

TEST REPORT

Reference No...... : WTA26D05137443W001
FCC ID : 2AJJGHJ8258C
Applicant..... : Qingdao Richmat Intelligence Technology Inc
Address..... : NO.78 Kongquehe 4th Road, Qingdao Clothing Industry park, Jimo, Qingdao, Shandong Province, China
Manufacturer : Qingdao Richmat Intelligence Technology Inc
Address..... : NO.78 Kongquehe 4th Road, Qingdao Clothing Industry park, Jimo, Qingdao, Shandong Province, China
Product..... : Control box
Model(s) : K02M-X-XXXX-XX-XXX-XXX-XX, K02M-B-A141-1R-110-LH1-01
Standards..... : FCC 47CFR Part 15.247
Date of Receipt sample : 2026-05-26
Date of Test : 2026-06-04 to 2026-06-22
Date of Issue..... : 2026-08-07
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
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Approved by:



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3 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTA26D05137443W001	2026-05-26	2026-06-04 to 2026-06-22	2026-08-07	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Original Product:	Single mode Bluetooth(5.0) Module
Original Model(s):	HJ8258C
Host Product Name:	Control box
Host Model(s):	K02M-X-XXXX-XX-XXX-XXX-XX, K02M-B-A141-1R-110-LH1-01
Model Description:	The "X" in the series model represents different meanings respectively, but the schematic diagram, PCB layout, appearance color, etc. are all the same. The entire machine covered by this certification is based on the module ID and has undergone tests related to radiation emission and radiation emission interference for the entire machine. The selected test model for the entire machine is K02M-B-A141-1R-110-LH1-01.
Test Sample No.:	1-1/1
Bluetooth Version:	V5.0

4.2 Details of E.U.T.

Operation Frequency:	2402~2480MHz
Max. RF output power:	-1.26dBm *
Type of Modulation:	GFSK
Antenna installation:	PCB Antenna
Antenna Gain:	3.25dBi

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Ratings: AC 100-240V, 50/60Hz

Note: * The Value of the Max. RF output power, please refer to the original report (EMTEK (NINGBO) CO., LTD. Ref. No.: ENB2604200247W00101R)

4.3 Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2404	2	2406	3	2408
4	2410	5	2412	6	2414	7	2416
8	2418	9	2420	10	2422	11	2424
12	2426	13	2428	14	2430	15	2432
16	2434	17	2436	18	2438	19	2440
20	2442	21	2444	22	2446	23	2448
24	2450	25	2452	26	2454	27	2456
28	2458	29	2460	30	2462	31	2464
32	2466	33	2468	34	2470	35	2472
36	2474	37	2476	38	2478	39	2480

4.4 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. 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 number 523476, September 10, 2019.

4.5 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.6 Abnormalities from Standard Conditions

None.

4.7 Test Mode

Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Band Edge	Bluetooth LE	1Mbps	0/19/39	TX
Transmitter Spurious Emissions	Bluetooth LE	1Mbps	0/19/39	TX

Note: Parameters set by test software during channel & power tests, the software provided by the applicant was used to set the operating channels as well as the maximum output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product.

5 Test Summary

Test Items	Test Requirement	Result
Radiated Spurious Emissions	15.247(d) 15.205(a) 15.209(a)	PASS
Conducted Emissions	15.207(a)	PASS

6 Equipment Used during Test

6.1 Equipments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date	Calibration Due Date
Conducted Emissions 1#						
1	EMI Test Receiver	R&S	ESCI	100947	2025-07-04	2026-07-03
2	LISN	R&S	ENV216	100115	2026-06-02	2027-06-01
3	Cable	Top	TYPE16(3.5M)	-	2026-06-02	2027-06-01
3m Semi-anechoic Chamber for Radiation Emissions 1#						
1	Spectrum Analyzer	R&S	FSP30	100091	2026-04-07	2027-04-06
2	Amplifier	Agilent	8447D	2944A10178	2025-07-04	2026-07-03
3	Tri-log Broadband Antenna	SCHWARZBECK	VULB9163	336	2025-07-20	2026-07-19
4	Coaxial Cable	Top	TYPE16(13M)	-	2026-04-07	2027-04-06
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1314	2025-08-09	2026-08-08
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2025-07-04	2026-07-03
7	Broadband Preamplifier	COMPLIANCE	PAP-1G18	2004	2025-07-04	2026-07-03
8	Coaxial Cable	Top	ZT26-NJ-NJ-8M/FA	-	2026-04-07	2027-04-06
9	Microwave Amplifier	SCHWARZBECK	BBV 9721	100472	2025-07-04	2026-07-03
10	Coaxial Cable	Top	ZT40-2.92J-2.92J-2.0M	17100919	2025-07-08	2026-07-07
3m Semi-anechoic Chamber for Radiation Emissions 2#						
1	Test Receiver	R&S	ESCI	101296	2026-04-07	2027-04-06
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2025-07-05	2026-07-04
3	Active Loop Antenna	Com-Power	AL-130R	10160007	2026-04-19	2027-04-18
4	Amplifier	ANRITSU	MH648A	M43381	2026-04-07	2027-04-06
5	Cable	HUBER+SUHNER	CBL2	525178	2026-04-07	2027-04-06
RF Conducted Testing						
1	Spectrum Analyzer	R&S	FSP40	100501	2025-07-04	2026-07-03
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2025-07-05	2026-07-04
3	Power Sensor	TST	TSCB562R2	-	2025-12-05	2026-12-04

Test Software:

Test Item	Software name	Software version
Conduction disturbance Radiated Emission(3m)	EZ-EMC	EZ-EMC(RA-03A1-1)

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
AC/DC adapter	Richmat	PS3-A29020-1	PS3A19111100132

6.3 Measurement Uncertainty

Parameter	Uncertainty
Radiated Spurious Emissions	± 5.08 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Conducted Emission	± 3.64 dB(AC mains 150KHz~30MHz)

6.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R. China.

7 Conducted Emission

Test Requirement: 47CFR FCC Part15 Subpart C §15.207

Test Method: ANSI C63.10-2020

Test Result: PASS

Frequency Range: 150kHz to 30MHz

Limit:

Frequency (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5.0	56	46
5.0 to 30	60	50

*Decreases with the logarithm of the frequency

7.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

Humidity: 62.2 % RH

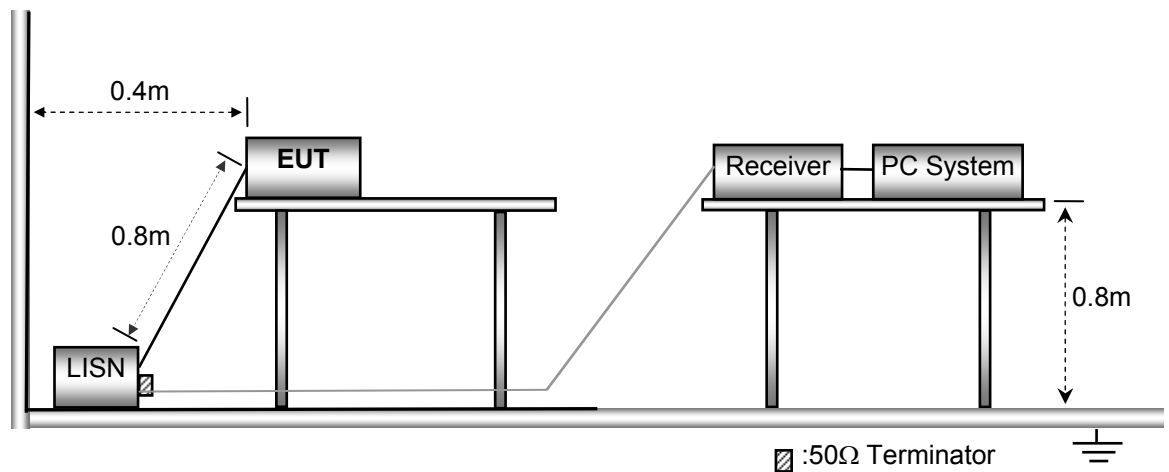
Atmospheric Pressure: 101.5kPa

EUT Operation:

The test was performed in Transmitting mode, the worst test data were shown in the report.

7.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020.



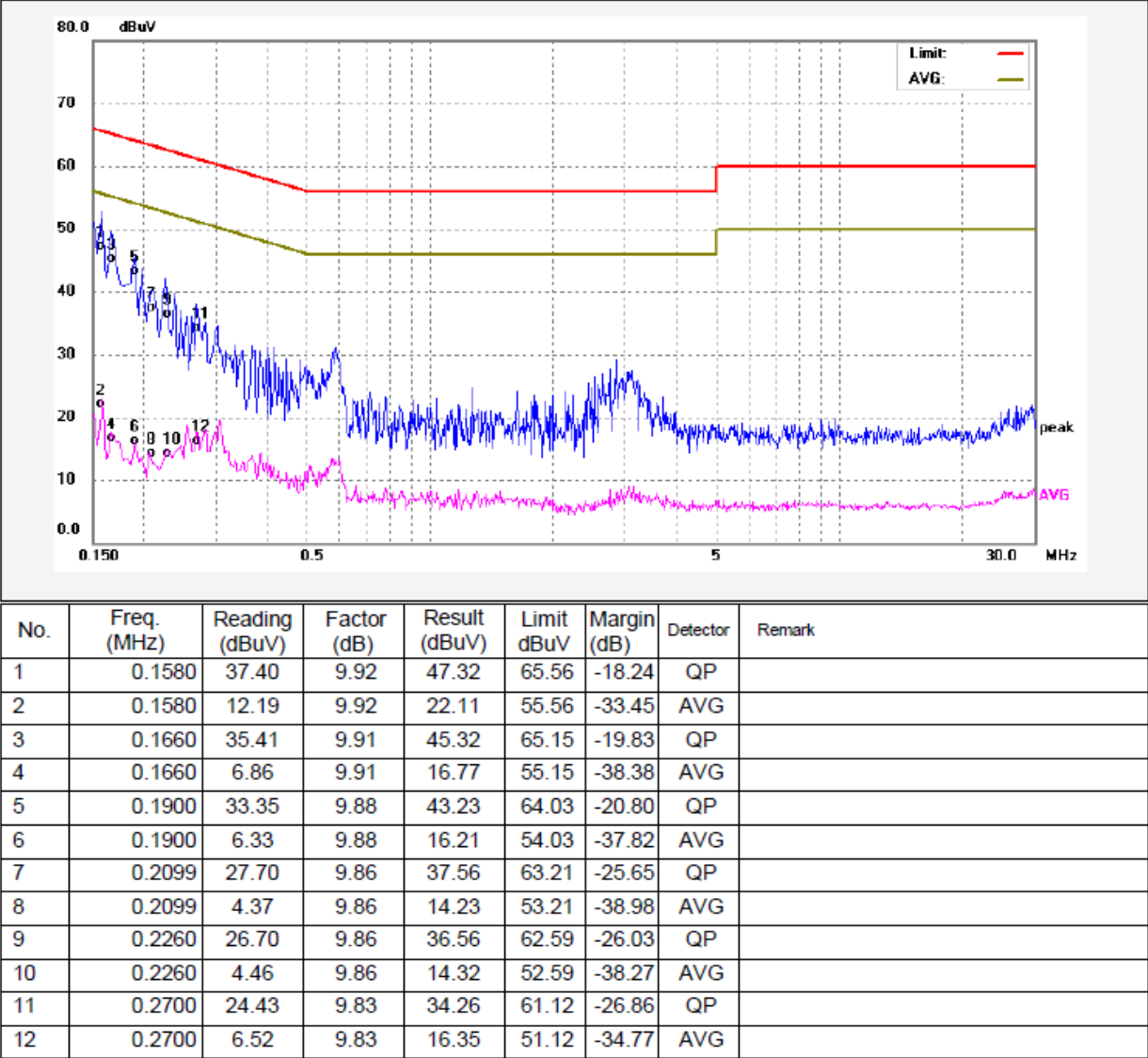
7.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

