



## TEST REPORT

Applicant	Dongguan Tianyu electronic technology Co., LTD
Address	Room 102, Building 1, No. 2, Dali Lushu Street, Qingxi Town, Dongguan City, Guangdong

Manufacturer or Supplier	Dongguan Tianyu electronic technology Co., LTD		
Address	Room 102, Building 1, No. 2, Dali Lushu Street, Qingxi Town, Dongguan City, Guangdong		
Product	3C Battery BOX		
Brand Name	N/A		
Model	RM-TY433-18K		
Additional Model & Model Difference	N/A		
Date of tests	Aug. 15, 2024 ~ Sep. 10, 2024		

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

## 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

Date: Sep. 14, 2024

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <a href="http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/">http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/</a> 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.

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# **RELEASE CONTROL RECORD**

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF2408WDG0147	Original release	Sep. 14, 2024

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## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.231)				
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK	
§15.203	Antenna Requirement	PASS	No antenna connector is used	
§15.207 (a)	AC Power Conducted Emission	N/A	EUT is powered by battery	
§15.209 §15.231(b)	Radiated Emission	PASS	Compliant	
§15.231 (a)	Deactivation time measurement	PASS	Compliant	
§15.231(c)	Emission Bandwidth Measurement	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	2.72dB
Radiated emissions	30MHz ~ 1GHz	4.24dB
radiated emissions	1GHz ~ 18GHz	4.10dB
	18GHz ~ 40GHz	4.10dB

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

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## **3 GENERAL INFORMATION**

#### 3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	3C Battery BOX	
MODEL NO.	RM-TY433-18K	
ADDITIONAL MODELS	N/A	
FCC ID	2BKEH-DGTYC	
NOMINAL VOLTAGE	Remote control: DC 3V (3V*CR2025*1)from battery	
MODULATION TYPE	ASK	
OPERATING	433.92MHz	
FREQUENCY	433.92MHZ	
NUMBER OF CHANNEL	1	
ANTENNA TYPE	PCB Antenna, with 0dBi Gain	
I/O PORTS	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.: 2408WDG0147) for detailed product photo.

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#### 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 antenna ports. The worst case was found when positioned on Y plane for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

FREQUENCY	TEST MODES
433.92MHz	Transmitting

#### 3.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE	APPLICABLE TO					DESCRIPTION
MODE	RE≥1G	RE < 1G	PLC	EB	DT	DECOMM NOW
-	$\checkmark$	$\sqrt{}$	-	$\checkmark$	$\checkmark$	Power by New Battery

Where **RE ≥ 1G:** Radiated Emission above 1GHz

PLC: Power Line Conducted Emission

DT: Deactivation Time measurement

RE < 1G: Radiated Emission below 1GHz

EB: 20dB Bandwidth measurement

## **RADIATED EMISSION TEST (ABOVE 1 GHz):**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1	1	ASK

#### **RADIATED EMISSION TEST (BELOW 1 GHz):**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	
1	1	ASK	

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#### **EMISSION BANDWIDTH MEASUREMENT:**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	
1	1	ASK	

#### **DEACTIVATION TIME MEASUREMENT:**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	
1	1	ASK	

#### **TEST CONDITION:**

APPLICABLE TO ENVIRONMENTAL CONDITIONS		TEST VOLTAGE	TESTED BY	
RE≥1G	23deg. C, 54%RH	DC3V from battery	Ryker	
RE<1G	23deg. C, 54%RH	DC3V from battery	Ryker	
EB	25deg. C, 60%RH	DC3V from battery	Ryker	
DT	25deg. C, 60%RH	DC3V from battery	Ryker	

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#### 3.4 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:

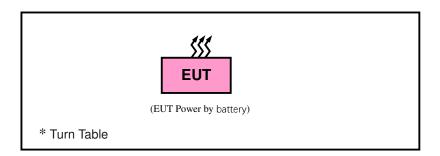
FCC Part 15, Subpart C Section 15.231 ANSI C63.10-2013

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

#### 3.5 DESCRIPTION OF SUPPORT UNITS

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

## 3.6 CONFIGURATION OF SYSTEM UNDER TEST



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## 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 §15.231(b), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)
40.66–40.70	2,250	225
70–130	1,250	125
130–174	<sup>1</sup> 1,250 to 3,750	<sup>1</sup> 125 to 375
174–260	3,750	375
260–470	<sup>1</sup> 3,750 to 12,500	<sup>1</sup> 375 to 1,250
Above 470	12,500	1,250

#### NOTE:

- 1. 1 Linear interpolations.
- 2. The lower limit shall apply at the transition frequencies.
- 3. Emission level  $(dBuV/m) = 20 \log Emission level (uV/m)$ .
- 4. 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.

