

TEST REPORT

Applicant:	Alpha Group Co., Ltd.
Address:	Alpha Animation Industrial Area, Jinhong Road East & Fengxiang Road North, Chenghai District, Shantou, Guangdong, P.R.China

Manufacturer or Supplier	Alpha Group Co., Ltd.
Address	Alpha Animation Industrial Area, Jinhong Road East & Fengxiang Road North, Chenghai District, Shantou, Guangdong, P.R.China
Product:	RC Wilderness Explorer
Brand Name:	Alpha
Model:	389801T
Additional Models & Model Difference	N/A
Date of tests:	May 24, 2022 ~ Jun. 09, 2022

the tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart C, Section 15.249**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	
	Date: Aug. 09, 2022

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1 SUMMARY OF TEST RESULTS.....	4
2 MEASUREMENT UNCERTAINTY	4
3 GENERAL INFORMATION	5
3.1 GENERAL DESCRIPTION OF EUT	5
3.2 DESCRIPTION OF TEST MODES.....	6
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS.....	8
3.4 DESCRIPTION OF SUPPORT UNITS.....	8
4. TEST TYPES AND RESULTS.....	9
4.1 RADIATED EMISSION MEASUREMENT	9
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT	9
4.1.2 TEST INSTRUMENTS.....	10
4.1.3 TEST PROCEDURES	11
4.1.4 DEVIATION FROM TEST STANDARD	11
4.1.5 TEST SETUP.....	12
4.1.6 EUT OPERATING CONDITIONS	12
4.1.7 TEST RESULTS	13
4.2 20dB BANDWIDTH MEASUREMENT	20
4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT	20
4.2.2 TEST INSTRUMENTS	20
4.2.3 TEST PROCEDURE	21
4.2.4 DEVIATION FROM TEST STANDARD.....	21
4.2.5 TEST SETUP	21
4.2.6 EUT OPERATING CONDITIONS	21
4.2.7 TEST RESULTS.....	22
5. PHOTOGRAPHS OF THE TEST CONFIGURATION.....	24
6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	25

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2205WDG0180-1	Original release	Aug. 09, 2022

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.249)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
§15.203	Antenna Requirement	PASS	No antenna connector is used
§15.207 (a)	Conducted Emission	N/A	Powered by battery
§15.205	Restricted Band of Operation	PASS	Compliant
§15.209 §15.249(a)	Radiated Emission	PASS	Compliant
§15.215(c)	20dB Bandwidth Test	PASS	Compliant

2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Radiated emissions	30MHz ~ 1GMHz	4.06dB
	1GHz ~ 18GHz	4.90dB
	18GHz ~ 40GHz	4.58dB
Occupied Channel Bandwidth	1GHz ~ 18GHz	$\pm 1.132 \times 10^{-4} \%$

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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	RC Wilderness Explorer
MODEL NO.	389801T
ADDITIONAL MODEL	N/A
FCC ID	2AIRP-389801
NOMINAL VOLTAGE	Remote Control: DC 3V (1.5V*AAA*2) from Battery
MODULATION TECHNOLOGY	GFSK
OPERATING FREQUENCY	2405MHz ~ 2475MHz
ANTENNA TYPE	PCB Antenna, with 2dBi gain for Remote Control
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTES:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 2205WDG0180-1) for detailed product photo.
4. The EUT Can't normal working while charging.

3.2 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and packet type. The worst case was found when the EUT was positioned on Y axis for radiated emission. The EUT was tested under the following mode.

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE<1G	RE≥1G	PLC	BW	
A	√	√	-	√	DC 3V from Battery

Where **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission

RE≥1G: Radiated Emission above 1GHz
BW: 20db bandwidth

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

Following channel(s) was (were) selected for the test as listed below.

