

FCC Test Report

Applicant : **ShenZhen Easydetek Technology CO. LTD.**

Address : **6/F Fuyuan Industrial&commercial Building
Hangcheng Industrial Park, Baoan District,
Shenzhen, China**

Product Name : **5.8G Radar module**

Report Date : **Jun. 08, 2023**

Shenzhen Anbotek Compliance Laboratory Limited



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TEST REPORT

Applicant : ShenZhen Easydetek Technology CO. LTD.

Manufacturer : ShenZhen Easydetek Technology CO. LTD.

Product Name : 5.8G Radar module

Model No. : EDC114

Trade Mark : N.A.

Rating(s) : Input: 5V~12V==

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 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 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 Anbotek Compliance Laboratory Limited.

Date of Receipt

May 26, 2023

Date of Test

May 26~Jun. 05, 2023

Prepared by



(TuTu Hong)

Approved & Authorized Signer



(Kingkong Jin)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 08, 2023



1. General Information

1.1. Client Information

Applicant	:	ShenZhen Easydetek Technology CO. LTD.
Address	:	6/F Fuyuan Industrial&commercial Building Hangcheng Industrial Park, Baoan District, Shenzhen, China
Manufacturer	:	ShenZhen Easydetek Technology CO. LTD.
Address	:	6/F Fuyuan Industrial&commercial Building Hangcheng Industrial Park, Baoan District, Shenzhen, China
Factory	:	ShenZhen Easydetek Technology CO. LTD.
Address	:	6/F Fuyuan Industrial&commercial Building Hangcheng Industrial Park, Baoan District, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	5.8G Radar module
Model No.	:	EDC114
Trade Mark	:	N.A.
Test Power Supply	:	DC 5V
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A

RF Specification

Operation Frequency	:	5750~5870MHz
Number of Channel	:	121 Channels
Modulation Type	:	CW
Antenna Type	:	PCB Antenna
Antenna Gain(Peak)	:	3.24 dBi

Remark: 1) 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

Description	Rating(s)
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1.4. Description of Test Configuration

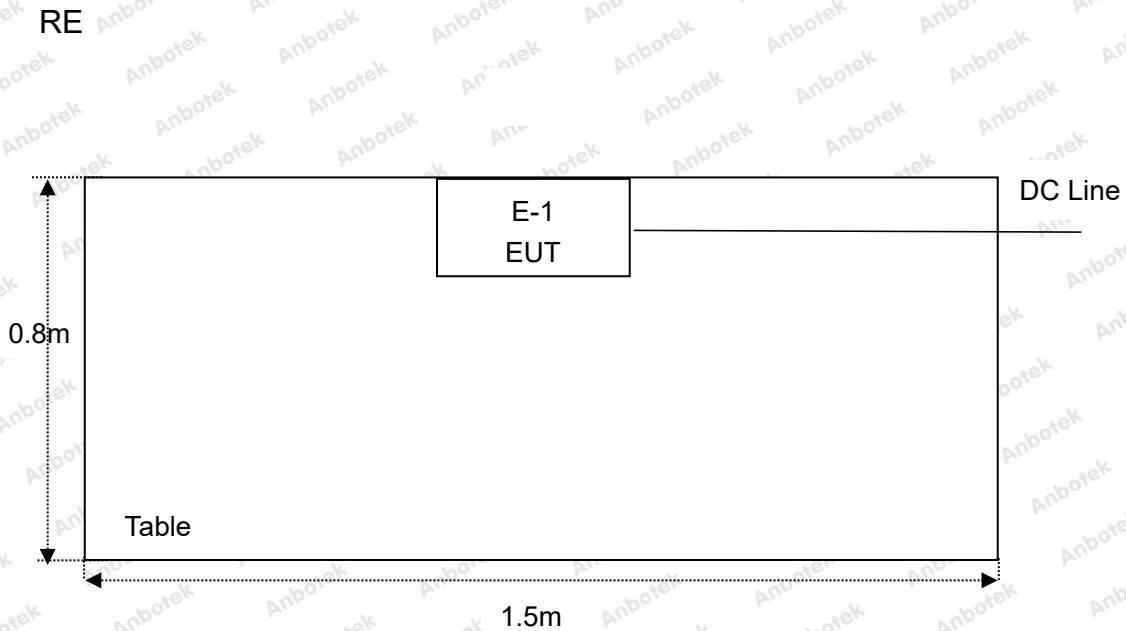
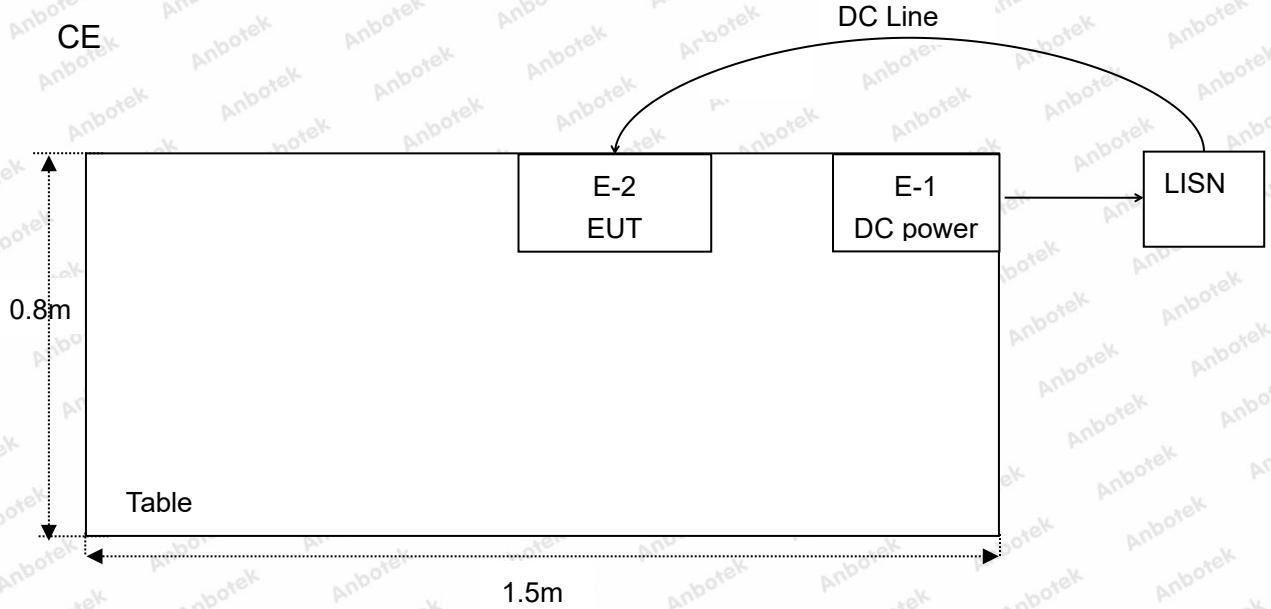
Channel	Freq.	Channel	Freq.	Channel	Freq.	Channel	Freq.
00	5750	31	5781	62	5812	93	5843
01	5751	32	5782	63	5813	94	5844
02	5752	33	5783	64	5814	95	5845
03	5753	34	5784	65	5815	96	5846
04	5754	35	5785	66	5816	97	5847
05	5755	36	5786	67	5817	98	5848
06	5756	37	5787	68	5818	99	5849
07	5757	38	5788	69	5819	100	5850
08	5758	39	5789	70	5820	101	5851
09	5759	40	5790	71	5821	102	5852
10	5760	41	5791	72	5822	103	5853
11	5761	42	5792	73	5823	104	5854
12	5762	43	5793	74	5824	105	5855
13	5763	44	5794	75	5825	106	5856
14	5764	45	5795	76	5826	107	5857
15	5765	46	5796	77	5827	108	5858
16	5766	47	5797	78	5828	109	5859
17	5767	48	5798	79	5829	110	5860
18	5768	49	5799	80	5830	111	5861
19	5769	50	5800	81	5831	112	5862
20	5770	51	5801	82	5832	113	5863
21	5771	52	5802	83	5833	114	5864
22	5772	53	5803	84	5834	115	5865
23	5773	54	5804	85	5835	116	5866
24	5774	55	5805	86	5836	117	5867
25	5775	56	5806	87	5837	118	5868
26	5776	57	5807	88	5838	119	5869
27	5777	58	5808	89	5839	120	5870
28	5778	59	5809	90	5840	/	/
29	5779	60	5810	91	5841	/	/
30	5780	61	5811	92	5842	/	/

