF

Tester: Vic Du

Port: neutral

Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.150	13.04	9.61	22.65	55.98	33.33	Average
2	0.150	31.13	9.61	40.74	65.98	25.24	QP
3	0.177	16.15	9.61	25.76	54.62	28.86	Average
4	0.177	32.41	9.61	42.02	64.62	22.60	QP
5	0.601	23.81	9.62	33.43	46.00	12.57	Average
6	0.601	29.17	9.62	38.79	56.00	17.21	QP
7	1.143	18.67	9.62	28.29	46.00	17.71	Average
8	1.143	28.23	9.62	37.85	56.00	18.15	QP
9	1.636	13.82	9.63	23.45	46.00	22.55	Average
10	1.636	23.63	9.63	33.26	56.00	22.74	QP
11	3.723	6.20	9.65	15.85	46.00	30.15	Average
12	3.723	21.79	9.65	31.44	56.00	24.56	QP

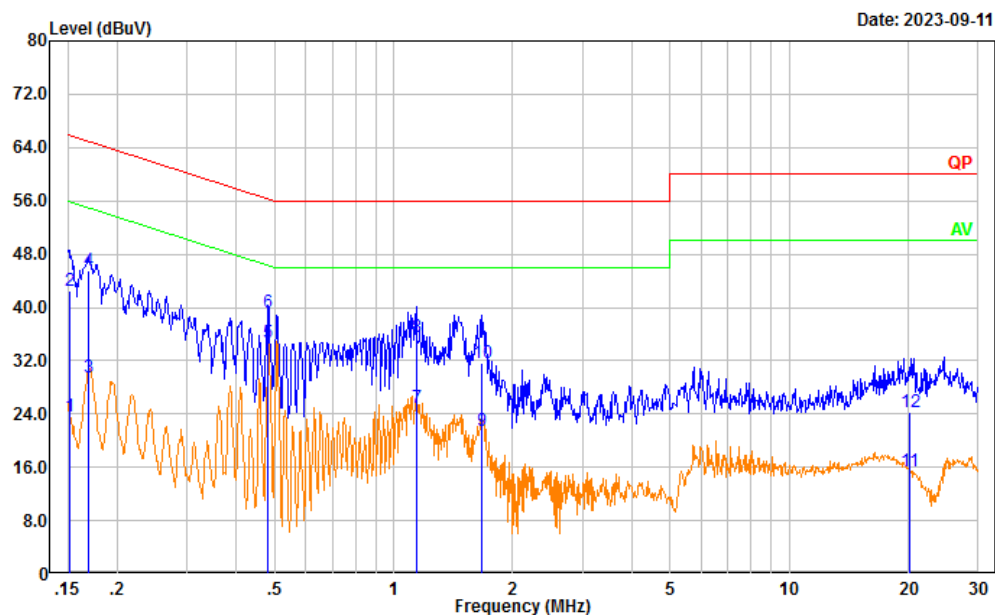
467.6375MHz:

Project No.: CR230846469-RF

Tester: Vic Du

Port: Line

Note:



