

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* |
|--------------|-------|

* 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

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk "★". Customer model name, addresses, names, trademarks etc. are not considered data.

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GENERAL INFORMATION

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

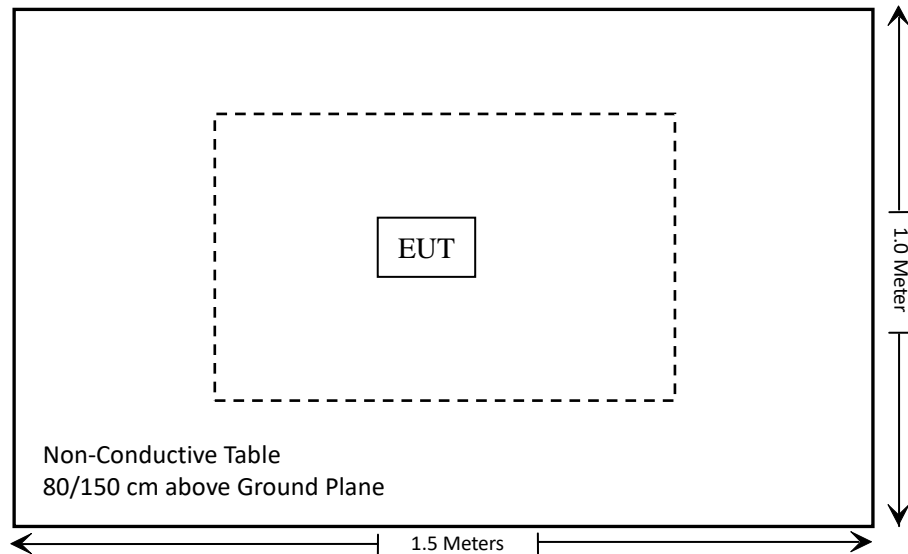
| Manufacturer | Description | Model | Serial Number |
|--------------|-------------|-------|---------------|
| / | / | / | / |

Support Cable Descriptions

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

Block Diagram of Test Setup

For Radiated Emmision



SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|-----------------------------|--|----------------|
| §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 |
|--|------------------------------|-------------------|-----------------|------------------|----------------------|
| Radiated Emission Test | | | | | |
| 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 |
| Radiated Emission Test Software: e3 19821b (V9) | | | | | |
| 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 |
| WEINSCHL | 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).

FCC§15.203 - ANTENNA REQUIREMENT

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.

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

| Fundamental frequency | Field strength of fundamental (millivolts/meter) | Field strength of harmonics (microvolts/meter) |
|------------------------------|---|---|
| 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:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

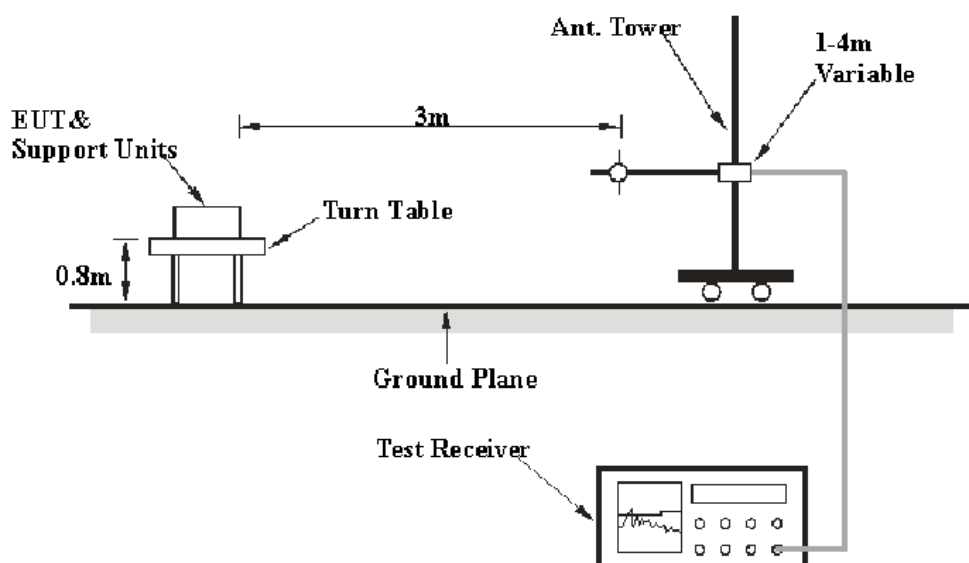
Above 1000MHz:

