

# FCC Test Report

Report No.: AGC15705240329FR01

**FCC ID** : 2BEOV-DRONE

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION** : R/C DRONE

**BRAND NAME** : N/A

**MODEL NAME** : Please see page 5

**APPLICANT** : Shantou Zhongli Intelligent Technology Co., LTD.

**DATE OF ISSUE** : Mar. 22, 2024

**STANDARD(S)** : FCC Part 15 Subpart C §15.249

**TEST PROCEDURE(S)**

**REPORT VERSION** : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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**Report Revise Record**

| Report Version | Revise Time | Issued Date   | Valid Version | Notes           |
|----------------|-------------|---------------|---------------|-----------------|
| V1.0           | /           | Mar. 22, 2024 | Valid         | Initial Release |

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**1. VERIFICATION OF CONFORMITY**

|                                     |                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>                    | Shantou Zhongli Intelligent Technology Co., LTD.                                                                                     |
| <b>Address</b>                      | Hezhou Industrial Zone, Chenghai District, Shantou City, Guangdong Province, China                                                   |
| <b>Manufacturer</b>                 | Shantou Zhongli Intelligent Technology Co., LTD.                                                                                     |
| <b>Address</b>                      | Hezhou Industrial Zone, Chenghai District, Shantou City, Guangdong Province, China                                                   |
| <b>Factory</b>                      | Shantou Zhongli Intelligent Technology Co., LTD.                                                                                     |
| <b>Address</b>                      | Hezhou Industrial Zone, Chenghai District, Shantou City, Guangdong Province, China                                                   |
| <b>Product Designation</b>          | R/C DRONE                                                                                                                            |
| <b>Brand Name</b>                   | N/A                                                                                                                                  |
| <b>Test Model</b>                   | SG105MAX                                                                                                                             |
| <b>Series Model</b>                 | Please see page 6                                                                                                                    |
| <b>Date of receipt of test item</b> | The circuit design and PCB design of the product are the same as the internal structure, Only different on product appearance color. |
| <b>Date of receipt of test item</b> | Mar. 19, 2024                                                                                                                        |
| <b>Date of Test</b>                 | Mar. 19, 2024 to Mar. 22, 2024                                                                                                       |
| <b>Deviation</b>                    | No any deviation from the test method                                                                                                |
| <b>Condition of Test Sample</b>     | Normal                                                                                                                               |
| <b>Test Result</b>                  | Pass                                                                                                                                 |
| <b>Report Template</b>              | AGCRT-US-SRD/RF                                                                                                                      |

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By

*Jack Gui*

Jack Gui  
(Project Engineer)

Mar. 22, 2024

Reviewed By

*Calvin Liu*

Calvin Liu  
(Reviewer)

Mar. 22, 2024

Approved By

*Max Zhang*

Max Zhang  
(Authorized Officer)

Mar. 22, 2024

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## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operation Frequency</b>    | 2405MHz-2475MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Maximum field strength</b> | 99.97dBμV/m(Peak)@3m<br>88.42dBμV/m(Average)@3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Modulation</b>             | GFSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Number of channels</b>     | 68 Channels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Antenna Gain</b>           | 2dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Antenna Designation</b>    | Dipole Antenna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Hardware Version</b>       | V1.0.0.231008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Software Version</b>       | V1.0.0.231008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Power Supply</b>           | DC 3.7V by battery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Series Model</b>           | SG100PRO, SG100PLUS, SG100MAX, SG200PRO, SG200MAX, SG300, SG300MAX, SG500MAX, SG500PRO, SG600PRO, SG600MAX, SG700-D, SG800PRO, SG800MAX, SG900PRO, SG900MAX, SG101PRO, SG101MAX, SG102, SG102PRO, SG102MAX, SG103, SG103PRO, SG103MAX, SG105, SG105PRO, SG107, SG107PRO, SG107MAX, SG108, SG108PRO, SG108MA, SG109, SG109PRO, SG109MAX, SG109MAX2, SG901PRO, SG901MAX, SG902, SG902PRO, SG902MAX, SG903, SG903PRO, SG903MAX, SG905, SG905PRO, SG905MAX, SG906MAX, SG906MAX1, SG906MAX2, SG906MAX3, SG906MINI, SG906MINI, SE, SG907PRO, SG907MAX, SG907MAX2, SG908PRO, SG908MAX, SG908MAX2, SG909, SG909PRO, SG909MAX, SG909MAX2, SG601, SG601PRO, SG601MAX, SG602, SG602PRO, SG602MAX, SG603, SG603PRO, SG603MAX, SG605, SG605PRO, SG605MAX, SG606PRO, SG606MAX, SG606MAX2, SG607PRO, SG607MAX, SG607MAX2, SG608PRO, SG608MAX, SG608MAX2, SG609PRO, SG609MAX, SG609MAX2, SG806PRO, SG806MAX, 8K, 8KPRO, 8KMAX, 8000W, 8000 MAX, 8000W MAX2, SG106, SG106PRO, SG106plus, SG106MAX |

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## 2.2. TABLE OF CARRIER FREQUENCY

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 1       | 2405            | 36      | 2441            |
| 2       | 2406            | 37      | 2442            |
| 3       | 2407            | 38      | 2443            |
| 4       | 2408            | 39      | 2445            |
| 5       | 2409            | 40      | 2446            |
| 6       | 2410            | 41      | 2447            |
| 7       | 2411            | 42      | 2448            |
| 8       | 2412            | 43      | 2449            |
| 9       | 2413            | 44      | 2450            |
| 10      | 2414            | 45      | 2451            |
| 11      | 2415            | 46      | 2452            |
| 12      | 2416            | 47      | 2453            |
| 13      | 2417            | 48      | 2454            |
| 14      | 2418            | 49      | 2455            |
| 15      | 2419            | 50      | 2456            |
| 16      | 2420            | 51      | 2457            |
| 17      | 2421            | 52      | 2458            |
| 18      | 2422            | 53      | 2459            |
| 19      | 2423            | 54      | 2460            |
| 20      | 2425            | 55      | 2461            |
| 21      | 2426            | 56      | 2462            |
| 22      | 2427            | 57      | 2463            |
| 23      | 2428            | 58      | 2465            |
| 24      | 2429            | 59      | 2466            |
| 25      | 2430            | 60      | 2467            |
| 26      | 2431            | 61      | 2468            |
| 27      | 2432            | 62      | 2469            |
| 28      | 2433            | 63      | 2470            |
| 29      | 2434            | 64      | 2471            |
| 30      | 2435            | 65      | 2472            |
| 31      | 2436            | 66      | 2473            |
| 32      | 2437            | 67      | 2474            |
| 33      | 2438            | 68      | 2475            |
| 34      | 2439            | 69      |                 |
| 35      | 2440            | 70      |                 |

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### 2.3. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

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### 3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission,  $U_c = \pm 2.9$  dB
- Uncertainty of Radiated Emission below 1GHz,  $U_c = \pm 3.9$  dB
- Uncertainty of Radiated Emission above 1GHz,  $U_c = \pm 4.9$  dB
- Uncertainty of Occupied Channel Bandwidth:  $U_c = \pm 2$  %

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#### 4. DESCRIPTION OF TEST MODES

| NO. | TEST MODE DESCRIPTION          |
|-----|--------------------------------|
| 1   | Low channel TX_2405MHz_GFSK    |
| 2   | Middle channel TX_2440MHz_GFSK |
| 3   | High channel TX_2475MHz_GFSK   |

Note:

1. All the test modes can be supply by battery, only the result of the worst case was recorded in the report, if no other cases.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
3. Set the EUT into the individual test modes by pressing the EUT buttons.
4. The battery is full-charged during the test.

