





TEST REPORT

Applicant:	Shantou Dreamhouse Toys Industrial Co., Ltd
Address:	Chenghua Industrial Zone, Chenghua Street, Chenghai District, Shantou City, Guangdong Province

Manufacturer or Supplier	Shantou Dreamhouse Toys Industrial Co., Ltd
Address	Chenghua Industrial Zone, Chenghua Street, Chenghai District, Shantou City, Guangdong Province
Product:	Toy RC Monster Baja
Brand Name:	Sharper Image
Model:	MXW2022A
Additional Model & Model Difference	1012790,1013340,101XXXX (where XXXX can be digits 0000-9999 which represent different customers); see item 3.1
Date of tests:	Jan. 21, 2022 ~ Mar. 03, 2022

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

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

Tested by Loren Luo	Approved by Glyn He
Project Engineer / EMC Department	Assistant Manager / EMC Department
Loren	Date: Apr. 27, 2022

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at https://www.cps.bureauveritas.com/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. 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 you unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



TABLE OF CONTENTS

RE	ELE	ASE (CONTROL RECORD	3
1	S	SUMN	IARY OF TEST RESULTS	4
2	N	/IEAS	UREMENT UNCERTAINTY	4
3	G	SENE	RAL INFORMATION	5
	3.1	GEN	NERAL DESCRIPTION OF EUT	5
	3.2	DES	SCRIPTION OF TEST MODES	6
	3.3	GEN	NERAL DESCRIPTION OF APPLIED STANDARDS	8
	3.4	DES	SCRIPTION OF SUPPORT UNITS	8
4.	Т	EST	TYPES AND RESULTS	9
	4.1	RAD	DIATED 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	20d	B BANDWIDTH MEASUREMENT	. 21
	4	.2.1	LIMITS OF 20dB BANDWIDTH MEASUREMENT	. 21
	4	.2.2	TEST INSTRUMENTS	. 21
	4	.2.3	TEST PROCEDURE	. 22
	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	. 23
5.	P	НОТ	OGRAPHS OF THE TEST CONFIGURATION	. 25
6.	ΑI	PPEN	IDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE	
	ΕI	UT B	Y THE LAB	. 26



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2201WDG0202	Original release	Apr. 27, 2022

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



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)	5.207 (a) Conducted Emission		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	
	9KHz ~ 30MHz	2.16dB	
Radiated emissions	30MHz ~ 1GMHz	4.00dB	
ridulated errissions	1GHz ~ 18GHz	5.17dB	
	18GHz ~ 40GHz	5.07dB	

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

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Toy RC Monster Baja
MODEL NO.	MXW2022A
ADDITIONAL MODEL	1012790
FCC ID	2AO8XMXW2022E
NOMINAL VOLTAGE	Remote Control : DC 3V(1.5V*AA*2) from battery
MODULATION TECHNOLOGY	GFSK
OPERATING FREQUENCY	2410-2473MHz
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.: 2201WDG0202) for detailed product photo.
- 4. Additional models (see above table) are identical with the test model MXW2022A except the color of the appearance, trade name and 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		APPLICA	ABLE TO		DESCRIPTION	
MODE	RE<1G	RE≥1G	PLC	BW		
Α	√	\checkmark	-	\checkmark	DC 3V from Battery	

Where

RE<1G: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

PLC: Power Line Conducted Emission 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	2410 MHz
Middle	2442 MHz
High	2473 MHz

Channel List

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
1	2410	12	2430	23	2454
2	2414	13	2431	24	2456
3	2415	14	2433	25	2458
4	2416	15	2434	26	2462
5	2417	16	2439	27	2464
6	2418	17	2441	28	2465
7	2419	18	2442	29	2466
8	2421	19	2444	30	2467
9	2426	20	2446	31	2469
10	2428	21	2450	32	2473
11	2429	22	2452		

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

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



TEST CONDITION:

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

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080

Email: customerservice.dg@bureauveritas.com



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.