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
2. EUT was tested with Channel 00, 50 and 120.



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	Oct. 23, 2022	1 Year
2.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT001	Jul. 05, 2022	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 13, 2022	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Oct. 23, 2022	1 Year
5.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Oct. 22, 2022	1 Year
6.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Oct. 13, 2022	1 Year
7.	EMI Preamplifier	SKET Electronic	LNPA-0118G -45	SKET-PA-002	Oct. 13, 2022	1 Year
8.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	Oct. 16, 2022	3 Year
9.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Oct. 23, 2022	1 Year
10.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Oct. 23, 2022	1 Year
11.	Horn Antenna	A-INFO	LB-180400-K F	J211060628	Oct. 23, 2022	1 Year
12.	Pre-amplifier	SONOMA	310N	186860	Oct. 23, 2022	1 Year
13.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
14.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	Oct. 13, 2022	1 Year
15.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Oct. 13, 2022	1 Year
16.	Signal Generator	Agilent	E4421B	MY41000743	Oct. 13, 2022	1 Year
17.	DC Power Supply	IVYTECH	IV3605	1804D360510	Oct. 22, 2022	1 Year
18.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80 B	N/A	Oct. 19, 2022	1 Year
19.	Power Meter	Agilent	N1914A	MY50001102	Oct.26, 2022	1 Year



1.7. Measurement Uncertainty

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

1.8. 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
15.205/15.209/15.249	Radiated Emission	PASS
15.249(d)	Band Edge	PASS
15.215(c)	20dB Bandwidth	PASS
Remark: "N/A" is an abbreviation for Not Applicable.		



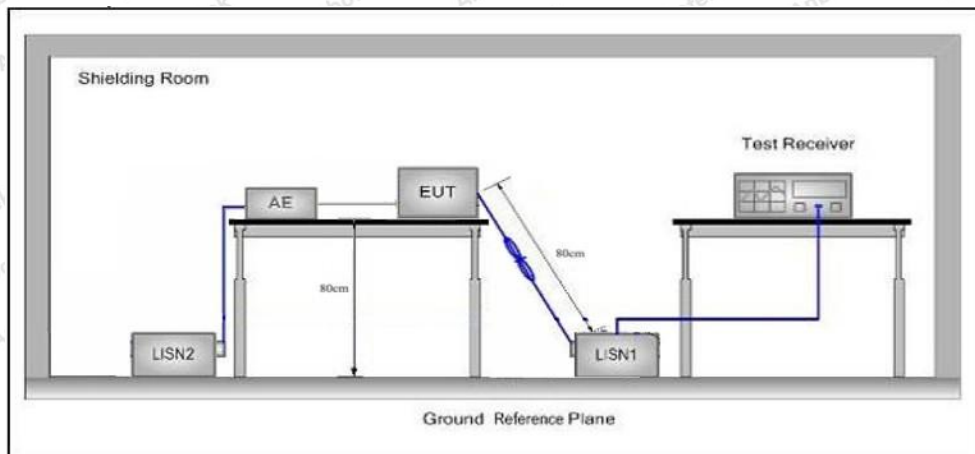
3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
Test Limit	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.

