

FCC Test Report

Applicant : **Acer Gadget Inc.**

Address : **24F., No.112, Sec. 1, Xintai 5th Rd., Xizhi Dist.,
New Taipei city 221, Taiwan**

Product Name : **Wireless Mouse USB Receiver**

Report Date : **Oct. 24, 2024**

Shenzhen Anbotek Compliance Laboratory Limited



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TEST REPORT

Applicant : Acer Gadget Inc.
Manufacturer : Dongguan Boyye Industrial Co.,Ltd
Product Name : Wireless Mouse USB Receiver
Model No. : OMR01
Trade Mark : N/A
Rating(s) : Input: 5V \pm 0.02A

Test Standard(s) : 47 CFR Part 15.247

Test Method(s) : ANSI C63.10: 2020, KDB 558074 D01 15.247 Meas Guidance v05r02

The device described above is tested by Shenzhen Anbotek 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 Anbotek 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 47 CFR Part 15.247 requirements.

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

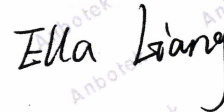
Date of Receipt

Aug. 13, 2024

Date of Test

Aug. 13, 2024 to Aug. 28, 2024

Prepared By



(Ella Liang)

Approved & Authorized Signer



(Kingkong Jin)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Oct. 24, 2024



1. General Information

1.1. Client Information

Applicant	:	Acer Gadget Inc.
Address	:	24F., No.112, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei city 221, Taiwan
Manufacturer	:	Dongguan Boyye Industrial Co.,Ltd
Address	:	Room 401 & 501, Building 4, No.16, Ming Zhu 1st Road, She Bei Village, Huangjiang Town, Dongguan, Guangdong, China
Factory	:	Dongguan Boyye Industrial Co.,Ltd
Address	:	Room 401 & 501, Building 4, No.16, Ming Zhu 1st Road, She Bei Village, Huangjiang Town, Dongguan, Guangdong, China

1.2. Description of Device (EUT)

Product Name	:	Wireless Mouse USB Receiver
Model No.	:	OMR01
Trade Mark	:	N/A
Test Power Supply	:	DC 5V via PC
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
RF Specification		
Operation Mode	:	<input checked="" type="checkbox"/> DSSS <input type="checkbox"/> FHSS
Operation Frequency	:	2405~2475MHz
Number of Channel	:	8 Channels
Modulation Type	:	GFSK
Antenna Type	:	PCB antenna
Antenna Gain(Peak)	:	-1.66dBi
Remark: 1) All of the RF specification are provided by customer. 2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		



1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
/	/	/	/

1.4. Description of Test Configuration

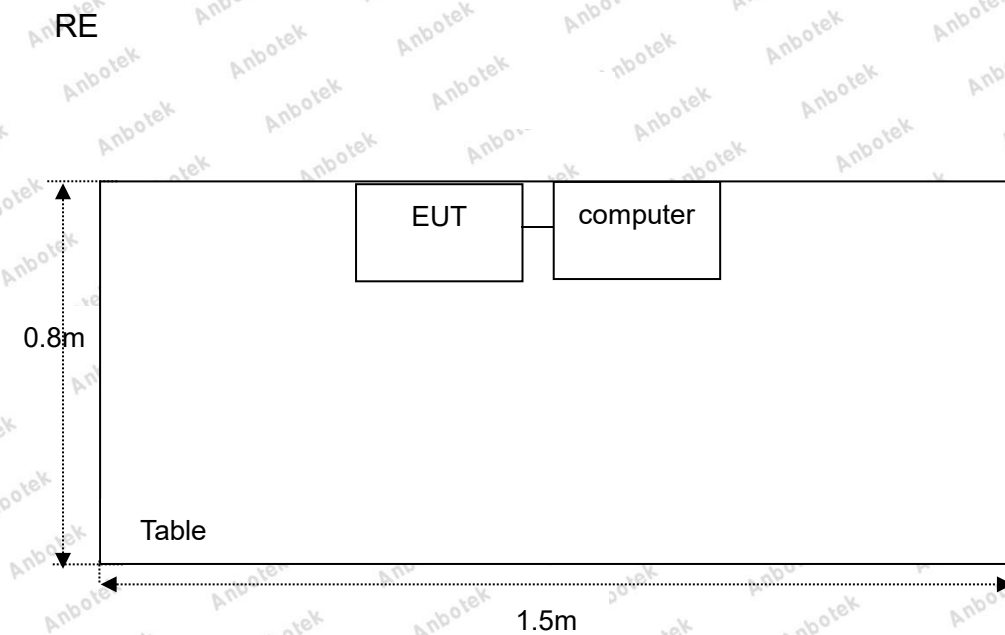
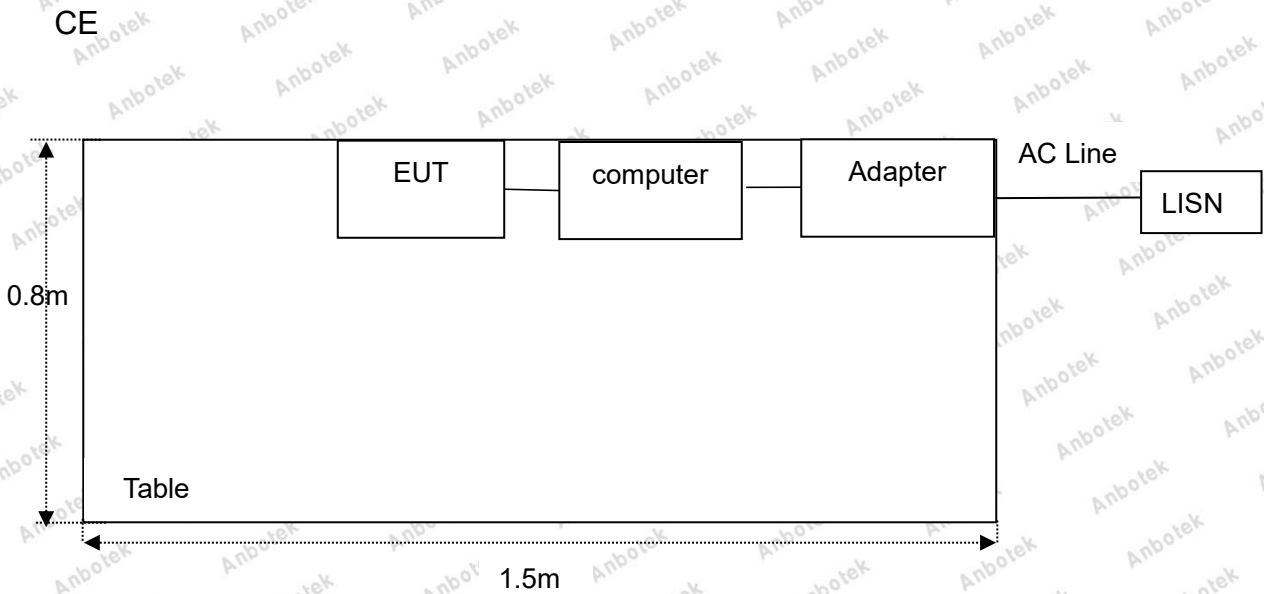
Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2405	05	2457
02	2411	06	2463
03	2417	07	2469
04	2451	08	2475

