

TEST REPORT

Applicant Name : Iradio Electronics Co., Ltd
 Address : No.16 Daxiamei Industrial Area, Nan'an, Quanzhou City, China
 Report Number : XMTN1220429-17465E-01B
 FCC ID: Y23UV-83

Test Standard (s)
 FCC PART 15B

Sample Description

Product Type: Two-way Radio
 Model No.: UV-83
 Multiple Model: BCUV-83
 Trade Mark: IRADIO
 Date Received: 2022-04-29
 Date of Test: 2022-05-07 to 2022-06-13
 Report Date: 2022-06-13

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Approved By:

Black Ding

Candy Li

Black Ding
 EMC Engineer

Candy Li
 EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Two-way Radio
Tested Model	UV-83
Multiple Model	BCUV-83
Model Difference	Please refer to the DOS letter
Trade Mark	IRADIO
Frequency Range	FM: 66-108MHz(Receiver) NOAA: 162.400-162.550MHz(Receiver)
Highest Operation Frequency	520 MHz (provided by the applicant.)
Voltage Range	DC 7.4V from battery, DC 5V from adapter or DC 5V from charger box
Sample number	XMTN1220429-17465E-RF-S1 (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter information	Input: AC 100-240V~50/60Hz 0.5A Output: DC 5V, 2.0A

Objective

This report is in accordance with Part 2-Subpart J, and Part 15-Subparts A and B of the Federal Communication Commission's rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15, Class B device.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF Frequency		0.082×10^{-7}
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
AC Power Lines Conducted Emissions		2.72dB
Emissions, Radiated	9kHz - 30MHz	2.66dB
	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
	26.5GHz - 40GHz	4.72dB
Temperature		1°C
Humidity		6%
Supply voltages		0.4%

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

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

Test mode 1: Charging for charger box

Test mode 2: Charging +Receiver at FM 66MHz

Test mode 3: Charging +Receiver at FM 82MHz

Test mode 4: Charging + Receiver at FM 108MHz

Test mode 5: Charging +NOAA Receiving at 162.4750MHz

NOAA Channel:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	162.5500	5	162.4500
2	162.4000	6	162.5000
3	162.4750	7	162.5250
4	162.4250	/	/

EUT Exercise Software

No exercise software.

Special Accessories

No special accessory was used.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
SHENZHEN KEYU POWER SUPPLY TECHNOLOGY CO.,LTD	Adapter	KA1803A-US	2045
Unknown	Earphone	Unknown	Unknown

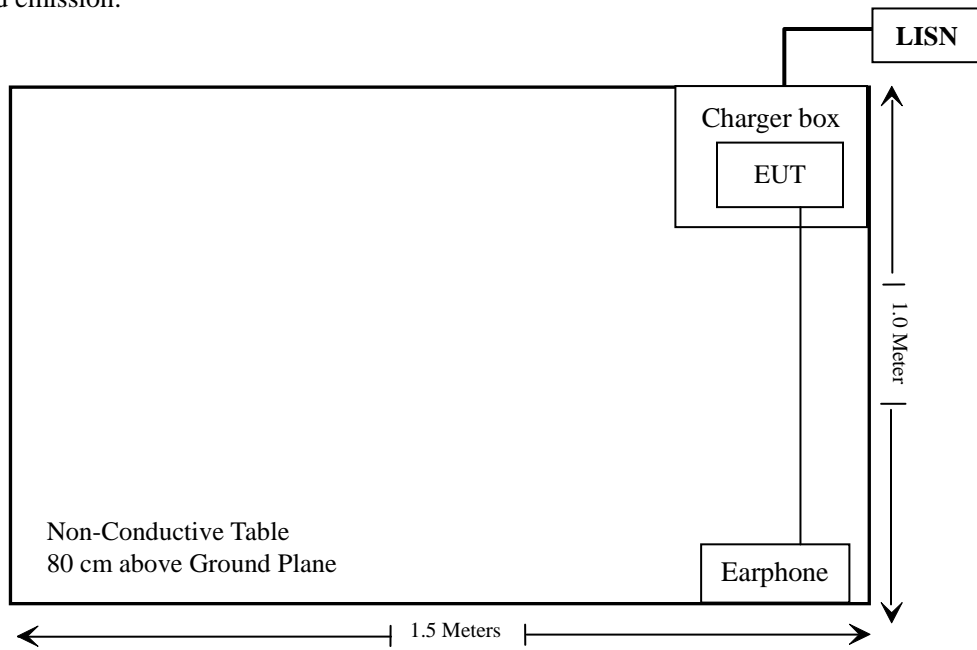
External I/O Cable

Cable Description	Length (m)	From Port	To Port
Un-shielding Un-Detachable DC Cable	1.0	Adapter	EUT
Audio Cable	1.2	EUT	Earphone
Un-shielding Un-Detachable AC Cable	0.8	LISN	Charger box

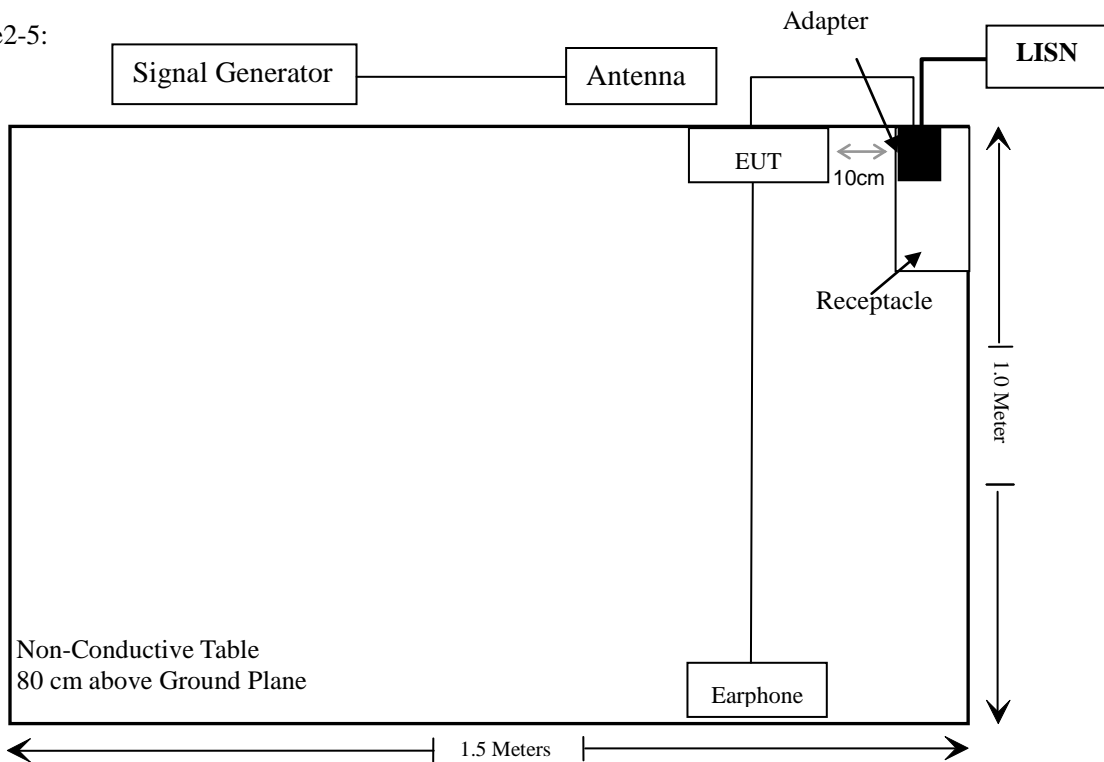
Block Diagram of Radiated Test Setup

For conducted emission:

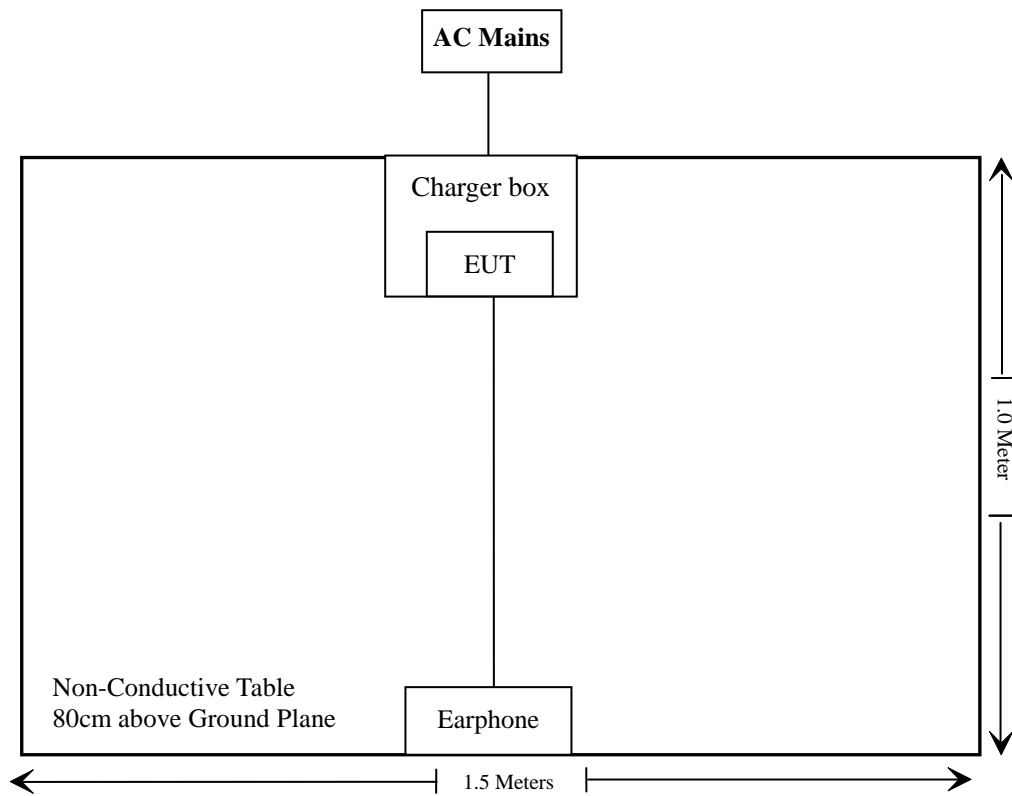
Test mode1:



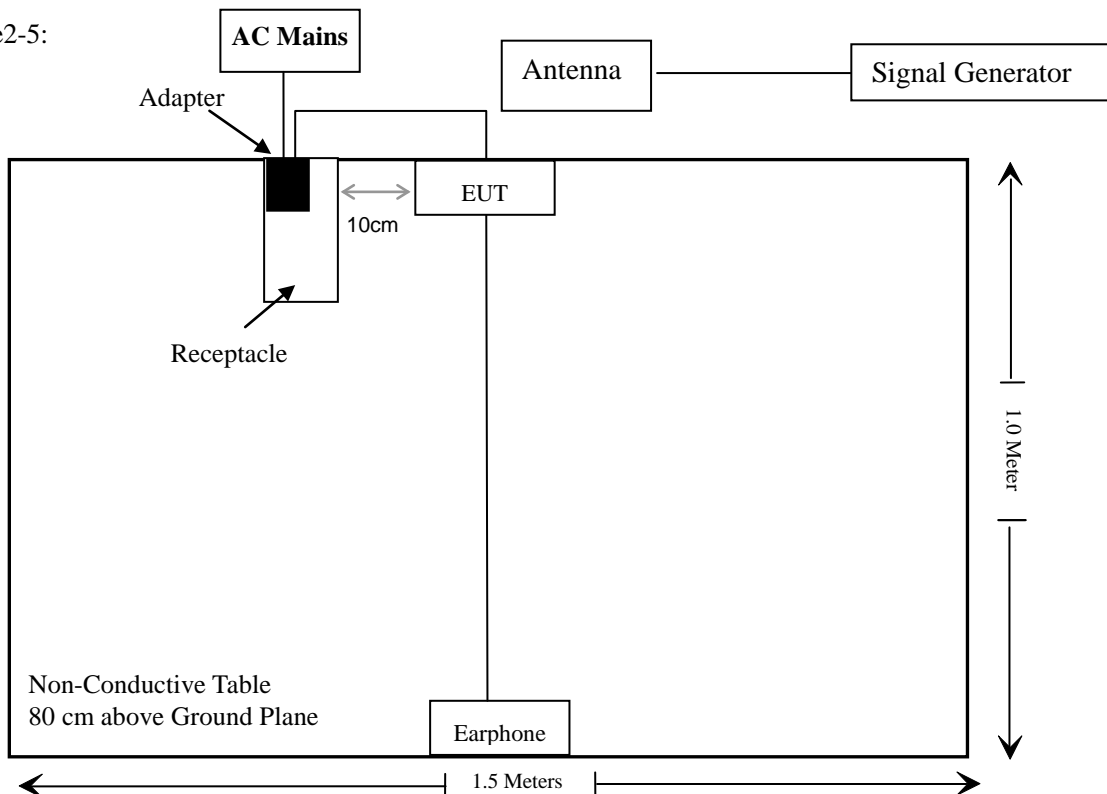
Test mode2-5:



For Radiated emission:
Test mode1:



Test mode2-5:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliant
§15.109	Radiated Emissions	Compliant
§15.111	Antenna Conducted Power for receivers	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted emission					
Rohde& Schwarz	EMI Test Receiver	ESCI	100784	2021/12/13	2022/12/12
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2021/12/13	2022/12/12
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2021/12/13	2022/12/12
Unknown	RF Coaxial Cable	No.17	N0350	2021/12/14	2022/12/13
Conducted Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test					
Rohde & Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde & Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
A.H. Systems, inc.	Preamplifier	PAM-0118P	531	2021/11/09	2022/11/08
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-655	2020/01/05	2023/01/04
AGILENT	Vector Signal Generator	N5182A	MY50143401	2021/12/13	2022/12/12
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b(V9)					
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101495	2021/12/13	2022/12/12
AGILENT	Vector Signal Generator	N5182A	MY50143401	2021/12/13	2022/12/12
HP Agilent	RF Communication test set	8920B	3325U00859	2021/12/14	2022/12/13
Aeroflex/Weinschel	30dB Attenuator (Input 250W/Output 50W)	58-30-33	PS467	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.33	RF-03	Each time	

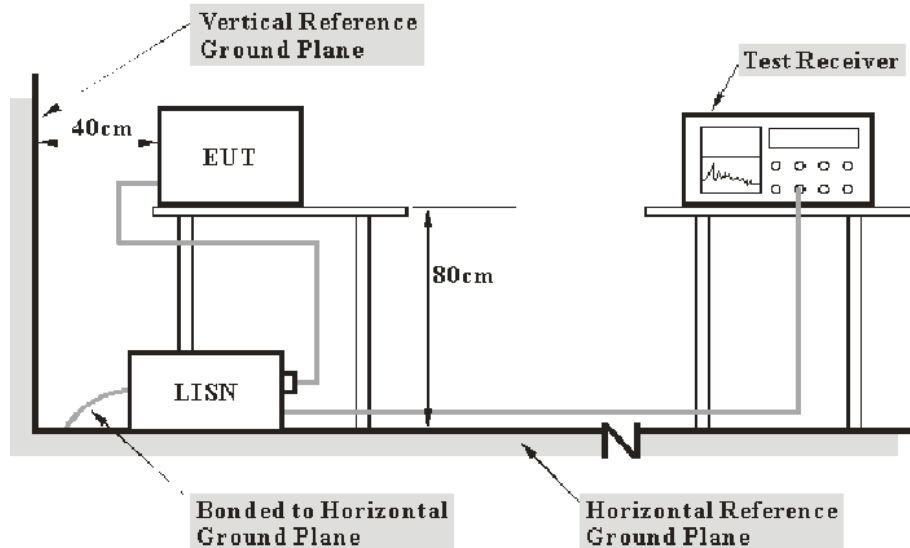
* **Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §15.107 – CONDUCTED EMISSIONS

Applicable Standard

According to FCC§15.107

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 measurement procedure of EUT setup is according with ANSI C63.4-2014. The related limit was specified in FCC Part 15.107 Class B.