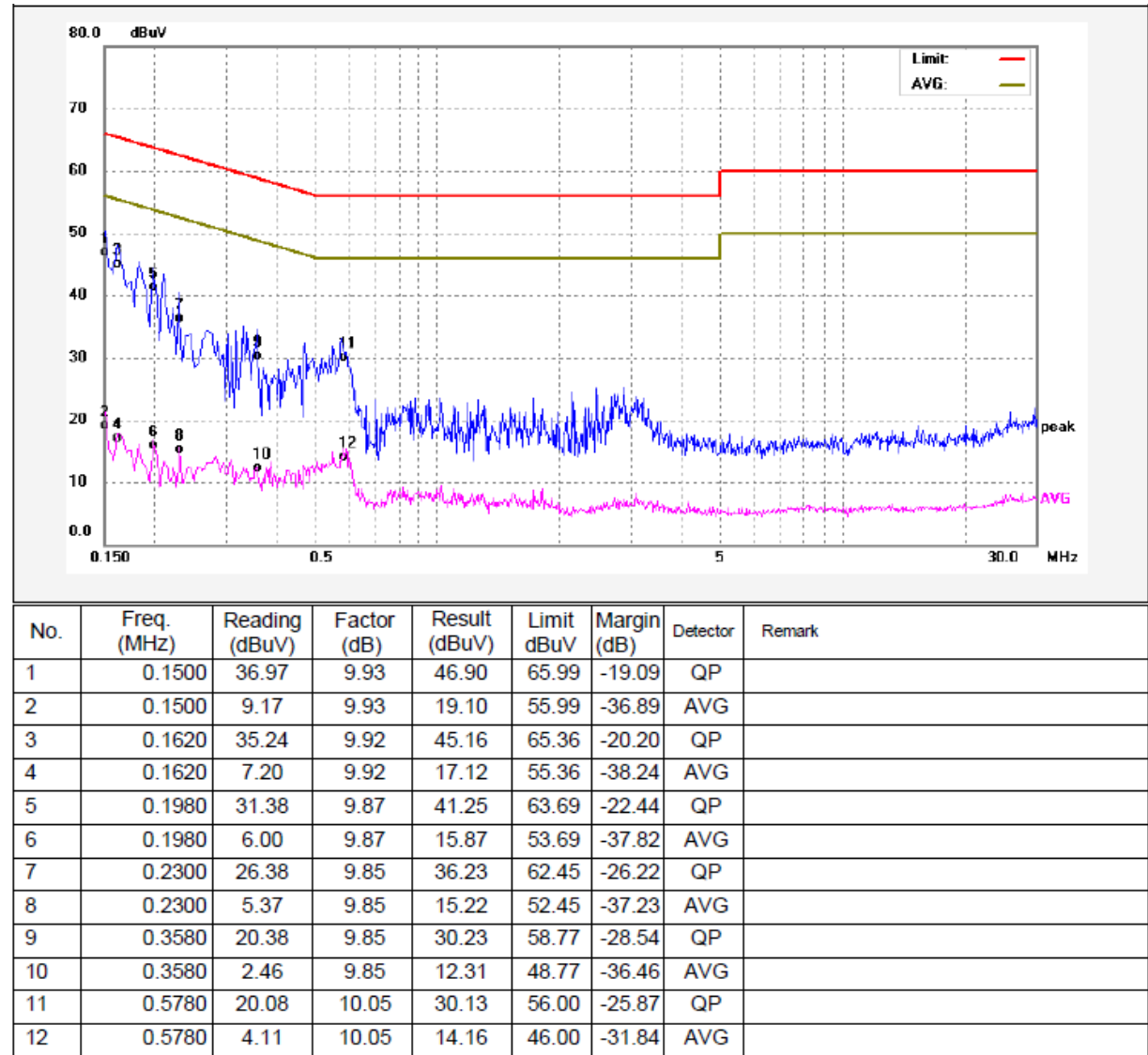
7.4 Conducted Emission Test Result

Remark: only the worst data were reported

Live line:



Neutral line:



8 Radiated Emissions

Test Requirement: FCC 47CFR Part 15 Section 15.209 & 15.247

Test Method: ANSI C63.10-2020+A1-2024

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

8.1 EUT Operation

Operating Environment:

Temperature: 25.4 °C

Humidity: 58.4 % RH

Atmospheric Pressure: 101.4kPa

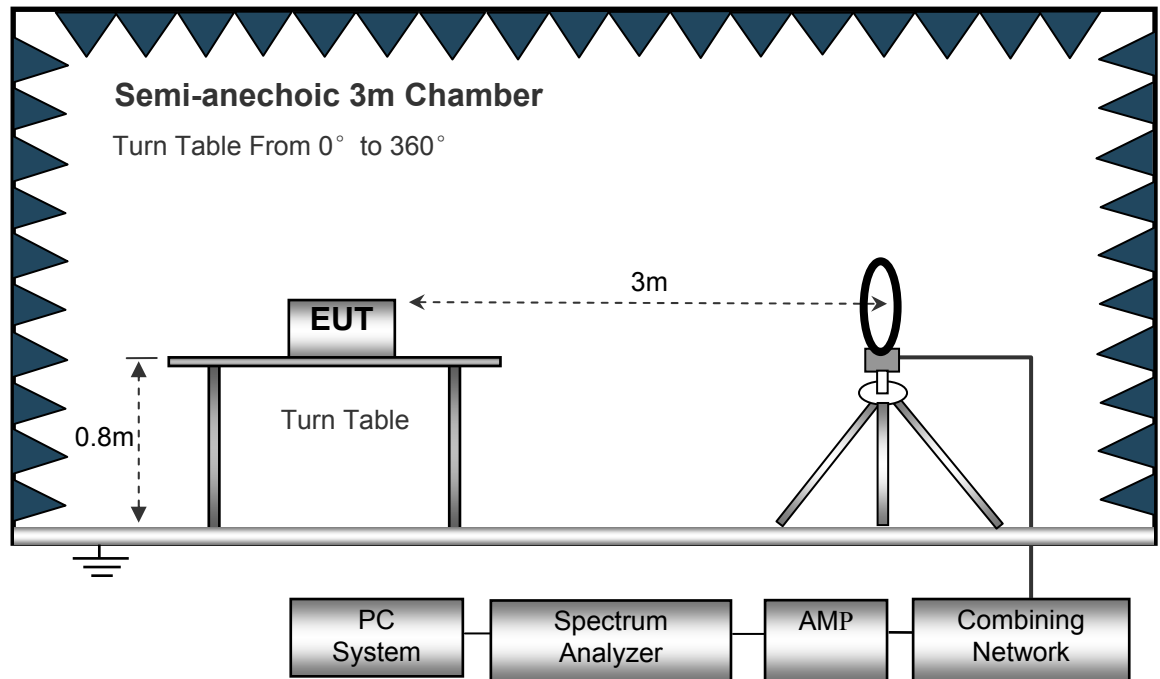
EUT Operation:

The test was performed in transmitting mode, the test data were shown in the report.

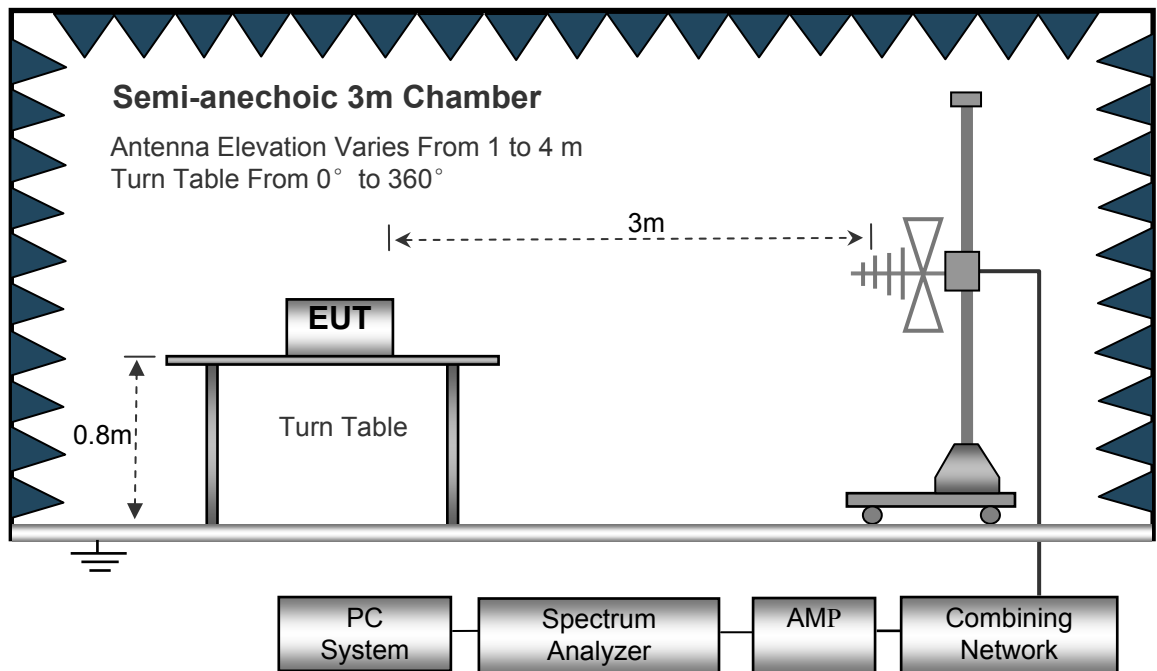
8.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