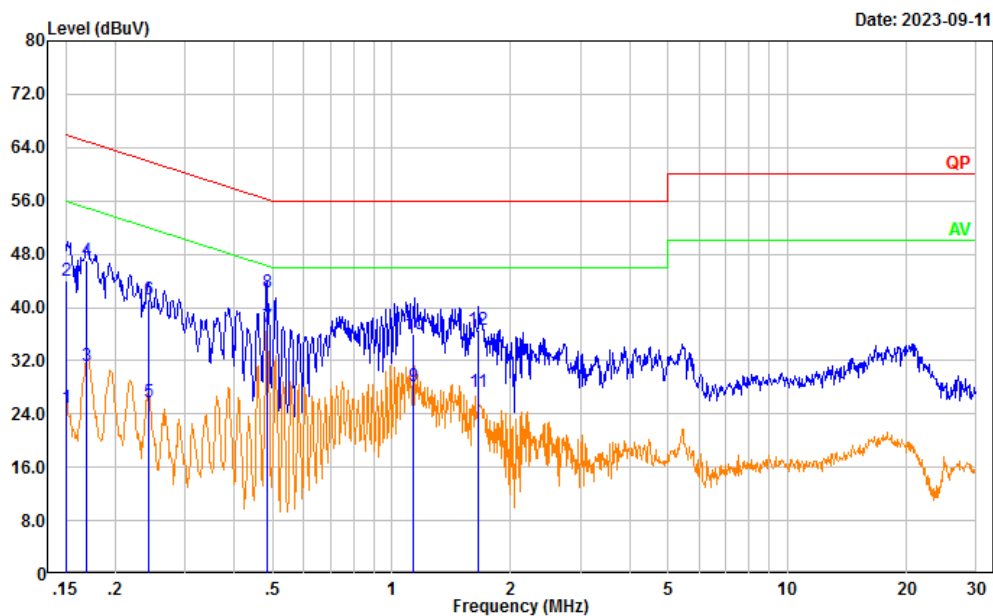
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.151	13.93	9.61	23.54	55.93	32.39	Average
2	0.151	32.97	9.61	42.58	65.93	23.35	QP
3	0.169	19.89	9.61	29.50	55.00	25.50	Average
4	0.169	35.85	9.61	45.46	65.00	19.54	QP
5	0.482	25.14	9.61	34.75	46.31	11.56	Average
6	0.482	29.54	9.61	39.15	56.31	17.16	QP
7	1.139	15.33	9.62	24.95	46.00	21.05	Average
8	1.139	26.02	9.62	35.64	56.00	20.36	QP
9	1.674	11.87	9.63	21.50	46.00	24.50	Average
10	1.674	22.04	9.63	31.67	56.00	24.33	QP
11	20.111	5.70	9.80	15.50	50.00	34.50	Average
12	20.111	14.39	9.80	24.19	60.00	35.81	QP

Project No.: CR230846469-RF

Tester: Vic Du

Port: neutral

Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.151	15.25	9.61	24.86	55.95	31.09	Average
2	0.151	34.46	9.61	44.07	65.95	21.88	QP
3	0.170	21.62	9.61	31.23	54.98	23.75	Average
4	0.170	37.37	9.61	46.98	64.98	18.00	QP
5	0.243	16.22	9.61	25.83	51.99	26.16	Average
6	0.243	31.62	9.61	41.23	61.99	20.76	QP
7	0.483	27.41	9.61	37.02	46.28	9.26	Average
8	0.483	32.72	9.61	42.33	56.28	13.95	QP
9	1.133	18.61	9.62	28.23	46.00	17.77	Average
10	1.133	26.47	9.62	36.09	56.00	19.91	QP
11	1.648	17.79	9.63	27.42	46.00	18.58	Average
12	1.648	27.10	9.63	36.73	56.00	19.27	QP

4.2 Radiation Spurious Emissions

Serial Number:	29PW-2	Test Date:	2023/08/30~2023/09/26
Test Site:	966-1/966-2	Test Mode:	charging and receiving
Tester:	Carl Xue, Mack Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.0-26.3	Relative Humidity: (%)	49-62	ATM Pressure: (kPa)	99.7-100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
R&S	EMI Test Receiver	ESR3	102724	2023/03/31	2024/03/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/07/16	2024/07/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/07/16	2024/07/15
Sonoma	Amplifier	310N	186165	2023/07/16	2024/07/15
Audix	Test Software	E3	201021 (V9)	N/A	N/A
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2023/03/31	2024/03/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/08/06	2024/08/05
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/08/06	2024/08/05
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/09	2023/11/08

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Please refer to the below table and plots.