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

The spacing between the peripherals was 10 cm.

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

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

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

Factor & Over Limit Calculation

The factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{Level} - \text{Limit} \\ \text{Level} &= \text{Read Level} + \text{Factor}\end{aligned}$$

Test Data

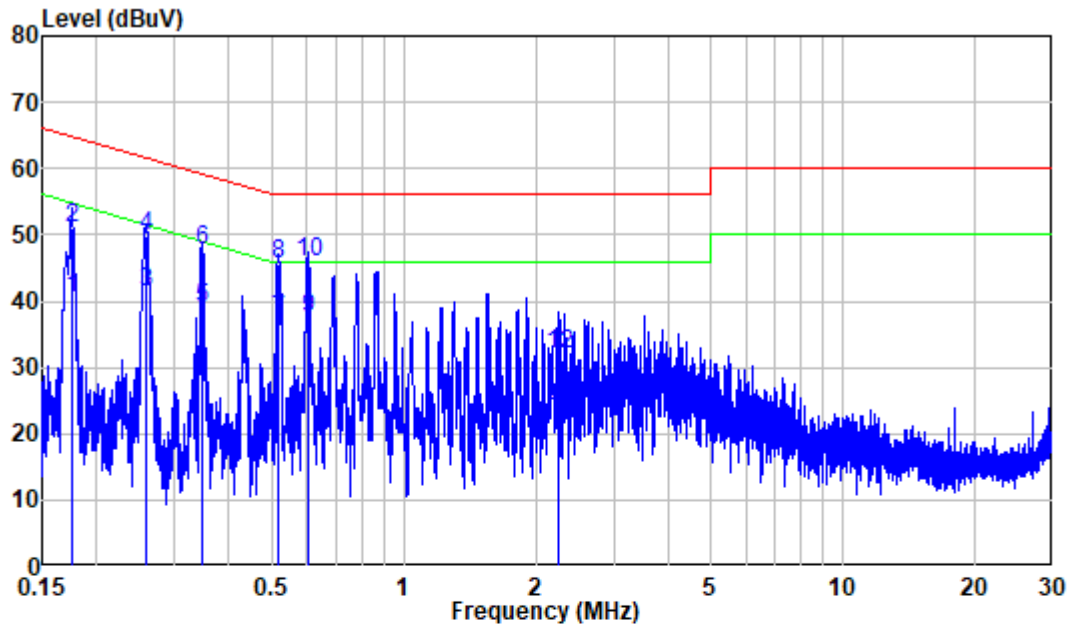
Environmental Conditions

Temperature:	24 °C
Relative Humidity:	51 %
ATM Pressure:	101.1 kPa

The testing was performed by Jason Liu on 2022-05-07.

Test mode 1: Charging for charger box

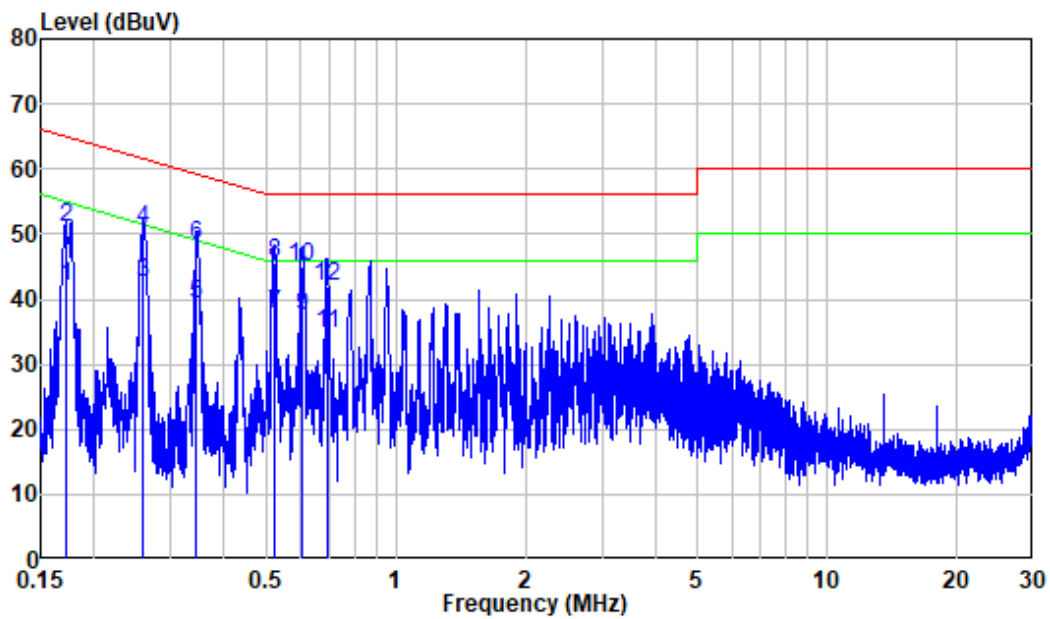
AC 120V/60Hz, Line:



Site : Shielding Room
 Condition: Line
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging for charger box
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.176	9.80	30.77	40.57	54.69	-14.12	Average
2	0.176	9.80	41.28	51.08	64.69	-13.61	QP
3	0.258	9.80	31.61	41.41	51.49	-10.08	Average
4	0.258	9.80	40.01	49.81	61.49	-11.68	QP
5	0.346	9.80	29.18	38.98	49.05	-10.07	Average
6	0.346	9.80	37.80	47.60	59.05	-11.45	QP
7	0.518	9.81	27.31	37.12	46.00	-8.88	Average
8	0.518	9.81	35.65	45.46	56.00	-10.54	QP
9	0.604	9.81	27.61	37.42	46.00	-8.58	Average
10	0.604	9.81	36.13	45.94	56.00	-10.06	QP
11	2.259	9.82	12.63	22.45	46.00	-23.55	Average
12	2.259	9.82	22.17	31.99	56.00	-24.01	QP

AC 120V/60Hz, Neutral:

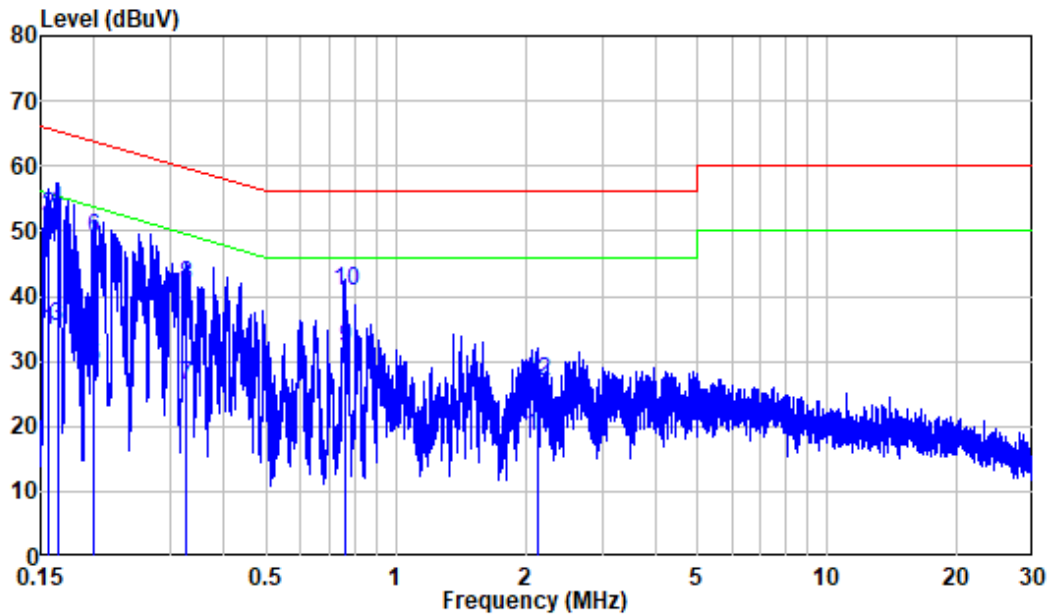


Site : Shielding Room
 Condition: Neutral
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging for charger box
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.172	9.80	32.09	41.89	54.87	-12.98	Average
2	0.172	9.80	41.11	50.91	64.87	-13.96	QP
3	0.259	9.80	32.79	42.59	51.45	-8.86	Average
4	0.259	9.80	40.83	50.63	61.45	-10.82	QP
5	0.345	9.80	29.48	39.28	49.09	-9.81	Average
6	0.345	9.80	38.58	48.38	59.09	-10.71	QP
7	0.523	9.81	28.04	37.85	46.00	-8.15	Average
8	0.523	9.81	35.86	45.67	56.00	-10.33	QP
9	0.603	9.81	27.59	37.40	46.00	-8.60	Average
10	0.603	9.81	35.09	44.90	56.00	-11.10	QP
11	0.691	9.81	24.77	34.58	46.00	-11.42	Average
12	0.691	9.81	32.25	42.06	56.00	-13.94	QP

Test mode 2: Charging +Receiver at FM 66MHz

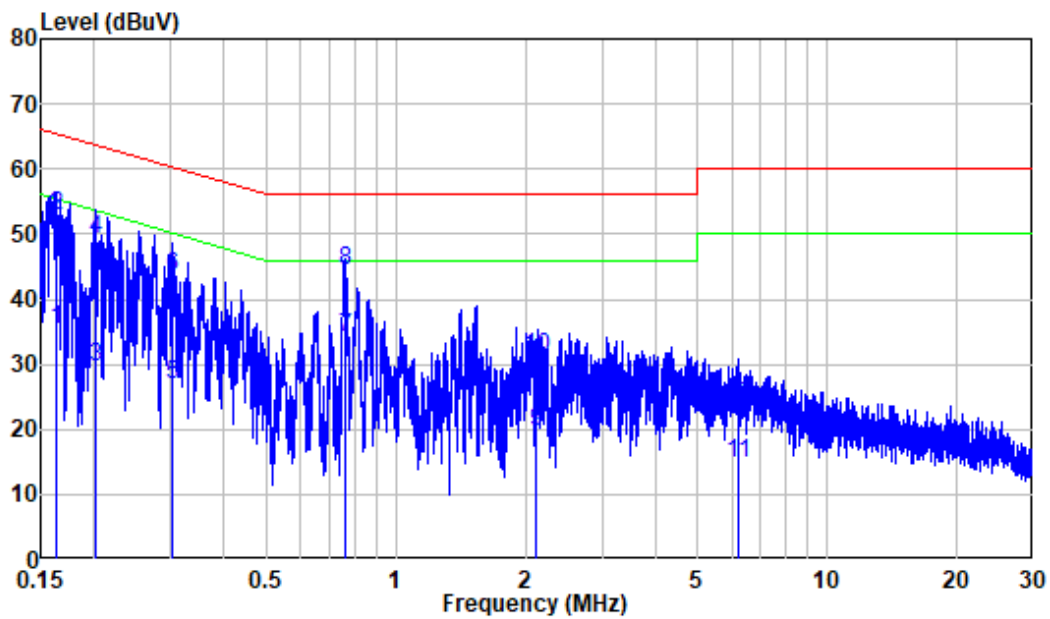
AC 120V/60Hz, Line:



Site : Shielding Room
 Condition: Line
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 66MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.156	9.80	24.78	34.58	55.68	-21.10	Average
2	0.156	9.80	42.44	52.24	65.68	-13.44	QP
3	0.164	9.80	25.40	35.20	55.26	-20.06	Average
4	0.164	9.80	43.20	53.00	65.26	-12.26	QP
5	0.200	9.80	19.08	28.88	53.61	-24.73	Average
6	0.200	9.80	39.19	48.99	63.61	-14.62	QP
7	0.325	9.80	16.57	26.37	49.57	-23.20	Average
8	0.325	9.80	31.88	41.68	59.57	-17.89	QP
9	0.762	9.81	22.22	32.03	46.00	-13.97	Average
10	0.762	9.81	31.04	40.85	56.00	-15.15	QP
11	2.123	9.82	8.66	18.48	46.00	-27.52	Average
12	2.123	9.82	17.08	26.90	56.00	-29.10	QP