Peak: RBW = 1MHz / VBW = 1MHz / Sweep = Auto

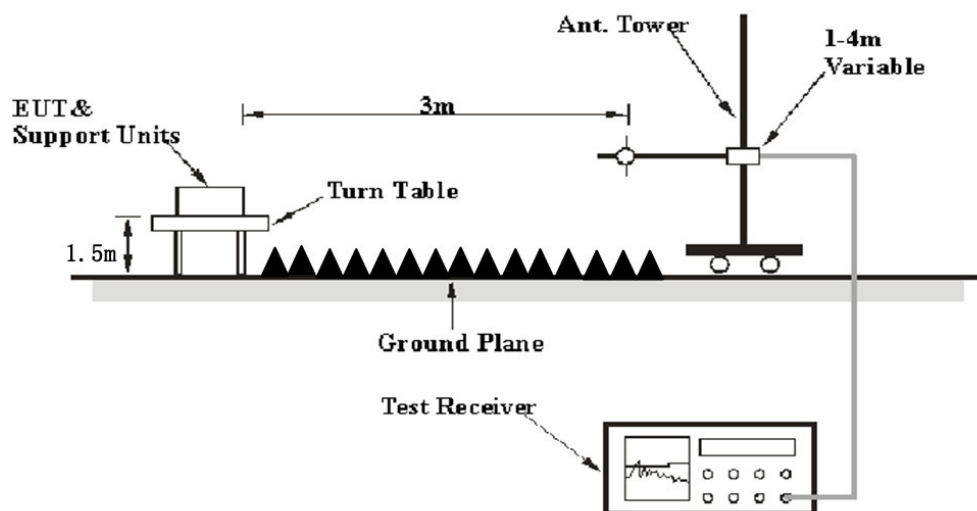
Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

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

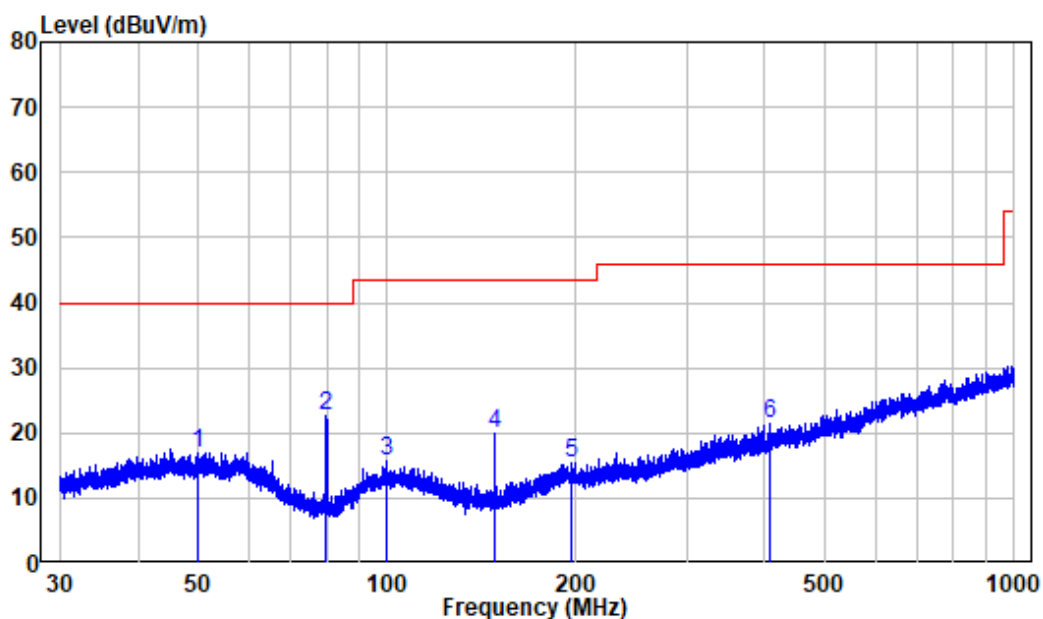
Test Data

Environmental Conditions

| | |
|--------------------|----------------|
| Temperature: | 24~25°C |
| Relative Humidity: | 63~65% |
| ATM Pressure: | 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