TESTED CHANNEL	TESTED FREQUENCY
Low	2405 MHz
Middle	2445 MHz
High	2475 MHz

Channel List

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

Note: The more detailed channel, please refer to the product specifications

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE	25deg. C, 55%RH	DC 3V from Battery	Jelly
BW	25deg. C, 56%RH	DC 3V from Battery	Yoyo
PLC	-	-	-

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C, Section 15.249

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together without any other necessary accessories or support units

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

According to §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 (milli-volts/meter)	Field strength of harmonics (micro-volts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

NOTES:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, 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.



4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Spectrum Analyzer	Rohde&Schwarz	FSV40-N	101817	July 04, 22
Bilog Antenna	SCHWARZBECK	VULB 9168	01281	July 30, 22
Pre-Amplifier	Agilent	8447D	2944A10488	Aug.08, 22
3m Semi-anechoic Chamber	ETS-Lindgren	9m*6m*6m	D3040003DG-1	July 30, 24
Coaxial RF Cable	Joinfront	JFAA6-NMNM-8000	2100033742	Aug.08, 22
Coaxial RF Cable	Joinfront	JFAR-NMNCM-2000	2100033742	Aug.08, 22
Coaxial RF Cable	Joinfront	JFAR-BNCMSMM-500	2100033742	Aug.08, 22
Test software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Horn Antenna	ETS-Lindgren	3117	00240041	July 22, 22
Horn Antenna	SCHWARZBECK	BBHA 9170	01024	Dec. 25, 22
Pre-Amplifier (1GHz-18GHz)	SCHWARZBECK	BBV 9718C	00142	Aug. 06, 22
Pre-Amplifier (18GHz-40GHz)	Rohde&Schwarz	SCU40	100437	Nov. 16, 22
Coaxial RF Cable	Joinfront	JFAA6-NMNM-8000	2100033742	Aug.08, 22
Coaxial RF Cable	Joinfront	JFAA6-NMSMM-2000	2100033742	Aug.08, 22
Coaxial RF Cable	Joinfront	JFAA6-NMSMM-800	2100033742	Aug.08, 22

NOTES:

1. The test was performed in 966 Chamber-3 (Baodun).
2. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 749762.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
- g. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTES:

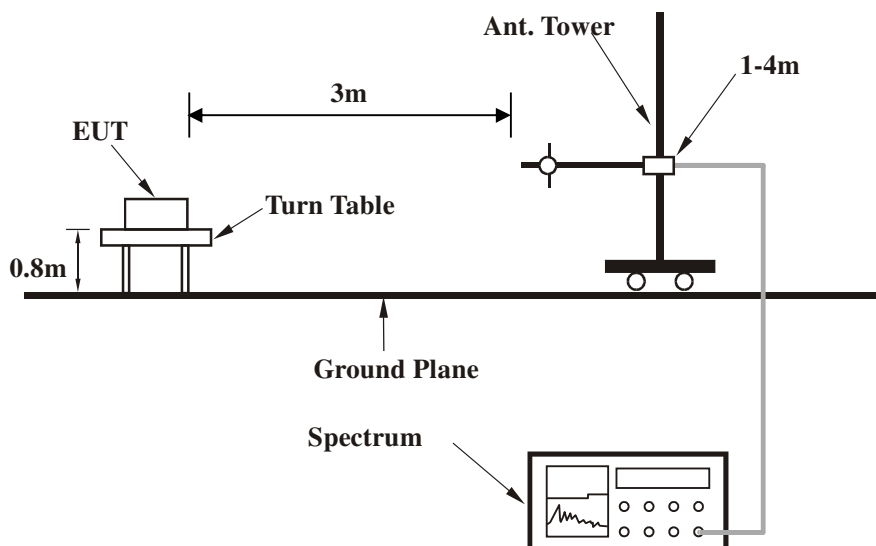
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