AC 120V/60Hz, Neutral:

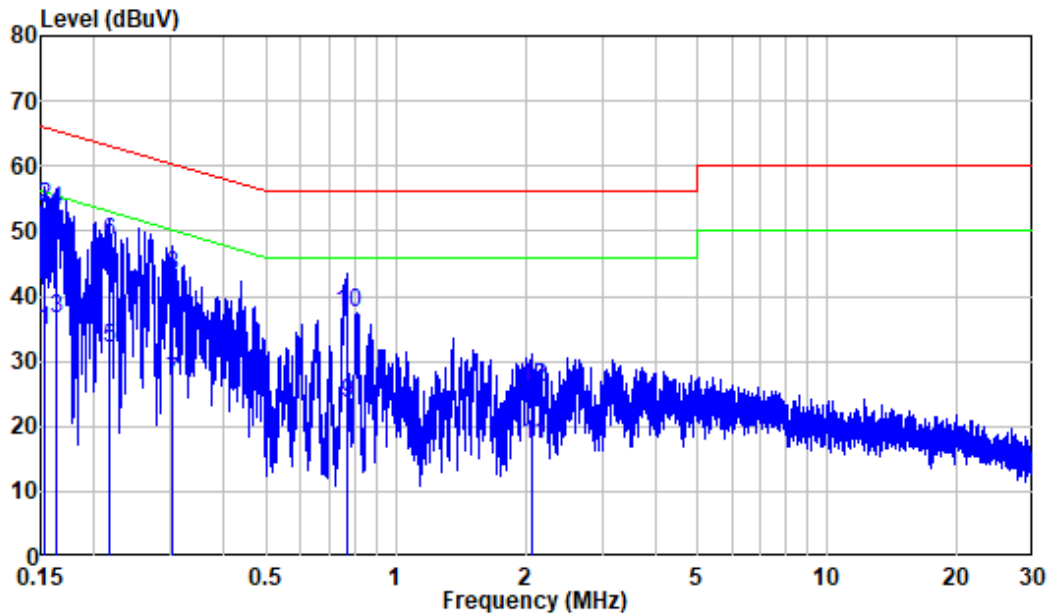


Site : Shielding Room
 Condition: Neutral
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 66MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.162	9.80	25.52	35.32	55.34	-20.02	Average
2	0.162	9.80	43.06	52.86	65.34	-12.48	QP
3	0.201	9.80	19.66	29.46	53.56	-24.10	Average
4	0.201	9.80	39.42	49.22	63.56	-14.34	QP
5	0.302	9.80	17.06	26.86	50.17	-23.31	Average
6	0.302	9.80	33.80	43.60	60.17	-16.57	QP
7	0.759	9.81	24.15	33.96	46.00	-12.04	Average
8	0.759	9.81	34.59	44.40	56.00	-11.60	QP
9	2.121	9.82	9.75	19.57	46.00	-26.43	Average
10	2.121	9.82	21.22	31.04	56.00	-24.96	QP
11	6.190	9.94	4.73	14.67	50.00	-35.33	Average
12	6.190	9.94	13.52	23.46	60.00	-36.54	QP

Test mode 3: Charging +Receiver at FM 82MHz

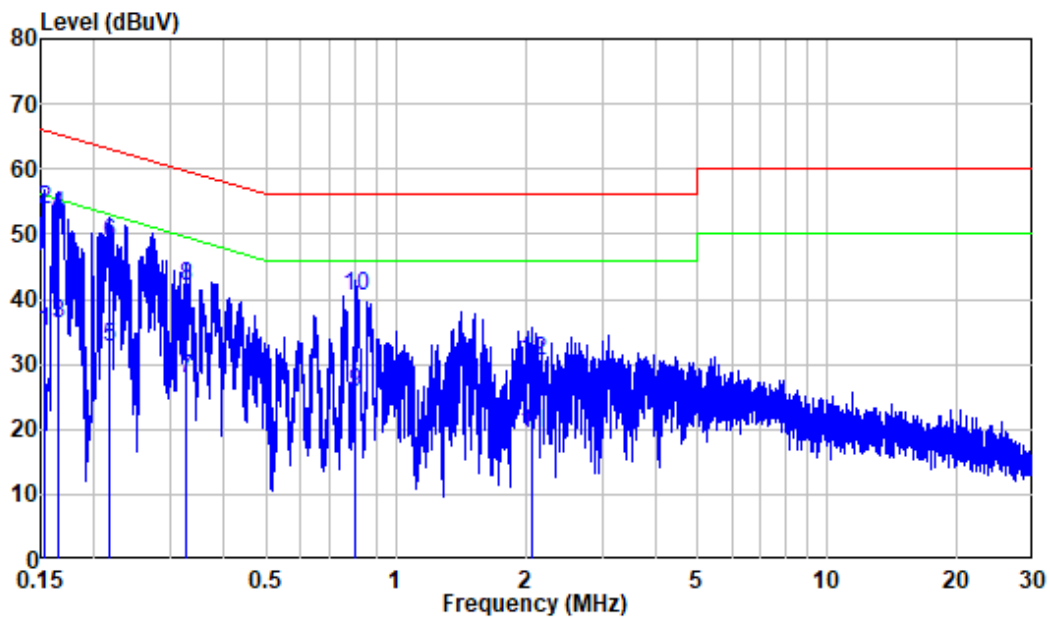
AC 120V/60Hz, Line:



Site : Shielding Room
 Condition: Line
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 82MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.153	9.80	25.05	34.85	55.85	-21.00	Average
2	0.153	9.80	43.80	53.60	65.85	-12.25	QP
3	0.164	9.80	26.65	36.45	55.27	-18.82	Average
4	0.164	9.80	43.34	53.14	65.27	-12.13	QP
5	0.216	9.80	22.29	32.09	52.99	-20.90	Average
6	0.216	9.80	38.45	48.25	62.99	-14.74	QP
7	0.304	9.80	16.98	26.78	50.14	-23.36	Average
8	0.304	9.80	33.51	43.31	60.14	-16.83	QP
9	0.772	9.81	13.73	23.54	46.00	-22.46	Average
10	0.772	9.81	27.77	37.58	56.00	-18.42	QP
11	2.075	9.82	7.35	17.17	46.00	-28.83	Average
12	2.075	9.82	16.01	25.83	56.00	-30.17	QP

AC 120V/60Hz, Neutral:

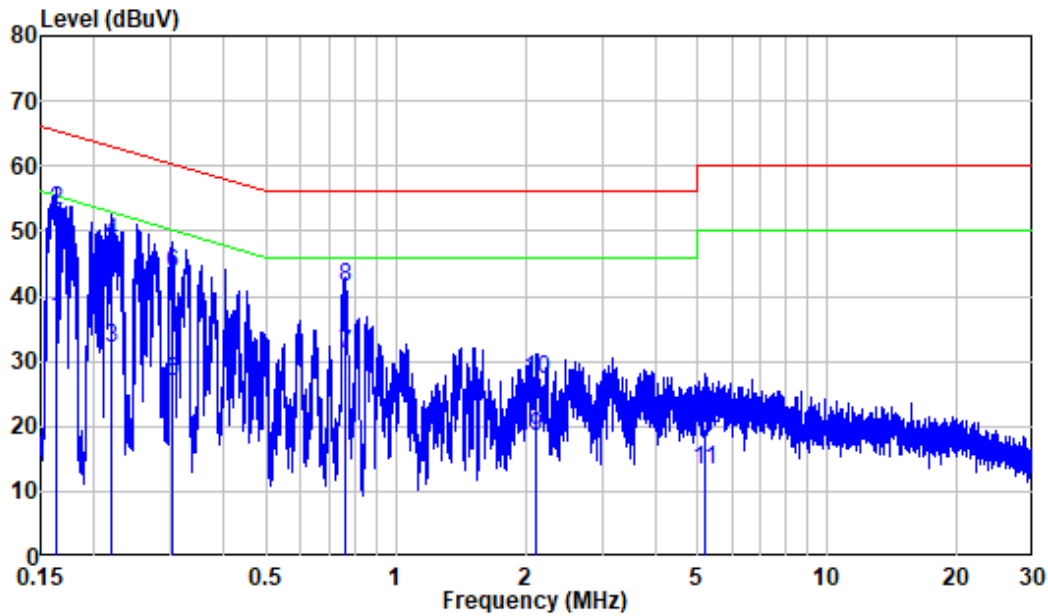


Site : Shielding Room
 Condition: Neutral
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 82MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.153	9.80	25.17	34.97	55.86	-20.89	Average
2	0.153	9.80	44.00	53.80	65.86	-12.06	QP
3	0.165	9.80	26.40	36.20	55.22	-19.02	Average
4	0.165	9.80	43.10	52.90	65.22	-12.32	QP
5	0.217	9.80	22.93	32.73	52.92	-20.19	Average
6	0.217	9.80	38.84	48.64	62.92	-14.28	QP
7	0.327	9.80	17.99	27.79	49.53	-21.74	Average
8	0.327	9.80	32.29	42.09	59.53	-17.44	QP
9	0.803	9.81	15.97	25.78	46.00	-20.22	Average
10	0.803	9.81	30.76	40.57	56.00	-15.43	QP
11	2.069	9.82	9.52	19.34	46.00	-26.66	Average
12	2.069	9.82	20.78	30.60	56.00	-25.40	QP

Test mode 4: Charging + Receiver at FM 108MHz

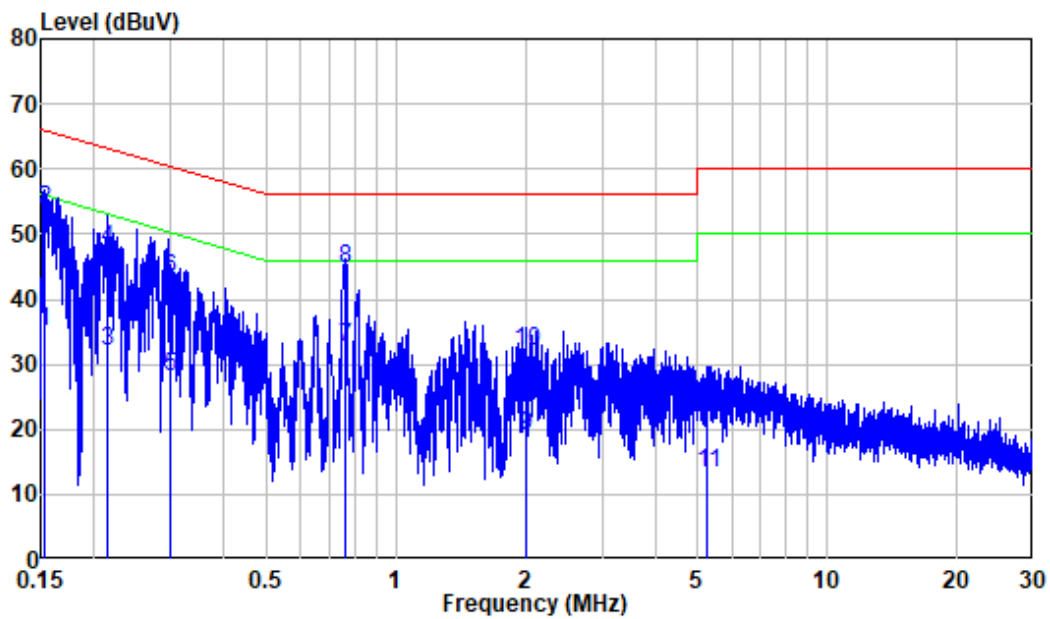
AC 120V/60Hz, Line:



Site : Shielding Room
 Condition: Line
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 108MHz
 Model : UV-83

	Freq	Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB
1	0.162	9.80	26.74	36.54	55.34	-18.80 Average
2	0.162	9.80	43.40	53.20	65.34	-12.14 QP
3	0.220	9.80	22.32	32.12	52.83	-20.71 Average
4	0.220	9.80	38.65	48.45	62.83	-14.38 QP
5	0.303	9.80	17.03	26.83	50.15	-23.32 Average
6	0.303	9.80	33.77	43.57	60.15	-16.58 QP
7	0.766	9.81	21.17	30.98	46.00	-15.02 Average
8	0.766	9.81	31.40	41.21	56.00	-14.79 QP
9	2.120	9.82	8.72	18.54	46.00	-27.46 Average
10	2.120	9.82	17.42	27.24	56.00	-28.76 QP
11	5.197	9.85	3.55	13.40	50.00	-36.60 Average
12	5.197	9.85	9.74	19.59	60.00	-40.41 QP

AC 120V/60Hz, Neutral:

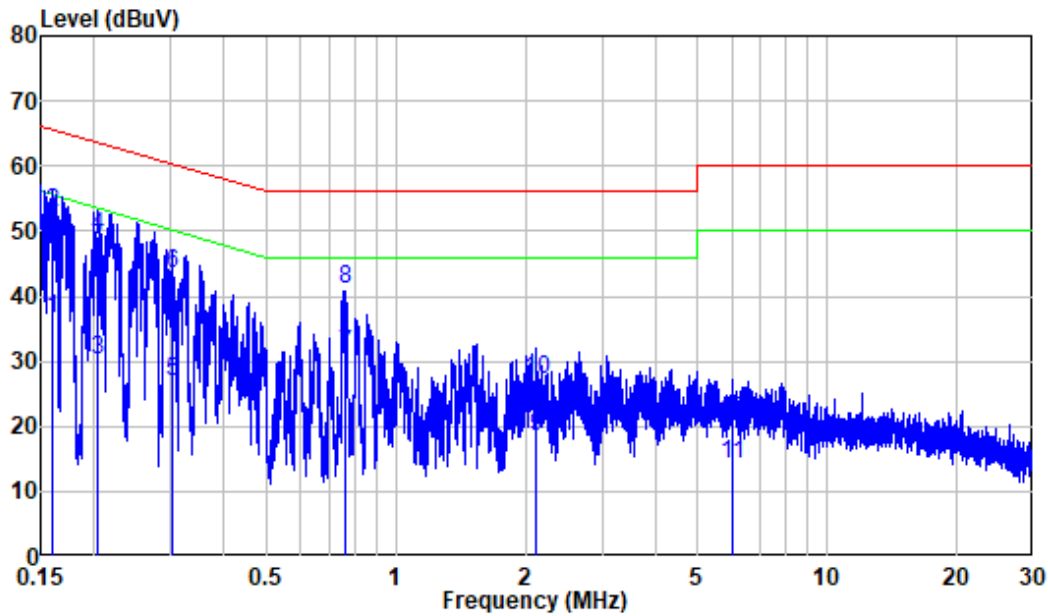


Site : Shielding Room
 Condition: Neutral
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + Receiver at FM 108MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.153	9.80	25.19	34.99	55.85	-20.86	Average
2	0.153	9.80	43.92	53.72	65.85	-12.13	QP
3	0.214	9.80	22.16	31.96	53.04	-21.08	Average
4	0.214	9.80	38.00	47.80	63.04	-15.24	QP
5	0.300	9.80	18.26	28.06	50.25	-22.19	Average
6	0.300	9.80	33.46	43.26	60.25	-16.99	QP
7	0.764	9.81	22.91	32.72	46.00	-13.28	Average
8	0.764	9.81	34.95	44.76	56.00	-11.24	QP
9	2.003	9.82	9.25	19.07	46.00	-26.93	Average
10	2.003	9.82	22.06	31.88	56.00	-24.12	QP
11	5.270	9.90	3.33	13.23	50.00	-36.77	Average
12	5.270	9.90	13.36	23.26	60.00	-36.74	QP