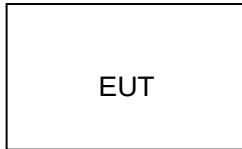
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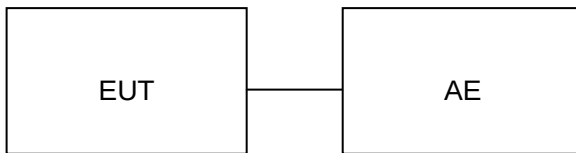
## 5. SYSTEM TEST CONFIGURATION

### 5.1. CONFIGURATION OF EUT SYSTEM

Radiated Emission Configure:



Conducted Emission Configure:



### 5.2 EQUIPMENT USED IN TESTED SYSTEM

| Item | Equipment | Model No.    | ID or Specification | Remark |
|------|-----------|--------------|---------------------|--------|
| 1    | Adapter   | HW-200440C00 | HUAWEI              | AE     |

### 5.3. SUMMARY OF TEST RESULTS

| FCC RULES      | DESCRIPTION OF TEST | RESULT    |
|----------------|---------------------|-----------|
| §15.249&15.209 | Radiated Emission   | Compliant |
| §15.249        | Band Edges          | Compliant |
| §15.215        | 20dB bandwidth      | Compliant |
| §15.207        | Conducted Emission  | Compliant |

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## 6. TEST FACILITY

|                                          |                                                                                                                                          |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>                         | Attestation of Global Compliance (Shenzhen) Co., Ltd                                                                                     |
| <b>Location</b>                          | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Designation Number</b>                | CN1259                                                                                                                                   |
| <b>FCC Test Firm Registration Number</b> | 975832                                                                                                                                   |
| <b>A2LA Cert. No.</b>                    | 5054.02                                                                                                                                  |
| <b>Description</b>                       | Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA                                                                |

### TEST EQUIPMENT OF CONDUCTED EMISSION TEST

| Equipment                | Manufacturer | Model      | S/N    | Cal. Date     | Cal. Due      |
|--------------------------|--------------|------------|--------|---------------|---------------|
| Test Receiver            | R&S          | ESPI       | 101206 | Jun. 03, 2023 | Jun. 02, 2024 |
| Artificial power network | R&S          | ESH2-Z5    | 100086 | Jun. 03, 2023 | Jun. 02, 2024 |
| Attenuator               | East sheep   | LM-XX-6-5W | N/A    | Jun. 09, 2023 | Jun. 08, 2024 |

### TEST EQUIPMENT OF RADIATED EMISSION TEST

| Equipment                      | Manufacturer   | Model    | S/N          | Cal. Date     | Cal. Due      |
|--------------------------------|----------------|----------|--------------|---------------|---------------|
| Test Receiver                  | R&S            | ESCI     | 10096        | Feb. 01, 2024 | Jan. 31, 2025 |
| Signal Analyzer                | Aglient        | N9020A   | MY52090123   | Jun. 01, 2023 | May 31, 2024  |
| EXA Signal Analyzer            | Agilent        | N9010A   | MY53470504   | Jun. 01, 2023 | May 31, 2024  |
| 2.4GHz Filter                  | EM Electronics | N/A      | N/A          | Jun. 01, 2023 | May 31, 2024  |
| Attenuator                     | ZHINAN         | E-002    | N/A          | Aug. 04, 2022 | Aug. 03, 2024 |
| Horn Antenna                   | SCHWARZBEC     | BBHA9170 | 768          | Sep. 24, 2023 | Sep. 23, 2025 |
| Active Loop Antenna (9K-30Mhz) | ZHINAN         | ZN30900C | 18051        | Mar. 05, 2024 | Mar. 04, 2025 |
| Double-Ridged Waveguide Horn   | ETS            | 3117     | 00034609     | Jun. 03, 2023 | Jun. 02, 2025 |
| Preamplifier                   | ETS            | 3117-PA  | 00246148     | Aug. 04, 2022 | Aug. 03, 2024 |
| Wideband Antenna               | SCHWARZBECK    | VULB9168 | VULB9168-494 | Jan. 05, 2024 | Jan. 04, 2025 |
| Test Software                  | Tonscend       | 4.0.0.0  | N/A          | N/A           | N/A           |

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## 7. RADIATED EMISSION

### 7.1. TEST LIMIT

#### Standard FCC15.249

| Fundamental Frequency | Field Strength of Fundamental<br>(millivolts/meter) | Field Strength of Harmonics<br>(microvolts/meter) |
|-----------------------|-----------------------------------------------------|---------------------------------------------------|
| 900-928MHz            | 50                                                  | 500                                               |
| 2400-2483.5MHz        | 50                                                  | 500                                               |
| 5725-5875MHz          | 50                                                  | 500                                               |
| 24.0-24.25GHz         | 250                                                 | 2500                                              |

#### Standard FCC 15.209

| Frequency<br>(MHz) | Distance<br>Meters | Field Strengths Limit                                          |                |
|--------------------|--------------------|----------------------------------------------------------------|----------------|
|                    |                    | $\mu$ V/m                                                      | dB( $\mu$ V)/m |
| 0.009 ~ 0.490      | 300                | 2400/F(kHz)                                                    | ---            |
| 0.490 ~ 1.705      | 30                 | 24000/F(kHz)                                                   | ---            |
| 1.705 ~ 30         | 30                 | 30                                                             | ---            |
| 30 ~ 88            | 3                  | 100                                                            | 40.0           |
| 88 ~ 216           | 3                  | 150                                                            | 43.5           |
| 216 ~ 960          | 3                  | 200                                                            | 46.0           |
| 960 ~ 1000         | 3                  | 500                                                            | 54.0           |
| Above 1000         | 3                  | Other:74.0 dB( $\mu$ V)/m (Peak) 54.0 dB( $\mu$ V)/m (Average) |                |

Remark:

- (1) Emission level dB  $\mu$  V = 20 log Emission level  $\mu$  V/m.
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

## 7.2. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use minimum resolution bandwidth of 1 MHz. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

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The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter    | Setting                                                                       |
|-----------------------|-------------------------------------------------------------------------------|
| Start ~Stop Frequency | 9KHz~150KHz/RB 200Hz for QP                                                   |
| Start ~Stop Frequency | 150KHz~30MHz/RB 9KHz for QP                                                   |
| Start ~Stop Frequency | 30MHz~1000MHz/RB 120KHz for QP                                                |
| Start ~Stop Frequency | 1GHz~26.5GHz<br>RBW 2.4MHz/ VBW 8MHz for Peak,<br>RBW 2.4MHz/3MHz for Average |