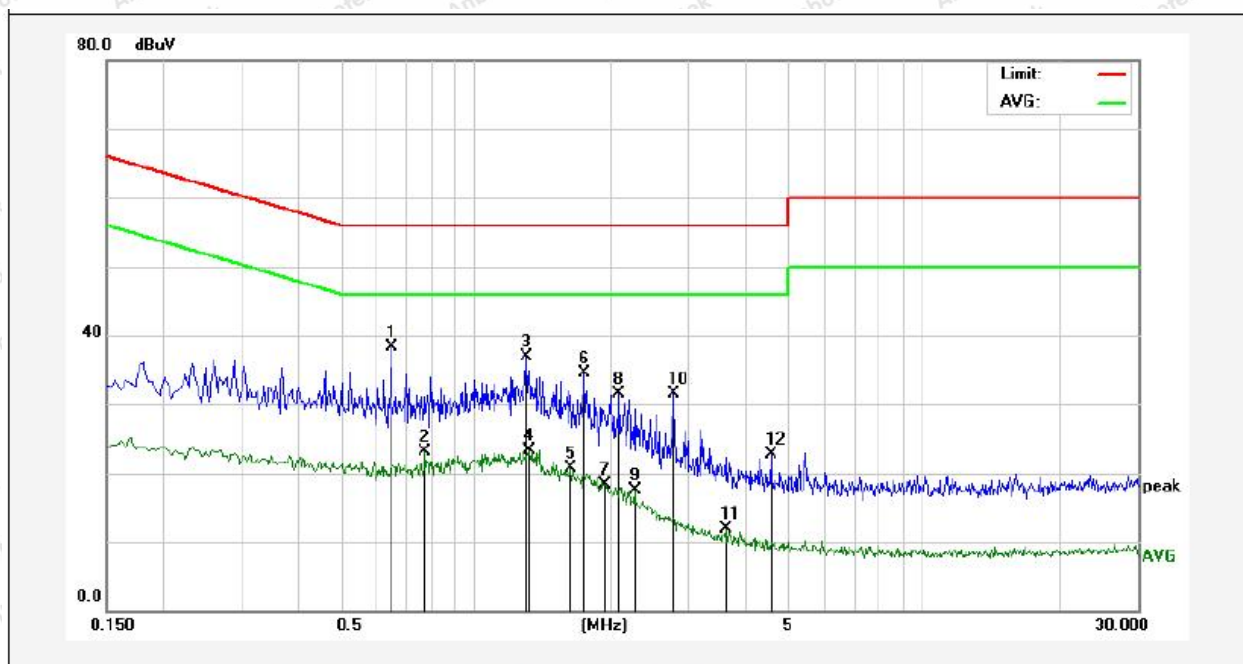
AC conducted emission pre-test at both at AC 120V/60Hz and AC 240V/60Hz modes, recorded worst case AC 120V/60Hz.

Please to see the following pages.



Conducted Emission Test Data

Test Site: 1# Shielded Room
 Operating Condition: Low CH (5750MHz)
 Test Specification: DC 5V
 Comment: +
 Temp.(°C)/Hum.(%RH): 22.1°C/52%RH

