# ENGINEERING TEST REPORT

**2X2 MIMO 2.4 GHz OEM DDL Module (1W)**
**Model: pMDDL2450**
**FCC ID: NS918PMDDL2450**

*Applicant:*

**Microhard Systems Inc.**
150 Country Hills Landing NW
Calgary, Alberta
Canada T3K 5P3

***In Accordance With***

**Federal Communications Commission (FCC)**
**Part 15, Subpart C, Section 15.247**
**Digital Modulation Systems (DTS) Operating in 2400 – 2483.5 MHz Band**

**UltraTech's File No.: 18MCRS104_FCC15C247**

| | |
|---|---|
| This Test report is Issued under the Authority of<br>Tri M. Luu<br>Vice President of Engineering<br>UltraTech Group of Labs<br><br>Date: March 5, 2018 | |
| Report Prepared by: Dan Huynh<br><br>Issued Date: March 5, 2018 | Tested by: Hung Trinh<br><br>Test Dates: December 5 - 19, 2017<br>January,11, 2018 |

- *The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.*
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# EXHIBIT 1. INTRODUCTION

## 1.1. SCOPE

| | |
|---|---|
| **Reference:** | FCC Part 15, Subpart C, Section 15.247 |
| **Title:** | Code of Federal Regulations (CFR), Title 47 – Telecommunication, Part 15 – Radio Frequency Devices |
| **Purpose of Test:** | Equipment Certification for Digital Modulation Systems (DTS) Operating Under §15.247 |
| **Test Procedures:** | ▪ ANSI C63.4<br>▪ ANSI C63.10<br>▪ FCC KDB Publication No. 558074 D01 DTS Meas Guidance v04 |
| **Environmental Classification:** | [x] Commercial, industrial or business environment<br>[x] Residential environment |

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

None.

## 1.3. NORMATIVE REFERENCES

| Publication | Year | Title |
|---|---|---|
| 47 CFR Parts 0-19 | 2017 | 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 | 2013 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |
| FCC, KDB Publication No. 558074 D01 DTS Meas Guidance v04 | 2017 | Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 |

# EXHIBIT 2. PERFORMANCE ASSESSMENT

## 2.1. CLIENT INFORMATION

| APPLICANT | |
|---|---|
| **Name:** | Microhard Systems Inc. |
| **Address:** | 150 Country Hills Landing NW<br>Calgary, Alberta<br>Canada T3K 5P3 |
| **Contact Person:** | Mr. Hany Shenouda<br>Phone #: 403 248-0028<br>Fax #: 403 248 2762<br>Email Address: shenouda@microhardcorp.com |

| MANUFACTURER | |
|---|---|
| **Name:** | Microhard Systems Inc. |
| **Address:** | 150 Country Hills Landing NW<br>Calgary, Alberta<br>Canada T3K 5P3 |
| **Contact Person:** | Mr. Hany Shenouda<br>Phone #: 403 248-0028<br>Fax #: 403 248-2762<br>Email Address: shenouda@microhardcorp.com |

## 2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

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

| | |
|---|---|
| **Brand Name:** | Microhard Systems Inc. |
| **Product Name:** | 2X2 MIMO 2.4 GHz OEM DDL Module (1W) |
| **Model Name or Number:** | pMDDL2450 |
| **Serial Number:** | Test Sample |
| **Type of Equipment:** | Digital Transmission System (DTS) |
| **Input Power Supply Type:** | External DC Power Supply |
| **Primary User Functions of EUT:** | Wireless Data communication Ethernet and Serial |

## 2.3. EUT'S TECHNICAL SPECIFICATIONS

| Transmitter | | | |
|---|---|---|---|
| **Equipment Type:** | • Mobile<br>• Base Station (fixed use) | | |
| **Intended Operating Environment:** | ▪ Commercial, industrial or business environment<br>▪ Residential environment | | |
| **Power Supply Requirement:** | 3.3 VDC | | |
| **RF Output Power Rating:** | 13 – 30 dBm typical | | |
| **[1]Tx Gain Setting:** | 0-255 | | |
| **Operating Frequency Range:** | Bandwidth | [2]Data Rate 1, 2, 3 | [2]Data Rate 4, 5, 6, 7 |
| | 4 MHz<br>8 MHz | 2402 - 2477 MHz<br>2407 - 2477 MHz | 2407 - 2477MHz<br>2407 - 2477 MHz |
| **RF Output Impedance:** | 50 Ω | | |
| **Duty Cycle:** | Continuous | | |
| **Modulation Type:** | COFDM | | |
| **Antenna Connector Types:** | U.FL | | |

[1]TX gain setting is a factory tune-up parameter,not available to end users
[2]Refer to operational description exhibit for more information on data rates and operational restrictions.

## 2.4. ASSOCIATED ANTENNA DESCRIPTIONS

| Antenna Type | Maximum Gain (dBi) |
|---|---|
| Rubber Ducky | 2.5 |
| Patch Antenna | 14 |
| Yagi Antenna | 14.5 |
| Omni Directional Antenna | 15 |

## 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 | RF port | 2 | U.FL | Shielded cable |
| 2 | DC supply and I/O port | 1 | Pin header | Direct connection (no cable) |

## 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: | Test Jig |
| Brand name: | Microhard Systems Inc. |
| Model Name or Number: | N/A |
| Connected to EUT's Port: | I/O Port |

| **Ancillary Equipment # 2** | |
|---|---|
| Description: | AC/DC Adapter |
| Brand name: | BI Switching Power Supply |
| Model Name or Number: | BI30-120200-AdU |
| Connected to EUT's Port: | Test Jig of the EUT |

# 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 $^{o}$C |
| Humidity: | 45 to 58% |
| Pressure: | 102 kPa |
| Power Input Source: | 3.3 VDC |

## 3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS

| | |
|---|---|
| **Operating Modes:** | The transmitter was operated in a continuous transmission mode with the carrier modulated as specified in the Test Data. |
| **Special Test Software:** | Test software provided by the Applicant to operate the EUT at each channel frequency continuously and in the range of typical modes of operation. |
| **Special Hardware Used:** | Test Jig |
| **Transmitter Test Antenna:** | The EUT is tested with the antenna fitted in a manner typical of normal intended use as non-integral antenna equipment as described with the test results. |

| **Transmitter Test Signals** | |
|---|---|
| **Frequency Band(s):** | 2402 – 2477 MHz<br>2407 – 2477 MHz |
| **Frequency(ies) Tested:** | 2402 MHz, 2407 MHz, 2437 MHz, 2477 MHz |
| **RF Power Output:**<br>(measured maximum output power at antenna terminals) | 30.00 dBm Total Peak Power |
| **Normal Test Modulation:** | COFDM |
| **Modulating Signal Source:** | 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)(2) | 6 dB Bandwidth | Yes |
| 15.247(b)(3) | Peak Conducted Output Power - DTS | Yes |
| 15.247(d) | Band-Edge and RF Conducted Spurious Emissions at the Transmitter Antenna Terminal | Yes |
| 15.247(d), 15.209 & 15.205 | Transmitter Spurious Radiated Emissions | Yes |
| 15.247(e) | Power Spectral Density | Yes |
| 15.247(i), 1.1307, 1.1310, 2.1091 | RF Exposure | Yes |

## 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:

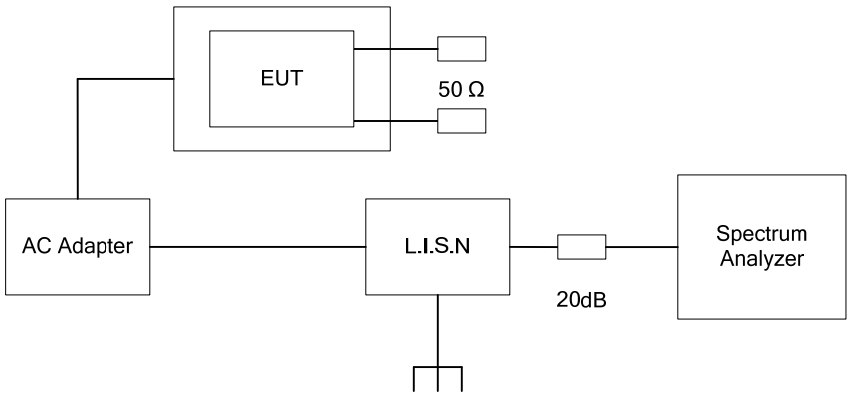
| Frequency of emission (MHz) | Conducted Limits (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15–0.5 .....…….. | 66 to 56* ..... | 56 to 46* |
| 0.5–5 .....…….. | 56 ..... | 46 |
| 5-30 …….. | 60 ...…….. | 50 |

*Decreases linearly with the logarithm of the frequency

### 5.1.2. Method of Measurements

ANSI C63.4

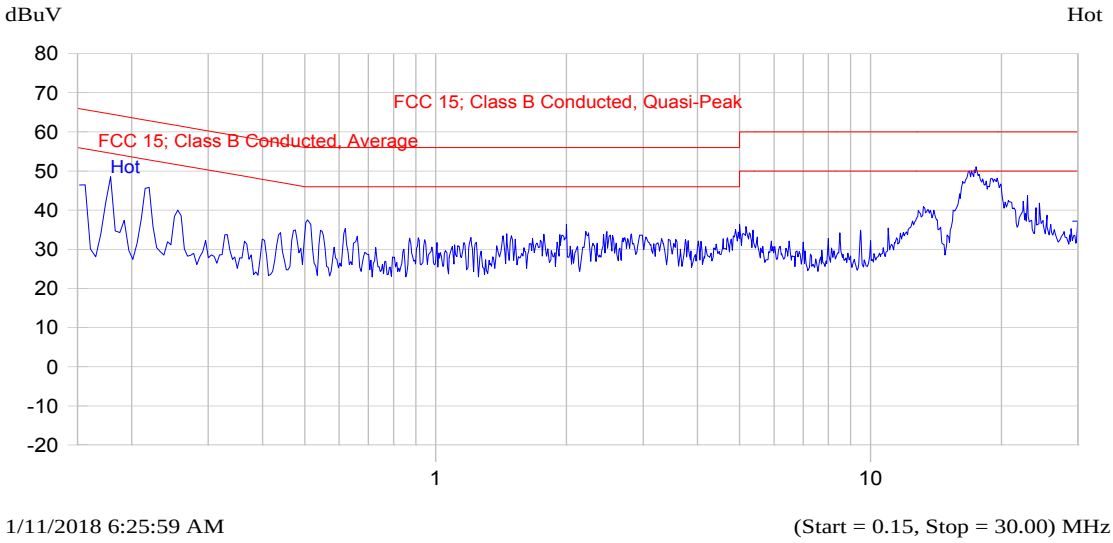
### 5.1.3. Test Arrangement



### 5.1.4. Test Data

**Plot 5.1.4.1.** Power Line Conducted Emissions (Test Configuration 1: Tx Mode)
Line Voltage: 120 VAC; Line Tested: Hot

**Current Graph**

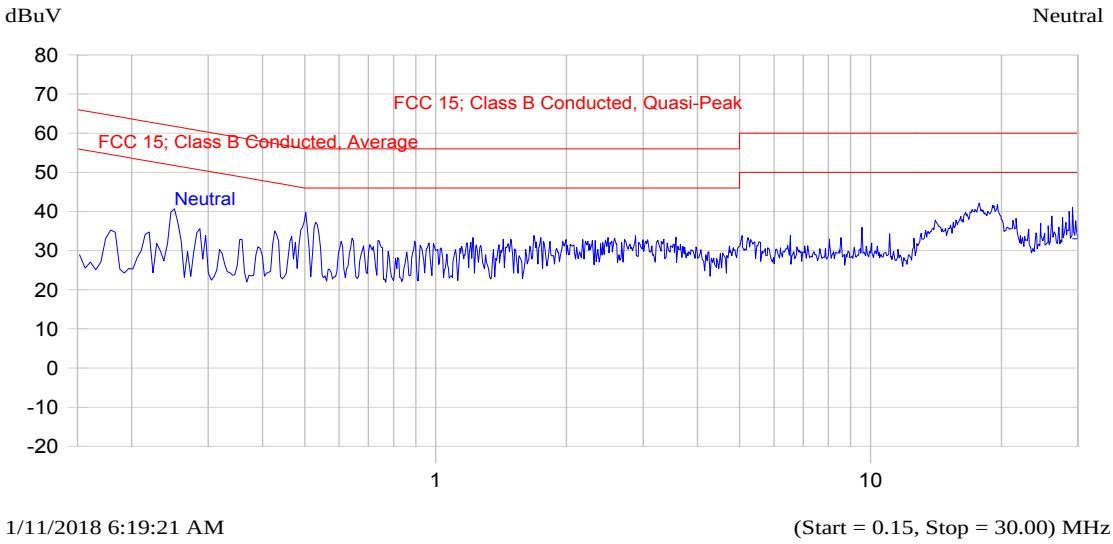



**Current List**

| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| 0.180 | 52.6 | 49.5 | -15.0 | 36.3 | -18.2 | Hot |
| 0.217 | 48.6 | 43.9 | -19.1 | 33.6 | -19.3 | Hot |
| 17.480 | 49.5 | 45.9 | -14.1 | 40.0 | -10.0 | Hot |

**Plot 5.1.4.2.** Power Line Conducted Emissions (Test Configuration 1: Tx Mode)
Line Voltage120 VAC; Line Tested: Neutral

## Current Graph

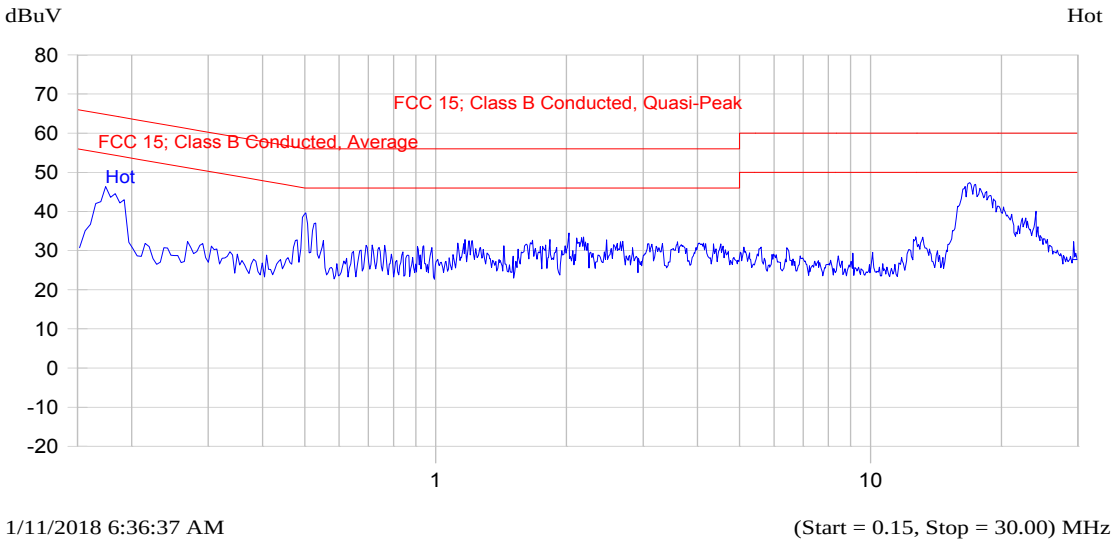



## Current List

| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| 0.251 | 45.6 | 40.4 | -21.3 | 32.1 | -19.7 | Neutral |
| 0.503 | 44.2 | 41.3 | -14.7 | 37.7 | -8.3 | Neutral |
| 17.771 | 42.7 | 38.7 | -21.3 | 32.4 | -17.6 | Neutral |

**Plot 5.1.4.3.** Power Line Conducted Emissions (Test Configuration 2: Rx Mode)
Line Voltage120 VAC; Line Tested: Hot

## Current Graph

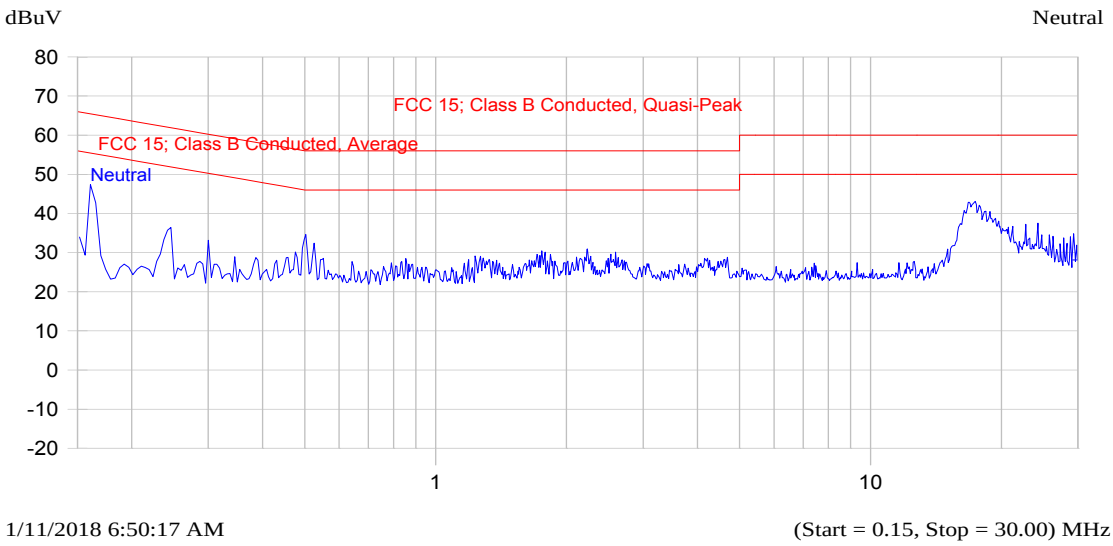



## Current List

| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| 0.156 | 50.4 | 42.1 | -23.6 | 30.0 | -25.7 | Hot |
| 0.499 | 41.7 | 38.9 | -17.1 | 35.8 | -10.2 | Hot |
| 16.884 | 47.7 | 45.3 | -14.7 | 40.5 | -9.5 | Hot |

**Plot 5.1.4.4.** Power Line Conducted Emissions (Test Configuration 2: Rx Mode)
Line Voltage120 VAC; Line Tested: Neutral

## Current Graph




## Current List

| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| 0.163 | 49.1 | 40.6 | -24.7 | 29.0 | -26.3 | Neutral |
| 0.240 | 40.2 | 34.0 | -28.1 | 26.4 | -25.7 | Neutral |
| 16.758 | 43.5 | 40.2 | -19.8 | 34.7 | -15.3 | Neutral |

## 5.2. OCCUPIED BANDWIDTH [§ 15.247(a)(2)]

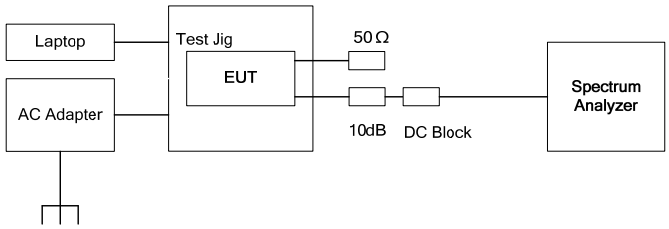
### 5.2.1. Limit(s)

The minimum 6 dB bandwidth shall be at least 500 kHz.

### 5.2.2. Method of Measurements

KDB 558074 D01 DTS Meas Guidance v04, Sections 8.1 Option 1 and 8.2 Option 2

### 5.2.3. Test Arrangement




### 5.2.4. Test Data

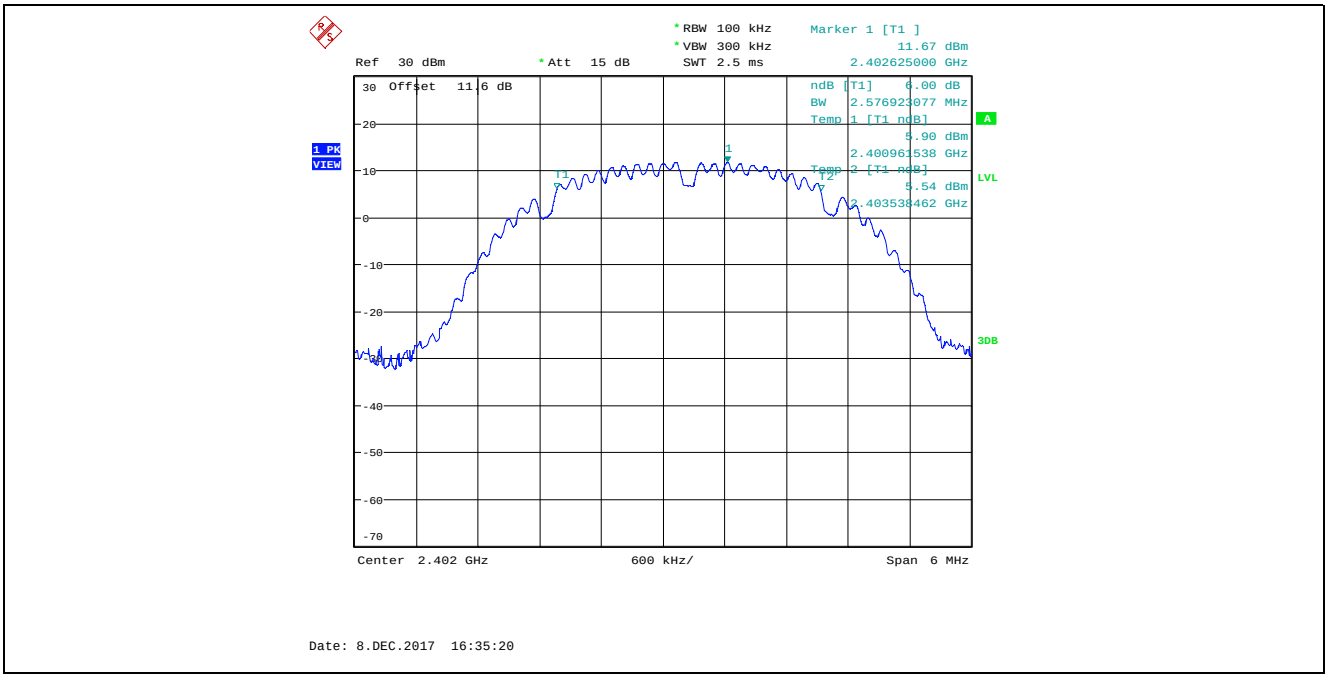
| Bandwidth: 4 MHz, Data Rates: 1, 2 & 3, Power Setting: 22 | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth Setting (MHz) | Power Setting | Data Rate | Frequency (MHz) | 6dB Bandwidth(MHz) | | Min. Limit (kHz) |
| | | | | Antenna 1 | Antenna 2 | |
| 4 | 22 | 1 | 2402 | 2.58 | 2.59 | 500 |
| | | | 2437 | 2.49 | 2.49 | 500 |
| | | | 2477 | 2.59 | 2.59 | 500 |
| | | 2 | 2402 | 2.56 | 2.57 | 500 |
| | | | 2437 | 2.57 | 2.56 | 500 |
| | | | 2477 | 2.56 | 2.57 | 500 |
| | | 3 | 2402 | 2.44 | 2.44 | 500 |
| | | | 2437 | 2.55 | 2.48 | 500 |
| | | | 2477 | 2.38 | 2.41 | 500 |

| Bandwidth: 8 MHz, Data Rates 1, 2 & 3, Power Setting 22 | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth Setting (MHz) | Power Setting | Data Rate | Frequency (MHz) | 6dB Bandwidth(MHz) | | Min. Limit (kHz) |
| | | | | Antenna 1 | Antenna 2 | |
| 8 | 22 | 1 | 2407 | 5.11 | 5.10 | 500 |
| | | | 2437 | 5.12 | 5.10 | 500 |
| | | | 2477 | 5.10 | 5.10 | 500 |
| | | 2 | 2407 | 5.10 | 5.10 | 500 |
| | | | 2437 | 5.10 | 5.10 | 500 |
| | | | 2477 | 5.10 | 5.10 | 500 |
| | | 3 | 2407 | 5.35 | 5.12 | 500 |
| | | | 2437 | 5.13 | 5.29 | 500 |
| | | | 2477 | 5.15 | 5.12 | 500 |

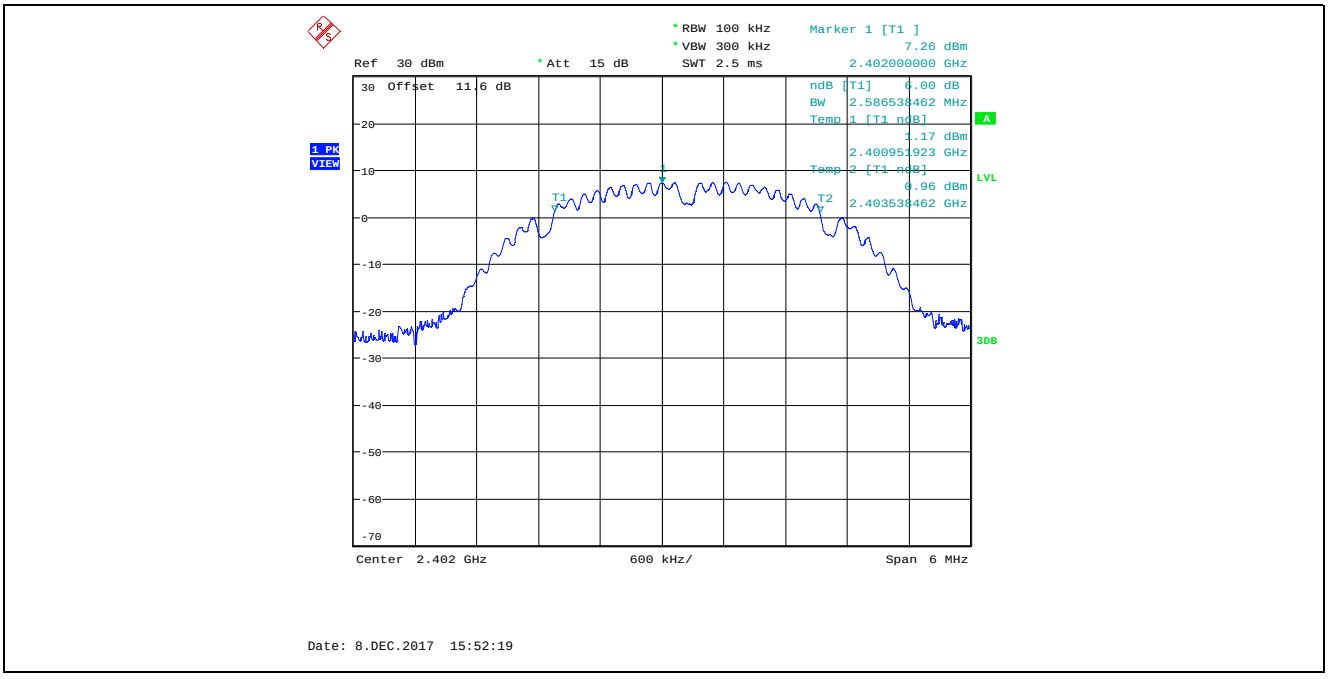
| Bandwidth: 4 MHz, Data Rates: 4, 5, 6 & 7, Power Setting: 24 | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth Setting (MHz) | Power Setting | Data Rate | Frequency (MHz) | 6dB Bandwidth(MHz) | | Min. Limit (kHz) |
| | | | | Antenna 1 | Antenna 2 | |
| 4 | 24 | 4 | 2407 | 4.47 | 4.47 | 500 |
| | | | 2437 | 4.47 | 4.47 | 500 |
| | | | 2477 | 4.47 | 4.46 | 500 |
| | | 5 | 2407 | 4.49 | 4.46 | 500 |
| | | | 2437 | 4.46 | 4.47 | 500 |
| | | | 2477 | 4.47 | 4.44 | 500 |
| | | 6 | 2407 | 4.46 | 4.47 | 500 |
| | | | 2437 | 4.46 | 4.47 | 500 |
| | | | 2477 | 4.46 | 4.49 | 500 |
| | | 7 | 2407 | 4.47 | 4.46 | 500 |
| | | | 2437 | 4.47 | 4.46 | 500 |
| | | | 2477 | 4.49 | 4.46 | 500 |

| Bandwidth: 8 MHz, Data Rates: 4, 5, 6 & 7, Power Setting: 24 | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth Setting (MHz) | Power Setting | Data Rate | Frequency (MHz) | 6dB Bandwidth(MHz) | | Min. Limit (kHz) |
| | | | | Antenna 1 | Antenna 2 | |
| 8 | 24 | 4 | 2407 | 8.88 | 8.88 | 500 |
| | | | 2437 | 8.88 | 8.88 | 500 |
| | | | 2477 | 8.88 | 8.88 | 500 |
| | | 5 | 2407 | 8.94 | 8.91 | 500 |
| | | | 2437 | 8.88 | 8.91 | 500 |
| | | | 2477 | 8.94 | 8.91 | 500 |
| | | 6 | 2407 | 8.94 | 8.91 | 500 |
| | | | 2437 | 8.94 | 8.94 | 500 |
| | | | 2477 | 8.94 | 8.94 | 500 |
| | | 7 | 2407 | 8.91 | 8.91 | 500 |
| | | | 2437 | 8.97 | 8.94 | 500 |
| | | | 2477 | 8.94 | 8.94 | 500 |

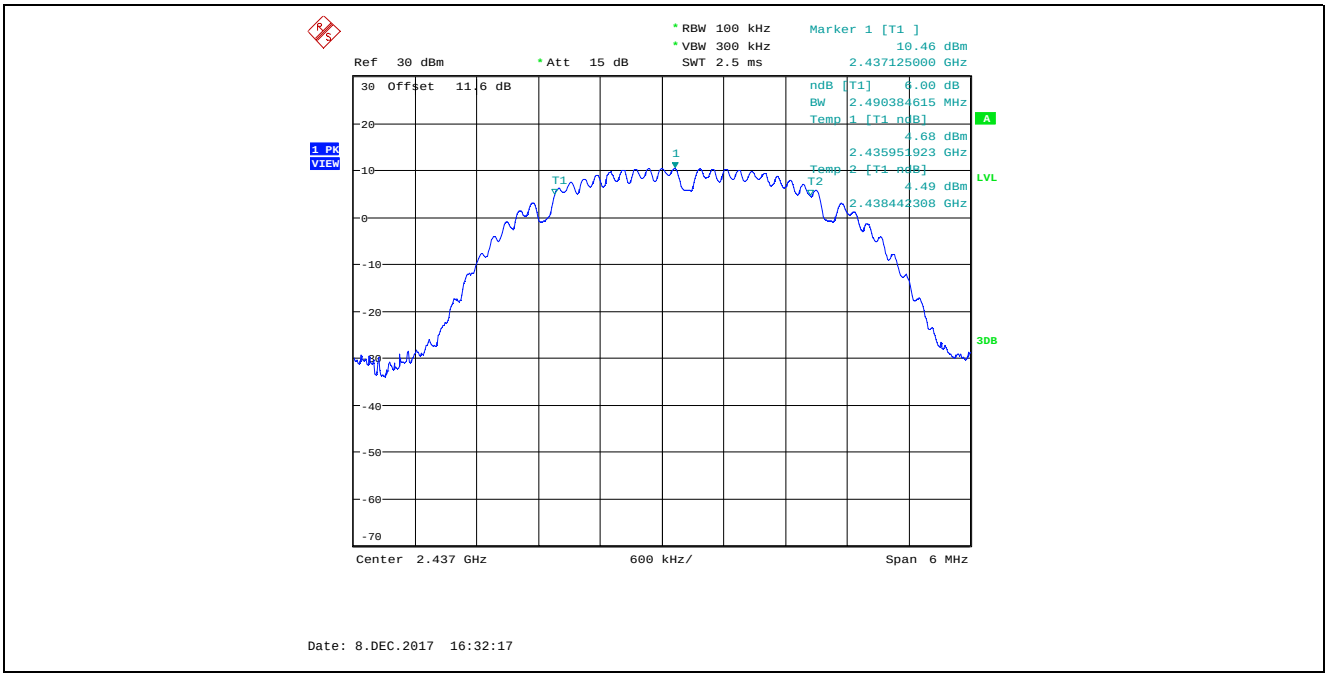
**Plot 5.2.4.1.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 1, 2402 MHz



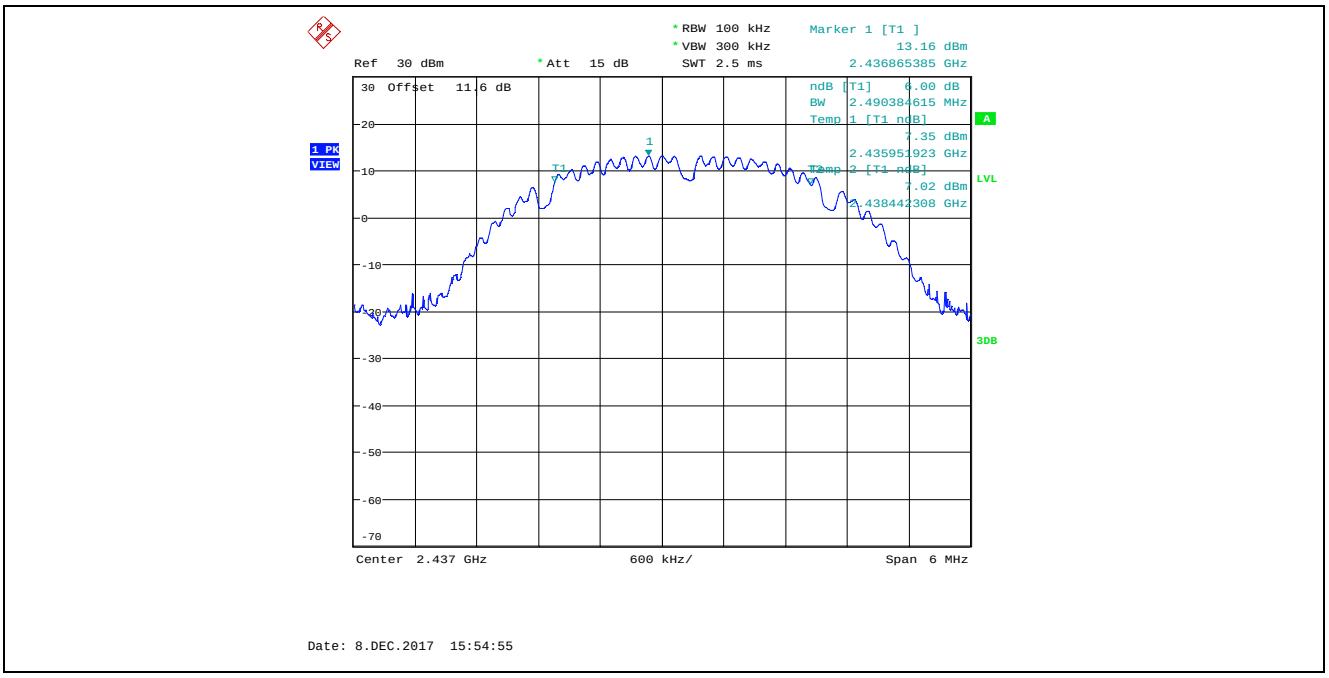

**Plot 5.2.4.2.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 1, 2402 MHz



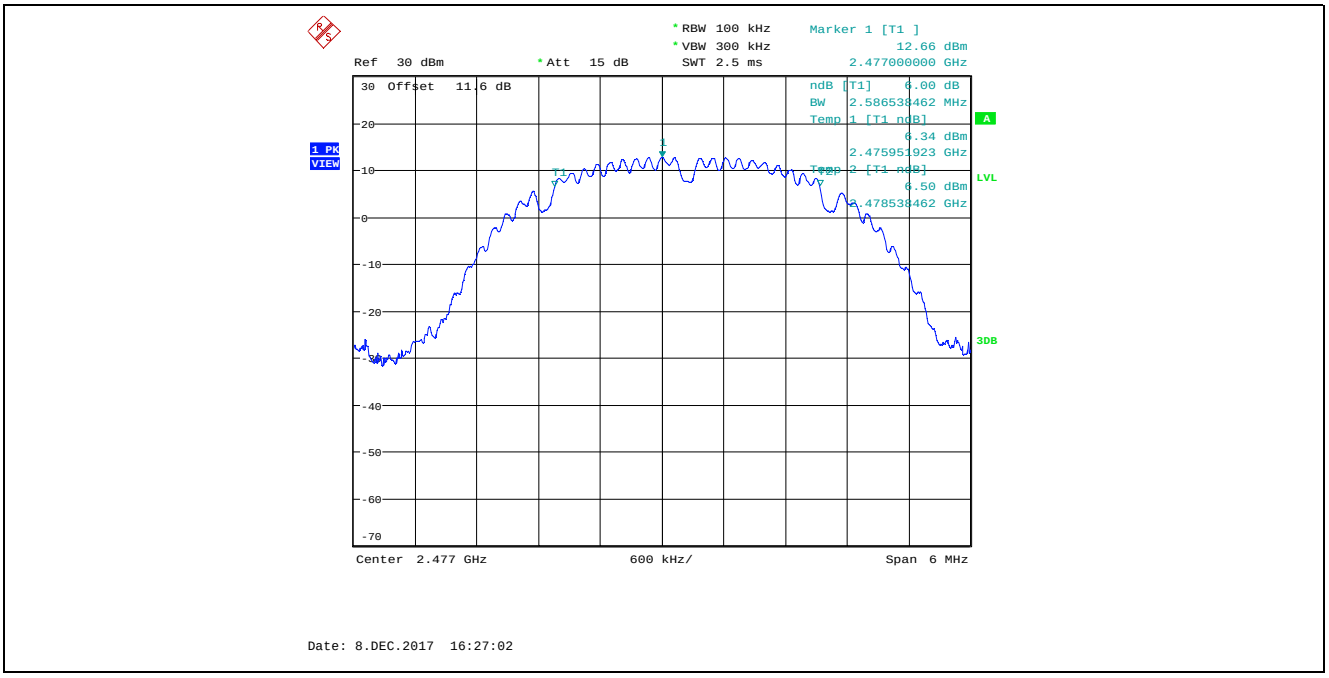
**Plot 5.2.4.3.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



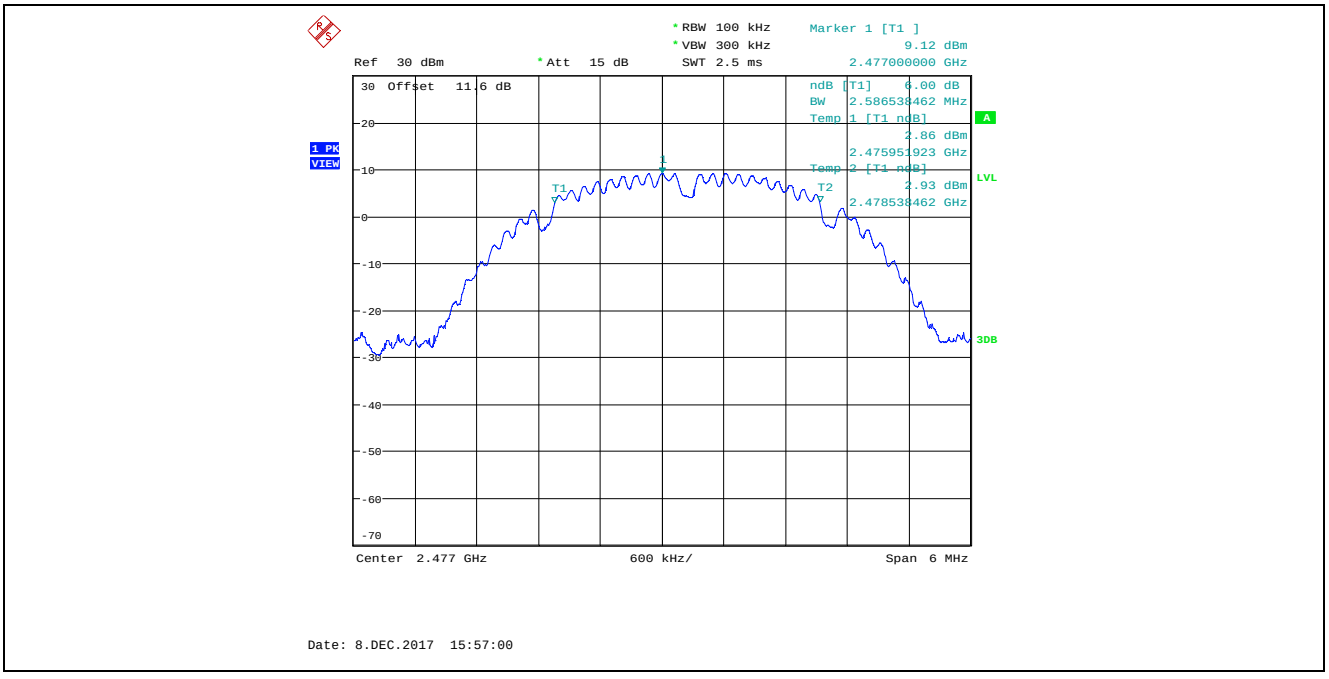

**Plot 5.2.4.4.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



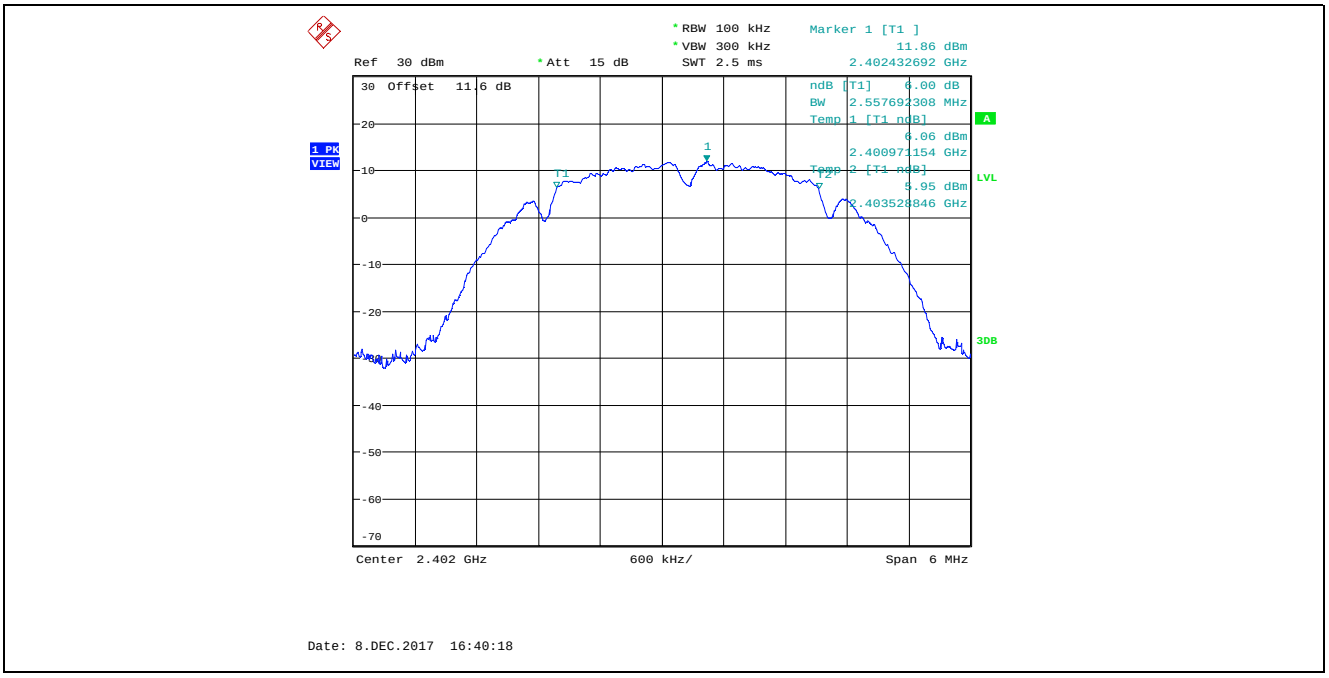
**Plot 5.2.4.5.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



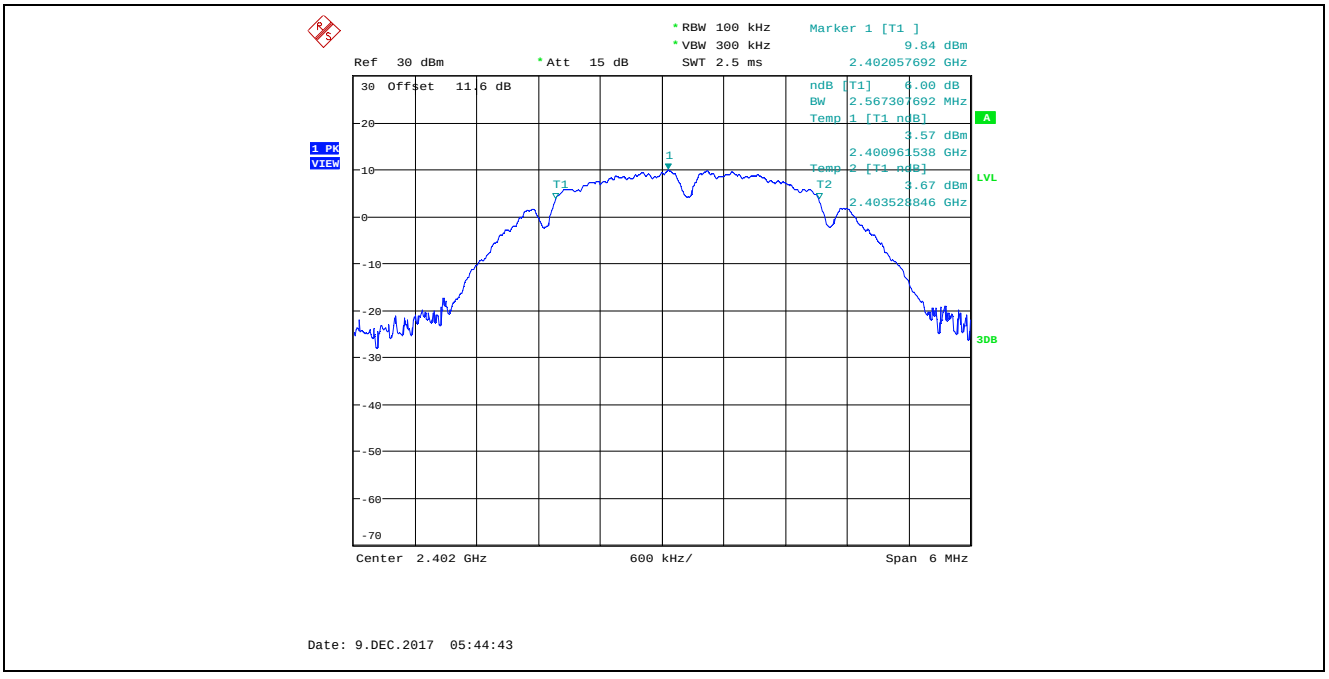

**Plot 5.2.4.6.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



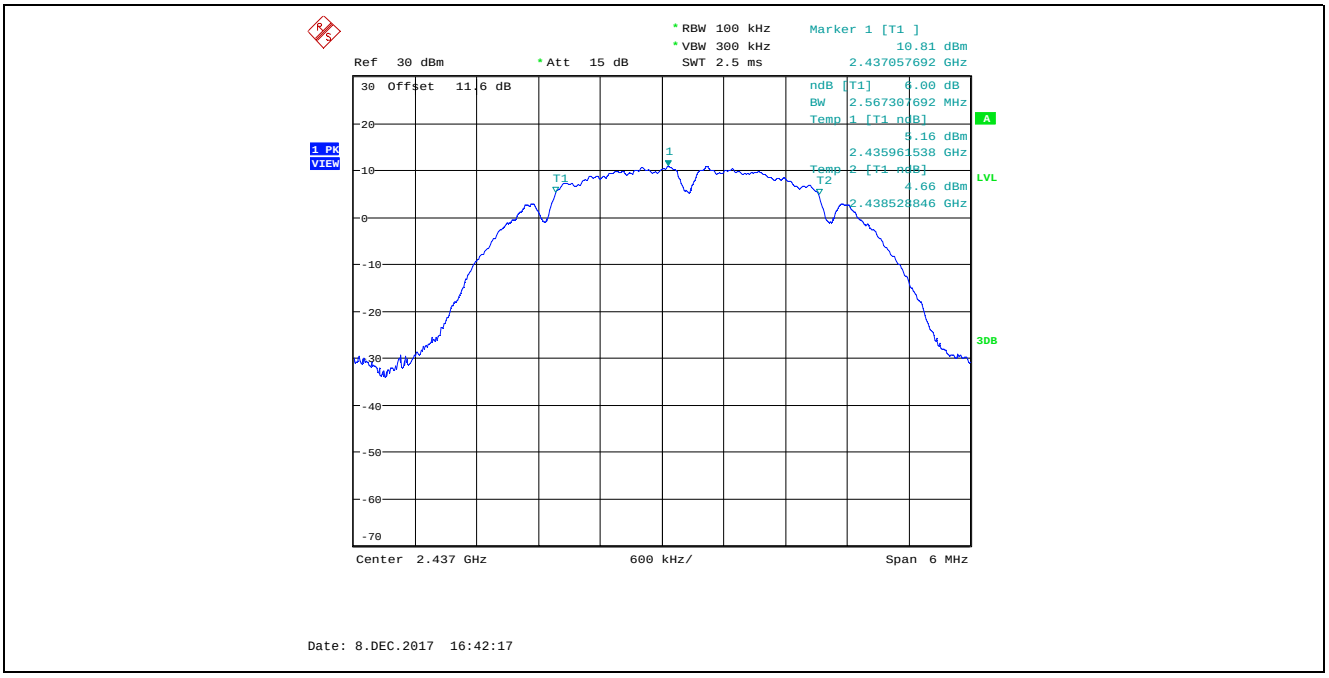
**Plot 5.2.4.7.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 2, 2402 MHz



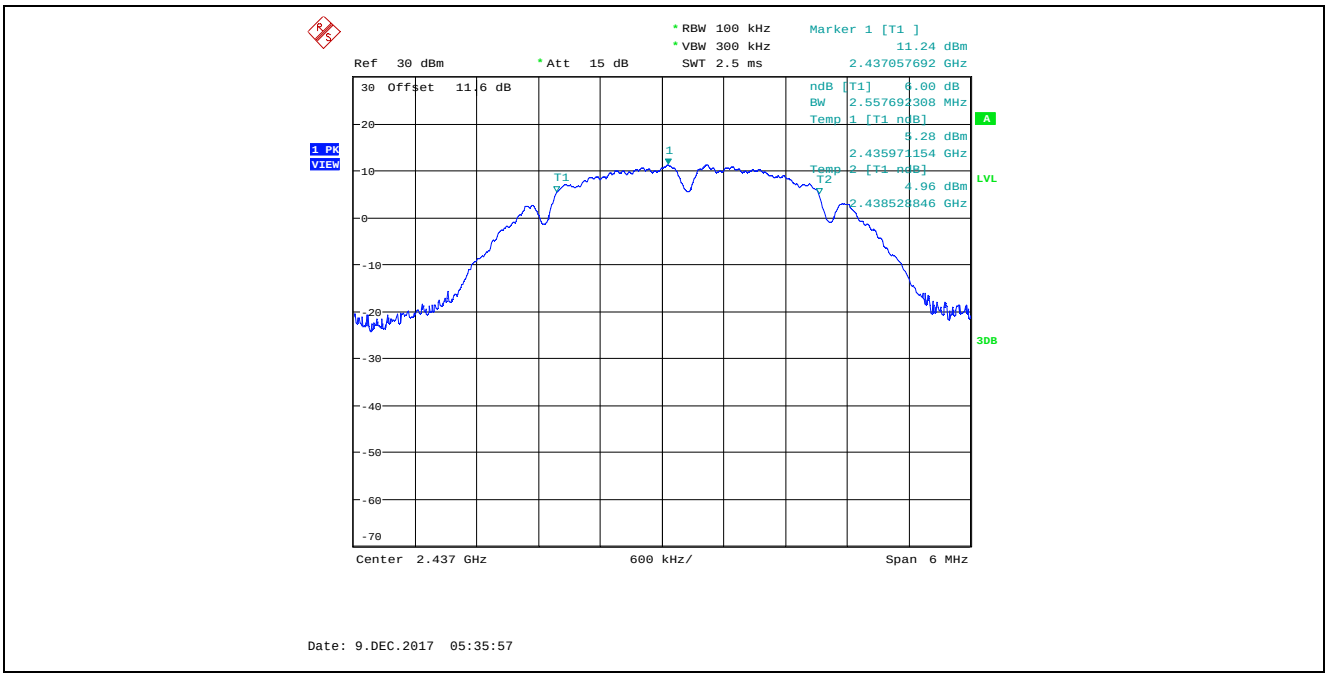

**Plot 5.2.4.8.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 2, 2402 MHz



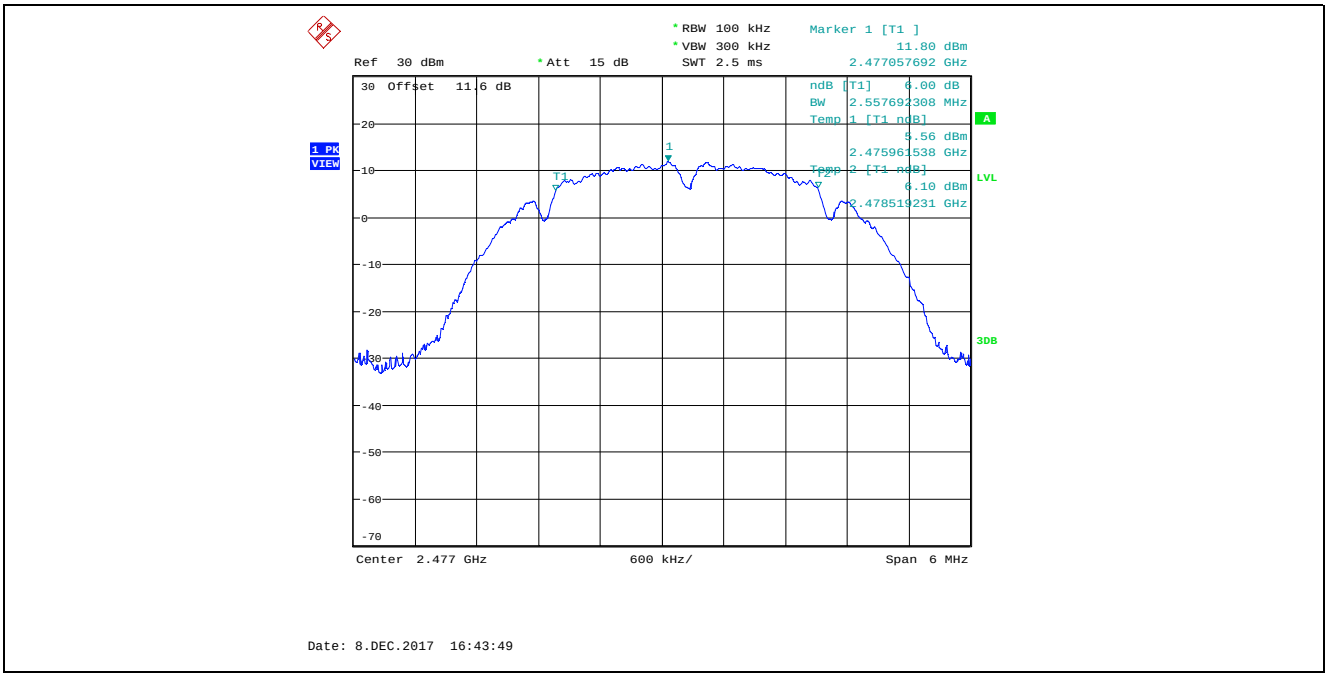
**Plot 5.2.4.9.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



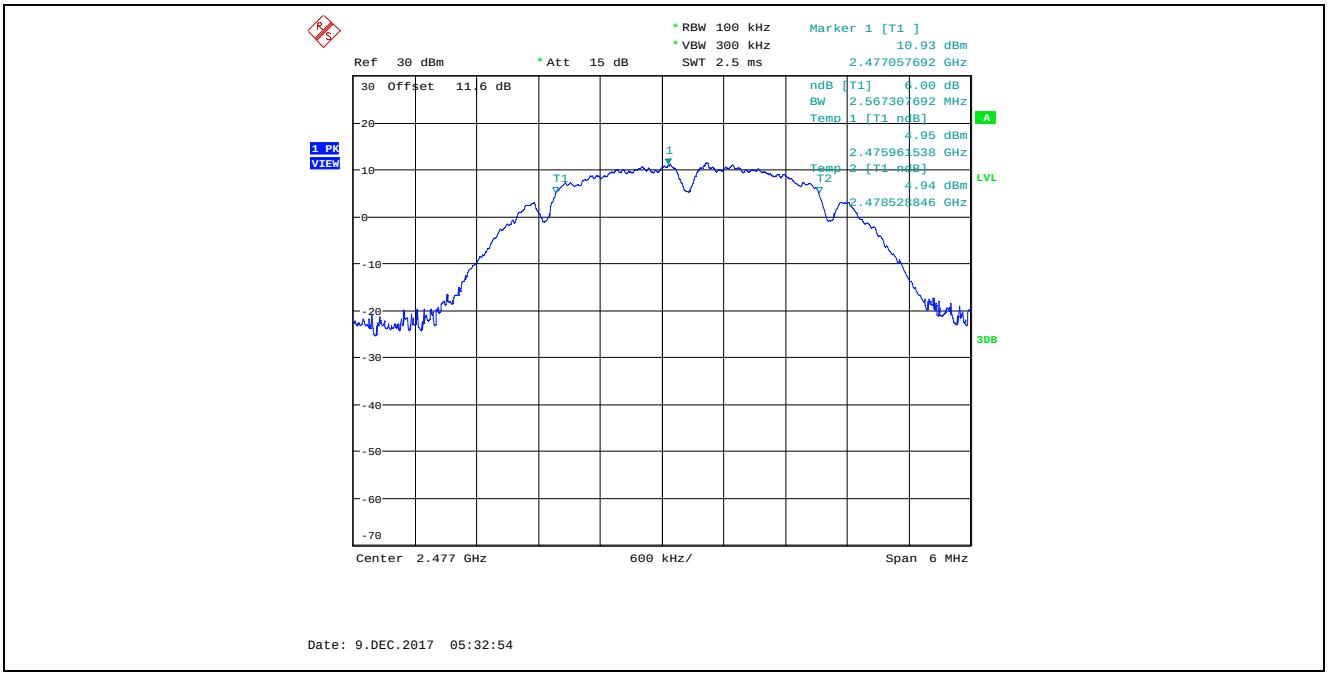

**Plot 5.2.4.10.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



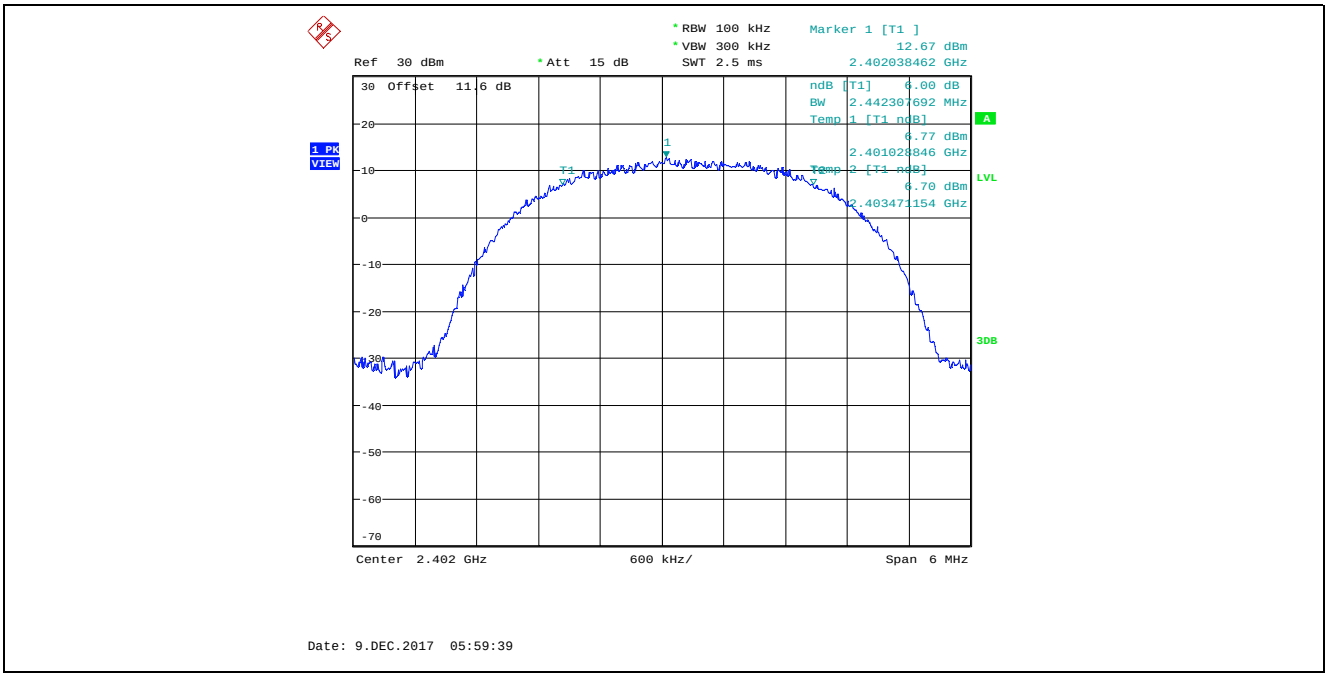
**Plot 5.2.4.11.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



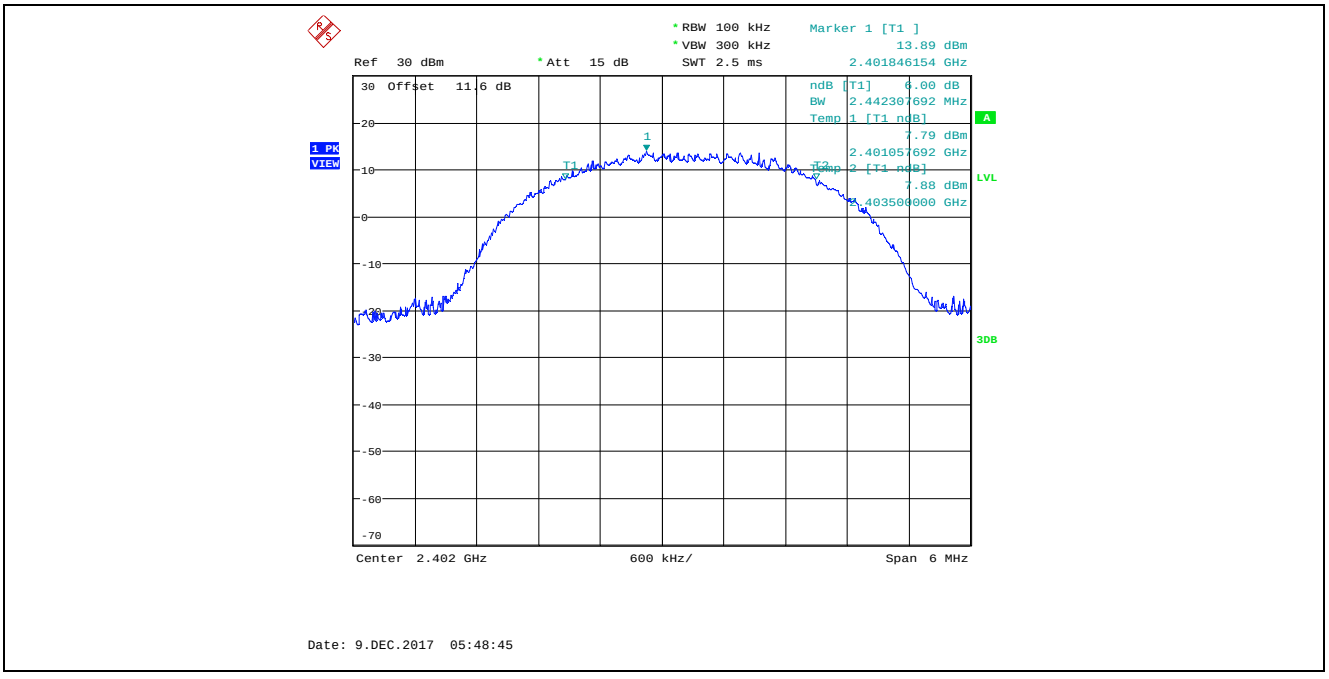

**Plot 5.2.4.12.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



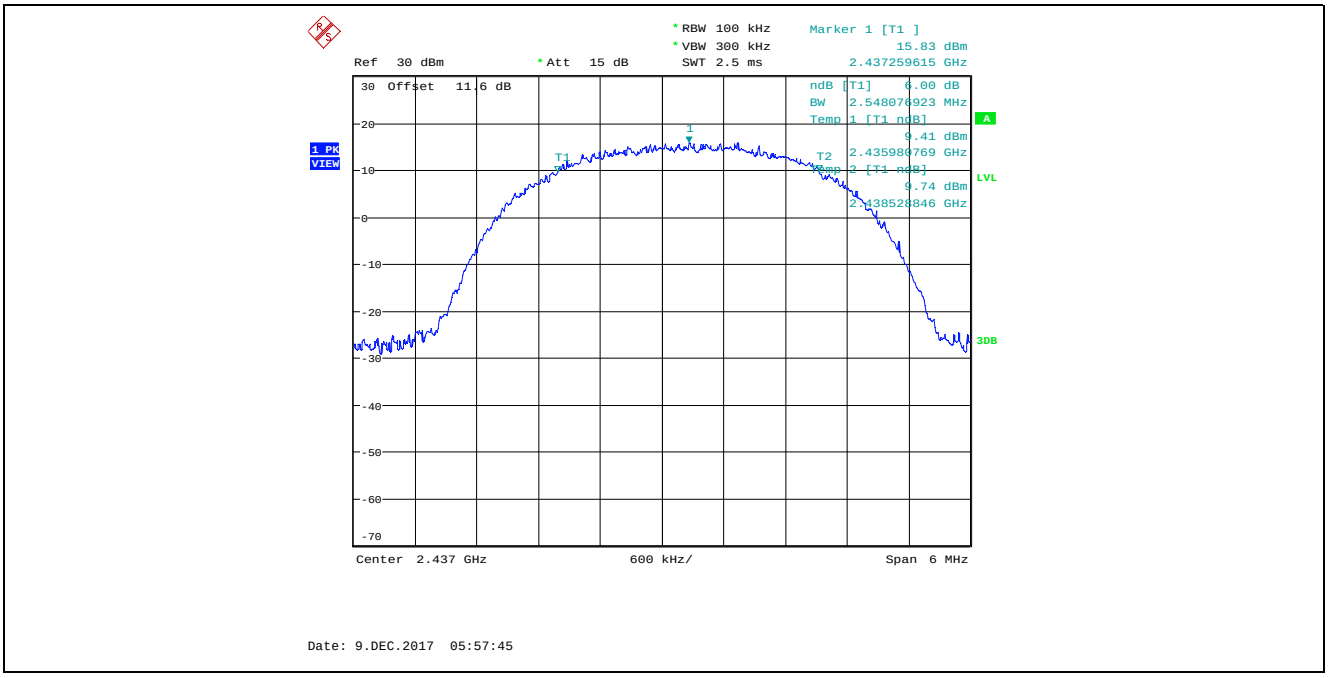
**Plot 5.2.4.13.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 3, 2402 MHz



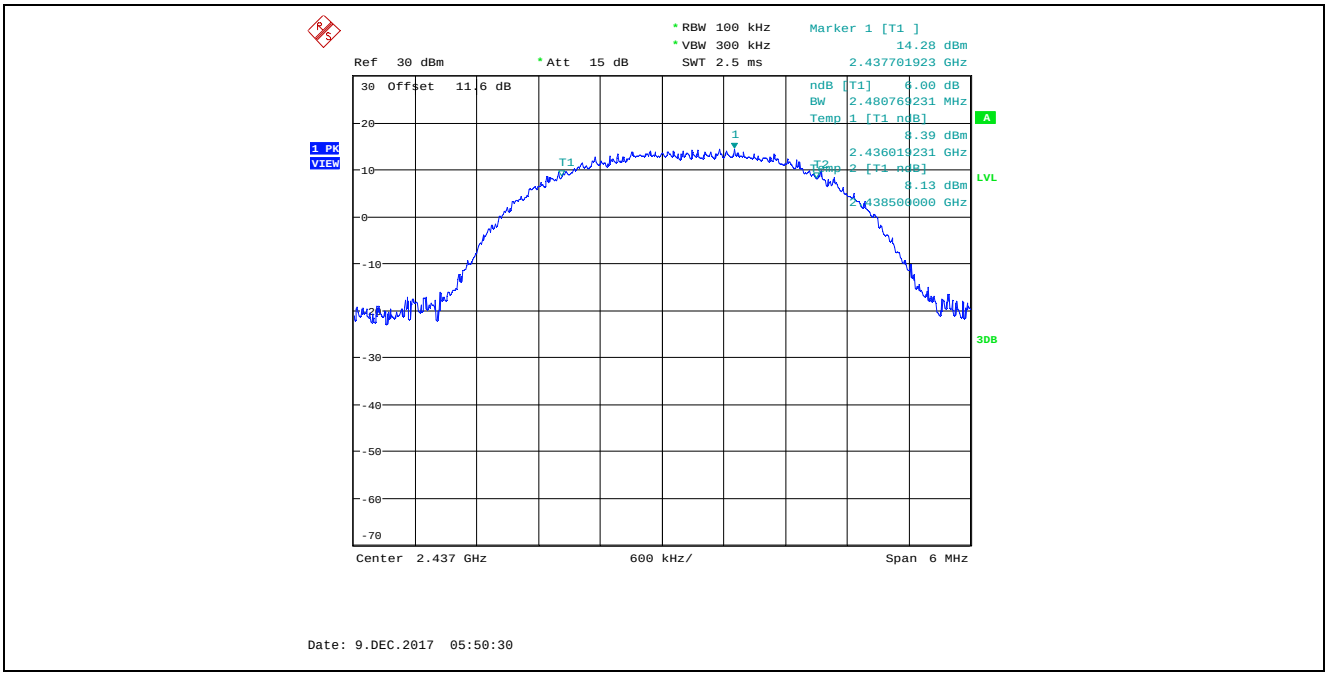

**Plot 5.2.4.14.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 3, 2402 MHz



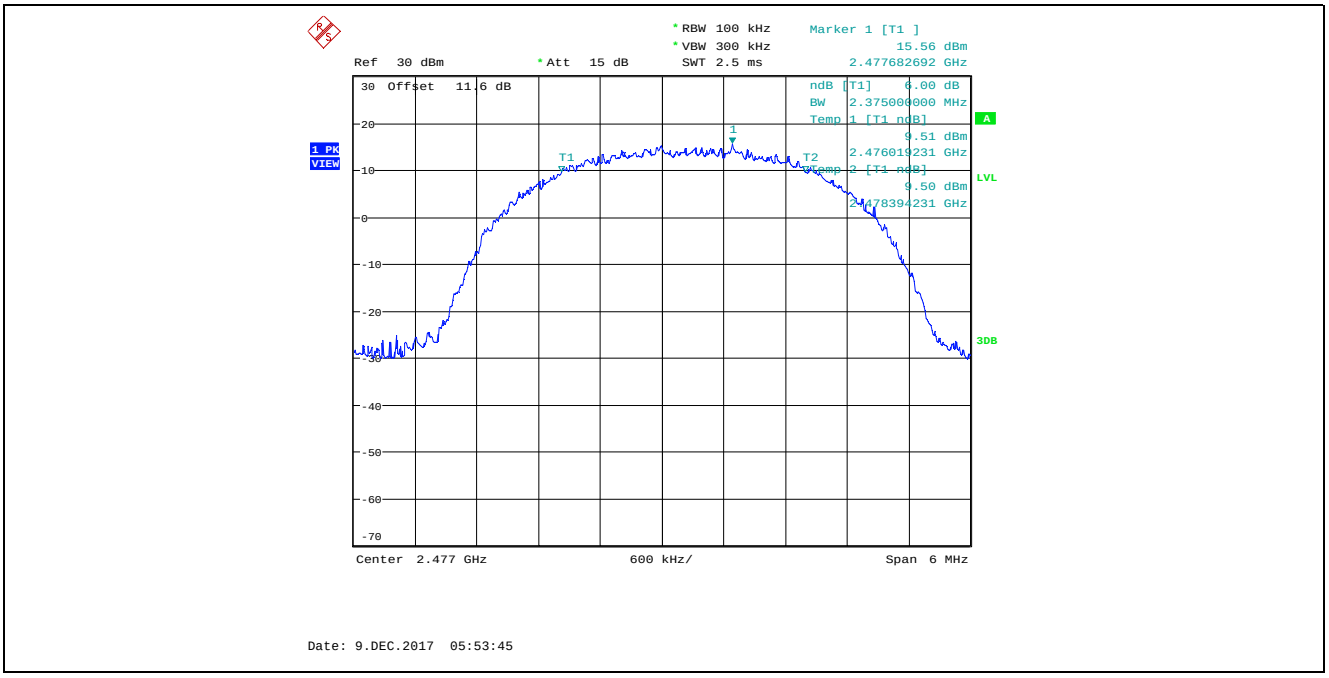
**Plot 5.2.4.15.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



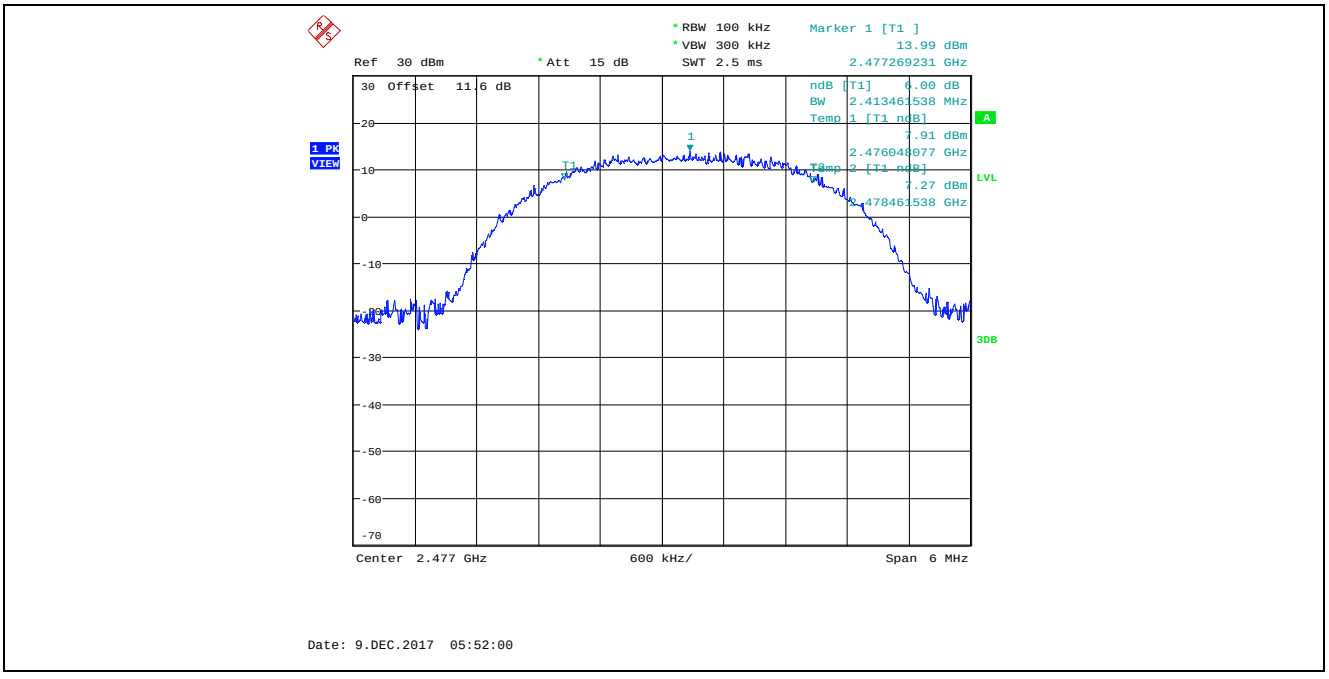

**Plot 5.2.4.16.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



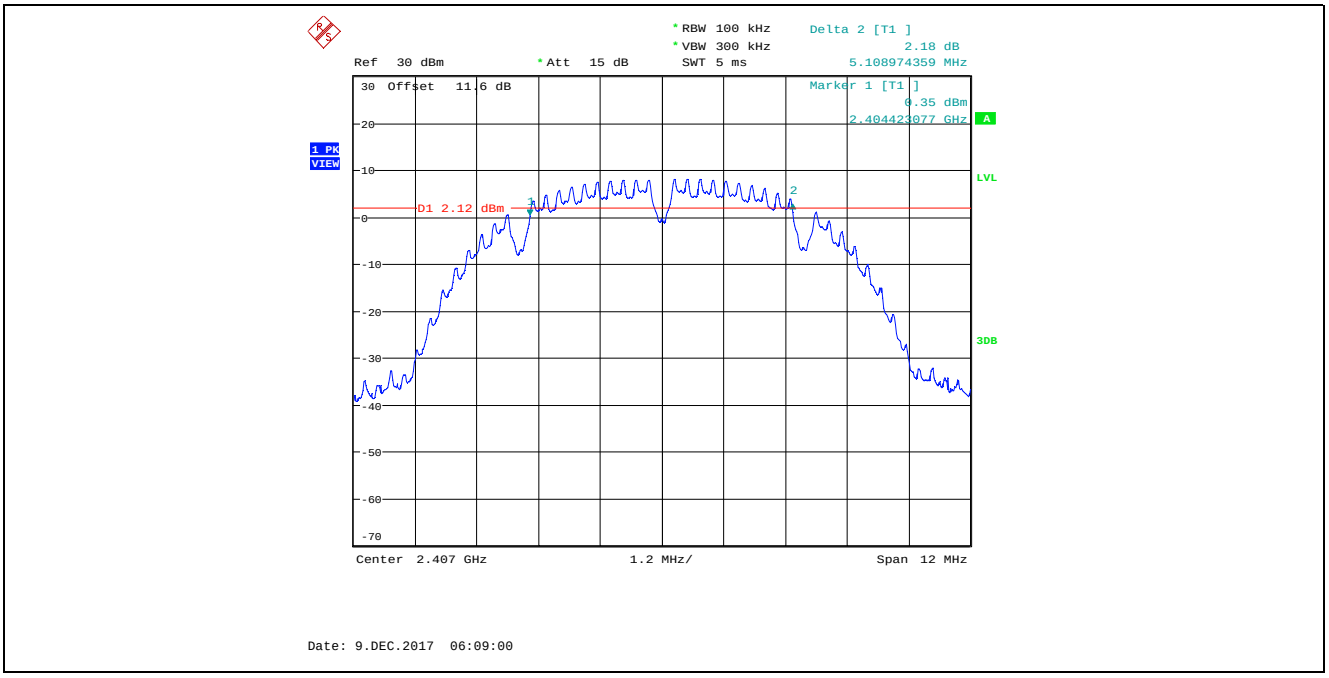
**Plot 5.2.4.17.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



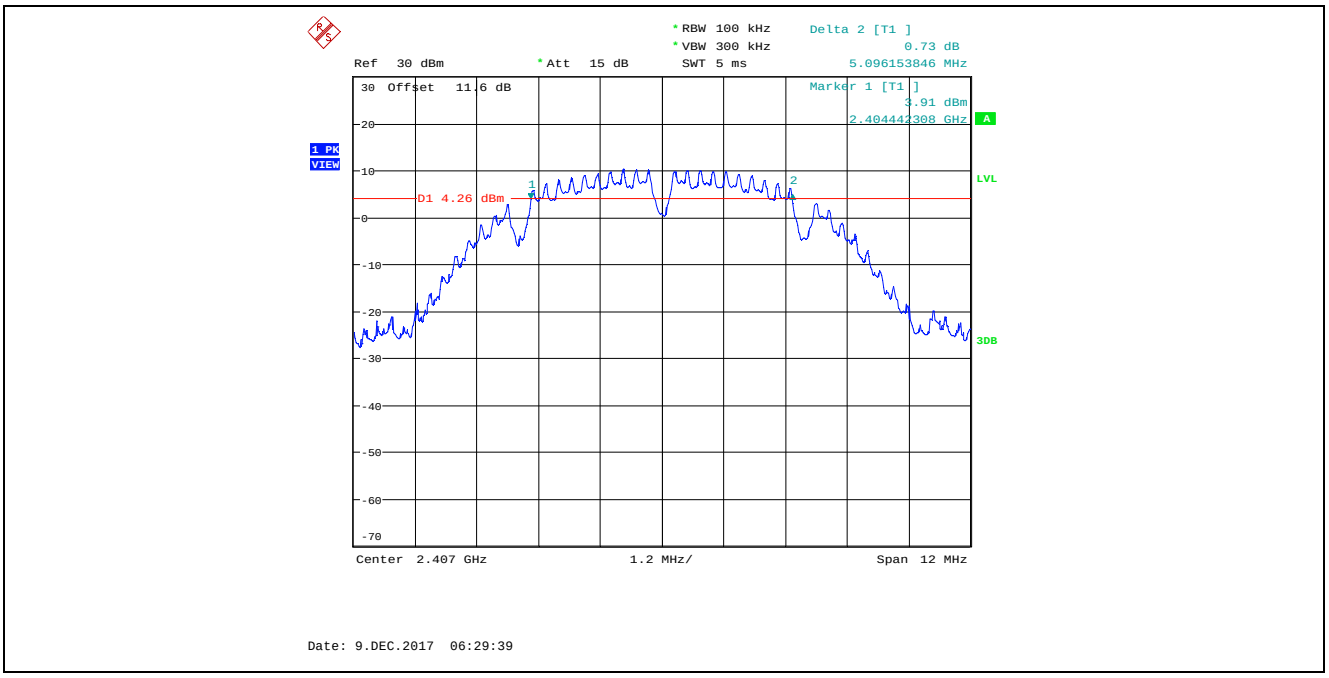

**Plot 5.2.4.18.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



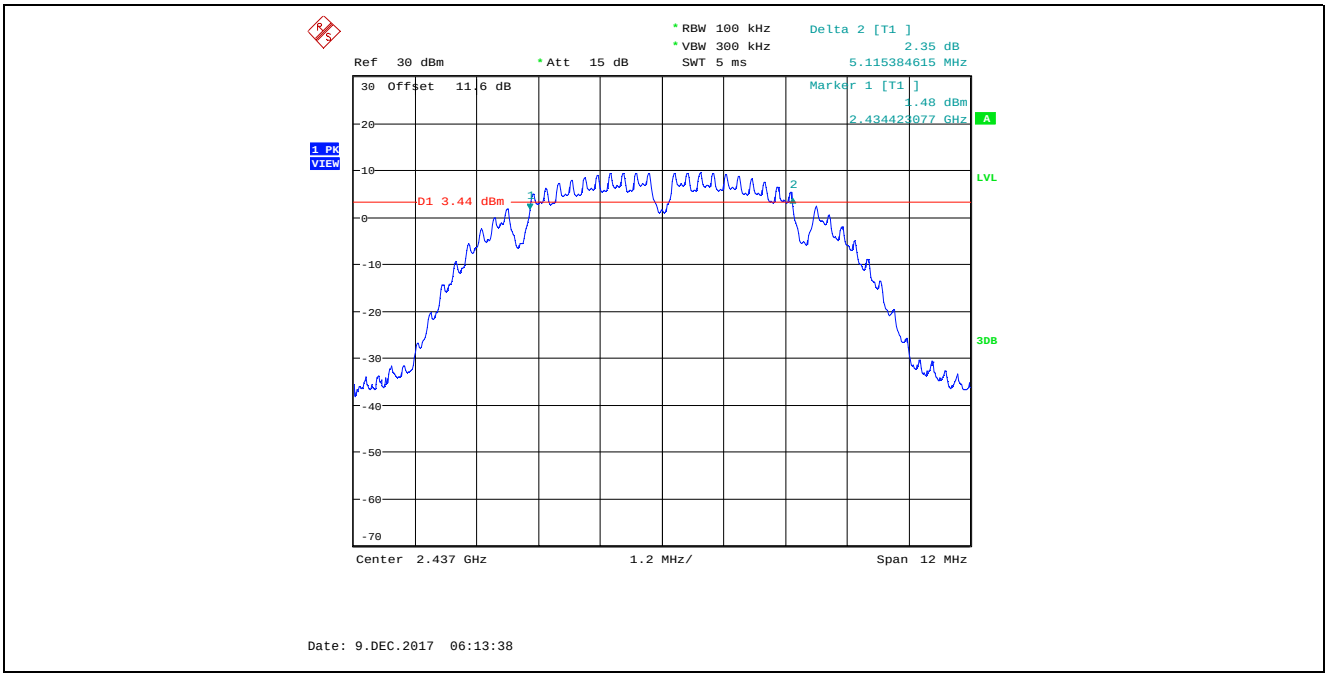
**Plot 5.2.4.19.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 1, 2407 MHz



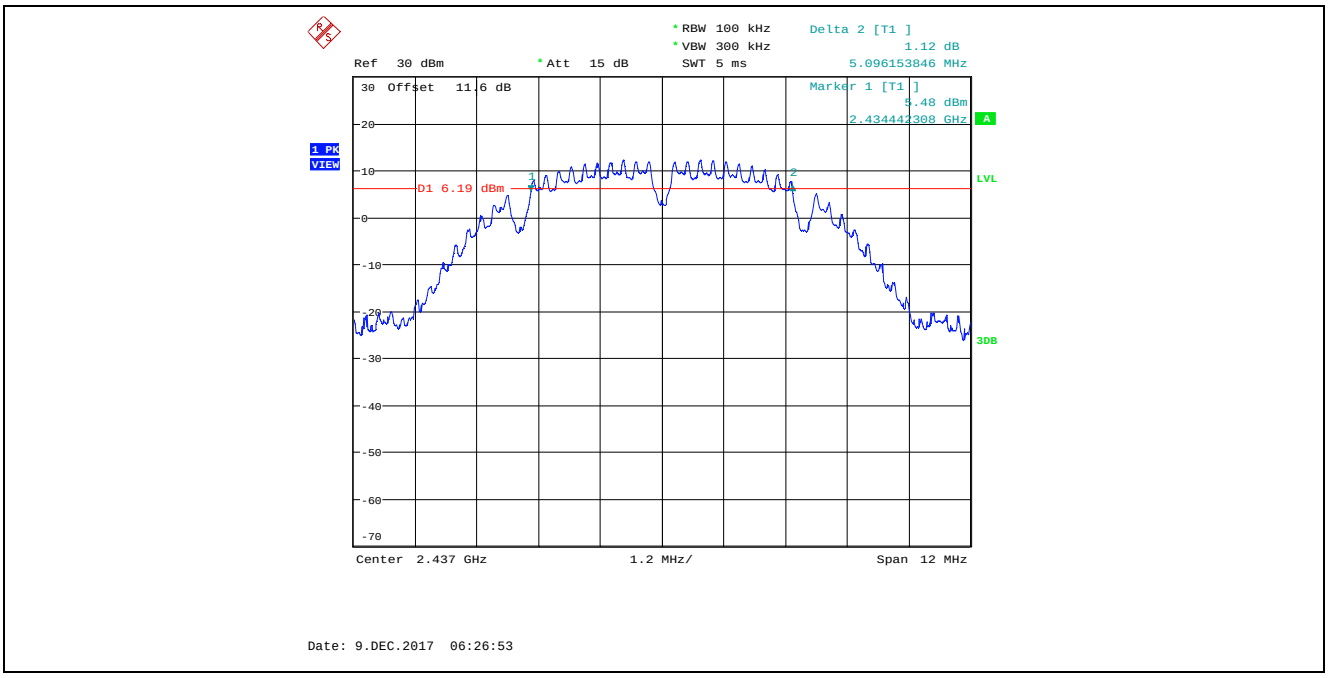

**Plot 5.2.4.20.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 1, 2407 MHz



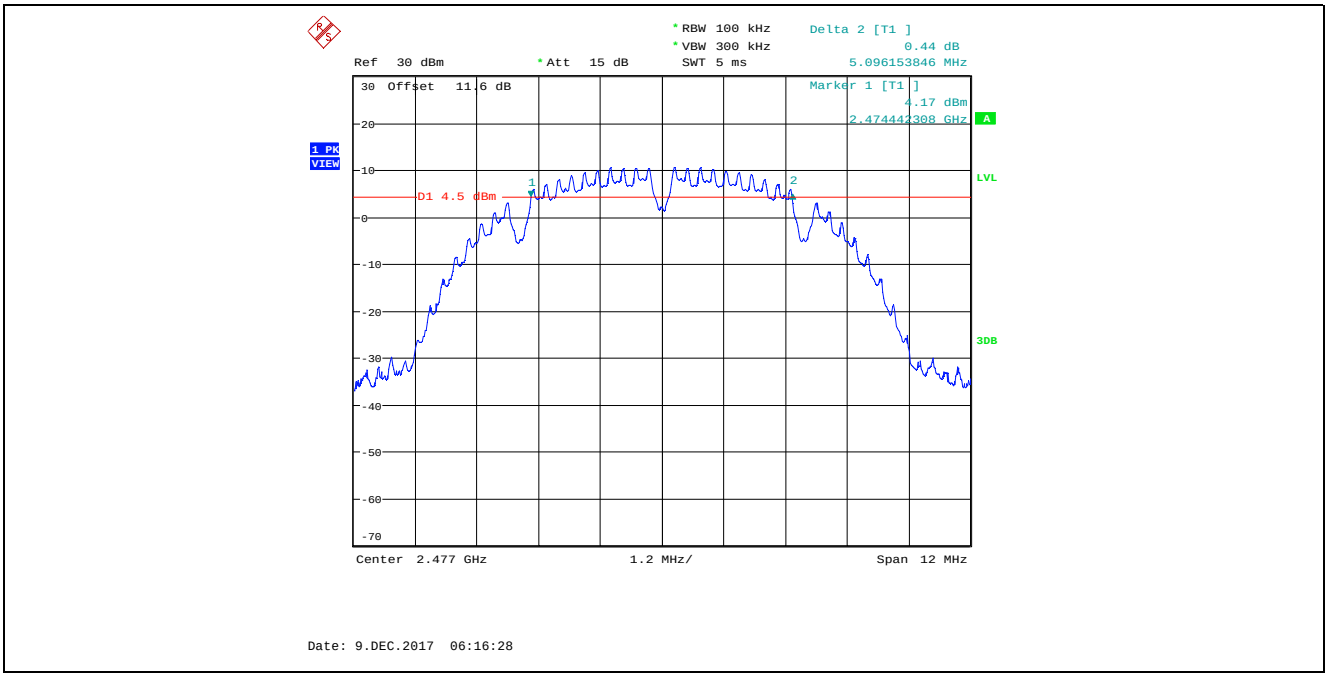
**Plot 5.2.4.21.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



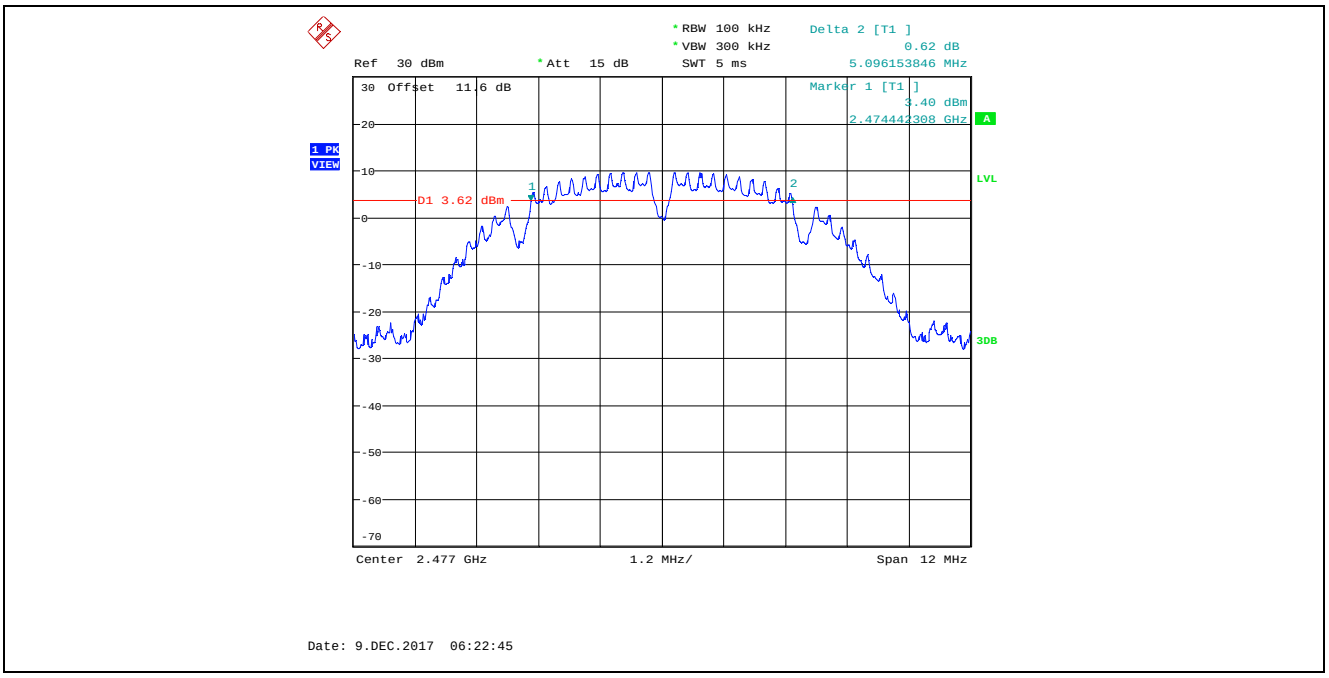

**Plot 5.2.4.22.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



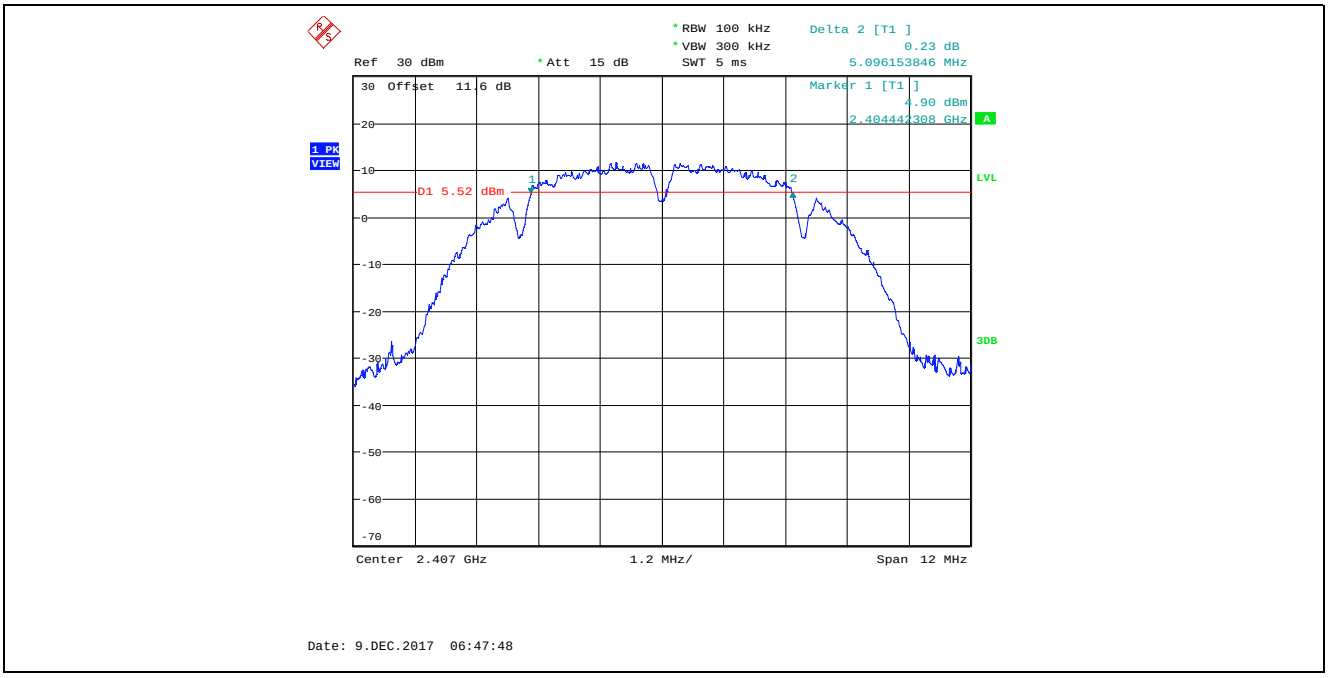
**Plot 5.2.4.23.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



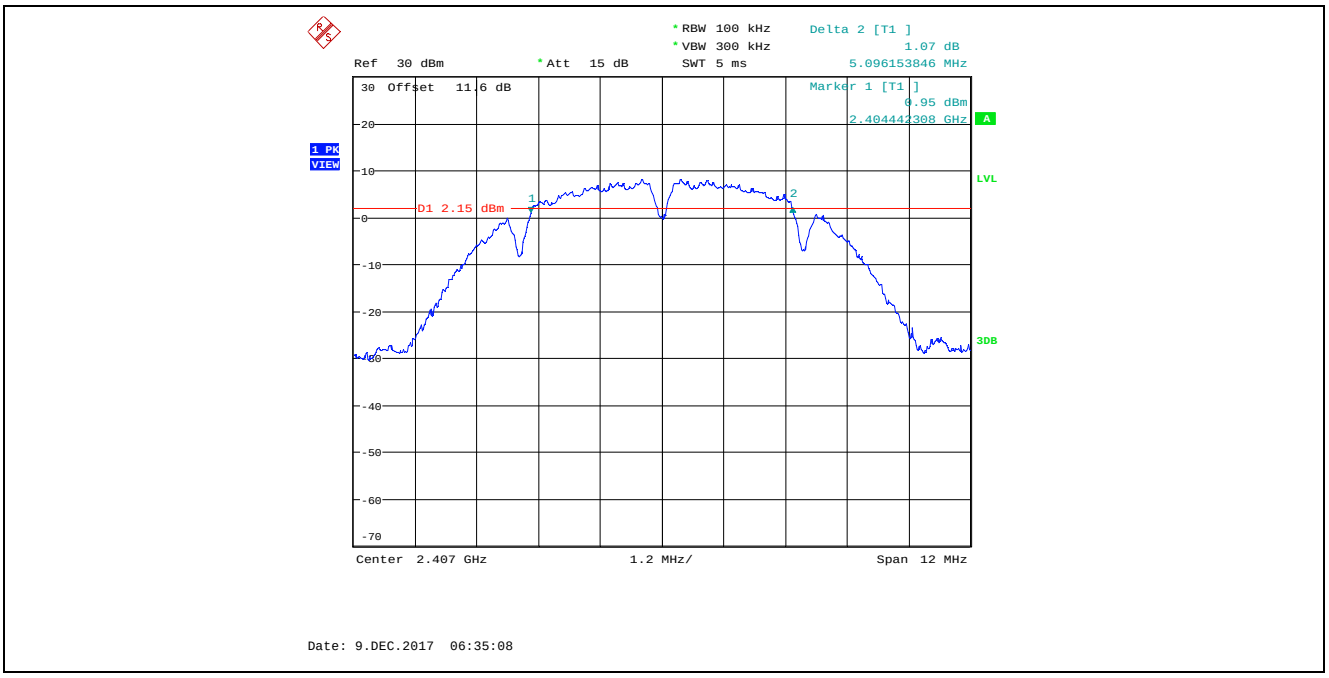

**Plot 5.2.4.24.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



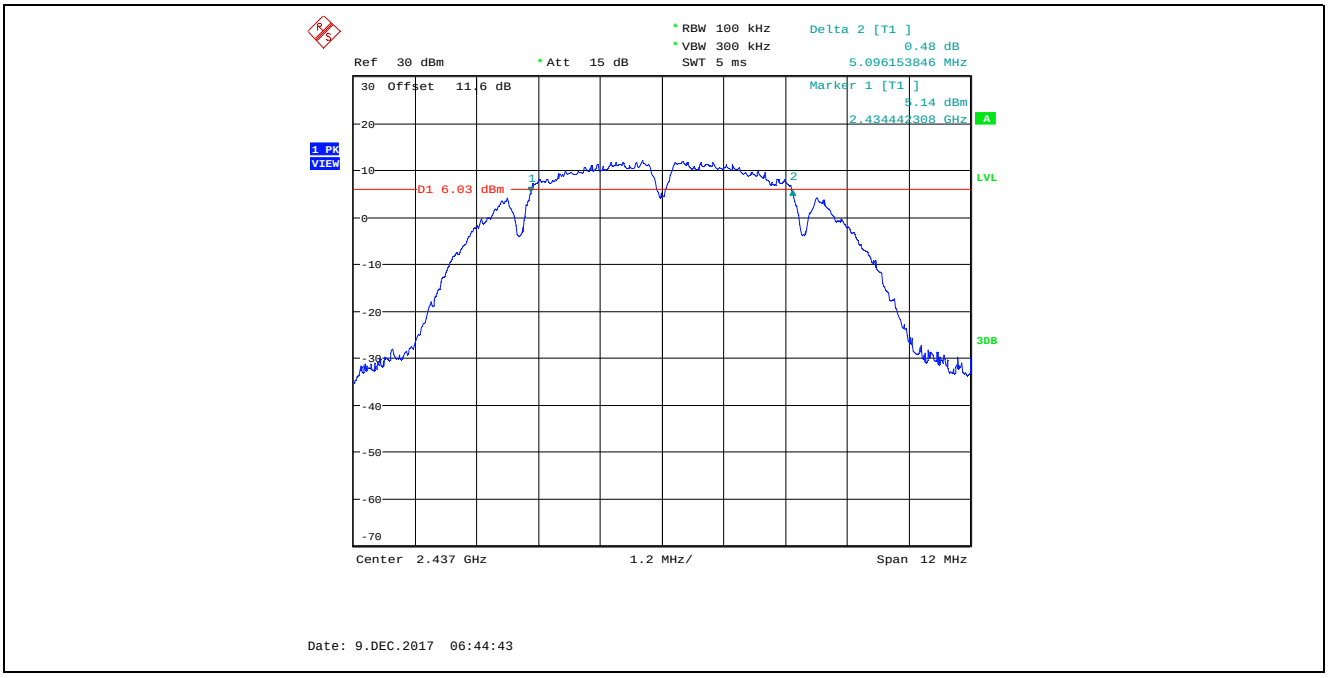
**Plot 5.2.4.25.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2407 MHz



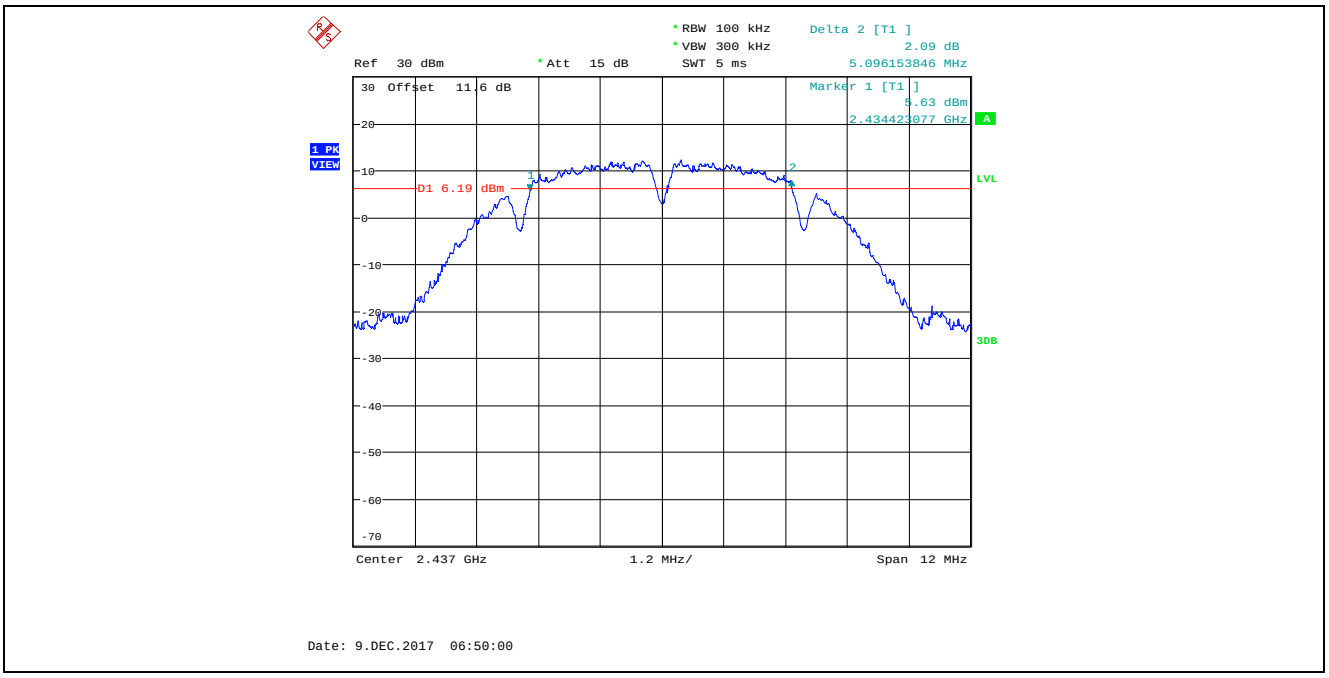

**Plot 5.2.4.26.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2407 MHz



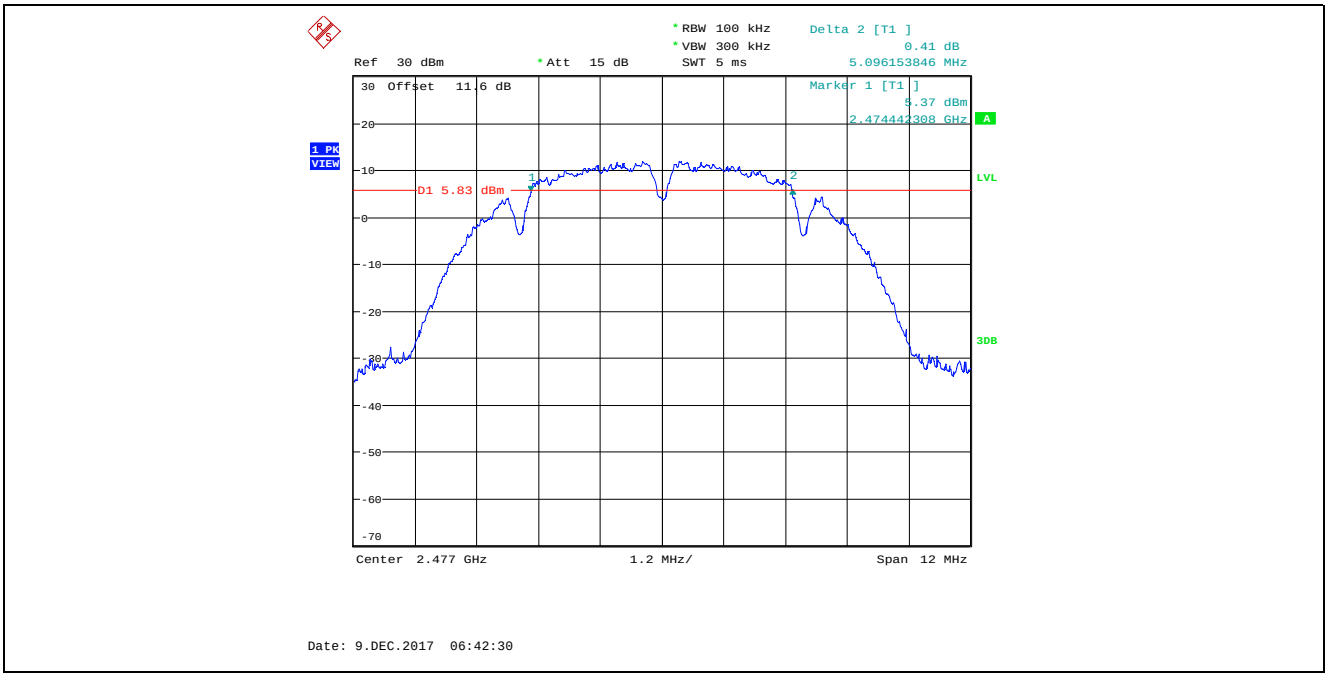
**Plot 5.2.4.27.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



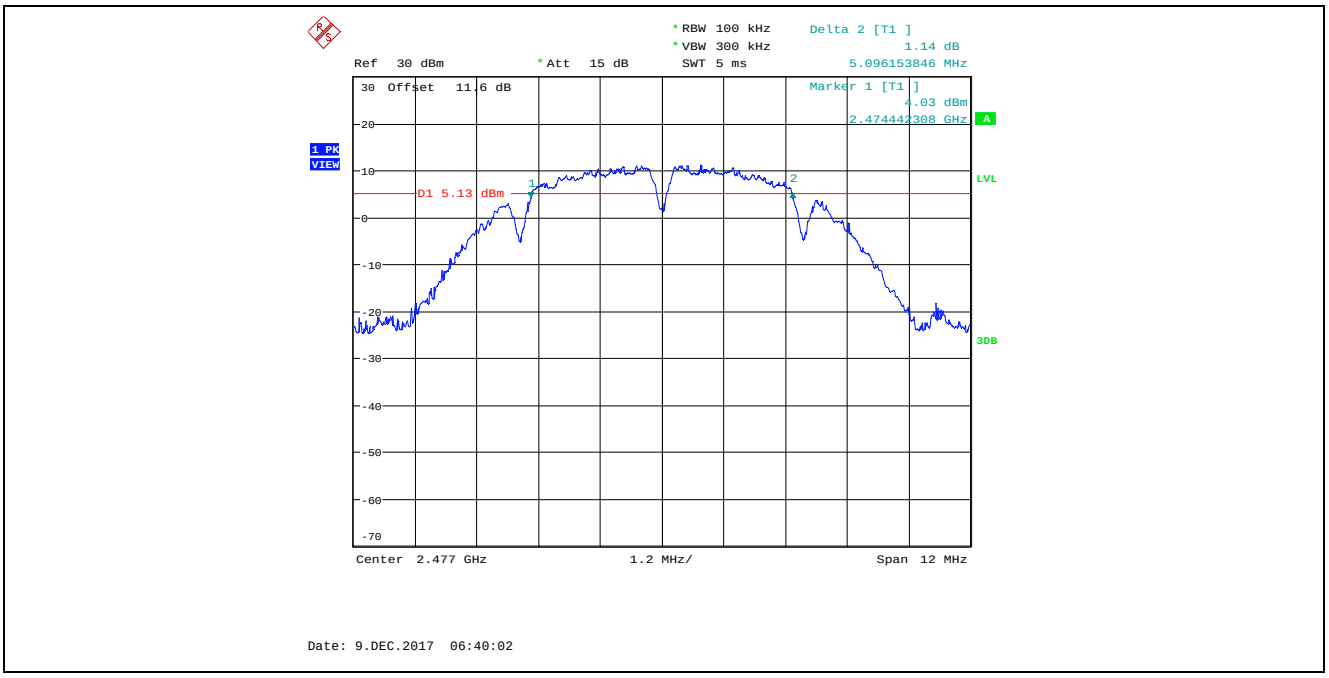

**Plot 5.2.4.28.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



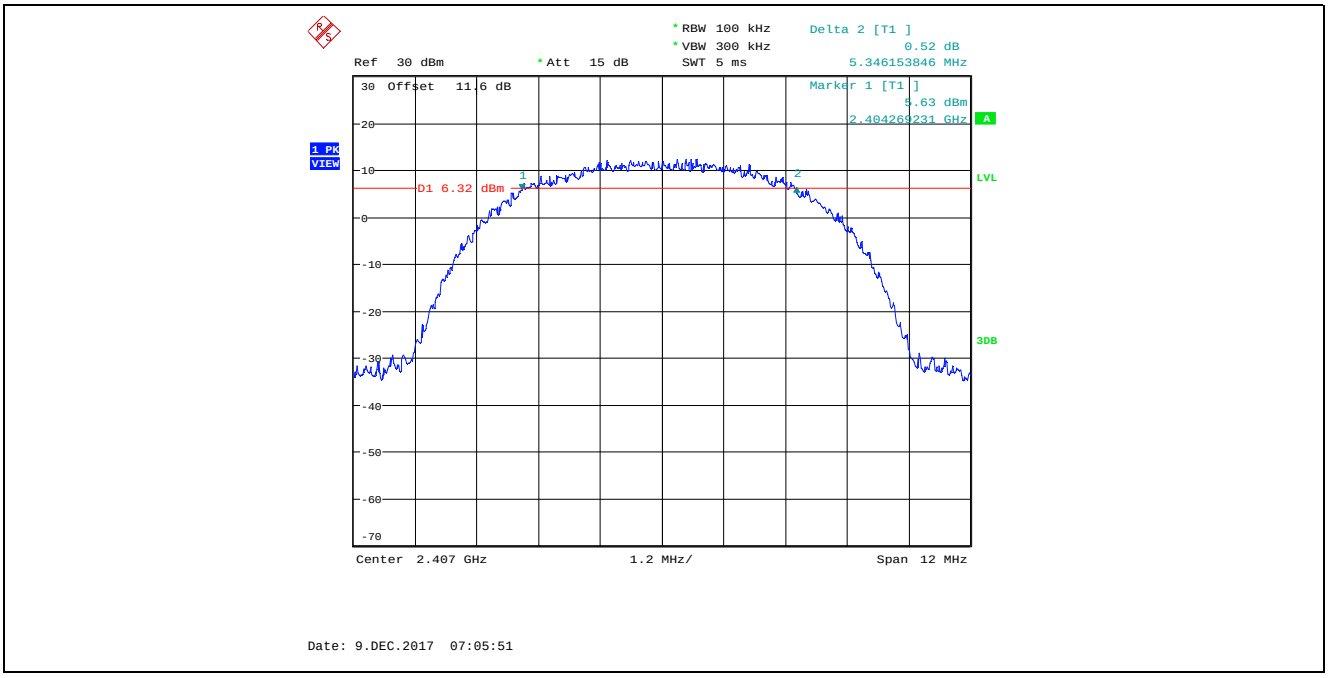
**Plot 5.2.4.29.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



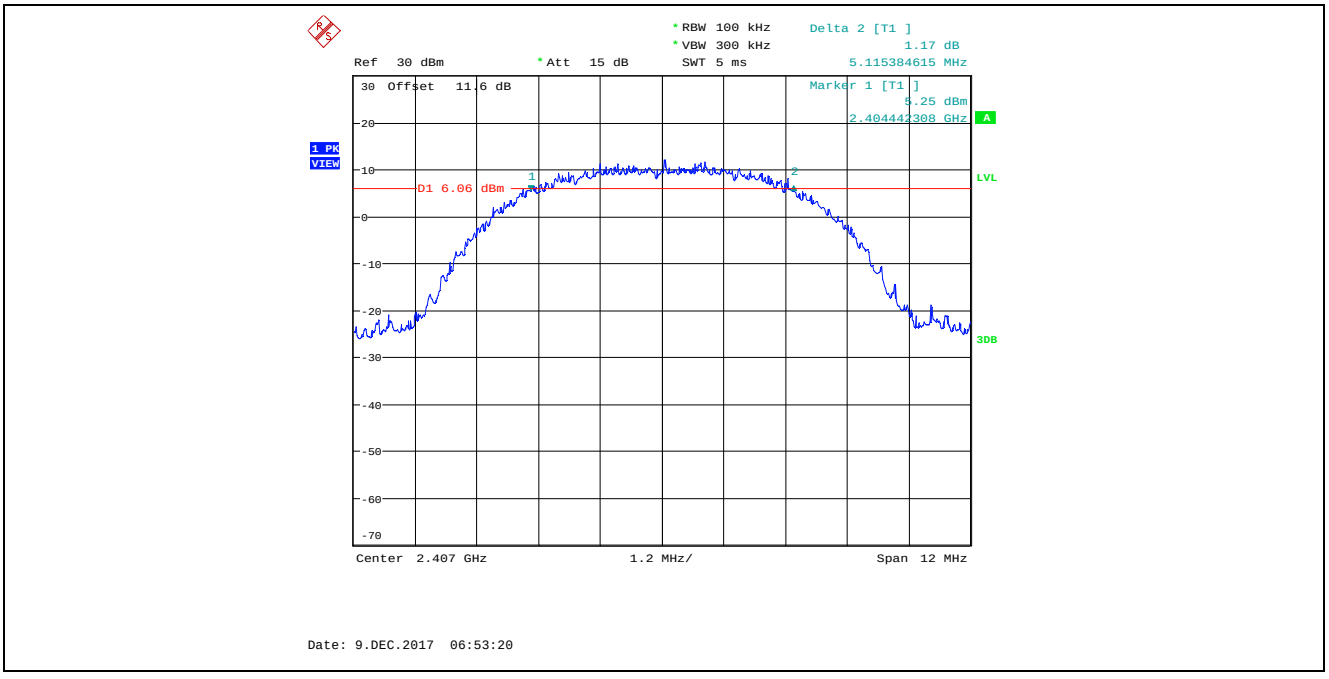

**Plot 5.2.4.30.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



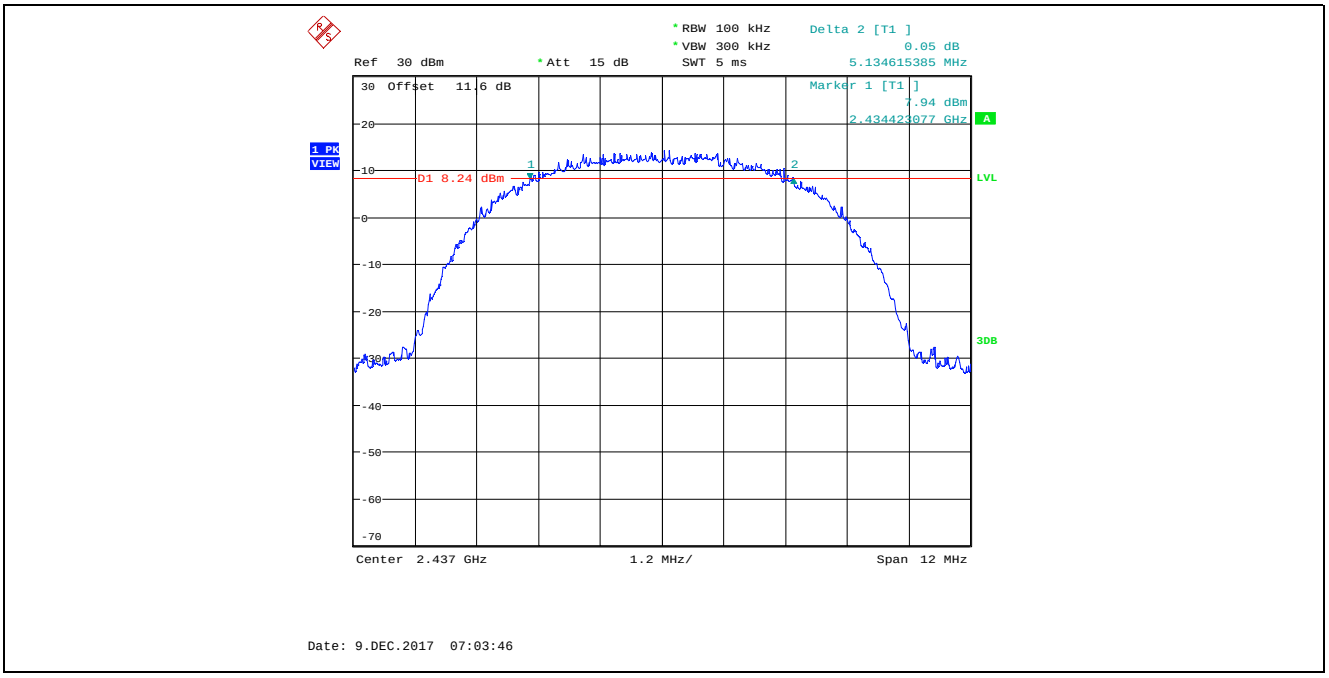
**Plot 5.2.4.31.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 3, 2407 MHz



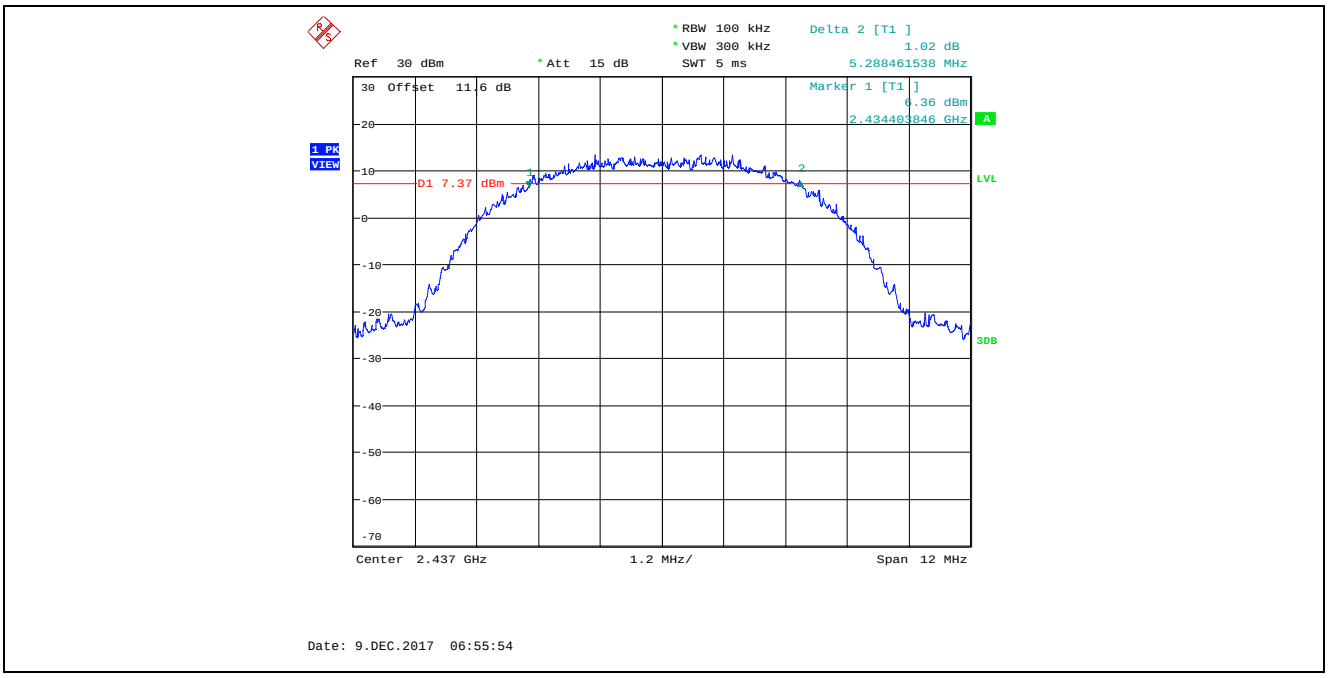

**Plot 5.2.4.32.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 3, 2407 MHz



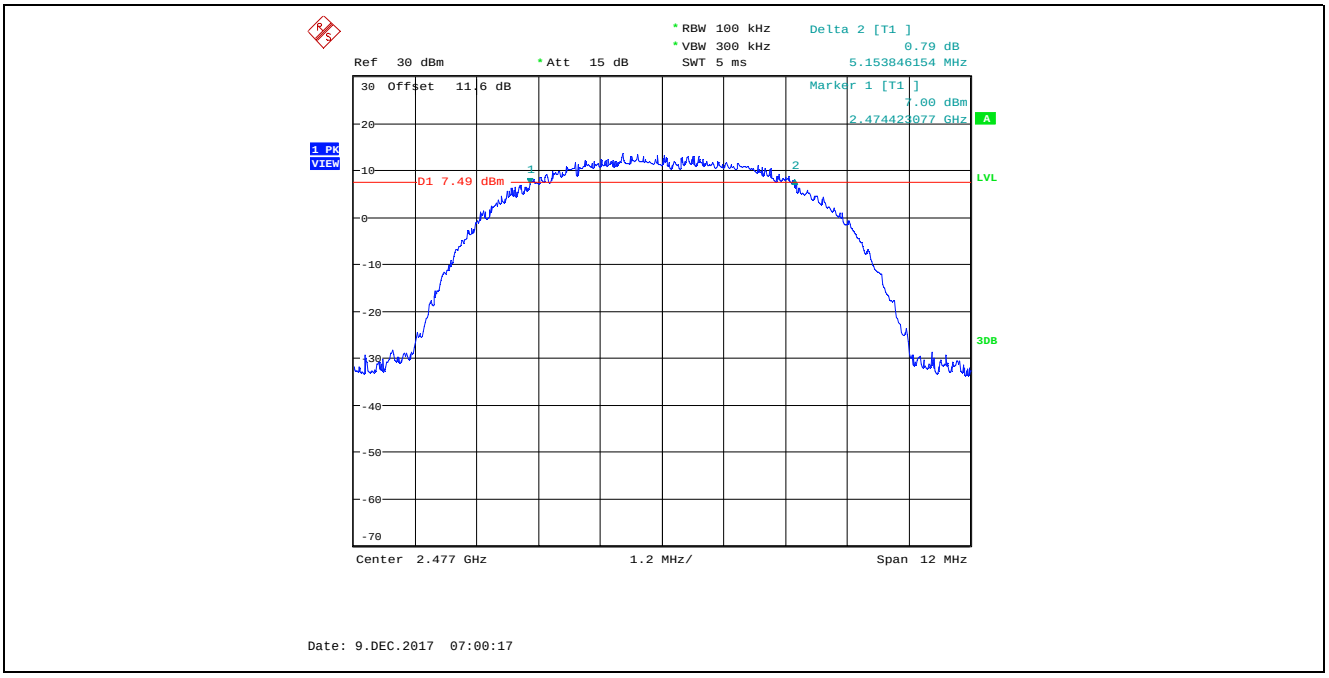
**Plot 5.2.4.33.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



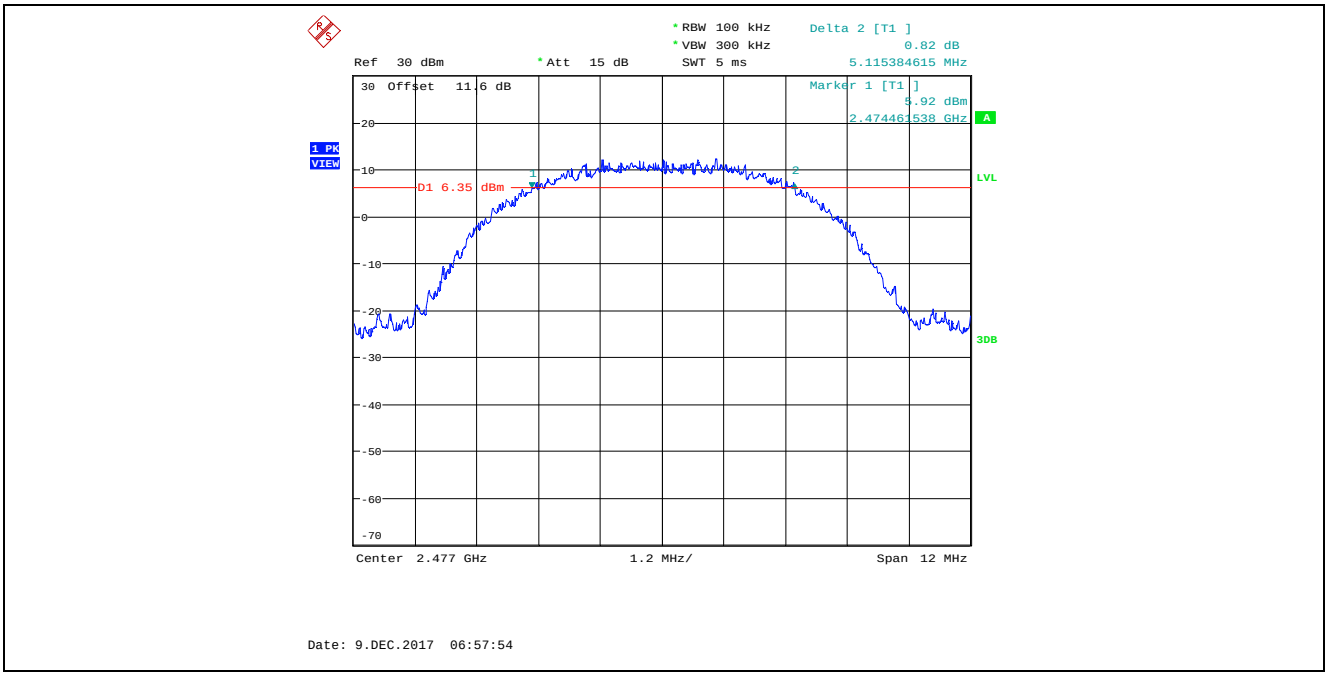

**Plot 5.2.4.34.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



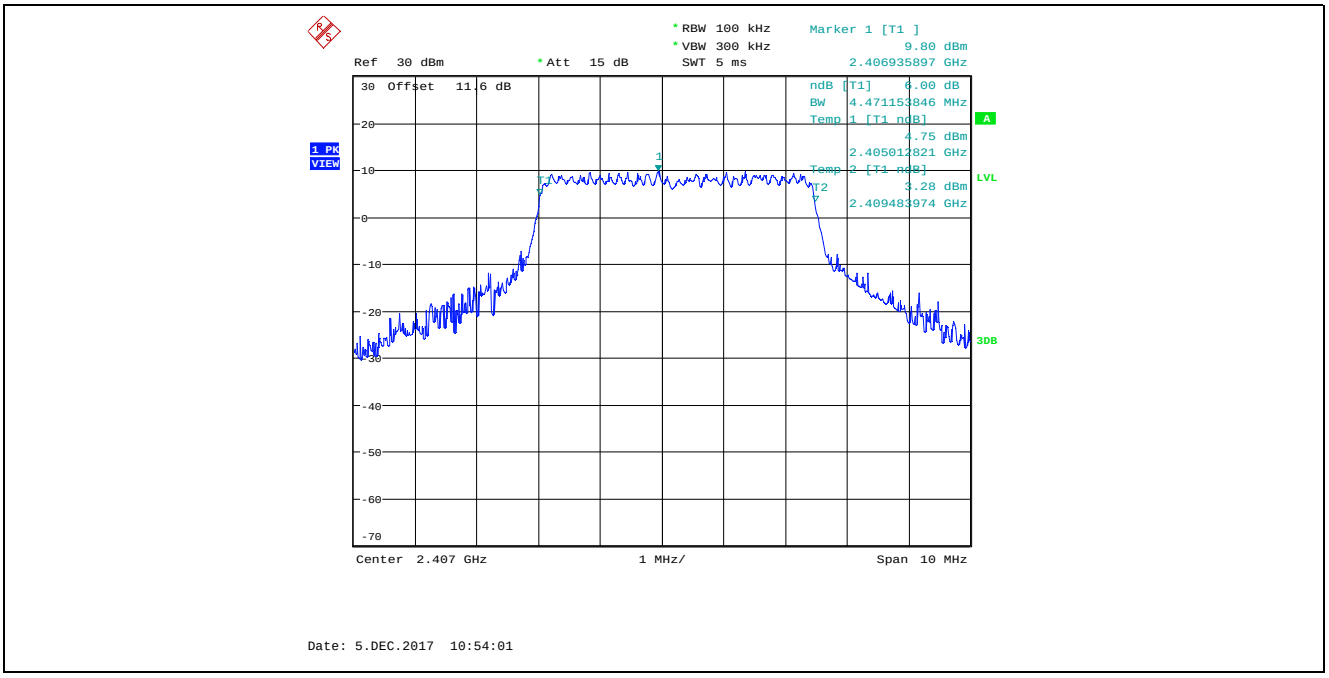
**Plot 5.2.4.35.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



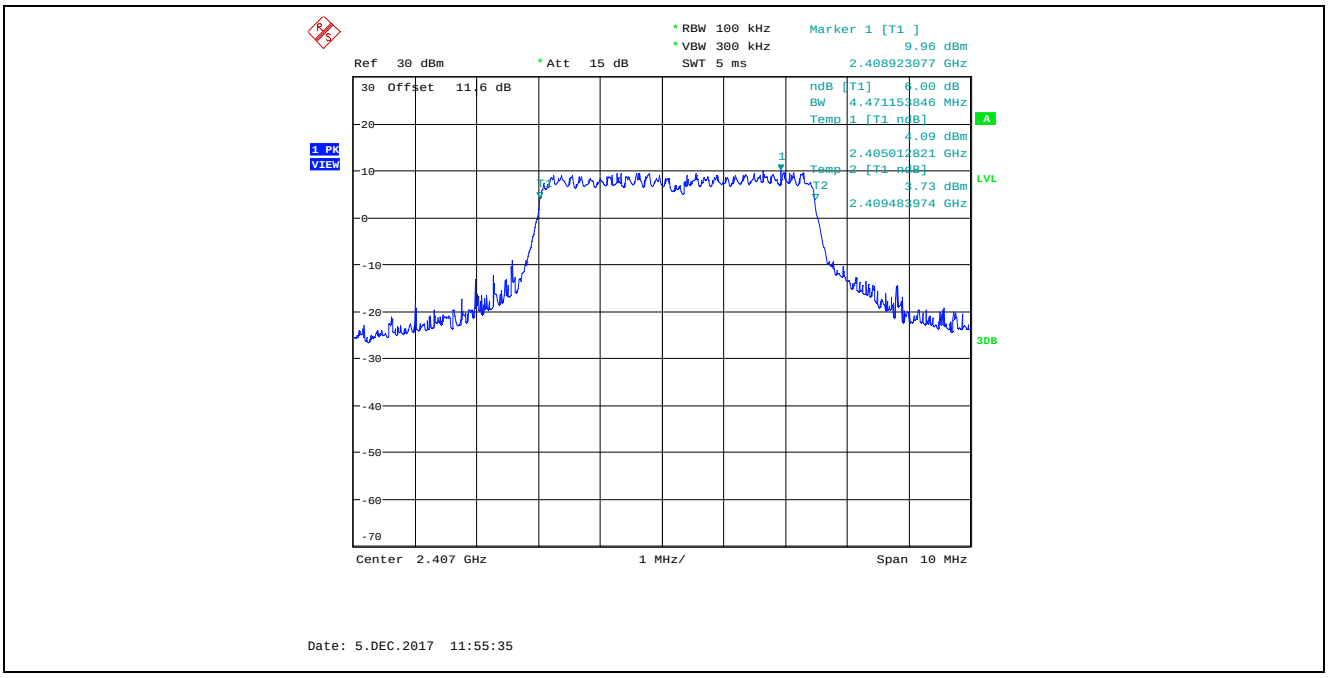

**Plot 5.2.4.36.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



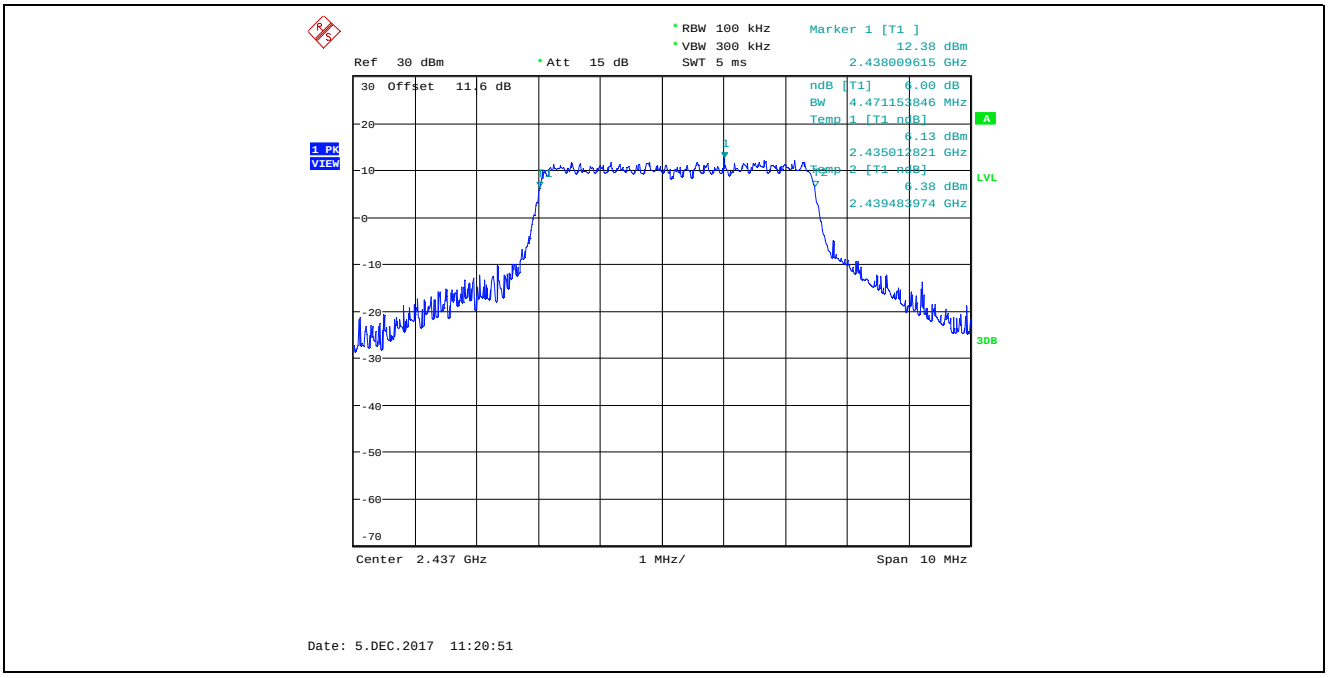
**Plot 5.2.4.37.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



