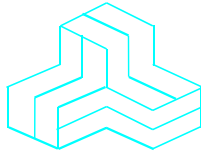


ENGINEERING TEST REPORT



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
Tri M. Luu
Vice President of Engineering
UltraTech Group of Labs

Date: March 5, 2018

Report Prepared by: Dan Huynh

Tested by: Hung Trinh

Issued Date: March 5, 2018

Test Dates: December 5 - 19, 2017
January, 11, 2018

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

UltraTech

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel.: (905) 829-1570 Fax.: (905) 829-8050
Website: www.ultratech-labs.com, Email: vic@ultratech-labs.com, Email: tri@ultratech-labs.com



91038



1309



46390-2049



AT-1945



SL2-IN-E-1119R



CA2049

TABLE OF CONTENTS

EXHIBIT 1.	INTRODUCTION.....	1
1.1.	SCOPE	1
1.2.	RELATED SUBMITTAL(S)/GRANT(S)	1
1.3.	NORMATIVE REFERENCES	1
EXHIBIT 2.	PERFORMANCE ASSESSMENT	2
2.1.	CLIENT INFORMATION	2
2.2.	EQUIPMENT UNDER TEST (EUT) INFORMATION	2
2.3.	EUT'S TECHNICAL SPECIFICATIONS.....	3
2.4.	ASSOCIATED ANTENNA DESCRIPTIONS	3
2.5.	LIST OF EUT'S PORTS.....	3
2.6.	ANCILLARY EQUIPMENT	4
EXHIBIT 3.	EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS	5
3.1.	CLIMATE TEST CONDITIONS	5
3.2.	OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS.....	5
EXHIBIT 4.	SUMMARY OF TEST RESULTS.....	6
4.1.	LOCATION OF TESTS	6
4.2.	APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS	6
4.3.	MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES	6
EXHIBIT 5.	TEST DATA	7
5.1.	POWER LINE CONDUCTED EMISSIONS [§15.207(a)].....	7
5.2.	OCCUPIED BANDWIDTH [§ 15.247(a)(2)].....	12
5.3.	PEAK CONDUCTED OUTPUT POWER - DTS [§ 15.247(b)(3)]	57
5.4.	TRANSMITTER BAND-EDGE & SPURIOUS CONDUCTED EMISSIONS [§ 15.247(d)]	62
5.5.	TRANSMITTER SPURIOUS RADIATED EMISSIONS AT 3 METERS [§§ 15.247(d), 15.209 & 15.205]	221
5.6.	POWER SPECTRAL DENSITY [§ 15.247(e)].....	228
5.7.	RF EXPOSURE REQUIRMENTS [§§ 15.247(i), 1.1310 & 2.1091].....	231
EXHIBIT 6.	TEST EQUIPMENT LIST	234
EXHIBIT 7.	MEASUREMENT UNCERTAINTY	235
7.1.	LINE CONDUCTED EMISSION MEASUREMENT UNCERTAINTY.....	235
7.2.	RADIATED EMISSION MEASUREMENT UNCERTAINTY	235

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 - ANSI C63.10 - FCC KDB Publication No. 558074 D01 DTS Meas Guidance v04
Environmental Classification:	☒ Commercial, industrial or business environment ☒ 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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

EXHIBIT 2. PERFORMANCE ASSESSMENT

2.1. CLIENT INFORMATION

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

MANUFACTURER	
Name:	Microhard Systems Inc.
Address:	150 Country Hills Landing NW Calgary, Alberta Canada T3K 5P3
Contact Person:	Mr. Hany Shenouda Phone #: 403 248-0028 Fax #: 403 248-2762 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 - Base Station (fixed use)		
Intended Operating Environment:	- Commercial, industrial or business environment - 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 8 MHz	2402 - 2477 MHz 2407 - 2477 MHz	2407 - 2477MHz 2407 - 2477 MHz
RF Output Impedance:	50 Ω		
Duty Cycle:	Continuous		
Modulation Type:	COFDM		
Antenna Connector Types:	U.FL		

¹TX gain setting is a factory tune-up parameter, not available to end users

²Refer 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 °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 2407 – 2477 MHz
Frequency(ies) Tested:	2402 MHz, 2407 MHz, 2437 MHz, 2477 MHz
RF Power Output: (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:

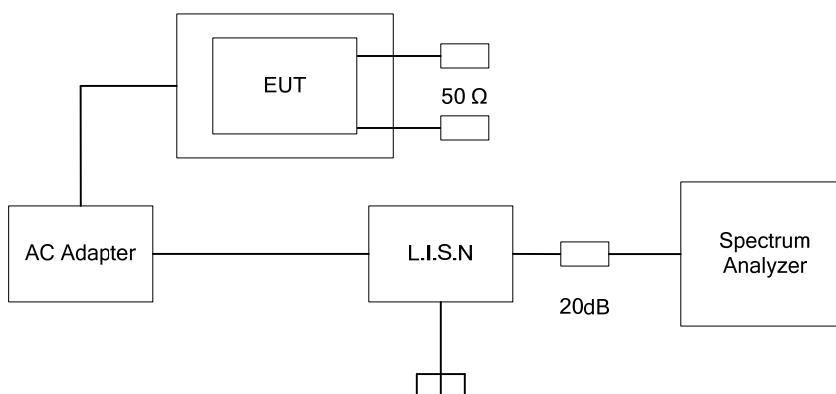
Frequency of emission (MHz)	Conducted Limits (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases linearly with the logarithm of the frequency

5.1.2. Method of Measurements

ANSI C63.4

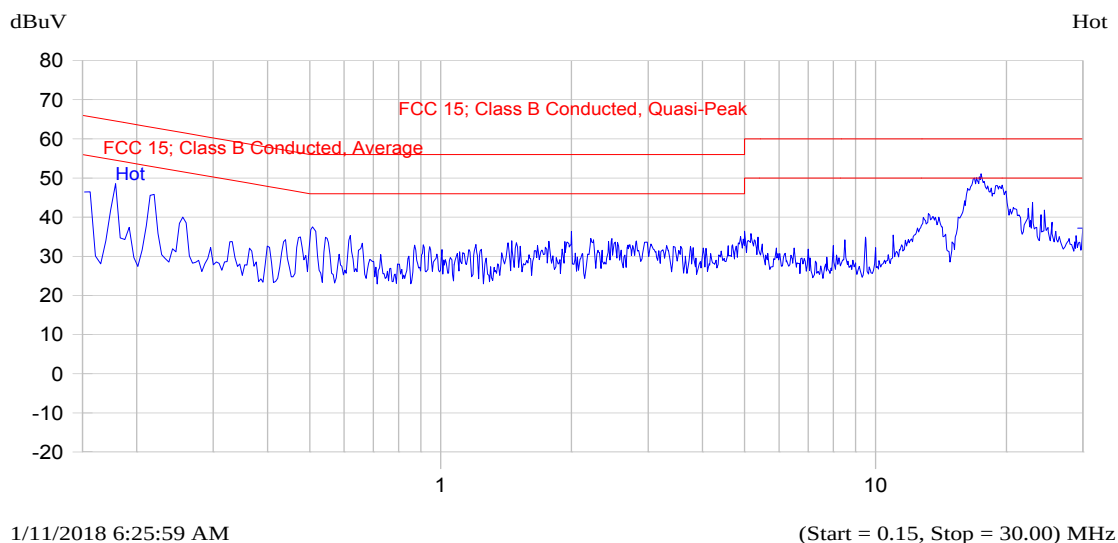
5.1.3. Test Arrangement



5.1.4. Test Data

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

Current Graph

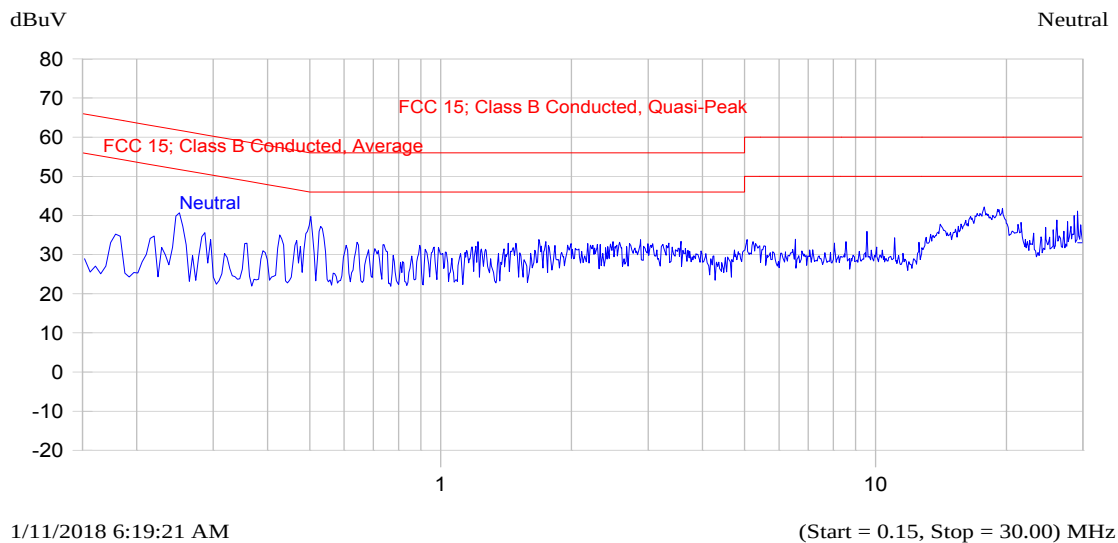


Current List

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 Voltage 120 VAC; Line Tested: Neutral

Current Graph

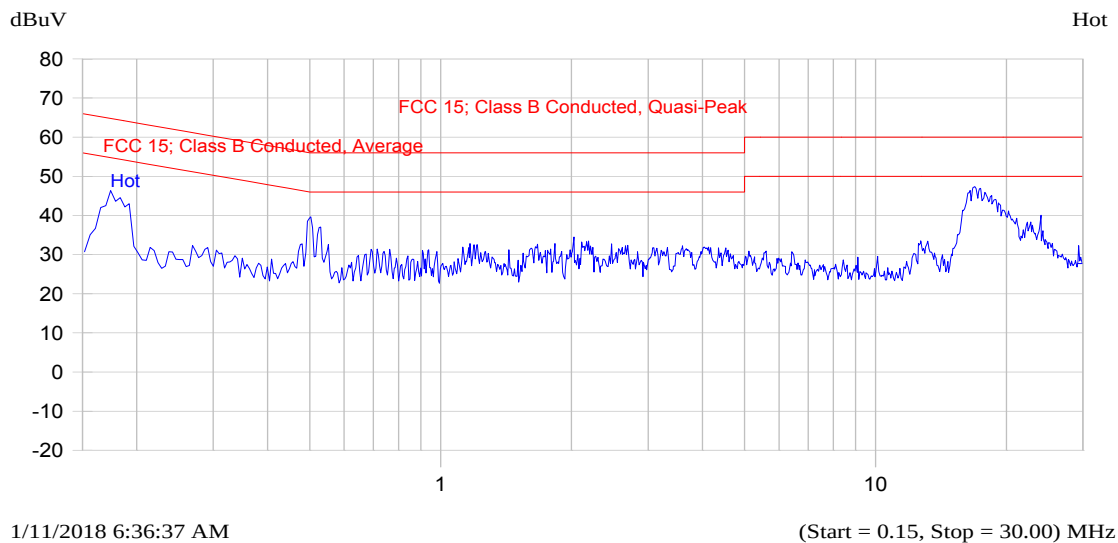


Current List

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 Voltage 120 VAC; Line Tested: Hot

Current Graph

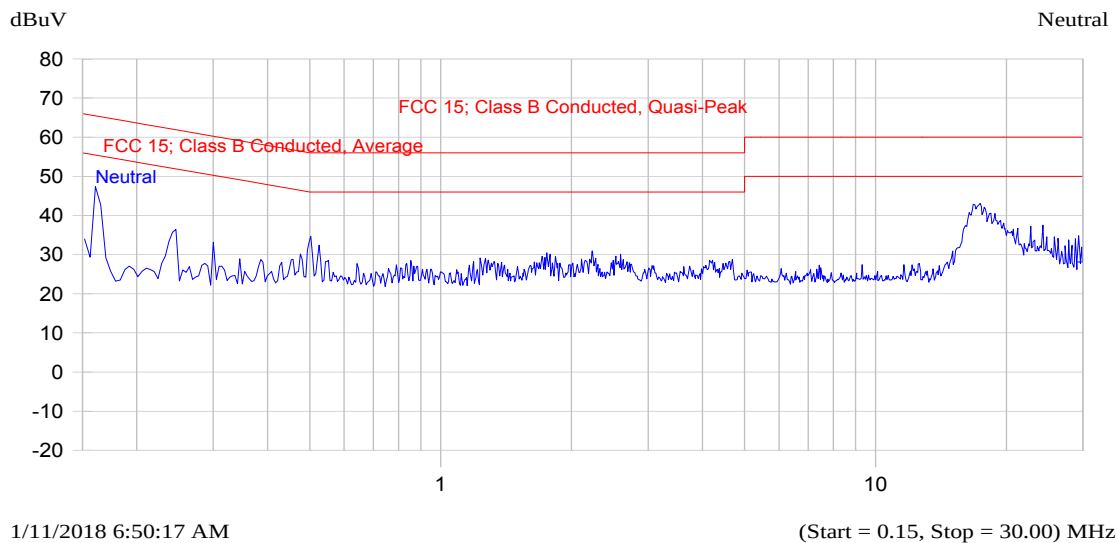


Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.156	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 Voltage 120 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)]

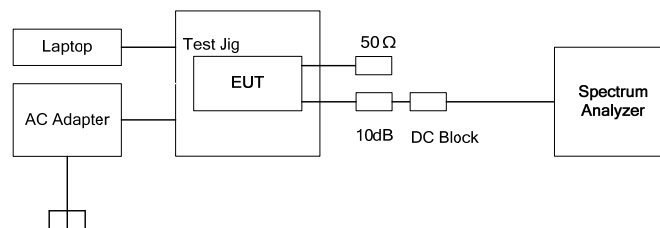
5.2.1. Limit(s)

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

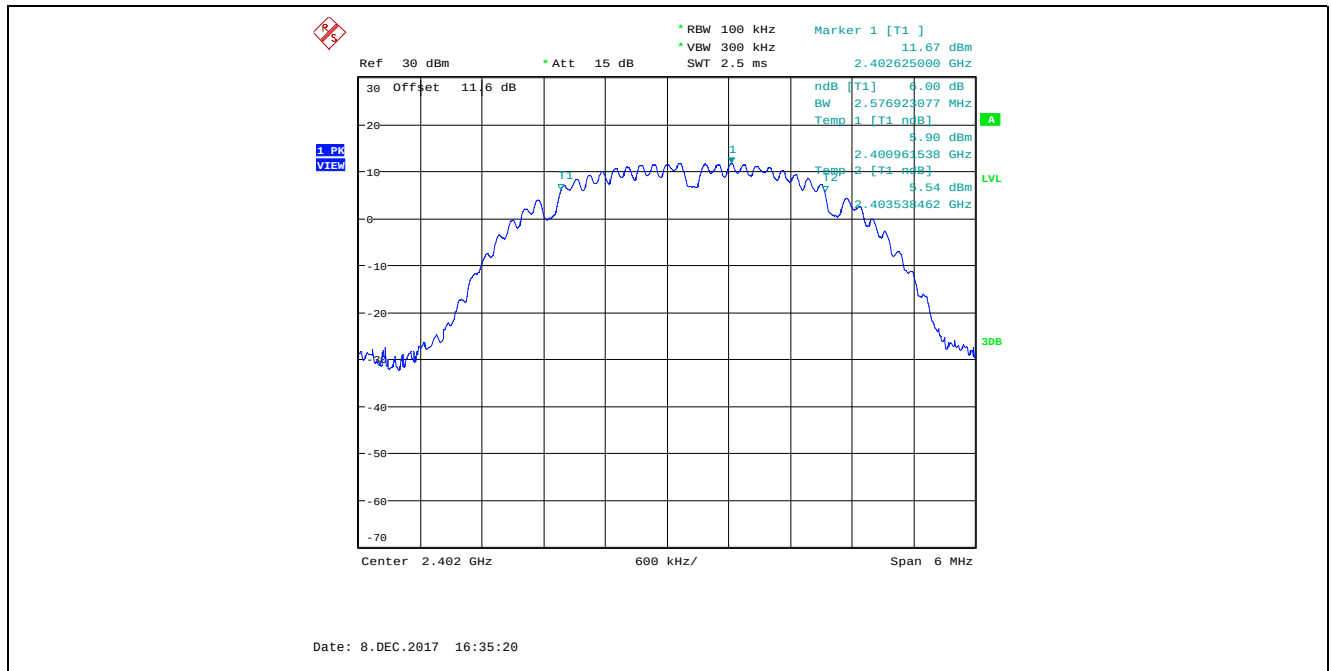
ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

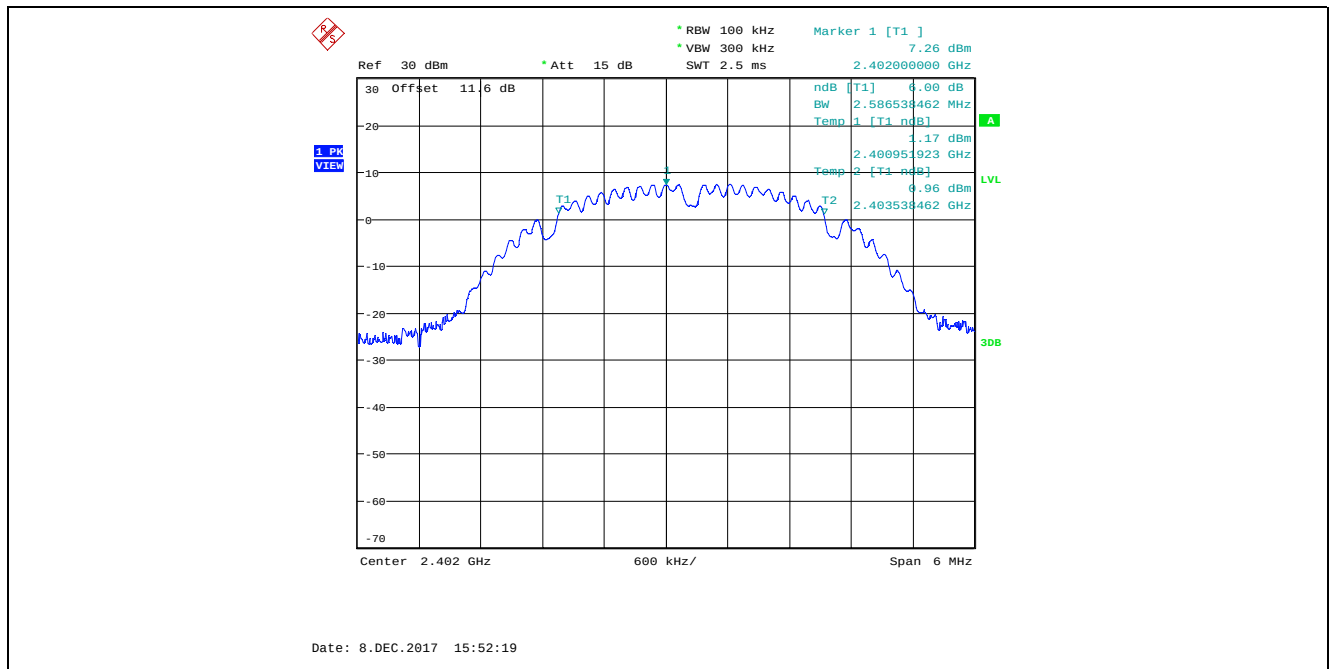
File #: 18MCRS104_FCC15C247
March 5, 2018

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

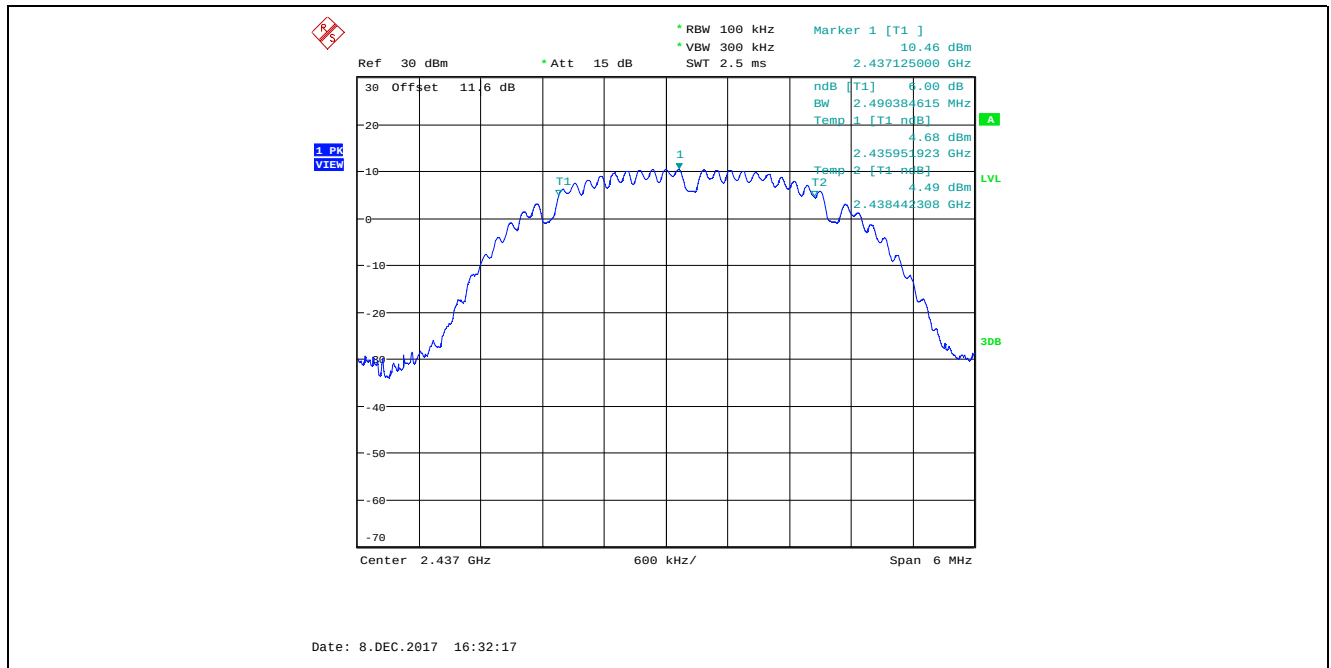
Plot 5.2.4.1. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 1, 2402 MHz



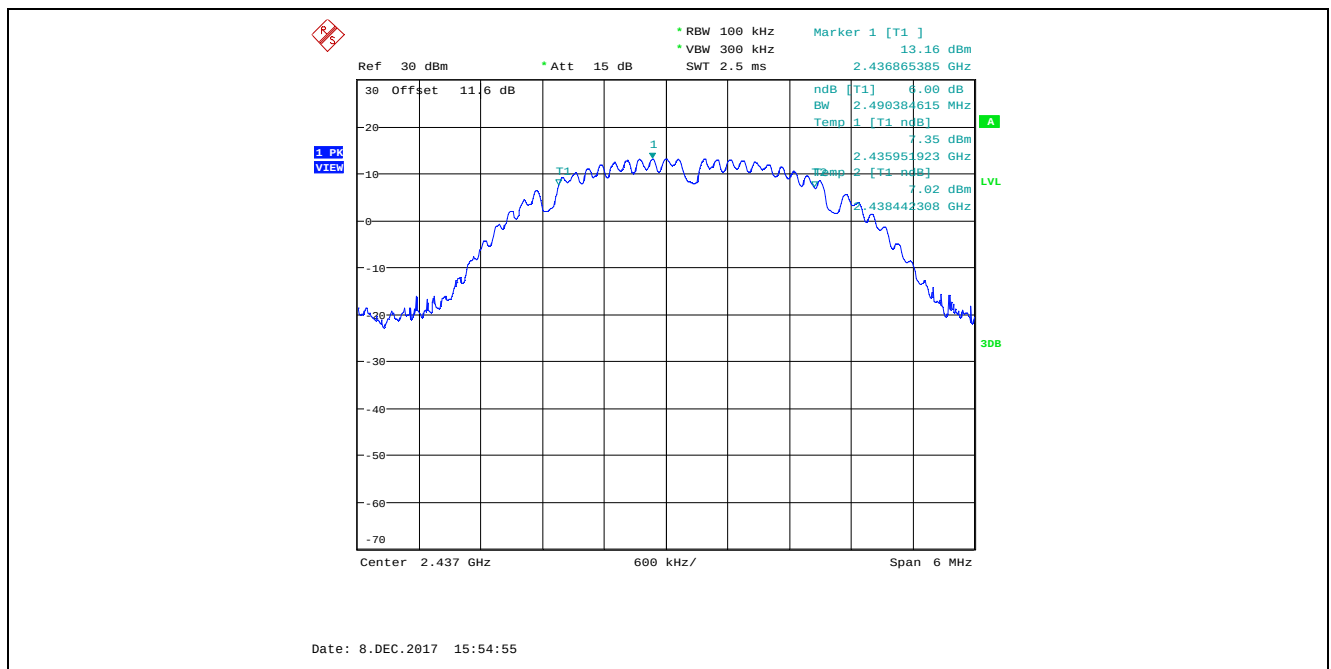
Plot 5.2.4.2. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 1, 2402 MHz



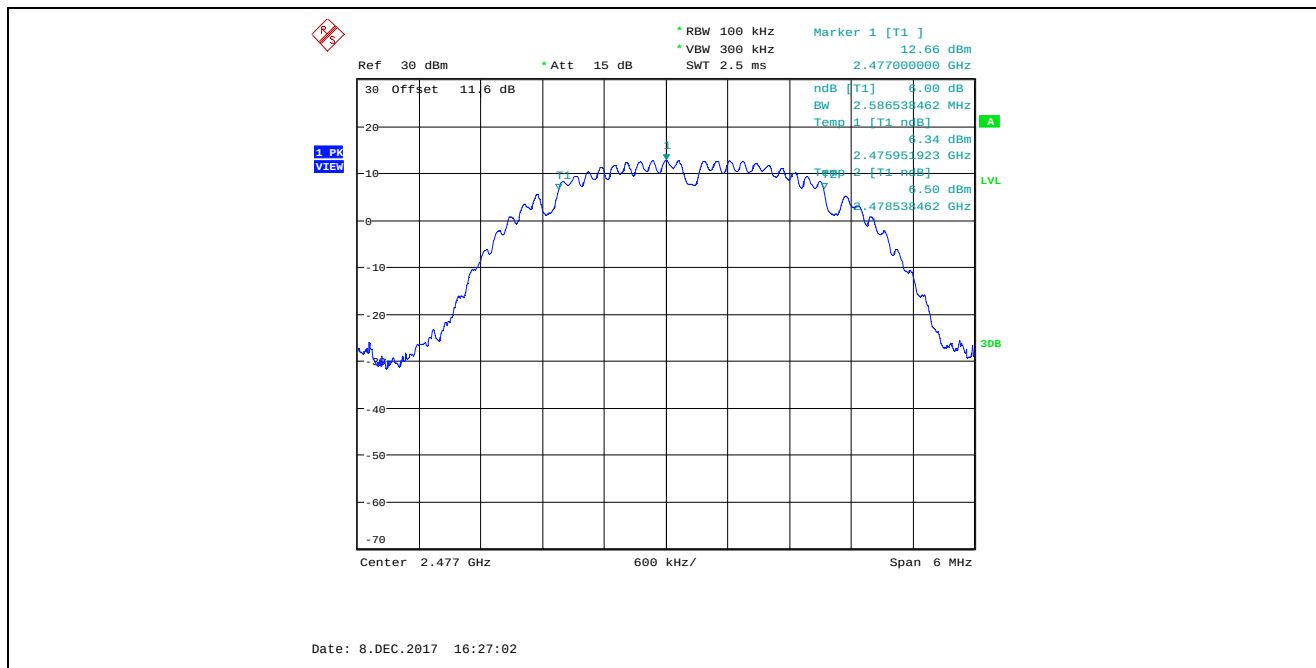
Plot 5.2.4.3. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



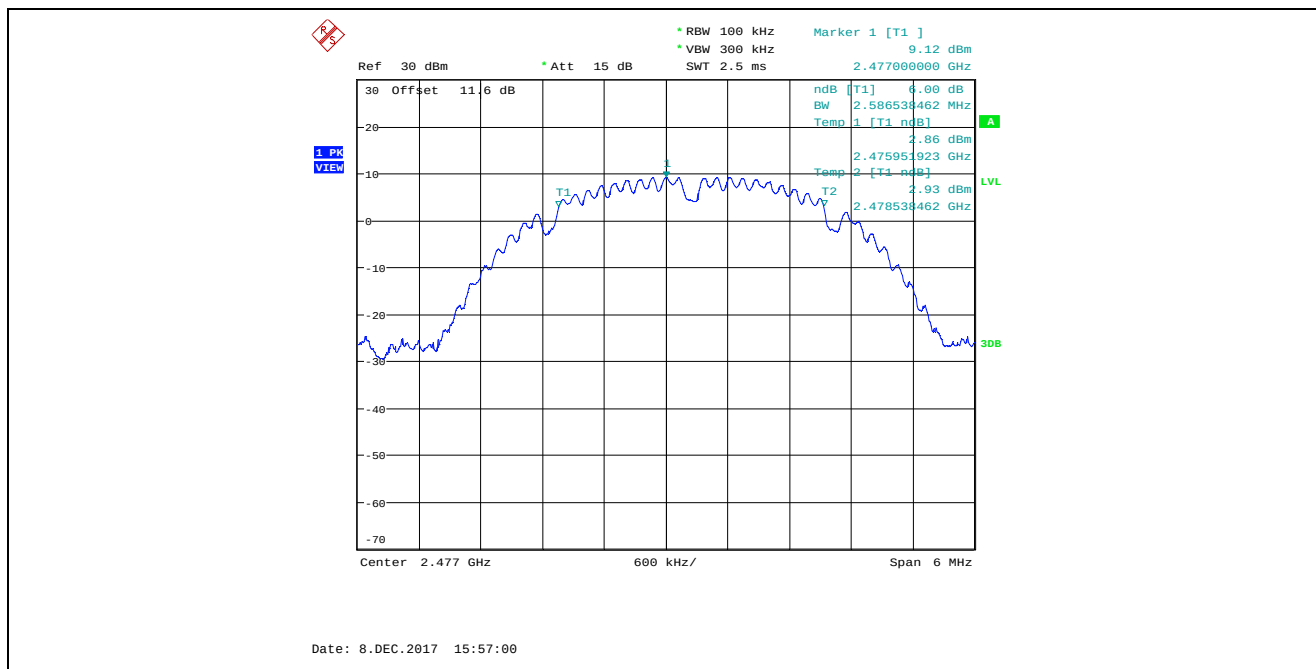
Plot 5.2.4.4. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



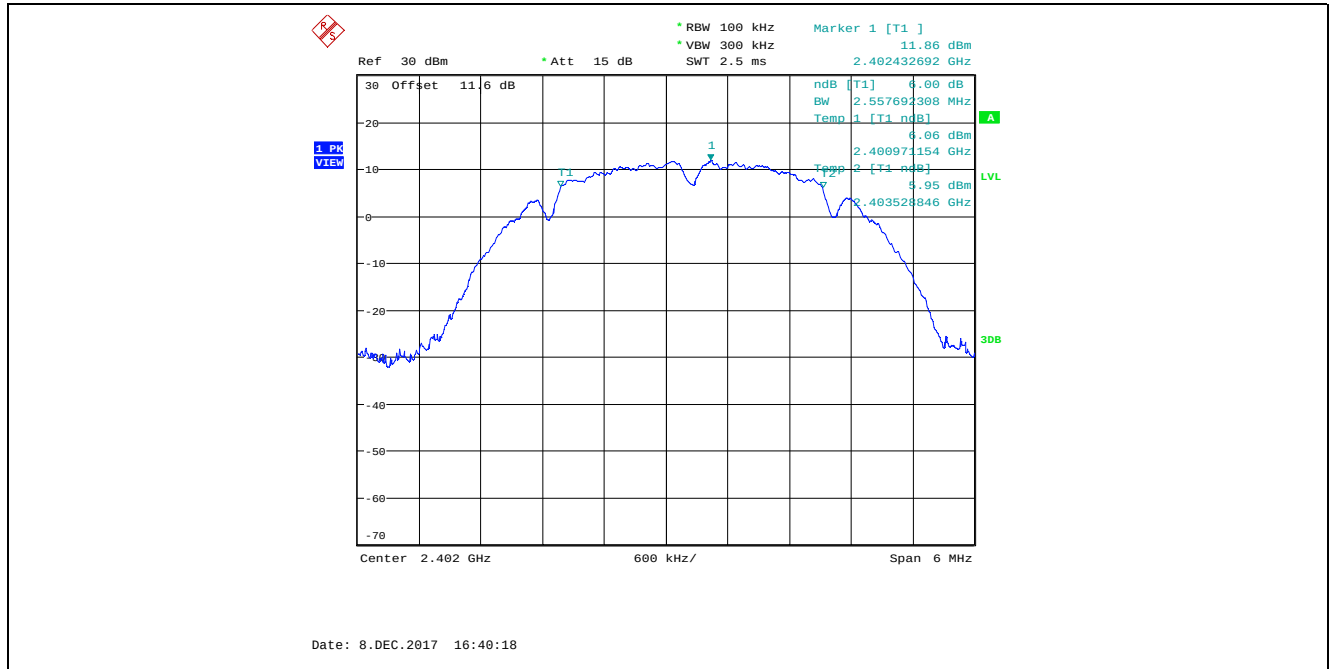
Plot 5.2.4.5. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



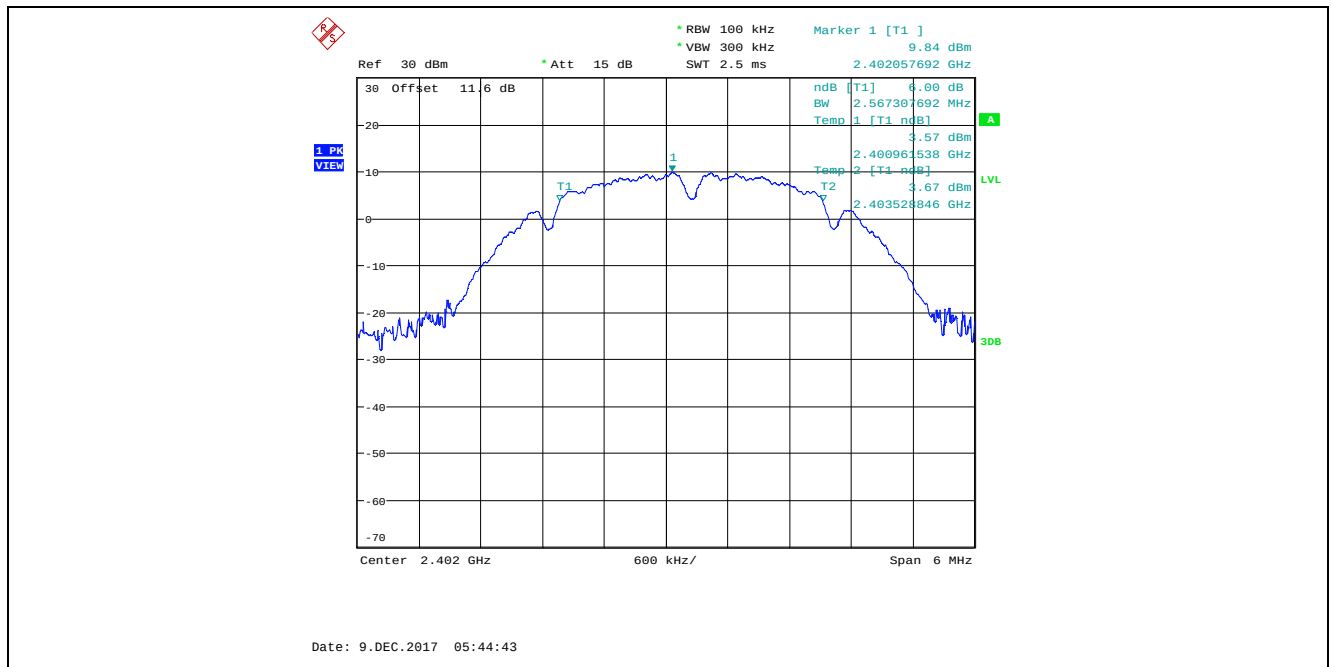
Plot 5.2.4.6. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



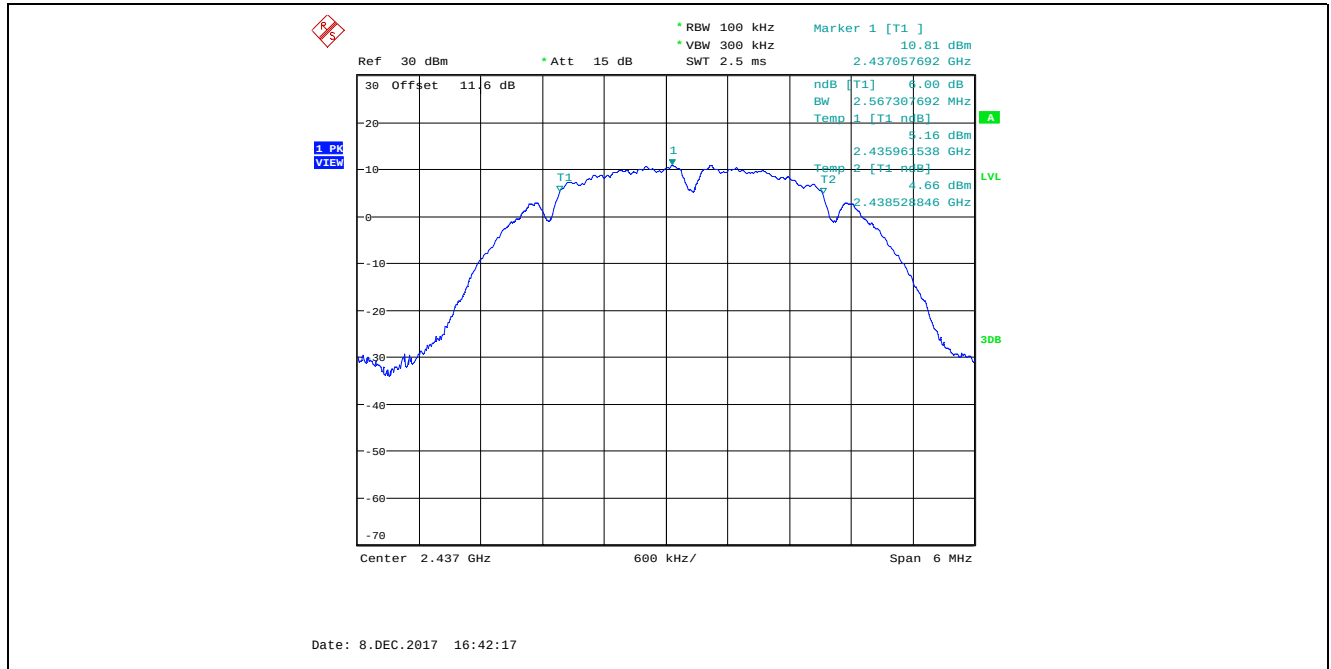
Plot 5.2.4.7. 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 22, Data Rate 2, 2402 MHz



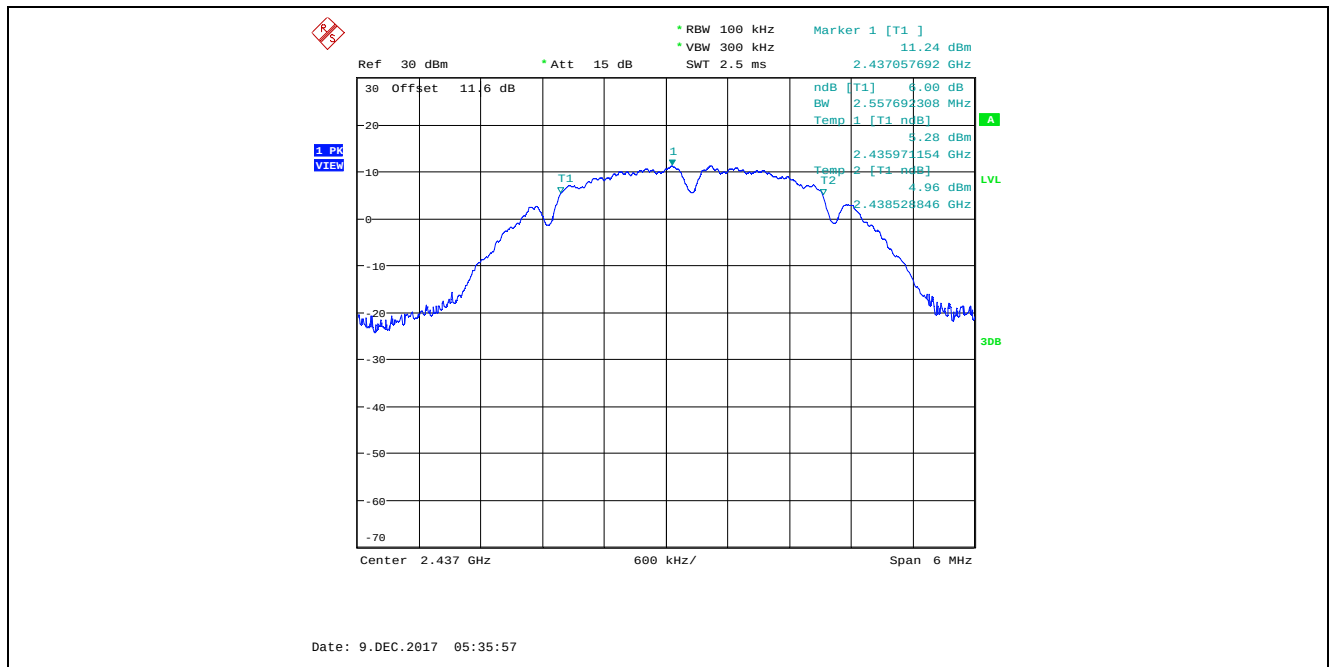
Plot 5.2.4.8. 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 22, Data Rate 2, 2402 MHz



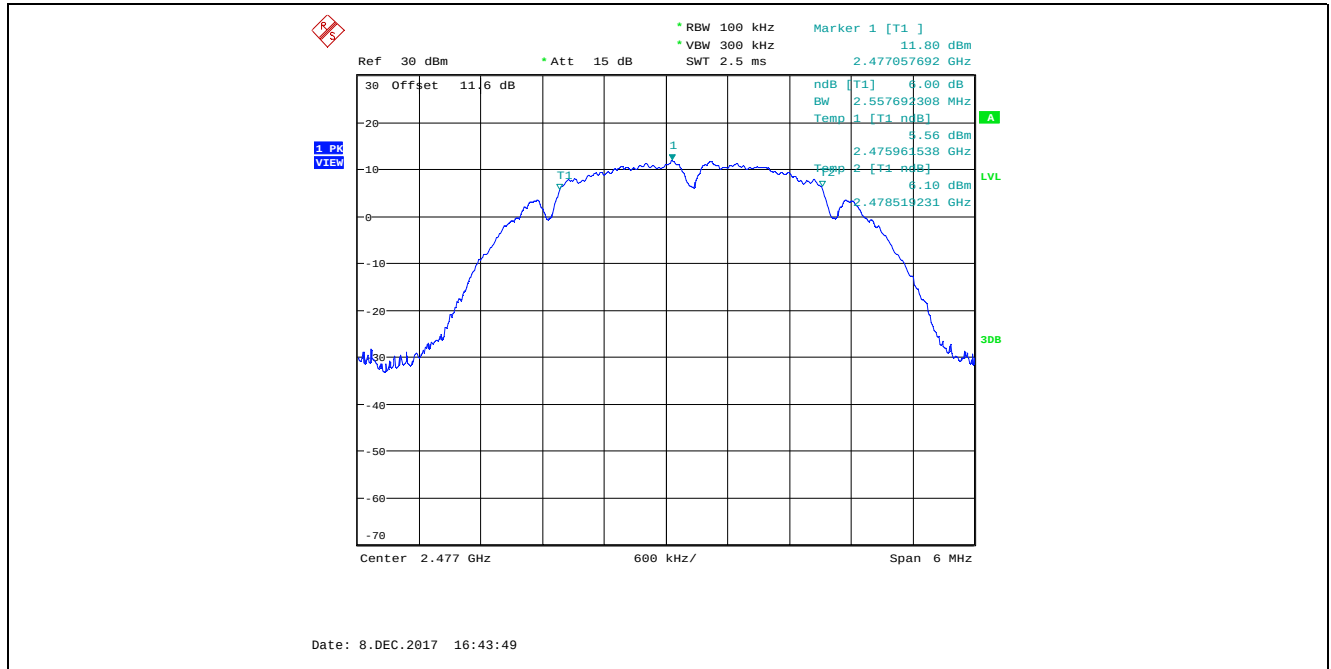
Plot 5.2.4.9. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



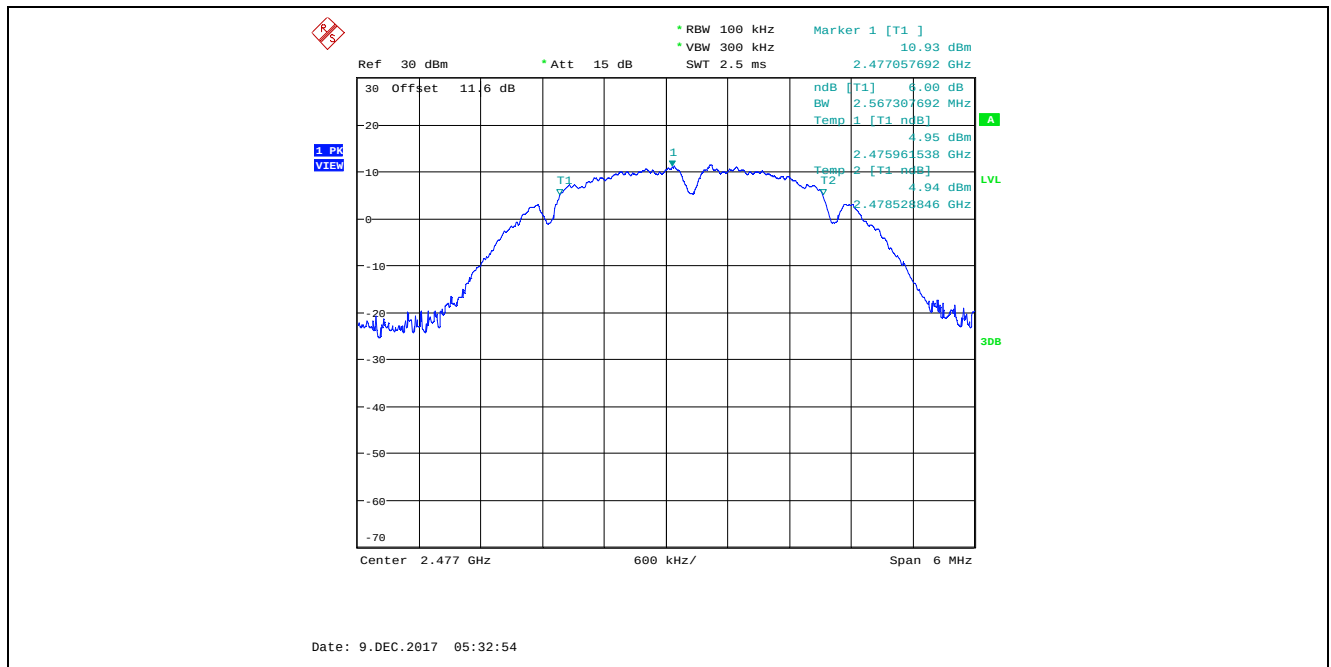
Plot 5.2.4.10. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



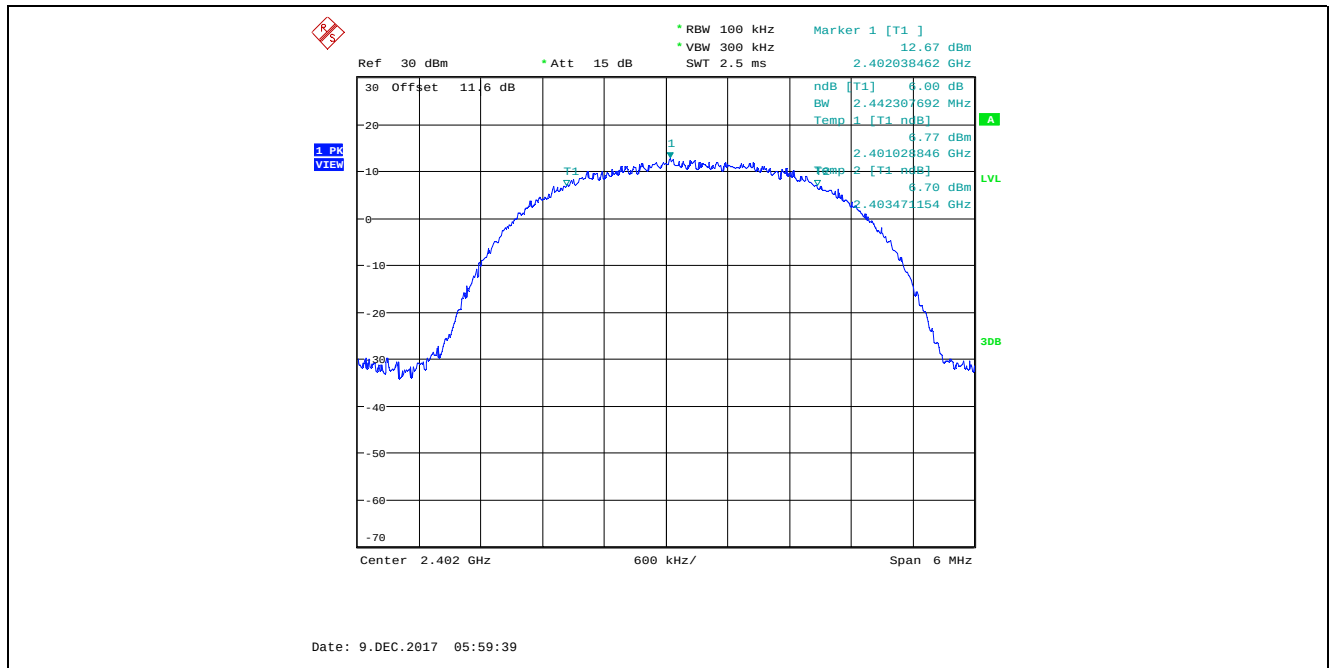
Plot 5.2.4.11. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



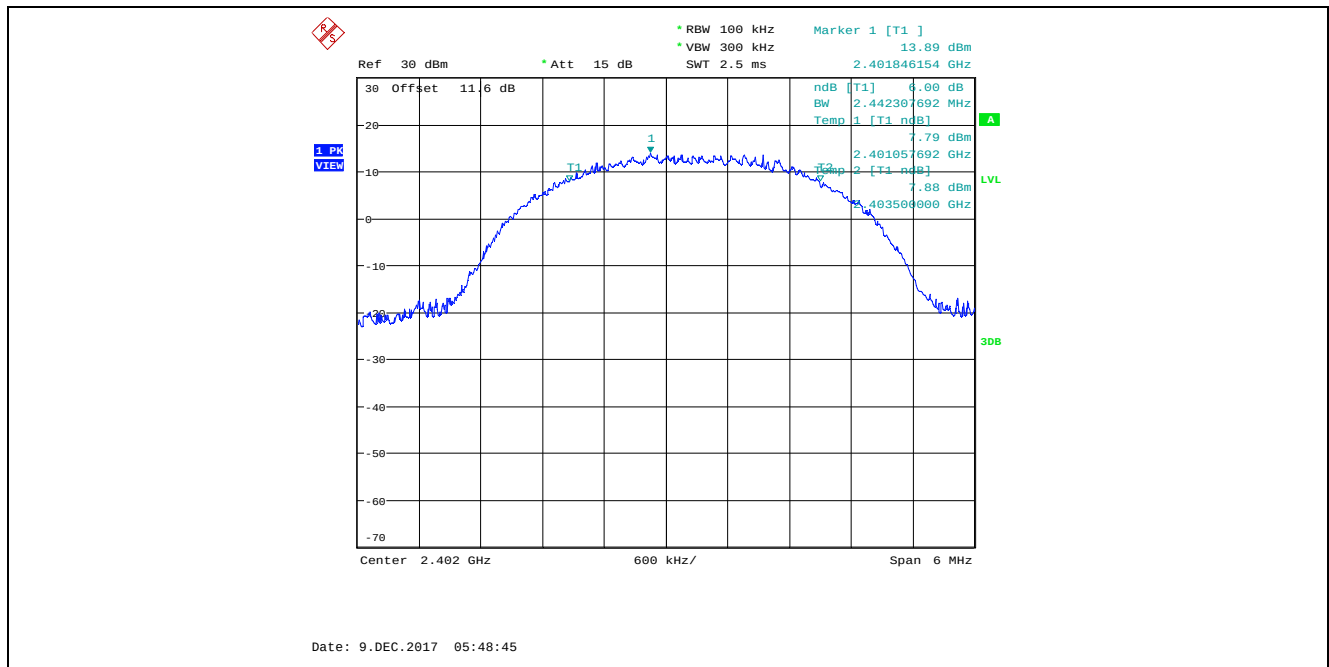
Plot 5.2.4.12. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



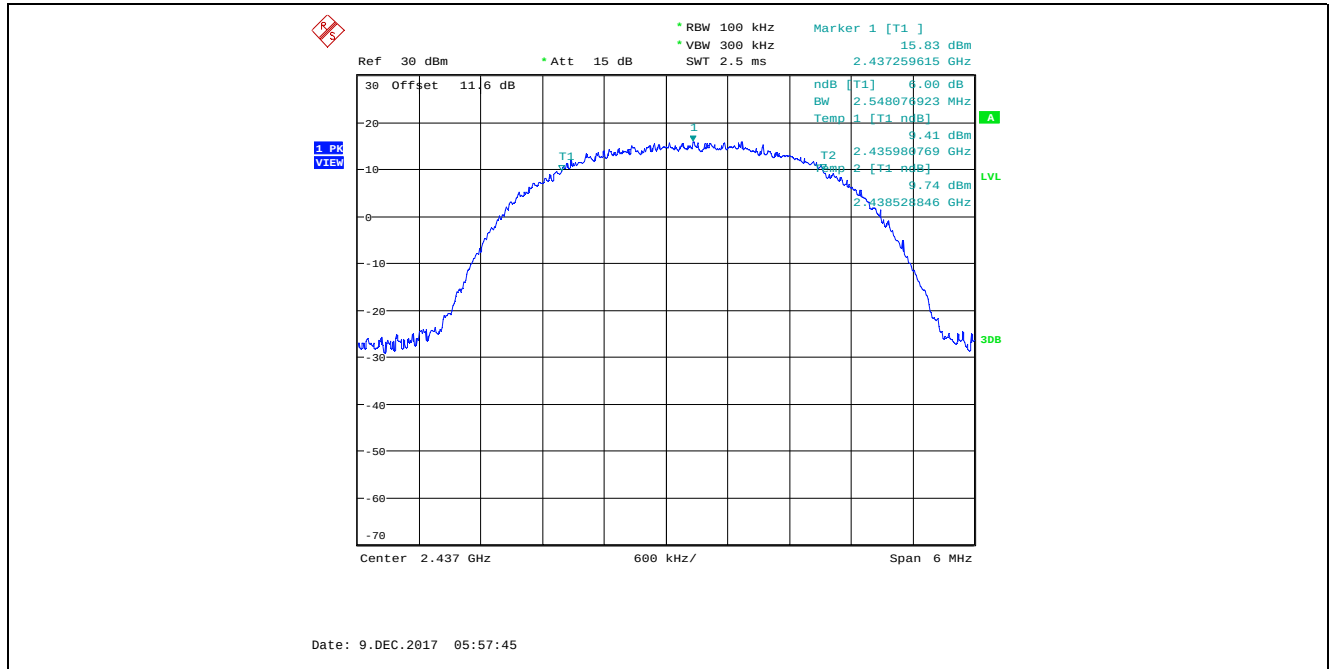
Plot 5.2.4.13. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 3, 2402 MHz



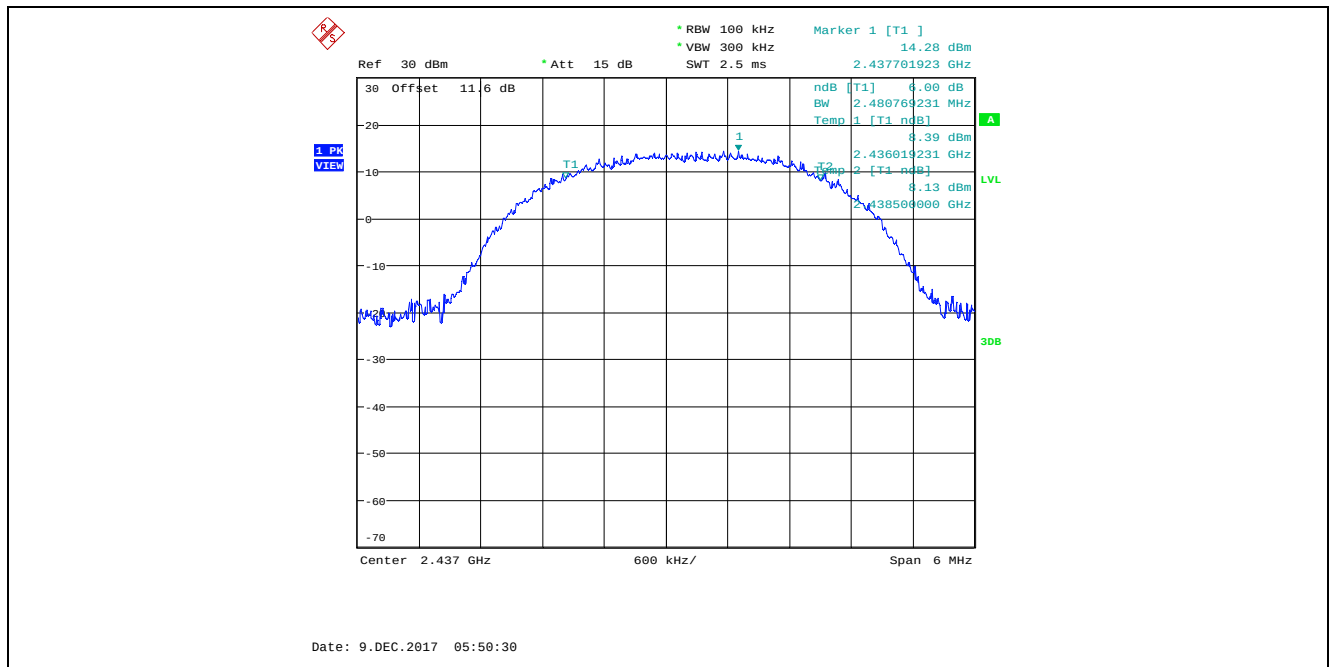
Plot 5.2.4.14. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 3, 2402 MHz



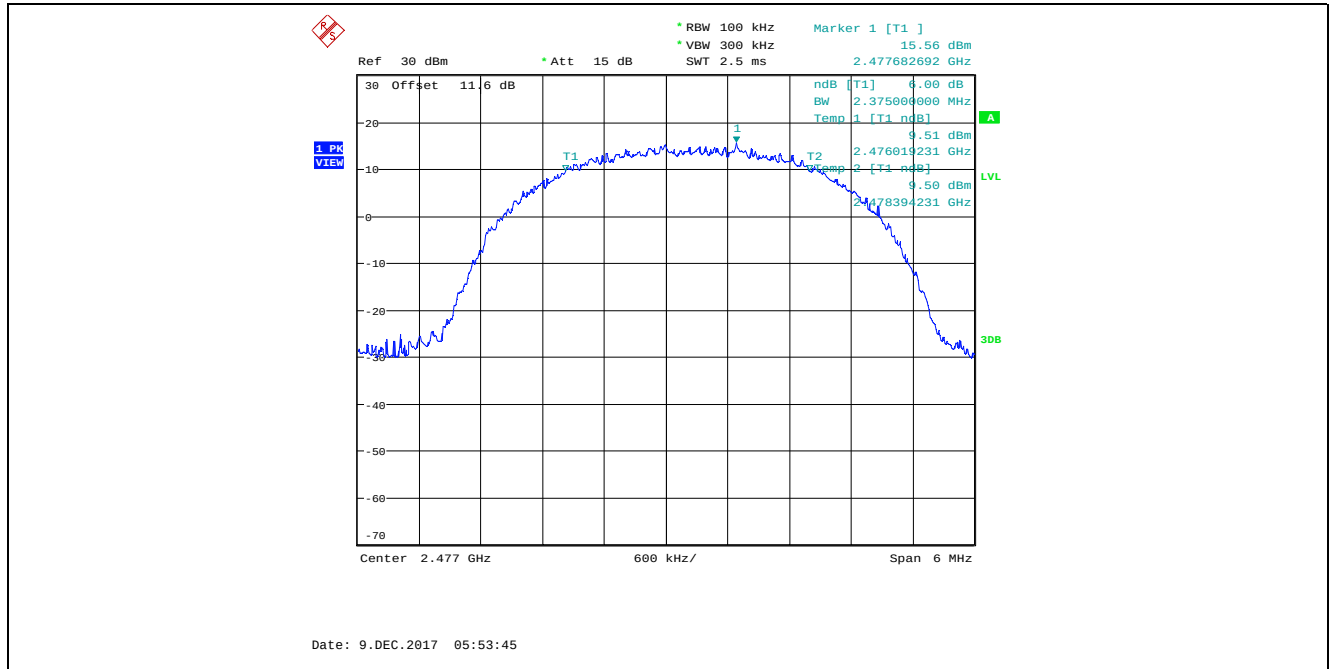
Plot 5.2.4.15. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



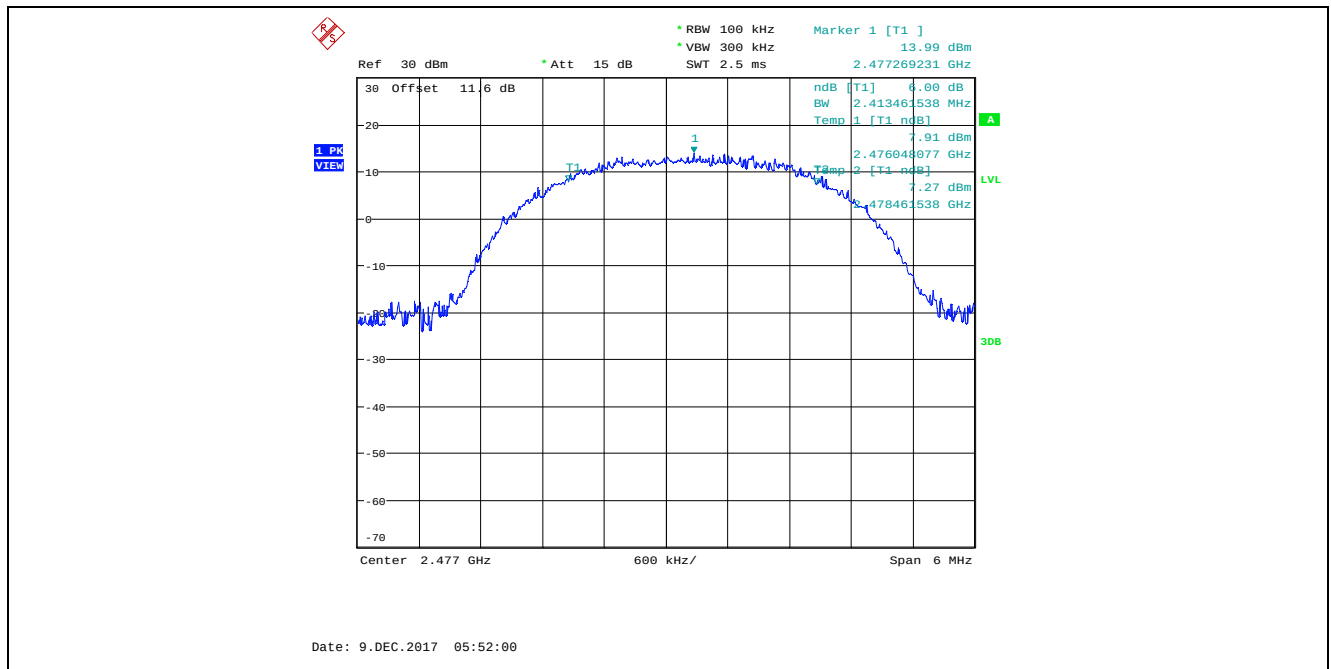
Plot 5.2.4.16. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



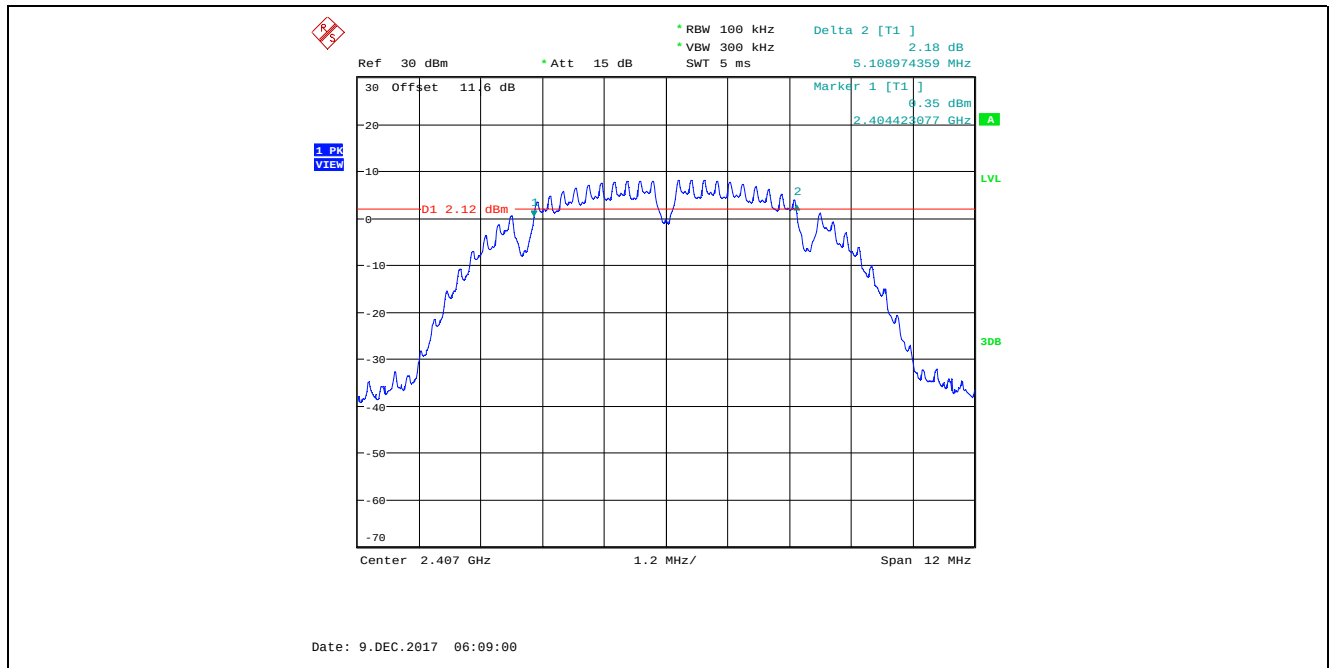
Plot 5.2.4.17. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



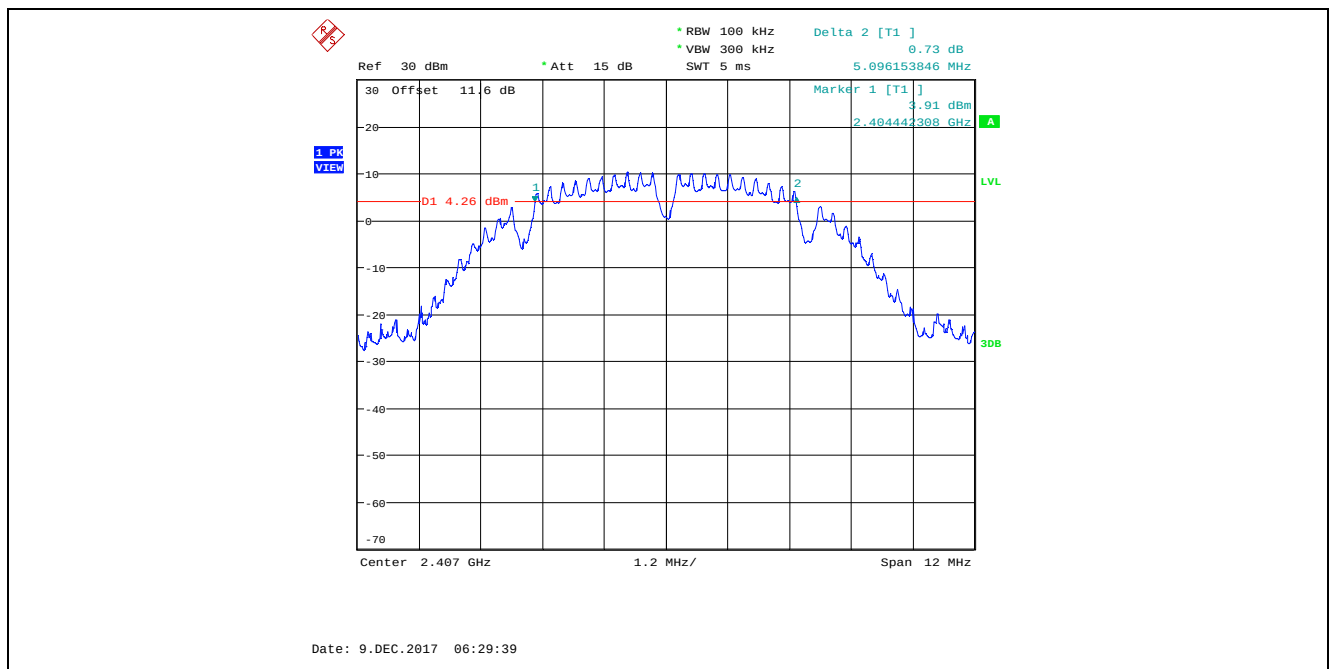
Plot 5.2.4.18. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



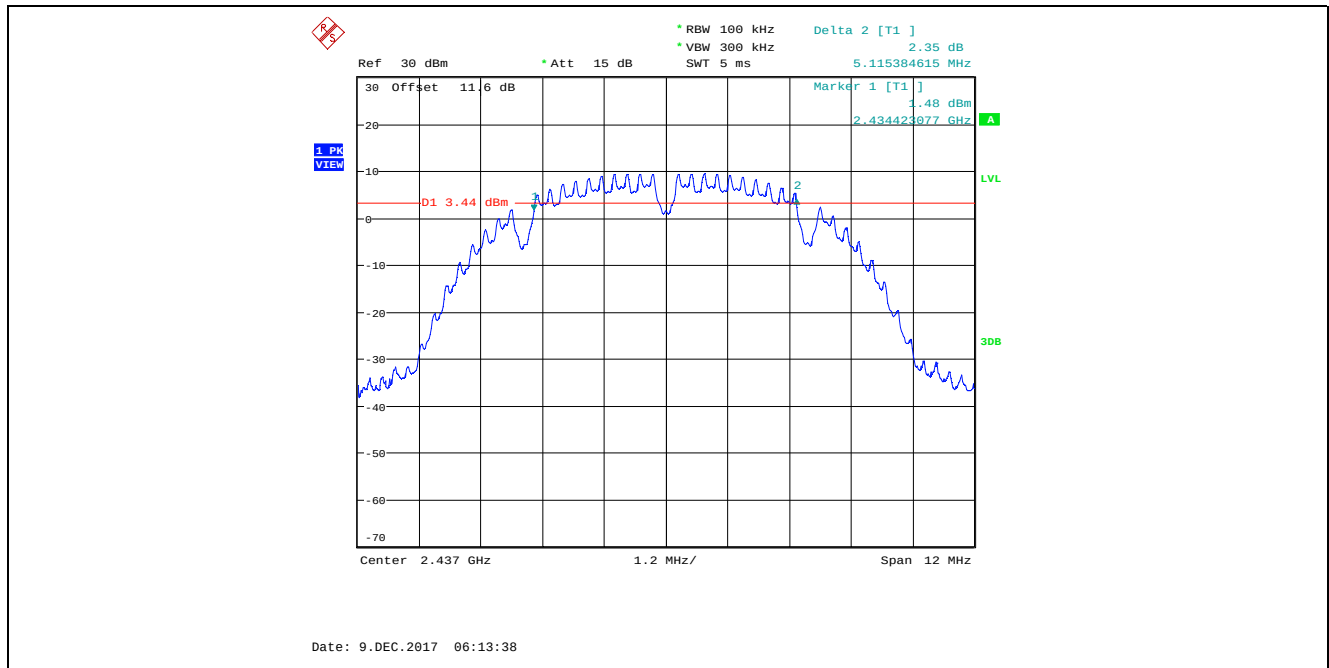
Plot 5.2.4.19. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 1, 2407 MHz



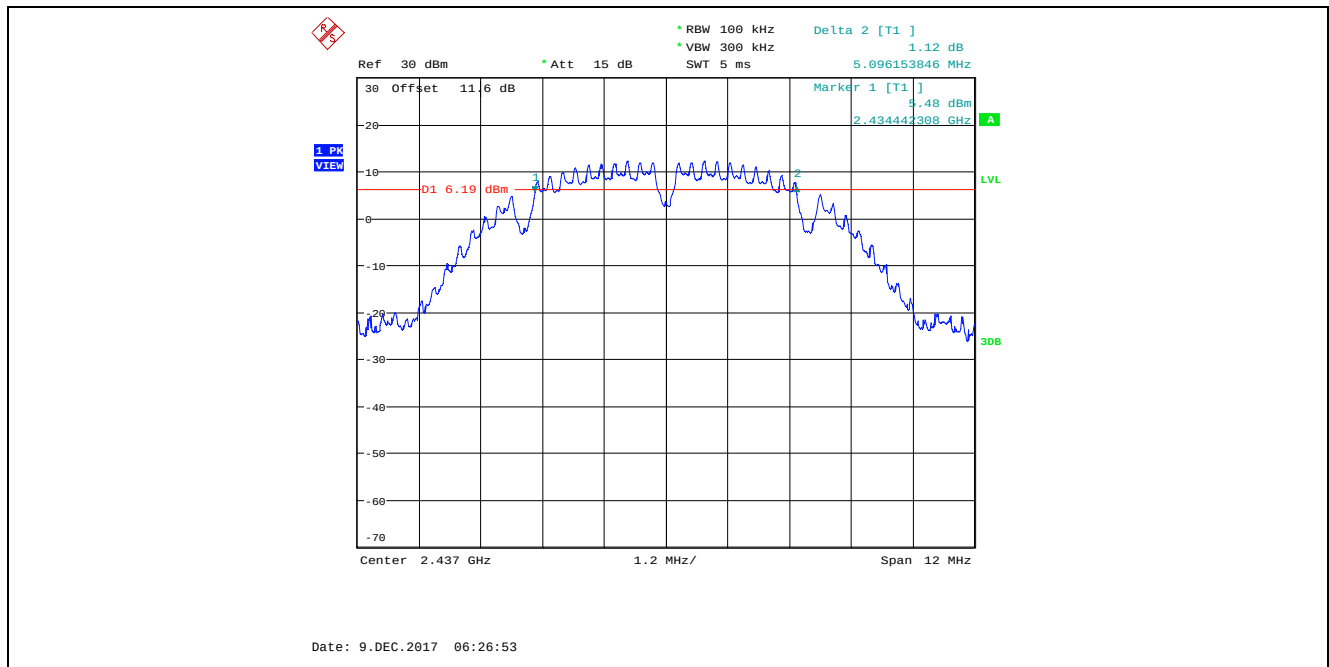
Plot 5.2.4.20. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 1, 2407 MHz



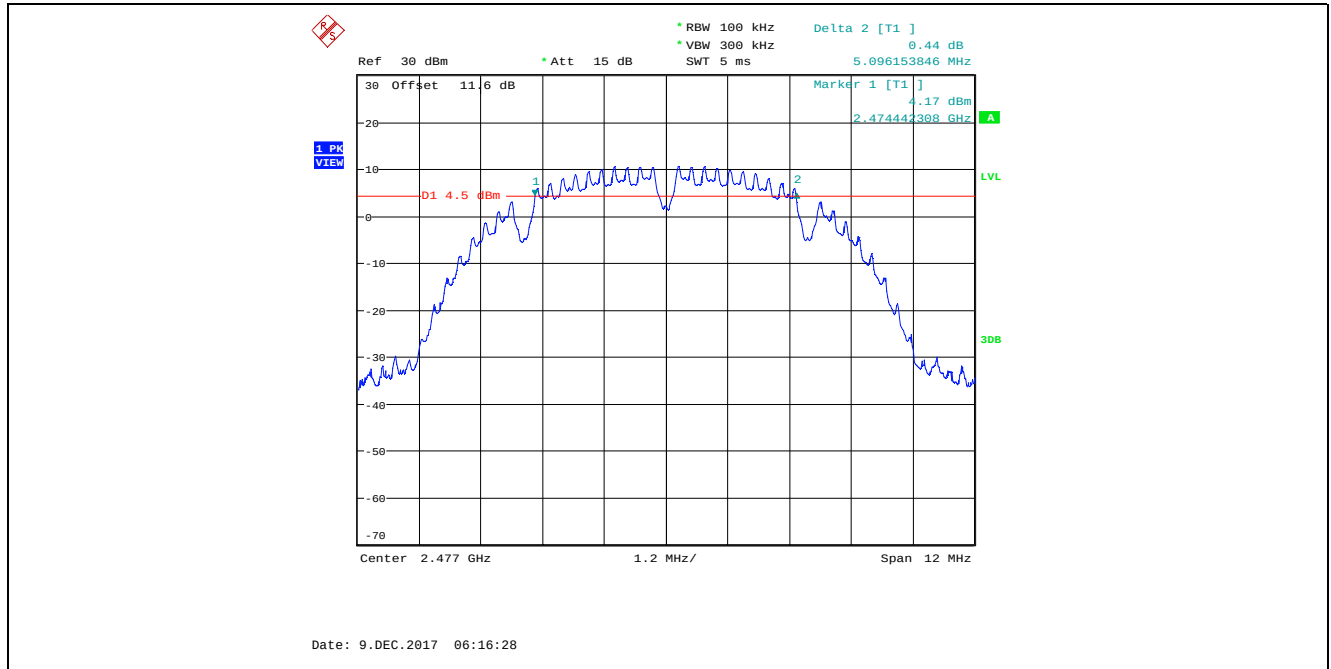
Plot 5.2.4.21. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



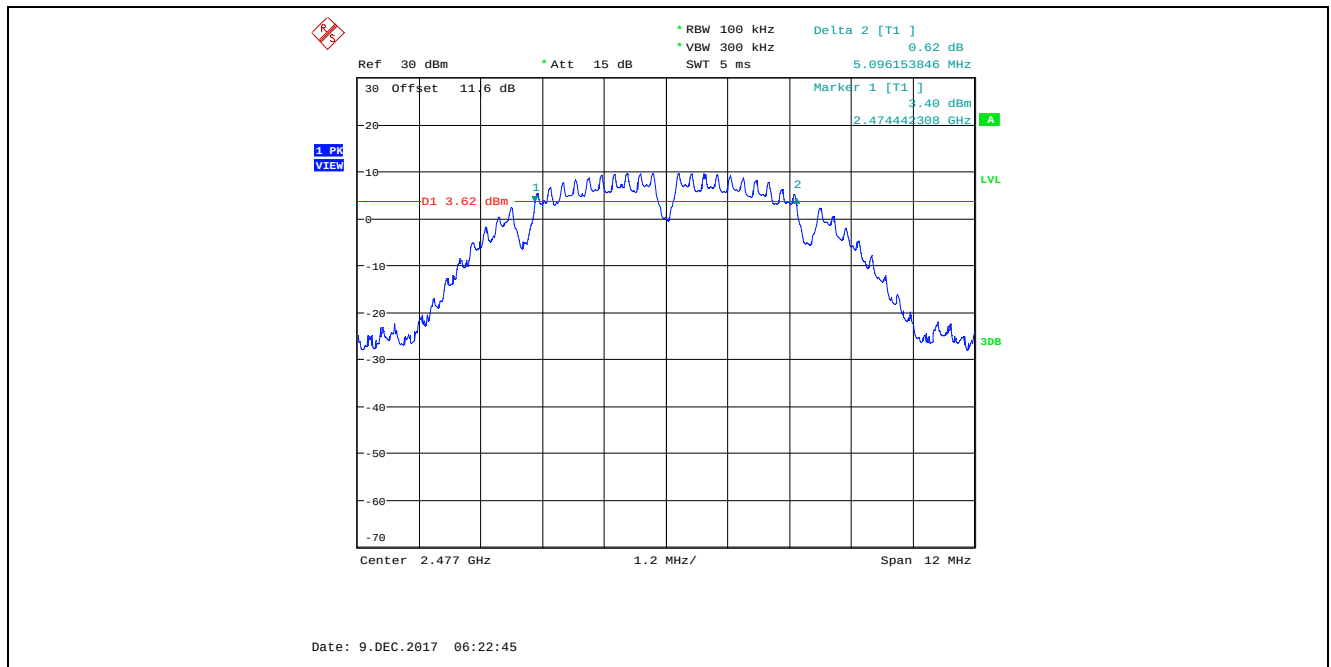
Plot 5.2.4.22. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 1, 2437 MHz



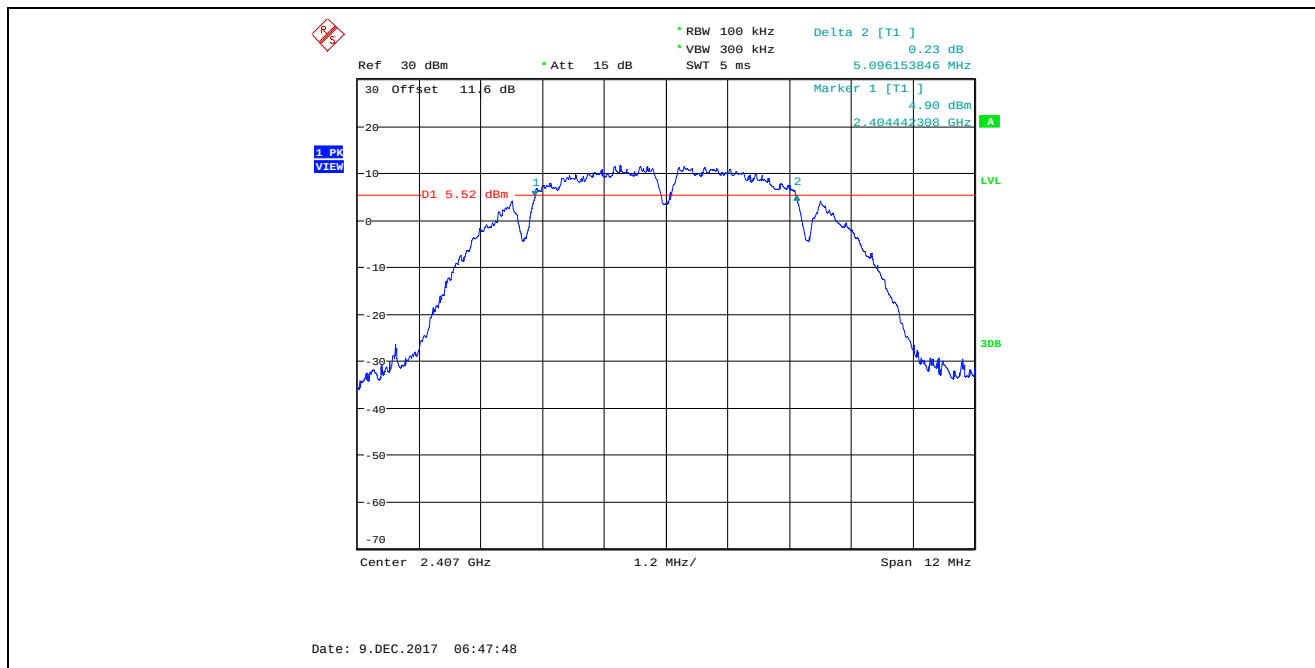
Plot 5.2.4.23. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



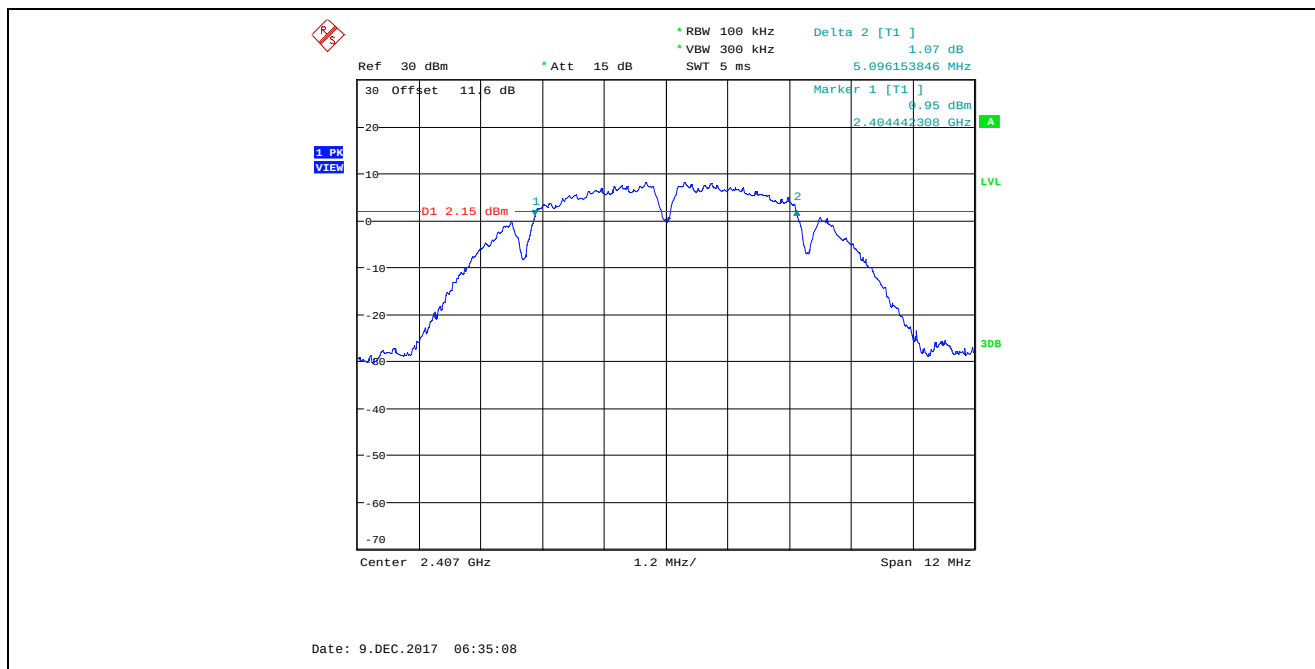
Plot 5.2.4.24. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 22, Data Rate 1, 2477 MHz



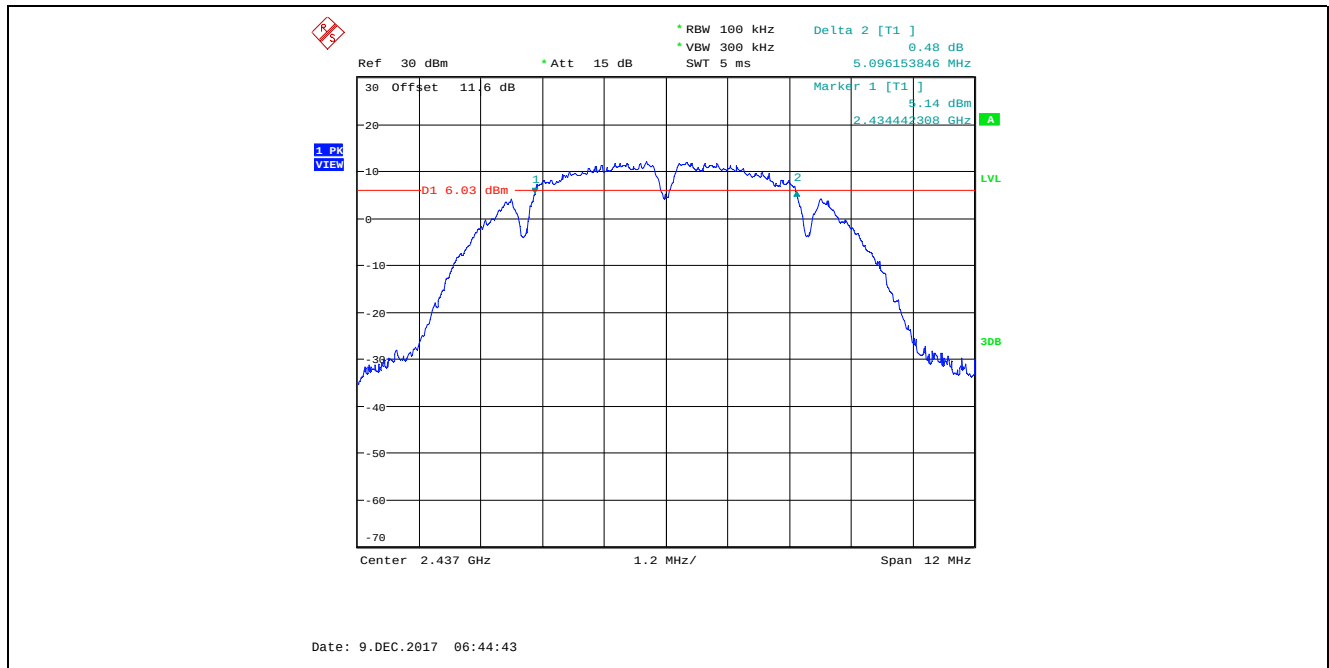
Plot 5.2.4.25. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2407 MHz



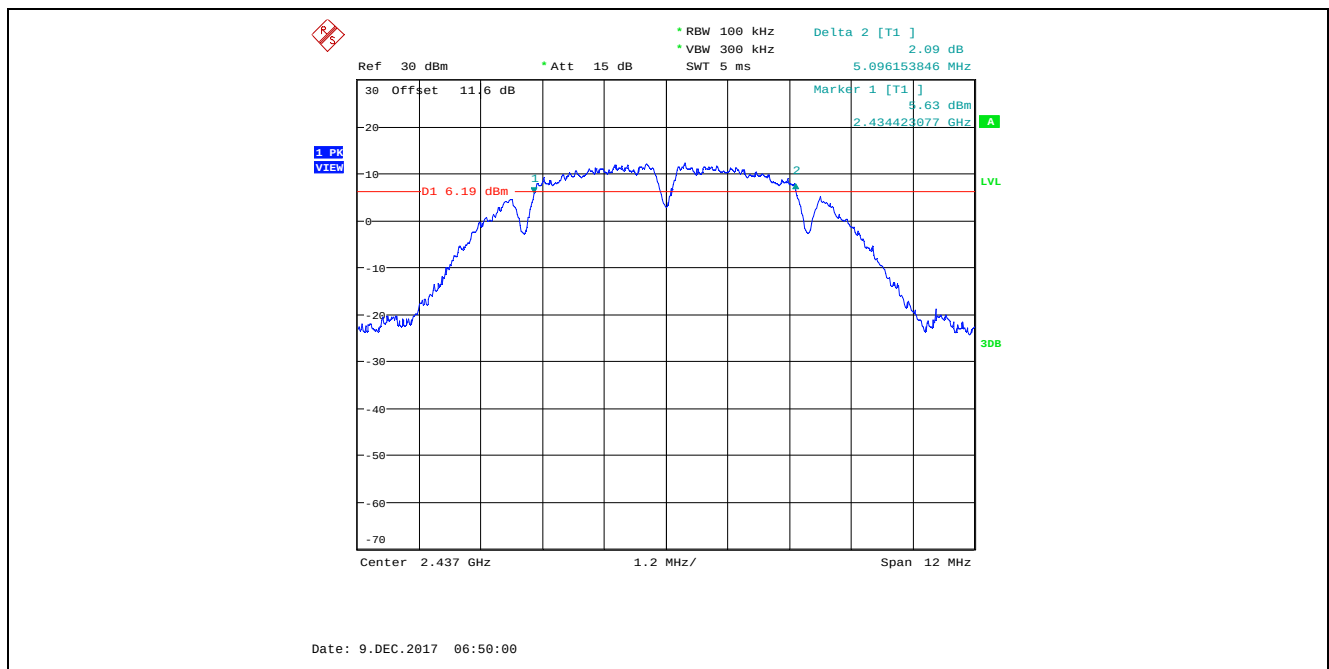
Plot 5.2.4.26. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2407 MHz



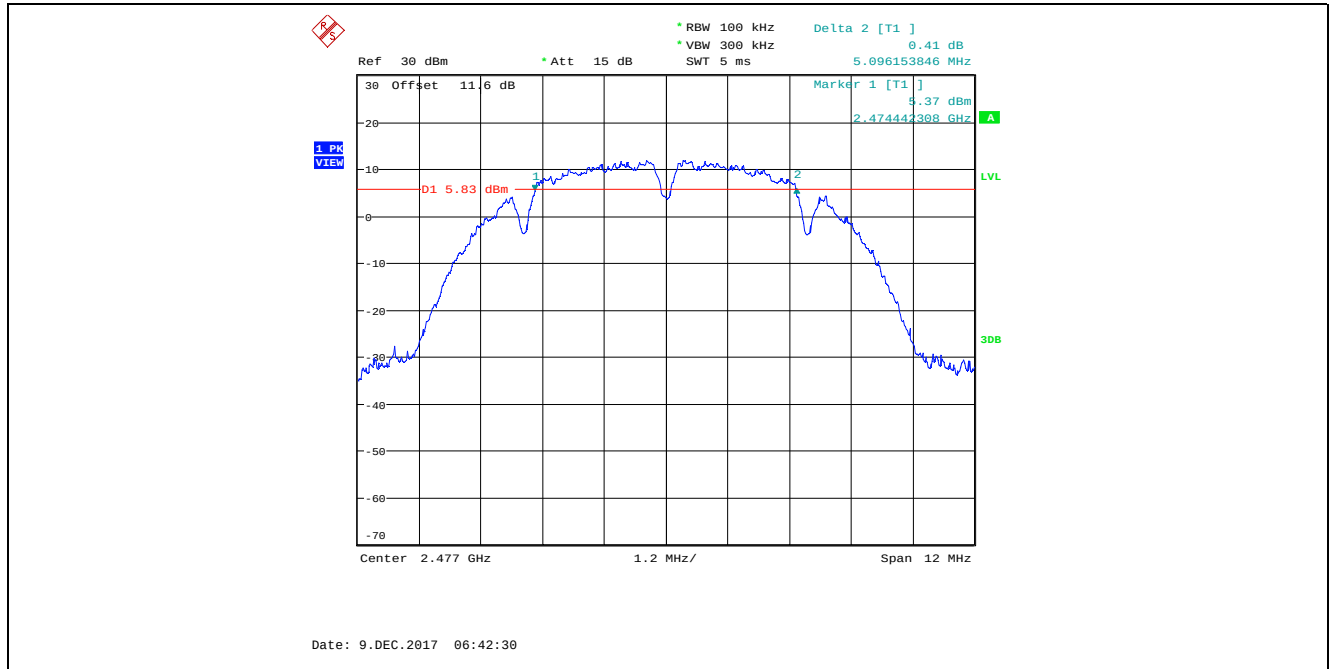
Plot 5.2.4.27. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



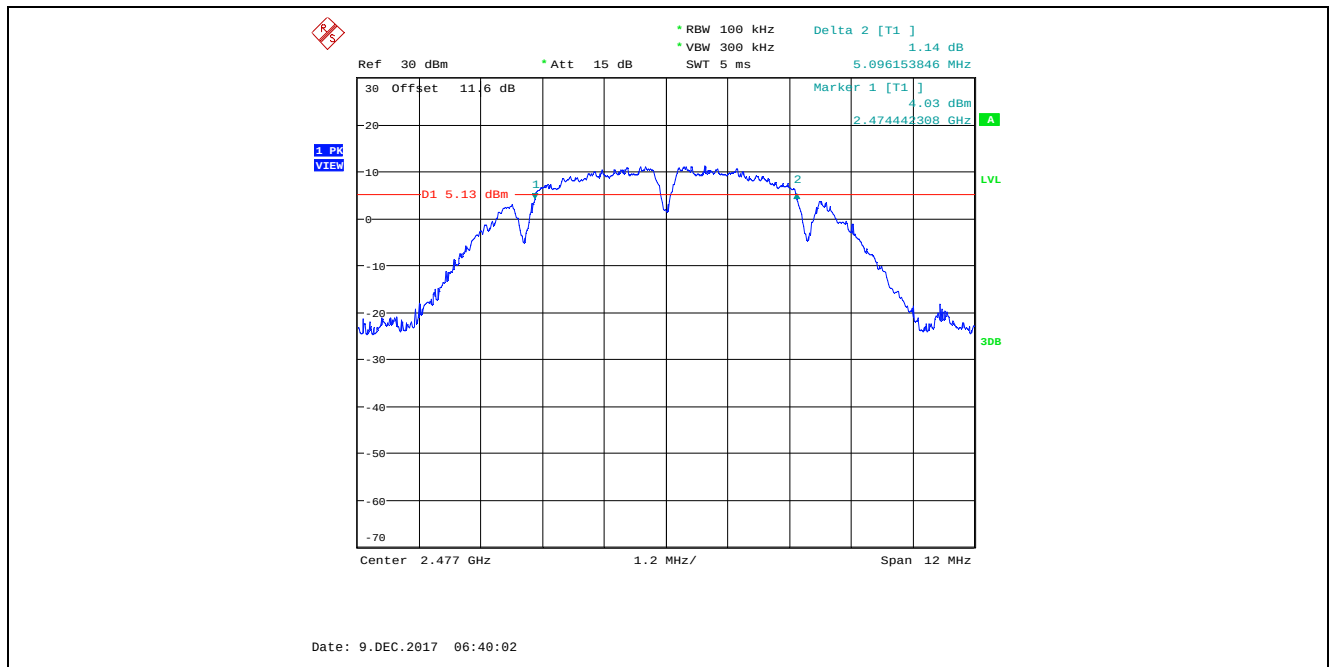
Plot 5.2.4.28. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2437 MHz



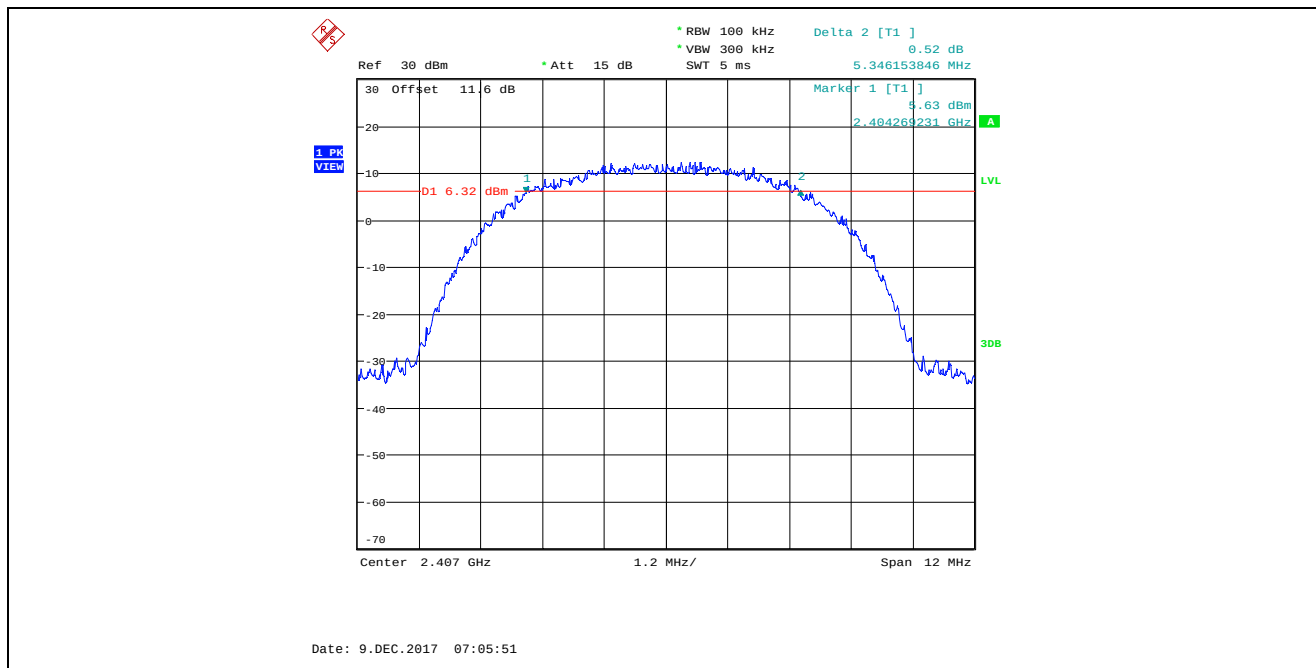
Plot 5.2.4.29. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



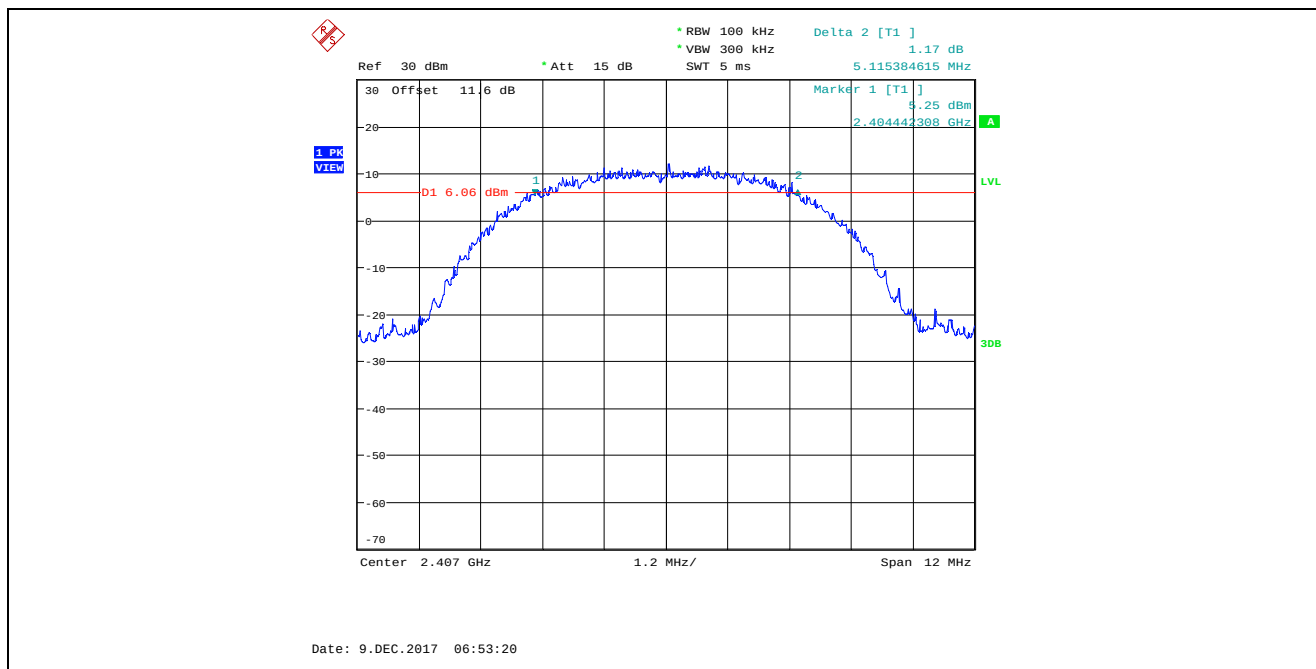
Plot 5.2.4.30. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 2, 2477 MHz



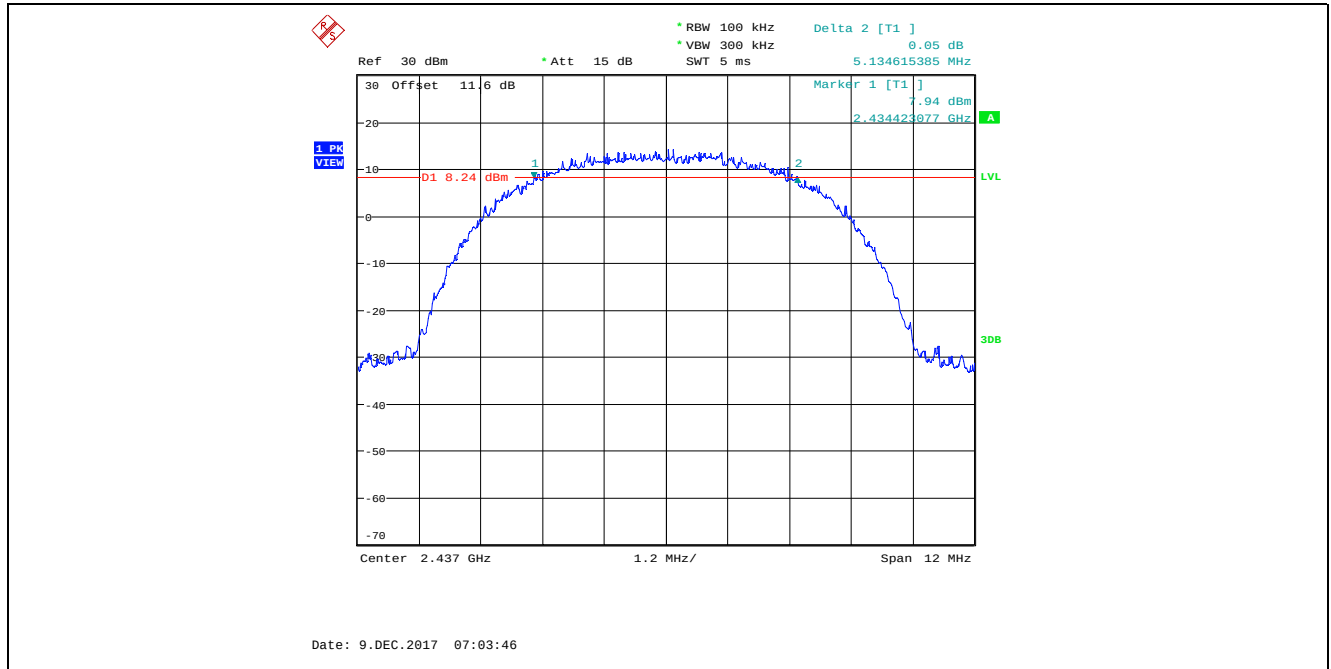
Plot 5.2.4.31. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 22, Data Rate 3, 2407 MHz



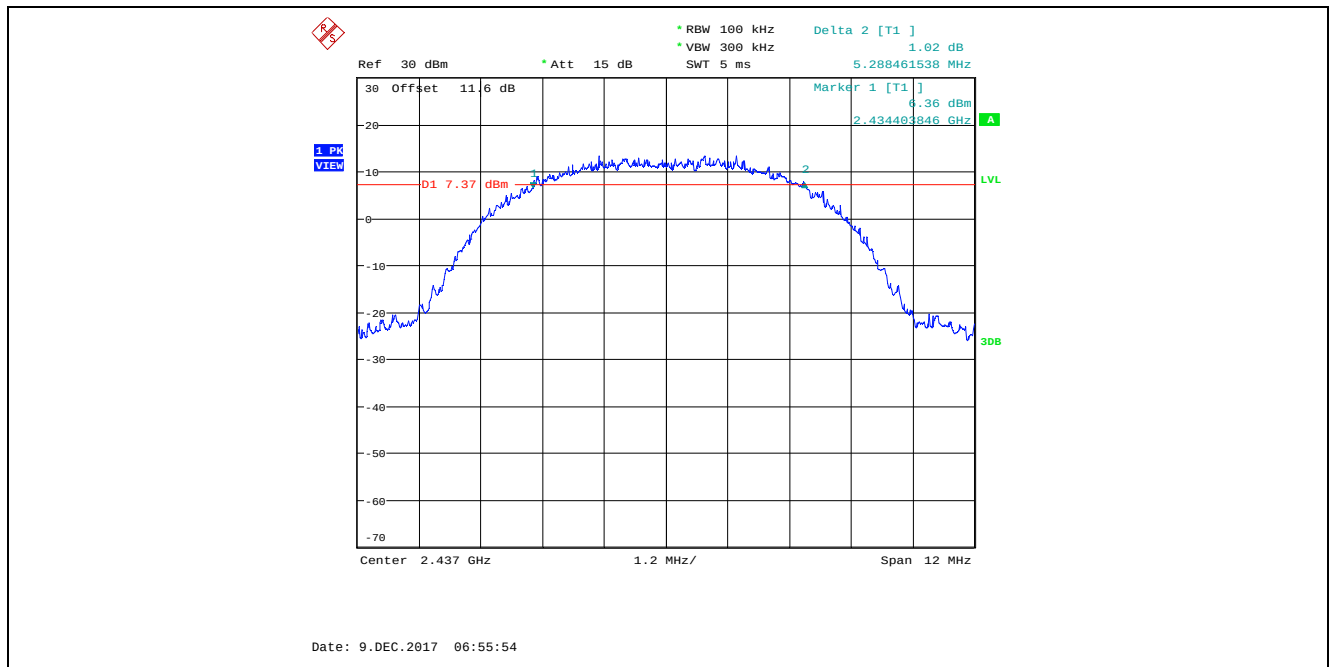
Plot 5.2.4.32. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 22, Data Rate 3, 2407 MHz



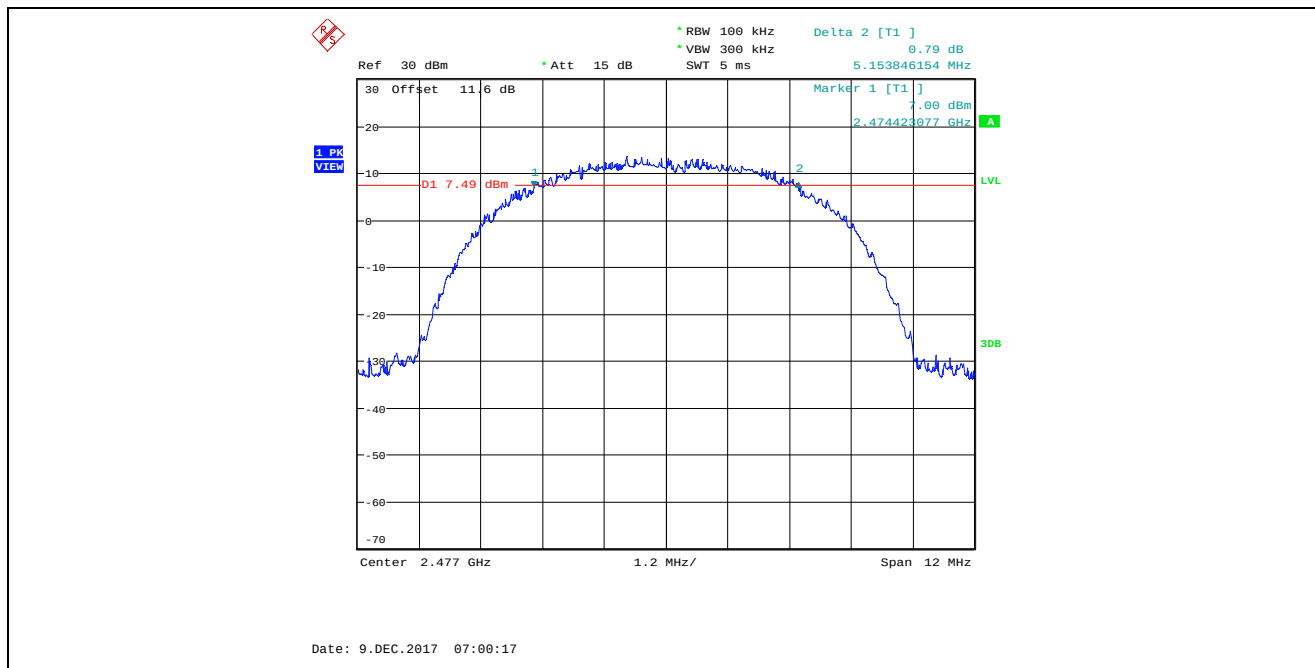
Plot 5.2.4.33. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



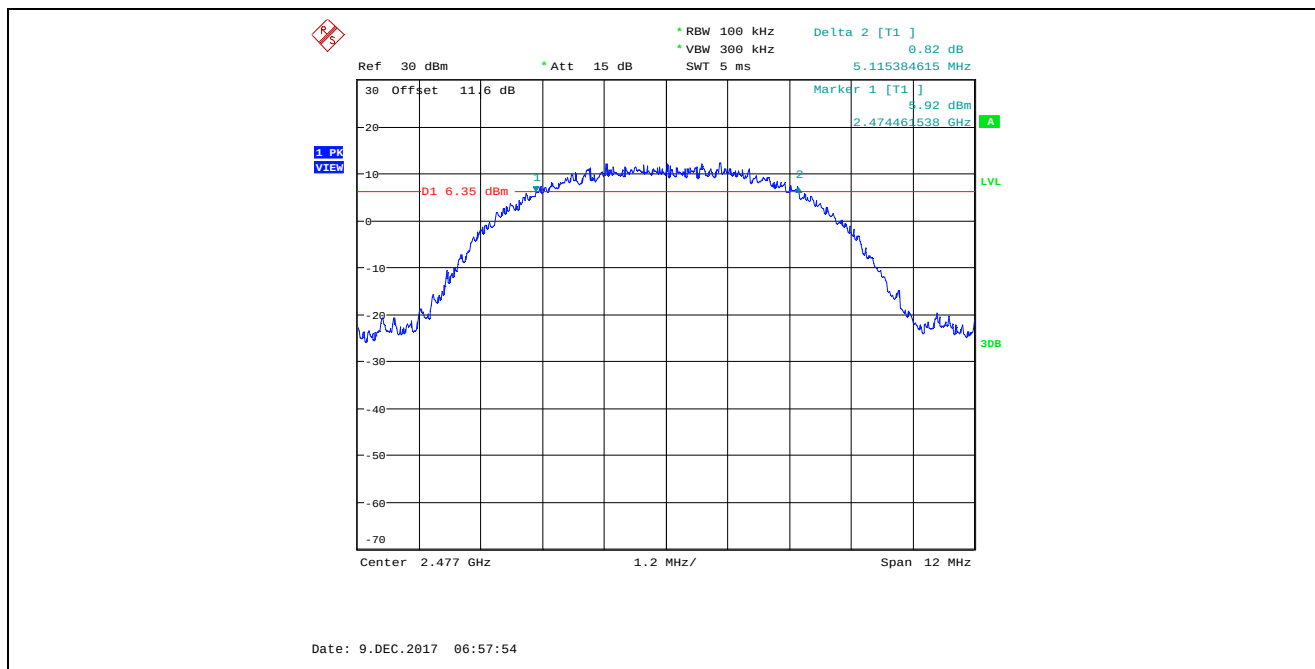
Plot 5.2.4.34. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 22, Data Rate 3, 2437 MHz



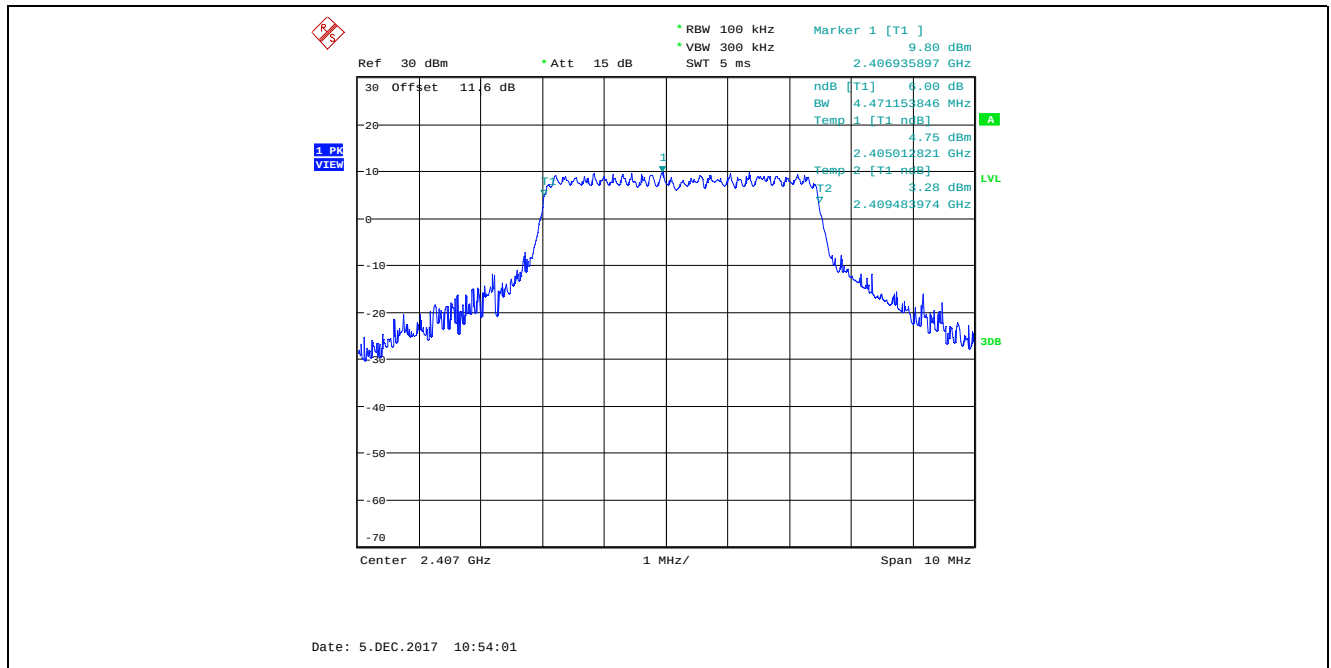
Plot 5.2.4.35. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



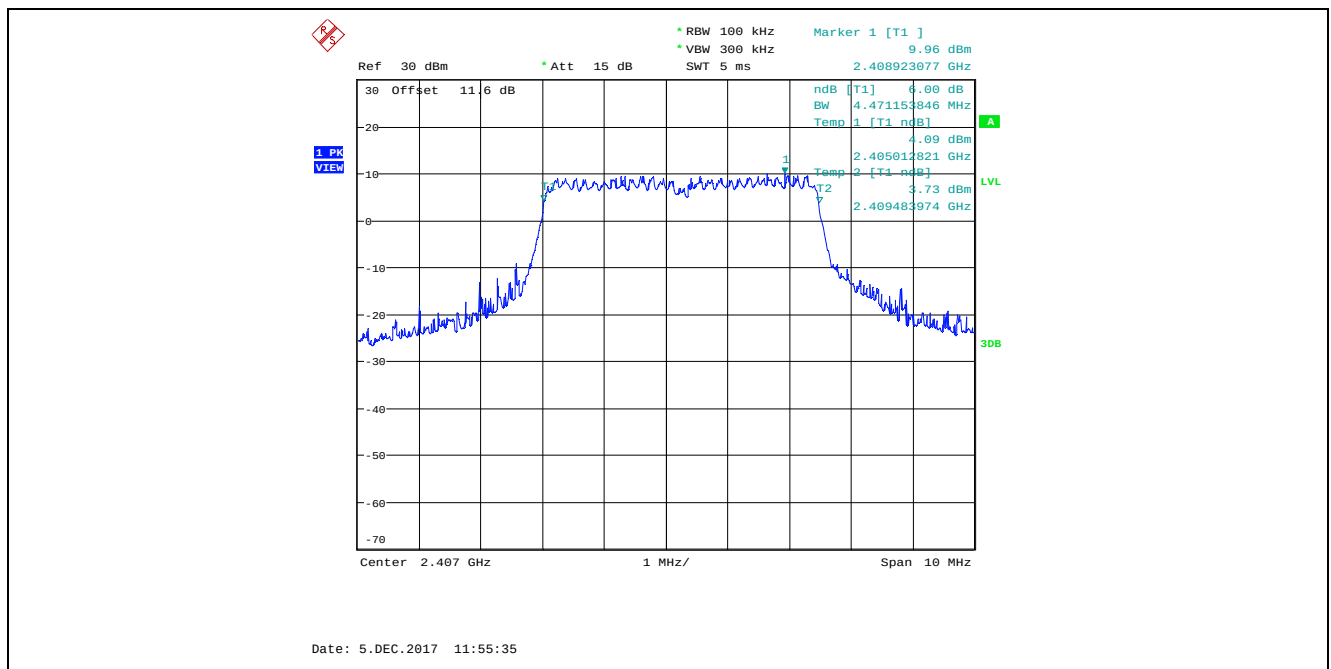
Plot 5.2.4.36. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 22, Data Rate 3, 2477 MHz



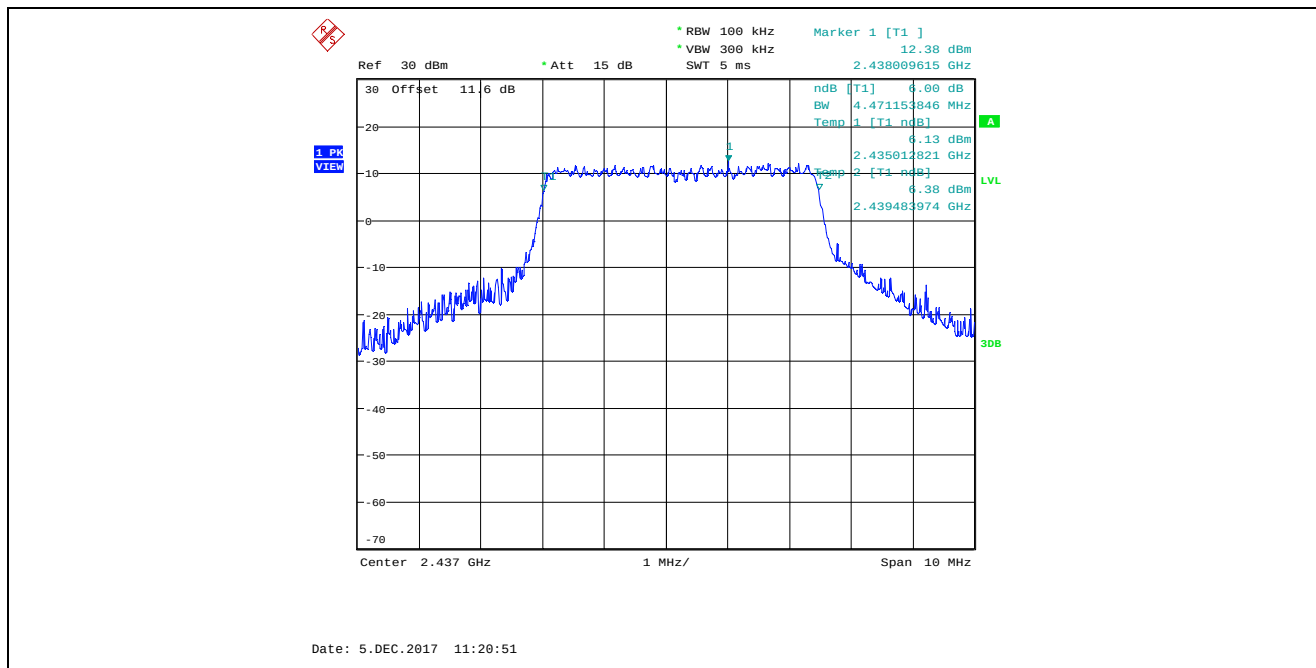
Plot 5.2.4.37. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



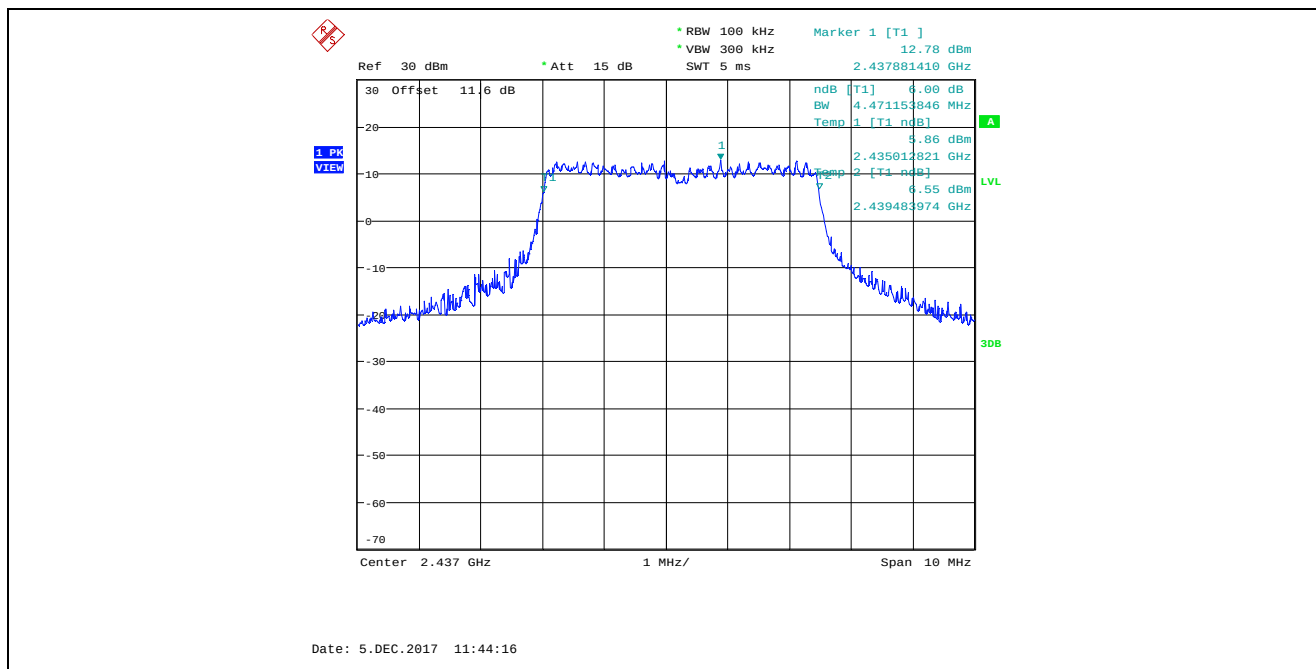
Plot 5.2.4.38. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



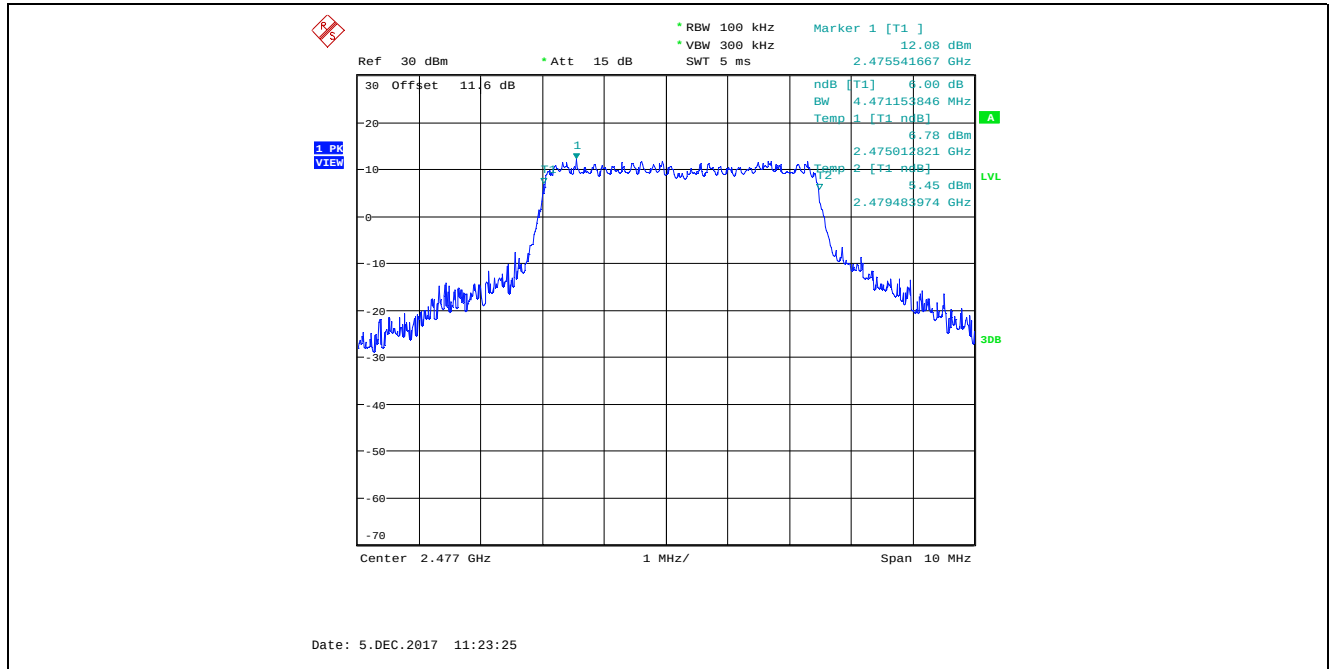
Plot 5.2.4.39. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



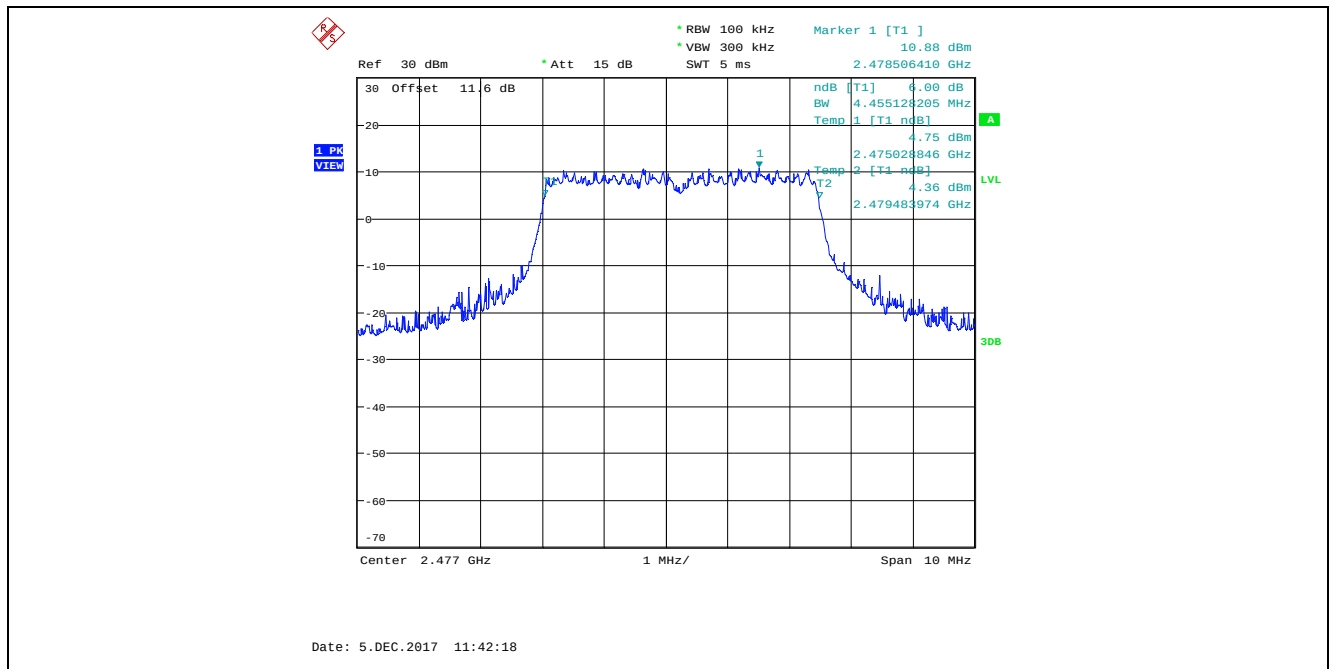
Plot 5.2.4.40. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



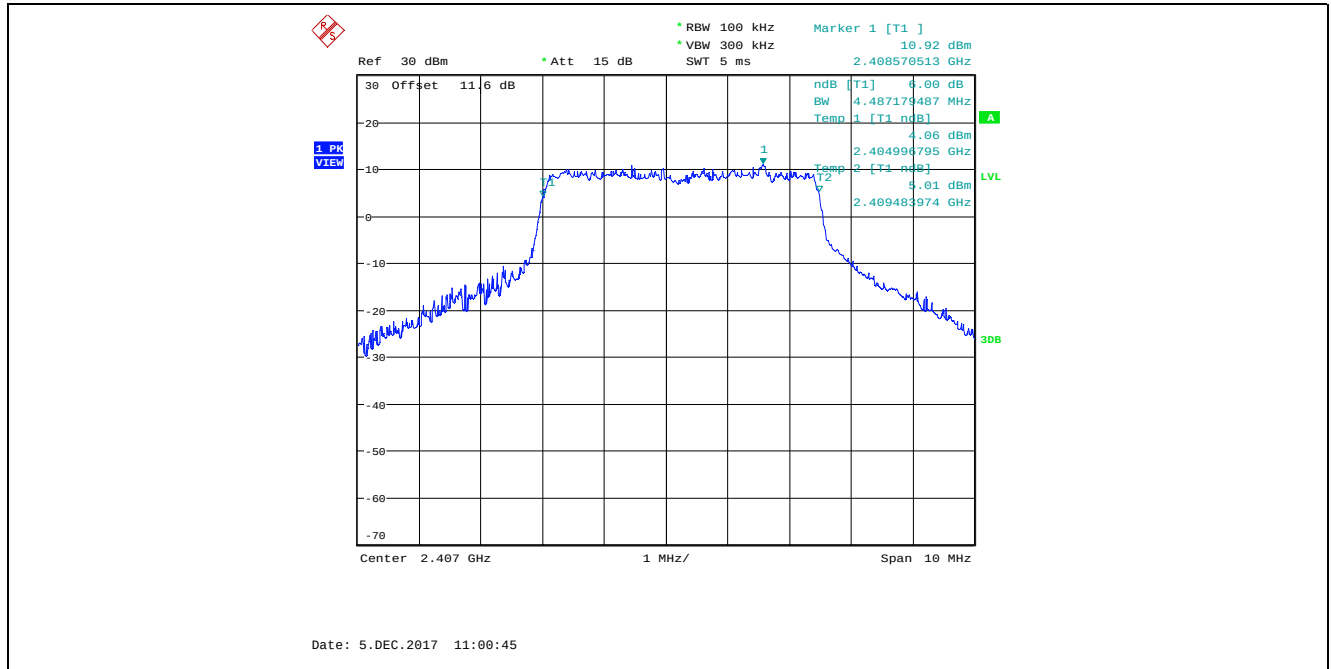
Plot 5.2.4.41. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



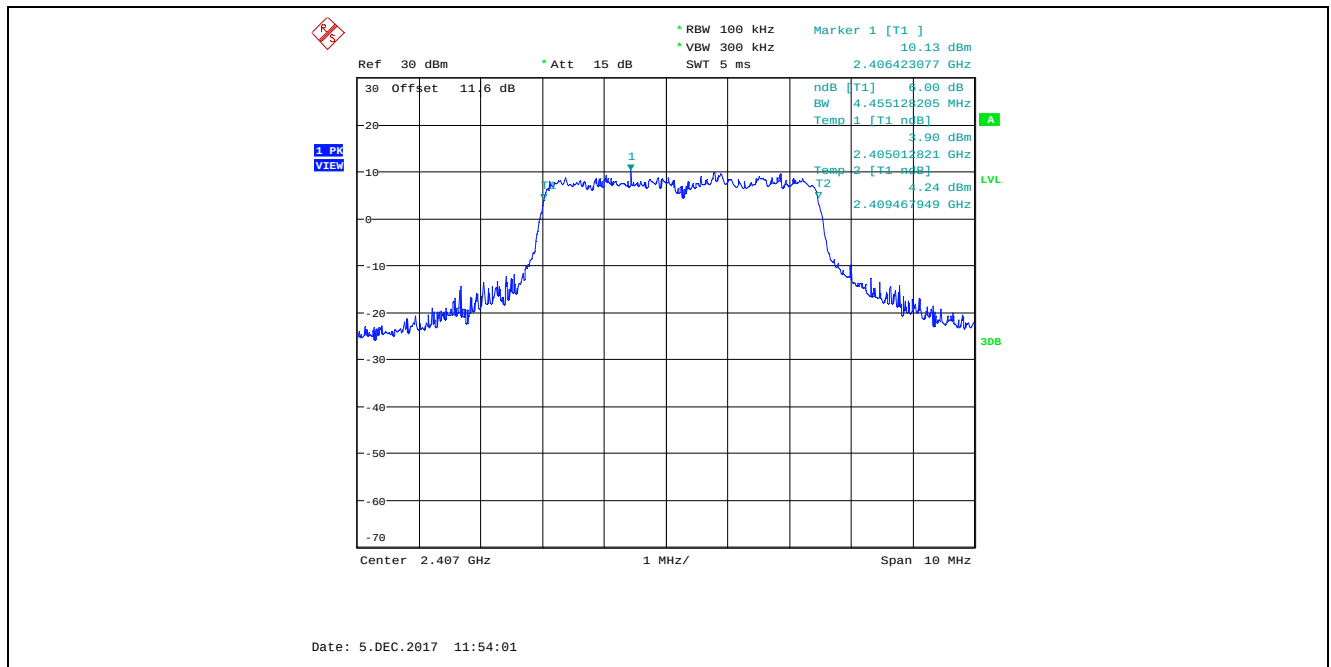
Plot 5.2.4.42. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



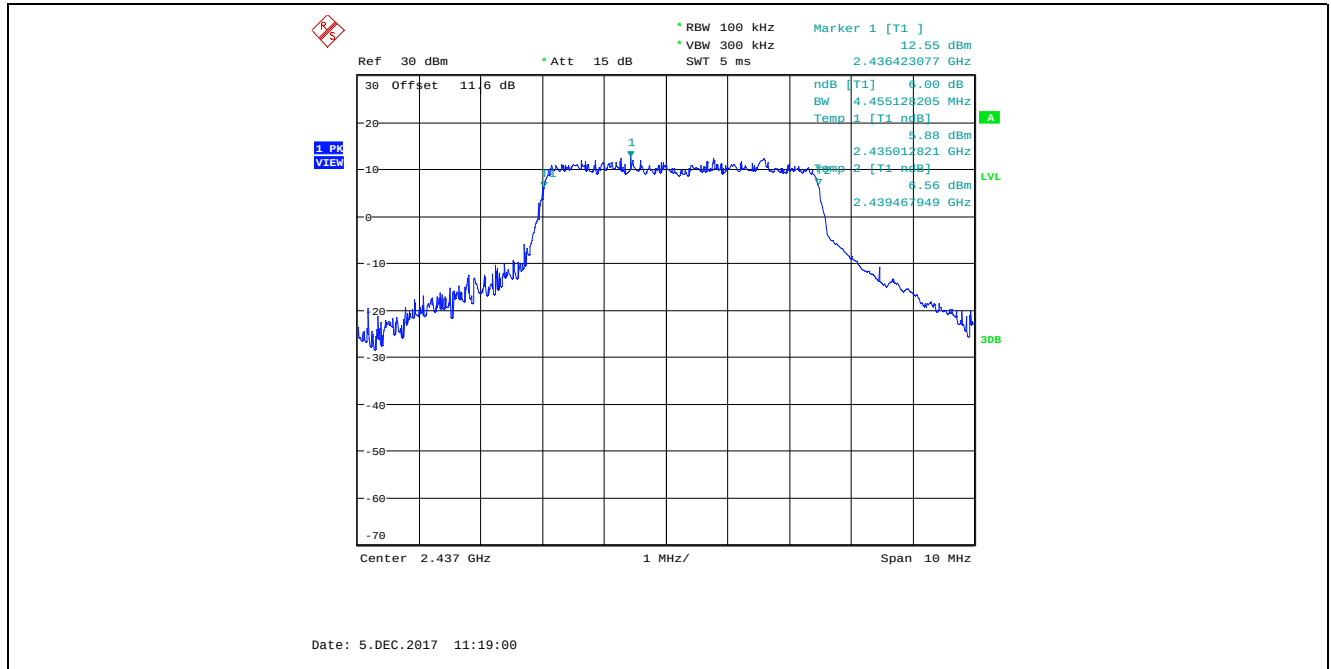
Plot 5.2.4.43. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



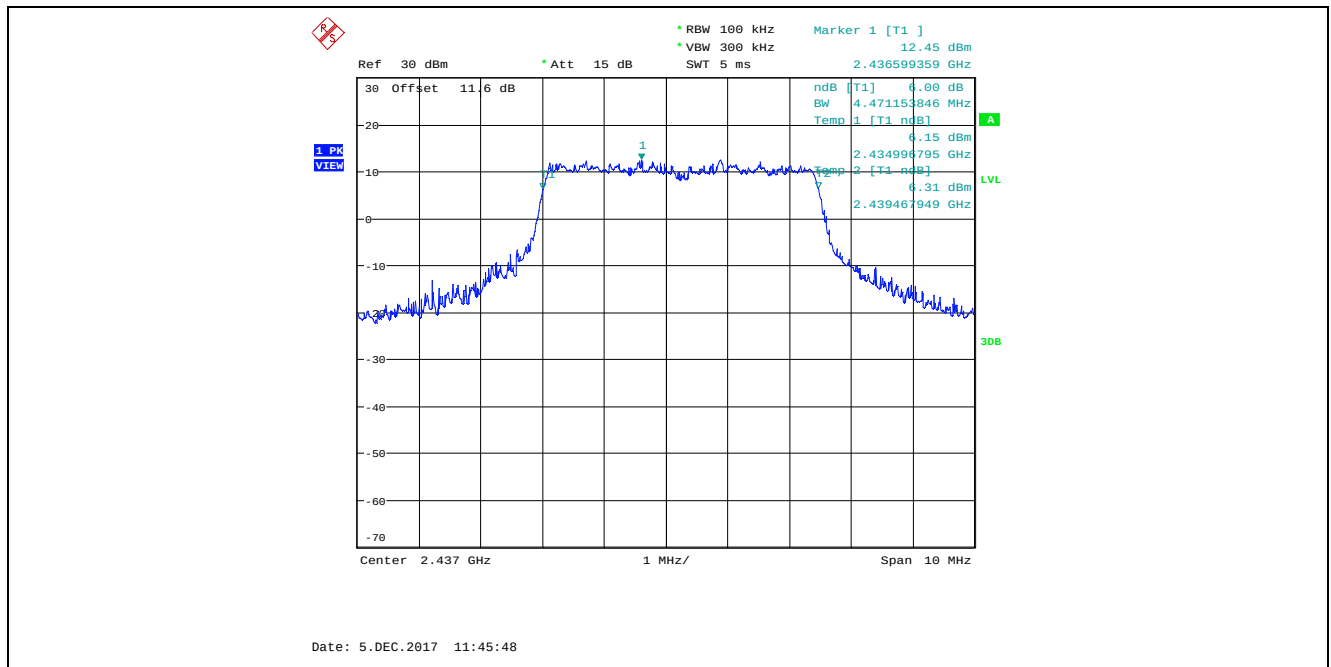
Plot 5.2.4.44. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



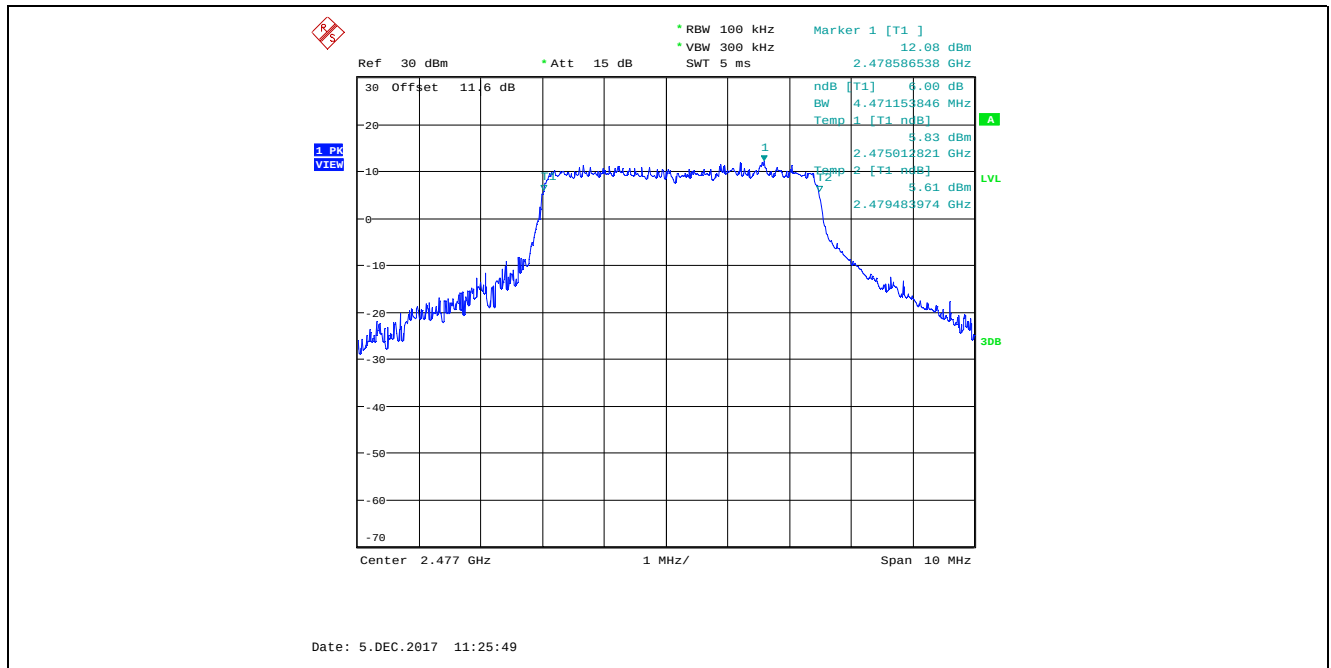
Plot 5.2.4.45. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



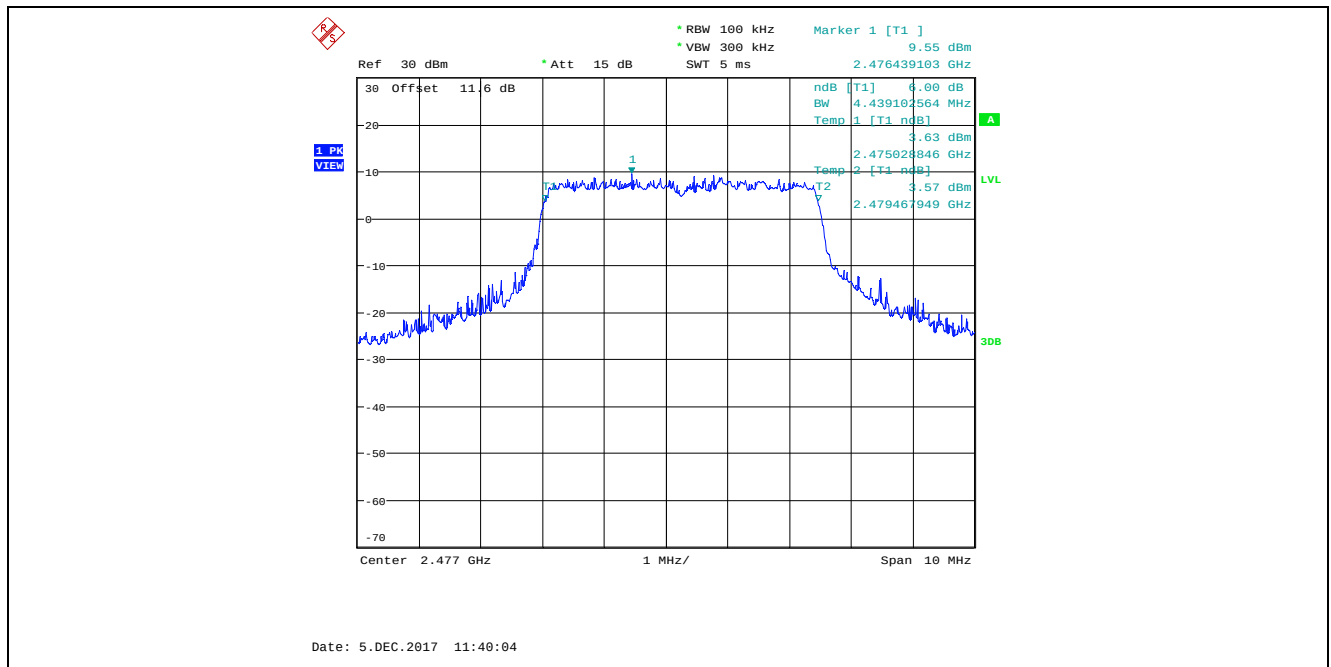
Plot 5.2.4.46. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



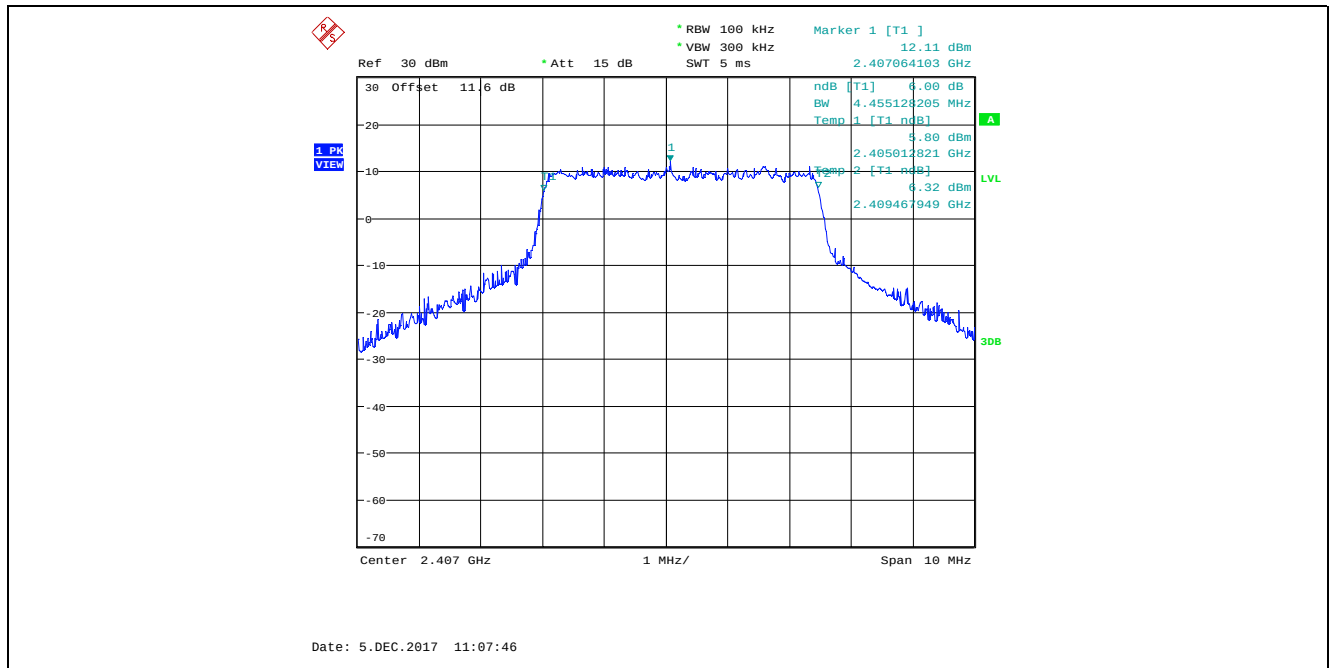
Plot 5.2.4.47. 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



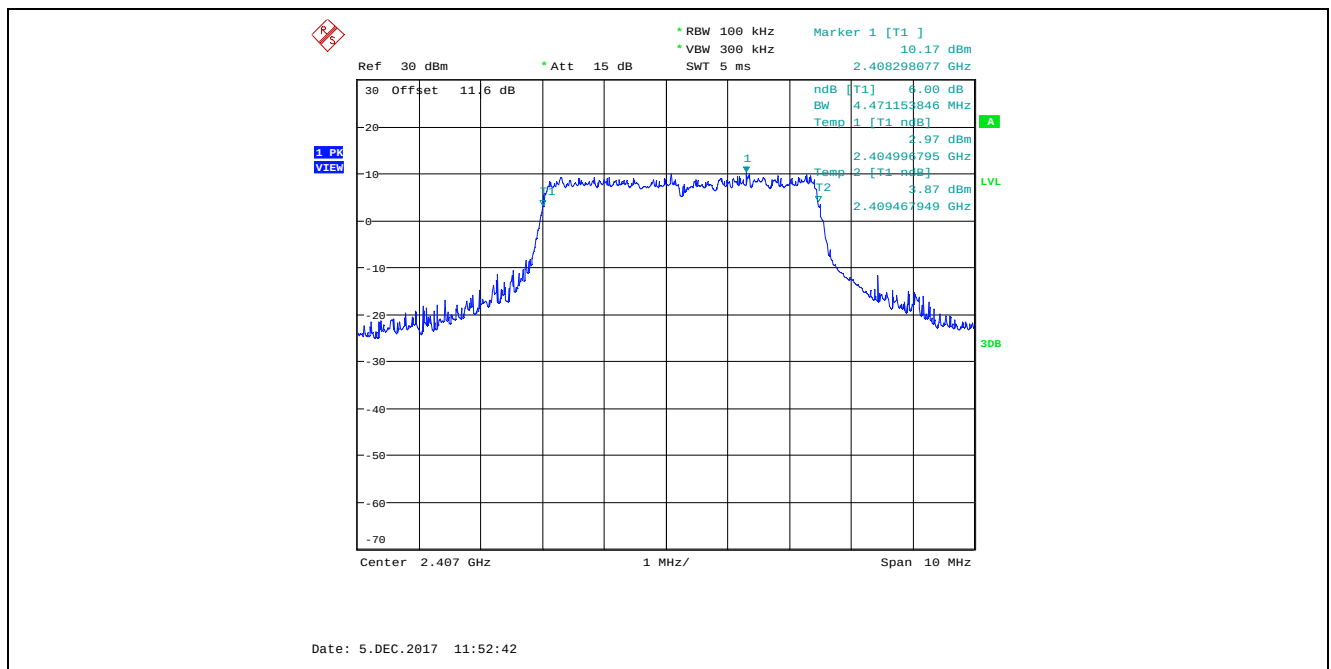
Plot 5.2.4.48. 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



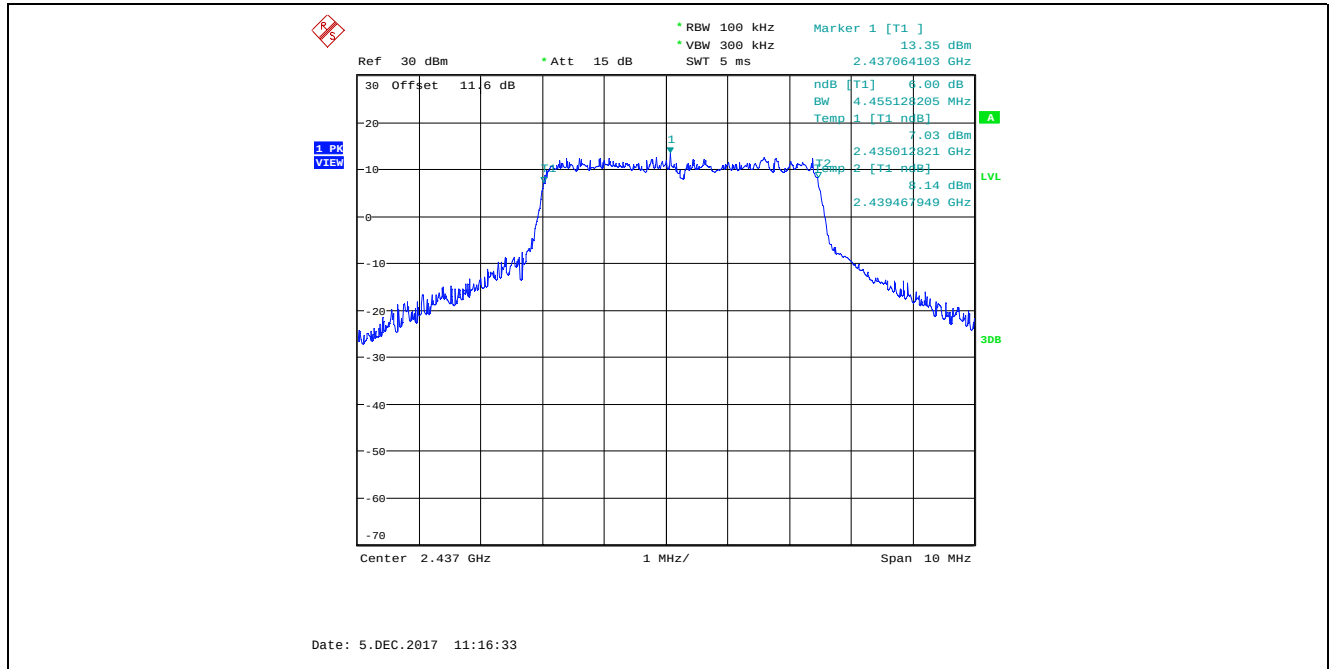
Plot 5.2.4.49. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz,



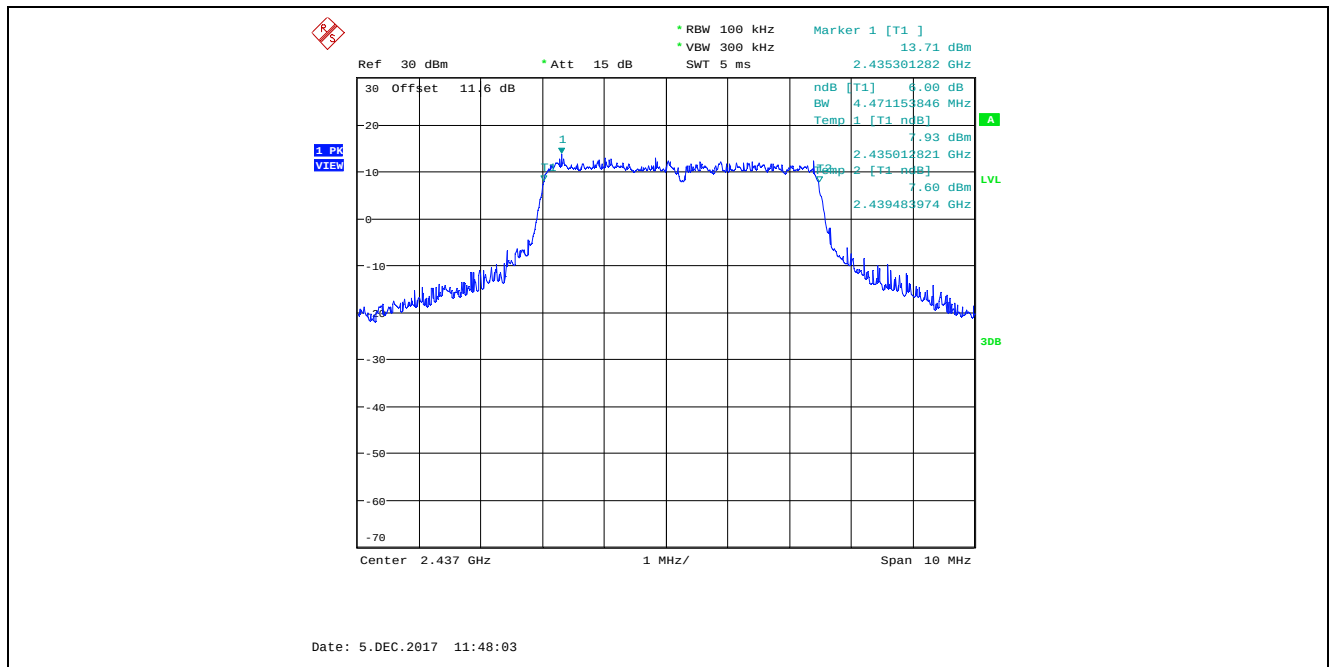
Plot 5.2.4.50. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz,



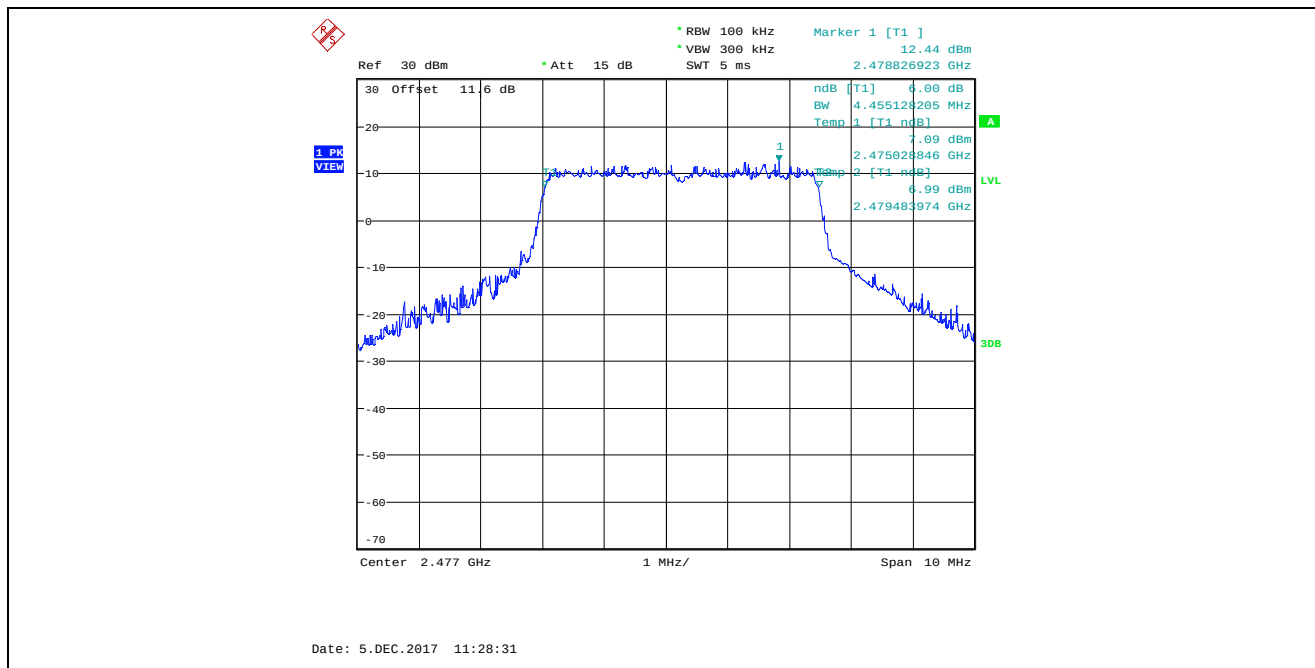
Plot 5.2.4.51. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



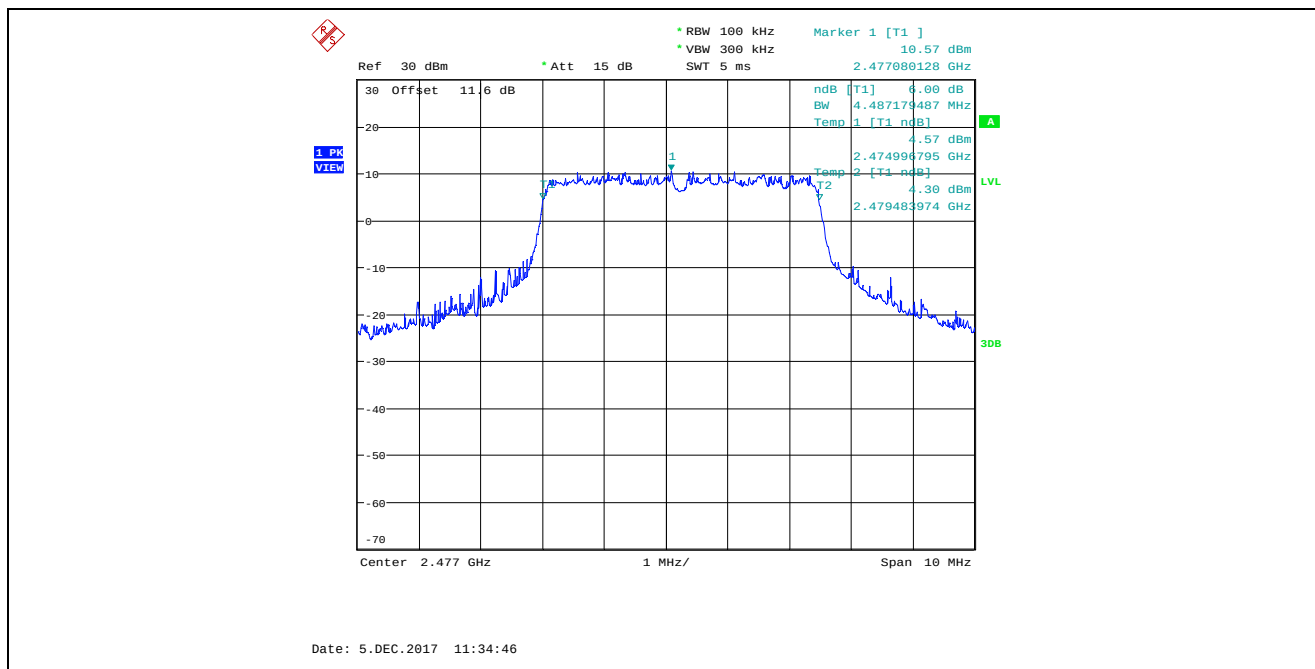
Plot 5.2.4.52. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



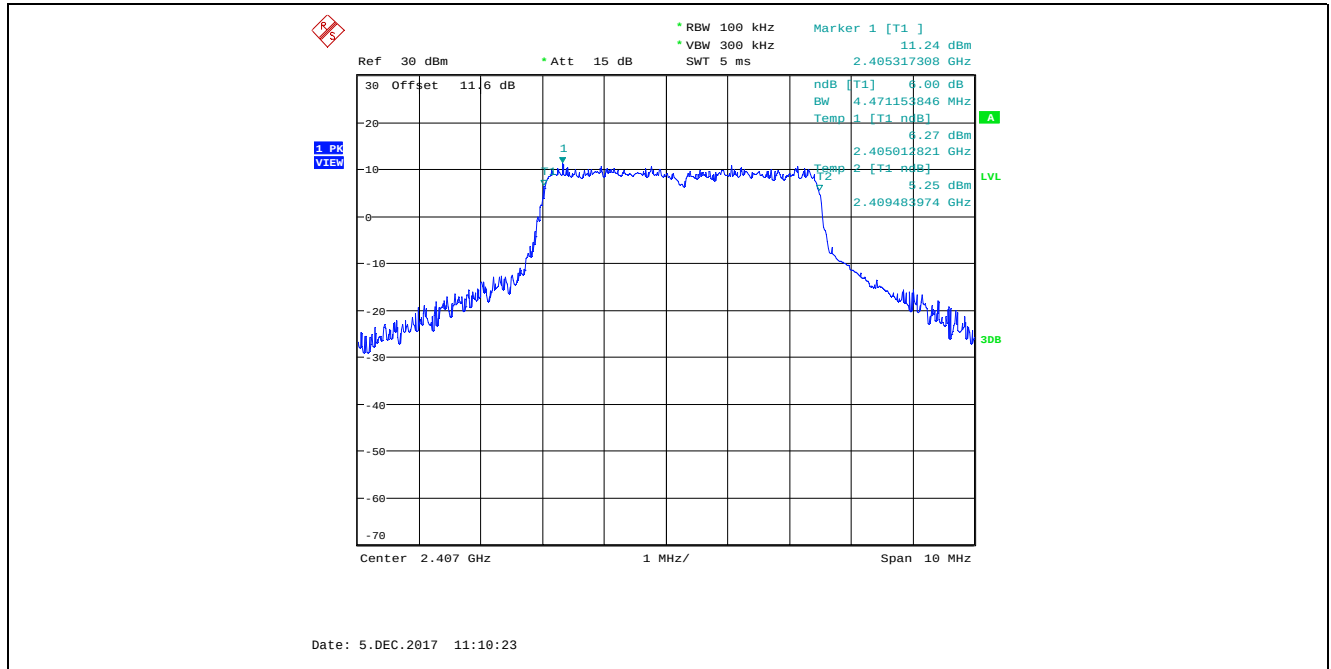
Plot 5.2.4.53. 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



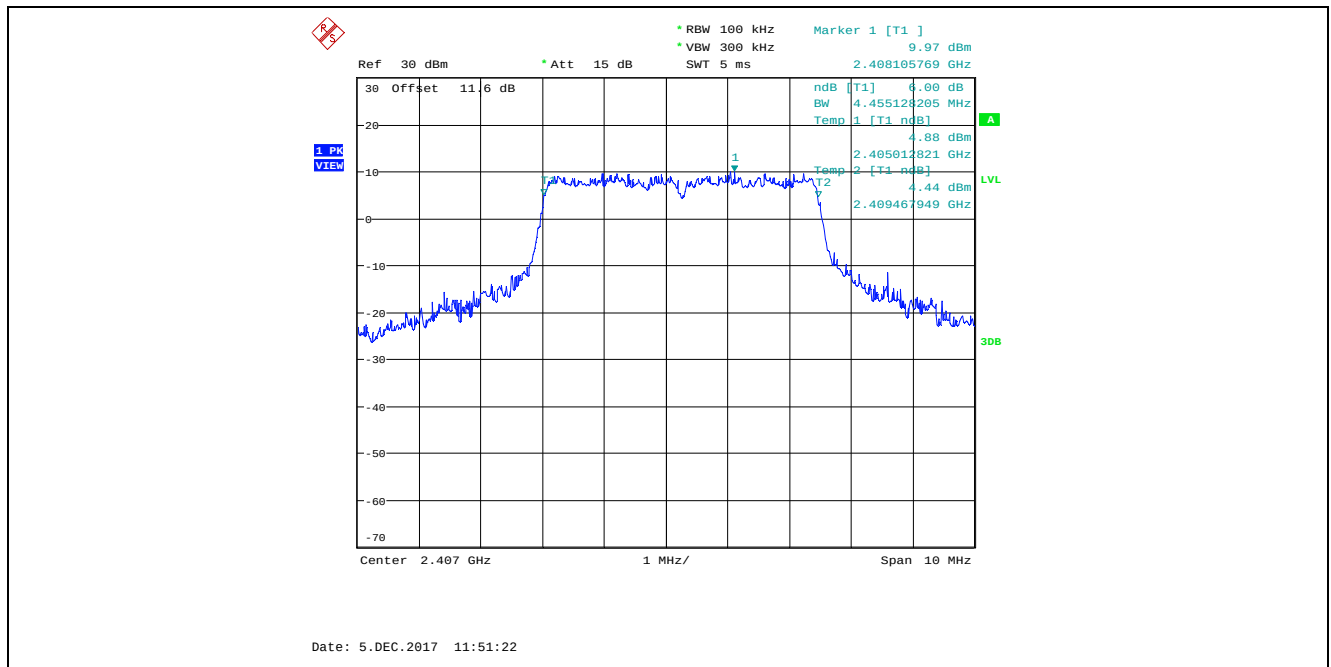
Plot 5.2.4.54. 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



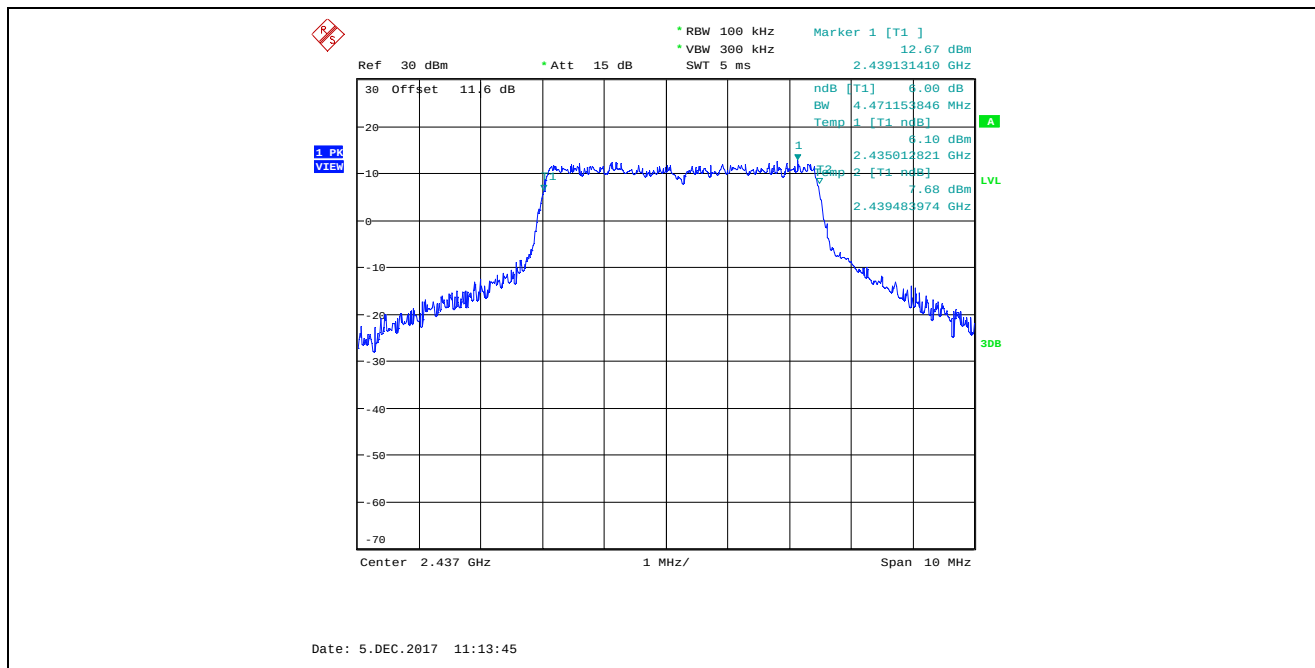
Plot 5.2.4.55. 6 dB Bandwidth, Antenna 1
 4 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



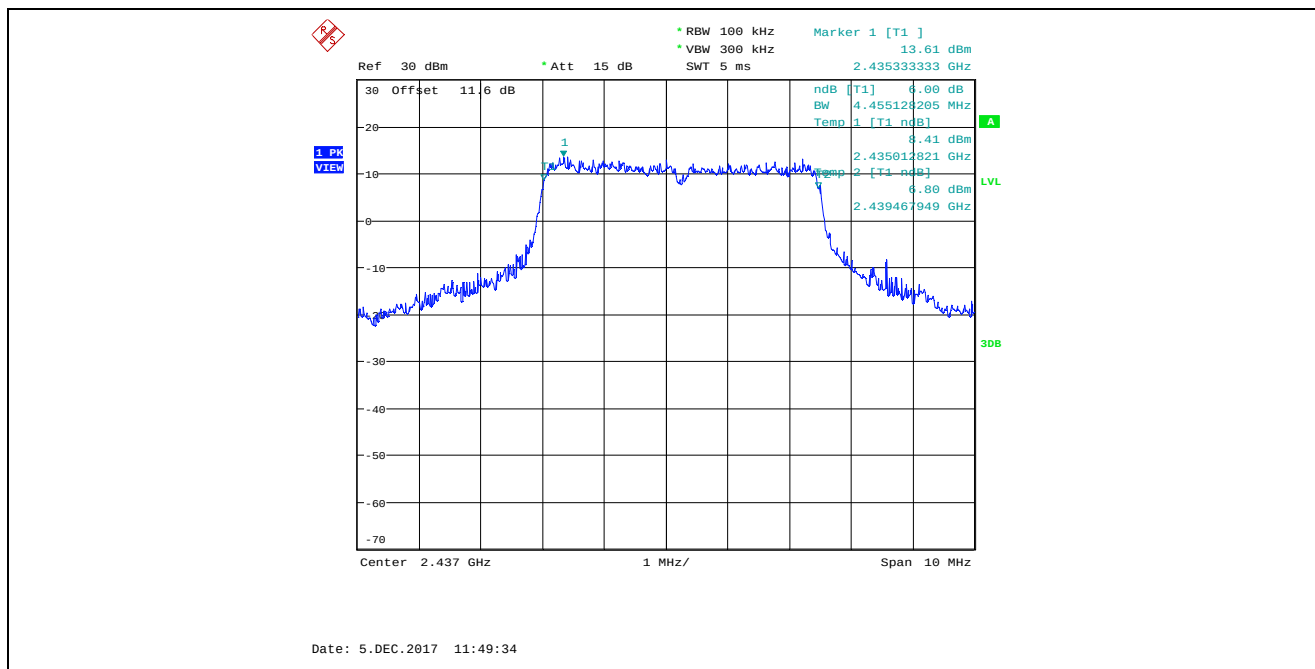
Plot 5.2.4.56. 6 dB Bandwidth, Antenna 2
 4 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



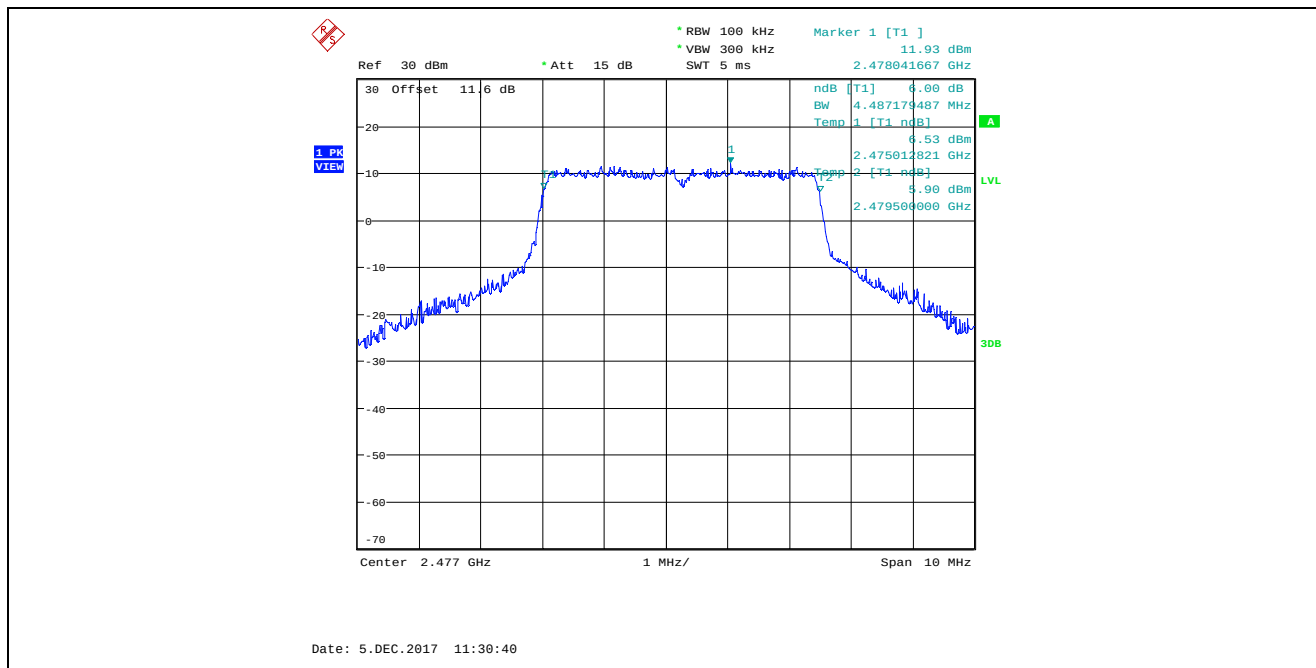
Plot 5.2.4.57. 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



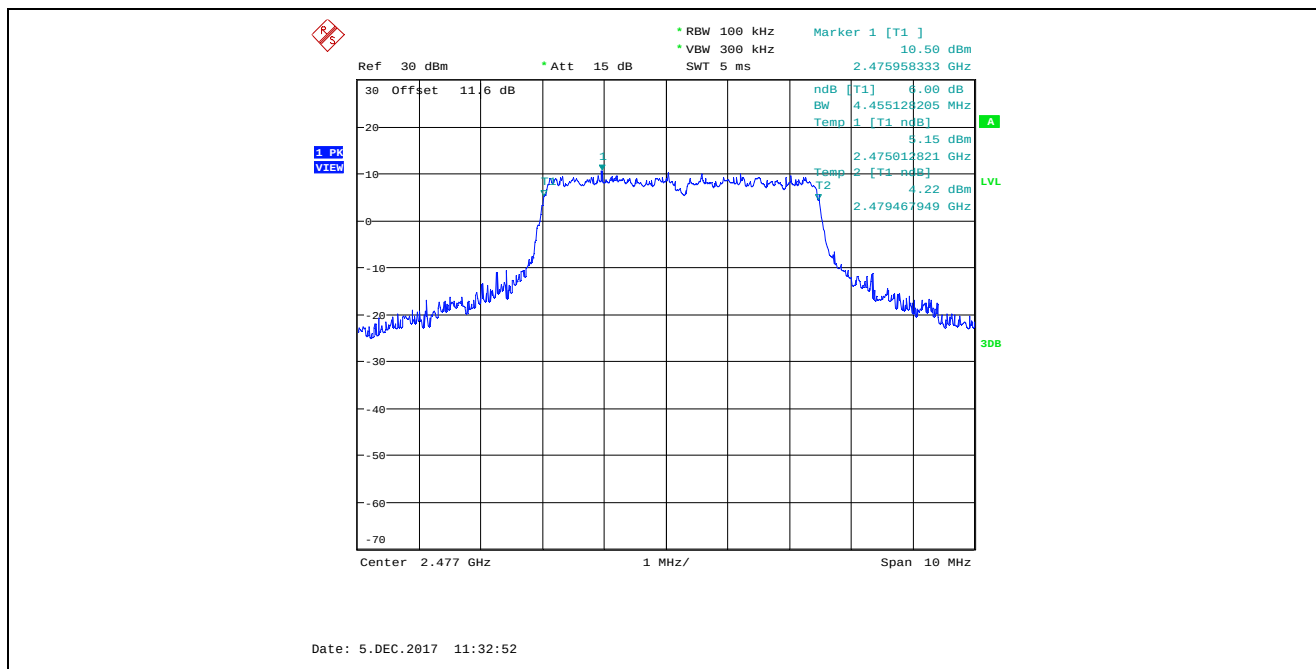
Plot 5.2.4.58. 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



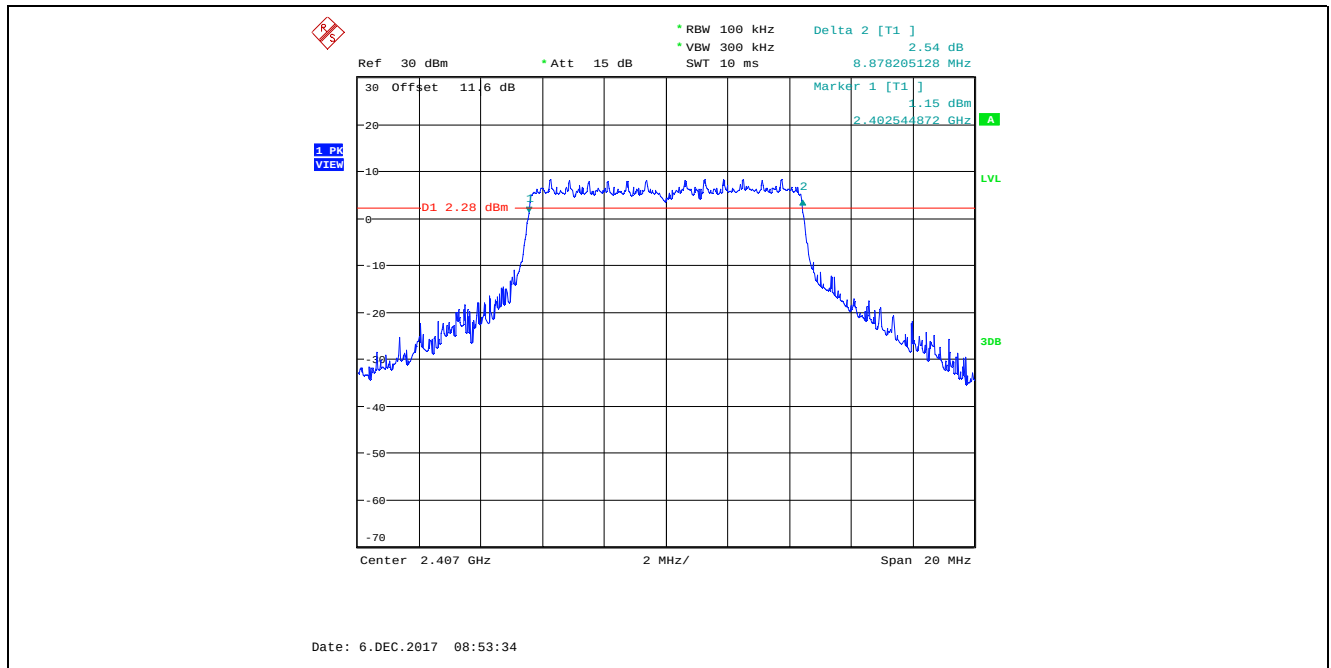
Plot 5.2.4.59. 6 dB Bandwidth, Antenna 1
4 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz



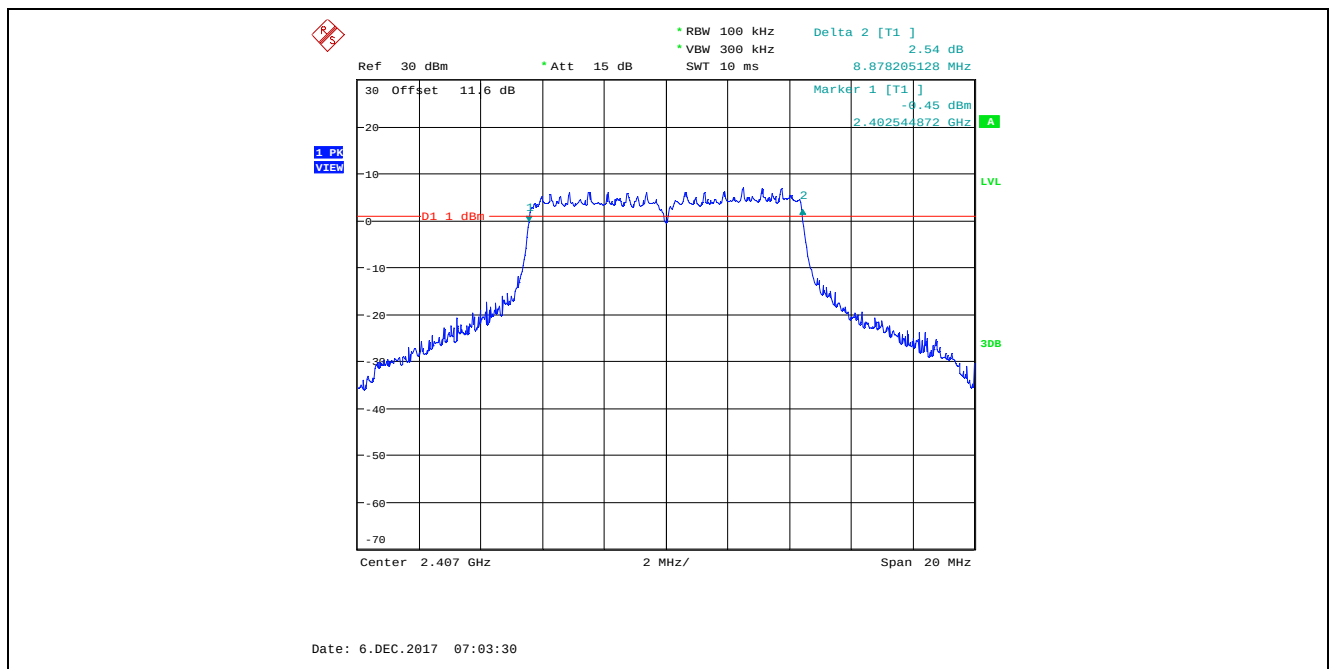
Plot 5.2.4.60. 6 dB Bandwidth, Antenna 2
4 MHz BW, Power Setting 24, Data Rate 7, 2477 MHz



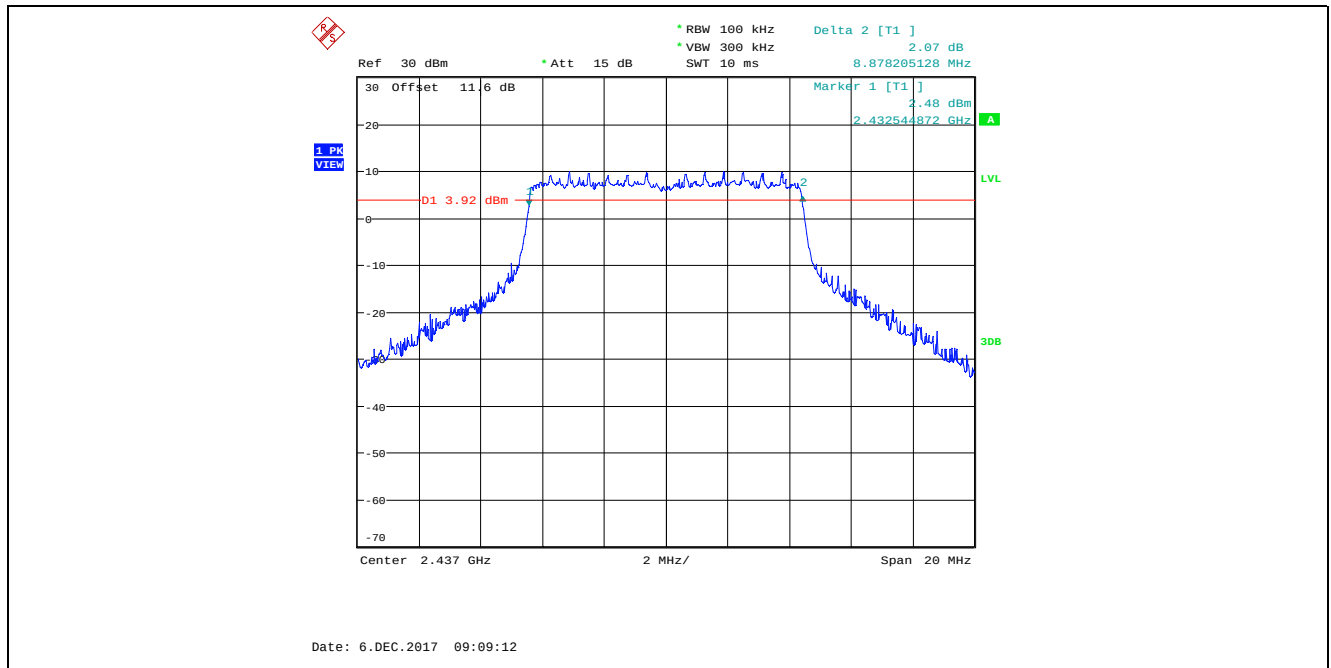
Plot 5.2.4.61. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



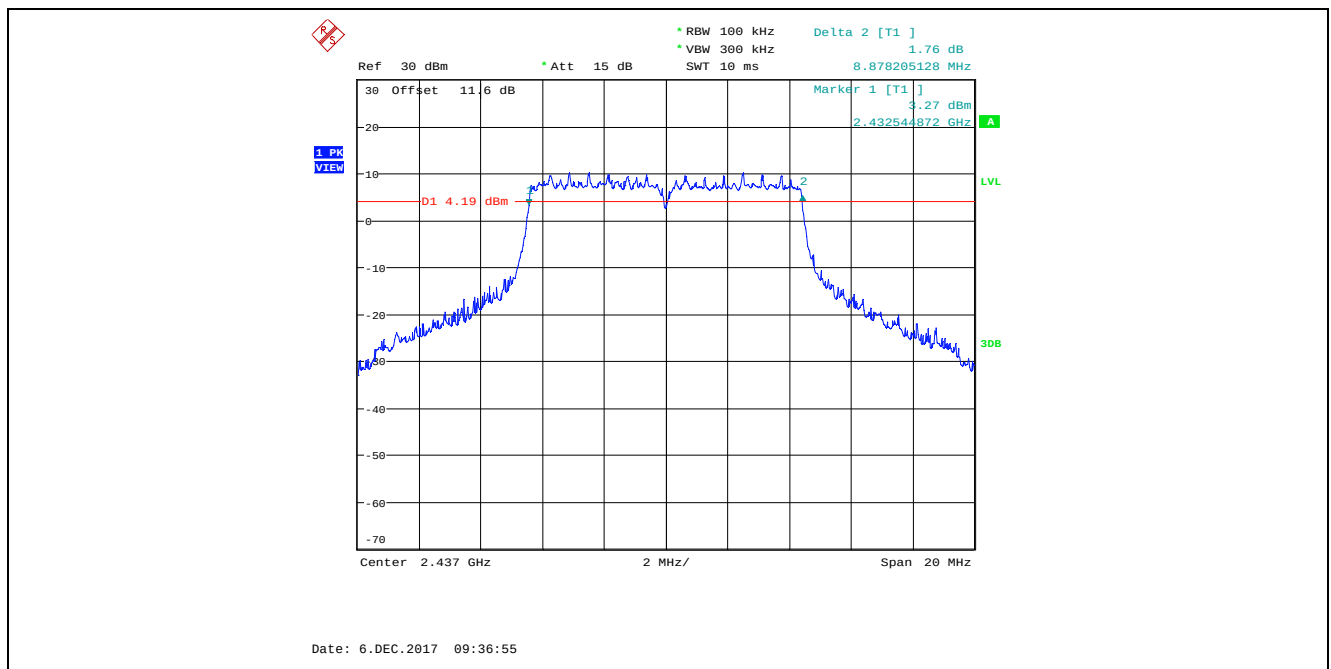
Plot 5.2.4.62. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 4, 2407 MHz



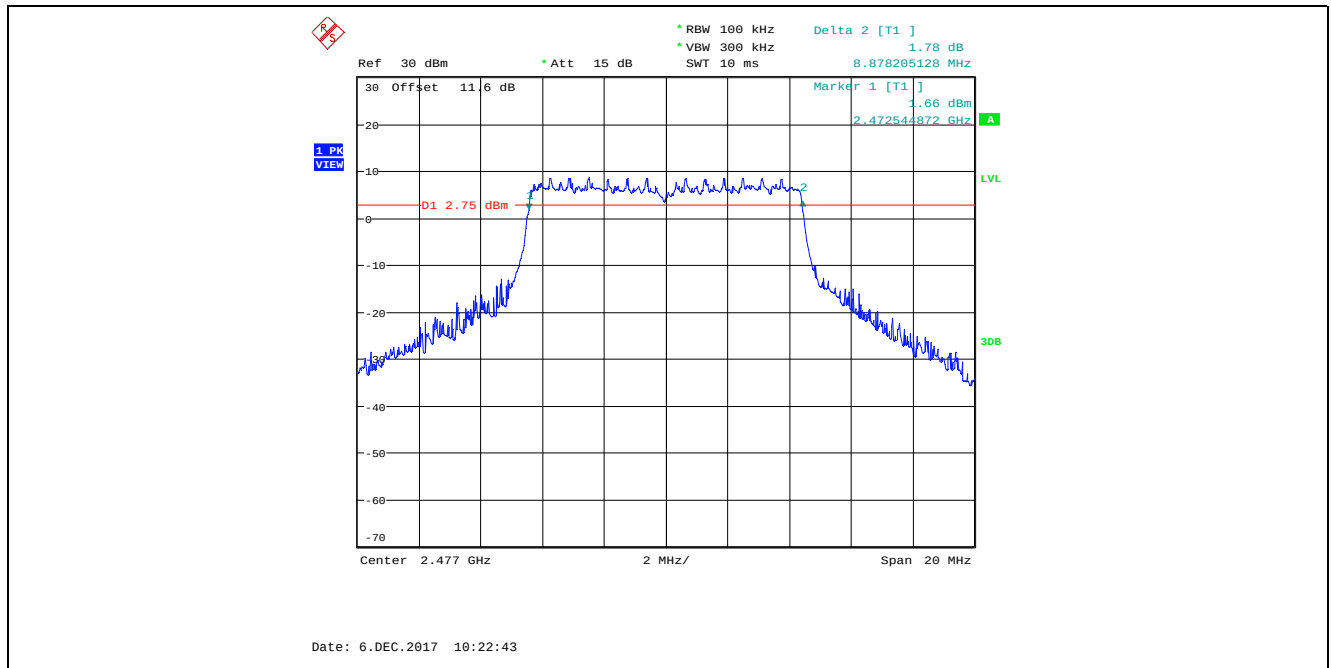
Plot 5.2.4.63. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



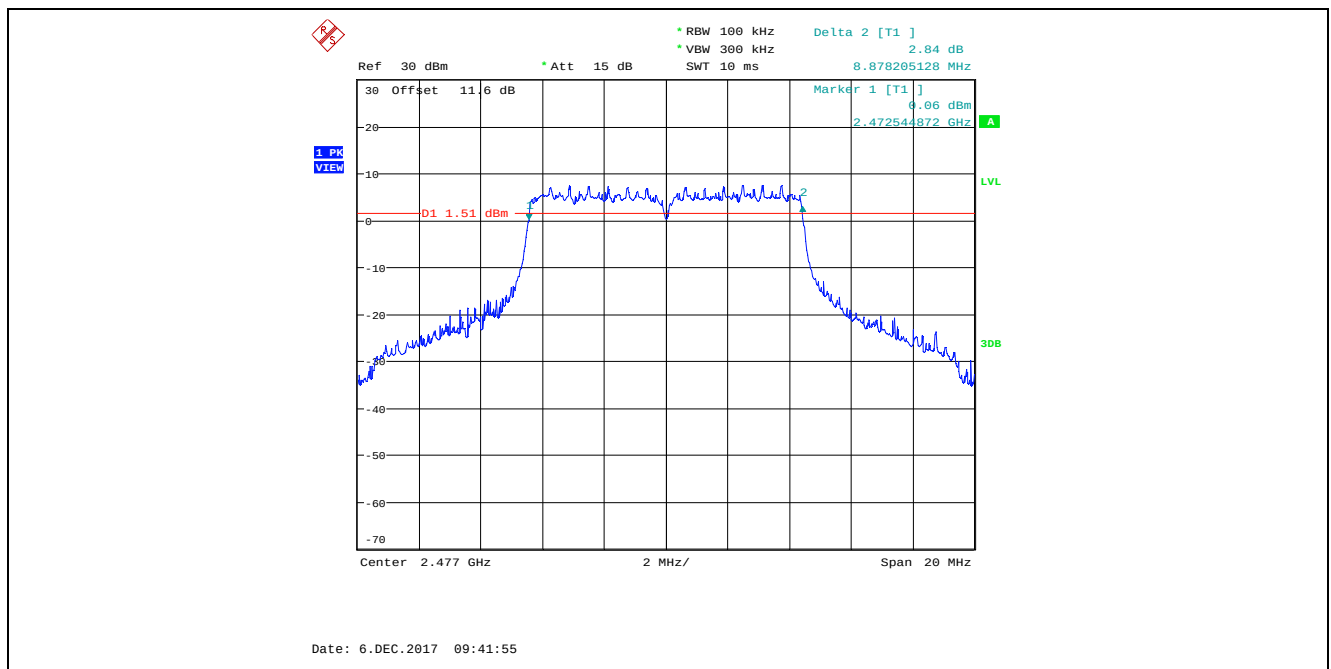
Plot 5.2.4.64. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 24, Data Rate 4, 2437 MHz



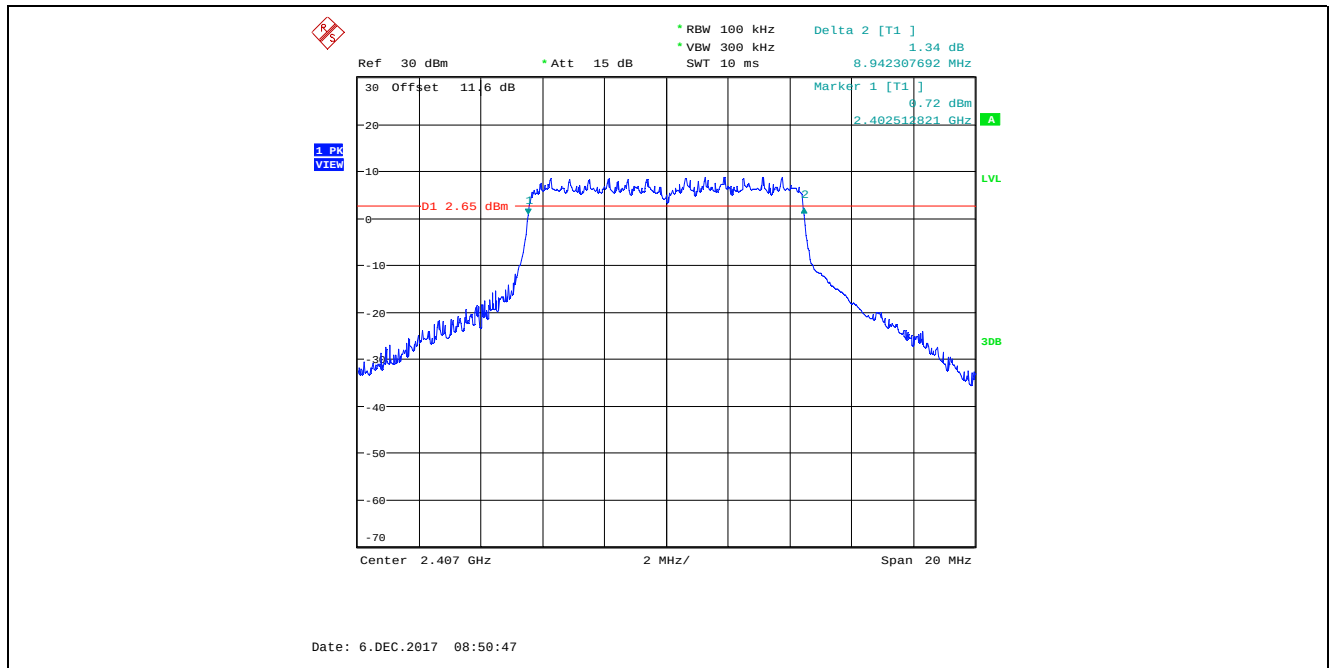
Plot 5.2.4.65. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



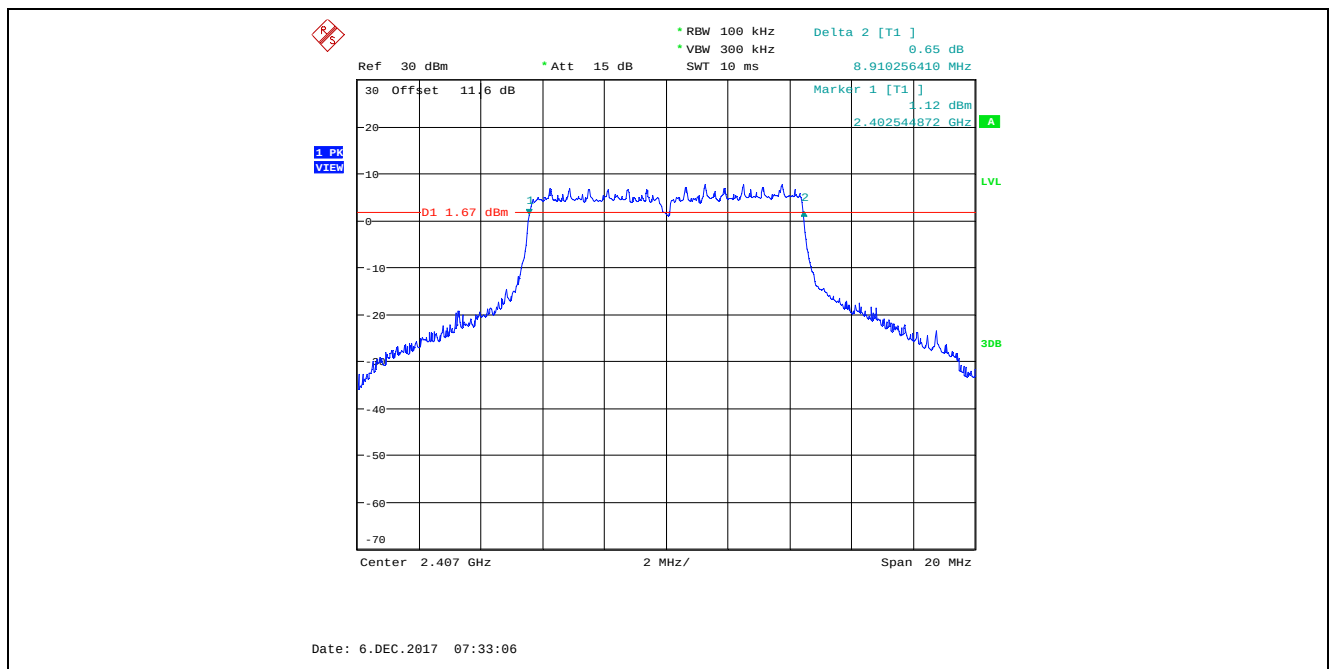
Plot 5.2.4.66. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 4, 2477 MHz



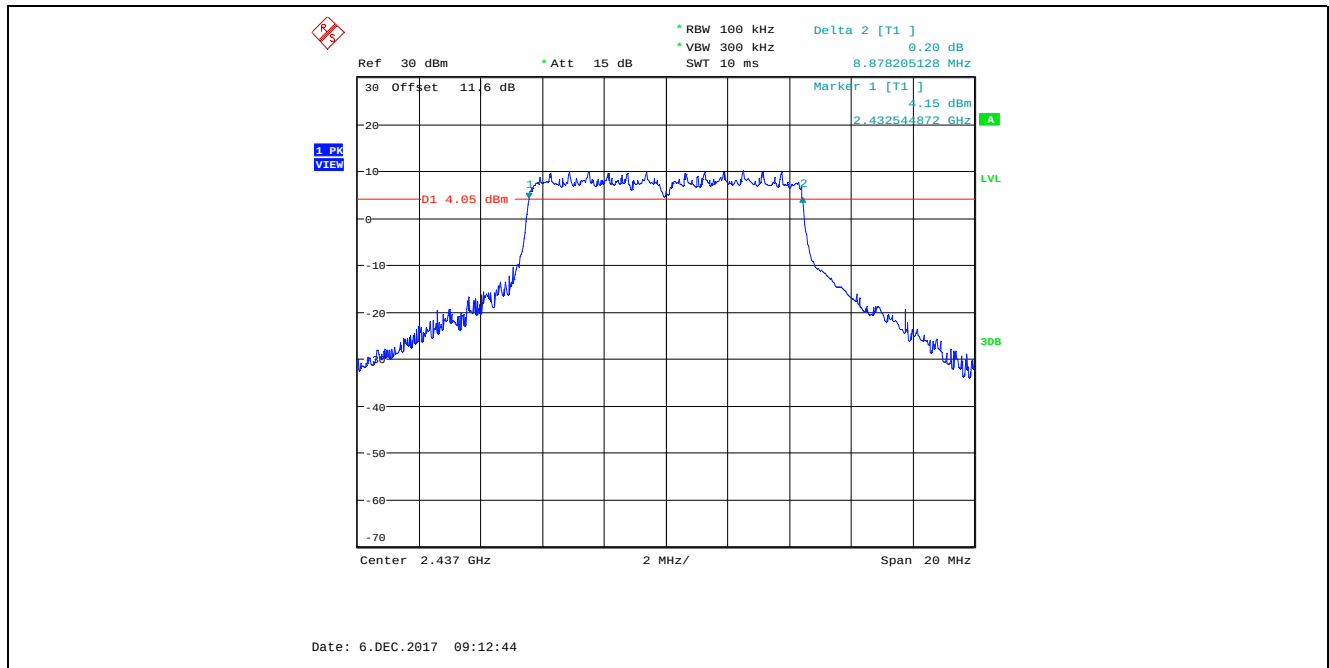
Plot 5.2.4.67. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



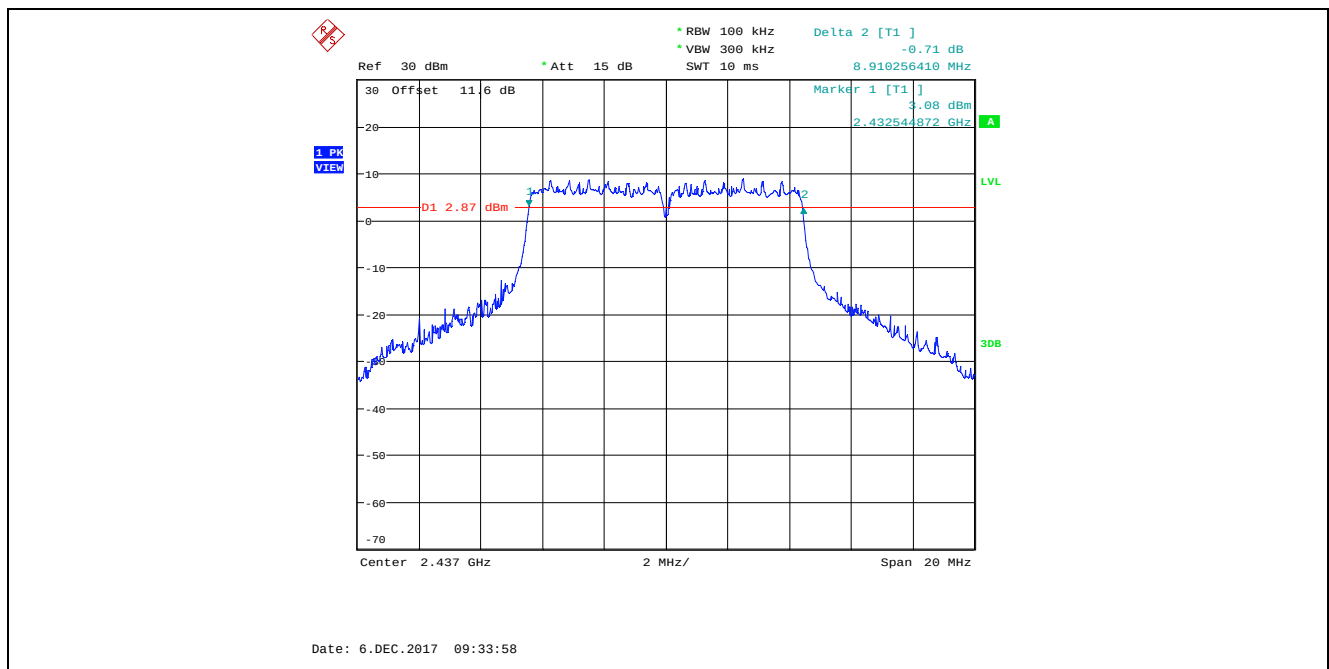
Plot 5.2.4.68. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 24, Data Rate 5, 2407 MHz



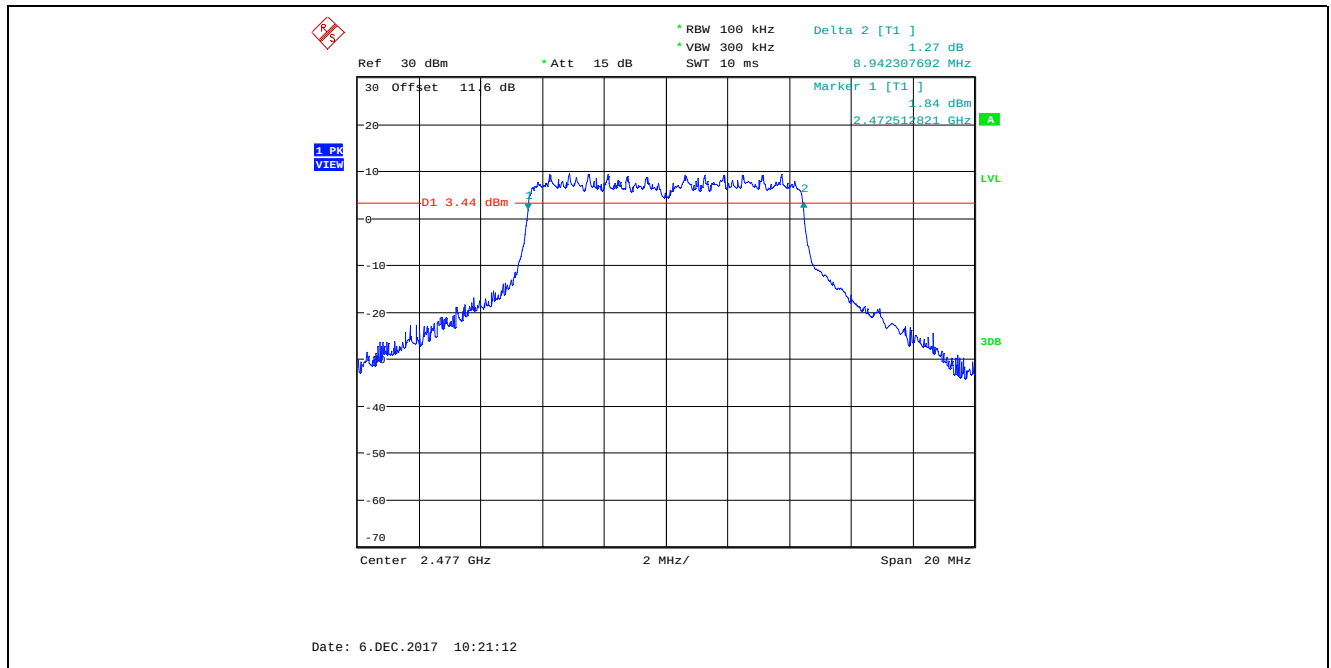
Plot 5.2.4.69. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



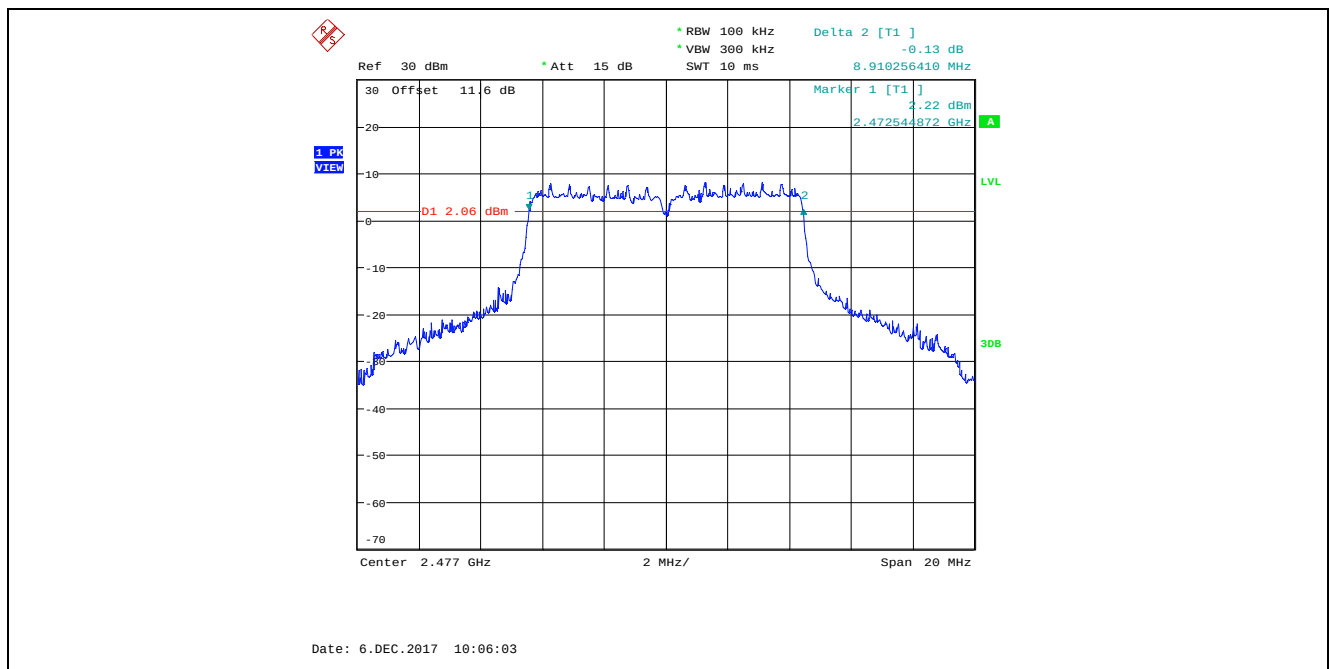
Plot 5.2.4.70. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 5, 2437 MHz



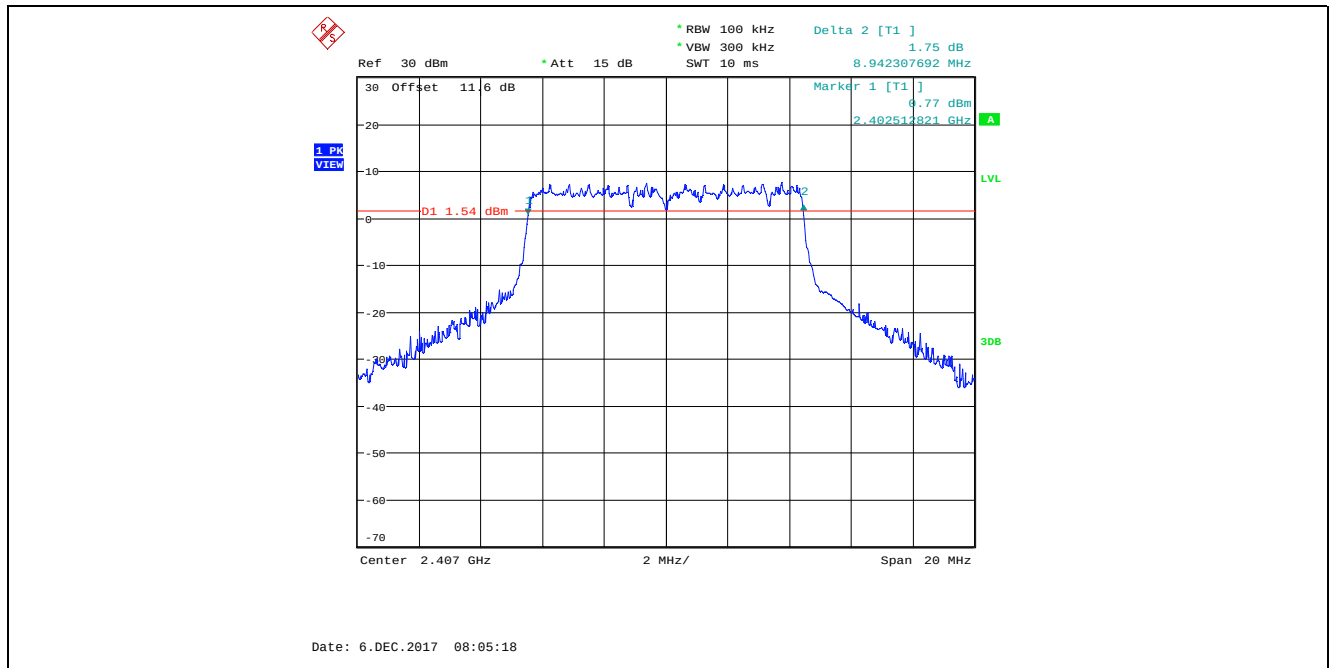
Plot 5.2.4.71. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



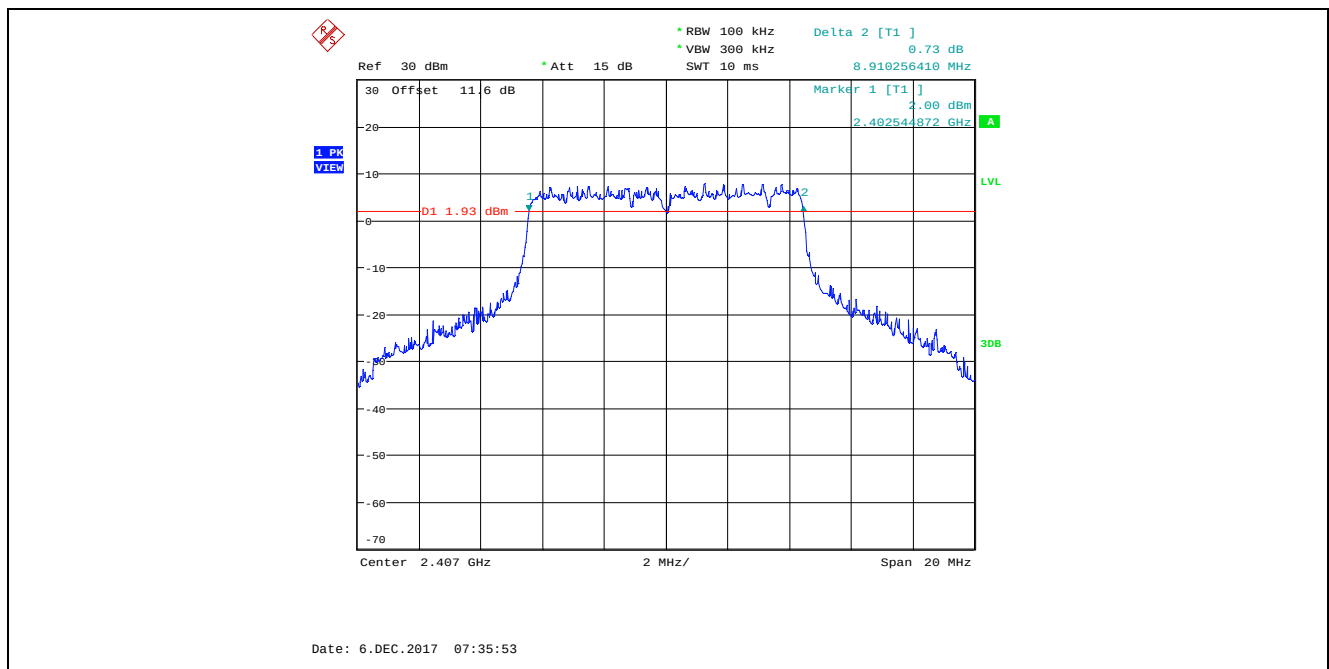
Plot 5.2.4.72. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 5, 2477 MHz



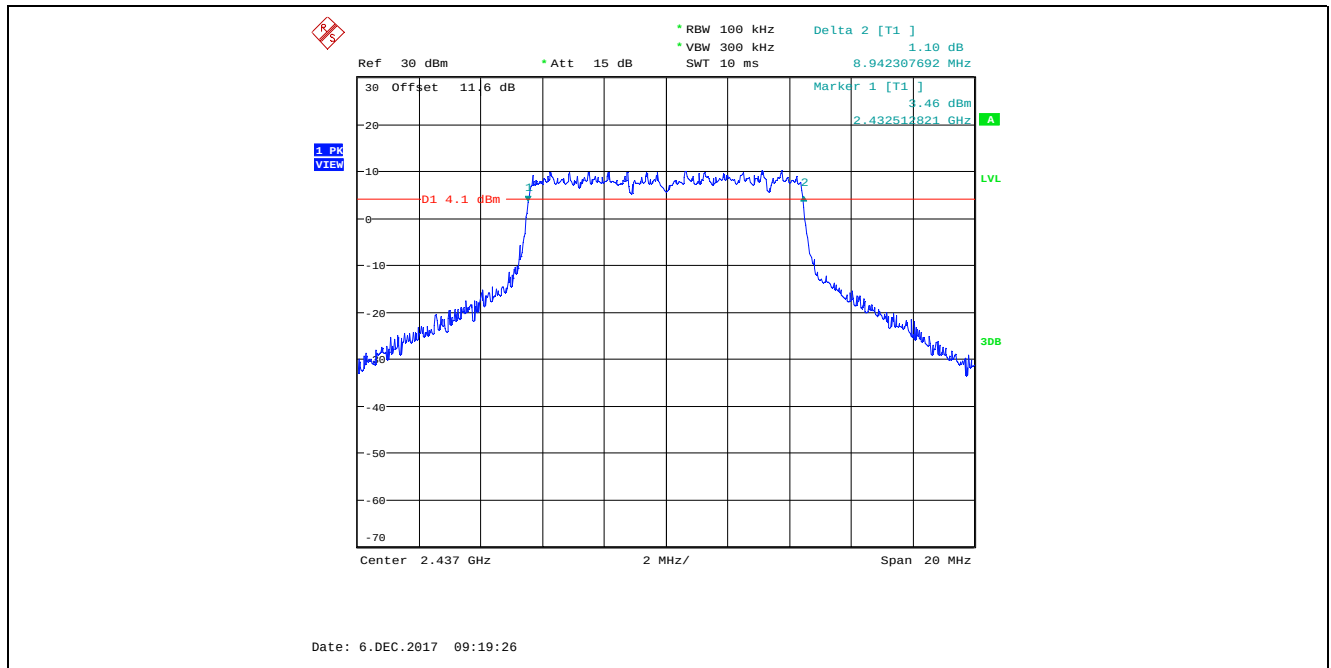
Plot 5.2.4.73. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz



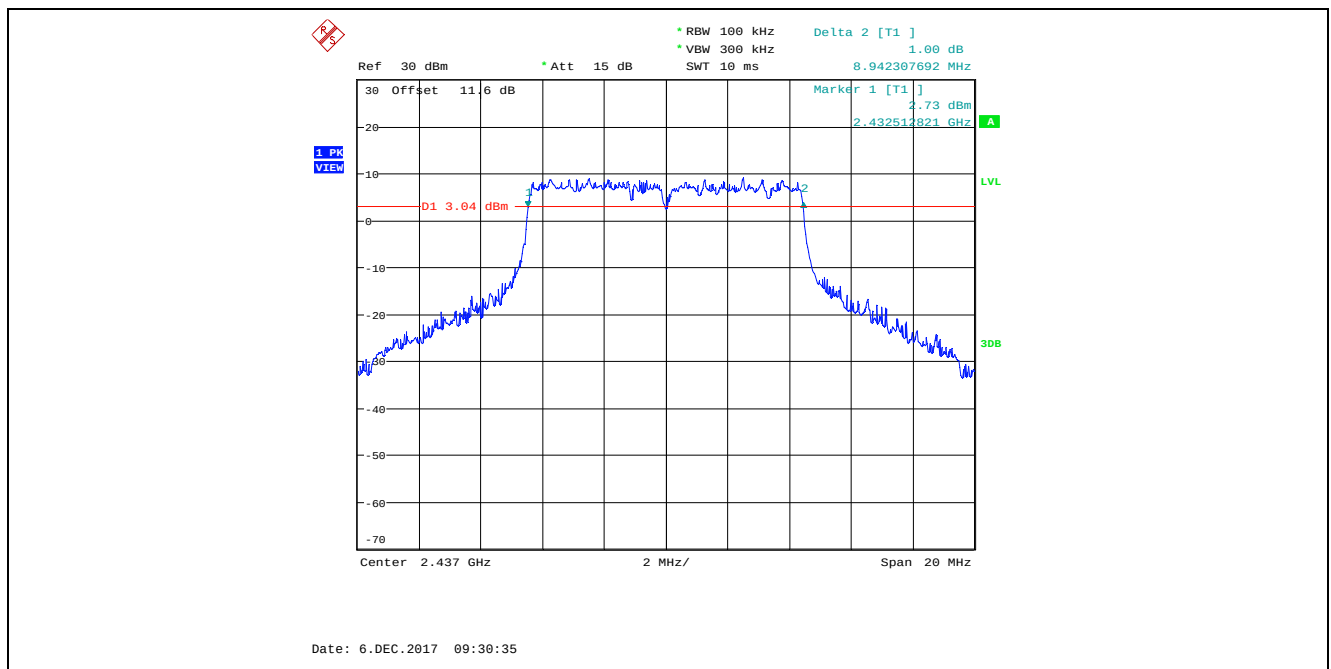
Plot 5.2.4.74. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 6, 2407 MHz



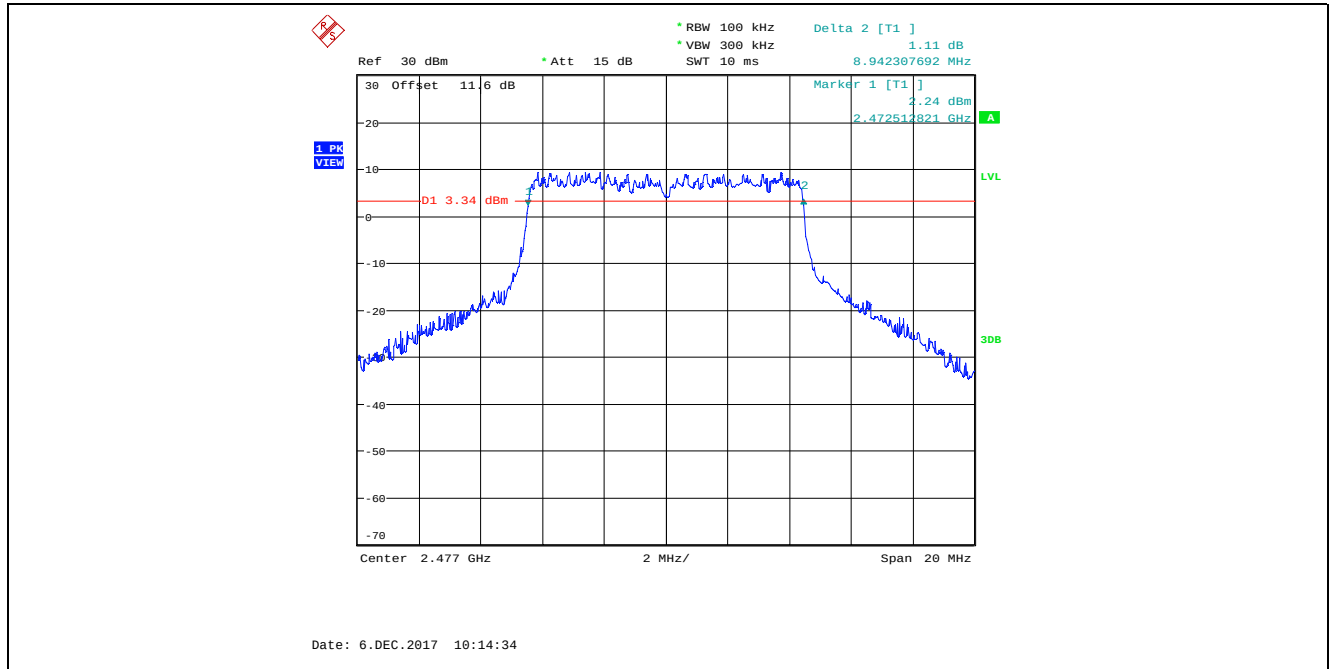
Plot 5.2.4.75. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



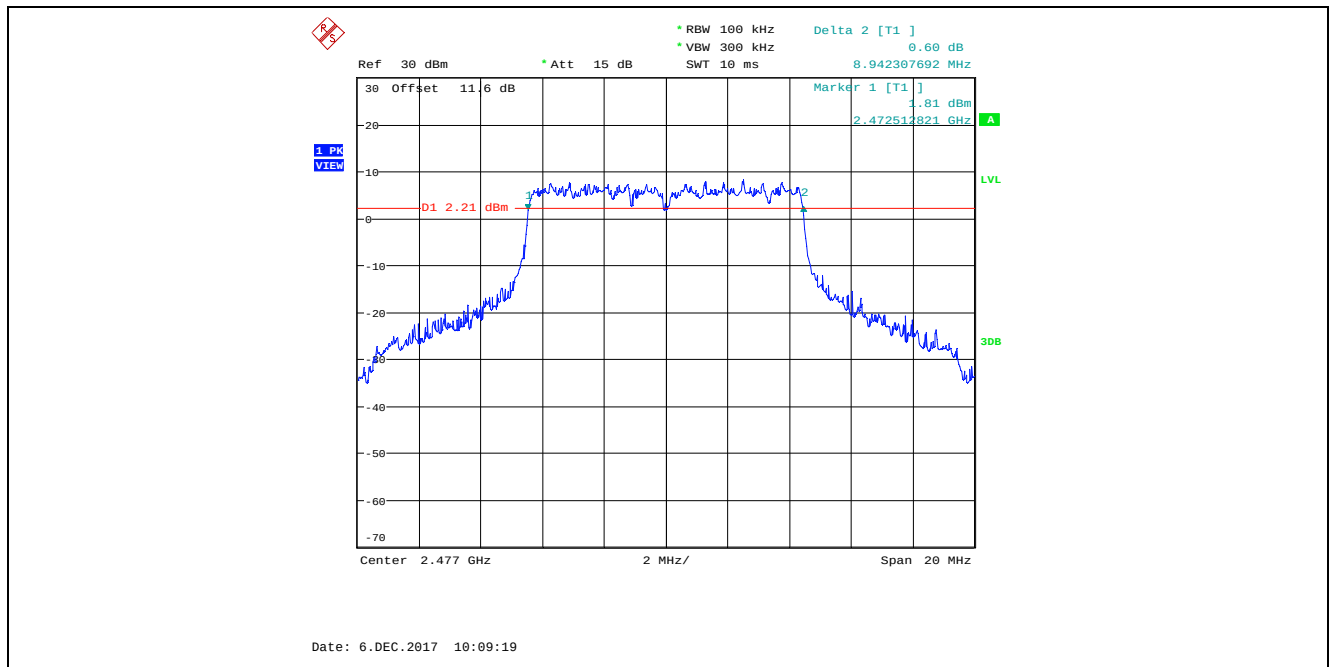
Plot 5.2.4.76. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 6, 2437 MHz



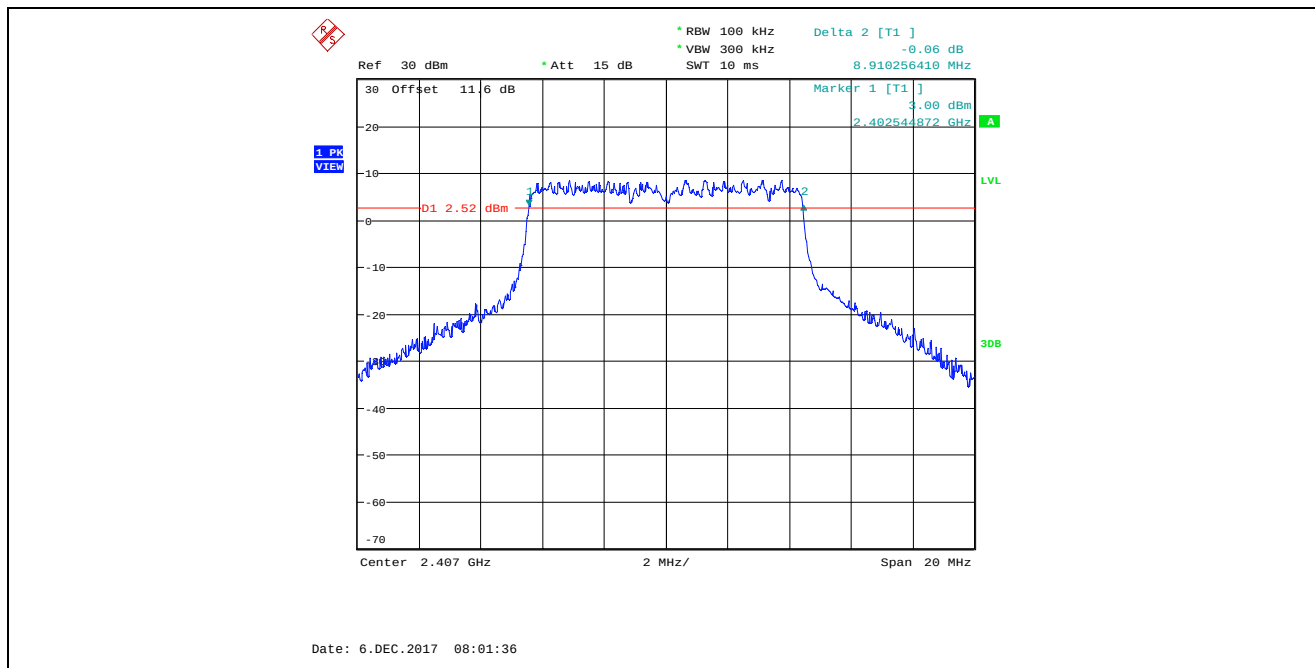
Plot 5.2.4.77. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



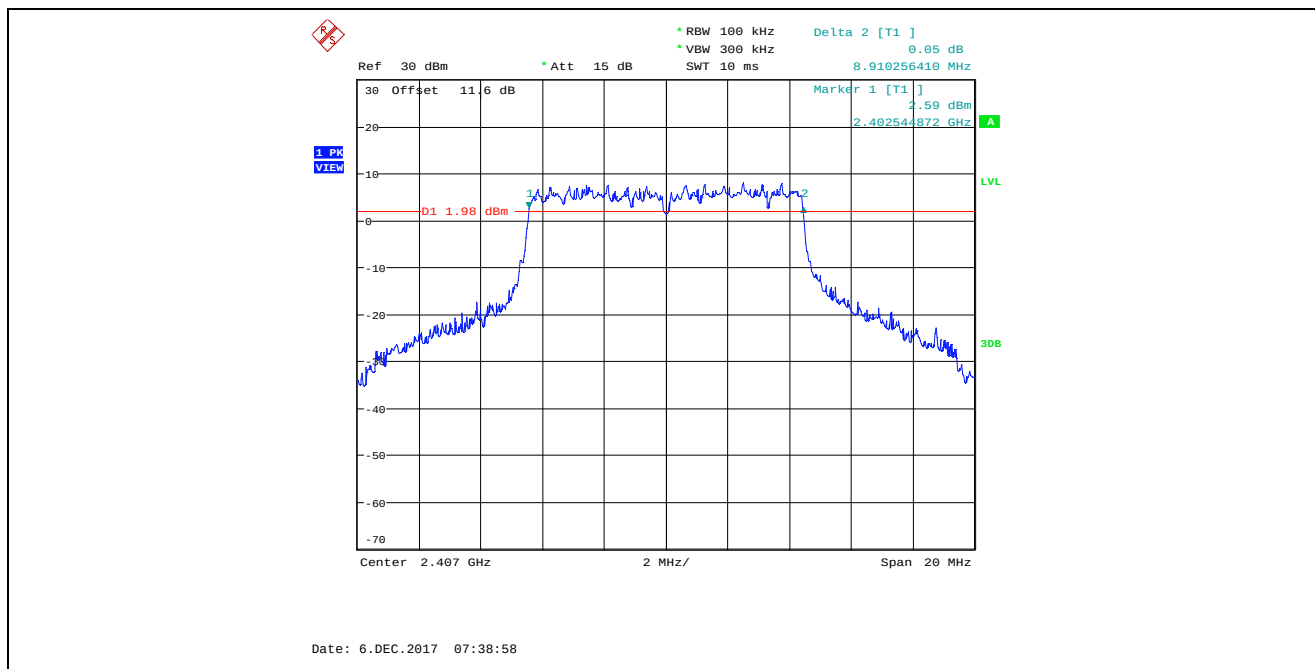
Plot 5.2.4.78. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 24, Data Rate 6, 2477 MHz



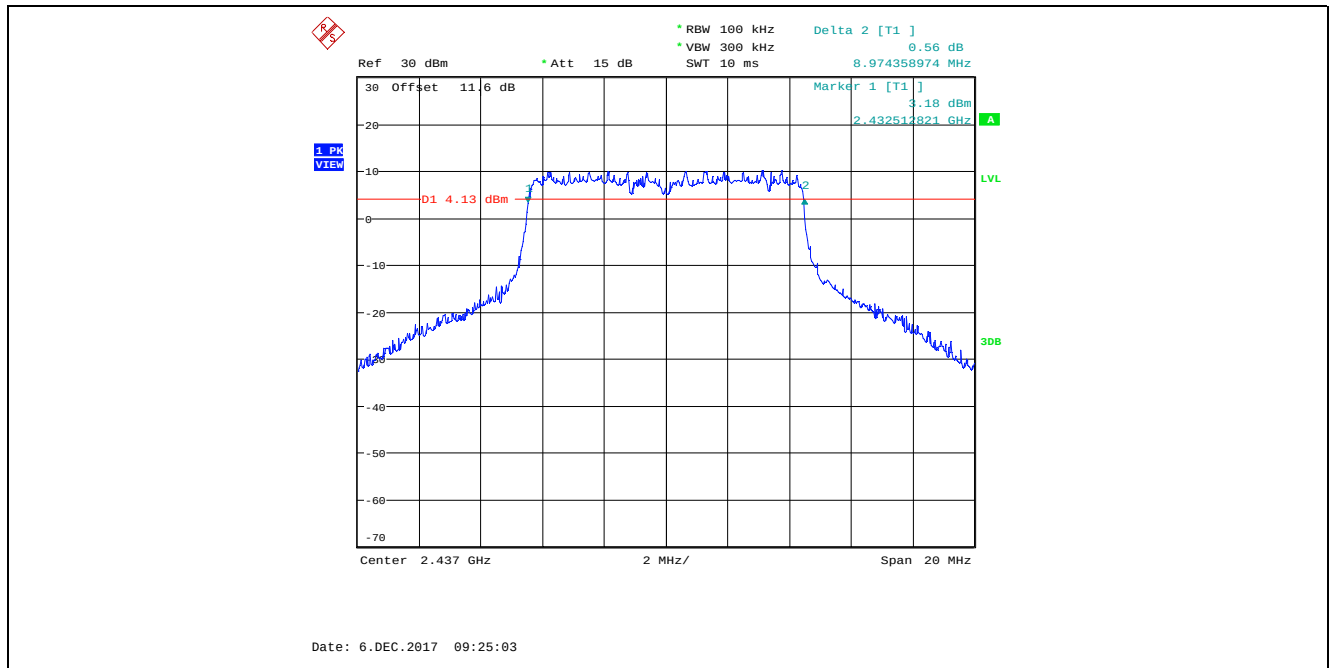
Plot 5.2.4.79. 6 dB Bandwidth, Antenna 1
8 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



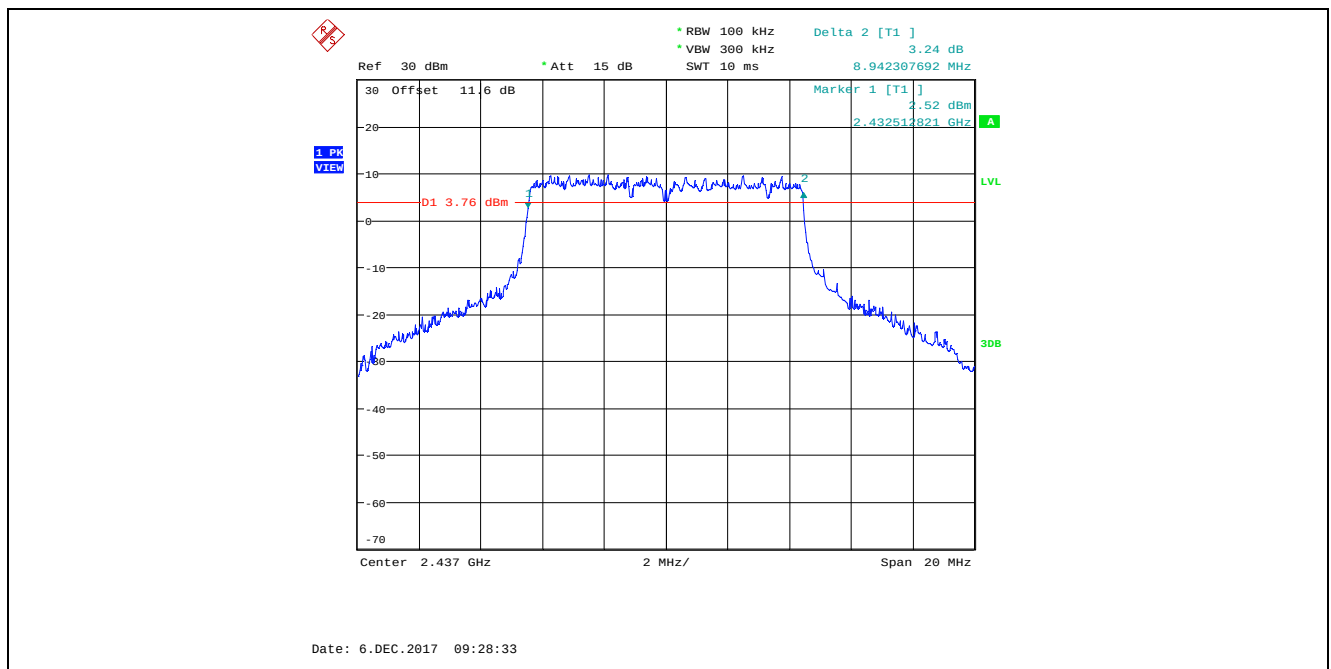
Plot 5.2.4.80. 6 dB Bandwidth, Antenna 2
8 MHz BW, Power Setting 24, Data Rate 7, 2407 MHz



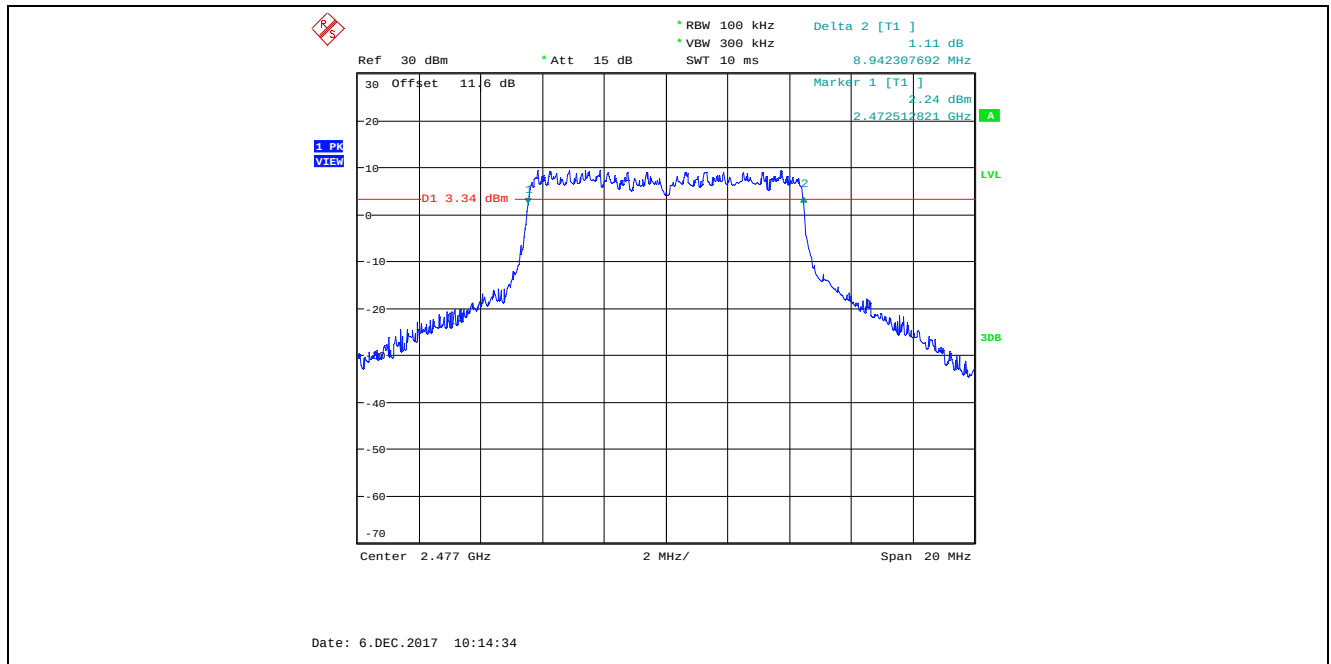
Plot 5.2.4.81. 6 dB Bandwidth, Antenna 1
 8 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



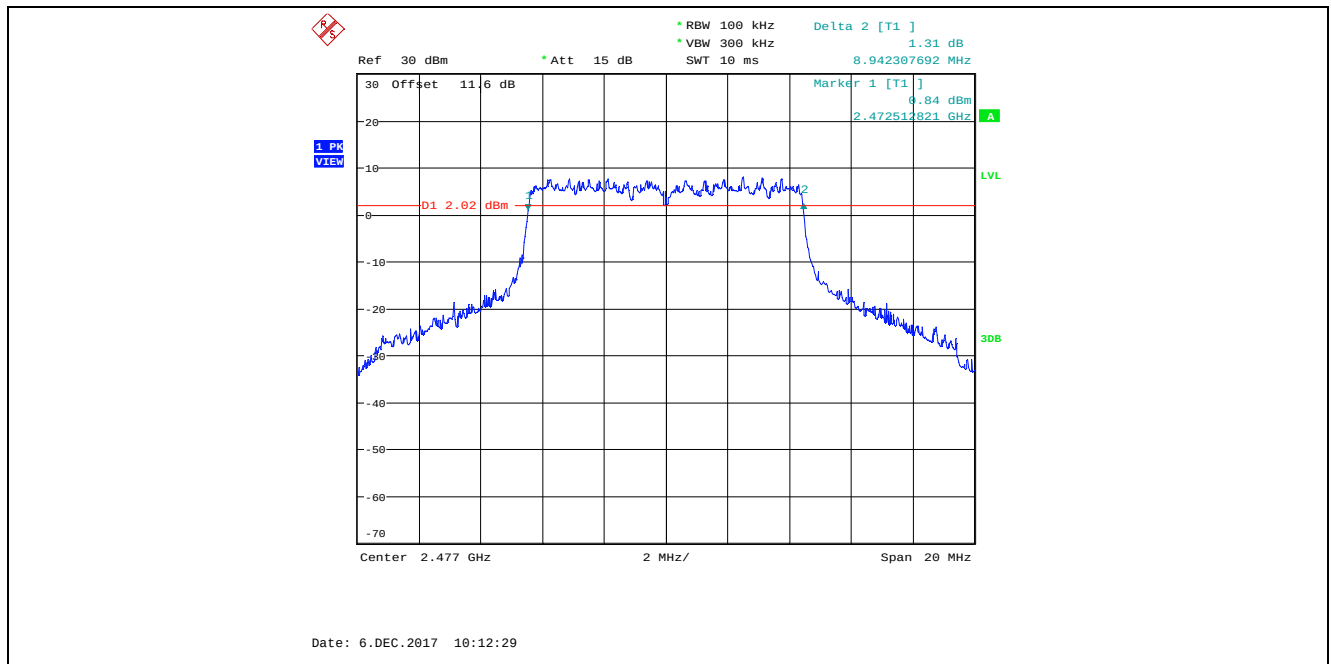
Plot 5.2.4.82. 6 dB Bandwidth, Antenna 2
 8 MHz BW, Power Setting 24, Data Rate 7, 2437 MHz



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



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



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

5.3.1. Limit(s)

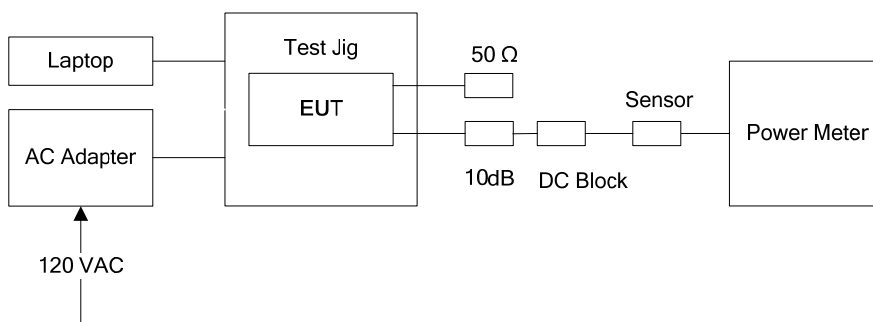
§ 15.247(b)(3): For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power 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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
 March 5, 2018

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

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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

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

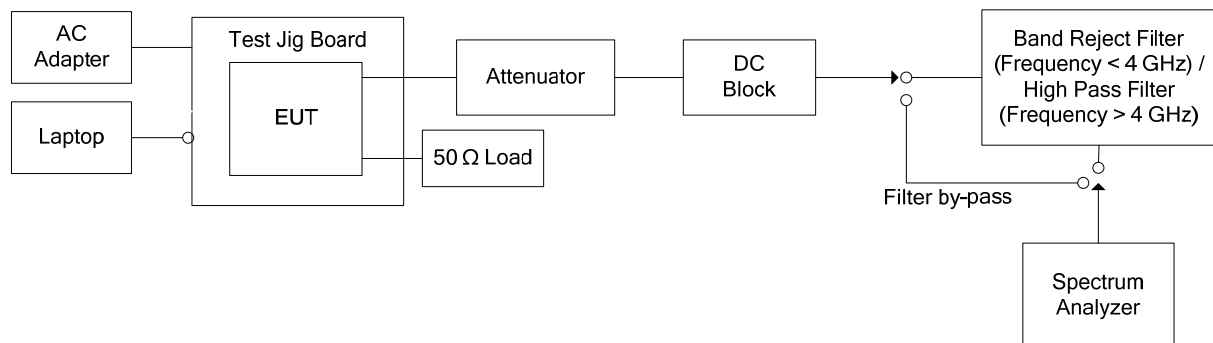
5.4.1. Limit(s)

§ 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

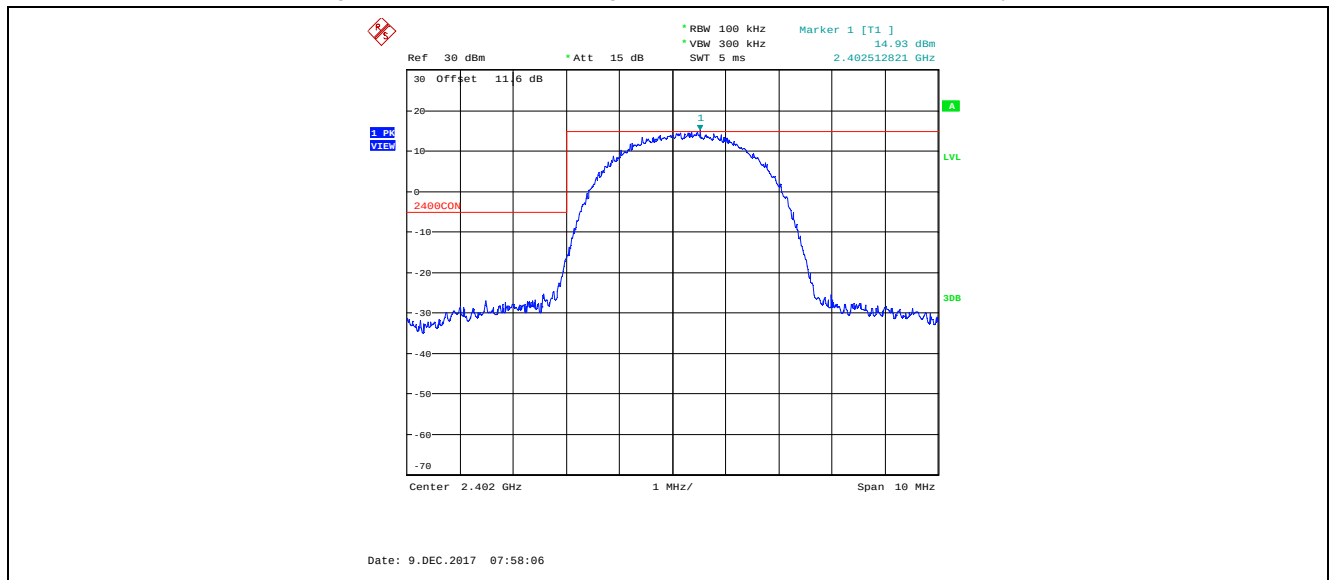


5.4.4. Test Data

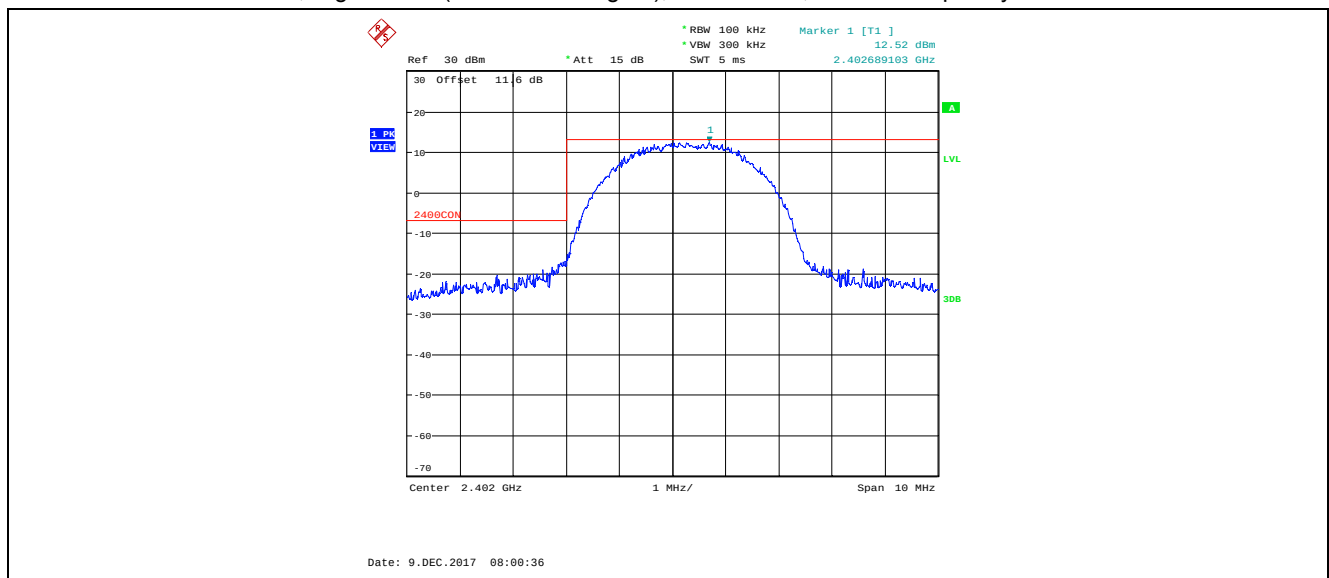
Remark(s): Exploratory tests performed to determined worst-case test configurations, the following test results represent the worst-case.

5.4.4.1. Band-Edge RF Conducted Emissions

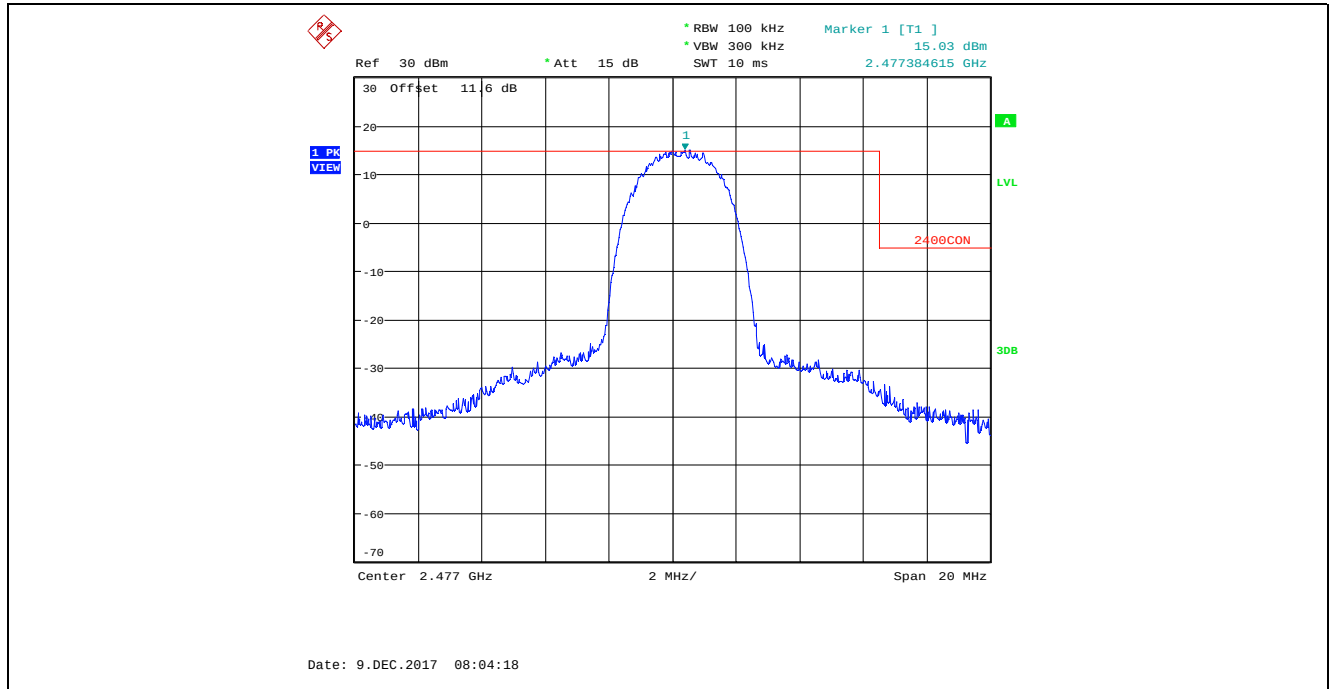
Plot 5.4.4.1.1. Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2402 MHz



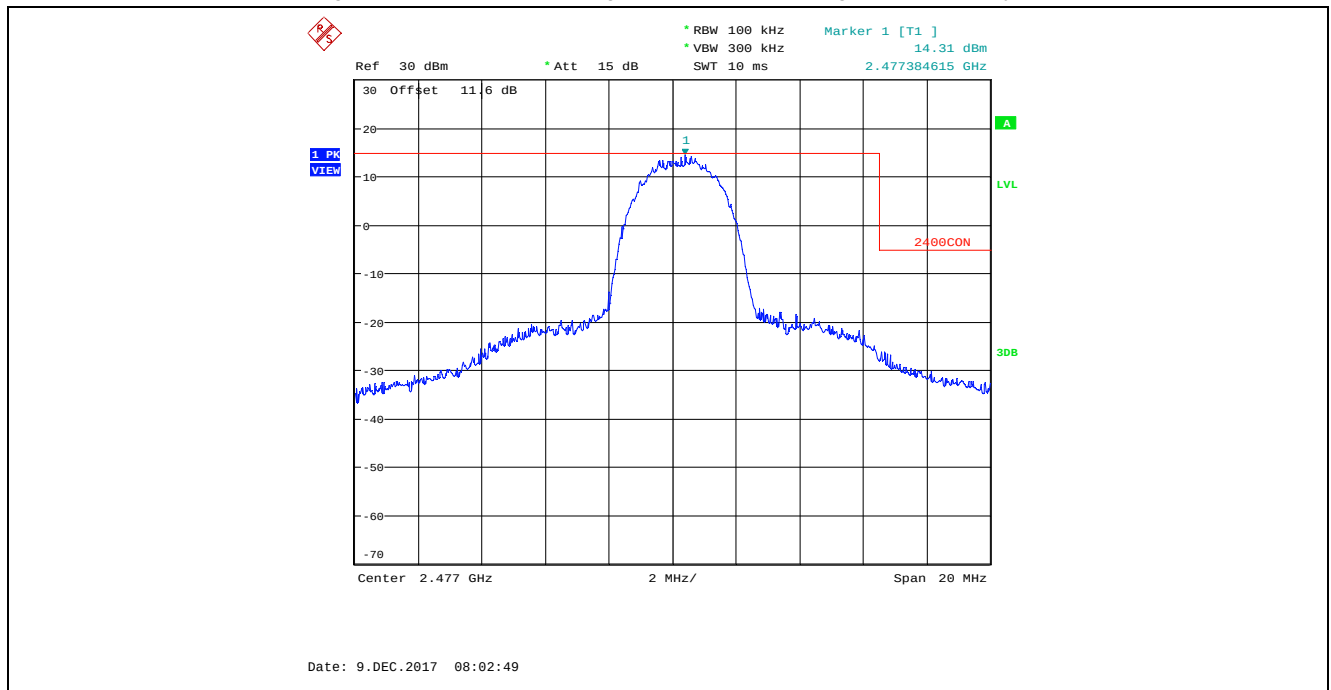
Plot 5.4.4.1.2. Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2402 MHz



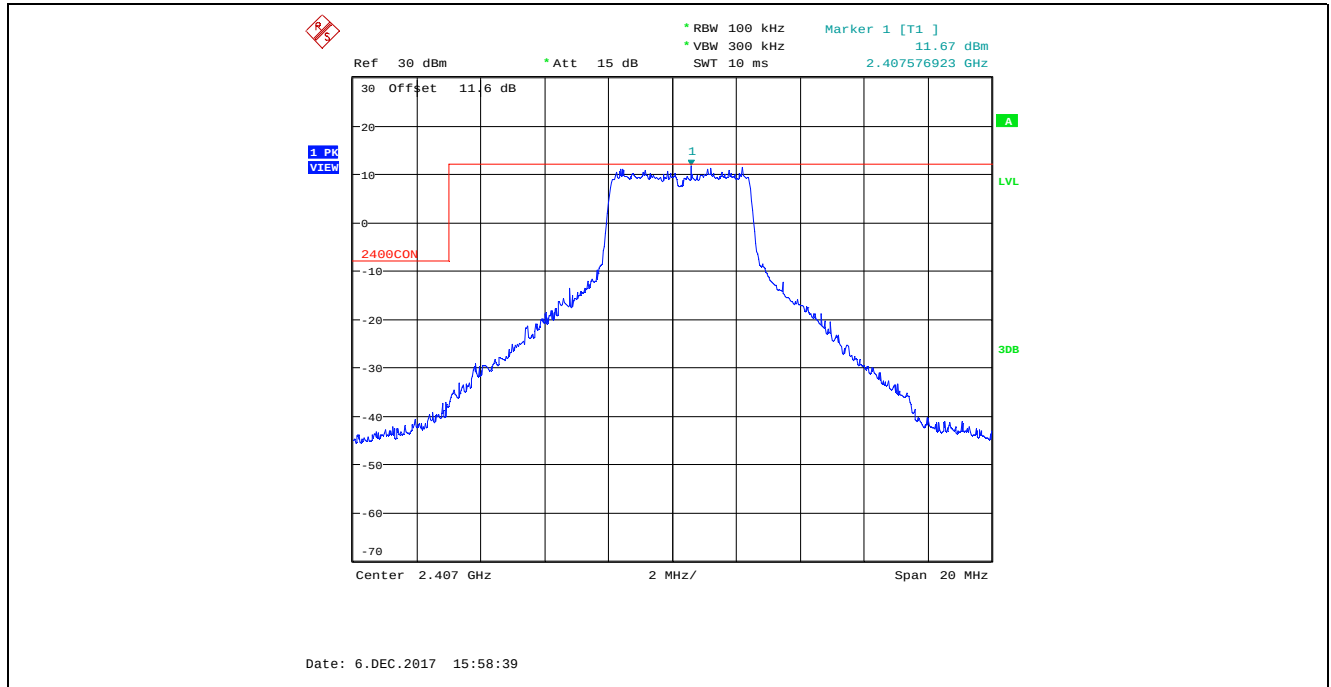
Plot 5.4.4.1.3. Band-Edge RF Conducted Emissions, Antenna 1
 4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



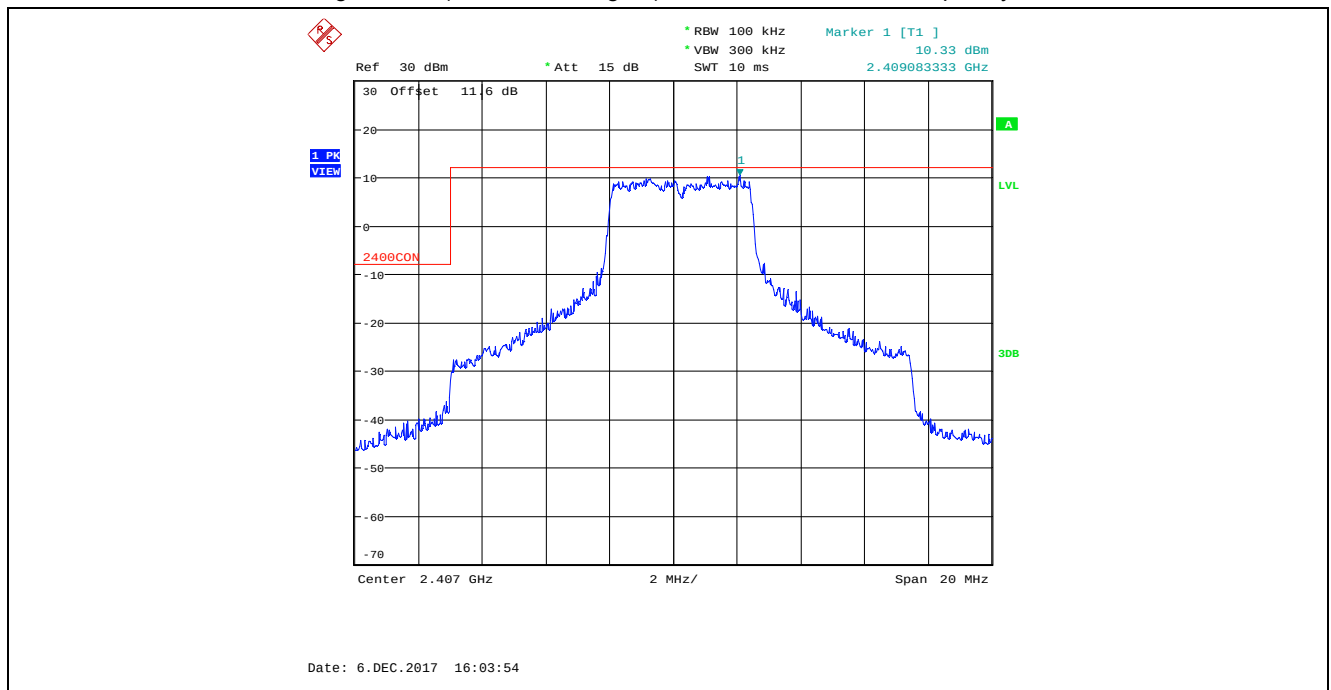
Plot 5.4.4.1.4. Band-Edge RF Conducted Emissions, Antenna 2
 4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



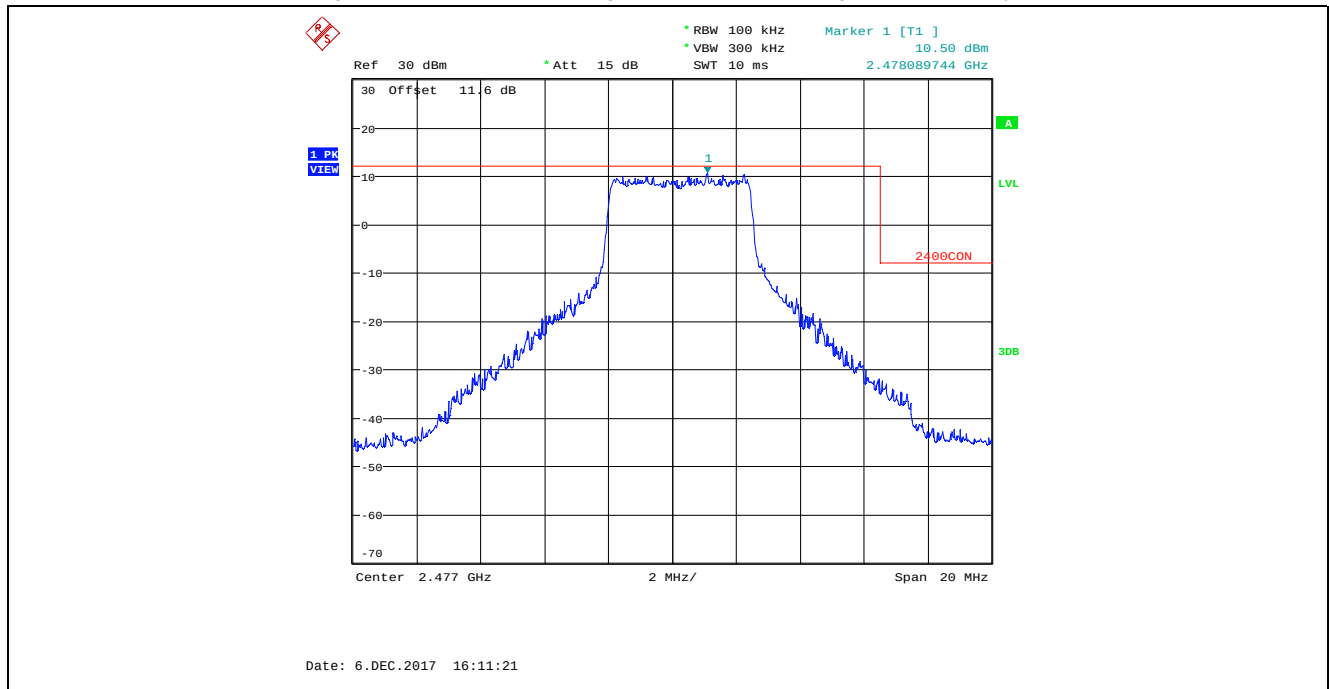
Plot 5.4.4.1.5. Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



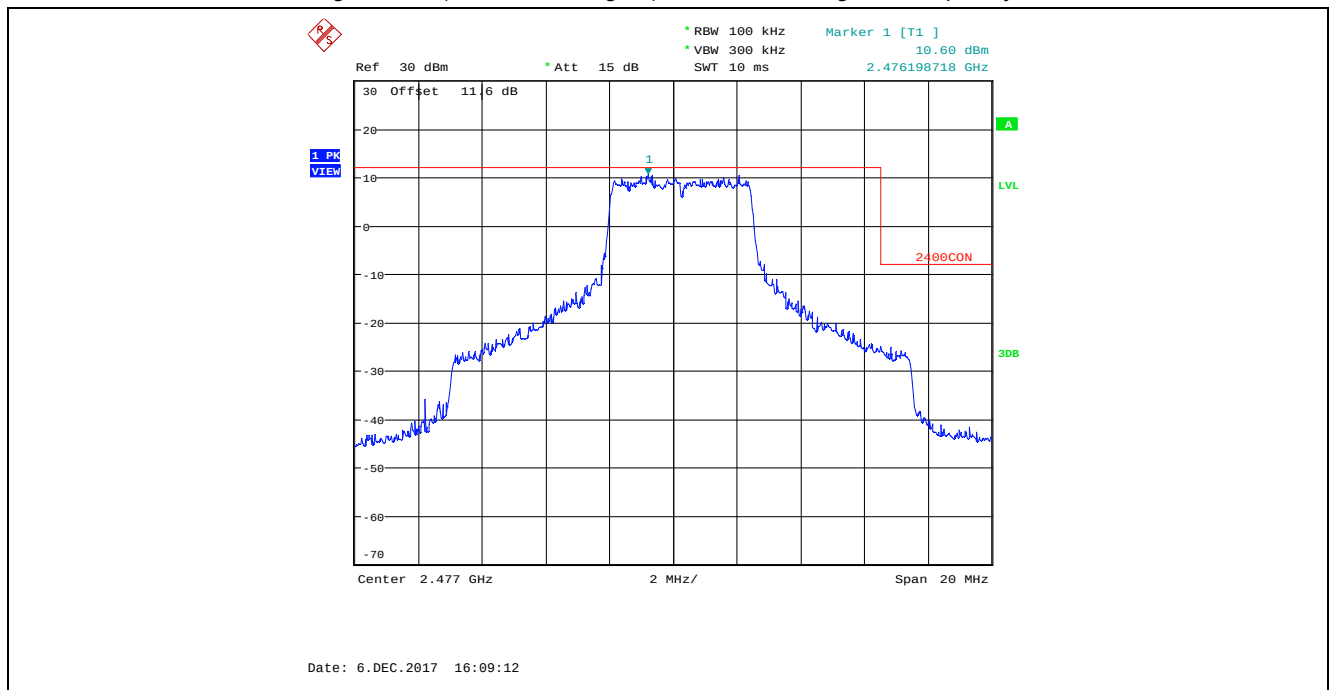
Plot 5.4.4.1.6. Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



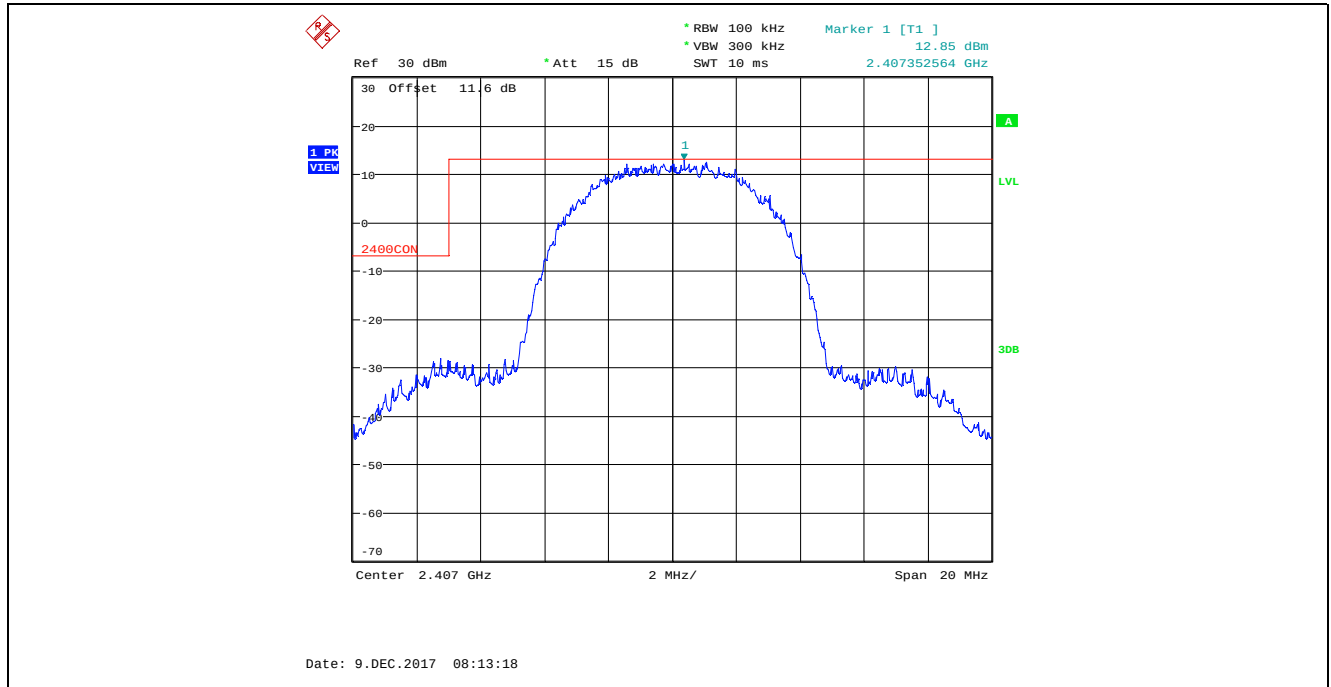
Plot 5.4.4.1.7. Band-Edge RF Conducted Emissions, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



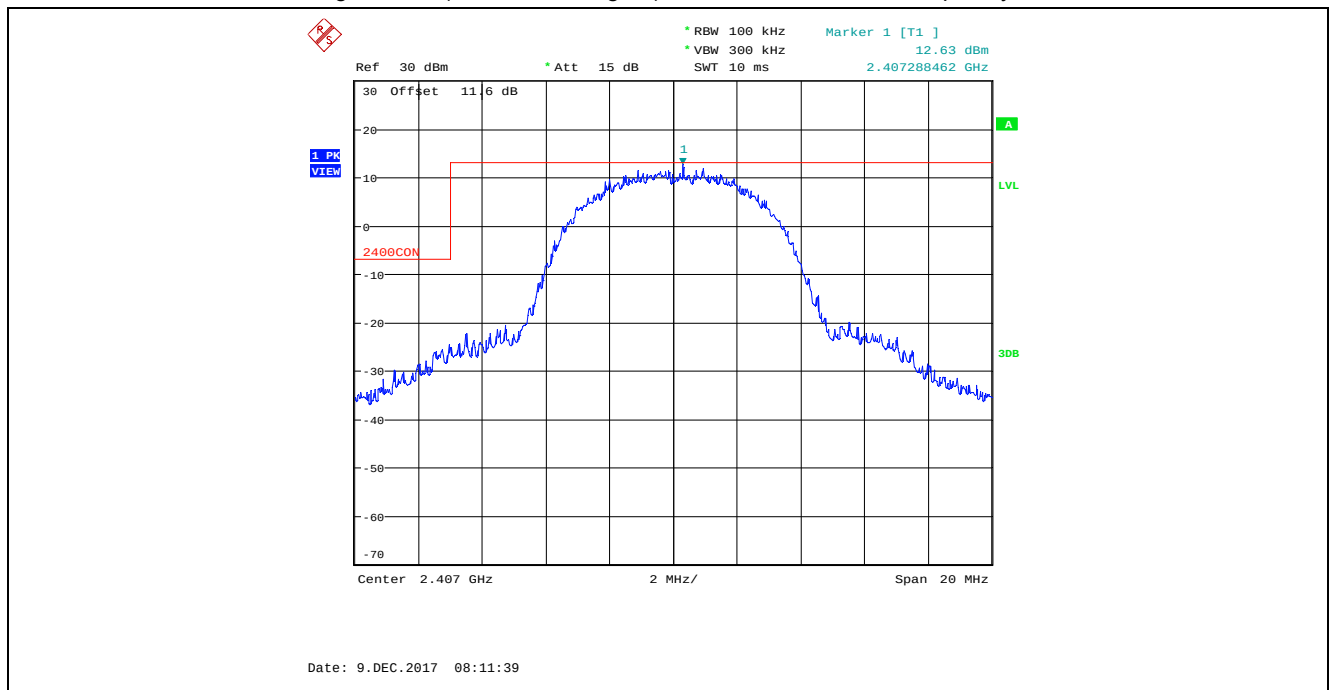
Plot 5.4.4.1.8. Band-Edge RF Conducted Emissions, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



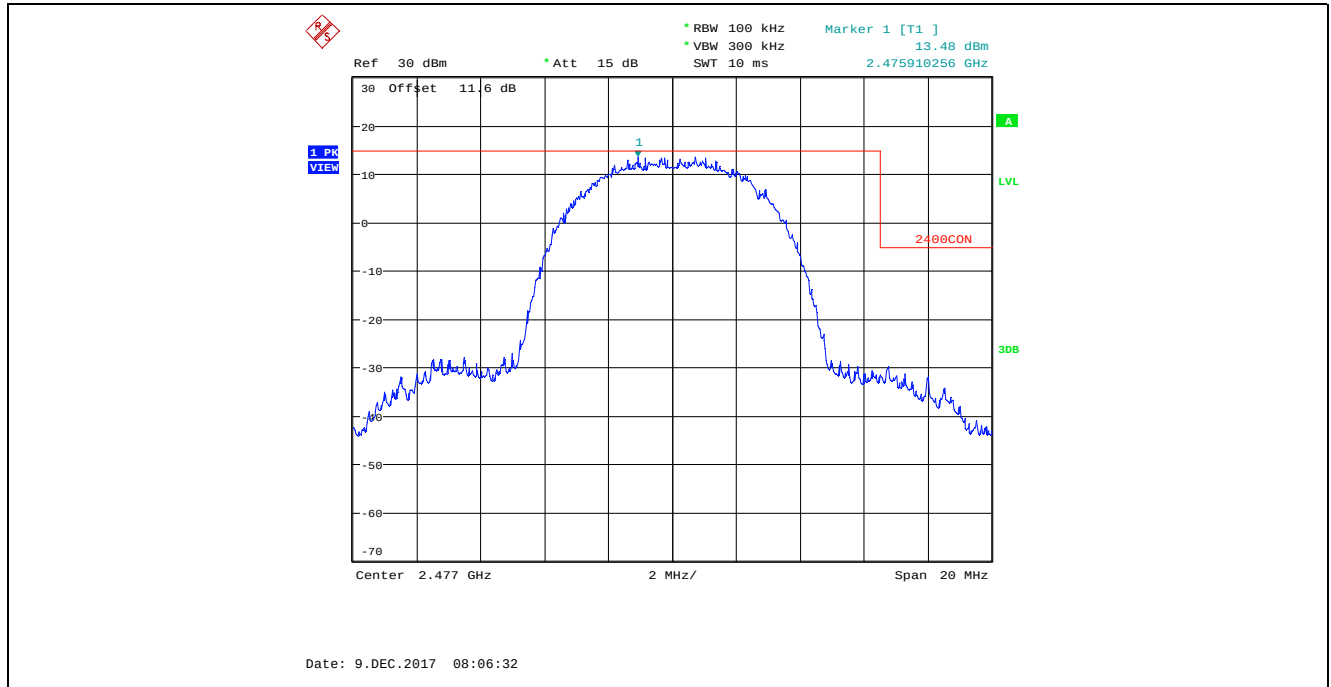
Plot 5.4.4.1.9. Band-Edge RF Conducted Emissions, Antenna 1
 8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2407 MHz



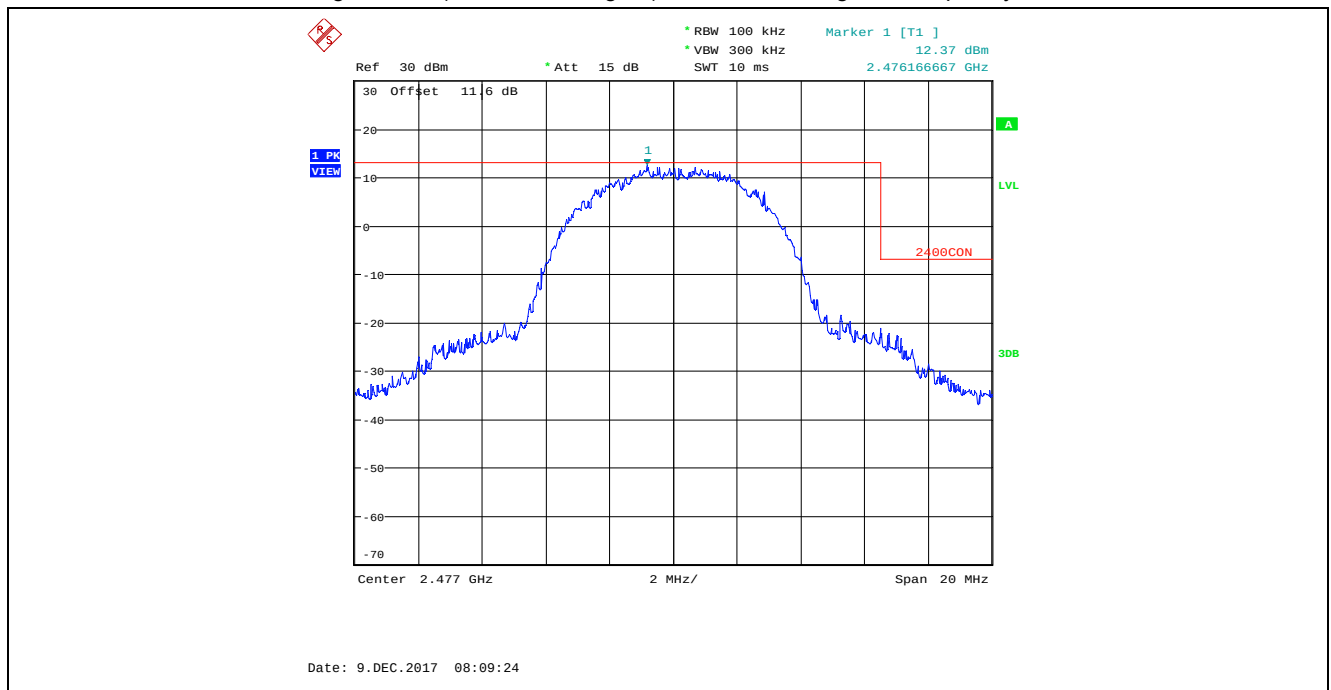
Plot 5.4.4.1.10. Band-Edge RF Conducted Emissions, Antenna 2
 8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Lowest Frequency Channel 2407 MHz



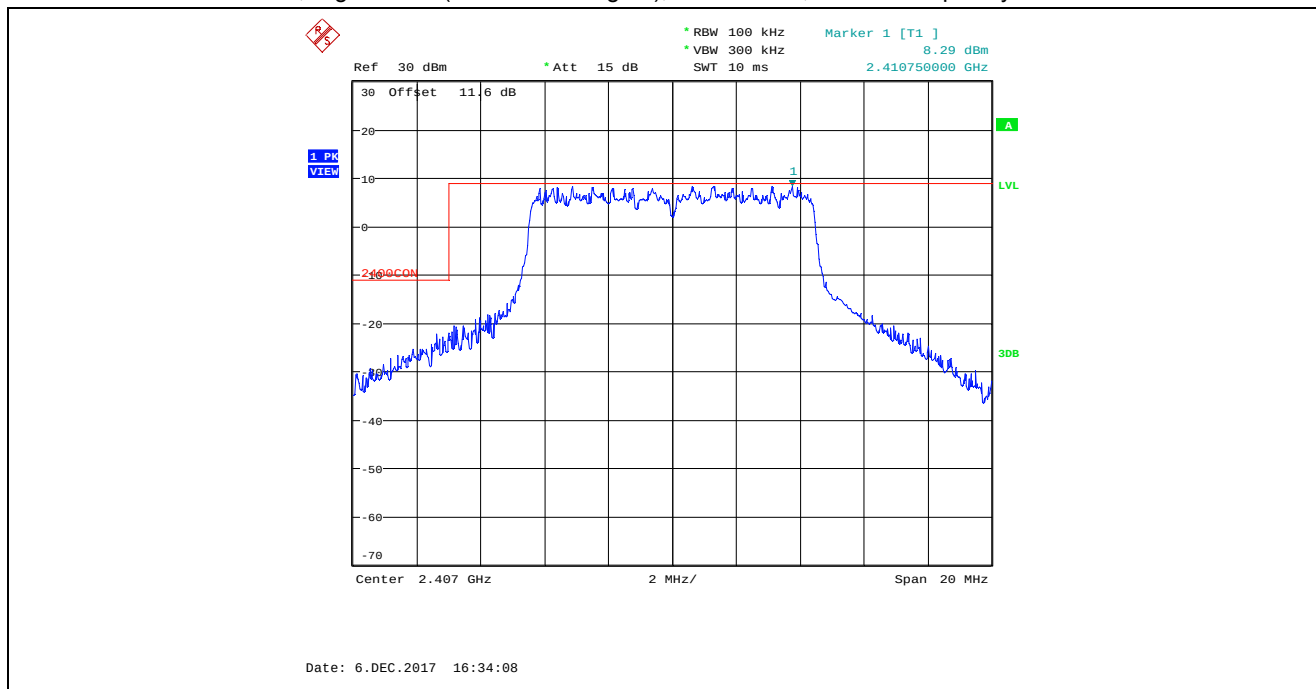
Plot 5.4.4.1.11. Band-Edge RF Conducted Emissions, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



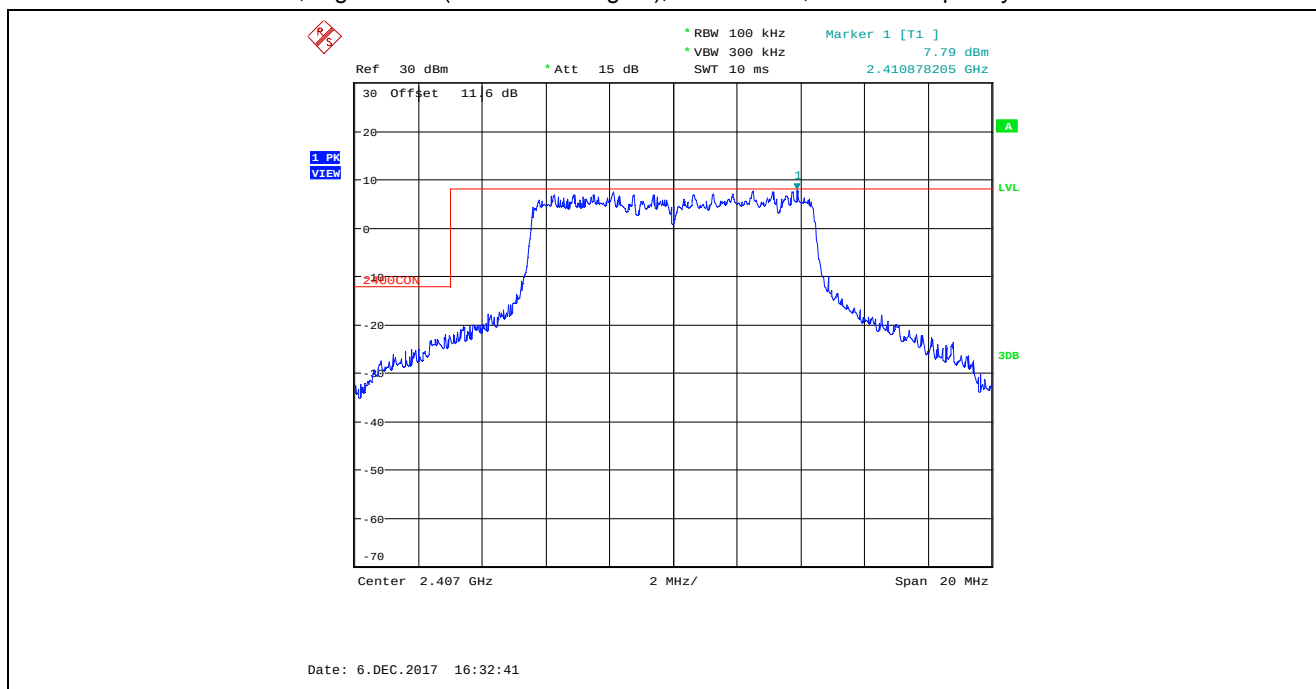
Plot 5.4.4.1.12. Band-Edge RF Conducted Emissions, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, Highest Frequency Channel 2477 MHz



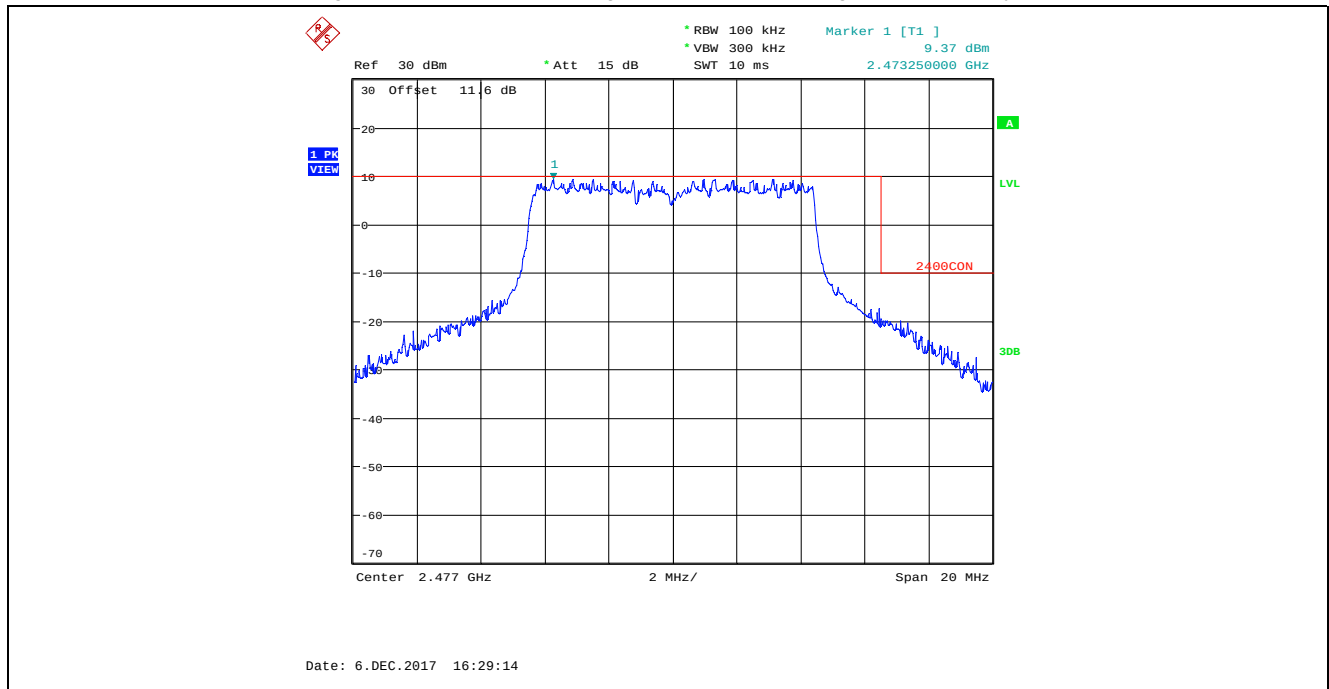
Plot 5.4.4.1.13. Band-Edge RF Conducted Emissions, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



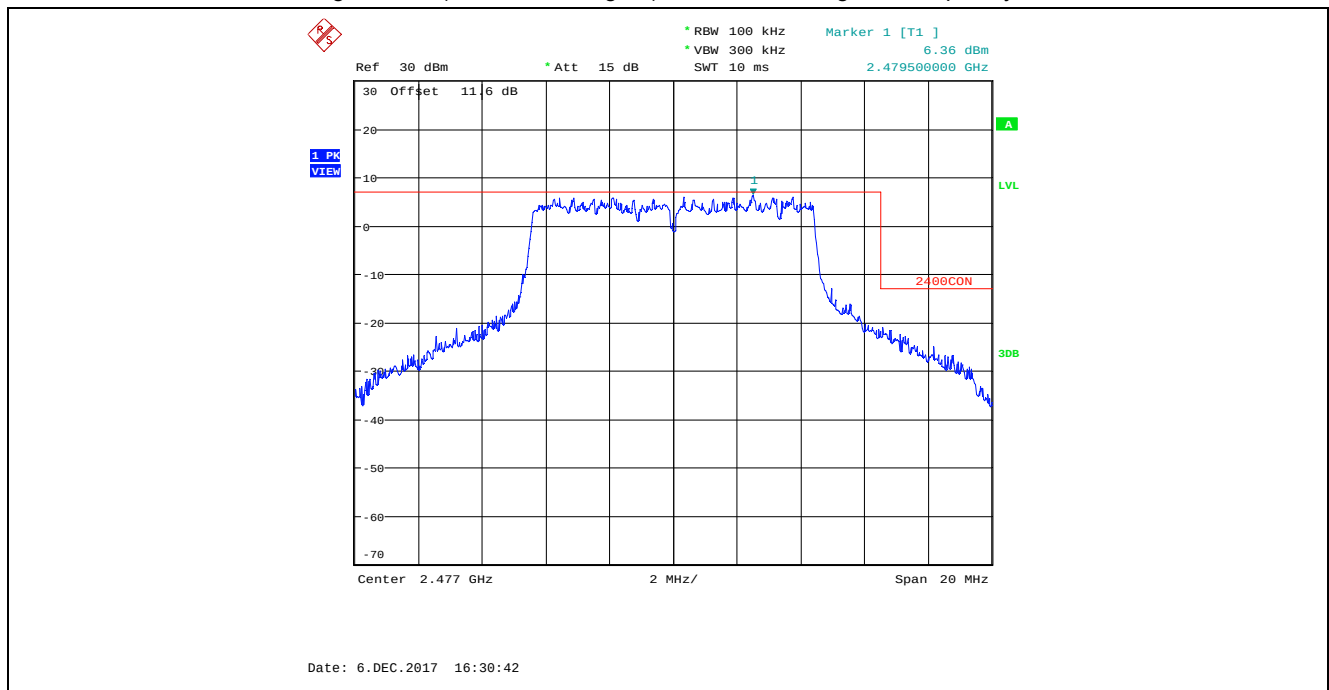
Plot 5.4.4.1.14. Band-Edge RF Conducted Emissions, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Lowest Frequency Channel 2407 MHz



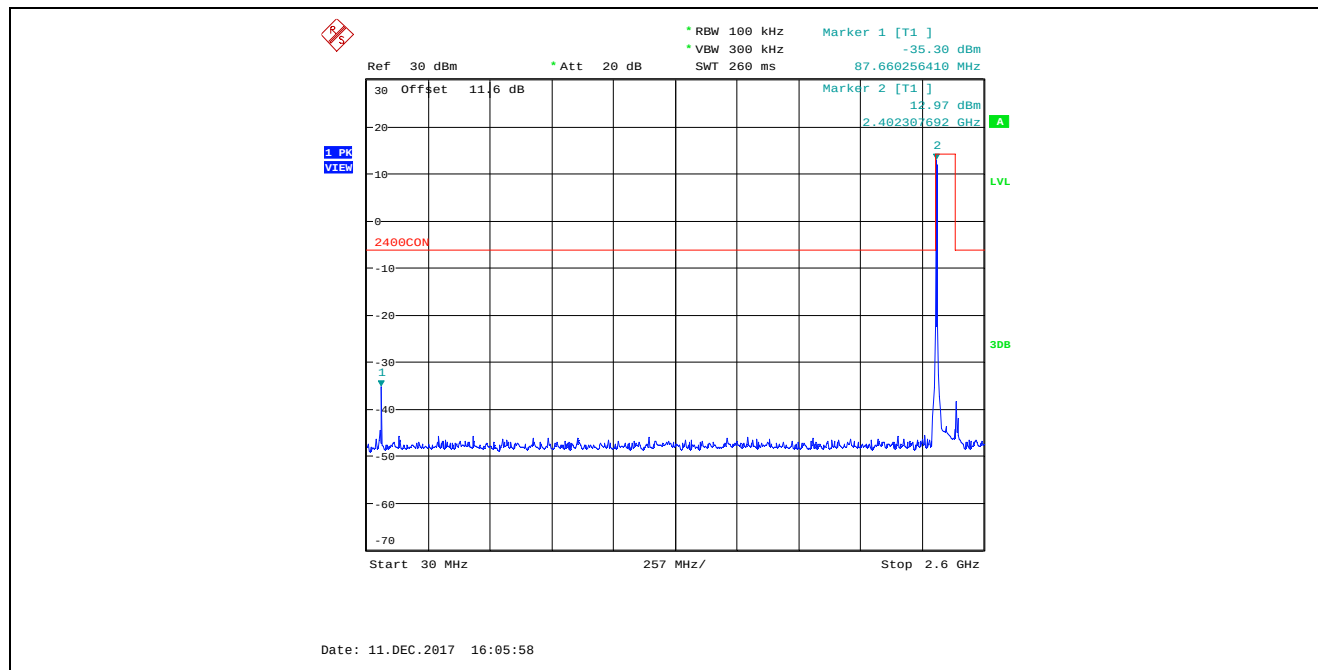
Plot 5.4.4.1.15. Band-Edge RF Conducted Emissions
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



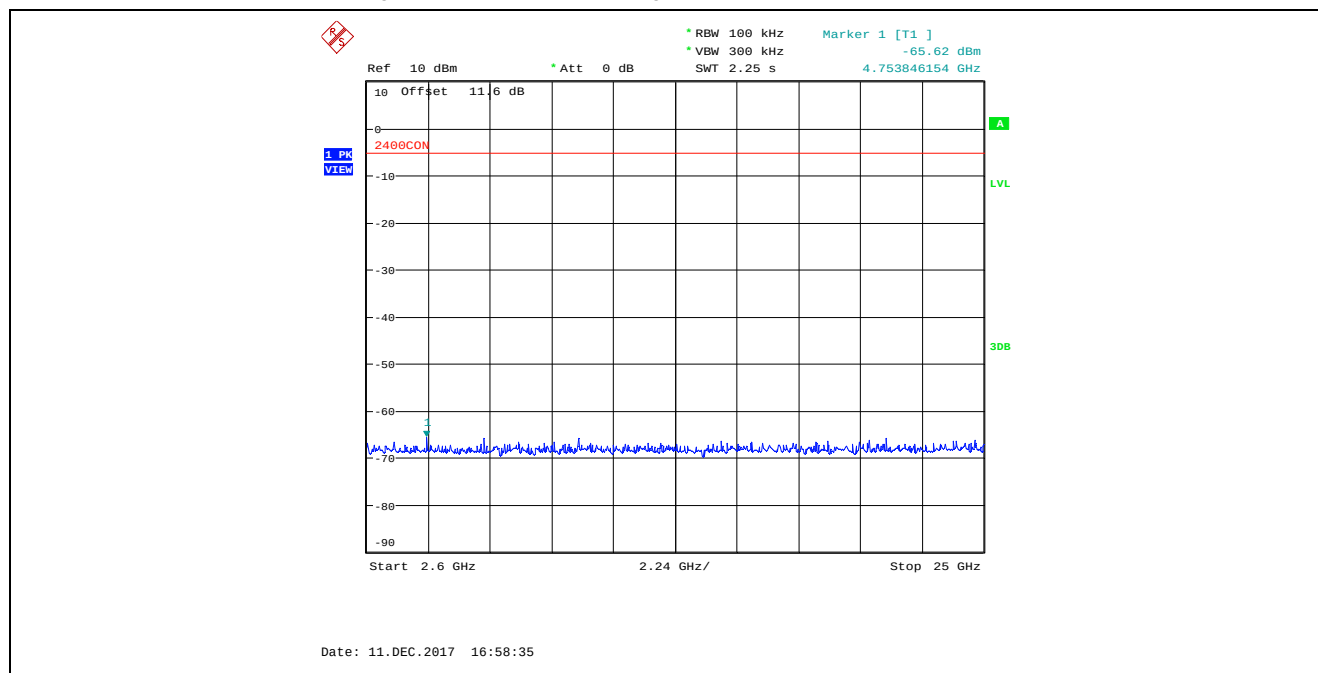
Plot 5.4.4.1.16. Band-Edge RF Conducted Emissions
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, Highest Frequency Channel 2477 MHz



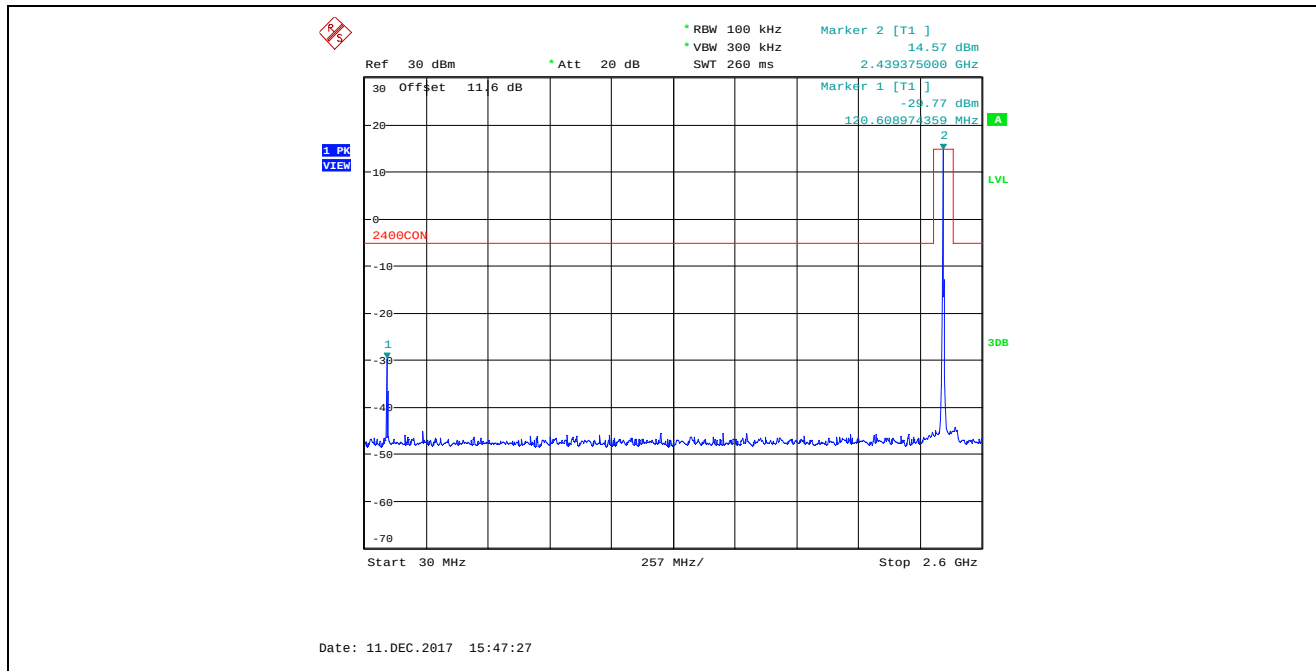
Plot 5.4.4.2.3. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



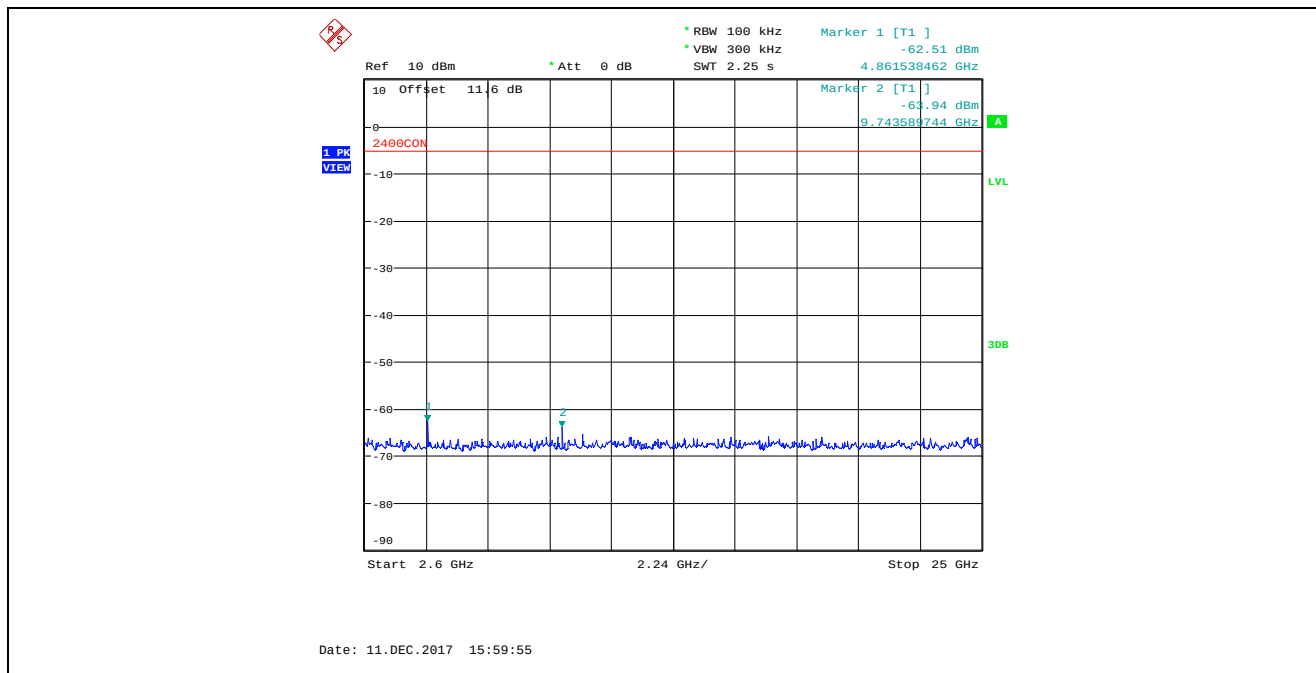
Plot 5.4.4.2.4. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



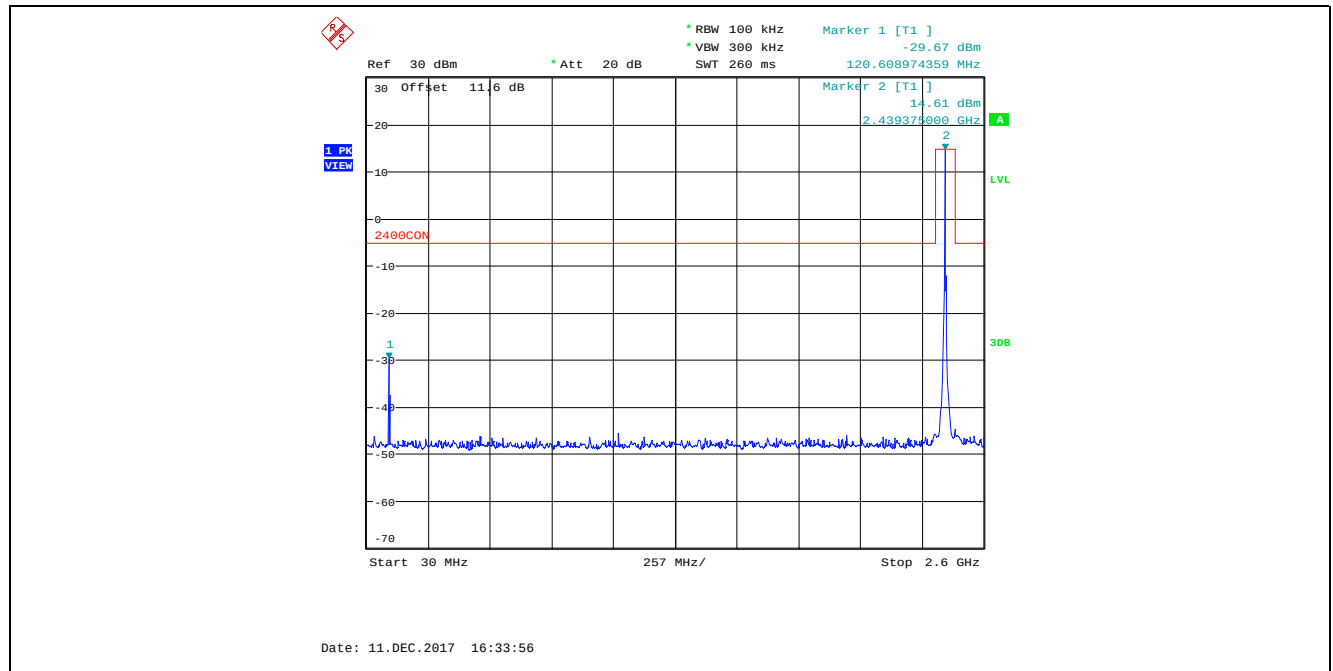
Plot 5.4.4.2.5. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



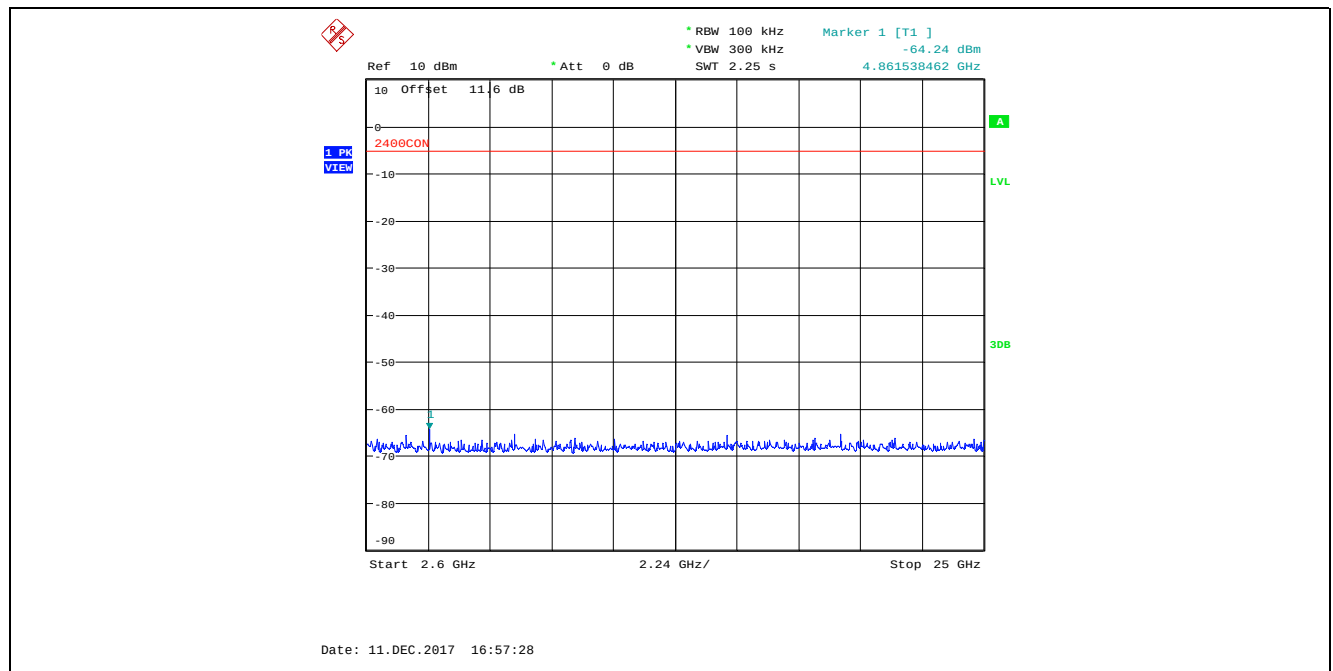
Plot 5.4.4.2.6. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



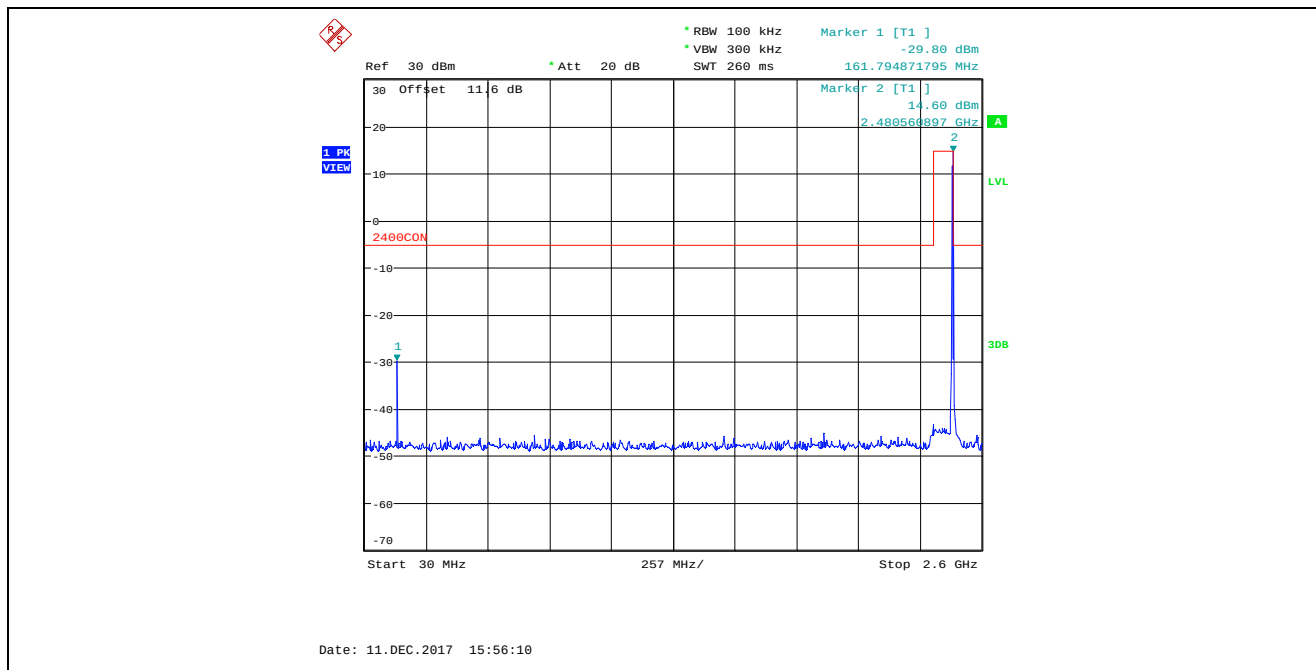
Plot 5.4.4.2.7. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



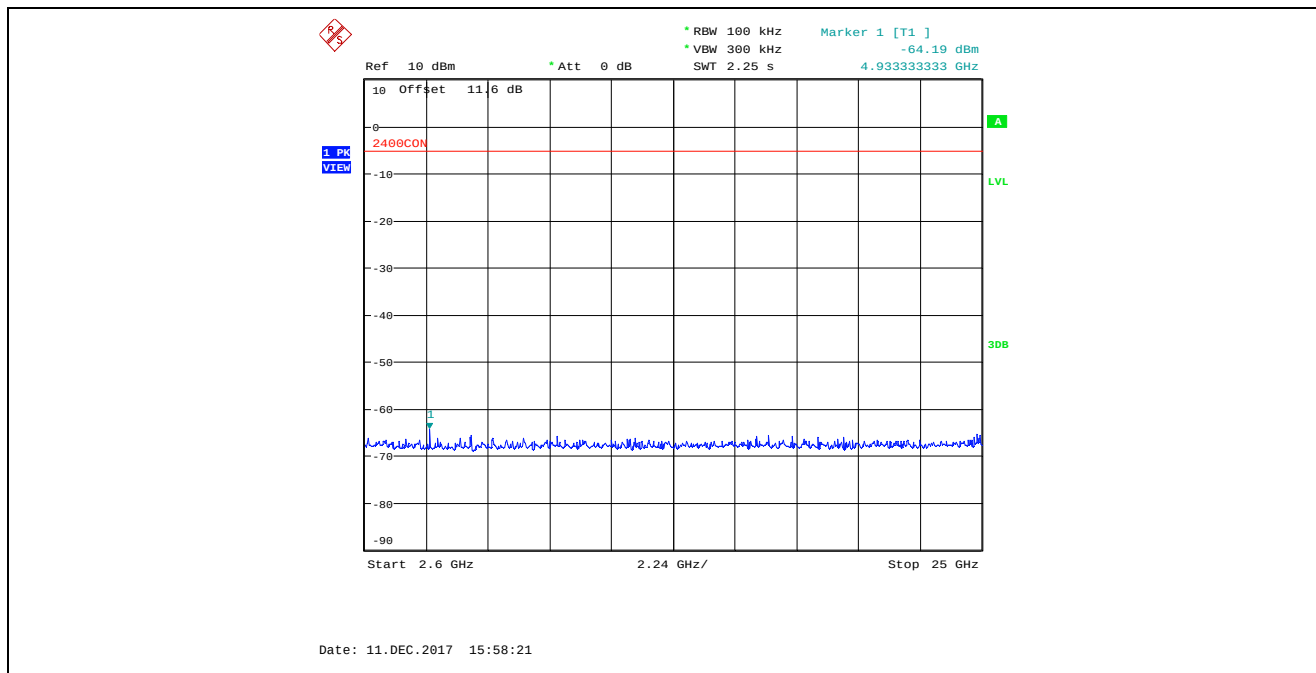
Plot 5.4.4.2.8. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



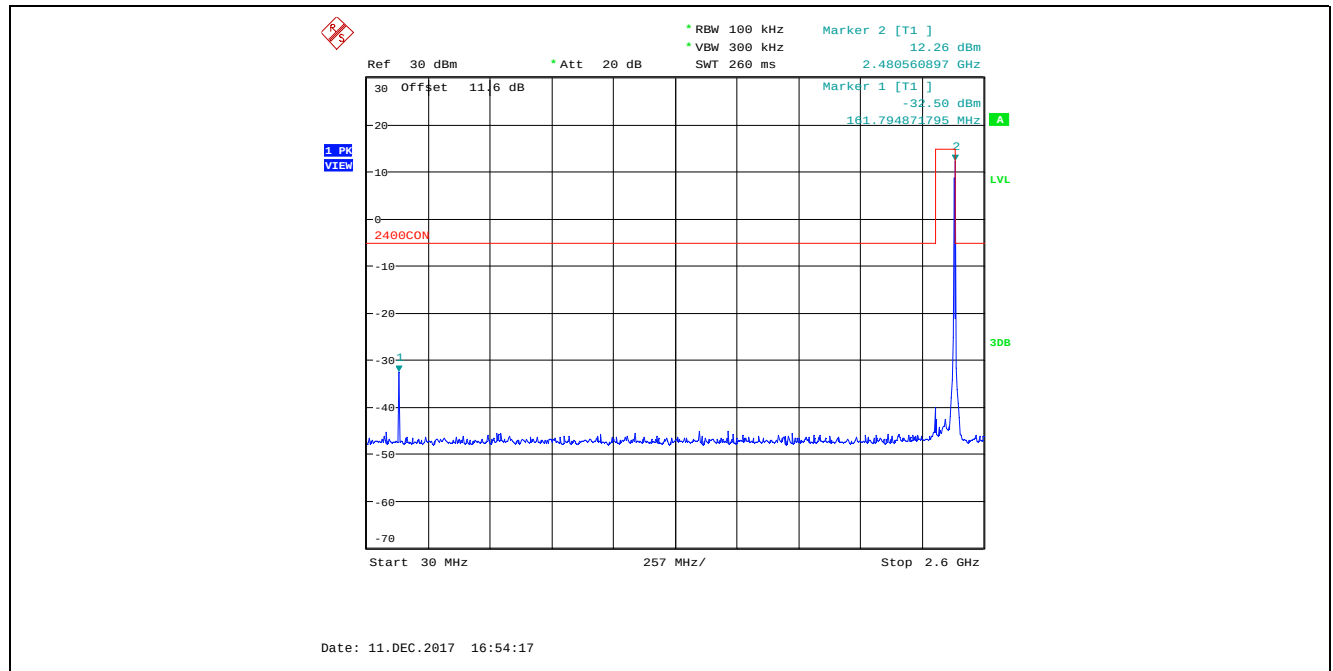
Plot 5.4.4.2.9. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



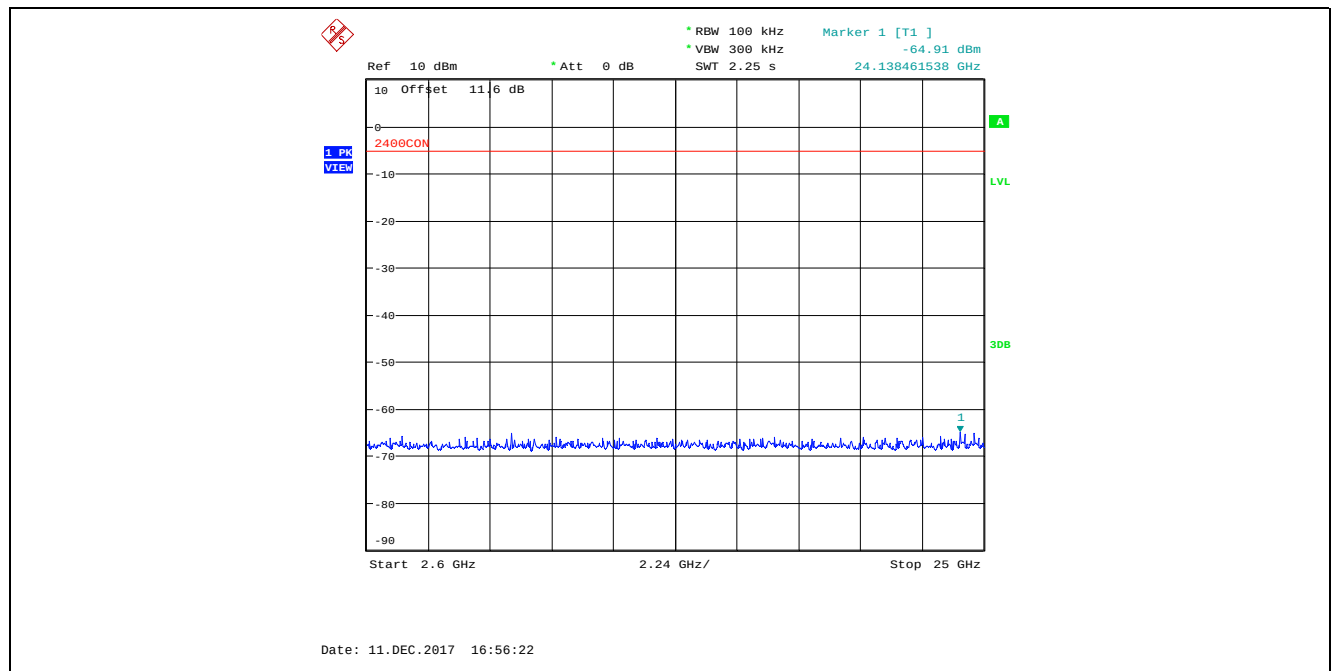
Plot 5.4.4.2.10. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



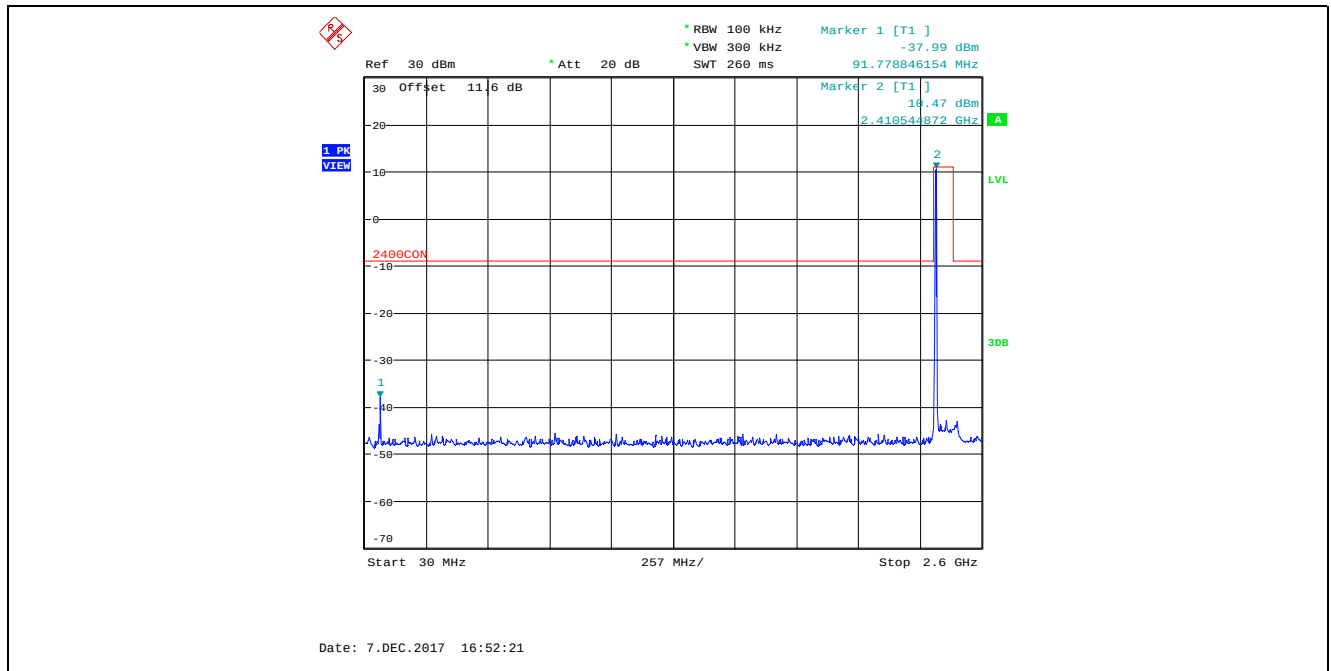
Plot 5.4.4.2.11. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
 4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



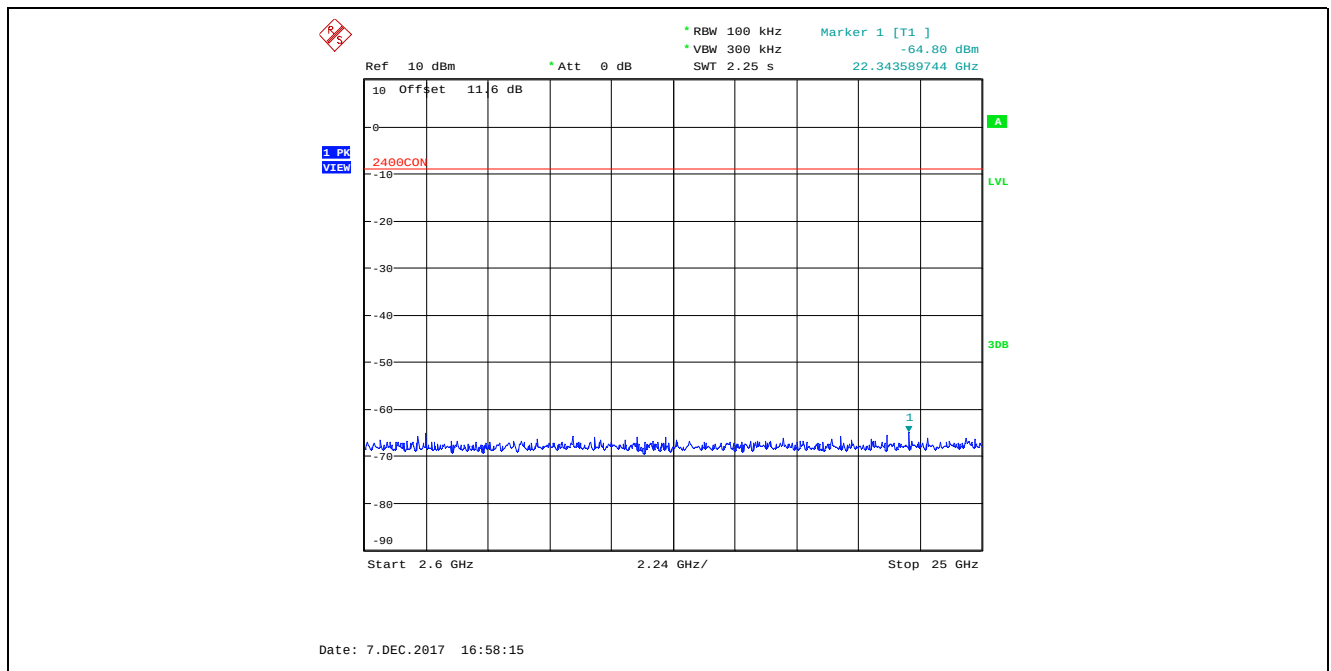
Plot 5.4.4.2.12. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
 4 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



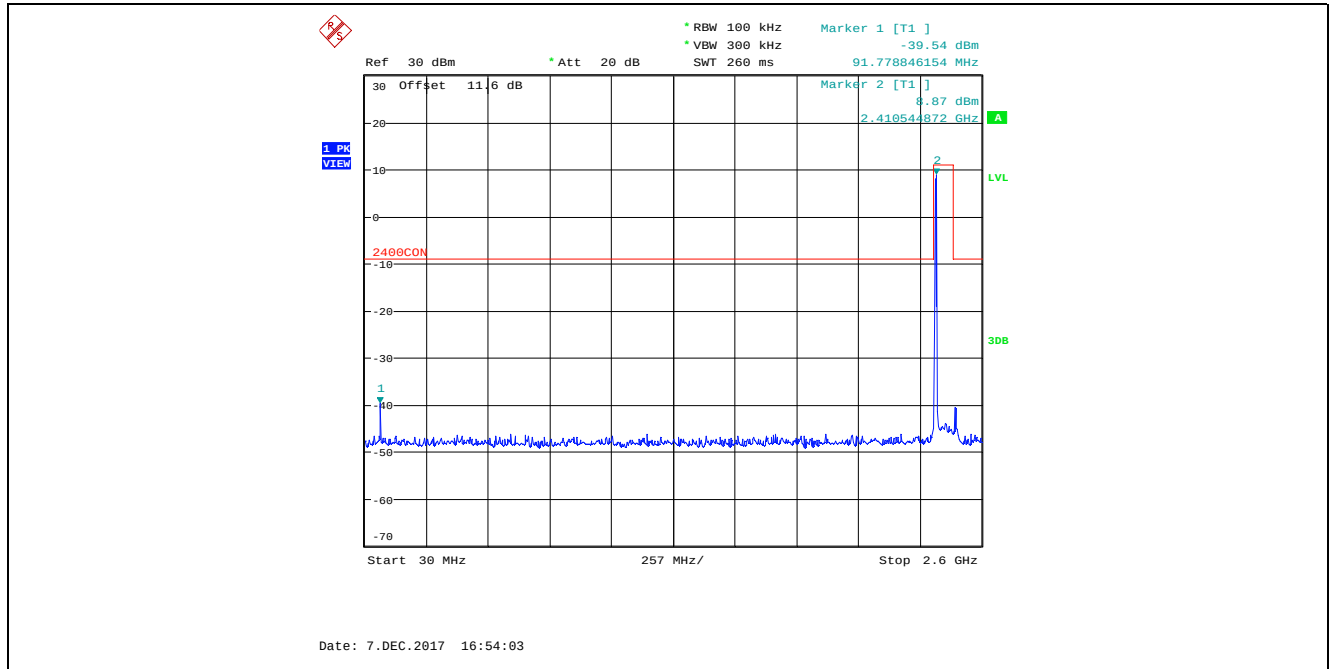
Plot 5.4.4.2.13. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



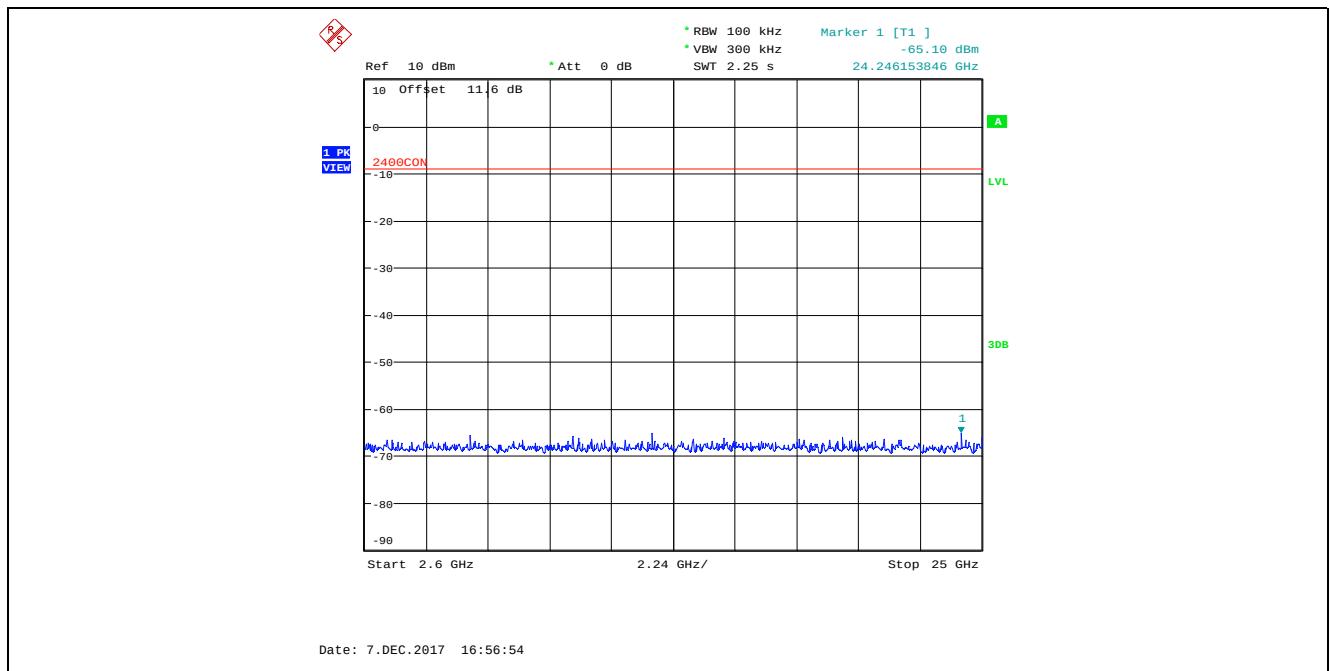
Plot 5.4.4.2.14. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



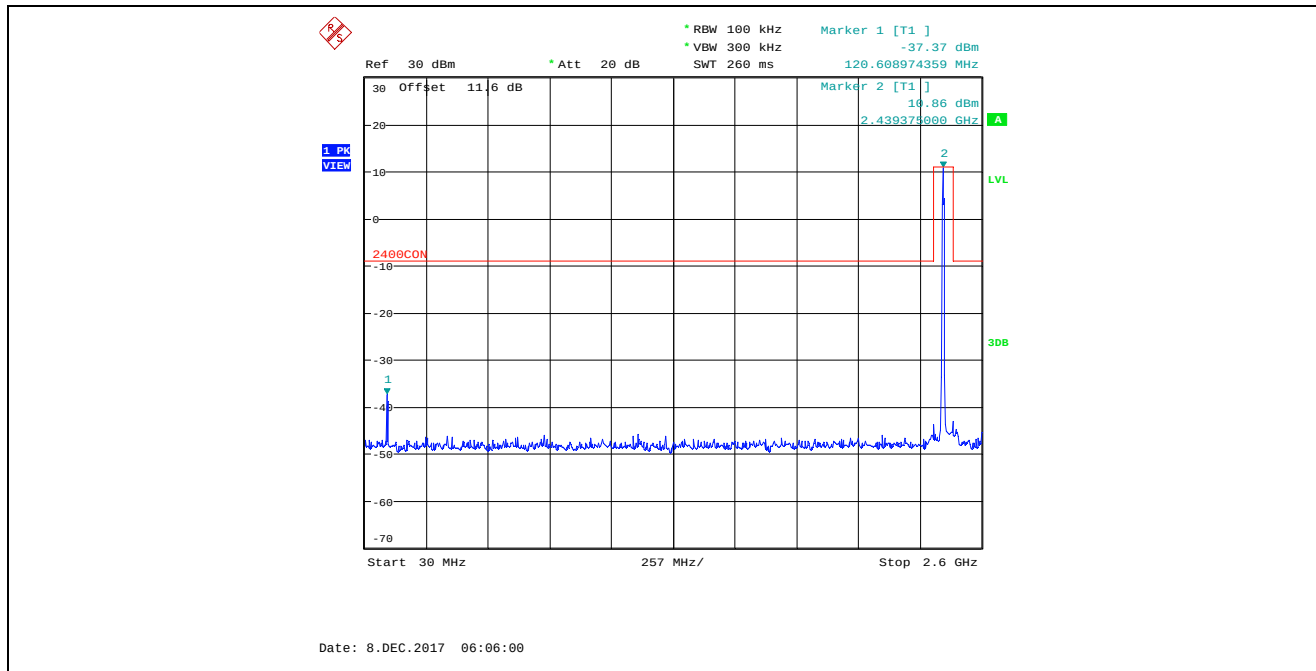
Plot 5.4.4.2.15. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



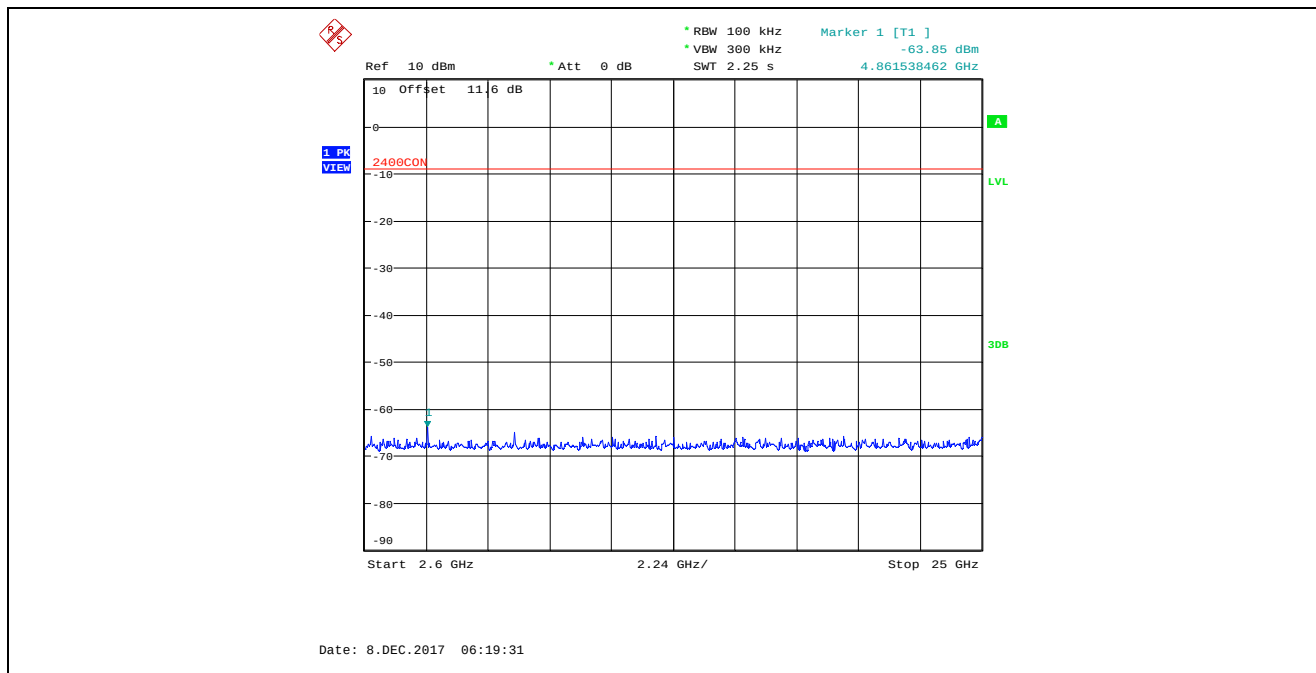
Plot 5.4.4.2.16. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



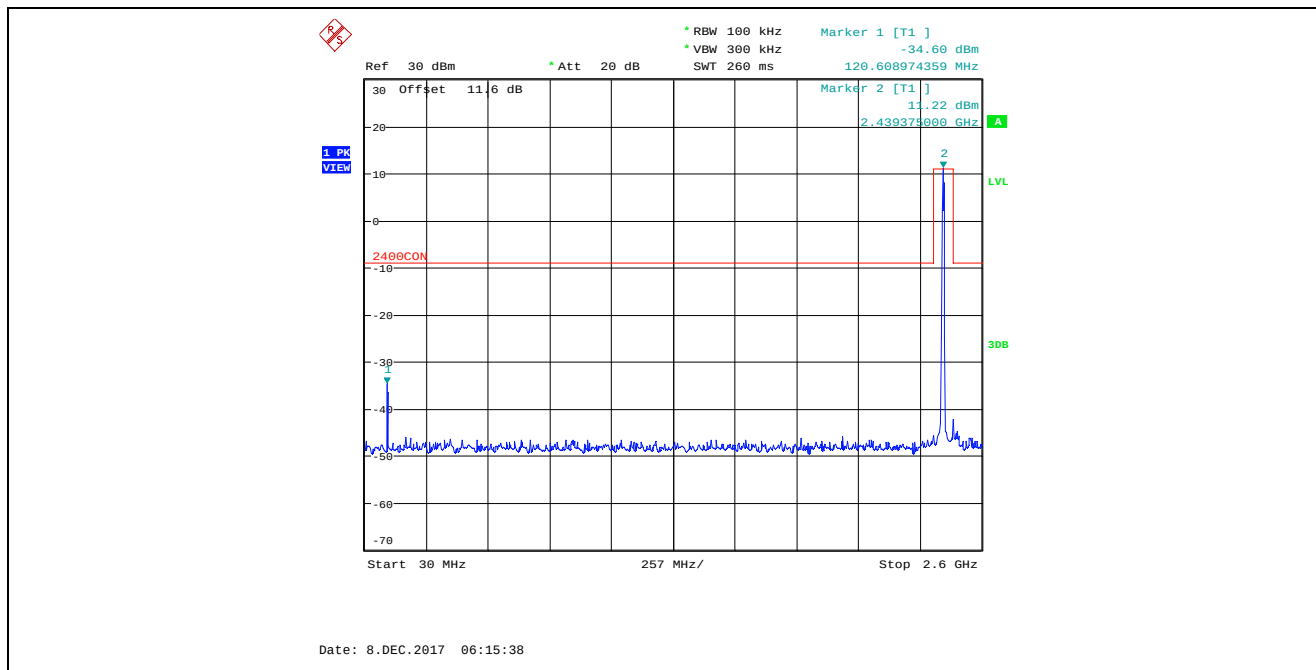
Plot 5.4.4.2.17. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



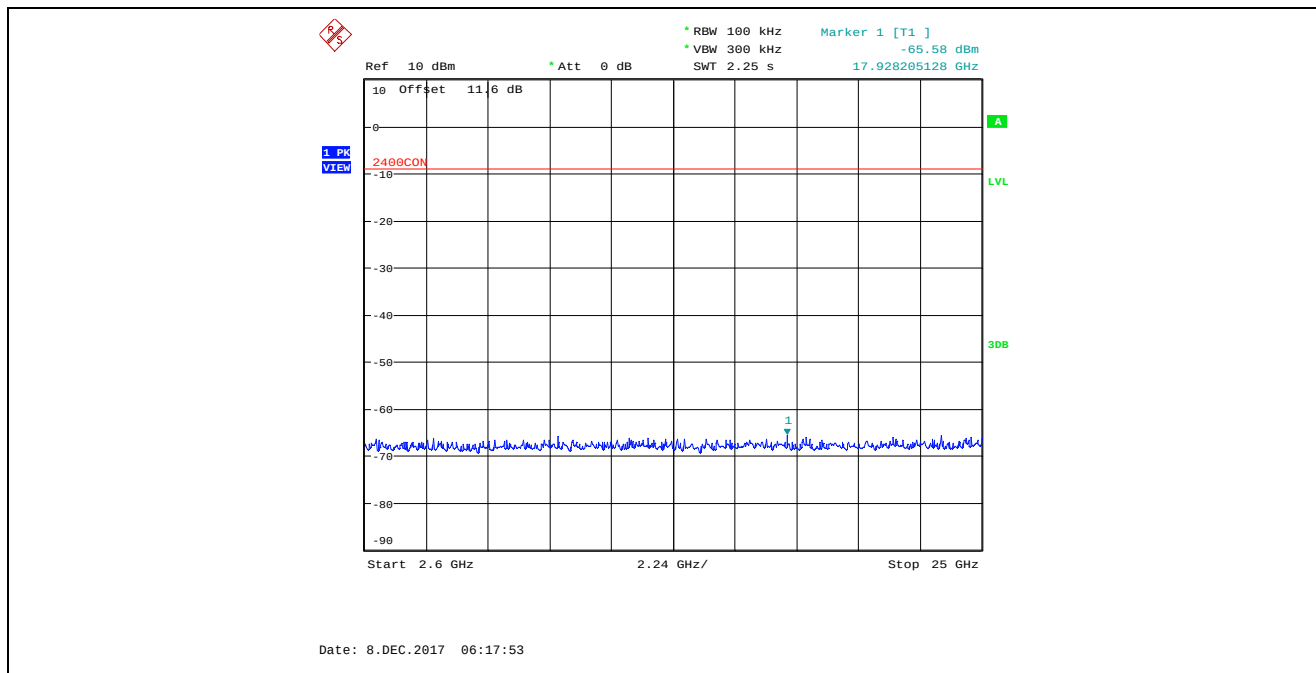
Plot 5.4.4.2.18. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



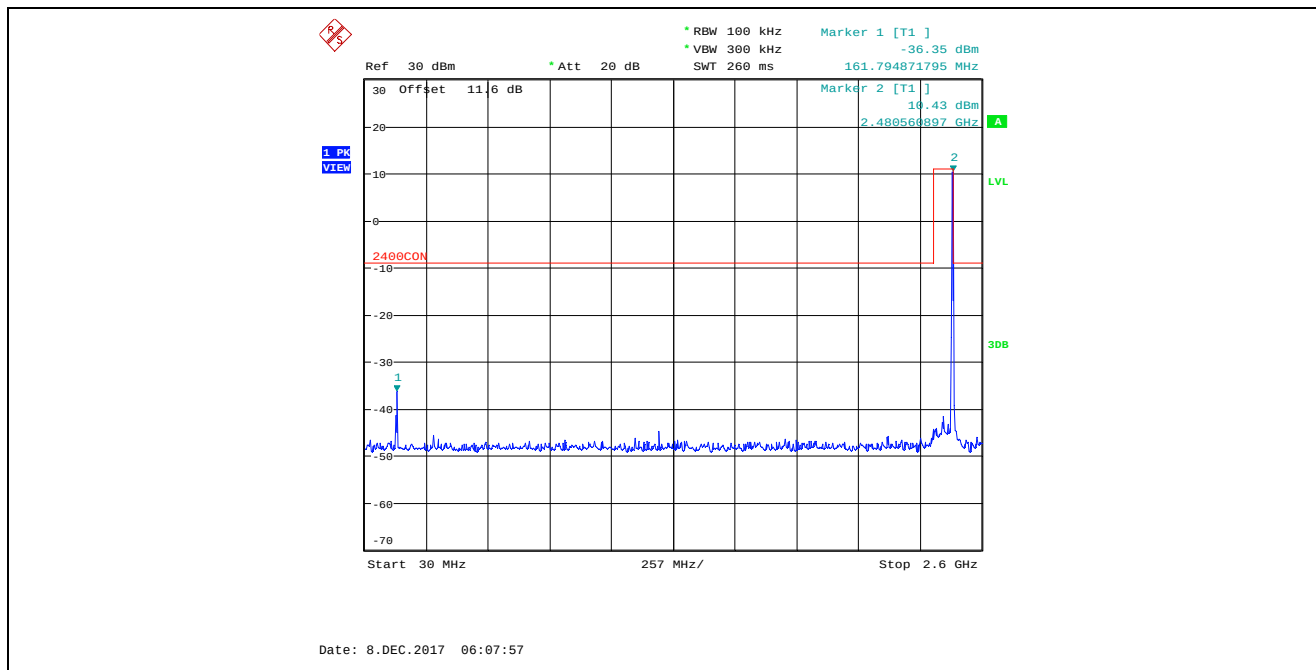
Plot 5.4.4.2.19. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



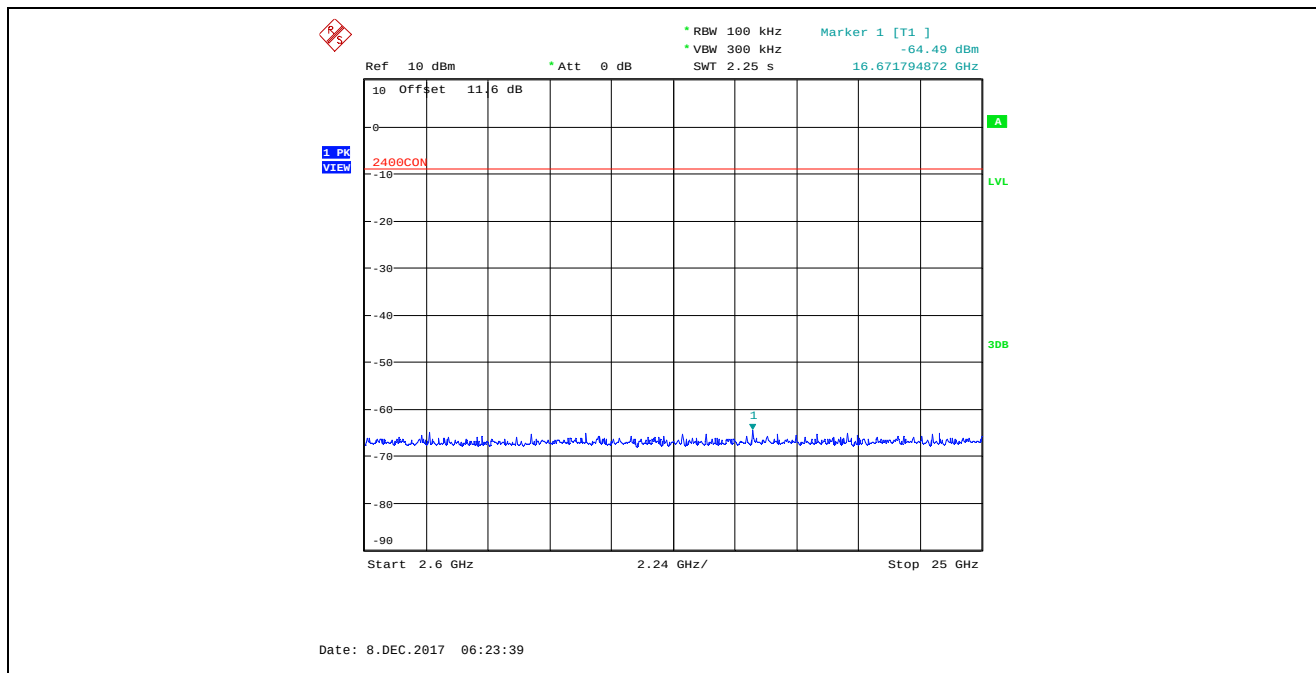
Plot 5.4.4.2.20. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



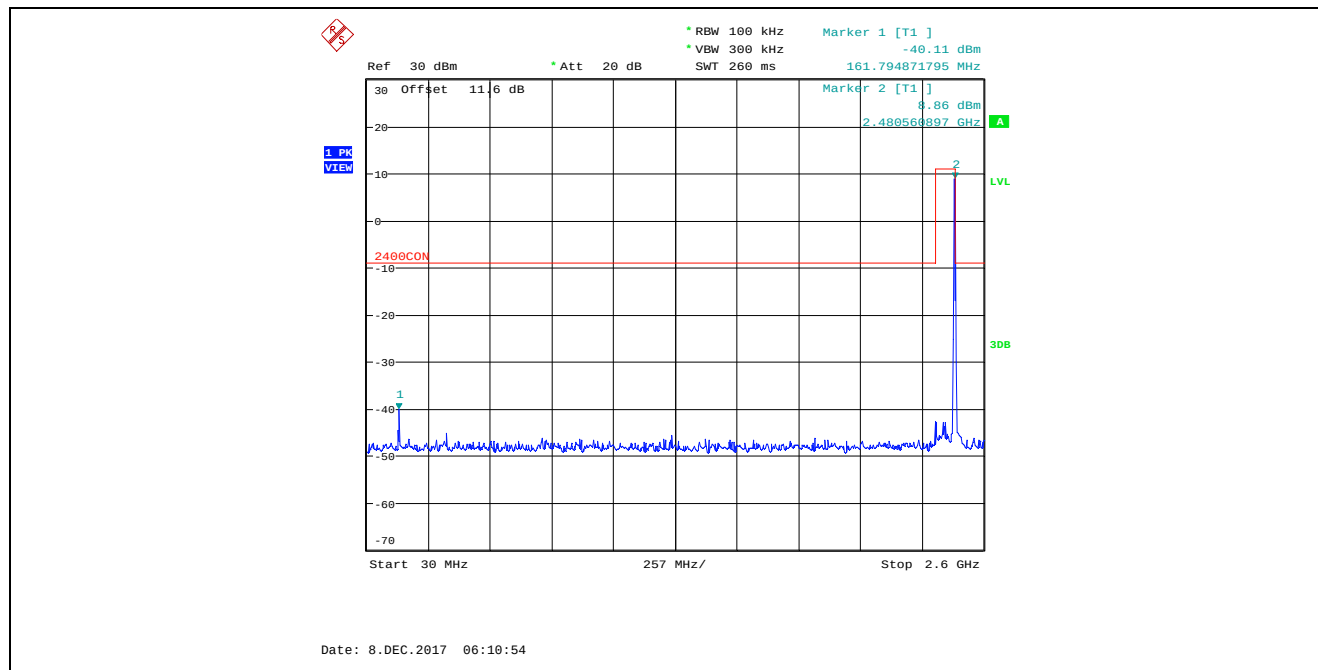
Plot 5.4.4.2.21. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



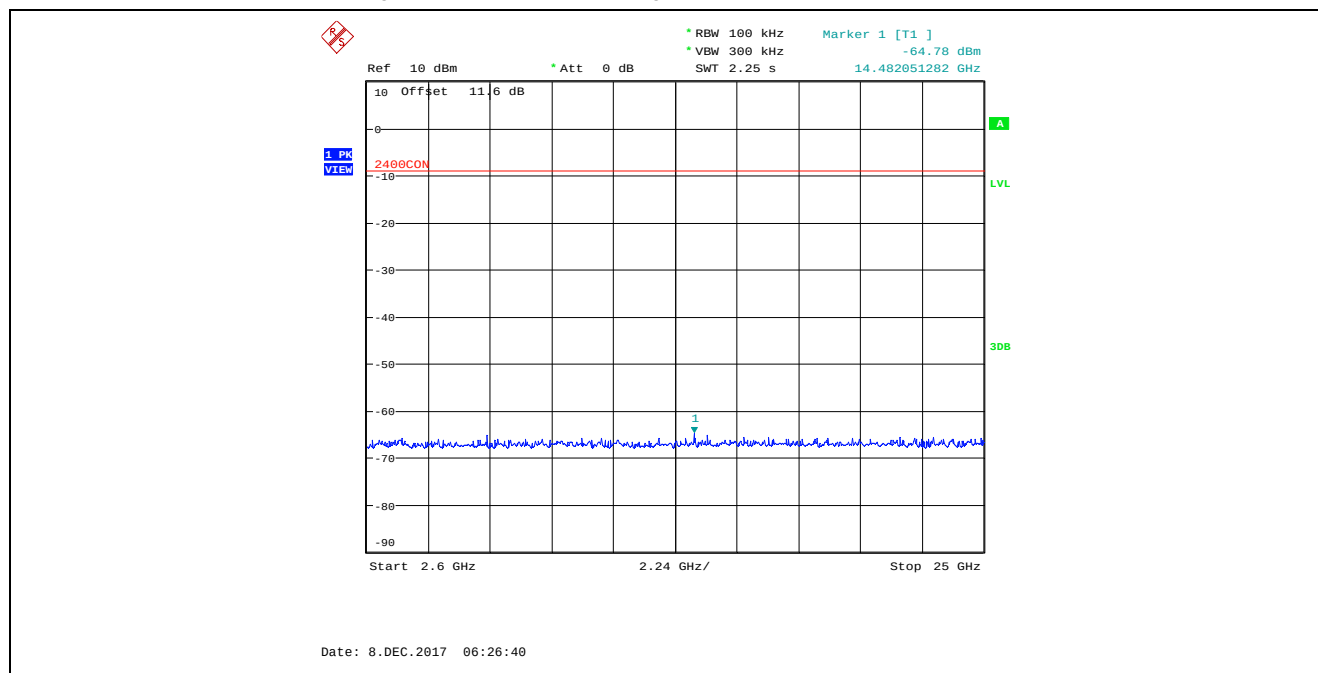
Plot 5.4.4.2.22. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



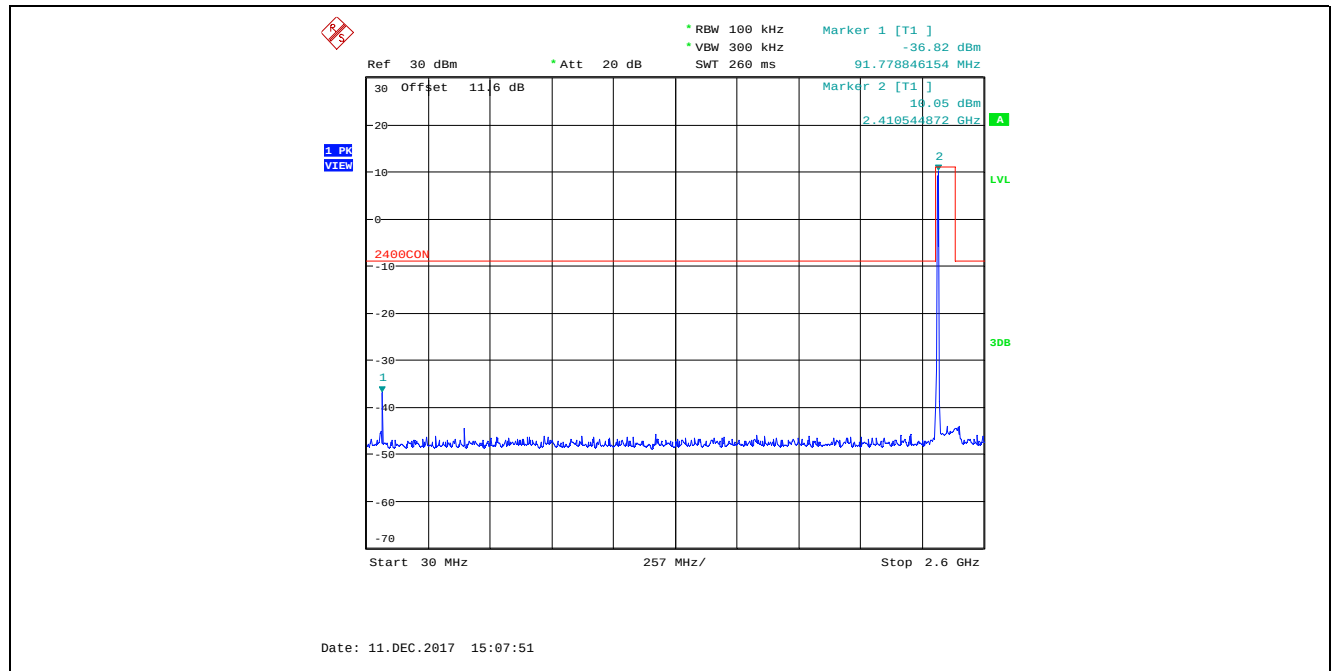
Plot 5.4.4.2.23. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



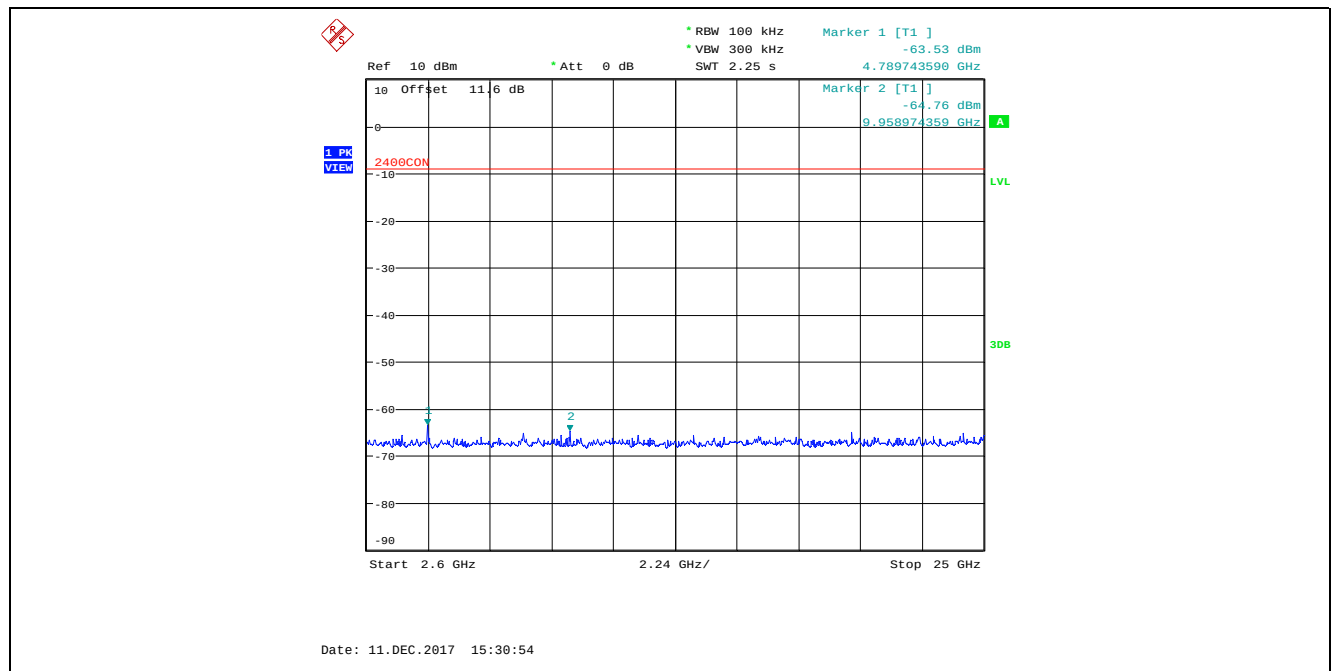
Plot 5.4.4.2.24. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



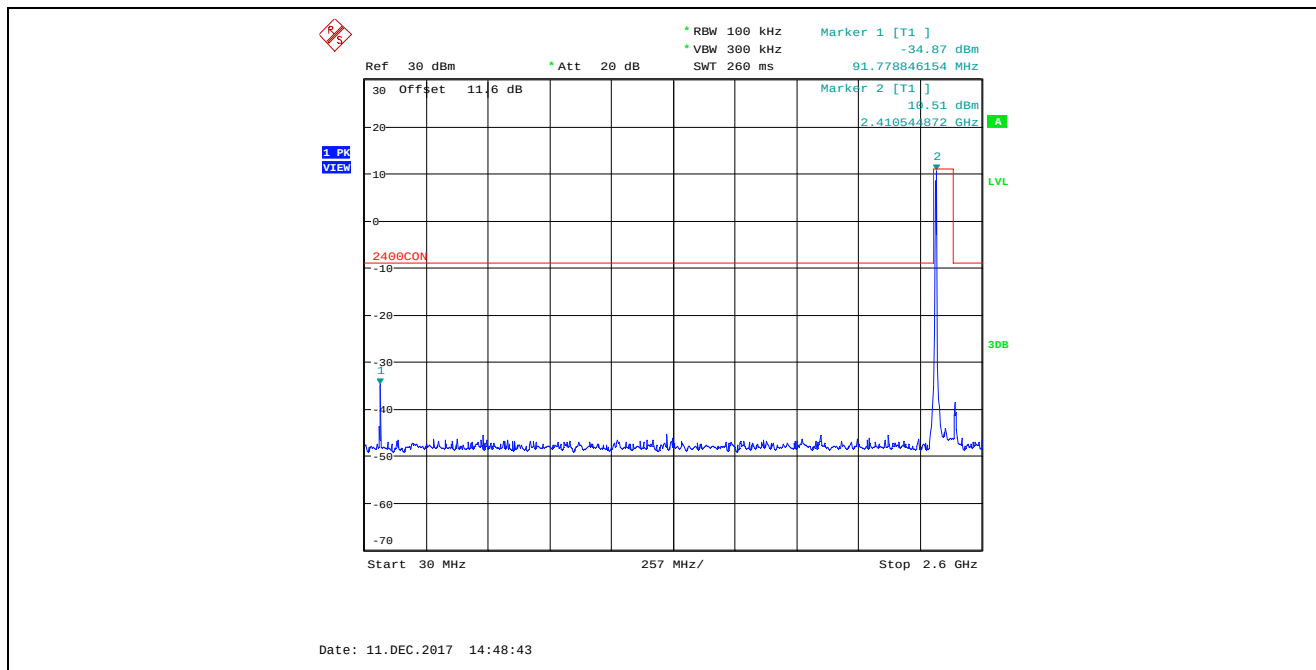
Plot 5.4.4.2.25. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



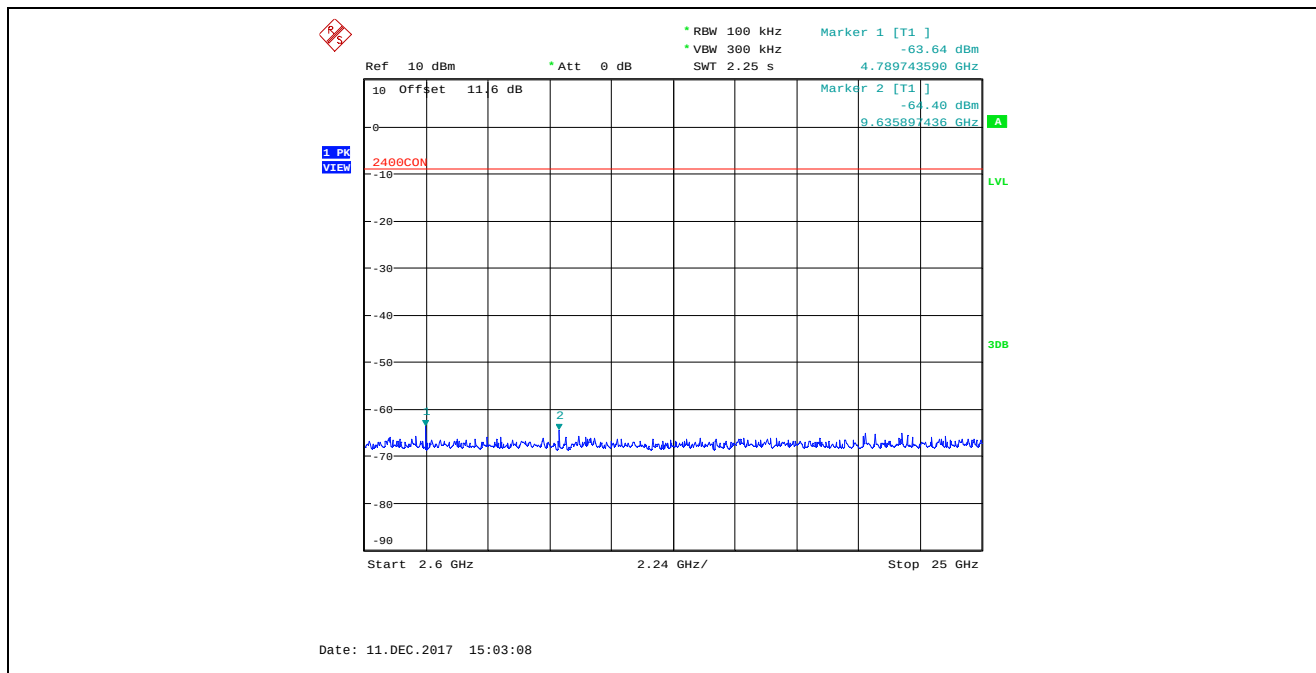
Plot 5.4.4.2.26. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



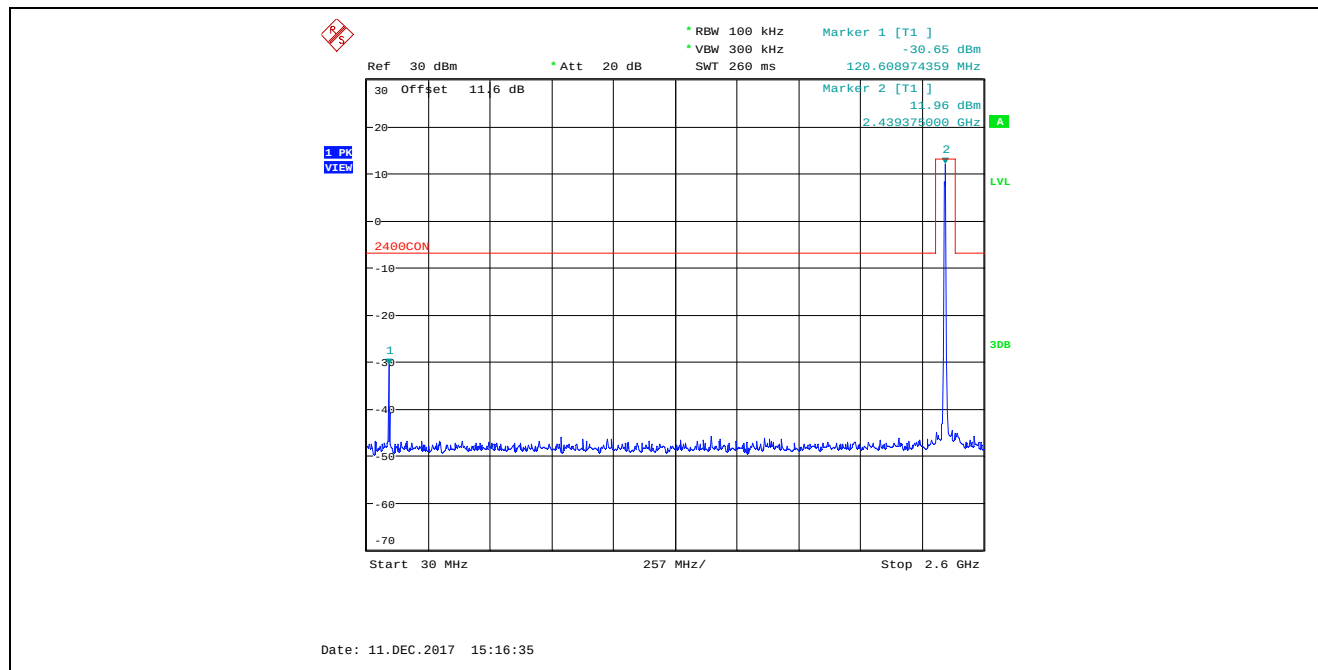
Plot 5.4.4.2.27. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



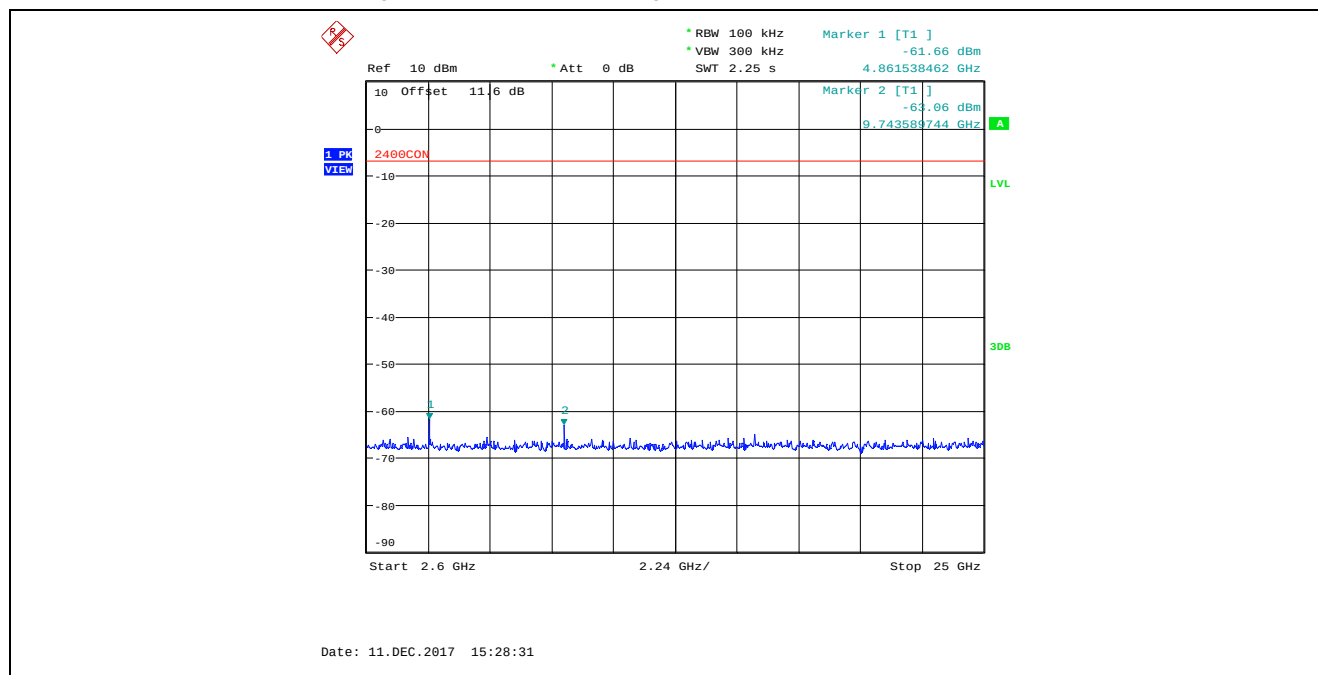
Plot 5.4.4.2.28. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



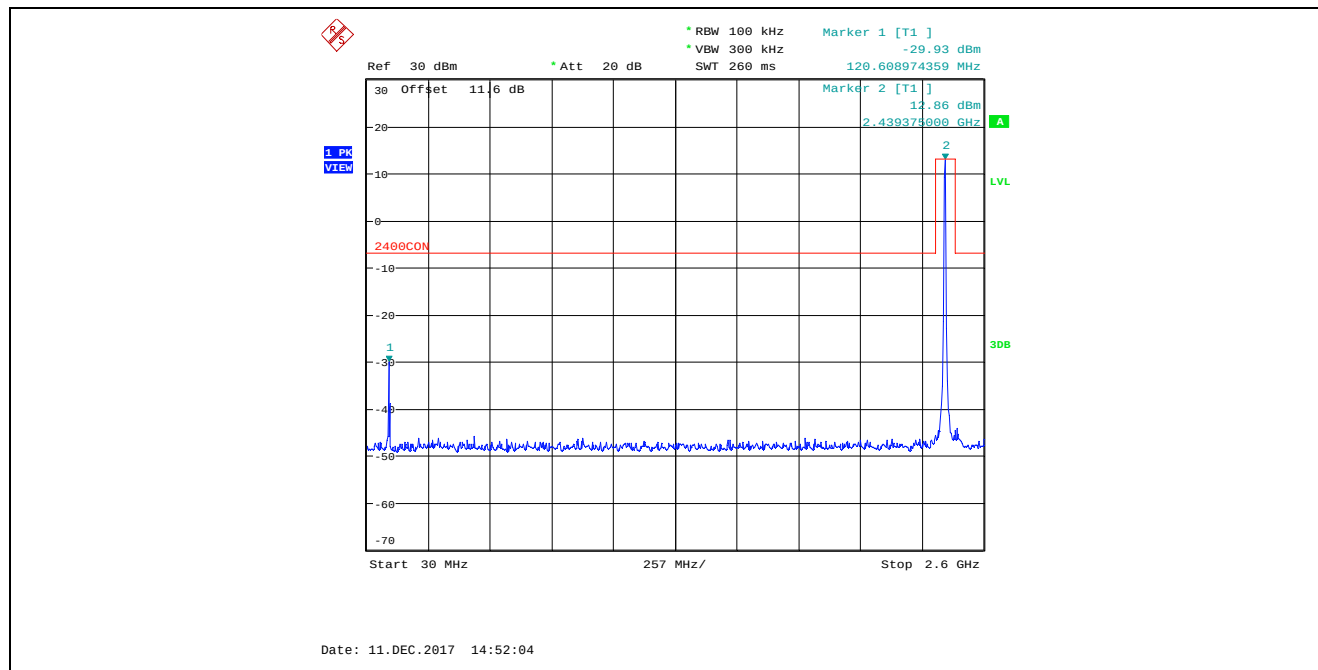
Plot 5.4.4.2.29. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



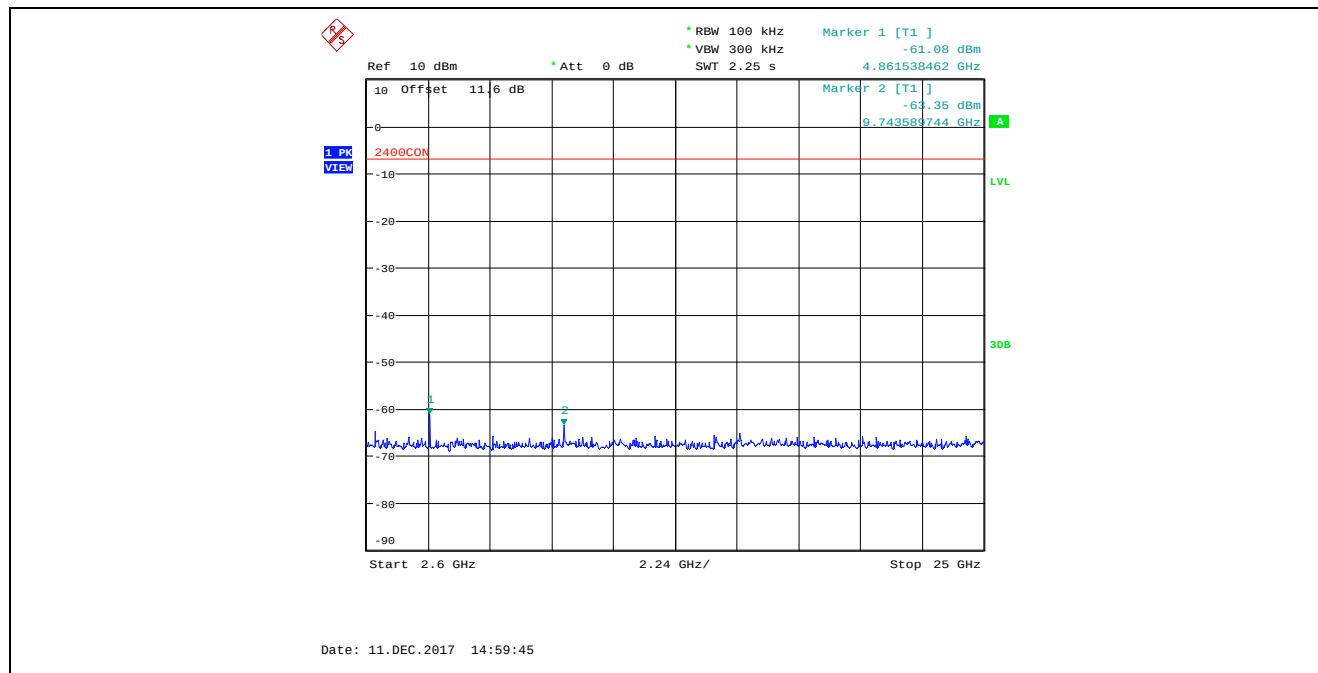
Plot 5.4.4.2.30. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



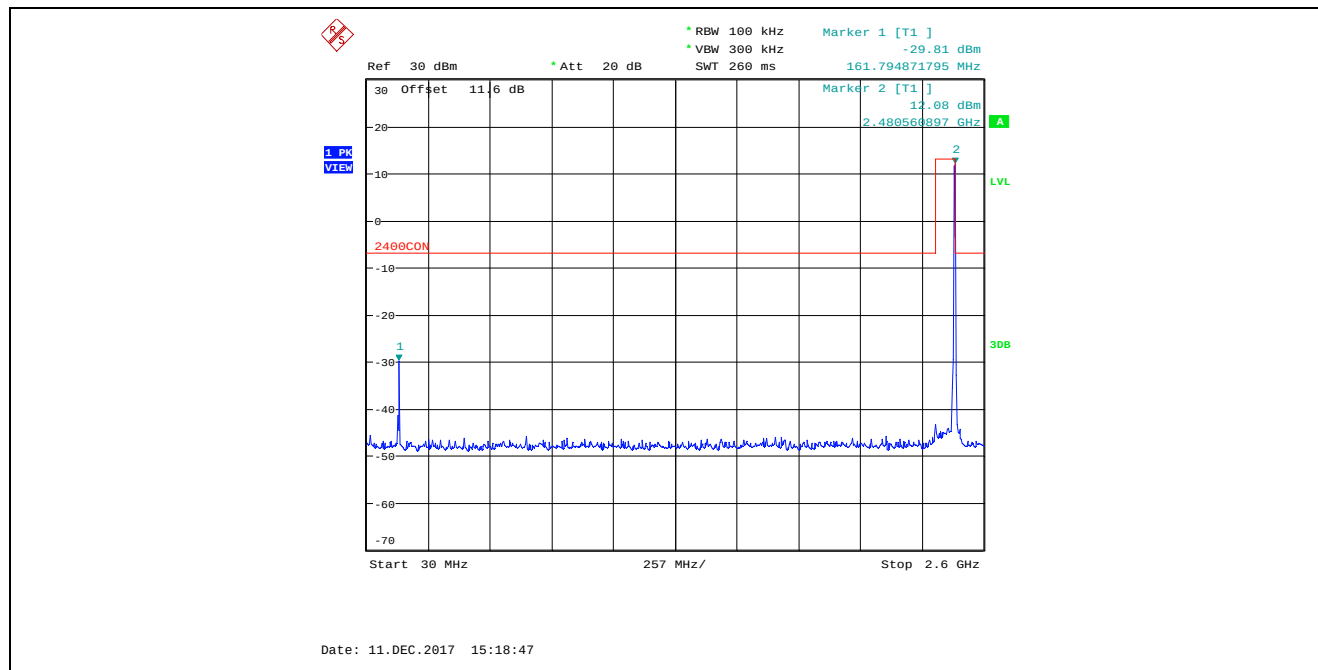
Plot 5.4.4.2.31. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



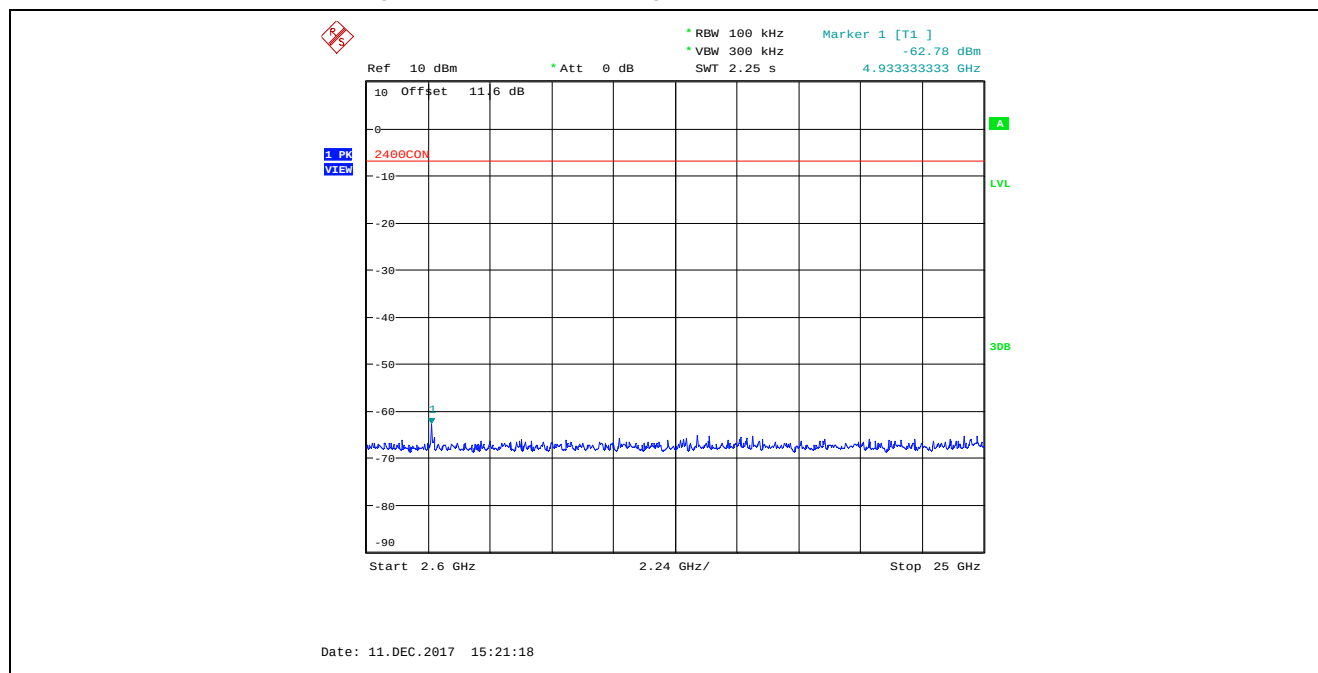
Plot 5.4.4.2.32. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



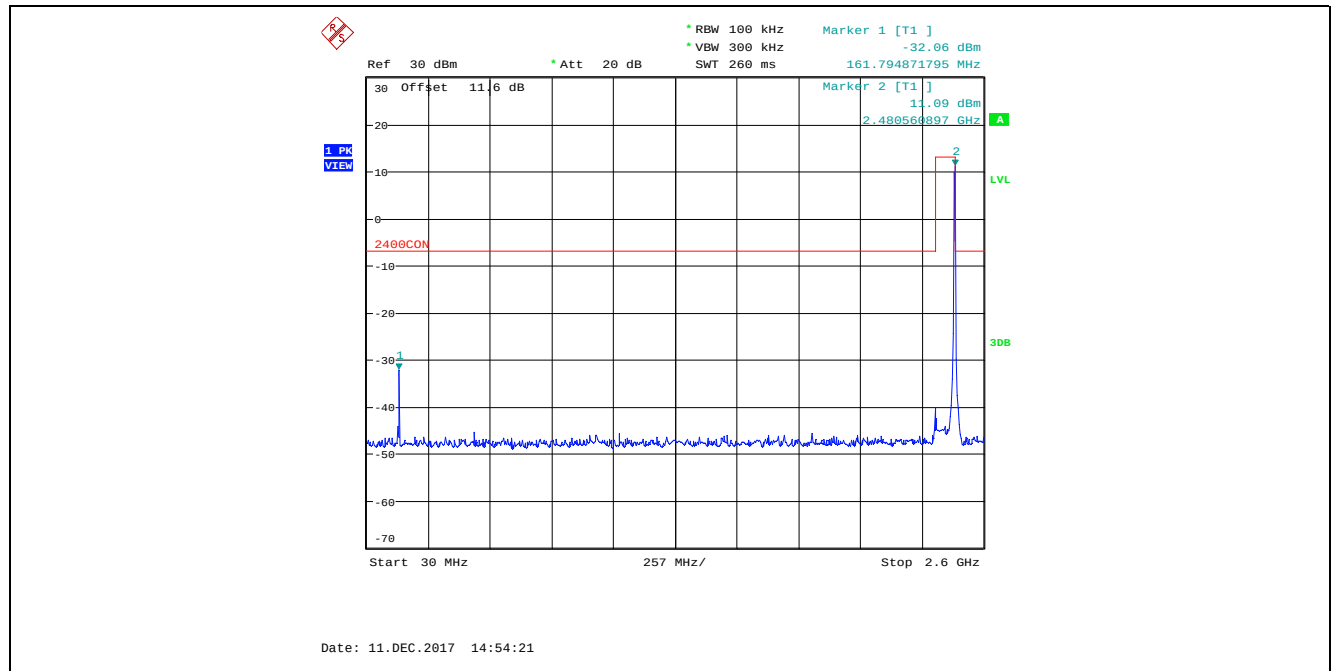
Plot 5.4.4.2.33. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



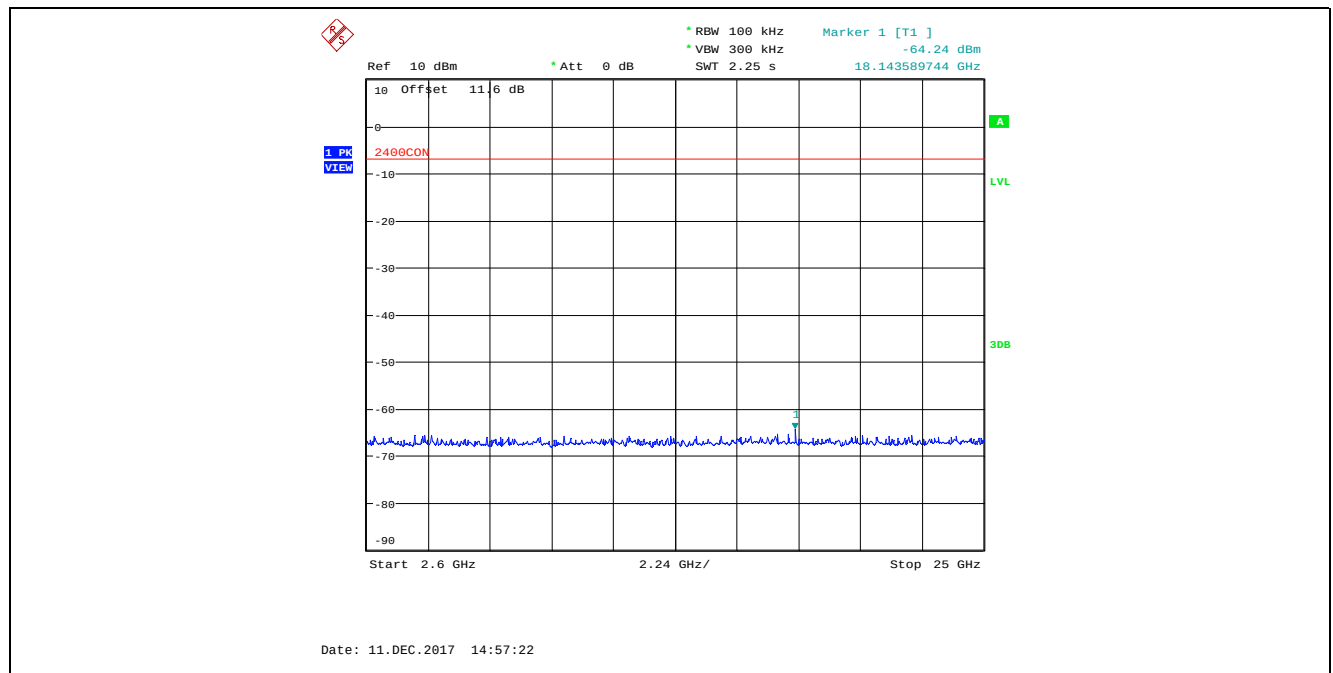
Plot 5.4.4.2.34. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



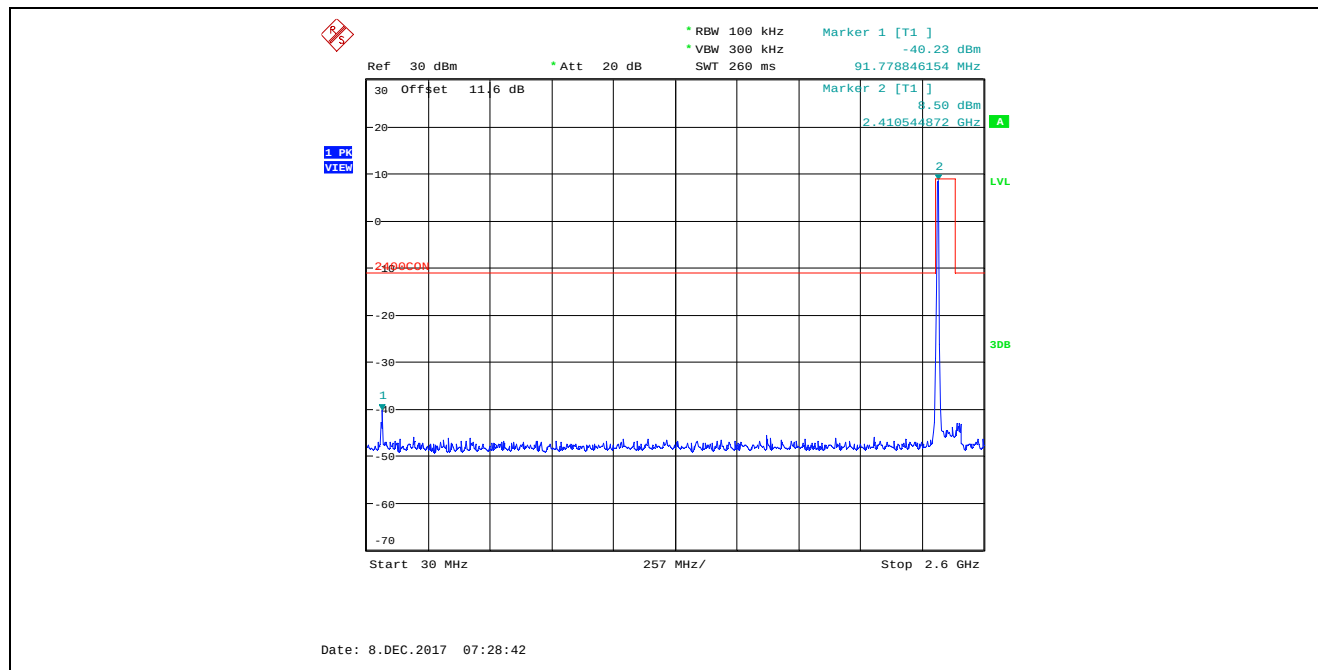
Plot 5.4.4.2.35. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



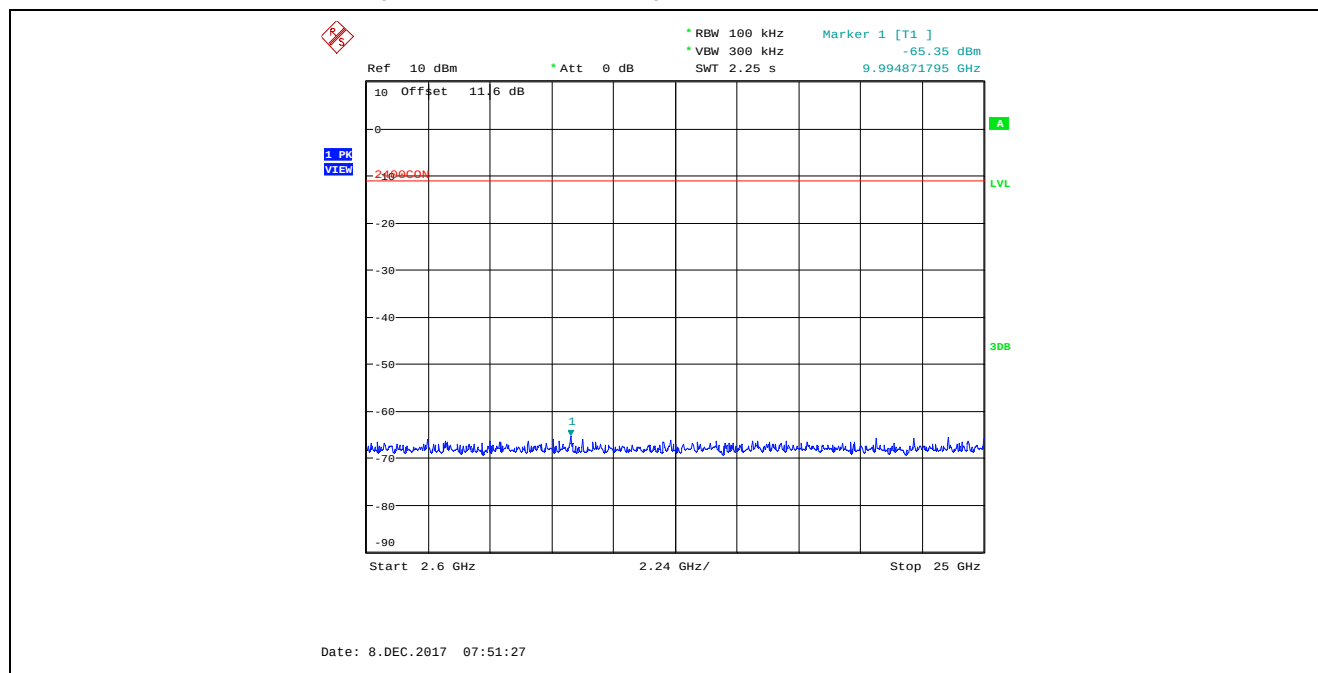
Plot 5.4.4.2.36. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 22), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



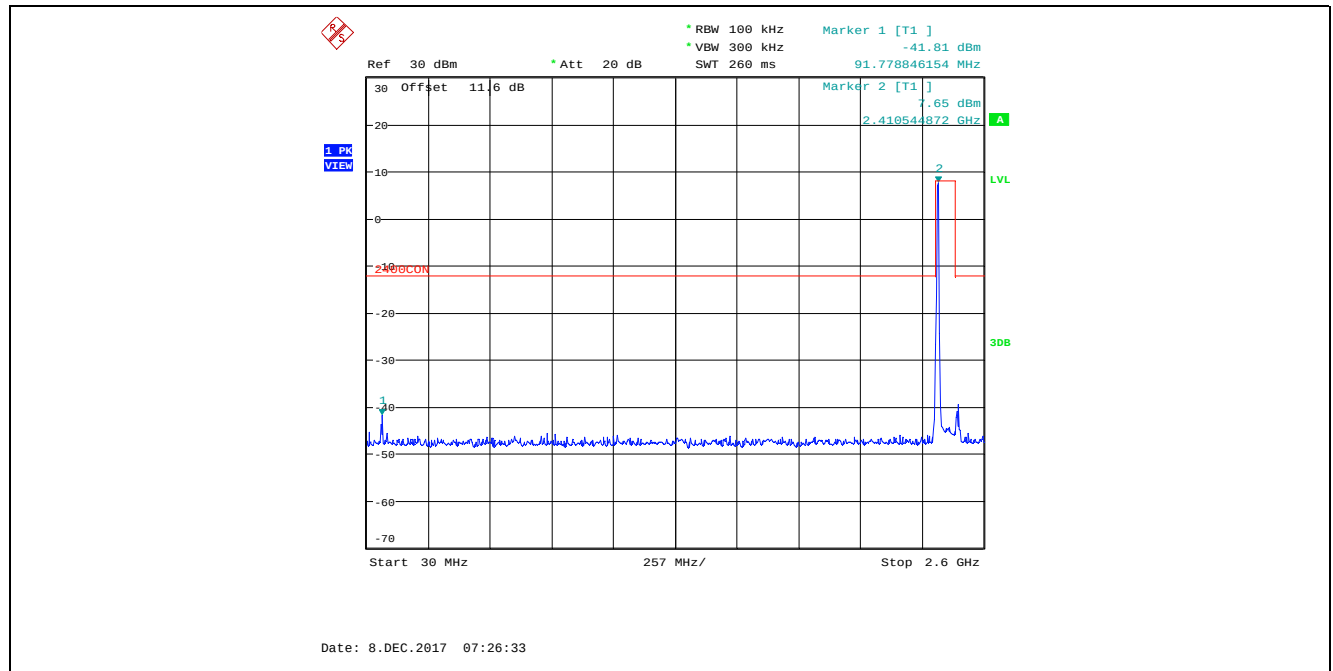
Plot 5.4.4.2.37. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



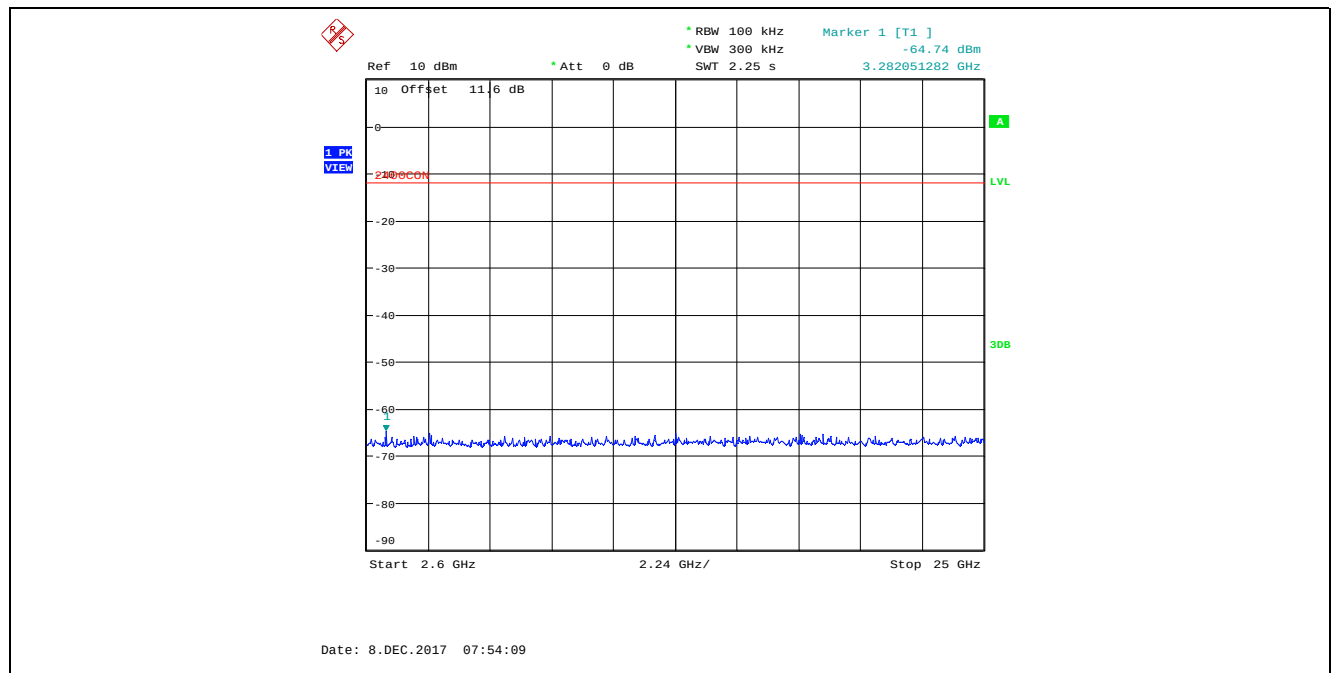
Plot 5.4.4.2.38. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



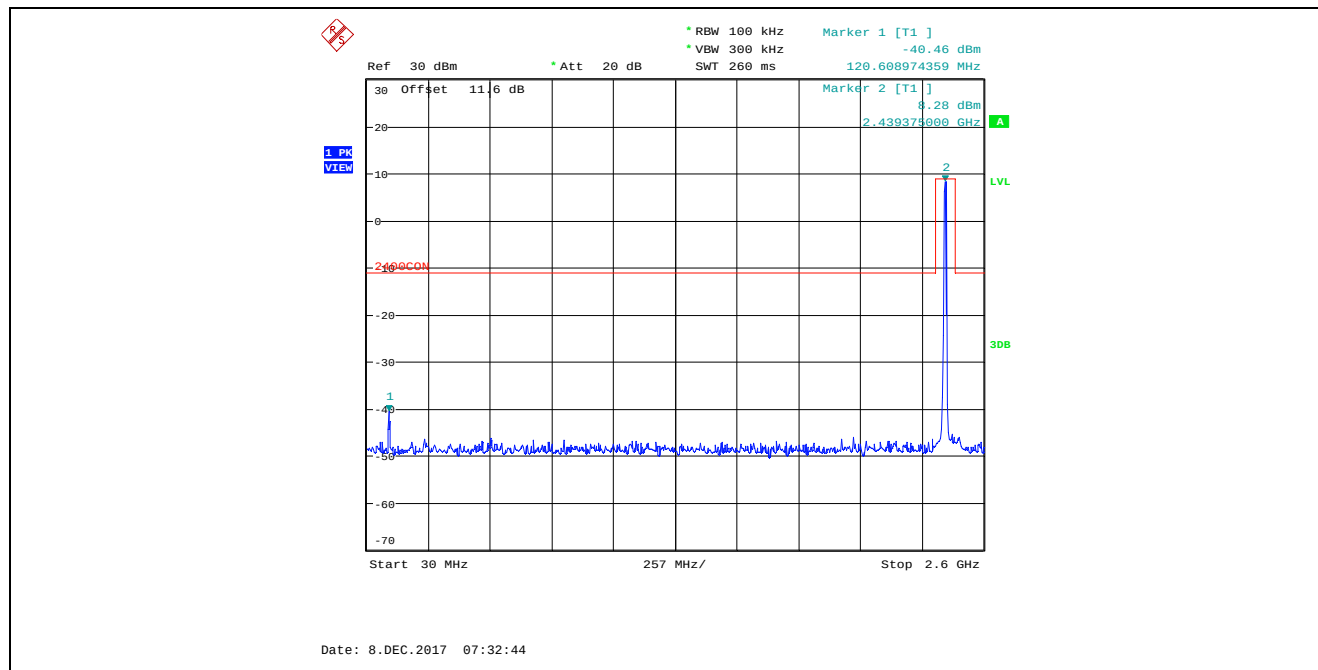
Plot 5.4.4.2.39. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



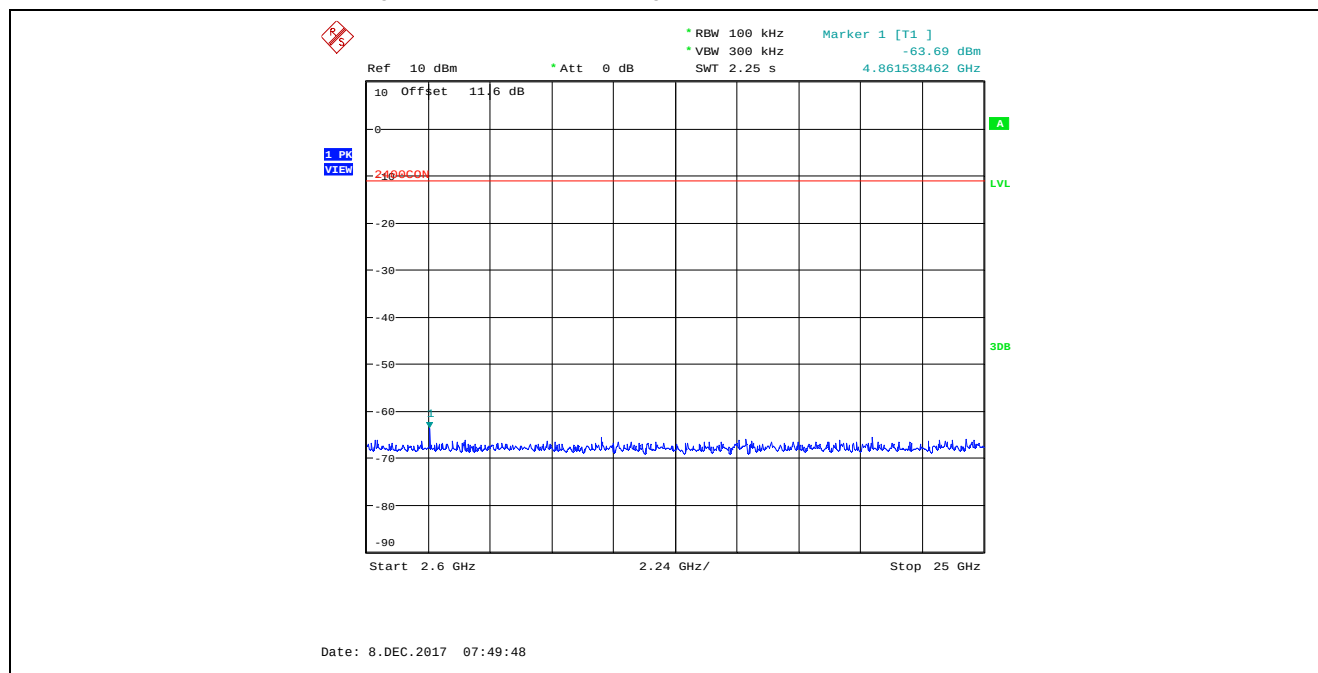
Plot 5.4.4.2.40. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



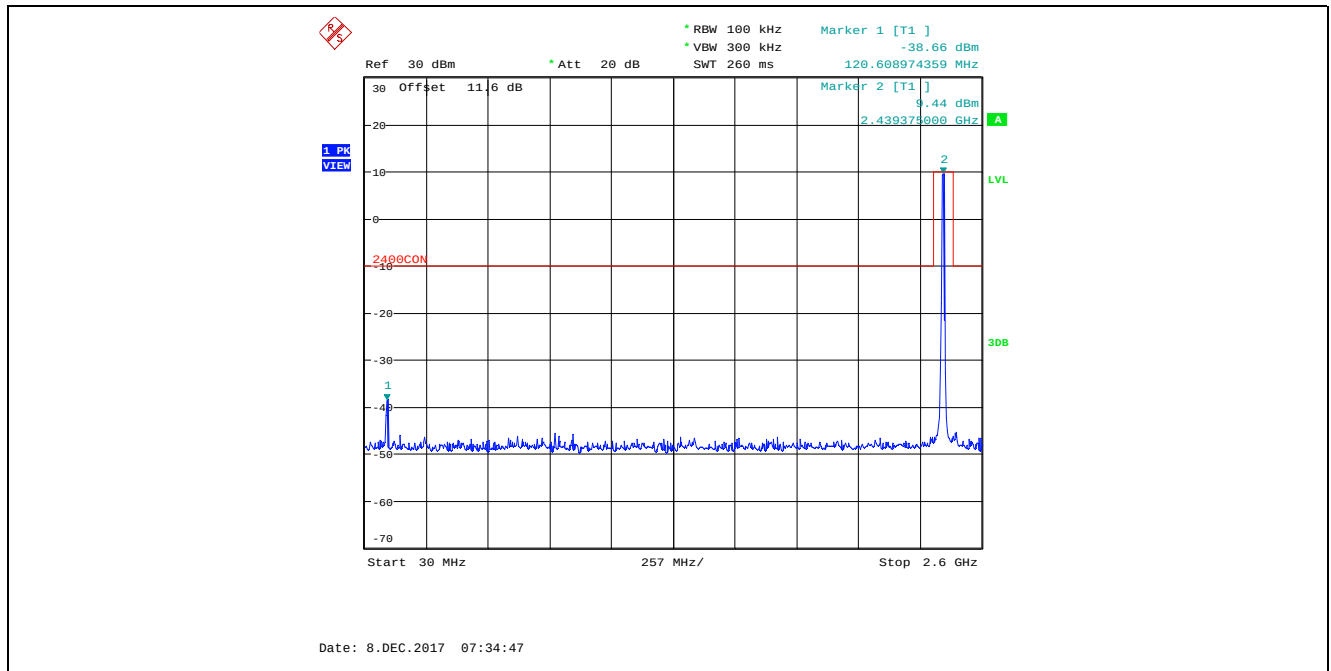
Plot 5.4.4.2.41. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



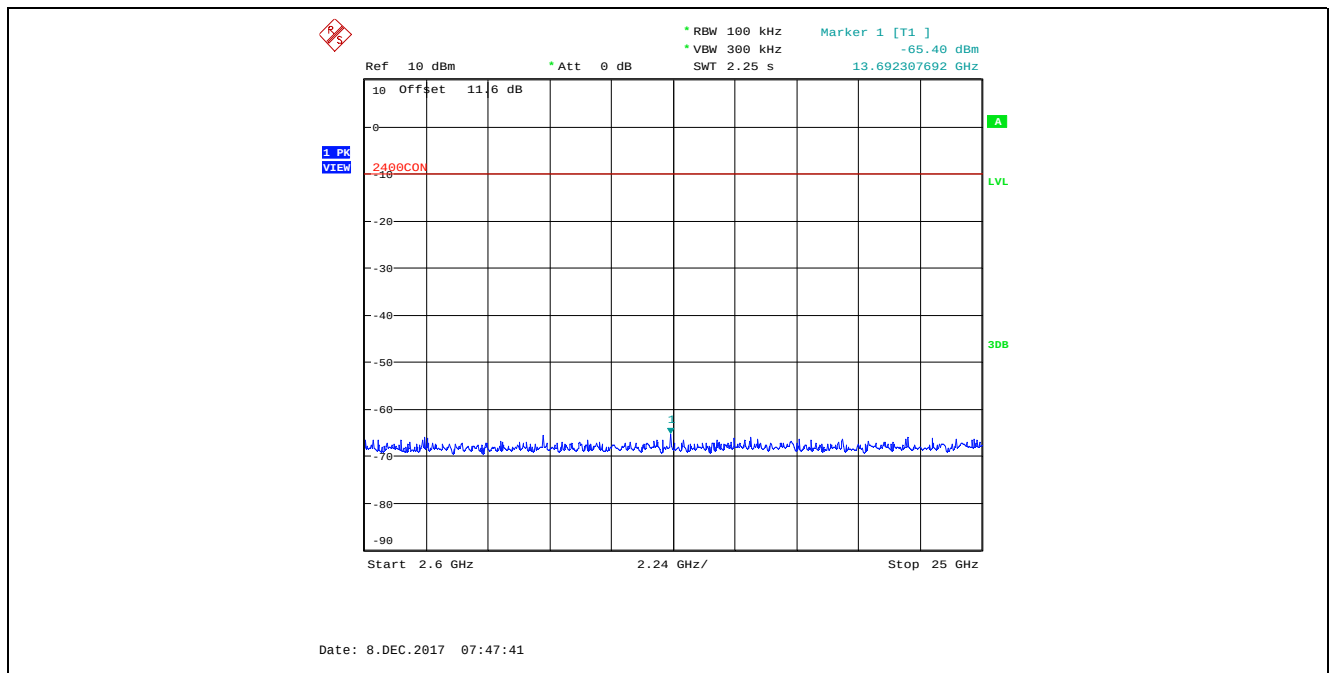
Plot 5.4.4.2.42. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



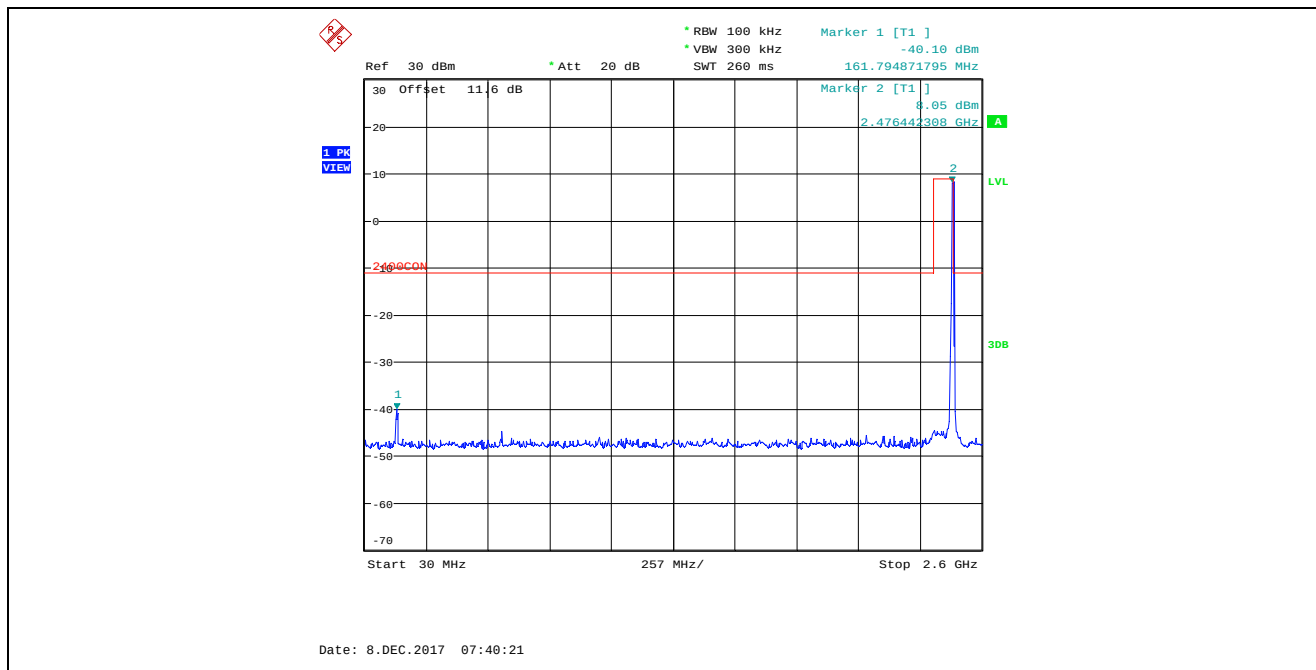
Plot 5.4.4.2.43. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



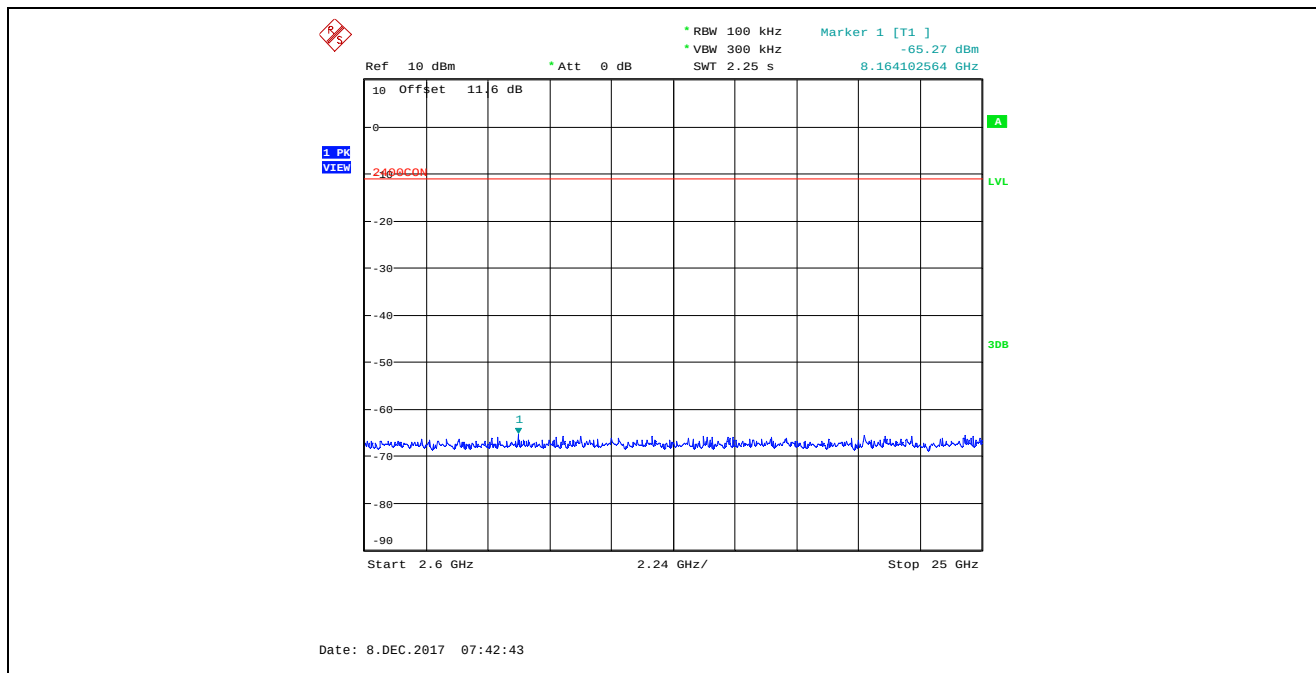
Plot 5.4.4.2.44. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



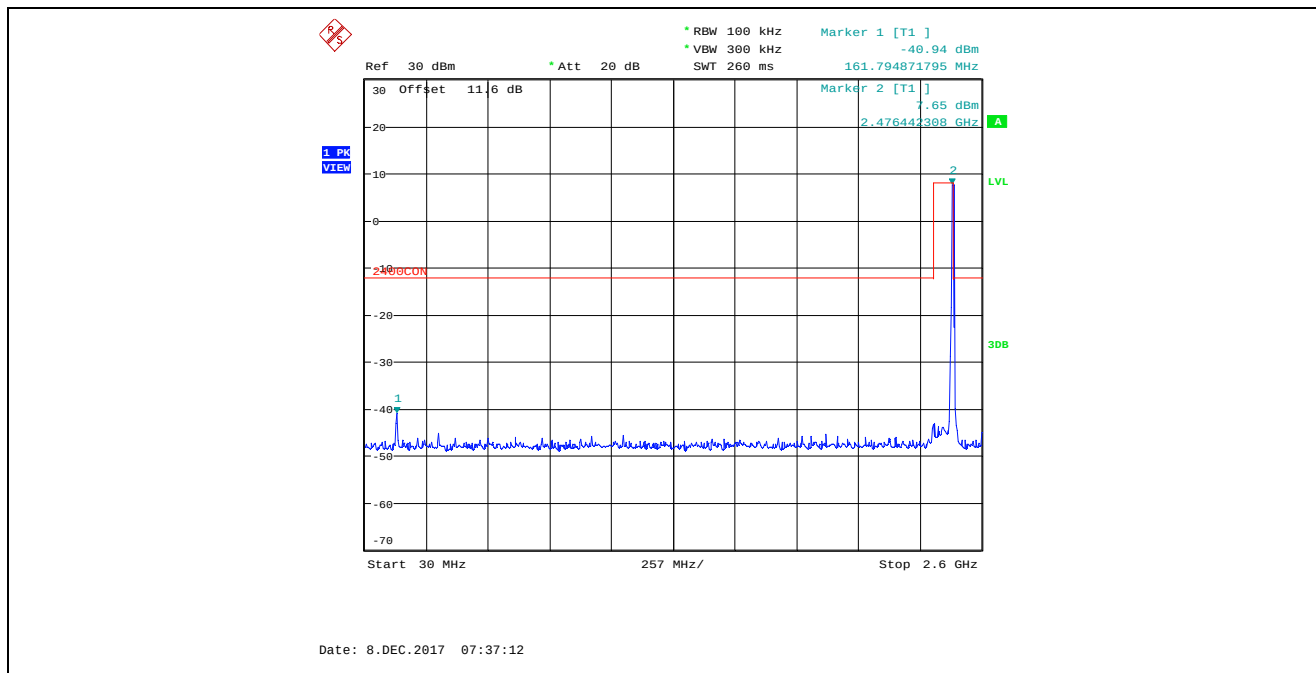
Plot 5.4.4.2.45. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



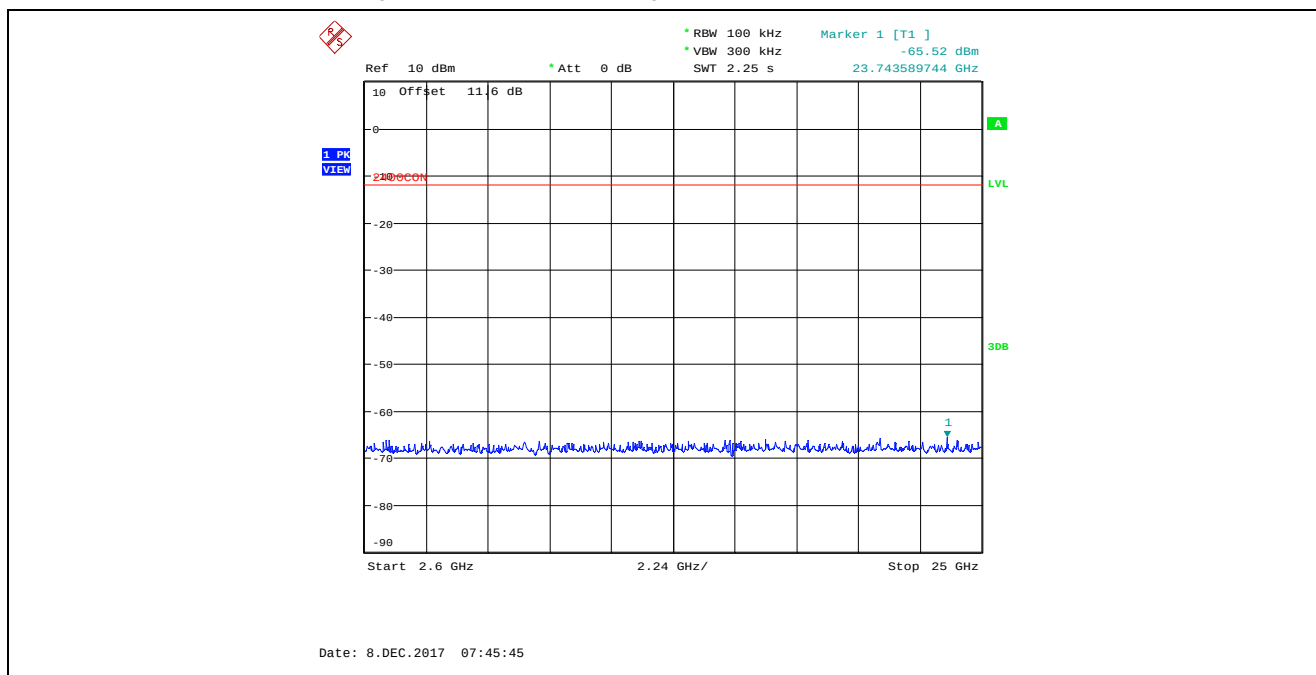
Plot 5.4.4.2.46. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



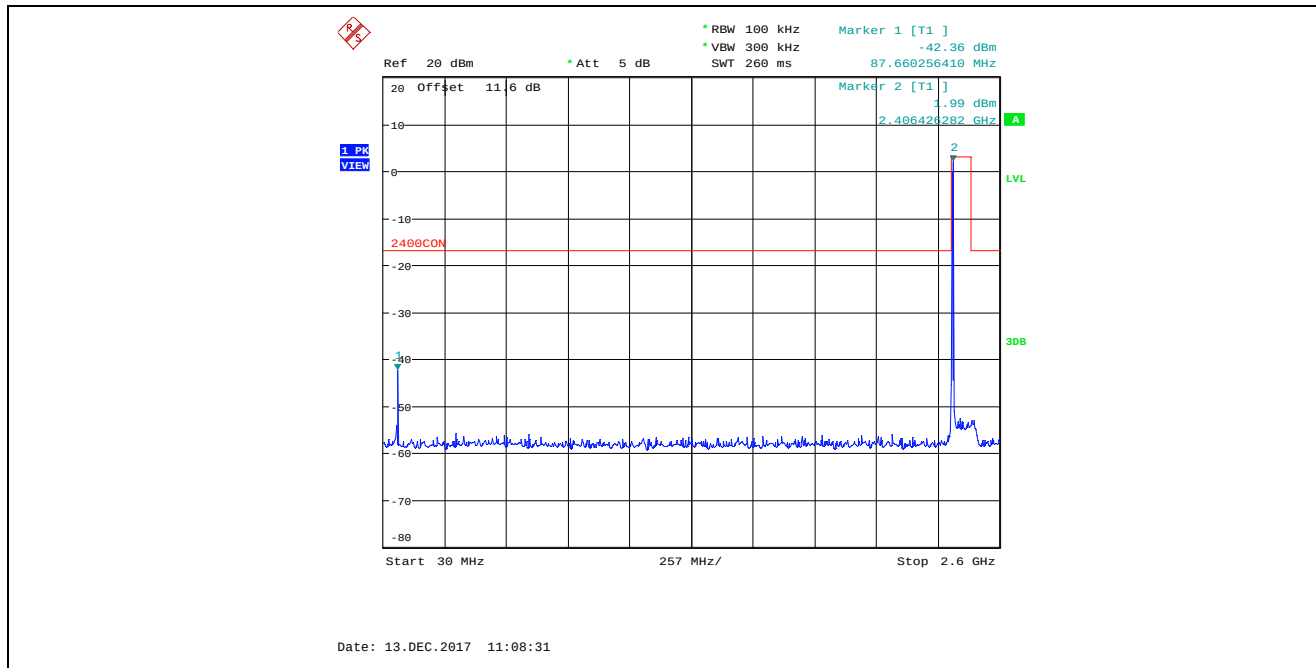
Plot 5.4.4.2.47. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



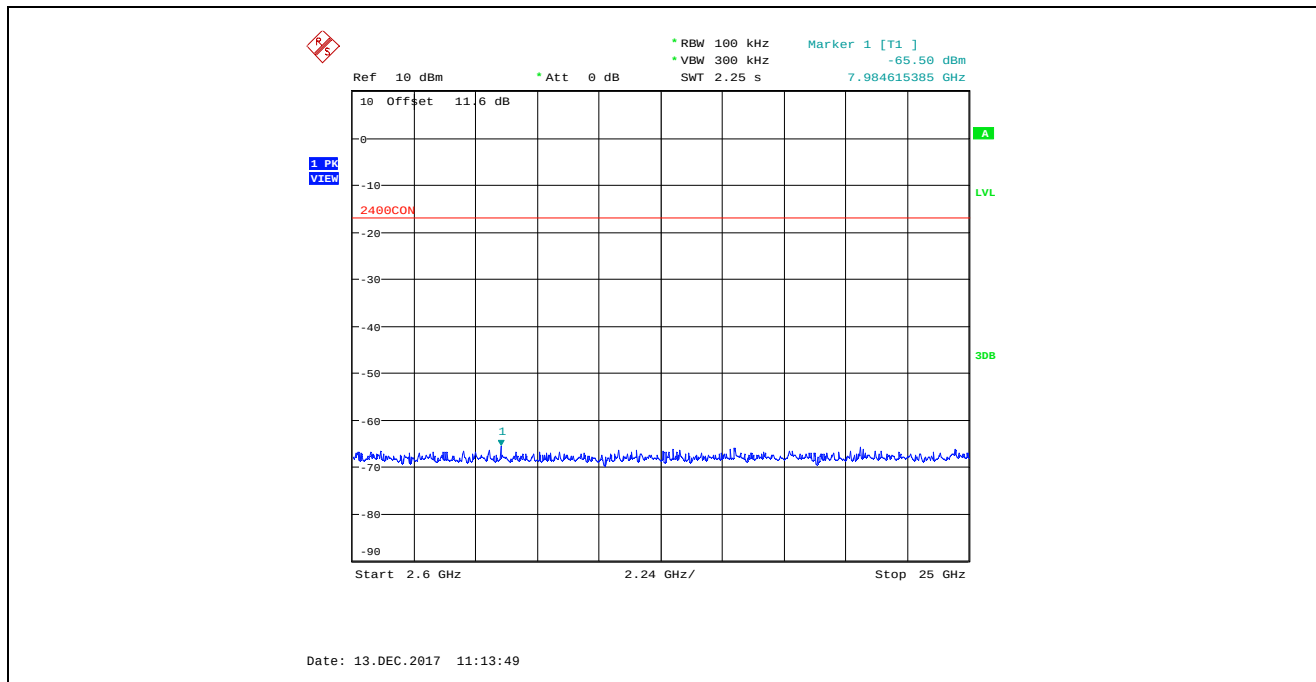
Plot 5.4.4.2.48. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, High Power (TX Gain Setting 24), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



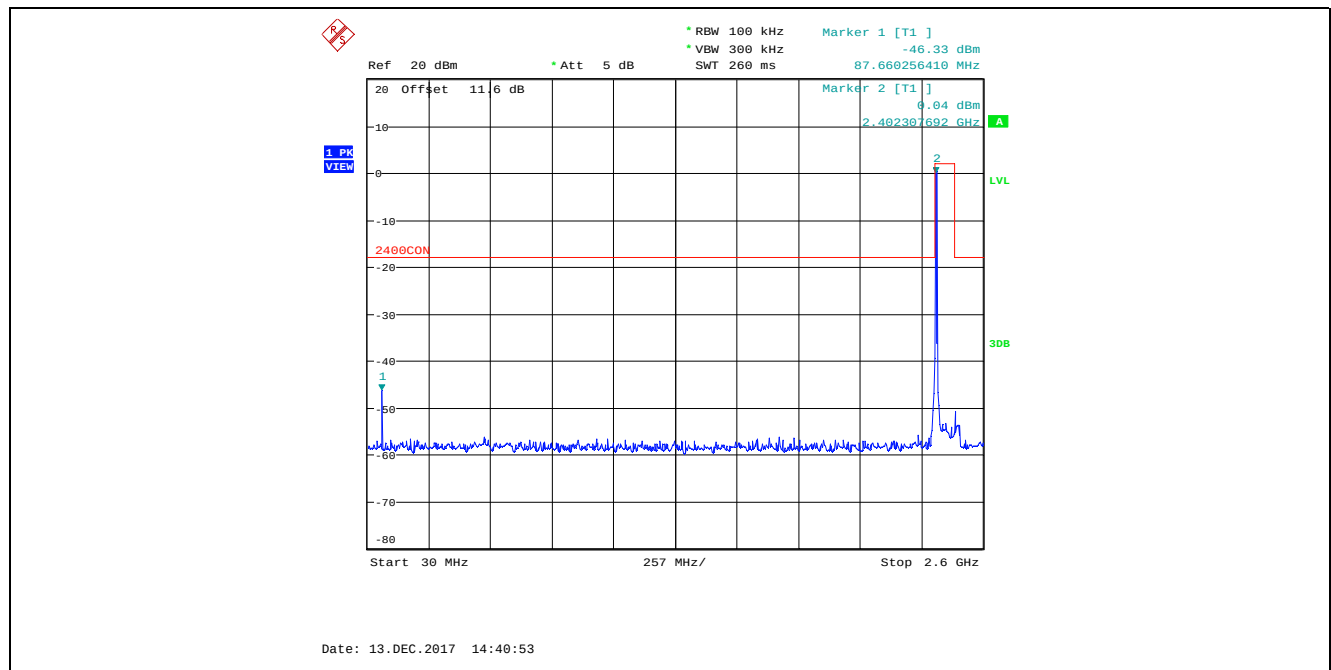
Plot 5.4.4.249. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



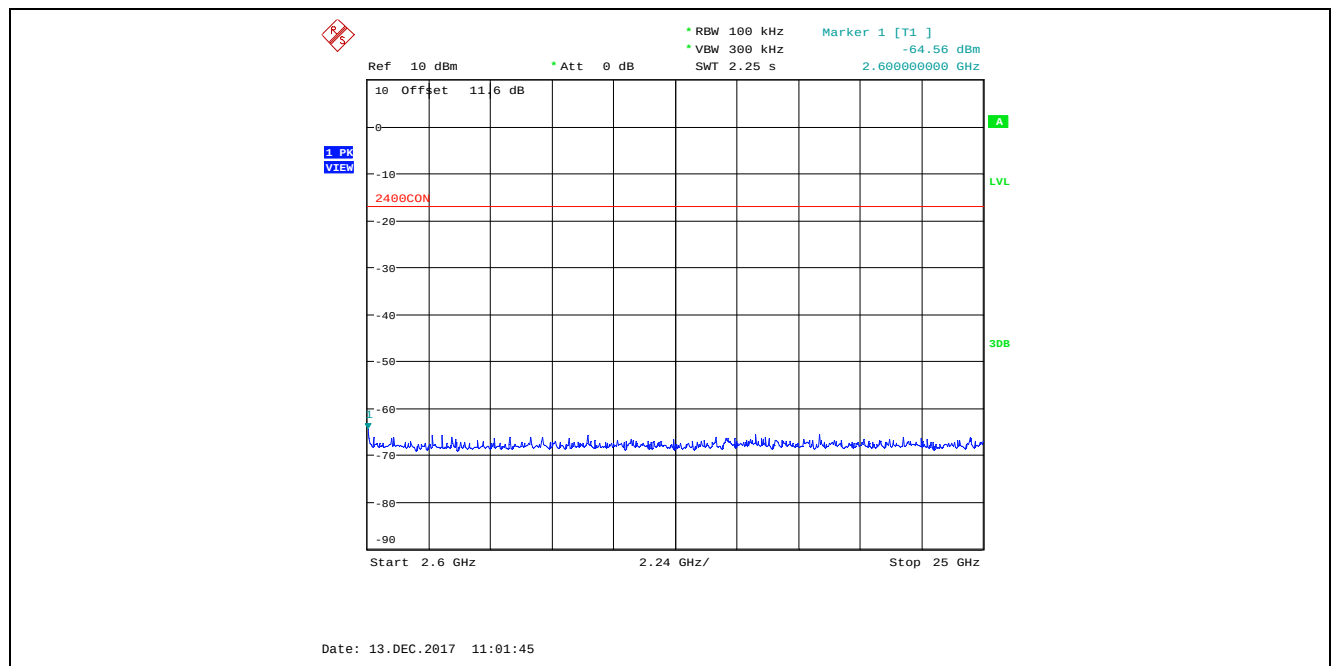
Plot 5.4.4.250. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



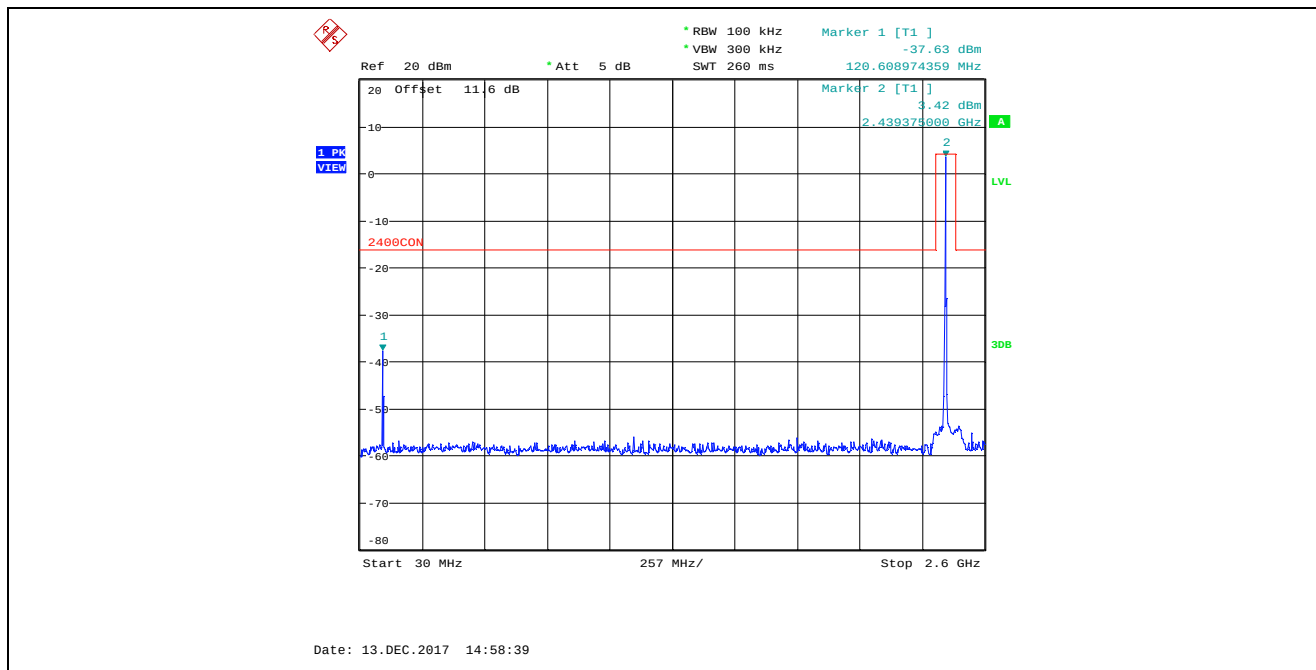
Plot 5.4.4.2.51. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 30 MHz – 2.6 GHz



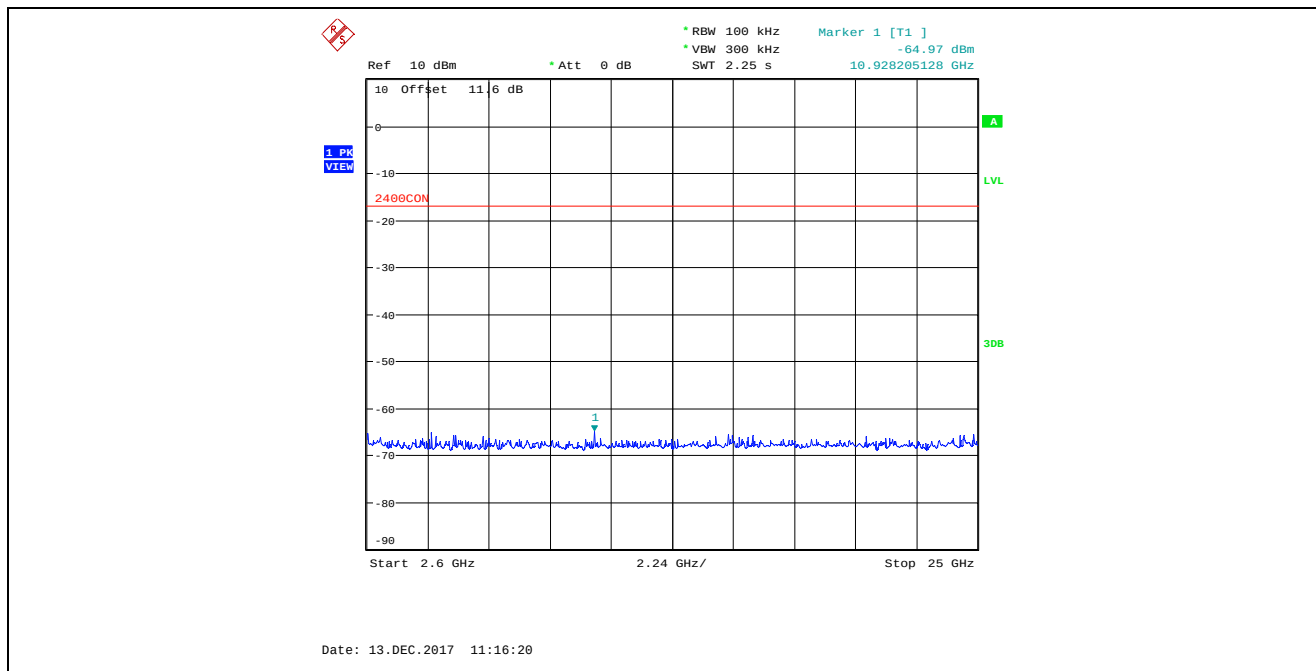
Plot 5.4.4.2.52. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2402 MHz, 2.6 GHz – 25 GHz



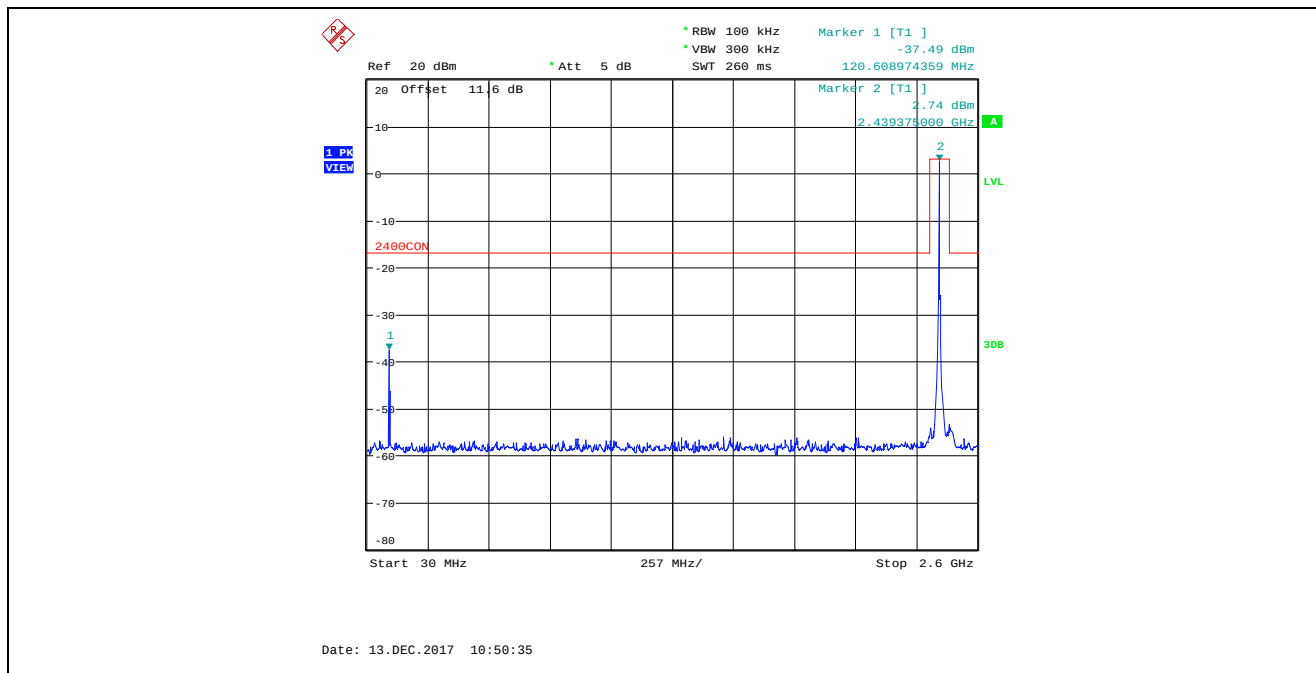
Plot 5.4.4.2.53. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



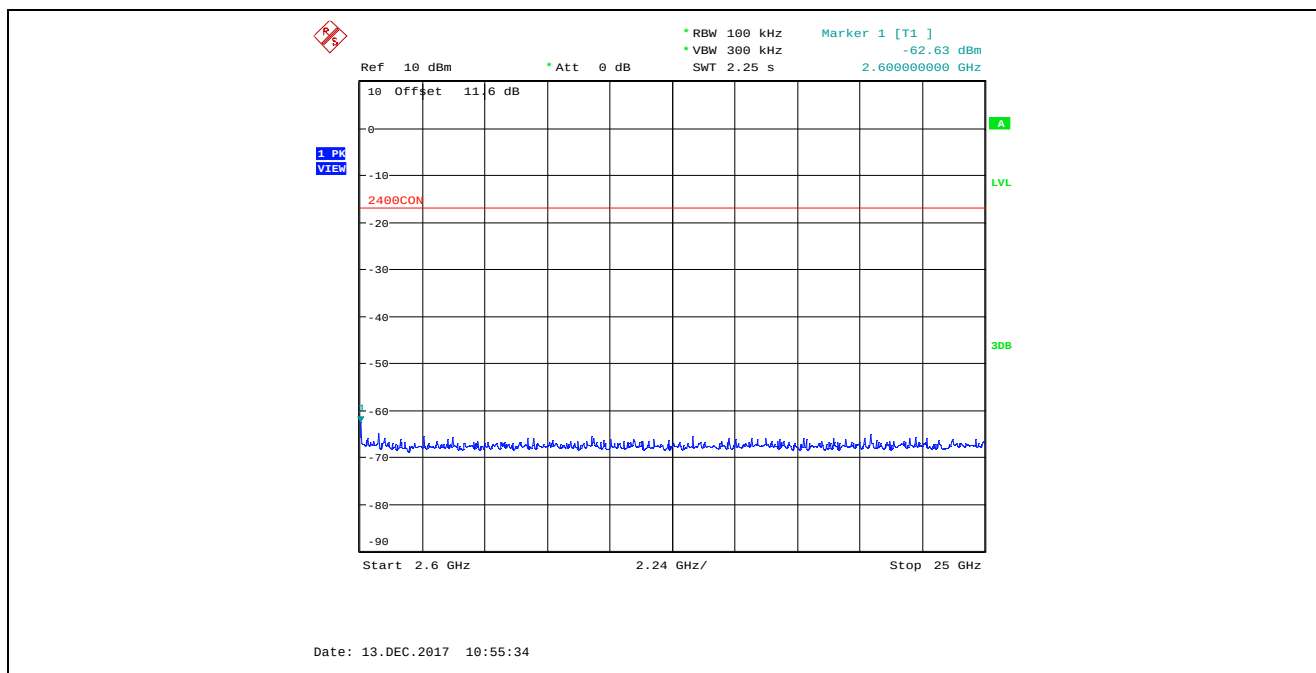
Plot 5.4.4.2.54. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



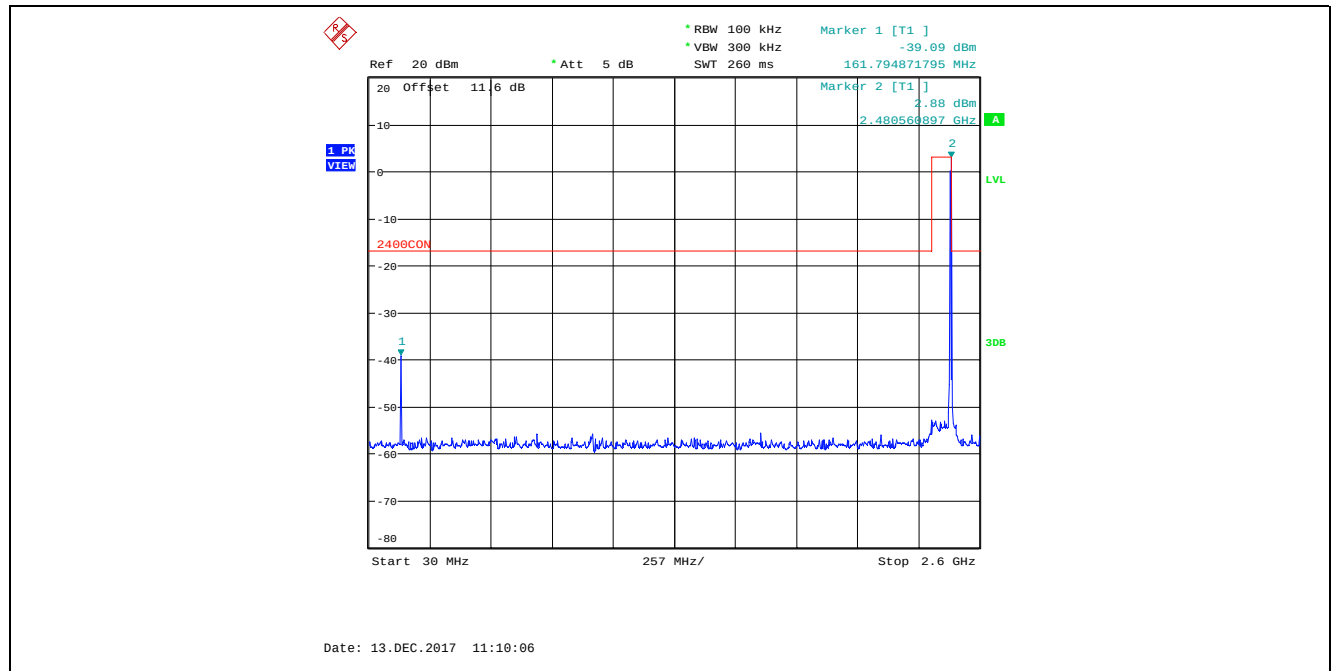
Plot 5.4.4.255. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



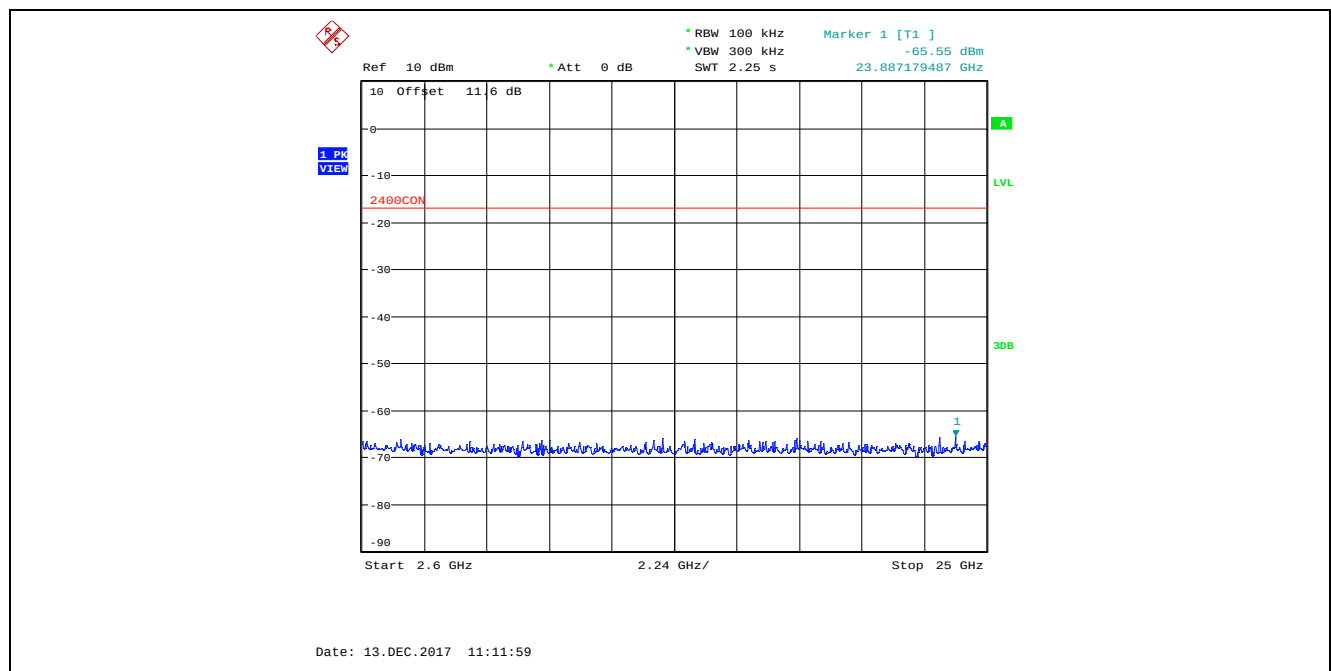
Plot 5.4.4.256. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



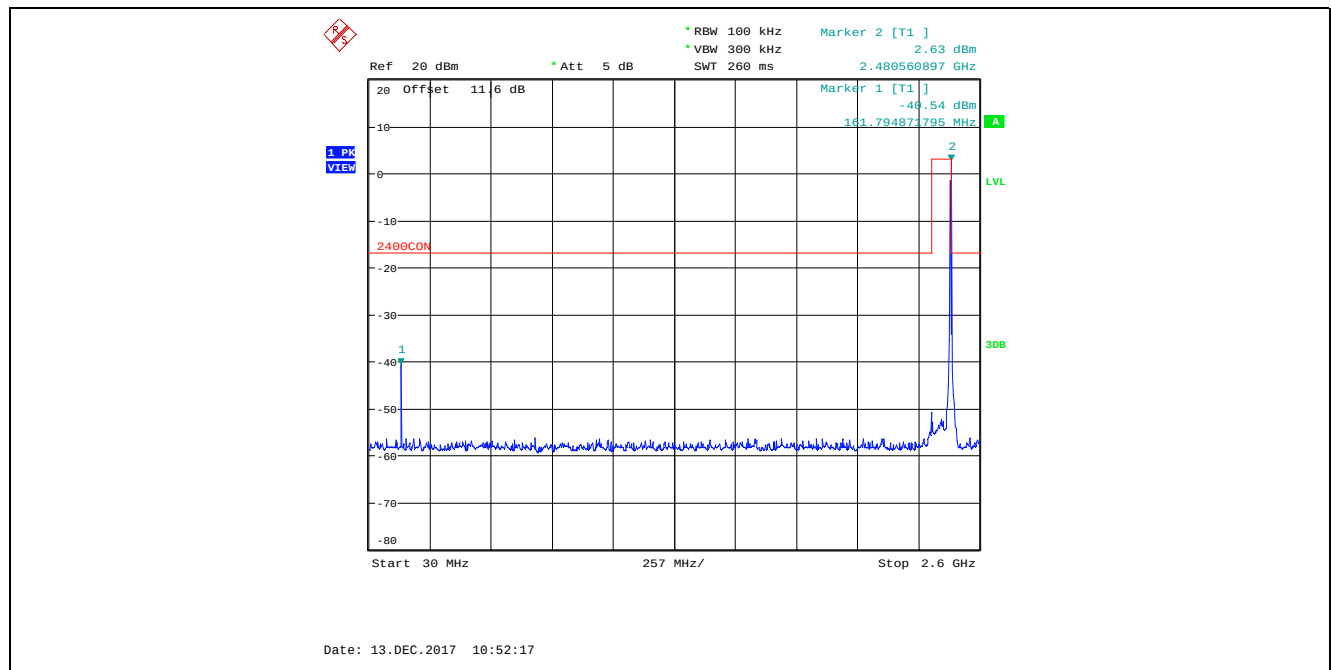
Plot 5.4.4.257. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



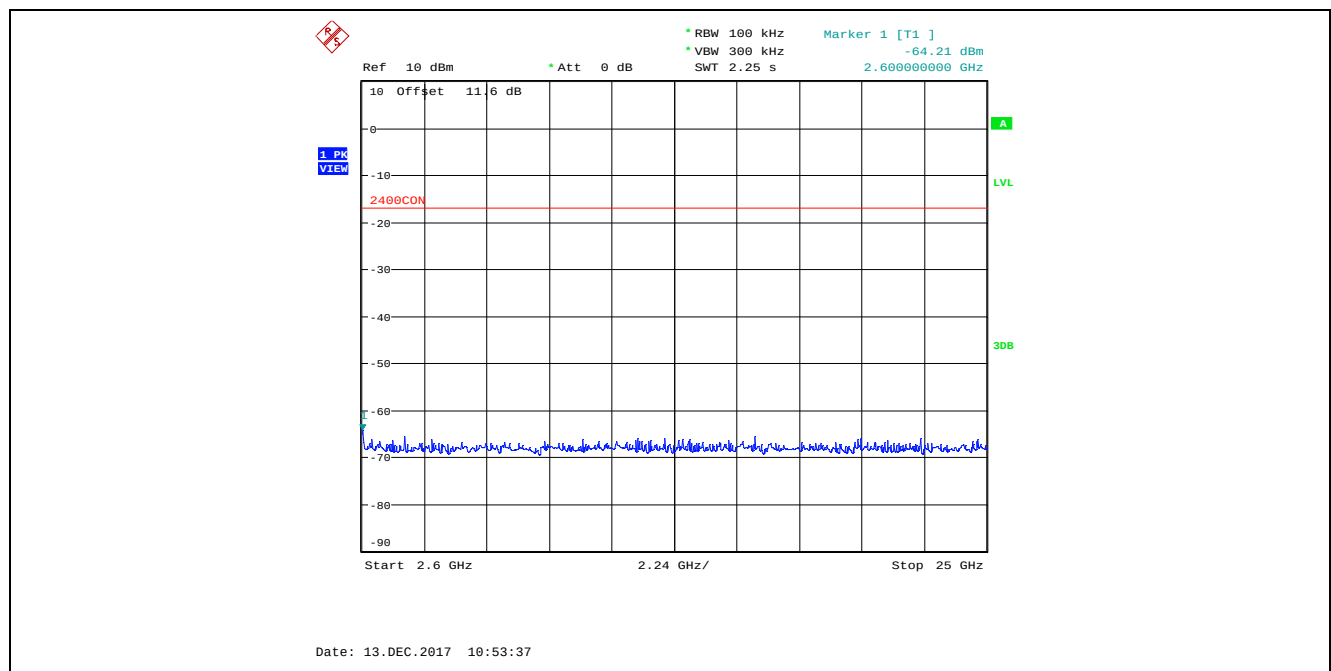
Plot 5.4.4.258. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



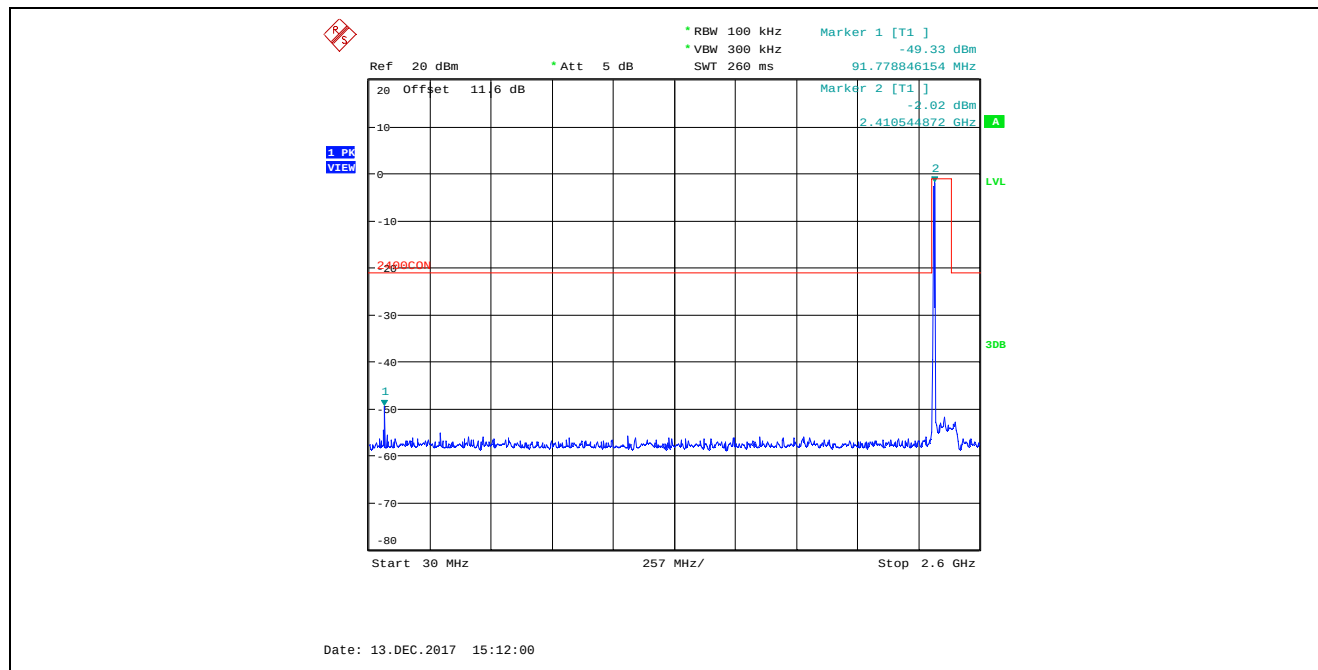
Plot 5.4.4.2.59. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



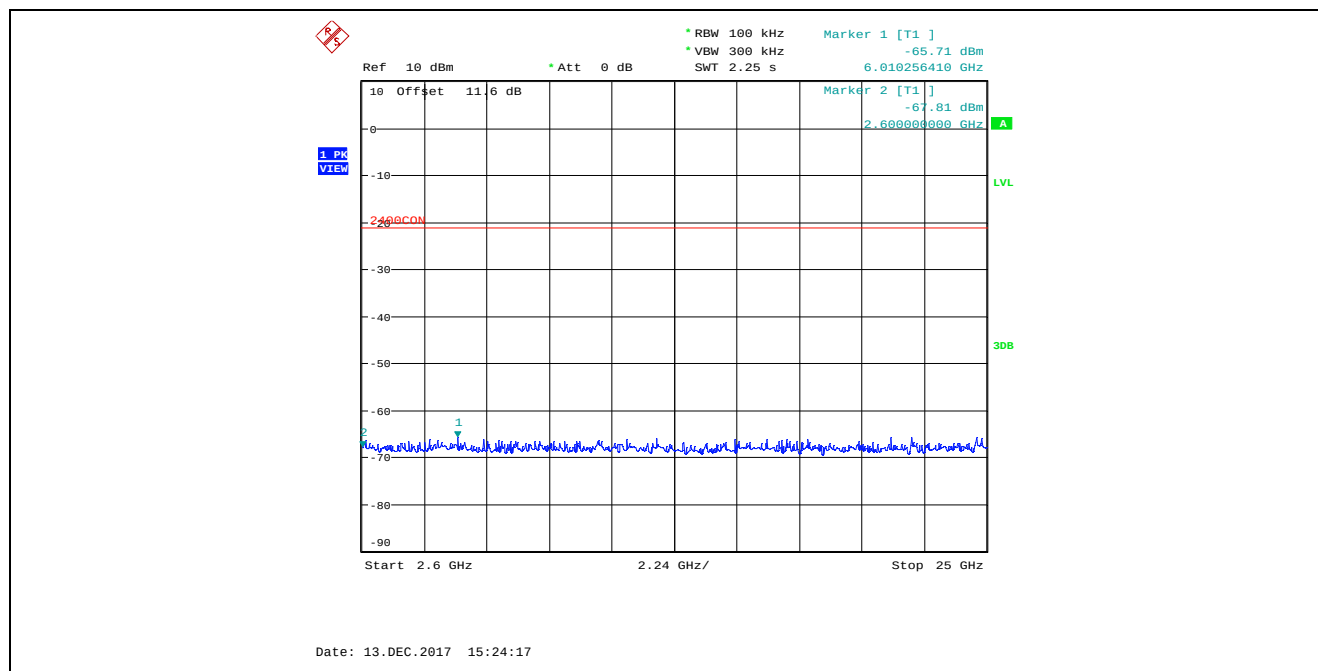
Plot 5.4.4.2.60. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



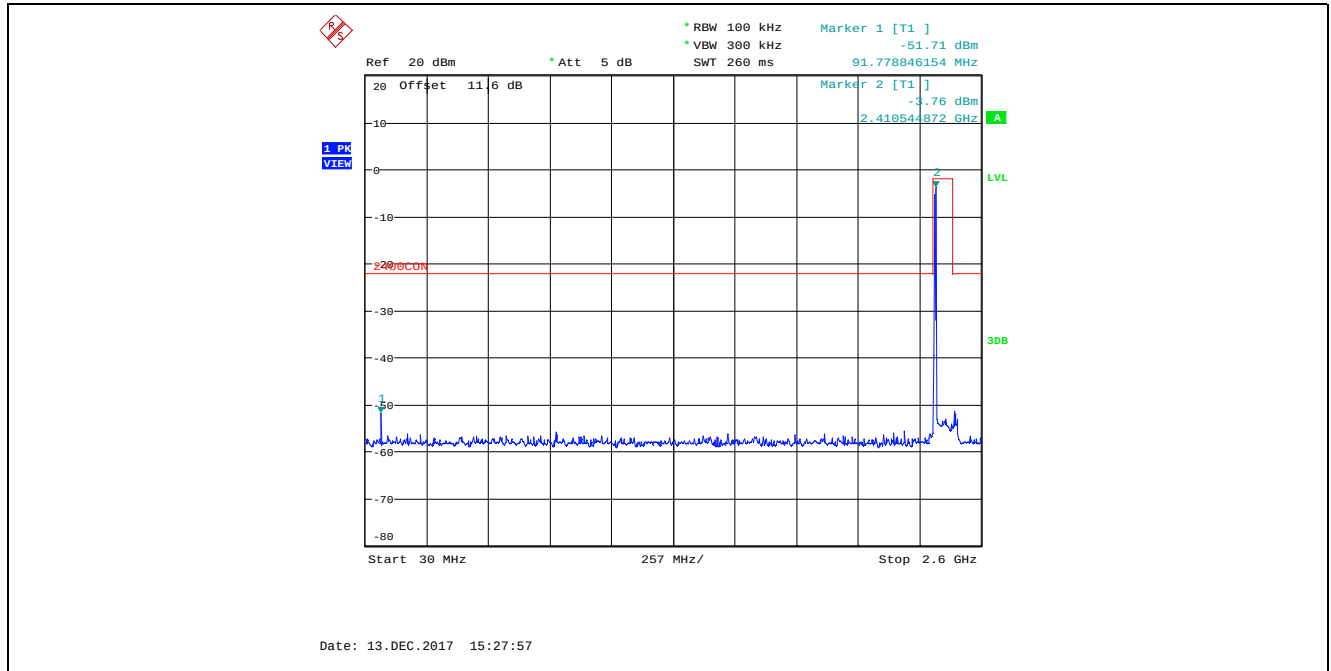
Plot 5.4.4.2.61. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



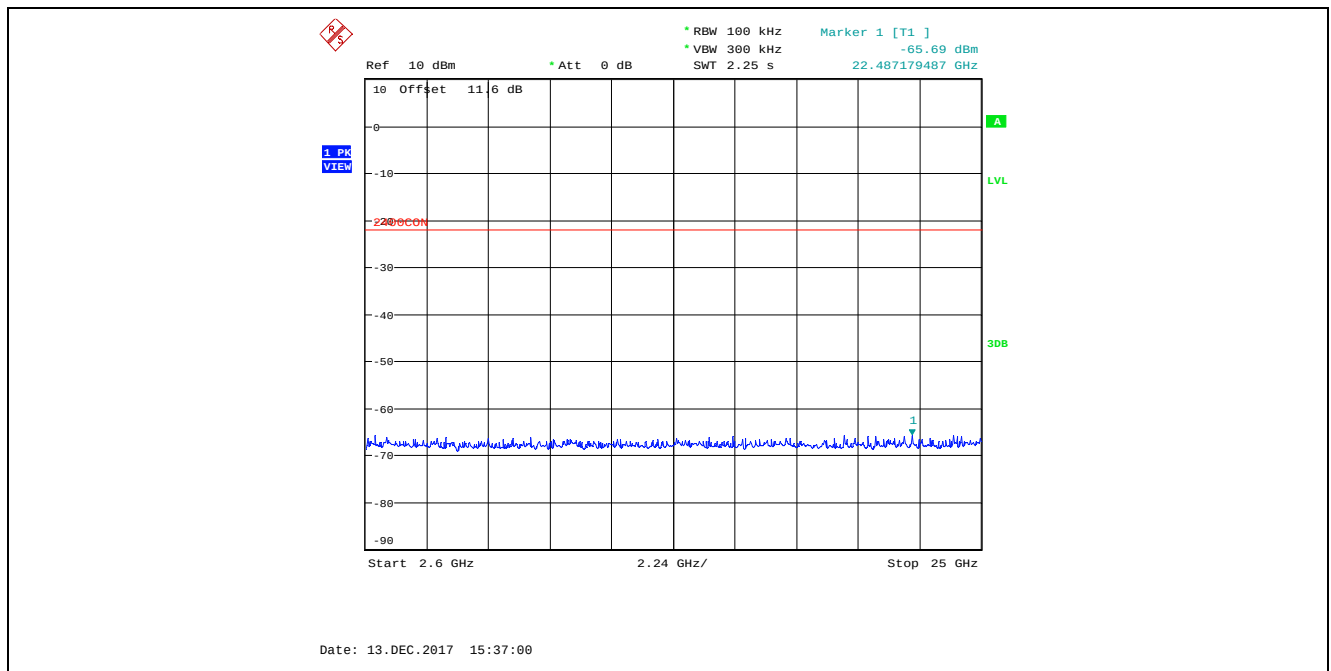
Plot 5.4.4.2.62. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



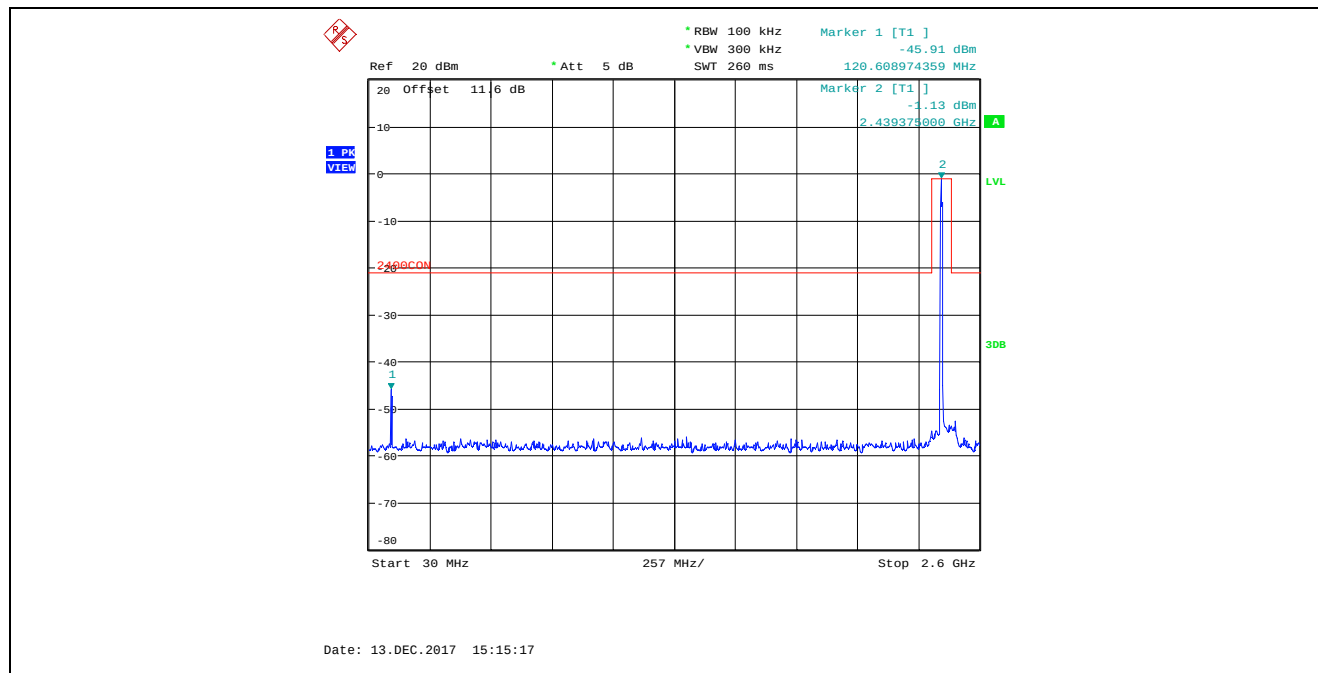
Plot 5.4.4.2.63. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



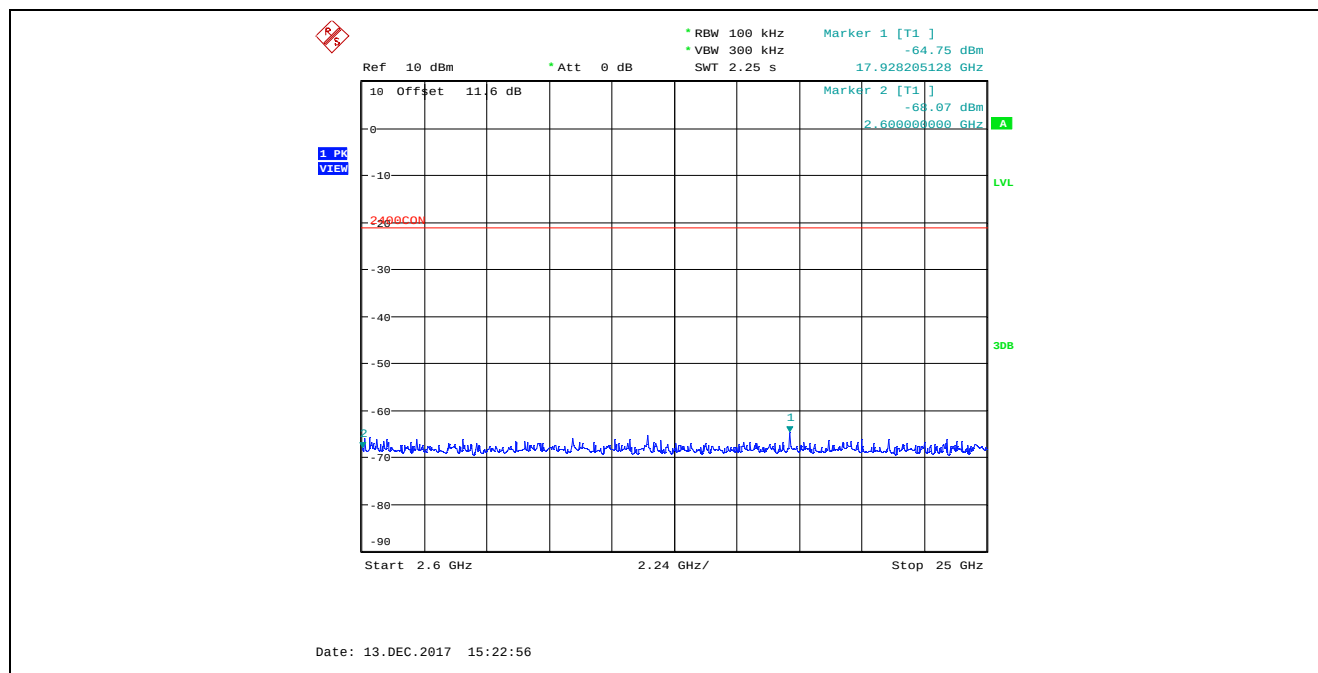
Plot 5.4.4.2.64. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



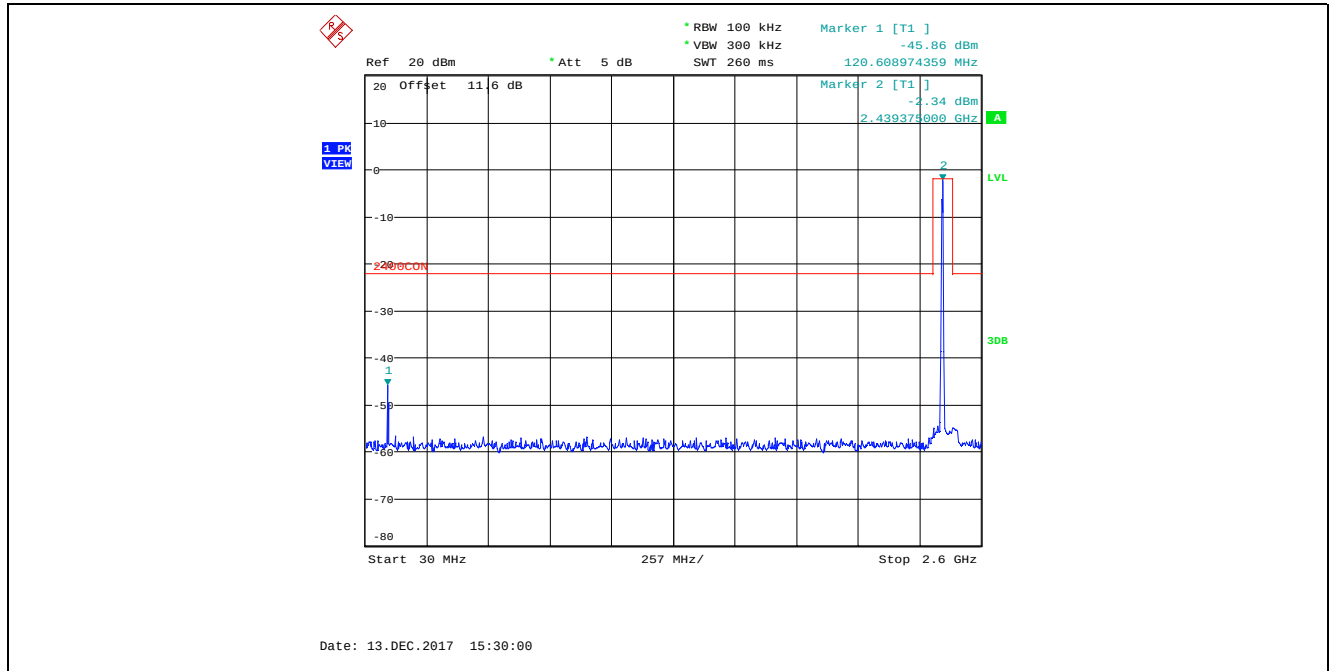
Plot 5.4.4.2.65. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



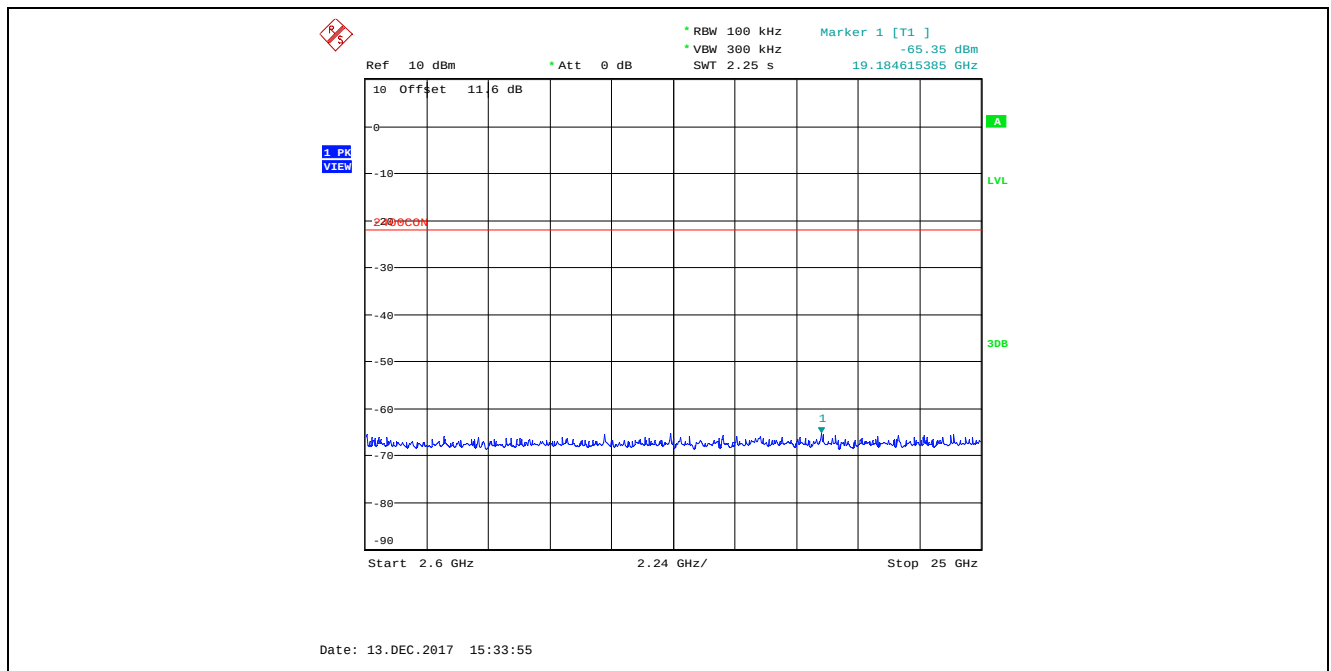
Plot 5.4.4.2.66. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



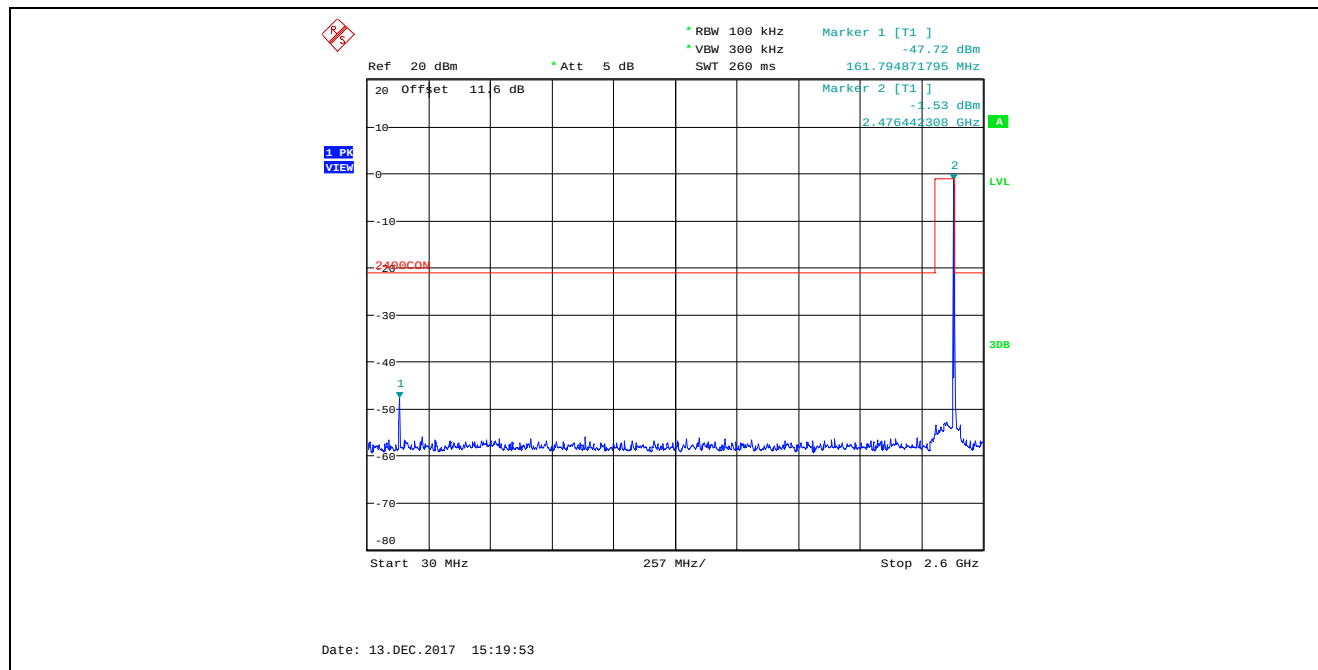
Plot 5.4.4.2.67. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
 4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



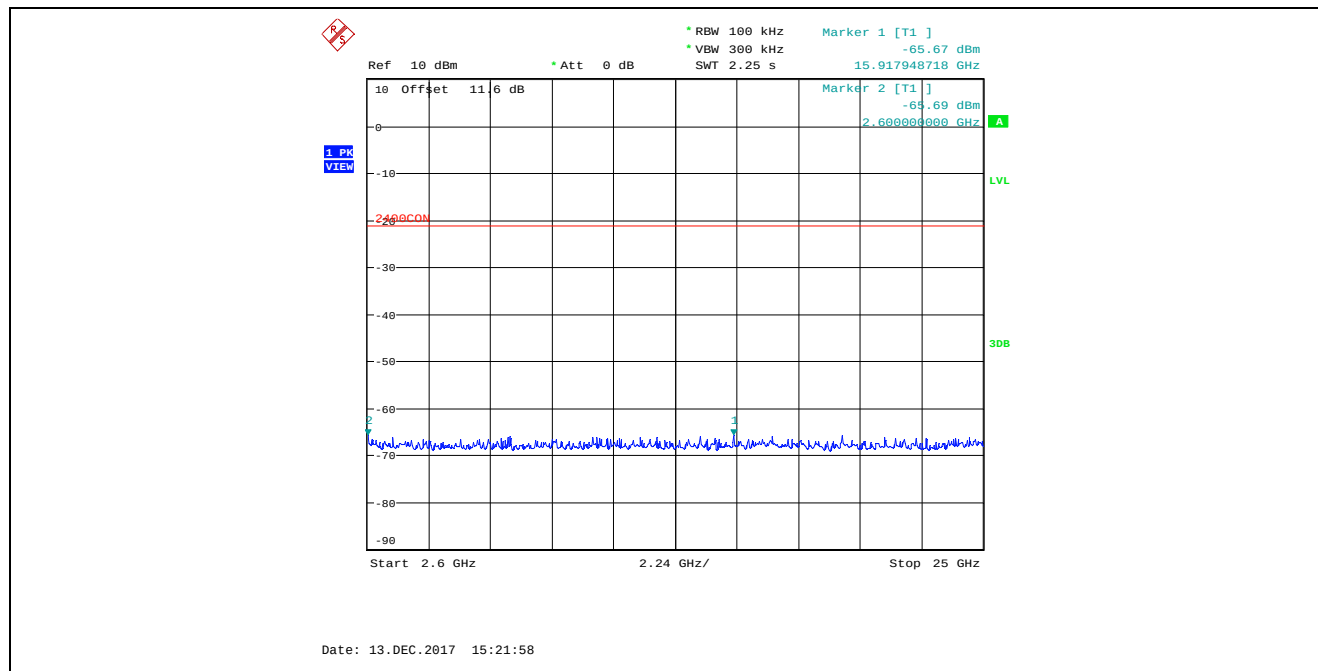
Plot 5.4.4.2.68. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
 4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



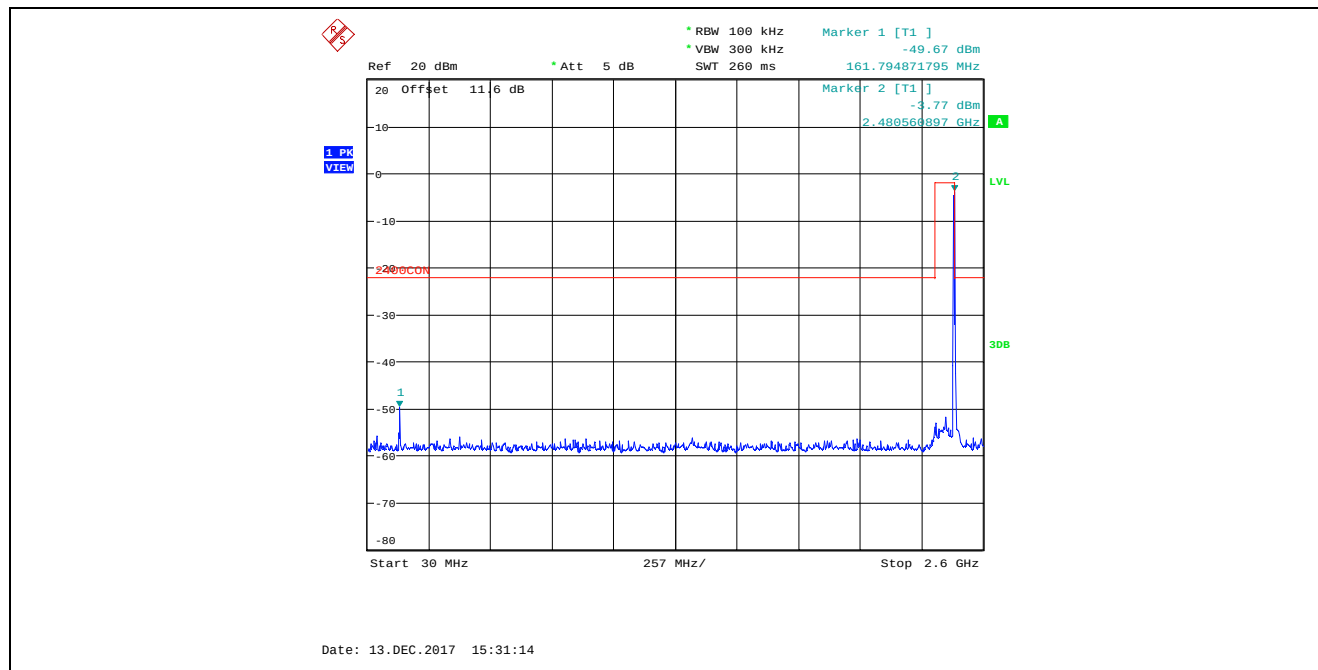
Plot 5.4.4.2.69. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



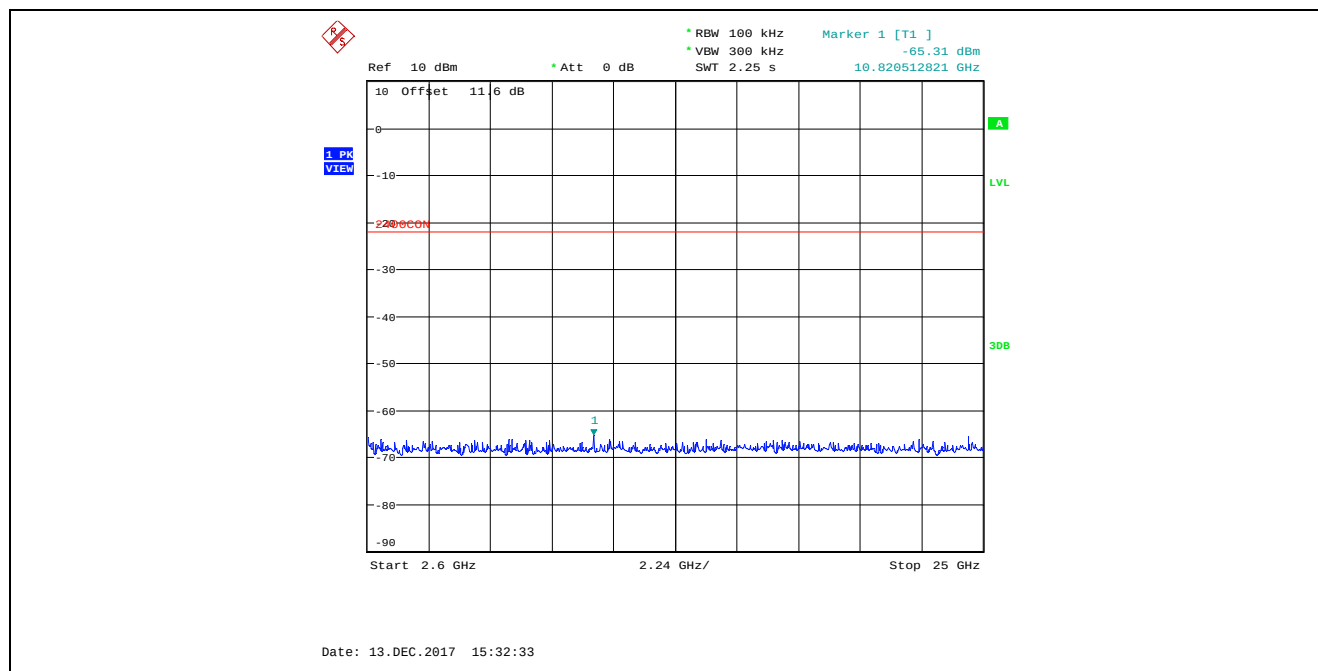
Plot 5.4.4.2.70. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



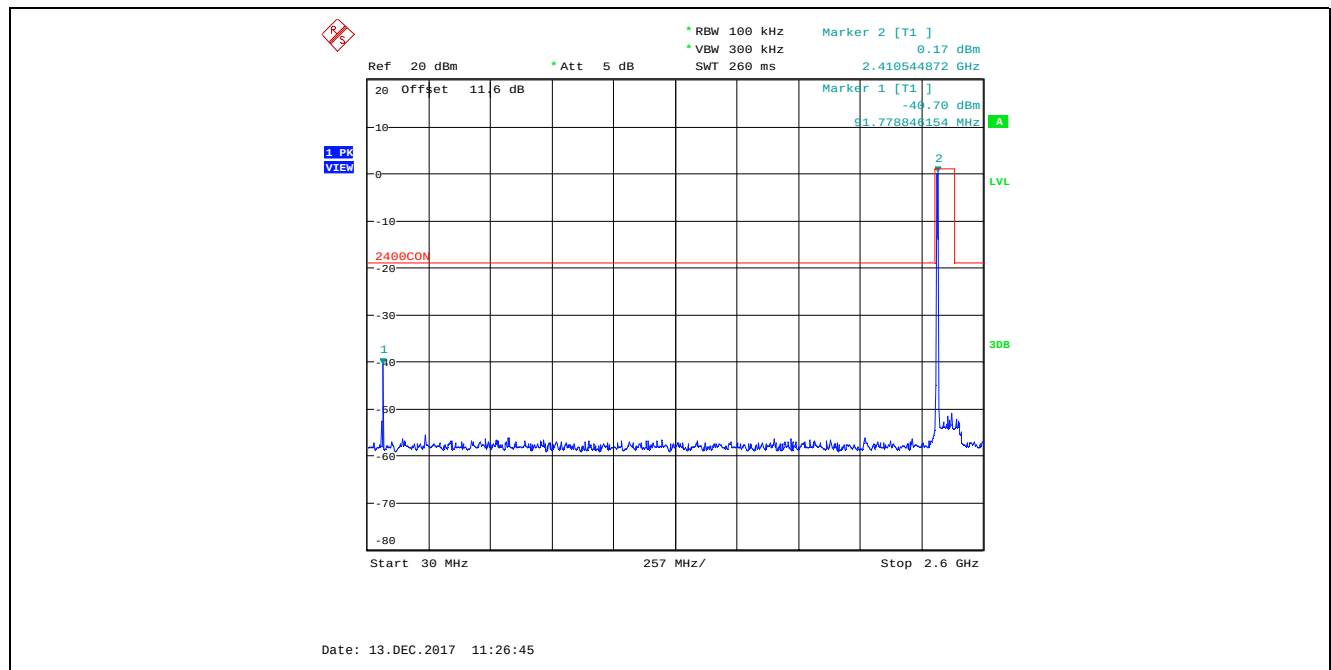
Plot 5.4.4.2.71. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



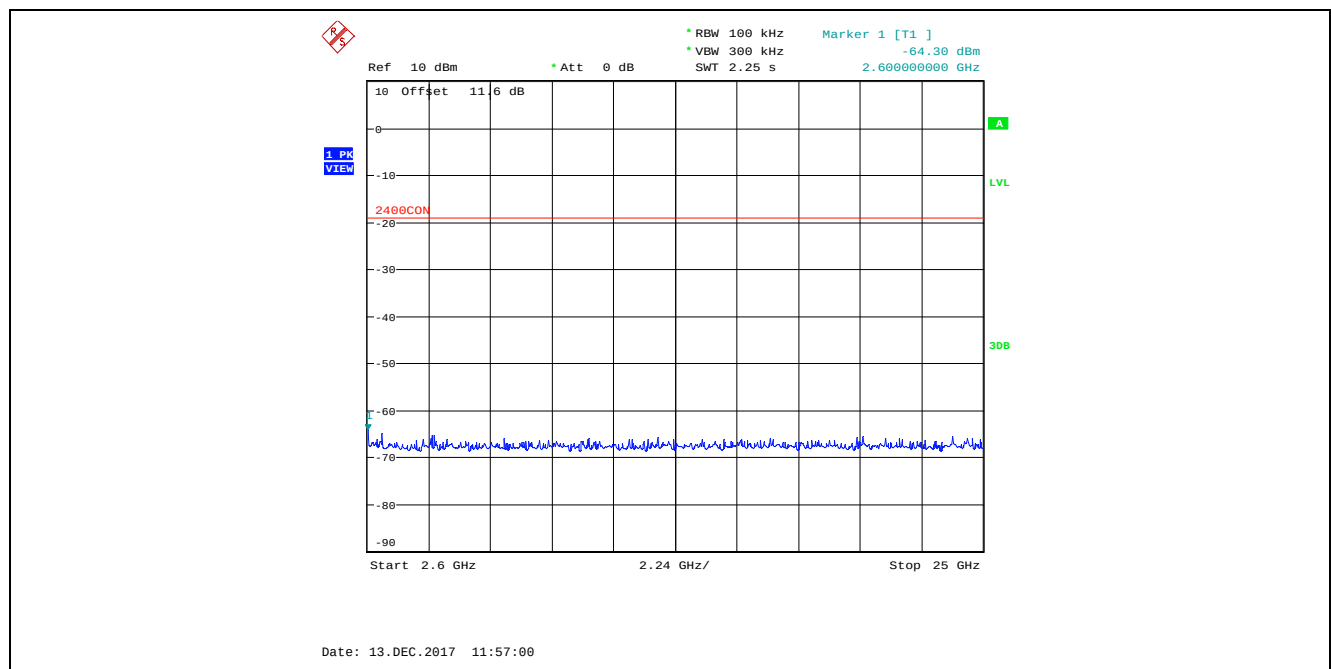
Plot 5.4.4.2.72. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
4 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



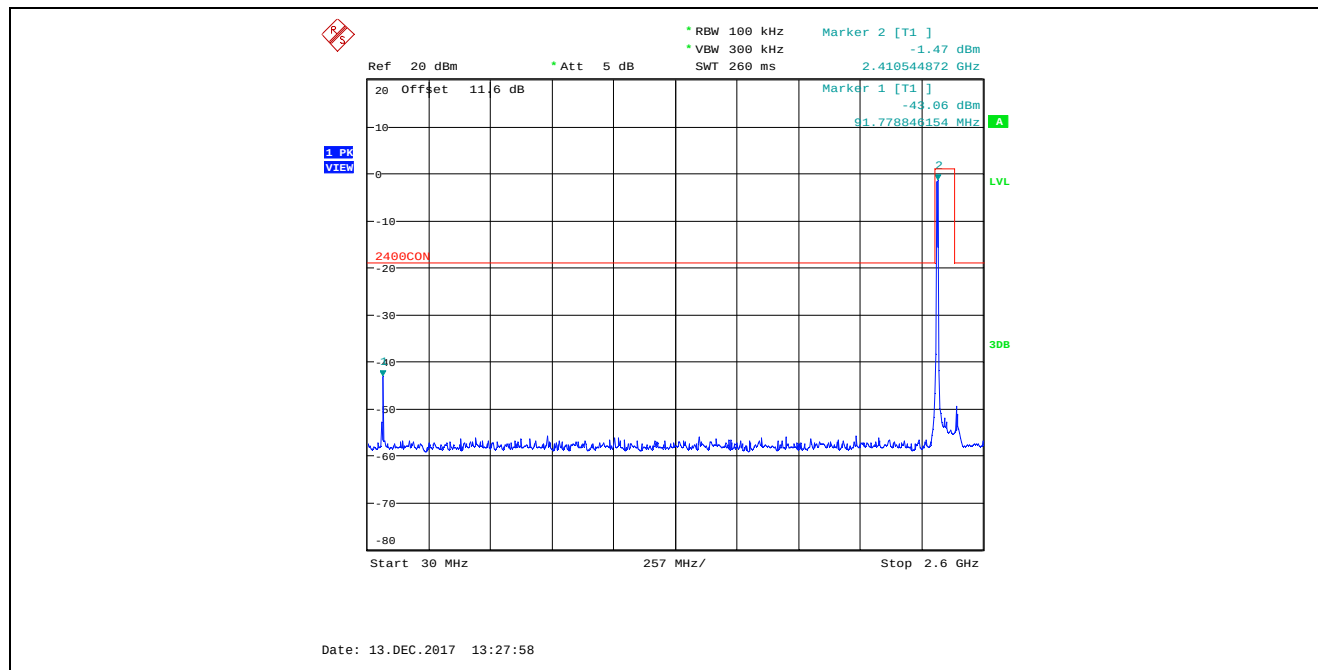
Plot 5.4.4.2.73. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



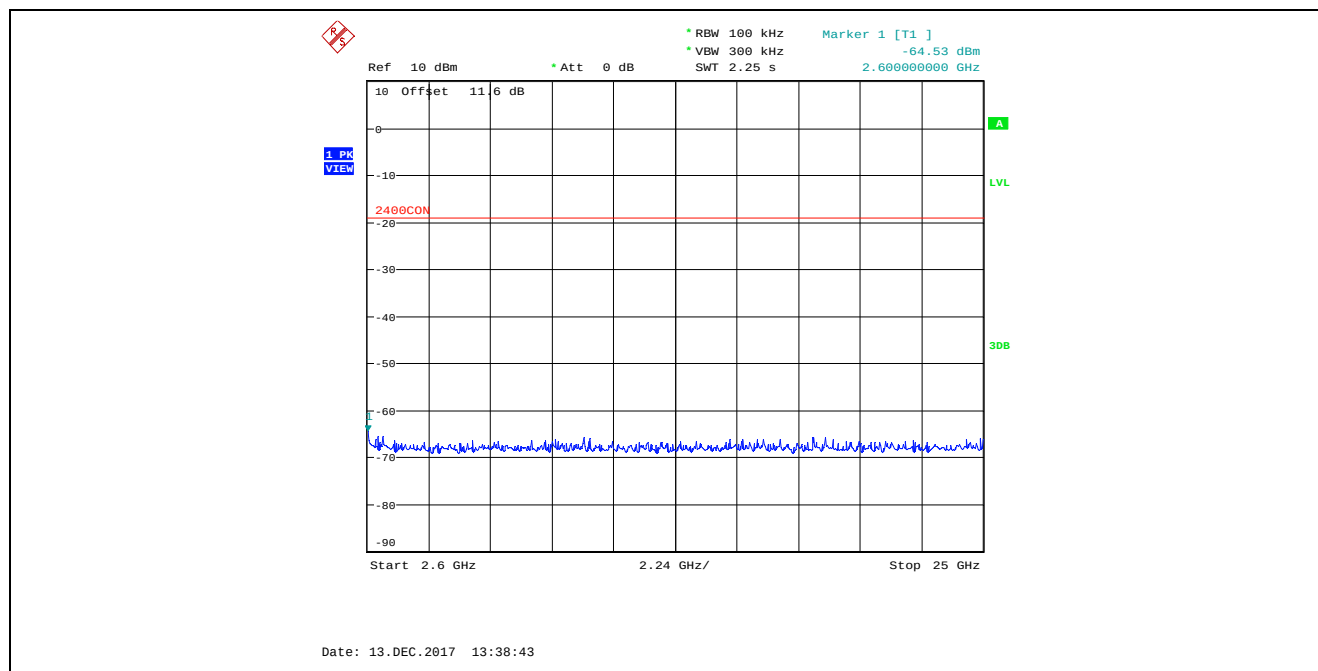
Plot 5.4.4.2.74. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



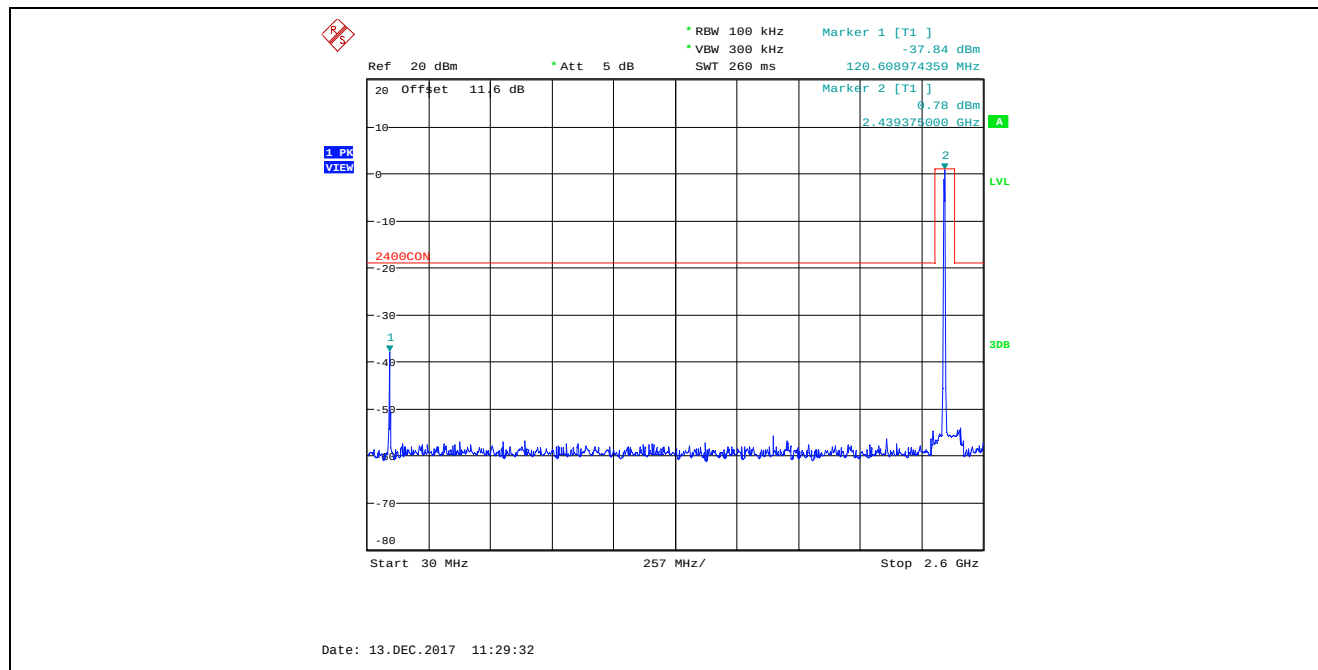
Plot 5.4.4.275. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 30 MHz – 2.6 GHz



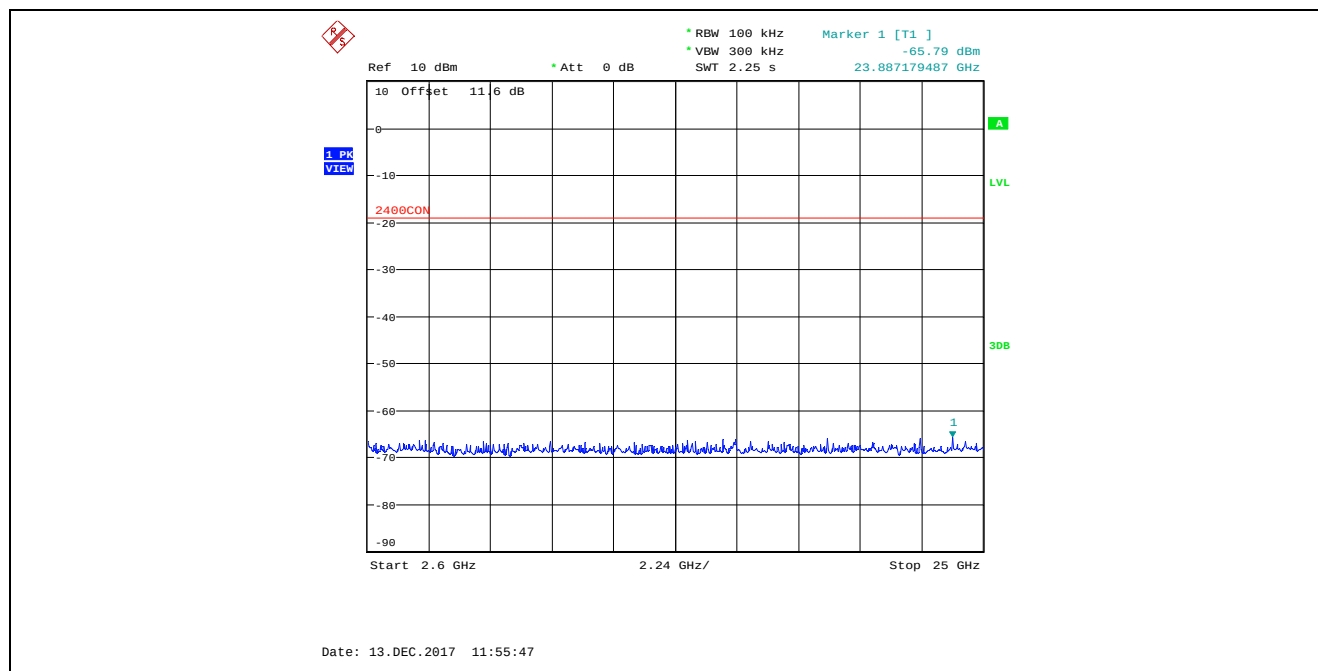
Plot 5.4.4.276. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2407 MHz, 2.6 GHz – 25 GHz



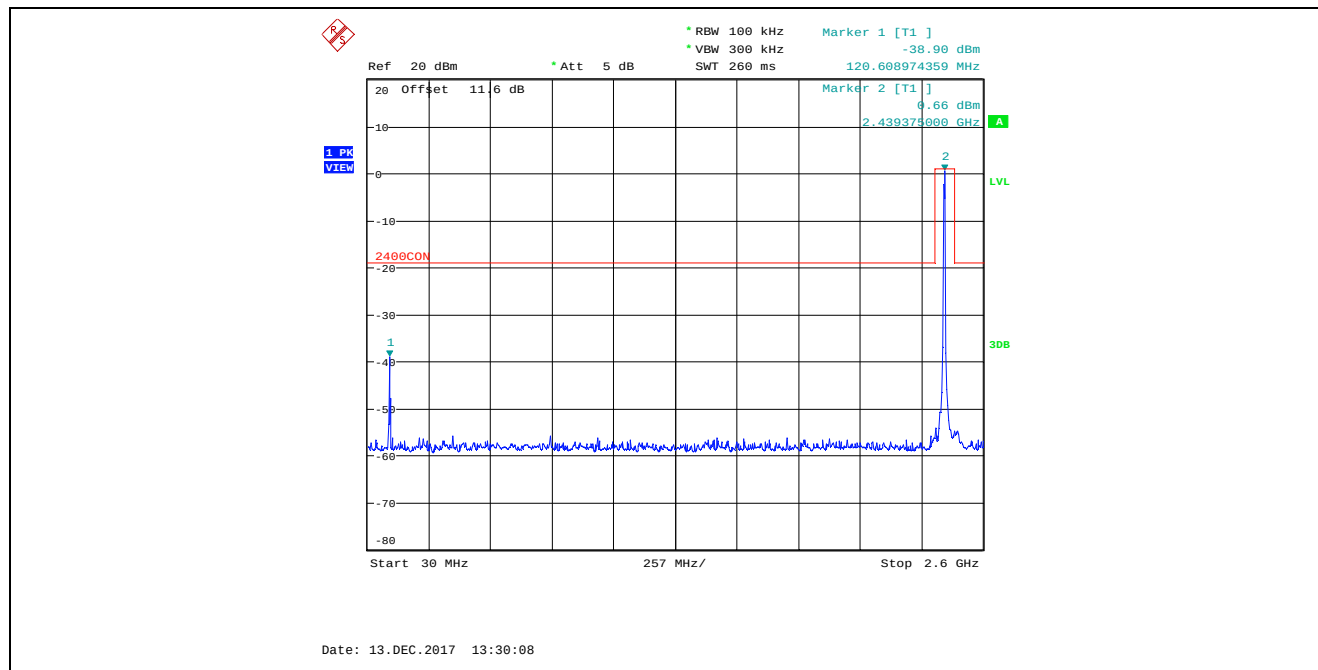
Plot 5.4.4.2.77. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



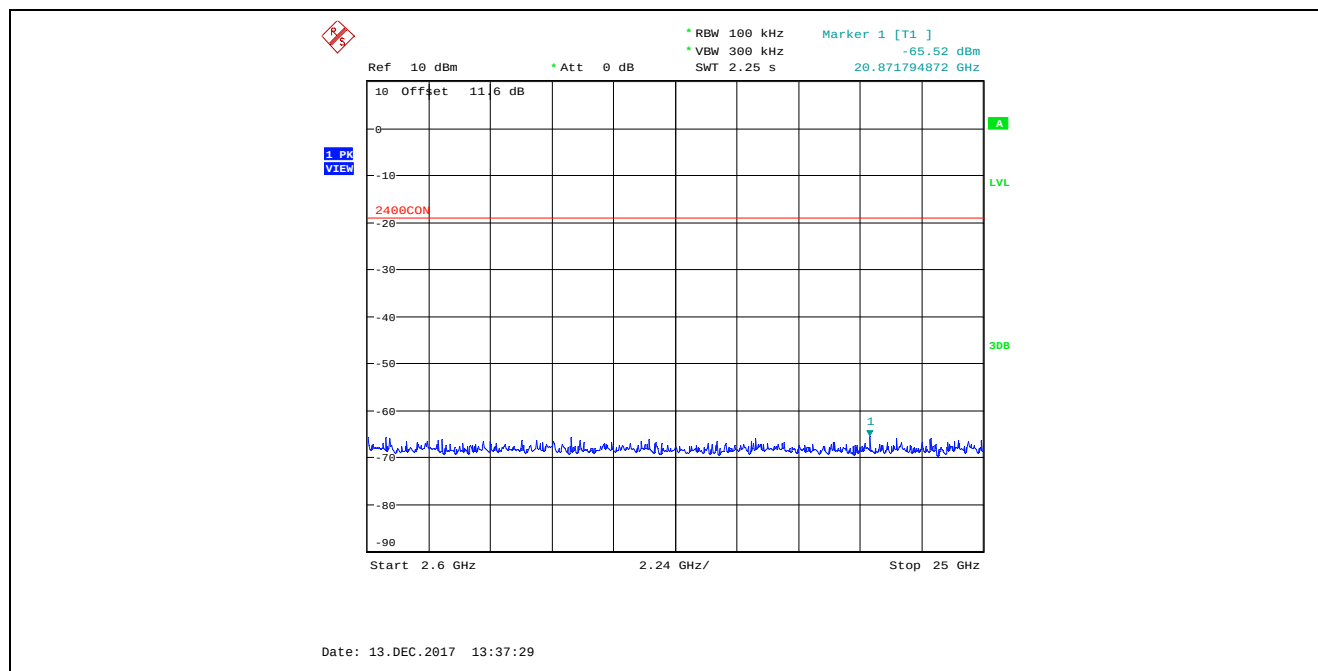
Plot 5.4.4.2.78. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



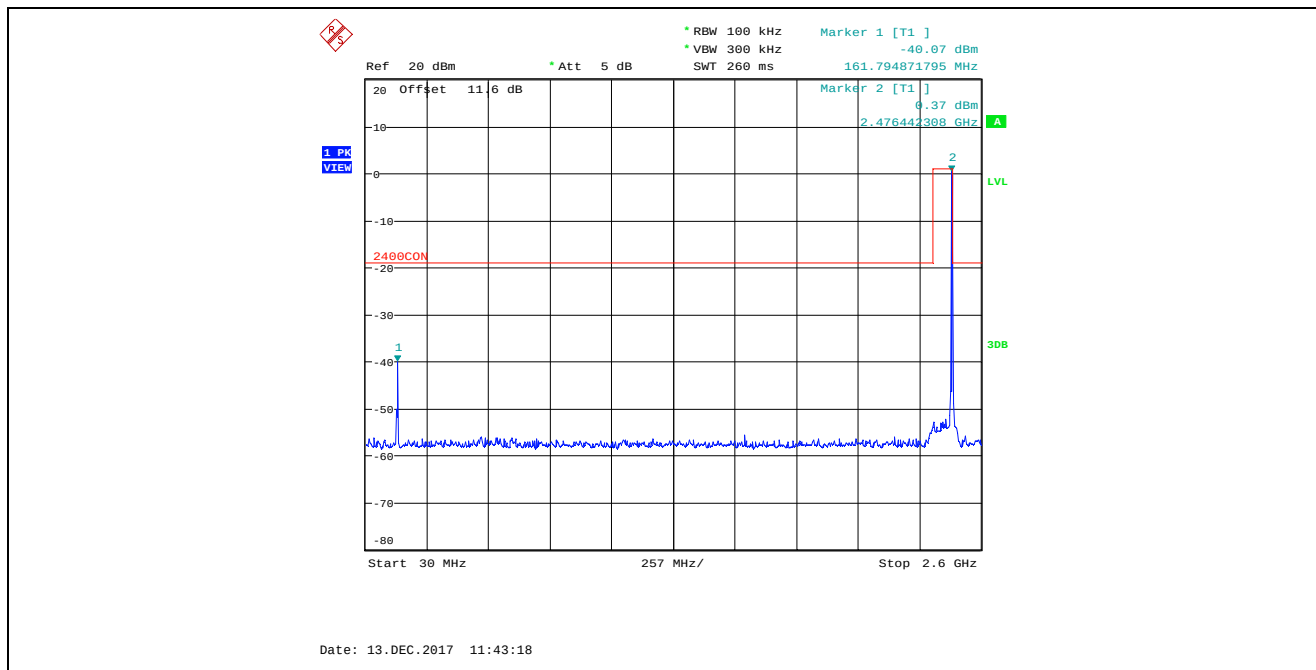
Plot 5.4.4.2.79. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 30 MHz – 2.6 GHz



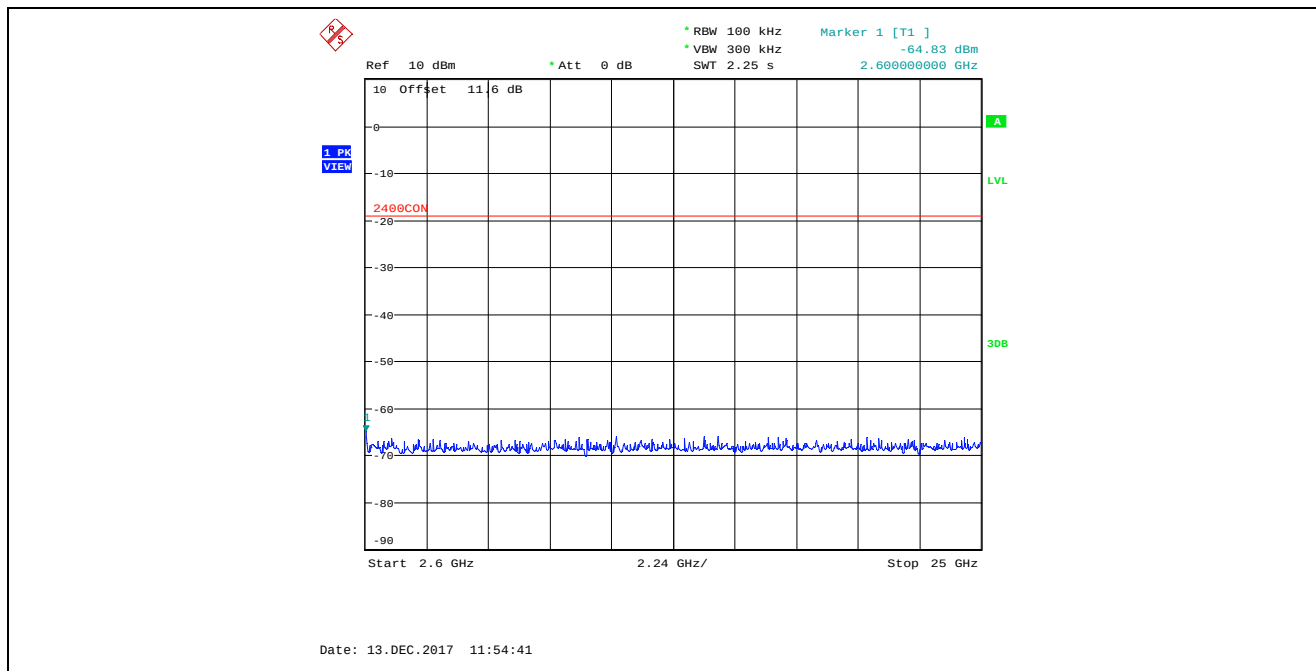
Plot 5.4.4.2.80. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2437 MHz, 2.6 GHz – 25 GHz



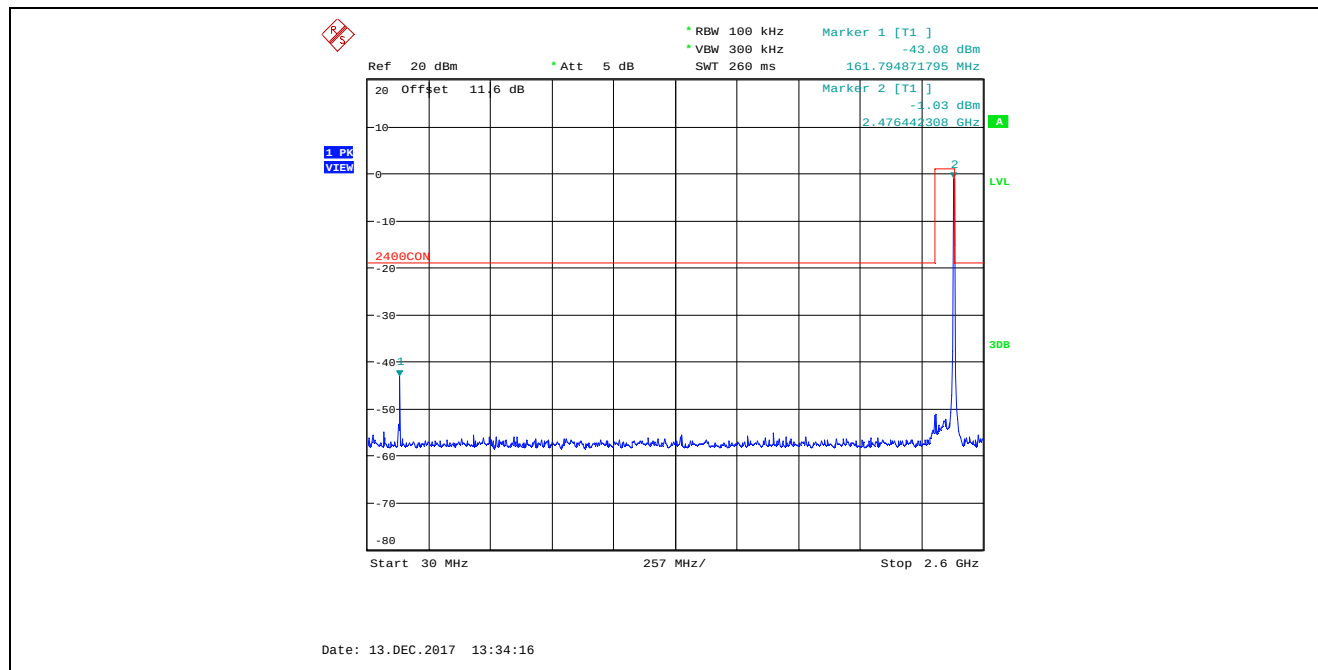
Plot 5.4.4.2.81. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



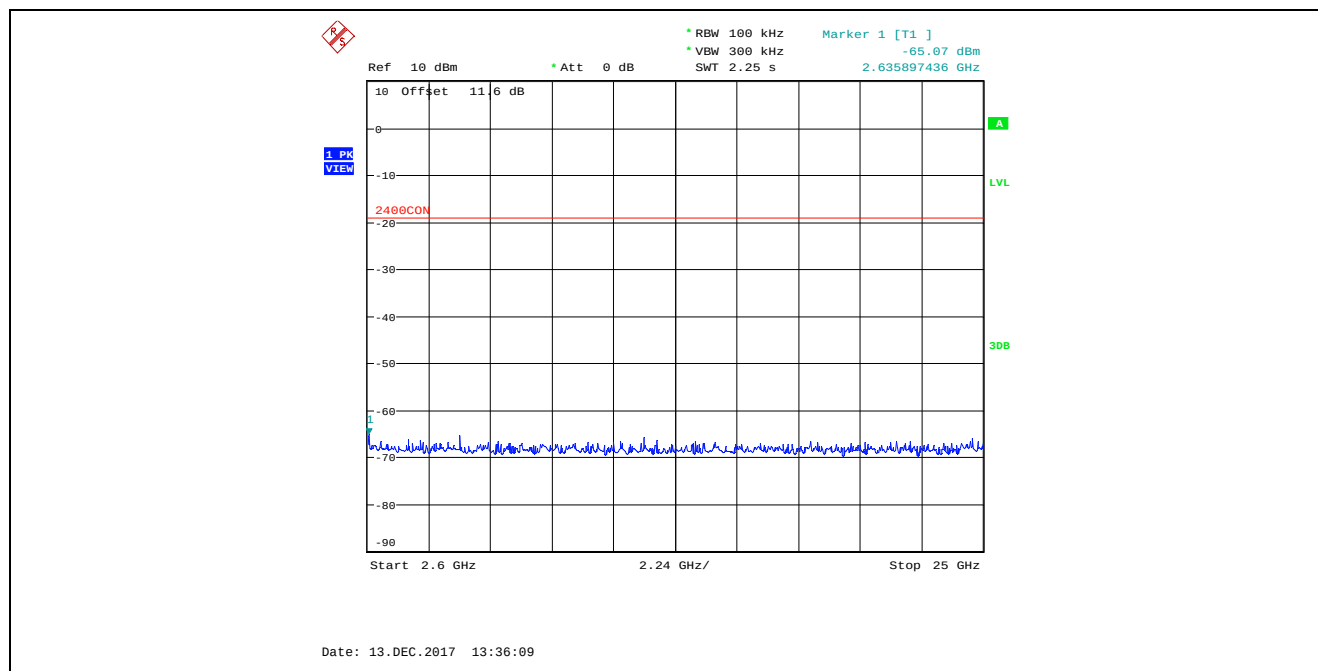
Plot 5.4.4.2.82. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



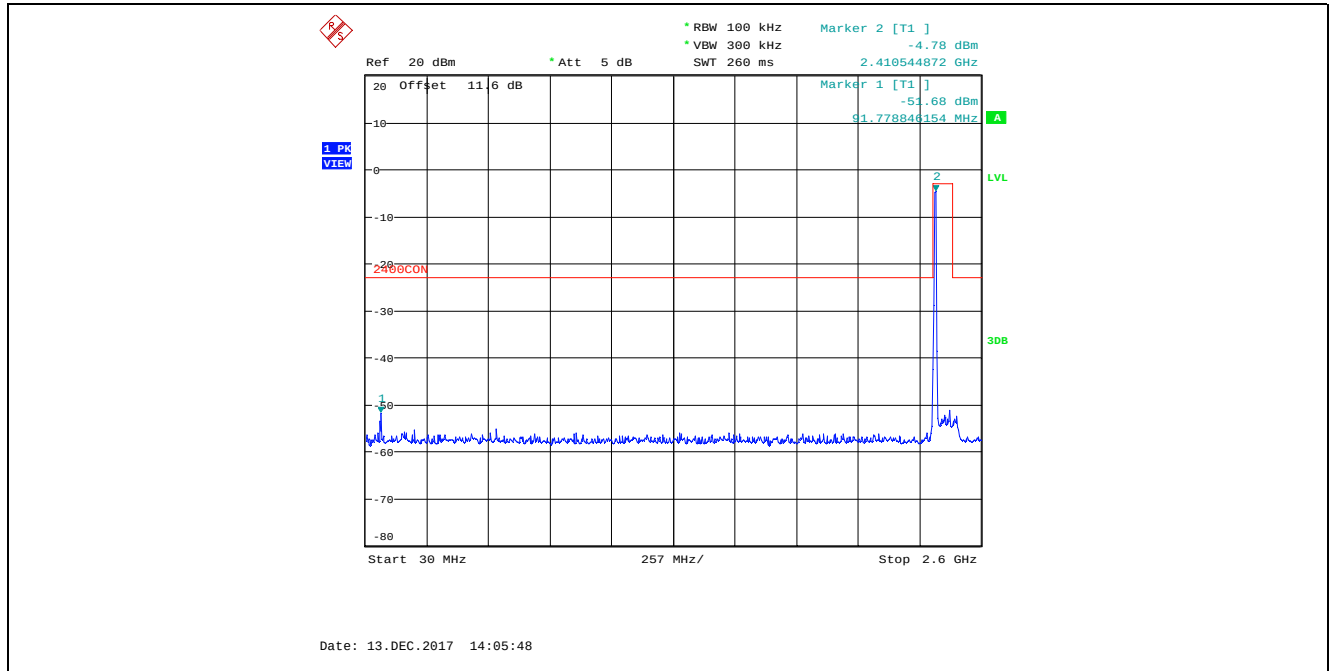
Plot 5.4.4.2.83. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 30 MHz – 2.6 GHz



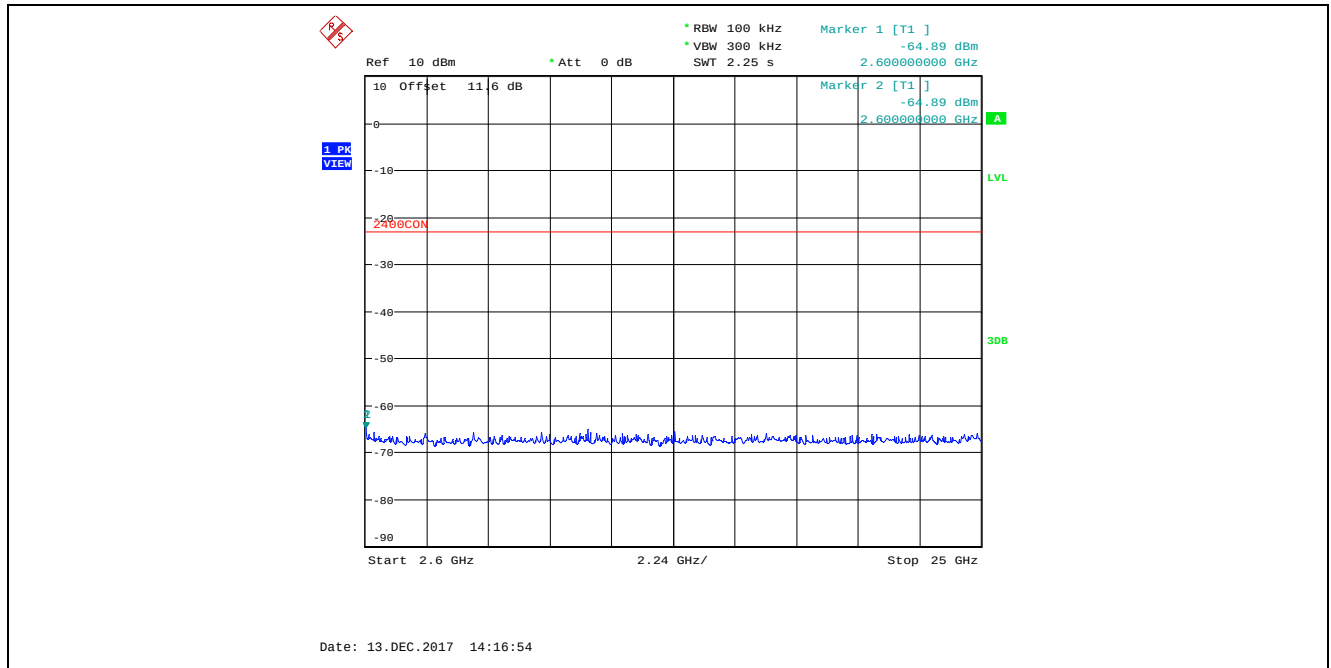
Plot 5.4.4.2.84. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 3, 2477 MHz, 2.6 GHz – 25 GHz



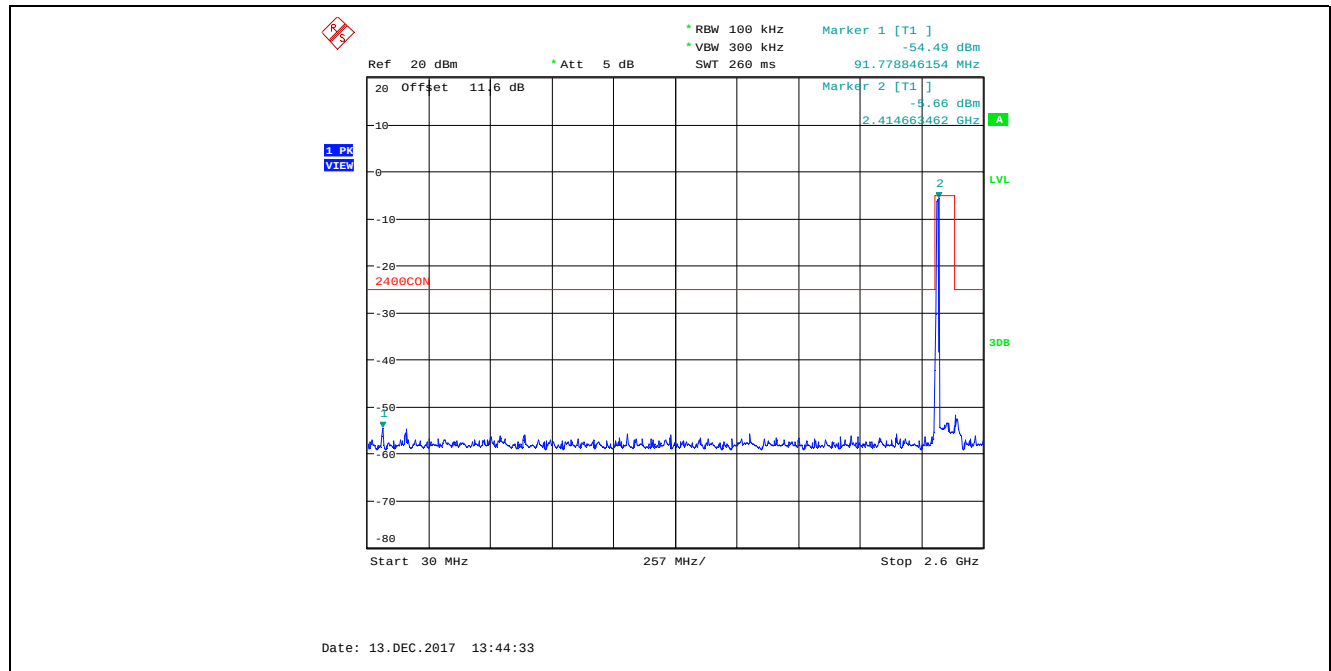
Plot 5.4.4.2.85. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



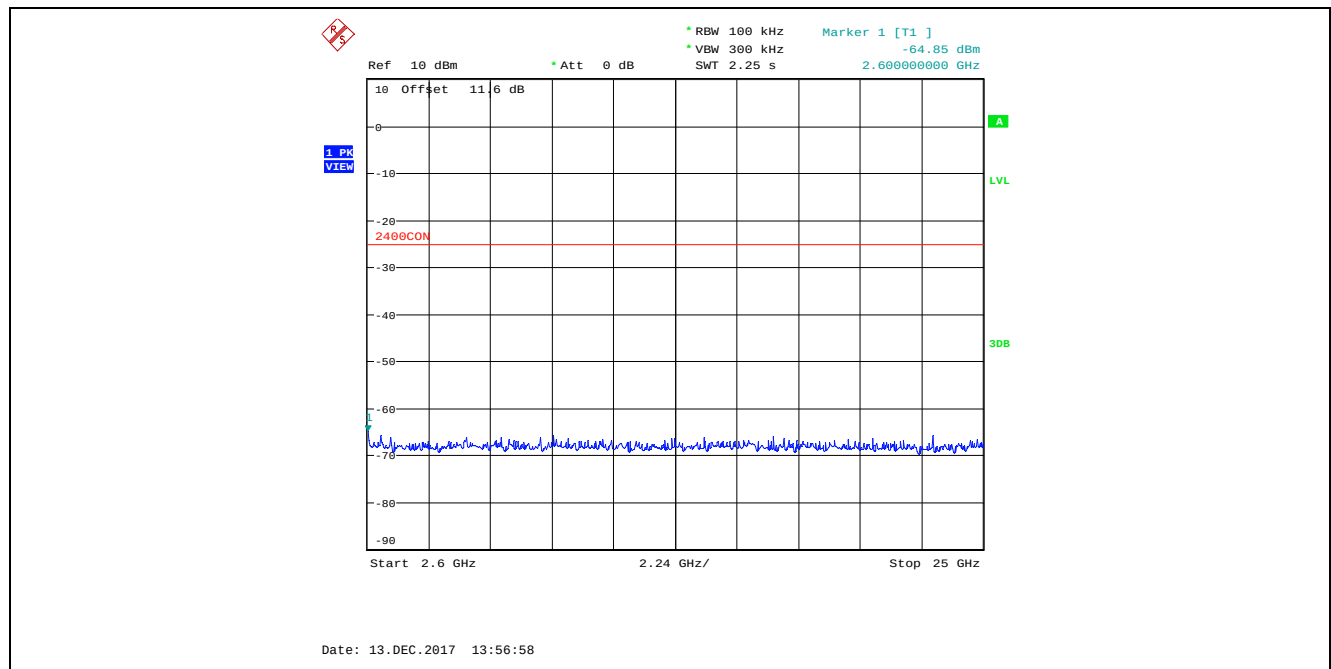
Plot 5.4.4.2.86. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



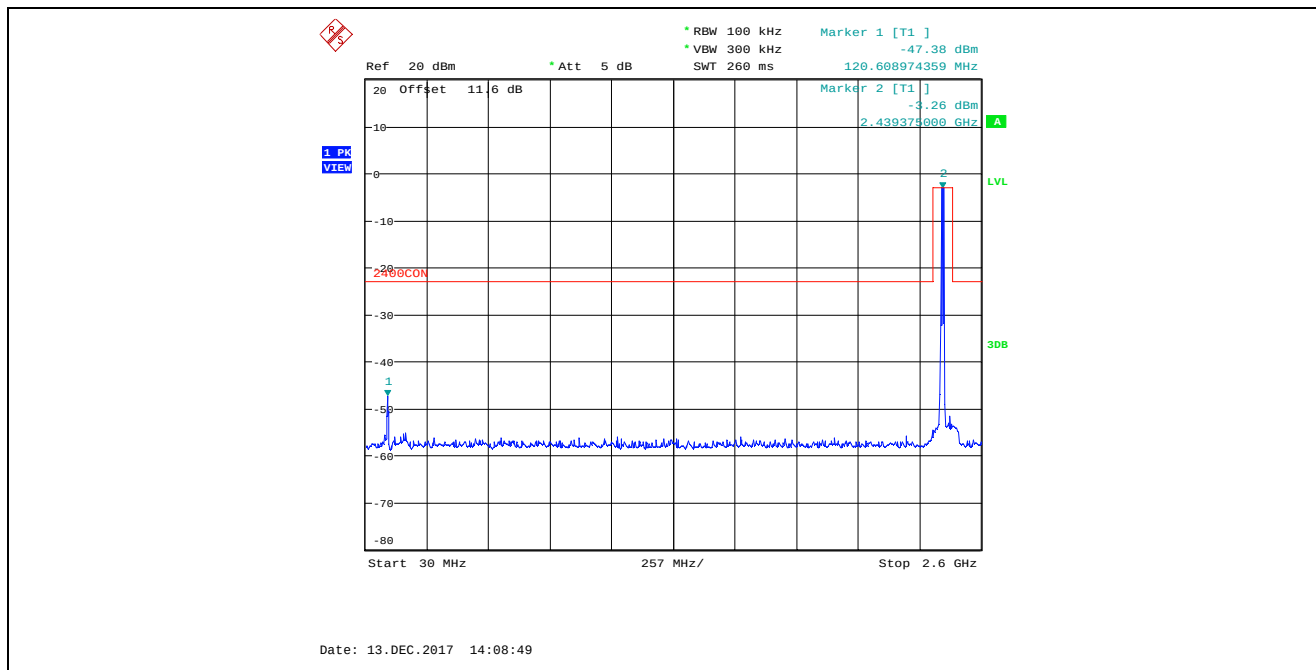
Plot 5.4.4.2.87. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 30 MHz – 2.6 GHz



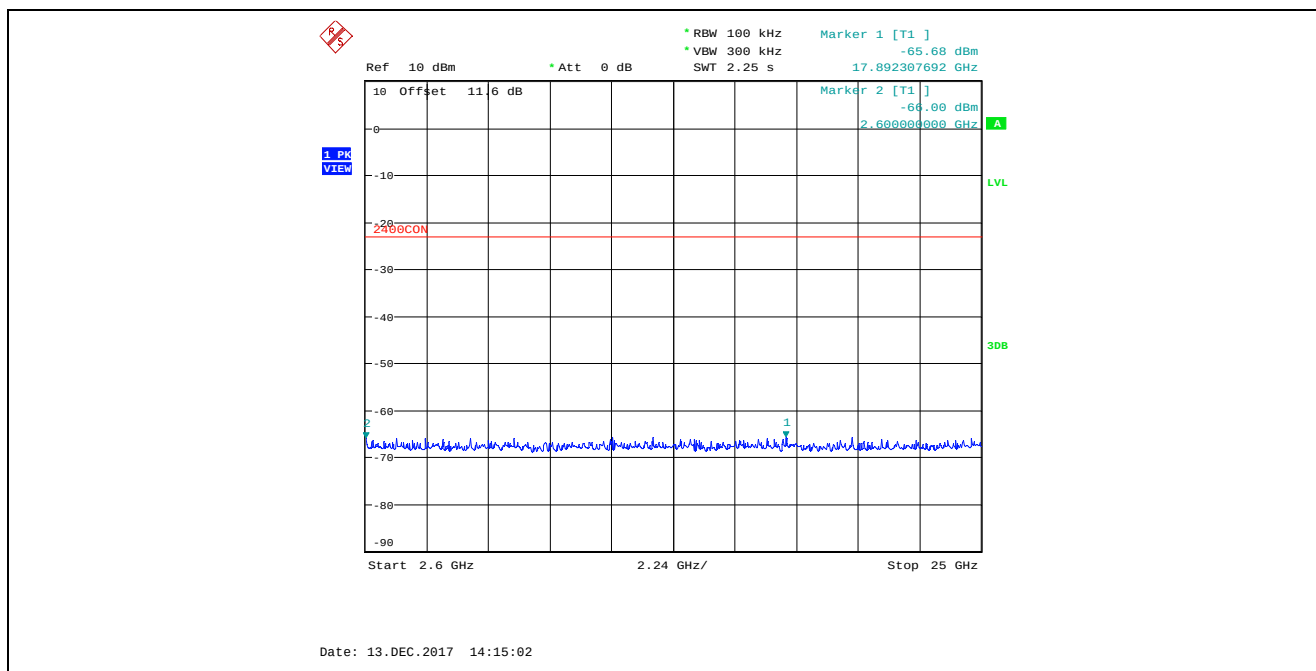
Plot 5.4.4.2.88. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2407 MHz, 2.6 GHz – 25 GHz



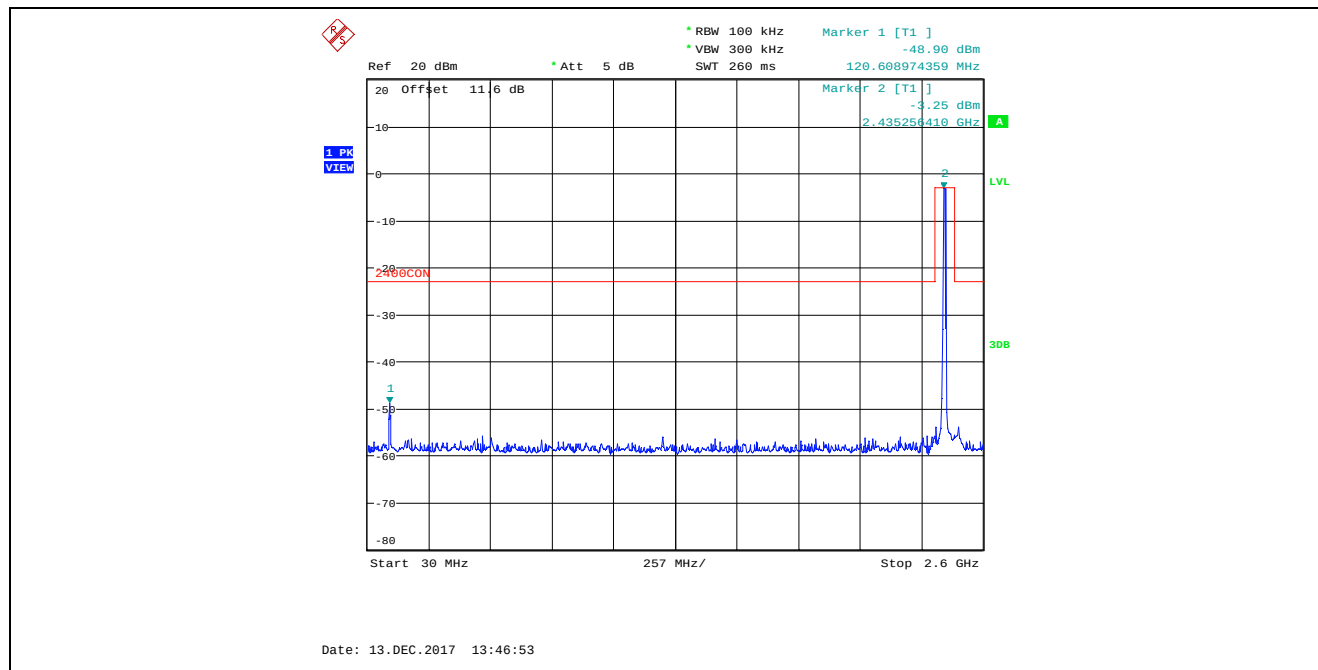
Plot 5.4.4.2.89. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



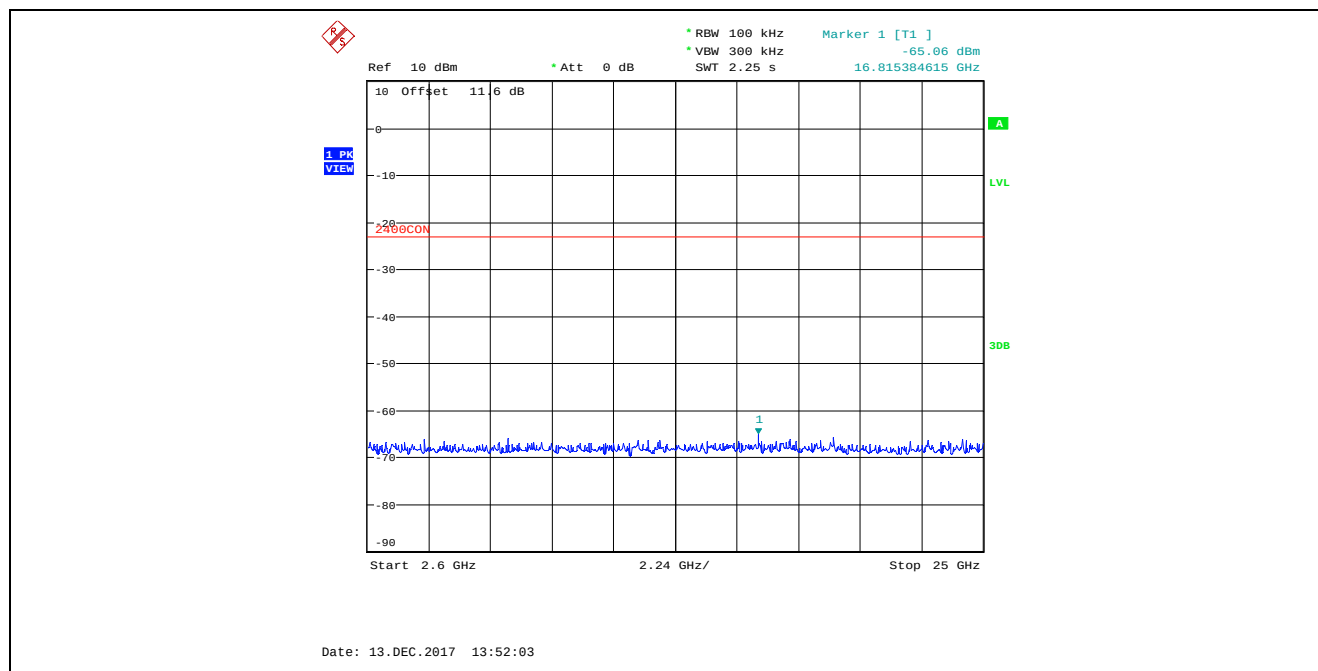
Plot 5.4.4.2.90. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



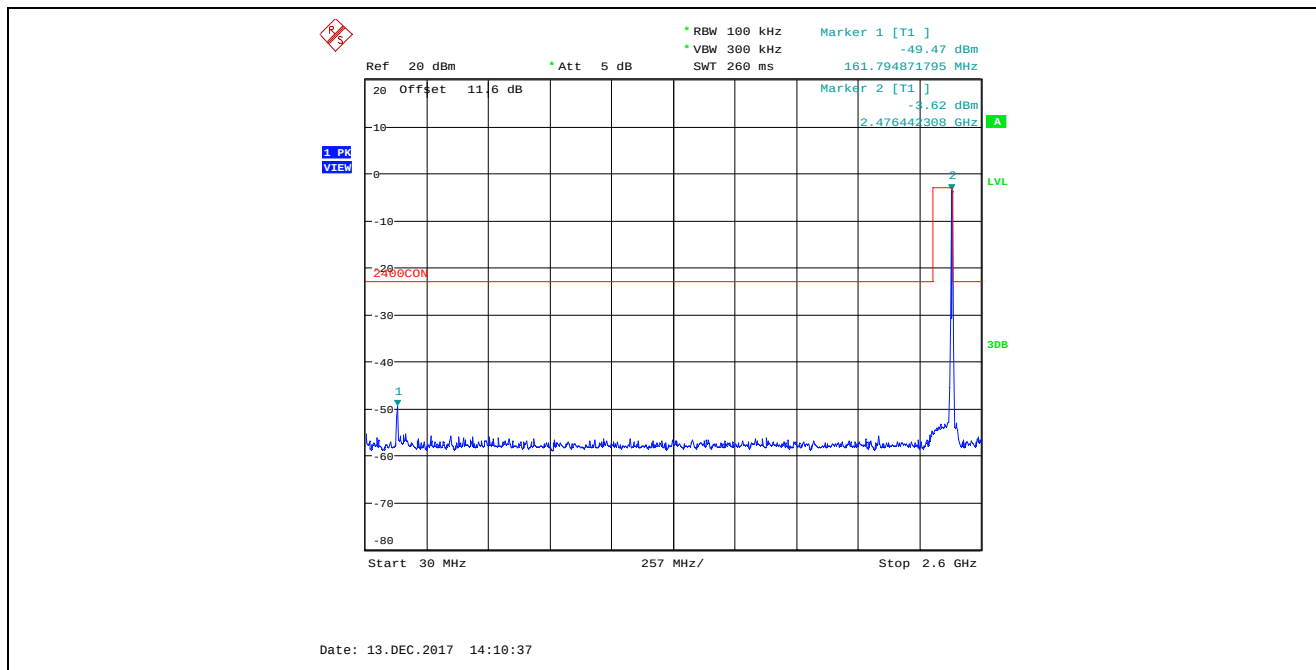
Plot 5.4.4.2.91. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 30 MHz – 2.6 GHz



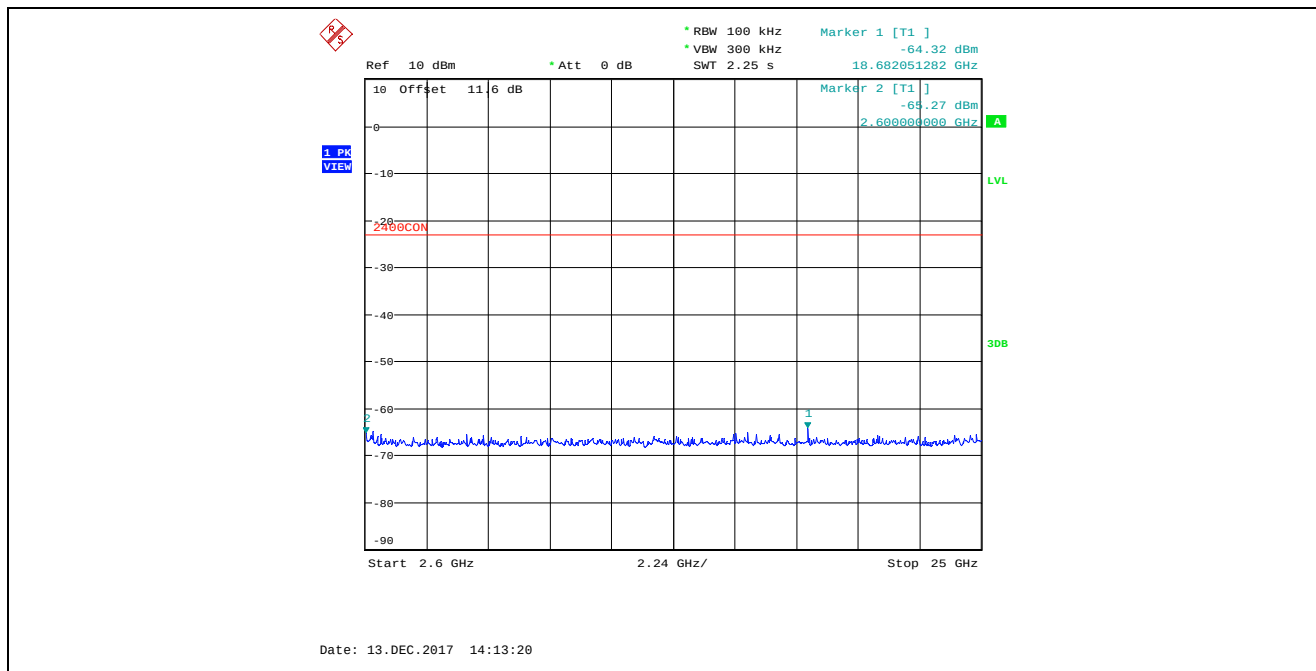
Plot 5.4.4.2.92. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2437 MHz, 2.6 GHz – 25 GHz



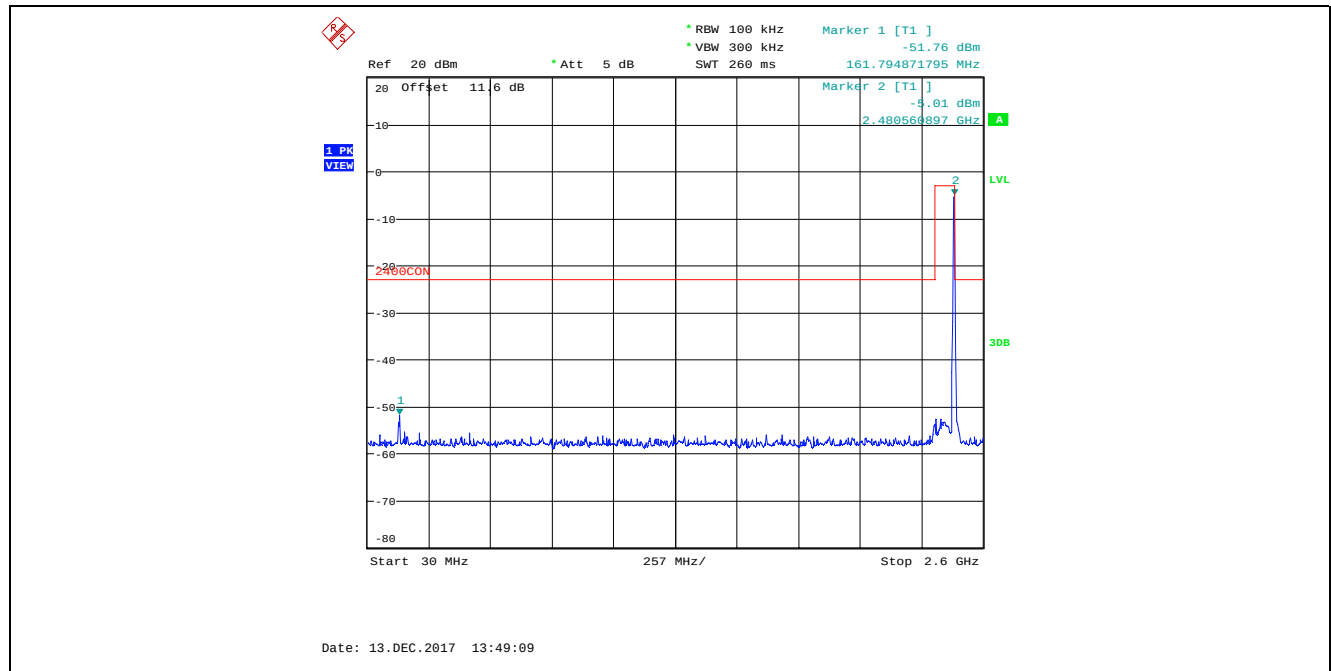
Plot 5.4.4.2.93. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 30 MHz – 2.6 GHz



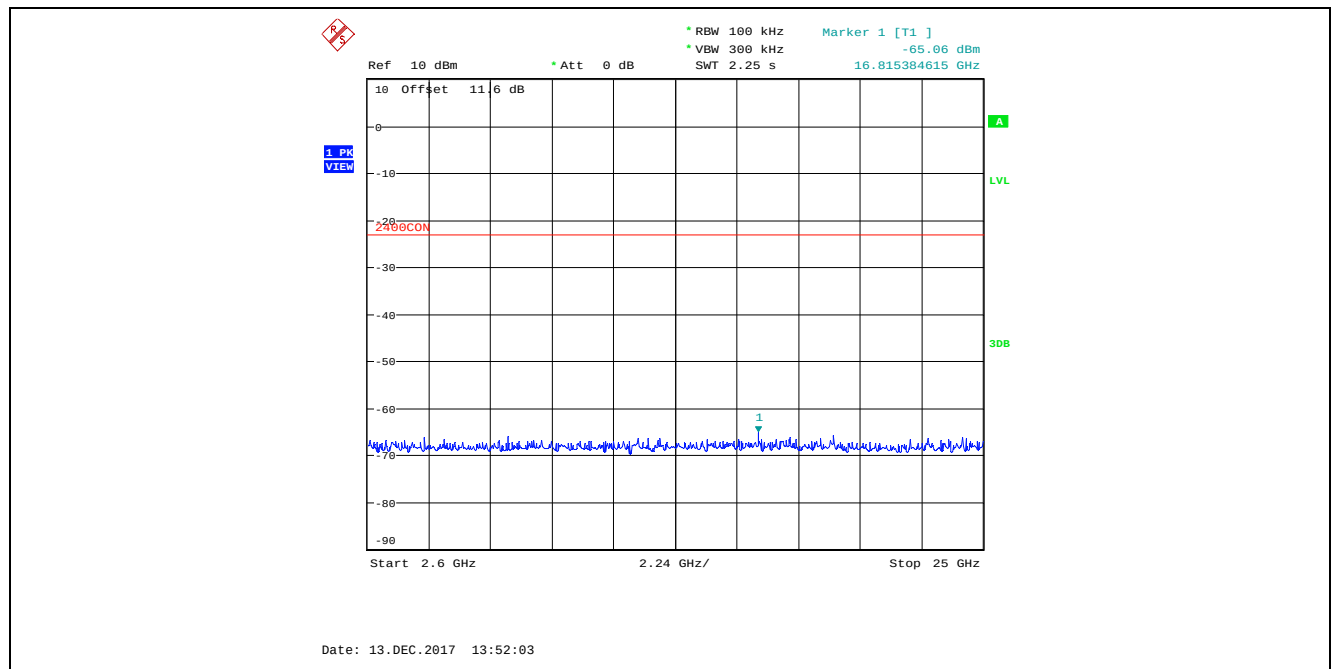
Plot 5.4.4.2.94. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 1
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



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



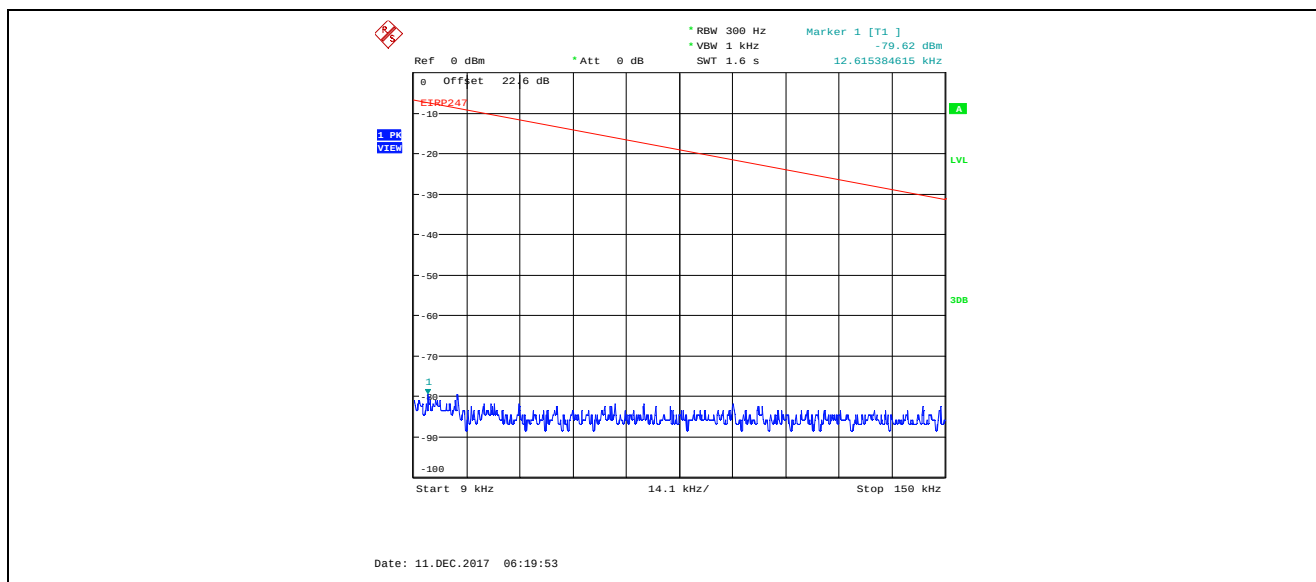
Plot 5.4.4.2.96. Conducted Spurious Emissions in Non-restricted Frequency Bands, Antenna 2
8 MHz Bandwidth, Low Power (TX Gain Setting 0), Data Rate 7, 2477 MHz, 2.6 GHz – 25 GHz



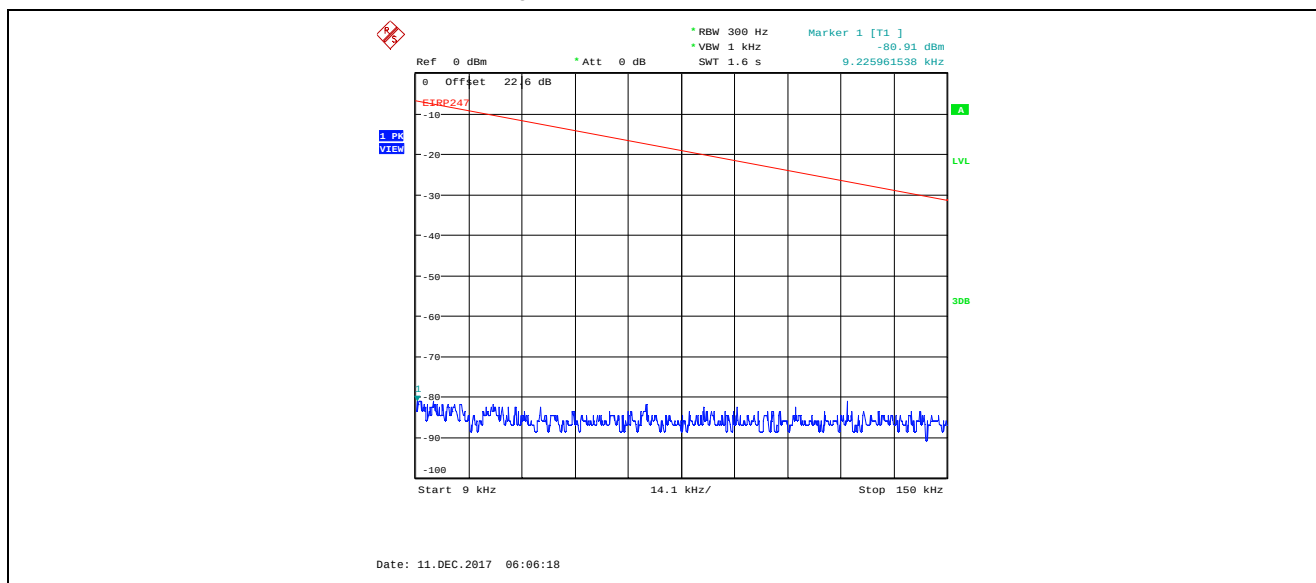
5.4.4.3. Conducted Spurious Emissions in Restricted Frequency Bands, Highest Power Setting for Lowest Antenna Gain (TX Gain Setting 22) for Lowest Antenna Gain (2.0 dBi) at Data Rate 3

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)]

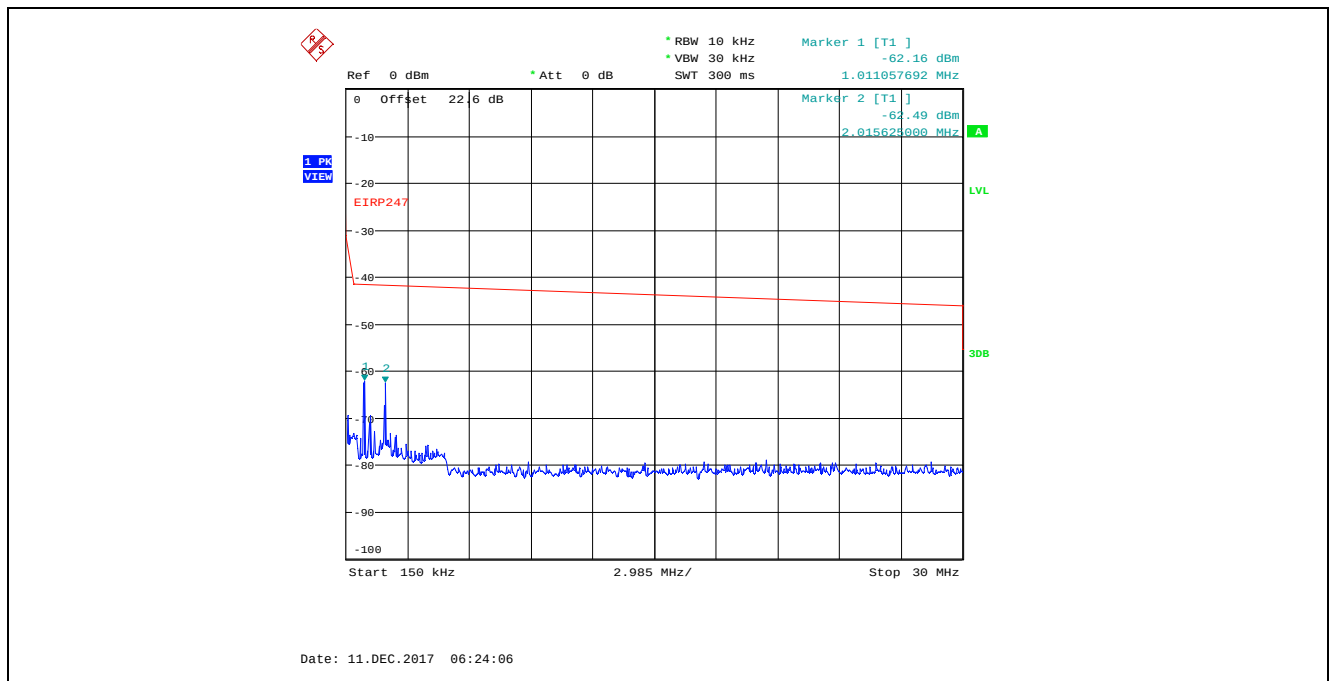
Plot 5.4.4.3.1. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



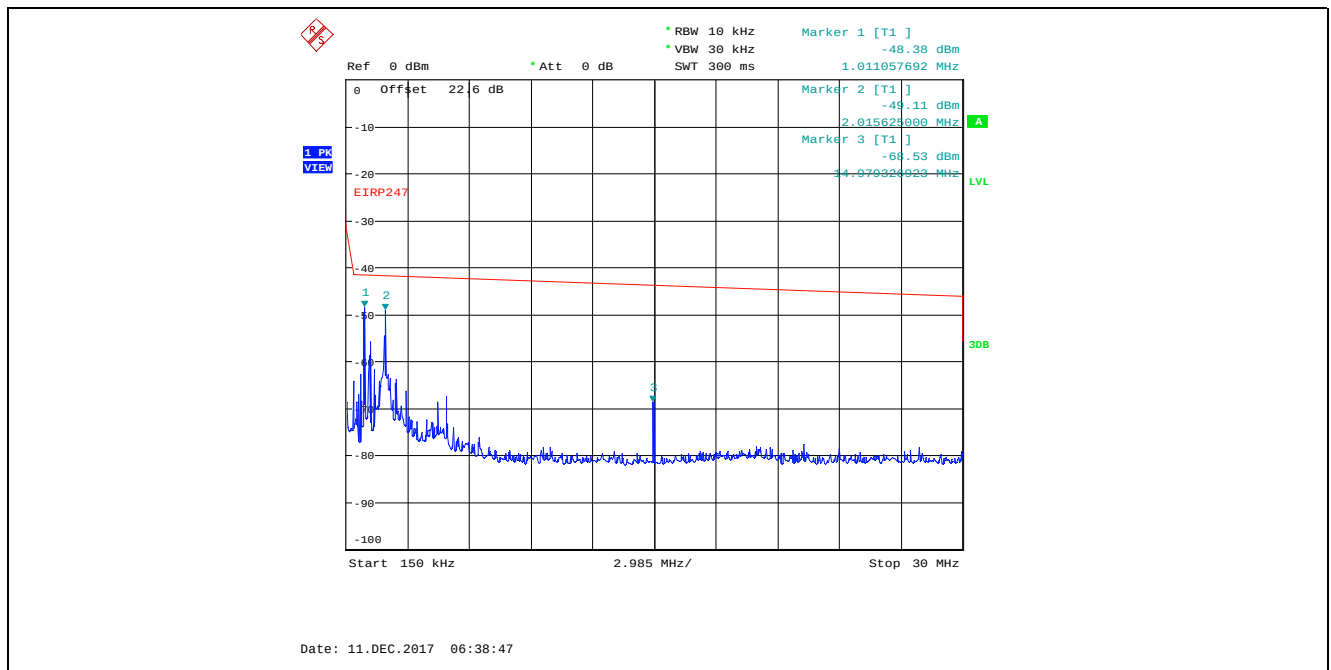
Plot 5.4.4.3.2. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



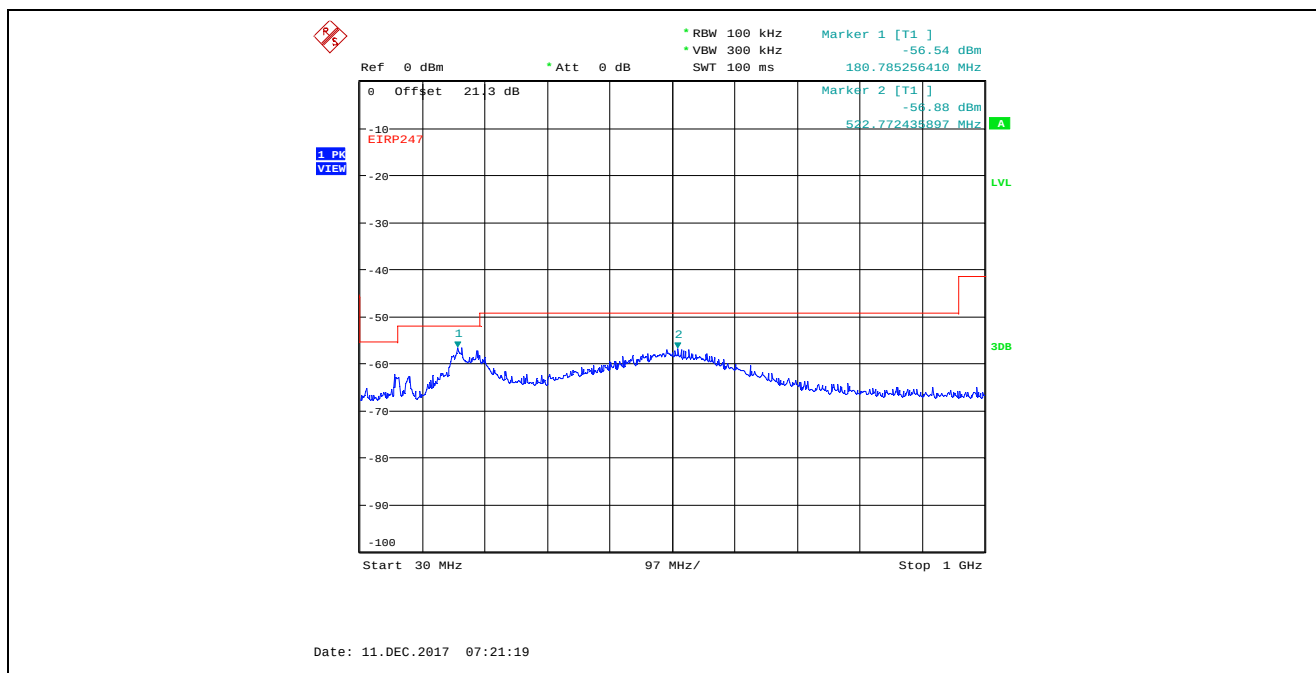
Plot 5.4.4.3.3. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



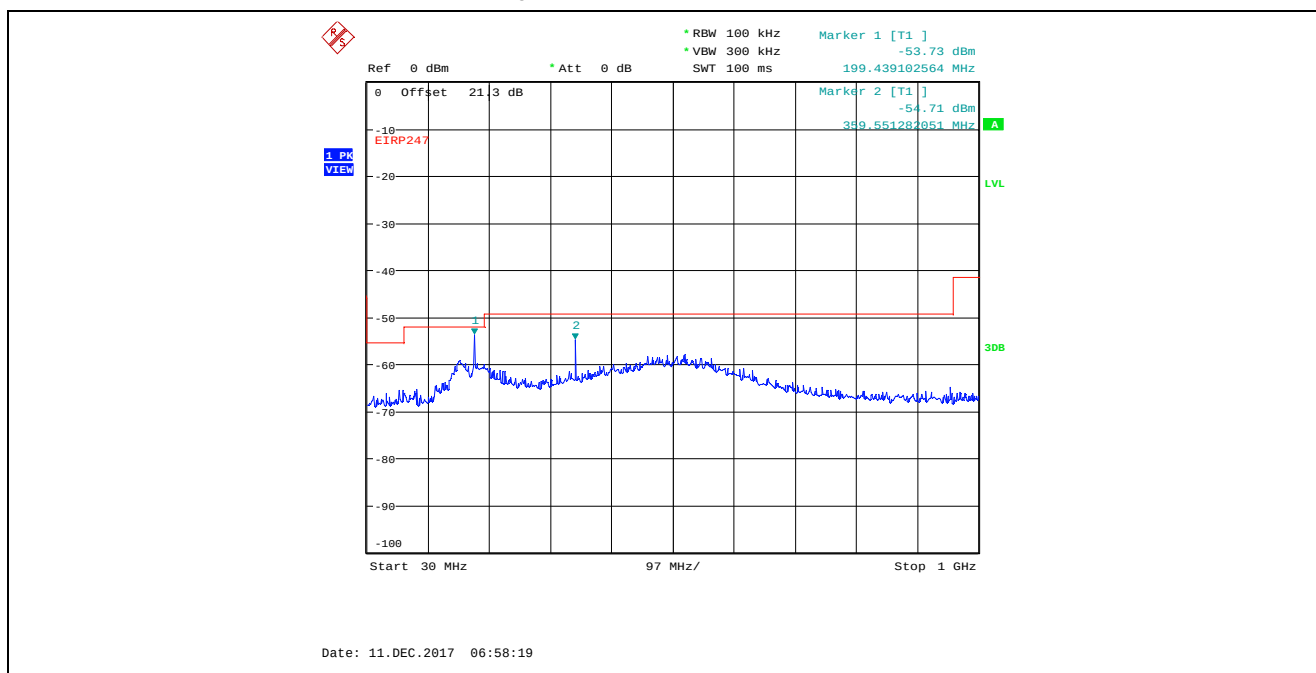
Plot 5.4.4.3.4. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 150 kHz – 30 MHz, Peak Detector



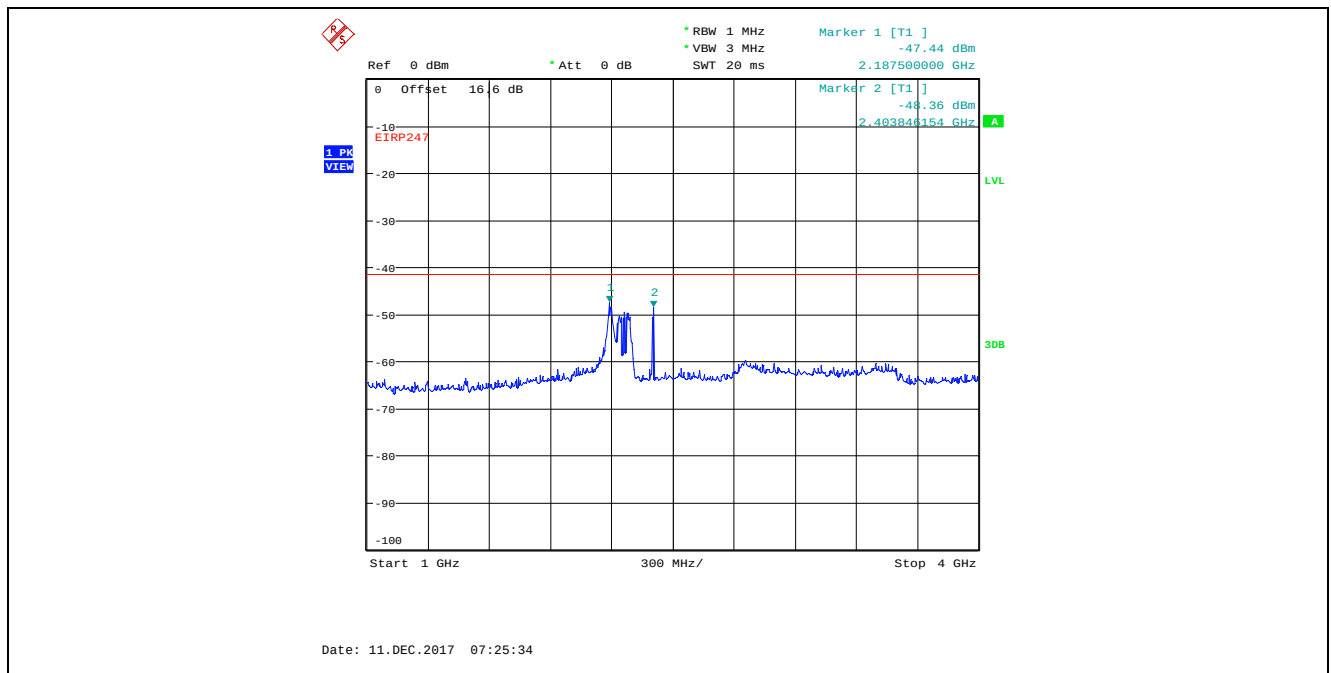
Plot 5.4.4.3.5. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



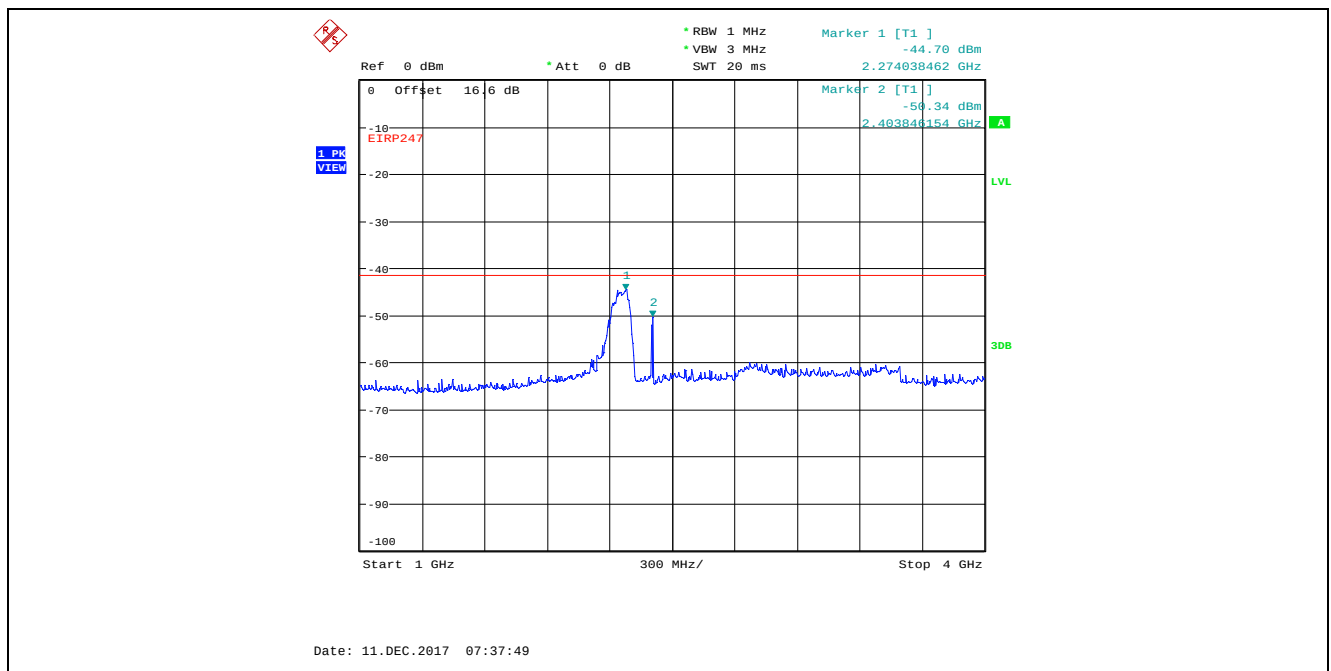
Plot 5.4.4.3.6. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



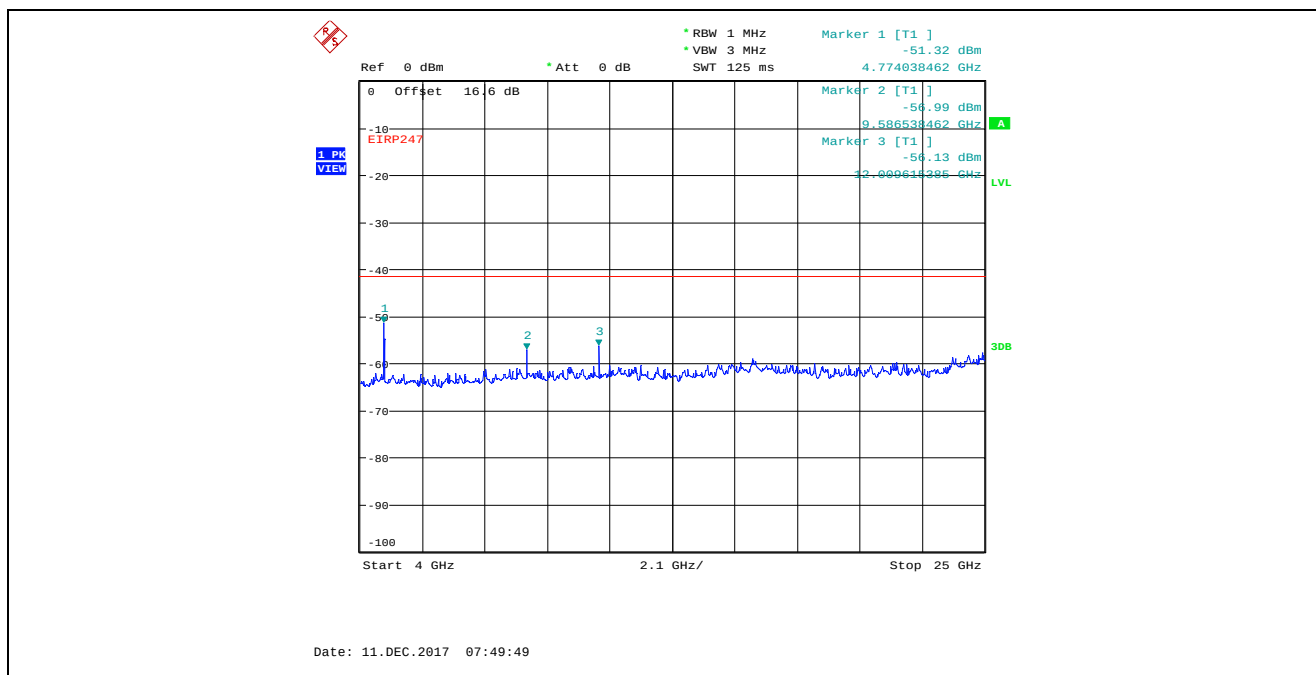
Plot 5.4.4.3.7. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



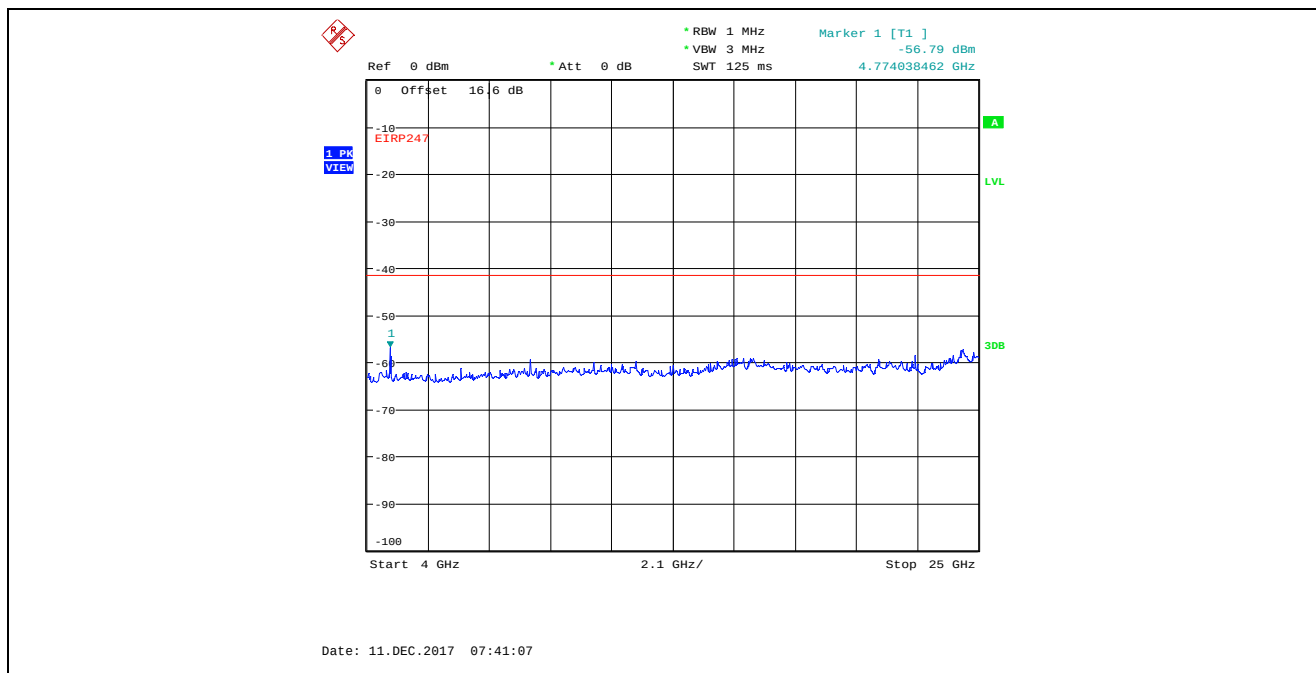
Plot 5.4.4.3.8. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



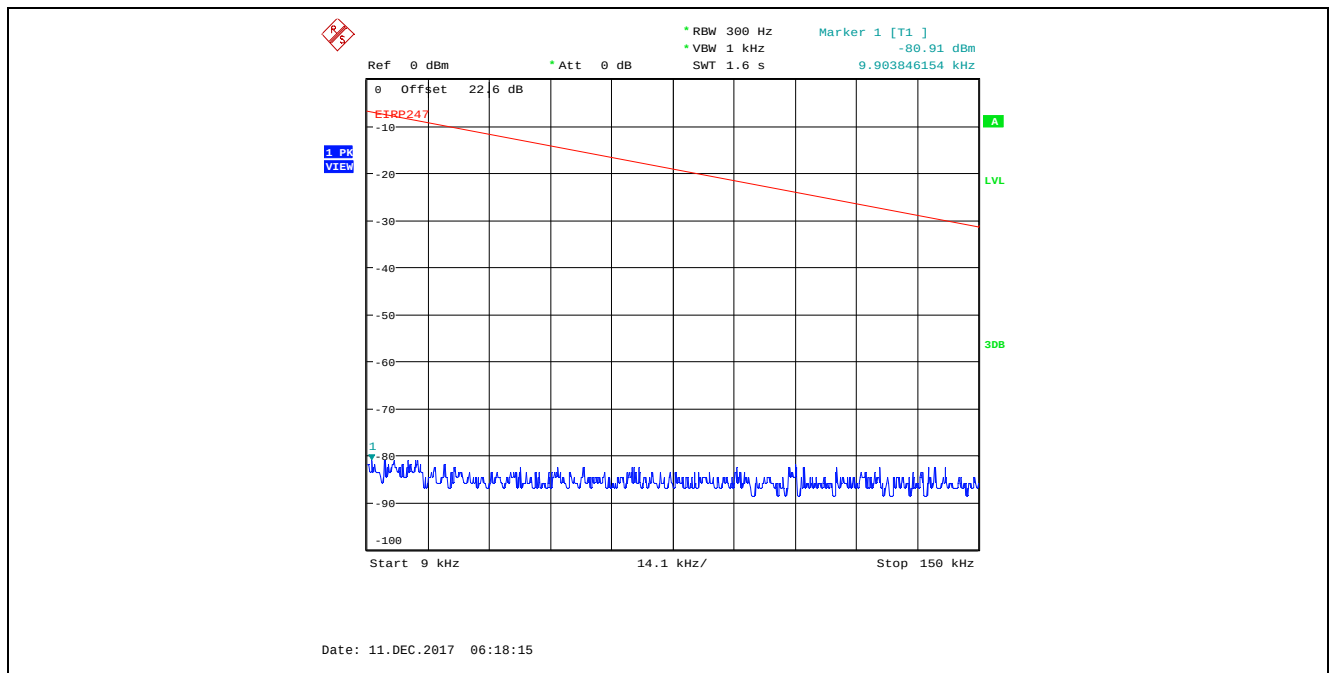
Plot 5.4.4.3.9. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



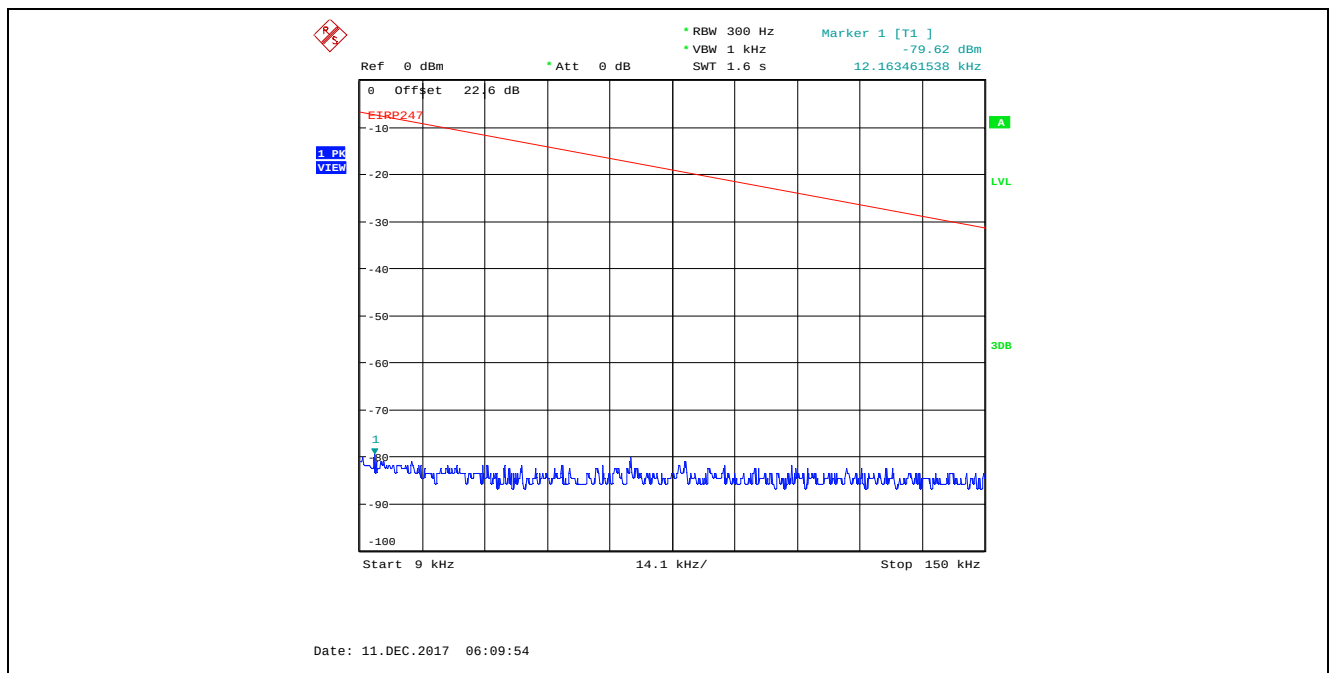
Plot 5.4.4.3.10. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



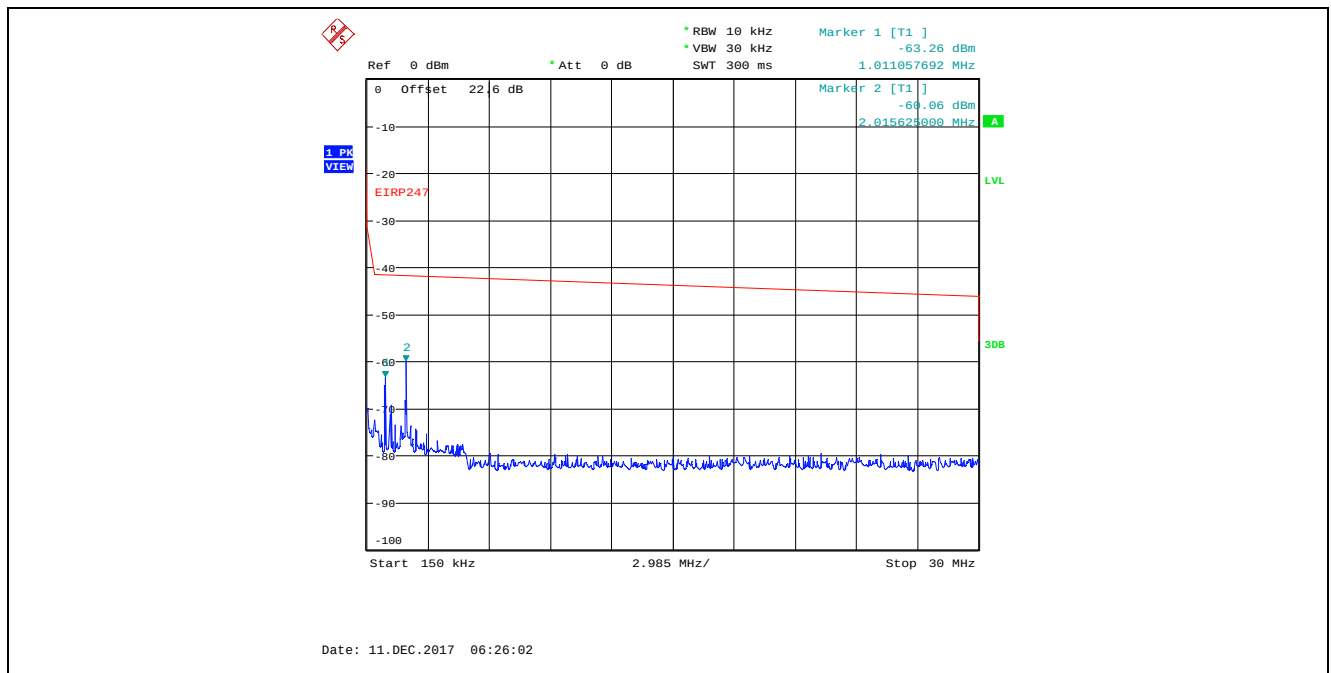
Plot 5.4.4.3.11. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



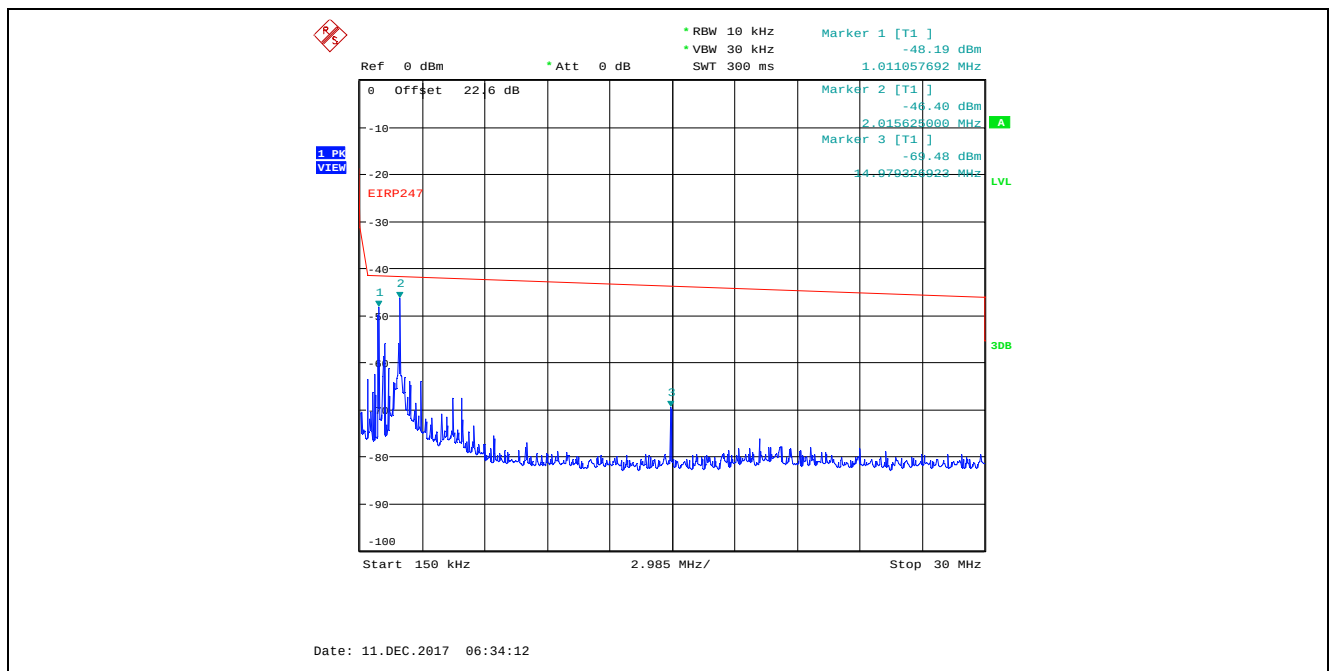
Plot 5.4.4.3.12. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



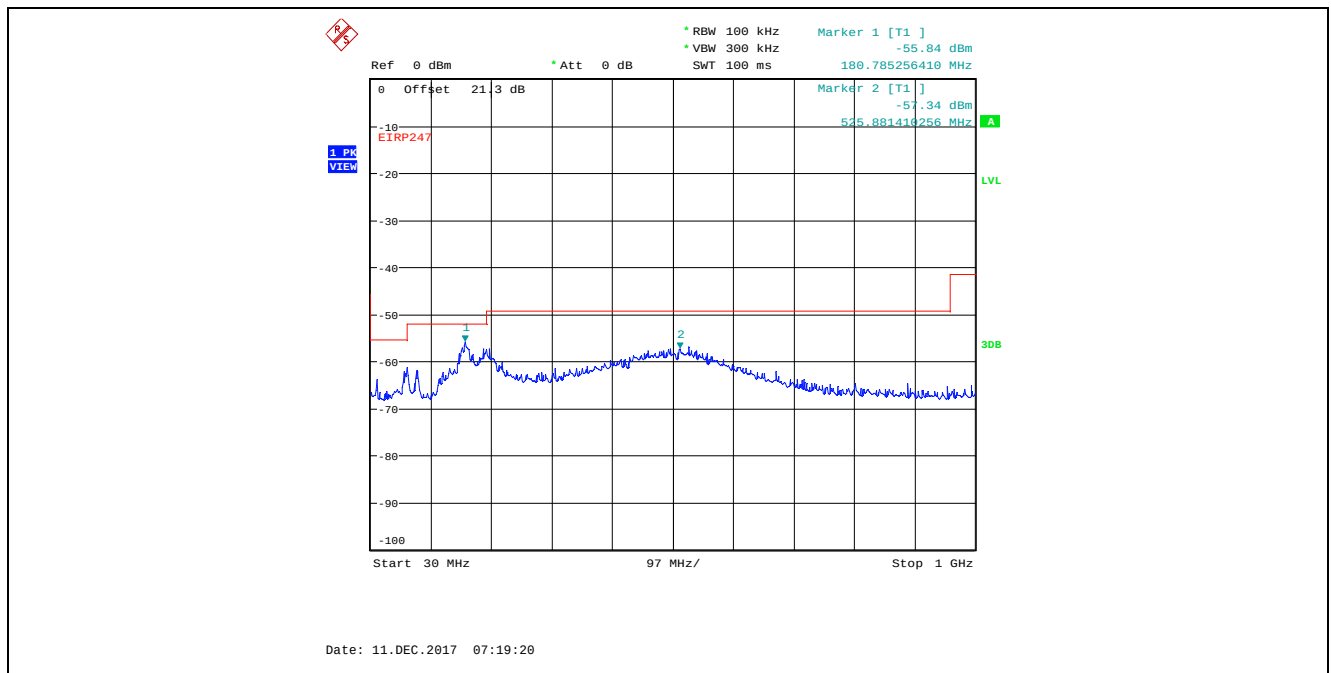
Plot 5.4.4.3.13. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



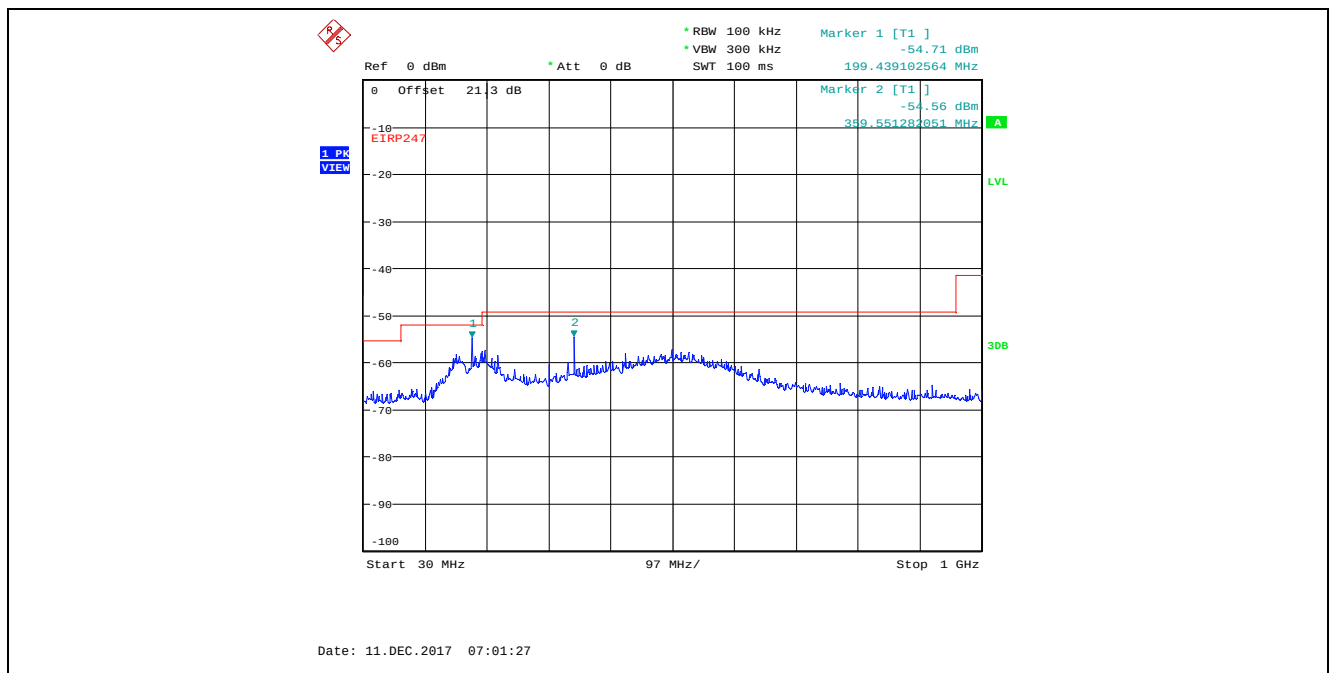
Plot 5.4.4.3.14. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



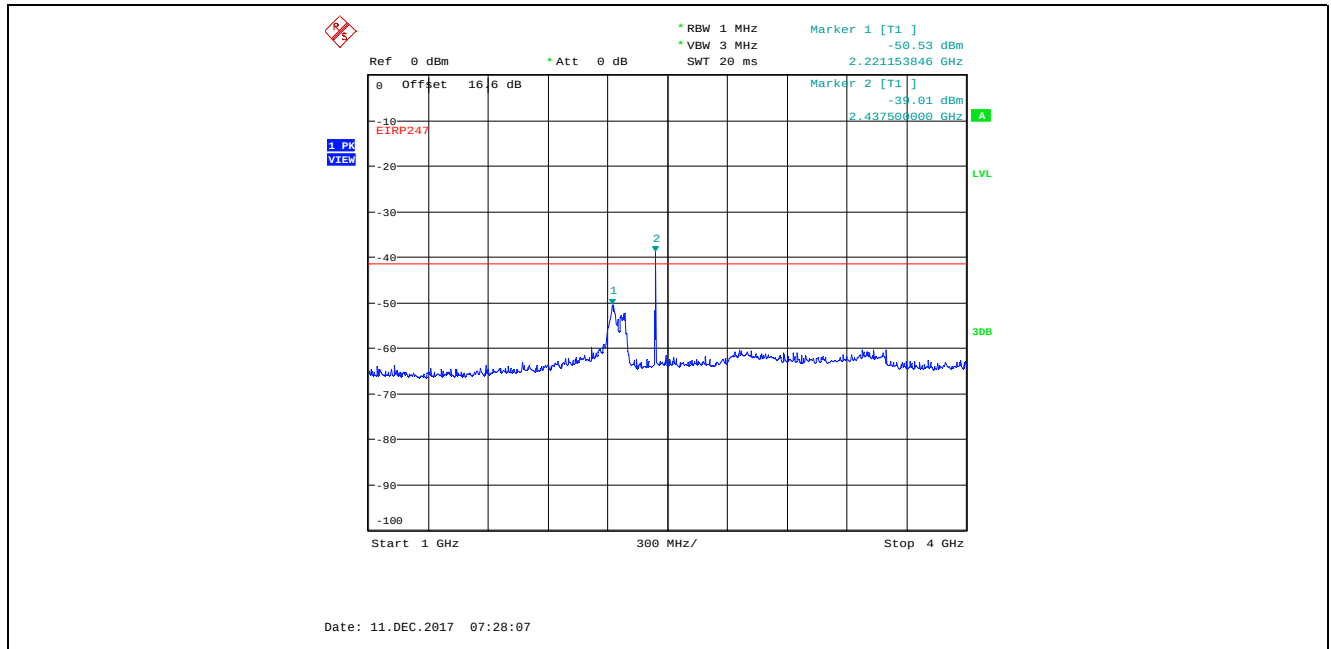
Plot 5.4.4.3.15. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



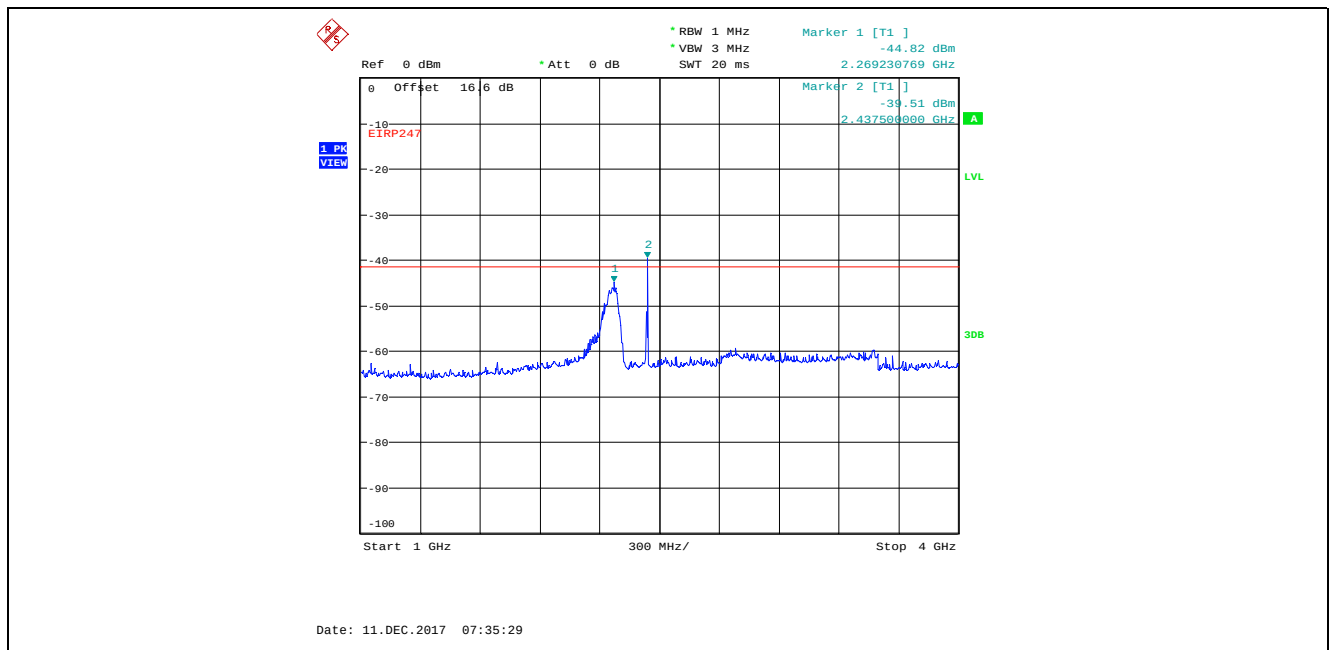
Plot 5.4.4.3.16. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



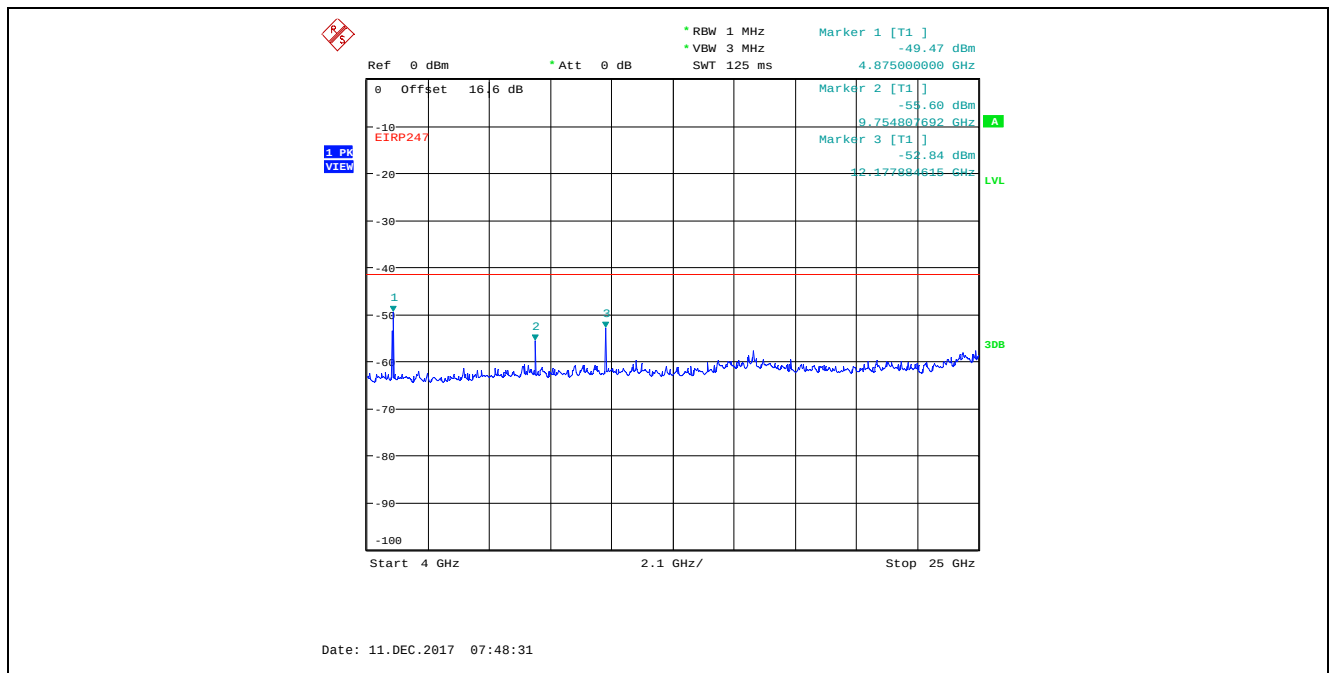
Plot 5.4.4.3.17. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



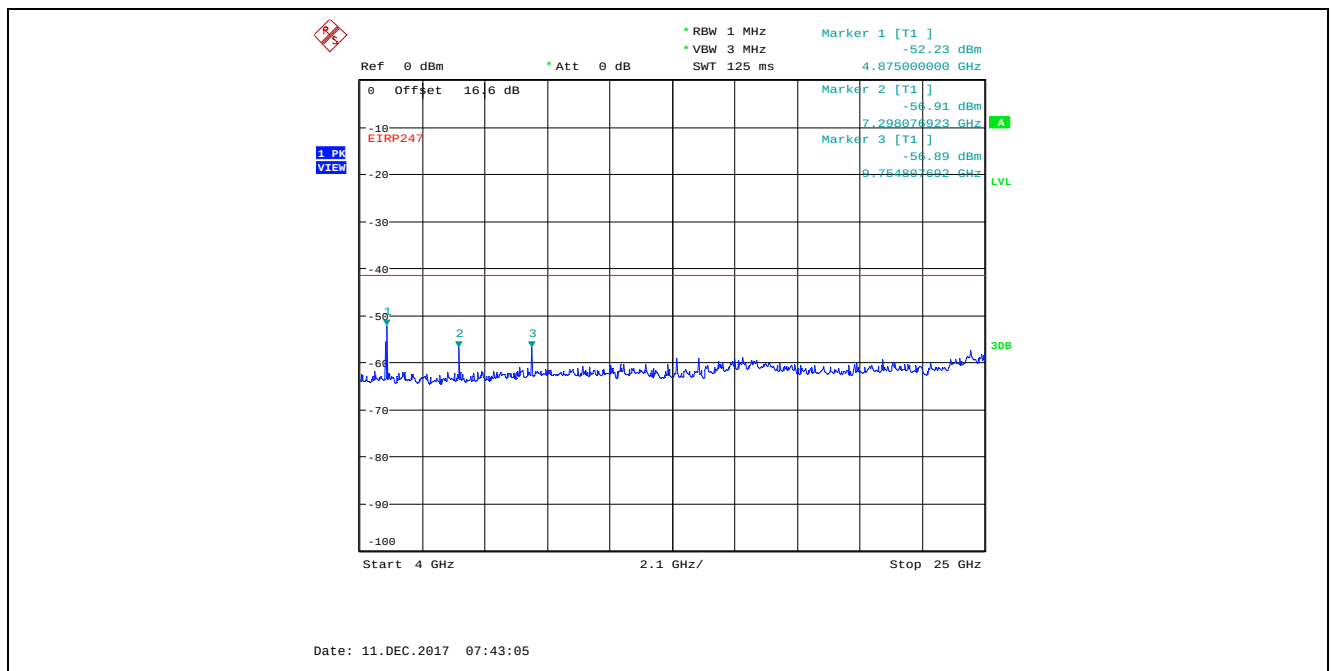
Plot 5.4.4.3.18. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



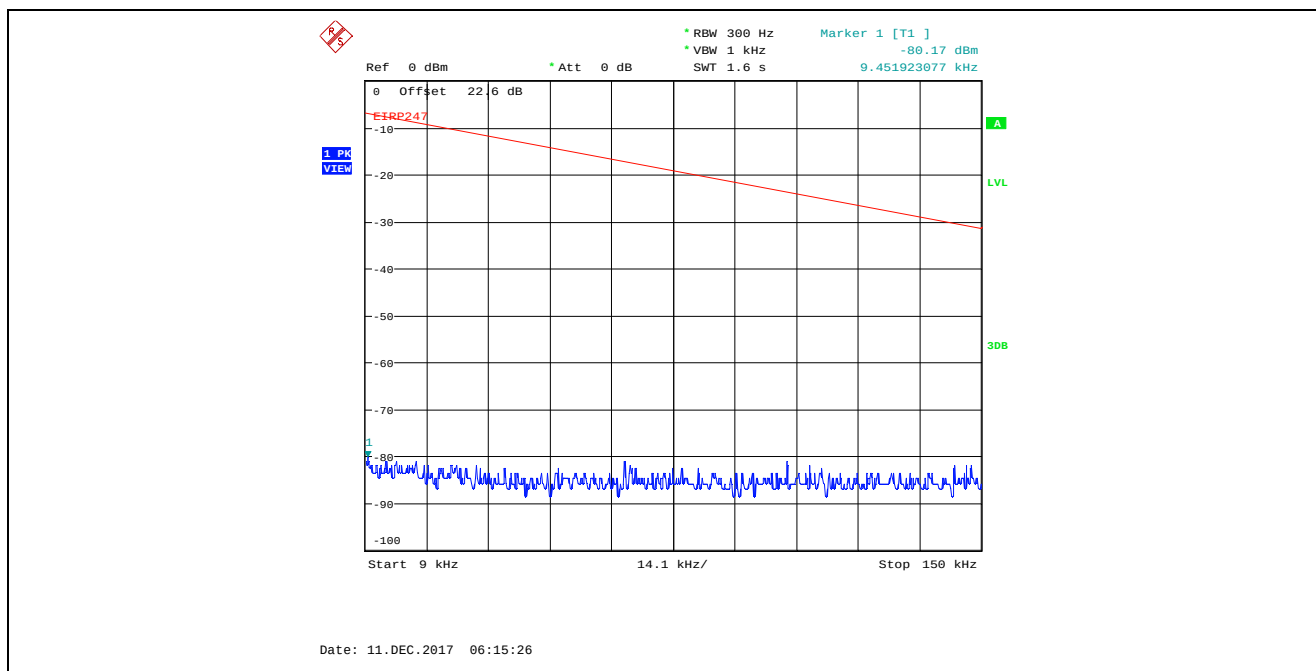
Plot 5.4.4.3.19. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



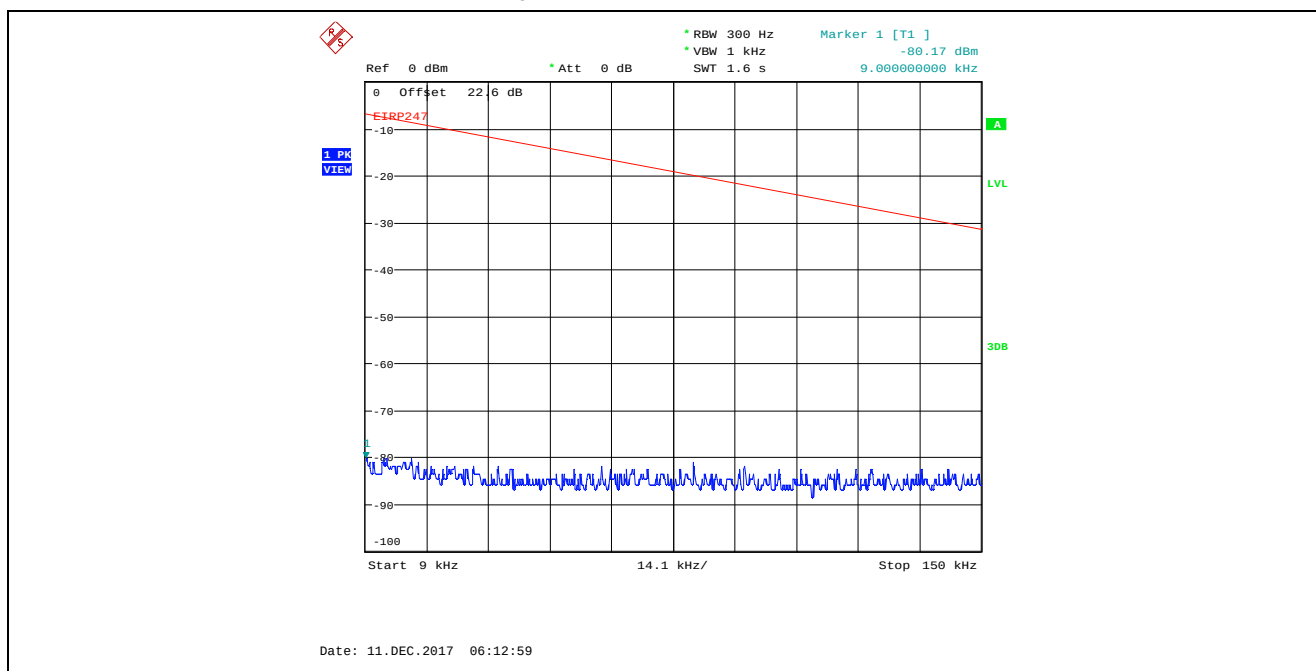
Plot 5.4.4.3.20. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



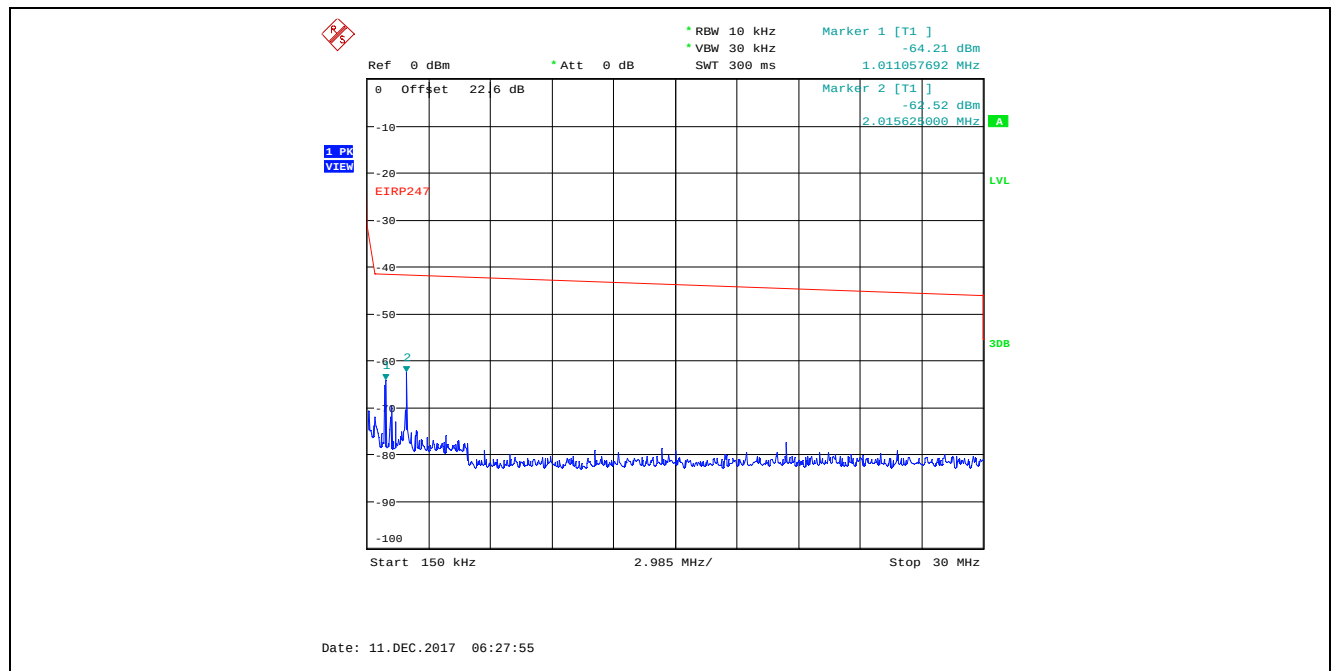
Plot 5.4.4.3.21. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



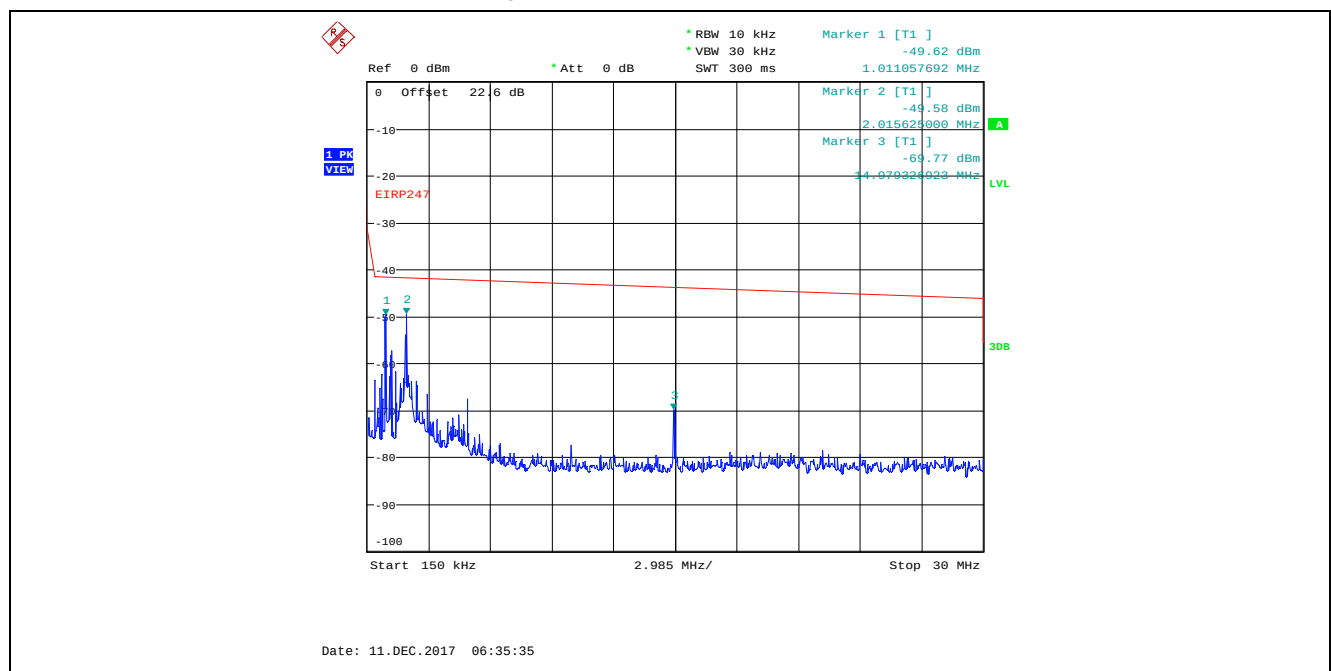
Plot 5.4.4.3.22. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



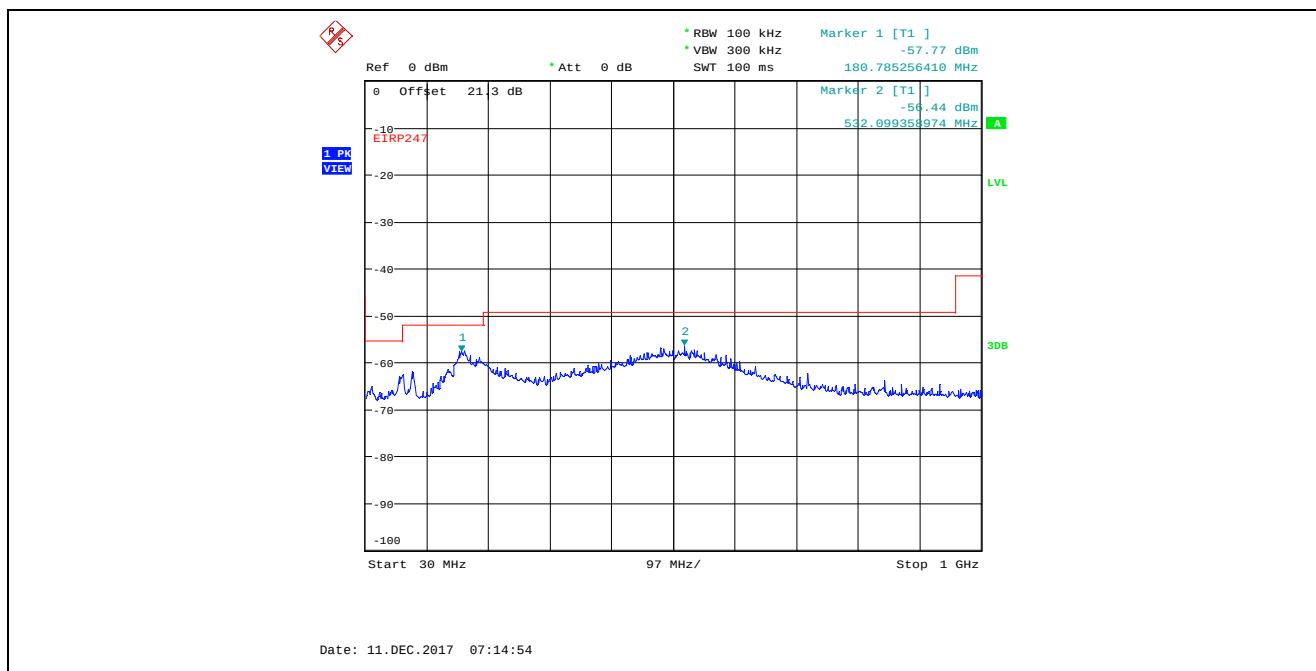
Plot 5.4.4.3.23. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



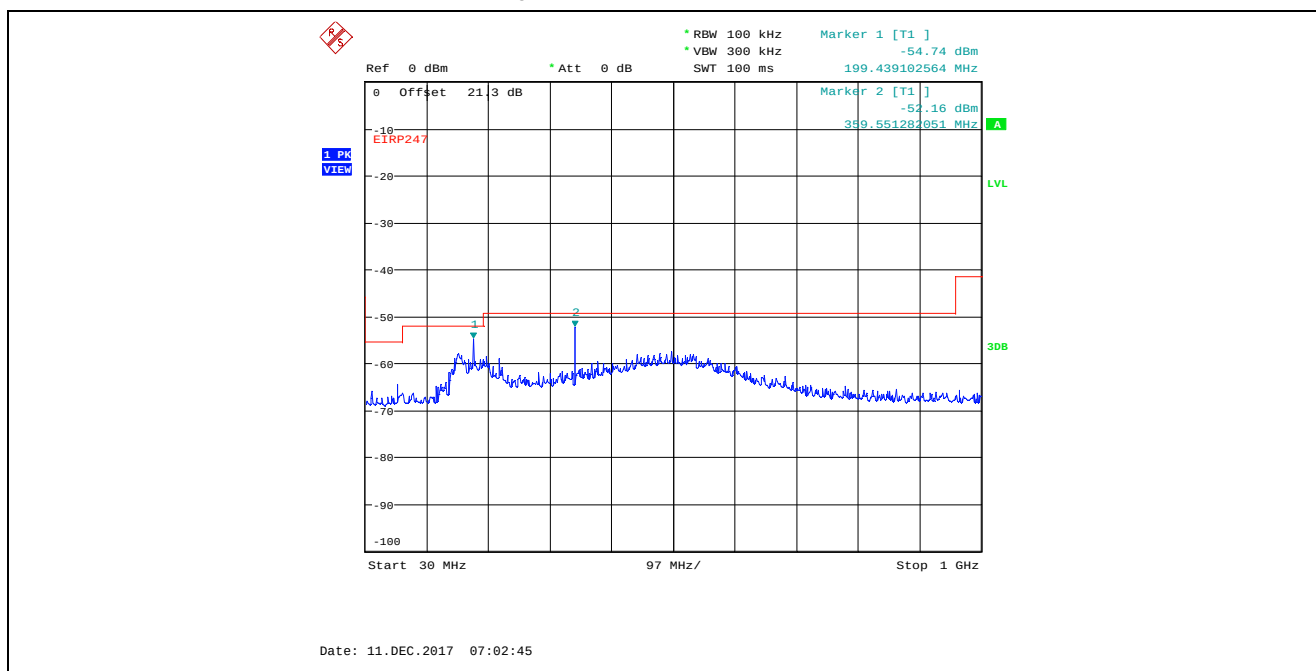
Plot 5.4.4.3.24. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



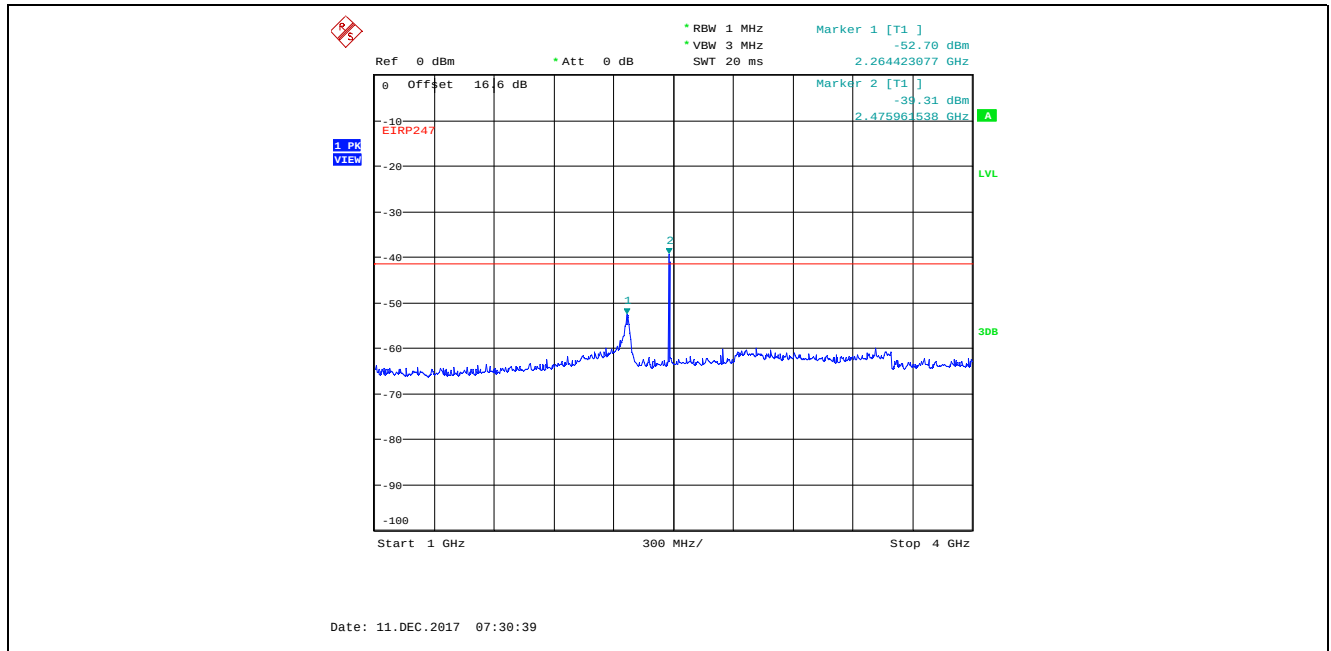
Plot 5.4.4.3.25. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



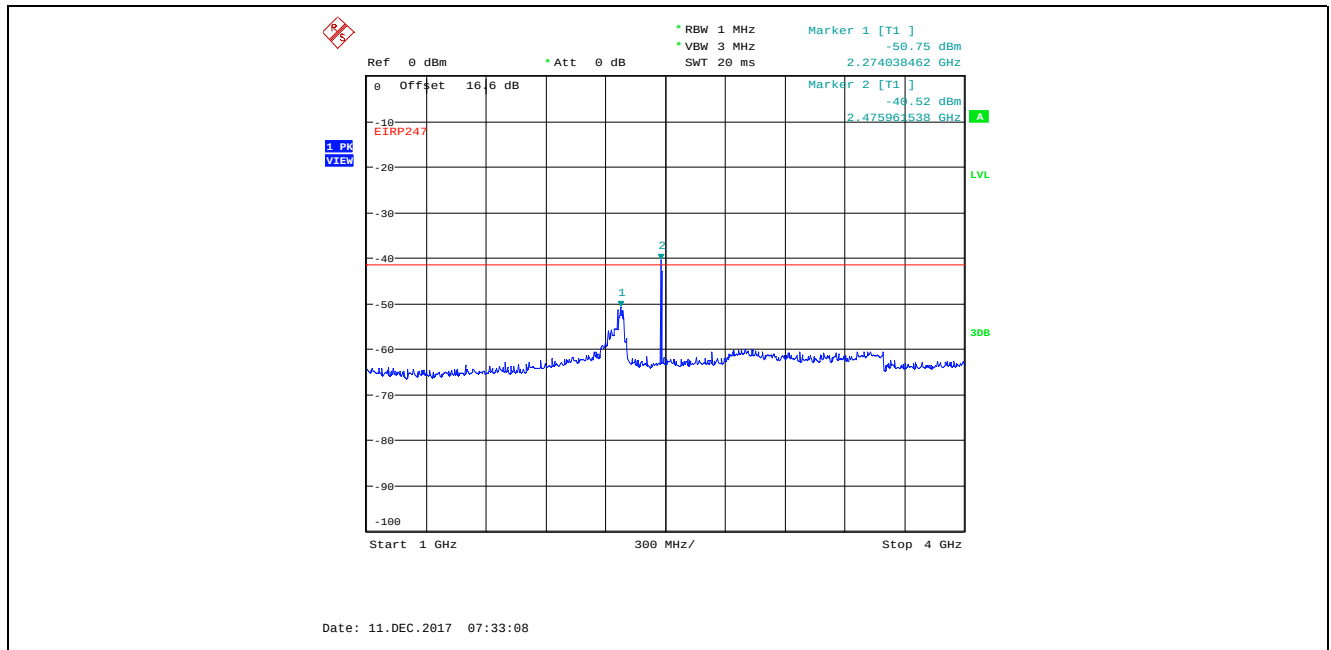
Plot 5.4.4.3.26. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



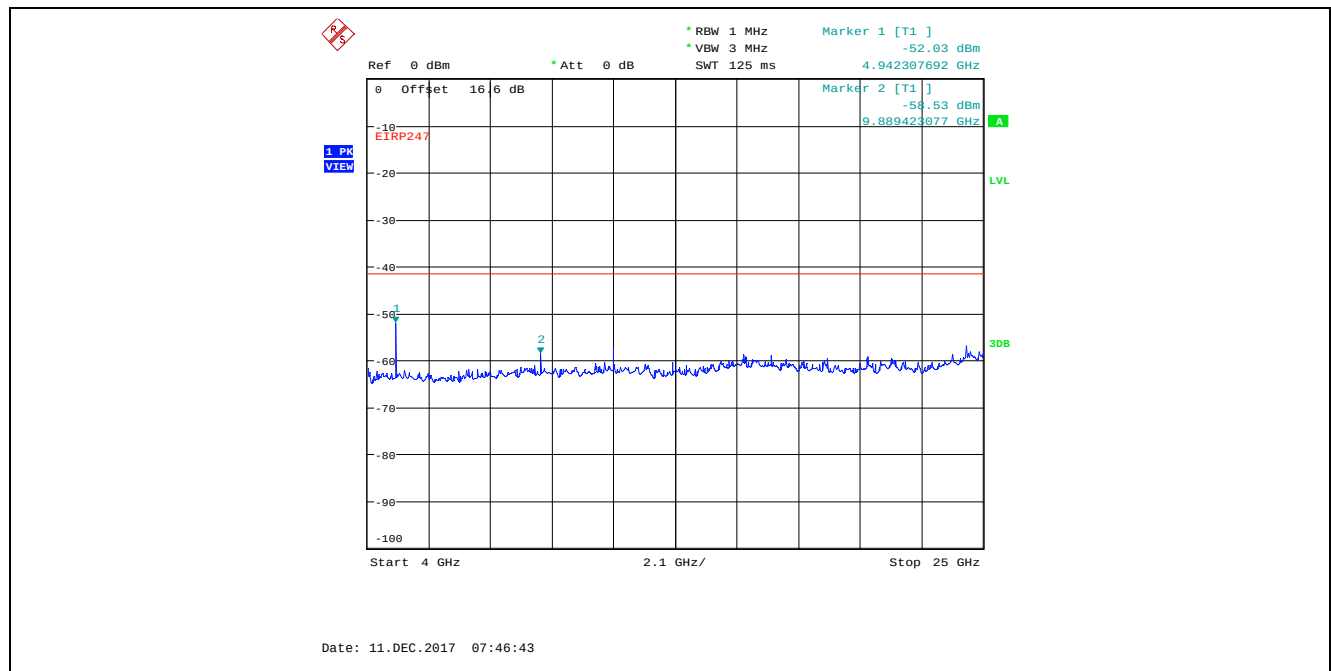
Plot 5.4.4.3.27. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



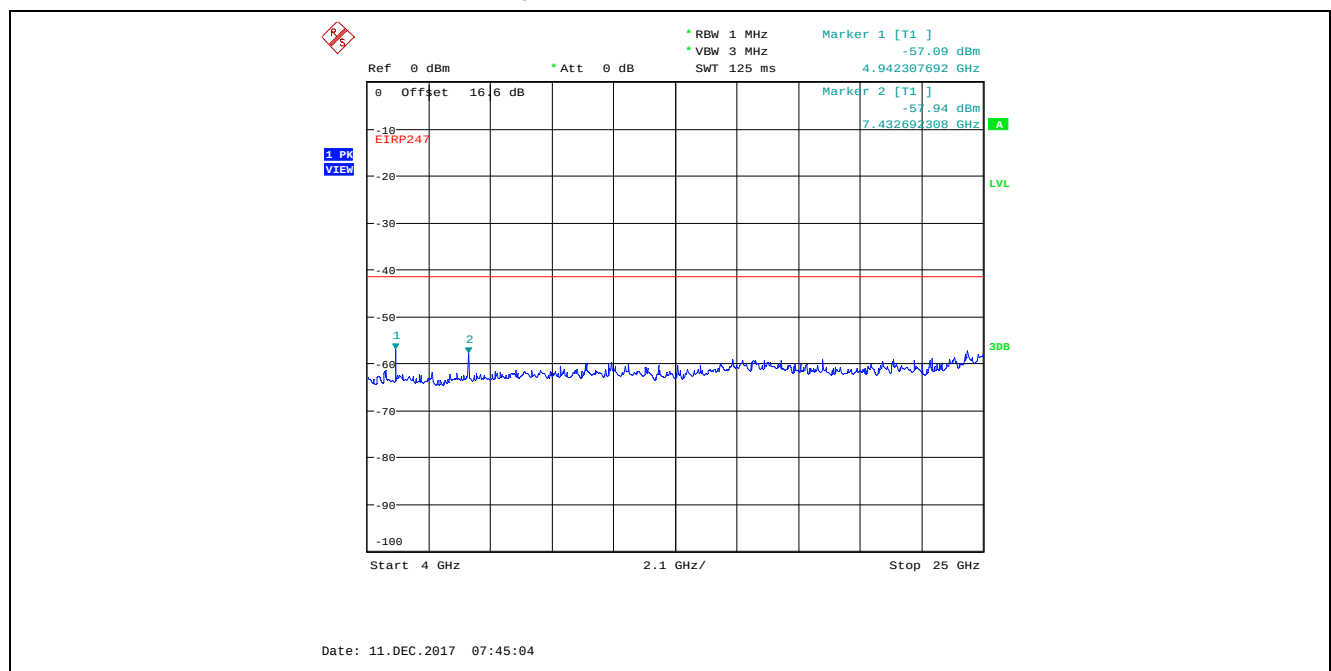
Plot 5.4.4.3.28. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



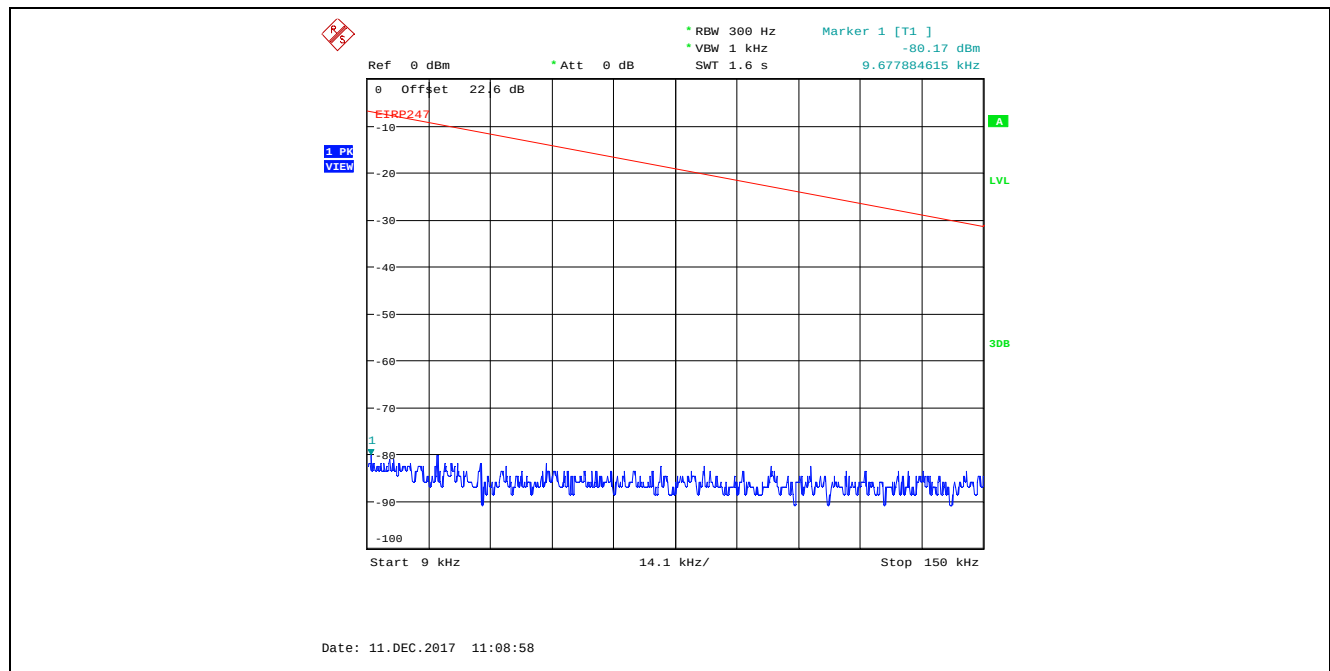
Plot 5.4.4.3.29. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



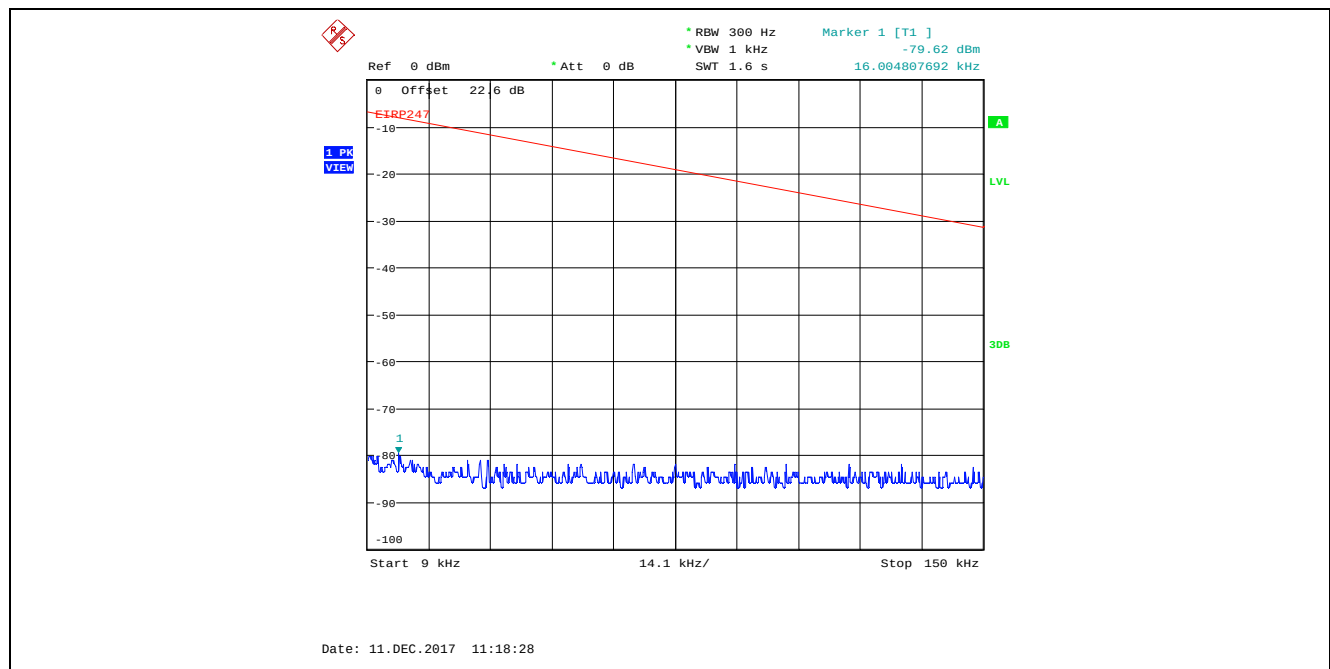
Plot 5.4.4.3.30. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



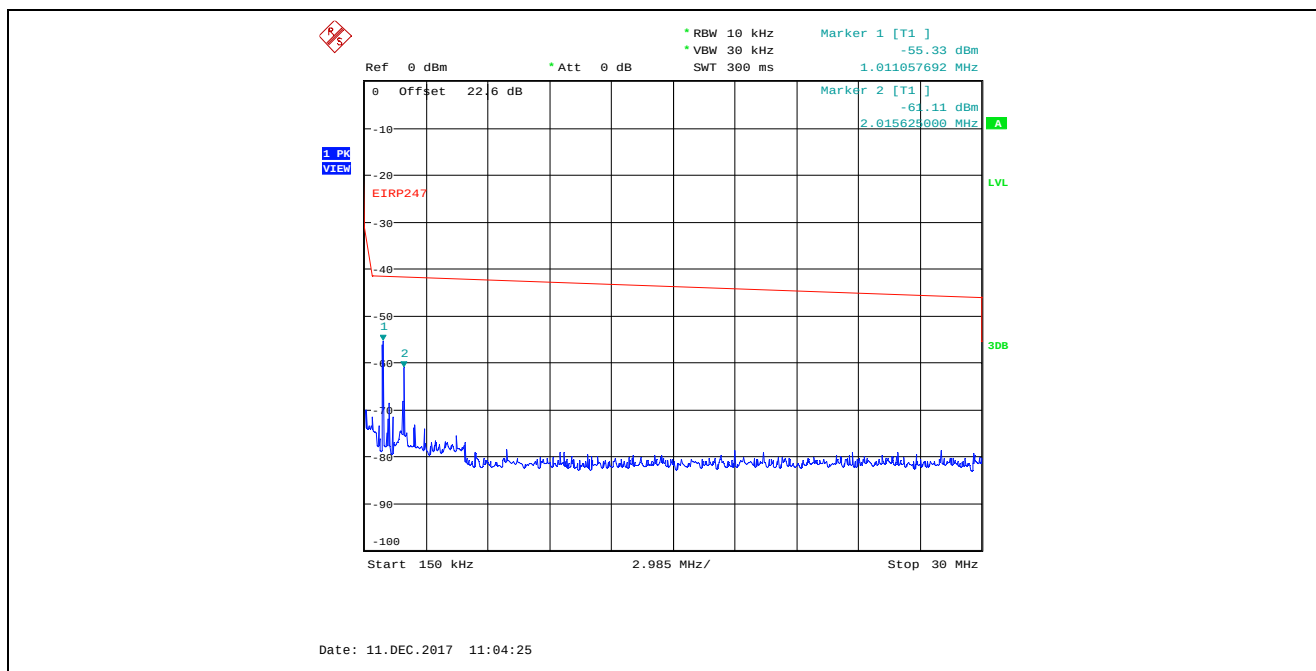
Plot 5.4.4.3.31. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



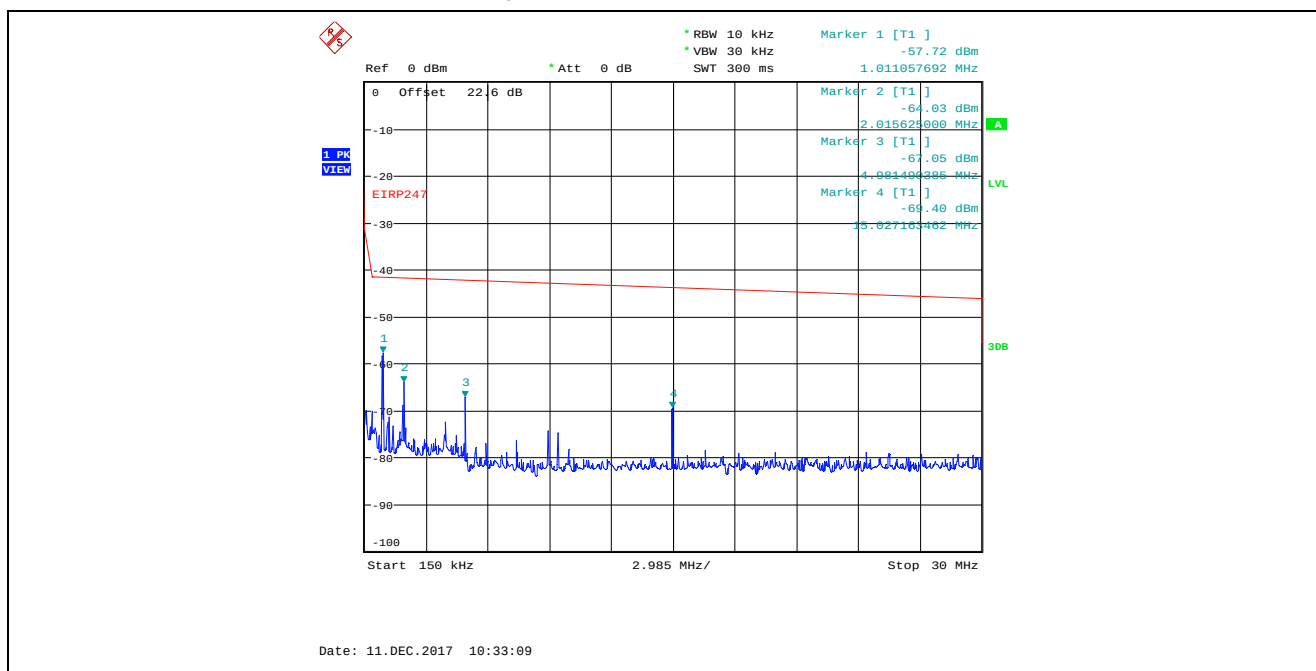
Plot 5.4.4.3.32. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



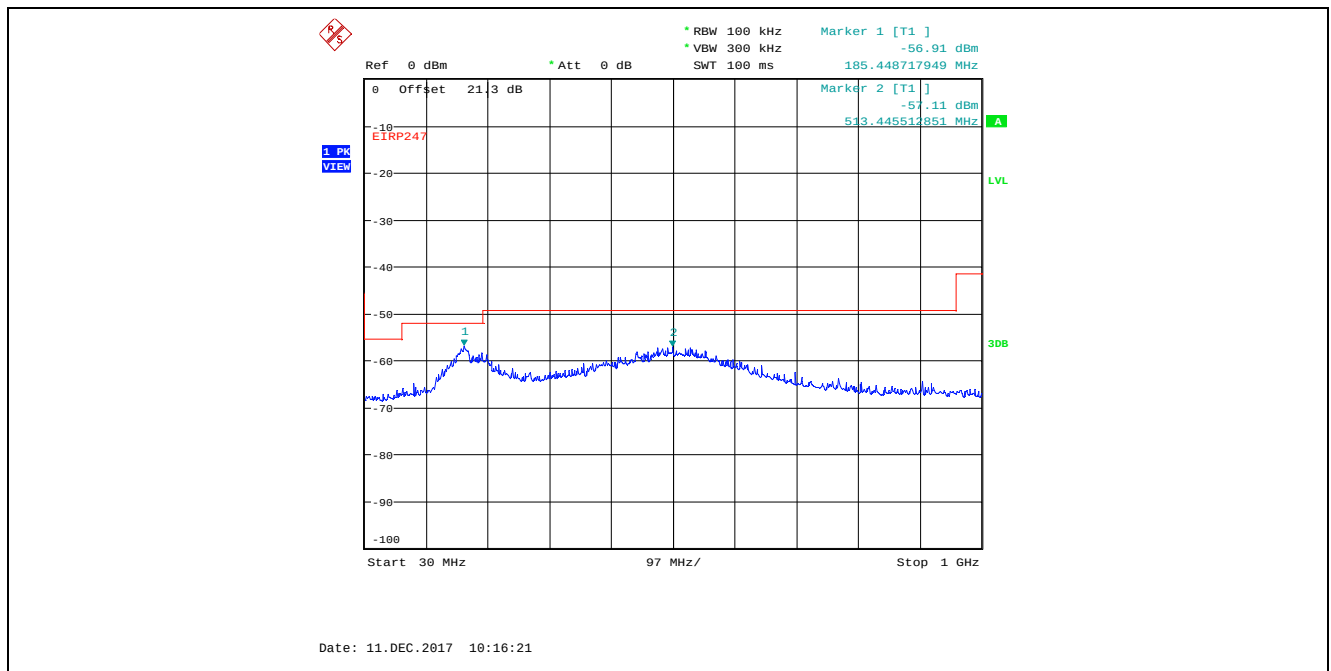
Plot 5.4.4.3.33. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



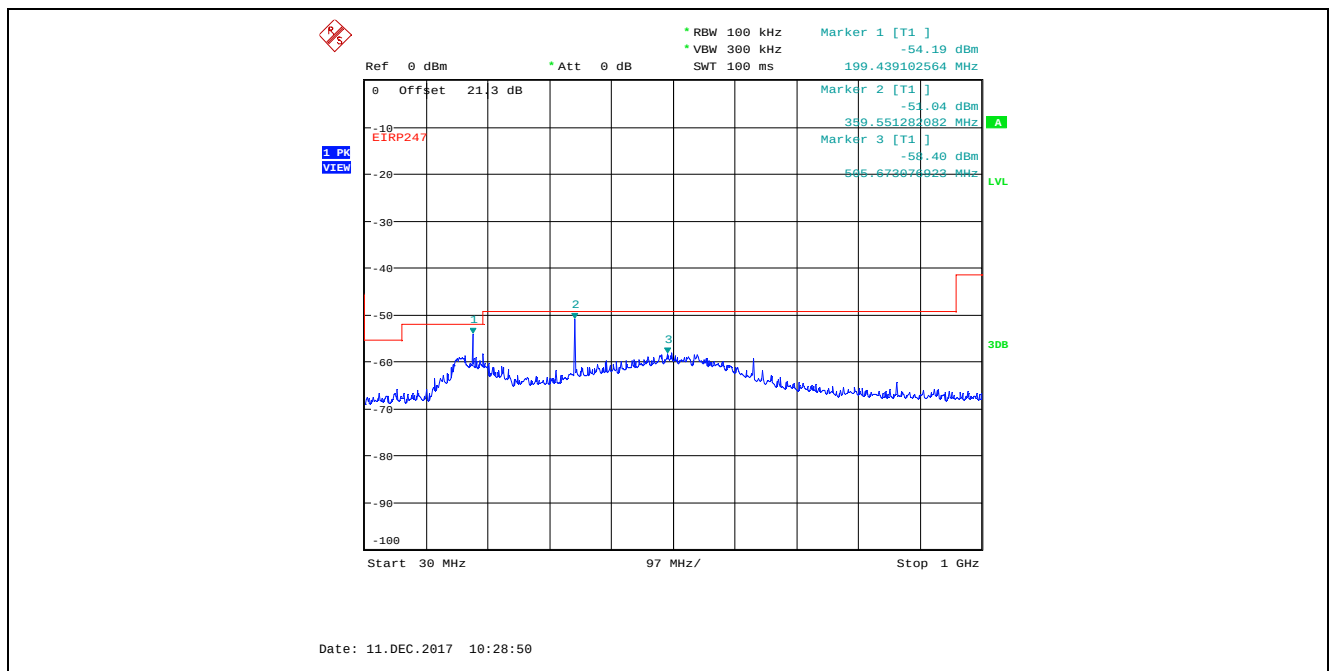
Plot 5.4.4.3.34. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



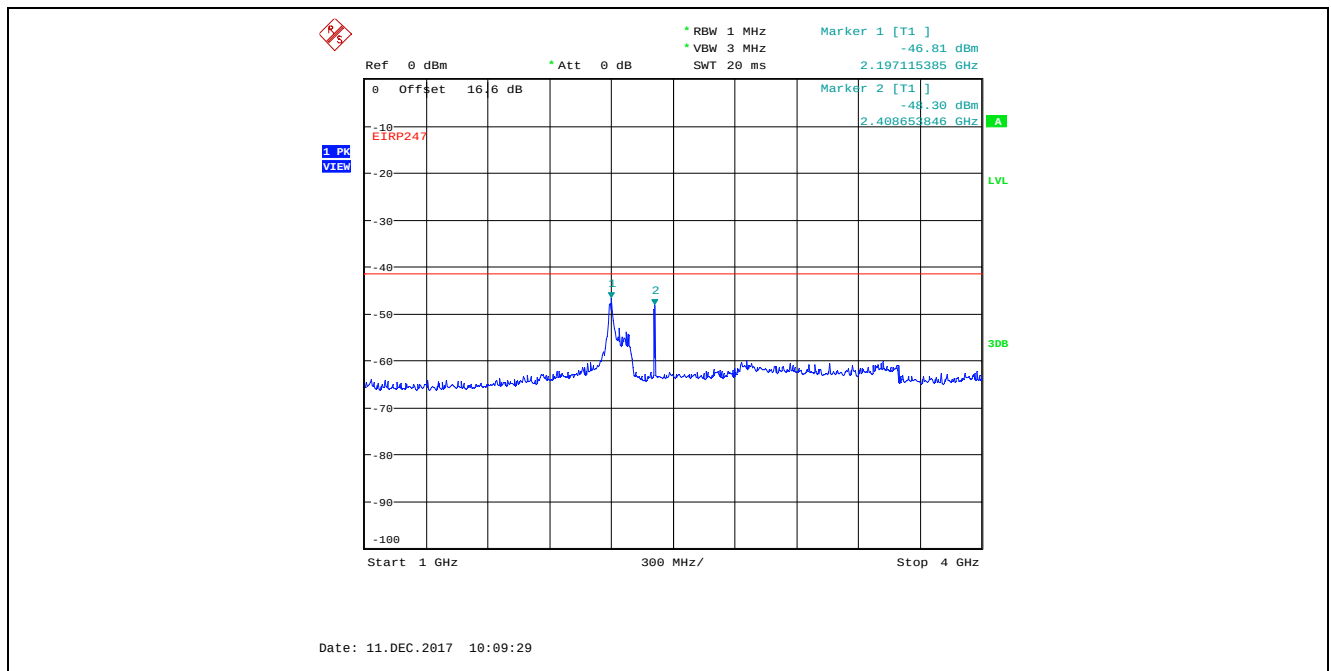
Plot 5.4.4.335. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



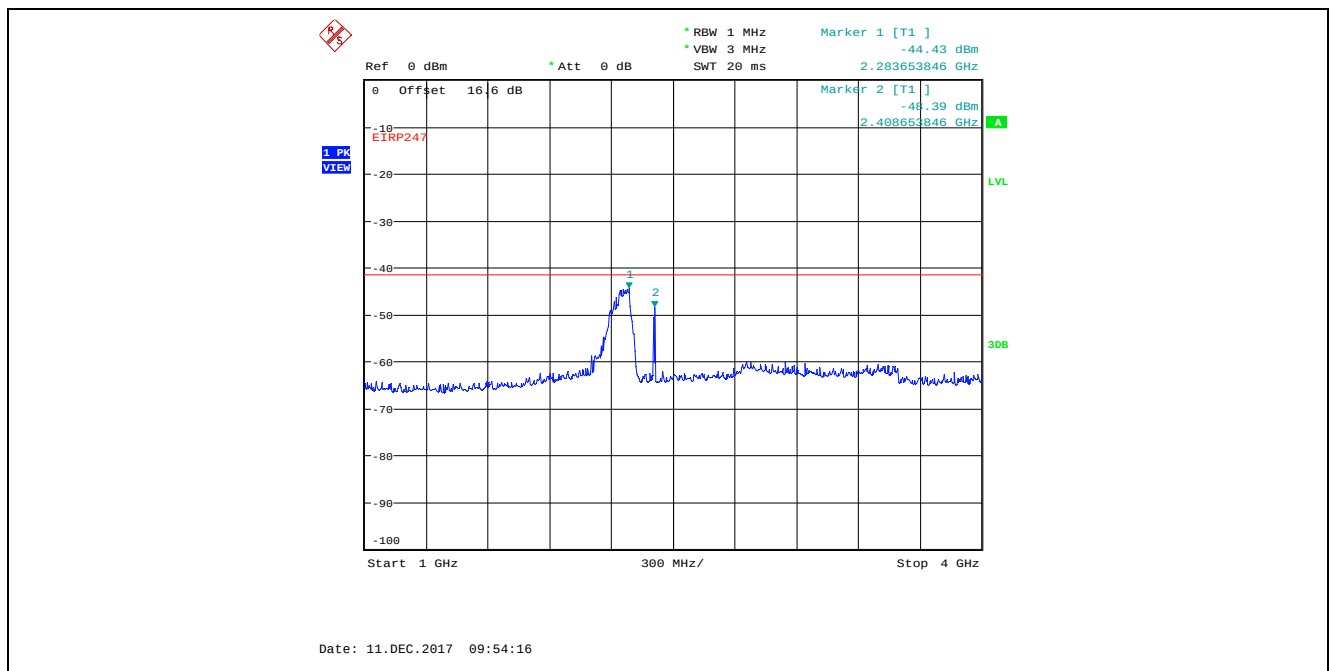
Plot 5.4.4.336. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



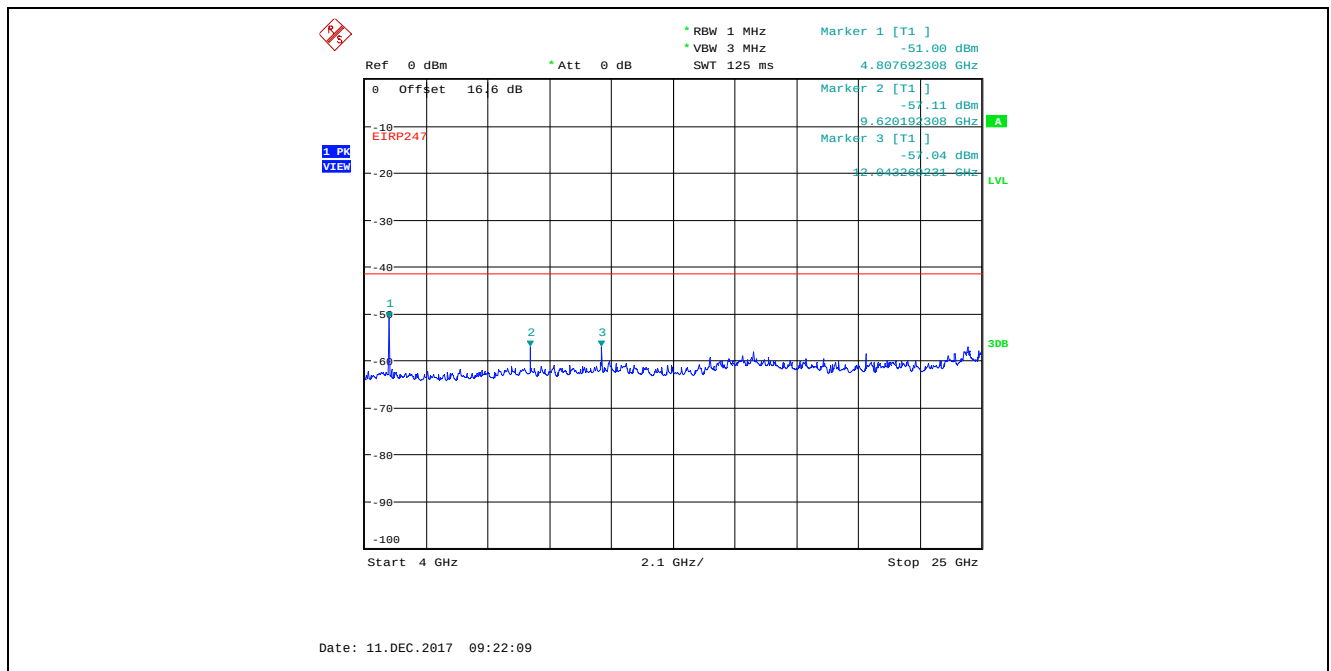
Plot 5.4.4.3.37. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



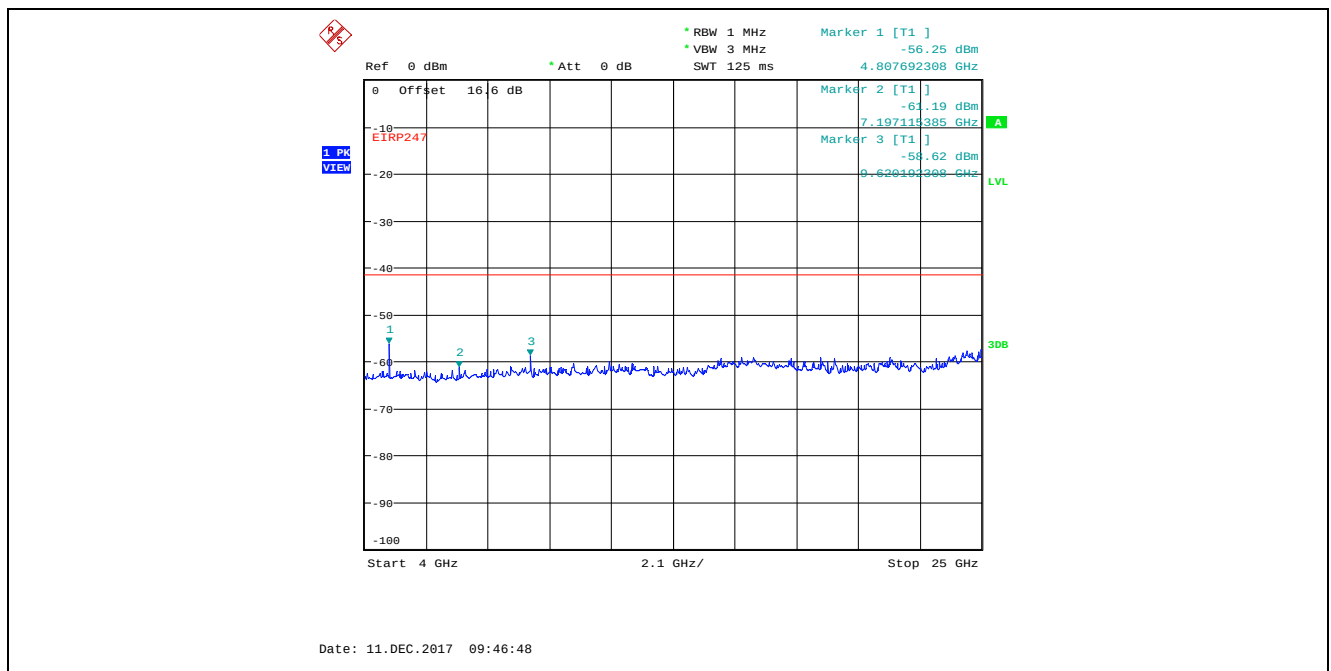
Plot 5.4.4.3.38. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



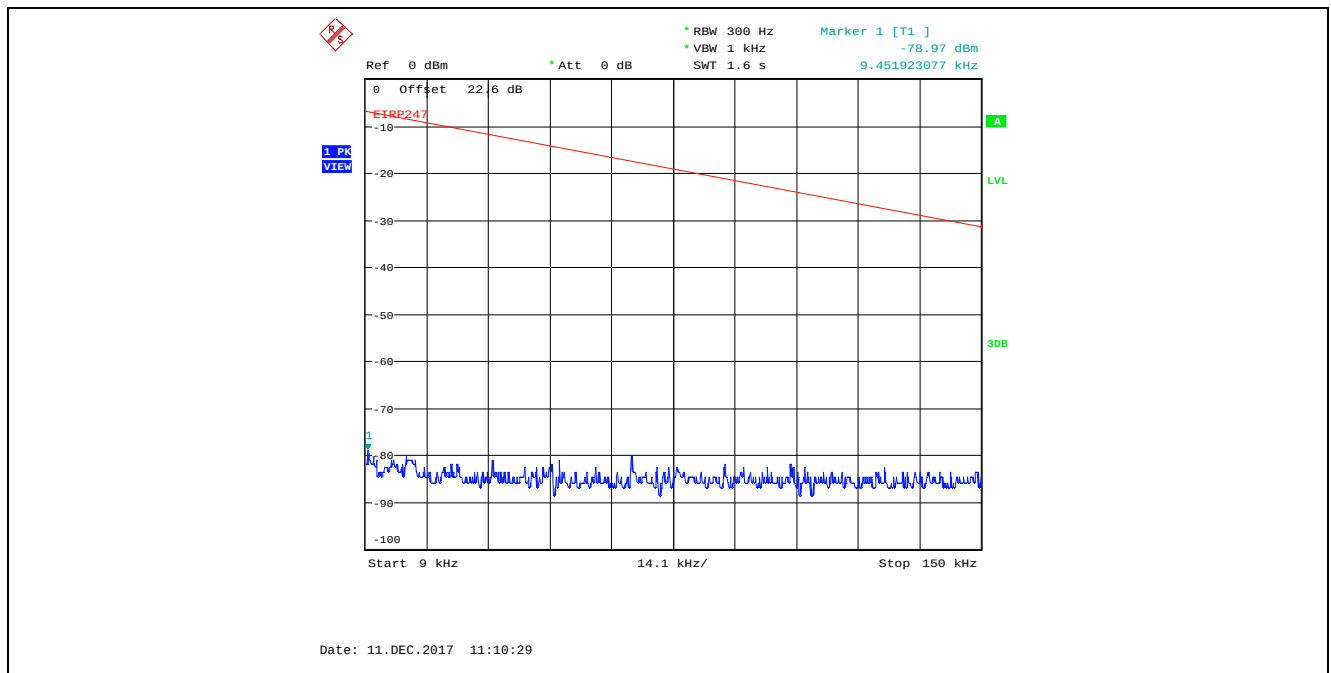
Plot 5.4.4.3.39. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



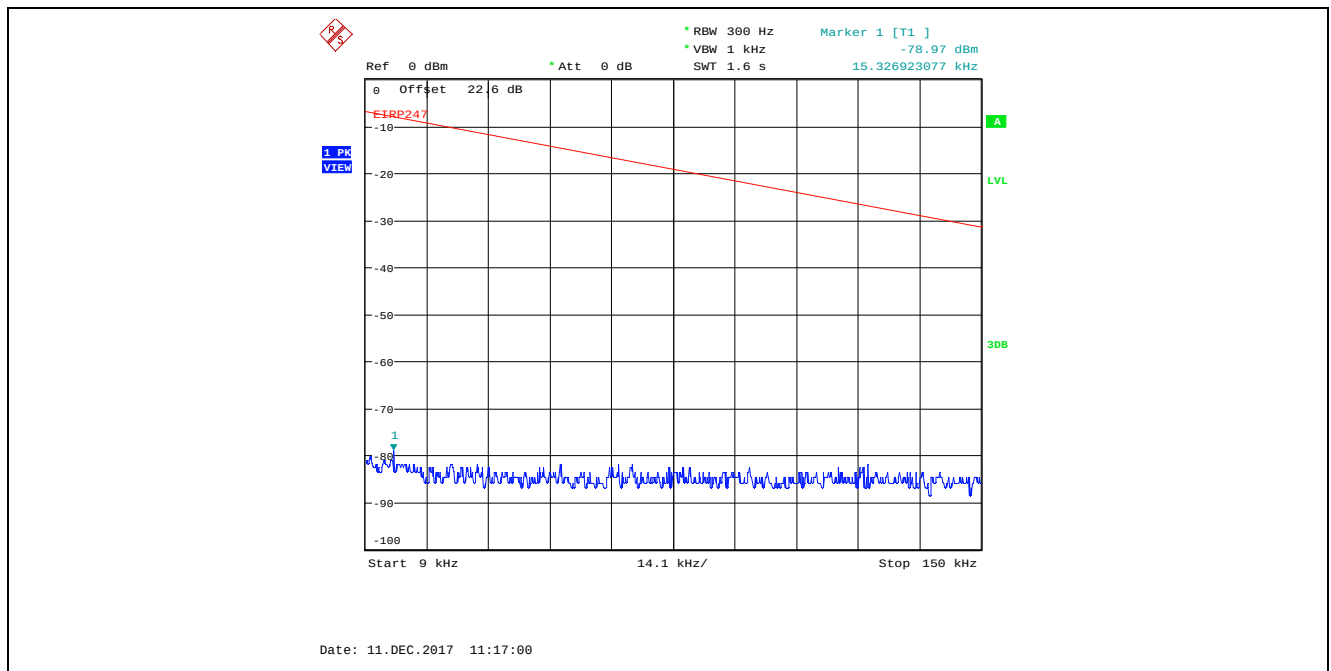
Plot 5.4.4.3.40. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



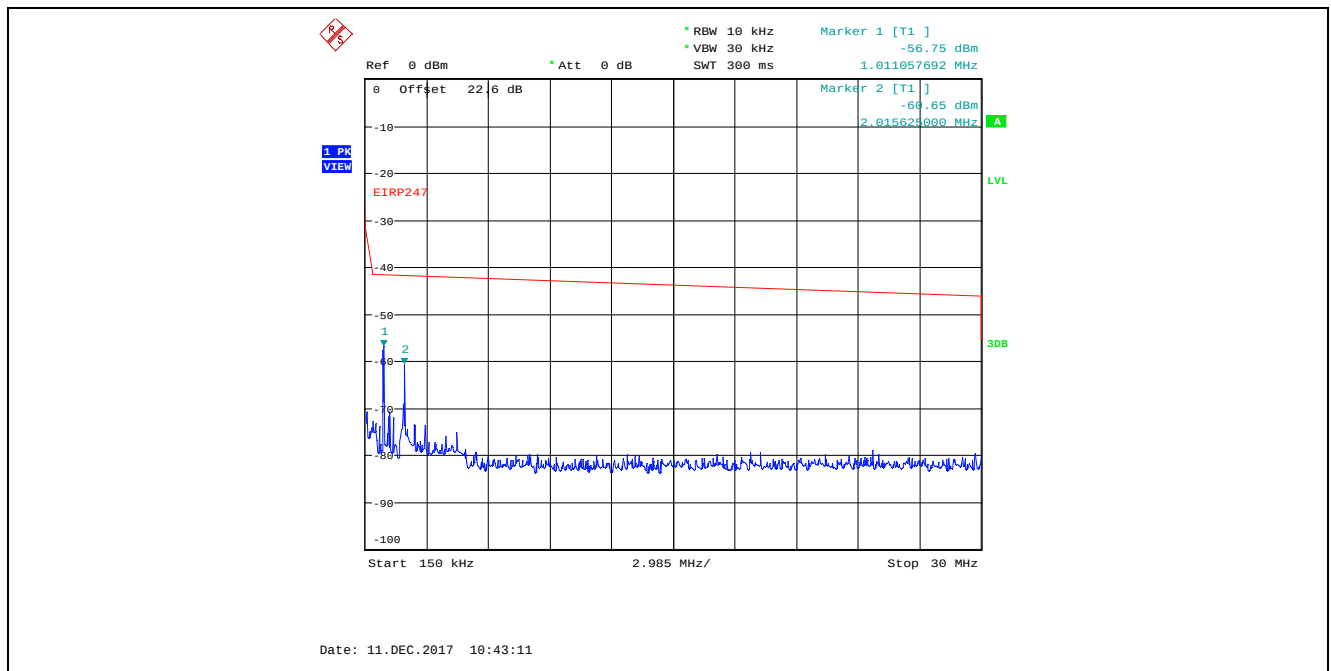
Plot 5.4.4.3.41. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



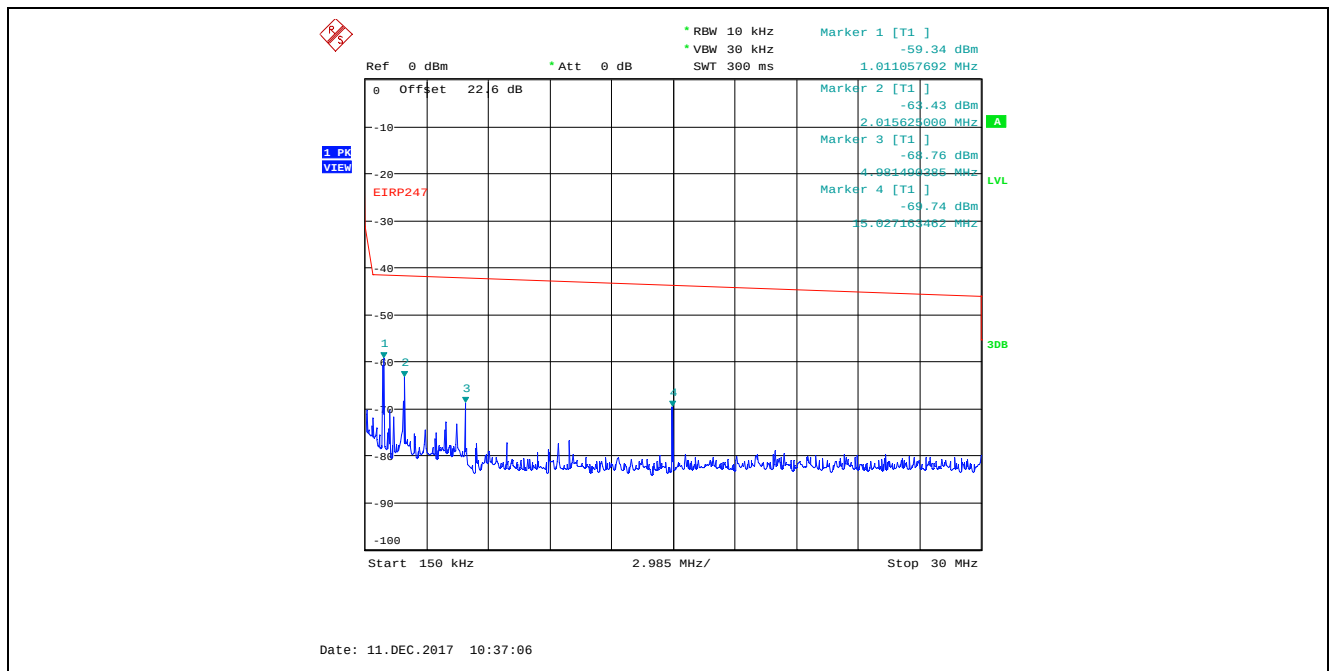
Plot 5.4.4.3.42. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



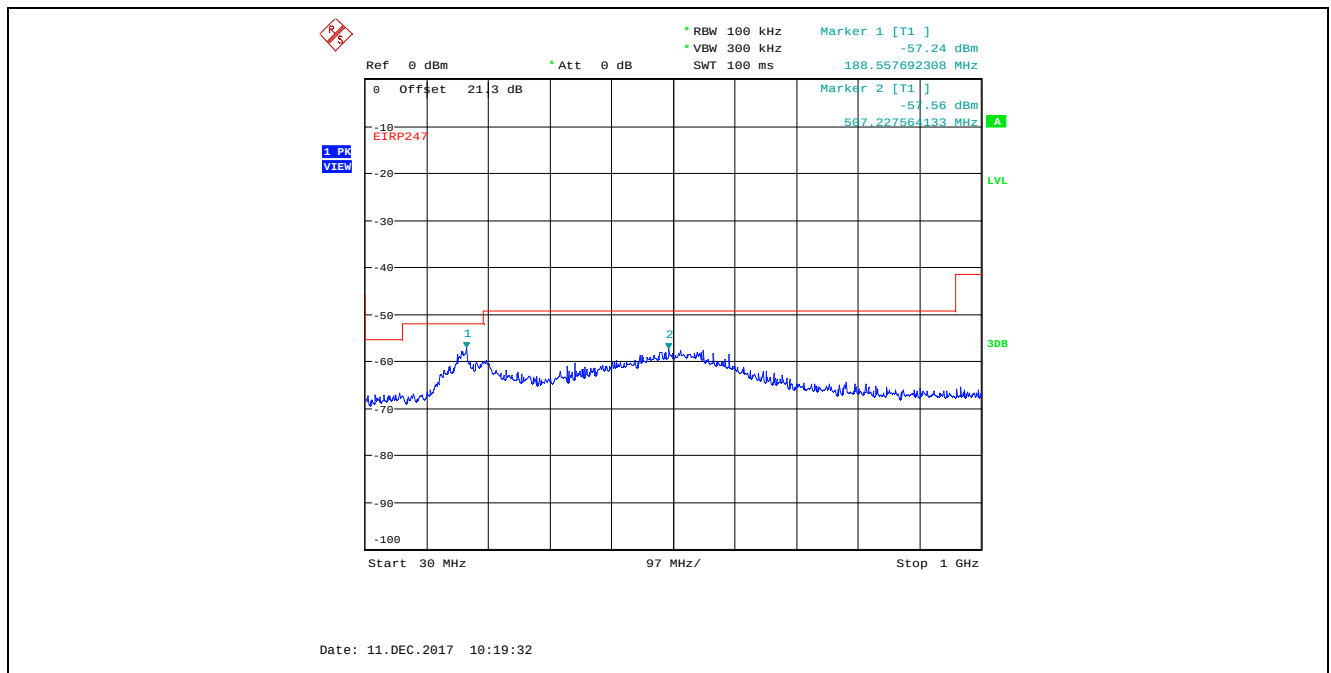
Plot 5.4.4.3.43. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



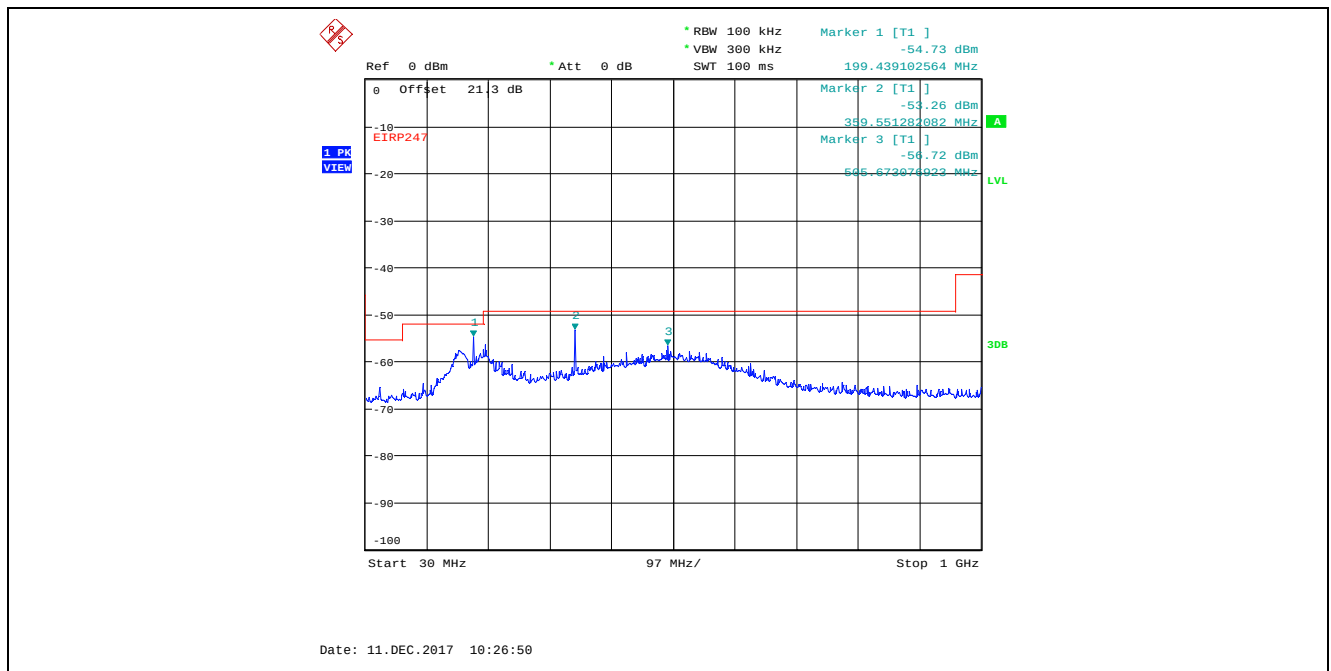
Plot 5.4.4.3.44. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



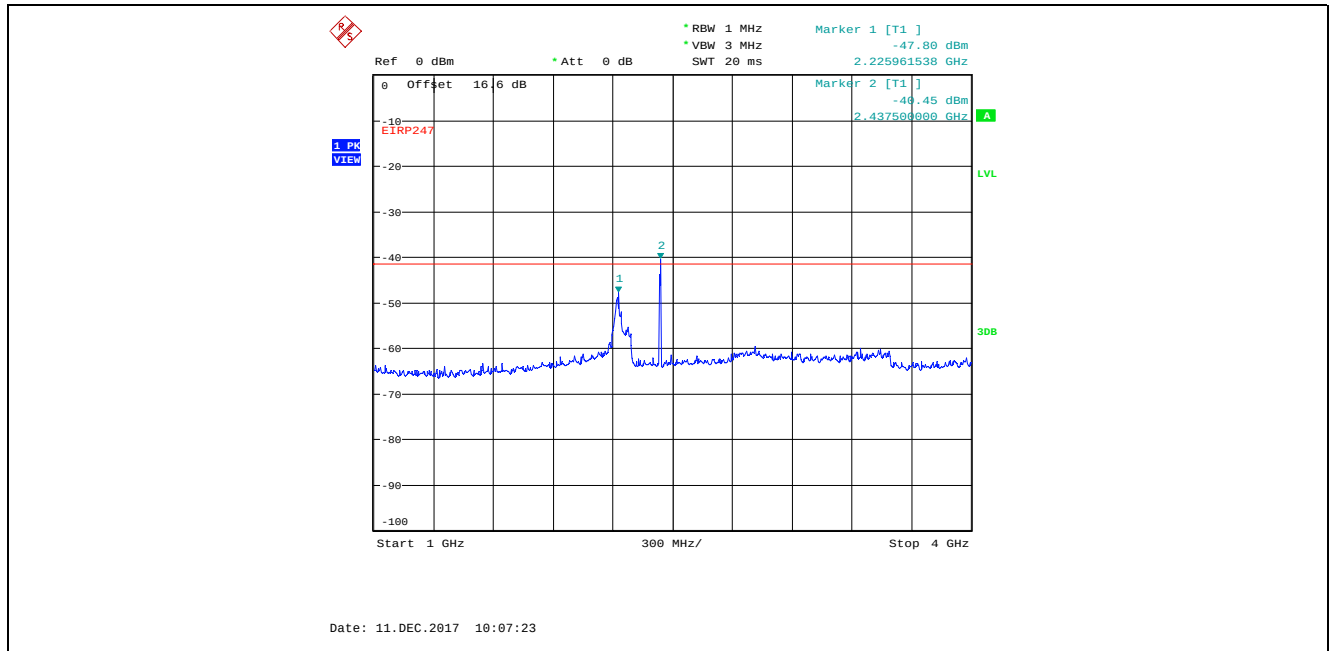
Plot 5.4.4.3.45. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



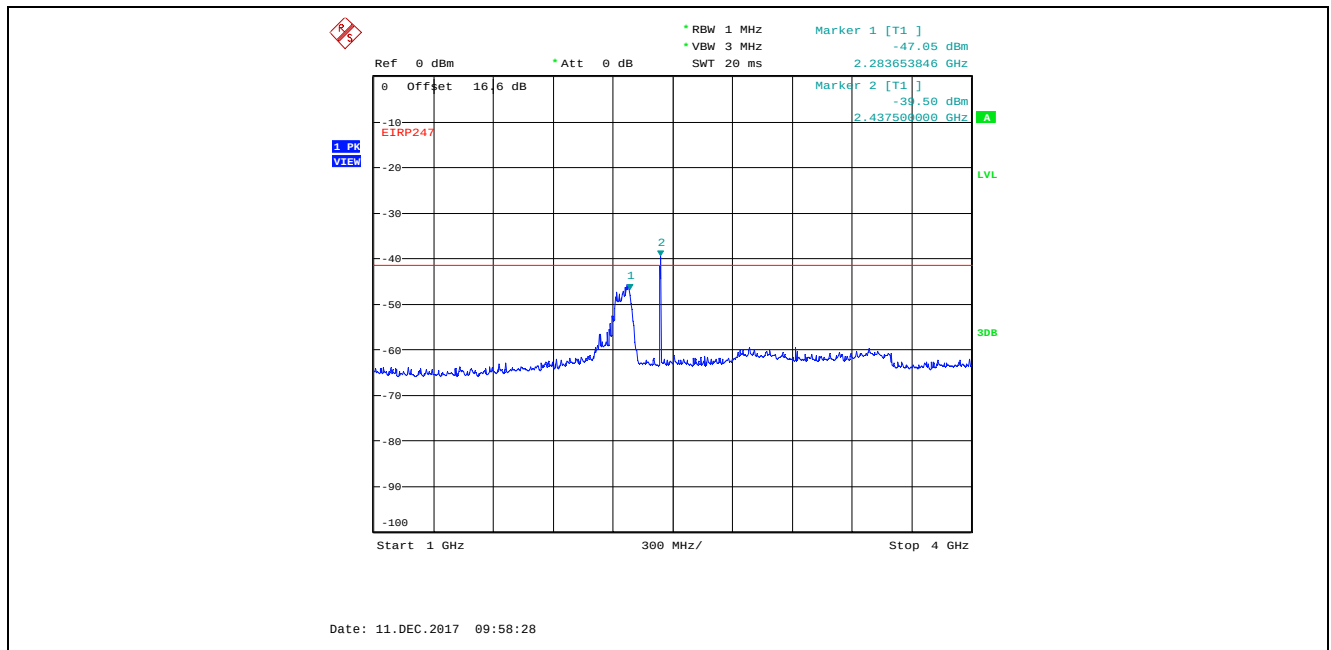
Plot 5.4.4.3.46. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



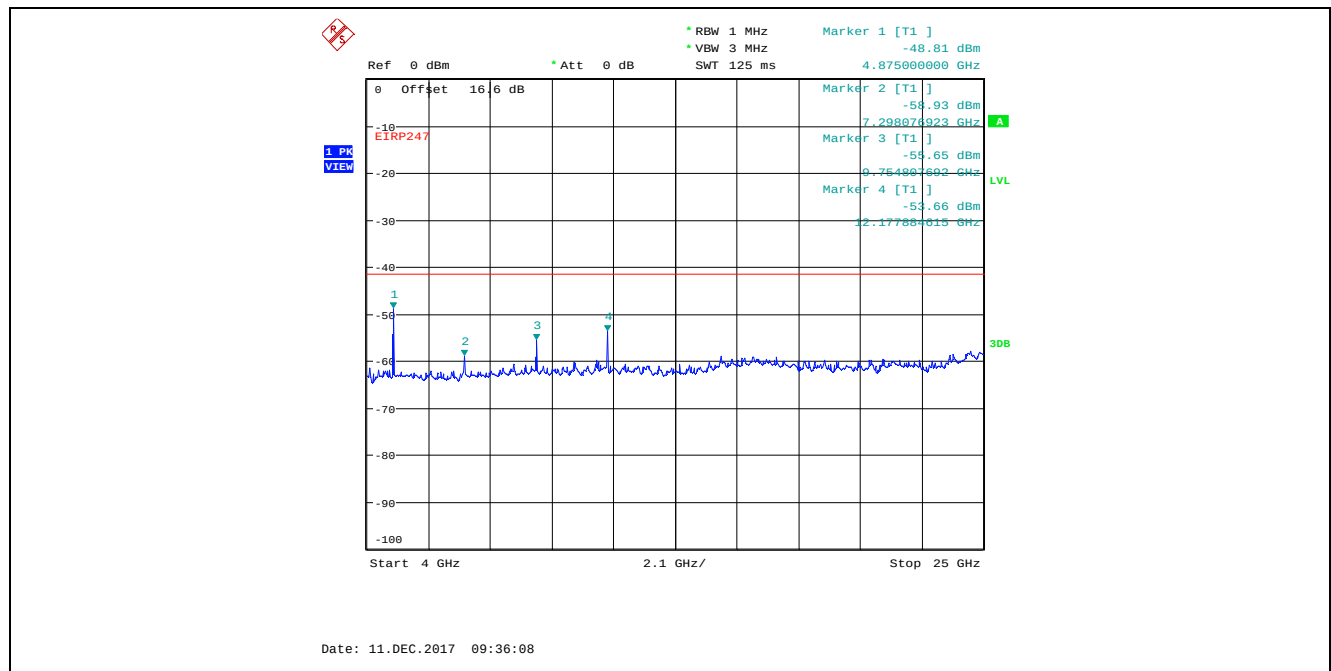
Plot 5.4.4.3.47. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



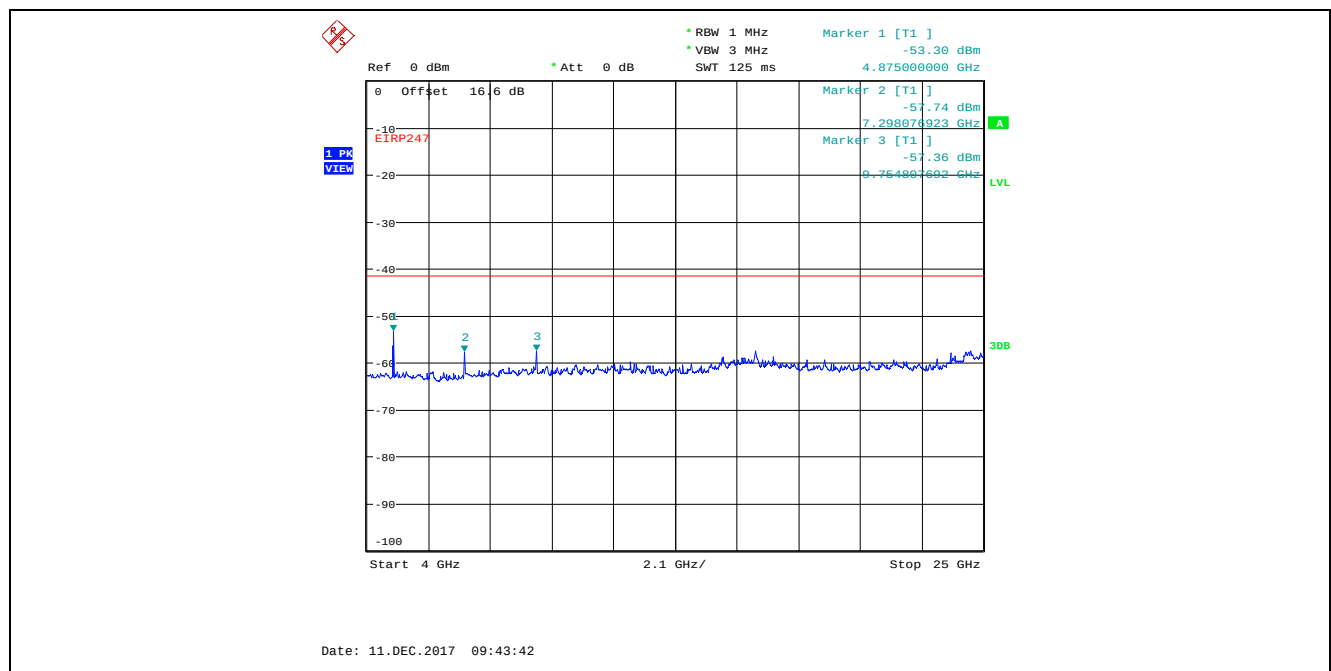
Plot 5.4.4.3.48. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



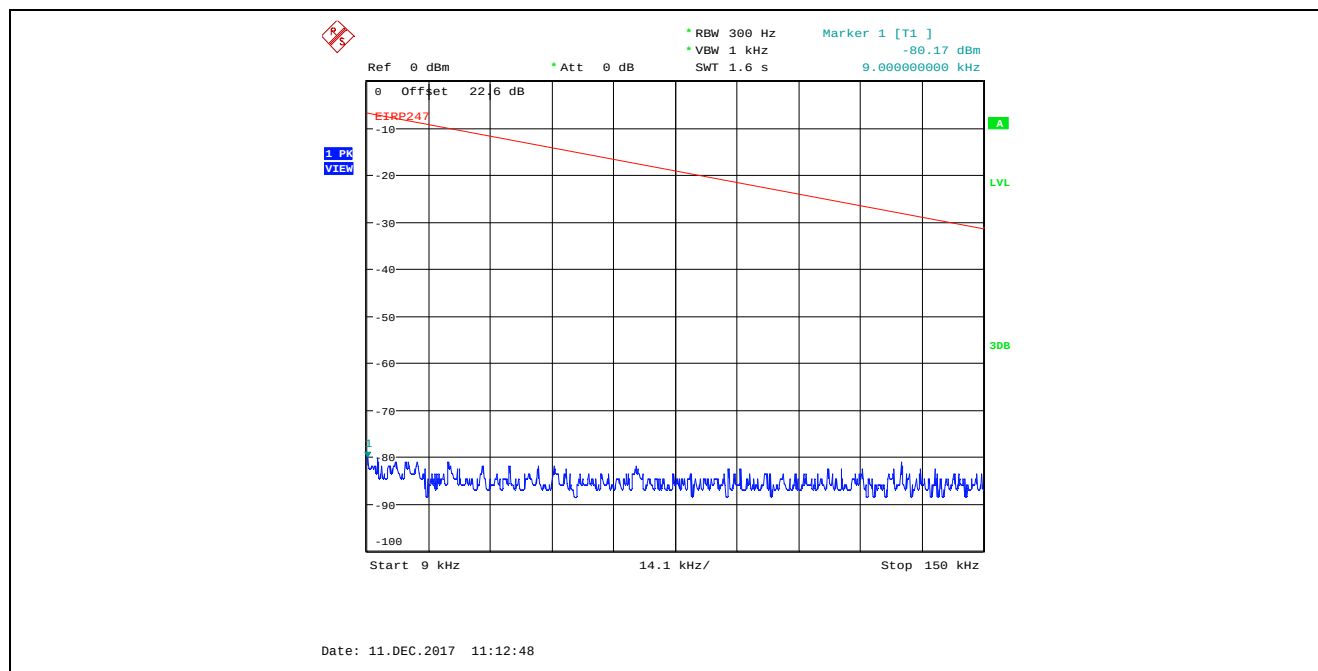
Plot 5.4.4.3.49. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



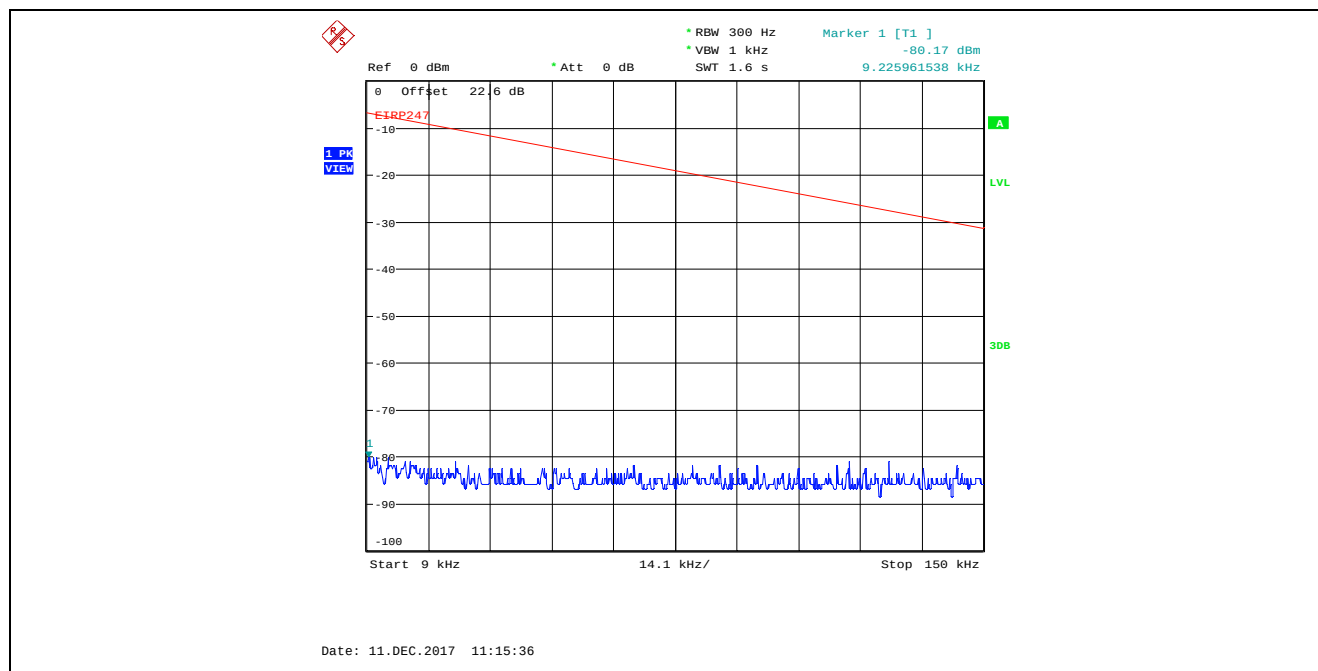
Plot 5.4.4.3.50. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



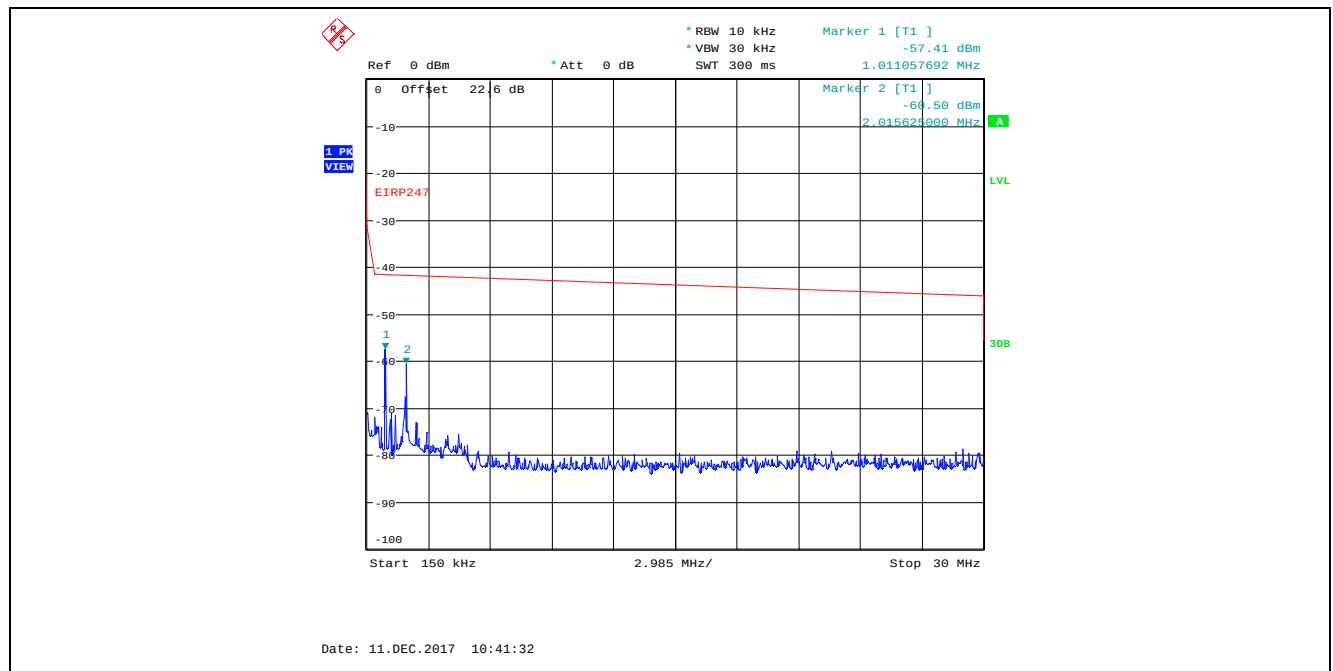
Plot 5.4.4.3.51. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



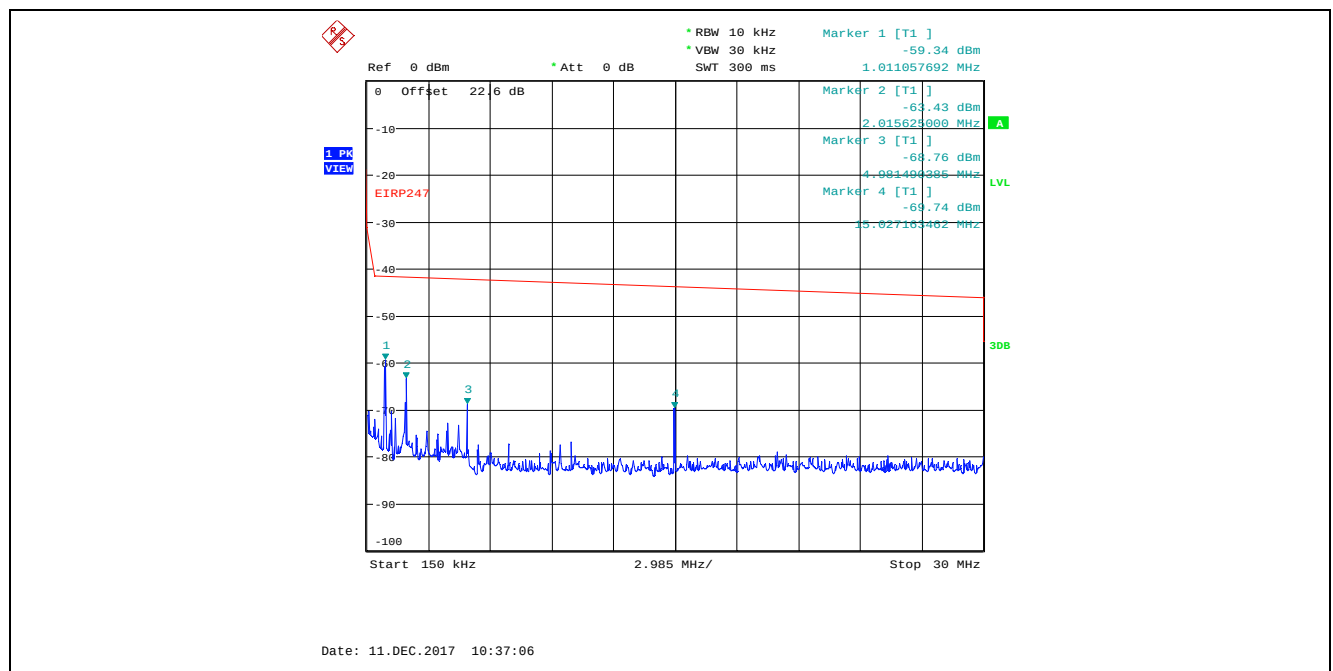
Plot 5.4.4.3.52. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



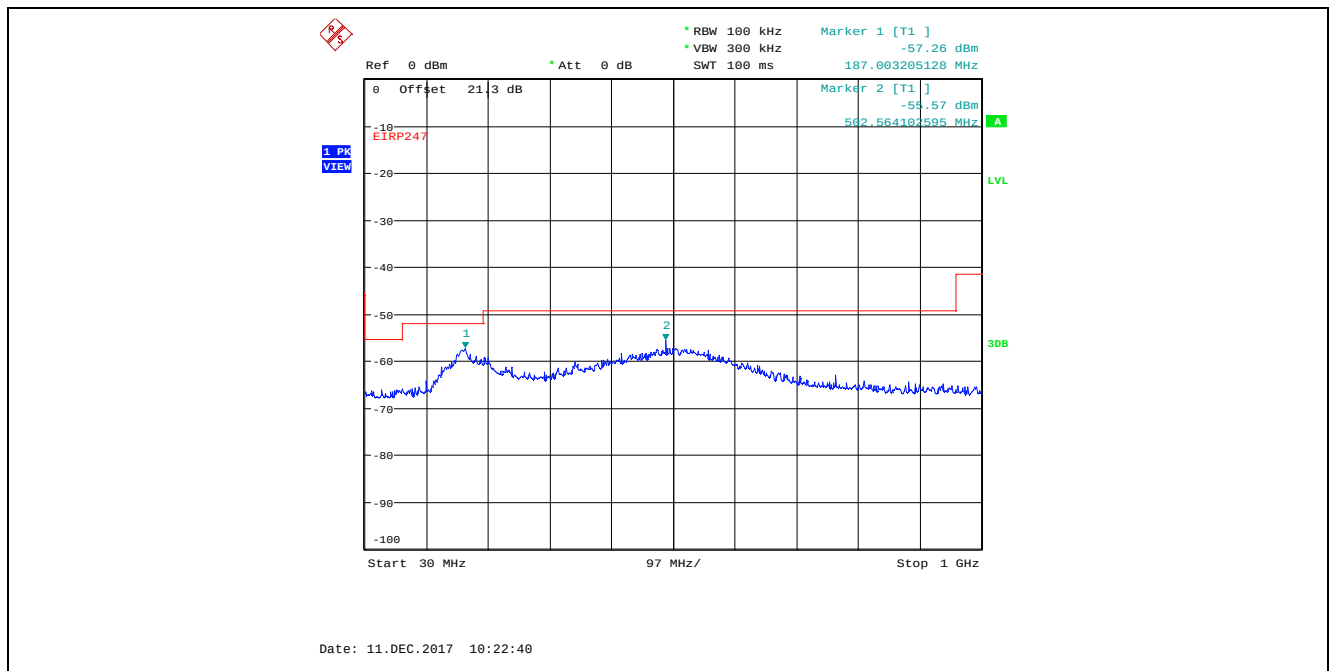
Plot 5.4.4.3.53. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



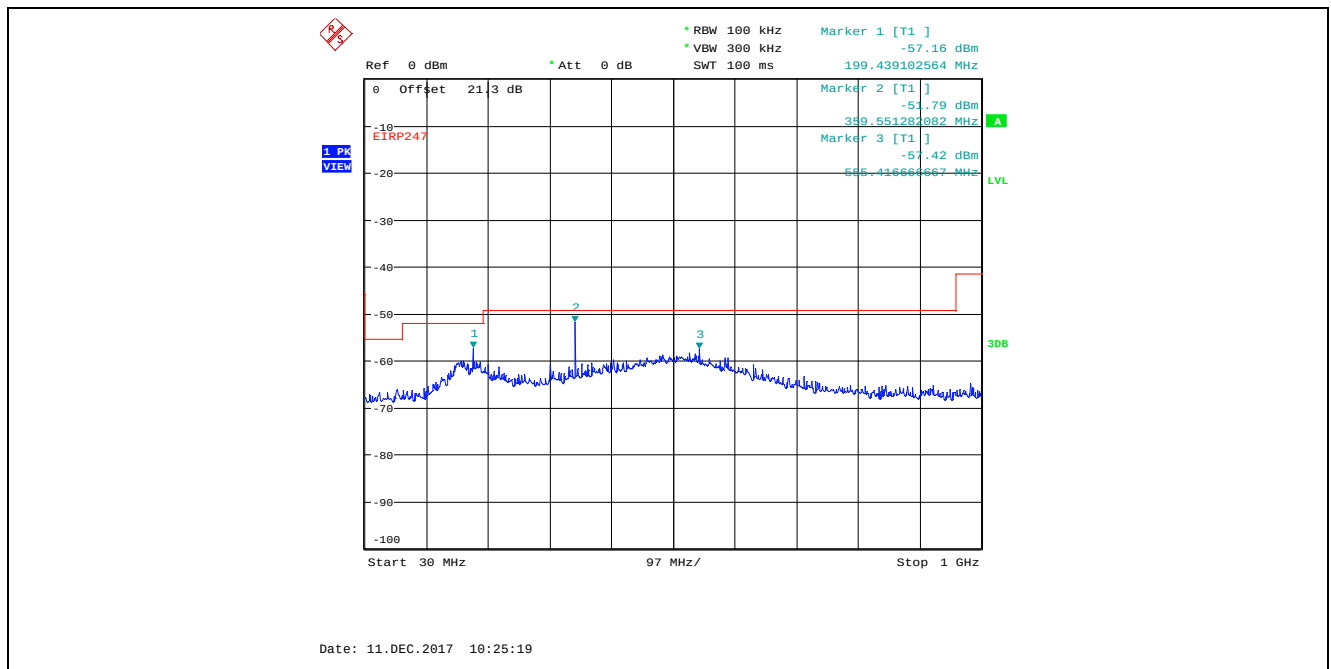
Plot 5.4.4.3.54. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



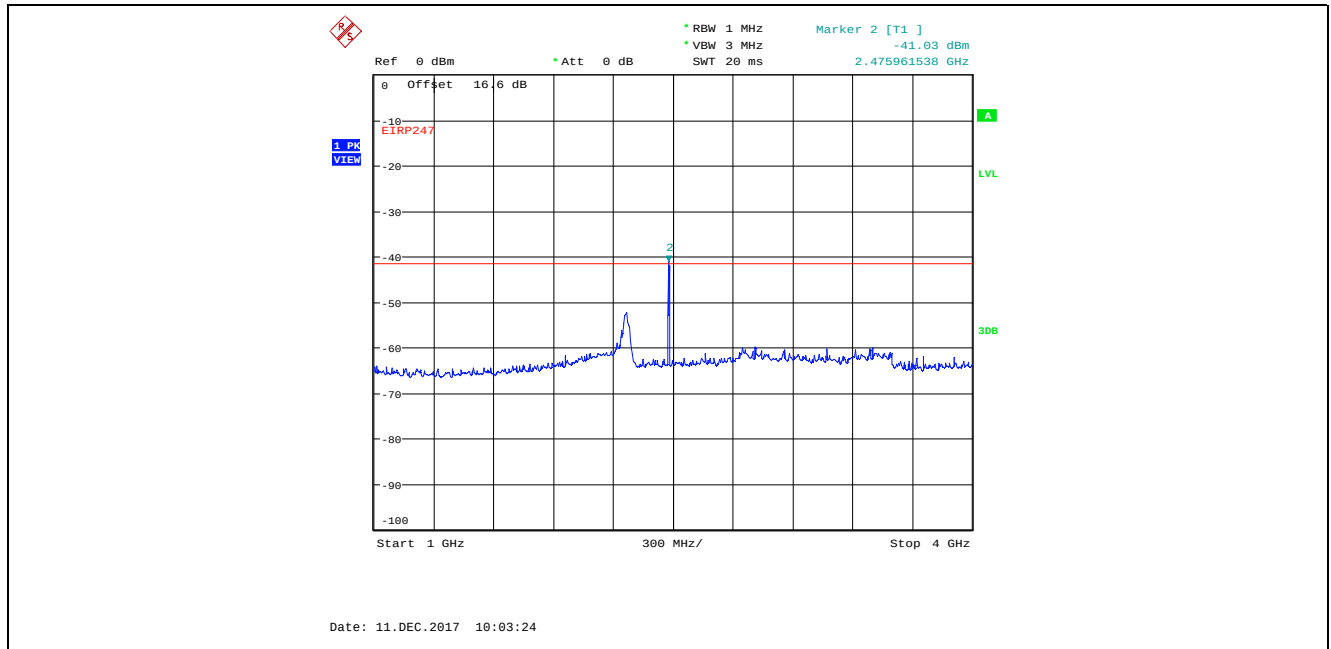
Plot 5.4.4.3.55. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



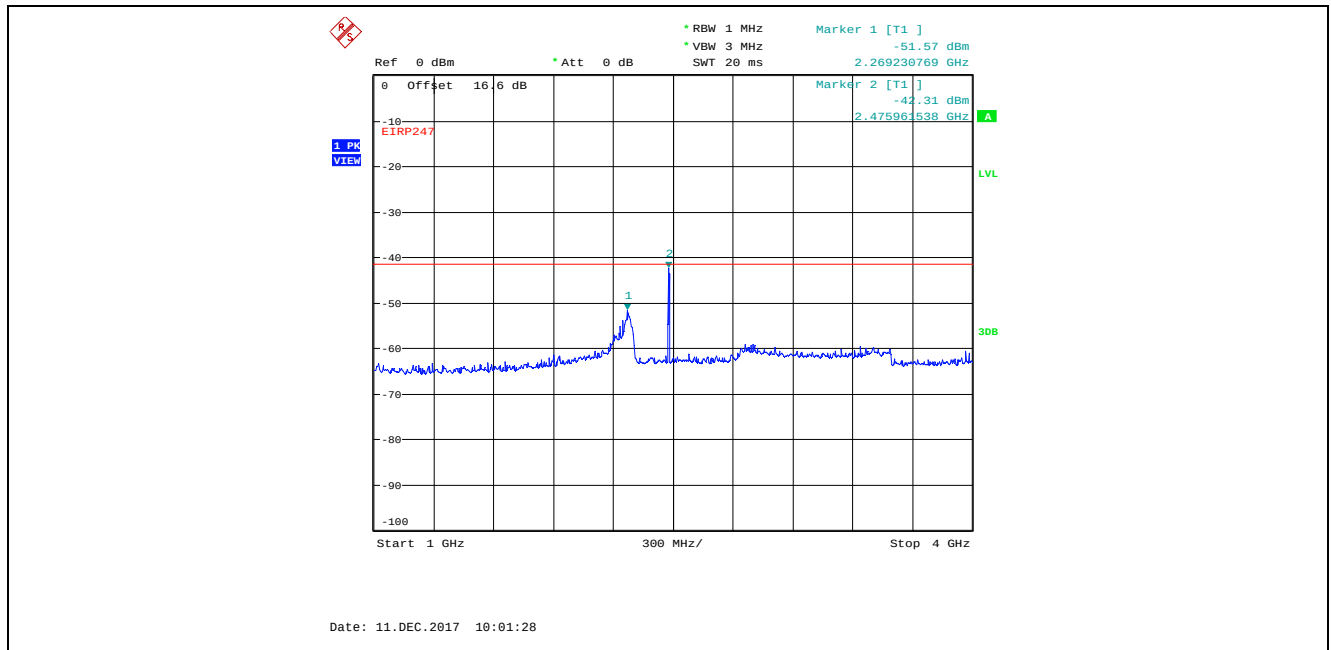
Plot 5.4.4.3.56. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



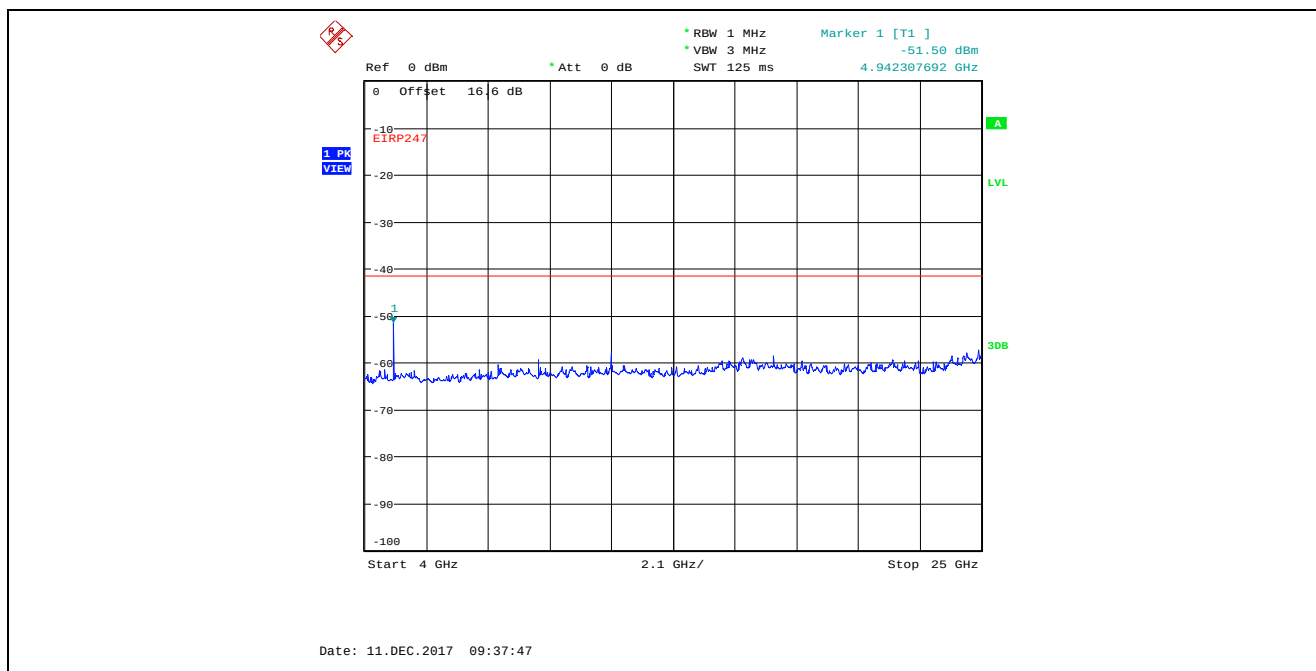
Plot 5.4.4.3.57. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



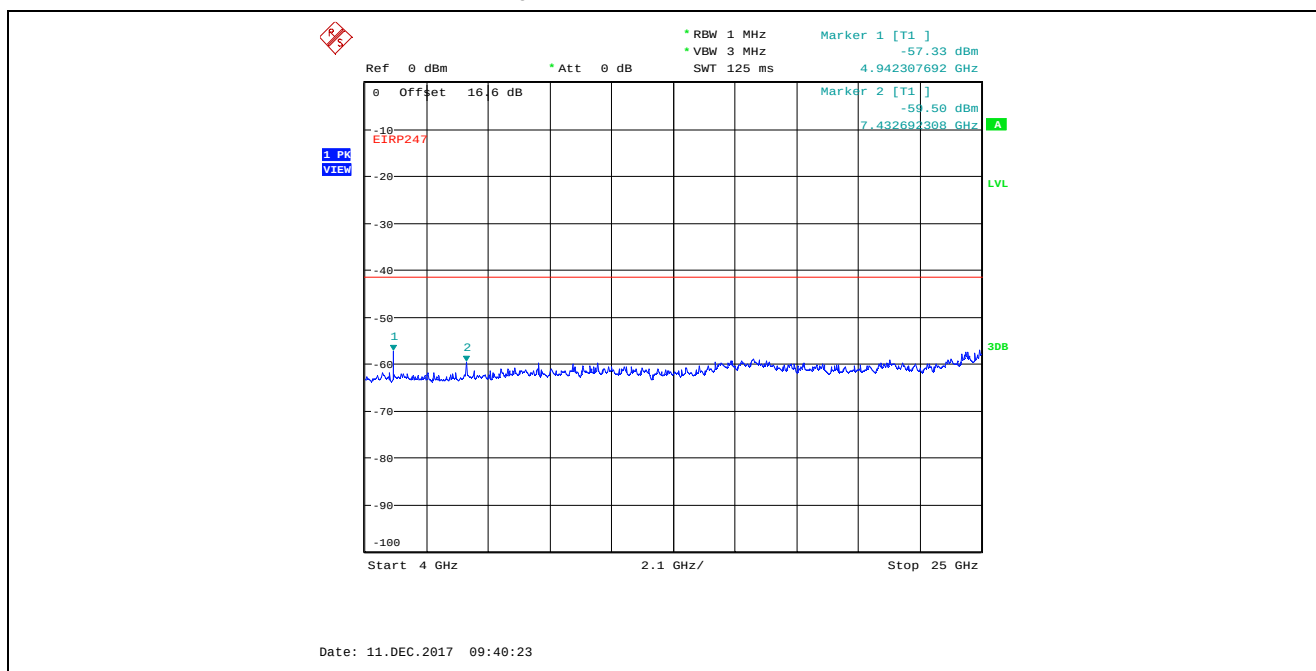
Plot 5.4.4.3.58. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



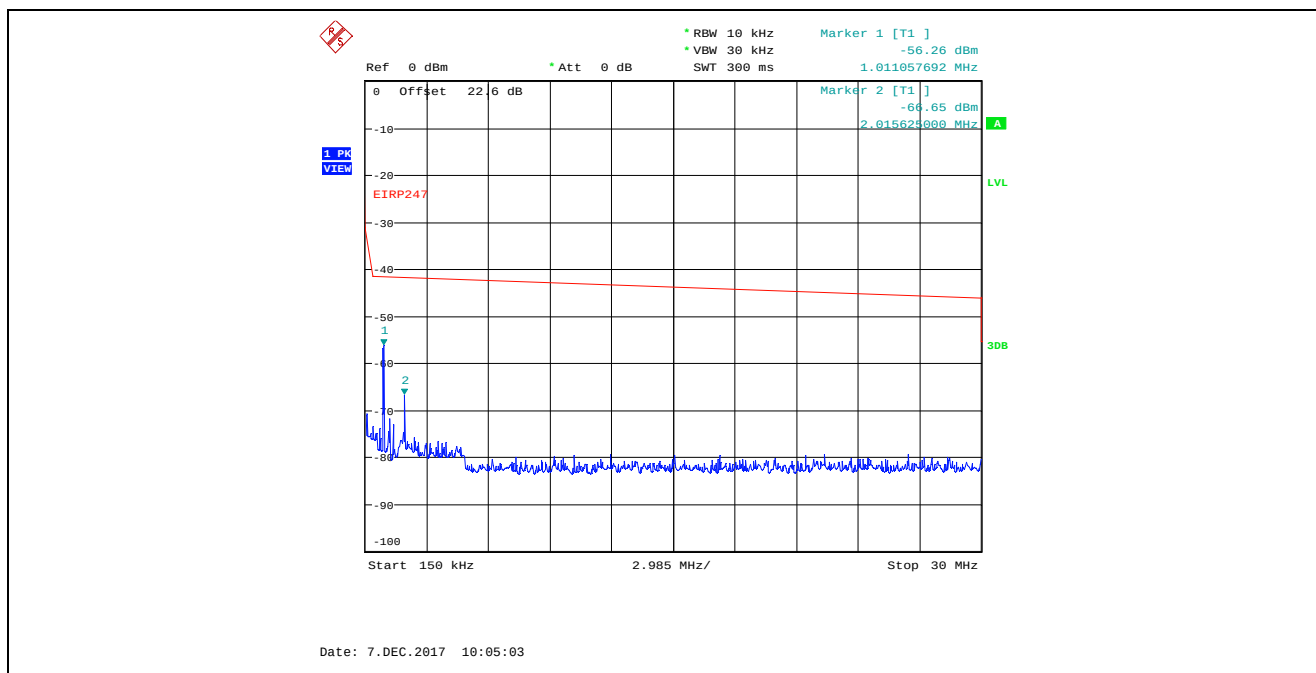
Plot 5.4.4.3.59. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



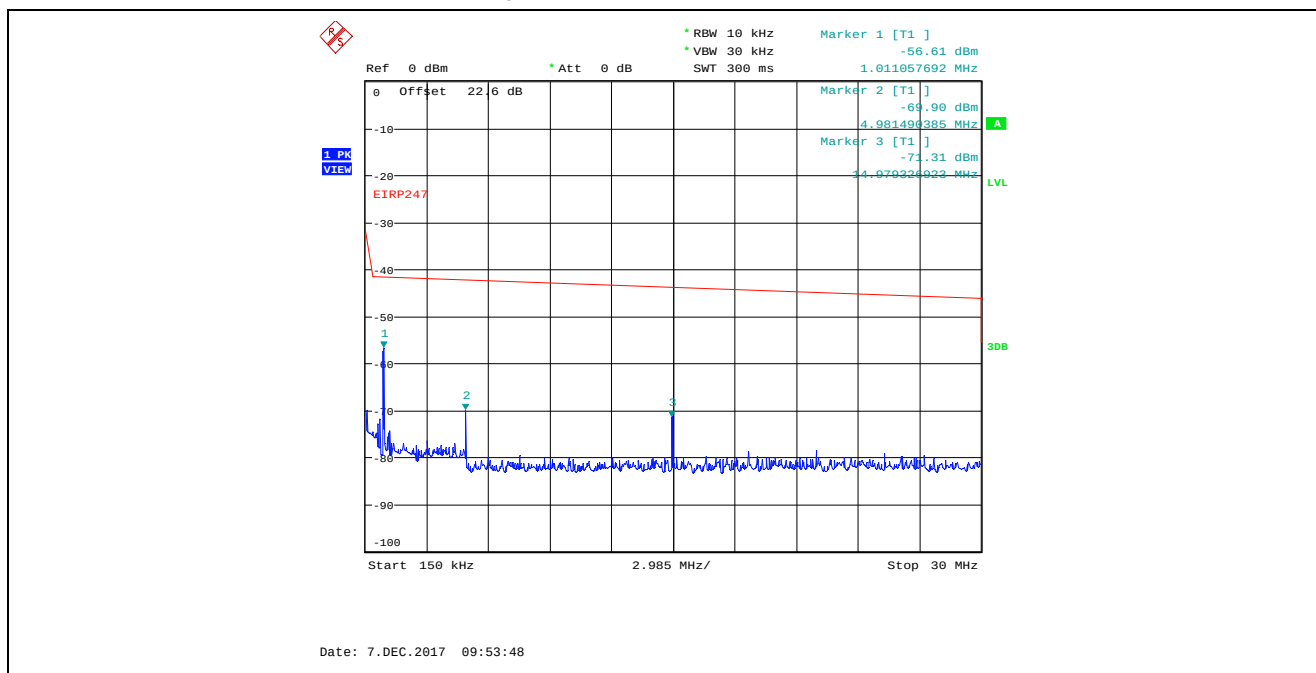
Plot 5.4.4.3.60. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 22, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



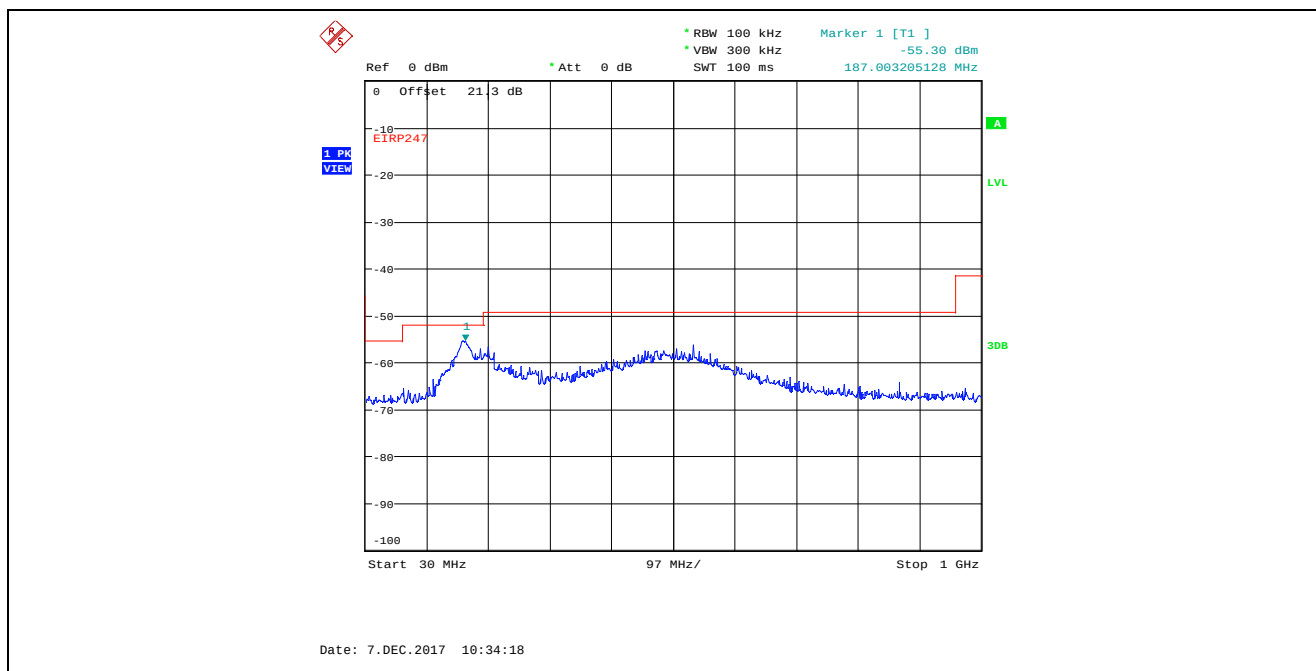
Plot 5.4.4.4.3. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



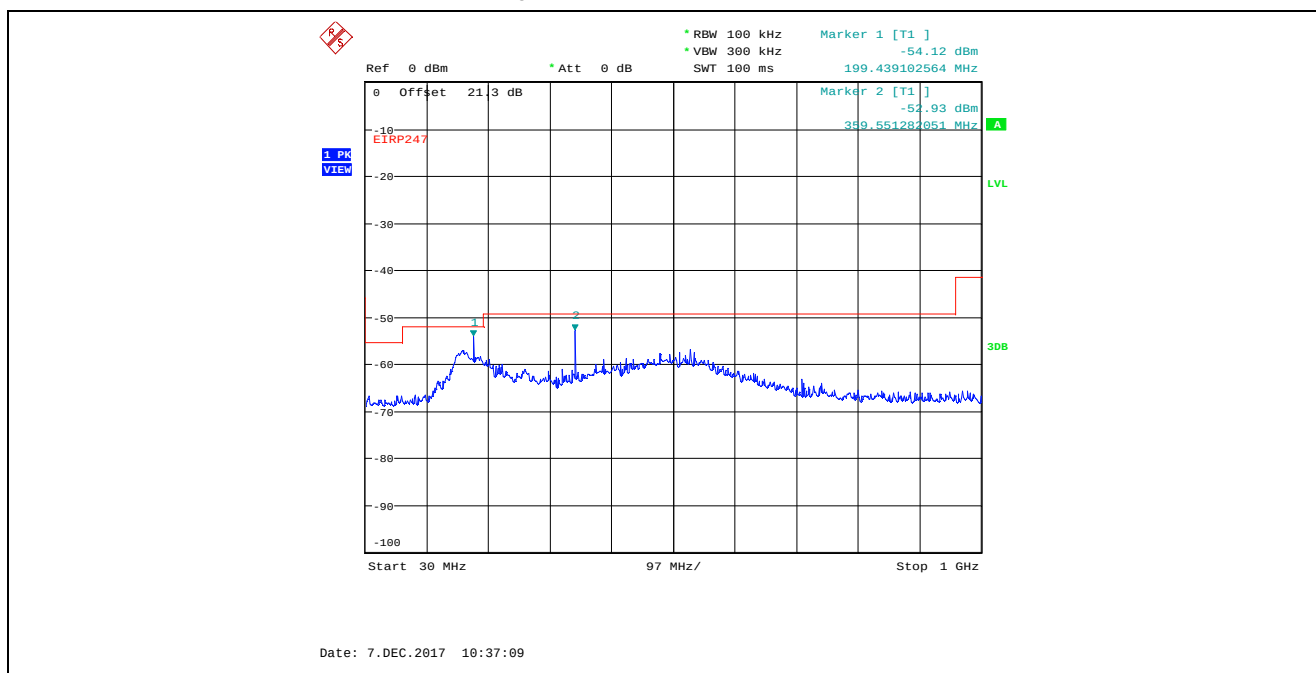
Plot 5.4.4.4.4. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



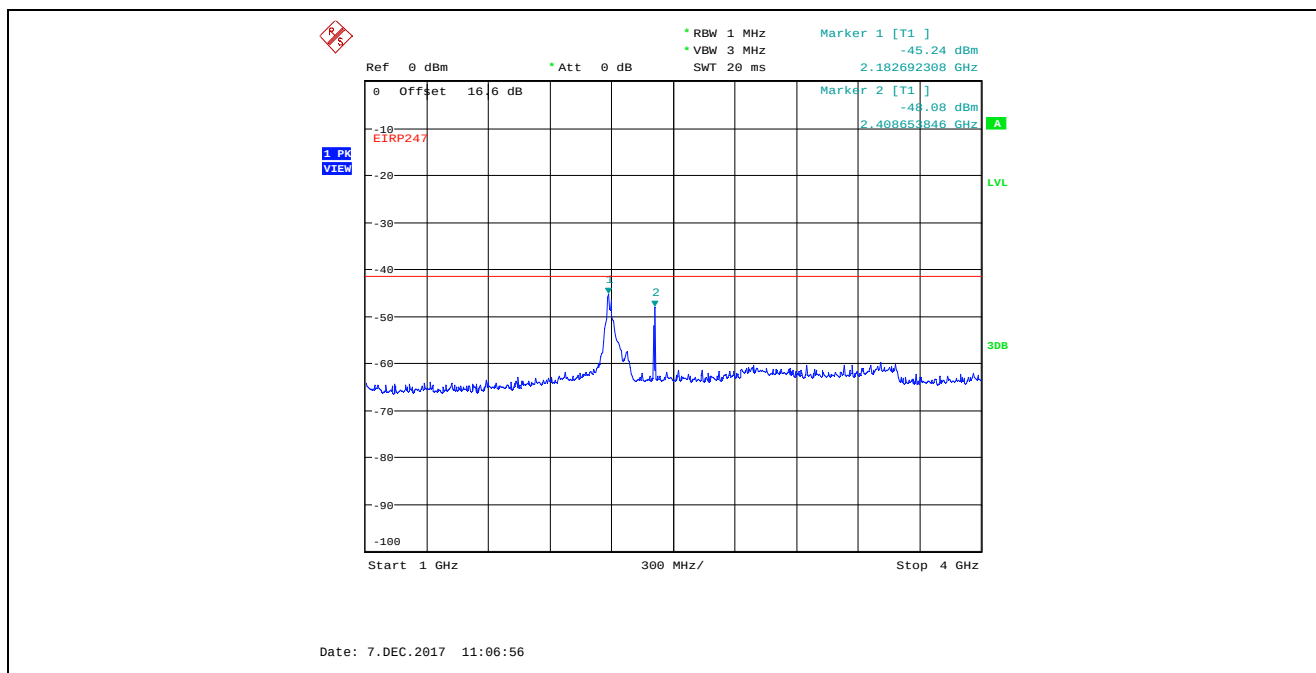
Plot 5.4.4.4.5. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



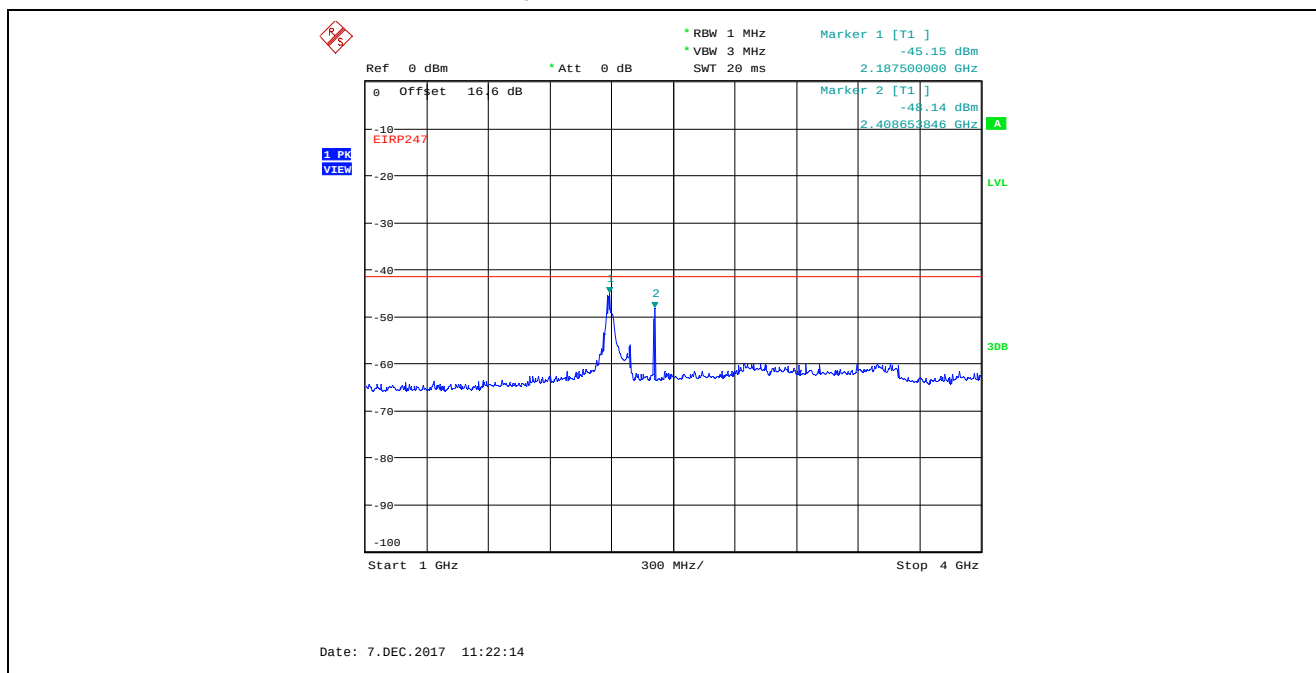
Plot 5.4.4.4.6. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



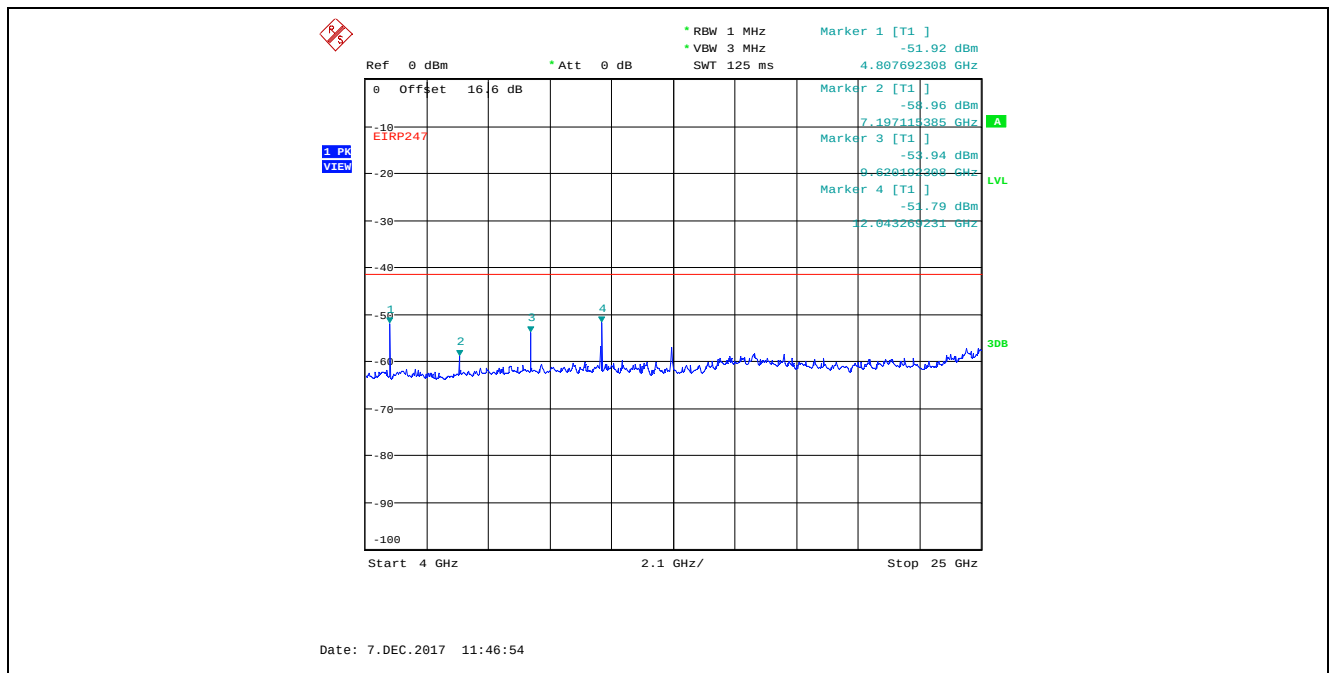
Plot 5.4.4.7. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



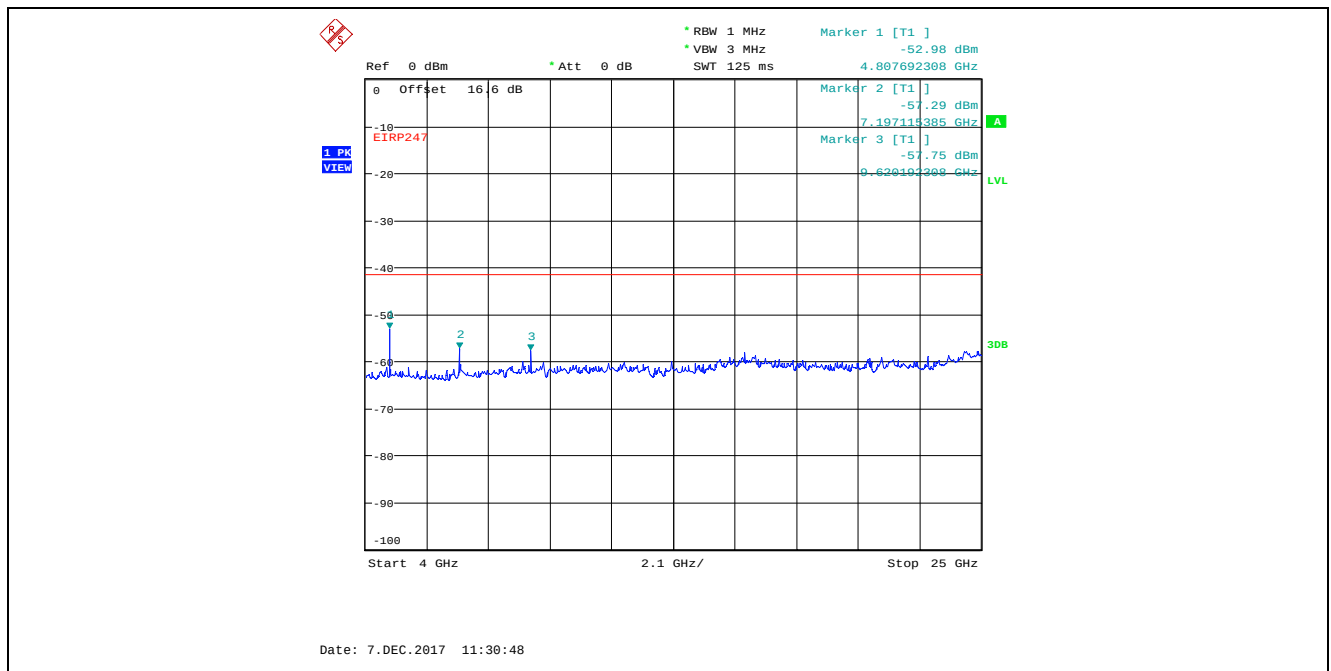
Plot 5.4.4.8. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



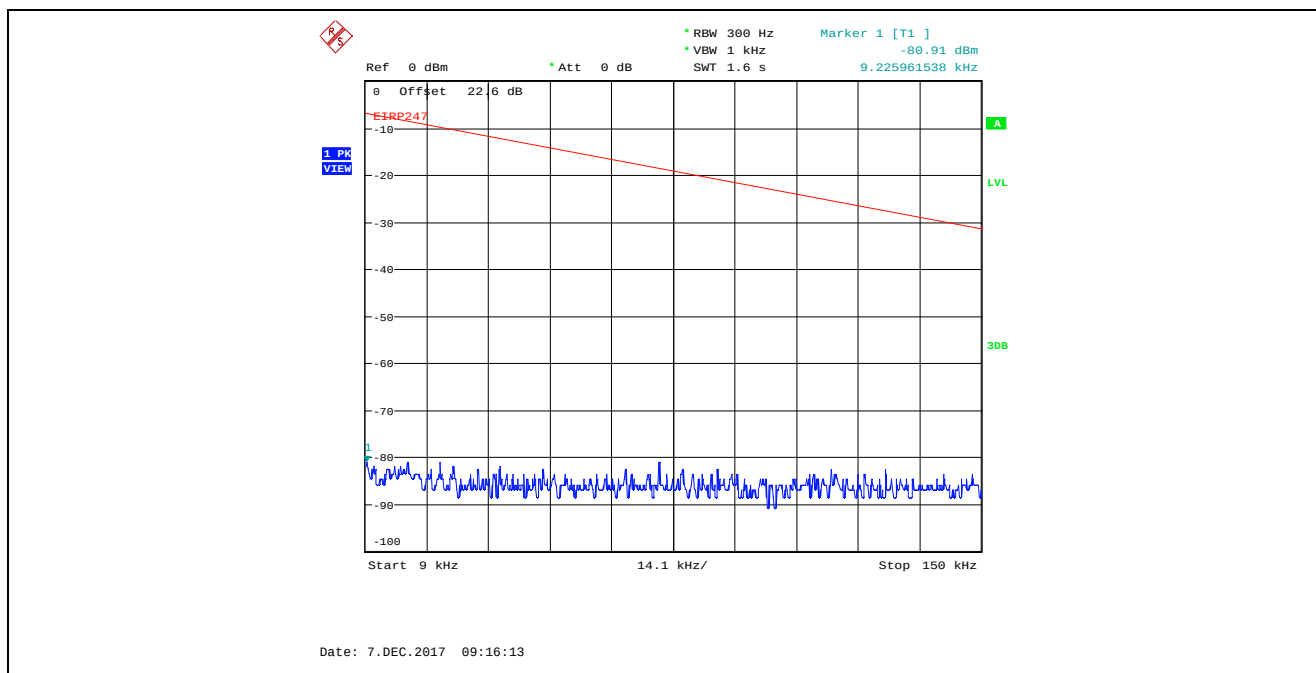
Plot 5.4.4.4.9. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



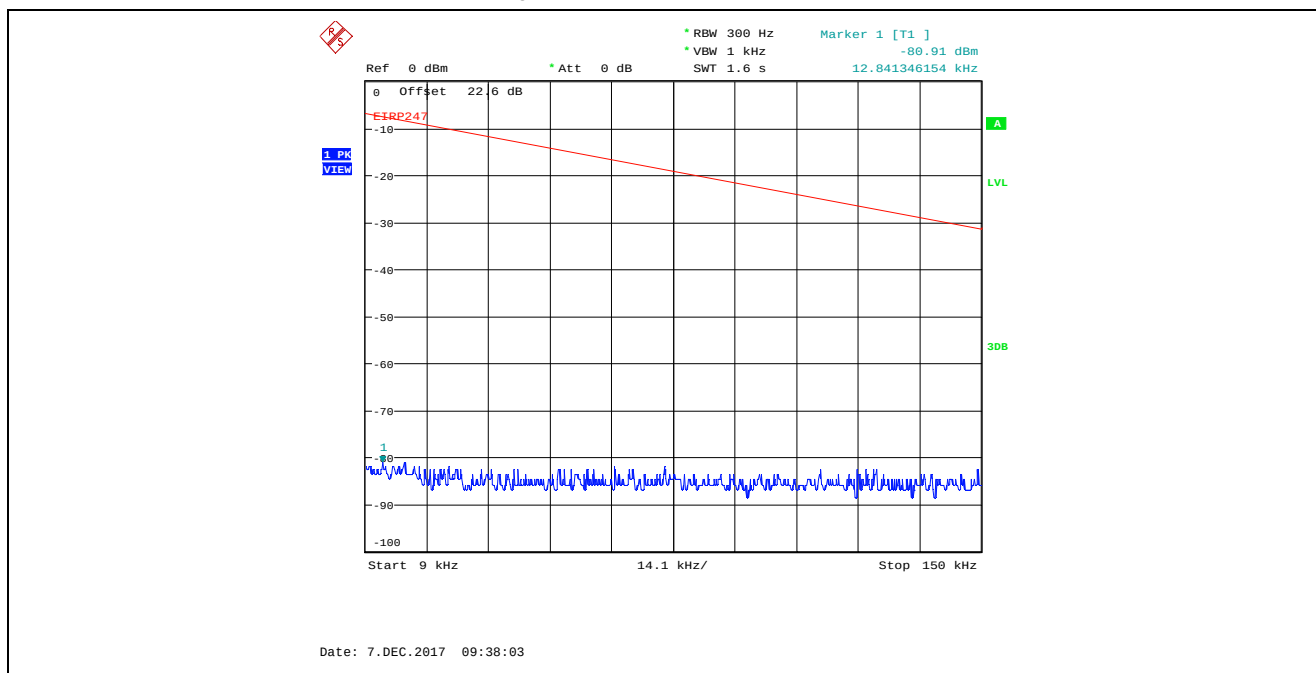
Plot 5.4.4.4.10. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



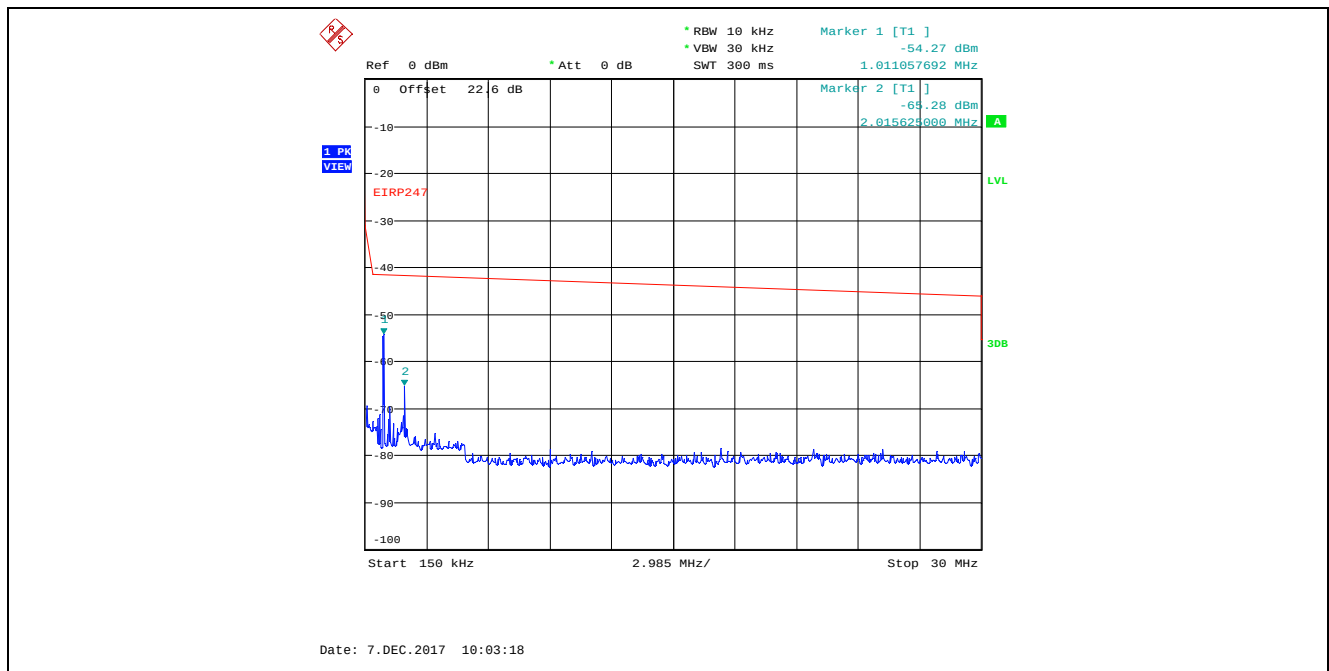
Plot 5.4.4.4.11. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



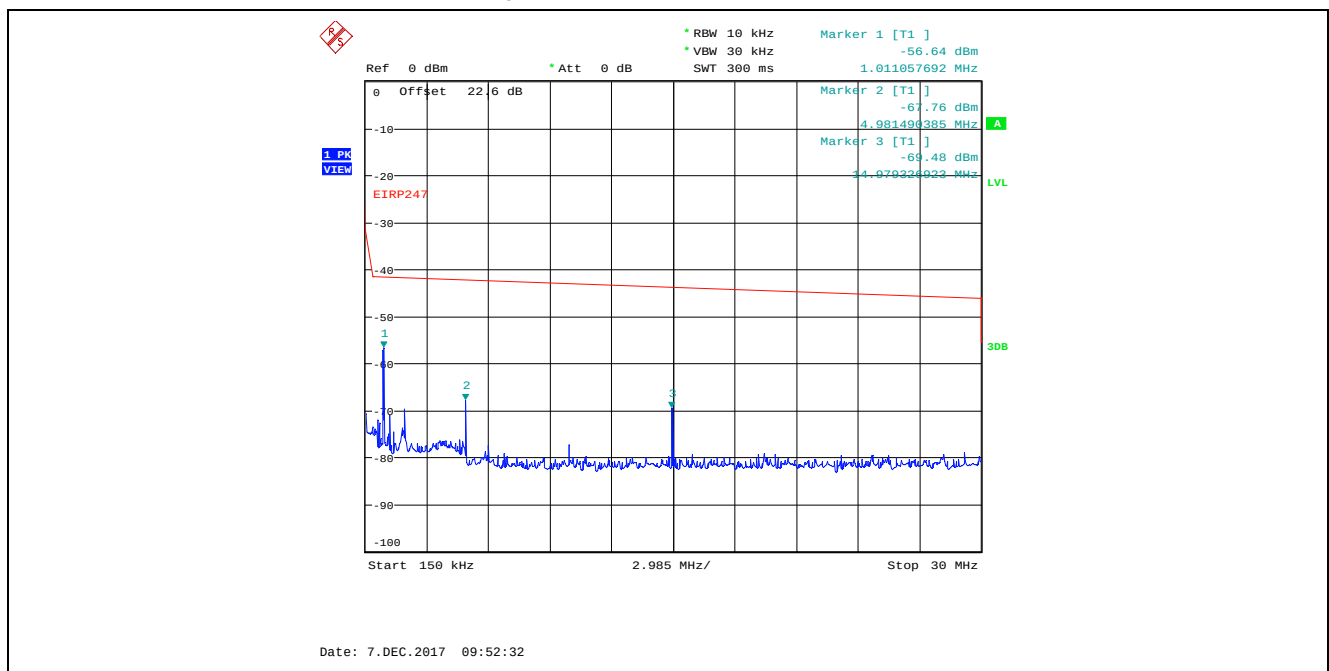
Plot 5.4.4.4.12. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



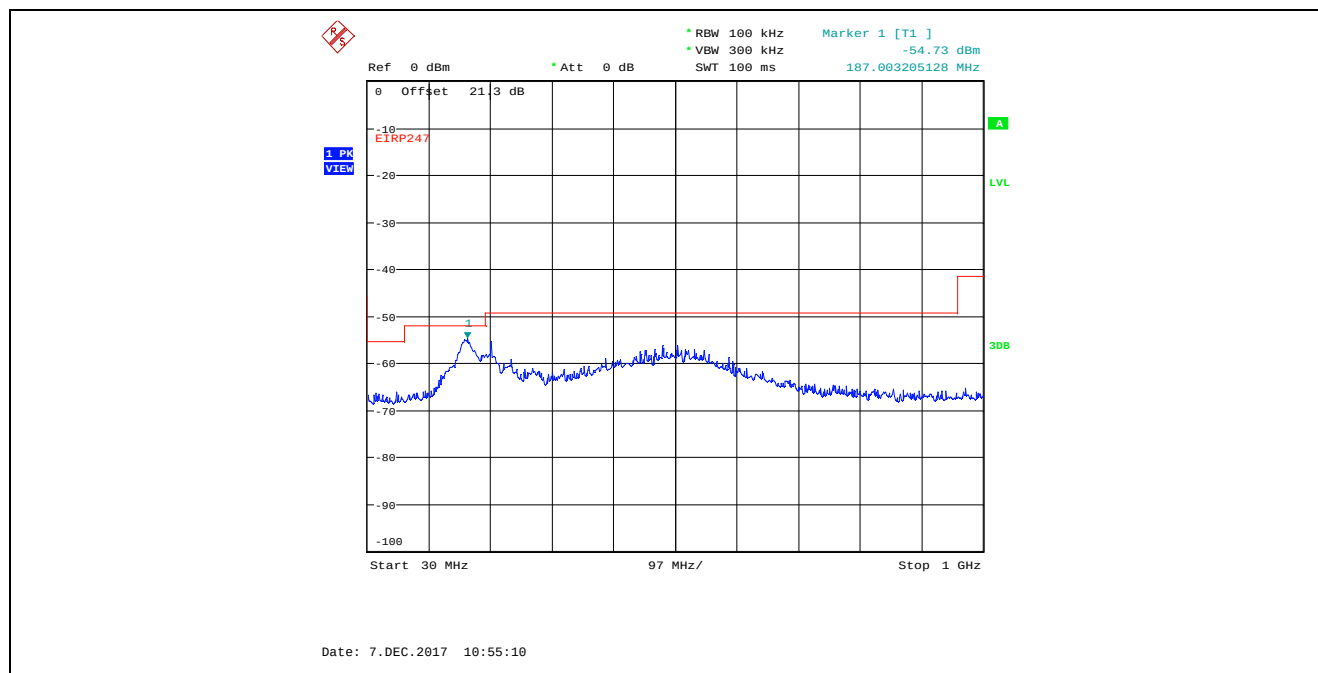
Plot 5.4.4.4.13. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



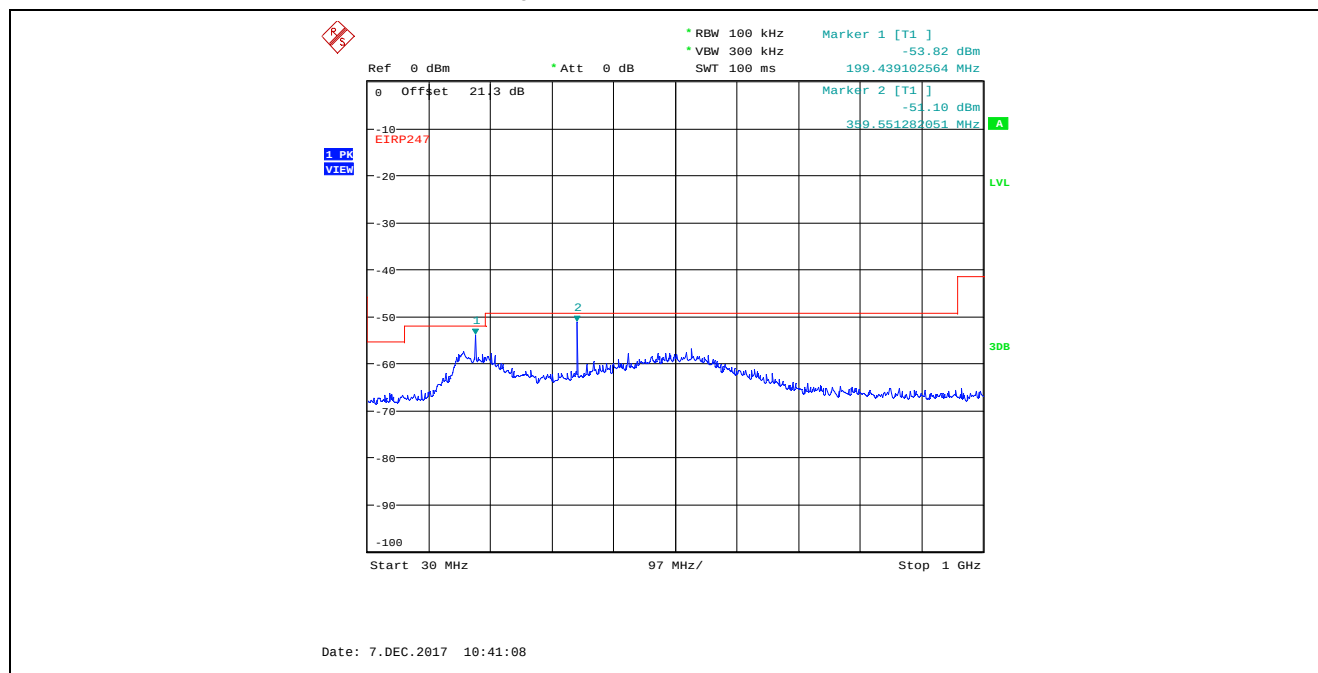
Plot 5.4.4.4.14. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



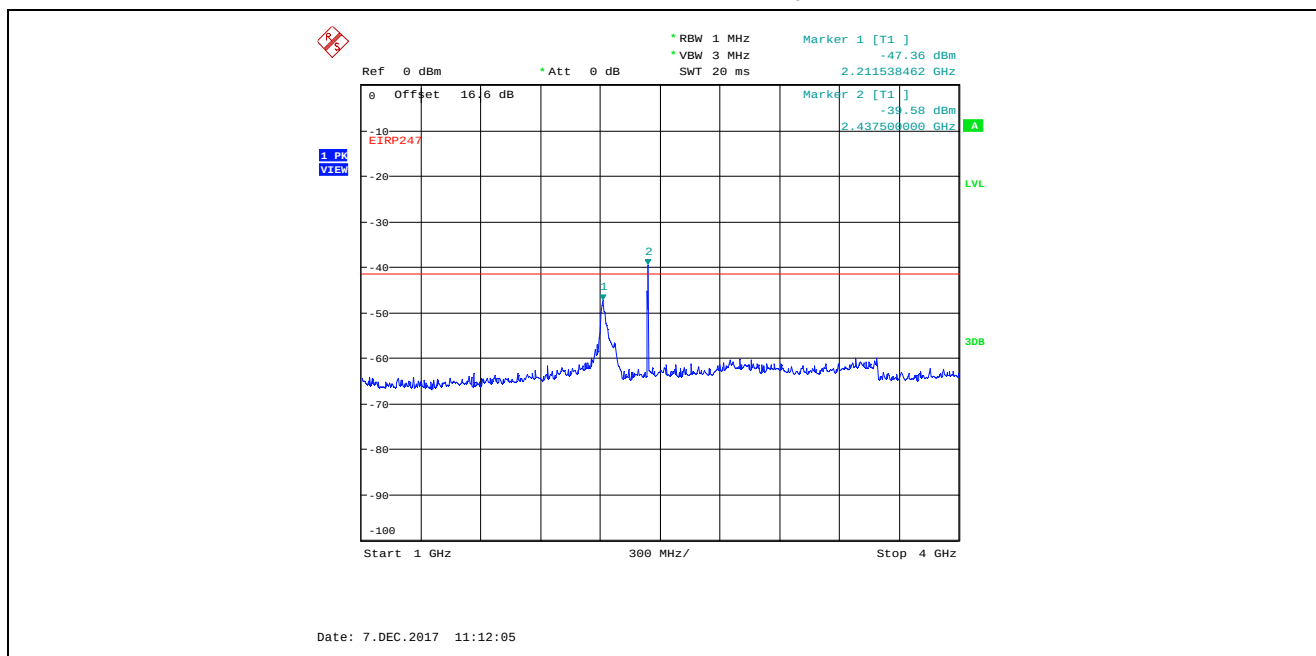
Plot 5.4.4.4.15. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



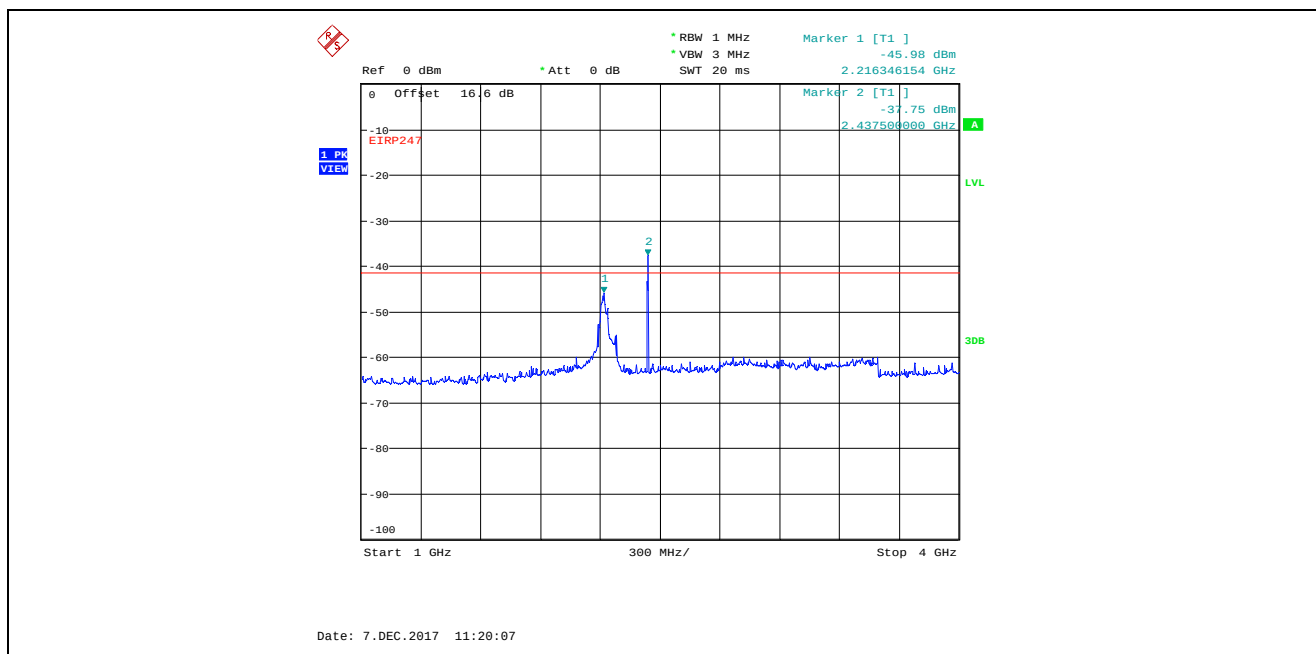
Plot 5.4.4.4.16. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



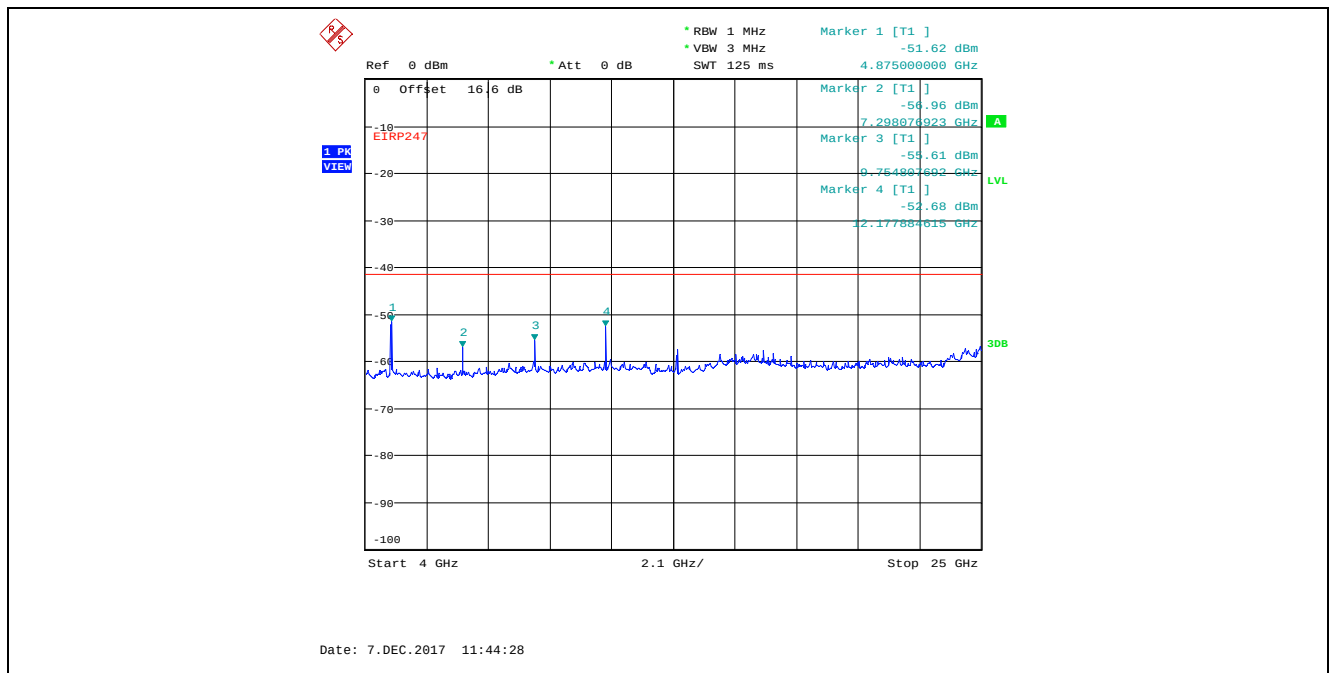
Plot 5.4.4.4.17. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



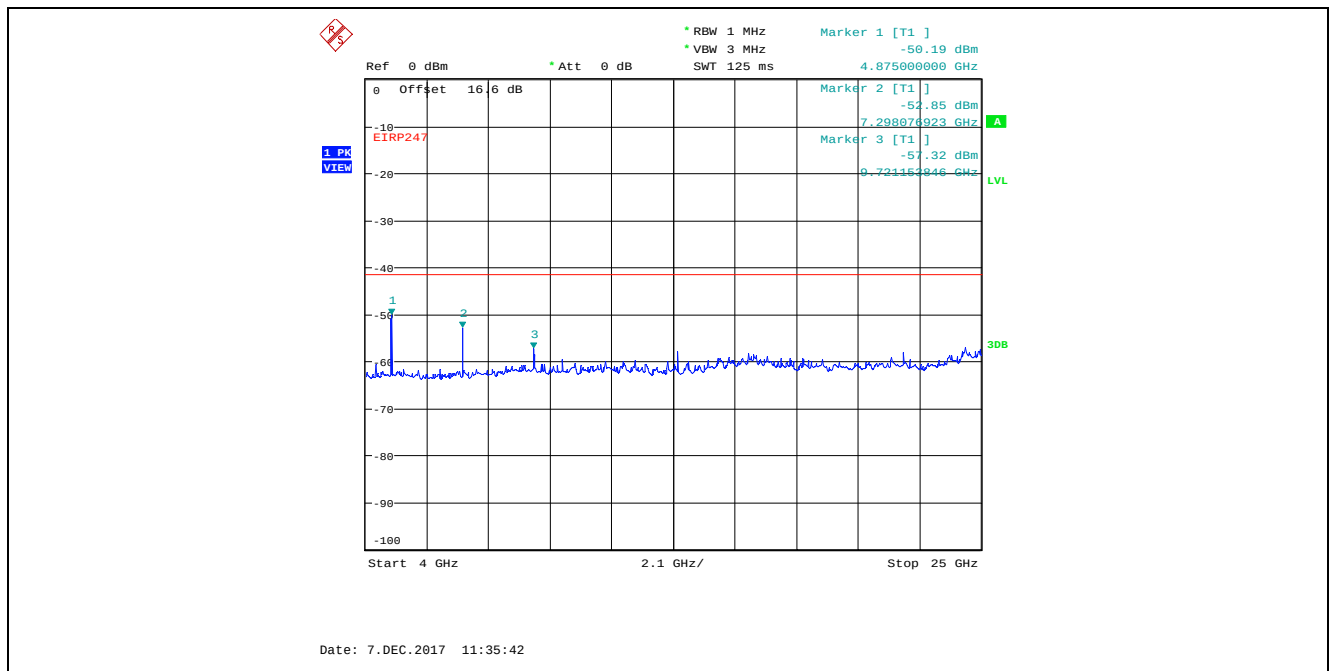
Plot 5.4.4.4.18. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



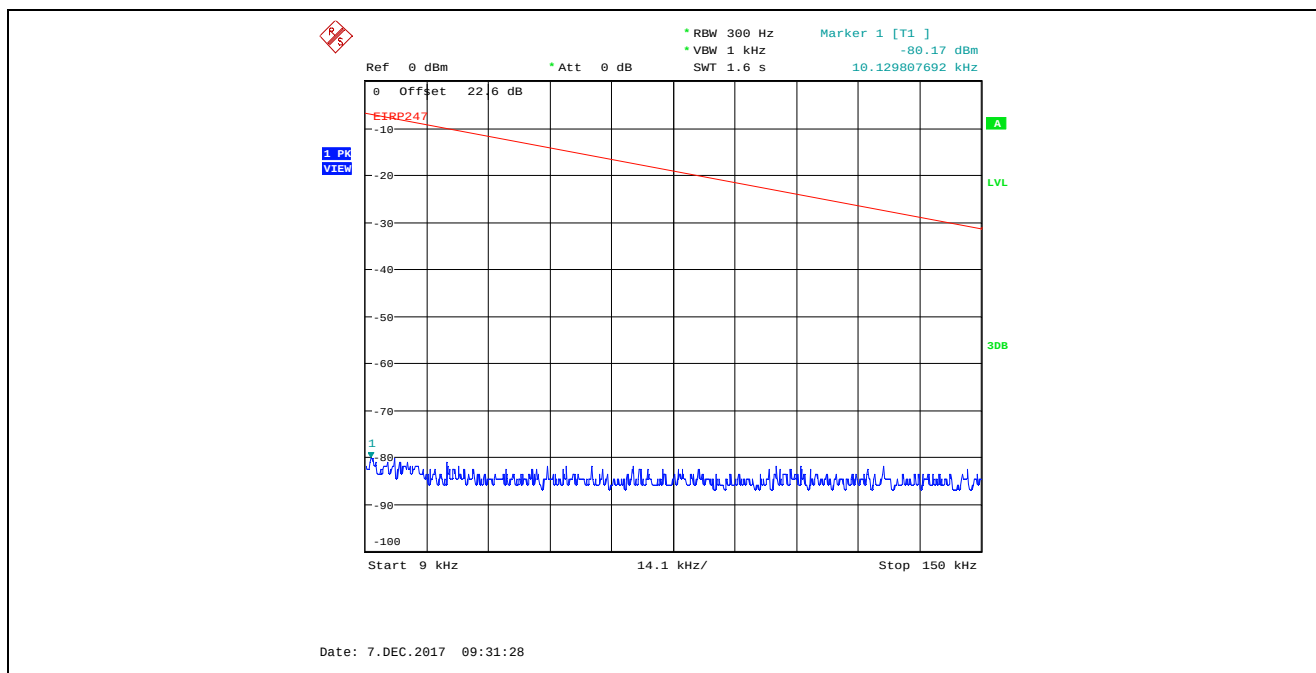
Plot 5.4.4.4.19. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



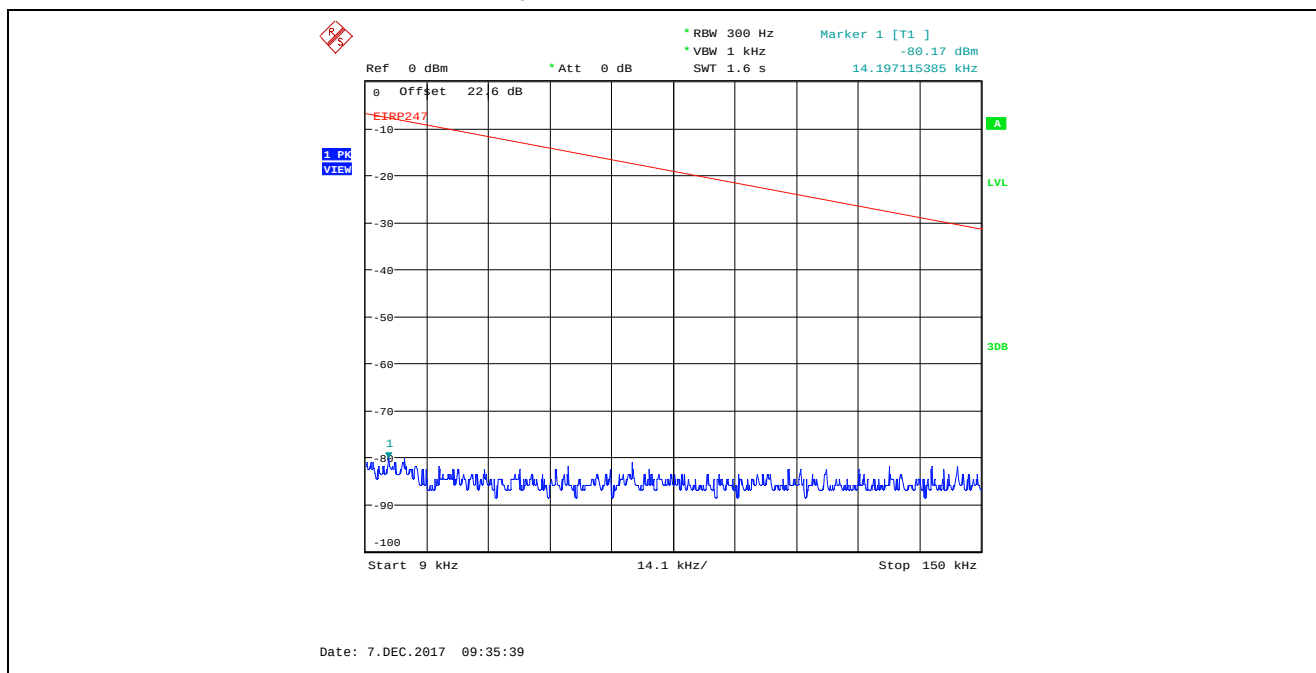
Plot 5.4.4.4.20. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



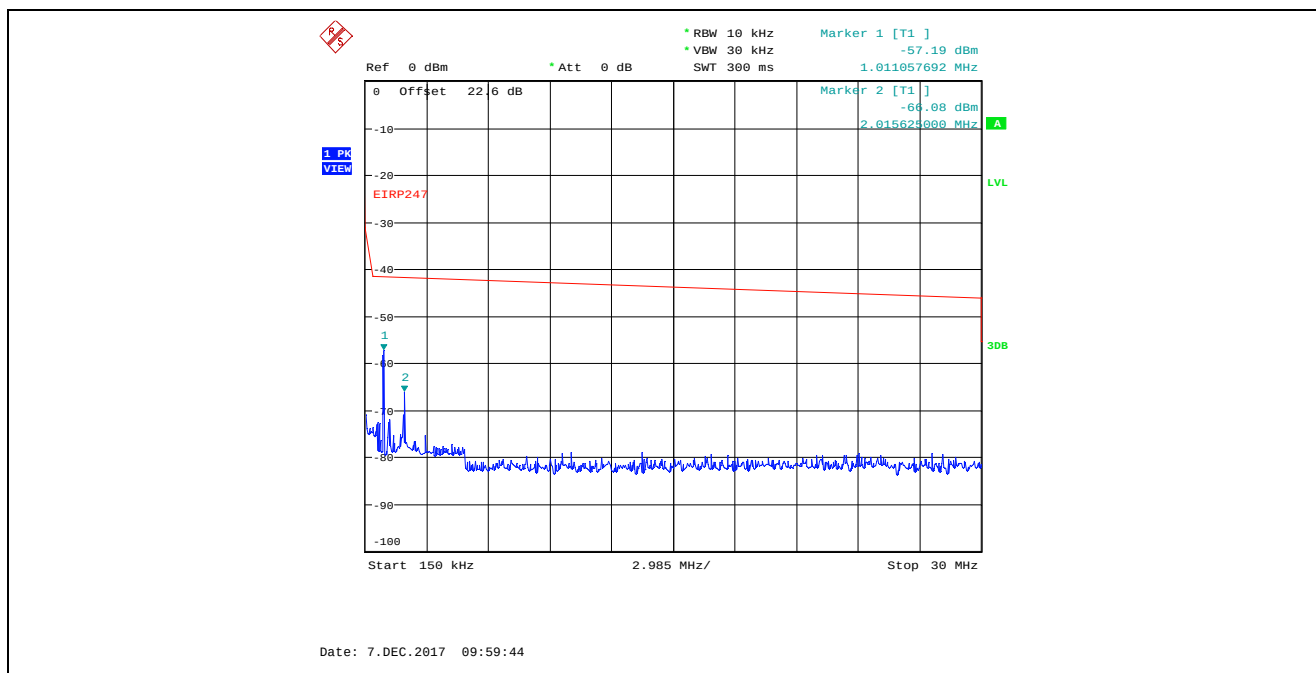
Plot 5.4.4.4.21. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



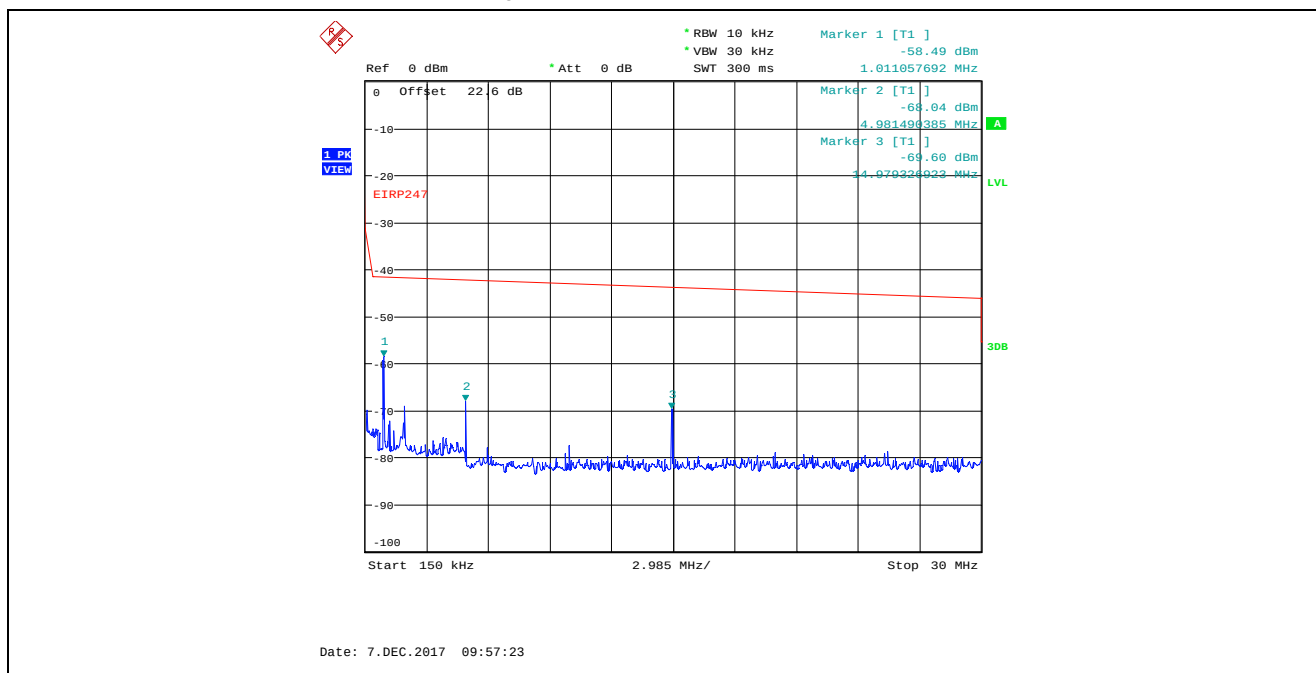
Plot 5.4.4.4.22. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



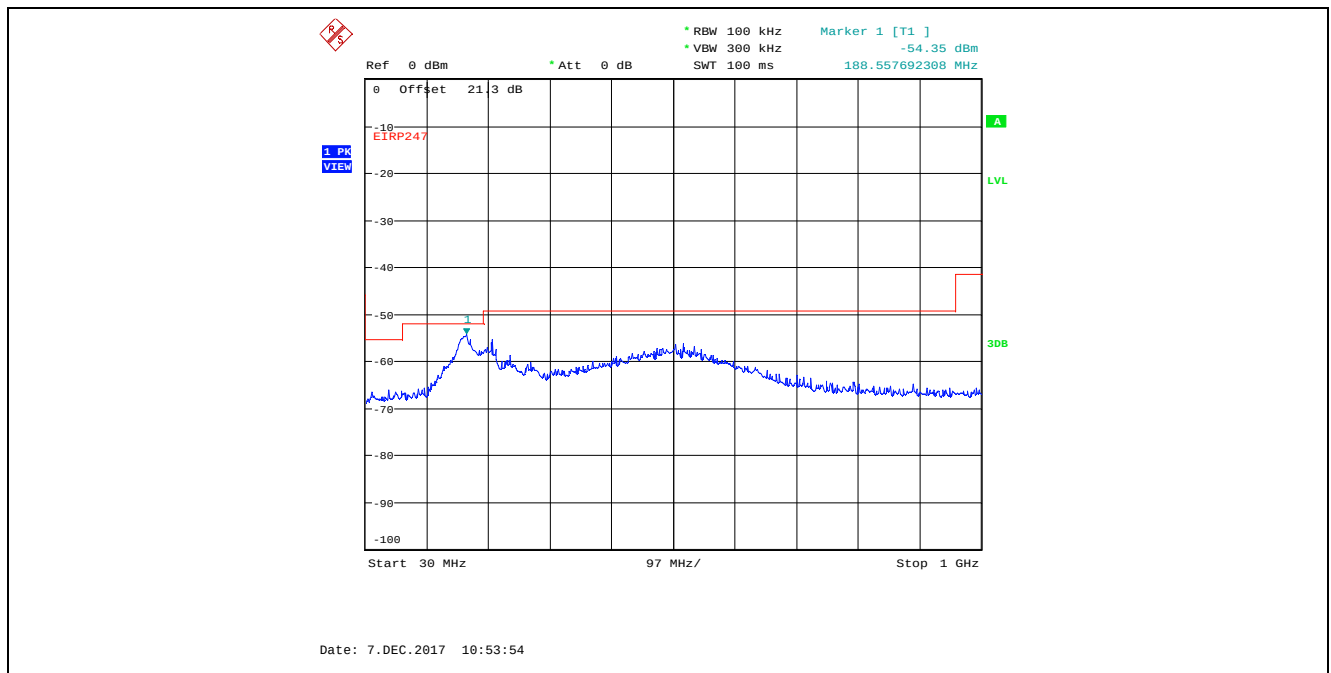
Plot 5.4.4.4.23. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



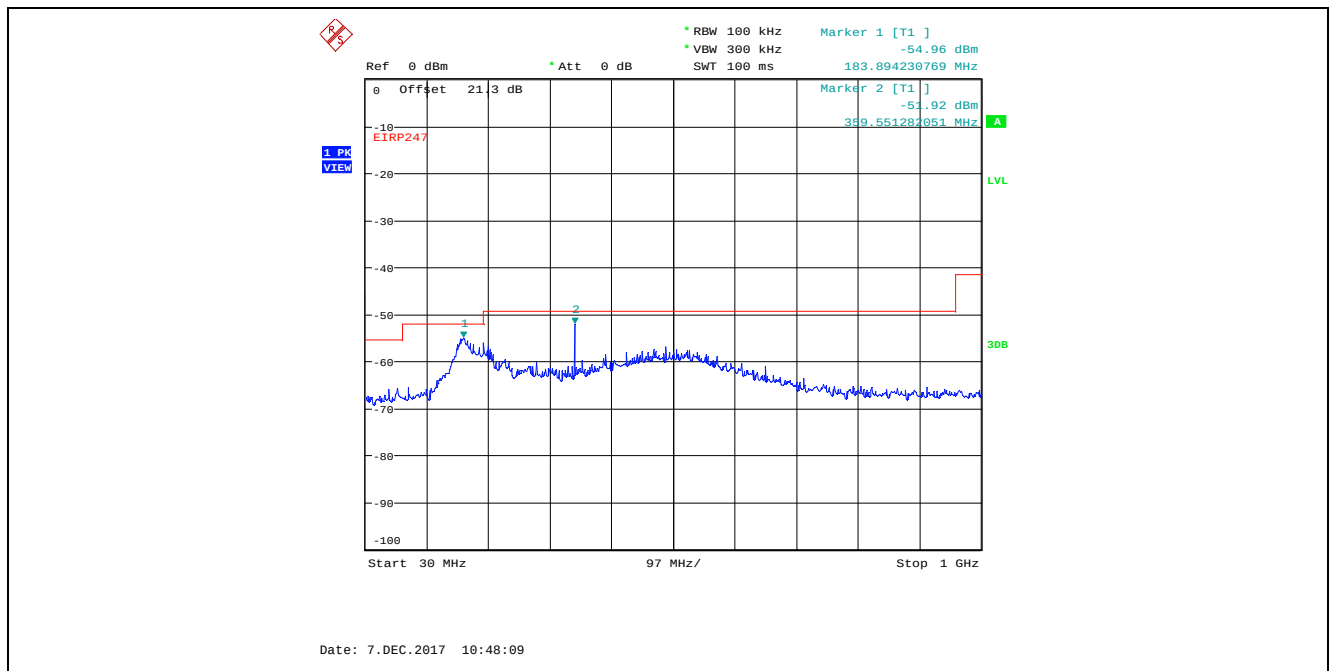
Plot 5.4.4.4.24. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



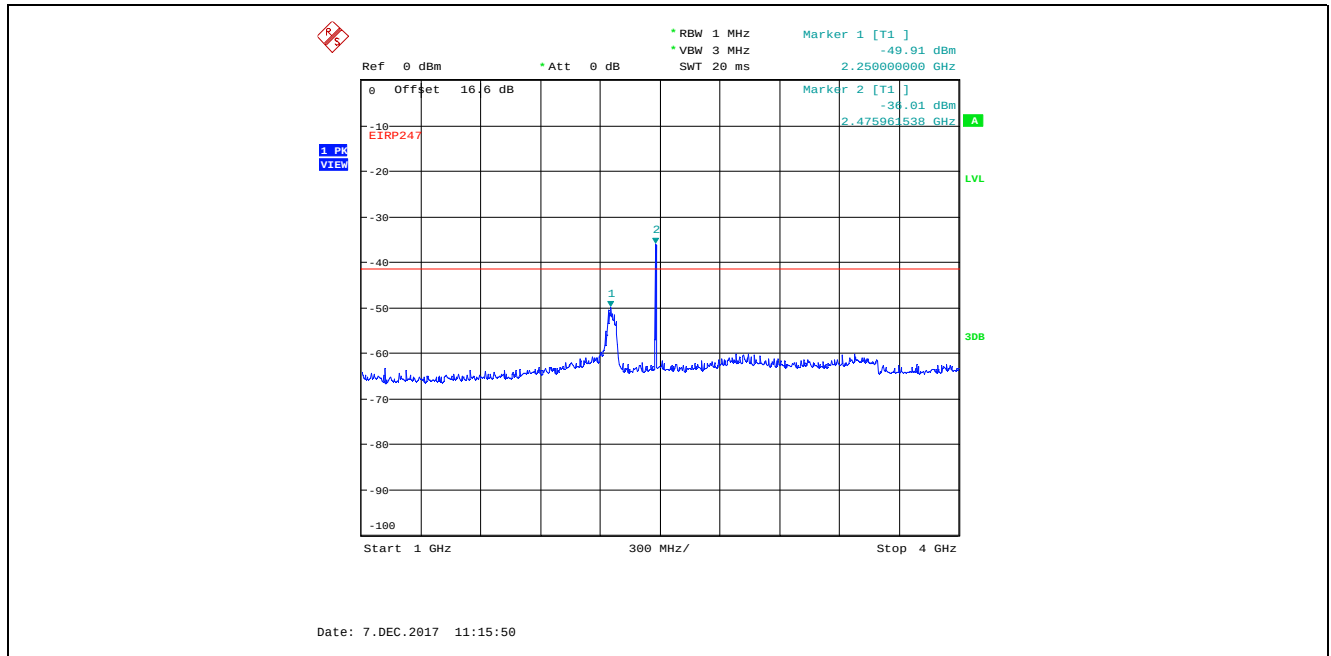
Plot 5.4.4.4.25. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



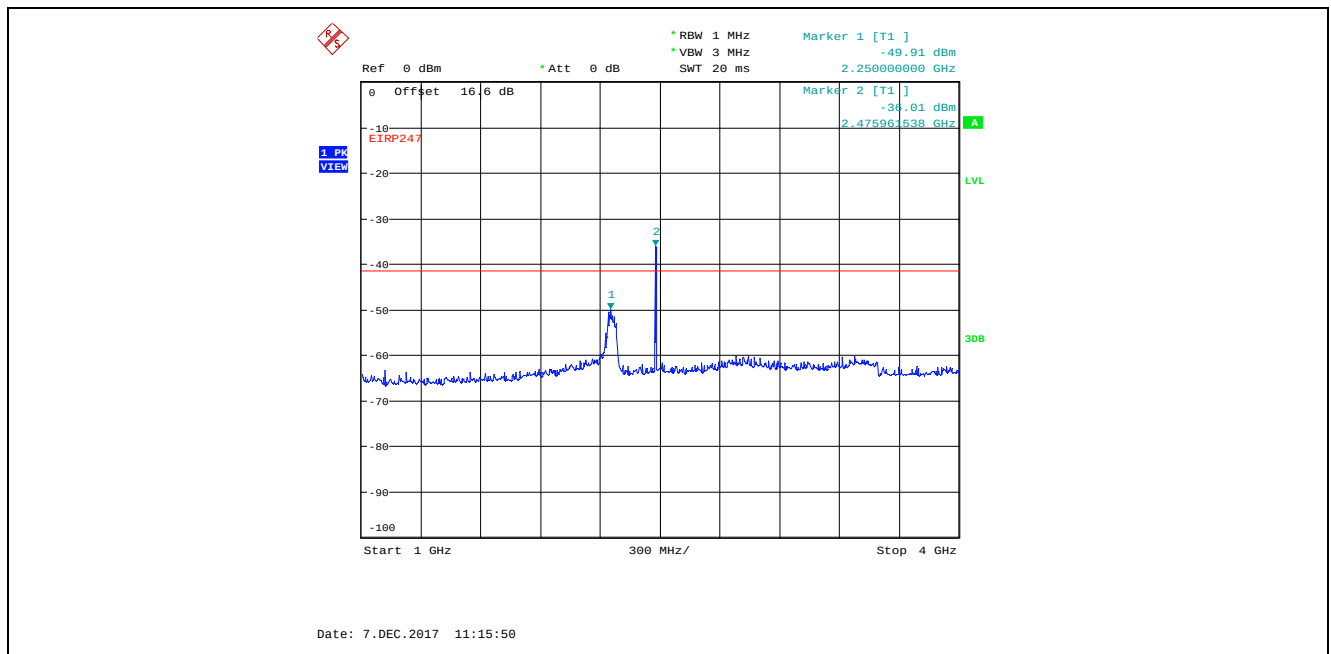
Plot 5.4.4.4.26. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



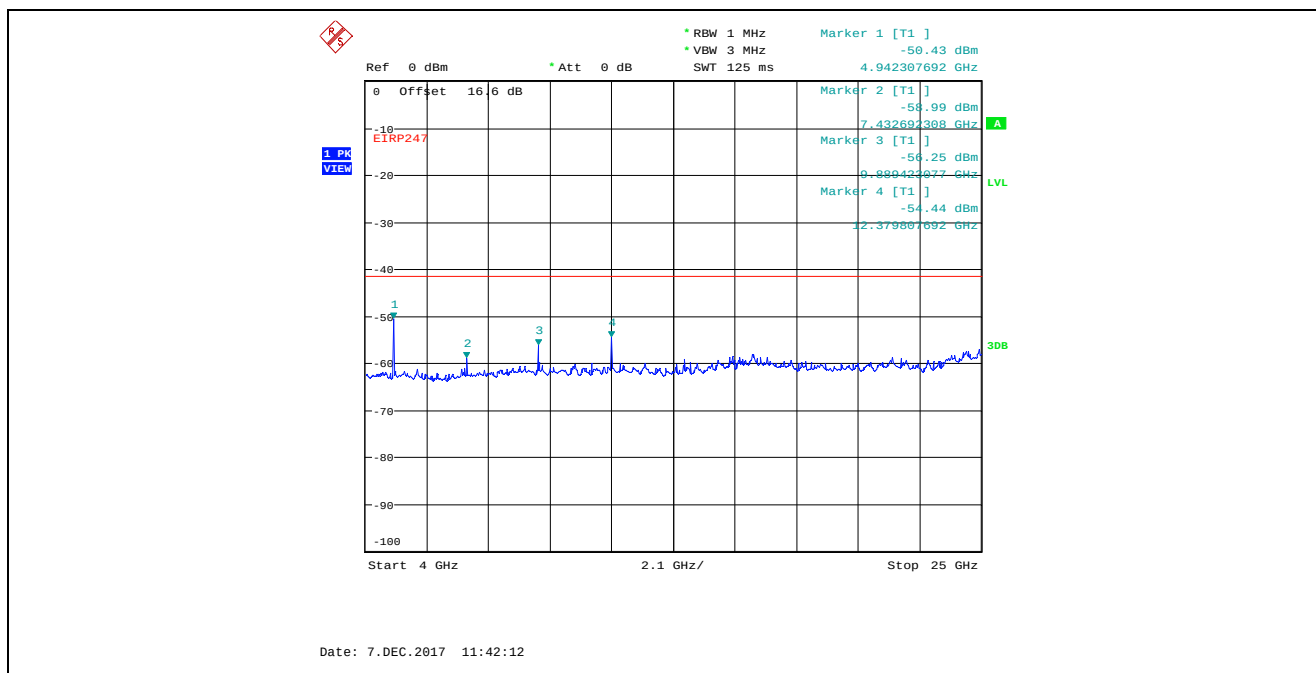
Plot 5.4.4.4.27. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



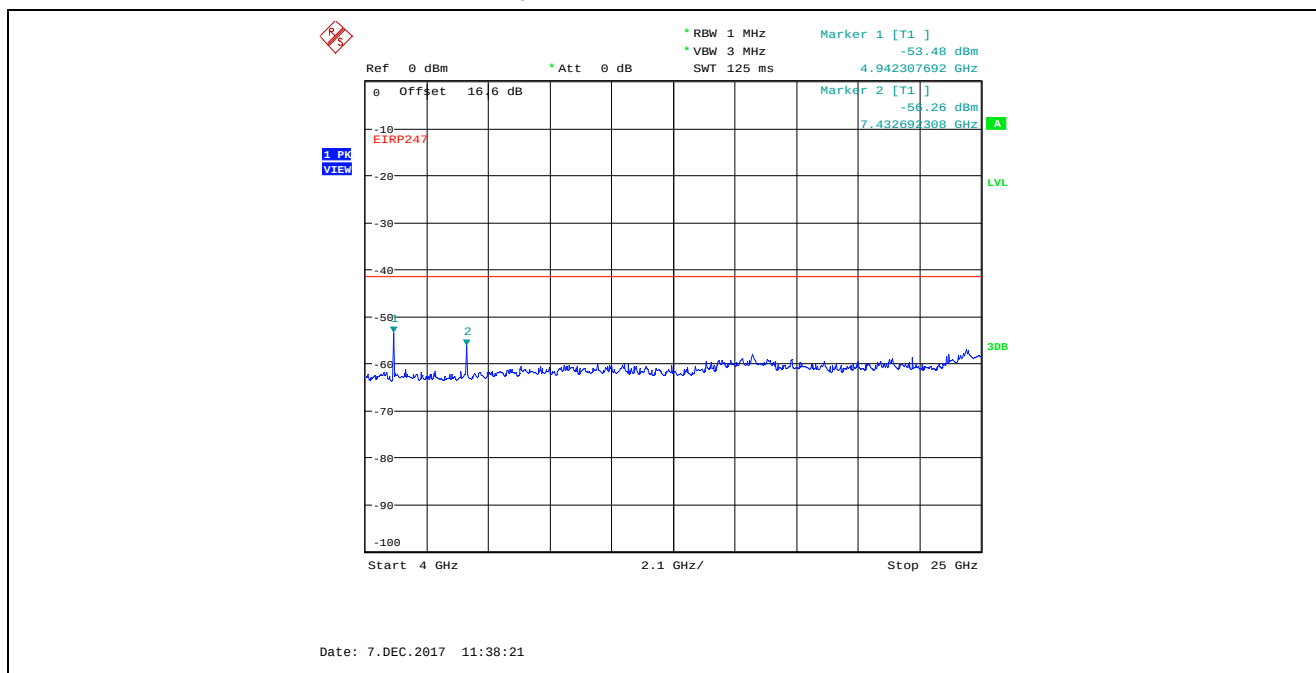
Plot 5.4.4.4.28. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



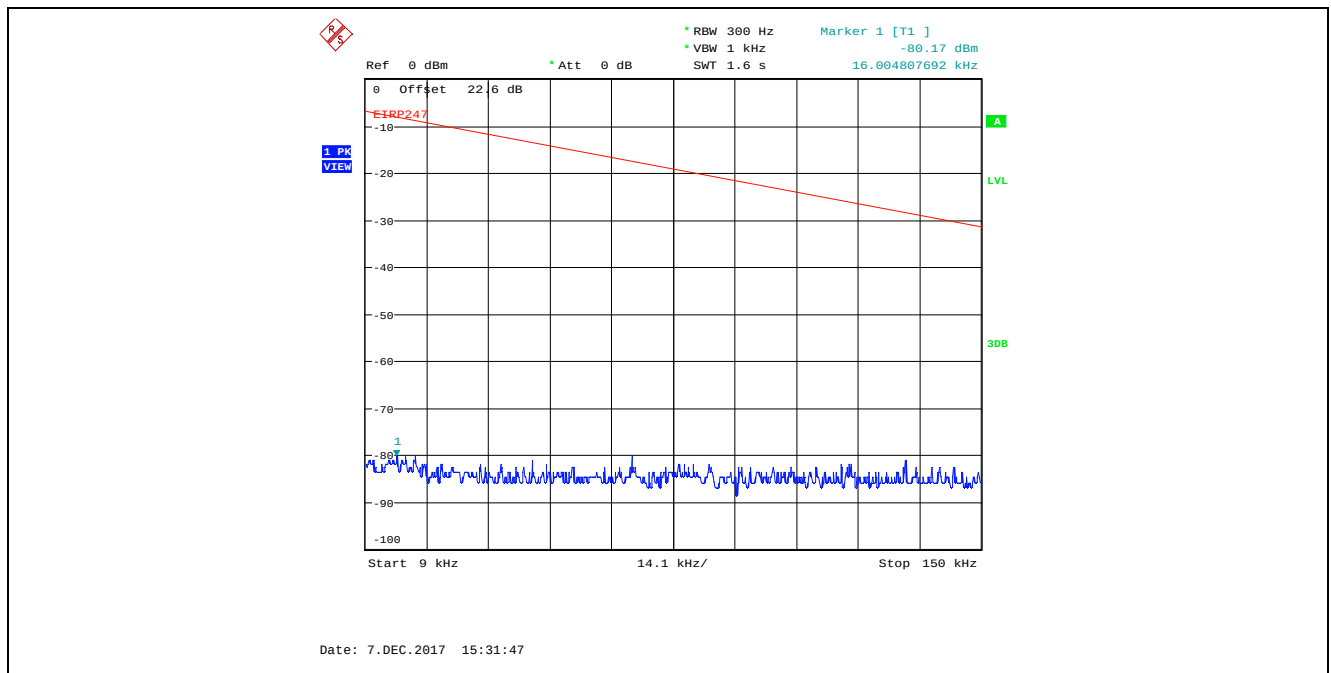
Plot 5.4.4.4.29. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



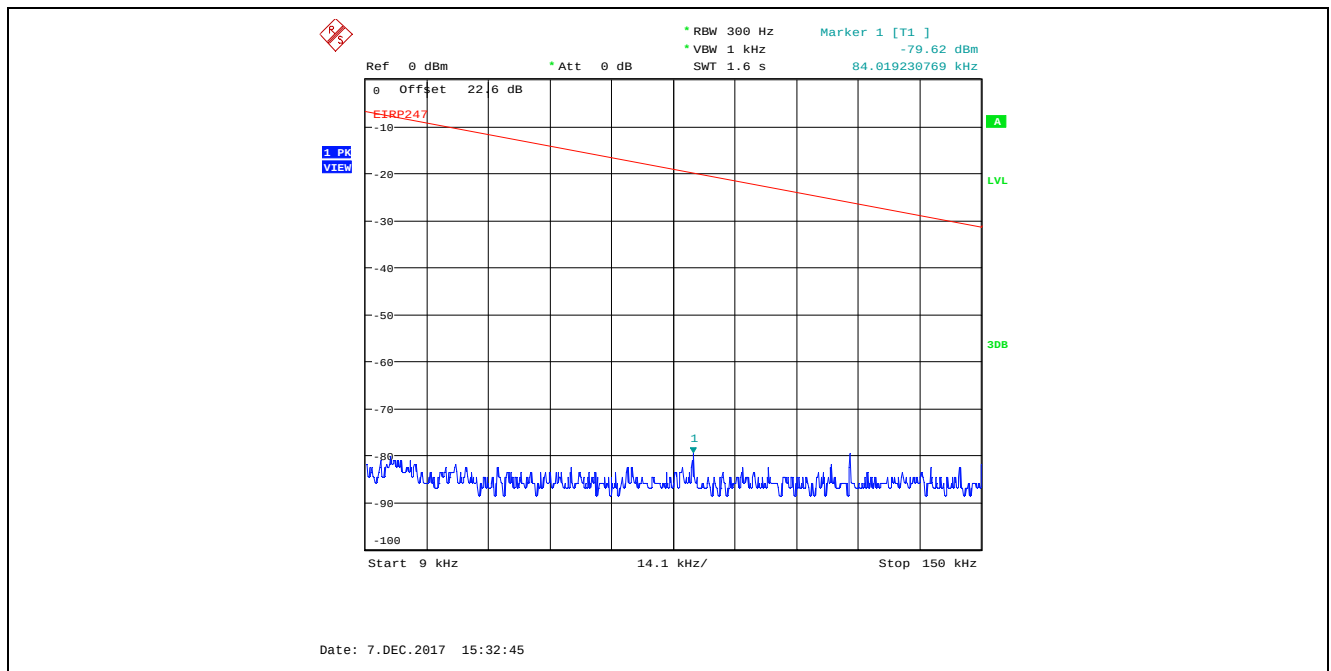
Plot 5.4.4.4.30. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



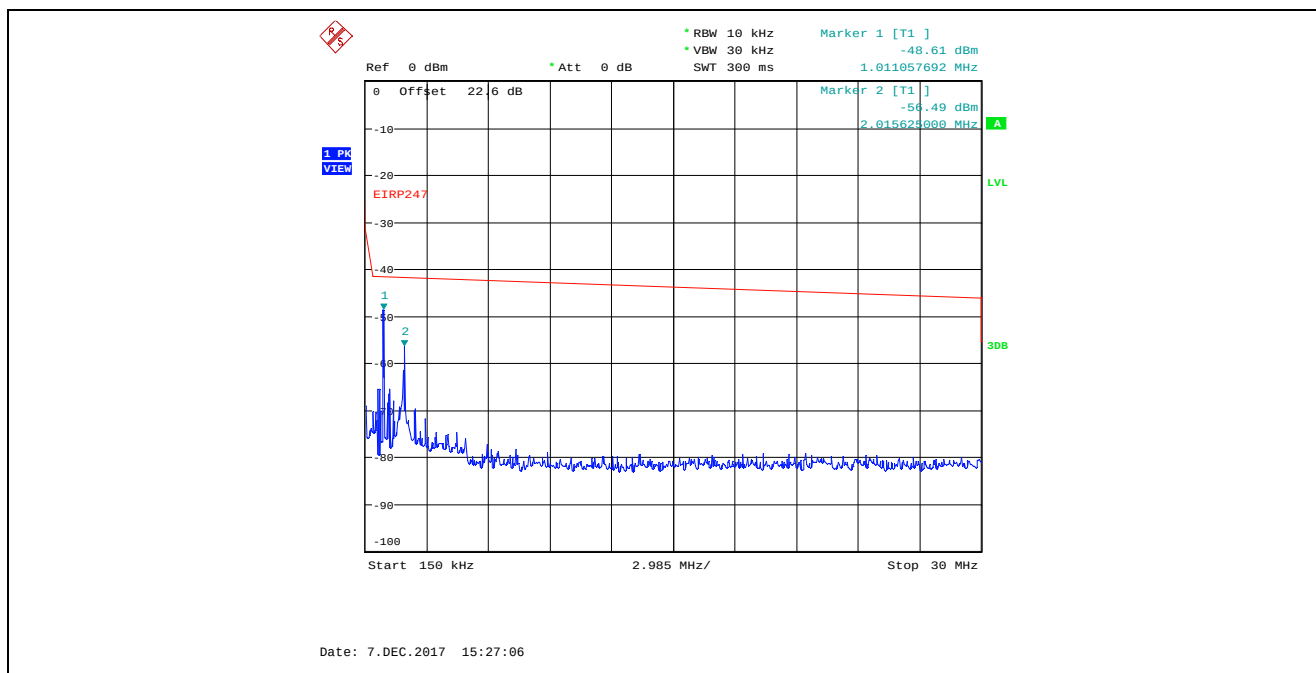
Plot 5.4.4.4.31. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



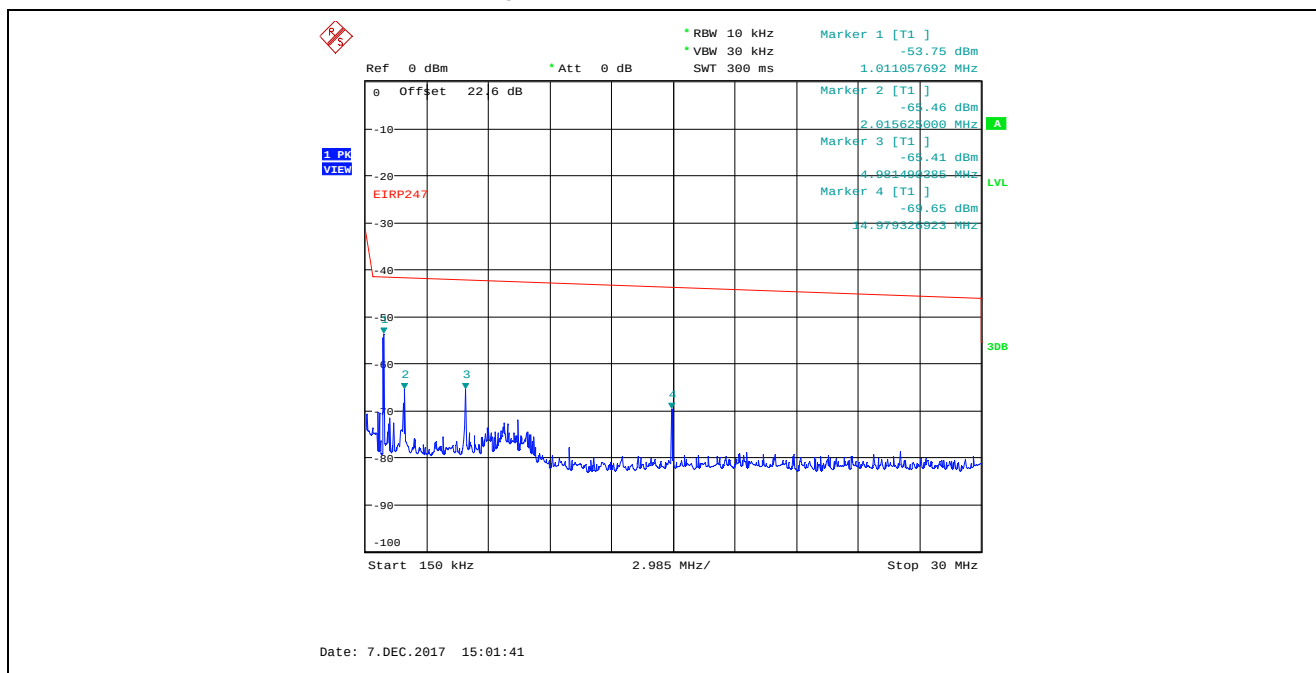
Plot 5.4.4.4.32. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



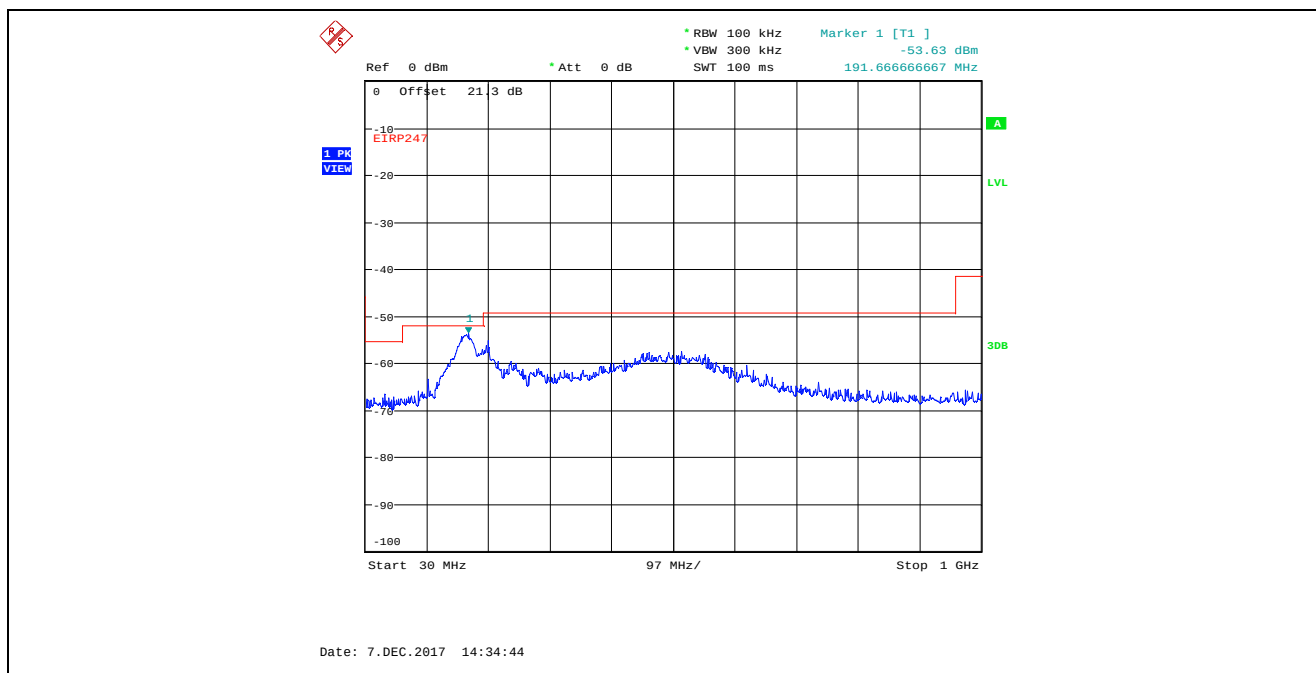
Plot 5.4.4.4.33. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



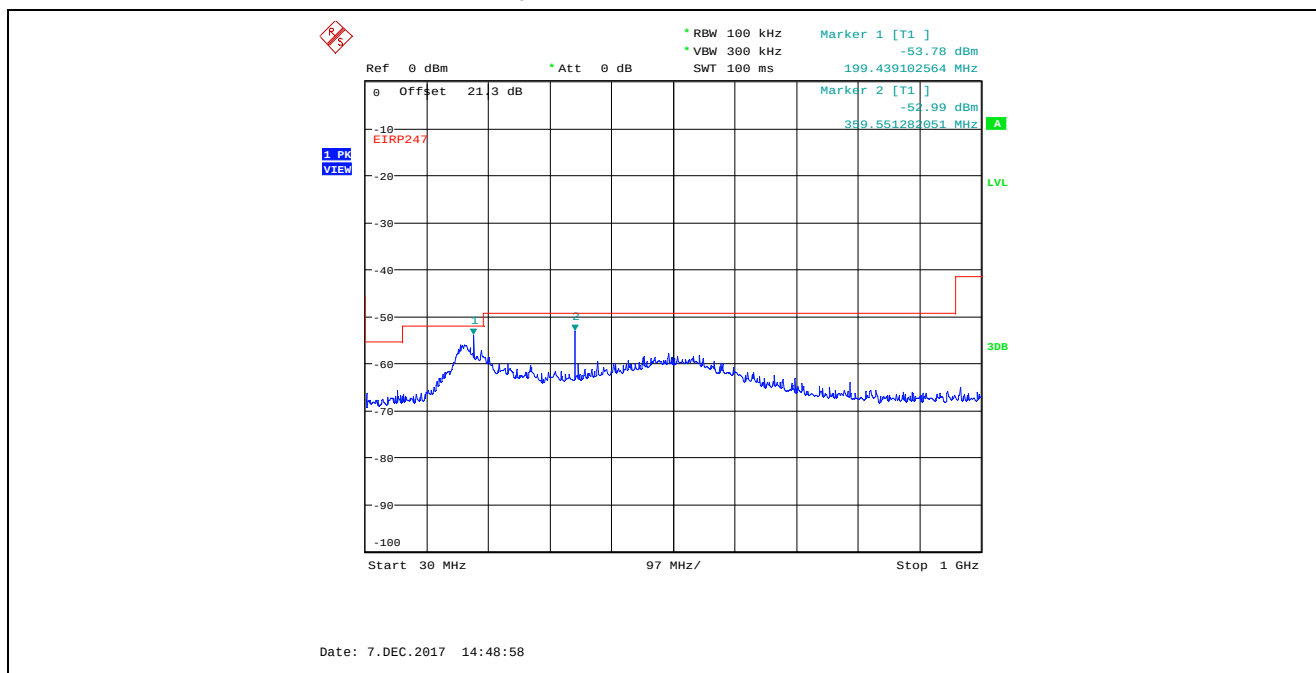
Plot 5.4.4.4.34. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 150 kHz – 30 MHz, Peak Detector



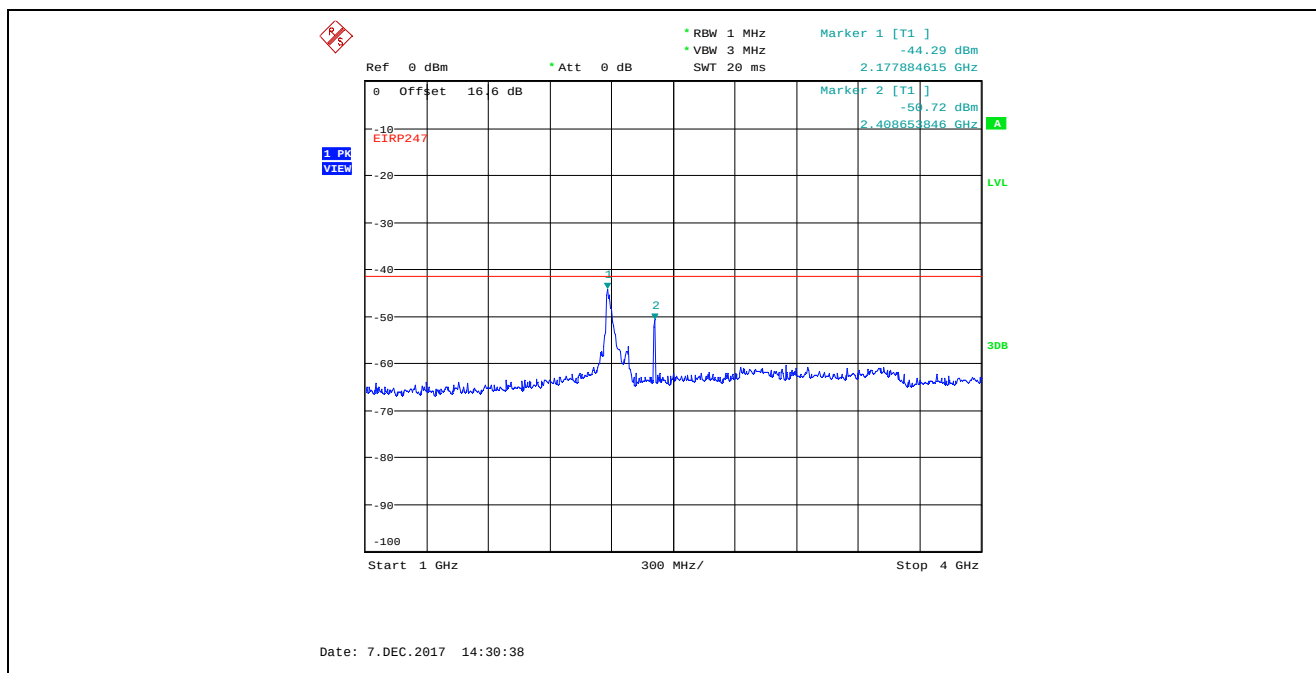
Plot 5.4.4.4.35. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



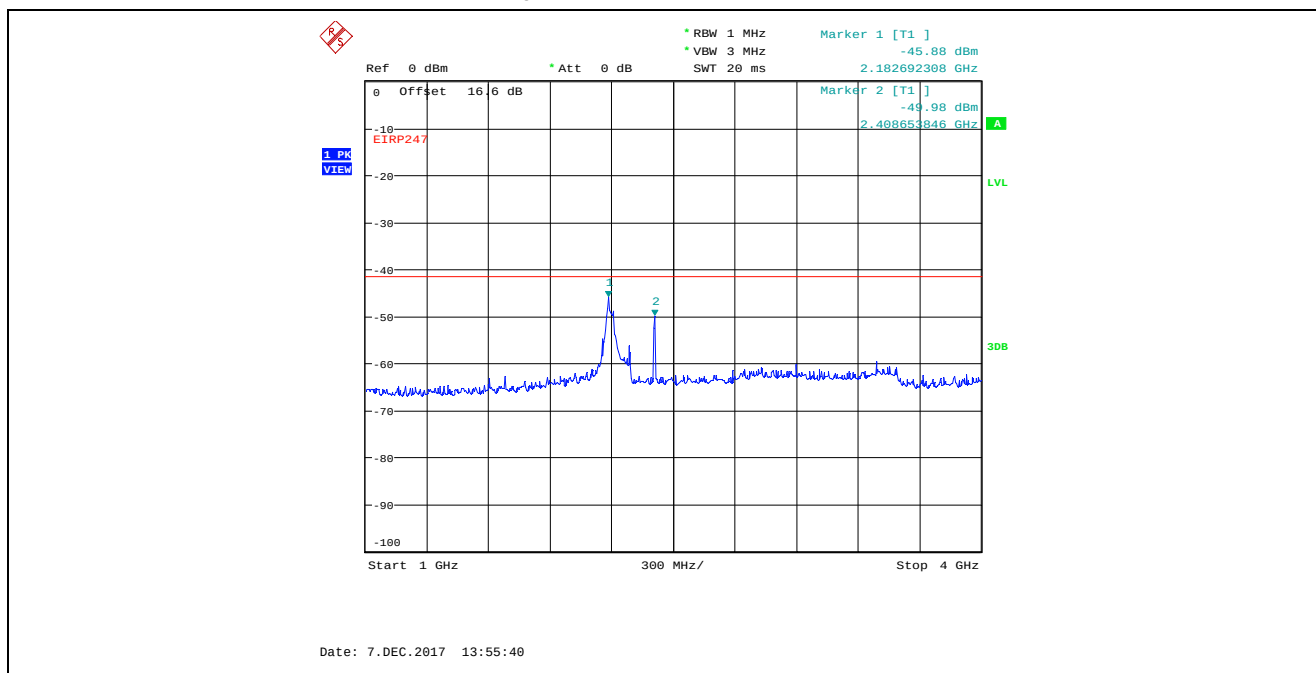
Plot 5.4.4.4.36. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



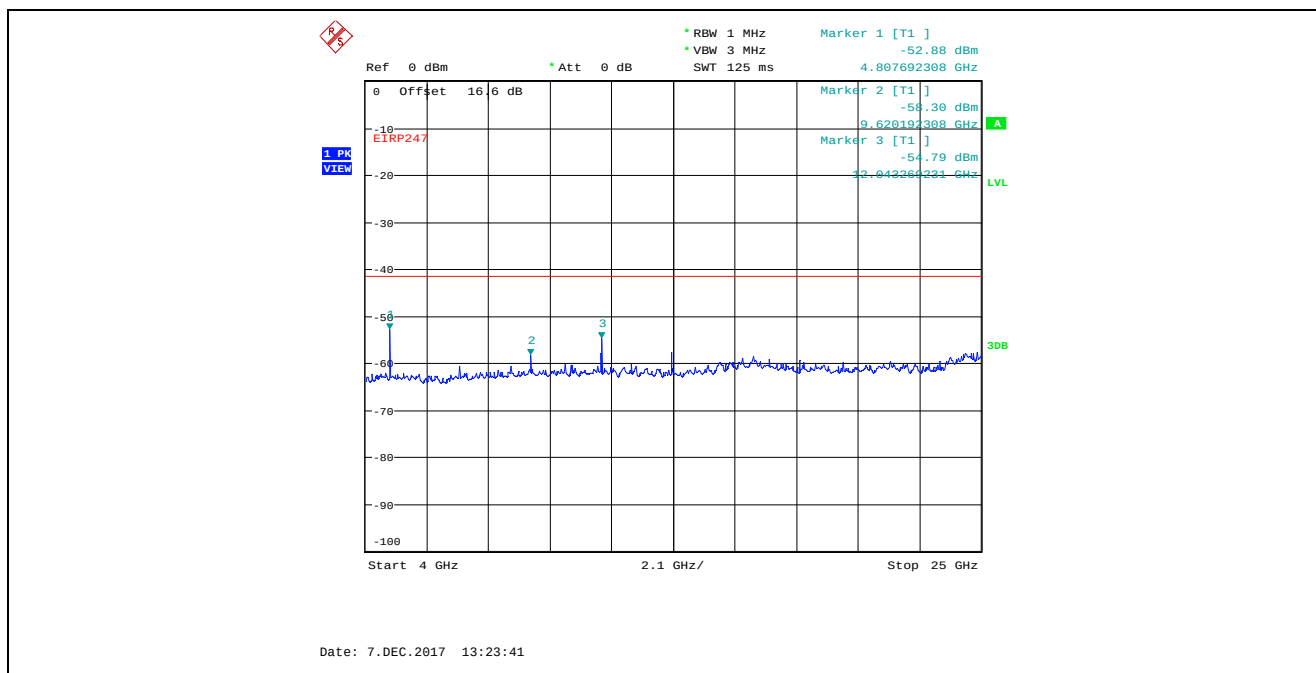
Plot 5.4.4.4.37. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



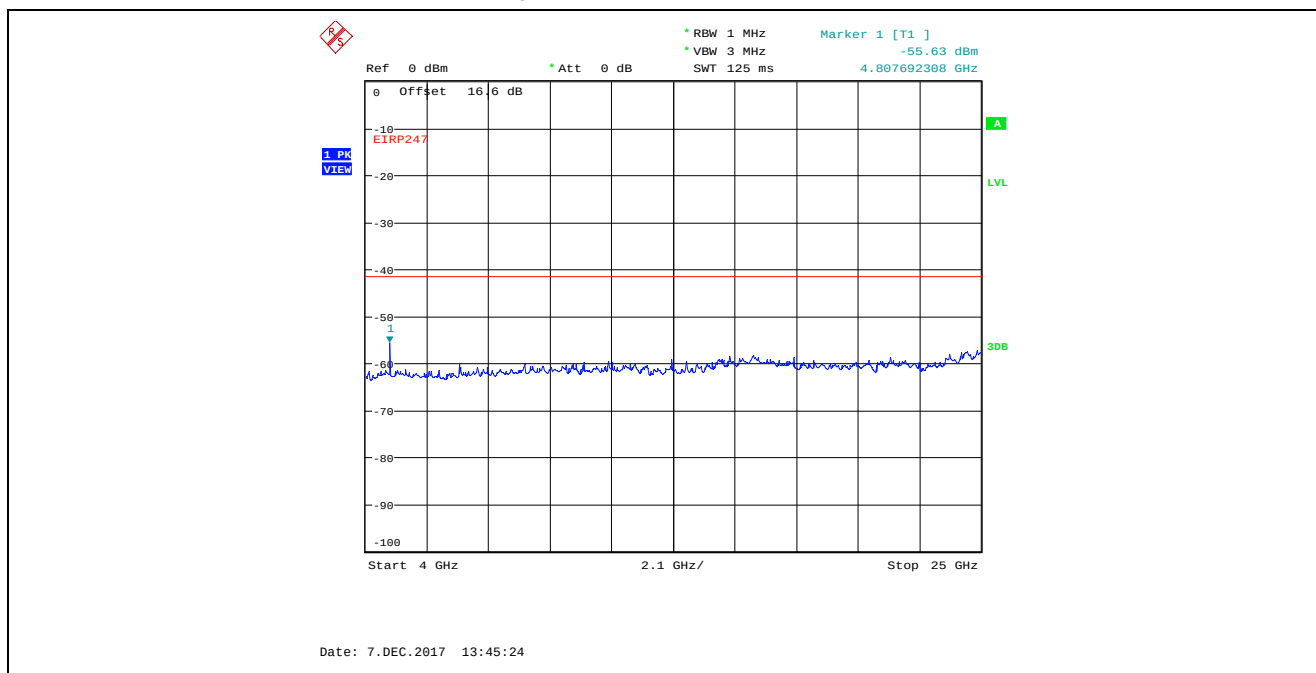
Plot 5.4.4.4.38. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



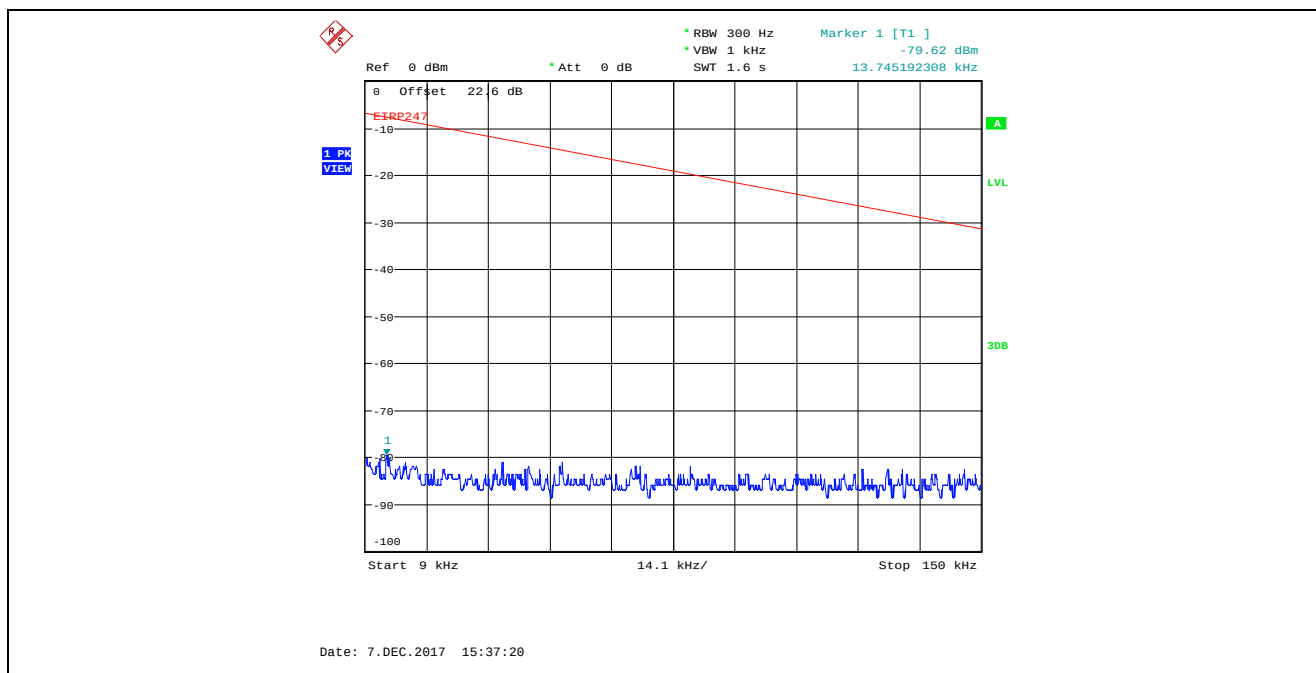
Plot 5.4.4.4.39. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



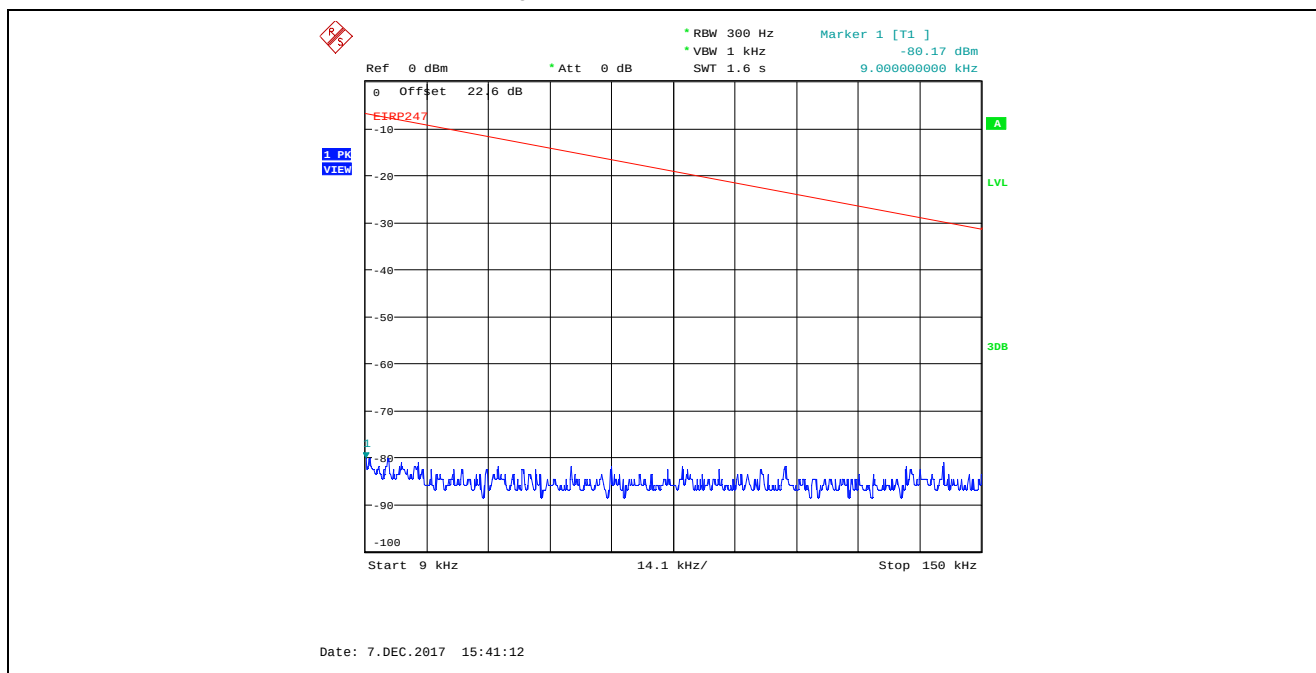
Plot 5.4.4.4.40. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



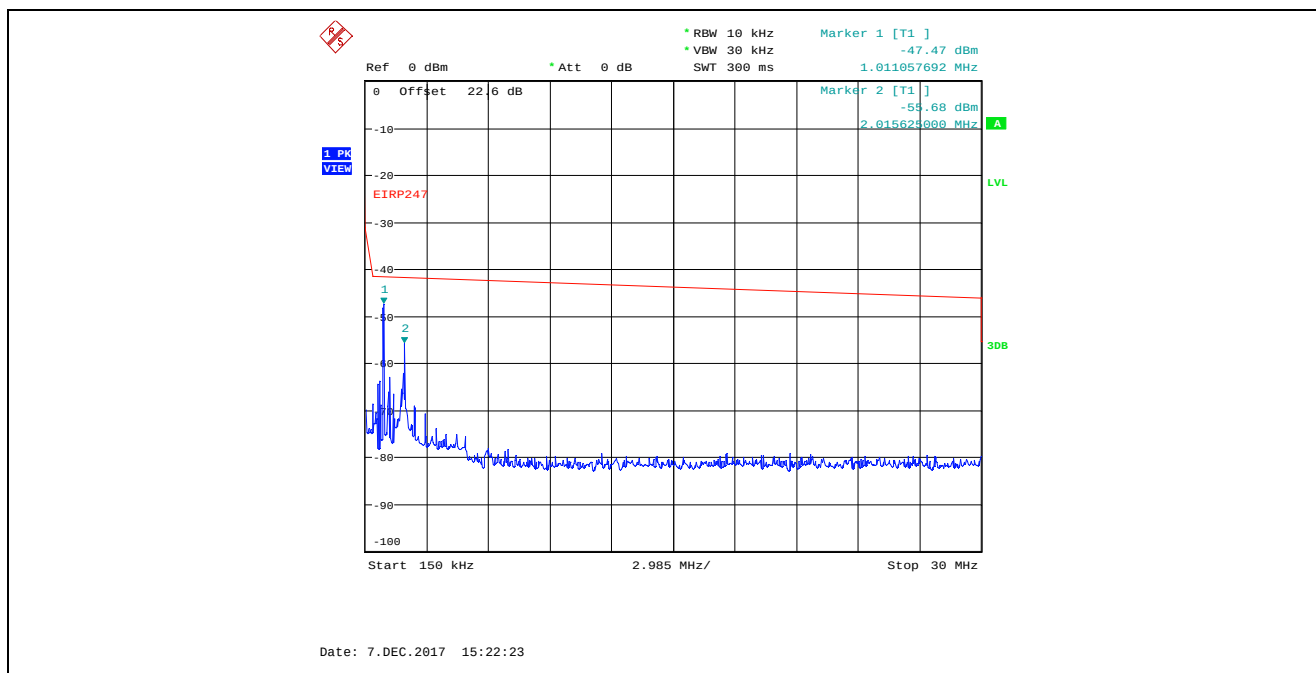
Plot 5.4.4.41. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



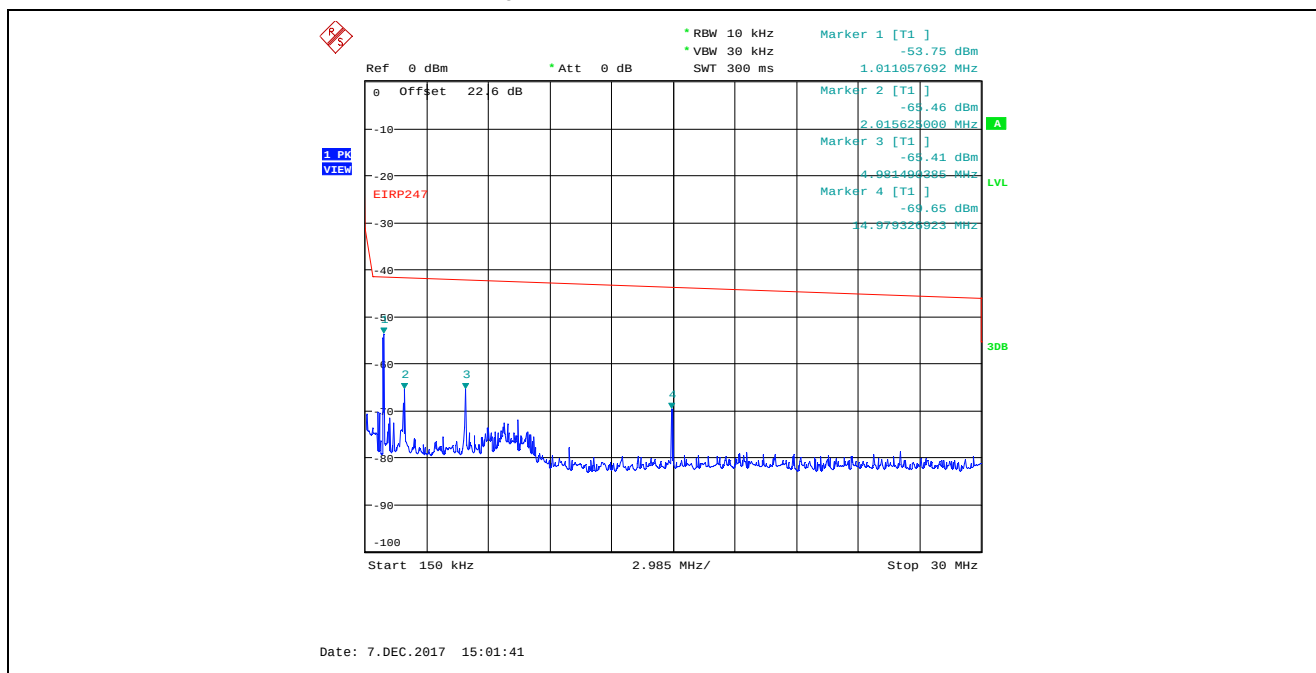
Plot 5.4.4.42. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



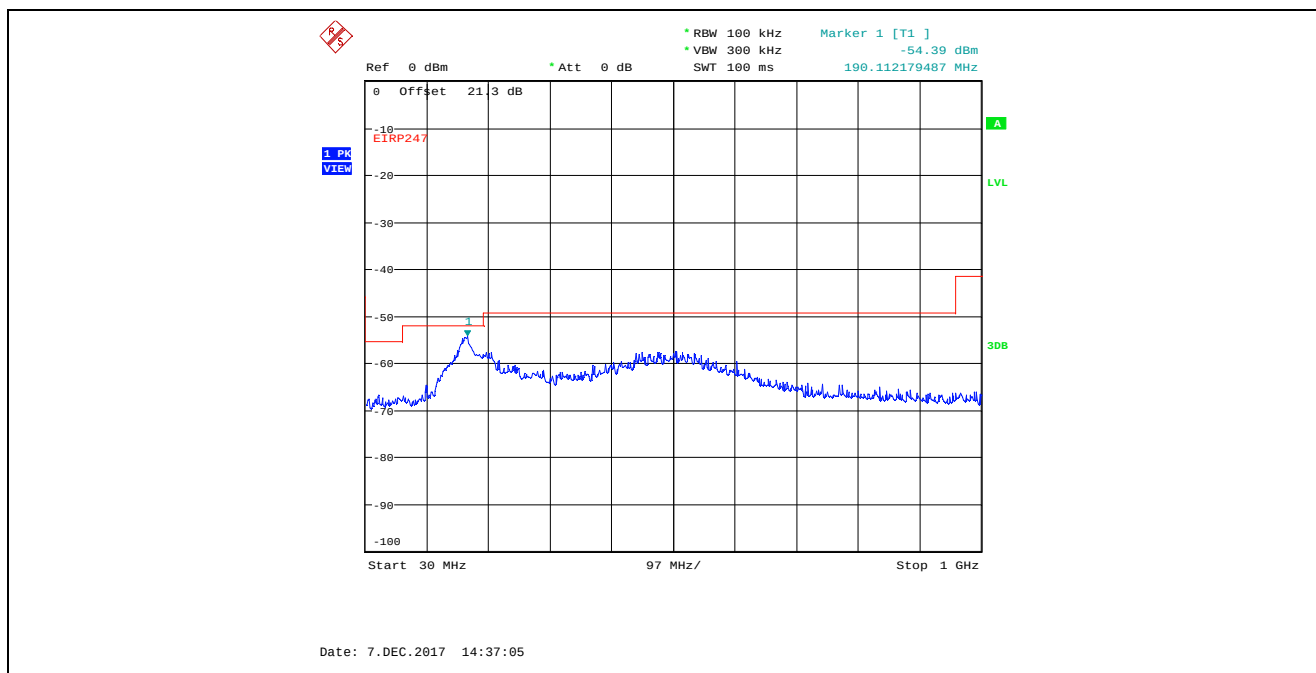
Plot 5.4.4.43. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



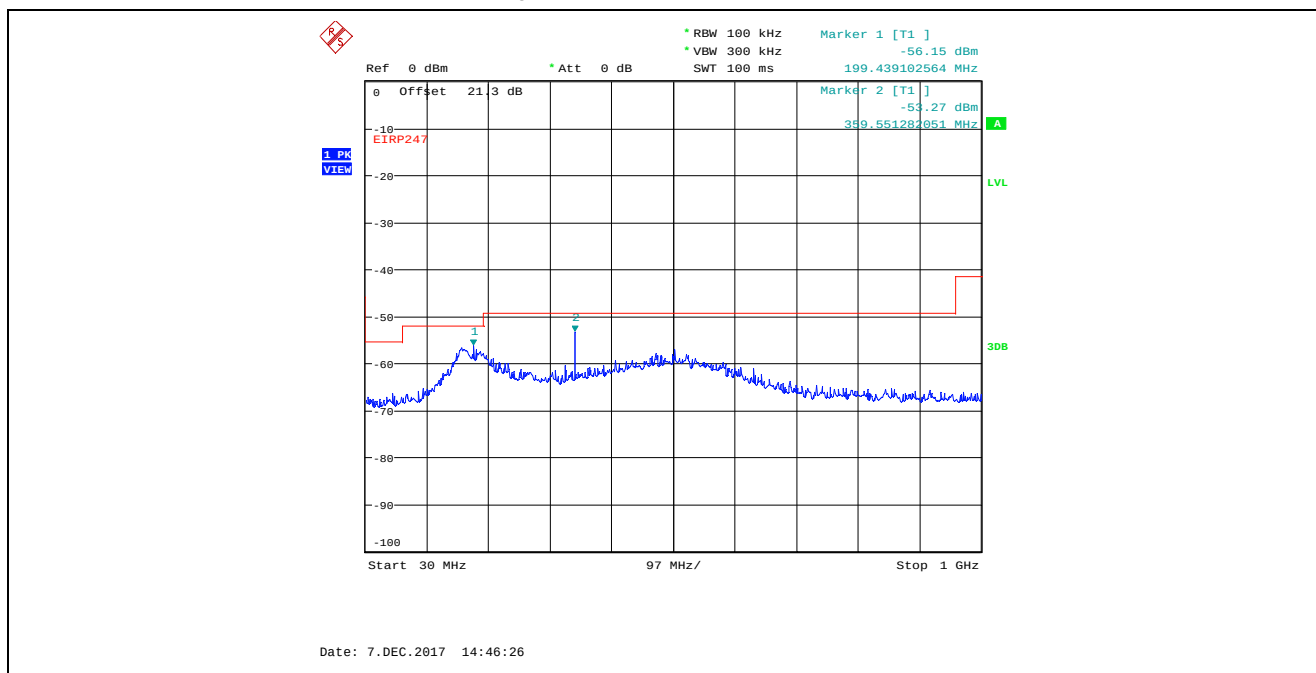
Plot 5.4.4.44. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



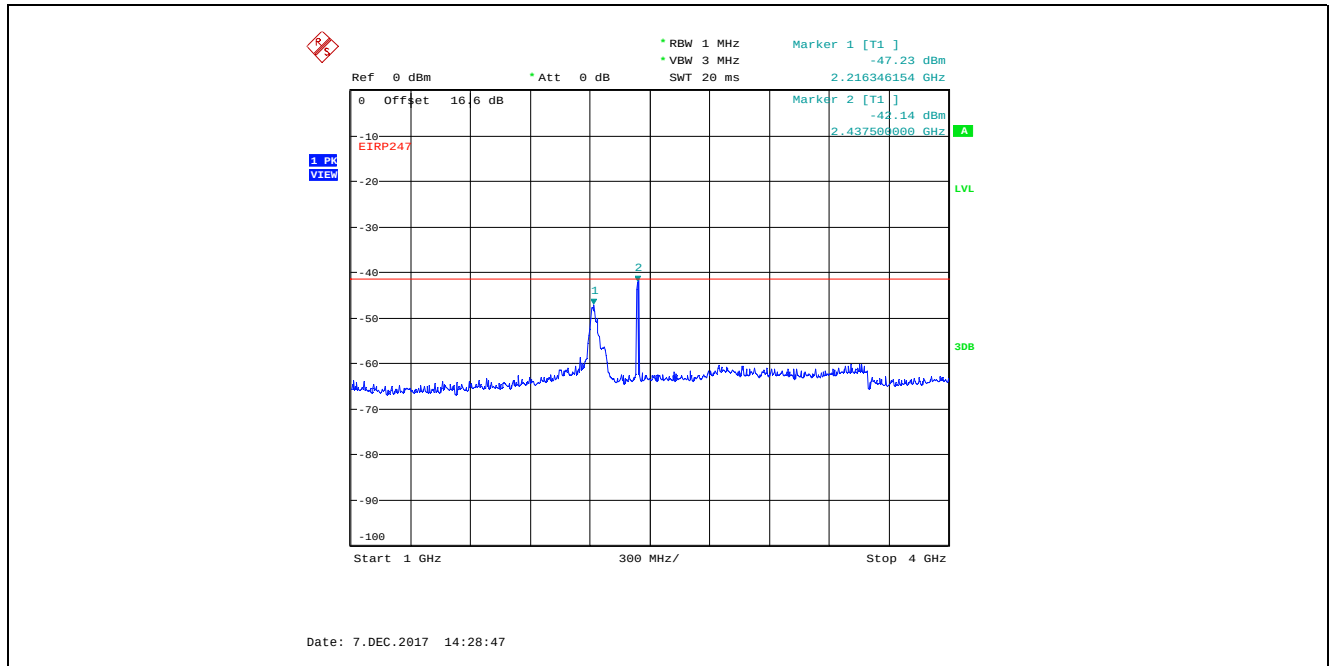
Plot 5.4.4.45. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



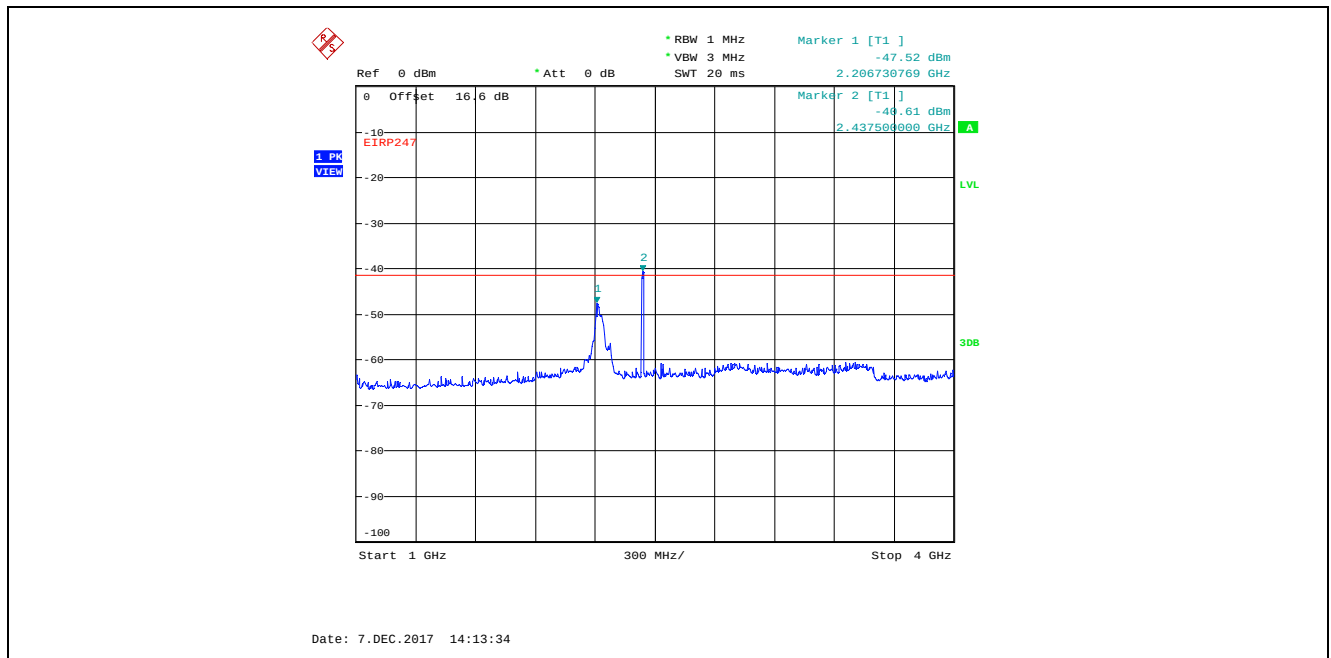
Plot 5.4.4.46. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 30 MHz - 1 GHz, Peak Detector



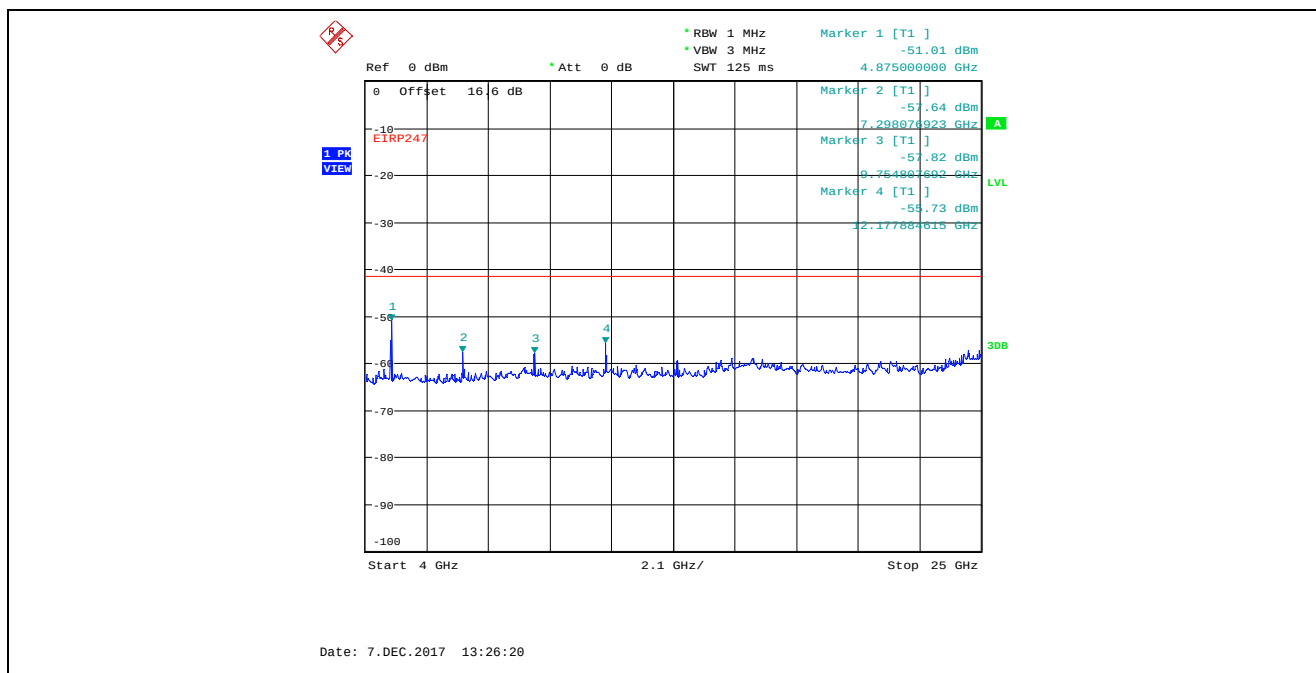
Plot 5.4.4.47. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



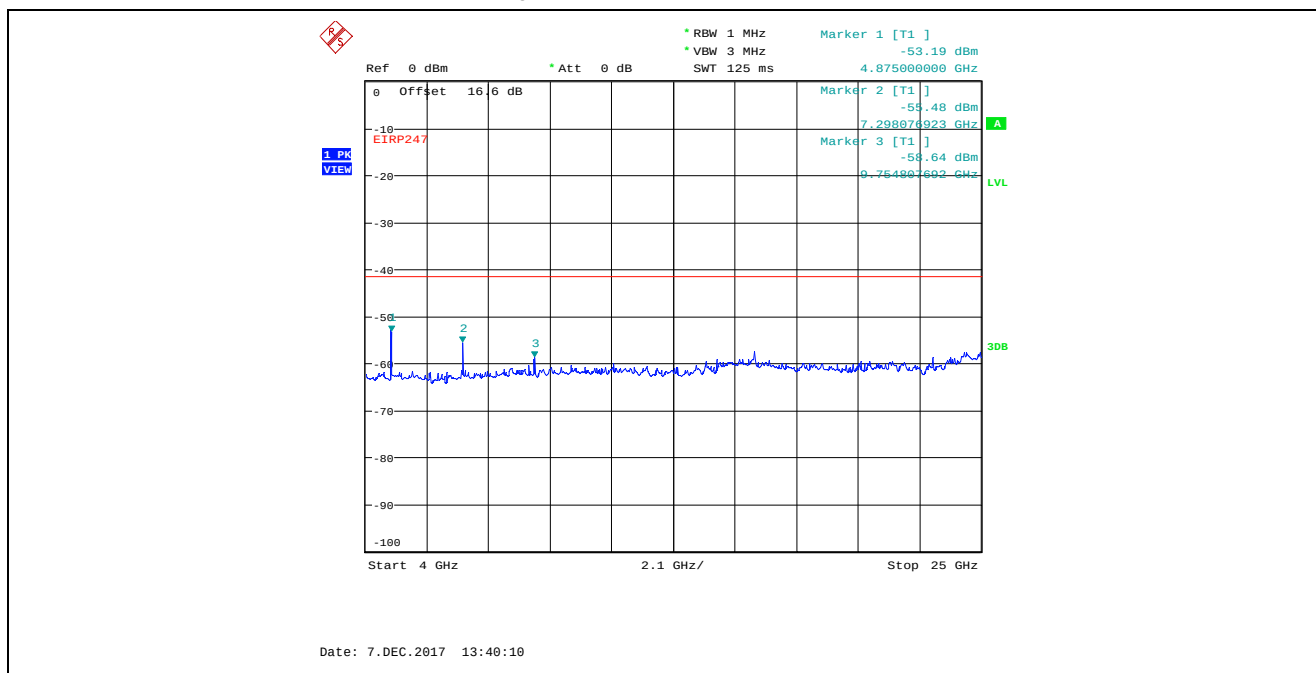
Plot 5.4.4.48. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



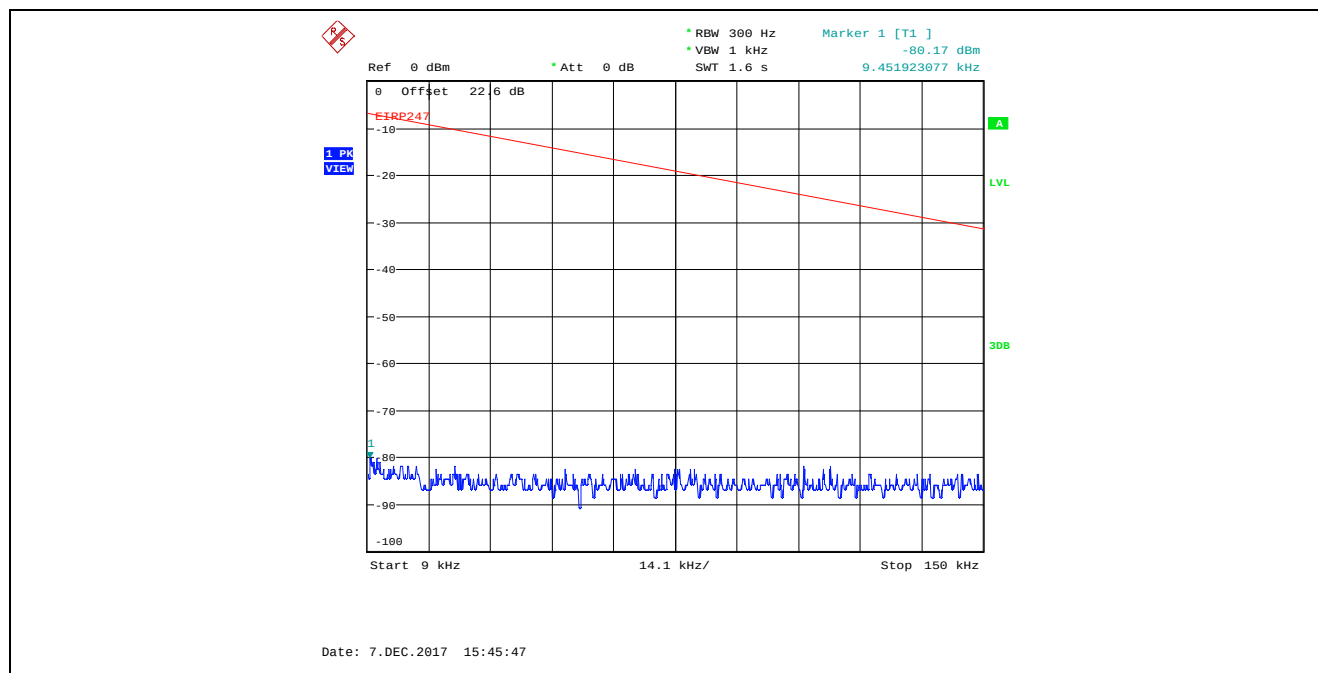
Plot 5.4.4.49. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



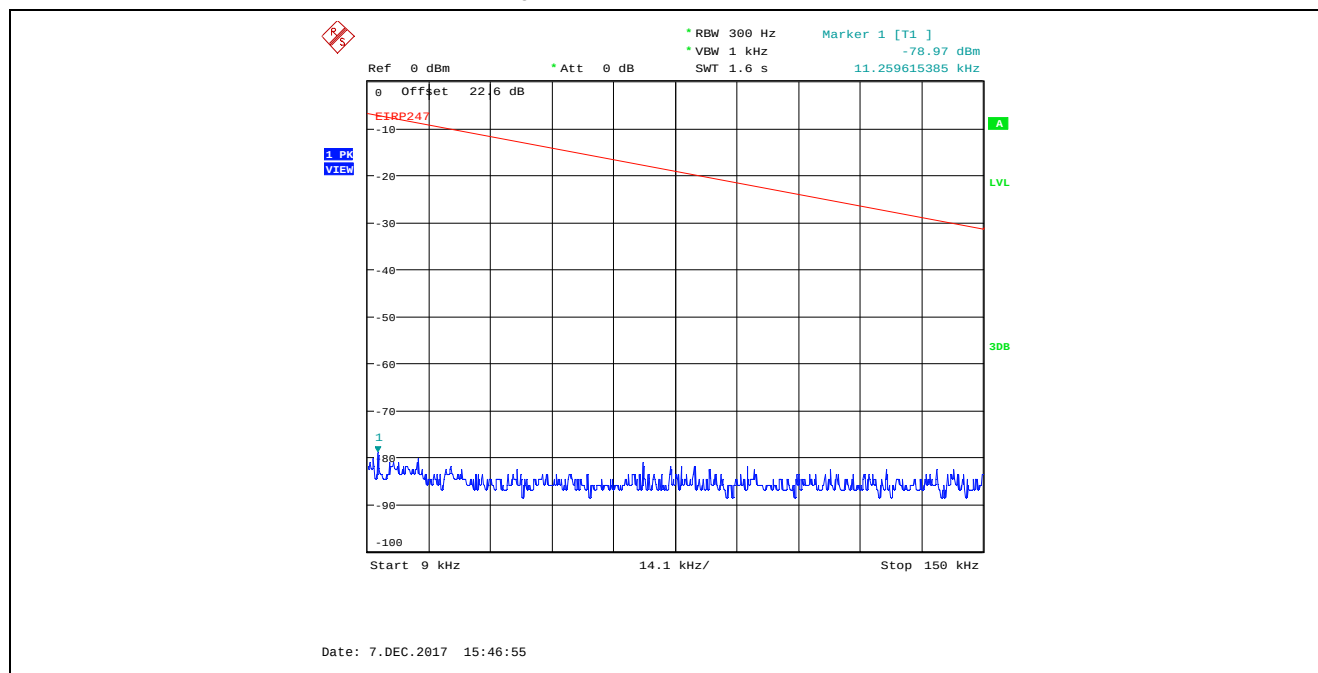
Plot 5.4.4.50. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



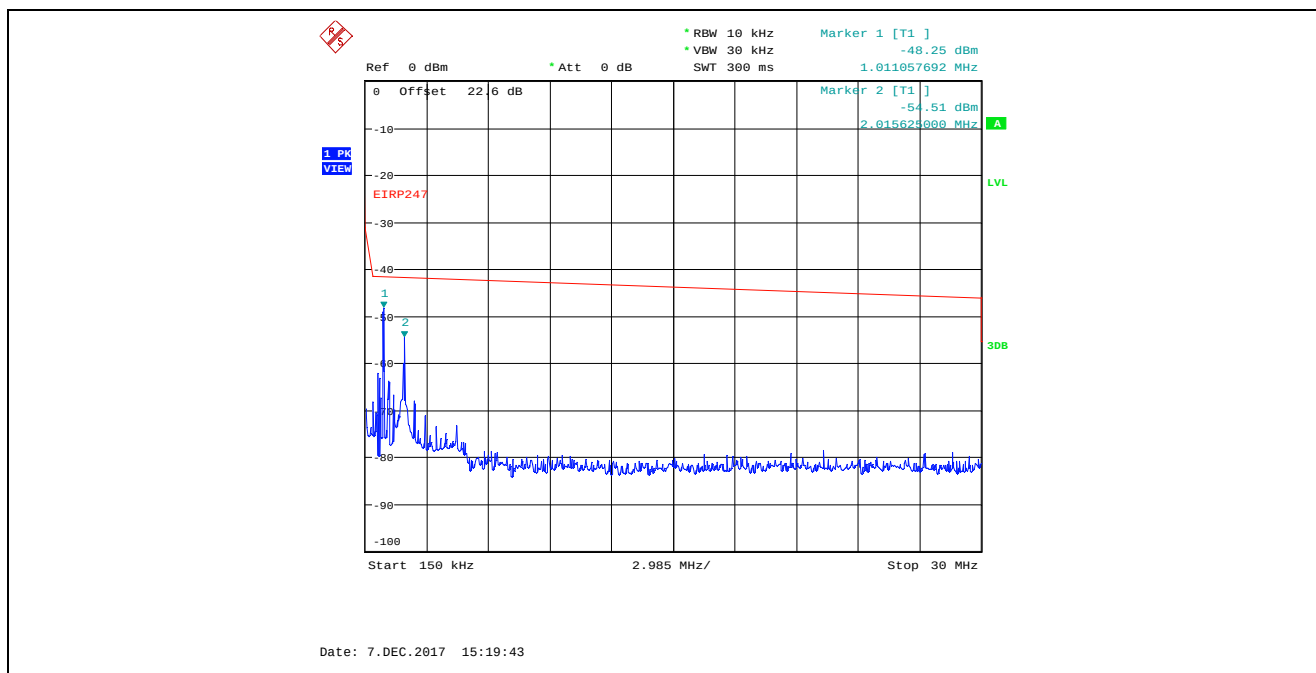
Plot 5.4.4.451. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



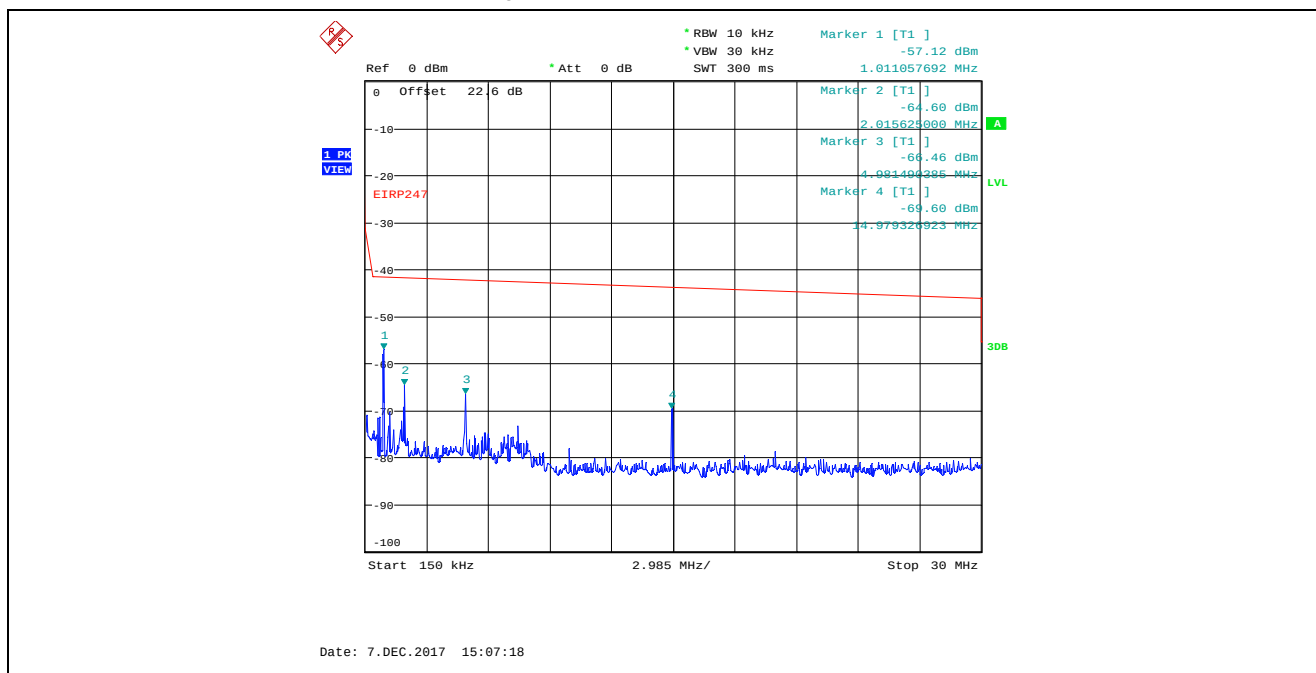
Plot 5.4.4.452. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



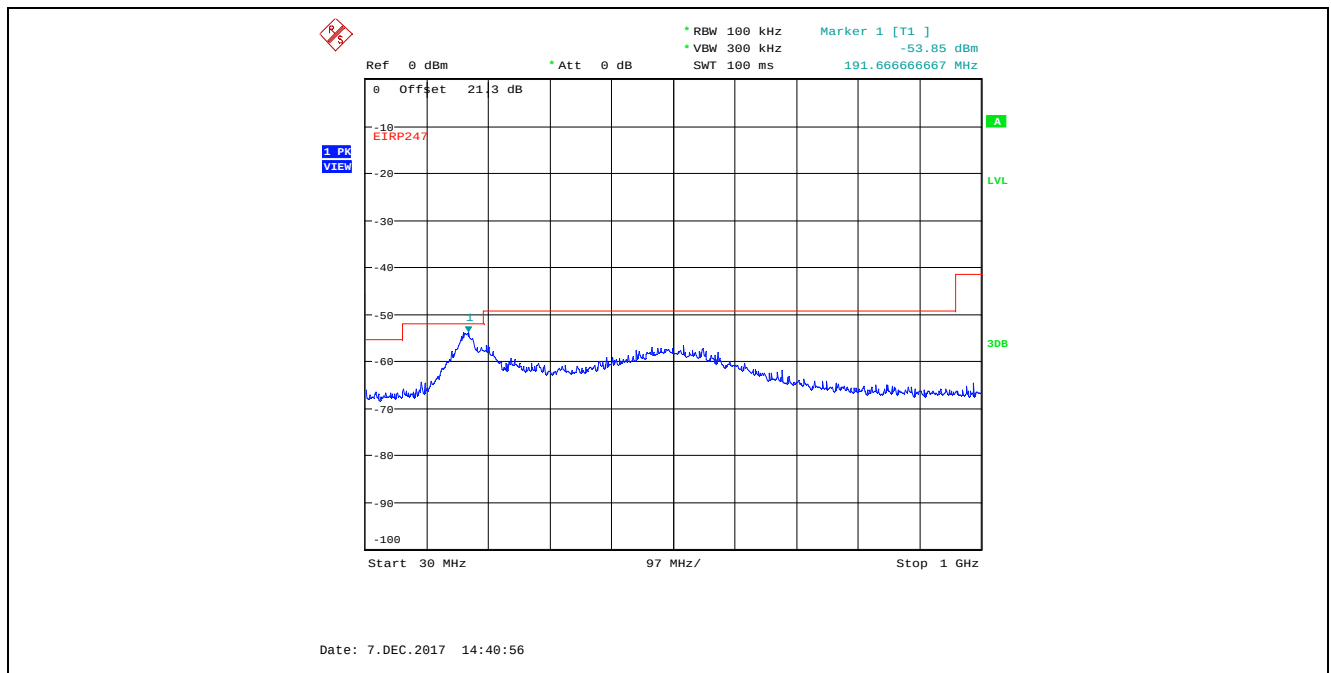
Plot 5.4.4.4.53. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



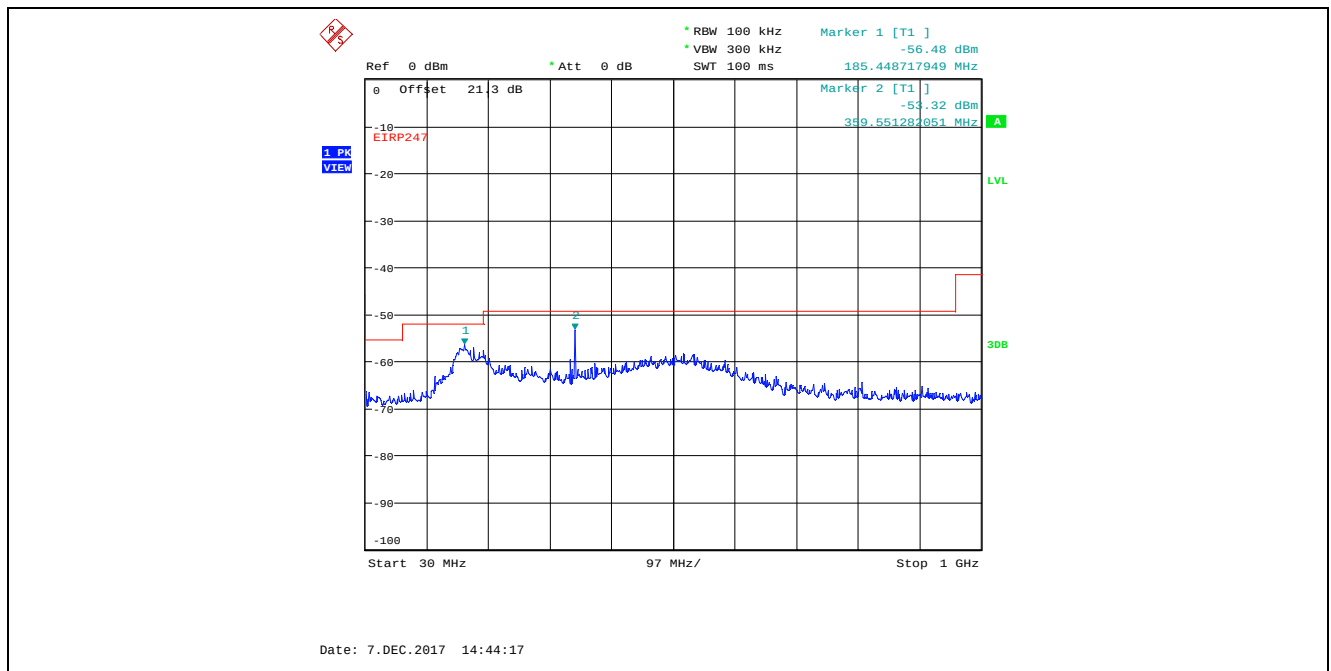
Plot 5.4.4.4.54. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



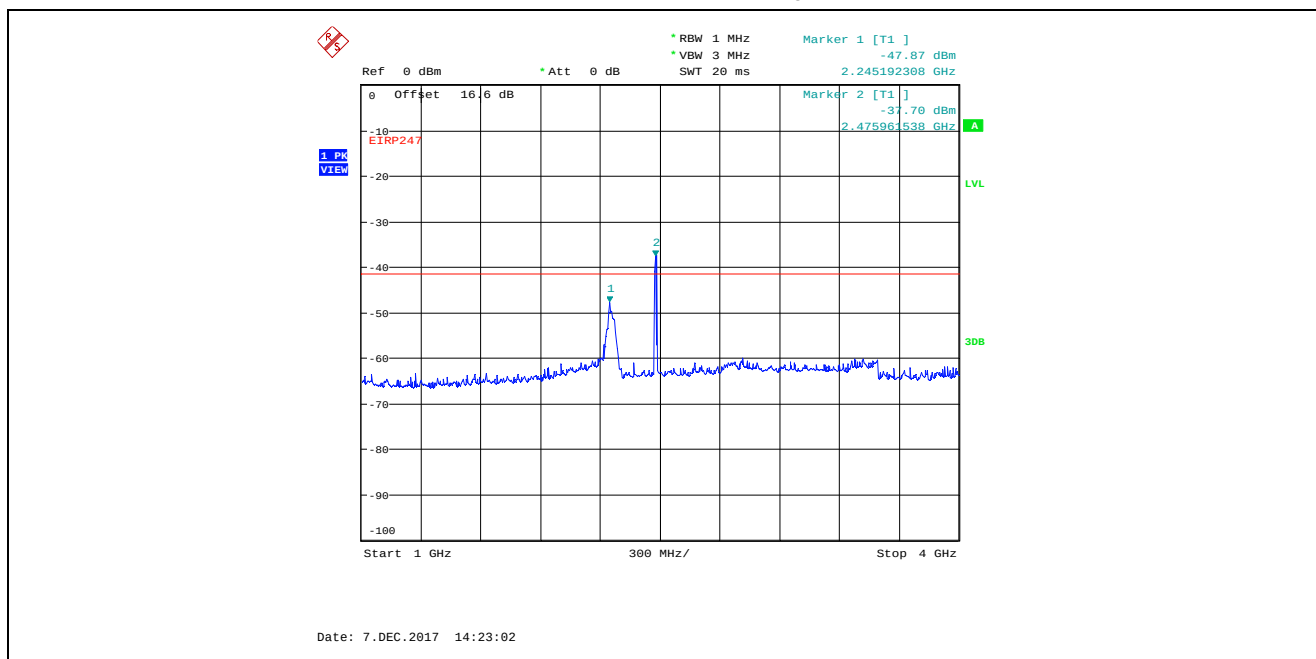
Plot 5.4.4.455. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



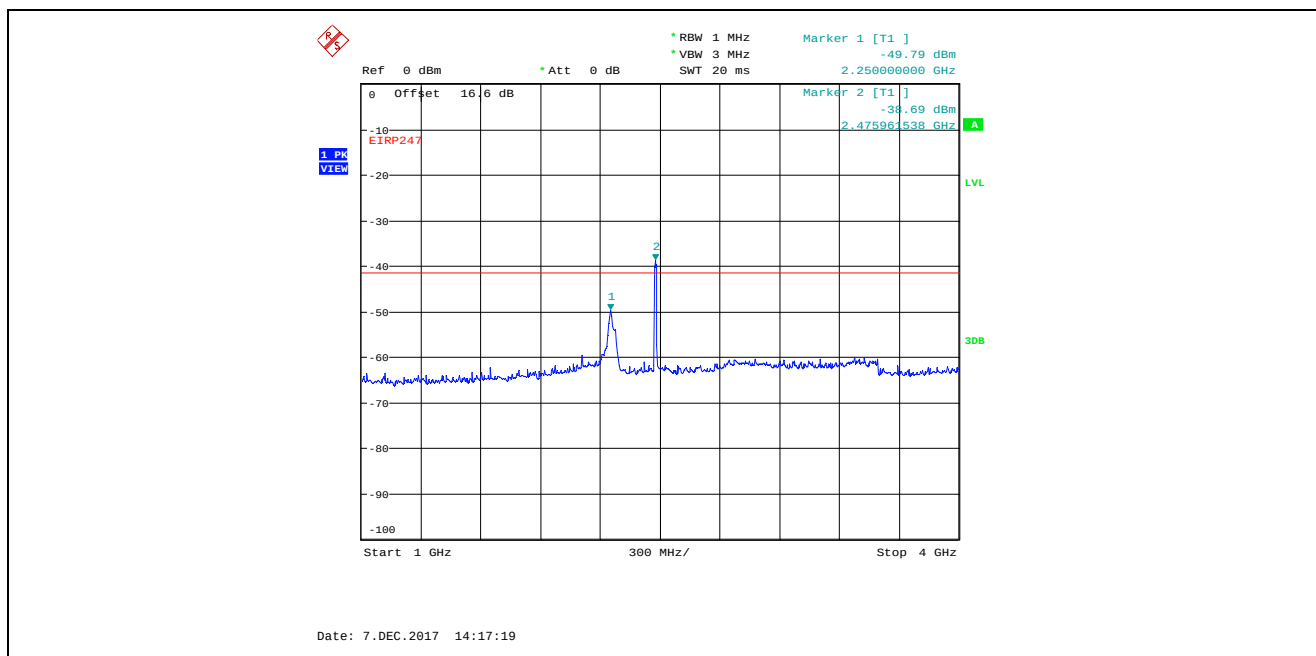
Plot 5.4.4.456. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 30 MHz - 1 GHz, Peak Detector



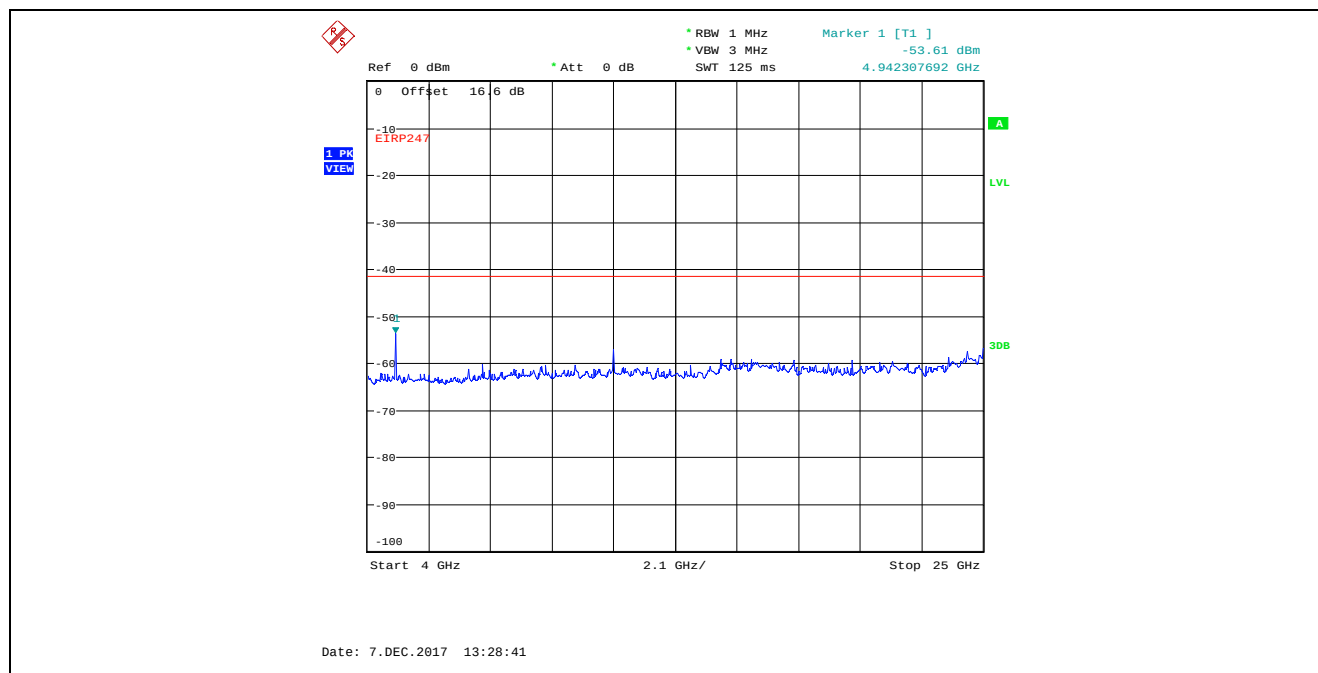
Plot 5.4.4.457. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



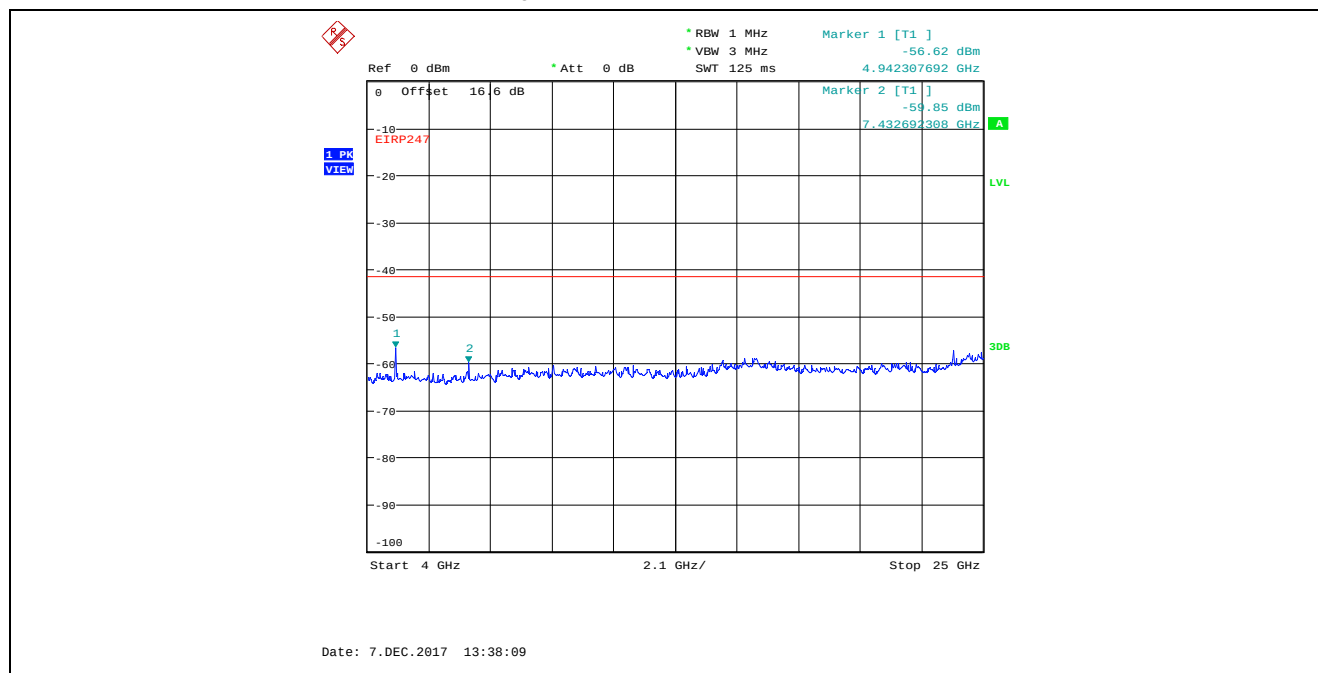
Plot 5.4.4.458. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



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



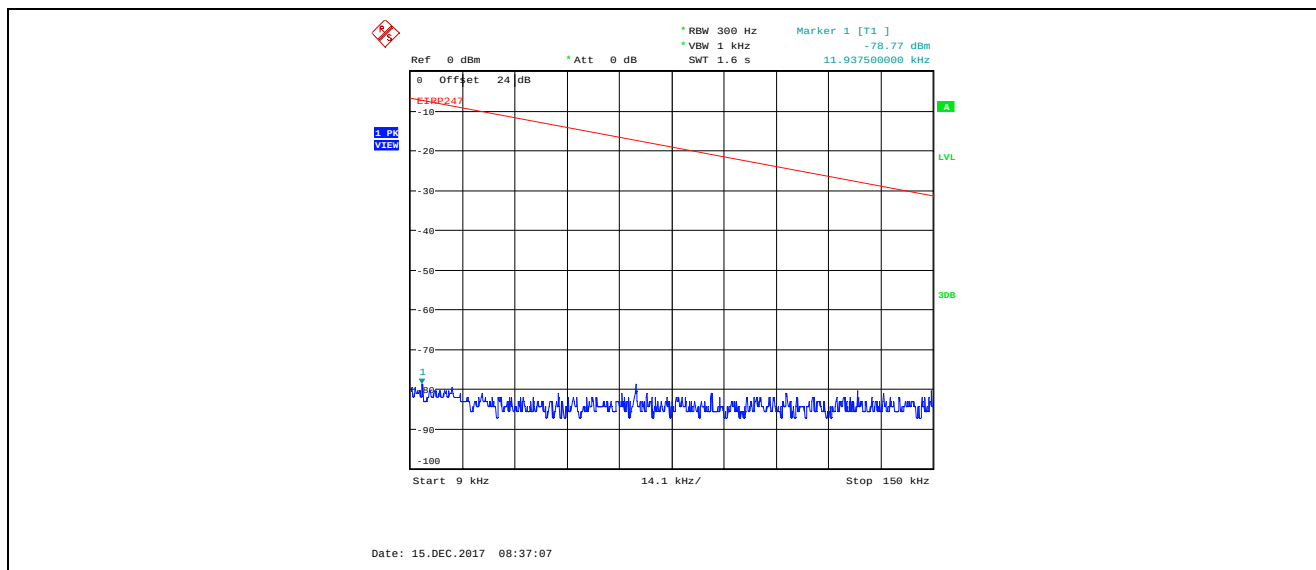
Plot 5.4.4.4.60. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 24, Data Rate 7, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



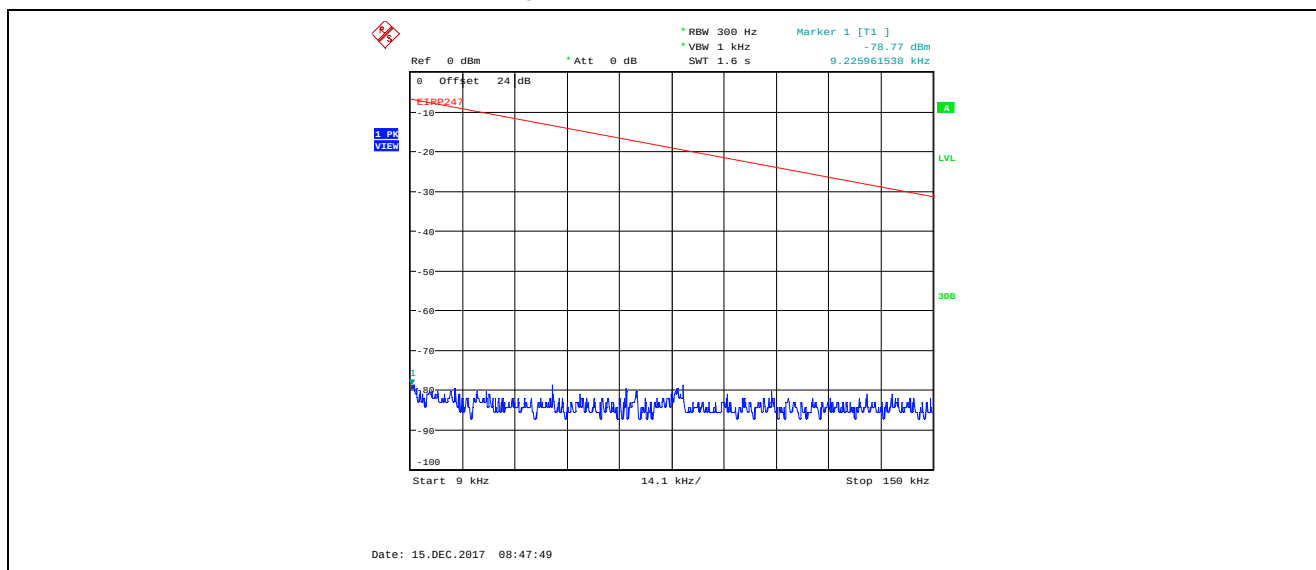
5.4.4.5. Conducted Spurious Emissions in Restricted Frequency Bands, Lower Power Setting (TX Gain Setting 8) for Highest Antenna Gain (15 dBi, with Antenna Assembly Gain of 13.27dBi) at Data Rate 3

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)]

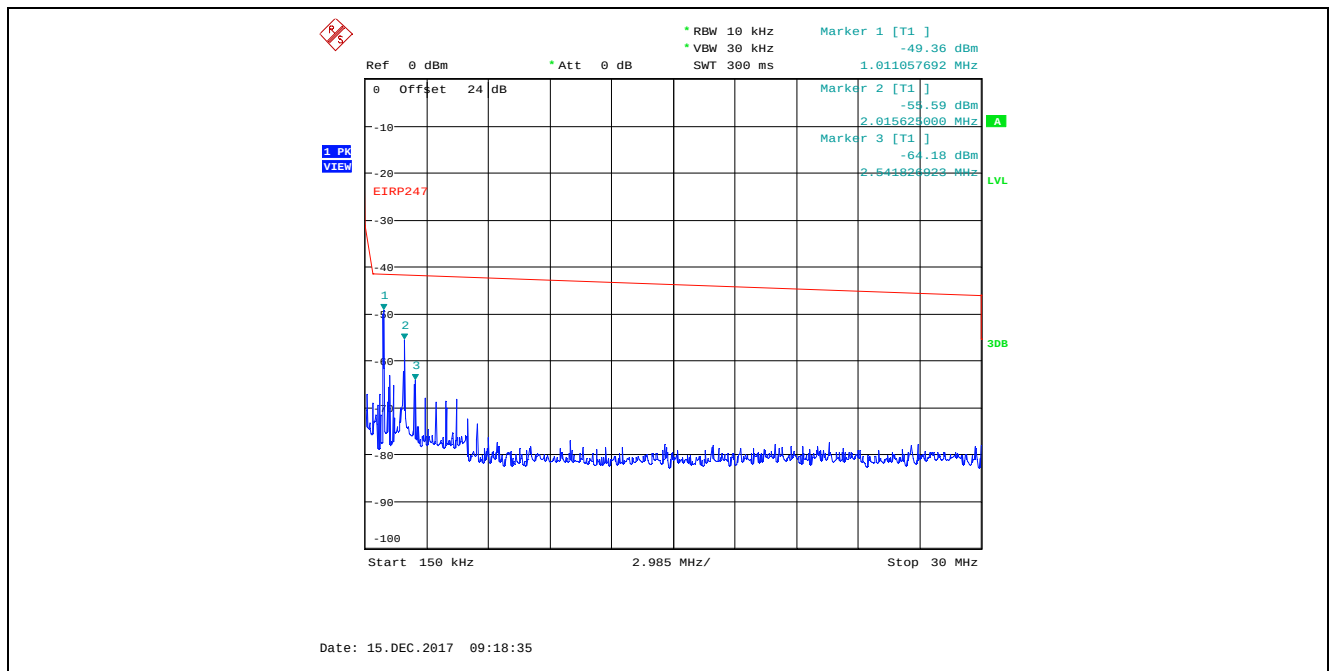
Plot 5.4.4.5.1. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



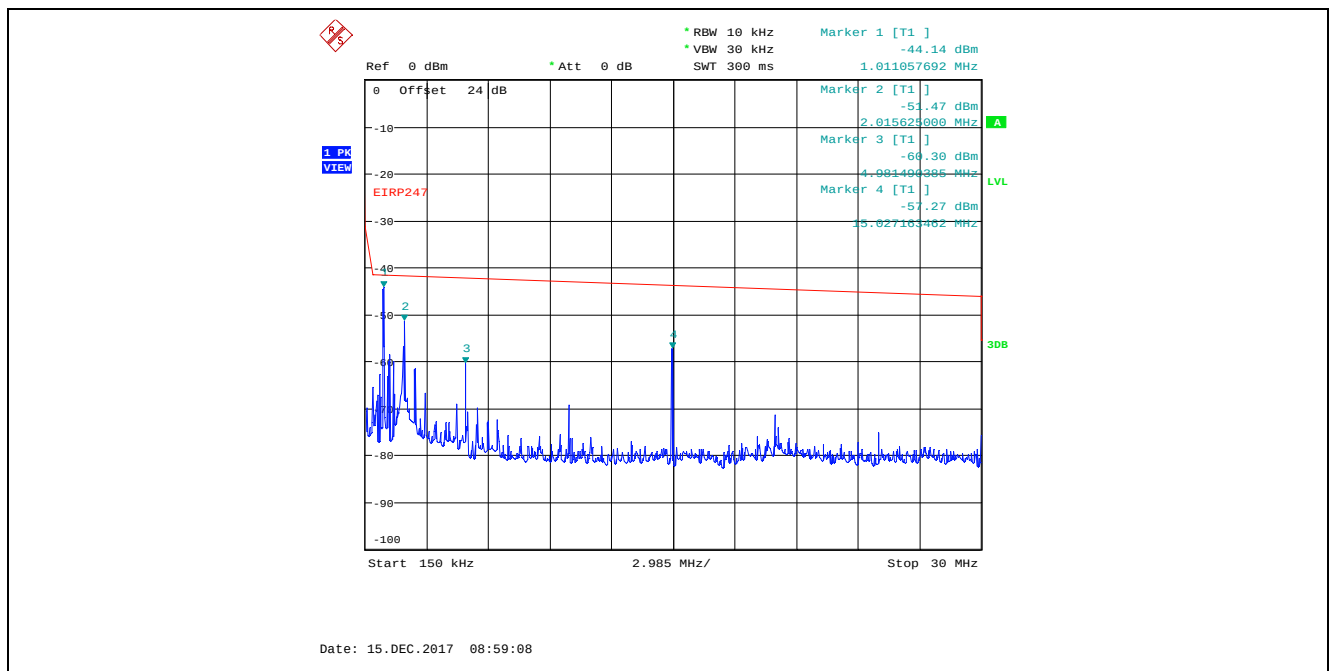
Plot 5.4.4.5.2. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 9 kHz - 150 kHz, Peak Detector



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



* RBW 100 kHz
 * VBW 300 kHz
 SWT 100 ms

Marker 2 [T1]
 -45.60 dBm
 505.673076923 MHz

Marker 1 [T1]
 -44.66 dBm
 188.557692308 MHz

Ref 0 dBm
 * Att 0 dB

0 Offset 22.7 dB

1 PK
 VIEW

EIRP247

LVL

3dB

Start 30 MHz
 97 MHz/
 Stop 1 GHz

Date: 15.DEC.2017 09:32:35

Ref 0 dBm * Att 0 dB SWT 100 ms 188.557692308 MHz

Marker 1 [T1] -44.66 dBm

Marker 2 [T1] -45.60 dBm 565.673076923 MHz

1 PK VIEW

3dB

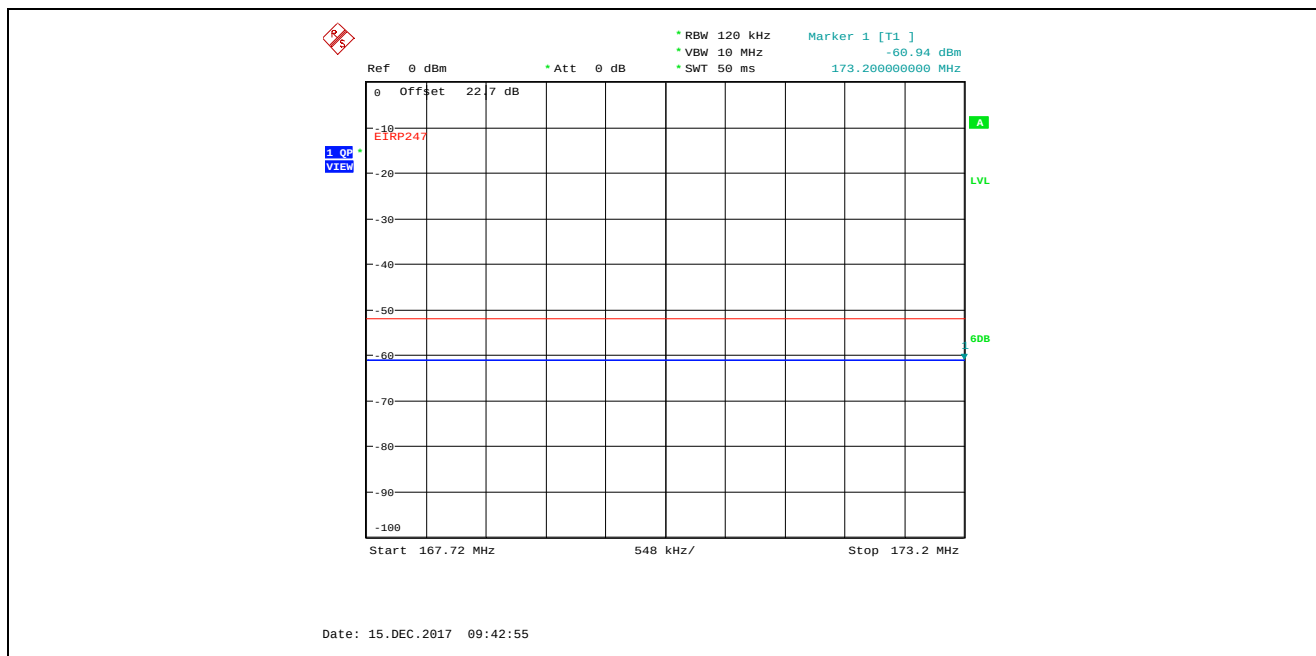
LVL

A

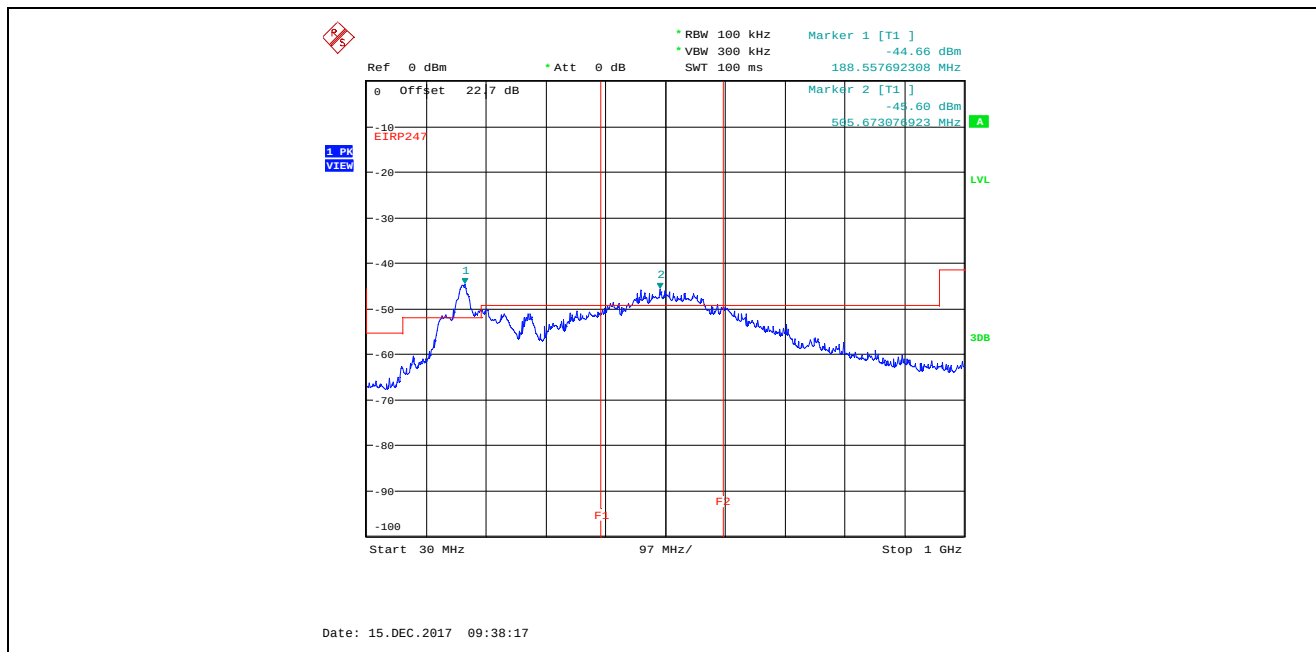
Start 30 MHz 97 MHz/ Stop 1 GHz

Date: 15.DEC.2017 09:36:48

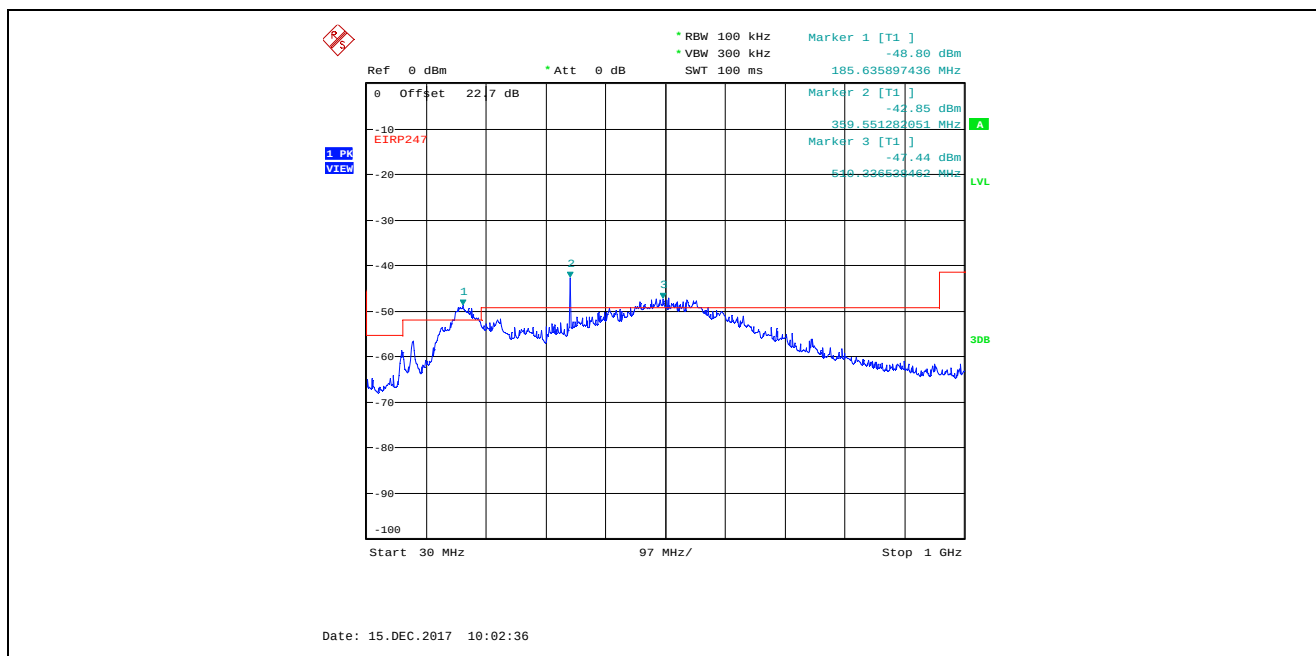
Plot 5.4.4.5.7. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
167.72-173.2 MHz Restricted Band, QP Detector



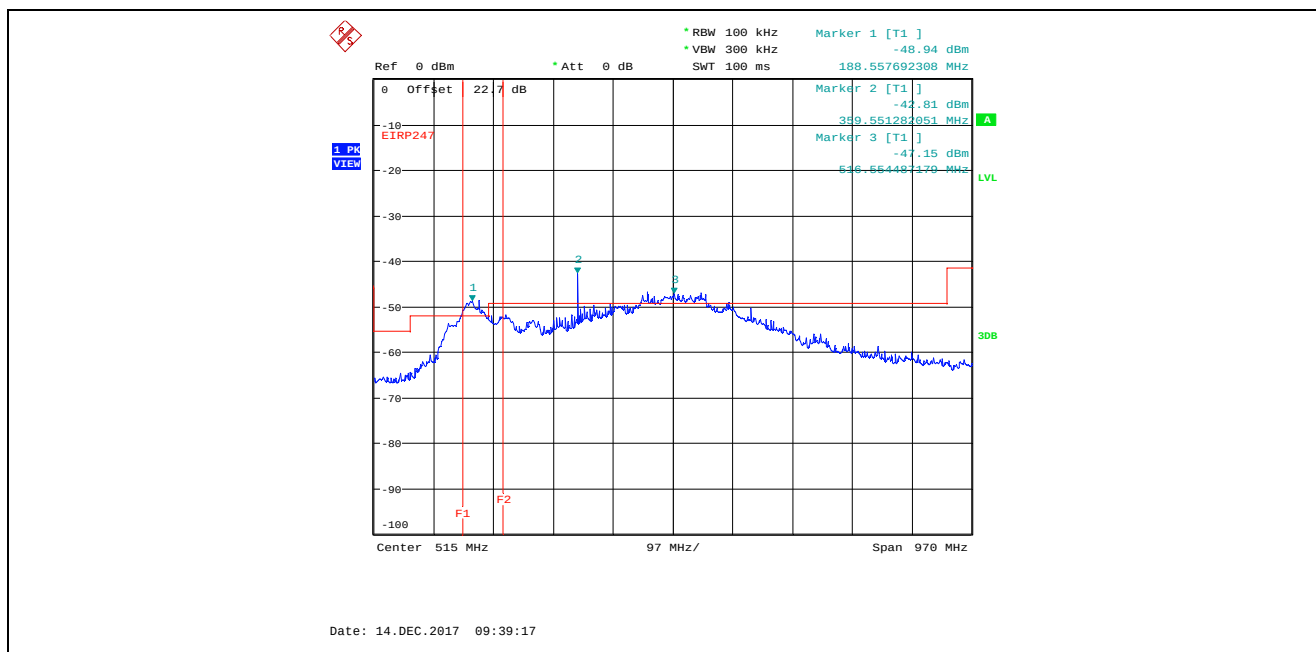
Plot 5.4.4.5.8. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



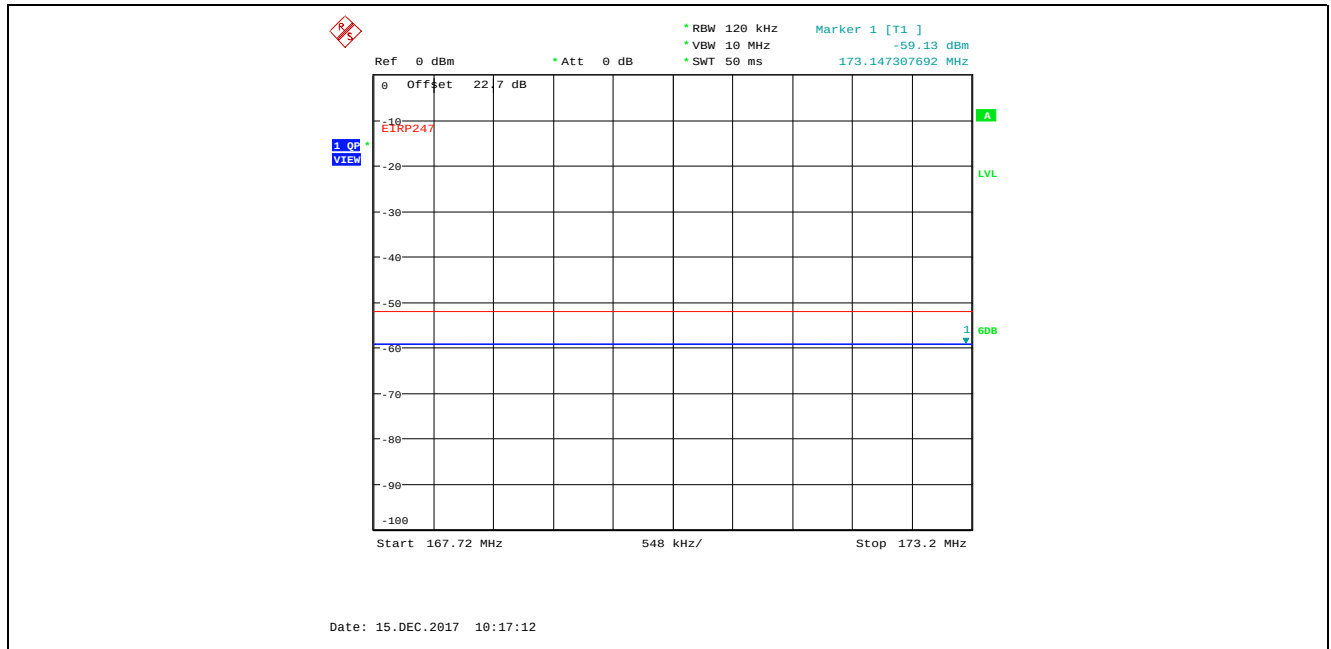
Plot 5.4.4.5.9. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector



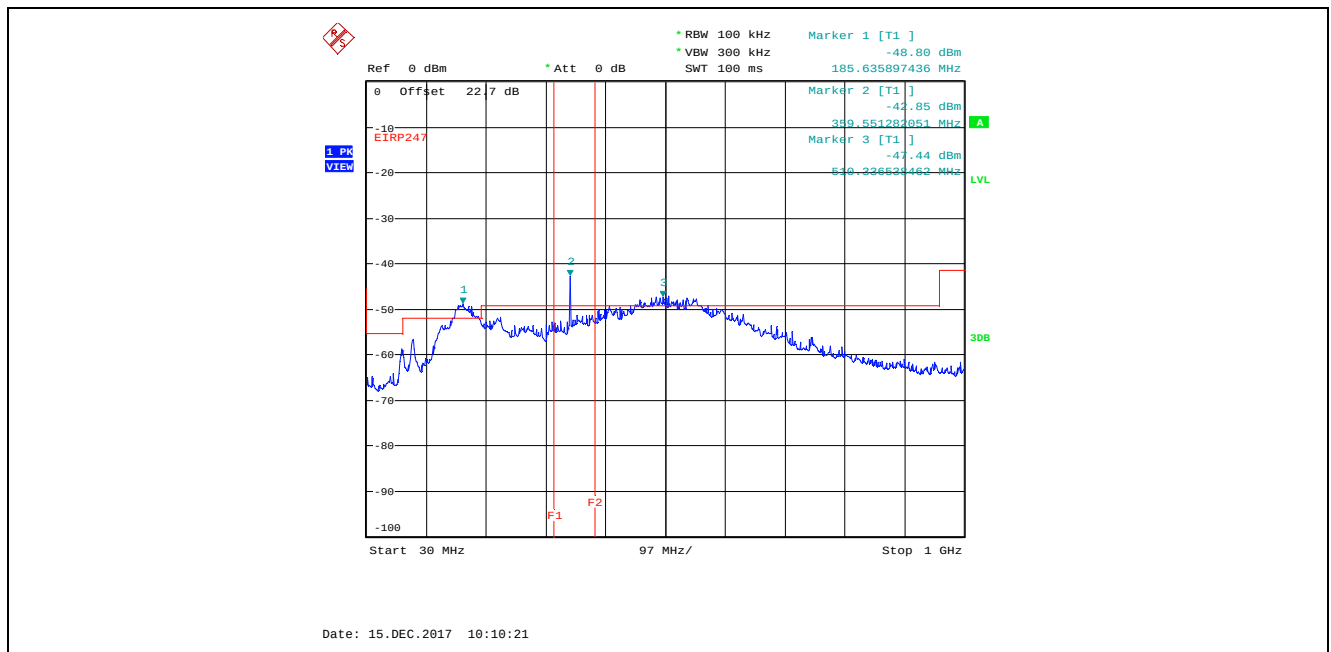
Plot 5.4.4.5.10. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (173.2 MHz) to F2 (240 MHz) Band is Outside of the Restricted Bands



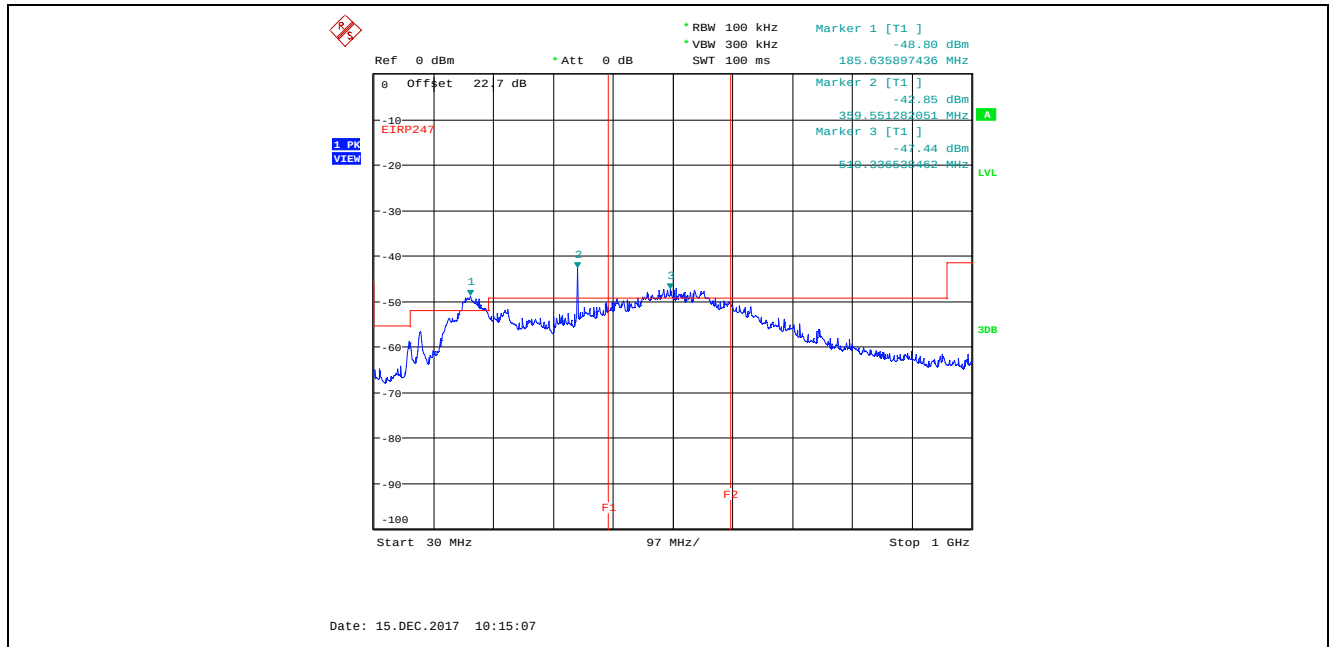
Plot 5.4.4.5.11. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
167.72 - 173.2 MHz Restricted Band, QP Detector



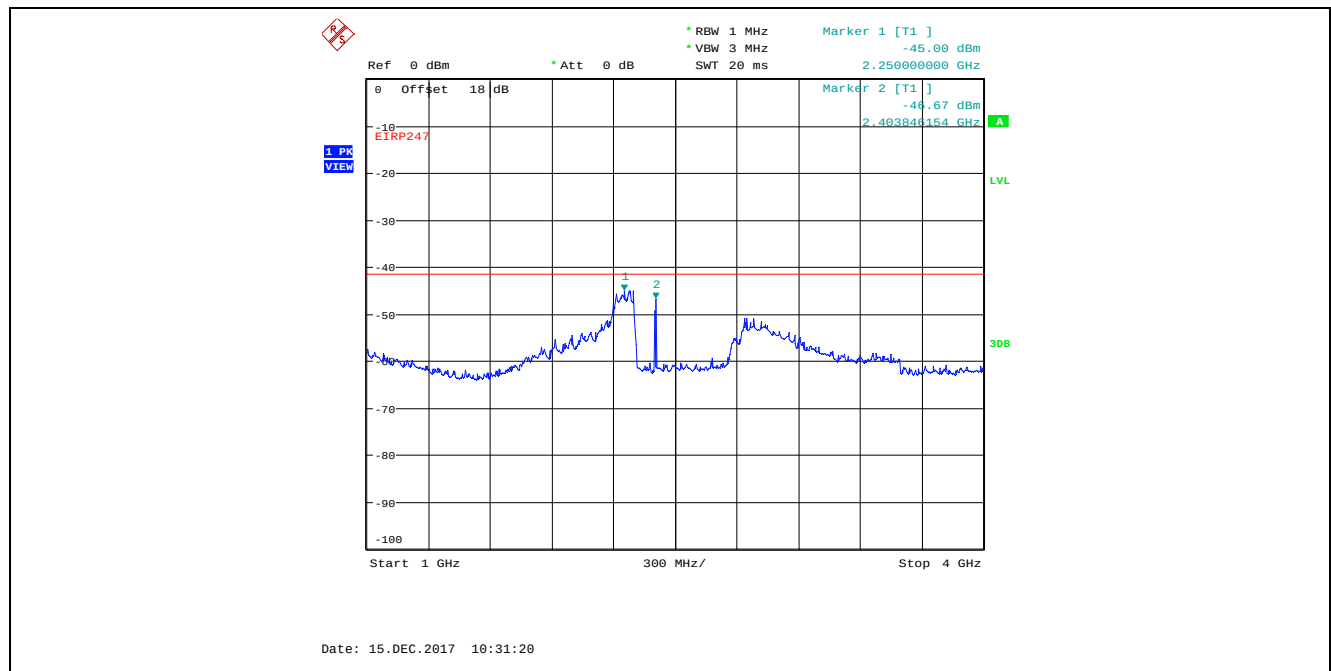
Plot 5.4.4.5.12. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (335.4 MHz) to F2 (399.9 MHz) Band is Outside of the Restricted Bands



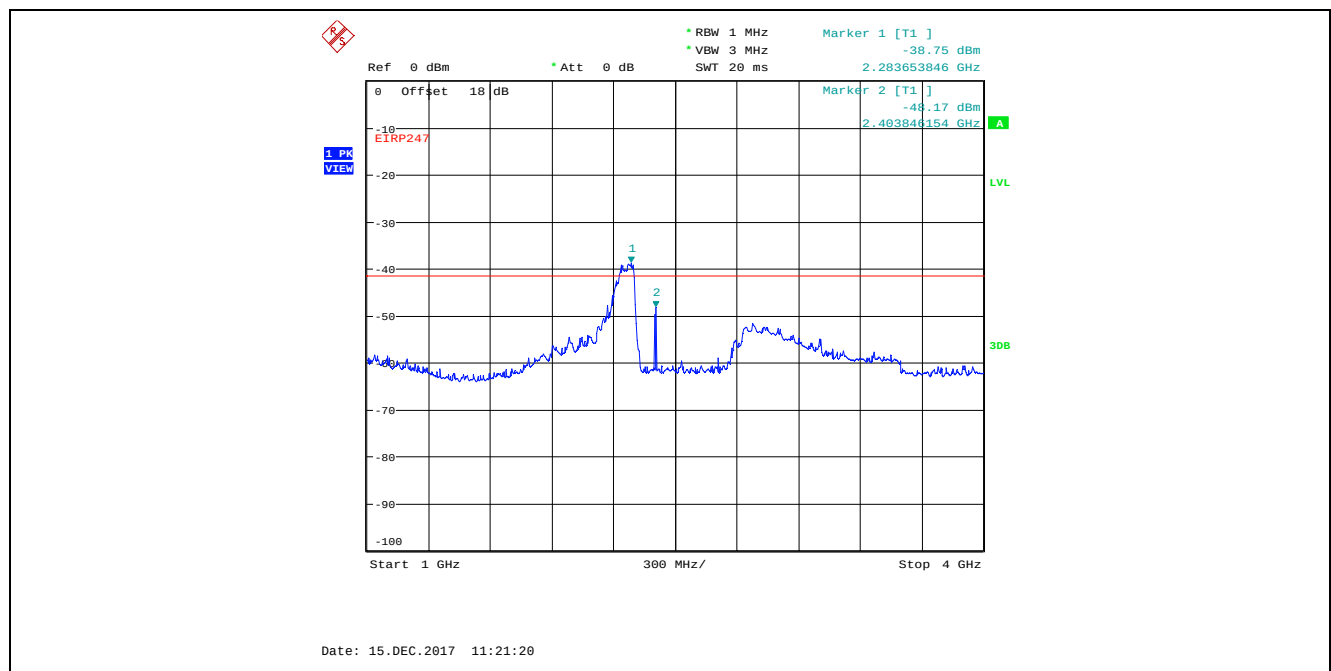
Plot 5.4.4.5.13. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



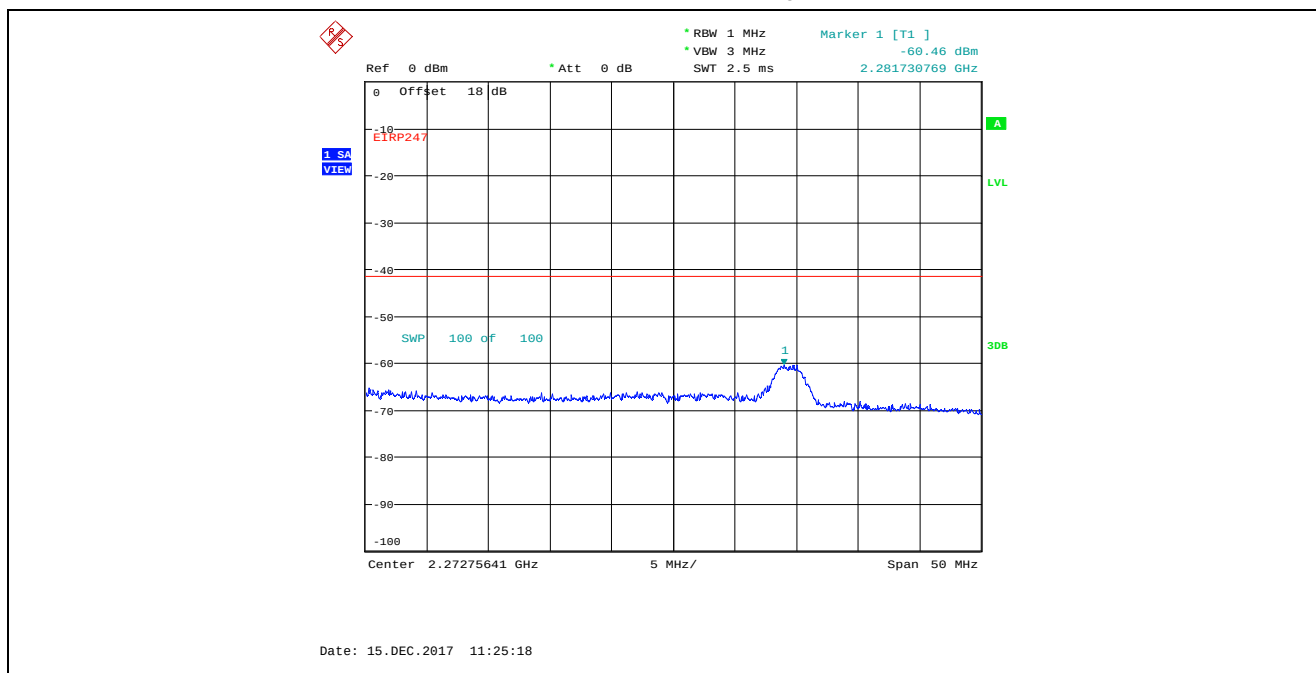
Plot 5.4.4.5.14. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



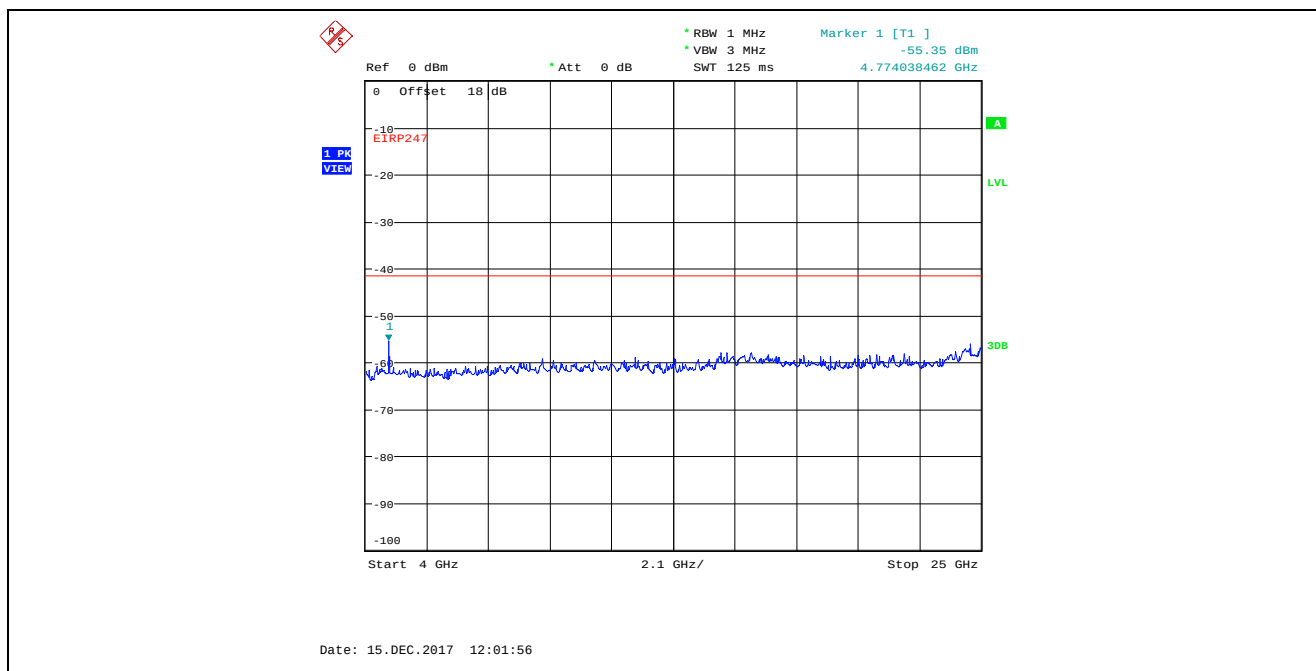
Plot 5.4.4.5.15. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 1 GHz – 4 GHz, Peak Detector



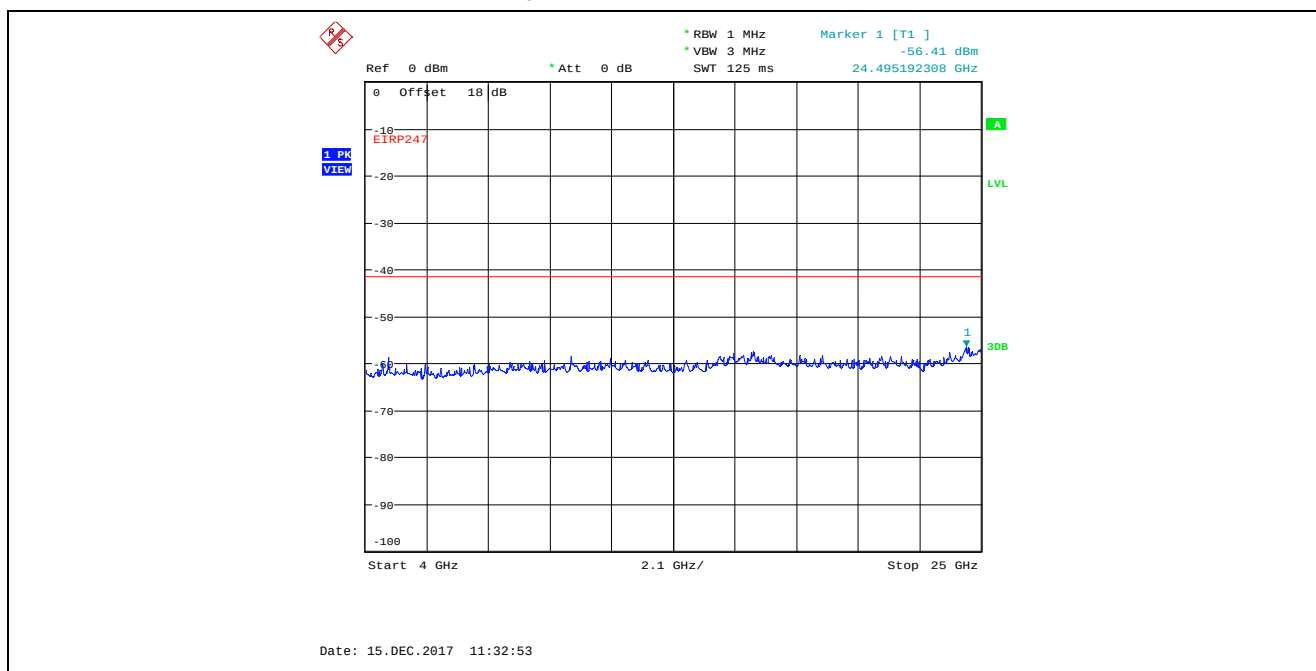
Plot 5.4.4.5.16. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



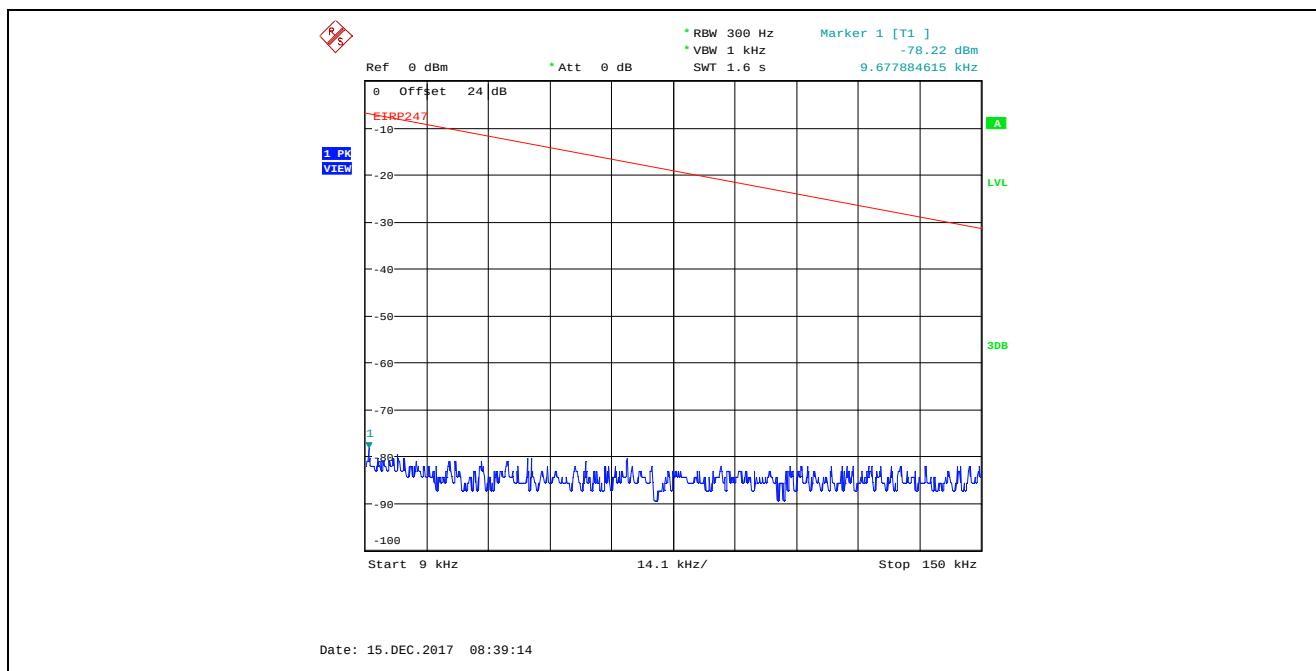
Plot 5.4.4.5.17. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



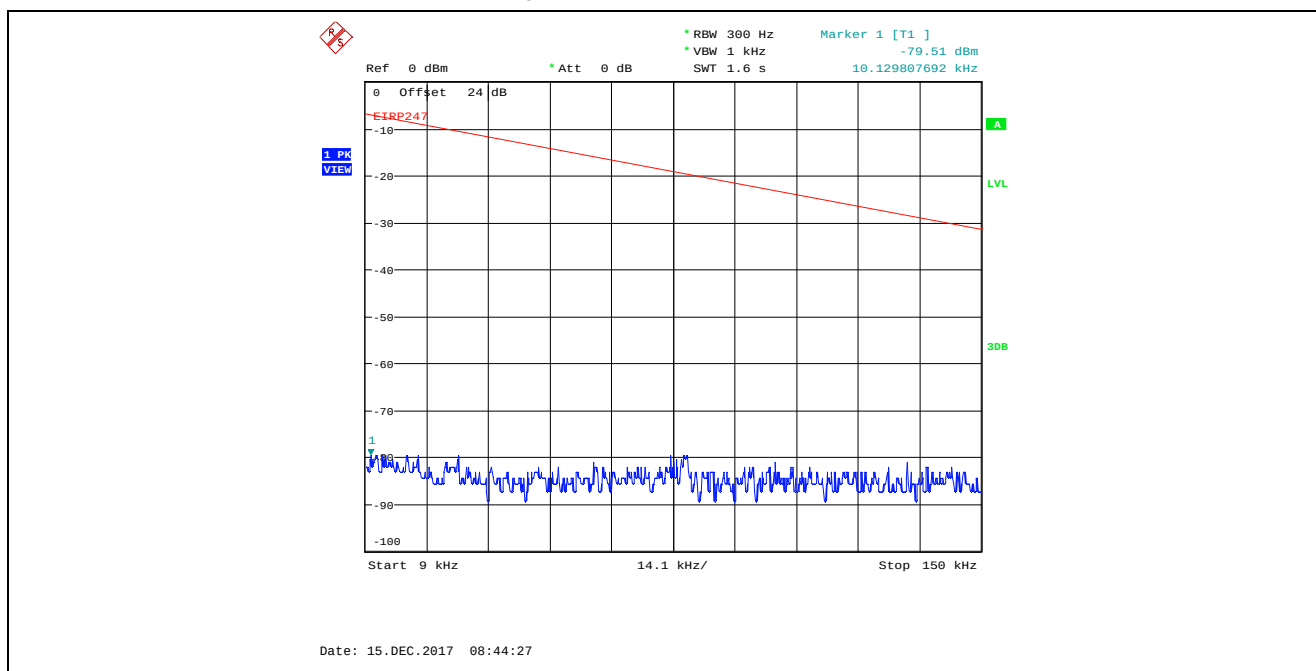
Plot 5.4.4.5.18. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2402 MHz, 4 GHz - 25 GHz, Peak Detector



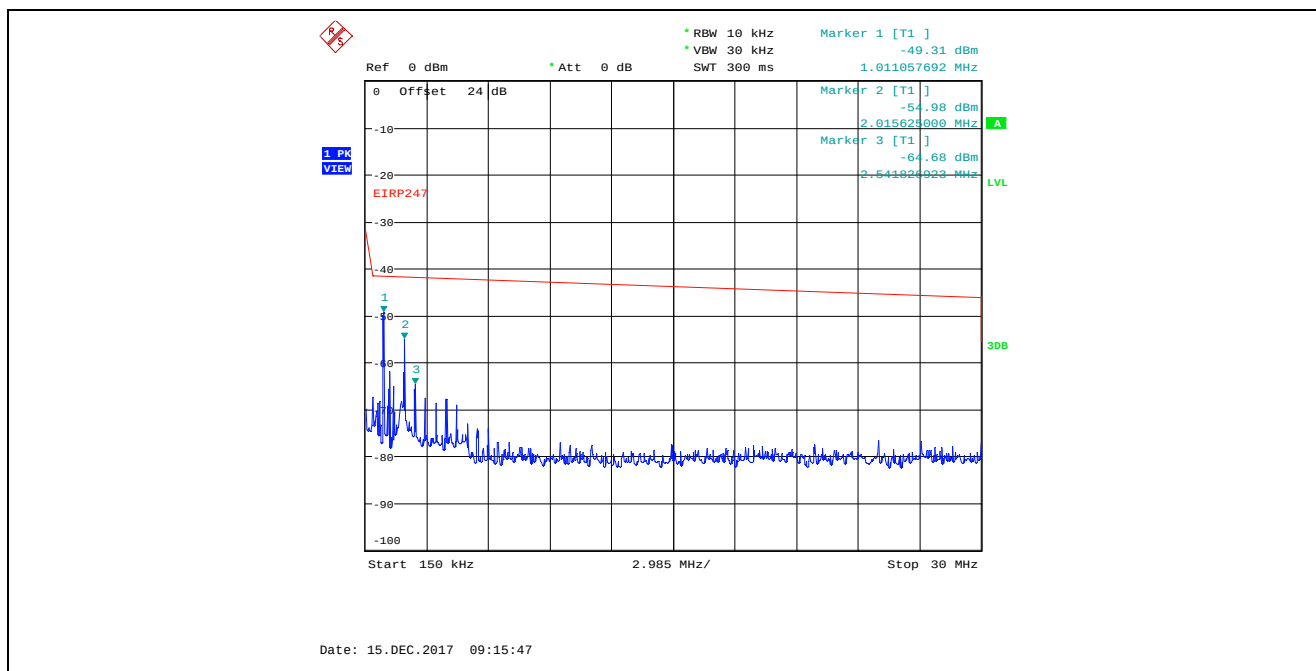
Plot 5.4.4.5.19. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



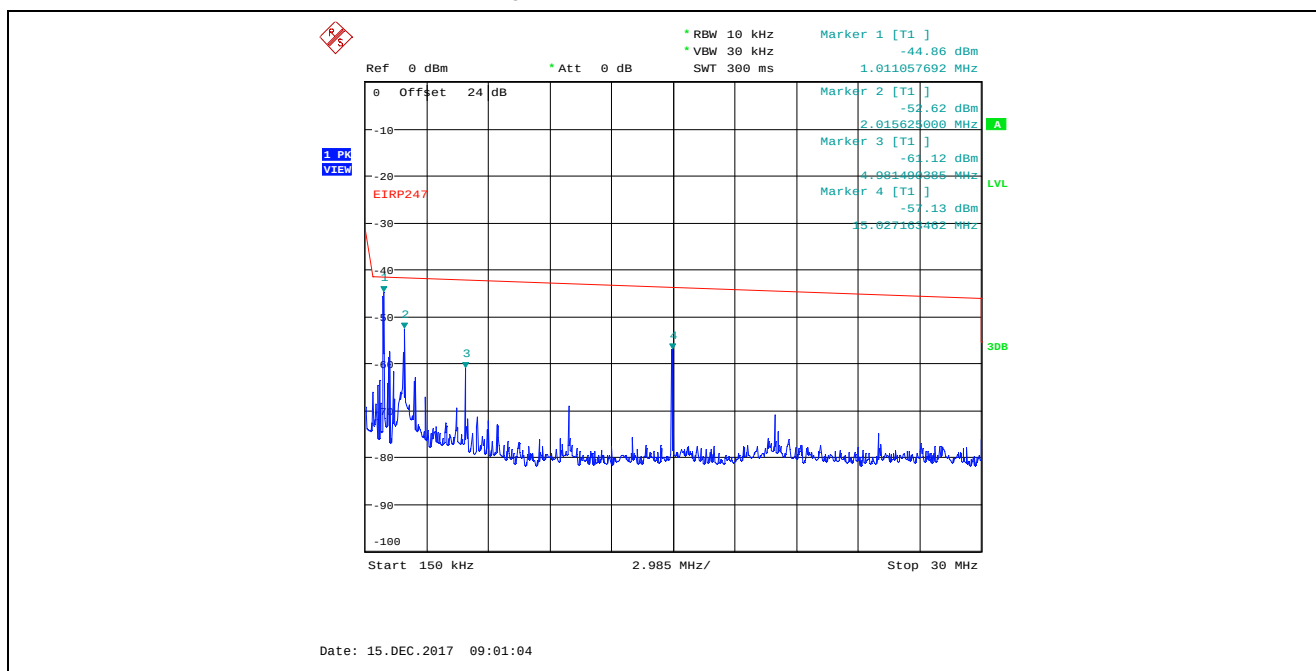
Plot 5.4.4.5.20. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



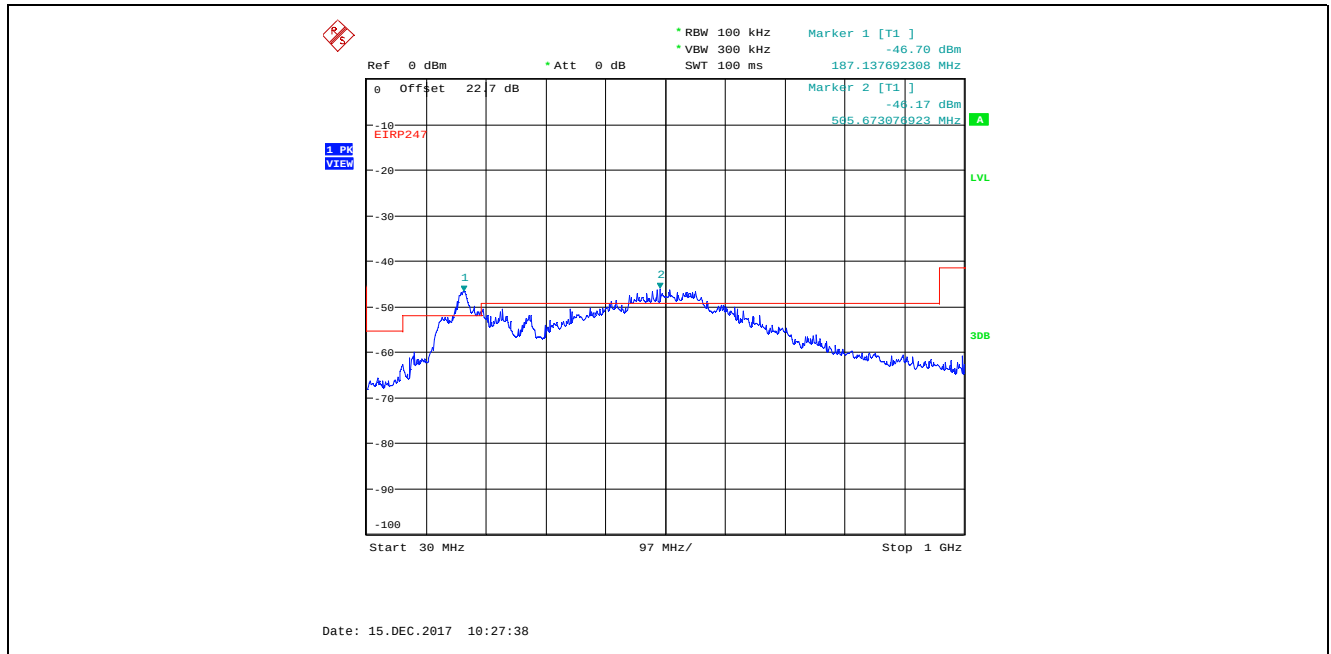
Plot 5.4.4.5.21. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



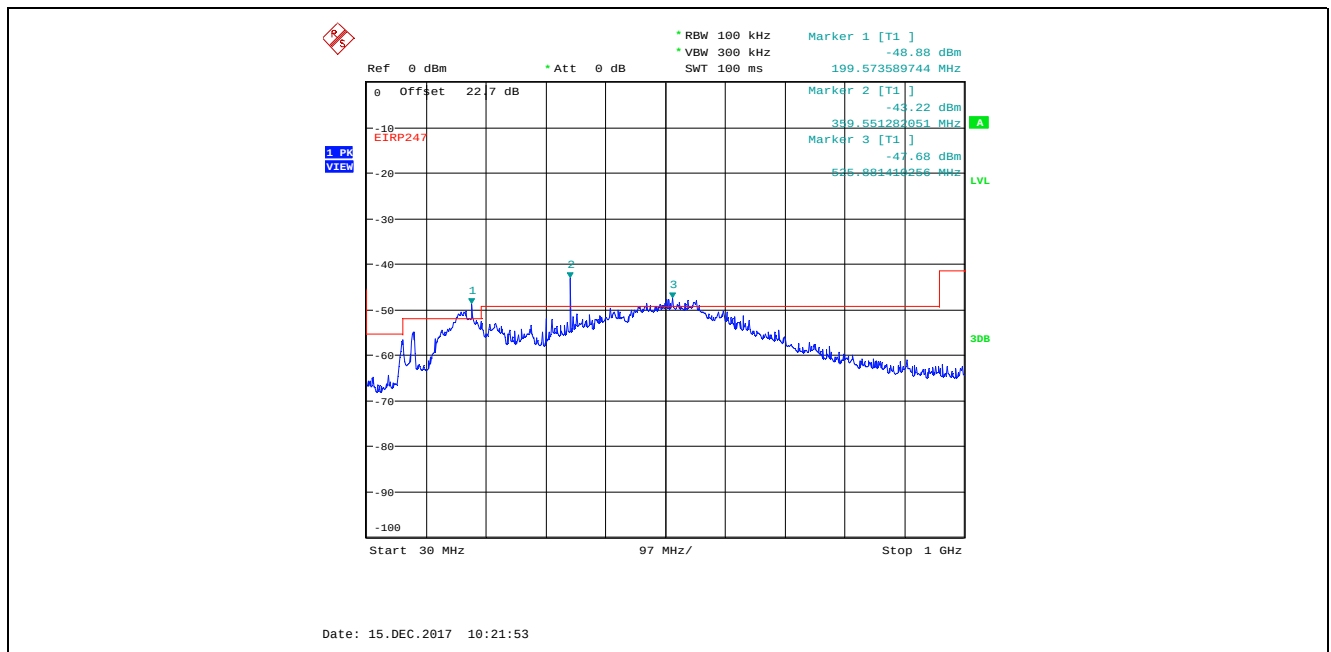
Plot 5.4.4.5.22. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



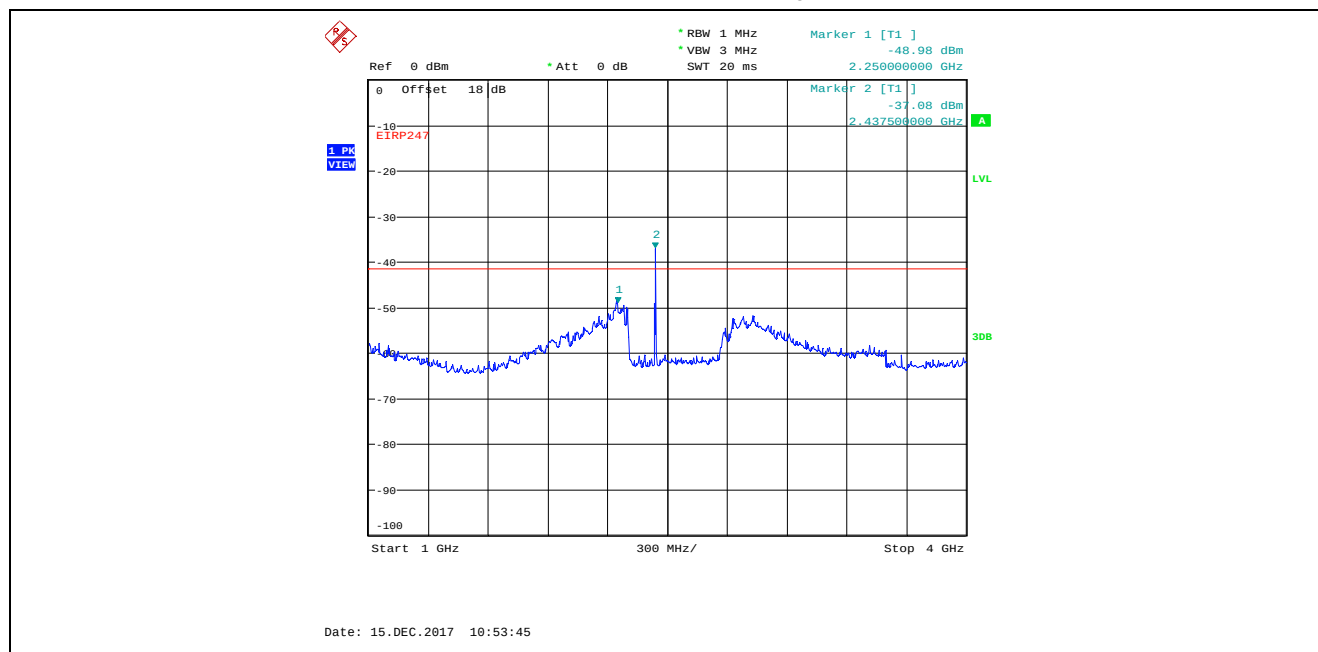
Plot 5.4.4.5.23. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



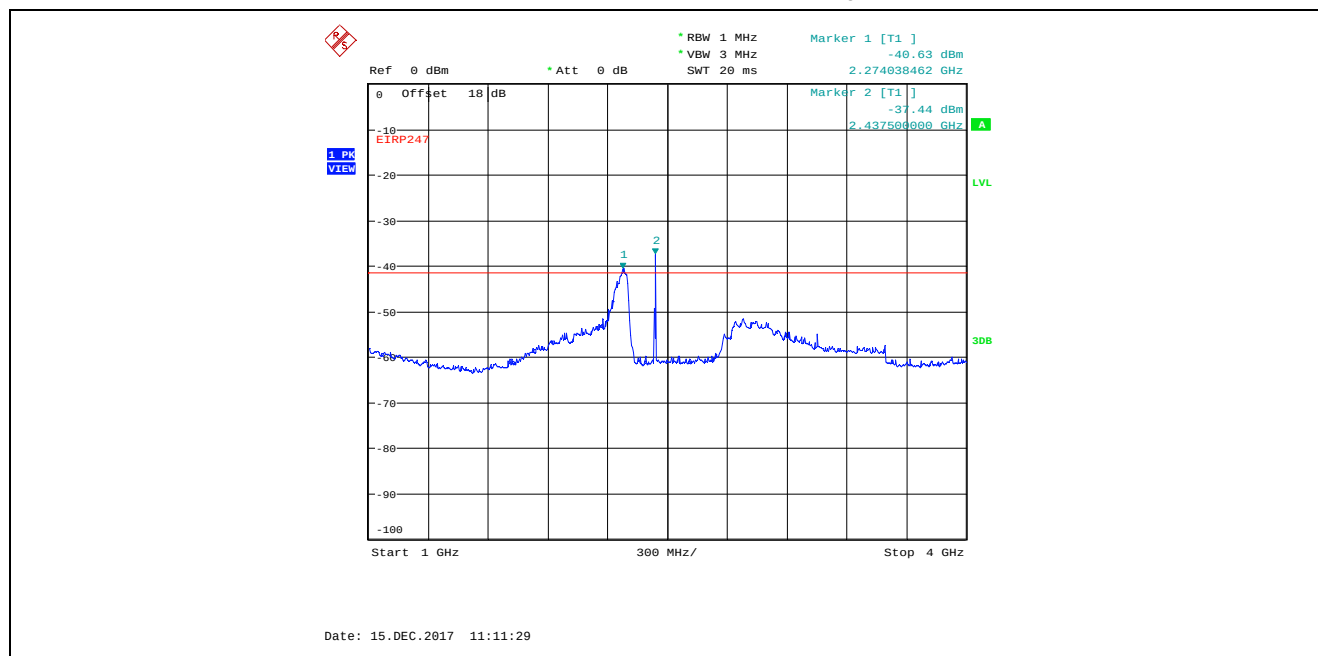
Plot 5.4.4.5.24. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



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



Ref 0 dBm Att 0 dB RBW 1 MHz VBW 3 MHz SWT 2.5 ms

Marker 1 [T1] -64.40 dBm 2.276987179 GHz

1 SA VIEW

EIRP247

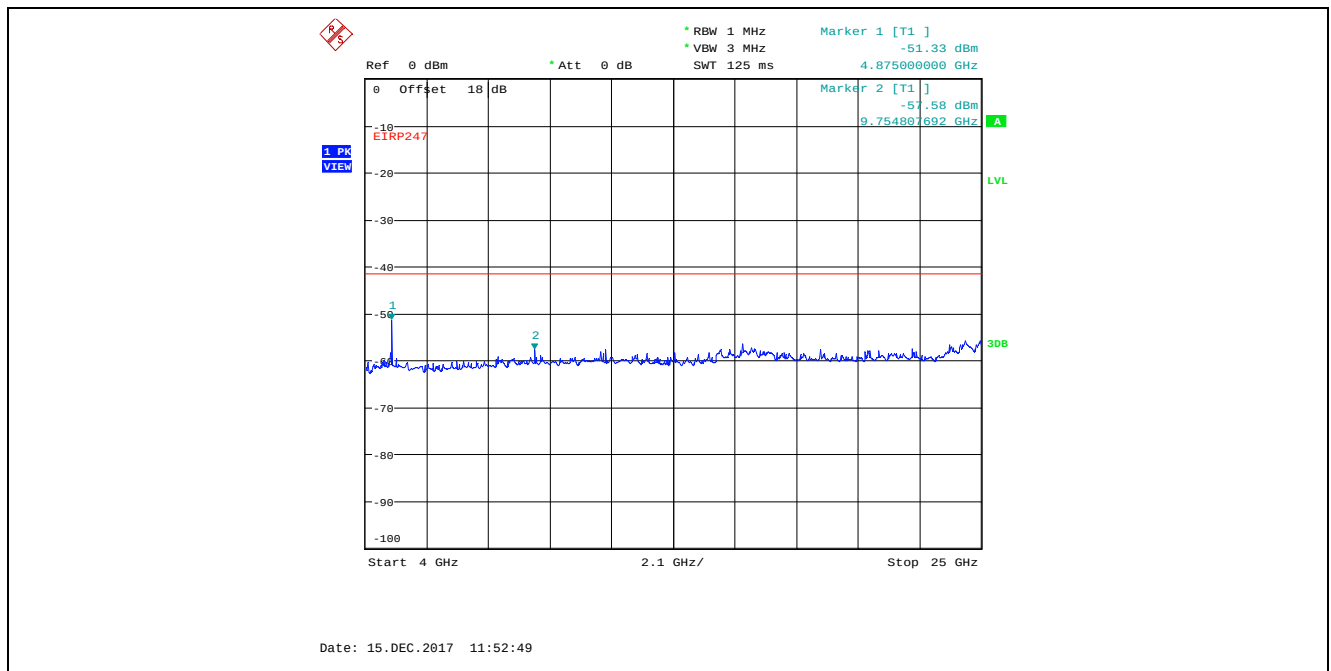
SWP 100 of 100

3dB

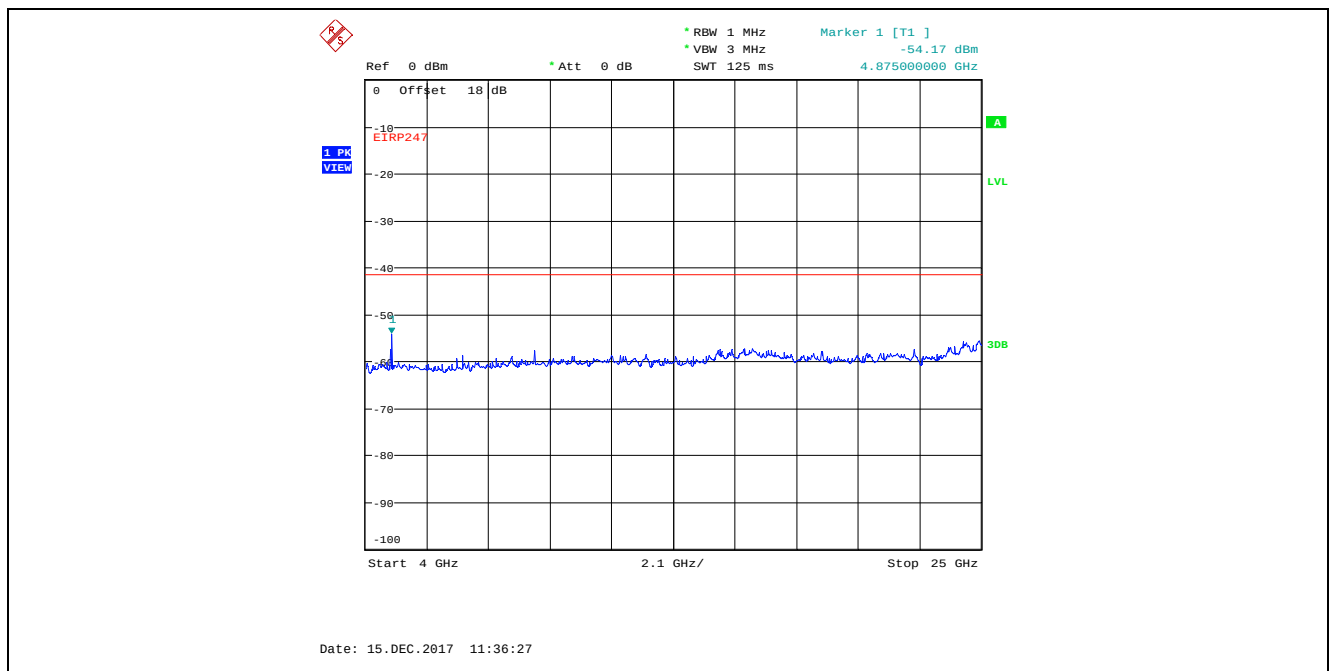
Center 2.272179487 GHz Span 20 MHz

Date: 15.DEC.2017 11:13:35

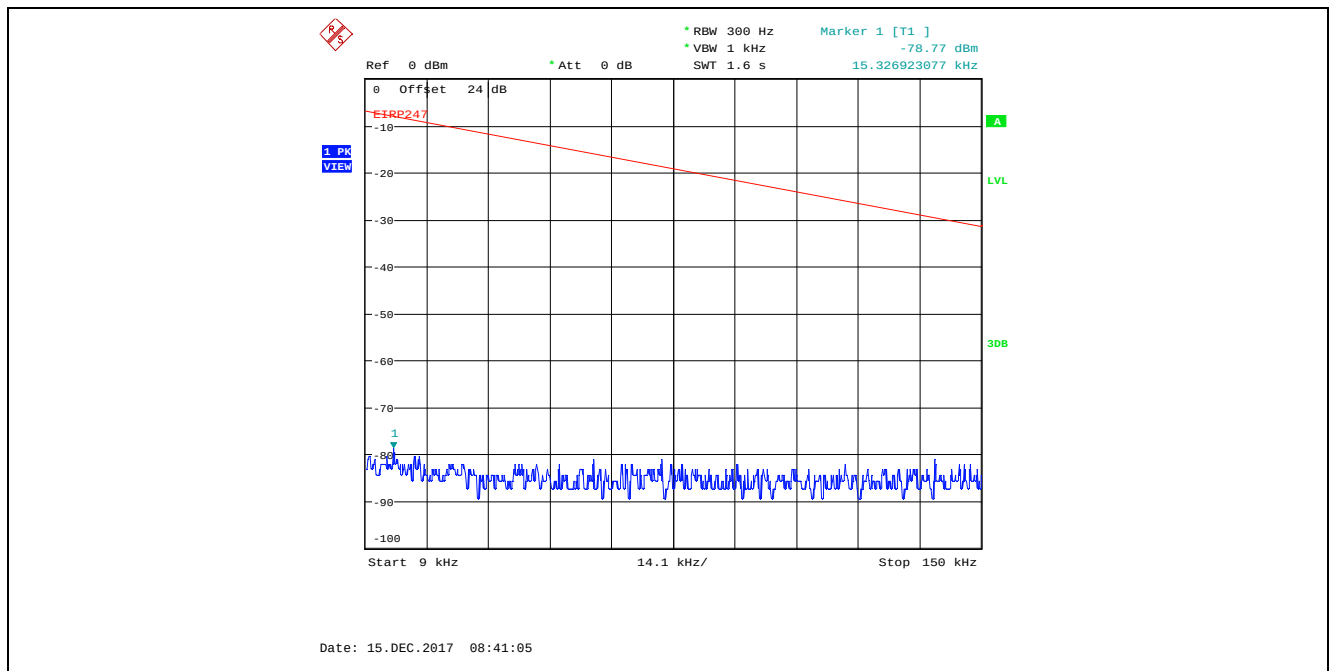
Plot 5.4.4.5.28. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



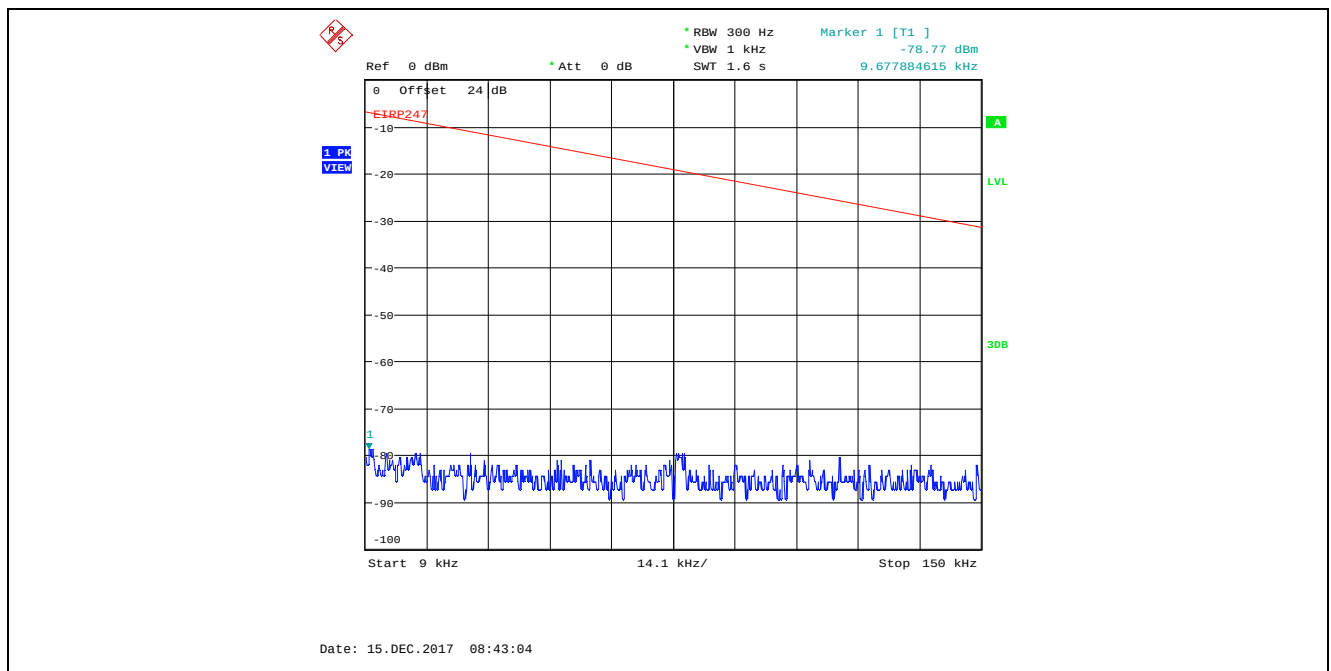
Plot 5.4.4.5.29. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



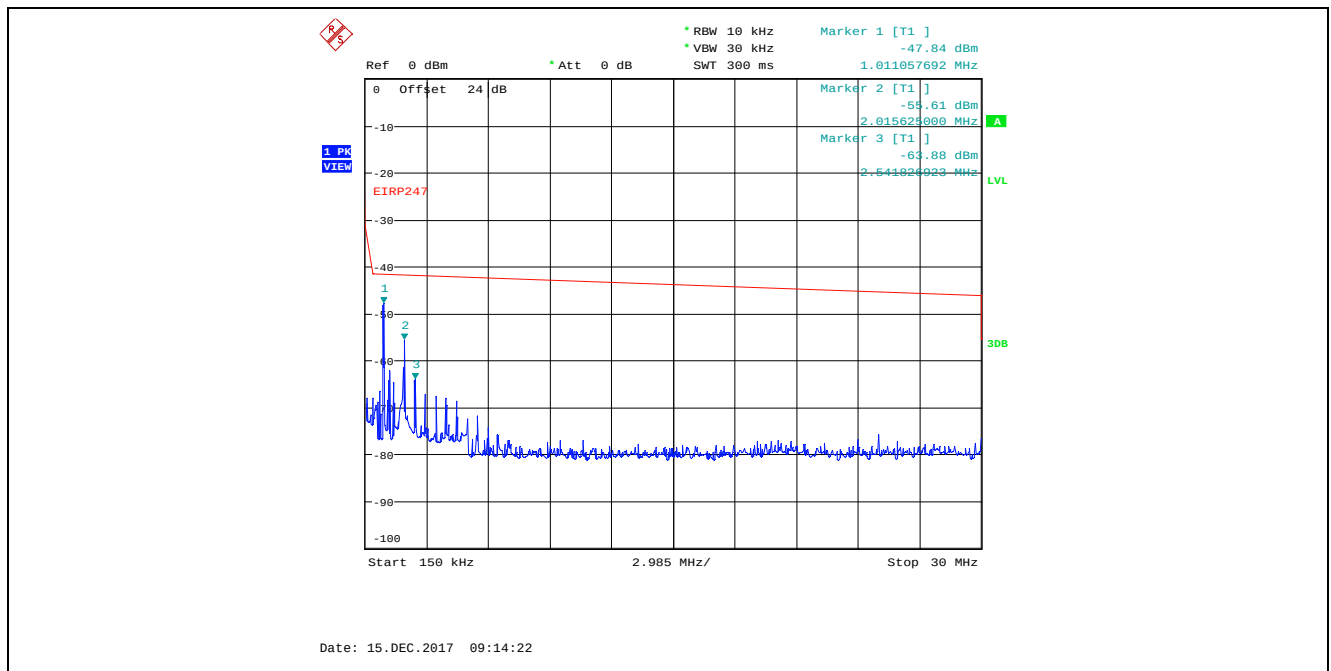
Plot 5.4.4.5.30. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



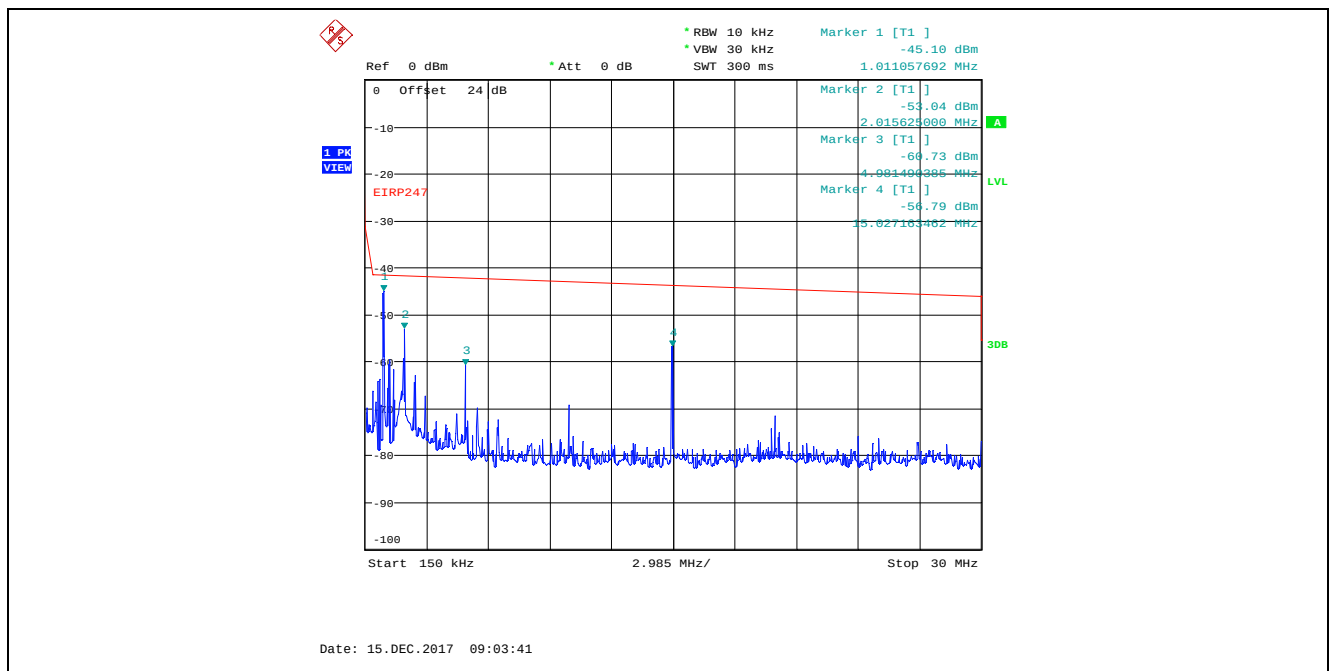
Plot 5.4.4.5.31. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



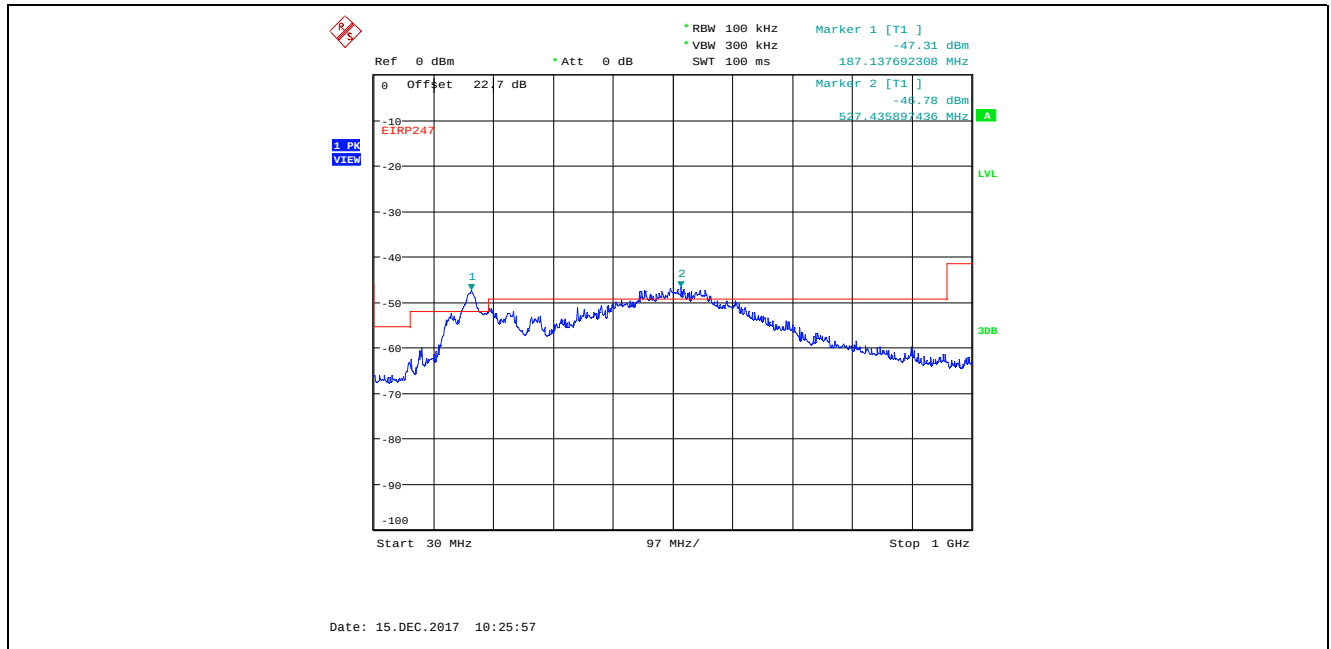
Plot 5.4.4.5.32. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



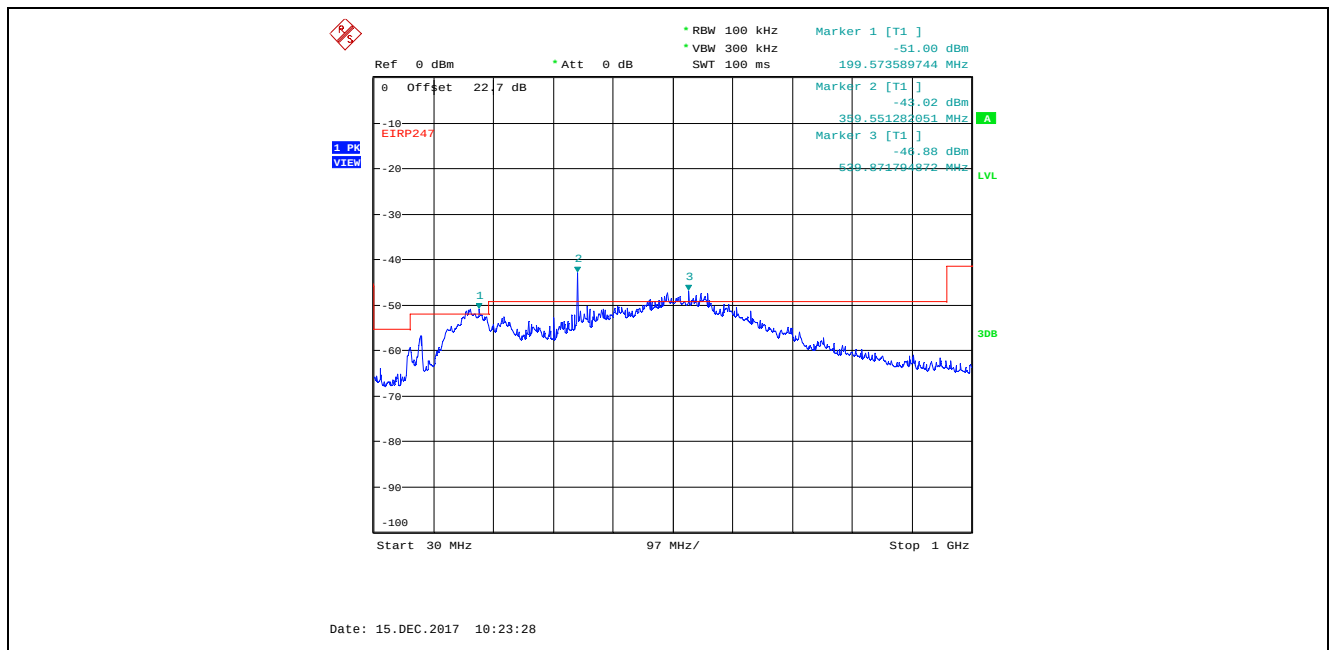
Plot 5.4.4.5.33. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



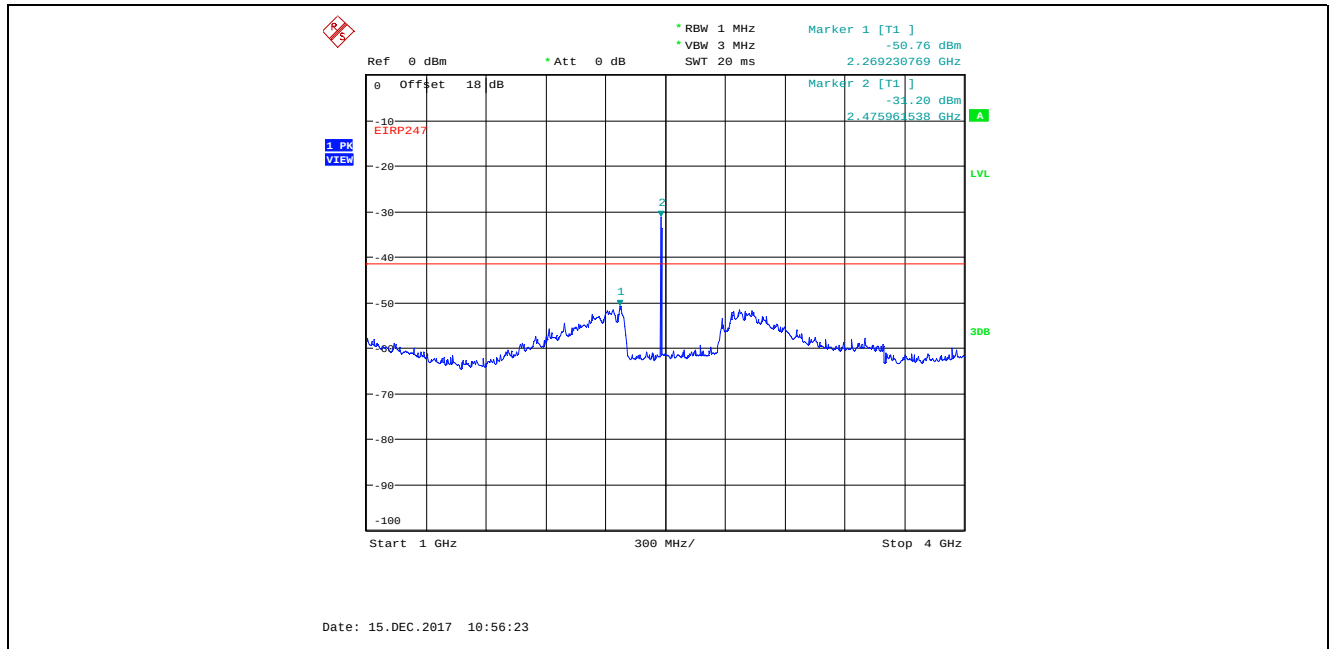
Plot 5.4.4.5.34. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



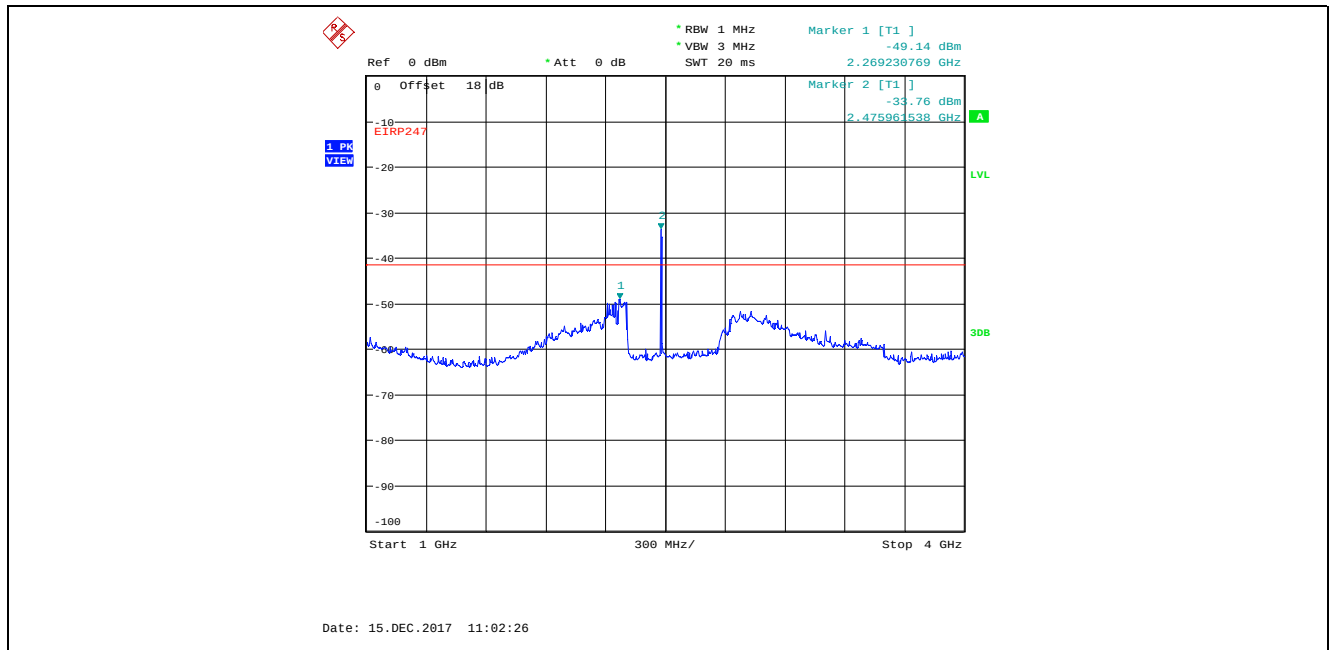
Plot 5.4.4.5.35. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



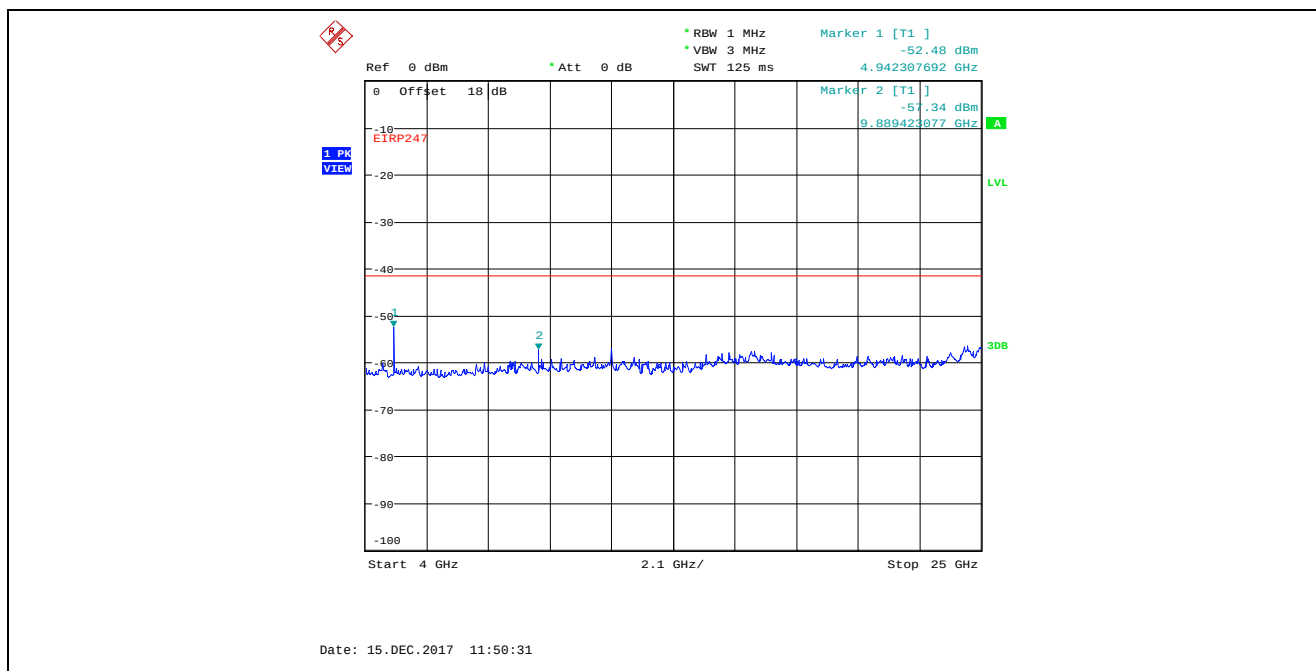
Plot 5.4.4.5.36. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



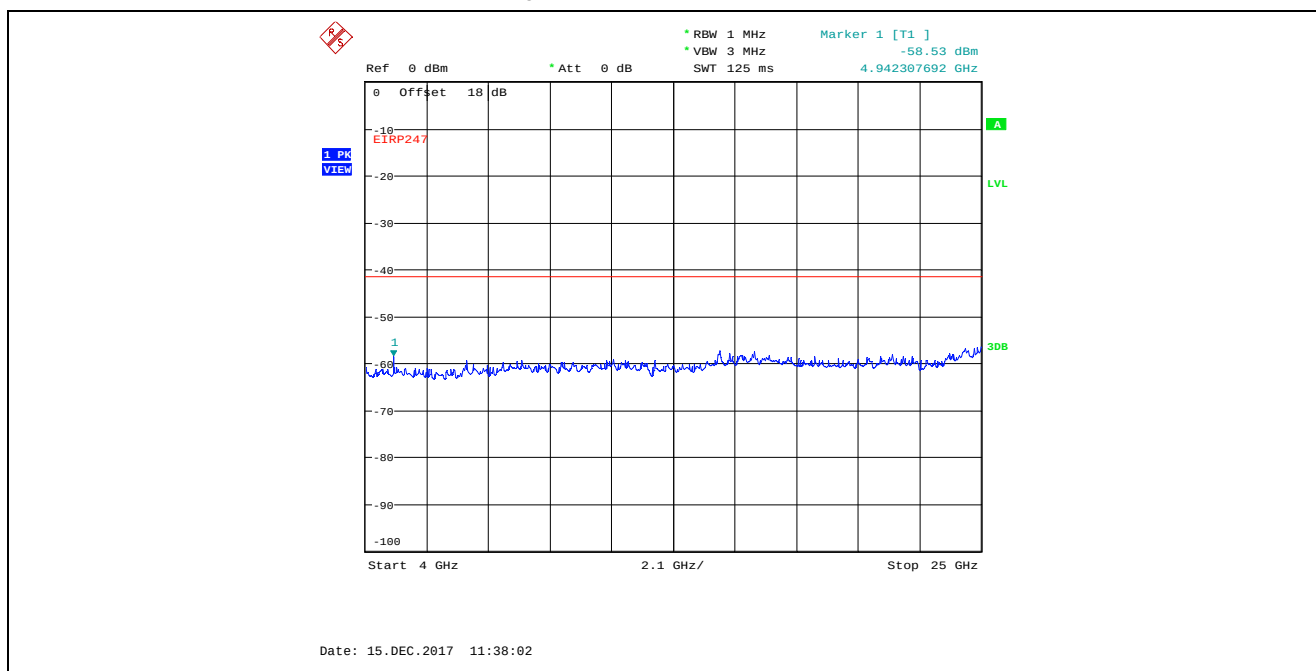
Plot 5.4.4.5.37. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
 Marker 2 is Fundamental Signal



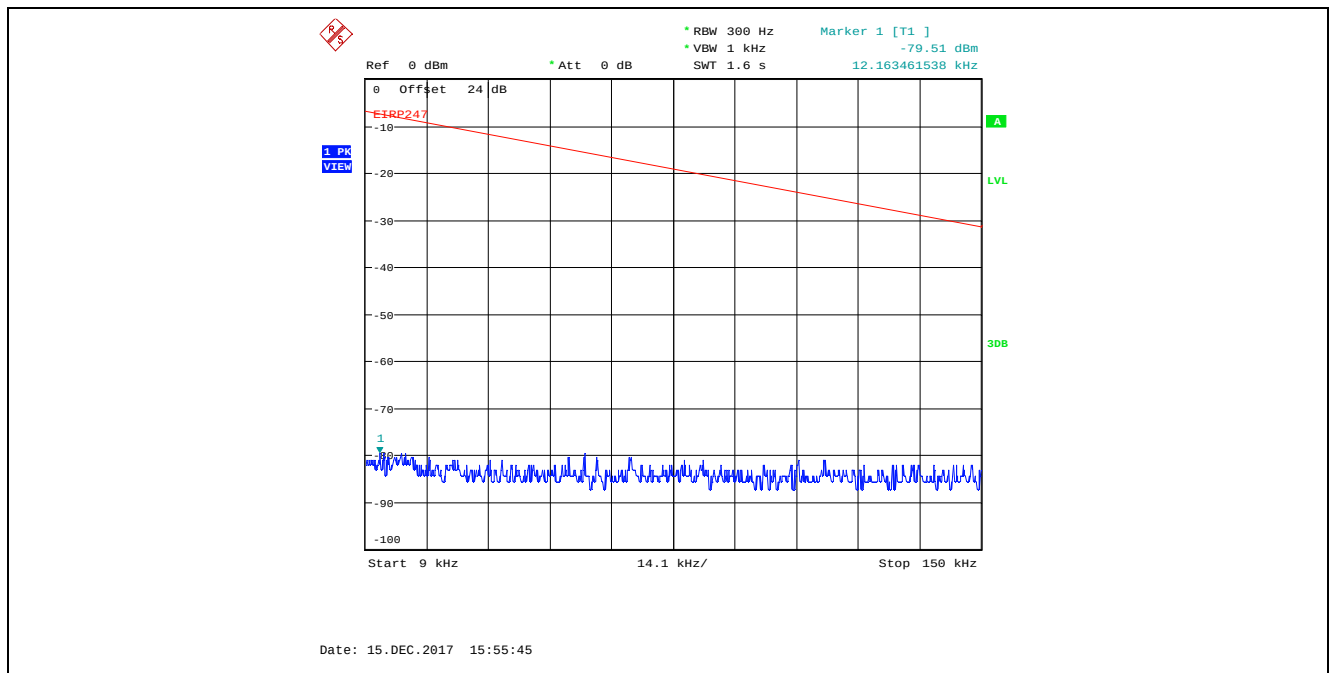
Plot 5.4.4.5.38. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



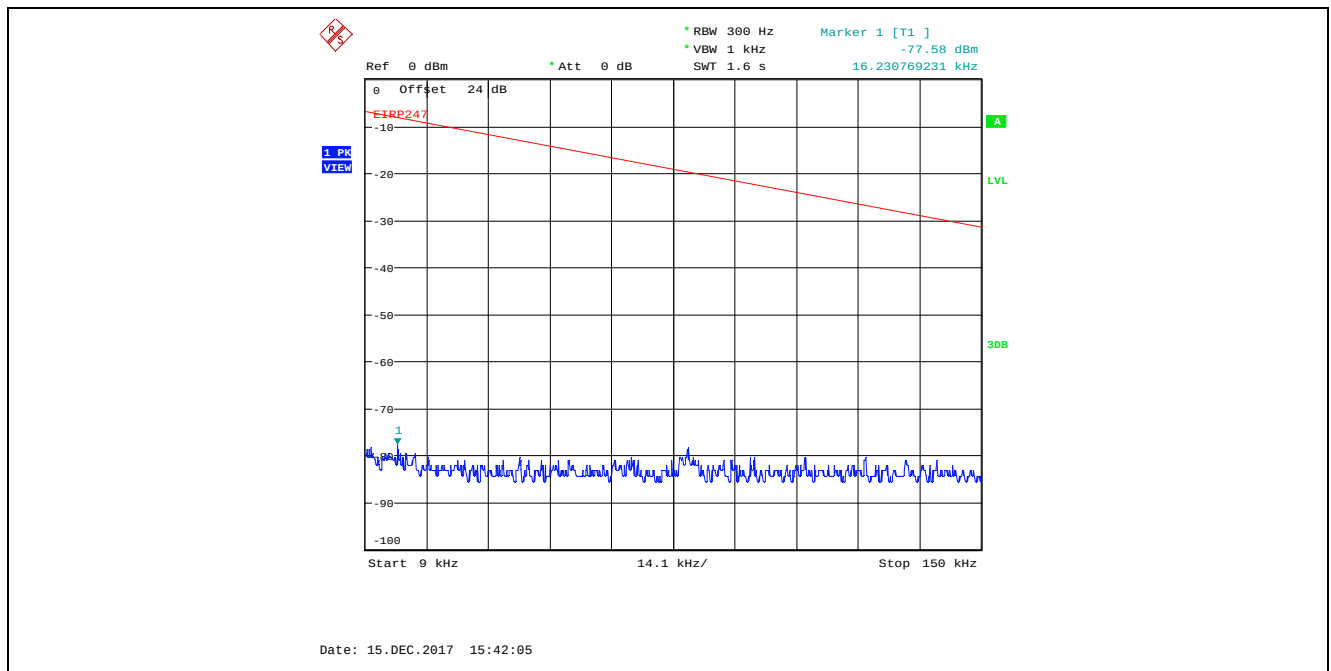
Plot 5.4.4.5.39. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
4 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 4 GHz - 25 GHz, Peak Detector



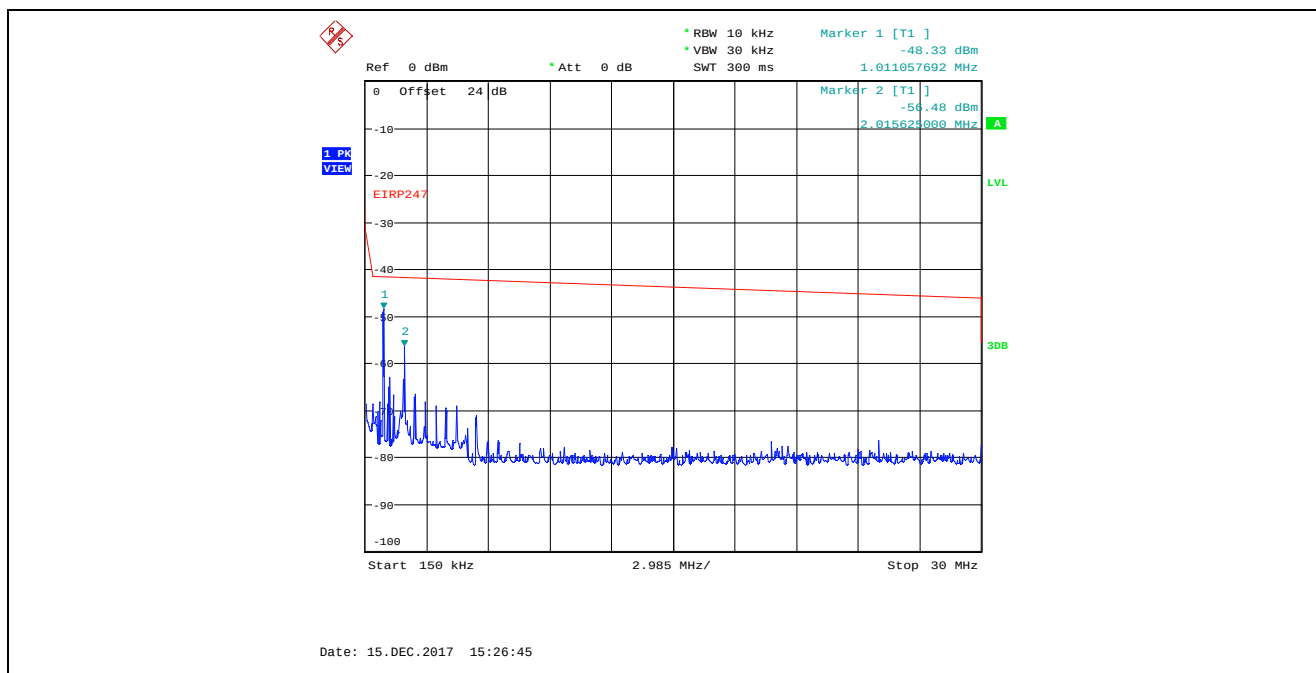
Plot 5.4.4.5.40. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
 8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



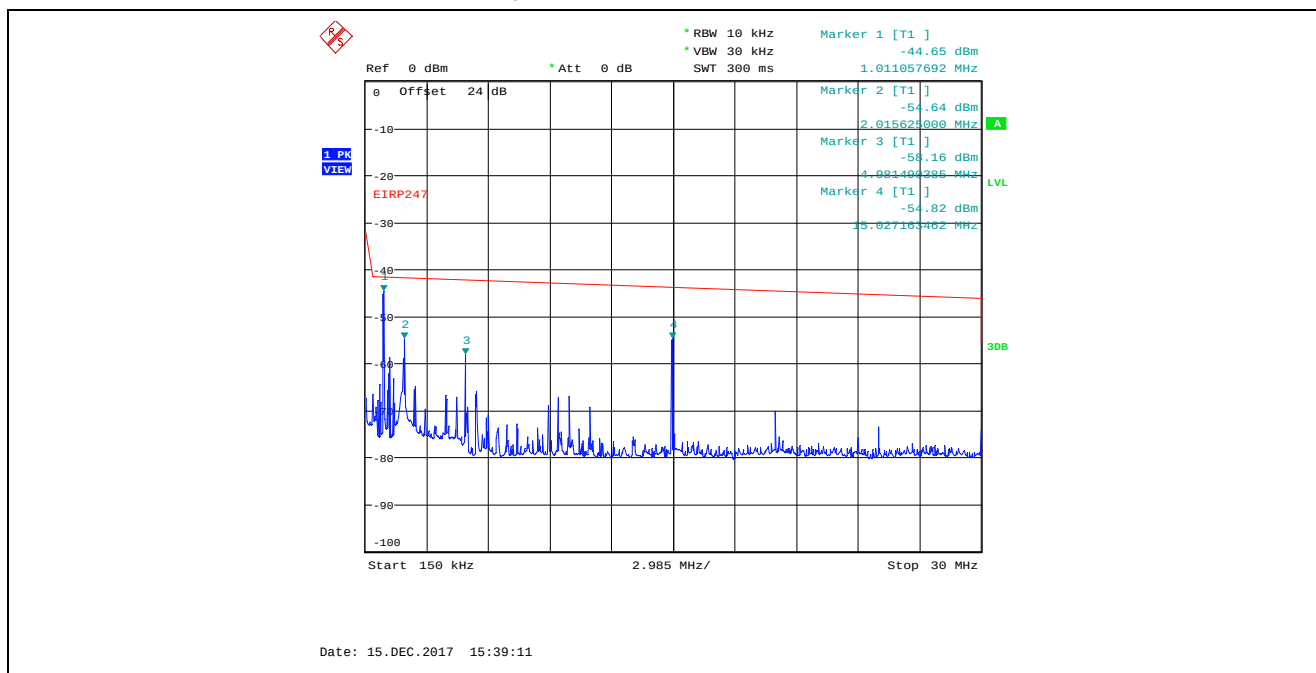
Plot 5.4.4.5.41. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 9 kHz - 150 kHz, Peak Detector



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



Ref 0 dBm Att 0 dB SWT 100 ms

*RBW 100 kHz *VBW 300 kHz

Marker 1 [T1] -45.77 dBm

Marker 2 [T1] -46.90 dBm

53.445512821 MHz

1 PK V1ch

EIRP247

LVL

30dB

Start 30 MHz Stop 1 GHz

Date: 15.DEC.2017 14:13:50

1-P2 Visc

Ref 0 dBm Att 0 dB SWT 100 ms

*RBW 100 kHz *VBW 300 kHz

Marker 1 [T1] -45.77 dBm

Marker 2 [T1] -46.90 dBm

513.445512821 MHz

Offset 22.7 dB

Start 30 MHz Stop 1 GHz

97 MHz/

100

90

80

70

60

50

40

30

20

10

0

F1 F2

1 2

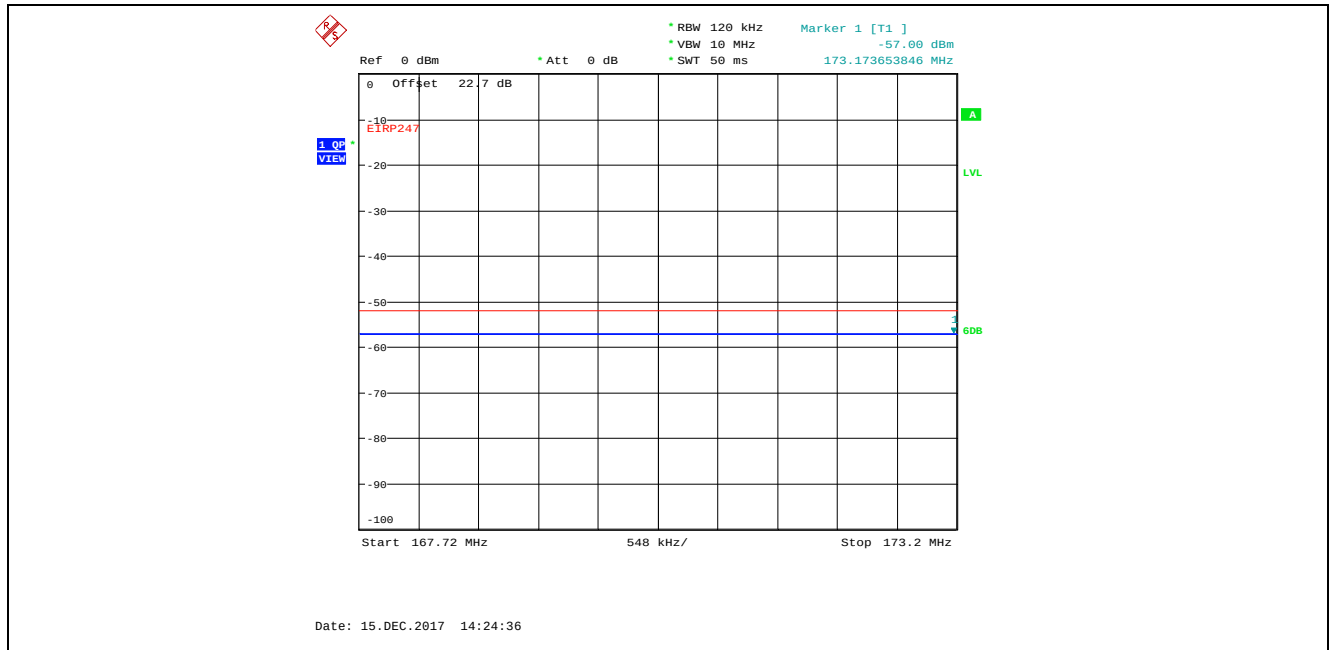
3dB

LVL

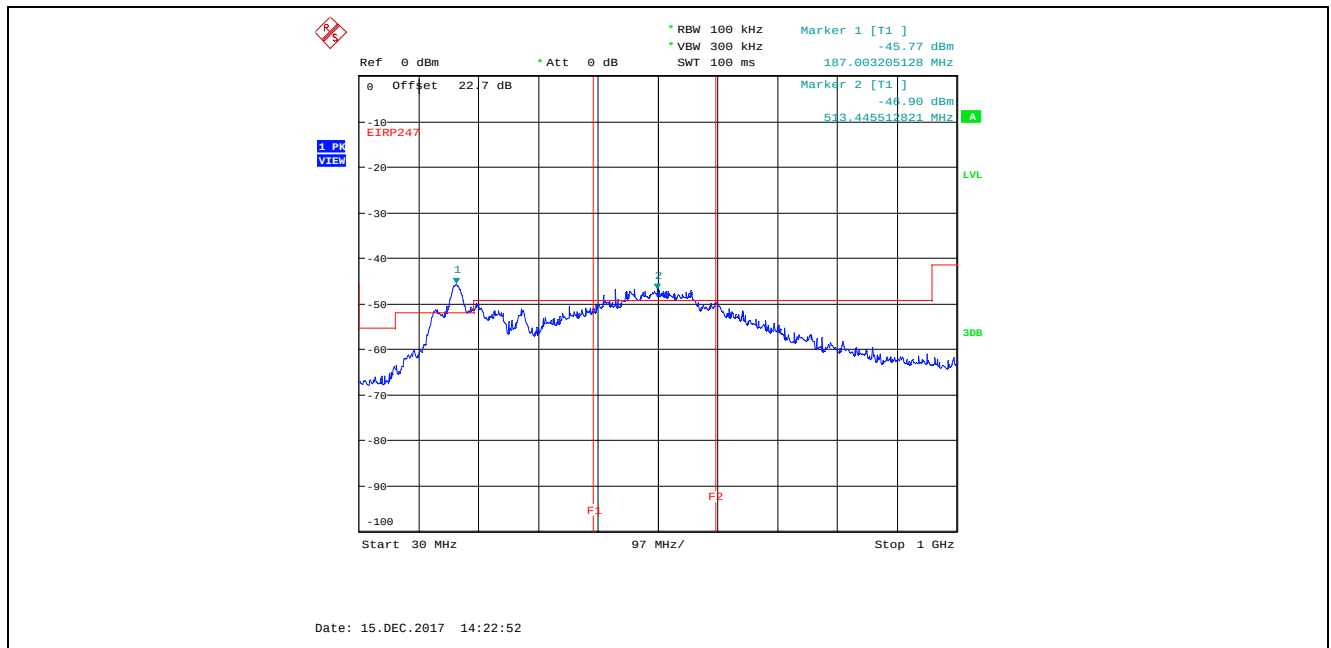
EIRP247

Date: 15.DEC.2017 14:21:30

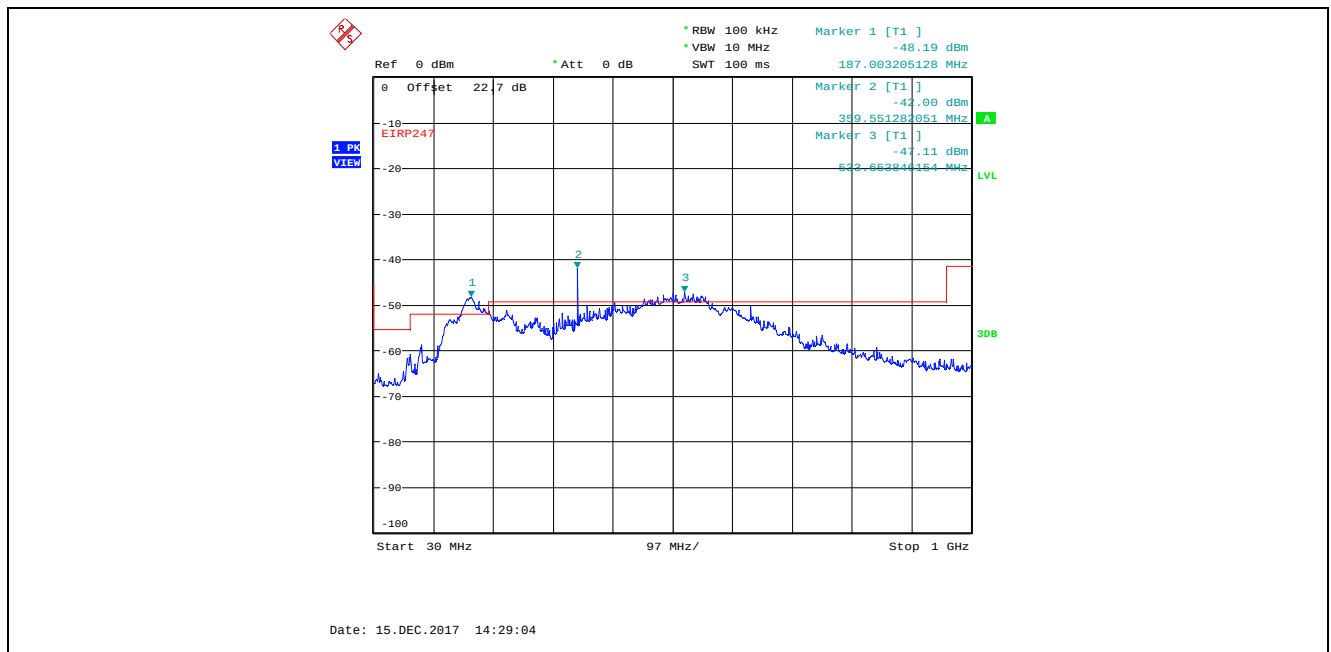
Plot 5.4.4.5.46. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
167.72-173.2 MHz Restricted Band, QP Detector



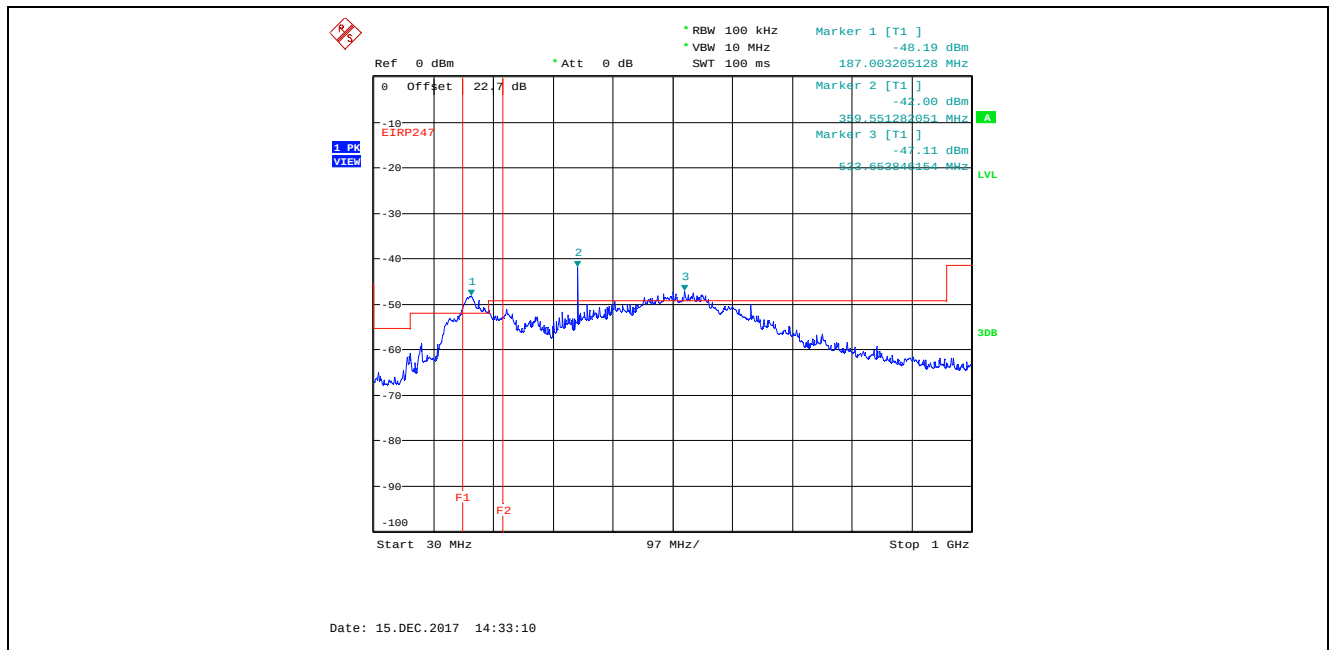
Plot 5.4.4.5.47. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



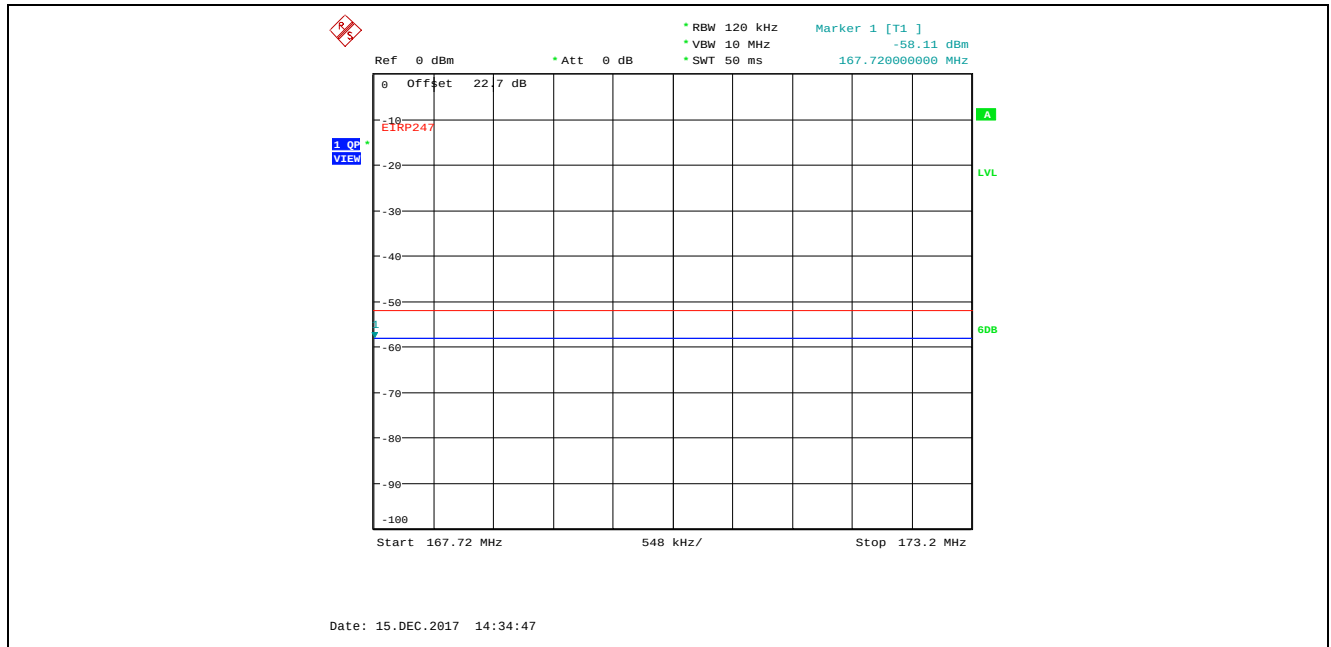
Plot 5.4.4.58. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector



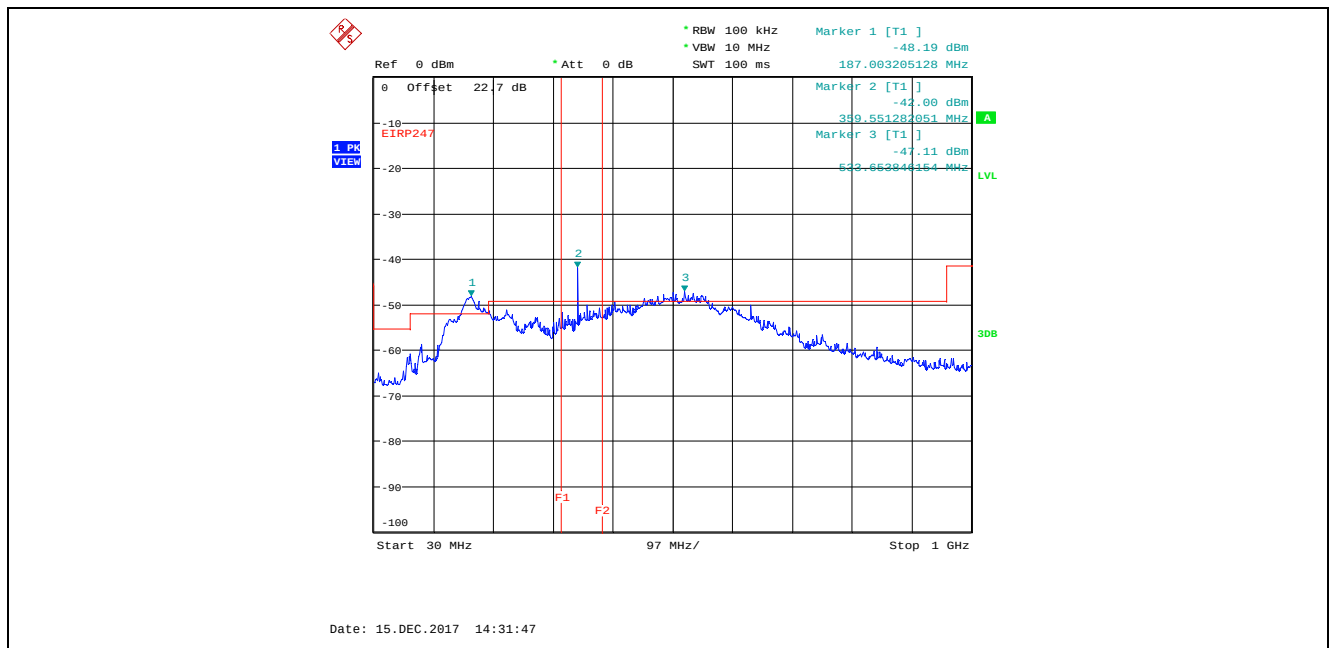
Plot 5.4.4.59. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
 8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
 F1 (173.2 MHz) to F2 (240 MHz) Band is Outside of the Restricted Bands



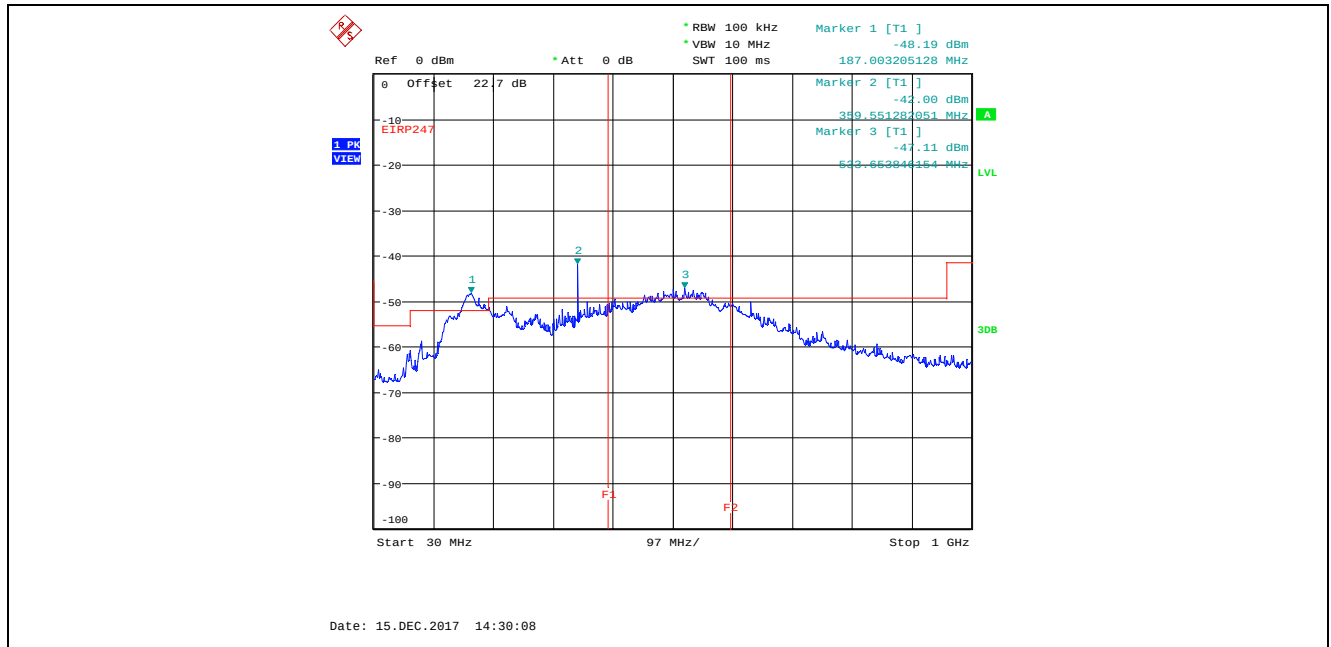
Plot 5.4.4.50. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
167.72-173.2 MHz Restricted Band, QP Detector



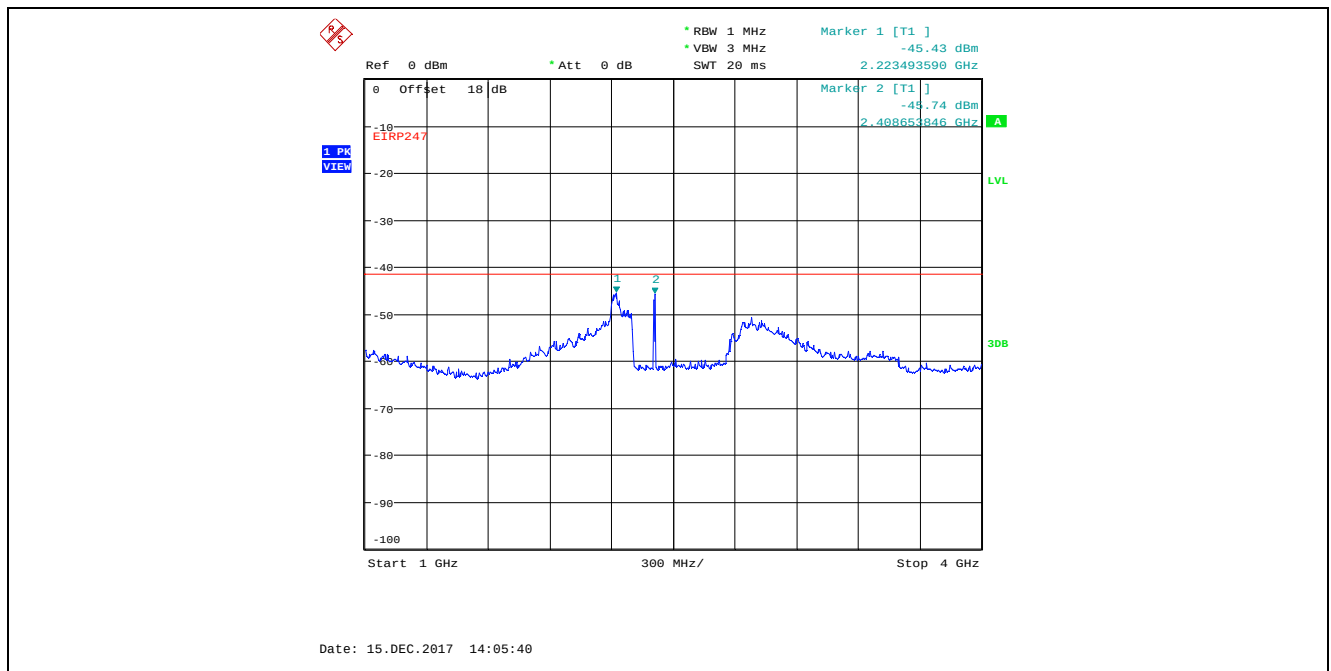
Plot 5.4.4.51. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (335.4 MHz) to F2 (399.9 MHz) Band is Outside of the Restricted Bands



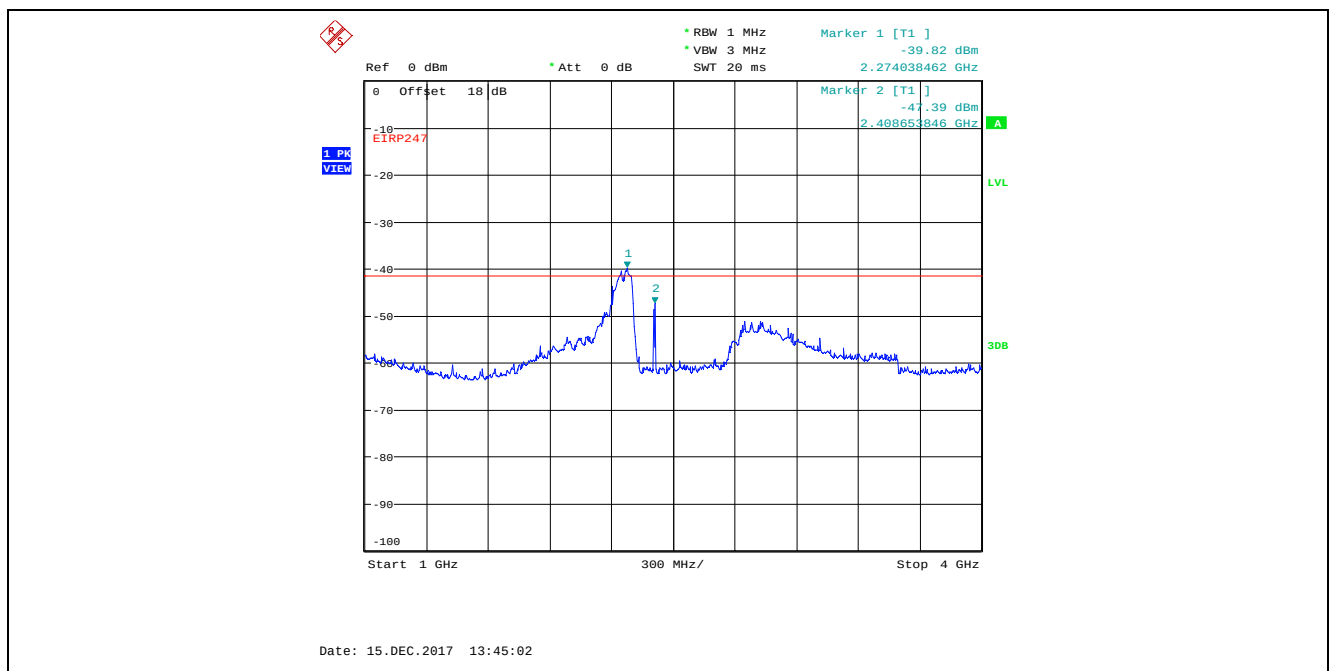
Plot 5.4.4.52. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 30 MHz - 1 GHz, Peak Detector
F1 (410 MHz) to F2 (608 MHz) Band is Outside of the Restricted Bands



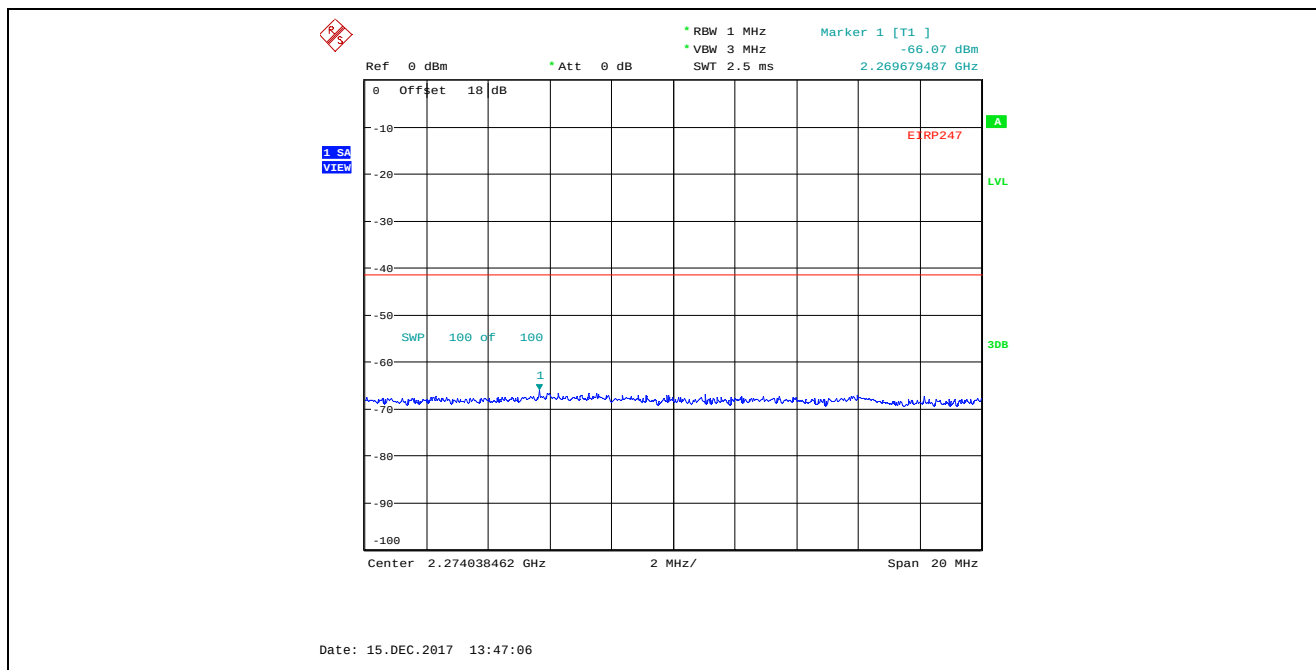
Plot 5.4.4.53. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



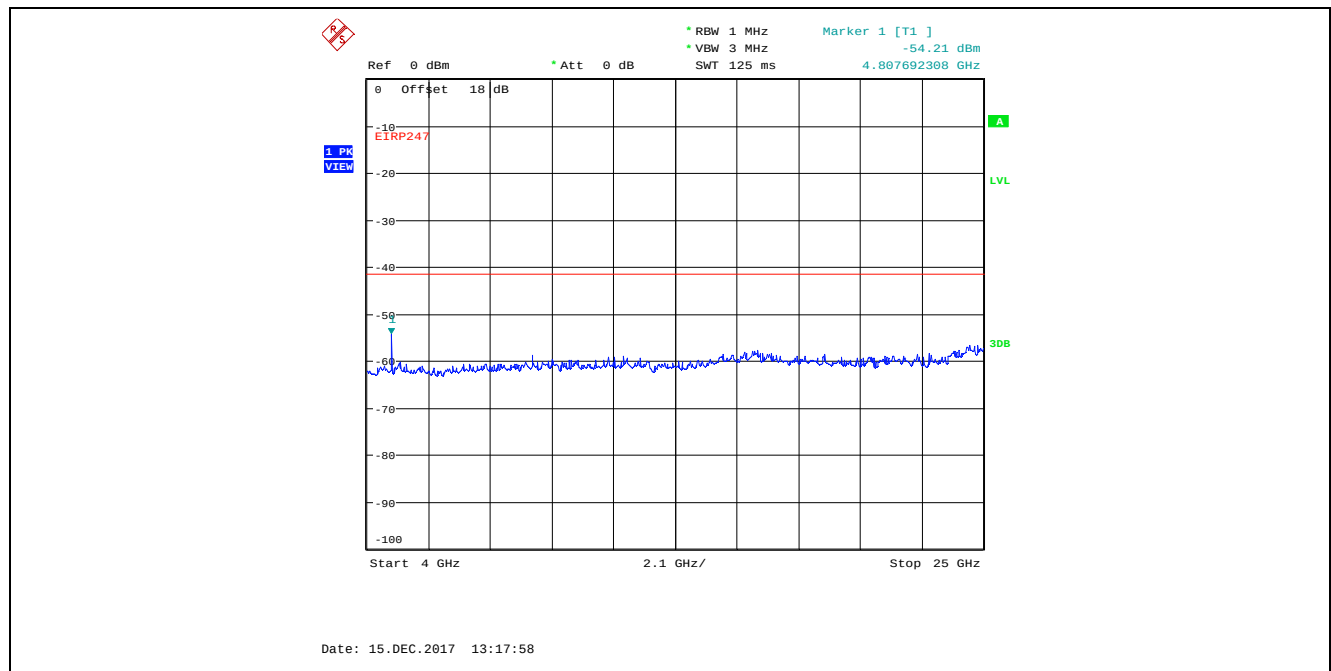
Plot 5.4.4.54. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 1 GHz – 4 GHz, Peak Detector



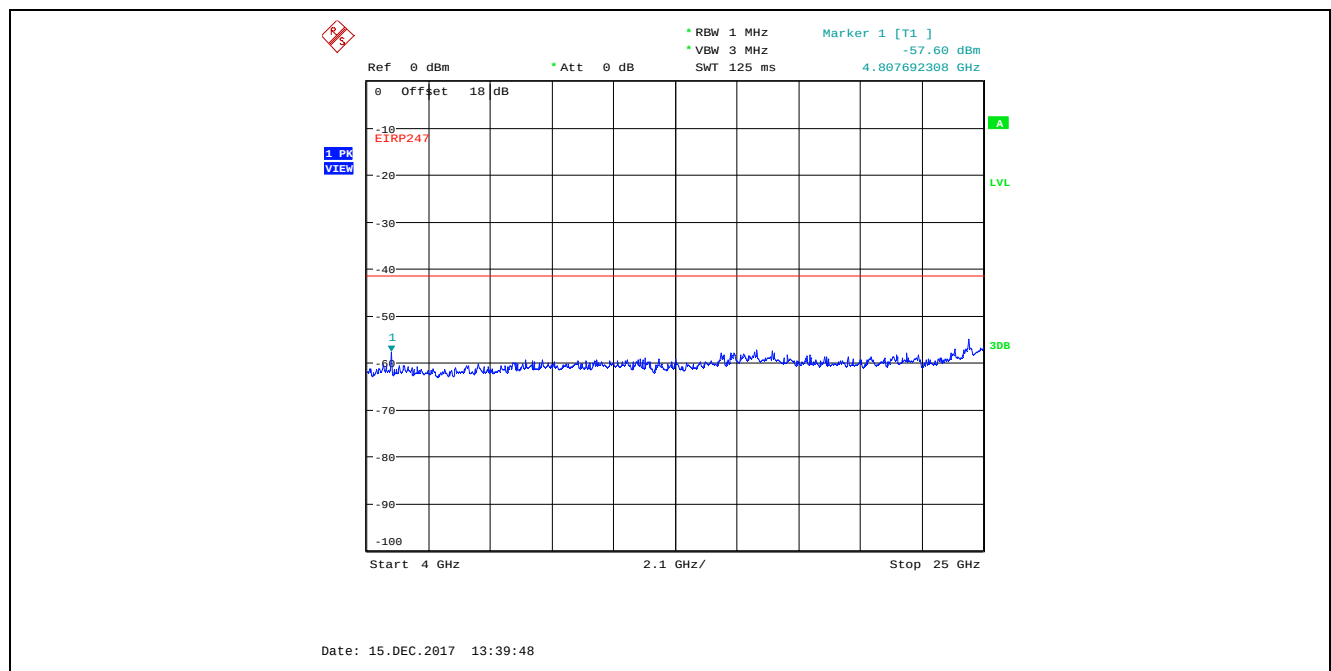
Plot 5.4.4.555. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



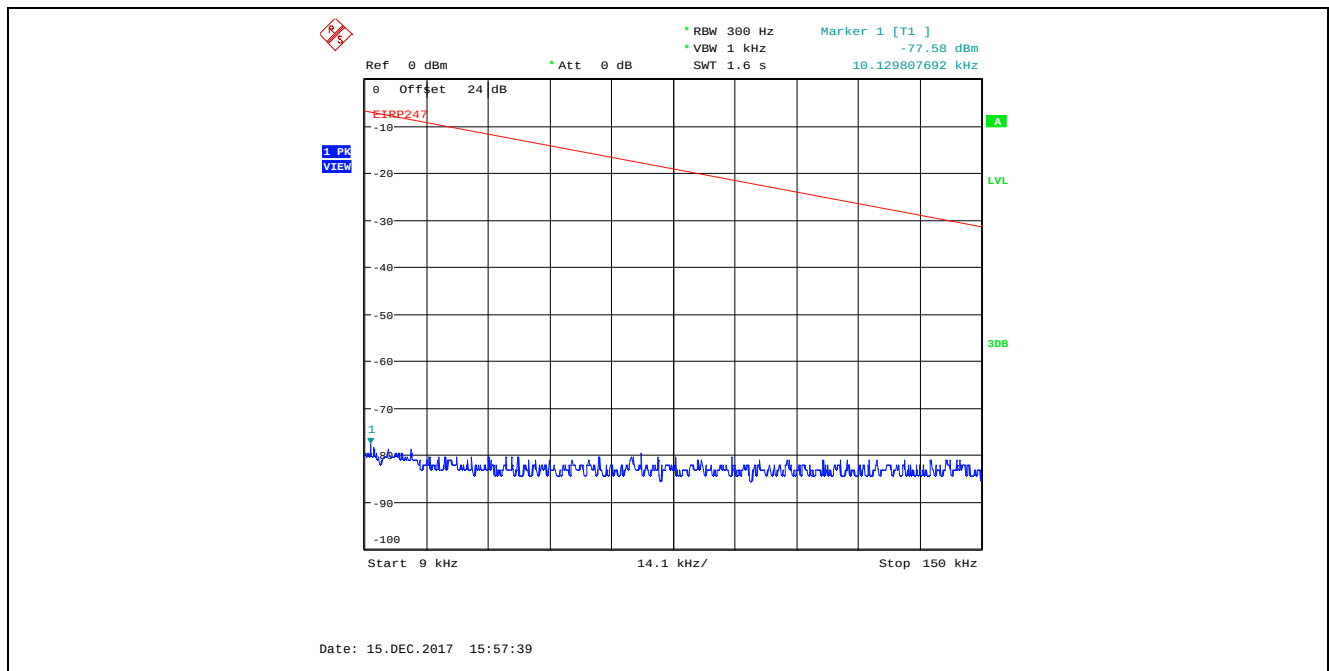
Plot 5.4.4.56. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



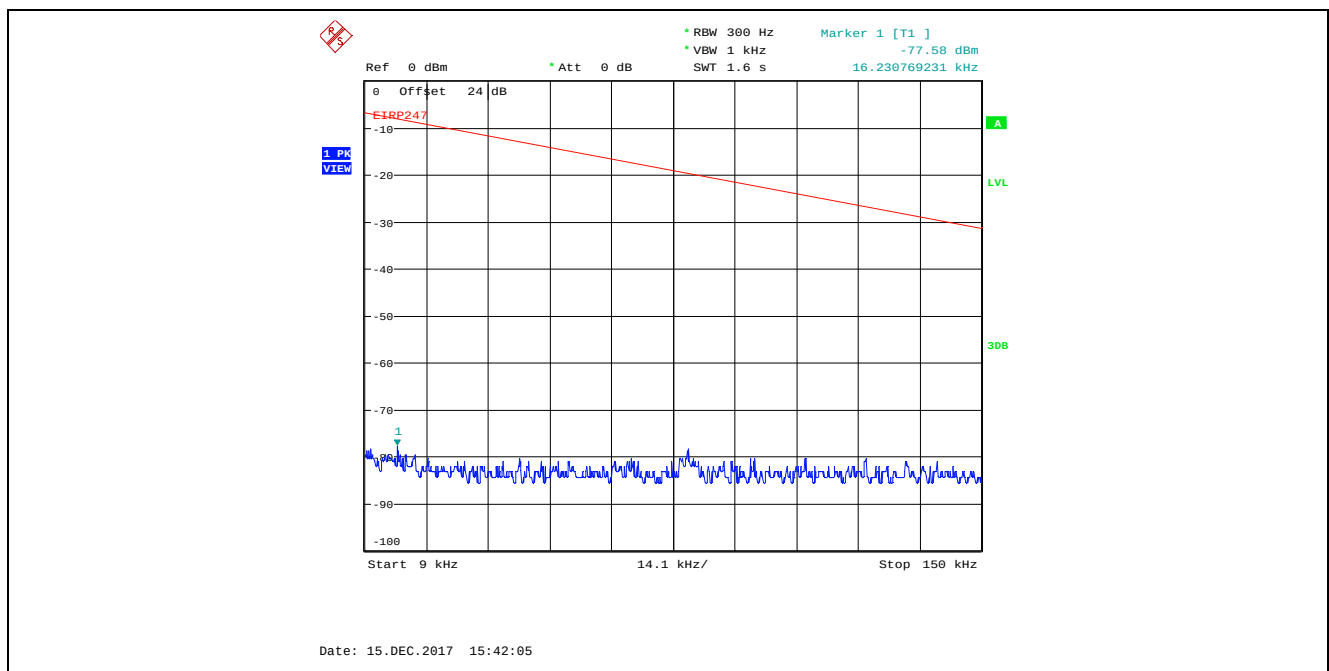
Plot 5.4.4.57. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2407 MHz, 4 GHz - 25 GHz, Peak Detector



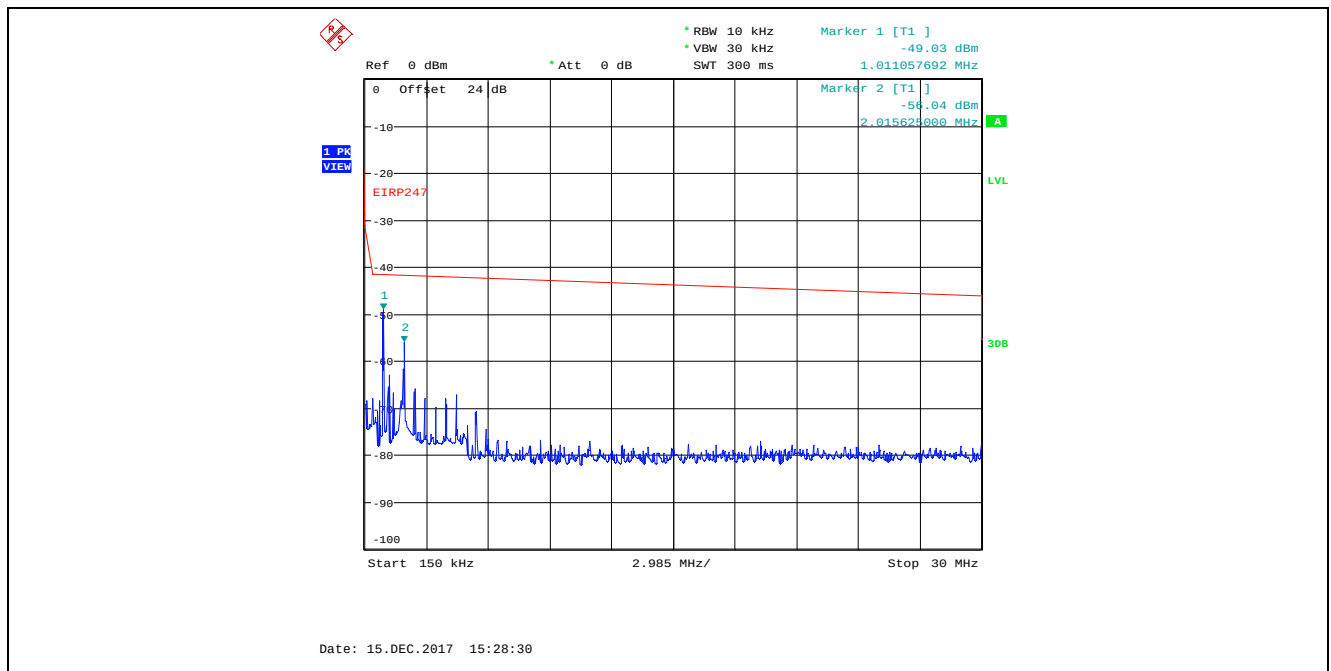
Plot 5.4.4.58. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



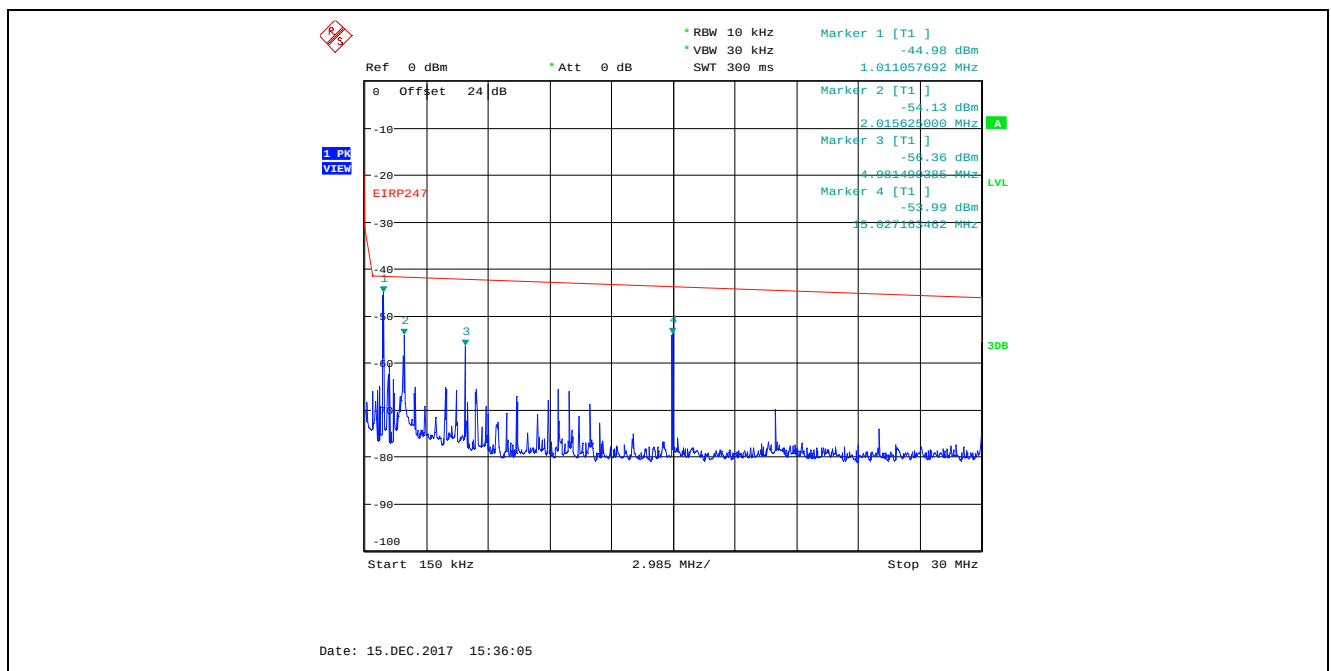
Plot 5.4.4.59. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 9 kHz - 150 kHz, Peak Detector



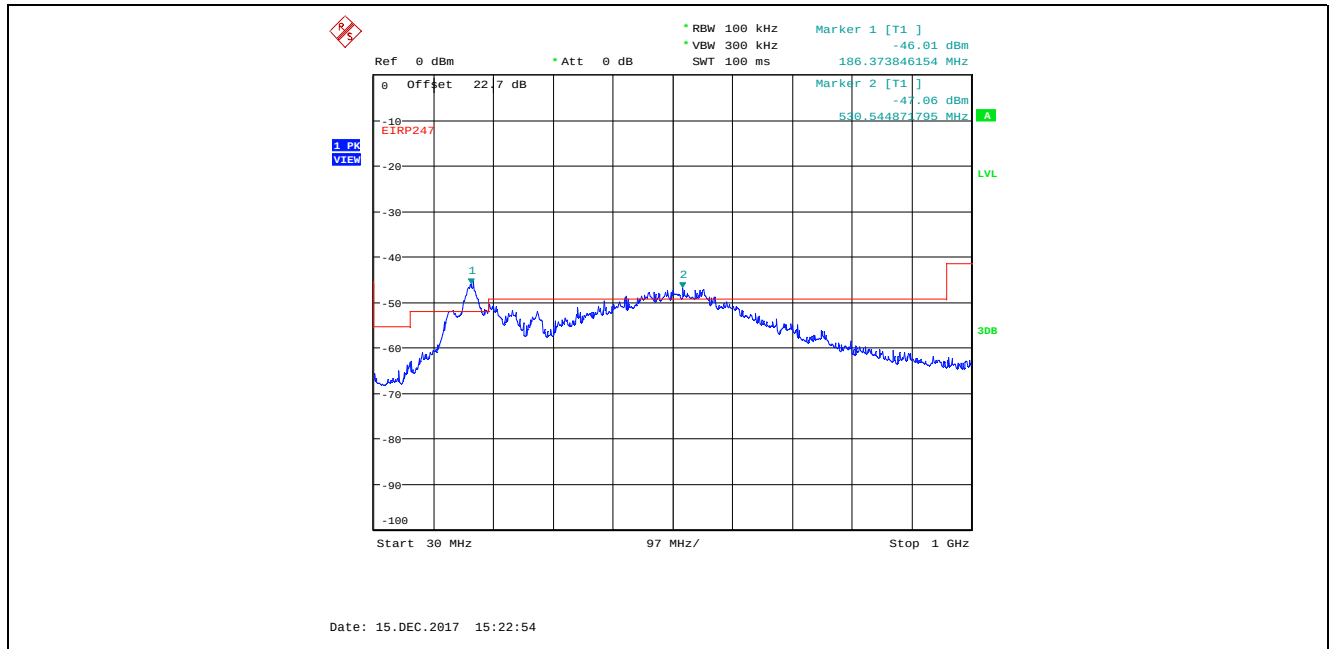
Plot 5.4.4.5.60. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



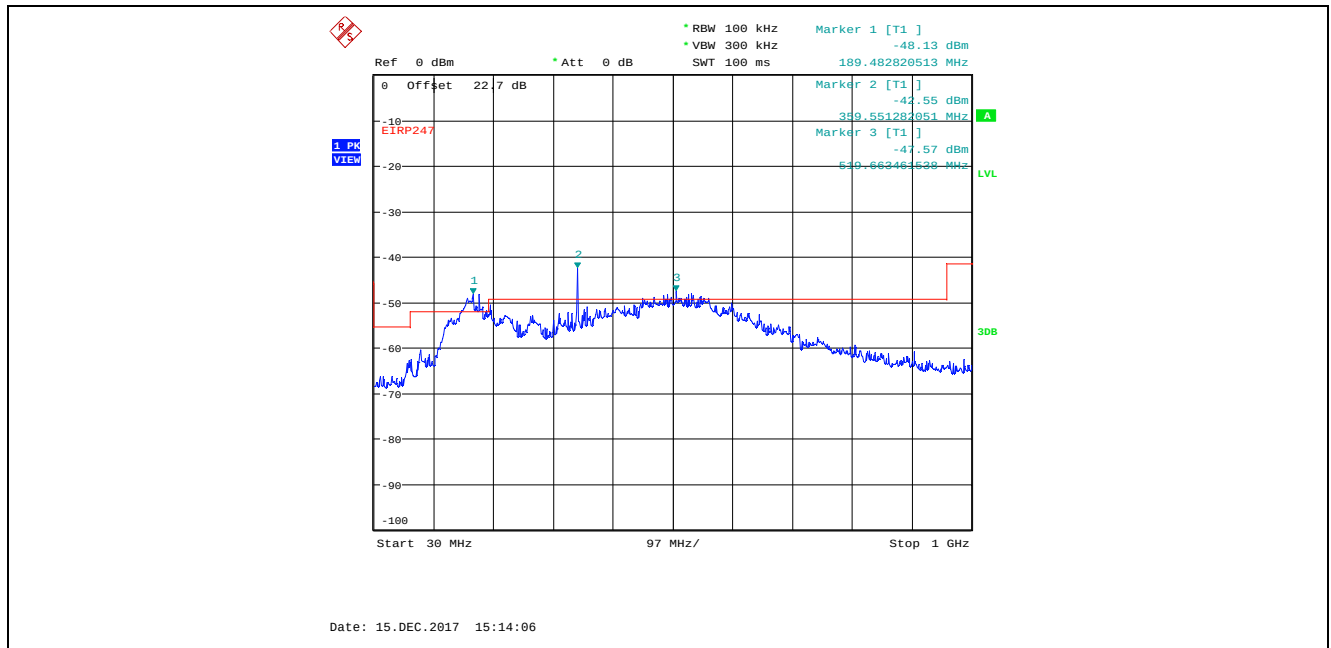
Plot 5.4.4.5.61. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 150 kHz – 30 MHz, Peak Detector



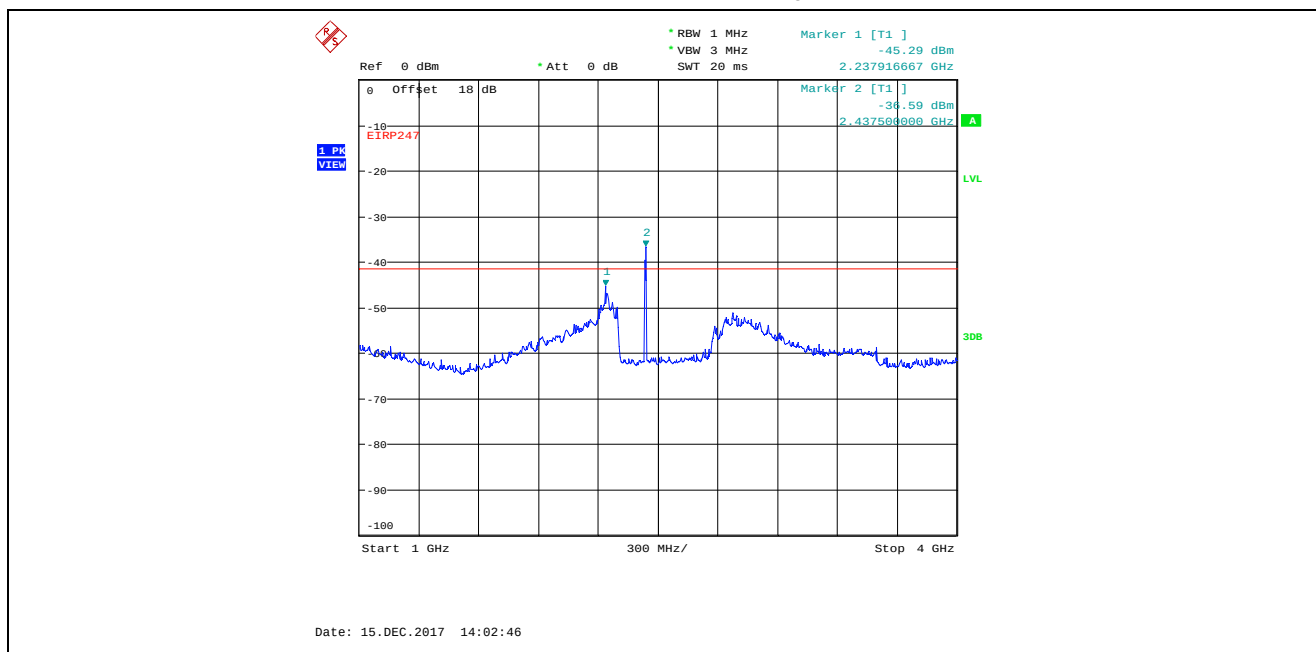
Plot 5.4.4.562. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



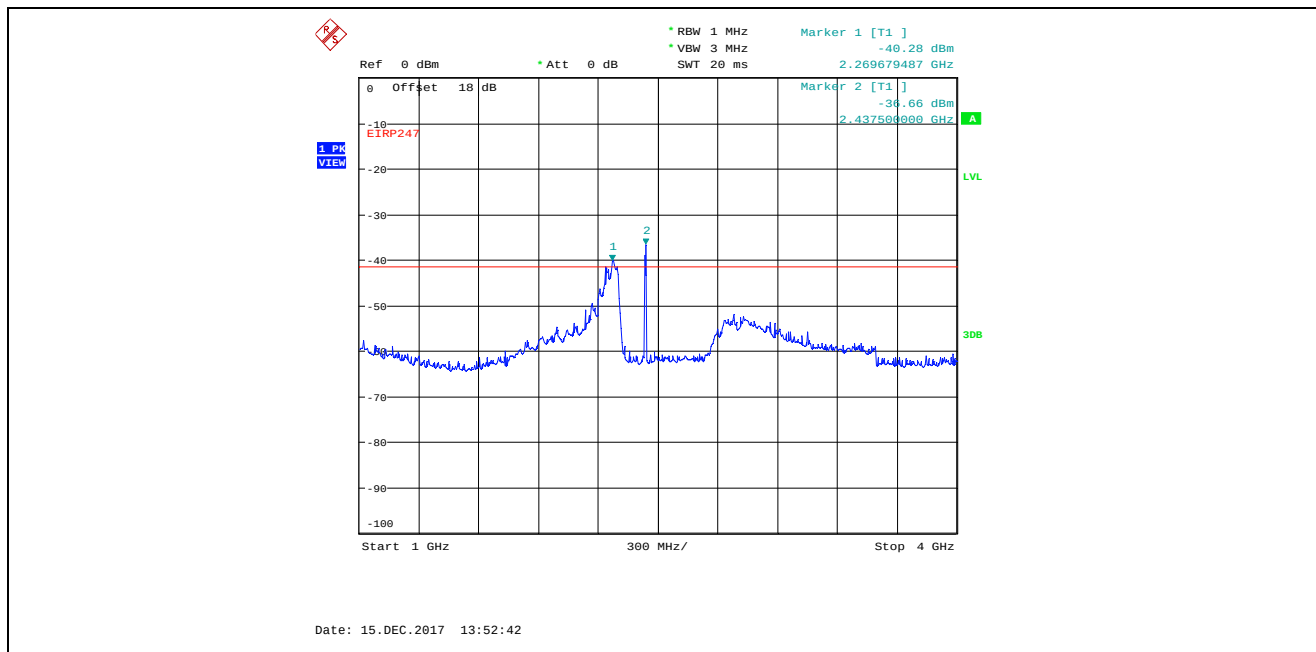
Plot 5.4.4.563. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



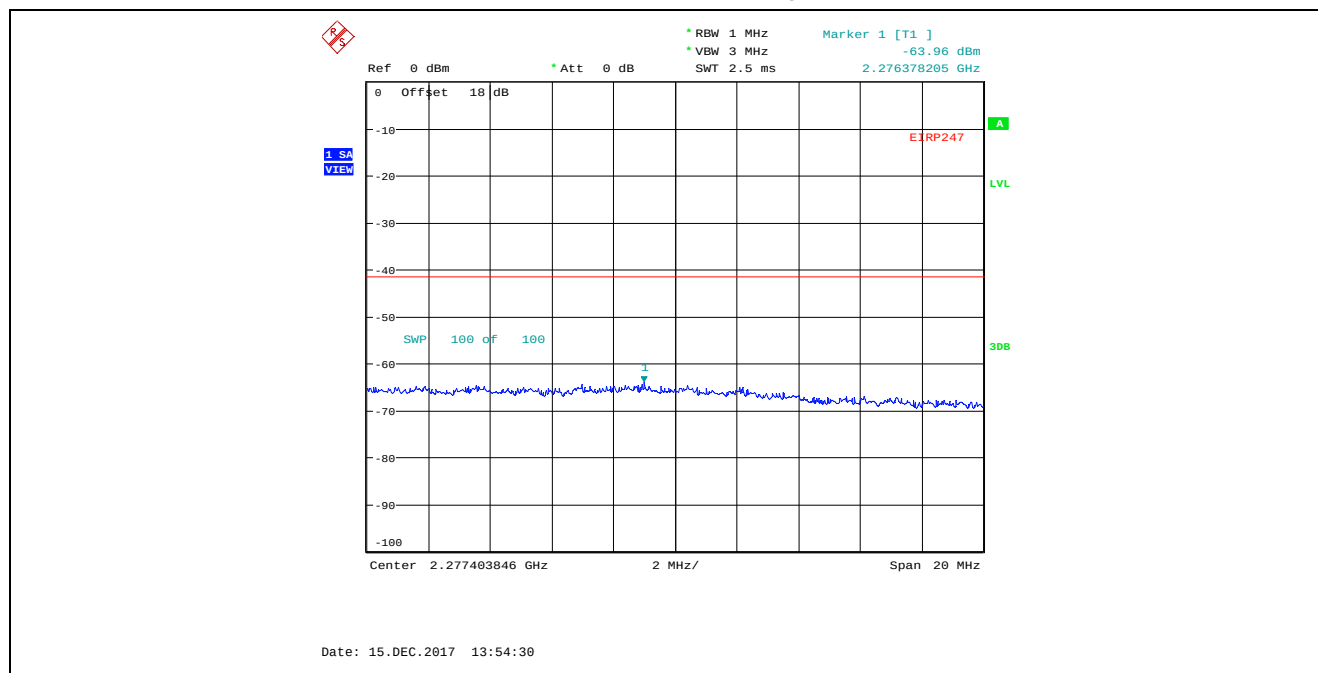
Plot 5.4.4.5.64. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



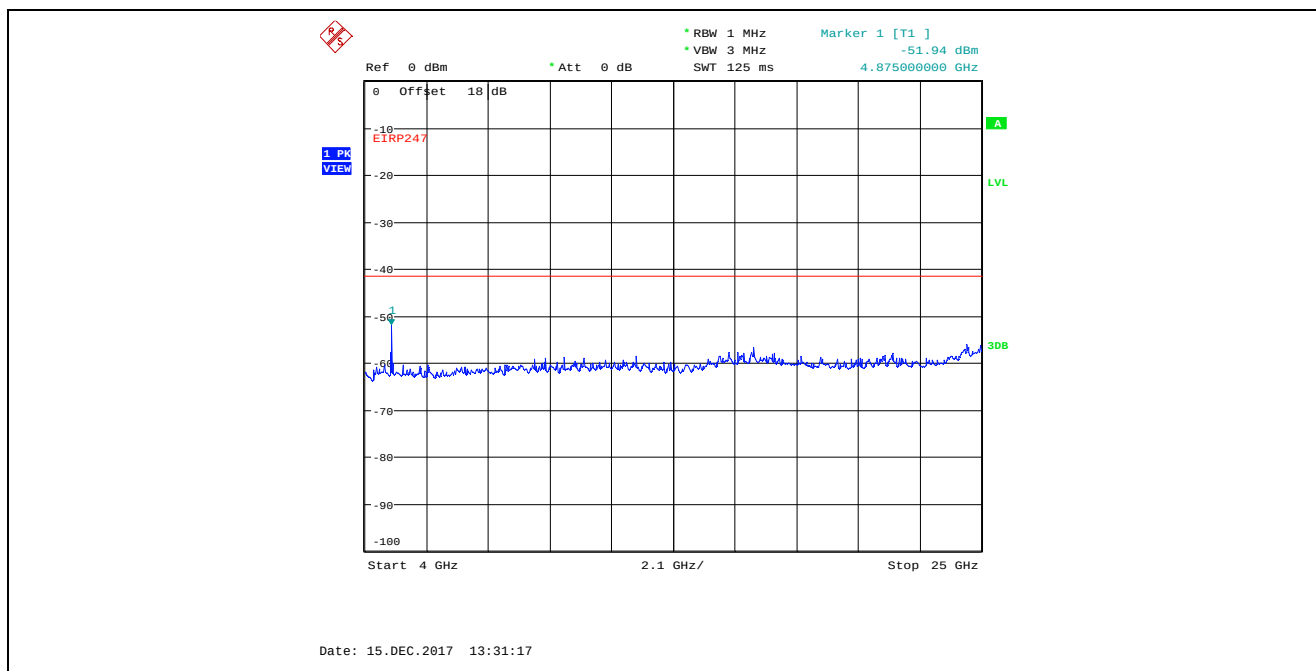
Plot 5.4.4.5.65. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



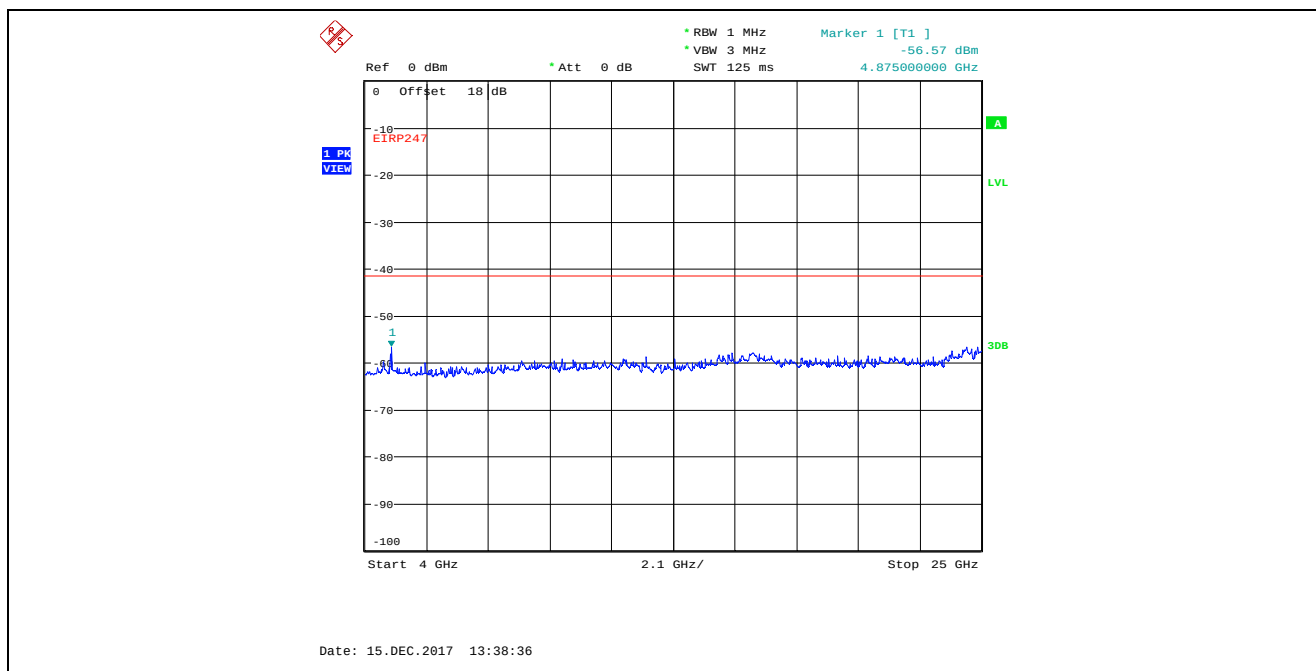
Plot 5.4.4.5.66. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz
Marker 1, Peak Detector, Trace Average of 100 traces



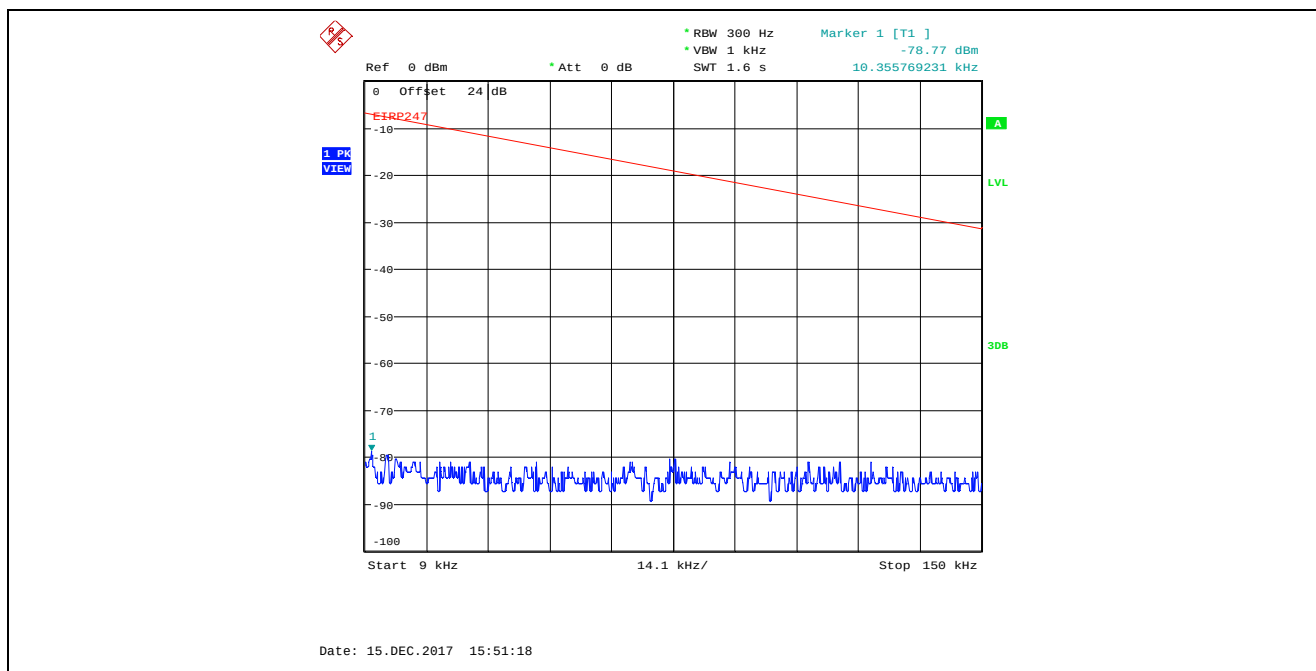
Plot 5.4.4.5.67. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



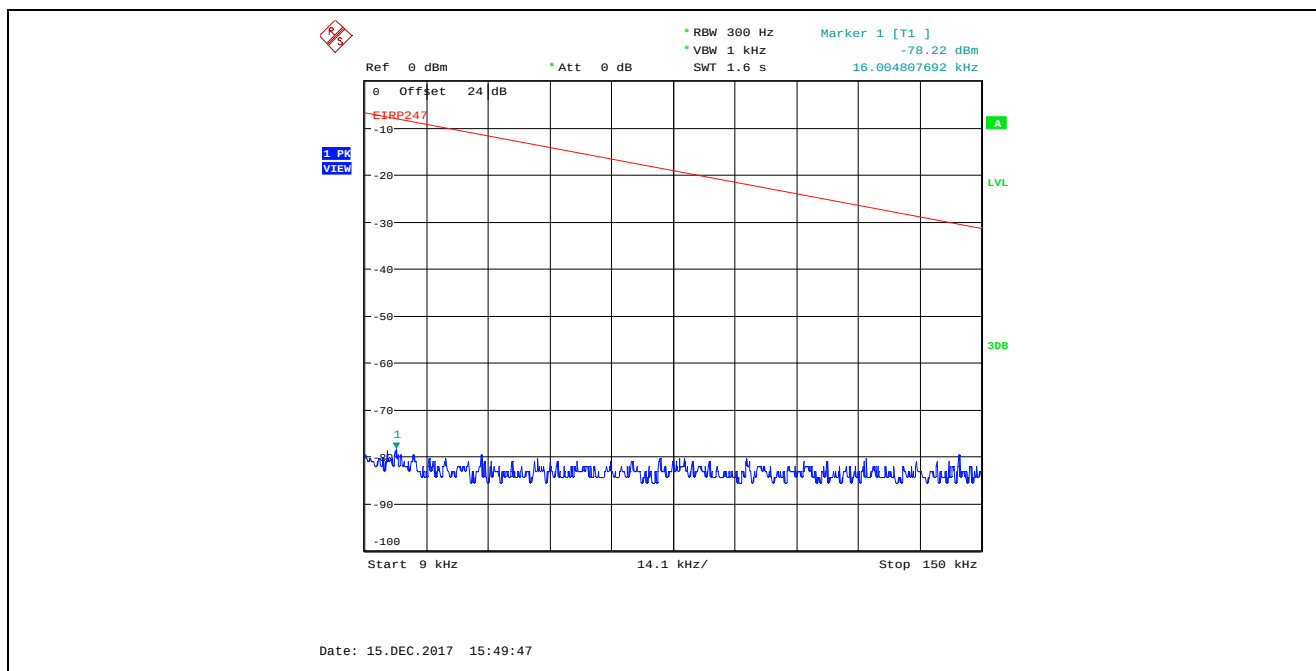
Plot 5.4.4.5.68. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2437 MHz, 4 GHz - 25 GHz, Peak Detector



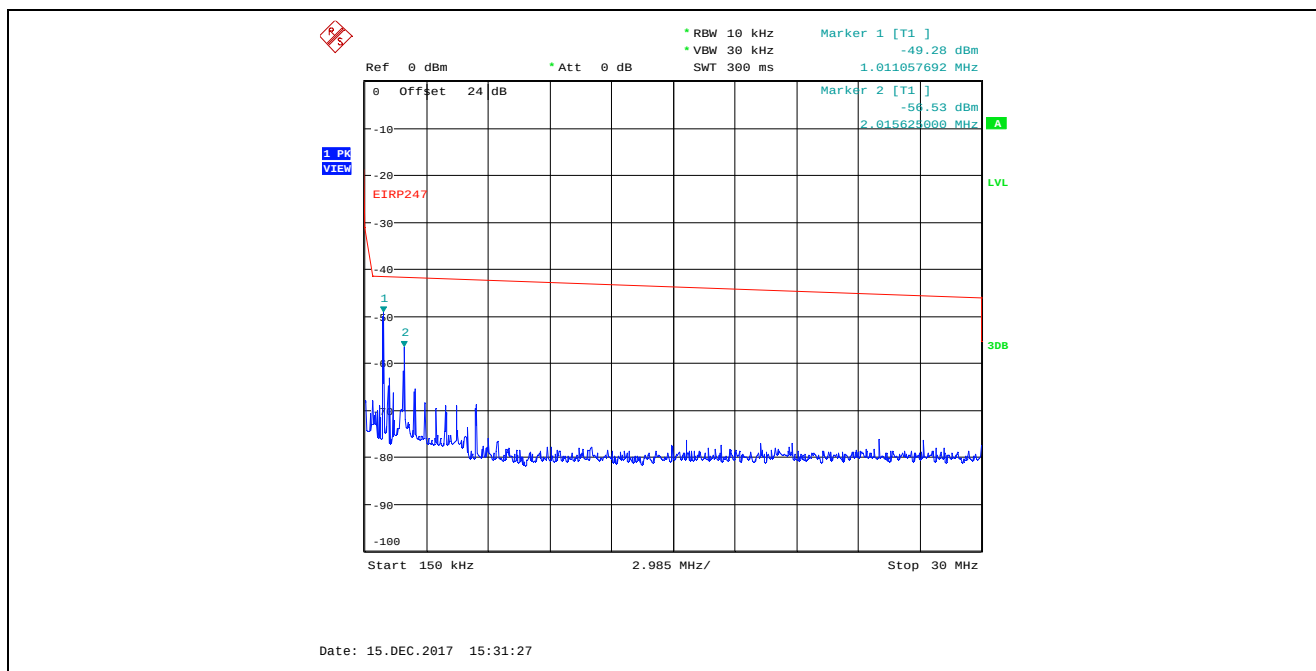
Plot 5.4.4.5.69. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



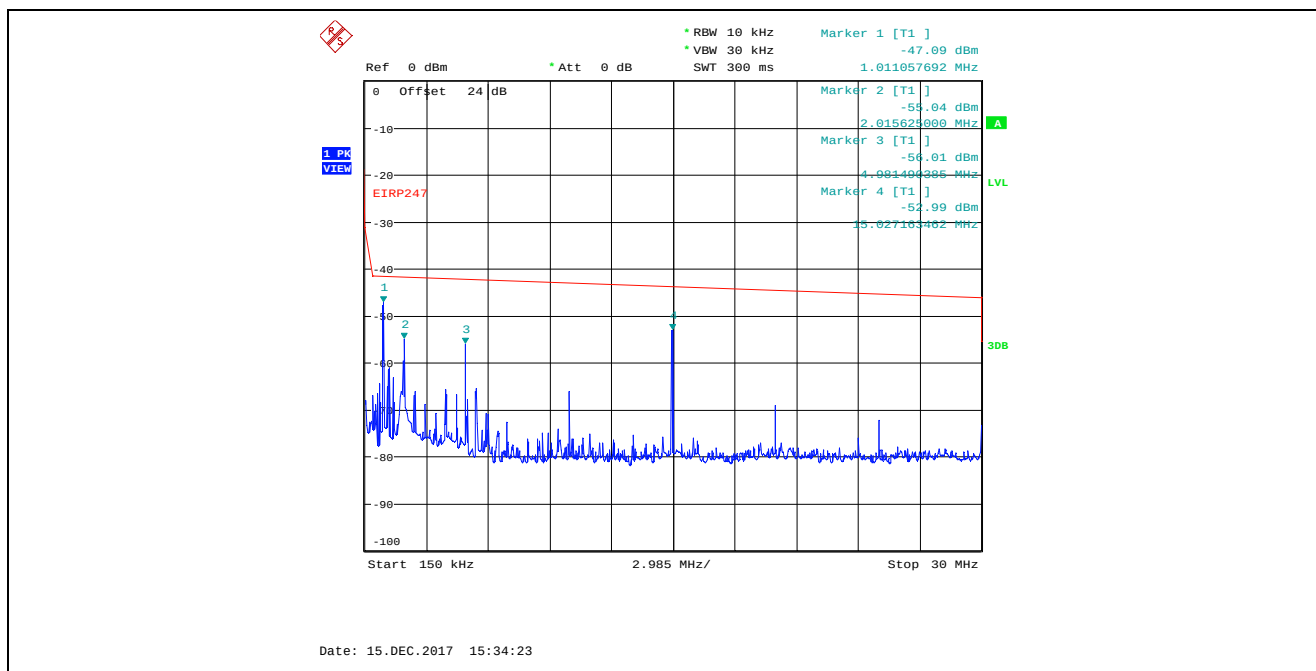
Plot 5.4.4.5.70. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 9 kHz - 150 kHz, Peak Detector



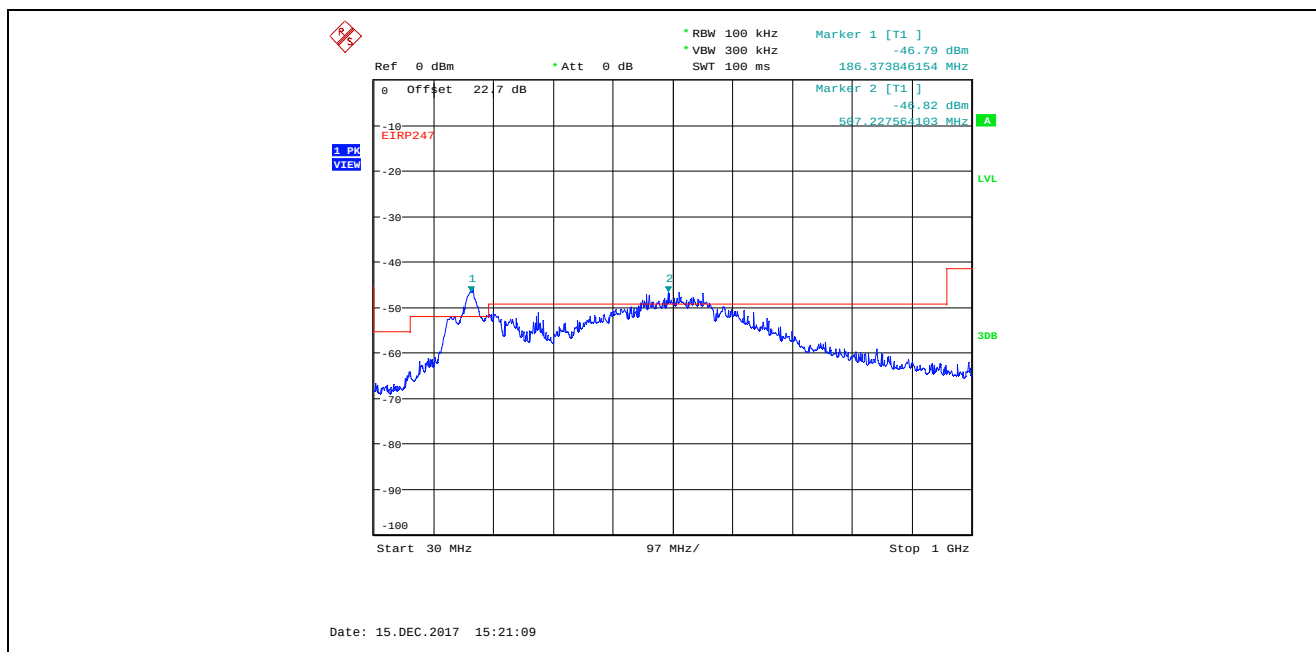
Plot 5.4.4.5.71. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



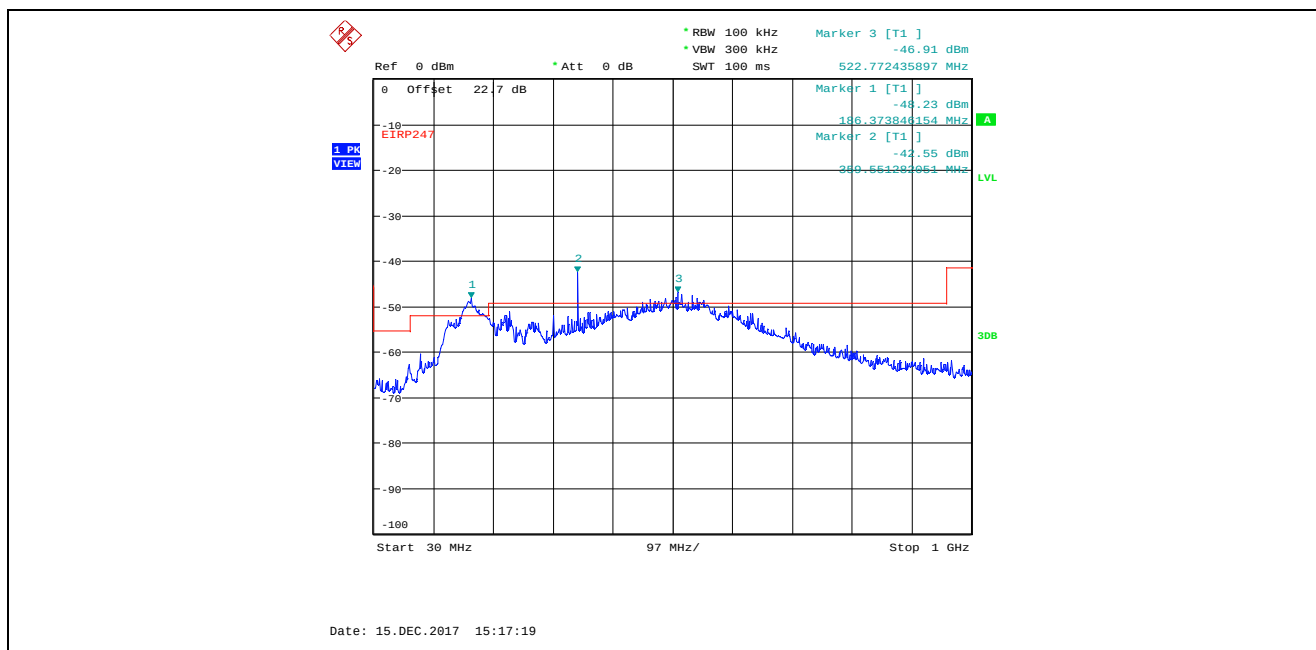
Plot 5.4.4.5.72. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 150 kHz – 30 MHz, Peak Detector



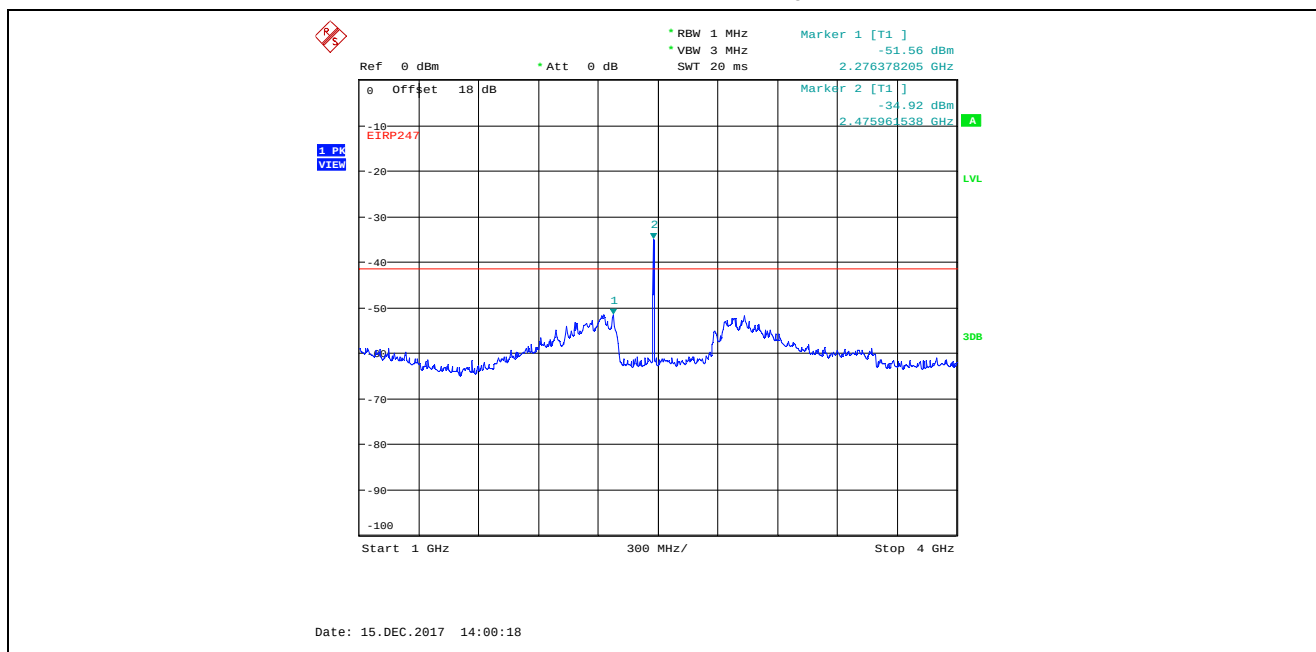
Plot 5.4.4.5.73. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



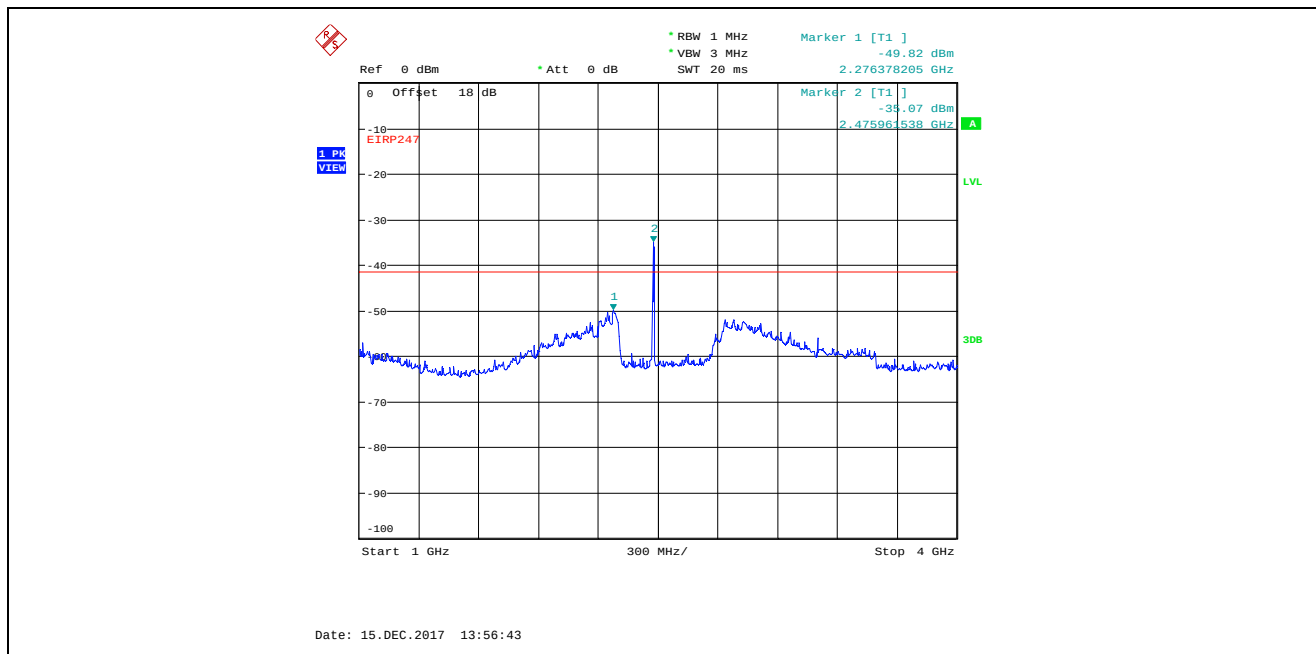
Plot 5.4.4.5.74. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 30 MHz - 1 GHz, Peak Detector
Emissions Above the Limit Line are Outside of the Restricted Bands



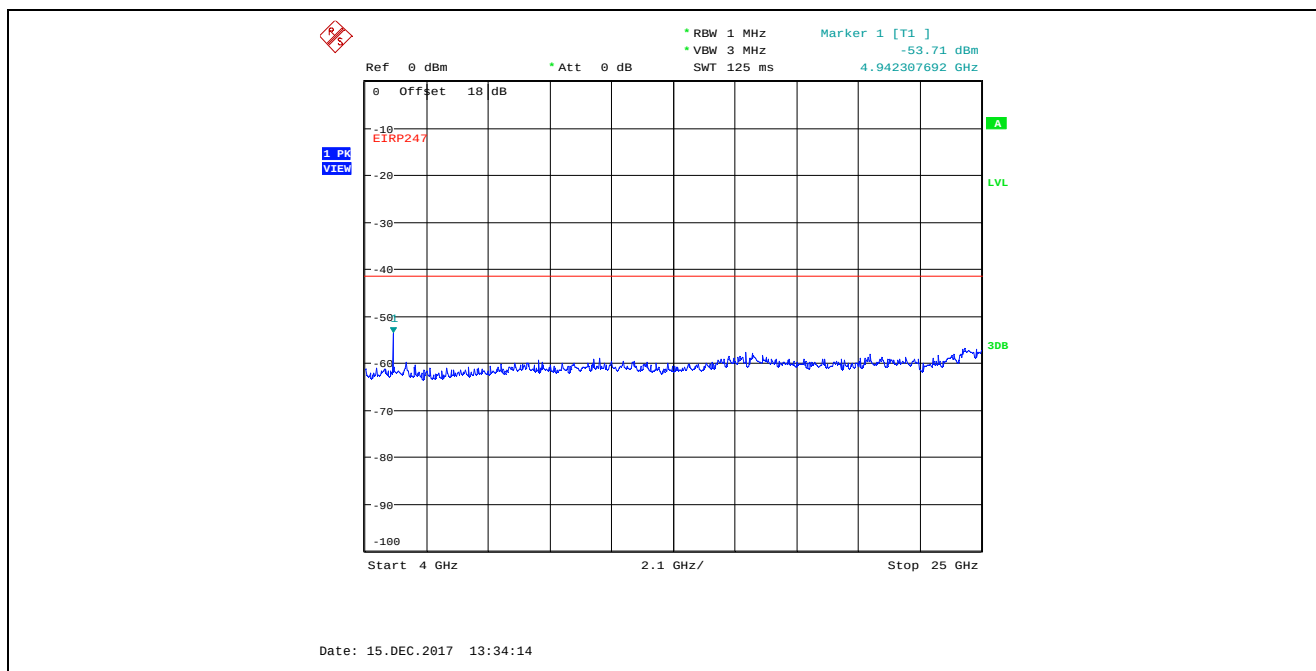
Plot 5.4.4.5.75. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 1
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



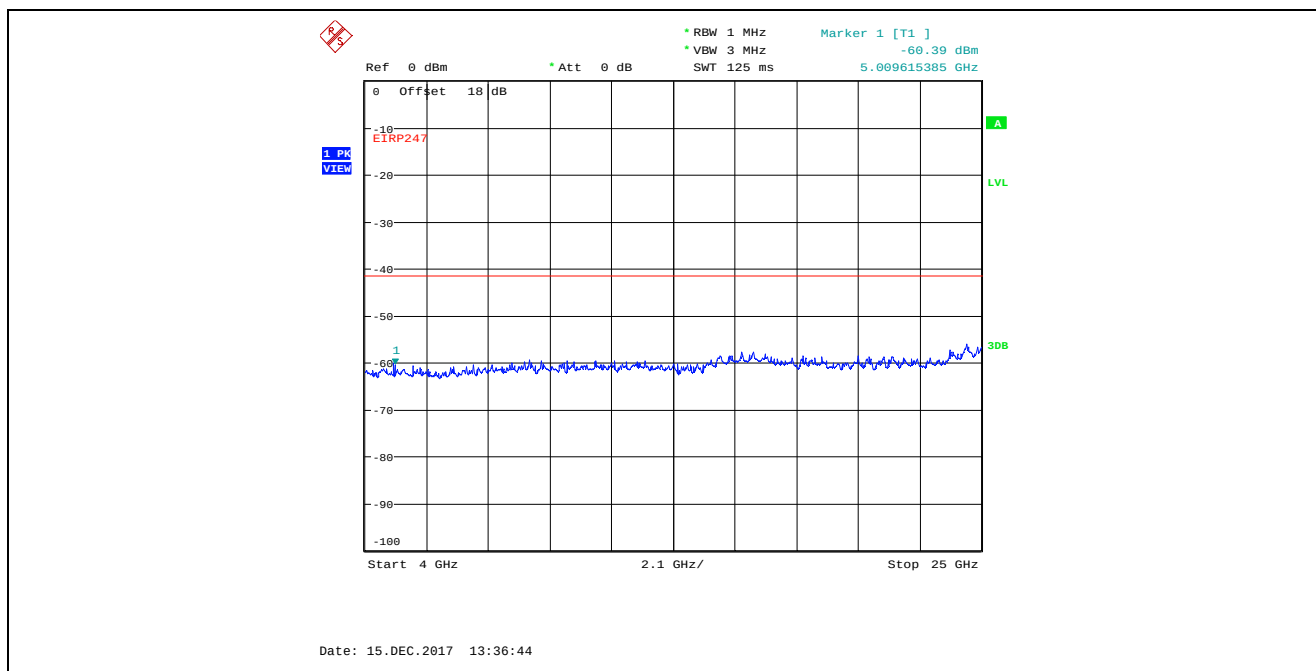
Plot 5.4.4.5.76. Conducted Spurious Emissions in Restricted Frequency Bands, Chain 2
8 MHz Bandwidth, TX Gain Setting 8, Data Rate 3, 2477 MHz, 1 GHz – 4 GHz, Peak Detector
Marker 2 is Fundamental Signal



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.			

¹Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

²Above 38.6

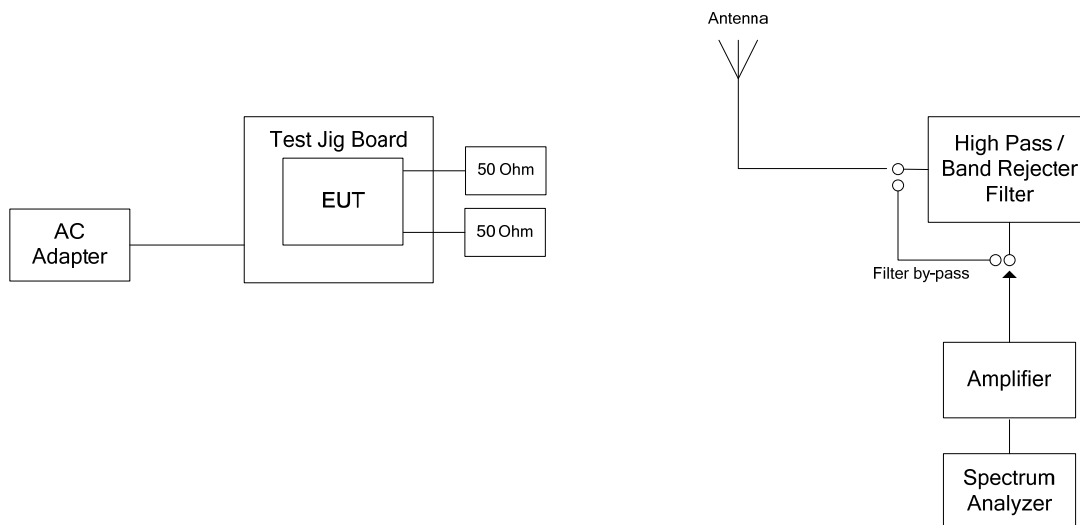
Section 15.209(a) - Field Strength Limits within Restricted Frequency Bands

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:

$$E = (EIRP - 20\log(d) + 104.8) - 20 = (36 \text{ dBm} - 20\log(3) + 104.8) - 20 = 111.3 \text{ dB}\mu\text{V/m}$$
- 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.

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

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

5.6.1. Limit(s)

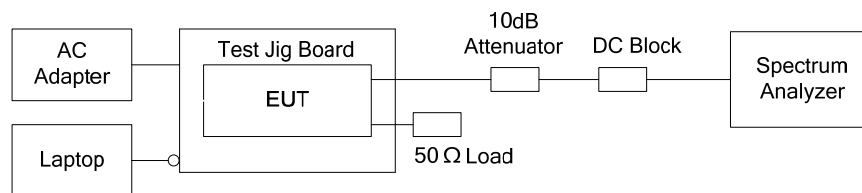
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

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

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
 March 5, 2018

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

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 REQUIREMENTS [§§ 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/cm²
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 $10 \cdot \log(2)$.						

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: R17LE910NAV2, 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: R17LM940 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					

ULTRATECH GROUP OF LABS

3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: 18MCRS104_FCC15C247
March 5, 2018

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

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