

# TEST REPORT

Report No..... : KS2502S0602E03  
FCC ID..... : 2BNXM-M43-YZZM  
Applicant..... : Suzhou KuYue Network Technology Co., Ltd.  
Address..... : Room 302, information Building, No. 66 Huanfu Road, Suzhou industrial Park  
Manufacturer..... : Suzhou KuYue Network Technology Co., Ltd.  
Address..... : Room 302, information Building, No. 66 Huanfu Road, Suzhou industrial Park  
Product Name..... : Motion-Sensing Interactive Smart Screen  
Trademark..... : Cosmic Gate  
Model/Type reference..... : M43-YZZM  
Standard..... : 47 CFR Part 15.247  
Date of Receipt..... : February 21, 2025  
Date of Test Date..... : February 21, 2025 to April 18, 2025  
Date of issue..... : April 18, 2025  
**Test result..... : Pass**

Conclusion..... : The submitted sample was found to COMPLY with the standards above.

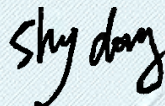
Prepared by:

Name: Chad Lin  
Title: Project Engineer



Approved by:

Name: Sky Dong  
Title: EMC Supervisor



**Testing Laboratory Name...: KSIGN(Guangdong) Testing Co., Ltd.**

Address..... :

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

**TABLE OF CONTENTS****Page**

|                                                         |           |
|---------------------------------------------------------|-----------|
| <b>1. TEST SUMMARY .....</b>                            | <b>3</b>  |
| 1.1. Test Standards .....                               | 3         |
| 1.2. Report Version .....                               | 3         |
| 1.3. Test Description .....                             | 4         |
| 1.4. Test Facility .....                                | 5         |
| 1.5. Measurement Uncertainty .....                      | 5         |
| <b>2. GENERAL INFORMATION .....</b>                     | <b>6</b>  |
| 2.1. General Description Of EUT .....                   | 6         |
| 2.2. Accessory Equipment Information .....              | 6         |
| 2.3. Description of Test Modes .....                    | 6         |
| 2.4. Operation channel list .....                       | 7         |
| 2.5. Measurement Instruments List .....                 | 8         |
| <b>3. Evaluation Results (Evaluation) .....</b>         | <b>10</b> |
| 3.1. Antenna requirement .....                          | 10        |
| <b>4. Radio Spectrum Matter Test Results (RF) .....</b> | <b>10</b> |
| 4.1. Conducted Emission at AC power line .....          | 10        |
| 4.2. 20dB Bandwidth .....                               | 14        |
| 4.3. Maximum Conducted Output Power .....               | 16        |
| 4.4. Channel Separation .....                           | 18        |
| 4.5. Number of Hopping Frequencies .....                | 20        |
| 4.6. Dwell Time .....                                   | 22        |
| 4.7. Emissions in non-restricted frequency bands .....  | 24        |
| 4.8. Band edge emissions (Radiated) .....               | 26        |
| 4.9. Emissions in frequency bands (below 1GHz) .....    | 35        |
| 4.10. Emissions in frequency bands (above 1GHz) .....   | 38        |
| <b>5. EUT TEST PHOTOS .....</b>                         | <b>45</b> |
| <b>6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL .....</b>       | <b>47</b> |
| <b>Appendix .....</b>                                   | <b>48</b> |
| 6.1. Appendix A: 20dB Emission Bandwidth .....          | 49        |
| 6.2. Appendix B: Occupied Channel Bandwidth .....       | 54        |
| 6.3. Appendix C: Maximum conducted output power .....   | 59        |
| 6.4. Appendix D: Carrier frequency separation .....     | 64        |
| 6.5. Appendix E: Time of occupancy .....                | 67        |
| 6.6. Appendix F: Number of hopping channels .....       | 71        |
| 6.7. Appendix G: Band edge measurements .....           | 74        |
| 6.8. Appendix H: Conducted Spurious Emission .....      | 80        |
| 6.9. Appendix I: Duty Cycle .....                       | 88        |

## 1. TEST SUMMARY

### 1.1. Test Standards

The tests were performed according to following standards:

**47 CFR Part 15.247:** Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

**ANSI C63.10-2013:** American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

**KDB 558074 D01 15.247 Meas Guidance v05r02:** Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules.

### 1.2. Report Version

| Revised No. | Date of issue  | Description |
|-------------|----------------|-------------|
| 01          | April 18, 2025 | Original    |
|             |                |             |
|             |                |             |
|             |                |             |

### 1.3. Test Description

| Test Item                                   | Standard           | Requirement                      | Result |
|---------------------------------------------|--------------------|----------------------------------|--------|
| Antenna requirement                         | 47 CFR Part 15.247 | 47 CFR 15.203                    | Pass   |
| Conducted Emission at AC power line         | 47 CFR Part 15.247 | 47 CFR 15.207(a)                 | Pass   |
| 20dB Bandwidth                              | 47 CFR Part 15.247 | 47 CFR 15.247(a)(1)              | Pass   |
| Maximum Conducted Output Power              | 47 CFR Part 15.247 | 47 CFR 15.247(b)(1)              | Pass   |
| Channel Separation                          | 47 CFR Part 15.247 | 47 CFR 15.247(a)(1)              | Pass   |
| Number of Hopping Frequencies               | 47 CFR Part 15.247 | 47 CFR 15.247(a)(1)(iii)         | Pass   |
| Dwell Time                                  | 47 CFR Part 15.247 | 47 CFR 15.247(a)(1)(iii)         | Pass   |
| Emissions in non-restricted frequency bands | 47 CFR Part 15.247 | 47 CFR 15.247(d), 15.209, 15.205 | Pass   |
| Band edge emissions (Radiated)              | 47 CFR Part 15.247 | 47 CFR 15.247(d), 15.209, 15.205 | Pass   |
| Emissions in frequency bands (below 1GHz)   | 47 CFR Part 15.247 | 47 CFR 15.247(d), 15.209, 15.205 | Pass   |
| Emissions in frequency bands (above 1GHz)   | 47 CFR Part 15.247 | 47 CFR 15.247(d), 15.209, 15.205 | Pass   |

## 1.4. Test Facility

### KSIGN(Guangdong) Testing Co., Ltd .

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified, or accredited by the following organizations:

#### CNAS-Lab Code: L 13261

KSIGN(Guangdong) Testing Co., Ltd. has been assessed and proved to be in Compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### A2LA-Lab Cert. No.: 5457.01

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### ISED# : 25693 CAB identifier.: CN0096

KSIGN(Guangdong) Testing Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

#### FCC-Registration No.: 294912 Designation Number: CN1328

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

## 1.5. Measurement Uncertainty

| Test Items                      | Measurement Uncertainty |
|---------------------------------|-------------------------|
| Conducted Emission (150k-30MHz) | ± 3.34dB                |
| Output Power, Conducted         | ± 1.4dB                 |
| Spurious Emissions, Conducted   | ± 3.3dB                 |
| RSE (1-18GHz)                   | ± 4.68dB                |
| RSE (30-1000MHz)                | ± 5.7dB                 |
| RSE (18-40GHz)                  | ± 5.18dB                |

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %. Otherwise required by the applicant or Product Regulations. Decision Rule in this report did not consider the uncertainty.

## 2. GENERAL INFORMATION

### 2.1. General Description Of EUT

|                         |                                         |
|-------------------------|-----------------------------------------|
| Test Sample Number:     | KS2502S0602E-01, KS2502S0602E-02        |
| Product Name:           | Motion-Sensing Interactive Smart Screen |
| Trademark:              | Cosmic Gate                             |
| Model / Type reference: | M43-YZZM                                |
| Power Supply:           | AC 120V/60Hz                            |
| Operation Frequency:    | 2402MHz to 2480MHz                      |
| Number of Channels:     | 79                                      |
| Modulation Type:        | GFSK, $\pi/4$ DQPSK, 8DPSK              |
| Antenna Type:           | External                                |
| Antenna Gain:           | 2.56dBi                                 |
| Max TX Power:           | 4.36dBm                                 |
| Hardware Version:       | V1.0                                    |
| Software Version:       | V1.0.0                                  |

**Note:**Antenna gain provided by the applicant Can affect the validity of results

### 2.2. Accessory Equipment Information

| Title    | Manufacturer | Model No.  | Technical Parameters | Provided by |
|----------|--------------|------------|----------------------|-------------|
| Computer | HP           | 15-cd028AX | /                    | Laboratory  |

### 2.3. Description of Test Modes

| No.        | Title                      | Description of Mode                                                                                                           |
|------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Test Mode1 | TX-GFSK (Non-Hopping)      | Keep the EUT in continuously transmitting mode (non-hopping) with GFSK modulation at lowest, middle and highest channel.      |
| Test Mode2 | TX-Pi/4DQPSK (Non-Hopping) | Keep the EUT in continuously transmitting mode (non-hopping) with Pi/4DQPSK modulation at lowest, middle and highest channel. |
| Test Mode3 | TX-8DPSK (Non-Hopping)     | Keep the EUT in continuously transmitting mode (non-hopping) with 8DPSK modulation at lowest, middle and highest channel.     |
| Test Mode4 | TX-GFSK (Hopping)          | Keep the EUT in continuously transmitting mode (hopping) with GFSK modulation,.                                               |
| Test Mode5 | TX-Pi/4DQPSK (Hopping)     | Keep the EUT in continuously transmitting mode (hopping) with Pi/4DQPSK modulation.                                           |
| Test Mode6 | TX-8DPSK (Hopping)         | Keep the EUT in continuously transmitting mode (hopping) with 8DPSK modulation.                                               |

## 2.4. Operation channel list

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| 0       | 2402            | 20      | 2422            | 40      | 2442            | 60      | 2462            |
| 1       | 2403            | 21      | 2423            | 41      | 2443            | 61      | 2463            |
| 2       | 2404            | 22      | 2424            | 42      | 2444            | 62      | 2464            |
| 3       | 2405            | 23      | 2425            | 43      | 2445            | 63      | 2465            |
| 4       | 2406            | 24      | 2426            | 44      | 2446            | 64      | 2466            |
| 5       | 2407            | 25      | 2427            | 45      | 2447            | 65      | 2467            |
| 6       | 2408            | 26      | 2428            | 46      | 2448            | 66      | 2468            |
| 7       | 2409            | 27      | 2429            | 47      | 2449            | 67      | 2469            |
| 8       | 2410            | 28      | 2430            | 48      | 2450            | 68      | 2470            |
| 9       | 2411            | 29      | 2431            | 49      | 2451            | 69      | 2471            |
| 10      | 2412            | 30      | 2432            | 50      | 2452            | 70      | 2472            |
| 11      | 2413            | 31      | 2433            | 51      | 2453            | 71      | 2473            |
| 12      | 2414            | 32      | 2434            | 52      | 2454            | 72      | 2474            |
| 13      | 2415            | 33      | 2435            | 53      | 2455            | 73      | 2475            |
| 14      | 2416            | 34      | 2436            | 54      | 2456            | 74      | 2476            |
| 15      | 2417            | 35      | 2437            | 55      | 2457            | 75      | 2477            |
| 16      | 2418            | 36      | 2438            | 56      | 2458            | 76      | 2478            |
| 17      | 2419            | 37      | 2439            | 57      | 2459            | 77      | 2479            |
| 18      | 2420            | 38      | 2440            | 58      | 2460            | 78      | 2480            |
| 19      | 2421            | 39      | 2441            | 59      | 2461            | -       | -               |

## 2.5. Measurement Instruments List

| Conducted Emission at AC power line |                |           |                      |            |
|-------------------------------------|----------------|-----------|----------------------|------------|
| Test Equipment                      | Manufacturer   | Model No. | Serial No.           | Cal. Until |
| LISN                                | R&S            | ENV432    | 1326.6105.02         | 2025-12-22 |
| EMI Test Receiver                   | R&S            | ESR       | 102524               | 2026-01-10 |
| Manual RF Switch                    | JS TOYO        | /         | MSW-01/002           | 2025-12-22 |
| ISN CAT6                            | Schwarzbeck    | CAT5 8158 | 227                  | 2025-12-22 |
| Color Signal Generator              | Philips        | PM5418    | 672926               | 2025-12-22 |
| Power Absorbing Clamp               | R&S            | MDS-21    | 100925               | 2025-12-25 |
| LISN                                | EVERFINE       | LS-5      | G657431CD14311<br>12 | 2025-12-22 |
| Current Sensor Probe                | Beijin ZHINAN  | ZN23101   | 23013                | 2025-12-10 |
| PV Artificial power network         | Beijing KeHuan | KH8301    | 830120007            | 2025-07-23 |

| Number of Hopping Frequencies<br>Dwell Time<br>Emissions in non-restricted frequency bands<br>20dB Bandwidth<br>Maximum Conducted Output Power<br>Channel Separation |                            |                         |            |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------|------------|------------|
| Test Equipment                                                                                                                                                       | Manufacturer               | Model No.               | Serial No. | Cal. Until |
| Wideband Radio Communication Tester                                                                                                                                  | R&S                        | CMU200                  | 115297     | 2025-12-22 |
| Audio Analyzer                                                                                                                                                       | R&S                        | UPL16                   | 100001     | 2025-12-22 |
| Shielding box                                                                                                                                                        | Gxiong                     | GX-5915A                | 2201113    | 2025-12-22 |
| High Pass Filter                                                                                                                                                     | COM-MW Technology Co., Ltd | ZHPF-M1.2-9G-1<br>87    | 09203403   | 2025-12-22 |
| Band Stop Filter                                                                                                                                                     | COM-MW Technology Co., Ltd | ZBSF6-C820-920<br>-188  | 09203401   | 2025-12-22 |
| Splitter                                                                                                                                                             | COM-MW Technology Co., Ltd | ZPD-M1-8-2103           | 09203407   | 2025-12-22 |
| Coaxial Cable                                                                                                                                                        | BEBES                      | A40-2.92M2.92F-<br>4.5M | 1907021    | 2025-12-22 |
| Hygrothermograph                                                                                                                                                     | Anymetre                   | JB913                   | /          | 2025-12-22 |
| Climate Chamber                                                                                                                                                      | Angul                      | AGNH80L                 | 1903042120 | 2025-12-22 |
| Spectrum Analyzer                                                                                                                                                    | HP                         | 8593E                   | 3831U02087 | 2025-12-22 |
| Dual Output DC Power Supply                                                                                                                                          | Agilent                    | E3646A                  | MY40009992 | 2025-12-29 |
| RF Control Unit                                                                                                                                                      | Tonscend                   | JS0806-2                | /          | 2025-12-22 |
| Analog Signal Generator                                                                                                                                              | HP                         | 83752A                  | 3344A00337 | 2025-12-22 |
| Vector Signal Generator                                                                                                                                              | Agilent                    | N5182A                  | MY50142520 | 2025-12-22 |
| Wideband Radio Communication Tester                                                                                                                                  | R&S                        | CMW500                  | 157282     | 2025-12-22 |
| Spectrum Analyzer                                                                                                                                                    | R&S                        | FSV40-N                 | 101798     | 2026-02-11 |

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| Emissions in frequency bands (above 1GHz)<br>Band edge emissions (Radiated)<br>Emissions in frequency bands (below 1GHz) |               |             |            |            |
|--------------------------------------------------------------------------------------------------------------------------|---------------|-------------|------------|------------|
| Test Equipment                                                                                                           | Manufacturer  | Model No.   | Serial No. | Cal. Until |
| Color Signal Generator                                                                                                   | Philips       | PM5418      | 672926     | 2025-12-22 |
| Log Periodic Antenna                                                                                                     | Schwarzbeck   | VULB 9163   | 1230       | 2026-01-13 |
| Pre-Amplifier                                                                                                            | Schwarzbeck   | BBV 9745    | 9745#129   | 2025-12-22 |
| Broadcast Television<br>Signal Generator                                                                                 | R&S           | SFE100      | 141038     | 2025-12-22 |
| Analog Signal Generator                                                                                                  | Agilent       | 8648A       | 3847M00445 | 2025-12-22 |
| EMI Test Receiver                                                                                                        | R&S           | ESR         | 102525     | 2026-01-10 |
| Loop Antenna                                                                                                             | Beijin ZHINAN | ZN30900C    | 18050      | 2025-12-22 |
| Horn Antenna                                                                                                             | Schwarzbeck   | BBHA 9120 D | 2023       | 2025-12-25 |
| Pre-Amplifier                                                                                                            | EMCI          | EMC051835SE | 980662     | 2025-12-22 |
| Spectrum Analyzer                                                                                                        | Keysight      | N9020A      | MY46471971 | 2025-12-22 |

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### 3. Evaluation Results (Evaluation)

#### 3.1. Antenna requirement

|                   |                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | Refer to 47 CFR Part 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. |
| Conclusion:       | The EUT uses a External antenna, the max antenna gain is less than 6dBi, which is deemed to comply with the antenna requirement.                                                                                                                                                                                                                                                    |

### 4. Radio Spectrum Matter Test Results (RF)

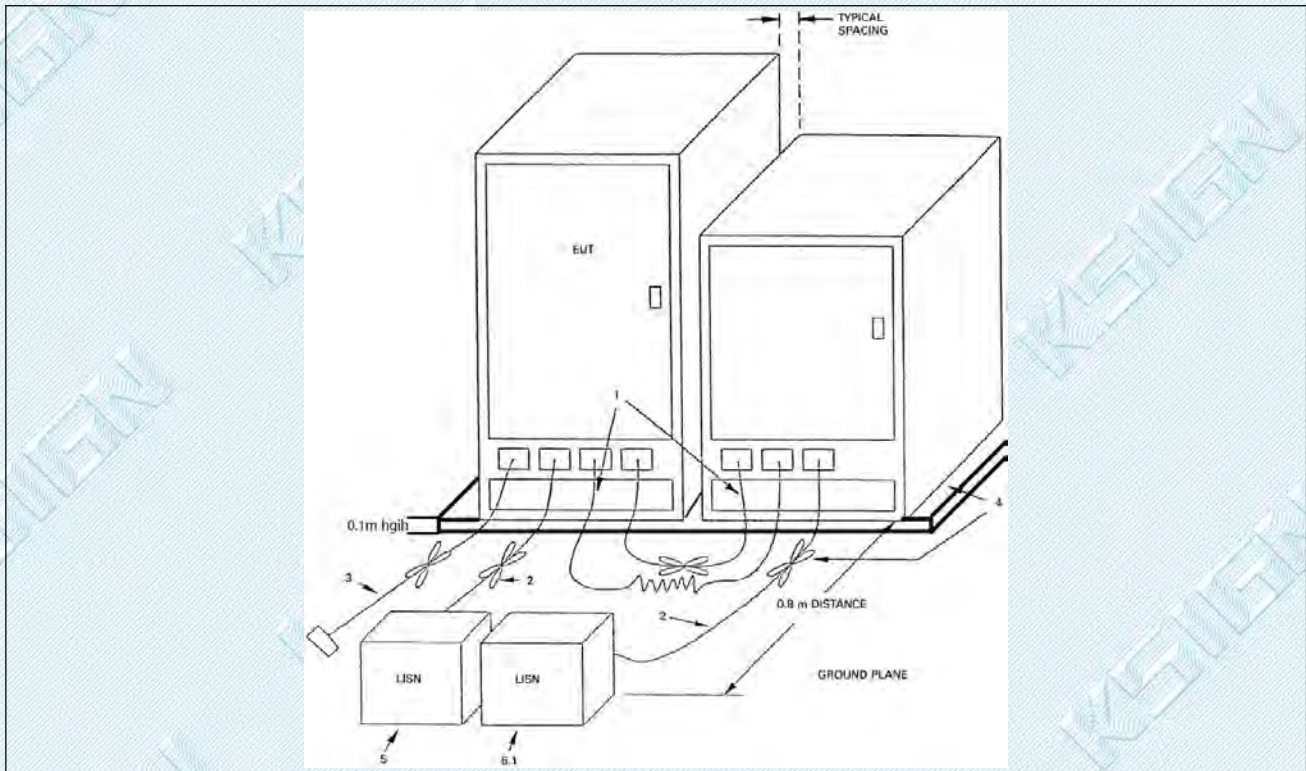
#### 4.1. Conducted Emission at AC power line

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------|
| Test Requirement: | Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 ohms line impedance stabilization network (LISN). |                              |           |
| Test Limit:       | Frequency of emission (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Conducted limit (dB $\mu$ V) |           |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Quasi-peak                   | Average   |
|                   | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 66 to 56*                    | 56 to 46* |
|                   | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 56                           | 46        |
|                   | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 60                           | 50        |
|                   | *Decreases with the logarithm of the frequency.                                                                                                                                                                                                                                                                                                                                                                                                                               |                              |           |
| Test Method:      | ANSI C63.10-2013 section 6.2                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |           |
| Procedure:        | Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices                                                                                                                                                                                                                                                                                                                                            |                              |           |

##### 4.1.1. E.U.T. Operation:

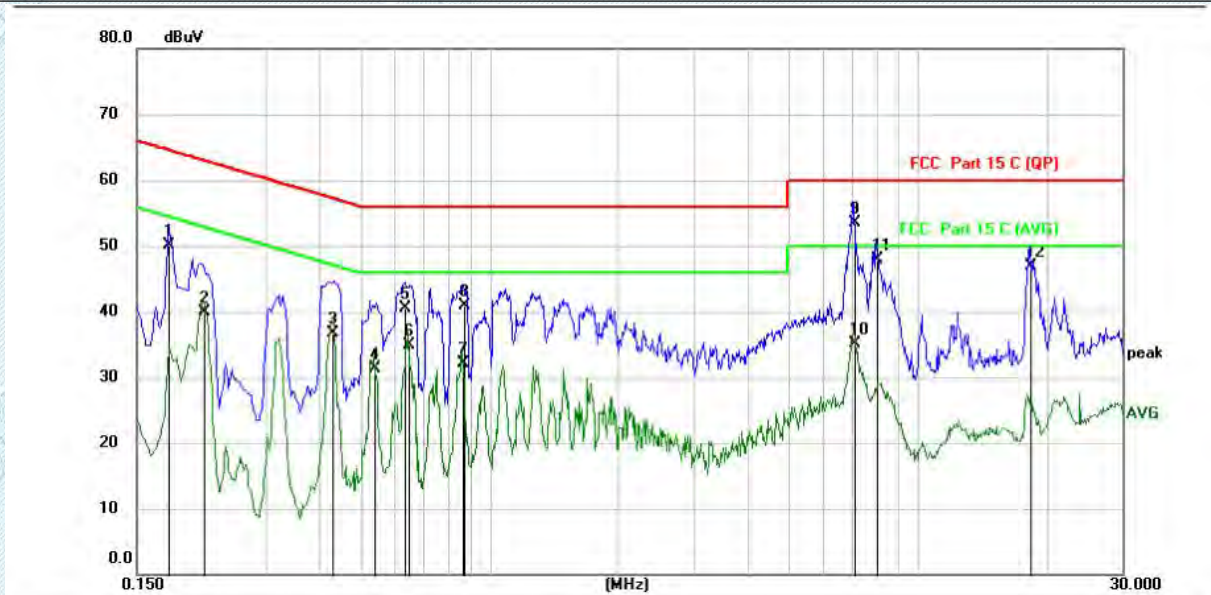
|                        |            |
|------------------------|------------|
| Operating Environment: |            |
| Temperature:           | 25.7 °C    |
| Humidity:              | 46.1 %     |
| Atmospheric Pressure:  | 101 kPa    |
| Final test mode:       | Test Mode1 |

#### 4.1.2. Test Setup Diagram:



### 4.1.3. Test Data:

Test Mode1 / Line: Line / Band: 2400-2483.5 MHz / BW: 1 / CH: L



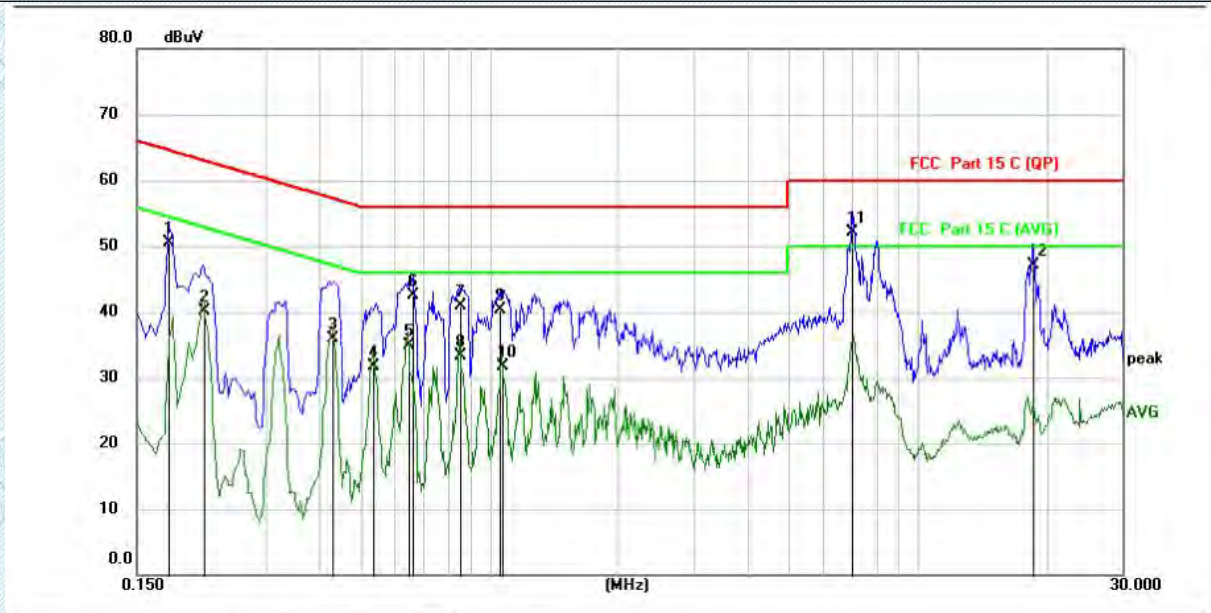
| No. Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|---------|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1       | 0.1780       | 29.40                    | 20.76                   | 50.16                    | 64.58         | -14.42     | QP       |         |
| 2       | 0.2140       | 19.11                    | 20.81                   | 39.92                    | 53.05         | -13.13     | AVG      |         |
| 3       | 0.4300       | 15.97                    | 20.73                   | 36.70                    | 47.25         | -10.55     | AVG      |         |
| 4       | 0.5380       | 10.69                    | 20.68                   | 31.37                    | 46.00         | -14.63     | AVG      |         |
| 5       | 0.6340       | 19.91                    | 20.65                   | 40.56                    | 56.00         | -15.44     | QP       |         |
| 6       | 0.6460       | 14.20                    | 20.65                   | 34.85                    | 46.00         | -11.15     | AVG      |         |
| 7       | 0.8620       | 11.55                    | 20.58                   | 32.13                    | 46.00         | -13.87     | AVG      |         |
| 8       | 0.8700       | 20.40                    | 20.58                   | 40.98                    | 56.00         | -15.02     | QP       |         |
| 9 *     | 7.0860       | 32.88                    | 20.72                   | 53.60                    | 60.00         | -6.40      | QP       |         |
| 10      | 7.0860       | 14.30                    | 20.72                   | 35.02                    | 50.00         | -14.98     | AVG      |         |
| 11      | 8.0140       | 27.19                    | 20.74                   | 47.93                    | 60.00         | -12.07     | QP       |         |
| 12      | 18.2340      | 25.98                    | 20.92                   | 46.90                    | 60.00         | -13.10     | QP       |         |

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Test Mode1 / Line: Neutral / Band: 2400-2483.5 MHz / BW: 1 / CH: L



| No. Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|---------|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1       | 0.1780       | 29.72                    | 20.76                   | 50.48                    | 64.58         | -14.10     | QP       |         |
| 2       | 0.2140       | 19.23                    | 20.81                   | 40.04                    | 53.05         | -13.01     | AVG      |         |
| 3       | 0.4300       | 15.20                    | 20.73                   | 35.93                    | 47.25         | -11.32     | AVG      |         |
| 4       | 0.5340       | 10.98                    | 20.69                   | 31.67                    | 46.00         | -14.33     | AVG      |         |
| 5       | 0.6460       | 14.33                    | 20.65                   | 34.98                    | 46.00         | -11.02     | AVG      |         |
| 6       | 0.6620       | 21.96                    | 20.64                   | 42.60                    | 56.00         | -13.40     | QP       |         |
| 7       | 0.8500       | 20.31                    | 20.58                   | 40.89                    | 56.00         | -15.11     | QP       |         |
| 8       | 0.8500       | 12.77                    | 20.58                   | 33.35                    | 46.00         | -12.65     | AVG      |         |
| 9       | 1.0580       | 19.83                    | 20.57                   | 40.40                    | 56.00         | -15.60     | QP       |         |
| 10      | 1.0660       | 11.14                    | 20.57                   | 31.71                    | 46.00         | -14.29     | AVG      |         |
| 11 *    | 7.0220       | 31.46                    | 20.71                   | 52.17                    | 60.00         | -7.83      | QP       |         |
| 12      | 18.5500      | 26.23                    | 20.93                   | 47.16                    | 60.00         | -12.84     | QP       |         |

Note:

1.Measurement = Reading level + Correct Factor

2.Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 4.2. 20dB Bandwidth

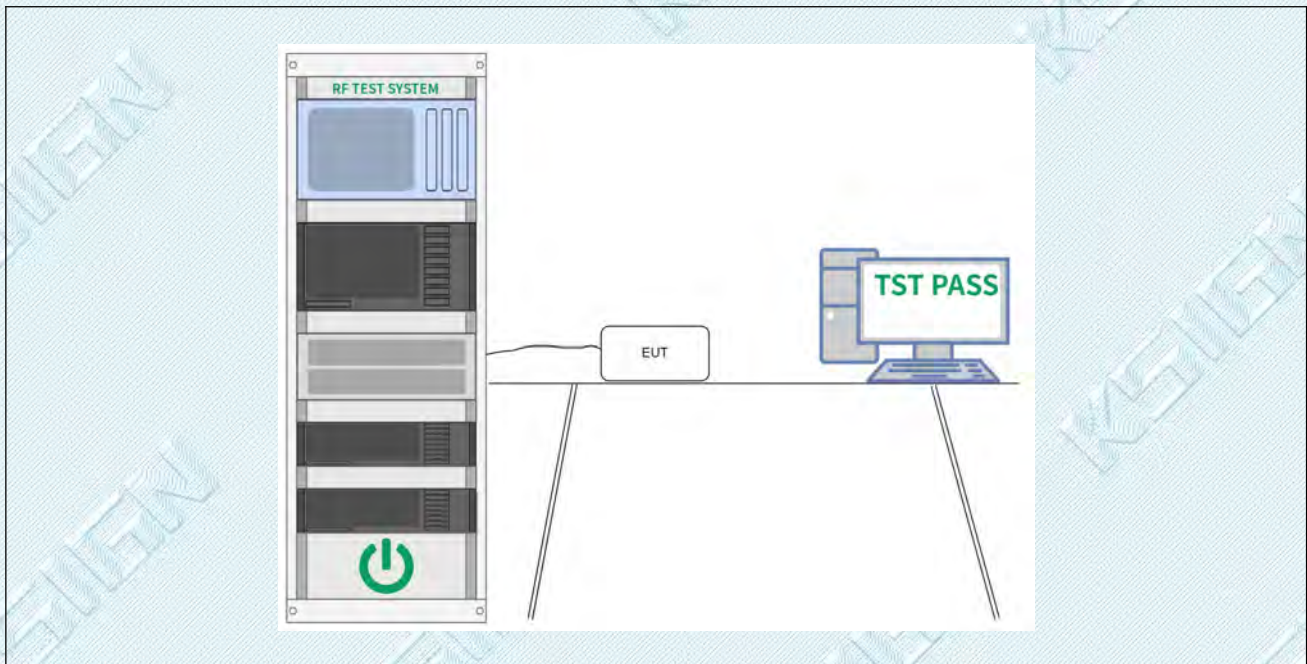
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(a)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test Limit:       | Refer to 47 CFR 15.215(c), 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 Method:      | ANSI C63.10-2013, section 7.8.7, For occupied bandwidth measurements, use the procedure in 6.9.2.<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Procedure:        | <p>a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.</p> <p>b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.</p> <p>c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than <math>[10 \log (OBW/RBW)]</math> below the reference level. Specific guidance is given in 4.1.5.2.</p> <p>d) Steps a) through c) might require iteration to adjust within the specified tolerances.</p> <p>e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.</p> <p>f) Set detection mode to peak and trace mode to max hold.</p> <p>g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).</p> <p>h) Determine the “-xx dB down amplitude” using <math>[(\text{reference value}) - xx]</math>. Alternatively, this calculation may be made by using the marker-delta function of the instrument.</p> <p>i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).</p> <p>j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.</p> <p>k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division</p> |

|  |                                                                                    |
|--|------------------------------------------------------------------------------------|
|  | shall be clearly labeled. Tabular data may be reported in addition to the plot(s). |
|--|------------------------------------------------------------------------------------|

#### 4.2.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode1, Test Mode2, Test Mode3 |

#### 4.2.2. Test Setup Diagram:



#### 4.2.3. Test Data:

Please Refer to Appendix for Details.