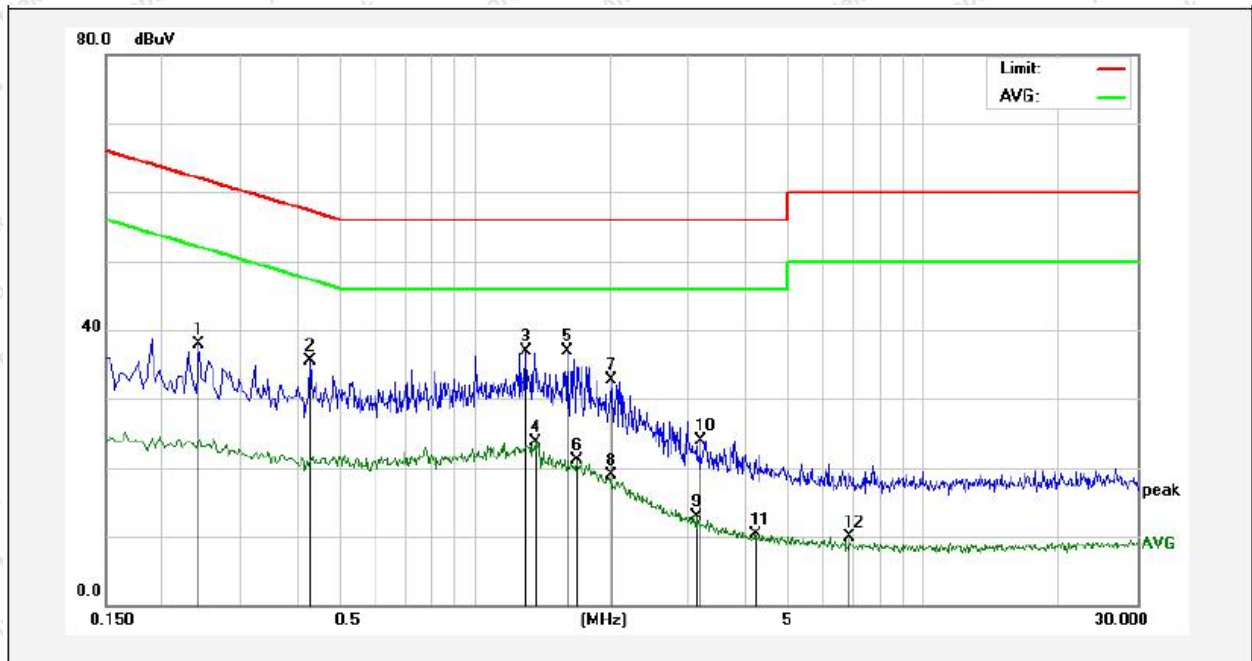


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.6500	28.47	9.87	38.34	56.00	-17.66	QP	
2	0.7740	13.21	9.87	23.08	46.00	-22.92	AVG	
3	1.2980	27.05	9.86	36.91	56.00	-19.09	QP	
4	1.3220	13.38	9.86	23.24	46.00	-22.76	AVG	
5	1.6300	10.83	9.85	20.68	46.00	-25.32	AVG	
6	1.7500	24.68	9.86	34.54	56.00	-21.46	QP	
7	1.9460	8.46	9.85	18.31	46.00	-27.69	AVG	
8	2.0940	21.65	9.85	31.50	56.00	-24.50	QP	
9	2.2700	7.57	9.85	17.42	46.00	-28.58	AVG	
10	2.7659	21.71	9.85	31.56	56.00	-24.44	QP	
11	3.6140	1.96	9.86	11.82	46.00	-34.18	AVG	
12	4.5580	12.83	9.86	22.69	56.00	-33.31	QP	



Conducted Emission Test Data

Test Site: 1# Shielded Room
 Operating Condition: Low CH (5750MHz)
 Test Specification: DC 5V
 Comment: -
 Temp.(°C)/Hum.(%RH): 22.1°C/52%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.2420	28.10	9.82	37.92	62.02	-24.10	QP	
2	0.4300	25.65	9.82	35.47	57.25	-21.78	QP	
3	1.3020	26.96	9.86	36.82	56.00	-19.18	QP	
4	1.3660	13.80	9.86	23.66	46.00	-22.34	AVG	
5	1.6060	27.03	9.85	36.88	56.00	-19.12	QP	
6	1.6860	11.17	9.85	21.02	46.00	-24.98	AVG	
7	2.0140	22.95	9.85	32.80	56.00	-23.20	QP	
8	2.0140	9.02	9.85	18.87	46.00	-27.13	AVG	
9	3.1180	3.01	9.85	12.86	46.00	-33.14	AVG	
10	3.1820	14.12	9.85	23.97	56.00	-32.03	QP	
11	4.2140	0.39	9.85	10.24	46.00	-35.76	AVG	
12	6.8460	0.02	9.90	9.92	50.00	-40.08	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)
	5725~5875	50	-	114.0	Peak	3
	5725~5875	50	-	94.0	Average	3
	5725~5875	-	500	74.0	Peak	3
5725~5875	-	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

