

## TEST REPORT



Applicant:	Pinghu Haojiaer Vehicle Industry Co., Ltd.
Address:	No.88 Sanxing Road, Guangchen Town, Pinghu, Zhejiang

Manufacturer or Supplier	Pinghu Haojiaer Vehicle Industry Co., Ltd.
Address	No.88 Sanxing Road, Guangchen Town, Pinghu, Zhejiang
Product:	CHILDREN CAR
Brand Name:	N/A
Model:	HC-301
Additional Model & Model Difference	HC-301B, HC-301C, HC-302, HC-305, HC-305B, HC-306, HC-307, HC-307B, HC-601, HC-601B; see items 3.1
Date of tests:	Oct. 07, 2024 ~ Nov. 21, 2024

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**

Prepared By Niko Zhang Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	
	Date: Dec. 27, 2024

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Test Report No.: RF2409WDG0277-2

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2409WDG0277-2	Original release	Dec. 27, 2024

## 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 from 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	9KHz ~ 30MHz	2.80dB
	30MHz ~ 1GMHz	4.65dB
	1GHz ~ 18GHz	5.01dB
	18GHz ~ 40GHz	4.10dB

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

<b>PRODUCT</b>	CHILDREN CAR
<b>MODEL NO.</b>	HC-301
<b>ADDITIONAL MODELS</b>	HC-301B, HC-301C, HC-302, HC-305, HC-305B, HC-306, HC-307, HC-307B, HC-601, HC-601B
<b>FCC ID</b>	2A6G8-JR1839
<b>NOMINAL VOLTAGE</b>	DC 3V(1.5V*AAA*2) from battery
<b>MODULATION TECHNOLOGY</b>	GFSK
<b>OPERATING FREQUENCY</b>	2407MHz ~ 2473MHz
<b>ANTENNA TYPE</b>	PCB Antenna, with -5.3dBi gain
<b>I/O PORTS</b>	N/A
<b>CABLE SUPPLIED</b>	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.: 2409WDG0277-2) for detailed product photo.
4. Additional models (see above table) are identical with the test model HC-301 except the model number for trading purpose.

### 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	√	√	-	√	Powered By 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	2407 MHz
Middle	2440 MHz
High	2473 MHz

### Channel List

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

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	Albert
BW	25deg. C, 56%RH	DC 3V from Battery	Vincent
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



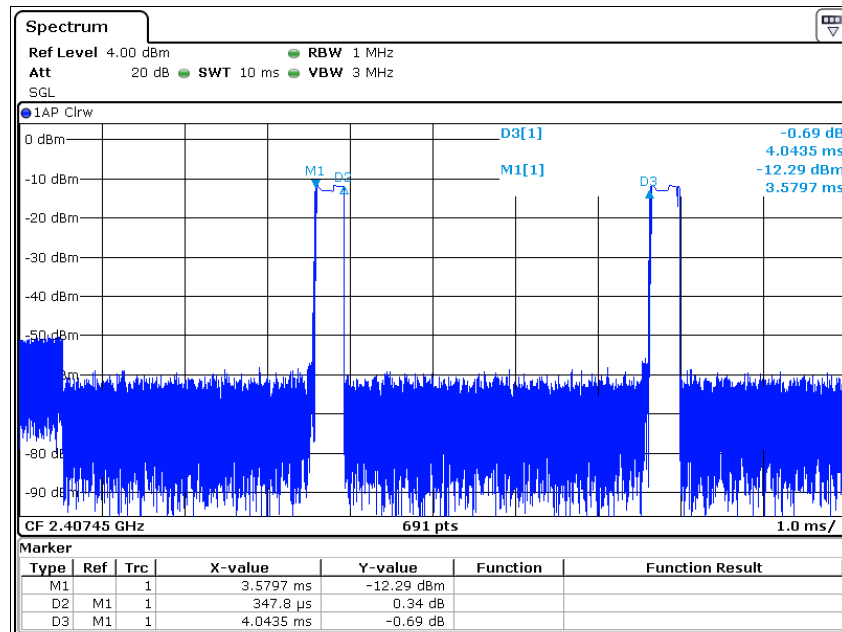
### 3.5 DUTY CYCLE OF TESET SIGNAL

$T_p = 4.0435 \text{ ms}$

$T_{on} = (347.8) / 1000 = 0.3478 \text{ ms}$

Duty Cycle =  $T_{on} / T_p \times 100\% = 0.3478 / 4.0435 \approx 8.60\%$

AV factor =  $20 \log (\text{Duty cycle}) = 20 \log (8.60\%) \approx -21.3 \text{ dB}$