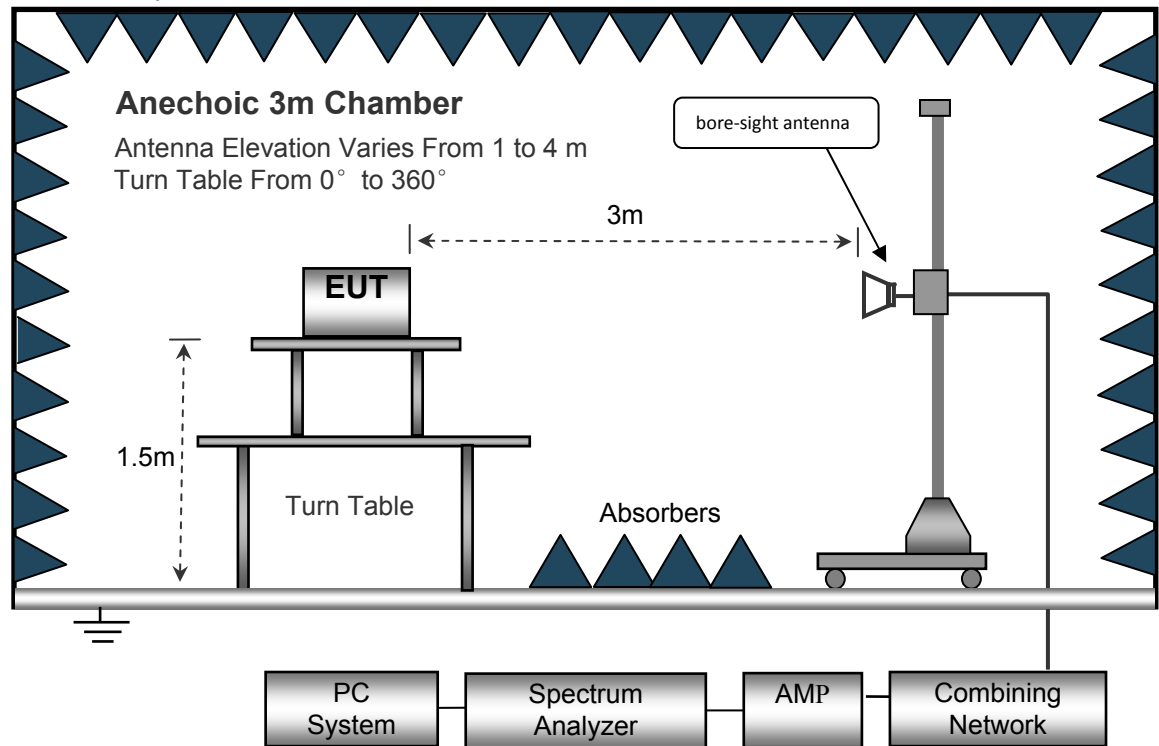
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



8.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed Auto
IF Bandwidth..... 10kHz
Video Bandwidth..... 10kHz
Resolution Bandwidth..... 10kHz

30MHz ~ 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth..... 100kHz
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 3MHz
Detector Ave.
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 10Hz

8.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used during radiated emissions above 1GHz measurement.

8.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” 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 maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

8.6 Summary of Test Results

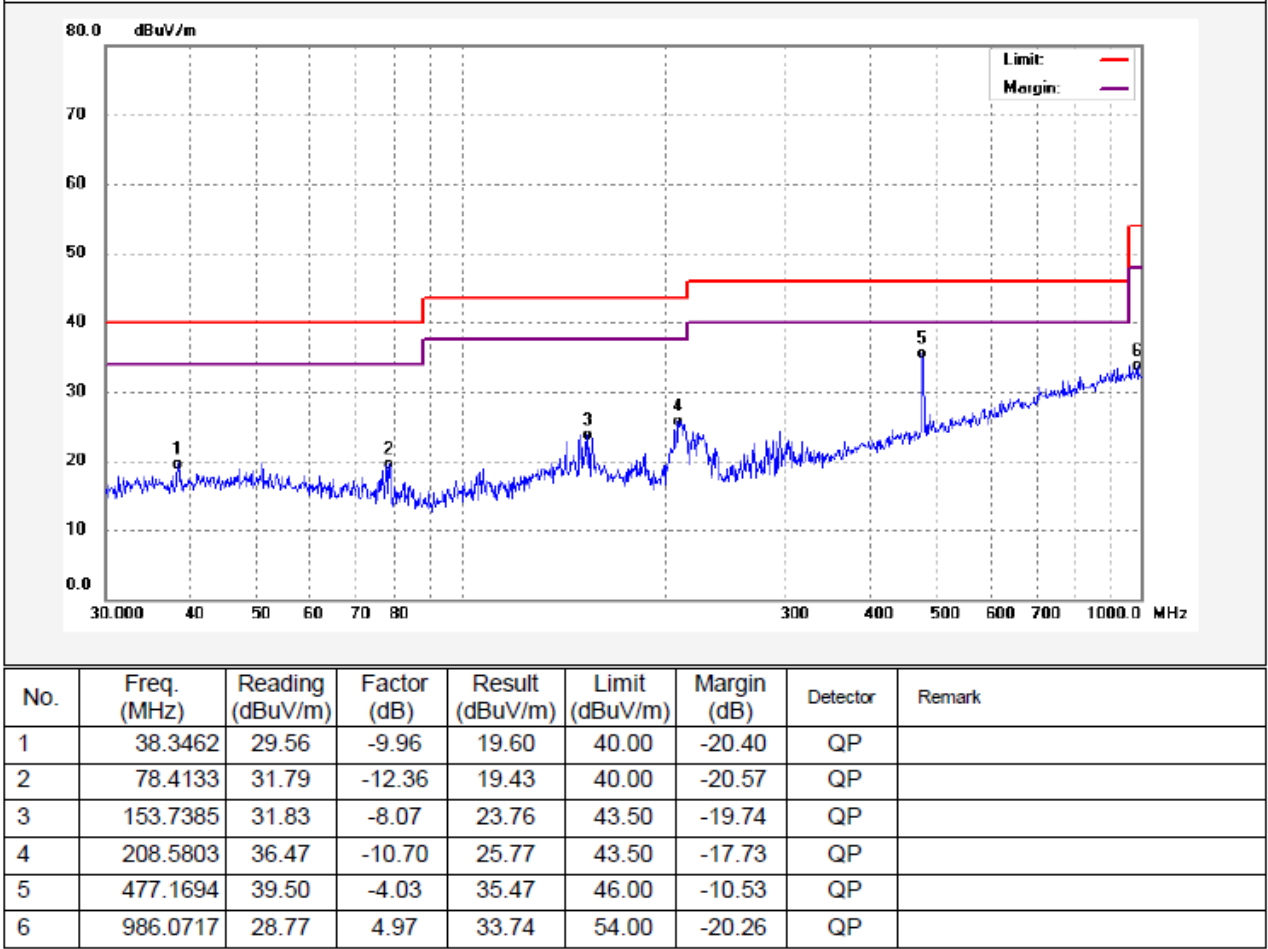
Test Frequency: 9kHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

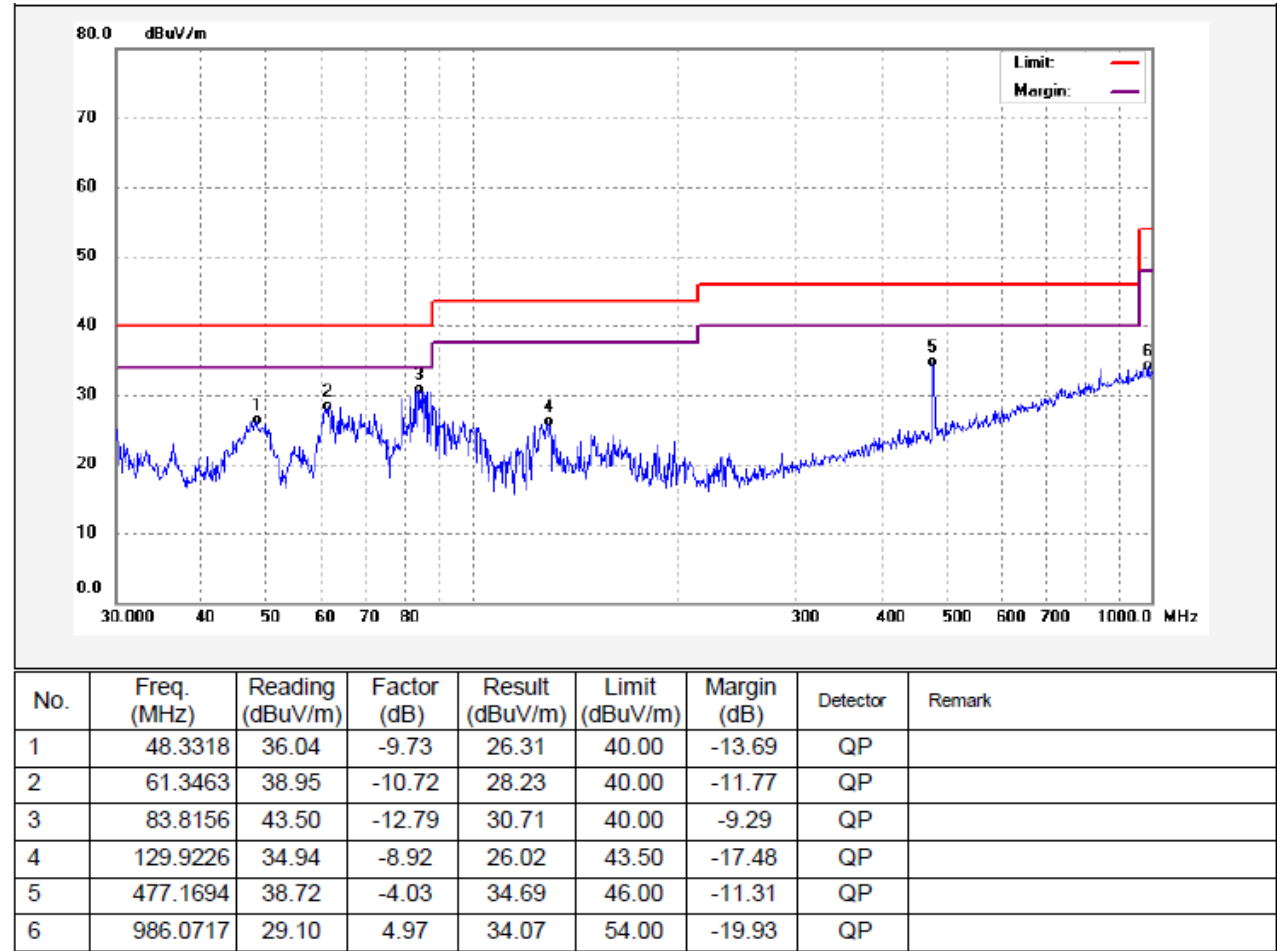
Test Frequency: 30MHz ~ 1000MHz

Low:

Antenna Polarization: Horizontal

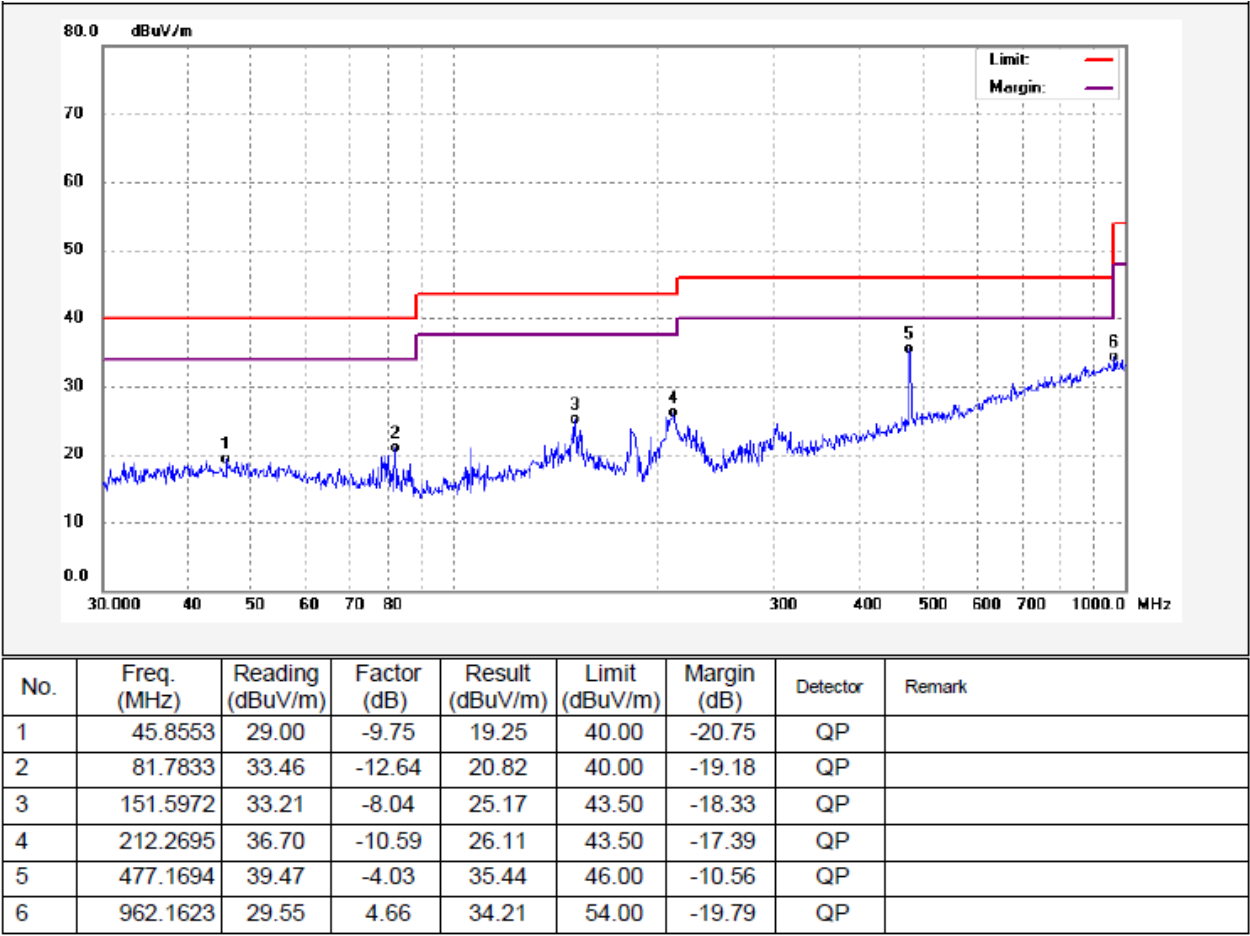


Antenna Polarization: Vertical

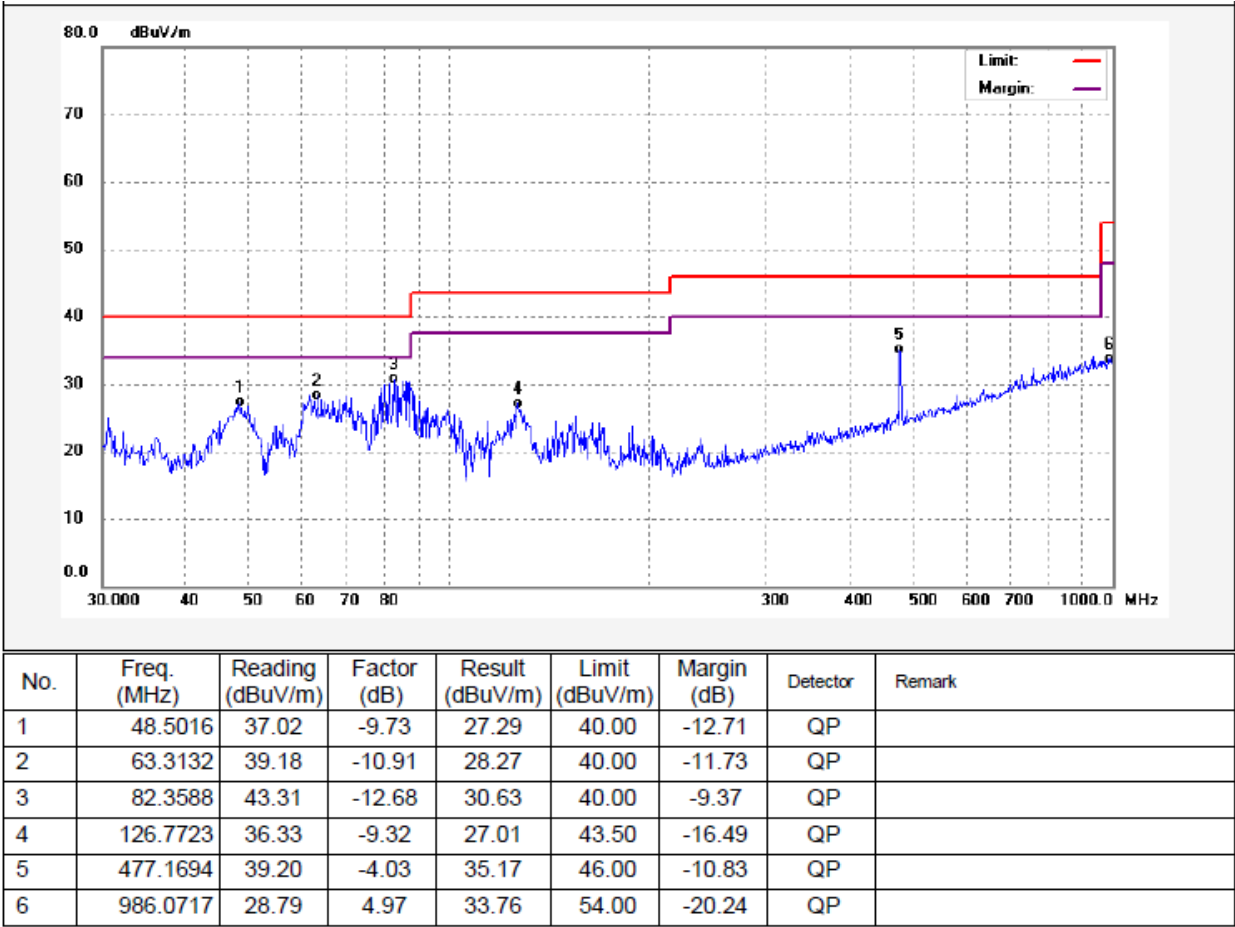


Middle:

Antenna Polarization: Horizontal

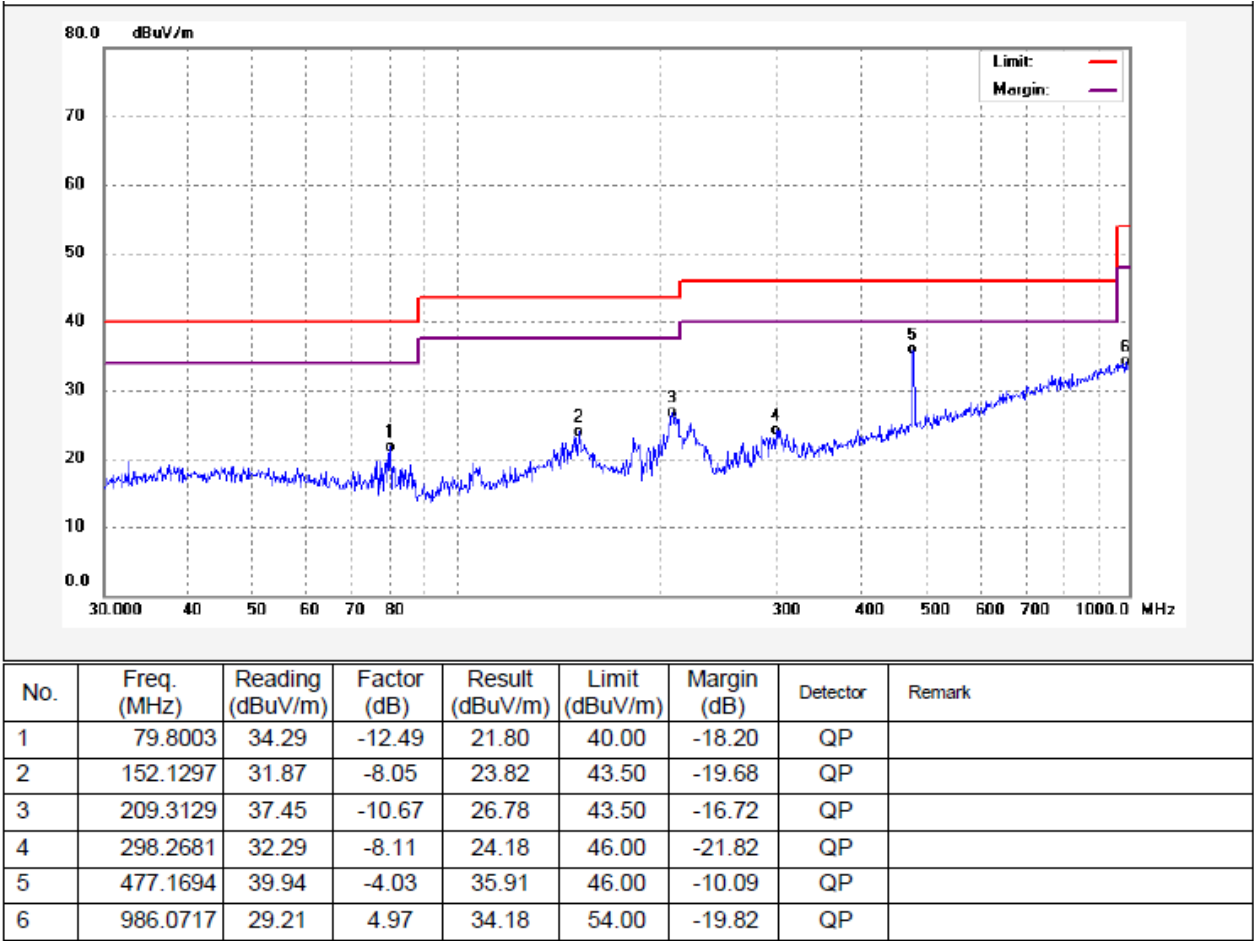


Antenna Polarization: Vertical

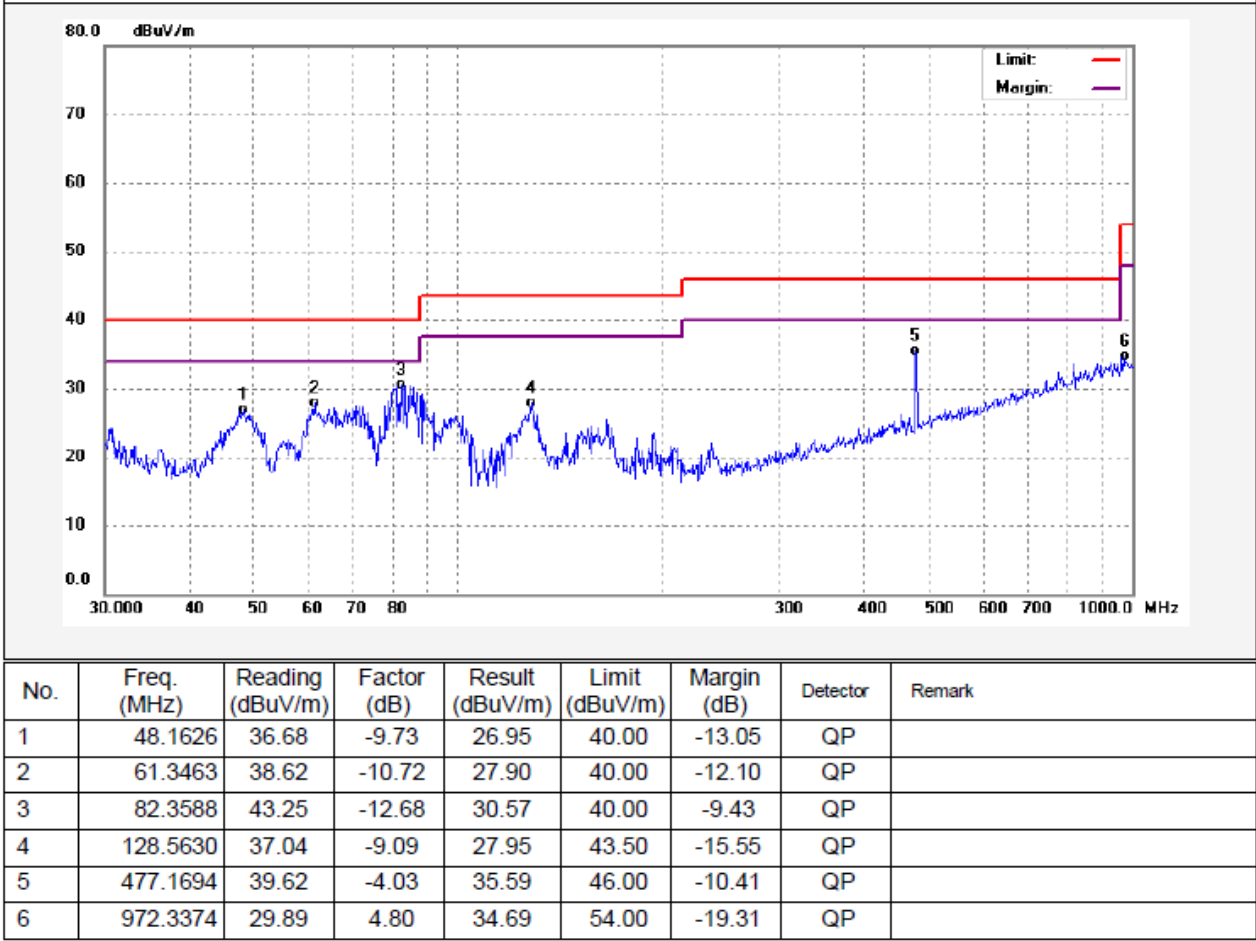


High:

Antenna Polarization: Horizontal

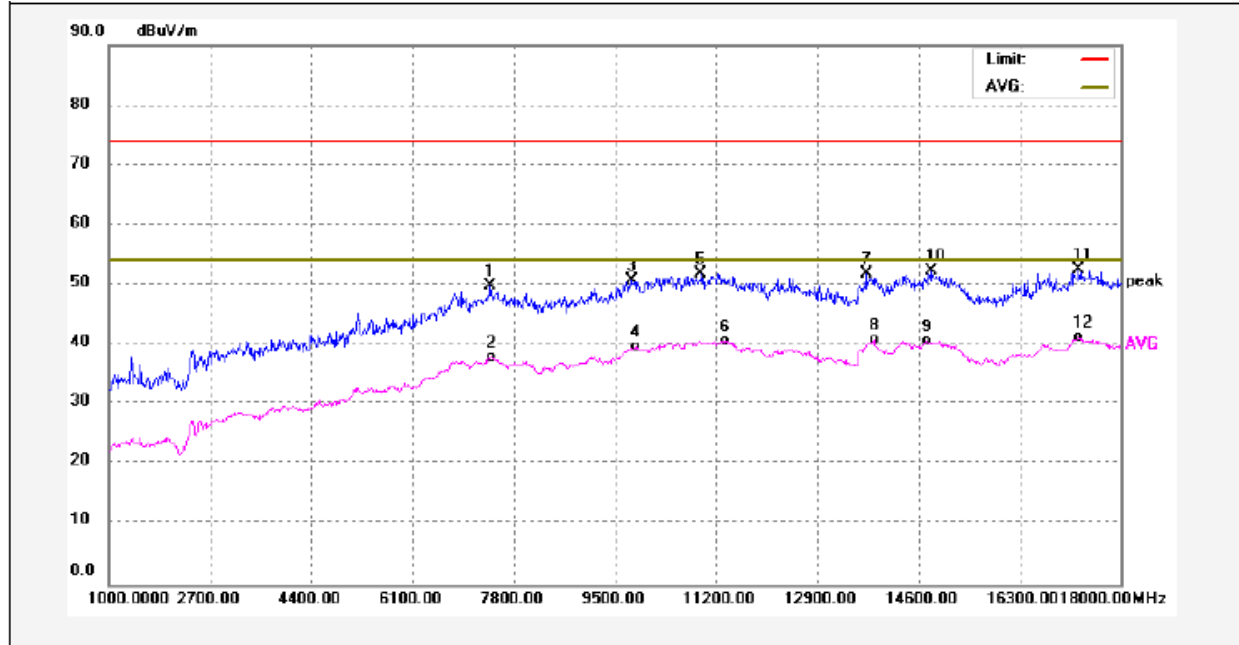


Antenna Polarization: Vertical



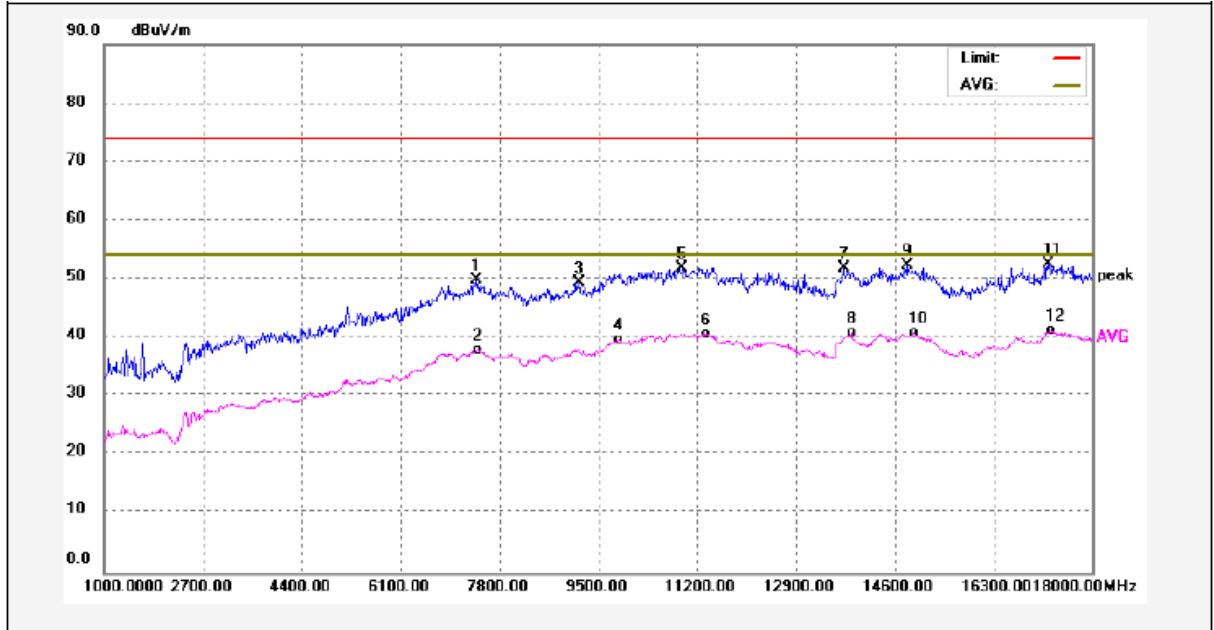
Test Frequency: Above 1G**Low:**

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	7409.000	49.02	0.83	49.85	74.00	-24.15	peak	
2	7426.000	37.18	0.81	37.99	54.00	-16.01	AVG	
3	9772.000	48.49	2.17	50.66	74.00	-23.34	peak	
4	9840.000	37.44	2.25	39.69	54.00	-14.31	AVG	
5	10945.000	48.05	3.80	51.85	74.00	-22.15	peak	
6	11336.000	36.96	3.75	40.71	54.00	-13.29	AVG	
7	13716.000	45.93	5.92	51.85	74.00	-22.15	peak	
8	13852.000	34.43	6.39	40.82	54.00	-13.18	AVG	
9	14753.000	33.43	7.16	40.59	54.00	-13.41	AVG	
10	14804.000	45.18	7.07	52.25	74.00	-21.75	peak	
11	17286.000	43.58	8.85	52.43	74.00	-21.57	peak	
12	17286.000	32.46	8.85	41.31	54.00	-12.69	AVG	