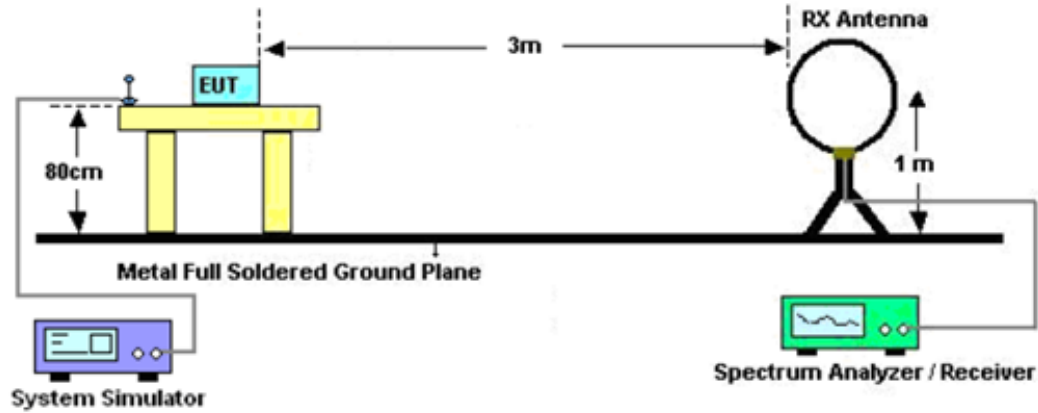
| Receiver Parameter    | Setting                        |
|-----------------------|--------------------------------|
| Start ~Stop Frequency | 9KHz~150KHz/RB 200Hz for QP    |
| Start ~Stop Frequency | 150KHz~30MHz/RB 9KHz for QP    |
| Start ~Stop Frequency | 30MHz~1000MHz/RB 120KHz for QP |

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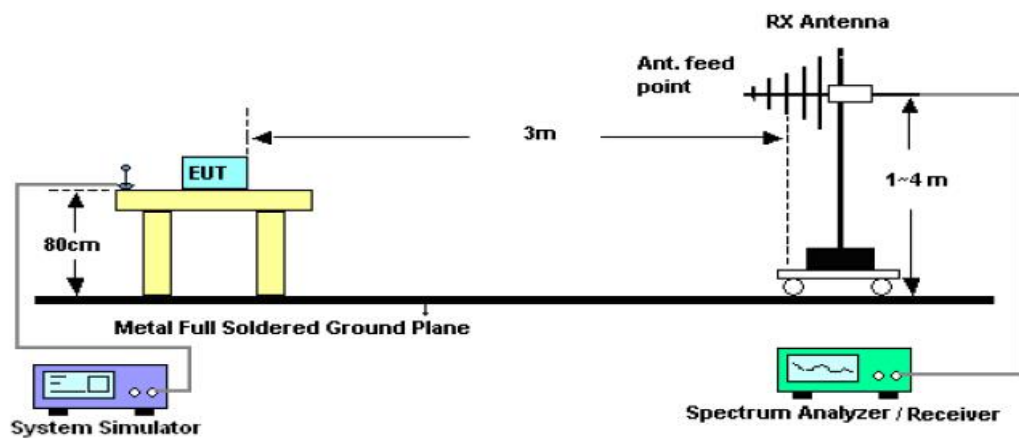
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Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>

### 7.3. TEST SETUP

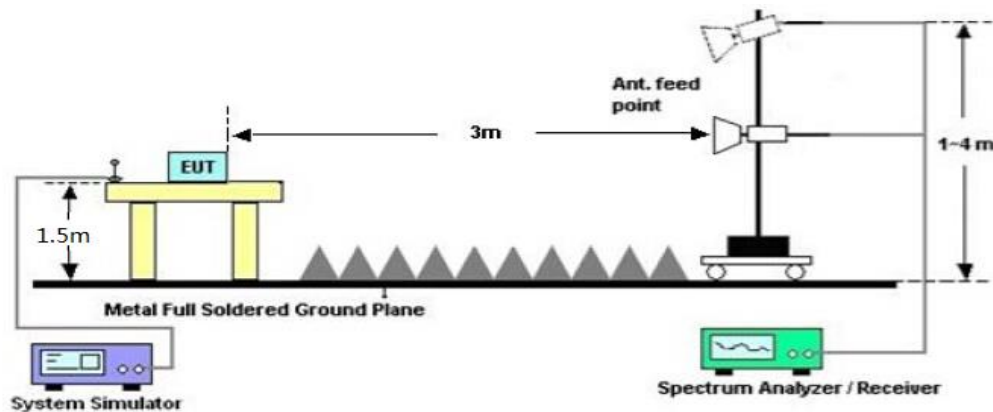
#### Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



#### RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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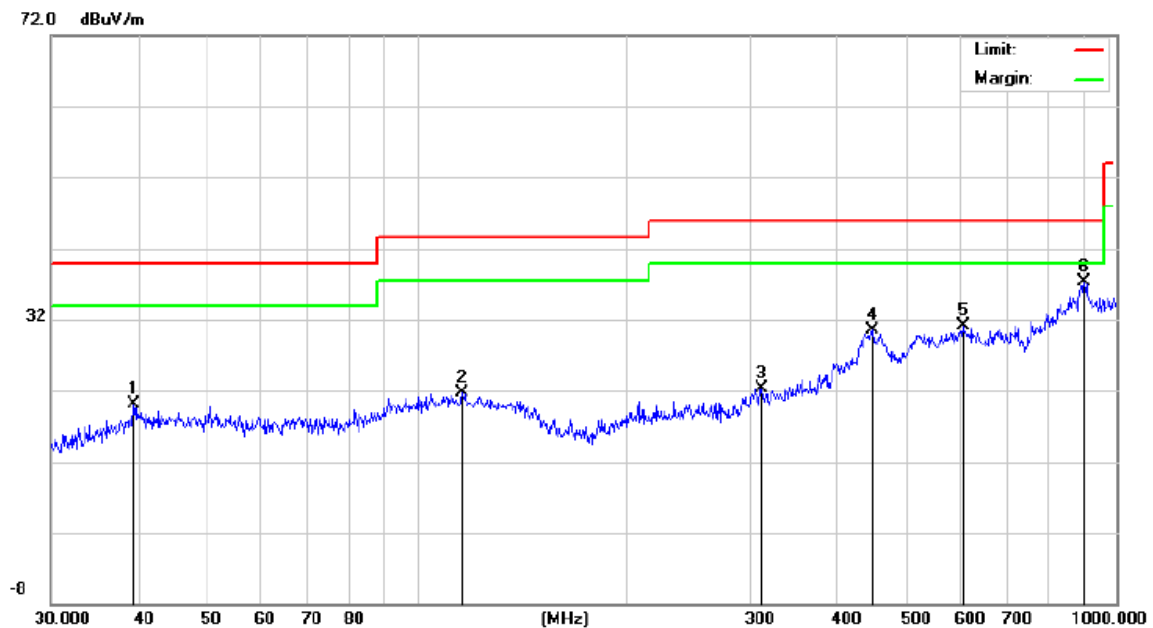
## 7.4. TEST RESULT