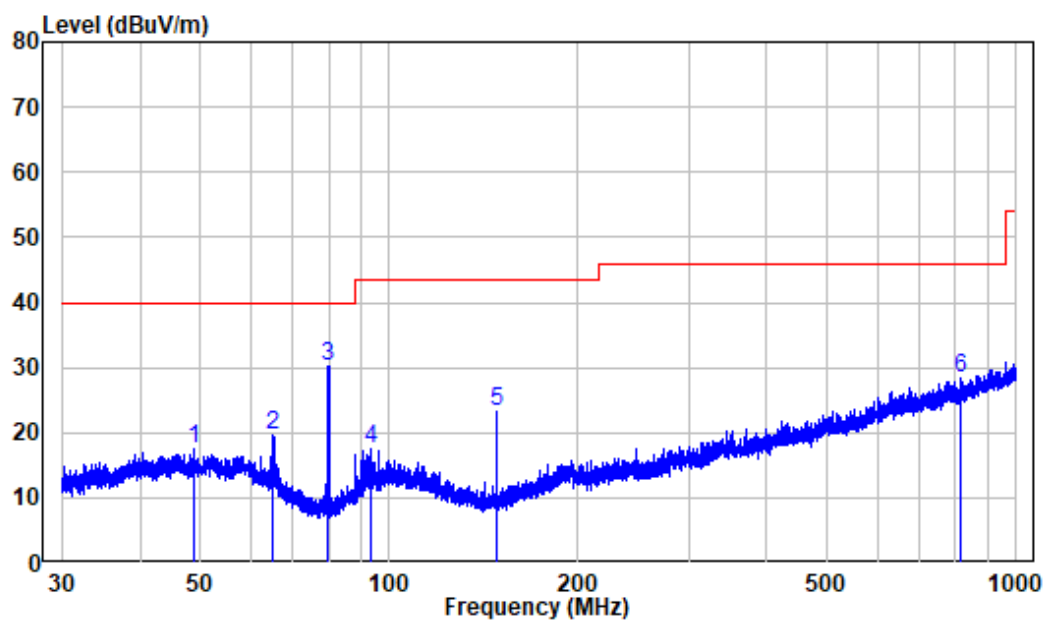
Condition: 3m HORIZONTAL

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 | Over | 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

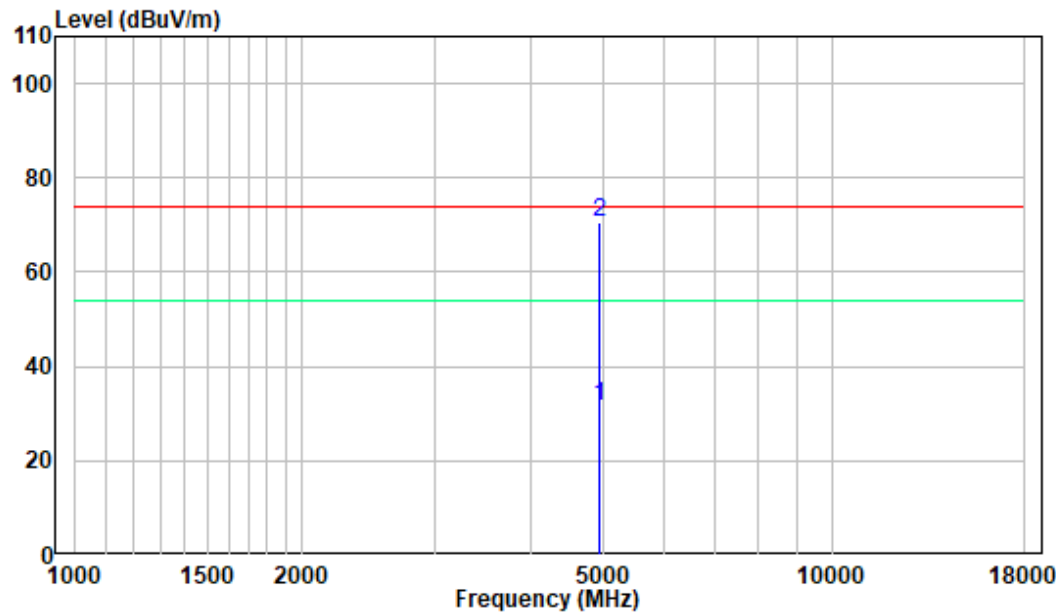
The other spurious emission which is in the noise floor level was not recorded.

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.

