

FCC TEST REPORT

Client Name : DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD

Address : No.2 Jiangxing Rd., Huangjiang Village, Huangjiang Town, Dongguan City, Guangdong Province, China

Product Name : 2.4G Wireless Mouse

Date : Mar. 07, 2022



Shenzhen Anbotech Compliance Laboratory Limited



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TEST REPORT

Applicant : DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD
Manufacturer : DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD
Product Name : 2.4G Wireless Mouse
Model No. : M105, YC-JY201, YC-JY201A, YC-YJ201B, YC-JY202, YC-JY203
Trade Mark : N.A.
Rating(s) : Input: DC 5V, 500mA(with DC 3.7V,650mAh battery inside)

Test Standard(s) : FCC Part15 Subpart C, Paragraph 15.249

Test Method(s) : ANSI C63.10: 2020

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited.

Date of Receipt

Feb. 26, 2022

Date of Test

Feb. 26~Mar. 04, 2022

Prepared by

Nian xiu Chen

(Nianxiu Chen)

Approved & Authorized Signer

Kingkong Jin

(Kingkong Jin)

1. General Information

1.1. Client Information

Applicant	:	DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD
Address	:	No.2 Jiangxing Rd., Huangjiang Village, Huangjiang Town, Dongguan City, Guangdong Province, China
Manufacturer	:	DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD
Address	:	No.2 Jiangxing Rd., Huangjiang Village, Huangjiang Town, Dongguan City, Guangdong Province, China
Factory	:	DONGGUAN KIMYAN ELECTRONICS TECHNOLOGY CO.,LTD
Address	:	No.2 Jiangxing Rd., Huangjiang Village, Huangjiang Town, Dongguan City, Guangdong Province, China

1.2. Description of Device (EUT)

Product Name	:	2.4G Wireless Mouse	
Model No.	:	M105, YC-JY201, YC-JY201A, YC-YJ201B, YC-JY202, YC-JY203 (Note: All samples are the same except the model number, so we prepare "M105" for test only.)	
Trade Mark	:	N.A.	
Test Power Supply	:	AC 120V, 60Hz for Adapter/ AC 240V, 60Hz for Adapter/ DC 3.7V Battery inside	
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)	
Product Description	:	Operation Frequency:	2408~2474MHZ
		Number of Channel:	34 Channels
		Modulation Type:	FSK
		Antenna Type:	PCB Antenna
		Antenna Gain(Peak):	-0.61dBi
		Adapter:	N/A
Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2) This report is for SRD module.			

1.3. Auxiliary Equipment Used During Test

Adapter	:	M/N: A2023 Input: AC 100-240V, 0.7A, 50-60Hz USB1 Output: DC 5V, 2.4A USB2 Output: DC 5V, 2.4A
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1.4. Description of Test Modes

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	CH01
Mode 2	CH17
Mode 3	CH34

For Conducted Emission	
Final Test Mode	Description
Mode 1	CH01
Mode 2	CH17
Mode 3	CH34

For Radiated Emission	
Final Test Mode	Description
Mode 1	CH01
Mode 2	CH17
Mode 3	CH34

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.

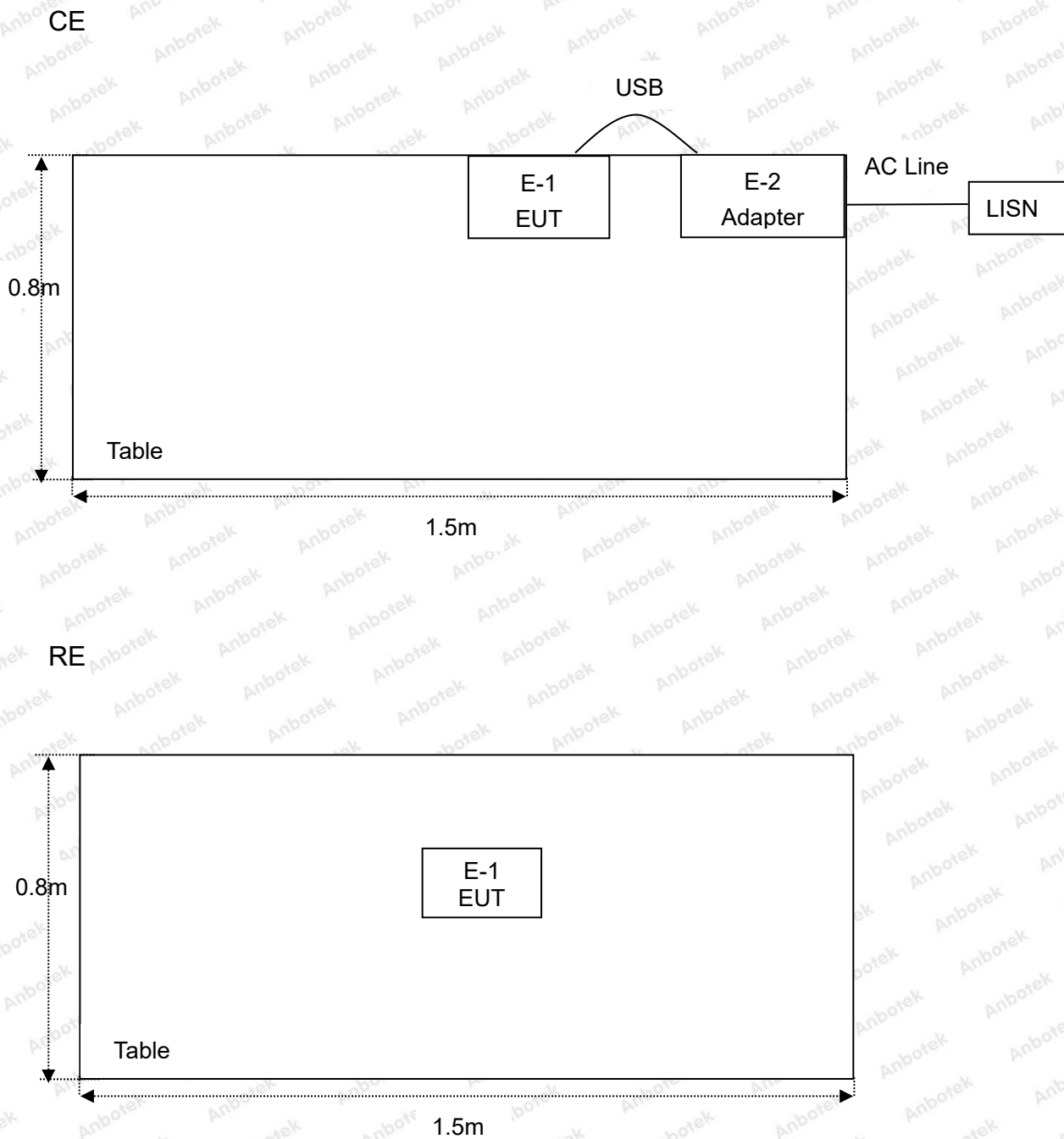


1.5. List of Channels

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2408	08	2422	15	2436	22	2450	29	2464
02	2410	09	2424	16	2438	23	2452	30	2466
03	2412	10	2426	17	2440	24	2454	31	2468
04	2414	11	2428	18	2442	25	2456	32	2470
05	2416	12	2430	19	2444	26	2458	33	2472
06	2418	13	2432	20	2446	27	2460	34	2474
07	2420	14	2434	21	2448	28	2462	/	/



1.6. Description of Test Setup



1.7. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT001	Jul 05, 2021	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 22, 2021	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Oct. 22, 2021	1 Year
4.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Oct. 22, 2021	1 Year
5.	MAX Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 22, 2021	1 Year
6.	Preamplifier	SKET Electronic	BK1G18G30D	KD17503	Oct. 22, 2021	1 Year
7.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Oct. 22, 2021	2 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Oct. 22, 2021	2 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Oct. 22, 2021	2 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Oct. 22, 2021	2 Year
11.	Pre-amplifier	SONOMA	310N	186860	Oct. 22, 2021	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	RF Test Control System	YIHENG	YH3000	2017430	Oct. 22, 2021	1 Year
14.	Power Sensor	DAER	RPR3006W	15I00041SN045	Oct. 22, 2021	1 Year
15.	Power Sensor	DAER	RPR3006W	15I00041SN046	Oct. 22, 2021	1 Year
16.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 22, 2021	1 Year
17.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 22, 2021	1 Year
18.	Signal Generator	Agilent	E4421B	MY41000743	Oct. 22, 2021	1 Year
19.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 22, 2021	1 Year
20.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	Oct. 22, 2021	1 Year



1.8. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4 dB

1.9. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102



2. Summary of Test Results

Standard Section	Test Item	Result
15.203	Antenna Requirement	PASS
15.207	Conducted Emission	PASS
15.249	Radiated Emission	PASS
15.215(c)	20dB Bandwidth	PASS
15.249(c)	Band Edge	PASS
Remark: "N/A" is an abbreviation for Not Applicable.		



