

TEST REPORT

Applicant:	Shantou Chenghai Feiyue Toys Factory
Address:	East area of Shangdai, Chenghua Street, Chenghai district, Shantou City, Guangdong Province

Manufacturer or Supplier	Shantou Chenghai Feiyue Toys Factory
Address	East area of Shangdai, Chenghua Street, Chenghai district, Shantou City, Guangdong Province
Product:	Toy RC Monster Rockslide Mega Wheel
Brand Name:	Sharper Image
Model:	1015745
Additional Model & Model Difference	1015438, 101XXXX, see item 3.1
Date of tests:	May 27, 2022 ~ Jun. 15, 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 Eric Fang Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	
	Date: Jun. 27, 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	13
4.1.7 TEST RESULTS	14
4.2 20dB BANDWIDTH MEASUREMENT	21
4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT	21
4.2.2 TEST INSTRUMENTS.....	21
4.2.3 TEST PROCEDURE.....	21
4.2.4 DEVIATION FROM TEST STANDARD	22
4.2.5 TEST SETUP.....	22
4.2.6 EUT OPERATING CONDITIONS	22
4.2.7 TEST RESULTS	22
5. PHOTOGRAPHS OF THE TEST CONFIGURATION.....	25
6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	26

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2205WDG0309	Original release	Jun. 27, 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	Power 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	9KHz ~ 30MHz	2.66dB
	30MHz ~ 1GMHz	4.76dB
	1GHz ~ 18GHz	4.92dB
	18GHz ~ 40GHz	4.58dB

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	Toy RC Monster Rockslide Mega Wheel
MODEL NO.	1015745
ADDITIONAL MODEL	1015438, 101XXXX
FCC ID	2A668FY2022
NOMINAL VOLTAGE	DC 9V(9V Size*1) from battery
MODULATION TECHNOLOGY	GFSK
OPERATING FREQUENCY	2413-2470MHz
ANTENNA TYPE	Wire Antenna, with 0dBi gain
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.: 2205WDG0309) for detailed product photo.
4. Additional models 1015438 and 101XXXX are identical with the test model 1015745 except the appearance, trade name and model number for trading purpose. And where XXXX can be digits 0000-9999 which represent different customers.

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 9V from battery

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

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

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

TESTED CHANNEL	TESTED FREQUENCY
Low	2413 MHz
Middle	2442 MHz
High	2470 MHz

Channel List

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

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 9V from battery	Yoyo
BW	25deg. C, 56%RH	DC 9V from battery	Yoyo

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 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-NMBNCM-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. (Bao dun)
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 1 GHz 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:

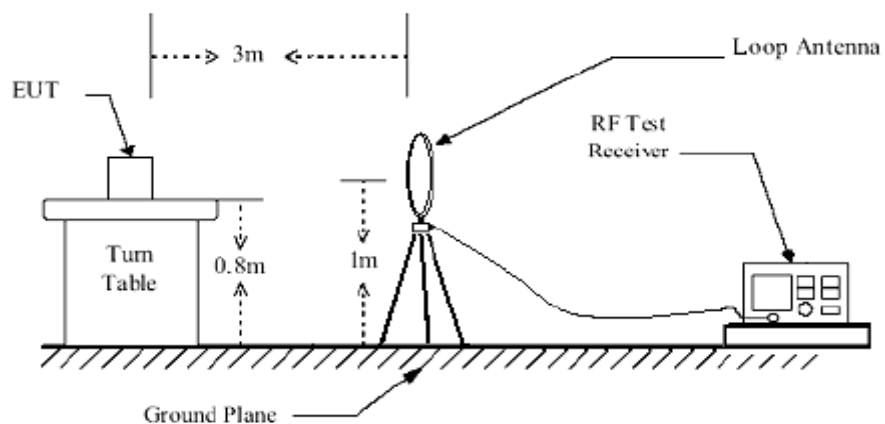
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution 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

