



# **TEST REPORT**

Applicant: GUANGDONG HENGDI TECHNOLOGY CORP LTD					
Address:	Building C, Jinhui Industrial Building, South of Yuting Road, East of Taian Road				
	Shantou China.				

Manufacturer or Supplier	GUANGDONG HENGDI TECHNOLOGY CORP LTD			
Address	Building C, Jinhui Industrial Building, South of Yuting Road, East of Taian Road Shantou China.			
Product:	Toy RC Dragster Reddy Racer			
Brand Name:	Geoffrey's Toy Box			
Model:	1016232			
Additional Model & Model Difference	1014454, 101XXXX (where XXX can be digits 0000-9999 which represent different customers); see items 3.1			
Date of tests: Jun. 06, 2022 ~ Jul. 04, 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 <u>COMPLY</u> with the test requirement

Tested by Andy Zhu Supervisor / EMC Department	Approved by Glyn He Assistant Manager / EMC Department					
Andy	Att					
	Date: Aug. 02, 2022					
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# RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2206WDG0014-1	Original release	Aug. 02, 2022



# 1 SUMMARY OF TEST RESULTS

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
	9KHz ~ 30MHz	2.16dB
Radiated emissions	30MHz ~ 1GMHz	3.63dB
	1GHz ~ 18GHz	4.96dB
	18GHz ~ 40GHz	4.37dB

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 Dragster Reddy Racer		
MODEL NO.	1016232		
ADDITIONAL MODEL	1014454, 101XXXX (where XXX can be digits 0000-9999 which represent different customers)		
FCC ID	2AWZKHD22D24GT		
NOMINAL VOLTAGE	Remote Control: DC 3V (1.5V*AA*2) from Battery Car: DC 7.5V(1.5V*AA*5) from Battery		
MODULATION TECHNOLOGY	GFSK		
OPERATING FREQUENCY	2405-2475MHz		
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.: 2206WDG0014-1) for detailed product photo.
- 4. Additional models (see above table) are identical with the test model 1016232 except the model 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 X&Y axis for radiated emission. The EUT was tested under the following mode.

EUT CONFIGURE	APPLICABLE TO				DESCRIPTION	
MODE	RE<1G	RE≥1G	PLC	BW	DESCRIPTION	
А	$\checkmark$	$\checkmark$	√ - √		DC 3V from new battery	
Whore DE	Where <b>BE 1C</b> Badiated Emission below 1CHz			100-	<b>DENIC:</b> Dedicted Emission above 1CHz	

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	2405 MHz
Middle	2440 MHz
High	2475 MHz



#### **Channel List**

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2405	8	2446
1	2408	9	2451
2	2417	10	2456
3	2421	11	2460
4	2423	12	2468
5	2428	13	2474
6	2437	14	2475
7	2440		

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

# **TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RSE	25deg. C, 55%RH	DC 3V from new battery	Yoyo
BW	25deg. C, 56%RH	DC 3V from new battery	Үоуо



# 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	Jun 19, 23
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	Jun. 14, 23
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 at 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 above1GHz 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.

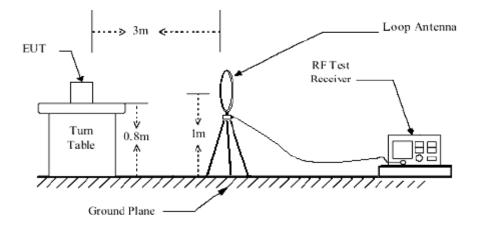
# 4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

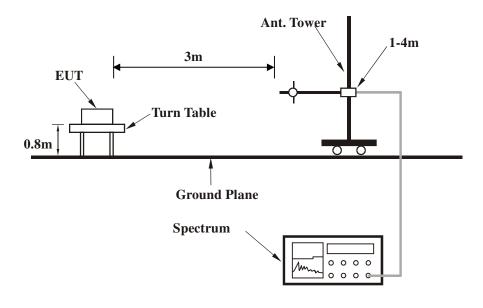


## 4.1.5 TEST SETUP

#### **Below 30MHz test setup**

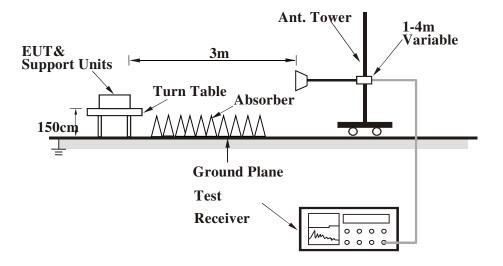


# **Below 1GHz test setup**





#### 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

- 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.



