

TEST REPORT		
Report Number.....:	EP2607077F03	
Date of receipt of test item	2026-07-09	
Date (s) of performance of test	2026-07-10 to 2026-08-04	
Date of issue	2026-08-20	
Testing Laboratory name:	Dongguan Pubiao Testing Technology Co., Ltd.	
Address	Room 101, Building 1, No.30, Minghua Road, Shijie,Shijie Town, Dongguan,Guangdong, 523250,People's Republic of China	
Applicant's name	SHANTOU HONGZE TECHNOLOGY CO.,LTD	
Address	West Middle Road, Lianhuaxin Industrial Zone, Batou, Fengxiang Subdistrict, Chenghai District, Shantou, Guangdong Province, P.R.China	
Manufacturer's name	SHANTOU HONGZE TECHNOLOGY CO.,LTD	
Address	West Middle Road, Lianhuaxin Industrial Zone, Batou, Fengxiang Subdistrict, Chenghai District, Shantou, Guangdong Province, P.R.China	
Factory's name	SHANTOU HONGZE TECHNOLOGY CO.,LTD	
Address	West Middle Road, Lianhuaxin Industrial Zone, Batou, Fengxiang Subdistrict, Chenghai District, Shantou, Guangdong Province, P.R.China	
Standard(s).....:	FCC 47 CFR Part 15, Subpart C	
Test item description.....:	Toy dinosaur	
Trade Mark.....:	N/A	
Model/Type reference.....:	5229, MF229	
FCC ID.....:	2BW9A5229	
Summary of Test Results:	Pass	
Prepared by (+signature):	Dora Ning	
Approved by (+signature):	Eric Liu	
The Summary of Test Results based on a technical opinion belongs to the standard(s).		
General disclaimer: This report shall not be reproduced except in full, without the written approval of Dongguan Pubiao Testing Technology Co., Ltd. The test results in the report only apply to the tested sample.		

TABLE OF CONTENTS

1	EUT TECHNICAL DESCRIPTION	4
2	SUMMARY OF TEST RESULT	5
3	TEST METHODOLOGY.....	6
3.1	GENERAL DESCRIPTION OF APPLIED STANDARDS	6
3.2	MEASUREMENT EQUIPMENT USED	6
3.3	DESCRIPTION OF TEST MODES	7
4	FACILITIES AND ACCREDITATIONS.....	8
4.1	FACILITIES.....	8
4.2	TEST SYSTEM UNCERTAINTY	8
5	SETUP OF EQUIPMENT UNDER TEST.....	9
5.1	RADIO FREQUENCY TEST SETUP 1	9
5.2	RADIO FREQUENCY TEST SETUP 2	9
5.3	CONDUCTED EMISSION TEST SETUP.....	11
5.4	SUPPORT EQUIPMENT.....	11
6	TEST REQUIREMENTS.....	12
6.1	BANDWIDTH TEST	12
6.2	RADIATED SPURIOUS EMISSION	15
6.3	BAND EDGES REQUIREMENT	29
6.4	CONDUCTED EMISSIONS TEST	35
6.5	ANTENNA APPLICATION	36

Modified Information

Report No.	Revision Data	Summary
EP2607077F03	2026-08-20	Original Version

1 EUT TECHNICAL DESCRIPTION

The following product information is provided by the customer:

Product:	Toy dinosaur
Model Number:	5229, MF229
Model different:	All models are identical to each other except for the appearance of the dinosaurs on the receiving end. There is no difference for remote control. All tests are performed on model 5229.
Power supply:	For remote control: $2 \times 1.5V$ "AA" Battery
Modulation:	GFSK
Frequency Range:	2405MHz-2475MHz
Number of Channels:	71 channels
Antenna Gain:	0 dBi
Antenna:	Braided Coaxial Whip Monopole Antenna

Note: for more details, please refer to the User's manual of the EUT.

2 SUMMARY OF TEST RESULT

FCC Part Clause	Test Parameter	Verdict	Remark
15.207	Conducted Emission	N/A	
15.209	Radiated Emission	PASS	
15.249	Radiated Spurious Emission	PASS	
15.249	Band edge test	PASS	
15.215	20dB Bandwidth	PASS	
15.203	Antenna Requirement	PASS	
NOTE1: N/A (Not Applicable) NOTE2: The report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.			

RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for FCC ID: 2BW9A5229 filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

3 TEST METHODOLOGY

3.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards:
FCC 47 CFR Part 15, Subpart C

3.2 MEASUREMENT EQUIPMENT USED

3.2.1 Conducted Emission Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	DUE CAL.
EMI Test Receiver	ROHDE&SCHWARZ	ESCI3	101315	2026-05-18	1year
LISN	ROHDE&SCHWARZ	ENV216	102331	2026-05-18	1year
Test Cable	HUBER+SUHNER	RG 223/U	1-1#	2026-05-18	1year
10 db attenuator	N/A	DC-6G-10DB-N-JK	/	2026-05-18	1year
CE Testing software	EZ	EZ-EMC	/	/	/

3.2.2 Radiated Emission Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	DUE CAL.
EMI Test Receiver	Rohde & Schwarz	ESPI3	101918	2026-05-18	1year
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50531325	2026-05-18	1year
Preamplifier	ROHDE& SCHWARZ	8447E	2945A02763	2026-05-18	1year
Preamplifier	BOST	BPA-001018G40B	8400019	2026-05-18	1year
Preamplifier	RF system	BPA-018040G45B	26031901	2026-04-22	1year
Bilog Antenna	Schaffner	CBL6111C	2798	2026-05-23	3years
Loop Antenna	SCHWARZBECK	FMZB1519-60 D	1519-60 D-232	2026-04-21	3years
Horn Antenna	antsym	AS-DAH-L1000H1800 0G16/S-NK	antsym	2026-05-18	3years
Horn Antenna	Schwarzbeck	BBHA 9170	D143	2026-04-21	3years
The RF cable	HUBER+SUHNER	RG 223/U	1-3#	2026-05-18	1year
The RF cable	HUBER+SUHNER	RG 223/U	1-4#	2026-05-18	1year
The RF cable	HUBER+SUHNER	RG 223/U	1-5#	2026-05-18	1year
The RF cable	TIMES Microwave Systems	HF290-NMNM-14.00M	844011-0001	2026-04-13	1year

3.2.3 Radio Frequency Test Equipment

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	DUE CAL.
Vector Signal Generater	Agilen	N5182A	MY50142585	2026-05-18	1year
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	132488-Sz	2026-05-18	1year
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50531325	2026-05-18	1year
DC Power Supper	KEYSIGHT	E3642A	MY41002348	2026-05-18	1year
RF control box	CDKMV	MW100-RFCB	MW210914PB	2026-01-09	1year
Power detection box	CDKMV	MW101-PSB	MW210914PB-2 2	2026-01-09	1year
RF Testing software	MW	MTS 8310	/	/	/

3.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

The EUT has been tested under its typical operating condition so those modulation and channel were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2405	35	2440	...	...
1	2406	36	2441	68	2473
2	2407	37	2442	69	2474
...	...	...	...	70	2475
Note: $f_c = 2405\text{MHz} + k \times 1\text{MHz}$ $k=0$ to 70					

Test Frequency and Channel list:

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2405	35	2440	70	2475

4 FACILITIES AND ACCREDITATIONS

4.1 FACILITIES

Site Description		
Name of Firm	:	Dongguan Pubiao Testing Technology Co., Ltd.
Site Location	:	Room 101, Building 1, No.30, Minghua Road, Shijie, Shijie Town, Dongguan, Guangdong, 523250, People's Republic of China
FCC Designation Number	:	CN1459
Test Firm Registration Number:		782062
FCC Test Firm Registration Number	:	7670.01

4.2 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

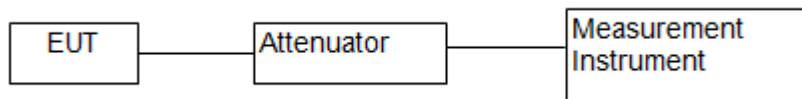
Parameter	Uncertainty
Radio Frequency	± 0.03 ppm
Maximum Peak Output Power Test	± 1.19 dB
Conducted Emissions Test	3.19dB
Radiated Emission(30MHz~1GHz)	4.84dB (Below 1GHz)
	3.90dB (Above 1GHz)
Occupied Bandwidth Test	$\pm 3.5\%$
Band Edge Test	$\pm 2.3\%$
All emission, radiated	$\pm 1.2\%$
Antenna Port Emission	± 3 dB
Temperature	$\pm 3.2\%$
Humidity	$\pm 2.5\%$

