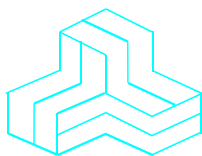


# ENGINEERING TEST REPORT



## RS-350 Backpack Radiation Detector

Model(s): RS-350

FCC ID: 2BHJ6-SDPAC

*Applicant:*

**Radiation Solutions Inc**

5875 Whittle Road

Mississauga, ON L4Z 2H4

Canada

*In Accordance With*

**Federal Communications Commission (FCC)**

**Part 15, Subpart C, Section 15.247 Frequency Hopping Spread Spectrum (FHSS)**

**UltraTech's File No.: 24RASI045FCC15C247B**

This Test report is Issued under the Authority of  
Tri M. Luu  
Vice President of Engineering  
UltraTech Group of Labs

Date: November 11, 2024

Report Prepared by: Dan Huynh

Tested by: Angus Au

Issued Date: November 11, 2024

Test Dates:  
September 26 - October 25, 2024

- The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.
- This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government.
- This test report shall not be reproduced, except in full, without a written approval from UltraTech

## UltraTech

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File #: 24RASI045FCC15C247B

November 11, 2024

*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

## EXHIBIT 1. INTRODUCTION

### 1.1. SCOPE

|                                      |                                                                                                                                        |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference:</b>                    | FCC Part 15, Subpart C, Section 15.247                                                                                                 |
| <b>Title:</b>                        | Code of Federal Regulations (CFR), Title 47 – Telecommunication, Part 15 – Radio Frequency Devices                                     |
| <b>Purpose of Test:</b>              | Class II Permissive Changes for integration of transmitter module into a portable host with new antenna type.                          |
| <b>Test Procedures:</b>              | <ul style="list-style-type: none"><li>▪ ANSI C63.4</li><li>▪ ANSI C63.10</li></ul>                                                     |
| <b>Environmental Classification:</b> | <input checked="" type="checkbox"/> Commercial, industrial or business environment<br><input type="checkbox"/> Residential environment |

### 1.2. RELATED SUBMITTAL(S)/GRANT(S)

None.

### 1.3. NORMATIVE REFERENCES

| Publication       | Year | Title                                                                                                                                                               |
|-------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47 CFR Parts 0-19 | 2024 | Code of Federal Regulations (CFR), Title 47 – Telecommunication                                                                                                     |
| ANSI C63.4        | 2014 | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40 GHz |
| ANSI C63.10       | 2020 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices                                                                      |

## EXHIBIT 2. PERFORMANCE ASSESSMENT

### 2.1. CLIENT INFORMATION

| Applicant       |                                                        |
|-----------------|--------------------------------------------------------|
| <b>Name:</b>    | Radiation Solutions Inc                                |
| <b>Address:</b> | 5875 Whittle Road<br>Mississauga, ON L4Z 2H4<br>Canada |

| Manufacturer    |                                                        |
|-----------------|--------------------------------------------------------|
| <b>Name:</b>    | Radiation Solutions Inc                                |
| <b>Address:</b> | 5875 Whittle Road<br>Mississauga, ON L4Z 2H4<br>Canada |

### 2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

The following information (with the exception of the Date of Receipt) has been supplied by the applicant.

|                                       |                                                                                                                                                                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Brand Name:</b>                    | Radiation Solutions Inc                                                                                                                                                                                                               |
| <b>Product Name:</b>                  | RS-350 Backpack Radiation Detector                                                                                                                                                                                                    |
| <b>Model(s):</b>                      | RS-350                                                                                                                                                                                                                                |
| <b>Serial Number:</b>                 | Test Sample                                                                                                                                                                                                                           |
| <b>Type of Equipment:</b>             | Spread Spectrum Transmitter                                                                                                                                                                                                           |
| <b>Input Power Supply Type:</b>       | AC main and Lithium Ion Battery                                                                                                                                                                                                       |
| <b>Primary User Functions of EUT:</b> | The RS-350 Backpack Radiation Detector is a Human Portable Radiation Detector. It is a rugged, self-contained, fast deployable gamma and neutron radiation monitoring and detection system with radionuclide identification features. |

### 2.3. EUT'S TECHNICAL SPECIFICATIONS

| Transmitter                     |                                                    |
|---------------------------------|----------------------------------------------------|
| Equipment Type:                 | Portable                                           |
| Intended Operating Environment: | Commercial, industrial or business environment     |
| Power Supply Requirement:       | AC main 100 – 240V<br>Lithium-Ion Battery 12V 7 Ah |
| RF Output Power Rating:         | 0.008 W                                            |
| Operating Frequency Range:      | 2402 - 2480 MHz                                    |
| Number of Channels:             | 79                                                 |
| RF Output Impedance:            | 50 Ω                                               |
| Duty Cycle:                     | Continuous                                         |
| Modulation Type:                | FHSS (BDR, EDR)                                    |
| Antenna Connector Type:         | Integral                                           |

### 2.4. ASSOCIATED ANTENNA DESCRIPTION

| Manufacturer | Antenna Type                              | Part Number | Maximum Gain (dBi)                             |
|--------------|-------------------------------------------|-------------|------------------------------------------------|
| Molex        | On-metal external Wi-Fi dual-band antenna | 2158680011  | 1.8 (2.4 – 2.485 GHz)<br>5.5 (5.15 – 5.85 GHz) |

### 2.5. LIST OF EUT'S PORTS

| Port Number | EUT's Port Description | Number of Identical Ports | Connector Type           | Cable Type (Shielded/Non-shielded) |
|-------------|------------------------|---------------------------|--------------------------|------------------------------------|
| 1           | Ethernet Port          | 1                         | RJ-45                    | Non-shielded                       |
| 2           | USB Port               | 1                         | USB                      | Shielded                           |
| 3           | Battery                | 2                         | Screw-on connector       | Non-shielded                       |
| 4           | AC Power supply        | 1                         | 3 Pin Circular Connector | Shielded                           |
| 5           | GPS Port               | 1                         | SMA Connector            | Terminated                         |

### 2.6. ANCILLARY EQUIPMENT

The EUT was tested while connected to the following representative configuration of ancillary equipment necessary to exercise the ports during tests:

| Ancillary Equipment # 1  |                                |
|--------------------------|--------------------------------|
| Description:             | Switching Power Supply/Charger |
| Brand name:              | Xinsu Global                   |
| Model Name or Number:    | XSG1464000                     |
| Connected to EUT's Port: | Battery Port                   |

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File #: 24RASI045FCC15C247B  
November 11, 2024

All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

### EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS

#### 3.1. CLIMATE TEST CONDITIONS

The climate conditions of the test environment are as follows:

|                     |                   |
|---------------------|-------------------|
| Temperature:        | 21 to 23 °C       |
| Humidity:           | 45 to 58%         |
| Pressure:           | 102 kPa           |
| Power Input Source: | 120 VAC or 12 VDC |

#### 3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS

|                                  |                                                                                                                                                        |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating Modes:</b>          | Each of lowest, middle and highest channel frequencies transmits continuously for tests which required the unit to operate in single channel mode.     |
| <b>Special Test Software:</b>    | Test software provided by the Applicant is installed to allow the EUT to operate in hopping mode or single channel mode.                               |
| <b>Special Hardware Used:</b>    | N/A                                                                                                                                                    |
| <b>Transmitter Test Antenna:</b> | The EUT is tested with the antenna fitted in a manner typical of normal intended use as integral antenna equipment as described with the test results. |

| Transmitter Test Signals                                                                                                    |                                 |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Frequency Band(s):</b>                                                                                                   | 2402MHz - 2480MHz               |
| <b>Frequency(ies) Tested:</b><br>(Near lowest, near middle & near highest frequencies in the frequency range of operation.) | 2402 MHz, 2441 MHz and 2480 MHz |
| <b>RF Power Output:</b><br>(measured maximum output power at antenna terminals)                                             | 8.03 dBm, 0.00635 W (conducted) |
| <b>Normal Test Modulation:</b>                                                                                              | BDR (GFSK) and EDR (8-DPSK)     |
| <b>Modulating Signal Source:</b>                                                                                            | Internal                        |

## EXHIBIT 4. SUMMARY OF TEST RESULTS

### 4.1. LOCATION OF TESTS

All of the measurements described in this report were performed at Ultratech Group of Labs located in the city of Oakville, Province of Ontario, Canada.

- AC Power Line Conducted Emissions were performed in UltraTech's shielded room, 24'(L) by 16'(W) by 8'(H).
- Radiated Emissions were performed at the Ultratech's 3-10 TDK Semi-Anechoic Chamber situated in the Town of Oakville, province of Ontario. This test site been calibrated in accordance with ANSI C63.4, and found to be in compliance with the requirements of Sec. 2.948 of the FCC Rules. The descriptions and site measurement data of the Oakville 3-10 TDK Semi-Anechoic Chamber has been filed with ANAB File No.: AT-1945.

### 4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

| FCC Section(s)                    | Test Requirements                        | Compliance (Yes/No) |
|-----------------------------------|------------------------------------------|---------------------|
| 15.203                            | Antenna requirements                     | Yes                 |
| 15.207(a)                         | AC Power Line Conducted Emissions        | Yes                 |
| 15.247(a)                         | Provisions for Frequency Hopping Systems | N/A                 |
| 15.247(b)(1)                      | Maximum Peak Conducted Output Power      | Yes                 |
| 15.247(d), 15.209 & 15.205        | Transmitter Spurious Radiated Emissions  | Yes                 |
| 15.247(i), 1.1307, 1.1310, 2.1091 | RF Exposure                              | Yes*                |

\*Refer to SAR test report.

### 4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

None.

## EXHIBIT 5. TEST DATA

### 5.1. POWER LINE CONDUCTED EMISSIONS [§15.207(a)]

#### 5.1.1. Limit(s)

The equipment shall meet the limits of the following table:

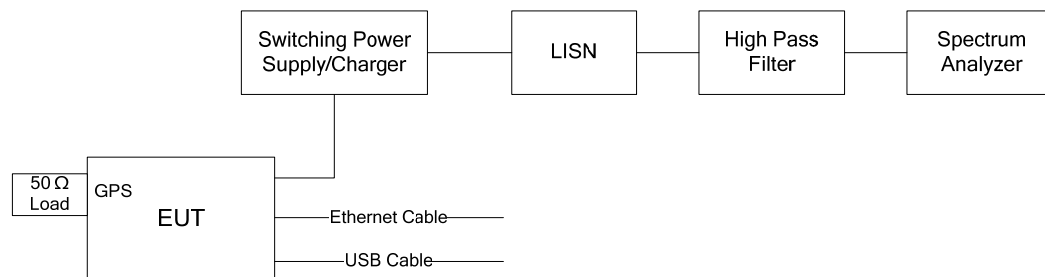
| Frequency of emission<br>(MHz) | Conducted Limits (dB $\mu$ V) |           |
|--------------------------------|-------------------------------|-----------|
|                                | Quasi-peak                    | Average   |
| 0.15–0.5 .....                 | 66 to 56* .....               | 56 to 46* |
| 0.5–5 .....                    | 56 .....                      | 46        |
| 5–30 .....                     | 60 .....                      | 50        |

\*Decreases linearly with the logarithm of the frequency

#### 5.1.2. Method of Measurements

ANSI C63.4

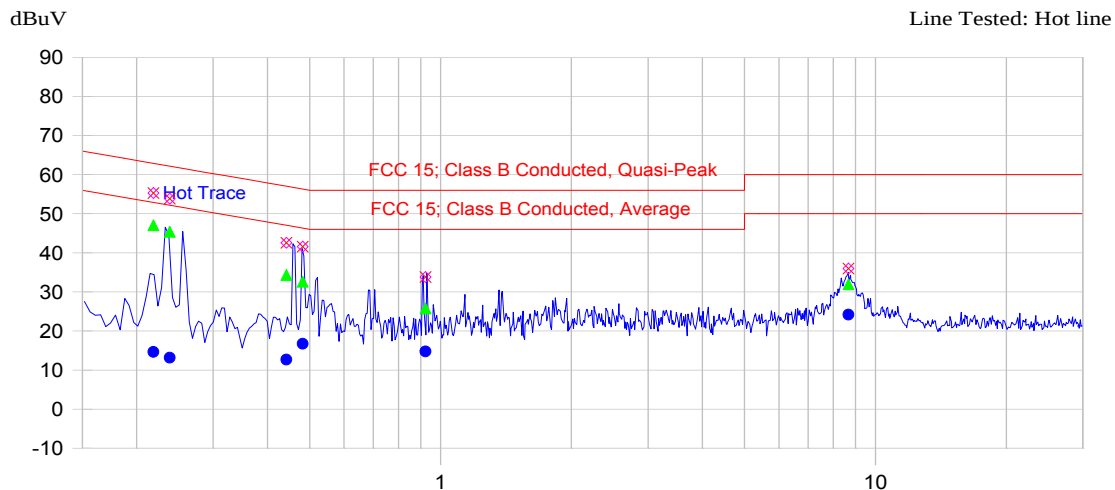
#### 5.1.3. Test Arrangement



#### 5.1.4. Test Data

**Plot 5.1.4.1.** Power Line Conducted Emissions, Tx Mode  
Line Voltage: 120 VAC, 60 Hz; Line Tested: Hot Line

##### Current Graph

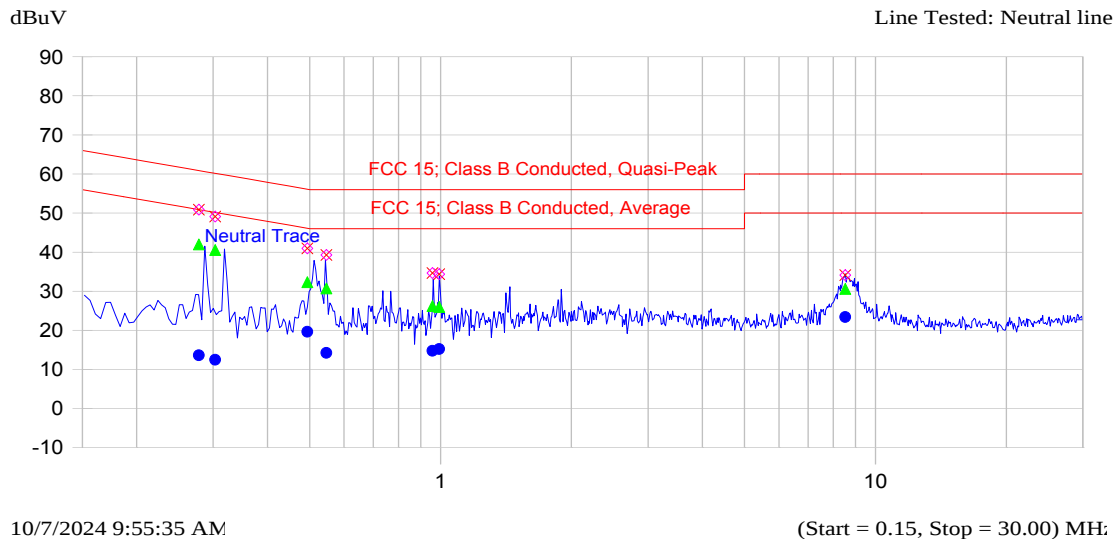


##### Current List

| Frequency<br>MHz | Peak<br>dBuV | QP<br>dBuV | QP-QP Limit<br>dB | Avg<br>dBuV | Avg-Avg Limit<br>dB | Trace Name |
|------------------|--------------|------------|-------------------|-------------|---------------------|------------|
| 0.219            | 55.3         | 47.1       | -15.8             | 14.6        | -38.2               | Hot Trace  |
| 0.238            | 53.9         | 45.4       | -16.8             | 13.2        | -39.0               | Hot Trace  |
| 0.442            | 42.6         | 34.3       | -22.7             | 12.7        | -34.3               | Hot Trace  |
| 0.482            | 41.6         | 32.6       | -23.7             | 16.7        | -29.6               | Hot Trace  |
| 0.923            | 33.8         | 25.8       | -30.2             | 14.7        | -31.3               | Hot Trace  |
| 8.668            | 36.0         | 31.9       | -28.1             | 24.2        | -25.8               | Hot Trace  |

**Plot 5.1.4.2. Power Line Conducted Emissions, Tx Mode**  
Line Voltage: 120 VAC, 60 Hz; Line Tested: Neutral Line

**Current Graph**

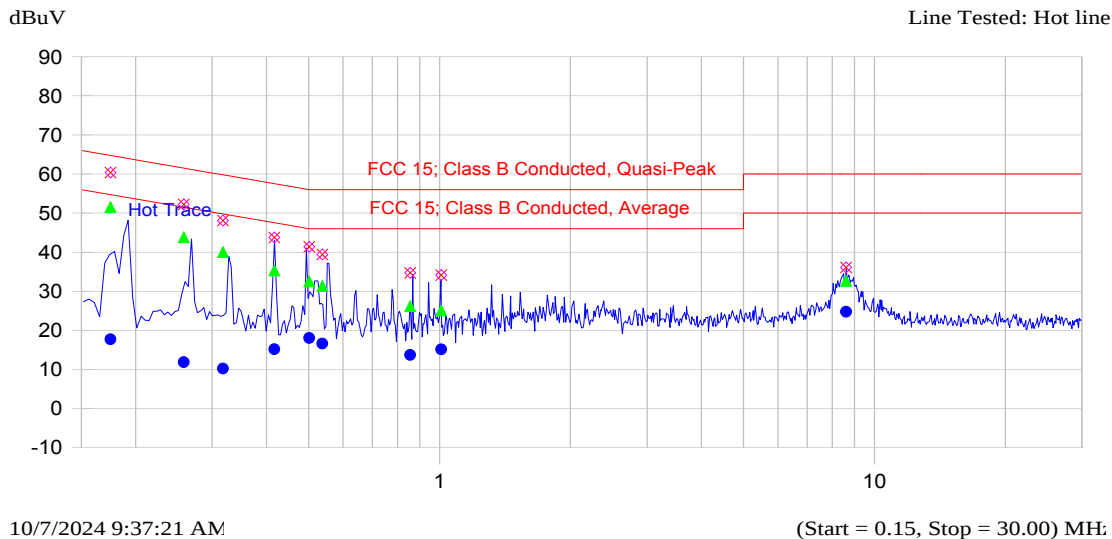


**Current List**

| Frequency<br>MHz | Peak<br>dBuV | QP<br>dBuV | QP-QP Limit<br>dB | Avg<br>dBuV | Avg-Avg Limit<br>dB | Trace Name    |
|------------------|--------------|------------|-------------------|-------------|---------------------|---------------|
| 0.278            | 50.9         | 42.0       | -18.9             | 13.6        | -37.3               | Neutral Trace |
| 0.303            | 49.1         | 40.5       | -19.6             | 12.5        | -37.7               | Neutral Trace |
| 0.493            | 41.0         | 32.3       | -23.8             | 19.6        | -26.5               | Neutral Trace |
| 0.546            | 39.3         | 30.7       | -25.3             | 14.2        | -31.8               | Neutral Trace |
| 0.958            | 34.6         | 26.2       | -29.8             | 14.8        | -31.2               | Neutral Trace |
| 0.993            | 34.4         | 26.0       | -30.0             | 15.2        | -30.8               | Neutral Trace |
| 8.520            | 34.1         | 30.6       | -29.4             | 23.4        | -26.6               | Neutral Trace |

**Plot 5.1.4.3. Power Line Conducted Emissions, Rx Mode**  
Line Voltage: 120 VAC, 60 Hz; Line Tested: Hot Line

### Current Graph

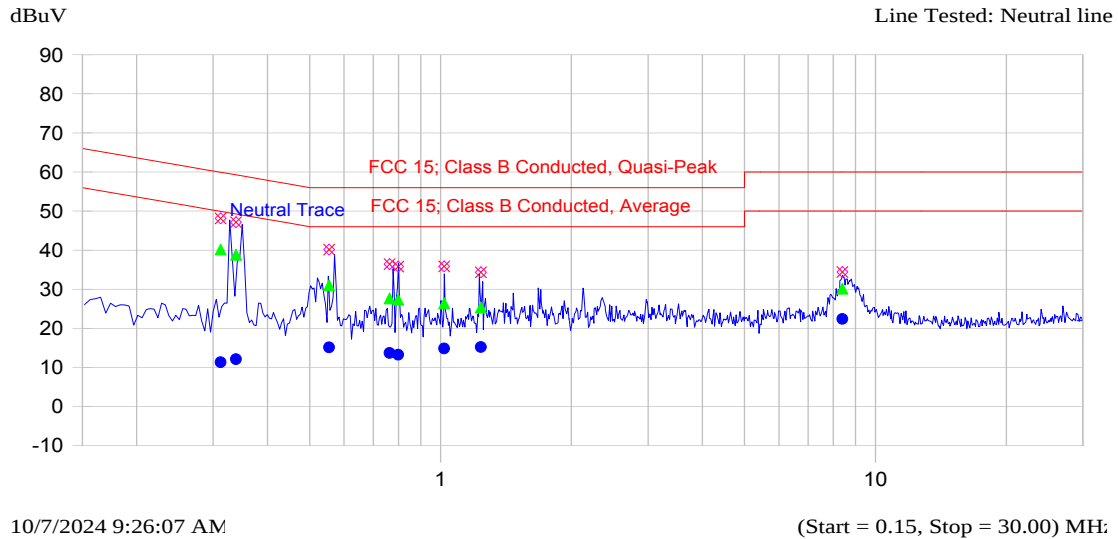


### Current List

| Frequency<br>MHz | Peak<br>dBuV | QP<br>dBuV | QP-QP Limit<br>dB | Avg<br>dBuV | Avg-Avg Limit<br>dB | Trace Name |
|------------------|--------------|------------|-------------------|-------------|---------------------|------------|
| 0.175            | 60.3         | 51.5       | -13.2             | 17.7        | -37.0               | Hot Trace  |
| 0.258            | 52.2         | 43.8       | -17.7             | 11.9        | -39.6               | Hot Trace  |
| 0.317            | 48.1         | 40.0       | -19.8             | 10.2        | -39.6               | Hot Trace  |
| 0.417            | 43.7         | 35.3       | -22.2             | 15.2        | -32.3               | Hot Trace  |
| 0.502            | 41.4         | 32.5       | -23.5             | 18.0        | -28.0               | Hot Trace  |
| 0.538            | 39.4         | 31.3       | -24.7             | 16.6        | -29.4               | Hot Trace  |
| 0.856            | 34.7         | 26.2       | -29.8             | 13.7        | -32.3               | Hot Trace  |
| 1.009            | 34.1         | 25.1       | -30.9             | 15.1        | -30.9               | Hot Trace  |
| 8.607            | 36.1         | 32.6       | -27.4             | 24.7        | -25.3               | Hot Trace  |

**Plot 5.1.4.4. Power Line Conducted Emissions, Rx Mode**  
Line Voltage: 120 VAC, 60 Hz; Line Tested: Neutral Line

### Current Graph



### Current List

| Frequency<br>MHz | Peak<br>dBuV | QP<br>dBuV | QP-QP Limit<br>dB | Avg<br>dBuV | Avg-Avg Limit<br>dB | Trace Name    |
|------------------|--------------|------------|-------------------|-------------|---------------------|---------------|
| 0.312            | 48.1         | 40.2       | -19.7             | 11.3        | -38.6               | Neutral Trace |
| 0.339            | 47.2         | 38.8       | -20.4             | 12.1        | -37.1               | Neutral Trace |
| 0.554            | 40.1         | 31.0       | -25.0             | 15.1        | -30.9               | Neutral Trace |
| 0.763            | 36.4         | 27.6       | -28.4             | 13.7        | -32.3               | Neutral Trace |
| 0.800            | 35.8         | 27.3       | -28.7             | 13.3        | -32.7               | Neutral Trace |
| 1.018            | 35.8         | 26.4       | -29.6             | 14.8        | -31.2               | Neutral Trace |
| 1.237            | 34.3         | 25.3       | -30.7             | 15.2        | -30.8               | Neutral Trace |
| 8.394            | 34.4         | 30.1       | -29.9             | 22.4        | -27.6               | Neutral Trace |

### 5.3. MAXIMUM PEAK CONDUCTED OUTPUT POWER [§ 15.247(b)(1)]

#### 5.3.1. Limits

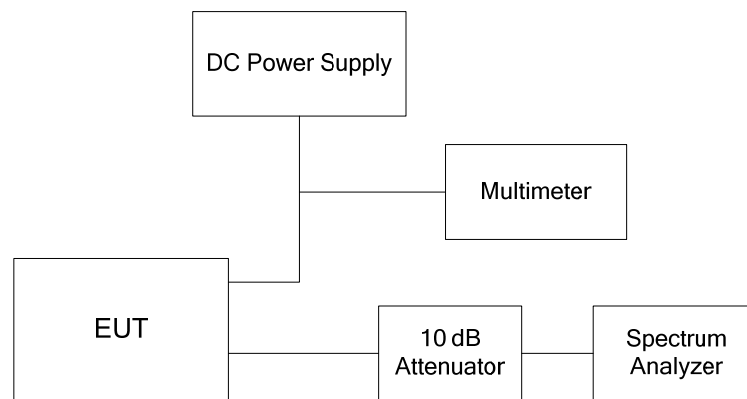
**§15.247(b)(2):** For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

**§15.247(b)(4):** The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 5.3.2. Method of Measurements

ANSI C63.10-2020, section 7.8.5

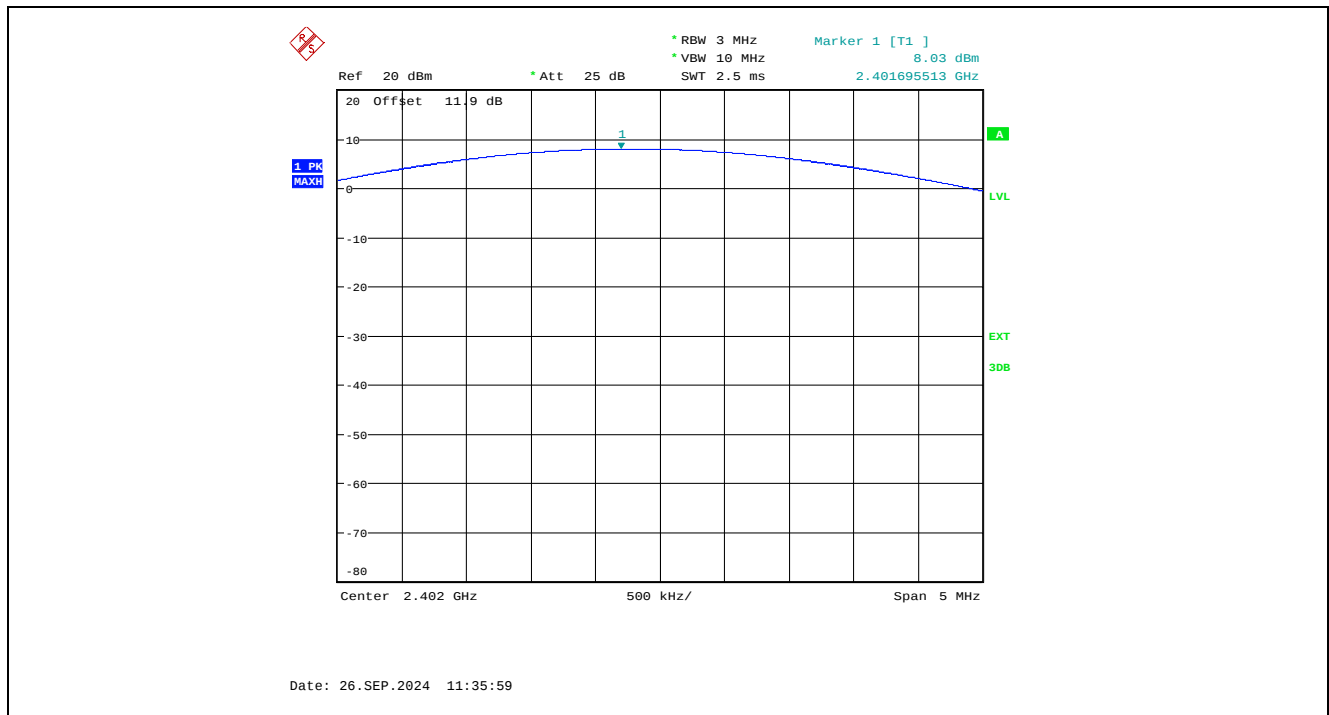
#### 5.3.3. Test Arrangement



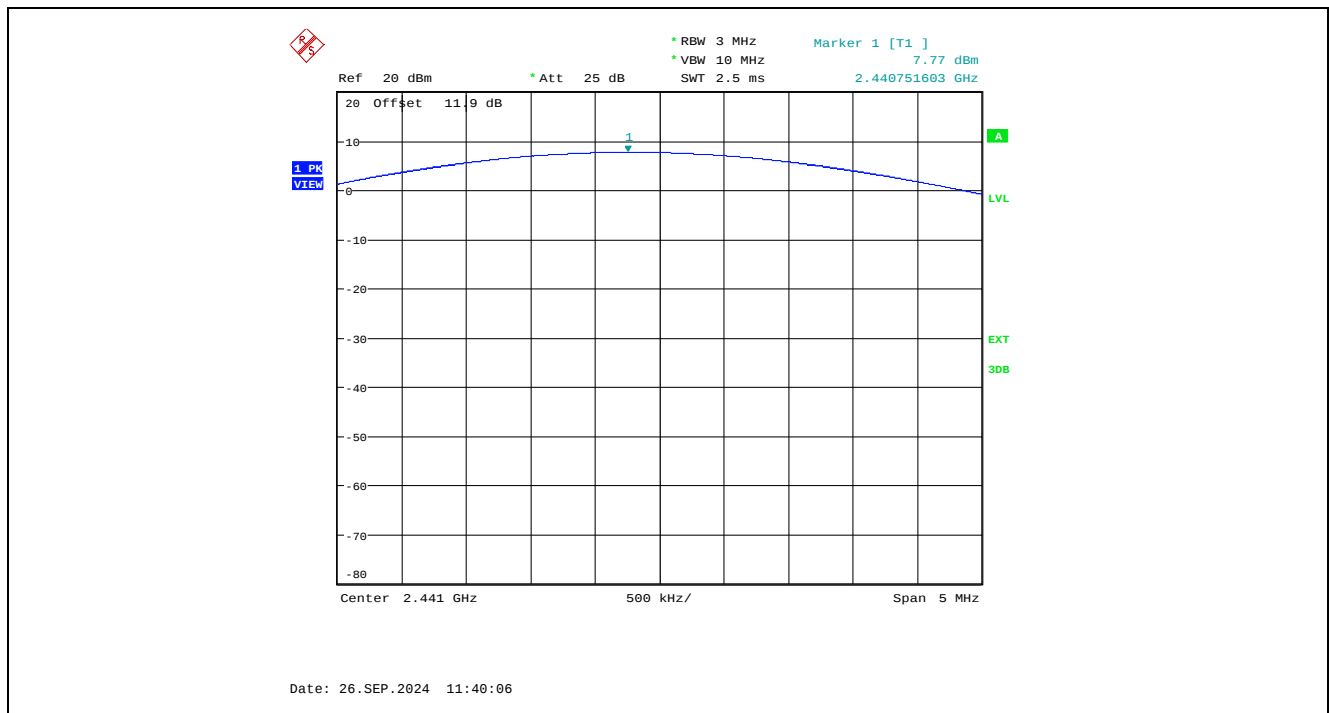
#### 5.3.4. Test Data

| Operating Mode | Frequency (MHz) | Max. Peak Output Power at Antenna Terminal |         | Max. Antenna Assembly Gain (dBi) | EIRP (dBm) | Max. Peak Conducted Output Power Limit (dBm) | EIRP Limit (dBm) |
|----------------|-----------------|--------------------------------------------|---------|----------------------------------|------------|----------------------------------------------|------------------|
|                |                 | (dBm)                                      | (W)     |                                  |            |                                              |                  |
| BDR (GFSK)     | 2402            | 8.03                                       | 0.00635 | 1.8                              | 9.83       | 30                                           | 36               |
|                | 2441            | 7.77                                       | 0.00598 | 1.8                              | 9.57       | 30                                           | 36               |
|                | 2480            | 7.58                                       | 0.00573 | 1.8                              | 9.38       | 30                                           | 36               |
| EDR (8-DPSK),  | 2402            | 4.94                                       | 0.00312 | 1.8                              | 6.74       | 30                                           | 36               |
|                | 2441            | 4.61                                       | 0.00289 | 1.8                              | 6.41       | 30                                           | 36               |
|                | 2480            | 4.46                                       | 0.00279 | 1.8                              | 6.26       | 30                                           | 36               |

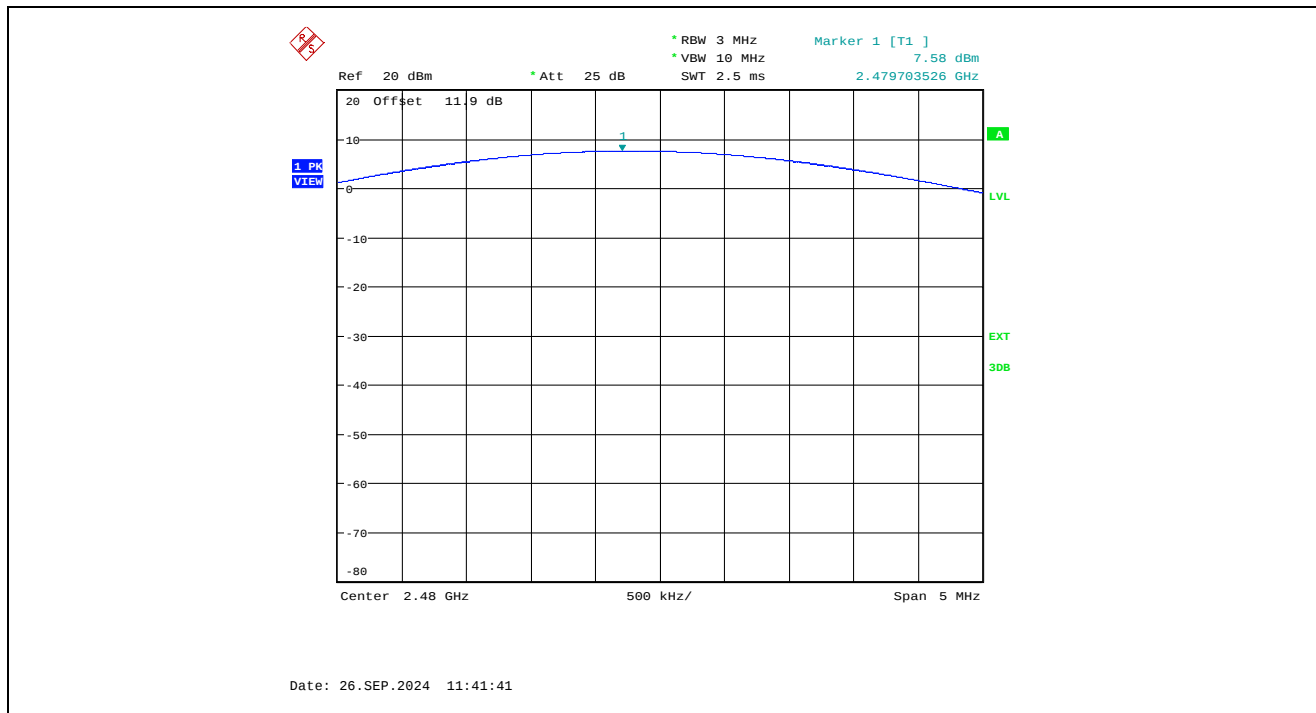
**Plot 5.3.4.1.** Maximum Peak Conducted Output Power, BDR (GFSK), 2402 MHz



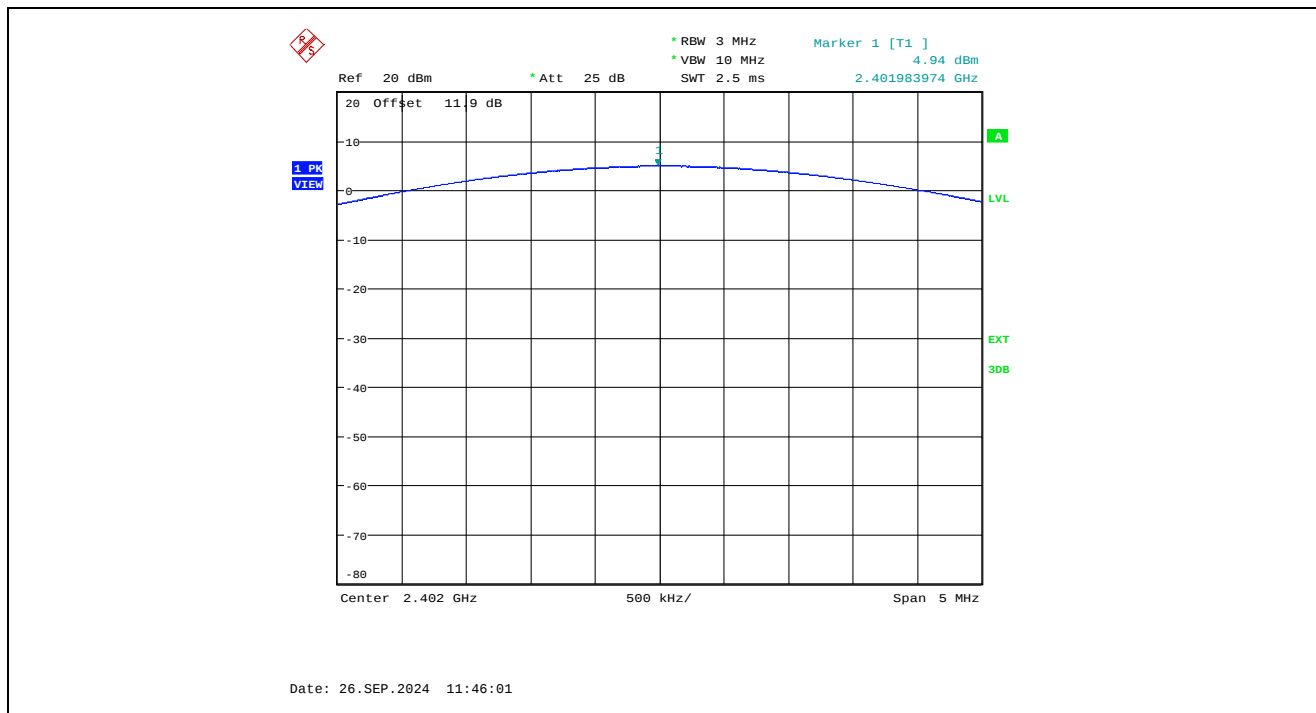
**Plot 5.3.4.2.** Maximum Peak Conducted Output Power, BDR (GFSK), 2441 MHz



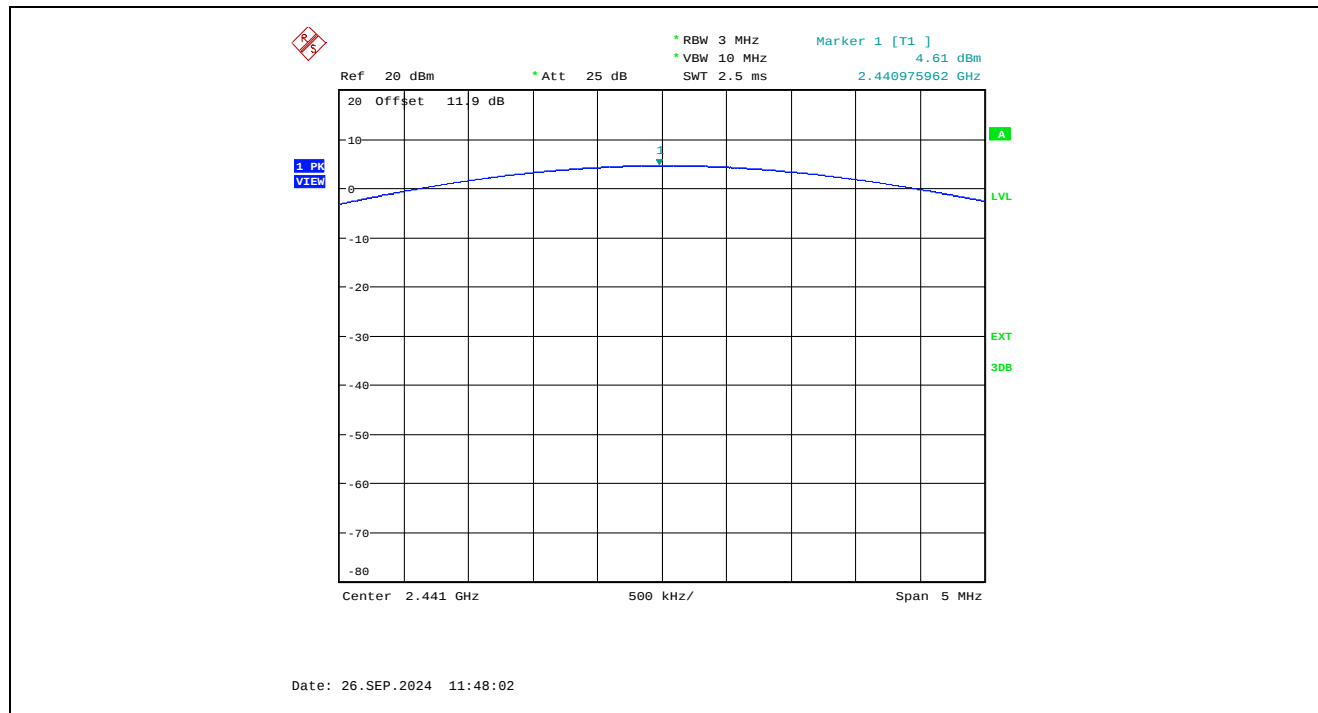
**Plot 5.3.4.3. Maximum Peak Conducted Output Power, BDR (GFSK), 2480 MHz**



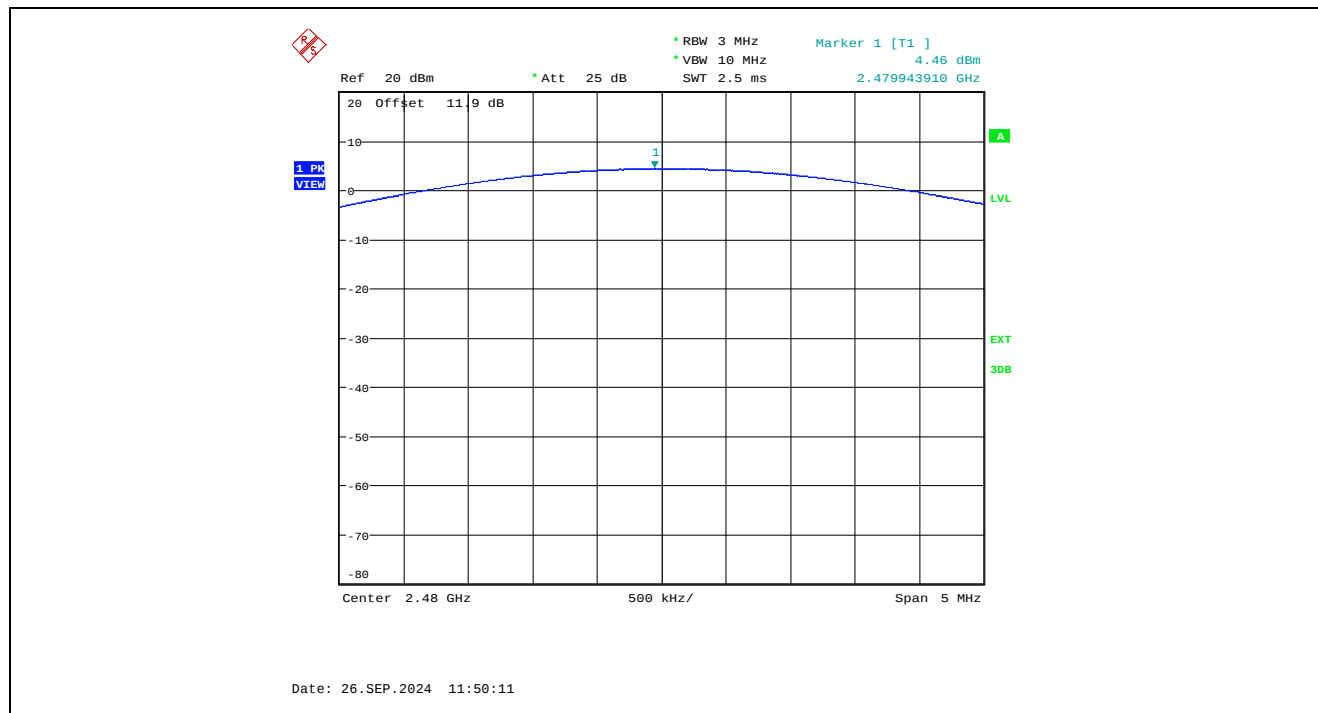
**Plot 5.3.4.4. Maximum Peak Conducted Output Power, EDR (8-DPSK), 2402 MHz**



Plot 5.3.4.5. Maximum Peak Conducted Output Power, EDR (8-DPSK), 2441 MHz



Plot 5.3.4.6. Maximum Peak Conducted Output Power, EDR (8-DPSK), 2480 MHz



#### 5.4. TRANSMITTER SPURIOUS RADIATED EMISSIONS AT 3 METERS [§§ 15.247(d), 15.209 & 15.205]

##### 5.4.1. Limit

§ 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. 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)).

#### Section 15.205(a) - Restricted Bands of Operation

| MHz                            | MHz                 | MHz           | GHz              |
|--------------------------------|---------------------|---------------|------------------|
| 0.090–0.110 .....              | 16.42–16.423        | 399.9–410     | 4.5–5.15         |
| <sup>1</sup> 0.495–0.505 ..... | 16.69475–16.69525   | 608–614       | 5.35–5.46        |
| 2.1735–2.1905 .....            | 16.80425–16.80475   | 960–1240      | 7.25–7.75        |
| 4.125–4.128 .....              | 25.5–25.67          | 1300–1427     | 8.025–8.5        |
| 4.17725–4.17775 .....          | 37.5–38.25          | 1435–1626.5   | 9.0–9.2          |
| 4.20725–4.20775 .....          | 73–74.6             | 1645.5–1646.5 | 9.3–9.5          |
| 6.215–6.218 .....              | 74.8–75.2           | 1660–1710     | 10.6–12.7        |
| 6.26775–6.26825 .....          | 108–121.94          | 1718.8–1722.2 | 13.25–13.4       |
| 6.31175–6.31225 .....          | 123–138             | 2200–2300     | 14.47–14.5       |
| 8.291–8.294 .....              | 149.9–150.05        | 2310–2390     | 15.35–16.2       |
| 8.362–8.366 .....              | 156.52475–156.52525 | 2483.5–2500   | 17.7–21.4        |
| 8.37625–8.38675 .....          | 156.7–156.9         | 2655–2900     | 22.01–23.12      |
| 8.41425–8.41475 .....          | 162.0125–167.17     | 3260–3267     | 23.6–24.0        |
| 12.29–12.293 .....             | 167.72–173.2        | 3332–3339     | 31.2–31.8        |
| 12.51975–12.52025 .....        | 240–285             | 3345.8–3358   | 36.43–36.5       |
| 12.57675–12.57725 .....        | 322–335.4           | 3600–4400     | ( <sup>2</sup> ) |
| 13.36–13.41.                   |                     |               |                  |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

<sup>2</sup> Above 38.6

#### Section 15.209(a) - Field Strength Limits within Restricted Frequency Bands

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009 - 0.490   | 2,400 / F (kHz)                   | 300                           |
| 0.490 - 1.705   | 24,000 / 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                             |

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File #: 24RASI045FCC15C247B

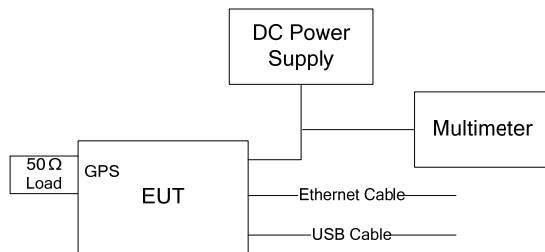
November 11, 2024

All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

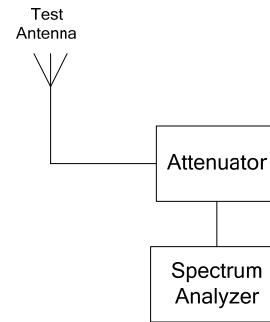
#### 5.4.2. Method of Measurements

ANSI C63.10 and ANSI 63.4 procedures.

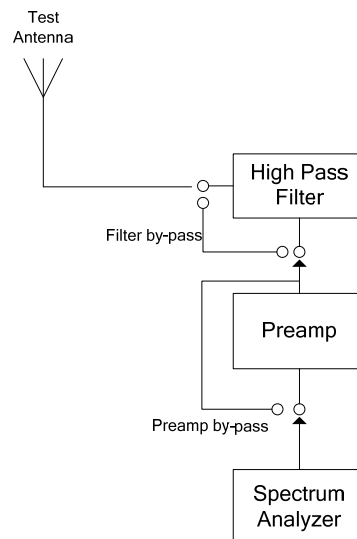
#### 5.4.3. Test Arrangement



For Band-Edge



For Spurious and Harmonics



#### 5.4.4. Test Data

##### Remark(s):

- All spurious emissions that are in excess of 20 dB below the specified limit shall be recorded.
- The following test data represent the worst-case derived from exploratory tests.

##### 5.4.4.1. Spurious Radiated Emission

| Operating Mode:        |                        | BDR (GFSK)            |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2402 MHz              |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2402.0                 | 77.50                  | --                    | V                   | --                    | --                    | --          | --        |
| 2402.0                 | 74.98                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

\*No spurious emissions detected.

| Operating Mode:        |                        | BDR (GFSK)            |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2441.0 MHz            |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2441.0                 | 75.63                  | --                    | V                   | --                    | --                    | --          | --        |
| 2441.0                 | 72.38                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

\*No spurious emissions detected.

| Operating Mode:        |                        | BDR (GFSK)            |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2480.0 MHz            |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2480.0                 | 72.03                  | --                    | V                   | --                    | --                    | --          | --        |
| 2480.0                 | 70.41                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

\*No spurious emissions detected.

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November 11, 2024

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| Operating Mode:        |                        | EDR (8-DPSK)          |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2402 MHz              |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2402.0                 | 74.47                  | --                    | V                   | --                    | --                    | --          | --        |
| 2402.0                 | 75.54                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

\*No spurious emissions detected.

| Operating Mode:        |                        | EDR (8-DPSK)          |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2441.0 MHz            |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2441.0                 | 74.68                  | --                    | V                   | --                    | --                    | --          | --        |
| 2441.0                 | 73.41                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

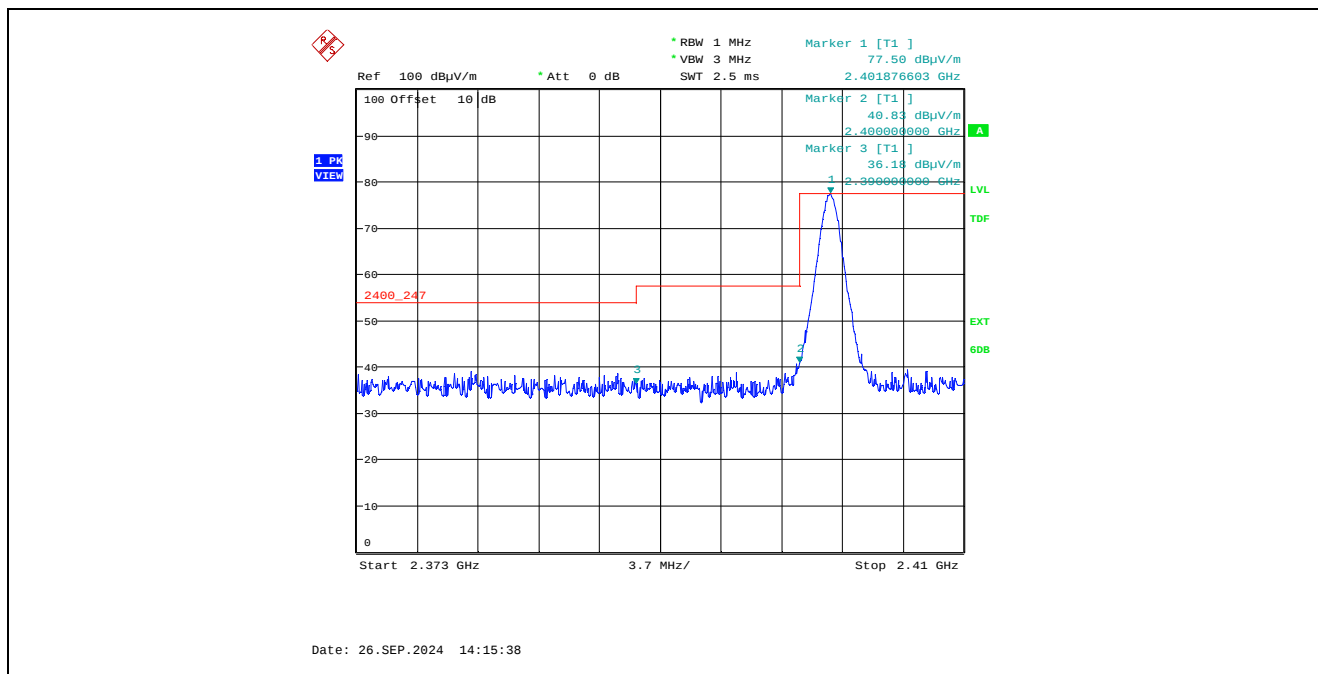
\*No spurious emissions detected.

| Operating Mode:        |                        | EDR (8-DPSK)          |                     |                       |                       |             |           |
|------------------------|------------------------|-----------------------|---------------------|-----------------------|-----------------------|-------------|-----------|
| Fundamental Frequency: |                        | 2480.0 MHz            |                     |                       |                       |             |           |
| Frequency Test Range:  |                        | 30 MHz – 25 GHz       |                     |                       |                       |             |           |
| Frequency (MHz)        | RF Peak Level (dBµV/m) | RF Avg Level (dBµV/m) | Antenna Plane (H/V) | Limit 15.209 (dBµV/m) | Limit 15.247 (dBµV/m) | Margin (dB) | Pass/Fail |
| 2480.0                 | 75.55                  | --                    | V                   | --                    | --                    | --          | --        |
| 2480.0                 | 72.35                  | --                    | H                   | --                    | --                    | --          | --        |
| 30 - 25000             | *                      | *                     | V/H                 | *                     | *                     | *           | *         |

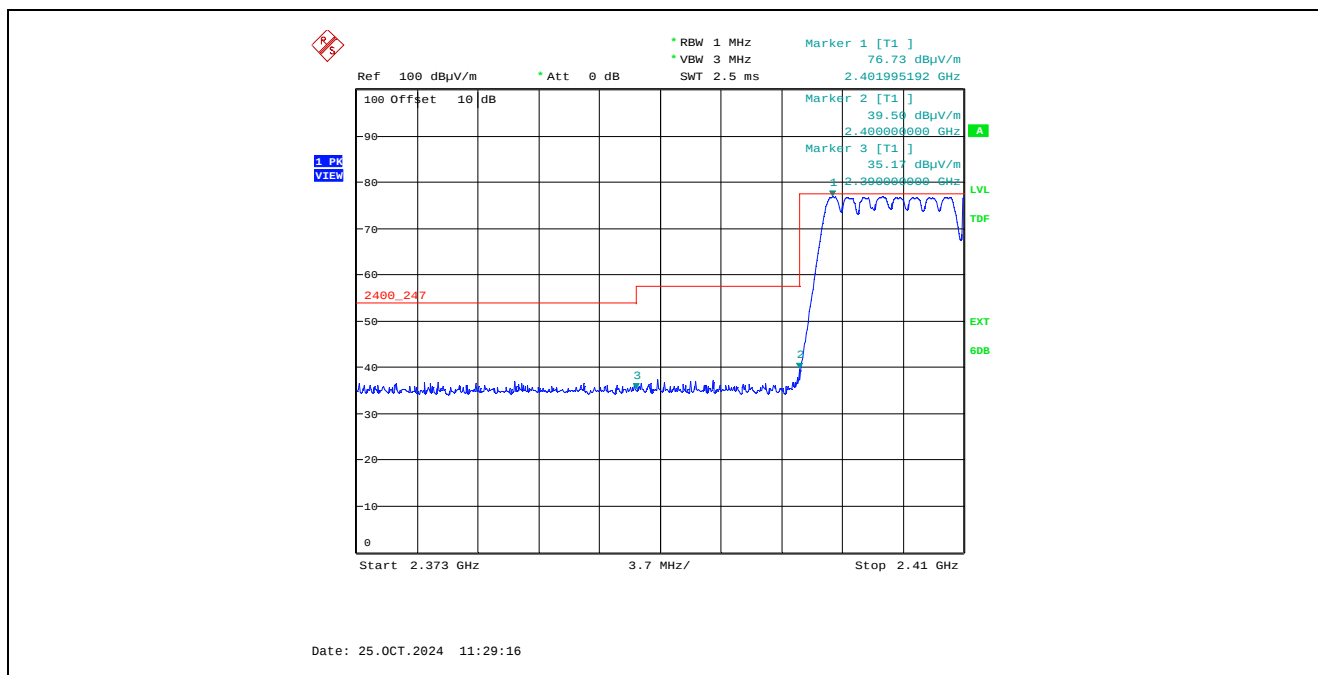
\*No spurious emissions detected.

#### 5.4.4.2. Band-Edge RF Radiated Emissions

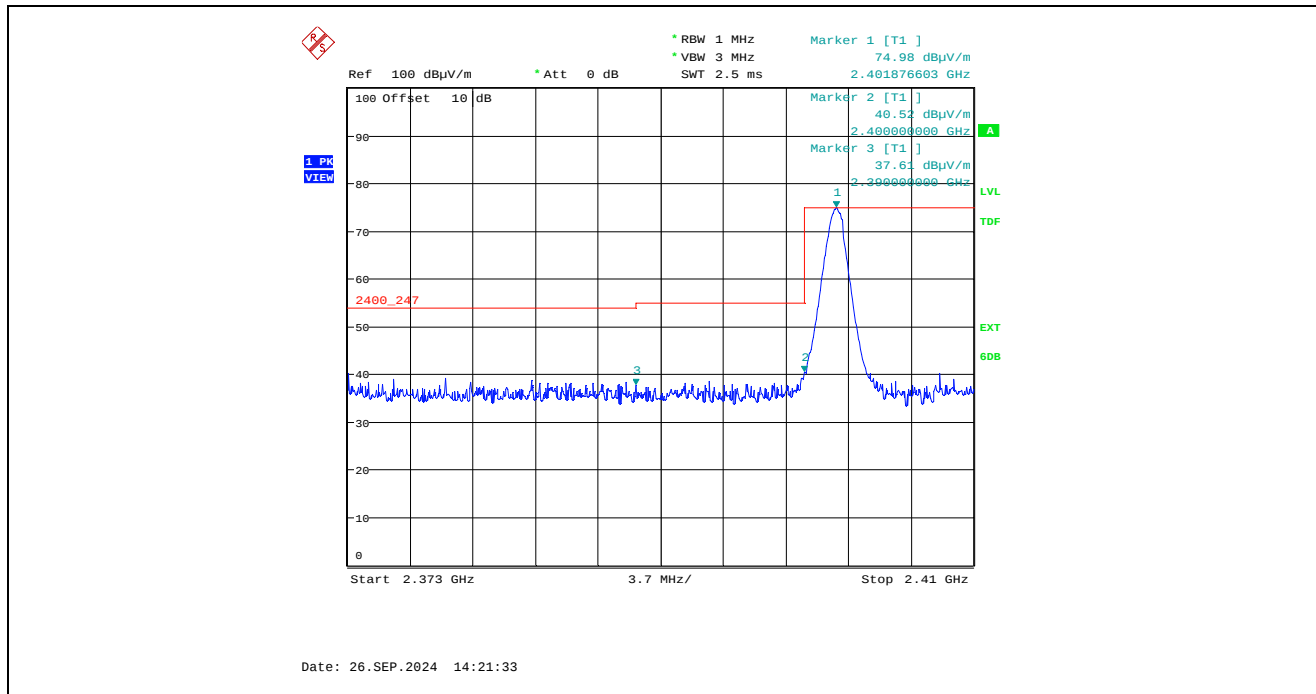
**Plot 5.4.4.2.1.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Vertical Polarization  
Single Frequency Mode, Low End of Frequency Band



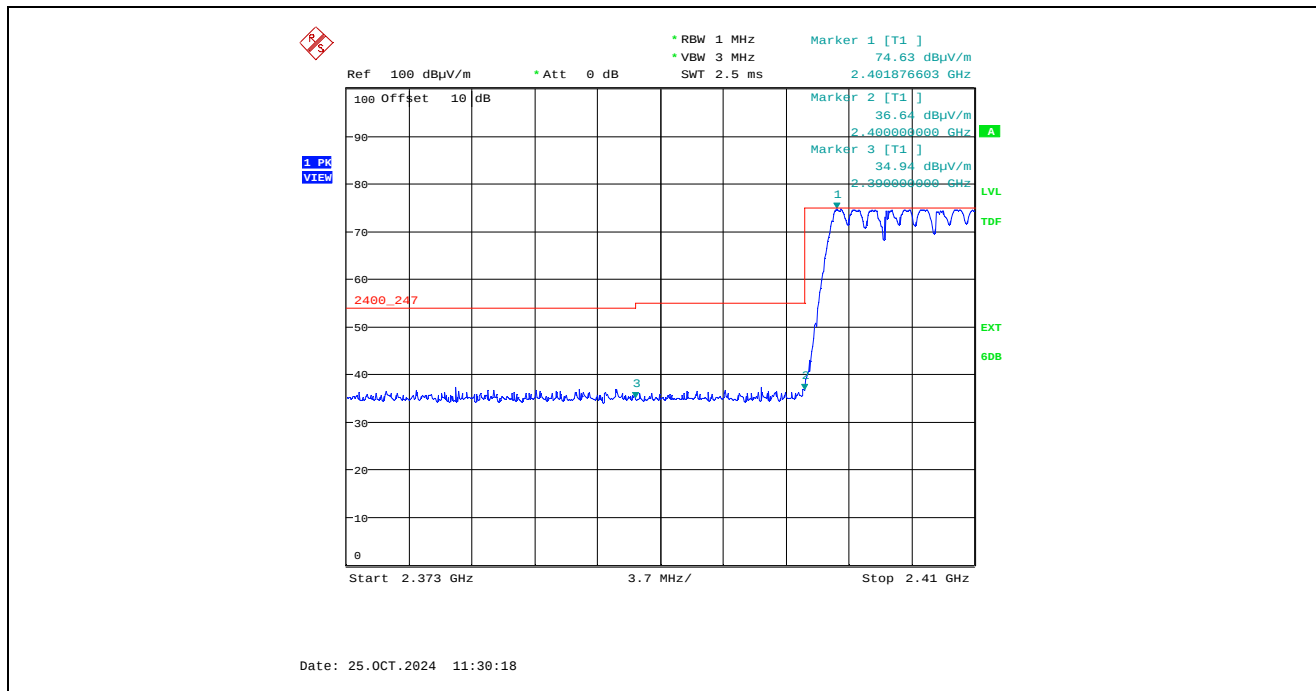
**Plot 5.4.4.2.2.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Vertical Polarization  
Pseudorandom Channel Hopping Mode, Low End of Frequency Band



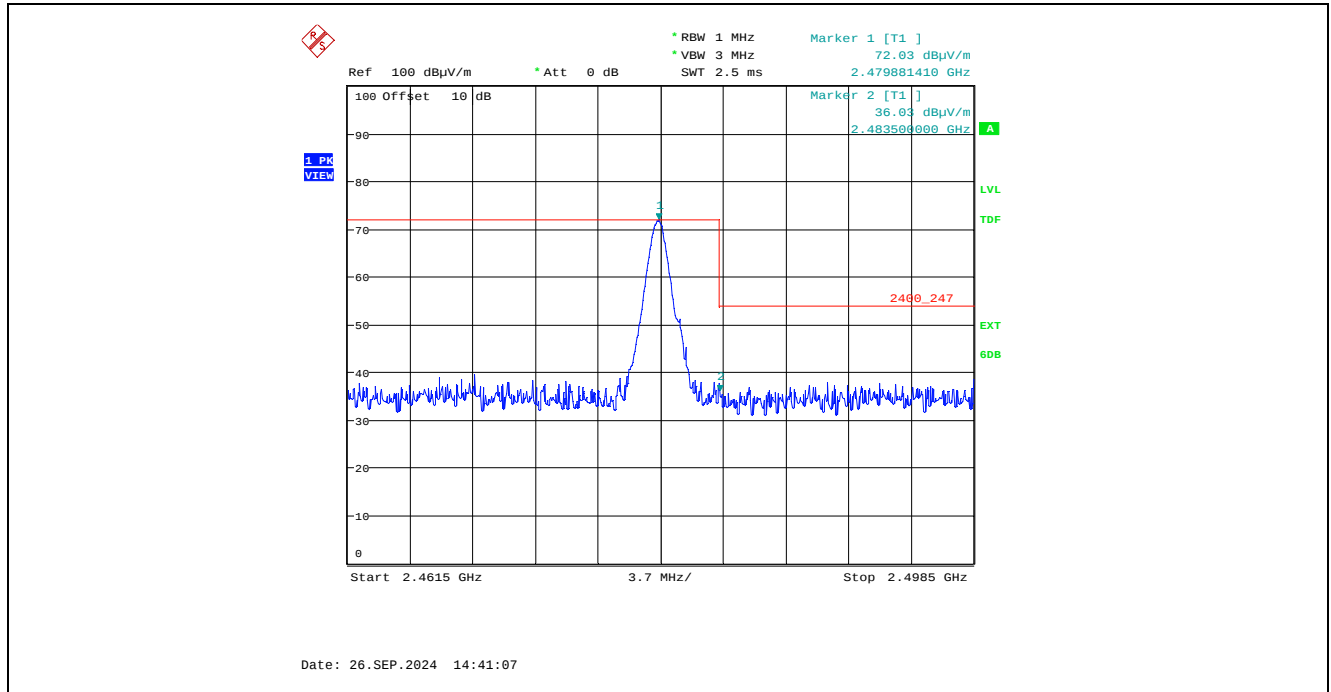
**Plot 5.4.4.2.3.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Horizontal Polarization  
Single Frequency Mode, Low End of Frequency Band



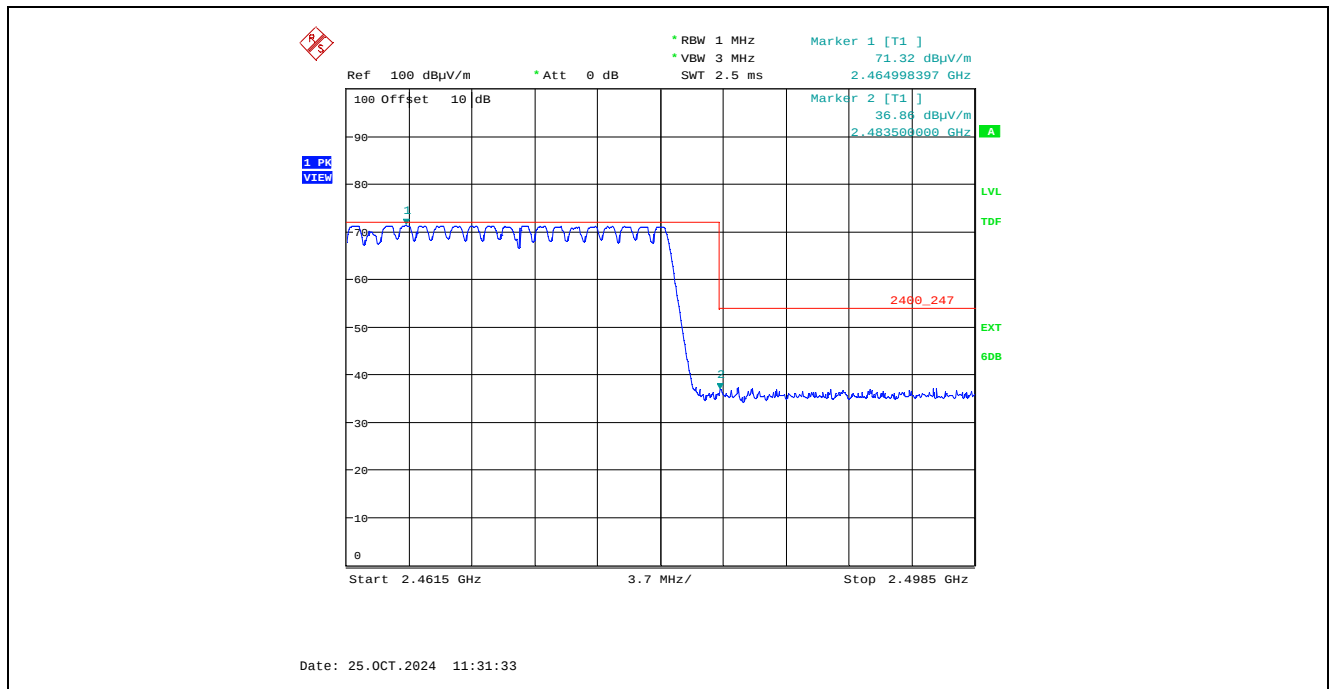
**Plot 5.4.4.2.4.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Horizontal Polarization  
Pseudorandom Channel Hopping Mode, Low End of Frequency Band



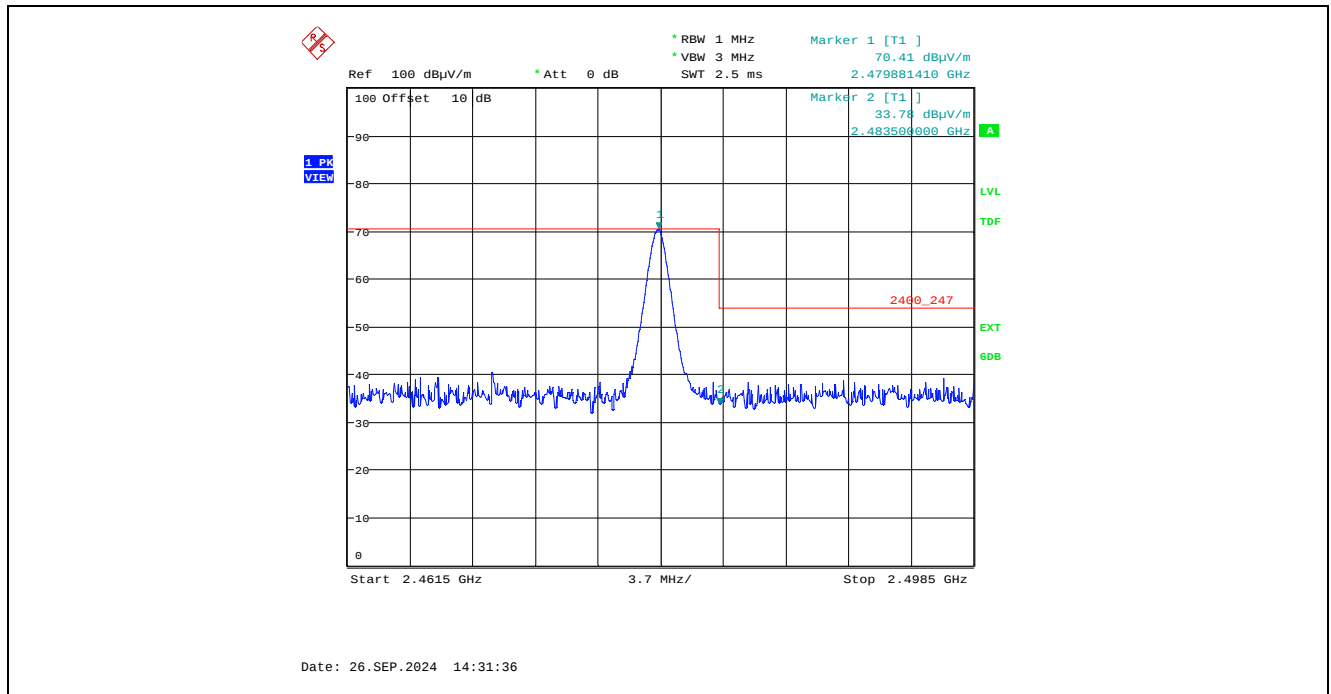
**Plot 5.4.4.2.5.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Vertical Polarization  
Single Frequency Mode, High End of Frequency Band



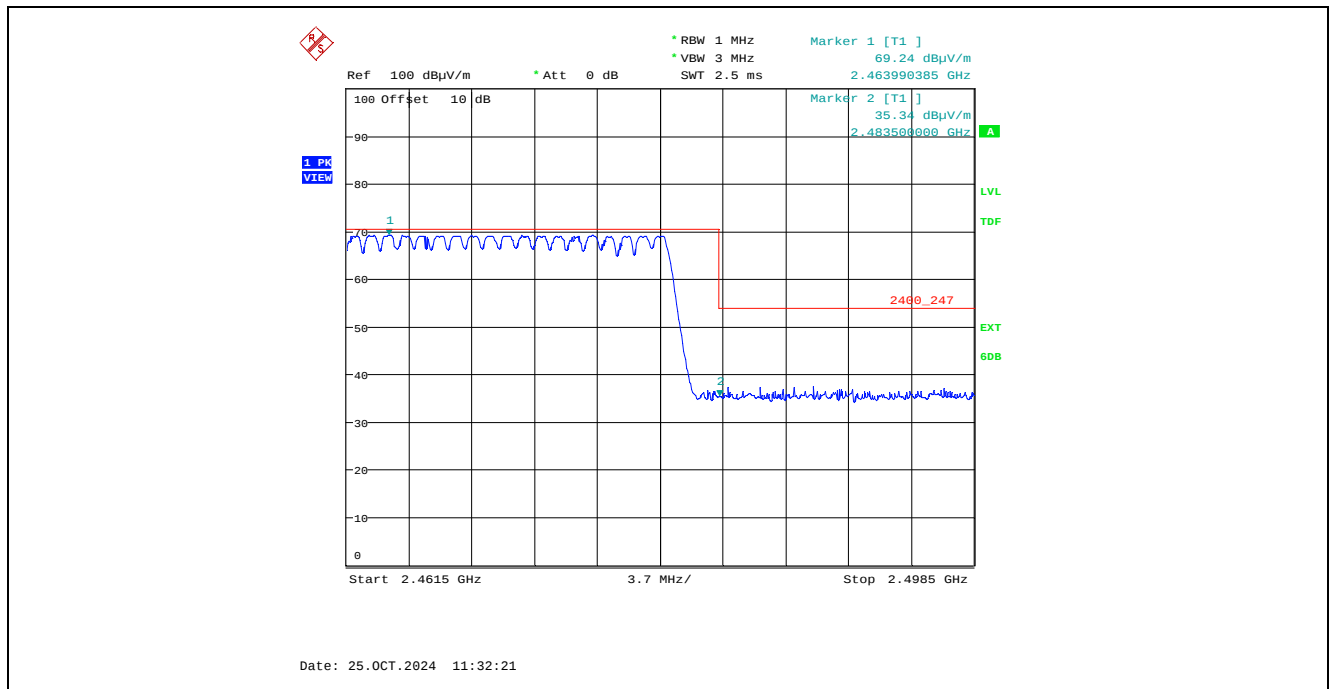
**Plot 5.4.4.2.6.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Vertical Polarization  
Pseudorandom Channel Hopping Mode, High End of Frequency Band



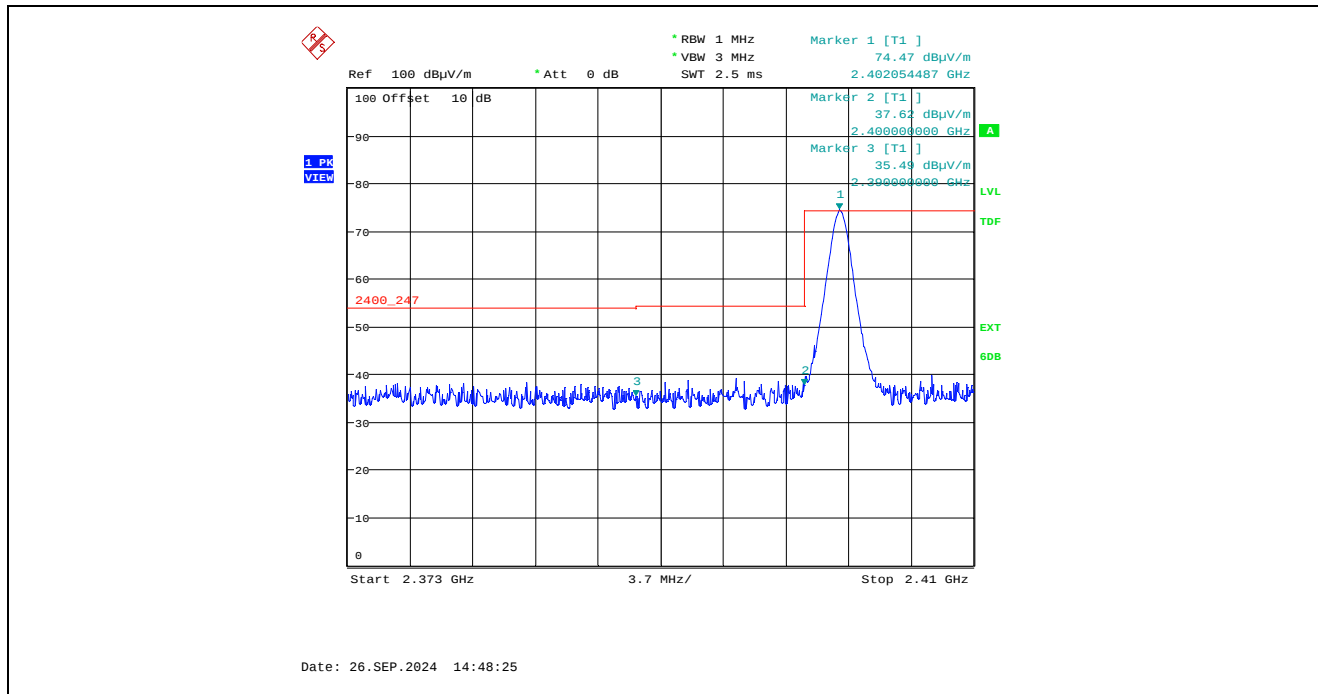
**Plot 5.4.4.2.7.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Horizontal Polarization  
Single Frequency Mode, High End of Frequency Band



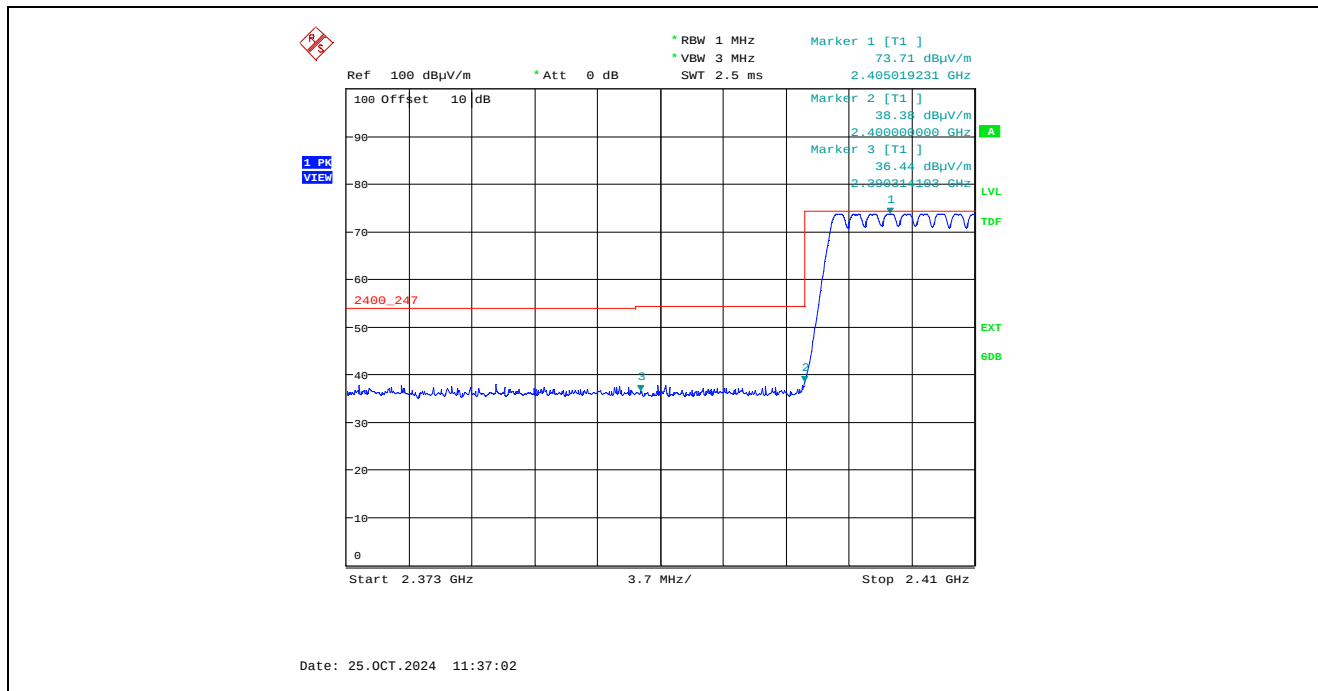
**Plot 5.4.4.2.8.** Band-Edge RF Radiated Emissions at 3 m, BDR (GFSK), Horizontal Polarization  
Pseudorandom Channel Hopping Mode, High End of Frequency Band



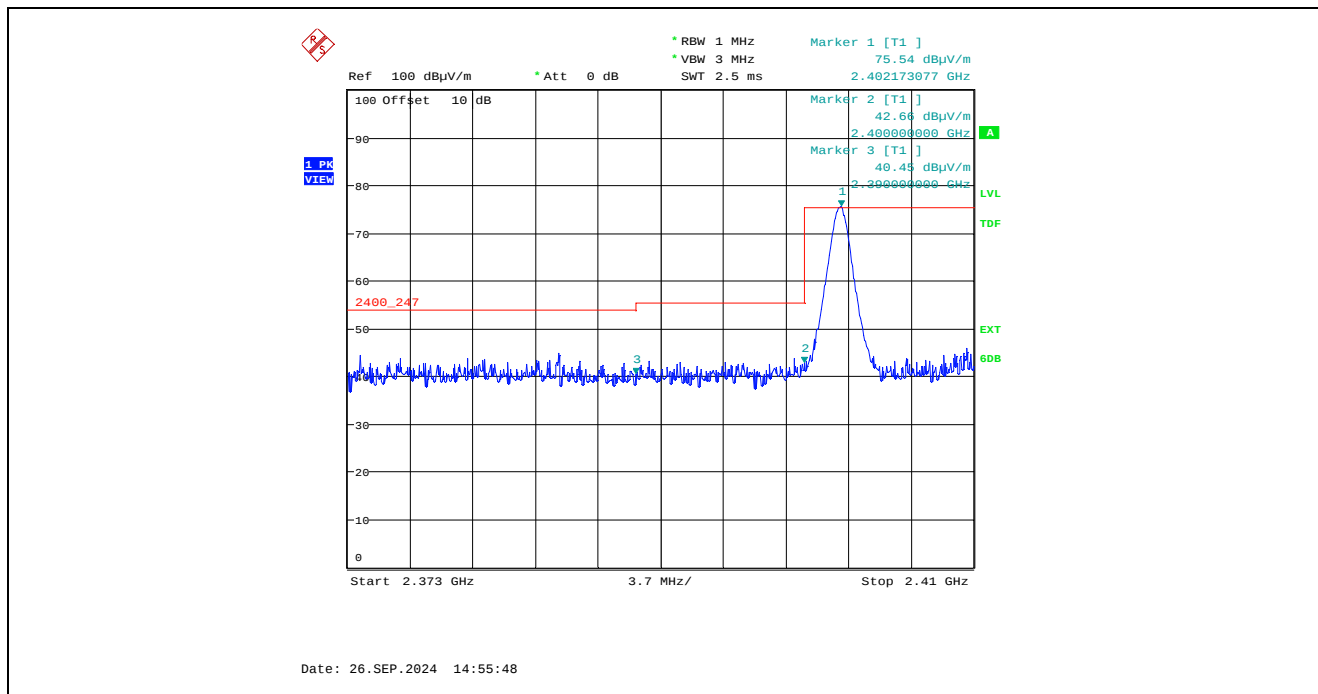
**Plot 5.4.4.2.9.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Vertical Polarization  
Single Frequency Mode, Low End of Frequency Band



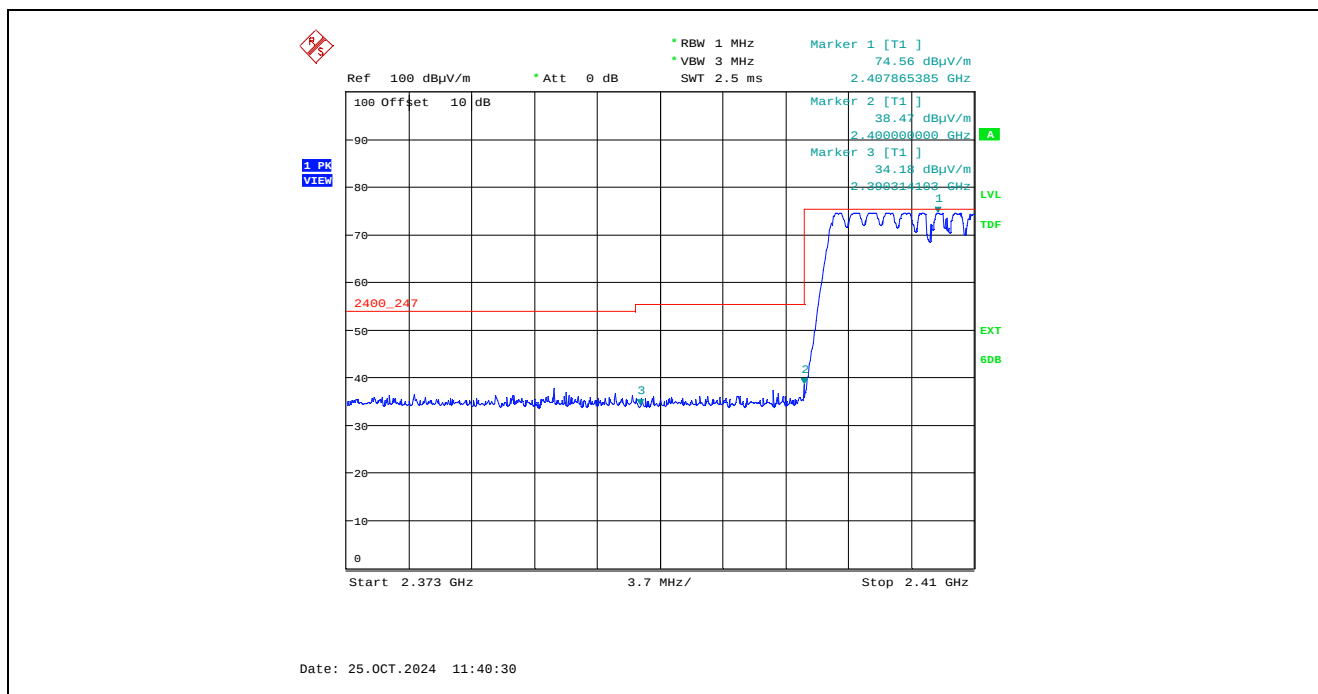
**Plot 5.4.4.2.10.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Vertical Polarization  
Pseudorandom Channel Hopping Mode, Low End of Frequency Band



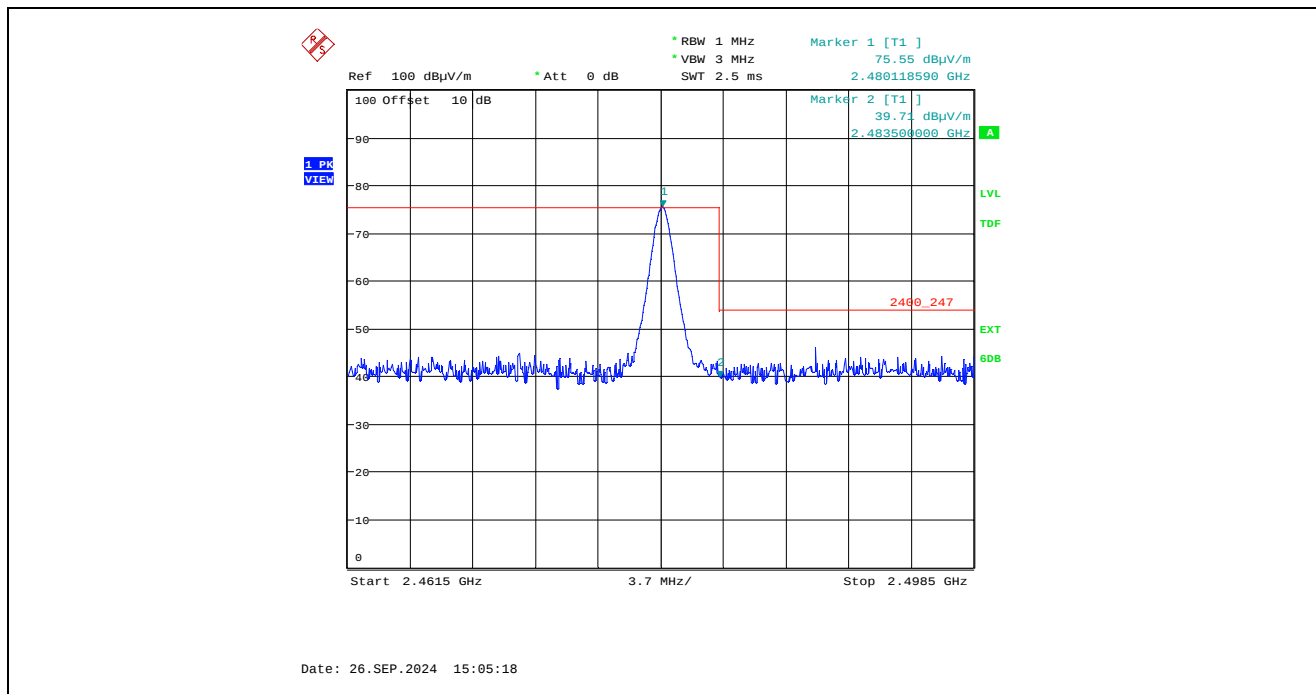
**Plot 5.4.4.2.11.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Horizontal Polarization  
Single Frequency Mode, Low End of Frequency Band



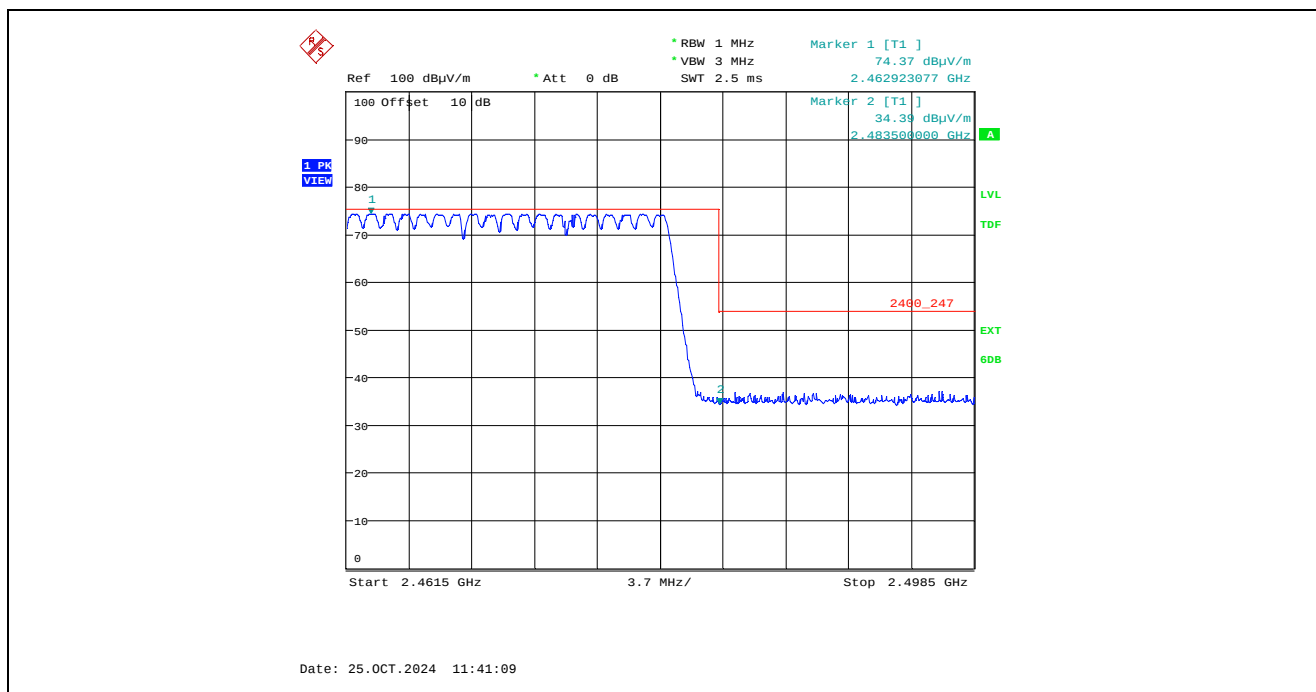
**Plot 5.4.4.2.12.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Horizontal Polarization  
Pseudorandom Channel Hopping Mode, Low End of Frequency Band



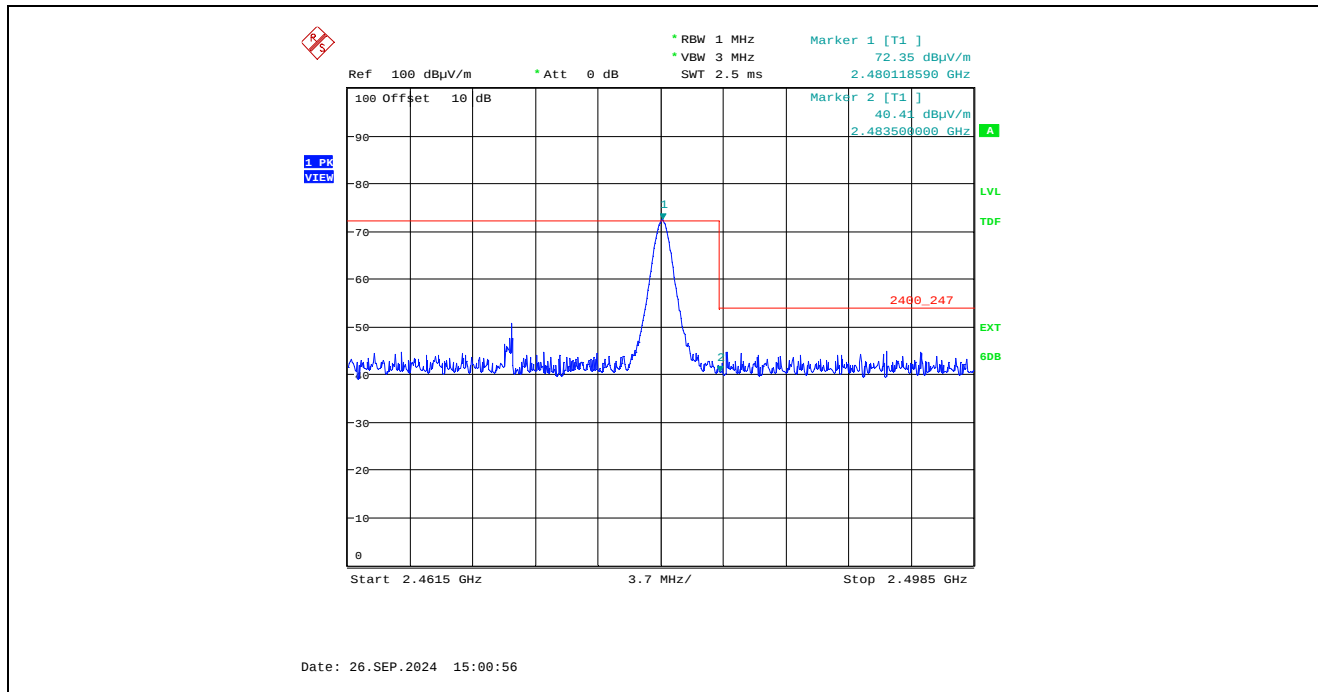
**Plot 5.4.4.2.13.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Vertical Polarization  
Single Frequency Mode, High End of Frequency Band



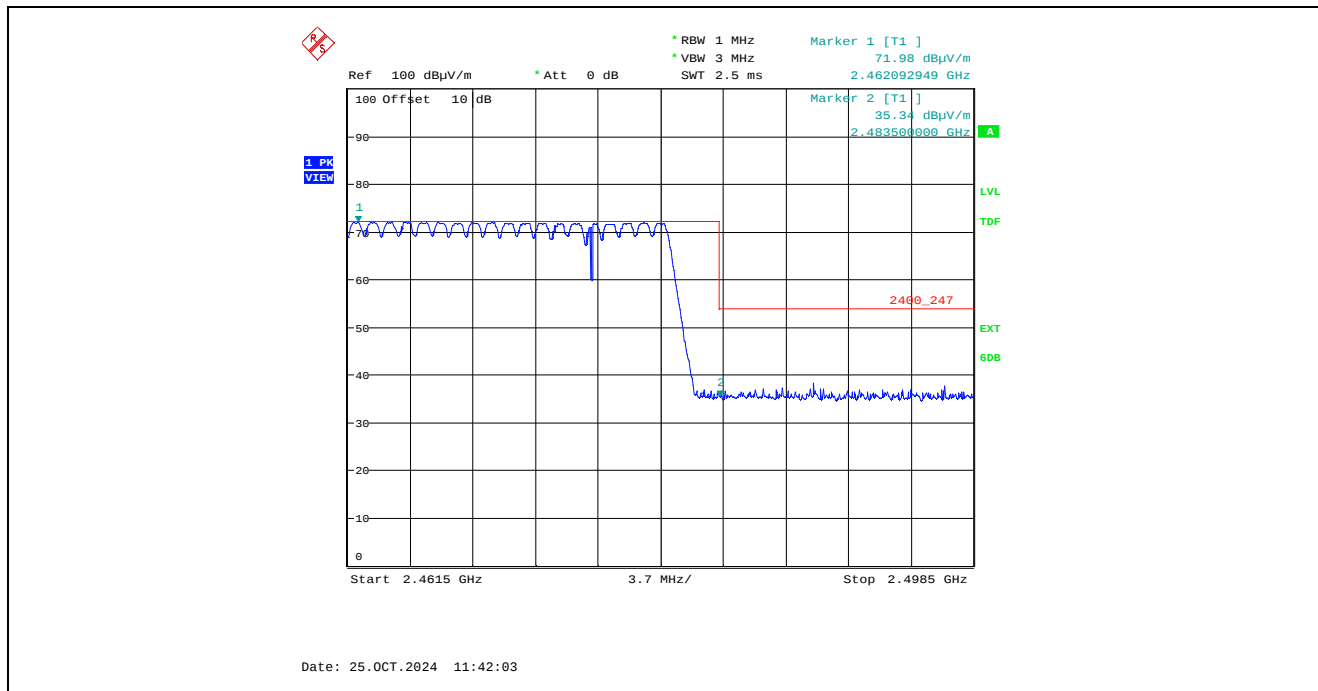
**Plot 5.4.4.2.14.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Vertical Polarization  
Pseudorandom Channel Hopping Mode, High End of Frequency Band



**Plot 5.4.4.2.15.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Horizontal Polarization  
Single Frequency Mode, High End of Frequency Band



**Plot 5.4.4.2.16.** Band-Edge RF Radiated Emissions at 3 m, EDR (8-DPSK), Horizontal Polarization  
Pseudorandom Channel Hopping Mode, High End of Frequency Band



## EXHIBIT 6. TEST EQUIPMENT LIST

| Test Instruments                                | Manufacturer    | Model No.         | Serial No. | Frequency Range | Cal. Due Date |
|-------------------------------------------------|-----------------|-------------------|------------|-----------------|---------------|
| Spectrum Analyzer                               | Agilent         | E7401A            | US40240432 | 9 kHz–22 GHz    | 06 Nov 2024   |
| High Pass filter                                | Rohde & Schwarz | EZ-25             | 830164/007 | Cut off 150kHz  | 12 Oct 2024*  |
| LISN                                            | NSLK 8127       | NSLK 8127         | 8127276    | 9 kHz–30 MHz    | 11 Dec 2024   |
| Multimeter                                      | Fluke           | 8842A             | 5436283    | -               | 28 Aug 2025   |
| Spectrum Analyzer                               | Rohde & Schwarz | FSU26             | 200946     | 20Hz–26.5 GHz   | 26 Mar 2026   |
| Attenuator                                      | Pasternack      | PE7024-10         | 3          | DC–26.5 GHz     | See Note 1    |
| DC Power Supply                                 | HQ Power        | PS613U            | -          | 0-30Vdc         | See Note 1    |
| Horn Antenna                                    | ETS             | 3115              | 9701-5061  | 1-18GHz         | 09 Aug 2026   |
| EMI Receiver                                    | Rohde & Schwarz | ESU40             | 100037     | 20Hz–40 GHz     | 18 Sep 2025   |
| Biconilog Antenna                               | EMCO            | 3142C             | 00034792   | 26-2000MHz      | 16 Dec 2025   |
| Preamp                                          | Com-Power       | PAM-118A          | 551016     | 500MHz-18GHz    | 20 Feb 2025   |
| Preamp                                          | Hewlett Packard | 8449B             | 3003A00769 | 1000MHz-26.5GHz | 08 Nov 2024   |
| High Pass Filter                                | K & L           | 11SH10-1500/T8000 | 2          | 1.0 – 1.5GHz    | See Note 1    |
| Horn Antenna                                    | EMCO            | 3115              | 5955       | 1GHz – 18 GHz   | 04 Nov 2024   |
| Horn Antenna                                    | EMCO            | 3160-09           | 118385     | 18 - 26.5 GHz   | 23 Feb 2025   |
| Horn Antenna                                    | EMCO            | 3160-10           | 102686     | 26.5 - 40 GHz   | 23 Feb 2025   |
| Pre-Amplifier                                   | Com-Power       | PAM-840A          | 18050002   | 18 - 40 GHz     | 25 Oct 2024*  |
| Spectrum Analyzer                               | Rohde & Schwarz | FSEK30            | 100077     | 20Hz-40GHz      | 17 Jun 2025   |
| Note 1: Internal Verification/Calibration Check |                 |                   |            |                 |               |

\* Equipment used before calibration due date.

## EXHIBIT 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the requirements of CISPR 16-4-2 @ IEC:2003 and JCGM 100:2008 (GUM 1995) – Guide to the Expression of Uncertainty in Measurement.

| Test Description                         | Expanded Uncertainty, K=2 for 95% Confidence Level |
|------------------------------------------|----------------------------------------------------|
| Power Line Conducted Emissions           | $\pm 2.62$ dB                                      |
| Conducted Output Power                   | $\pm 0.62$ dB                                      |
| Transmitter Spurious Radiated Emissions  | $\pm 4.20$ dB (30 MHz – 1 GHz)                     |
|                                          | $\pm 2.70$ dB (1 - 18 GHz)                         |
|                                          | $\pm 3.11$ dB (Above 18)                           |
| Transmitter Radiated Band-edge Emissions | $\pm 2.76$ dB                                      |

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