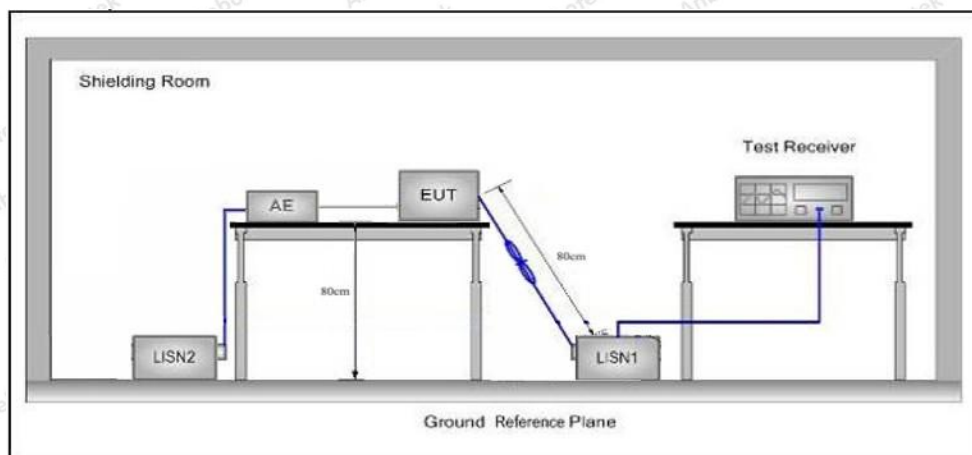
3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50

Remark: (1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequency.

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2020 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

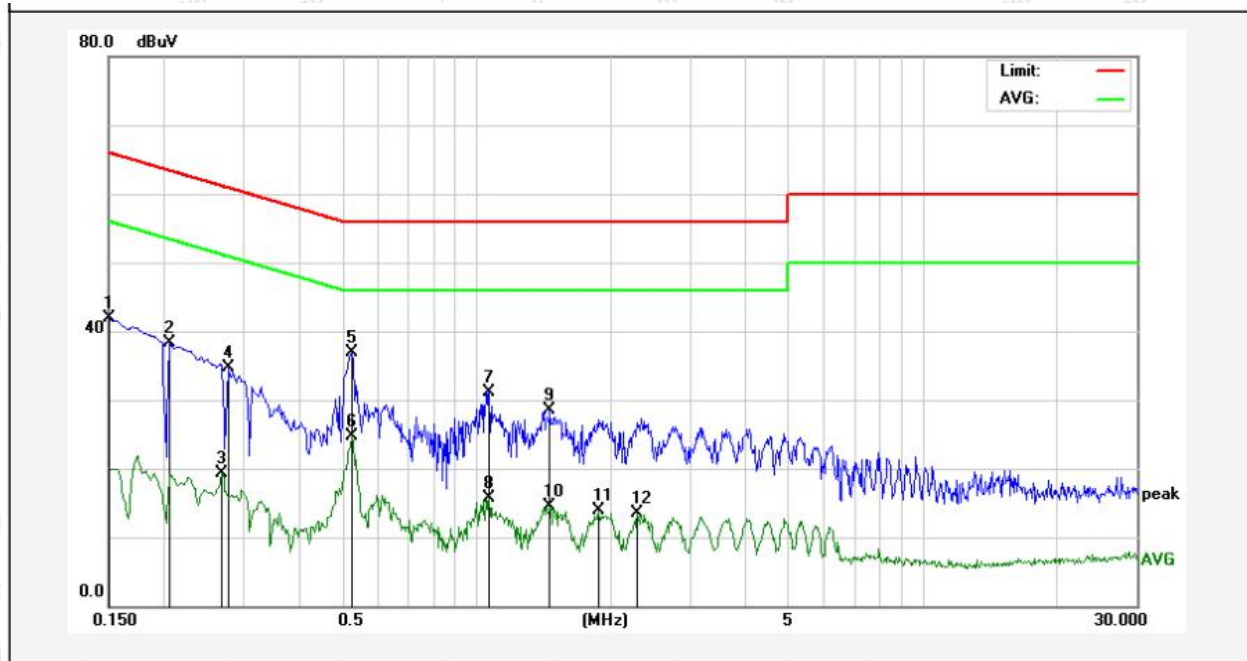
3.4. Test Data

During the test, pre-scan all the modes, only the worst case is recorded in the report.

Please to see the following pages.

Conducted Emission Test Data

Test Site: 1# Shielded Room
 Operating Condition: CH01
 Test Specification: AC 120V, 60Hz for adapter
 Comment: Live Line
 Tem.: 23.1°C Hum.: 49%

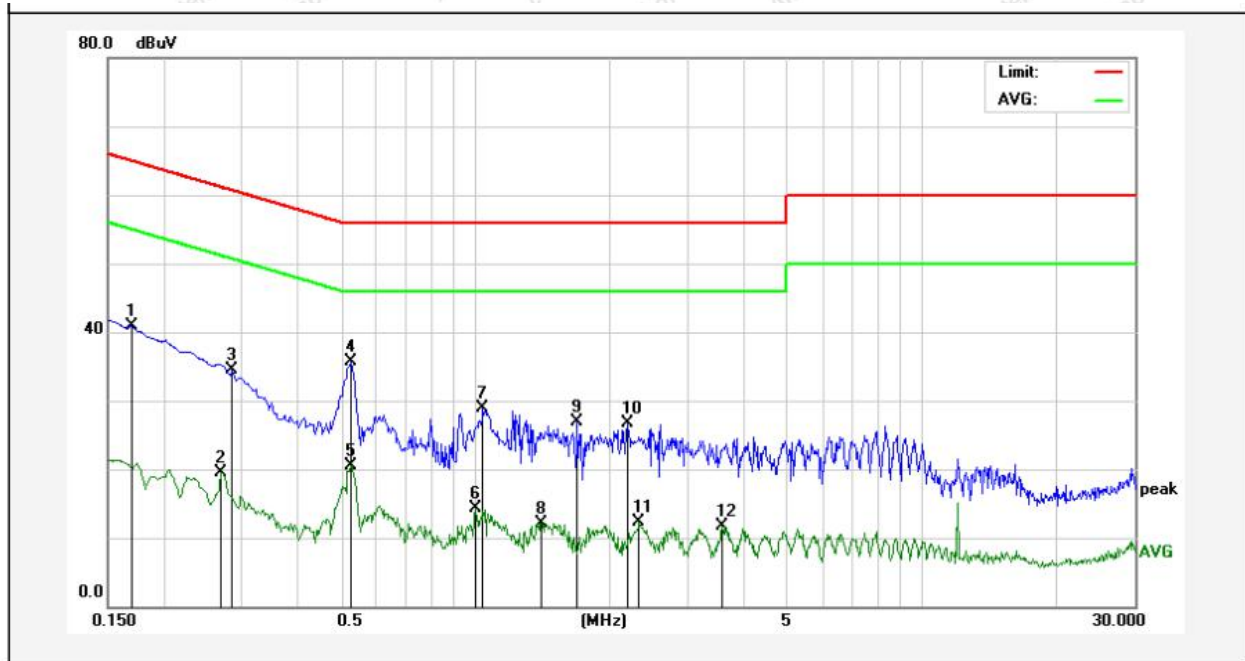


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1499	41.77	0.11	41.88	66.00	-24.12	QP	
2	0.2060	38.09	0.12	38.21	63.36	-25.15	QP	
3	0.2700	19.17	0.13	19.30	51.12	-31.82	AVG	
4	0.2779	34.58	0.13	34.71	60.88	-26.17	QP	
5	0.5260	36.84	0.15	36.99	56.00	-19.01	QP	
6	0.5260	24.65	0.15	24.80	46.00	-21.20	AVG	
7	1.0700	31.02	0.15	31.17	56.00	-24.83	QP	
8	1.0700	15.52	0.15	15.67	46.00	-30.33	AVG	
9	1.4580	28.34	0.14	28.48	56.00	-27.52	QP	
10	1.4580	14.40	0.14	14.54	46.00	-31.46	AVG	
11	1.8740	13.77	0.12	13.89	46.00	-32.11	AVG	
12	2.2940	13.34	0.12	13.46	46.00	-32.54	AVG	



Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: CH01
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.: 23.1°C Hum.: 49%