## 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.
EMI Test Receiver	Rohde&Schwarz	ESU40	100449	Jan. 02, 25
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	Apr. 07, 25
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	Apr. 13, 25
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Feb. 21, 25
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Dec. 25, 25
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00085519	Oct. 12, 25
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170242	Oct. 12, 25
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May. 20, 25
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	Apr. 24, 25
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Jan. 02, 25
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	N/A

**NOTES:**

1. The test was performed in 966 Chamber.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.
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 1.3m 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:

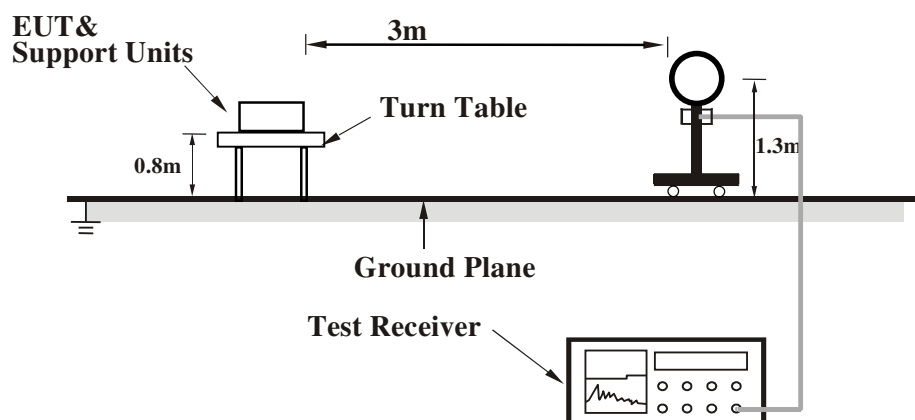
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. Average value =PK Emission +AV Factor.
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

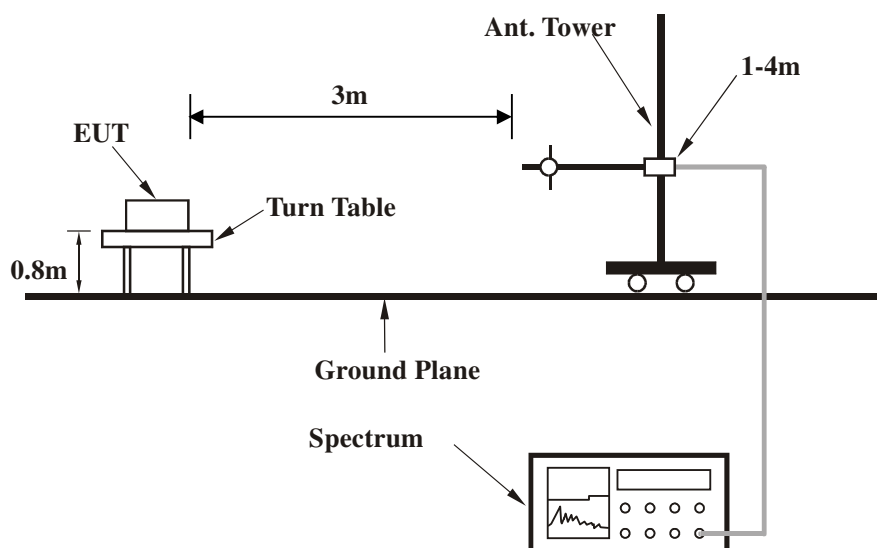
No deviation.