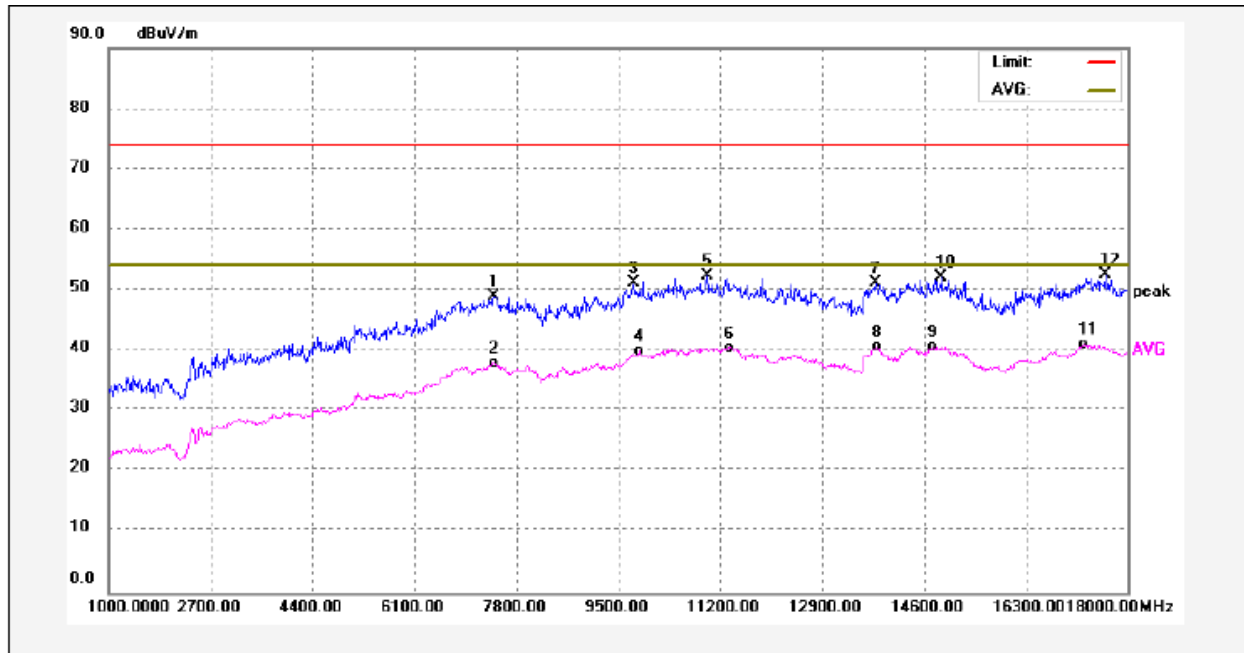
Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	7409.000	49.02	0.83	49.85	74.00	-24.15	peak	
2	7426.000	37.18	0.81	37.99	54.00	-16.01	AVG	
3	9177.000	48.38	1.05	49.43	74.00	-24.57	peak	
4	9840.000	37.44	2.25	39.69	54.00	-14.31	AVG	
5	10945.000	48.05	3.80	51.85	74.00	-22.15	peak	
6	11336.000	36.96	3.75	40.71	54.00	-13.29	AVG	
7	13716.000	45.93	5.92	51.85	74.00	-22.15	peak	
8	13852.000	34.43	6.39	40.82	54.00	-13.18	AVG	
9	14804.000	45.18	7.07	52.25	74.00	-21.75	peak	
10	14923.000	33.94	6.85	40.79	54.00	-13.21	AVG	
11	17235.000	43.88	8.74	52.62	74.00	-21.38	peak	
12	17286.000	32.46	8.85	41.31	54.00	-12.69	AVG	

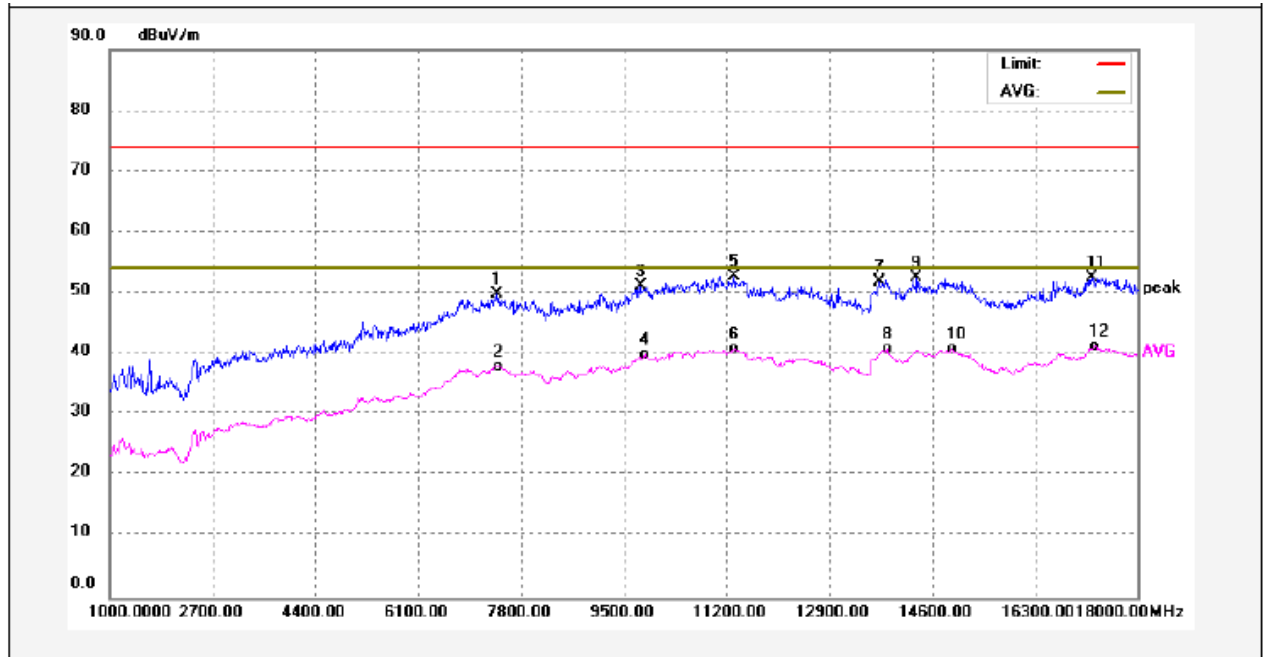
Middle:

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	7426.000	48.06	0.81	48.87	74.00	-25.13	peak	
2	7426.000	37.14	0.81	37.95	54.00	-16.05	AVG	
3	9755.000	49.09	2.11	51.20	74.00	-22.80	peak	
4	9840.000	37.71	2.25	39.96	54.00	-14.04	AVG	
5	10979.000	48.49	3.85	52.34	74.00	-21.66	peak	
6	11319.000	36.72	3.77	40.49	54.00	-13.51	AVG	
7	13784.000	45.06	6.16	51.22	74.00	-22.78	peak	
8	13818.000	34.31	6.28	40.59	54.00	-13.41	AVG	
9	14736.000	33.36	7.20	40.56	54.00	-13.44	AVG	
10	14889.000	45.07	6.91	51.98	74.00	-22.02	peak	
11	17269.000	32.24	8.82	41.06	54.00	-12.94	AVG	
12	17626.000	42.63	10.00	52.63	74.00	-21.37	peak	

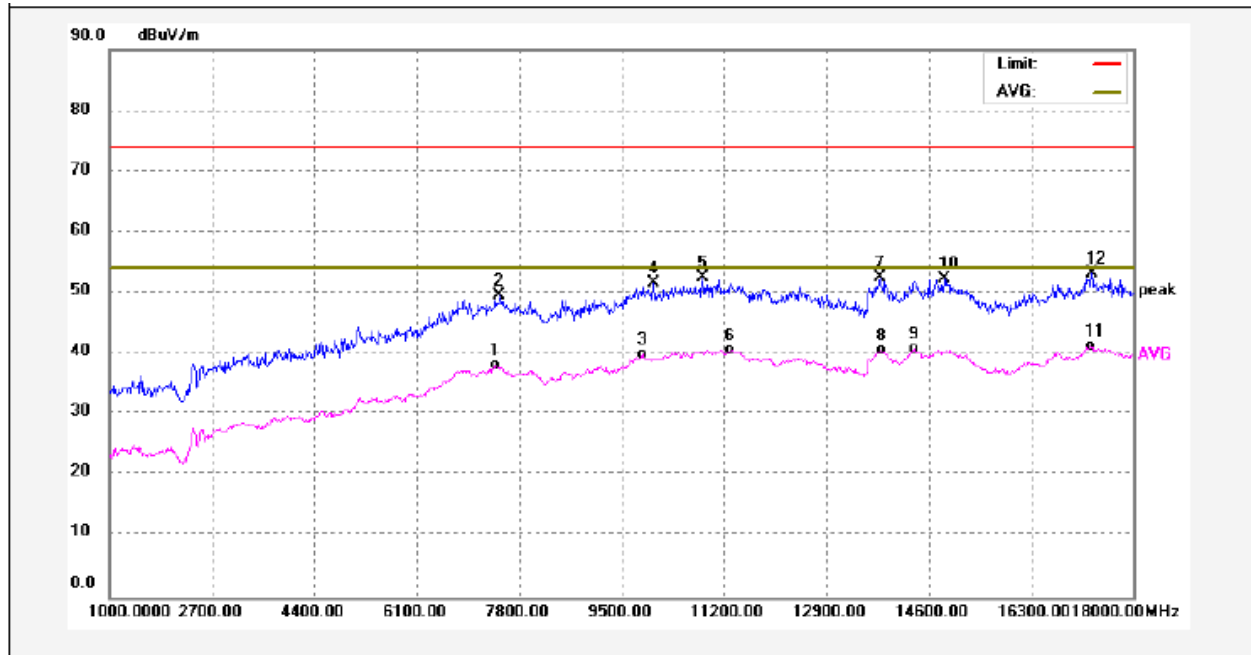
Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	7409.000	49.02	0.83	49.85	74.00	-24.15	peak	
2	7426.000	37.18	0.81	37.99	54.00	-16.01	AVG	
3	9772.000	49.12	2.17	51.29	74.00	-22.71	peak	
4	9840.000	37.62	2.25	39.87	54.00	-14.13	AVG	
5	11319.000	48.92	3.77	52.69	74.00	-21.31	peak	
6	11319.000	37.11	3.77	40.88	54.00	-13.12	AVG	
7	13716.000	45.93	5.92	51.85	74.00	-22.15	peak	
8	13852.000	34.43	6.39	40.82	54.00	-13.18	AVG	
9	14345.000	45.13	7.42	52.55	74.00	-21.45	peak	
10	14923.000	33.94	6.85	40.79	54.00	-13.21	AVG	
11	17235.000	43.88	8.74	52.62	74.00	-21.38	peak	
12	17286.000	32.46	8.85	41.31	54.00	-12.69	AVG	