Test mode 5: Charging +NOAA Receiving at 162.4750MHz

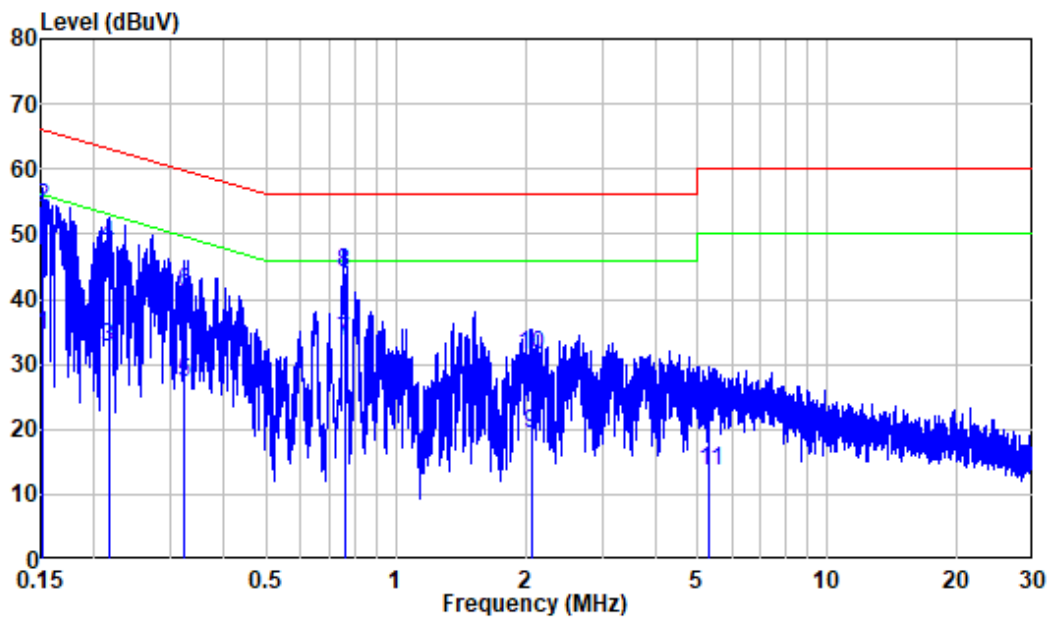
AC 120V/60Hz, Line:



Site : Shielding Room
 Condition: Line
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + NOAA Receiving at 162.4750MHz
 Model : UV-83

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB	dBuV	dBuV	dBuV			
1	0.160	9.80	26.66	36.46	55.46	-19.00	Average
2	0.160	9.80	42.90	52.70	65.46	-12.76	QP
3	0.203	9.80	20.48	30.28	53.49	-23.21	Average
4	0.203	9.80	39.30	49.10	63.49	-14.39	QP
5	0.303	9.80	16.98	26.78	50.15	-23.37	Average
6	0.303	9.80	33.56	43.36	60.15	-16.79	QP
7	0.764	9.81	21.36	31.17	46.00	-14.83	Average
8	0.764	9.81	31.11	40.92	56.00	-15.08	QP
9	2.119	9.82	8.74	18.56	46.00	-27.44	Average
10	2.119	9.82	17.24	27.06	56.00	-28.94	QP
11	6.004	9.86	4.18	14.04	50.00	-35.96	Average
12	6.004	9.86	10.84	20.70	60.00	-39.30	QP

AC 120V/60Hz, Neutral:



Site : Shielding Room
 Condition: Neutral
 Job No. : XMTN1220429-17465E-RF
 Mode : Charging + NOAA Receiving at 162.4750MHz
 Model : UV-83

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.151	9.80	24.64	34.44	55.92	-21.48	Average
2	0.151	9.80	44.31	54.11	65.92	-11.81	QP
3	0.215	9.80	22.88	32.68	52.99	-20.31	Average
4	0.215	9.80	38.53	48.33	62.99	-14.66	QP
5	0.324	9.80	17.44	27.24	49.61	-22.37	Average
6	0.324	9.80	31.34	41.14	59.61	-18.47	QP
7	0.759	9.81	23.79	33.60	46.00	-12.40	Average
8	0.759	9.81	34.42	44.23	56.00	-11.77	QP
9	2.056	9.82	9.58	19.40	46.00	-26.60	Average
10	2.056	9.82	21.64	31.46	56.00	-24.54	QP
11	5.340	9.90	3.72	13.62	50.00	-36.38	Average
12	5.340	9.90	13.50	23.40	60.00	-36.60	QP

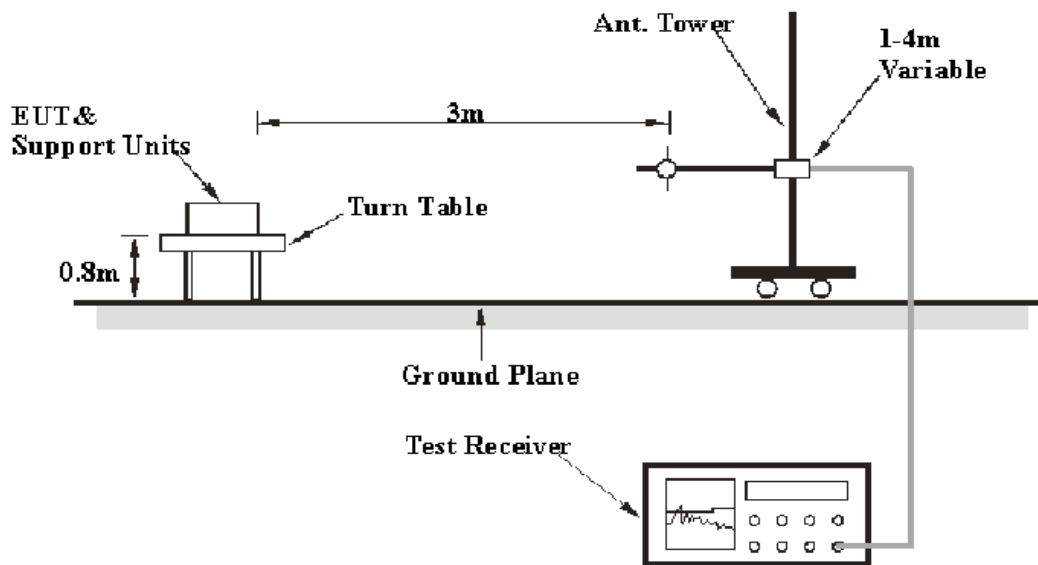
FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

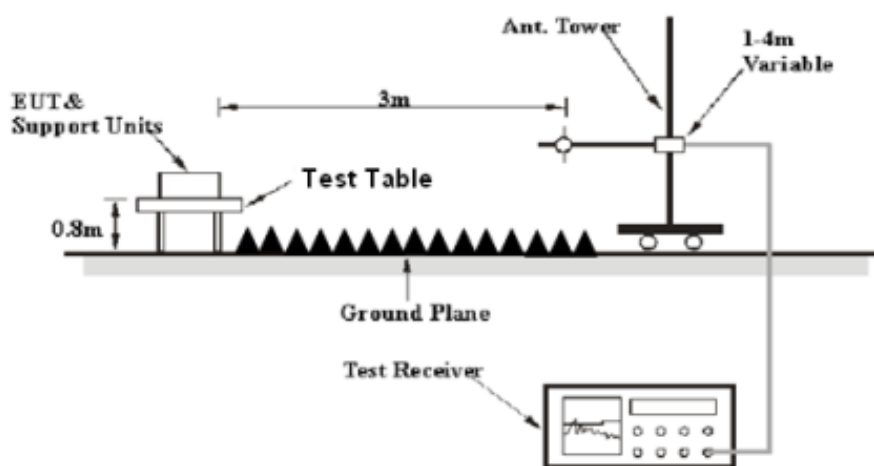
FCC §15.109

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 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 spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 5 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP
Above 1 GHz	1MHz	3 MHz	/	Peak
	1MHz	10Hz	1MHz	AV

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz, Peak and average detection mode above 1 GHz.

Test Procedure

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

Factor & Over Limit Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\begin{aligned} \text{Over Limit} &= \text{Level} - \text{Limit} \\ \text{Level} &= \text{Reading} + \text{Factor} \end{aligned}$$

Test Data**Environmental Conditions**

Temperature:	24°C
Relative Humidity:	55 %
ATM Pressure:	101.1 kPa

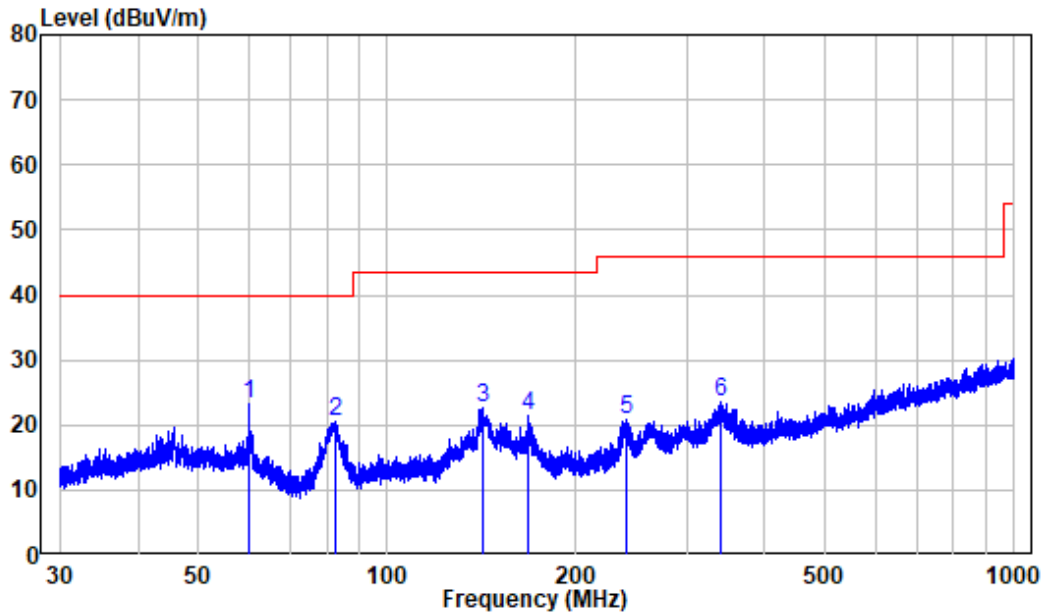
The testing was performed by Leo Li on 2022-05-07.

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Y-axis of orientation was recorded.

30MHz-1GHz:

Test mode 1: Charging for charger box

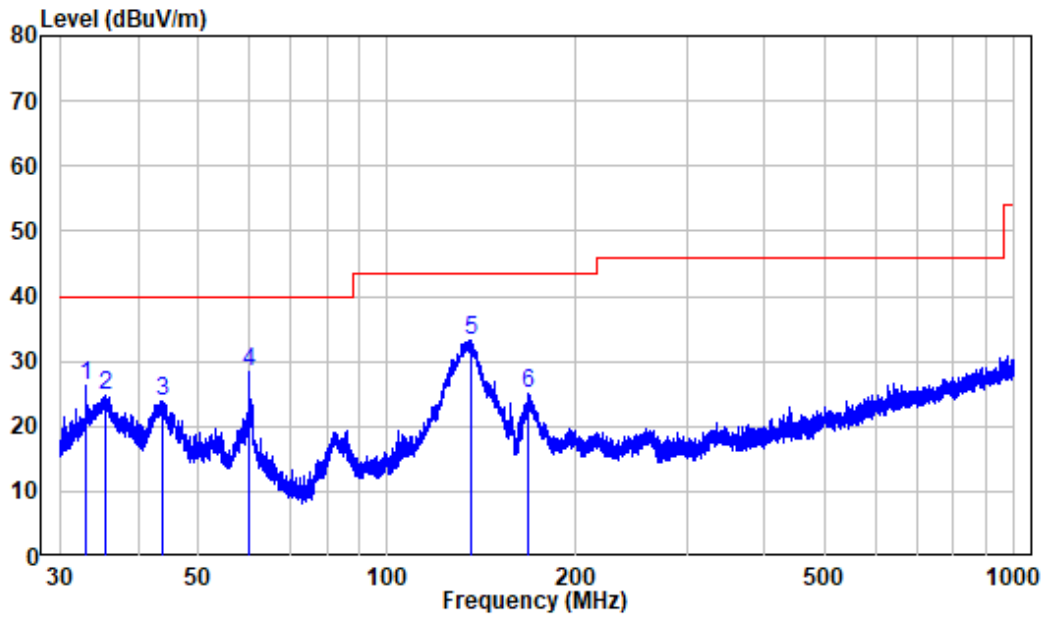
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging for charger box