#### 4.1.5 TEST SETUP

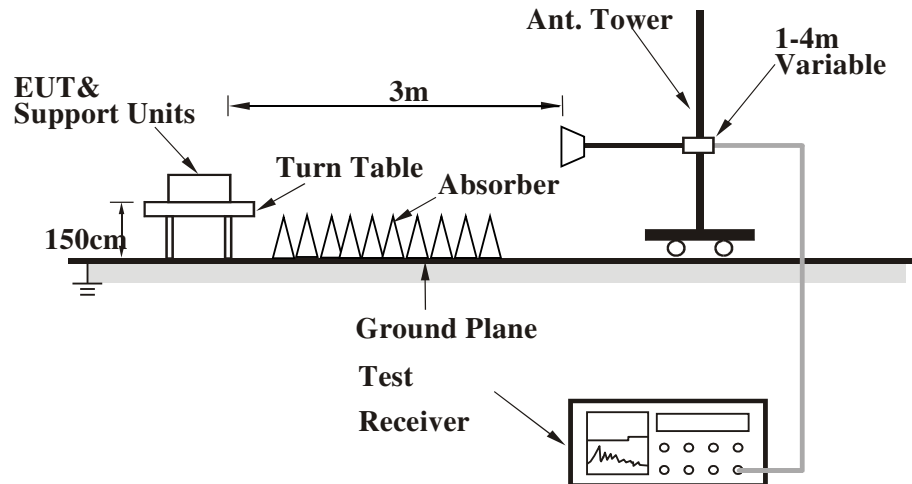
##### Below 30MHz test setup



##### 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

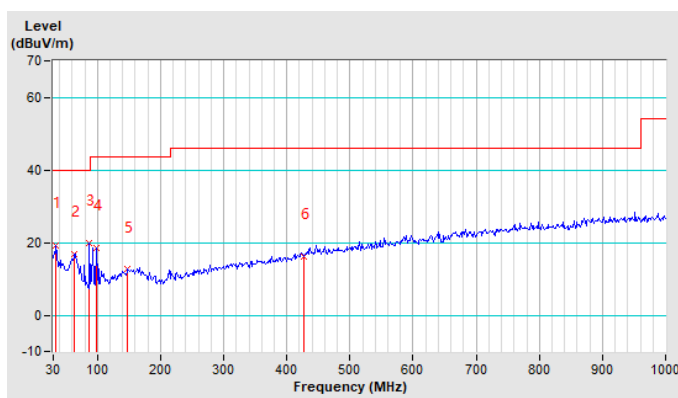
##### BELOW 1GHz WORST-CASE DATA

<b>CHANNEL</b>	TX Middle Channel	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	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	34.66	19.13 QP	40.00	-20.87	1.00 H	360	38.22	-19.09
2	64.20	16.84 QP	40.00	-23.16	1.00 H	345	35.10	-18.26
3	87.52	19.77 QP	40.00	-20.23	1.00 H	330	42.85	-23.08
4	98.40	18.50 QP	43.50	-25.00	1.00 H	155	40.42	-21.92
5	148.14	12.56 QP	43.50	-30.94	1.00 H	163	29.29	-16.73
6	427.95	16.23 QP	46.00	-29.77	1.00 H	304	28.05	-11.82

##### 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.

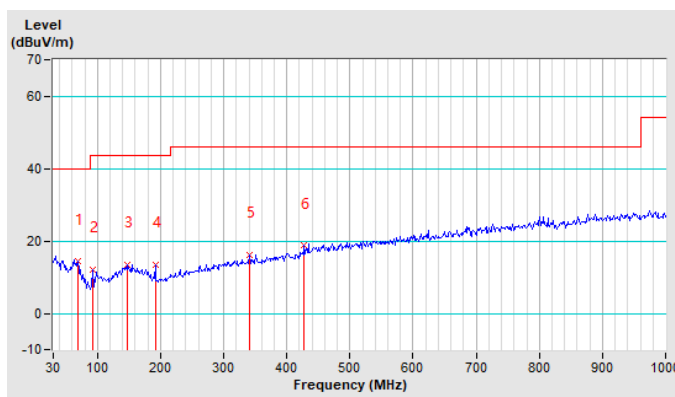


<b>CHANNEL</b>	TX Middle Channel	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	9KHz ~ 1GHz		

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	68.86	14.26 QP	40.00	-25.74	1.19 V	328	33.41	-19.15
2	92.18	11.97 QP	43.50	-31.53	1.40 V	306	34.81	-22.84
3	148.14	13.33 QP	43.50	-30.17	1.61 V	286	30.06	-16.73
4	191.67	13.53 QP	43.50	-29.97	1.78 V	269	32.95	-19.42
5	340.90	16.07 QP	46.00	-29.93	1.99 V	248	30.49	-14.42
6	427.95	18.68 QP	46.00	-27.32	2.17 V	231	30.50	-11.82