Measurement Uncertainty for a level of Confidence of 95%

5 SETUP OF EQUIPMENT UNDER TEST

5.1 RADIO FREQUENCY TEST SETUP 1

The EUT wireless component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



5.2 RADIO FREQUENCY TEST SETUP 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 32.

Below 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

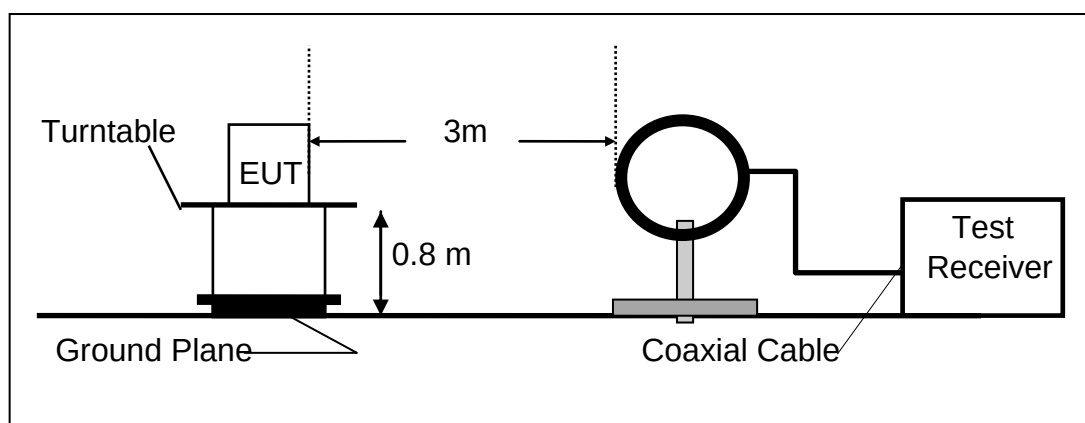
30MHz-1GHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

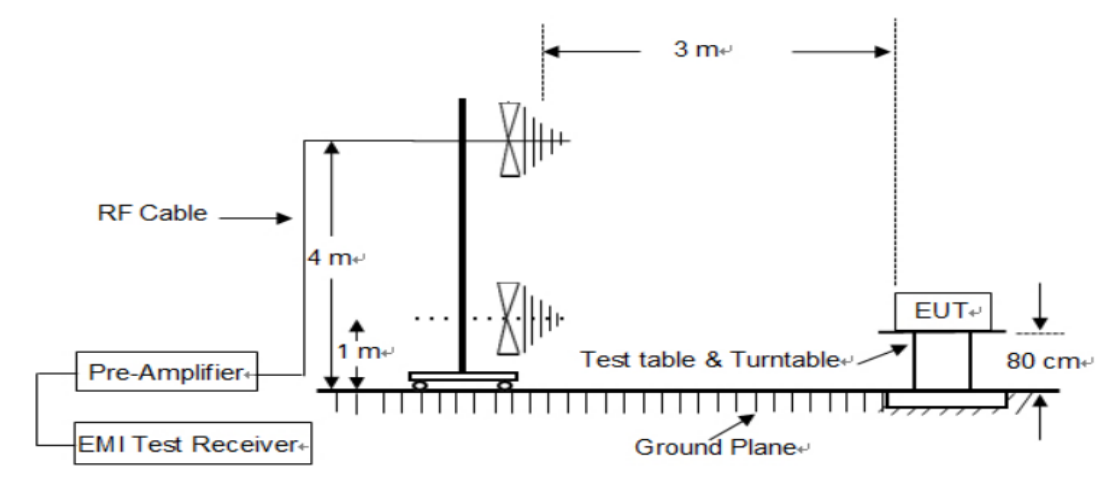
Above 1GHz:

The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

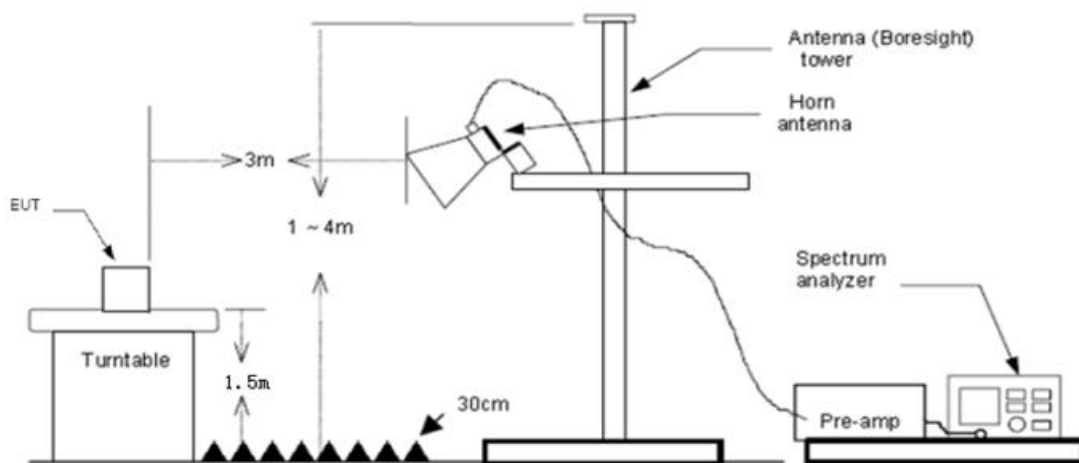
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

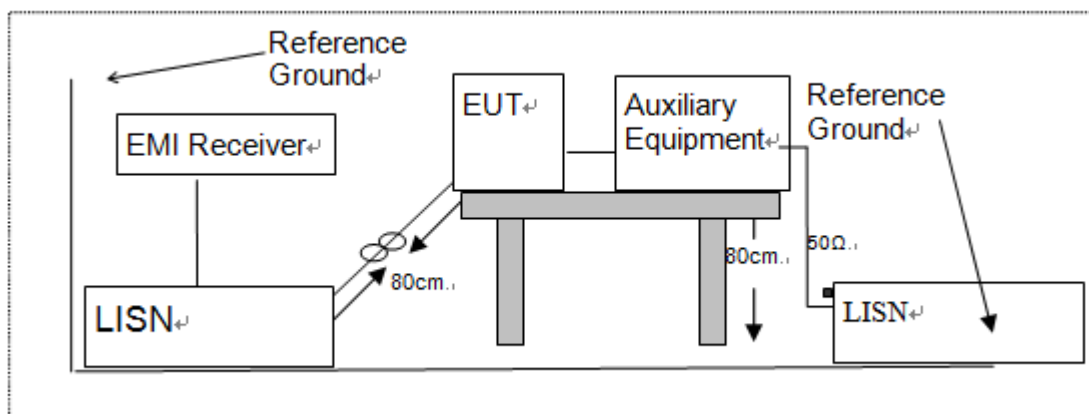


5.3 CONDUCTED EMISSION TEST SETUP

The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



5.4 SUPPORT EQUIPMENT

Description	Manufacturer	Model No.	Serial Number
/	/	/	/
/	/	/	/

Notes:

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
- 3) Unless otherwise denoted as EUT in 『Remark』 column, device(s) used in tested system is a support equipment

6 TEST REQUIREMENTS

6.1 BANDWIDTH TEST

6.1.1 Applicable Standard

According to FCC Part 15.215

6.1.2 Conformance Limit

N/A

6.1.3 Test Configuration

Test according to clause 6.1 radio frequency test setup 1

6.1.4 Test Procedure

The EUT was operating in controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW $\geq 1\% \sim 5\%$ of the 20 dB bandwidth

Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.

Set Span= approximately 2 to 3 times the 20 dB bandwidth

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

Measure and record the results in the test report.

Test Results

Temperature:	24° C
Relative Humidity:	51%
ATM Pressure:	1011 mbar

Operation Mode	Channel Number	Channel Frequency (MHz)	20dB Measurement Bandwidth (MHz)	Limit (kHz)	Verdict
GFSK	0	2405	1.049	N/A	PASS
GFSK	35	2440	1.050	N/A	PASS
GFSK	70	2475	1.049	N/A	PASS
Note: N/A (Not Applicable)					