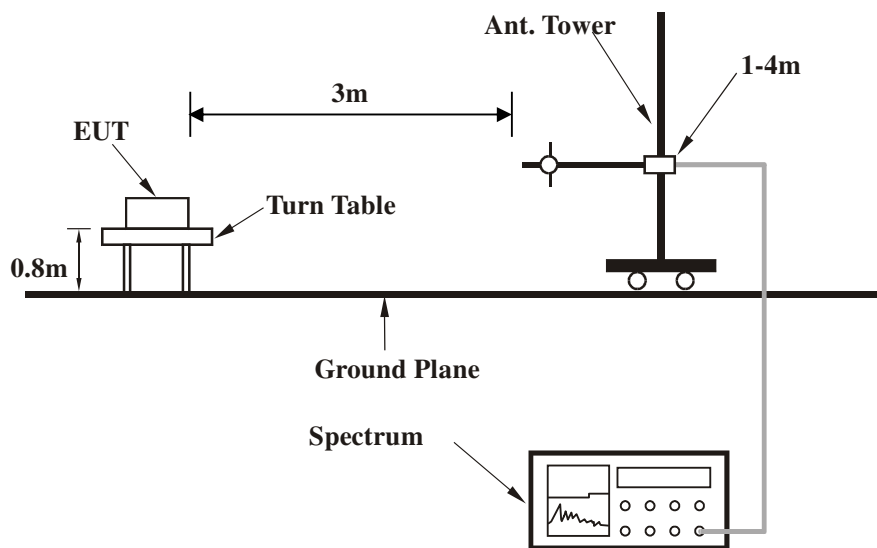
No deviation.

4.1.5 TEST SETUP

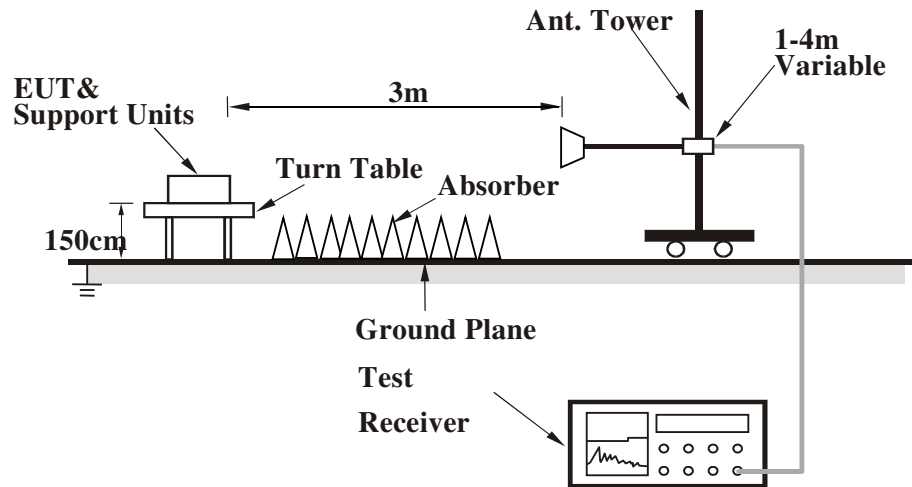
Below 30MHz test setup



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

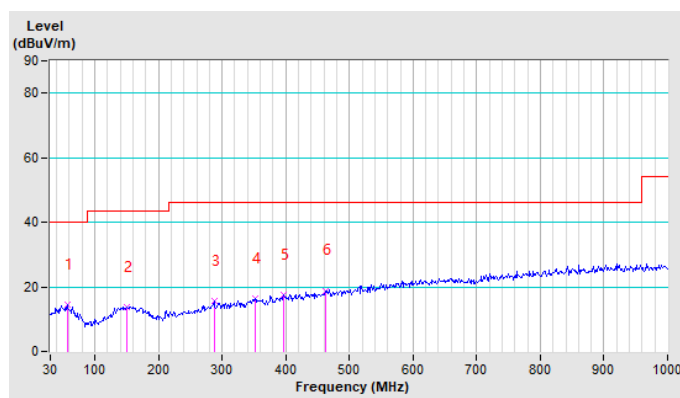
BELOW 1GHz WORST-CASE DATA

CHANNEL	TX Middle Channel	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	56.71	14.46 QP	40.00	-25.54	1.00 H	213	28.46	-14.00
2	149.49	13.60 QP	43.50	-29.90	1.00 H	17	27.29	-13.69
3	287.26	15.70 QP	46.00	-30.30	1.00 H	220	28.43	-12.73
4	351.93	16.29 QP	46.00	-29.71	1.00 H	235	27.74	-11.45
5	396.91	17.47 QP	46.00	-28.53	1.00 H	205	28.22	-10.75
6	462.99	18.85 QP	46.00	-27.15	1.00 H	230	28.55	-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. 9KHz~30MHz have been test and test data more than 20dB margin.
5. Margin value = Emission level – Limit value.