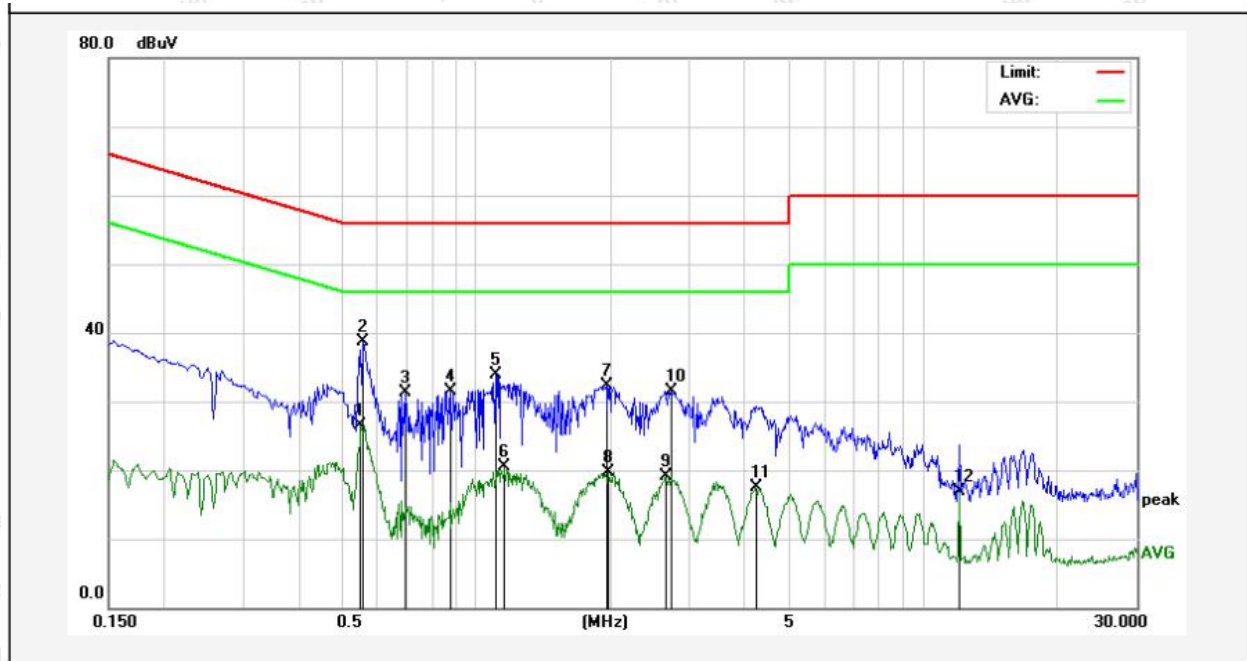


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1700	40.83	0.12	40.95	64.96	-24.01	QP	
2	0.2700	19.33	0.13	19.46	51.12	-31.66	AVG	
3	0.2860	34.44	0.13	34.57	60.64	-26.07	QP	
4	0.5260	35.47	0.15	35.62	56.00	-20.38	QP	
5	0.5260	20.35	0.15	20.50	46.00	-25.50	AVG	
6	1.0020	14.15	0.15	14.30	46.00	-31.70	AVG	
7	1.0420	28.85	0.15	29.00	56.00	-27.00	QP	
8	1.4060	12.06	0.14	12.20	46.00	-33.80	AVG	
9	1.6980	26.70	0.13	26.83	56.00	-29.17	QP	
10	2.1940	26.65	0.12	26.77	56.00	-29.23	QP	
11	2.3300	12.13	0.12	12.25	46.00	-33.75	AVG	
12	3.5780	11.62	0.12	11.74	46.00	-34.26	AVG	



Conducted Emission Test Data

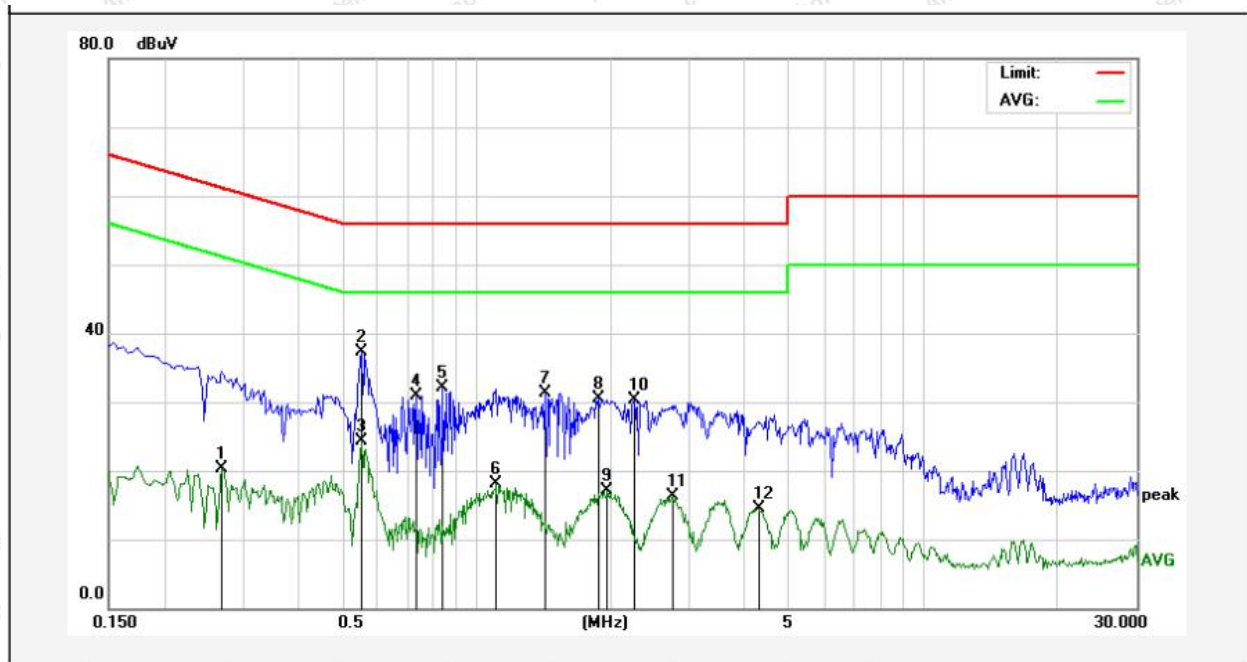
Test Site: 1# Shielded Room
Operating Condition: CH01
Test Specification: AC 240V, 60Hz for adapter
Comment: Live Line
Tem.: 23.1°C Hum.: 49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.5500	26.35	0.15	26.50	46.00	-19.50	AVG	
2	0.5580	38.54	0.15	38.69	56.00	-17.31	QP	
3	0.6900	31.12	0.15	31.27	56.00	-24.73	QP	
4	0.8740	31.42	0.15	31.57	56.00	-24.43	QP	
5	1.1019	33.77	0.15	33.92	56.00	-22.08	QP	
6	1.1539	20.31	0.15	20.46	46.00	-25.54	AVG	
7	1.9580	32.23	0.12	32.35	56.00	-23.65	QP	
8	1.9780	19.64	0.12	19.76	46.00	-26.24	AVG	
9	2.6500	19.02	0.12	19.14	46.00	-26.86	AVG	
10	2.7220	31.33	0.12	31.45	56.00	-24.55	QP	
11	4.2180	17.34	0.11	17.45	46.00	-28.55	AVG	
12	11.9980	16.69	0.14	16.83	50.00	-33.17	AVG	

Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: CH01
Test Specification: AC 240V, 60Hz for adapter
Comment: Neutral Line
Tem.: 23.1°C Hum.: 49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.2700	20.14	0.13	20.27	51.12	-30.85	AVG	
2	0.5540	37.06	0.15	37.21	56.00	-18.79	QP	
3	0.5540	24.16	0.15	24.31	46.00	-21.69	AVG	
4	0.7340	30.81	0.15	30.96	56.00	-25.04	QP	
5	0.8420	32.02	0.15	32.17	56.00	-23.83	QP	
6	1.1100	18.01	0.15	18.16	46.00	-27.84	AVG	
7	1.4220	31.13	0.14	31.27	56.00	-24.73	QP	
8	1.8700	30.42	0.12	30.54	56.00	-25.46	QP	
9	1.9660	17.03	0.12	17.15	46.00	-28.85	AVG	
10	2.2540	30.21	0.12	30.33	56.00	-25.67	QP	
11	2.7420	16.18	0.12	16.30	46.00	-29.70	AVG	
12	4.2899	14.48	0.11	14.59	46.00	-31.41	AVG	



4. Radiated Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209 and 15.205				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	3
	Above 1000MHz	500	54.0	Average	3
		-	74.0	Peak	3

Remark:

(1) The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Standard	FCC Part15 C Section 15.249					
Test Limit	Frequency (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	2400~2483.5	50	-	114.0	Peak	3
	2400~2483.5	50	-	94.0	Average	3
	2400~2483.5	-	500	74.0	Peak	3
	2400~2483.5	-	500	54.0	Average	3

Remark:

(1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

4.2. Test Setup

Figure 1. Below 30MHz

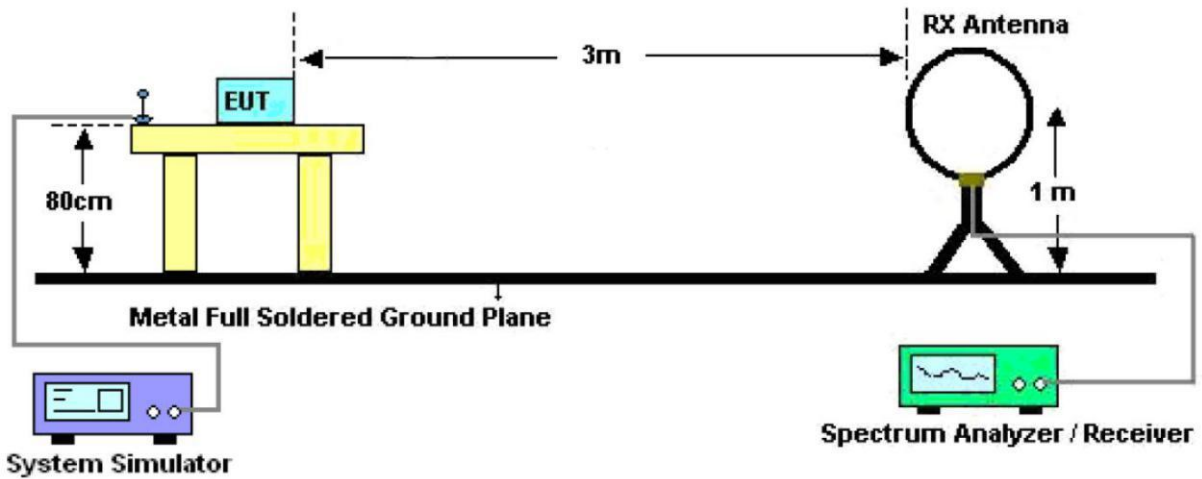


Figure 2. 30MHz to 1GHz

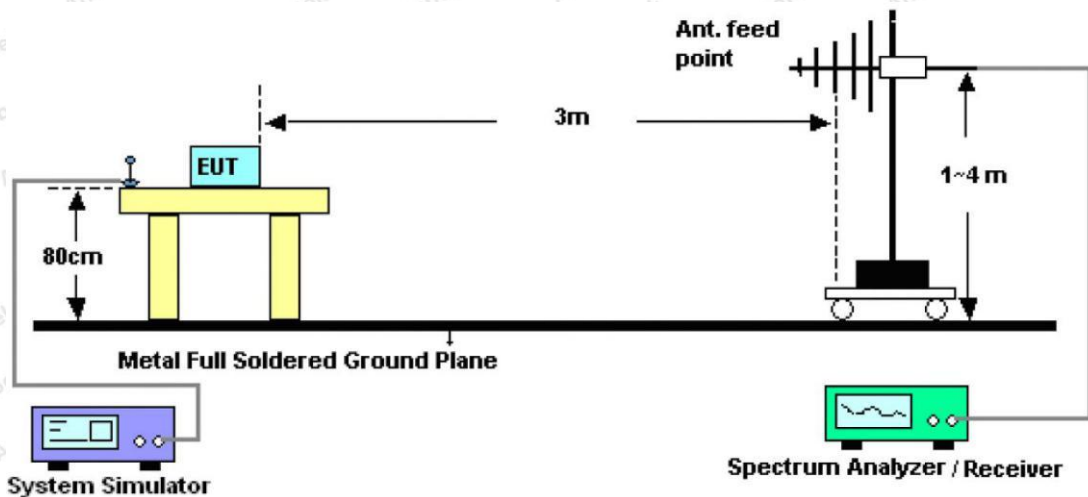
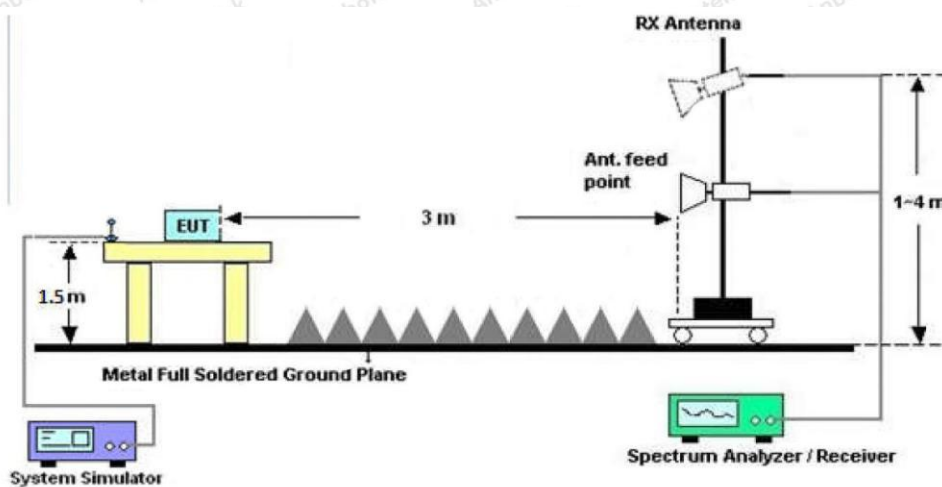


Figure 3. Above 1 GHz



4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector = Quasi-Peak, Trace mode = Max hold, Sweep - auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9kHz, VBW = 30kHz, Detector = Quasi-Peak, Trace mode = Max hold, Sweep - auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector = Quasi-Peak, Trace mode = Max hold, Sweep - auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW = 1MHz, VBW = 1MHz, Detector = Peak, Trace mode = Max hold, Sweep - auto couple.

RBW = 1MHz, VBW = 10Hz, Detector = Average, Trace mode = Max hold, Sweep - auto couple.

4.4. Test Data

PASS

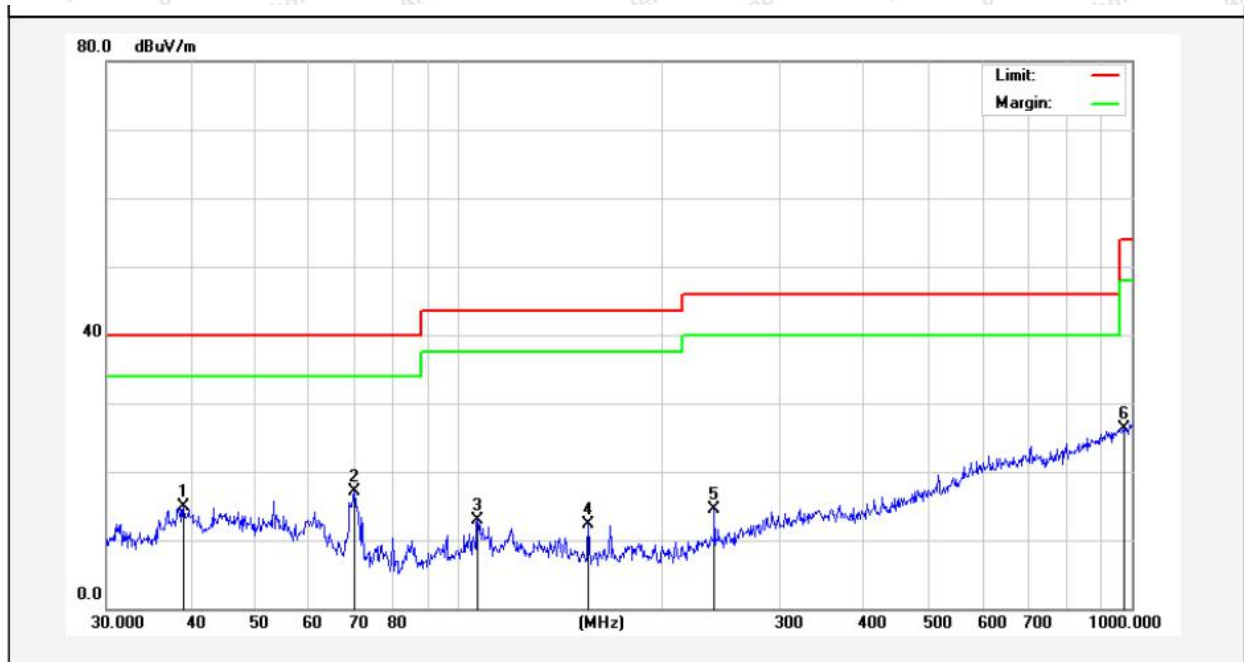
During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all the modes, only the worst case is recorded in the report.

Test Results (30~1000MHz)

Test Mode: CH01
Power Source: DC 3.7V battery inside
Polarization: Vertical
Temp.(°C)/Hum.(%RH): 21.3°C/50%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.0245	29.99	-15.06	14.93	40.00	-25.07	QP			
2	70.0903	37.09	-19.96	17.13	40.00	-22.87	QP			
3	106.7587	30.52	-17.67	12.85	43.50	-30.65	QP			
4	155.9101	34.21	-21.83	12.38	43.50	-31.12	QP			
5	239.9874	32.81	-18.28	14.53	46.00	-31.47	QP			
6	972.3374	31.58	-5.26	26.32	54.00	-27.68	QP			



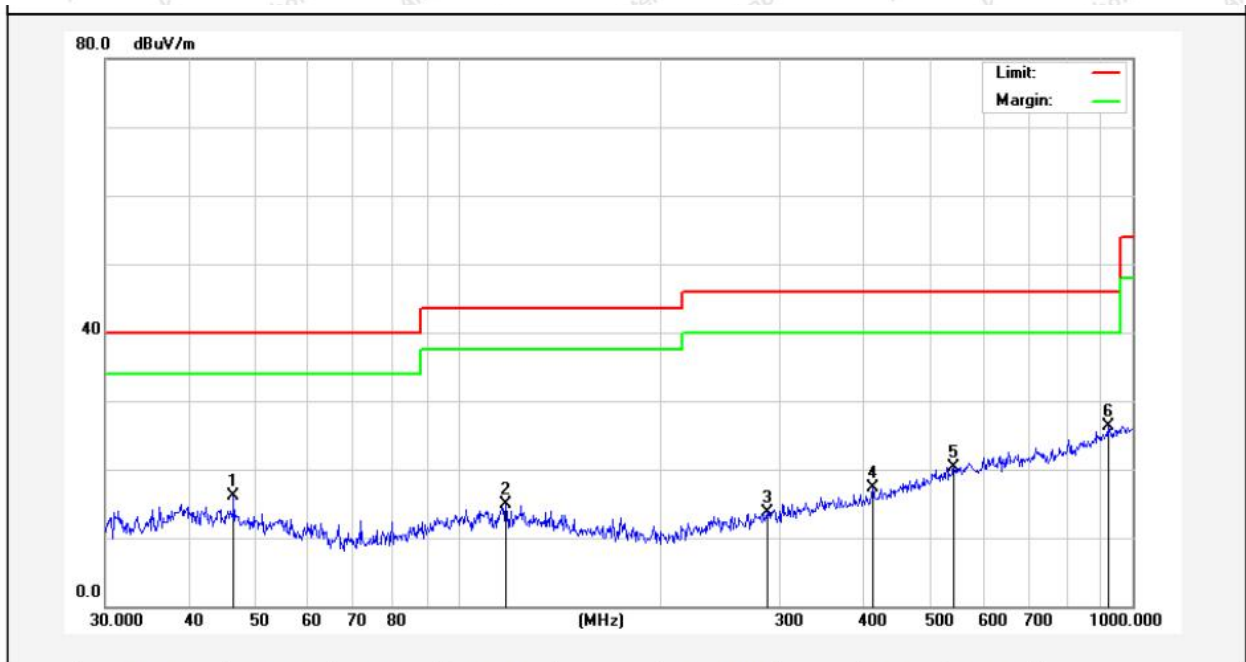
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Test Results (30~1000MHz)