Test Model

Occupied Bandwidth
GFSK
Channel 0: 2405MHz



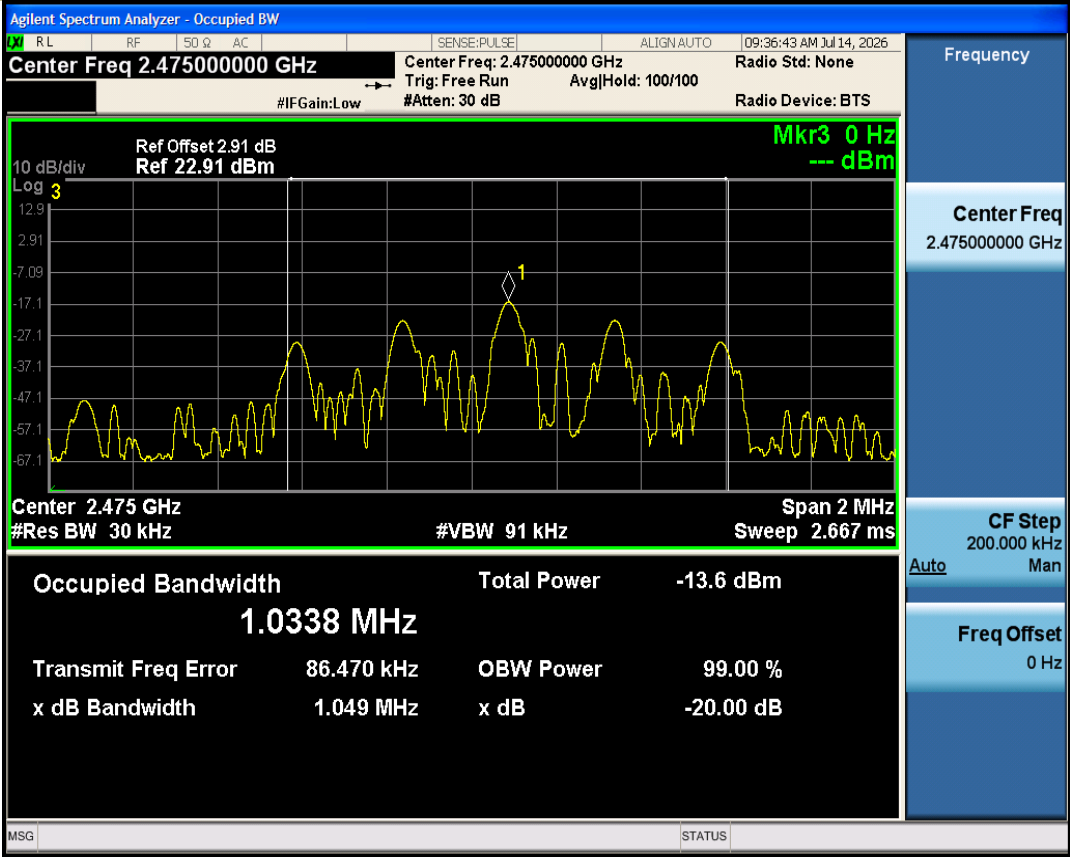
Test Model

Occupied Bandwidth
GFSK
Channel 35: 2440MHz



Test Model

Occupied Bandwidth
GFSK
Channel 70: 2475MHz



6.2 RADIATED SPURIOUS EMISSION

6.2.1 Applicable Standard

According to FCC Part 15.249 and 15.209

6.2.2 Conformance Limit

According to FCC Part 15.249: 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) (see §15.205(c)).
According to FCC Part 15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

According to FCC Part 15.205, the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

Field strength of fundamental and Field strength of harmonics Limit:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50(94 dBV/m)	500(54 dBV/m)
2400-2483.5 MHz	50(94 dBV/m)	500(54 dBV/m)
5725-5875 MHz	50(94 dBV/m)	500(54 dBV/m)
24.0-24.25 GHz	250(108 dBV/m)	2500(68 dBV/m)

As shown in §15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation

6.2.3 Test Configuration

Test according to clause 6.2 radio frequency test setup 2

6.2.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz (1GHz to 25GHz), 100 kHz for $f < 1$ GHz (30MHz to 1GHz)

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.

Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from $20\log(\text{dwell time}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Repeat above procedures until all frequency measured was complete.

6.2.5 Test Results

■ Spurious Emission below 30MHz (9KHz to 30MHz)

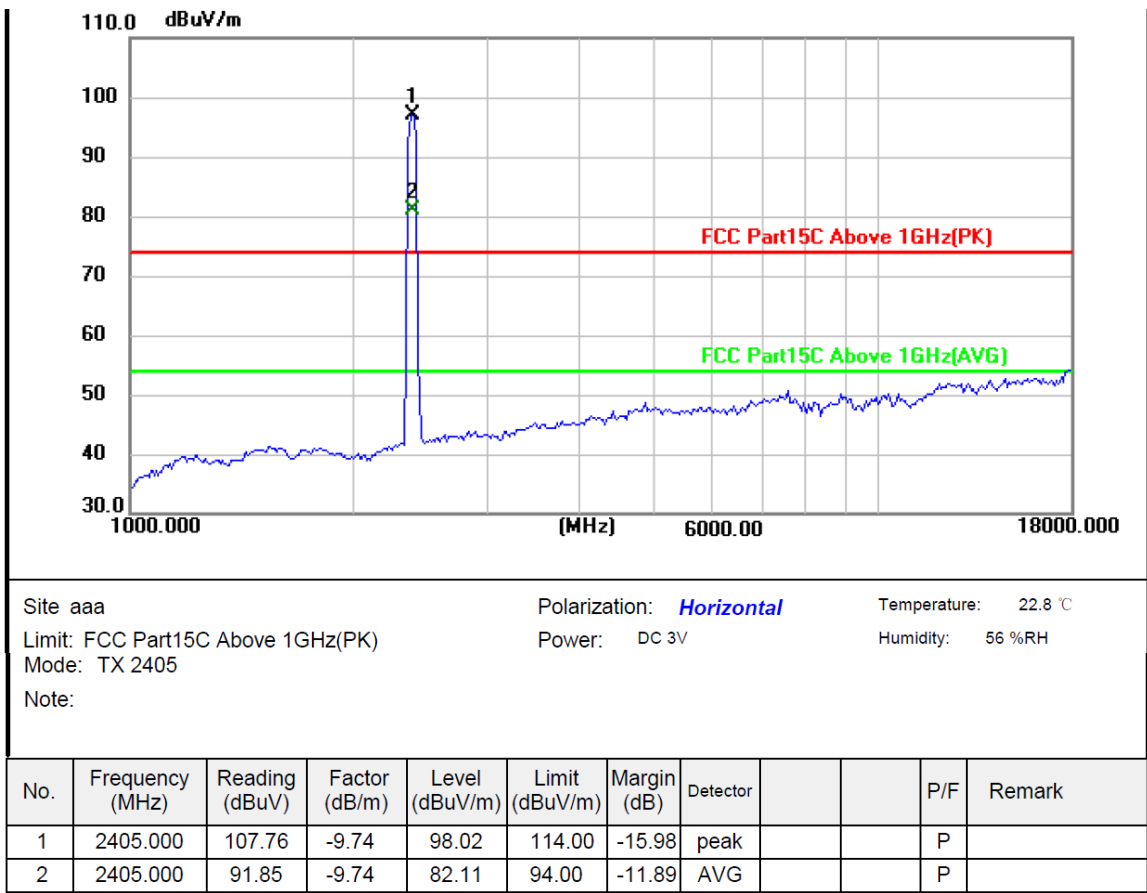
Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
--	--	--	--	--	--	--	--

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

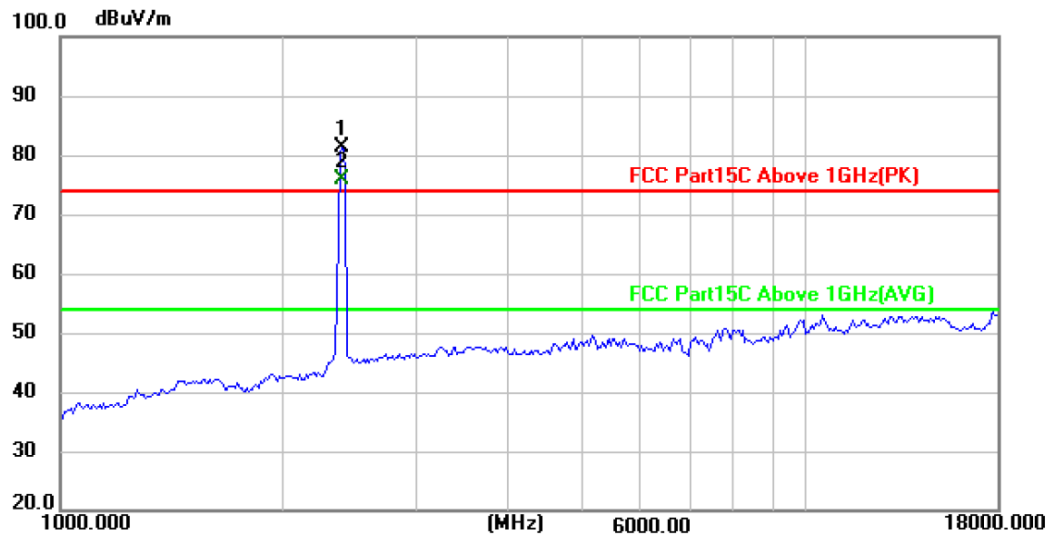
Distance extrapolation factor = $40\log(\text{Specific distance}/\text{test distance})$ (dB);

Limit line = Specific limits(dBuV) + distance extrapolation factor

Field Strength of the fundamental signal



*:Maximum data x:Over limit !:over margin



Site aaa

Limit: FCC Part15C Above 1GHz(PK)

Mode: TX 2405

Note:

Polarization: *Vertical*

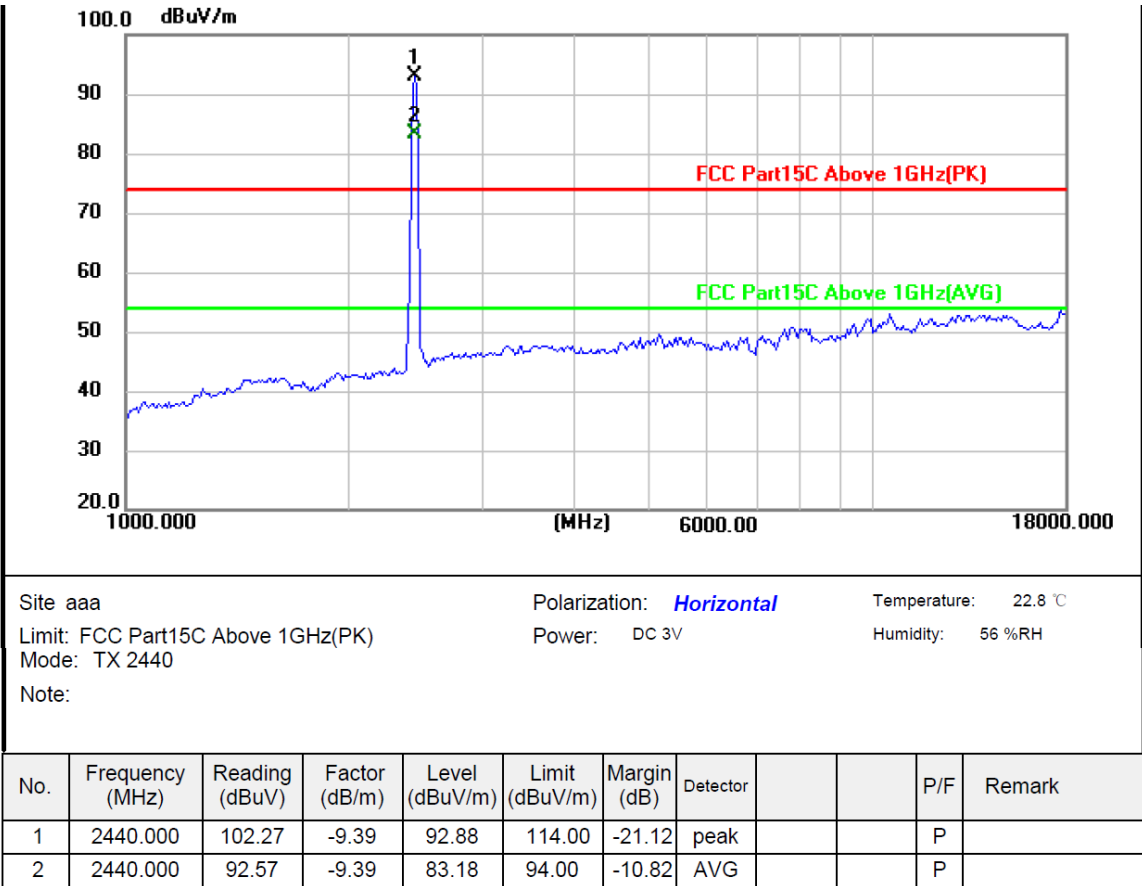
Power: DC 3V

Temperature: 22.8 °C

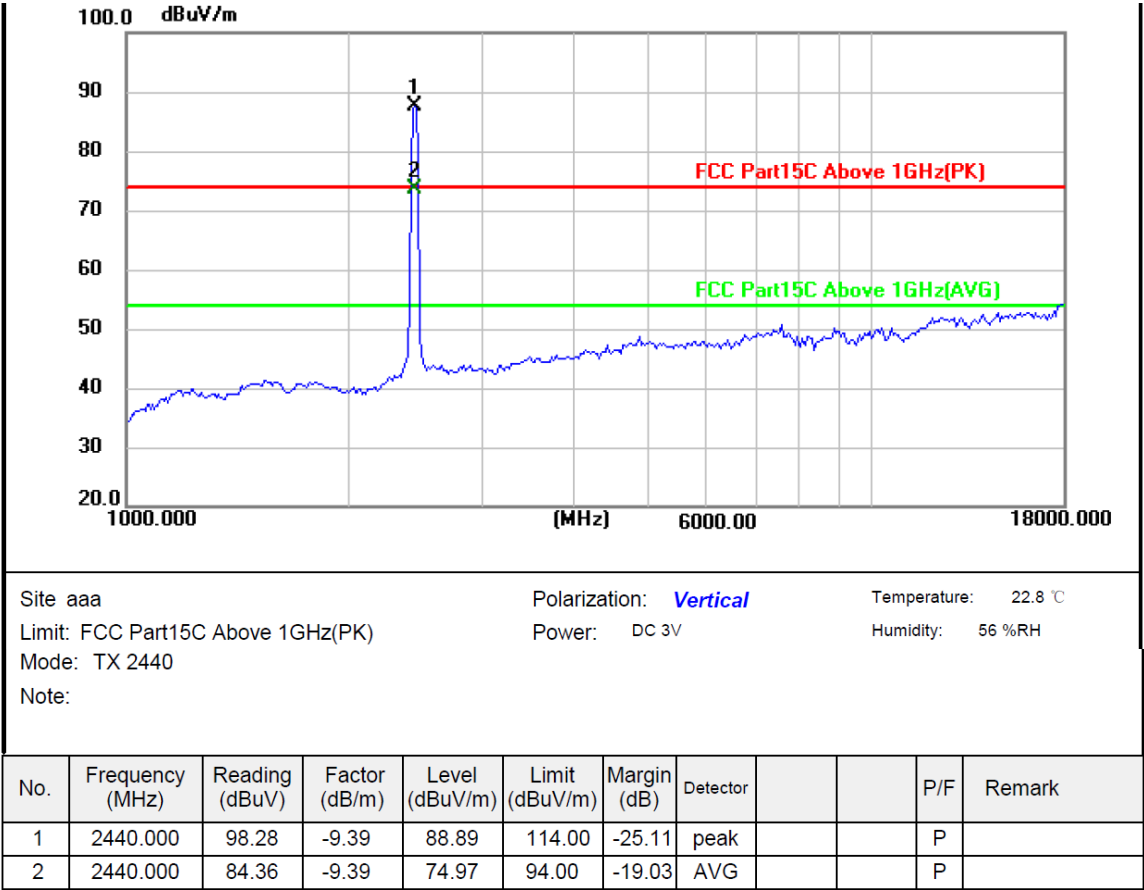
Humidity: 56 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	2405.000	91.15	-9.74	81.41	114.00	-32.59	peak			P	
2	2405.000	85.68	-9.74	75.94	94.00	-18.06	AVG			P	

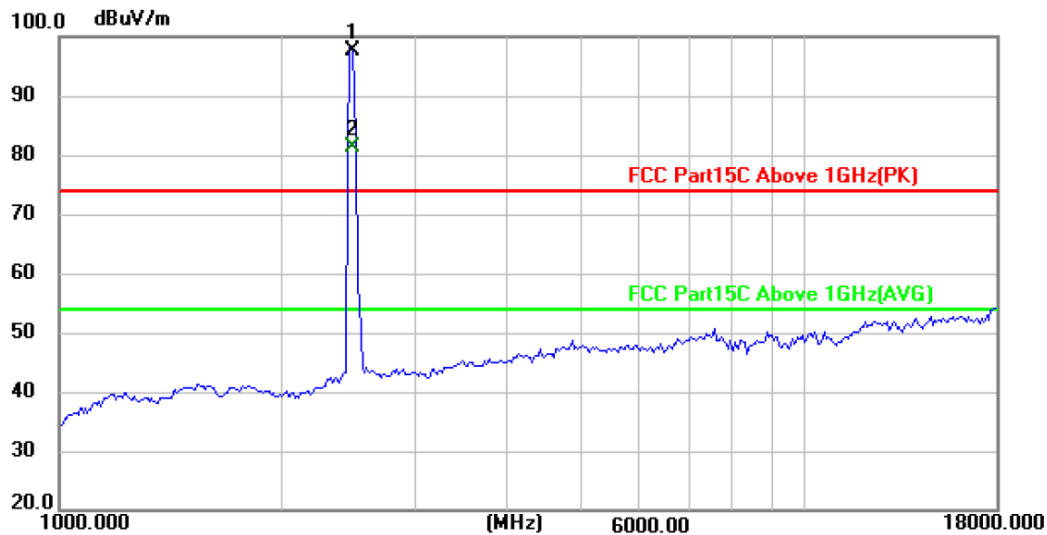
*:Maximum data x:Over limit !:over margin



*:Maximum data x:Over limit !:over margin



*:Maximum data x:Over limit !:over margin



Site aaa

Limit: FCC Part15C Above 1GHz(PK)

Mode: TX 2475

Note:

Polarization: *Horizontal*

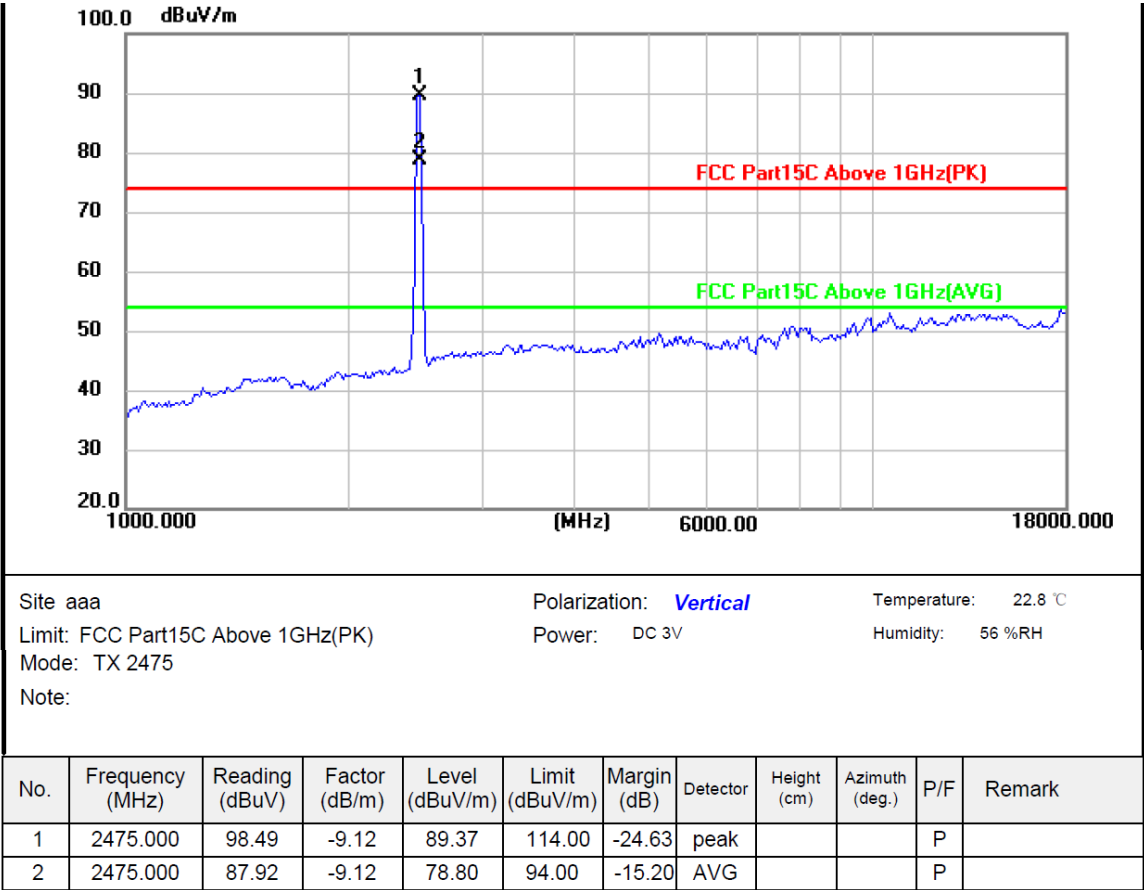
Power: DC 3V

Temperature: 22.8 °C

Humidity: 56 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2475.000	108.00	-9.12	98.88	114.00	-15.12	peak			P	
2	2475.000	91.96	-9.12	82.84	94.00	-11.16	AVG			P	

*:Maximum data x:Over limit !:over margin

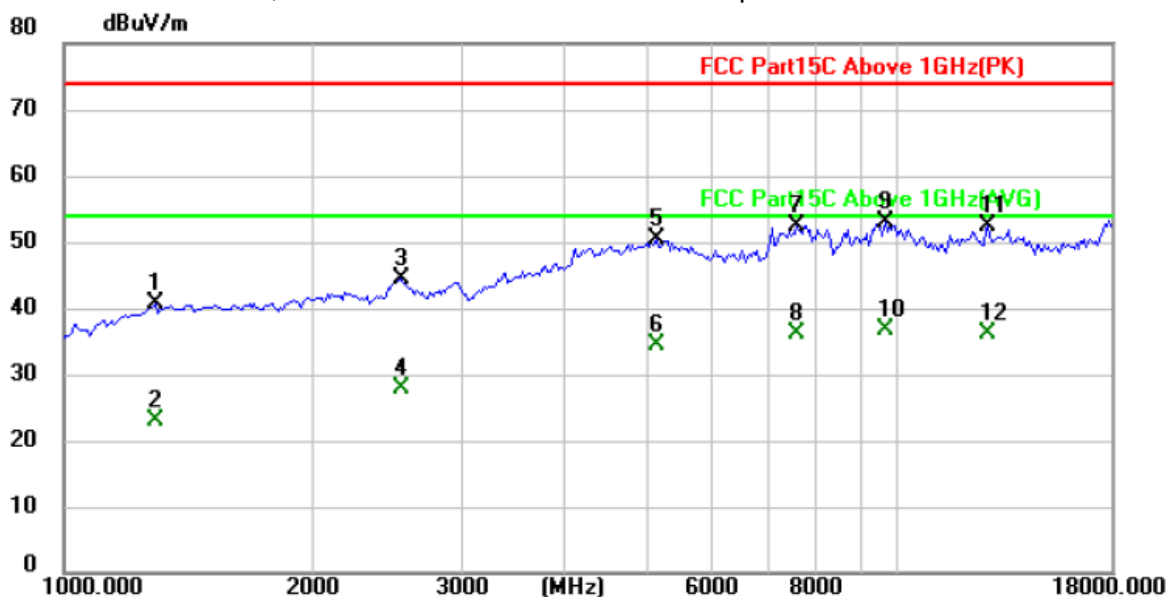


*:Maximum data x:Over limit !:over margin

Note: (1) Correct Factor= Antenna Factor +Cable Loss- Amplifier Gain
(2) Emission Level= Reading Level+ Factor

■ Spurious Emission Above 1GHz (1GHz to 25GHz)

All modes have been tested, and the worst result recorded was report as below:



Site aaa

Polarization: **Horizontal**

Temperature: 22.8 °C

Limit: FCC Part15C Above 1GHz(PK)

Power: DC 3V

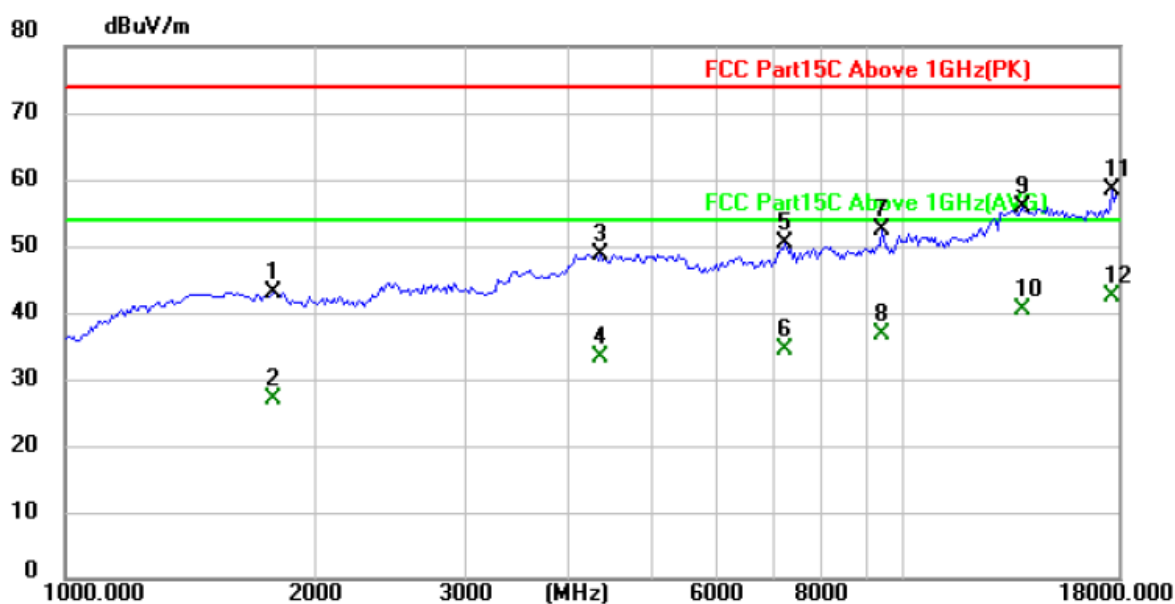
Humidity: 56 %RH

Mode: TX 2405

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	
1	1289.6270	53.94	-13.33	40.61	74.00	-33.39	peak			P	
2	1289.6270	36.40	-13.33	23.07	54.00	-30.93	AVG			P	
3	2536.2830	54.74	-10.42	44.32	74.00	-29.68	peak			P	
4	2536.2830	38.40	-10.42	27.98	54.00	-26.02	AVG			P	
5	5148.0000	52.61	-2.18	50.43	74.00	-23.57	peak			P	
6	5148.0000	36.50	-2.18	34.32	54.00	-19.68	AVG			P	
7	7596.0000	48.72	3.73	52.45	74.00	-21.55	peak			P	
8	7596.0000	32.40	3.73	36.13	54.00	-17.87	AVG			P	
9	9670.0000	45.94	7.11	53.05	74.00	-20.95	peak			P	
10	9670.0000	29.70	7.11	36.81	54.00	-17.19	AVG			P	
11	12832.0000	46.75	5.67	52.42	74.00	-21.58	peak			P	
12	12832.0000	30.50	5.67	36.17	54.00	-17.83	AVG			P	

*:Maximum data x:Over limit !:over margin



Site aaa

Polarization: **Vertical**

Temperature: 22.8 °C

Limit: FCC Part15C Above 1GHz(PK)