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
2. EUT was tested with 2405MHz, 2451MHz and 2475MHz.



1.5. Description Of Test Setup



1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Jan. 18, 2024	1 Year
2.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT00 1	Jan. 18, 2024	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 12, 2023	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Jan. 23, 2024	1 Year
5.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 12, 2023	1 Year
6.	EMI Preamplifier	SKET Electronic	LNPA-0118G- 45	SKET-PA-002	Jan. 17, 2024	1 Year
7.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	Oct. 16, 2022	3 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	Oct. 23, 2022	3 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Oct. 12, 2023	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Oct. 12, 2023	1 Year
11.	Pre-amplifier	SONOMA	310N	186860	Jan. 17, 2024	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 12, 2023	1 Year
14.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 12, 2023	1 Year
15.	Signal Generator	Agilent	E4421B	MY41000743	Oct. 12, 2023	1 Year
16.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 20, 2023	1 Year
17.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	Oct. 16, 2023	1 Year
18.	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	May. 06, 2024	1 Year



1.7. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.8. Description of Test Facility

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

FCC-Registration No.: 434132

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. 434132.

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.

Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.



1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



2. Summary of Test Results

Standard Section	Test Item	Result
15.203/15.247(c)	Antenna Requirement	PASS
15.207	Conducted Emission	PASS
15.205/15.209	Spurious Emission	PASS
15.247(b)(3)	Conducted Peak Output Power	PASS
15.247(a)(2)	6dB Emission Bandwidth	PASS
15.247(e)	Power Spectral Density	PASS
15.247(d)	Band Edge	PASS

Remark: "N/A" is an abbreviation for Not Applicable.