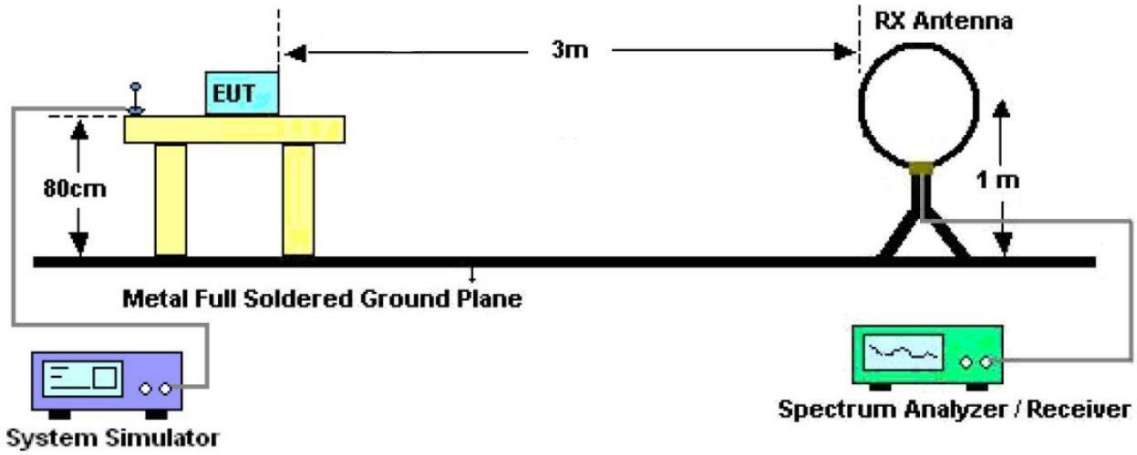


Figure 2. 30MHz to 1GHz

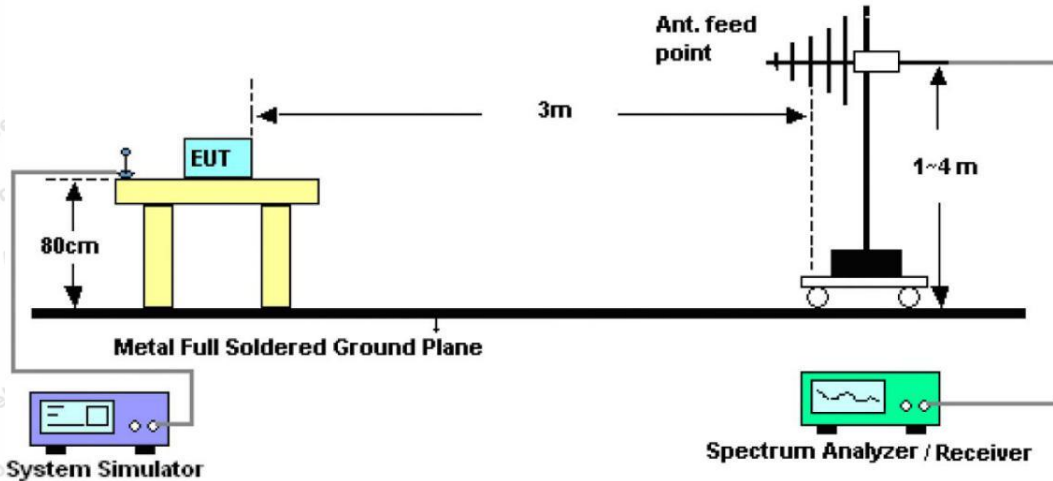
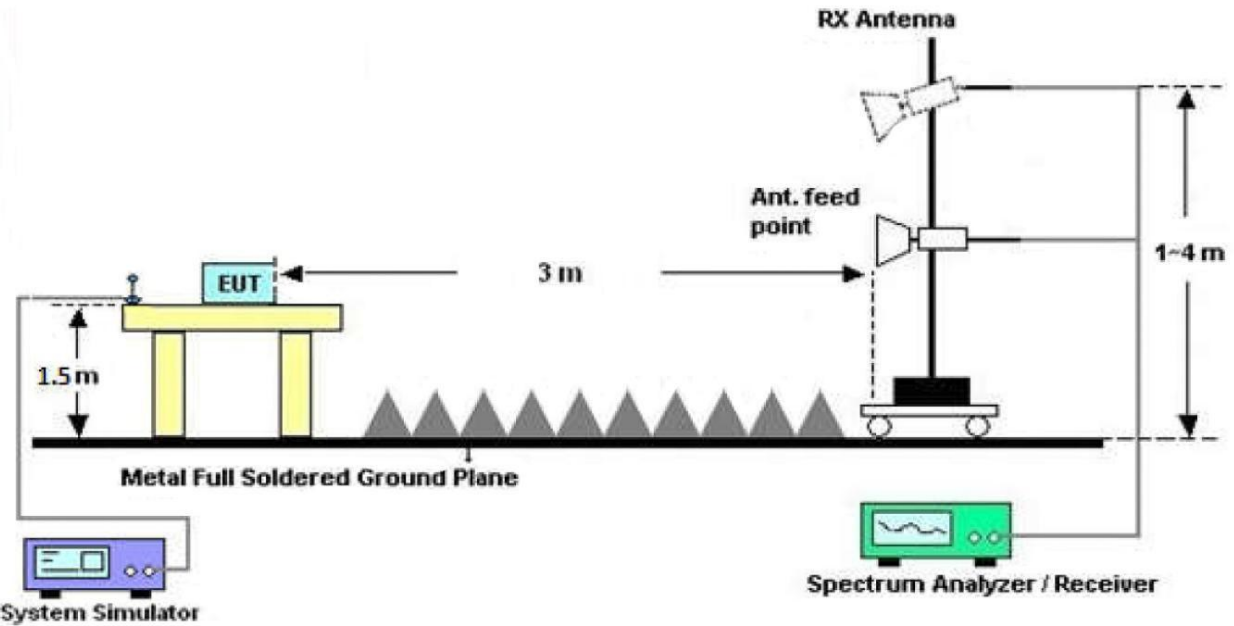


Figure 3. Above 1 GHz





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 a 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.

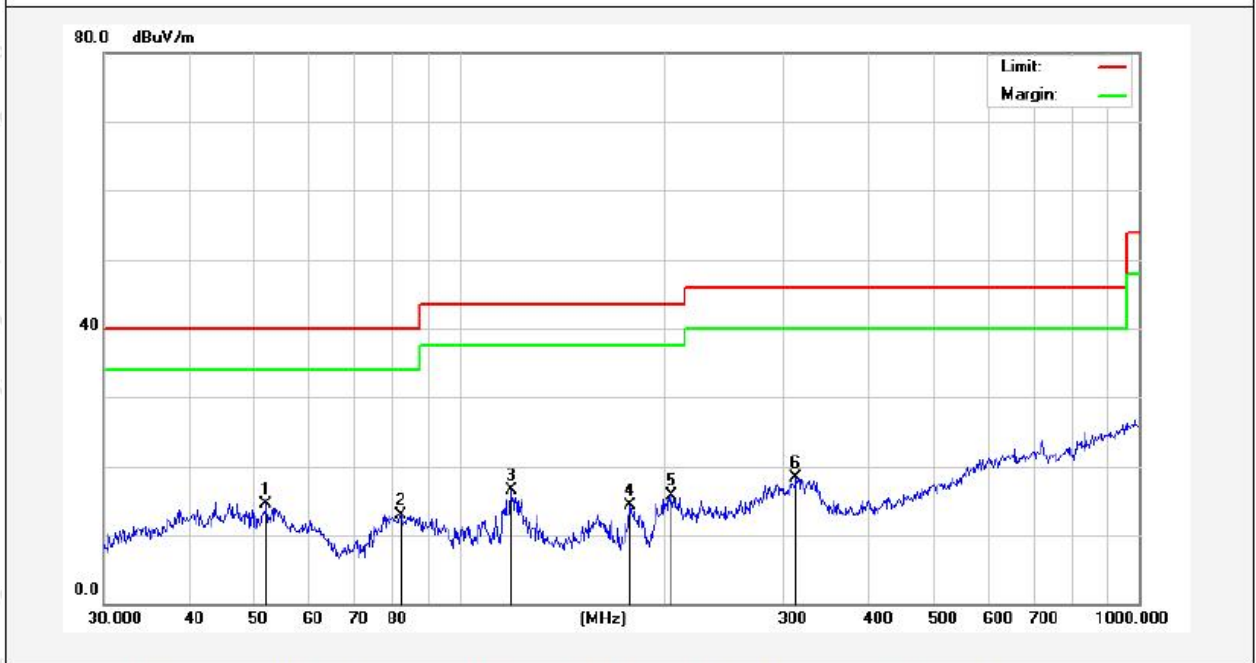
The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