Power: DC 3V

Humidity: 56 %RH

Mode: TX 2405

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	
1	1782.0000	55.43	-12.42	43.01	74.00	-30.99	peak			P	
2	1782.0000	39.50	-12.42	27.08	54.00	-26.92	AVG			P	
3	4366.0000	52.02	-3.19	48.83	74.00	-25.17	peak			P	
4	4366.0000	36.40	-3.19	33.21	54.00	-20.79	AVG			P	
5	7256.0000	46.01	4.30	50.31	74.00	-23.69	peak			P	
6	7256.0000	30.10	4.30	34.40	54.00	-19.60	AVG			P	
7	9432.0000	44.11	8.24	52.35	74.00	-21.65	peak			P	
8	9432.0000	28.60	8.24	36.84	54.00	-17.16	AVG			P	
9	13818.0000	48.01	7.77	55.78	74.00	-18.22	peak			P	
10	13818.0000	32.70	7.77	40.47	54.00	-13.53	AVG			P	
11	17694.0000	51.24	7.06	58.30	74.00	-15.70	peak			P	
12	17694.0000	35.30	7.06	42.36	54.00	-11.64	AVG			P	

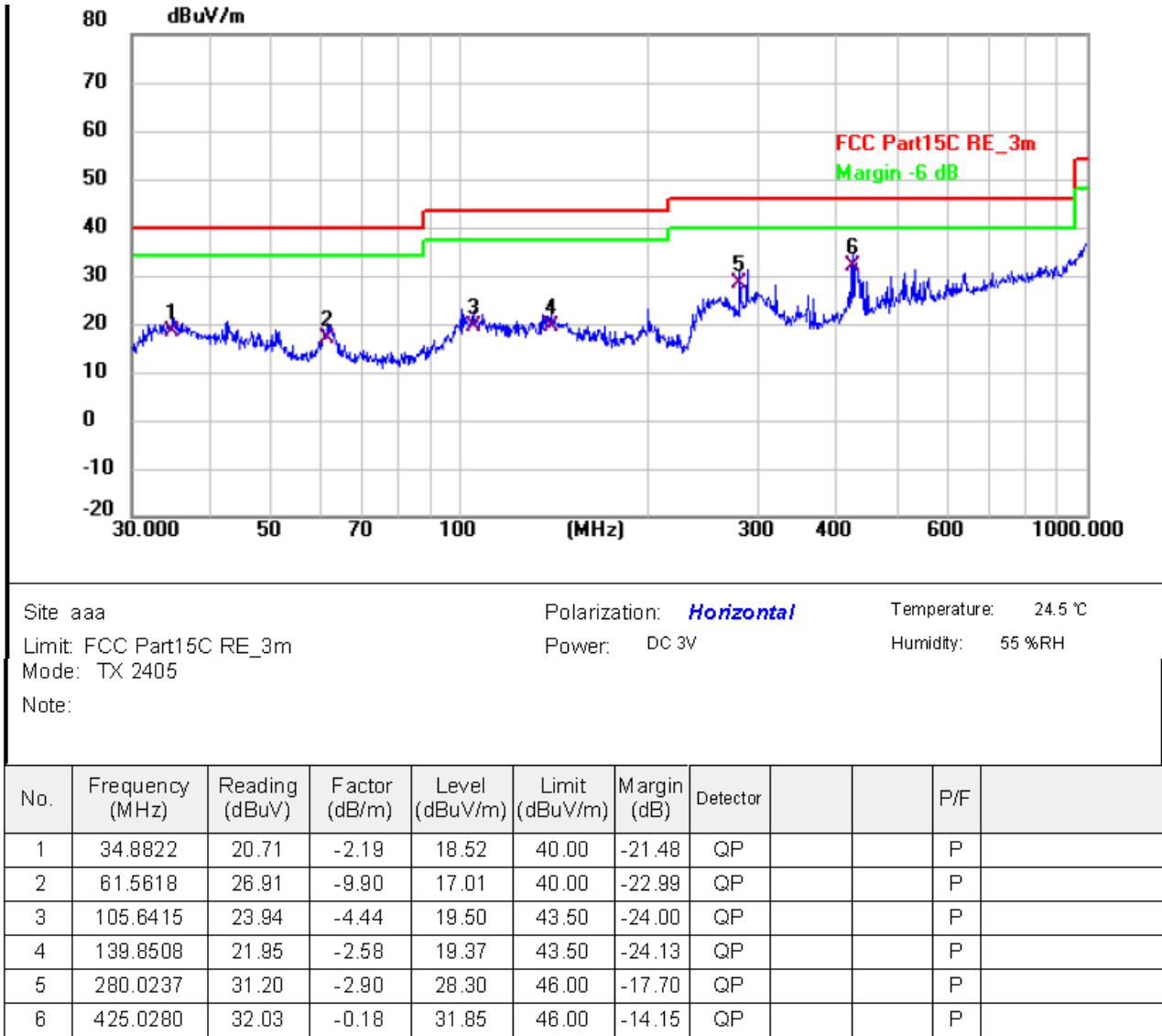
*:Maximum data x:Over limit l:over margin

Note: (1) All Readings are Peak Value (VBW=3MHz) and AVG Value(VBW=10Hz).

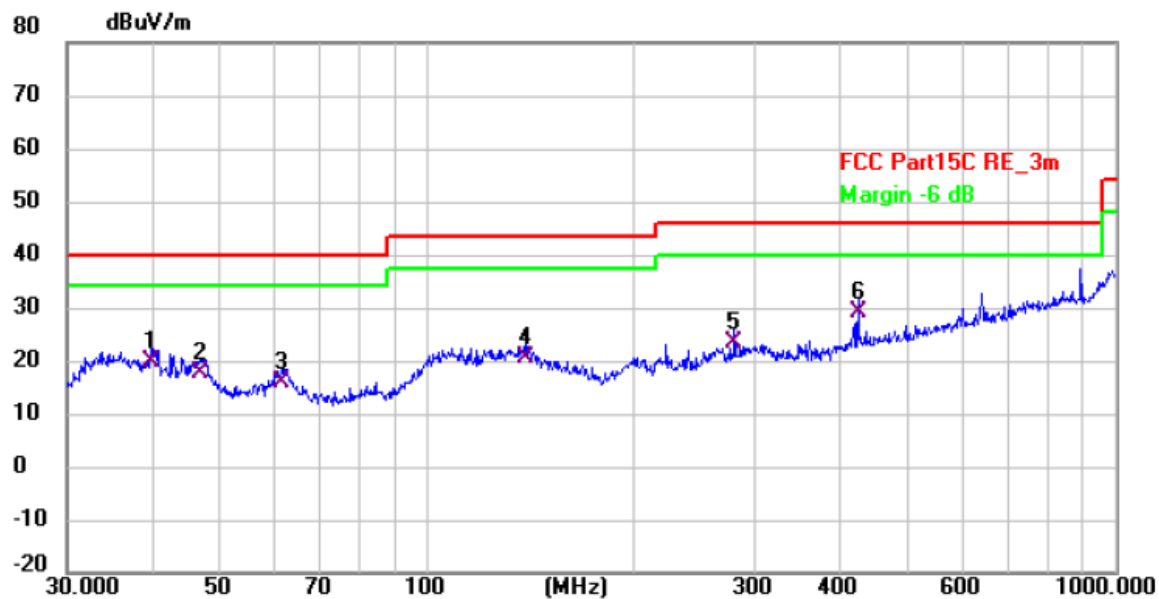
(2) Level= Reading Level+ Factor+Cable Loss.

(3) Factor= Antenna Factor -Amp Factor +Cable Loss

■ Spurious Emission below 1GHz (30MHz to 1GHz)
All modes have been tested, and the worst result recorded was report as below:



*:Maximum data x:Over limit !:over margin



Site aaa
Limit: FCC Part15C RE 3m
Mode: TX 2405
Note:

Polarization: **Vertical**
Power: DC 3V

Temperature: 24.5 °C
Humidity: 55 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	
1	39.8542	24.87	-4.94	19.93	40.00	-20.07	QP			P	
2	46.9947	25.32	-7.72	17.60	40.00	-22.40	QP			P	
3	61.5618	25.66	-9.90	15.76	40.00	-24.24	QP			P	
4	138.8734	23.33	-2.65	20.68	43.50	-22.82	QP			P	
5	280.0237	26.33	-2.90	23.43	46.00	-22.57	QP			P	
6	423.5402	29.16	-0.22	28.94	46.00	-17.06	QP			P	

*:Maximum data x:Over limit !:over margin

6.3 BAND EDGES REQUIREMENT

6.3.1 Applicable Standard

According to FCC Part 15.249(d)