### RADIATED EMISSION BELOW 30MHZ

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

### RADIATED EMISSION 30MHZ- 1GHZ

|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 3    | Polarization      | Horizontal         |

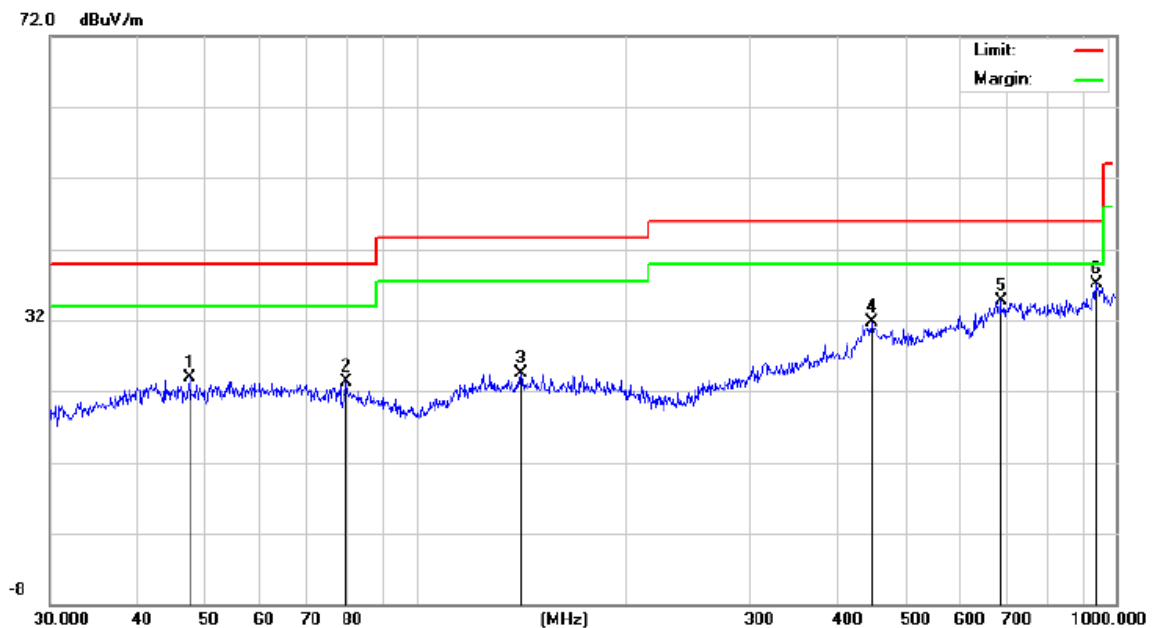


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1   |     | 39.4371      | 6.46                     | 13.66                   | 20.12                      | 40.00           | -19.88     | peak     |
| 2   |     | 116.1321     | 5.30                     | 16.36                   | 21.66                      | 43.50           | -21.84     | peak     |
| 3   |     | 311.0867     | 5.87                     | 16.50                   | 22.37                      | 46.00           | -23.63     | peak     |
| 4   |     | 447.9822     | 5.63                     | 24.82                   | 30.45                      | 46.00           | -15.55     | peak     |
| 5   |     | 603.5392     | 6.03                     | 25.12                   | 31.15                      | 46.00           | -14.85     | peak     |
| 6   | *   | 900.1474     | 5.52                     | 31.78                   | 37.30                      | 46.00           | -8.70      | peak     |

## RESULT: PASS

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|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 3    | Polarization      | Vertical           |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1   |     | 47.4918      | 6.87                     | 16.97                   | 23.84                      | 40.00           | -16.16     | peak     |
| 2   |     | 79.5209      | 6.45                     | 16.90                   | 23.35                      | 40.00           | -16.65     | peak     |
| 3   |     | 141.3298     | 6.29                     | 18.20                   | 24.49                      | 43.50           | -19.01     | peak     |
| 4   |     | 447.9822     | 5.96                     | 25.74                   | 31.70                      | 46.00           | -14.30     | peak     |
| 5   |     | 684.7454     | 6.82                     | 27.79                   | 34.61                      | 46.00           | -11.39     | peak     |
| 6   | *   | 938.8326     | 6.27                     | 30.84                   | 37.11                      | 46.00           | -8.89      | peak     |

## RESULT: PASS

**Note:** Factor=Antenna Factor + Cable loss, Over=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

All test modes had been tested. The mode 1 is the worst case and recorded in the report.

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### FIELD STRENGTH OF FUNDAMENTAL

|                        |           |                          |                    |
|------------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>             | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b>     | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>        | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Modulation</b> | GFSK      | <b>Polarization</b>      | Horizontal         |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 2405                                                  | 49.88         | 49.05  | 98.93          | 114.00   | -15.07 | peak       |
| 2405                                                  | 37.68         | 49.05  | 86.73          | 94.00    | -7.27  | AVG        |
| 2440                                                  | 45.99         | 49.12  | 95.11          | 114.00   | -18.89 | peak       |
| 2440                                                  | 34.82         | 49.12  | 83.94          | 94.00    | -10.06 | AVG        |
| 2475                                                  | 50.72         | 49.25  | 99.97          | 114.00   | -14.03 | peak       |
| 2475                                                  | 38.82         | 49.25  | 88.07          | 94.00    | -5.94  | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|                        |           |                          |                    |
|------------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>             | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b>     | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>        | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Modulation</b> | GFSK      | <b>Polarization</b>      | Vertical           |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 2405                                                  | 44.37         | 49.05  | 99.97          | 114.00   | -14.03 | peak       |
| 2405                                                  | 29.51         | 49.05  | 88.42          | 94.00    | -5.58  | AVG        |
| 2440                                                  | 45.31         | 49.12  | 96.63          | 114.00   | -17.37 | peak       |
| 2440                                                  | 30.11         | 49.12  | 83.54          | 94.00    | -10.46 | AVG        |
| 2475                                                  | 40.78         | 49.25  | 98.58          | 114.00   | -15.43 | peak       |
| 2475                                                  | 30.48         | 49.25  | 81.76          | 94.00    | -12.24 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