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	60.227	-10.71	33.88	23.17	40.00	-16.83	Peak
2	82.503	-16.51	37.03	20.52	40.00	-19.48	Peak
3	141.702	-15.53	38.16	22.63	43.50	-20.87	Peak
4	167.530	-13.84	35.38	21.54	43.50	-21.96	Peak
5	240.514	-10.88	31.80	20.92	46.00	-25.08	Peak
6	341.380	-7.36	30.85	23.49	46.00	-22.51	Peak

Vertical

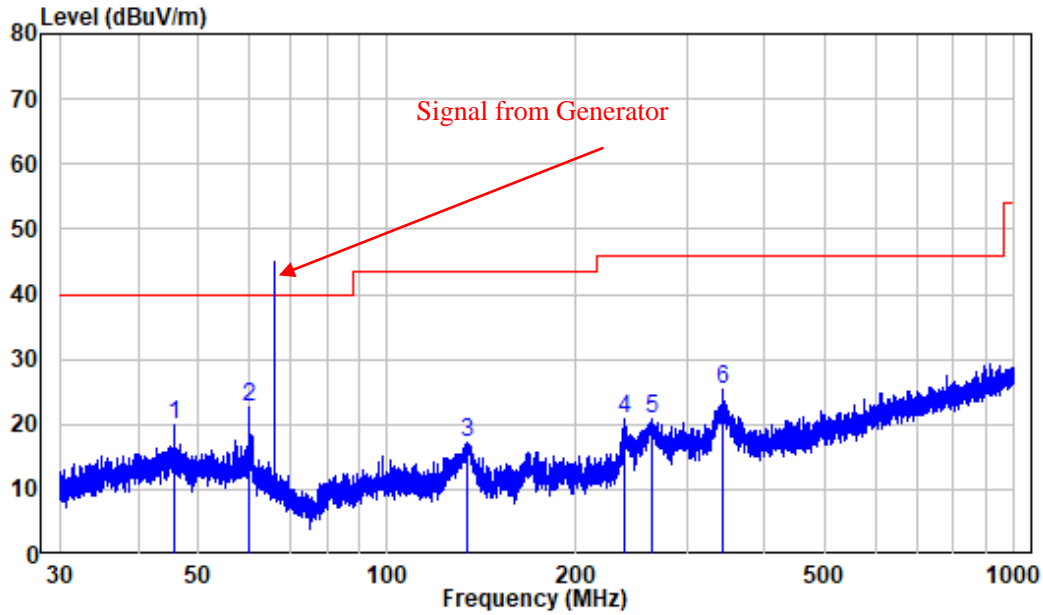


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging for charger box

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	33.109	-11.99	38.16	26.17	40.00	-13.83	Peak
2	35.391	-11.41	36.08	24.67	40.00	-15.33	Peak
3	43.735	-9.91	33.80	23.89	40.00	-16.11	Peak
4	60.201	-10.70	39.18	28.48	40.00	-11.52	Peak
5	135.804	-15.06	48.36	33.30	43.50	-10.20	Peak
6	168.045	-13.78	38.87	25.09	43.50	-18.41	Peak

Test mode 2: Charging +Receiver at FM 66MHz

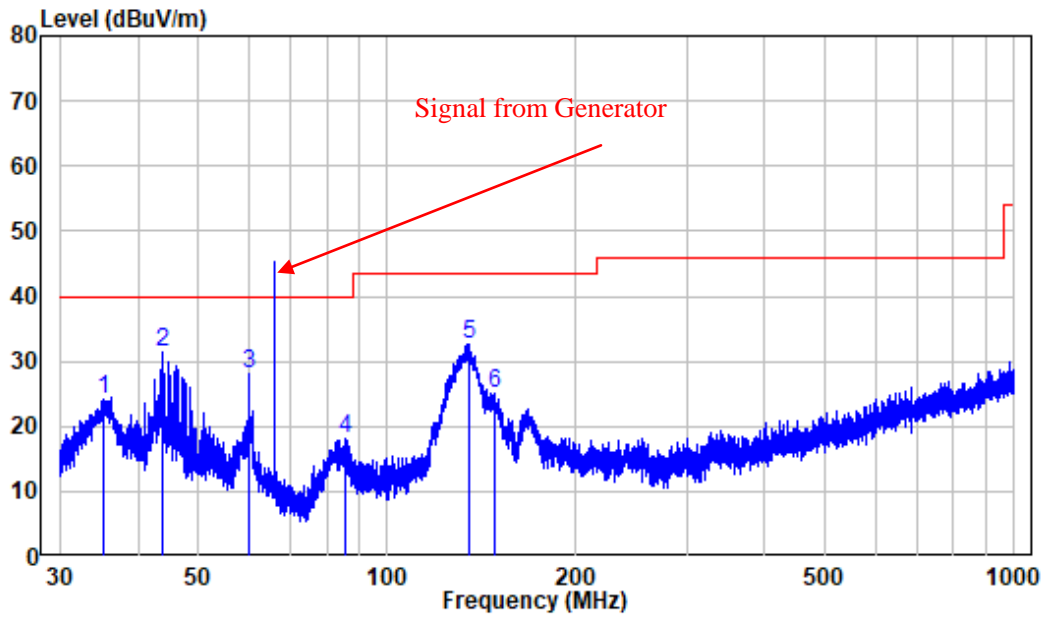
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 66MHZ

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB/m	dBuV	dBuV/m	dBuV/m			
1	45.715	-9.98	29.89	19.91	40.00	-20.09	Peak
2	60.227	-10.71	33.35	22.64	40.00	-17.36	Peak
3	134.382	-14.99	32.16	17.17	43.50	-26.33	Peak
4	239.672	-10.92	31.82	20.90	46.00	-25.10	Peak
5	264.862	-10.46	31.29	20.83	46.00	-25.17	Peak
6	342.279	-7.34	32.78	25.44	46.00	-20.56	Peak

Vertical

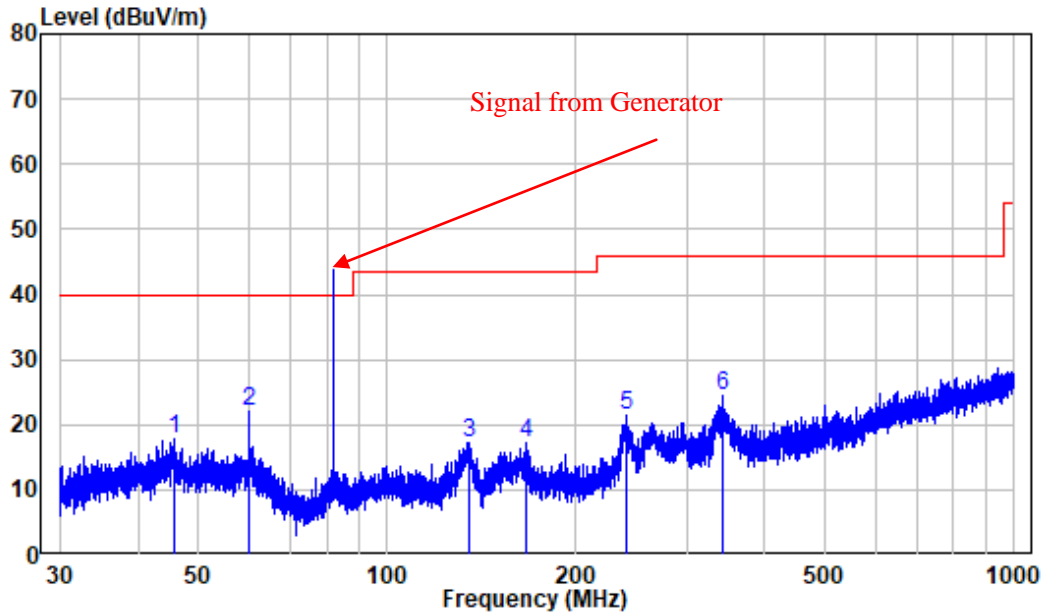


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 66MHZ

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB/m	dBuV	dBuV/m	dBuV/m			
1	35.282	-11.45	35.61	24.16	40.00	-15.84	Peak
2	43.774	-9.91	41.26	31.35	40.00	-8.65	Peak
3	60.227	-10.71	38.67	27.96	40.00	-12.04	Peak
4	85.523	-15.41	33.66	18.25	40.00	-21.75	Peak
5	134.677	-15.00	47.54	32.54	43.50	-10.96	Peak
6	148.571	-15.35	40.26	24.91	43.50	-18.59	Peak

Test mode 3: Charging +Receiver at FM 82MHz

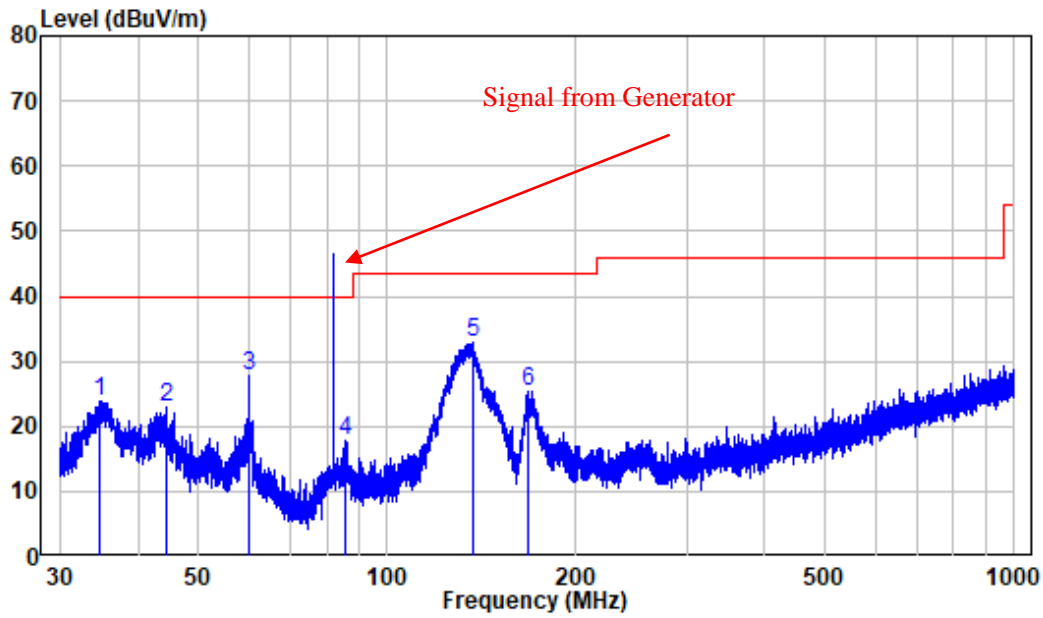
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 82MHZ

	Freq	Factor	Read Level	Limit Level	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB
1	45.555	-9.97	27.77	17.80	40.00	-22.20 Peak
2	60.201	-10.70	32.78	22.08	40.00	-17.92 Peak
3	134.677	-15.00	32.21	17.21	43.50	-26.29 Peak
4	166.432	-13.94	31.25	17.31	43.50	-26.19 Peak
5	239.882	-10.91	32.23	21.32	46.00	-24.68 Peak
6	343.782	-7.27	31.70	24.43	46.00	-21.57 Peak

Vertical

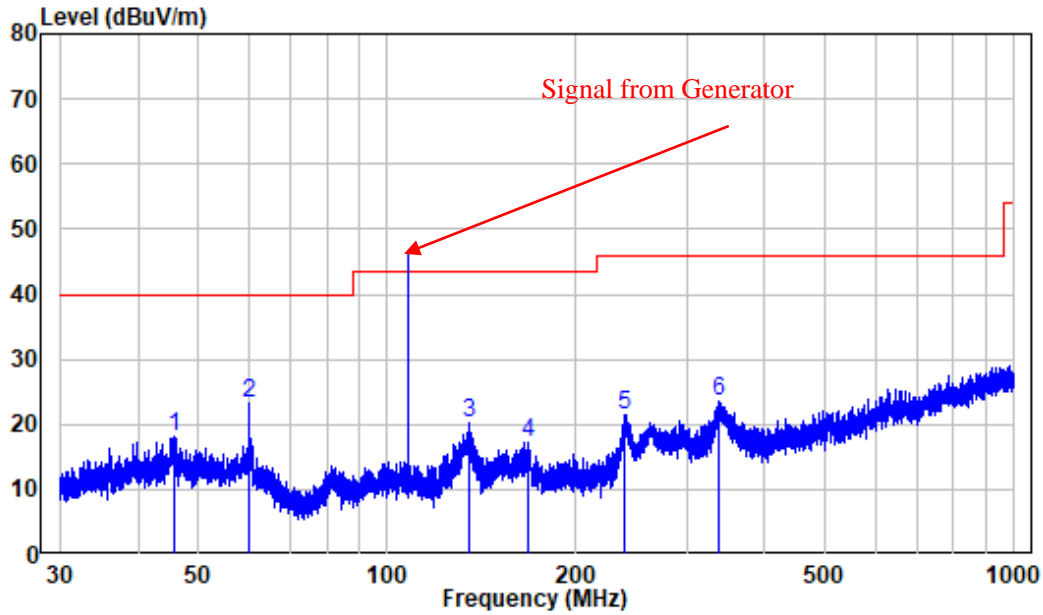


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 82MHZ

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB/m	dBuV	dBuV/m	dBuV/m			
1	34.639	-11.66	35.55	23.89	40.00	-16.11	Peak
2	44.295	-9.91	32.91	23.00	40.00	-17.00	Peak
3	60.227	-10.71	38.35	27.64	40.00	-12.36	Peak
4	85.448	-15.44	33.22	17.78	40.00	-22.22	Peak
5	136.580	-15.16	47.99	32.83	43.50	-10.67	Peak
6	168.119	-13.77	39.28	25.51	43.50	-17.99	Peak