6.3.2 Test Configuration

Test according to clause 6.2 radio frequency test setup 2

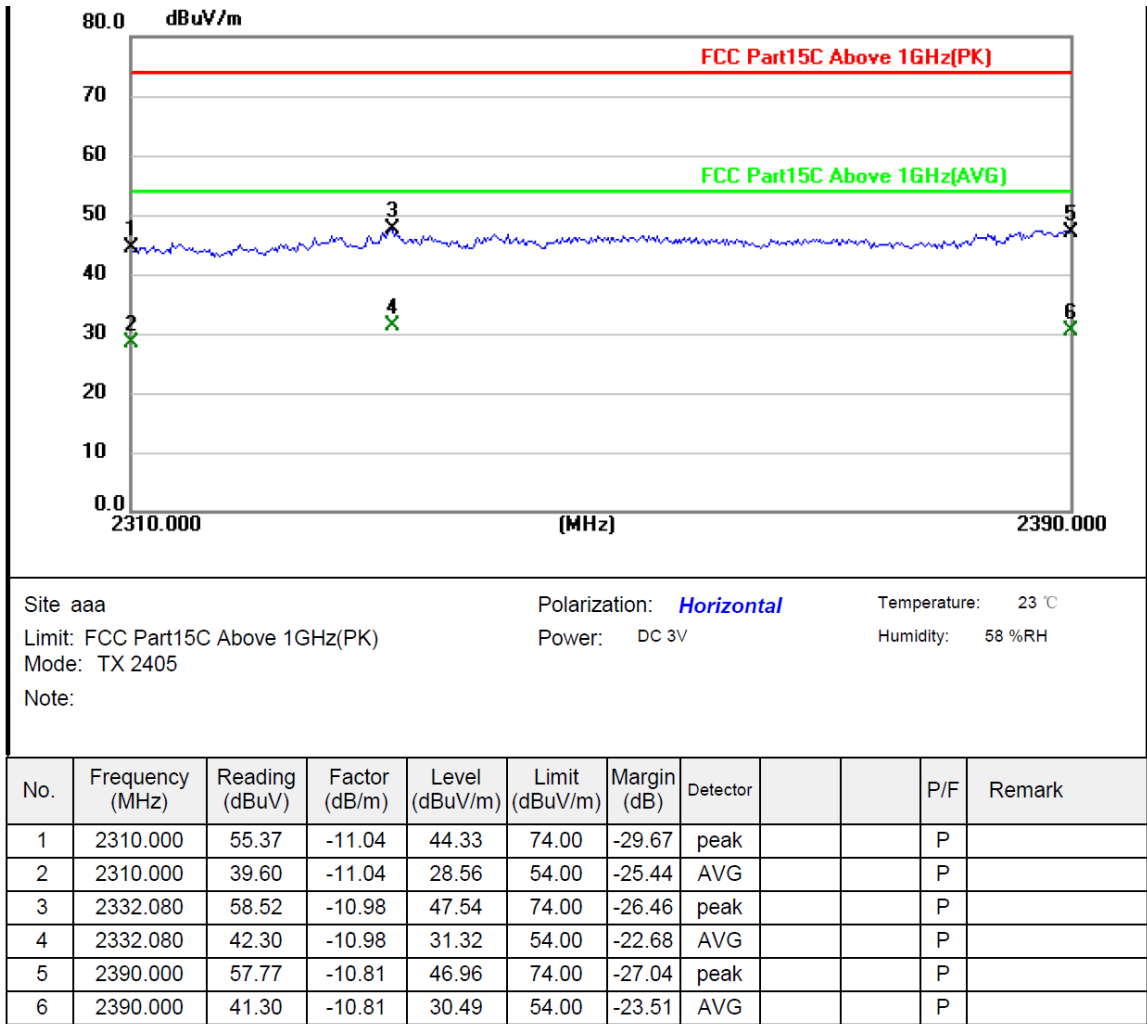
6.3.3 Test Procedure

Follow the guidelines in ANSI C63.10: Clause 6.10

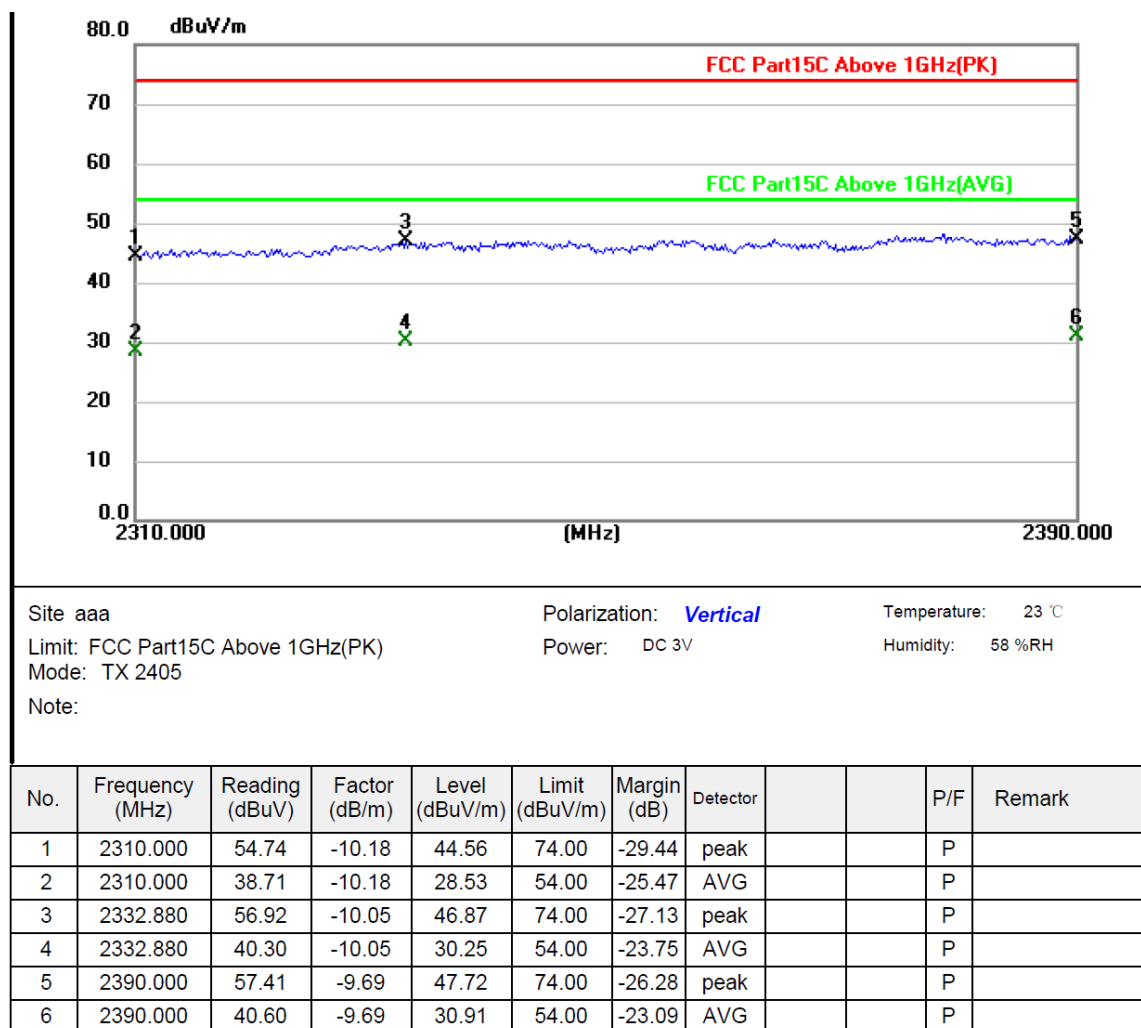
Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports(if EUT with antenna diversity architecture). The lowest, middle and highest channels were selected for the final test as listed below.