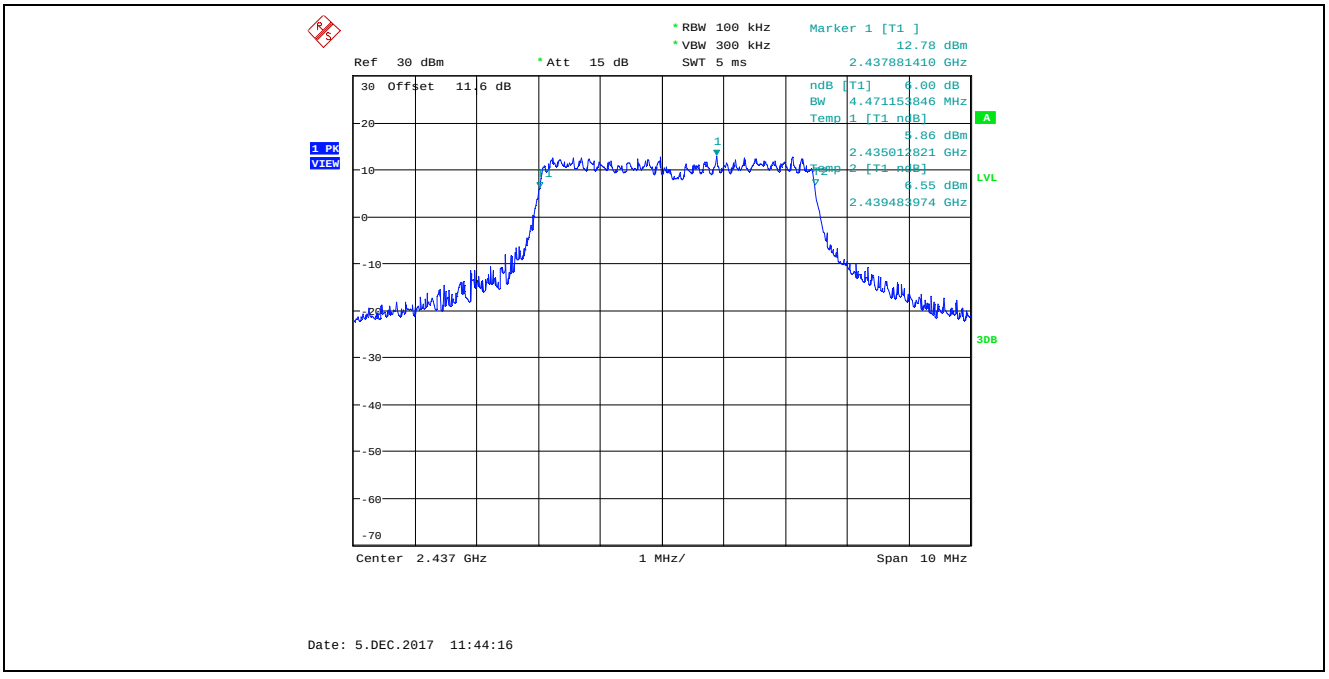

**Plot 5.2.4.38.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



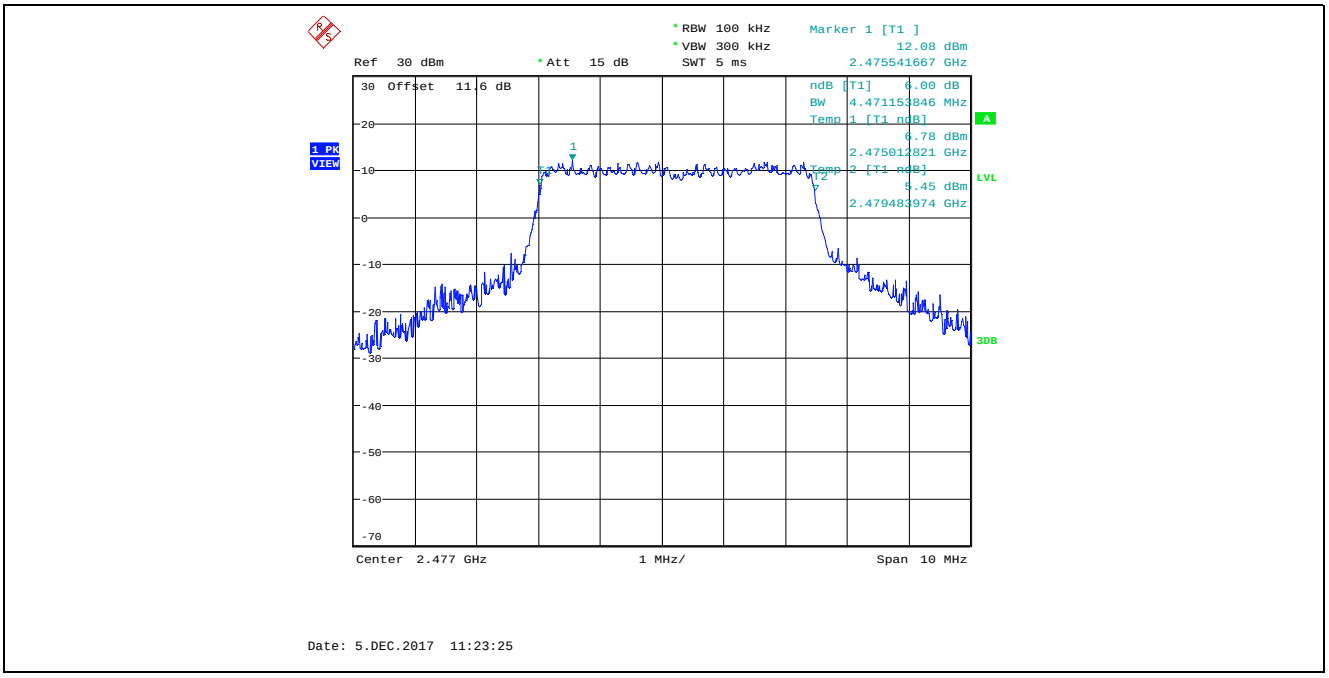
**Plot 5.2.4.39.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



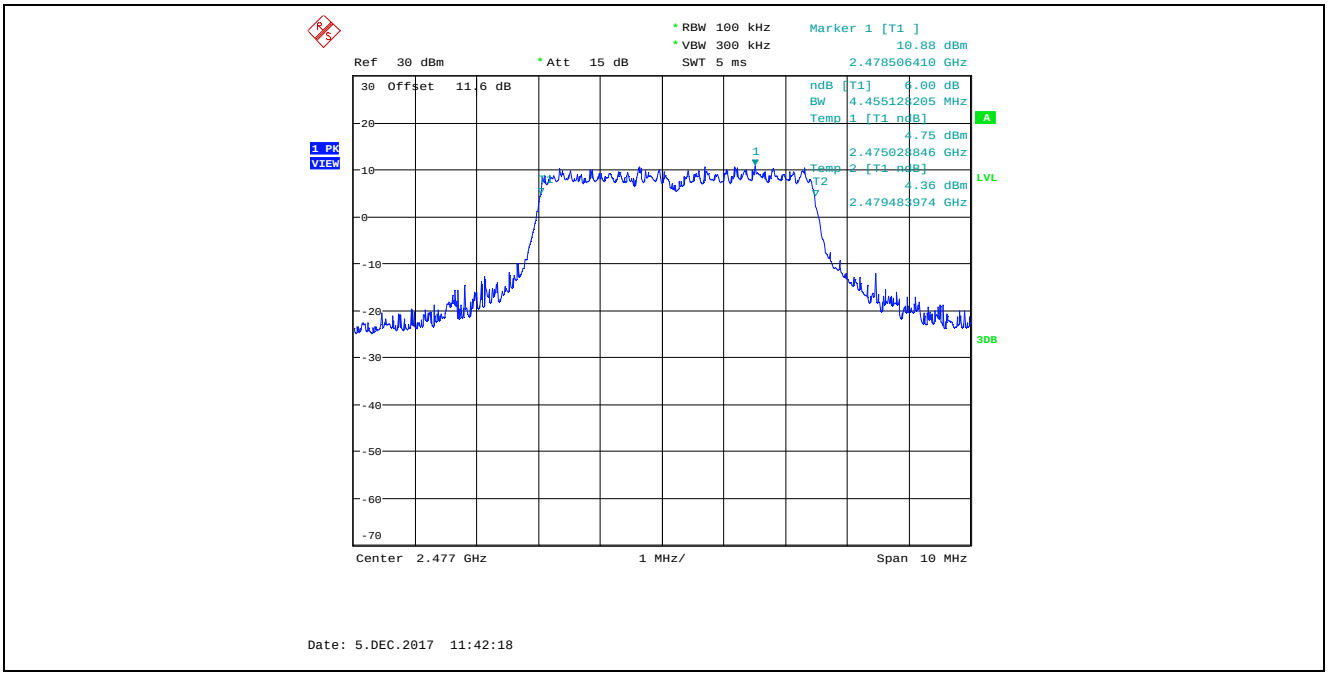

**Plot 5.2.4.40.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



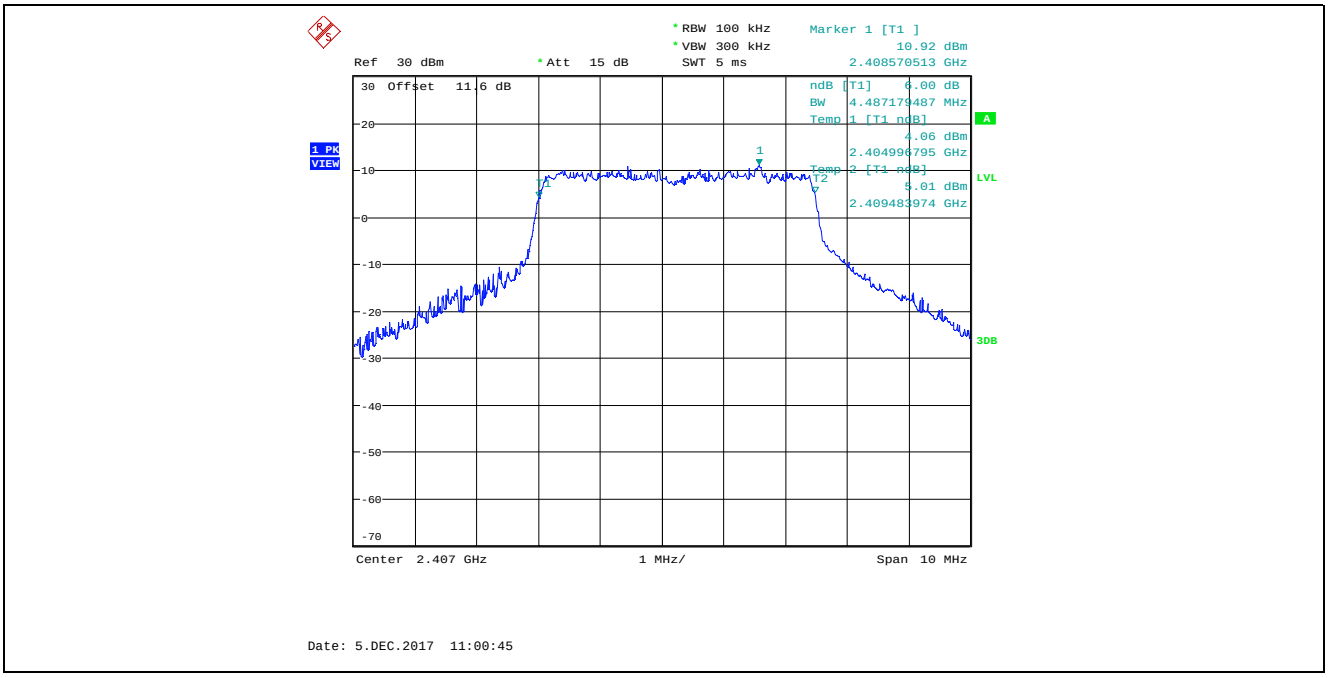
**Plot 5.2.4.41.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



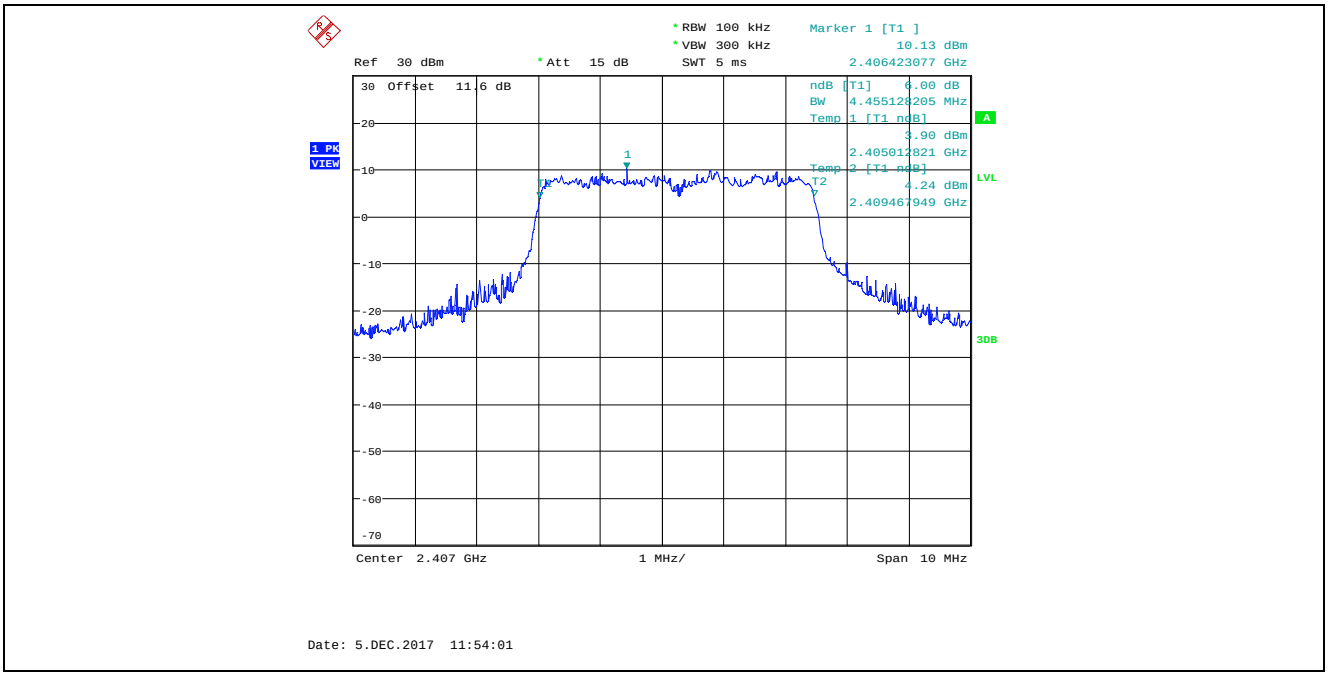

**Plot 5.2.4.42.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



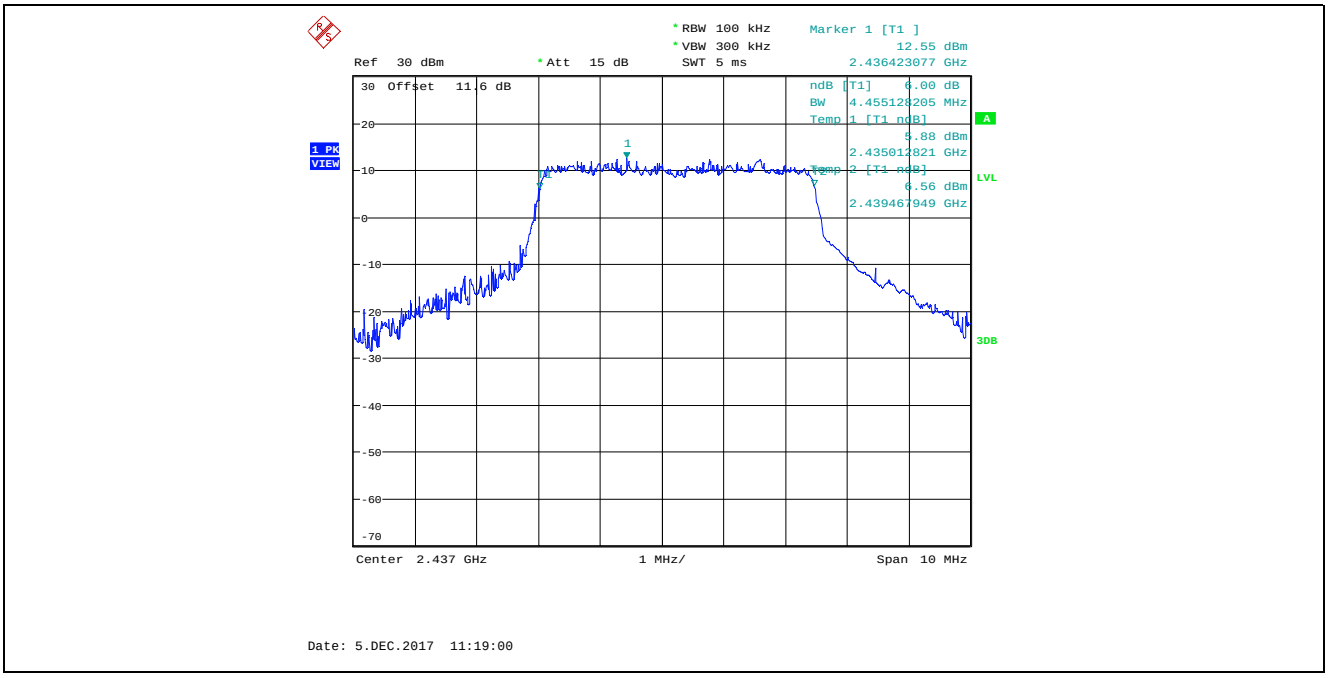
**Plot 5.2.4.43.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



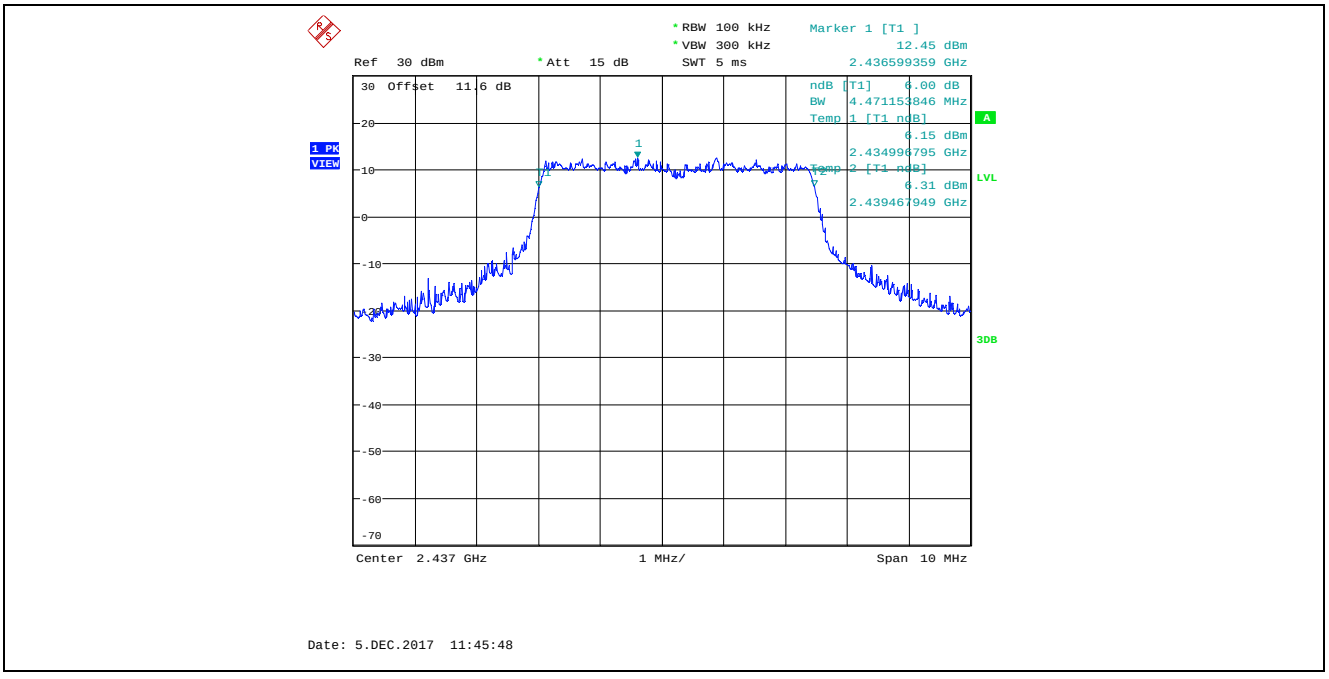

**Plot 5.2.4.44.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



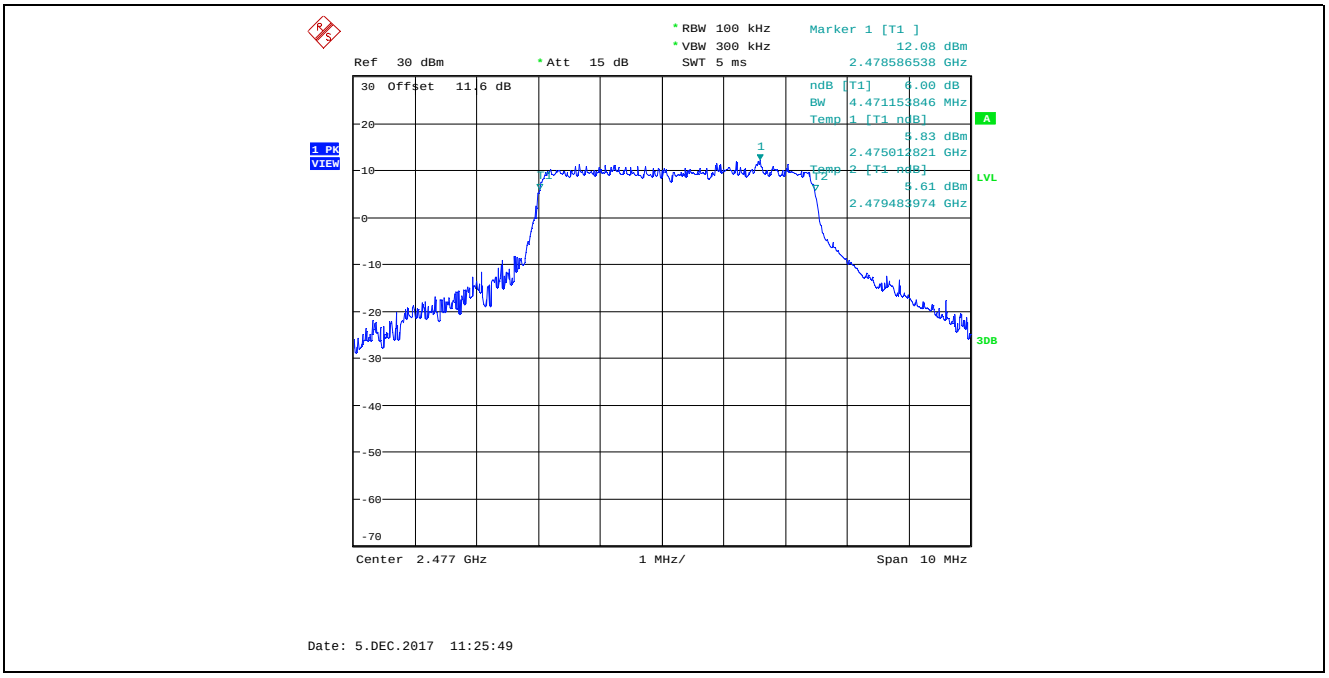
**Plot 5.2.4.45.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



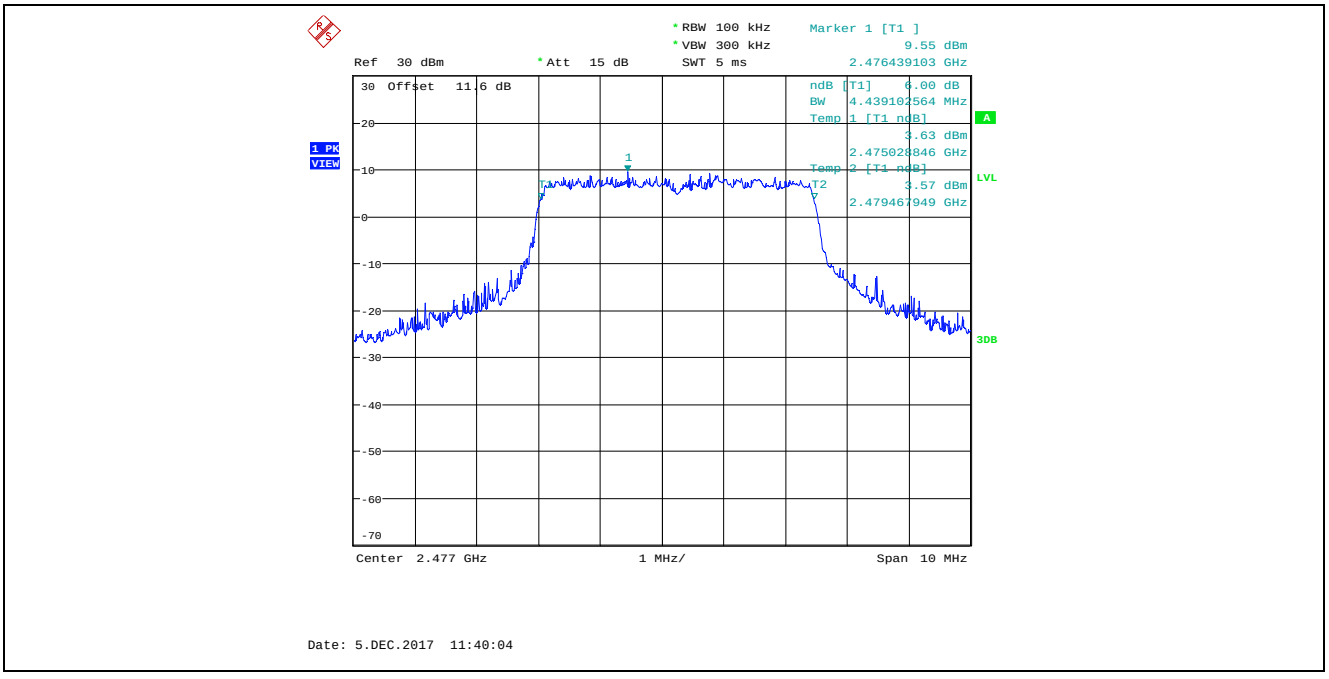

**Plot 5.2.4.46.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



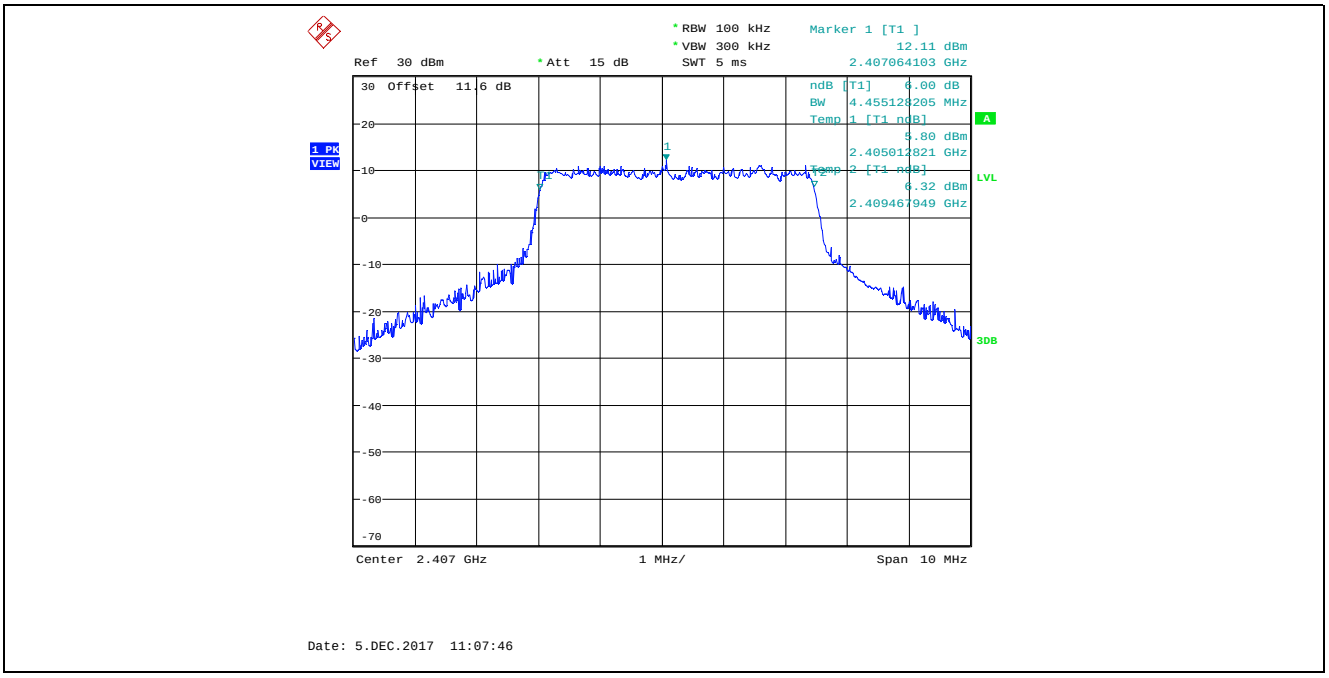
**Plot 5.2.4.47.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



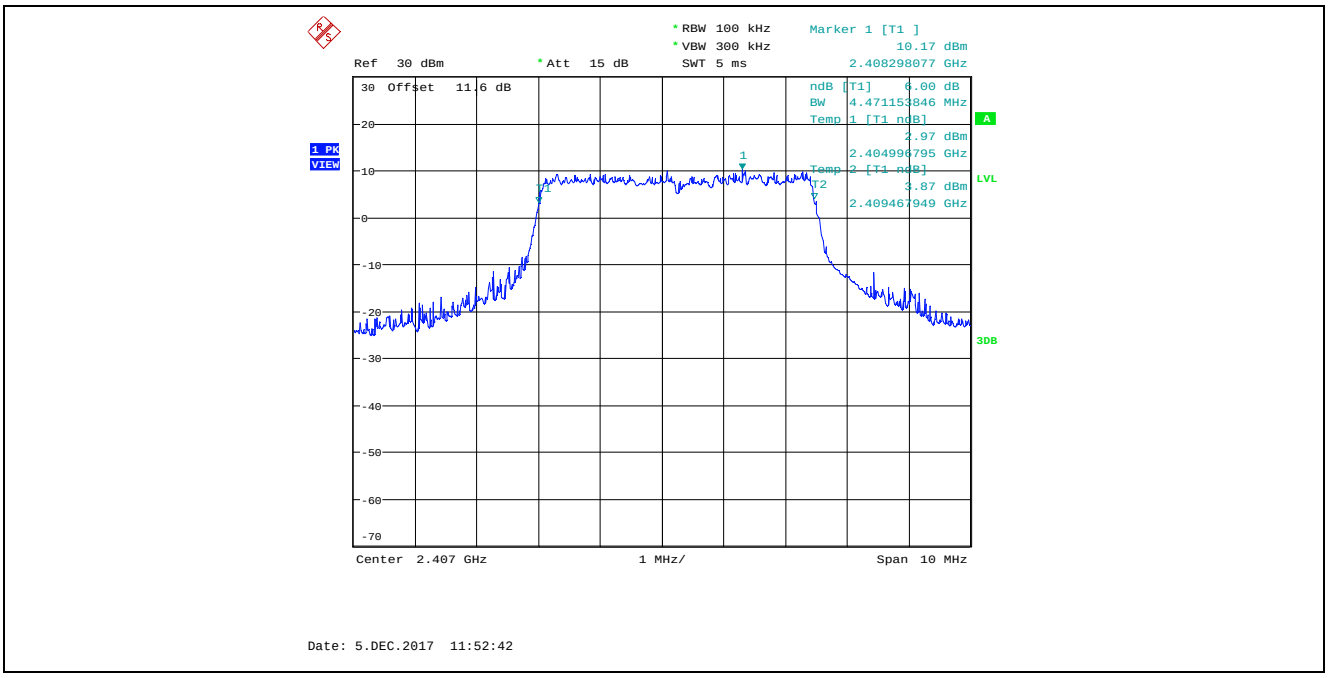

**Plot 5.2.4.48.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



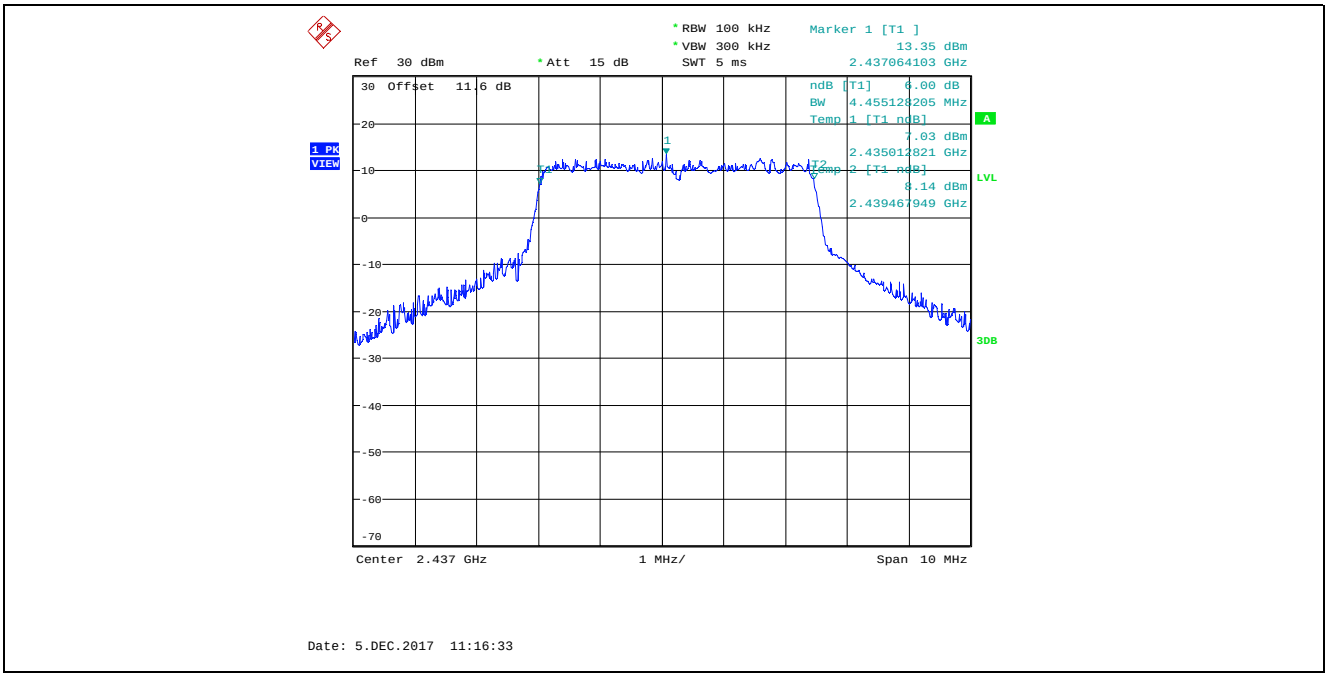
**Plot 5.2.4.49.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz,



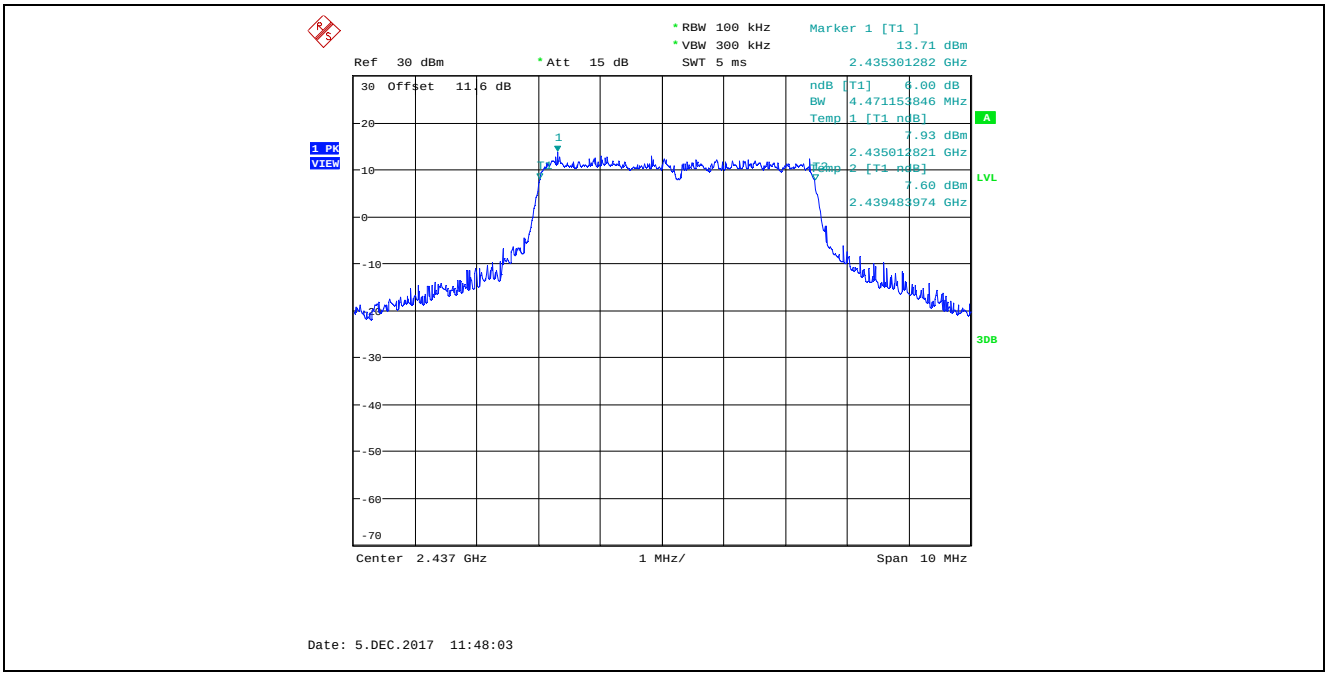

**Plot 5.2.4.50.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz,



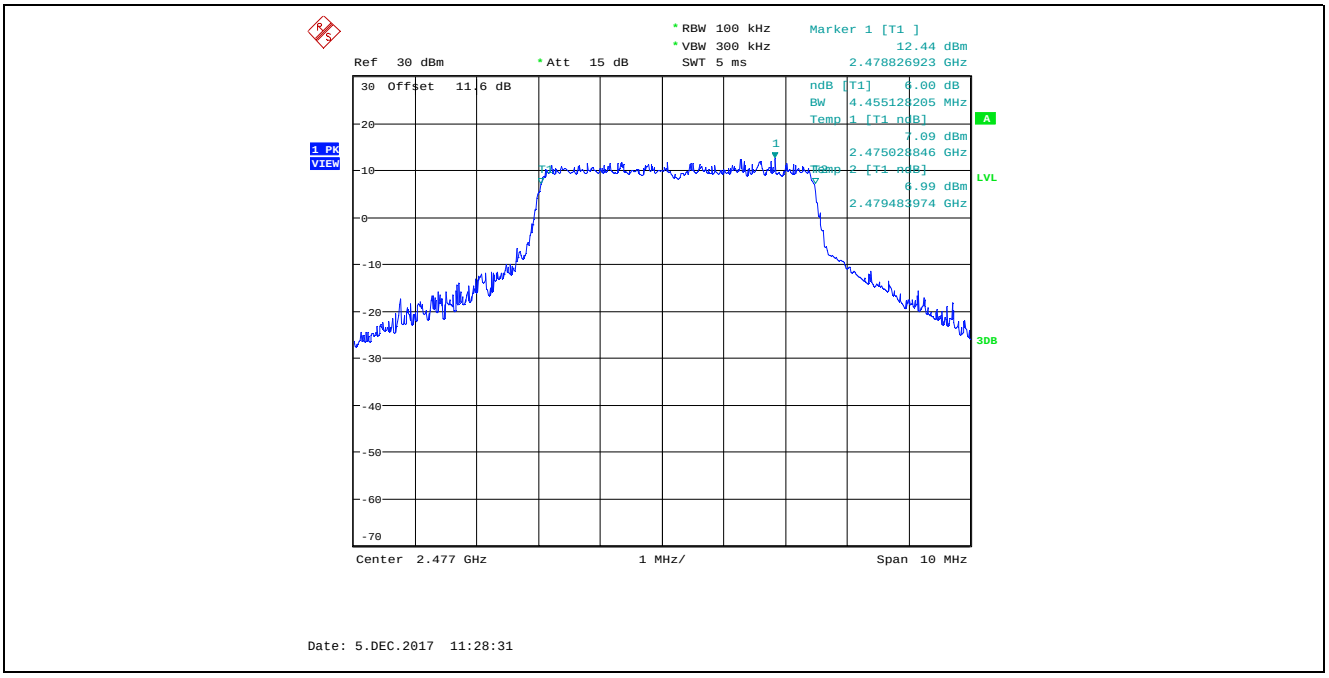
**Plot 5.2.4.51.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



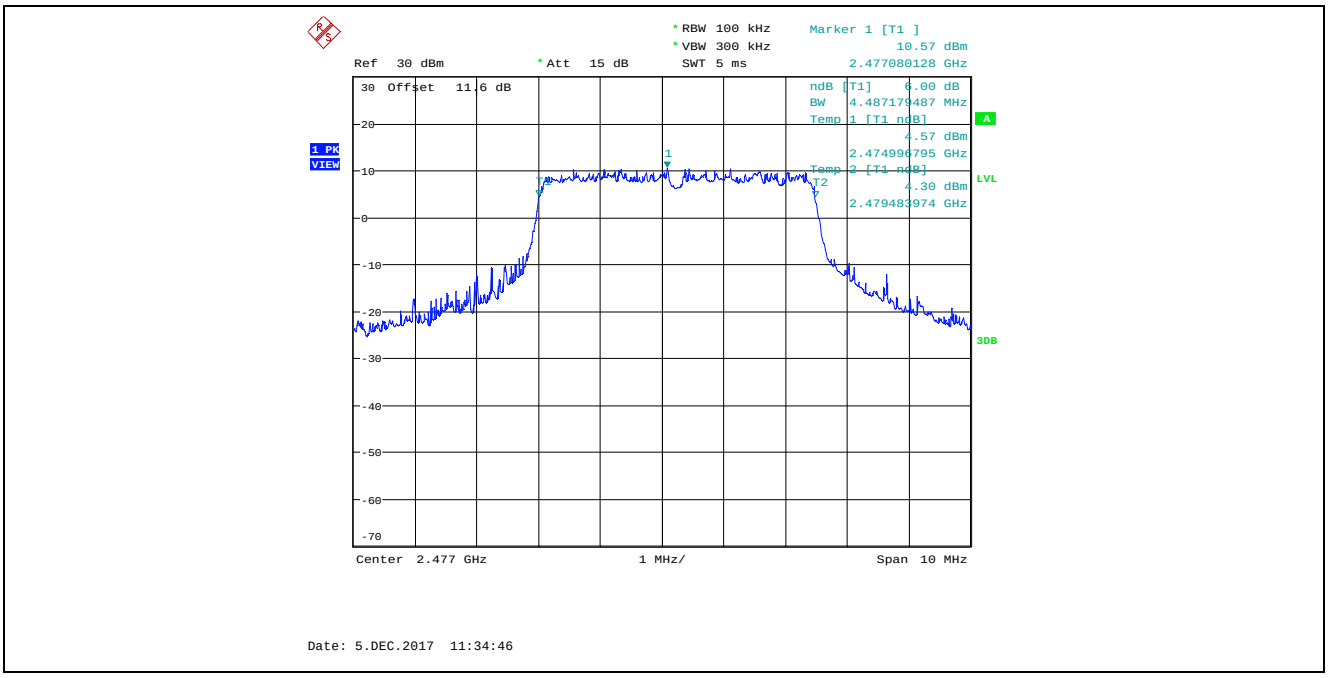

**Plot 5.2.4.52.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



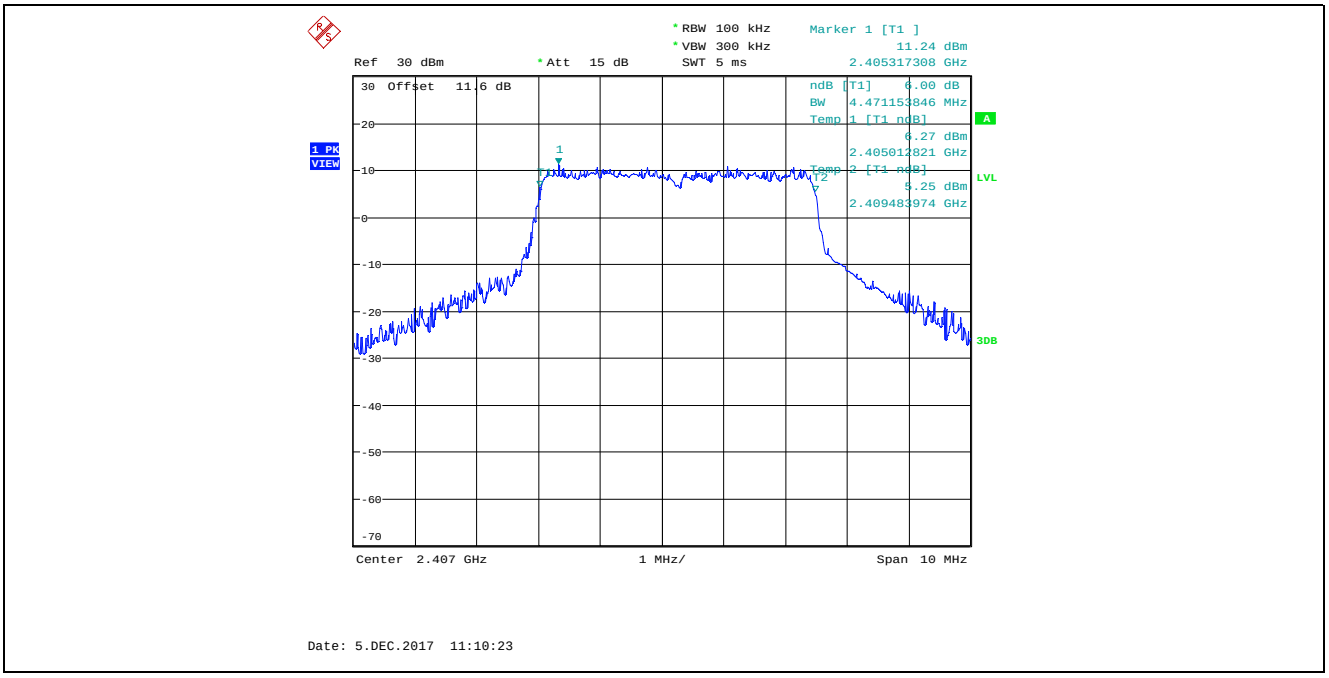
**Plot 5.2.4.53.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



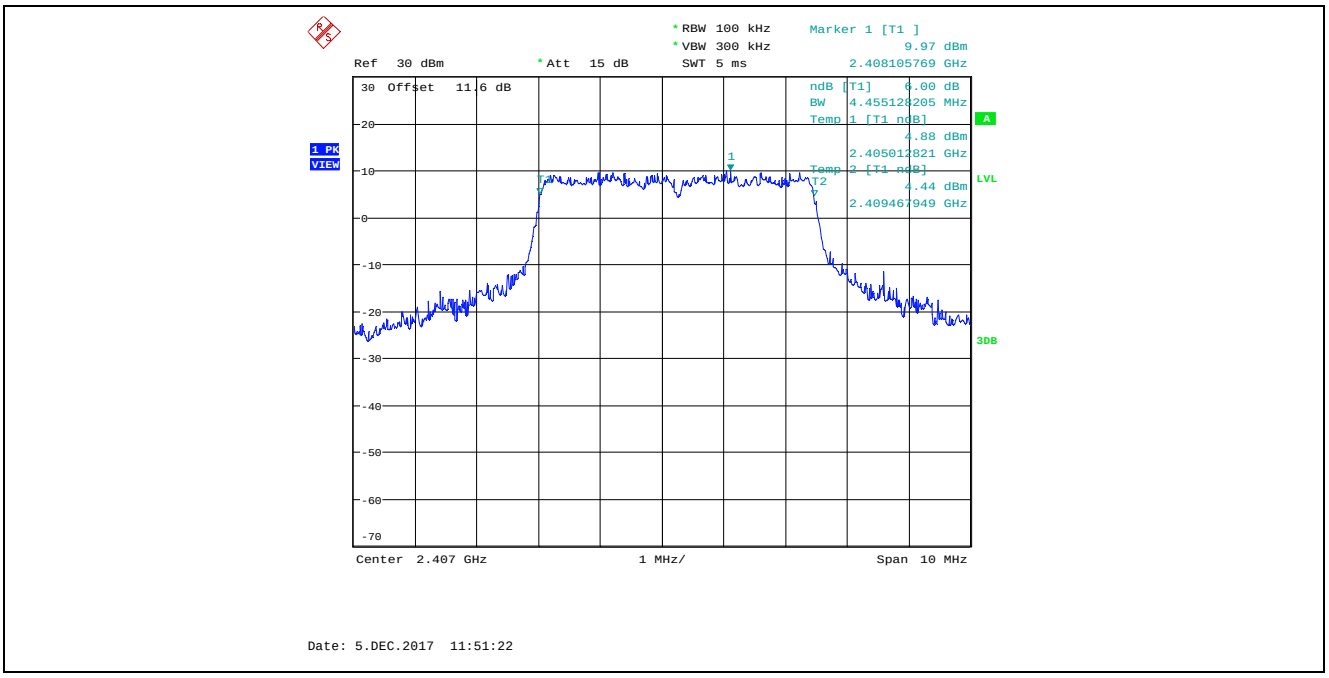

**Plot 5.2.4.54.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



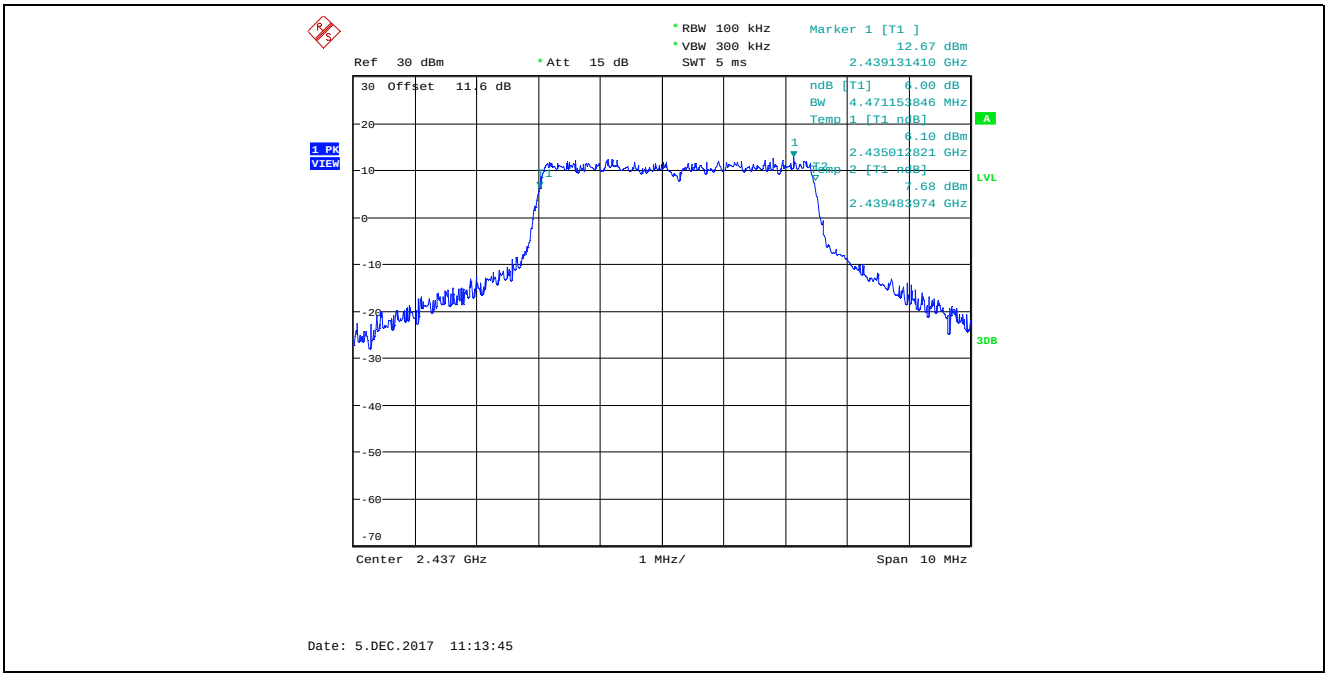
**Plot 5.2.4.55.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



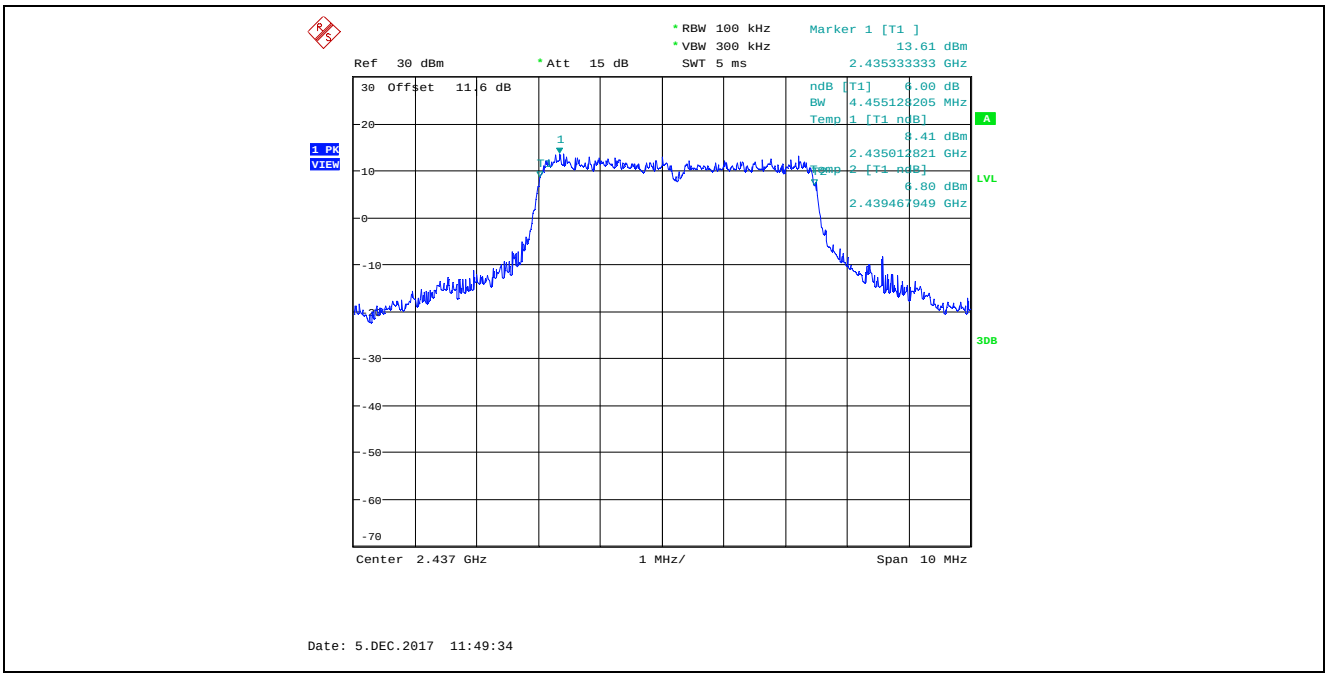

**Plot 5.2.4.56.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



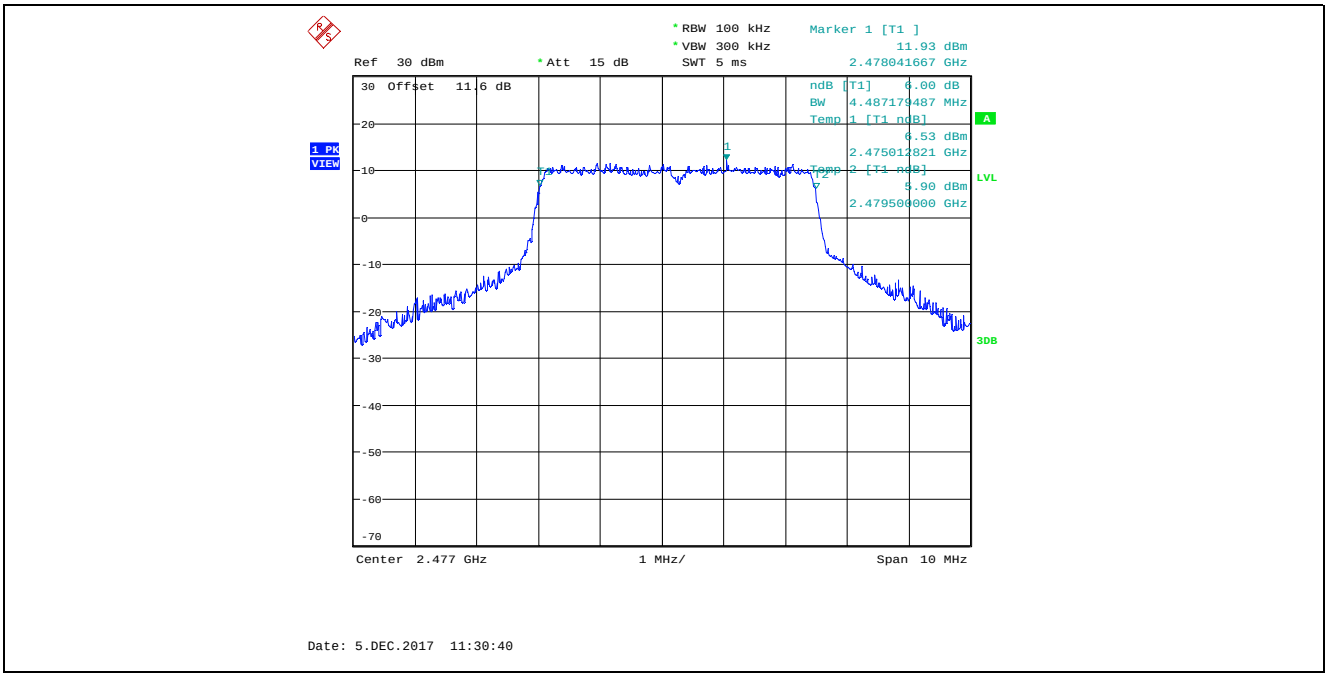
**Plot 5.2.4.57.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



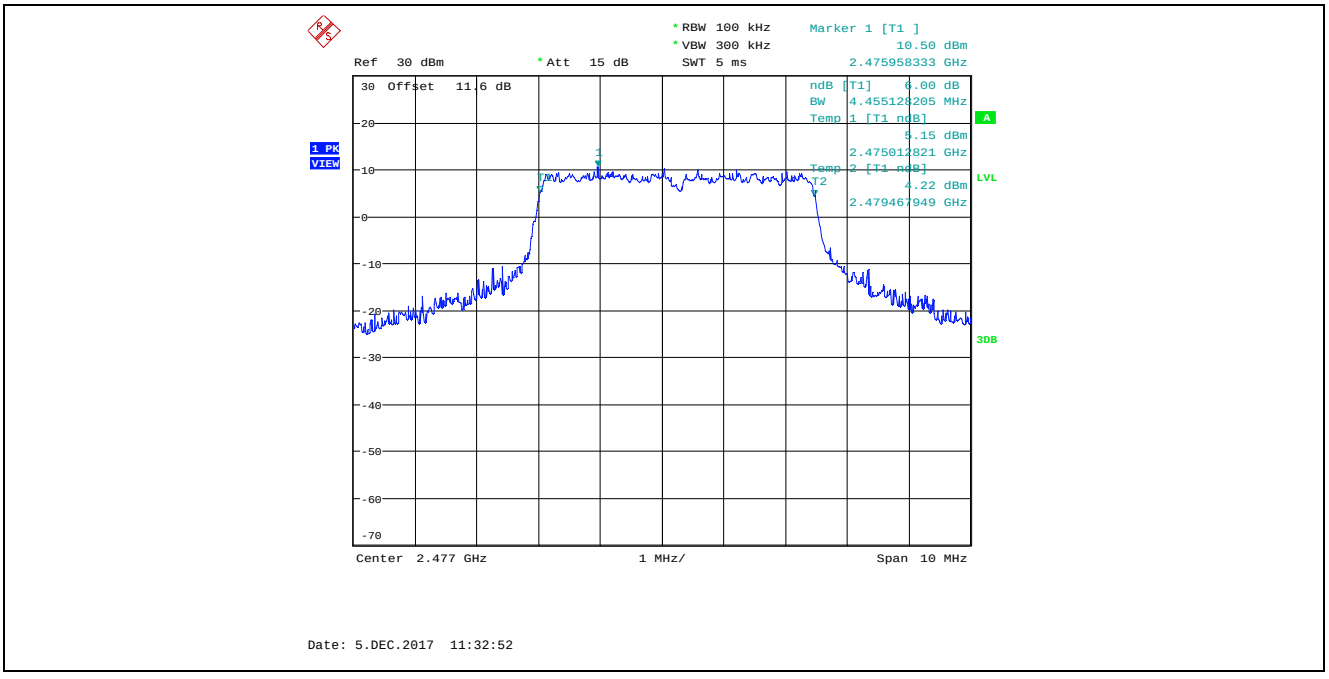

**Plot 5.2.4.58.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



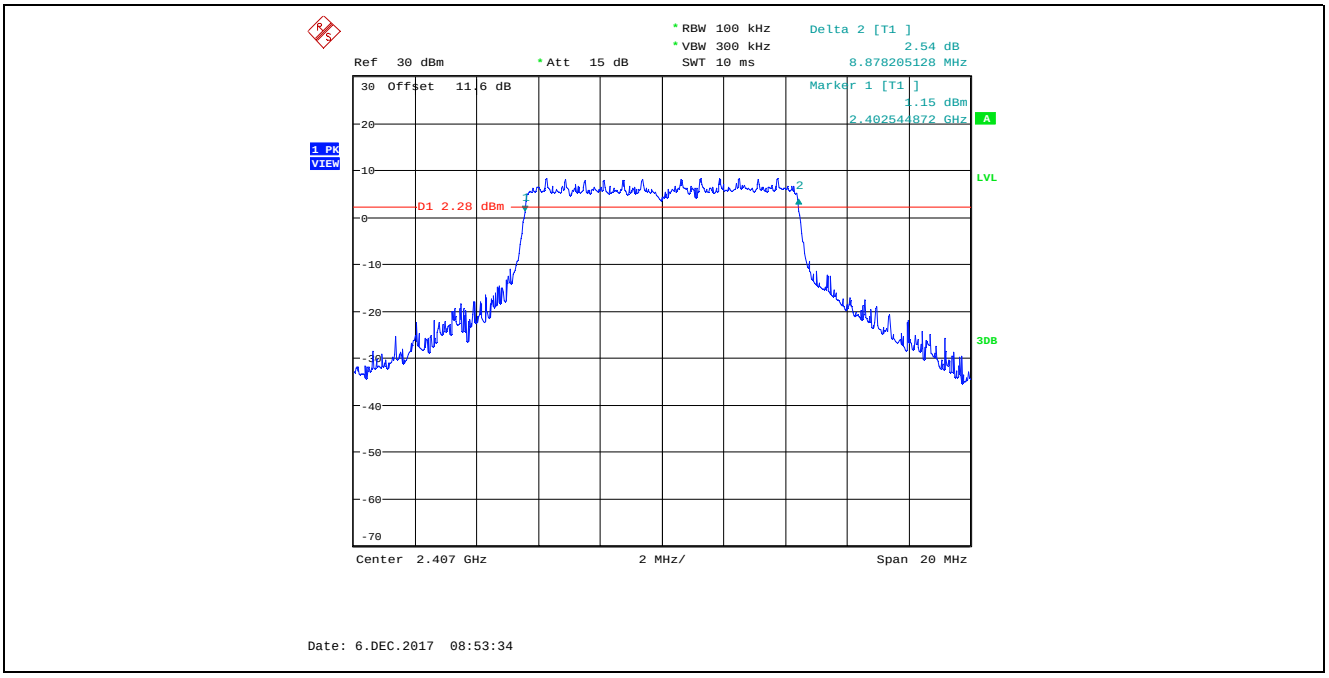
**Plot 5.2.4.59.** 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz



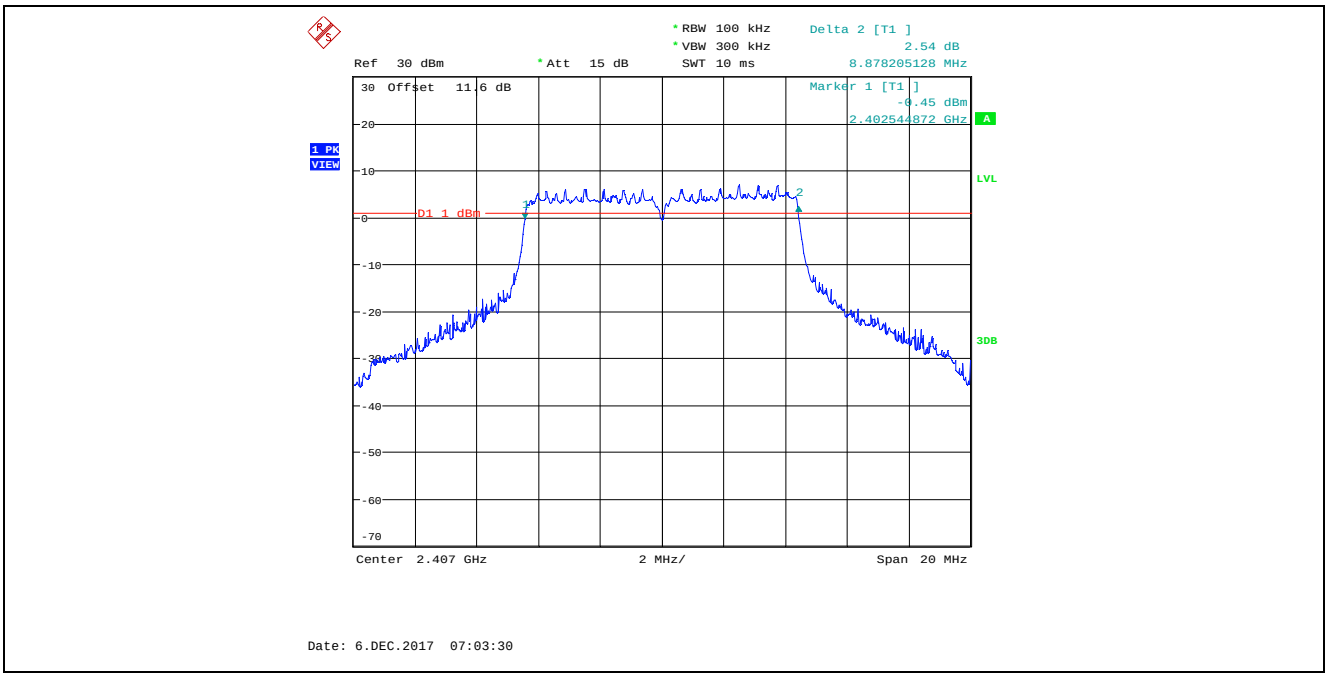

**Plot 5.2.4.60.** 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz



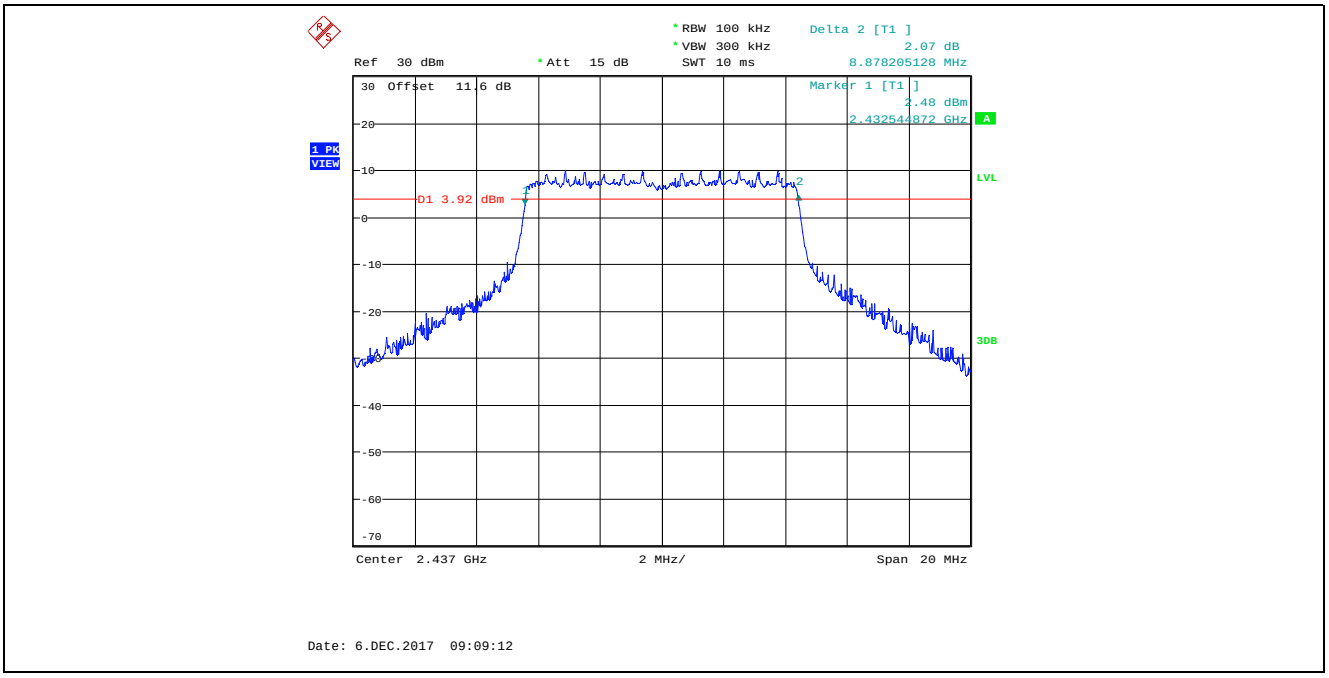
**Plot 5.2.4.61.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



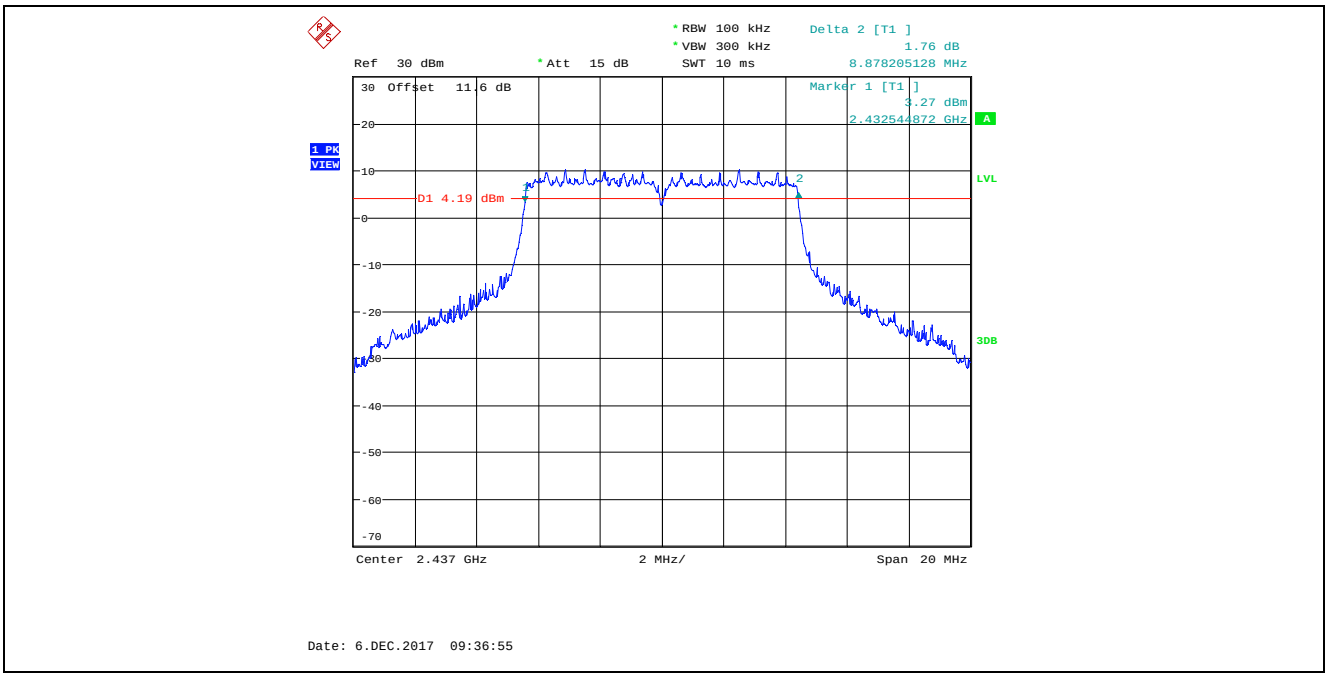

**Plot 5.2.4.62.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



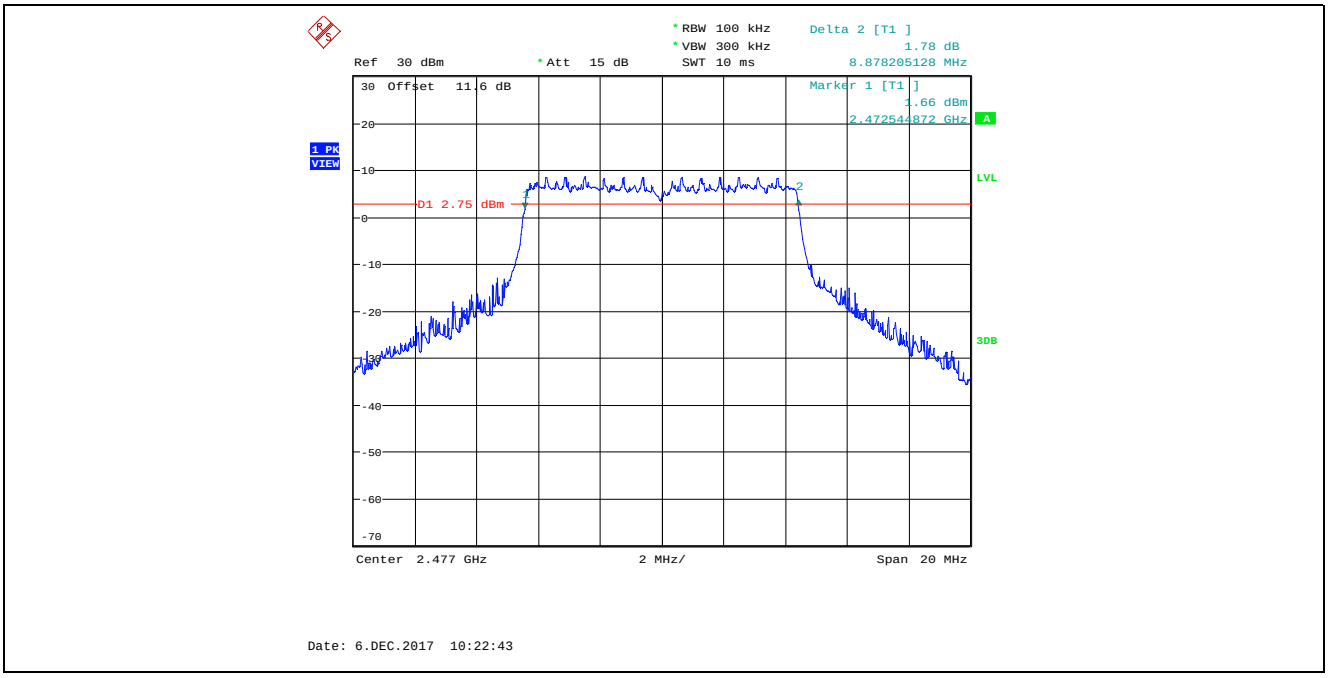
**Plot 5.2.4.63.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



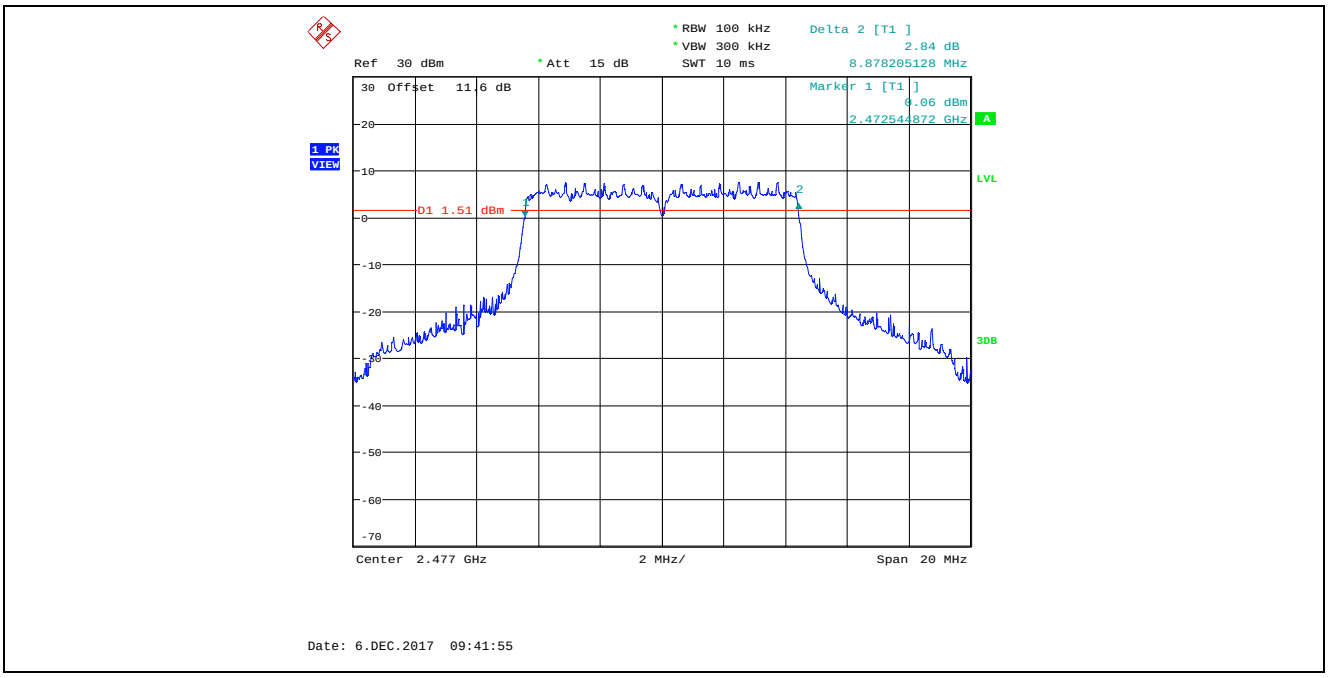

**Plot 5.2.4.64.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



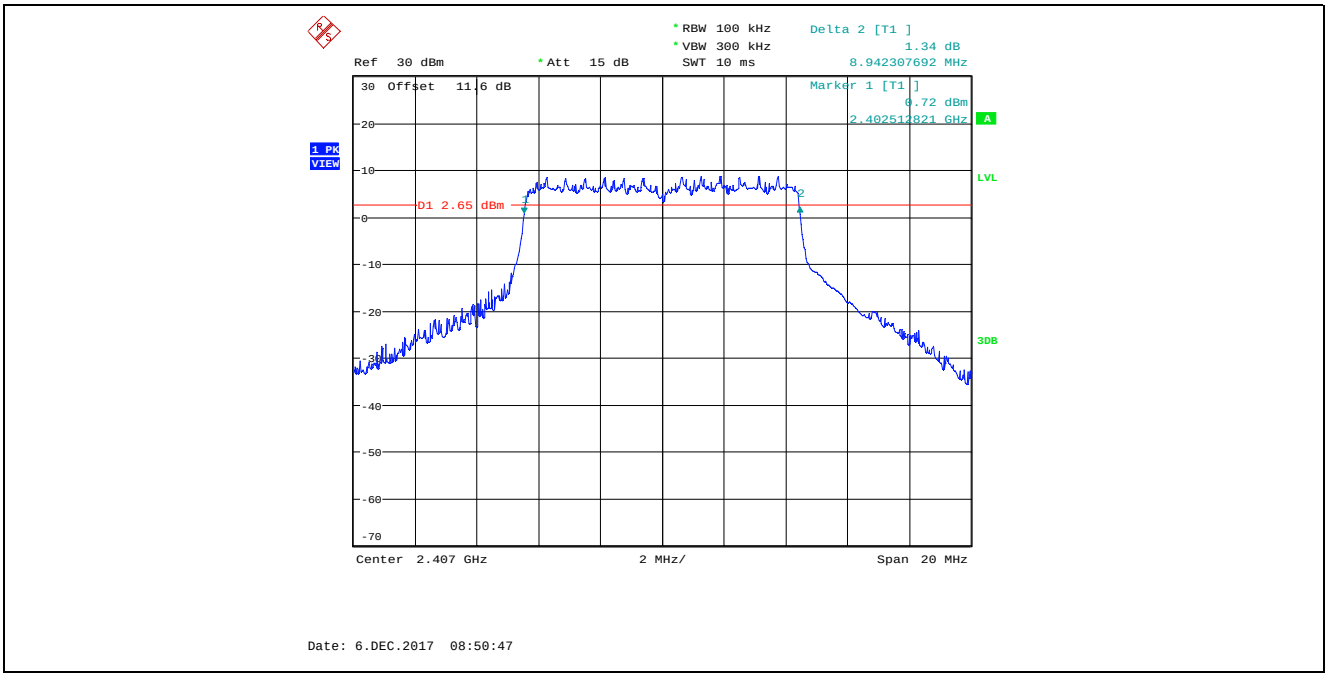
**Plot 5.2.4.65.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



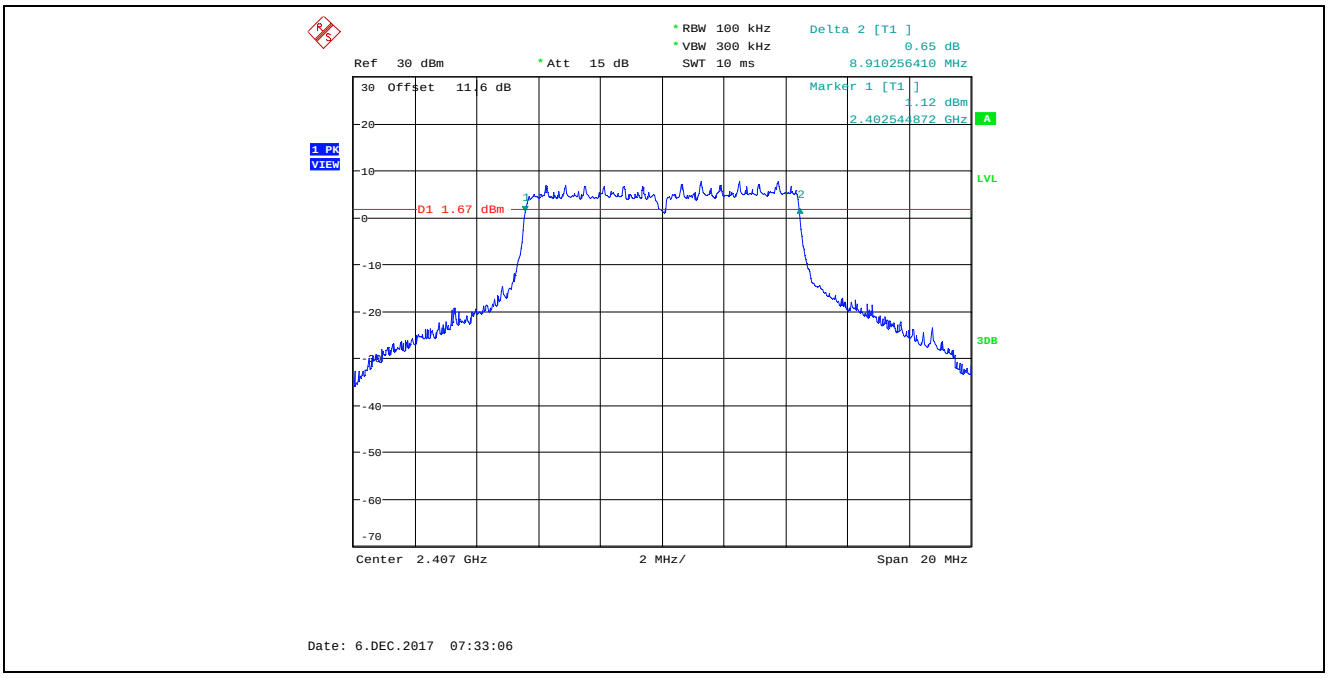

**Plot 5.2.4.66.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



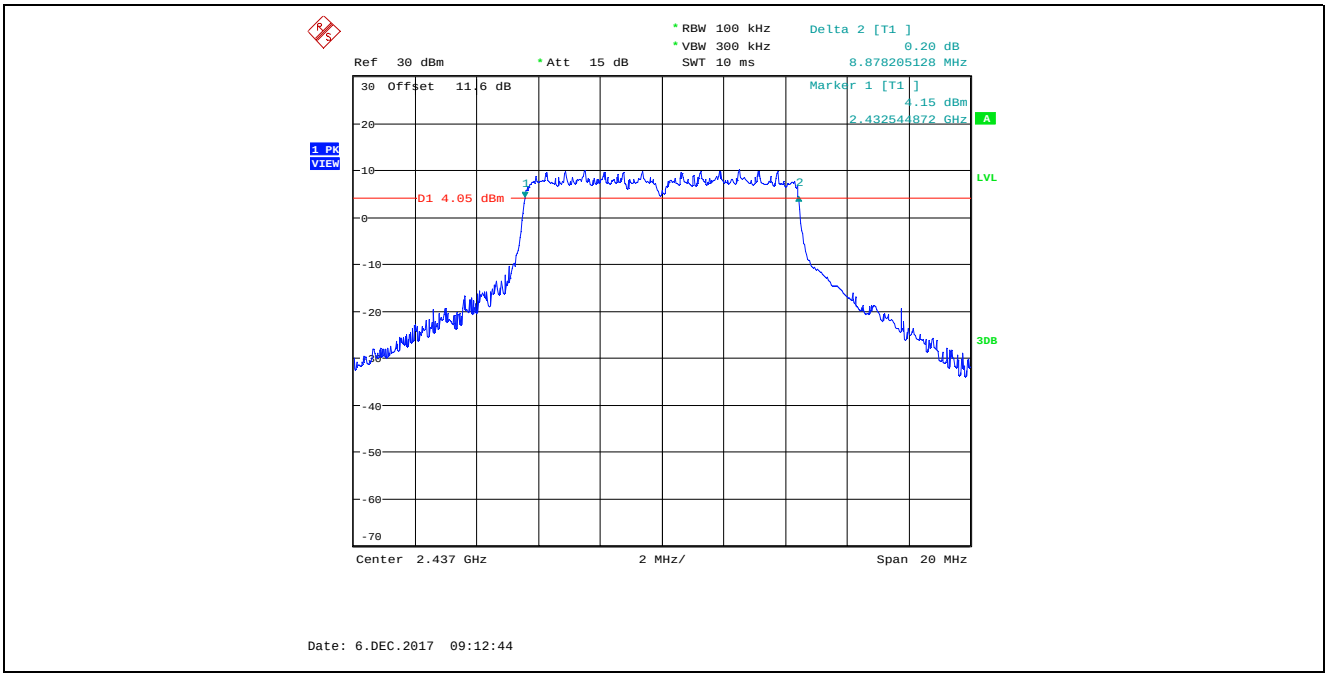
**Plot 5.2.4.67.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



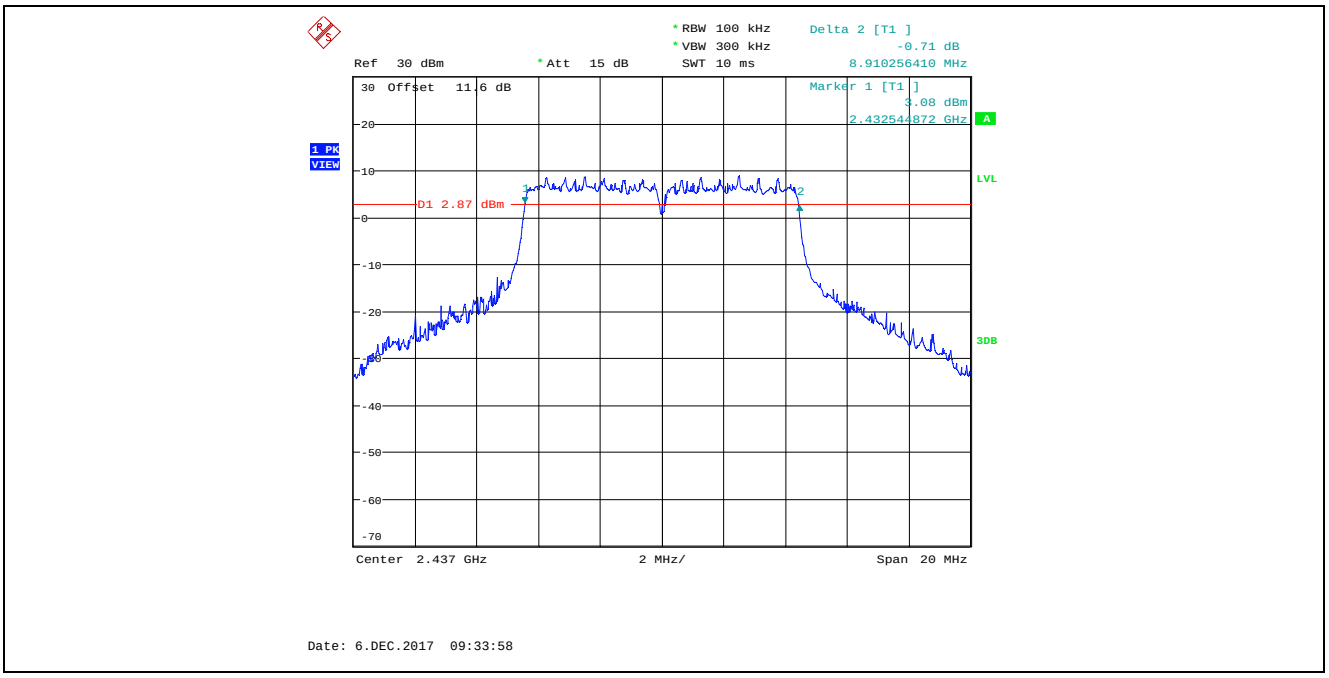

**Plot 5.2.4.68.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



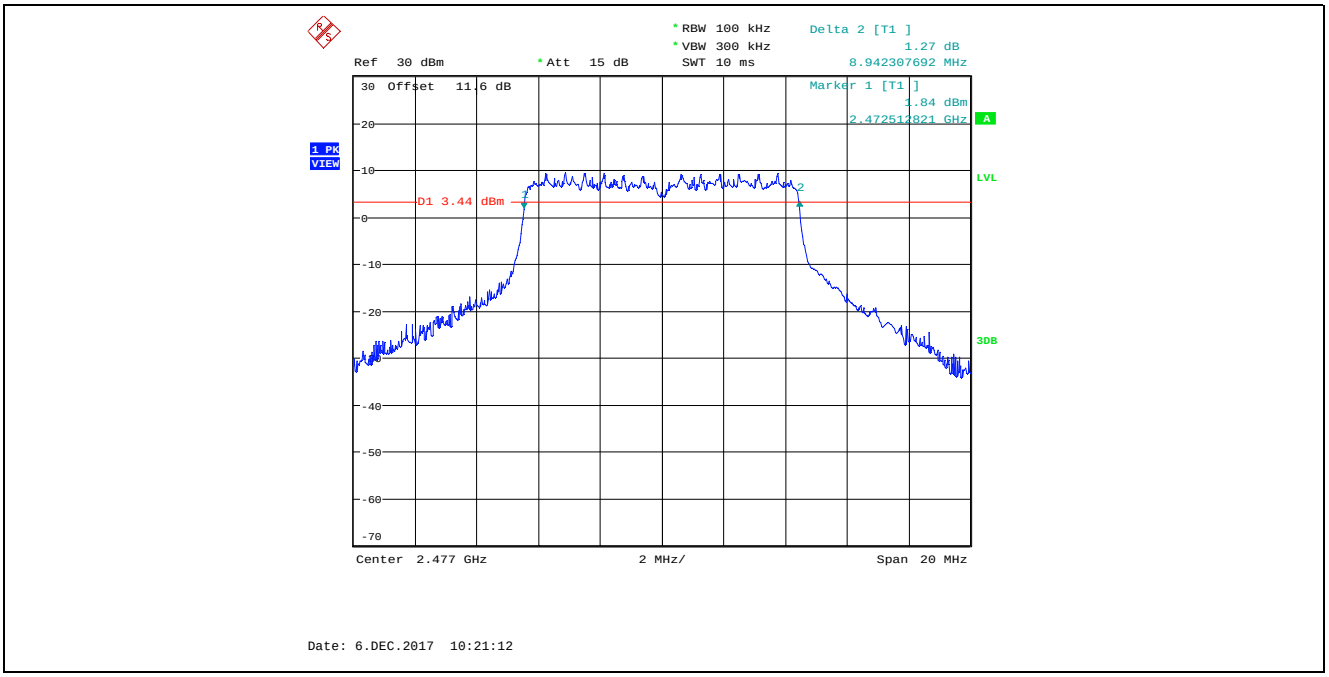
**Plot 5.2.4.69.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



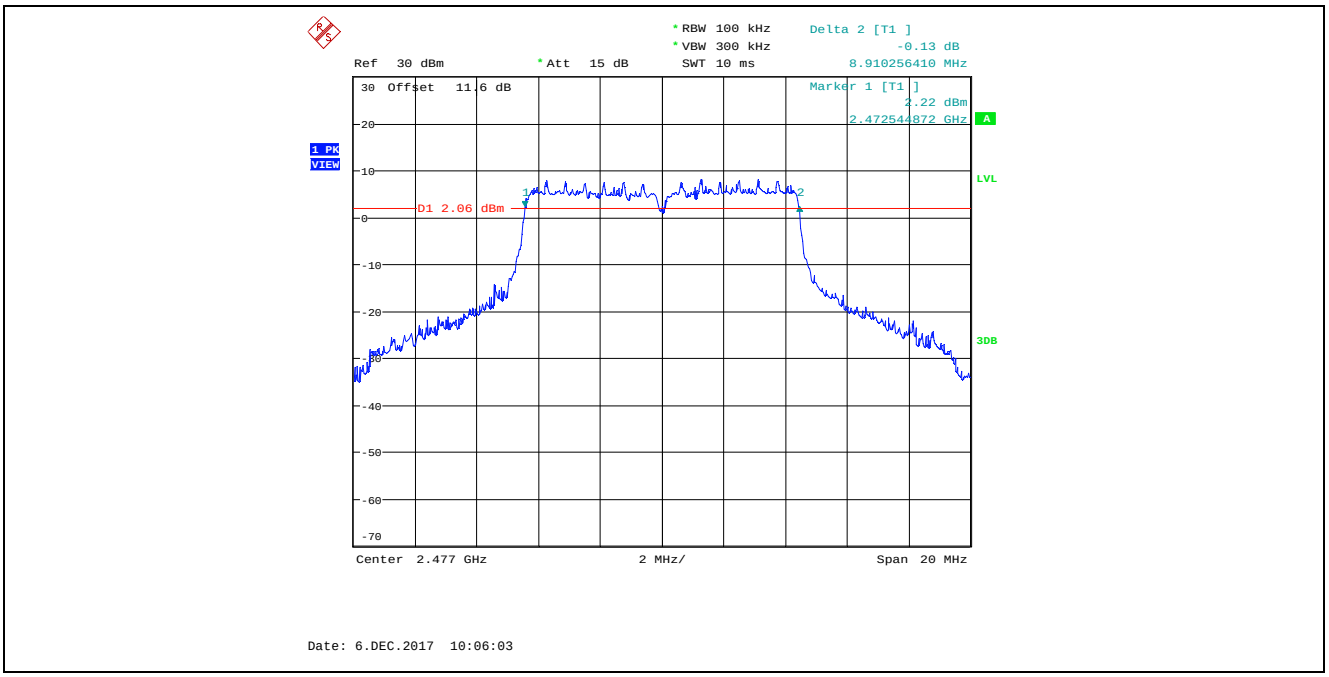

**Plot 5.2.4.70.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



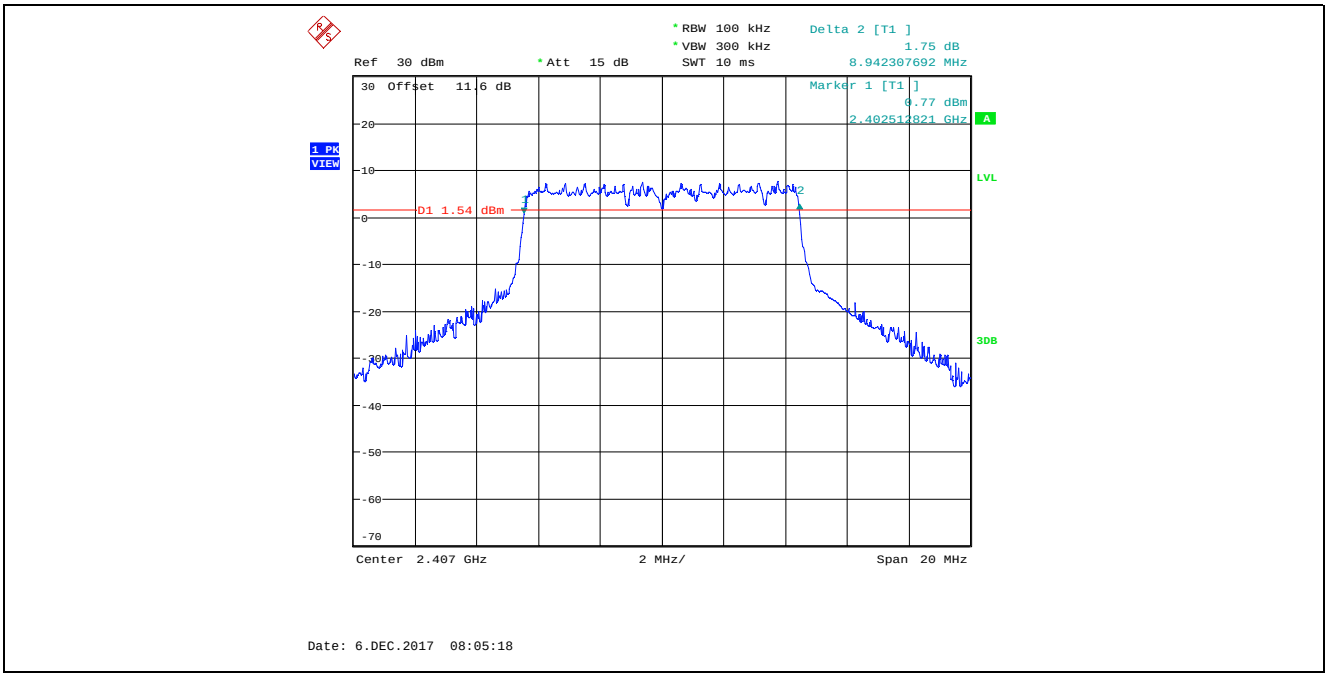
**Plot 5.2.4.71.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



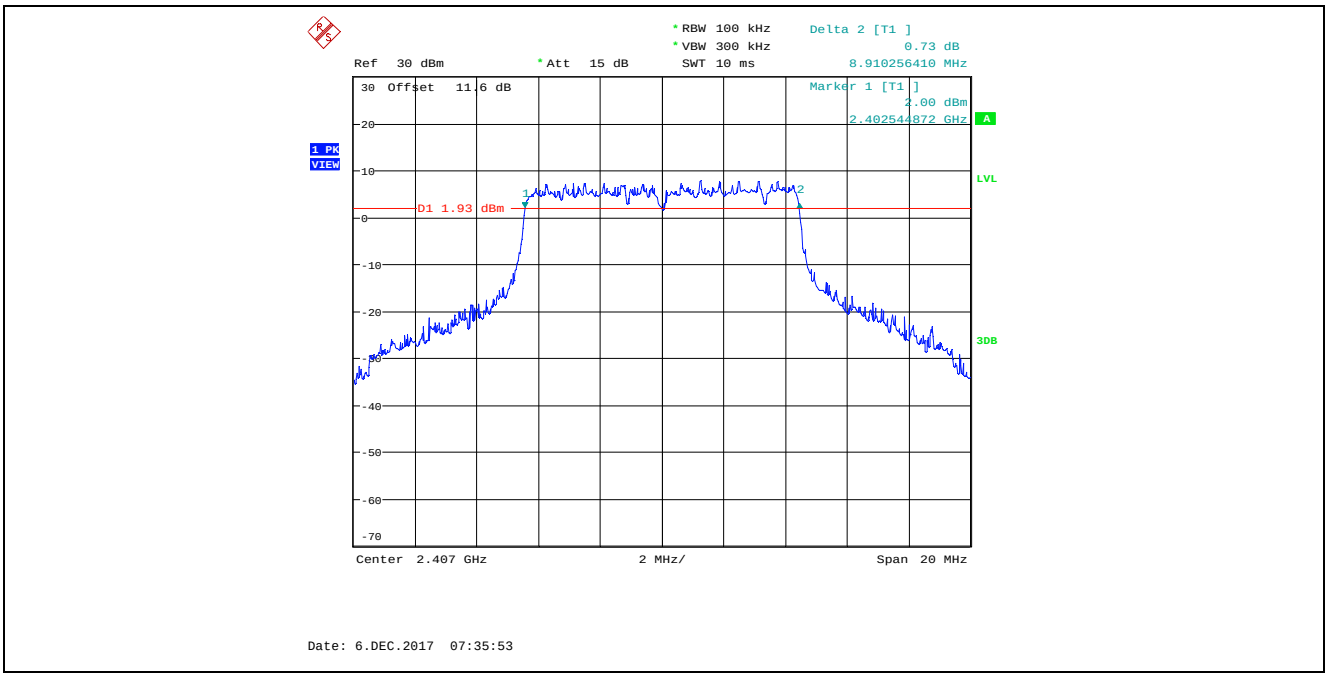

**Plot 5.2.4.72.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



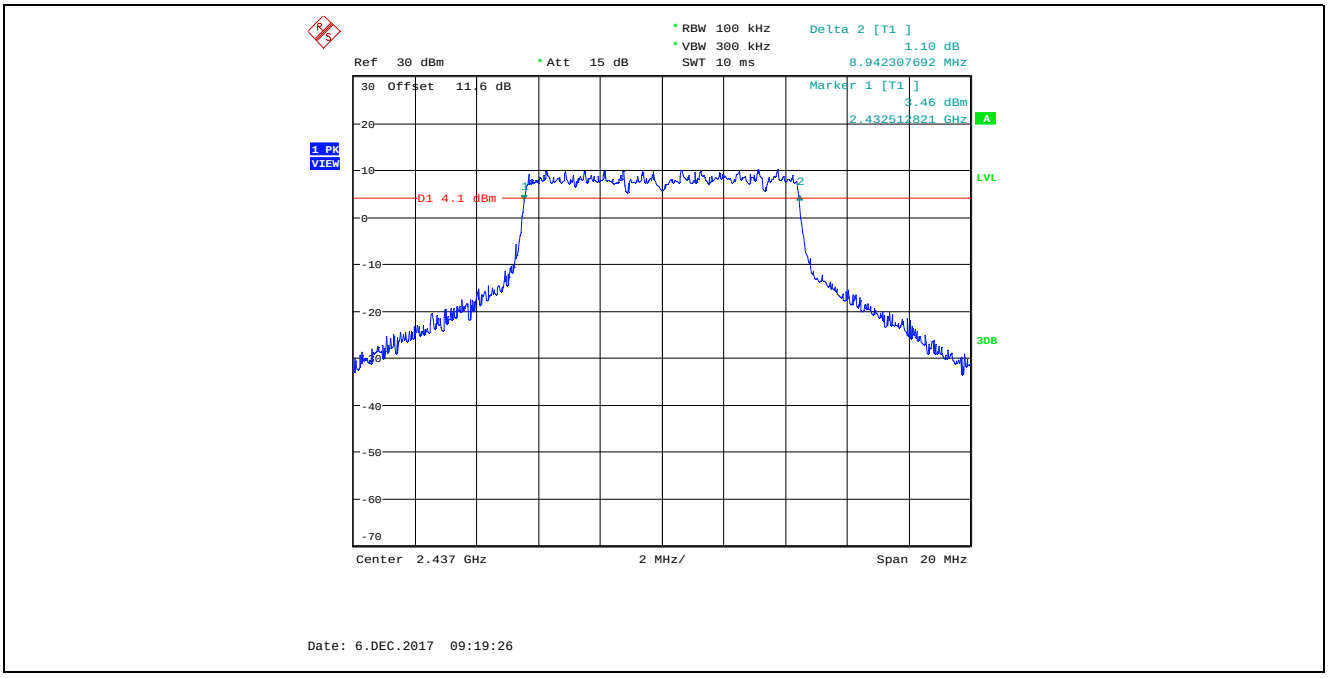
**Plot 5.2.4.73.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz



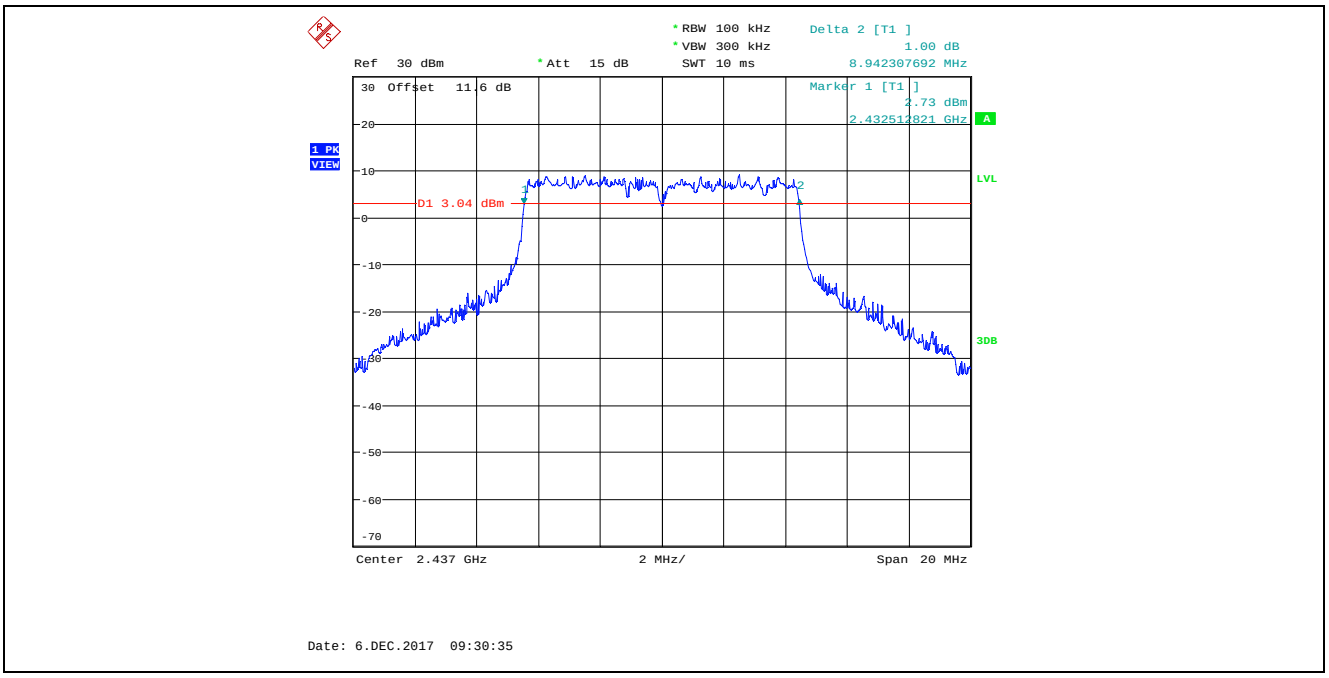

**Plot 5.2.4.74.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz



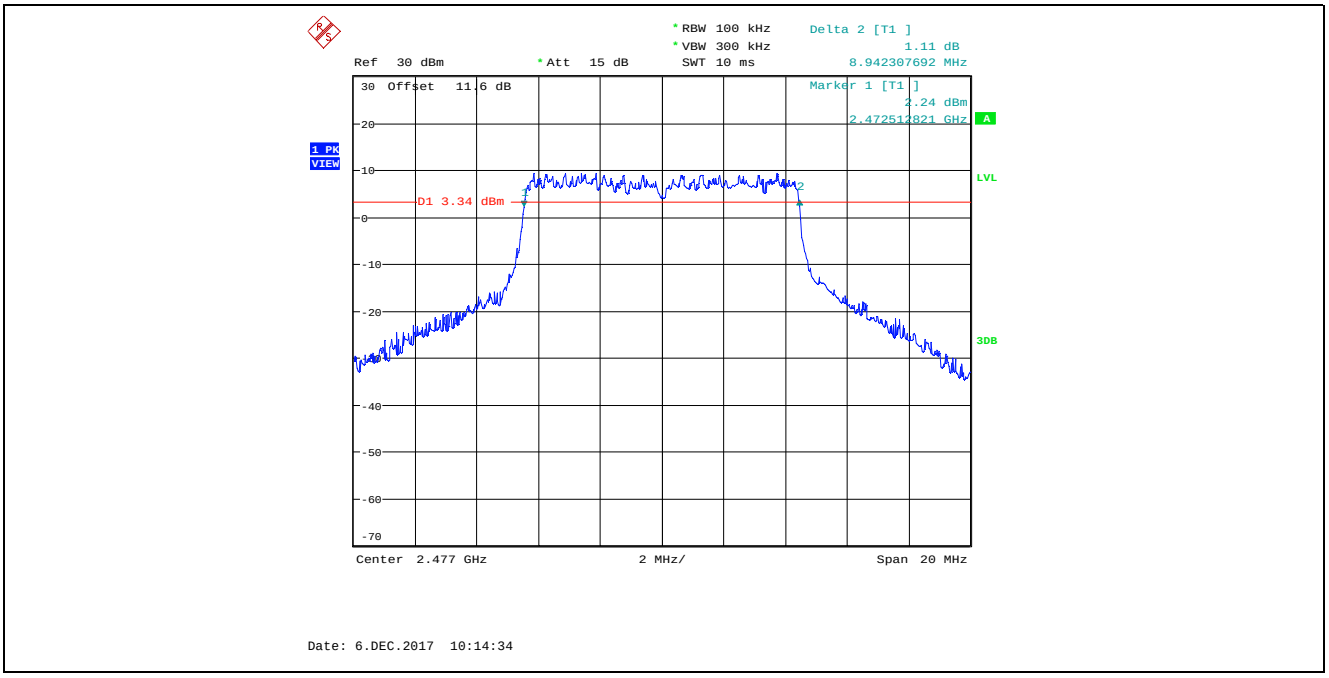
**Plot 5.2.4.75.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



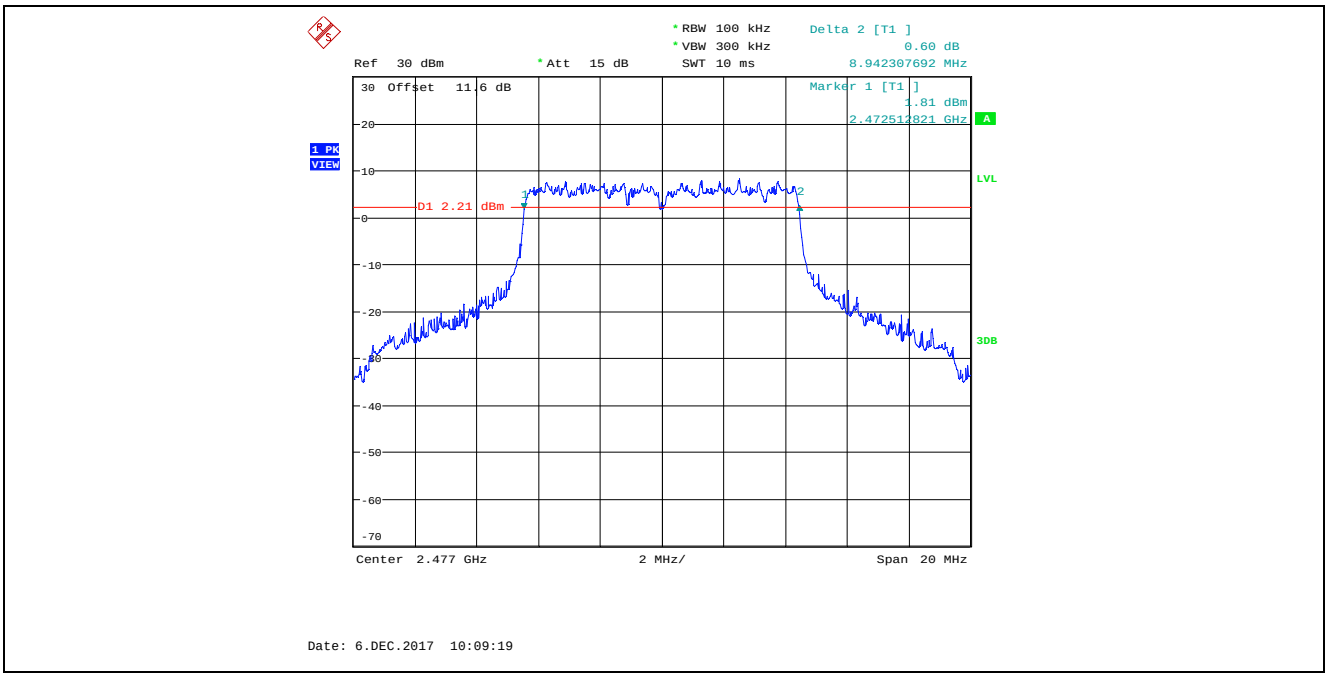

**Plot 5.2.4.76.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



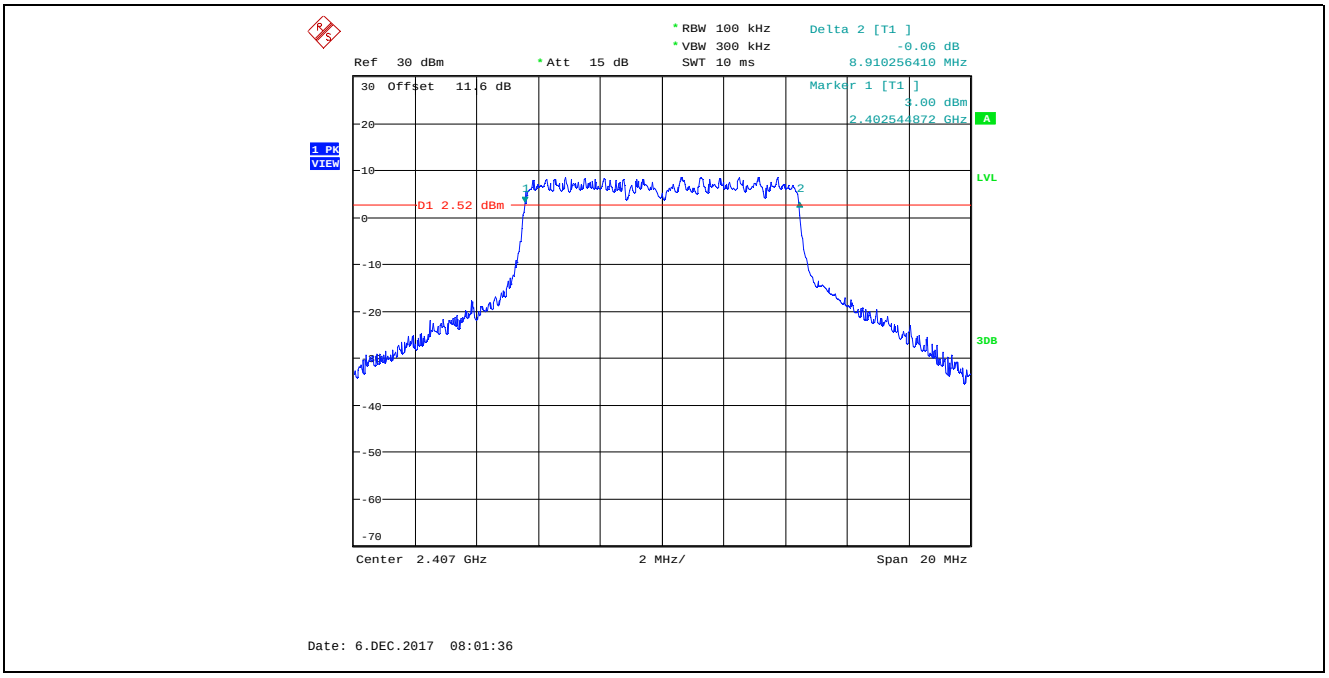
**Plot 5.2.4.77.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



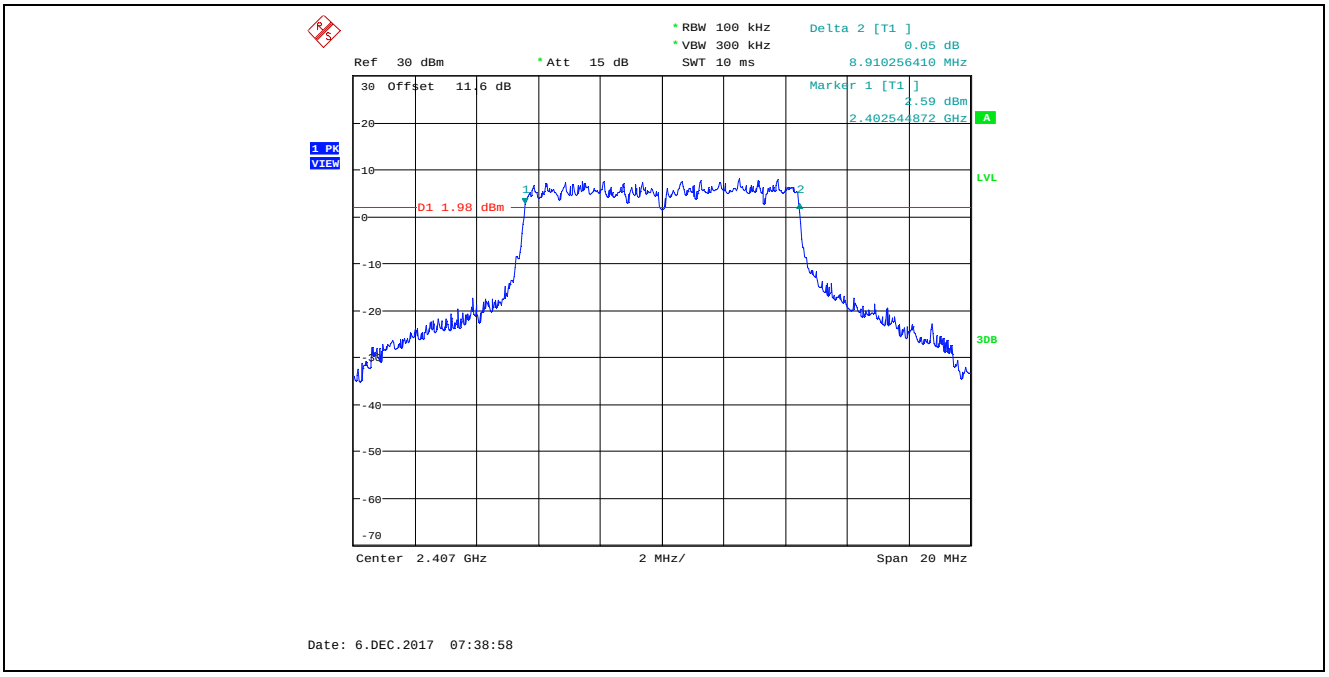

**Plot 5.2.4.78.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



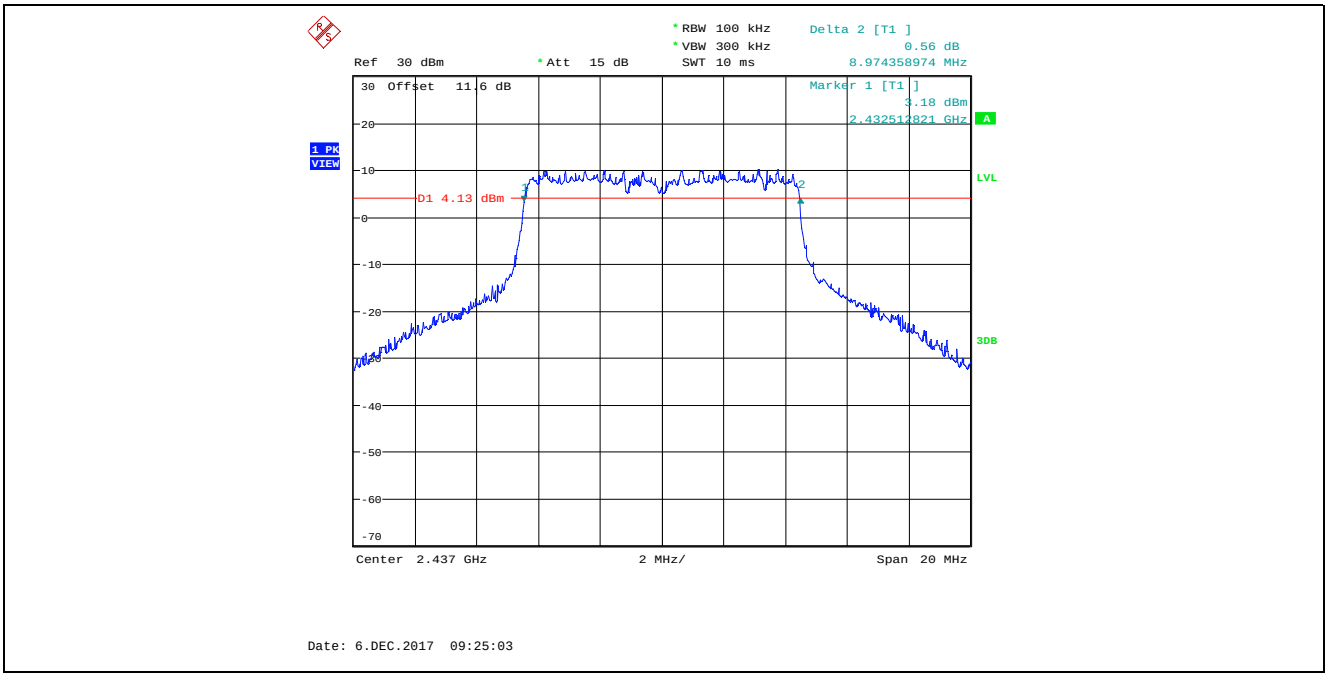
**Plot 5.2.4.79.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



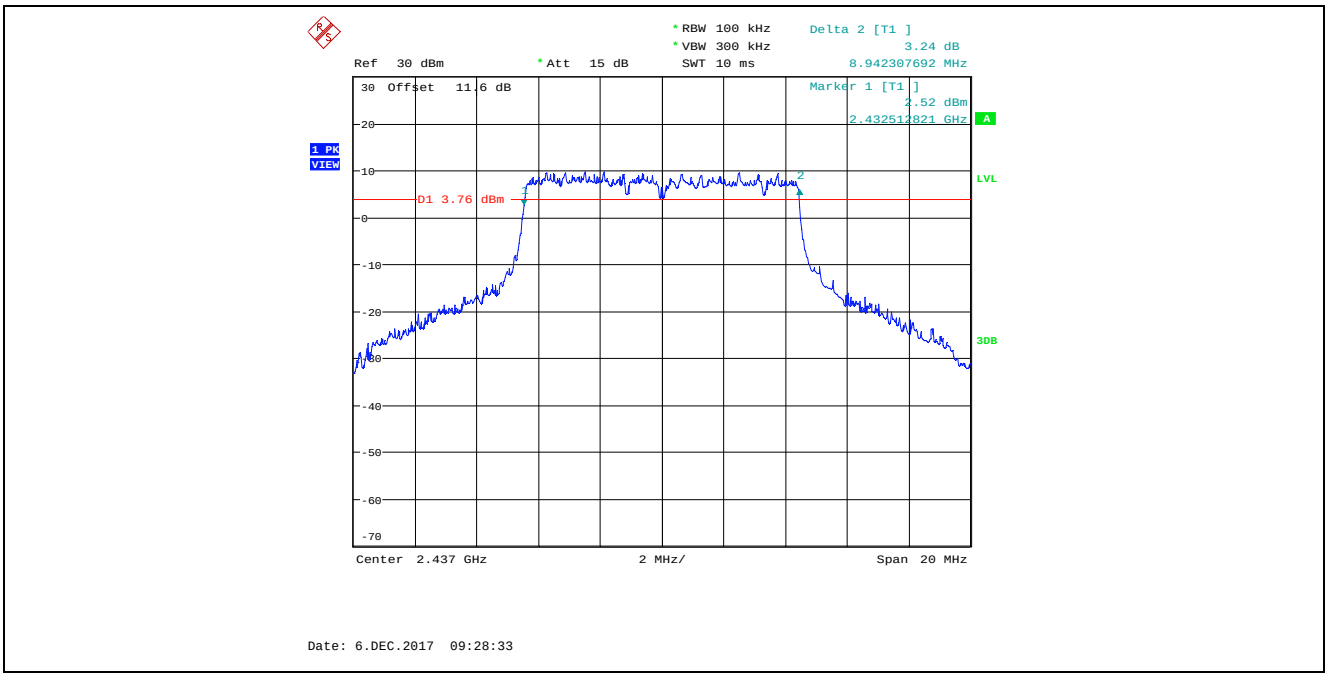

**Plot 5.2.4.80.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



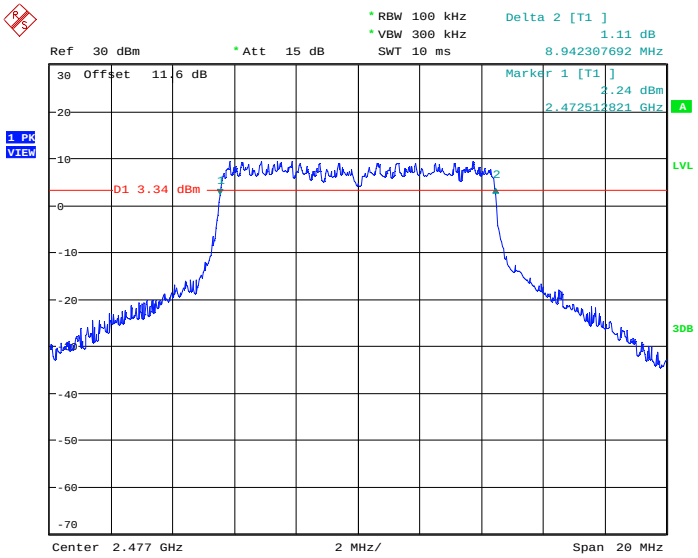
**Plot 5.2.4.81.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz




**Plot 5.2.4.82.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz

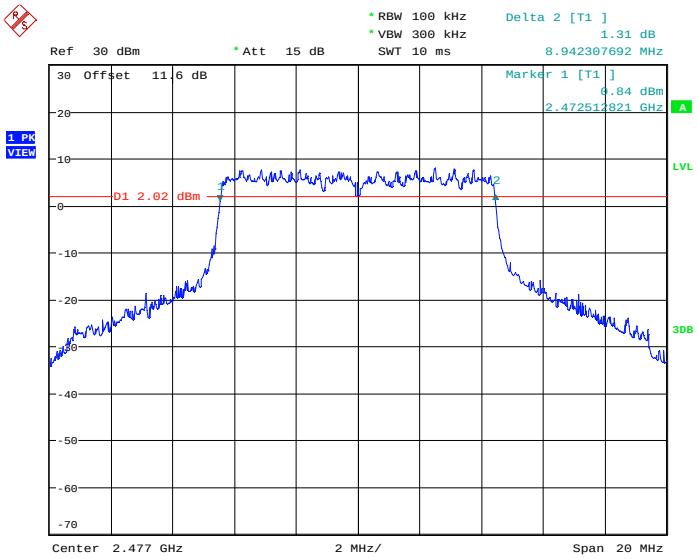


**Plot 5.2.4.83.** 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz




Date: 6.DEC.2017 10:14:34

**Plot 5.2.4.84.** 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz




Date: 6.DEC.2017 10:12:29

## 5.3. PEAK CONDUCTED OUTPUT POWER - DTS [§ 15.247(b)(3)]

### 5.3.1. Limit(s)

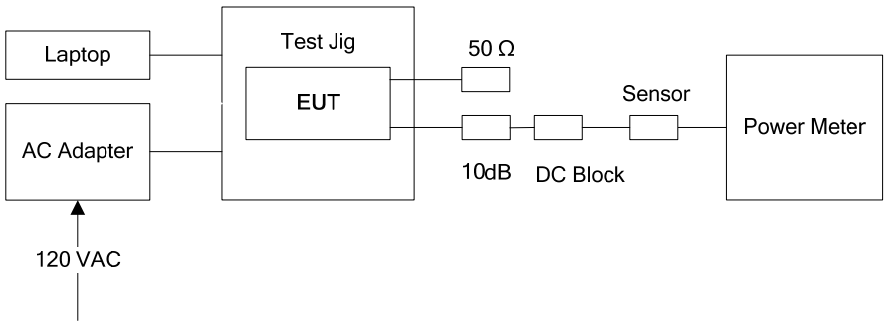
**§ 15.247(b)(3):** For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the *maximum conducted output power* is the highest total transmit power occurring in any mode.