Test mode 4: Charging + Receiver at FM 108MHz

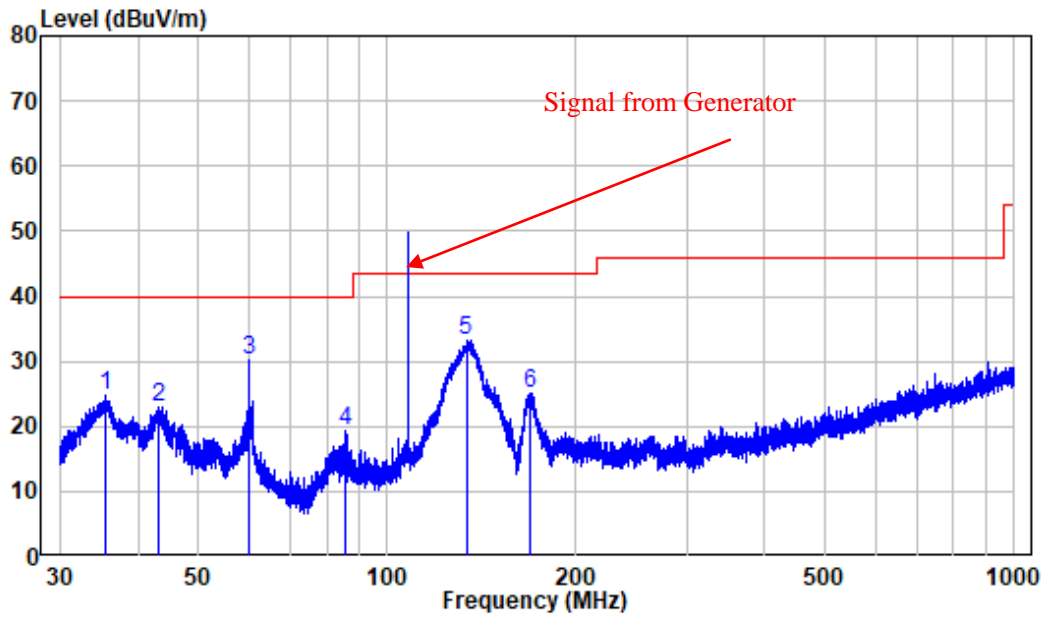
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 108MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	45.695	-9.97	27.98	18.01	40.00	-21.99	Peak
2	60.201	-10.70	33.92	23.22	40.00	-16.78	Peak
3	135.210	-15.03	35.27	20.24	43.50	-23.26	Peak
4	167.530	-13.84	31.17	17.33	43.50	-26.17	Peak
5	238.624	-10.92	32.42	21.50	46.00	-24.50	Peak
6	337.511	-7.52	30.93	23.41	46.00	-22.59	Peak

Vertical

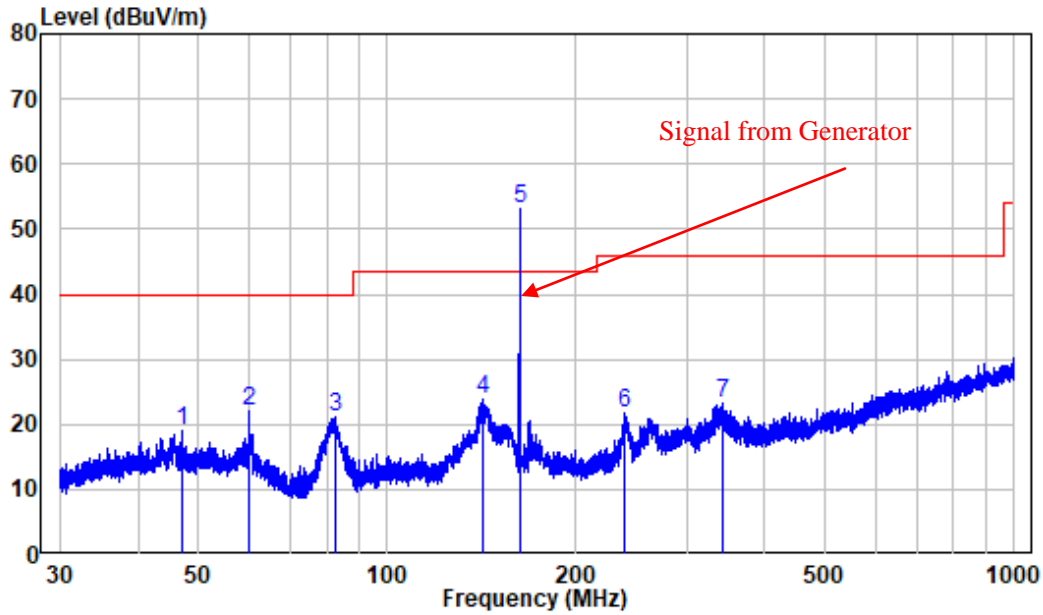


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 108MHZ

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB/m	dBuV	dBuV/m	dBuV/m			
1	35.515	-11.37	36.01	24.64	40.00	-15.36	Peak
2	43.088	-9.96	32.96	23.00	40.00	-17.00	Peak
3	60.227	-10.71	40.80	30.09	40.00	-9.91	Peak
4	85.448	-15.44	34.74	19.30	40.00	-20.70	Peak
5	133.560	-14.98	48.33	33.35	43.50	-10.15	Peak
6	168.562	-13.72	38.84	25.12	43.50	-18.38	Peak

Test mode 5: Charging +NOAA Receiving at 162.4750MHz

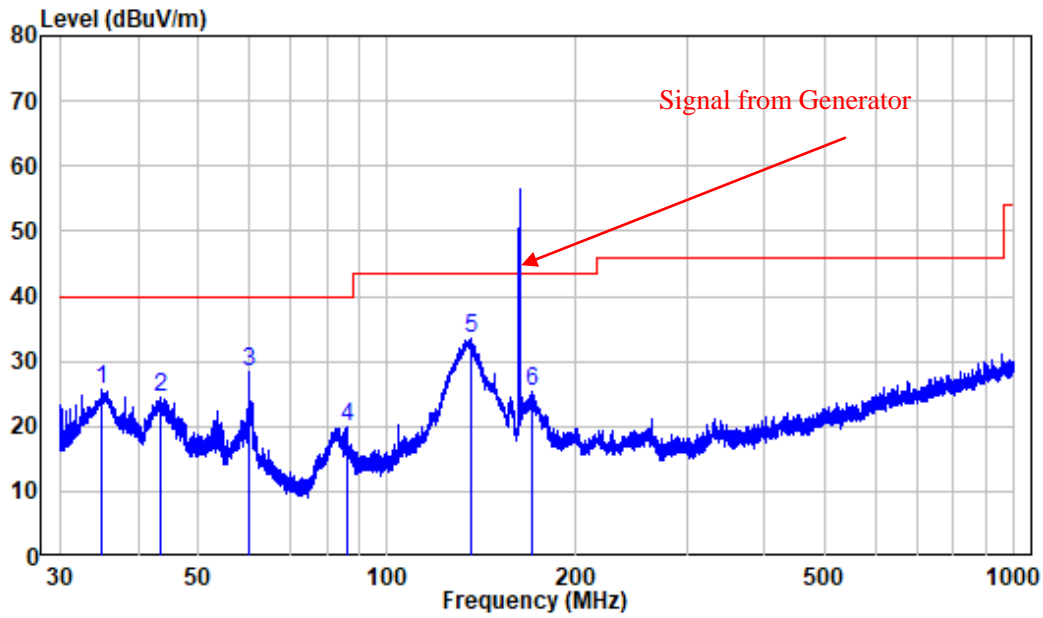
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+NOAA Receiving at 162.4750MHZ

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	47.119	-10.00	28.95	18.95	40.00	-21.05	Peak
2	60.201	-10.70	32.83	22.13	40.00	-17.87	Peak
3	82.395	-16.54	37.75	21.21	40.00	-18.79	Peak
4	141.888	-15.53	39.25	23.72	43.50	-19.78	Peak
5	162.753	-14.29	67.51	53.22	43.50	9.72	Peak
6	238.519	-10.92	32.61	21.69	46.00	-24.31	Peak
7	341.979	-7.35	30.51	23.16	46.00	-22.84	Peak

Vertical



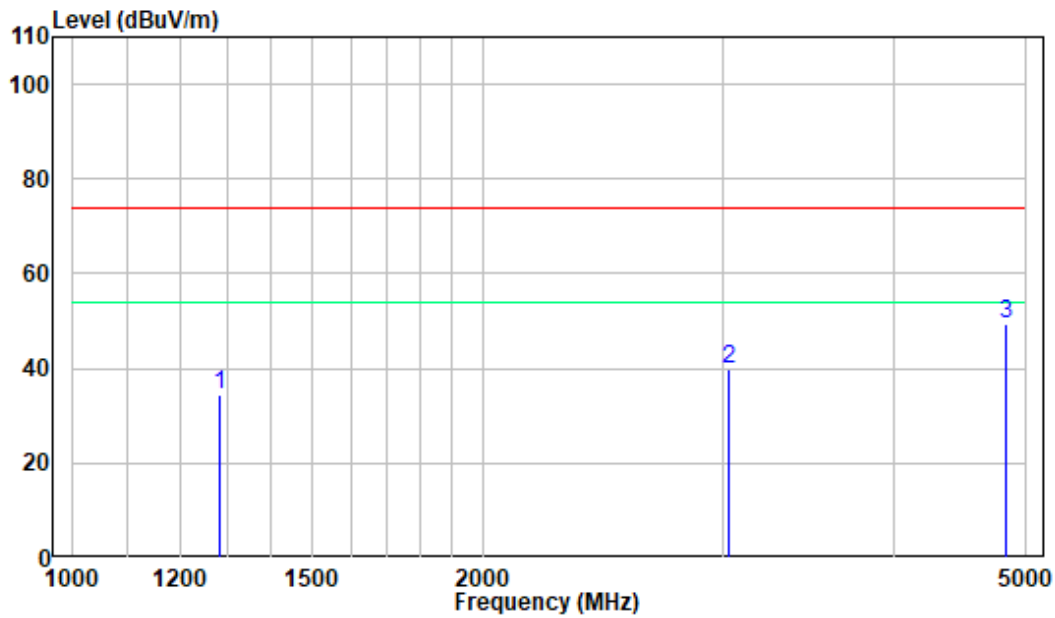
Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+NOAA Receiving at 162.4750MHZ

	Read	Limit	Over				
Freq	Factor	Level	Level	Line			
MHz	dB/m	dBuV	dBuV/m	dBuV/m			
1	35.020	-11.53	37.16	25.63	40.00	-14.37	Peak
2	43.430	-9.93	34.51	24.58	40.00	-15.42	Peak
3	60.201	-10.70	39.19	28.49	40.00	-11.51	Peak
4	86.049	-15.19	35.04	19.85	40.00	-20.15	Peak
5	136.340	-15.12	48.53	33.41	43.50	-10.09	Peak
6	170.493	-13.53	38.91	25.38	43.50	-18.12	Peak

Above 1 GHz:

Test mode 1: Charging for charger box

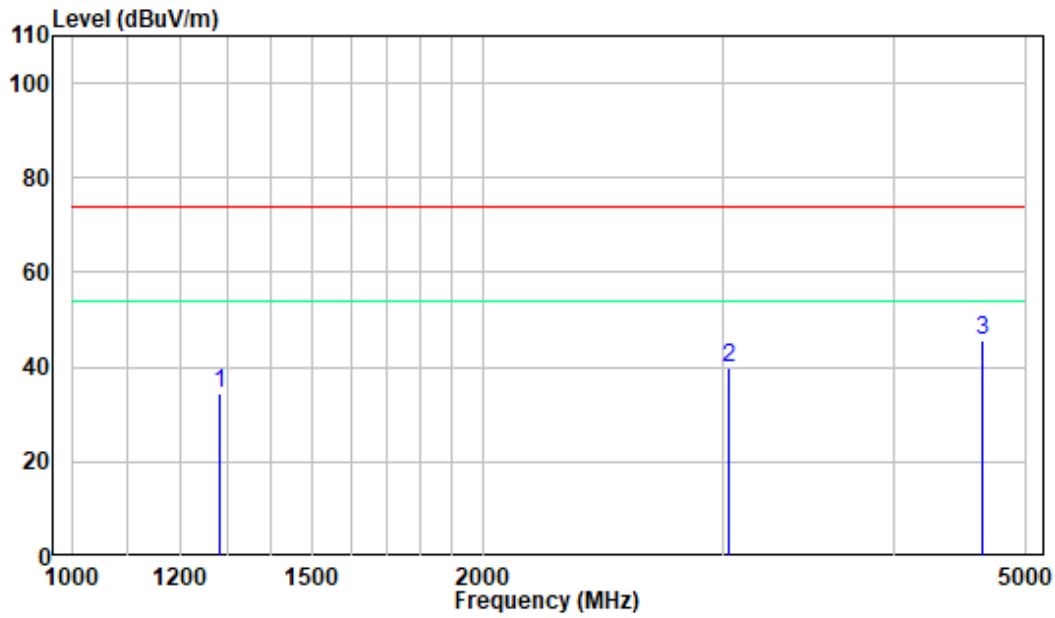
Horizontal:



Site : chamber
 Condition: 3m Horizontal
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging for charger box

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1284.750	-10.18	44.46	34.28	74.00	-39.72	Peak
2	3026.188	-5.83	45.67	39.84	74.00	-34.16	Peak
3	4828.875	-3.53	52.95	49.42	74.00	-24.58	Peak