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### RADIATED EMISSION ABOVE 1GHZ

|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 1    | <b>Polarization</b>      | Horizontal         |

| Frequency<br>(MHz)                                    | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Value Type |
|-------------------------------------------------------|-------------------------|----------------|----------------------------|--------------------|----------------|------------|
| 4810                                                  | 50.43                   | 3.76           | 54.19                      | 74.00              | -19.81         | peak       |
| 4810                                                  | 38.28                   | 3.76           | 42.04                      | 54.00              | -11.96         | AVG        |
| 7215                                                  | 47.32                   | 8.17           | 55.49                      | 74.00              | -18.51         | peak       |
| 7215                                                  | 37.12                   | 8.17           | 45.29                      | 54.00              | -8.71          | AVG        |
| Remark:                                               |                         |                |                            |                    |                |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |                         |                |                            |                    |                |            |

|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 1    | <b>Polarization</b>      | Vertical           |

| Frequency<br>(MHz)                                    | Meter Reading<br>(dBμV) | Factor<br>(dB) | Emission Level<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) | Value Type |
|-------------------------------------------------------|-------------------------|----------------|----------------------------|--------------------|----------------|------------|
| 4810                                                  | 48.63                   | 3.76           | 52.39                      | 74.00              | -21.61         | peak       |
| 4810                                                  | 37.72                   | 3.76           | 41.48                      | 54.00              | -12.52         | AVG        |
| 7215                                                  | 46.26                   | 8.17           | 54.43                      | 74.00              | -19.57         | peak       |
| 7215                                                  | 35.47                   | 8.17           | 43.64                      | 54.00              | -10.36         | AVG        |
| Remark:                                               |                         |                |                            |                    |                |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |                         |                |                            |                    |                |            |

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|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 2    | <b>Polarization</b>      | Horizontal         |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4880                                                  | 49.31         | 3.78   | 53.09          | 74.00    | -20.91 | peak       |
| 4880                                                  | 37.75         | 3.78   | 41.53          | 54.00    | -12.47 | AVG        |
| 7320                                                  | 46.67         | 8.23   | 54.90          | 74.00    | -19.10 | peak       |
| 7320                                                  | 35.56         | 8.23   | 43.79          | 54.00    | -10.21 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 2    | <b>Polarization</b>      | Vertical           |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4880                                                  | 47.19         | 3.78   | 50.97          | 74.00    | -23.03 | peak       |
| 4880                                                  | 36.83         | 3.78   | 40.61          | 54.00    | -13.39 | AVG        |
| 7320                                                  | 45.26         | 8.23   | 53.49          | 74.00    | -20.51 | peak       |
| 7320                                                  | 35.24         | 8.23   | 43.47          | 54.00    | -10.53 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

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|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 3    | <b>Polarization</b>      | Horizontal         |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4950                                                  | 49.95         | 3.81   | 53.76          | 74.00    | -20.24 | peak       |
| 4950                                                  | 39.62         | 3.81   | 43.43          | 54.00    | -10.57 | AVG        |
| 7425                                                  | 47.87         | 8.27   | 56.14          | 74.00    | -17.86 | peak       |
| 7425                                                  | 37.51         | 8.27   | 45.78          | 54.00    | -8.22  | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

|                    |           |                          |                    |
|--------------------|-----------|--------------------------|--------------------|
| <b>EUT</b>         | R/C DRONE | <b>Model Name</b>        | SG105MAX           |
| <b>Temperature</b> | 21.7° C   | <b>Relative Humidity</b> | 59.9 %             |
| <b>Pressure</b>    | 985kPa    | <b>Test Voltage</b>      | DC 3.7V by battery |
| <b>Test Mode</b>   | Mode 3    | <b>Polarization</b>      | Vertical           |

| Frequency                                             | Meter Reading | Factor | Emission Level | Limits   | Margin | Value Type |
|-------------------------------------------------------|---------------|--------|----------------|----------|--------|------------|
| (MHz)                                                 | (dBμV)        | (dB)   | (dBμV/m)       | (dBμV/m) | (dB)   |            |
| 4950                                                  | 46.52         | 3.81   | 50.33          | 74.00    | -23.67 | peak       |
| 4950                                                  | 37.65         | 3.81   | 41.46          | 54.00    | -12.54 | AVG        |
| 7425                                                  | 44.77         | 8.27   | 53.04          | 74.00    | -20.96 | peak       |
| 7425                                                  | 35.53         | 8.27   | 43.80          | 54.00    | -10.20 | AVG        |
| Remark:                                               |               |        |                |          |        |            |
| Factor = Antenna Factor + Cable Loss – Pre-amplifier. |               |        |                |          |        |            |

## RESULT: PASS

**Note:** The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Emission Level-Limit.

The “Factor” value can be calculated automatically by software of measurement system.

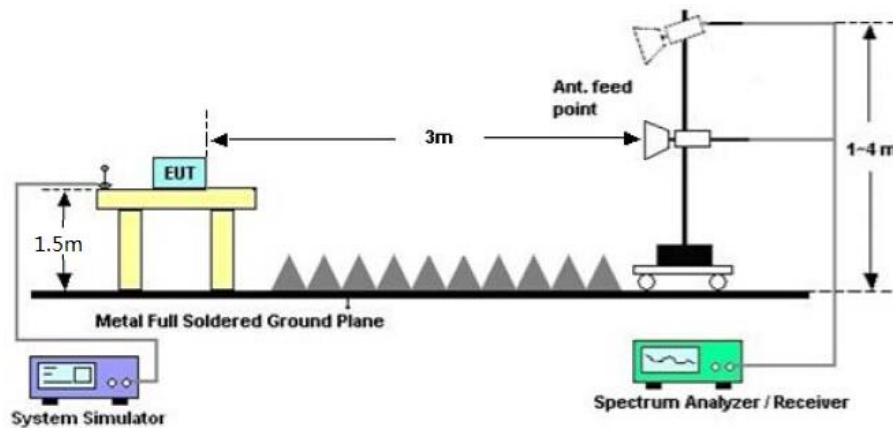
## 8. BAND EDGE EMISSION

### 8.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO  
(b) AVERAGE: RBW=1MHz; VBW=3MHz / Sweep=AUTO
3. Other procedures refer to clause 7.2.

### 8.2. TEST SETUP

RADIATED EMISSION TEST SETUP



### 8.3 RADIATED TEST RESULT

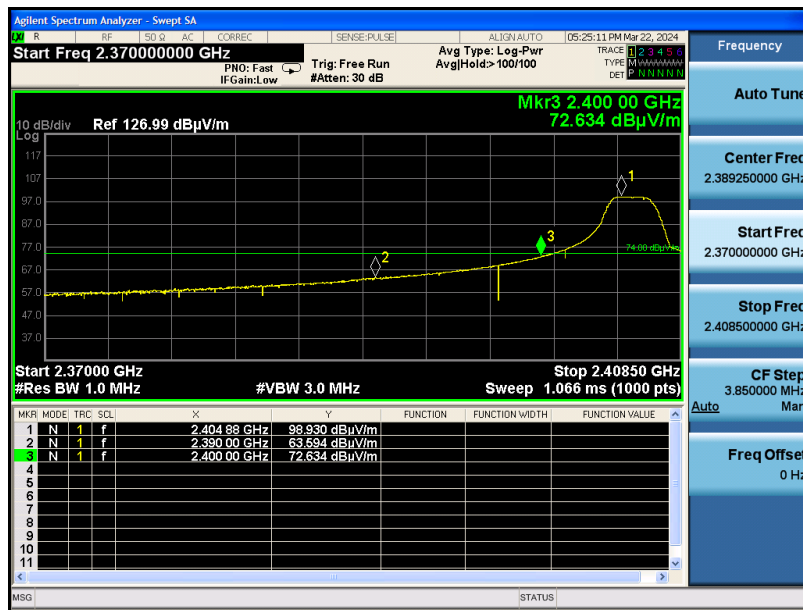
#### Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB( $\mu$ V) to represent the Amplitude. Use the F dB( $\mu$ V/m) to represent the Field Strength. So A=F.