4.1.4 DEVIATION FROM TEST STANDARD

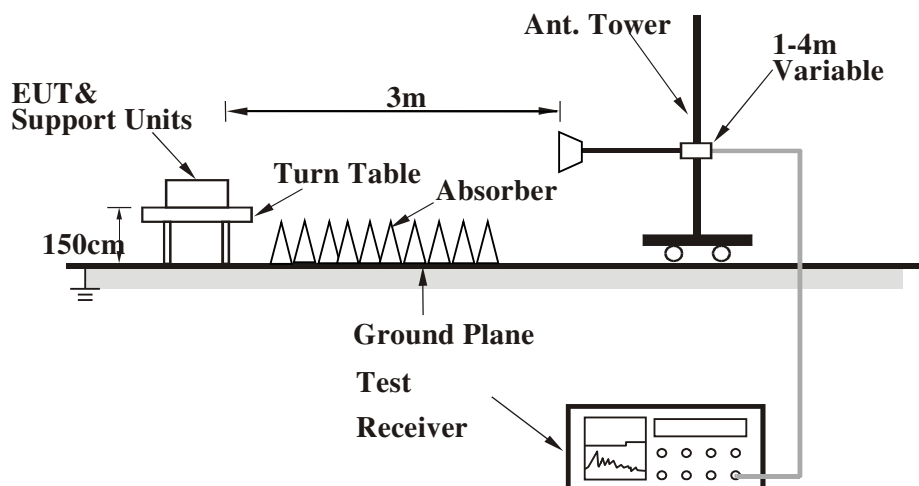
No deviation.

4.1.5 TEST SETUP

Below 1GHz test setup



Above 1GHz test setup



Note: For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

- Turned on the power of all equipment.
- EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

4.1.7 TEST RESULTS

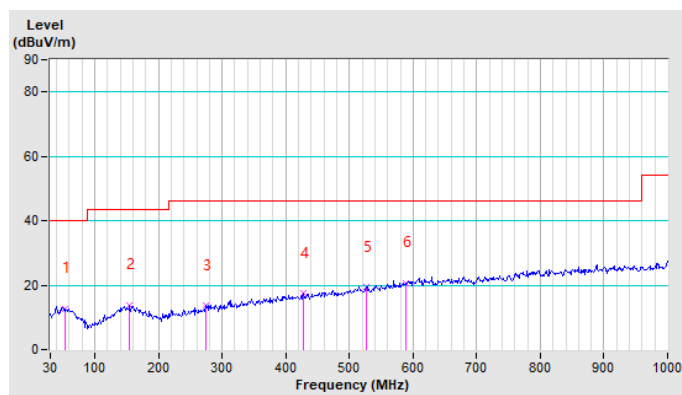
BELOW 1GHz WORST-CASE DATA

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.90	12.77 QP	40.00	-27.23	1.00 H	280	26.85	-14.08
2	155.12	13.89 QP	43.50	-29.61	1.00 H	263	27.45	-13.56
3	274.61	13.54 QP	46.00	-32.46	1.00 H	146	26.69	-13.15
4	427.84	17.39 QP	46.00	-28.61	1.00 H	112	27.63	-10.24
5	526.25	19.54 QP	46.00	-26.46	1.00 H	176	28.07	-8.53
6	588.10	20.78 QP	46.00	-25.22	1.00 H	250	27.65	-6.87

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.

