



# TEST REPORT

**APPLICANT** : Lierda Science & Technology Group Co.,Ltd

**PRODUCT NAME** : 2.4GHz Wireless Module

**MODEL NAME** : LSD4RF0436-10D0, LSD4RF0436-11D0

**BRAND NAME** : lierda

**FCC ID** : N8NLS4RF043610D0

**STANDARD(S)** : 47 CFR Part 15 Subpart C

**RECEIPT DATE** : 2021-01-04

**TEST DATE** : 2021-01-20 to 2021-02-01

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Edited by: Peng Mi  
Peng Mi (Rapporteur)

Approved by: Peng Huarui  
Peng Huarui (Supervisor)

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Change History		
Version	Date	Reason for change
1.0	2021-03-03	First edition



# 1. Technical Information

**Note:** Provide by applicant.

## 1.1. Applicant and Manufacturer Information

<b>Applicant:</b>	Lierda Science & Technology Group Co.,Ltd
<b>Applicant Address:</b>	Room 301, Building No.1, Lierda IoT park, No.1326 Wenyi Xi Road, Hangzhou, Zhejiang Prov., China
<b>Manufacturer:</b>	Lierda Science & Technology Group Co.,Ltd
<b>Manufacturer Address:</b>	Room 301, Building No.1, Lierda IoT park, No.1326 Wenyi Xi Road, Hangzhou, Zhejiang Prov., China

## 1.2. Equipment Under Test (EUT) Description

<b>Product Name:</b>	2.4GHz Wireless Module
<b>Serial No:</b>	(N/A, marked #1 by test site)
<b>Hardware Version:</b>	V01.00
<b>Software Version:</b>	V01.01
<b>Equipment Type:</b>	2-FSK
<b>Operating Frequency Range:</b>	2400MHz~2483.5MHz
<b>Channel Number:</b>	78
<b>Antenna Type:</b>	PCB Antenna
<b>Antenna Gain:</b>	0.5dBi

**Note 1:** According to the certificate holder, they declared that the models LSD4RF0436-10D0 and LSD4RF0436-11D0, only the software version is different, everything else is the same. The main measuring model is LSD4RF0436-10D0, only the results for LSD4RF0436-10D0 were recorded in this report.

**Note 2:** For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



### 1.3. The Channel Number and Frequency

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	<b>2402</b>	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	<b>38</b>	<b>2440</b>	58	2460	<b>78</b>	<b>2480</b>
19	2421	39	2441	59	2461		
20	2422	40	2442	60	2462		



## 1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Method determination /Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	No deviation
2	15.215	Bandwidth	Jan 20, 2021	Liu Bo	PASS	No deviation
3	15.207	Conducted Emission	Jan 28, 2021	Huang Zhiye	PASS	No deviation
4	15.247(d)	Restricted Frequency Bands	Jan 20, 2021	Peng Xuwei	PASS	No deviation
5	15.249	Field strength	Jan 20, 2021 Feb 01,2021	Peng Xuwei	PASS	No deviation
6	15.209, 15.249	Radiated Emission and field strength of harmonics	Jan 20, 2021	Peng Xuwei	PASS	No deviation

**Note 1:** The tests were performed according to the method of measurements prescribed in ANSIC63.10-2013.

**Note 2:** Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

**Note 3:** When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% risk level.



## 1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106



## 2. 47 CFR Part 15C Requirements

### 2.1. Antenna Requirement

#### 2.1.1. Applicable Standard

According to FCC 15.203, 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 shall be considered sufficient to comply with the provisions of this section.

#### 2.1.2. Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

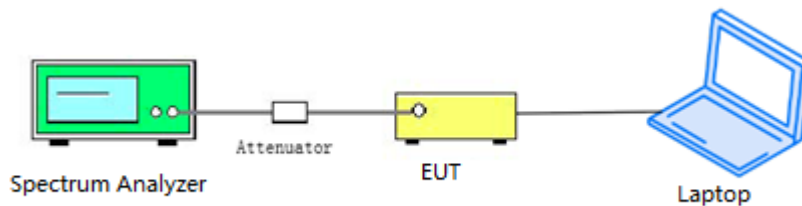
## 2.2. Bandwidth

### 2.2.1. Requirement

Refer to FCC 15.215

### 2.2.2. Test Description

#### Test Setup:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) in the range of 1% to 5% of the measured bandwidth and video bandwidth (VBW) shall be approximately three times RBW.

### 2.2.3. Test Result

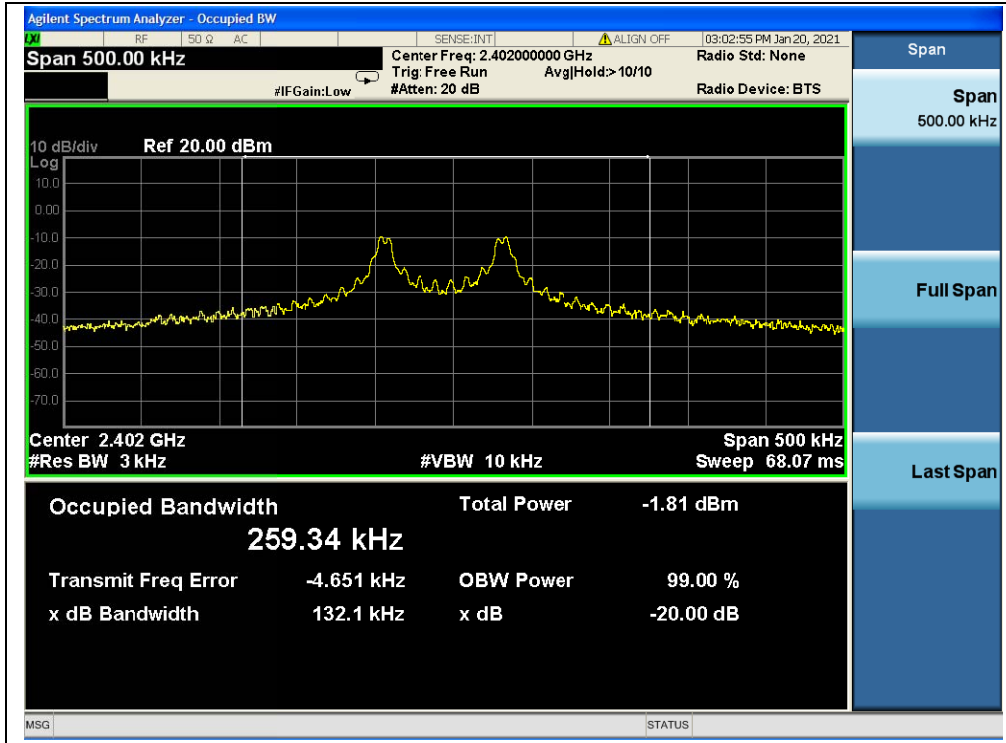
#### A. Test Verdict:

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	Result
1	2402	132.1	PASS
38	2440	151.4	PASS
78	2480	132.3	PASS