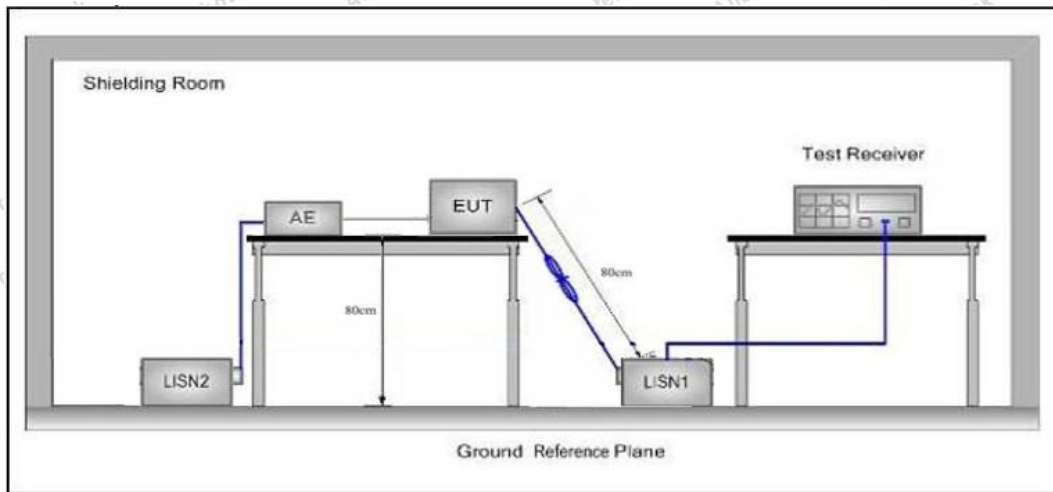


3. Conducted Emission Test

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

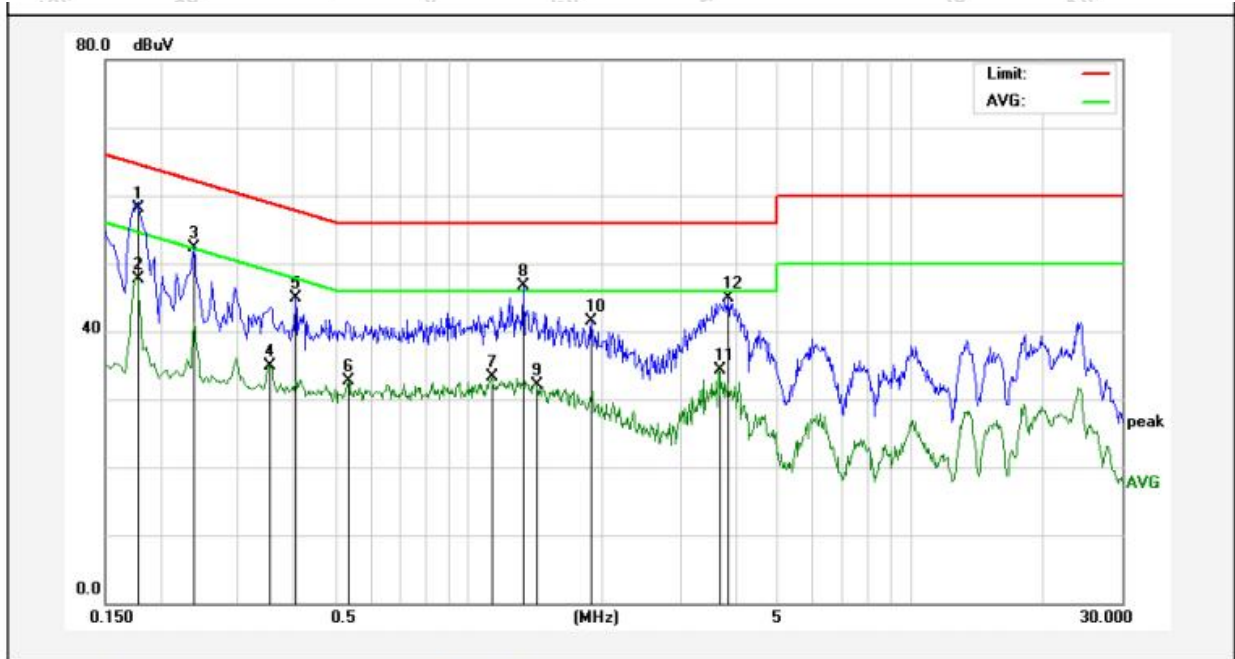
During the test, pre-scan all modes, only the worst case is recorded in the report.

Please to see the following pages.



Conducted Emission Test Data

Test Site: 1# Shielded Room
 Operating Condition: Low CH (2405MHz)
 Test Specification: DC 5V via PC
 Comment: Live Line
 Temp.(°C)/Hum.(%RH): 23.9°C/50%RH