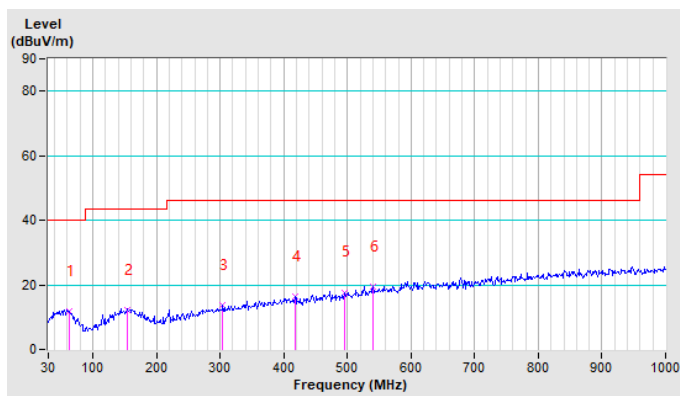


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	63.74	11.69 QP	40.00	-28.31	1.00 V	83	26.20	-14.51
2	153.71	12.30 QP	43.50	-31.20	1.00 V	321	25.90	-13.60
3	304.13	13.73 QP	46.00	-32.27	1.00 V	326	26.17	-12.44
4	418.00	16.23 QP	46.00	-29.77	1.00 V	228	26.64	-10.41
5	495.32	17.70 QP	46.00	-28.30	1.00 V	324	26.90	-9.20
6	540.30	19.44 QP	46.00	-26.56	1.00 V	183	27.64	-8.20

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.



ABOVE 1GHz WORST-CASE DATA:

CHANNEL	TX Low Channel	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

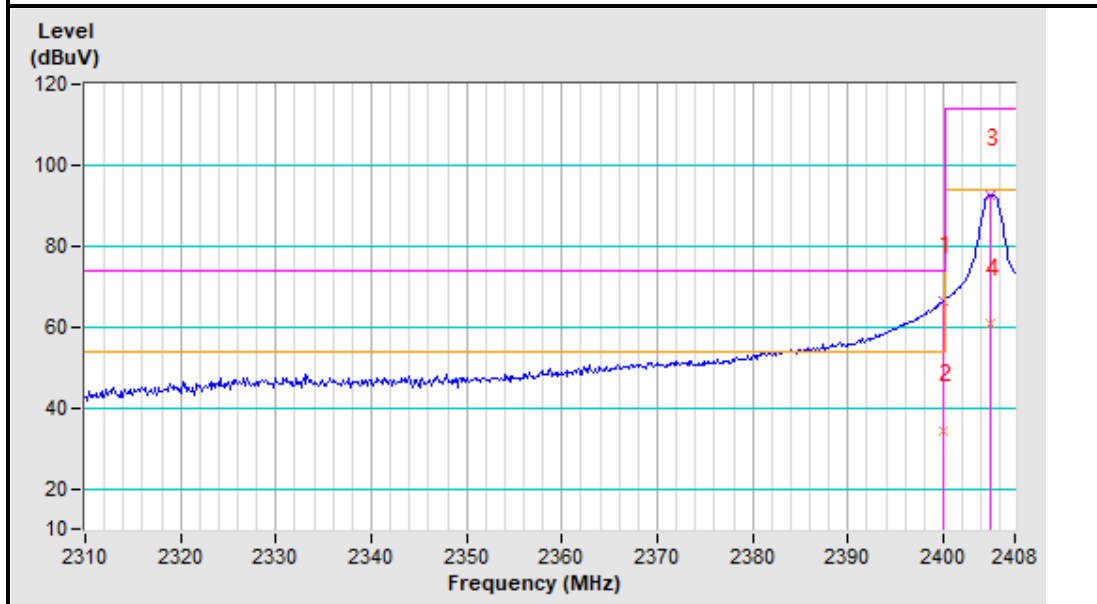
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2400.00	66.18 PK	74.00	-7.82	1.56 H	193	65.61	0.57
2	2400.00	34.38 AV	54.00	-19.62	1.56 H	193	33.81	0.57
3	*2405.00	92.45 PK	114.00	-21.55	1.56 H	193	91.85	0.60
4	*2405.00	60.65 AV	94.00	-33.35	1.56 H	193	60.05	0.60
5	4810.00	52.17 PK	74.00	-21.83	1.00 H	136	46.86	5.31
6	4810.00	20.37 AV	54.00	-33.63	1.00 H	136	15.06	5.31
7	7215.00	55.38 PK	74.00	-18.62	1.00 H	136	45.68	9.70
8	7215.00	23.58 AV	54.00	-30.42	1.00 H	136	13.88	9.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2400.00	60.96 PK	74.00	-13.04	1.00 V	315	60.39	0.57
2	2400.00	29.16 AV	54.00	-24.84	1.00 V	315	28.59	0.57
3	*2405.00	86.79 PK	114.00	-27.21	1.00 V	315	86.19	0.60
4	*2405.00	54.99 AV	94.00	-39.01	1.00 V	315	54.39	0.60
5	4810.00	51.77 PK	74.00	-22.23	1.00 V	135	46.46	5.31
6	4810.00	19.97 AV	54.00	-34.03	1.00 V	135	14.66	5.31
7	7215.00	54.69 PK	74.00	-19.31	1.44 V	160	44.99	9.70
8	7215.00	22.89 AV	54.00	-31.11	1.44 V	160	13.19	9.70

