

# TEST REPORT

Applicant Name : Max Sales Group  
 Address : 15240 NELSON AVENUE CITY OF INDUSTRY, Los Angeles  
 California United States 90040  
 Report Number: SZ3220418-14843E-RF  
 FCC ID: 2AUIF-NV-06782-2

**Test Standard (s)**  
 FCC PART 15.249

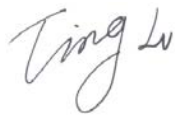
**Sample Description**

Product Type: 2.4G RC DRONE WITH 0.3MP WIFI CAMERA-Remote Control  
 Model No.: NV-06782  
 Trade Mark: BESMERY  
 Date Received: 2022-04-18  
 Date of Test: 2022-04-28 to 2022-05-30  
 Report Date: 2022-05-30

Test Result:	Pass*
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\* In the configuration tested, the EUT complied with the standards above.

**Prepared and Checked By:**



Ting Lü  
 EMC Engineer

**Approved By:**



Candy Li  
 EMC Engineer

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## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

Product	2.4G RC DRONE WITH 0.3MP WIFI CAMERA-Remote Control
Tested Model	NV-06782
Trademark	BESMERY
Frequency Range	2449-2480MHz
Maximum E-Field Strength (Peak)	89.87dBuV/m@3m
Modulation Technique	GFSK
Antenna Specification	0dBi (It is provided by the applicant)
Voltage Range	DC 4.5V from battery
Sample serial number	SZ3220418-14843E-RF-S1(Assigned by ATC, Shenzhen)
Sample/EUT Status	Good condition

### Objective

This type approval report is in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209 and 15.249 rules.

### Related Submittal(s)/Grant(s)

N/A

### Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

## Measurement Uncertainty

Parameter		Uncertainty
Emissions, Radiated	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
	26.5GHz - 40GHz	4.72dB
Temperature		1°C
Humidity		6%
Supply voltages		0.4%

*Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.*

## Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189.

Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

## SYSTEM TEST CONFIGURATION

### Justification

The system was configured for testing by manufacturer.

Frequency list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2449	12	2460	23	2471
2	2450	13	2461	24	2472
3	2451	14	2462	25	2473
4	2452	15	2463	26	2474
5	2453	16	2464	27	2475
6	2454	17	2465	28	2476
7	2455	18	2466	29	2477
8	2456	19	2467	30	2478
9	2457	20	2468	31	2479
10	2458	21	2469	32	2480
11	2459	22	2470	/	/

Channel 1, Channel 16 and Channel 32 were selected for testing.

### EUT Exercise Software

Test in the engineering mode which switch channel by button and power level is default\*.

### Equipment Modifications

No modifications were made to the unit tested.

### Support Equipment List and Details

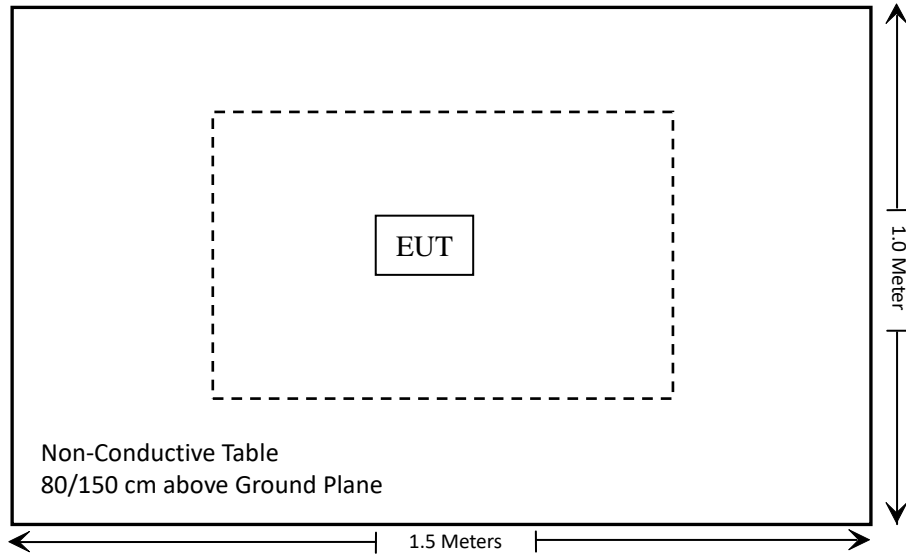
Manufacturer	Description	Model	Serial Number
/	/	/	/

### Support Cable Descriptions

Cable Description	Length (m)	From/Port	To
/	/	/	/

### Block Diagram of Test Setup

For Radiated Emmission



**SUMMARY OF TEST RESULTS**

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conduction Emissions	Not Applicable
15.205, §15.209, §15.249(d)	Radiated Emissions& Outside of Band Emission	Compliant
§15.215 (c)	20dB Bandwidth	Compliant

Note: The device is powered by battery only.

## Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
<b>Radiated Emission Test</b>					
Rohde & Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde & Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2021/11/11	2022/11/10
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2020/01/05	2023/01/04
Wainwright	High Pass Filter	WHKX3.6/18G-10SS	5	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.15	N600	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N650	2021/12/14	2022/12/13
<b>Radiated Emission Test Software: e3 19821b (V9)</b>					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101495	2021/12/13	2022/12/12
Rohde & Schwarz	Open Switch and Control Unit	OSP120 + OSP-B157	101244 + 100866	2021/12/13	2022/12/12
WEINSCHTEL	10dB Attenuator	5324	AU 3842	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.34	RF-04	Each time	

\* **Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).



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**FCC§15.203 - ANTENNA REQUIREMENT**

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**Applicable Standard**

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

**Antenna Connector Construction**

The EUT has one internal antenna which was permanently attached and the antenna gain is 0dBi, fulfill the requirement of this section. Please refer to the EUT photos.

**Result:** Compliant.

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**FCC§15.205, §15.209 & §15.249(d) - RADIATED EMISSIONS**


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**Applicable Standard**

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

<b>Fundamental frequency</b>	<b>Field strength of fundamental (millivolts/meter)</b>	<b>Field strength of harmonics (microvolts/meter)</b>
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

As per FCC§15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

**Test Equipment Setup**

The spectrum analyzer or receiver is set as:

Below 1000MHz:

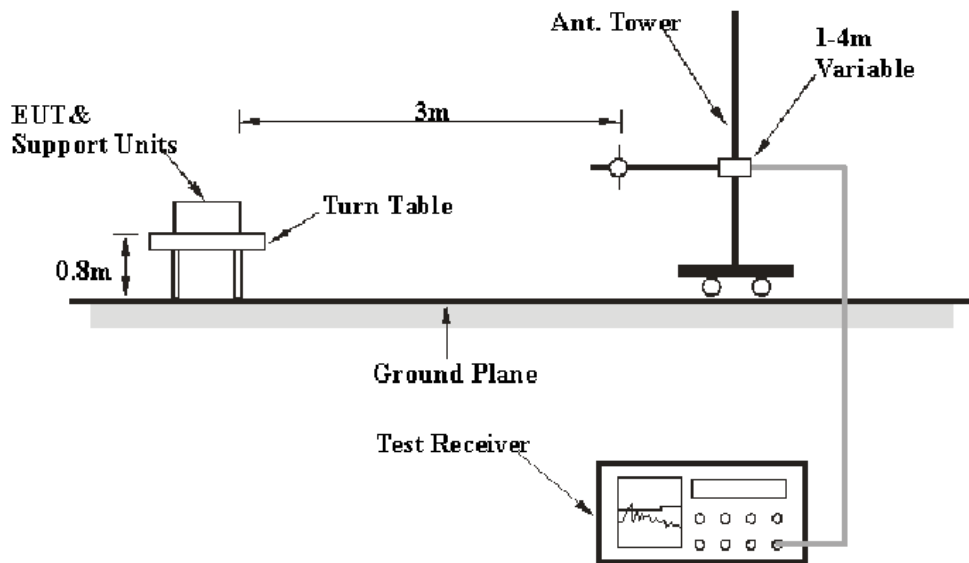
$$\text{RBW} = 100 \text{ kHz} / \text{VBW} = 300 \text{ kHz} / \text{Sweep} = \text{Auto}$$

Above 1000MHz:

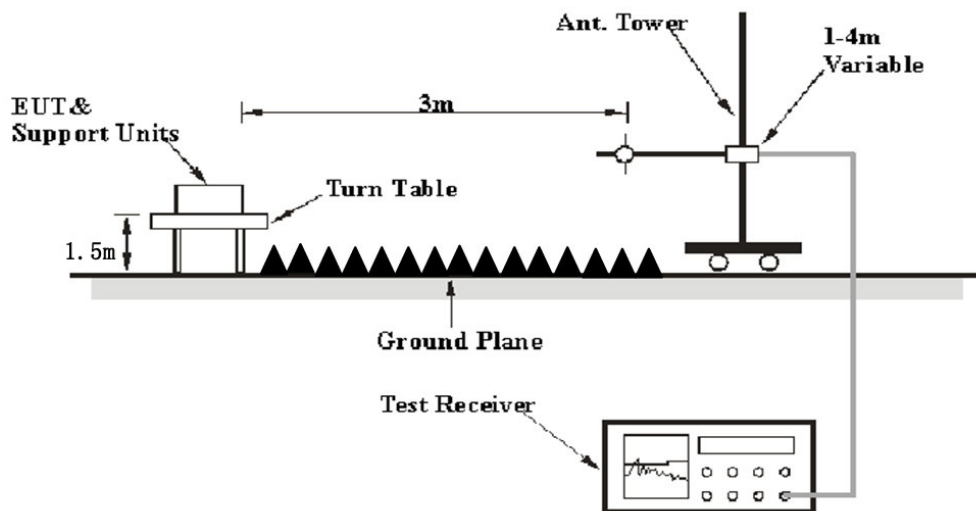
$$\begin{aligned} \text{Peak: RBW} &= 1\text{MHz} / \text{VBW} = 1\text{MHz} / \text{Sweep} = \text{Auto} \\ \text{Average: RBW} &= 1\text{MHz} / \text{VBW} = 10\text{Hz} / \text{Sweep} = \text{Auto} \end{aligned}$$

## EUT Setup

### Below 1GHz:



### Above 1GHz:



The radiated emission and out of band emission tests were performed in the 3meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209/15.205 and FCC 15.249 limits.

## Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 meter, and the EUT is placed on a turntable, which is 0.8 meter above ground plane for below 1GHz or 1.5 meter for above 1GHz, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

## Corrected Amplitude & Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit/Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit/margin of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

$$\begin{aligned} \text{Over Limit/Margin} &= \text{Level} / \text{Corrected Amplitude} - \text{Limit} \\ \text{Level} / \text{Corrected Amplitude} &= \text{Read Level} + \text{Factor} \end{aligned}$$

## Test Results Summary

According to the EUT complied with the FCC Part 15.205, 15.209 & §15.249

## Test Data

### Environmental Conditions

<b>Temperature:</b>	24~25°C
<b>Relative Humidity:</b>	63~65%
<b>ATM Pressure:</b>	101.0~101.4kPa

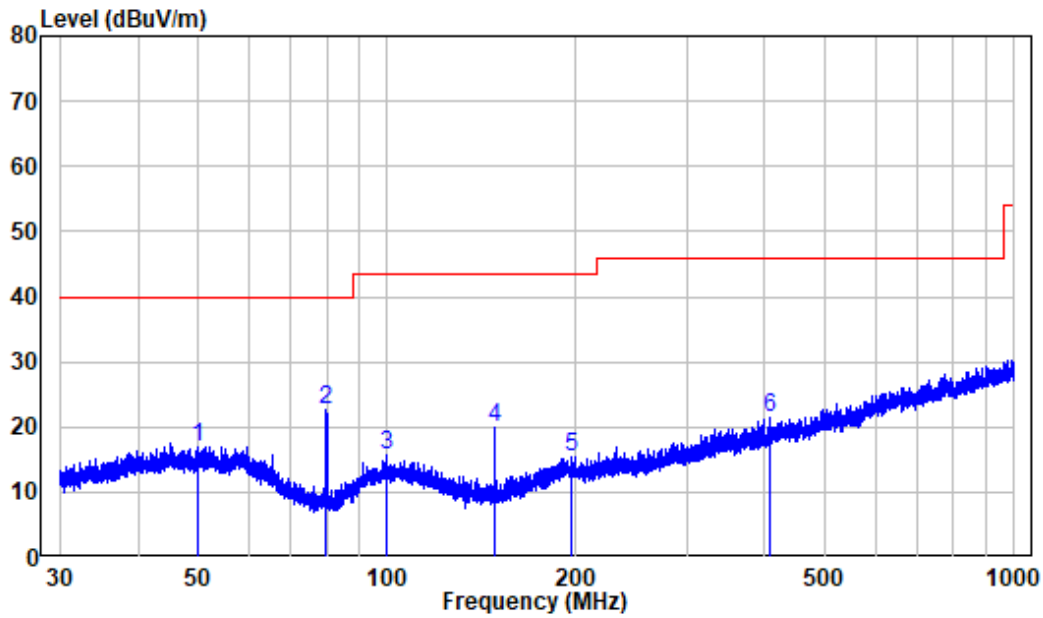
*The testing was performed by Nick Fang from 2022-04-28 to 2022-04-30.*