### 4.3. Maximum Conducted Output Power

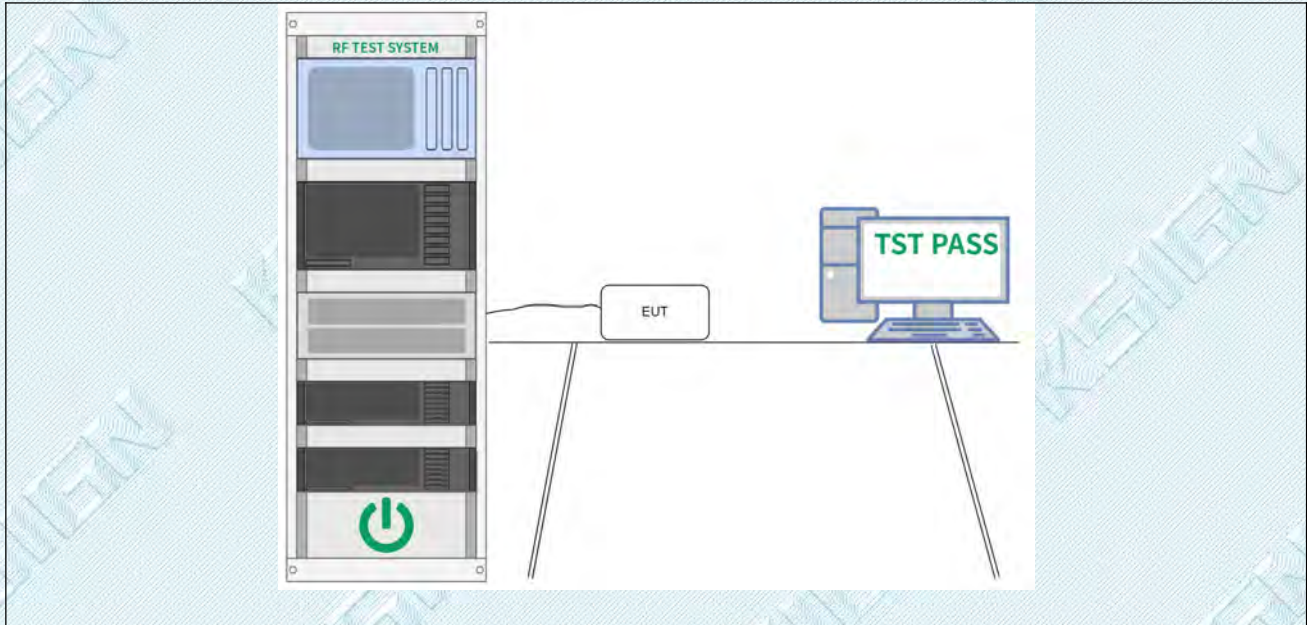
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(b)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test Limit:       | Refer to 47 CFR 15.247(b)(1), For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Test Method:      | ANSI C63.10-2013, section 7.8.5<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Procedure:        | <p>This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:</p> <p>a) Use the following spectrum analyzer settings:</p> <ol style="list-style-type: none"> <li>1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.</li> <li>2) RBW &gt; 20 dB bandwidth of the emission being measured.</li> <li>3) VBW &gt;= RBW.</li> <li>4) Sweep: Auto.</li> <li>5) Detector function: Peak.</li> <li>6) Trace: Max hold.</li> </ol> <p>b) Allow trace to stabilize.</p> <p>c) Use the marker-to-peak function to set the marker to the peak of the emission.</p> <p>d) The indicated level is the peak output power, after any corrections for external attenuators and cables.</p> <p>e) A plot of the test results and setup description shall be included in the test report.</p> <p>NOTE—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.</p> |

#### 4.3.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode1, Test Mode2, Test Mode3 |

#### 4.3.2. Test Setup Diagram:

|  |
|--|
|  |
|--|



#### 4.3.3. Test Data:

Please Refer to Appendix for Details.

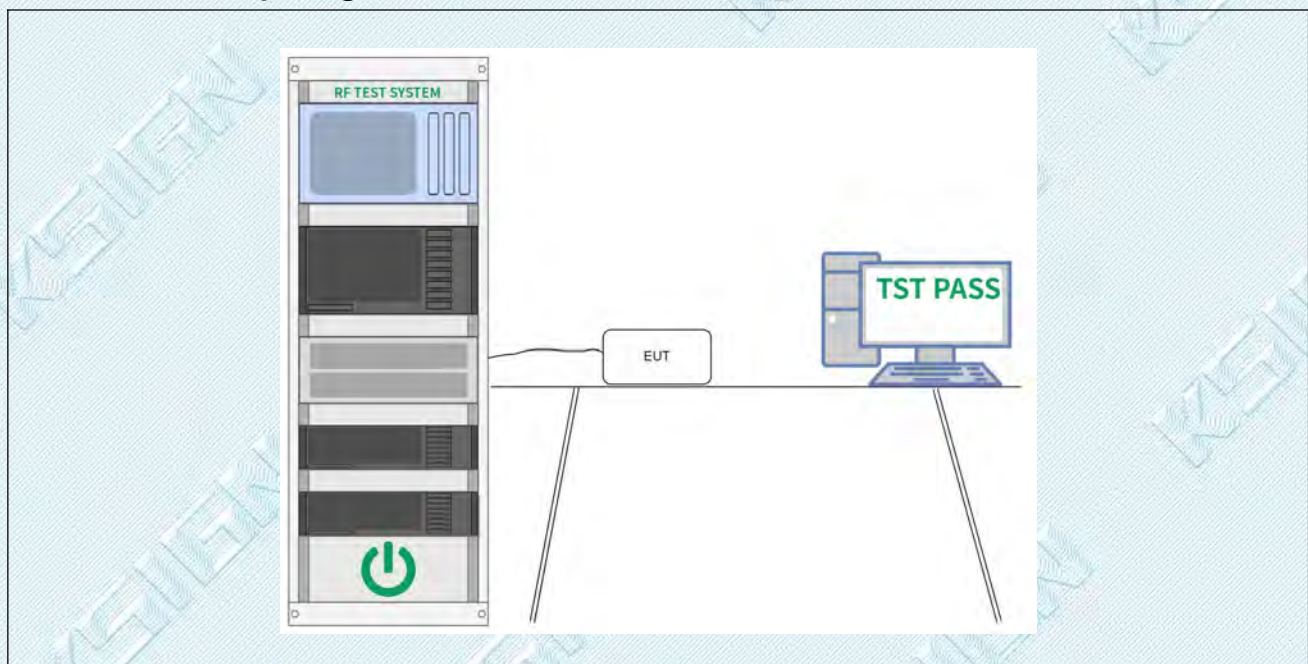
#### 4.4. Channel Separation

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(a)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Test Limit:       | Refer to 47 CFR 15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.                                                                                                                                                                                                                   |
| Test Method:      | ANSI C63.10-2013, section 7.8.2<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Procedure:        | The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:<br>a) Span: Wide enough to capture the peaks of two adjacent channels.<br>b) RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.<br>c) Video (or average) bandwidth (VBW) $\geq$ RBW.<br>d) Sweep: Auto.<br>e) Detector function: Peak.<br>f) Trace: Max hold.<br>g) Allow the trace to stabilize.<br>Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A plot of the data shall be included in the test report. |

##### 4.4.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode4, Test Mode5, Test Mode6 |

##### 4.4.2. Test Setup Diagram:



**4.4.3. Test Data:**

Please Refer to Appendix for Details.

## 4.5. Number of Hopping Frequencies

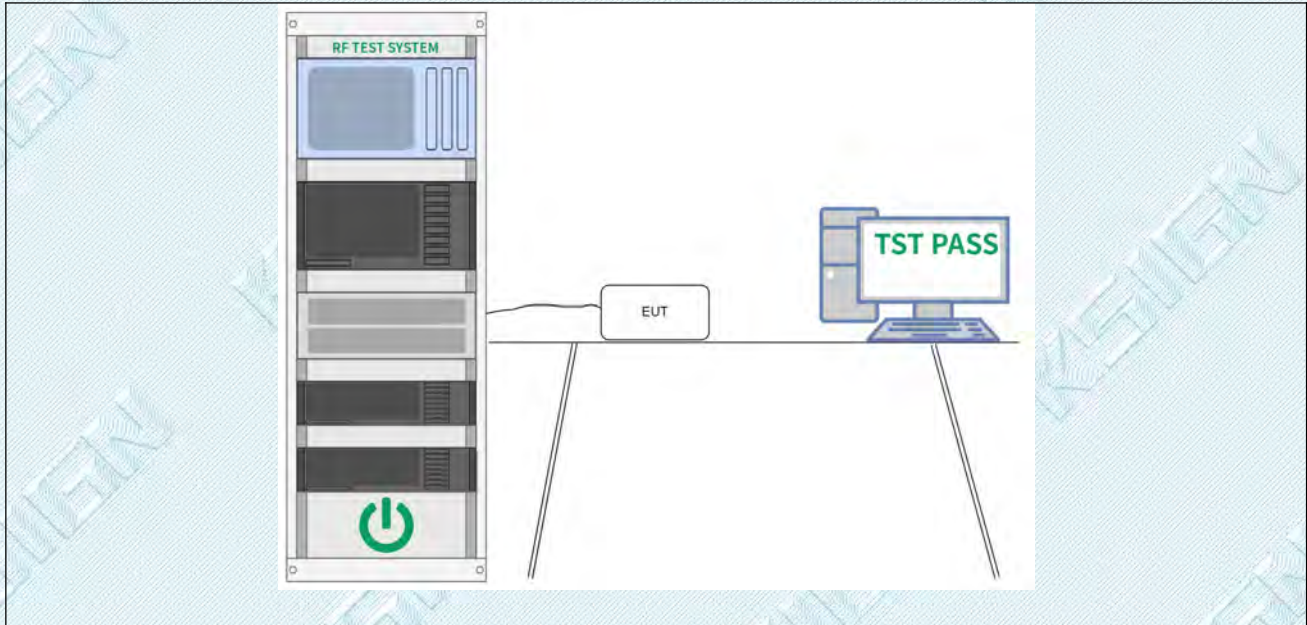
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(a)(1)(iii)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test Limit:       | Refer to 47 CFR 15.247(a)(1)(iii), Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test Method:      | ANSI C63.10-2013, section 7.8.3<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Procedure:        | The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:<br>a) Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.<br>b) RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.<br>c) VBW $\geq$ RBW.<br>d) Sweep: Auto.<br>e) Detector function: Peak.<br>f) Trace: Max hold.<br>g) Allow the trace to stabilize.<br>It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A plot of the data shall be included in the test report. |

### 4.5.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode4, Test Mode5, Test Mode6 |

### 4.5.2. Test Setup Diagram:

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|--|
|  |
|--|



#### 4.5.3. Test Data:

Please Refer to Appendix for Details.

#### 4.6. Dwell Time

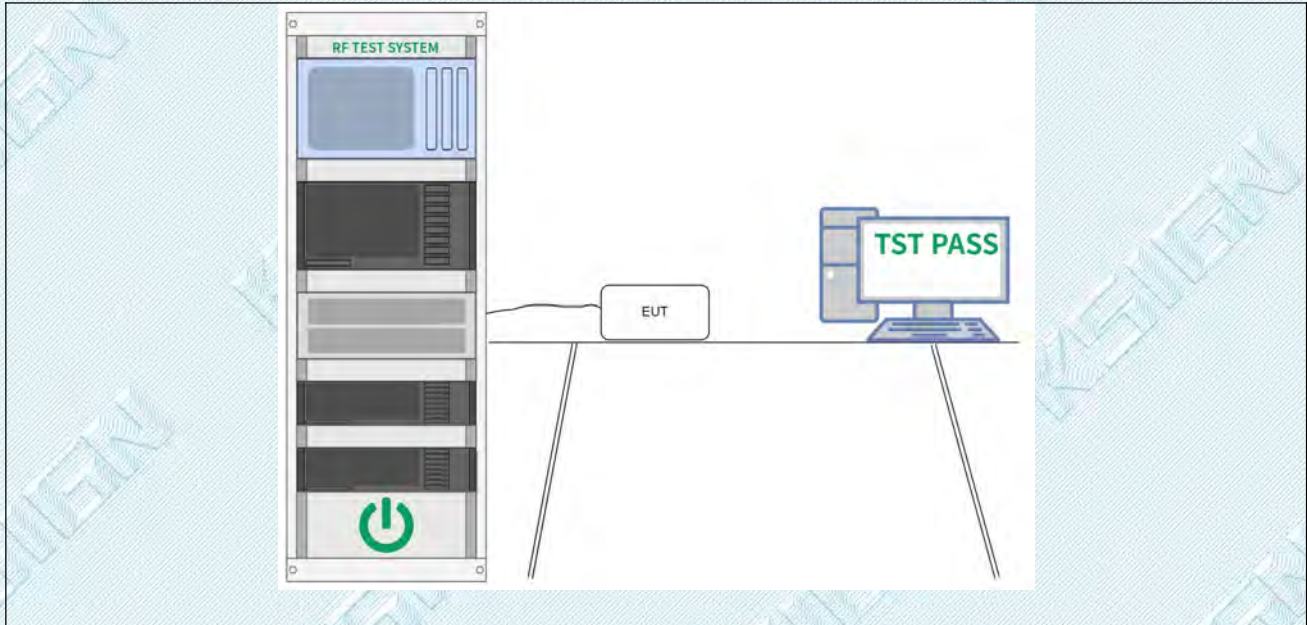
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(a)(1)(iii)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Limit:       | Refer to 47 CFR 15.247(a)(1)(iii), Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test Method:      | ANSI C63.10-2013, section 7.8.4<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Procedure:        | <p>The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:</p> <ul style="list-style-type: none"> <li>a) Span: Zero span, centered on a hopping channel.</li> <li>b) RBW shall be <math>\leq</math> channel spacing and where possible RBW should be set <math>\gg 1/T</math>, where T is the expected dwell time per channel.</li> <li>c) Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.</li> <li>d) Detector function: Peak.</li> <li>e) Trace: Max hold.</li> </ul> <p>Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.</p> <p>Repeat the measurement using a longer sweep time to determine the number of hops over the period specified in the requirements. The sweep time shall be equal to, or less than, the period specified in the requirements. Determine the number of hops over the sweep time and calculate the total number of hops in the period specified in the requirements, using the following equation:</p> $(\text{Number of hops in the period specified in the requirements}) = (\text{number of hops on spectrum analyzer}) \times (\text{period specified in the requirements} / \text{analyzer sweep time})$ <p>The average time of occupancy is calculated from the transmit time per hop multiplied by the number of hops in the period specified in the requirements. If the number of hops in a specific time varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation.</p> <p>The measured transmit time and time between hops shall be consistent with the values described in the operational description for the EUT.</p> |

##### 4.6.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode4, Test Mode5, Test Mode6 |

##### 4.6.2. Test Setup Diagram:

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|  |
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#### 4.6.3. Test Data:

Please Refer to Appendix for Details.

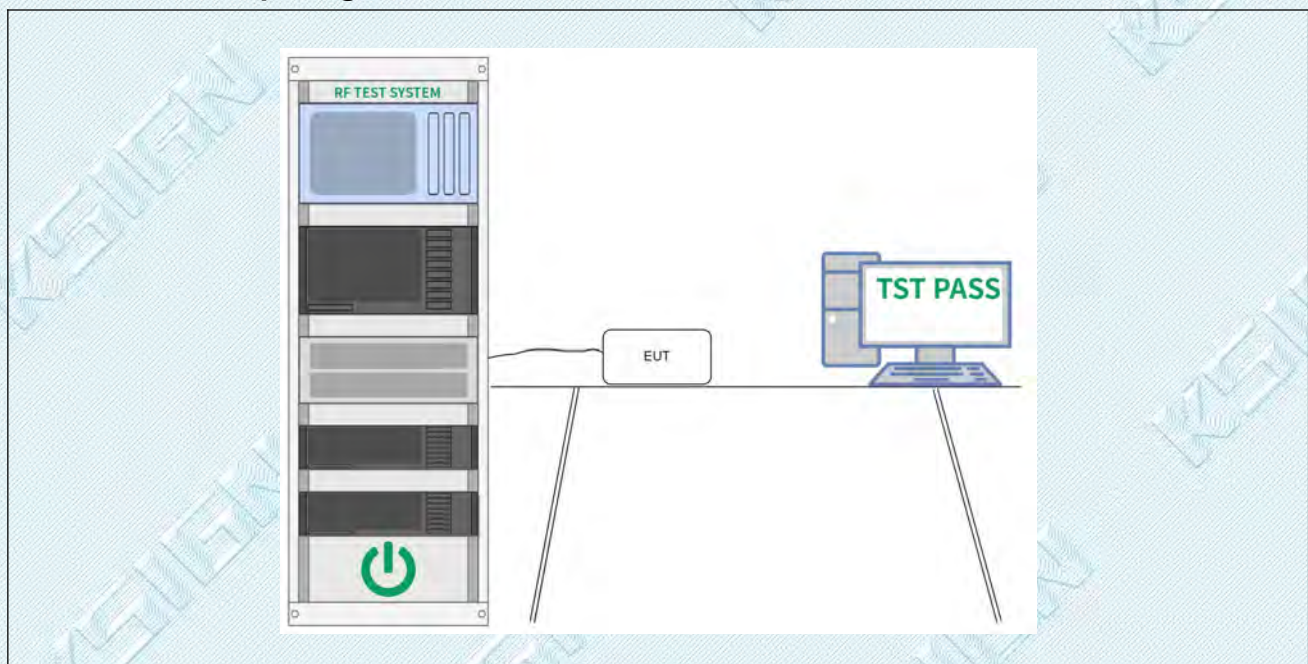
## 4.7. Emissions in non-restricted frequency bands

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | 47 CFR 15.247(d), 15.209, 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test Limit:       | Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. |
| Test Method:      | ANSI C63.10-2013 section 7.8.8<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Procedure:        | Conducted spurious emissions shall be measured for the transmit frequency, per 5.5 and 5.6, and at the maximum transmit powers.<br>Connect the primary antenna port through an attenuator to the spectrum analyzer input; in the results, account for all losses between the unlicensed wireless device output and the spectrum analyzer. The instrument shall span 30 MHz to 10 times the operating frequency in GHz, with a resolution bandwidth of 100 kHz, video bandwidth of 300 kHz, and a coupled sweep time with a peak detector. The band 30 MHz to the highest frequency may be split into smaller spans, as long as the entire spectrum is covered.                                                                                                                                                                                                          |

### 4.7.1. E.U.T. Operation:

|                        |                                                                        |
|------------------------|------------------------------------------------------------------------|
| Operating Environment: |                                                                        |
| Temperature:           | 25.7 °C                                                                |
| Humidity:              | 46.1 %                                                                 |
| Atmospheric Pressure:  | 101 kPa                                                                |
| Final test mode:       | Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6 |

### 4.7.2. Test Setup Diagram:



**4.7.3. Test Data:**

Please Refer to Appendix for Details.

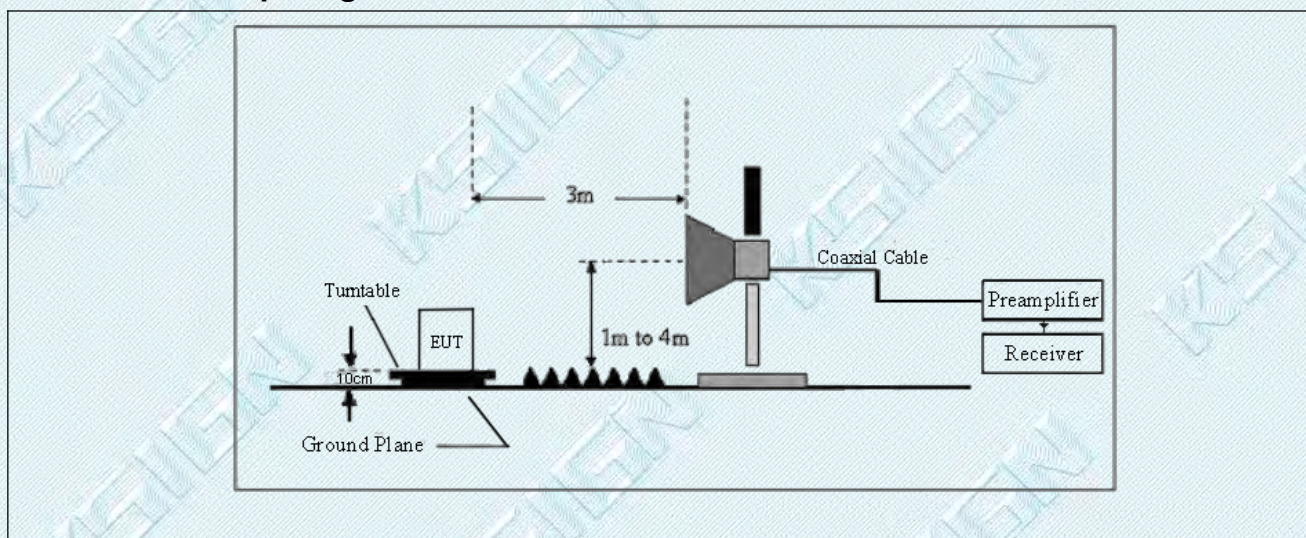
#### 4.8. Band edge emissions (Radiated)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                          |                                   |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|
| Test Requirement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` |                                   |                               |
| Test Limit:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Frequency (MHz)                                                                                                                                                                                                          | Field strength (microvolts/meter) | Measurement distance (meters) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.009-0.490                                                                                                                                                                                                              | 2400/F(kHz)                       | 300                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.490-1.705                                                                                                                                                                                                              | 24000/F(kHz)                      | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.705-30.0                                                                                                                                                                                                               | 30                                | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30-88                                                                                                                                                                                                                    | 100 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 88-216                                                                                                                                                                                                                   | 150 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 216-960                                                                                                                                                                                                                  | 200 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Above 960                                                                                                                                                                                                                | 500                               | 3                             |
| <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> |                                                                                                                                                                                                                          |                                   |                               |
| Test Method:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANSI C63.10-2013 section 6.10<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                              |                                   |                               |
| Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ANSI C63.10-2013 section 6.10.5.2                                                                                                                                                                                        |                                   |                               |

##### 4.8.1. E.U.T. Operation:

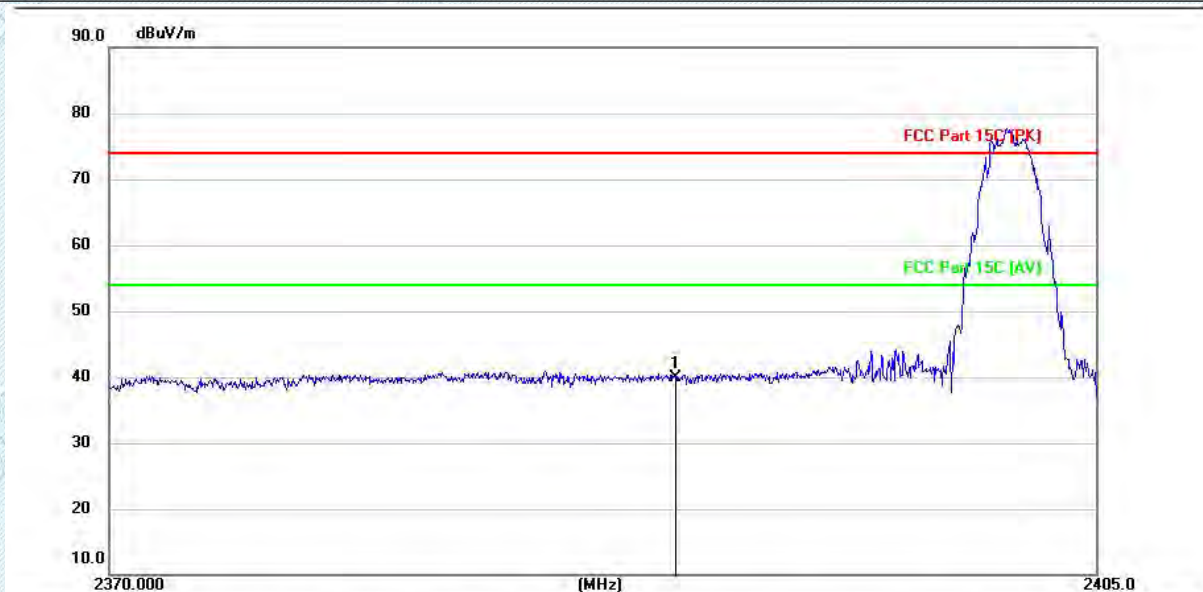
|                        |                                                                        |
|------------------------|------------------------------------------------------------------------|
| Operating Environment: |                                                                        |
| Temperature:           | 25.7 °C                                                                |
| Humidity:              | 46.1 %                                                                 |
| Atmospheric Pressure:  | 101 kPa                                                                |
| Final test mode:       | Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6 |