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## 4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Spectrum Analyzer	Rohde&Schwarz	FSV3044	101326	July 09, 25
EMI Test Receiver	Rohde&Schwarz	ESU8	100372	Apr. 16, 25
Bilog Antenna	SCHWARZBECK	VULB 9168	9168-555	Nov. 07, 25
Pre-Amplifier	Agilent	8447D	2944A10488	July. 23, 25
3m Semi-anechoic Chamber	ETS-Lindgren	9m*6m*6m	D3040003DG -1	July 30, 25
Coaxial RF Cable	Joinfront	JFAA6-NMNM-8000	2100033742	July 02, 25
Coaxial RF Cable	Joinfront	JFAR-NMBNCM-2000	2100033742	July 02, 25
Coaxial RF Cable	Joinfront	JFAR-BNCMSMM-500	2100033742	July 02, 25
Test software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A
Horn Antenna	ETS-Lindgren	3117	00240036	Apr. 20, 25
Horn Antenna	SCHWARZBECK	BBHA 9170	01024	Oct. 16, 25
Pre-Amplifier (1GHz-18GHz)	Rohde&Schwarz	SCU18	102265	July. 23, 25
Pre-Amplifier (18GHz-40GHz)	Rohde&Schwarz	SCU40	100437	Oct. 10, 24
Coaxial RF Cable	Joinfront	JFAA6-NMNM-8000	2100033742	July 02, 25
Coaxial RF Cable	Joinfront	JFAA6-NMSMM-2000	2100033742	July 02, 25
Coaxial RF Cable	Joinfront	JFAA6-NMSMM-800	2100033742	July 02, 25

#### 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.
- 3. The horn antenna is used only for the measurement of emission frequency above1GHz if tested.
- 4. The FCC Site Registration No. is 749762.
- 5. Test site: No. 122, Houjie Avenue West Houjie Town, Dongguan City Guangdong Province, 523960, People's Republic of China.

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#### 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. 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.
- g. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position Y, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using new battery. The turntable was rotated to maximize the emission level.
- h. 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.

#### NOTE:

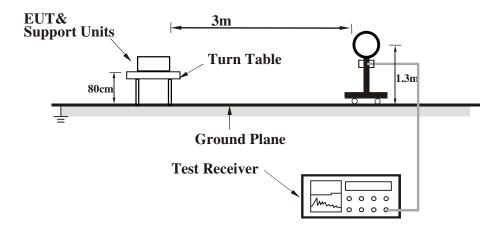
- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
- 3. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 5. Margin value = Emission level Limit value.
- 6. Fundamental AV value = PK Emission + AV Factor.

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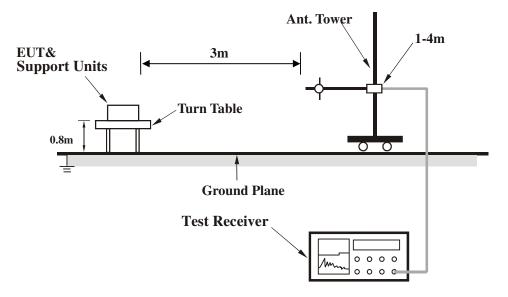


## 4.1.4 TEST SETUP

## **Below 30MHz test setup**



## **Below 1GHz test setup**

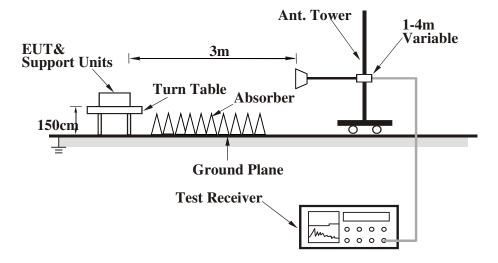


**Note:** For the actual test configuration, please refer to the attached file (Test Setup Photo).

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## **Above 1GHz test setup**



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

#### 4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.1.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Enable EUT under transmission condition continuously at specific channel frequency.