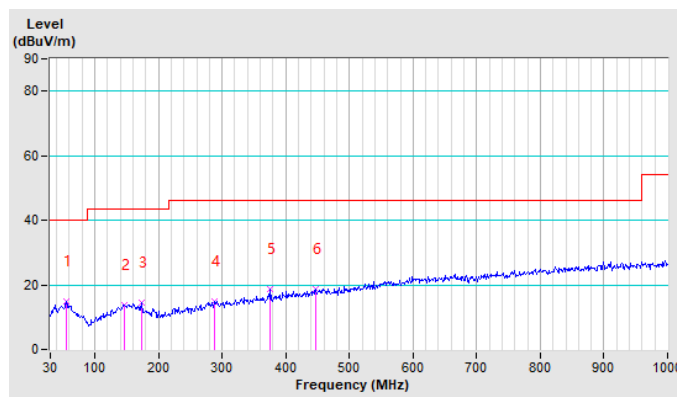


CHANNEL	TX Middle Channel	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

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	55.30	14.85 QP	40.00	-25.15	1.00 V	19	28.86	-14.01
2	146.68	13.64 QP	43.50	-29.86	1.00 V	203	27.40	-13.76
3	173.39	14.44 QP	43.50	-29.06	1.00 V	220	28.84	-14.40
4	287.26	15.00 QP	46.00	-31.00	1.00 V	159	27.73	-12.73
5	375.83	18.53 QP	46.00	-27.47	1.00 V	256	29.60	-11.07
6	447.52	18.56 QP	46.00	-27.44	1.00 V	142	28.49	-9.93

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:

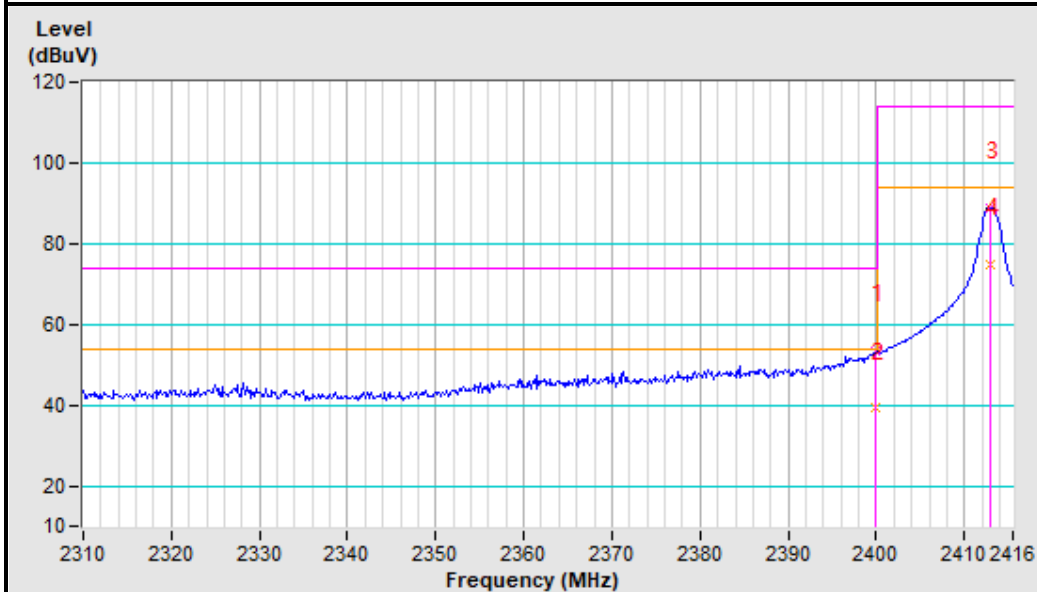
CHANNEL	TX Low Channel	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