NOTE:

- 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	Mar. 07,22
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	May 09, 22
Active Loop Antenna (9KHz -30MHz)	SCHWARZBECK	FMZB 1519B	1519B-045	May 29,22
Amplifier (9KHz -1GHz)	Burgeon	BPA-530	100210	Mar. 13,22
Bilog Antenna (20MHz -2GHz)	Teseq	CBL 6111D	30643	May 29,22
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 29,22
Horn Antenna (18GHz -40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	May 09, 22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	May 22,22
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Broadband Preamplifier (1GHz~18GHz)	SCHWARZBECK	BBV9718	305	May 08,22
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Mar. 13,22
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	N/A

NOTES:

- 1. The test was performed in 966 Chamber.
- 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.
- 3. The horn antenna is used only for the measurement of emission frequency above1GHz if tested.
- 4. The FCC Site Registration No. is 749762.

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



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.

NOTE:

- 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.

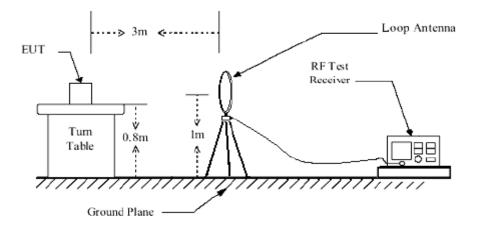
4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

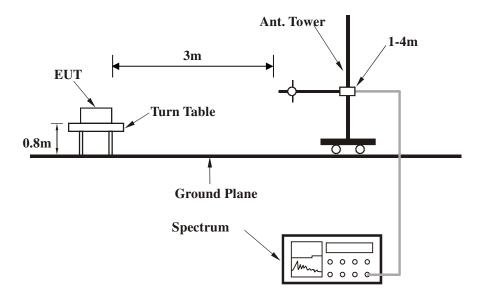


4.1.5 TEST SETUP

Below 30MHz test setup



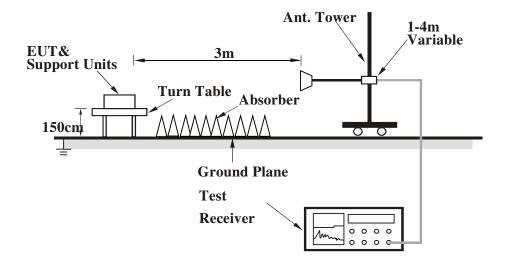
Below 1GHz test setup



Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



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. a)
- b) EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

Tel: +86 769 8998 2098

Fax: +86 769 8593 1080



4.1.7 TEST RESULTS

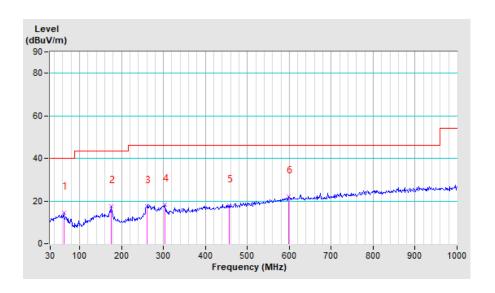
BELOW 1GHz WORST-CASE DATA

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

	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	62.33	14.46 QP	40.00	-25.54	2.00 H	146	28.85	-14.39	
2	174.80	17.38 QP	43.50	-26.12	1.00 H	43	31.88	-14.50	
3	260.55	17.42 QP	46.00	-28.58	1.00 H	205	31.36	-13.94	
4	302.72	18.32 QP	46.00	-27.68	2.00 H	185	30.80	-12.48	
5	455.96	17.98 QP	46.00	-28.02	1.00 H	13	27.78	-9.80	
6	599.35	22.01 QP	46.00	-23.99	1.00 H	9	28.55	-6.54	

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.