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|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 1    | Polarization      | Horizontal         |

#### Peak Value



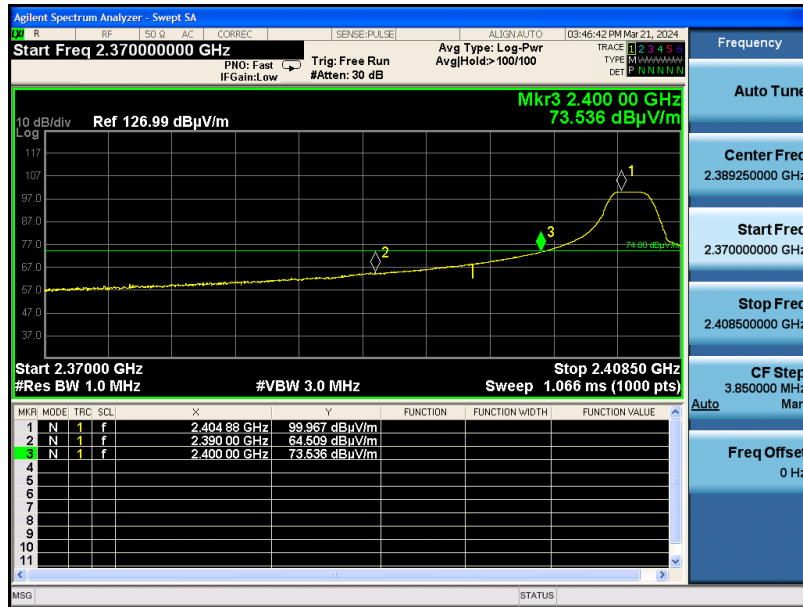
#### Average Value



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|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 1    | Polarization      | Vertical           |

### Peak Value



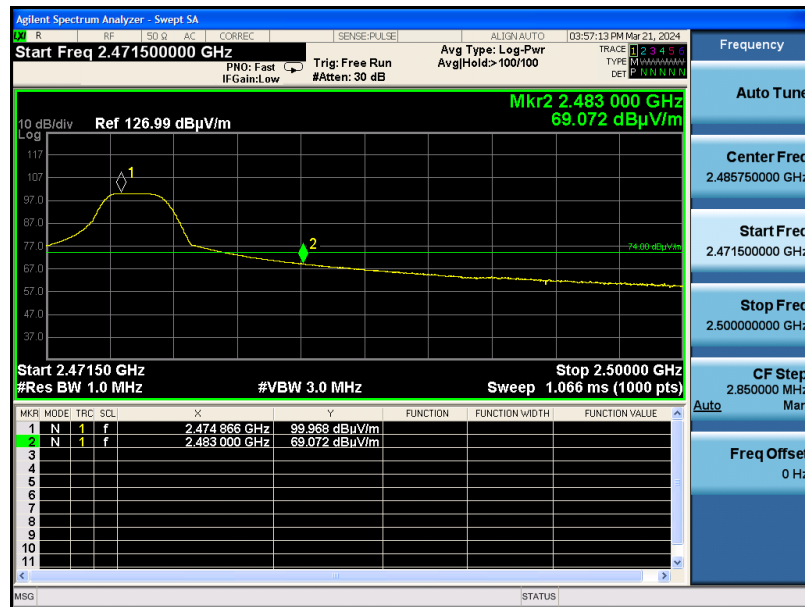
### Average Value



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|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 3    | Polarization      | Horizontal         |

#### Peak Value



#### Average Value



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|             |           |                   |                    |
|-------------|-----------|-------------------|--------------------|
| EUT         | R/C DRONE | Model Name        | SG105MAX           |
| Temperature | 21.7° C   | Relative Humidity | 59.9 %             |
| Pressure    | 985kPa    | Test Voltage      | DC 3.7V by battery |
| Test Mode   | Mode 3    | Polarization      | Vertical           |

#### Peak Value



#### Average Value



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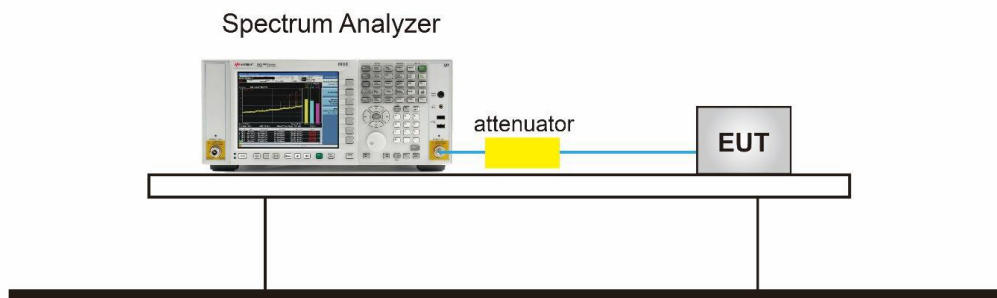
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## 9. 20DB BANDWIDTH

### 9.1. MEASUREMENT PROCEDURE

1. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
2. Set SPA Centre Frequency = Operation Frequency, RBW= 30kHz, VBW $\geq 1 \times$  RBW.
3. Set SPA Trace 1 Max hold, then View.

### 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



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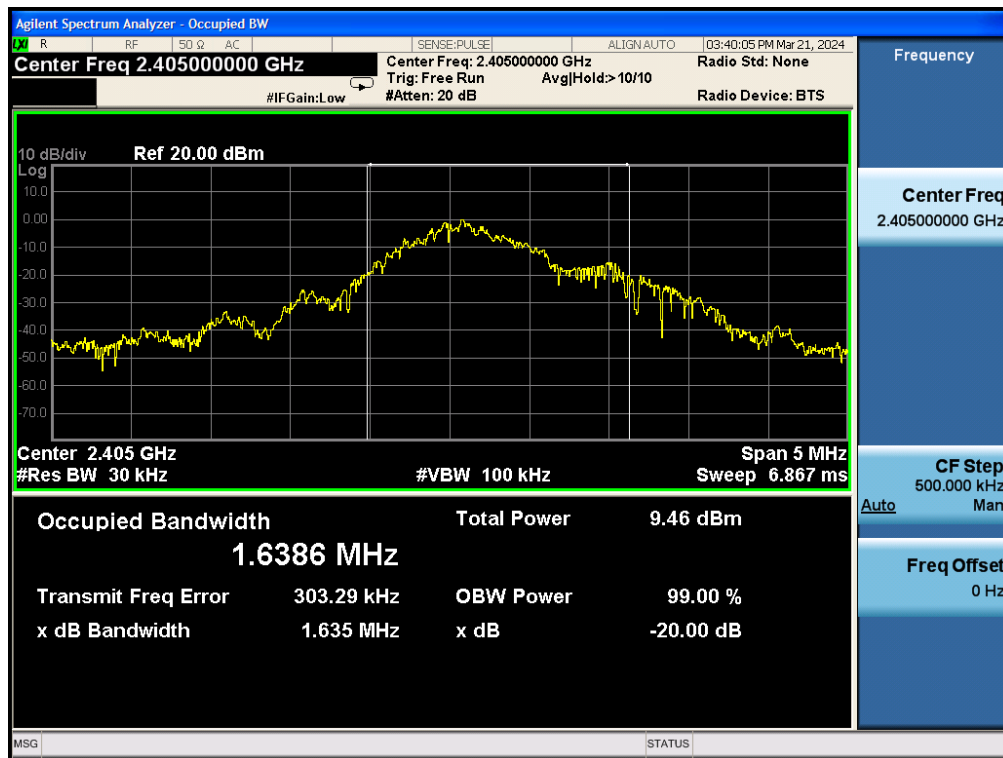
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### 9.3. MEASUREMENT RESULTS