*Test Mode: Transmitting*

**30MHz-1GHz: (Worst case)**

**Middle Channel**

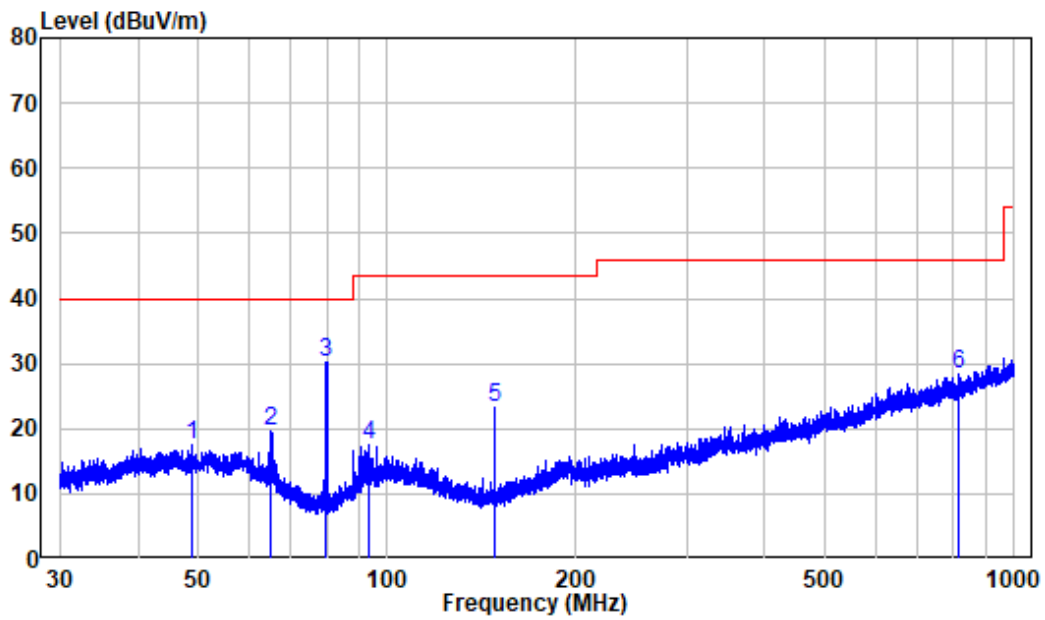
**Horizontal**



Site : chamber  
 Condition: 3m HORIZONTAL  
 Job No. : SZ3220418-14843E-RF  
 Test Mode: TX

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	49.794	-9.92	26.94	17.02	40.00	-22.98	Peak
2	79.975	-16.79	39.38	22.59	40.00	-17.41	Peak
3	99.965	-11.81	27.36	15.55	43.50	-27.95	Peak
4	148.376	-15.36	35.26	19.90	43.50	-23.60	Peak
5	196.682	-11.56	26.81	15.25	43.50	-28.25	Peak
6	406.266	-6.63	28.02	21.39	46.00	-24.61	Peak

Vertical



Site : chamber  
 Condition: 3m VERTICAL  
 Job No. : SZ3220418-14843E-RF  
 Test Mode: TX

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	48.715	-9.96	27.41	17.45	40.00	-22.55	Peak
2	65.229	-12.59	32.15	19.56	40.00	-20.44	Peak
3	79.975	-16.79	46.86	30.07	40.00	-9.93	Peak
4	93.440	-12.87	30.38	17.51	43.50	-25.99	Peak
5	148.376	-15.36	38.56	23.20	43.50	-20.30	Peak
6	815.610	-0.19	28.43	28.24	46.00	-17.76	Peak