Test Mode: CH01
Power Source: DC 3.7V battery inside
Polarization: Horizontal
Temp.(°C)/Hum.(%RH): 21.3°C/50%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	46.5030	31.39	-15.37	16.02	40.00	-23.98	QP			
2	117.7725	38.67	-23.79	14.88	43.50	-28.62	QP			
3	286.9823	32.08	-18.29	13.79	46.00	-32.21	QP			
4	411.8240	33.20	-15.98	17.22	46.00	-28.78	QP			
5	543.2742	32.40	-12.03	20.37	46.00	-25.63	QP			
6	919.2866	32.21	-5.99	26.22	46.00	-19.78	QP			



Test Results (1GHz-25GHz)

Test Mode: CH01 (Low channel)

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2408.00	80.98	9.75	90.73	114.00	-23.27	Vertical
4816.00	27.66	15.27	42.93	74.00	-31.07	Vertical
7224.00	27.86	18.09	45.95	74.00	-28.05	Vertical
9632.00	28.43	23.76	52.19	74.00	-21.81	Vertical
12040.00	*			74.00		Vertical
14448.00	*			74.00		Vertical
2408.00	82.04	9.75	91.79	114.00	-22.21	Horizontal
4816.00	27.39	15.27	42.66	74.00	-31.34	Horizontal
7224.00	28.08	18.09	46.17	74.00	-27.83	Horizontal
9632.00	27.77	23.76	51.53	74.00	-22.47	Horizontal
12040.00	*			74.00		Horizontal
14448.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2408.00	70.91	9.75	80.66	94.00	-13.34	Vertical
4816.00	15.93	15.27	31.20	54.00	-22.80	Vertical
7224.00	16.91	18.09	35.00	54.00	-19.00	Vertical
9632.00	17.90	23.76	41.66	54.00	-12.34	Vertical
12040.00	*			54.00		Vertical
14448.00	*			54.00		Vertical
2408.00	72.27	9.75	82.02	94.00	-11.98	Horizontal
4816.00	15.72	15.27	30.99	54.00	-23.01	Horizontal
7224.00	17.11	18.09	35.20	54.00	-18.80	Horizontal
9632.00	17.28	23.76	41.04	54.00	-12.96	Horizontal
12040.00	*			54.00		Horizontal
14448.00	*			54.00		Horizontal

Note:

1. Result=Reading + Factor
2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



Test Mode: CH17 (Middle channel)

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2440.00	84.24	9.75	93.99	114.00	-20.01	Vertical
4880.00	26.27	15.27	41.54	74.00	-32.46	Vertical
7320.00	31.65	18.09	49.74	74.00	-24.26	Vertical
9760.00	28.88	23.76	52.64	74.00	-21.36	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
2440.00	80.31	9.75	90.06	114.00	-23.94	Horizontal
4880.00	25.69	15.27	40.96	74.00	-33.04	Horizontal
7320.00	32.03	18.09	50.12	74.00	-23.88	Horizontal
9760.00	31.12	23.76	54.88	74.00	-19.12	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2440.00	71.92	9.75	81.67	94.00	-12.33	Vertical
4880.00	17.43	15.27	32.70	54.00	-21.30	Vertical
7320.00	15.42	18.09	33.51	54.00	-20.49	Vertical
9760.00	17.45	23.76	41.21	54.00	-12.79	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
2440.00	69.20	9.75	78.95	94.00	-15.05	Horizontal
4880.00	13.21	15.27	28.48	54.00	-25.52	Horizontal
7320.00	16.40	18.09	34.49	54.00	-19.51	Horizontal
9760.00	17.42	23.76	41.18	54.00	-12.82	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal

Note:

1. Result=Reading + Factor
2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



Test Mode: CH34(High channel)

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2474.00	82.08	9.75	91.83	114.00	-22.17	Vertical
4948.00	30.60	15.27	45.87	74.00	-28.13	Vertical
7422.00	27.65	18.09	45.74	74.00	-28.26	Vertical
9896.00	31.63	23.76	55.39	74.00	-18.61	Vertical
12370.00	*			74.00		Vertical
14844.00	*			74.00		Vertical
2474.00	82.67	9.75	92.42	114.00	-21.58	Horizontal
4948.00	26.03	15.27	41.30	74.00	-32.70	Horizontal
7422.00	31.59	18.09	49.68	74.00	-24.32	Horizontal
9896.00	27.33	23.76	51.09	74.00	-22.91	Horizontal
12370.00	*			74.00		Horizontal
14844.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
2474.00	73.64	9.75	83.39	94.00	-10.61	Vertical
4948.00	15.03	15.27	30.30	54.00	-23.70	Vertical
7422.00	18.09	18.09	36.18	54.00	-17.82	Vertical
9896.00	15.84	23.76	39.60	54.00	-14.40	Vertical
12370.00	*			54.00		Vertical
14844.00	*			54.00		Vertical
2474.00	71.04	9.75	80.79	94.00	-13.21	Horizontal
4948.00	13.46	15.27	28.73	54.00	-25.27	Horizontal
7422.00	20.91	18.09	39.00	54.00	-15.00	Horizontal
9896.00	18.83	23.76	42.59	54.00	-11.41	Horizontal
12370.00	*			54.00		Horizontal
14844.00	*			54.00		Horizontal

Note:

1. Result=Reading + Factor
2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

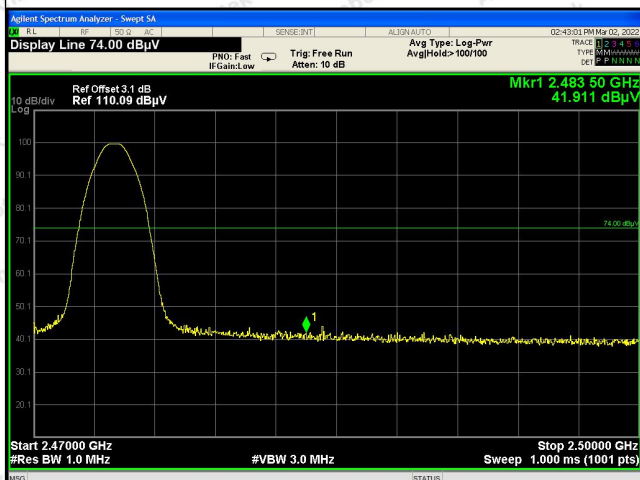


Radiated Band Edge:

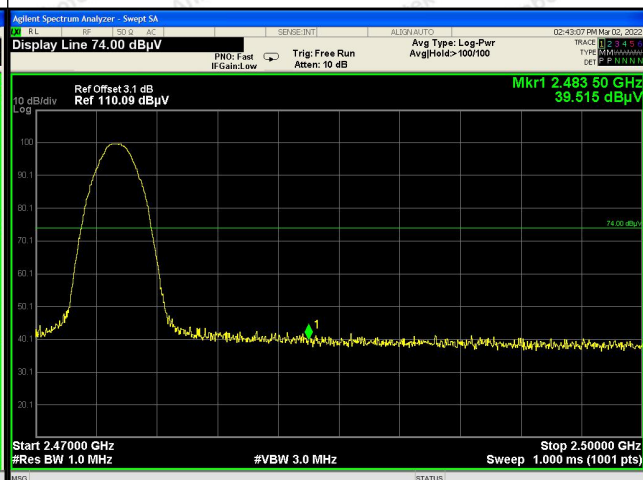
Test Mode: CH01	Test channel: Lowest
Peak Value(Vertical)	Peak Value(Horizontal)
Average Value(Vertical)	Average Value(Horizontal)

Test Mode: CH34

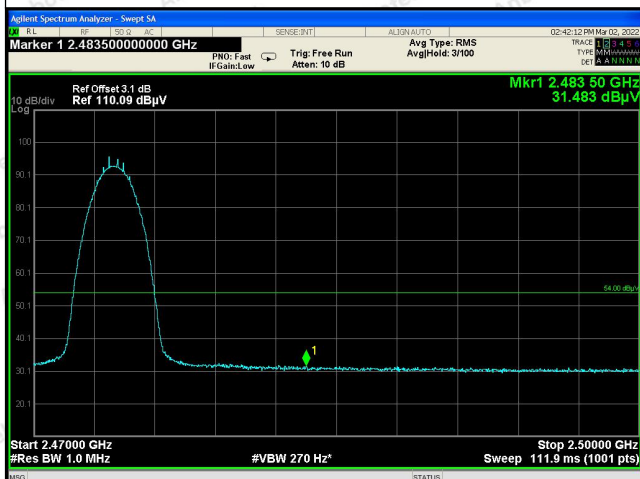
Test channel: Highest



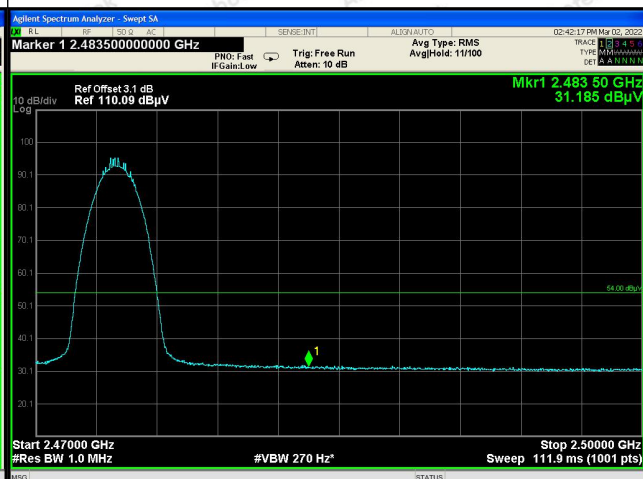
Peak Value(Vertical)