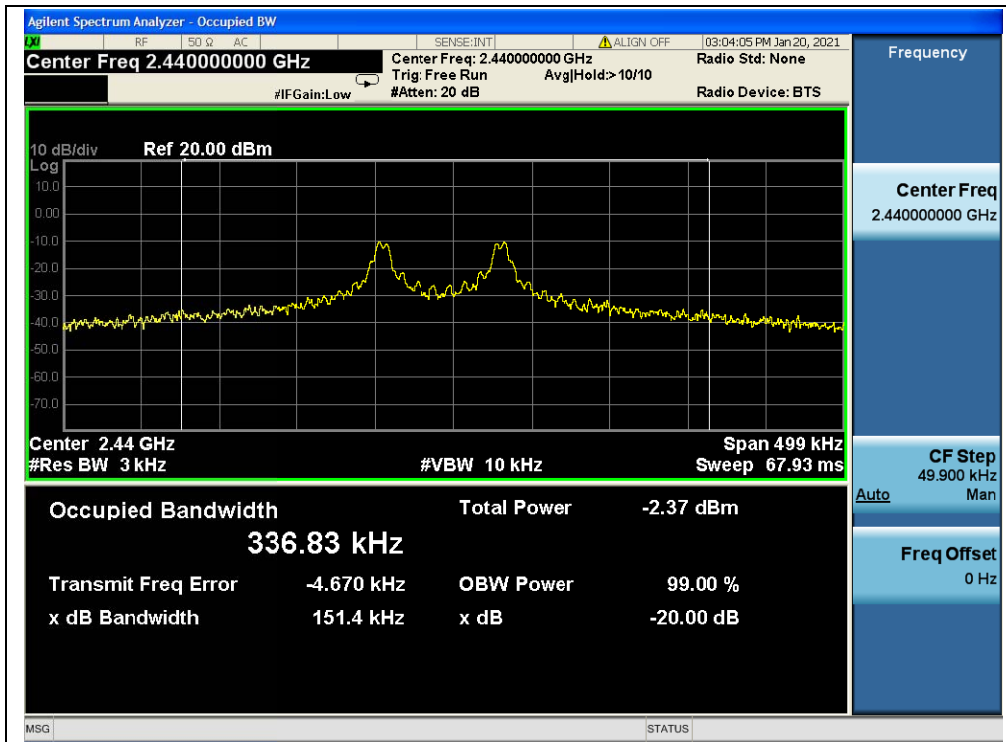




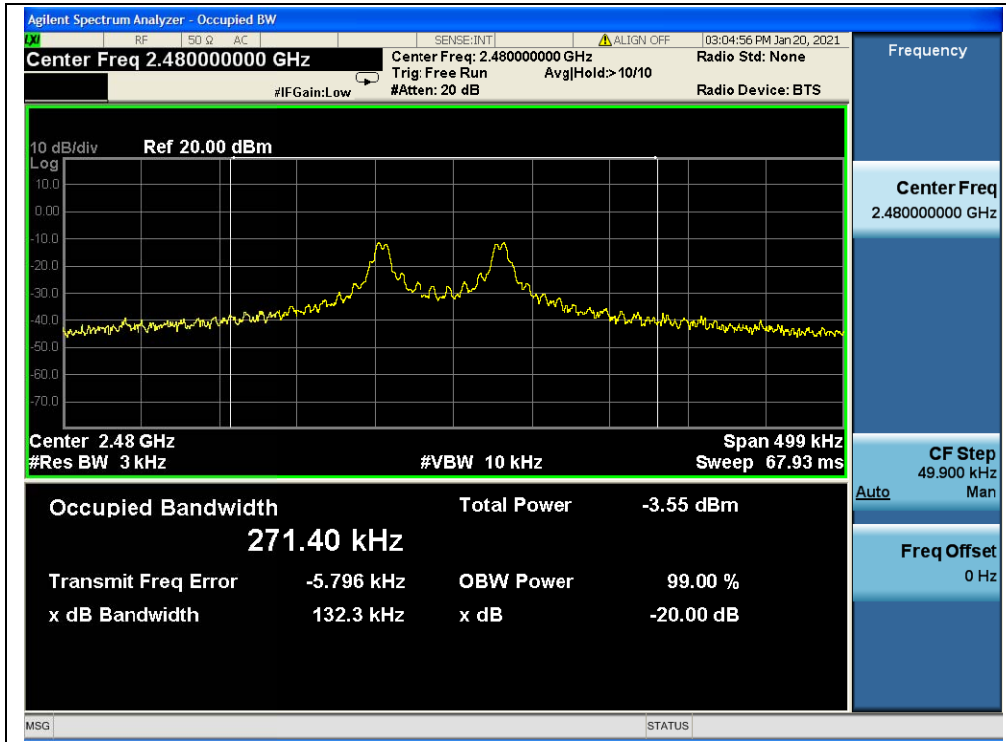
B.Test Plot:



(Channel 1, 2402MHz)



(Channel 38, 2440MHz)



(Channel 78, 2480MHz)

## 2.3. Conducted Emission

### 2.3.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

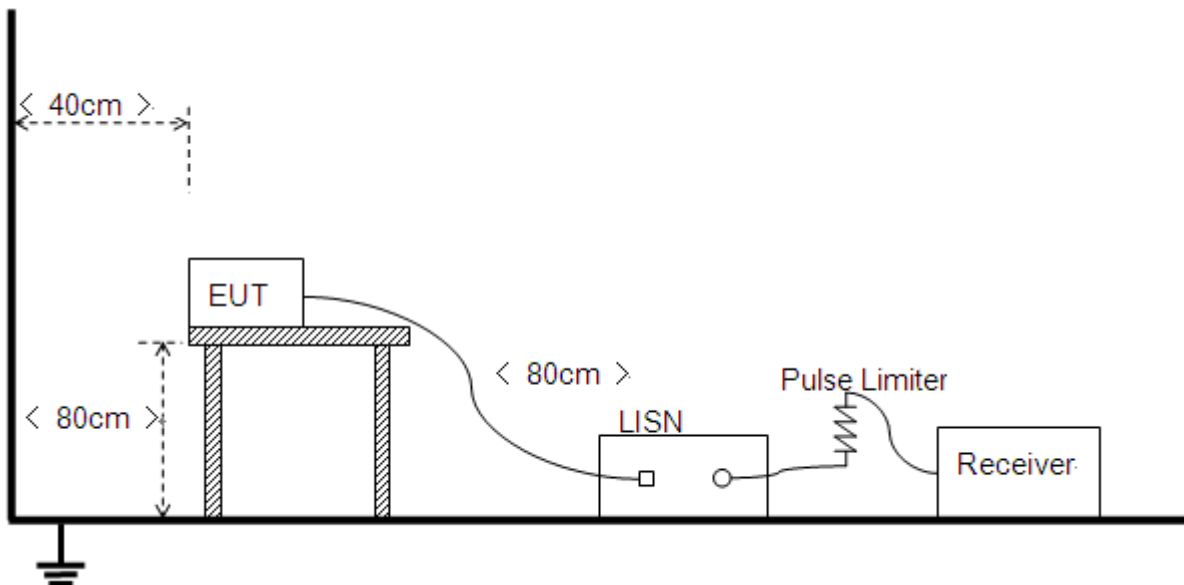
Frequency range (MHz)	Conducted Limit (dB $\mu$ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

### 2.3.2. Test Description

Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.



### 2.3.1. Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

**Note:** Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

#### A. Test Setup:

Test Mode: EUT+DC power supply+2.4G TX

Test voltage: AC 120V/60Hz

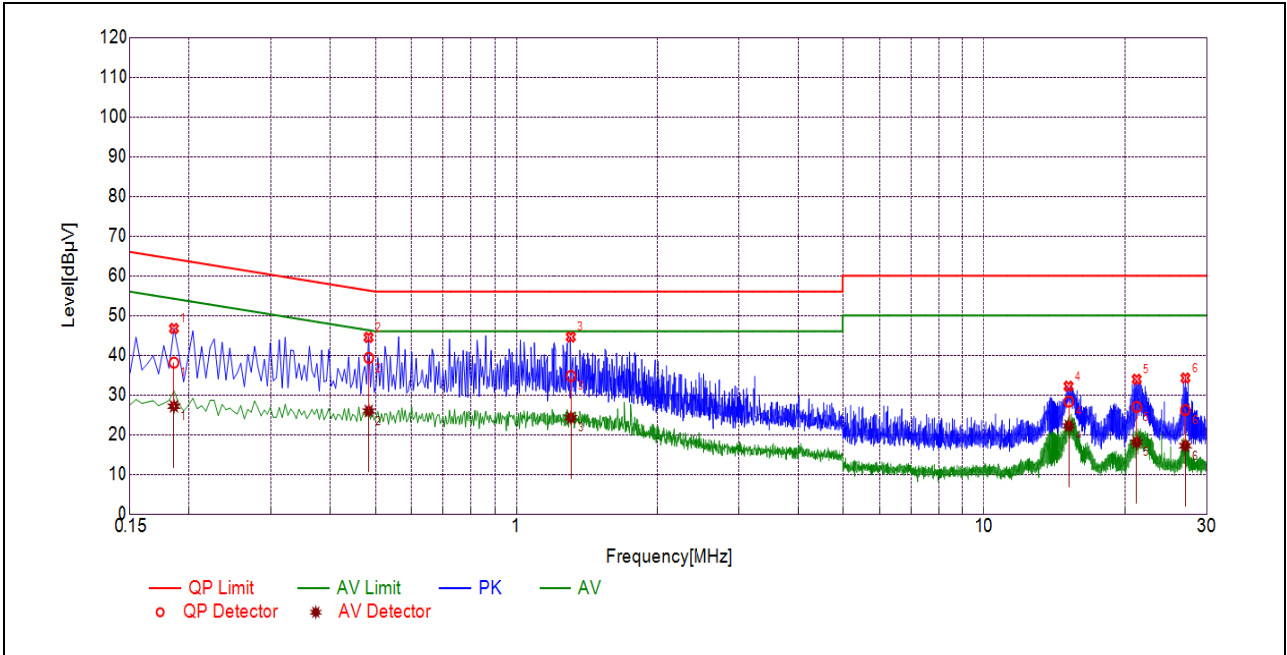
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