**Above 1 GHz:**

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
	Reading (dBuV)	PK/AV		Height (m)	Polar (H/V)				
Low Channel									
2310	54.5	PK	135	1.3	H	-7.23	47.27	74	-26.73
2310	54.22	PK	103	1.1	V	-7.23	46.99	74	-27.01
2390	55.77	PK	71	1.5	H	-7.21	48.56	74	-25.44
2390	53.73	PK	220	2.1	V	-7.21	46.52	74	-27.48
2400	54.36	PK	156	1.1	H	-7.23	47.13	74	-26.87
2400	54.95	PK	44	1.3	V	-7.23	47.72	74	-26.28
2449	97.11	PK	37	1.1	H	-7.24	89.87	114	-24.13
2449	90.71	PK	19	1.2	V	-7.24	83.47	114	-30.53
4898	72.6	PK	248	1.9	H	-3.3	69.30	74	-4.70
4898	34.37	AV	248	1.9	H	-3.3	31.07	54	-22.93
4898	64.07	PK	235	2.0	V	-3.3	60.77	74	-13.23
4898	34.2	AV	235	2.0	V	-3.3	30.90	54	-23.10
Middle Channel									
2464	96.91	PK	62	1.9	H	-7.23	89.68	114	-24.32
2464	91.39	PK	76	1.2	V	-7.23	84.16	114	-29.84
4928	73.7	PK	251	1.7	H	-3.15	70.55	74	-3.45
4928	34.61	AV	251	1.7	H	-3.15	31.46	54	-22.54
4928	65.87	PK	62	1.9	V	-3.15	62.72	74	-11.28
4928	34.61	AV	62	1.9	V	-3.15	31.46	54	-22.54
High Channel									
2480	95.64	PK	76	1.2	H	-7.2	88.44	114	-25.56
2480	91.41	PK	265	1.6	V	-7.2	84.21	114	-29.79
2483.5	59.42	PK	163	1.7	H	-7.2	52.22	74	-21.78
2483.5	53.9	PK	110	1.3	V	-7.2	46.70	74	-27.30
2500	55.15	PK	313	1.3	H	-7.18	47.97	74	-26.03
2500	55.56	PK	152	1.6	V	-7.18	48.38	74	-25.62
4960	71.04	PK	154	1.6	H	-3.01	68.03	74	-5.97
4960	35.29	AV	154	1.6	H	-3.01	32.28	54	-21.72
4960	66.94	PK	80	2.1	V	-3.01	63.93	74	-10.07
4960	34.82	AV	80	2.1	V	-3.01	31.81	54	-22.19

**Note:**

Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

Absolute Level (Corrected Amplitude) = Factor + Reading

Margin = Absolute Level (Corrected Amplitude) – Limit

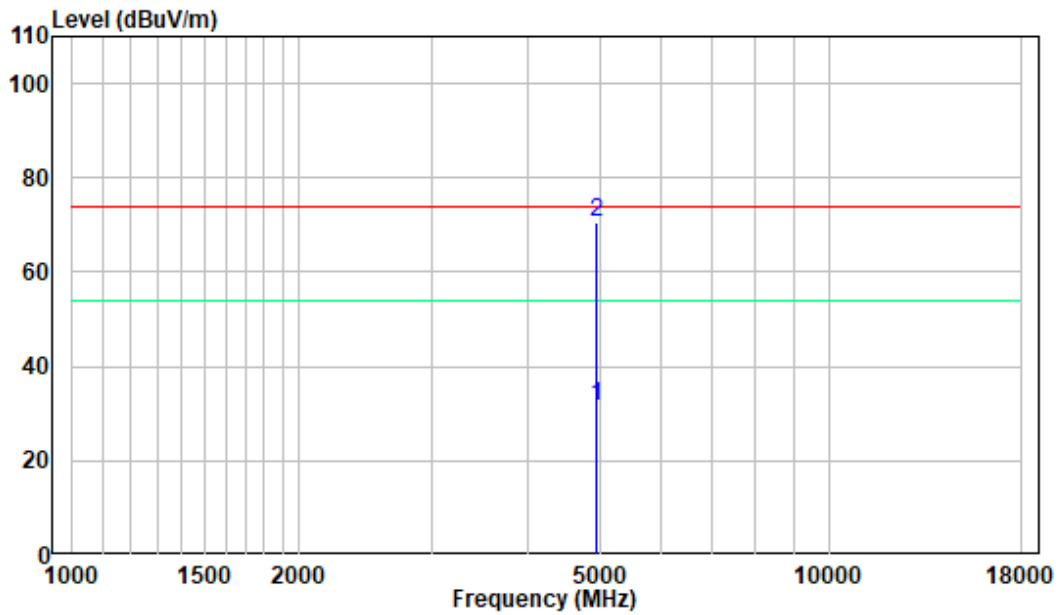
The other spurious emission which is in the noise floor level was not recorded.

For above 1GHz, the test result of peak was 20dB below to the limit of peak, which can be compliant to the average limit, so just peak value was recorded.