Peak Value(Horizontal)



Average Value(Vertical)



Average Value(Horizontal)

Remark:

1. Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor

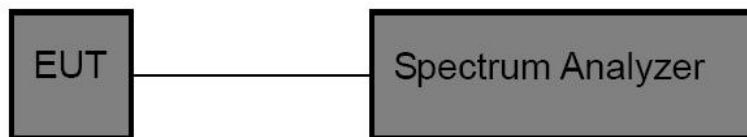


5. 20dB Bandwidth Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.249
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5.2. Test Setup



5.3. Test Procedure

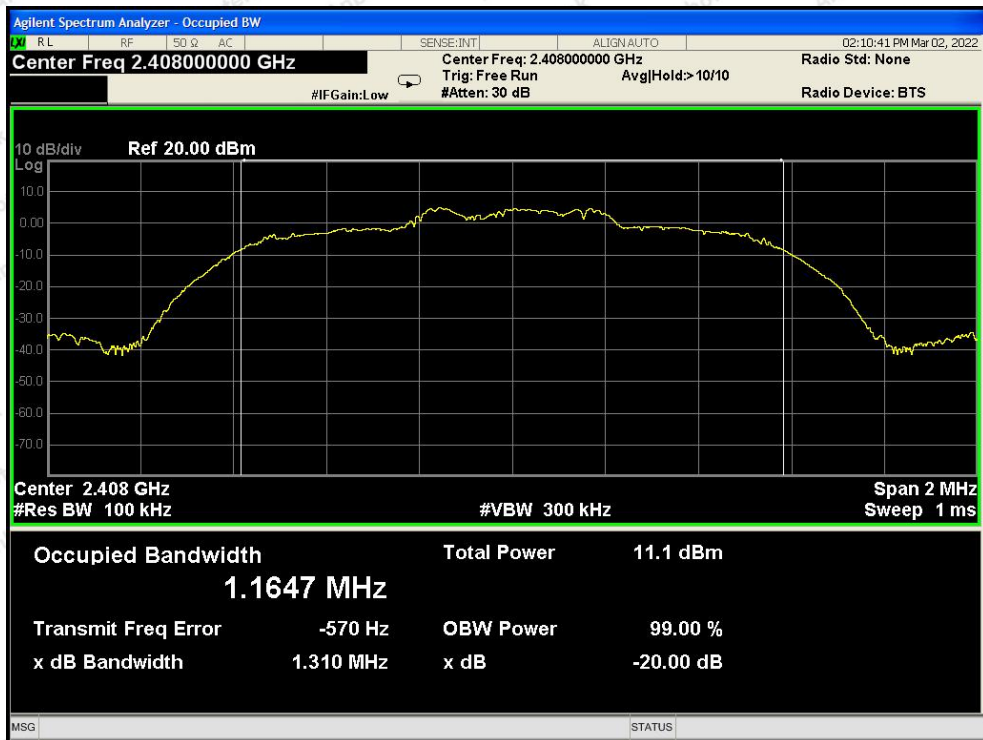
1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
RBW = 30kHz, VBW $\geq$ 3*RBW =100kHz,
Detector= Average
Trace mode= Max hold.
Sweep- auto couple.
4. Mark the peak frequency and -20dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

5.4. Test Data

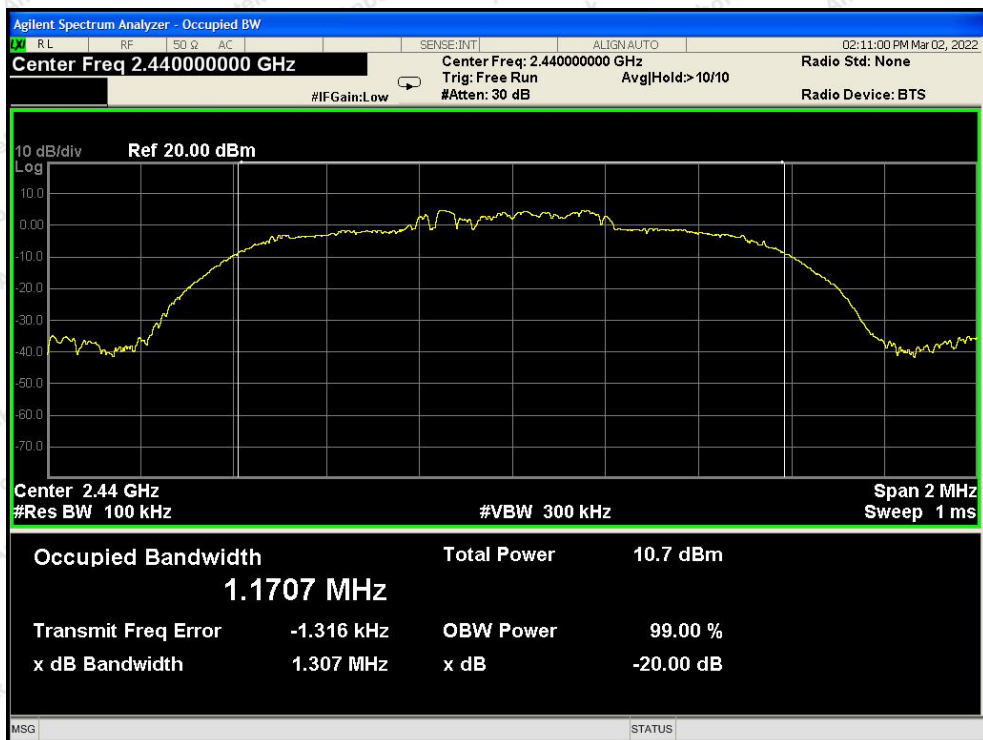
Test Item	:	20dB Bandwidth
Test Voltage	:	DC 3.7V battery inside
Test Result	:	PASS

Test Mode	:	Mode 1
Temperature	:	22.4℃
Humidity	:	55%RH

Frequency (MHz)	Bandwidth (kHz)	Result
2408MHZ	1310	PASS
2440MHZ	1307	PASS
2474MHZ	1310	PASS

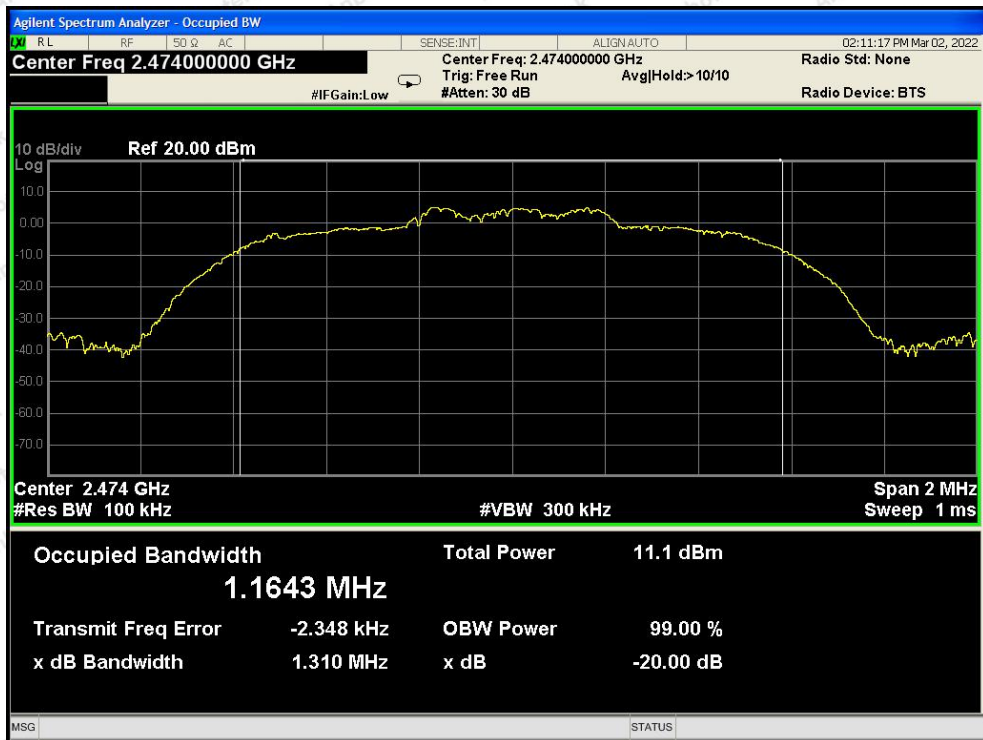


Test Mode: Low



Test Mode: Middle





Test Mode: High



6. Antenna Requirement

6.1. Test Standard and Requirement

Test Standard	FCC Part 15 Section 15.203
Requirement	1) 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

6.2. Antenna Connected Construction

The antenna is a PCB Antenna which permanently attached, and the best case gain of the antenna is -0.61 dBi. It complies with the standard requirement.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Conducted Emission Measurement