Tel: +86 769 8998 2098 Fax: +86 769 8593 1080

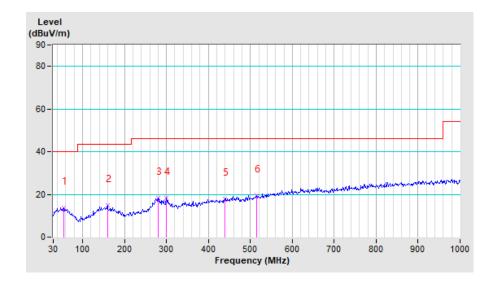


CHANNEL	TX Middle Channel	DETECTOR	Ougoi Book (OB)
FREQUENCY RANGE	9KHz ~ 1GHz	FUNCTION	Quasi-Peak (QP)

	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	13.54 QP	40.00	-26.46	1.00 V	133	27.55	-14.01	
2	159.33	14.95 QP	43.50	-28.55	1.00 V	110	28.42	-13.47	
3	280.23	18.20 QP	46.00	-27.80	1.00 V	195	31.04	-12.84	
4	299.91	18.41 QP	46.00	-27.59	1.00 V	45	30.94	-12.53	
5	439.09	17.89 QP	46.00	-28.11	1.00 V	315	27.95	-10.06	
6	515.00	19.56 QP	46.00	-26.44	1.00 V	233	28.35	-8.79	

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. 9KHz~30MHz have been test and test data more than 20dB margin.
- 5. Margin value = Emission level Limit value.



Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



ABOVE 1GHz WORST-CASE DATA:

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

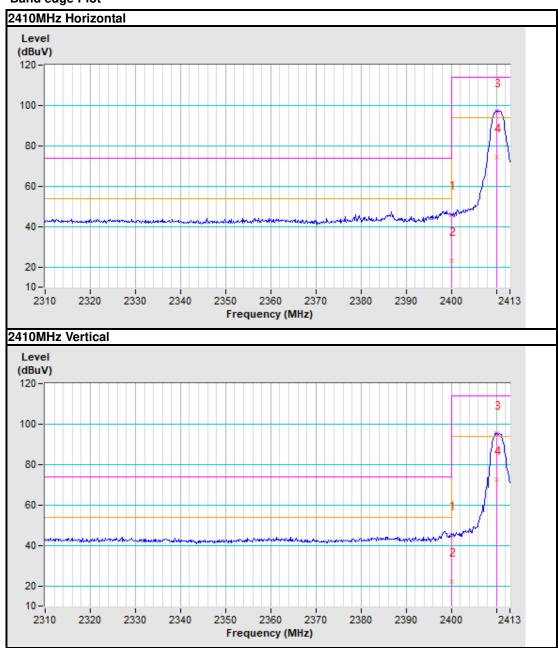
	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
1	#2400.00	45.89 PK	74.00	-28.11	1.00 H	102	45.32	0.57	
2	#2400.00	23.18 AV	54.00	-30.82	1.00 H	102	22.61	0.57	
3	#2410.00	97.01 PK	114.00	-16.99	1.00 H	102	96.40	0.61	
4	#2410.00	74.30 AV	94.00	-19.70	1.00 H	102	73.69	0.61	
5	4820.00	49.13 PK	74.00	-24.87	1.16 H	308	43.80	5.33	
6	4820.00	26.42 AV	54.00	-27.58	1.16 H	308	21.09	5.33	
7	#7230.00	58.15 PK	74.00	-15.85	1.00 H	94	48.43	9.72	
8	#7230.00	35.44 AV	54.00	-18.56	1.00 H	94	25.72	9.72	
		ANTENNA	A POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 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	44.95 PK	74.00	-29.05	2.00 V	22	44.38	0.57	
2	#2400.00	22.24 AV	54.00	-31.76	2.00 V	22	21.67	0.57	
3	#2410.00	95.08 PK	114.00	-18.92	2.00 V	22	94.47	0.61	
4	#2410.00	72.37 AV	94.00	-21.63	2.00 V	22	71.76	0.61	
5	4820.00	48.43 PK	74.00	-25.57	1.21 V	302	43.10	5.33	
6	4820.00	25.72 AV	54.00	-28.28	1.21 V	302	20.39	5.33	
7	#7230.00	57.31 PK	74.00	-16.69	1.00 V	75	47.59	9.72	
8	#7230.00	34.60 AV	54.00	-19.40	1.00 V	75	24.88	9.72	