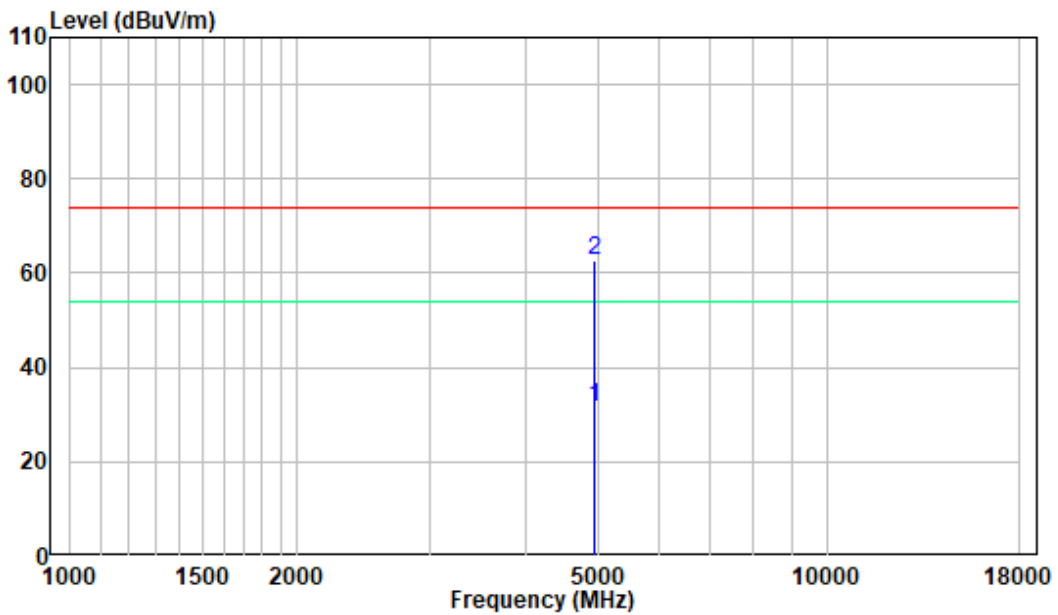
**Pre-scan plots:**

**1-18GHz: Middle Channel**

**Horizontal**



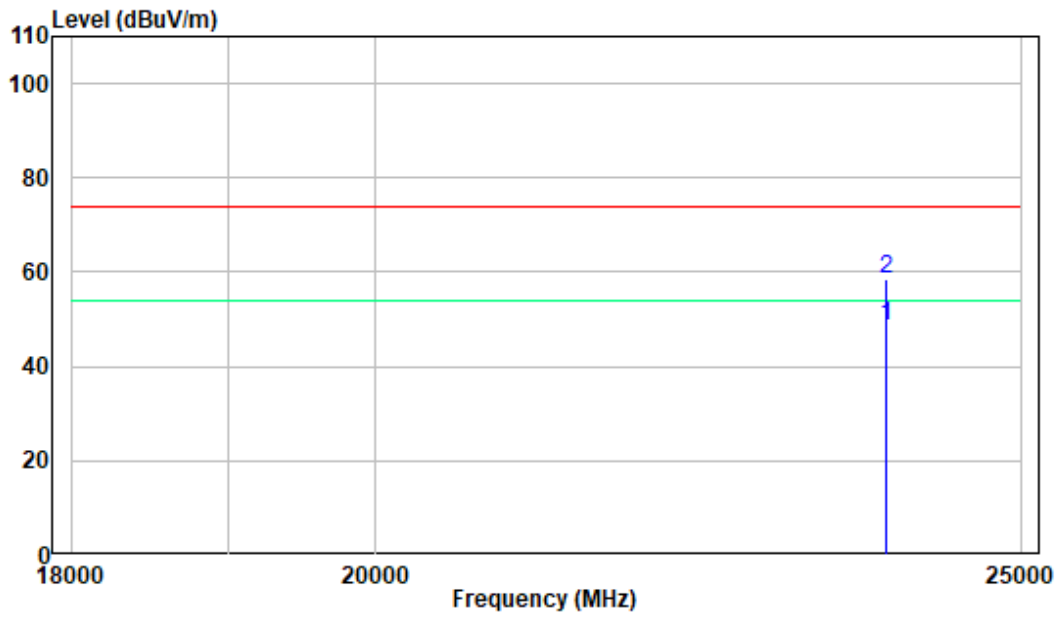
**Vertical**



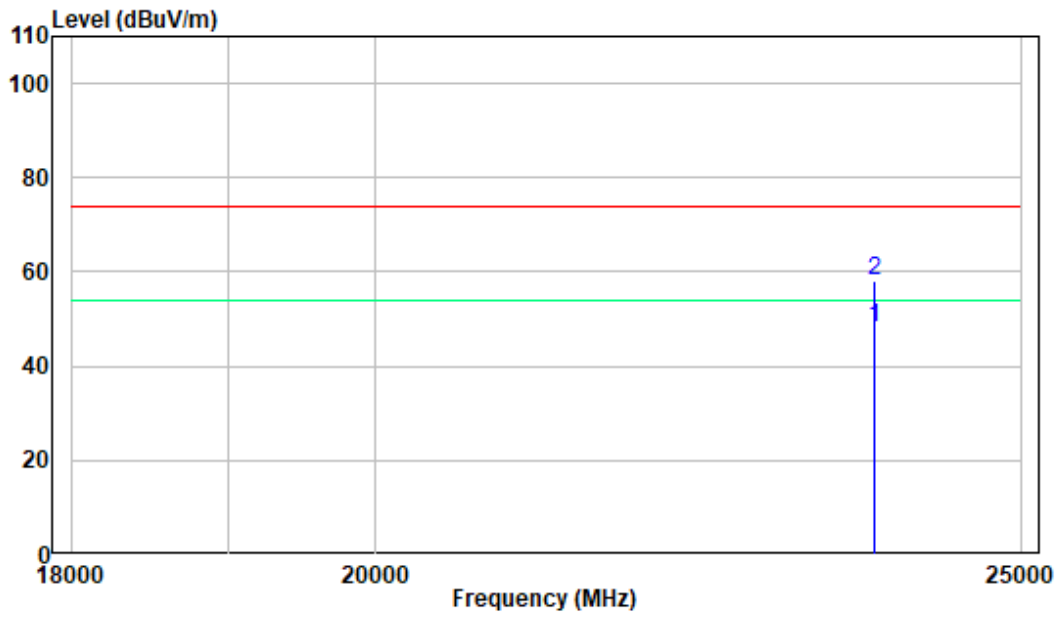


18-25GHz: Middle Channel

Horizontal



Vertical



## FCC§15.215(c) - 20dB EMISSION BANDWIDTH

### Applicable Standard

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, 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.

### Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. 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.
3. Measure the frequency difference of two frequencies that indicated 20dB bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	53 %
<b>ATM Pressure:</b>	101.2 kPa

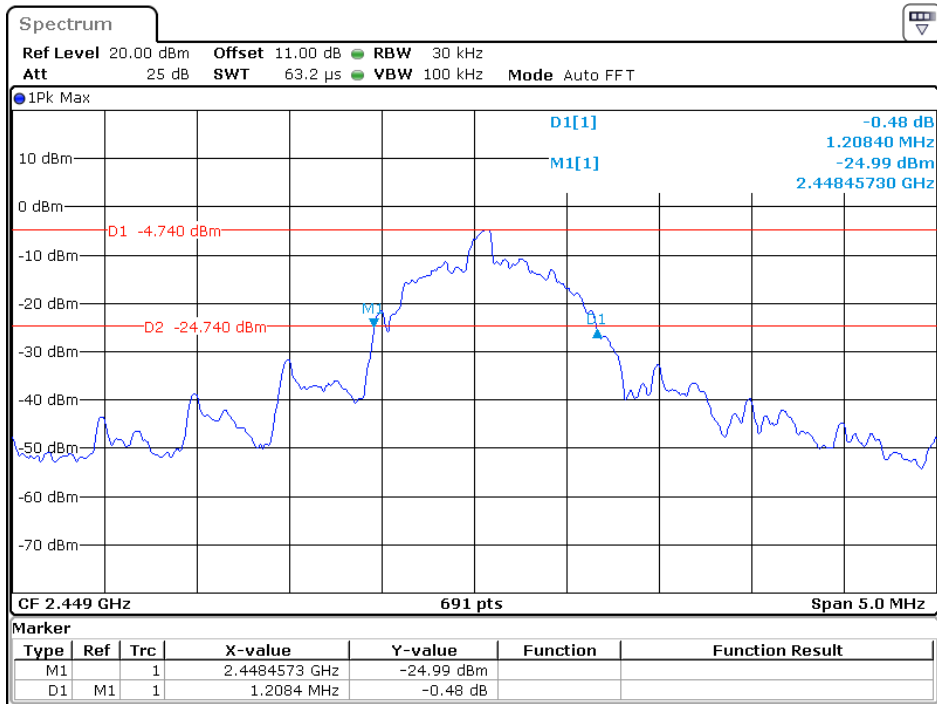
*The testing was performed by Cat Kang on 2022-05-30.*