$U_R$ : Receiver Reading

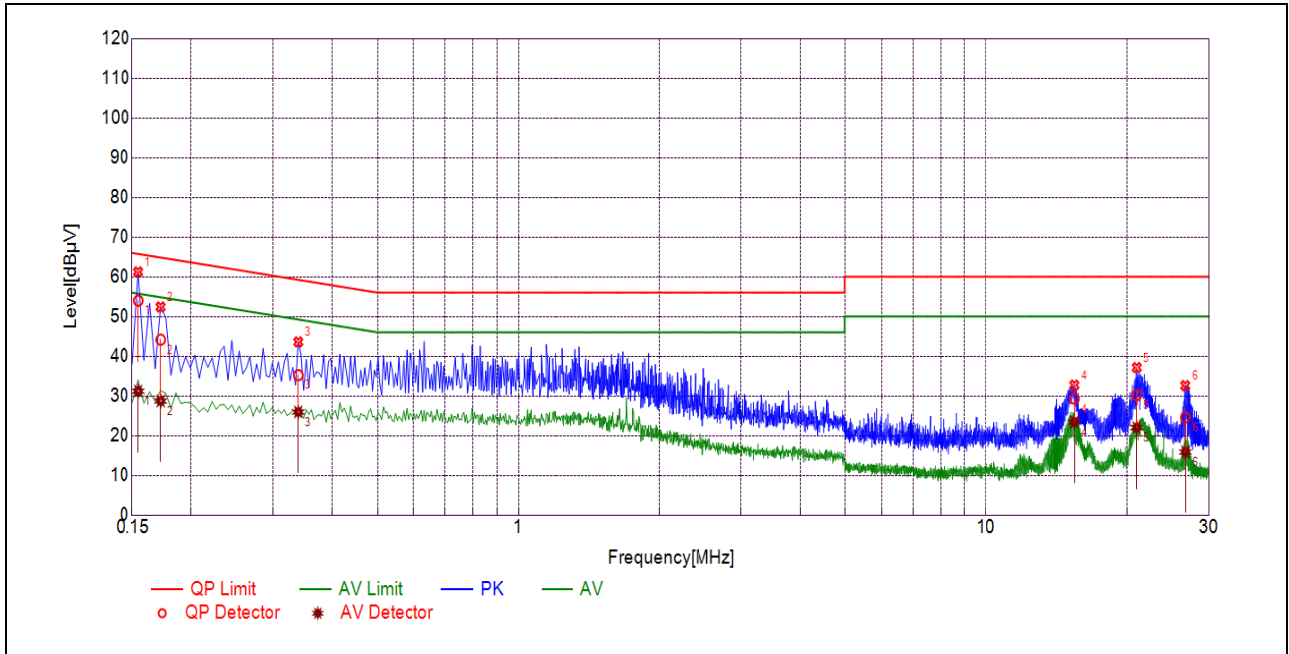
$A_{\text{Factor}}$ : Voltage division factor of LISN

**B.Test Plot:**



(2402MHz, L Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1860	38.12	27.14	64.21	54.21	Line	PASS
2	0.4834	39.32	25.96	56.28	46.28		PASS
3	1.3116	34.76	24.25	56.00	46.00		PASS
4	15.1770	28.33	22.18	60.00	50.00		PASS
5	21.2590	27.00	18.09	60.00	50.00		PASS
6	26.9930	26.18	17.22	60.00	50.00		PASS



(2402MHz, N Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1546	53.97	31.21	65.75	55.75	Neutral	PASS
2	0.1726	44.17	28.73	64.83	54.83		PASS
3	0.3390	35.23	25.97	59.23	49.23		PASS
4	15.4466	29.31	23.41	60.00	50.00		PASS
5	21.0527	30.20	22.02	60.00	50.00		PASS
6	26.7325	24.59	15.90	60.00	50.00		PASS

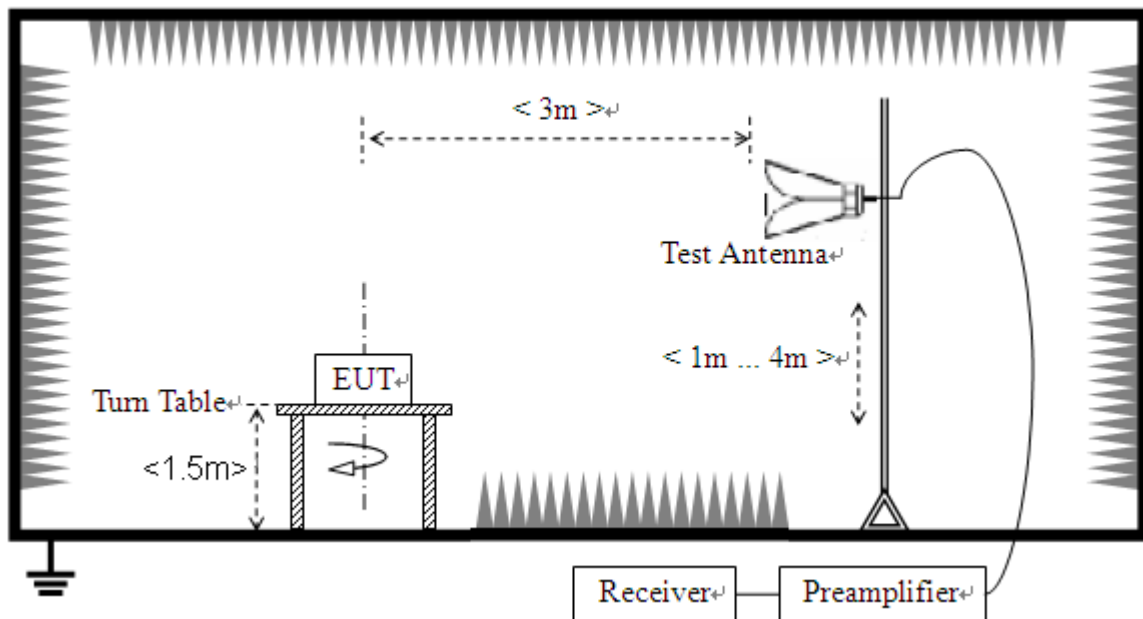
## 2.4. Restricted Frequency Bands

### 2.4.1. Requirement

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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).

### 2.4.2. Test Description

#### Test Setup



The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.



2.4.3. Test Result

The lowest and highest channels are tested to verify the Restricted Frequency Bands.

The measurement results are obtained as below:

E [dBµV/m] =U<sub>R</sub> + A<sub>T</sub> + A<sub>Factor</sub> [dB]; A<sub>T</sub> =L<sub>Cable loss</sub> [dB]-G<sub>preamp</sub> [dB]

A<sub>T</sub>: Total correction Factor except Antenna

U<sub>R</sub>: Receiver Reading

G<sub>preamp</sub>: Preamplifier Gain

A<sub>Factor</sub>: Antenna Factor at 3m

Note: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

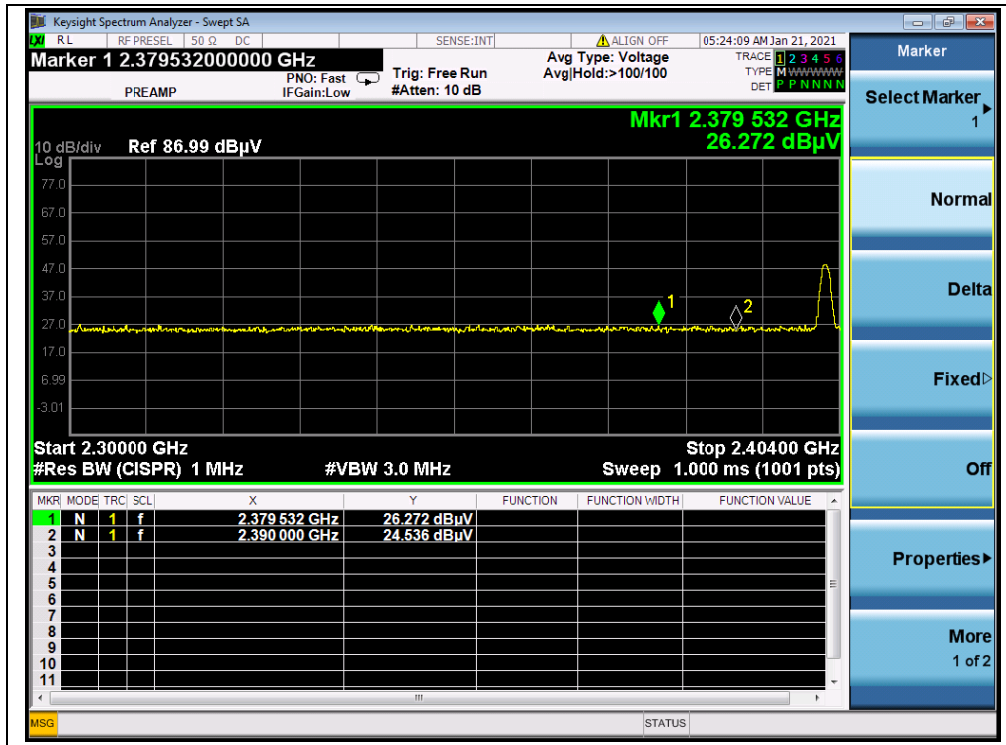
A. Test Verdict:

Channel	Frequency (MHz)	Detector	Receiver Reading	A <sub>T</sub> (dB)	A <sub>Factor</sub> (dB@3m)	Max. Emission E (dBµV/m)	Limit (dBµV/m)	Verdict
		PK/ AV	U <sub>R</sub> (dBµV)					
0	2379.53	PK	26.27	6.74	27.20	60.21	74	PASS
0	2484.11	AV	13.97	6.74	27.20	47.91	54	PASS
78	2487.72	PK	26.34	6.74	27.20	60.28	74	PASS
78	2487.70	AV	13.72	6.74	27.20	47.66	54	PASS