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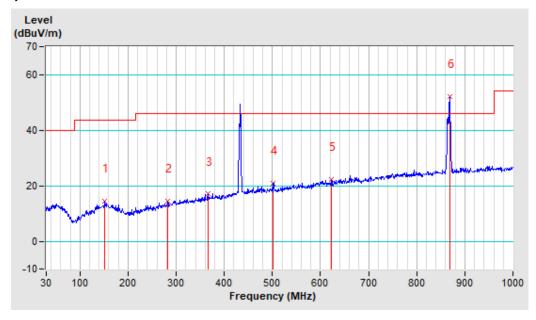
#### 4.1.7 TEST RESULTS

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

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	
1	152.22QP	-13.54	27.93	14.39	43.50	-29.11	237	119	
2	283.17QP	-12.63	27.14	14.51	46.00	-31.49	174	211	
3	365.62QP	-11.11	28.08	16.97	46.00	-29.03	194	92	
4	501.42QP	-8.53	29.51	20.98	46.00	-25.02	137	173	
5	622.67QP	-6.11	28.26	22.15	46.00	-23.85	259	341	
6	#868.08PK	-1.71	53.73	52.02	80.82	-28.80	214	177	
7	#868.08AV	-	=	45.71	60.82	-15.11	270	241	

#### NOTE:

- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 4. Margin value = Emission level Limit value.
- 5. 9KHz~30MHz have been test and test data more than 20dB margin.
- 6. "#": Harmonic frequency
- 7. Fundamental AV value =PK Emission +20\*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(48.3648%)= -6.31dB, Please see page 19 for plotted duty.

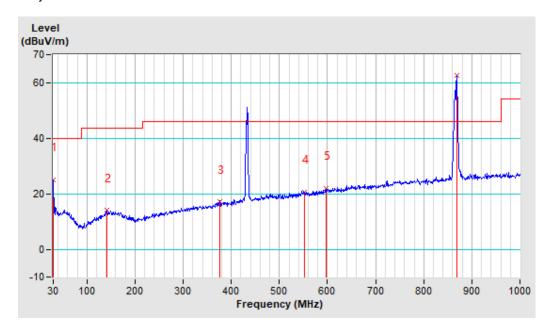




	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	
1	30.00	-15.60	40.48	24.88	40.00	-15.12	234	295	
2	140.58	-14.03	27.97	13.94	43.50	-29.56	120	279	
3	375.32	-10.93	27.95	17.02	46.00	-28.98	171	272	
4	552.83	-7.74	28.35	20.61	46.00	-25.39	296	154	
5	597.45	-6.64	28.67	22.03	46.00	-23.97	120	264	
6	#868.08PK	-1.71	64.20	62.49	80.82	-18.33	294	217	
8	#868.08AV	-	=	56.18	60.82	-4.64	186	88	

#### NOTE:

- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 4. Margin value = Emission level Limit value.
- 5. 9KHz~30MHz have been test and test data more than 20dB margin.
- 6. "#": Harmonic frequency
- 7. Fundamental AV value =PK Emission +20\*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(48.3648%)= -6.31dB, Please see page 19 for plotted duty.



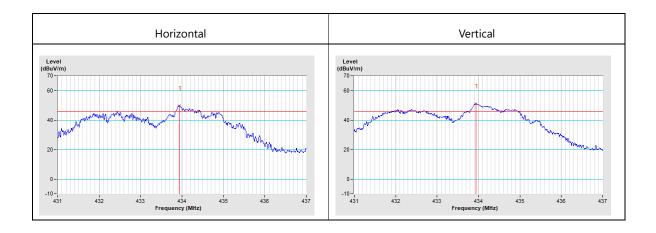


#### **TEST PLOTS OF FIELD STRENGTH OF FUNDAMENTAL EMISSIONS:**

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M							
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	*433.92 PK	-9.60	59.38	49.78	100.82	-51.04	118	181
2	*433.92 AV	-	-	43.47	80.82	-37.35	160	158
	AN	TENNA PO	LARITY	& TEST DIST	ANCE: VE	RTICAL A	AT 3M	
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	*433.92 PK	-9.60	60.75	51.15	100.82	-49.67	157	206
2	*433.92 AV	-	-	44.84	80.82	-35.98	246	311

#### NOTE:

- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 4. Margin value = Emission level Limit value.
- 5. " \* ": Fundamental frequency.
- 6. Fundamental AV value =PK Emission +20\*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(48.3648%)= -6.31dB, Please see page 19 for plotted duty.