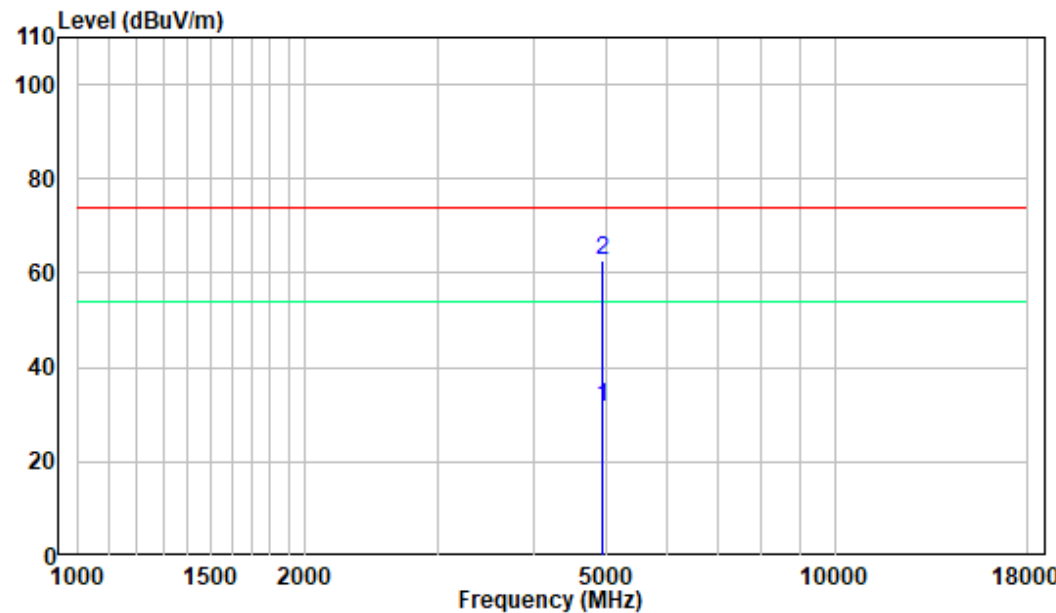
Pre-scan plots:

1-18GHz: Middle Channel

Horizontal

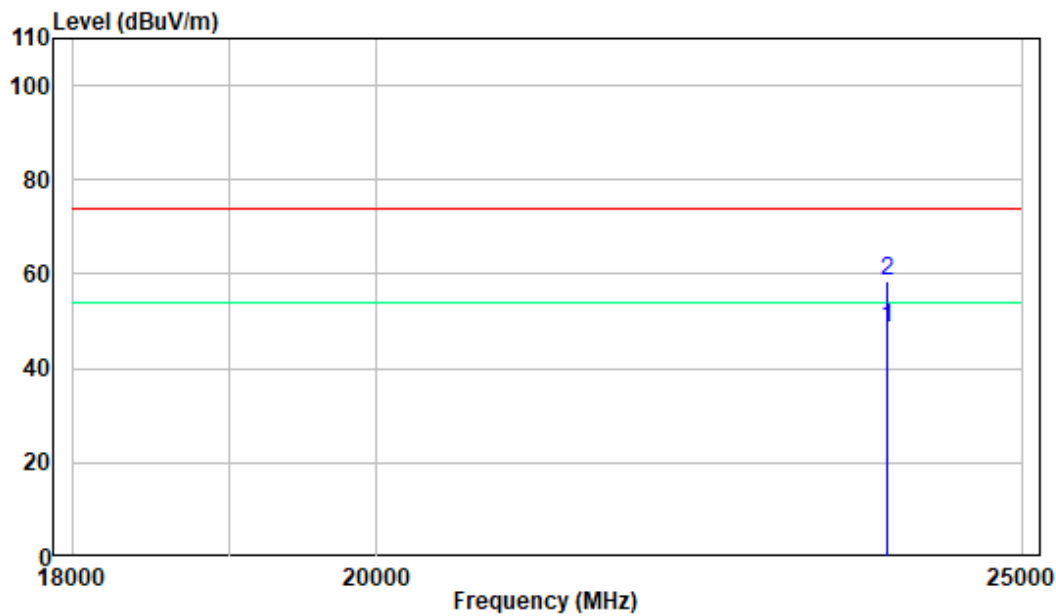


Vertical

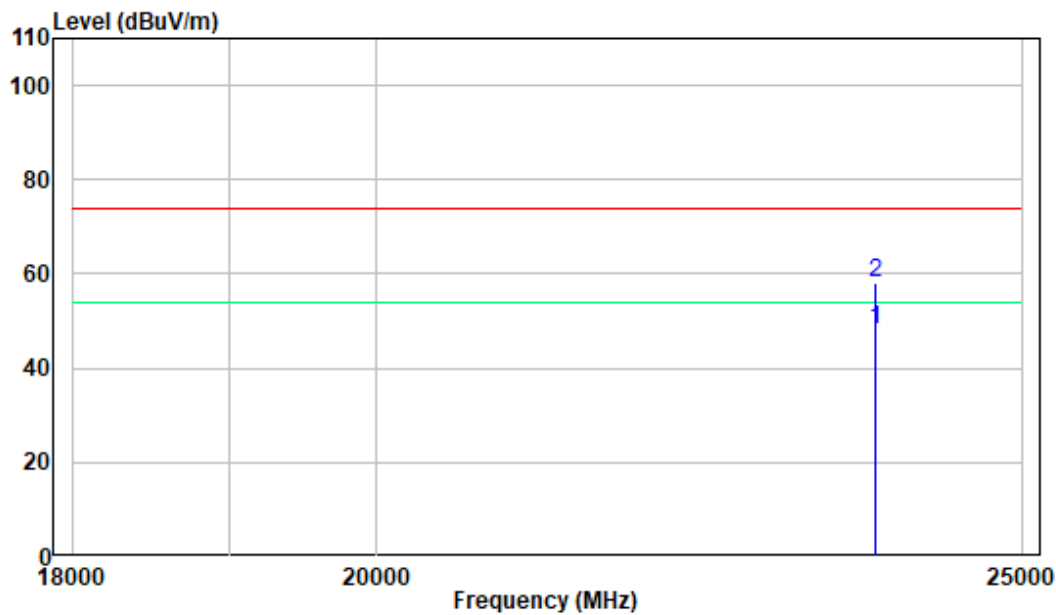


18-25GHz: Middle Channel

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**

| | |
|---------------------------|-----------|
| Temperature: | 25 °C |
| Relative Humidity: | 53 % |
| ATM Pressure: | 101.2 kPa |

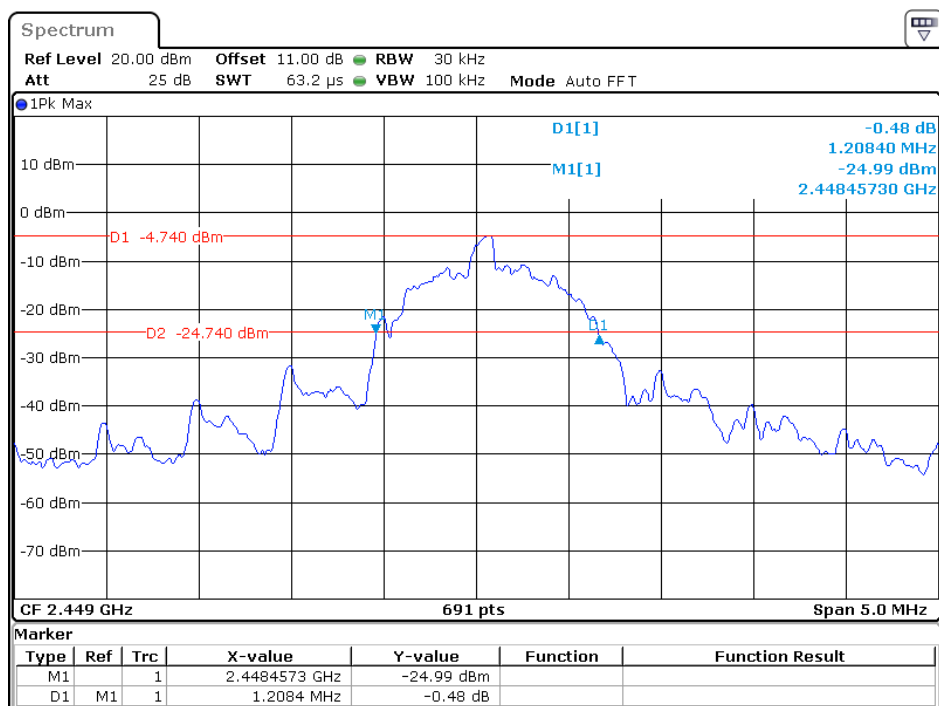
The testing was performed by Cat Kang on 2022-05-30.

Test Mode: Transmitting

Please refer to the following table and plots.