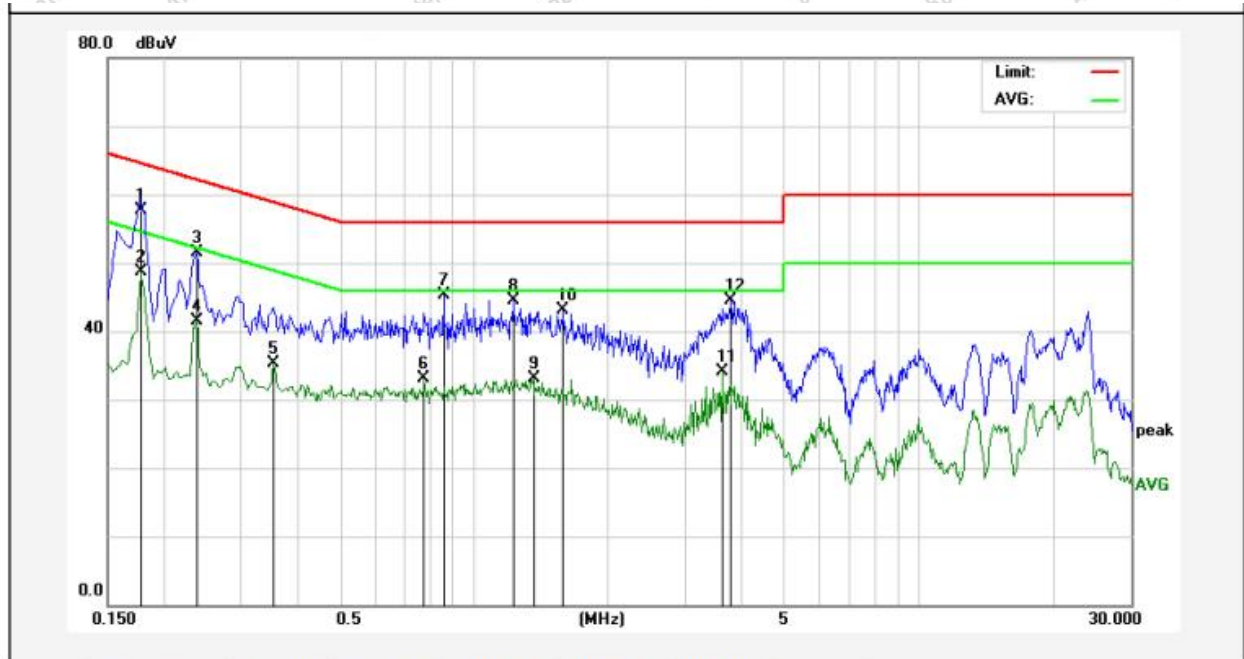


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1780	40.28	17.82	58.10	64.57	-6.47	QP	
2	0.1780	29.95	17.82	47.77	54.57	-6.80	AVG	
3	0.2380	34.48	17.82	52.30	62.16	-9.86	QP	
4	0.3540	17.15	17.82	34.97	48.87	-13.90	AVG	
5	0.4060	27.15	17.81	44.96	57.73	-12.77	QP	
6	0.5340	14.90	17.86	32.76	46.00	-13.24	AVG	
7	1.1260	15.39	17.86	33.25	46.00	-12.75	AVG	
8	1.3300	28.81	17.86	46.67	56.00	-9.33	QP	
9	1.4260	14.32	17.86	32.18	46.00	-13.82	AVG	
10	1.8940	23.62	17.85	41.47	56.00	-14.53	QP	
11	3.6780	16.48	17.86	34.34	46.00	-11.66	AVG	
12	3.8660	26.98	17.86	44.84	56.00	-11.16	QP	



Conducted Emission Test Data

Test Site: 1# Shielded Room
 Operating Condition: Low CH (2405MHz)
 Test Specification: DC 5V via PC
 Comment: Neutral Line
 Temp.(°C)/Hum.(%RH): 23.9°C/50%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1780	39.87	17.82	57.69	64.57	-6.88	QP	
2	0.1780	30.91	17.82	48.73	54.57	-5.84	AVG	
3	0.2380	33.59	17.82	51.41	62.16	-10.75	QP	
4	0.2380	23.69	17.82	41.51	52.16	-10.65	AVG	
5	0.3540	17.46	17.82	35.28	48.87	-13.59	AVG	
6	0.7740	15.21	17.87	33.08	46.00	-12.92	AVG	
7	0.8540	27.54	17.86	45.40	56.00	-10.60	QP	
8	1.2260	26.69	17.85	44.54	56.00	-11.46	QP	
9	1.3660	15.26	17.86	33.12	46.00	-12.88	AVG	
10	1.5900	25.25	17.85	43.10	56.00	-12.90	QP	
11	3.6180	16.26	17.86	34.12	46.00	-11.88	AVG	
12	3.7940	26.69	17.86	44.55	56.00	-11.45	QP	



4. Radiation Spurious Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209 and 15.205					
	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)	
Test Limit	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.