# 4.1.7 TEST RESULTS

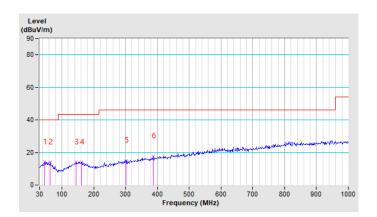
#### BELOW 1GHz WORST-CASE DATA

CHANNEL	TX Middle Channel	DETECTOR	Quesi Besk (QD)
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	45.46	13.95 QP	40.00	-26.05	1.00 H	56	28.40	-14.45		
2	63.74	14.14 QP	40.00	-25.86	1.00 H	56	28.65	-14.51		
3	145.28	13.97 QP	43.50	-29.53	1.00 H	45	27.76	-13.79		
4	162.14	14.12 QP	43.50	-29.38	1.00 H	55	27.74	-13.62		
5	301.32	15.03 QP	46.00	-30.97	1.00 H	100	27.53	-12.50		
6	387.07	17.70 QP	46.00	-28.30	1.00 H	11	28.60	-10.90		

#### **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.



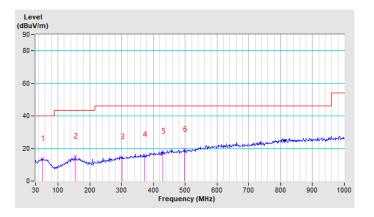


CHANNEL	TX Middle Channel	DETECTOR	Quasi Book (QD)
FREQUENCY RANGE	9KHz ~ 1GHz	FUNCTION	Quasi-Peak (QP)

	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	51.09	13.66 QP	40.00	-26.34	1.00 V	25	27.72	-14.06	
2	155.12	15.37 QP	43.50	-28.13	1.00 V	22	28.93	-13.56	
3	301.32	15.02 QP	46.00	-30.98	1.00 V	100	27.52	-12.50	
4	371.61	16.20 QP	46.00	-29.80	1.00 V	156	27.34	-11.14	
5	429.25	18.41 QP	46.00	-27.59	1.00 V	158	28.63	-10.22	
6	496.72	19.38 QP	46.00	-26.62	1.00 V	230	28.56	-9.18	

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

#### ABOVE 1GHz WORST-CASE DATA:

	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	55.15 PK	74.00	-18.85	1.16 H	279	54.58	0.57	
2	2400.00	49.32 AV	54.00	-4.68	1.16 H	279	48.75	0.57	
3	*2405.00	82.60 PK	114.00	-31.40	1.16 H	279	82.00	0.60	
4	*2405.00	76.77 AV	94.00	-17.23	1.16 H	279	76.17	0.60	
5	4810.00	52.15 PK	74.00	-21.85	1.16 H	145	46.84	5.31	
6	4810.00	46.32 AV	54.00	-7.68	1.16 H	145	41.01	5.31	
7	7215.00	40.73 PK	74.00	-33.27	1.00 H	84	31.03	9.70	
8	7215.00	34.90 AV	54.00	-19.10	1.00 H	84	25.20	9.70	
		ANTENNA		/ & TEST DI	STANCE: V	ERTICAL A	Т 3 М		
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	46.96 PK	74.00	-27.04	1.95 V	301	46.39	0.57	
2	2400.00	41.13 AV	54.00	-12.87	1.95 V	301	40.56	0.57	
3	*2405.00	74.32 PK	114.00	-39.68	1.95 V	301	73.72	0.60	
4	*2405.00	68.49 AV	94.00	-25.51	1.95 V	301	67.89	0.60	
5	4810.00	51.16 PK	74.00	-22.84	2.00 V	94	45.85	5.31	
6	4810.00	45.33 AV	54.00	-8.67	2.00 V	94	40.02	5.31	
7	7215.00	39.85 PK	74.00	-34.15	1.00 V	236	30.15	9.70	
8	7215.00	34.02 AV	54.00	-19.98	1.00 V	236	24.32	9.70	