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



Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



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	2442.00	97.06 PK	114.00	-16.94	1.06 H	217	96.33	0.73
2	2442.00	74.35 AV	94.00	-19.65	1.06 H	217	73.62	0.73
3	4884.00	51.16 PK	74.00	-22.84	1.00 H	304	45.76	5.40
4	4884.00	28.45 AV	54.00	-25.55	1.00 H	304	23.05	5.40
5	7326.00	59.66 PK	74.00	-14.34	1.00 H	159	49.88	9.78
6	7326.00	36.95 AV	54.00	-17.05	1.00 H	159	27.17	9.78
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	T 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	92.17 PK	114.00	-21.83	1.00 V	204	91.44	0.73
2	2442.00	69.46 AV	94.00	-24.54	1.00 V	204	68.73	0.73
3	4884.00	50.23 PK	74.00	-23.77	1.56 V	63	44.83	5.40
4	4884.00	27.52 AV	54.00	-26.48	1.56 V	63	22.12	5.40
5	7326.00	58.44 PK	74.00	-15.56	1.00 V	309	48.66	9.78
6	7326.00	35.73 AV	54.00	-18.27	1.00 V	309	25.95	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.

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



CHANNEL	TX High 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	#2473.00	97.94 PK	114.00	-16.06	1.00 H	48	97.09	0.85		
2	#2473.00	75.23 AV	94.00	-18.77	1.00 H	48	74.38	0.85		
3	2483.50	55.50 PK	74.00	-18.50	1.00 H	48	54.61	0.89		
4	2483.50	32.79 AV	54.00	-21.21	1.00 H	48	31.90	0.89		
5	4946.00	53.56 PK	74.00	-20.44	1.54 H	302	48.10	5.46		
6	4946.00	30.85 AV	54.00	-23.15	1.54 H	302	25.39	5.46		
7	7419.00	61.19 PK	74.00	-12.81	1.00 H	356	51.35	9.84		
8	7419.00	38.48 AV	54.00	-15.52	1.00 H	356	28.64	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	#2473.00	92.58 PK	114.00	-21.42	1.06 V	352	91.73	0.85		
2	#2473.00	69.87 AV	94.00	-24.13	1.06 V	352	69.02	0.85		
3	2483.50	50.78 PK	74.00	-23.22	1.06 V	352	49.89	0.89		
4	2483.50	28.07 AV	54.00	-25.93	1.06 V	352	27.18	0.89		
5	4946.00	52.16 PK	74.00	-21.84	1.14 V	51	46.70	5.46		
6	4946.00	29.45 AV	54.00	-24.55	1.14 V	51	23.99	5.46		
7	7419.00	60.33 PK	74.00	-13.67	2.00 V	175	50.49	9.84		
8	7419.00	37.62 AV	54.00	-16.38	2.00 V	175	27.78	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.

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080 Email: <u>customerservice.dq@bureauveritas.com</u>

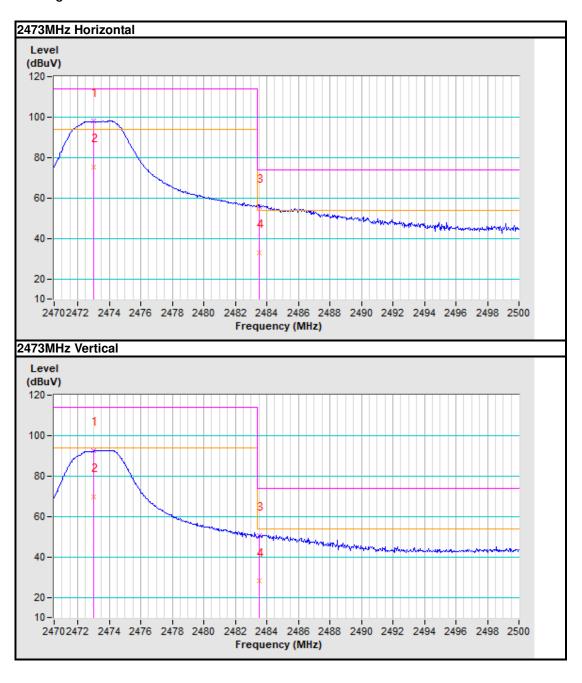
Dongguan Branch

Bureau Veritas Shenzhen Co., Ltd.