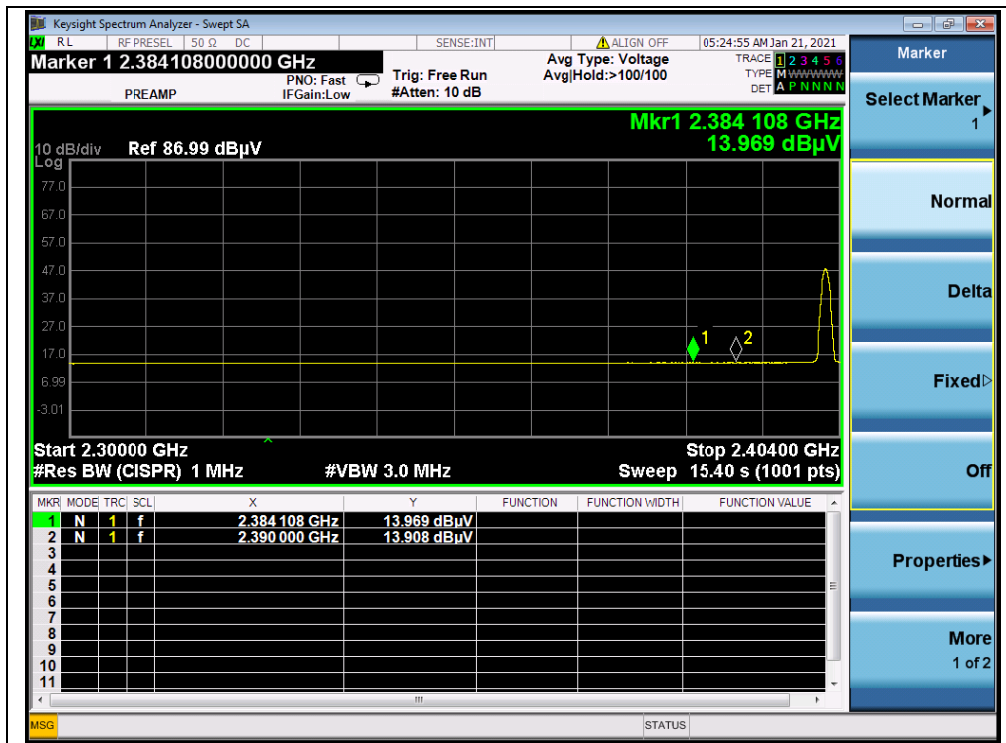




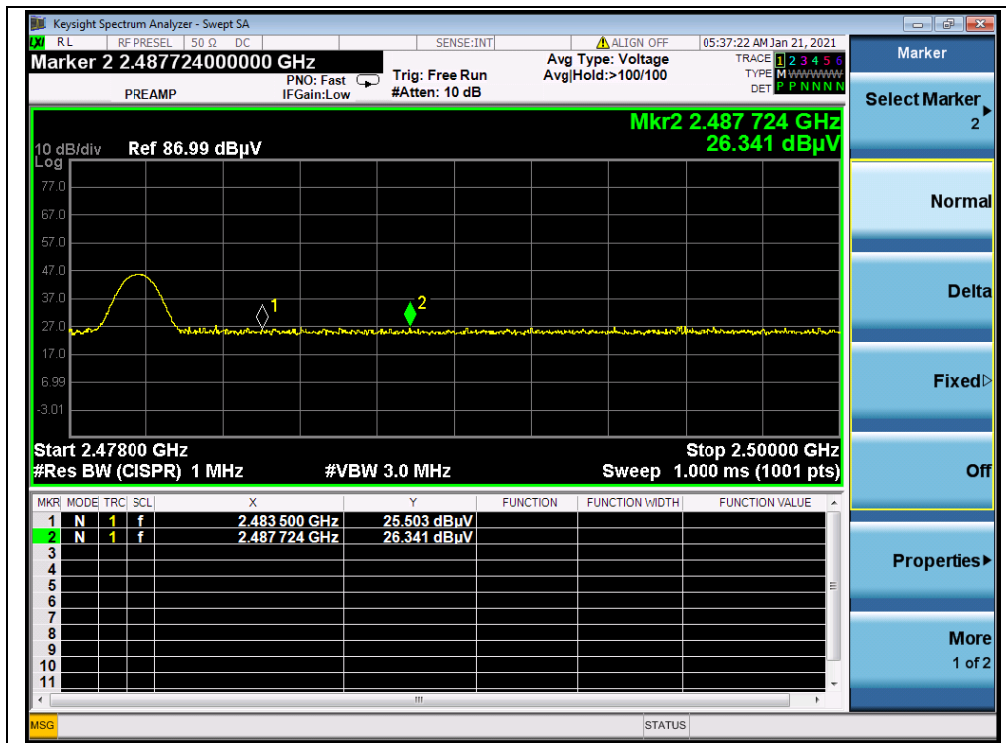
B.Test Plot:



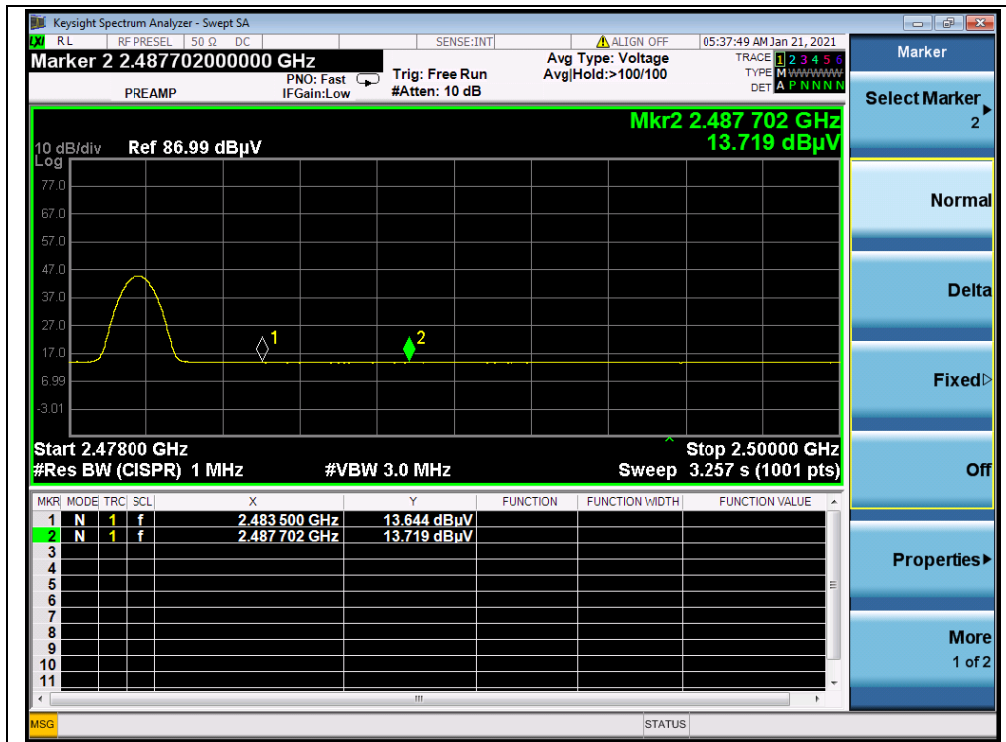
(PEAK, Channel 0)



(AVERAGE, Channel 0)



(PEAK, Channel 78)



(AVERAGE, Channel 78)

## 2.5. Field Strength of Fundamental

### 2.5.1. Requirement

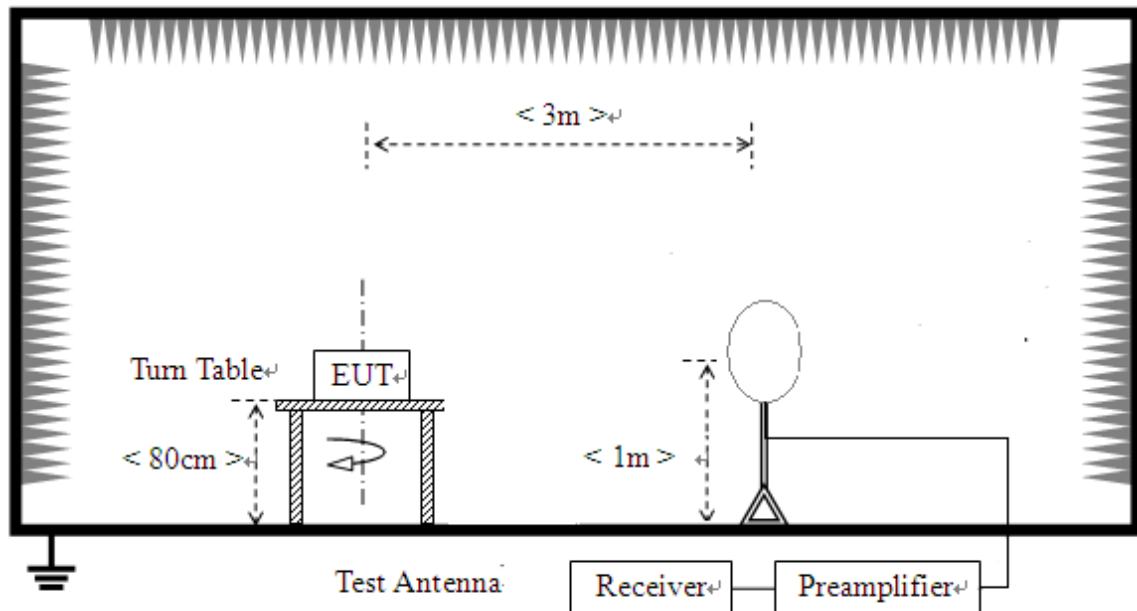
According to FCC section 15.249(a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