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	2400.00	53.27 PK	74.00	-20.73	1.54 H	339	52.70	0.57
2	2400.00	39.25 AV	54.00	-14.75	1.54 H	339	38.68	0.57
3	*2413.00	88.86 PK	114.00	-25.14	1.54 H	339	88.24	0.62
4	*2413.00	74.84 AV	94.00	-19.16	1.54 H	339	74.22	0.62
5	4826.00	49.33 PK	74.00	-24.67	1.54 H	201	44.00	5.33
6	4826.00	35.31 AV	54.00	-18.69	1.54 H	201	29.98	5.33
7	#7239.00	50.19 PK	74.00	-23.81	2.00 H	47	40.46	9.73
8	#7239.00	36.17 AV	54.00	-17.83	2.00 H	47	26.44	9.73
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	57.70 PK	74.00	-16.30	1.43 V	204	57.13	0.57
2	2400.00	43.68 AV	54.00	-10.32	1.43 V	204	43.11	0.57
3	*2413.00	92.76 PK	114.00	-21.24	1.43 V	204	92.14	0.62
4	*2413.00	78.74 AV	94.00	-15.26	1.43 V	204	78.12	0.62
5	4826.00	50.90 PK	74.00	-23.10	1.04 V	251	45.57	5.33
6	4826.00	36.88 AV	54.00	-17.12	1.04 V	251	31.55	5.33
7	#7239.00	51.98 PK	74.00	-22.02	1.00 V	115	42.25	9.73
8	#7239.00	37.96 AV	54.00	-16.04	1.00 V	115	28.23	9.73

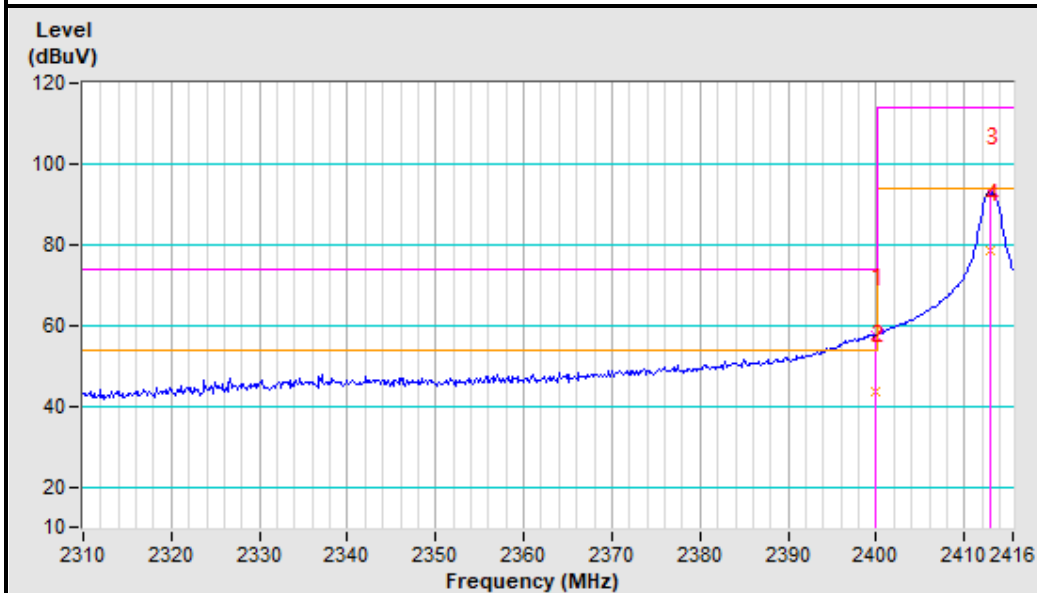
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.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

Band edge Plot

2413MHz Horizontal



2413MHz Vertical



CHANNEL	TX Middle 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	*2442.00	90.24 PK	114.00	-23.76	1.03 H	235	89.51	0.73
2	*2442.00	76.22 AV	94.00	-17.78	1.03 H	235	75.49	0.73
3	4884.00	50.46 PK	74.00	-23.54	1.14 H	57	45.06	5.40
4	4884.00	36.44 AV	54.00	-17.56	1.14 H	57	31.04	5.40
5	7326.00	51.75 PK	74.00	-22.25	1.00 H	238	41.97	9.78
6	7326.00	37.73 AV	54.00	-16.27	1.00 H	238	27.95	9.78
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	*2442.00	92.45 PK	114.00	-21.55	1.08 V	43	91.72	0.73
2	*2442.00	78.43 AV	94.00	-15.57	1.08 V	43	77.70	0.73
3	4884.00	51.29 PK	74.00	-22.71	1.00 V	301	45.89	5.40
4	4884.00	37.27 AV	54.00	-16.73	1.00 V	301	31.87	5.40
5	7326.00	52.41 PK	74.00	-21.59	1.00 V	159	42.63	9.78
6	7326.00	38.39 AV	54.00	-15.61	1.00 V	159	28.61	9.78