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



Test Results (30~1000MHz)

Test Mode: Low CH (5750MHz)
 Power Source: DC 5V
 Polarization: Vertical
 Temp.(°C)/Hum.(%RH): 22.5°C/50%RH

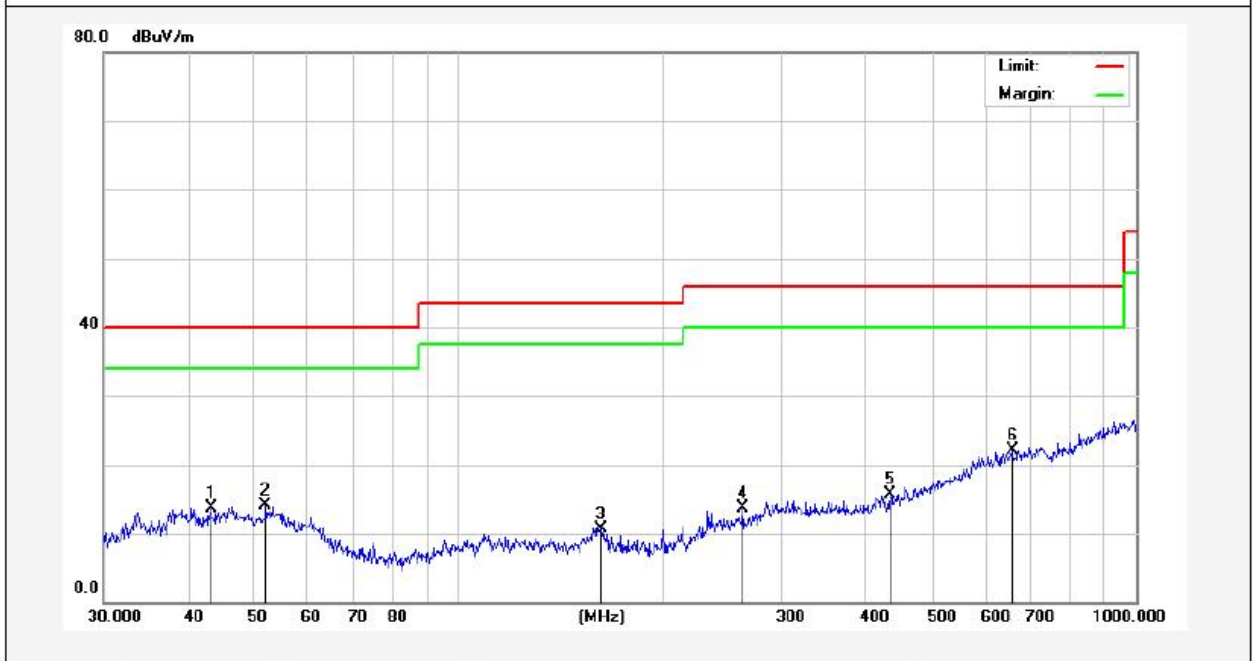


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	52.0251	30.97	-16.52	14.45	40.00	-25.55	QP			
2	82.0706	31.87	-18.99	12.88	40.00	-27.12	QP			
3	119.4361	36.27	-19.83	16.44	43.50	-27.06	QP			
4	178.1327	35.04	-20.70	14.34	43.50	-29.16	QP			
5	205.6751	35.10	-19.46	15.64	43.50	-27.86	QP			
6	313.2760	34.18	-15.92	18.26	46.00	-27.74	QP			



Test Results (30~1000MHz)

Test Mode: Low CH (5750MHz)
 Power Source: DC 5V
 Polarization: Horizontal
 Temp.(°C)/Hum.(%RH): 22.5°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	43.2017	29.24	-15.50	13.74	40.00	-26.26	QP			
2	52.0251	30.58	-16.52	14.06	40.00	-25.94	QP			
3	162.6106	34.71	-23.92	10.79	43.50	-32.71	QP			
4	262.8955	34.06	-20.38	13.68	46.00	-32.32	QP			
5	434.0651	31.35	-15.70	15.65	46.00	-30.35	QP			
6	656.5300	32.75	-10.57	22.18	46.00	-23.82	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
5750.00	88.86	9.75	98.61	114.00	-15.39	Vertical
11500.00	32.18	15.27	47.45	74.00	-26.55	Vertical
17250.00	29.58	18.09	47.67	74.00	-26.33	Vertical
23000.00	31.53	23.76	55.29	74.00	-18.71	Vertical
28750.00	*			74.00		Vertical
34500.00	*			74.00		Vertical
5750.00	86.11	9.75	95.86	114.00	-18.14	Horizontal
11500.00	27.86	15.27	43.13	74.00	-30.87	Horizontal
17250.00	29.89	18.09	47.98	74.00	-26.02	Horizontal
23000.00	33.06	23.76	56.82	74.00	-17.18	Horizontal
28750.00	*			74.00		Horizontal
34500.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
5750.00	80.41	9.75	90.16	94.00	-3.84	Vertical
11500.00	18.37	15.27	33.64	54.00	-20.36	Vertical
17250.00	19.12	18.09	37.21	54.00	-16.79	Vertical
23000.00	25.62	23.76	49.38	54.00	-4.62	Vertical
28750.00	*			54.00		Vertical
34500.00	*			54.00		Vertical
5750.00	73.49	9.75	83.24	94.00	-10.76	Horizontal
11500.00	20.56	15.27	35.83	54.00	-18.17	Horizontal
17250.00	22.21	18.09	40.30	54.00	-13.70	Horizontal
23000.00	18.74	23.76	42.50	54.00	-11.50	Horizontal
28750.00	*			54.00		Horizontal
34500.00	*			54.00		Horizontal