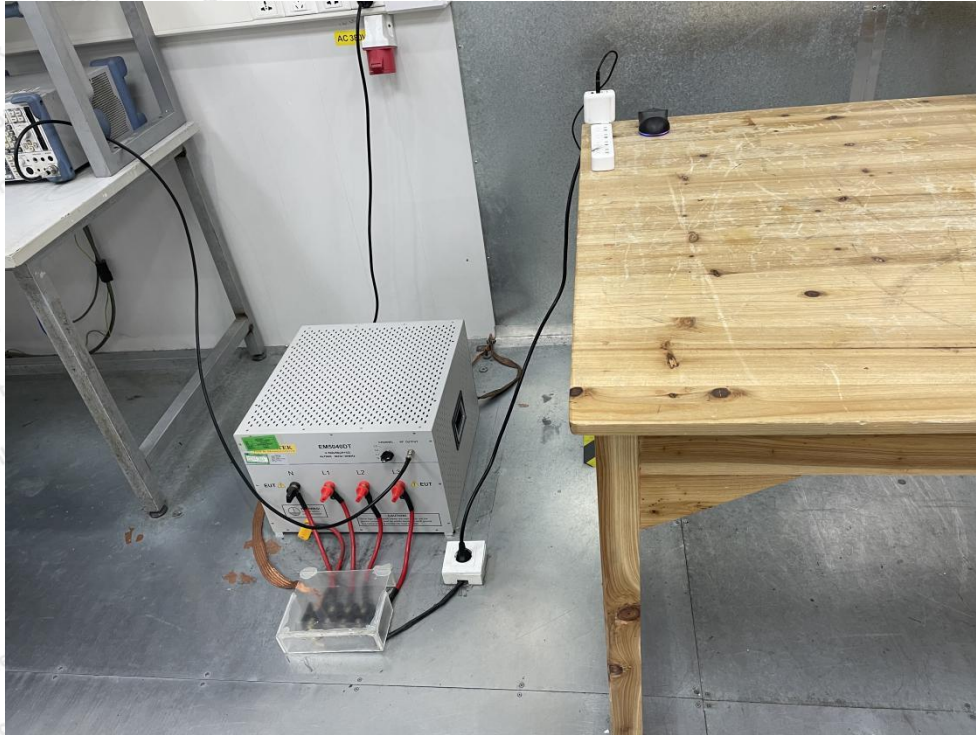
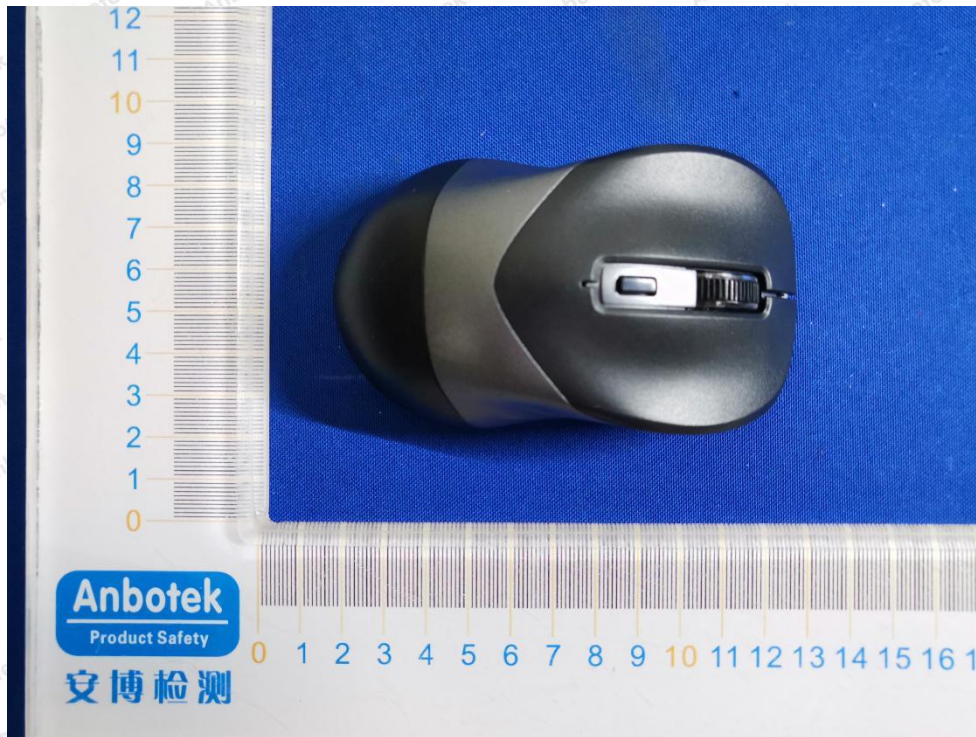