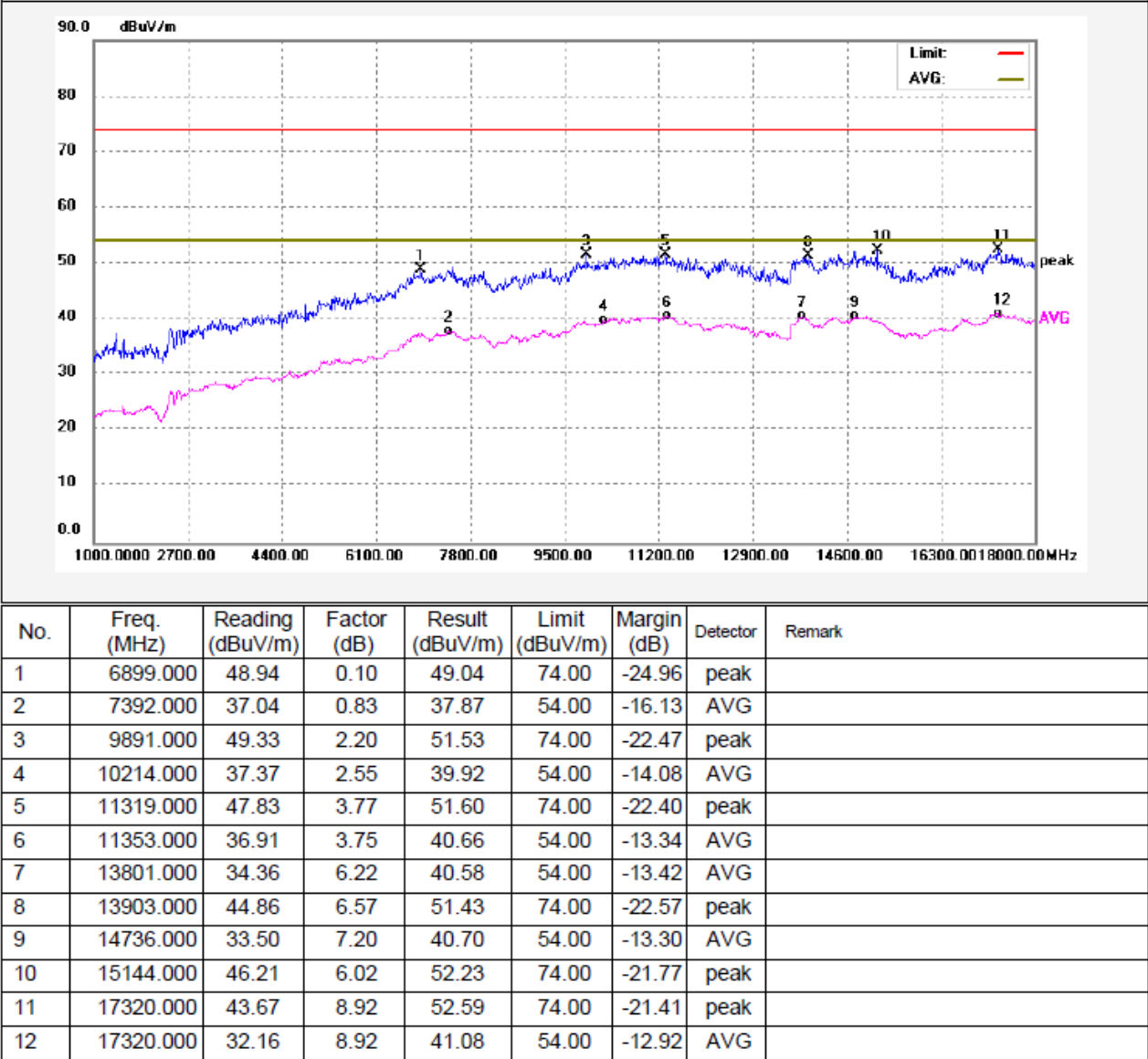
High:

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	7409.000	37.25	0.83	38.08	54.00	-15.92	AVG	
2	7477.000	48.89	0.73	49.62	74.00	-24.38	peak	
3	9840.000	37.68	2.25	39.93	54.00	-14.07	AVG	
4	10027.000	49.57	2.15	51.72	74.00	-22.28	peak	
5	10843.000	48.79	3.65	52.44	74.00	-21.56	peak	
6	11302.000	36.86	3.77	40.63	54.00	-13.37	AVG	
7	13784.000	46.33	6.16	52.49	74.00	-21.51	peak	
8	13818.000	34.30	6.28	40.58	54.00	-13.42	AVG	
9	14362.000	33.33	7.44	40.77	54.00	-13.23	AVG	
10	14855.000	45.31	6.98	52.29	74.00	-21.71	peak	
11	17286.000	32.41	8.85	41.26	54.00	-12.74	AVG	
12	17303.000	44.41	8.90	53.31	74.00	-20.69	peak	

Antenna Polarization: Vertical



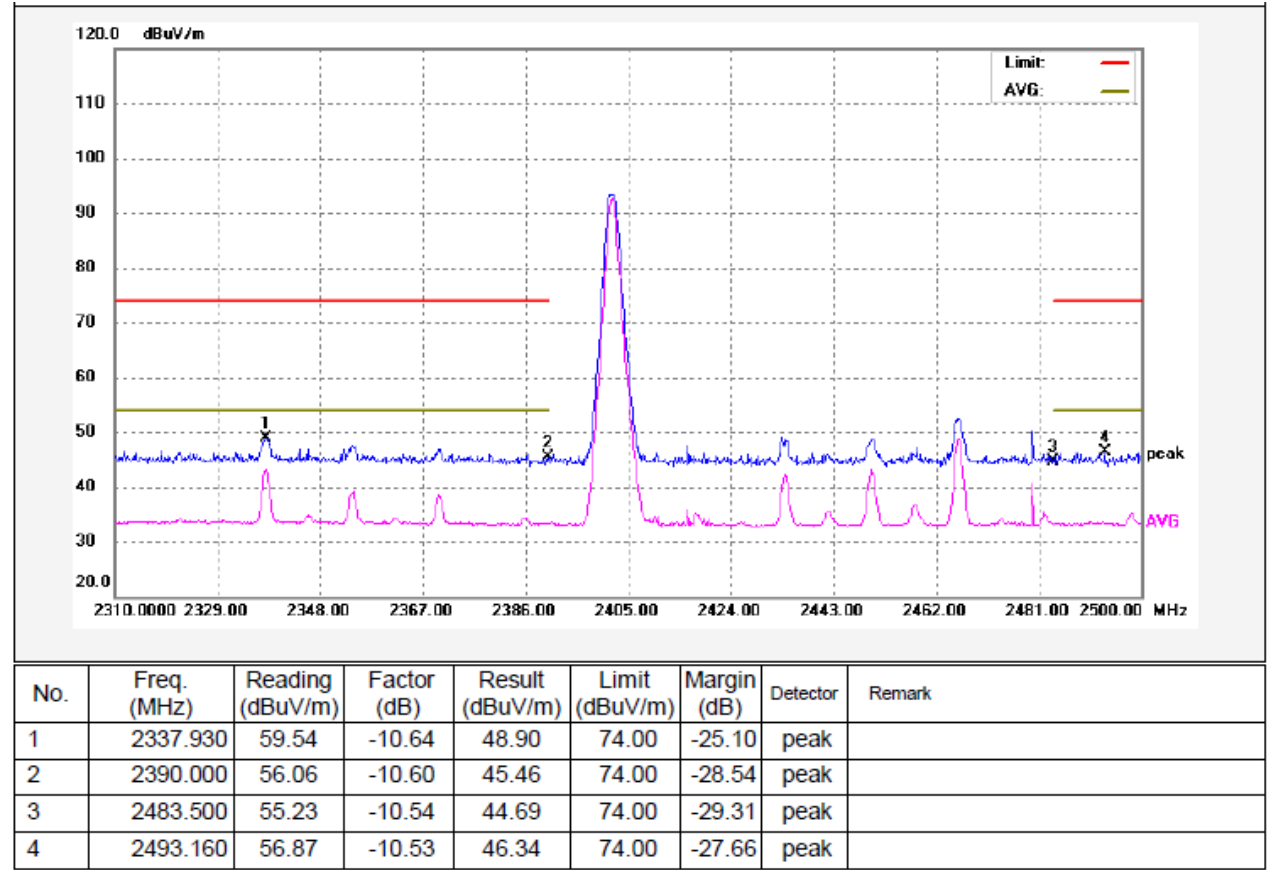
Test Frequency: 18GHz~25GHz

The measurements were more than 20 dB below the limit and not reported.