Vertical

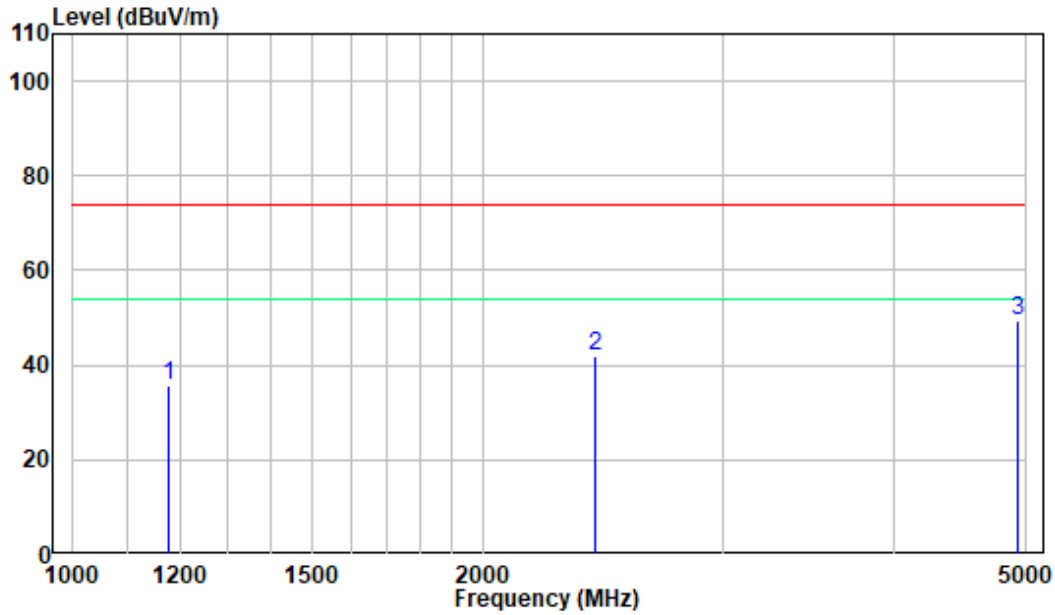


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging for charger box

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1284.750	-10.18	44.46	34.28	74.00	-39.72	Peak
2	3026.188	-5.83	45.67	39.84	74.00	-34.16	Peak
3	4641.000	-4.17	49.73	45.56	74.00	-28.44	Peak

Test mode 2: Charging +Receiver at FM 66MHz

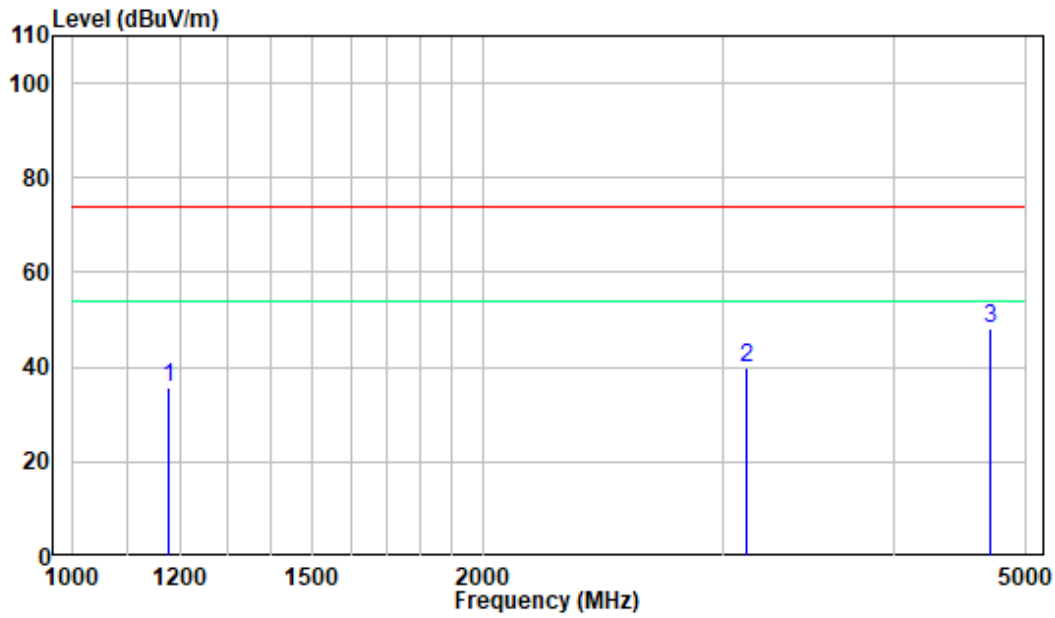
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 66MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1177.438	-10.27	45.99	35.72	74.00	-38.28	Peak
2	2415.250	-7.22	49.24	42.02	74.00	-31.98	Peak
3	4922.375	-3.17	52.48	49.31	74.00	-24.69	Peak

Vertical

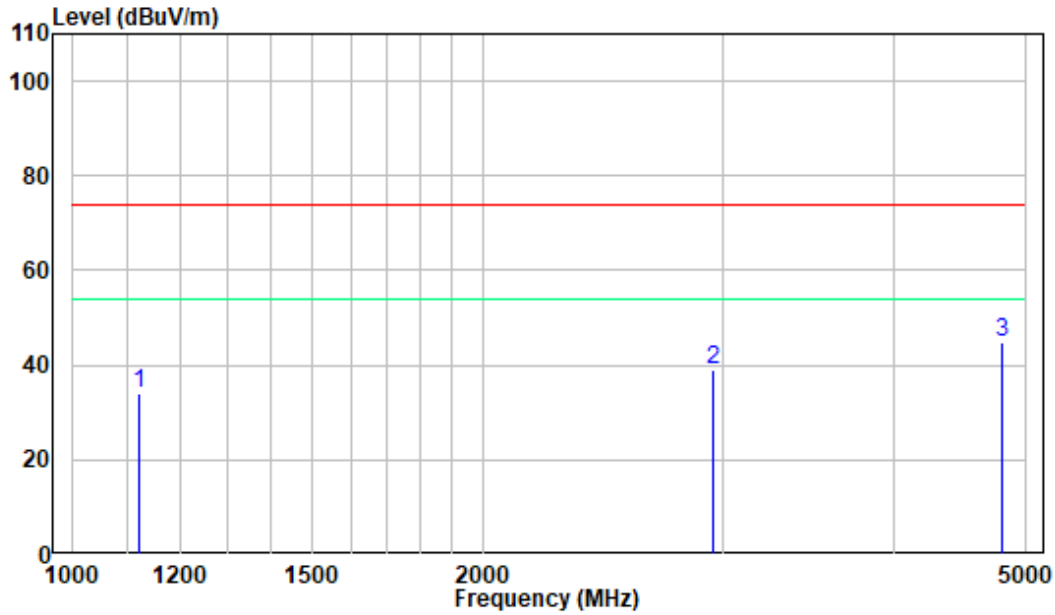


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 66MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1177.438	-10.27	45.99	35.72	74.00	-38.28	Peak
2	3120.750	-5.86	45.85	39.99	74.00	-34.01	Peak
3	4703.500	-3.97	51.94	47.97	74.00	-26.03	Peak

Test mode 3: Charging +Receiver at FM 82MHz

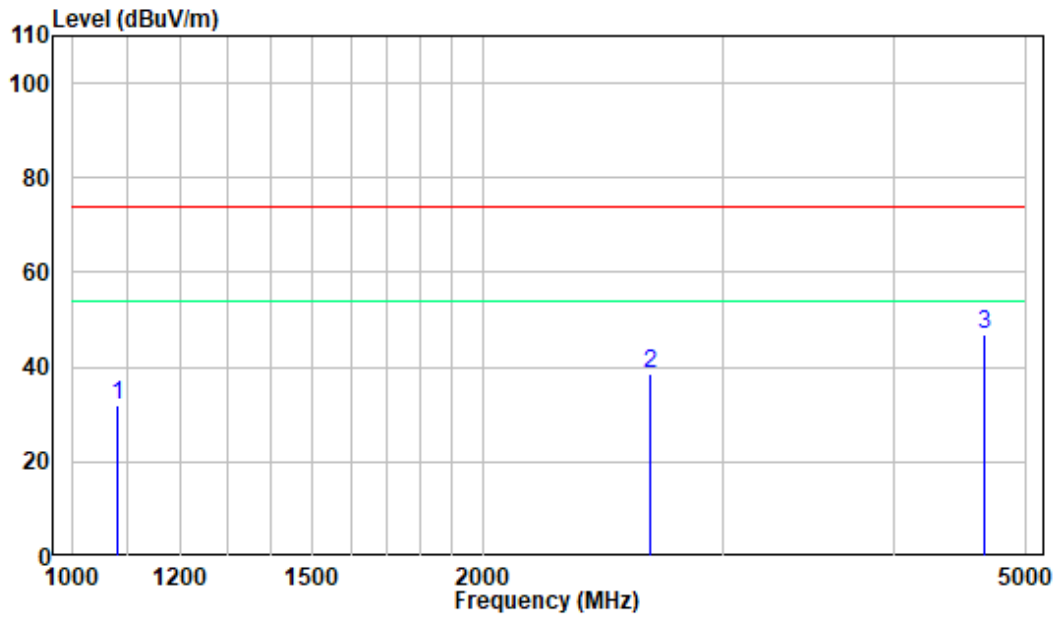
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 82MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1120.063	-10.35	44.20	33.85	74.00	-40.15	Peak
2	2948.625	-5.95	45.13	39.18	74.00	-34.82	Peak
3	4803.313	-3.52	48.49	44.97	74.00	-29.03	Peak

Vertical

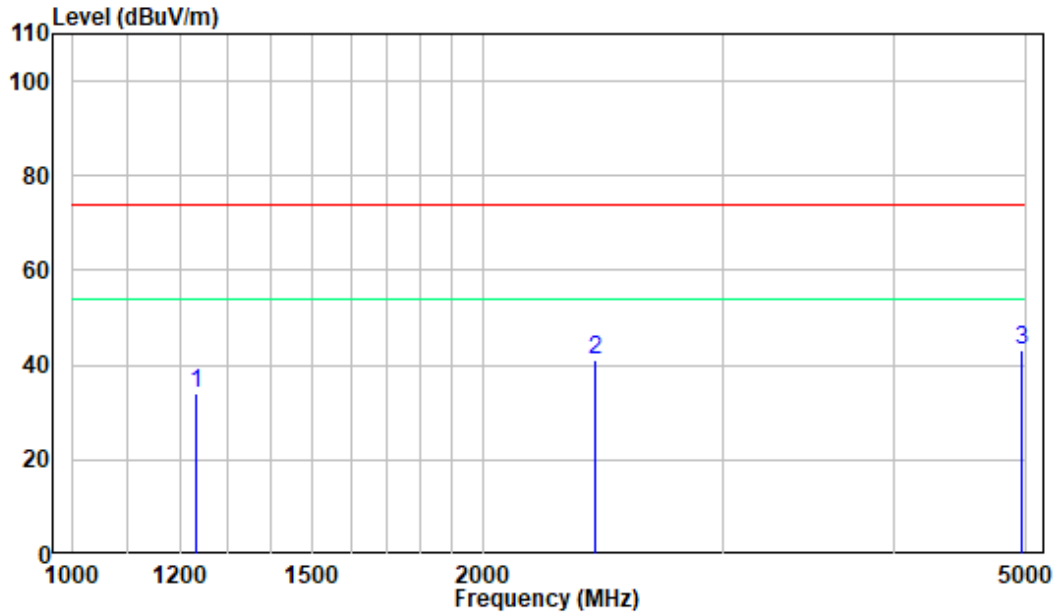


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 82MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1079.688	-10.41	42.47	32.06	74.00	-41.94	Peak
2	2655.188	-6.80	45.34	38.54	74.00	-35.46	Peak
3	4656.563	-4.12	50.91	46.79	74.00	-27.21	Peak

Test mode 4: Charging + Receiver at FM 108MHz

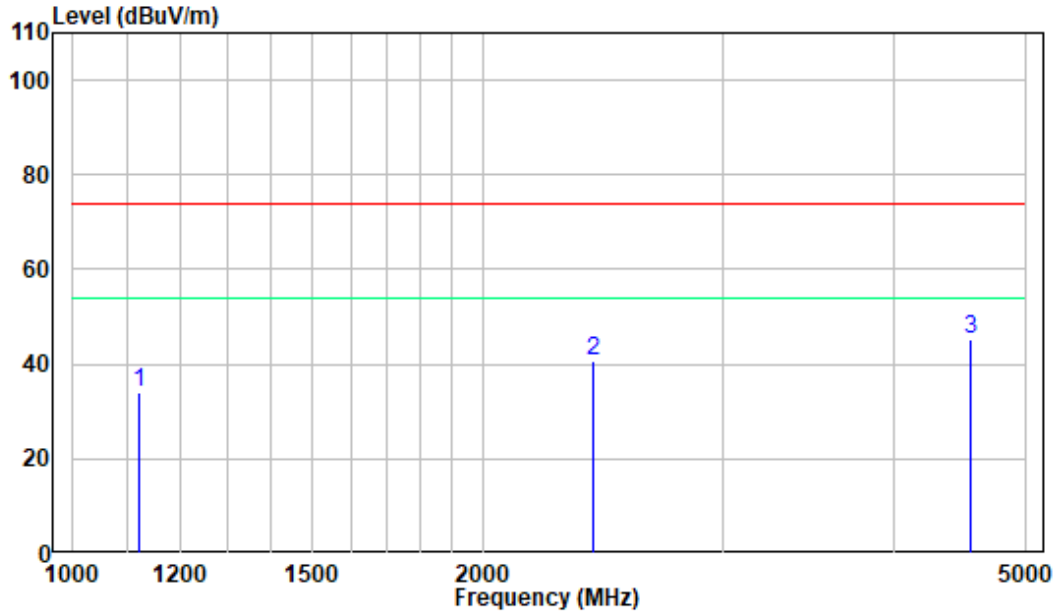
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 108MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1233.750	-10.15	44.06	33.91	74.00	-40.09	Peak
2	2414.188	-7.23	48.53	41.30	74.00	-32.70	Peak
3	4957.813	-3.01	46.00	42.99	74.00	-31.01	Peak