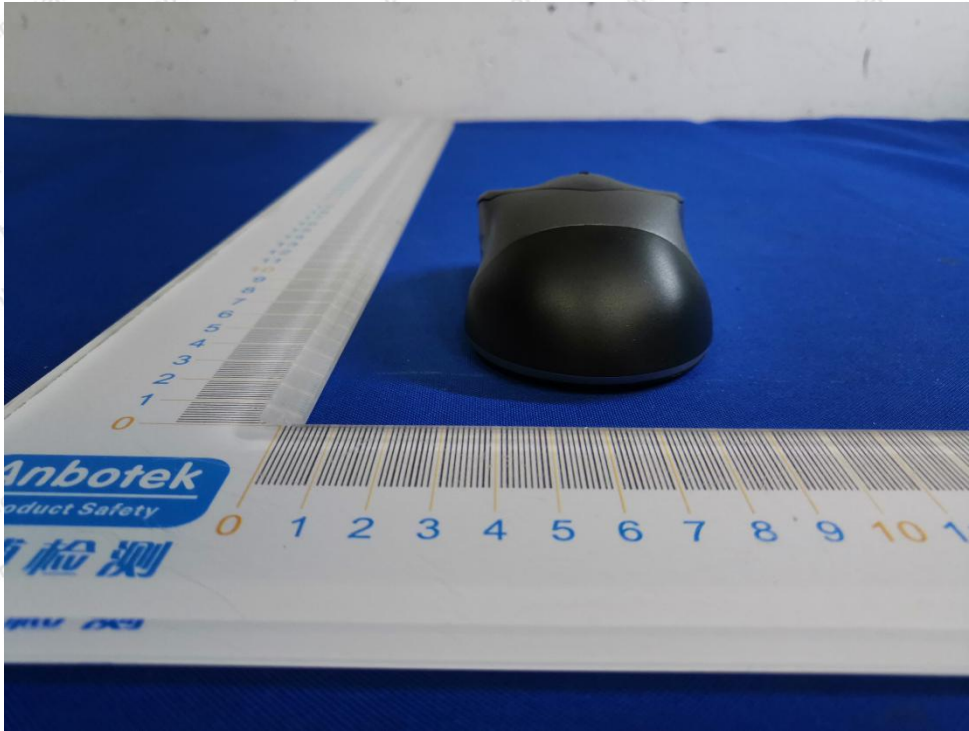
Photo of Radiation Emission Test



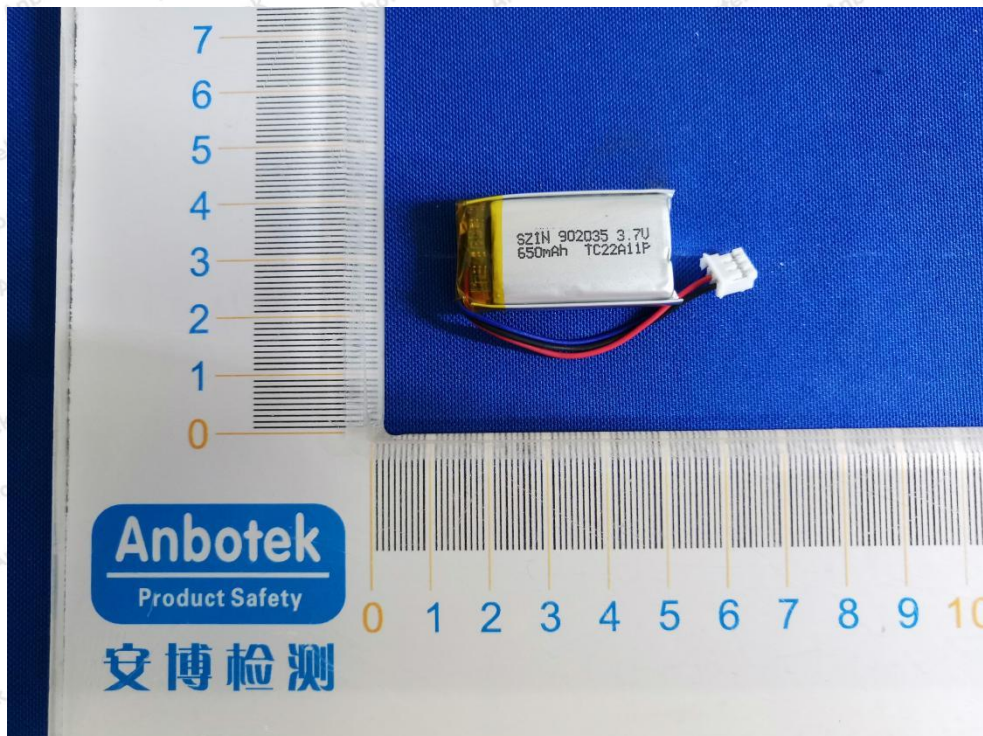


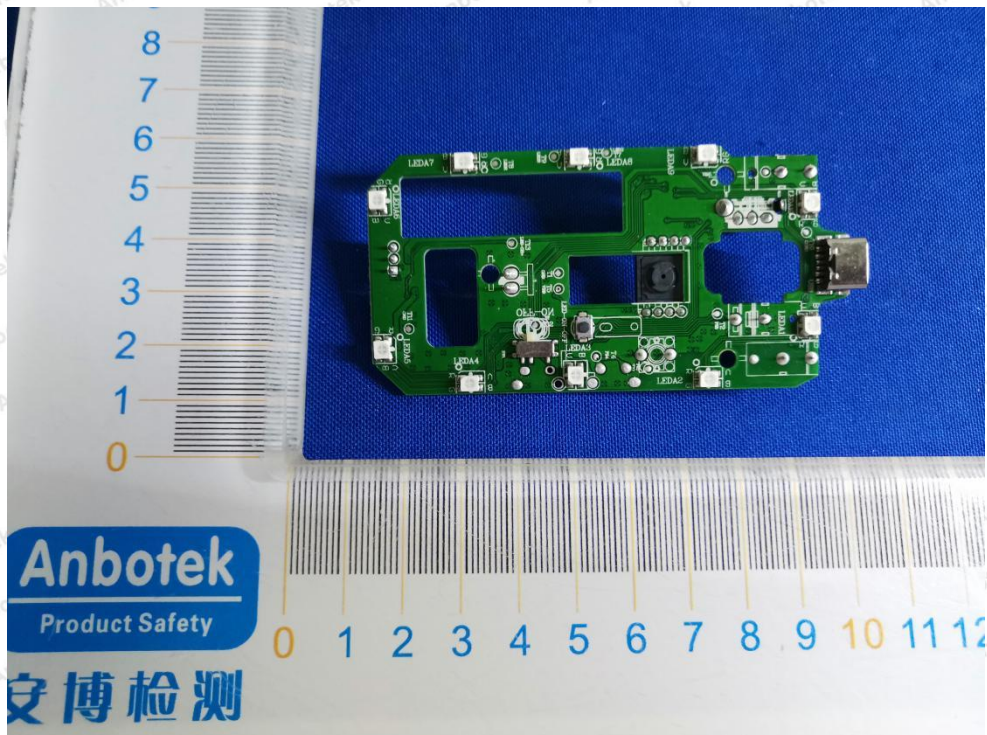
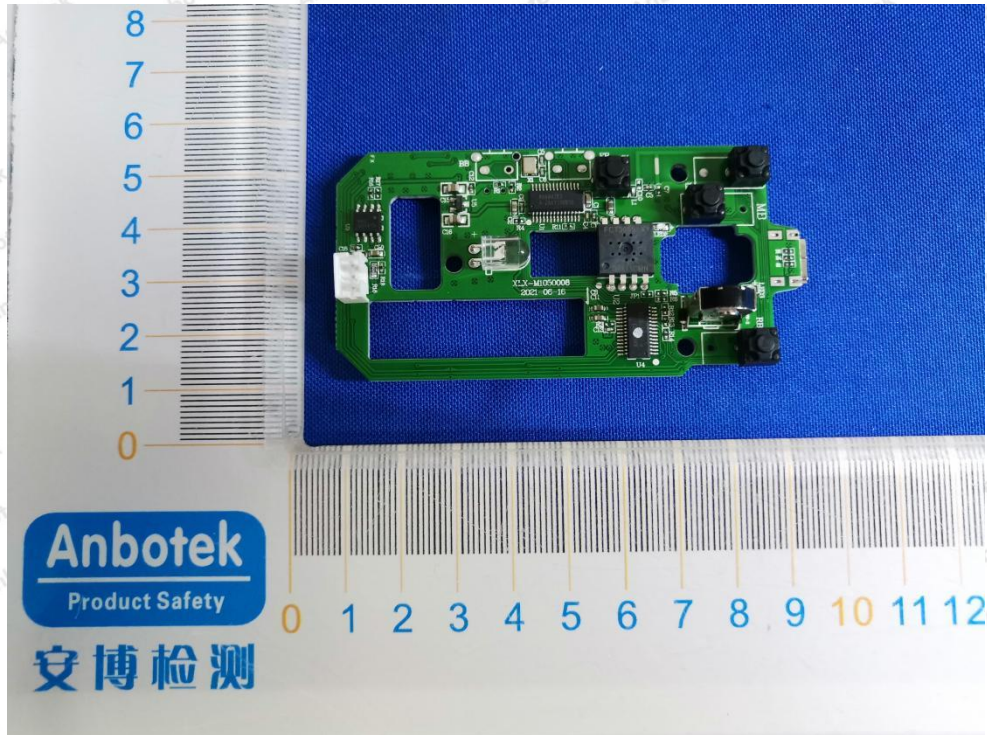
APPENDIX II -- EXTERNAL PHOTOGRAPH



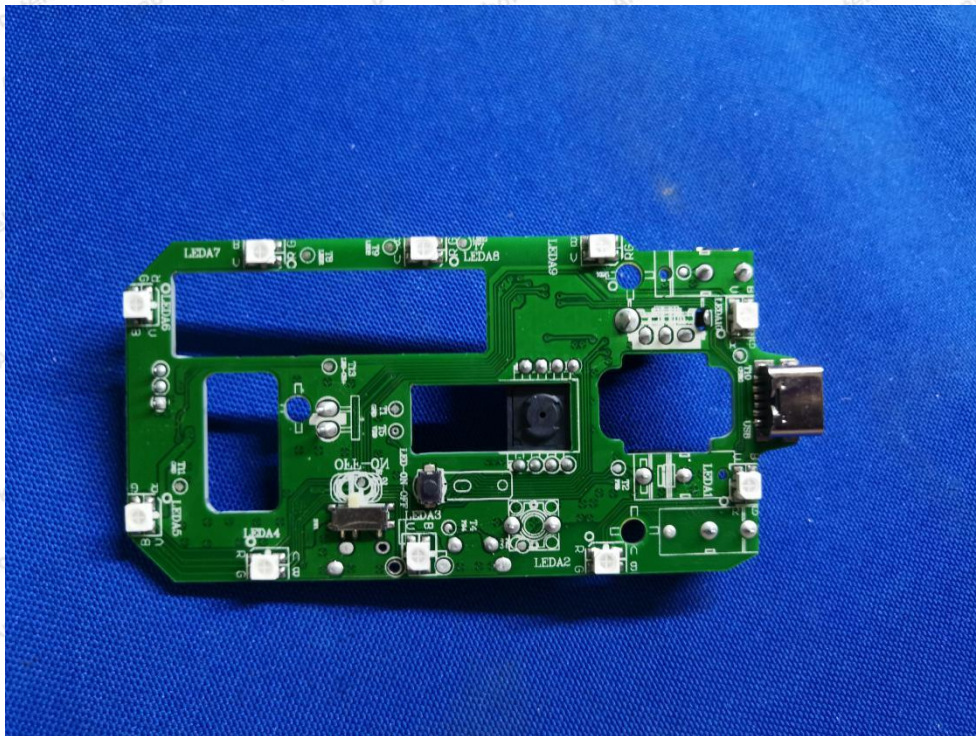
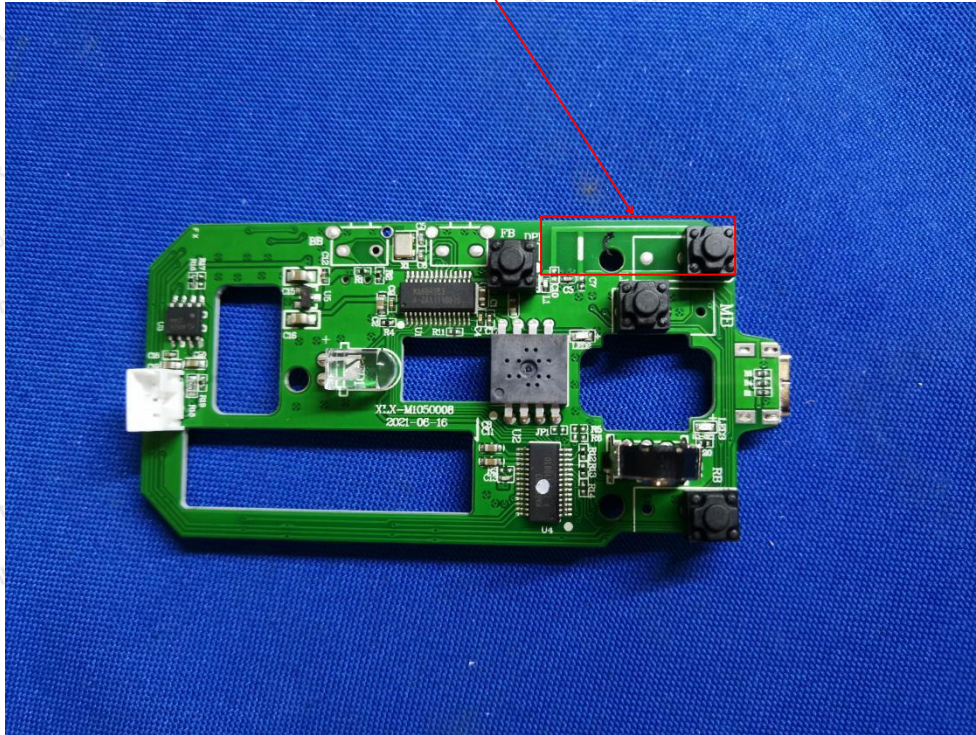




APPENDIX III -- INTERNAL PHOTOGRAPH



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----- End of Report -----