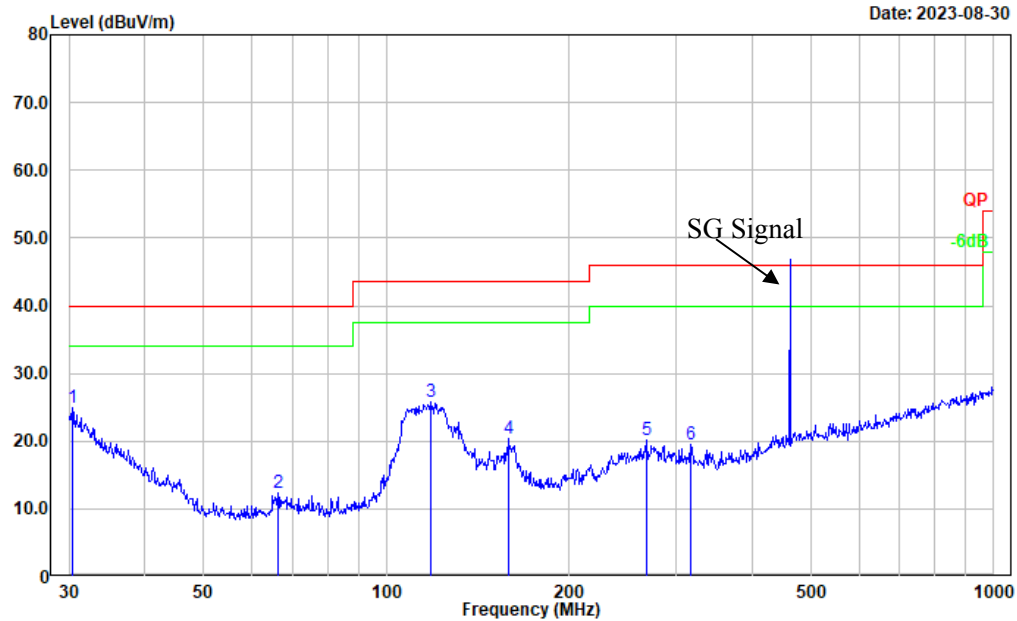
After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

1) 30MHz-1GHz:

462.6375MHz:

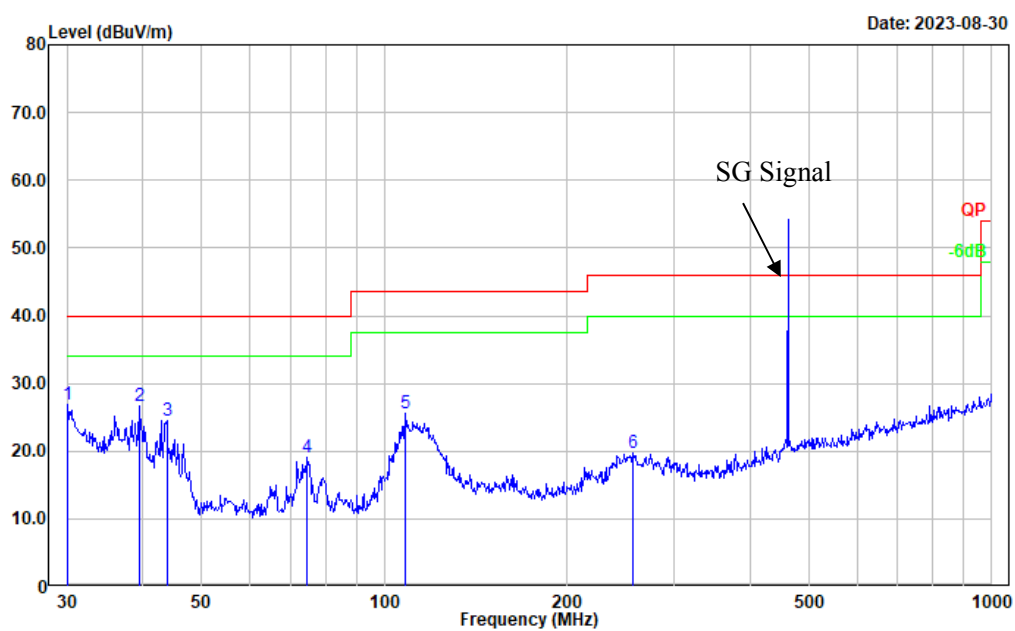
Project No.: CR230846469-RF
Tester: Carl Xue
Test Mode: Charging&RX
Polarization: horizontal
Note:

Date: 2023-08-30



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.424	28.94	-3.93	25.01	40.00	14.99	Peak
2	66.266	29.10	-16.84	12.26	40.00	27.74	Peak
3	118.601	37.38	-11.57	25.81	43.50	17.69	Peak
4	158.668	32.36	-12.05	20.31	43.50	23.19	Peak
5	267.546	32.33	-12.18	20.15	46.00	25.85	Peak
6	316.589	30.12	-10.58	19.54	46.00	26.46	Peak