4.2. Test Setup

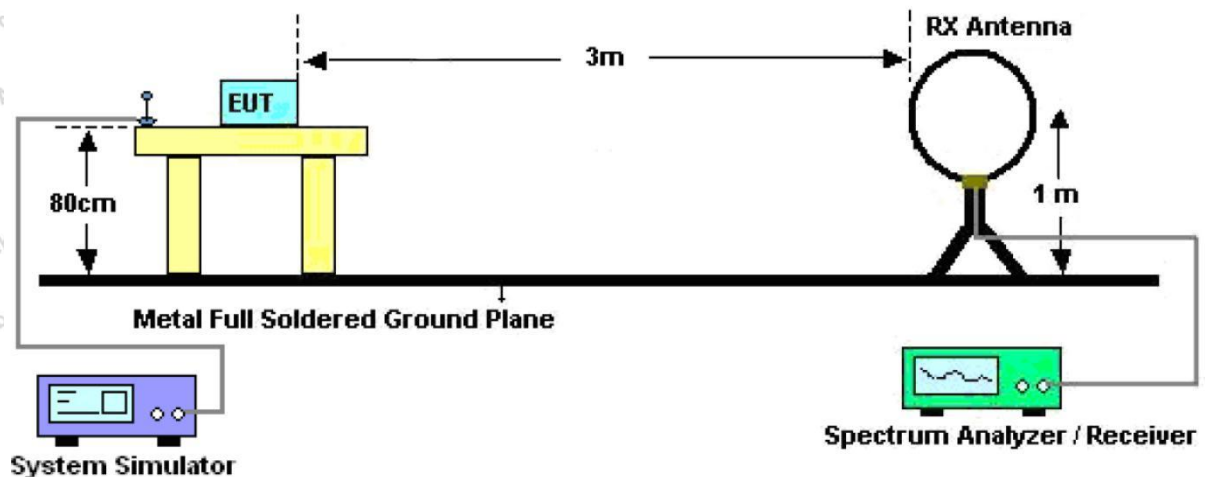


Figure 1. Below 30MHz



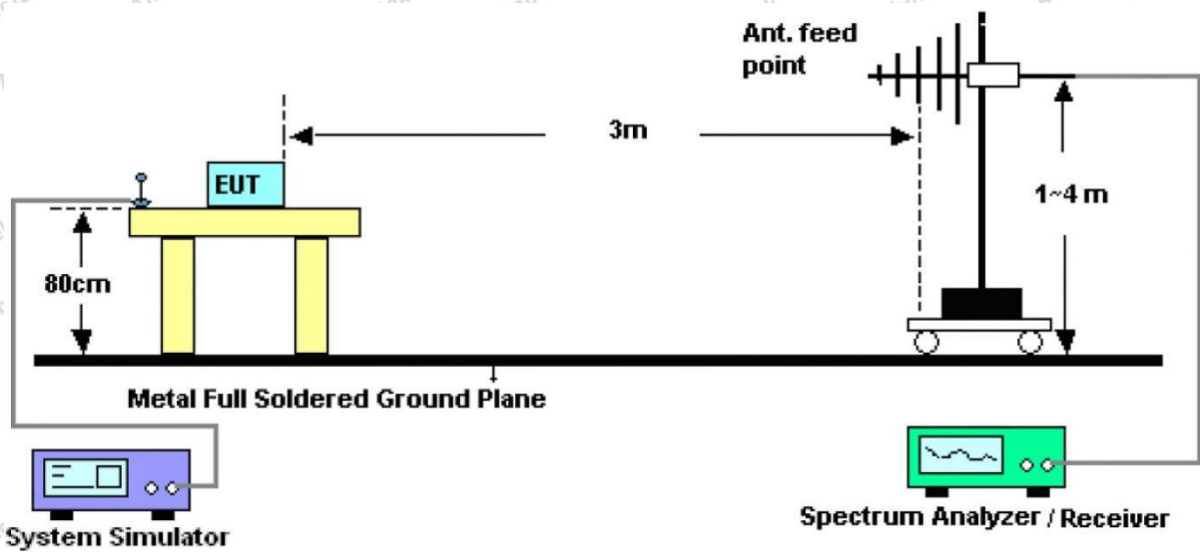


Figure 2. 30MHz to 1GHz

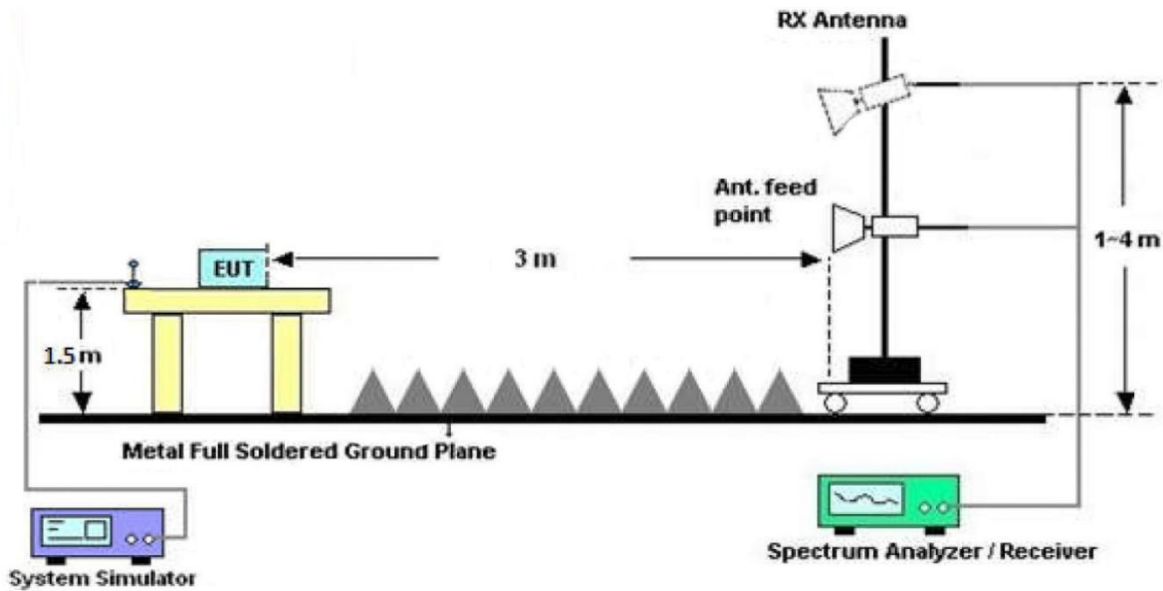


Figure 3. Above 1 GHz

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 =3MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

For average measurement:

-VBW=3*RBW, Detector= RMS, When duty cycle is no less than 98 percent

-VBW=3*RBW, Detector= RMS, When duty cycle is less than 98 percent and dutycycle is constant, average=peak level+correction factor(20log(dutycycle)).

-VBW \geq 1/T, when duty cycle is less than 98 percent and dutycycle is not constant, where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation, so refer to this clause 5.4 duty cycle.

4.3. 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.

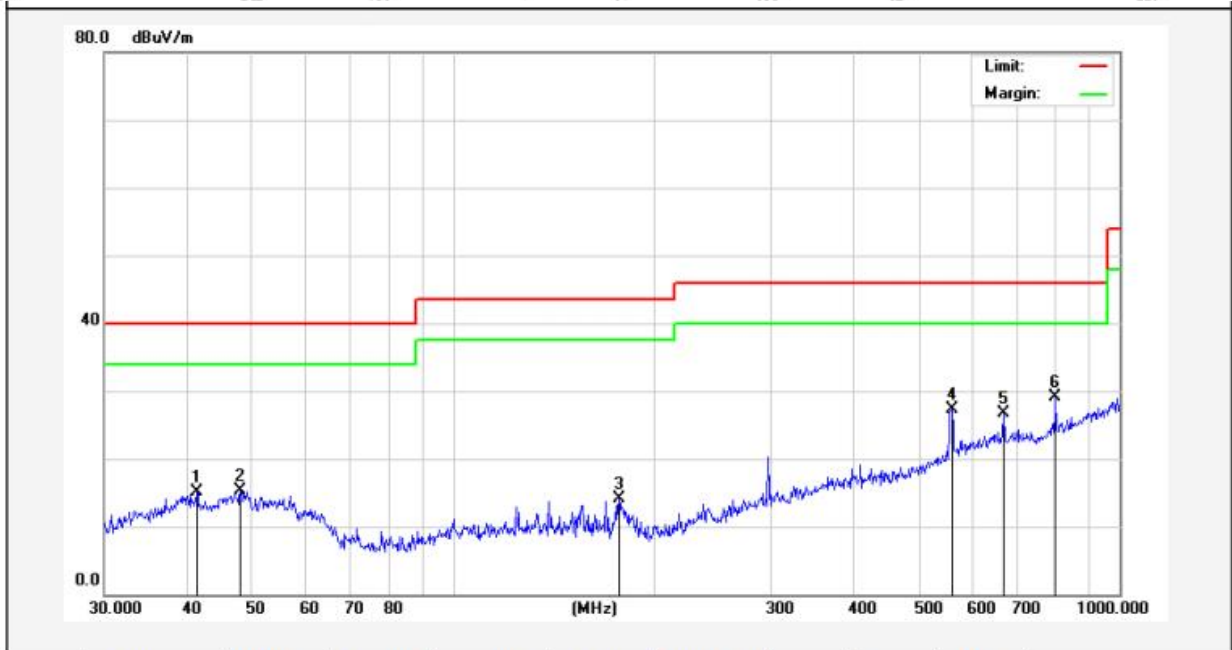
The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