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)

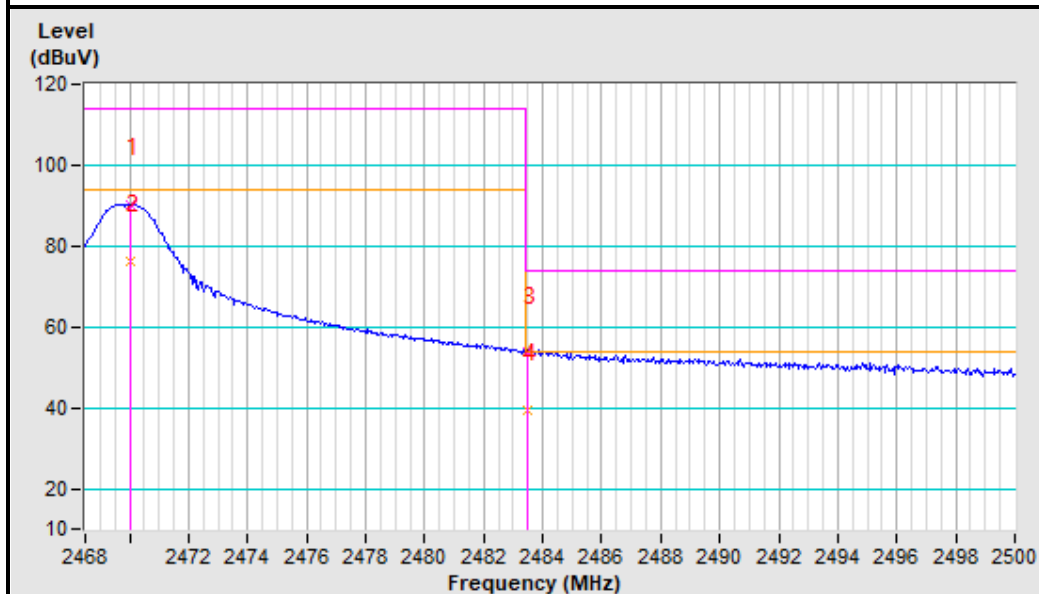
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2470.00	90.17 PK	114.00	-23.83	1.80 H	8	89.33	0.84
2	*2470.00	76.15 AV	94.00	-17.85	1.80 H	8	75.31	0.84
3	2483.50	53.59 PK	74.00	-20.41	1.80 H	8	52.70	0.89
4	2483.50	39.57 AV	54.00	-14.43	1.80 H	8	38.68	0.89
5	4940.00	50.03 PK	74.00	-23.97	1.35 H	48	44.57	5.46
6	4940.00	36.01 AV	54.00	-17.99	1.35 H	48	30.55	5.46
7	7410.00	51.25 PK	74.00	-22.75	1.00 H	189	41.41	9.84
8	7410.00	37.23 AV	54.00	-16.77	1.00 H	189	27.39	9.84
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	*2470.00	93.18 PK	114.00	-20.82	1.00 V	205	92.34	0.84
2	*2470.00	79.16 AV	94.00	-14.84	1.00 V	205	78.32	0.84
3	2483.50	57.55 PK	74.00	-16.45	1.00 V	205	56.66	0.89
4	2483.50	43.53 AV	54.00	-10.47	1.00 V	205	42.64	0.89
5	4940.00	51.29 PK	74.00	-22.71	1.06 V	92	45.83	5.46
6	4940.00	37.27 AV	54.00	-16.73	1.06 V	92	31.81	5.46
7	7410.00	52.44 PK	74.00	-21.56	1.00 V	304	42.60	9.84
8	7410.00	38.42 AV	54.00	-15.58	1.00 V	304	28.58	9.84

REMARKS:

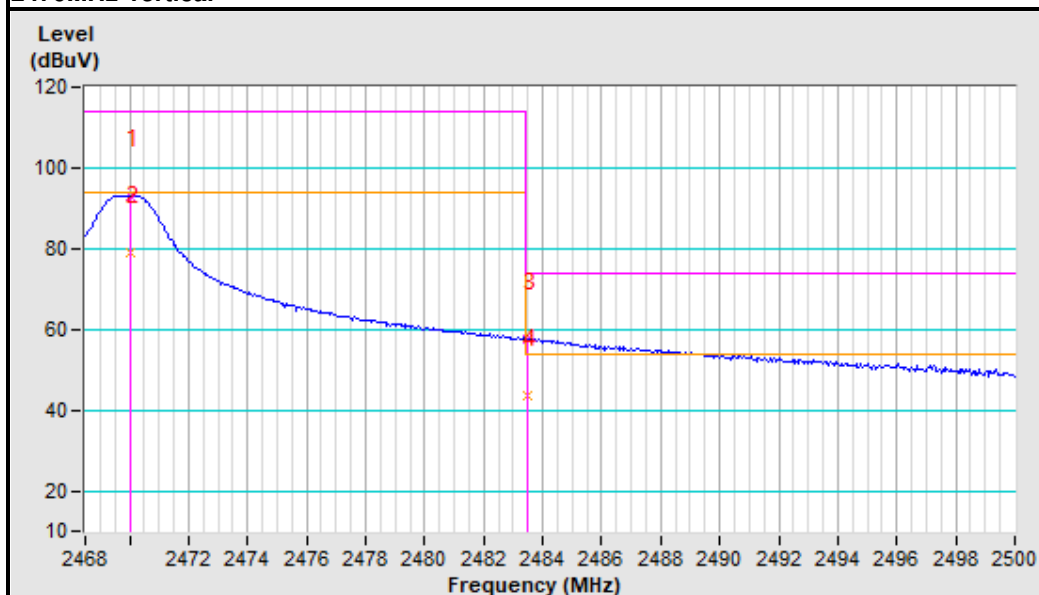
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The emission levels of other frequencies were greater than 20dB margin.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Band edge Plot

2470MHz Horizontal



2470MHz Vertical



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	Feb. 23, 23
Power Sensor	Keysight	U2021XA	MY55060018	May 09, 22
Digital Multimeter	FLUKE	15B	A1220010DG	N/A
Humid & Temp Programmable Tester	Haida	HD-225T	110807201	Nov. 03, 22
Oscilloscope	Agilent	DSO9254A	MY51260160	Aug. 11, 22
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 16, 23
Signal Generator	Agilent	N5183A	MY50140980	Sep. 18, 22
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY56200288	Sep. 14, 22
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 Oven room. (Chen Wu)
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.

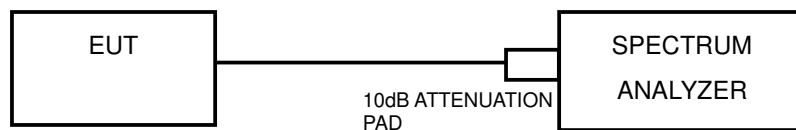
4.2.3 TEST PROCEDURE

- 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



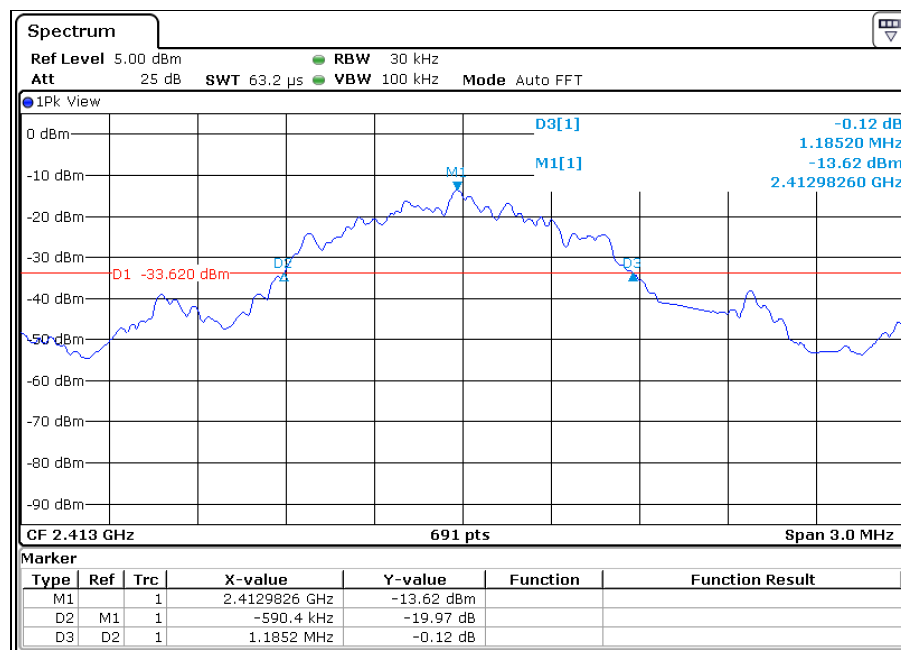
4.2.6 EUT OPERATING CONDITIONS

- 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.