##### 4.8.2. Test Setup Diagram:



### 4.8.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



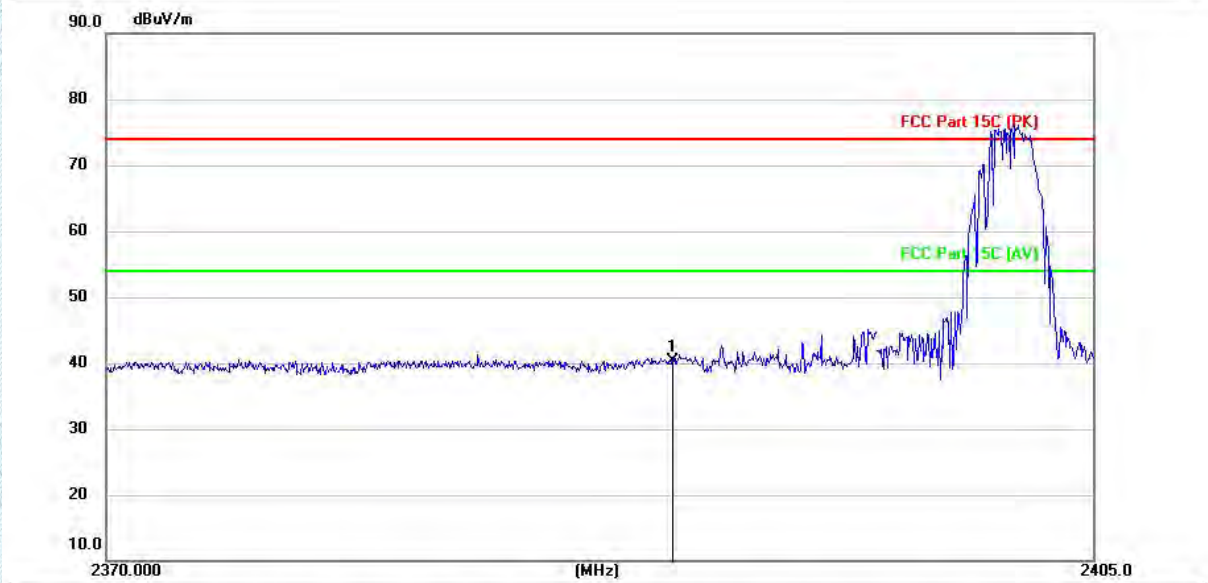
| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2390.000 | 55.87         | -15.87         | 40.00       | 74.00    | -34.00 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



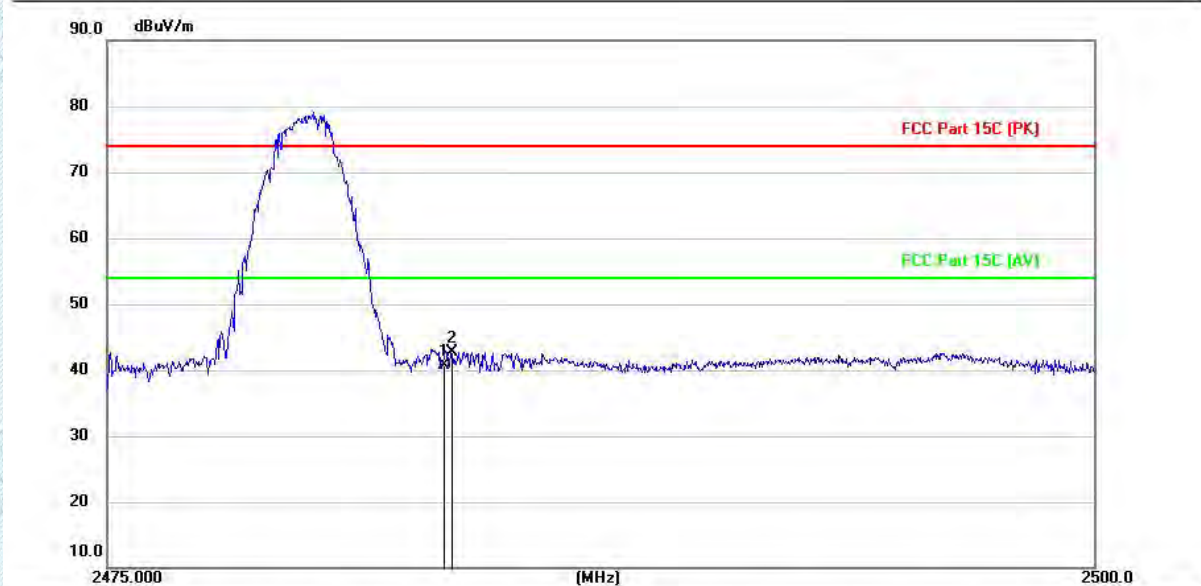
| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2390.000 | 56.21         | -15.87         | 40.34       | 74.00    | -33.66 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



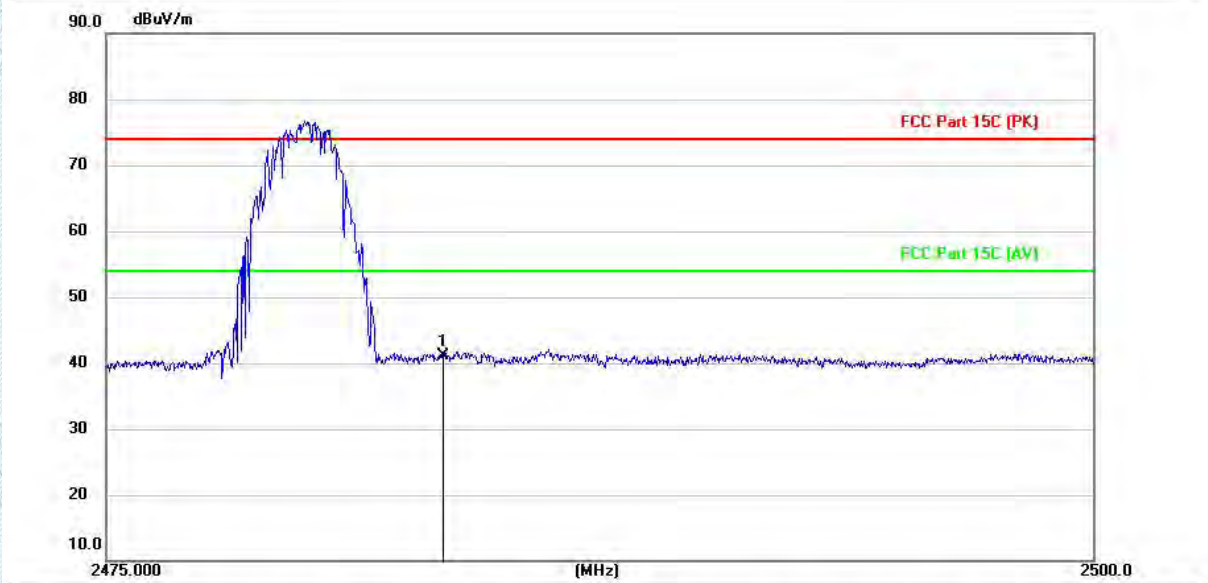
| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   |          |
| 1   |     | 2483.500 | 56.96         | -16.18         | 40.78       | 74.00    | -33.22 | peak     |
| 2   | *   | 2483.700 | 58.99         | -16.19         | 42.80       | 74.00    | -31.20 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H

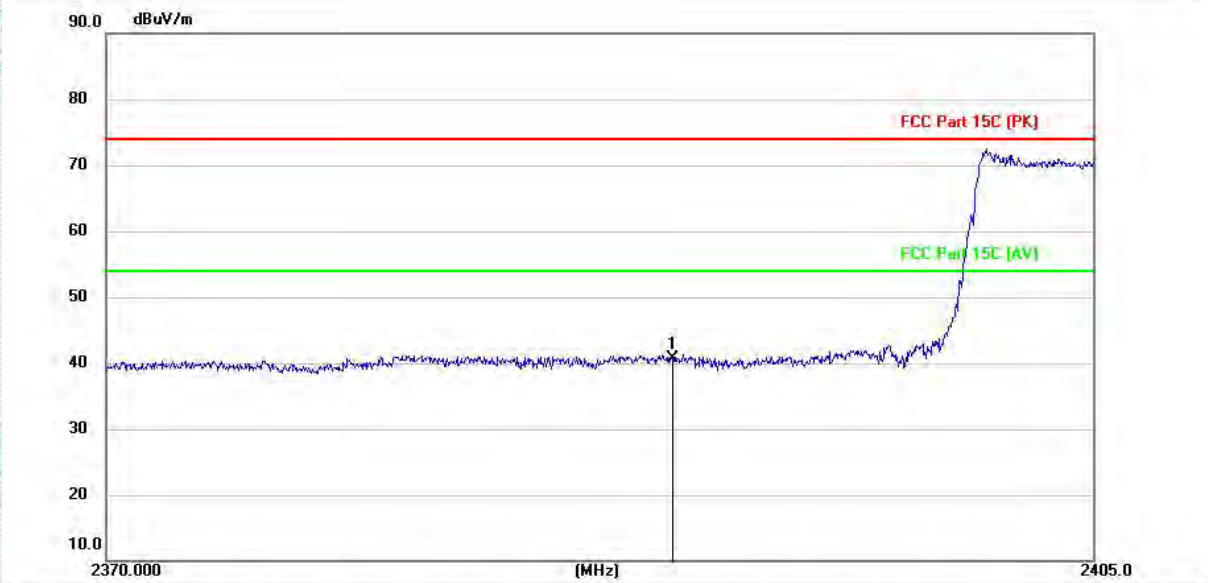


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2483.500 | 57.23         | -16.18         | 41.05       | 74.00    | -32.95 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

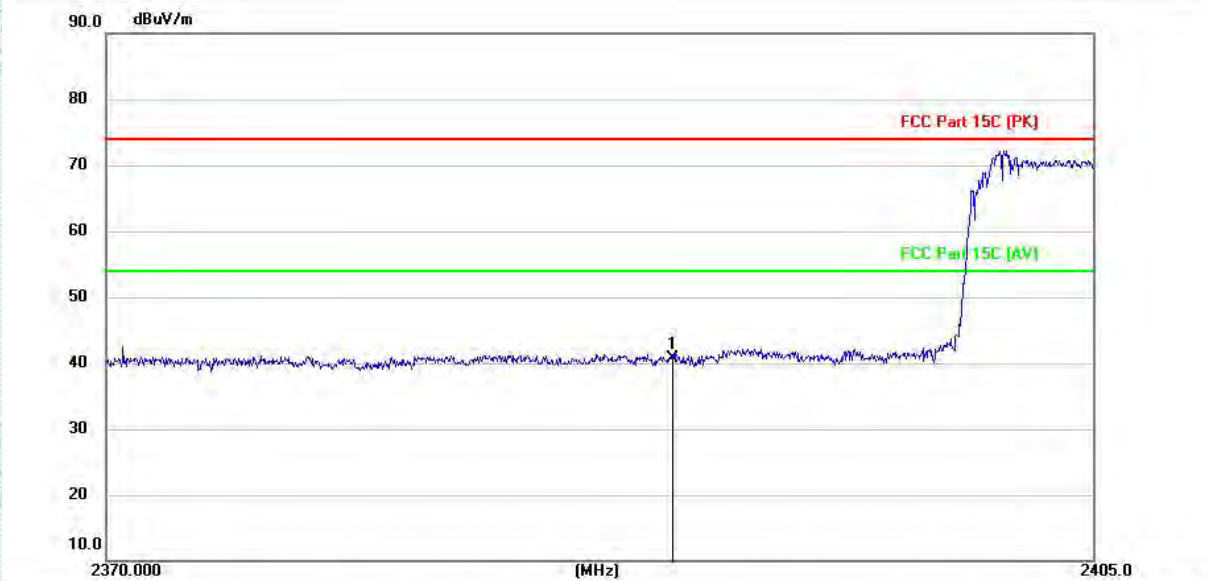
**Test Mode4 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L**


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2390.000 | 56.48         | -15.87         | 40.61       | 74.00    | -33.39 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

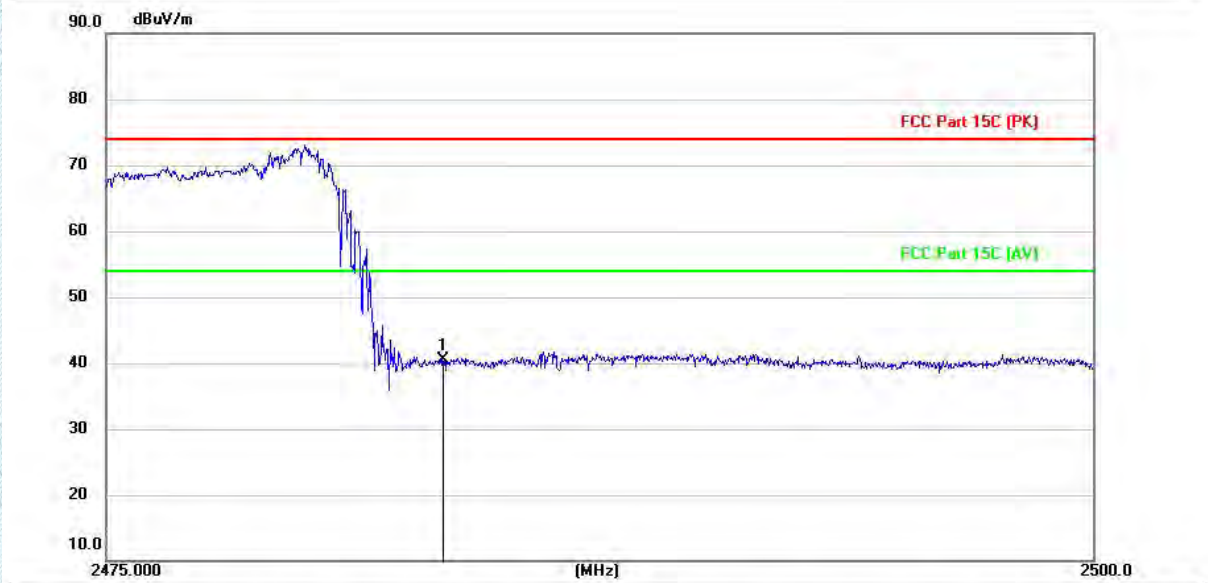
**Test Mode4 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L**


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2390.000 | 56.49         | -15.87         | 40.62       | 74.00    | -33.38 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

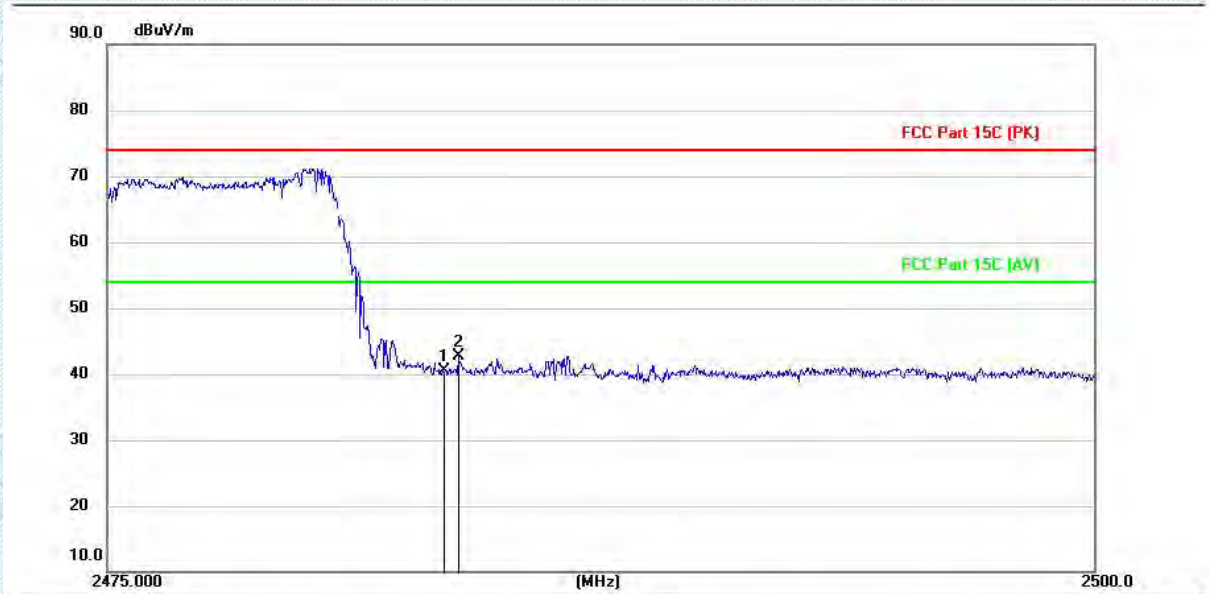
**Test Mode4 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H**


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   | Detector |
| 1   | *   | 2483.500 | 56.62         | -16.18         | 40.44       | 74.00    | -33.56 | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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**Test Mode4 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H**


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit    | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|----------|--------|----------|
|     |     | MHz      | (dBuV)        | (dB/m)         | (dBuV/m)    | (dBuV/m) | (dB)   |          |
| 1   |     | 2483.500 | 56.77         | -16.18         | 40.59       | 74.00    | -33.41 | peak     |
| 2   | *   | 2483.892 | 58.95         | -16.19         | 42.76       | 74.00    | -31.24 | peak     |

**Note:**

1. Measurement = Reading level + Correct Factor
2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor
3. Pre-scan DH5, 2DH5 and 3DH5 modulation, and found the DH5 modulation which it is worse case, so only show the test data for worse case.
4. Since the peak value is less than the limit of the AVG value, there is no AVG data.

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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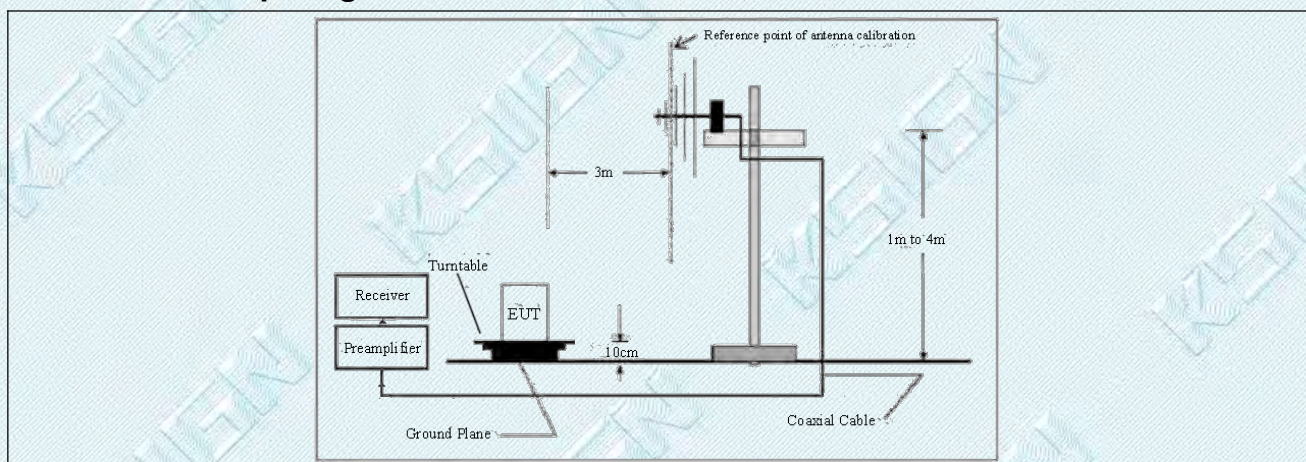
#### 4.9. Emissions in frequency bands (below 1GHz)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                          |                                   |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|
| Test Requirement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` |                                   |                               |
| Test Limit:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Frequency (MHz)                                                                                                                                                                                                          | Field strength (microvolts/meter) | Measurement distance (meters) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.009-0.490                                                                                                                                                                                                              | 2400/F(kHz)                       | 300                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.490-1.705                                                                                                                                                                                                              | 24000/F(kHz)                      | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.705-30.0                                                                                                                                                                                                               | 30                                | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30-88                                                                                                                                                                                                                    | 100 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 88-216                                                                                                                                                                                                                   | 150 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 216-960                                                                                                                                                                                                                  | 200 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Above 960                                                                                                                                                                                                                | 500                               | 3                             |
| <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> |                                                                                                                                                                                                                          |                                   |                               |
| Test Method:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANSI C63.10-2013 section 6.6.4<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                                             |                                   |                               |
| Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ANSI C63.10-2013 section 6.6.4                                                                                                                                                                                           |                                   |                               |

##### 4.9.1. E.U.T. Operation:

|                        |            |
|------------------------|------------|
| Operating Environment: |            |
| Temperature:           | 25.7 °C    |
| Humidity:              | 46.1 %     |
| Atmospheric Pressure:  | 101 kPa    |
| Final test mode:       | Test Mode1 |

##### 4.9.2. Test Setup Diagram:



### 4.9.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L

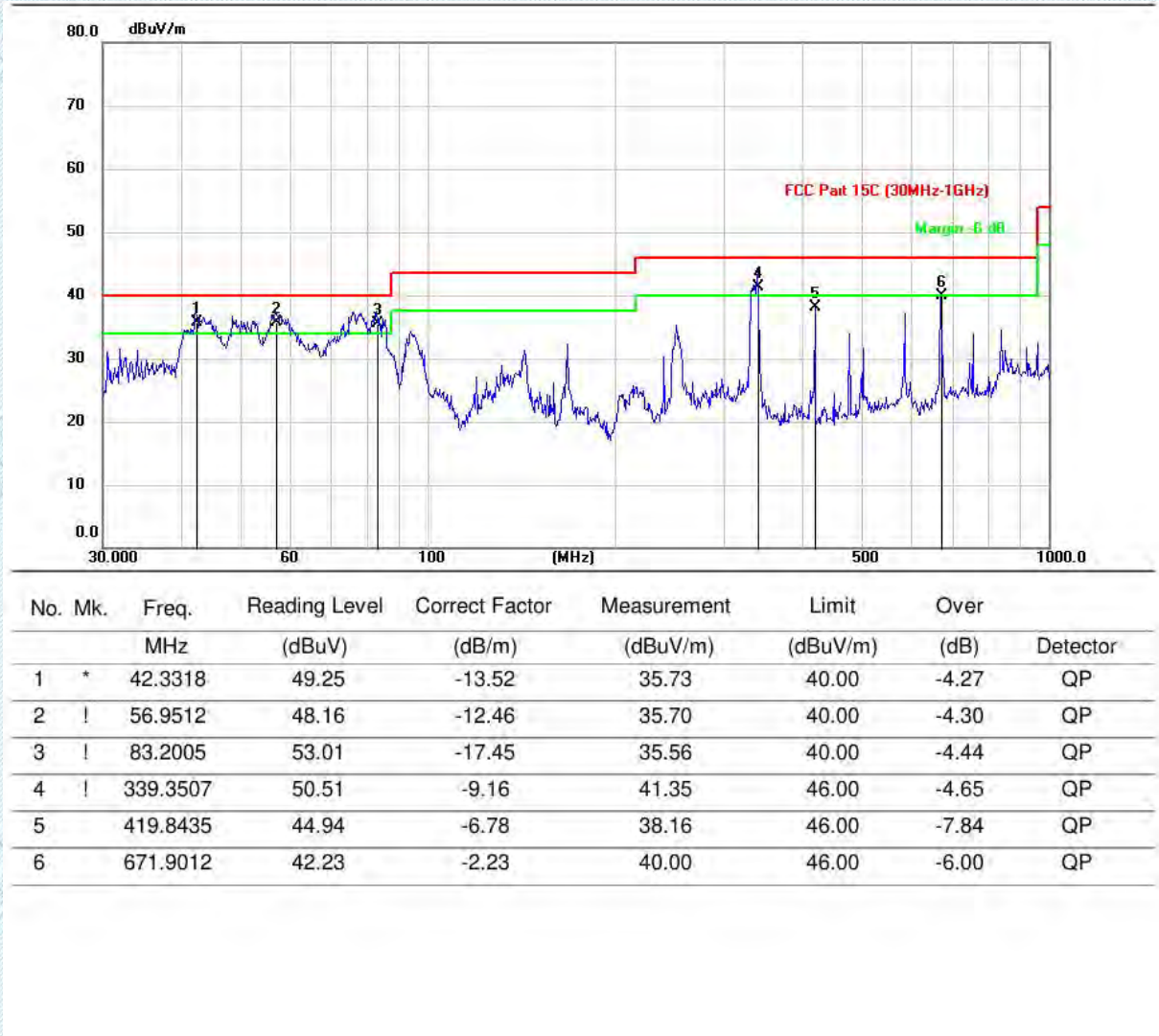


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 169.8965     | 48.99                   | -16.63                   | 32.36                   | 43.50             | -11.14       | QP       |
| 2   | !   | 337.0973     | 50.56                   | -9.41                    | 41.15                   | 46.00             | -4.85        | QP       |
| 3   | !   | 419.8435     | 49.35                   | -6.78                    | 42.57                   | 46.00             | -3.43        | QP       |
| 4   | !   | 587.8731     | 46.57                   | -3.80                    | 42.77                   | 46.00             | -3.23        | QP       |
| 5   | !   | 667.4397     | 42.76                   | -2.20                    | 40.56                   | 46.00             | -5.44        | QP       |
| 6   | *   | 839.7703     | 43.50                   | -0.41                    | 43.09                   | 46.00             | -2.91        | QP       |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

**Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L**


9 KHz - 30 MHz:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Note:

1. Measurement = Reading level + Correct Factor

2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

3. Pre-scan DH5, 2DH5 and 3DH5 modulation, and found the DH5 modulation which it is worse case, so only show the test data for worse case.

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

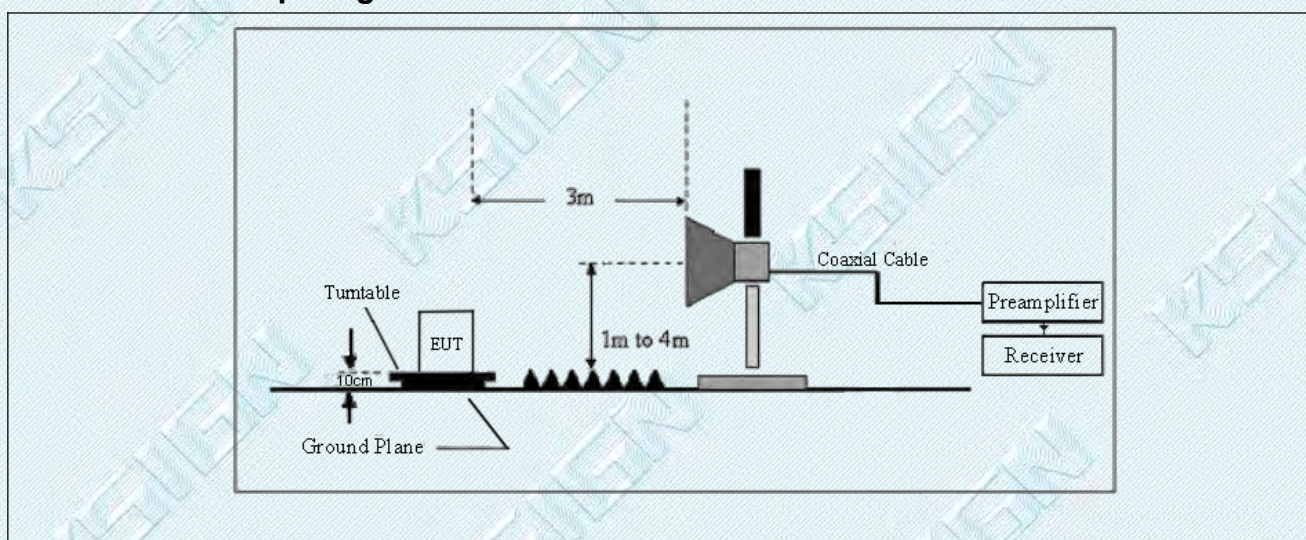
#### 4.10. Emissions in frequency bands (above 1GHz)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                               |                                   |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|
| Test Requirement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).` |                                   |                               |
| Test Limit:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Frequency (MHz)                                                                                                                                                                               | Field strength (microvolts/meter) | Measurement distance (meters) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.009-0.490                                                                                                                                                                                   | 2400/F(kHz)                       | 300                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.490-1.705                                                                                                                                                                                   | 24000/F(kHz)                      | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.705-30.0                                                                                                                                                                                    | 30                                | 30                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30-88                                                                                                                                                                                         | 100 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 88-216                                                                                                                                                                                        | 150 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 216-960                                                                                                                                                                                       | 200 **                            | 3                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Above 960                                                                                                                                                                                     | 500                               | 3                             |
| <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> |                                                                                                                                                                                               |                                   |                               |
| Test Method:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANSI C63.10-2013 section 6.6.4<br>KDB 558074 D01 15.247 Meas Guidance v05r02                                                                                                                  |                                   |                               |
| Procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ANSI C63.10-2013 section 6.6.4                                                                                                                                                                |                                   |                               |

##### 4.10.1. E.U.T. Operation:

|                        |                                    |
|------------------------|------------------------------------|
| Operating Environment: |                                    |
| Temperature:           | 25.7 °C                            |
| Humidity:              | 46.1 %                             |
| Atmospheric Pressure:  | 101 kPa                            |
| Final test mode:       | Test Mode1, Test Mode2, Test Mode3 |

##### 4.10.2. Test Setup Diagram:



### 4.10.3. Test Data:

Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1353.600     | 53.39                   | -11.98                   | 41.41                   | 74.00             | -32.59       | peak     |
| 2   |     | 2885.300     | 52.56                   | -9.69                    | 42.87                   | 74.00             | -31.13       | peak     |
| 3   |     | 4619.300     | 51.04                   | -6.66                    | 44.38                   | 74.00             | -29.62       | peak     |
| 4   |     | 8128.100     | 45.76                   | 2.88                     | 48.64                   | 74.00             | -25.36       | peak     |
| 5   |     | 12175.800    | 42.34                   | 8.09                     | 50.43                   | 74.00             | -23.57       | peak     |
| 6   | *   | 17760.300    | 37.82                   | 14.91                    | 52.73                   | 74.00             | -21.27       | peak     |

TRF No. RF\_R1

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**Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L**


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1212.500     | 53.58                   | -12.29                   | 41.29                   | 74.00             | -32.71       | peak     |
| 2   |     | 1935.000     | 53.06                   | -10.73                   | 42.33                   | 74.00             | -31.67       | peak     |
| 3   |     | 2615.000     | 53.70                   | -10.05                   | 43.65                   | 74.00             | -30.35       | peak     |
| 4   |     | 6426.400     | 47.66                   | -1.43                    | 46.23                   | 74.00             | -27.77       | peak     |
| 5   |     | 10907.600    | 43.69                   | 5.94                     | 49.63                   | 74.00             | -24.37       | peak     |
| 6   | *   | 16738.600    | 38.29                   | 14.37                    | 52.66                   | 74.00             | -21.34       | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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**Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M**