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



Test Results (30~1000MHz)

Test Mode: Low CH (2405MHz)
Power Source: DC 5V via PC
Polarization: Vertical
Temp.(°C)/Hum.(%RH): 20.3°C/46%RH

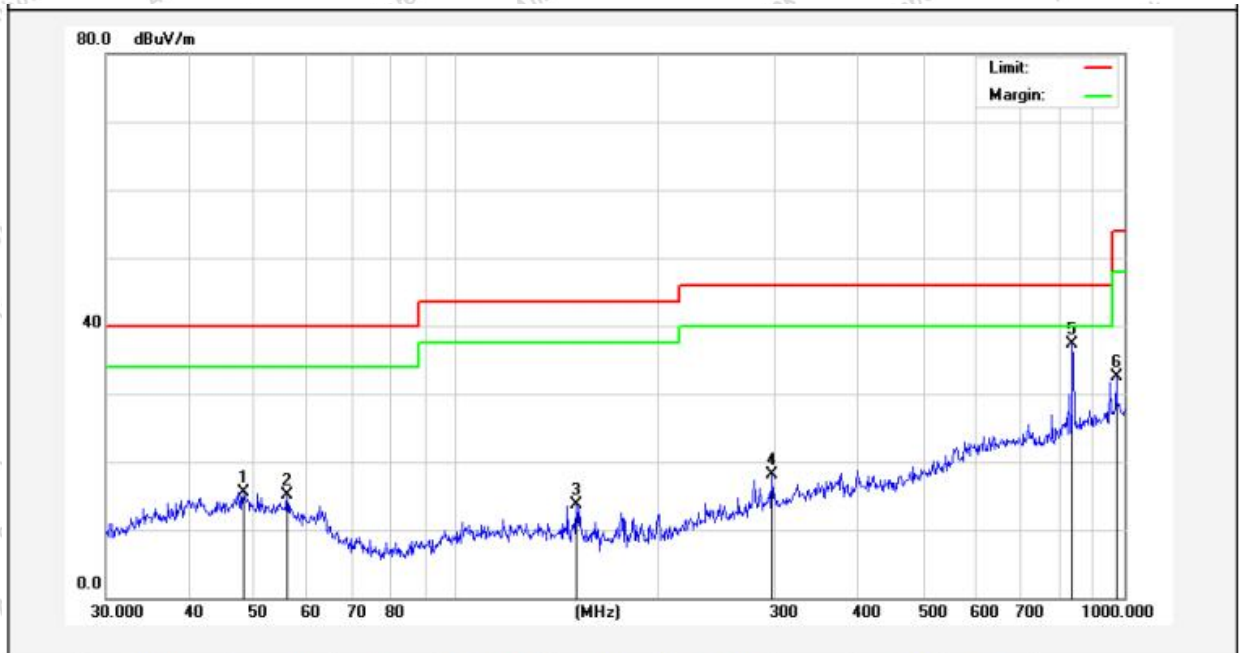


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	41.2765	29.73	-14.69	15.04	40.00	-24.96	QP			
2	47.9940	30.87	-15.48	15.39	40.00	-24.61	QP			
3	177.5092	34.93	-20.74	14.19	43.50	-29.31	QP			
4	560.6928	38.87	-11.51	27.36	46.00	-18.64	QP			
5	670.4893	37.08	-10.35	26.73	46.00	-19.27	QP			
6	801.7863	37.25	-8.24	29.01	46.00	-16.99	QP			



Test Results (30~1000MHz)

Test Mode: Low CH (2405MHz)
Power Source: DC 5V via PC
Polarization: Horizontal
Temp.(°C)/Hum.(%RH): 20.3°C/46%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	48.1626	31.16	-15.56	15.60	40.00	-24.40	QP			
2	56.0007	32.67	-17.60	15.07	40.00	-24.93	QP			
3	151.5972	36.83	-23.04	13.79	43.50	-29.71	QP			
4	297.2241	35.50	-17.40	18.10	46.00	-27.90	QP			
5	836.2443	45.06	-7.70	37.36	46.00	-8.64	QP			
6	972.3374	37.67	-5.26	32.41	54.00	-21.59	QP			



Test Results (1GHz-25GHz)