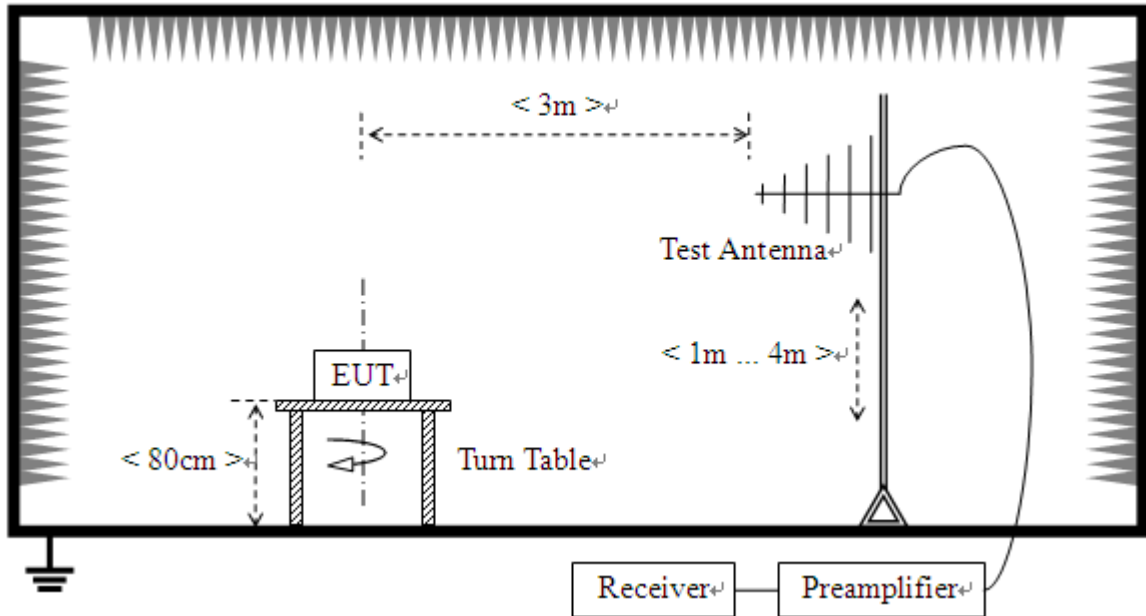
### 2.5.2. Test Description

#### Test Setup:

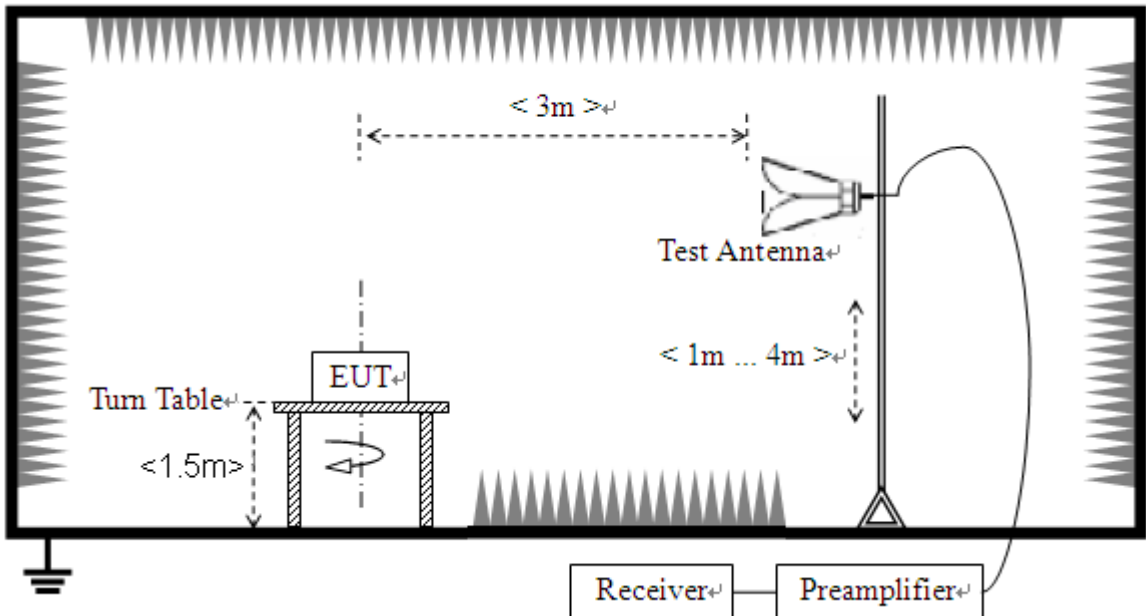
- 1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz



The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to



transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

### 2.5.3. Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

**2.5.4. Test Result**

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{\text{preamp}}$ : Preamplifier Gain

$A_{\text{Factor}}$ : Antenna Factor at 3m

During the test, the total correction Factor  $A_T$  and  $A_{\text{Factor}}$  were built in test software.

Note: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report

**A. Test Verdict:**

Frequency (MHz)	Detector	ANT	Receiver Reading $U_R$ (dBuV)	$A_T$ (dB)	$A_{\text{Factor}}$ (dB@3m)	Max. Emission E (dB $\mu$ V/m)	AV Limit (dB $\mu$ V/m)	Verdict
2402	AV	H	56.42	6.74	27.20	90.36	93.97	PASS
	AV	V	50.67	6.74	27.20	84.61	93.97	PASS
2440	AV	H	57.28	6.74	27.20	91.22	93.97	PASS
	AV	V	52.74	6.74	27.20	86.68	93.97	PASS
2480	AV	H	59.13	6.74	27.20	93.07	93.97	PASS
	AV	V	54.57	6.74	27.20	88.51	93.97	PASS

## 2.6. Radiated Emission and Field Strength of Harmonics

### 2.6.1. Requirement

According to section 15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

According to section 15.249(d), Emission Radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209:

Frequency (MHz)	Field Strength ( $\mu\text{V/m}$ )	Measurement Distance (m)	Field Strength Limitation at 3m Measurement Distance	
			( $\mu\text{V/m}$ )	(dBuV/m)
0.009 - 0.490	2400/F(kHz)	300	10000* 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 - 1.705	24000/F(kHz)	30	100* 2400/F(KHz)	20log 2400/F(KHz) + 40
1.705 - 30.0	30	30	100*30	20log 30 + 40
30 - 88	100	3	100	20log 100
88 - 216	150	3	150	20log 150
216 - 960	200	3	200	20log 200
Above 960	500	3	500	20log 500

According to section 15.249(e), for frequencies above 1000MHz, the above field strength limits are based on average limits. The peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20dB under any condition of modulation.

**Note:**

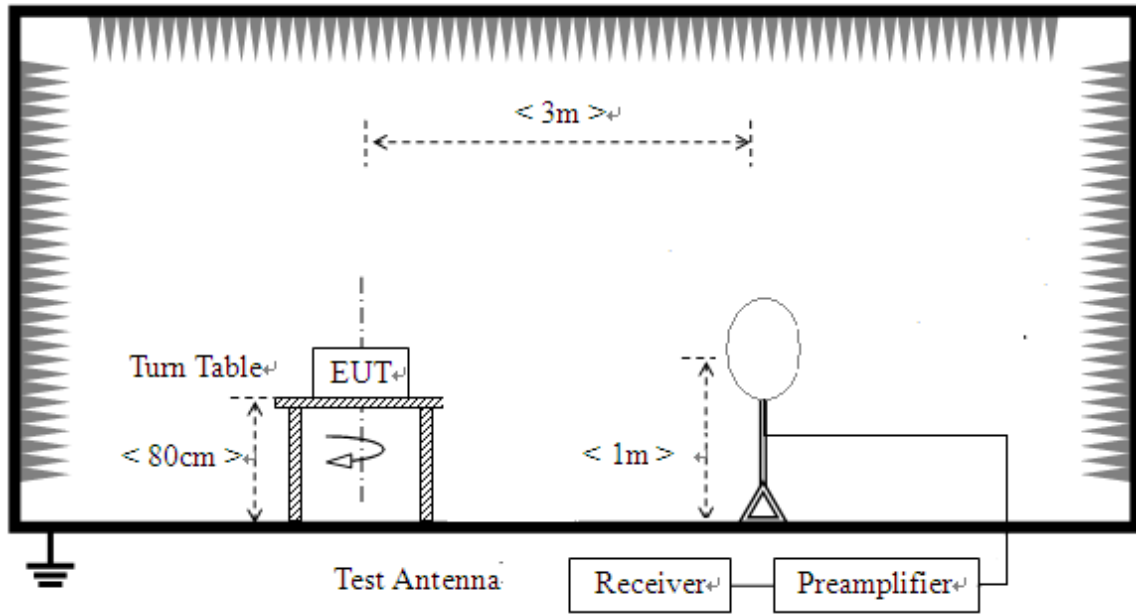
- 1) The tighter limit shall apply at the boundary between two frequency range.
- 2) Limitation expressed in dBuV/m is calculated by  $20\log$  Emission Level( $\mu\text{V/m}$ ).
- 3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of  $L_{d1} = L_{d2} * (d2/d1)^2$ .