Page 19 of 26



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.
Wireless Connectivity Tester	Rohde&Schwarz	CMW270	101601	Nov. 21, 22
MXA signal analyzer	Agilent	N9020A	MY49100060	Apr. 06, 22
Network Analyzer	Agilent	8753ES	US39173518	Mar. 28, 22
Spectrum Analyzer	Rohde&Schwarz	FSV7	101574	July 04, 22
Frequency Analyzer	Keysight	N9010B	MY60240432	Nov. 25, 22
Progammble Temperature&Humidit y Chamber	Hongjin	HYC-TH-225DH	DG-180746	Feb. 16, 23
DC Source	Agilent	E3640A	MY40004013	Mar. 14, 22

NOTES:

- 1. The test was performed in RF Oven room.
- 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.

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



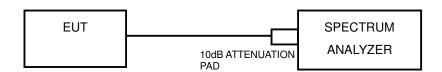
4.2.3 TEST PROCEDURE

- 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.

Email: customerservice.dg@bureauveritas.com

Tel: +86 769 8998 2098

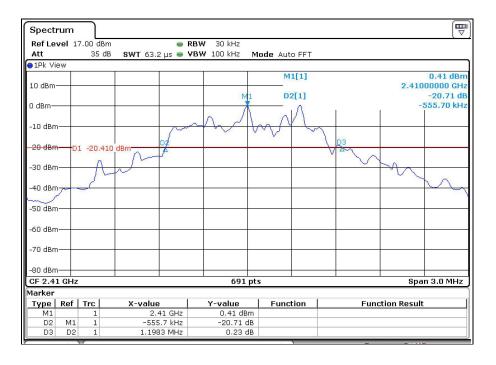
Fax: +86 769 8593 1080



4.2.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (MHz)	
Low	2410	1.198	
Middle	2442	1.244	
High	2473	1.281	

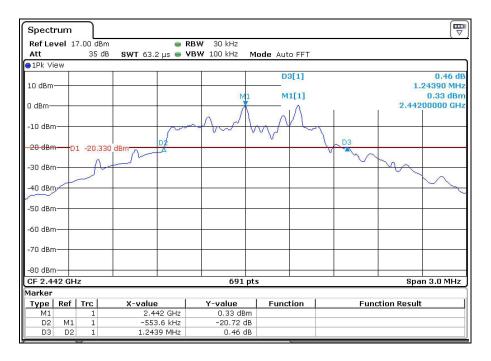
Test Data: Low channel



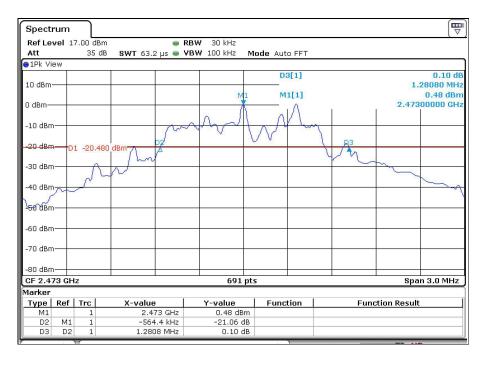
Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



Test Data: Middle channel



Test Data: High channel



Tel: +86 769 8998 2098 Fax: +86 769 8593 1080



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080

Email: customerservice.dg@bureauveritas.com



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---

Tel: +86 769 8998 2098 Fax: +86 769 8593 1080