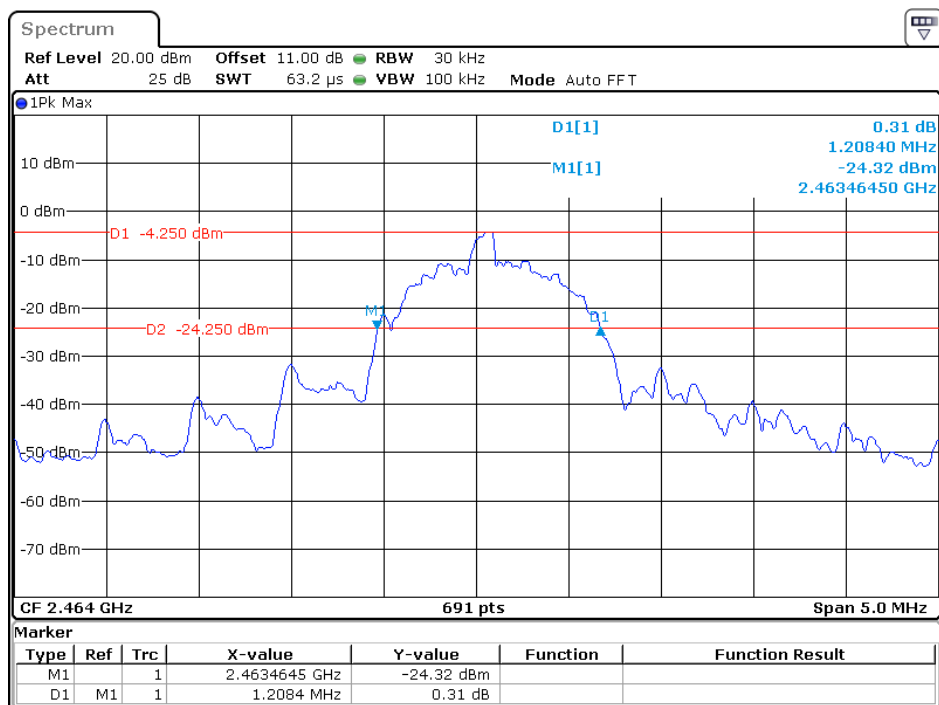
| Channel | Frequency (MHz) | 20dB Bandwidth (kHz) |
|----------------|------------------------|-----------------------------|
| Low | 2449 | 1.208 |
| Middle | 2464 | 1.208 |
| High | 2480 | 1.194 |

Low Channel



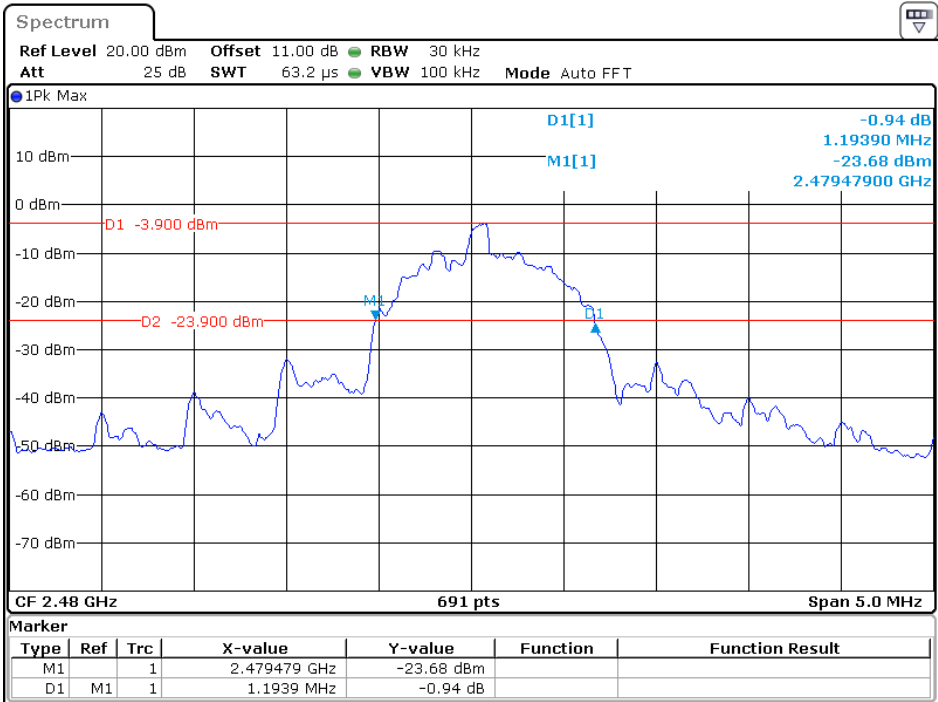
Date: 30.MAY.2022 10:44:14

Middle Channel



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

High Channel



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

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