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1290.700     | 53.54                   | -12.11                   | 41.43                   | 74.00             | -32.57       | peak     |
| 2   |     | 2417.800     | 53.24                   | -10.11                   | 43.13                   | 74.00             | -30.87       | peak     |
| 3   |     | 3623.100     | 53.90                   | -8.43                    | 45.47                   | 74.00             | -28.53       | peak     |
| 4   |     | 7079.200     | 47.34                   | 0.80                     | 48.14                   | 74.00             | -25.86       | peak     |
| 5   |     | 9919.900     | 45.84                   | 4.71                     | 50.55                   | 74.00             | -23.45       | peak     |
| 6   | *   | 17755.200    | 37.64                   | 14.91                    | 52.55                   | 74.00             | -21.45       | peak     |

TRF No. RF\_R1

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**Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M**


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1268.600     | 54.30                   | -12.16                   | 42.14                   | 74.00             | -31.86       | peak     |
| 2   |     | 2198.500     | 53.50                   | -10.29                   | 43.21                   | 74.00             | -30.79       | peak     |
| 3   |     | 3298.400     | 53.87                   | -9.29                    | 44.58                   | 74.00             | -29.42       | peak     |
| 4   |     | 4961.000     | 53.10                   | -5.44                    | 47.66                   | 74.00             | -26.34       | peak     |
| 5   |     | 5996.300     | 51.24                   | -2.43                    | 48.81                   | 74.00             | -25.19       | peak     |
| 6   | *   | 16930.700    | 37.40                   | 14.42                    | 51.82                   | 74.00             | -22.18       | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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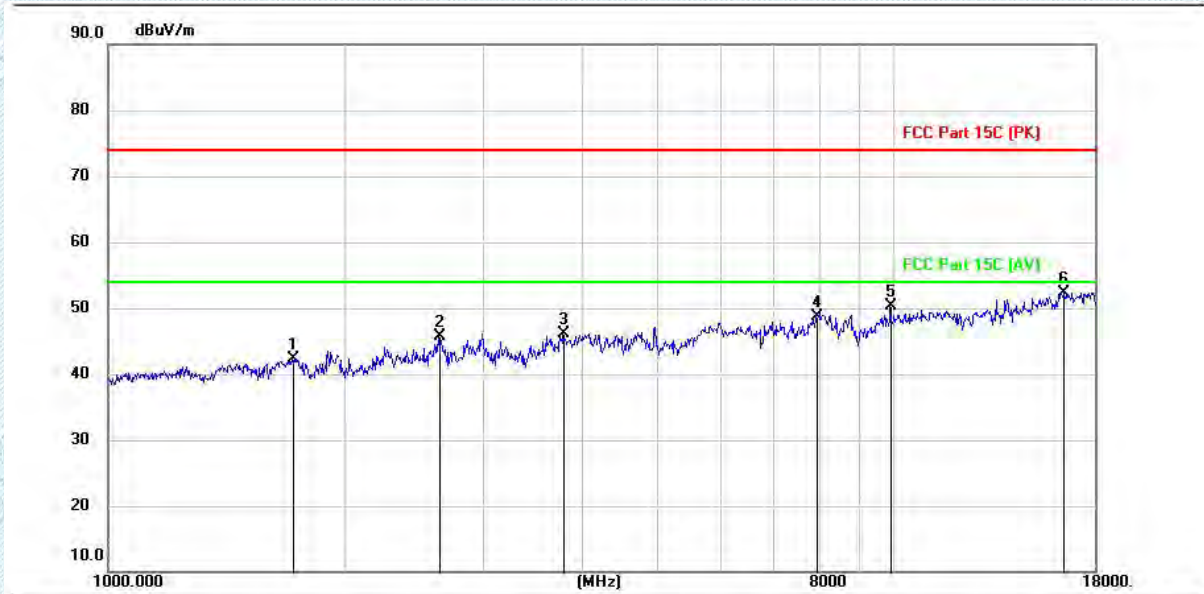
**Test Mode1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H**


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1367.200     | 53.27                   | -11.94                   | 41.33                   | 74.00             | -32.67       | peak     |
| 2   |     | 2181.500     | 52.86                   | -10.33                   | 42.53                   | 74.00             | -31.47       | peak     |
| 3   |     | 3074.000     | 53.16                   | -9.32                    | 43.84                   | 74.00             | -30.16       | peak     |
| 4   |     | 3796.500     | 54.08                   | -8.56                    | 45.52                   | 74.00             | -28.48       | peak     |
| 5   |     | 6576.000     | 49.49                   | -0.94                    | 48.55                   | 74.00             | -25.45       | peak     |
| 6   | *   | 13268.900    | 40.45                   | 10.33                    | 50.78                   | 74.00             | -23.22       | peak     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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**Test Mode1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H**


| No. | Mk. | Freq.<br>MHz | Reading Level<br>(dBuV) | Correct Factor<br>(dB/m) | Measurement<br>(dBuV/m) | Limit<br>(dBuV/m) | Over<br>(dB) | Detector |
|-----|-----|--------------|-------------------------|--------------------------|-------------------------|-------------------|--------------|----------|
| 1   |     | 1715.700     | 53.36                   | -10.98                   | 42.38                   | 74.00             | -31.62       | peak     |
| 2   |     | 2637.100     | 55.78                   | -10.04                   | 45.74                   | 74.00             | -28.26       | peak     |
| 3   |     | 3799.900     | 54.73                   | -8.57                    | 46.16                   | 74.00             | -27.84       | peak     |
| 4   |     | 7961.500     | 45.92                   | 2.81                     | 48.73                   | 74.00             | -25.27       | peak     |
| 5   |     | 9919.900     | 45.52                   | 4.71                     | 50.23                   | 74.00             | -23.77       | peak     |
| 6   | *   | 16420.700    | 38.24                   | 14.12                    | 52.36                   | 74.00             | -21.64       | peak     |

**Note:**

1. Measurement = Reading level + Correct Factor
2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor
3. Pre-scan DH5, 2DH5 and 3DH5 modulation, and found the DH5 modulation which it is worse case, so only show the test data for worse case.
4. Since the peak value is less than the limit of the AVG value, there is no AVG data.

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 5. EUT TEST PHOTOS

Conducted Emission at AC power line



RF



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

**Emissions in frequency bands (below 1GHz)****Emissions in frequency bands (above 1GHz)**

## 6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Refer to Appendix - EUT Photos for KS2502S0602E.

# Appendix

## 6.1. Appendix A: 20dB Emission Bandwidth

### 6.1.1. Test Result

| TestMode | Antenna | Frequency[MHz] | 20db EBW[MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|----------------|---------------|---------|---------|------------|---------|
| DH5      | Ant1    | 2402           | 0.71          | 2401.66 | 2402.37 | ---        | ---     |
|          |         | 2441           | 0.71          | 2440.66 | 2441.37 | ---        | ---     |
|          |         | 2480           | 0.71          | 2479.66 | 2480.37 | ---        | ---     |
| 2DH5     | Ant1    | 2402           | 1.28          | 2401.36 | 2402.64 | ---        | ---     |
|          |         | 2441           | 1.28          | 2440.36 | 2441.64 | ---        | ---     |
|          |         | 2480           | 1.28          | 2479.36 | 2480.64 | ---        | ---     |
| 3DH5     | Ant1    | 2402           | 1.11          | 2401.44 | 2402.54 | ---        | ---     |
|          |         | 2441           | 1.11          | 2440.44 | 2441.55 | ---        | ---     |
|          |         | 2480           | 1.11          | 2479.44 | 2480.54 | ---        | ---     |

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.1.2. Test Graphs



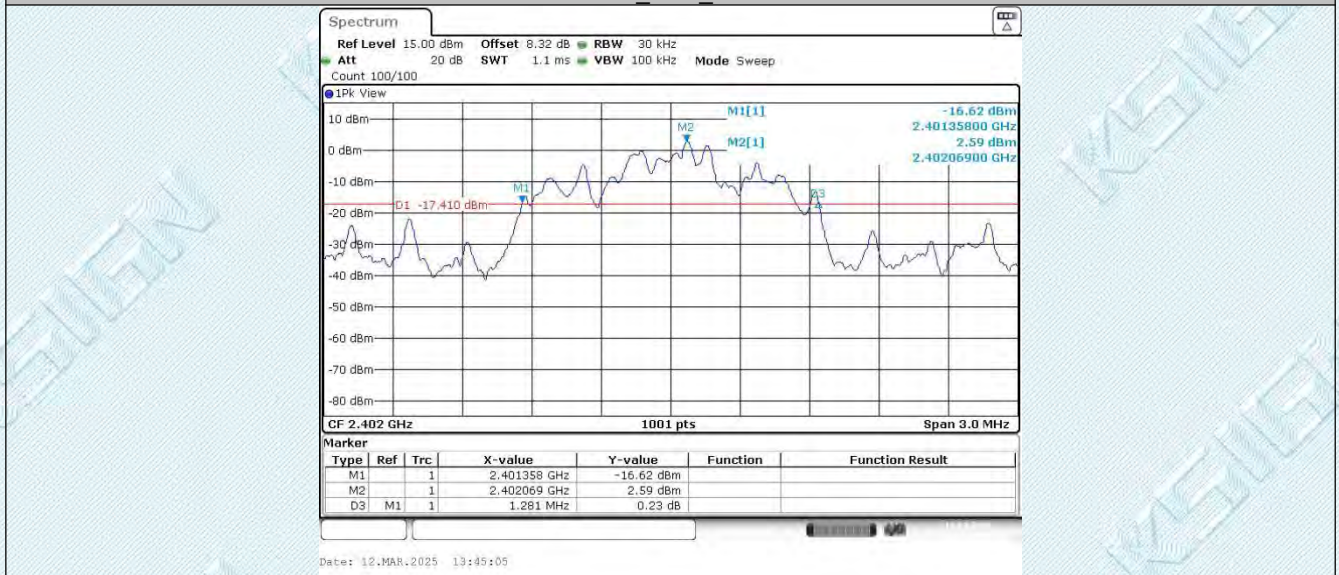
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

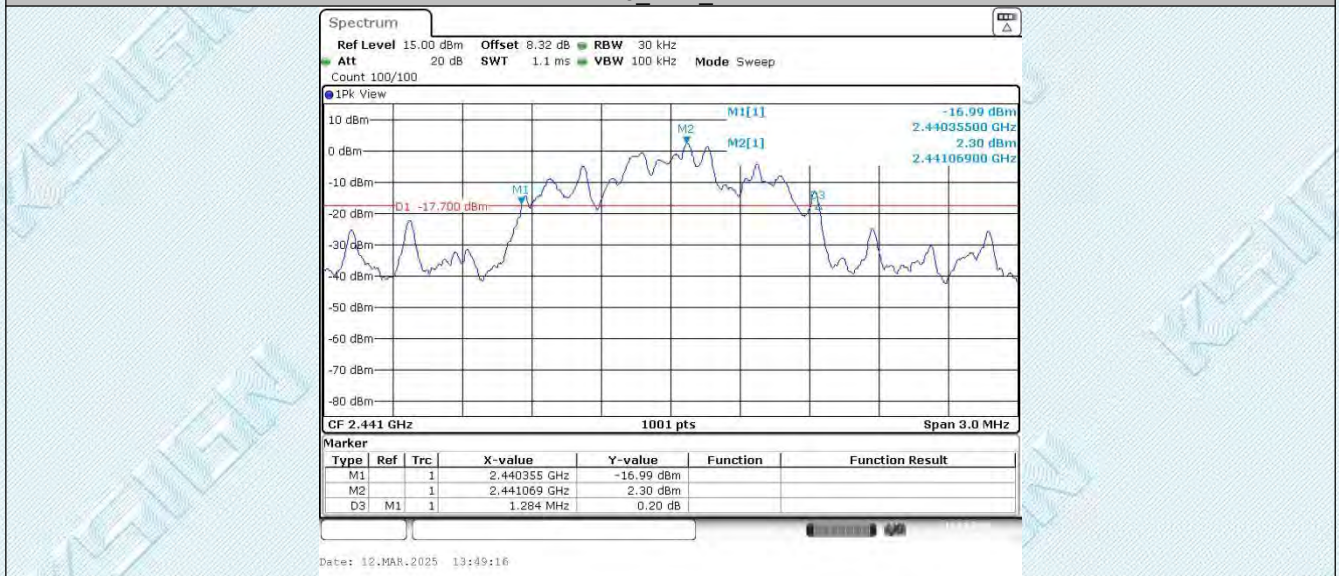
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com



2DH5\_Ant1\_2402



2DH5\_Ant1\_2441

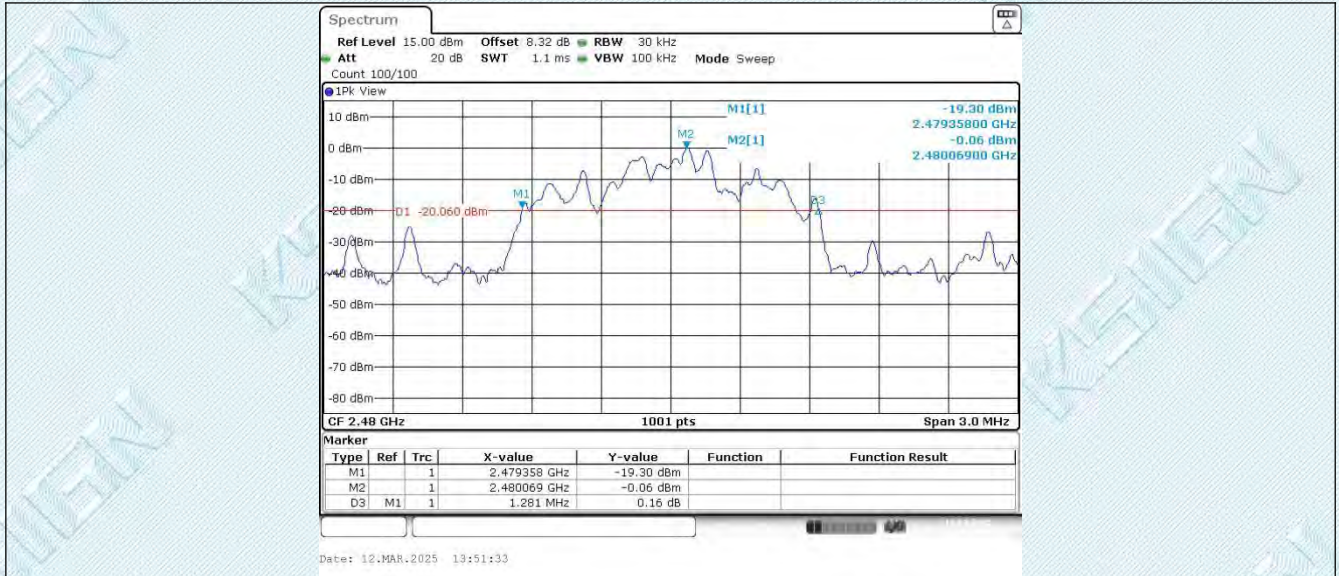


2DH5\_Ant1\_2480

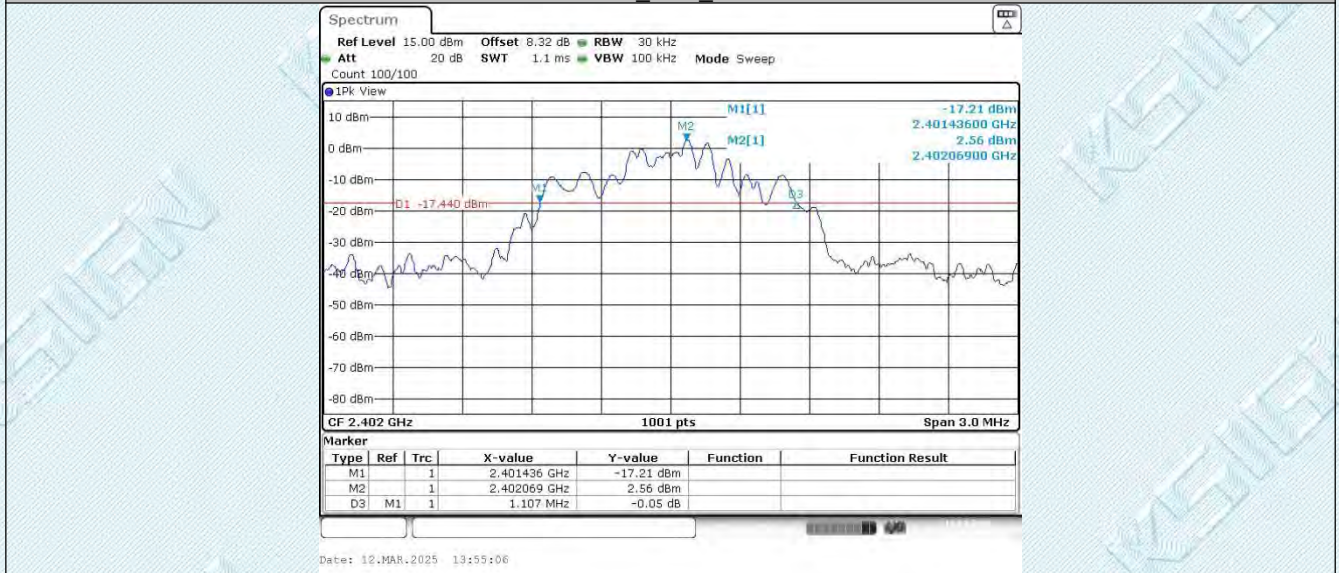
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

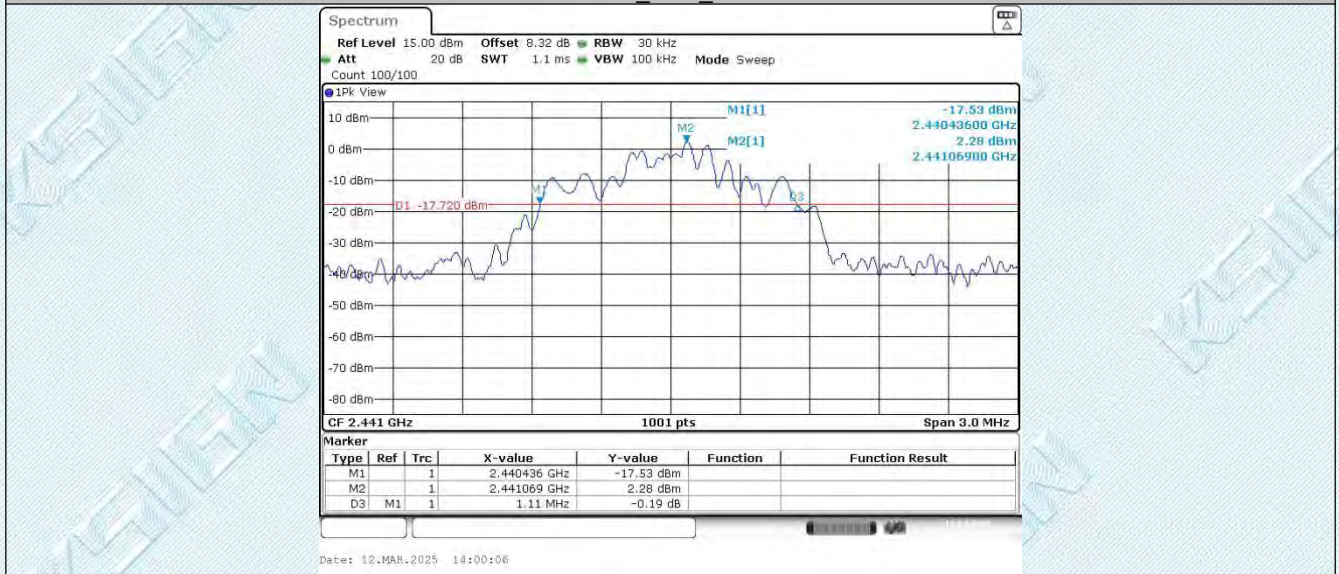
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441

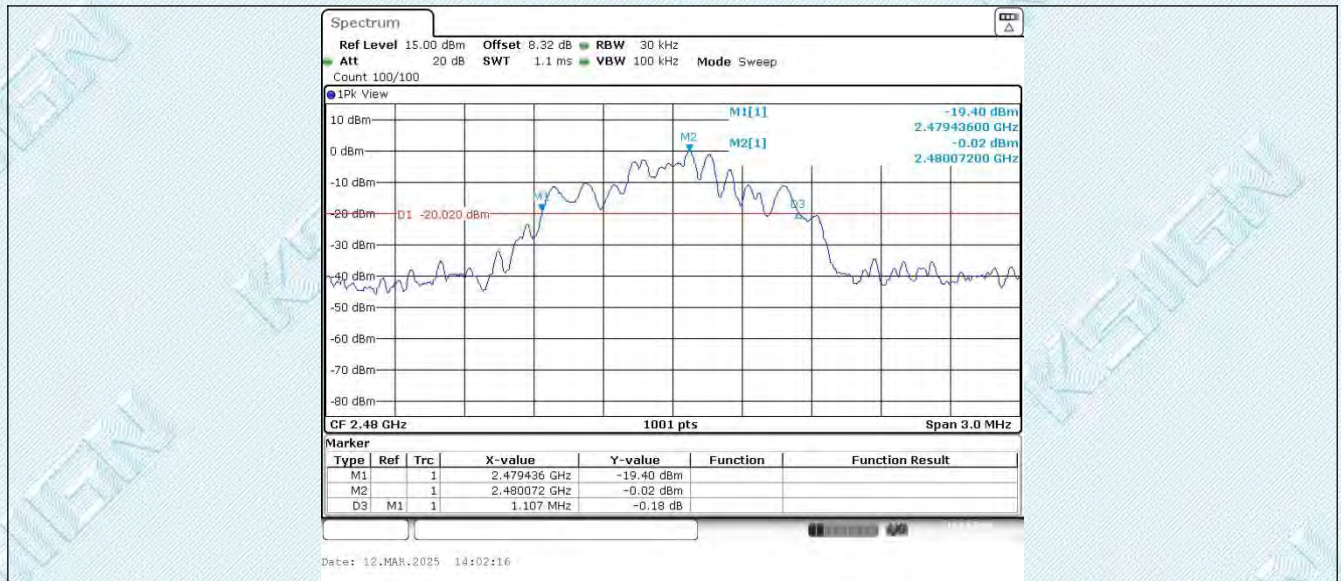


3DH5\_Ant1\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.2. Appendix B: Occupied Channel Bandwidth

### 6.2.1. Test Result

| TestMode | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|-----------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402           | 0.773     | 2401.589 | 2402.363 | ---        | ---     |
|          |         | 2441           | 0.785     | 2440.583 | 2441.369 | ---        | ---     |
|          |         | 2480           | 0.767     | 2479.601 | 2480.369 | ---        | ---     |
| 2DH5     | Ant1    | 2402           | 1.229     | 2401.386 | 2402.614 | ---        | ---     |
|          |         | 2441           | 1.226     | 2440.386 | 2441.611 | ---        | ---     |
|          |         | 2480           | 1.205     | 2479.398 | 2480.602 | ---        | ---     |
| 3DH5     | Ant1    | 2402           | 1.064     | 2401.461 | 2402.524 | ---        | ---     |
|          |         | 2441           | 1.076     | 2440.458 | 2441.533 | ---        | ---     |
|          |         | 2480           | 1.076     | 2479.461 | 2480.536 | ---        | ---     |

## 6.2.2. Test Graphs



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

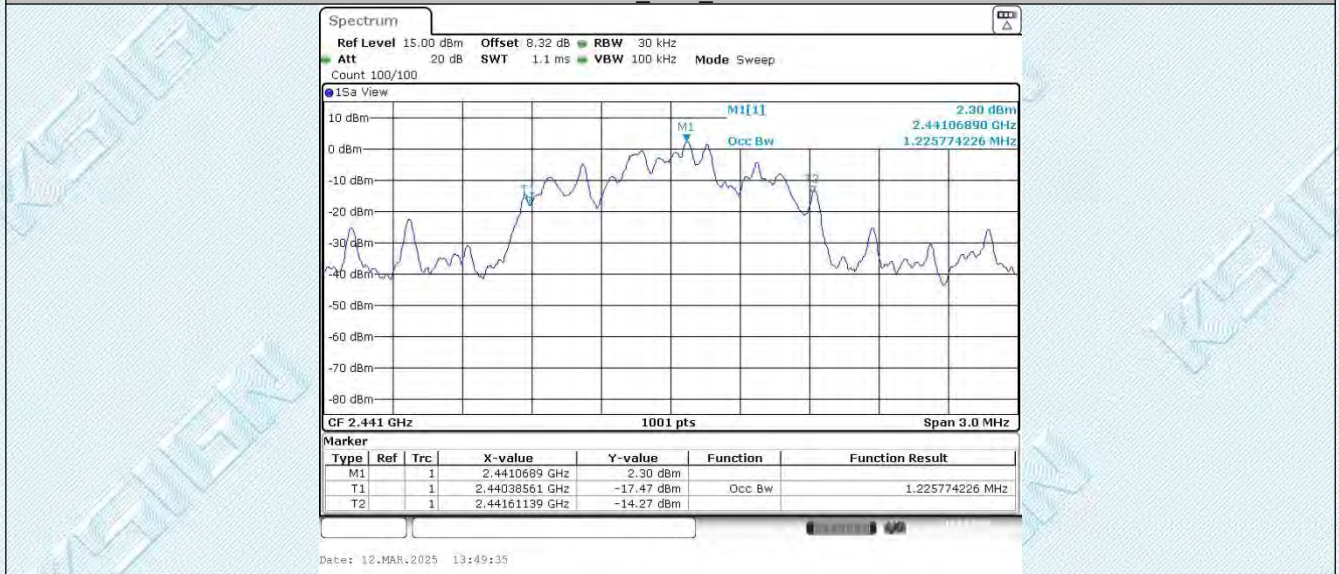
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com



2DH5\_Ant1\_2402



2DH5\_Ant1\_2441

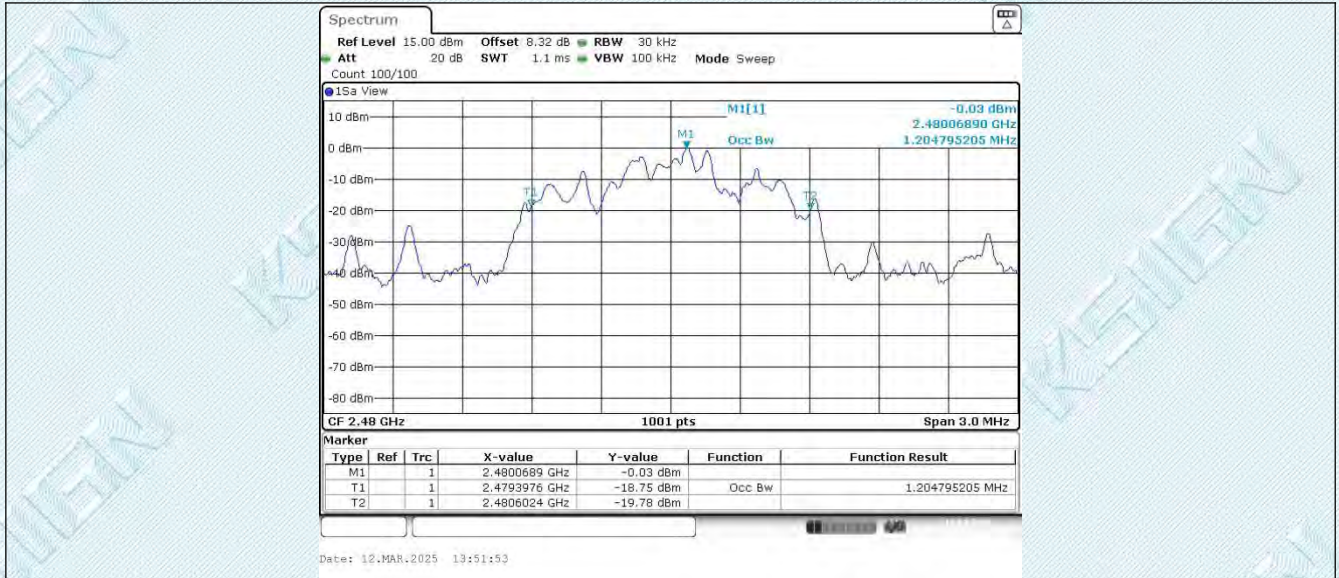


2DH5\_Ant1\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

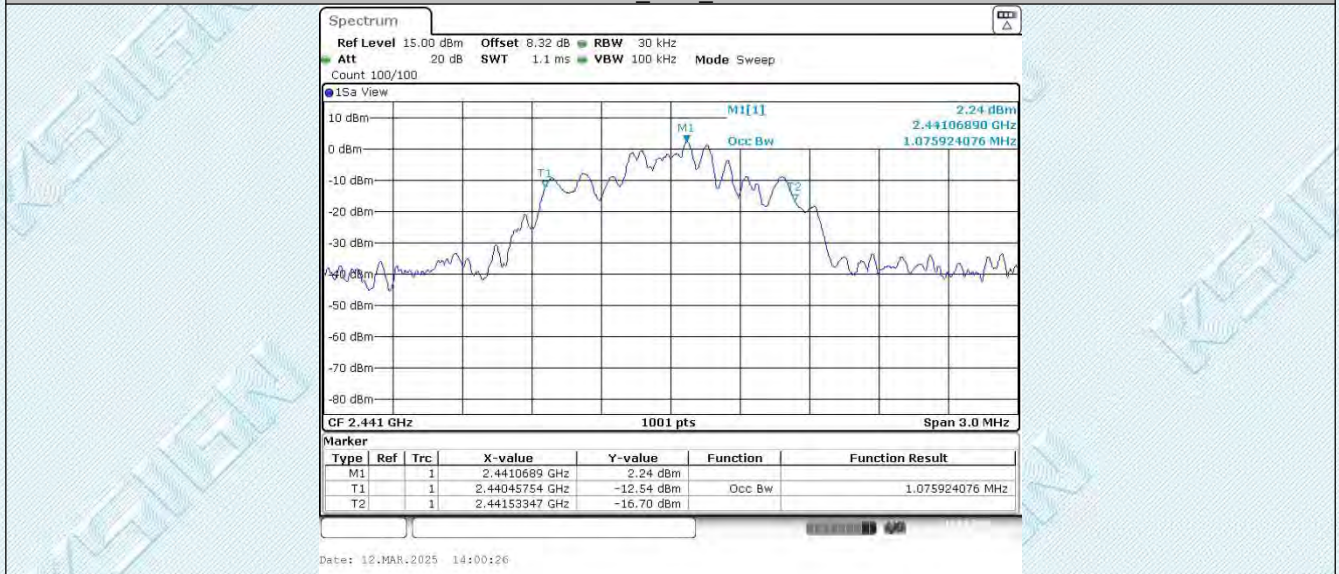
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3DH5\_Ant1\_2402