REMARKS:

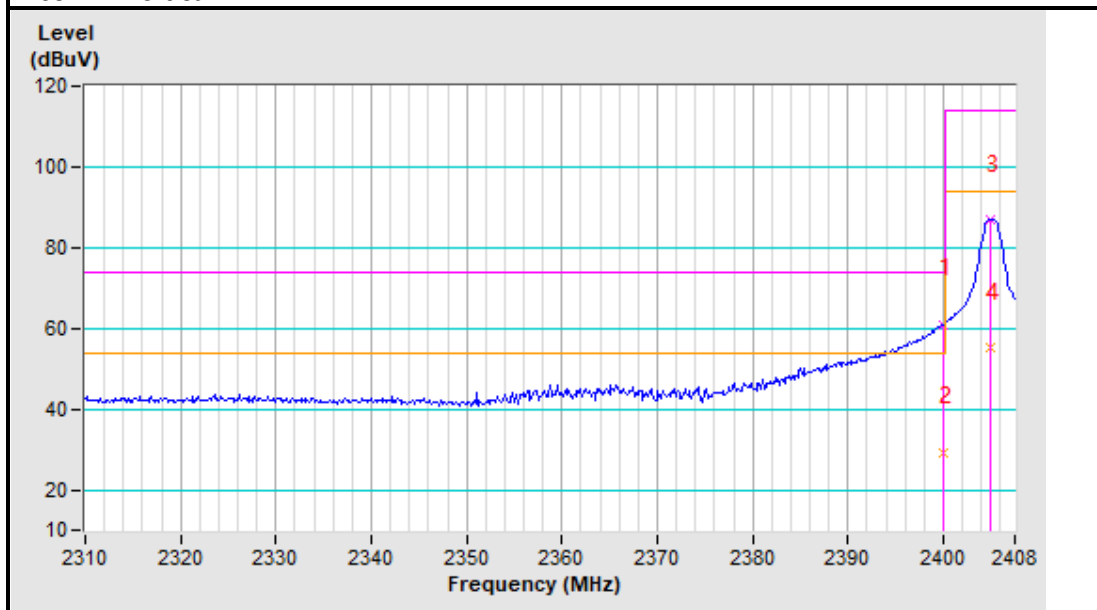
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.

Band edge Plot

2405MHz Horizontal



2405MHz Vertical



CHANNEL	TX Middle Channel	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2445.00	92.33 PK	114.00	-21.67	1.00 H	147	91.59	0.74
2	*2445.00	60.53 AV	94.00	-33.47	1.00 H	147	59.79	0.74
3	4890.00	52.04 PK	74.00	-21.96	1.27 H	169	46.63	5.41
4	4890.00	20.24 AV	54.00	-33.76	1.27 H	169	14.83	5.41
5	7335.00	55.07 PK	74.00	-18.93	1.45 H	139	45.28	9.79
6	7335.00	23.27 AV	54.00	-30.73	1.45 H	139	13.48	9.79
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2445.00	86.00 PK	114.00	-28.00	1.00 V	133	85.26	0.74
2	*2445.00	54.20 AV	94.00	-39.80	1.00 V	133	53.46	0.74
3	4890.00	52.31 PK	74.00	-21.69	1.57 V	188	46.90	5.41
4	4890.00	20.51 AV	54.00	-33.49	1.57 V	188	15.10	5.41
5	7335.00	54.98 PK	74.00	-19.02	1.22 V	160	45.19	9.79
6	7335.00	23.18 AV	54.00	-30.82	1.22 V	160	13.39	9.79