**§ 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 & Test Arrangement

KDB 558074 D01 DTS Meas Guidance v04, Section 9.1.3 PKPM1 Peak-reading power meter method
KDB 662911 D01 Multiple Transmitter Output v02r01, Section (E)(1) Measure-and sum technique

### 5.3.3. Test Arrangement



### 5.3.4. Test Data

Remarks:
1. The EIRP shall be calculated based on the transmitter antenna gain ($G_{dBi}$), cable loss ($CL_{dB}$) and peak output power at antenna terminal ($P_{dBm}$). Calculated EIRP = $P_{dBm} + G_{dBi} - CL_{dB}$
2. If transmit antennas with an effective directional gain greater than 6 dBi are used, the conducted output power from the EUT shall be reduced by the amount in dB that the directional gain of the transmitting antenna exceeds 6 dBi, the applicable output power limit shall be calculated as follows:

$P_{out} = P_{Limit} - (G_{Tx} - 6)$

Where: $P_{Out}$ is the maximum conducted output power in dBm,
$P_{Limit}$ is the output power limit in dBm,
$G_{Tx}$ is the maximum transmitting antenna directional gain in dBi.

| High Power, 4 MHz Bandwidth, Tx Gain Setting 22 (for Data Rates 1, 2 & 3) / 24 (for Data Rates 4, 5, 6 & 7) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Mode | Data Rate | Frequency (MHz) | Peak Power (dBm) | | Total Peak Power (dBm) | Peak Power Limit (dBm) | Margin (dBm) |
| | | | Chain # 1 | Chain # 2 | | | |
| High Power (TX Gain Setting 22) 4 MHz Bandwidth | 1 | 2402 | 23.32 | 21.37 | 25.46 | 30 | -4.54 |
| | | 2437 | 24.97 | 24.61 | 27.80 | 30 | -2.20 |
| | | 2477 | 23.77 | 22.90 | 26.37 | 30 | -3.63 |
| | 2 | 2402 | 22.76 | 21.90 | 25.36 | 30 | -4.64 |
| | | 2437 | 24.49 | 24.97 | 27.75 | 30 | -2.25 |
| | | 2477 | 23.87 | 22.28 | 26.16 | 30 | -3.84 |
| | 3 | 2402 | 23.11 | 22.09 | 25.64 | 30 | -4.36 |
| | | 2437 | 24.73 | 23.96 | 27.37 | 30 | -2.63 |
| | | 2477 | 23.77 | 22.35 | 26.13 | 30 | -3.87 |
| High Power (TX Gain Setting 24) 4 MHz Bandwidth | 4 | 2407 | 26.83 | 27.04 | 29.95 | 30 | -0.05 |
| | | 2437 | 26.77 | 27.18 | 29.99 | 30 | -0.01 |
| | | 2477 | 26.84 | 27.10 | 29.98 | 30 | -0.02 |
| | 5 | 2407 | 26.28 | 24.96 | 28.68 | 30 | -1.32 |
| | | 2437 | 26.85 | 27.12 | 30.00 | 30 | 0.00 |
| | | 2477 | 26.79 | 26.98 | 29.90 | 30 | -0.10 |
| | 6 | 2407 | 26.95 | 24.95 | 29.07 | 30 | -0.93 |
| | | 2437 | 26.93 | 27.05 | 30.00 | 30 | 0.00 |
| | | 2477 | 26.90 | 26.91 | 29.92 | 30 | -0.08 |
| | 7 | 2407 | 26.57 | 25.76 | 29.19 | 30 | -0.81 |
| | | 2437 | 26.96 | 27.00 | 29.99 | 30 | -0.01 |
| | | 2477 | 26.86 | 25.82 | 29.38 | 30 | -0.62 |

| High Power, 8 MHz Bandwidth, Tx Gain Setting 22 (for Data Rates 1, 2 & 3) / 24 (for Data Rates 4, 5, 6 & 7) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Mode | Data Rate | Frequency (MHz) | Peak Power (dBm) | | Total Peak Power (dBm) | Peak Power Limit (dBm) | Margin (dBm) |
| | | | Chain # 1 | Chain # 2 | | | |
| High Power (TX Gain Setting 22) 8 MHz Bandwidth | 1 | 2407 | 23.32 | 21.51 | 25.52 | 30 | -4.48 |
| | | 2437 | 24.73 | 23.84 | 27.32 | 30 | -2.68 |
| | | 2477 | 23.71 | 22.85 | 26.31 | 30 | -3.69 |
| | 2 | 2407 | 23.33 | 22.28 | 25.85 | 30 | -4.15 |
| | | 2437 | 24.67 | 24.96 | 27.83 | 30 | -2.17 |
| | | 2477 | 23.84 | 22.49 | 26.23 | 30 | -3.77 |
| | 3 | 2407 | 23.11 | 21.96 | 25.58 | 30 | -4.42 |
| | | 2437 | 25.10 | 25.17 | 28.15 | 30 | -1.85 |
| | | 2477 | 23.92 | 23.11 | 26.54 | 30 | -3.46 |
| High Power (TX Gain Setting 24) 8 MHz Bandwidth | 4 | 2407 | 26.98 | 25.13 | 29.16 | 30 | -0.84 |
| | | 2437 | 26.85 | 27.10 | 29.99 | 30 | -0.01 |
| | | 2477 | 27.09 | 24.74 | 29.08 | 30 | -0.92 |
| | 5 | 2407 | 25.84 | 26.31 | 29.09 | 30 | -0.91 |
| | | 2437 | 26.86 | 27.12 | 30.00 | 30 | 0.00 |
| | | 2477 | 26.99 | 26.47 | 29.75 | 30 | -0.25 |
| | 6 | 2407 | 25.58 | 25.78 | 28.69 | 30 | -1.31 |
| | | 2437 | 26.92 | 27.05 | 30.00 | 30 | 0.00 |
| | | 2477 | 26.55 | 26.85 | 29.71 | 30 | -0.29 |
| | 7 | 2407 | 26.98 | 25.34 | 29.25 | 30 | -0.75 |
| | | 2437 | 26.97 | 27.00 | 30.00 | 30 | 0.00 |
| | | 2477 | 26.98 | 26.98 | 29.99 | 30 | -0.01 |

| Low Power, 4 MHz Bandwidth, Tx Gain Setting 0 (for Data Rates 1 to 7) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Mode | Data Rate | Frequency (MHz) | Peak Power (dBm) | | Total Peak Power (dBm) | Peak Power Limit (dBm) | Margin (dBm) |
| | | | Chain # 1 | Chain # 2 | | | |
| Low Power (TX Gain Setting 0) 4 MHz Bandwidth | 1 | 2402 | 11.26 | 9.64 | 13.54 | 30 | -16.46 |
| | | 2437 | 12.88 | 12.96 | 15.93 | 30 | -14.07 |
| | | 2477 | 12.26 | 10.63 | 14.53 | 30 | -15.47 |
| | 2 | 2402 | 10.73 | 9.61 | 13.22 | 30 | -16.78 |
| | | 2437 | 12.85 | 12.62 | 15.75 | 30 | -14.25 |
| | | 2477 | 12.19 | 10.31 | 14.36 | 30 | -15.64 |
| | 3 | 2402 | 11.10 | 9.48 | 13.38 | 30 | -16.62 |
| | | 2437 | 12.61 | 13.06 | 15.85 | 30 | -14.15 |
| | | 2477 | 12.21 | 10.26 | 14.35 | 30 | -15.65 |
| | 4 | 2407 | 13.33 | 12.46 | 15.93 | 30 | -14.07 |
| | | 2437 | 14.91 | 15.24 | 18.09 | 30 | -11.91 |
| | | 2477 | 14.13 | 13.13 | 16.67 | 30 | -13.33 |
| | 5 | 2407 | 13.48 | 14.44 | 17.00 | 30 | -13.00 |
| | | 2437 | 14.26 | 14.67 | 17.48 | 30 | -12.52 |
| | | 2477 | 13.99 | 12.56 | 16.34 | 30 | -13.66 |
| | 6 | 2407 | 13.18 | 12.68 | 15.95 | 30 | -14.05 |
| | | 2437 | 14.52 | 14.75 | 17.65 | 30 | -12.35 |
| | | 2477 | 14.18 | 12.05 | 16.25 | 30 | -13.75 |
| | 7 | 2407 | 13.47 | 12.28 | 15.93 | 30 | -14.07 |
| | | 2437 | 14.47 | 15.02 | 17.76 | 30 | -12.24 |
| | | 2477 | 13.84 | 12.07 | 16.05 | 30 | -13.95 |

| Low Power, 8 MHz Bandwidth, Tx Gain Setting 0 (for Data Rates 1 to 7) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Mode | Data Rate | Frequency (MHz) | Peak Power (dBm) | | Total Peak Power (dBm) | Peak Power Limit (dBm) | Margin (dBm) |
| | | | Chain # 1 | Chain # 2 | | | |
| Low Power (TX Gain Setting 0) 8 MHz Bandwidth | 1 | 2407 | 11.23 | 10.20 | 13.76 | 30 | -16.24 |
| | | 2437 | 12.71 | 13.57 | 16.17 | 30 | -13.83 |
| | | 2477 | 12.41 | 10.86 | 14.71 | 30 | -15.29 |
| | 2 | 2407 | 11.87 | 9.86 | 13.99 | 30 | -16.01 |
| | | 2437 | 12.79 | 13.16 | 15.99 | 30 | -14.01 |
| | | 2477 | 12.47 | 10.98 | 14.80 | 30 | -15.20 |
| | 3 | 2407 | 11.62 | 10.23 | 13.99 | 30 | -16.01 |
| | | 2437 | 13.05 | 13.53 | 16.31 | 30 | -13.69 |
| | | 2477 | 12.48 | 10.86 | 14.76 | 30 | -15.24 |
| | 4 | 2407 | 13.35 | 12.86 | 16.12 | 30 | -13.88 |
| | | 2437 | 14.46 | 15.76 | 18.17 | 30 | -11.83 |
| | | 2477 | 14.12 | 13.48 | 16.82 | 30 | -13.18 |
| | 5 | 2407 | 13.36 | 12.41 | 15.92 | 30 | -14.08 |
| | | 2437 | 14.62 | 14.96 | 17.80 | 30 | -12.20 |
| | | 2477 | 14.24 | 12.55 | 16.49 | 30 | -13.51 |
| | 6 | 2407 | 13.78 | 12.20 | 16.07 | 30 | -13.93 |
| | | 2437 | 14.87 | 15.41 | 18.16 | 30 | -11.84 |
| | | 2477 | 13.79 | 12.98 | 16.41 | 30 | -13.59 |
| | 7 | 2407 | 13.70 | 12.16 | 16.01 | 30 | -13.99 |
| | | 2437 | 15.26 | 15.35 | 18.32 | 30 | -11.68 |
| | | 2477 | 14.96 | 12.64 | 16.96 | 30 | -13.04 |

## 5.4. TRANSMITTER BAND-EDGE & SPURIOUS CONDUCTED EMISSIONS [§ 15.247(d)]

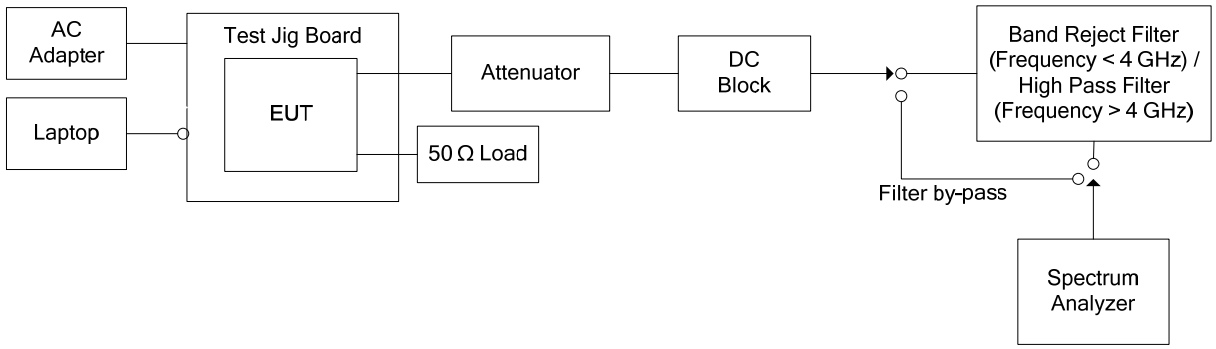
### 5.4.1. Limit(s)

**§ 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)).

### 5.4.2. Method of Measurements

KDB 558074 D01 DTS Meas Guidance V04, Sections 11, 12 and 13.
KDB 662911 D01 Multiple Transmitter Output v02r01 section (E)(3)(b)

### 5.4.3. Test Arrangement

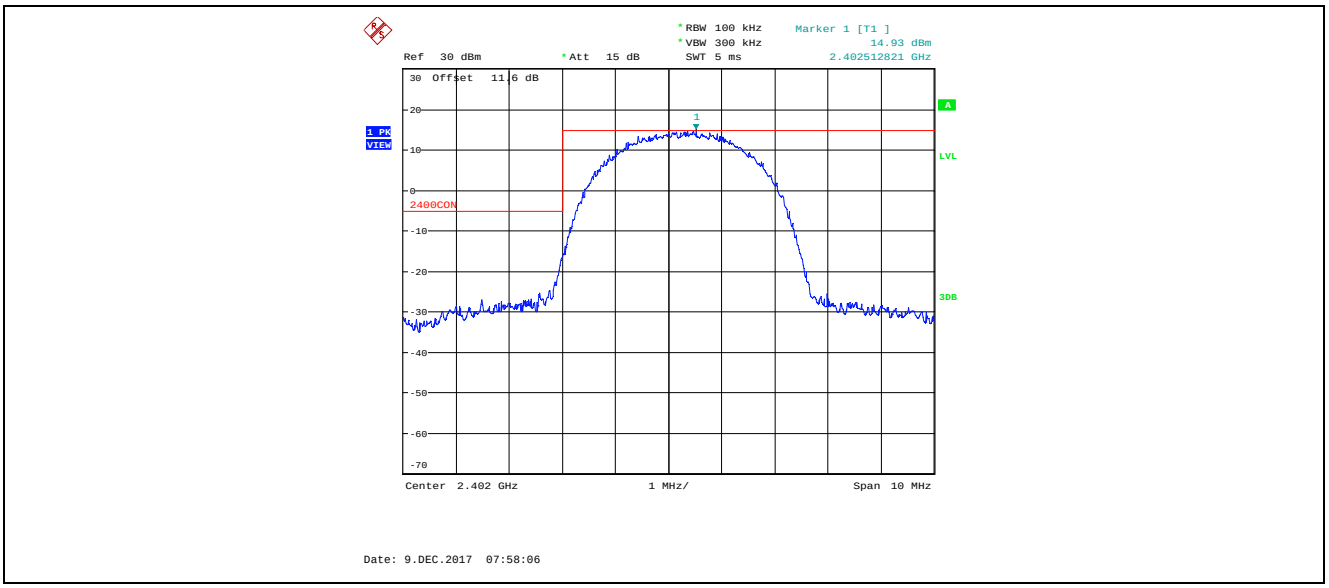


## 5.4.4. Test Data

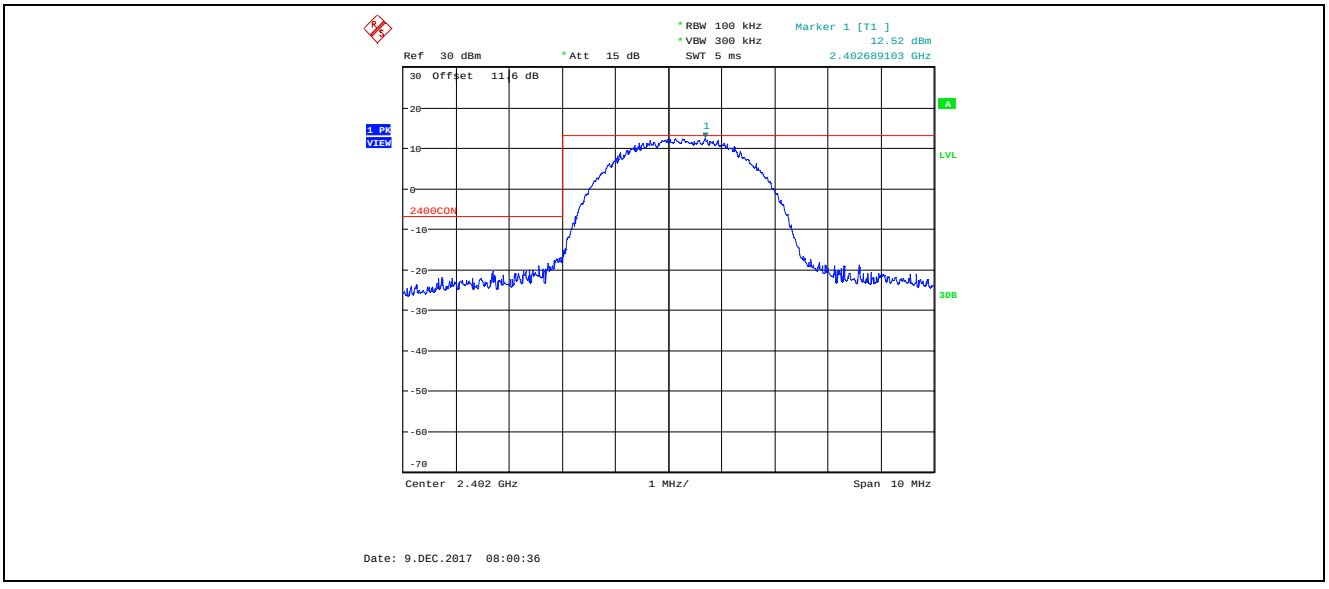
Remark(s): Exploratory tests performed to determined worst-case test configurations, the following test results represent the worst-case.

### 5.4.4.1. Band-Edge RF Conducted Emissions

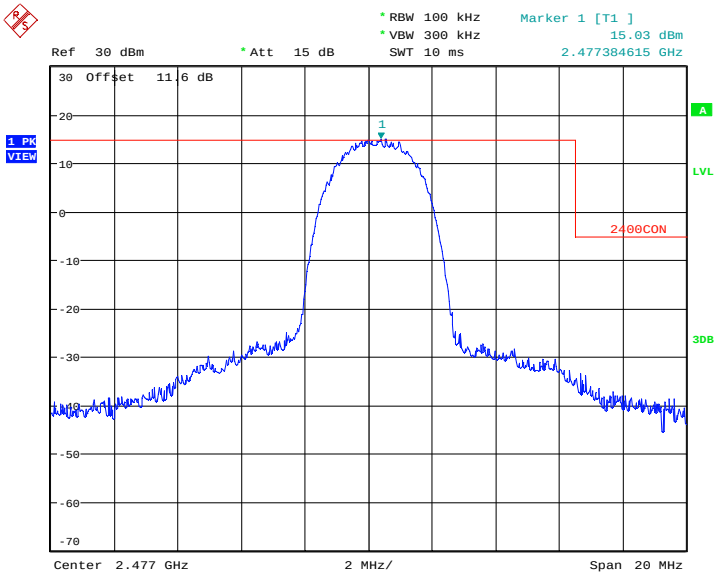
**Plot 5.4.4.1.1.** Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2402 MHz



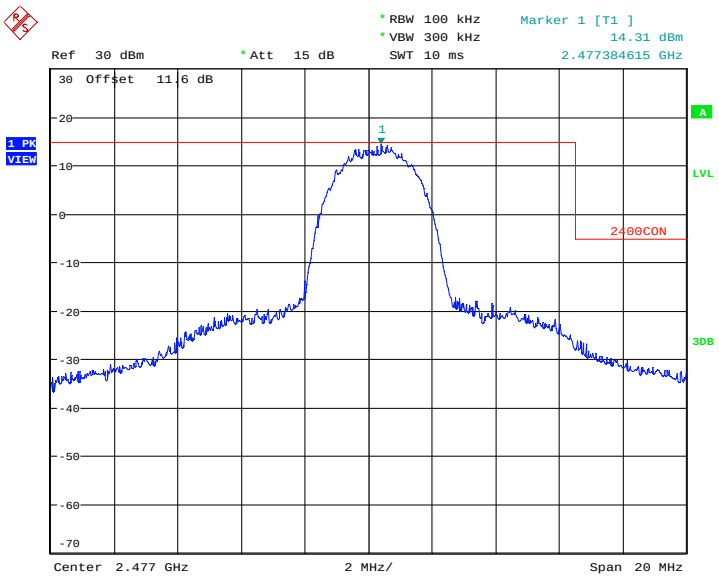

**Plot 5.4.4.1.2.** Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2402 MHz



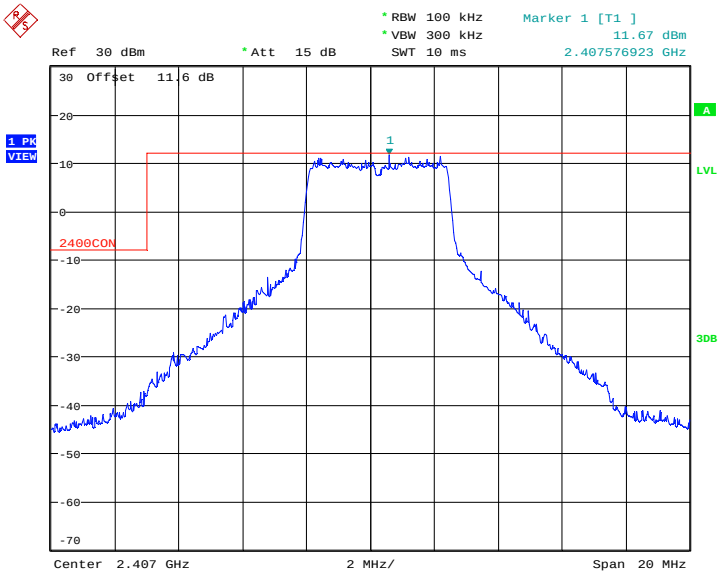
**Plot 5.4.4.1.3.** Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



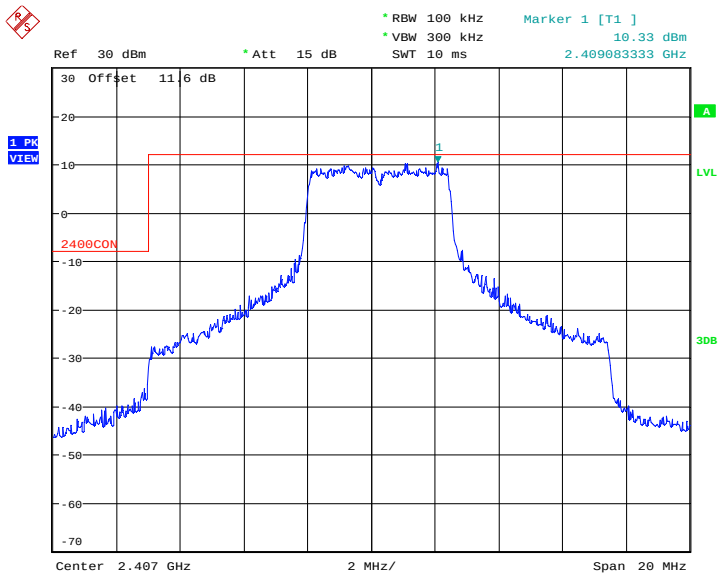

**Plot 5.4.4.1.4.** Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



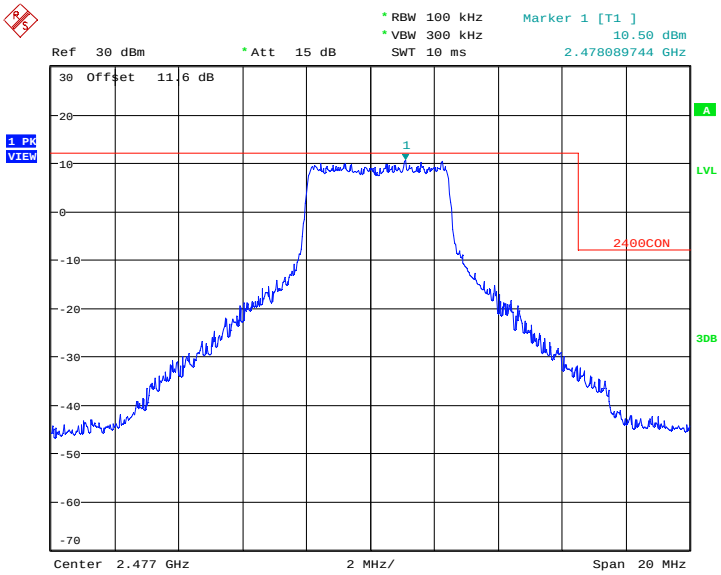
**Plot 5.4.4.1.5.** Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



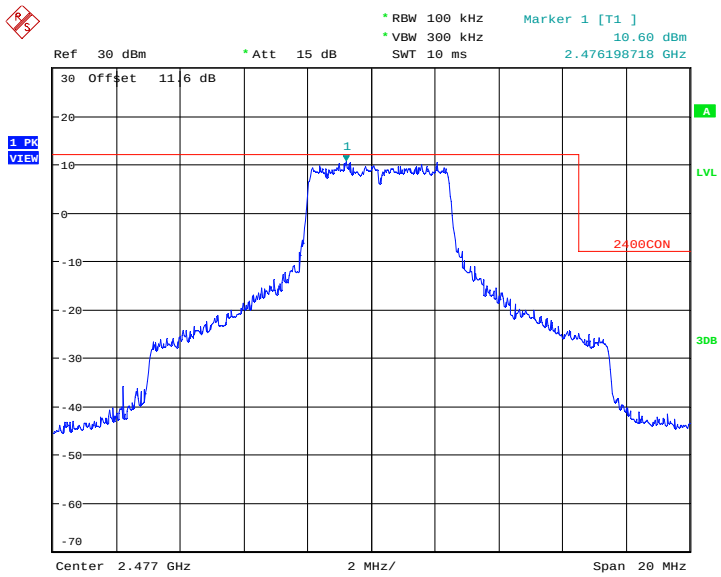

**Plot 5.4.4.1.6.** Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



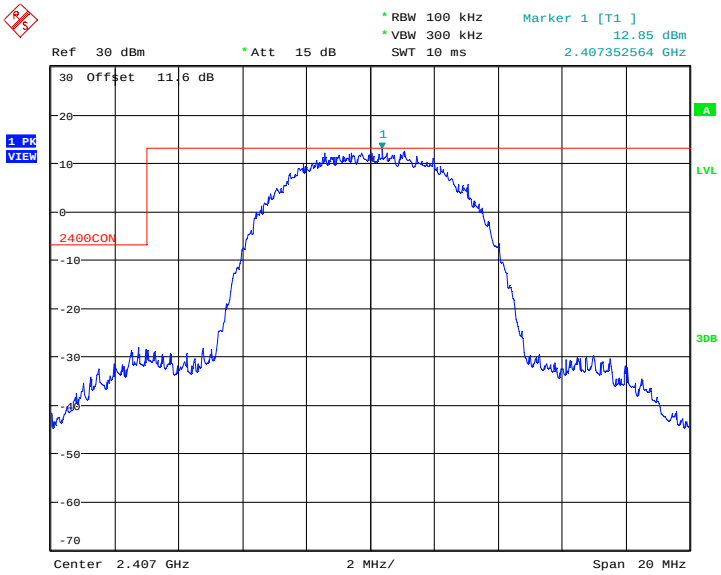
**Plot 5.4.4.1.7.** Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



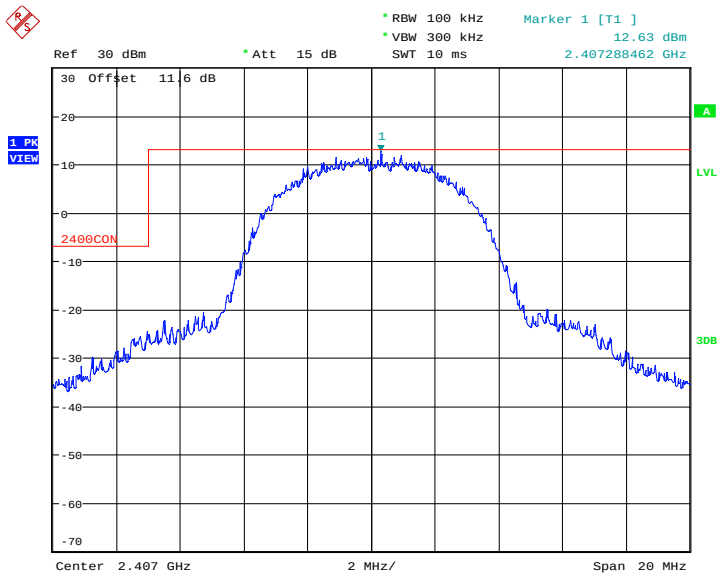

**Plot 5.4.4.1.8.** Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



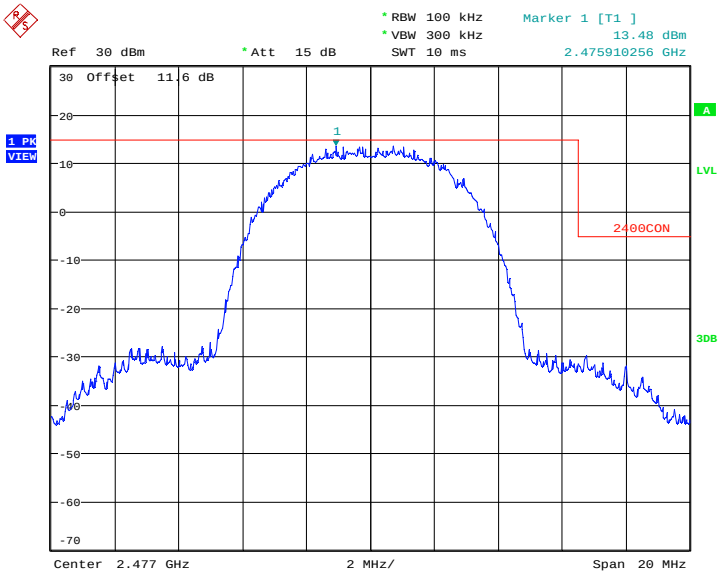
**Plot 5.4.4.1.9.** Band-Edge RF Conducted Emissions, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2407 MHz



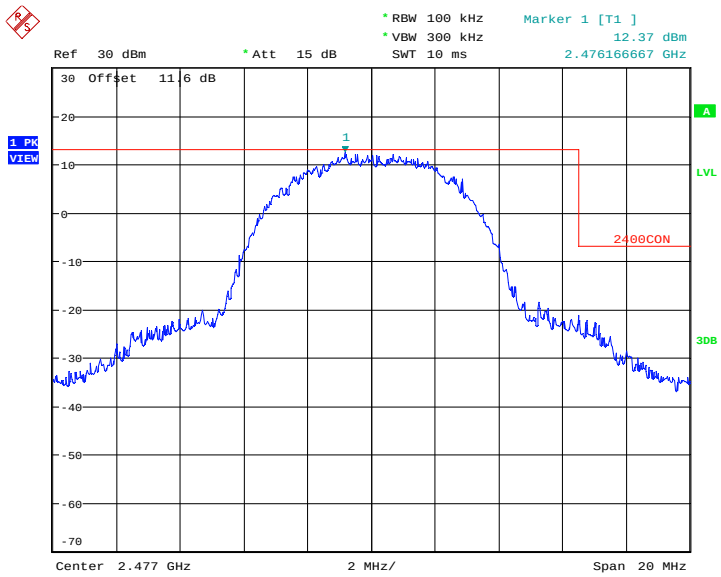

**Plot 5.4.4.1.10.** Band-Edge RF Conducted Emissions, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2407 MHz



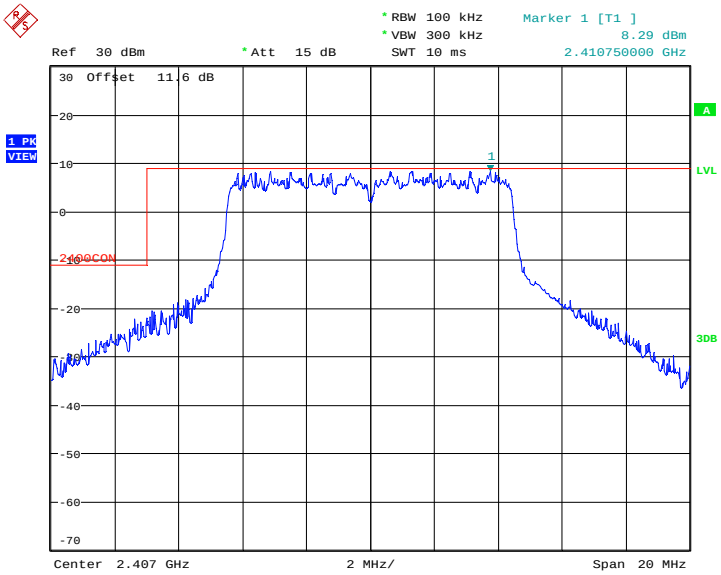
**Plot 5.4.4.1.11.** Band-Edge RF Conducted Emissions, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



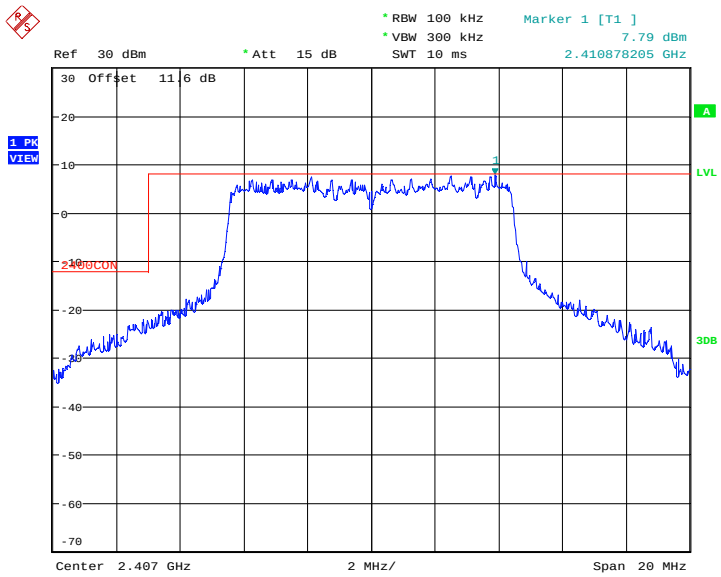

**Plot 5.4.4.1.12.** Band-Edge RF Conducted Emissions, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



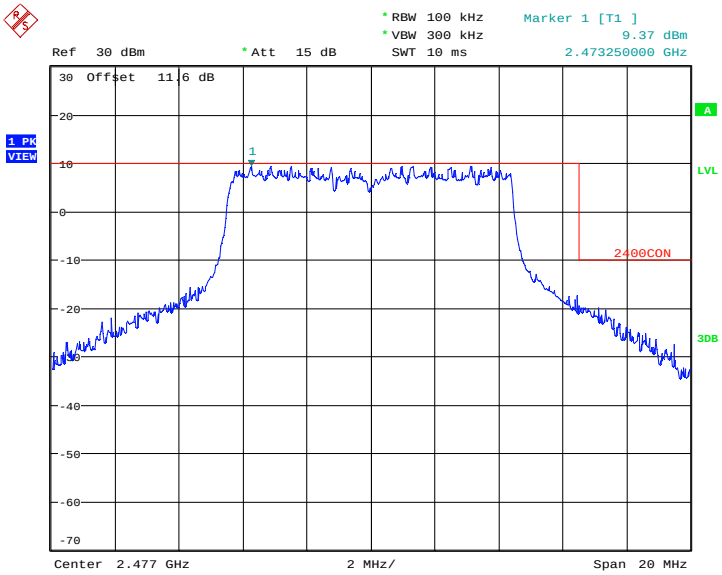
**Plot 5.4.4.1.13.** Band-Edge RF Conducted Emissions, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



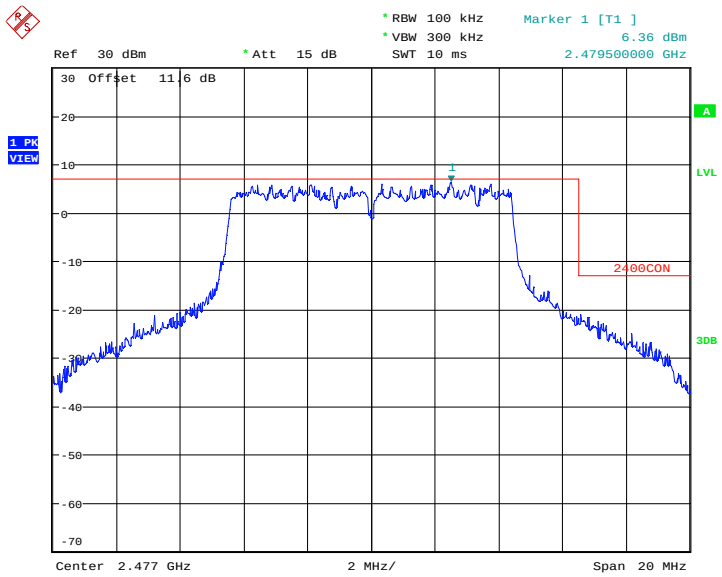

**Plot 5.4.4.1.14.** Band-Edge RF Conducted Emissions, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



**Plot 5.4.4.1.15.** Band-Edge RF Conducted Emissions
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz

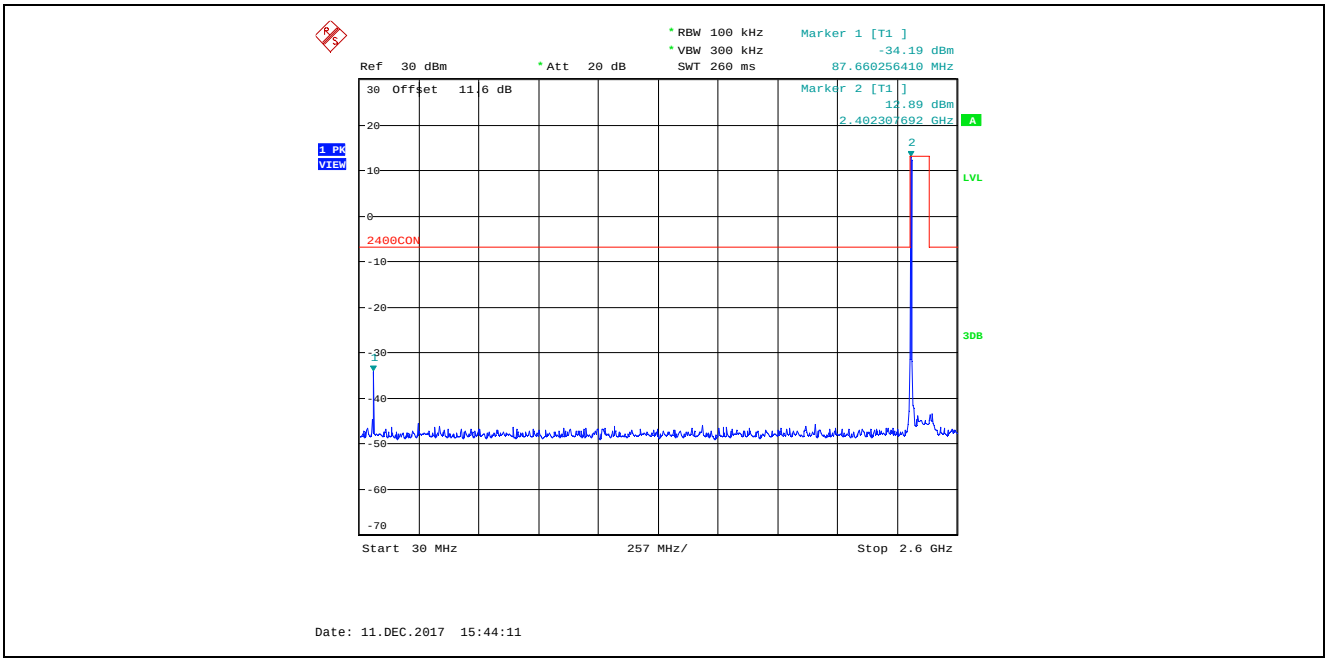



**Plot 5.4.4.1.16.** Band-Edge RF Conducted Emissions
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz

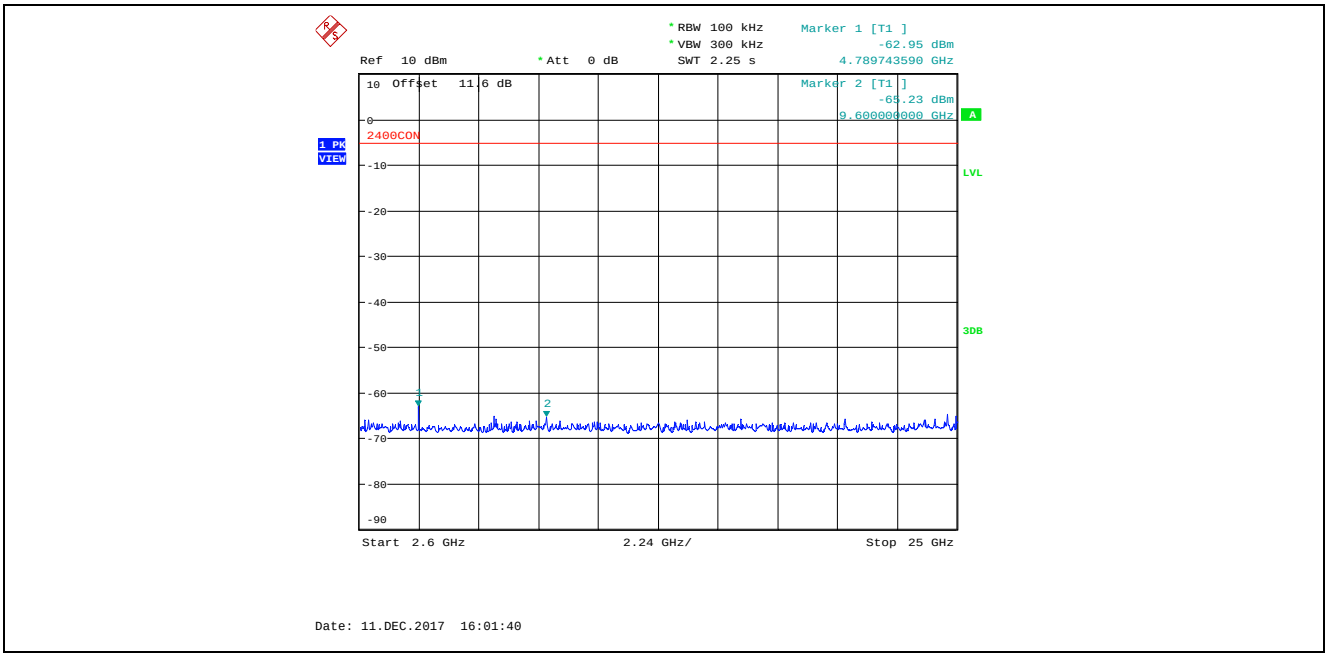


## 5.4.4.2. Spurious RF Conducted Emissions in Non-restricted Frequency Bands

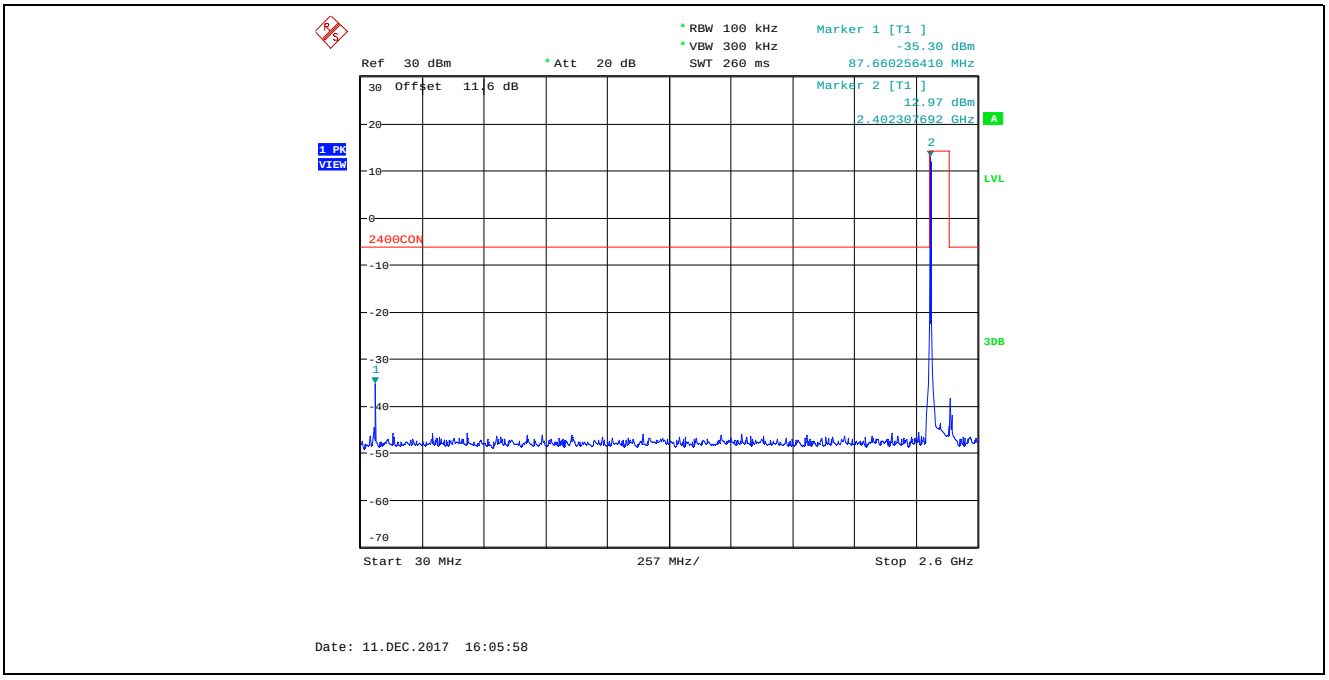
**Plot 5.4.4.2.1.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



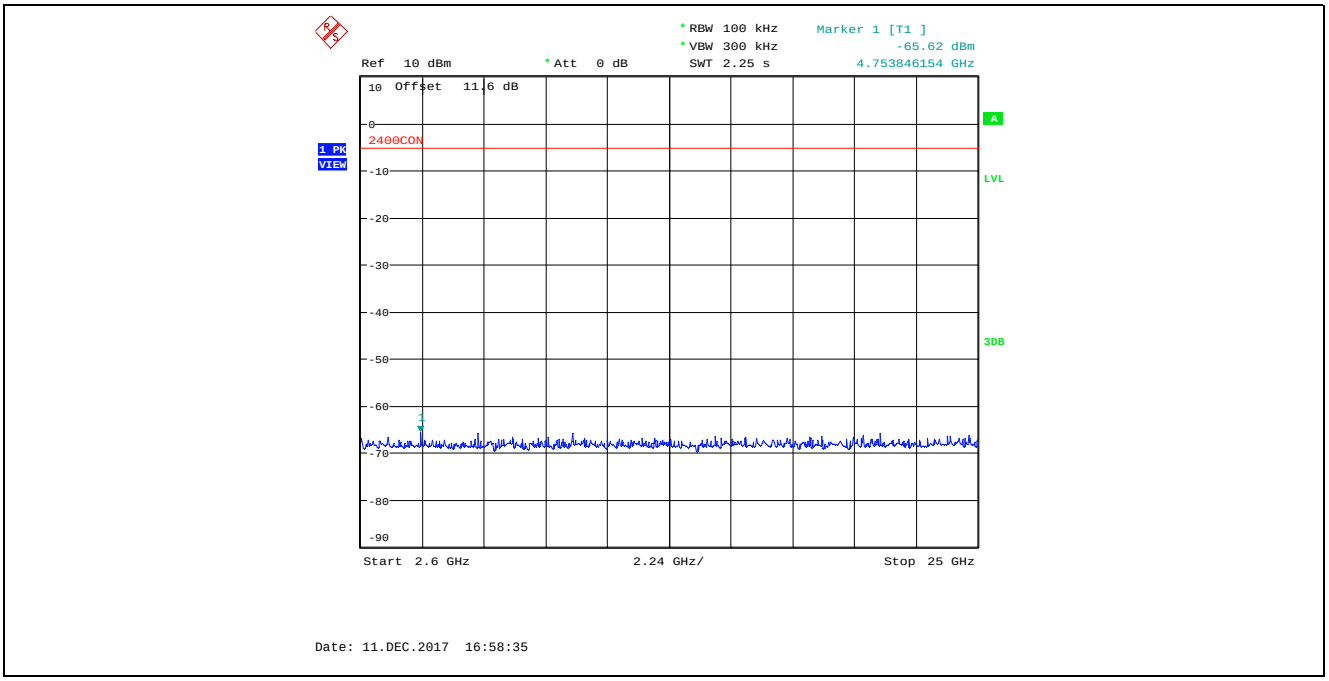

**Plot 5.4.4.2.2.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



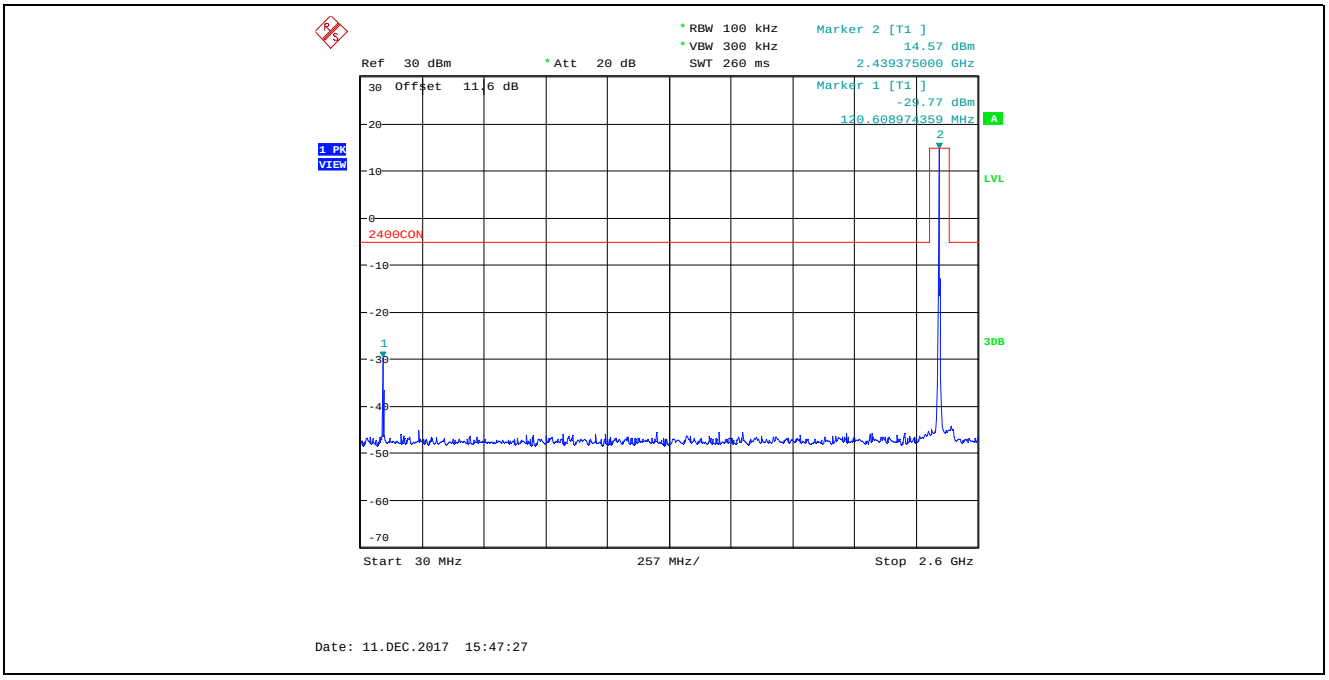
**Plot 5.4.4.2.3.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



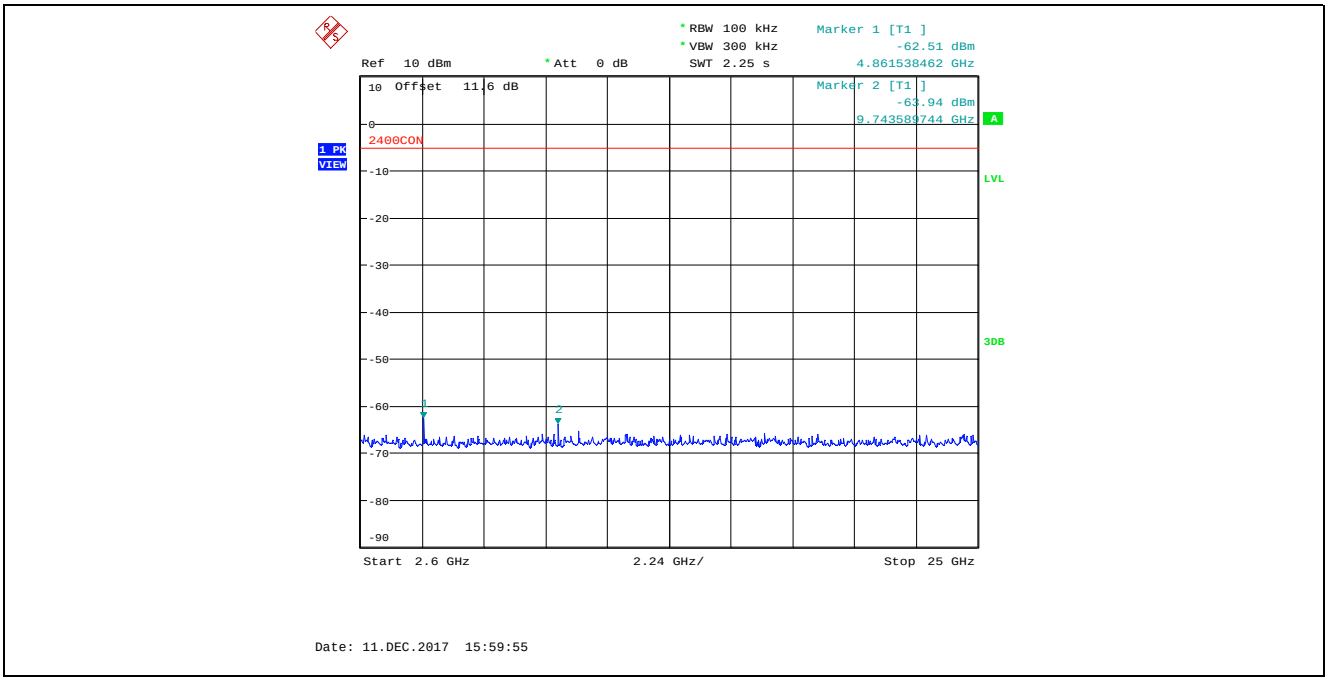

**Plot 5.4.4.2.4.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



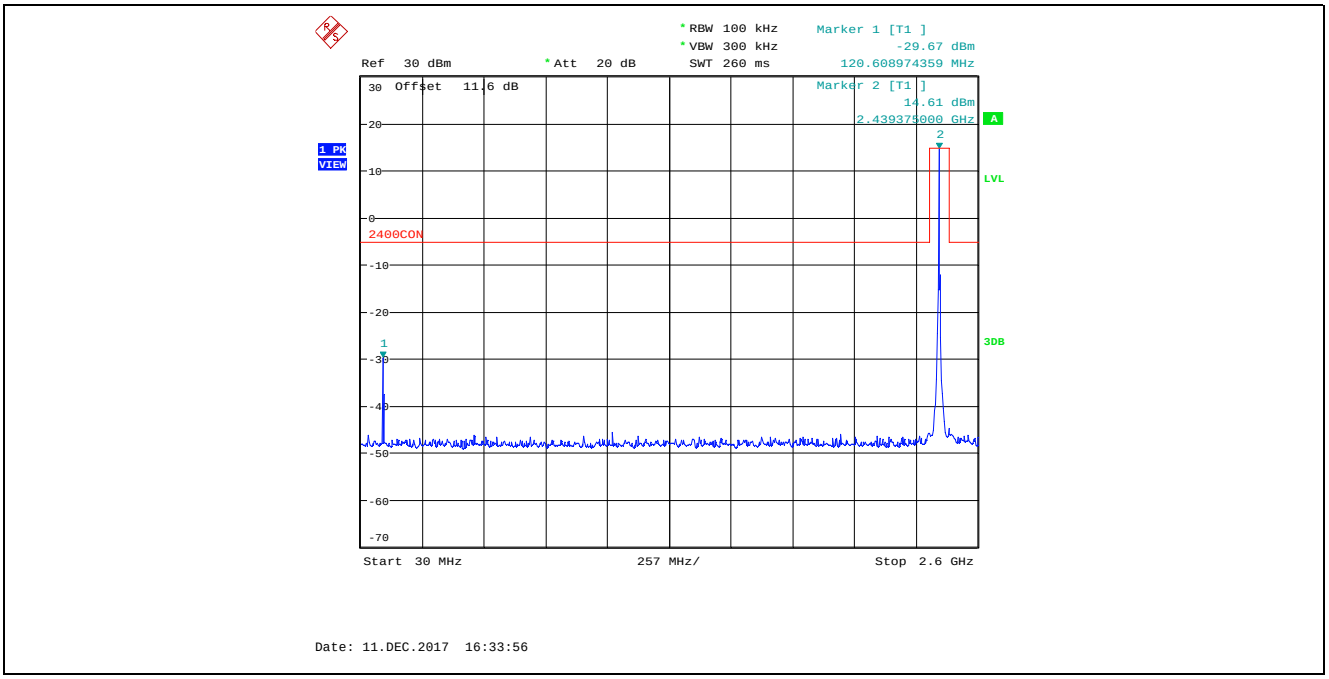
**Plot 5.4.4.2.5.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



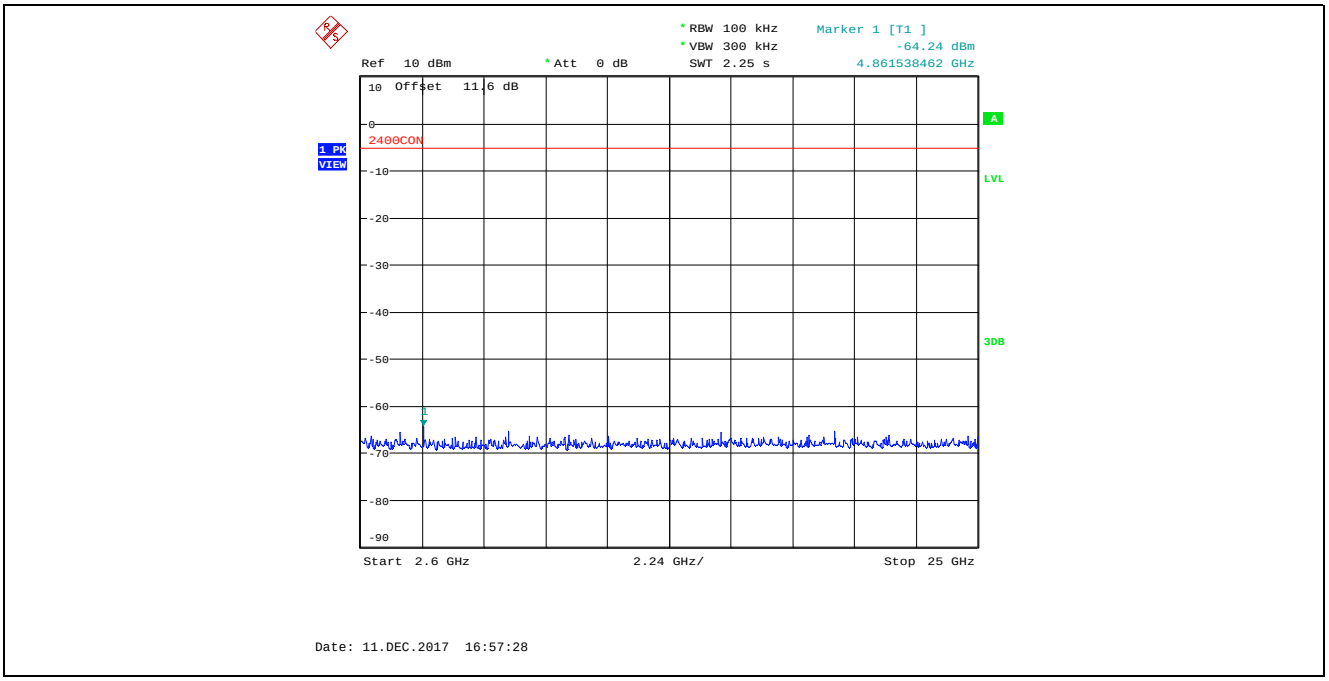

**Plot 5.4.4.2.6.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



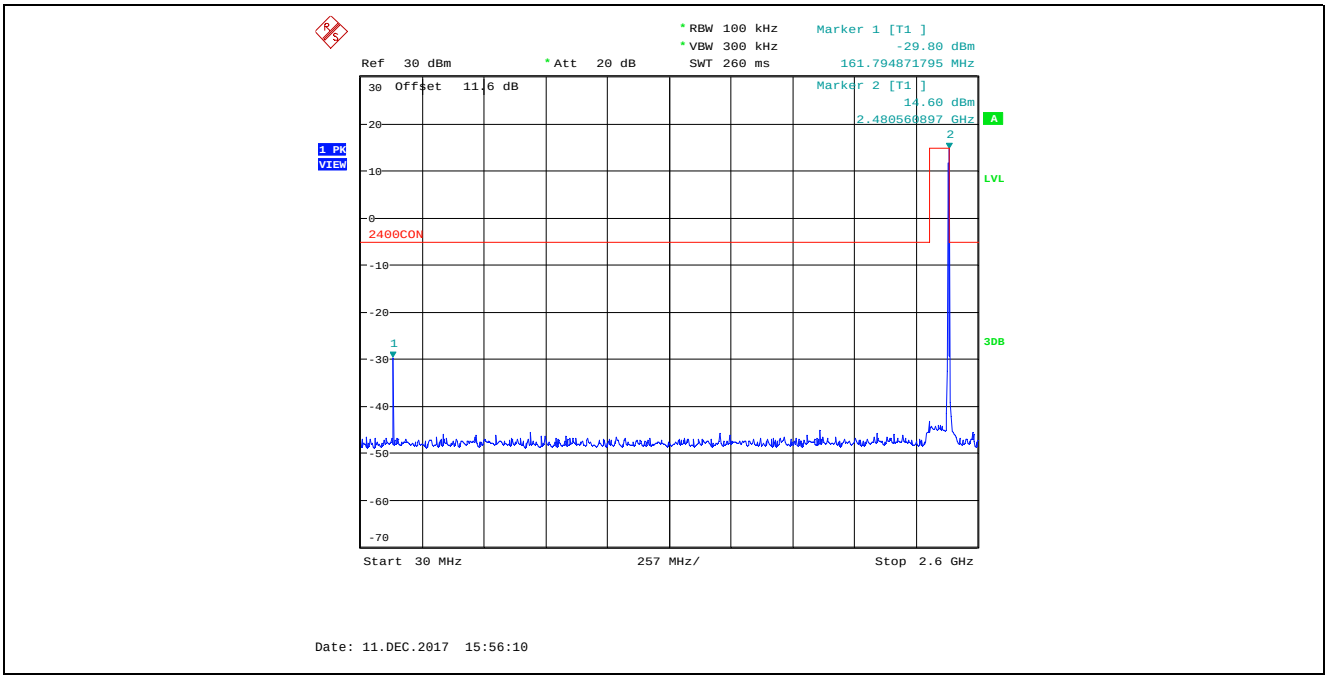
**Plot 5.4.4.2.7.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



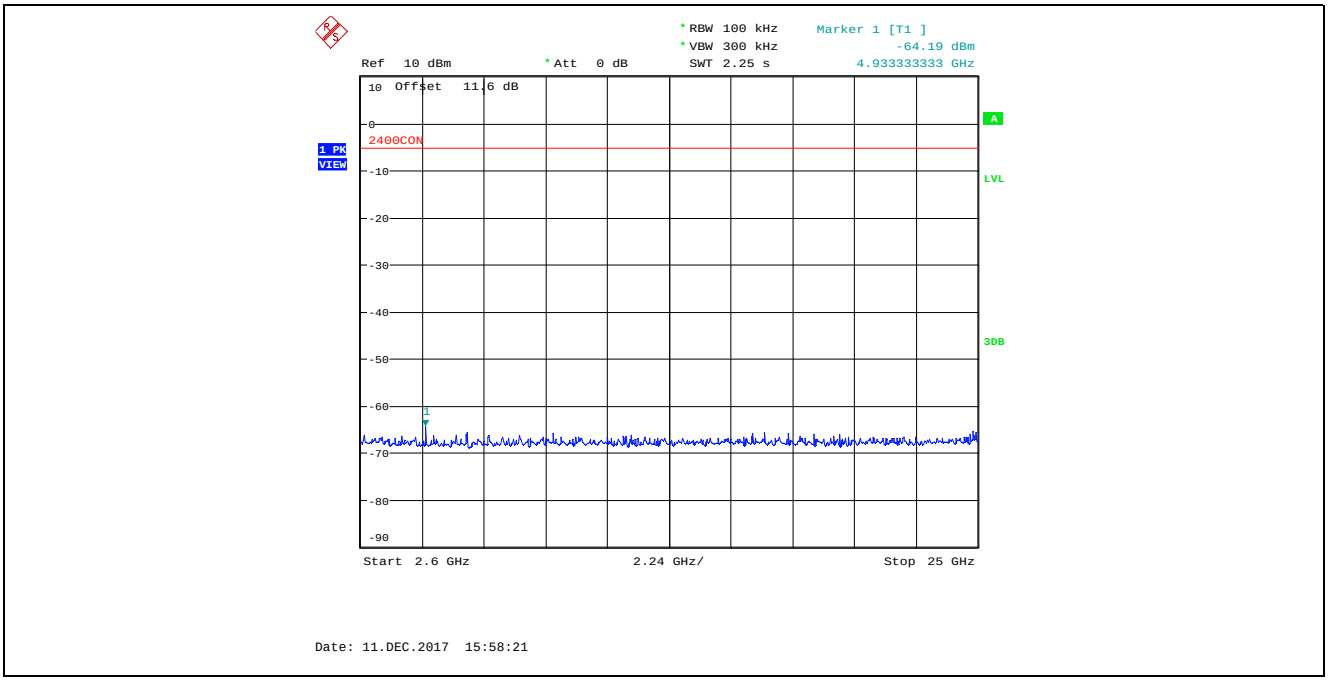

**Plot 5.4.4.2.8.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



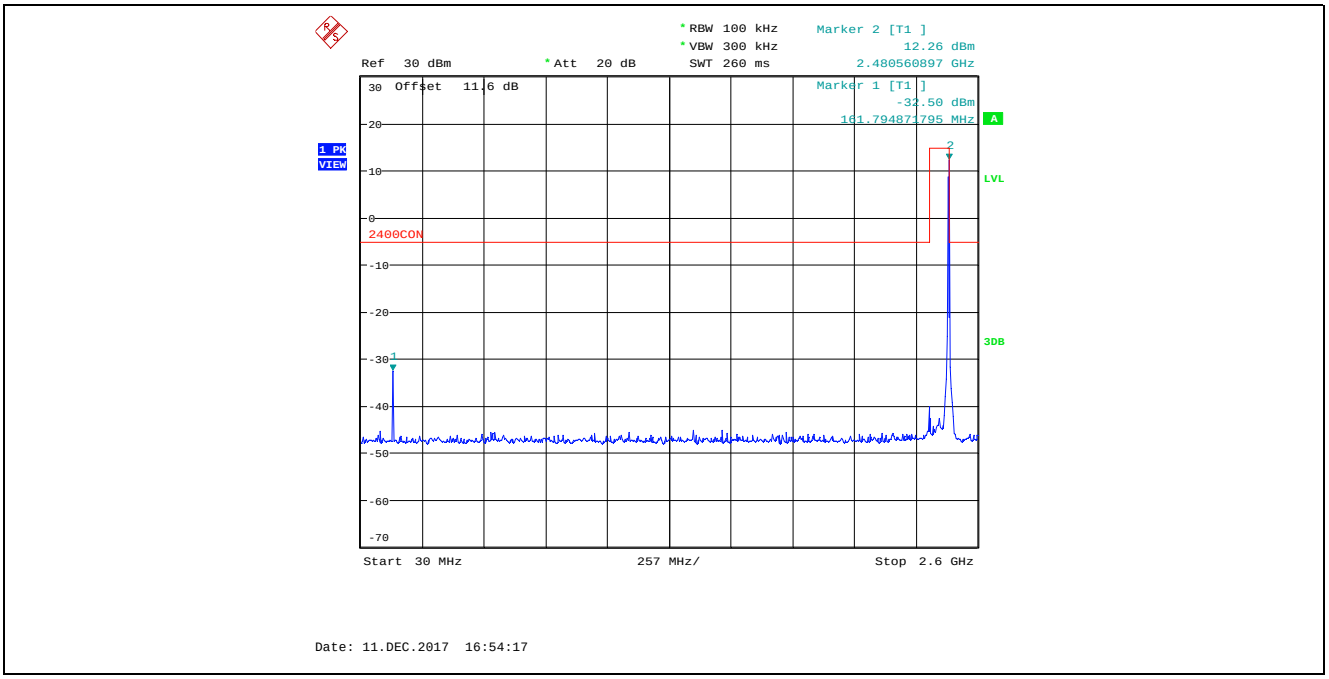
**Plot 5.4.4.2.9.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



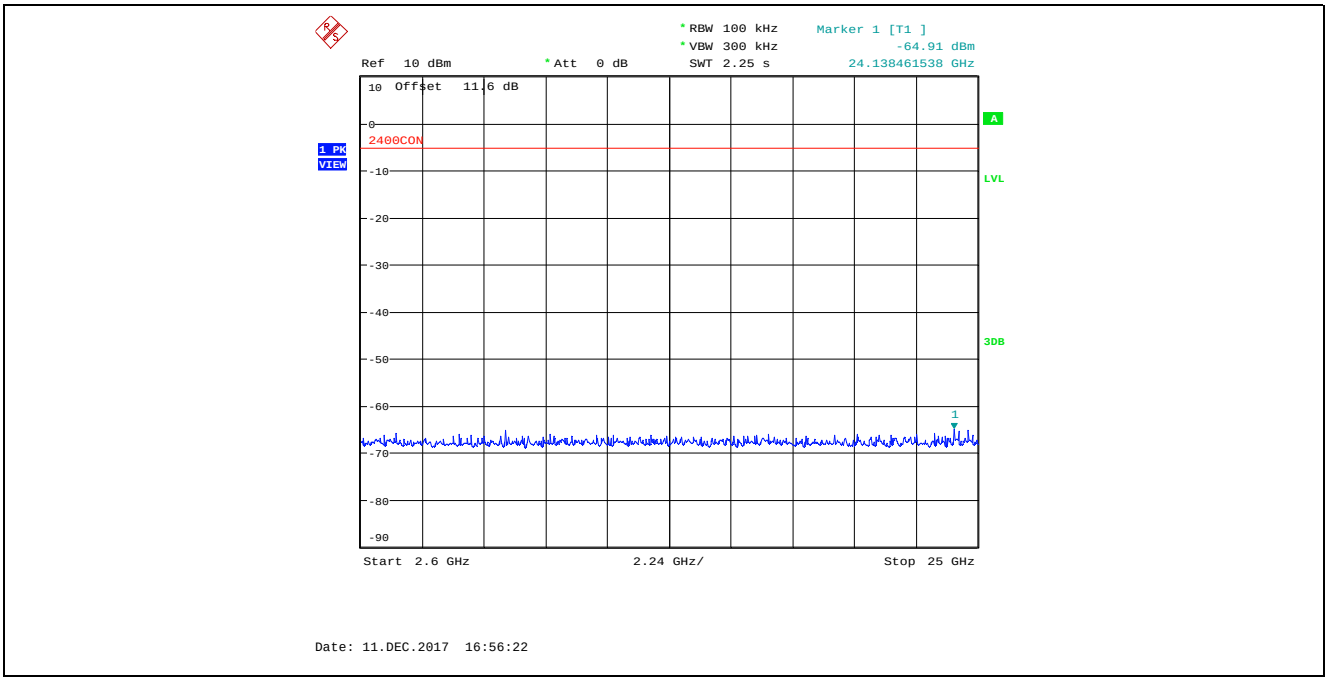

**Plot 5.4.4.2.10.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



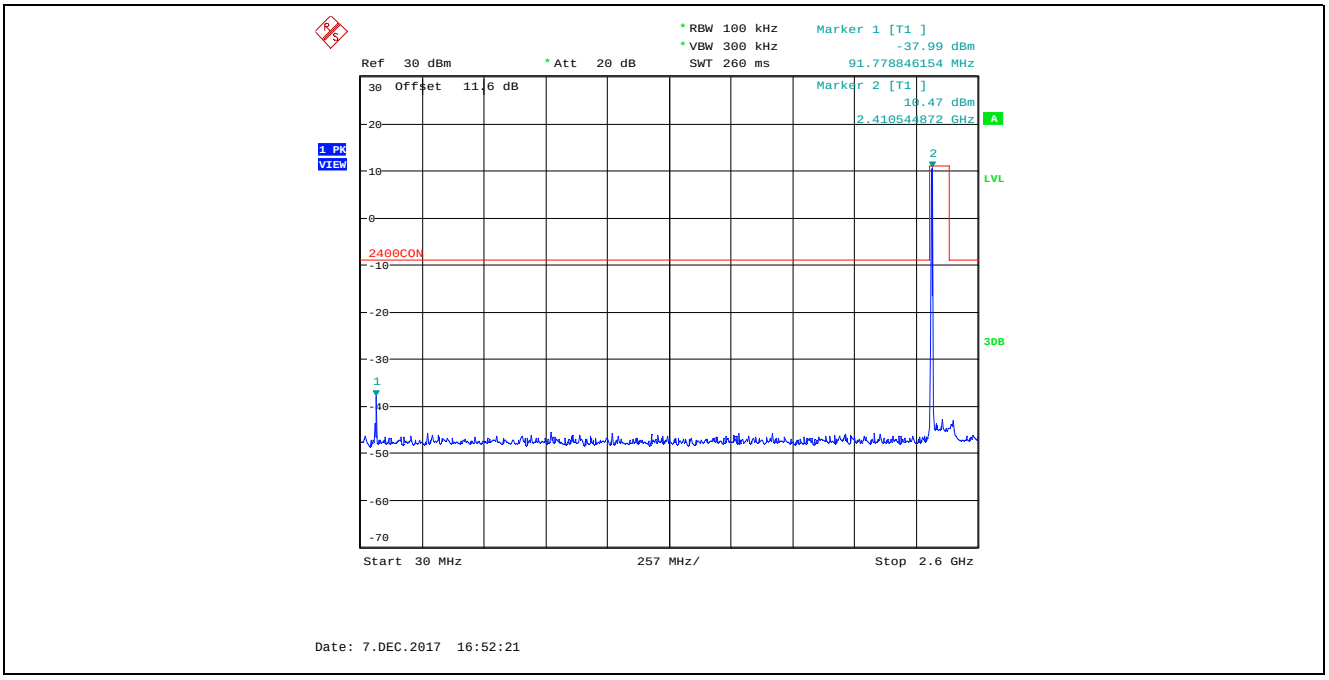
**Plot 5.4.4.2.11.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



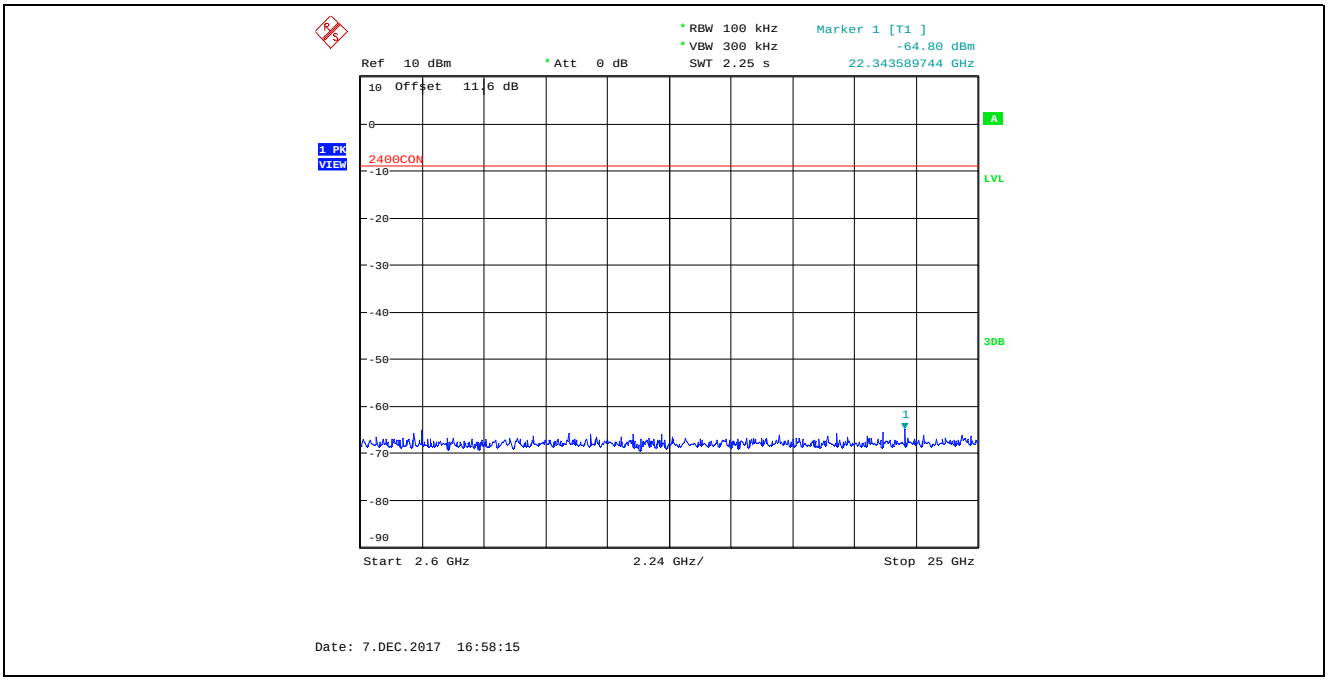

**Plot 5.4.4.2.12.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



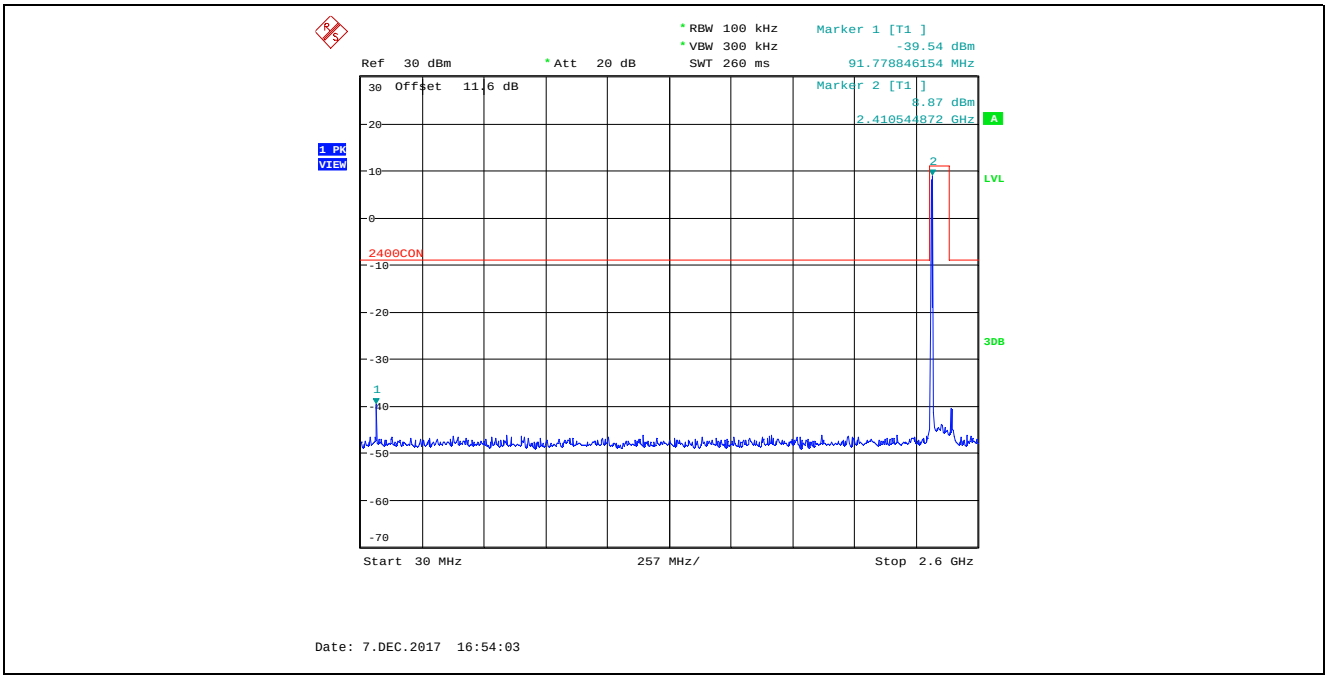
**Plot 5.4.4.2.13.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



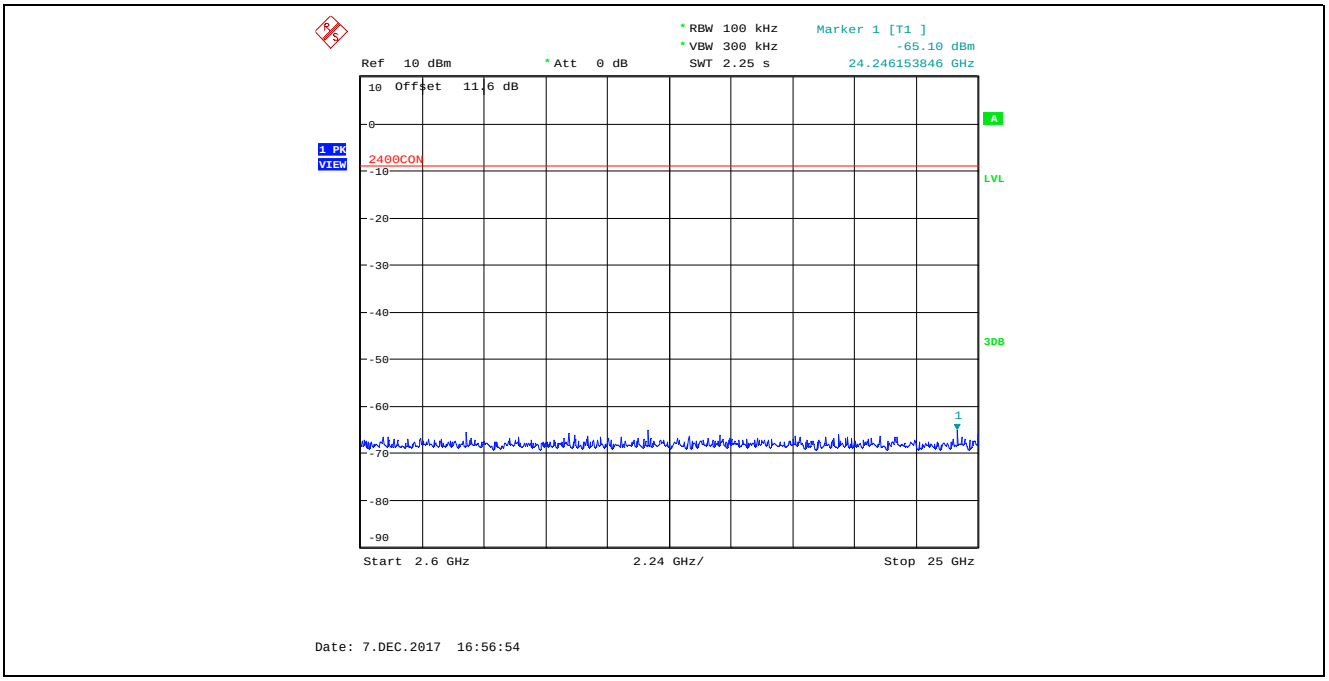

**Plot 5.4.4.2.14.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



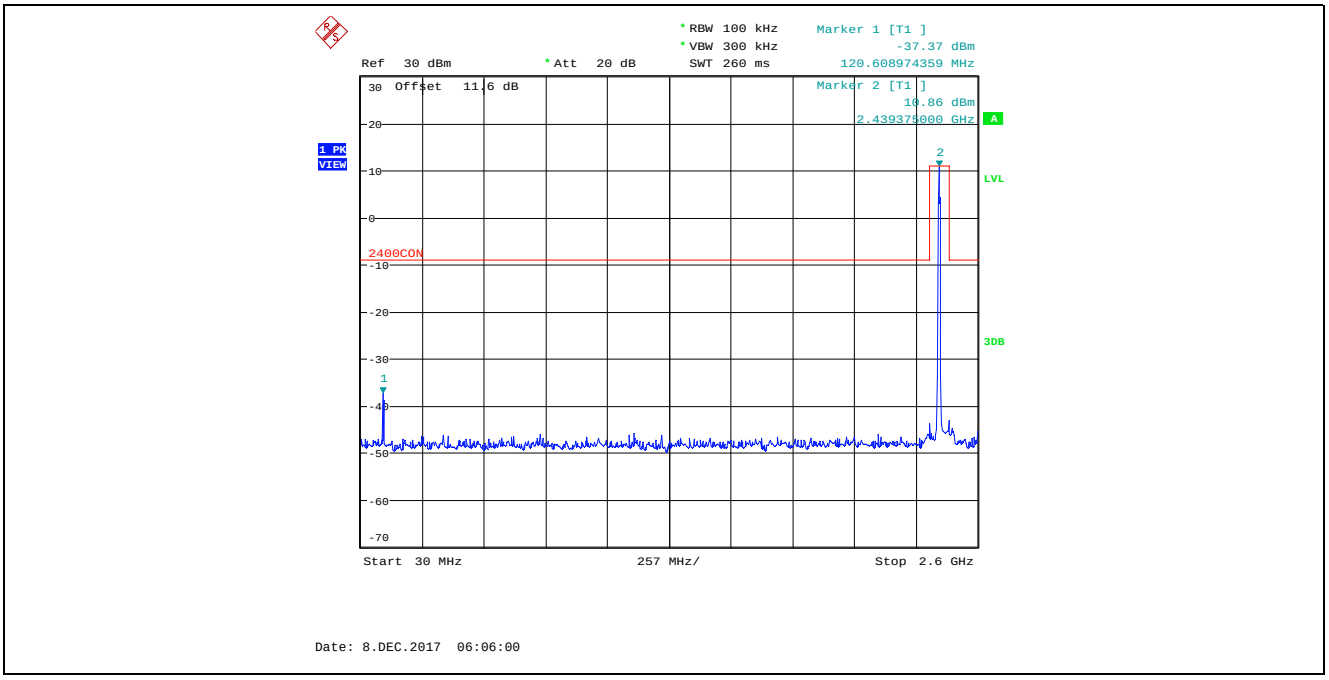
**Plot 5.4.4.2.15.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



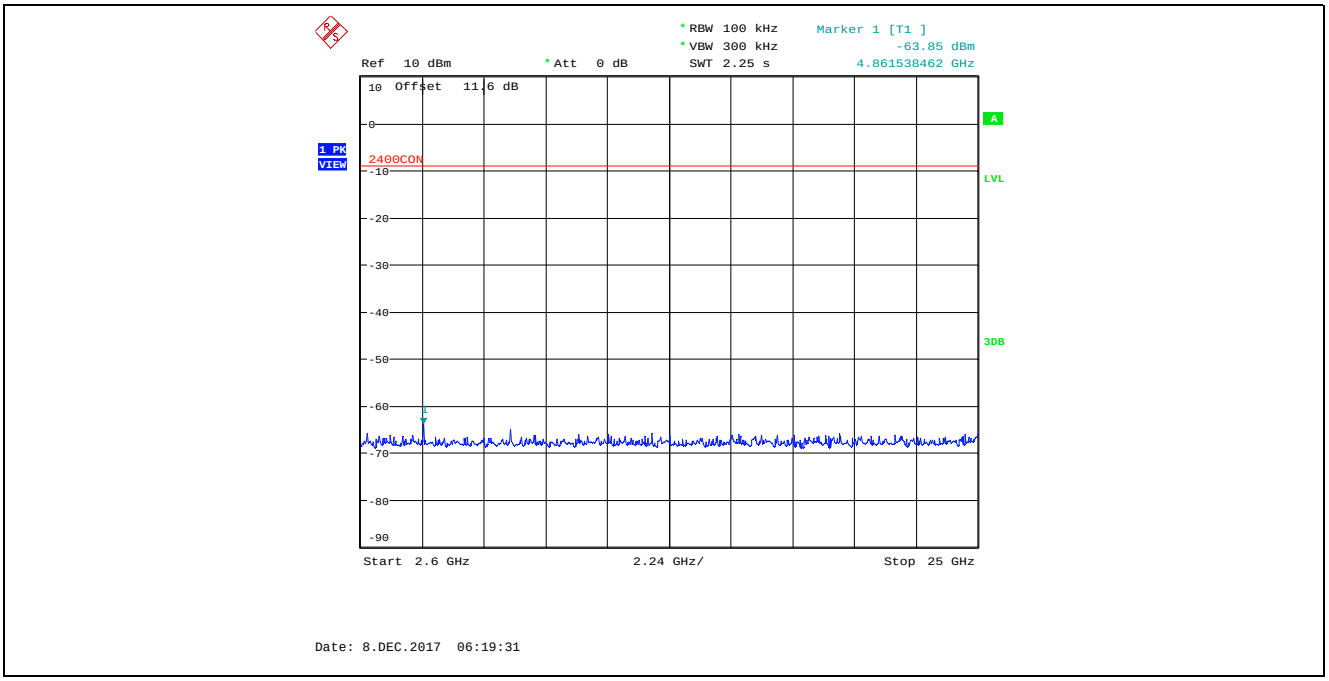

**Plot 5.4.4.2.16.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



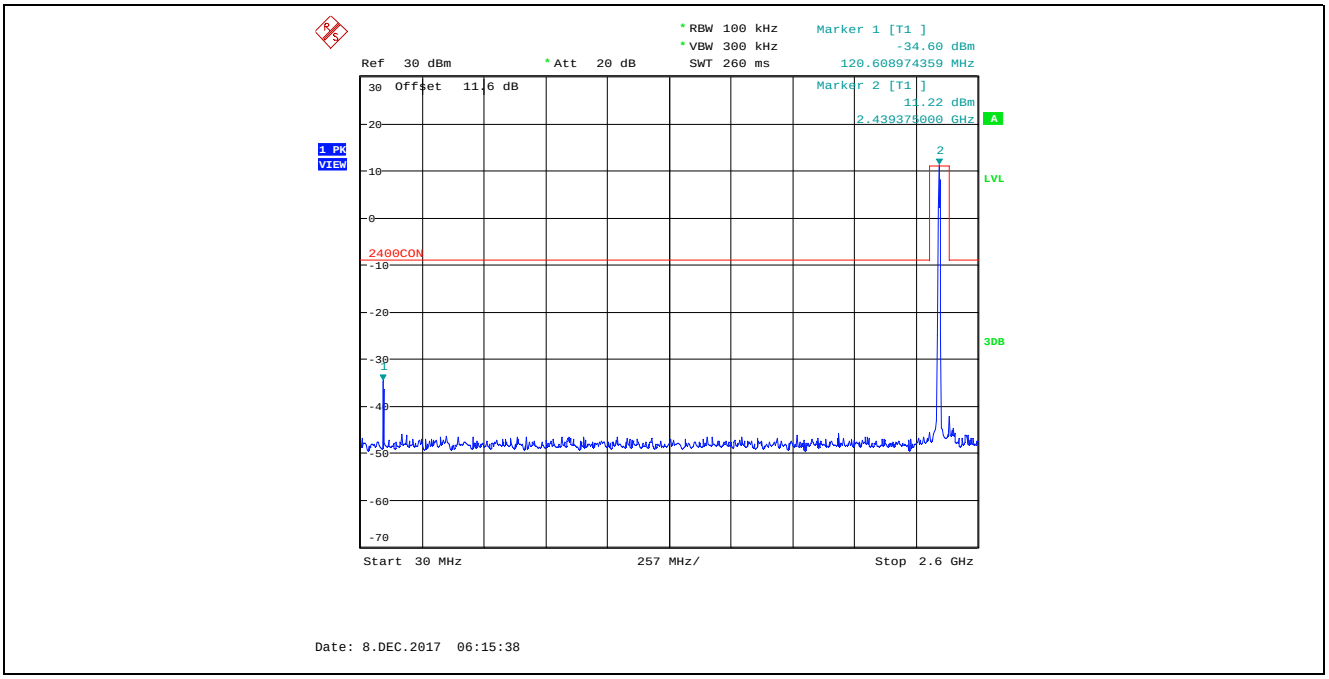
**Plot 5.4.4.2.17.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



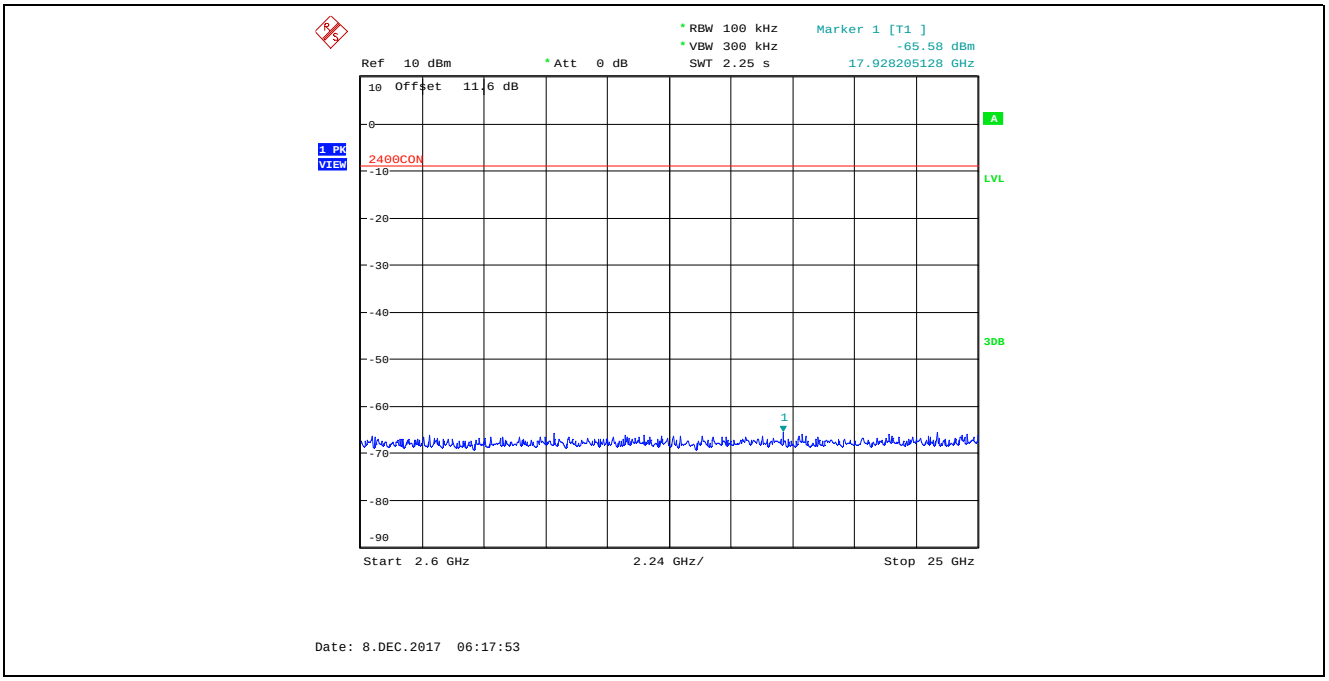

**Plot 5.4.4.2.18.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



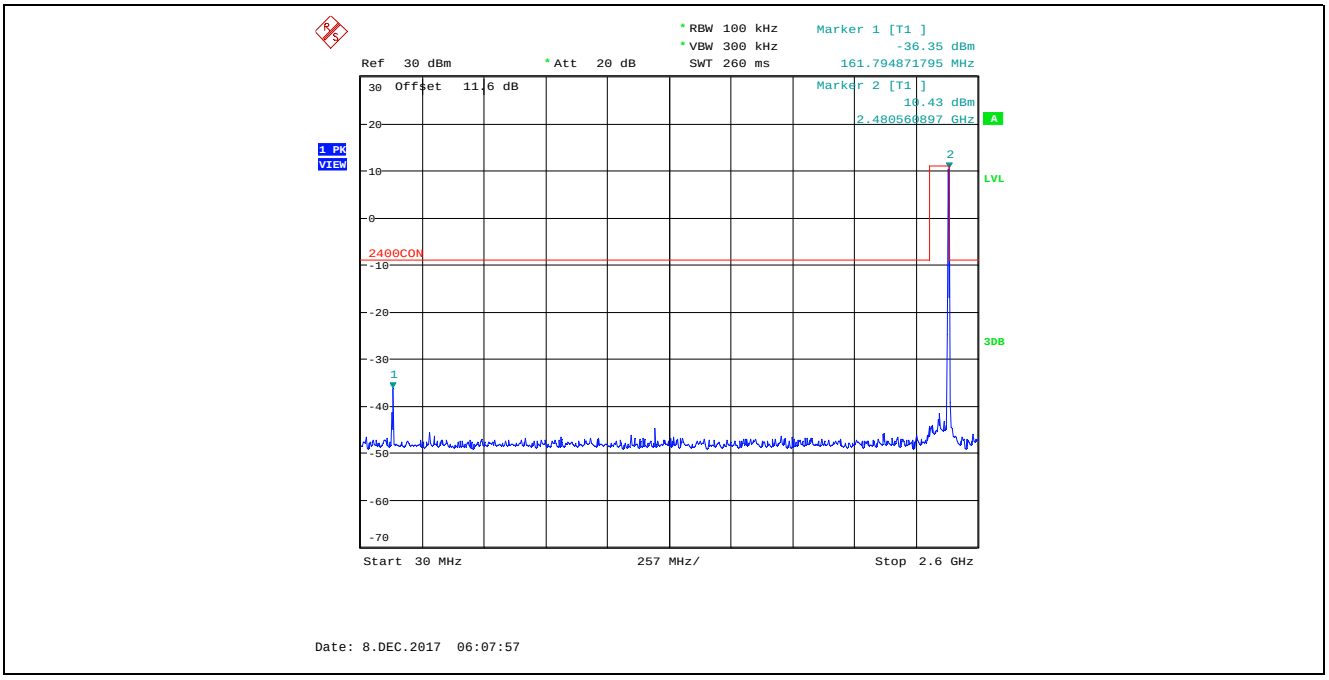
**Plot 5.4.4.2.19.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



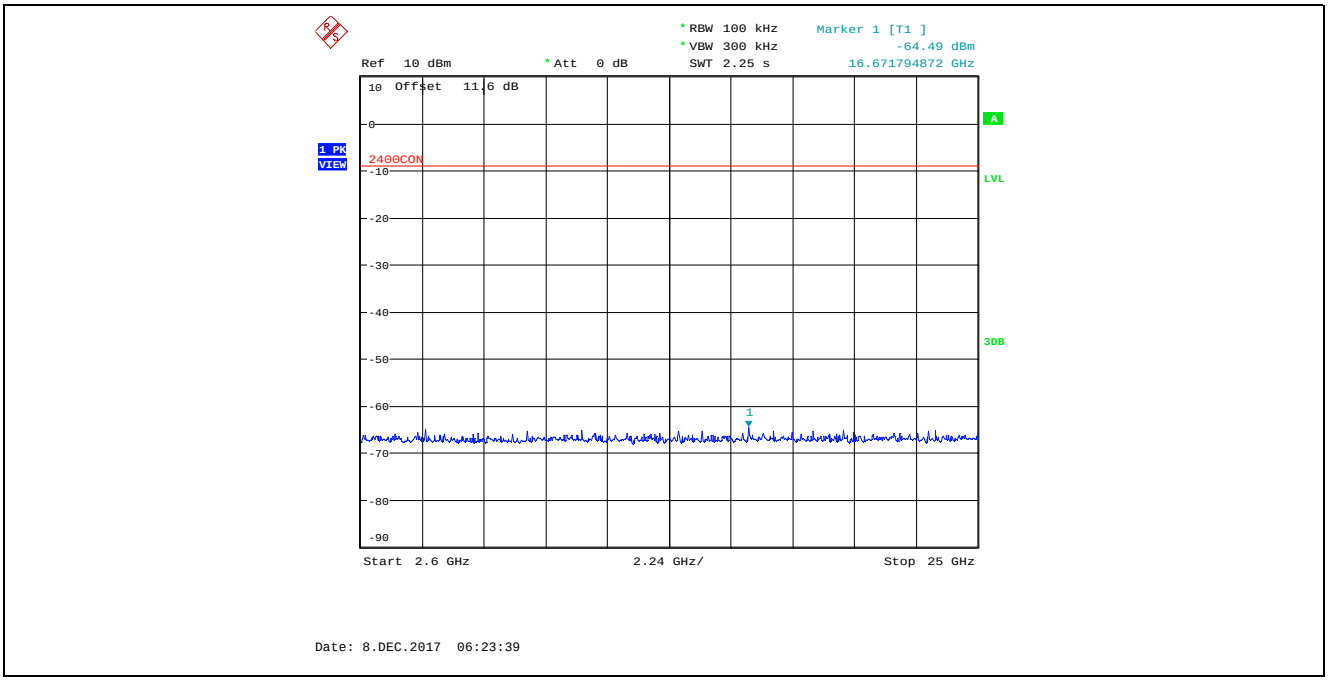

**Plot 5.4.4.2.20.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



**Plot 5.4.4.2.21.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



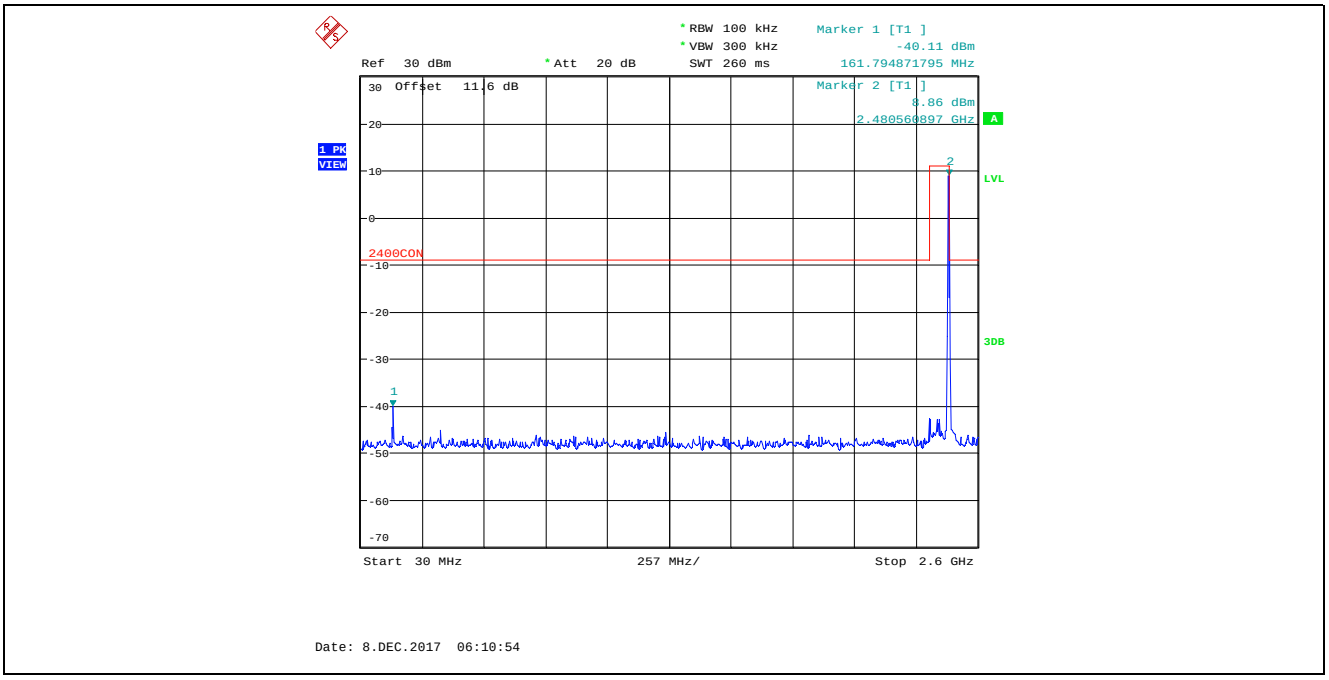

**Plot 5.4.4.2.22.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



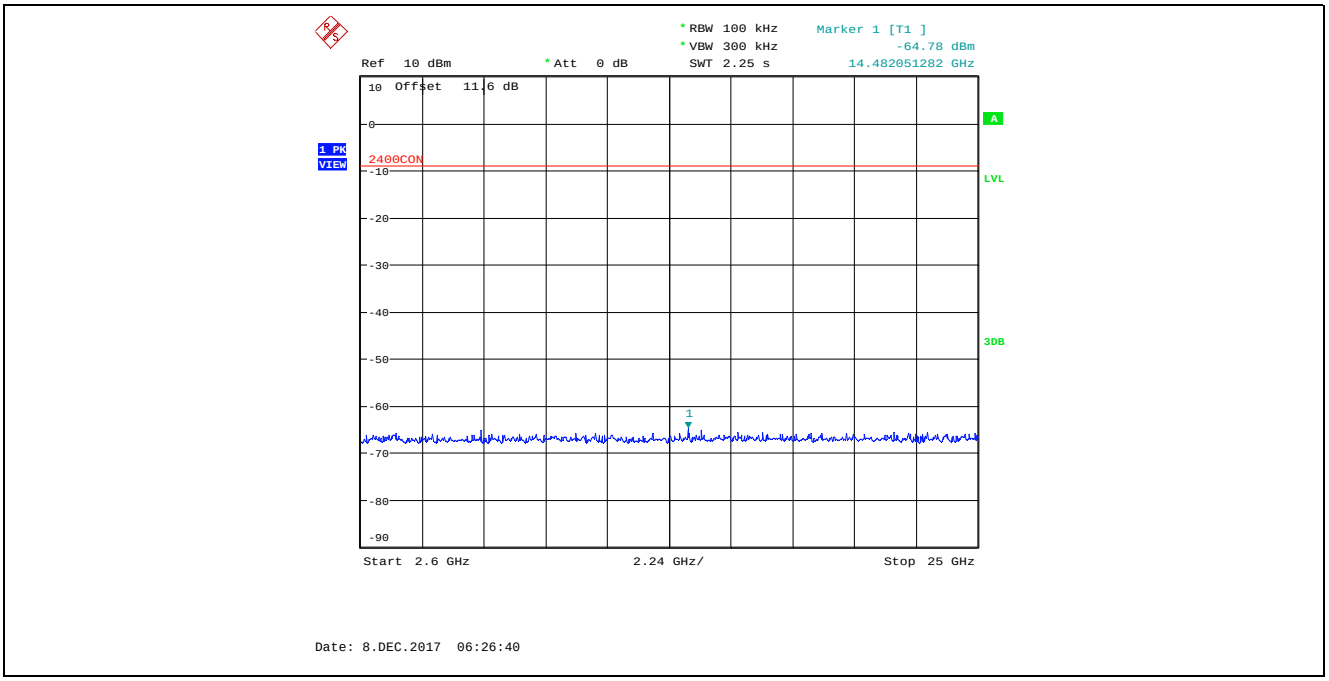



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

**Plot 5.4.4.2.23.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



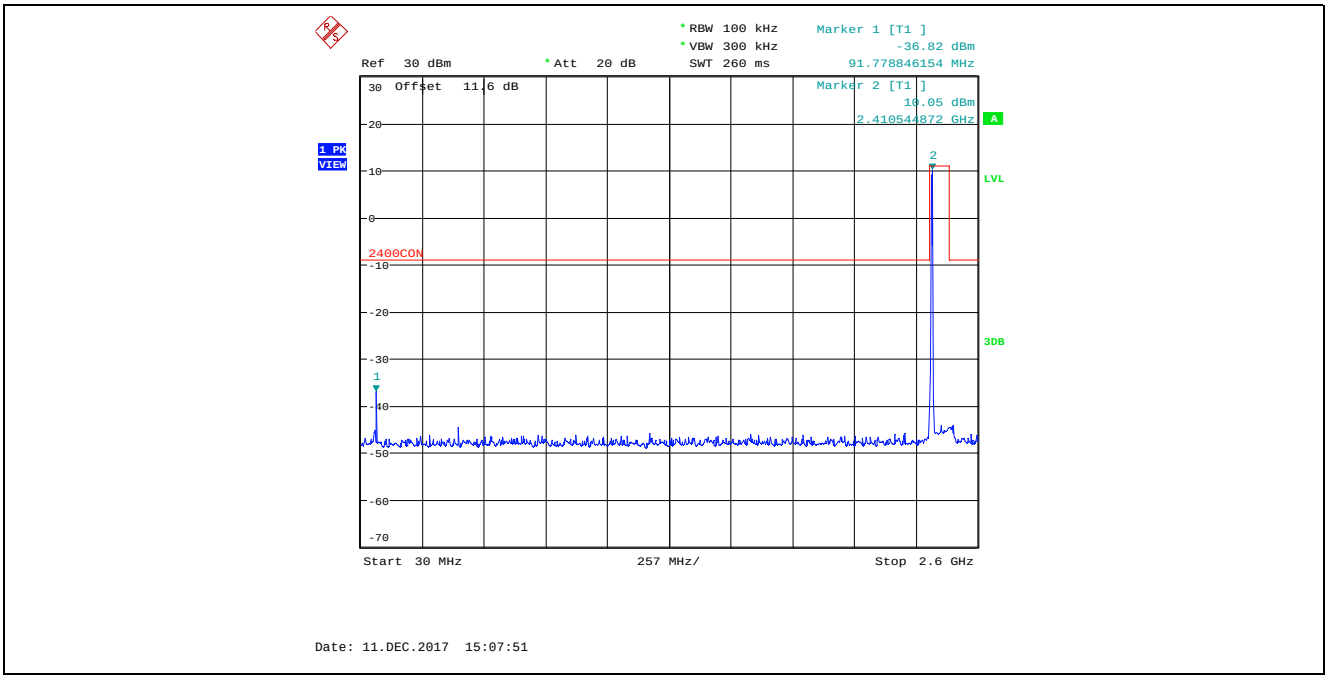

**Plot 5.4.4.2.24.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



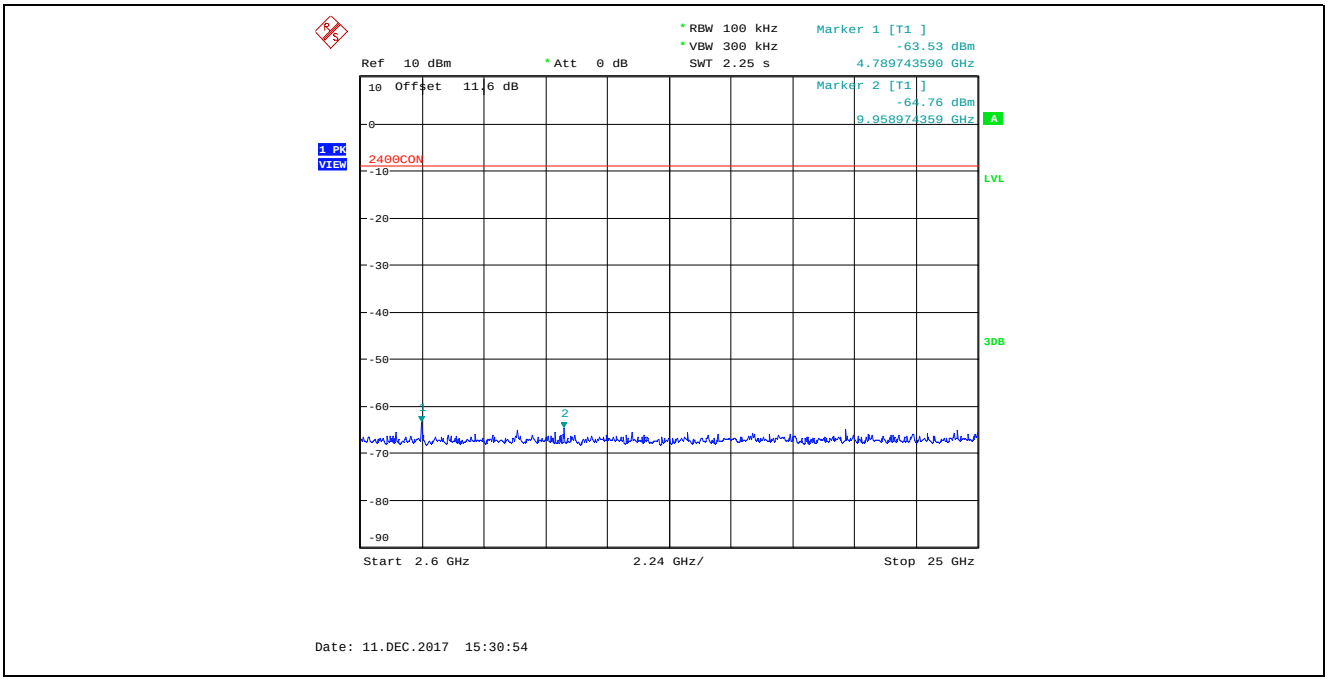



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

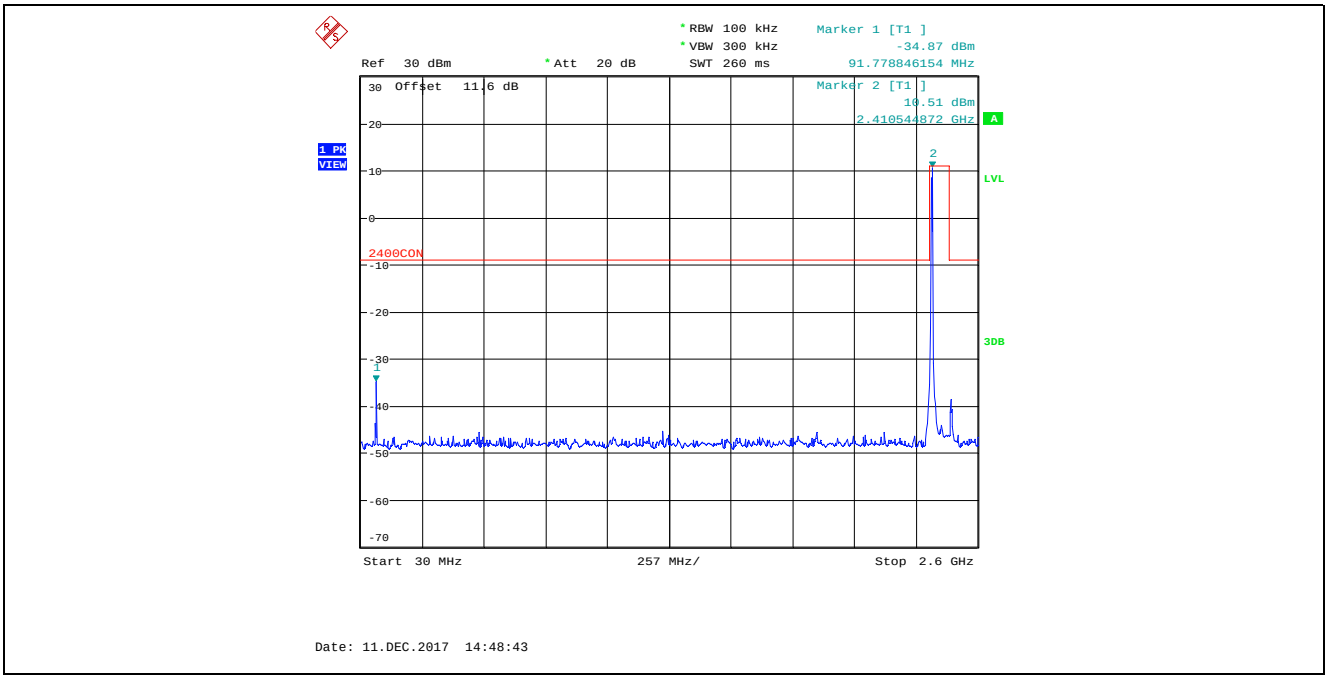
**Plot 5.4.4.2.25.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



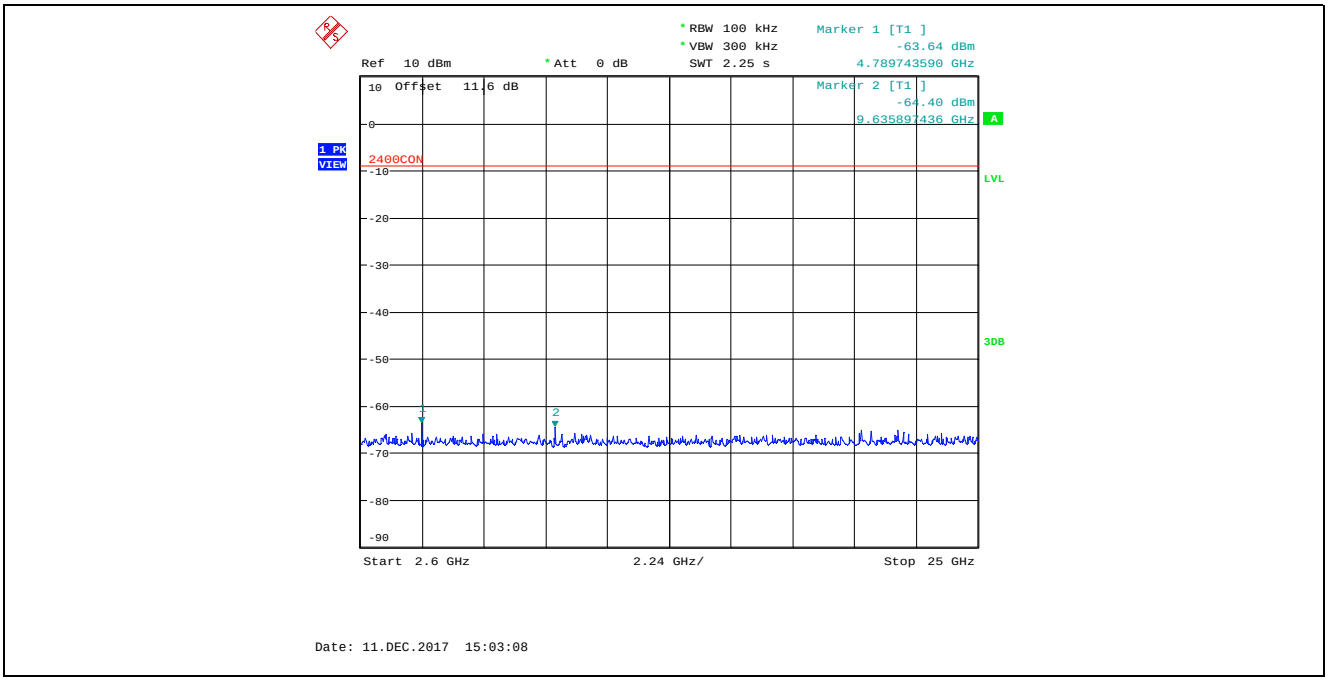

**Plot 5.4.4.2.26.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



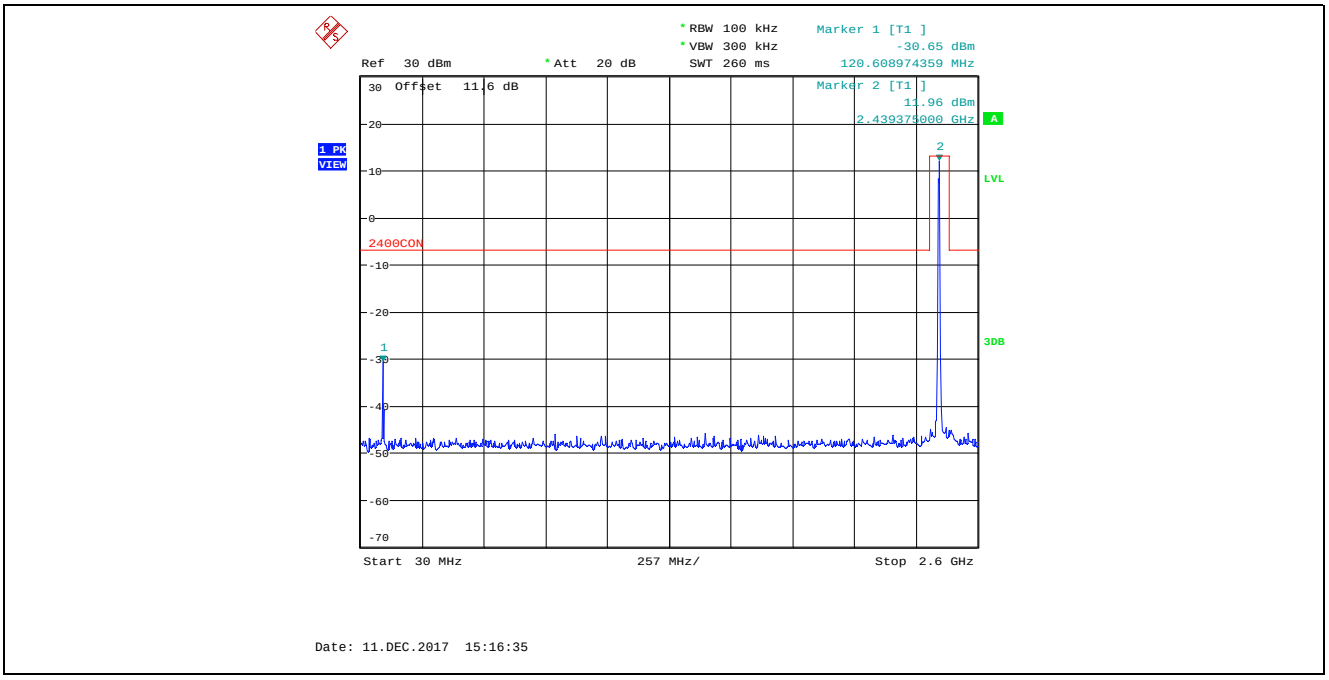
**Plot 5.4.4.2.27.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



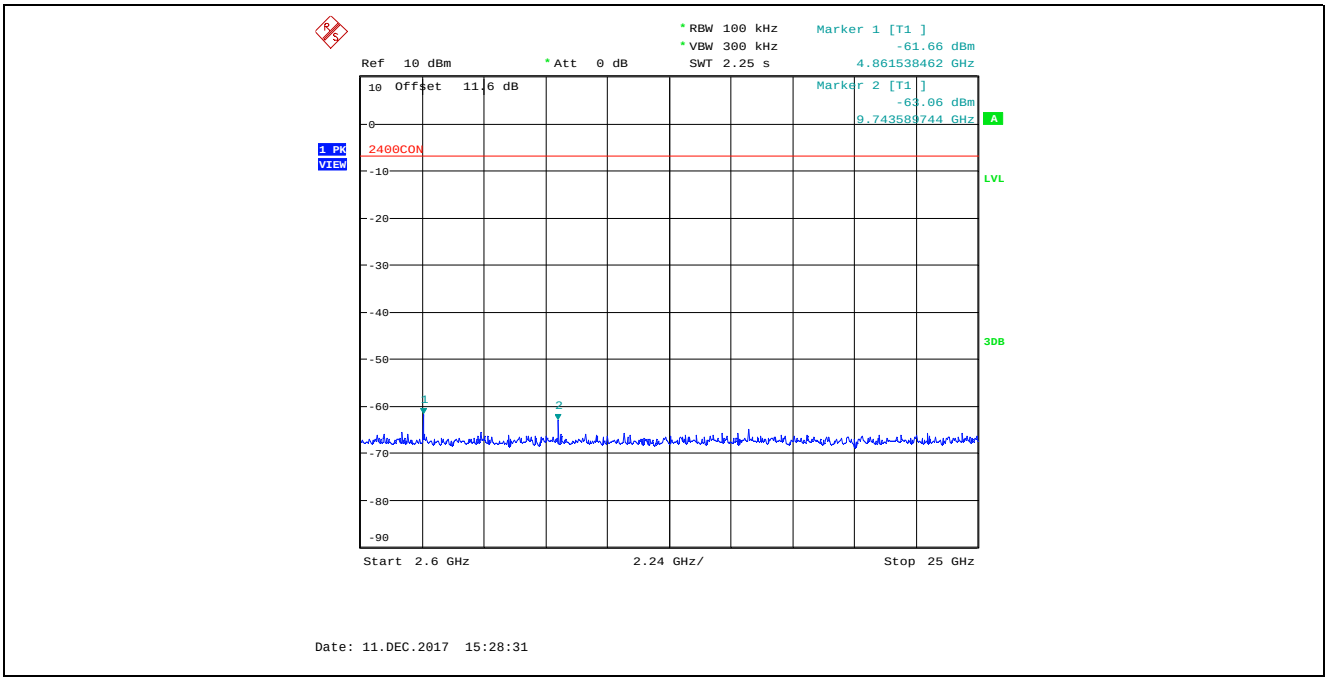

**Plot 5.4.4.2.28.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



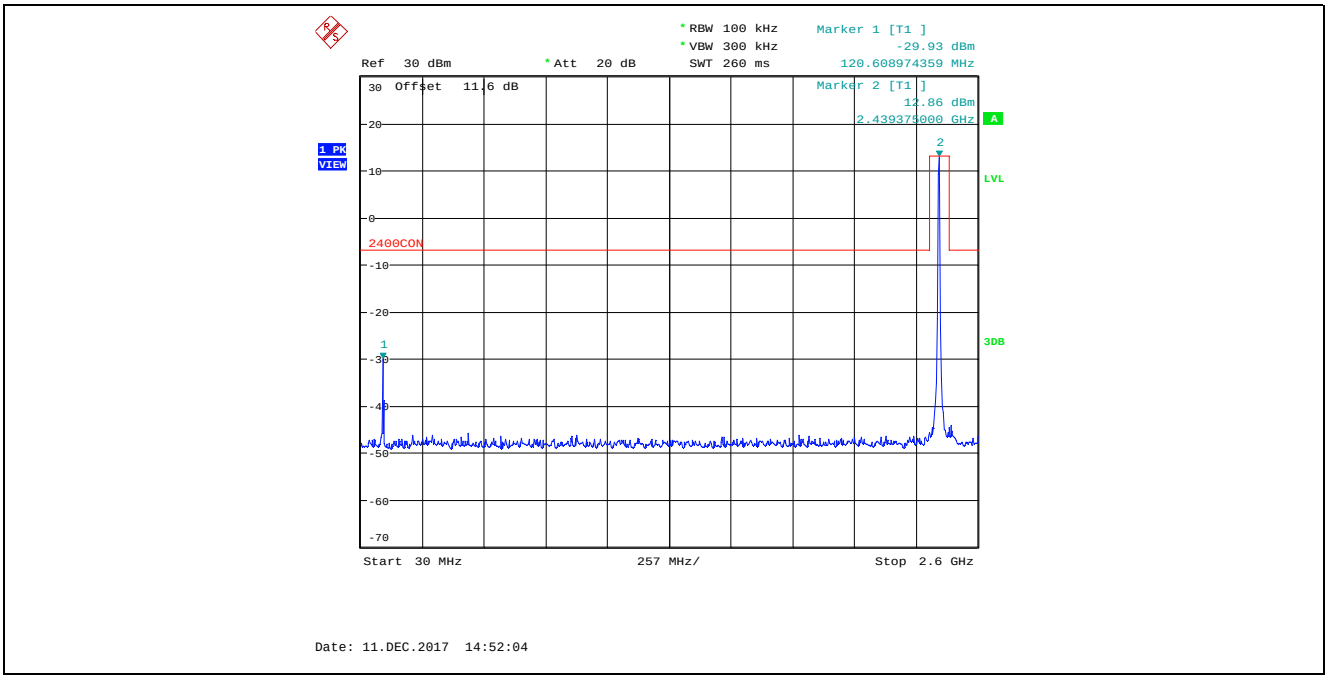
**Plot 5.4.4.2.29.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



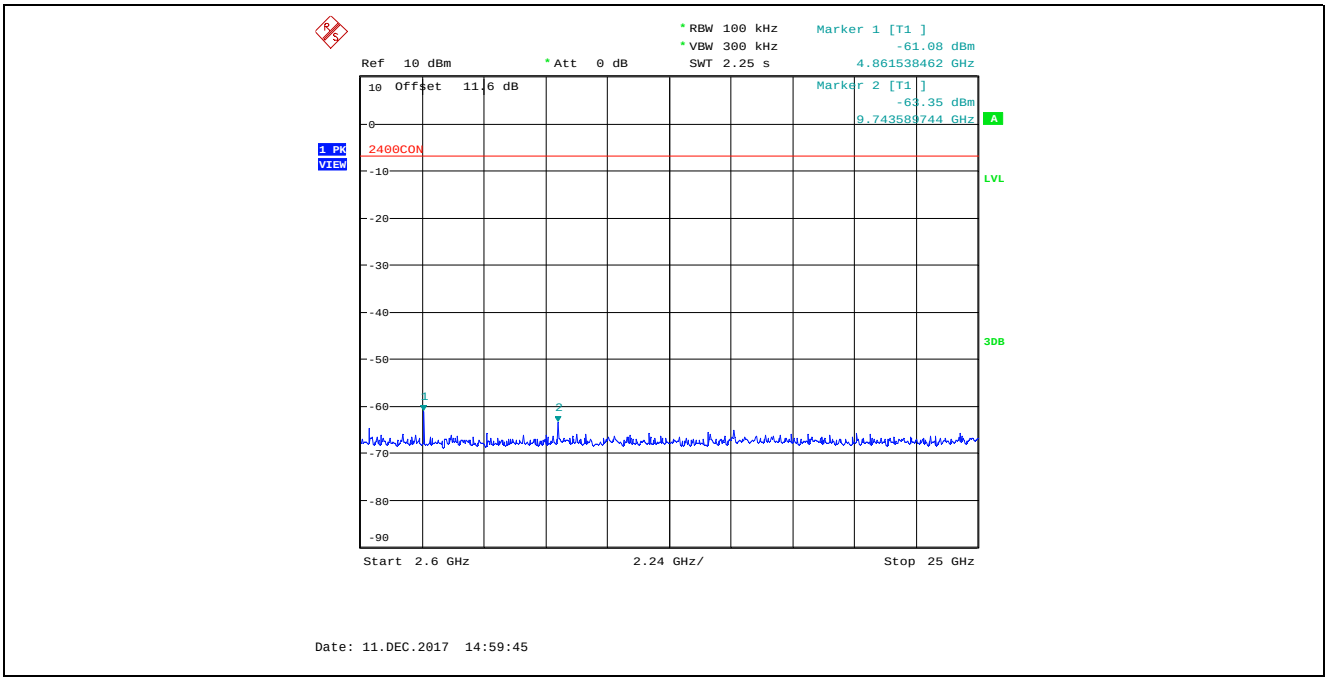

**Plot 5.4.4.2.30.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



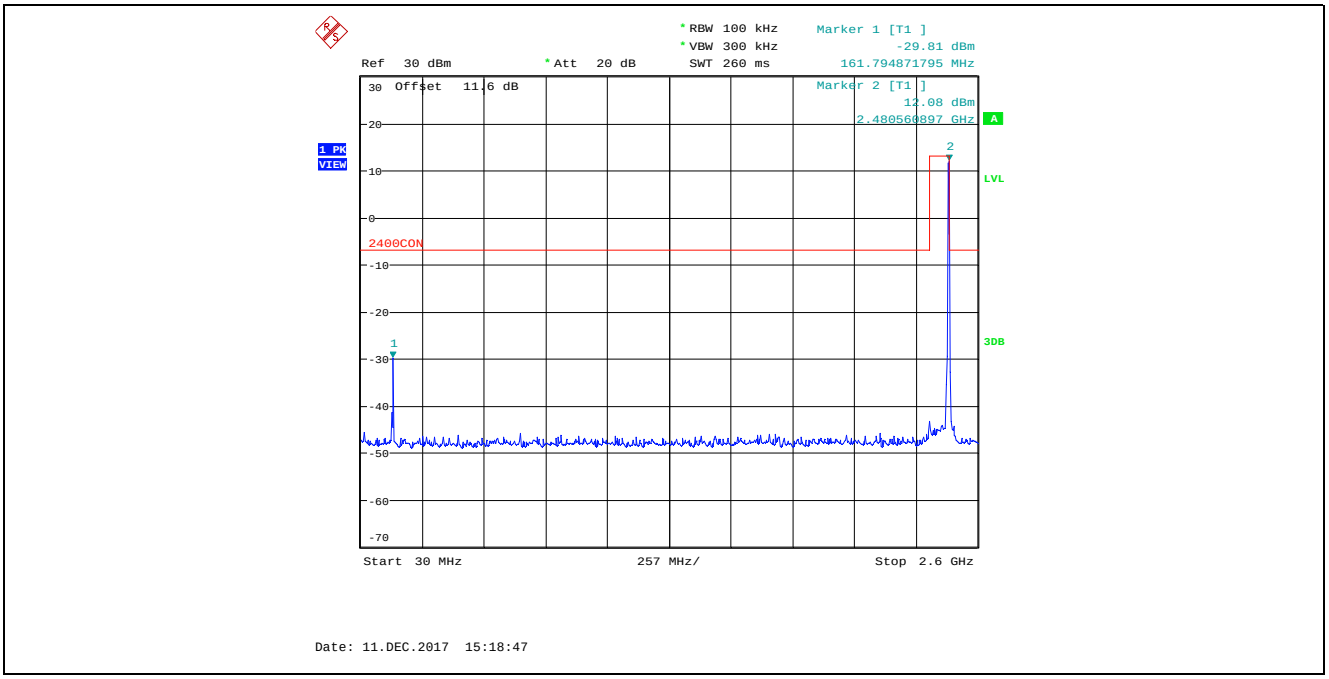
**Plot 5.4.4.2.31.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



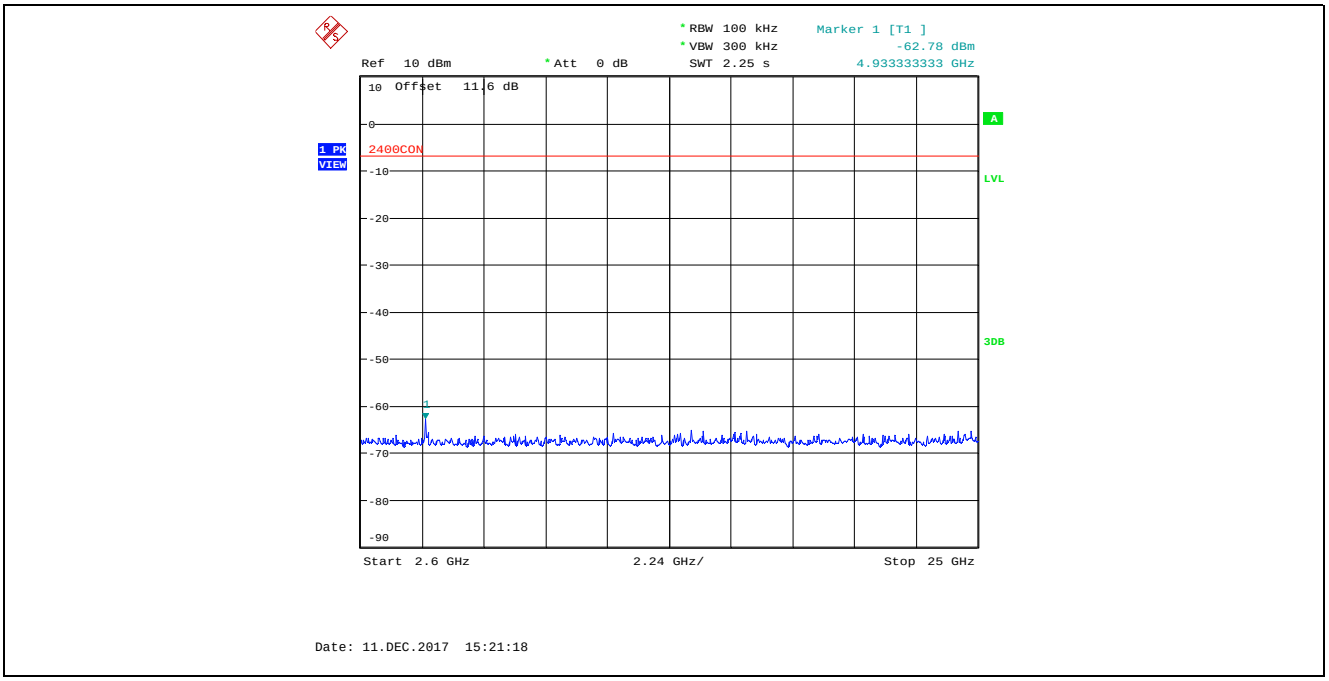

**Plot 5.4.4.2.32.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



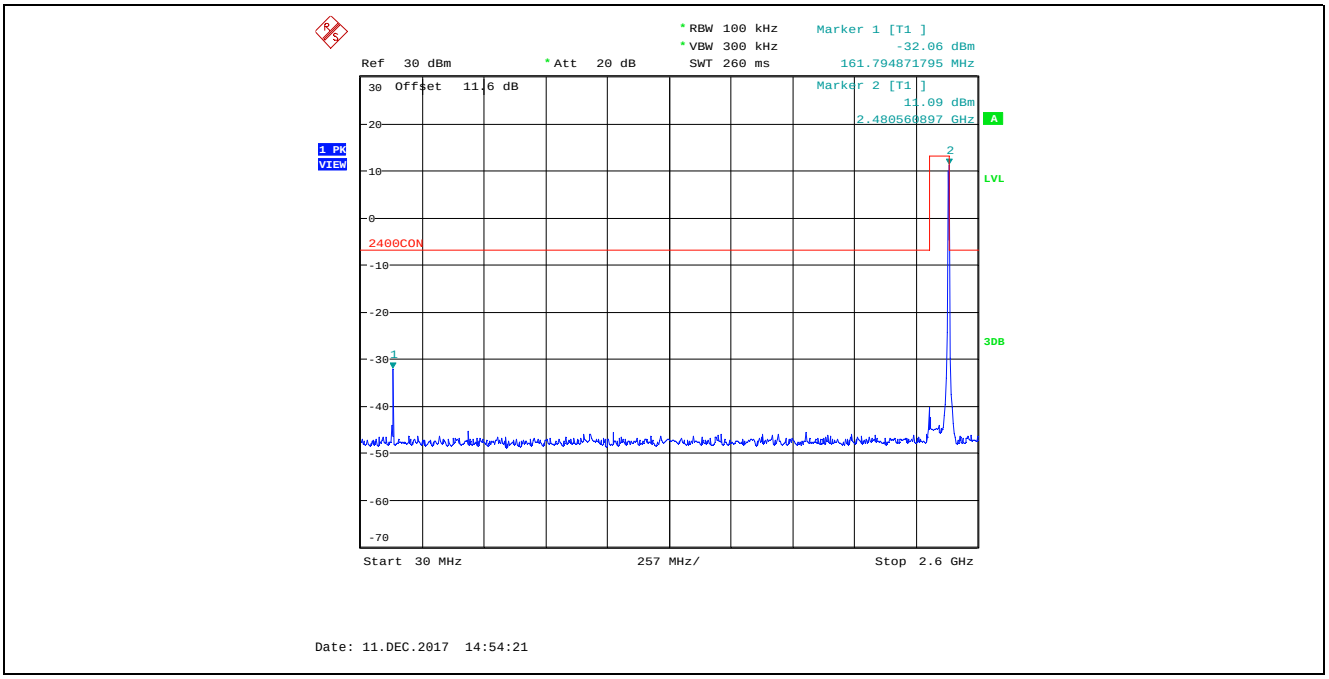
**Plot 5.4.4.2.33.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



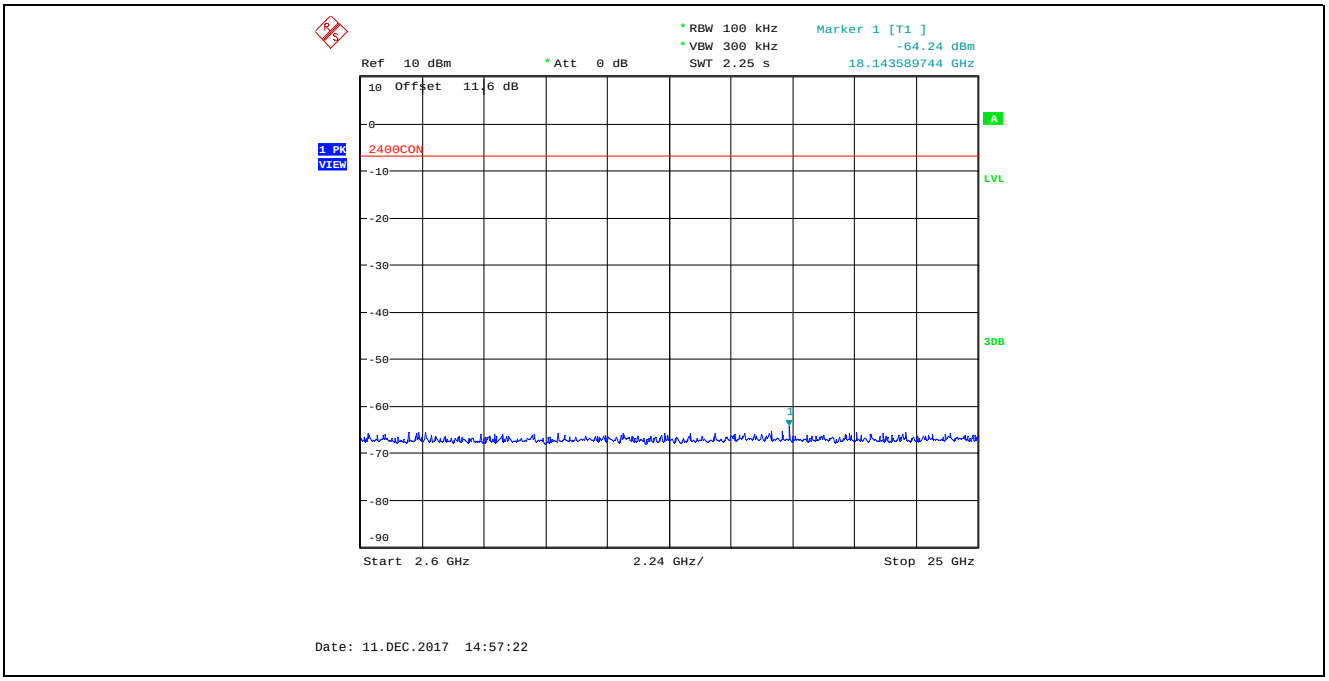

**Plot 5.4.4.2.34.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



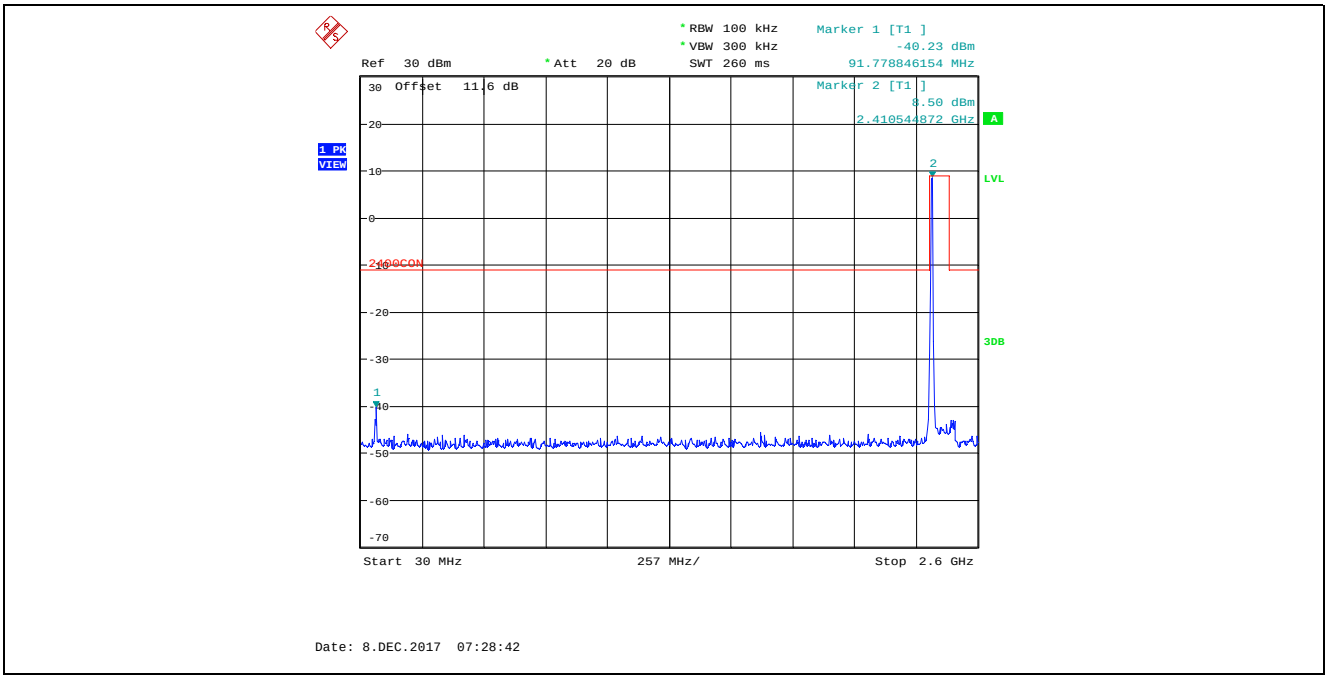
**Plot 5.4.4.2.35.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



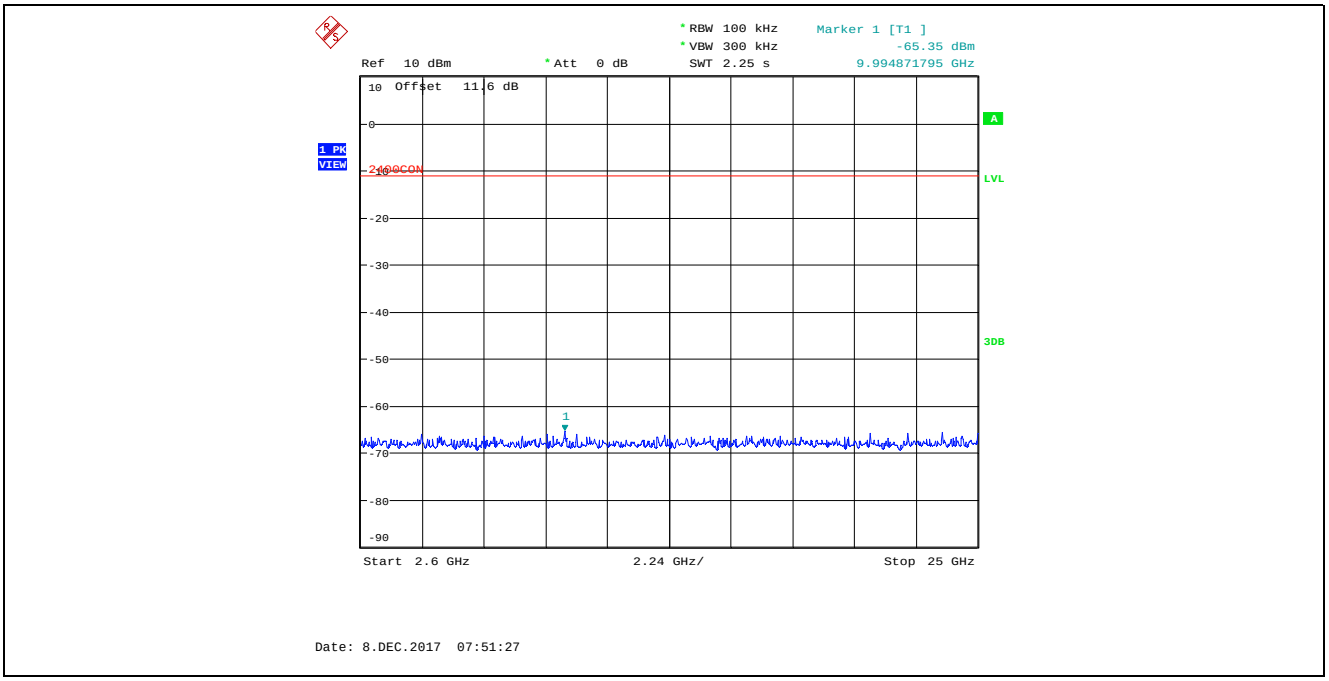

**Plot 5.4.4.2.36.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



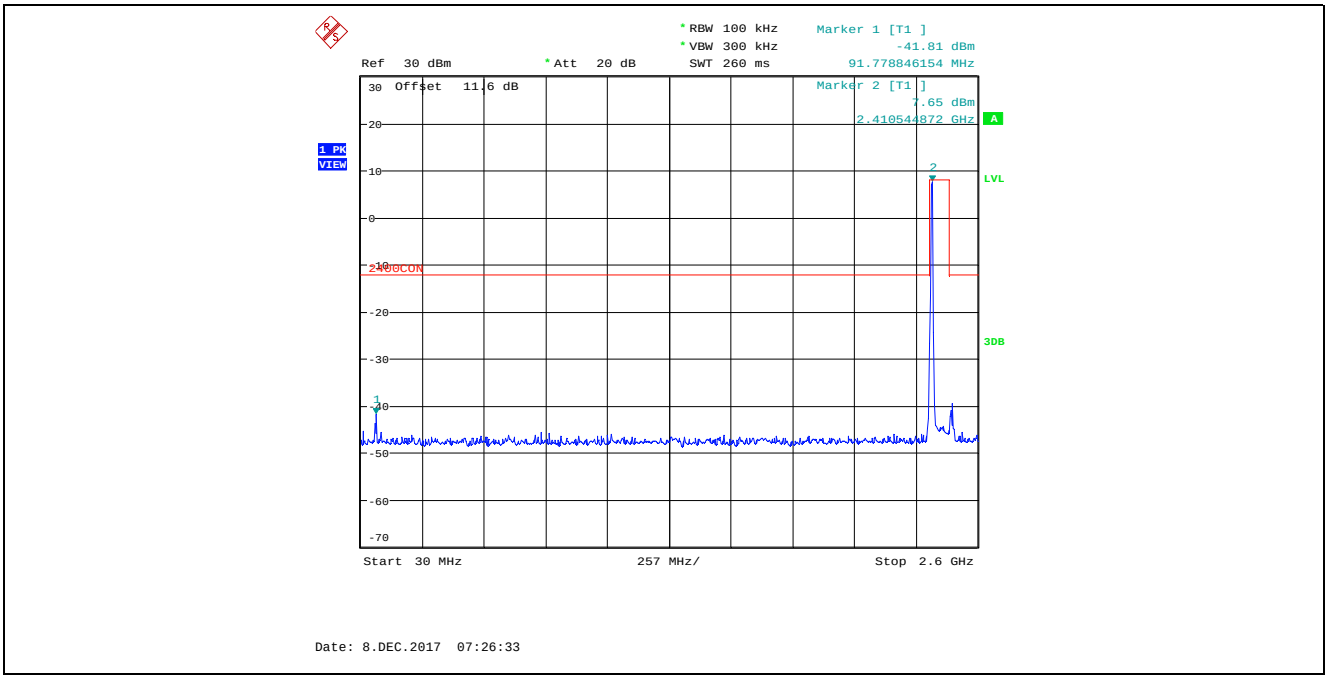
**Plot 5.4.4.2.37.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



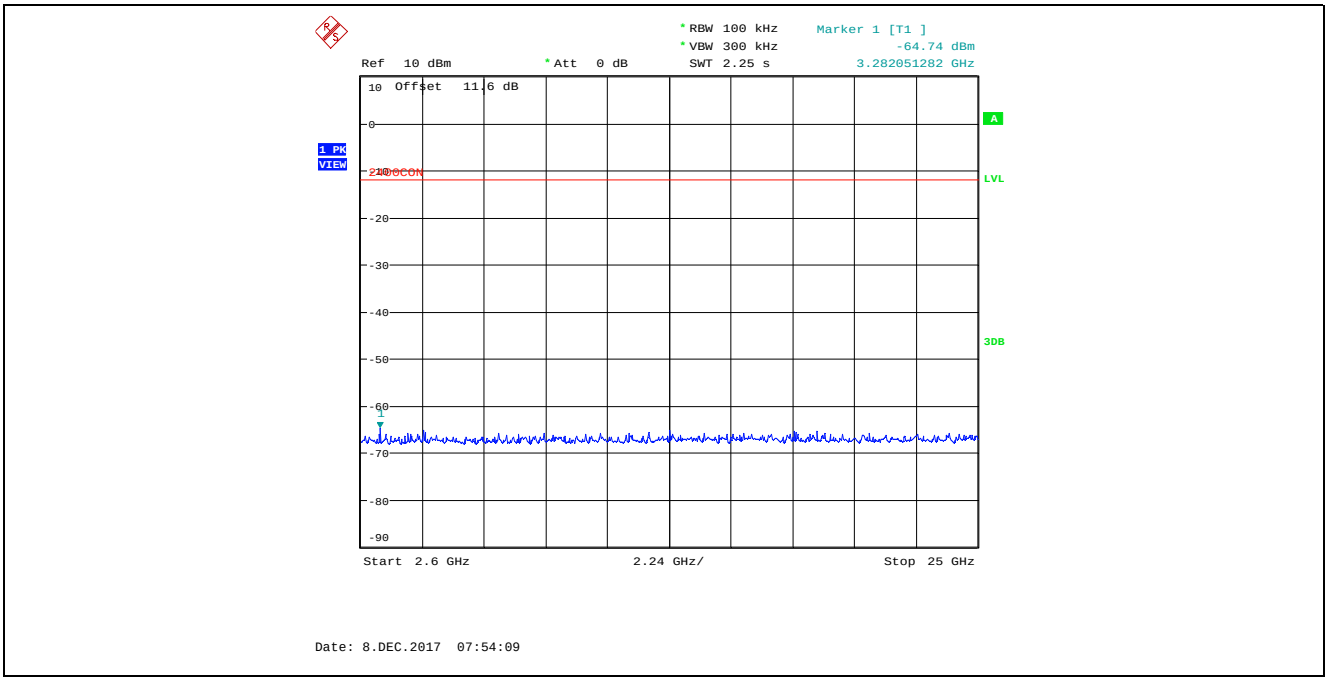

**Plot 5.4.4.2.38.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



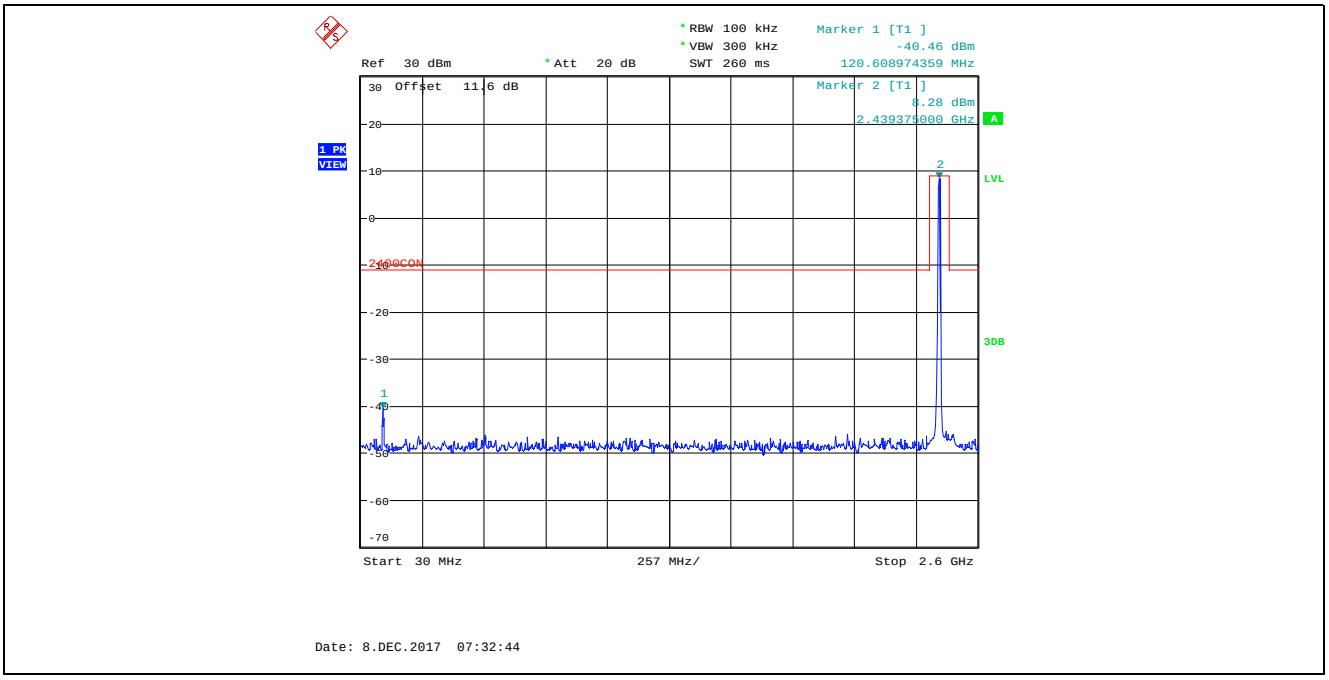
**Plot 5.4.4.2.39.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



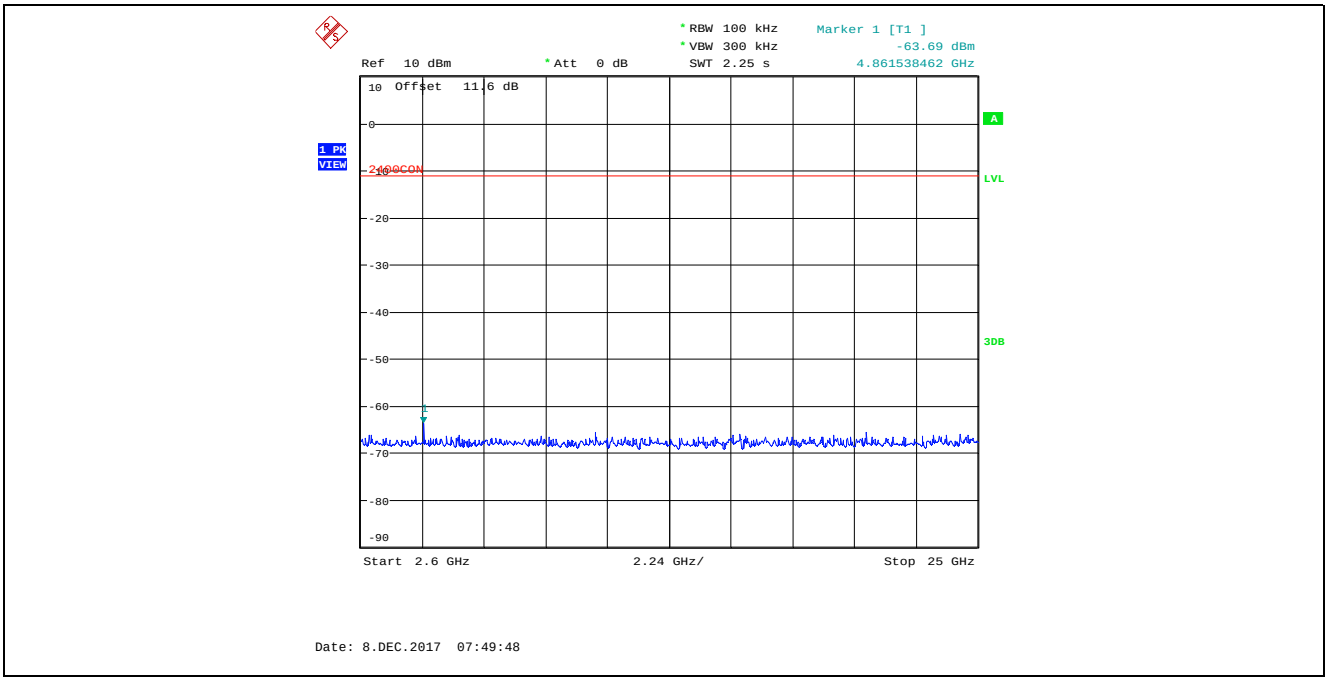

**Plot 5.4.4.2.40.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



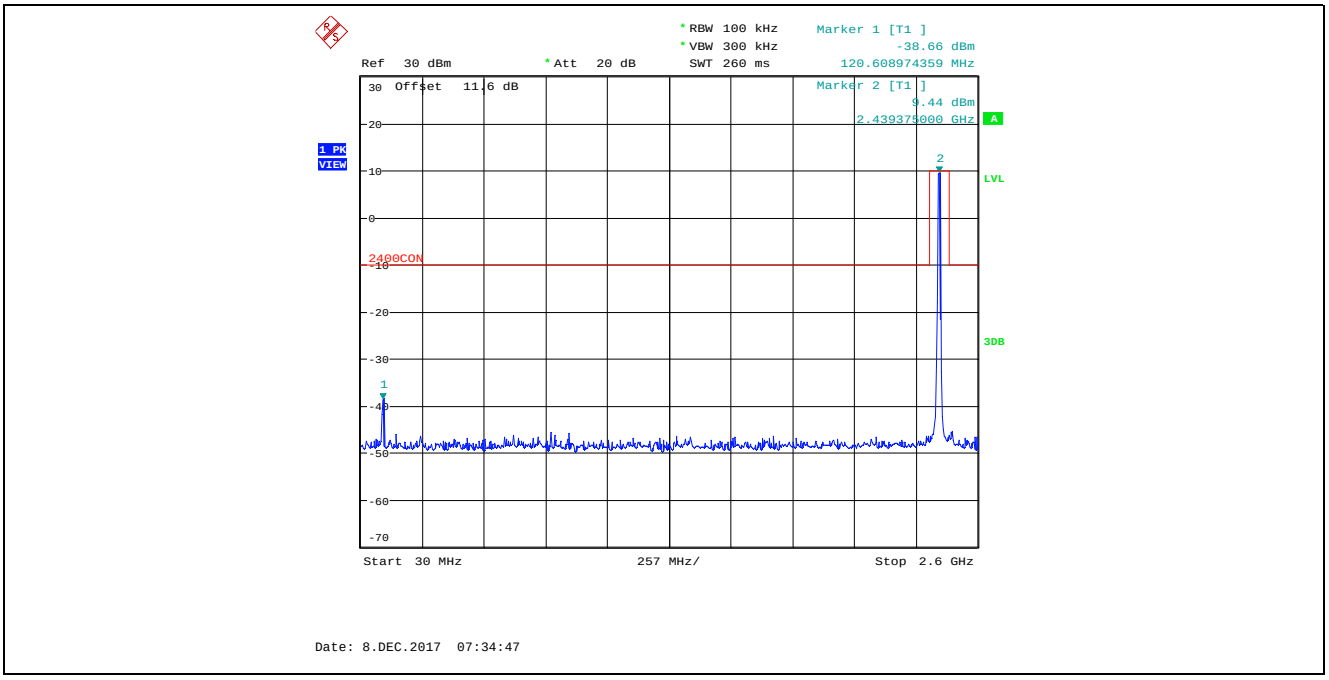
**Plot 5.4.4.2.41.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



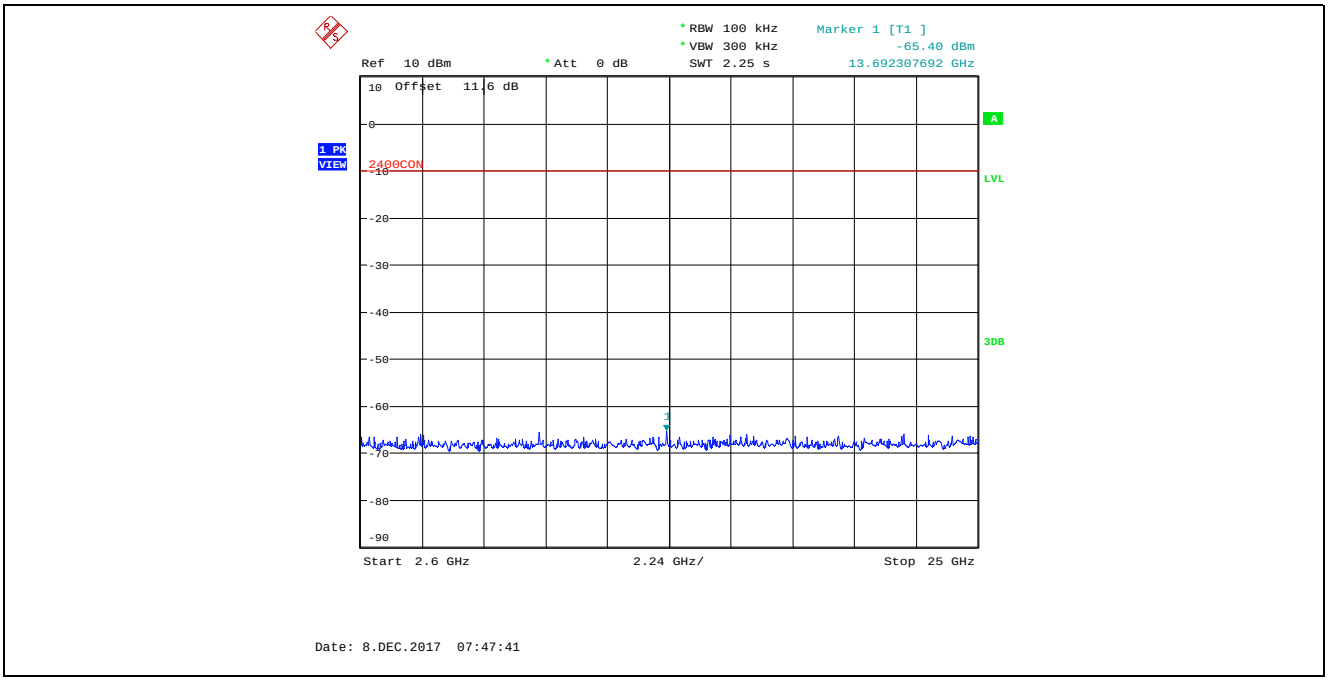

**Plot 5.4.4.2.42.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



**Plot 5.4.4.2.43.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.44.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



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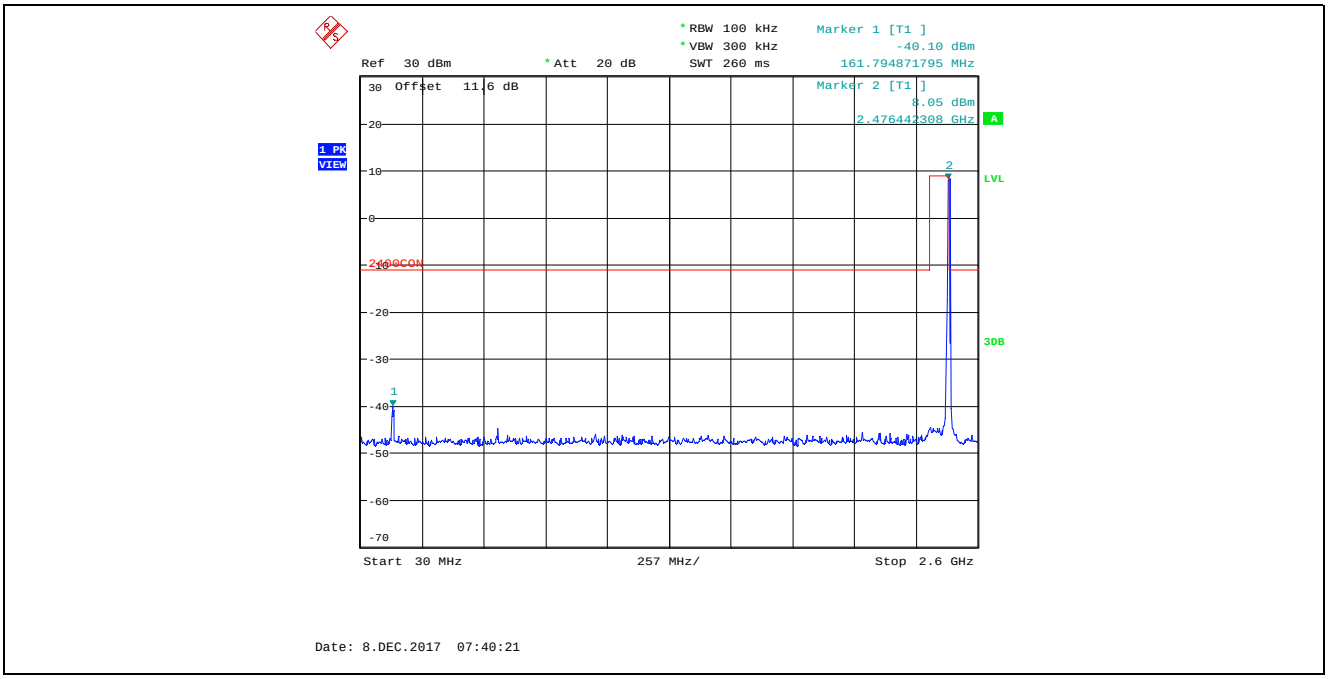
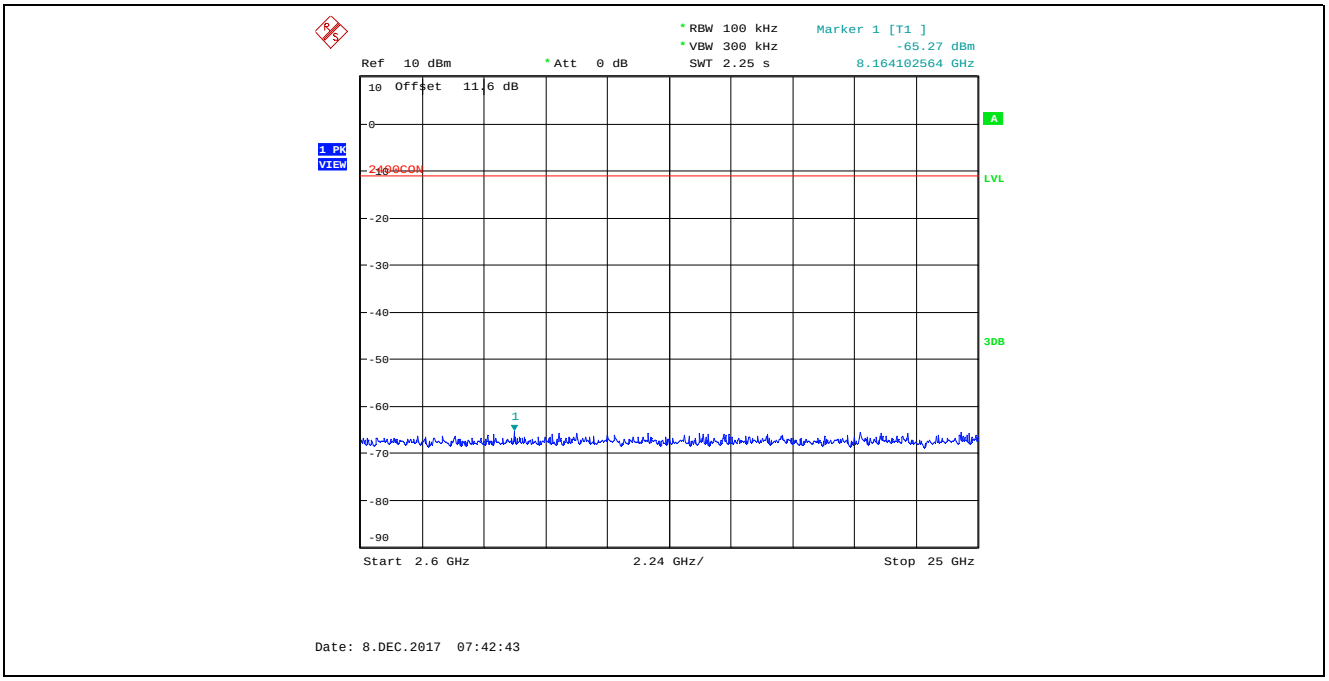
**Plot 5.4.4.2.45.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.46.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



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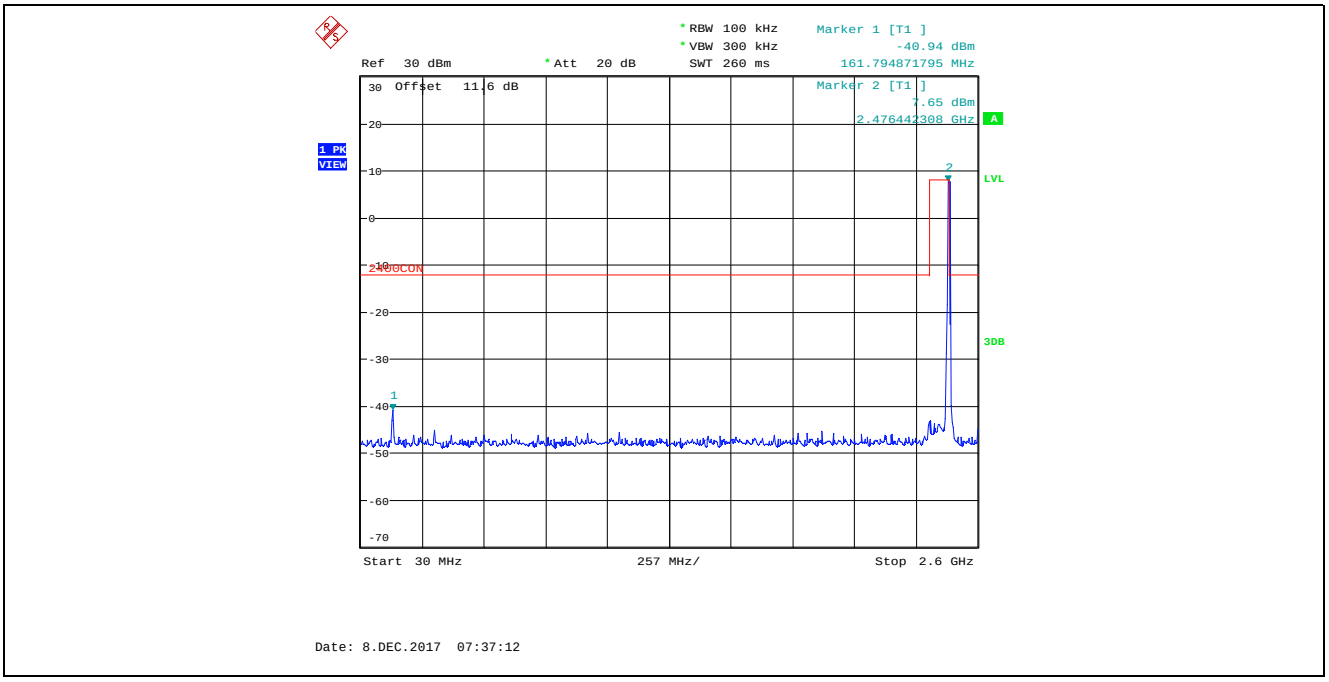
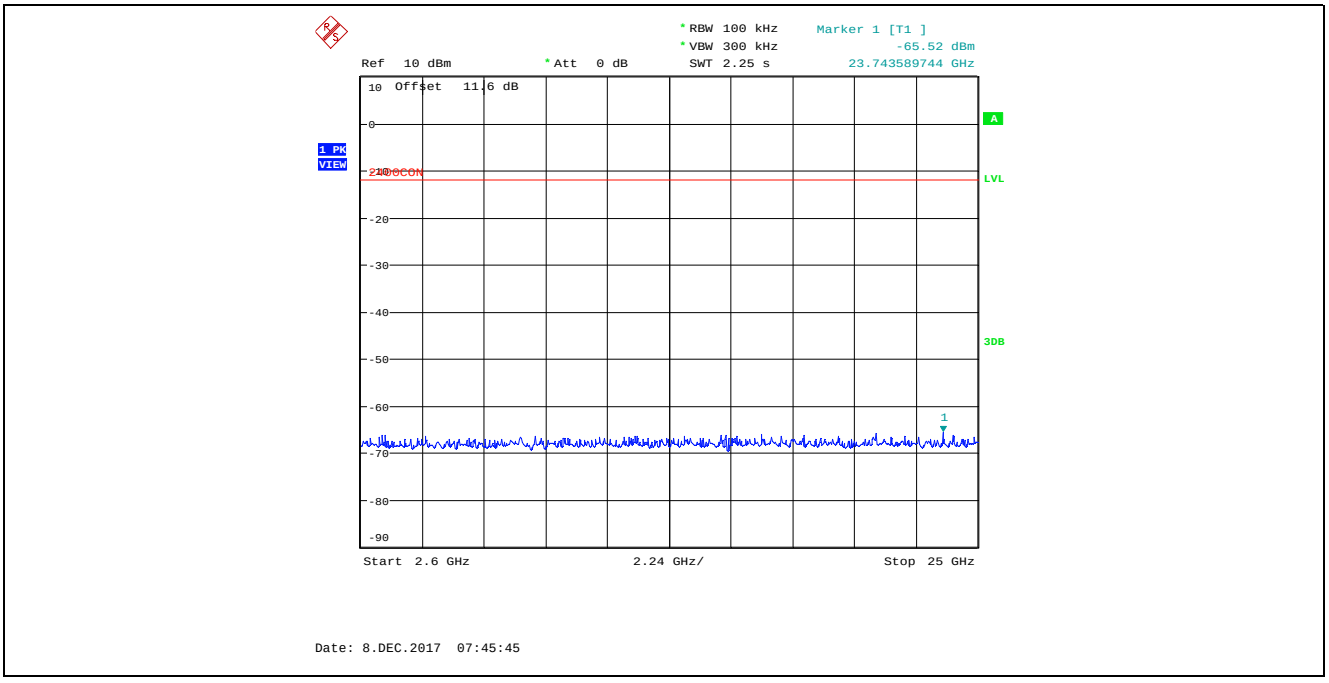
**Plot 5.4.4.2.47.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.48.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



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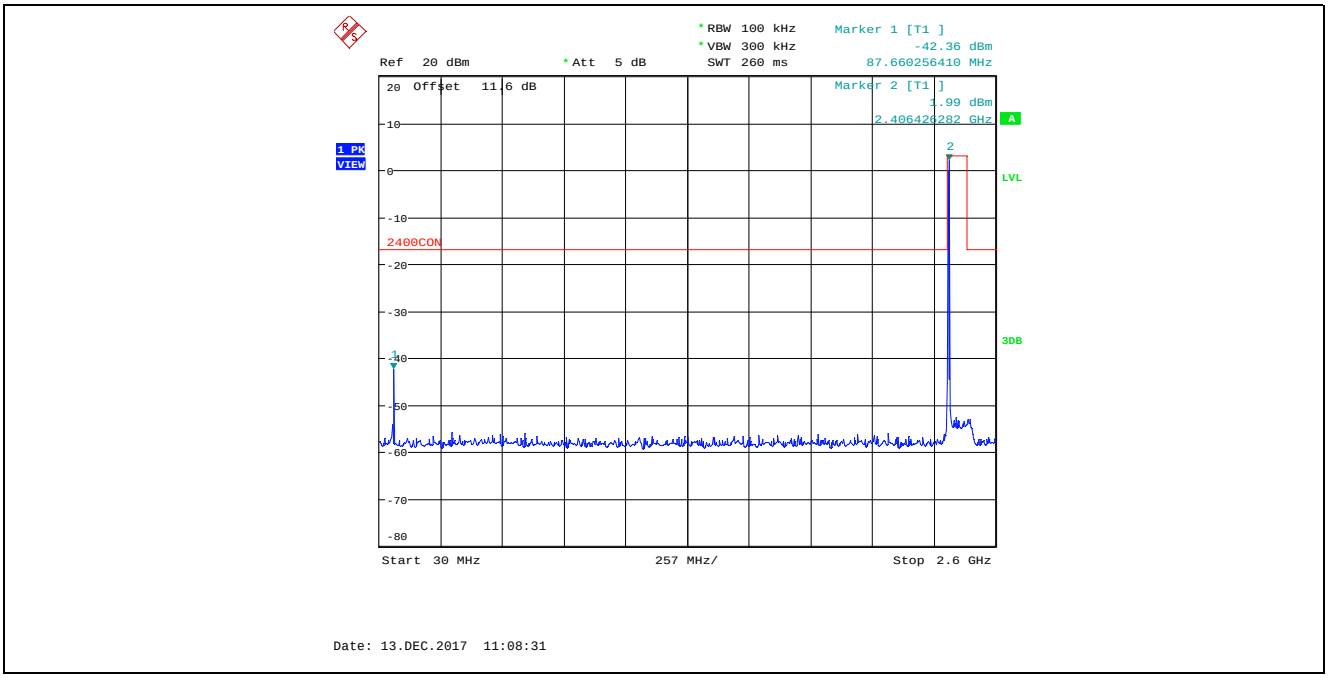
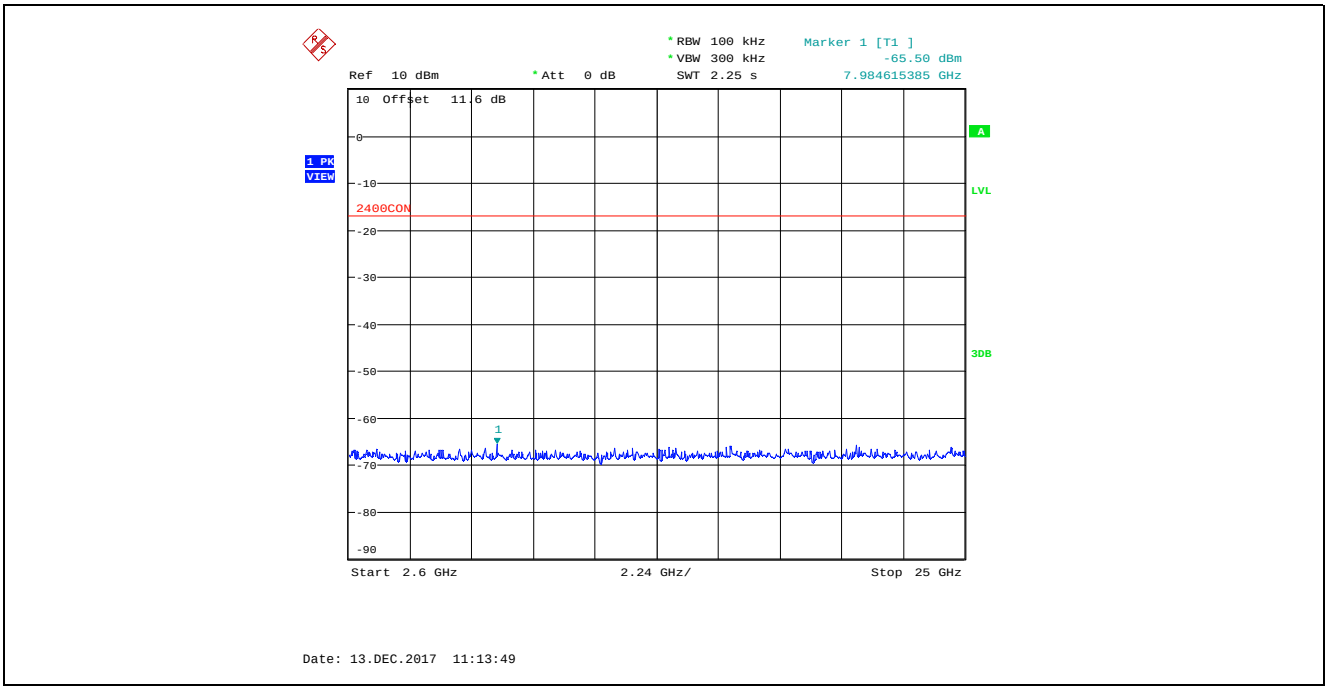
**Plot 5.4.4.2.49.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.50.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



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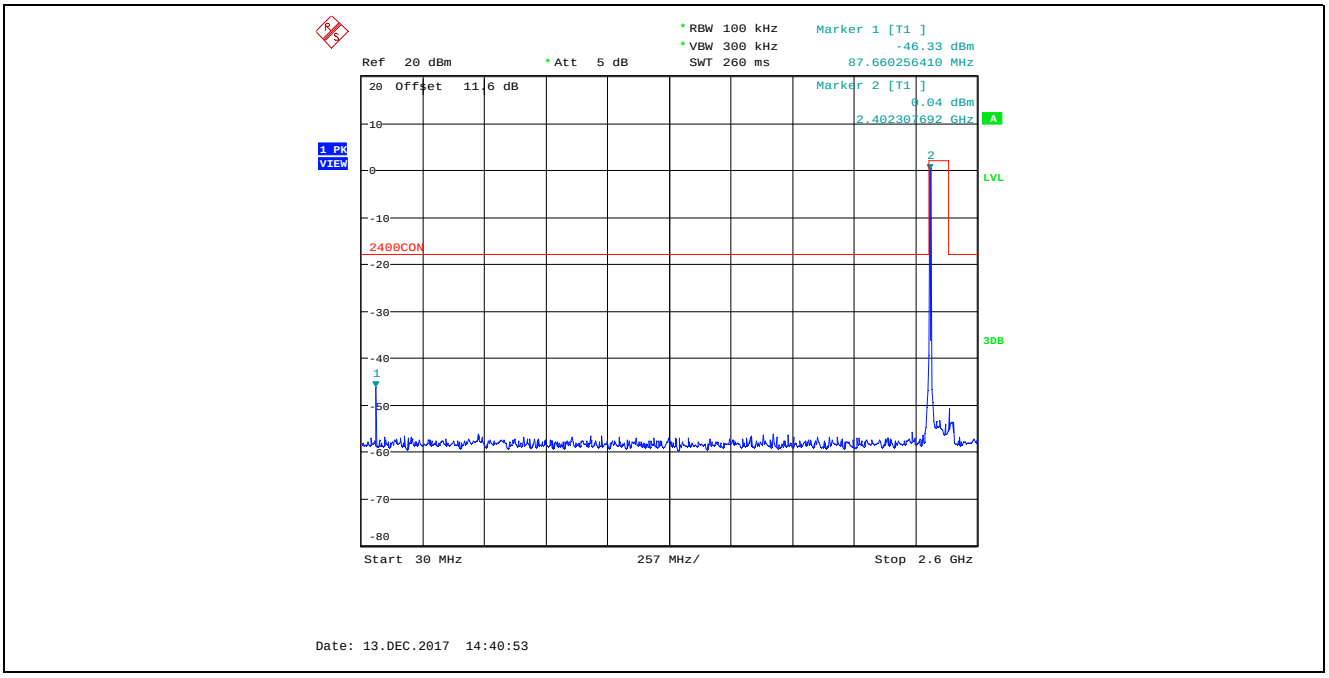
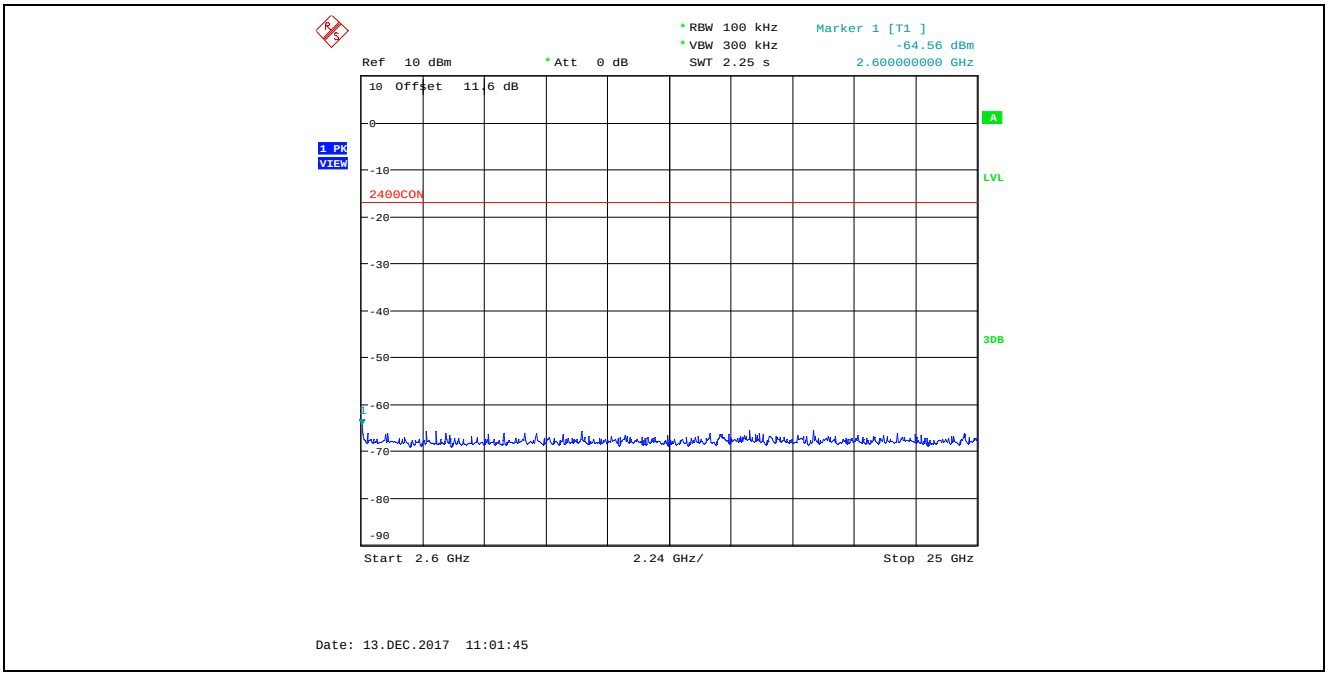
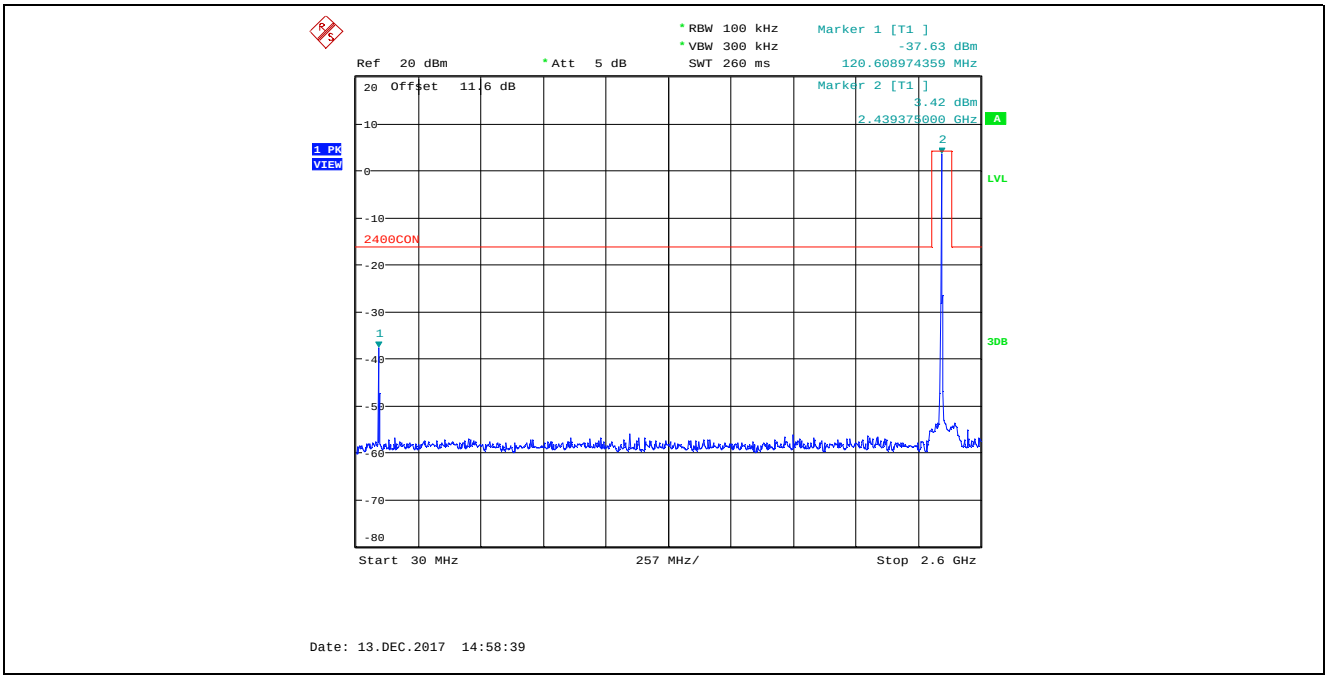
**Plot 5.4.4.2.51.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



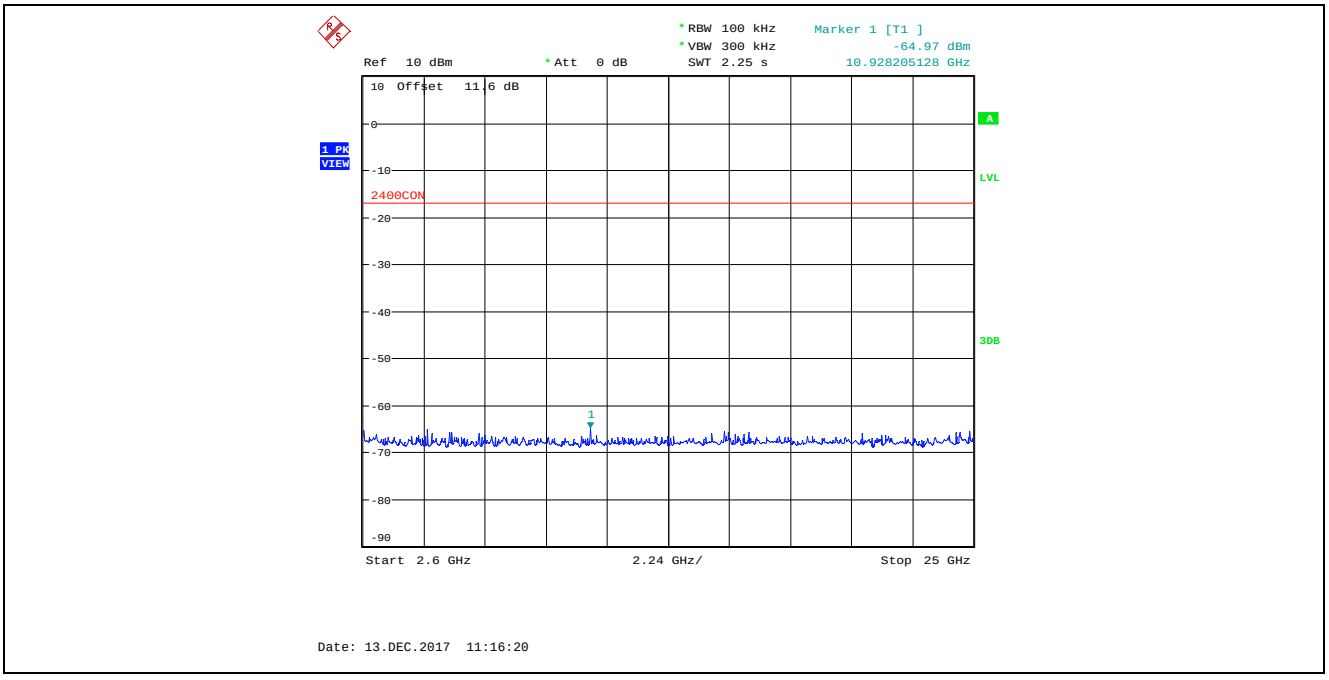

**Plot 5.4.4.2.52.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



**Plot 5.4.4.2.53.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.54.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



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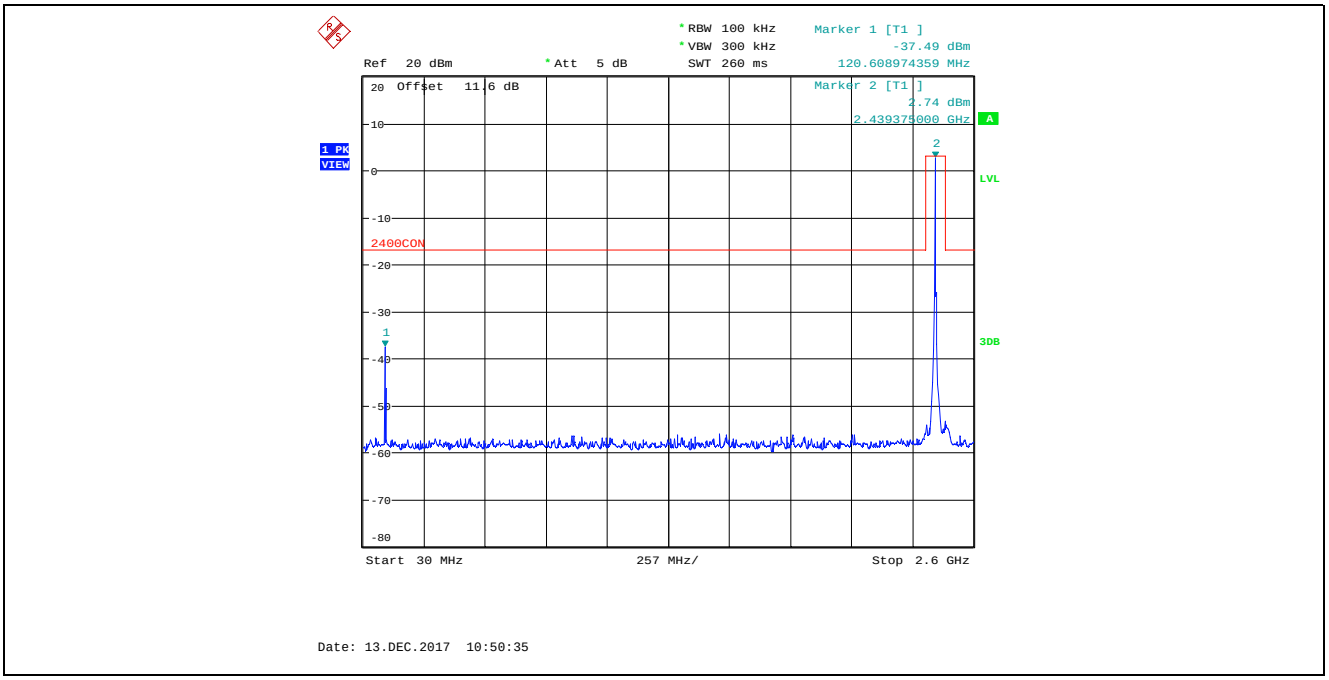
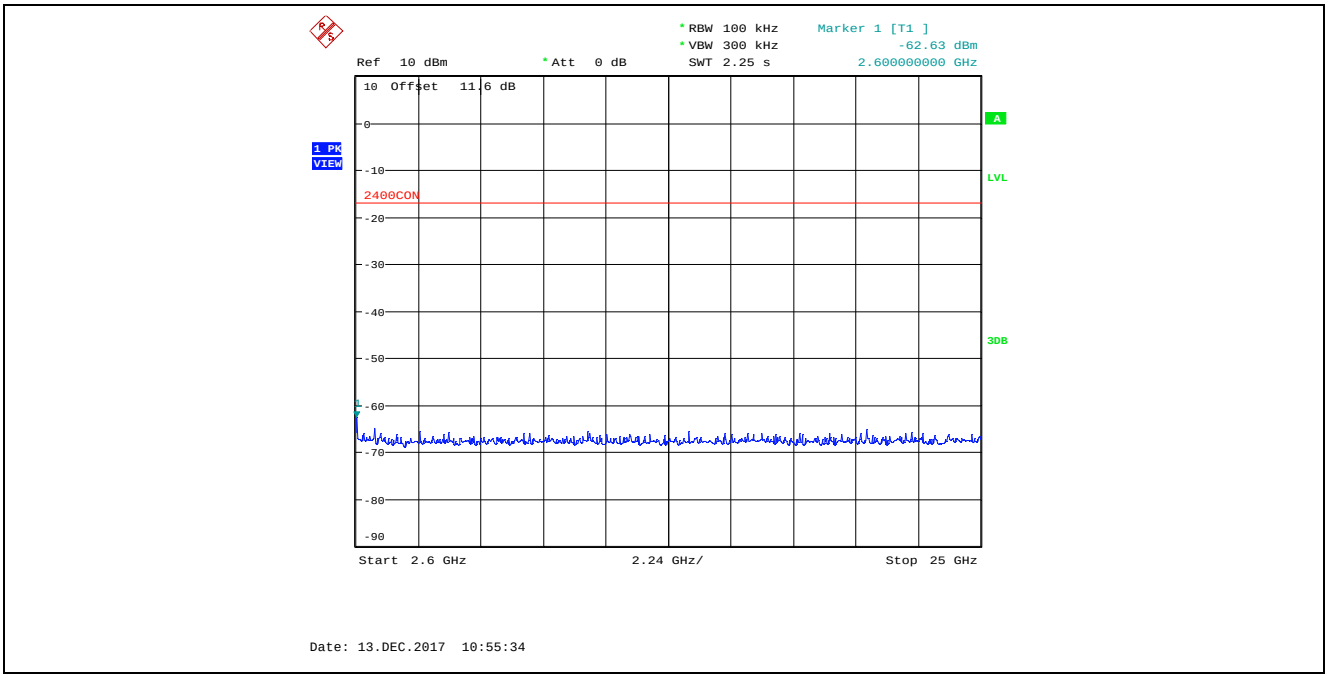
**Plot 5.4.4.2.55.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



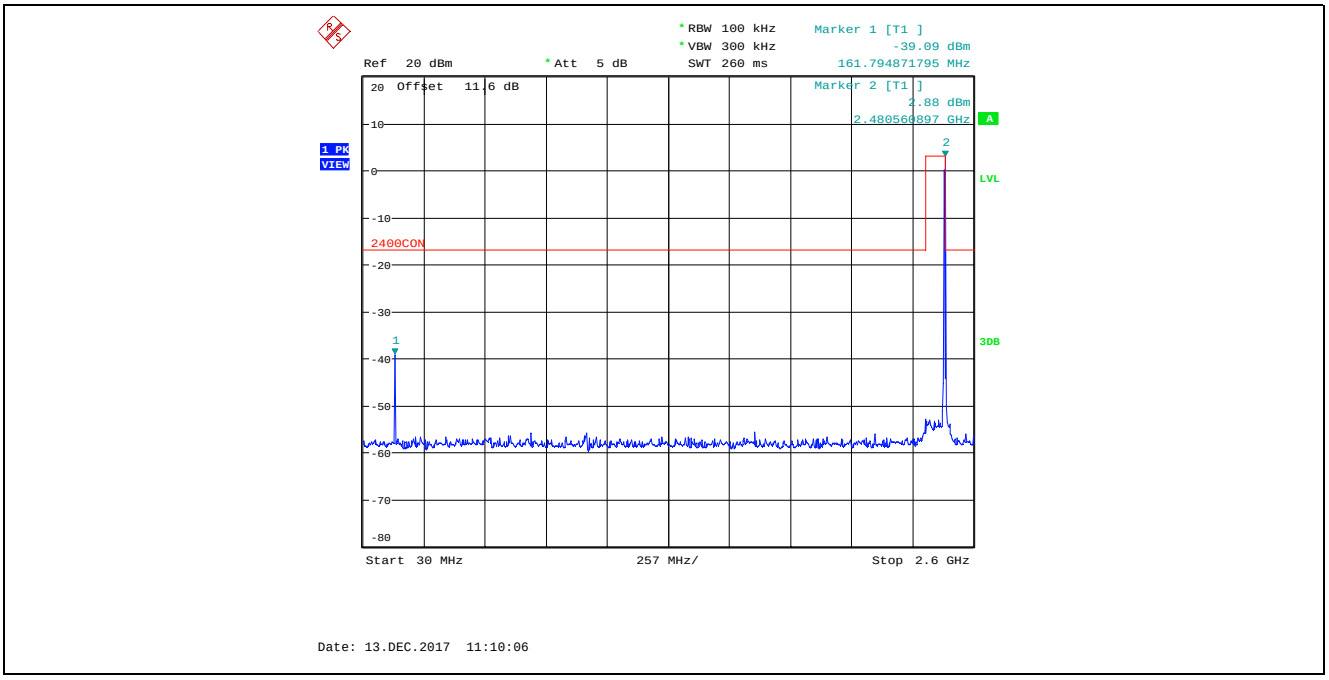

**Plot 5.4.4.2.56.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



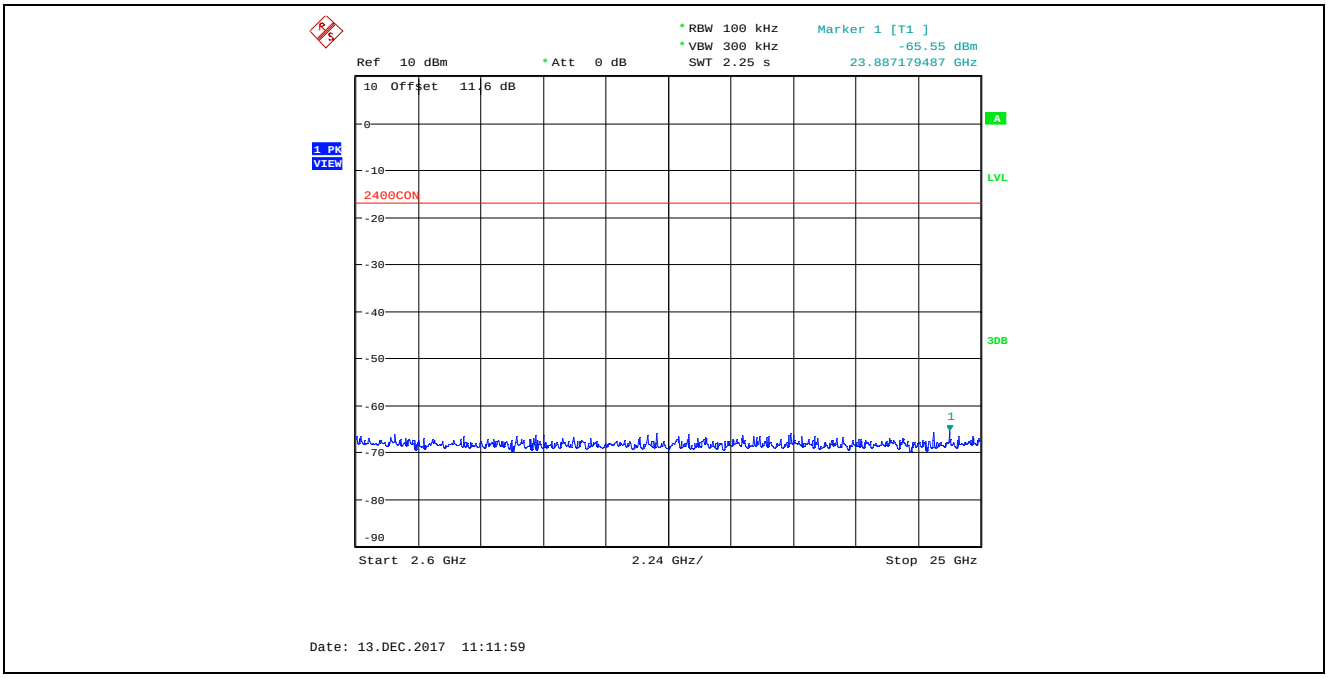



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

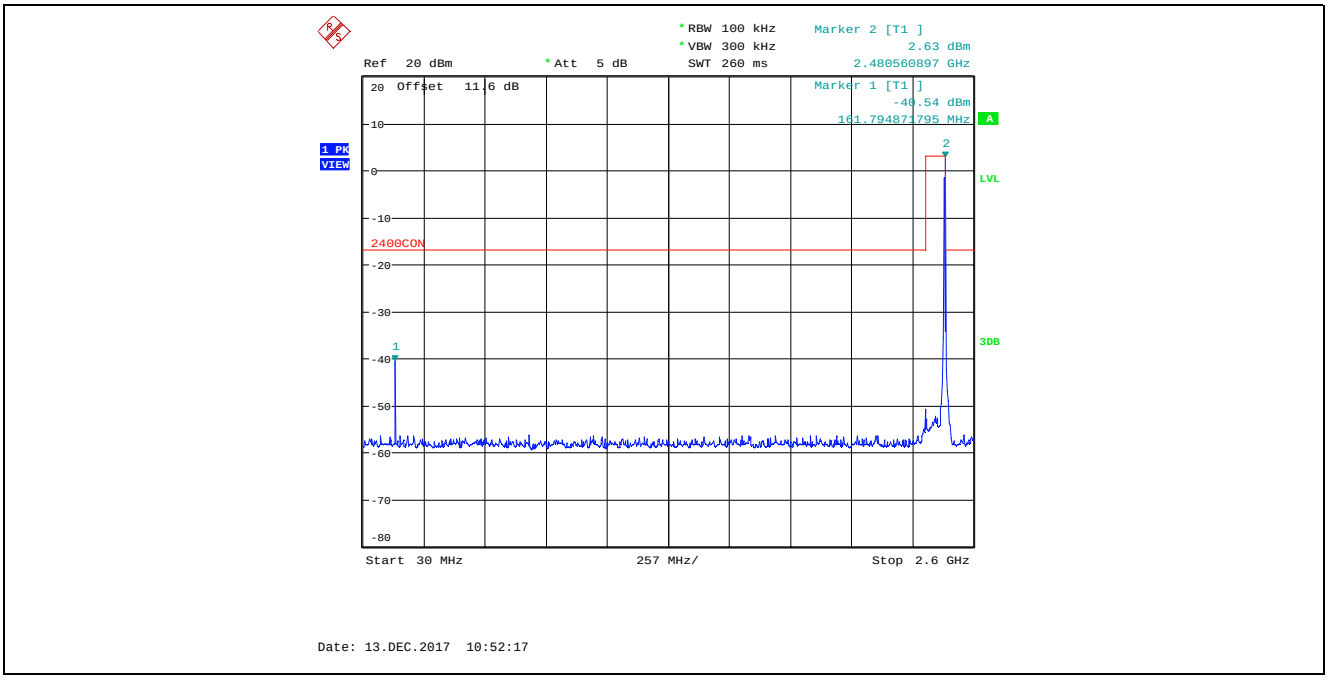
**Plot 5.4.4.2.57.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



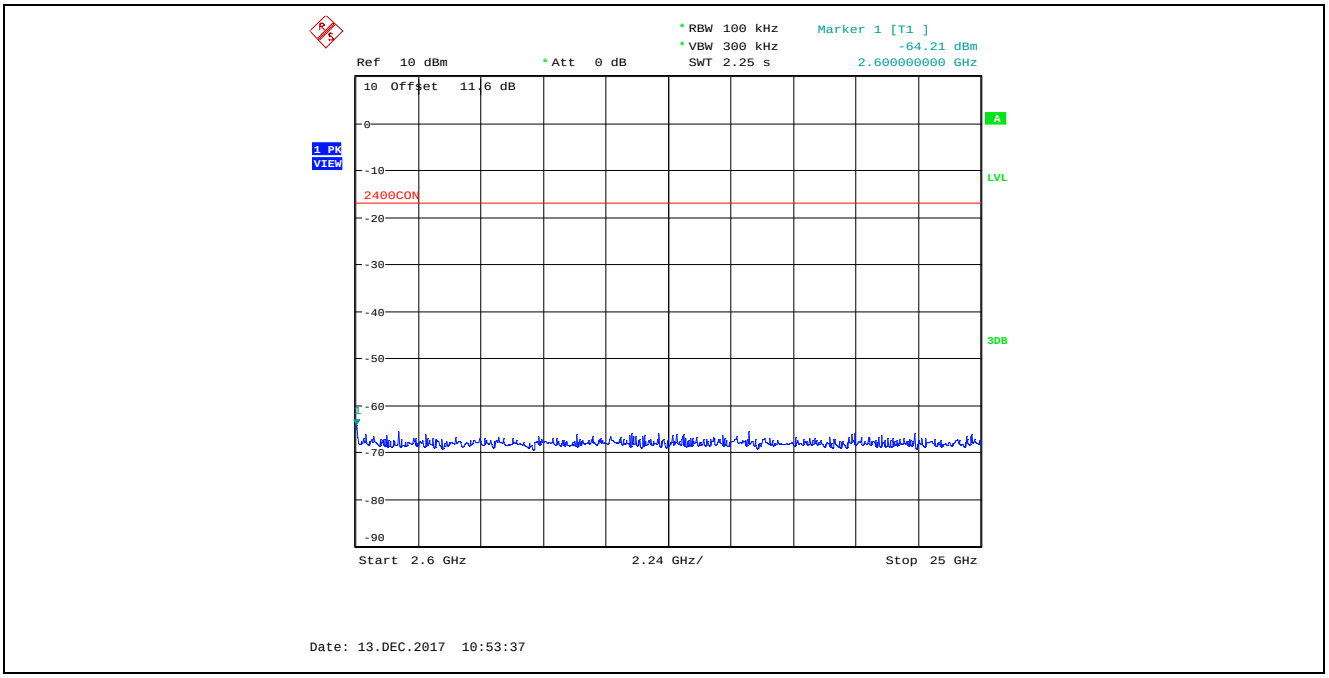

**Plot 5.4.4.2.58.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



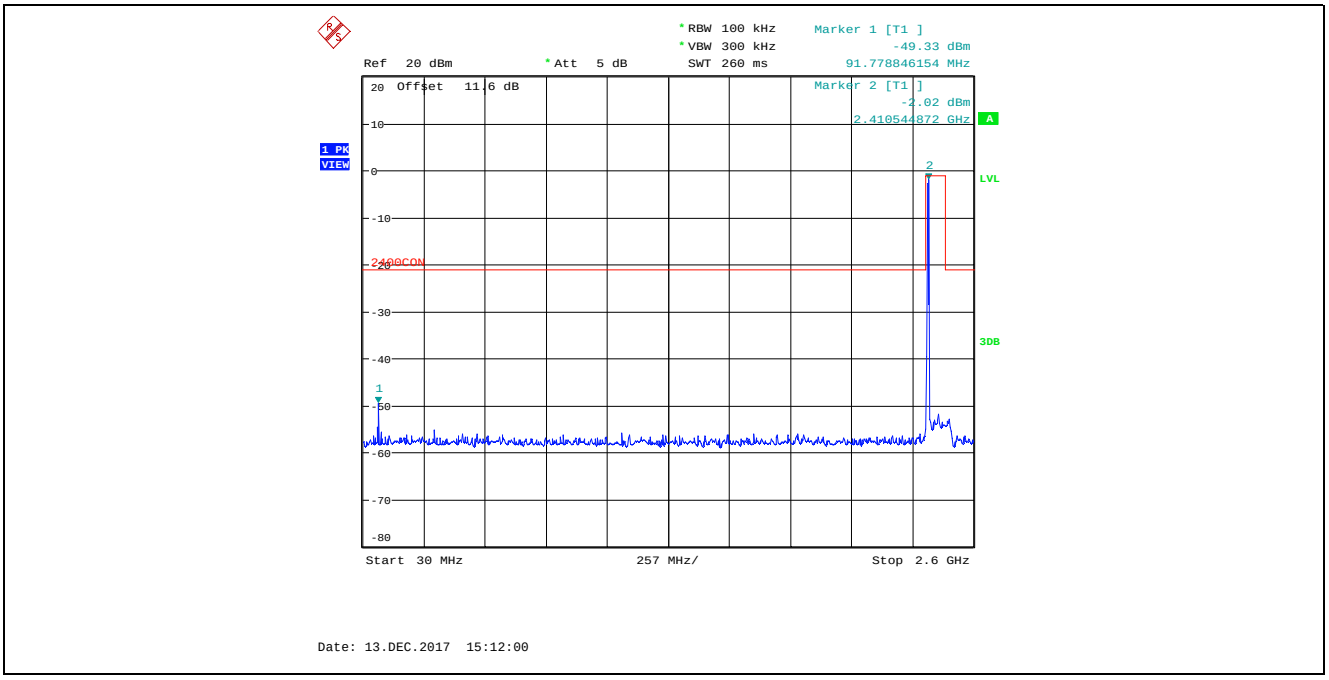
**Plot 5.4.4.2.59.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



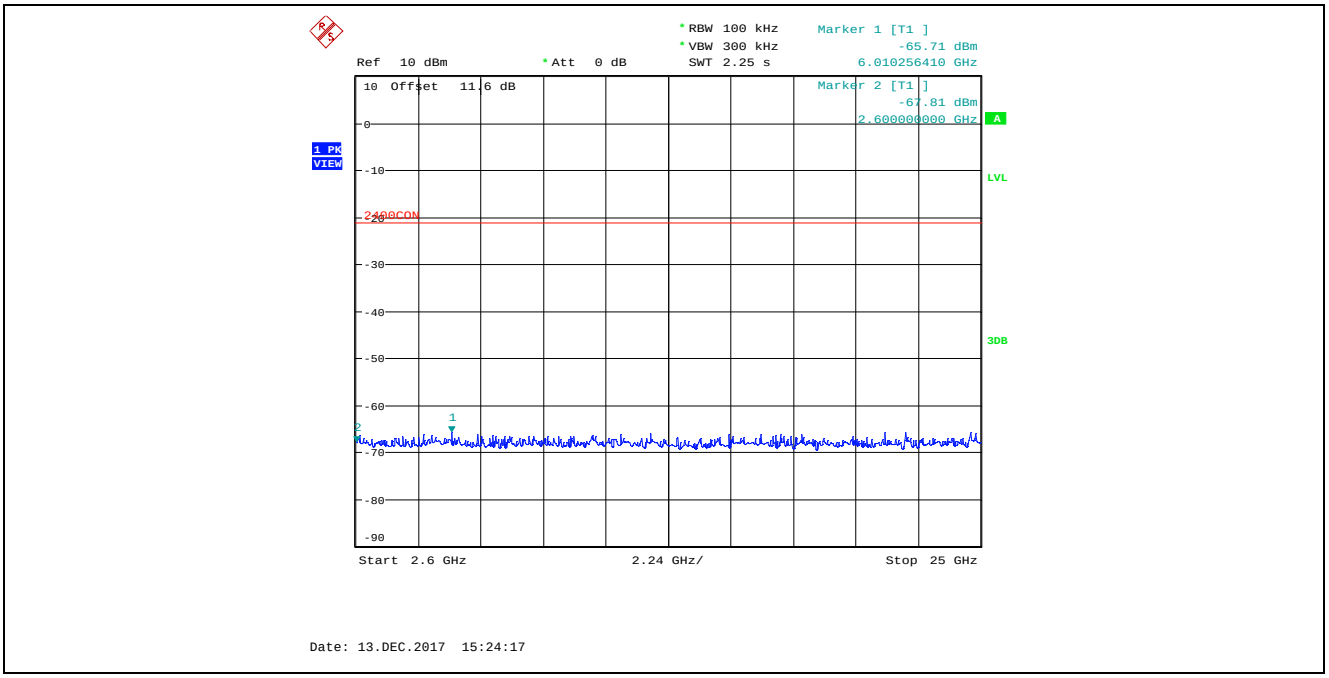

**Plot 5.4.4.2.60.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



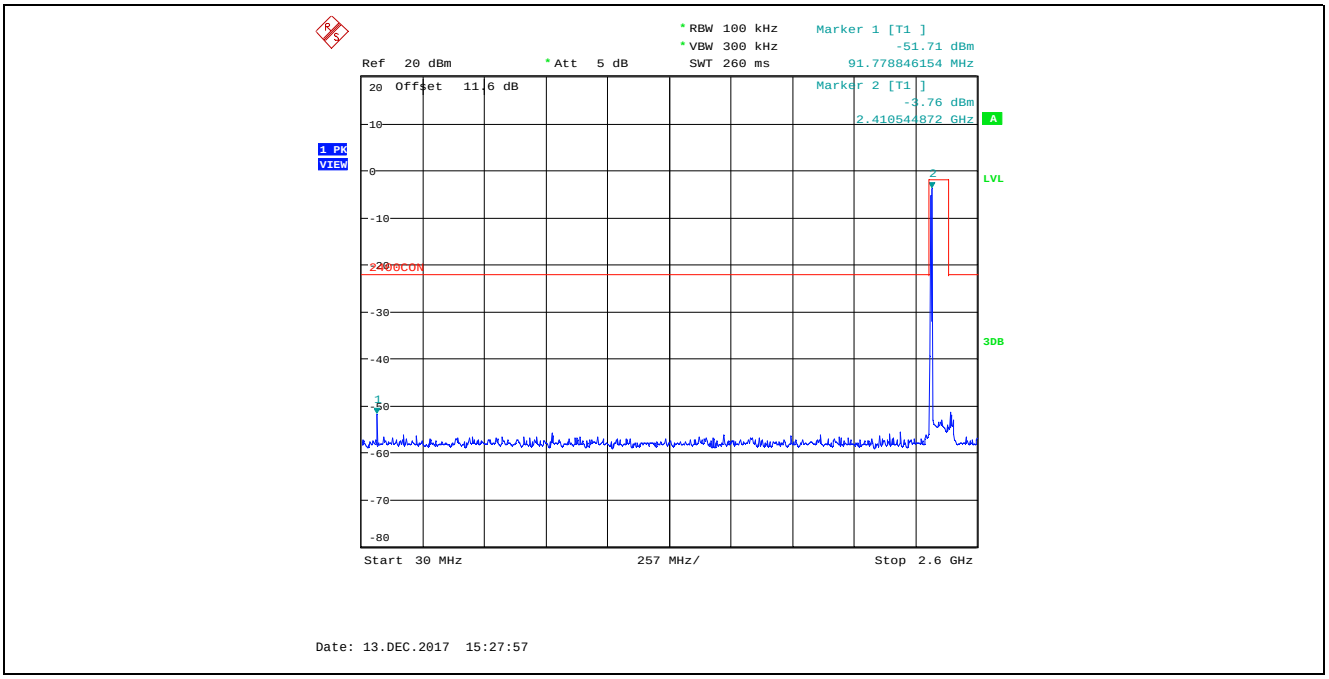
**Plot 5.4.4.2.61.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



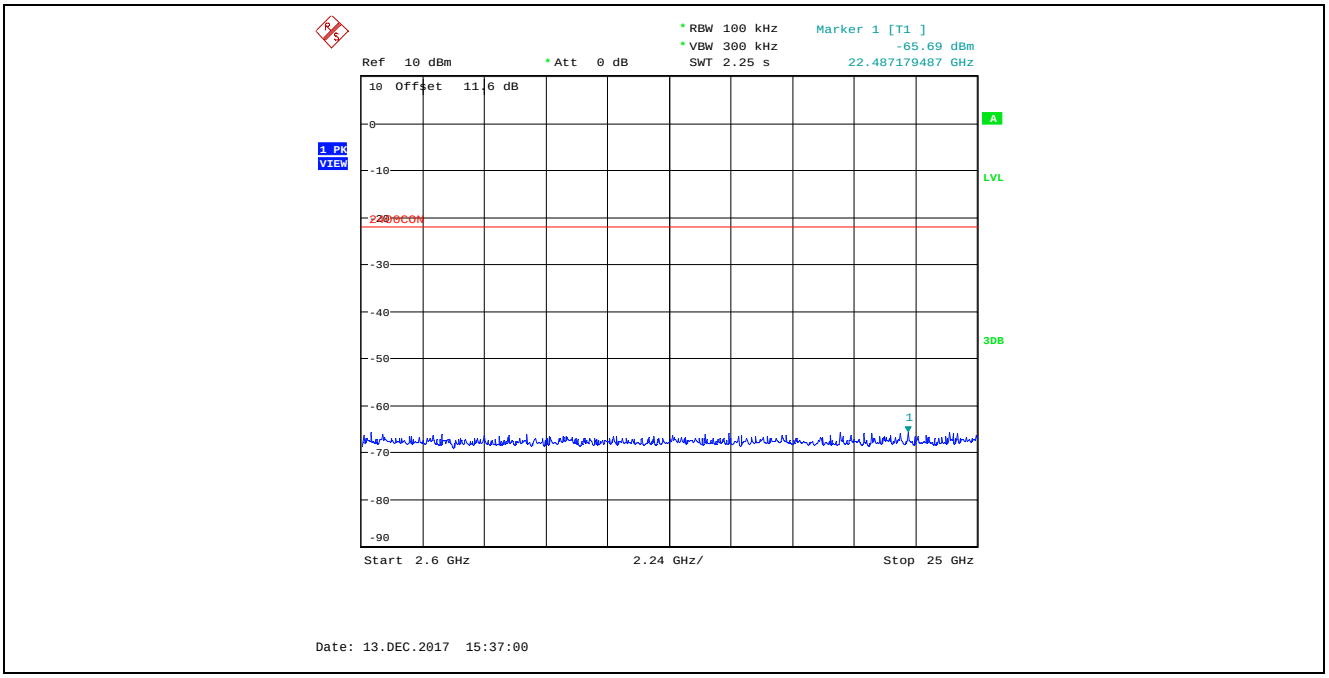

**Plot 5.4.4.2.62.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



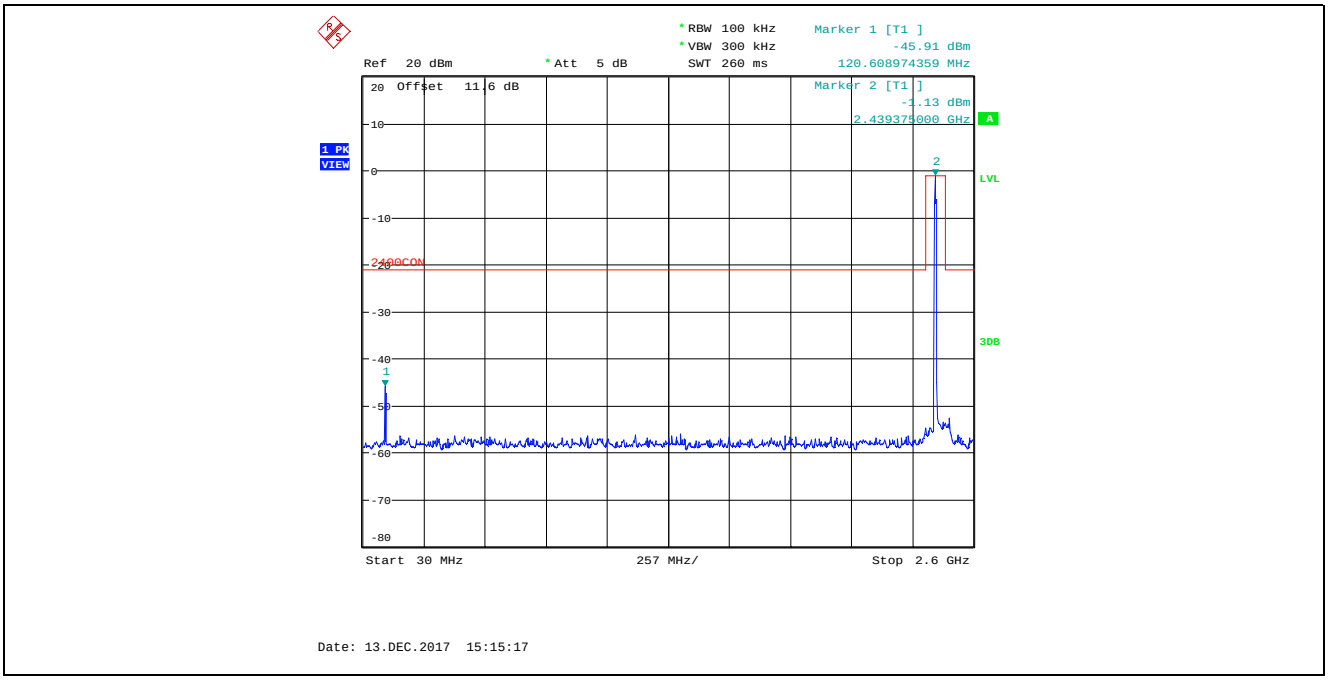
**Plot 5.4.4.2.63.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



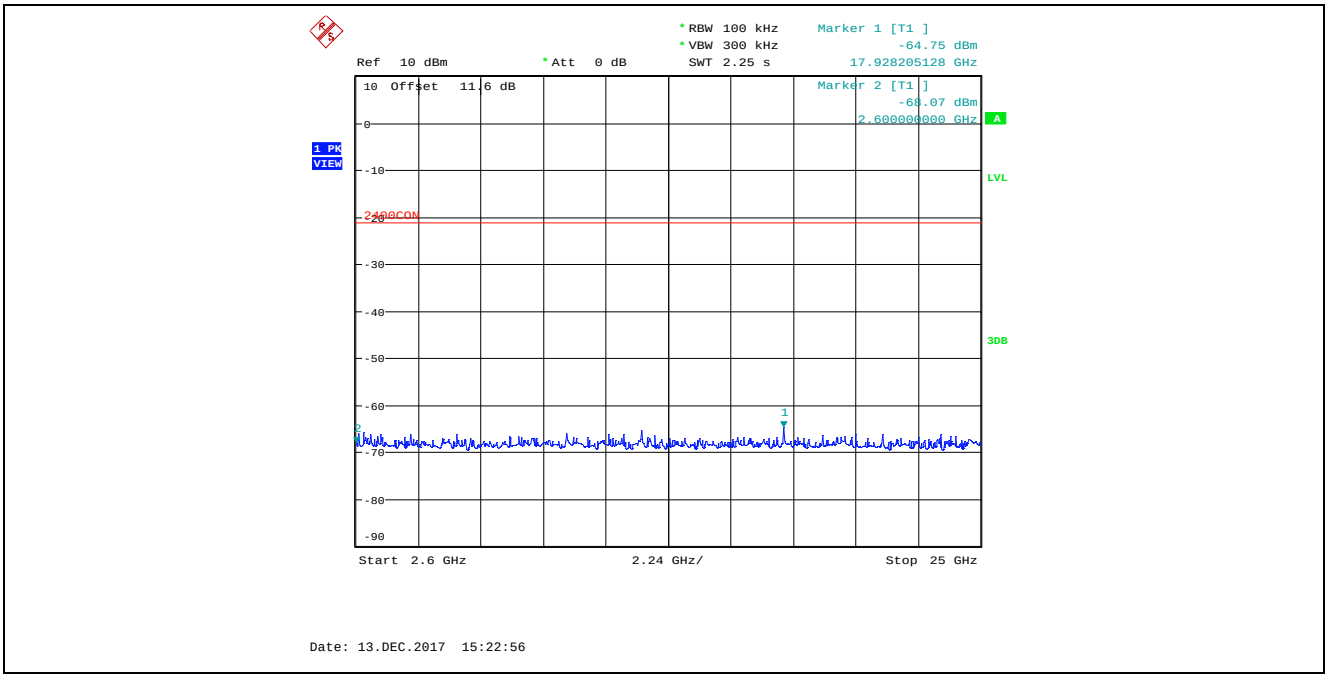

**Plot 5.4.4.2.64.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



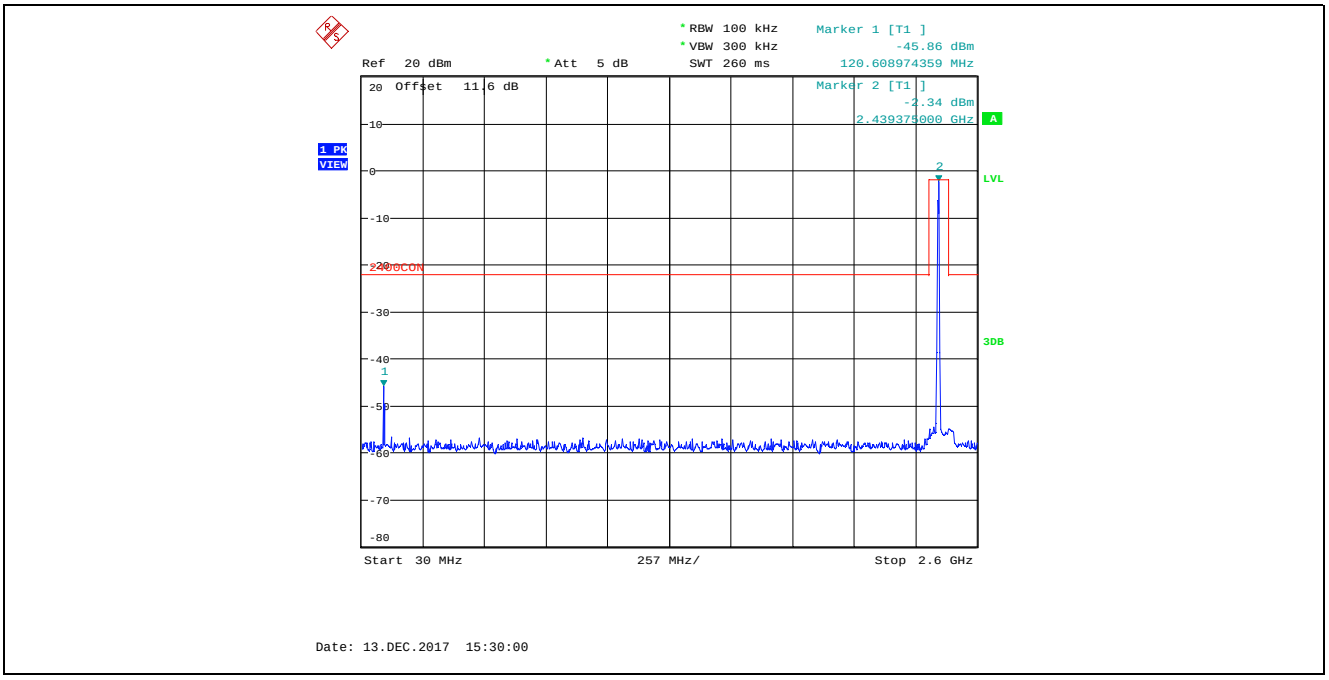
**Plot 5.4.4.2.65.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



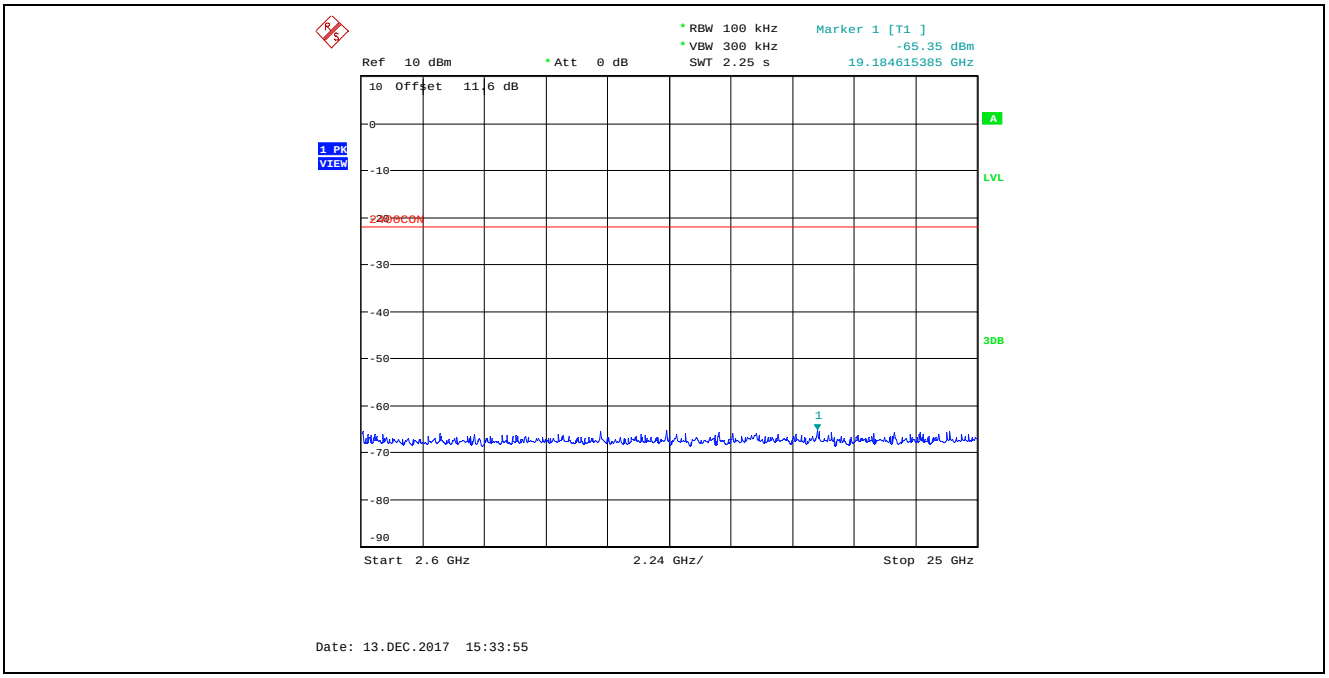

**Plot 5.4.4.2.66.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



**Plot 5.4.4.2.67.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz




**Plot 5.4.4.2.68.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



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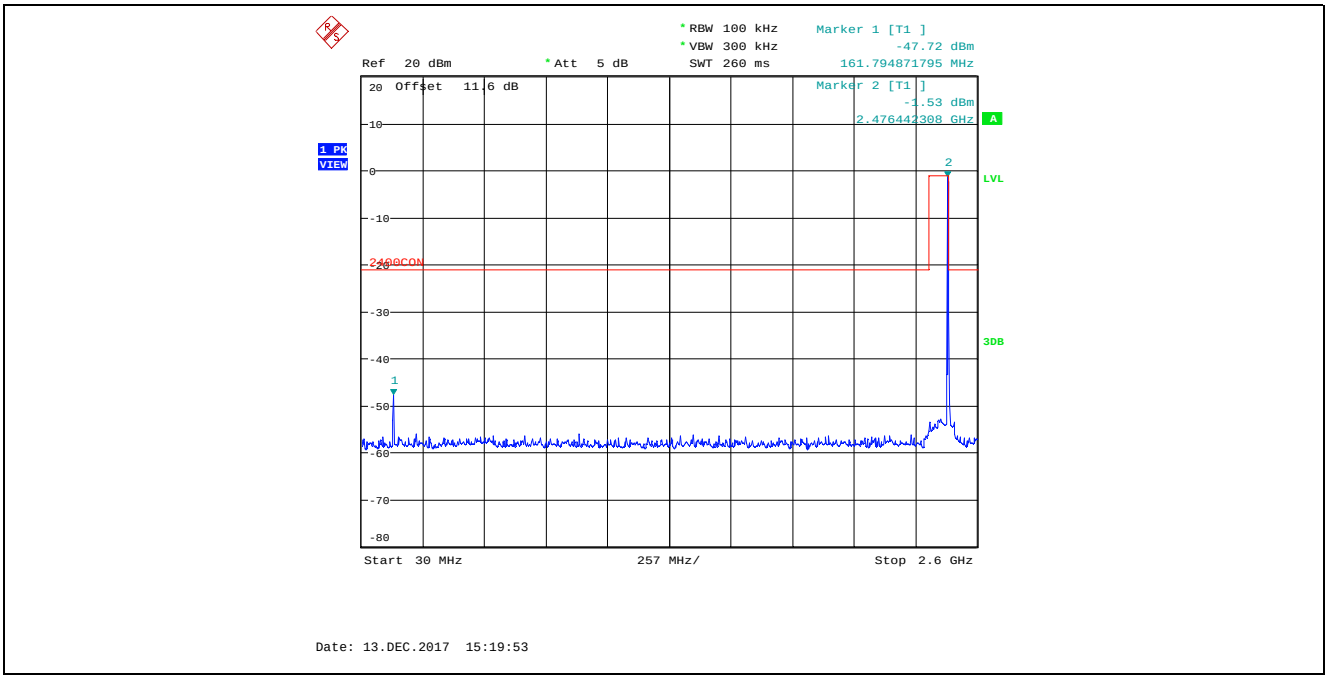
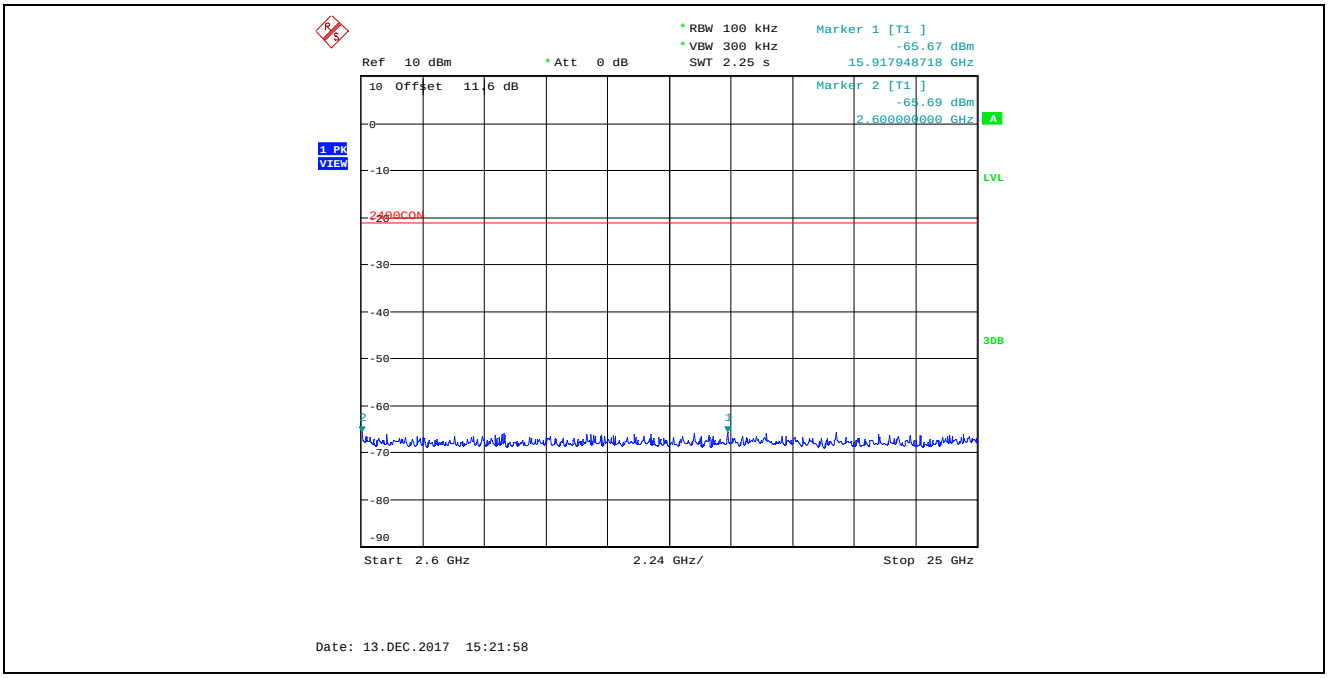
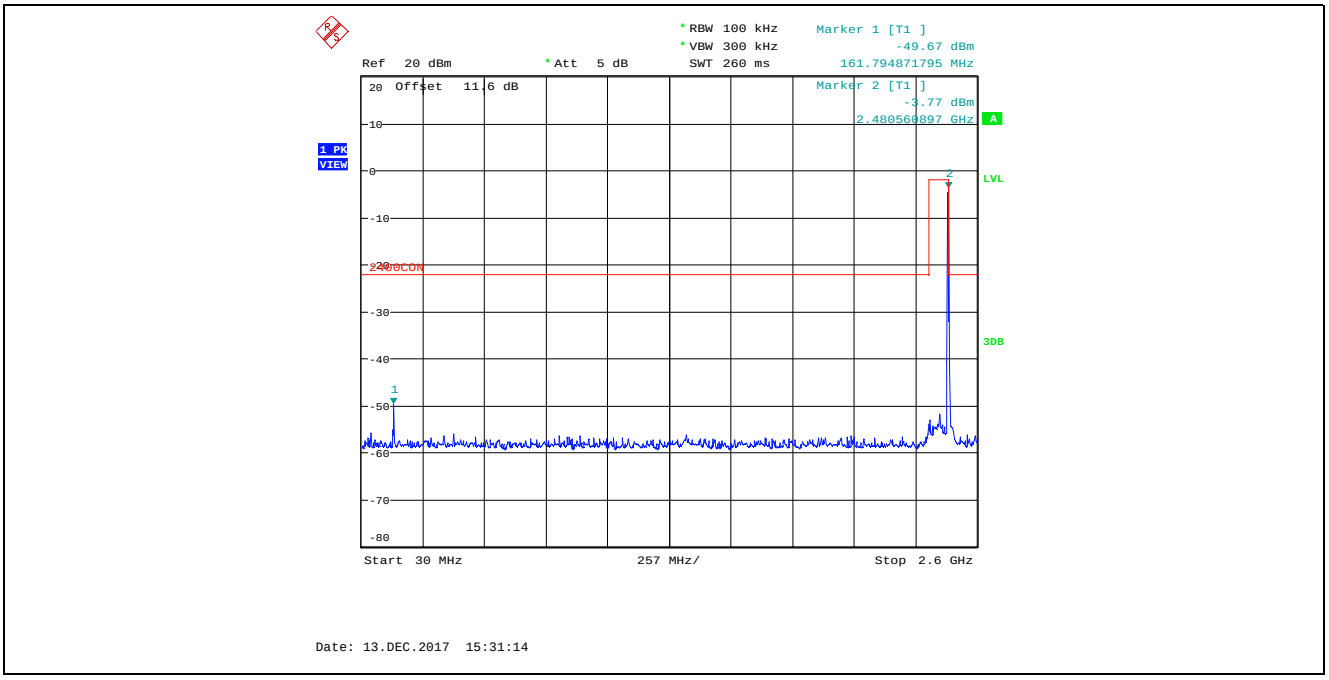
**Plot 5.4.4.2.69.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



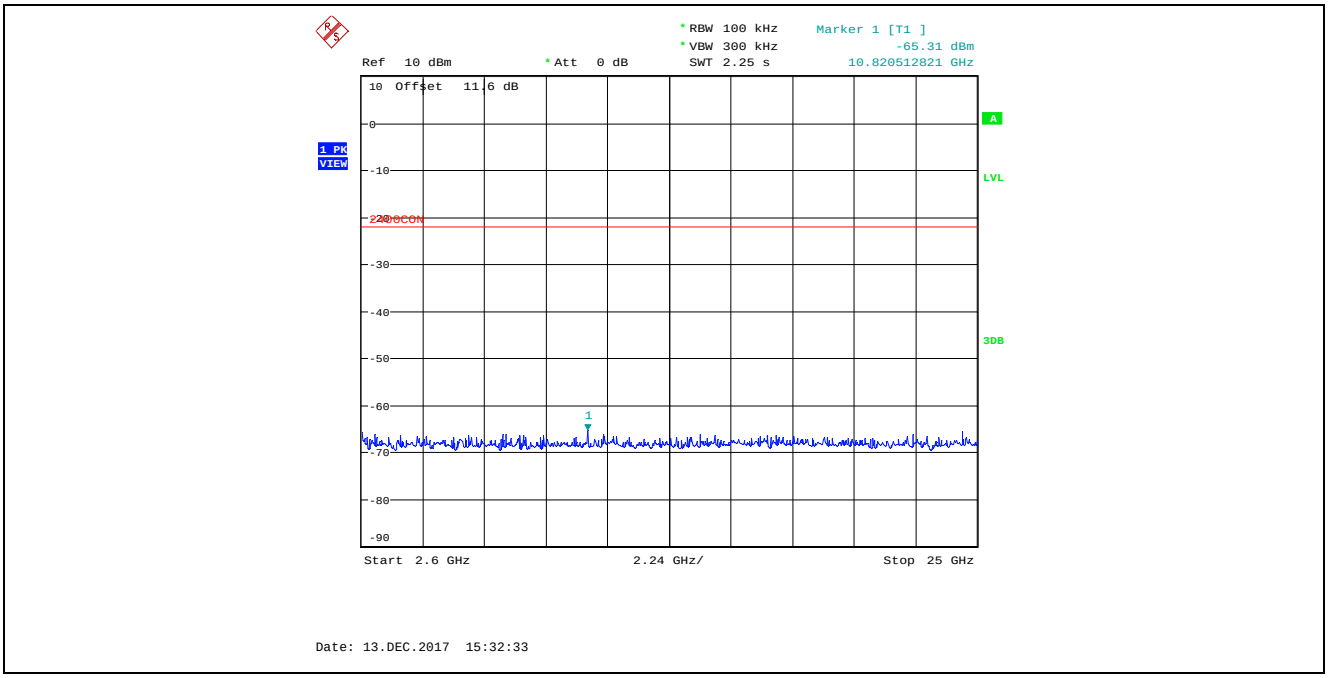

**Plot 5.4.4.2.70.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



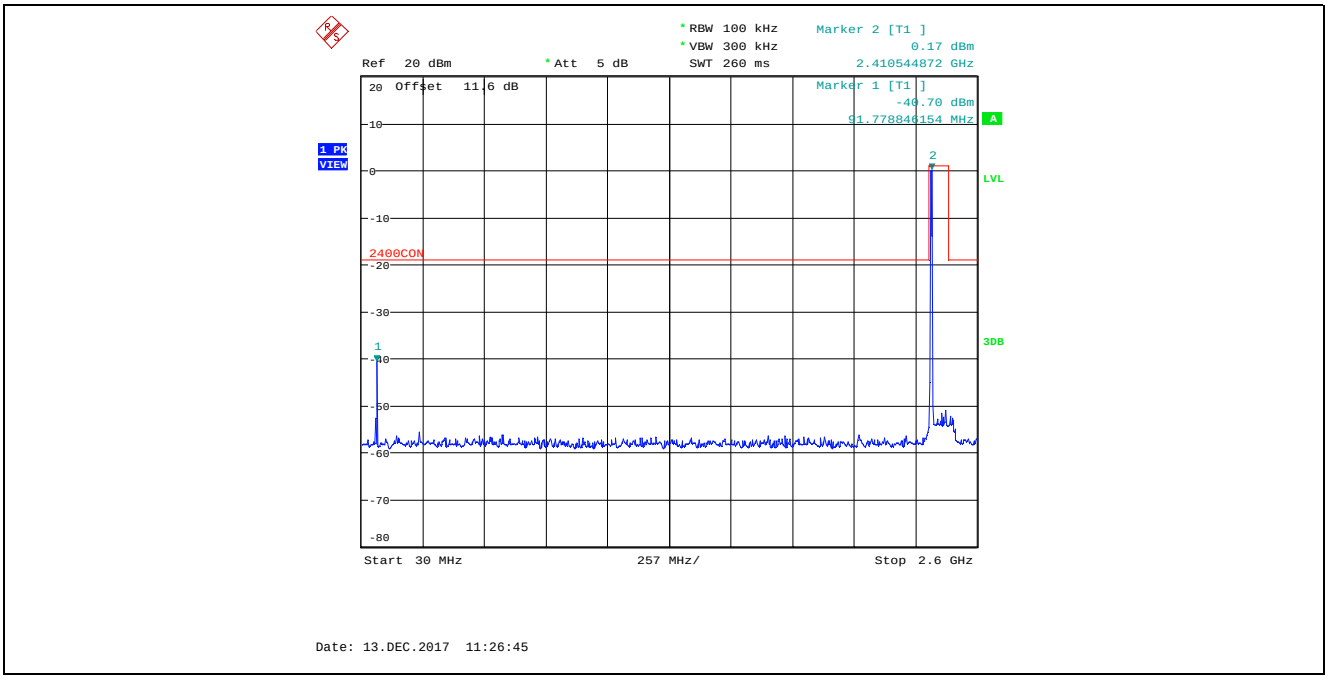
**Plot 5.4.4.2.71.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



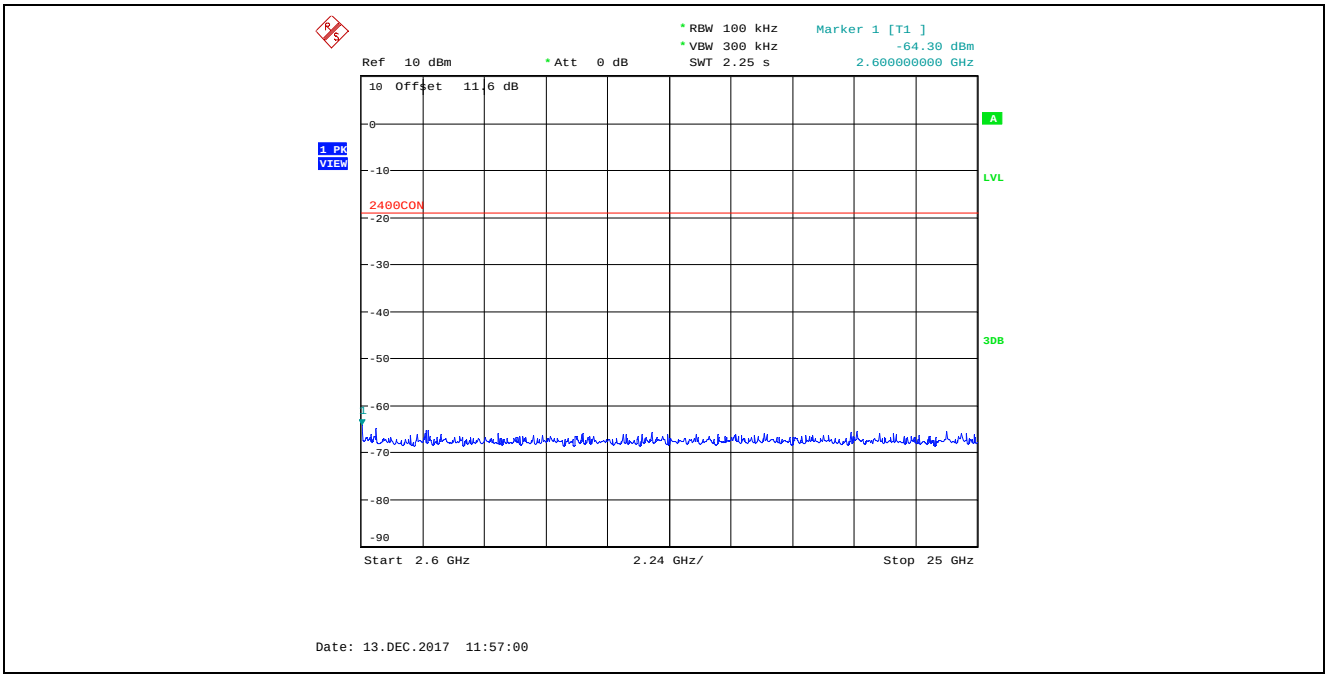

**Plot 5.4.4.2.72.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



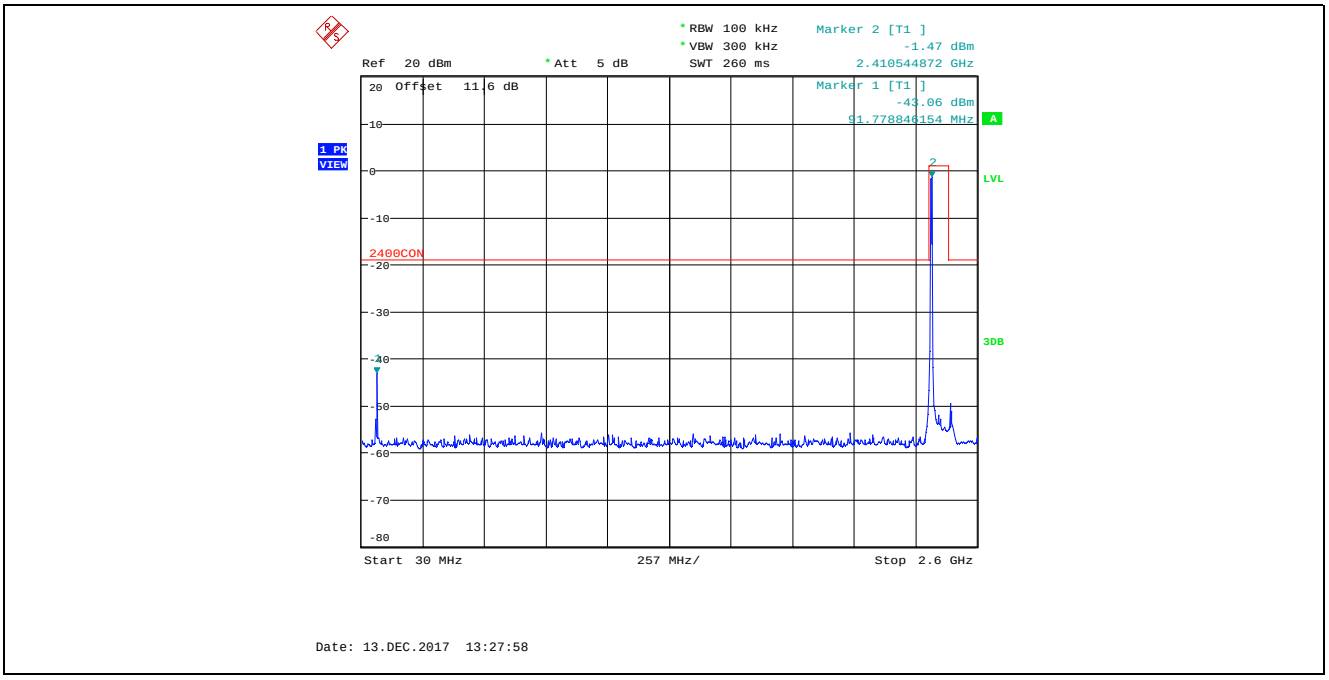
**Plot 5.4.4.2.73.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



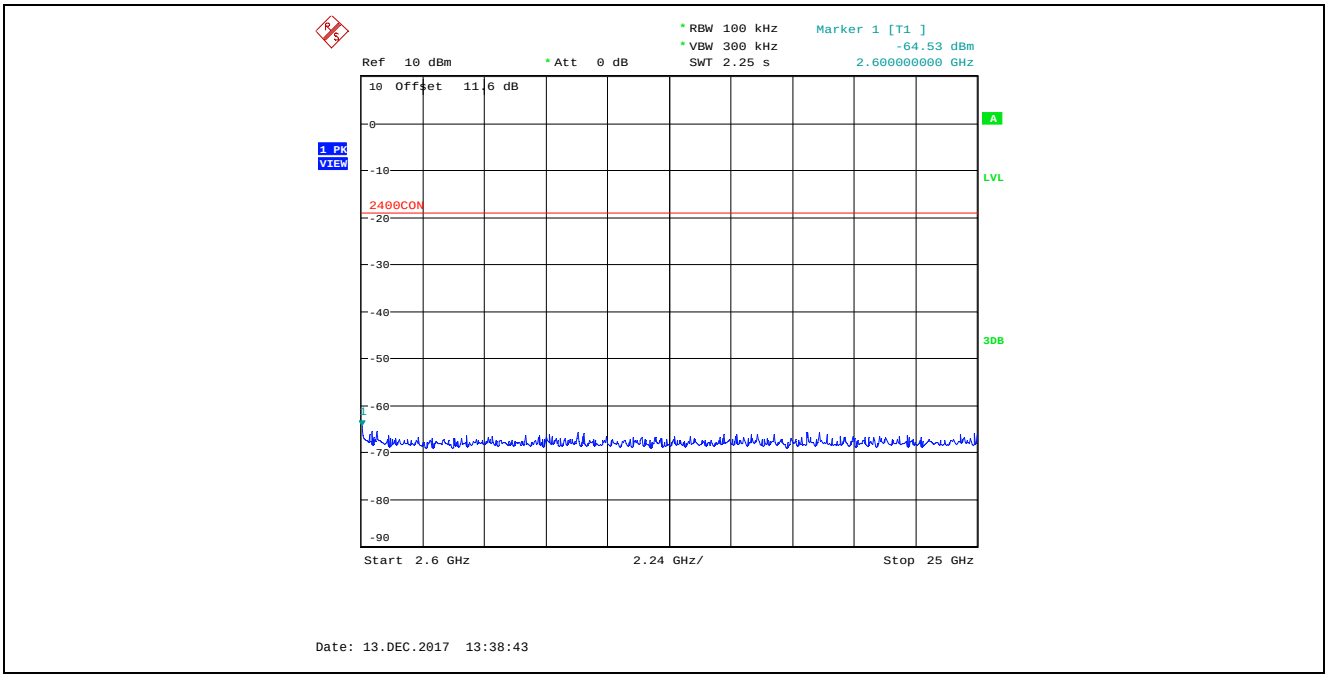

**Plot 5.4.4.2.74.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



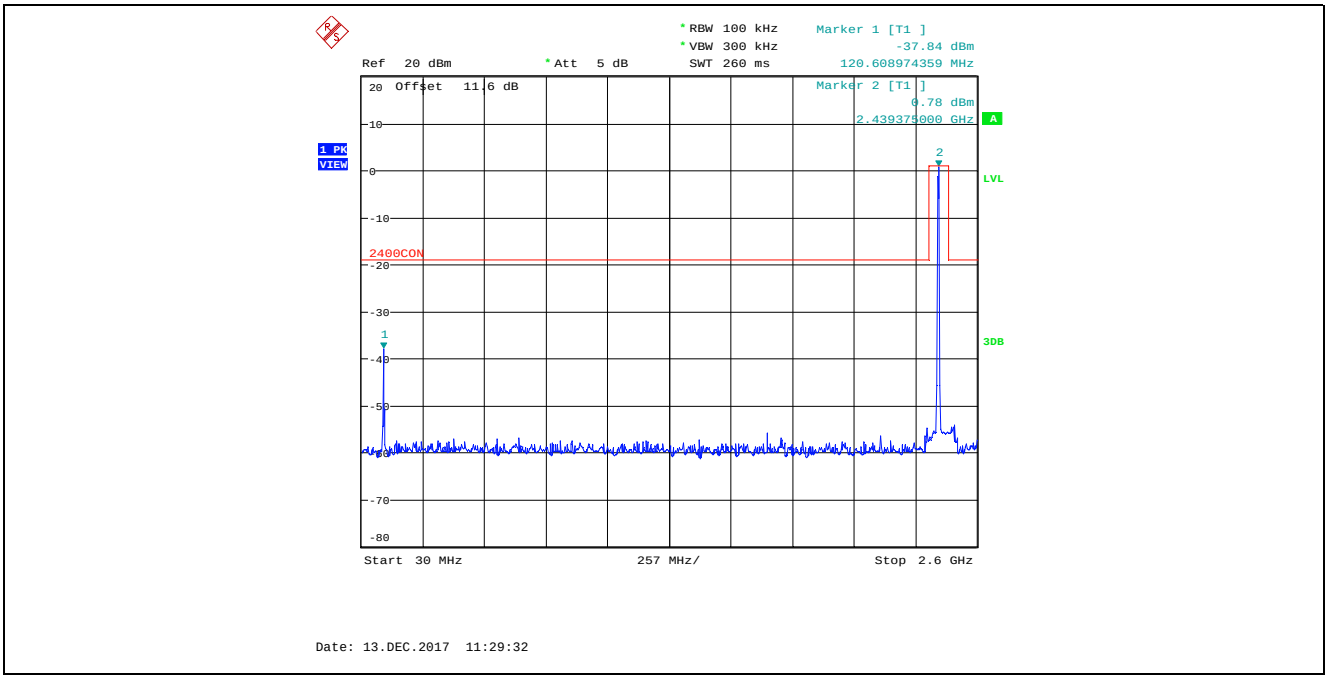
**Plot 5.4.4.2.75.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



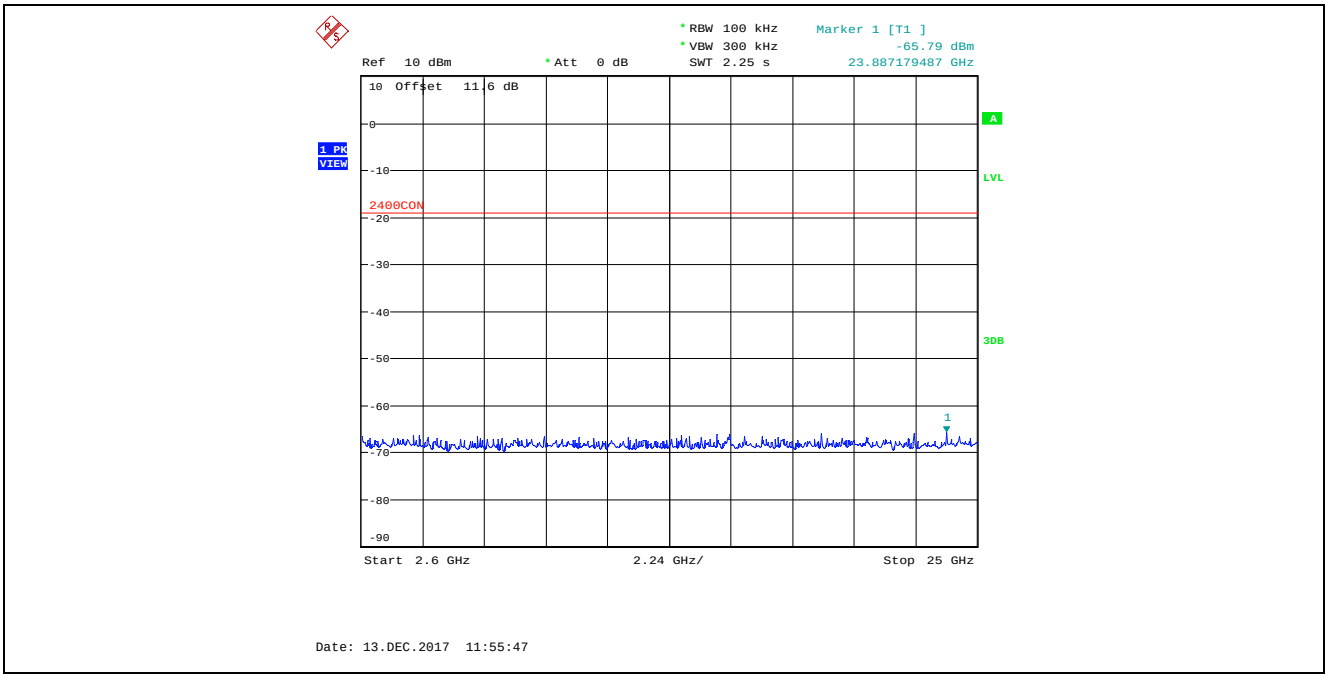

**Plot 5.4.4.2.76.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



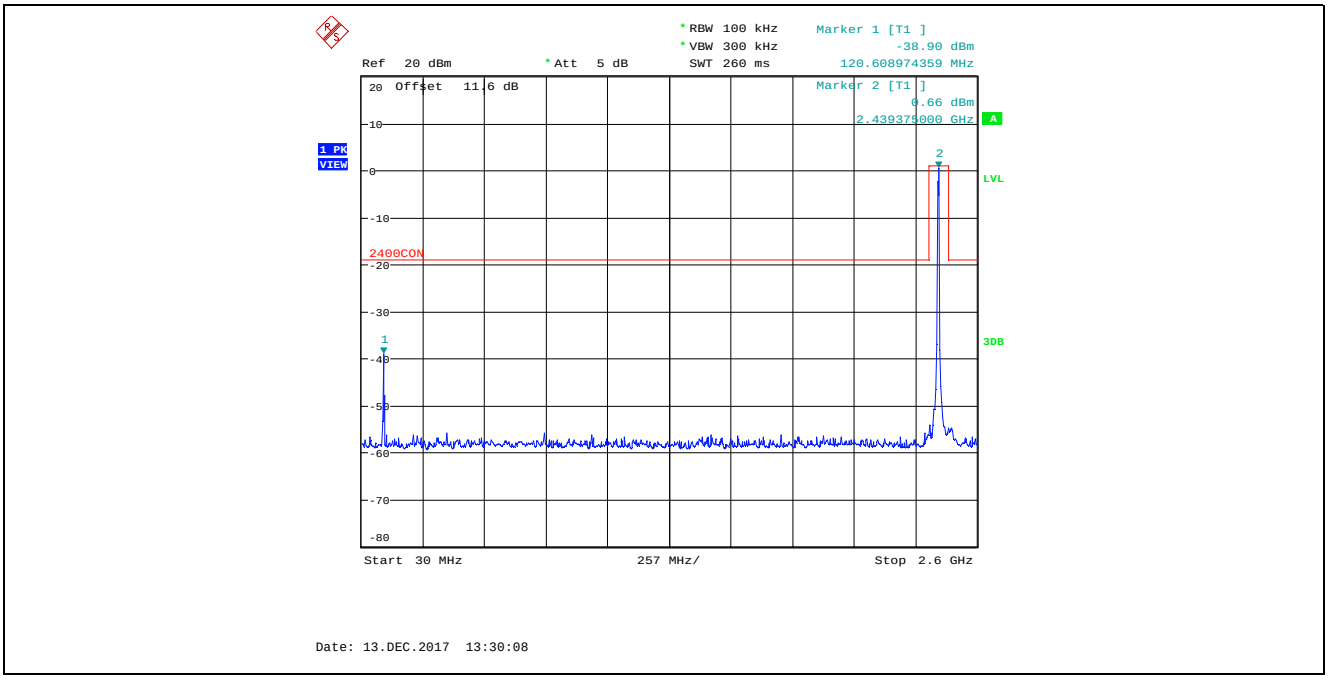
**Plot 5.4.4.2.77.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



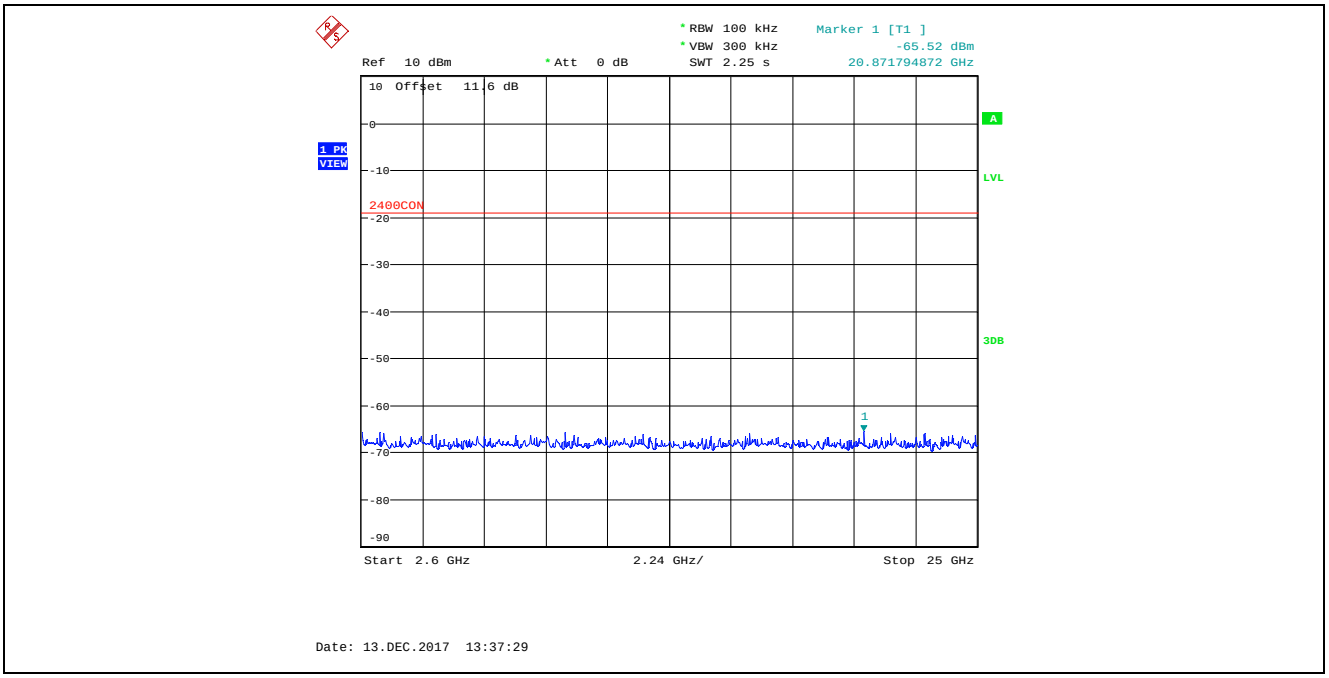

**Plot 5.4.4.2.78.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



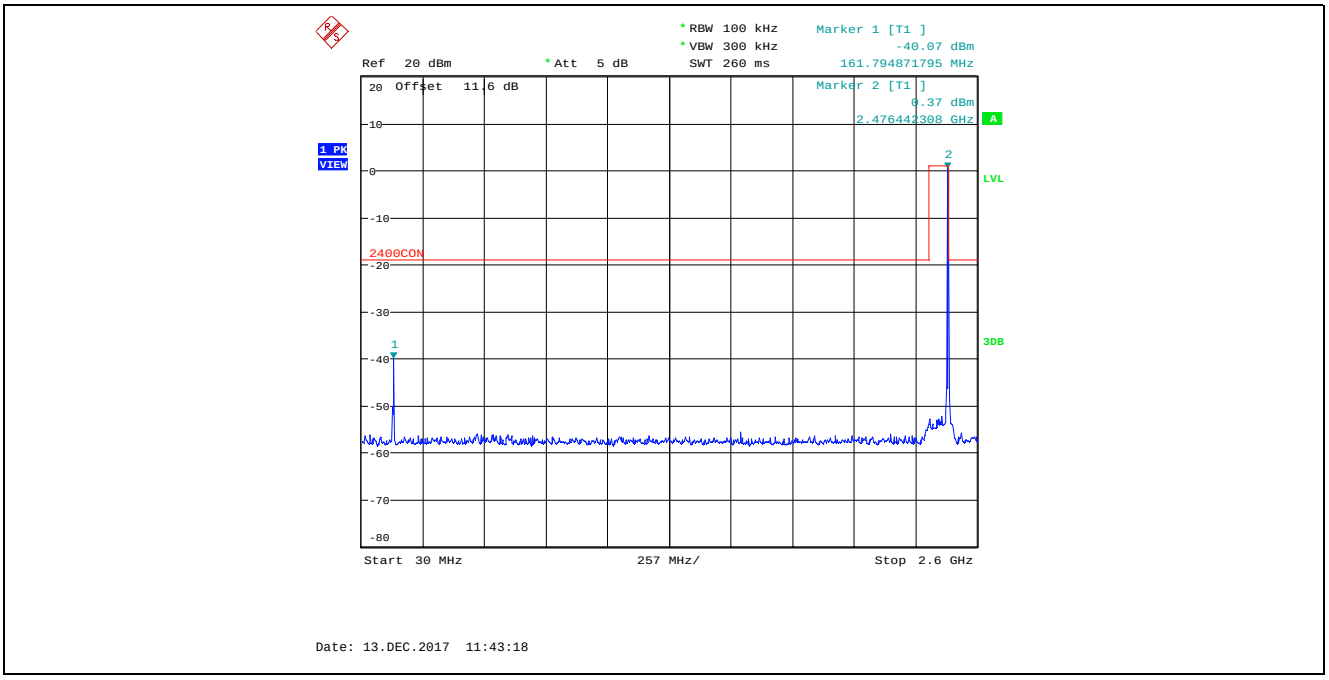
**Plot 5.4.4.2.79.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



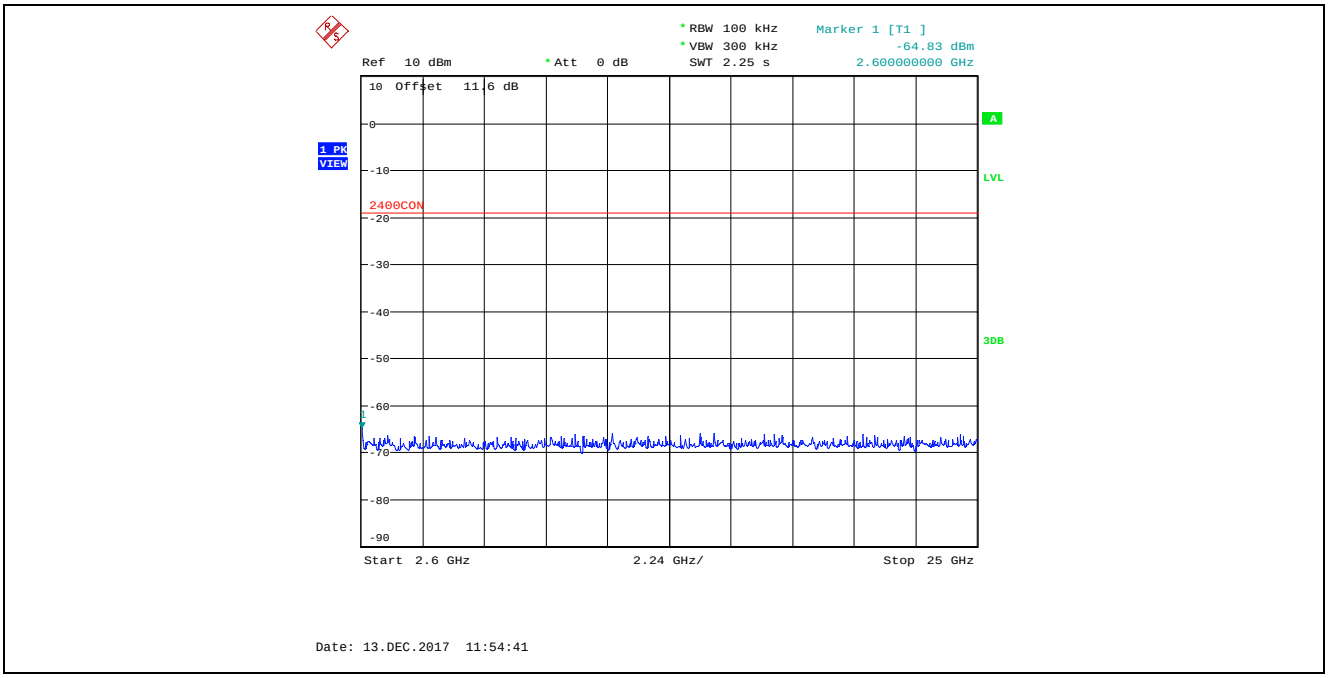

**Plot 5.4.4.2.80.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



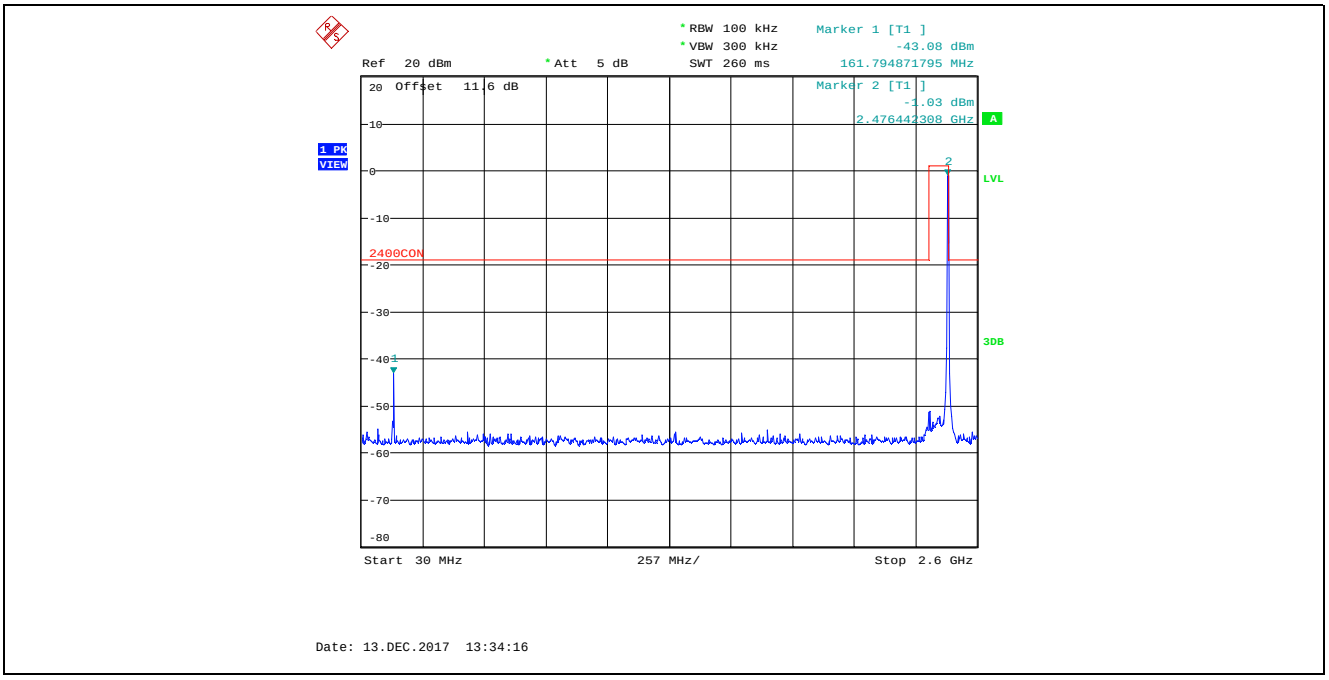
**Plot 5.4.4.2.81.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



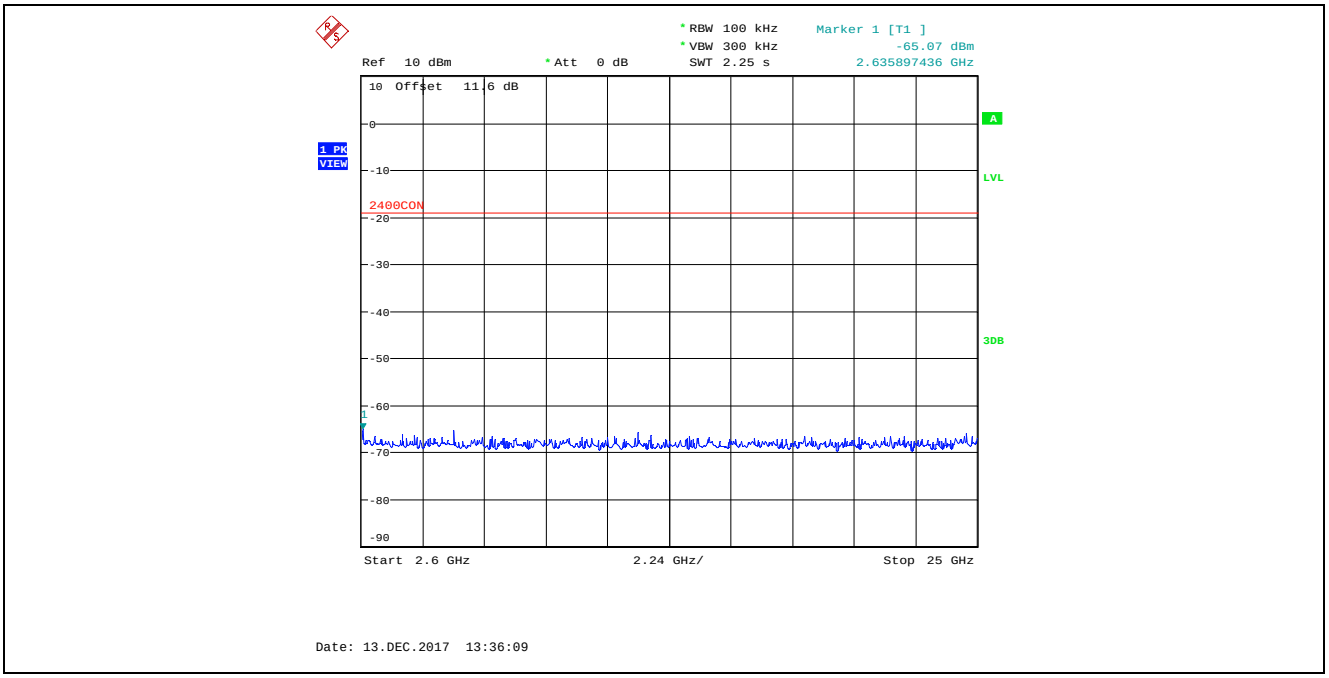

**Plot 5.4.4.2.82.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



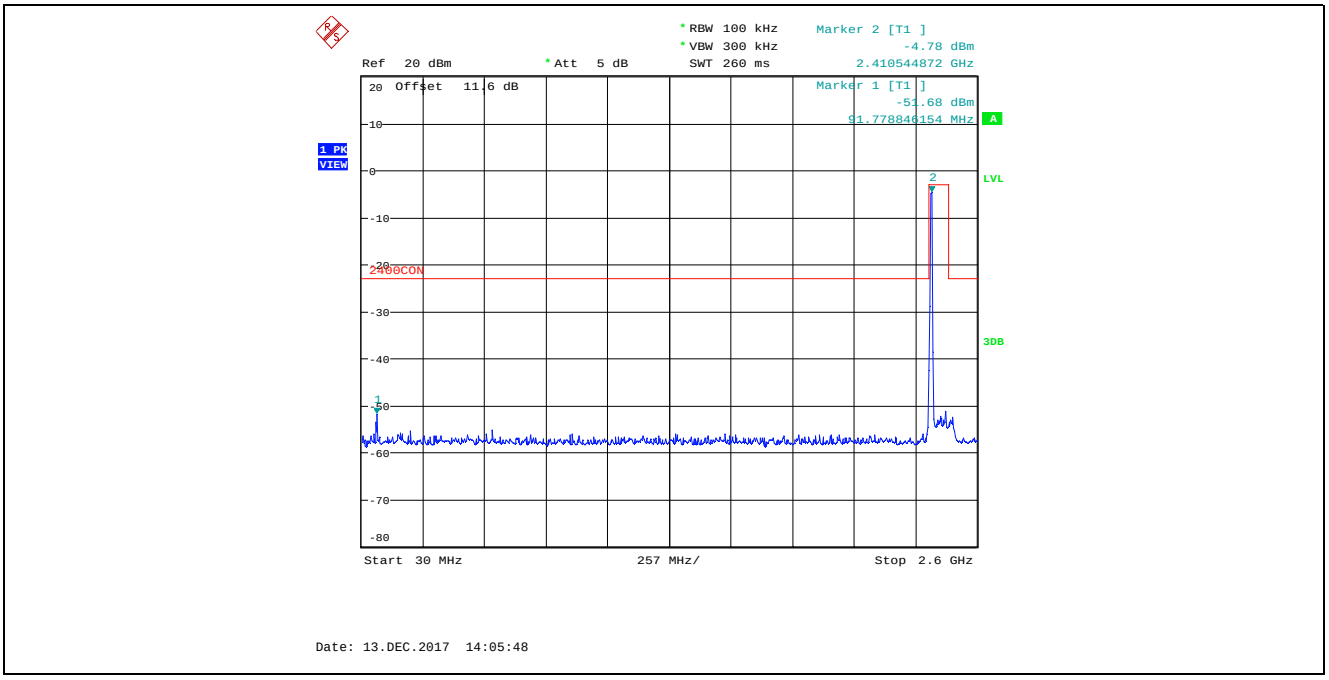
**Plot 5.4.4.2.83.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



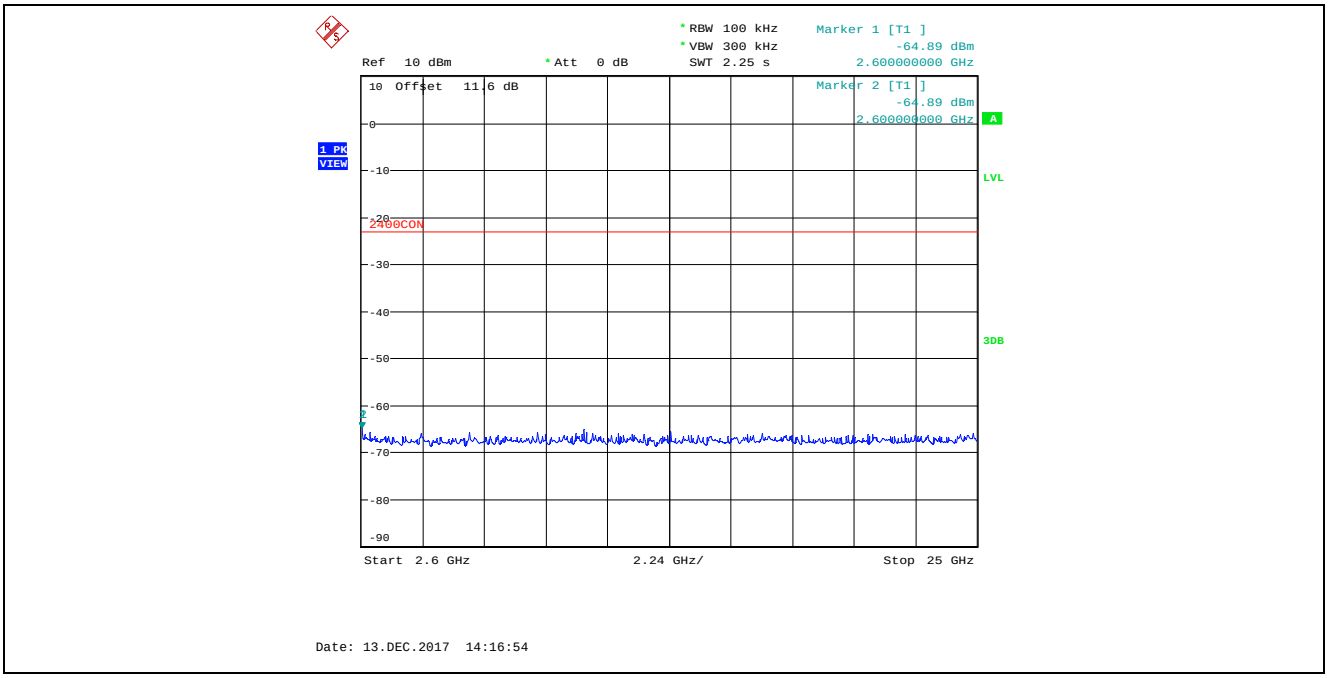

**Plot 5.4.4.2.84.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



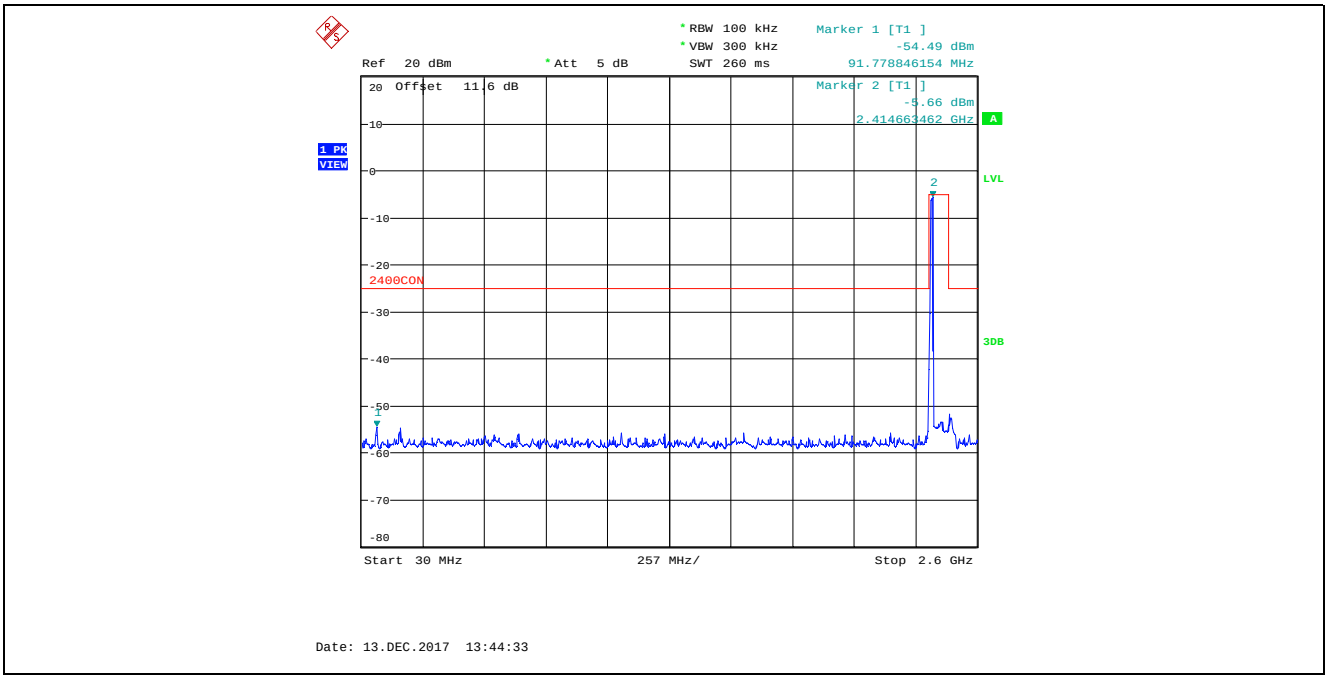
**Plot 5.4.4.2.85.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



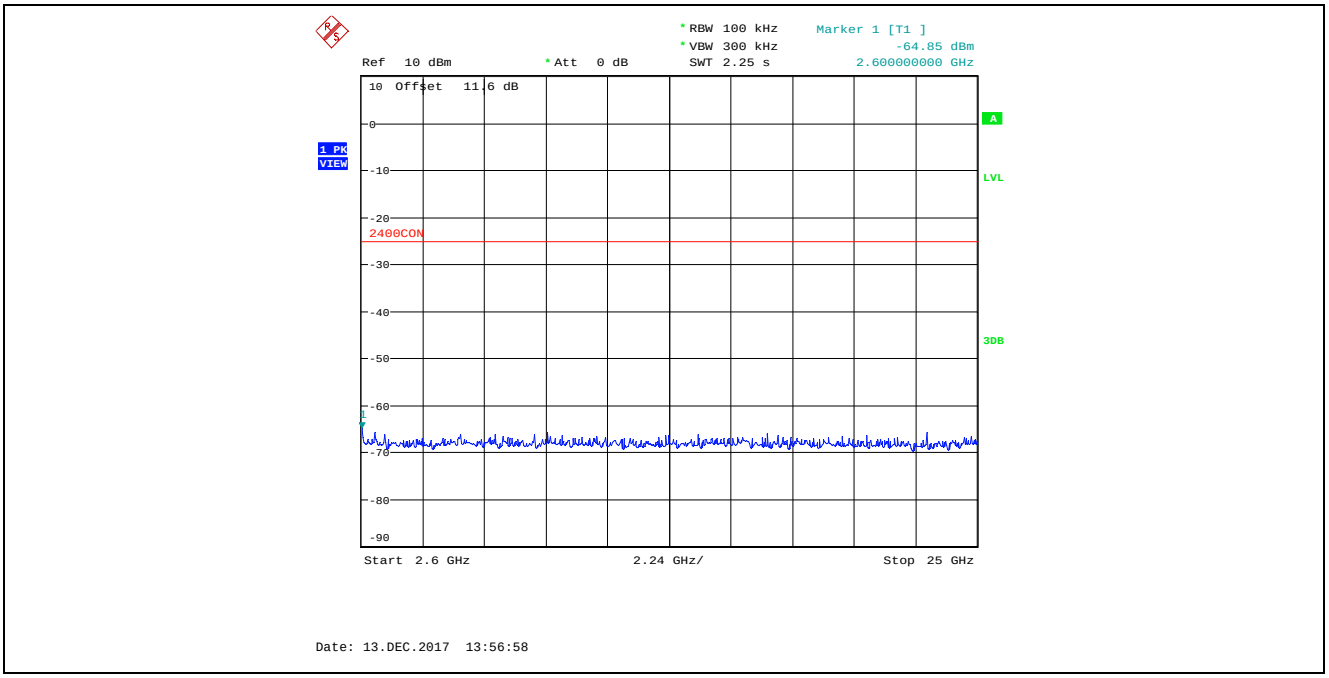

**Plot 5.4.4.2.86.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



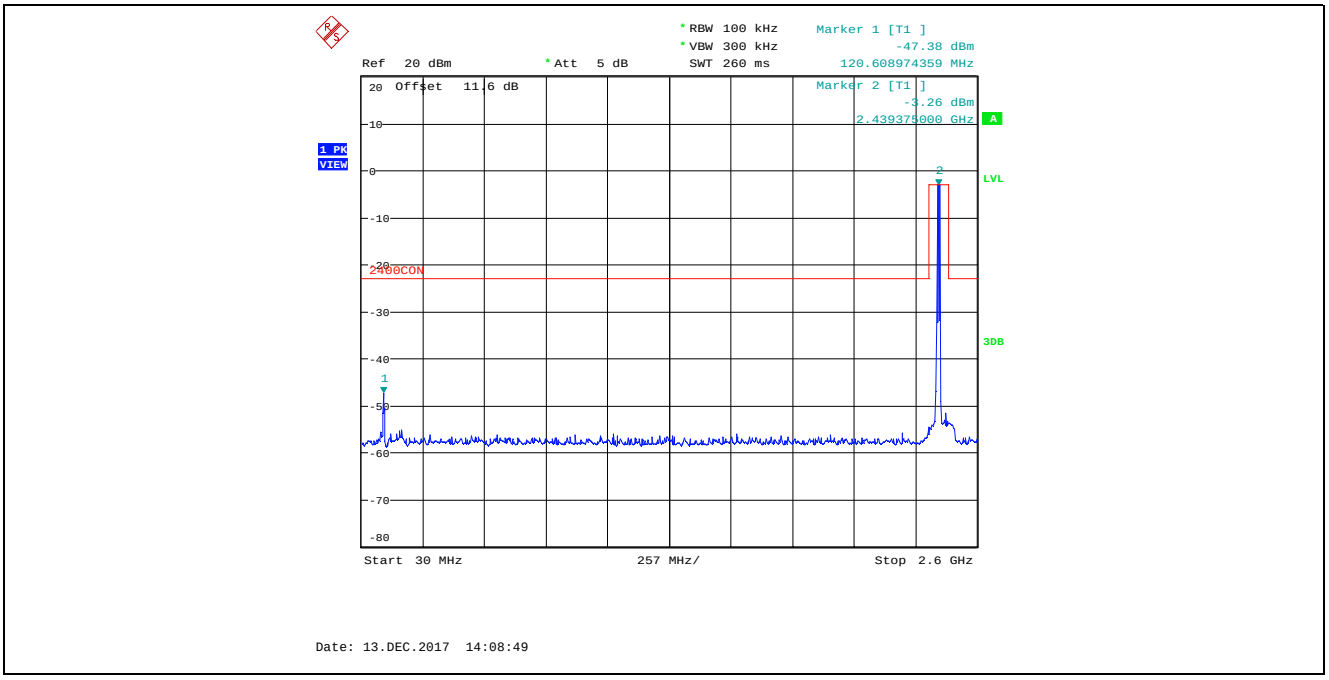
**Plot 5.4.4.2.87.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



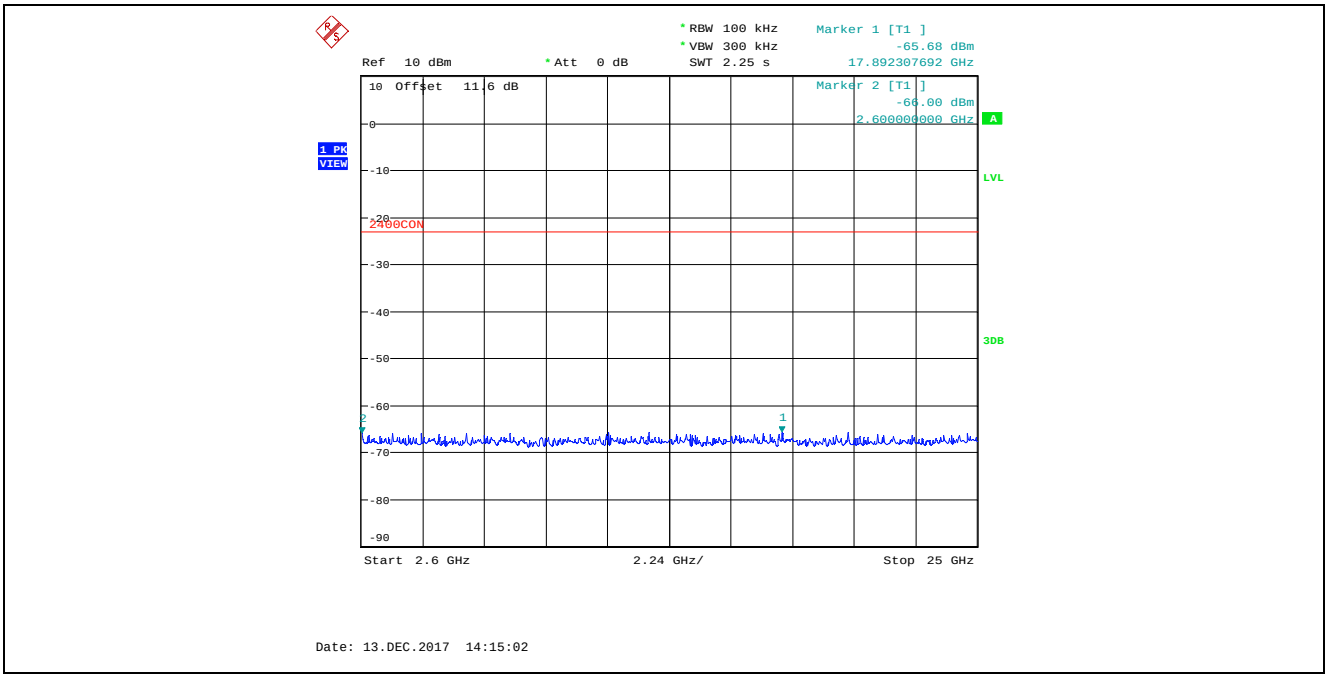

**Plot 5.4.4.2.88.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



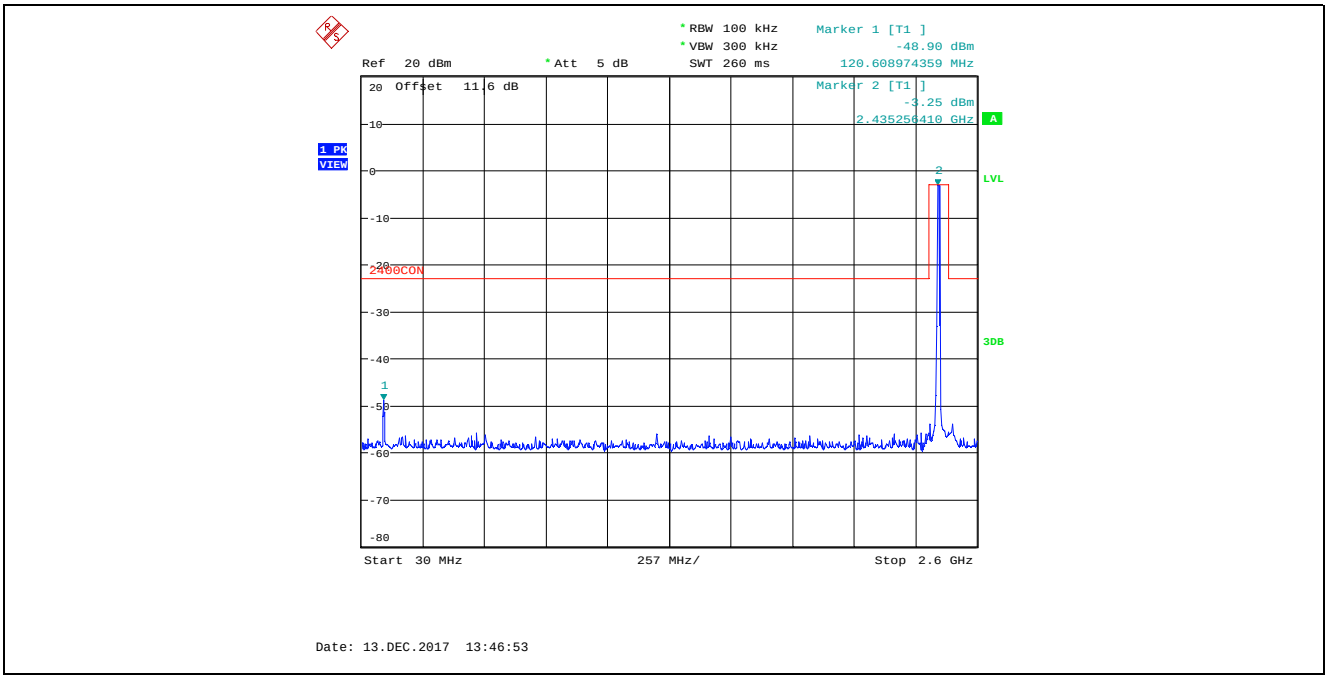
**Plot 5.4.4.2.89.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



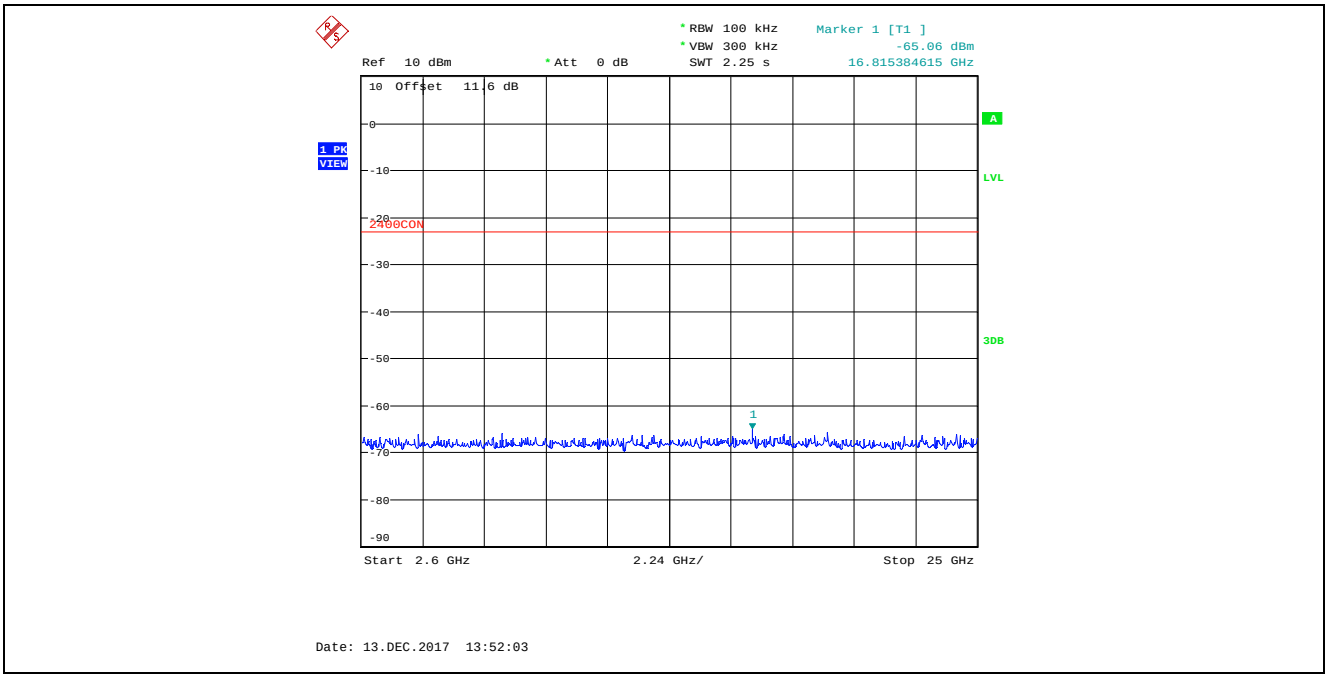

**Plot 5.4.4.2.90.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



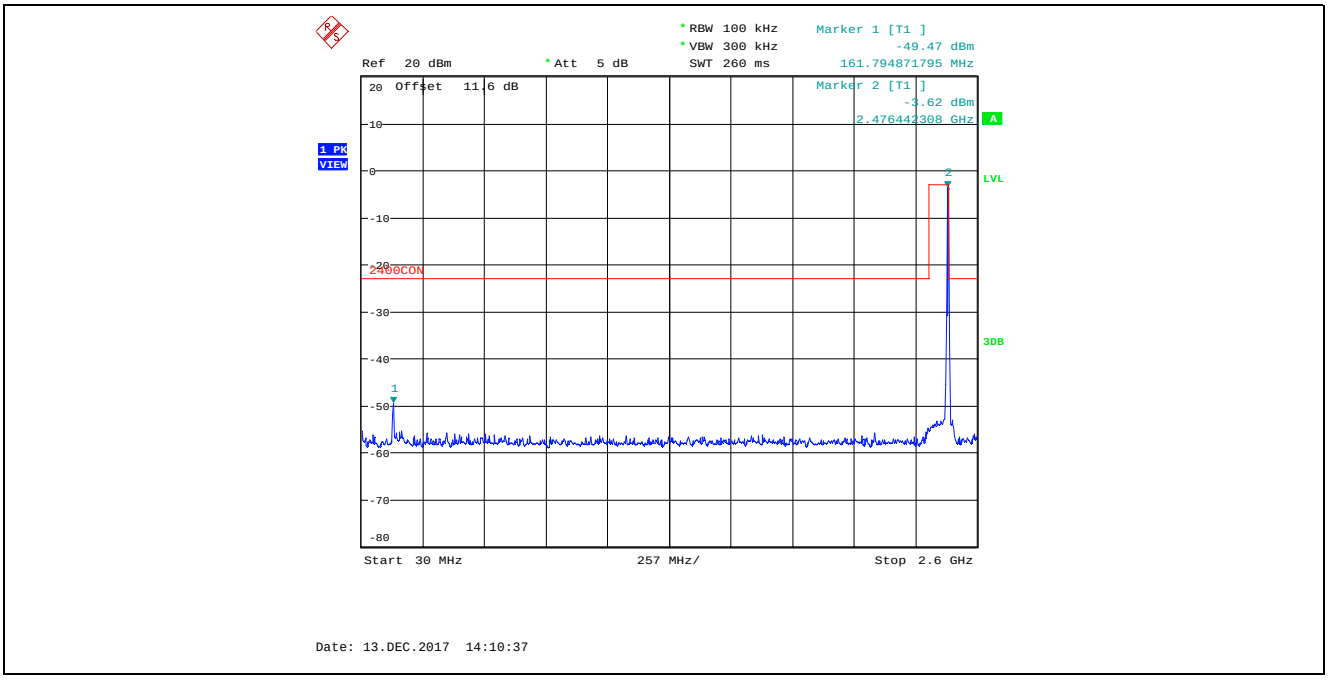
**Plot 5.4.4.2.91.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



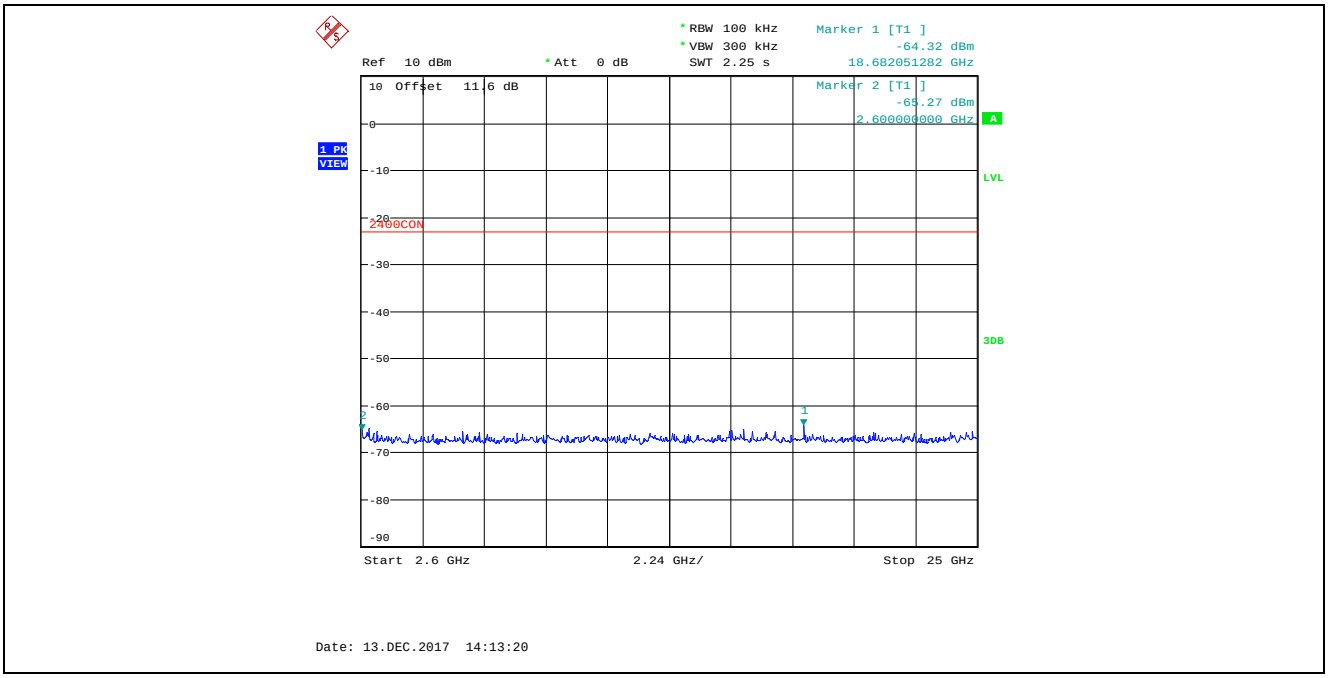

**Plot 5.4.4.2.92.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



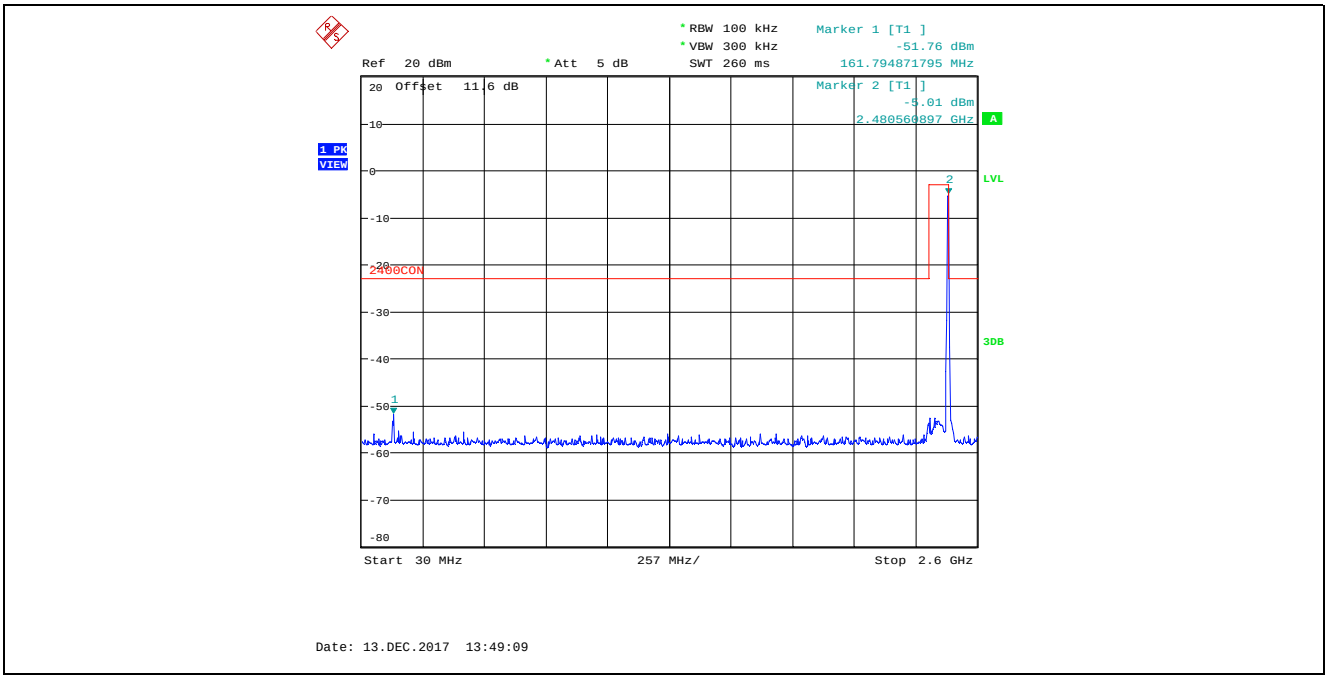
**Plot 5.4.4.2.93.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



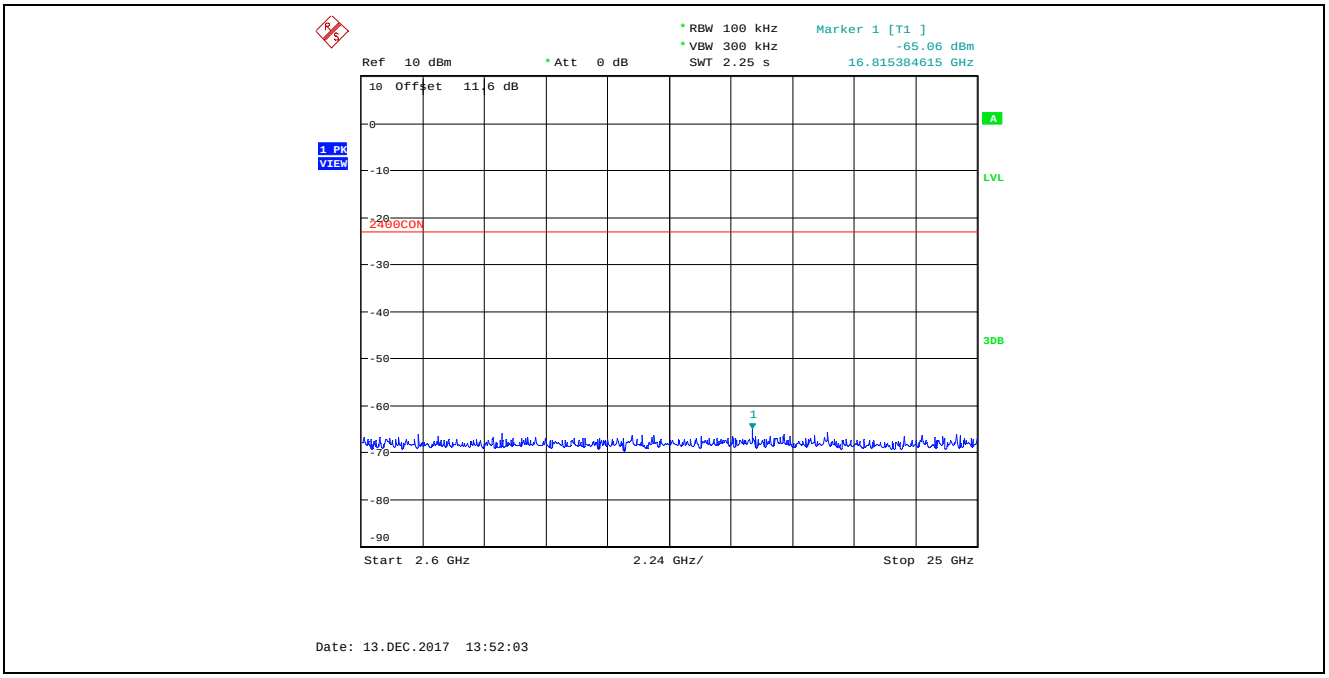

**Plot 5.4.4.2.94.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



**Plot 5.4.4.2.95.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



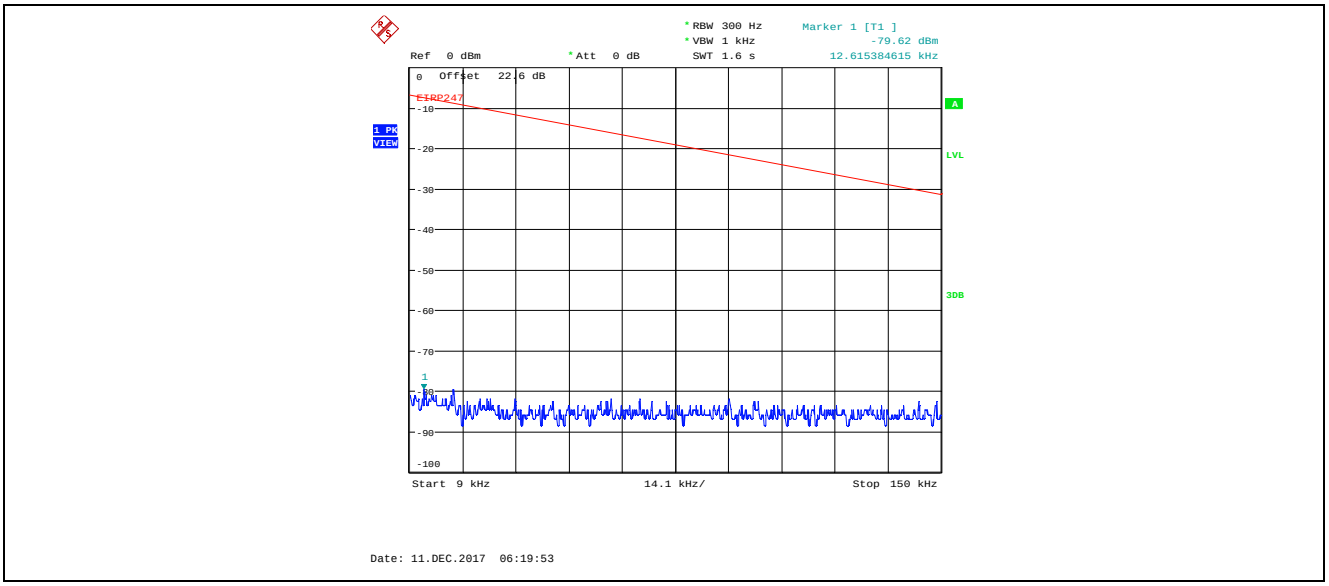

**Plot 5.4.4.2.96.** Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



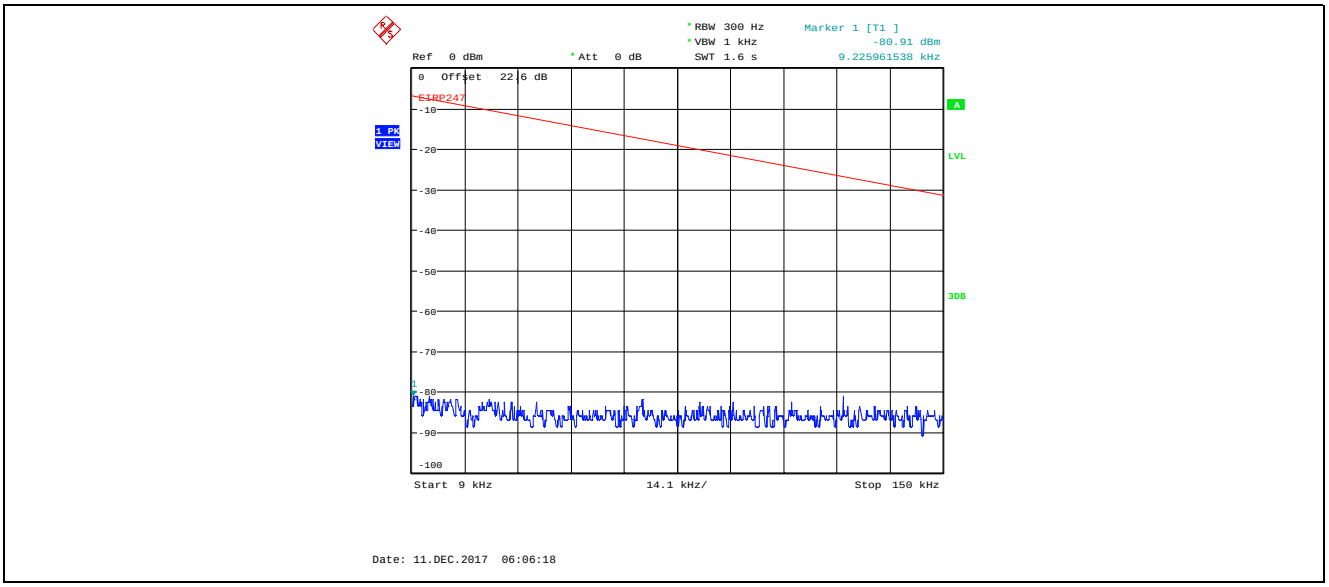
### 5.4.4.3. Conducted Spurious Emissions in Restricted Frequency Bands, Highest Power Setting for Lowest Antenna Gain (TX Gain Setting 22) for Lowest Antenna Gain (2.0 dBi) at Data Rate 3

**Remark**: Offset = [Insertion Loss] + [Directional Gain (EUT Antenna Gain + 10*Log(2) in dBi)] + [Maximum Ground Reflection Factor (6dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz)]

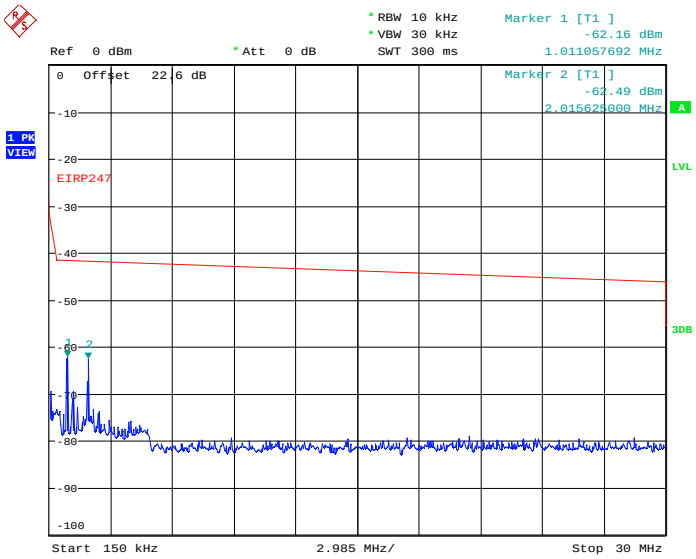
**Plot 5.4.4.3.1.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



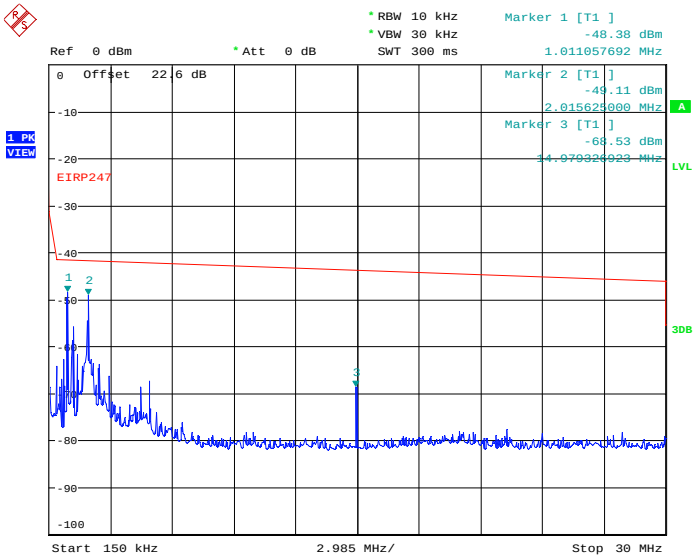

**Plot 5.4.4.3.2.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



**Plot 5.4.4.3.3.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



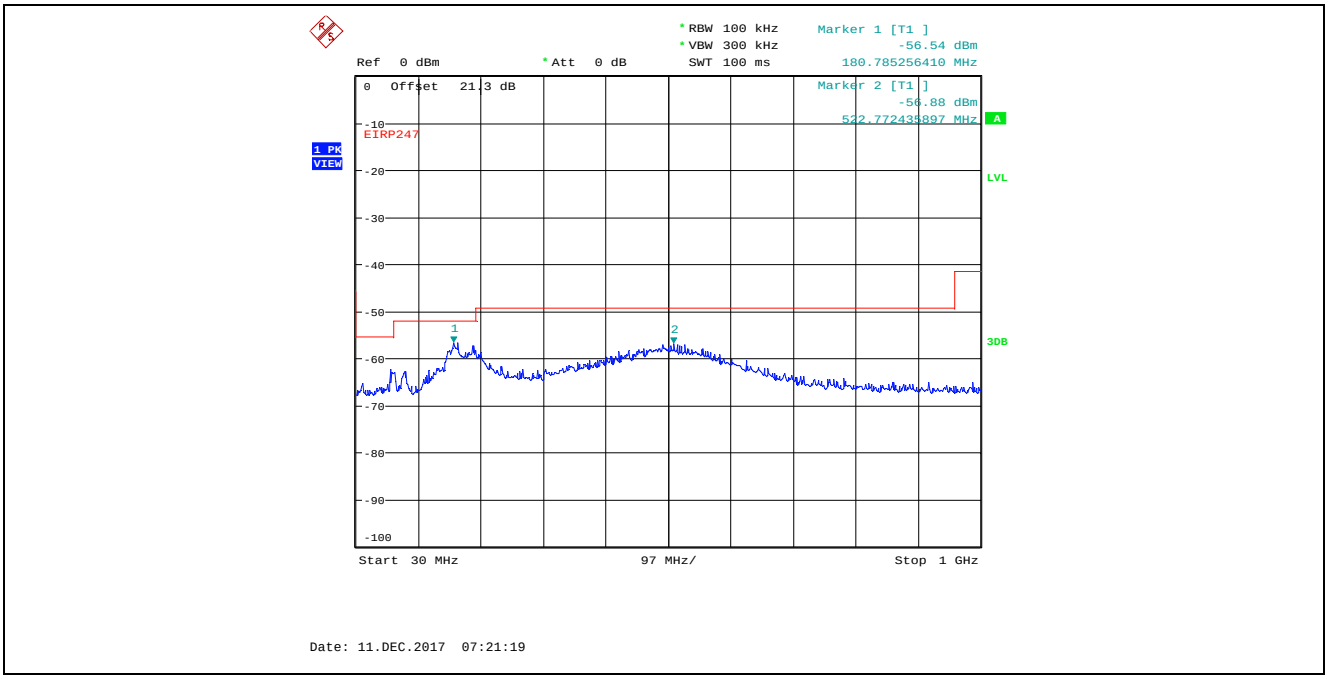

**Plot 5.4.4.3.4.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



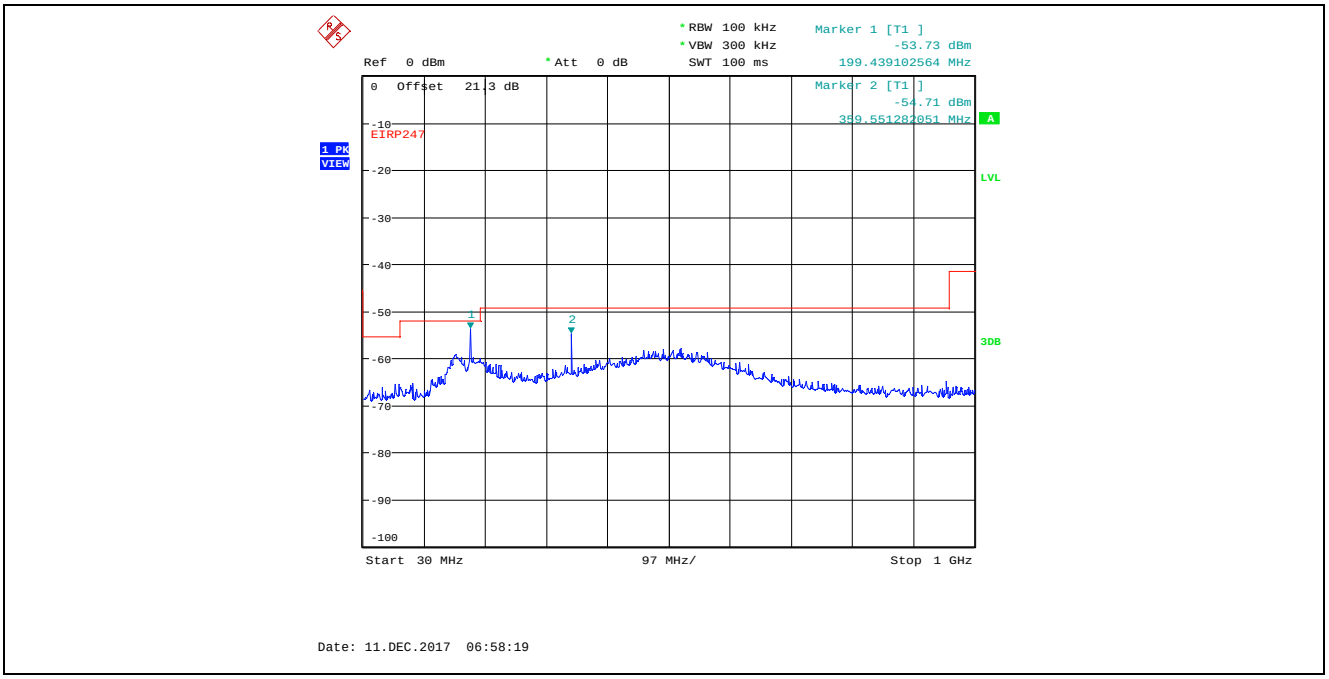



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

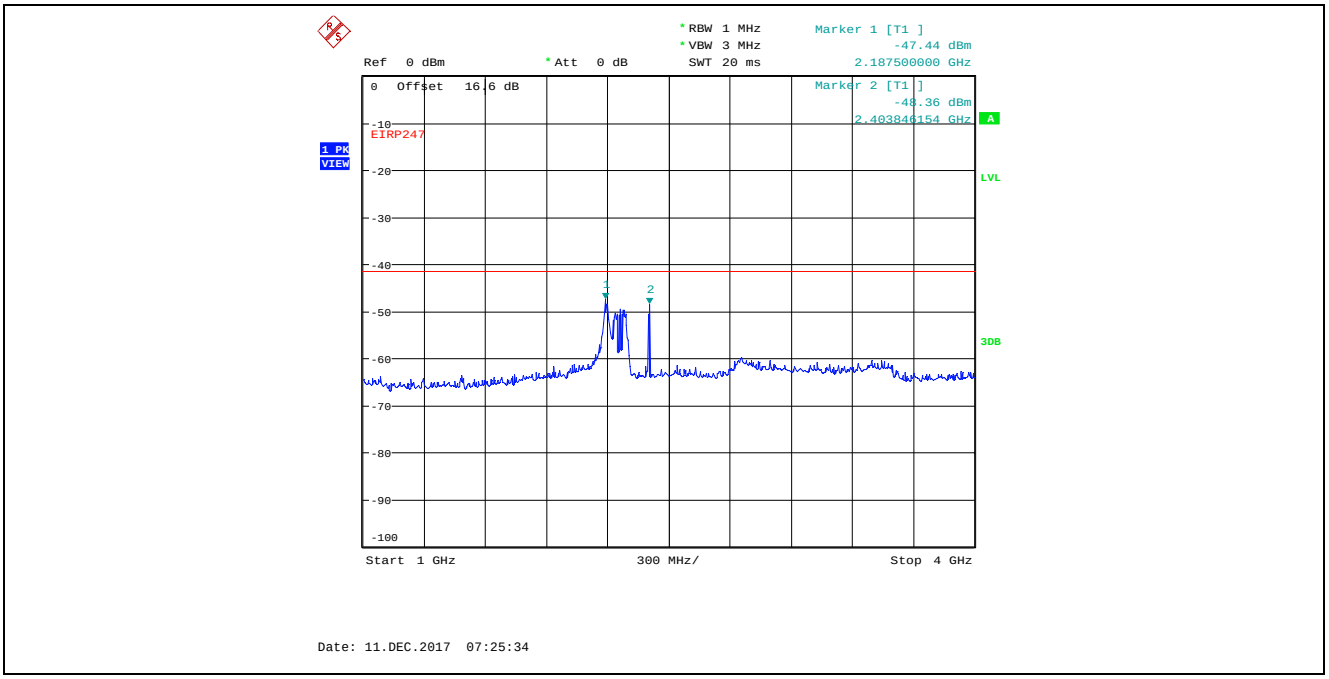
**Plot 5.4.4.3.5.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



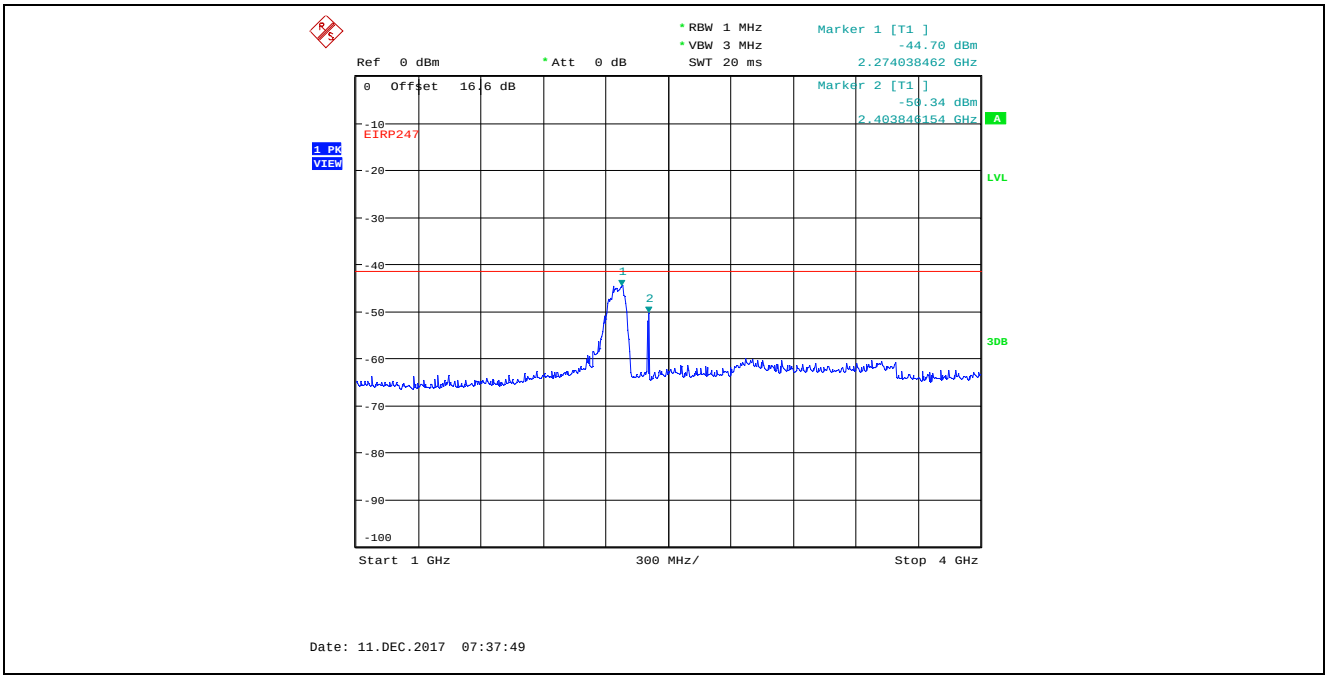

**Plot 5.4.4.3.6.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



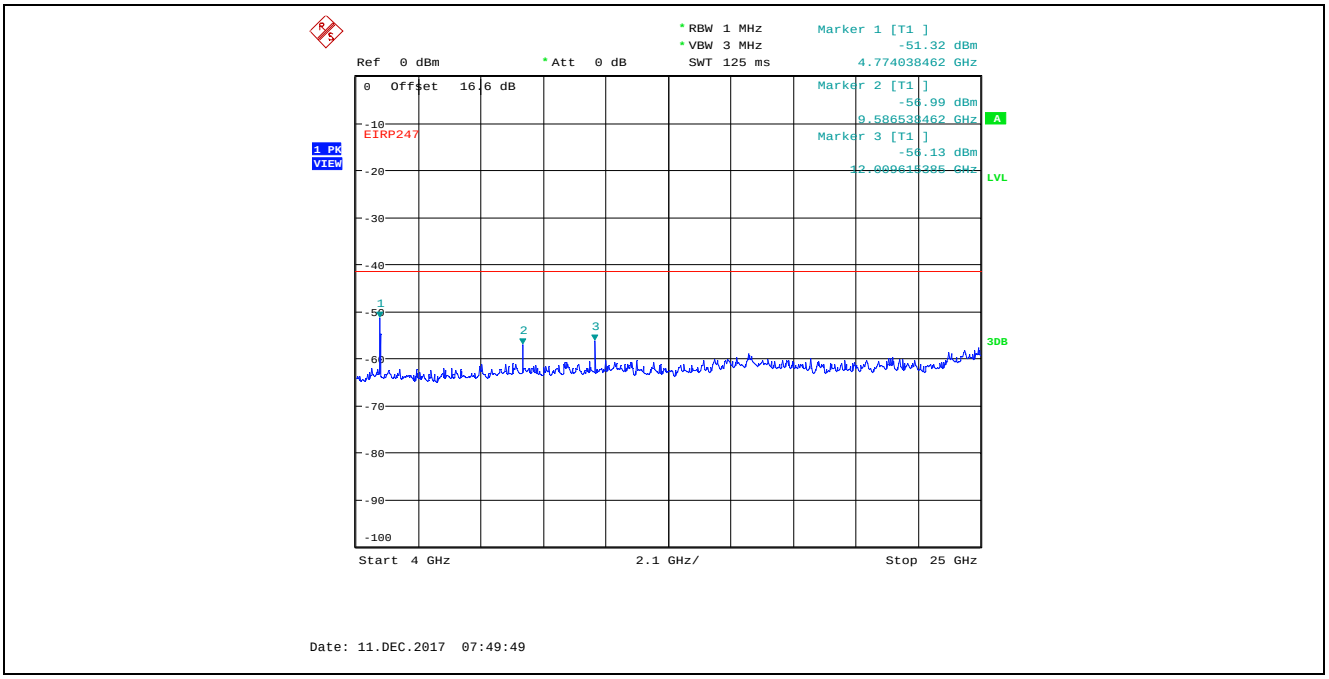
**Plot 5.4.4.3.7.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



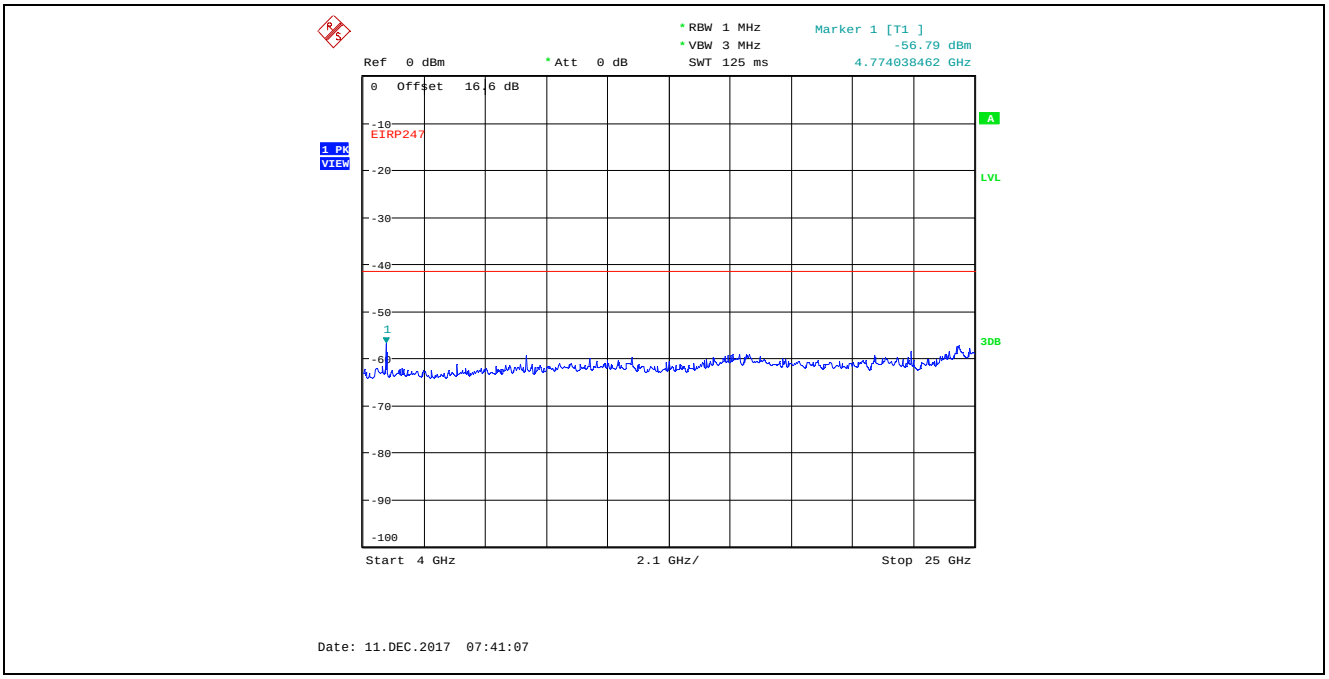

**Plot 5.4.4.3.8.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



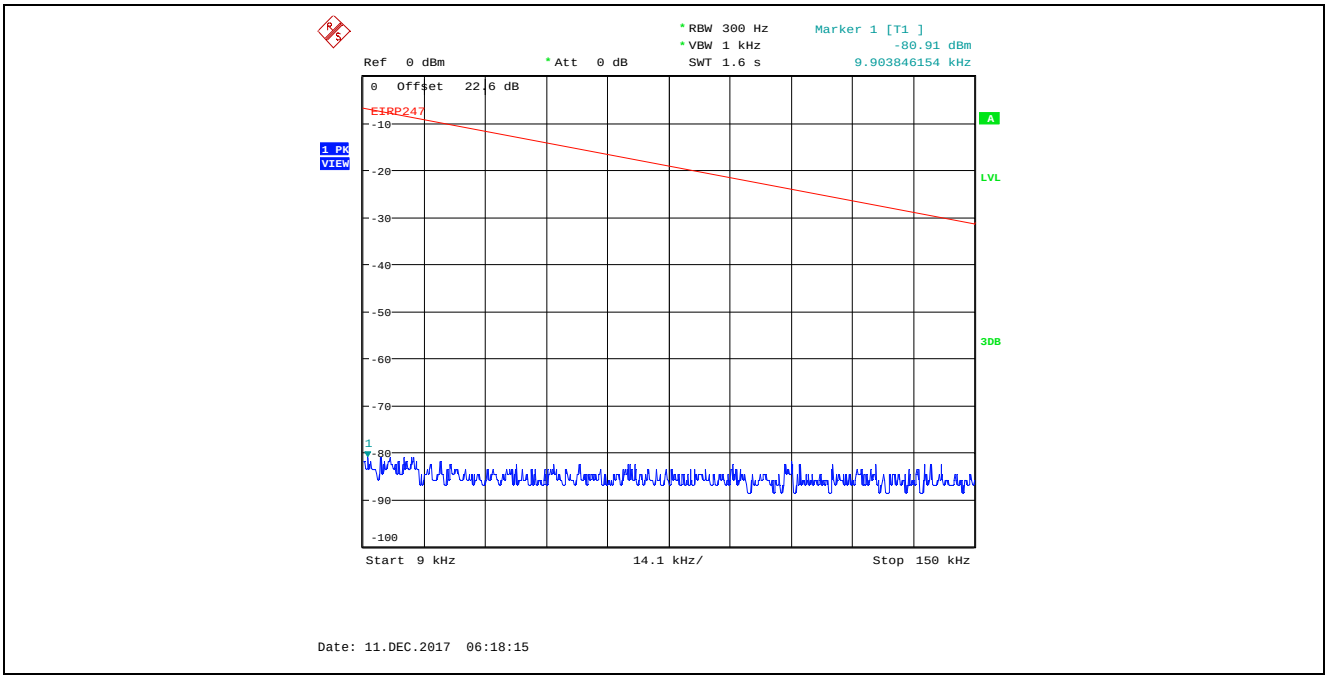
**Plot 5.4.4.3.9.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



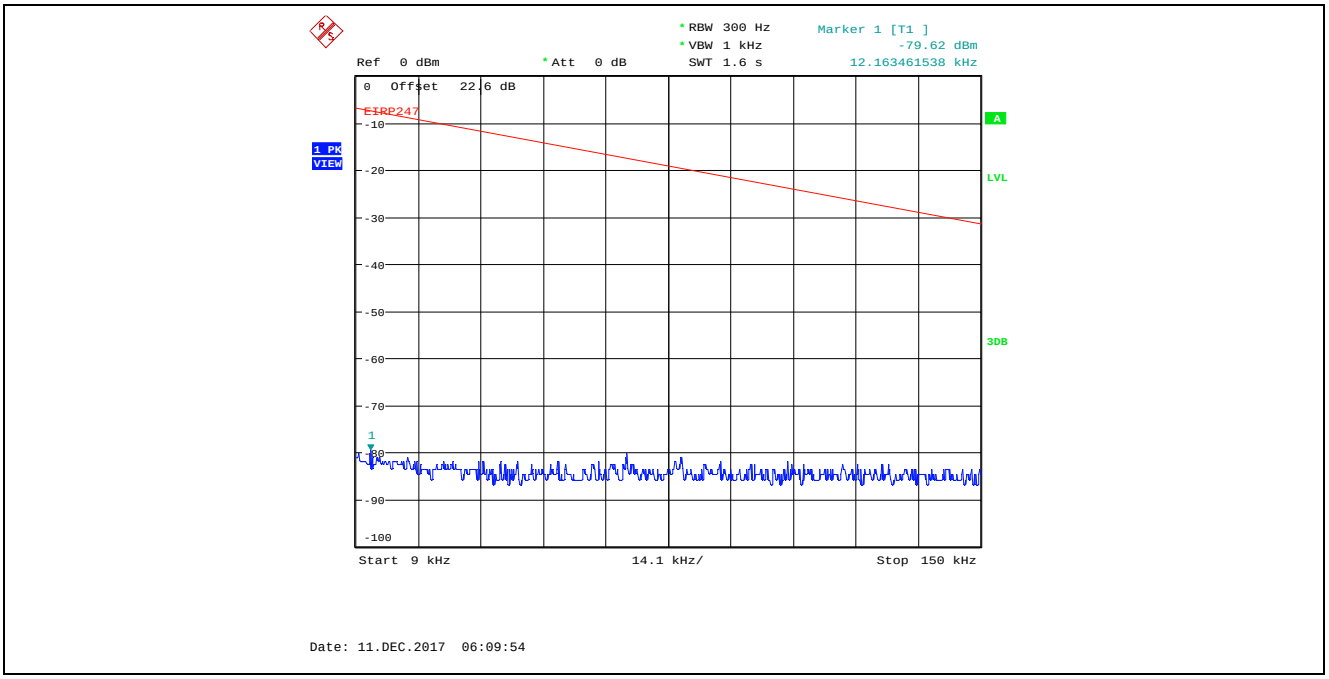

**Plot 5.4.4.3.10.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



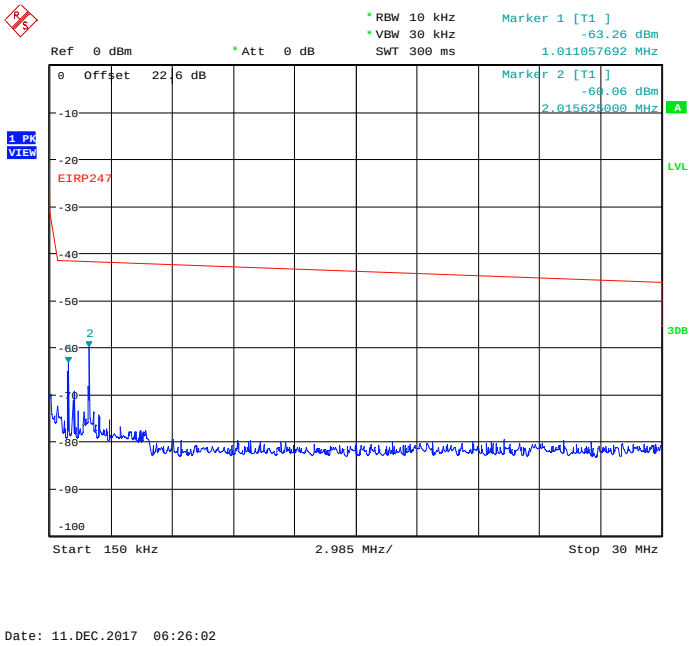
**Plot 5.4.4.3.11.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



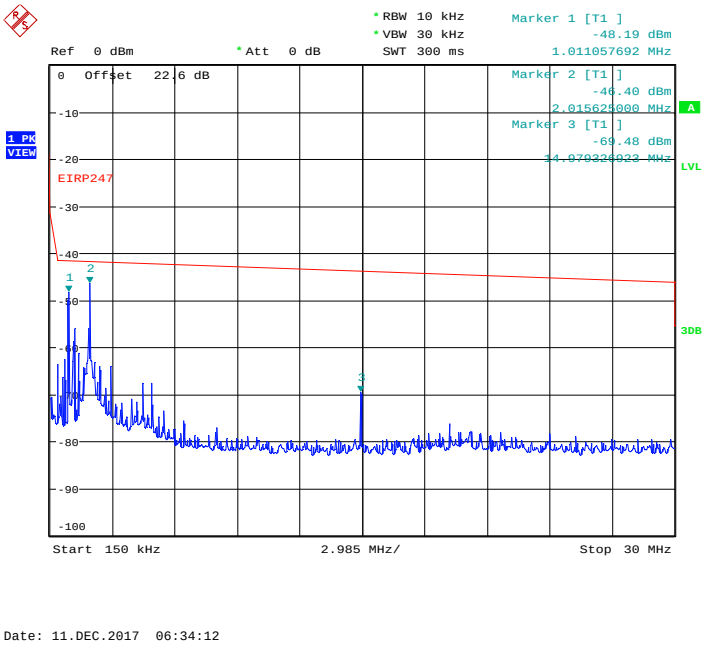

**Plot 5.4.4.3.12.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



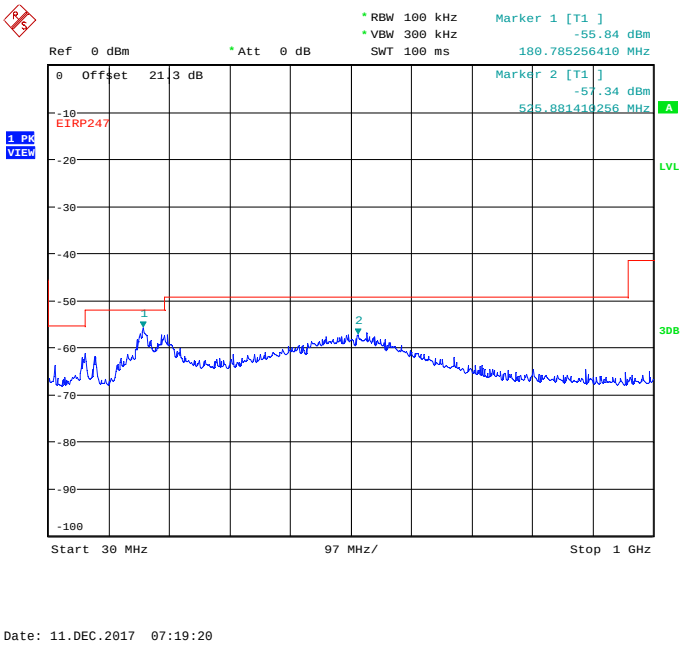
**Plot 5.4.4.3.13.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



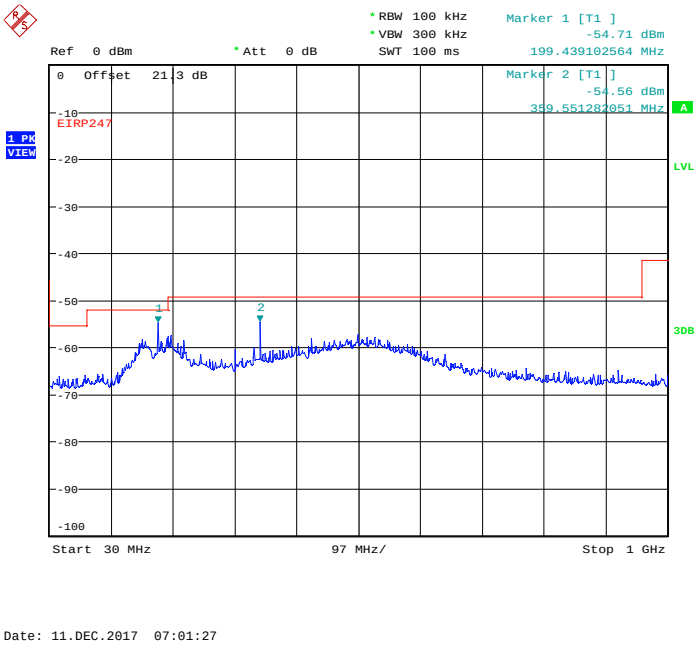

**Plot 5.4.4.3.14.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



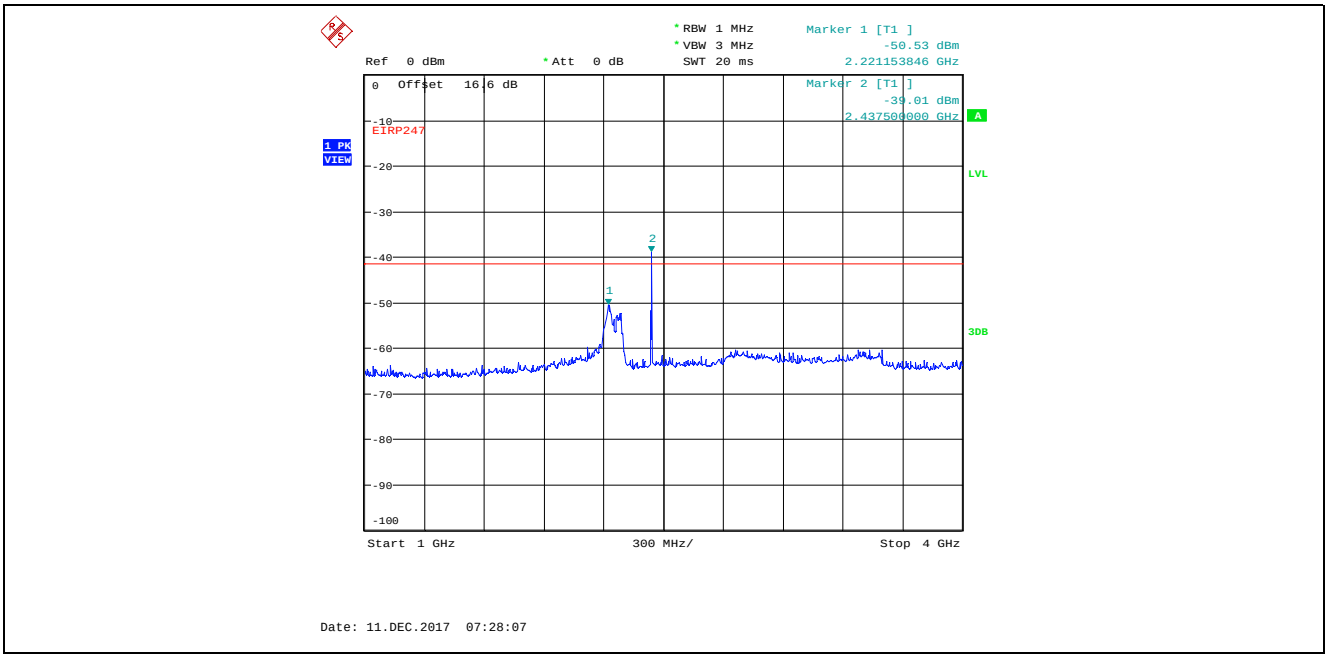
**Plot 5.4.4.3.15.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



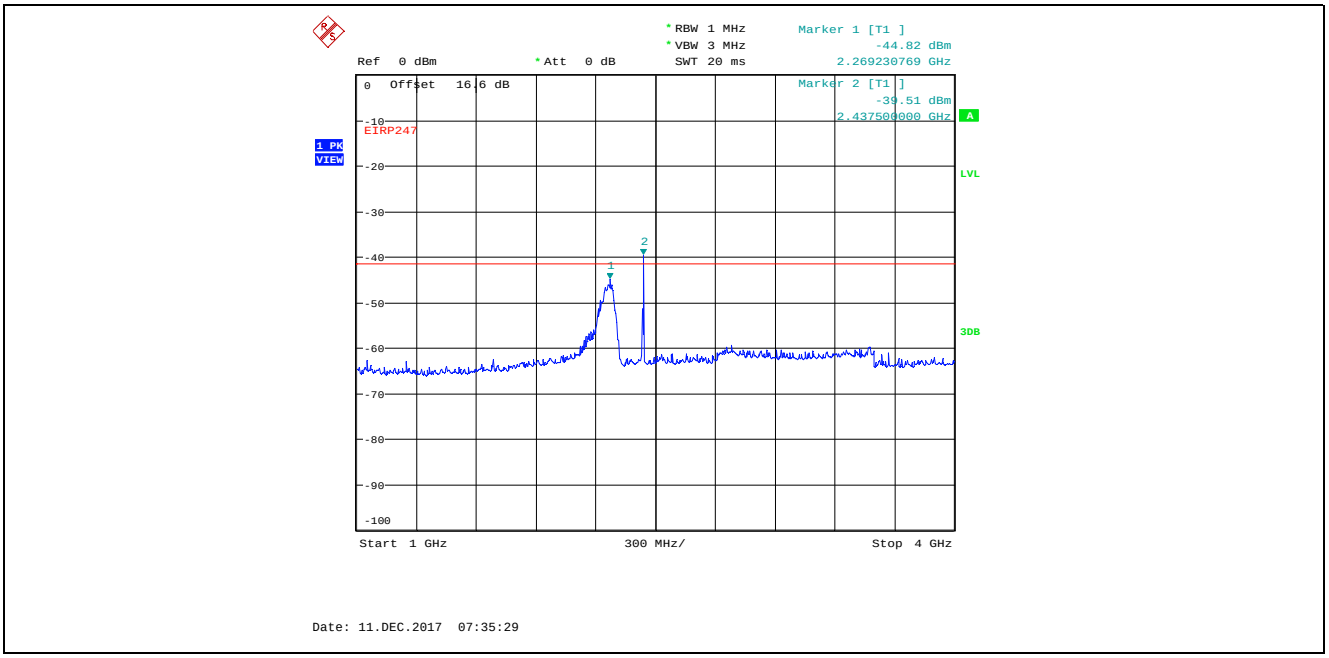

**Plot 5.4.4.3.16.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



**Plot 5.4.4.3.17.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



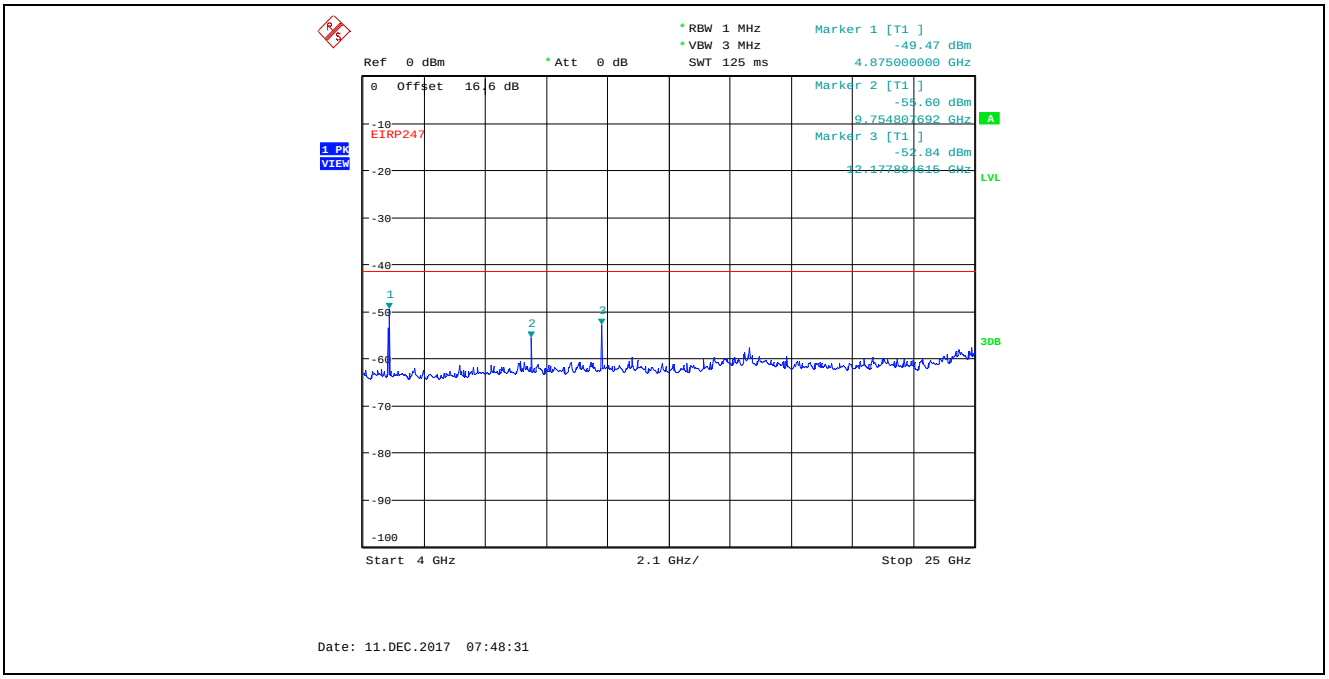

**Plot 5.4.4.3.18.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



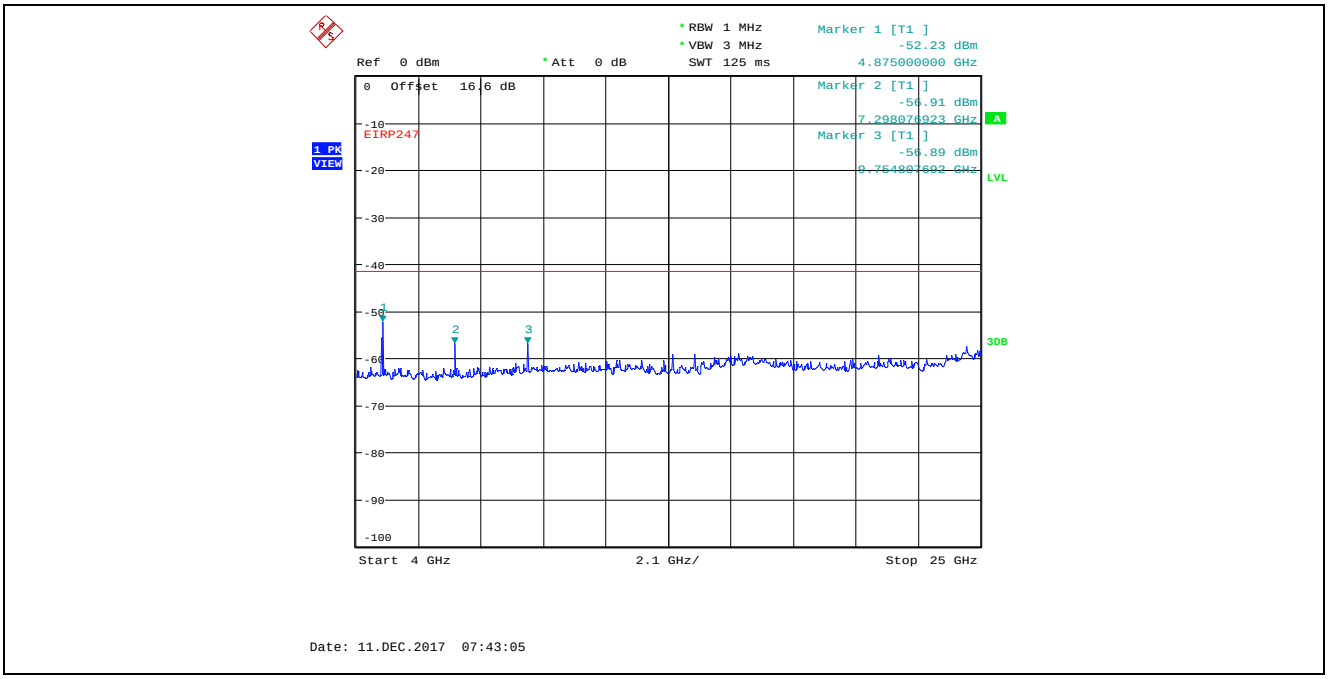



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

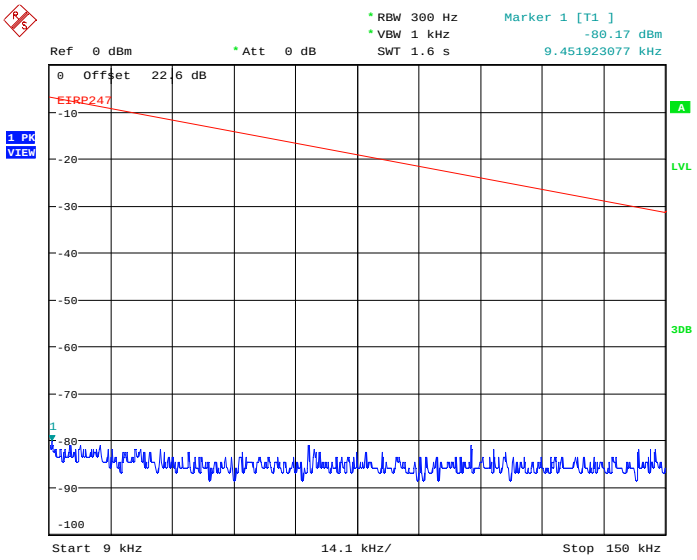
**Plot 5.4.4.3.19.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



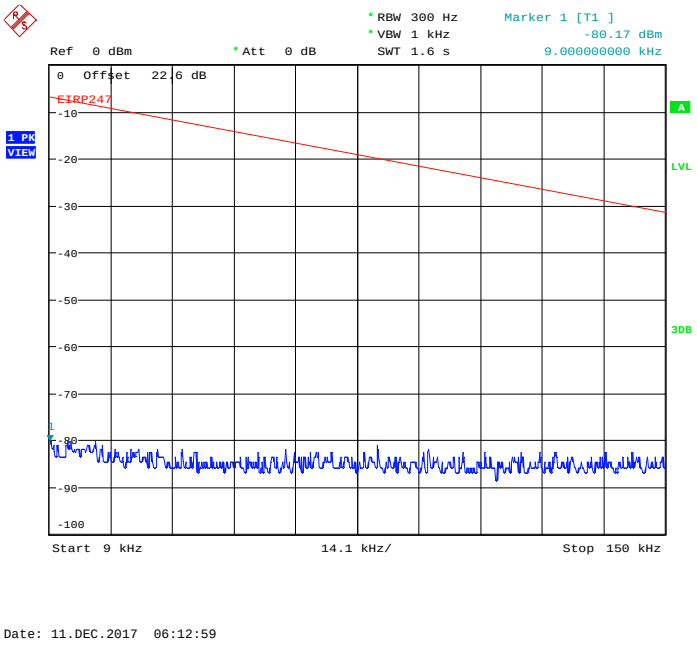

**Plot 5.4.4.3.20.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



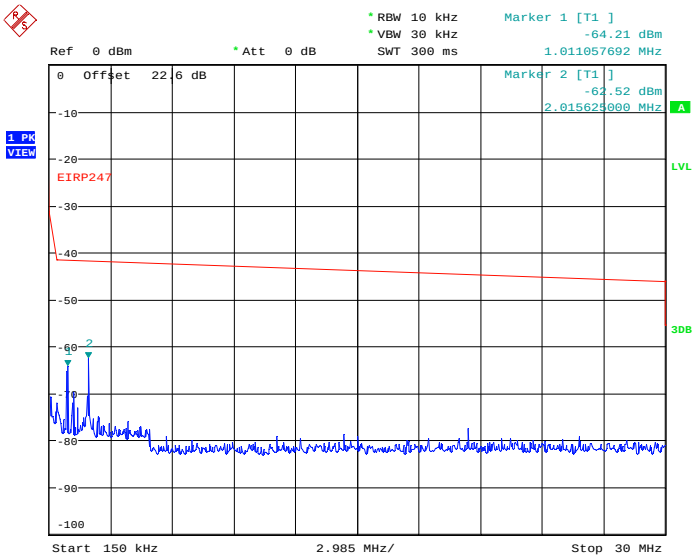
**Plot 5.4.4.3.21.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



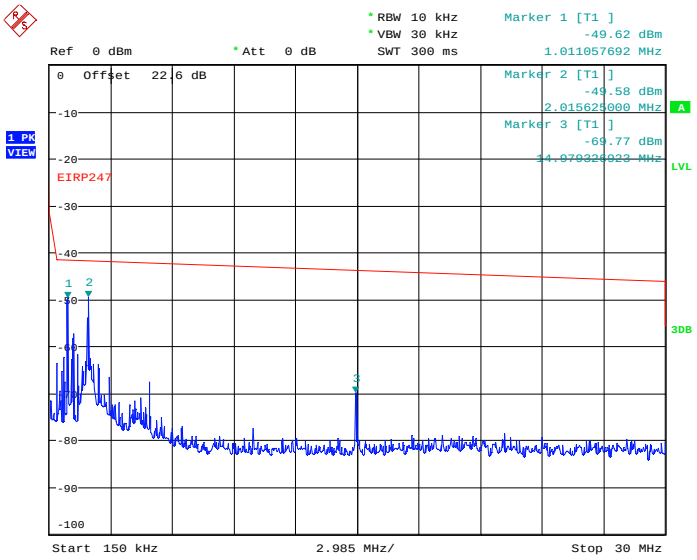

**Plot 5.4.4.3.22.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



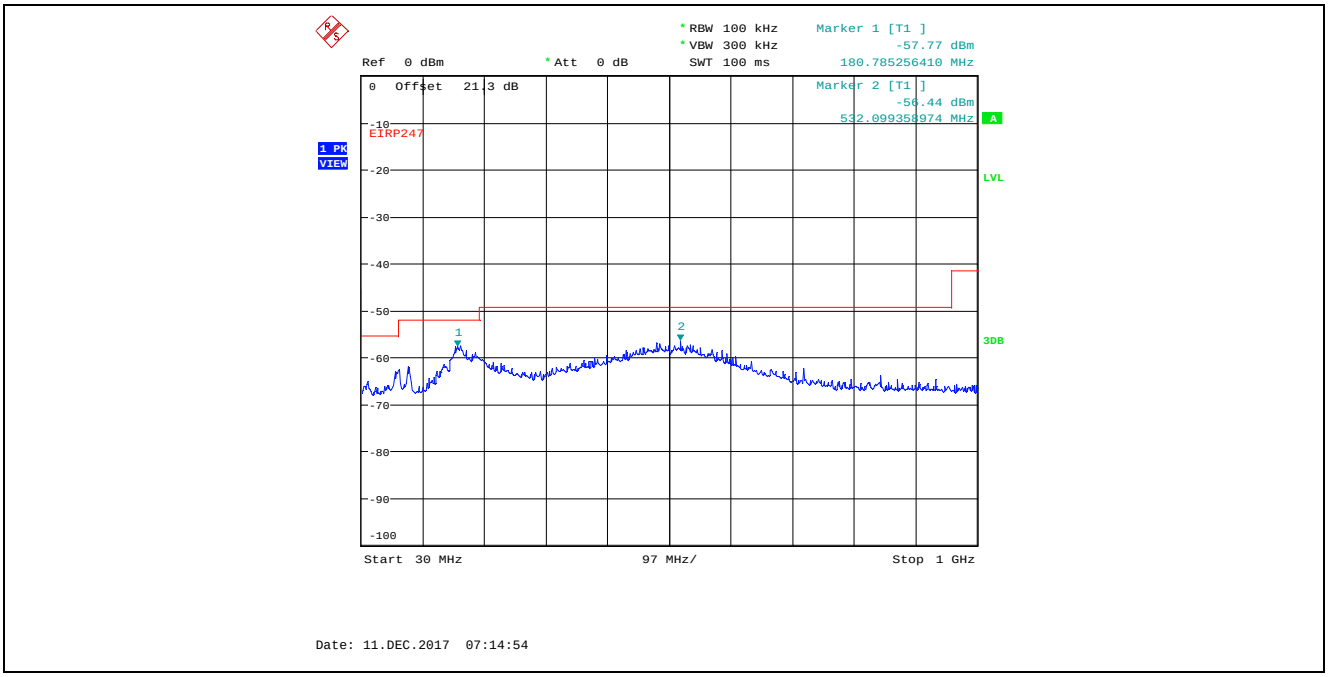
**Plot 5.4.4.3.23.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



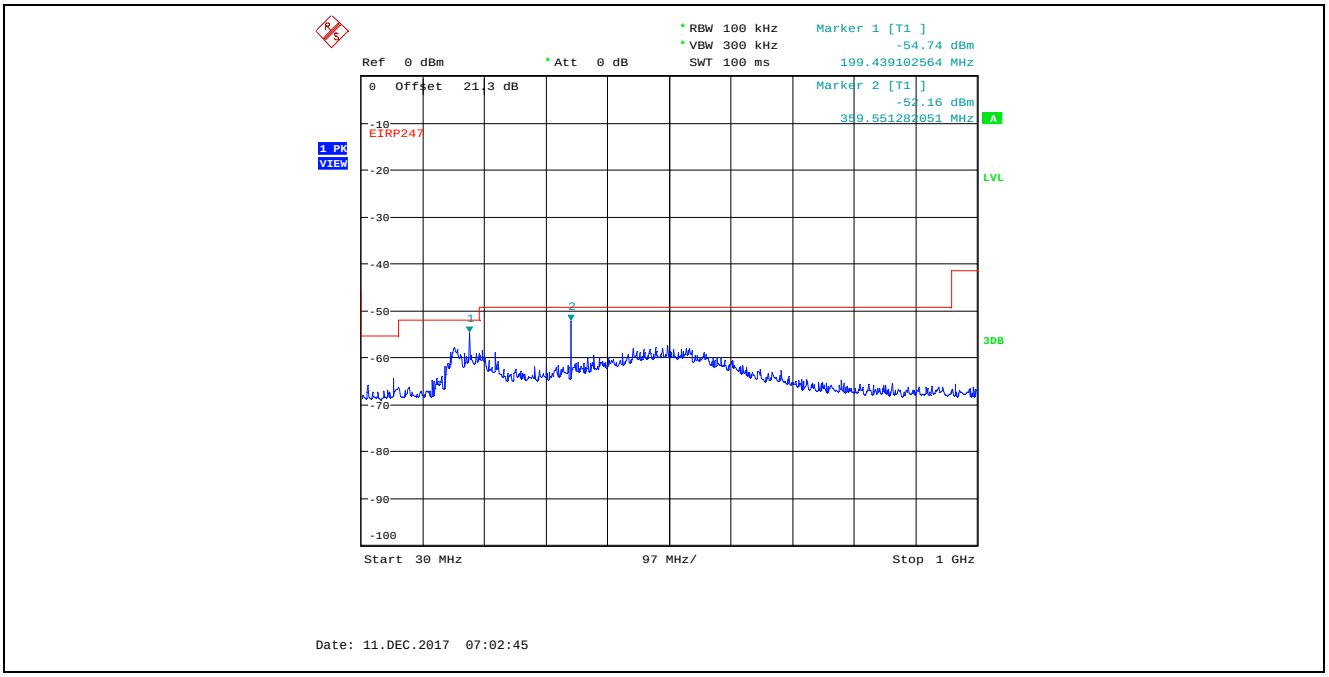

**Plot 5.4.4.3.24.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



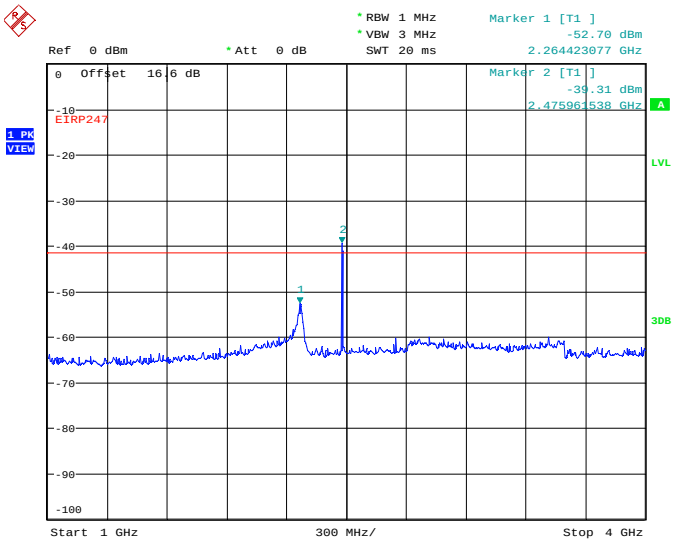
**Plot 5.4.4.3.25.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



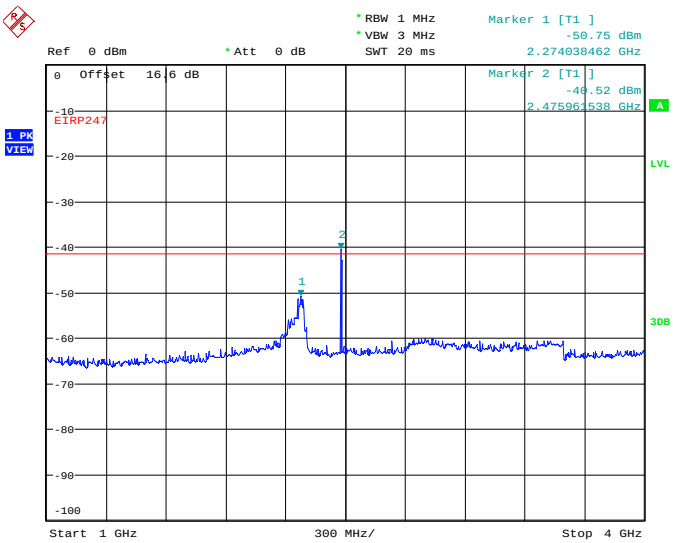

**Plot 5.4.4.3.26.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



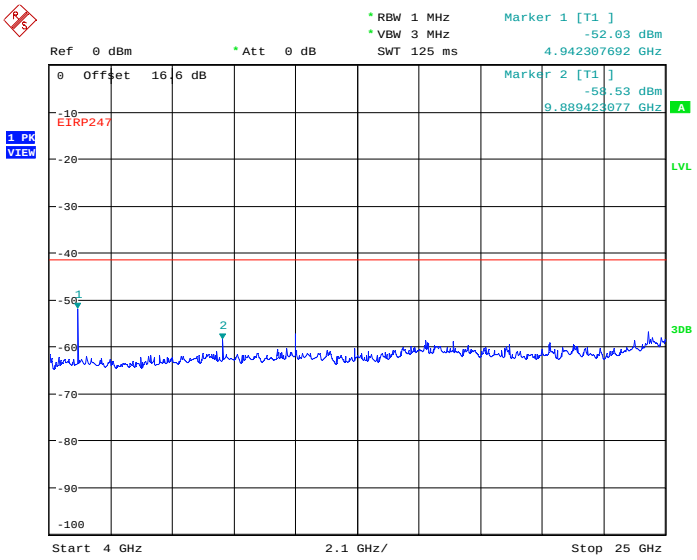
**Plot 5.4.4.3.27.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



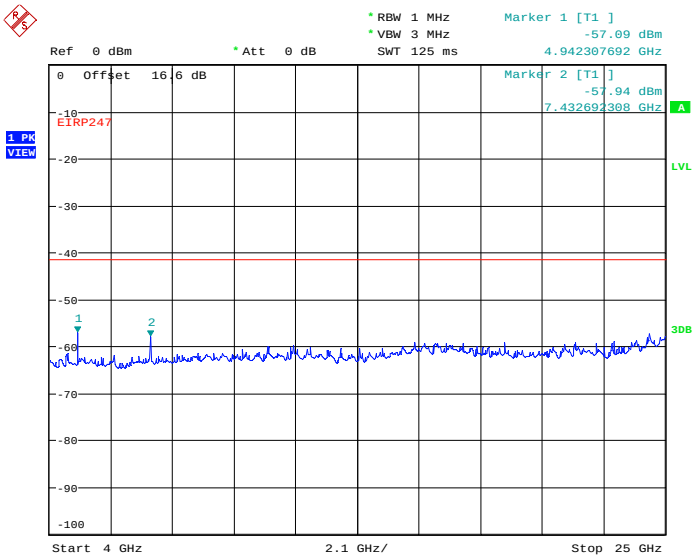

**Plot 5.4.4.3.28.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



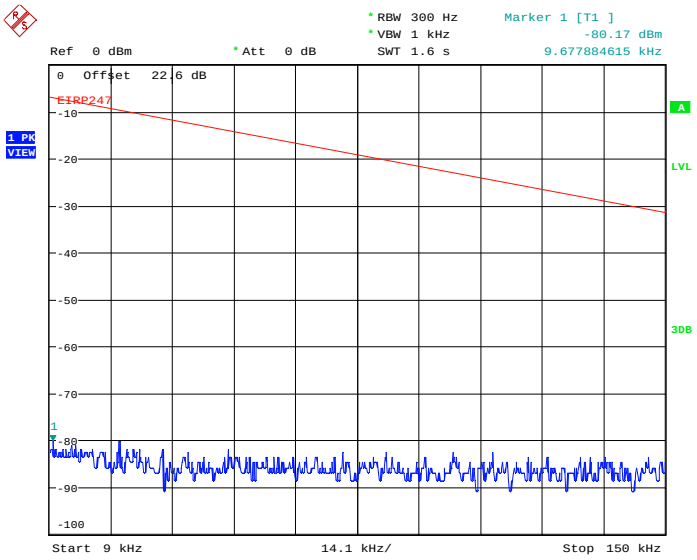
**Plot 5.4.4.3.29.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



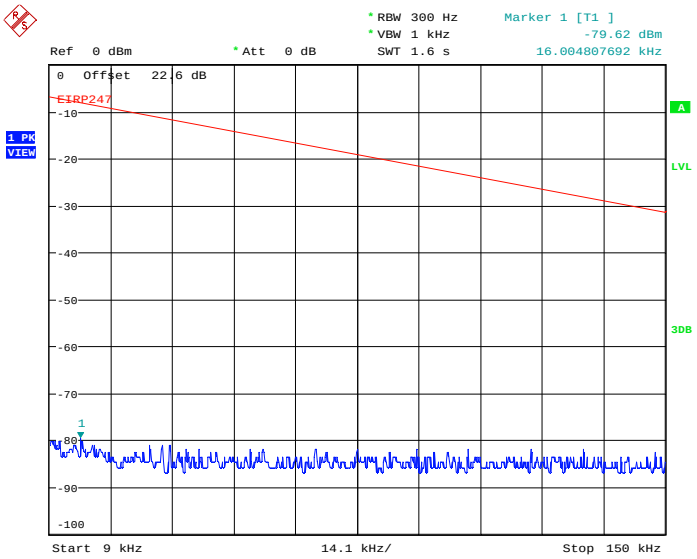

**Plot 5.4.4.3.30.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



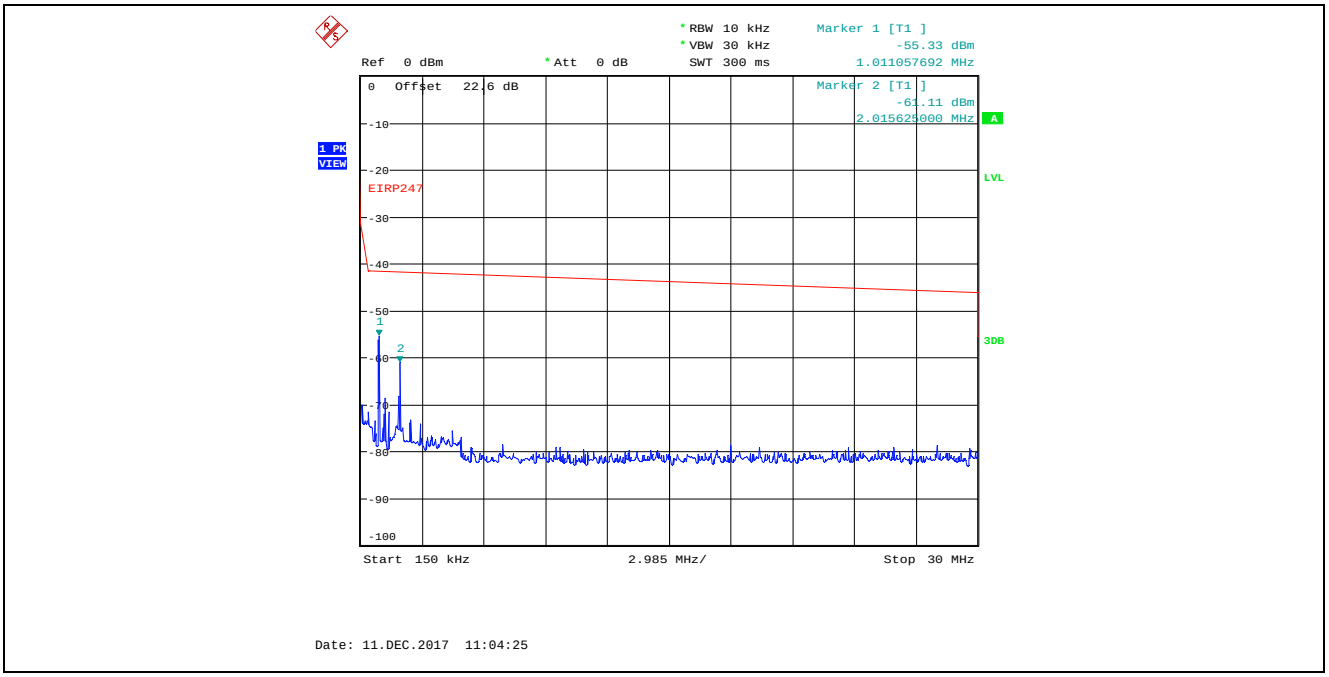
**Plot 5.4.4.3.31.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



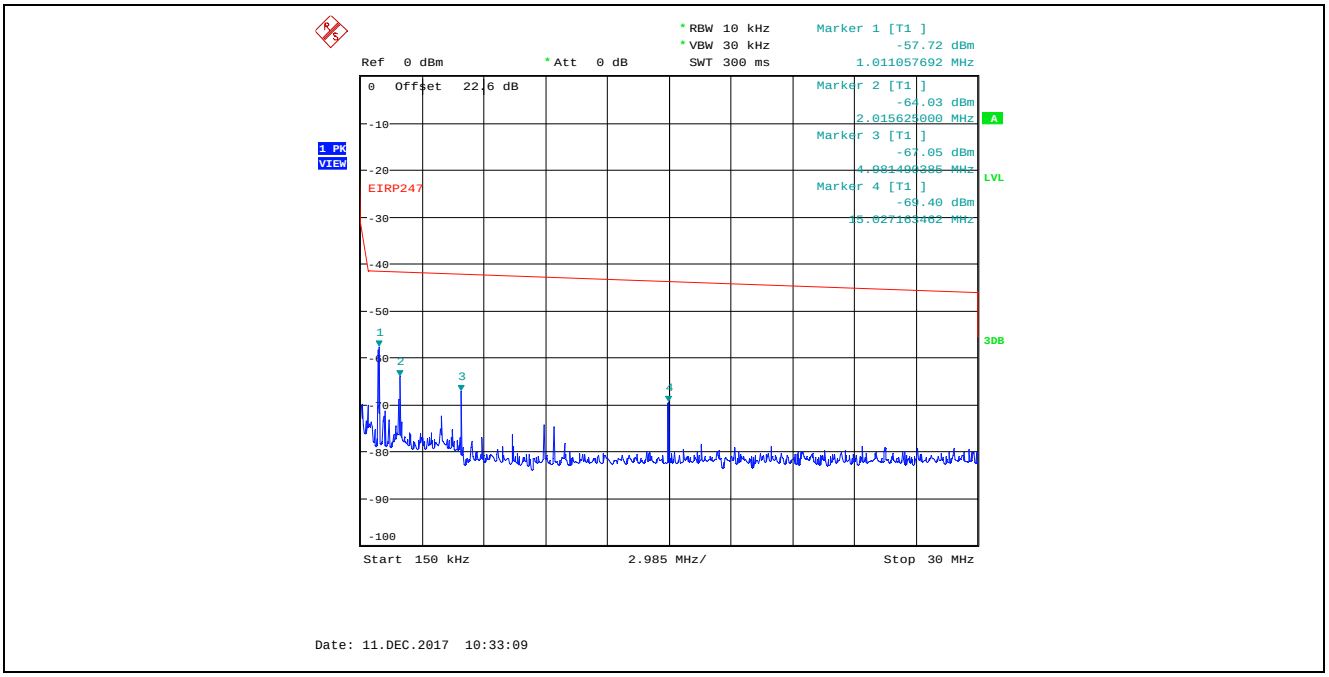

**Plot 5.4.4.3.32.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



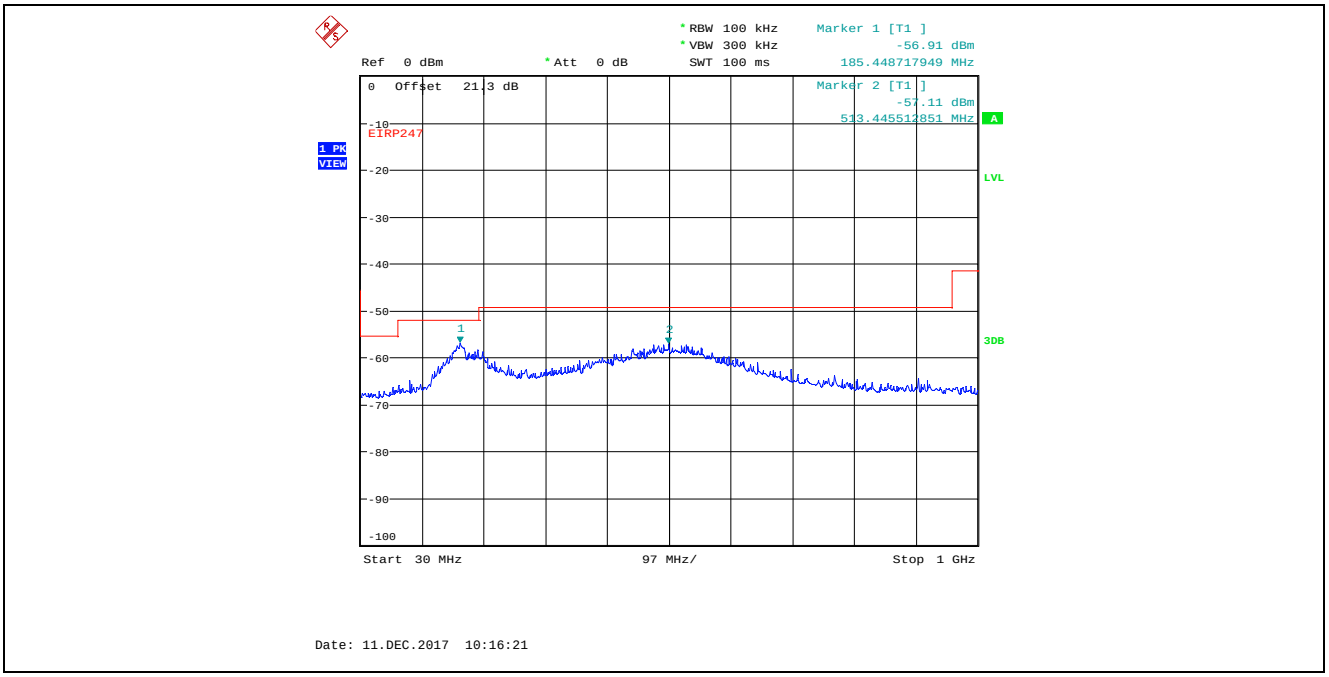
**Plot 5.4.4.3.33.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



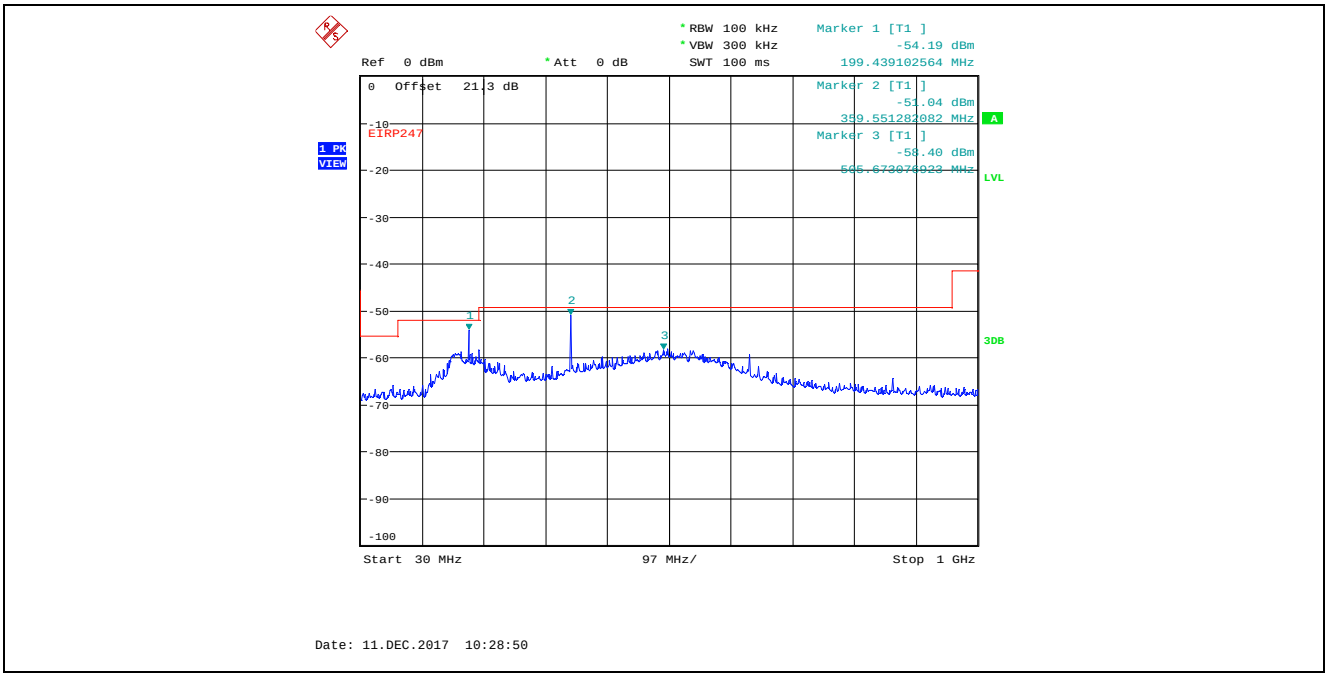

**Plot 5.4.4.3.34.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



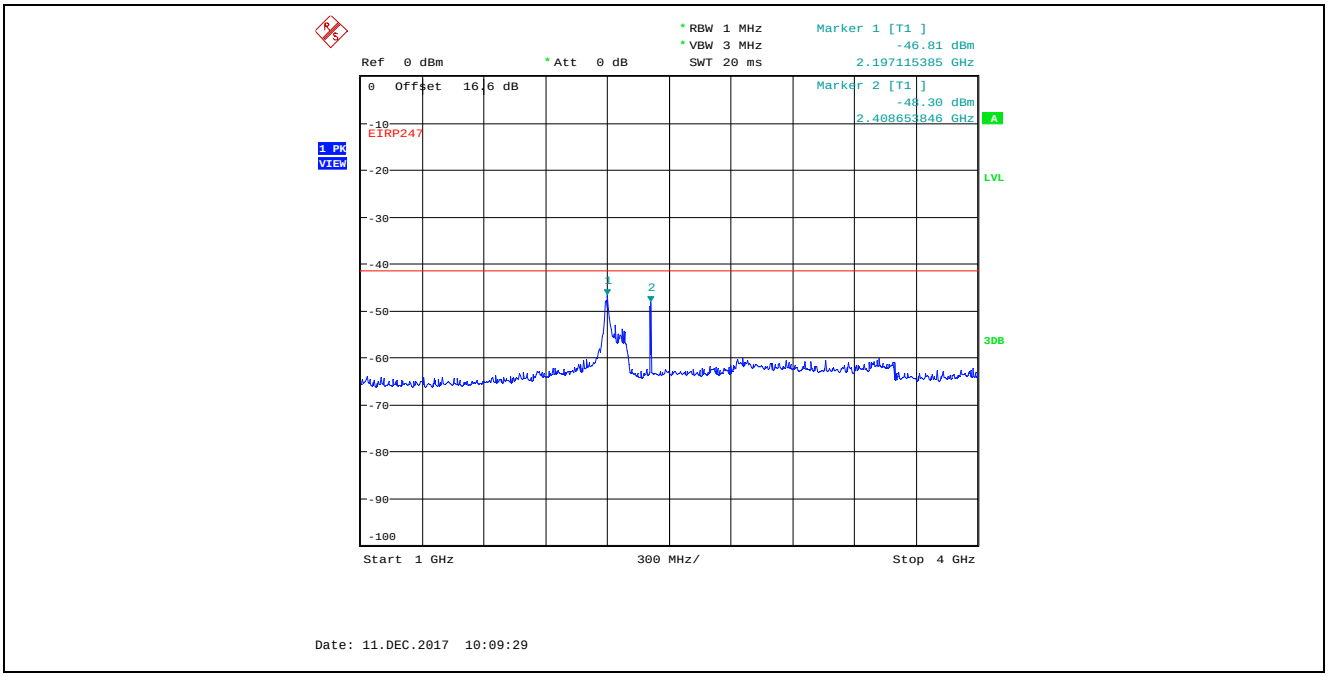
**Plot 5.4.4.3.35.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



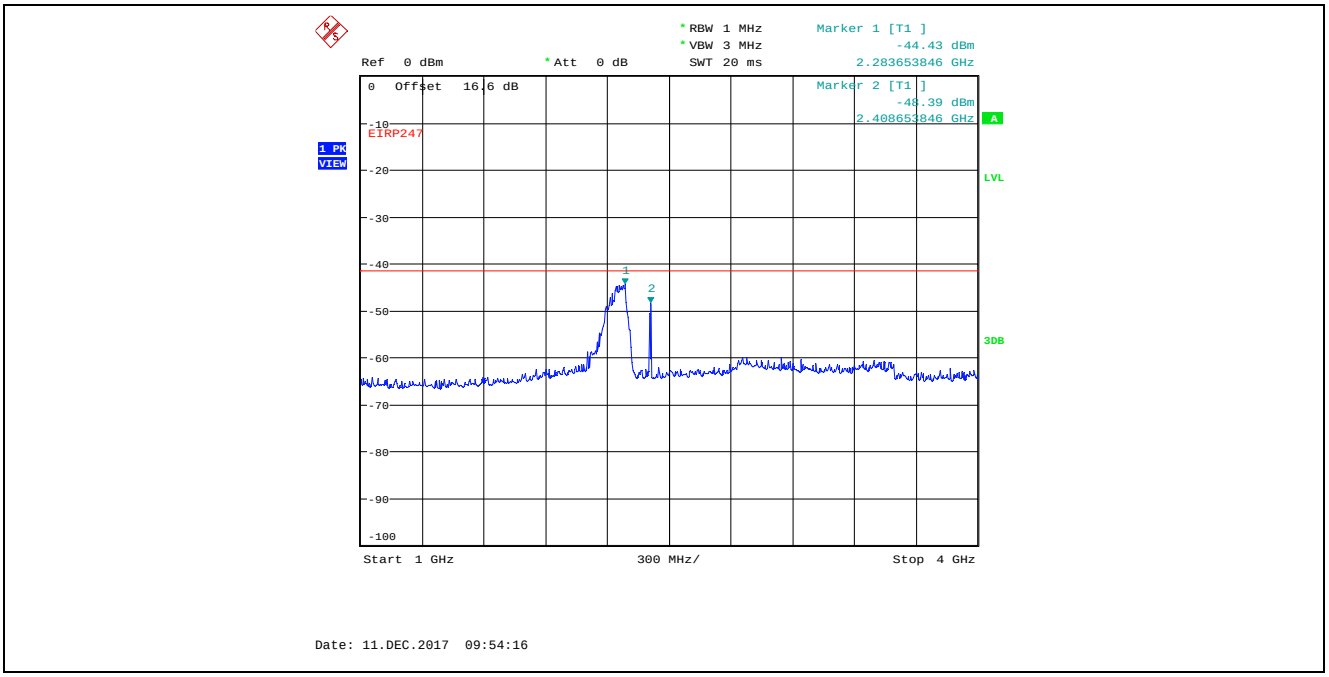

**Plot 5.4.4.3.36.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



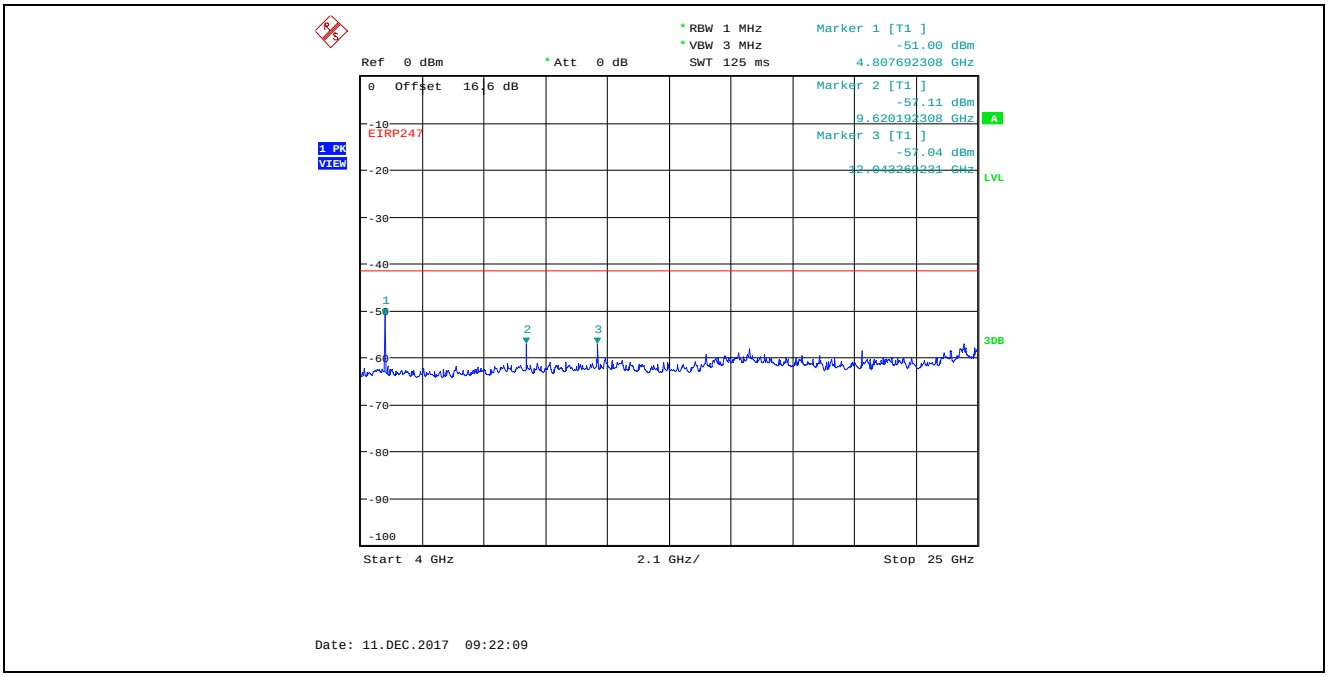
**Plot 5.4.4.3.37.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



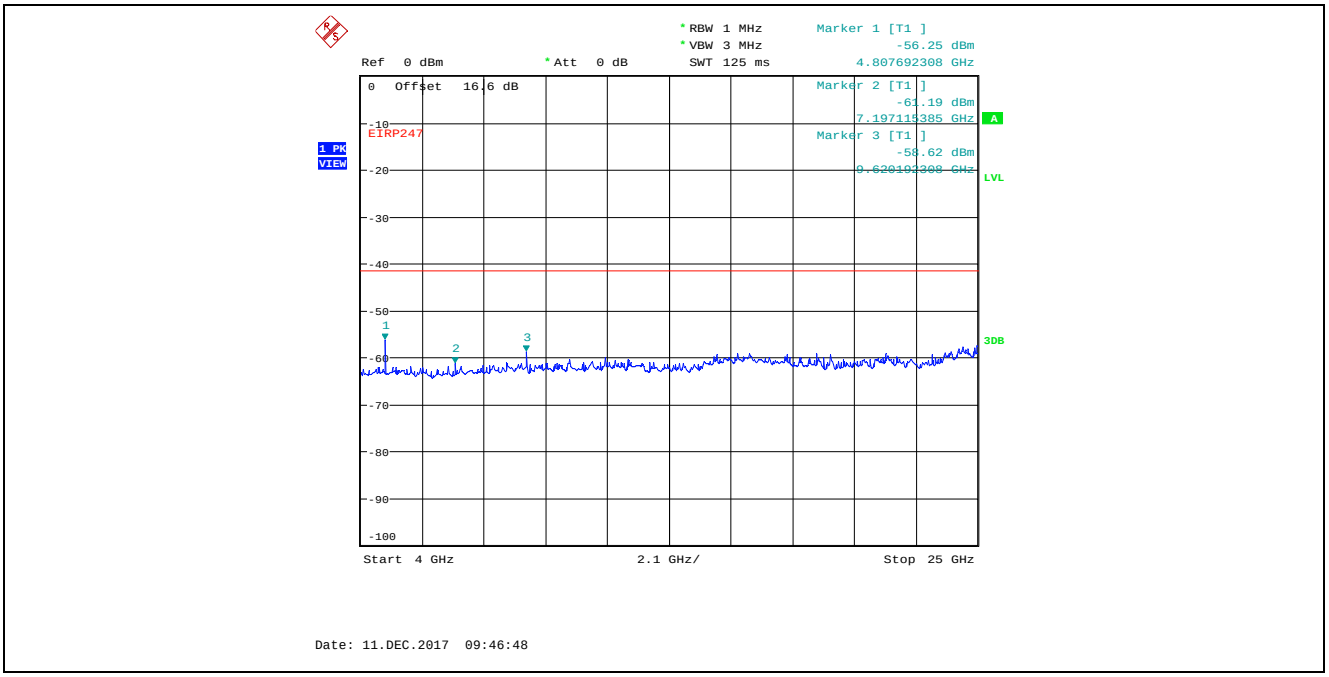

**Plot 5.4.4.3.38.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



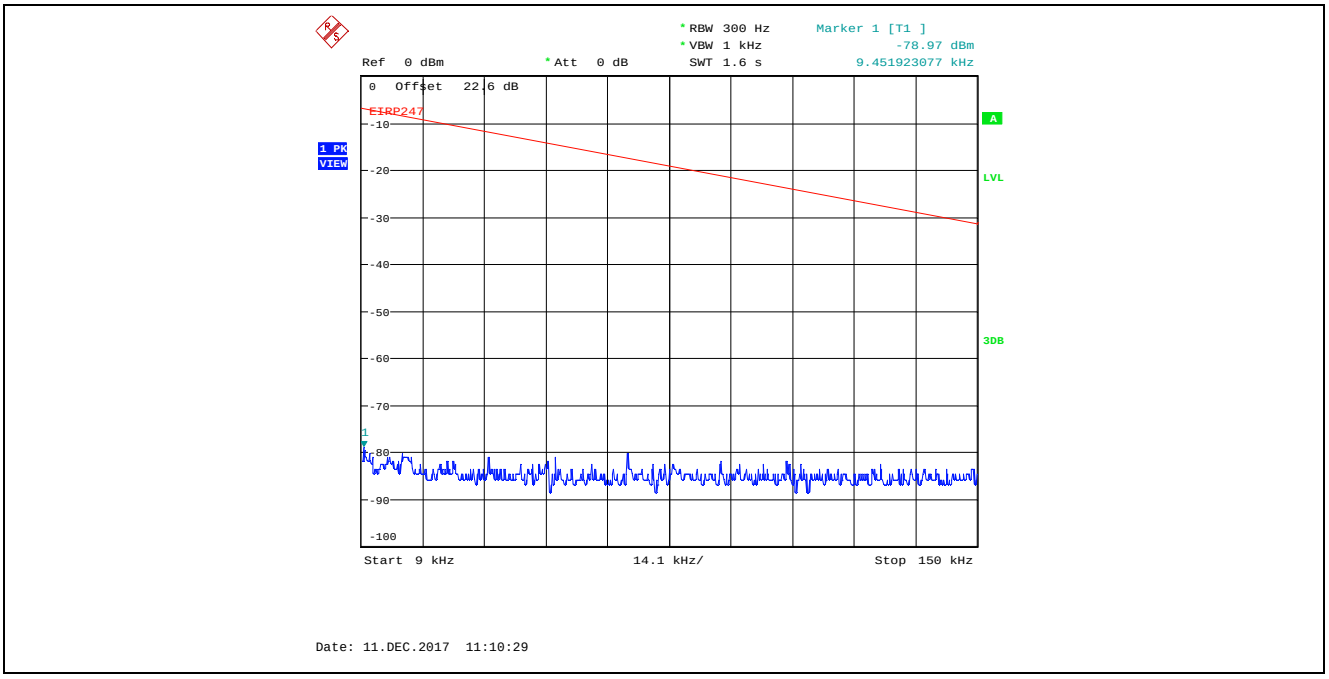
**Plot 5.4.4.3.39.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



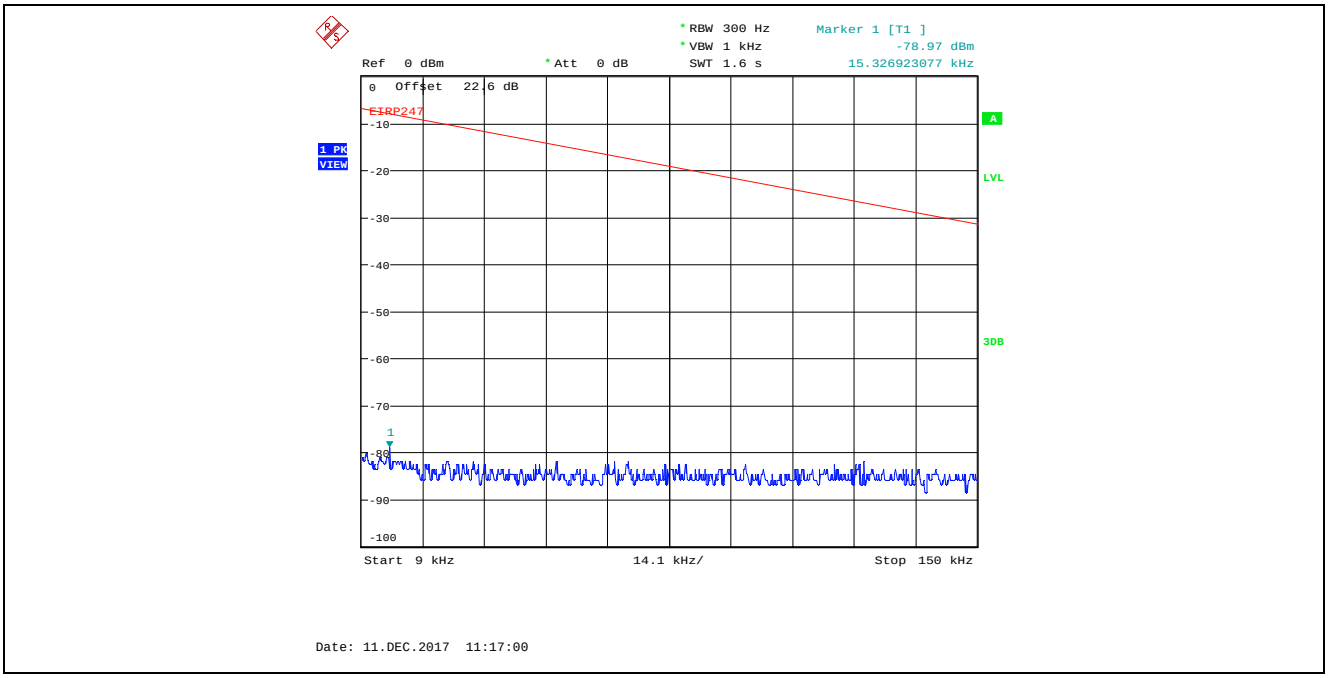

**Plot 5.4.4.3.40.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



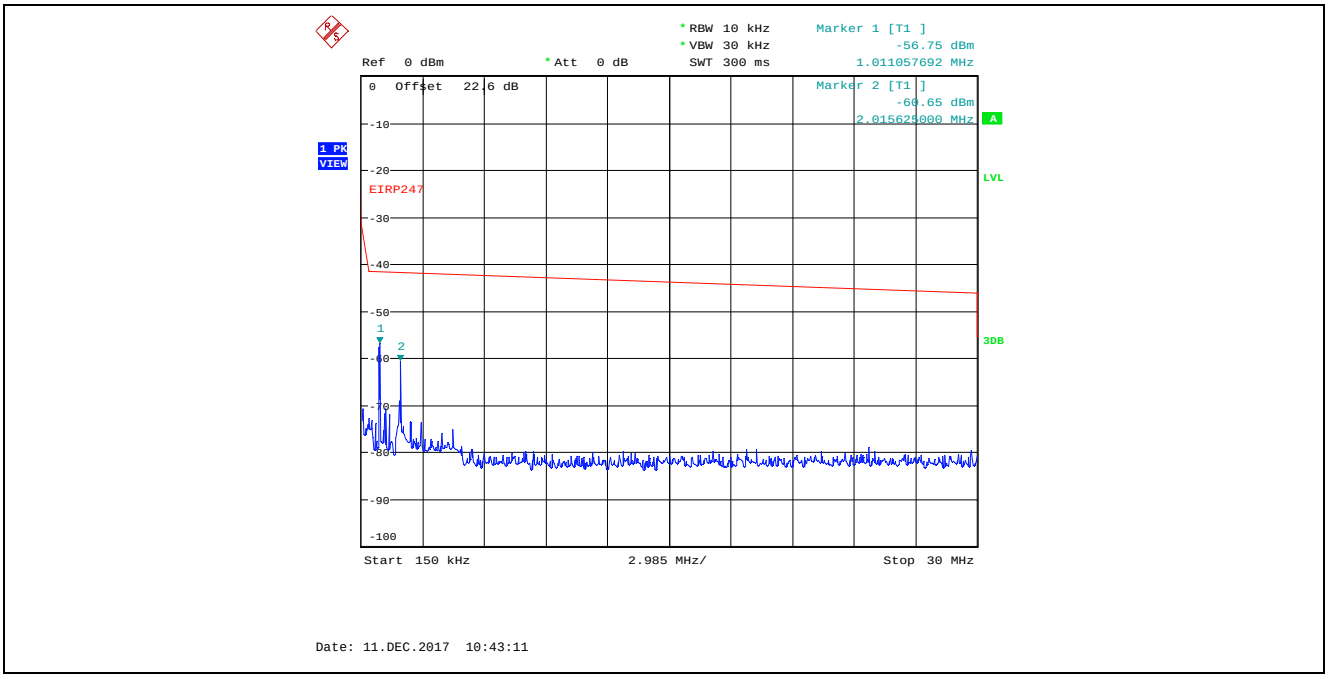
**Plot 5.4.4.3.41.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



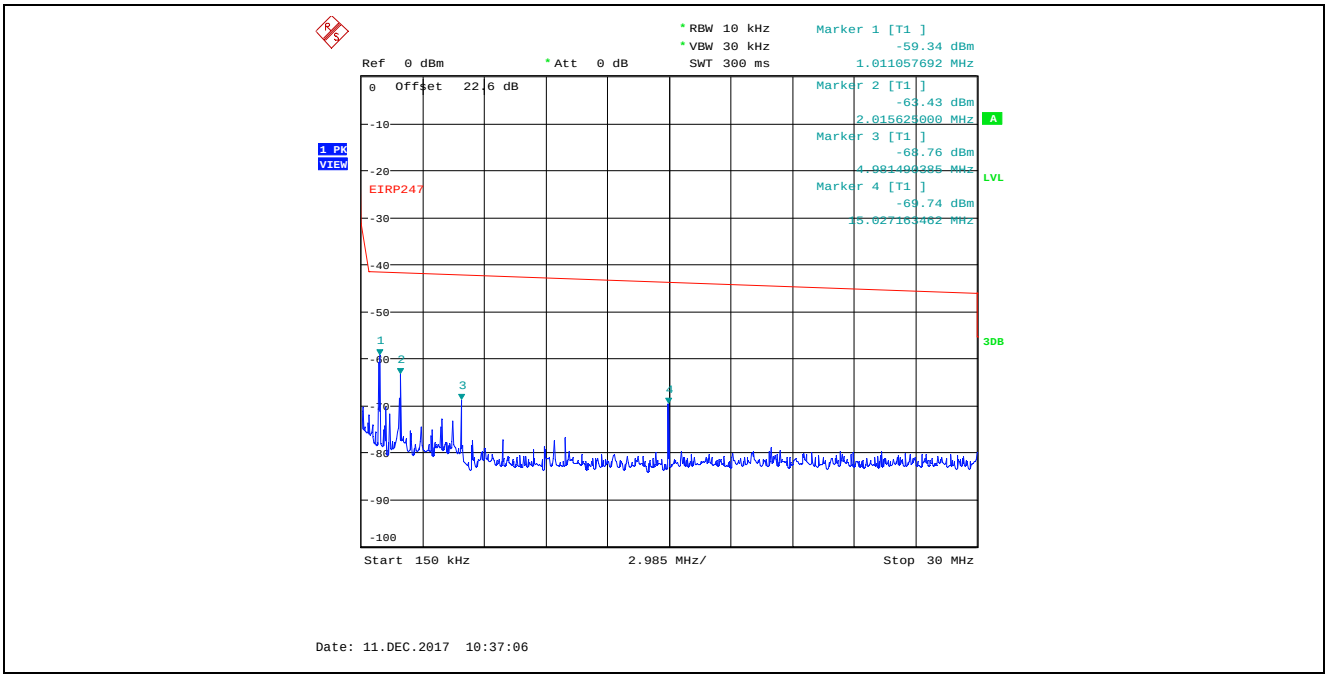

**Plot 5.4.4.3.42.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



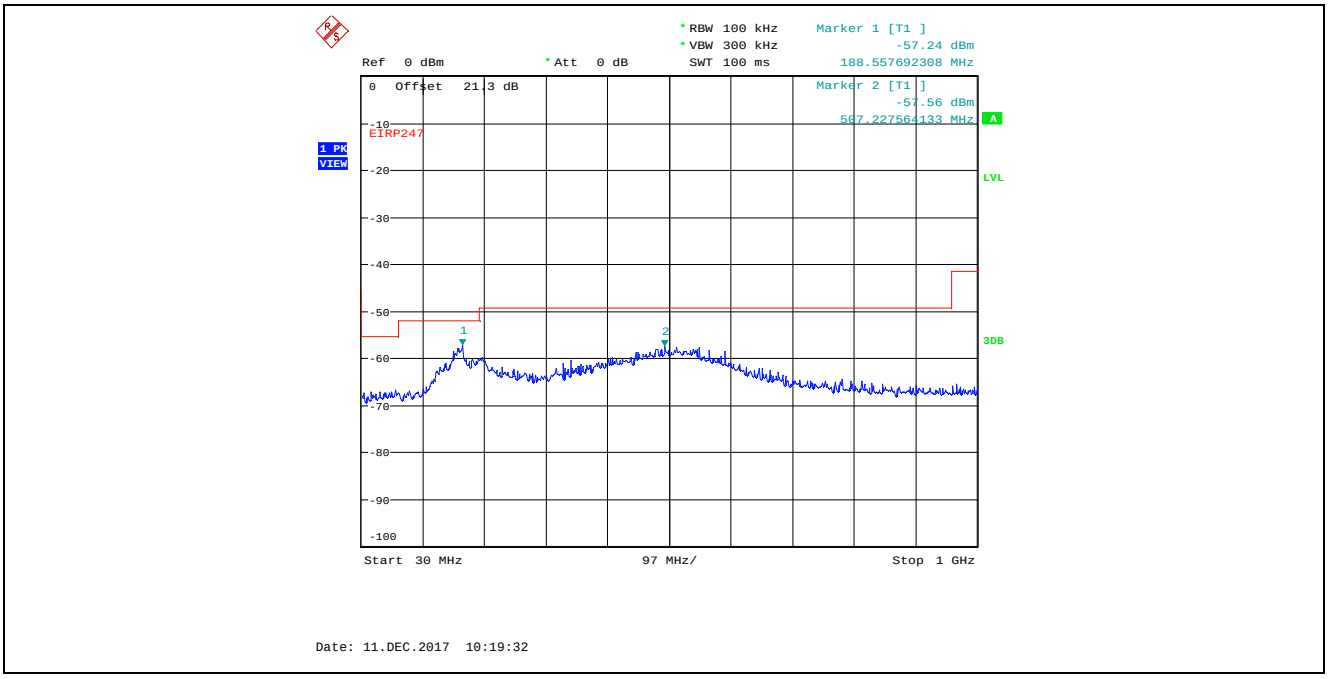
**Plot 5.4.4.3.43.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



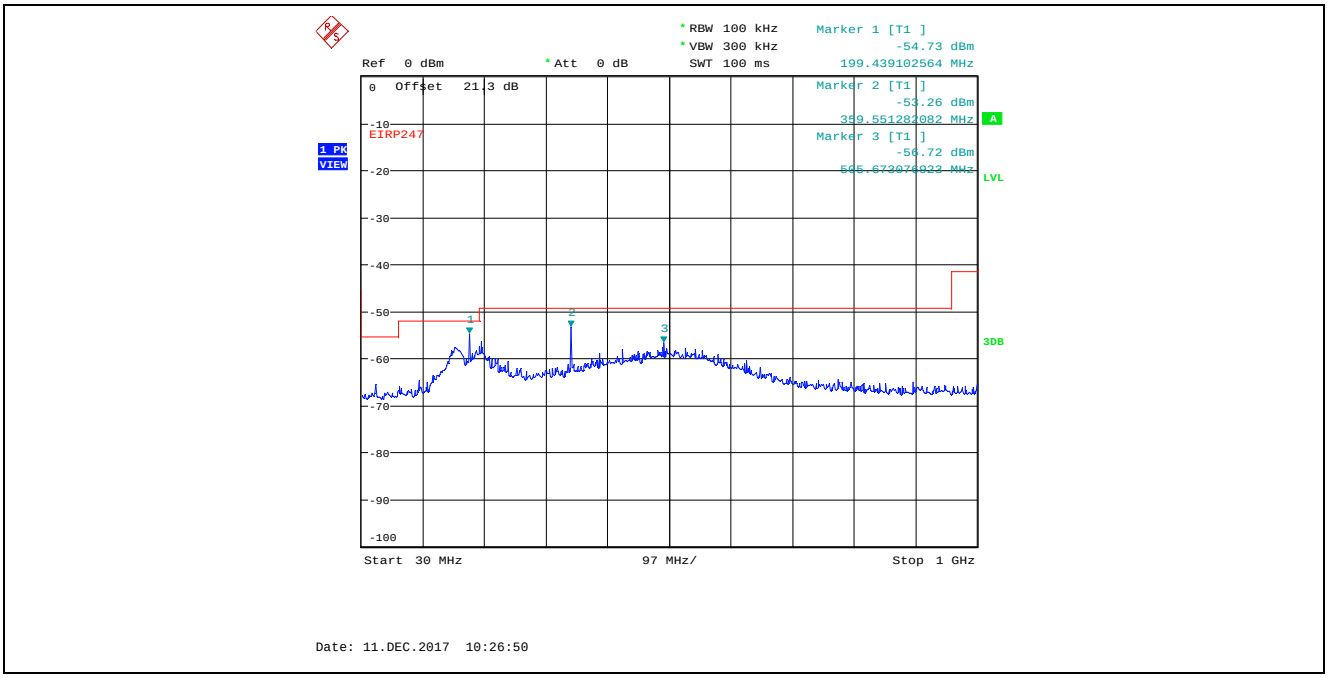

**Plot 5.4.4.3.44.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



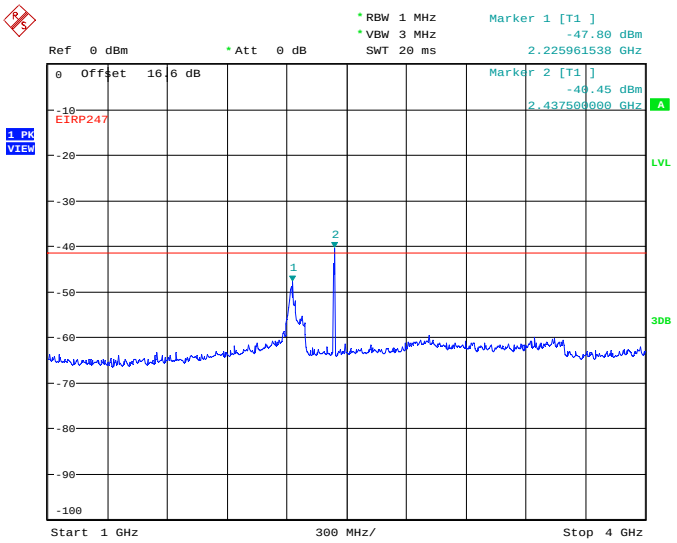
**Plot 5.4.4.3.45.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



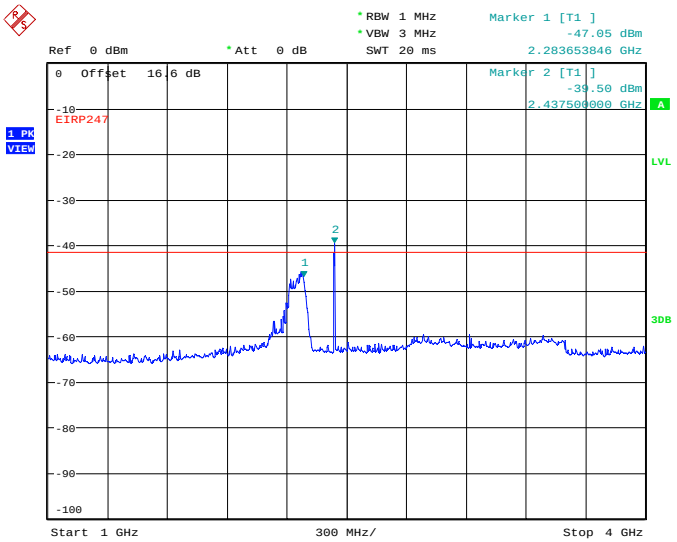

**Plot 5.4.4.3.46.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



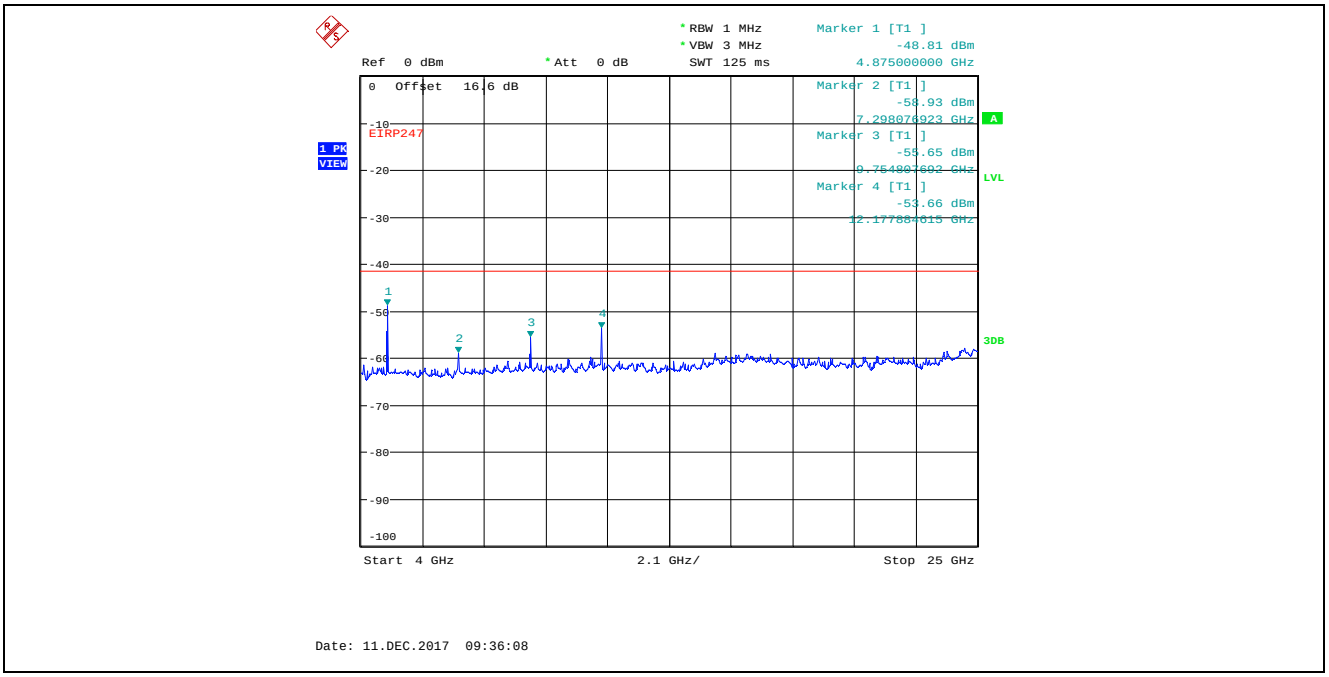
**Plot 5.4.4.3.47.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



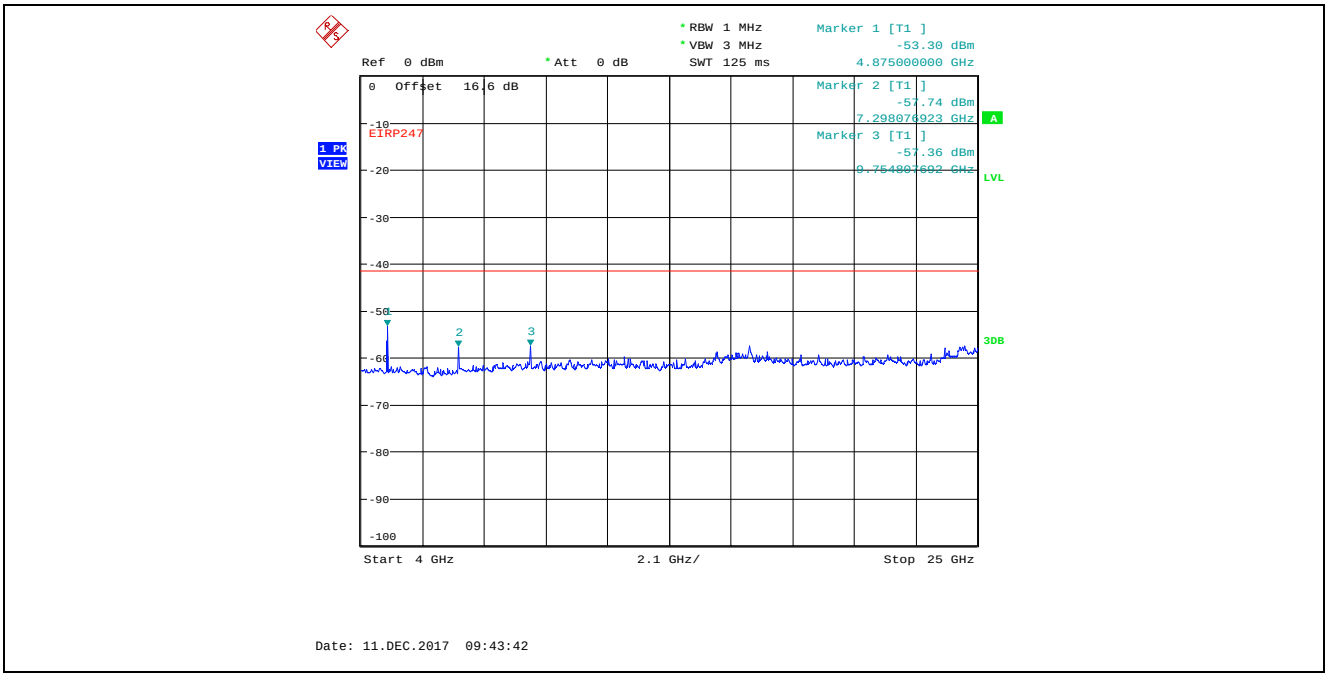

**Plot 5.4.4.3.48.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



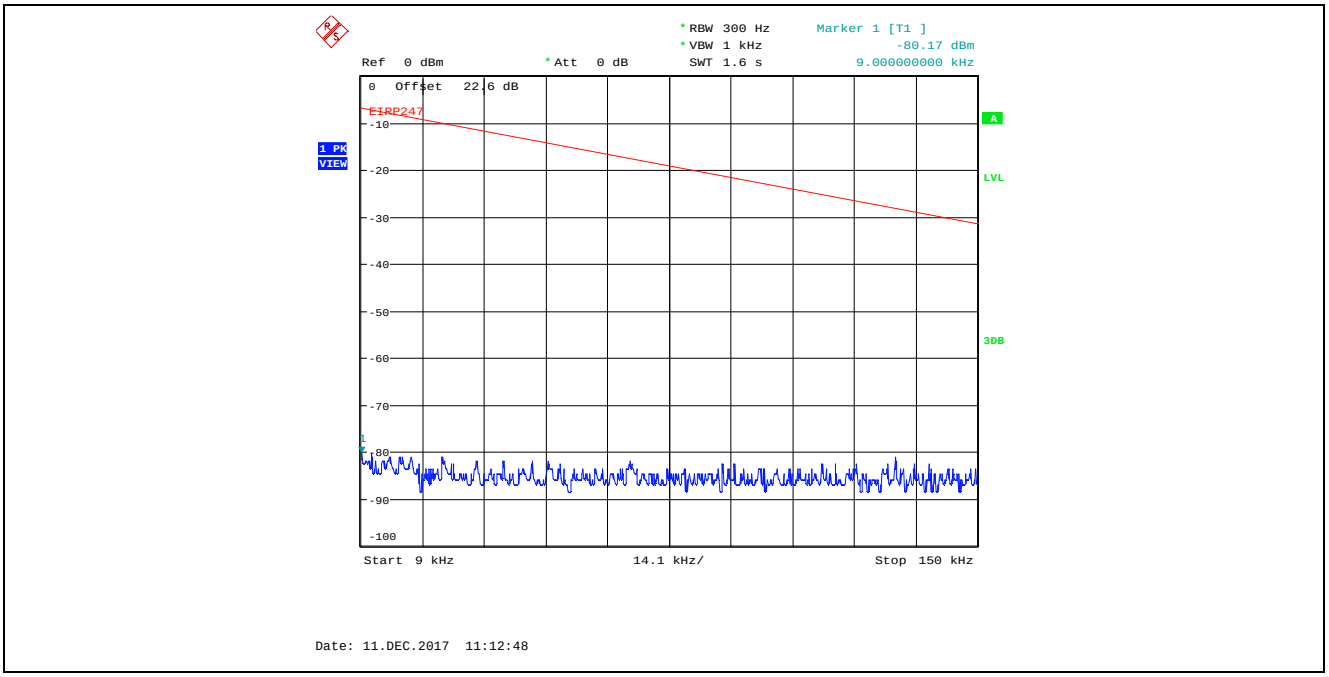
**Plot 5.4.4.3.49.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



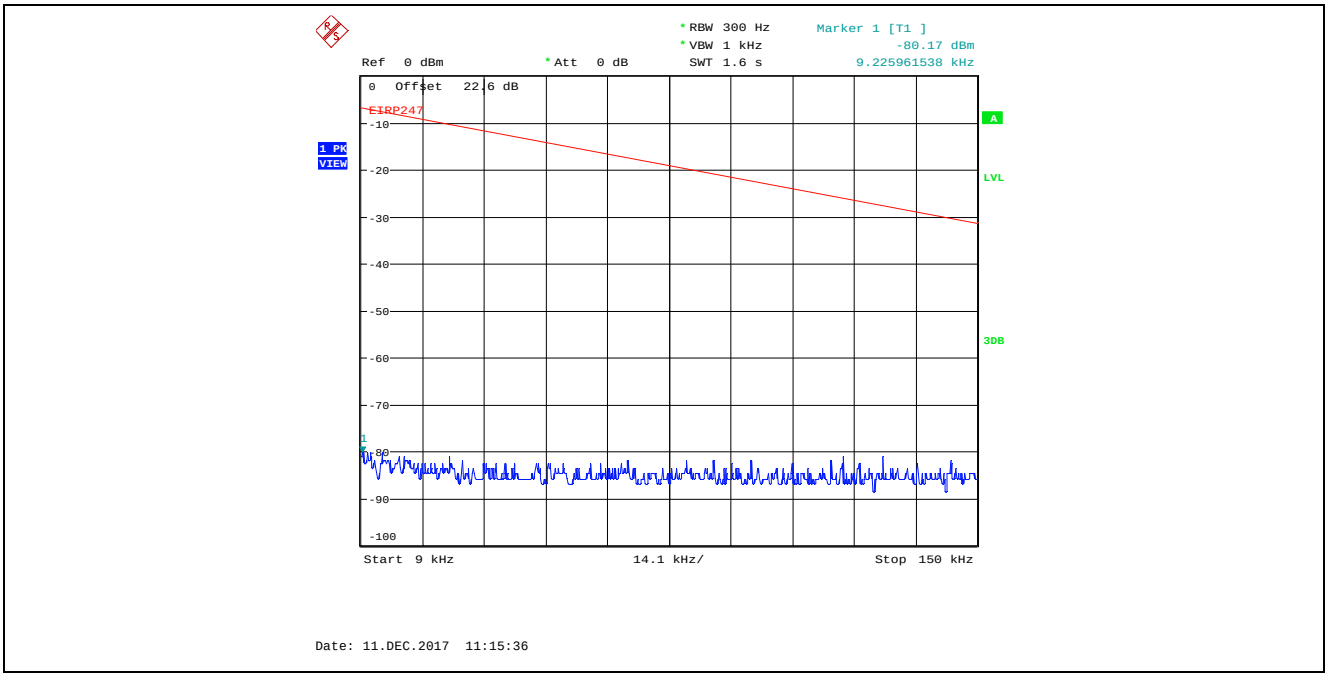

**Plot 5.4.4.3.50.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



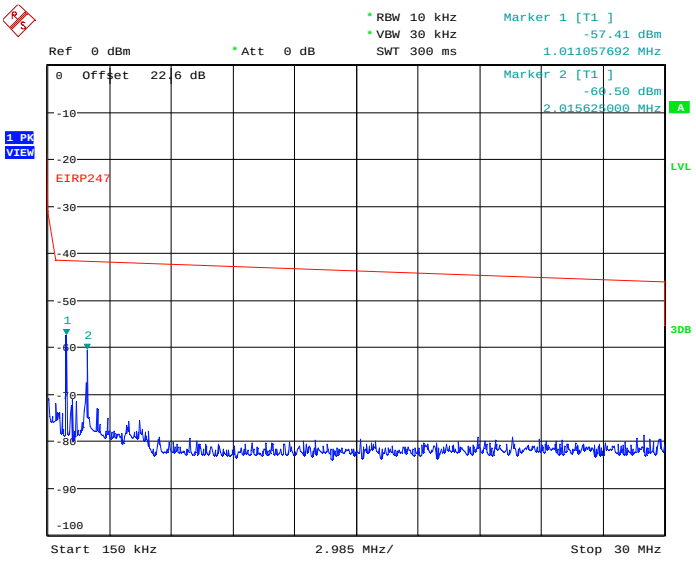
**Plot 5.4.4.3.51.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



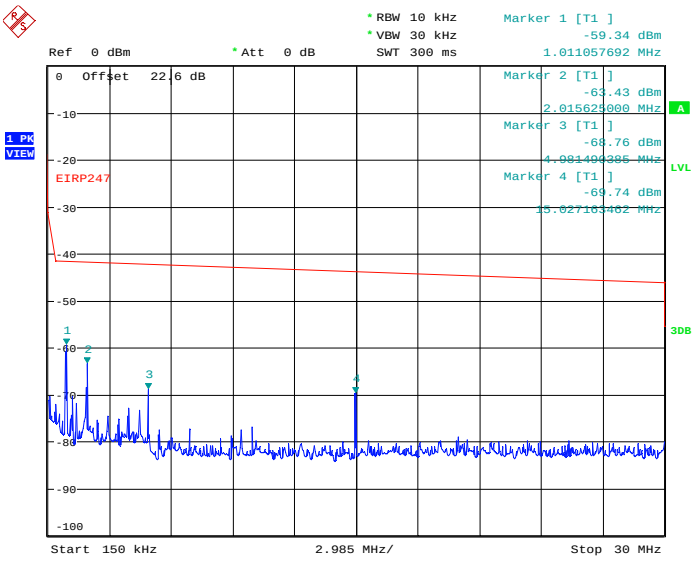

**Plot 5.4.4.3.52.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



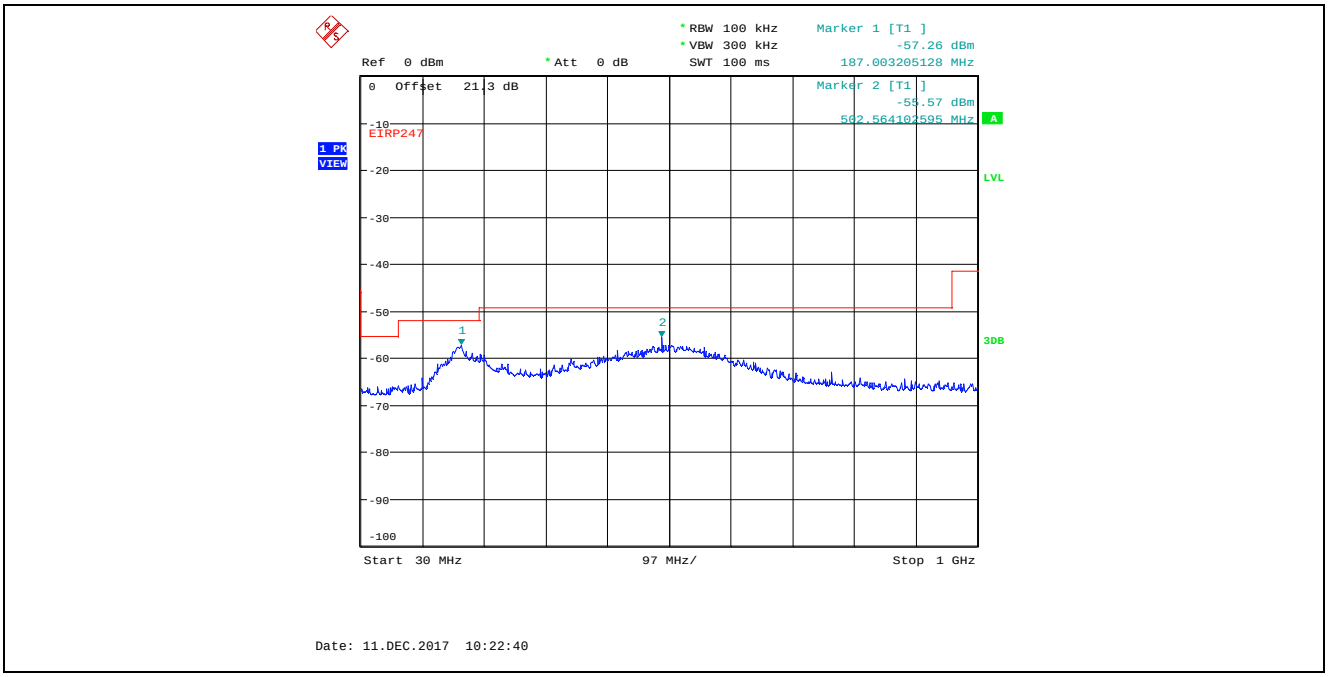
**Plot 5.4.4.3.53.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



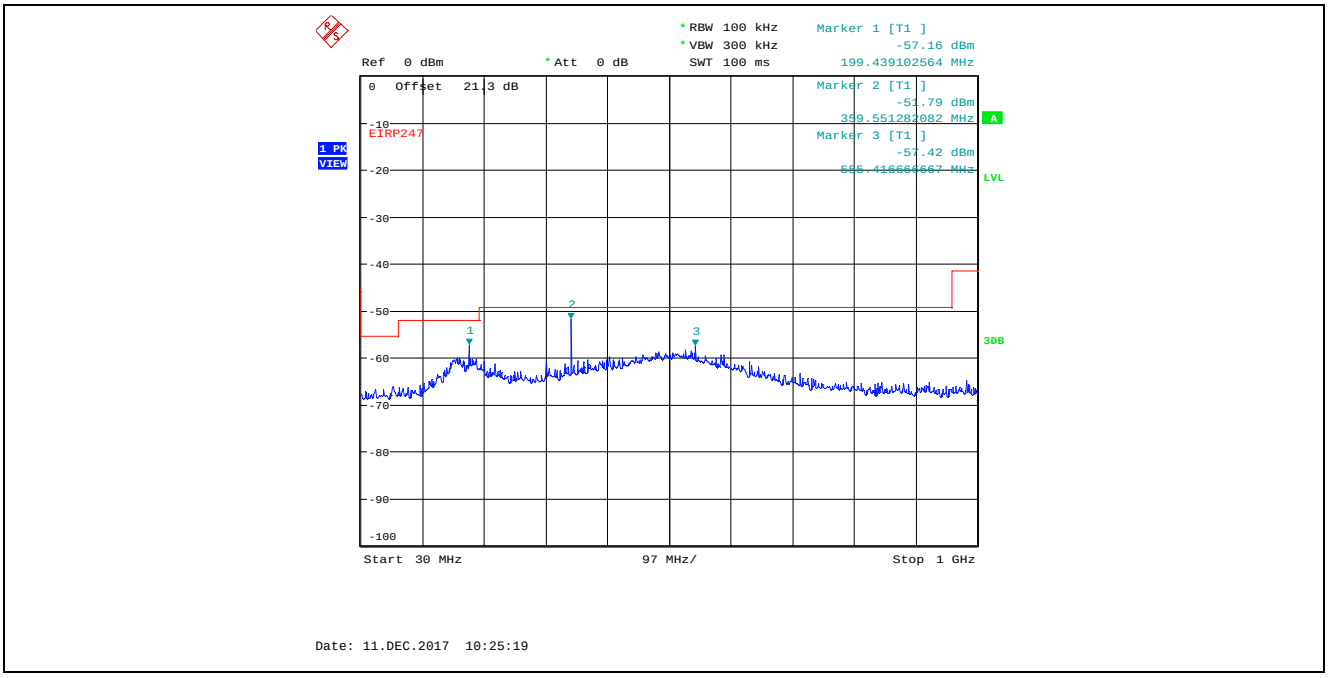

**Plot 5.4.4.3.54.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



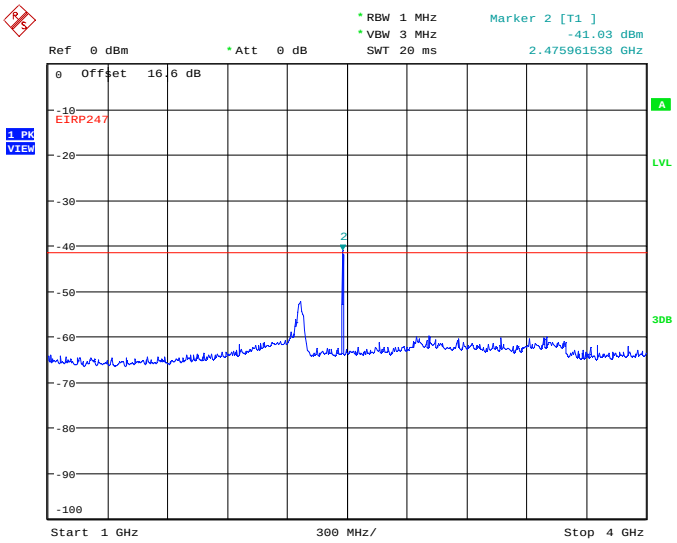
**Plot 5.4.4.3.55.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



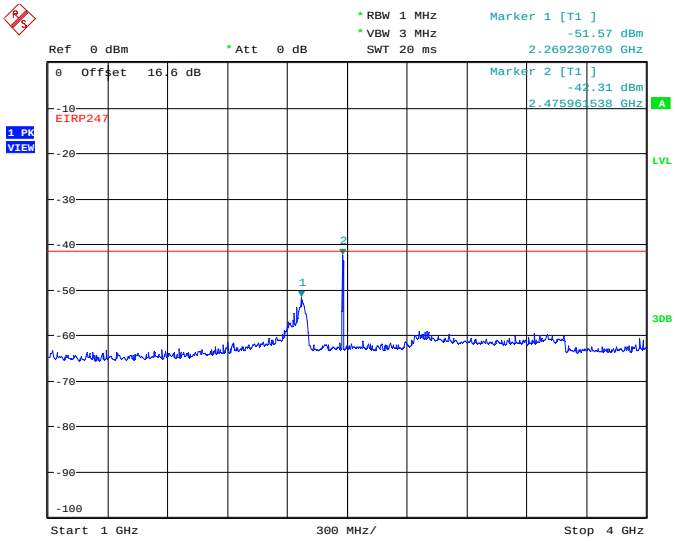

**Plot 5.4.4.3.56.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



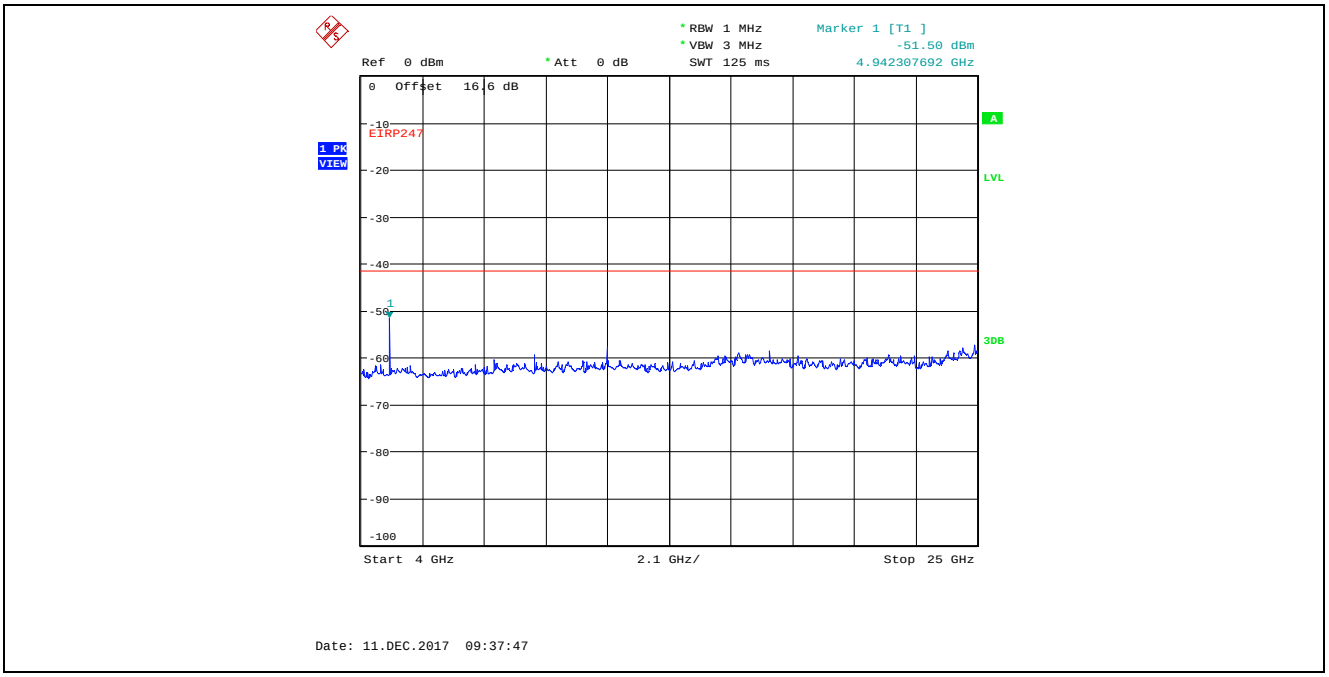
**Plot 5.4.4.3.57.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



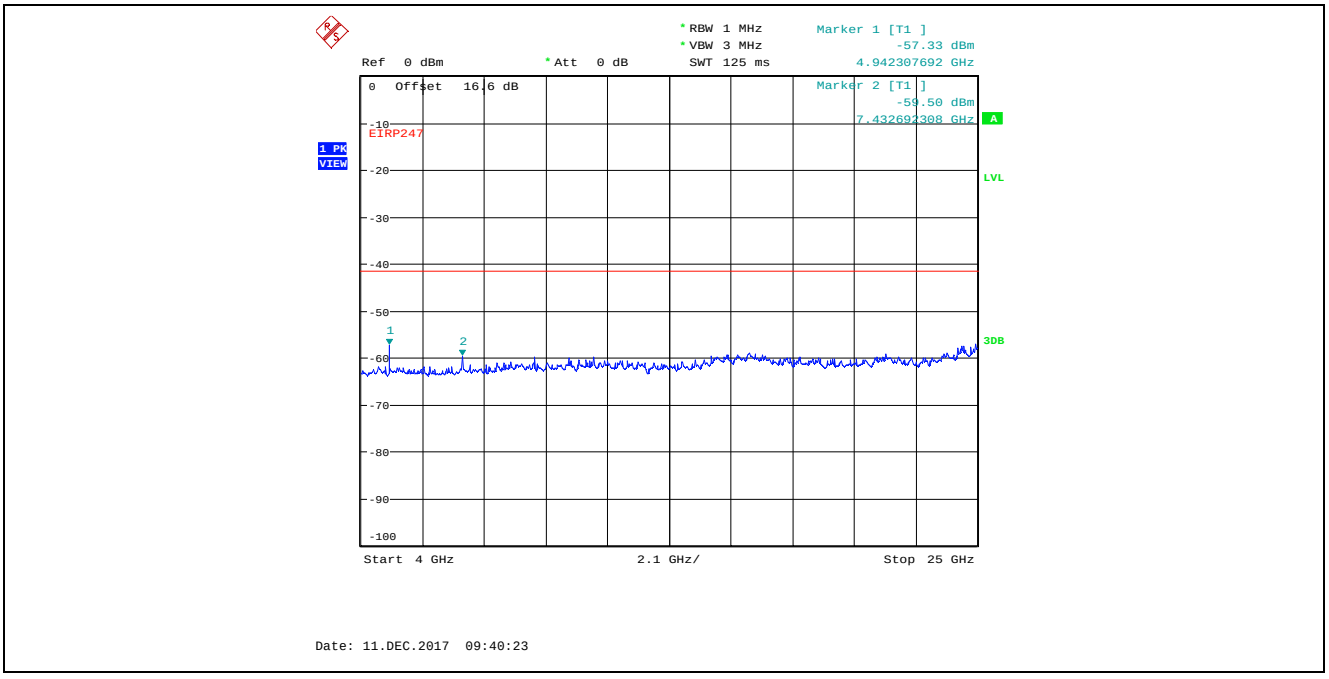

**Plot 5.4.4.3.58.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



**Plot 5.4.4.3.59.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



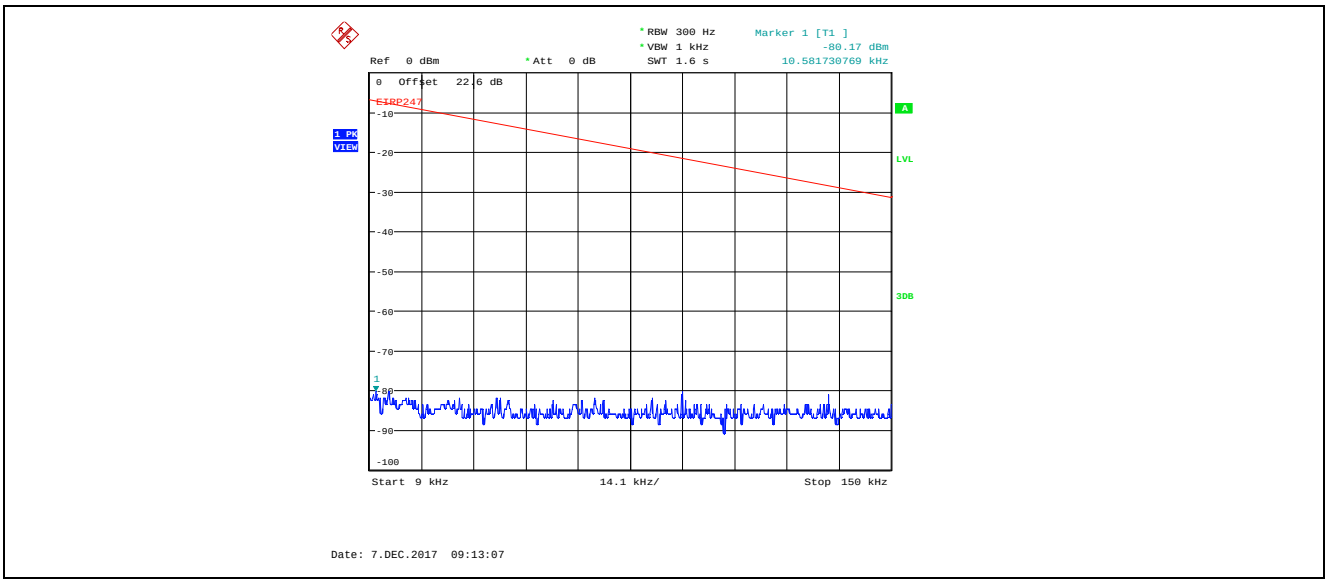

**Plot 5.4.4.3.60.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



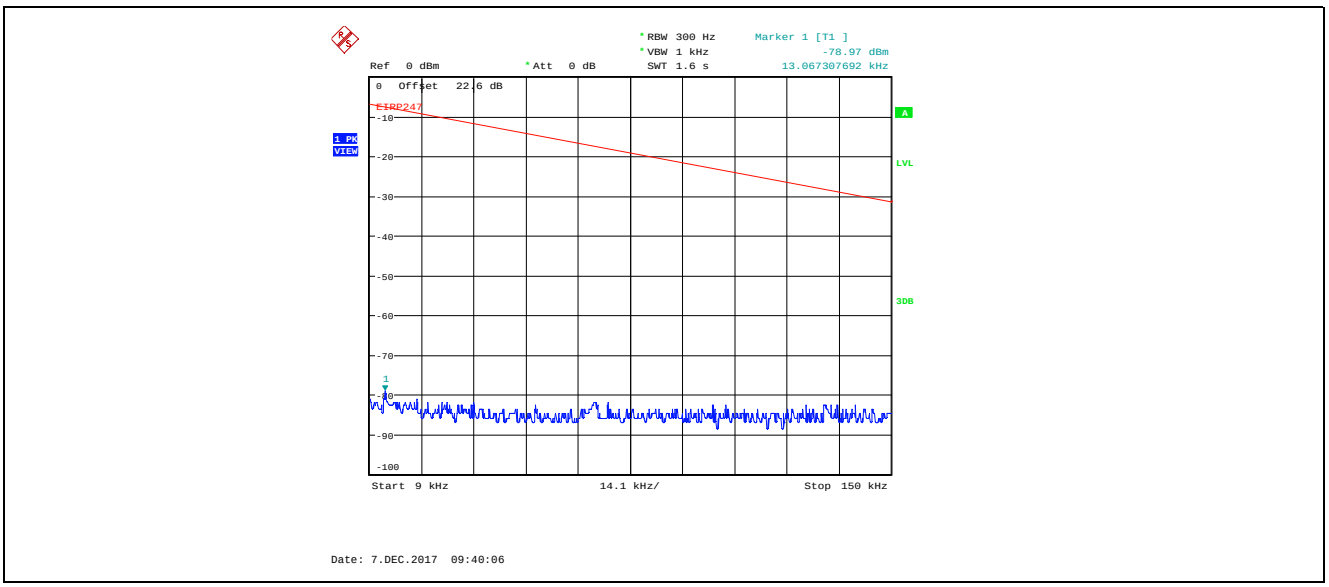
### 5.4.4.4. Conducted Spurious Emissions in Restricted Frequency Bands, Highest Power Setting for Lowest Antenna Gain (TX Gain Setting 22) for Lowest Antenna Gain (2.0 dBi) at Data Rate 7

**Remark**: Offset = [Insertion Loss] + [Directional Gain (EUT Antenna Gain + 10*Log(2) in dBi)] + [Maximum Ground Reflection Factor (6dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz)]

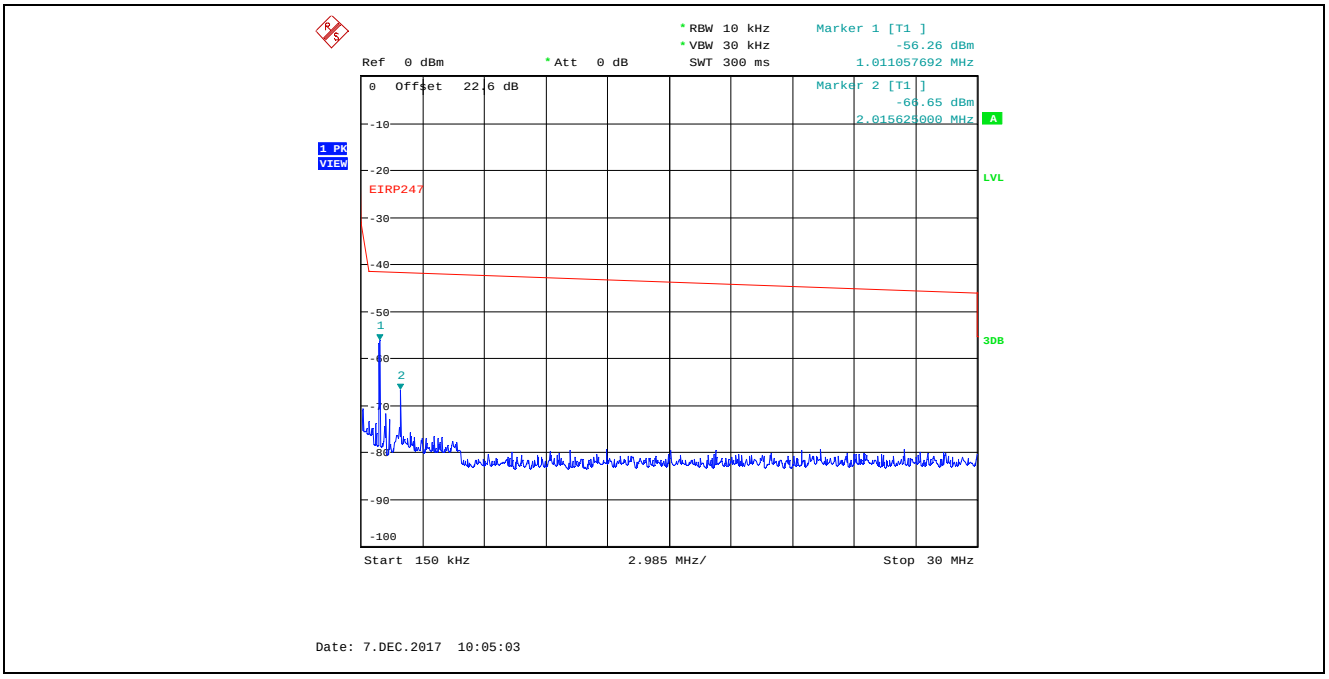
**Plot 5.4.4.4.1.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



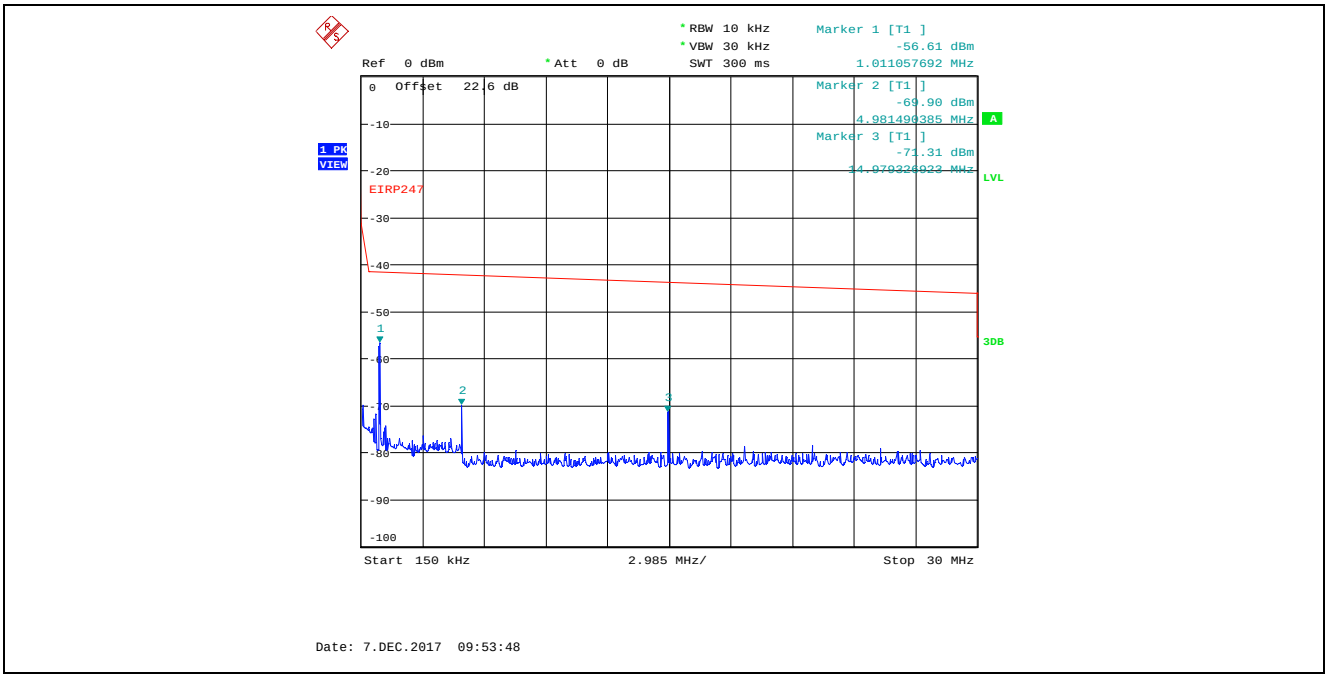

**Plot 5.4.4.4.2.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



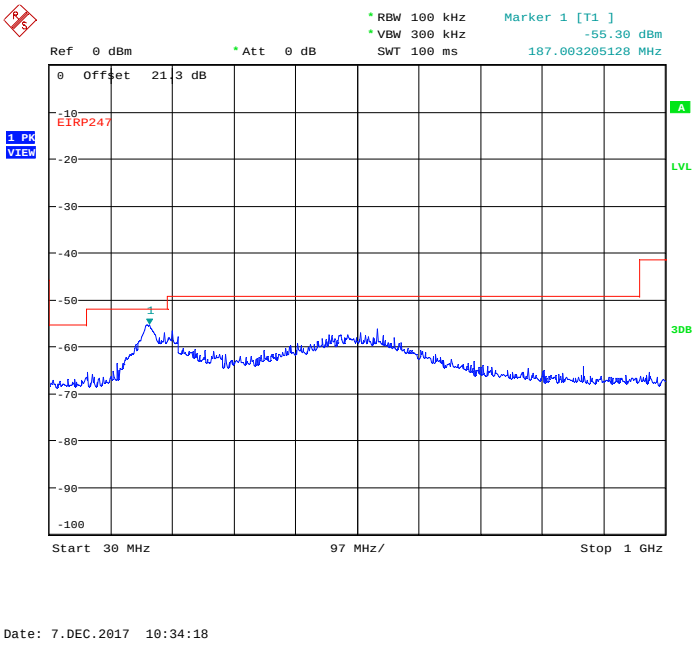
**Plot 5.4.4.4.3.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



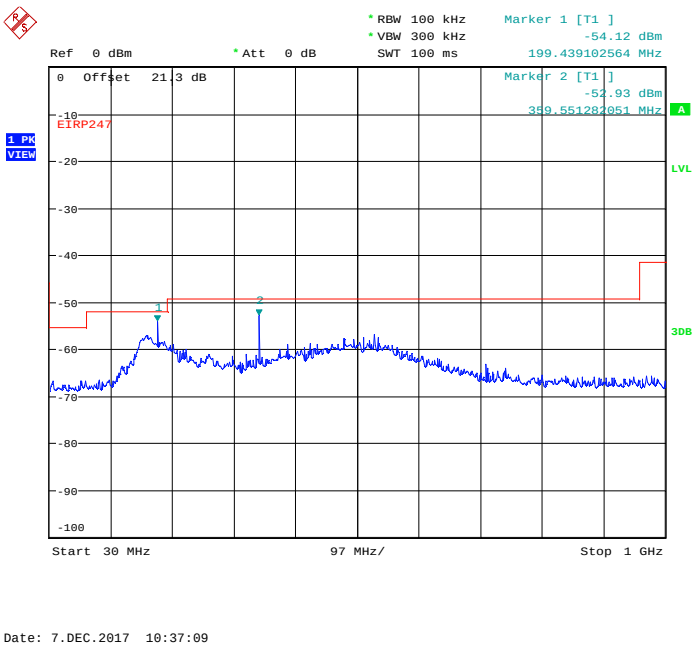

**Plot 5.4.4.4.4.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



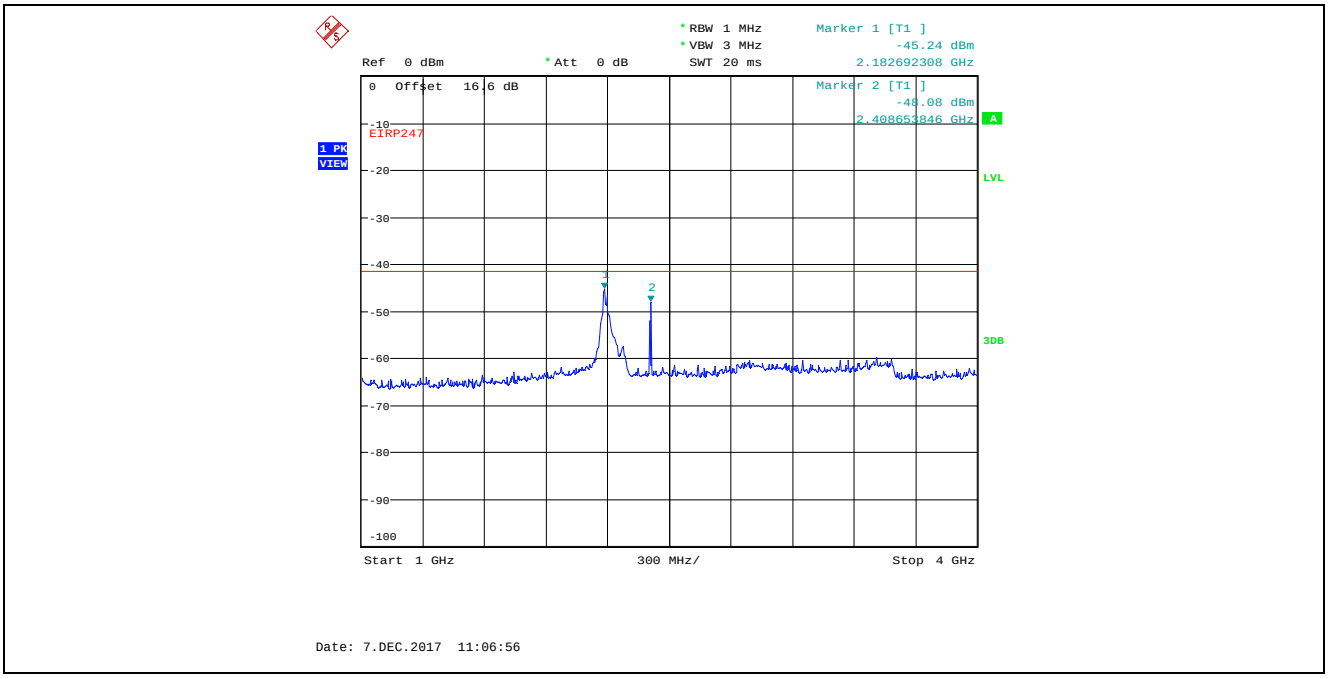
**Plot 5.4.4.4.5.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



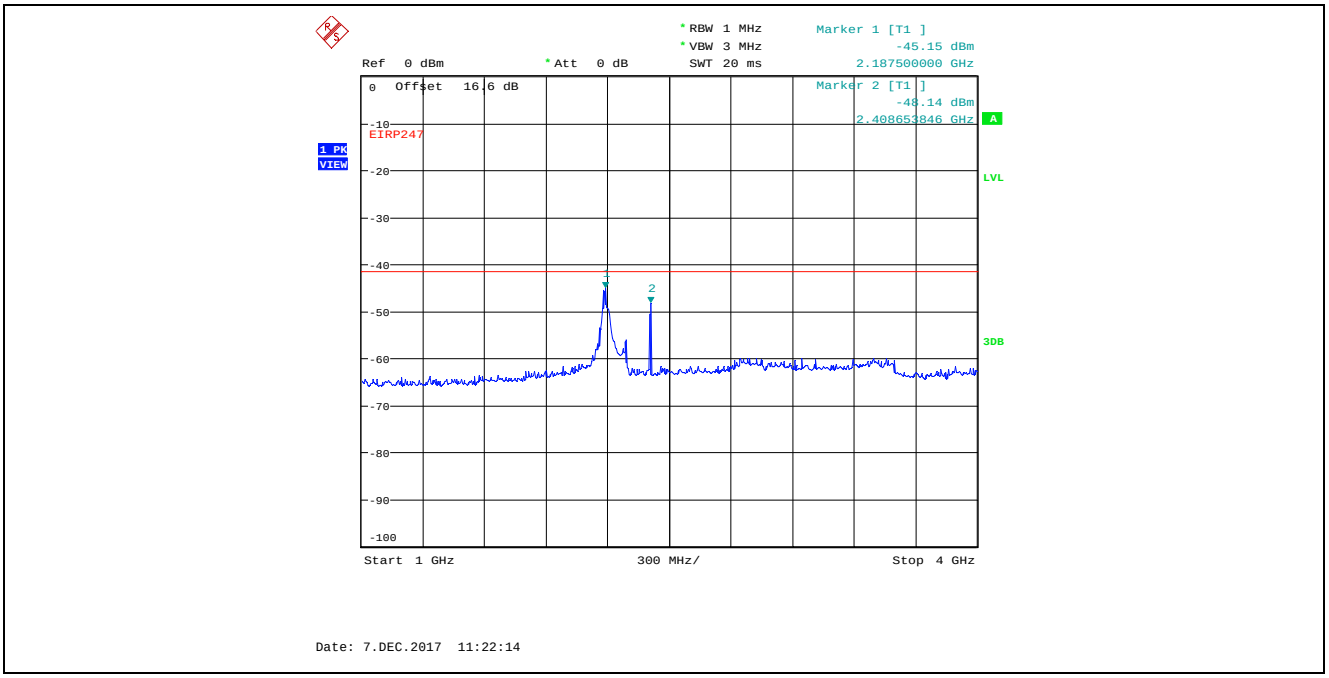

**Plot 5.4.4.4.6.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



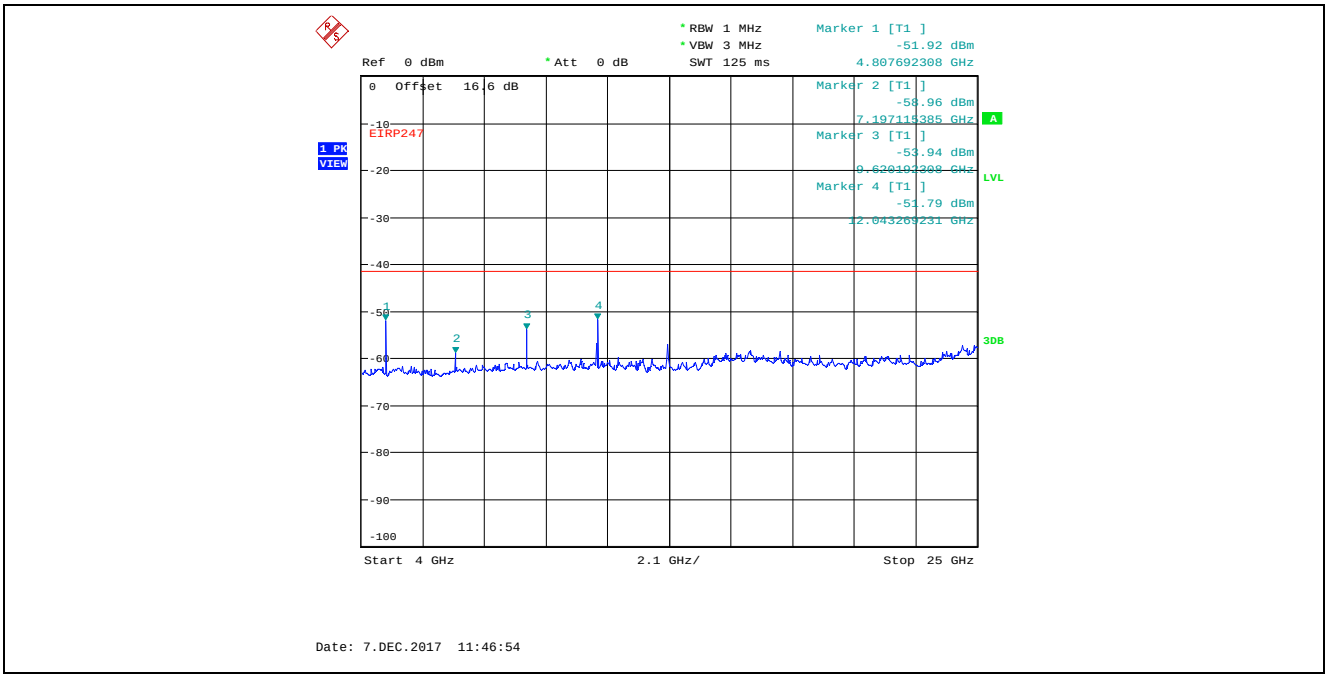
**Plot 5.4.4.4.7.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



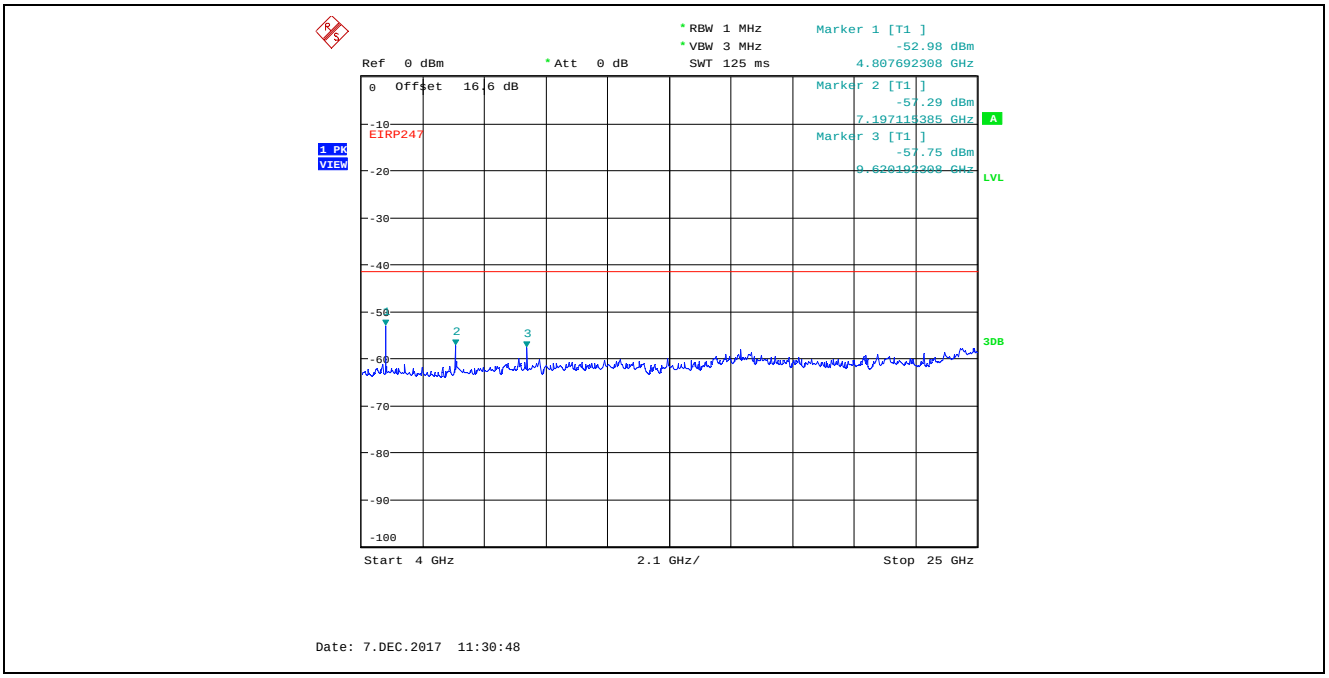

**Plot 5.4.4.4.8.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



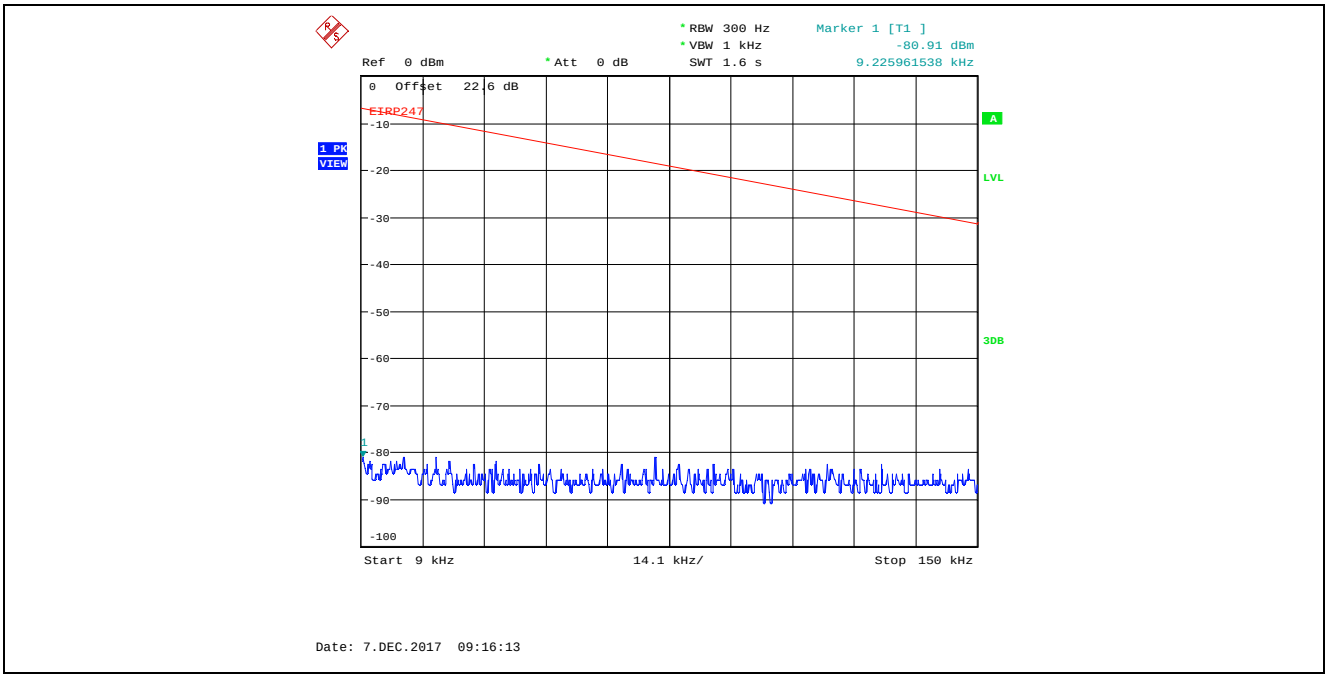
**Plot 5.4.4.4.9.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



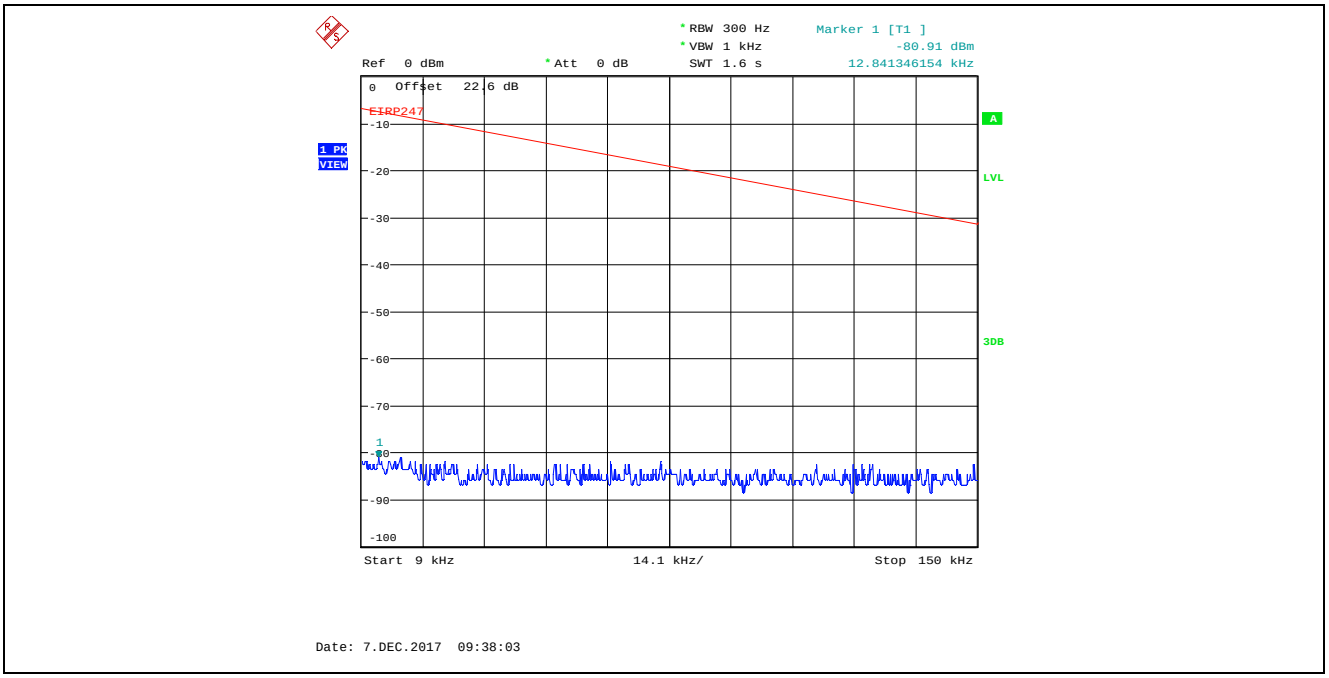

**Plot 5.4.4.4.10.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



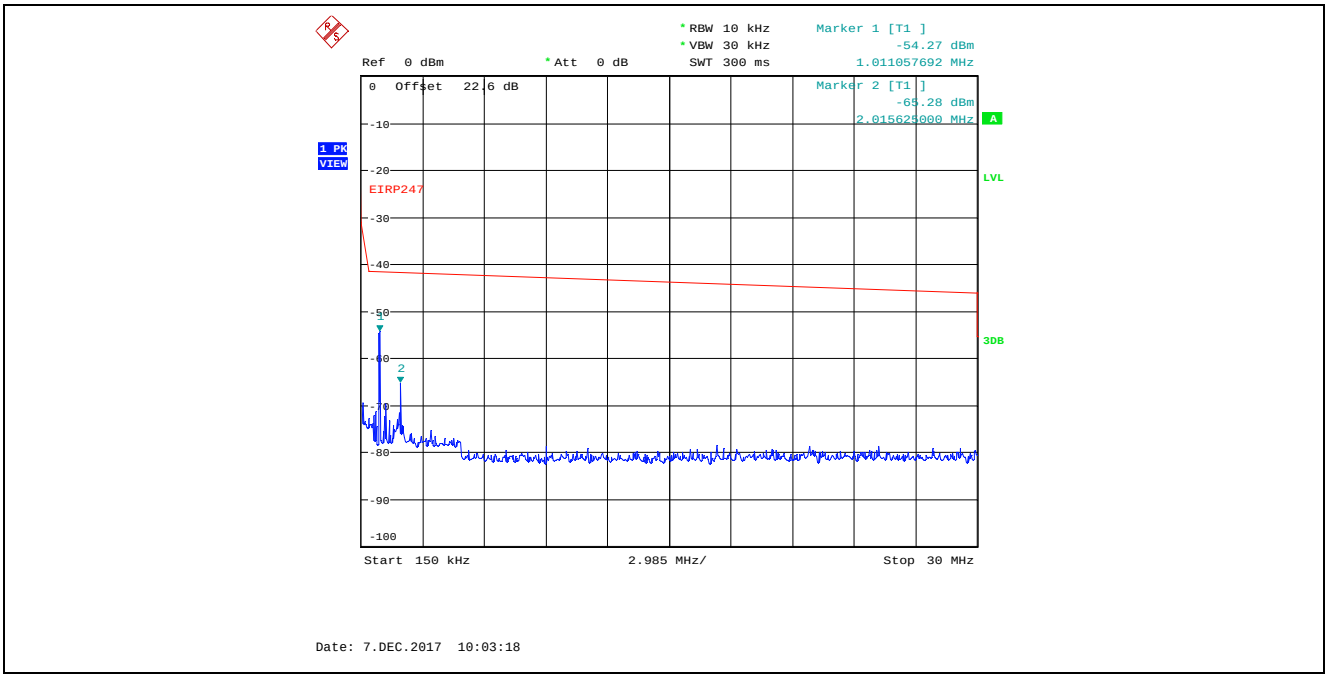
**Plot 5.4.4.4.11.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



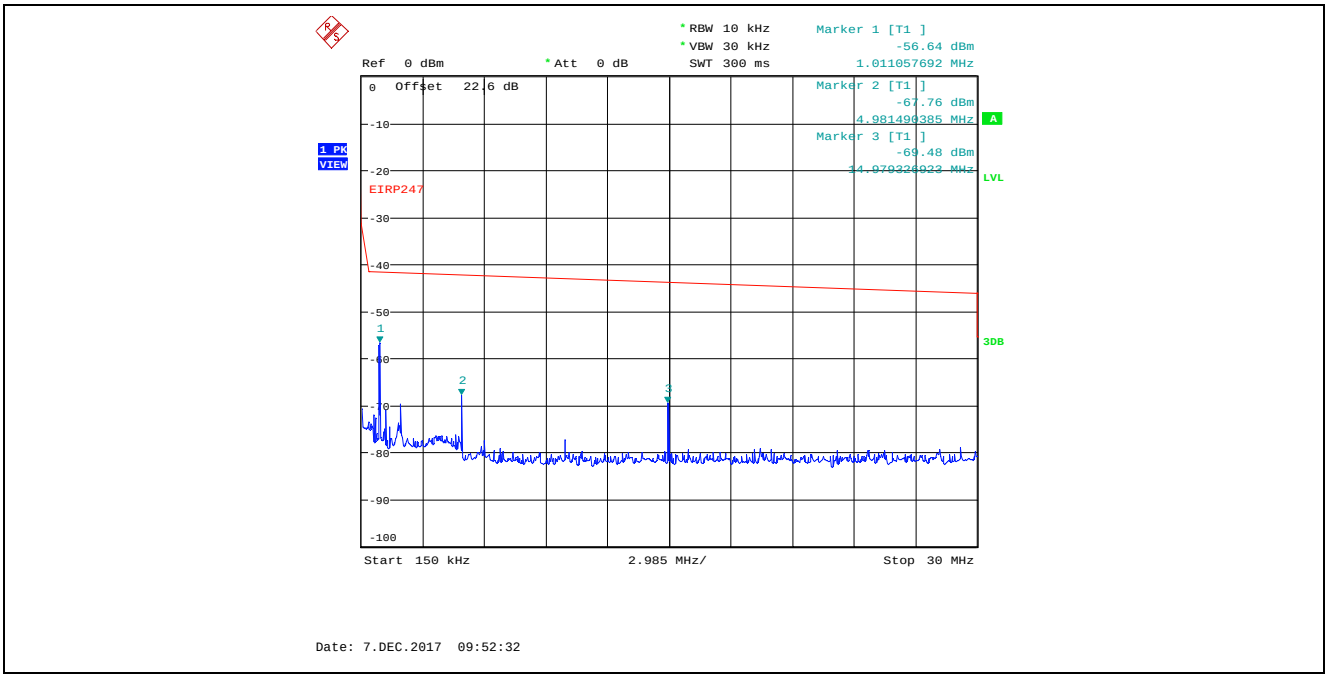

**Plot 5.4.4.4.12.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



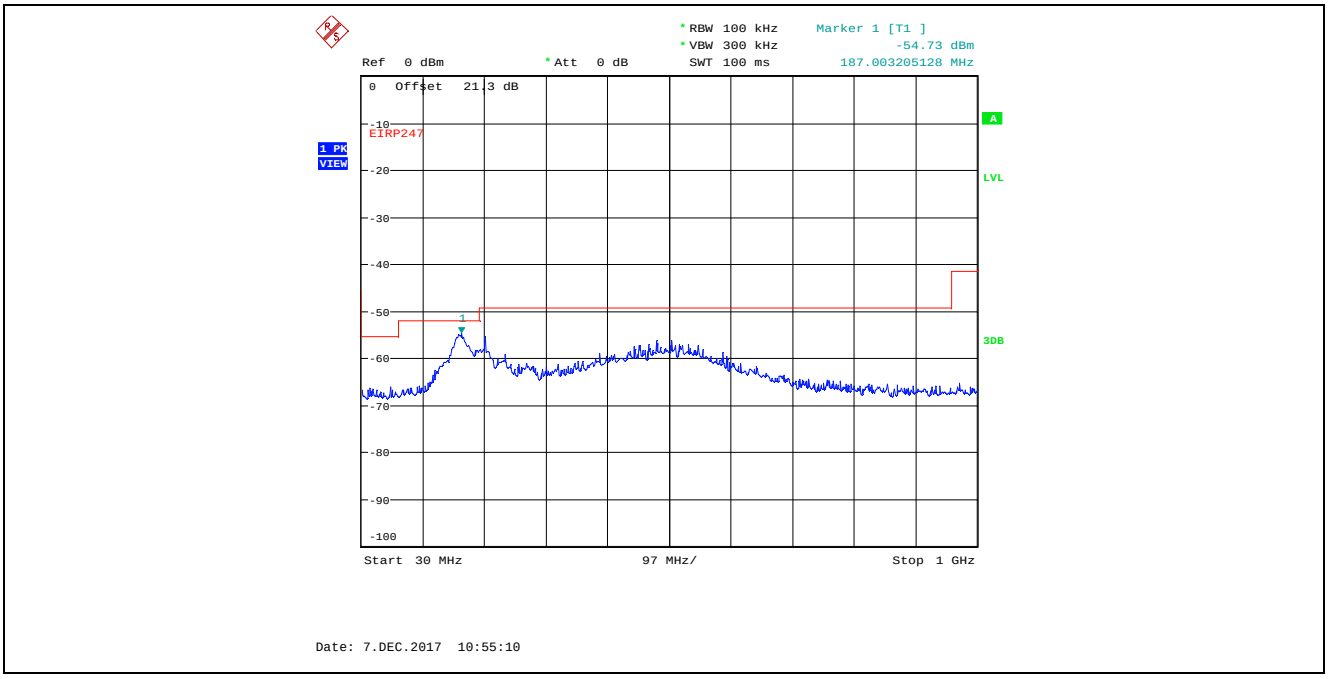
**Plot 5.4.4.4.13.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



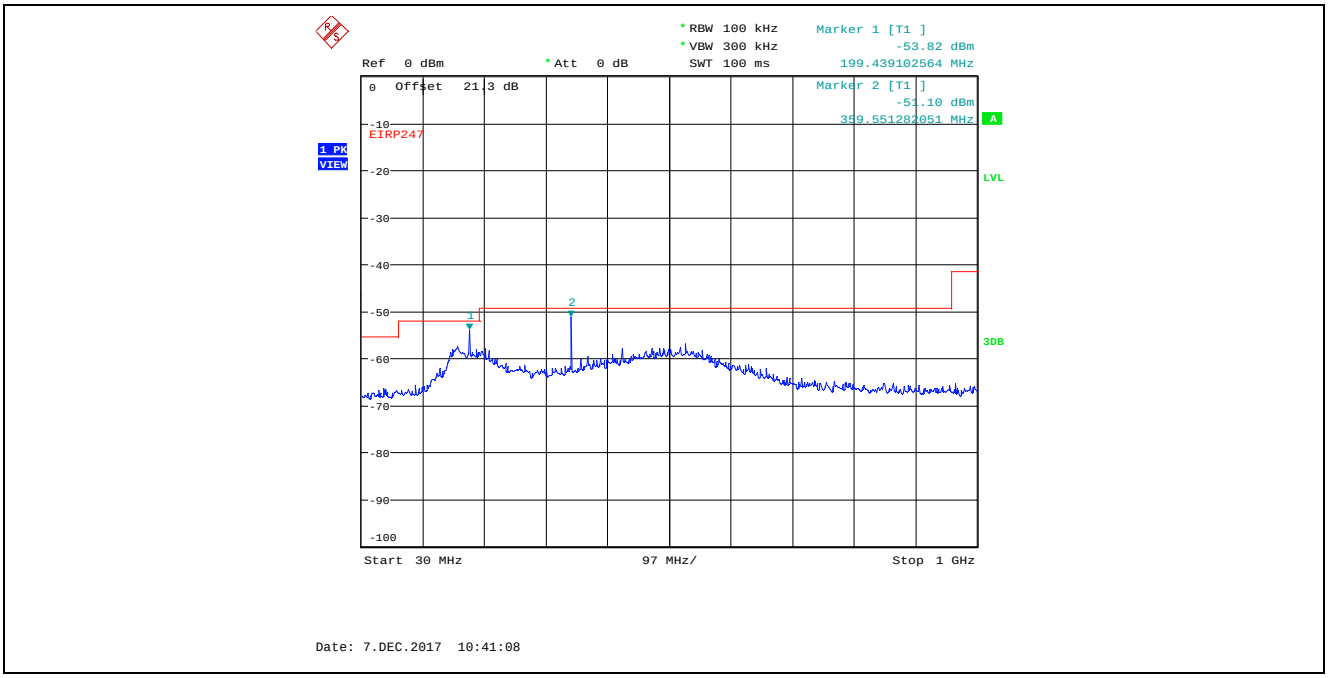

**Plot 5.4.4.4.14.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



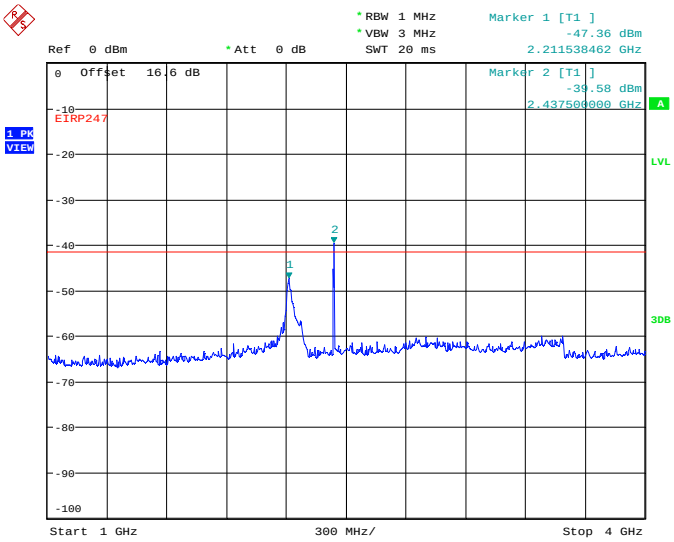
**Plot 5.4.4.4.15.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



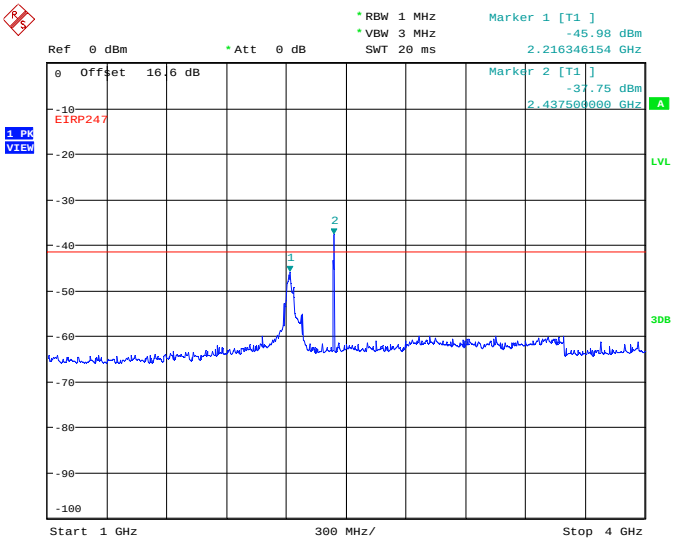

**Plot 5.4.4.4.16.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



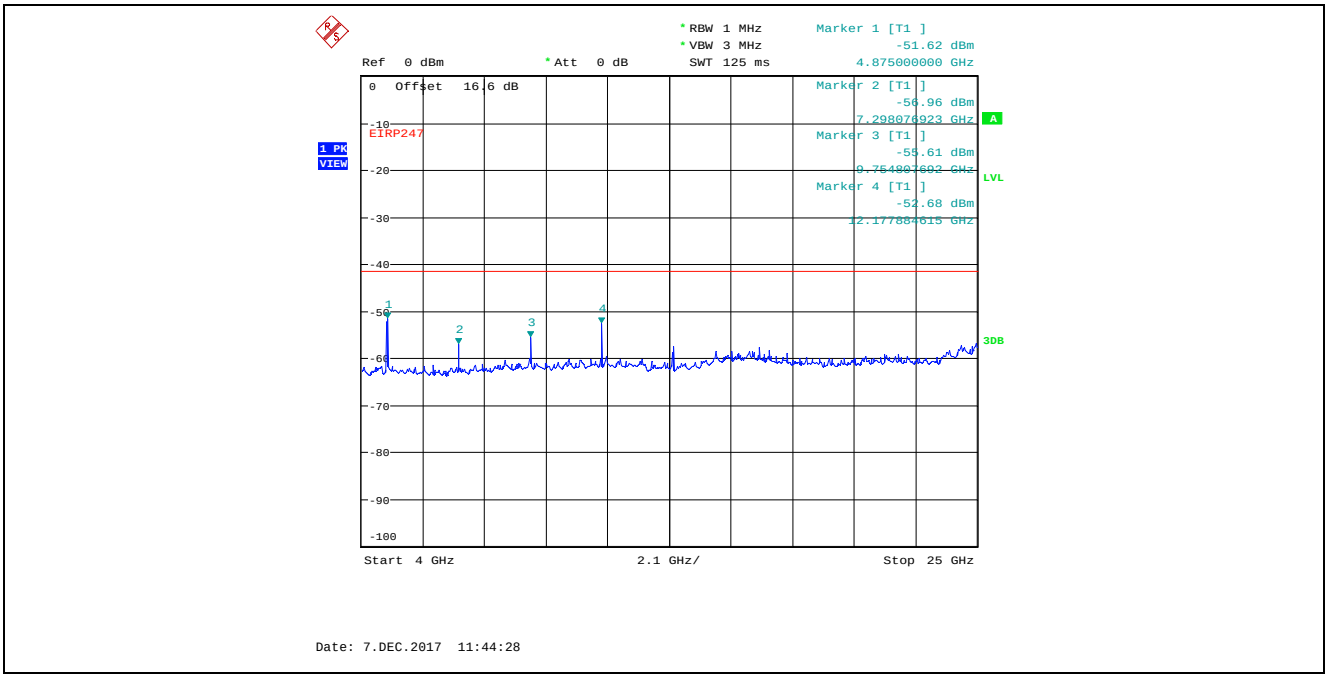
**Plot 5.4.4.4.17.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



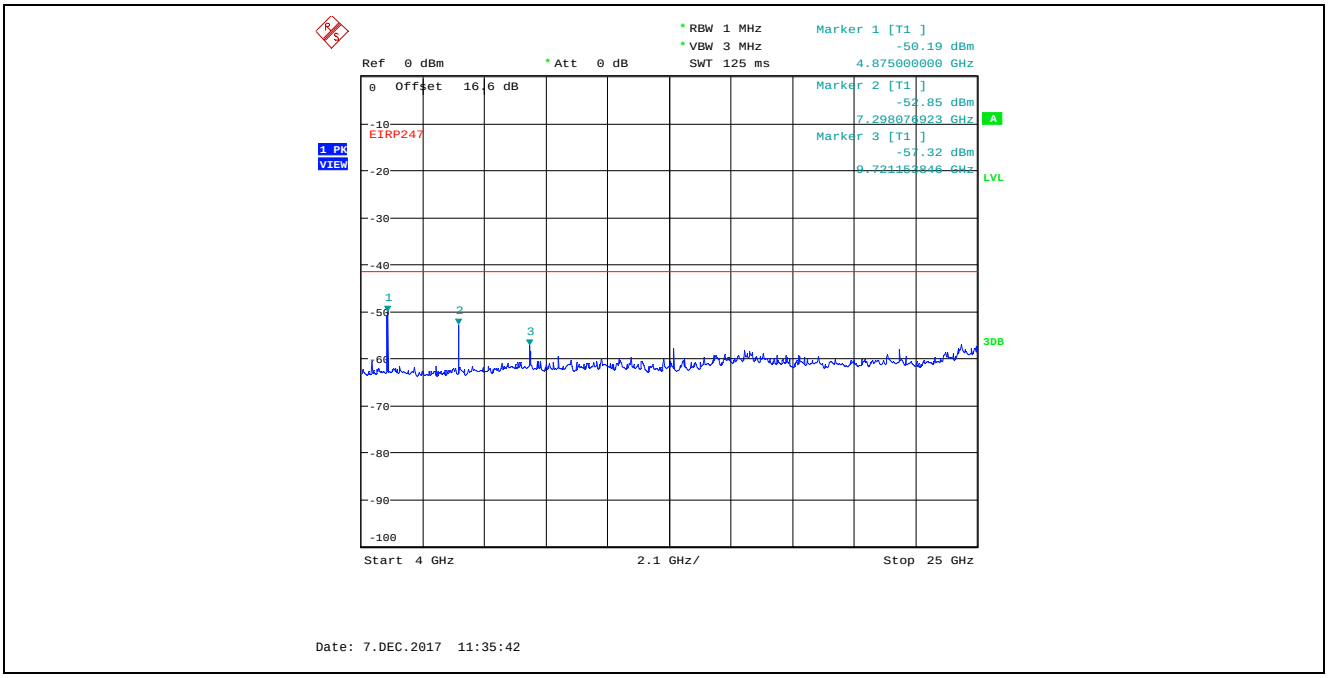

**Plot 5.4.4.4.18.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



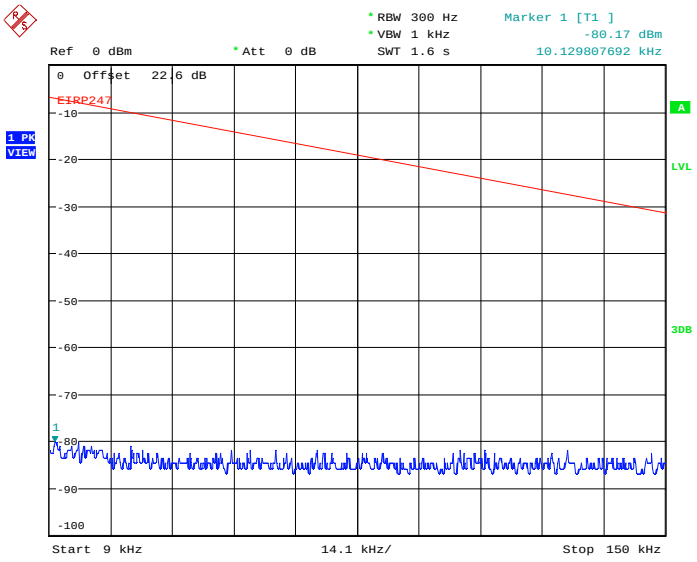
**Plot 5.4.4.4.19.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



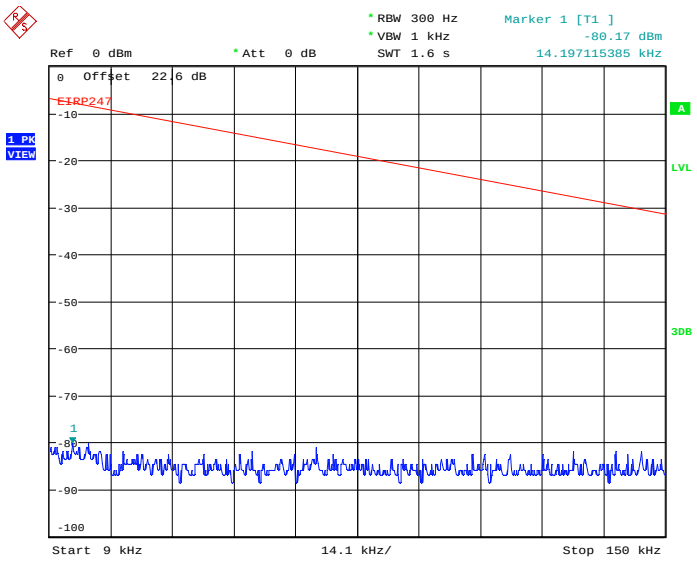

**Plot 5.4.4.4.20.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



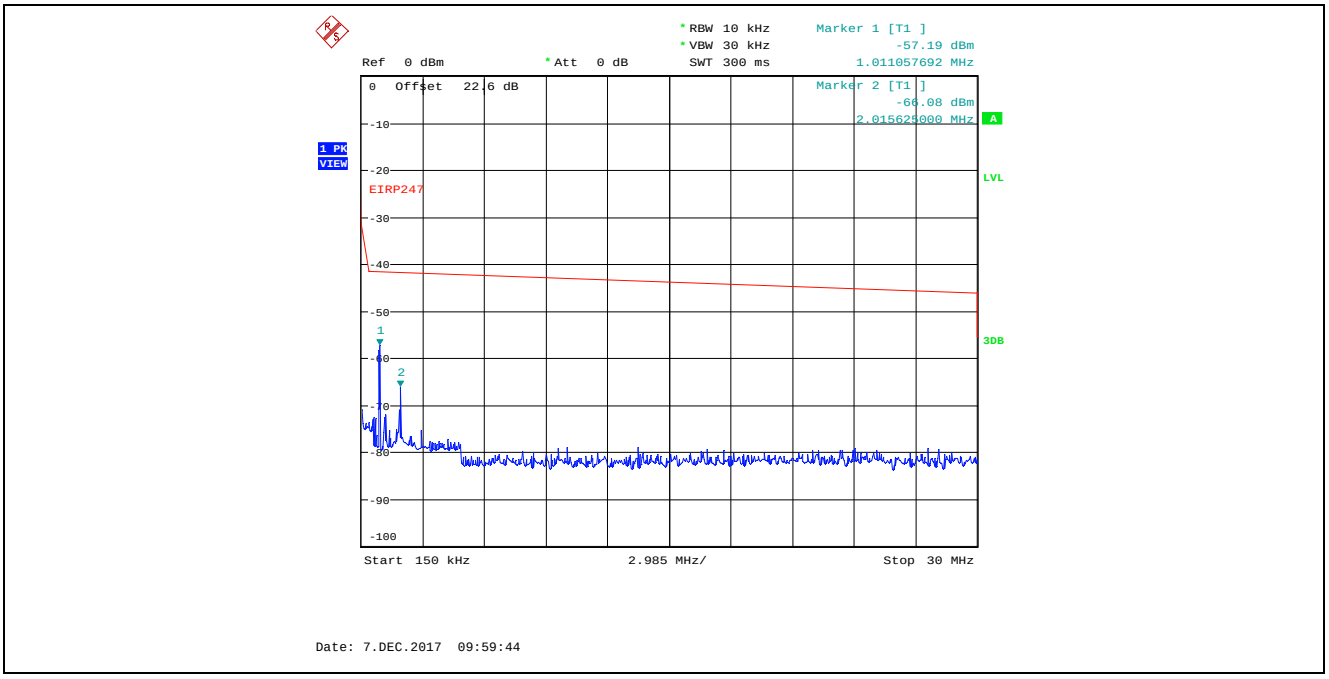
**Plot 5.4.4.4.21.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



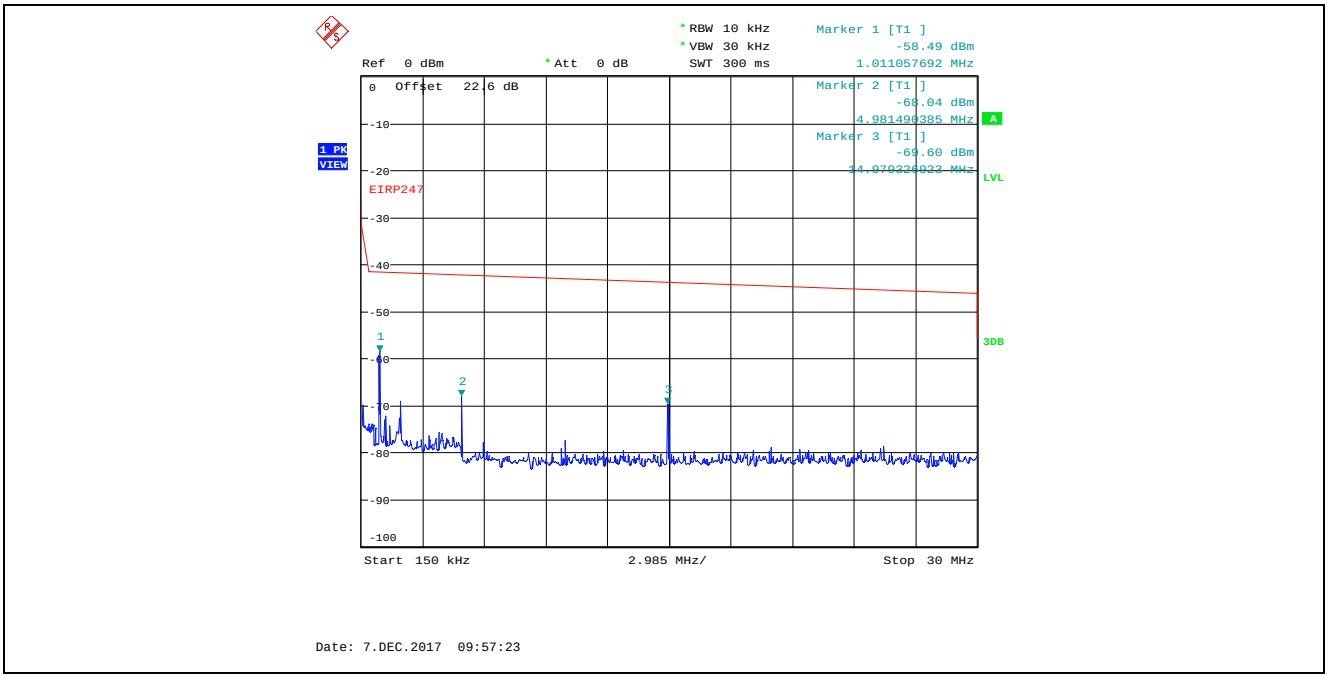

**Plot 5.4.4.4.22.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



**Plot 5.4.4.4.23.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



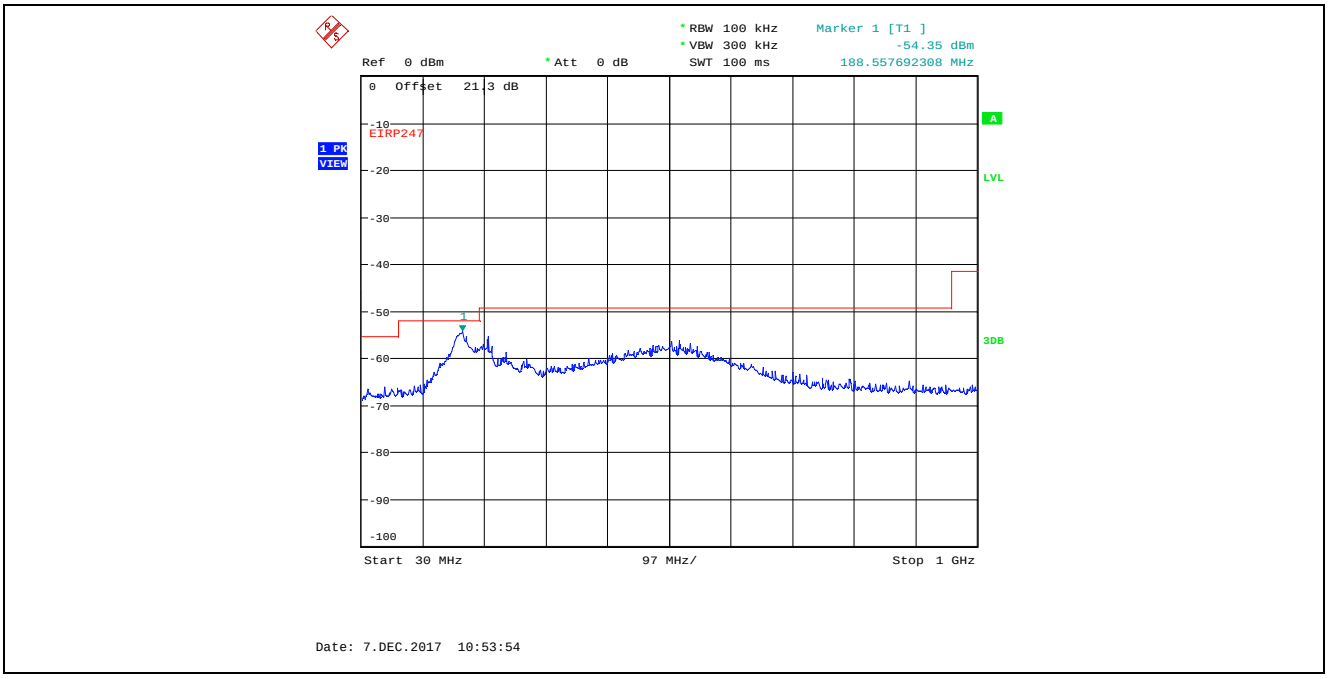

**Plot 5.4.4.4.24.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



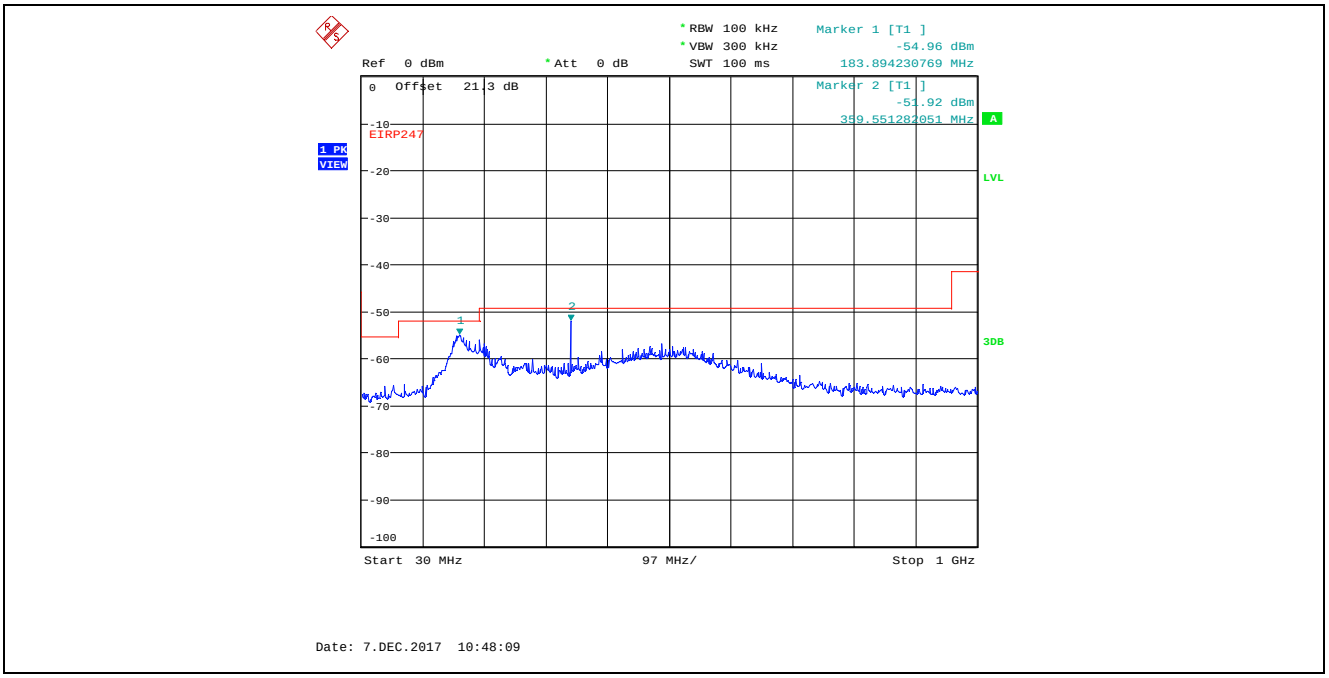



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

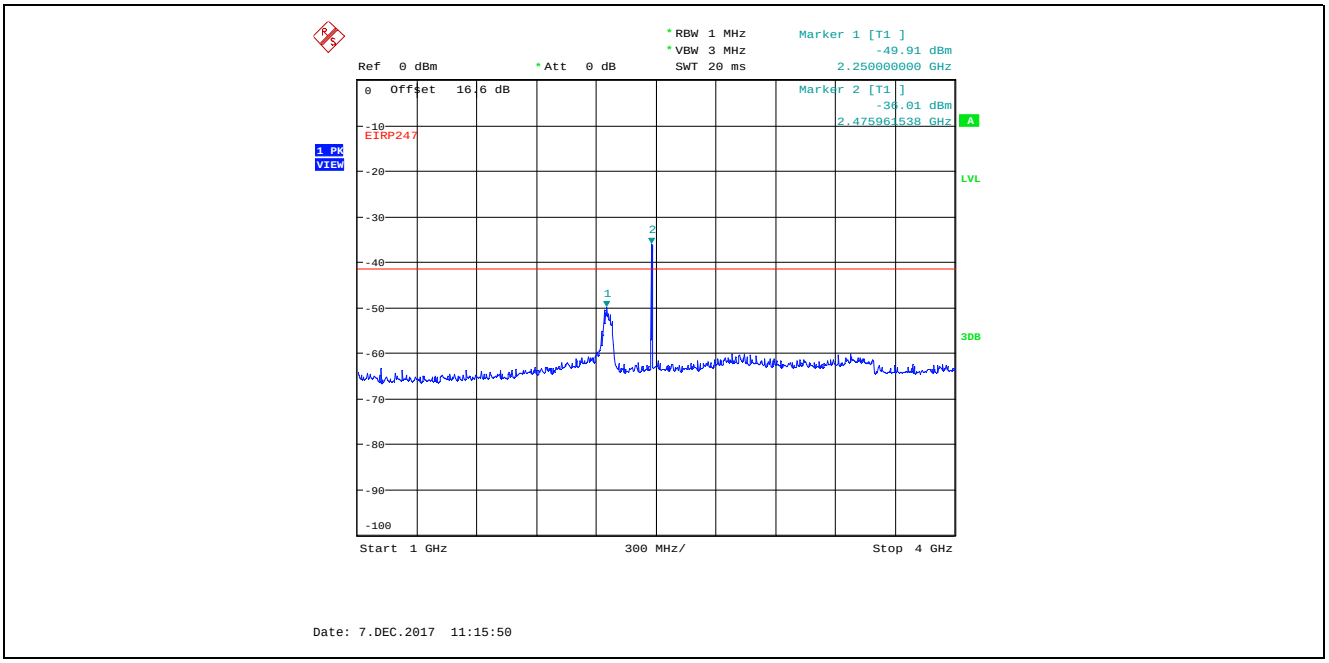
**Plot 5.4.4.4.25.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



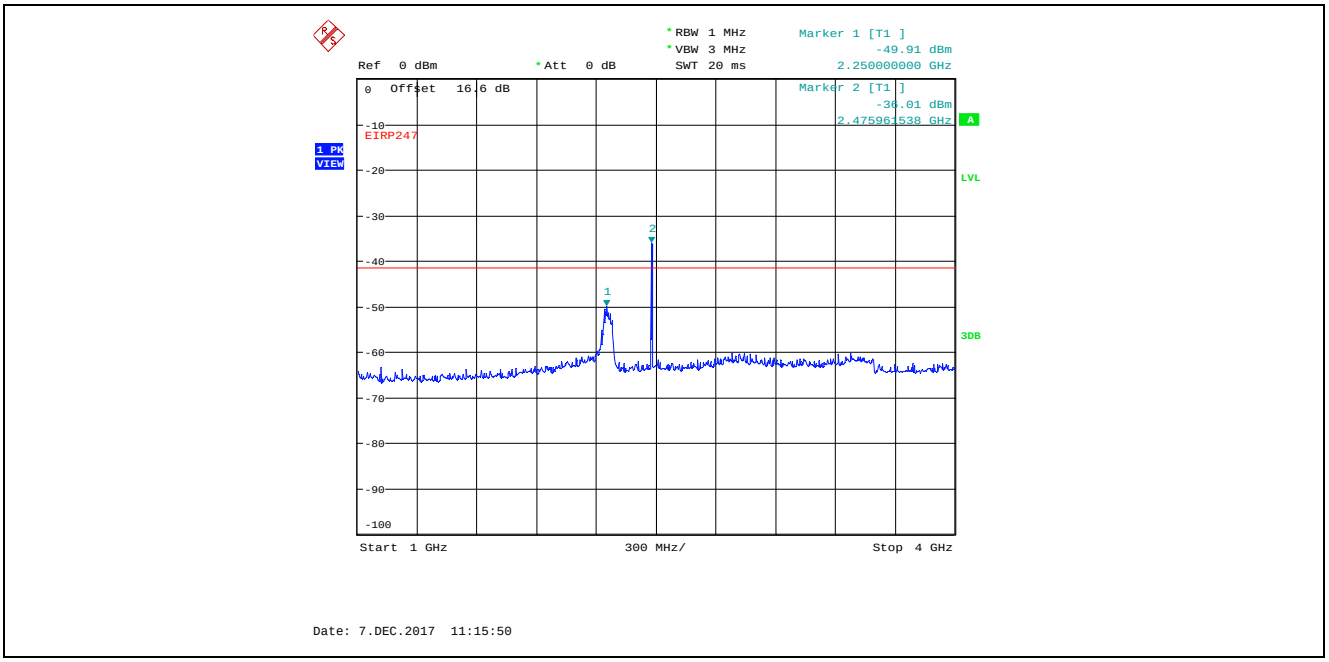

**Plot 5.4.4.4.26.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



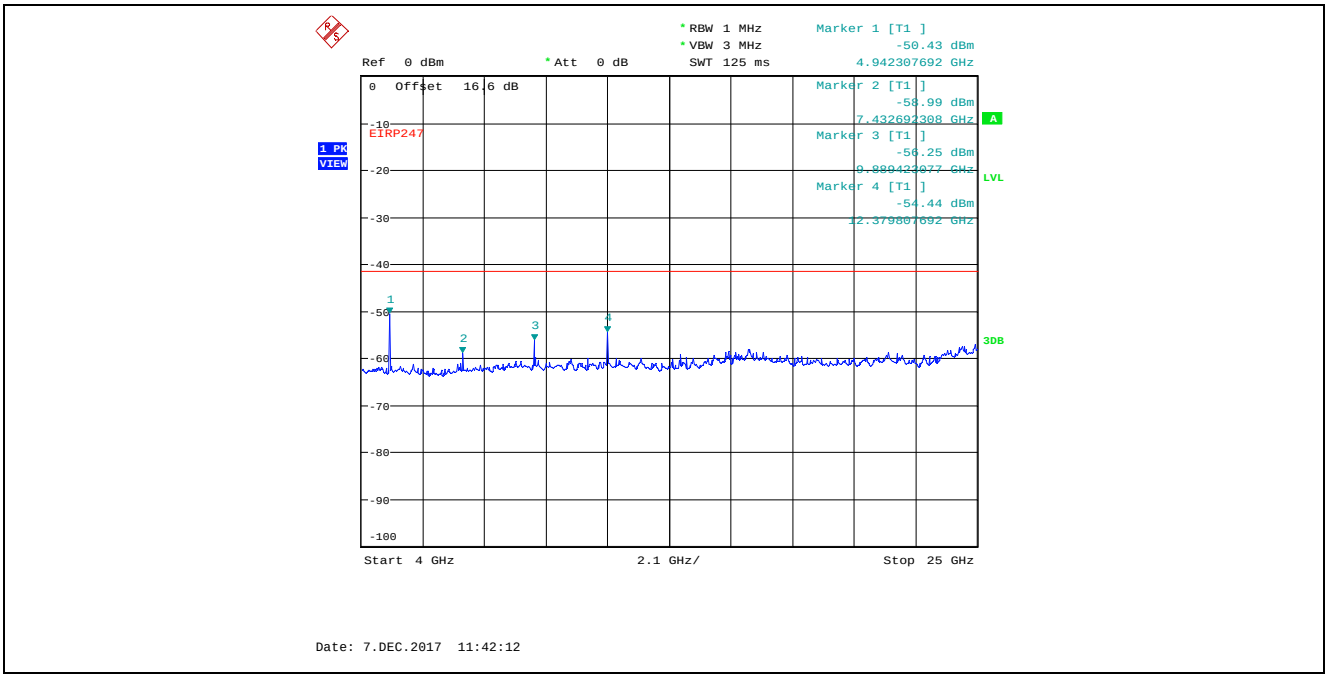
**Plot 5.4.4.4.27.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



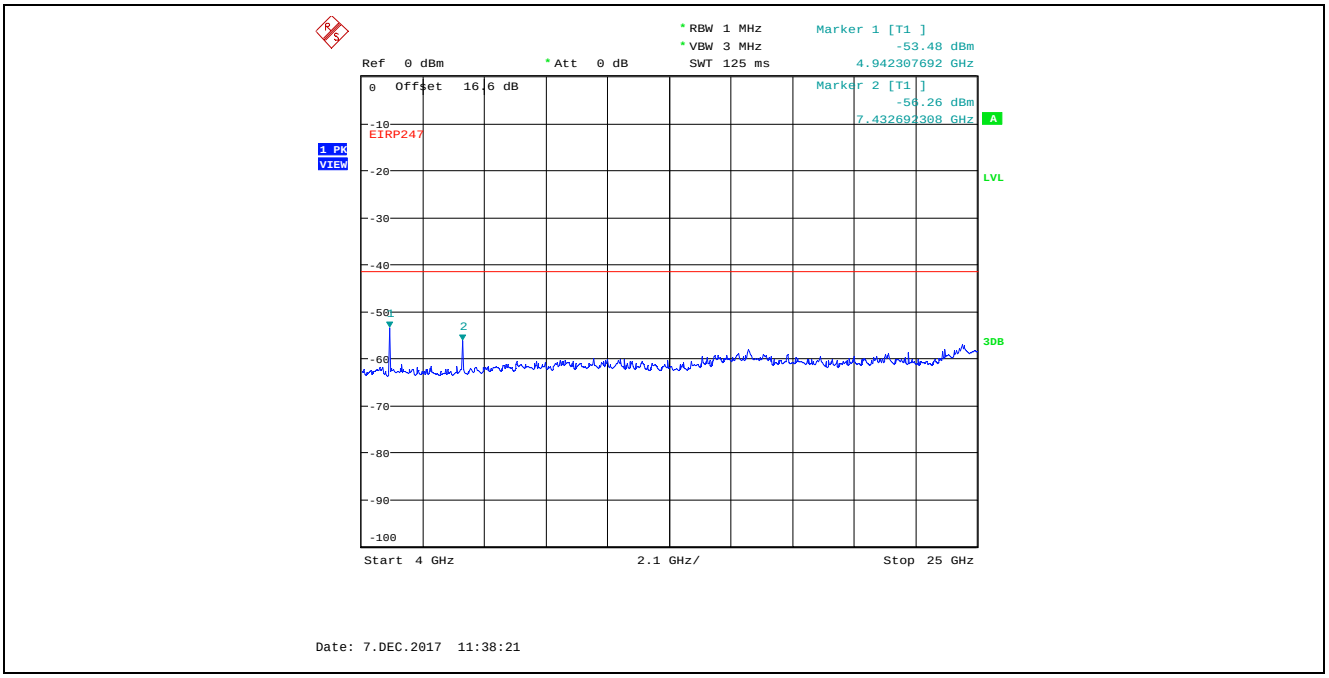

**Plot 5.4.4.4.28.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



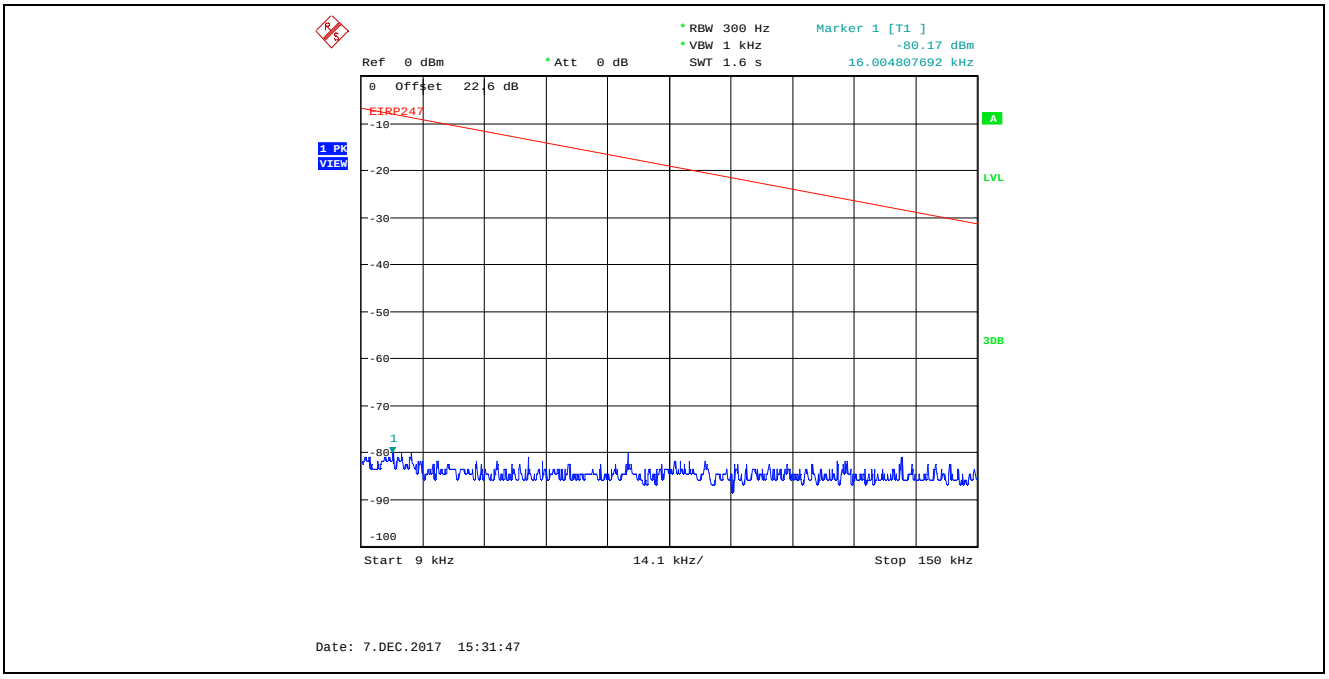
**Plot 5.4.4.4.29.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



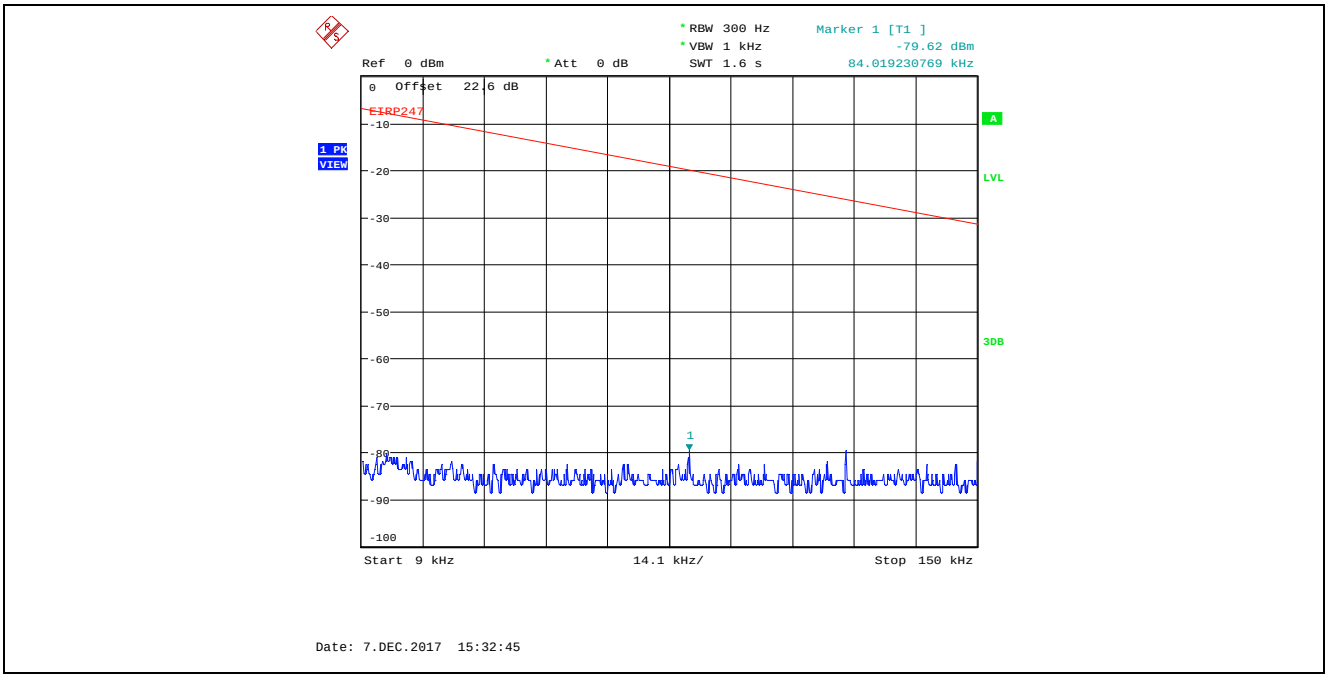

**Plot 5.4.4.4.30.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



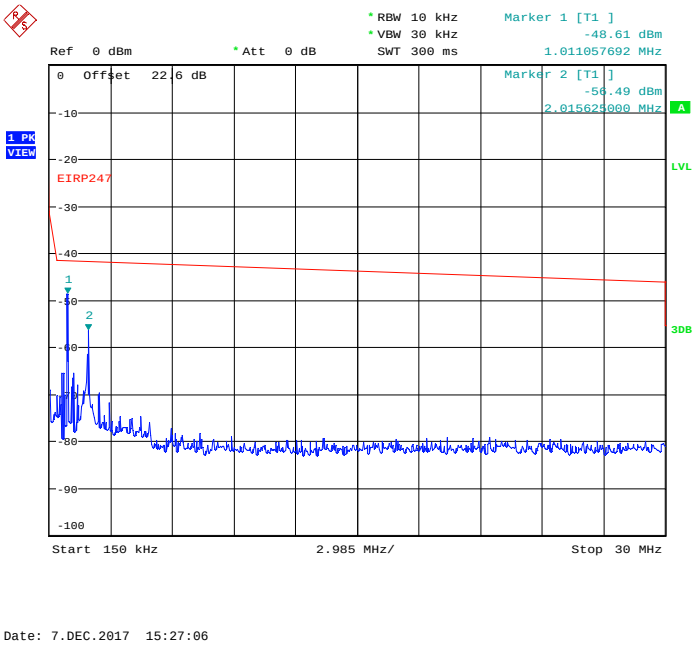
**Plot 5.4.4.4.31.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



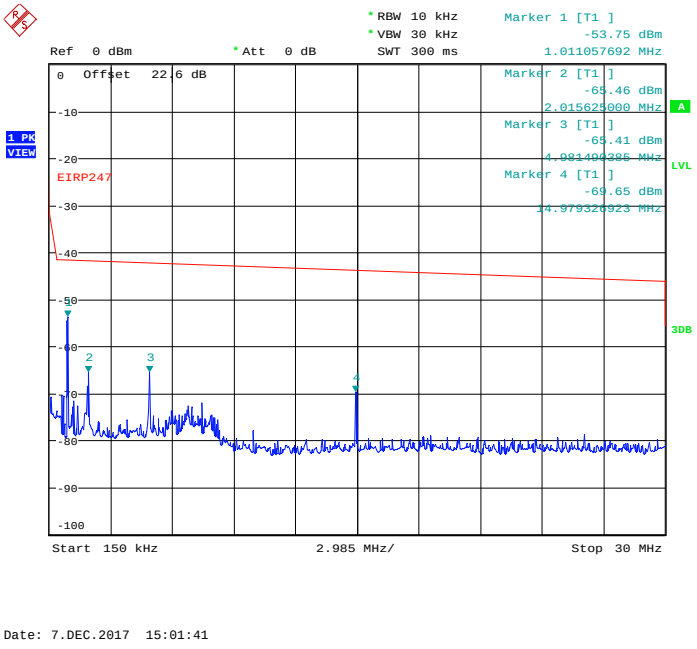

**Plot 5.4.4.4.32.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



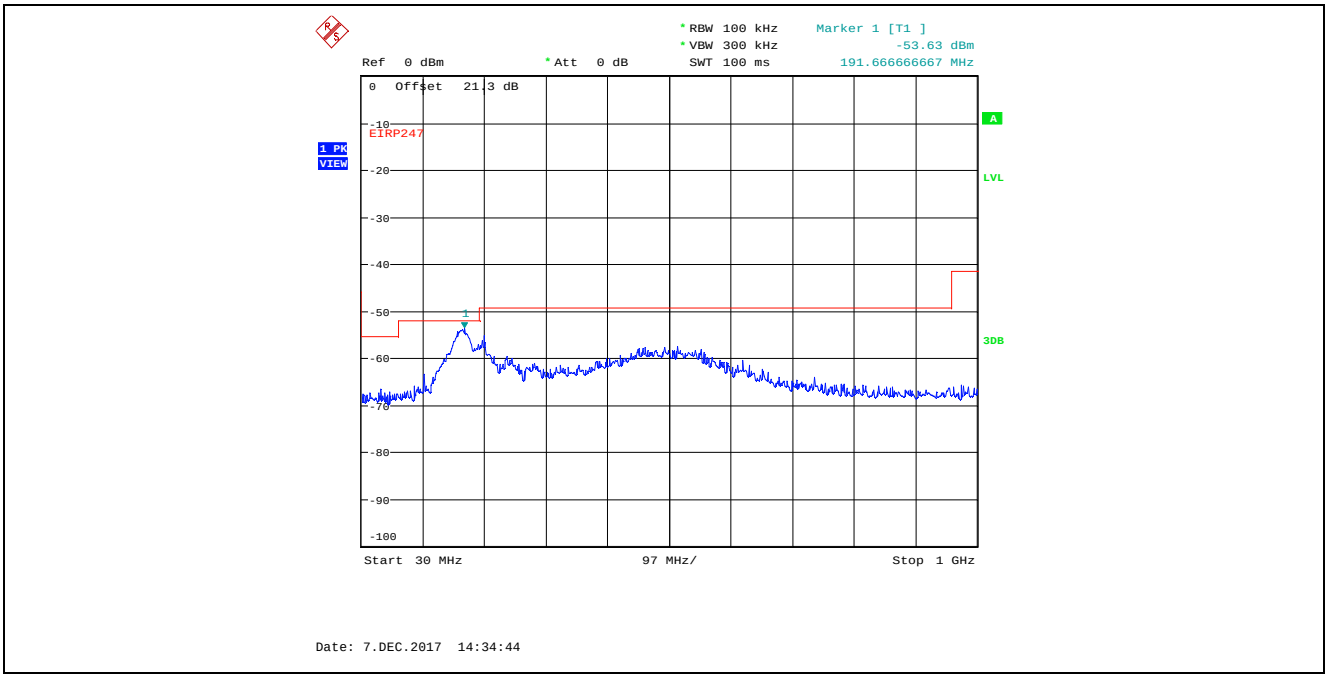
**Plot 5.4.4.4.33.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



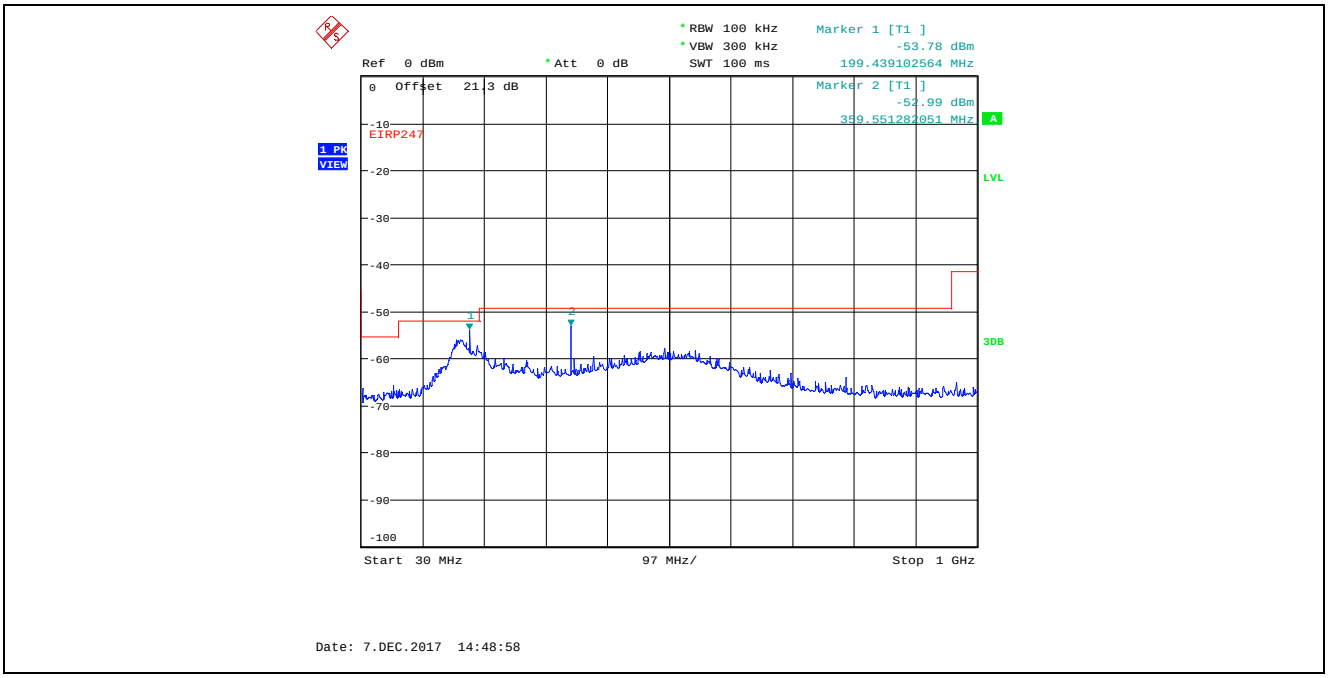

**Plot 5.4.4.4.34.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



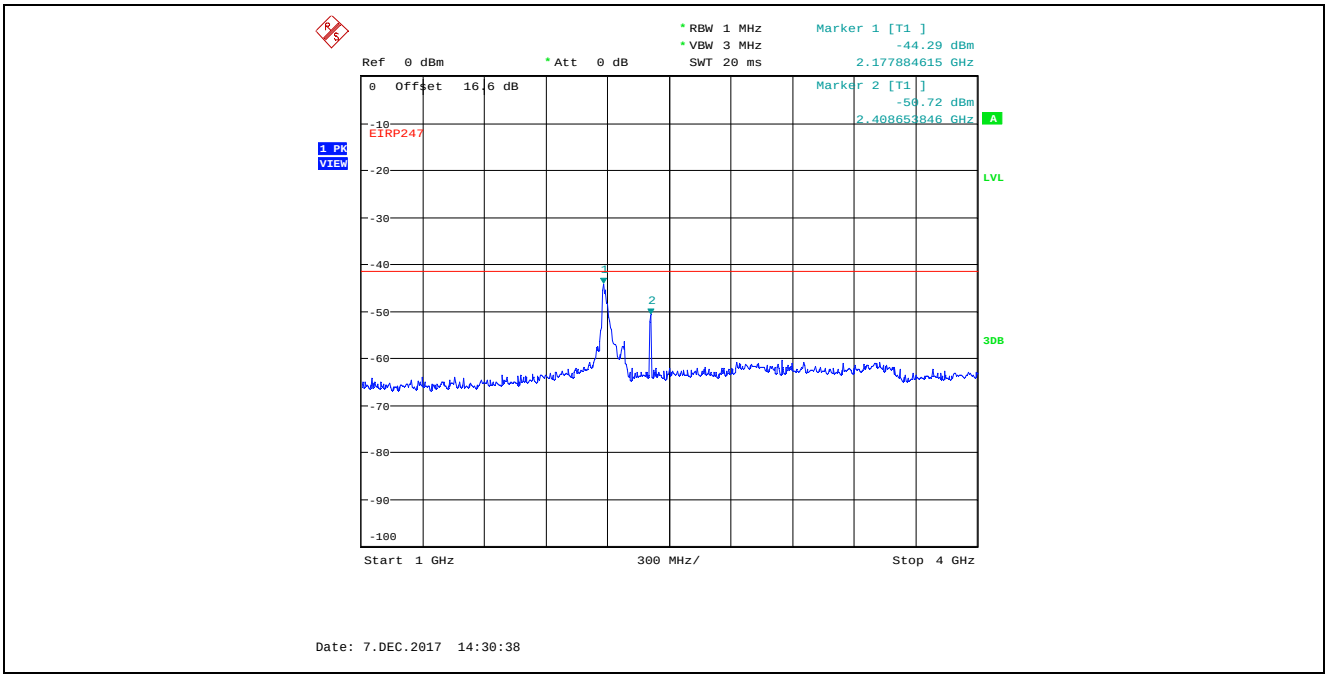
**Plot 5.4.4.4.35.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



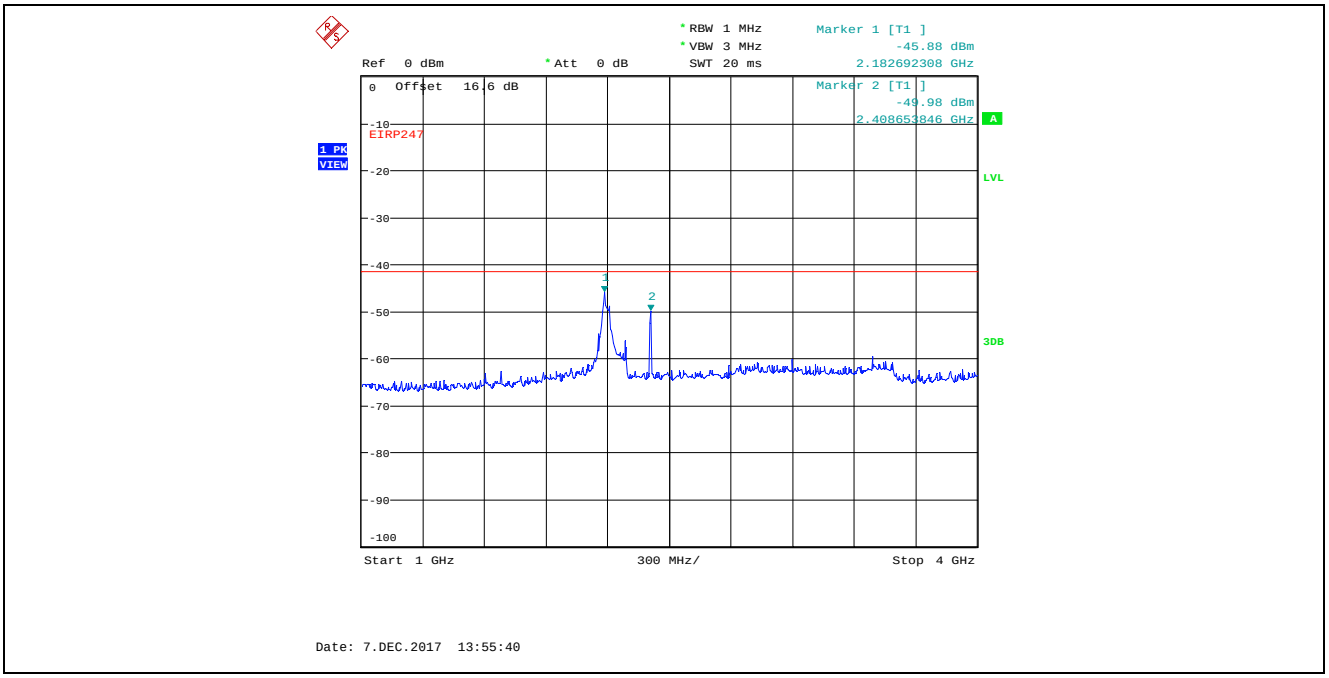

**Plot 5.4.4.4.36.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



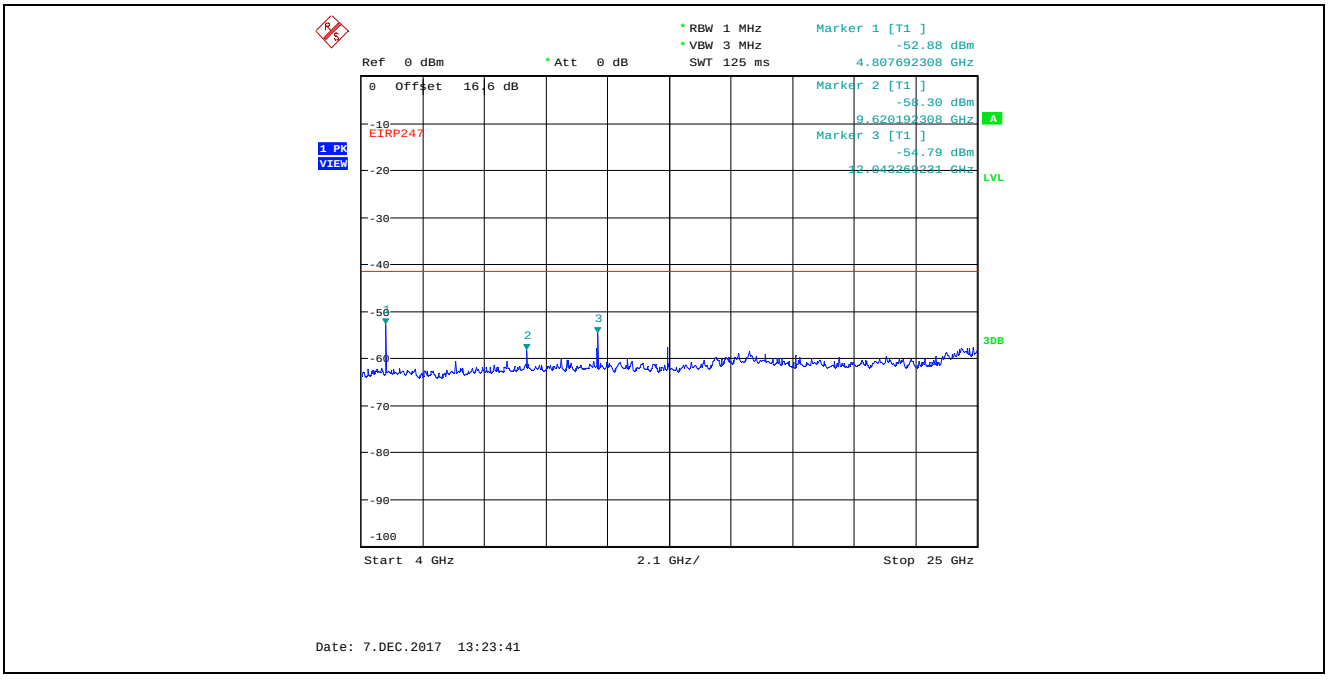
**Plot 5.4.4.4.37.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



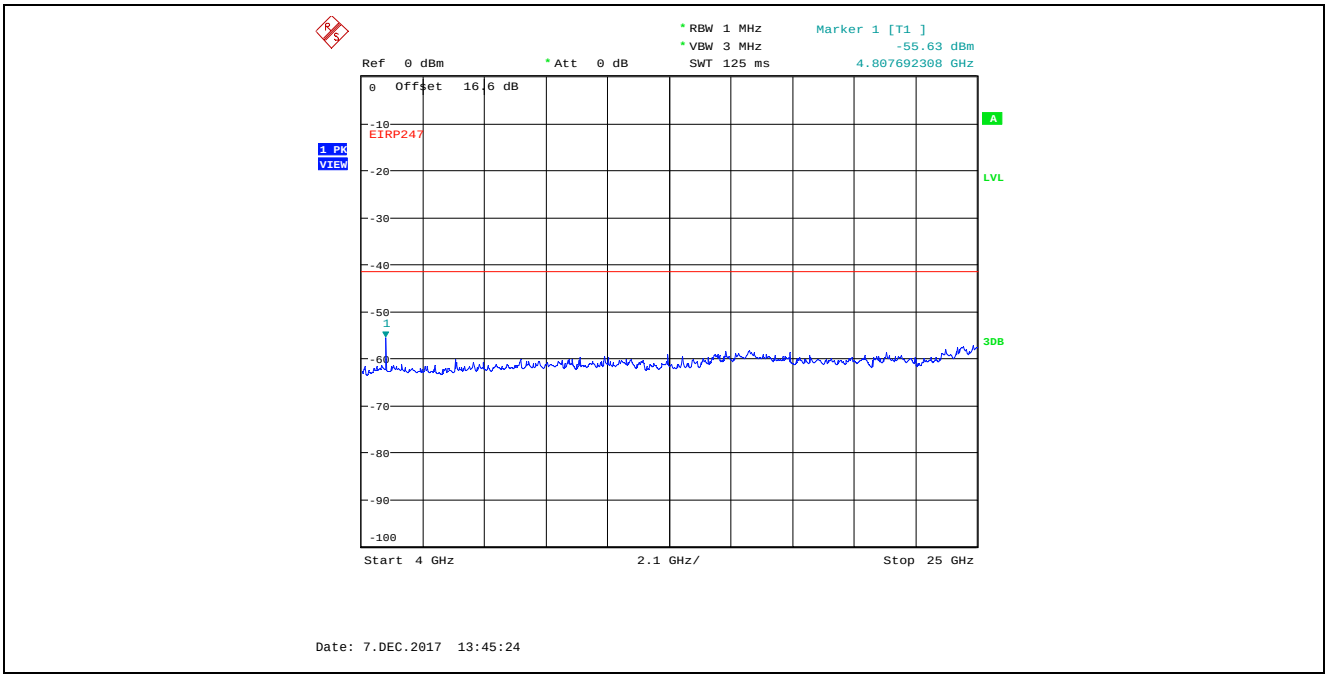

**Plot 5.4.4.4.38.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



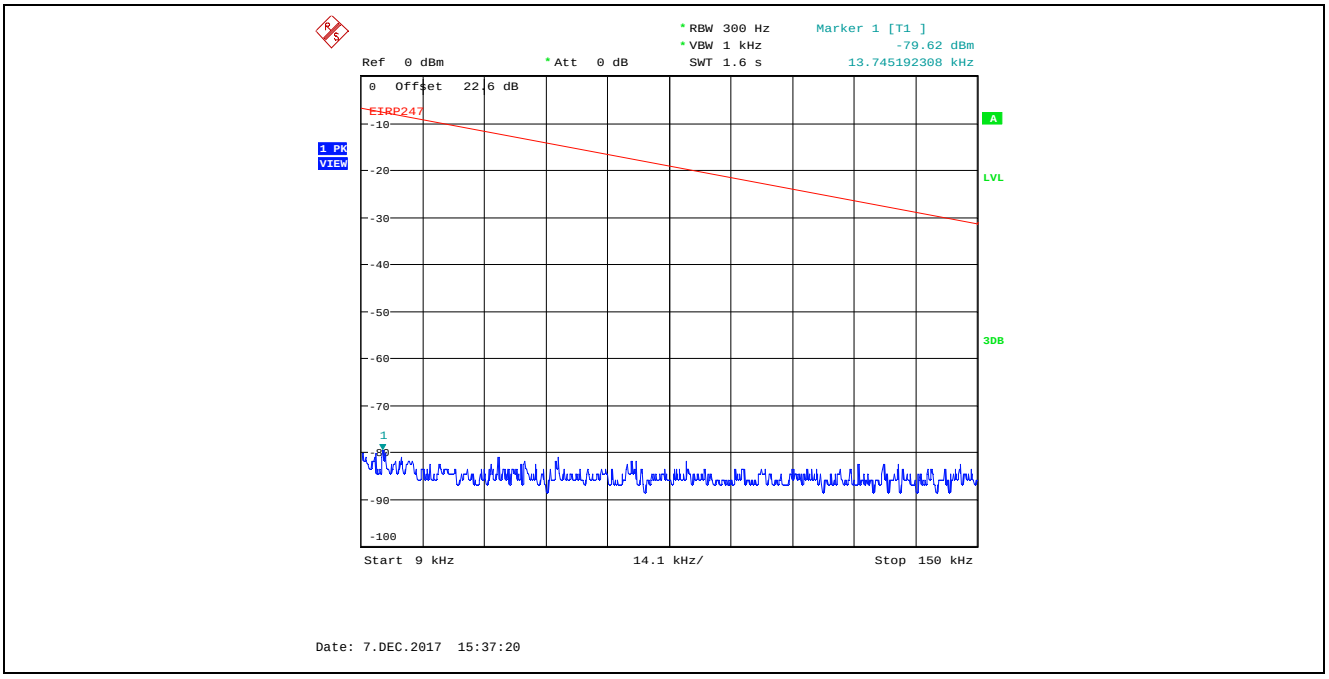
**Plot 5.4.4.4.39.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



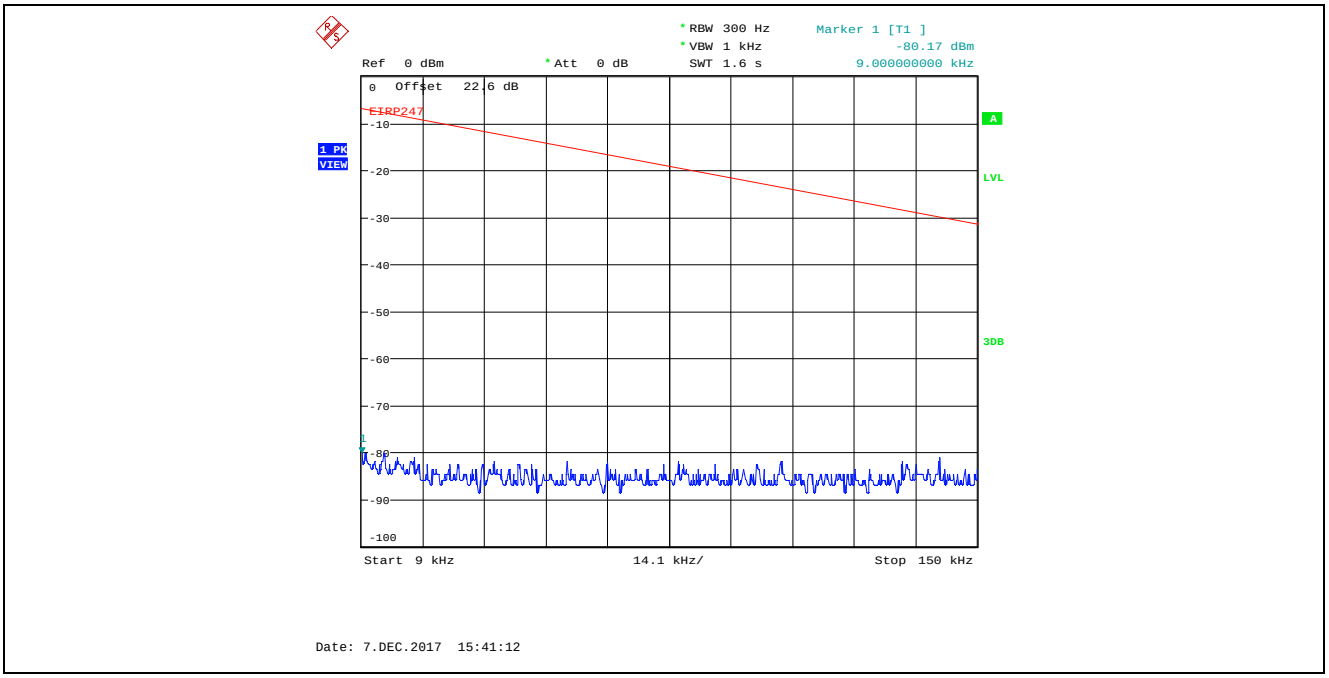

**Plot 5.4.4.4.40.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



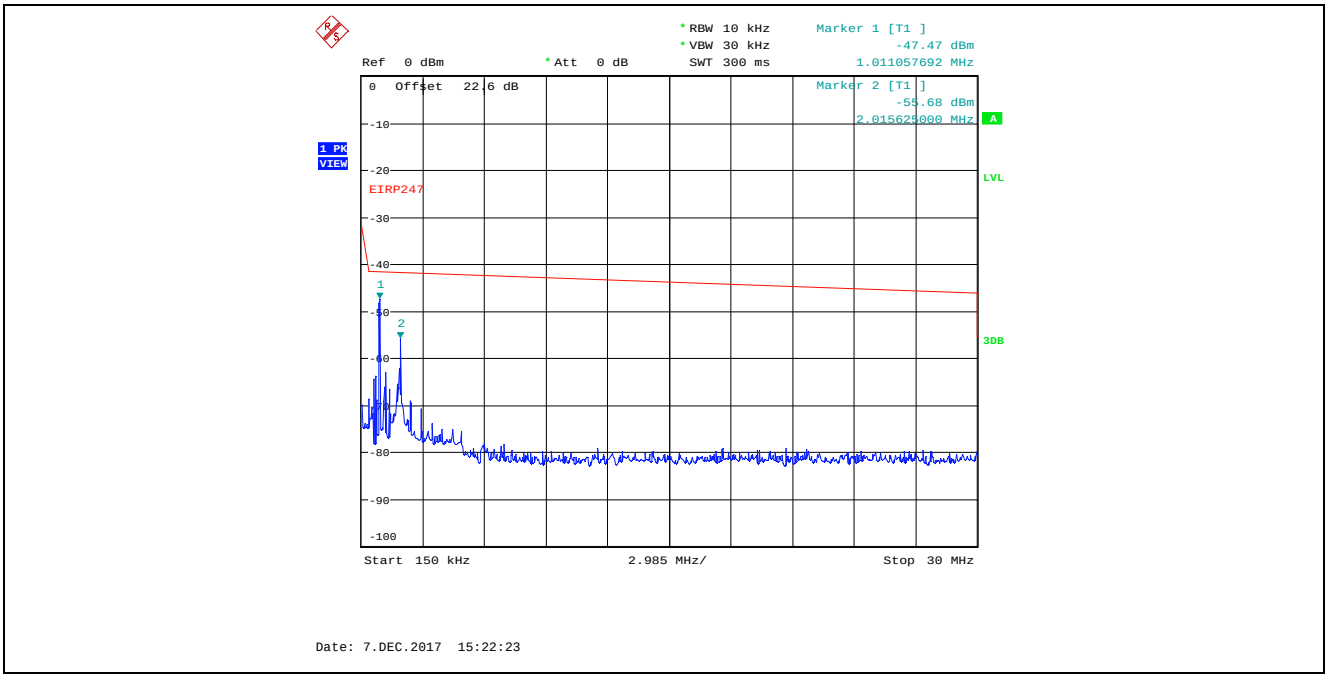
**Plot 5.4.4.4.41.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



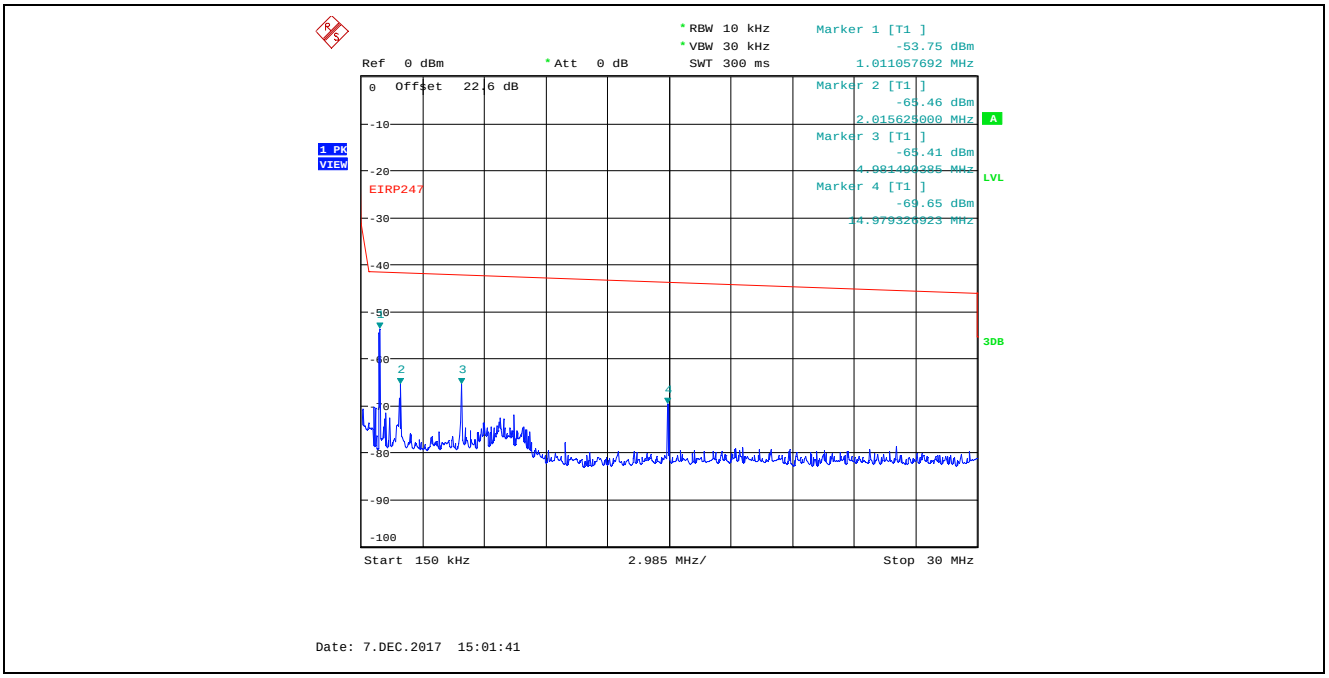

**Plot 5.4.4.4.42.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



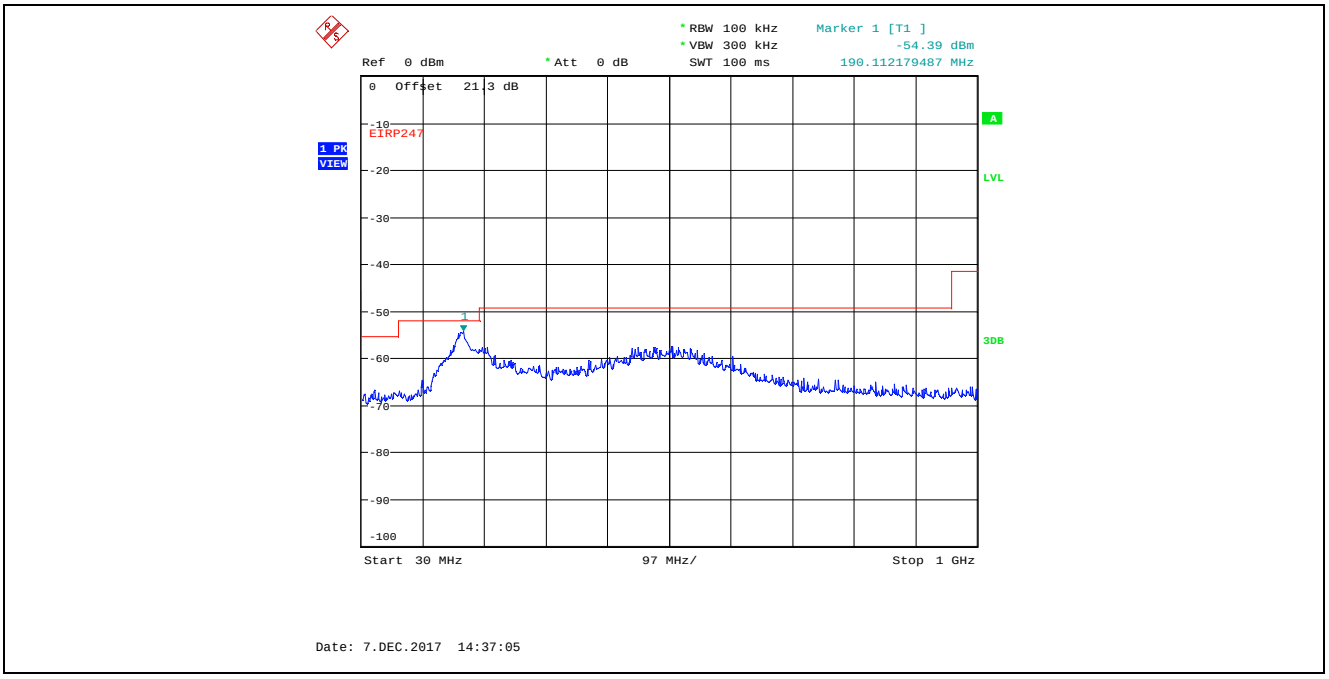
**Plot 5.4.4.4.43.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



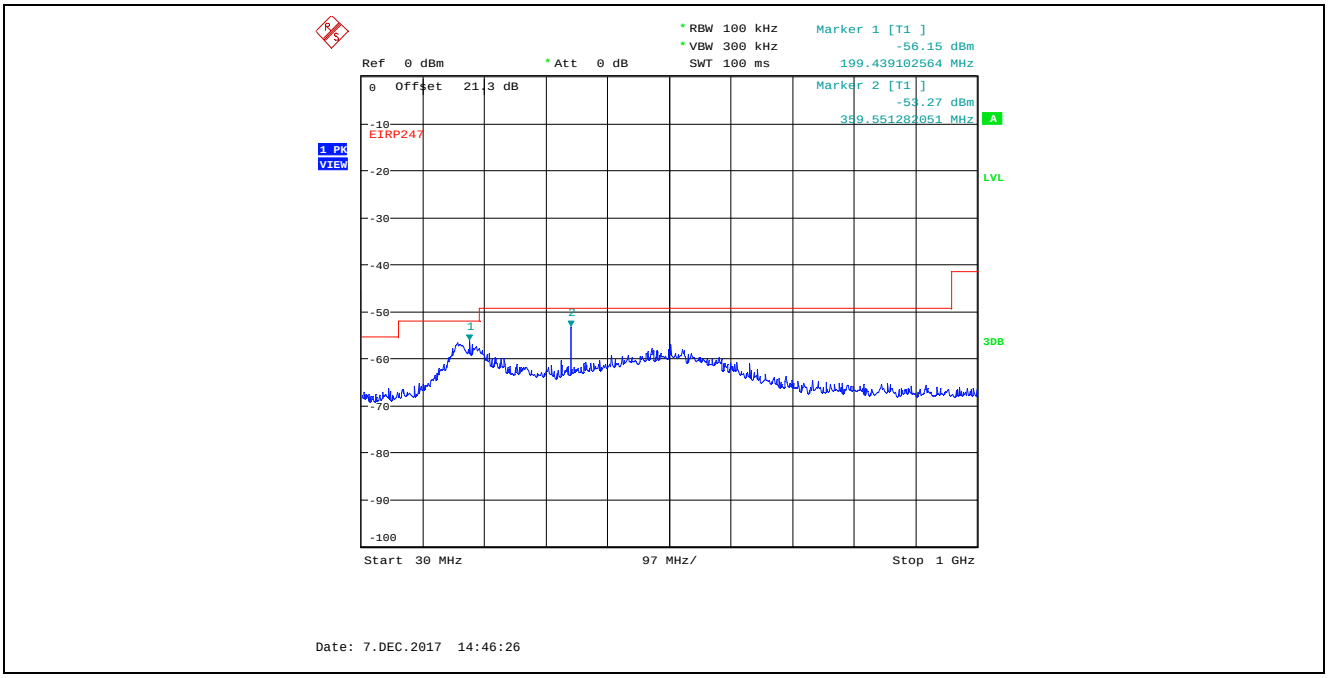

**Plot 5.4.4.4.44.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



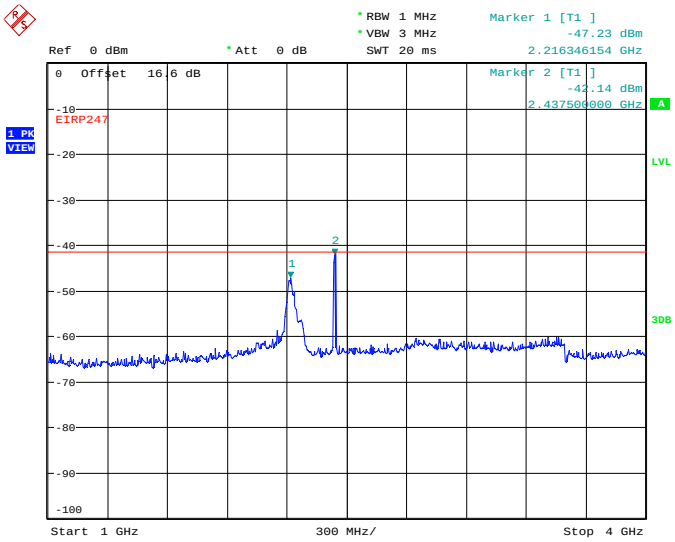
**Plot 5.4.4.4.45.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



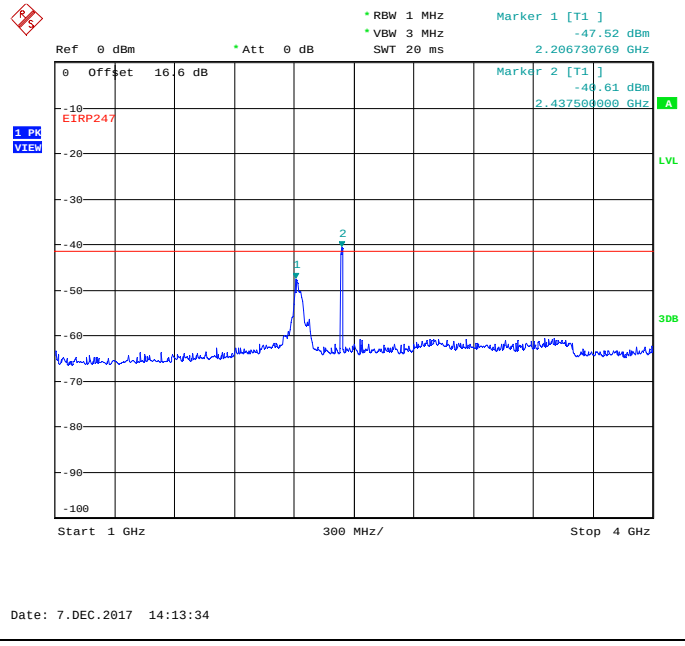

**Plot 5.4.4.4.46.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



**Plot 5.4.4.4.47.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



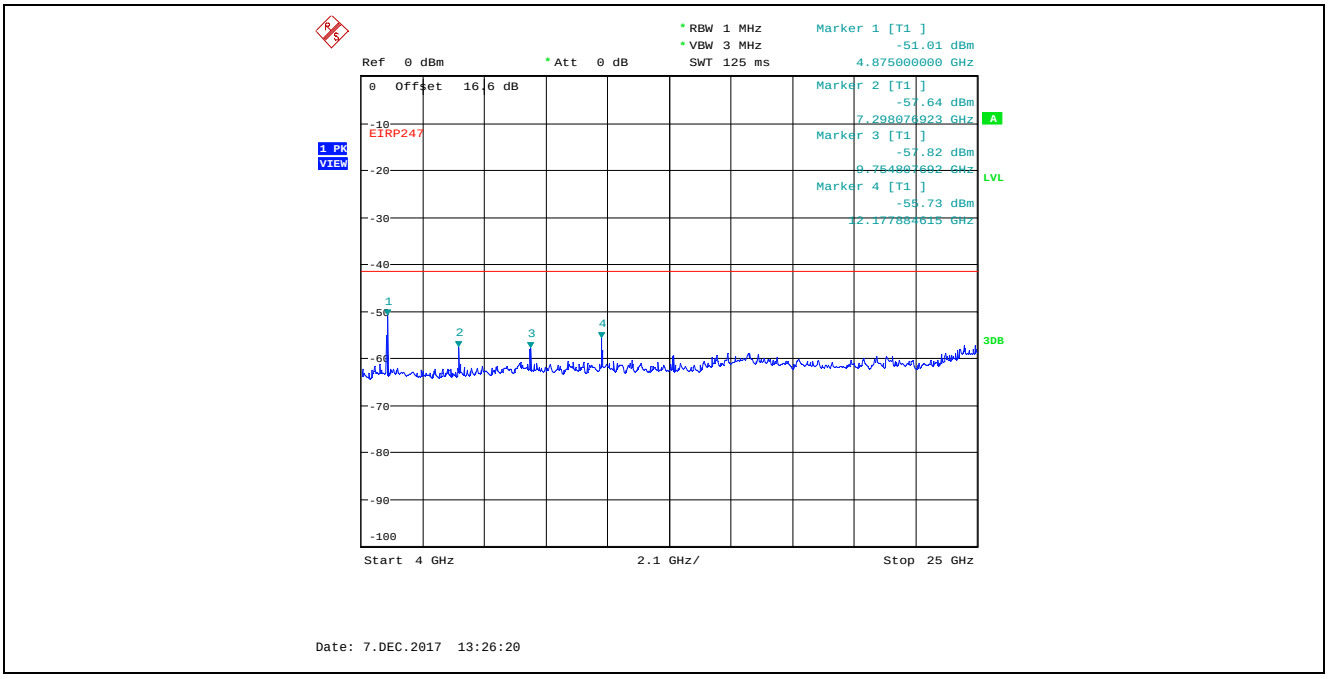

**Plot 5.4.4.4.48.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



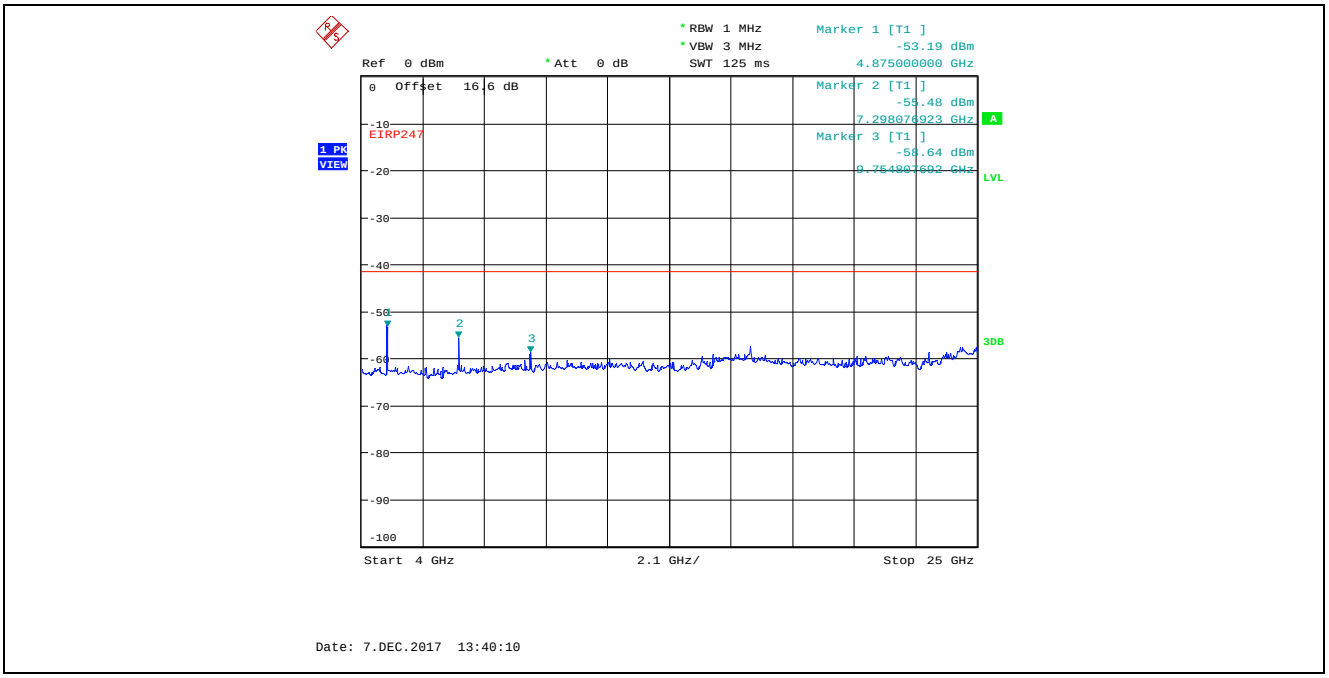



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

**Plot 5.4.4.4.49.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



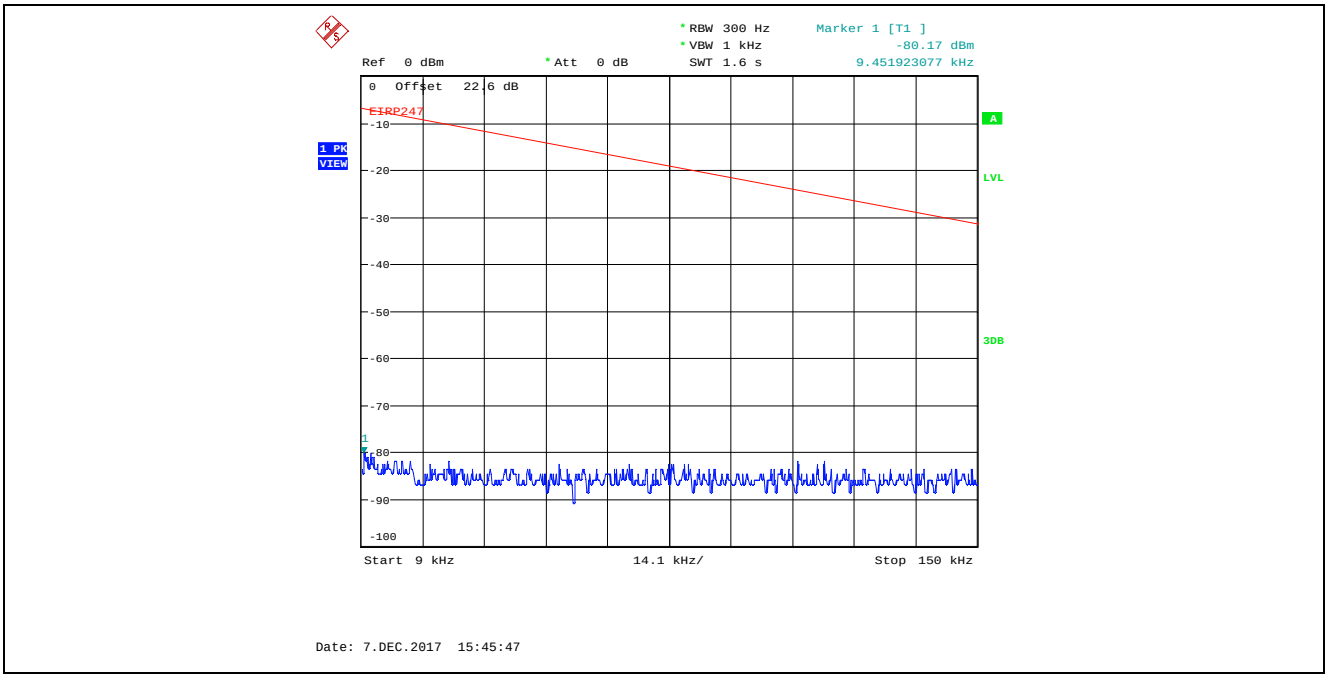

**Plot 5.4.4.4.50.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



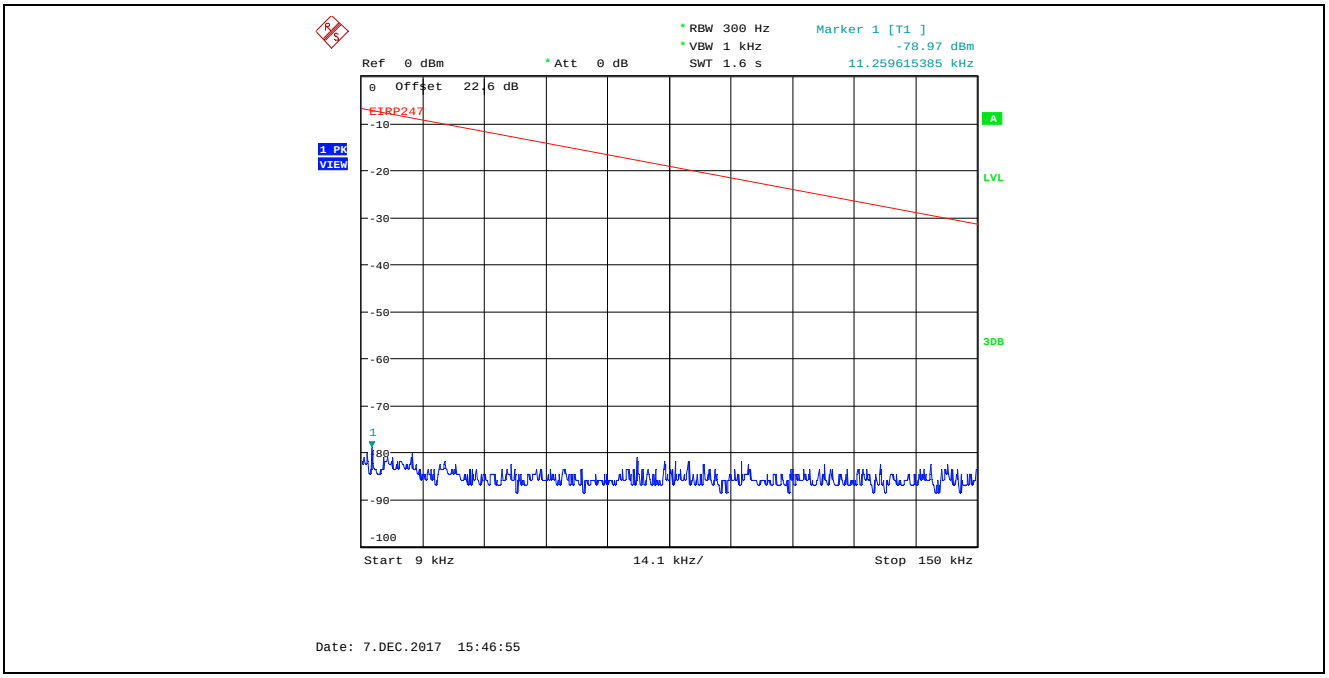



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

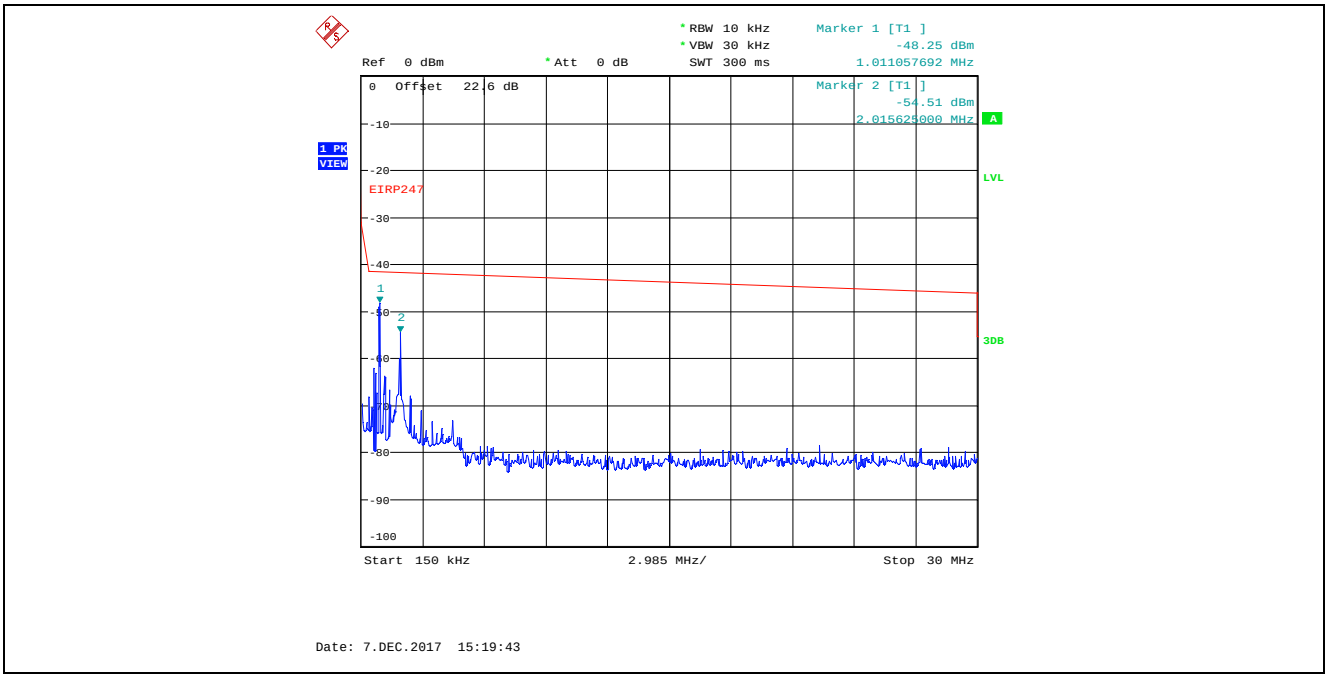
**Plot 5.4.4.4.51.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



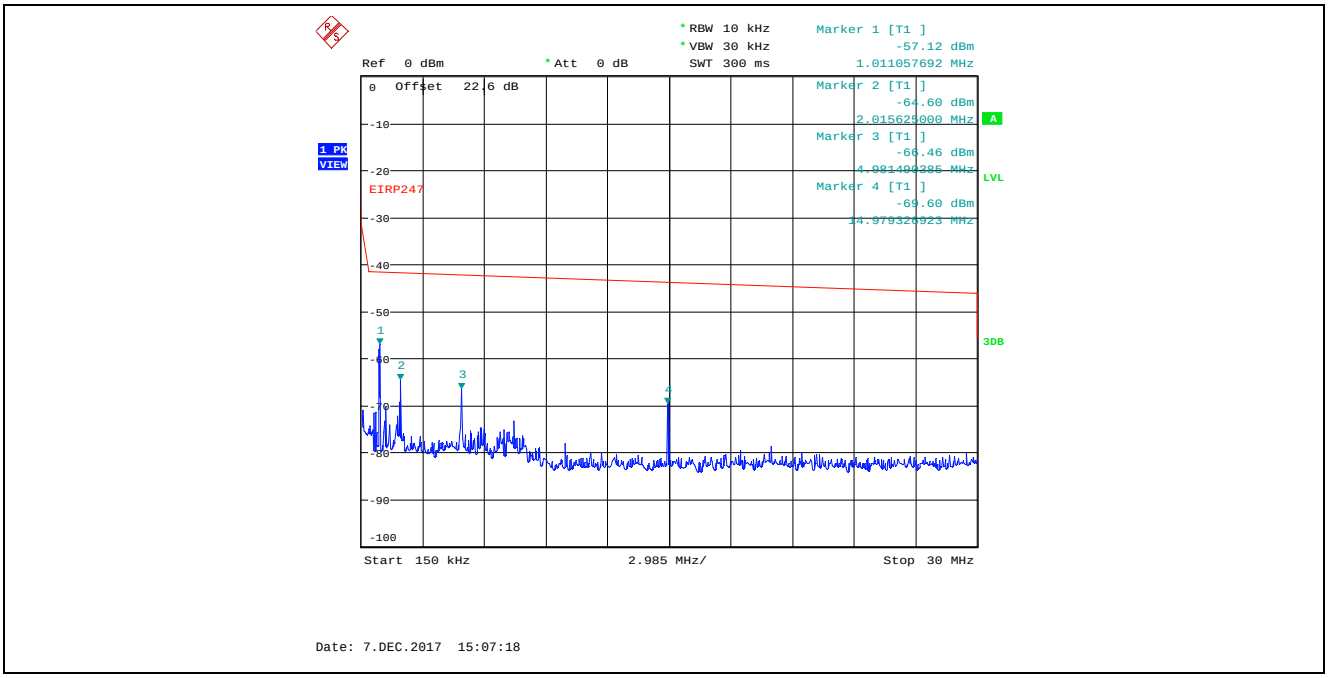

**Plot 5.4.4.4.52.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



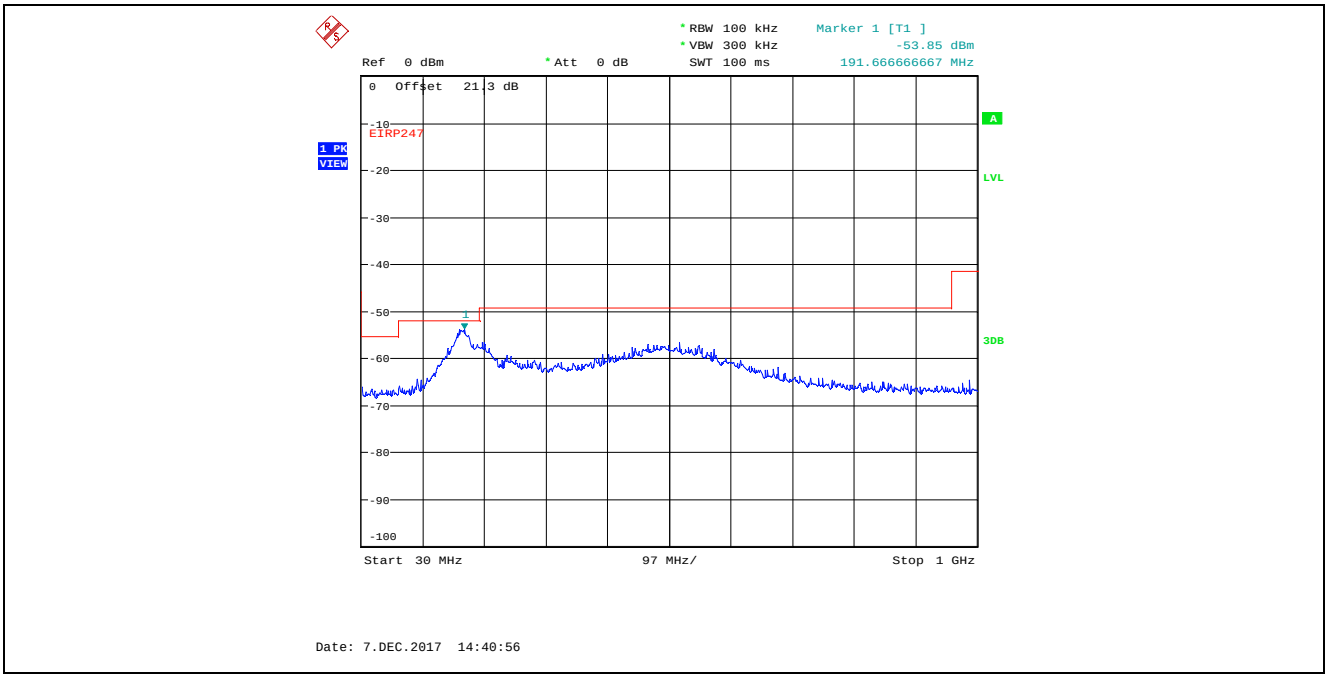
**Plot 5.4.4.4.53.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



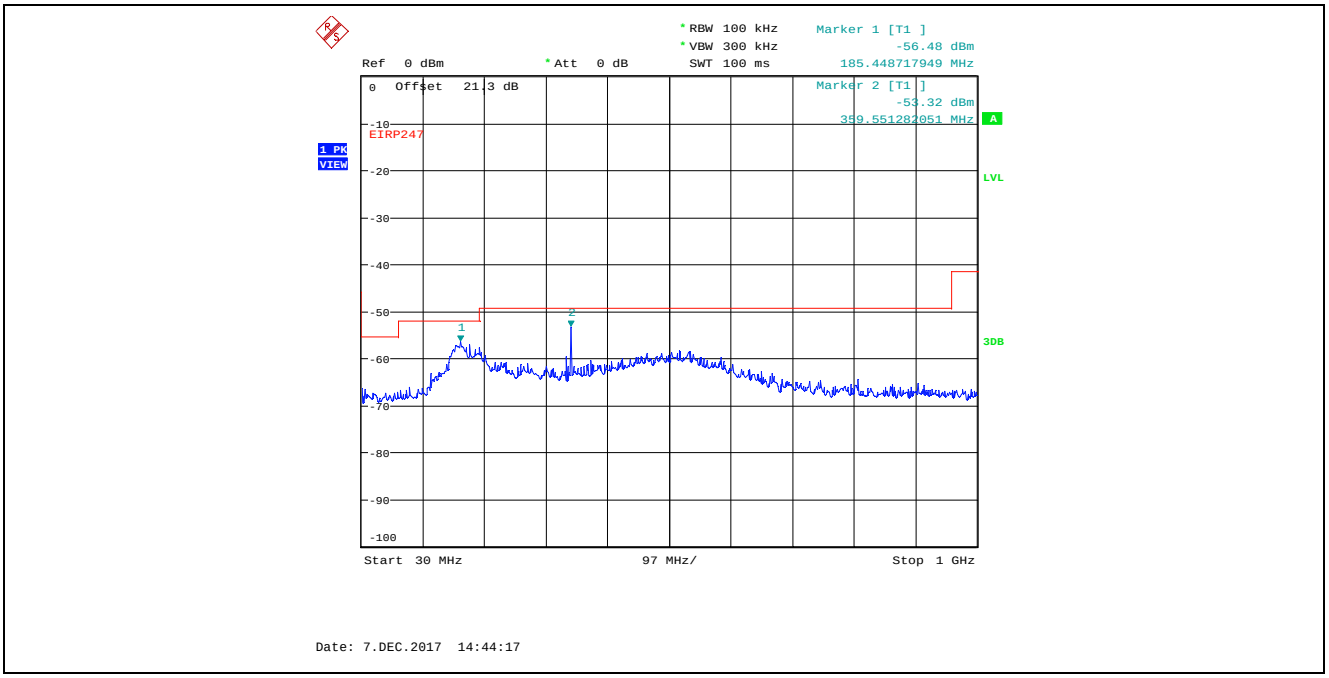

**Plot 5.4.4.4.54.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



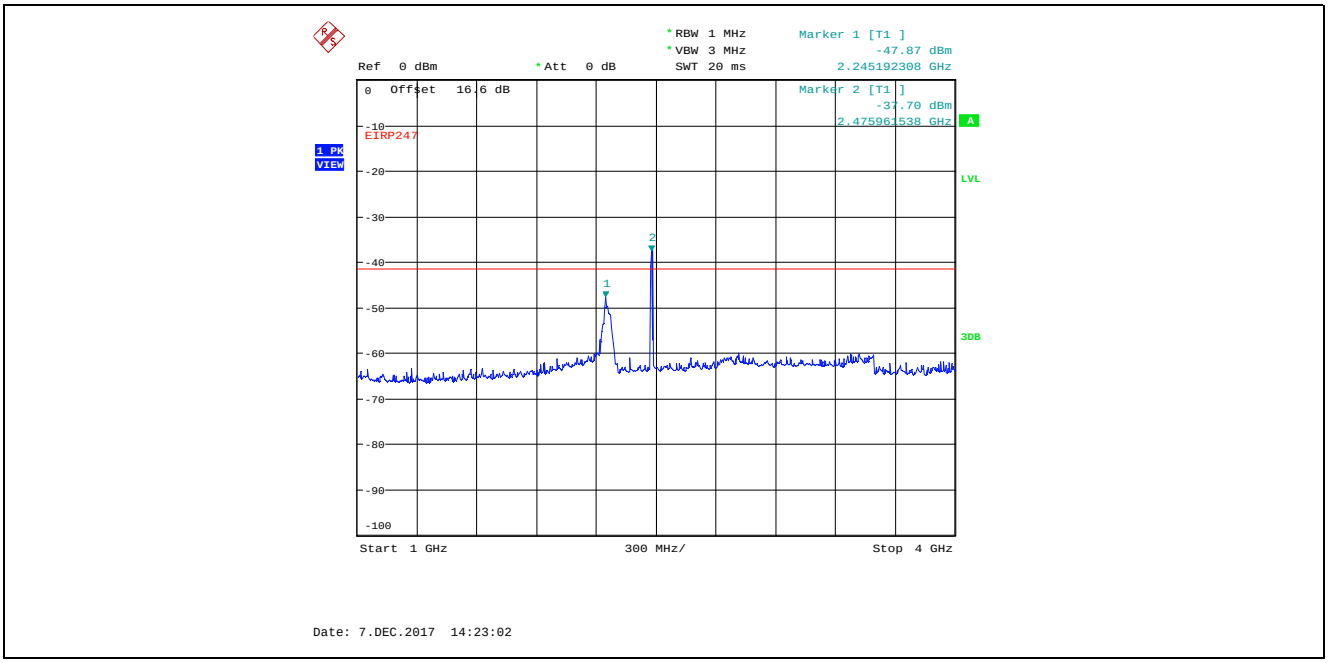
**Plot 5.4.4.4.55.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



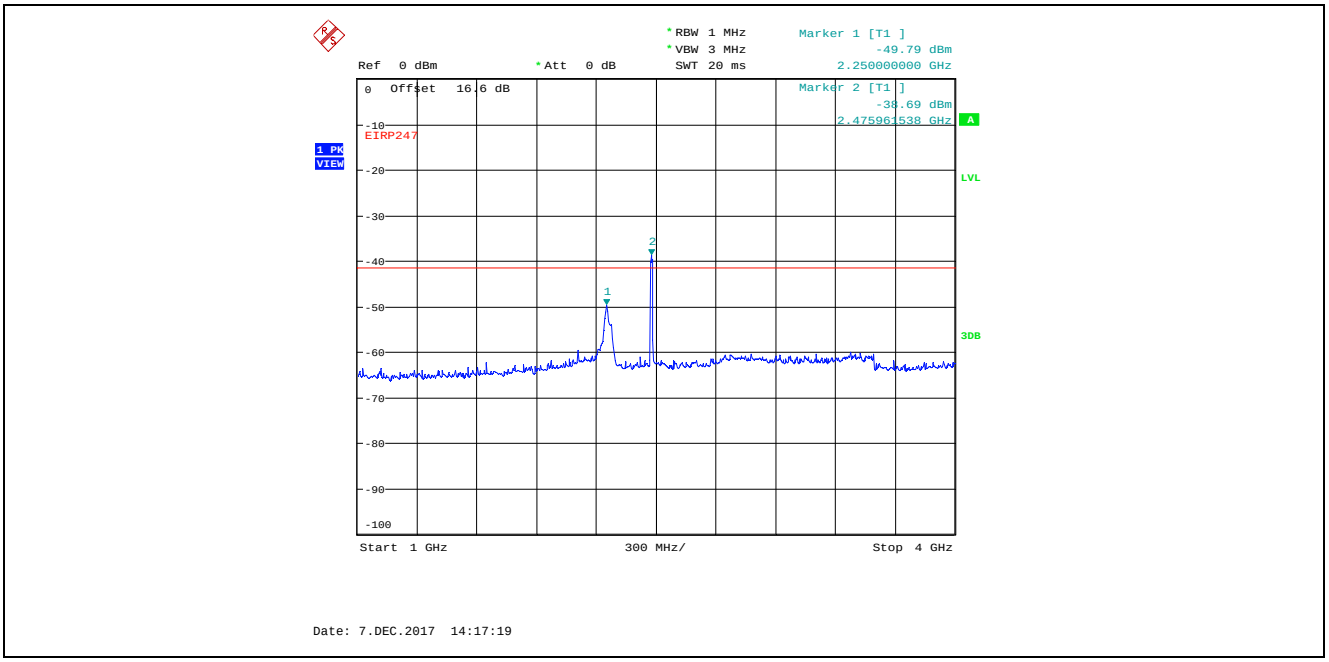

**Plot 5.4.4.4.56.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



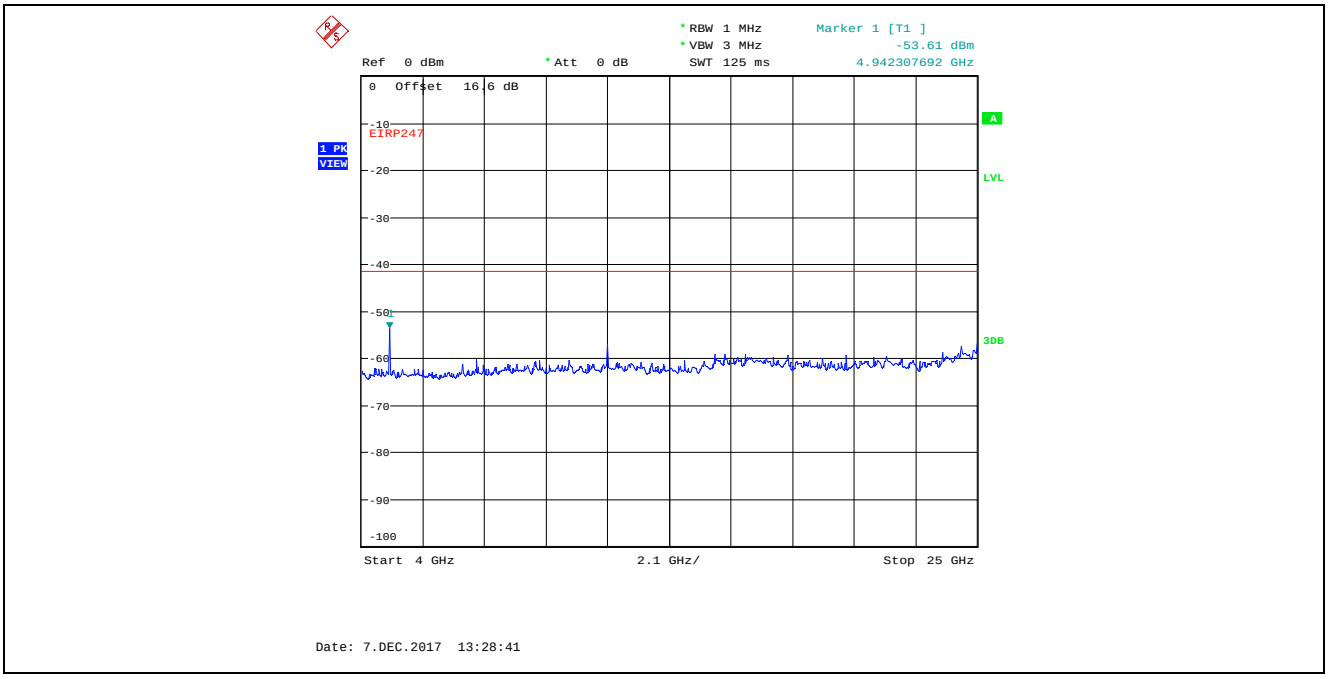
**Plot 5.4.4.4.57.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



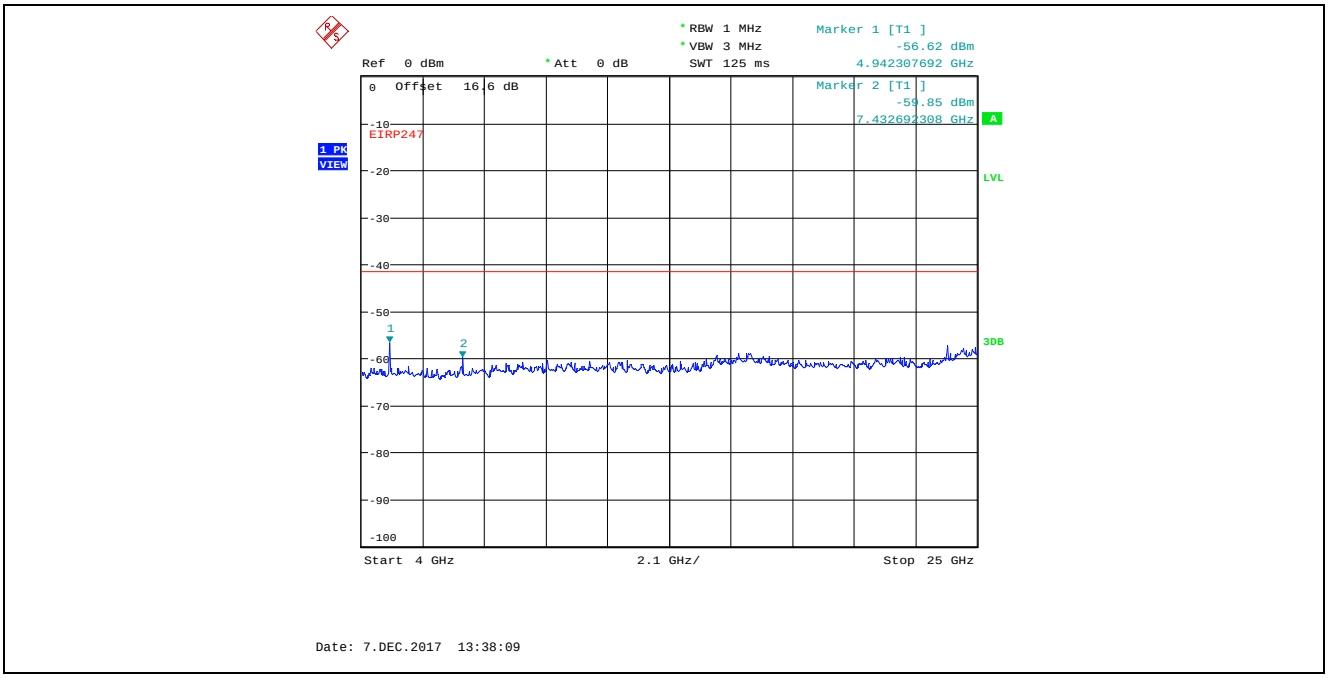

**Plot 5.4.4.4.58.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



**Plot 5.4.4.4.59.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



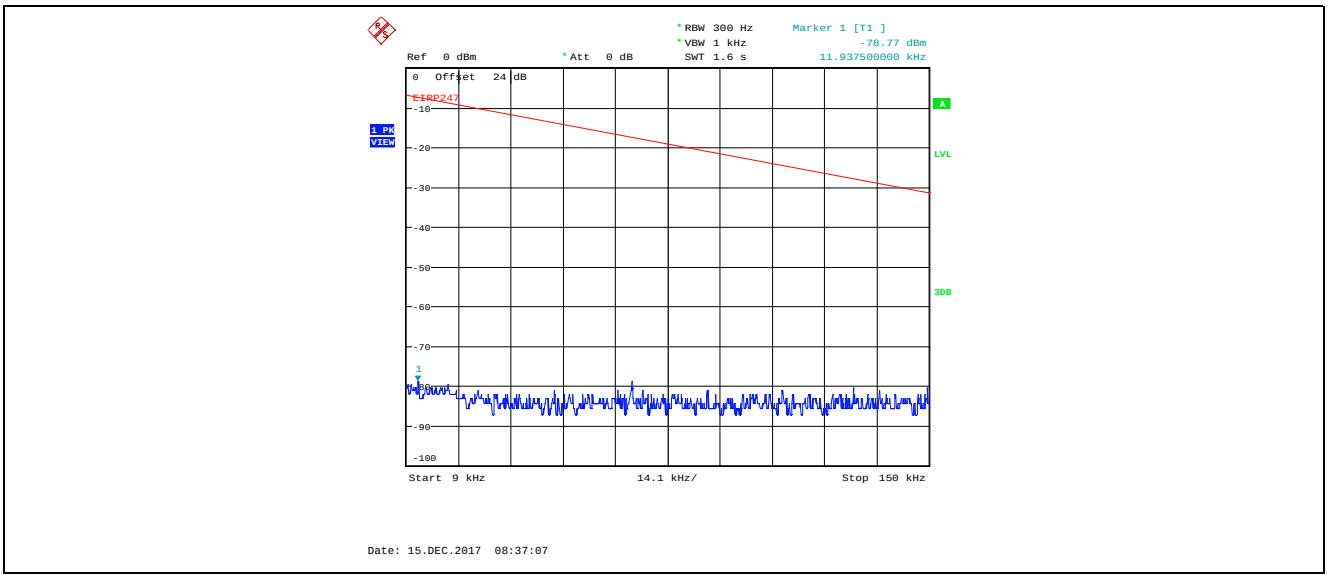

**Plot 5.4.4.4.60.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



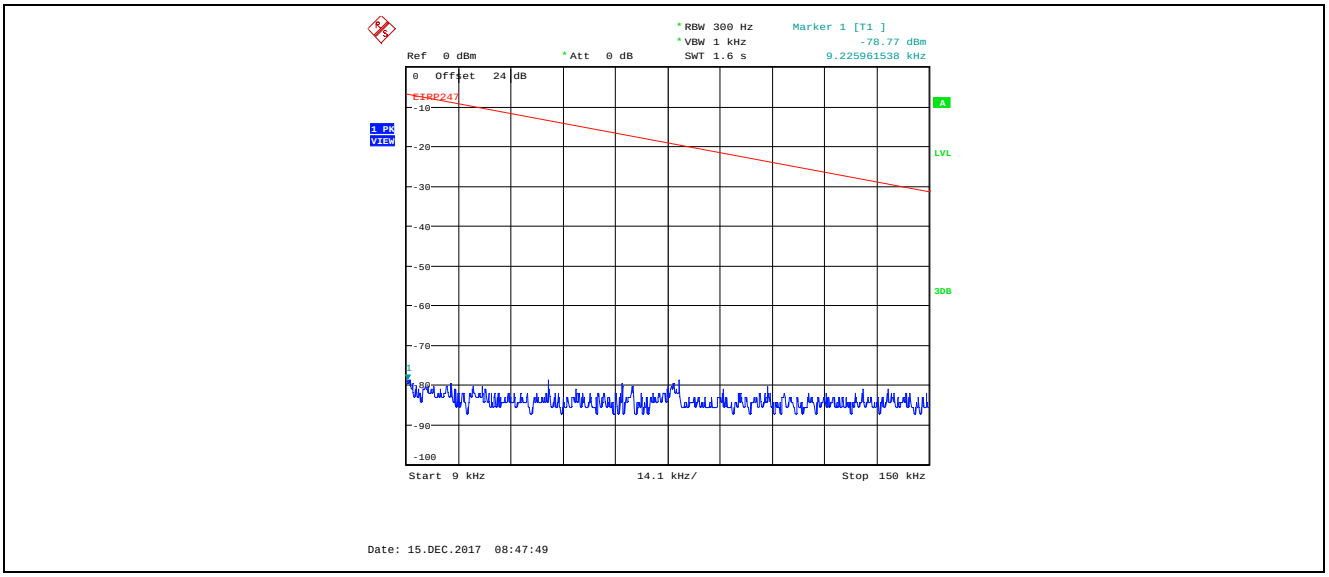
### 5.4.4.5. Conducted Spurious Emissions in Restricted Frequency Bands, Lower Power Setting (TX Gain Setting 8) for Highest Antenna Gain (15 dBi, with Antenna Assembly Gain of 13.27dBi) at Data Rate 3

**Remark**: Offset = [Insertion Loss] + [Directional Gain (EUT Antenna Gain + 10*Log(2) in dBi)] + [Maximum Ground Reflection Factor (6dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz)]

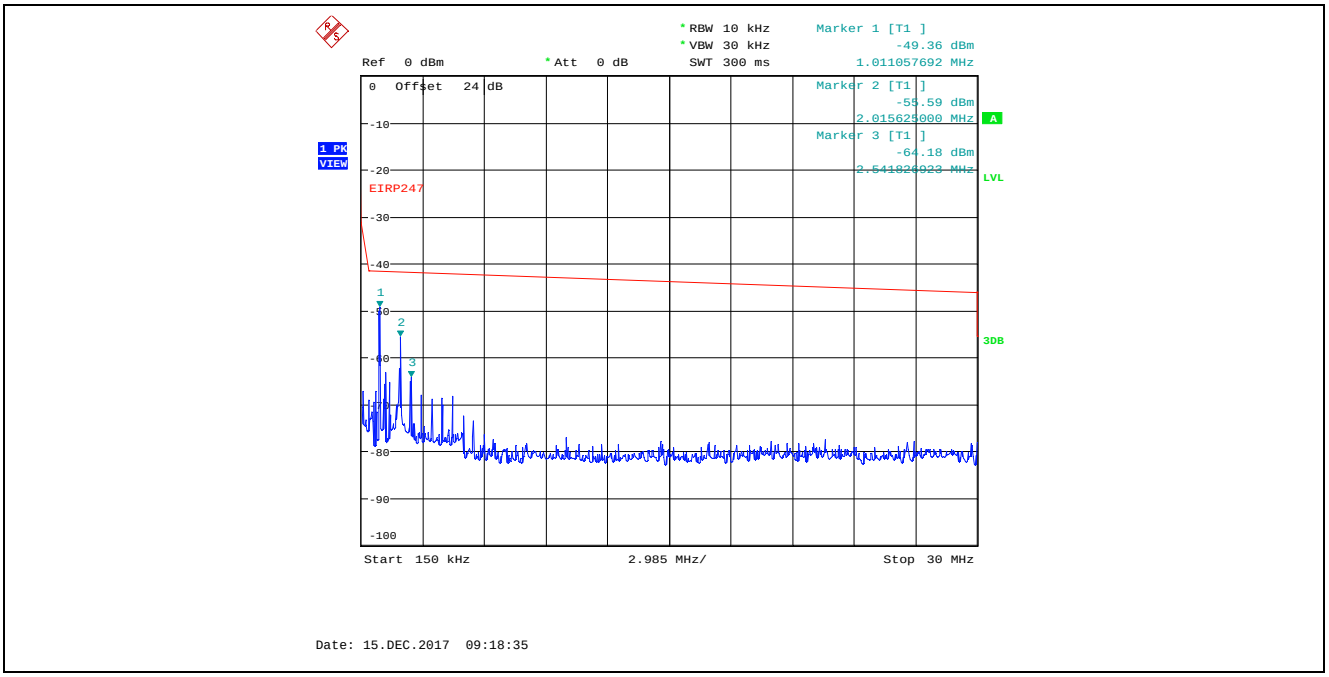
**Plot 5.4.4.5.1.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



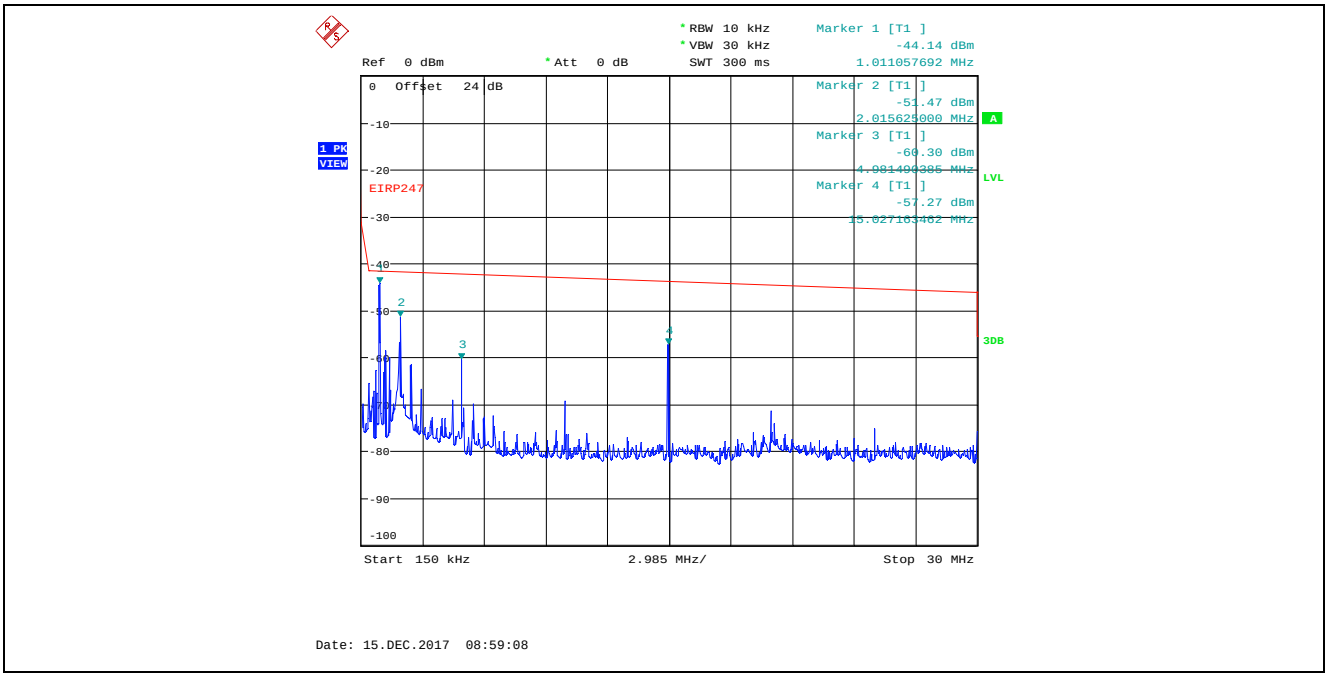

**Plot 5.4.4.5.2.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



**Plot 5.4.4.5.3.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



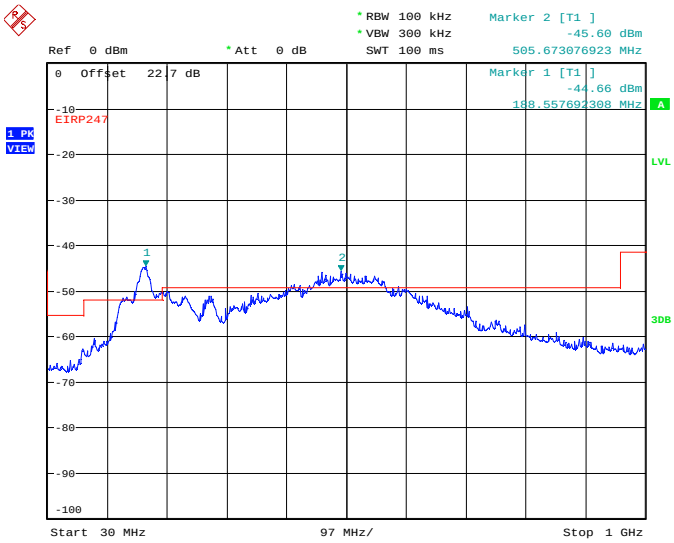

**Plot 5.4.4.5.4.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



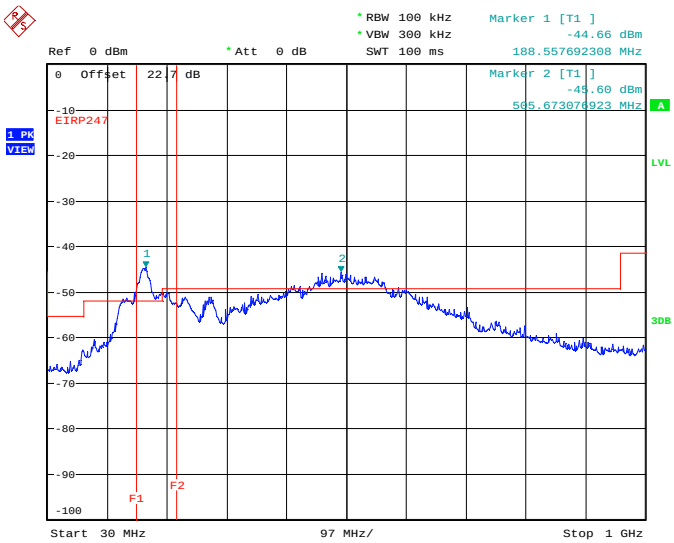



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

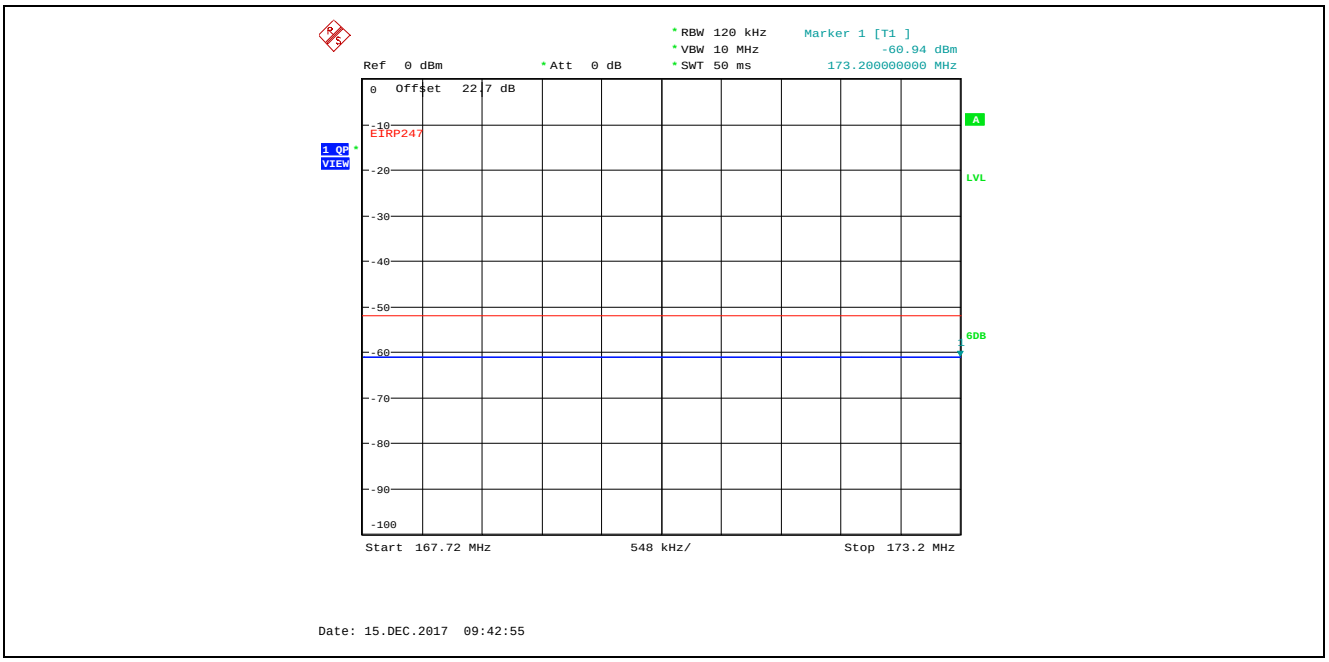
**Plot 5.4.4.5.5.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



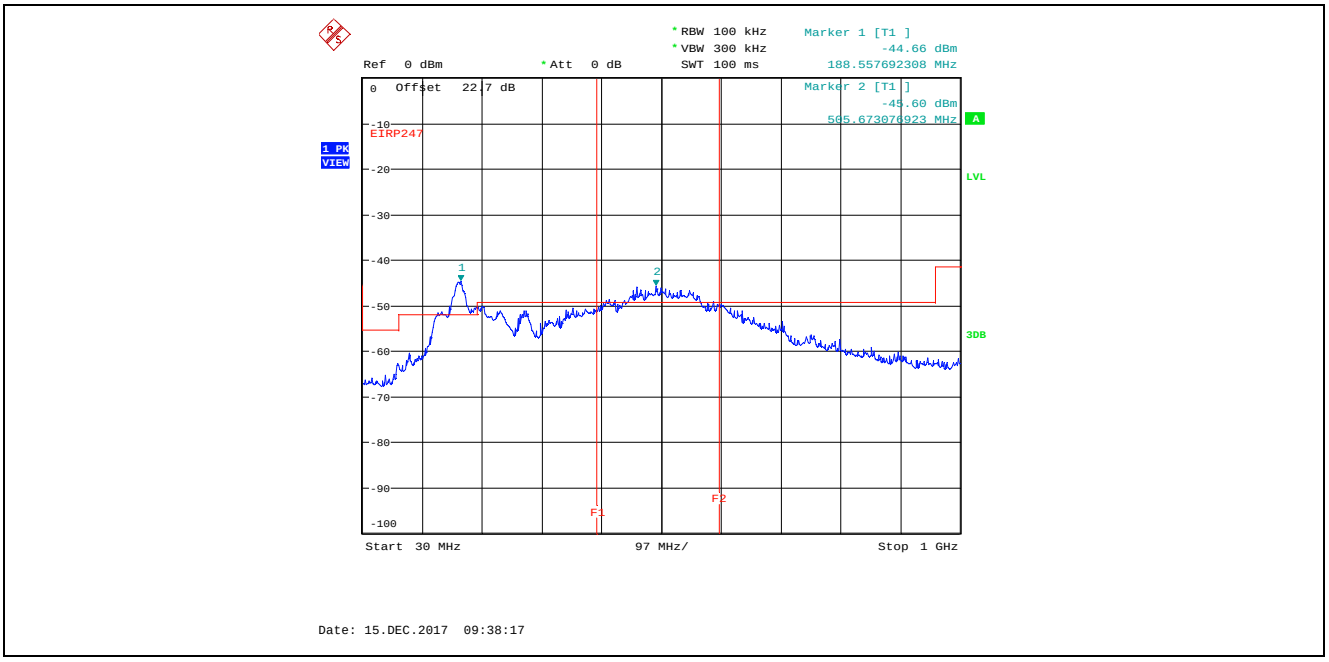

**Plot 5.4.4.5.6.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1(173.2MHz) to F2 (240MHz) Band is Outside of Restricted Bands



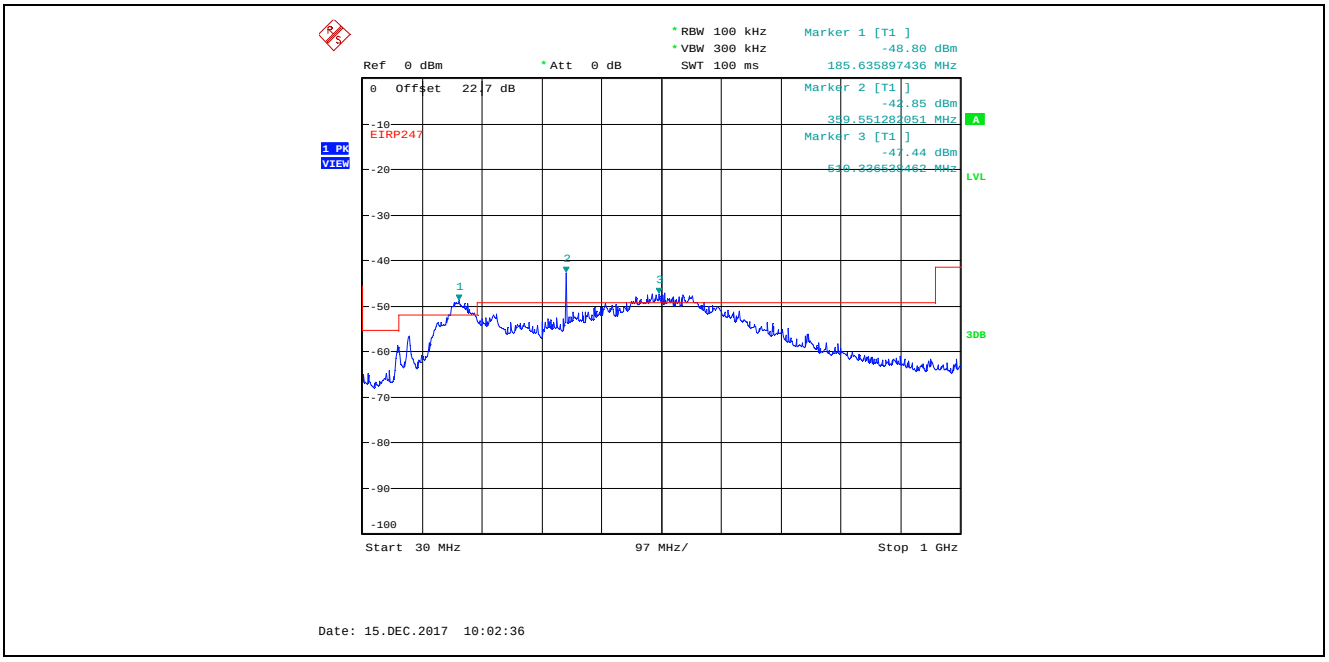
**Plot 5.4.4.5.7.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
167.72-173.2 MHz Restricted Band, QP Detector



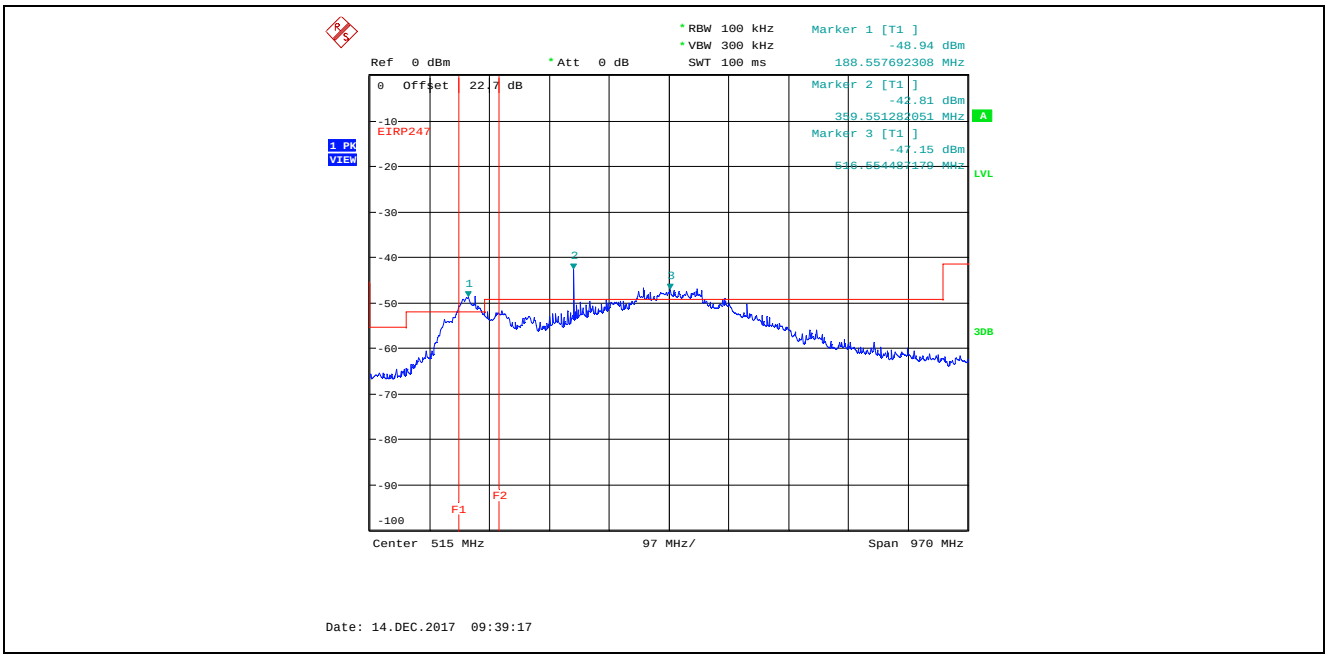

**Plot 5.4.4.5.8.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



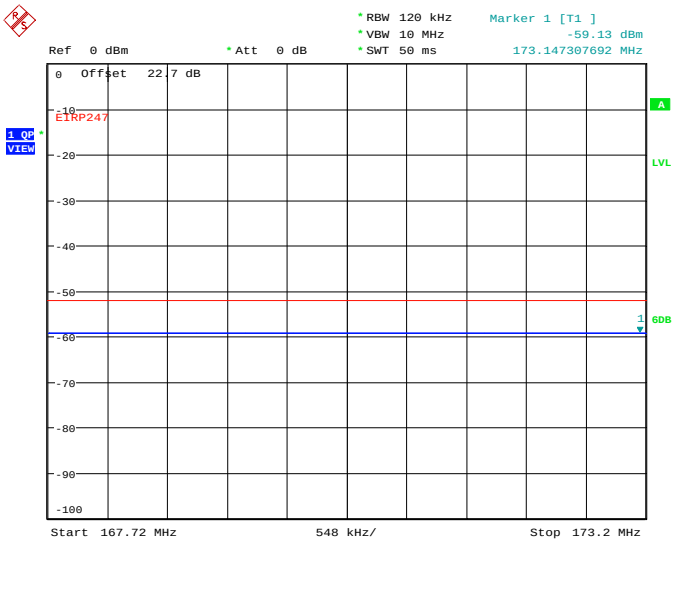
**Plot 5.4.4.5.9.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



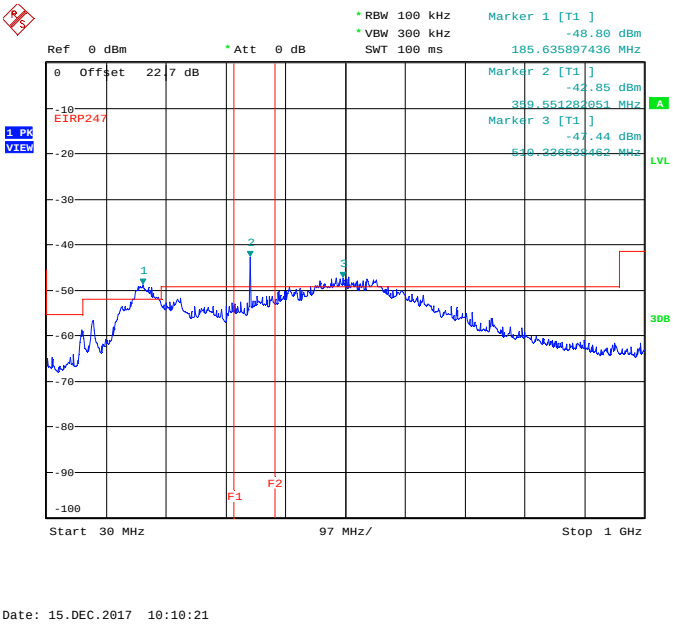

**Plot 5.4.4.5.10.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (173.2 MHz) to F2 (240 MHz) Band is Outside of the Restricted Bands



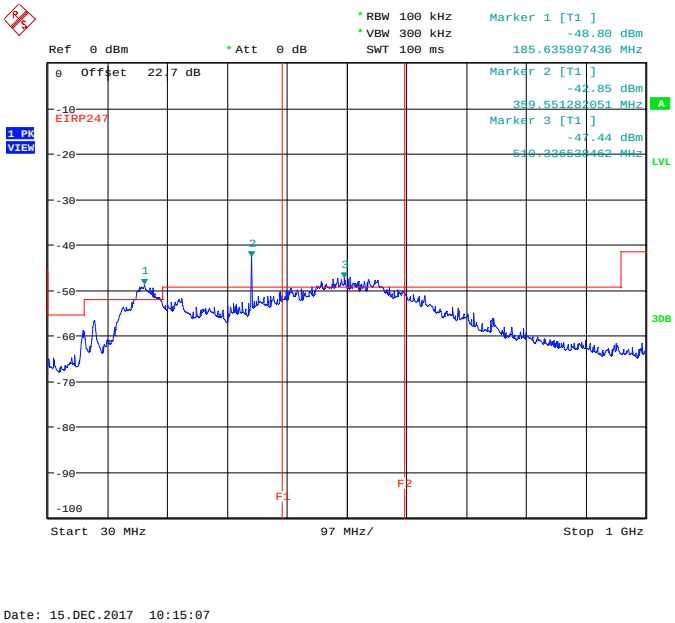
**Plot 5.4.4.5.11.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
167.72 - 173.2 MHz Restricted Band, QP Detector



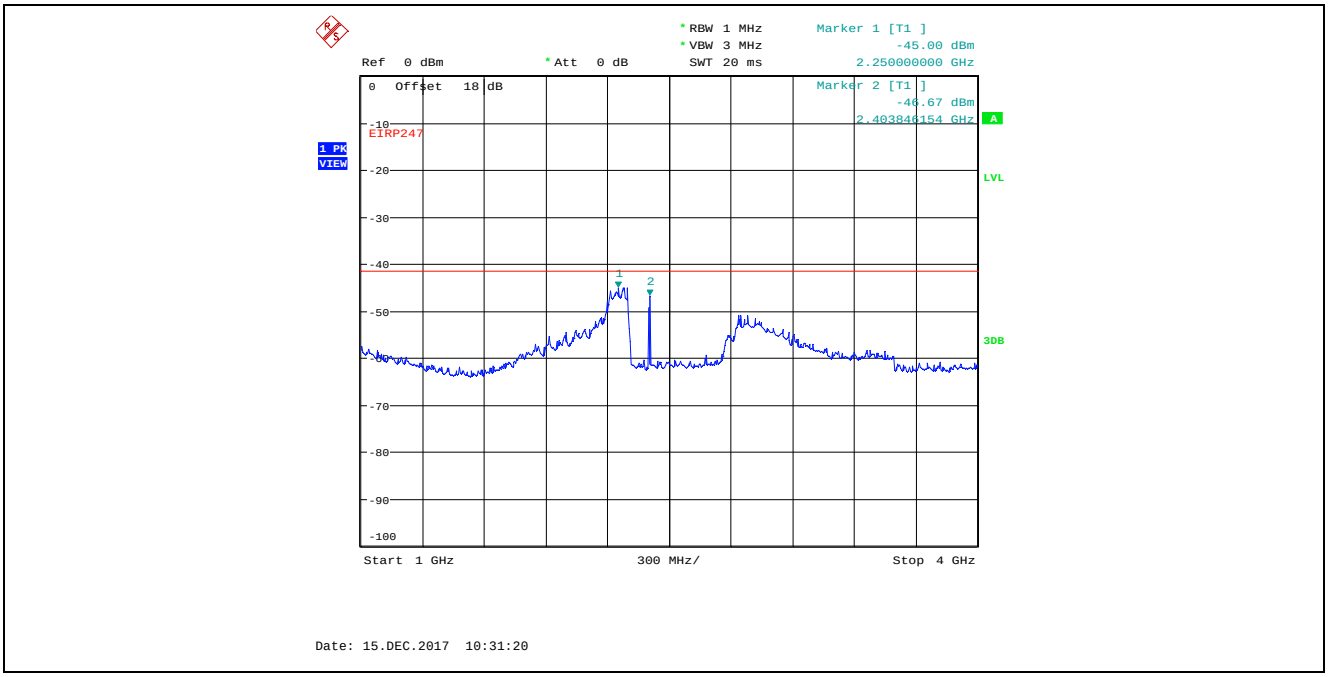

**Plot 5.4.4.5.12.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (335.4 MHz) to F2 (399.9 MHz) Band is Outside of the Restricted Bands



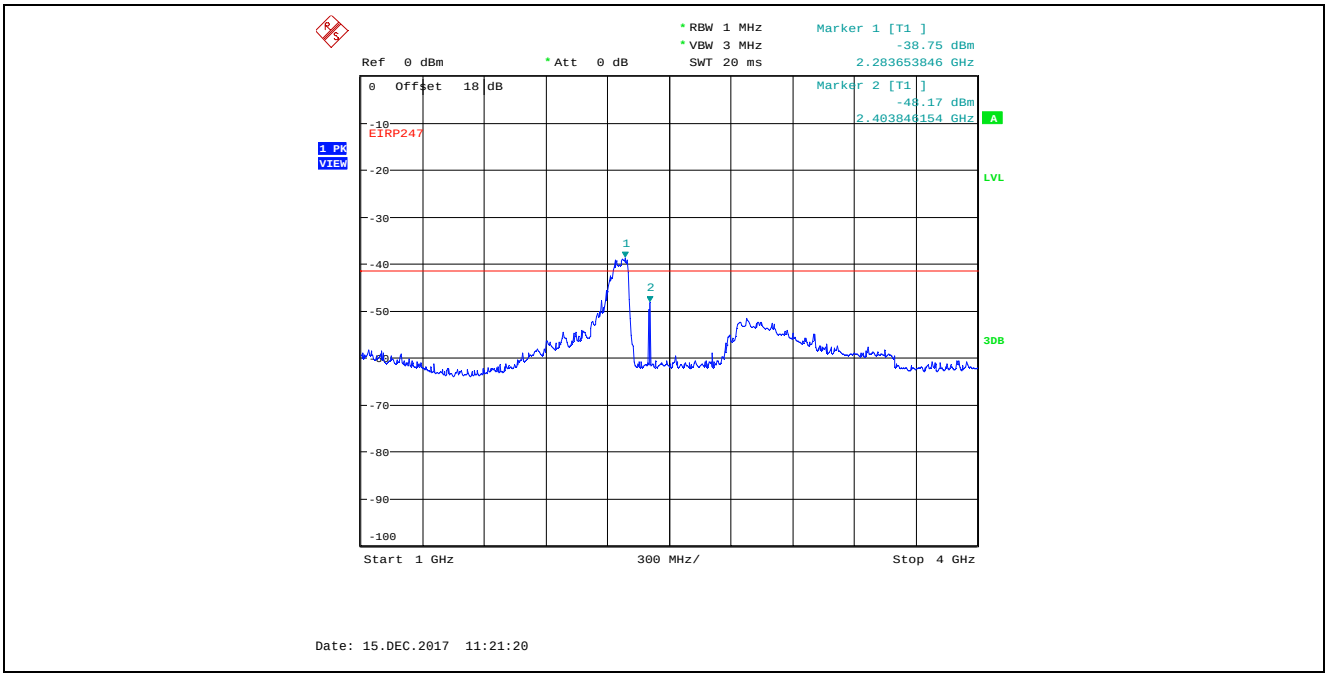
**Plot 5.4.4.5.13.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



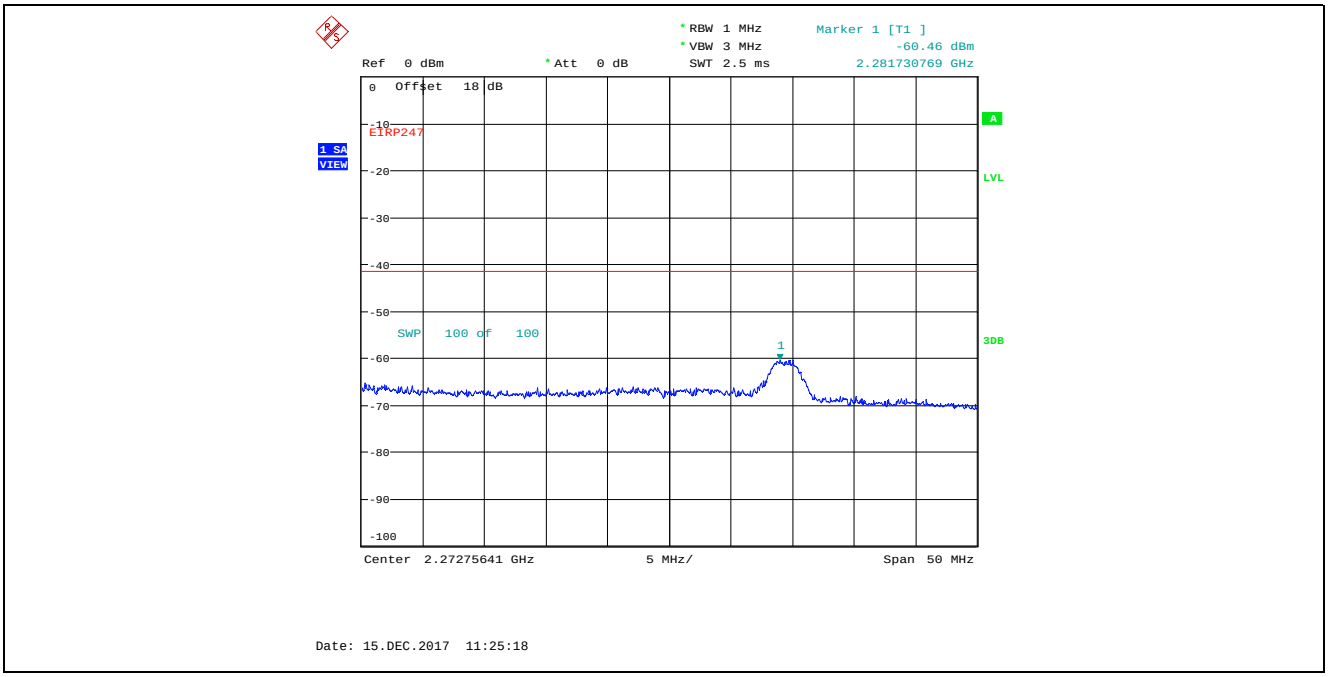
Plot **5.4.4.5.14.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



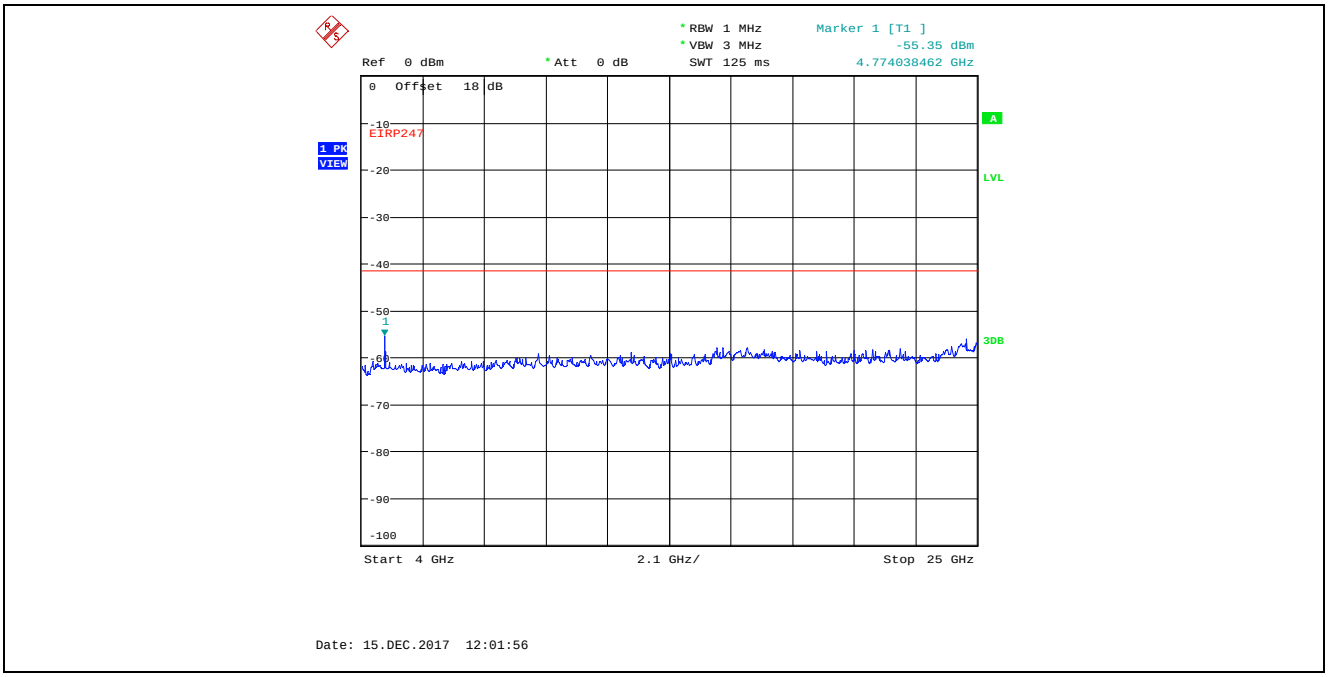

**Plot 5.4.4.5.15.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



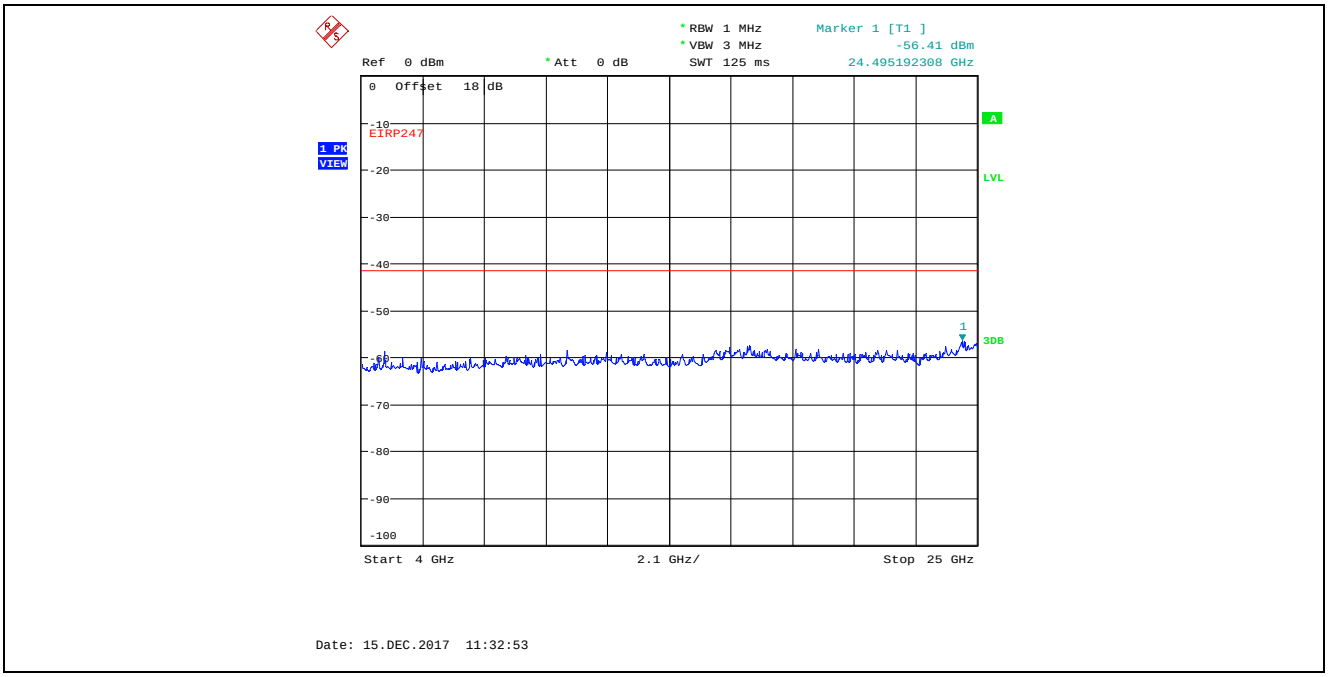
**Plot 5.4.4.5.16.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



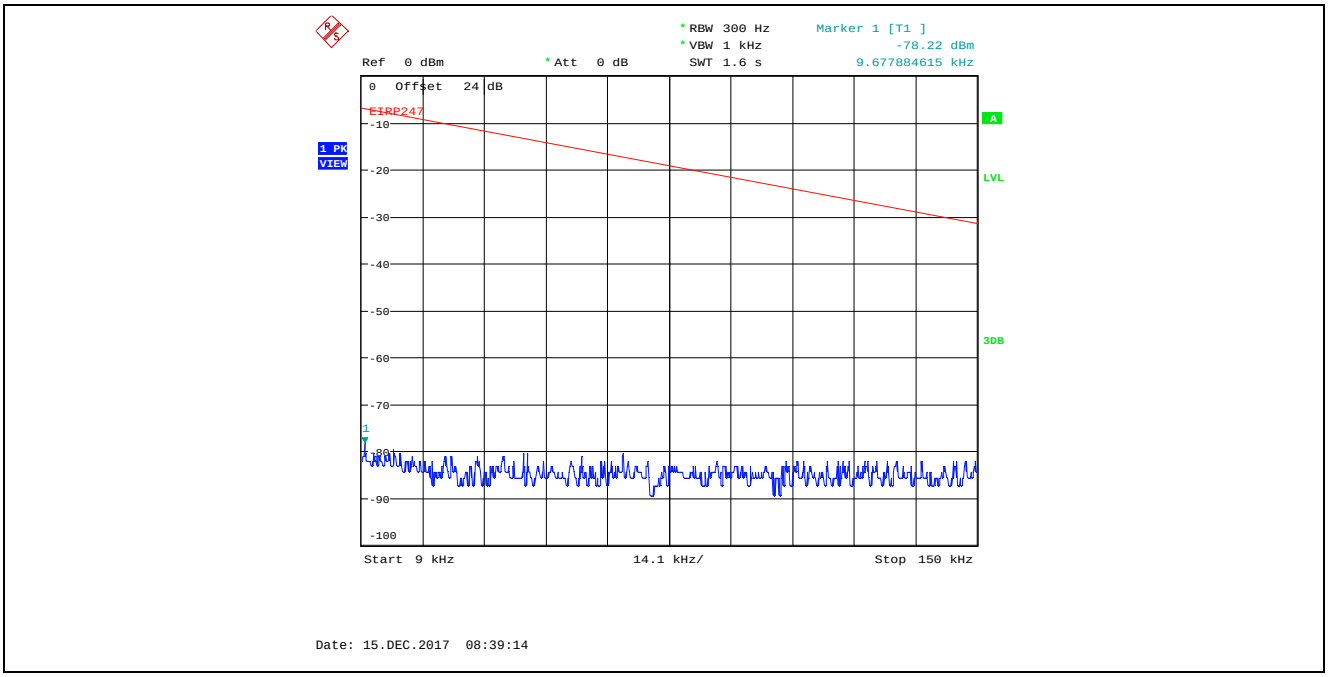
**Plot 5.4.4.5.17.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



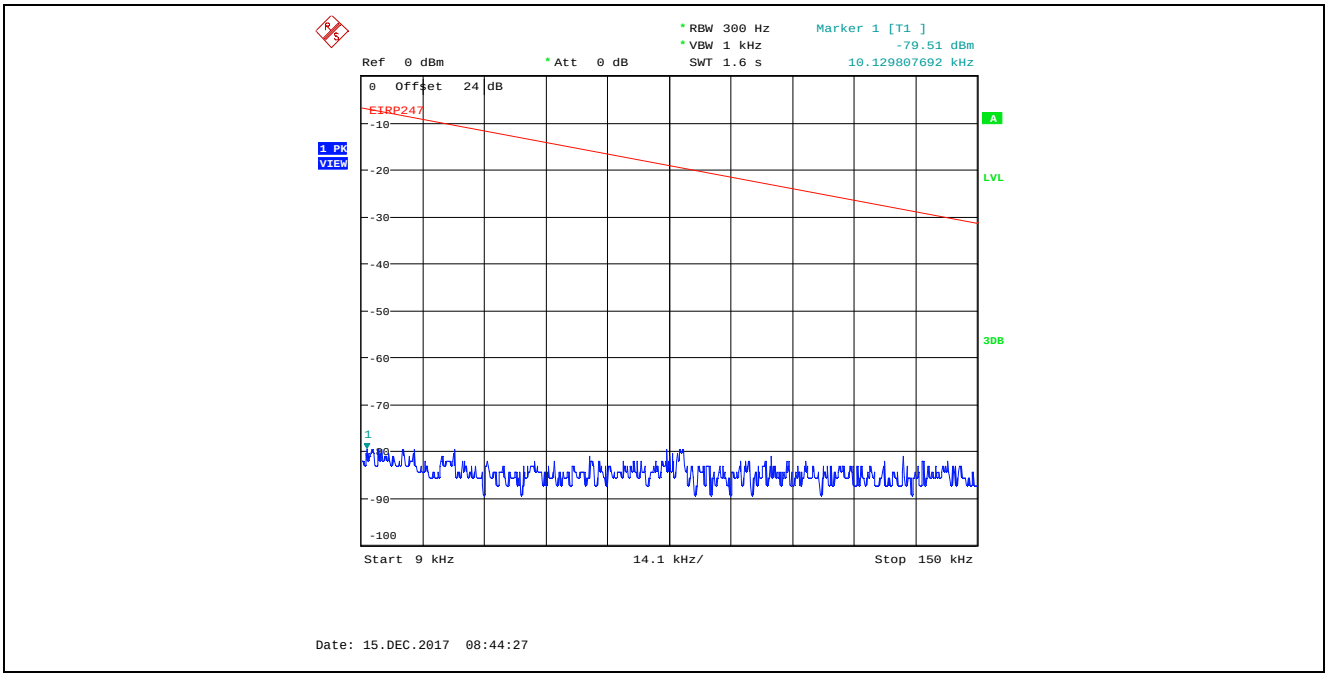

**Plot 5.4.4.5.18.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



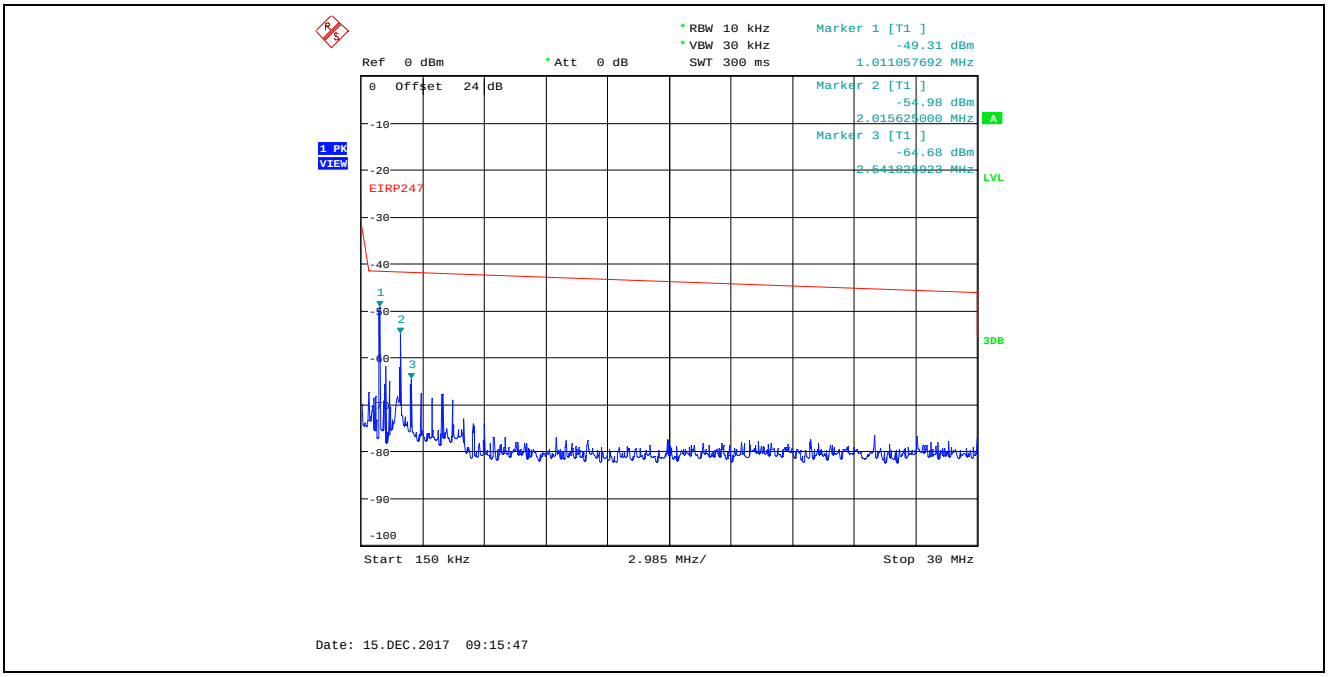
**Plot 5.4.4.5.19.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



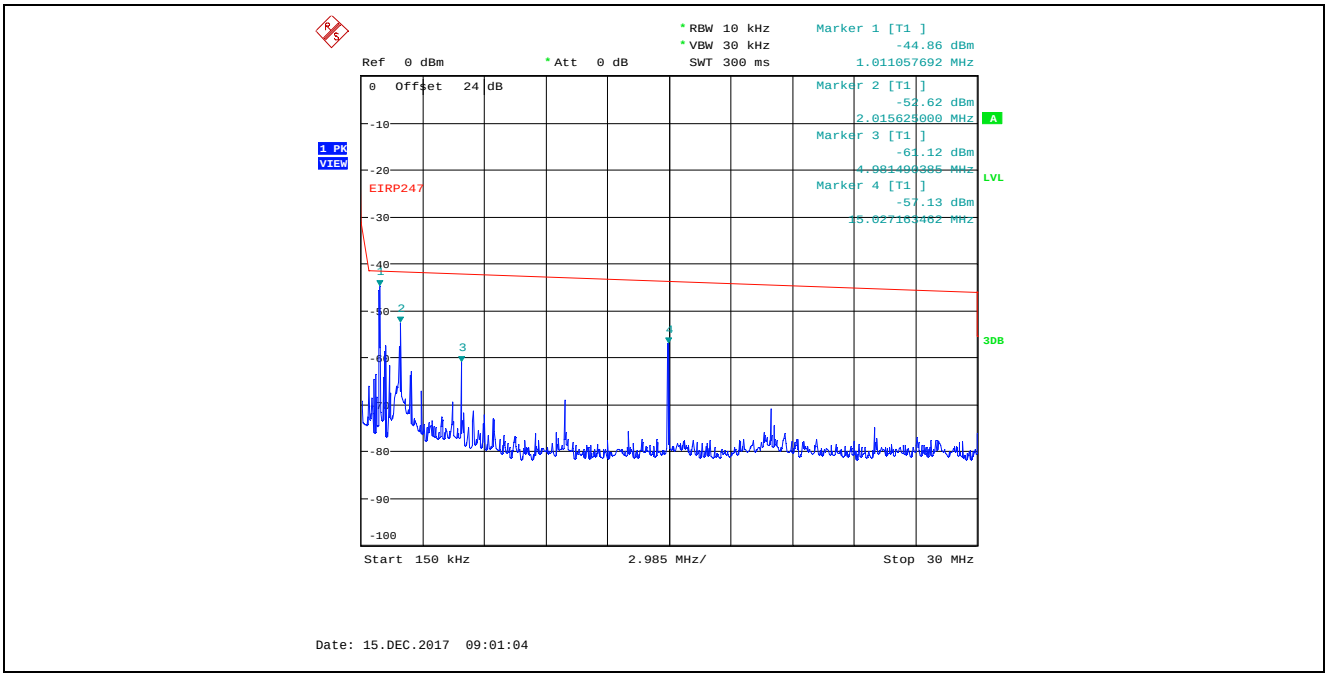

**Plot 5.4.4.5.20.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



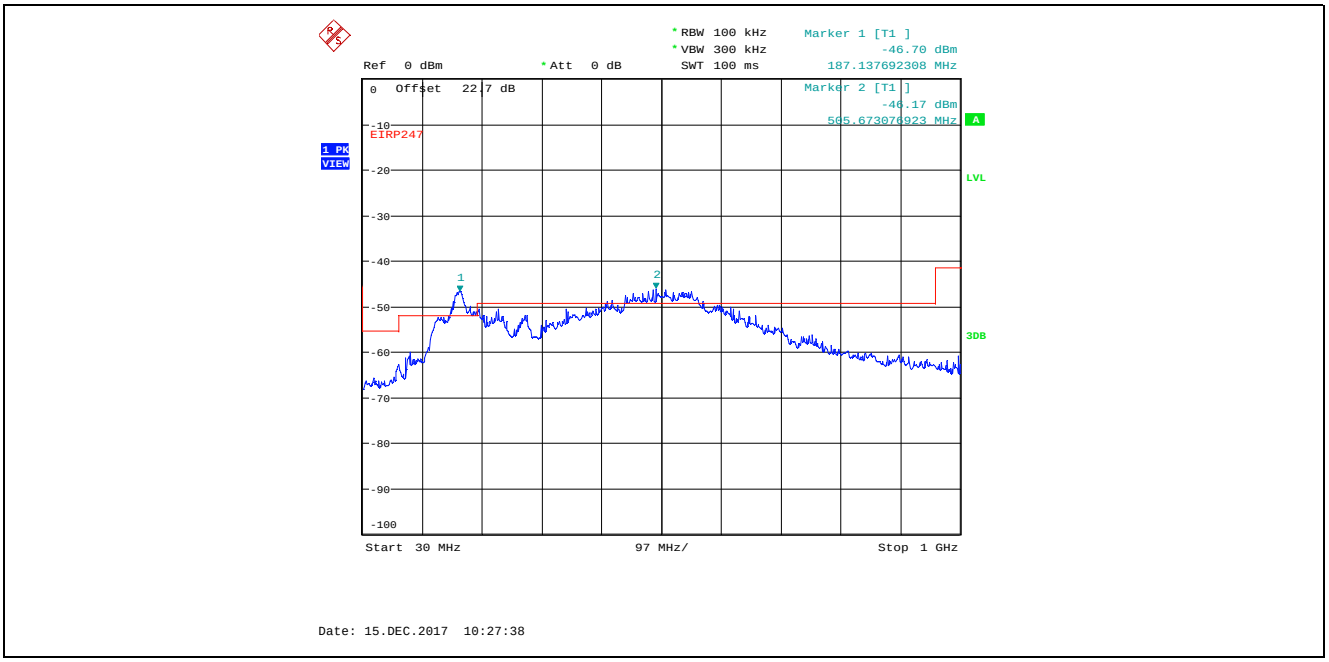
**Plot 5.4.4.5.21.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



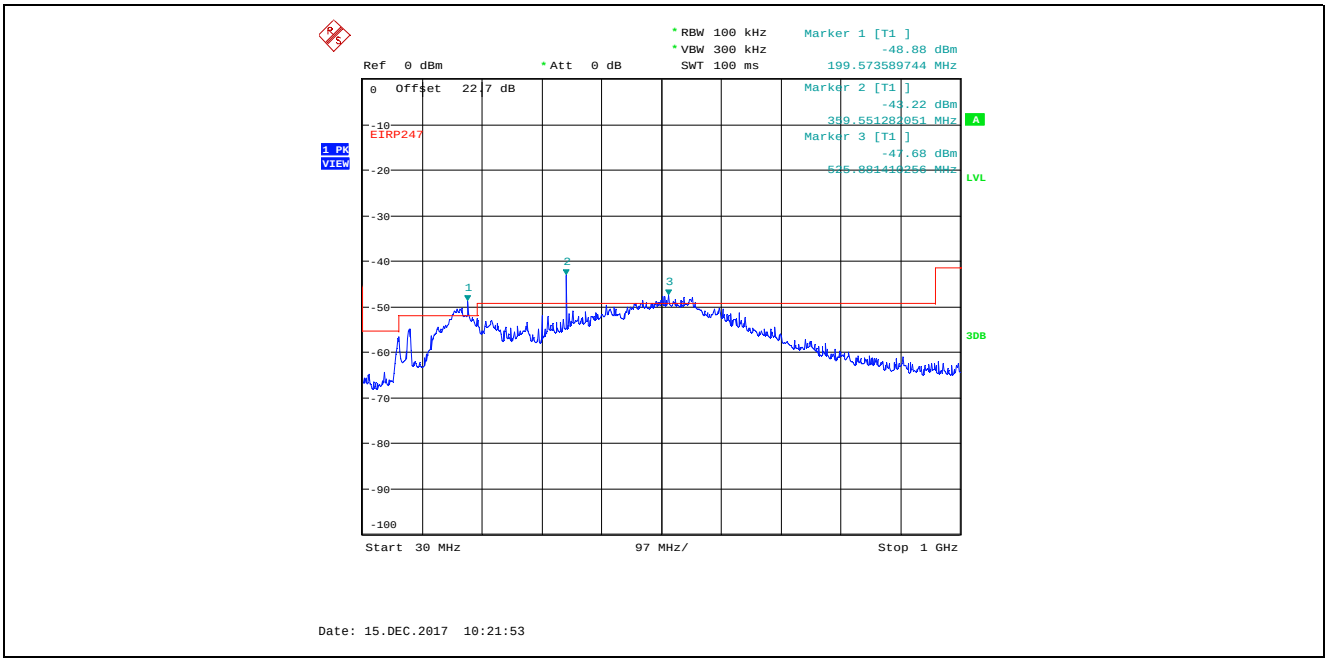

**Plot 5.4.4.5.22.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



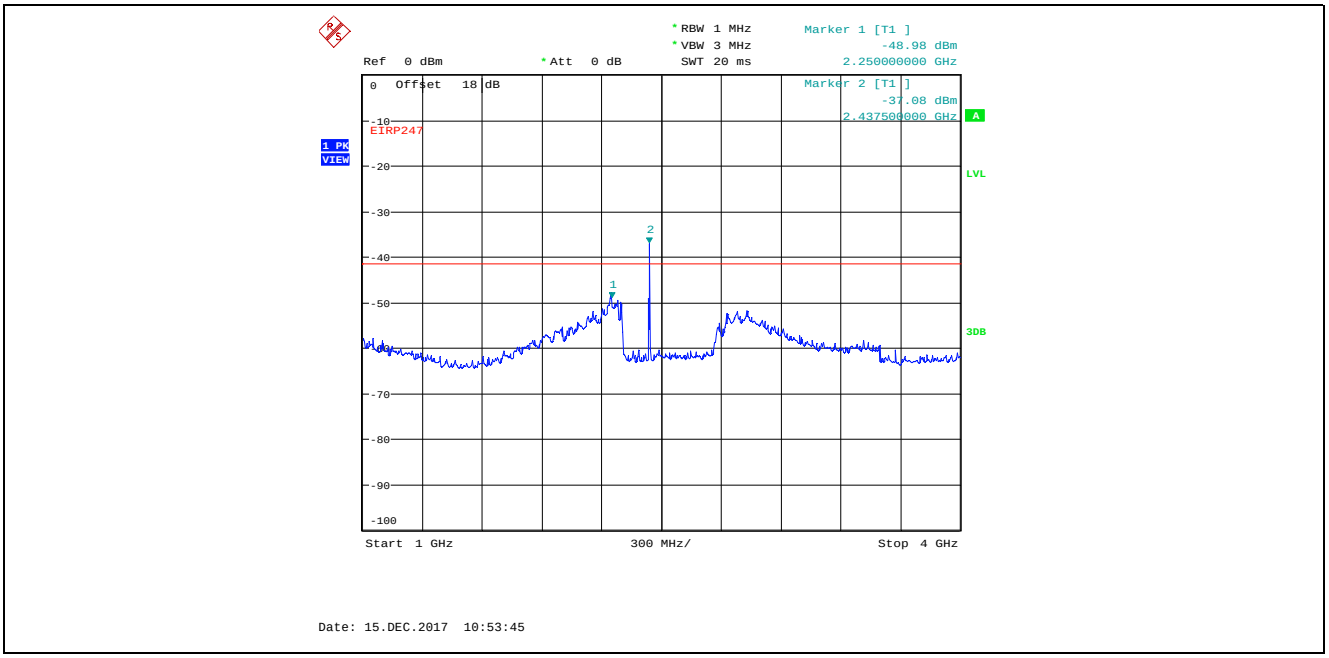
**Plot 5.4.4.5.23.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



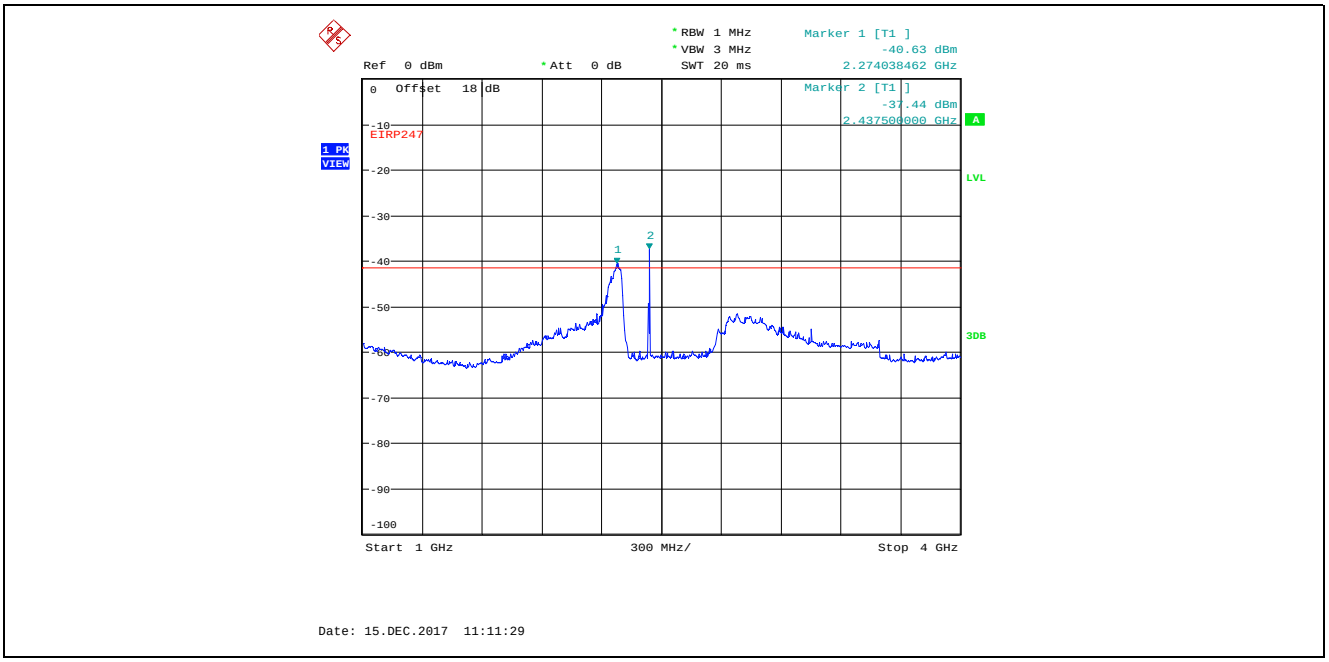

**Plot 5.4.4.5.24.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



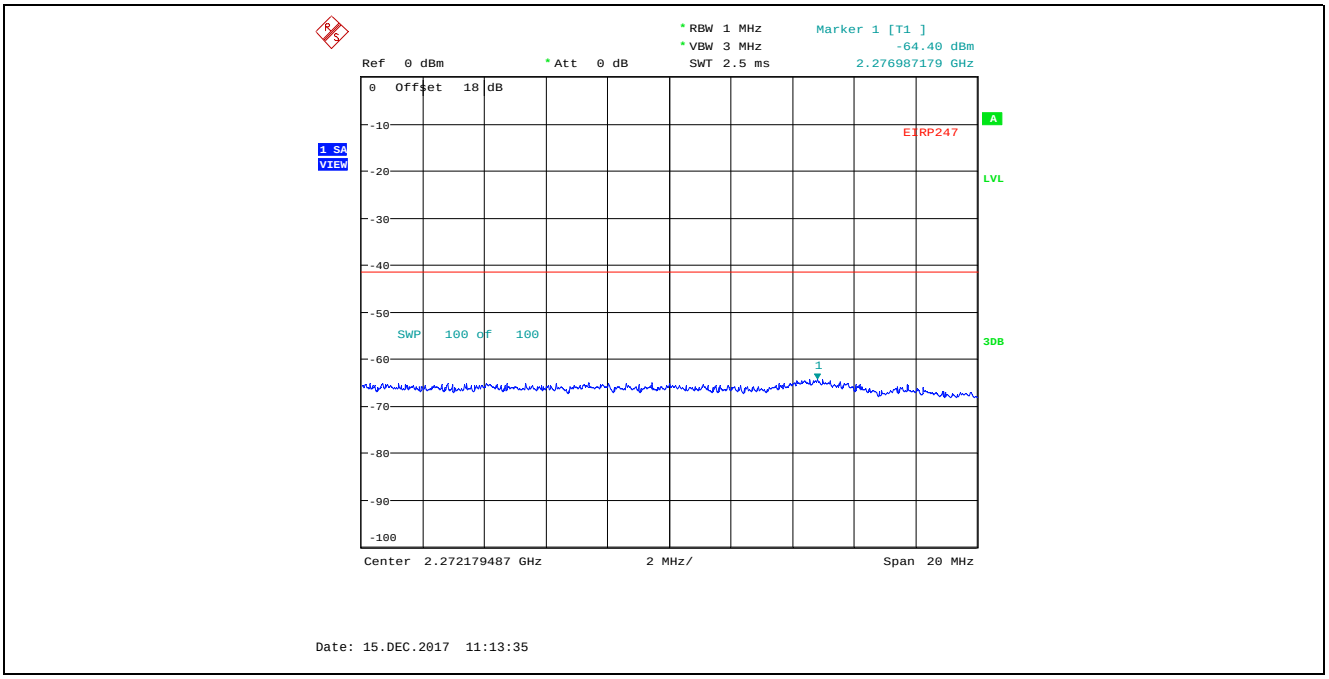
**Plot 5.4.4.5.25.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