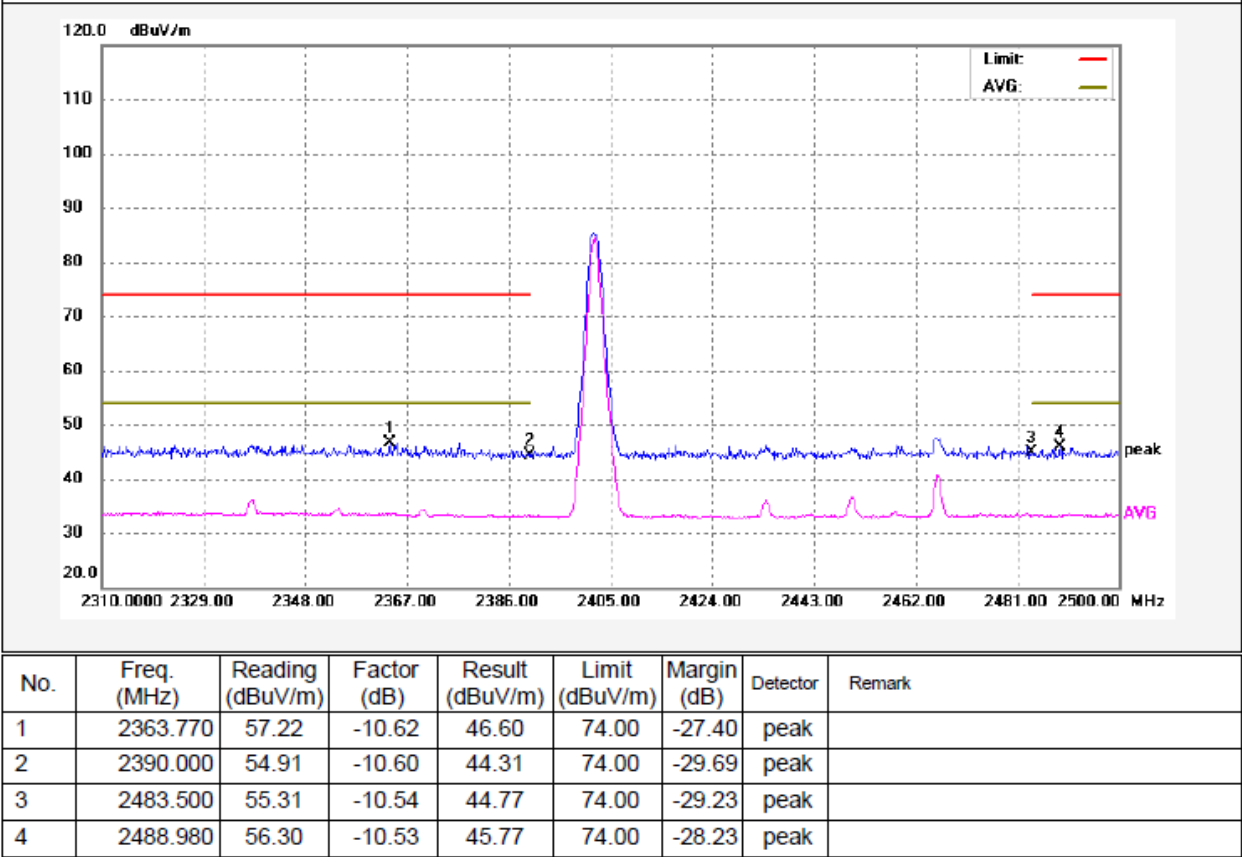
Radiated Restricted Band Emission

LE-1M-L

Antenna Polarization: Horizontal

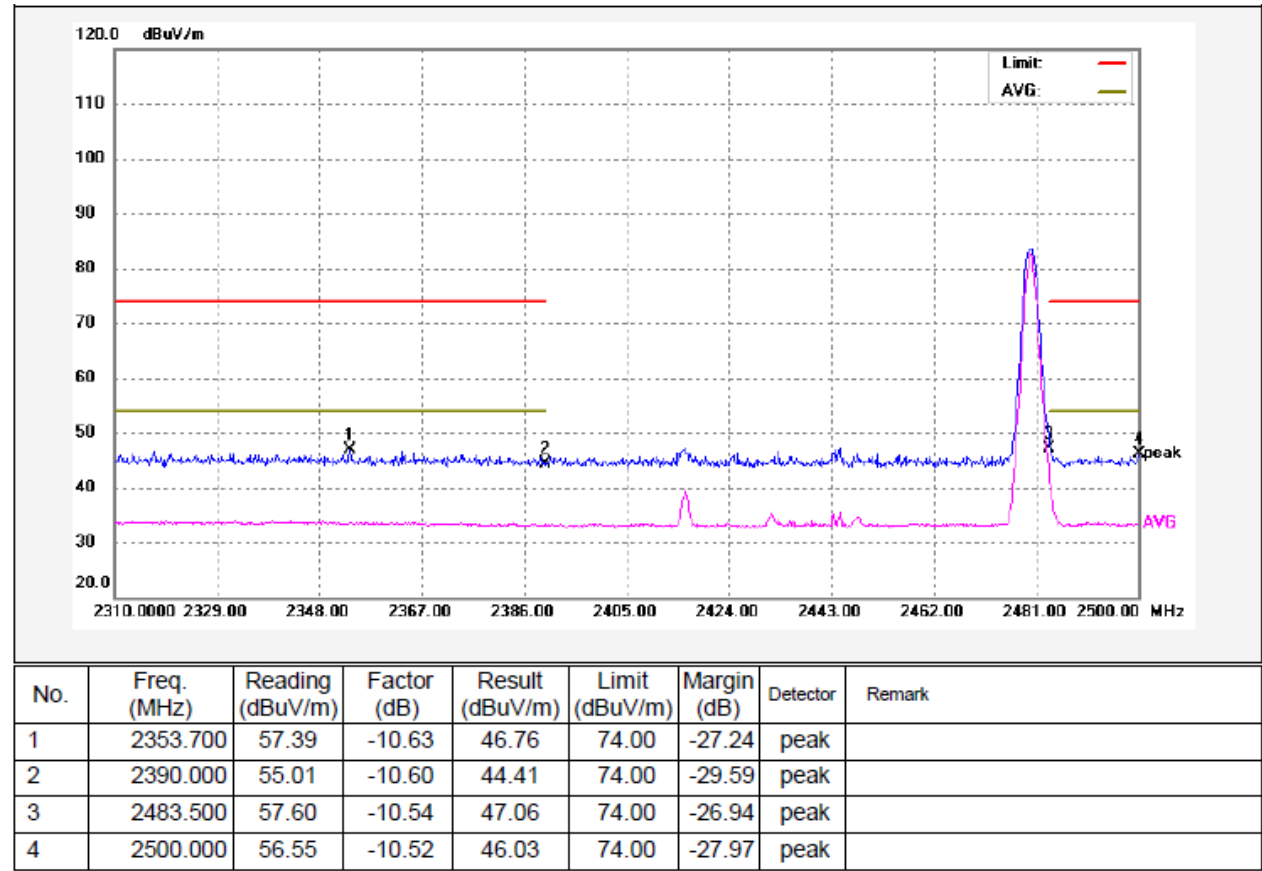


Antenna Polarization: Vertical

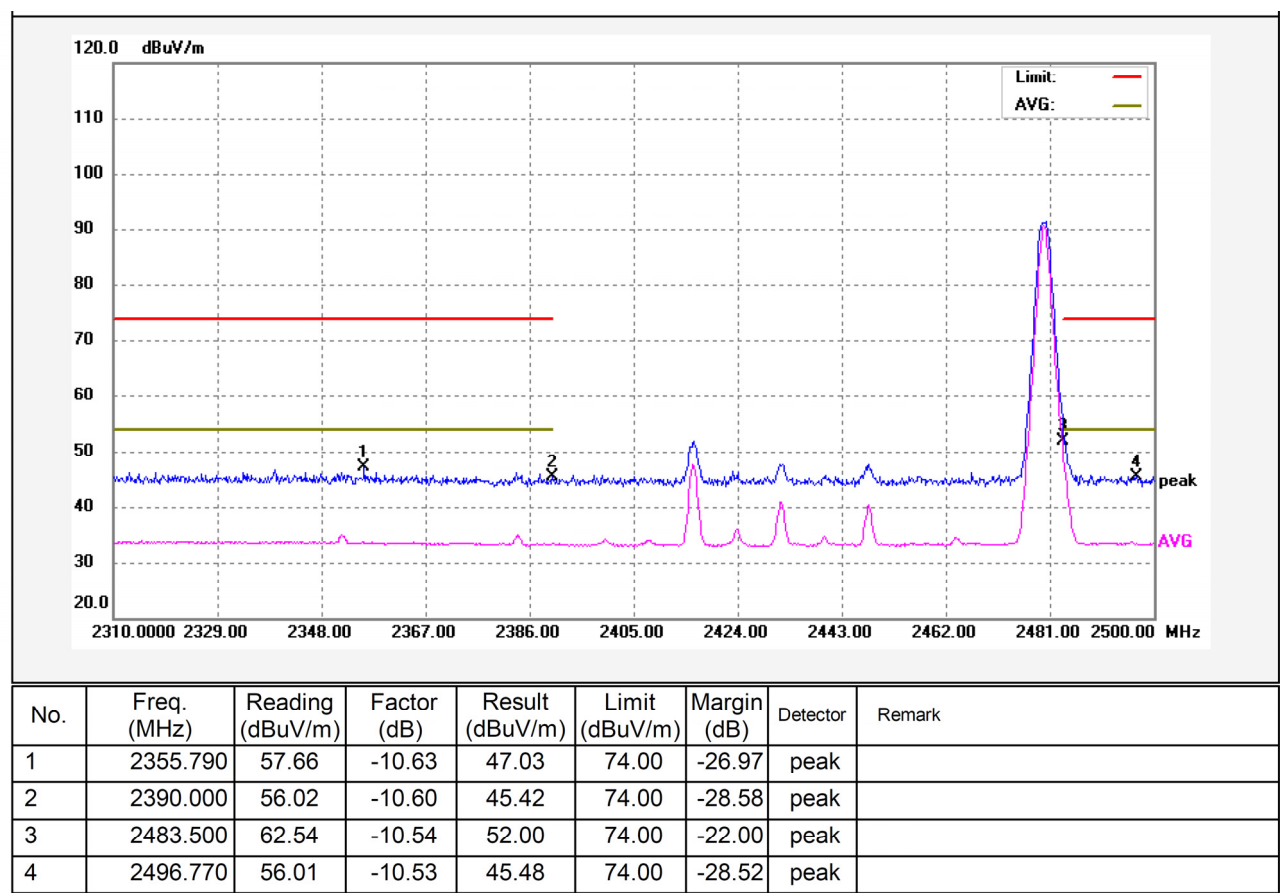


LE-1M-H

Antenna Polarization: Vertical



Antenna Polarization: Horizontal



9 RF Exposure

Note: Please refer to MPE Report: WTA26D05137443W002.

10 Photographs of test setup and EUT.

Note: Please refer to appendix: Appendix-K02M-B-A141-1R-110-LH1-01-Photos.

=====End of Report=====