|                 |                |
|-----------------|----------------|
| TEST ITEM       | 20DB BANDWIDTH |
| TEST MODULATION | GFSK           |

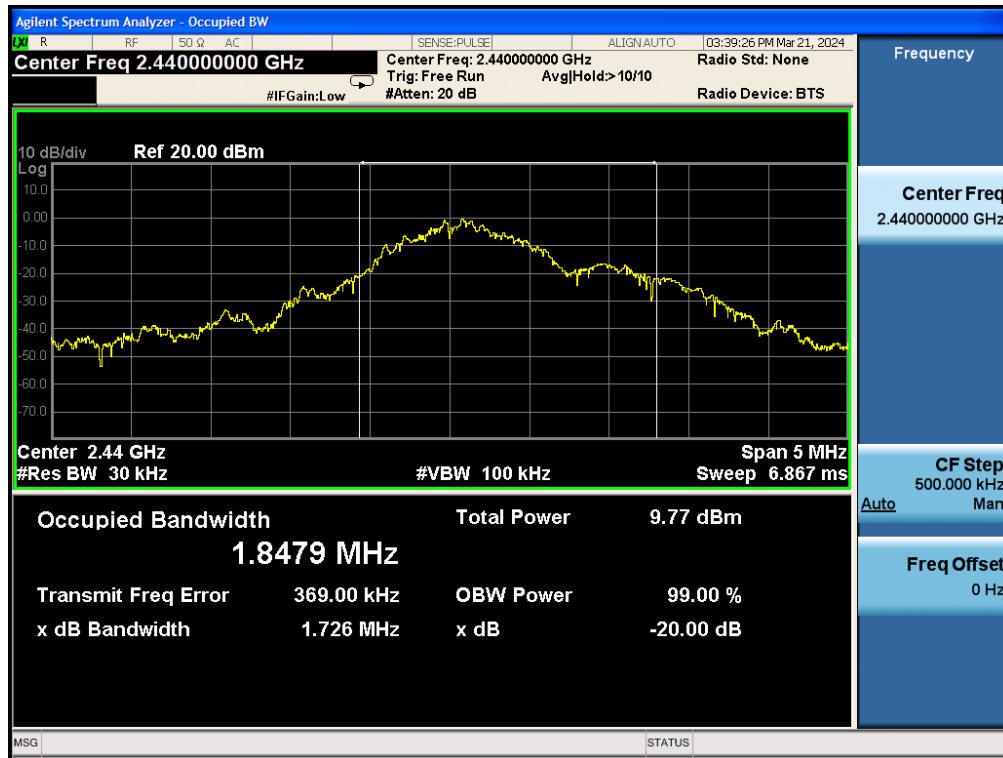
| Test Channel (MHz) | 20DB BANDWIDTH (MHz) | 99% BANDWIDTH (MHz) | Criteria |
|--------------------|----------------------|---------------------|----------|
| 2405               | 1.635                | 1.6386              | PASS     |
| 2440               | 1.726                | 1.8479              | PASS     |
| 2475               | 1.947                | 1.9108              | PASS     |

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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## 10. FCC LINE CONDUCTED EMISSION TEST

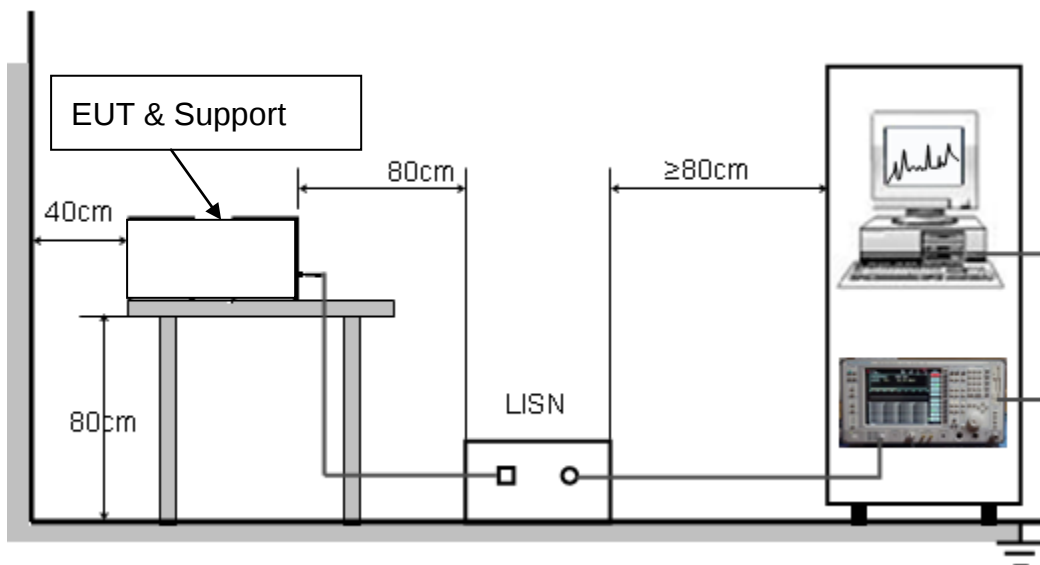
### 10.1. LIMITS OF LINE CONDUCTED EMISSION TEST

| Frequency     | Maximum RF Line Voltage |               |
|---------------|-------------------------|---------------|
|               | Q.P.(dBuV)              | Average(dBuV) |
| 150kHz~500kHz | 66-56                   | 56-46         |
| 500kHz~5MHz   | 56                      | 46            |
| 5MHz~30MHz    | 60                      | 50            |

Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 10.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



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### 10.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