Vertical

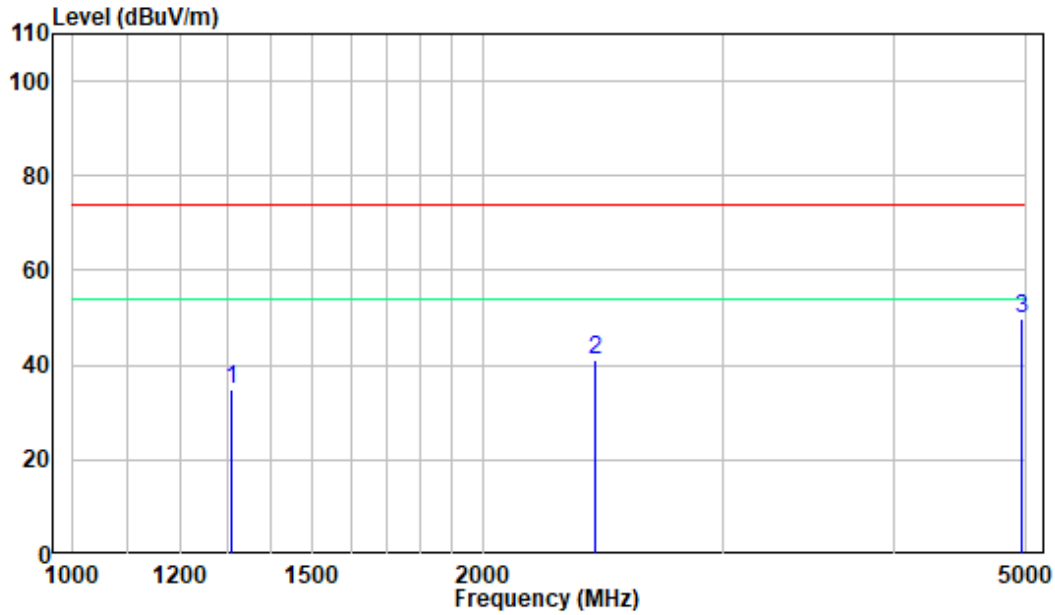


Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+Receiver at FM 108MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1120.063	-10.35	44.20	33.85	74.00	-40.15	Peak
2	2413.125	-7.23	47.80	40.57	74.00	-33.43	Peak
3	4558.563	-4.50	49.80	45.30	74.00	-28.70	Peak

Test mode 5: Charging +NOAA Receiving at 162.4750MHz

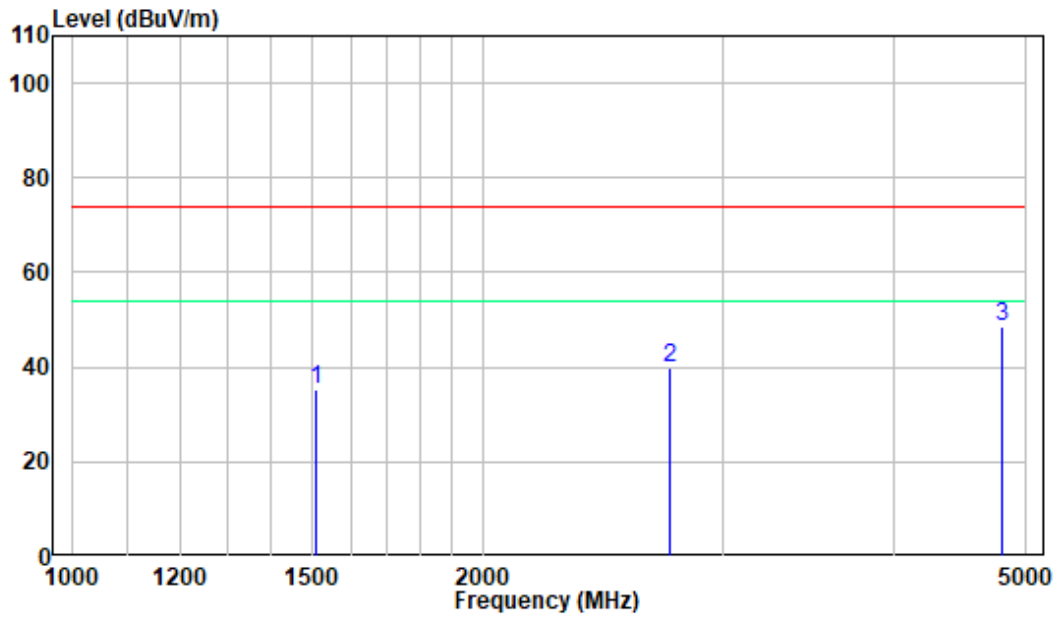
Horizontal:



Site : chamber
 Condition: 3m HORIZONTAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+NOAA Receiving at 162.4750MHz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1311.313	-10.16	45.08	34.92	74.00	-39.08	Peak
2	2414.188	-7.23	48.53	41.30	74.00	-32.70	Peak
3	4968.063	-2.98	52.72	49.74	74.00	-24.26	Peak

Vertical



Site : chamber
 Condition: 3m VERTICAL
 Job No. : XMTN1220429-17465E-RF
 Test Mode: Charging+NOAA Receiving at 162.4750MHZ

	Freq	Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	1511.063	-9.49	44.63	35.14	74.00	-38.86	Peak
2	2744.438	-6.61	46.65	40.04	74.00	-33.96	Peak
3	4802.313	-3.52	51.89	48.37	74.00	-25.63	Peak

FCC §15.111 - ANTENNA CONDUCTED POWER FOR RECEIVERS

Applicable Standard

FCC §15.111

Limit

The antenna conducted power of the receiver as defined in §15.111 shall not exceed the values given in the following tables

Frequency Range	Limit
9 kHz to 5 GHz	2.0 nW (-57 dBm)

EUT Setup



Test Procedure

1. The receiver antenna terminal connected to a spectrum analyzer.
2. The test data of the worst case condition (mode 2) was reported on the following Data page.

Test Data

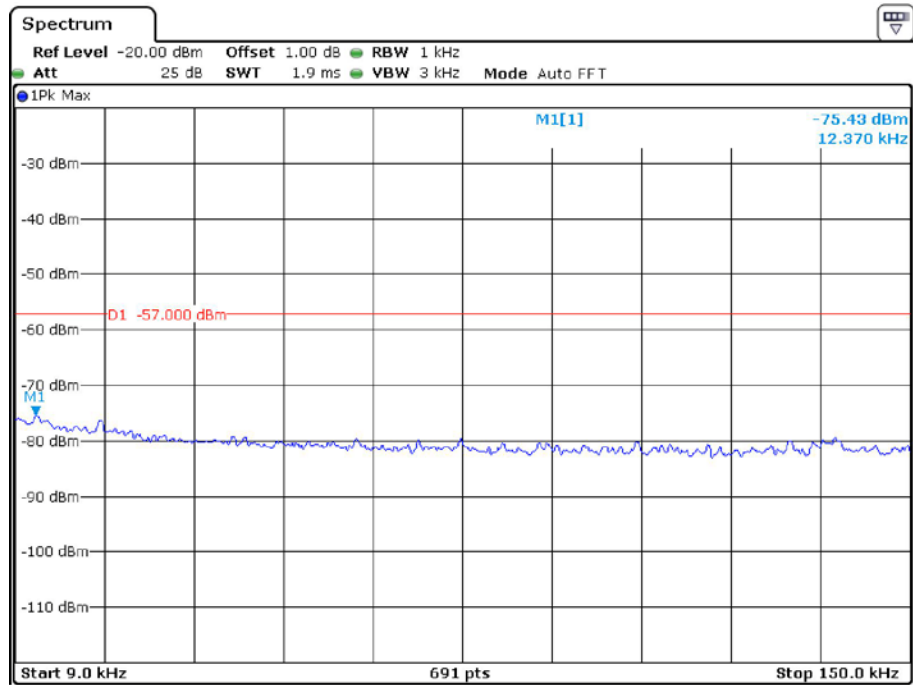
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	54 %
ATM Pressure:	101.0 kPa

The testing was performed by Jeff Jiang on 2022-06-13.

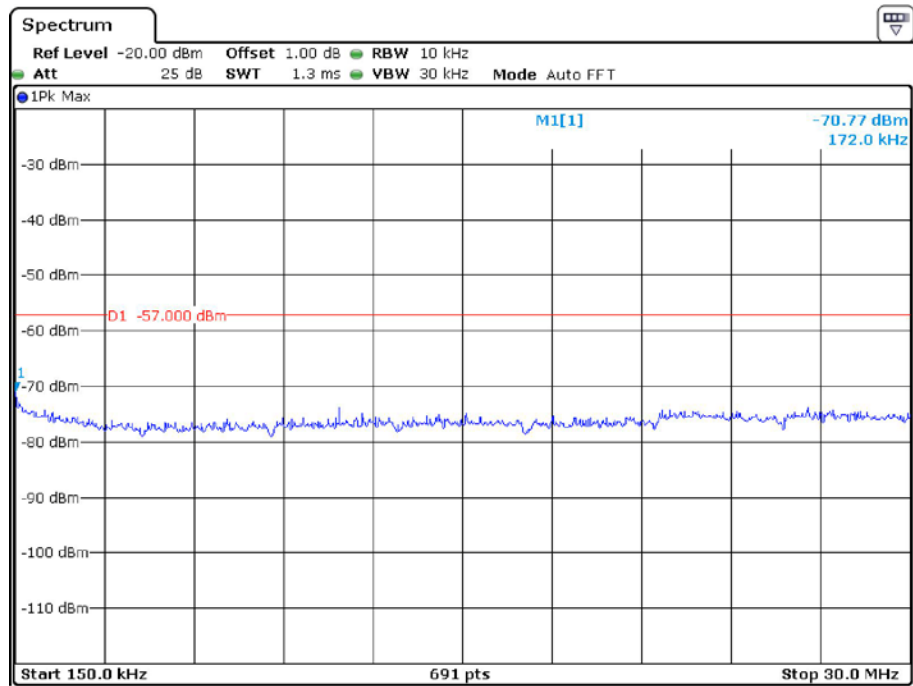
Worst case for Test mode 3:

Conducted Measurement (9 kHz to 150 kHz)



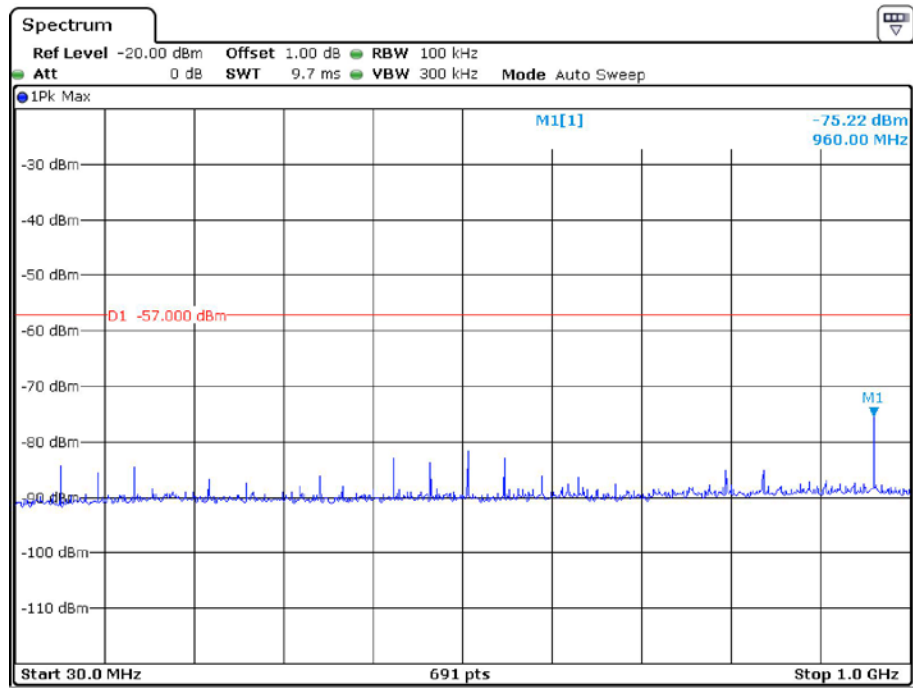
Date: 13.JUN.2022 04:09:37

Conducted Measurement (150 kHz to 30MHz)



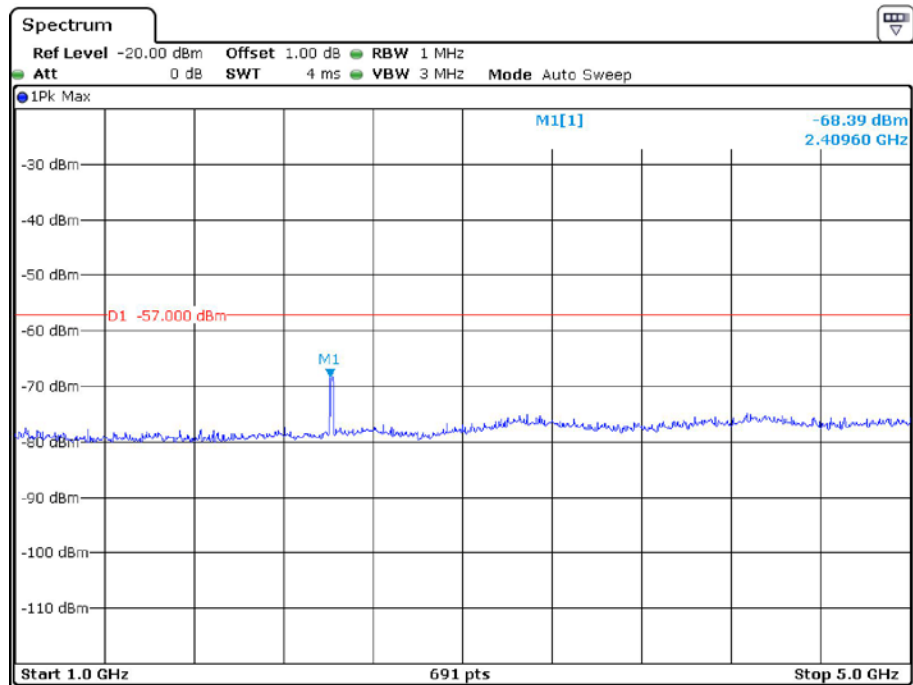
Date: 13.JUN.2022 04:12:29

Conducted Measurement (30MHz to 1GHz)



Date: 13.JUN.2022 04:22:32

Conducted Measurement (1GHz to 5GHz)



Date: 13.JUN.2022 04:27:02

*****END OF REPORT*****