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

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M							
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	1301.82PK	-10.45	59.40	48.95	74.00	-25.05	100	185
2	1301.82AV	-10.45	53.09	42.64	54.00	-11.36	100	185
3	1735.76PK	-7.14	53.95	46.81	74.00	-27.19	100	214
4	1735.76AV	-7.14	47.64	40.50	54.00	-13.50	100	214
5	2169.70PK	-4.13	52.45	48.32	74.00	-25.68	100	185
6	2169.70AV	-4.13	46.14	42.01	54.00	-11.99	100	185
	AN	TENNA PO	LARITY 8	& TEST DIST	ANCE: VE	RTICAL A	AT 3M	
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	1301.82PK	-10.45	64.77	54.32	74.00	-19.68	200	94
2	1301.82AV	-10.45	58.46	48.01	54.00	-5.99	200	94
3	1735.76PK	-7.14	54.07	46.93	74.00	-27.07	100	175
4	1735.76AV	-7.14	47.76	40.62	54.00	-13.38	100	175
5	2169.70PK	-4.13	57.14	53.01	74.00	-20.99	120	236
6	2169.70AV	-4.13	50.83	46.70	54.00	-7.30	120	236

## NOTE:

- 1 The resolution bandwidth of test receiver/spectrum analyzer is 1MHz for Peak detection (PK) at frequency above 1GHz.
- 2 Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3 Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 4 Margin value = Emission level Limit value.
- 5 The emission levels of other frequencies were less than 20dB margin against the limit.
- 6 Fundamental AV value =PK Emission +20\*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) =20Log(48.3648%)= -6.31dB, Please see page 19 for plotted duty.

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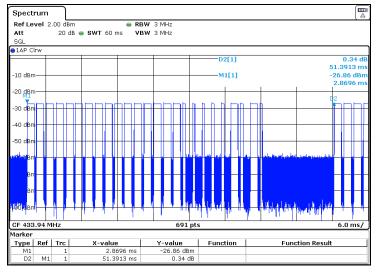


# **Duty Cycle:**

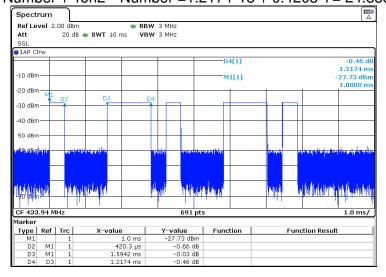
Tp = 51.3913ms

Ton = Ton1 \* Number + Ton2 \* Number=1.2174\*18 + 0.4203\*7= 24.8553ms Duty Cycle = Ton / Tp \* 100% = 24.8553 / 51.3913 \* 100%= 48.3648% Factor = 20Log(Duty Cycle)=20Log(48.3648%)= -6.31dB

Tp= 51.3913ms



**Ton** = Ton1 \* Number + Ton2 \* Number = 1.2174\*18 + 0.4203\*7= 24.8553ms



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#### 4.2 20dB BANDWIDTH MEASUREMENT

#### 4.2.1 LIMITS OF 20dB BANDWIDTH MEASUREMENT

According to FCC 15.231(c), The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Limit=Fundamental Frequency × 0.25%=433.92MHz × 0.25%=1084.8 kHz

#### 4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Wireless Connectivity Tester	Rohde&Schwarz	CMW270	101601	Oct. 15, 24
Spectrum Analyzer	Rohde&Schwarz	FSV40	101003	Jan. 01, 25
Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 01, 25
Frequency Analyzer	Keysight	N9010B	MY60240432	Oct. 10, 24
Power Meter	Rohde&Schwarz	NRX	103107	Apr. 09, 25
Power Sensor	Rohde&Schwarz	NRP6A	103356	Apr. 09, 25
Progammble Temperature&Humidity Chamber	Hongjin	HYC-TH-225DH	DG-180746	Jan. 02, 25
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Agilent	E3640A	MY40004013	Jan. 01, 25
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

#### NOTE:

- 1. The test was performed in RF Oven room.
- 2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation.
- 3. Test site: No. 122, Houjie Avenue West Houjie Town, Dongguan City Guangdong Province, 523960, People's Republic of China.