*Test Mode: Transmitting*

*Please refer to the following table and plots.*

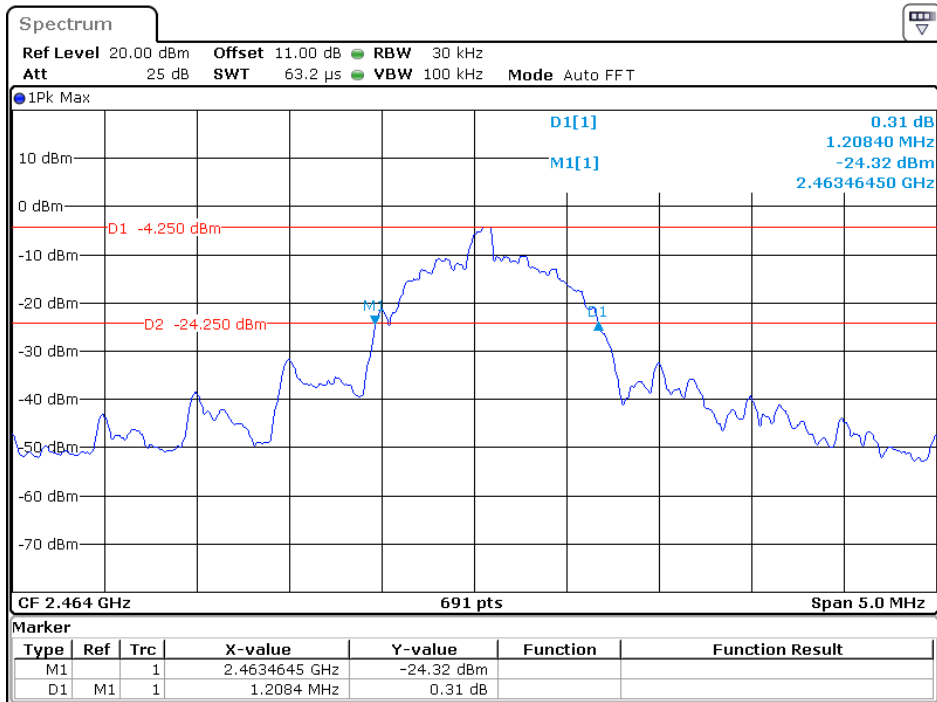
Channel	Frequency (MHz)	20dB Bandwidth (kHz)
Low	2449	1.208
Middle	2464	1.208
High	2480	1.194

### Low Channel



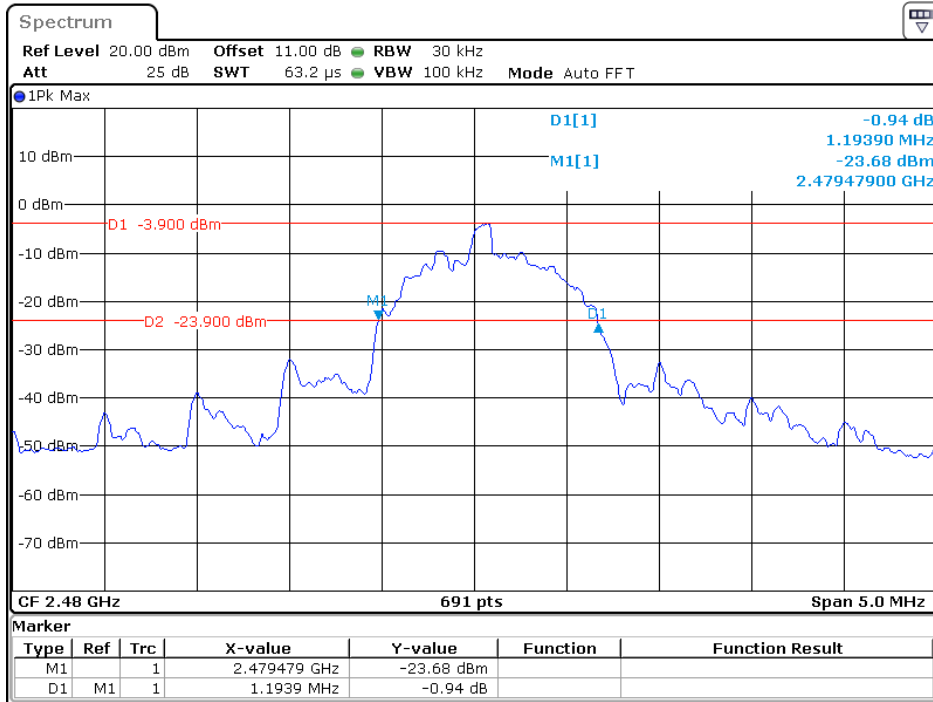
Date: 30.MAY.2022 10:44:14

### Middle Channel



Date: 30.MAY.2022 10:41:24

### High Channel



Date: 30.MAY.2022 10:42:43

\*\*\*\*\* END OF REPORT \*\*\*\*\*