Test channel: Lowest						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	28.22	15.27	43.49	74.00	-30.51	Vertical
7215.00	29.41	18.09	47.50	74.00	-26.50	Vertical
9620.00	30.42	23.76	54.18	74.00	-19.82	Vertical
12025.00	*			74.00		Vertical
14430.00	*			74.00		Vertical
4810.00	28.61	15.27	43.88	74.00	-30.12	Horizontal
7215.00	29.31	18.09	47.40	74.00	-26.60	Horizontal
9620.00	28.85	23.76	52.61	74.00	-21.39	Horizontal
12025.00	*			74.00		Horizontal
14430.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4810.00	17.60	15.27	32.87	54.00	-21.13	Vertical
7215.00	18.44	18.09	36.53	54.00	-17.47	Vertical
9620.00	19.44	23.76	43.20	54.00	-10.80	Vertical
12025.00	*			54.00		Vertical
14430.00	*			54.00		Vertical
4810.00	16.96	15.27	32.23	54.00	-21.77	Horizontal
7215.00	18.37	18.09	36.46	54.00	-17.54	Horizontal
9620.00	18.16	23.76	41.92	54.00	-12.08	Horizontal
12025.00	*			54.00		Horizontal
14430.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Middle						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4902.00	28.24	15.42	43.66	74.00	-30.34	Vertical
7353.00	29.26	18.02	47.28	74.00	-26.72	Vertical
9804.00	29.43	23.80	53.23	74.00	-20.77	Vertical
12255.00	*			74.00		Vertical
14706.00	*			74.00		Vertical
4902.00	28.31	15.42	43.73	74.00	-30.27	Horizontal
7353.00	29.30	18.02	47.32	74.00	-26.68	Horizontal
9804.00	28.55	23.80	52.35	74.00	-21.65	Horizontal
12255.00	*			74.00		Horizontal
14706.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4902.00	17.33	15.42	32.75	54.00	-21.25	Vertical
7353.00	18.54	18.02	36.56	54.00	-17.44	Vertical
9804.00	19.30	23.80	43.10	54.00	-10.90	Vertical
12255.00	*			54.00		Vertical
14706.00	*			54.00		Vertical
4902.00	16.87	15.42	32.29	54.00	-21.71	Horizontal
7353.00	17.93	18.02	35.95	54.00	-18.05	Horizontal
9804.00	18.67	23.80	42.47	54.00	-11.53	Horizontal
12255.00	*			54.00		Horizontal
14706.00	*			54.00		Horizontal



Test Results (1GHz-25GHz)

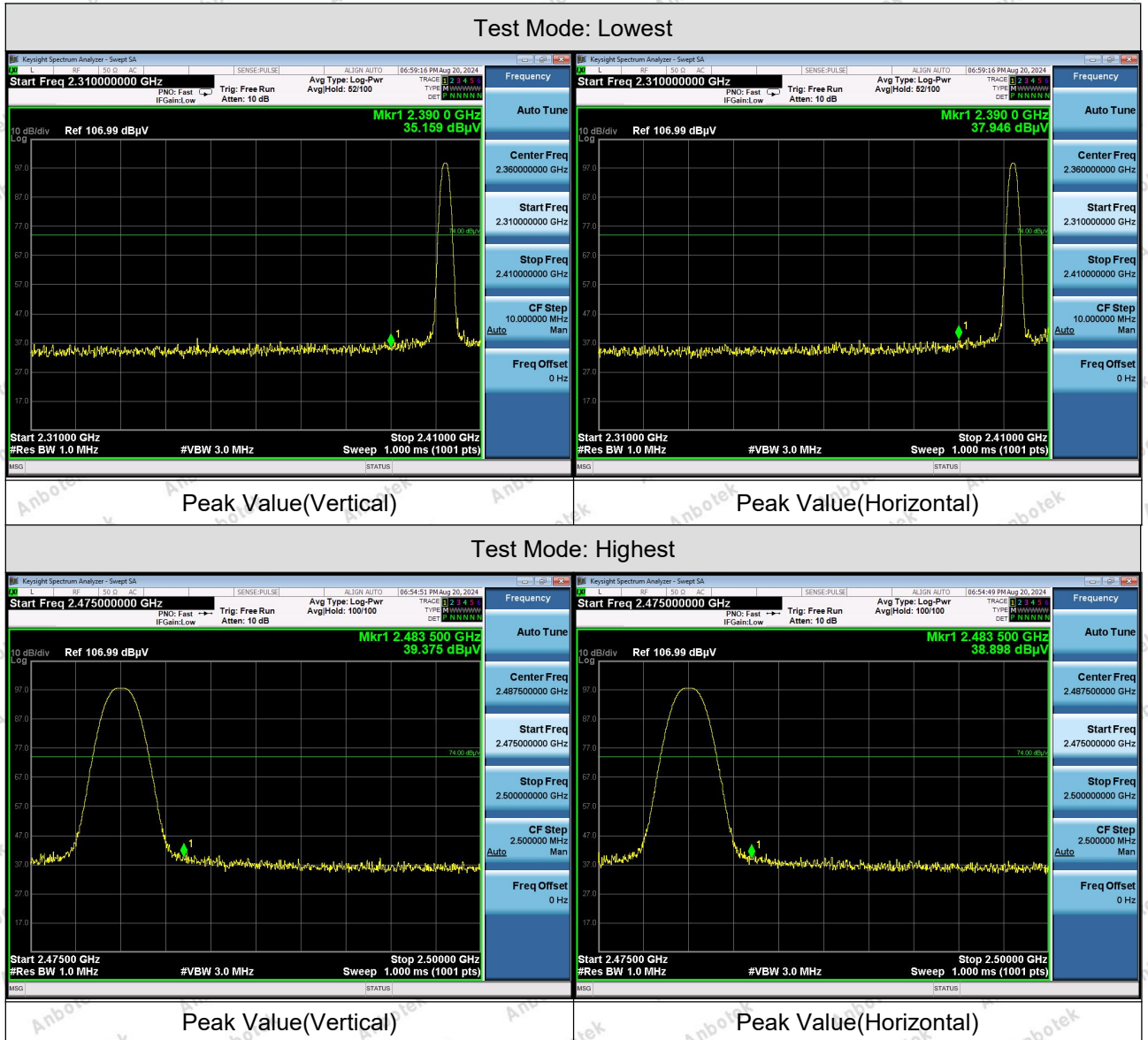
Test channel: Highest						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4950.00	28.51	15.58	44.09	74.00	-29.91	Vertical
7425.00	29.27	17.93	47.20	74.00	-26.80	Vertical
9900.00	29.98	23.83	53.81	74.00	-20.19	Vertical
12375.00	*			74.00		Vertical
14850.00	*			74.00		Vertical
4950.00	28.38	15.58	43.96	74.00	-30.04	Horizontal
7425.00	29.33	17.93	47.26	74.00	-26.74	Horizontal
9900.00	29.23	23.83	53.06	74.00	-20.94	Horizontal
12375.00	*			74.00		Horizontal
14850.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4950.00	18.45	15.58	34.03	54.00	-19.97	Vertical
7425.00	19.55	17.93	37.48	54.00	-16.52	Vertical
9900.00	19.85	23.83	43.68	54.00	-10.32	Vertical
12375.00	*			54.00		Vertical
14850.00	*			54.00		Vertical
4950.00	18.31	15.58	33.89	54.00	-20.11	Horizontal
7425.00	19.30	17.93	37.23	54.00	-16.77	Horizontal
9900.00	18.57	23.83	42.40	54.00	-11.60	Horizontal
12375.00	*			54.00		Horizontal
14850.00	*			54.00		Horizontal