3DH5\_Ant1\_2441

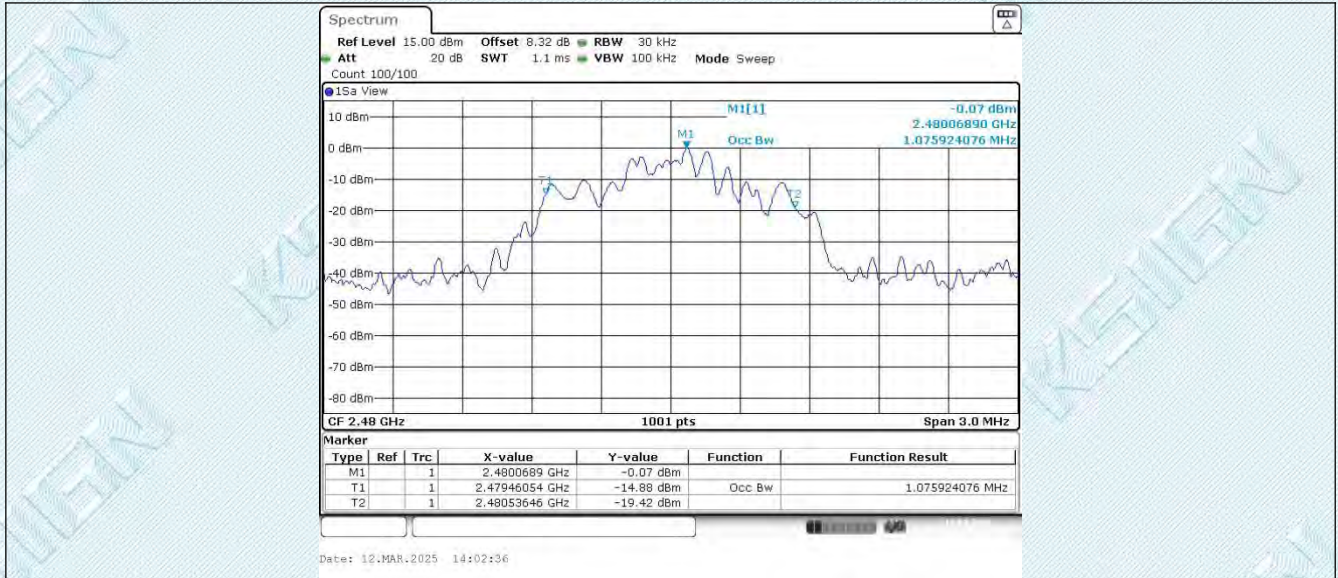


3DH5\_Ant1\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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### 6.3. Appendix C: Maximum conducted output power

#### 6.3.1. Test Result

| Test Mode | Antenna | Frequency[MHz] | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|-----------|---------|----------------|---------------------------|----------------------|---------|
| DH5       | Ant1    | 2402           | 2.09                      | ≤20.97               | PASS    |
|           |         | 2441           | 1.56                      | ≤20.97               | PASS    |
|           |         | 2480           | -0.69                     | ≤20.97               | PASS    |
| 2DH5      | Ant1    | 2402           | 4.18                      | ≤20.97               | PASS    |
|           |         | 2441           | 3.95                      | ≤20.97               | PASS    |
|           |         | 2480           | 1.71                      | ≤20.97               | PASS    |
| 3DH5      | Ant1    | 2402           | 4.36                      | ≤20.97               | PASS    |
|           |         | 2441           | 3.95                      | ≤20.97               | PASS    |
|           |         | 2480           | 1.72                      | ≤20.97               | PASS    |

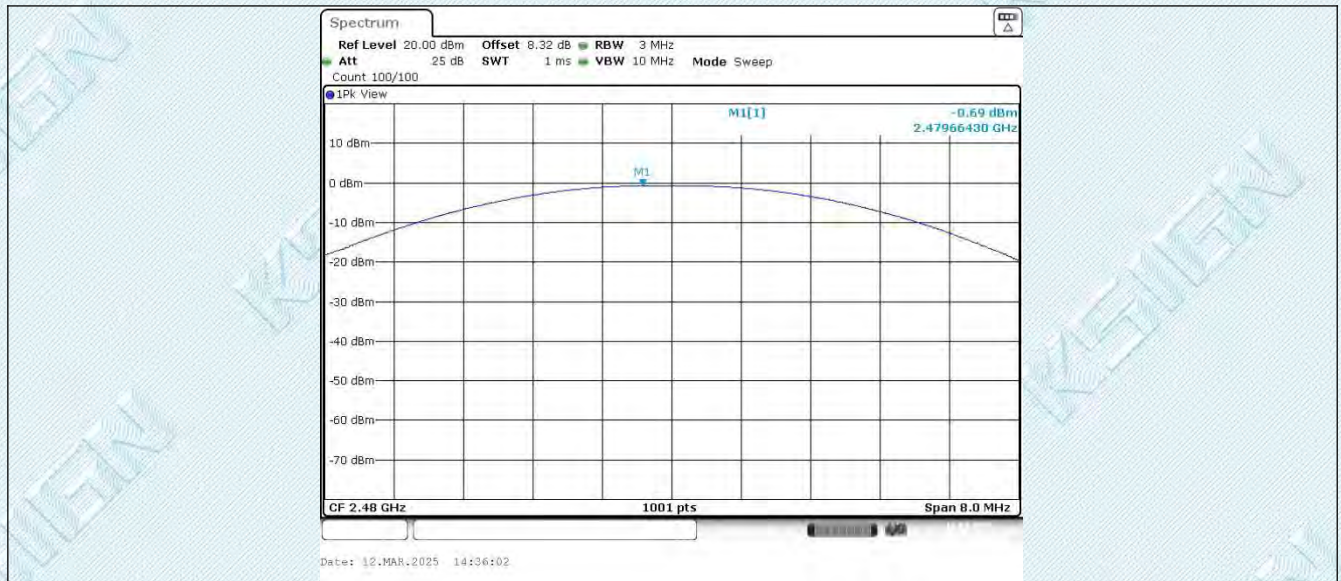
### 6.3.2. Test Graphs



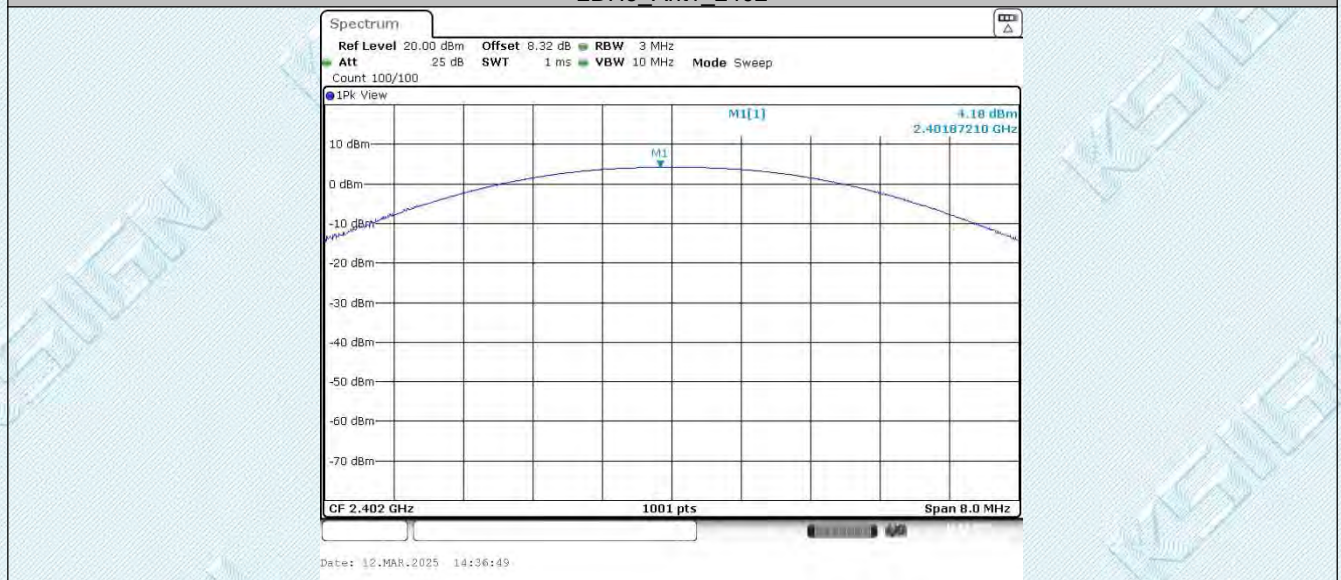
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

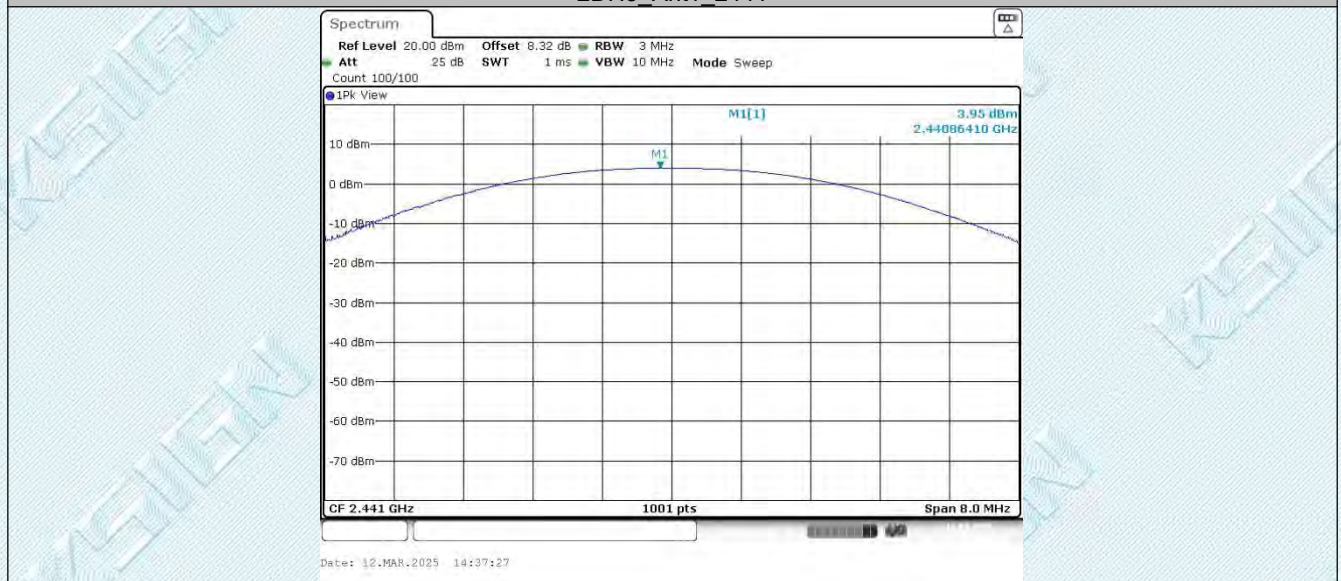
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2DH5\_Ant1\_2402



2DH5\_Ant1\_2441

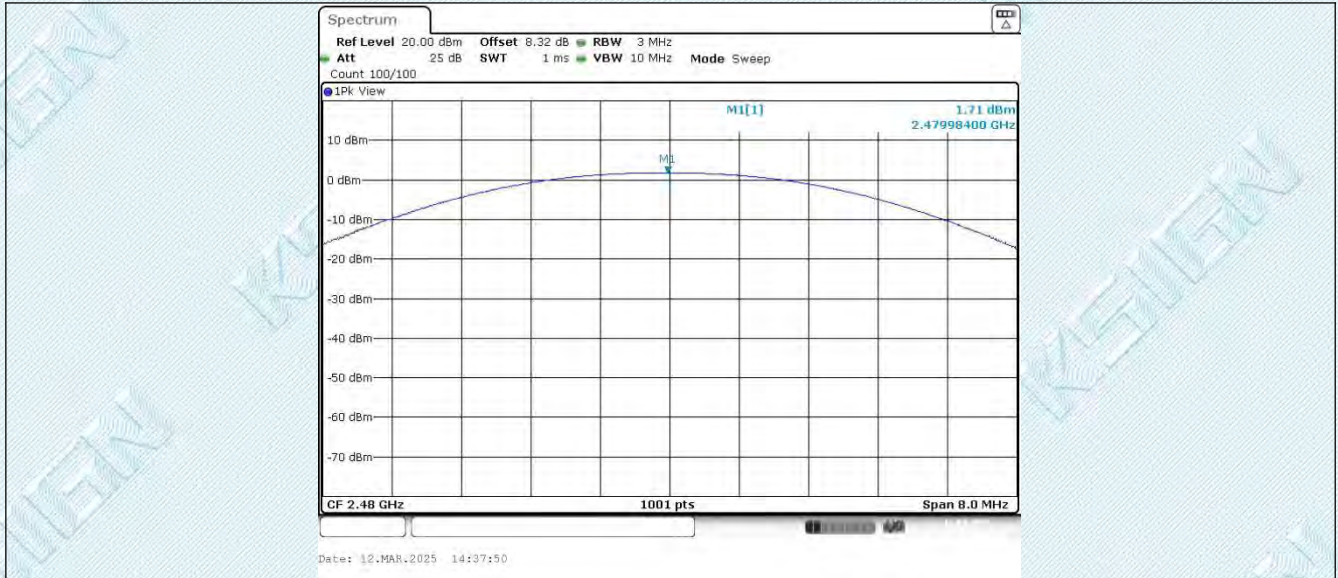


2DH5\_Ant1\_2480

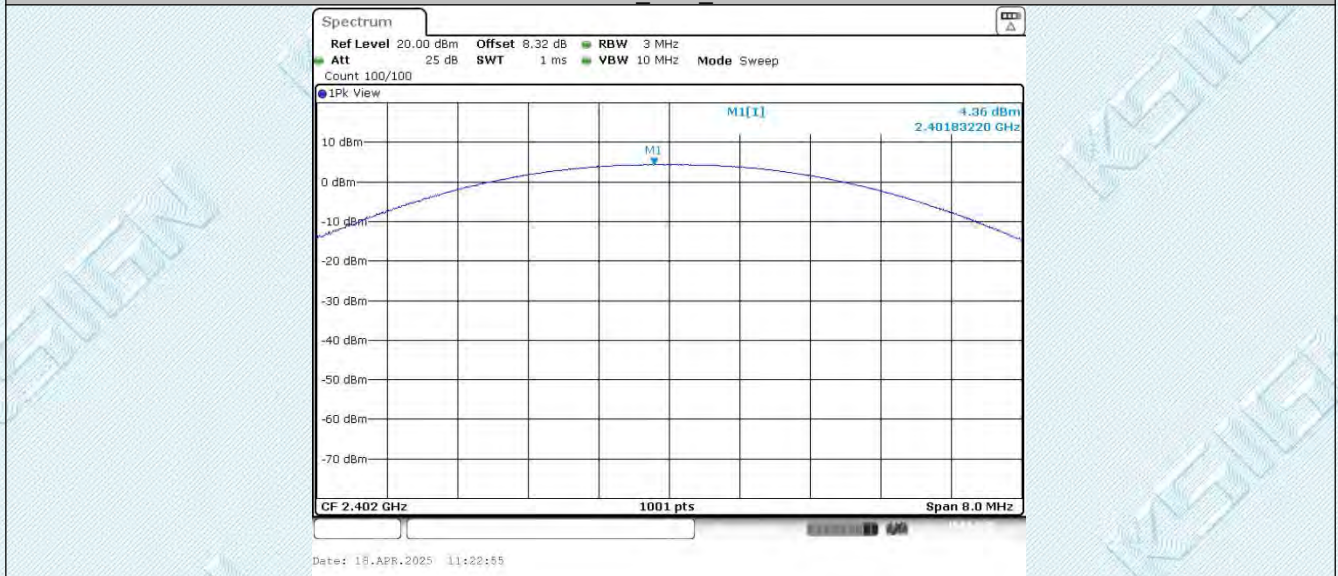
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

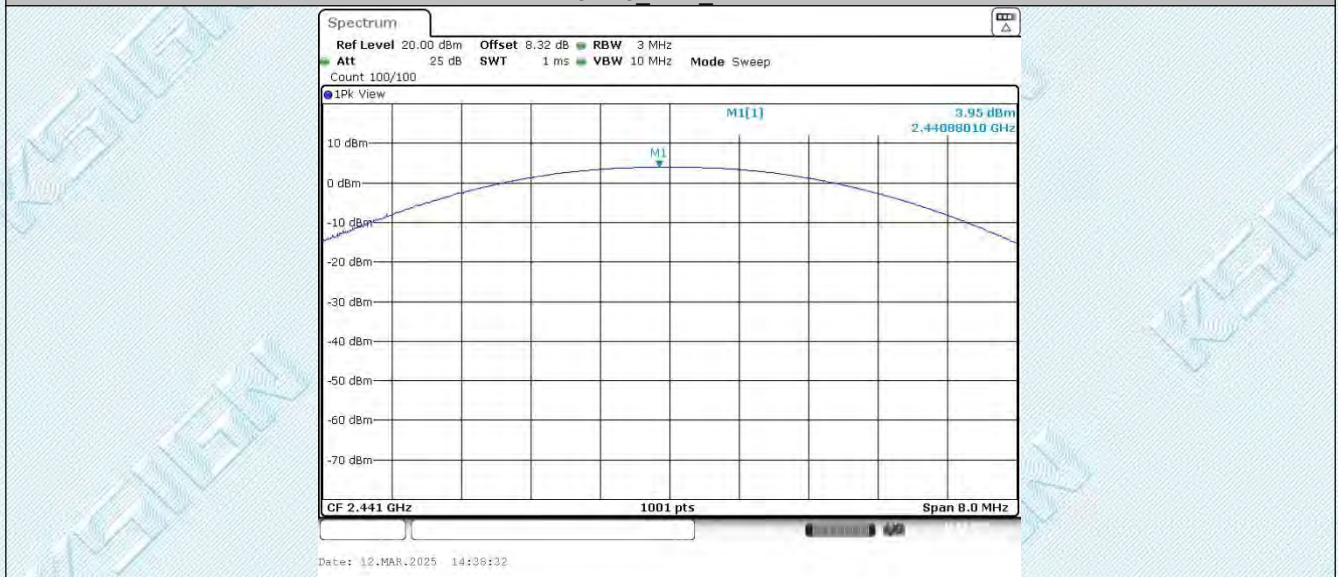
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3DH5\_Ant1\_2402



3DH5\_Ant1\_2441

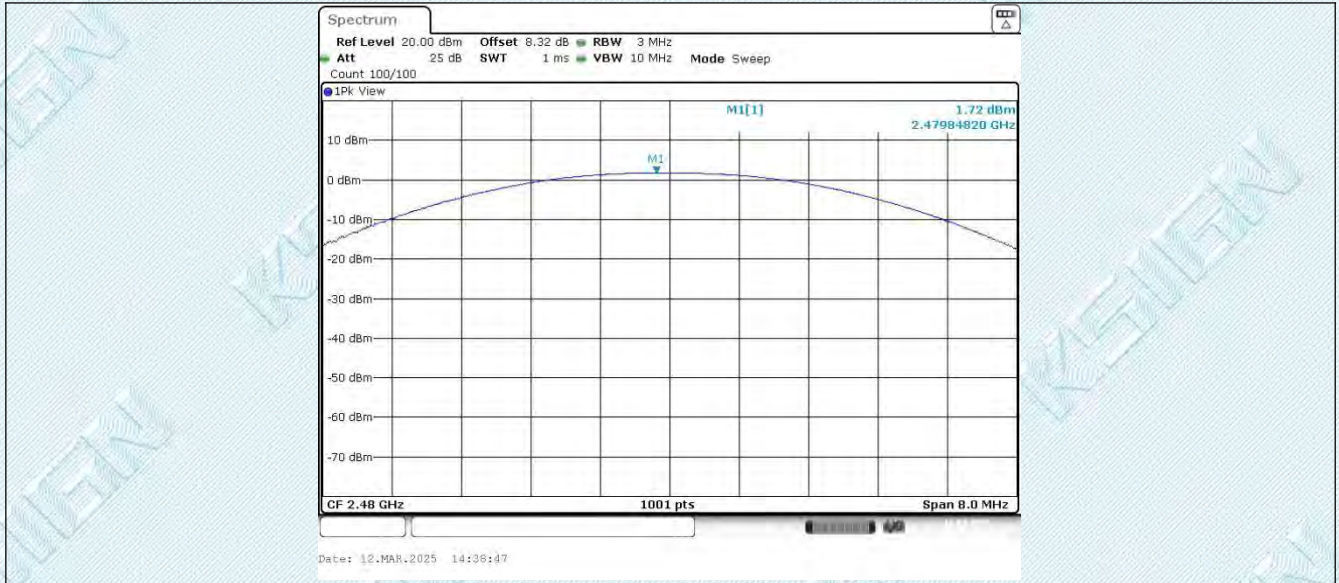


3DH5\_Ant1\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.4. Appendix D: Carrier frequency separation

### 6.4.1. Test Result

| TestMode | Antenna | Frequency[MHz] | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|----------------|-------------|--------------|---------|
| DH5      | Ant1    | Hop            | 1.038       | $\geq 0.473$ | PASS    |
| 2DH5     | Ant1    | Hop            | 1.246       | $\geq 0.853$ | PASS    |
| 3DH5     | Ant1    | Hop            | 1.304       | $\geq 0.740$ | PASS    |

## 6.4.2. Test Graphs



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

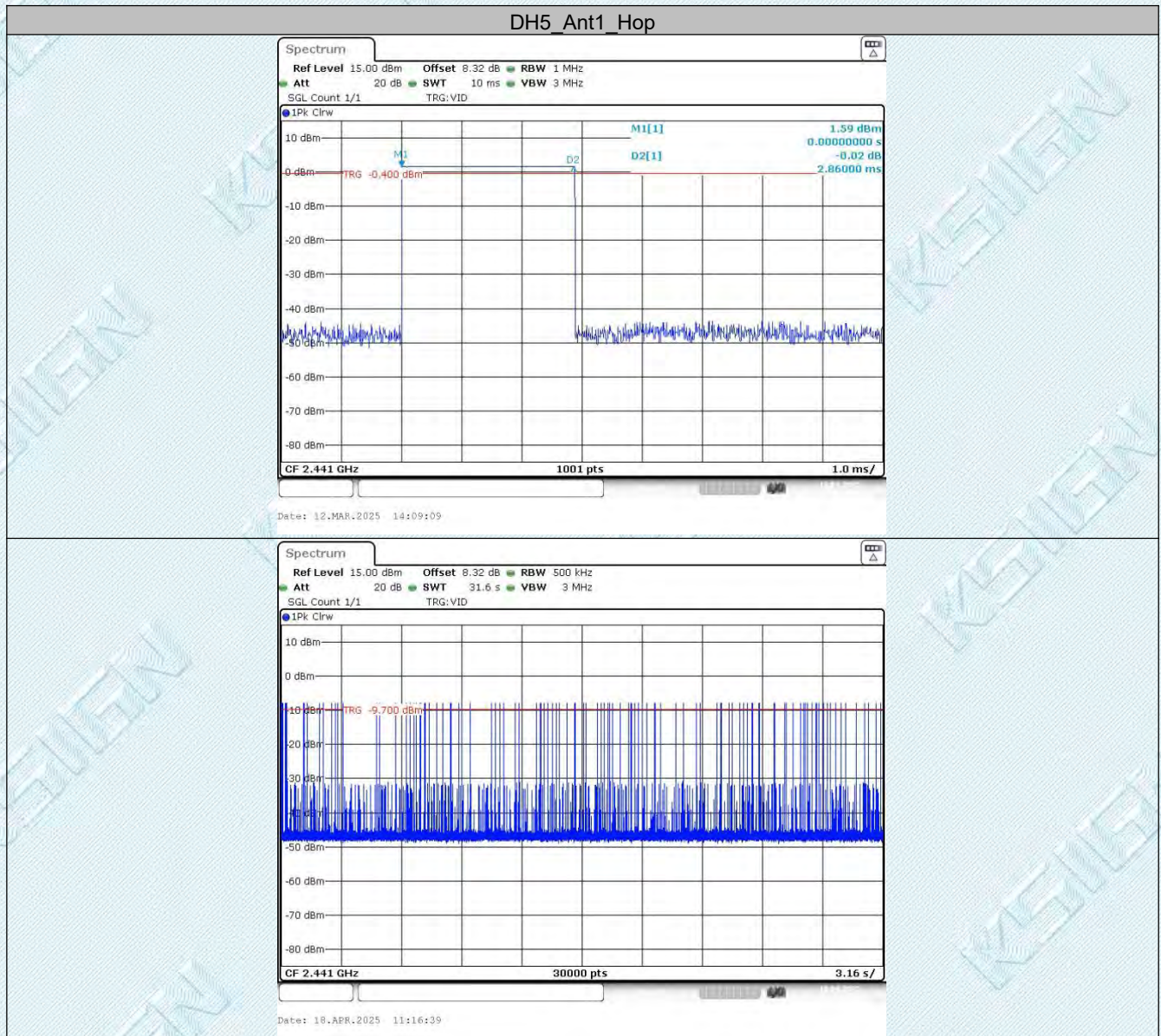
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

## 6.5. Appendix E: Time of occupancy

### 6.5.1. Test Result

| TestMode | Antenna | Frequency[MHz] | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|----------------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop            | 2.86               | 103                | 0.295     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop            | 2.86               | 126                | 0.360     | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop            | 2.86               | 114                | 0.326     | ≤0.4     | PASS    |

