Microtest
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# Test Report

**Report No.:** MTi230404010-05E1-R1

**Date of issue:** 2023-06-15

**Applicant:** Shenzhen Gudsen Technology Co., Ltd.

**Product:** R3 Direct Drive Wheel Base

**Model(s):** R3, R5, D08, D09

Shenzhen Microtest Co., Ltd.

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# Instructions

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3. This test report is invalid without the seal and signature of the laboratory.

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5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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| Test Result Certification | |
|---|---|
| **Applicant:** | **Shenzhen Gudsen Technology Co., Ltd.** |
| Address: | Room 1903, 1904, Building 3, Chongwen Park, Nanshan Zhiyuan, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen City, Guangdong Province, P. R. China |
| **Manufacturer:** | **Shenzhen Gudsen Technology Co., Ltd.** |
| Address: | Room 1903, 1904, Building 3, Chongwen Park, Nanshan Zhiyuan, No. 3370, Liuxian Avenue, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen City, Guangdong Province, P. R. China |
| **Product description** | |
| Product name: | R3 Direct Drive Wheel Base |
| Trademark: | MOZA |
| Model name: | R3 |
| Series Model: | R5, D08, D09 |
| Standards: | ETSI EN 300 328 V2.2.2 (2019-07) |
| **Date of Test** | |
| Date of test: | 2023-04-21 ~ 2023-06-15 |
| Test result: | Pass |

**Test Engineer :** Letter. Lan.

(Letter Lan)

**Reviewed By:** : Leon chen

(Leon Chen)

**Approved By:** : Tom Xue

(Tom Xue)

# 1 General Description

## 1.1 Description of EUT

| | |
|---|---|
| Product name: | R3 Direct Drive Wheel Base |
| Model name: | R3 |
| Series Model: | R5，D08, D09 |
| Model difference: | All the models are the same circuit and module, except the model name and housing structure. |
| Accessories: | 1. Adapter:<br>Model: XVE90-1200600<br>Input: 100-240V~ 50/60Hz 2.0A max<br>Output: 12V⎓6A 72W<br>2. Cable: Power cable (1.45m) |
| Electrical rating: | Input: DC 12V |
| Hardware version: | V02B |
| Software version: | V1.2.1.3 |
| Test sample(s) number: | MTi230404010-05S1001 |
| **RF specification** | |
| Bluetooth version: | V5.3 |
| Operating frequency range: | 2402MHz - 2480MHz |
| Channel number: | 79 channels |
| Modulation type: | GFSK, π/4-DQPSK, 8DPSK |
| Antenna(s) information: | Antenna type: PCB antenna<br>Antenna gain: 1.87 dBi |

## 1.2 Description of test modes

### 1.2.1 Operation channel list

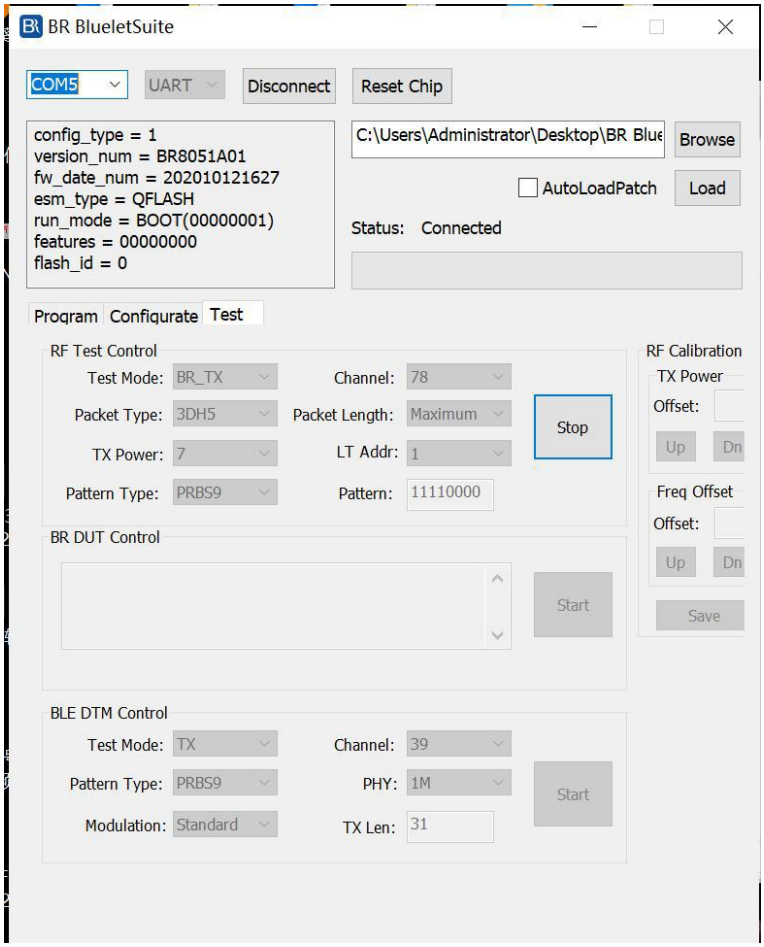
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|---|---|
| 0 | 2402 | 20 | 2422 | 40 | 2442 | 60 | 2462 |
| 1 | 2403 | 21 | 2423 | 41 | 2443 | 61 | 2463 |
| 2 | 2404 | 22 | 2424 | 42 | 2444 | 62 | 2464 |
| 3 | 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 |

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|---|---|
| 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 | - | - |

**Note:** The test software has been used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting and constant receiving mode.

| Mode | Test Software | BR BlueletSuite_v5.5 | | |
|---|---|---|---|---|
| | Channel | 2402MHz | 2441MHz | 2480MHz |
| GFSK | Power setting | 7 | 7 | 7 |
| π/4-DQPSK | | 7 | 7 | 7 |
| 8DPSK | | 7 | 7 | 7 |

**The test software:**



### 1.3 Environmental conditions for testing

Environment of test site:

| | |
|---|---|
| Temperature: | 15ºC~35ºC |
| Humidity: | 20 % RH ~ 75 % RH |

For normal / extreme test conditions

| Test Conditions | NTNV | LTNV | HTNV |
|---|---|---|---|
| Temperature (℃) | 25 | -20 | 60 |
| Power supply | DC 12V | | |

**Notes:**
The extremes of the operating temperature ranges are declared by the manufacture.
NTNV: normal temperature and normal voltage
LTNV: lowest temperature and normal voltage
HTNV: highest temperature and normal voltage

### 1.4 Description of support units

| **Support equipment list** | | | |
|---|---|---|---|
| Description | Model | Serial No. | Manufacturer |
| / | / | / | / |
| **Support cable list** | | | |
| Description | Length (m) | From | To |
| / | / | / | / |

## 2 Measurement Uncertainty

| Parameter | Measurement uncertainty |
|---|---|
| Occupied channel bandwidth | ±3 % |
| RF output power, conducted | ±1 dB |
| Power Spectral Density, conducted | ±1 dB |
| Unwanted Emissions, conducted | ±1 dB |
| All emissions, radiated | ±4.7 dB |
| Temperature | ±1 °C |
| Supply voltages | ±1 % |
| Time | ±1 % |

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

# 3 Summary of Test Result

| No. | Description of Test | Reference clause No. | Result |
|---|---|---|---|
| 1 | RF Output Power | 4.3.1.2 | Pass |
| 2 | Accumulated Transmit time, Frequency Occupation & Hopping Sequence | 4.3.1.4 | Pass |
| 3 | Hopping Frequency Separation | 4.3.1.5 | Pass |
| 4 | Adaptivity | 4.3.1.7 | N/A |
| 5 | Occupied Channel Bandwidth | 4.3.1.8 | Pass |
| 6 | Transmitter unwanted emissions in the OOB domain | 4.3.1.9 | Pass |
| 7 | Transmitter unwanted emissions in the spurious domain | 4.3.1.10 | Pass |
| 8 | Receiver spurious emissions | 4.3.1.11 | Pass |
| 9 | Receiver Blocking | 4.3.1.12 | Pass |
| 10 | Geo-location capability | 4.3.1.13 | N/A |

**Notes:**

N/A means not applicable.

Adaptivity: this requirement does not apply for FHSS equipment with a maximum declared RF Output power level of less than 10 dBm e.i.r.p. or for FHSS equipment when operating in a mode where the RF Output power is less than 10 dBm e.i.r.p.

Geo-location capability: this requirement only applies to non-FHSS equipment with geo-location capability

# 4 Test Laboratory

| | |
|---|---|
| Test laboratory: | Shenzhen Microtest Co., Ltd. |
| Test site location: | 101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| Telephone: | (86-755)88850135 |
| Fax: | (86-755)88850136 |
| CNAS Registration No.: | CNAS L5868 |

# 5 List of Test Equipment

| No. | Equipment | Manufacturer | Model | Serial No. | Cal. date | Cal. Due |
|---|---|---|---|---|---|---|
| MTI-E043 | EMI test receiver | R&S | ESCI7 | 101166 | 2022/05/05 | 2023/05/04 |
| MTI-E043 | EMI test receiver | R&S | ESCI7 | 101166 | 2023/04/26 | 2024/04/25 |
| MTI-E044 | Broadband antenna | Schwarzbeck | VULB9163 | 9163-1338 | 2021/05/30 | 2024/05/29 |
| MTI-E045 | Horn antenna | Schwarzbeck | BBHA9120D | 9120D-2278 | 2021/05/30 | 2024/05/29 |
| MTI-E047 | Pre-amplifier | Hewlett-Packard | 8447F | 3113A06184 | 2022/05/05 | 2023/05/04 |
| MTI-E047 | Pre-amplifier | Hewlett-Packard | 8447F | 3113A06184 | 2023/04/26 | 2024/04/25 |
| MTI-E048 | Pre-amplifier | Agilent | 8449B | 3008A01120 | 2022/05/05 | 2023/05/04 |
| MTi-E120 | Broadband antenna | Schwarzbeck | VULB9163 | 9163-1419 | 2021/05/30 | 2024/05/29 |
| MTi-E121 | Pre-amplifier | Hewlett-Packard | 8447D | 2944A09365 | 2022/05/05 | 2023/05/04 |
| MTi-E121 | Pre-amplifier | Hewlett-Packard | 8447D | 2944A09365 | 2023/05/05 | 2024/05/04 |
| MTi-E123 | Pre-amplifier | Agilent | 8449B | 3008A04723 | 2022/05/05 | 2023/05/04 |
| MTi-E123 | Pre-amplifier | Agilent | 8449B | 3008A04723 | 2023/05/05 | 2024/05/04 |
| MTi-E057 | Wideband Radio Communication Tester | R&S | CMW500 | 149155 | 2022/05/05 | 2023/05/04 |
| MTi-E057 | Wideband Radio Communication Tester | R&S | CMW500 | 149155 | 2023/04/26 | 2024/04/25 |
| MTi-E058 | ESG Series Analog Signal Generator | Agilent | E4421B | GB40051240 | 2022/05/05 | 2023/05/04 |
| MTi-E058 | ESG Series Analog Signal Generator | Agilent | E4421B | GB40051240 | 2023/04/26 | 2024/04/25 |
| MTi-E062 | PXA Signal Analyzer | Agilent | N9030A | MY51350296 | 2022/05/05 | 2023/05/04 |
| MTi-E062 | PXA Signal Analyzer | Agilent | N9030A | MY51350296 | 2023/04/26 | 2024/04/25 |
| MTi-E065 | DC Power Supply | Agilent | E3632A | MY40027695 | 2022/05/05 | 2023/05/04 |
| MTi-E065 | DC Power Supply | Agilent | E3632A | MY40027695 | 2023/05/05 | 2024/05/04 |
| MTi-E066 | MXA Signal Analyzer | Agilent | N9020A | MY50143483 | 2022/05/05 | 2023/05/04 |
| MTi-E066 | MXA Signal Analyzer | Agilent | N9020A | MY50143483 | 2023/04/26 | 2024/04/25 |
| MTi-E067 | RF Control Unit | Tonscend | JS0806-1 | 19D8060152 | 2022/05/05 | 2023/05/04 |
| MTi-E067 | RF Control Unit | Tonscend | JS0806-1 | 19D8060152 | 2023/04/26 | 2024/04/25 |
| MTi-E068 | RF Control Unit | Tonscend | JS0806-2 | 19D8060153 | 2022/05/05 | 2023/05/04 |
| MTi-E068 | RF Control Unit | Tonscend | JS0806-2 | 19D8060153 | 2023/04/26 | 2024/04/25 |
| MTi-E069 | Band Reject Filter Group | Tonscend | JS0806-F | 19D8060160 | 2022/05/05 | 2023/05/04 |

| | | | | | | |
|---|---|---|---|---|---|---|
| MTi-E069 | Band Reject Filter Group | Tonscend | JS0806-F | 19D8060160 | 2022/05/05 | 2023/05/04 |
| MTi-E071 | ESG Vector Signal Generator | Agilent | N5182A | MY50143762 | 2022/05/05 | 2023/05/04 |
| MTi-E071 | ESG Vector Signal Generator | Agilent | N5182A | MY50143762 | 2023/04/26 | 2024/04/25 |
| MTi-E141 | Temperature and Humidity Chamber | Kingpo | TLHW-64B | / | 2022/04/14 | 2023/04/13 |
| MTi-E141 | Temperature and Humidity Chamber | Kingpo | TLHW-64B | / | 2023/04/14 | 2024/04/13 |
| MTI-E014S | RF Test System | Tonscend | TS®JS1120 V2.6.88.0330 | / | / | / |

**Note:** the calibration interval of the test equipment is 12 or 24 months and the calibrations are traceable to international system unit(SI)

# 6 Test Result

## 6.1 RF output power

### 6.1.1 Description

The RF output power is defined as the mean equivalent isotopically radiated power (e.i.r.p.) of the equipment during a transmission burst.

### 6.1.2 Limits

The RF output power for FHSS equipment shall be equal to or less than 20 dBm.
This limit shall apply for any combination of power level and intended antenna assembly.

### 6.1.3 Test method

See clause 5.4.2 of EN 300 328.

### 6.1.4 Test result

**Note: see the Appendix A**

## 6.2 Accumulated Transmit time, Frequency Occupation & Hopping Sequence

### 6.2.1 Description

The Accumulated Transmit Time is the total of the transmitter 'on'-times, during an observation period, on a particular hopping frequency.

The Frequency Occupation is the number of times that each hopping frequency is occupied within a given period. A hopping frequency is considered to be occupied when the equipment selects that frequency from the Hopping Sequence. FHSS equipment may be transmitting, receiving or stay idle during the dwell time spent on that hopping frequency.

The Hopping Sequence of a FHSS equipment is the pattern of the hopping frequencies used by the equipment.

### 6.2.2 Limits

Adaptive FHSS equipment shall be capable of operating over a minimum of 70 % of the band specified in table 1.

The Accumulated Transmit Time on any hopping frequency shall not be greater than 400 ms within any observation period of 400 ms multiplied by the minimum number of hopping frequencies (N) that have to be used.

In order for the FHSS equipment to comply with the Frequency Occupation requirement, it shall meet either of the following two options:
**Option 1:** Each hopping frequency of the Hopping Sequence shall be occupied at least once within a period not exceeding four times the product of the dwell time and the number of hopping frequencies in use.
**Option 2:** The occupation probability for each frequency shall be between ((1 / U) × 25 %) and 77 % where U is the number of hopping frequencies in use.

The Hopping Sequence(s) shall contain at least N hopping frequencies at all times, where N is either 15 or the result of 15 MHz divided by the minimum Hopping Frequency Separation in MHz, whichever is the greater.

**NOTE:** See also clause 4.3.1.5.3.2 for the Hopping Frequency Separation applicable to adaptive FHSS equipment.

For Adaptive FHSS equipment, from the N hopping frequencies defined above, the equipment shall consider at least one hopping frequency for its transmissions. Providing that there is no interference present on this hopping frequency with a level above the detection threshold defined in clause 4.3.1.7.2.2, point 5 or clause 4.3.1.7.3.2, point 5, then the equipment shall have transmissions on this hopping frequency. For Adaptive FHSS equipment using LBT, if a signal is detected during the CCA, the equipment may jump immediately to the next hopping frequency in the Hopping Sequence (see clause 4.3.1.7.2.2, point 2) provided the limit for Accumulated Transmit Time on the new hopping frequency is respected.

### 6.2.3 Test method

See clause 5.4.4 of EN 300 328.

### 6.2.4 Test result

**Note: see the Appendix C**

## 6.3 Hopping Frequency Separation

### 6.3.1 Description

The Hopping Frequency Separation is the frequency separation between two adjacent hopping frequencies.

### 6.3.2 Limits

For adaptive FHSS equipment, the minimum Hopping Frequency Separation shall be 100 kHz.

### 6.3.3 Test method

See clause 5.4.5 of EN 300 328.

### 6.3.4 Test Result

**Note: see the Appendix D**

## 6.4 Occupied Channel Bandwidth

### 6.4.1 Definition

The Occupied Channel Bandwidth is the bandwidth that contains 99 % of the power of the signal when considering a single hopping frequency.

### 6.4.2 Limits

The Occupied Channel Bandwidth for each hopping frequency shall be within the band given in table 1.

**Table 1: Service frequency bands**

| / | Service frequency bands |
|---|---|
| Transmit | 2400 MHz to 2483.5 MHz |
| Receive | 2400 MHz to 2483.5 MHz |

### 6.4.3 Test method

See clause 5.4.7 of EN 300 328.

### 6.4.4 Test result

**Note: see the appendix B**

## 6.5 Transmitter unwanted emissions in OOB domain

### 6.5.1 Definition

Transmitter unwanted emissions in the out-of-band domain are emissions when the equipment is in Transmit mode, on frequencies immediately outside the allocated band, but excluding unwanted emissions in the spurious domain.

### 6.5.2 Limits

The transmitter unwanted emissions in the out-of-band domain shall not exceed the values provided by the mask in figure 1.

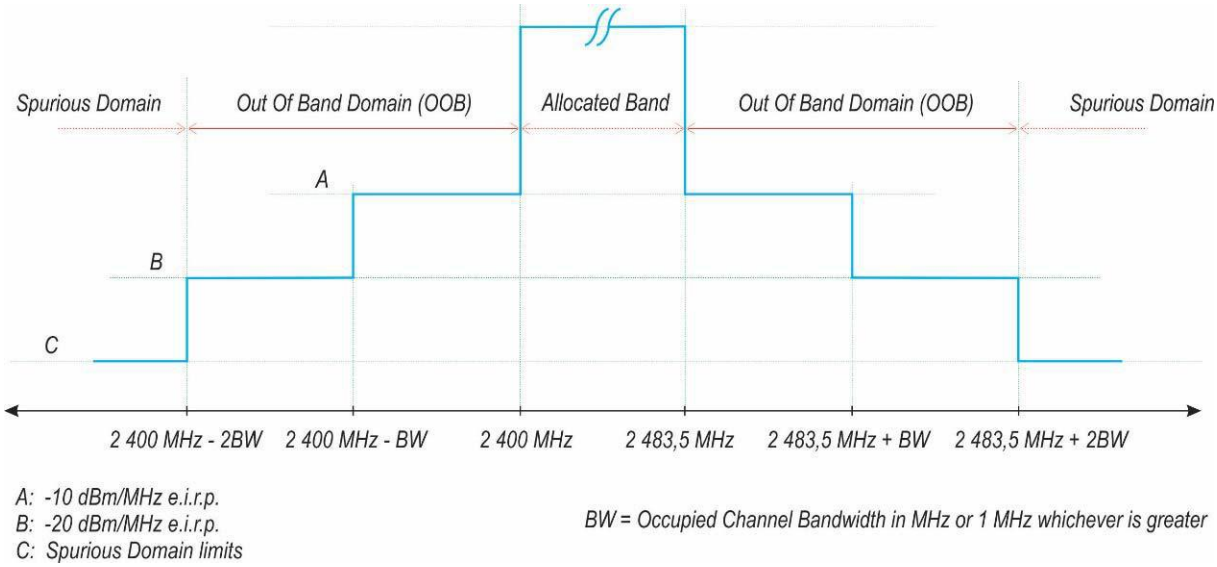



**Figure 1: Transmit mask**

### 6.5.3 Test method

See clause 5.4.8 of EN 300 328.

### 6.5.4 Test result

**Note: see the Appendix E**

## 6.6 Transmitter unwanted emissions in the spurious domain

### 6.6.1 Definition

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain as indicated in figure 1 when the equipment is in Transmit mode.

### 6.6.2 Limits

The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 4.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.

**Table 4: Transmitter limits for spurious emissions**

| Frequency range | Maximum power | Bandwidth |
|---|---|---|
| 30 MHz to 47 MHz | -36 dBm | 100 kHz |
| 47 MHz to 74 MHz | -54 dBm | 100 kHz |
| 74 MHz to 87.5 MHz | -36 dBm | 100 kHz |
| 87.5 MHz to 118 MHz | -54 dBm | 100 kHz |
| 118 MHz to 174 MHz | -36 dBm | 100 kHz |
| 174 MHz to 230 MHz | -54 dBm | 100 kHz |
| 230 MHz to 470 MHz | -36 dBm | 100 kHz |
| 470 MHz to 694 MHz | -54 dBm | 100 kHz |
| 694 MHz to 1 GHz | -36 dBm | 100 kHz |
| 1 GHz to 12.75 GHz | -30 dBm | 1 MHz |

### 6.6.3 Test method

See clause 5.4.9 of EN 300 328.

### 6.6.4 Test result

**Note:** only the data of worst mode is reported.

| | | | |
|---|---|---|---|
| Power supply: | DC 12V | Test site: | RE chamber 2 |
| Environment conditions: | 23.5°C,60% RH | Tested by: | Trump |
| Test mode: | GFSK -DH5 (TX) | | |

| Polar (H/V) | Frequency (MHz) | Reading Level (dBm) m | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| operation frequency: 2402 MHz | | | | | | | |
| V | 39.7844 | -70.91 | -11.73 | -82.64 | -36.00 | -46.64 | QP |
| V | 52.0023 | -66.14 | -9.72 | -75.86 | -54.00 | -21.86 | QP |
| H | 52.1621 | -64.24 | -7.23 | -71.47 | -54.00 | -17.47 | QP |
| H | 57.9484 | -64.27 | -8.73 | -73.00 | -54.00 | -19.00 | QP |
| V | 7206.000 | -74.30 | 23.79 | -50.51 | -30.00 | -20.51 | Peak |
| V | 9608.000 | -74.53 | 27.99 | -46.54 | -30.00 | -16.54 | Peak |
| H | 7206.000 | -74.24 | 23.66 | -50.58 | -30.00 | -20.58 | peak |
| H | 9608.000 | -73.17 | 27.82 | -45.35 | -30.00 | -15.35 | peak |
| operation frequency: 2480 MHz | | | | | | | |
| V | 39.7844 | -65.41 | -11.73 | -77.14 | -36.00 | -41.14 | QP |
| V | 52.0251 | -60.54 | -9.72 | -70.26 | -54.00 | -16.26 | QP |
| H | 52.1850 | -59.76 | -7.24 | -67.00 | -54.00 | -13.00 | QP |
| H | 57.9230 | -57.31 | -8.72 | -66.03 | -54.00 | -12.03 | QP |
| V | 4960.000 | -64.53 | 19.02 | -45.51 | -30.00 | -15.51 | peak |
| V | 7440.000 | -75.28 | 24.85 | -50.43 | -30.00 | -20.43 | peak |
| H | 4960.000 | -60.05 | 19.22 | -40.83 | -30.00 | -10.83 | peak |
| H | 7440.000 | -74.90 | 24.71 | -50.19 | -30.00 | -20.19 | peak |

**Notes:**

Emission Level= Reading Level+ Factor

Margin= Emission Level - Limit

## 6.7 Receiver spurious emissions

### 6.7.1 Definition

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

### 6.7.2 Limits

The receiver spurious emissions shall not exceed the values given in table 5.

In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are e.r.p. for emissions up to 1 GHz and e.i.r.p. for emissions above 1 GHz.

**Table 4: Transmitter limits for spurious emissions**

| Frequency range | Maximum power | Bandwidth |
|---|---|---|
| 30 MHz to 1 GHz | -57 dBm | 100 kHz |
| 1 GHz to 12.75 GHz | -47 dBm | 1 MHz |

### 6.7.3 Test method

See clause 5.4.10 of EN 300 328.

### 6.7.4 Test result

**Note:** only the data of worst mode is reported.

| | | | |
|---|---|---|---|
| Power supply: | DC 12V | Test site: | RE chamber 2 |
| Environment conditions: | 23.5°C,60% RH | Tested by: | Trump |
| Test mode: | GFSK-DH5 (RX) | | |

| Polar (H/V) | Frequency (MHz) | Reading Level (dBm) | Factor (dB) | Emission Level (dBm) | Limits (dBm) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|---|
| operation frequency: 2402 MHz | | | | | | | |
| V | 39.3164 | -66.70 | -12.08 | -78.78 | -57.00 | -21.78 | QP |
| V | 52.0251 | -60.20 | -9.72 | -69.92 | -57.00 | -12.92 | QP |
| H | 52.1393 | -63.98 | -7.22 | -71.20 | -57.00 | -14.20 | QP |
| H | 57.7962 | -63.63 | -8.69 | -72.32 | -57.00 | -15.32 | QP |
| V | 3194.313 | -84.68 | 15.97 | -68.71 | -47.00 | -21.71 | peak |
| V | 5058.156 | -84.62 | 19.04 | -65.58 | -47.00 | -18.58 | peak |
| H | 1634.500 | -82.16 | 12.81 | -69.35 | -47.00 | -22.35 | peak |
| H | 3148.781 | -82.68 | 16.04 | -66.64 | -47.00 | -19.64 | peak |
| operation frequency: 2480 MHz | | | | | | | |
| V | 52.0251 | -53.20 | -9.72 | -62.92 | -57.00 | -5.92 | QP |
| V | 58.9993 | -61.54 | -9.51 | -71.05 | -57.00 | -14.05 | QP |
| H | 52.2995 | -56.46 | -7.27 | -63.73 | -57.00 | -6.73 | QP |
| H | 57.7962 | -53.46 | -8.69 | -62.15 | -57.00 | -5.15 | QP |
| V | 3194.313 | -82.68 | 15.97 | -66.71 | -47.00 | -19.71 | peak |
| V | 5094.875 | -83.74 | 18.98 | -64.76 | -47.00 | -17.76 | peak |
| H | 2849.156 | -81.96 | 15.52 | -66.44 | -47.00 | -19.44 | peak |
| H | 4510.313 | -82.96 | 17.74 | -65.22 | -47.00 | -18.22 | peak |

**Notes:**

Emission Level= Reading Level+ Factor

Margin= Emission Level - Limit

## 6.8 Receiver blocking

### 6.8.1 Definition

Receiver blocking is a measure of the ability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of an unwanted input signal (blocking signal) on frequencies other than those of the operating band and spurious responses.

### 6.8.2 Limits

**Performance Criteria**

For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment.

**Receiver Category 1:**

| Wanted signal mean power from companion device (dBm) (see notes 1 and 4) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 4) | Type of blocking signal |
|---|---|---|---|
| (-133 dBm + 10 × $\log_{10}$(OCBW)) or -68 dBm whichever is less (see note 2) | 2 380<br>2 504 | -34 | CW |
| (-139 dBm + 10 × $\log_{10}$(OCBW)) or -74 dBm whichever is less (see note 3) | 2 300<br>2 330<br>2 360<br>2 524<br>2 584<br>2 674 | | |

NOTE 1: OCBW is in Hz.
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{min}$ + 26 dB where $P_{min}$ is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{min}$ + 20 dB where $P_{min}$ is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

**Receiver Category 2:**

| Wanted signal mean power from companion device (dBm) (see notes 1 and 3) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 3) | Type of blocking signal |
|---|---|---|---|
| (-139 dBm + 10 × $\log_{10}$(OCBW) + 10 dB) or (-74 dBm + 10 dB) whichever is less (see note 2) | 2 380<br>2 504<br>2 300<br>2 584 | -34 | CW |
| NOTE 1: OCBW is in Hz.<br>NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{min}$ + 26 dB where $P_{min}$ is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.<br>NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2. | | | |

**Receiver Category 3:**

| Wanted signal mean power from companion device (dBm) (see notes 1 and 3) | Blocking signal frequency (MHz) | Blocking signal power (dBm) (see note 3) | Type of blocking signal |
|---|---|---|---|
| (-139 dBm + 10 × $\log_{10}$(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2) | 2 380<br>2 504<br>2 300<br>2 584 | -34 | CW |
| NOTE 1: OCBW is in Hz.<br>NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative the test may be performed using a wanted signal up to $P_{min}$ + 30 dB where $P_{min}$ is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.<br>NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2. | | | |

### 6.8.3 Test method

See clause 5.4.11 of EN 300 328.

### 6.8.4 Test result

Note: see the appendix F

# Appendix A: RF Output Power

## Test Result

| Test Condition | Test Mode | Antenna | Frequency [MHz] | Burst Power [dBm] | Gain [dBi] | EIRP [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|---|---|---|---|
| NTNV | DH5 | Ant1 | Hop | 6.12 | 0.00 | 6.12 | 20 | PASS |
| | 2DH5 | Ant1 | Hop | 3.39 | 0.00 | 3.39 | 20 | PASS |
| | 3DH5 | Ant1 | Hop | 3.42 | 0.00 | 3.42 | 20 | PASS |
| LTNV | DH5 | Ant1 | Hop | 6.12 | 0.00 | 6.12 | 20 | PASS |
| | 2DH5 | Ant1 | Hop | 3.39 | 0.00 | 3.39 | 20 | PASS |
| | 3DH5 | Ant1 | Hop | 3.39 | 0.00 | 3.39 | 20 | PASS |
| HTNV | DH5 | Ant1 | Hop | 6.11 | 0.00 | 6.11 | 20 | PASS |
| | 2DH5 | Ant1 | Hop | 3.39 | 0.00 | 3.39 | 20 | PASS |
| | 3DH5 | Ant1 | Hop | 3.43 | 0.00 | 3.43 | 20 | PASS |

**Notes:**

EIRP (dBm) = the highest of burst power [dBm] + antenna gain [dBi].
The offset of cable loss has been in compensation during the testing.

# Appendix B: Occupied Channel Bandwidth

## Test Result

| Test Mode | Antenna | Frequency [MHz] | OCB [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| DH5 | Ant1 | 2480 | 0.85773 | 2479.5594 | 2480.4171 | 2400 to 2483.5 | PASS |
| 2DH5 | Ant1 | 2480 | 1.1792 | 2479.3984 | 2480.5776 | 2400 to 2483.5 | PASS |
| 3DH5 | Ant1 | 2480 | 1.1873 | 2479.3969 | 2480.5842 | 2400 to 2483.5 | PASS |

## Test Graphs

DH5_Ant1_2480


2DH5_Ant1_2480


3DH5_Ant1_2480

# Appendix C: Accumulated Transmit Time, Frequency Occupation and Hopping Sequence

## Test Result

### Accumulated Transmit Time

| Test Mode | Antenna | Frequency [MHz] | On points | Per_PointTime [ms] | Result [ms] | Limit [ms] | Verdict |
|---|---|---|---|---|---|---|---|
| DH1 | Ant1 | Hop_2402 | 94 | 1.0534 | 99.020 | 400 | PASS |
| | | Hop_2480 | 95 | 1.0534 | 100.073 | 400 | PASS |
| DH3 | Ant1 | Hop_2402 | 111 | 1.0534 | 116.927 | 400 | PASS |
| | | Hop_2480 | 131 | 1.0534 | 137.995 | 400 | PASS |
| DH5 | Ant1 | Hop_2402 | 135 | 1.0534 | 142.209 | 400 | PASS |
| | | Hop_2480 | 92 | 1.0534 | 96.913 | 400 | PASS |
| 2DH1 | Ant1 | Hop_2402 | 100 | 1.0534 | 105.340 | 400 | PASS |
| | | Hop_2480 | 107 | 1.0534 | 112.714 | 400 | PASS |
| 2DH3 | Ant1 | Hop_2402 | 89 | 1.0534 | 93.753 | 400 | PASS |
| | | Hop_2480 | 91 | 1.0534 | 95.859 | 400 | PASS |
| 2DH5 | Ant1 | Hop_2402 | 139 | 1.0534 | 146.423 | 400 | PASS |
| | | Hop_2480 | 102 | 1.0534 | 107.447 | 400 | PASS |
| 3DH1 | Ant1 | Hop_2402 | 111 | 1.0534 | 116.927 | 400 | PASS |
| | | Hop_2480 | 117 | 1.0534 | 123.248 | 400 | PASS |
| 3DH3 | Ant1 | Hop_2402 | 110 | 1.0534 | 115.874 | 400 | PASS |
| | | Hop_2480 | 95 | 1.0534 | 100.073 | 400 | PASS |
| 3DH5 | Ant1 | Hop_2402 | 135 | 1.0534 | 142.209 | 400 | PASS |
| | | Hop_2480 | 127 | 1.0534 | 133.782 | 400 | PASS |

**Notes:**
The observation period = 400 ms * 79 = 31.6s
Resulst [ms] = On points * Per_PointTime [ms]

### Frequency Occupation

| Test Mode | Antenna | Frequency [MHz] | Result [Num.] | Limit [Num.] | Verdict |
|---|---|---|---|---|---|
| DH1 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| DH3 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| DH5 | Ant1 | Hop_2402 | 2 | 1 | PASS |
| | | Hop_2480 | 2 | 1 | PASS |
| 2DH1 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 2 | 1 | PASS |
| 2DH3 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| 2DH5 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| 3DH1 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| 3DH3 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |
| 3DH5 | Ant1 | Hop_2402 | 1 | 1 | PASS |
| | | Hop_2480 | 1 | 1 | PASS |

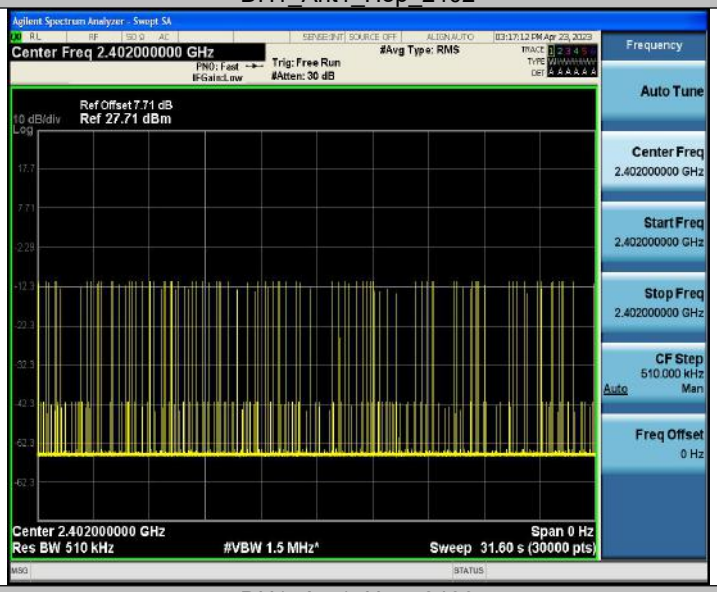
**Notes:** The observation period = Per_PulseTime [ms] * 4 * 79

### Hopping Sequence

| Test Mode | Antenna | Channel | Hop. [Num.] | Limit [Num.] | Band Use [%] | Limit [%] | Verdict |
|---|---|---|---|---|---|---|---|
| DH5 | Ant1 | Hop | 79 | 15 | 96.30 | 70 | PASS |
| 2DH5 | Ant1 | Hop | 79 | 15 | 96.00 | 70 | PASS |
| 3DH5 | Ant1 | Hop | 79 | 15 | 92.50 | 70 | PASS |

## Test Graphs

DH1_Ant1_Hop_2402

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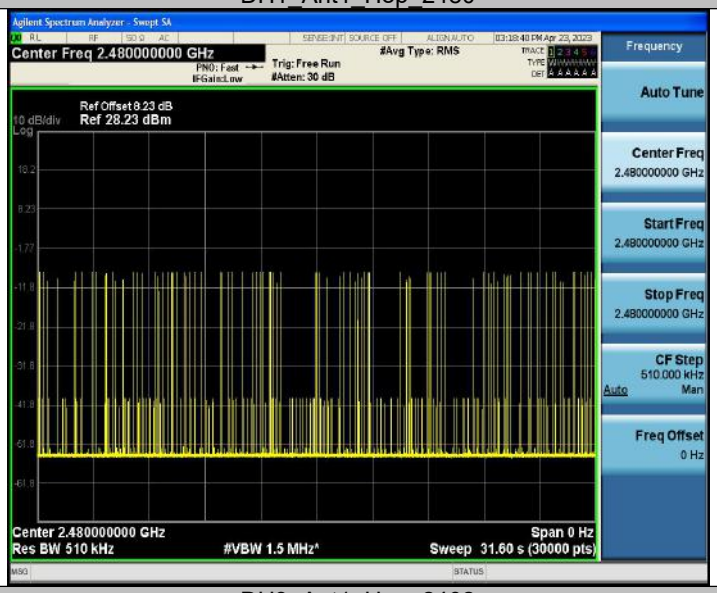


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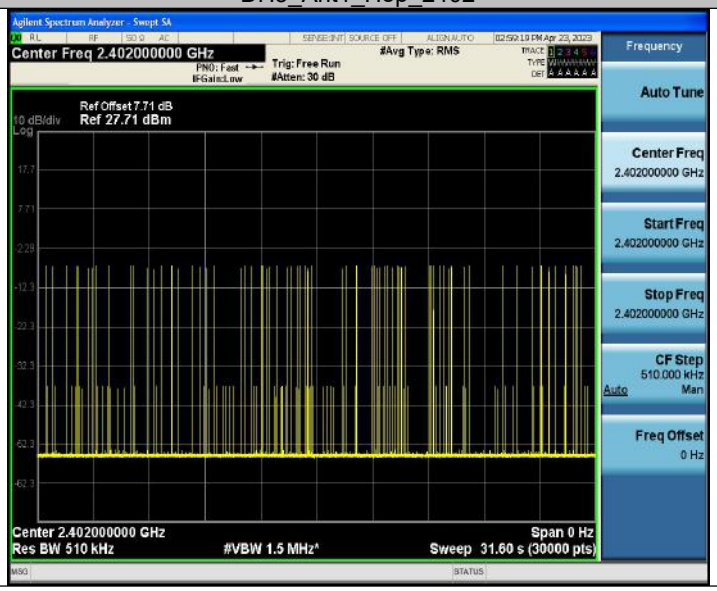

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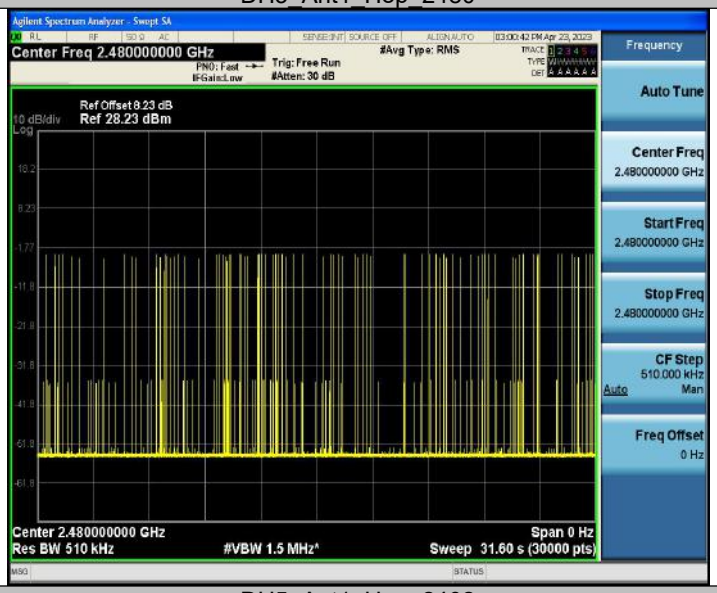


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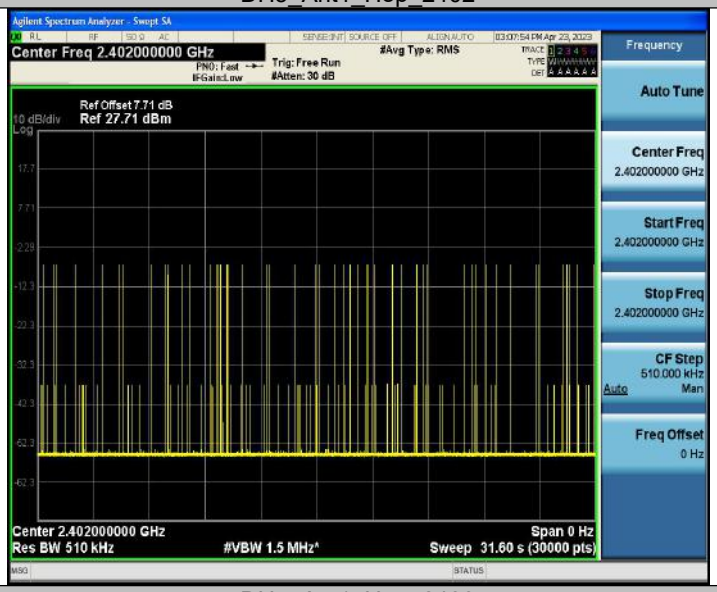


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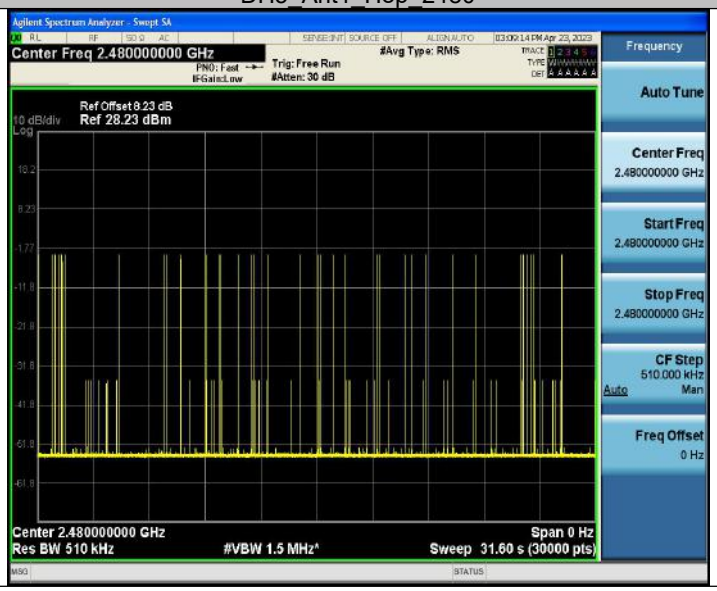

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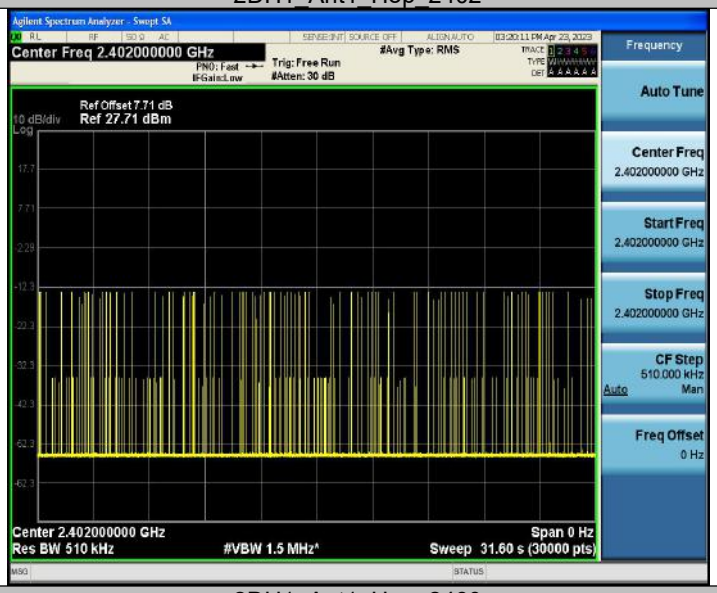


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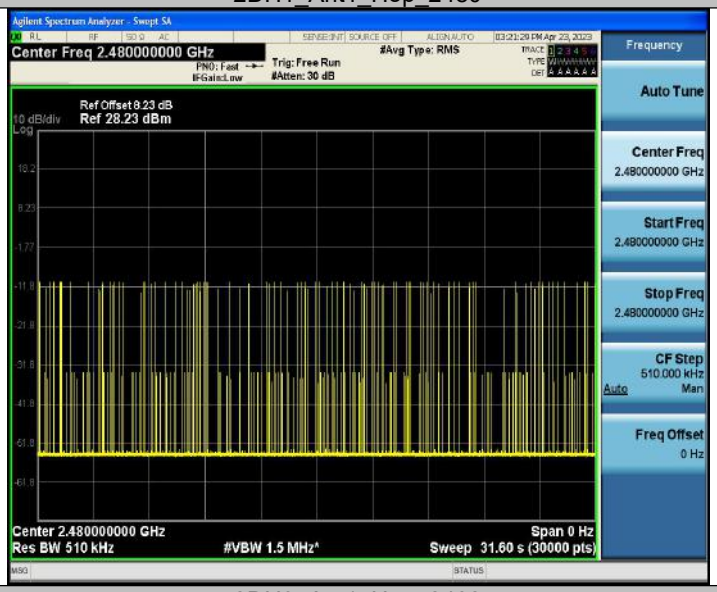


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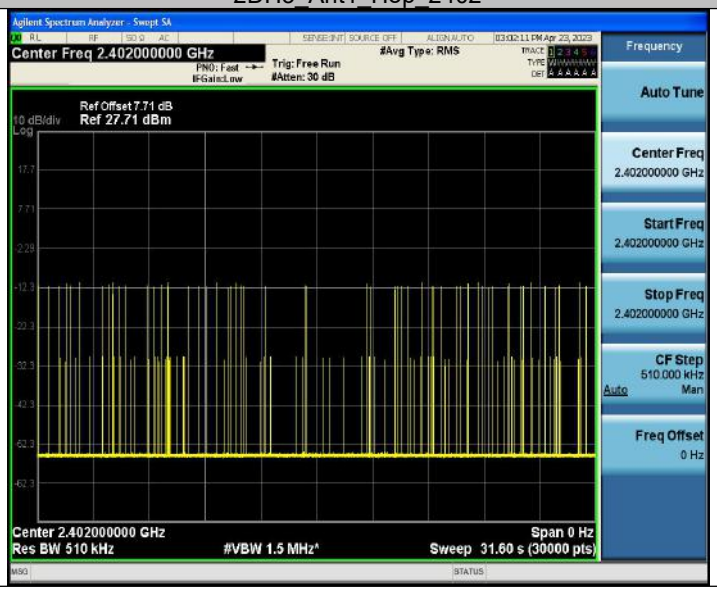

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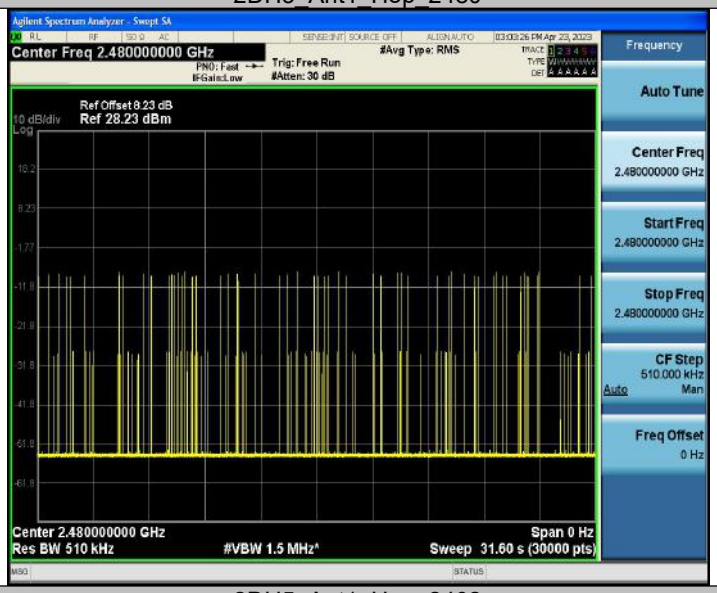


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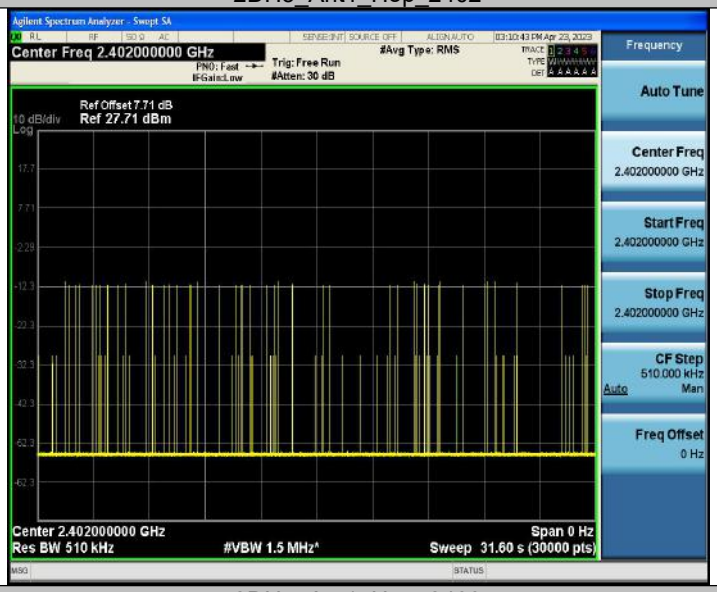


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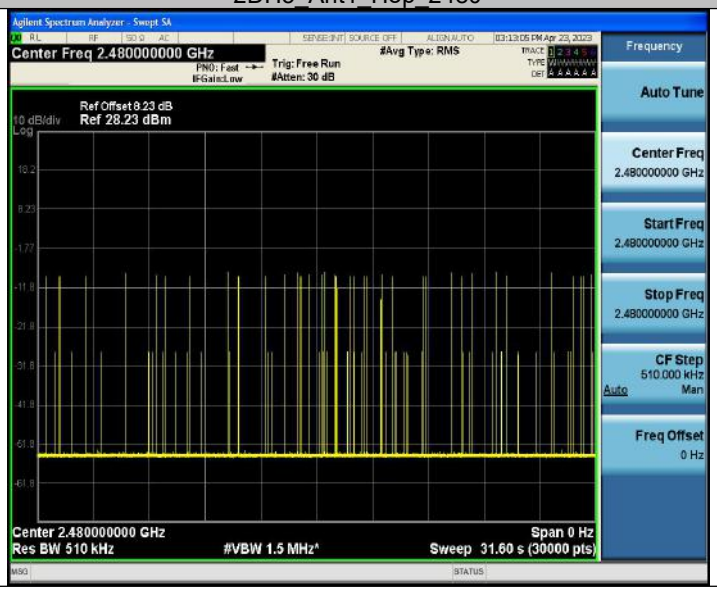

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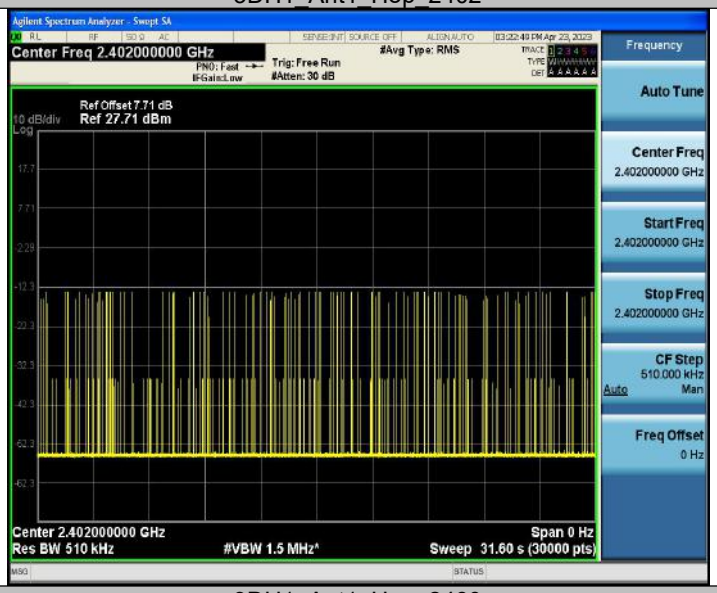


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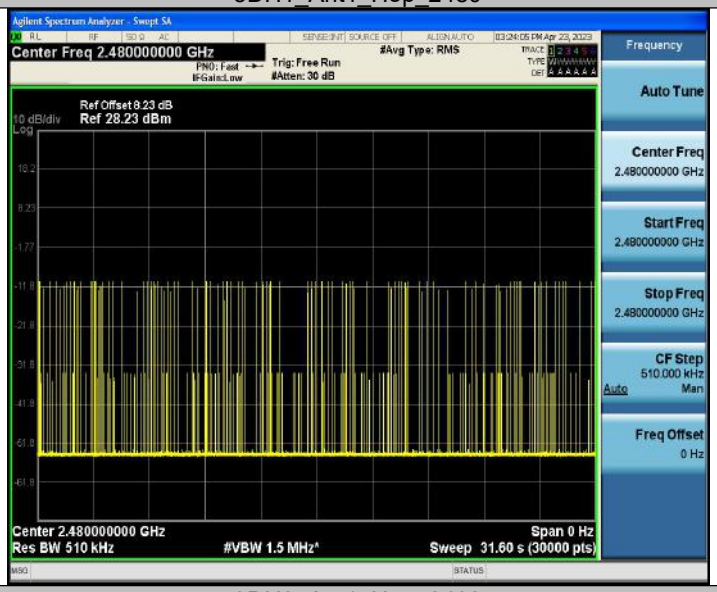


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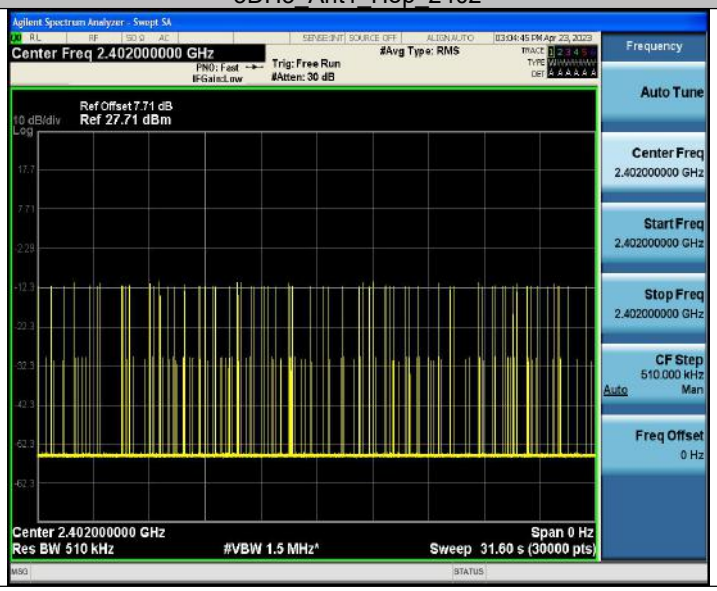

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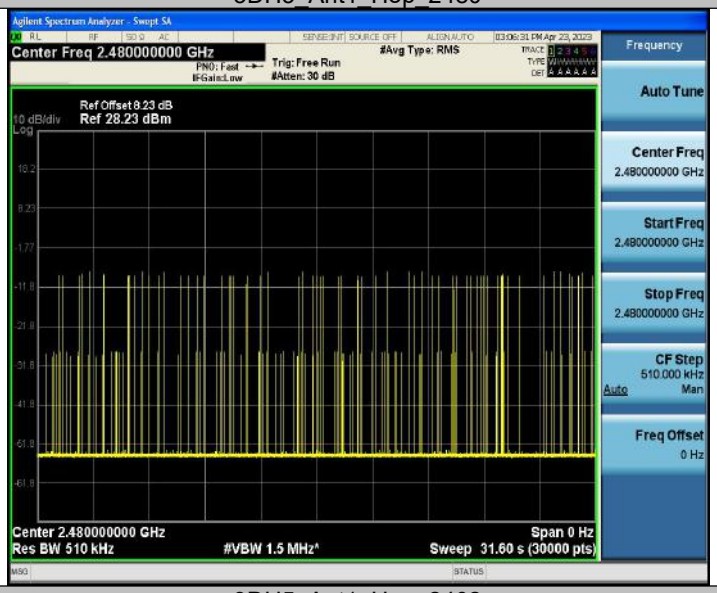


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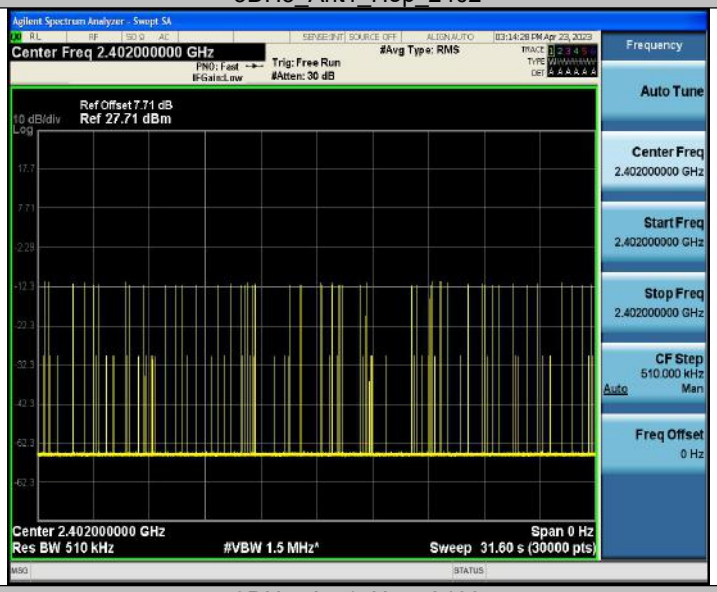


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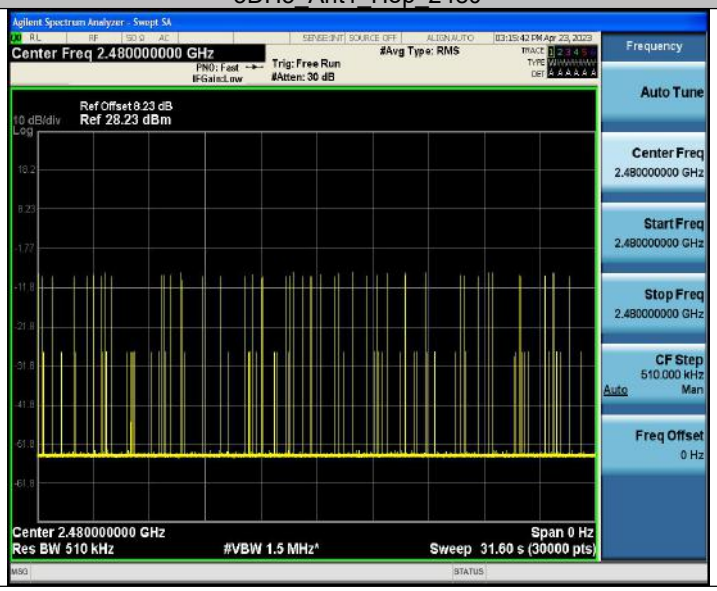

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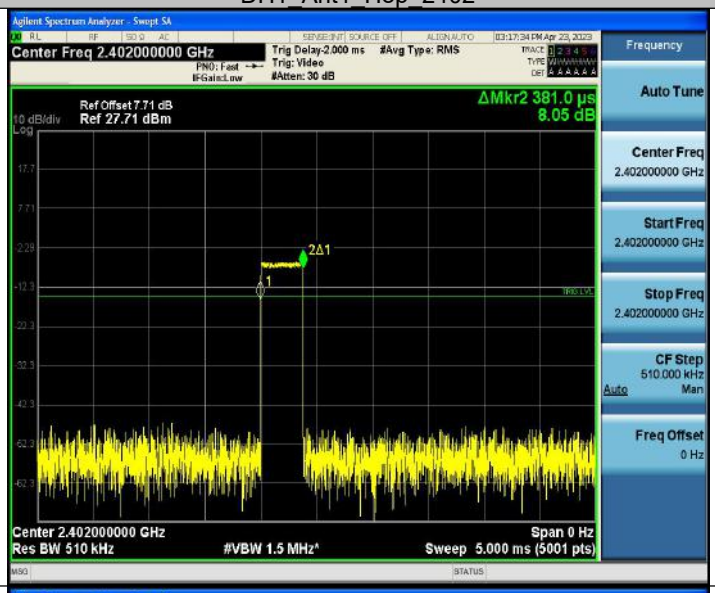


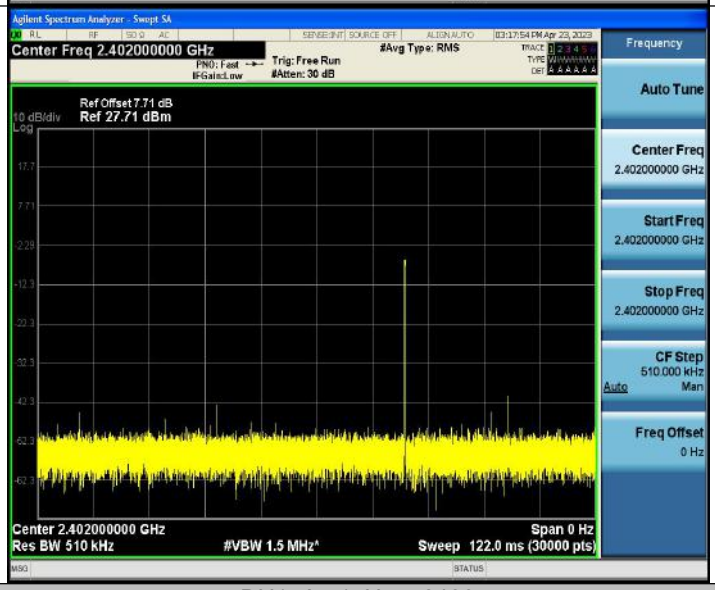


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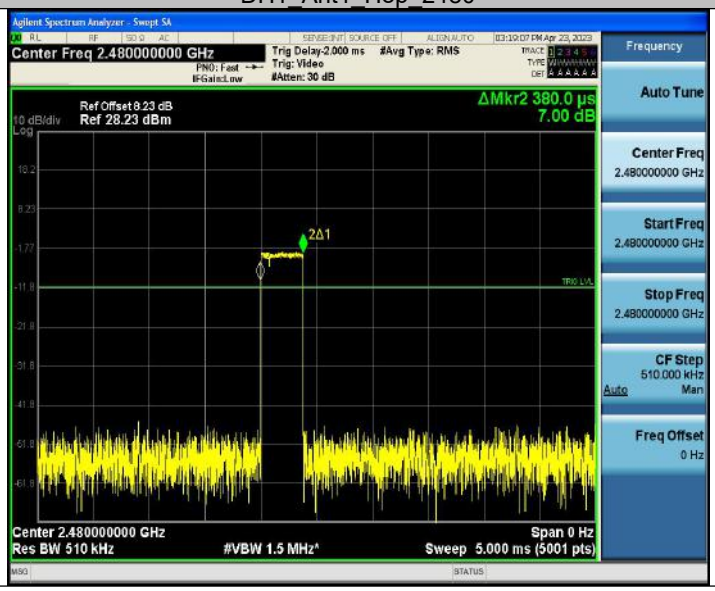

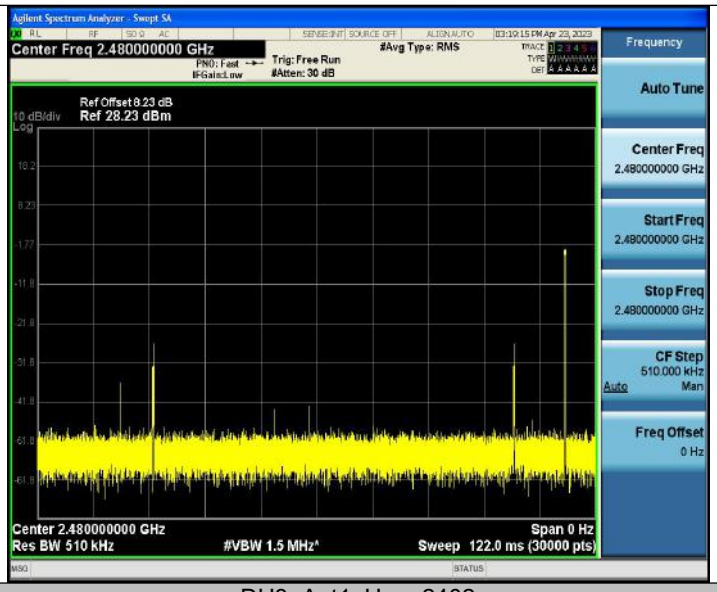


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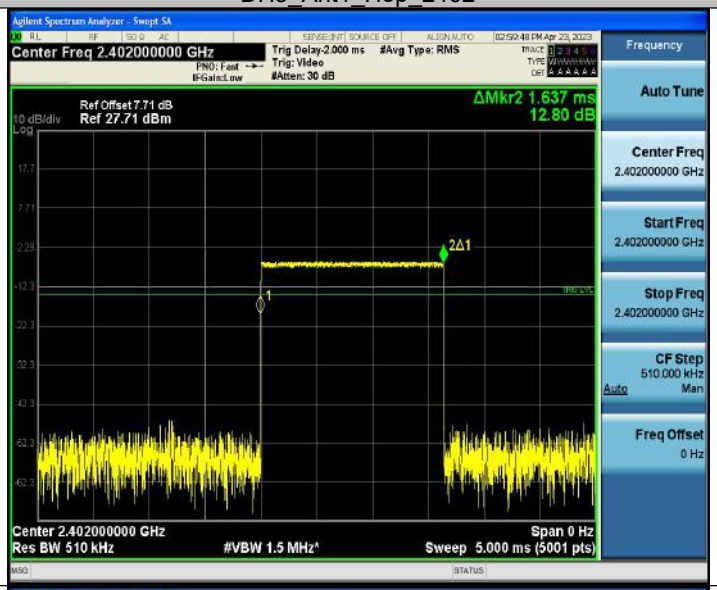


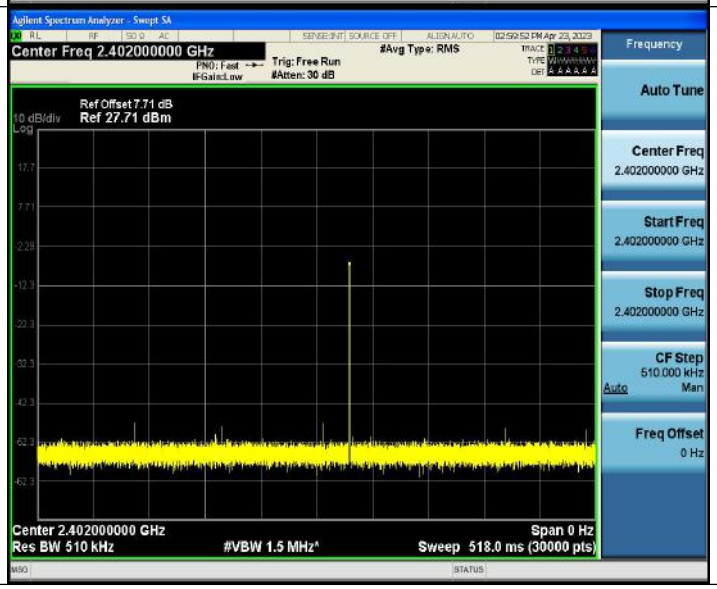

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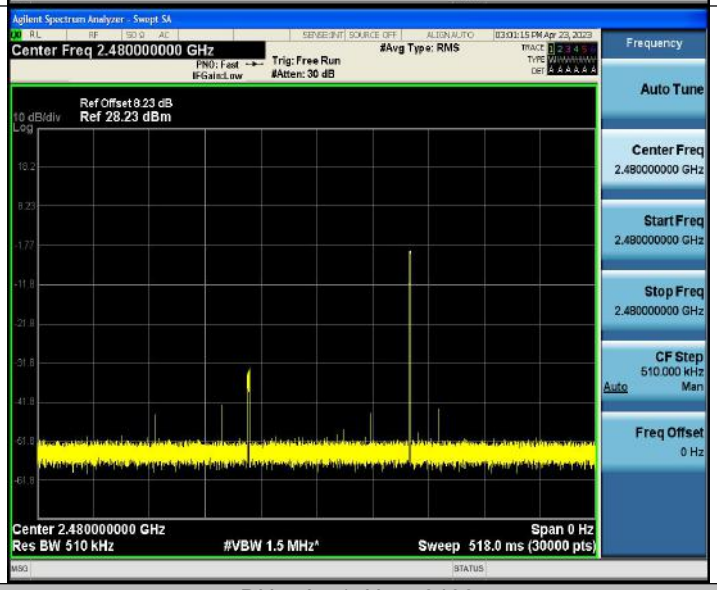
|  |
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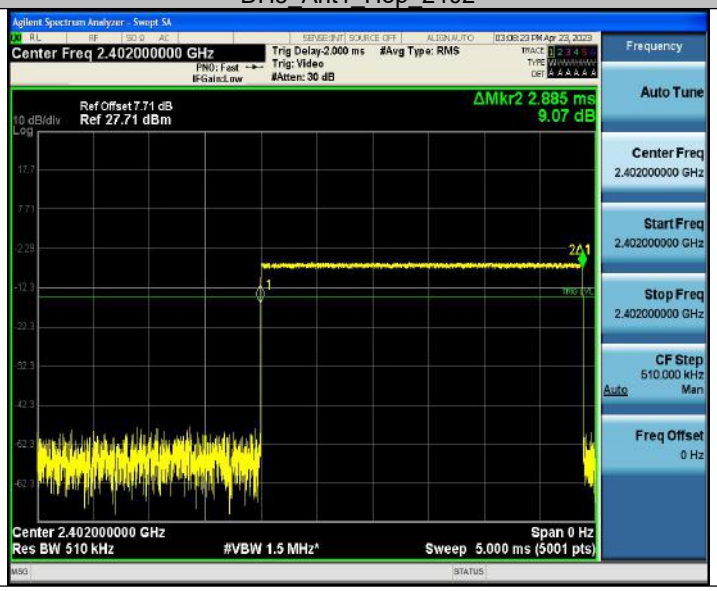
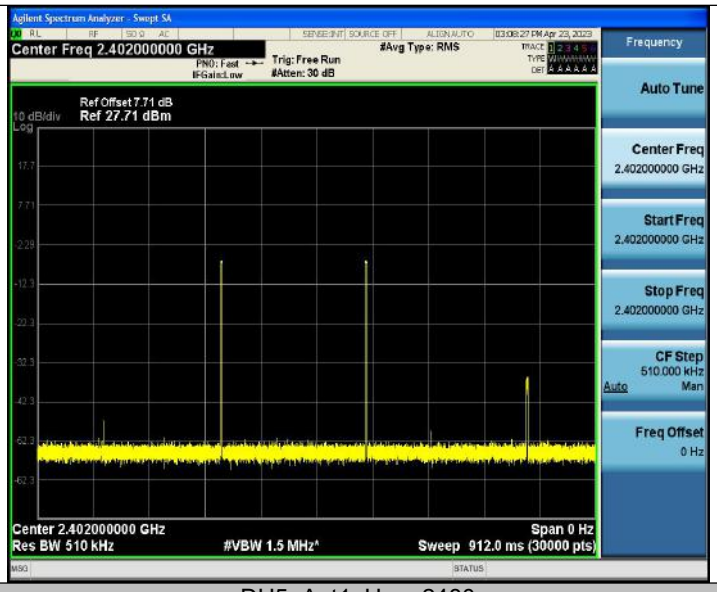
|  |

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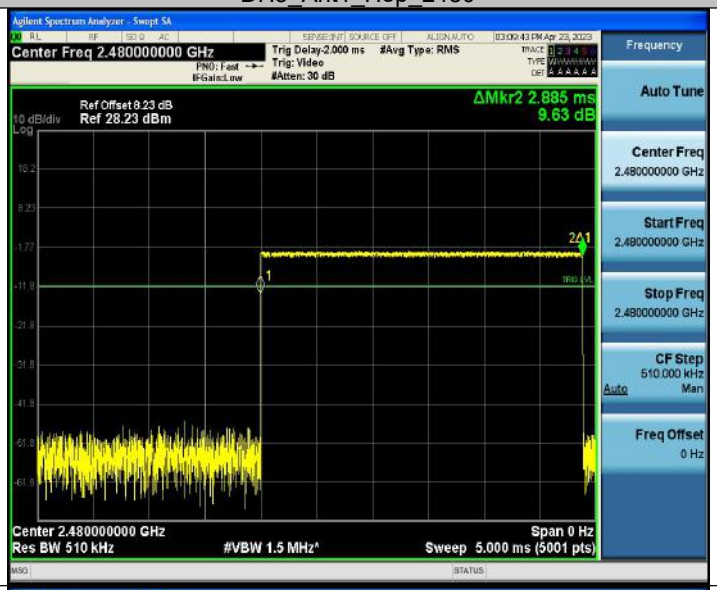


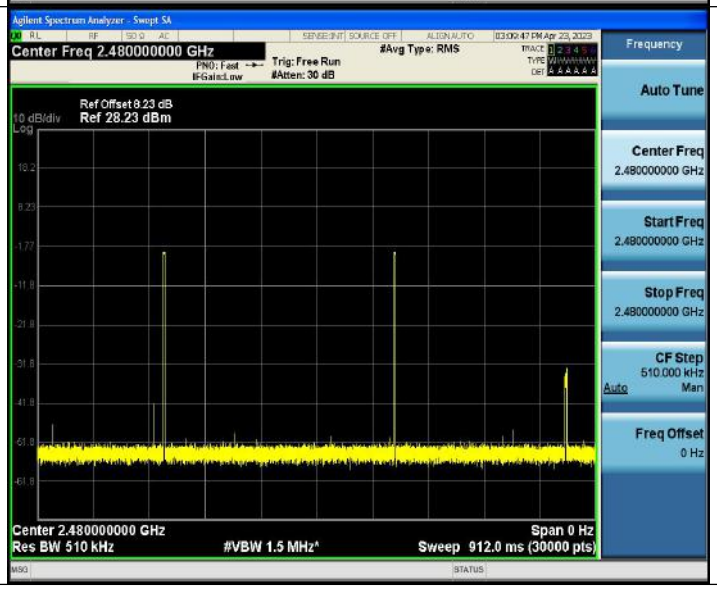

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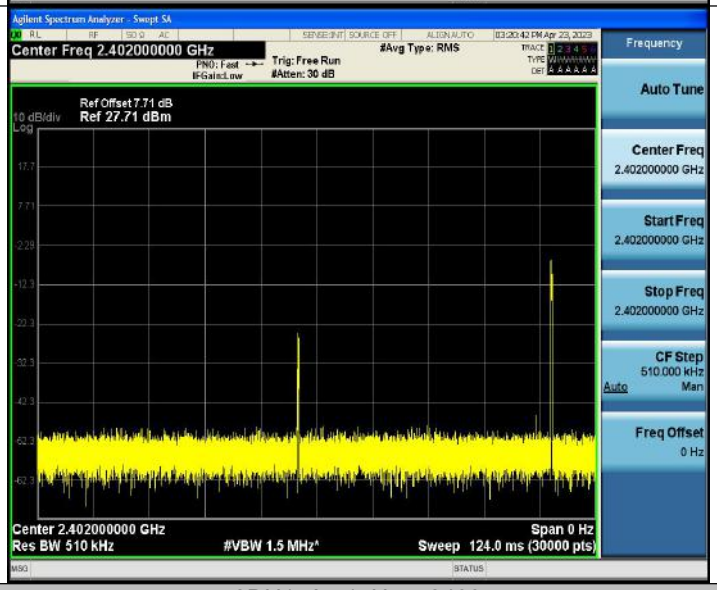
|  |
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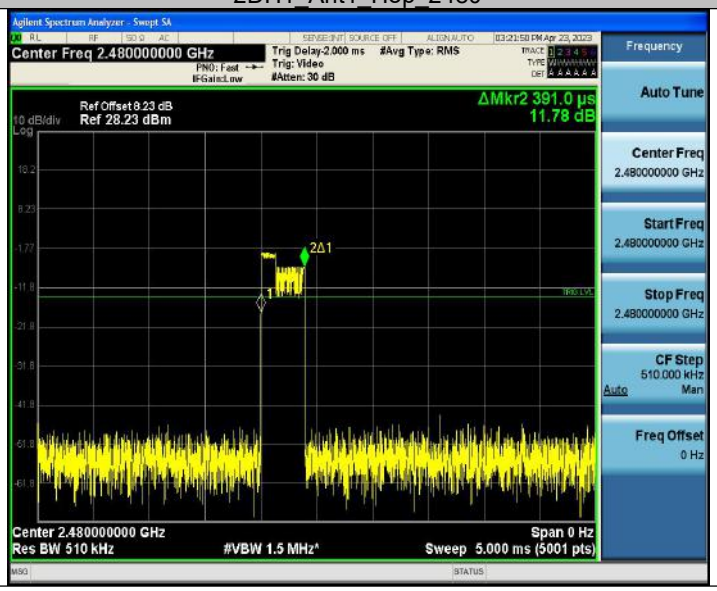
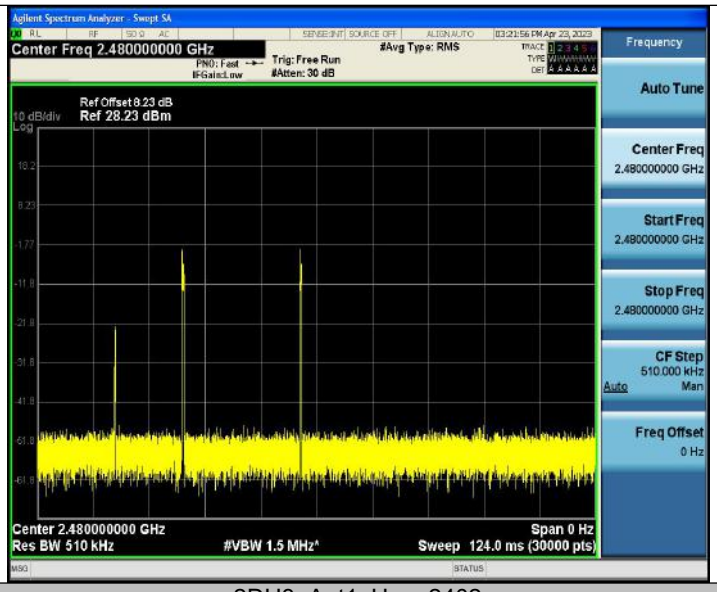
|  |

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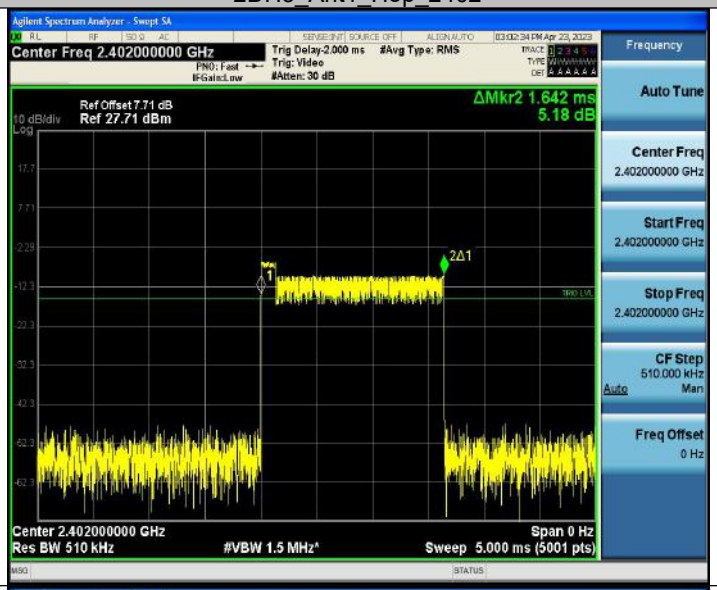


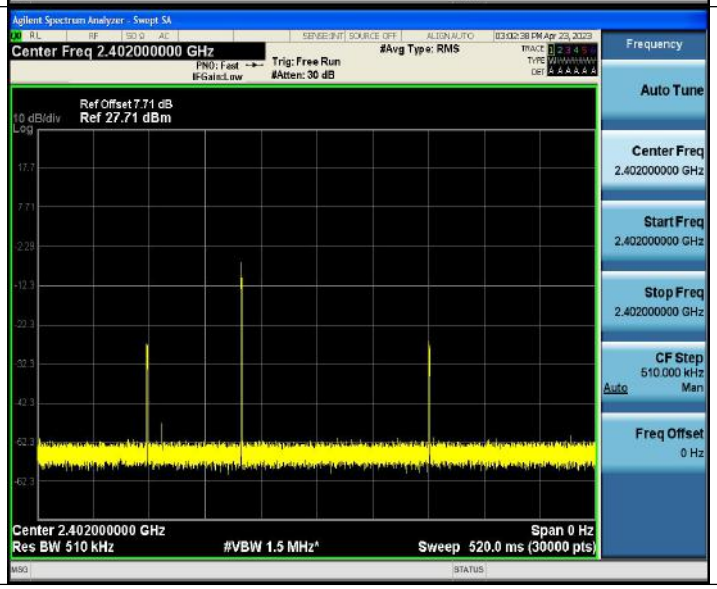

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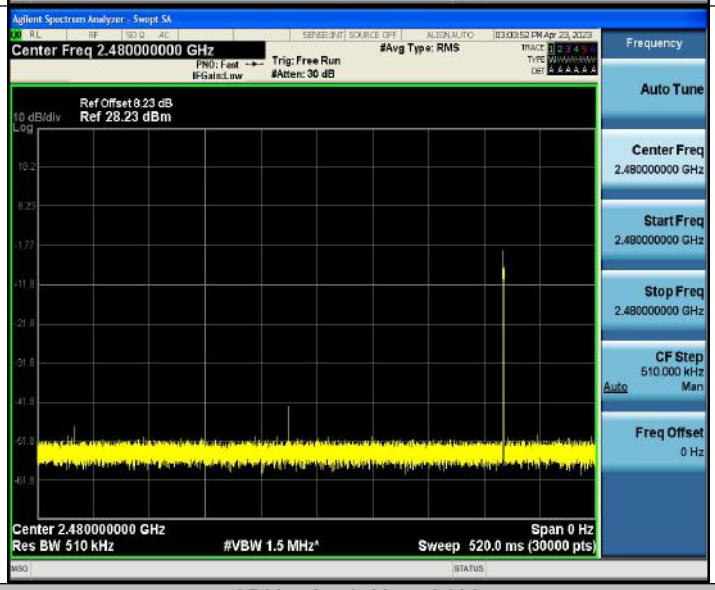
|  |
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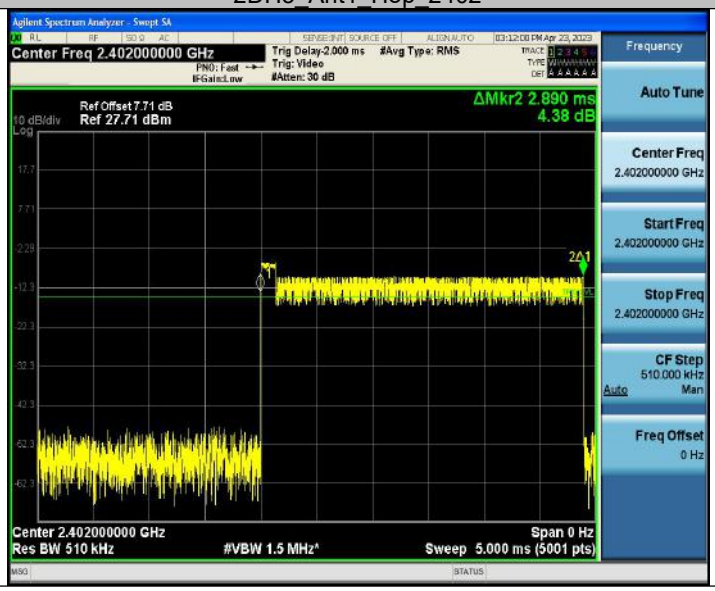
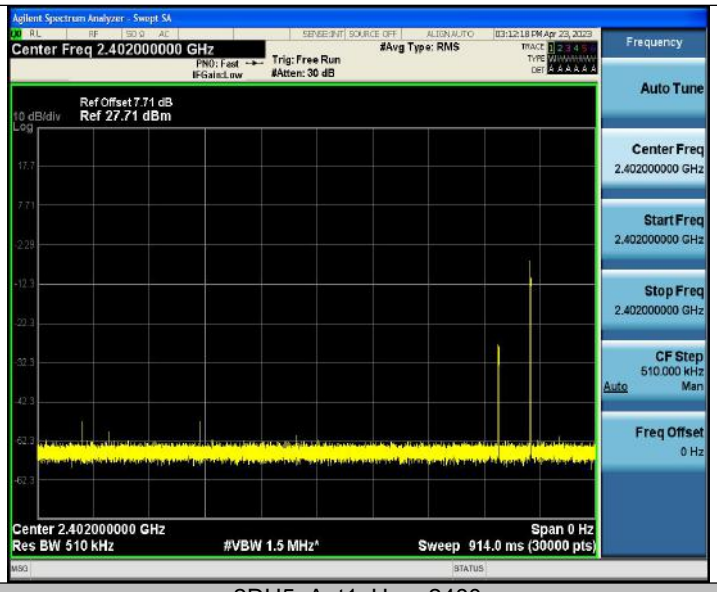
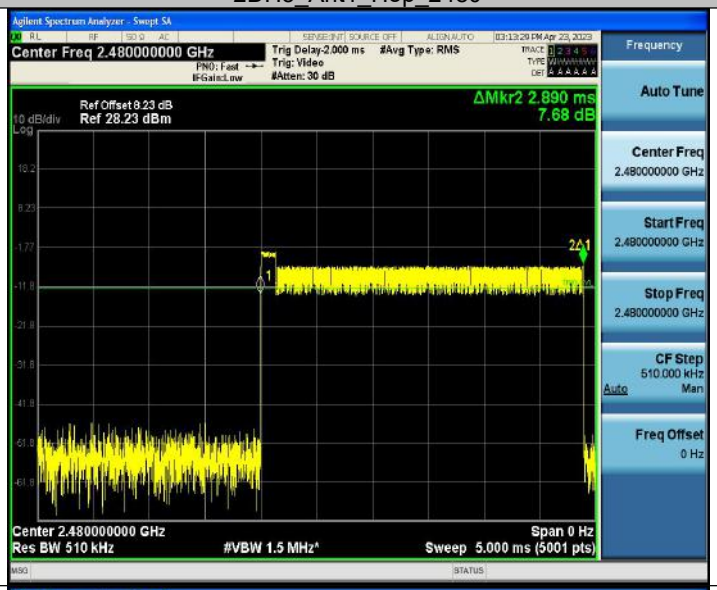
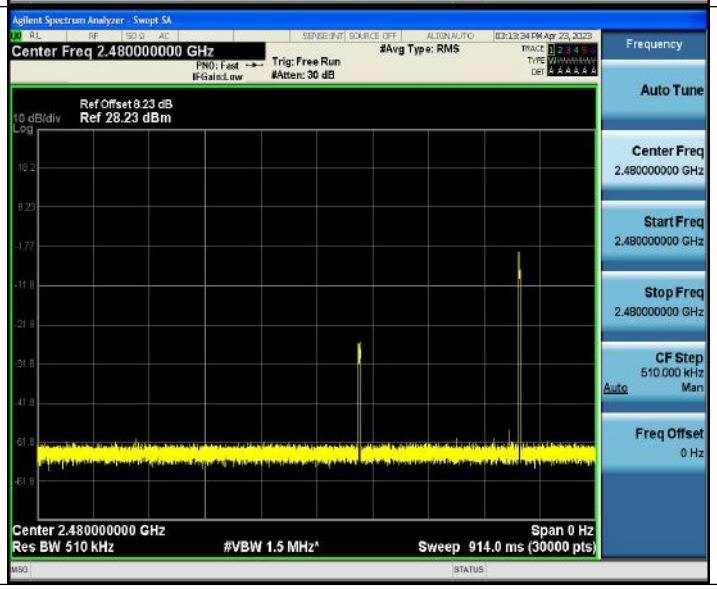
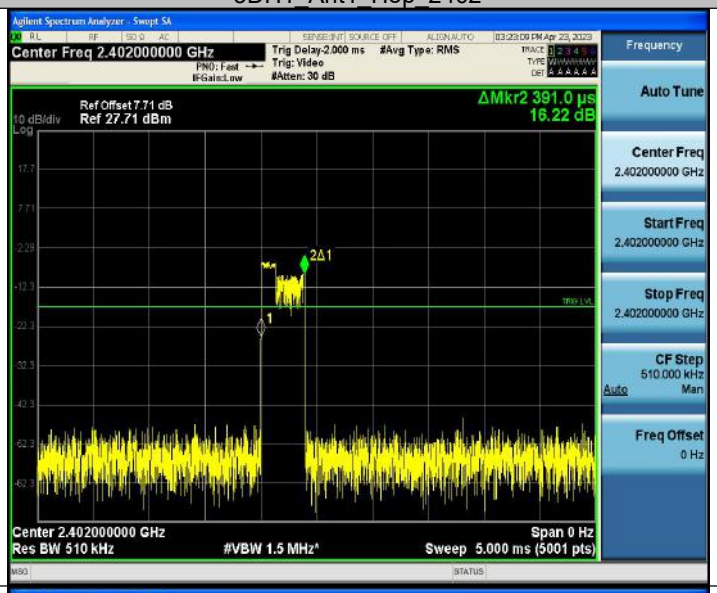
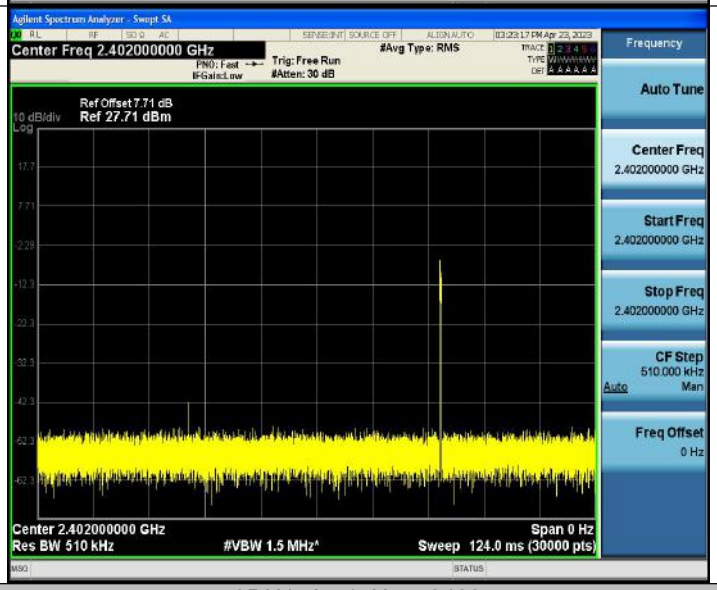
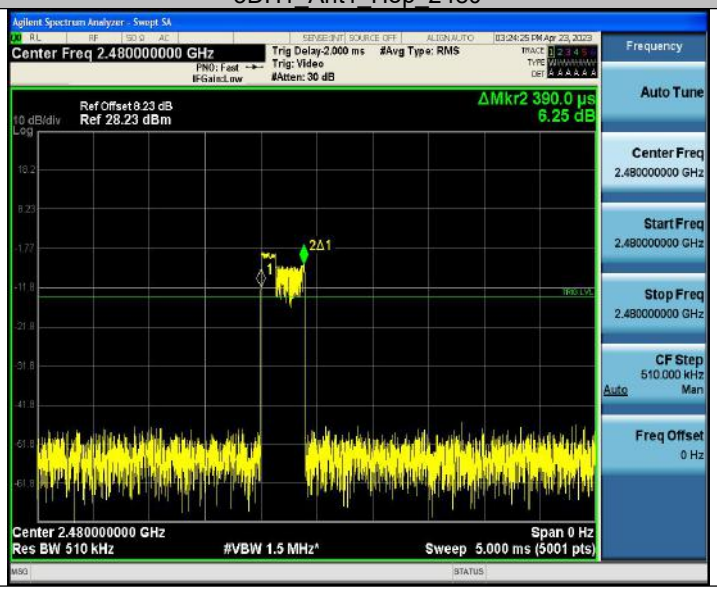
|  |

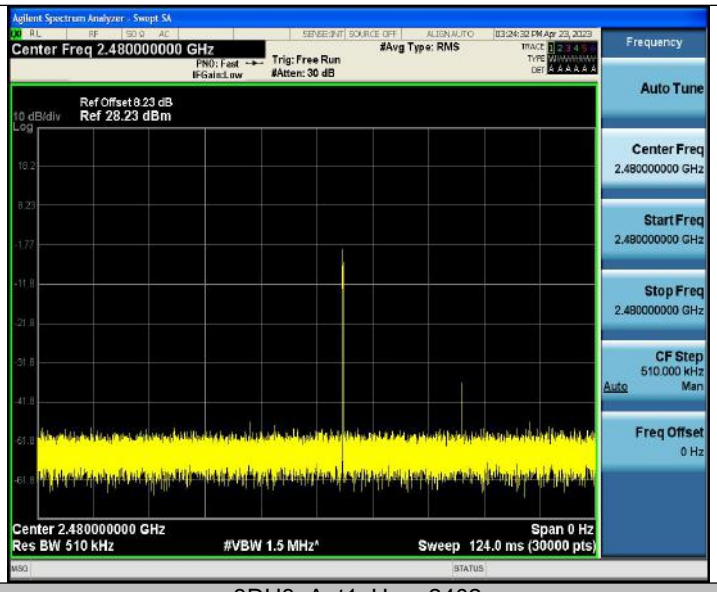



2DH5_Ant1_Hop_2480

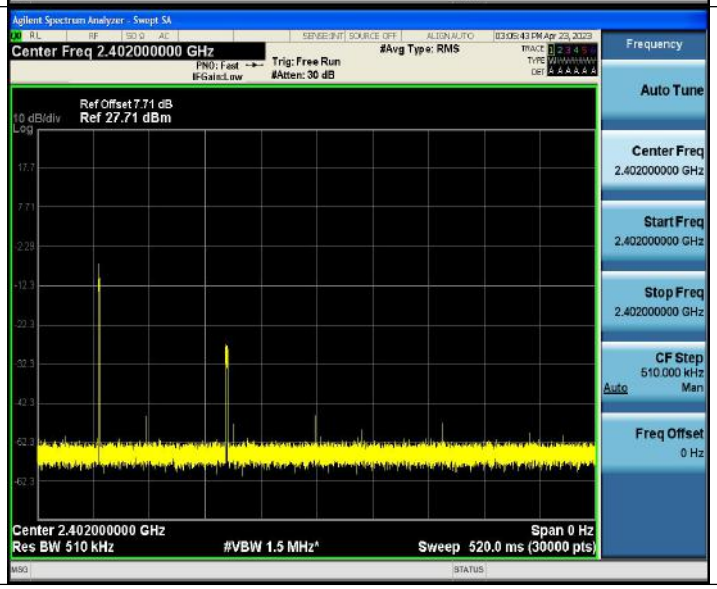


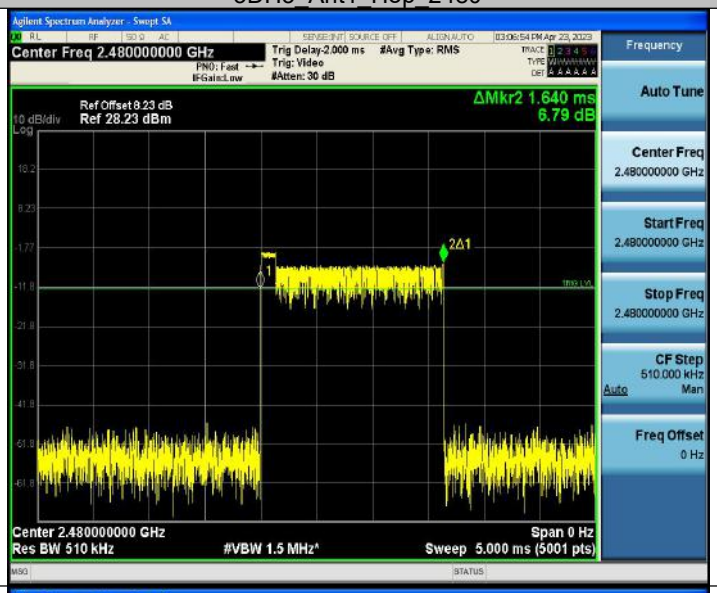
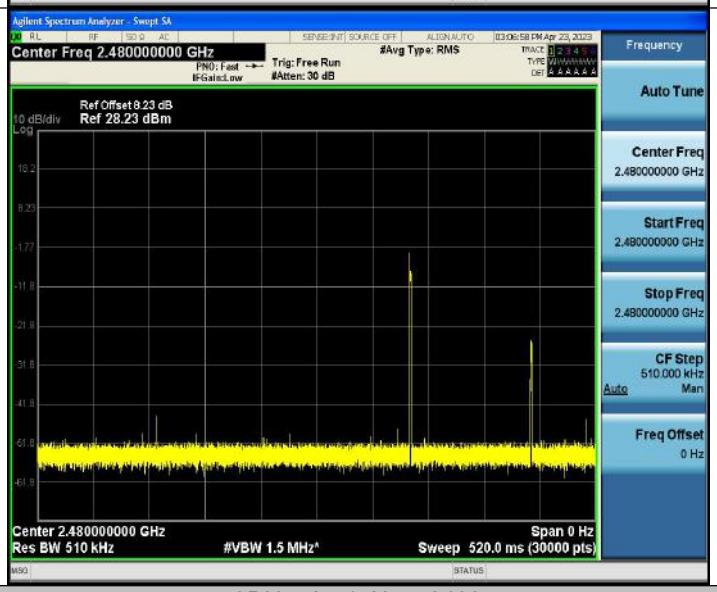
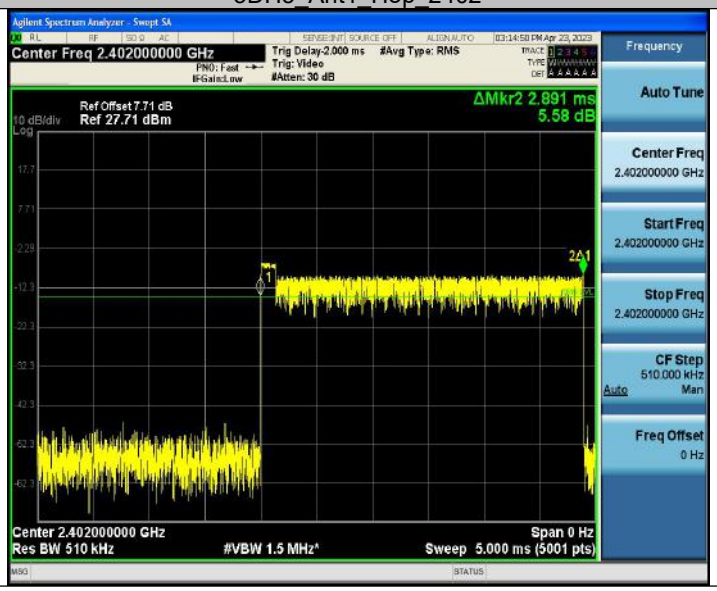



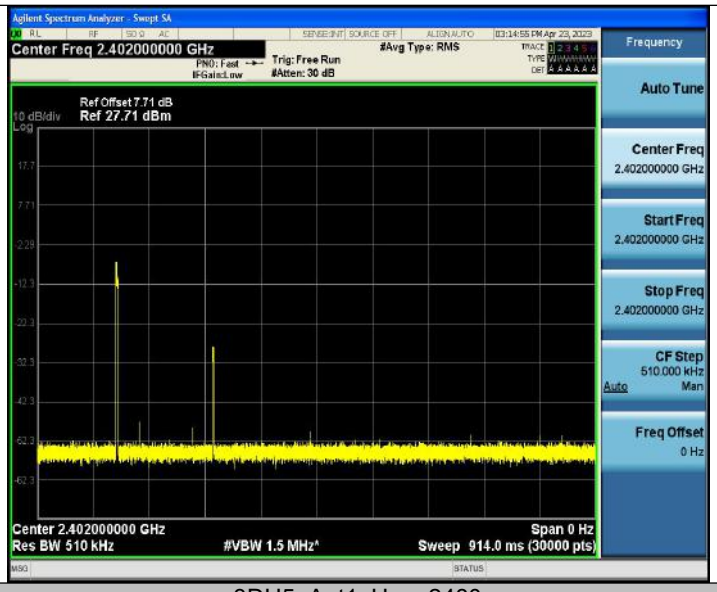
| 3DH1_Ant1_Hop_2402 |
| --- |
|  |
|  |
| 3DH1_Ant1_Hop_2480 |
|  |



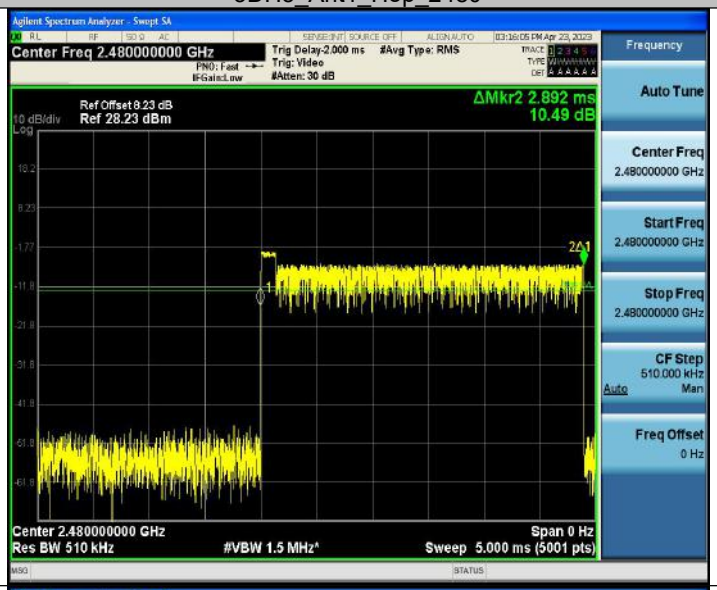

3DH3_Ant1_Hop_2402

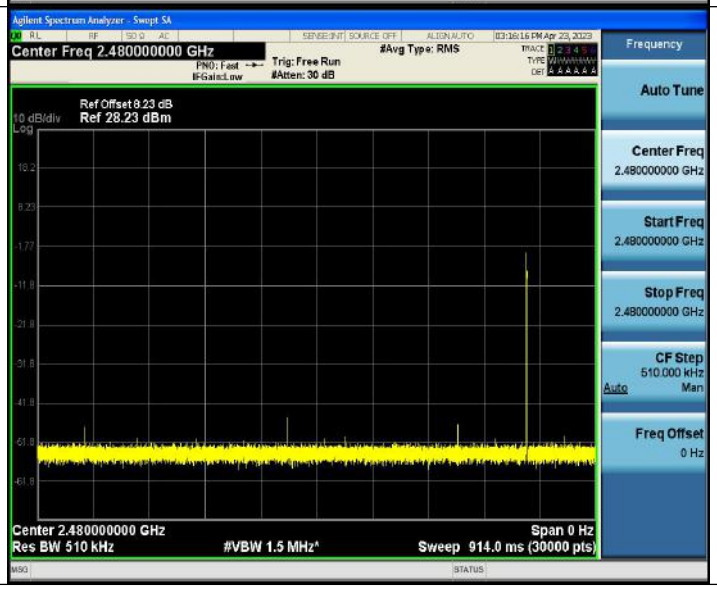



| 3DH3_Ant1_Hop_2480 |
| --- |
|  |
|  |
| 3DH5_Ant1_Hop_2402 |
|  |

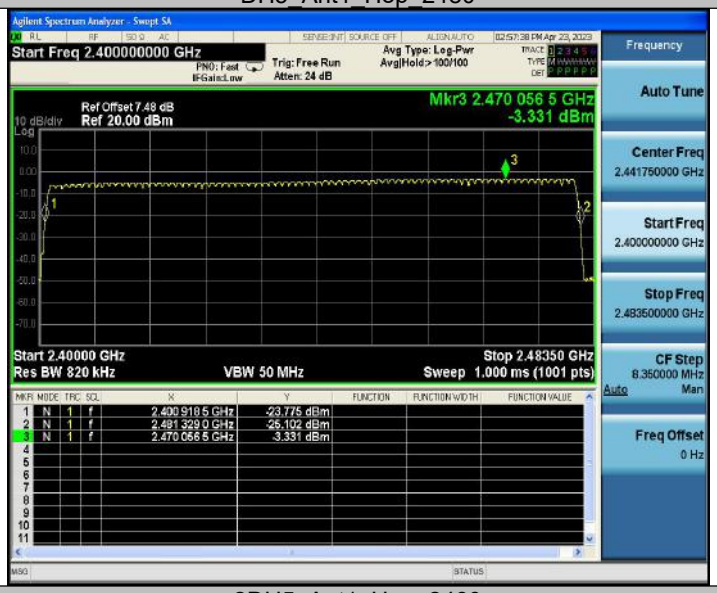



3DH5_Ant1_Hop_2480

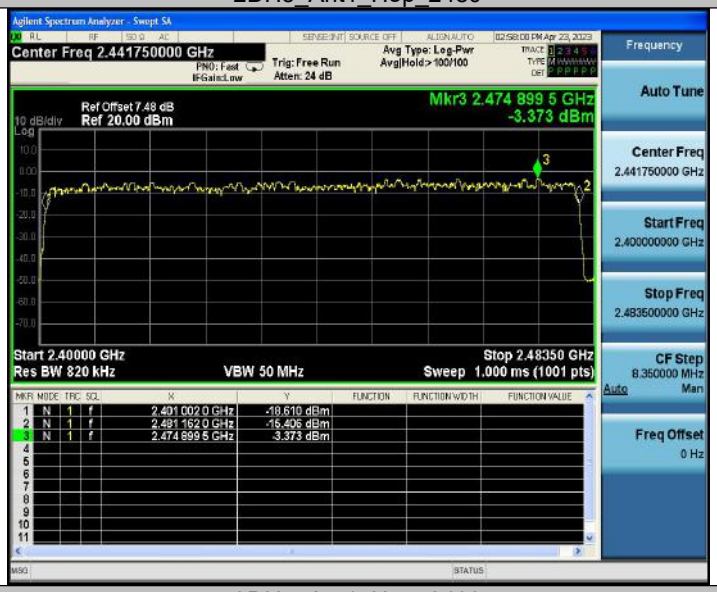


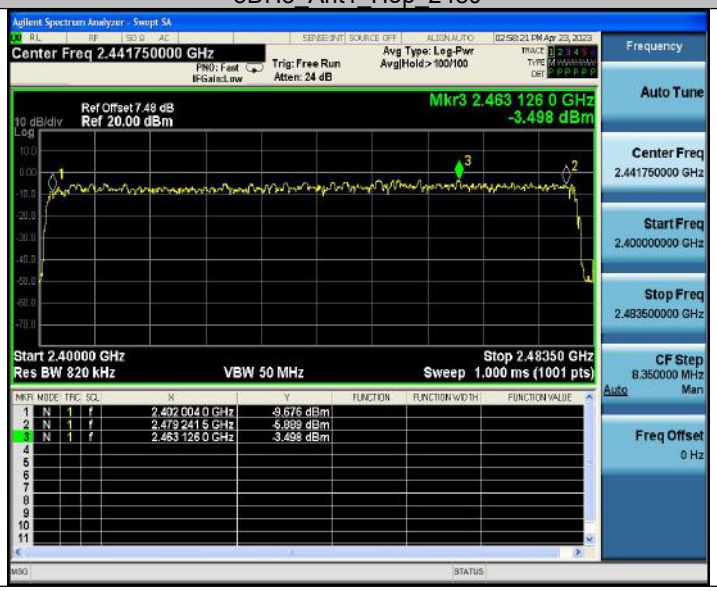
DH5_Ant1_Hop_2480




2DH5_Ant1_Hop_2480




3DH5_Ant1_Hop_2480



# Appendix D: Hopping Frequency Separation

## Test Result

| Test Mode | Antenna | Frequency [MHz] | Result [MHz] | Limit [MHz] | Verdict |
|---|---|---|---|---|---|
| DH5 | Ant1 | Hop | 1.038 | 0.100 | PASS |
| 2DH5 | Ant1 | Hop | 0.999 | 0.100 | PASS |
| 3DH5 | Ant1 | Hop | 0.996 | 0.100 | PASS |

## Test Graphs

DH5_Ant1_Hop


2DH5_Ant1_Hop


3DH5_Ant1_Hop

# Appendix E: Transmitter Unwanted Emissions in The OOB Domain

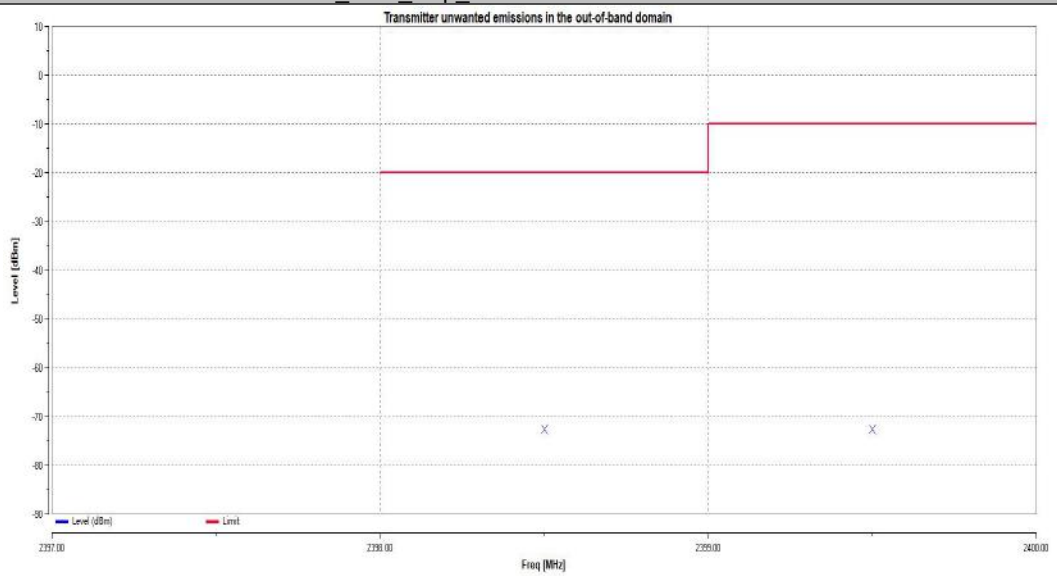
## Test Result

| Test Mode | Antenna | Frequency [MHz] | Frequency [MHz] | Level [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|---|---|
| DH5 | Ant1 | Hop | 2398.5 | -72.64 | -20.00 | PASS |
| | | | 2399.5 | -72.65 | -10.00 | PASS |
| | | | 2484 | -71.78 | -10.00 | PASS |
| | | | 2485 | -71.79 | -20.00 | PASS |
| 2DH5 | Ant1 | Hop | 2398.32 | -72.48 | -20.00 | PASS |
| | | | 2399.5 | -72.65 | -10.00 | PASS |
| | | | 2484 | -71.04 | -10.00 | PASS |
| | | | 2485.18 | -71.28 | -20.00 | PASS |
| 3DH5 | Ant1 | Hop | 2398.13 | -72.13 | -20.00 | PASS |
| | | | 2399.5 | -72.13 | -10.00 | PASS |
| | | | 2484.19 | -71.79 | -10.00 | PASS |
| | | | 2485.19 | -67.23 | -20.00 | PASS |

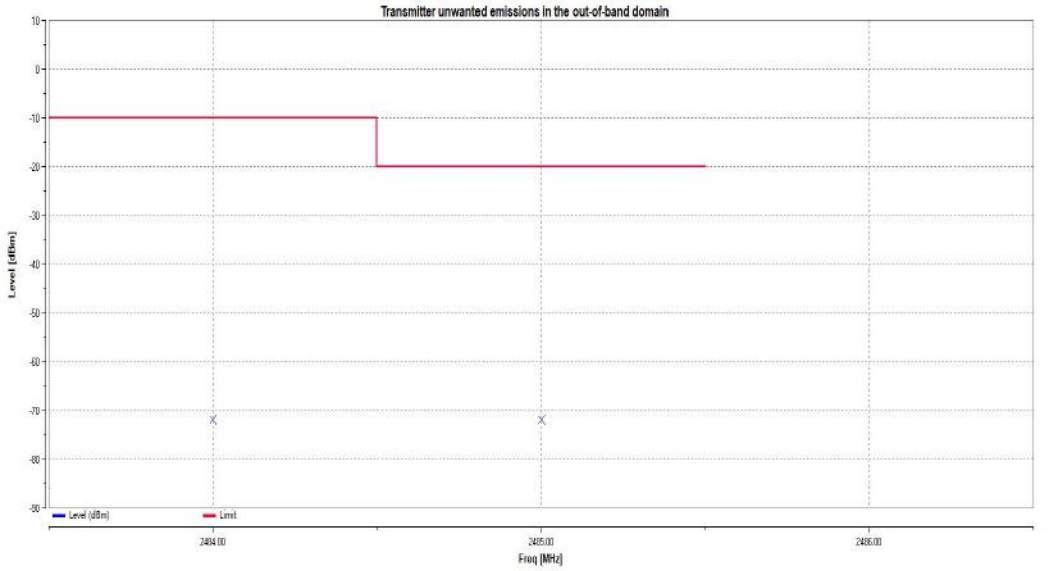
**Note:** The offset of cable loss and antenna gain has been in compensation during the testing.

## Test Graphs

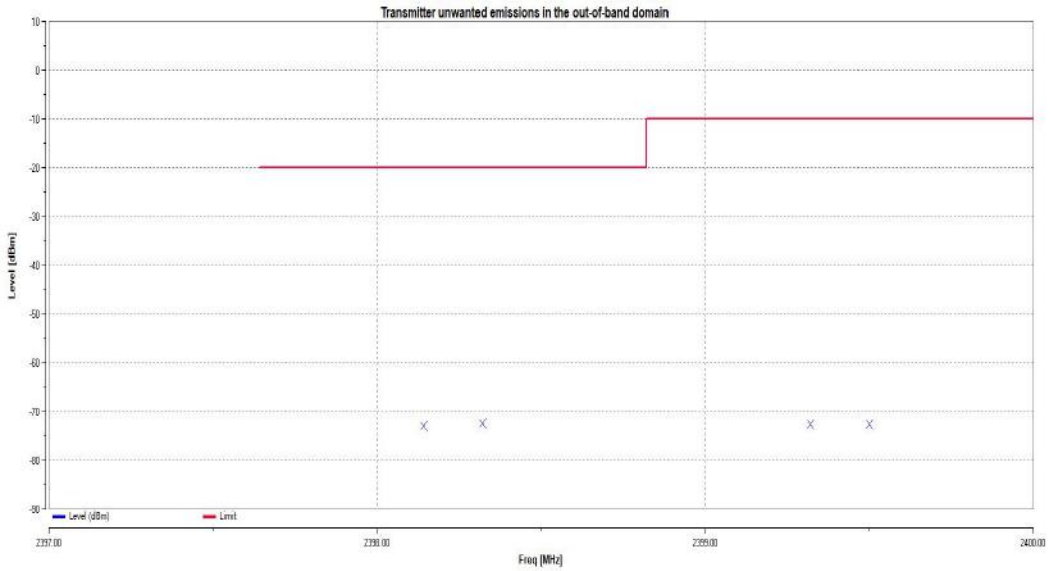
DH5_Ant1_Hop_2400MHz-2BW to 2400MHz



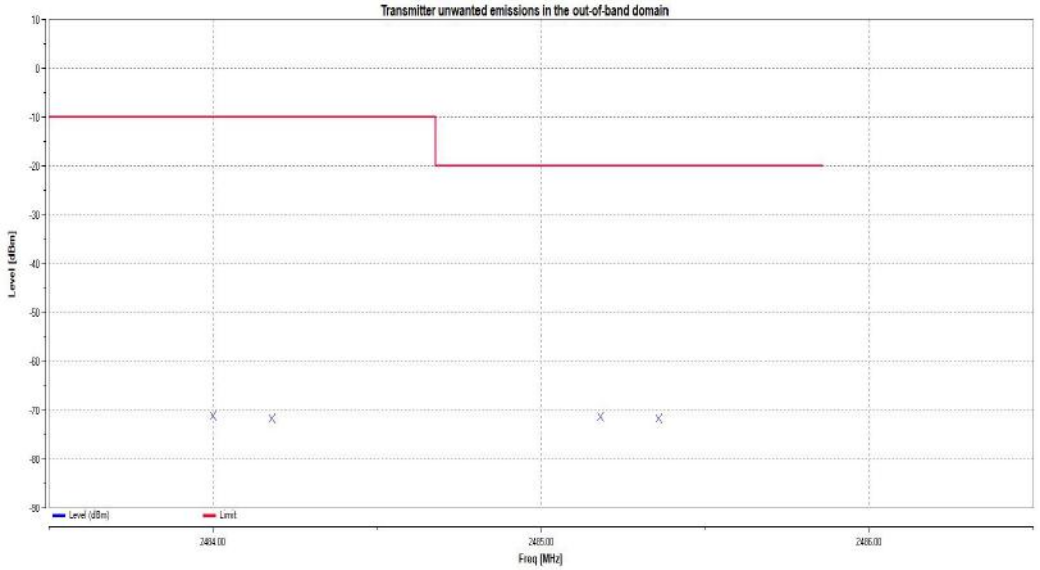

DH5_Ant1_Hop_2483.5MHz to 2483.5MHz+2BW



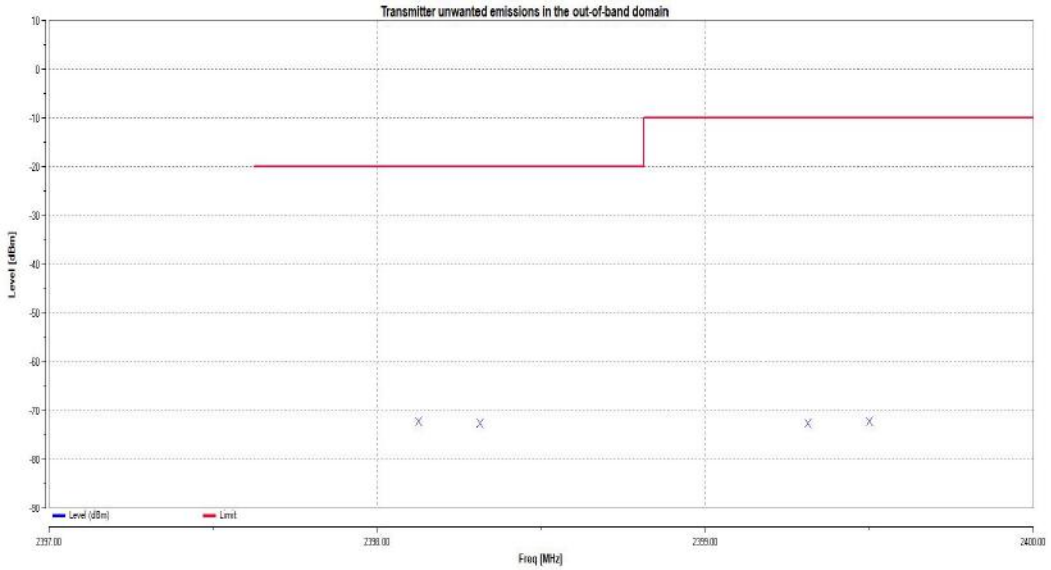

2DH5_Ant1_Hop_2400MHz-2BW to 2400MHz



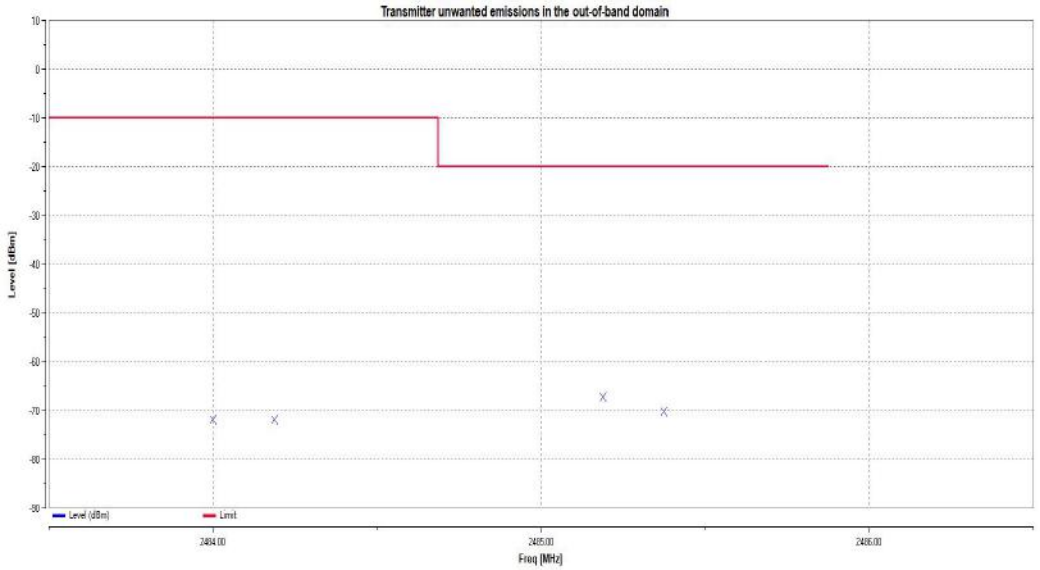
2DH5_Ant1_Hop_2483.5MHz to 2483.5MHz+2BW




3DH5_Ant1_Hop_2400MHz-2BW to 2400MHz




3DH5_Ant1_Hop_2483.5MHz to 2483.5MHz+2BW



# Appendix F: Receiver Blocking

**Test Result**

**The EUT is comply with receiver category 2 equipment.**

| Mode | Blocking Signal Frequency (MHz) | Wanted Signal(dBm) | Blocking Signal Level (dBm) | PER (%) | PER Limit (%) |
|---|---|---|---|---|---|
| GFSK | 2380 | -59.7 | -34 | 1.30 | ≤ 10 |
| GFSK | 2300 | -59.7 | -34 | 1.55 | |
| GFSK | 2504 | -59.7 | -34 | 3.67 | |
| GFSK | 2584 | -59.7 | -34 | 2.55 | |

**Notes:**

Only the worst mode reported.
The antenna gain is 0 dBi

# Appendix G: Information for Testing

**a) The type of wideband data transmission equipment:**

☒ FHSS
☐ non-FHSS

**b) In case of FHSS:**

- In case of non-Adaptive FHSS equipment:
  The number of Hopping Frequencies:
- In case of Adaptive FHSS equipment:
  The maximum number of Hopping Frequencies: 79
  The minimum number of Hopping Frequencies: 79
- The (average) dwell time:

**c) Adaptive/non-adaptive equipment:**

☐ non-adaptive Equipment
☒ adaptive Equipment without the possibility to switch to a non-adaptive mode
☐ adaptive Equipment which can also operate in a non-adaptive mode

**d) In case of adaptive equipment:**

The maximum Channel Occupancy Time implemented by the equipment: ms
☐ The equipment has implemented an LBT mechanism
• In case of non-FHSS equipment:
☐ The equipment is Frame Based equipment
☐ The equipment is Load Based equipment
☐ The equipment can switch dynamically between Frame Based and Load Based equipment
The CCA time implemented by the equipment: ..... µs
☐ The equipment has implemented a DAA mechanism
☐ The equipment can operate in more than one adaptive mode

**e) In case of non-adaptive Equipment:**

The maximum RF Output Power (e.i.r.p.): 6.12dBm
The maximum (corresponding) Duty Cycle: %
Equipment with dynamic behaviour, that behaviour is described here. (e.g. the different combinations of duty cycle and corresponding power levels to be declared):

**f) The worst case operational mode for each of the following tests:**

- RF Output Power: GFSK
- Power Spectral Density: N/A
- Duty cycle, Tx-Sequence, Tx-gap: N/A
- Accumulated Transmit time, Frequency Occupation & Hopping Sequence (only for FHSS equipment):
- Hopping Frequency Separation (only for FHSS equipment): GFSK
- Medium Utilization: N/A
- Adaptivity & Receiver Blocking: GFSK
- Nominal Channel Bandwidth: 8DPSK MHz
- Transmitter unwanted emissions in the OOB domain: 8DPSK
- Transmitter unwanted emissions in the spurious domain: GFSK
- Receiver spurious emissions: GFSK

**g) The different transmit operating modes (tick all that apply):**

☒ Operating mode 1: Single Antenna Equipment
☒ Equipment with only one antenna
☐ Equipment with two diversity antennas but only one antenna active at any moment in time
☐ Smart Antenna Systems with two or more antennas, but operating in a (legacy) mode where only one antenna is used (e.g. IEEE 802.11™ legacy mode in smart antenna systems)
☐ Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming
☐ Single spatial stream/Standard throughput/(e.g. IEEE 802.11™ legacy mode)
☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2
NOTE 1: Add more lines if more channel bandwidths are supported.
☐ Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming
☐ Single spatial stream/Standard throughput (e.g. IEEE 802.11™ legacy mode)
☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
☐ High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2
NOTE 2: Add more lines if more channel bandwidths are supported.

**h) In case of Smart Antenna Systems:**

- The number of Receive chains:
- The number of Transmit chains:

☐ symmetrical power distribution
☐ asymmetrical power distribution

In case of beam forming, the maximum (additional) beam forming gain: dB
NOTE: The additional beam forming gain does not include the basic gain of a single antenna

**i) Operating Frequency Range(s) of the equipment:**

- Operating Frequency Range 1: 2402 MHz to 2480 MHz
- Operating Frequency Range 2: MHz to MHz

NOTE: Add more lines if more Frequency Ranges are supported.

**j) Nominal Channel Bandwidth(s):**

- Nominal Channel Bandwidth 1: 1.1873 MHz
- Nominal Channel Bandwidth 2:
- NOTE: Add more lines if more Frequency Ranges are supported.

**k) Type of Equipment (stand-alone, combined, plug-in radio device, etc.):**

☒ Stand-alone
☐ Combined Equipment
☐ Plug-in radio device
☐ Other:

**l) The normal and the extreme operating conditions that apply to the equipment:**

**Normal operating conditions (if applicable):**
Operating temperature: °C
Other (please specify if applicable):

**Extreme operating conditions:**
Operating temperature range: Minimum: -20 °C Maximum 60 °C
Other (please specify if applicable): …… Minimum: …… Maximum ……
Details provided are for the: ☐ stand-alone equipment
☐ combined equipment
☐ test jig

**m) The intended combination(s) of the radio equipment power settings and one or more antenna assemblies and their corresponding e.i.r.p. levels:**

- Antenna Type:

☒ PCB Antenna (information to be provided in case of conducted measurements)
Antenna Gain: 0 dBi
If applicable, additional beamforming gain (excluding basic antenna gain): ..... dB
☐ Temporary RF connector provided
☐ No temporary RF connector provided

☐ Dedicated Antennas (equipment with antenna connector)
☐ Single power level with corresponding antenna(s)
☐ Multiple power settings and corresponding antenna(s)
Number of different Power Levels: .....
Power Level 1: ..... dBm
Power Level 2: ..... dBm
Power Level 3: ..... dBm

NOTE 1: Add more lines in case the equipment has more power levels.
NOTE 2: These power levels are conducted power levels (at antenna connector).

- For each of the Power Levels, provide the intended antenna assemblies, their corresponding gains (G) and the resulting e.i.r.p. levels also taking into account the beamforming gain (Y) if applicable

**Power Level 1:** ..... dBm
Number of antenna assemblies provided for this power level:

| Assembly # | Gain (dBi) | e.i.r.p. (dBm | Part number or model name |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

NOTE 3: Add more rows in case more antenna assemblies are supported for this power level.

**Power Level 2: ..... dBm**
Number of antenna assemblies provided for this power level: .....

| Assembly # | Gain (dBi) | e.i.r.p. (dBm | Part number or model name |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

NOTE 4: Add more rows in case more antenna assemblies are supported for this power level.

**Power Level 3: ..... dBm**

Number of antenna assemblies provided for this power level: .....

| Assembly # | Gain (dBi) | e.i.r.p. (dBm | Part number or model name |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

NOTE 5: Add more rows in case more antenna assemblies are supported for this power level.

**n) The nominal voltages of the stand-alone radio equipment or the nominal voltages of the combined equipment or test jig in case of plug-in devices:**

Details provided are for the: ☒ stand-alone equipment
☐ combined equipment
☐ test jig

Supply Voltage ☒ AC mains State AC voltage 12. V
☐ DC State DC voltage . V

In case of DC, indicate the type of power source
☐ Internal Power Supply
☒ External Power Supply or AC/DC adapter
☐ Battery
☐ Other:

**o) Describe the test modes available which can facilitate testing:**

**p) The equipment type (e.g. Bluetooth®, IEEE 802.11™, IEEE 802.15.4™, proprietary, etc.):**

**Bluetooth®**

**q) If applicable, the statistical analysis referred to in clause 5.4.1 q)**

(to be provided as separate attachment)

**r) If applicable, the statistical analysis referred to in clause 5.4.1 r)**

(to be provided as separate attachment)

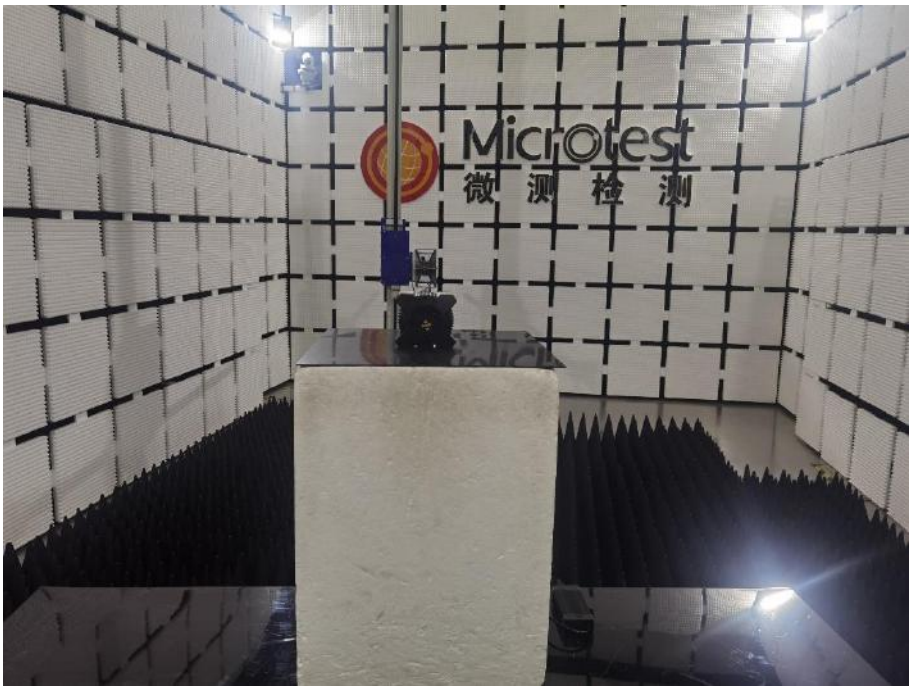
**s) Geo-location capability supported by the equipment:**

☐ Yes
☐ The geographical location determined by the equipment as defined in clause 4.3.1.13.2 or clause 4.3.2.12.2 is not accessible to the user
☒ No

## Photographs of the Test Setup

Radiated emissions below 1 GHz


Radiated emissions above 1 GHz



## Photographs of EUT

See the Appendix - EUT Photos.

**----End of Report----**