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

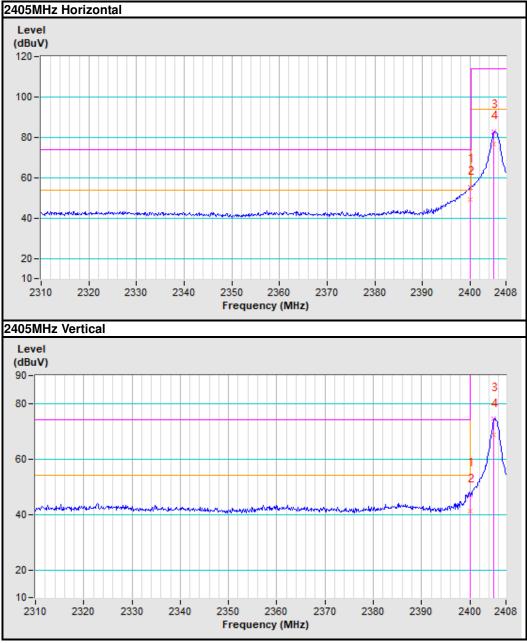
3. The emission levels of other frequencies were greater than 20dB margin.

4. Margin value = Emission level – Limit value.

5. " \* ": Fundamental frequency.









CHANNEL	TX 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	*2440.00	84.16 PK	114.00	-29.84	2.00 H	105	83.44	0.72	
2	*2440.00	78.33 AV	94.00	-15.67	2.00 H	105	77.61	0.72	
3	4880.00	52.70 PK	74.00	-21.30	1.00 H	354	47.31	5.39	
4	4880.00	46.87 AV	54.00	-7.13	1.00 H	354	41.48	5.39	
5	7320.00	41.29 PK	74.00	-32.71	1.00 H	85	31.51	9.78	
6	7320.00	35.46 AV	54.00	-18.54	1.00 H	85	25.68	9.78	
		ANTENNA	POLARIT	& TEST DI	STANCE: V	ERTICAL A	Т 3 М		
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	74.25 PK	114.00	-39.75	1.09 V	98	73.53	0.72	
2	*2440.00	68.42 AV	94.00	-25.58	1.09 V	98	67.70	0.72	
3	4880.00	51.84 PK	74.00	-22.16	1.50 V	69	46.45	5.39	
4	4880.00	46.01 AV	54.00	-7.99	1.50 V	69	40.62	5.39	
5	7320.00	40.36 PK	74.00	-33.64	1.00 V	307	30.58	9.78	
6	7320.00	34.53 AV	54.00	-19.47	1.00 V	307	24.75	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	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	*2475.00	84.50 PK	114.00	-29.50	1.18 H	282	83.64	0.86			
2	*2475.00	78.67 AV	94.00	-15.33	1.18 H	282	77.81	0.86			
3	2483.50	48.42 PK	74.00	-25.58	1.18 H	282	47.53	0.89			
4	2483.50	42.59 AV	54.00	-11.41	1.18 H	282	41.70	0.89			
5	4950.00	53.14 PK	74.00	-20.86	1.08 H	66	47.66	5.48			
6	4950.00	47.31 AV	54.00	-6.69	1.08 H	66	41.84	5.48			
7	7425.00	41.25 PK	74.00	-32.75	1.00 H	197	31.40	9.85			
8	7425.00	35.42 AV	54.00	-18.58	1.00 H	197	25.57	9.85			
		ANTENNA		/ & TEST DI	STANCE: V	ERTICAL A	Т 3 М				
NO. FREQ. LEVEL LIMIT MARGIN HEIGHT AN						TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)			
1	*2475.00	74.30 PK	114.00	-39.70	1.90 V	139	73.44	0.86			
2	*2475.00	68.47 AV	94.00	-25.53	1.90 V	139	67.61	0.86			
3	2483.50	42.43 PK	74.00	-31.57	1.90 V	139	41.54	0.89			
4	2483.50	36.60 AV	54.00	-17.40	1.90 V	139	35.71	0.89			
5	4950.00	52.41 PK	74.00	-21.59	2.00 V	214	46.93	5.48			
6	4950.00	46.58 AV	54.00	-7.42	2.00 V	214	41.10	5.48			
7	7425.00	40.19 PK	74.00	-33.81	1.00 V	54	30.34	9.85			
8	7425.00	34.36 AV	54.00	-19.64	1.00 V	54	24.51	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).