Remark:

1. Result = Reading + Factor
2. Test frequency are from 1GHz to 25GHz, "*" 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:

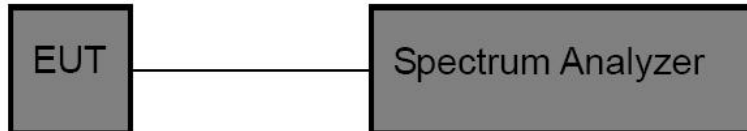


5. Maximum Peak Output Power Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (b)(3)
Test Limit	1W (30dBm)

5.2. Test Setup



5.3. Test Procedure

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

1. Set the RBW \geq DTS bandwidth.
2. Set the VBW $\geq 3 \times$ RBW.
3. Set the span $\geq 3 \times$ RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.

5.4. Test Data

Pass

Please refer to Appendix C of the Appendix Test Data.

Additional test for duty cycle.

Please refer to Appendix G of the Appendix Test Data.

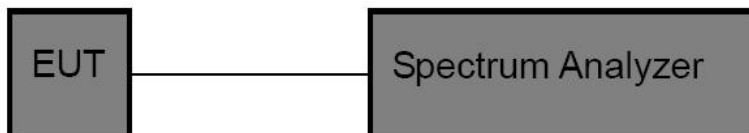


6. 6dB Emission Bandwidth Test

6.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (a)(2)
Test Limit	≥500kHz

6.2. Test Setup



6.3. 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:

6dB Bandwidth:

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b) Set the VBW ≥ [3 × RBW].
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.

99% Occupied Bandwidth:

RBW=1~5% OBW, VBW=3*RBW, Sweep Time= Auto, Detector= Peak, Trace= Max hold

6.4. Test Data

Pass

Please refer to Appendix A of the Appendix Test Data.

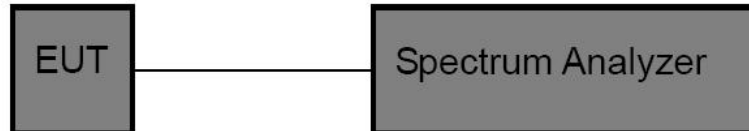


7. Power Spectral Density Test

7.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (e)
Test Limit	8dBm/3KHz

7.2. Test Setup



7.3. Test Procedure

1. Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 30kHz, VBW $\geq 3 \times$ RBW, Span = 1.5x DTS BW
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

7.4. Test Data

Pass

Please refer to Appendix D of the Appendix Test Data.

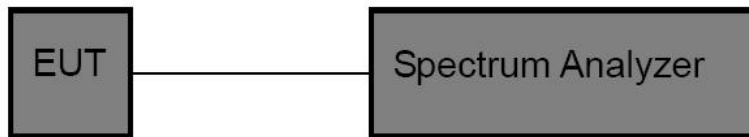


8. 100kHz Bandwidth of Frequency Band Edge Requirement

8.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (d)
Test Limit	In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

8.2. Test Setup



8.3. Test Procedure

Using the following spectrum analyzer setting:

1. Set the RBW = 100KHz.
2. Set the VBW = 300KHz.
3. Sweep time = auto couple.
4. Detector function = peak.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.

8.4. Test Data

Pass

Please refer to Appendix E&F of the Appendix Test Data.



9. Antenna Requirement

9.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203 /247(c)
Requirement	<p>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.</p> <p>2) 15.247(c) (1)(i) requirement: Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.</p>

9.2. Antenna Connected Construction

The antenna is PCB Antenna which permanently attached, and the best case gain of the antenna is -1.66dBi. It complies with the standard requirement.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

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