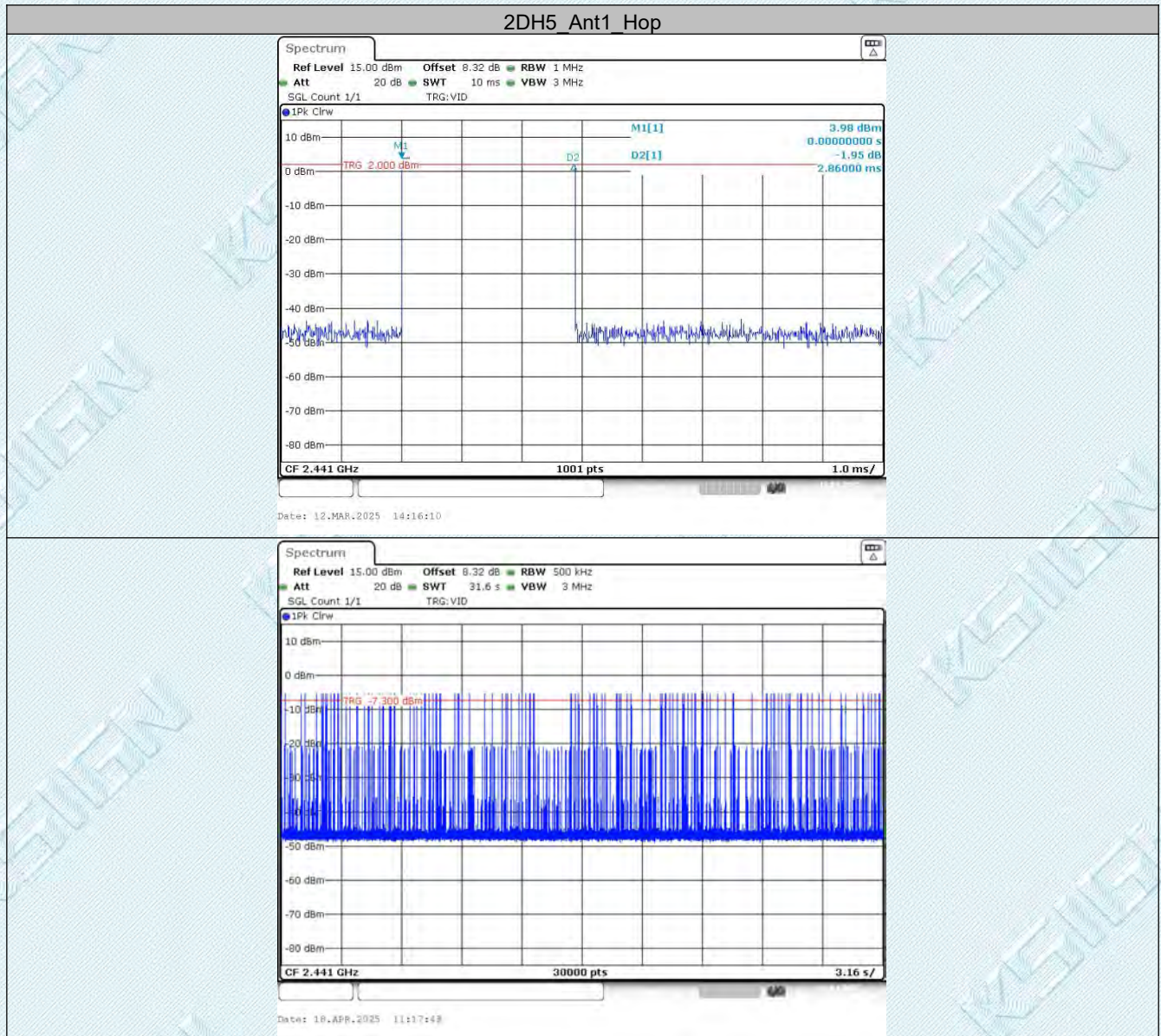
## 6.5.2. Test Graphs



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

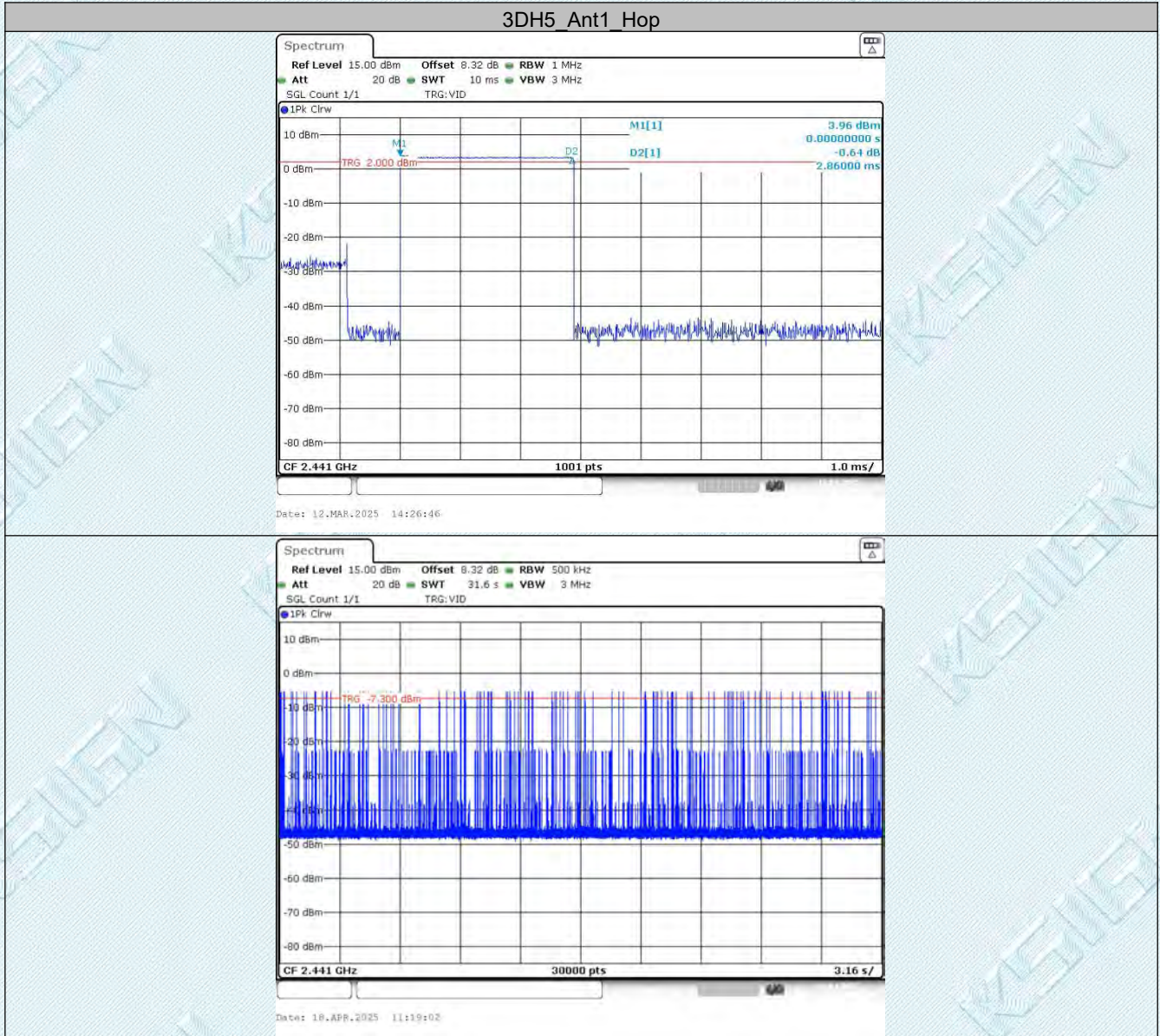
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.6. Appendix F: Number of hopping channels

### 6.6.1. Test Result

| TestMode | Antenna | Frequency[MHz] | Result[Num] | Limit[Num] | Verdict |
|----------|---------|----------------|-------------|------------|---------|
| DH5      | Ant1    | Hop            | 79          | ≥15        | PASS    |
| 2DH5     | Ant1    | Hop            | 79          | ≥15        | PASS    |
| 3DH5     | Ant1    | Hop            | 79          | ≥15        | PASS    |

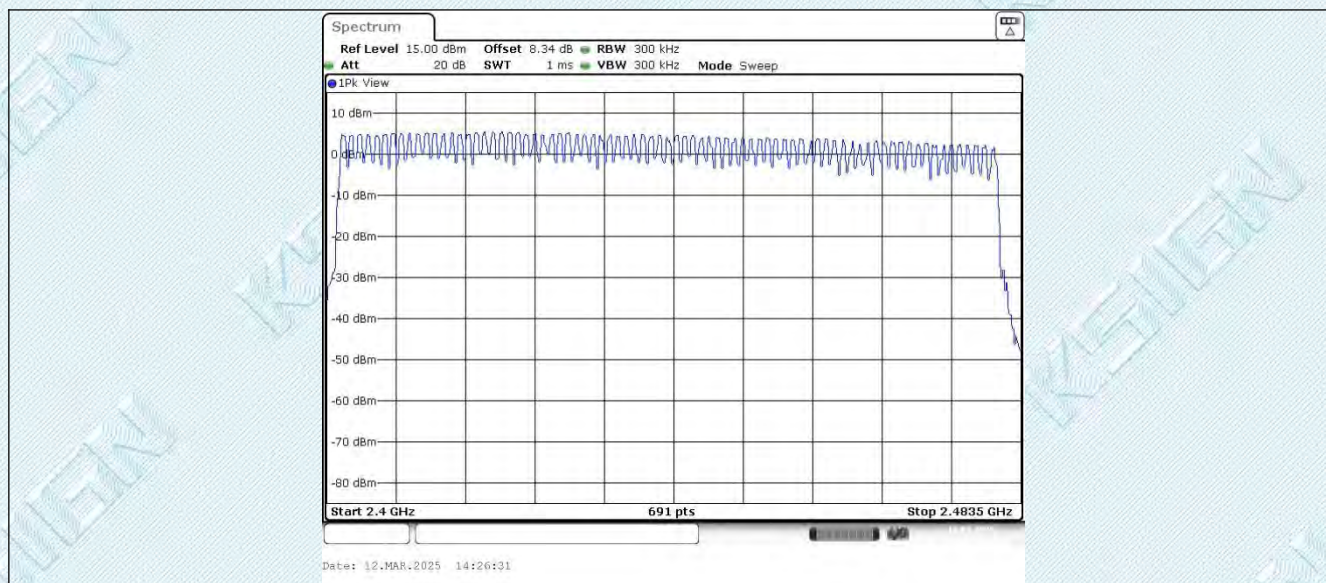
## 6.6.2. Test Graphs



TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.7. Appendix G: Band edge measurements

### 6.7.1. Test Result

| TestMode | Antenna | ChName | Frequency[MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|--------|----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | Low    | 2402           | 1.83           | -42.78       | ≤-18.17     | PASS    |
|          |         | High   | 2480           | -0.85          | -50.53       | ≤-20.85     | PASS    |
|          |         | Low    | Hop_2402       | 1.27           | -51.64       | ≤-18.73     | PASS    |
|          |         | High   | Hop_2480       | -0.80          | -51.41       | ≤-20.8      | PASS    |
| 2DH5     | Ant1    | Low    | 2402           | 4.07           | -37.75       | ≤-15.93     | PASS    |
|          |         | High   | 2480           | 1.44           | -48.61       | ≤-18.56     | PASS    |
|          |         | Low    | Hop_2402       | 2.71           | -51.35       | ≤-17.29     | PASS    |
|          |         | High   | Hop_2480       | 1.67           | -51.88       | ≤-18.33     | PASS    |
| 3DH5     | Ant1    | Low    | 2402           | 4.20           | -41.03       | ≤-15.8      | PASS    |
|          |         | High   | 2480           | 1.57           | -51.44       | ≤-18.43     | PASS    |
|          |         | Low    | Hop_2402       | 3.98           | -52.06       | ≤-16.02     | PASS    |
|          |         | High   | Hop_2480       | -0.57          | -51.24       | ≤-20.57     | PASS    |

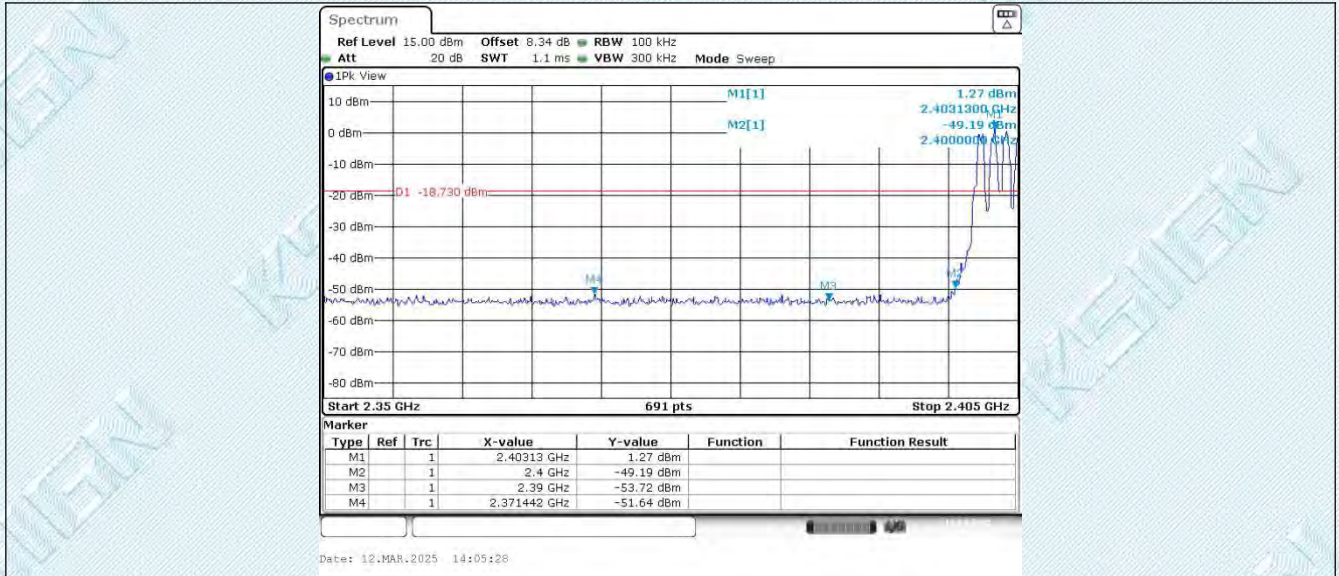
## 6.7.2. Test Graphs



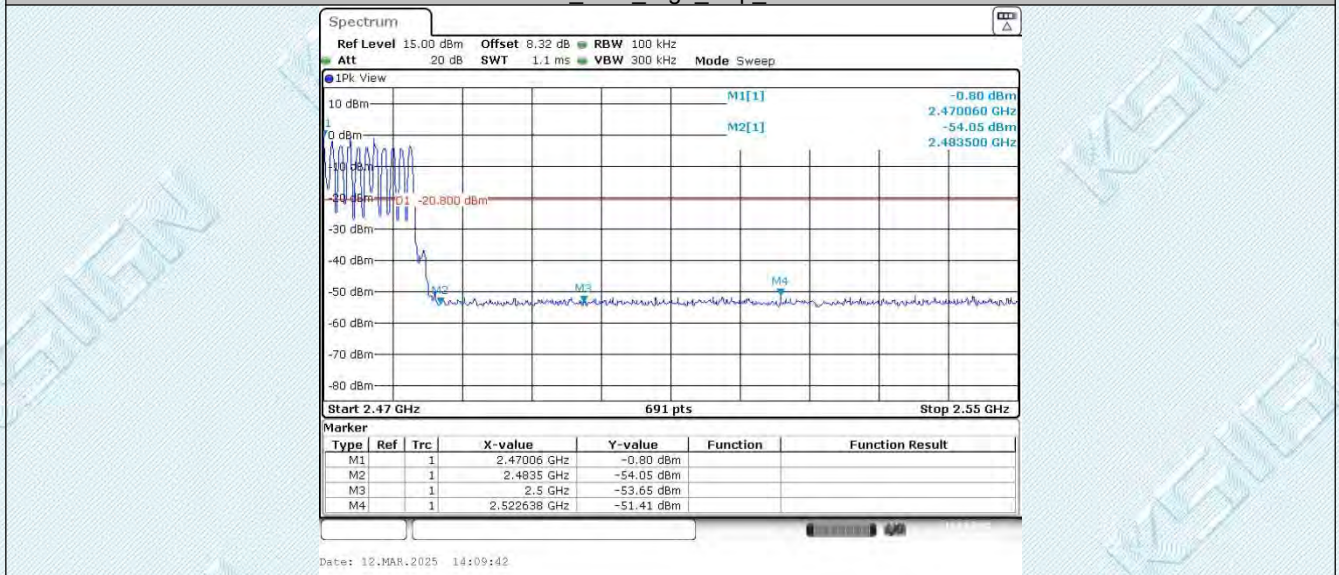
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

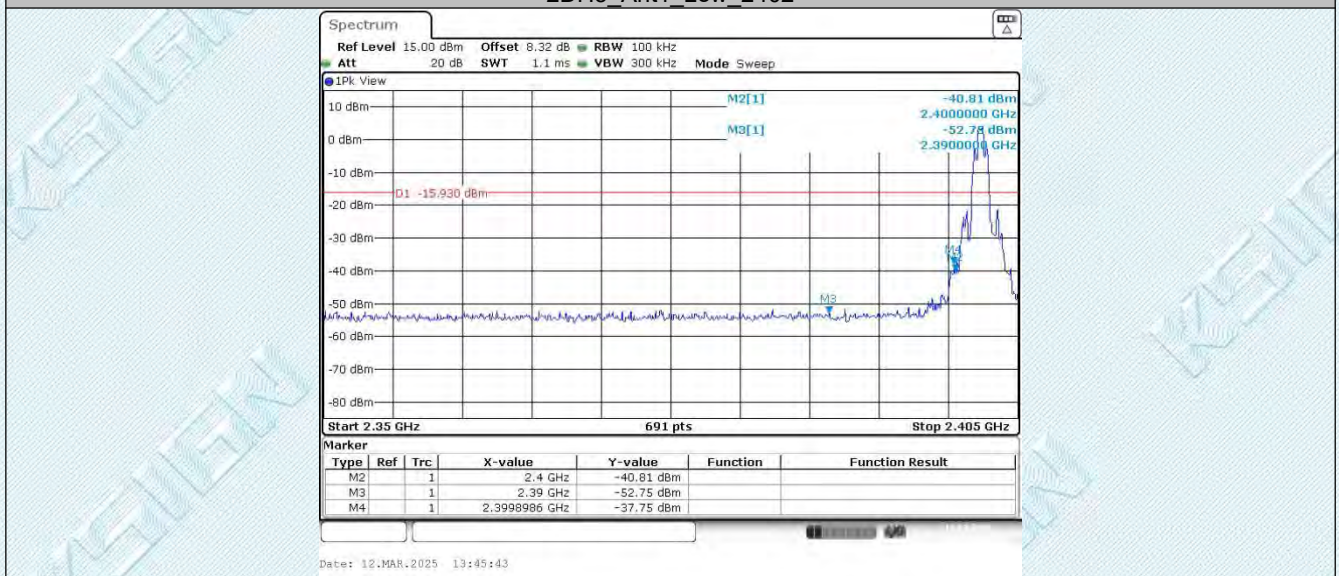
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com



DH5\_Ant1\_High\_Hop\_2480



2DH5\_Ant1\_Low\_2402

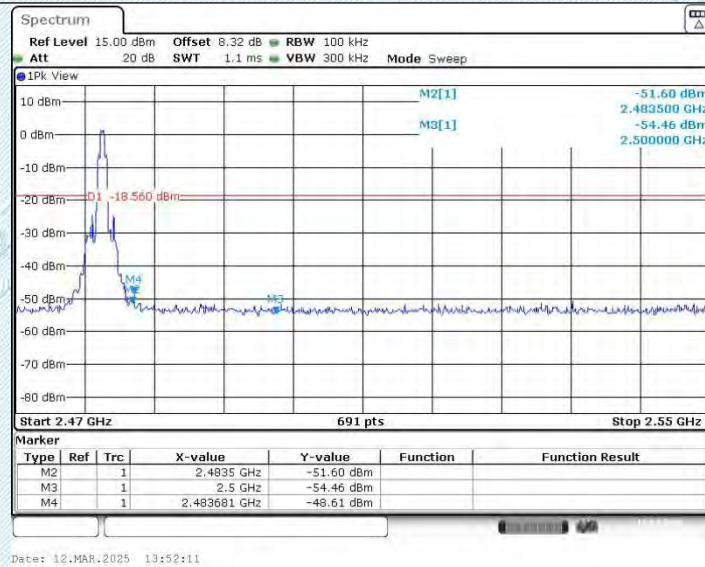


2DH5\_Ant1\_High\_2480

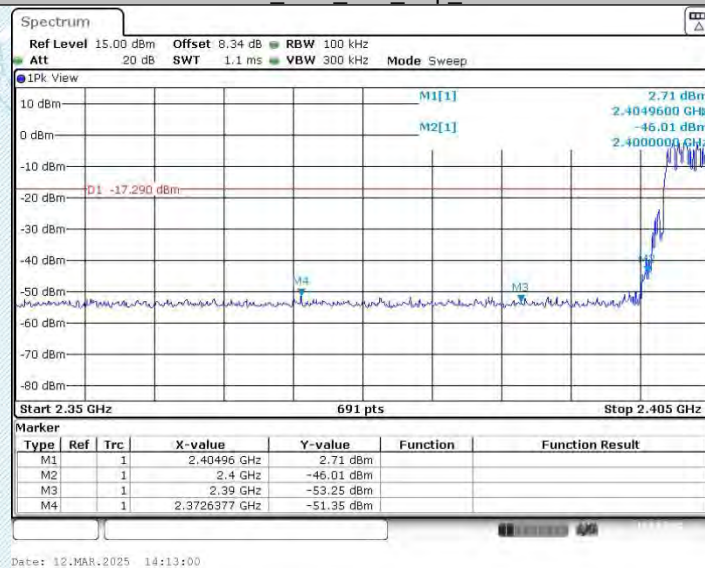
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

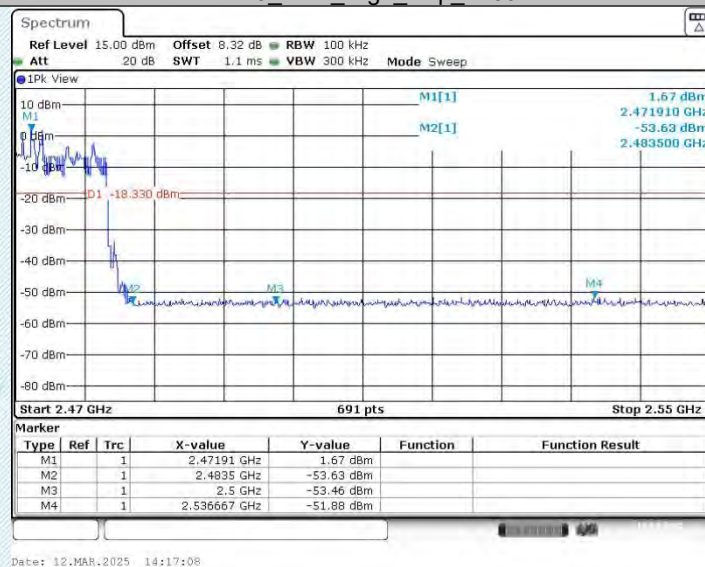
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2DH5\_Ant1\_Low\_Hop\_2402



2DH5\_Ant1\_High\_Hop\_2480

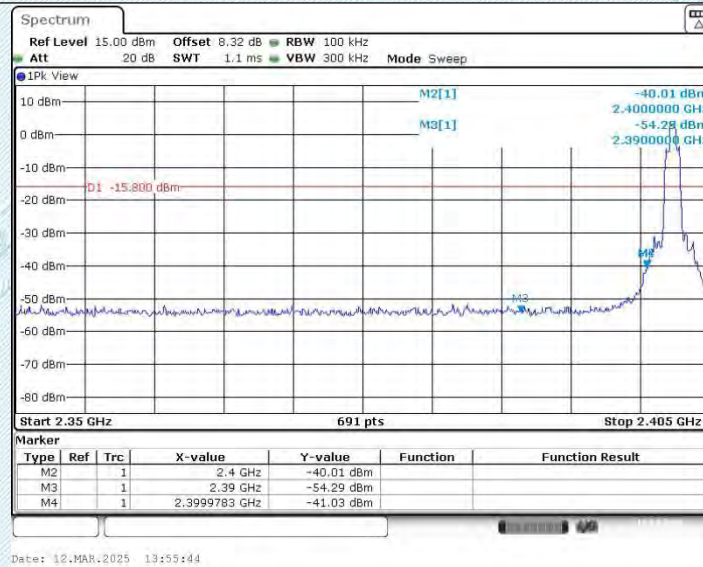


3DH5\_Ant1\_Low\_2402

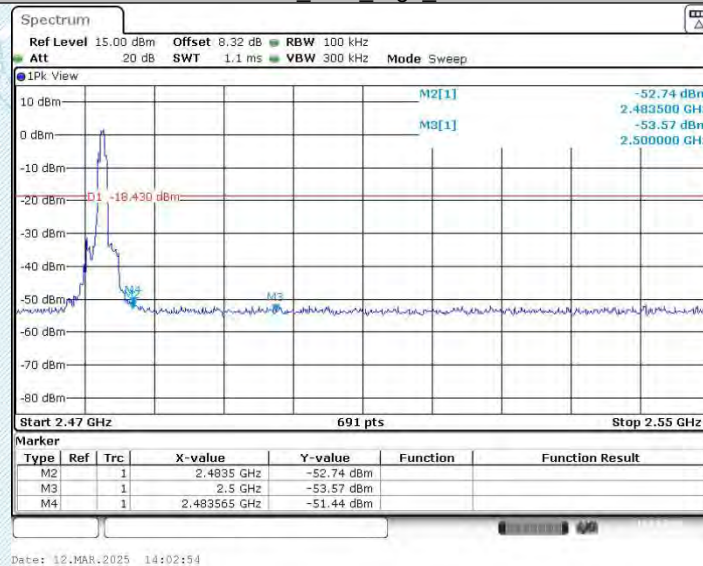
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

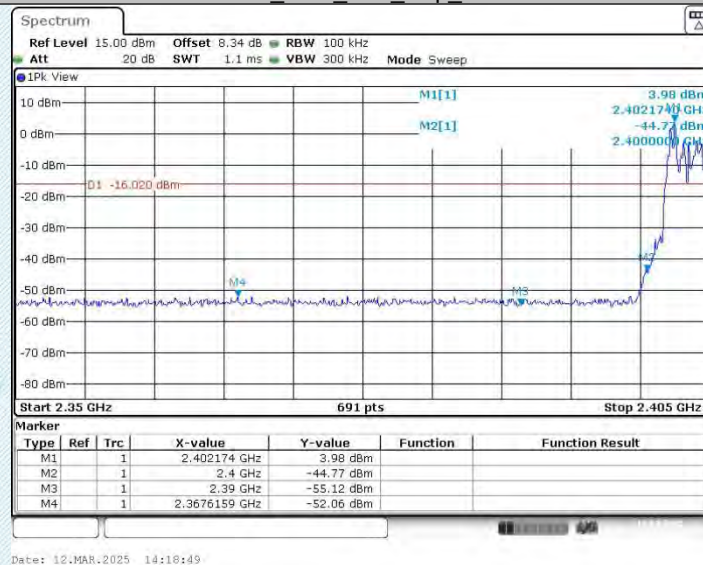
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3DH5\_Ant1\_High\_2480



3DH5\_Ant1\_Low\_Hop\_2402

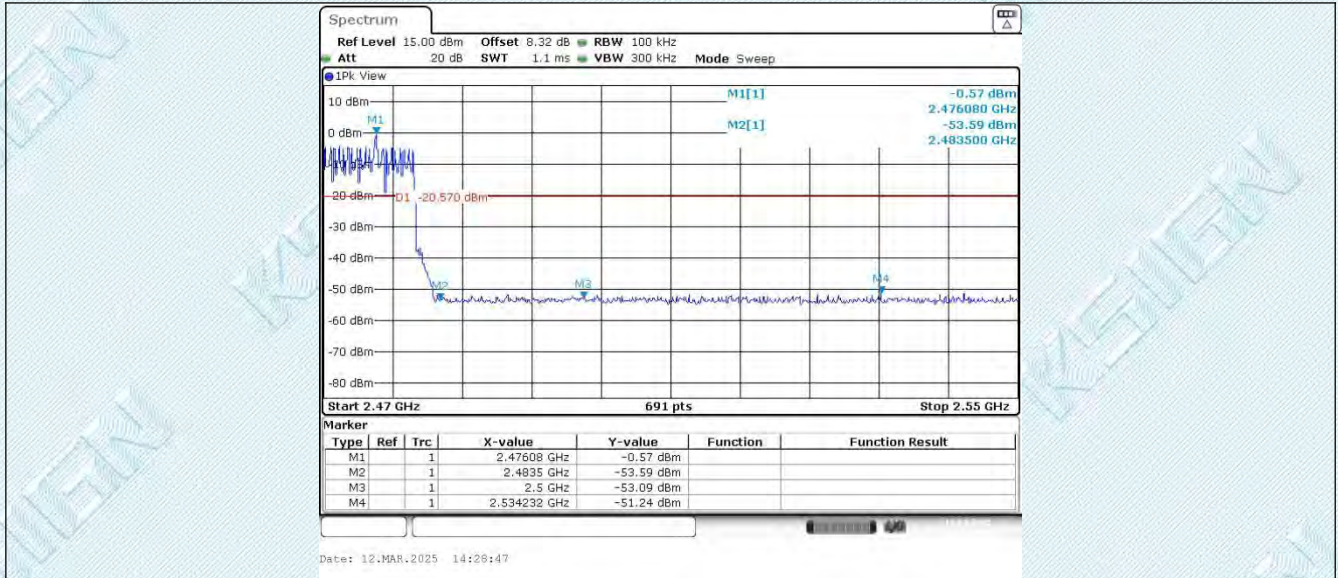


3DH5\_Ant1\_High\_Hop\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

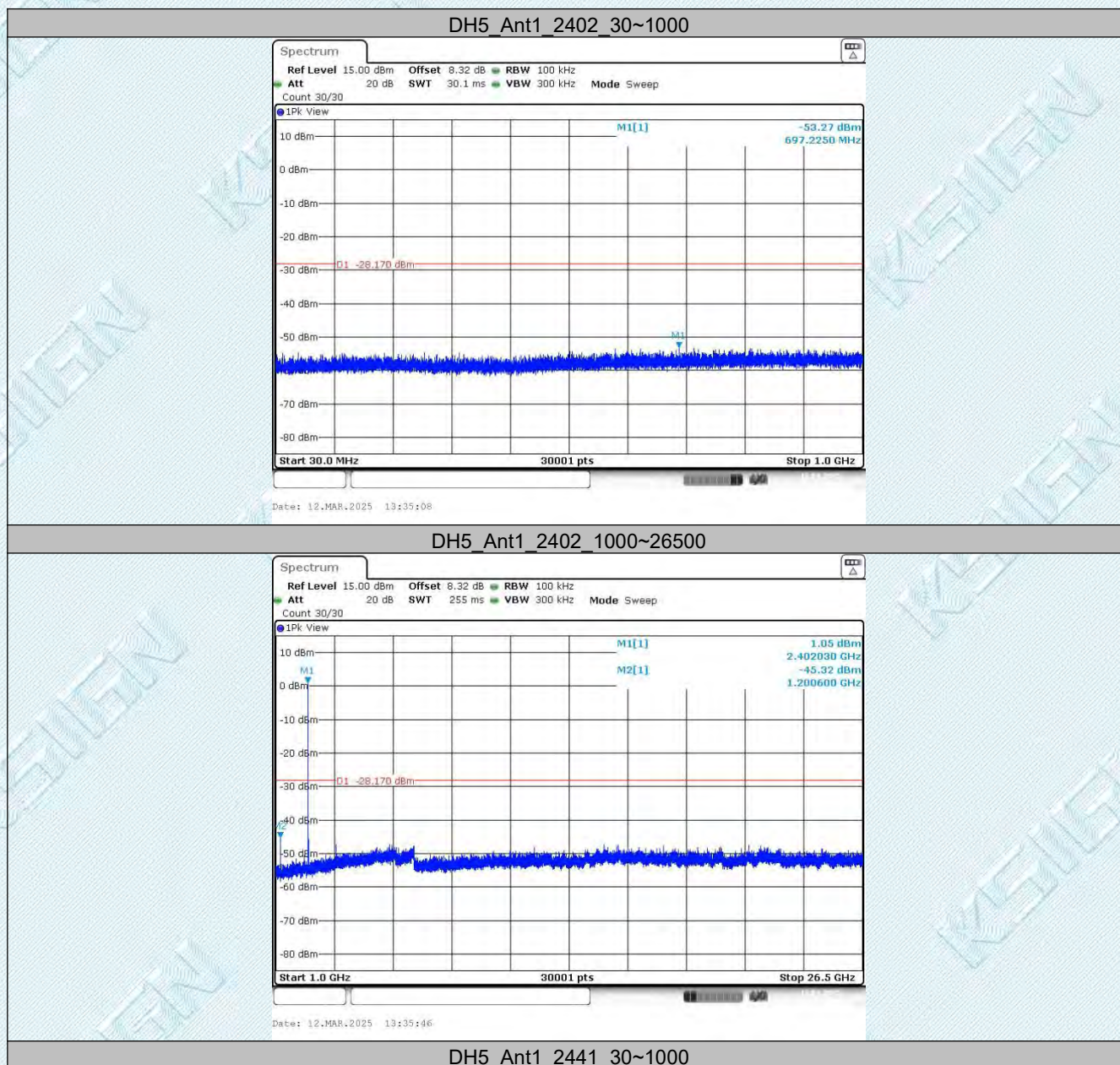
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## 6.8. Appendix H: Conducted Spurious Emission

### 6.8.1. Test Result

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|----------------|-----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | 2402           | 30~1000         | 1.83           | -53.27       | ≤-28.17     | PASS    |
|          |         |                | 1000~26500      | 1.83           | -45.32       | ≤-28.17     | PASS    |
|          |         | 2441           | 30~1000         | 1.51           | -52.81       | ≤-28.49     | PASS    |
|          |         |                | 1000~26500      | 1.51           | -44.23       | ≤-28.49     | PASS    |
|          |         | 2480           | 30~1000         | -0.85          | -52.6        | ≤-30.85     | PASS    |
|          |         |                | 1000~26500      | -0.85          | -44.36       | ≤-30.85     | PASS    |
| 2DH5     | Ant1    | 2402           | 30~1000         | 4.07           | -52.15       | ≤-25.93     | PASS    |
|          |         |                | 1000~26500      | 4.07           | -44.5        | ≤-25.93     | PASS    |
|          |         | 2441           | 30~1000         | 3.75           | -52.88       | ≤-26.25     | PASS    |
|          |         |                | 1000~26500      | 3.75           | -43.42       | ≤-26.25     | PASS    |
|          |         | 2480           | 30~1000         | 1.44           | -52.98       | ≤-28.56     | PASS    |
|          |         |                | 1000~26500      | 1.44           | -43.1        | ≤-28.56     | PASS    |
| 3DH5     | Ant1    | 2402           | 30~1000         | 4.20           | -52.89       | ≤-25.8      | PASS    |
|          |         |                | 1000~26500      | 4.20           | -47.18       | ≤-25.8      | PASS    |
|          |         | 2441           | 30~1000         | 3.86           | -52.75       | ≤-26.14     | PASS    |
|          |         |                | 1000~26500      | 3.86           | -46.23       | ≤-26.14     | PASS    |
|          |         | 2480           | 30~1000         | 1.57           | -53.03       | ≤-28.43     | PASS    |
|          |         |                | 1000~26500      | 1.57           | -44.42       | ≤-28.43     | PASS    |

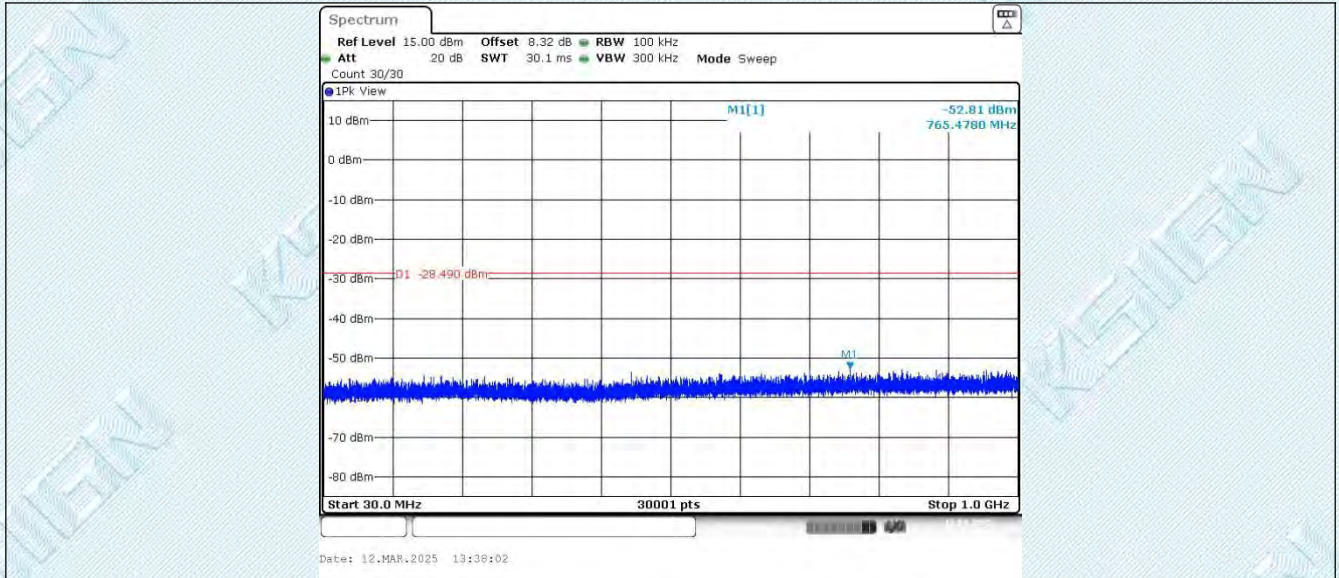
## 6.8.2. Test Graphs



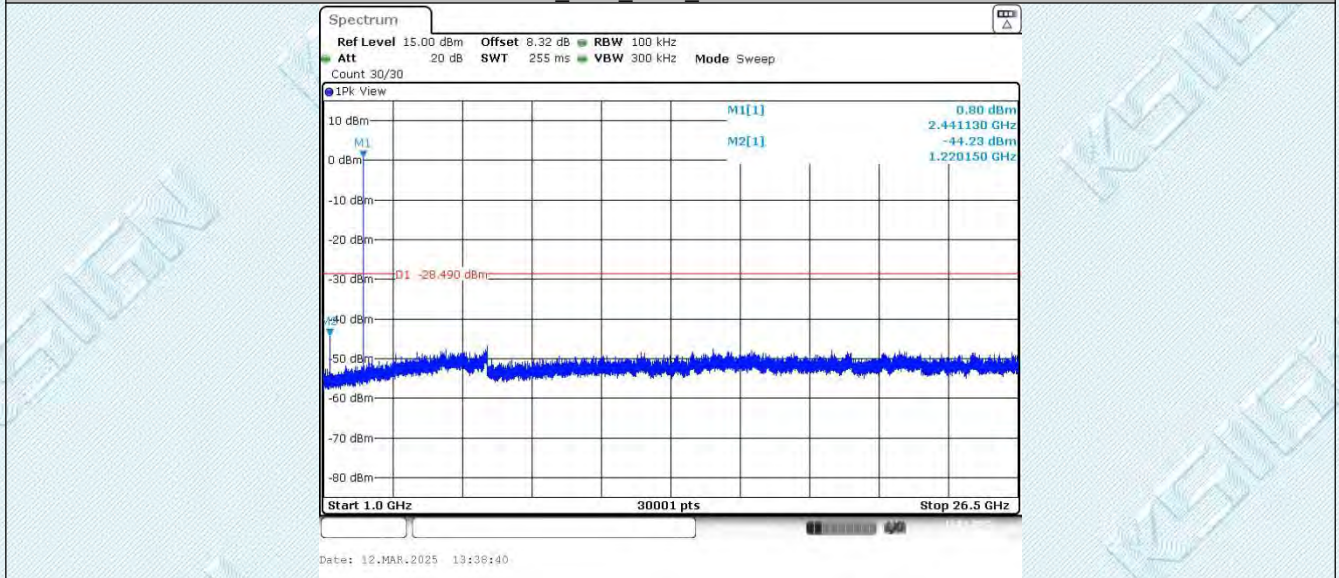
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

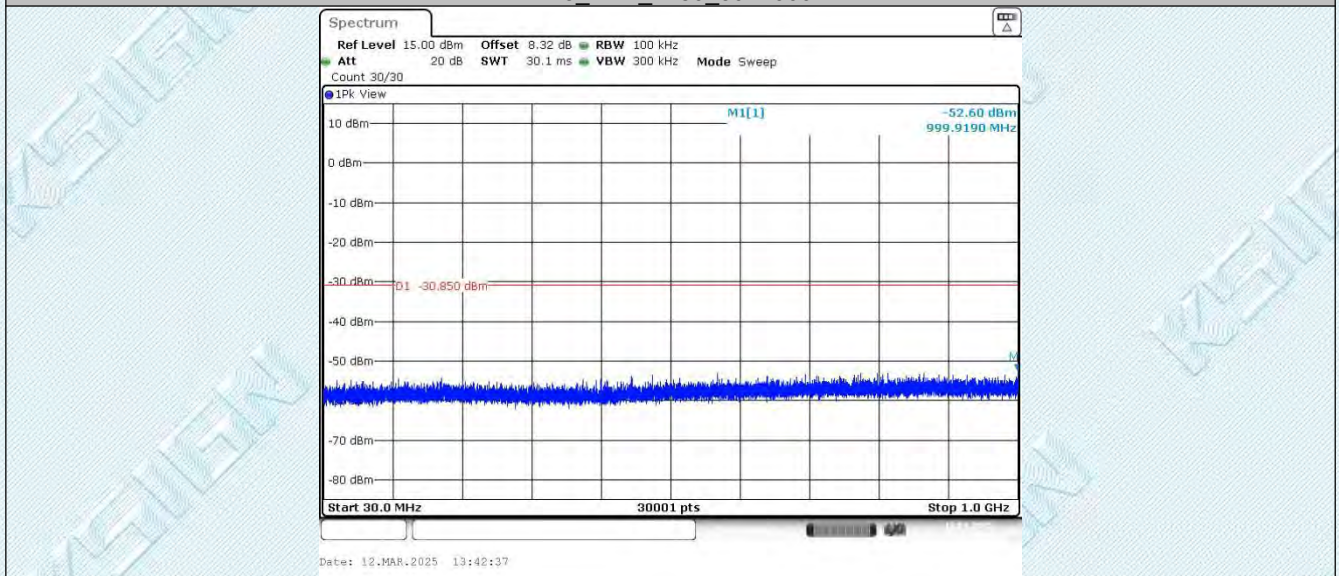
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DH5\_Ant1\_2441\_1000~26500



DH5\_Ant1\_2480\_30~1000

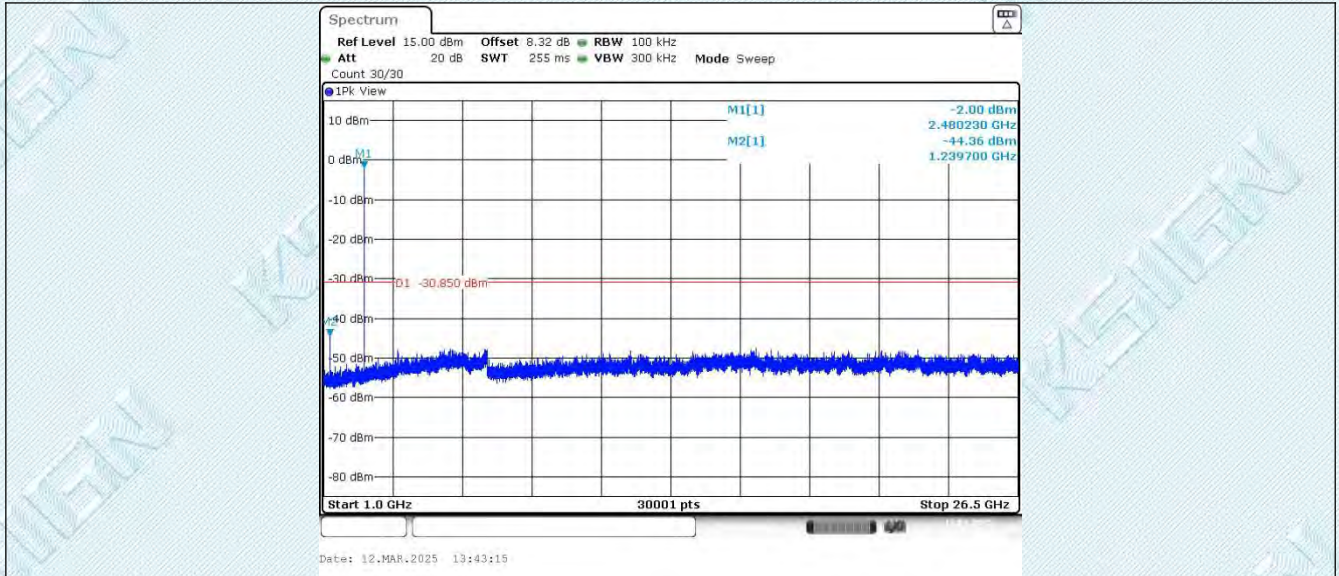


DH5\_Ant1\_2480\_1000~26500

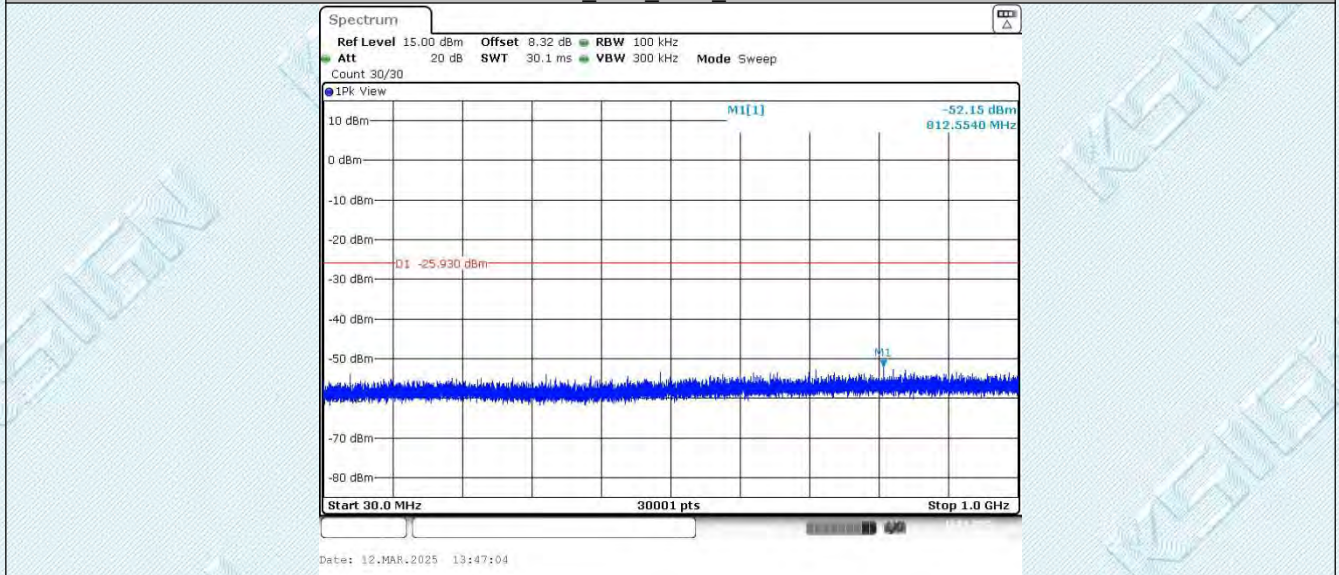
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

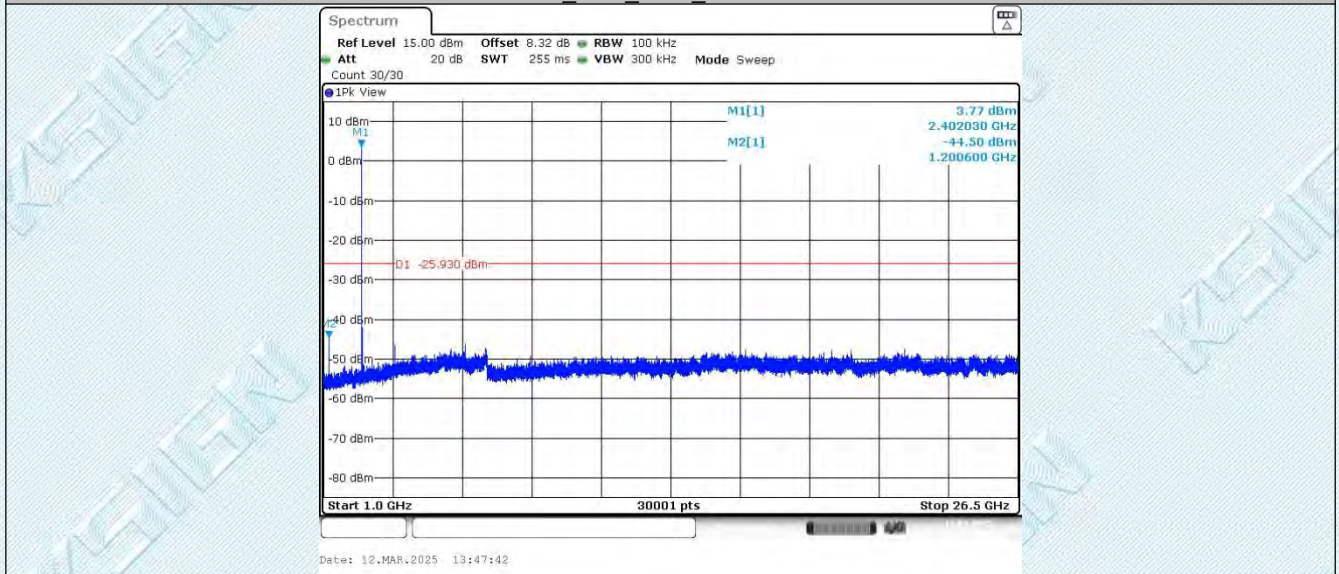
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2DH5\_Ant1\_2402\_30~1000



2DH5\_Ant1\_2402\_1000~26500

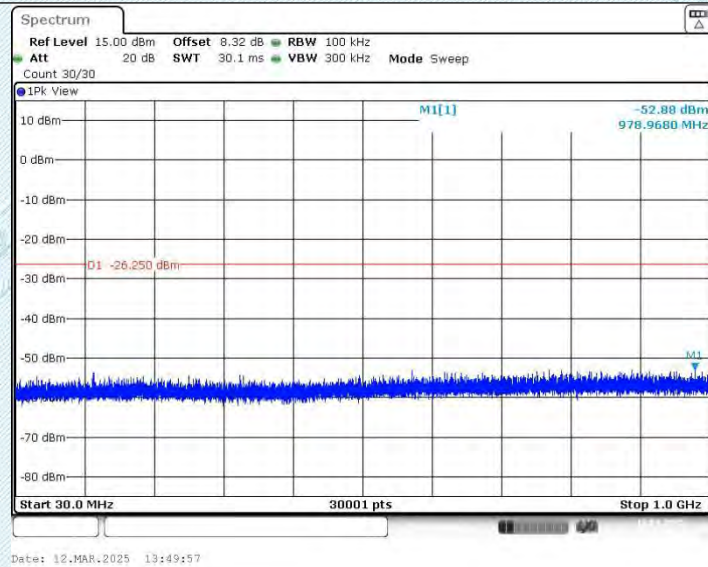


2DH5\_Ant1\_2441\_30~1000

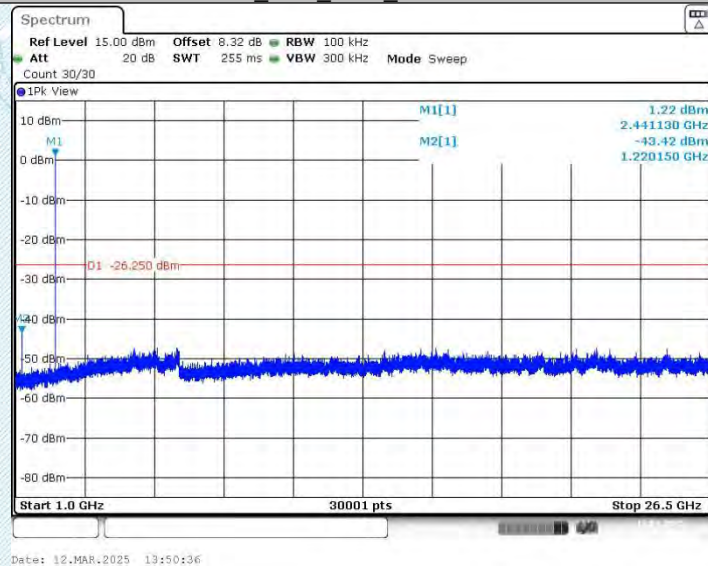
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

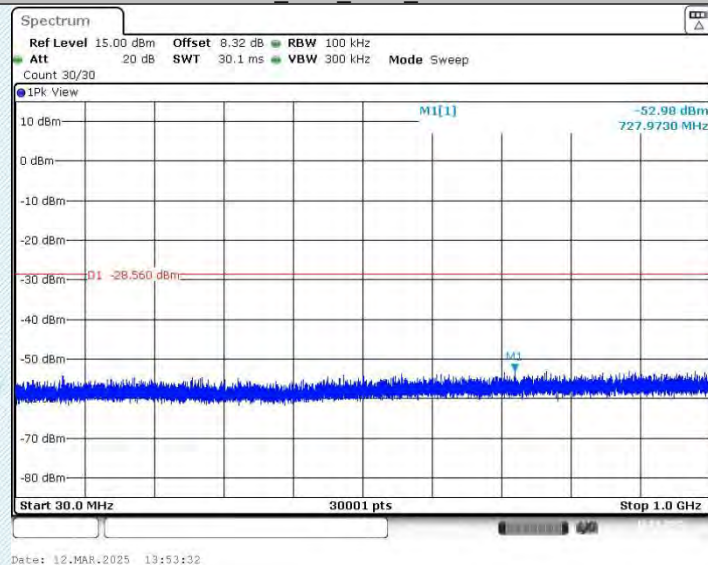
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2DH5\_Ant1\_2441\_1000~26500



2DH5\_Ant1\_2480\_30~1000

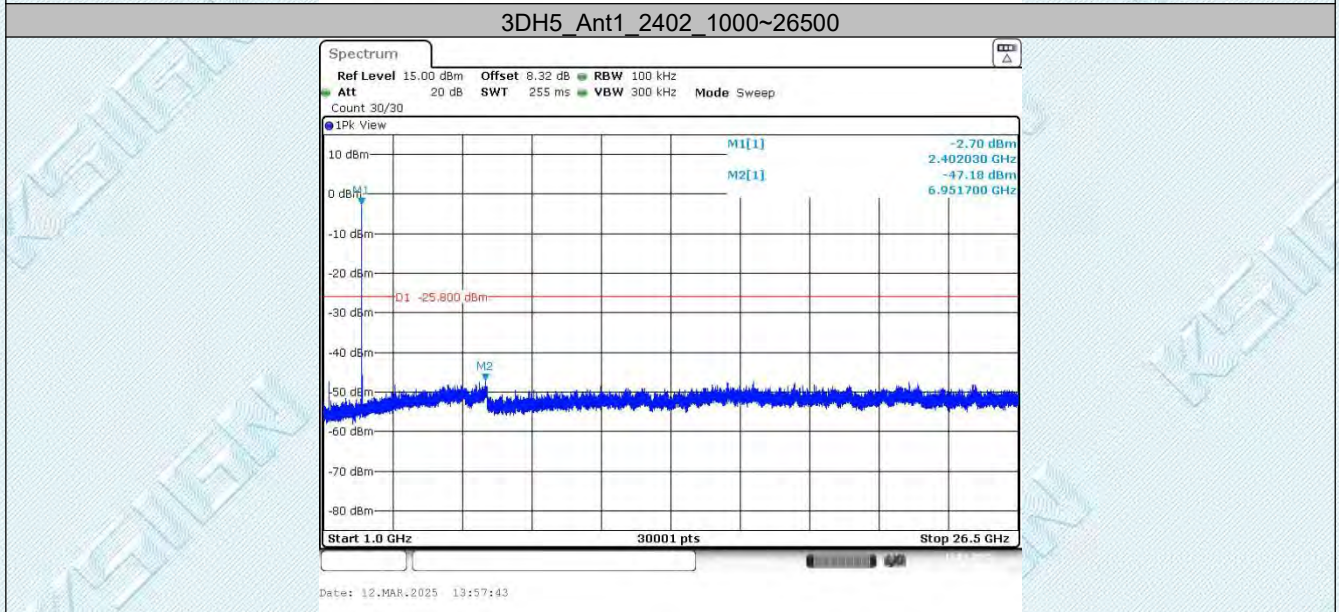
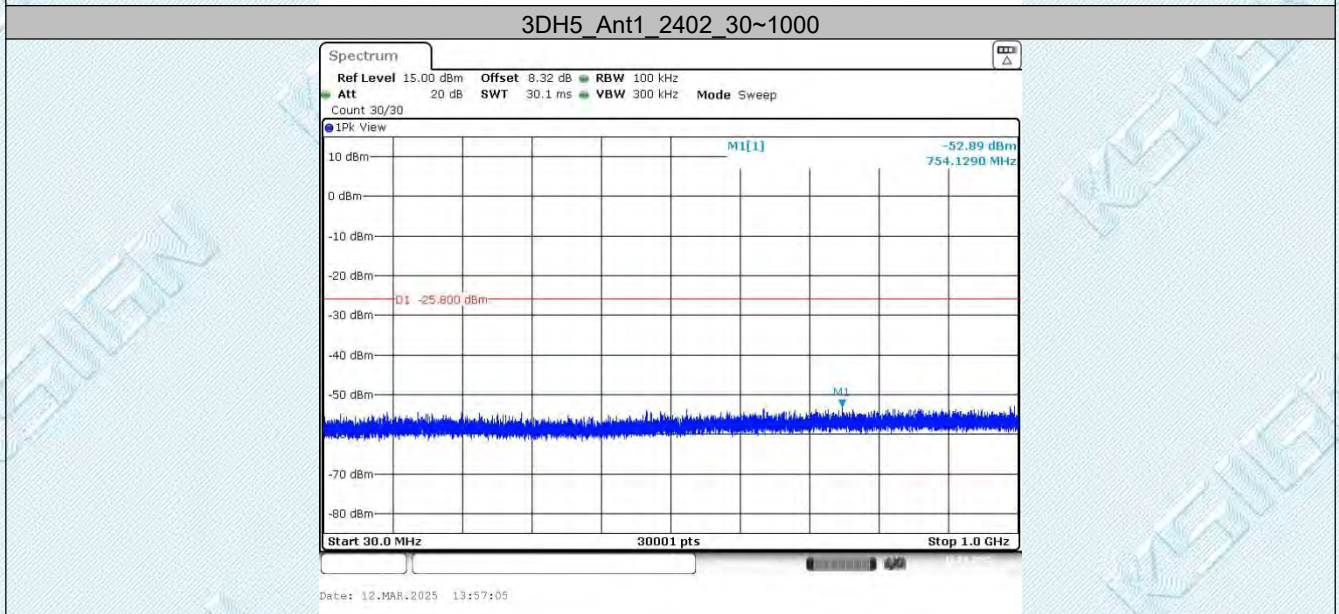
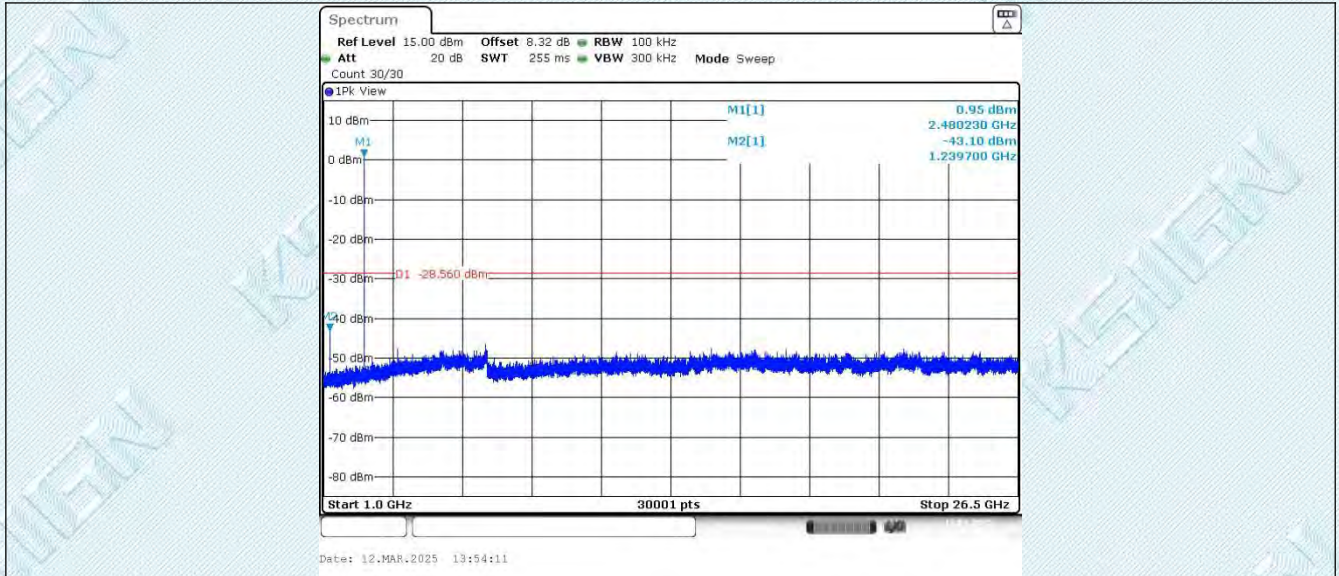