Remark:

- 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 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
5800.00	85.81	9.75	95.56	114.00	-18.44	Vertical
11600.00	33.06	15.27	48.33	74.00	-25.67	Vertical
17400.00	35.66	18.09	53.75	74.00	-20.25	Vertical
23200.00	33.45	23.76	57.21	74.00	-16.79	Vertical
29000.00	*			74.00		Vertical
34800.00	*			74.00		Vertical
5800.00	81.24	9.75	90.99	114.00	-23.01	Horizontal
11600.00	27.01	15.27	42.28	74.00	-31.72	Horizontal
17400.00	33.00	18.09	51.09	74.00	-22.91	Horizontal
23200.00	32.19	23.76	55.95	74.00	-18.05	Horizontal
29000.00	*			74.00		Horizontal
34800.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
5800.00	74.00	9.75	83.75	94.00	-10.25	Vertical
11600.00	20.70	15.27	35.97	54.00	-18.03	Vertical
17400.00	17.71	18.09	35.80	54.00	-18.20	Vertical
23200.00	17.95	23.76	41.71	54.00	-12.29	Vertical
29000.00	*			54.00		Vertical
34800.00	*			54.00		Vertical
5800.00	75.48	9.75	85.23	94.00	-8.77	Horizontal
11600.00	19.51	15.27	34.78	54.00	-19.22	Horizontal
17400.00	18.02	18.09	36.11	54.00	-17.89	Horizontal
23200.00	18.55	23.76	42.31	54.00	-11.69	Horizontal
29000.00	*			54.00		Horizontal
34800.00	*			54.00		Horizontal

Remark:

- 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 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
5870.00	83.72	9.75	93.47	114.00	-20.53	Vertical
11740.00	30.28	15.27	45.55	74.00	-28.45	Vertical
17610.00	28.95	18.09	47.04	74.00	-26.96	Vertical
23480.00	35.47	23.76	59.23	74.00	-14.77	Vertical
29350.00	*			74.00		Vertical
35220.00	*			74.00		Vertical
5870.00	83.70	9.75	93.45	114.00	-20.55	Horizontal
11740.00	31.73	15.27	47.00	74.00	-27.00	Horizontal
17610.00	33.24	18.09	51.33	74.00	-22.67	Horizontal
23480.00	28.11	23.76	51.87	74.00	-22.13	Horizontal
29350.00	*			74.00		Horizontal
35220.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
5870.00	77.83	9.75	87.58	94.00	-6.42	Vertical
11740.00	16.19	15.27	31.46	54.00	-22.54	Vertical
17610.00	19.81	18.09	37.90	54.00	-16.10	Vertical
23480.00	17.03	23.76	40.79	54.00	-13.21	Vertical
29350.00	*			54.00		Vertical
35220.00	*			54.00		Vertical
5870.00	78.31	9.75	88.06	94.00	-5.94	Horizontal
11740.00	20.23	15.27	35.50	54.00	-18.50	Horizontal
17610.00	27.33	18.09	45.42	54.00	-8.58	Horizontal
23480.00	20.11	23.76	43.87	54.00	-10.13	Horizontal
29350.00	*			54.00		Horizontal
35220.00	*			54.00		Horizontal

Remark:

- 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 channel: Lowest							
Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Antenna Pol.	Detector
5750.00	41.88	17.05	58.93	74.00	-15.07	H	Peak
5750.00	42.18	17.05	59.23	74.00	-14.77	V	Peak
5750.00	29.37	17.05	46.42	54.00	-7.58	H	AVG
5750.00	30.70	17.05	47.75	54.00	-6.25	V	AVG
Test channel: Highest							
Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Antenna Pol.	Detector
5870.00	42.77	17.21	59.98	74.00	-14.02	H	Peak
5870.00	41.16	17.21	58.37	74.00	-15.63	V	Peak
5870.00	29.65	17.21	46.86	54.00	-7.14	H	AVG
5870.00	30.07	17.21	47.28	54.00	-6.72	V	AVG

Remark:

1. Level = Reading + Factor

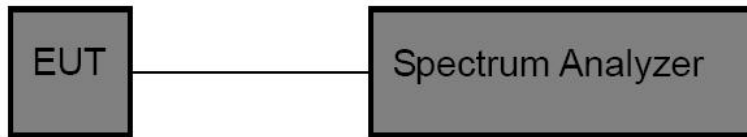


5. 20dB Bandwidth Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.215(c)
Test Limit	N/A