Example: F.S Limit at 30m distance is 30 $\mu\text{V/m}$ , then F.S Limitation at 3m distance is adjusted as  $L_{d1} = L_1 = 30\mu\text{V/m} * (10)^2 = 100 * 30\mu\text{V/m}$

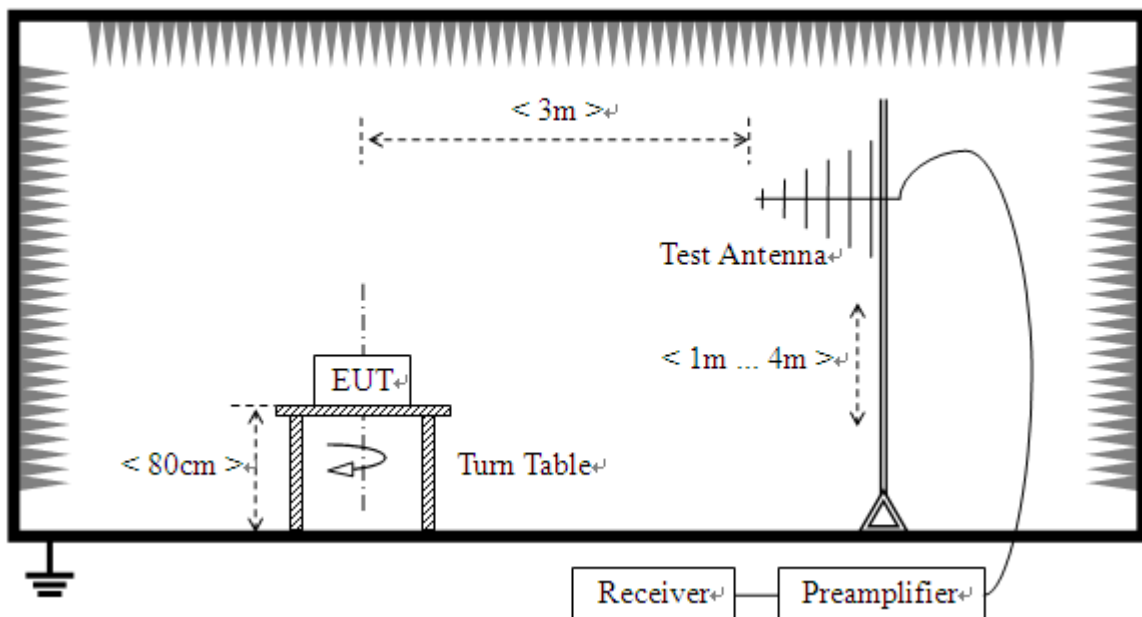
**2.6.2. Test Description**

**A. Test Setup:**

4) For radiated emissions from 9kHz to 30MHz

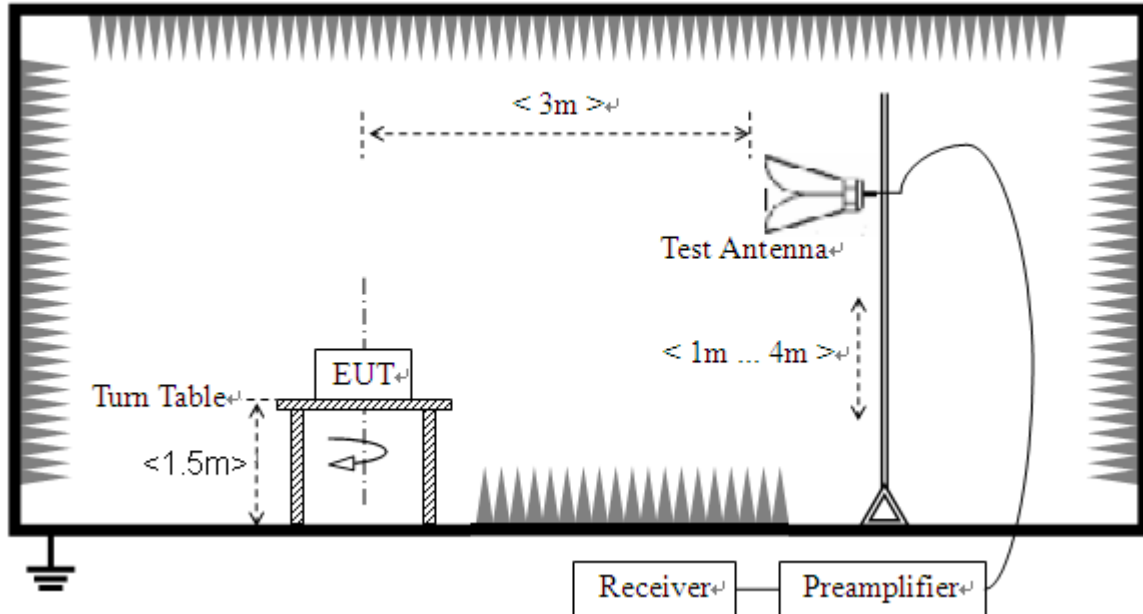


5) For radiated emissions from 30MHz to 1GHz





6) For radiated emissions above 1GHz



The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.



### 2.6.3. Test Result

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V}/\text{m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

$A_T$ : Total correction Factor except Antenna

$U_R$ : Receiver Reading

$G_{\text{preamp}}$ : Preamplifier Gain

$A_{\text{Factor}}$ : Antenna Factor at 3m

During the test, the total correction Factor  $A_T$  and  $A_{\text{Factor}}$  were built in test software.

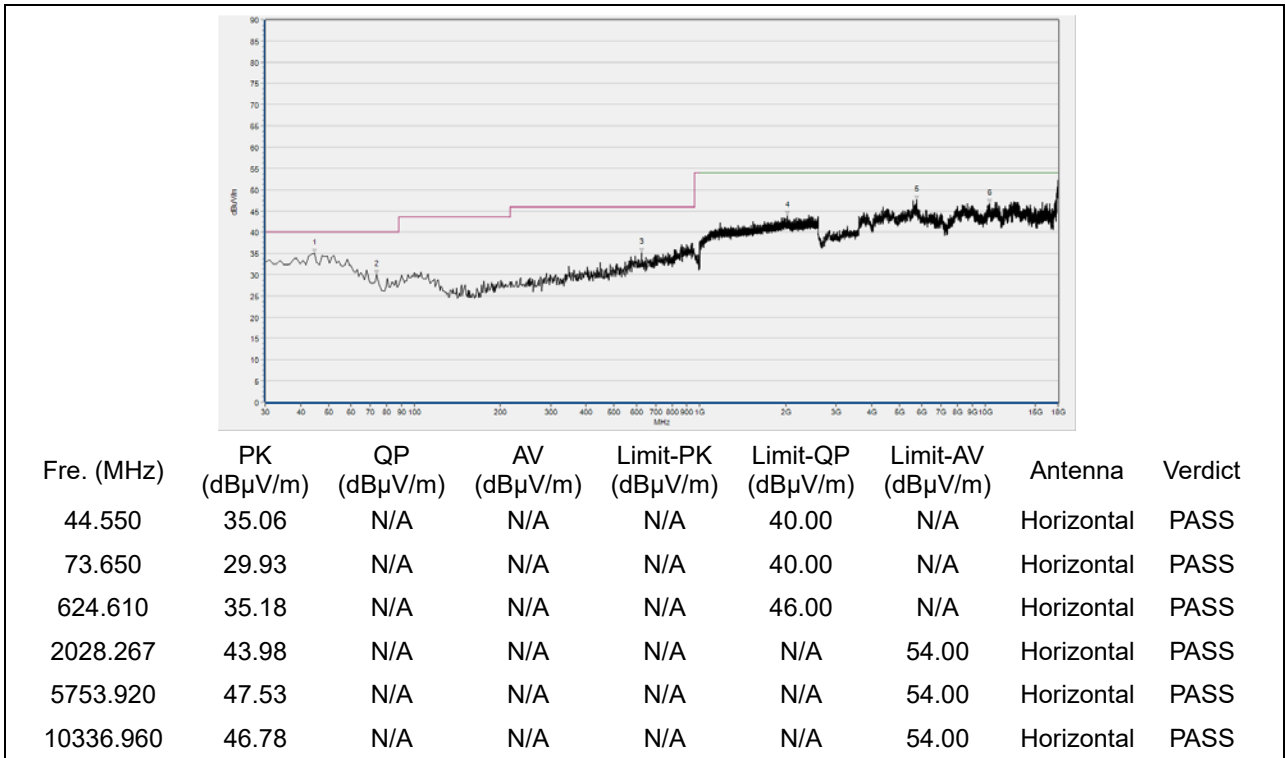
**Note 1:** All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