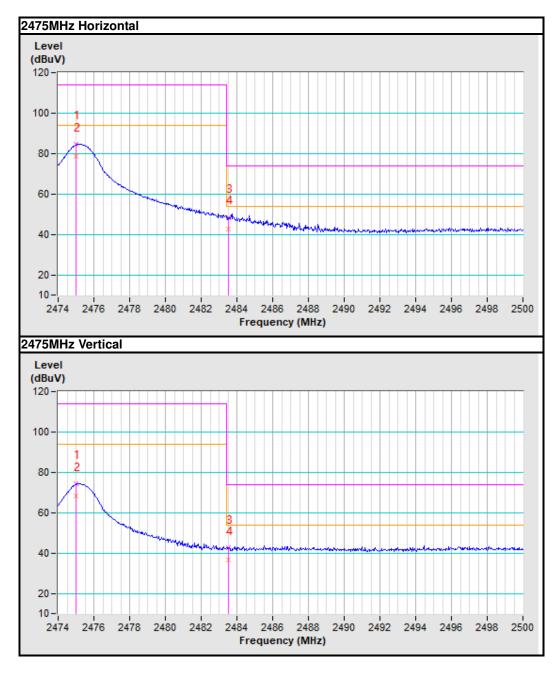
3. The emission levels of other frequencies were greater than 20dB margin.

4. Margin value = Emission level – Limit value.

5. " \* ": Fundamental frequency.



#### Band edge Plot



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## 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.

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
Progammble Temperature&Humidit y 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

# 4.2.2 TEST INSTRUMENTS

#### NOTES:

- 1. The test was performed in RF Oven 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

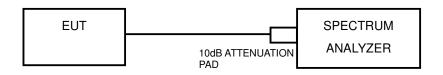
- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the 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	0.1621
Middle	2440	0.1621
High	2475	0.1664



#### Test Data: Low channel

Spectru	um	Spectrum 2	2 X)						
Ref Lev Att	el 4.00 di 24				Mode Auto	FFT			
1Pk Viev		ab <b>3</b> 441 03.	1 μ3 🖝 🕫	100 KH2	Moue Auto				
0 dBm						3[1]			-0.11 dB 162.10 kHz
-10 dBm-				N	M	1[1]	1		18.35 dBm 00000 GHz
-20 dBm-									
-30 dBm-	-D1 -38	.350 dBm		D2	23				
-50 dBm-									
-60 dBm-		7							
-70 dBm-									
-80 dBm-									
-90 dBm-									
CF 2.40	5 GHz			691	pts			Spa	n 1.0 MHz
Marker									]
Type I M1	Ref Trc	X-valı 2	405 GHz	<u>Y-value</u> -18.35 dB	Func	tion	Func	tion Result	
D2	M1 1	-	75.2 kHz	-19.64	зB				
D3	D2 1	1	62.1 kHz	-0.11	dB				

#### Test Data: Middle channel

Spectrum Sp	oectrum 2 🛛 🛞				
Ref Level 4.00 dBm		<b>BW</b> 30 kHz			· · · · · ·
Att 24 dB	SWT 63.1 µs 👄 V	BW 100 kHz M	ode Auto FFT		
●1Pk View					
0 dBm			D3[1]		-0.20 dB 162.10 kHz
-10 dBm		M1	M1[1]		-18.26 dBm 2.44000000 GHz
-20 dBm		+	\		
-30 dBm					
-40 dBm-D1 -38.310	) dBm	02/	23		
-50 dBm		·			
-60 dBm					
-70 dBm					
-80 dBm					
-90 dBm					
CF 2.44 GHz		691 pt	is	1	Span 1.0 MHz
Marker					
Type Ref Trc	X-value	Y-value	Function	Func	tion Result
M1 1	2.44 GHz	-18.26 dBm			
D2 M1 1	-70.9 kHz	-19.83 dB			
D3 D2 1	162.1 kHz	-0.20 dB			

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#### Test Data: High channel

Spectr	um	St	ectrum 2	×							
Ref Lev Att	vel 4.	.00 dBm 24 dB	SWT 63-1	e RB	W 30 kHz W 100 kHz	Mode Auto	FFT				<u>`</u>
●1Pk Vie	w	21.00	<b>BMT</b> 05.1	p5 • . 5	100 1112	Houe Auto					
0 dBm—	-						3[1]				0.04 dB 166.40 kHz
-10 dBm						м (1	1[1]				18.83 dBm 00000 GHz
-10 dBm -20 dBm -30 dBm -40 dBm					/						
-30 dBm		1 -38.85(	) dBm		02						
-50 dBm							/	/			
	1										
-70 dBm								_			
-80 dBm	_							_			
-60 dBm -70 dBm -80 dBm -90 dBm											
CF 2.47	5 GH	z			691	pts				Spa	n 1.0 MHz
Marker											
Type M1	Ref	Trc 1	X-value	9 75 GHz	<u>Y-value</u> -18.83 d	Func	tion		Func	tion Result	
D2	M1	1		5 GHZ	-18.83 u -20.19						
D3	D2	1		5.4 kHz	0.04						



# 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----