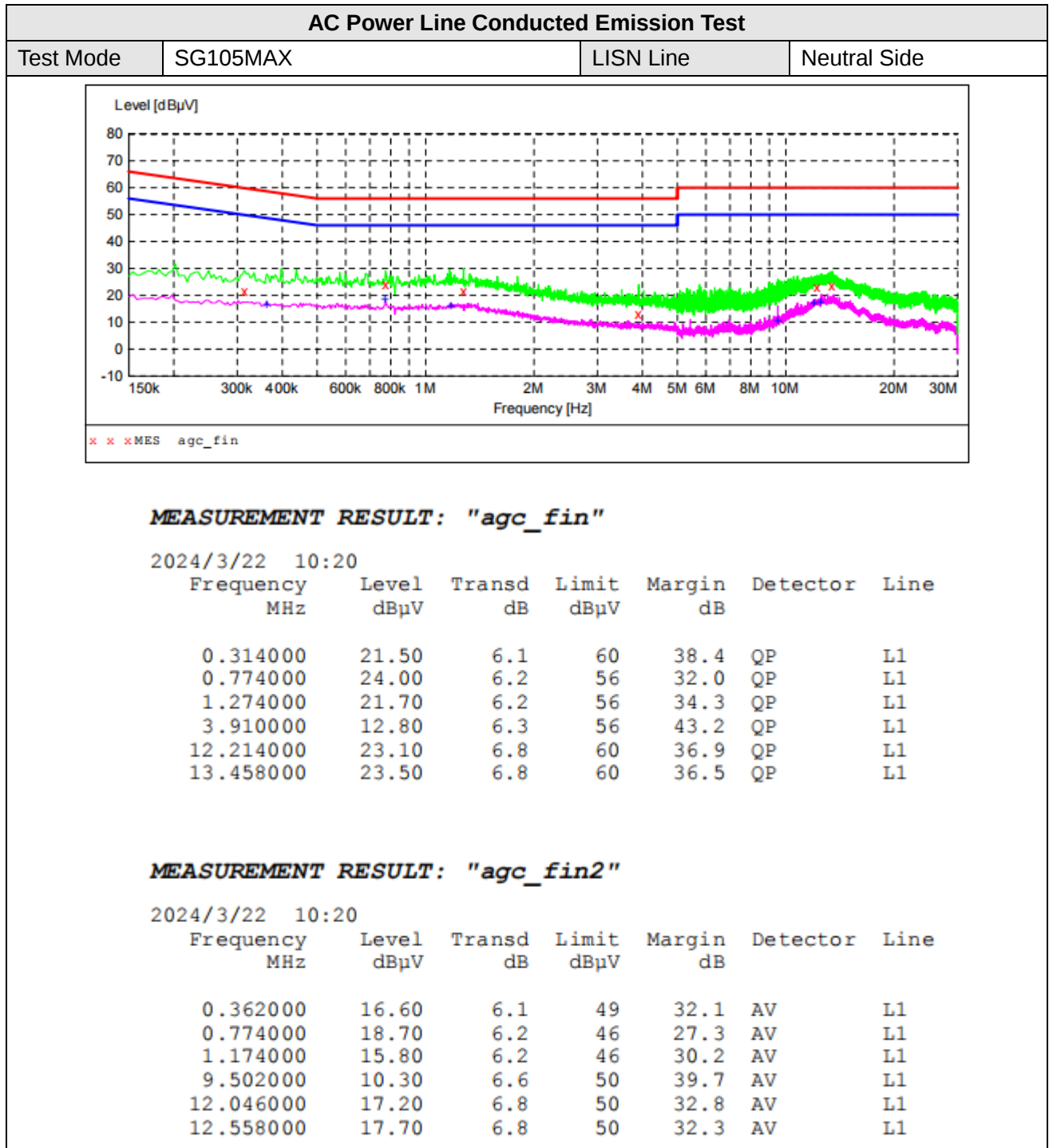
1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. All support equipment received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC 4.5V power from battery.
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

### 10.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

## 10.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST



RESULT: Pass

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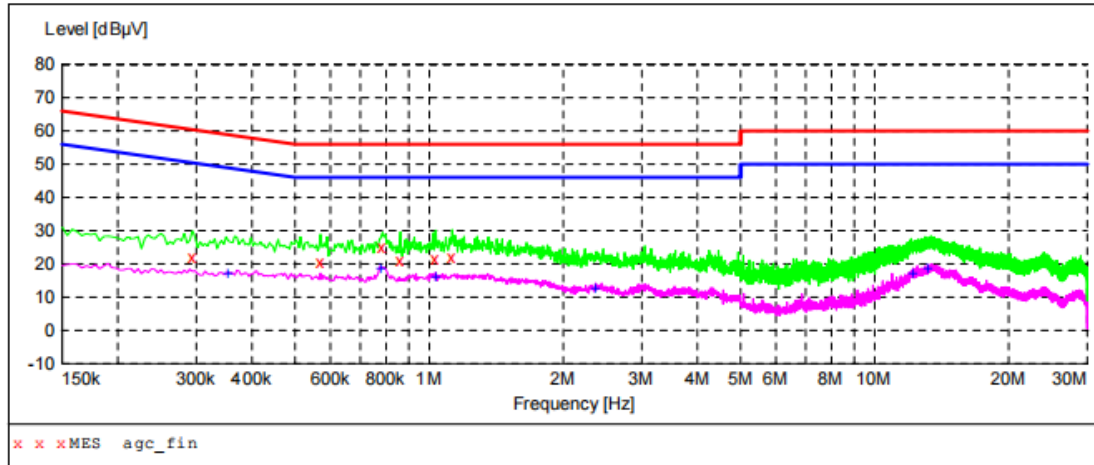
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### AC Power Line Conducted Emission Test

|           |          |           |          |
|-----------|----------|-----------|----------|
| Test Mode | SG105MAX | LISN Line | Hot Side |
|-----------|----------|-----------|----------|



#### MEASUREMENT RESULT: "agc\_fin"

2024/3/22 10:17

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line |
|------------------|---------------|--------------|---------------|--------------|----------|------|
| 0.294000         | 22.20         | 6.1          | 60            | 38.2         | QP       | N    |
| 0.570000         | 20.30         | 6.2          | 56            | 35.7         | QP       | N    |
| 0.786000         | 25.30         | 6.2          | 56            | 30.7         | QP       | N    |
| 0.862000         | 21.00         | 6.2          | 56            | 35.0         | QP       | N    |
| 1.034000         | 21.70         | 6.2          | 56            | 34.3         | QP       | N    |
| 1.126000         | 21.90         | 6.2          | 56            | 34.1         | QP       | N    |

#### MEASUREMENT RESULT: "agc\_fin2"

2024/3/22 10:17

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line |
|------------------|---------------|--------------|---------------|--------------|----------|------|
| 0.354000         | 17.00         | 6.1          | 49            | 31.9         | AV       | N    |
| 0.782000         | 18.60         | 6.2          | 46            | 27.4         | AV       | N    |
| 1.034000         | 16.00         | 6.2          | 46            | 30.0         | AV       | N    |
| 2.366000         | 12.40         | 6.3          | 46            | 33.6         | AV       | N    |
| 12.210000        | 17.00         | 6.8          | 50            | 33.0         | AV       | N    |
| 13.230000        | 18.30         | 6.8          | 50            | 31.7         | AV       | N    |

**RESULT: PASS**

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## **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

Refer to the Report No.: AGC15705240329AP02

## **APPENDIX B: PHOTOGRAPHS OF THE EUT**

Refer to the Report No.: AGC15705240329AP03

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

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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
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6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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