**Note 2:** The low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

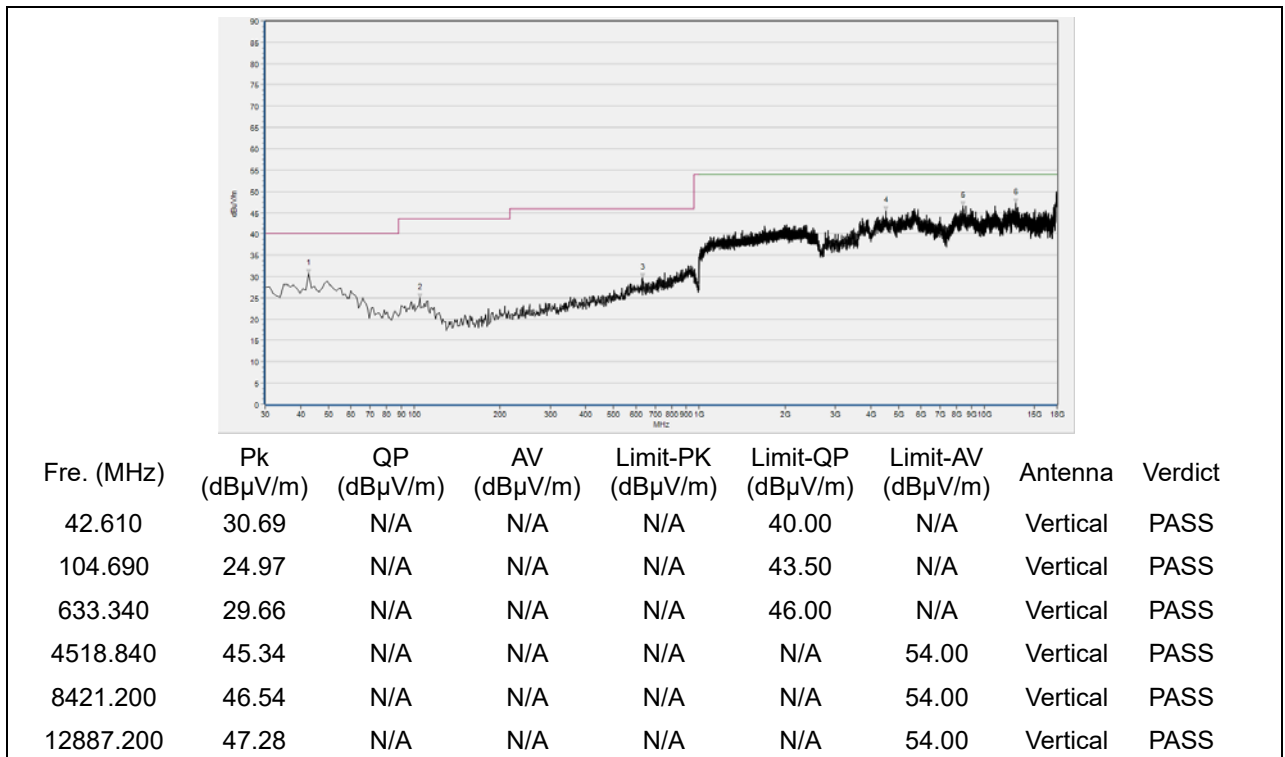
**Note 3:** For the frequency, which started from 18GHz to 40GHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.



Plot for 2402MHz

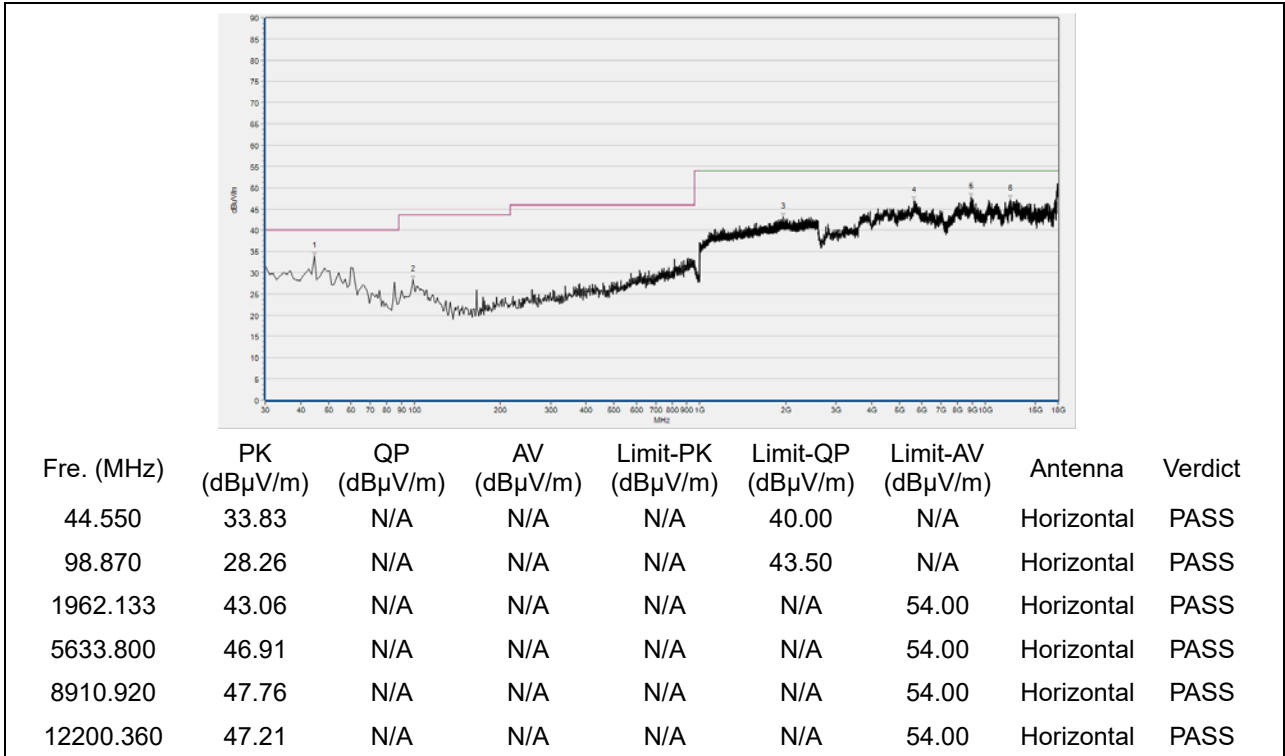


(Antenna Horizontal, 30MHz to 10GHz)

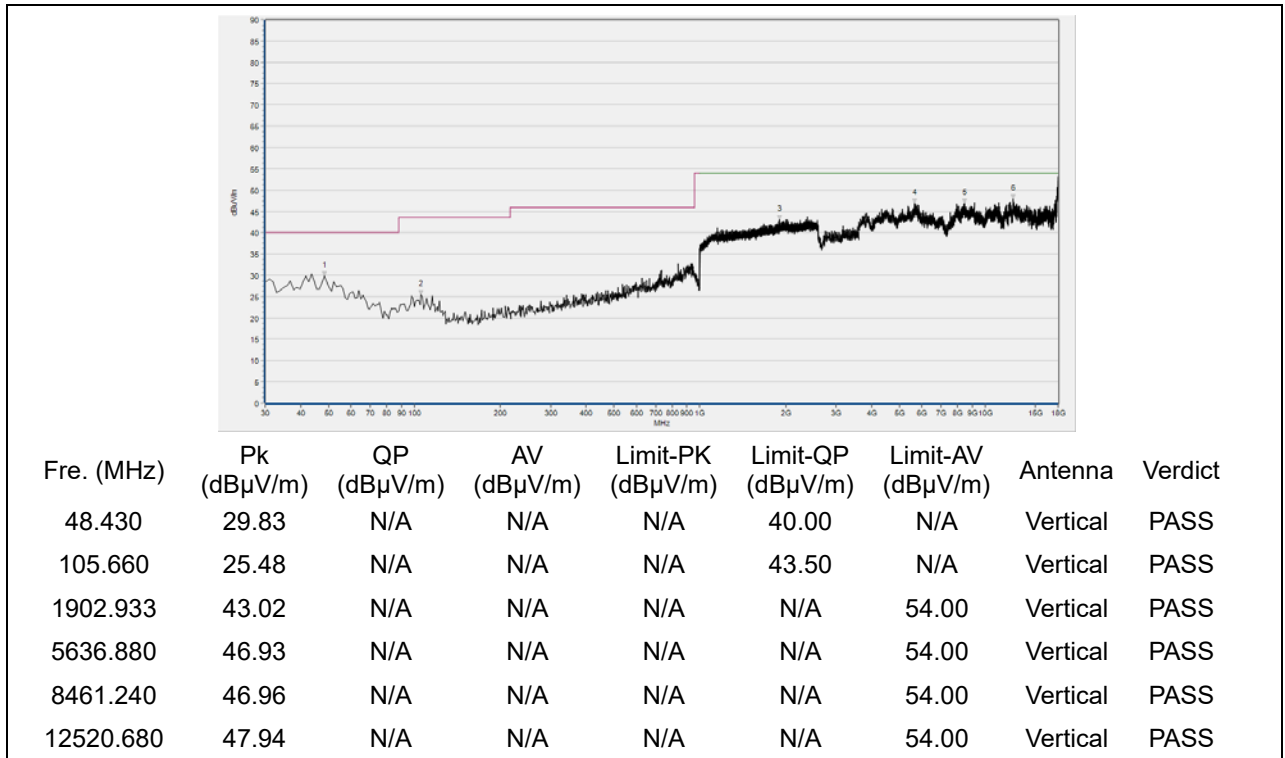


(Antenna Vertical, 30MHz to 10GHz)