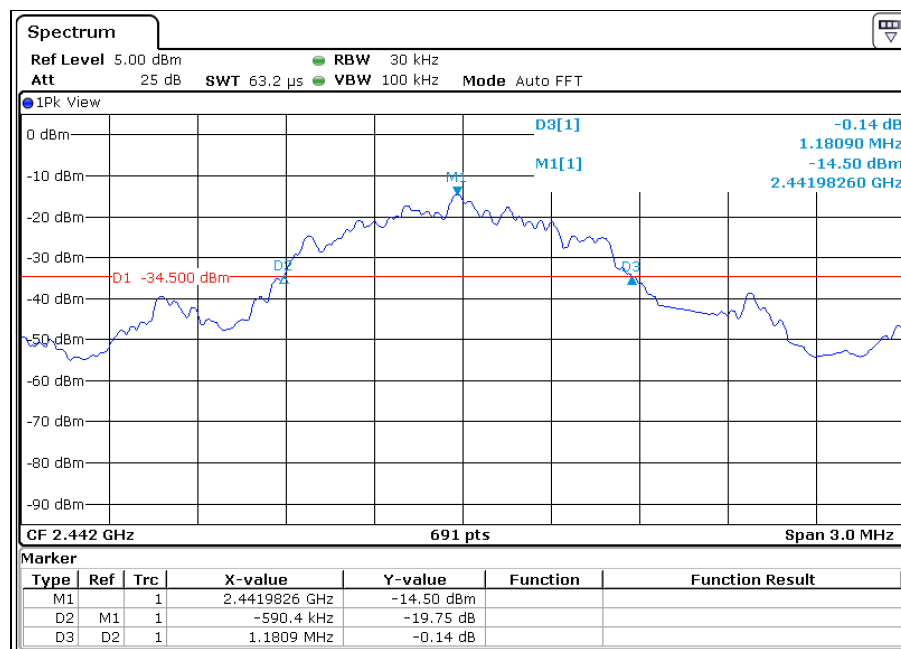
4.2.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
Low	2413	1.1852
Middle	2442	1.1809
High	2470	1.1896

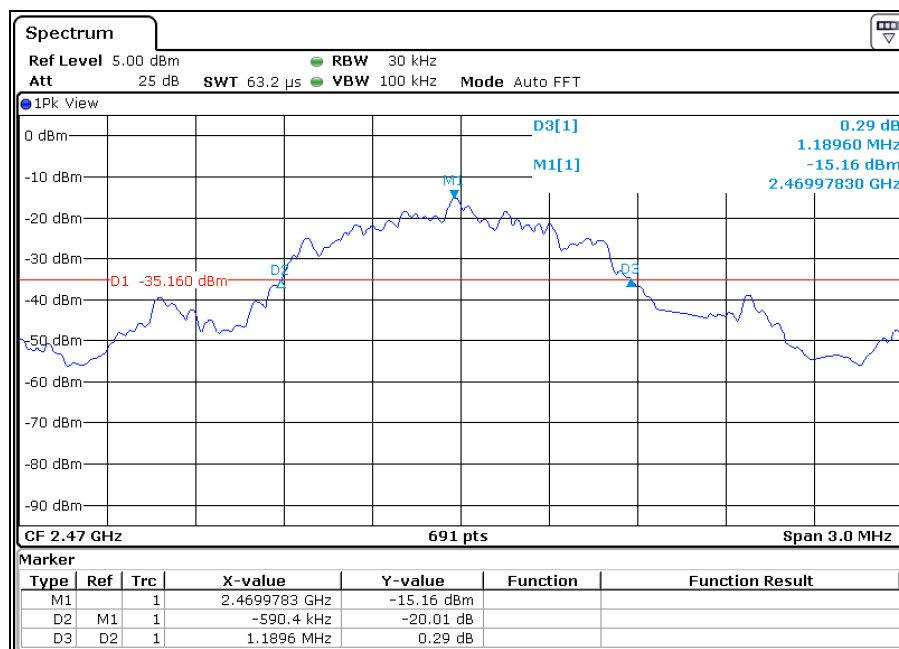
Test Data: Low channel



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---