6.3.4 Test Results

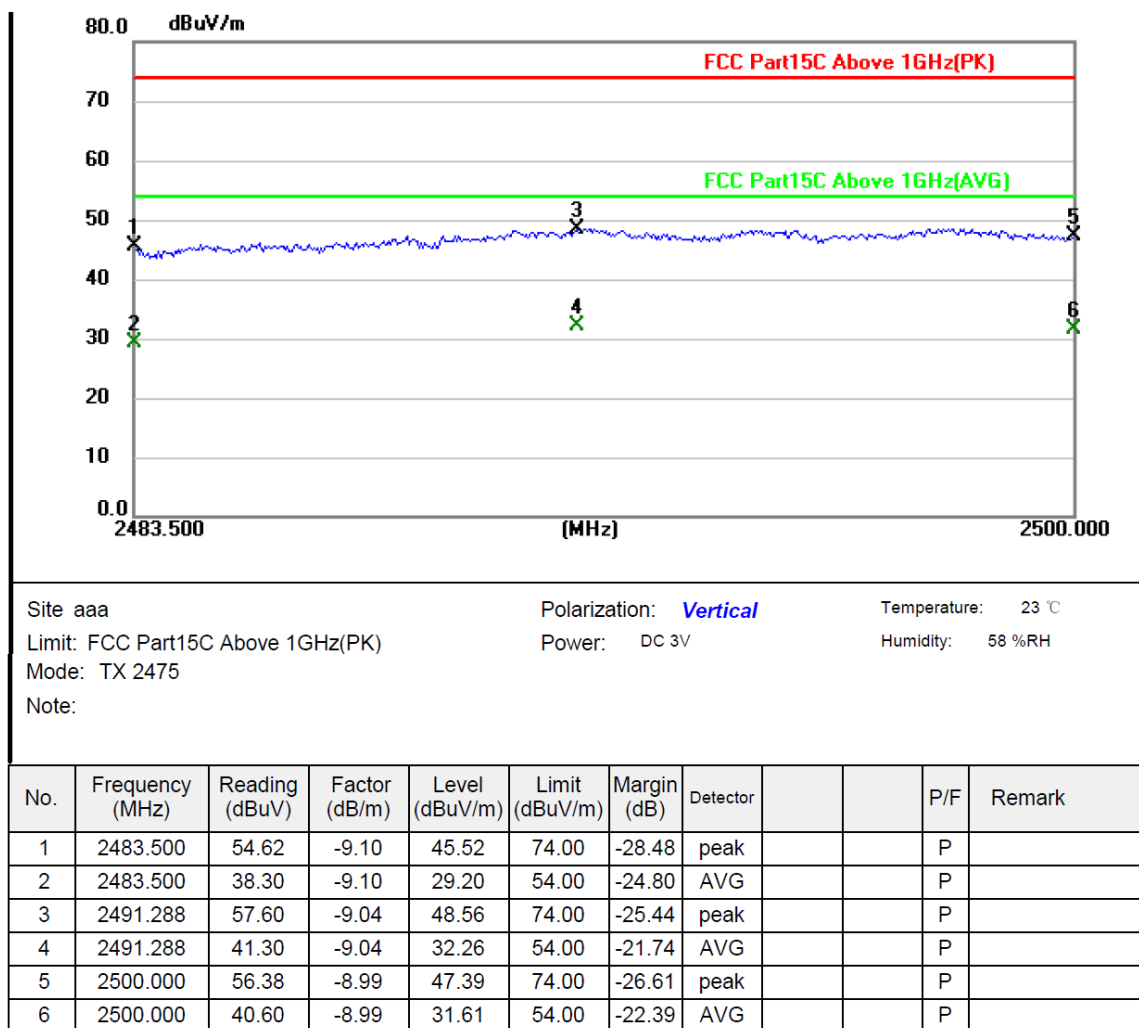
■ BAND EDGES REQUIREMENT DATA



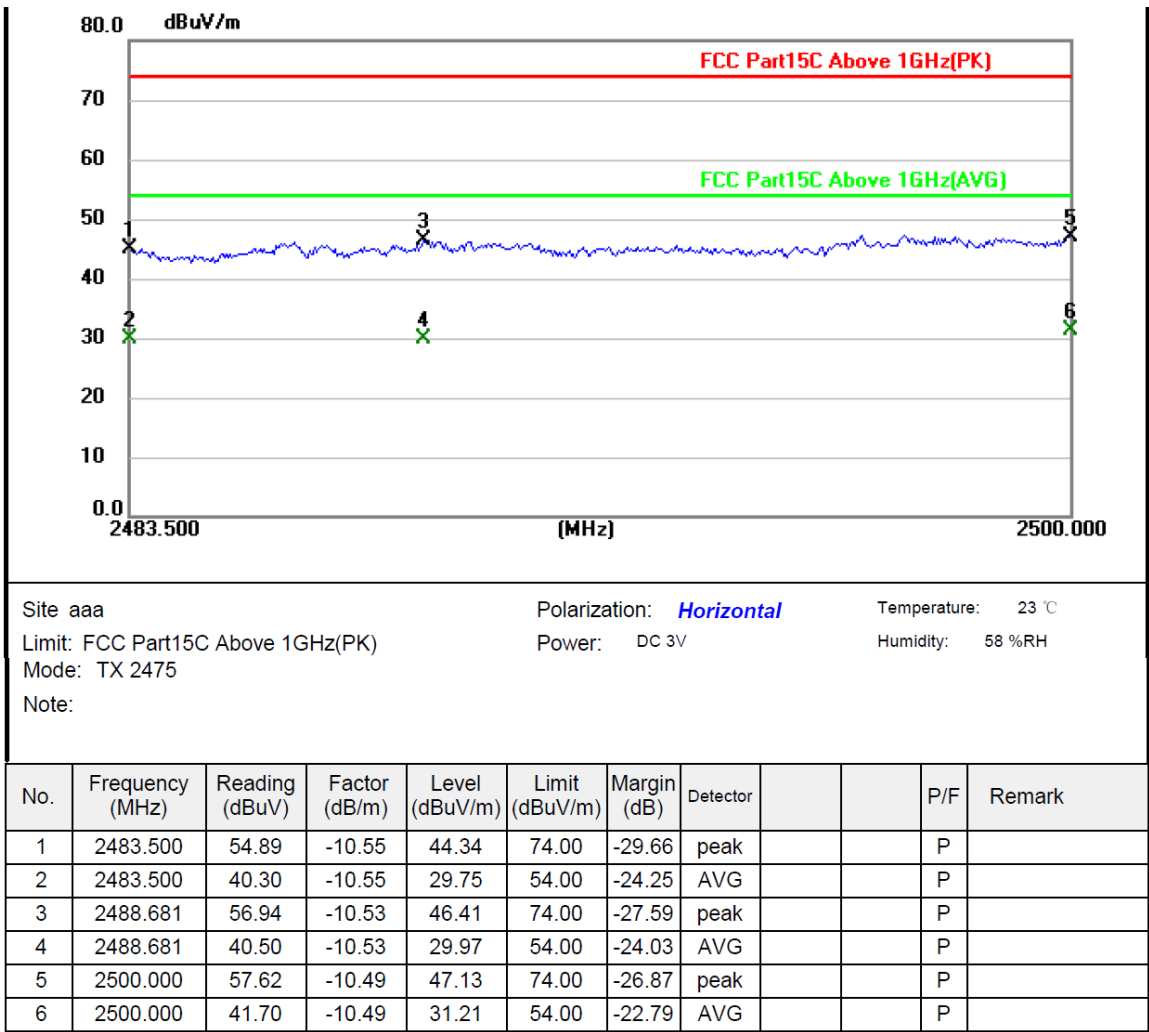
*:Maximum data x:Over limit !:over margin



*:Maximum data x:Over limit !:over margin



*:Maximum data x:Over limit !:over margin



*:Maximum data x:Over limit !:over margin

Note:1. Emission level = Reading level + Correction factor

2. Correction factor : Antenna factor, Cable loss, Pre-Amp, etc.

3. All emissions as described above were determining by rotating the EUT through three orthogonal axes to maximizing the emissions if the EUT belongs to hand-held or body-worn devices.

4. Measurements above 1000 MHz, Peak detector setting:1 MHz RBW with 3 MHz VBW (Peak Detector).

5. Measurements above 1000 MHz, Average detector setting:1 MHz RBW with 10Hz VBW (RMS Detector).

6. Peak detector measurement data will represent the worst case results.

7. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

6.4 CONDUCTED EMISSIONS TEST

6.4.1 Applicable Standard

According to FCC Part 15.207(a)

6.4.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit	
	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Remark: Test results were obtained from the following equation:

$$\begin{aligned}\text{Measurement (dB}\mu\text{V)} &= \text{LISN Factor (dB)} + \text{Cable Loss (dB)} + \text{Reading (dB}\mu\text{V)} \\ \text{Over (dB)} &= \text{Measurement (dB}\mu\text{V)} - \text{Limit (dB}\mu\text{V)}\end{aligned}$$

6.4.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

6.4.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

6.4.5 Test Results

Not Applicable.

6.5 ANTENNA APPLICATION

6.5.1 Antenna Requirement

Standard	Requirement
FCC CRF Part 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. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 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.

6.5.2 Result

PASS.

The EUT has 1 antennas: an Braided Coaxial Whip Monopole Antenna for 2.4GHz, antenna has a gain of 0 dBi;

Note: ☒ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

which in accordance to section 15.203, please refer to the internal photos.

-----The end-----

免责声明

Legal Disclaimer

1. 报告无“检测报告专用章”或检验单位公章无效。

This report is invalid without "special seal for test report" or official seal of inspection unit.

2. 报告无主检、审核、批准人签名无效。

The report is invalid without the signature of the principal inspector, auditor and approver.

3. 报告如有涂改或页码缺失则无效。

Reports with corrections or missing page numbers are invalid.

4. 本检测报告以实测值进行符合性判定，未考虑不确定度所带来的风险，本实验室不承担相关责任，特别约定、标准或规范中有明确规定的除外；

The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, Pubiao shall not assume any responsibility.

4. 对检验报告若有异议，应于收到报告之日起十五日内向检验单位提出，过期不予受理。

Any objection to the inspection report shall be submitted to the inspection unit within 15 days from the date of receipt of the report.

5. 本次检测结果仅对收到的客户样品负责。

The test results are only responsible to the samples received from customers.

6. 未经实验室批准不得部分复制报告

Partial reproduction of the report shall not be permitted without laboratory approval.

地 址：广东省东莞市石碣镇石碣铭华路30号1号楼101室

Address: Room 101, Building 1, No.30, Minghua Road, Shijie, Shijie Town, Dongguan, Guangdong, 523250, People's Republic of China

电话总机/Tel.: +86 769-8181 3516

传 真/Fax.: +86 769-8181 3536