Plot for 2440MHz

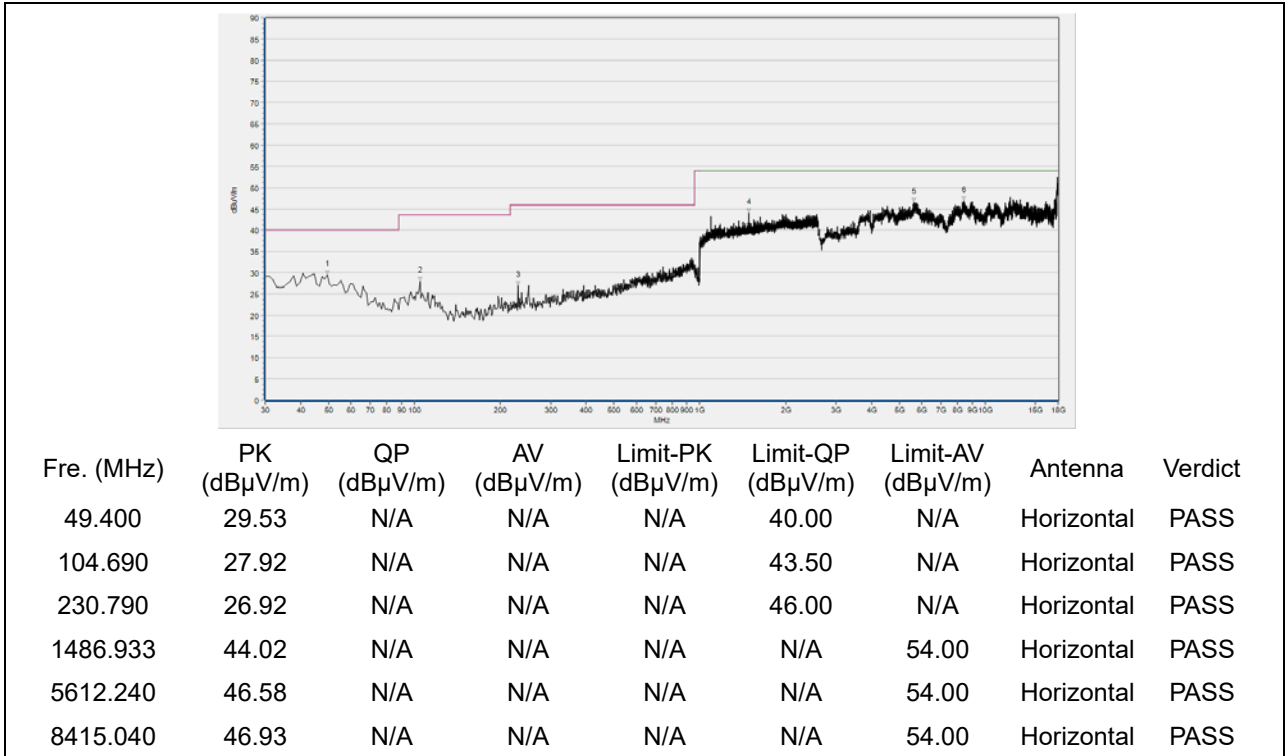


(Antenna Horizontal, 30MHz to 10GHz)

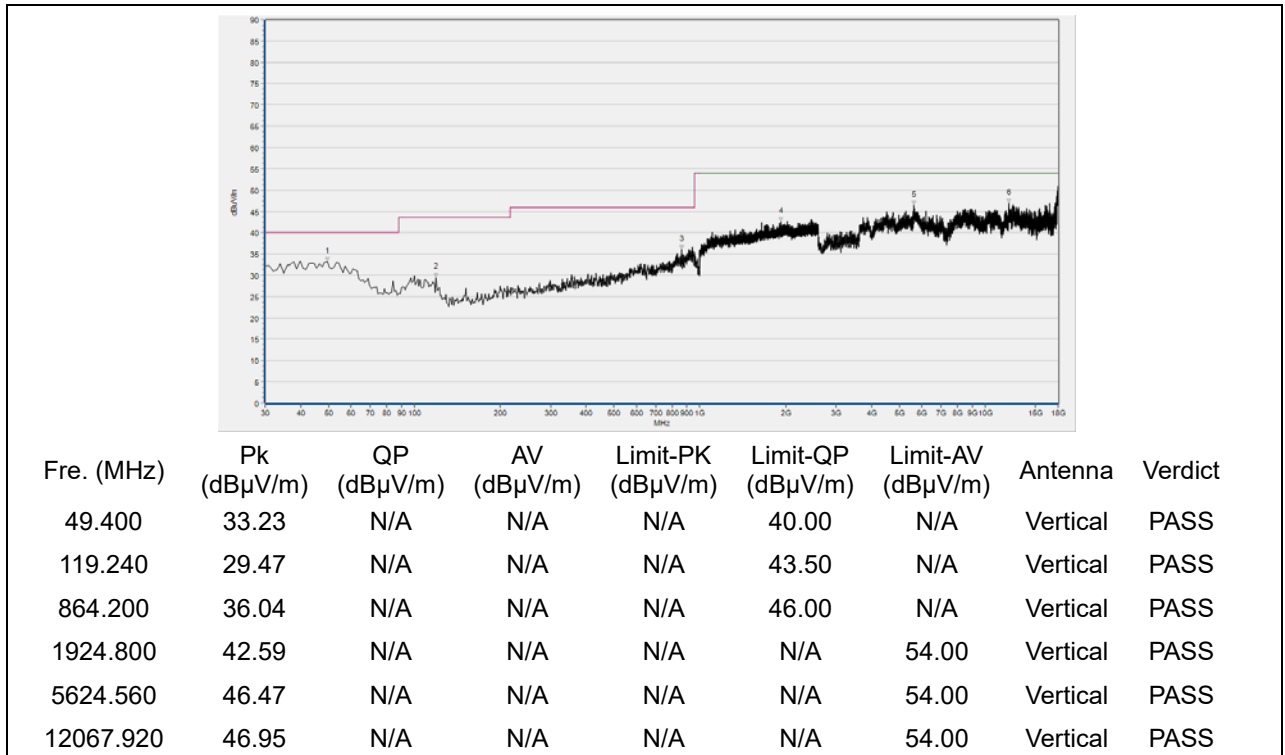


(Antenna Vertical, 30MHz to 10GHz)

Plot for 2480MHz



(Antenna Horizontal, 30MHz to 10GHz)



(Antenna Vertical, 30MHz to 10GHz)



## Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Bandwidth	±5%
Radiated Emission	±2.95dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2



## Annex B Testing Laboratory Information

### 1. Identification of the Responsible Testing Laboratory

<b>Laboratory Name:</b>	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
<b>Laboratory Address:</b>	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
<b>Telephone:</b>	+86 755 36698555
<b>Facsimile:</b>	+86 755 36698525

### 2. Identification of the Responsible Testing Location

<b>Name:</b>	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
<b>Address:</b>	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

### 3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.



#### 4. Test Equipments Utilized

##### 4.1 Radiated Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY54130016	N9038A	Agilent	2020.07.21	2021.07.20
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2019.05.24	2022.05.23
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2019.02.14	2022.02.13
Test Antenna – Horn	01774	BBHA 9120D	Schwarzbeck	2019.07.26	2022.07.25
Test Antenna – Horn	BBHA9170 #774	BBHA9170	Schwarzbeck	2019.07.26	2022.07.25
Coaxial cable (N male) (9KHz-30MHz)	CB04	EMC04	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB02	EMC02	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB03	EMC03	Morlab	N/A	N/A
1-18GHz pre-Amplifier	61171/61172	S020180L3203	Tonscend	2020.07.21	2021.07.20
26-40GHz pre-Amplifier	56774	S40M400L4002	Tonscend	2020.07.21	2021.07.20
Anechoic Chamber	N/A	9m*6m*6m	CRT	2020.01.06	2023.01.05





**4.2 Conducted Emission Test Equipments**

<b>Equipment Name</b>	<b>Serial No.</b>	<b>Type</b>	<b>Manufacturer</b>	<b>Cal. Date</b>	<b>Due Date</b>
Receiver	MY56400093	N9038A	KEYSIGHT	2020.03.26	2021.03.25
LISN	812744	NSLK 8127	Schwarzbeck	2020.03.26	2021.03.25
Pulse Limiter (10dB)	VTSD 9561 F-B #206	VTSD 9561-F	Schwarzbeck	2020.07.24	2021.07.23
Coaxial cable(BNC) (30MHz-26GHz)	CB01	EMC01	Morlab	N/A	N/A

————— END OF REPORT —————