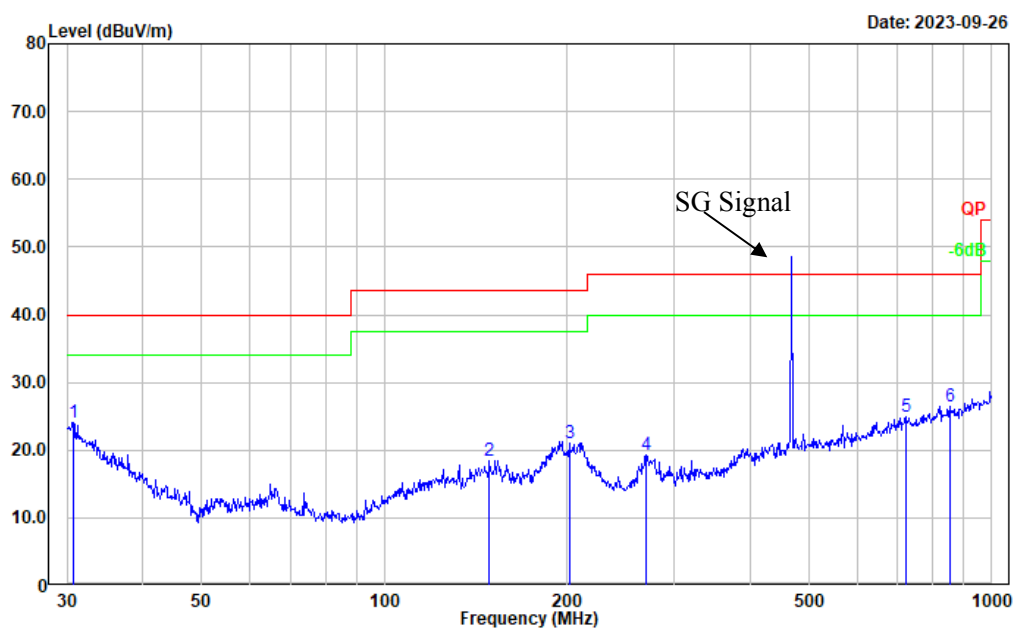
Project No.: CR230846469-RF
Tester: Carl Xue
Test Mode: Charging&RX
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.000	30.41	-3.60	26.81	40.00	13.19	Peak
2	39.437	37.44	-10.87	26.57	40.00	13.43	Peak
3	43.812	37.97	-13.56	24.41	40.00	15.59	Peak
4	74.657	35.92	-16.92	19.00	40.00	21.00	Peak
5	108.267	38.24	-12.64	25.60	43.50	17.90	Peak
6	256.521	32.51	-12.70	19.81	46.00	26.19	Peak

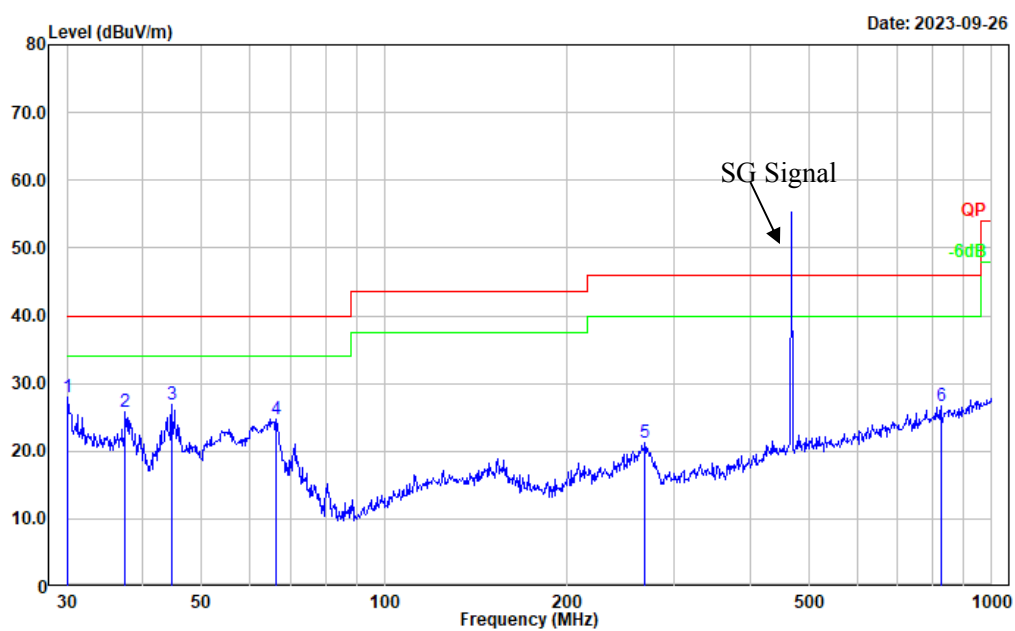
467.6375MHz:

Project No.: CR230846469-RF
Tester: Carl Xue
Test Mode: Charging&RX
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector
1	30.745	28.32	-4.17	24.15	40.00	15.85	Peak
2	148.963	30.47	-12.00	18.47	43.50	25.03	Peak
3	201.393	33.38	-12.25	21.13	43.50	22.37	Peak
4	269.428	31.34	-12.12	19.22	46.00	26.78	Peak
5	721.726	28.21	-3.22	24.99	46.00	21.01	Peak
6	854.025	27.88	-1.41	26.47	46.00	19.53	Peak

Project No.: CR230846469-RF
Tester: Carl Xue
Test Mode: Charging&RX
Polarization: vertical
Note:



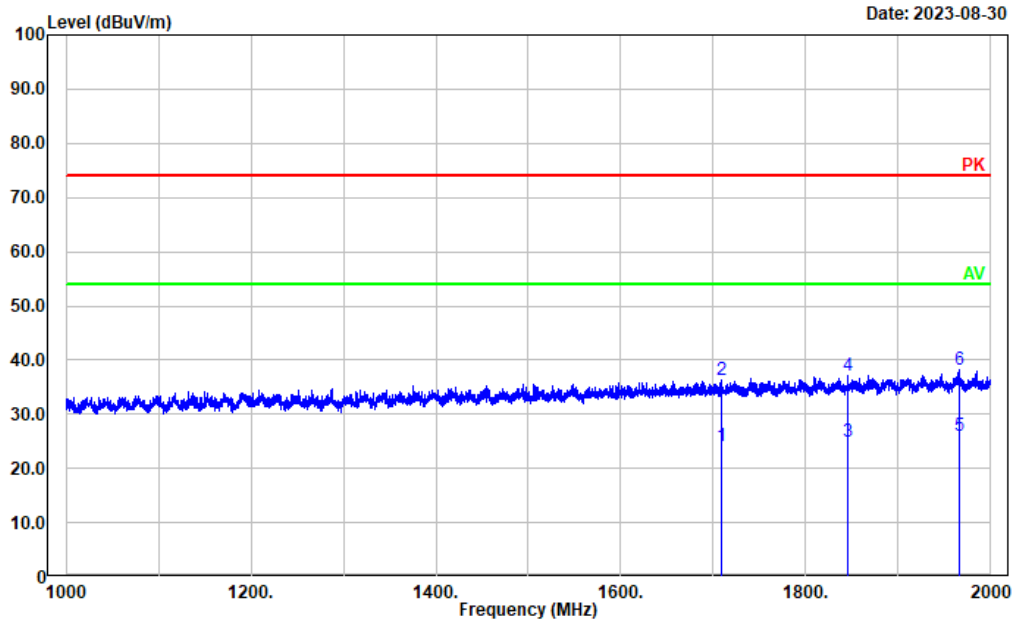
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	30.105	31.63	-3.68	27.95	40.00	12.05	Peak
2	37.416	35.14	-9.31	25.83	40.00	14.17	Peak
3	44.587	40.95	-14.00	26.95	40.00	13.05	Peak
4	66.266	41.54	-16.84	24.70	40.00	15.30	Peak
5	268.485	33.50	-12.15	21.35	46.00	24.65	Peak
6	824.597	28.20	-1.60	26.60	46.00	19.40	Peak

2) Above 1GHz:

462.6375MHz:

Project No.: CR230846469-RF
Tester: Mack Huang
Test Mode: Charging&RX
Polarization: horizontal
Note:

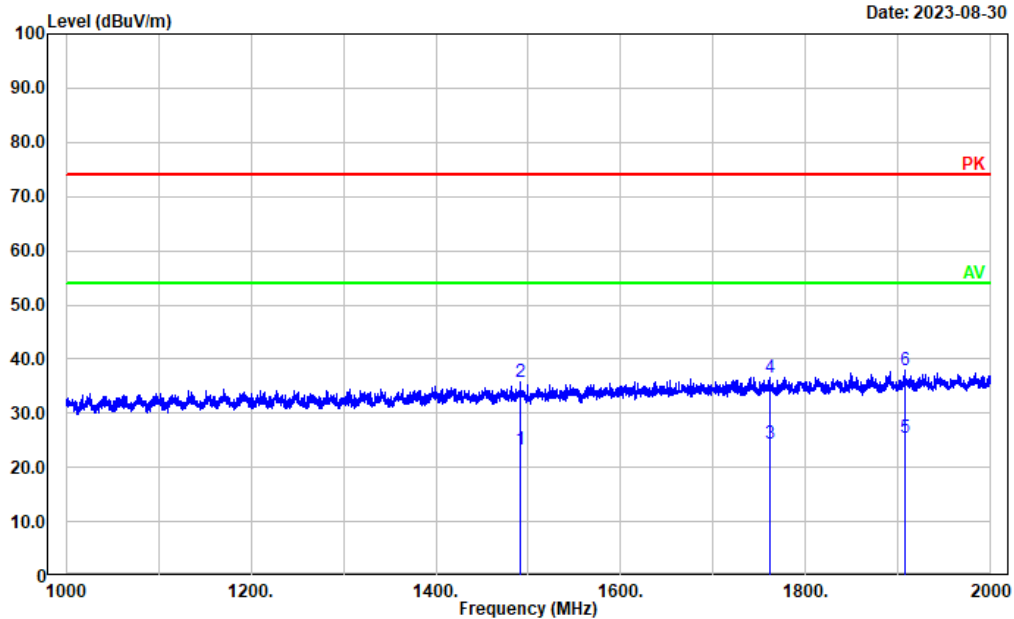
Date: 2023-08-30



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1708.942	23.37	0.76	24.13	54.00	29.87	Average
2	1708.942	35.59	0.76	36.35	74.00	37.65	Peak
3	1844.769	23.50	1.50	25.00	54.00	29.00	Average
4	1844.769	35.50	1.50	37.00	74.00	37.00	Peak
5	1965.393	23.92	2.16	26.08	54.00	27.92	Average
6	1965.393	35.99	2.16	38.15	74.00	35.85	Peak

Project No.: CR230846469-RF
Tester: Mack Huang
Test Mode: Charging&RX
Polarization: vertical
Note:

Date: 2023-08-30

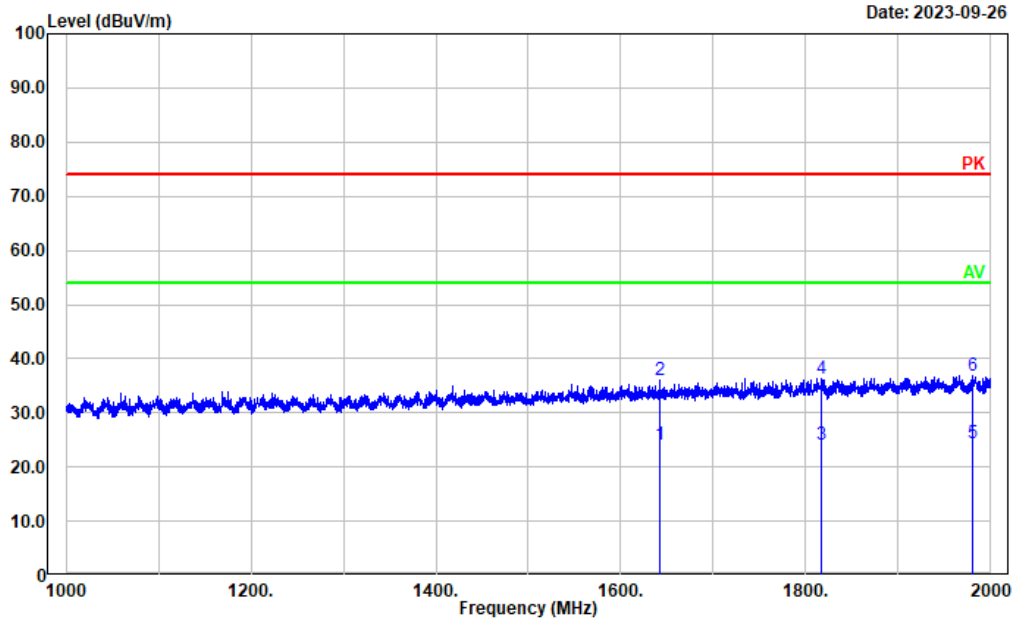


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1491.498	23.86	-0.50	23.36	54.00	30.64	Average
2	1491.498	36.22	-0.50	35.72	74.00	38.28	Peak
3	1761.152	23.29	1.05	24.34	54.00	29.66	Average
4	1761.152	35.63	1.05	36.68	74.00	37.32	Peak
5	1907.782	23.50	1.92	25.42	54.00	28.58	Average
6	1907.782	35.91	1.92	37.83	74.00	36.17	Peak