**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:**

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

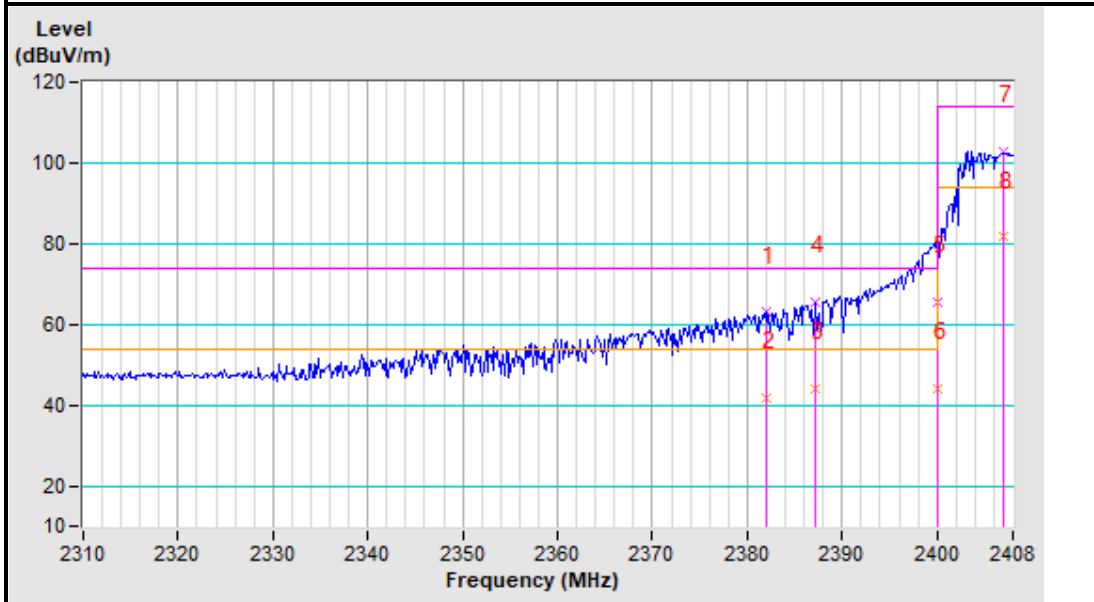
ANTENNA POLARITY & TEST DISTANCE : HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2382.09	62.94PK	74.00	-11.06	1.00 H	210	59.71	3.23
2	2382.09	41.64AV	54.00	-12.36	1.00 H	210	38.41	3.23
3	2387.11	44.23AV	54.00	-9.77	1.00 H	120	41.01	3.22
4	2387.11	65.53PK	74.00	-8.47	1.00 H	120	62.31	3.22
5	2400.00	65.53PK	74.00	-8.47	1.20 H	156	62.33	3.20
6	2400.00	44.23AV	54.00	-9.77	1.20 H	156	41.03	3.20
7	*2407.00	102.95PK	114.00	-11.05	1.20 H	156	99.77	3.18
8	*2407.00	81.65AV	94.00	-12.35	1.20 H	156	78.47	3.18
9	4814.00	52.65 PK	74.00	-21.35	1.20 H	123	46.22	6.43
10	4814.00	31.35 AV	54.00	-22.65	1.20 H	123	24.92	6.43
11	7221.00	53.50 PK	74.00	-20.50	1.20 H	156	42.86	10.64
12	7221.00	32.20 AV	54.00	-21.80	1.20 H	156	21.56	10.64
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	2386.33	52.66PK	74.00	-21.34	1.00 V	263	49.44	3.22
2	2386.33	31.36AV	54.00	-22.64	1.00 V	263	28.14	3.22
3	2400.00	55.15PK	74.00	-18.85	1.20 V	156	51.95	3.20
4	2400.00	33.85AV	54.00	-20.15	1.20 V	156	30.65	3.20
5	*2407.00	90.20PK	114.00	-23.80	1.20 V	156	87.02	3.18
6	*2407.00	68.90AV	94.00	-25.10	1.20 V	156	65.72	3.18
7	4814.00	52.20 PK	74.00	-21.80	1.20 V	156	45.77	6.43
8	4814.00	30.90 AV	54.00	-23.10	1.20 V	156	24.47	6.43
9	7221.00	54.38 PK	74.00	-19.62	1.20 V	156	43.74	10.64
10	7221.00	33.08 AV	54.00	-20.92	1.20 V	156	22.44	10.64

**REMARK:**

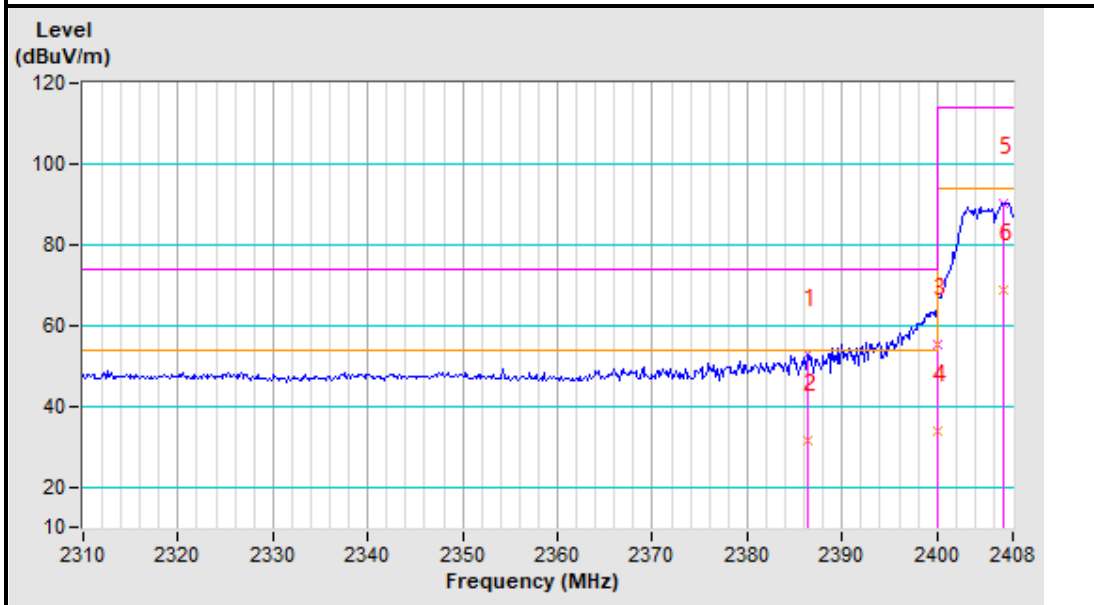
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " \* ": Fundamental frequency.
6. Average value = PK Emission + 20\*log (duty cycle) Where the duty factor is calculated from following formula:  $20 \log (\text{Duty cycle}) = 20 \log (8.60\%) \approx -21.3 \text{ dB}$ , please see page 9 for plotted duty.

### Band edge Plot

#### 2407MHz Horizontal



#### 2407MHz Vertical



<b>CHANNEL</b>	TX Middle Channel	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	*2440.00	103.80PK	114.00	-10.20	1.20 H	156	100.68	3.12
2	*2440.00	82.50AV	94.00	-11.50	1.20 H	156	79.38	3.12
3	4880.00	50.17 PK	74.00	-23.83	1.20 H	156	43.63	6.54
4	4880.00	28.87 AV	54.00	-25.13	1.20 H	156	22.33	6.54
5	7320.00	53.82 PK	74.00	-20.18	1.20 H	156	43.03	10.79
6	7320.00	32.52 AV	54.00	-21.48	1.20 H	156	21.73	10.79
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	*2440.00	90.55PK	114.00	-23.45	1.20 V	156	87.43	3.12
2	*2440.00	69.25AV	94.00	-24.75	1.20 V	156	66.13	3.12
3	4880.00	52.26 PK	74.00	-21.74	1.20 V	156	45.72	6.54
4	4880.00	30.96 AV	54.00	-23.04	1.20 V	156	24.42	6.54
5	7320.00	54.22 PK	74.00	-19.78	1.20 V	156	43.43	10.79
6	7320.00	32.92 AV	54.00	-21.08	1.20 V	156	22.13	10.79

**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.
6. Average value = PK Emission + 20\*log (duty cycle) Where the duty factor is calculated from following formula: 20 log (Duty cycle) = 20Log(8.60%) ≈ -21.3dB, please see page 9 for plotted duty.

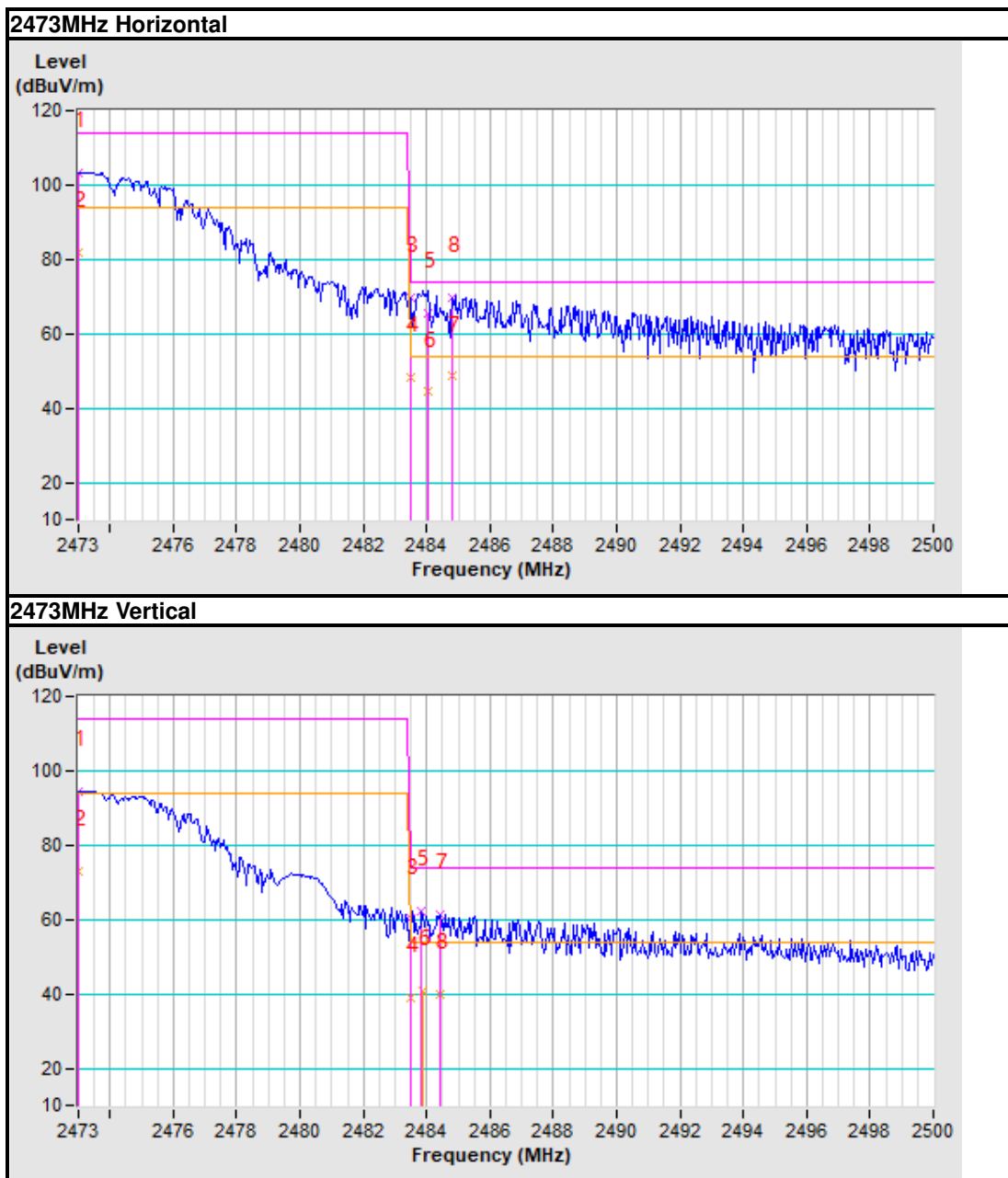
<b>CHANNEL</b>	TX High Channel	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 25GHz		Average (AV)

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	*2473.00	103.23PK	114.00	-10.77	1.20 H	156	100.16	3.07
2	*2473.00	81.93AV	94.00	-12.07	1.20 H	156	78.86	3.07
3	2483.50	69.74PK	74.00	-4.26	1.20 H	156	66.69	3.05
4	2483.50	48.44AV	54.00	-5.56	1.20 H	156	45.39	3.05
5	2484.03	65.58 PK	74.00	-8.42	1.00 H	156	62.54	3.04
6	2484.03	44.28AV	54.00	-9.72	1.00 H	156	41.24	3.04
7	2484.81	48.52AV	54.00	-5.48	1.00 H	156	45.48	3.04
8	2484.81	69.82PK	74.00	-4.18	1.00 H	156	66.78	3.04
9	4946.00	52.56 PK	74.00	-21.44	1.05 H	156	45.90	6.66
10	4946.00	31.26 AV	54.00	-22.74	1.05 H	156	24.60	6.66
11	7419.00	55.32 PK	74.00	-18.68	1.20 H	156	44.40	10.92
12	7419.00	34.02 AV	54.00	-19.98	1.20 H	156	23.10	10.92
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	*2473.00	94.37PK	114.00	-19.63	1.20 V	5	91.30	3.07
2	*2473.00	73.07AV	94.00	-20.93	1.20 V	5	70.00	3.07
3	2483.50	60.13PK	74.00	-13.87	1.20 V	55	57.08	3.05
4	2483.50	38.83AV	54.00	-15.17	1.20 V	55	35.78	3.05
5	2483.85	62.20PK	74.00	-11.80	1.00 V	156	59.15	3.05
6	2483.85	40.90AV	54.00	-13.10	1.00 V	156	37.85	3.05
7	2484.43	61.36PK	74.00	-12.64	1.00 V	156	58.32	3.04
8	2484.43	40.06AV	54.00	-13.94	1.00 V	156	37.02	3.04
9	4946.00	50.57 PK	74.00	-23.43	1.20 V	156	43.91	6.66
10	4946.00	29.27 AV	54.00	-24.73	1.20 V	156	22.61	6.66
11	7419.00	54.99 PK	74.00	-19.01	1.20 V	25	44.07	10.92
12	7419.00	33.69 AV	54.00	-20.31	1.20 V	25	22.77	10.92

**REMARK:**

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.
6. Average value = PK Emission + 20\*log (duty cycle) Where the duty factor is calculated from following formula: 20 log (Duty cycle) = 20Log(8.60%) ≈ -21.3dB, please see page 9 for plotted duty.

## Band edge Plot



## 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.
Power Sensor	Keysight	U2021XA	MY57320002	Apr. 07, 25
Digital Multimeter	FLUKE	15B	A1220010DG	N/A
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Oct. 15, 25
Oscilloscope	Agilent	DSO9254A	MY51260160	Jul. 07, 25
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 01, 25
Signal Generator	Agilent	N5183A	MY50140980	Jul. 11, 25
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Jul. 11, 25
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	N/A
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Keysight	E3642A	MY56146098	N/A
Test software	ADT	ADT_RF Test Software V6.6.5.3	N/A	N/A

#### NOTES:

1. The test was performed in RF Test Shielded Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

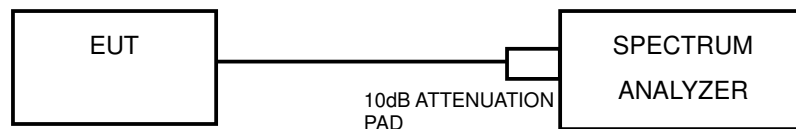
#### 4.2.3 TEST PROCEDURE

- 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



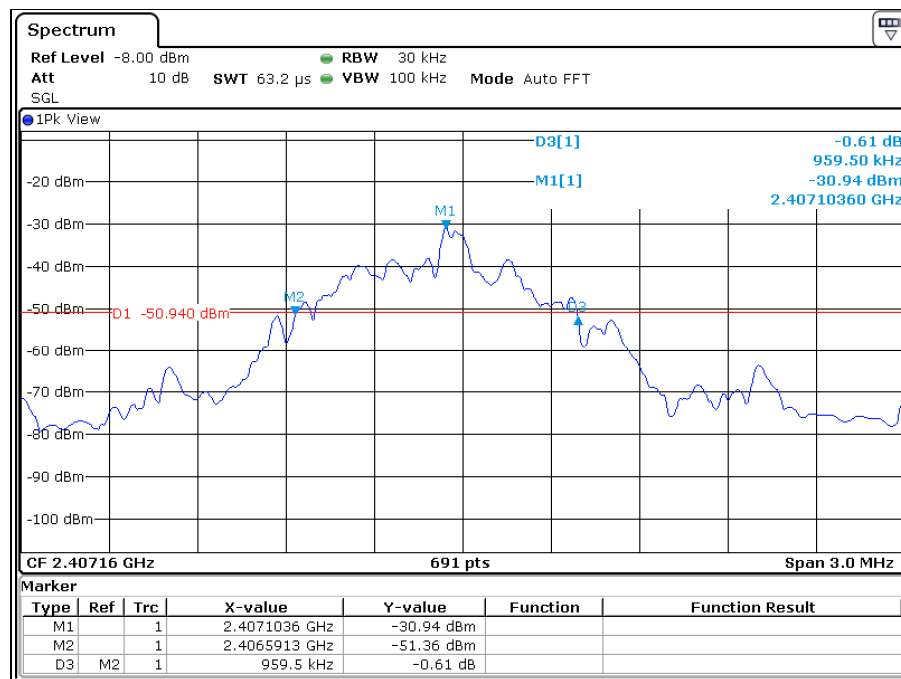
#### 4.2.6 EUT OPERATING CONDITIONS

- 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

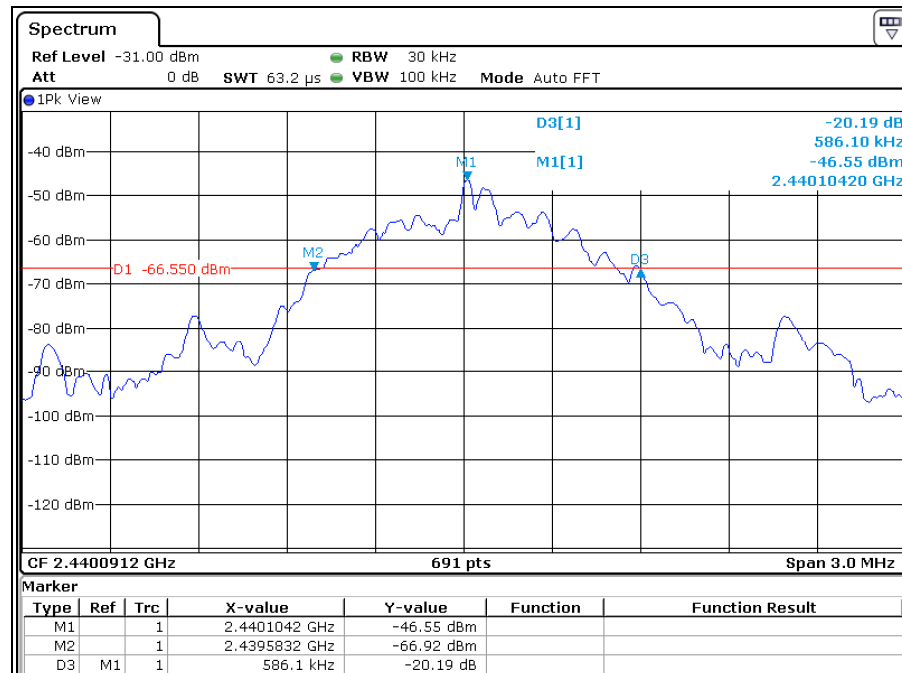
CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
Low	2407	0.9595
Middle	2440	0.5861
High	2473	0.6035

### Test Data: Low channel

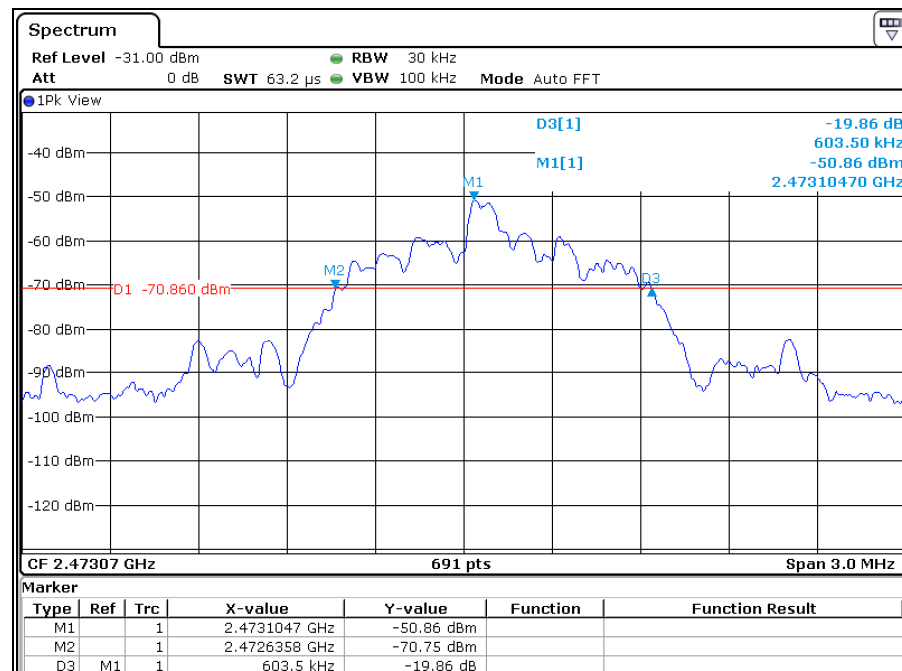




Test Data: Middle channel



Test Data: High channel





Test Report No.: RF2409WDG0277-2

## 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---**