2DH5\_Ant1\_2480\_1000~26500

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

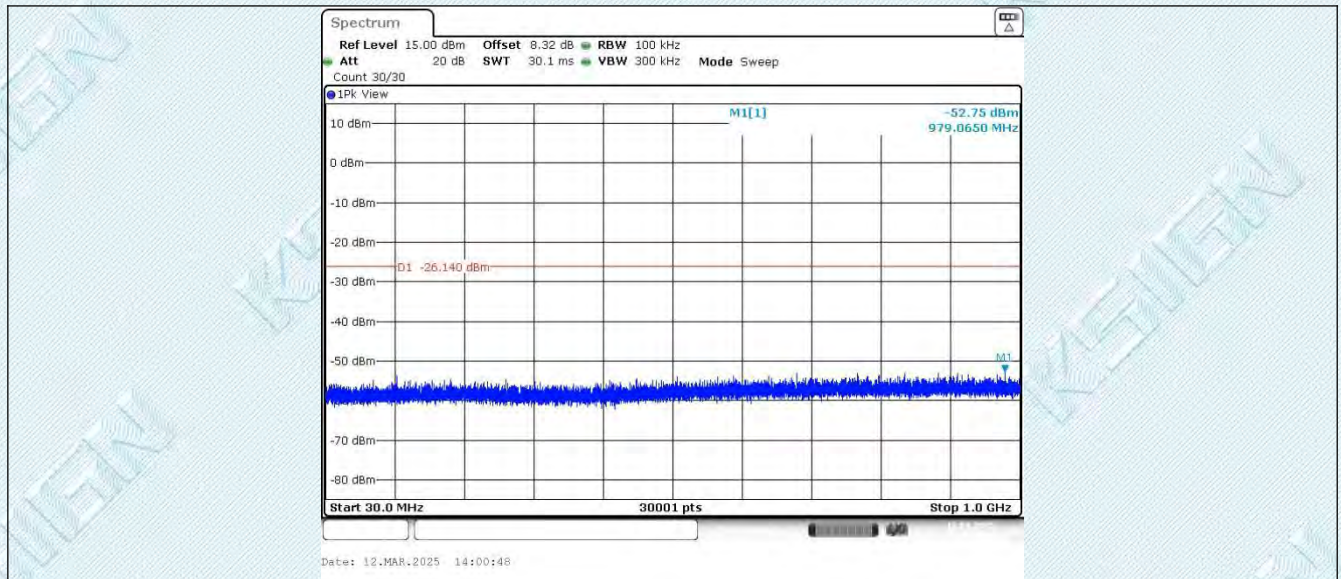
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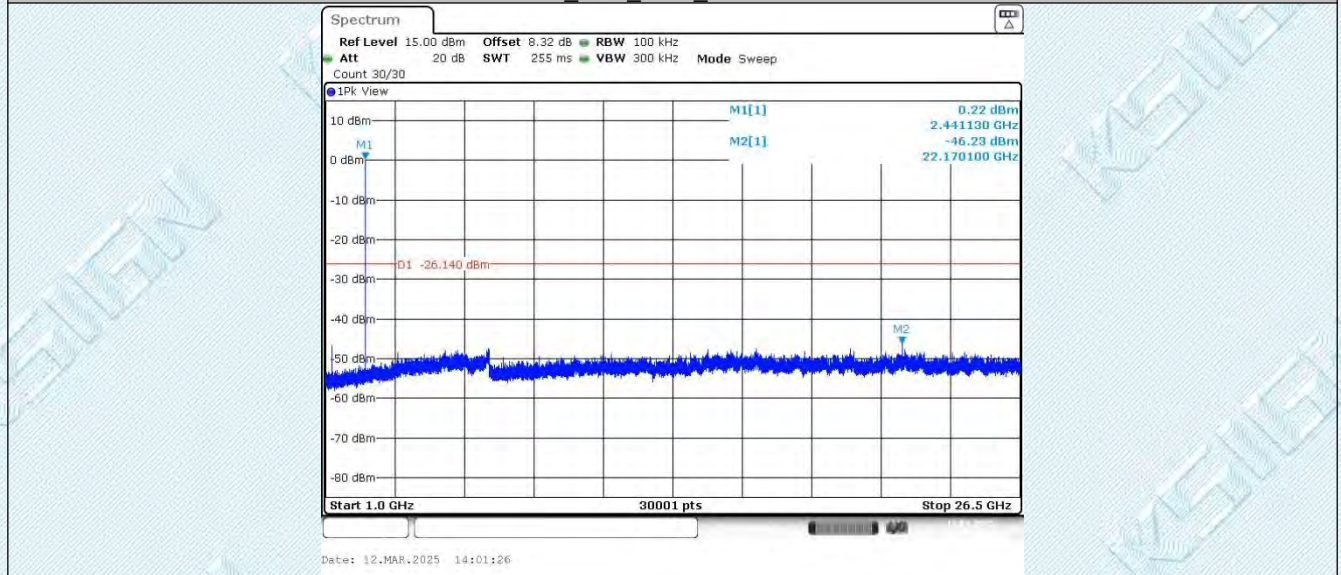
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

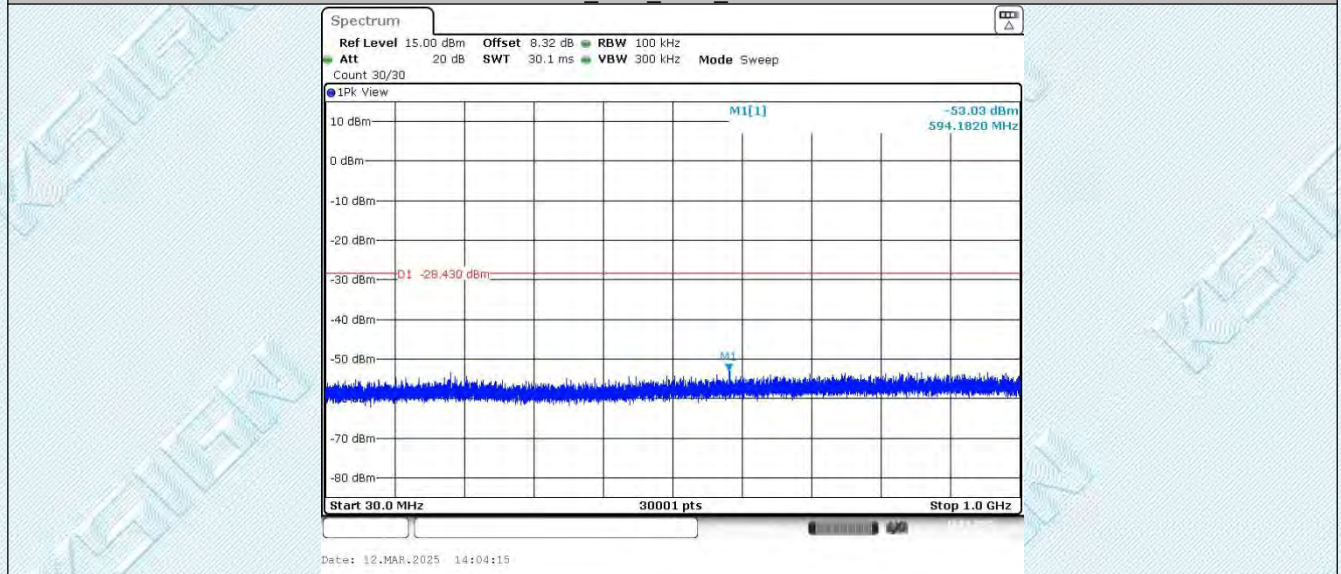
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3DH5\_Ant1\_2441\_1000~26500



3DH5\_Ant1\_2480\_30~1000

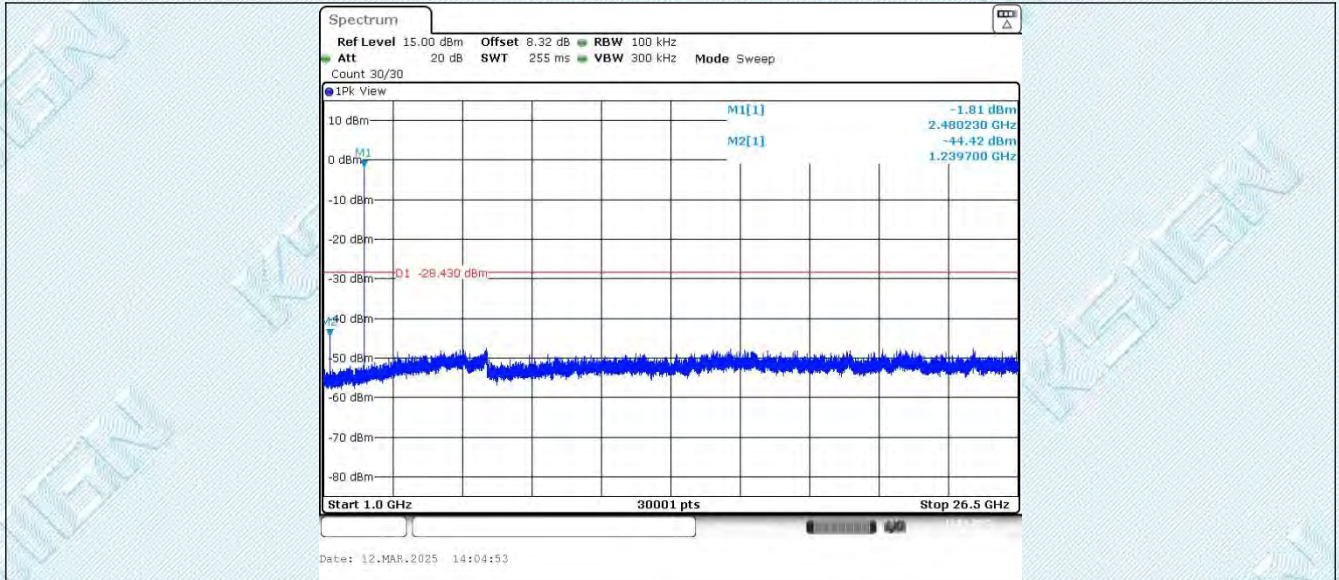


3DH5\_Ant1\_2480\_1000~26500

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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## 6.9. Appendix I: Duty Cycle

### 6.9.1. Test Result

| TestMode | Antenna | Frequency<br>[MHz] | ON Time<br>[ms] | Period<br>[ms] | Duty Cycle<br>[%] | Duty Cycle<br>Factor[dB] |
|----------|---------|--------------------|-----------------|----------------|-------------------|--------------------------|
| DH5      | Ant1    | 2402               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2441               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2480               | 2.87            | 3.75           | 76.53             | 1.16                     |
| 2DH5     | Ant1    | 2402               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2441               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2480               | 2.88            | 3.75           | 76.80             | 1.15                     |
| 3DH5     | Ant1    | 2402               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2441               | 2.88            | 3.75           | 76.80             | 1.15                     |
|          |         | 2480               | 2.88            | 3.75           | 76.80             | 1.15                     |

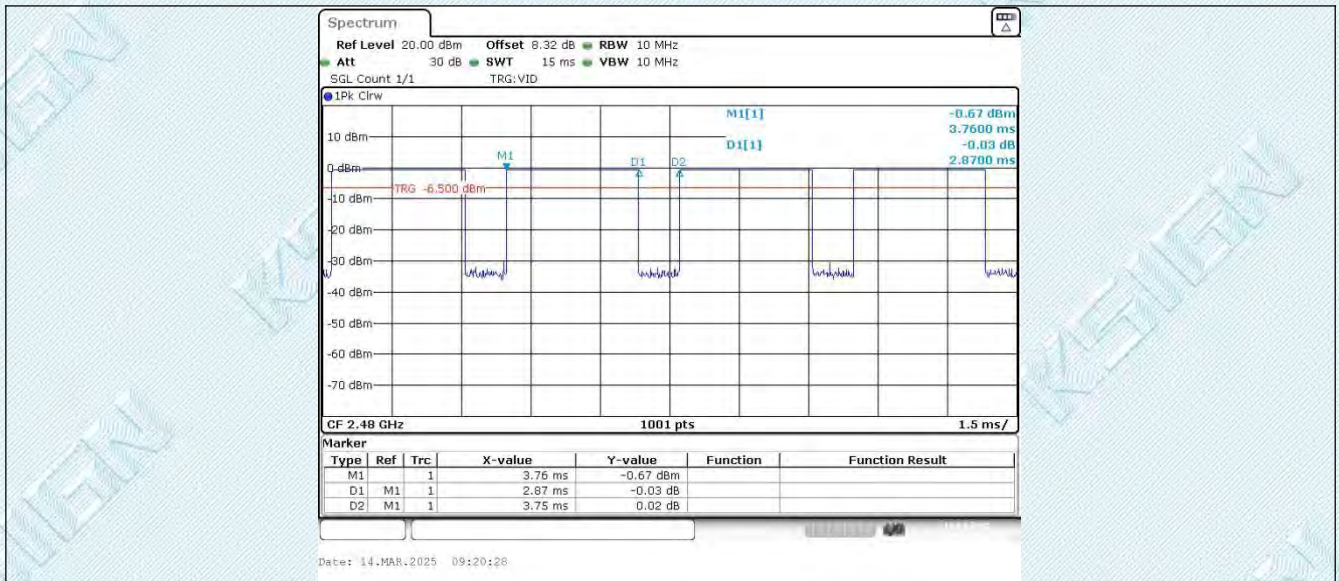
## 6.9.2. Test Graphs



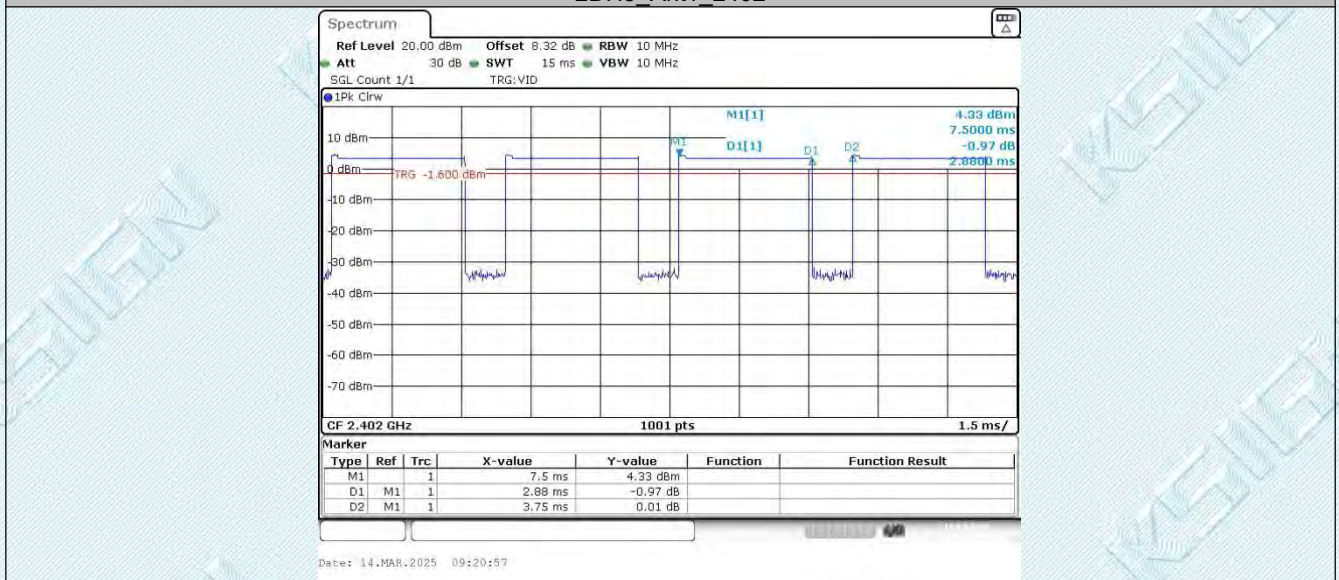
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

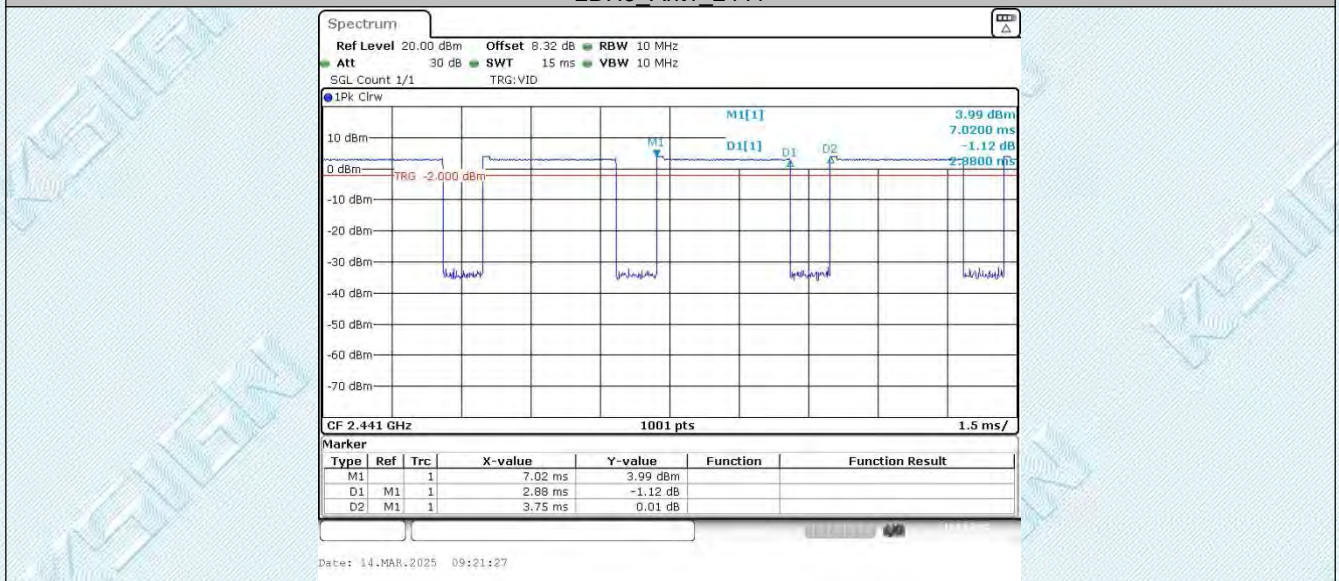
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2DH5\_Ant1\_2402



2DH5\_Ant1\_2441

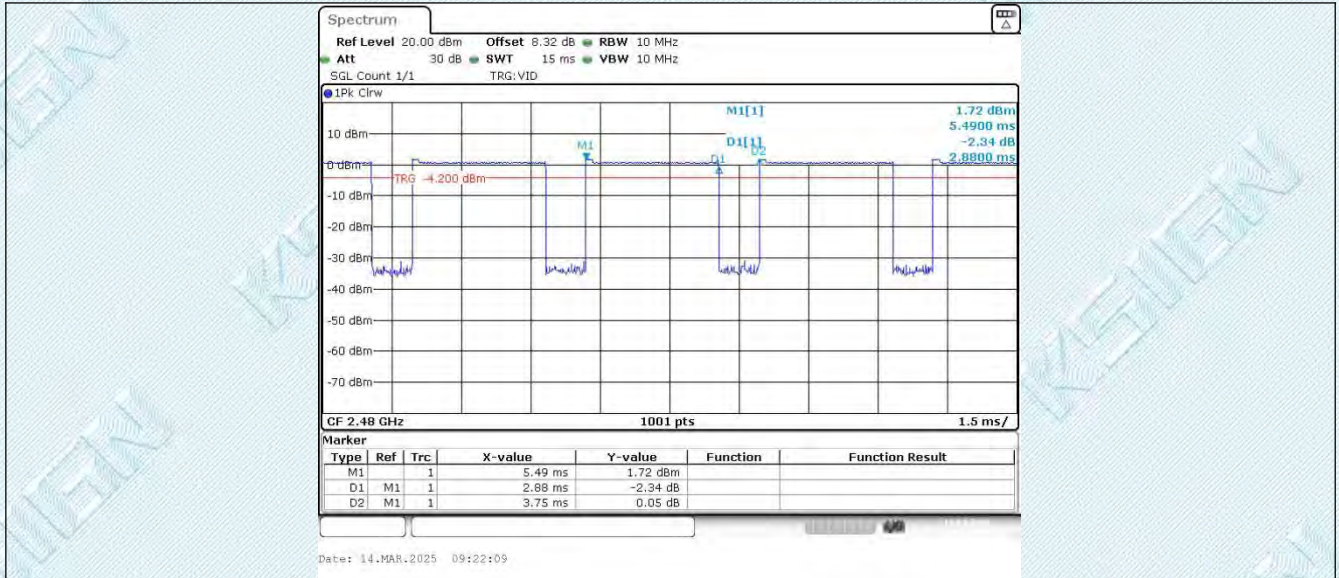


2DH5\_Ant1\_2480

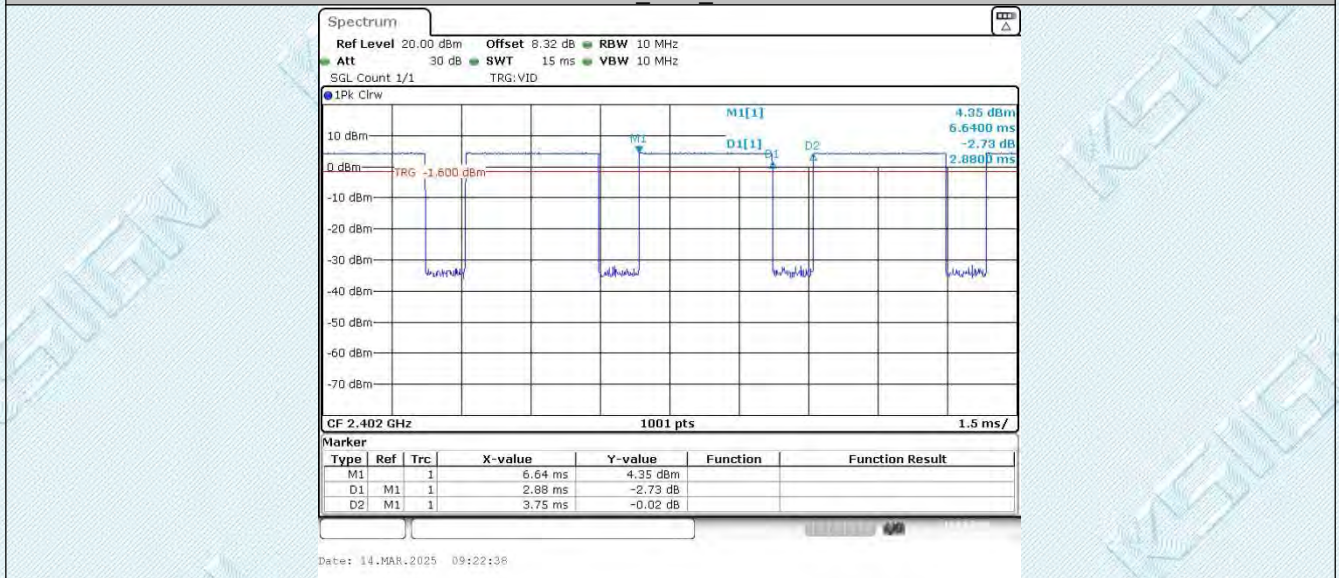
TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

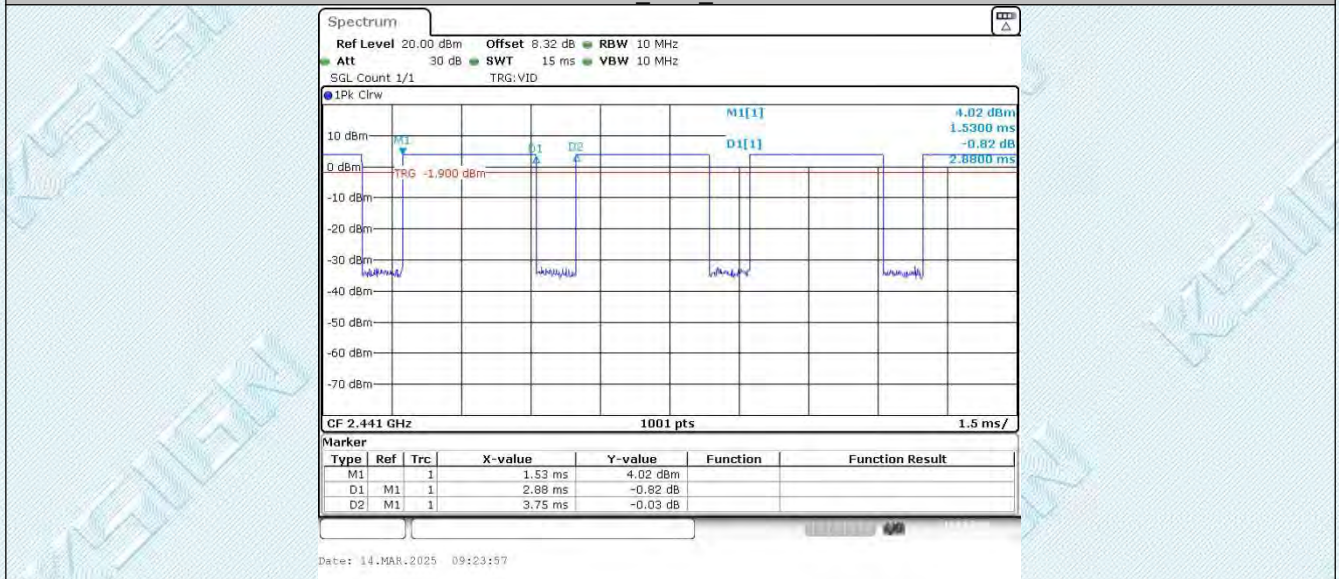
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3DH5\_Ant1\_2402



3DH5\_Ant1\_2441

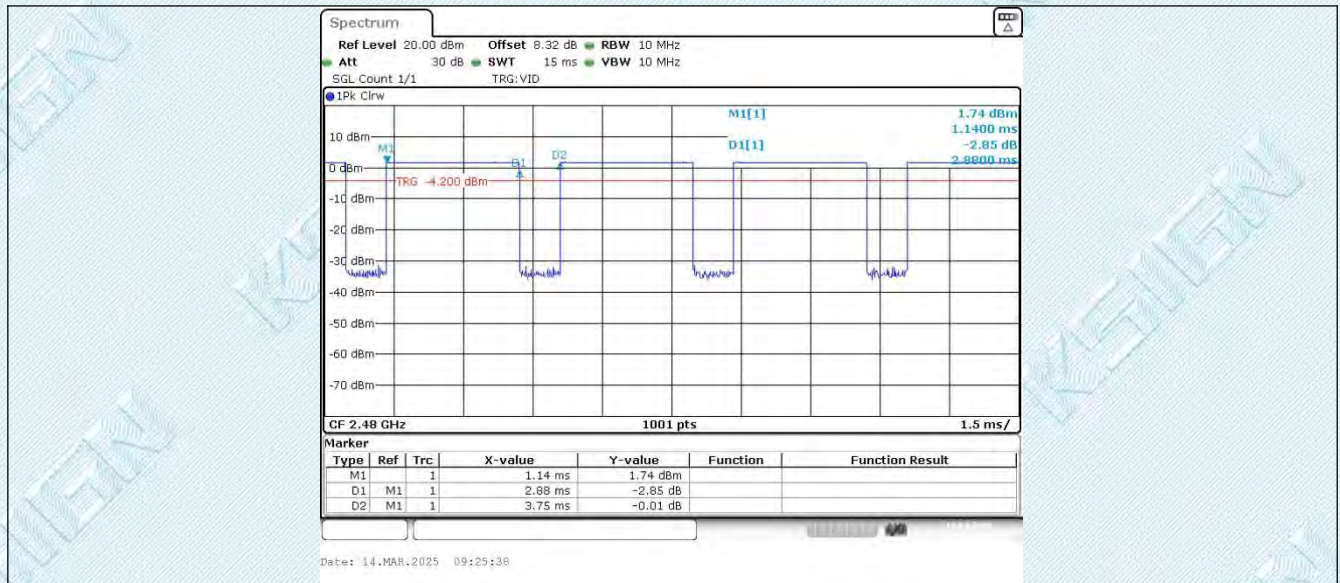


3DH5\_Ant1\_2480

TRF No. RF\_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

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--THE END--

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