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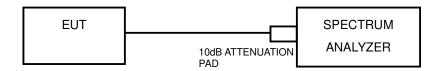
## 4.2.3 TEST PROCEDURE

The spectrum analyzer was receiving the maximum emission level. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

## 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.

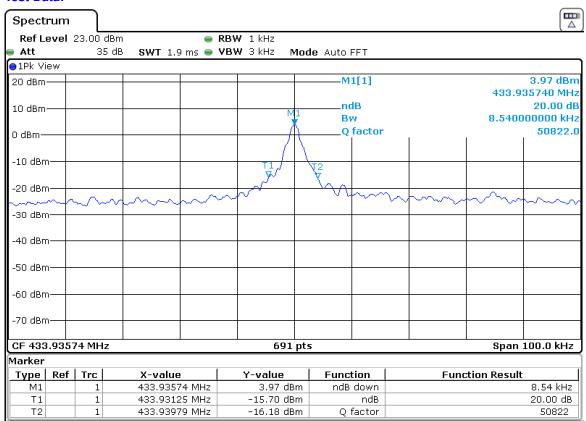
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## 4.2.7 TEST RESULTS

FREQUENCY (MHz)	20dB BANDWIDTH (kHz)	MAXIMUM LIMIT (kHz)	PASS/FAIL
433.93574	8.54	1084.8	PASS

#### **Test Data:**



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#### 4.3 DEACTIVATION TIME MEASUREMENT

#### 4.3.1 LIMITS OF DEACTIVATION TIME MEASUREMENT

15.231 (a)(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

15.231 (a)(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

#### 4.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Wireless Connectivity Tester	Rohde&Schwarz	CMW270	101601	Oct. 15, 24
Spectrum Analyzer	Rohde&Schwarz	FSV40	101003	Jan. 01, 25
Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Jan. 01, 25
Frequency Analyzer	Keysight	N9010B	MY60240432	Oct. 10, 24
Power Meter	Rohde&Schwarz	NRX	103107	Apr. 09, 25
Power Sensor	Rohde&Schwarz	NRP6A	103356	Apr. 09, 25
Progammble Temperature&Humidity Chamber	Hongjin	HYC-TH-225DH	DG-180746	Jan. 02, 25
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A
DC Source	Agilent	E3640A	MY40004013	Jan. 01, 25
Test software	ADT	ADT_RF Test Software V6.6.5.3	N/A	N/A
Test software	ADT	ADT_RF Test Software V6.6.5.4	N/A	N/A

**NOTES:** 1. The test was performed in RF Oven room.

- 2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation.
- 3. Test site: No. 122, Houjie Avenue West Houjie Town, Dongguan City Guangdong Province, 523960, People's Republic of China.

#### 4.3.3 TEST PROCEDURE

With the EUT's antenna attached, the EUT's output signal was received by the test antenna, which was connected to the spectrum analyzer set the center frequency, than set the spectrum analyzer to Zero Span for the release time reading. During the testing, the transmission duration was measured and recorded.

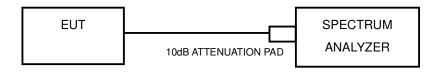
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## 4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.3.5 TEST SETUP



## 4.3.6 EUT OPERATING CONDITIONS

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

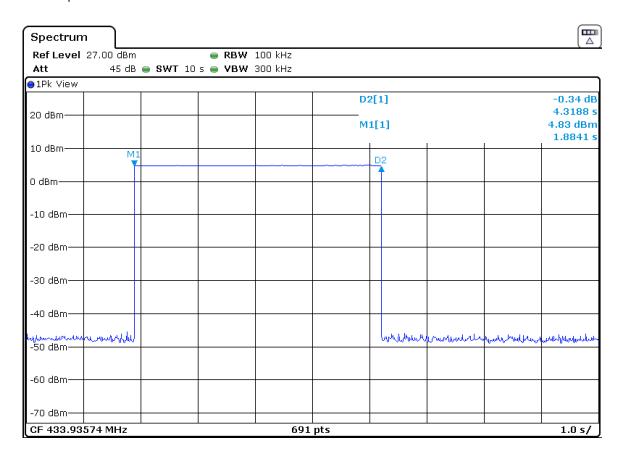
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## 4.3.7 TEST RESULTS

FREQUENCY (MHz)	MEASUREMENT RESULT (sec)	MAXIMUM LIMIT (sec)	PASS/FAIL
433.92	4.3188	5	PASS

The plots of test results are attached as below.



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# 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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# 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---

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