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX High Channel	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

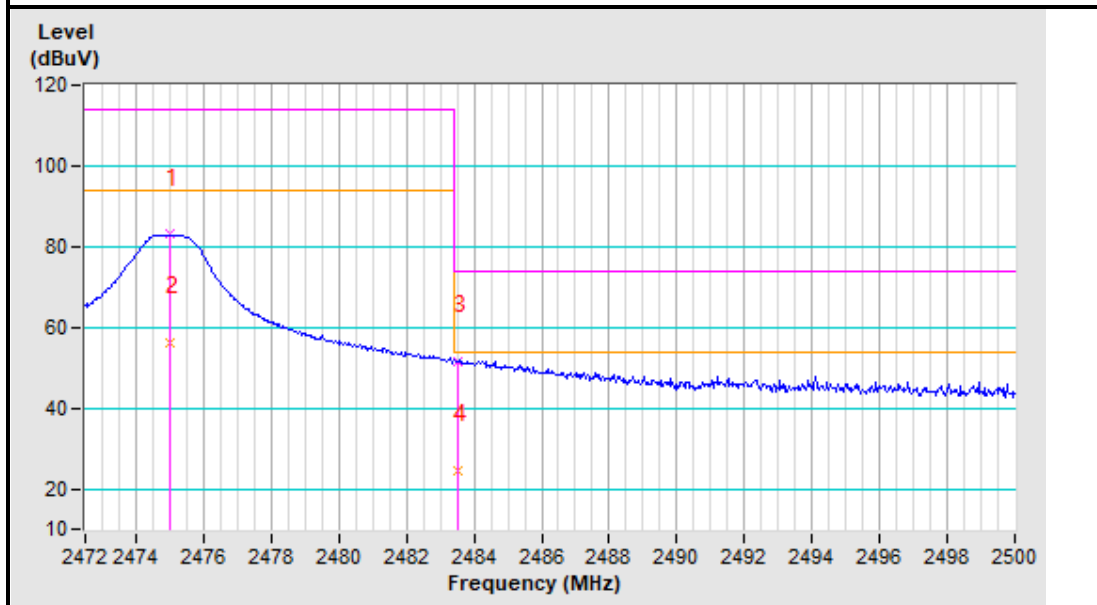
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2475.00	92.00 PK	114.00	-22.00	1.00 H	133	91.14	0.86
2	*2475.00	60.80 AV	94.00	-33.20	1.00 H	133	59.94	0.86
3	2483.50	61.15 PK	74.00	-12.85	1.00 H	133	60.26	0.89
4	2483.50	29.35 AV	54.00	-24.65	1.00 H	133	28.46	0.89
5	4950.00	52.11 PK	74.00	-21.89	1.87 H	133	46.63	5.48
6	4950.00	20.31 AV	54.00	-33.69	1.87 H	133	14.83	5.48
7	7425.00	55.08 PK	74.00	-18.92	1.00 H	156	45.23	9.85
8	7425.00	23.28 AV	54.00	-30.72	1.00 H	156	13.43	9.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2475.00	86.30 PK	114.00	-27.70	1.00 V	244	85.44	0.86
2	*2475.00	54.50 AV	94.00	-39.50	1.00 V	244	53.64	0.86
3	2483.50	54.70 PK	74.00	-19.30	1.00 V	244	53.81	0.89
4	2483.50	22.90 AV	54.00	-31.10	1.00 V	244	22.01	0.89
5	4950.00	50.92 PK	74.00	-23.08	1.45 V	214	45.45	5.48
6	4950.00	19.12 AV	54.00	-34.88	1.45 V	214	13.64	5.48
7	7425.00	54.73 PK	74.00	-19.27	1.51 V	132	44.88	9.85
8	7425.00	22.93 AV	54.00	-31.07	1.51 V	132	13.08	9.85

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.