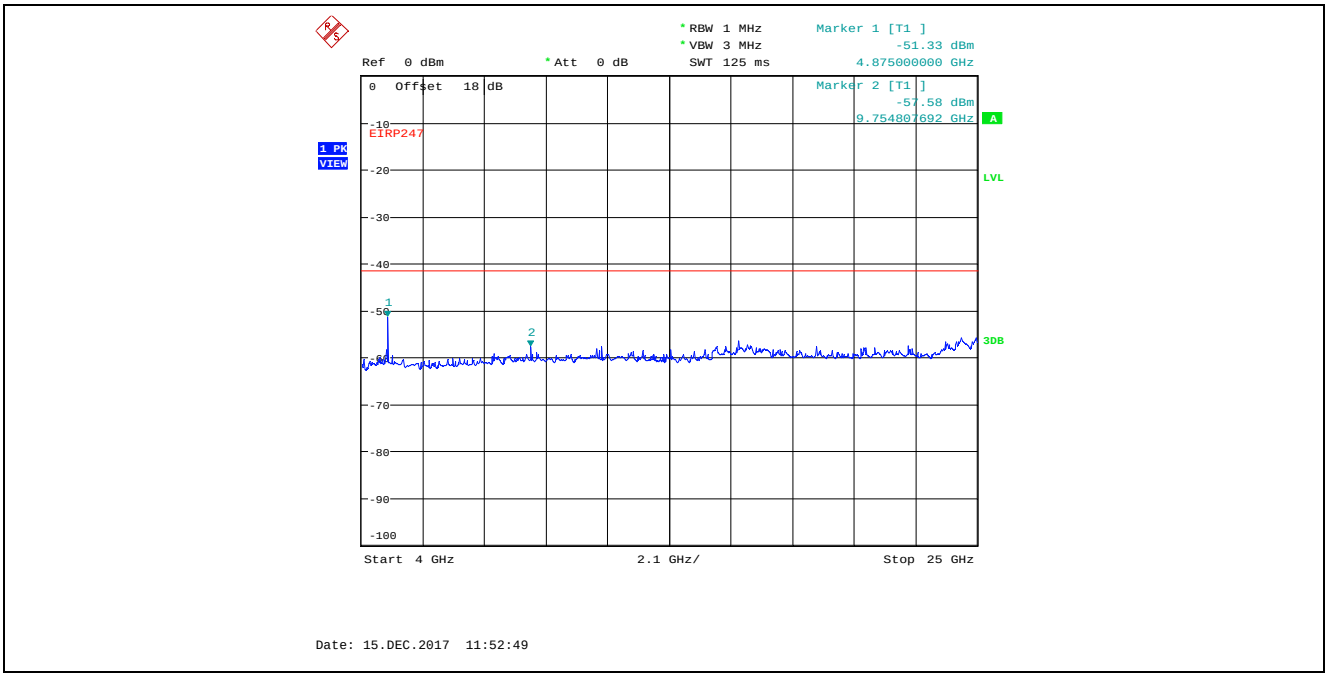

**Plot 5.4.4.5.26.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 1 Marker 2 is Fundamental Signal



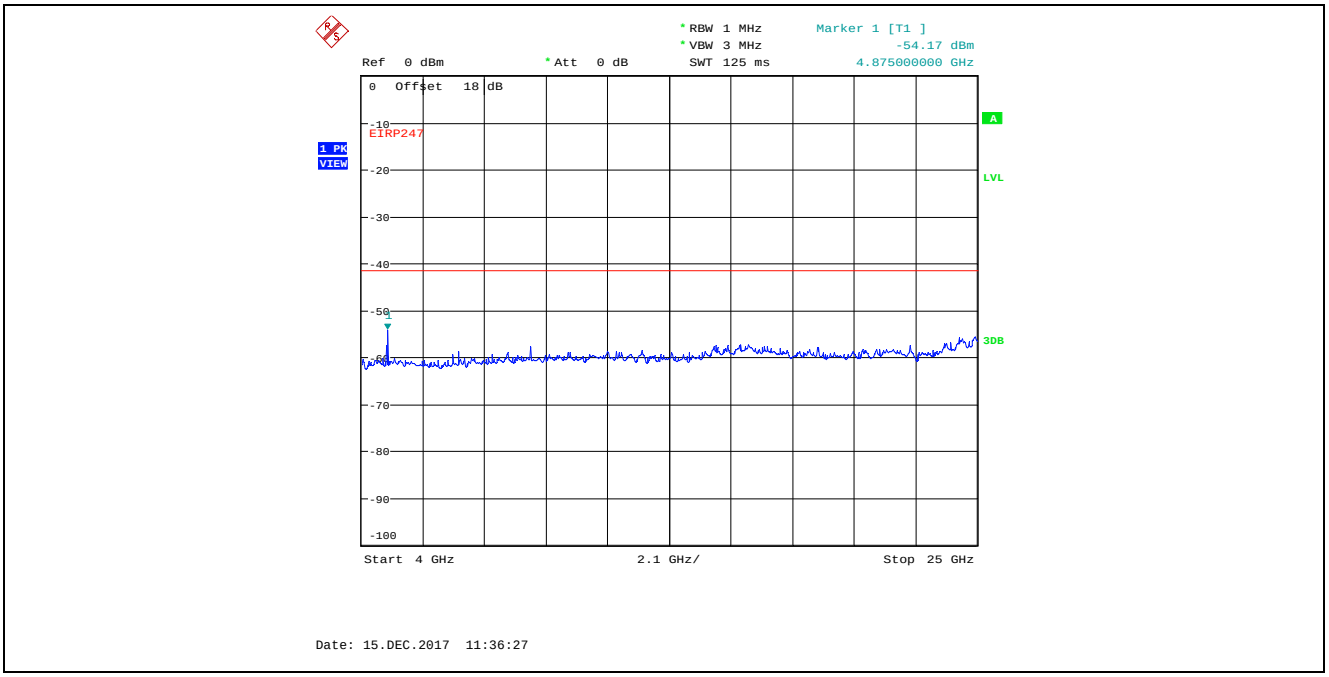
**Plot 5.4.4.5.27.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



**Plot 5.4.4.5.28.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



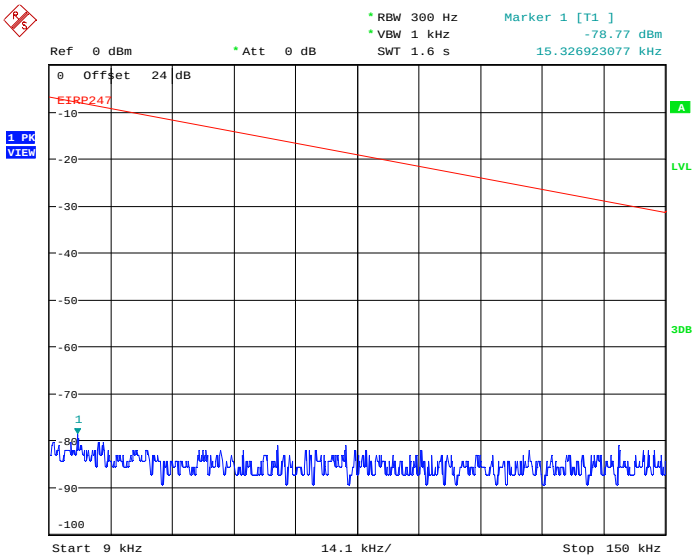

**Plot 5.4.4.5.29.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



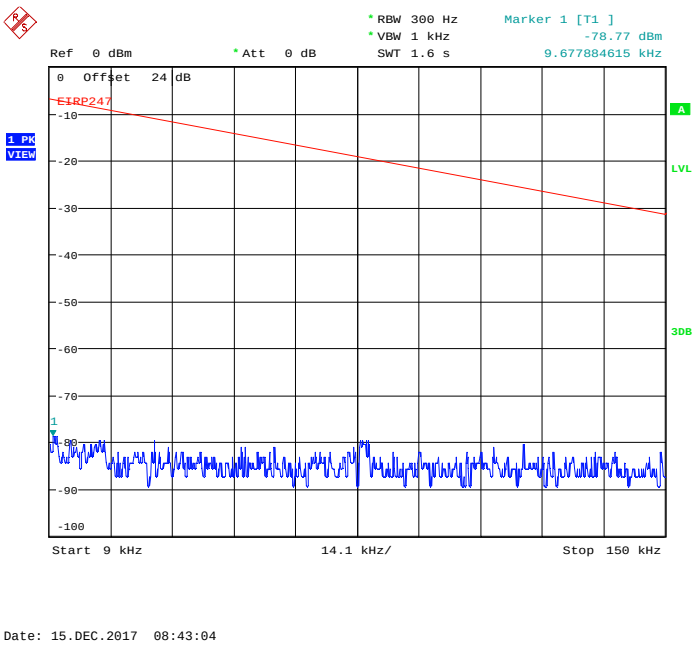



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

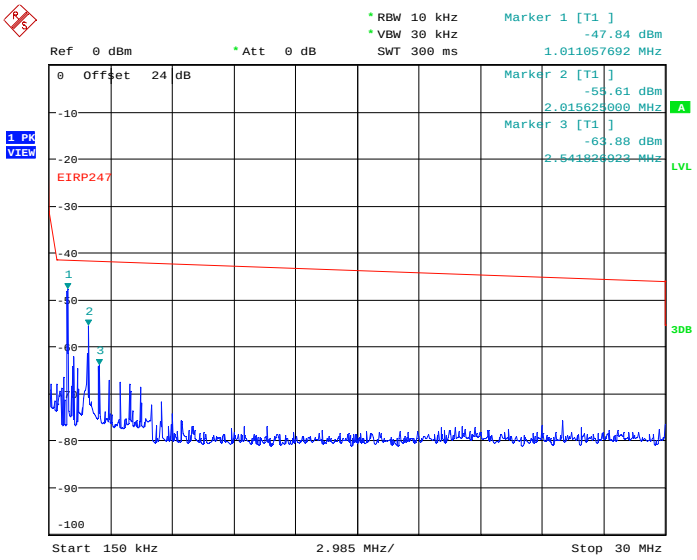
**Plot 5.4.4.5.30.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



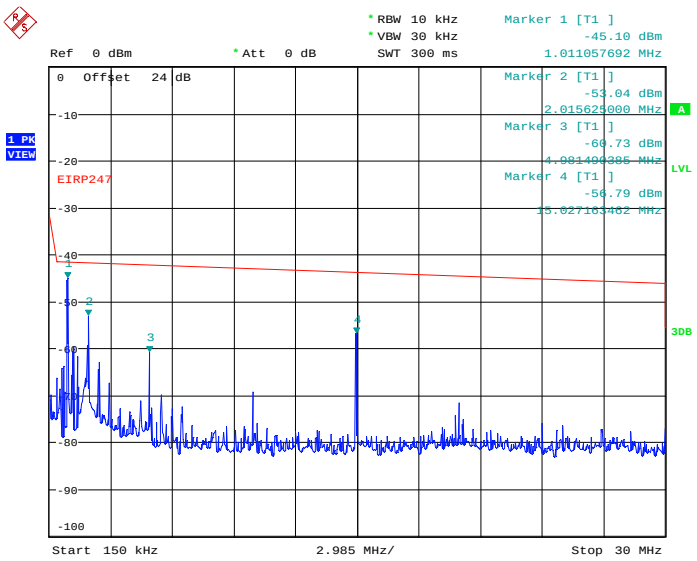

**Plot 5.4.4.5.31.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



**Plot 5.4.4.5.32.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



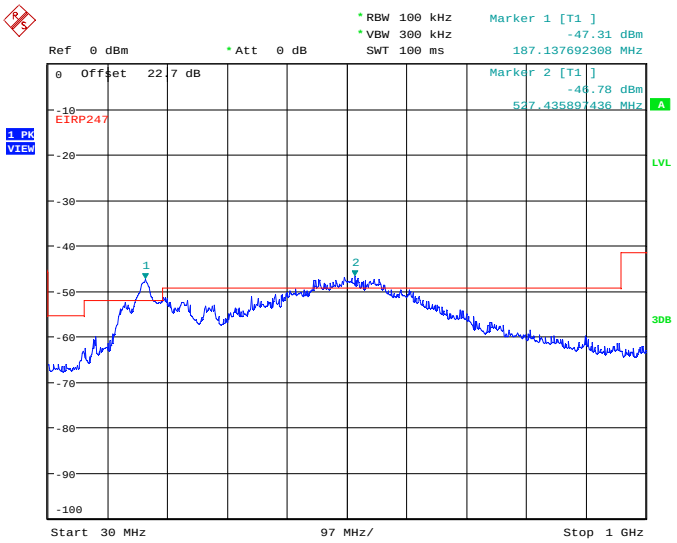

**Plot 5.4.4.5.33.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



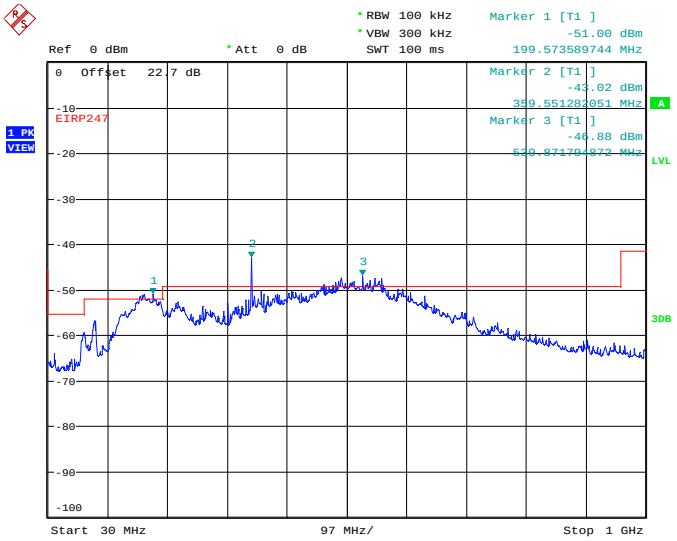



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

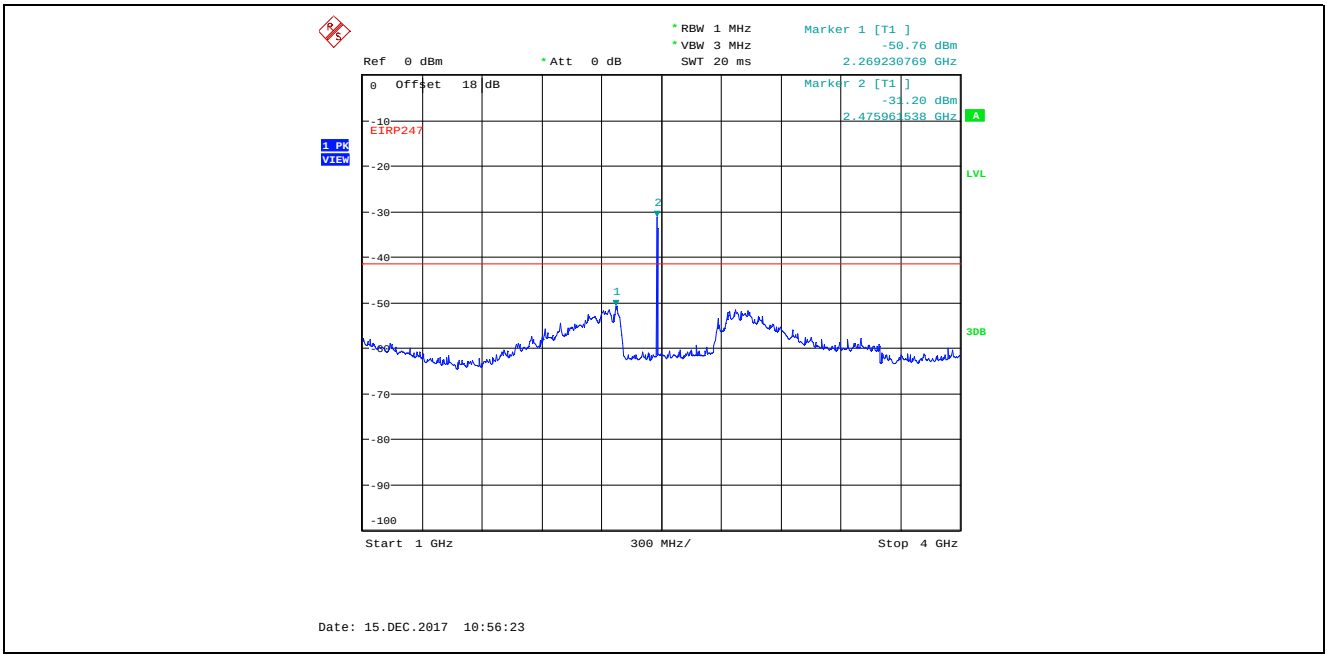
**Plot 5.4.4.5.34.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



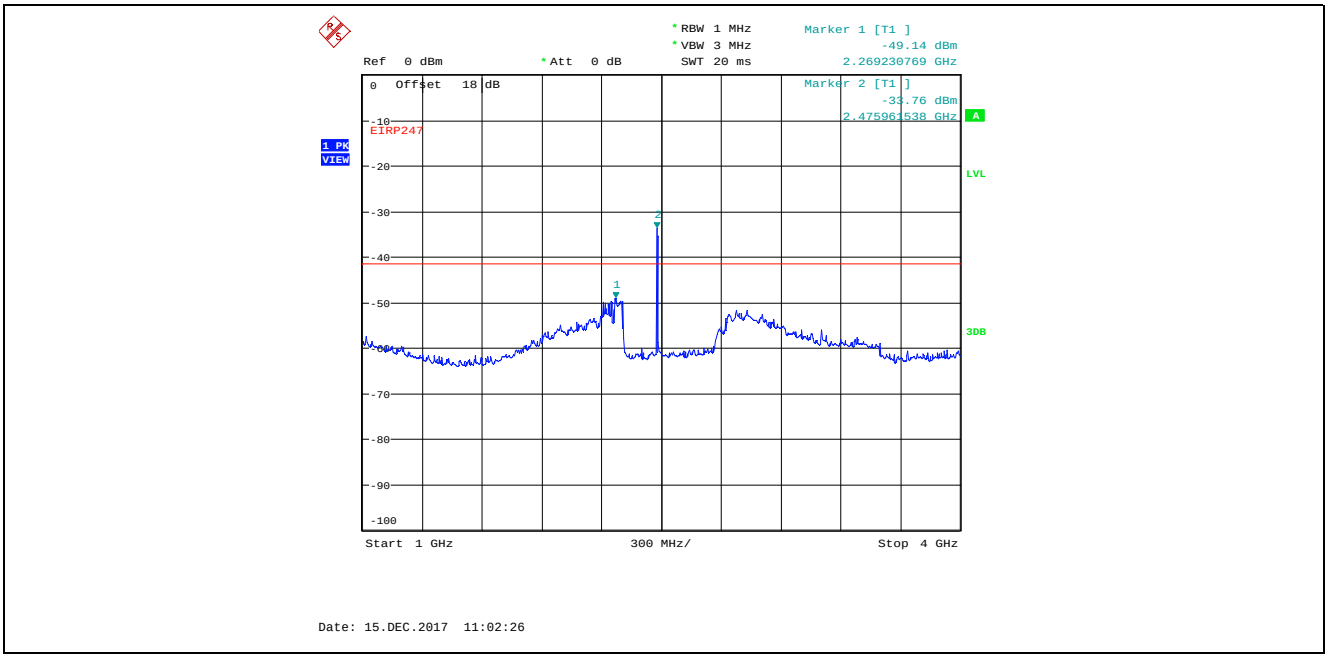

**Plot 5.4.4.5.35.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



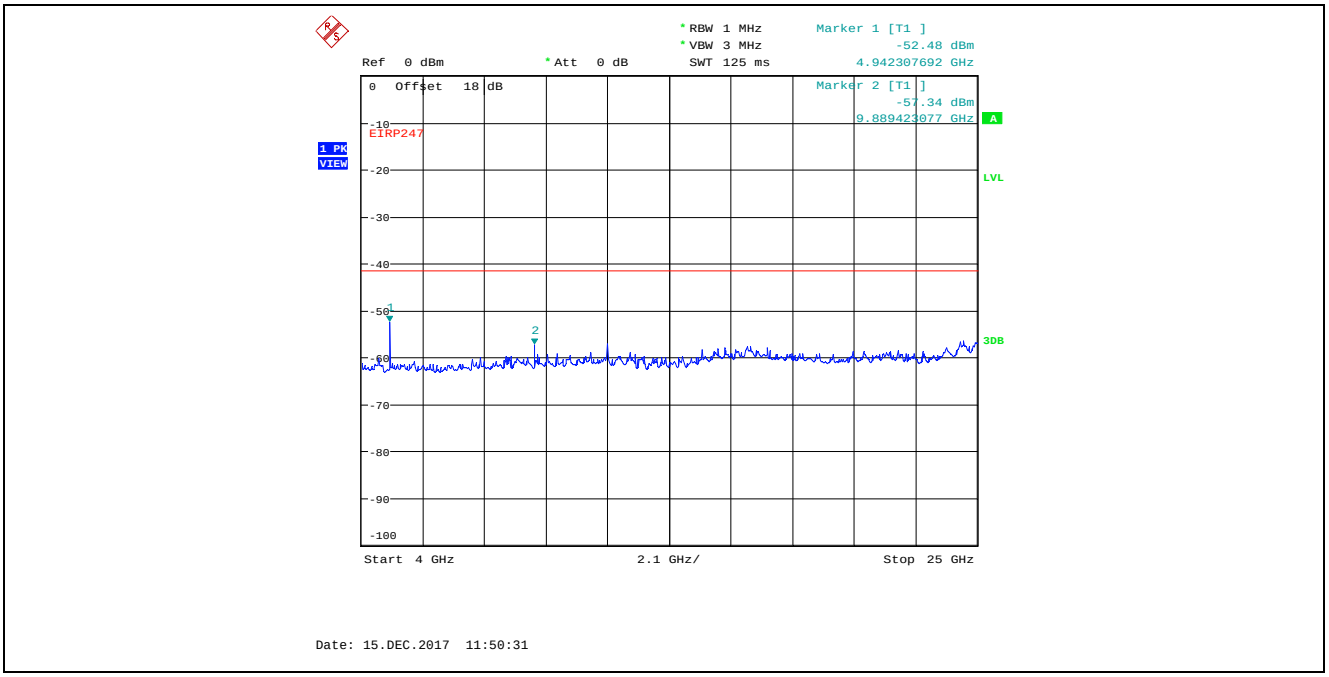
**Plot 5.4.4.5.36.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



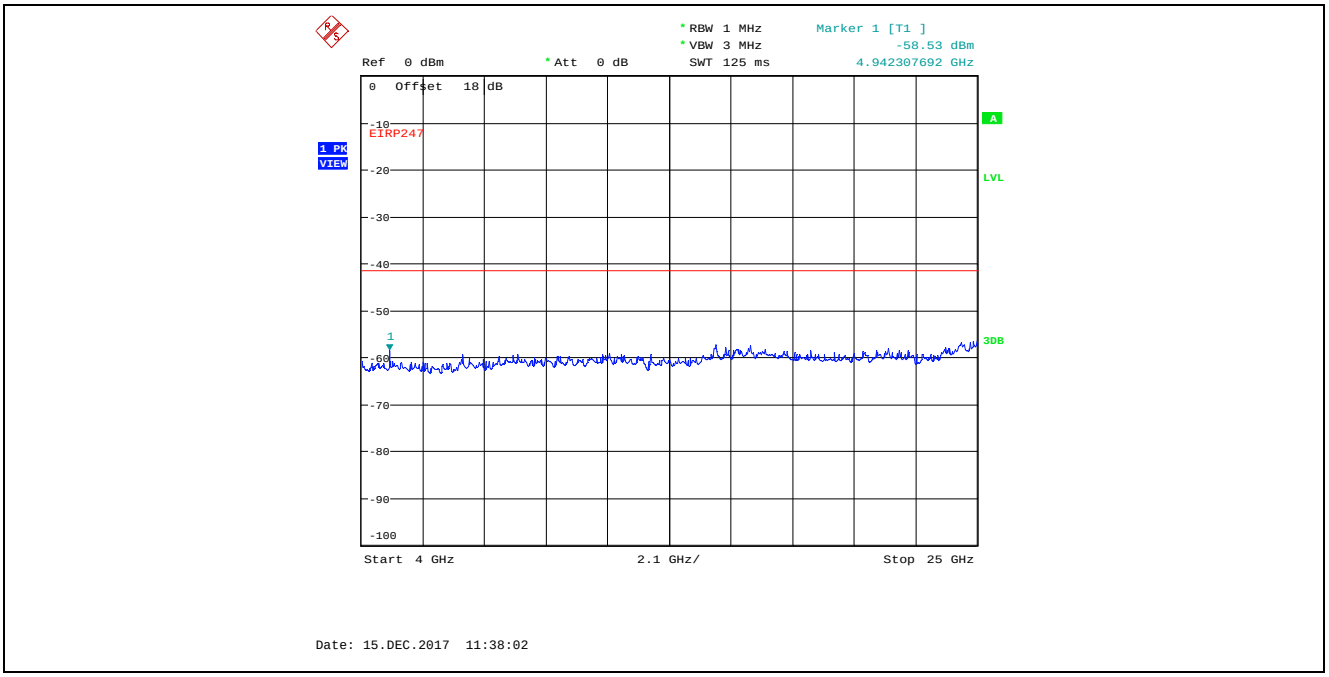

**Plot 5.4.4.5.37.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



**Plot 5.4.4.5.38.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



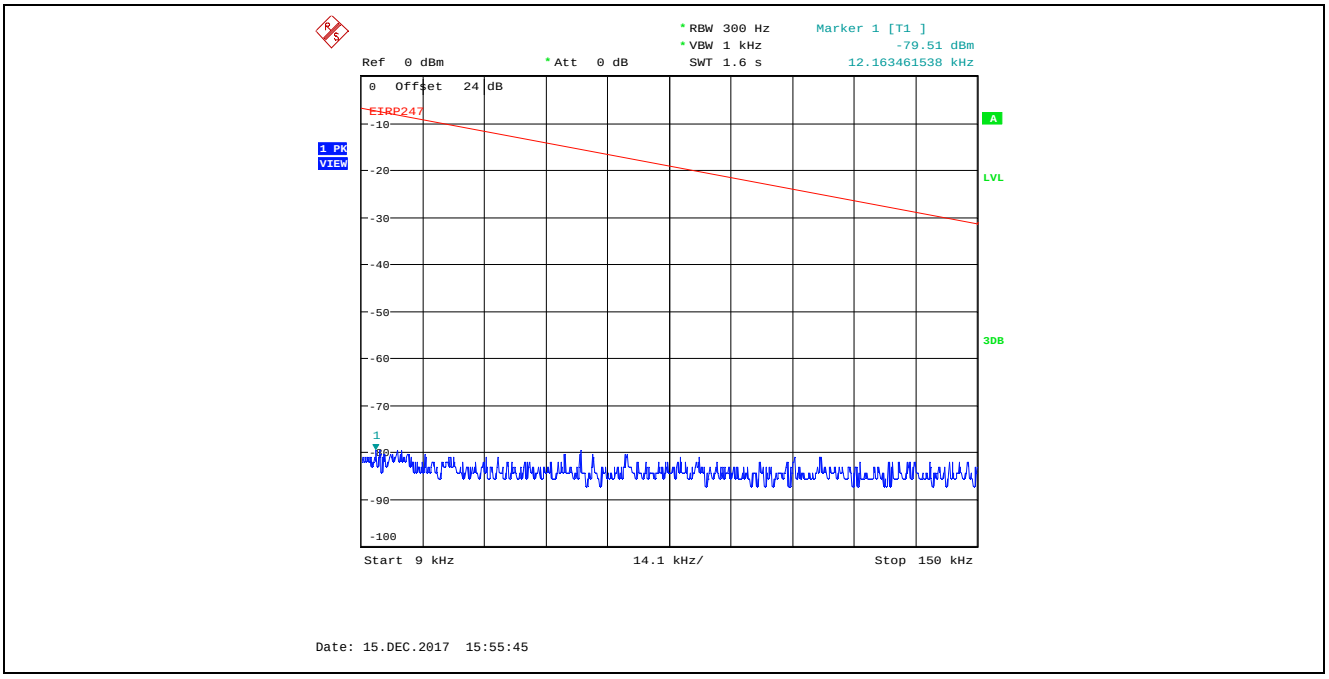

**Plot 5.4.4.5.39.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



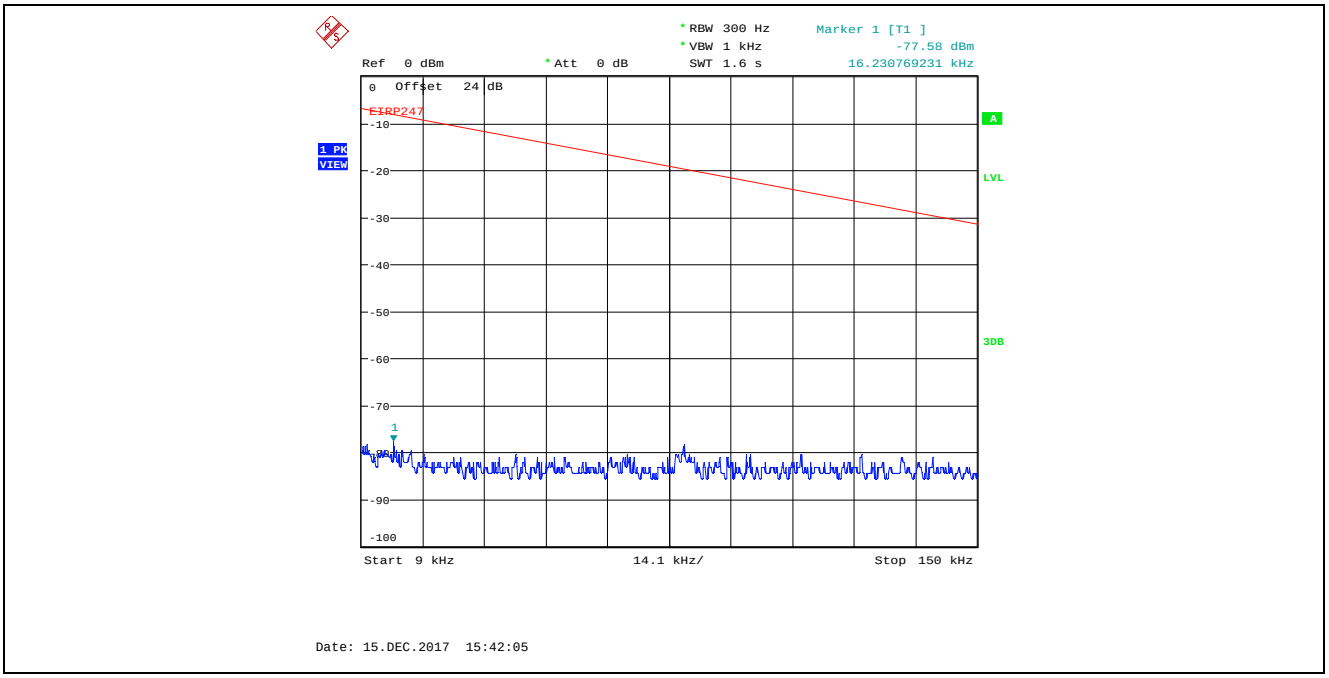



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

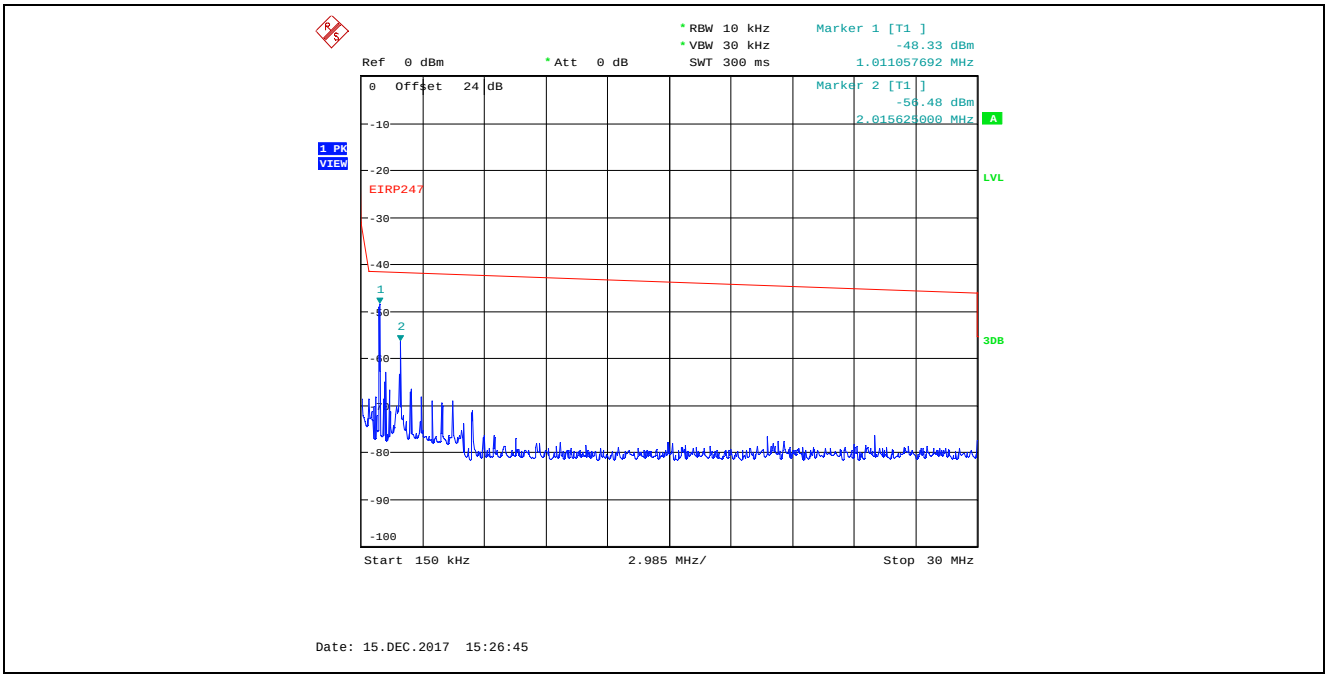
**Plot 5.4.4.5.40.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



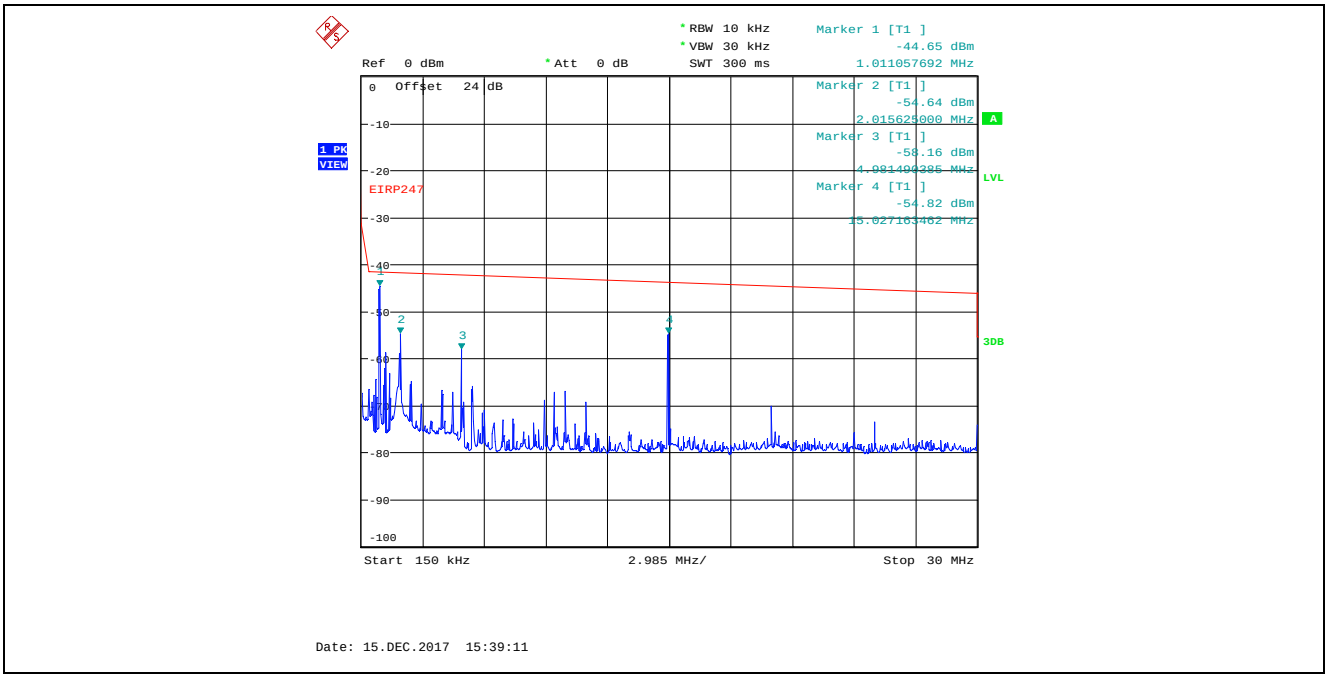

**Plot 5.4.4.5.41.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



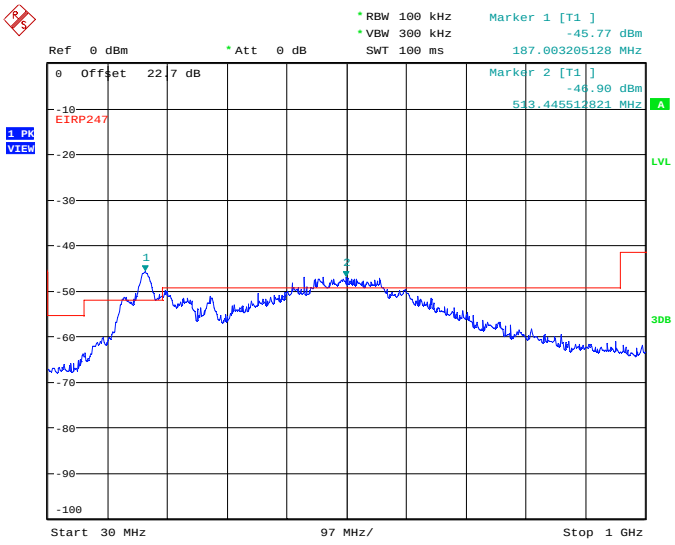
**Plot 5.4.4.5.42.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



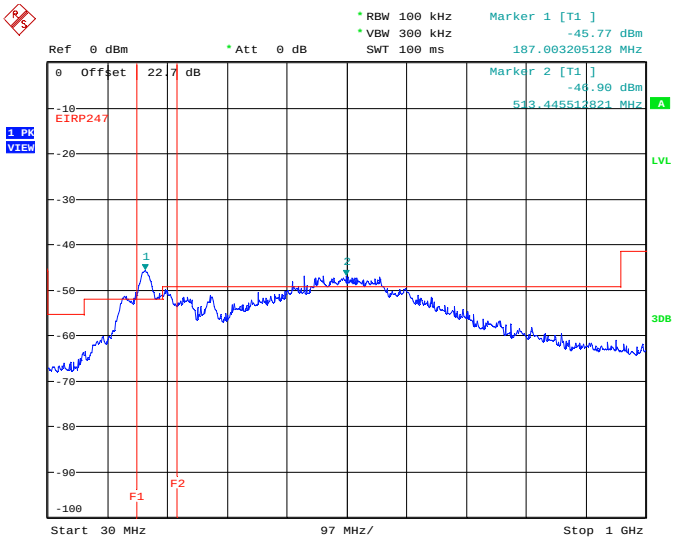

**Plot 5.4.4.5.43.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



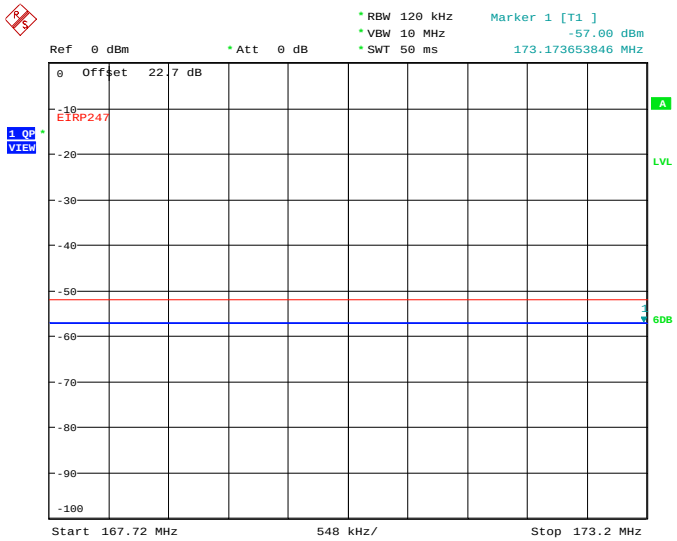
**Plot 5.4.4.5.44.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



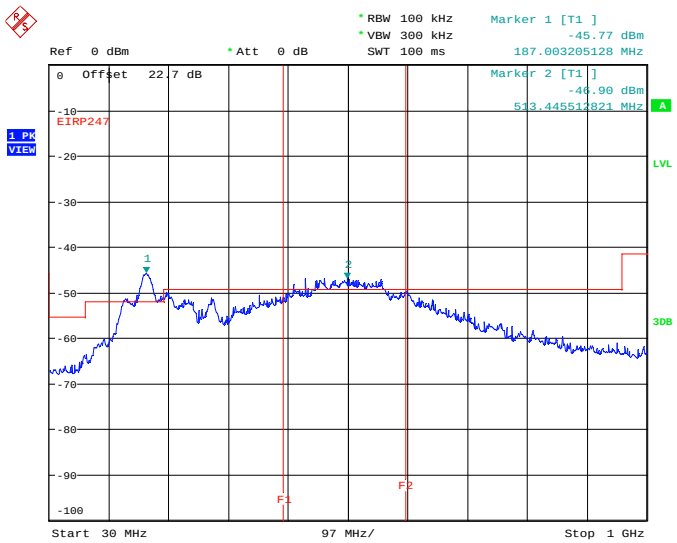

**Plot 5.4.4.5.45.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (173.2 MHz) to F2 (240 MHz) Band is Outside of the Restricted Bands



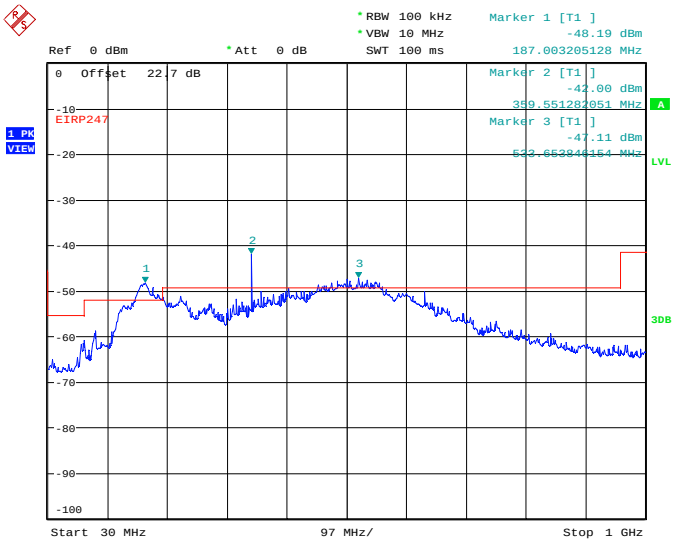
**Plot 5.4.4.5.46.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
167.72-173.2 MHz Restricted Band, QP Detector



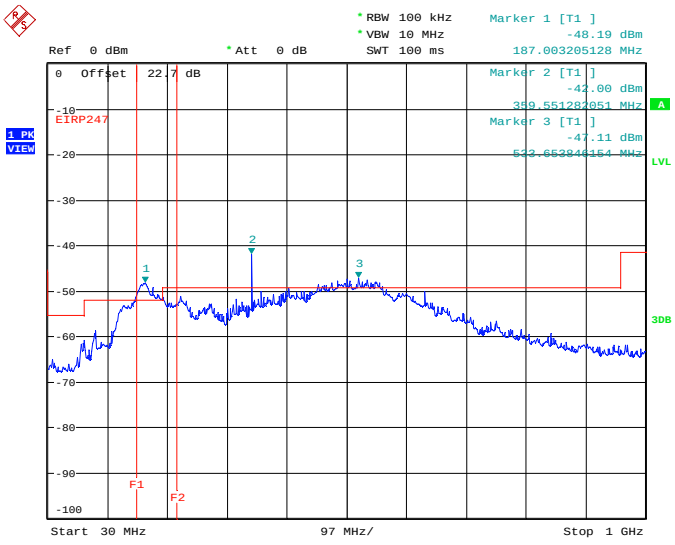

**Plot 5.4.4.5.47.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



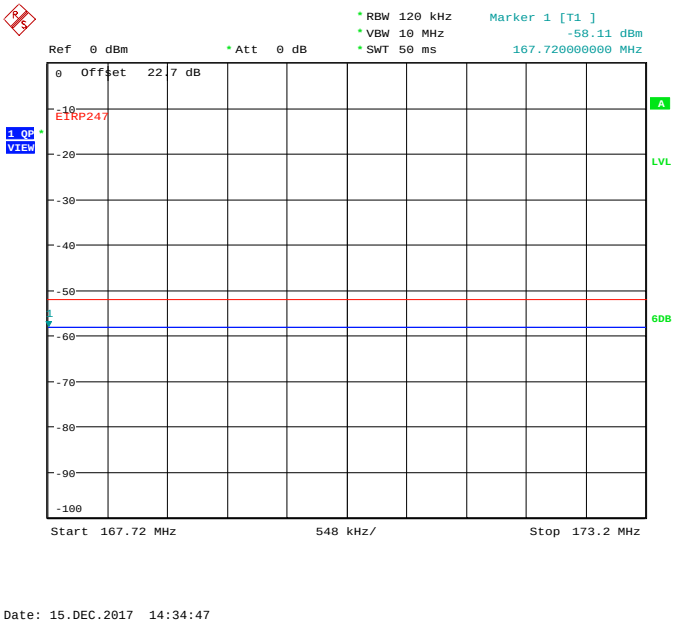
**Plot 5.4.4.5.48.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



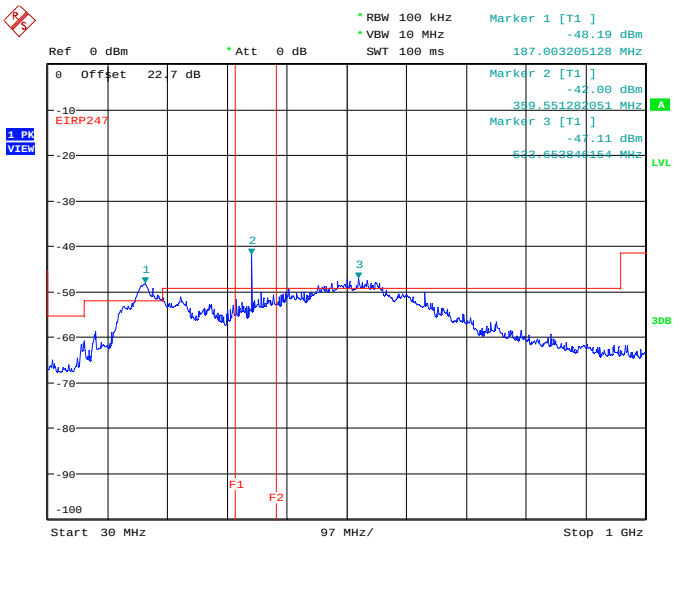

**Plot 5.4.4.5.49.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (173.2 MHz) to F2 (240 MHz) Band is Outside of the Restricted Bands



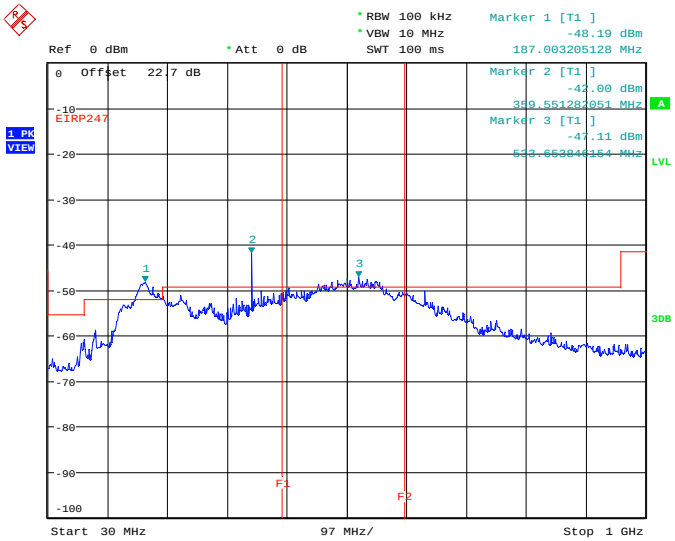
**Plot 5.4.4.5.50.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
167.72-173.2 MHz Restricted Band, QP Detector



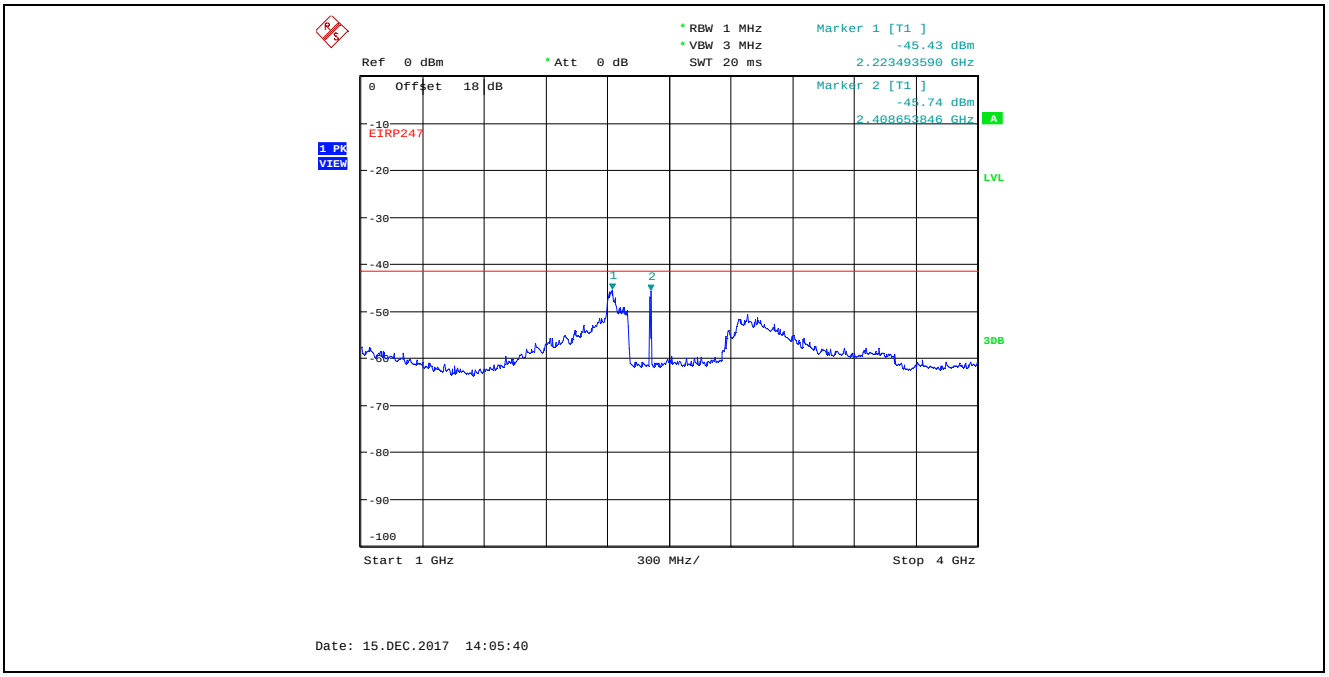

**Plot 5.4.4.5.51.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (335.4 MHz) to F2 (399.9 MHz) Band is Outside of the Restricted Bands



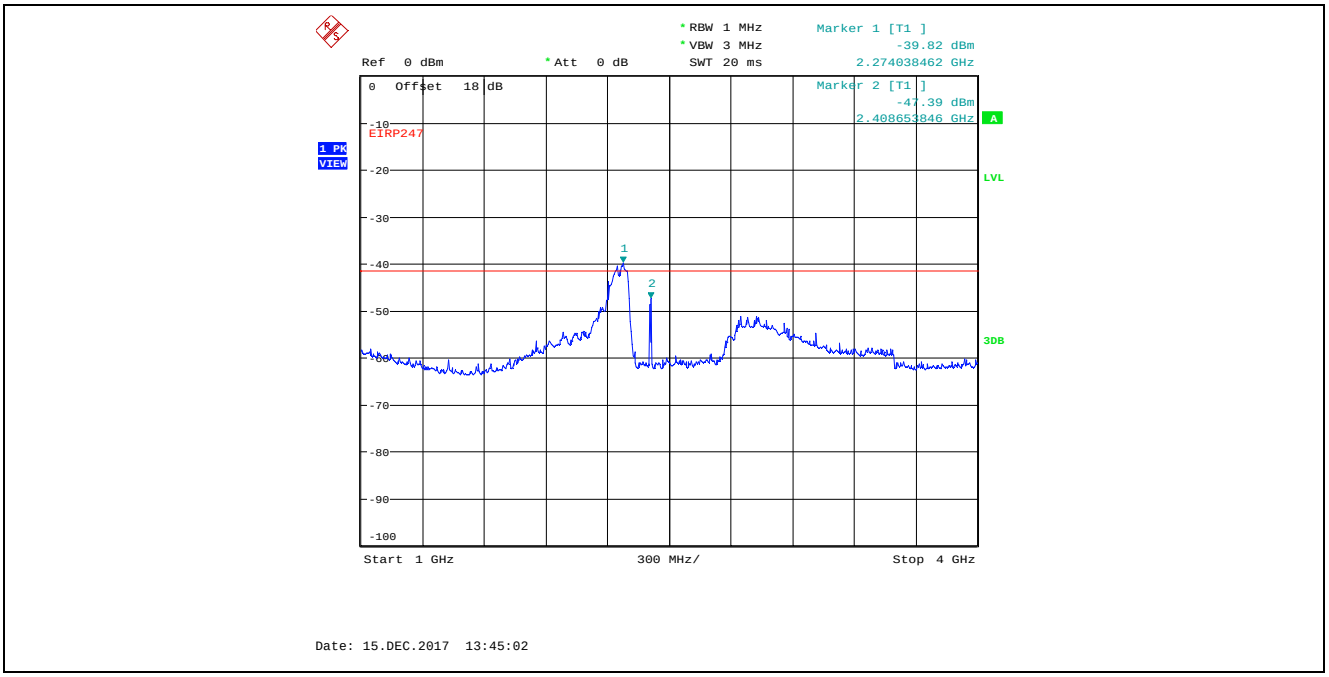
**Plot 5.4.4.5.52.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



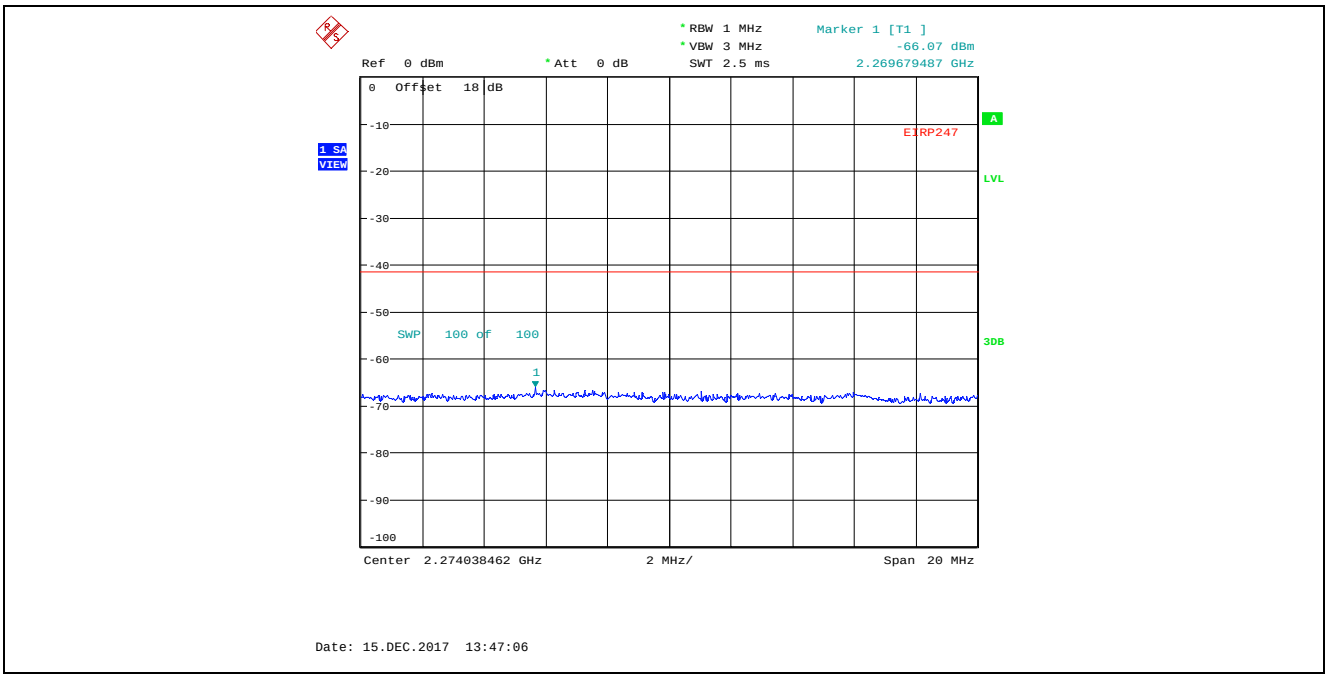
**Plot 5.4.4.5.53.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



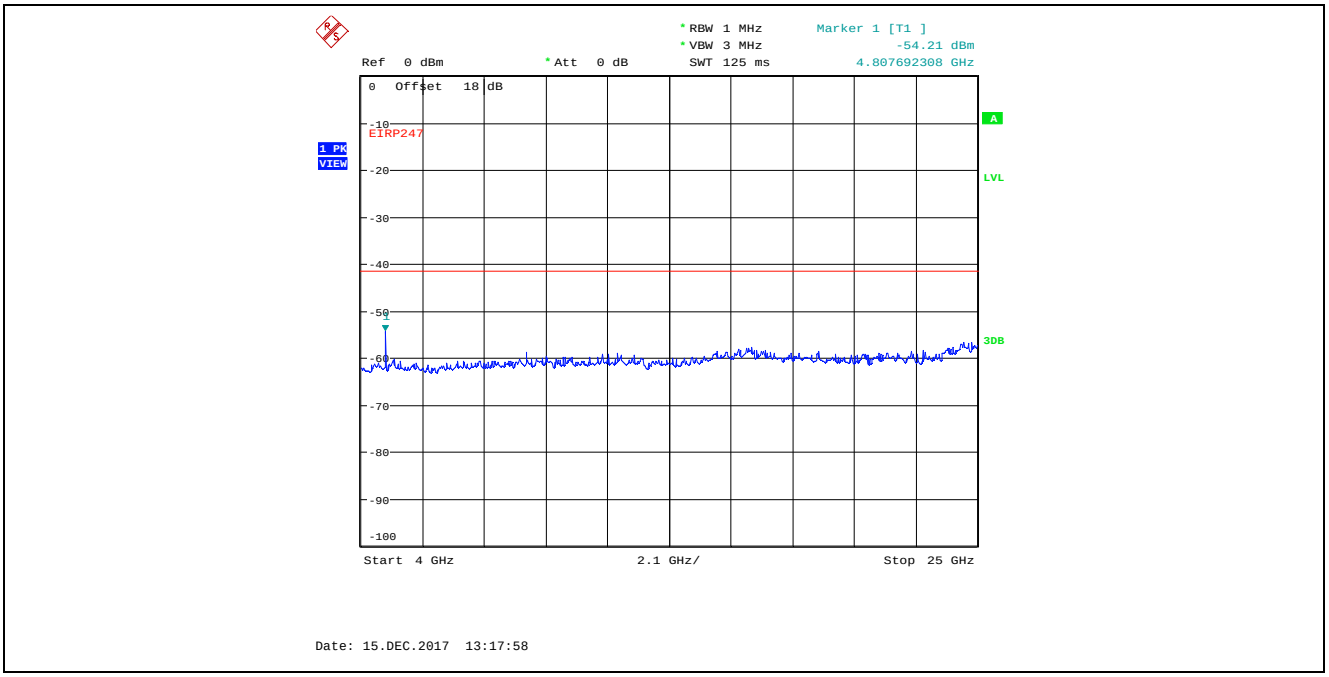

**Plot 5.4.4.5.54.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



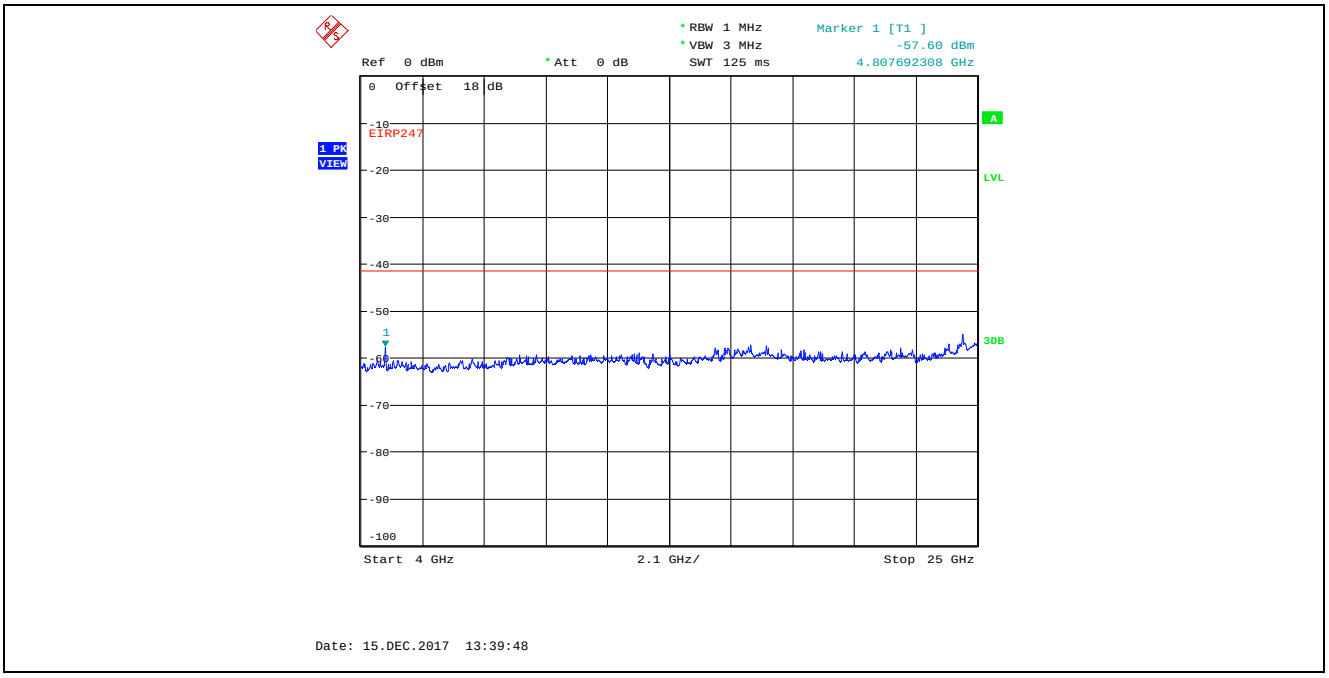
**Plot 5.4.4.5.55.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



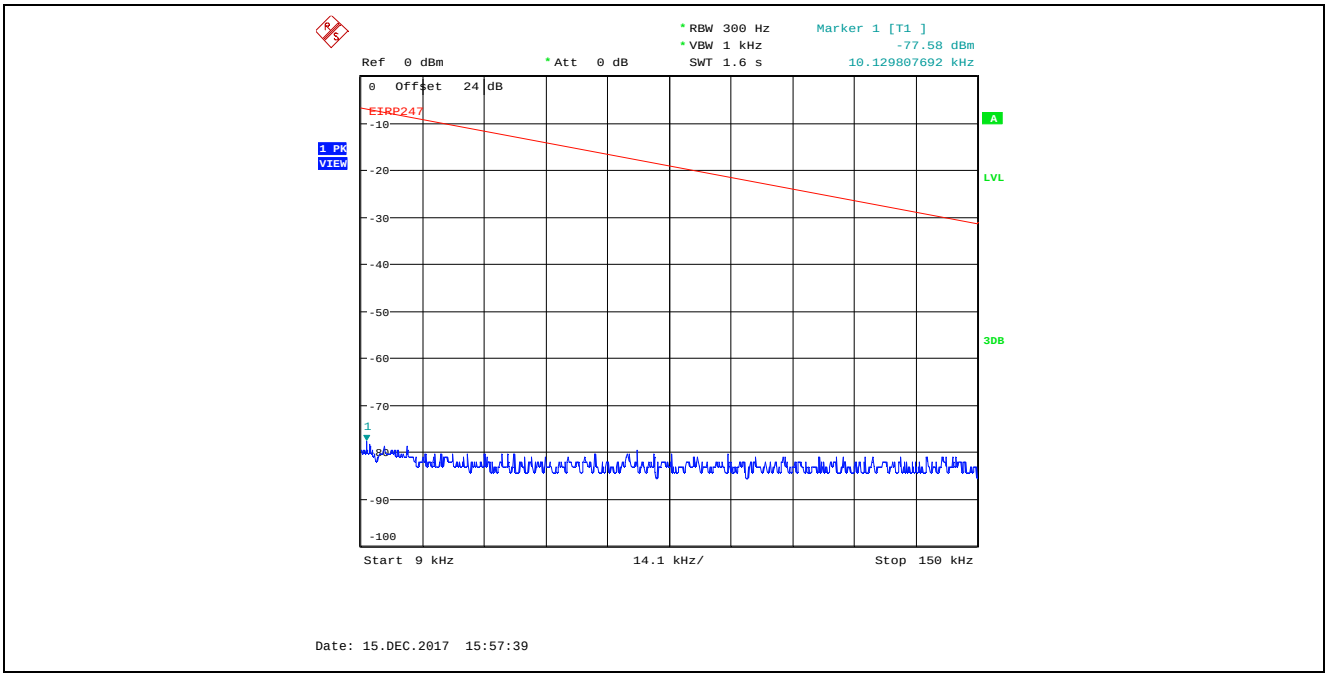
**Plot 5.4.4.5.56.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



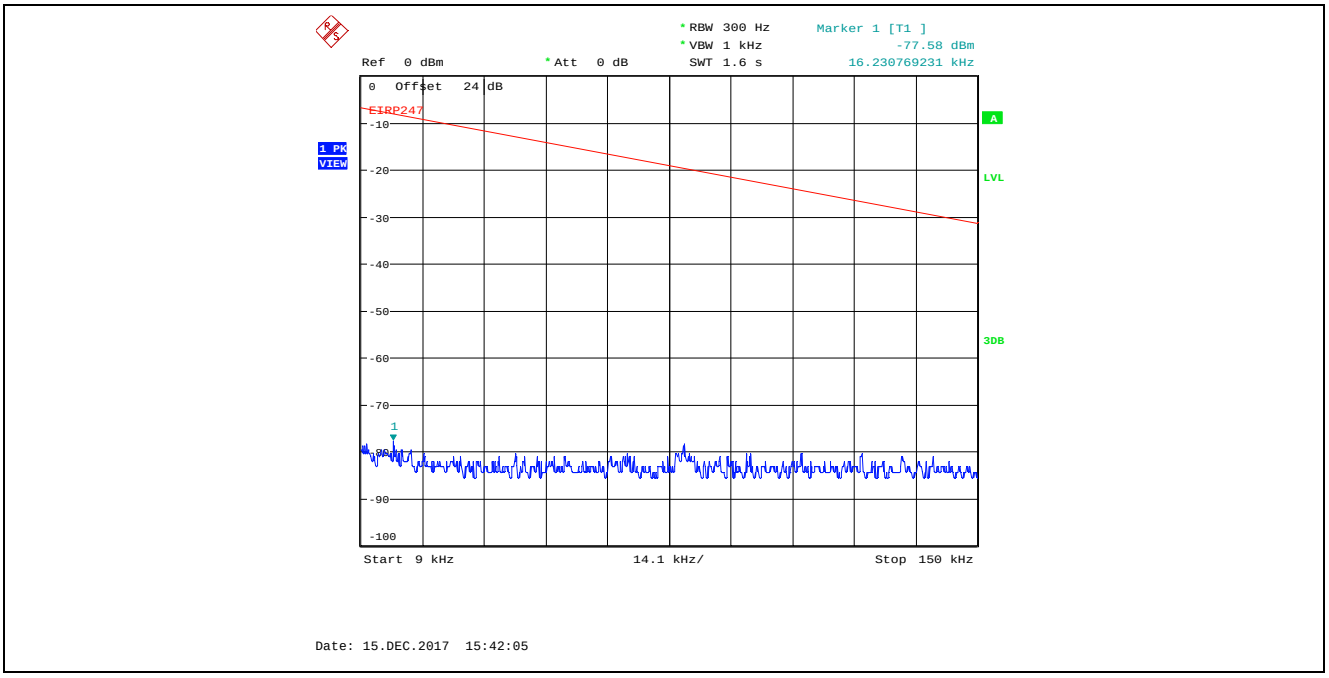

**Plot 5.4.4.5.57.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



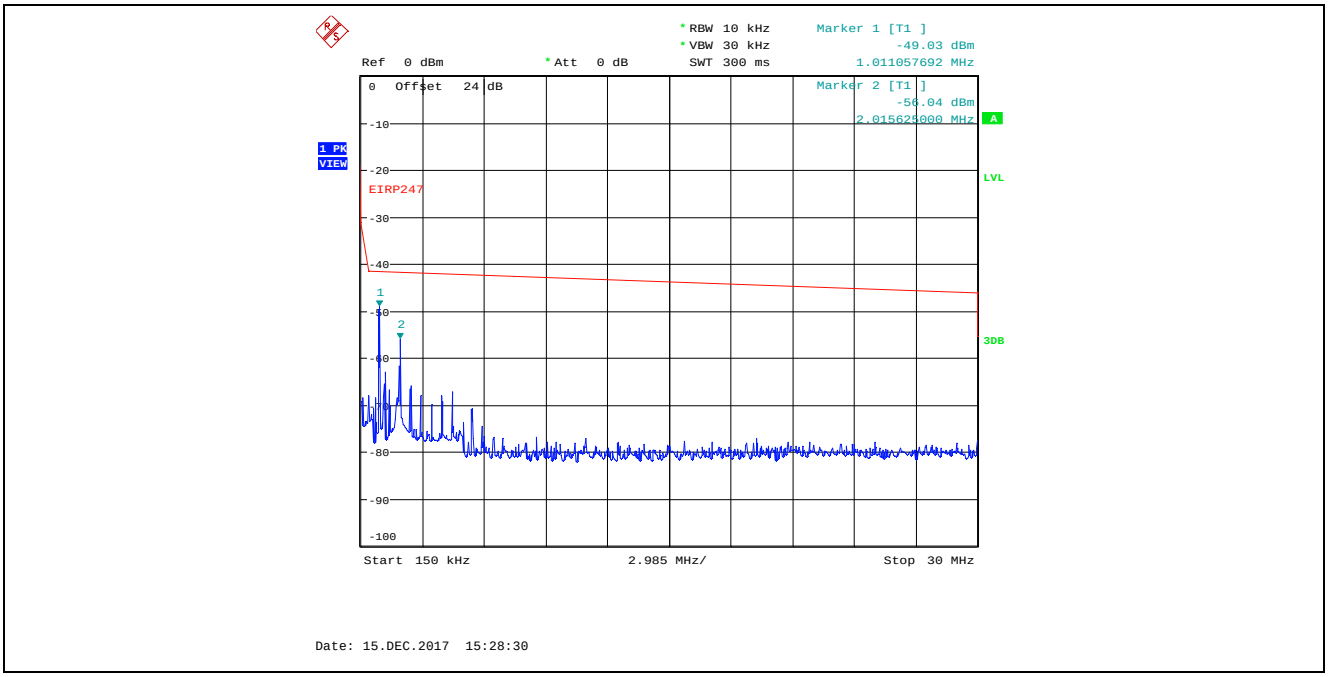
**Plot 5.4.4.5.58.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



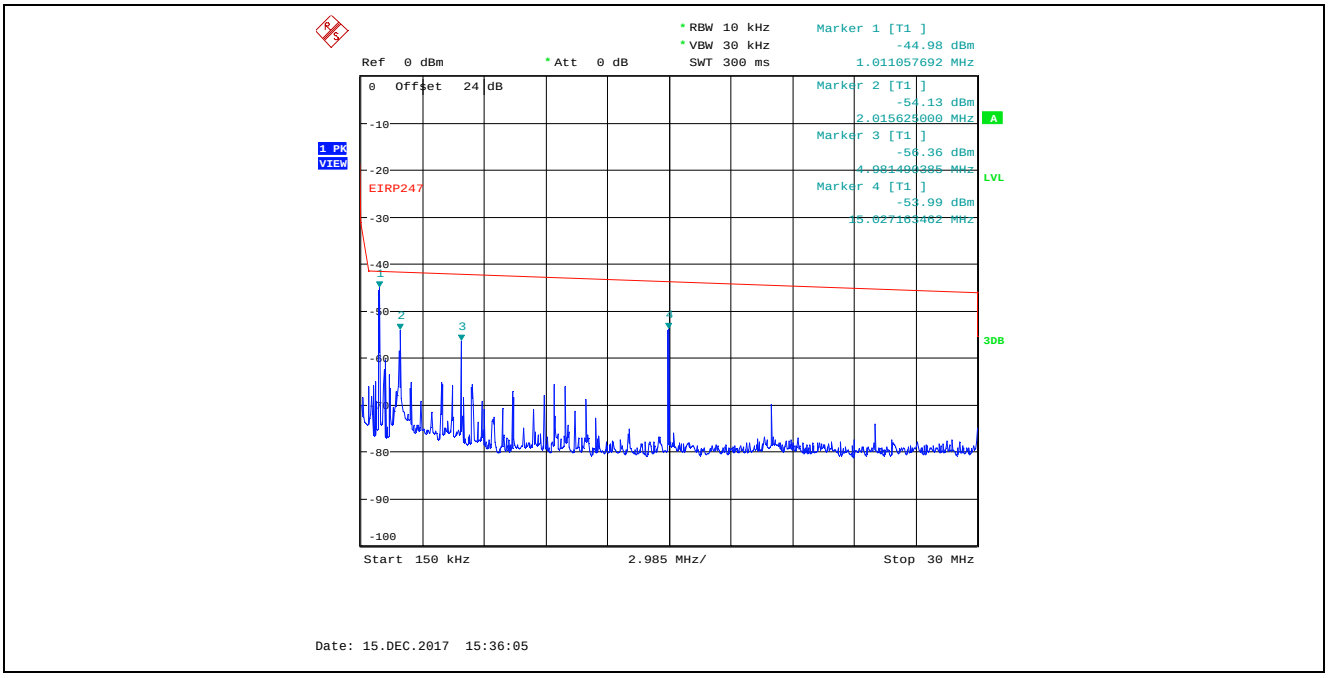

**Plot 5.4.4.5.59.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



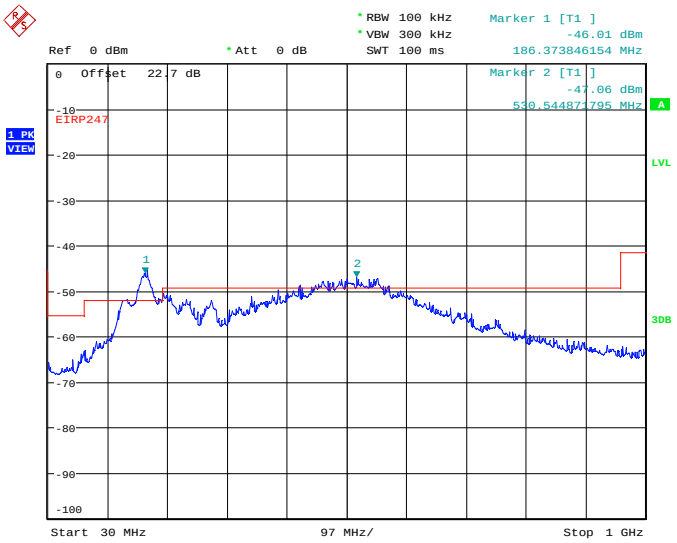
**Plot 5.4.4.5.60.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



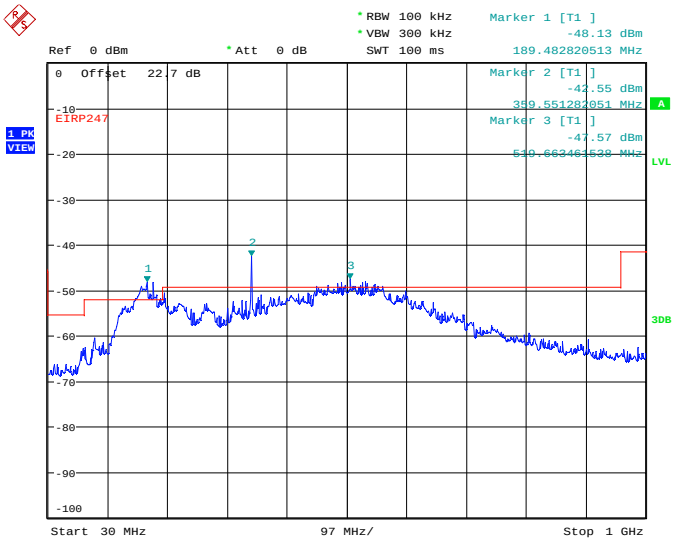

**Plot 5.4.4.5.61.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



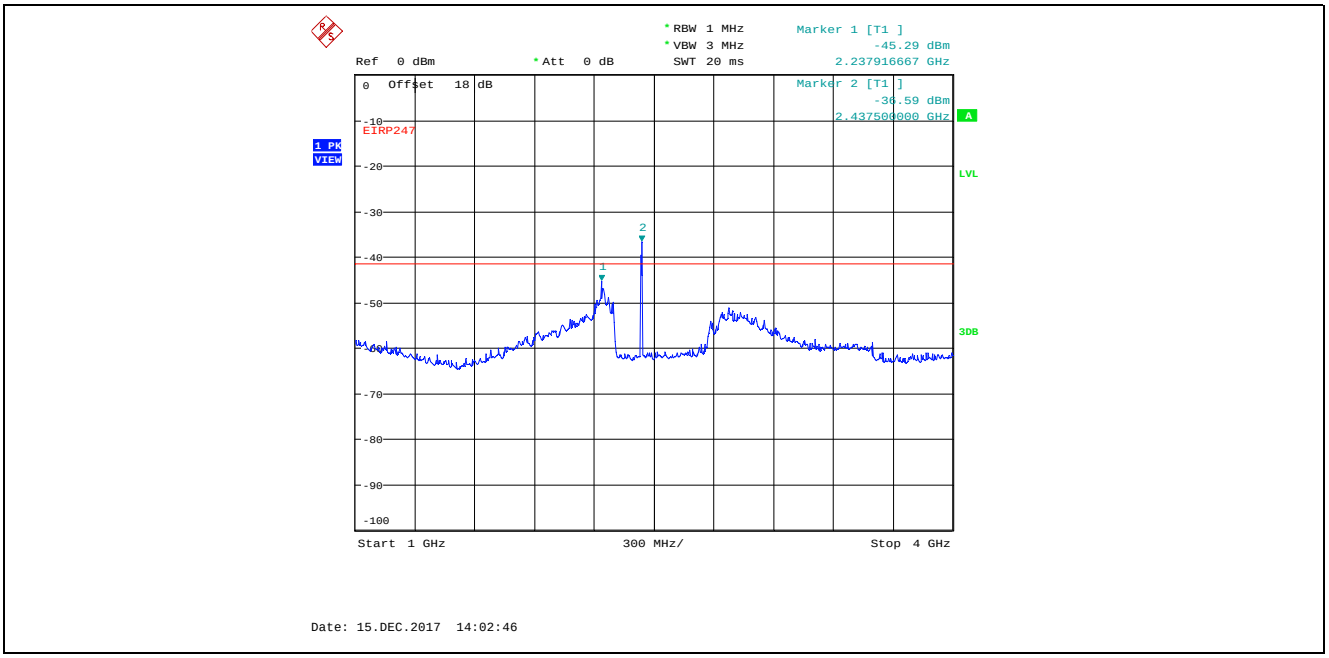
**Plot 5.4.4.5.62.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
**Emissions Above the Limit Line are Outside of the Restricted Bands**



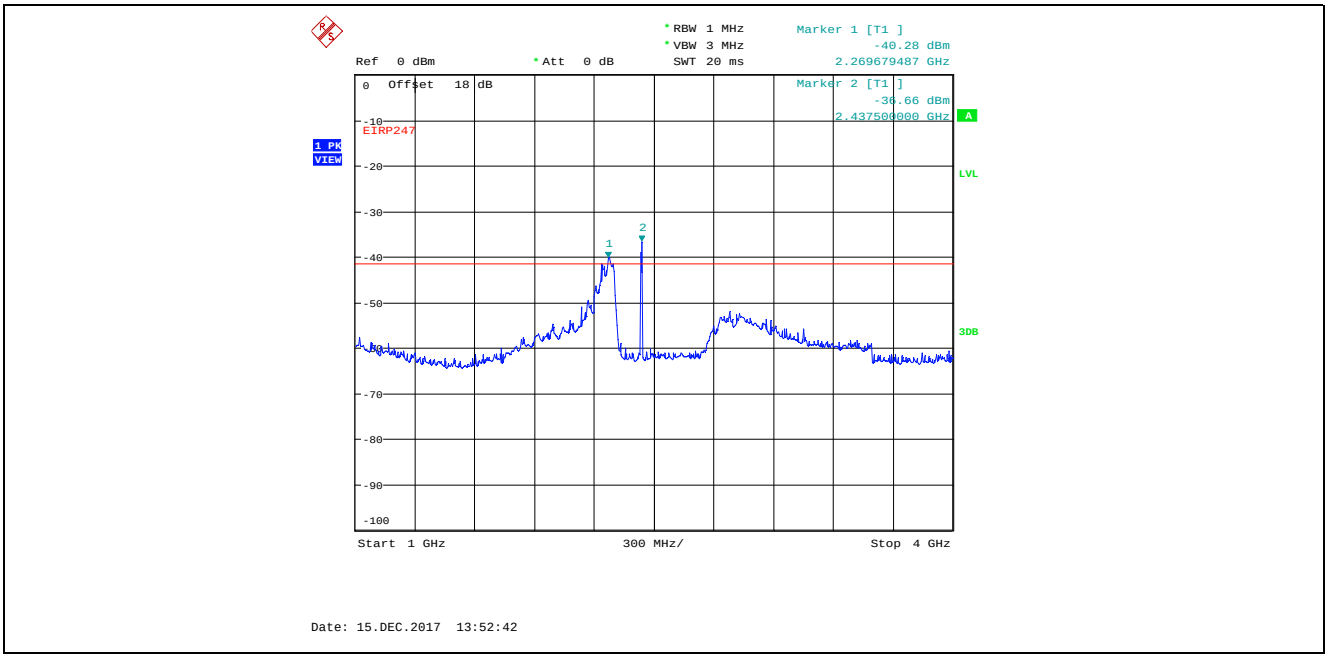

**Plot 5.4.4.5.63.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
**Emissions Above the Limit Line are Outside of the Restricted Bands**



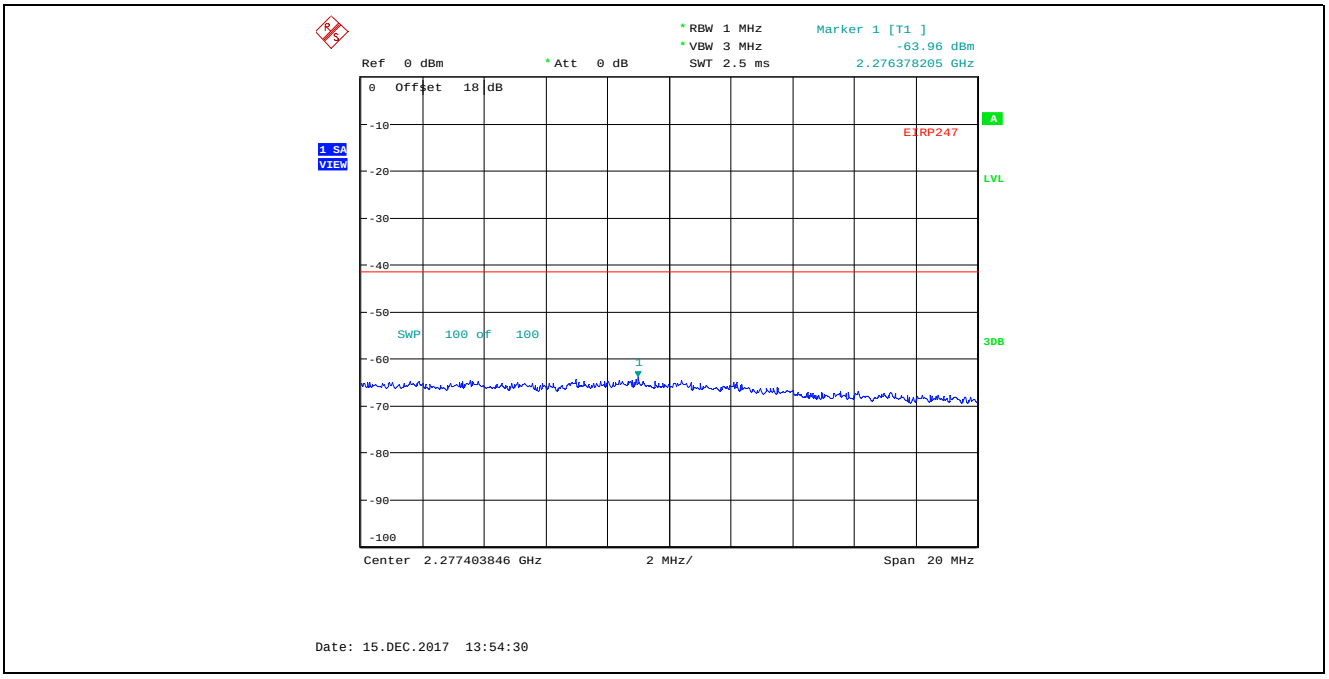
**Plot 5.4.4.5.64.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



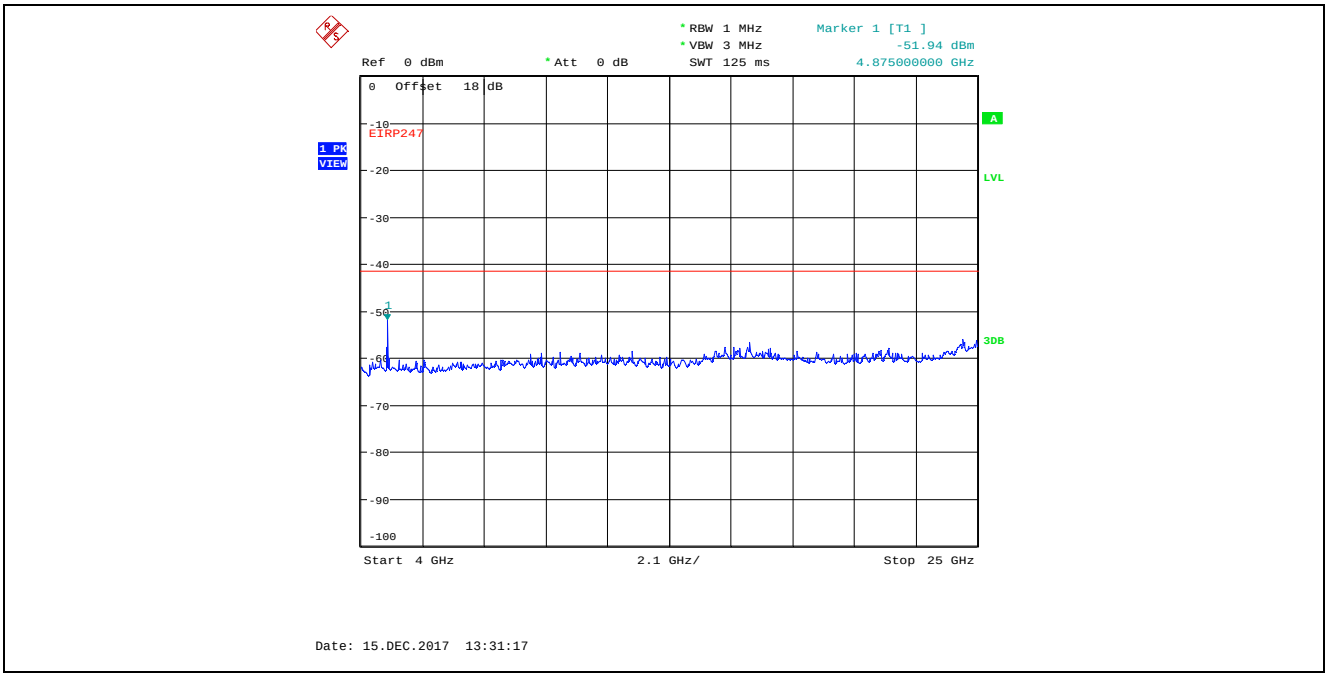

**Plot 5.4.4.5.65.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



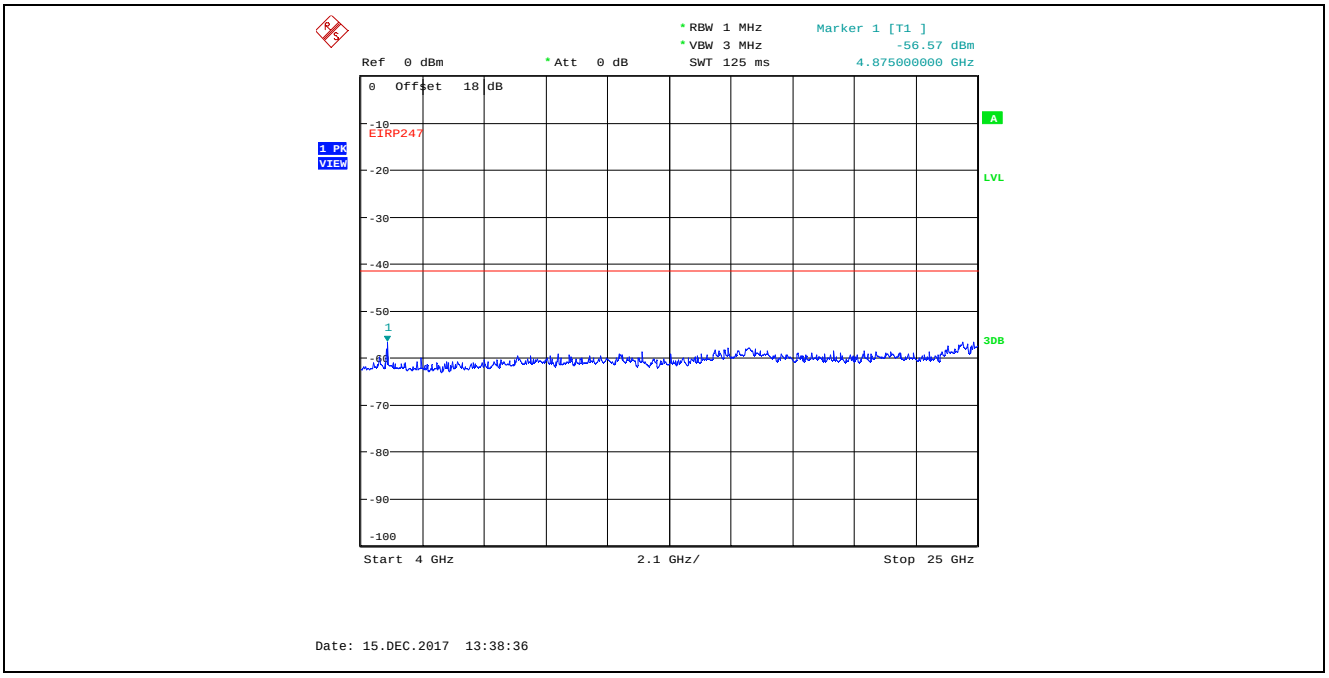
**Plot 5.4.4.5.66.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



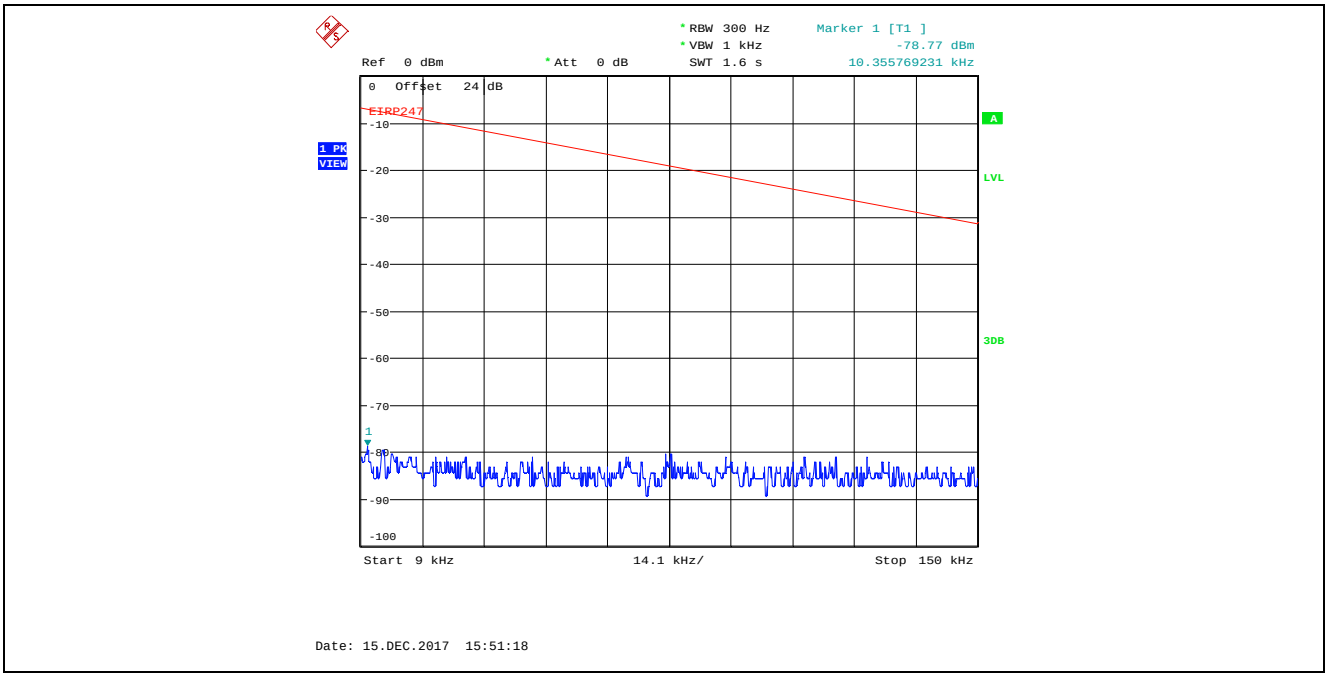
**Plot 5.4.4.5.67.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



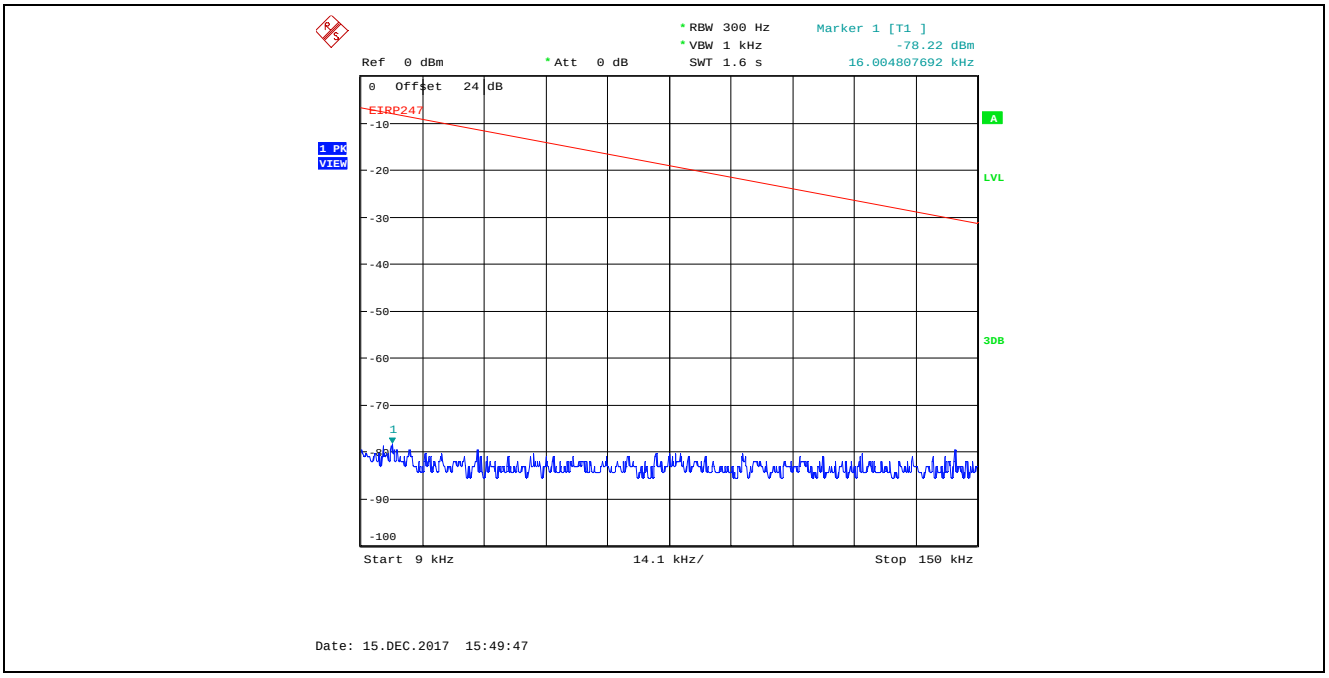

**Plot 5.4.4.5.68.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



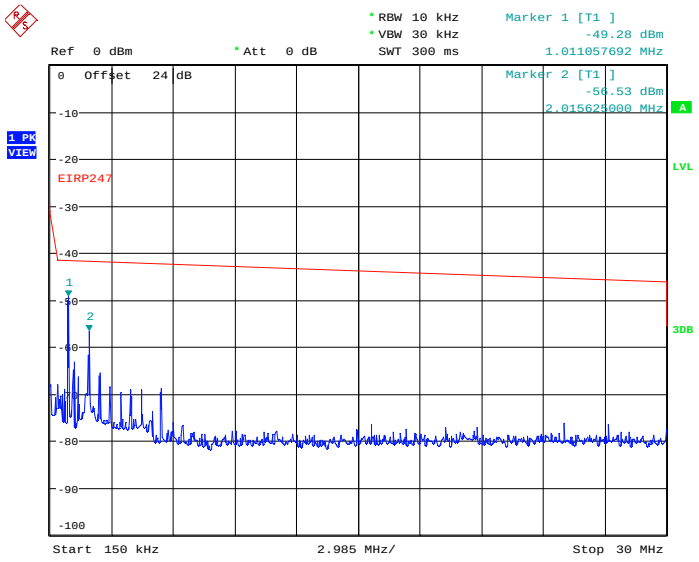
**Plot 5.4.4.5.69.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



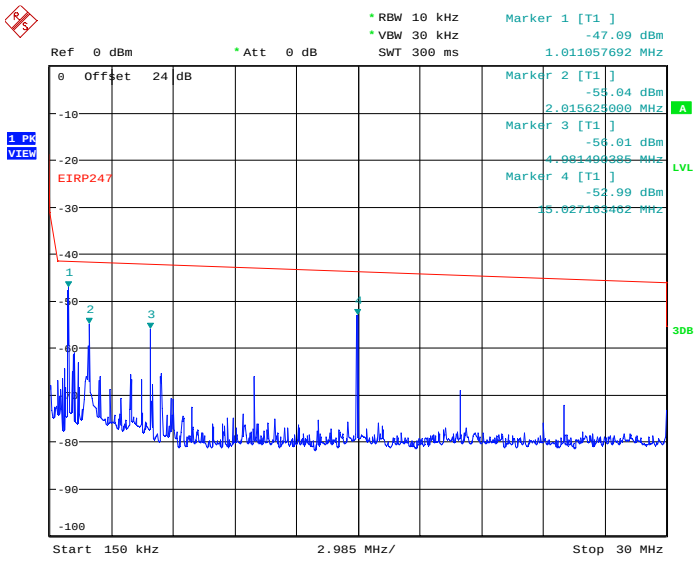

**Plot 5.4.4.5.70.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



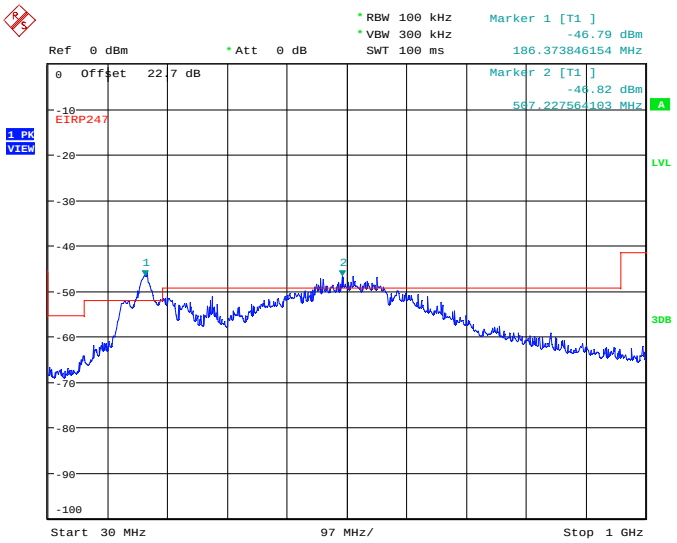
**Plot 5.4.4.5.71.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



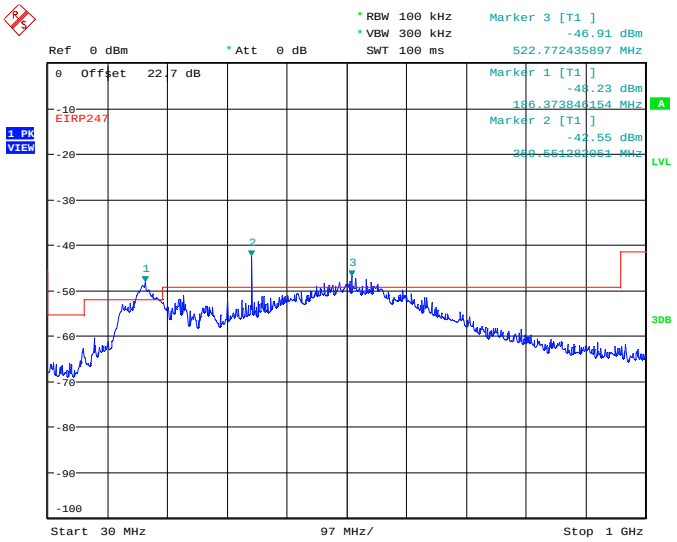

**Plot 5.4.4.5.72.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



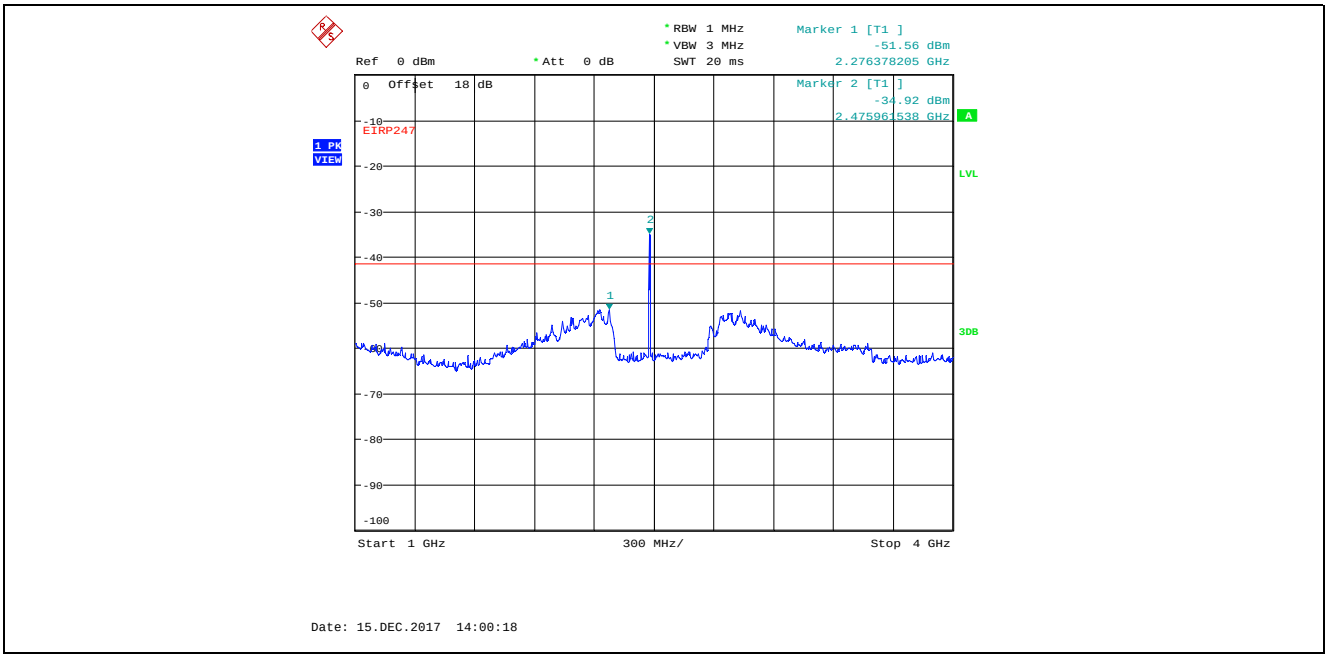
**Plot 5.4.4.5.73.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



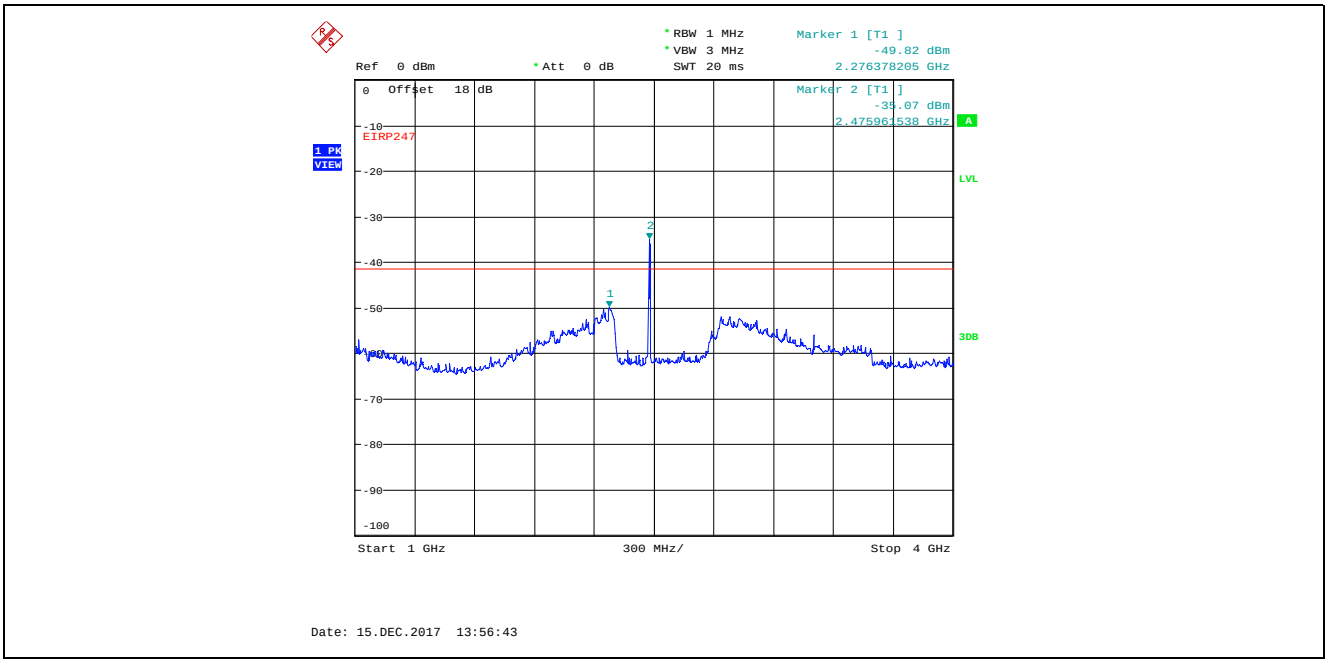

**Plot 5.4.4.5.74.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



**Plot 5.4.4.5.75.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



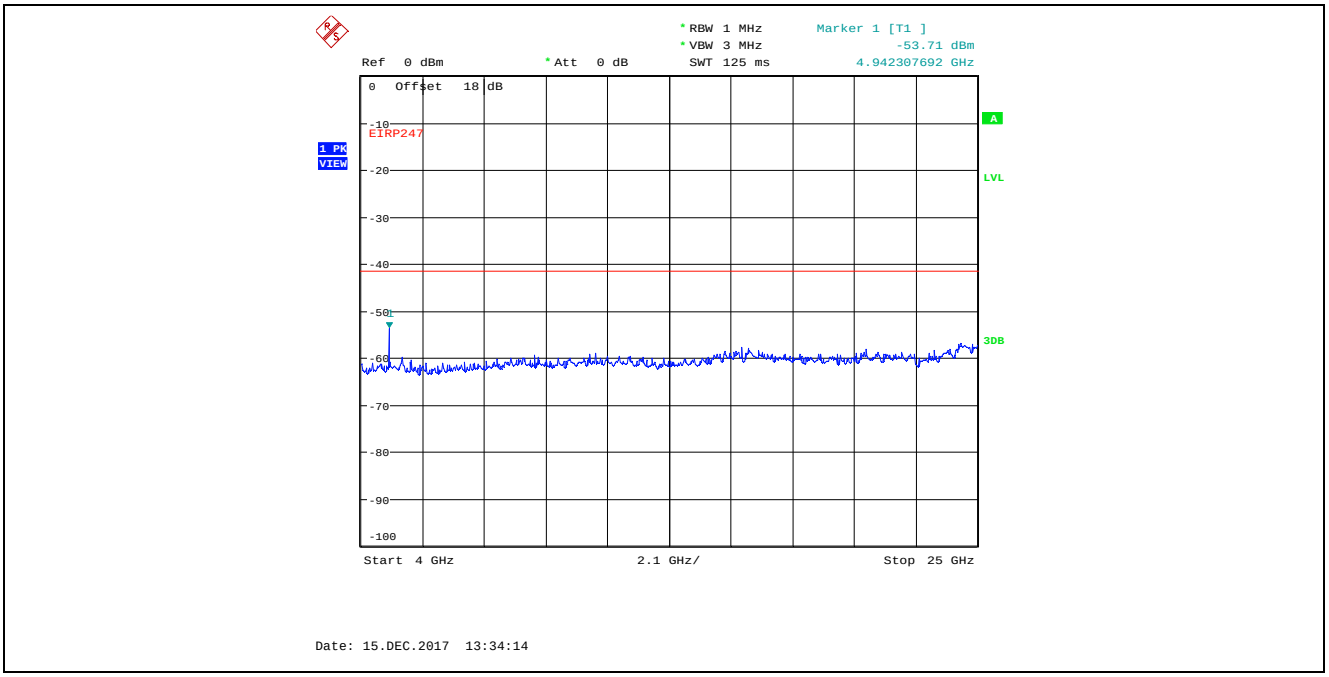

**Plot 5.4.4.5.76.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



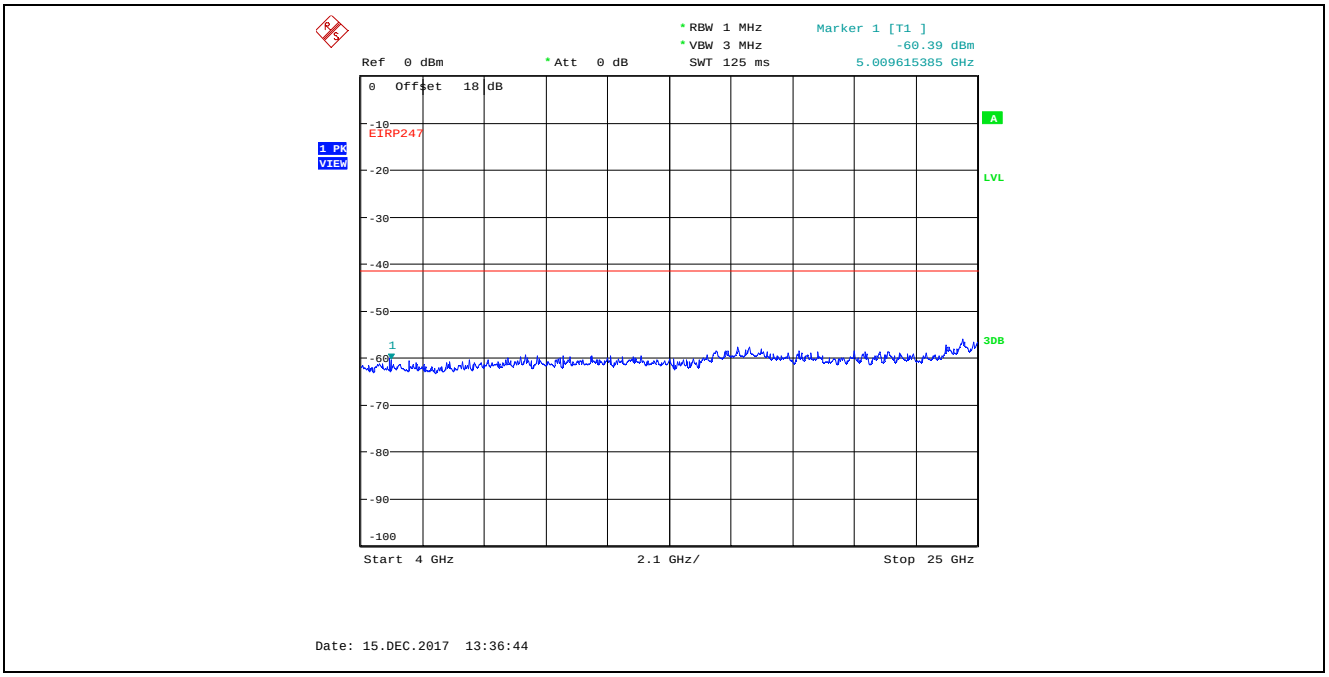



*All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)*

**Plot 5.4.4.5.77.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector




**Plot 5.4.4.5.78.** Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



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

### 5.5.1. Limit(s)

**§ 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 Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 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 |
| [1] 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 | ([2]) |
| 13.36–13.41. | | | |

[1] Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.
[2] Above 38.6

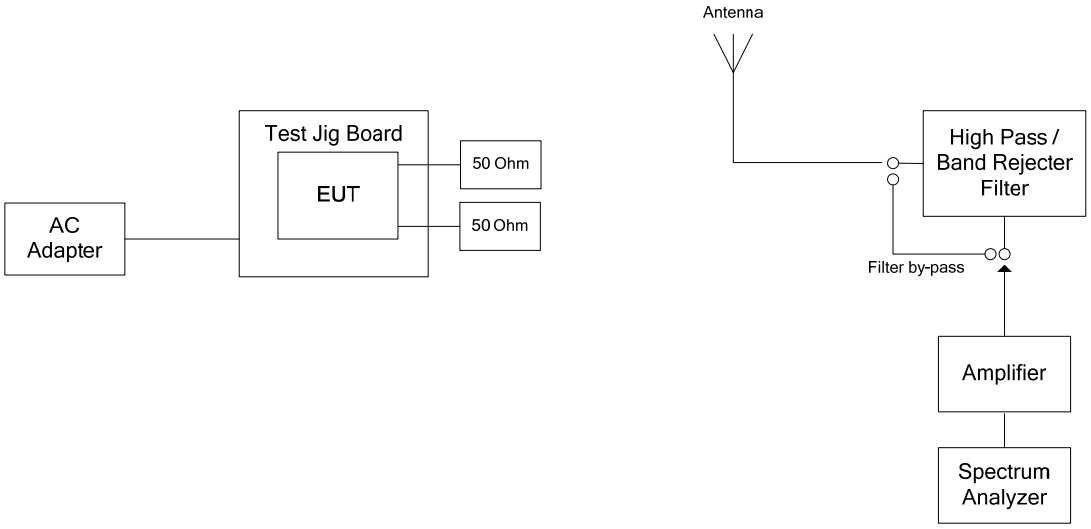
**Section 15.209(a) - Field Strength Limits within Restricted Frequency Bands**

| 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 |

### 5.5.2. Method of Measurements

KDB 558074 D01 DTS Meas Guidance v04, Section 12.2.7 Radiated Spurious Emissions

### 5.5.3. Test Arrangement



### 5.5.4. Test Data

**Remark(s):**
- All spurious emissions that are in excess of 20 dB below the specified limit shall be recorded.
- EUT shall be tested in three orthogonal positions.
- § 15.247 (d) spurious emission limit:
  E = (EIRP - 20log(d) + 104.8) – 20 = (36 dBm – 20log(3) + 104.8) – 20 = 111.3 dBµV/m
- Exploratory tests performed to determined worst-case test configurations, the following test results at high power setting to represent the worst-case.

#### 5.5.4.1. 4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 1

| 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** |
| 4804 | 49.62 | 39.67 | V | 54.0 | 111.3 | -14.3 | Pass* |
| 4804 | 47.76 | 34.46 | H | 54.0 | 111.3 | -19.5 | Pass* |
| All other spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2437 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** |
| 4874 | 51.65 | 40.72 | V | 54.0 | 111.3 | -13.3 | Pass* |
| 4874 | 48.20 | 36.46 | H | 54.0 | 111.3 | -17.5 | Pass* |
| 7311 | 53.15 | 40.49 | V | 54.0 | 111.3 | -13.5 | Pass* |
| 7311 | 52.93 | 40.66 | H | 54.0 | 111.3 | -13.3 | Pass* |
| All other spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2477 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** |
| 4954 | 50.47 | 41.21 | V | 54.0 | 111.3 | -12.8 | Pass* |
| 4954 | 47.75 | 36.31 | H | 54.0 | 111.3 | -17.7 | Pass* |
| 7431 | 52.32 | 39.13 | V | 54.0 | 111.3 | -14.9 | Pass* |
| 7431 | 50.82 | 37.69 | H | 54.0 | 111.3 | -16.3 | Pass* |
| All other spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

### 5.5.4.2. 4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 4

| Fundamental Frequency: | 2407 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** |
| 4814 | 50.04 | 34.26 | V | 54.0 | 111.3 | -19.7 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2437 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** |
| 4874 | 52.52 | 35.95 | V | 54.0 | 111.3 | -18.1 | Pass* |
| 7311 | 54.31 | 37.72 | V | 54.0 | 111.3 | -16.3 | Pass* |
| 7311 | 51.55 | 36.98 | H | 54.0 | 111.3 | -17.0 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2477 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** |
| 4954 | 52.30 | 35.31 | V | 54.0 | 111.3 | -18.7 | Pass* |
| 7431 | 52.40 | 36.45 | V | 54.0 | 111.3 | -17.6 | Pass* |
| 7431 | 50.71 | 36.25 | H | 54.0 | 111.3 | -17.8 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

### 5.5.4.3. 8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 1

| Fundamental Frequency: | 2407 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** |
| 4814 | 49.96 | 39.59 | V | 54.0 | 111.3 | -14.4 | Pass* |
| 4814 | 48.64 | 38.66 | H | 54.0 | 111.3 | -15.3 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2437 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** |
| 4874 | 51.76 | 41.98 | V | 54.0 | 111.3 | -12.0 | Pass* |
| 4874 | 49.54 | 39.26 | H | 54.0 | 111.3 | -14.7 | Pass* |
| 7311 | 52.86 | 39.29 | V | 54.0 | 111.3 | -14.7 | Pass* |
| 7311 | 53.93 | 40.14 | H | 54.0 | 111.3 | -13.9 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2477 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** |
| 4954 | 50.79 | 42.10 | V | 54.0 | 111.3 | -11.9 | Pass* |
| 4954 | 48.47 | 37.23 | H | 54.0 | 111.3 | -16.8 | Pass* |
| 7431 | 51.72 | 38.09 | V | 54.0 | 111.3 | -15.9 | Pass* |
| 7431 | 51.24 | 37.24 | H | 54.0 | 111.3 | -16.8 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

### 5.5.4.4. 8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 4

| Fundamental Frequency: | 2407 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** |
| 30 - 25000 | * | * | H/V | * | * | * | * |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2437 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** |
| 4874 | 49.12 | 34.35 | V | 54.0 | 111.3 | -19.7 | Pass* |
| 7311 | 51.07 | 36.84 | V | 54.0 | 111.3 | -17.2 | Pass* |
| 7311 | 51.31 | 36.92 | H | 54.0 | 111.3 | -17.1 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

| Fundamental Frequency: | 2477 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** |
| 7431 | 50.72 | 36.35 | V | 54.0 | 111.3 | -17.7 | Pass* |
| 7431 | 50.51 | 36.41 | H | 54.0 | 111.3 | -17.6 | Pass* |
| *All spurious emissions and harmonics are more than 20 dB below the applicable limit. | | | | | | | |

*Field strength of emissions appearing within restricted frequency bands shall not exceed the limits in § 15.209.

## 5.6. POWER SPECTRAL DENSITY [§ 15.247(e)]

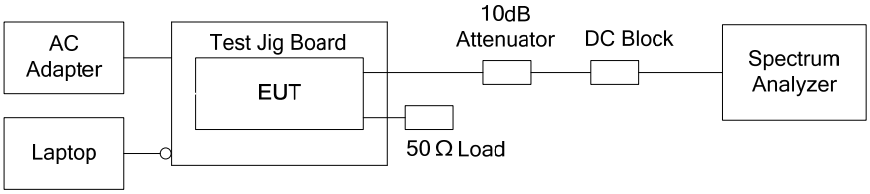
### 5.6.1. Limit(s)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 5.6.2. Method of Measurements

KDB 558074 D01 DTS Meas Guidance v04, Section 10.2 Peak PSD
KDB 662911 D01 Multiple Transmitter Output v02r01, Section (E)(2)(a) Measure-and sum the spectra across the outputs.

### 5.6.3. Test Arrangement




### 5.6.4. Test Data

| Bandwidth: 4 MHz, Data Rates: 1, 2 & 3, Power Setting: 22 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Bandwidth Setting (MHz)** | **Power Setting** | **Data Rate** | **Frequency (MHz)** | **Combine PSD (dBm)** | **Array Gain (dB)** | **PSD (dBm)** | **Max. Limit (dBm)** |
| 4 | 22 | 1 | 2402 | 2.77 | 3.01 | 5.78 | 8 |
| | | | 2437 | 4.60 | 3.01 | 7.61 | 8 |
| | | | 2477 | 3.50 | 3.01 | 6.51 | 8 |
| | | 2 | 2402 | 4.02 | 3.01 | 7.03 | 8 |
| | | | 2437 | 3.78 | 3.01 | 6.79 | 8 |
| | | | 2477 | 4.20 | 3.01 | 7.21 | 8 |
| | | 3 | 2402 | 2.99 | 3.01 | 6.00 | 8 |
| | | | 2437 | 3.29 | 3.01 | 6.30 | 8 |
| | | | 2477 | 2.91 | 3.01 | 5.92 | 8 |

| Bandwidth: 8 MHz, Data Rates 1, 2 & 3, Power Setting: 22 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Bandwidth Setting (MHz)** | **Power Setting** | **Data Rate** | **Frequency (MHz)** | **Combine PSD (dBm)** | **Array Gain (dB)** | **PSD (dBm)** | **Max. Limit (dBm)** |
| 8 | 22 | 1 | 2407 | 0.76 | 3.01 | 3.77 | 8 |
| | | | 2437 | 3.97 | 3.01 | 6.98 | 8 |
| | | | 2477 | 1.84 | 3.01 | 4.85 | 8 |
| | | 2 | 2407 | 1.05 | 3.01 | 4.06 | 8 |
| | | | 2437 | 2.91 | 3.01 | 5.92 | 8 |
| | | | 2477 | 1.64 | 3.01 | 4.65 | 8 |
| | | 3 | 2407 | -0.10 | 3.01 | 2.91 | 8 |
| | | | 2437 | 2.35 | 3.01 | 5.36 | 8 |
| | | | 2477 | 1.41 | 3.01 | 4.43 | 8 |

| Bandwidth: 4 MHz, Data Rates: 4, 5, 6 & 7, Power Setting: 24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Bandwidth Setting (MHz)** | **Power Setting** | **Data Rate** | **Frequency (MHz)** | **Combine PSD (dBm)** | **Array Gain (dB)** | **PSD (dBm)** | **Max. Limit (dBm)** |
| 4 | 24 | 4 | 2407 | 1.49 | 3.01 | 4.50 | 8 |
| | | | 2437 | 2.65 | 3.01 | 5.66 | 8 |
| | | | 2477 | 1.83 | 3.01 | 4.84 | 8 |
| | | 5 | 2407 | 0.98 | 3.01 | 3.99 | 8 |
| | | | 2437 | 2.62 | 3.01 | 5.63 | 8 |
| | | | 2477 | 0.36 | 3.01 | 3.37 | 8 |
| | | 6 | 2407 | 0.74 | 3.01 | 3.75 | 8 |
| | | | 2437 | 3.35 | 3.01 | 6.36 | 8 |
| | | | 2477 | 1.75 | 3.01 | 4.76 | 8 |
| | | 7 | 2407 | 0.92 | 3.01 | 3.93 | 8 |
| | | | 2437 | 3.03 | 3.01 | 6.04 | 8 |
| | | | 2477 | 0.79 | 3.01 | 3.80 | 8 |

| Bandwidth: 8 MHz, Data Rates: 4, 5, 6 & 7, Power Setting: 24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Bandwidth Setting (MHz)** | **Power Setting** | **Data Rate** | **Frequency (MHz)** | **Combine PSD (dBm)** | **Array Gain (dB)** | **PSD (dBm)** | **Max. Limit (dBm)** |
| 8 | 24 | 4 | 2407 | -2.91 | 3.01 | 0.82 | 8 |
| | | | 2437 | -0.08 | 3.01 | 2.93 | 8 |
| | | | 2477 | -1.98 | 3.01 | 1.03 | 8 |
| | | 5 | 2407 | -2.69 | 3.01 | 0.32 | 8 |
| | | | 2437 | -0.65 | 3.01 | 2.36 | 8 |
| | | | 2477 | -2.26 | 3.01 | 0.75 | 8 |
| | | 6 | 2407 | -2.54 | 3.01 | 0.47 | 8 |
| | | | 2437 | -0.02 | 3.01 | 2.99 | 8 |
| | | | 2477 | -1.87 | 3.01 | 1.14 | 8 |
| | | 7 | 2407 | -2.42 | 3.01 | 0.59 | 8 |
| | | | 2437 | -0.06 | 3.01 | 2.95 | 8 |
| | | | 2477 | -0.96 | 3.01 | 2.05 | 8 |

## 5.7. RF EXPOSURE REQUIRMENTS [§§ 15.247(i), 1.1310 & 2.1091]

### 5.7.1. Limits

§ **1.1310:** The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b).

**Limits for Maximum Permissible Exposure (MPE)**

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density ($mW/cm^2$) | Averaging time (minutes) |
|---|---|---|---|---|
| **(A) Limits for Occupational/Controlled Exposures** | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0-30 | 1842/f | 4.89/f | *($900/f^2$) | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | f/300 | 6 |
| 1500-100,000 | | | 5 | 6 |
| **(B) Limits for General Population/Uncontrolled Exposure** | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *($180/f^2$) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | f/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

f = frequency in MHz
* = Plane-wave equivalent power density

Note 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

### 5.7.2. Method of Measurements

**Calculation Method of Power Density/RF Safety Distance**:

$$S = \frac{PG}{4\pi \cdot r^2} = \frac{EIRP}{4\pi \cdot r^2}$$

Where, P: power input to the antenna in mW
EIRP: Equivalent (effective) isotropic radiated power.
S: power density mW/cm$^2$
G: numeric gain of antenna relative to isotropic radiator
r: distance to centre of radiation in cm

### 5.7.3. RF Evaluation

#### 5.7.3.1. Standalone

| Frequency (MHz) | EIRP (dBm) | EIRP (mW) | Evaluation Distance, r (cm) | Power Density, S (mW/cm$^2$) | MPE Limit (mW/cm$^2$) | Margin (mW/cm$^2$) |
|---|---|---|---|---|---|---|
| 2402 | 36 | 4000 | 27 | 0.437 | 1.0 | -0.563 |

### 5.7.3.2. Co-location

Pursuant to KDB 447498 D01 General RF Exposure Guidance v06, Section 7.2:

*Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0, according to calculated/estimated, numerically modeled, or measured field strengths or power density.*

Co-location will only applies to EUT with 2.5 dBi dipole antenna, worst case EIRP of 32.69 dBm will be used in co-location at the minimum 27 cm evaluation separation distance required by the operating configurations and exposure conditions of the host device.

**The maximum calculated MPE ratio of the EUT with 2.5 dBi dipole antenna**

| Frequency (MHz) | EUT EIRP* (dBm) | EUT EIRP (mW) | Evaluation Distance (cm) | Power Density ($mW/cm^2$) | FCC MPE Limit ($mW/cm^2$) | MPE Ratio |
|---|---|---|---|---|---|---|
| 2402 | 32.69 | 1857.804 | 27 | 0.203 | 1.0 | 0.203 |
| * The EUT EIRP is derived from the maximum conducted power of 27.18 dBm + 2.5 dBi antenna gain + array gain of 10*log(2). | | | | | | |

The maximum calculated MPE ratio for the EUT with 2.5 dBi dipole antenna is 0.203, this configuration can be co-located with other antennas provided the sum of the MPE ratios for all the other simultaneous transmitting antennas incorporated in a host device is $\leq$ 1.0 - 0.203 $\leq$ 0.797.

The following table addresses the co-location of the EUT with 2.5 dBi antenna with the specified radio modules.

**EUT with 2.5 dBi dipole antenna co-location with radio module identified in this table**

| *Radio Module | Frequency (MHz) | EIRP (dBm) | EIRP (mW) | Evaluation Distance (cm) | Power Density ($mW/cm^2$) | FCC MPE Limit ($mW/cm^2$) | MPE Ratio | MPE Ratio of EUT with 2.5 dBi antenna | Sum of MPE Ratio | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| LE910NA V2 LTE/3G Module (FCC ID: RI7LE910NAV2, IC: 5131A-LE910NAV2) | 699.0 | 30.63 | 1156.112 | 27 | 0.126 | 0.466 | 0.270 | 0.203 | 0.473 | Compliant |
| LM940 Module (FCC ID: RI7LM940 IC: 5131A-LM940) | 2307.5 | 34.00 | 2511.886 | 27 | 0.274 | 1.000 | 0.274 | 0.203 | 0.477 | Compliant |
| Cellular Module (FCC ID: XPY2AGQN4NNN, IC: 8595A-2AGQN4NNN) | 1850.0 | 32.12 | 1629.296 | 27 | 0.178 | 1.000 | 0.178 | 0.203 | 0.381 | Compliant |

* The test data of the radio modules represented in this table is the worst-case configuration (maximum MPE ratio) derived from the original radio modules MPE reports. Refer to these reports for details.

## EXHIBIT 6. TEST EQUIPMENT LIST

| Test Instruments | Manufacturer | Model No. | Serial No. | Frequency Range | Cal. Due Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | Hewlett Packard | HP 8593EM | 3412800103 | 9 kHz–26.5 GHz | 11 May 2018 |
| Attenuator | Pasternack | PE7010-20 | 09 | DC–2 GHz | 13 Mar 2018 |
| LISN Used | EMCO | 3825/2R | 1165 | 10 kHz–30 MHz | 03 Nov 2018 |
| Spectrum Analyzer | Rohde & Schwarz | FSU26 | 200946 | 20Hz–26.5 GHz | 21 Jul 2018 |
| DC Block | Hewlett Packard | 11742A | 12460 | 0.045 – 26.5 GHz | See Note 1 |
| Attenuator | Hewlett Packard | 8493C | 0465 | DC–18 GHz | See Note 1 |
| Laptop | HP | 6910p | CND7412DKX | --- | --- |
| High Pass Filter | K & L | 11SH10-4000/T12000 | 4 | Cut off 2.4 GHz | See Note 1 |
| Band Reject Filter | Micro-Tronics | BRM50701 | 105 | Cut off 2.4-2.483 GHz | See Note 1 |
| EMI Receiver | Rohde & Schwarz | ESU40 | 100037 | 20Hz–40 GHz | 09 May 2018 |
| RF Amplifier | Com-Power | PAM-0118A | 551052 | 0.5 – 18 GHz | 17 Jul 2018 |
| RF Amplifier | Hewlett Packard | 84498 | 3008A00769 | 1 – 26.5 GHz | 04 Oct 2018 |
| Biconilog | EMCO | 3142 | 9601-1005 | 26-1000 MHz | 12 May 2018 |
| Horn Antenna | EMCO | 3155 | 6570 | 1 – 18 GHz | 13 Oct 2018 |
| Horn Antenna | ETS-Lindgren | 3160-09 | 001183858 | 18 – 26.5 GHz | 11 Oct 2018 |
| Laptop | IBM | 1161-260 | AA-FV8WK | --- | --- |
| Note 1: Internal Verification/Calibration check | | | | | |

# 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.

## 7.1. LINE CONDUCTED EMISSION MEASUREMENT UNCERTAINTY

| | **Line Conducted Emission Measurement Uncertainty (9 kHz – 30 MHz):** | **Measured** | **Limit** |
|---|---|---|---|
| **$u_c$** | **Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$ | **± 1.44** | **± 1.8** |
| **U** | **Expanded uncertainty U:** $U = 2u_c(y)$ | **± 2.89** | **± 3.6** |

## 7.2. RADIATED EMISSION MEASUREMENT UNCERTAINTY

| | **Radiated Emission Measurement Uncertainty @ 3m, Horizontal (30-1000 MHz):** | **Measured (dB)** | **Limit (dB)** |
|---|---|---|---|
| **$u_c$** | **Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$ | **± 2.39** | **± 2.6** |
| **U** | **Expanded uncertainty U:** $U = 2u_c(y)$ | **± 4.79** | **± 5.2** |

| | **Radiated Emission Measurement Uncertainty @ 3m, Vertical (30-1000 MHz):** | **Measured (dB)** | **Limit (dB)** |
|---|---|---|---|
| **$u_c$** | **Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$ | **± 2.39** | **± 2.6** |
| **U** | **Expanded uncertainty U:** $U = 2u_c(y)$ | **± 4.78** | **± 5.2** |

| | **Radiated Emission Measurement Uncertainty @ 3 m, Horizontal & Vertical (1 – 18 GHz):** | **Measured (dB)** | **Limit (dB)** |
|---|---|---|---|
| **$u_c$** | **Combined standard uncertainty:** $u_c(y) = \sqrt{\sum_{I=1}^{m} u_i^2(y)}$ | **± 1.87** | **Under consideration** |
| **U** | **Expanded uncertainty U:** $U = 2u_c(y)$ | **± 3.75** | **Under consideration** |