5.2. Test Setup



5.3. Test Procedure

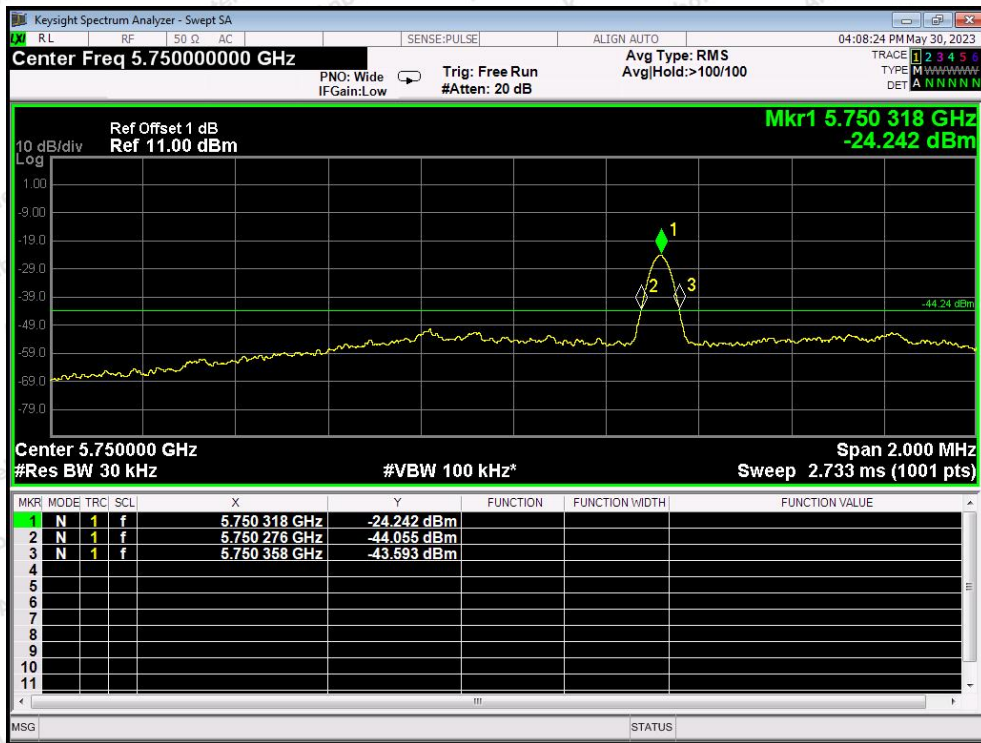
1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
 RBW = 30kHz, VBW≥3*RBW =100kHz,
 Detector= Average
 Trace mode= Max hold.
 Sweep- 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

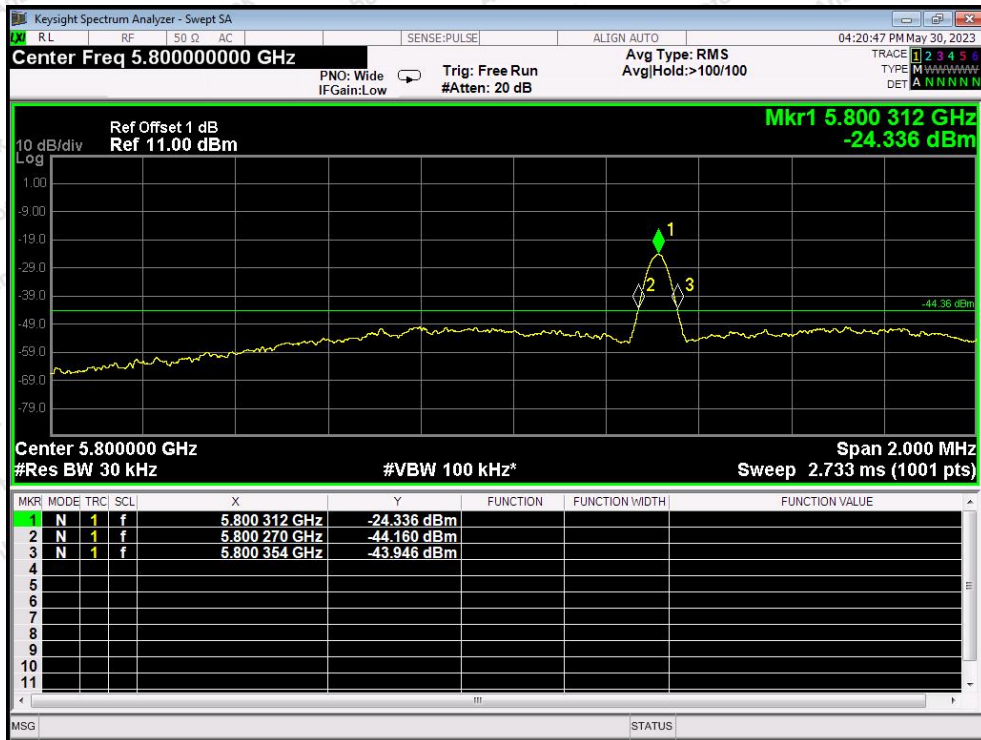
Test Item	: 20dB Bandwidth	Test Mode	: CH Low ~ CH High
Test Voltage	: DC 5V	Temperature	: 22.4℃
Test Result	: PASS	Humidity	: 55%RH

Channel	Bandwidth (MHz)	Result
Low	0.040	PASS
Middle	0.042	PASS
High	0.042	PASS





Low Channel



Mid Channel





High Channel



6. Antenna Requirement

6.1. Test Standard and Requirement

Test Standard	FCC Part15 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 Connecteds Construction

The antenna is a PCB Antenna which permanently attached, and the best case gain of the antenna is 3 dBi. It complies with the standard requirement.



APPENDIX I -- TEST SETUP PHOTOGRAPH

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

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 -----