2475MHz Horizontal



4.2 20dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT

According to FCC 15.215(c), must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Wireless Connectivity Tester	Rohde&Schwarz	CMW270	101601	Nov. 21, 22
MXA signal analyzer	Agilent	N9020A	MY49100060	Apr. 18, 23
Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 16, 23
Frequency Analyzer	Keysight	N9010B	MY60240432	Nov. 25, 22
Programmable Temperature&Humidity Chamber	Hongjin	HYC-TH-225DH	DG-180746	Feb. 16, 23
DC Source	Agilent	E3640A	MY40004013	Feb. 23, 23
Test software	ADT	ADT_RF Test Software V6.6.5.3	N/A	N/A
Test software	ADT	ADT_RF Test Software V6.6.5.4	N/A	N/A

NOTES:

1. The test was performed in RF Test Shielded Room (Baodun).
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

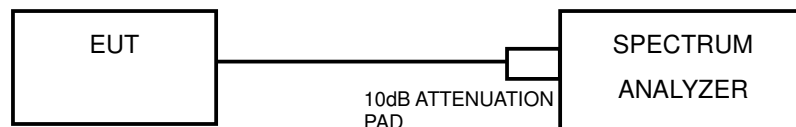
4.2.3 TEST PROCEDURE

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- d. Repeat above procedures until all frequencies measured were complete.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



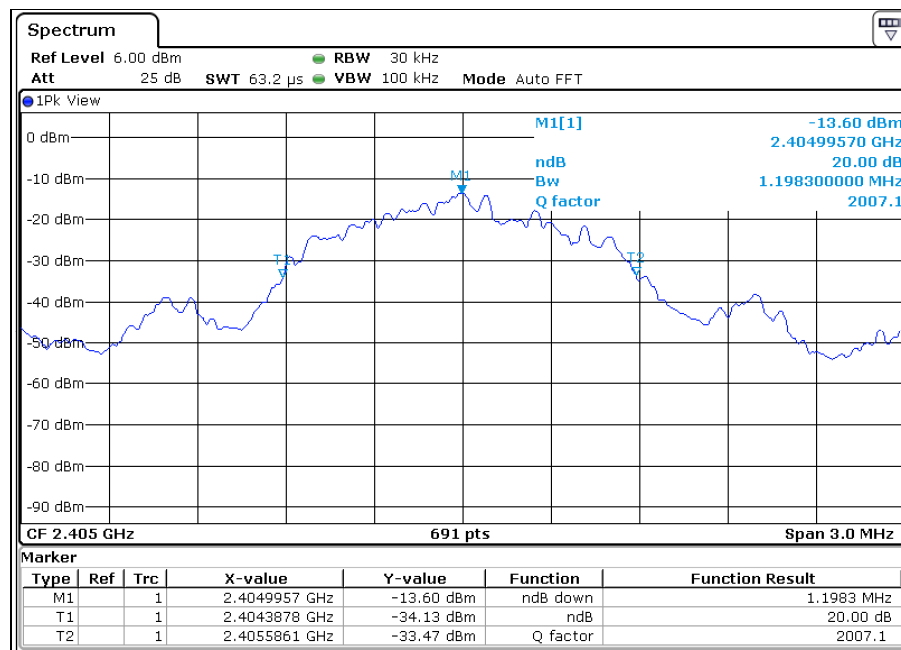
4.2.6 EUT OPERATING CONDITIONS

- a) Turned on the power of all equipment.
- b) EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

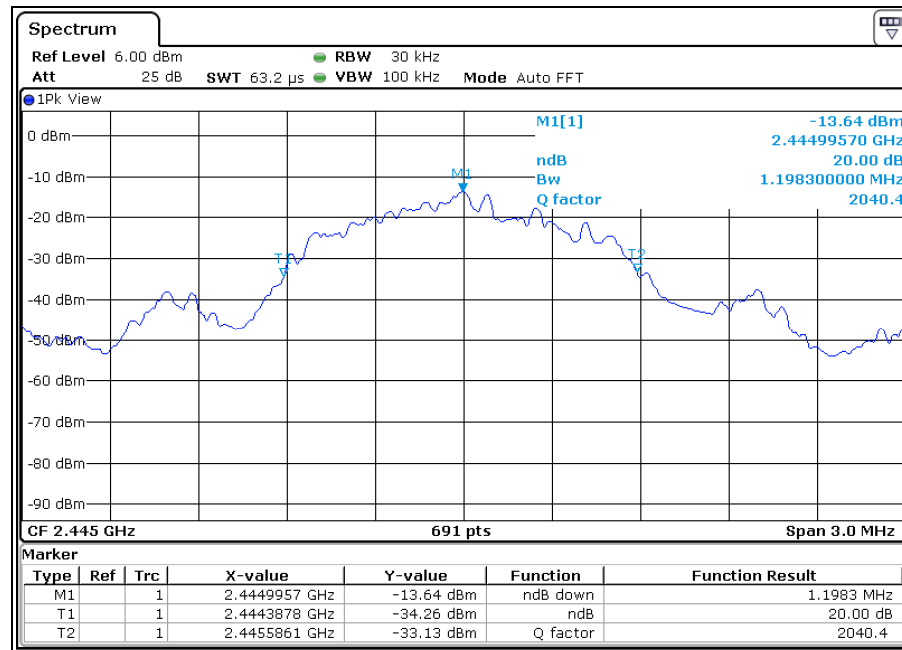
4.2.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
Low	2405	1.1983
Middle	2445	1.1983
High	2475	1.2026

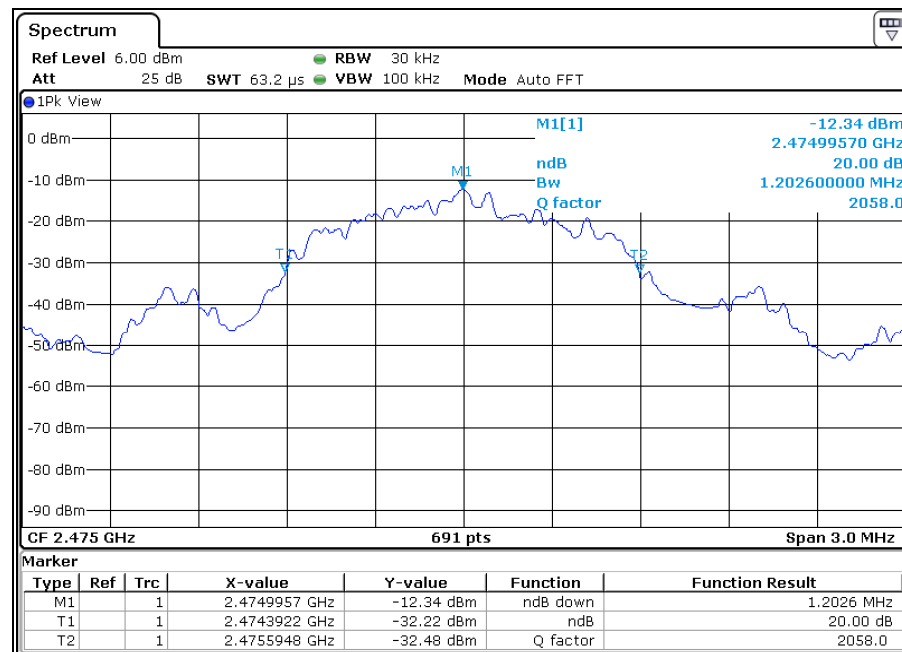
Test Data: Low channel



Test Data: Middle channel



Test Data: High channel



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---