467.6375MHz:

Project No.: CR230846469-RF
Tester: Mack Huang
Test Mode: Charging&RX
Polarization: horizontal
Note:

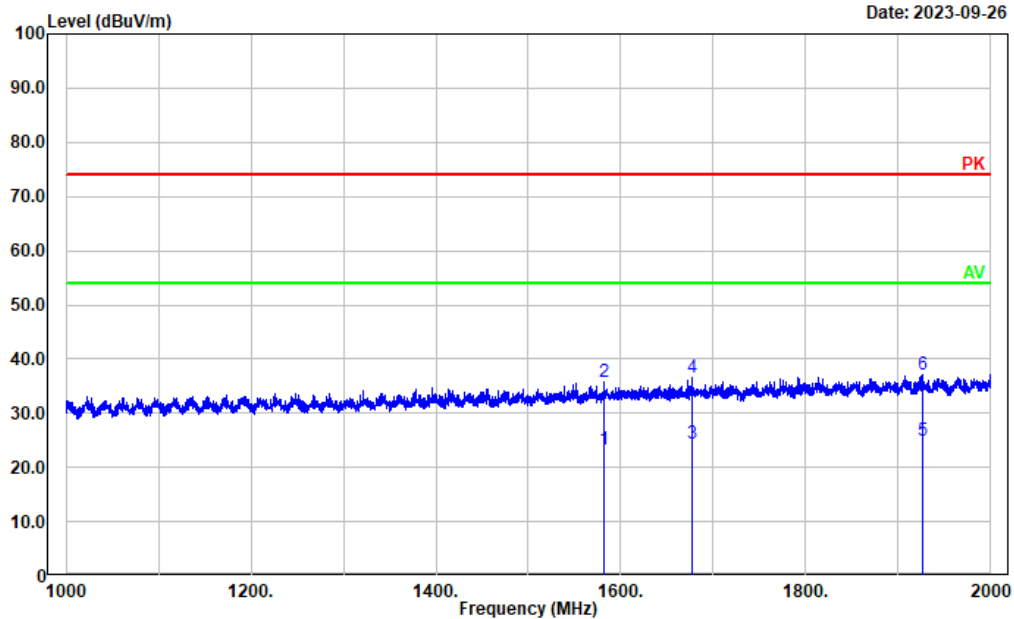
Date: 2023-09-26



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	1642.529	23.59	0.43	24.02	54.00	29.98	Average
2	1642.529	35.61	0.43	36.04	74.00	37.96	Peak
3	1816.563	22.81	1.36	24.17	54.00	29.83	Average
4	1816.563	34.98	1.36	36.34	74.00	37.66	Peak
5	1980.996	22.21	2.23	24.44	54.00	29.56	Average
6	1980.996	34.65	2.23	36.88	74.00	37.12	Peak

Project No.: CR230846469-RF
Tester: Mack Huang
Test Mode: Charging&RX
Polarization: vertical
Note:

Date: 2023-09-26



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	1582.516	23.31	0.09	23.40	54.00	30.60	Average
2	1582.516	35.71	0.09	35.80	74.00	38.20	Peak
3	1677.135	23.68	0.61	24.29	54.00	29.71	Average
4	1677.135	35.96	0.61	36.57	74.00	37.43	Peak
5	1926.385	23.03	1.99	25.02	54.00	28.98	Average
6	1926.385	35.05	1.99	37.04	74.00	36.96	Peak

5. EUT PHOTOGRAPHS

Please refer to the attachment CR230846469-EXP EUT EXTERNAL PHOTOGRAPHS and CR230846469-INP EUT INTERNAL PHOTOGRAPHS

6. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230846469-00A-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT =====