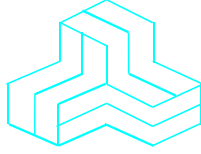


ENGINEERING TEST REPORT



**Handheld Computer
Model: 7545MBWZ
FCC ID: GM37545MBWZ**

Applicant:

**Psion Inc
2100 Meadowvale Boulevard
Mississauga, ON L5N 7J9
Canada**

In Accordance With

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

UltraTech's File No.: TEK-678F15C247

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

Date: April 10, 2012

Report Prepared by: Dan Huynh

Tested by: Mr. Hung Trinh

Issued Date: April 10, 2012

Test Dates: March 19 -29, 2012

*The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.
This report must not be used by the client to claim product endorsement by NVLAP or any agency of the US Government.*

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

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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 DESCRIPTION 3

2.5. LIST OF EUT’S PORTS 3

2.6. ANCILLARY EQUIPMENT 3

EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS..... 4

3.1. CLIMATE TEST CONDITIONS 4

3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS 4

EXHIBIT 4. SUMMARY OF TEST RESULTS..... 5

4.1. LOCATION OF TESTS 5

4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS 5

4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES 5

EXHIBIT 5. TEST DATA 6

5.1. AC POWER LINE CONDUCTED EMISSIONS [§15.207(A)] 6

5.2. OCCUPIED BANDWIDTH [§ 15.247(A)(2)] 9

5.3. PEAK CONDUCTED OUTPUT POWER - DTS [§ 15.247(B)(3)] 16

5.4. TRANSMITTER BAND-EDGE & SPURIOUS CONDUCTED EMISSIONS [§ 15.247(D)] 20

5.5. TRANSMITTER SPURIOUS RADIATED EMISSIONS AT 3 METERS [§§ 15.247(D), 15.209 & 15.205] 35

5.6. POWER SPECTRAL DENSITY [§ 15.247(E)] 38

EXHIBIT 6. TEST EQUIPMENT LIST 42

EXHIBIT 7. MEASUREMENT UNCERTAINTY..... 43

7.1. LINE CONDUCTED EMISSION MEASUREMENT UNCERTAINTY 43

7.2. RADIATED EMISSION MEASUREMENT UNCERTAINTY 43

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
Purpose of Test:	Equipment Certification for Digital Modulation Systems (DTS) Transmitter Operating within the Frequency Band 2400-2483.5 MHz.
Test Procedures:	<ul style="list-style-type: none"> ▪ ANSI C63.4-2009 ▪ FCC KDB Publication No. 558074 D01
Environmental Classification:	<input checked="" type="checkbox"/> Commercial, industrial or business environment <input type="checkbox"/> Residential environment

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

None.

1.3. NORMATIVE REFERENCES

Publication	Year	Title
47 CFR Parts 0-19	2011	Code of Federal Regulations (CFR), Title 47 – Telecommunication
ANSI C63.4	2009	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	2009	American National Standard for Testing Unlicensed Wireless Devices
CISPR 22 & EN 55022	2008-09, Edition 6.0 2006	Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement
CISPR 16-1-1 +A1 +A2	2006 2006 2007	Specification for radio disturbance and immunity measuring apparatus and methods. Part 1-1: Measuring Apparatus
CISPR 16-1-2 +A1 +A2	2003 2004 2006	Specification for radio disturbance and immunity measuring apparatus and methods. Part 1-2: Conducted disturbances
FCC KDB Publication No. 558074 D01	2012	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

EXHIBIT 2. PERFORMANCE ASSESSMENT

2.1. CLIENT INFORMATION

APPLICANT	
Name:	Psion Inc
Address:	2100 Meadowvale Boulevard Mississauga, ON L5N 7J9 Canada
Contact Person:	Mr. Sada Dharwarkar Phone #: 905 812 6200 Ext. 3358 Fax #: 905 812 6301 Email Sada.Dharwarkar@psion.com

MANUFACTURER	
Name:	Psion Inc
Address:	2100 Meadowvale Boulevard Mississauga, ON L5N 7J9 Canada
Contact Person:	Mr. Sada Dharwarkar Phone #: 905 812 6200 Ext. 3358 Fax #: 905 812 6301 Email Sada.Dharwarkar@psion.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:	Psion Inc
Product Name:	Handheld Computer
Model Name or Number:	7545MBWZ
Serial Number:	Test Sample
Type of Equipment:	Digital Transmission System (DTS)
Input Power Supply Type:	Lithium-Ion Battery
Primary User Functions of EUT:	Transmit and receive data

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Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

File #: TEK-678F15C247

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2.3. EUT’S TECHNICAL SPECIFICATIONS

TRANSMITTER	
Equipment Type:	Portable
Intended Operating Environment:	Commercial, industrial or business
Power Supply Requirement:	3.7 V DC
RF Output Power Rating:	10 dBm
Operating Frequency Range:	2405 – 2480 MHz
RF Output Impedance:	50 Ω
Channel Spacing:	5 MHz
Duty Cycle:	100%
Modulation Type:	OQPSK
Oscillator Frequency(ies):	32 MHz
Antenna Connector Types:	Integral, SMD Antenna

2.4. ASSOCIATED ANTENNA DESCRIPTION

- 1. Mica 2.4 GHz SMD Antenna (P/N: A5645; Antenna Gain: 1.8 dBi)

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	Docking Port	1	Pogo	None

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:

None.

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:	3.7 V Lithium-Ion Battery/120 VAC (via PHIHONG Switching Power Supply)

3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS

Operating Modes:	Each of lowest, middle and highest channel frequencies transmits continuously for emissions measurements.
Special Test Software:	Special software and hardware provided by the Applicant to operate the EUT at each channel frequency continuously. For example, the transmitter will be operated at each of the lowest, middle and highest frequencies individually continuously during testing.
Special Hardware Used:	N/A
Transmitter Test Antenna:	The EUT is tested with the antenna fitted in a manner typical of normal intended use as integral / non-integral antenna equipment as described with the test results.

Transmitter Test Signals	
Frequency Band(s):	2405 – 2480 MHz
Frequency(ies) Tested: (Near lowest, near middle & near highest frequencies in the frequency range of operation.)	2405, 2445 and 2480 MHz
RF Power Output:	9.26 dBm (8.43 mW) Peak
Normal Test Modulation:	OQPSK
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 FCC office (FCC File No.: 91038) and Industry Canada office (Industry Canada File No.: 2049A-3). Expiry Date: 2014-04-04.

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 & 2.1093	RF Exposure	Yes**
* The EUT complies with the requirement; it employs an integral antenna. ** See SAR test report.		

4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

Steward ferrite P/N: 28A0434-0A2 clamped on DC input cable.



EXHIBIT 5. TEST DATA

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

5.1.1. Limit(s)

The equipment shall meet the limits of the following table:

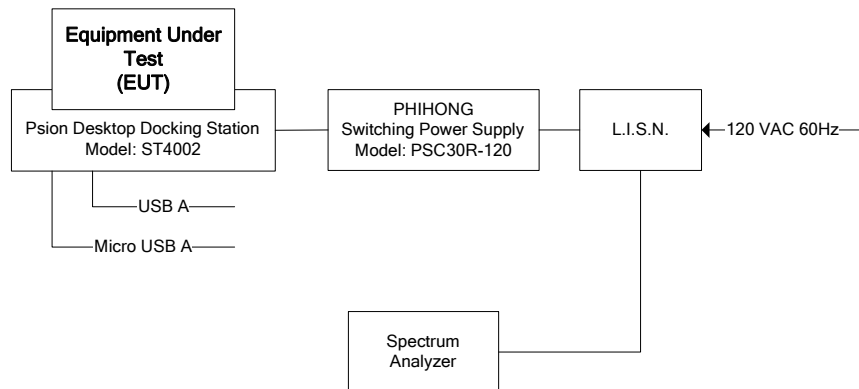
Frequency of emission (MHz)	Conducted Limits (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases linearly with the logarithm of the frequency

5.1.2. Method of Measurements

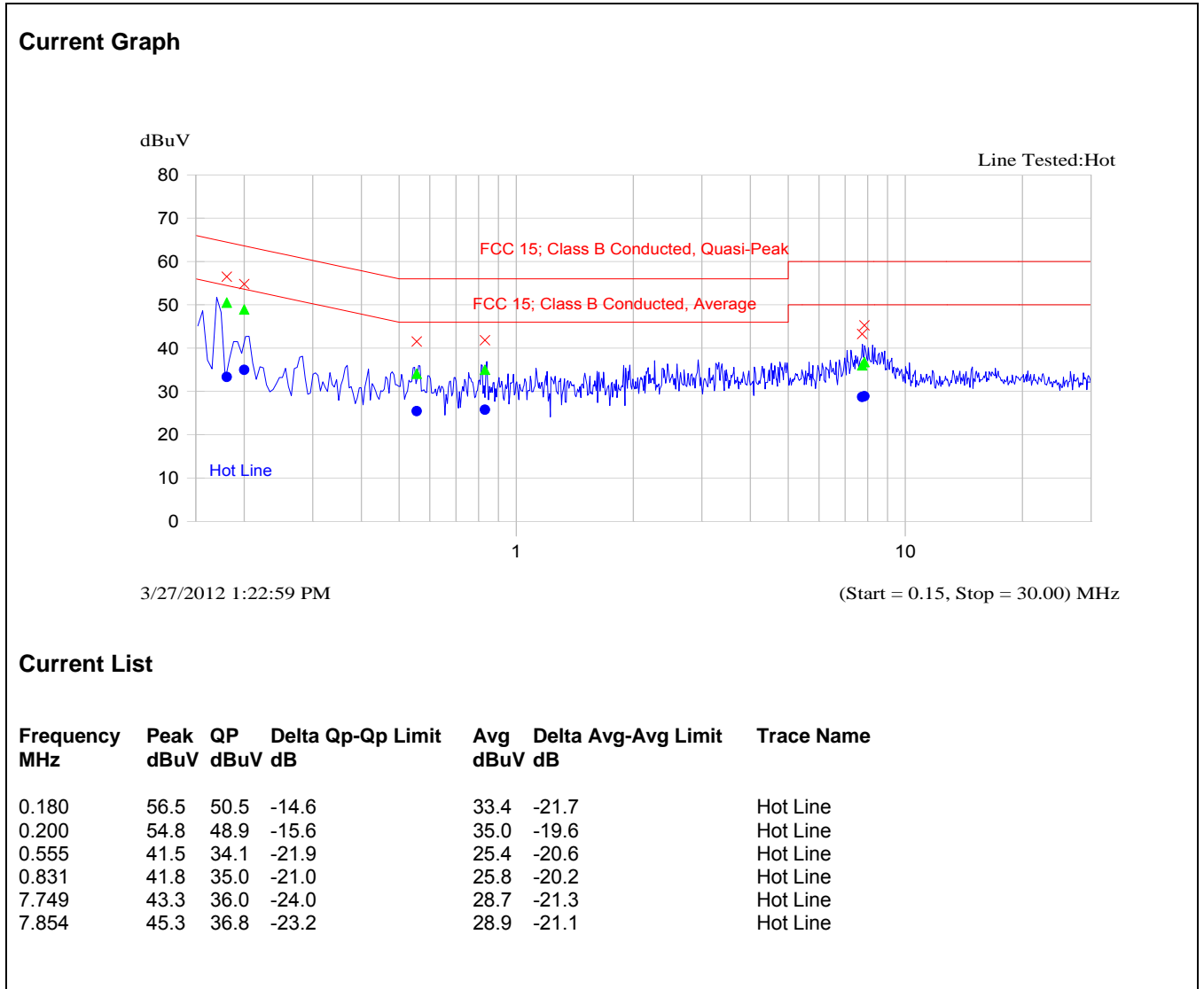
ANSI C63.4-2009

5.1.3. Test Arrangement

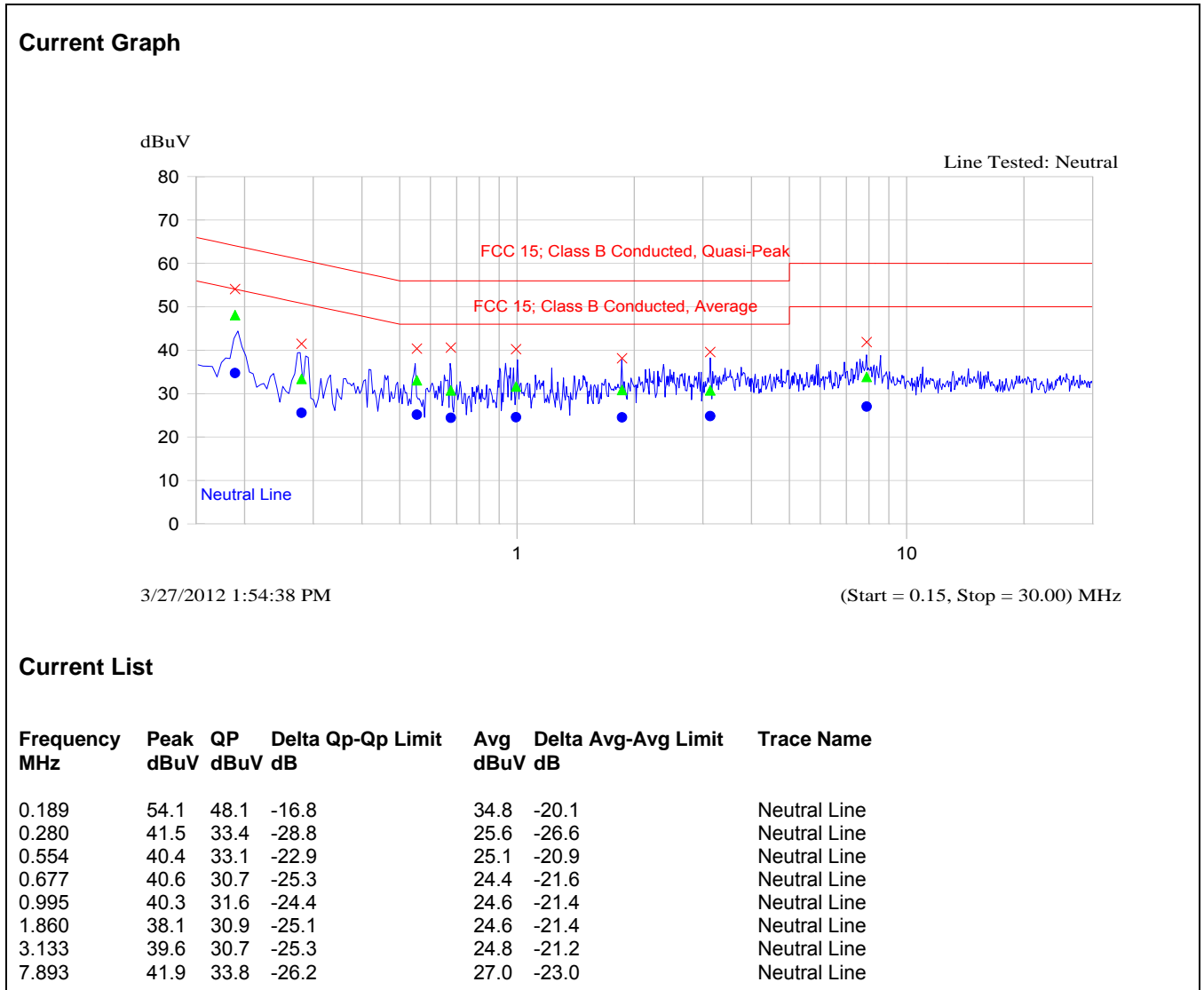


5.1.4. Test Data

Plot Plot 5.1.4.1. Power Line Conducted Emissions
 Line Voltage: 120 VAC
 Line Tested: Positive



Plot 5.1.4.2. Power Line Conducted Emissions
 Line Voltage: 120 VAC
 Line Tested: Negative



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

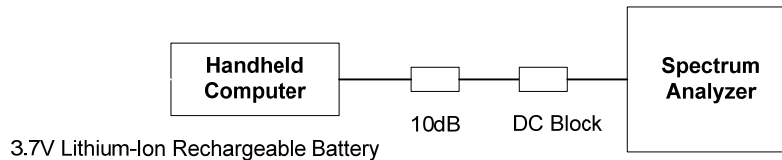
5.2.1. Limit(s)

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2.2. Method of Measurements

KDB Publication No. 558074 D01 Section 5.1.1 EBW Measurement Procedure.

5.2.3. Test Arrangement

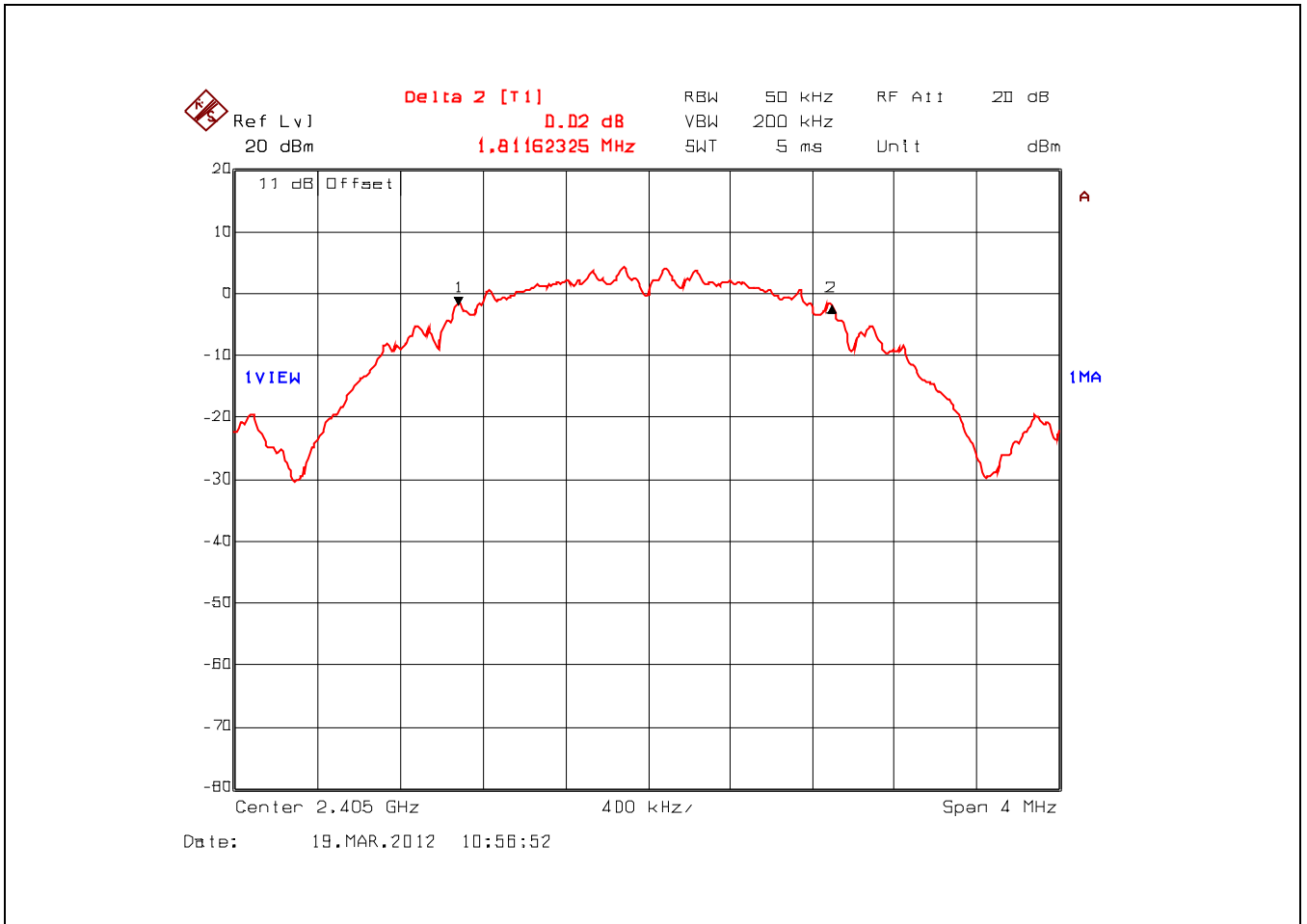


5.2.4. Test Data

Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
2405	1.81	2.70
2445	1.80	2.69
2480	1.82	2.69

See the following plots for detailed measurements.

Plot 5.2.4.1. 6 dB Bandwidth
Test Frequency: 2405 MHz



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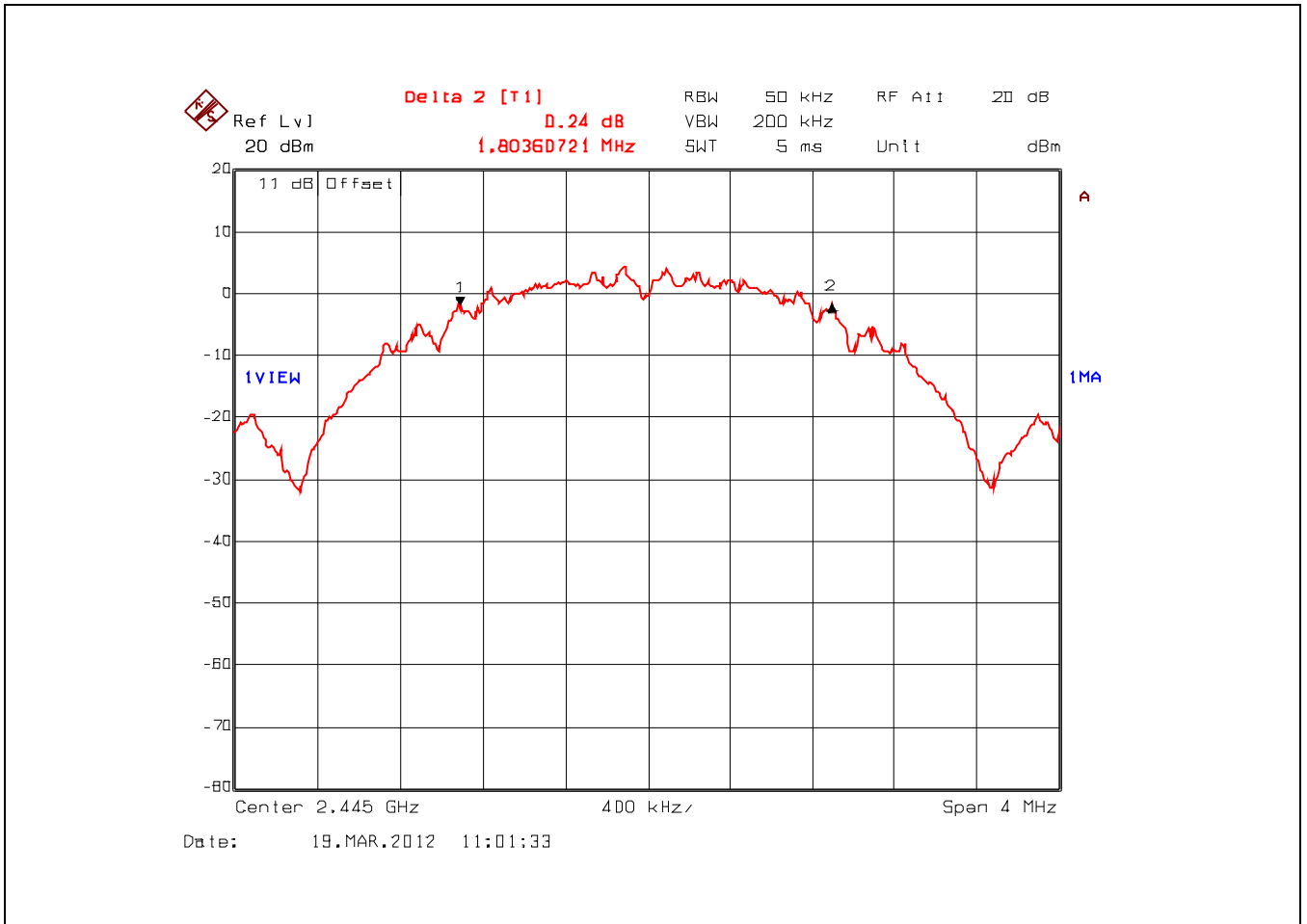
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: yic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Plot 5.2.4.2. 6 dB Bandwidth
Test Frequency: 2445 MHz



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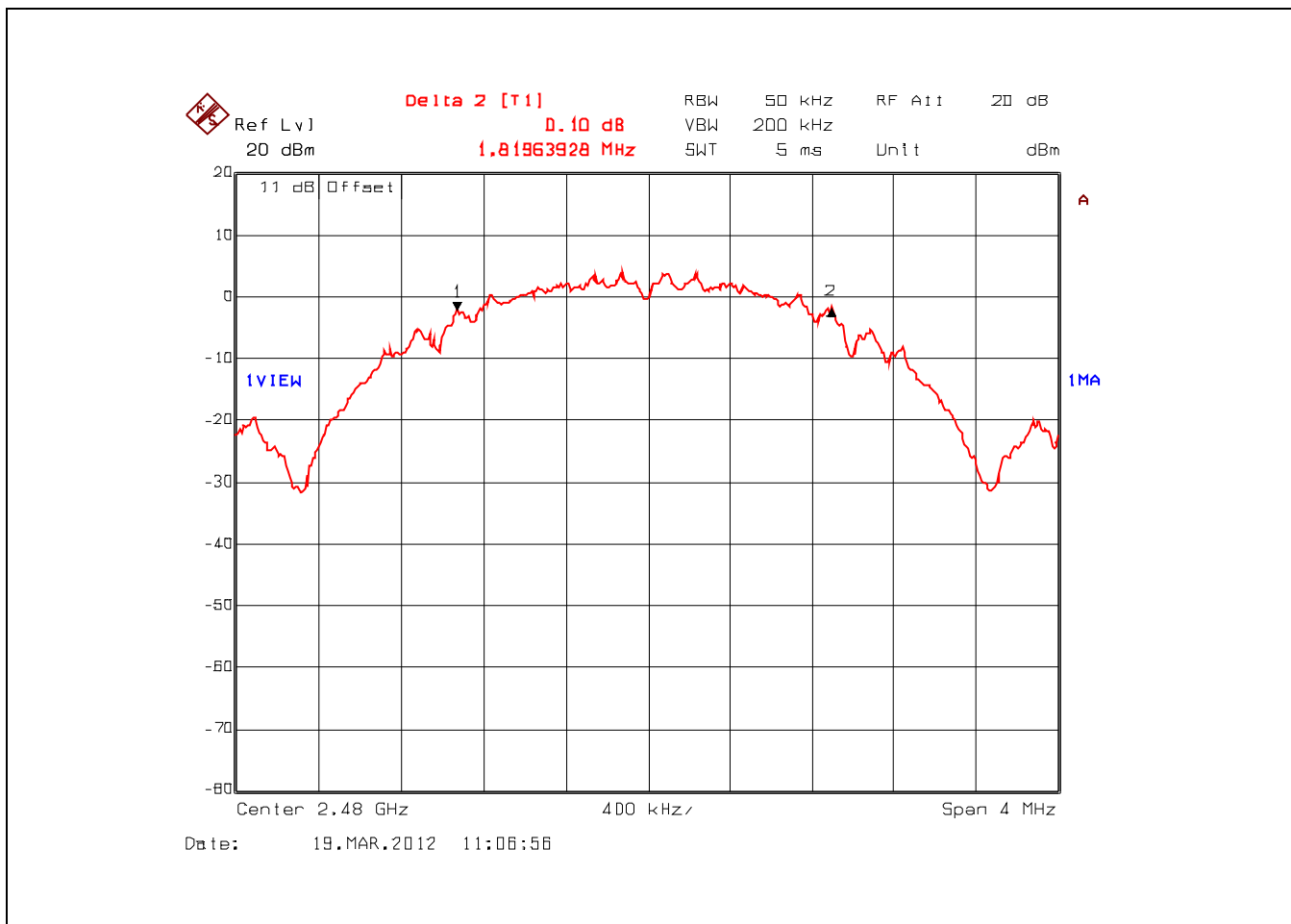
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: yic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Plot 5.2.4.3. 6 dB Bandwidth
Test Frequency: 2480 MHz



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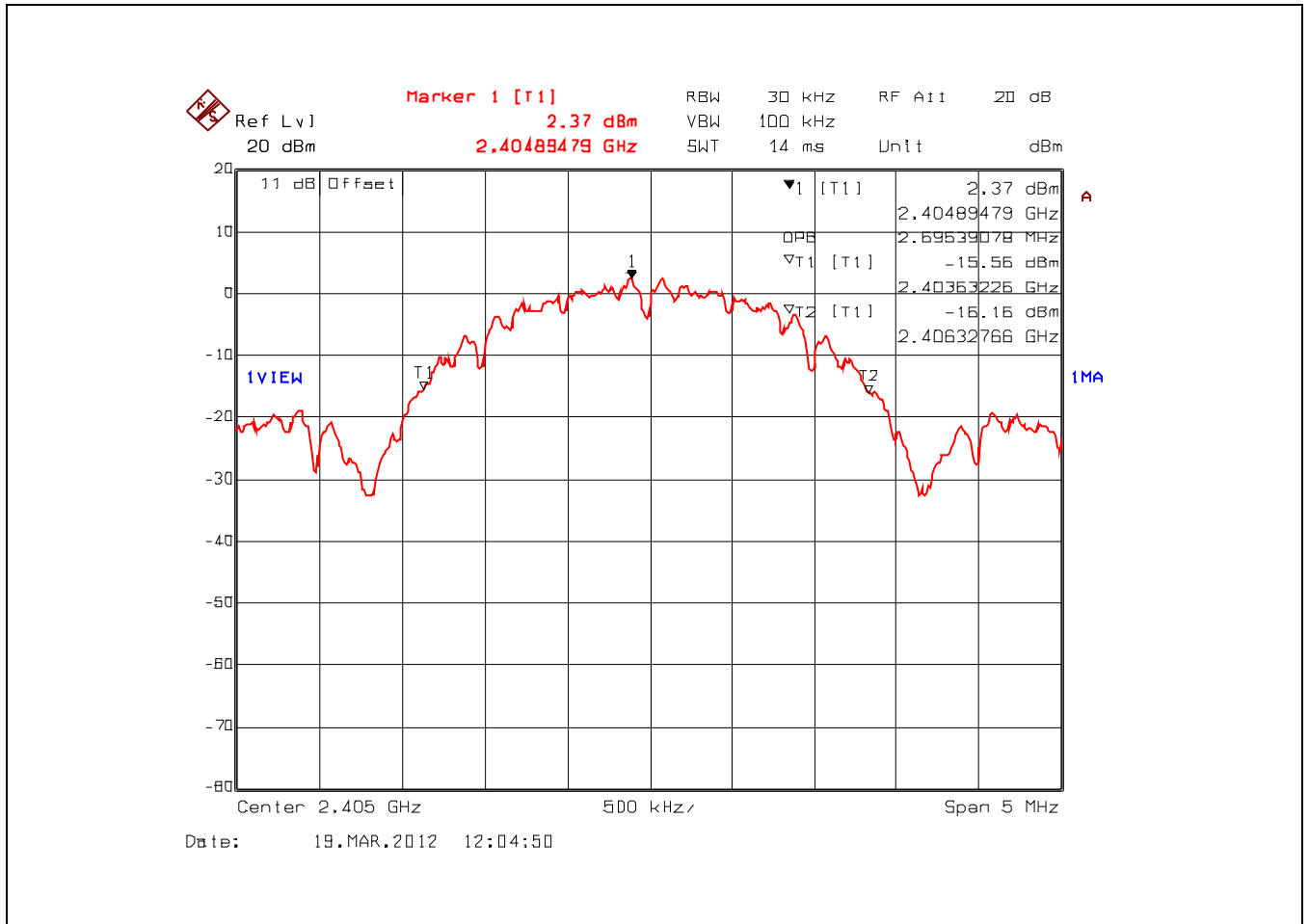
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: yic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Plot 5.2.4.4. 99% Occupied Bandwidth
 Test Frequency: 2405 MHz



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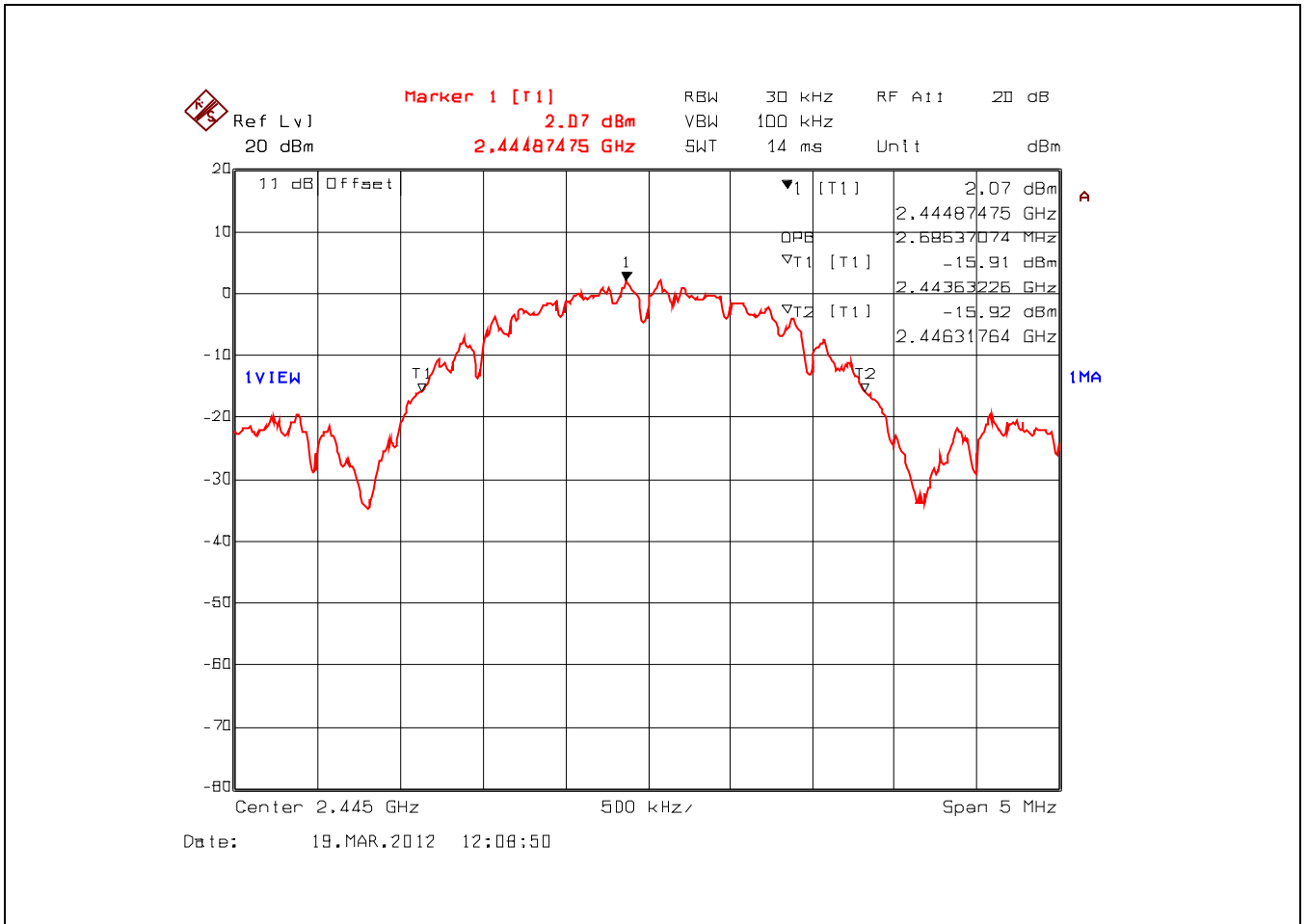
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
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Plot 5.2.4.5. 99% Occupied Bandwidth
 Test Frequency: 2445 MHz



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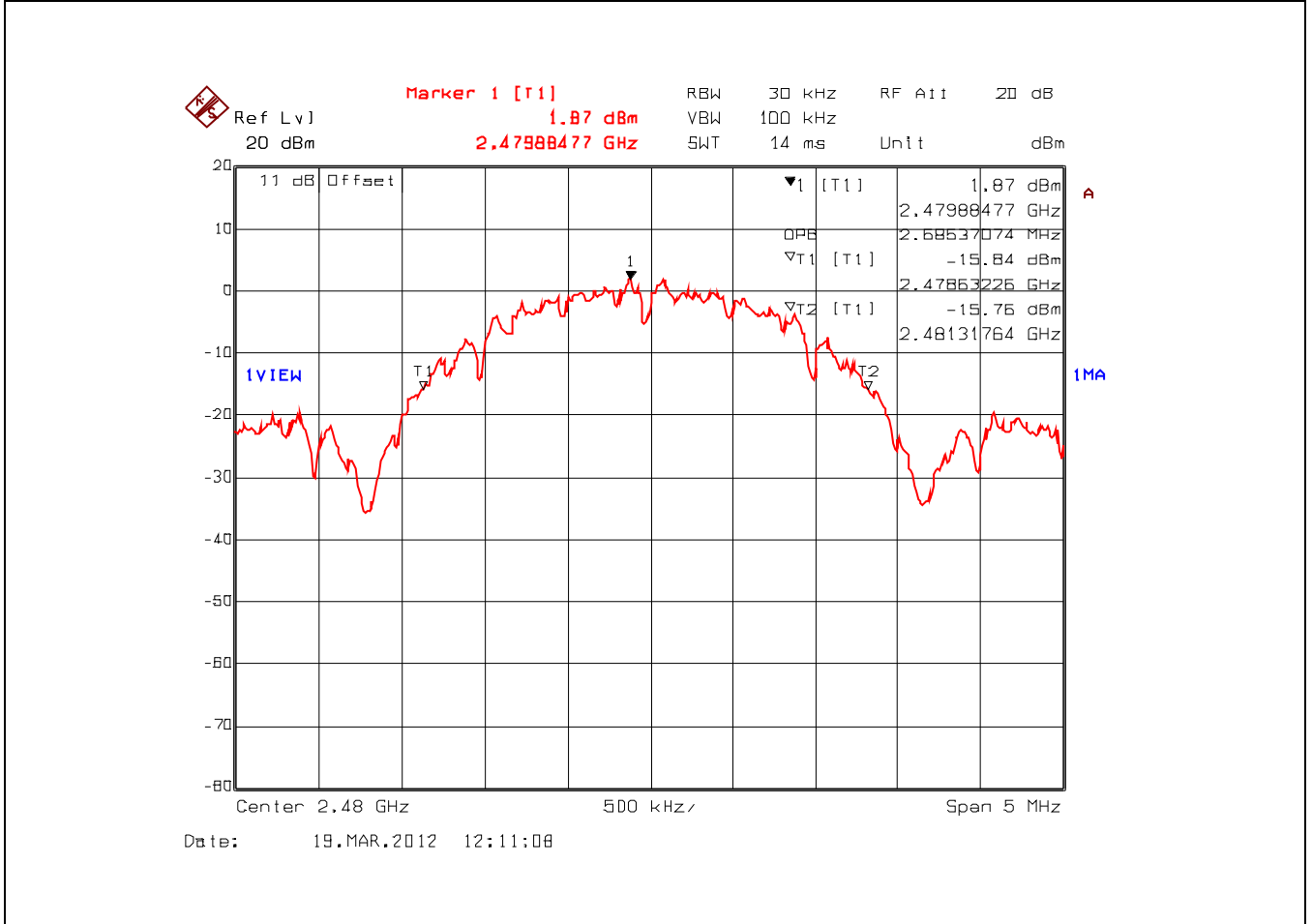
3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
 Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

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Plot 5.2.4.6. 99% Occupied Bandwidth
 Test Frequency: 2480 MHz



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File #: TEK-678F15C247

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

5.3.1. Limit(s)

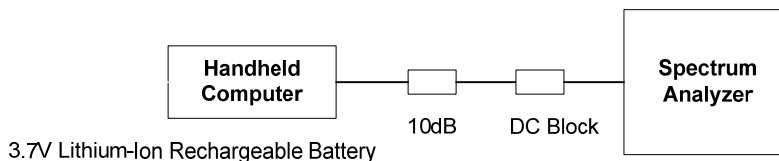
§ 15.247(b)(3): For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power 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 Publication No. 558074 D01 Section 5.2.1.1 Measurement Procedure PK1.

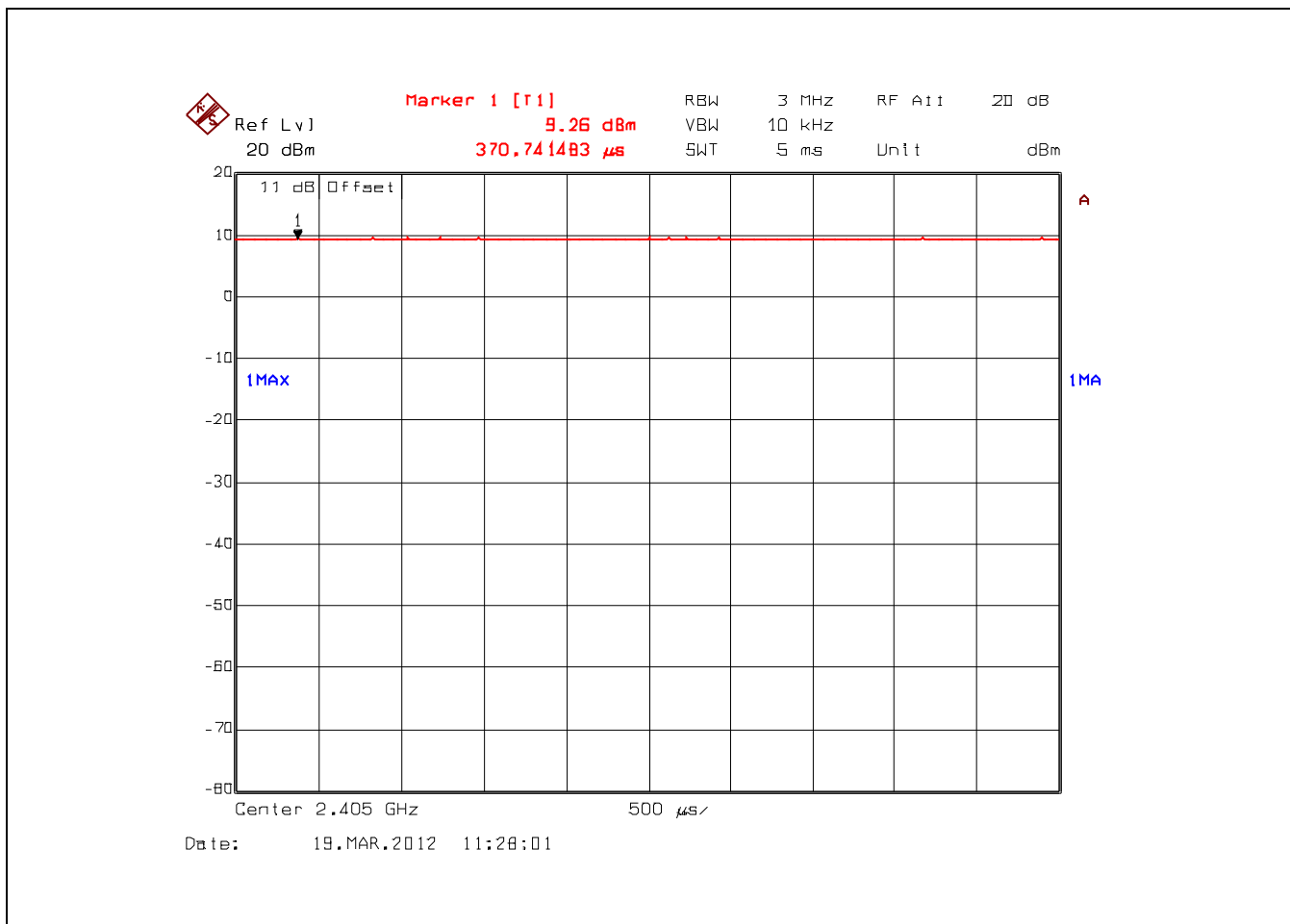
5.3.3. Test Arrangement



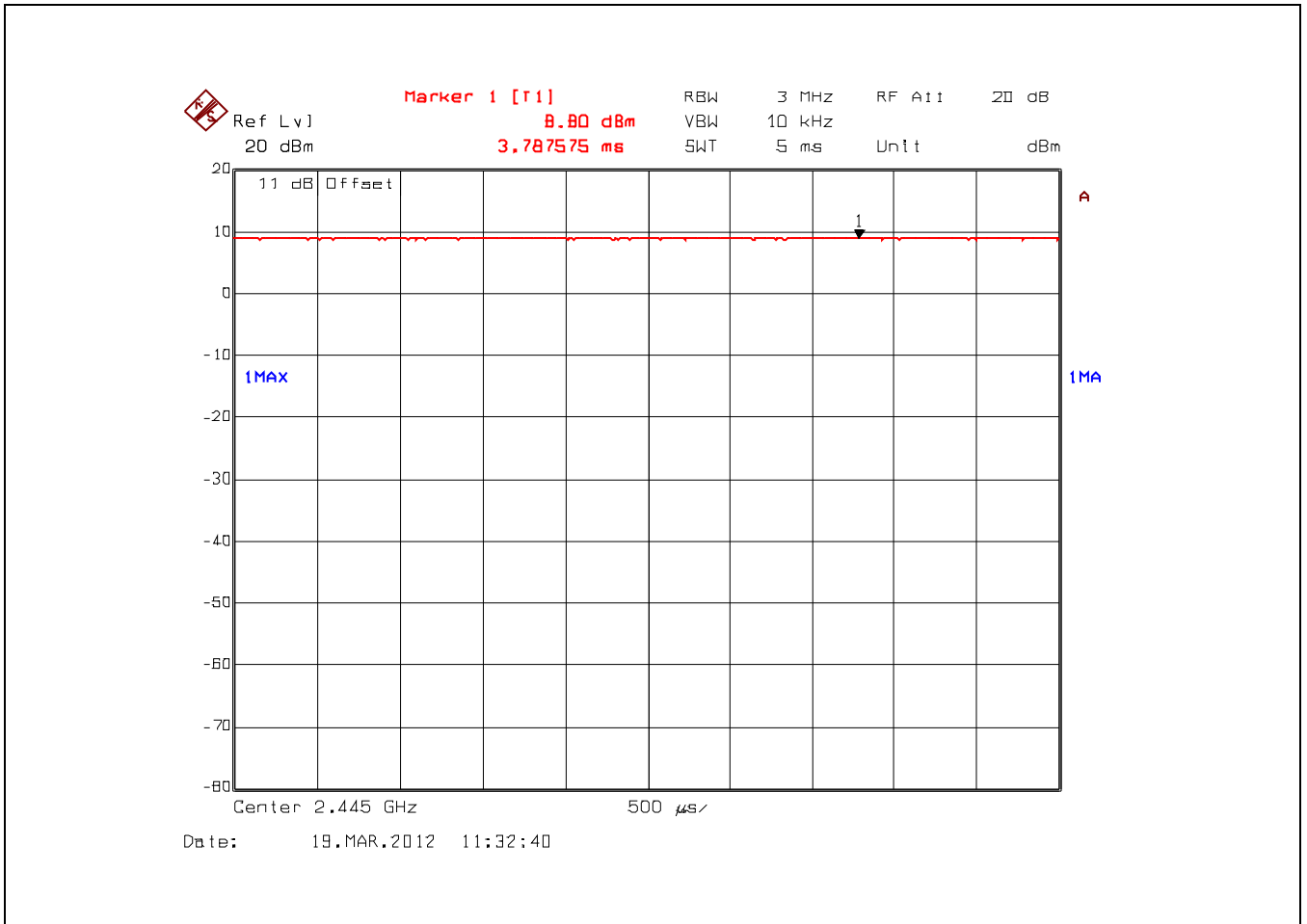
5.3.4. Test Data

Remark(s): Measurement method: Section 5.2.1.1 Measurement Procedure PK1				
Frequency (MHz)	Peak Conducted Power (dBm)	¹ Peak EIRP (dBm)	Peak Conducted Power Limit (dBm)	EIRP Limit (dBm)
2405	9.26	11.06	30	36
2445	8.80	10.60	30	36
2480	8.68	10.48	30	36
¹ The Peak EIRP is calculated as the sum of Peak Conducted Power in dBm and antenna assembly gain of EUT in dBi (antenna gain – cable loss).				

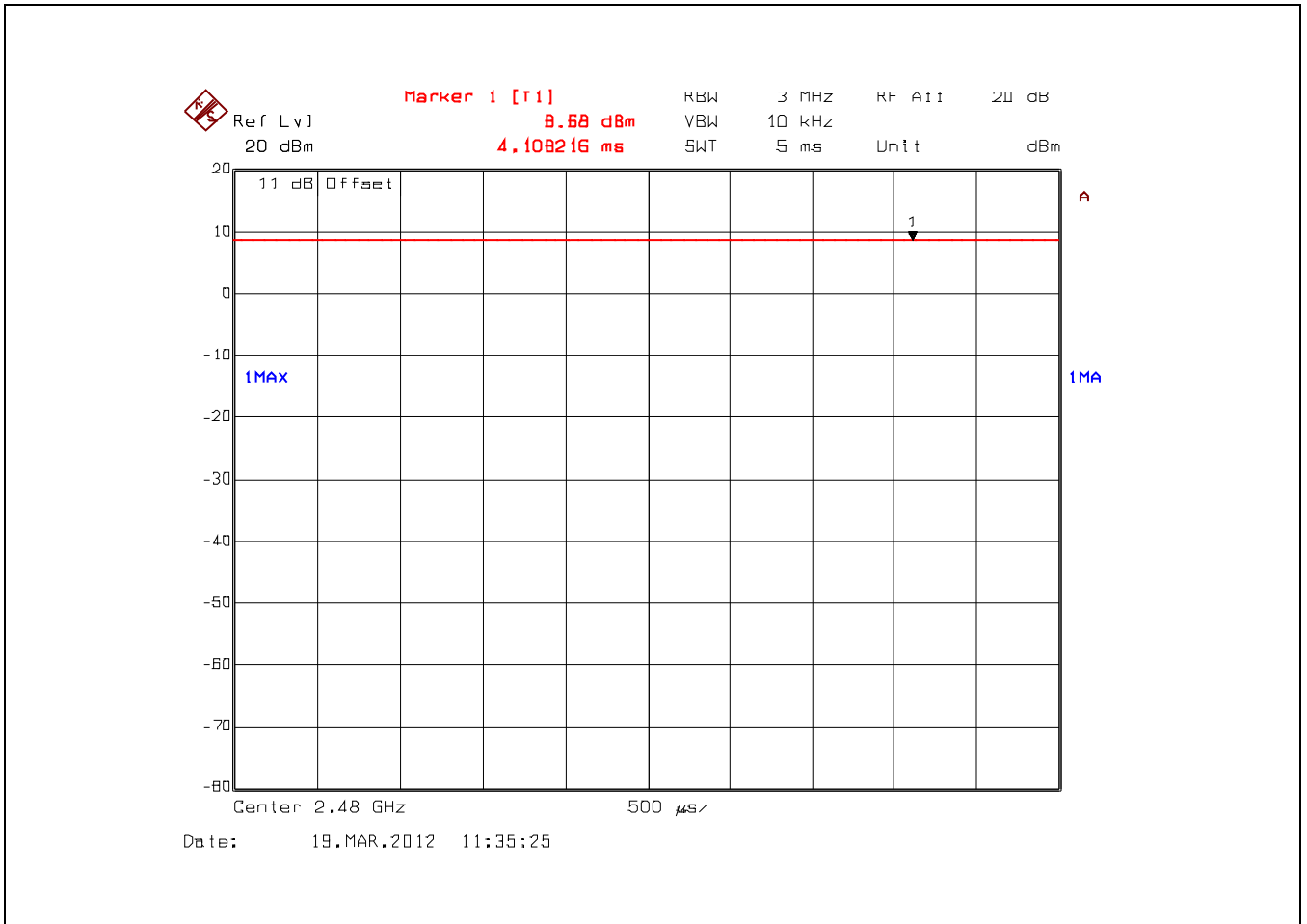
Plot 5.3.4.1. Peak Conducted Power
 Test Frequency: 2405 MHz



Plot 5.3.4.2. Peak Conducted Power
Test Frequency: 2445 MHz



Plot 5.3.4.3. Peak Conducted Power
 Test Frequency: 2480 MHz



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

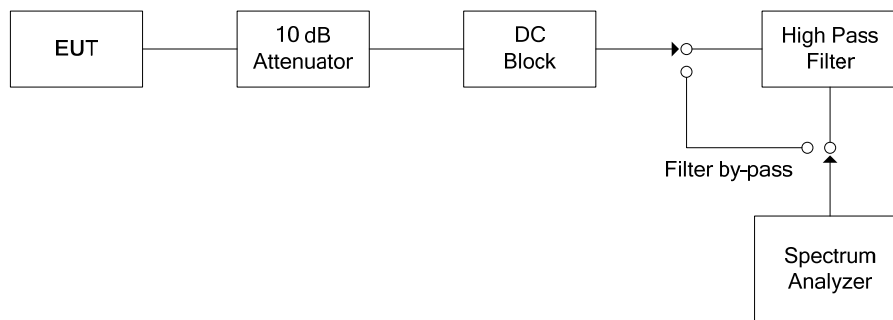
5.4.1. Limit(s)

§ 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.

5.4.2. Method of Measurements

KDB Publication No. 558074 D01, Sections 5.4.2.2.4 Band-Edge Measurements; 5.4.1 Unwanted Emissions into Non-Restricted Bands; 5.4.2 Unwanted Emissions into Restricted Frequency Bands; 5.4.2.2.1 Measurement Procedure RBAVG1 (Power Averaging) and 5.4.2.2.3 Applicability of §15.35(b) and §15.35(c).

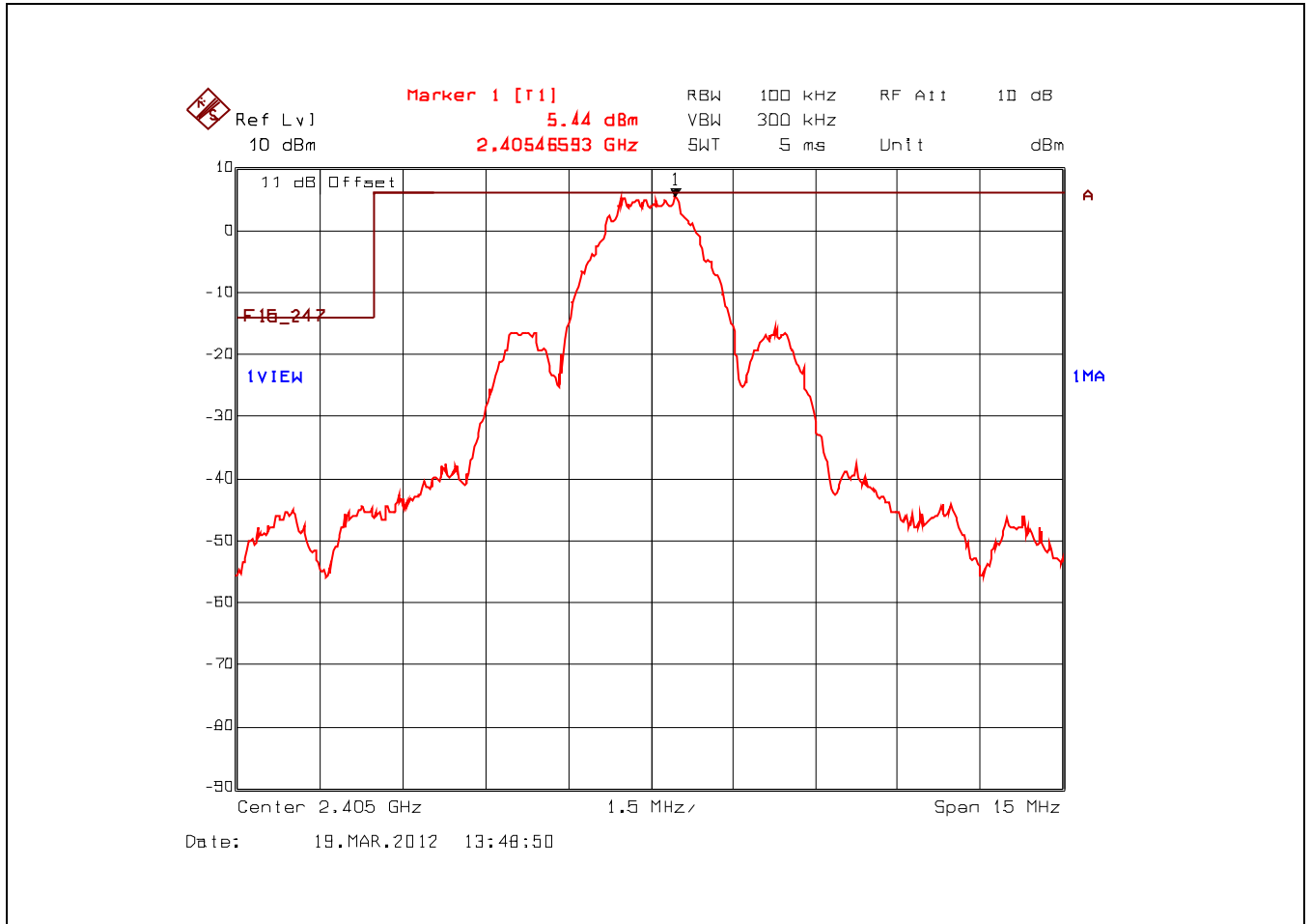
5.4.3. Test Arrangement



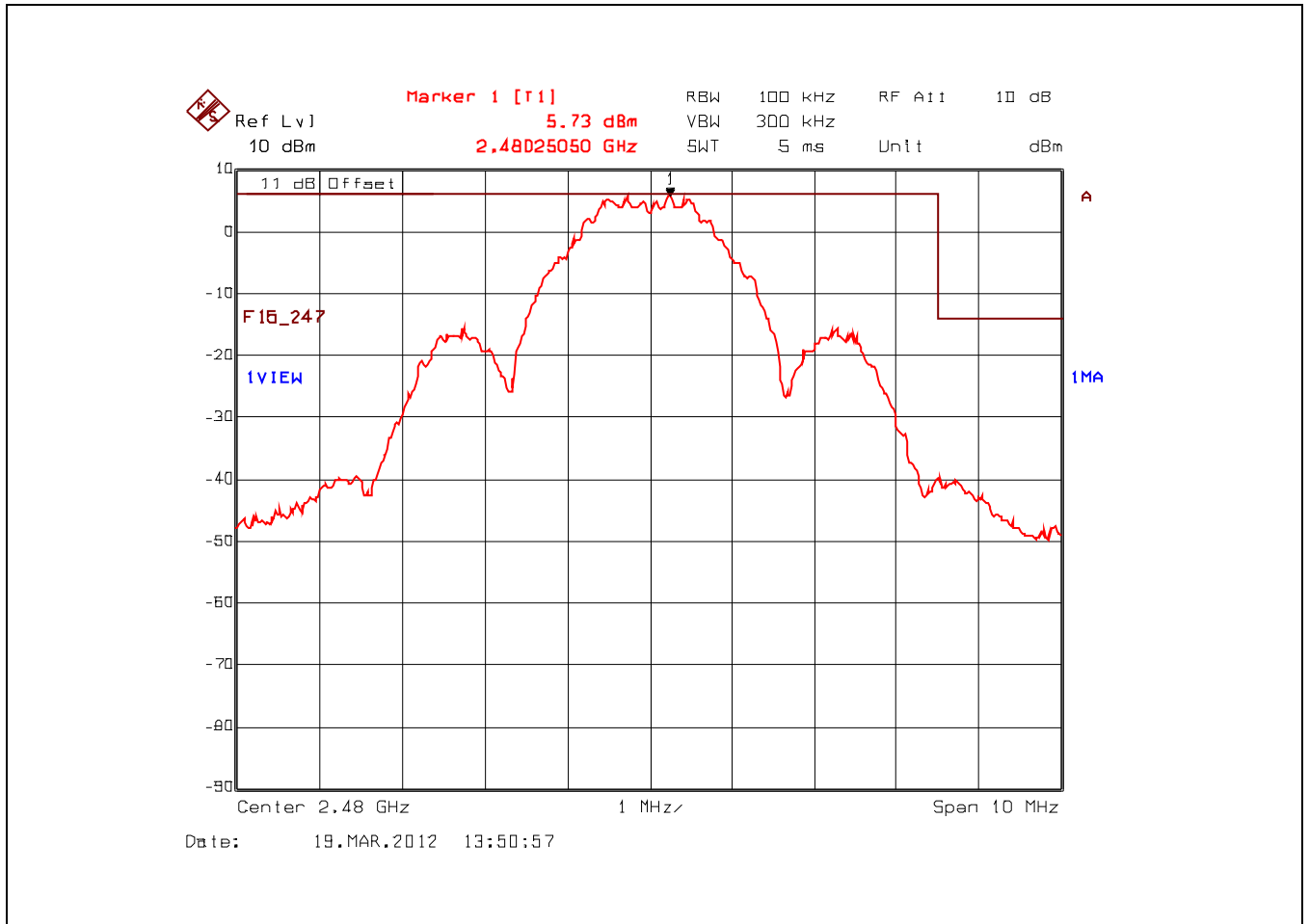
5.4.4. Test Data

5.4.4.1. Band-Edge RF Conducted Emissions

Plot 5.4.4.1.1. Band-Edge RF Conducted Emissions
Low End of Frequency Band (2405 MHz)



Plot 5.4.4.1.2. Band-Edge RF Conducted Emissions
High End of Frequency Band (2480 MHz)



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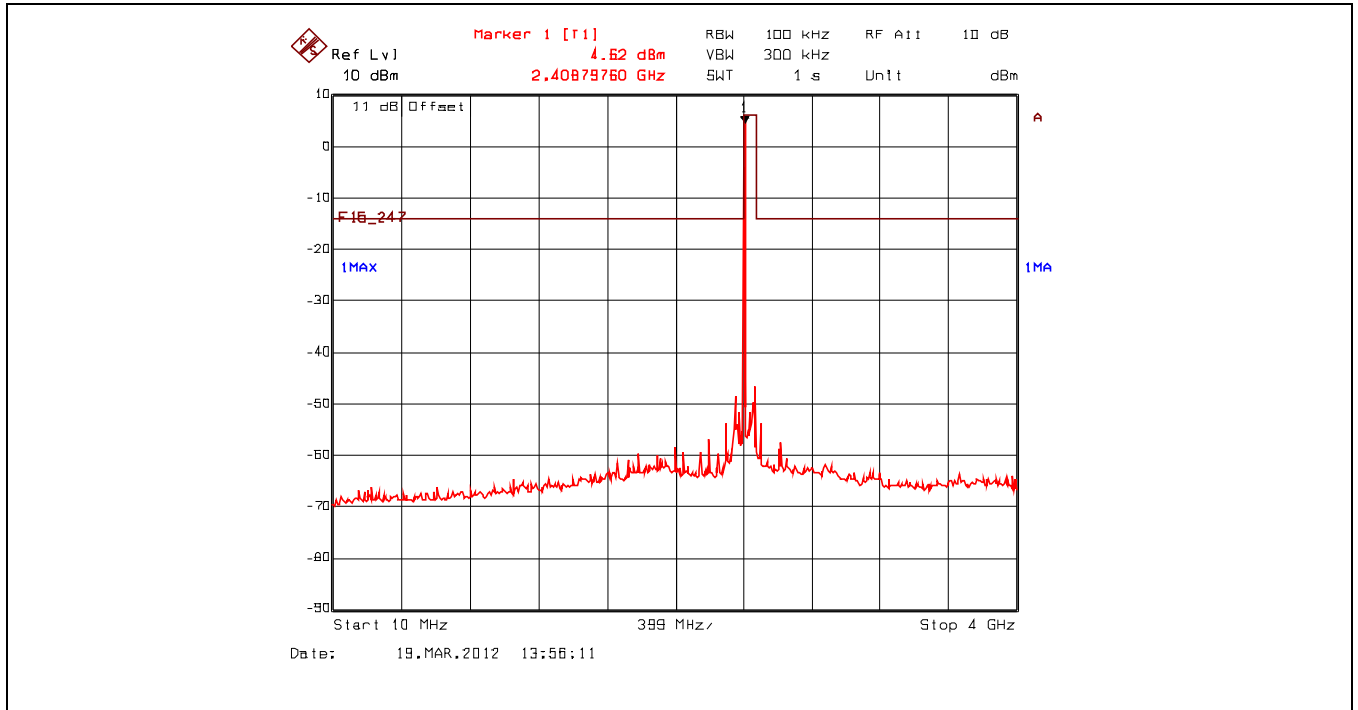
File #: TEK-678F15C247

April 10, 2012

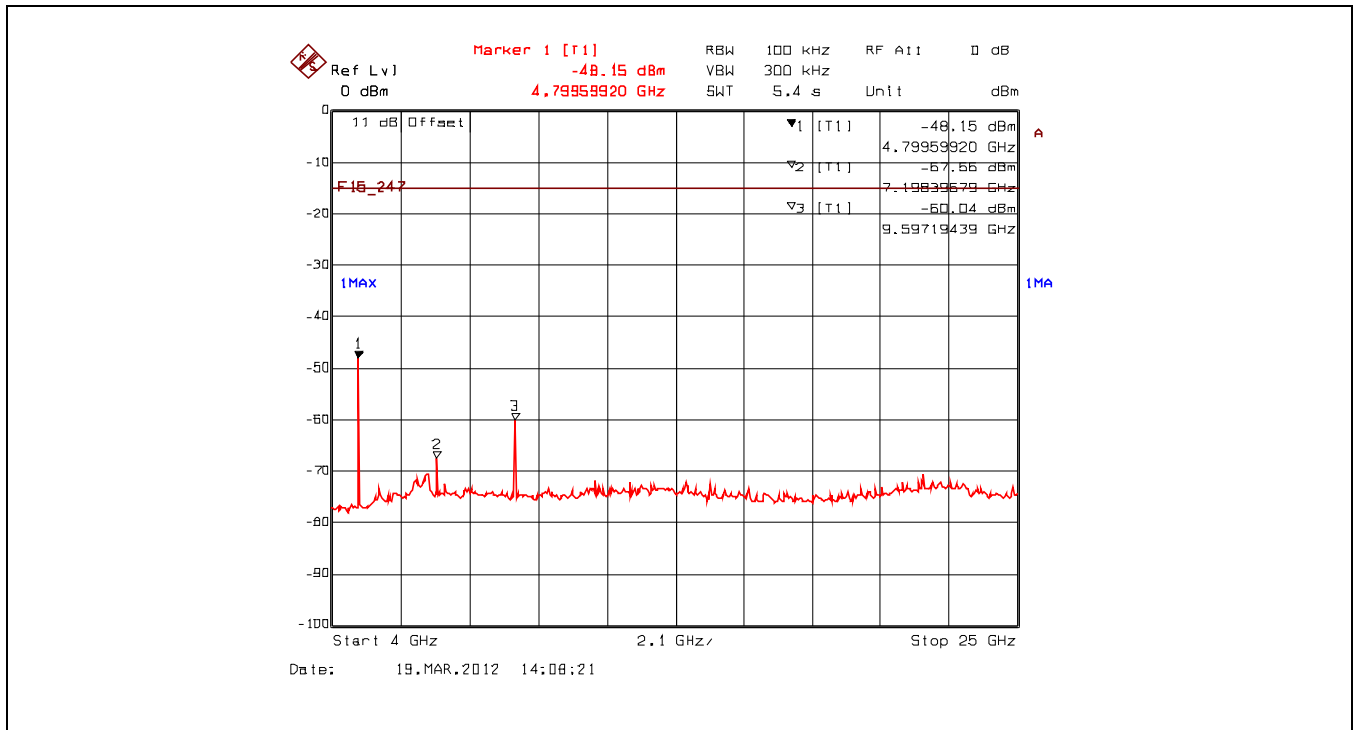
All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

5.4.4.2. Conducted Spurious Emissions – Non Restricted Frequency Bands

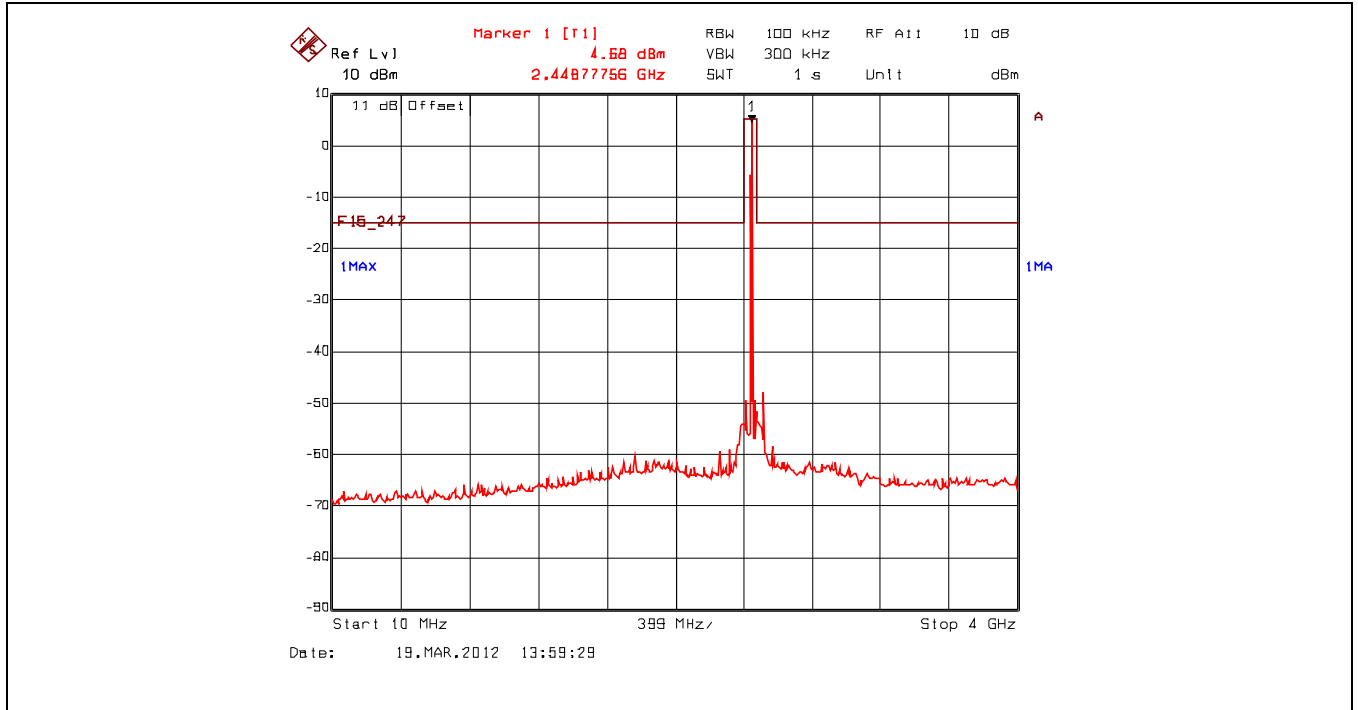
Plot 5.4.4.2.1. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2405 MHz, 10 MHz - 4 GHz



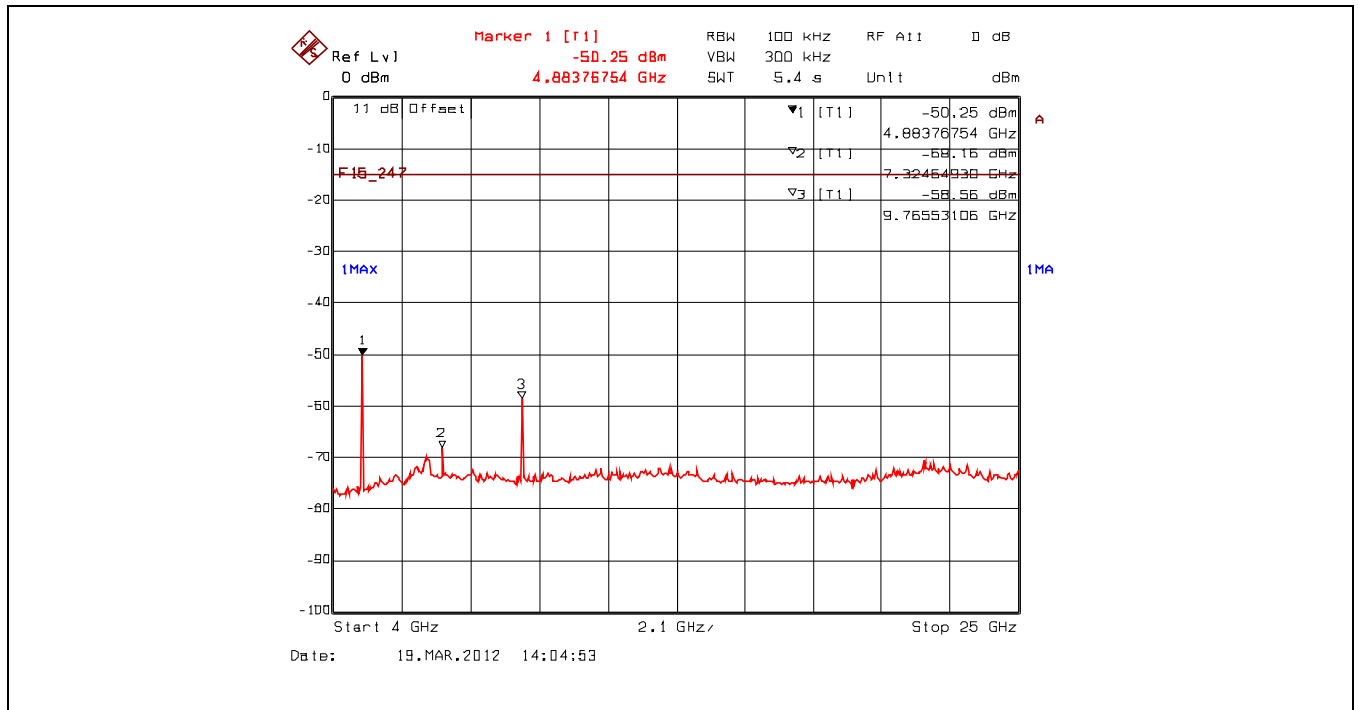
Plot 5.4.4.2.2. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2405 MHz, 4 GHz - 25 GHz



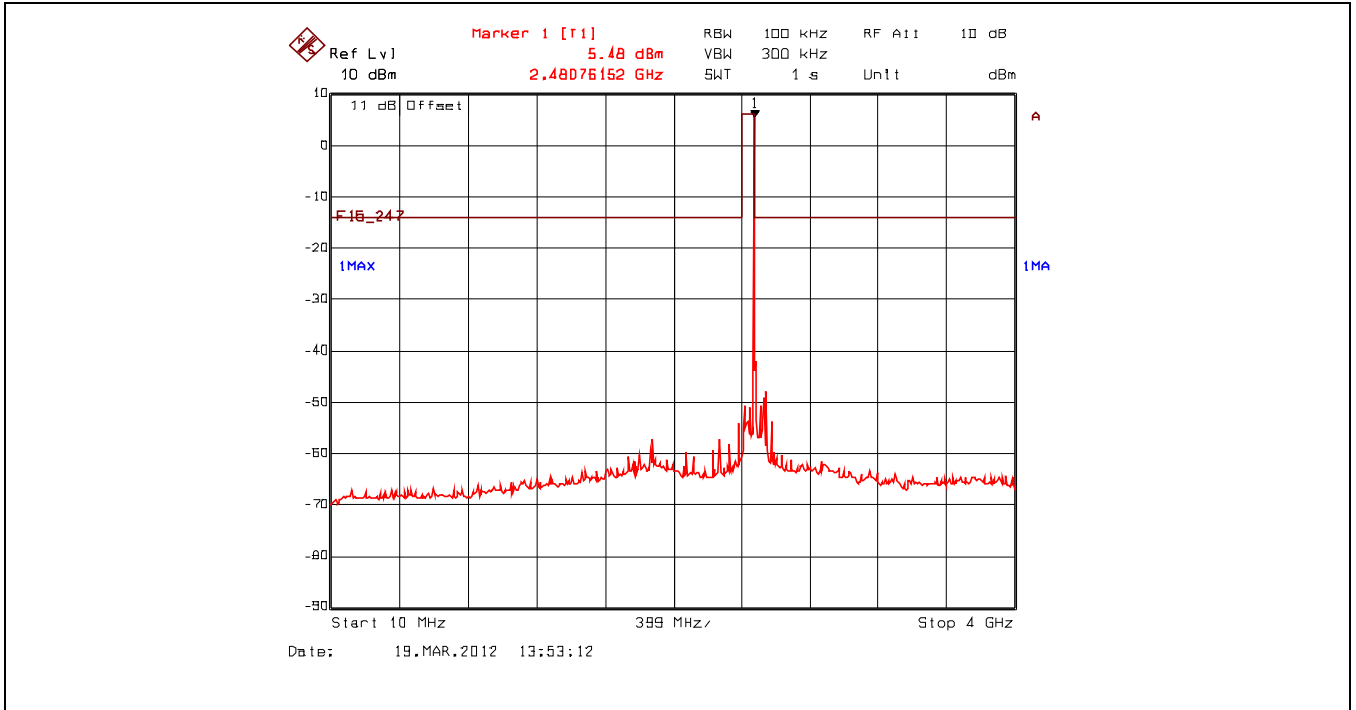
Plot 5.4.4.2.3. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2445 MHz, 10 MHz - 4 GHz



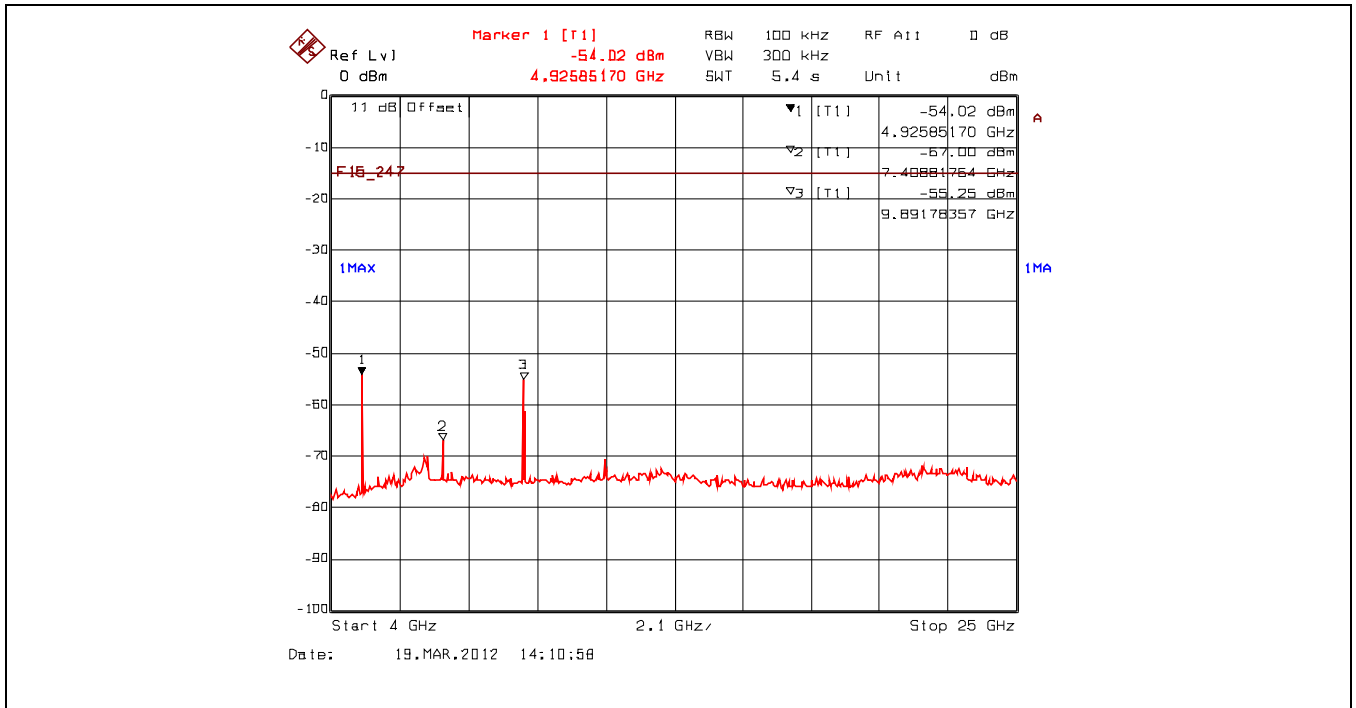
Plot 5.4.4.2.4. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2445 MHz, 4 GHz - 25 GHz



Plot 5.4.4.2.5. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2480 MHz, 10 MHz - 4 GHz



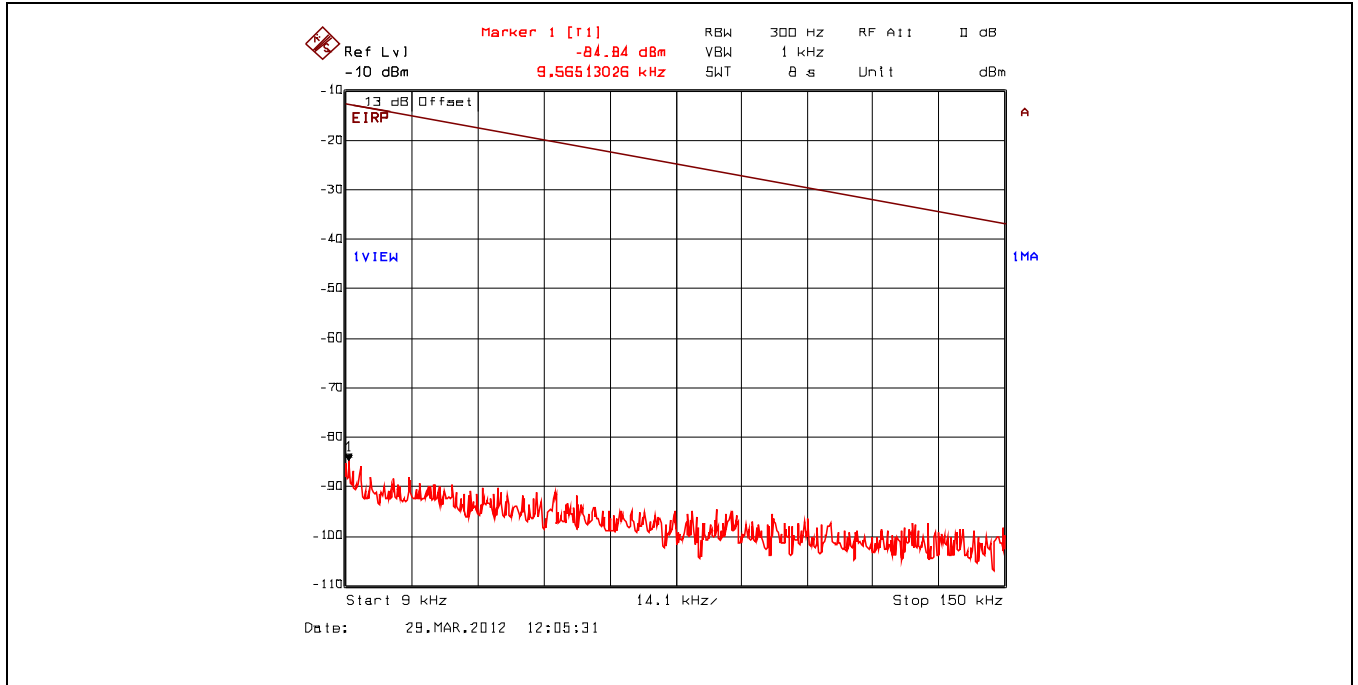
Plot 5.4.4.2.6. Conducted Spurious Emissions – Non Restricted Frequency Bands, 2480 MHz, 4 GHz - 25 GHz



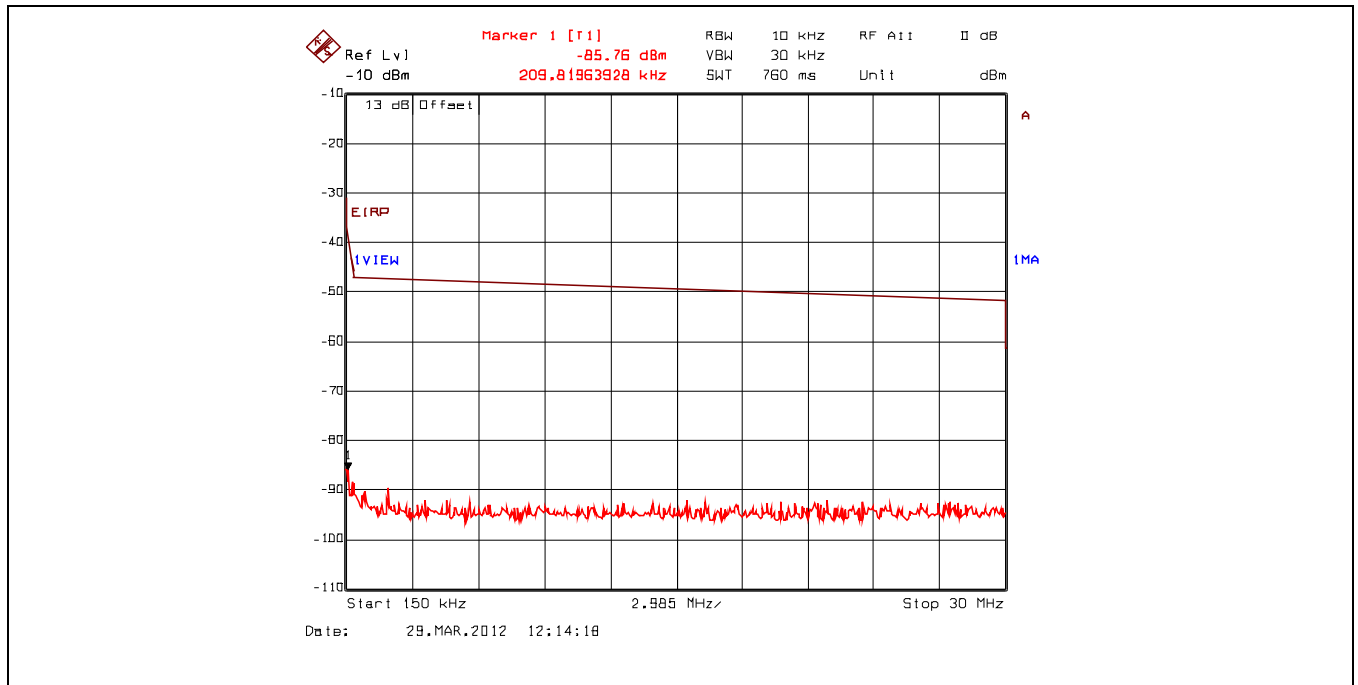
5.4.4.3. Conducted Spurious Emissions – Restricted Bands

Remark: Offset = Insertion Loss (11.02dB) + Antenna Gain (2dBi worst case) = 13dB

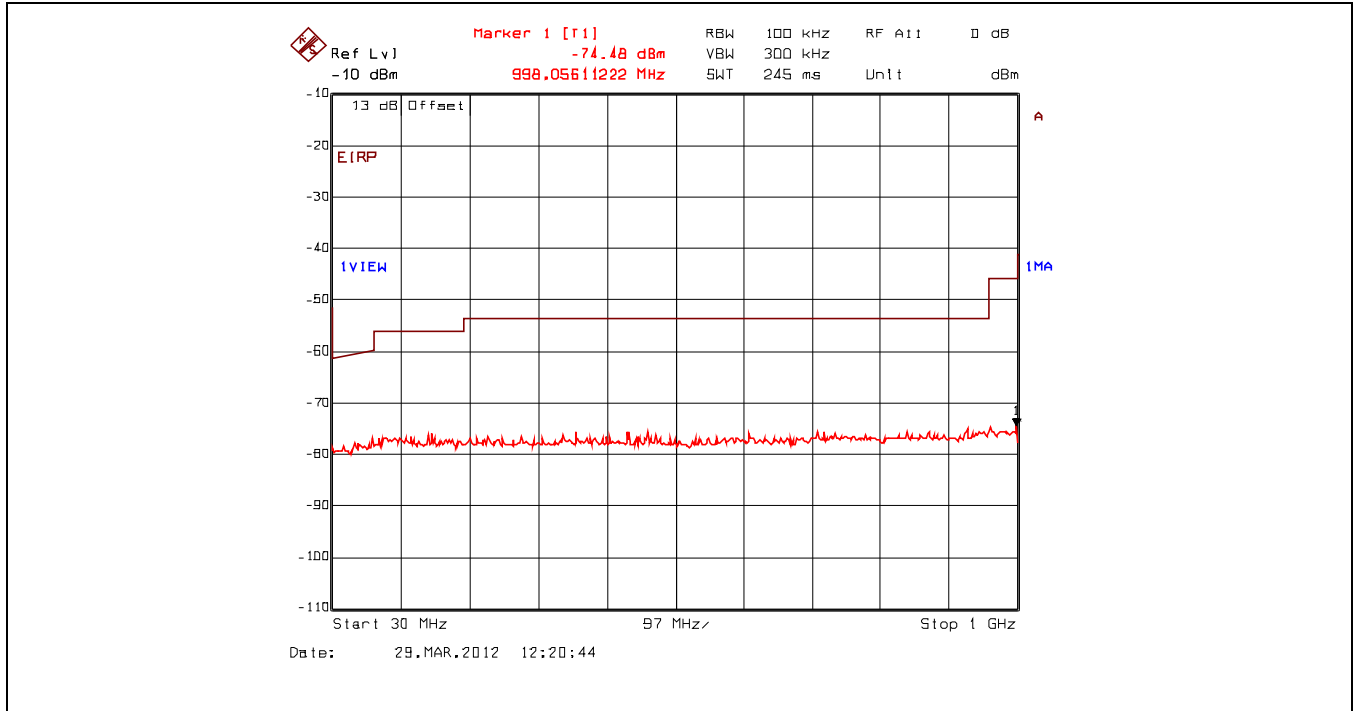
Plot 5.4.4.3.1. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, 9 kHz - 150 kHz, Peak Detector



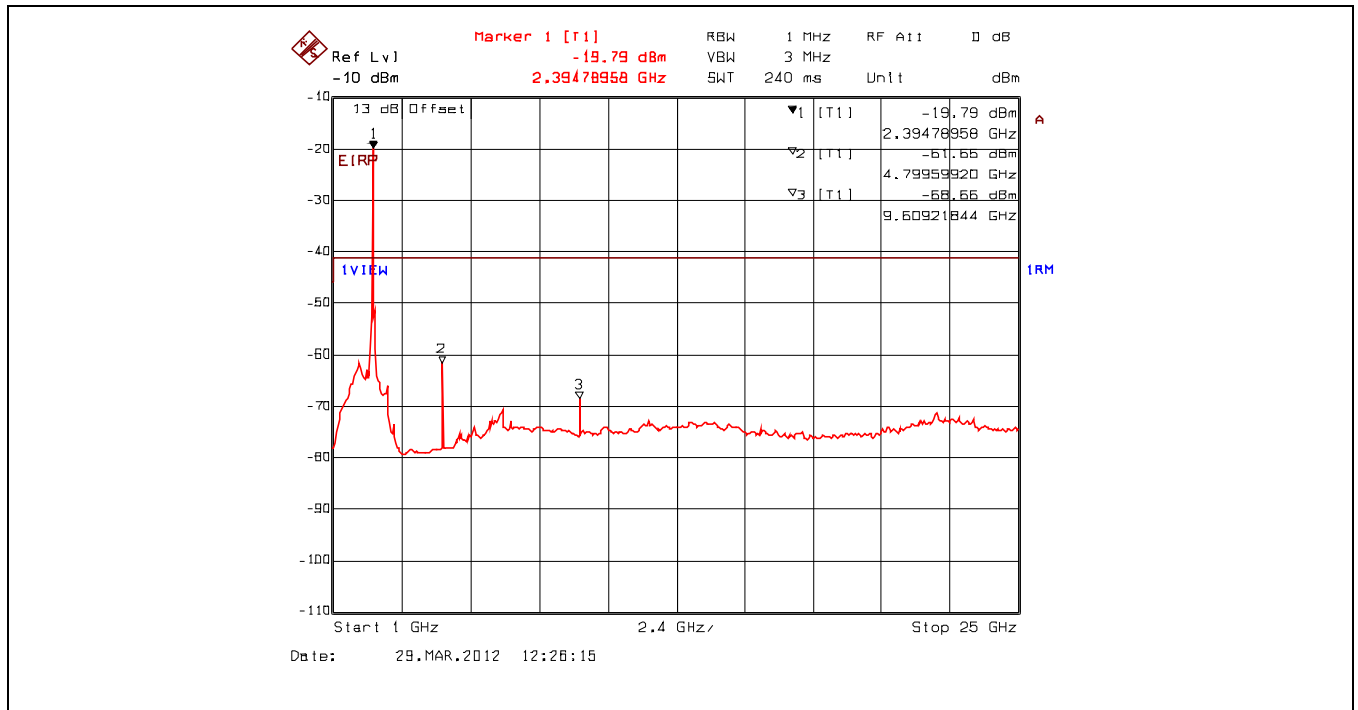
Plot 5.4.4.3.2. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, 150 kHz - 30 MHz, Peak Detector



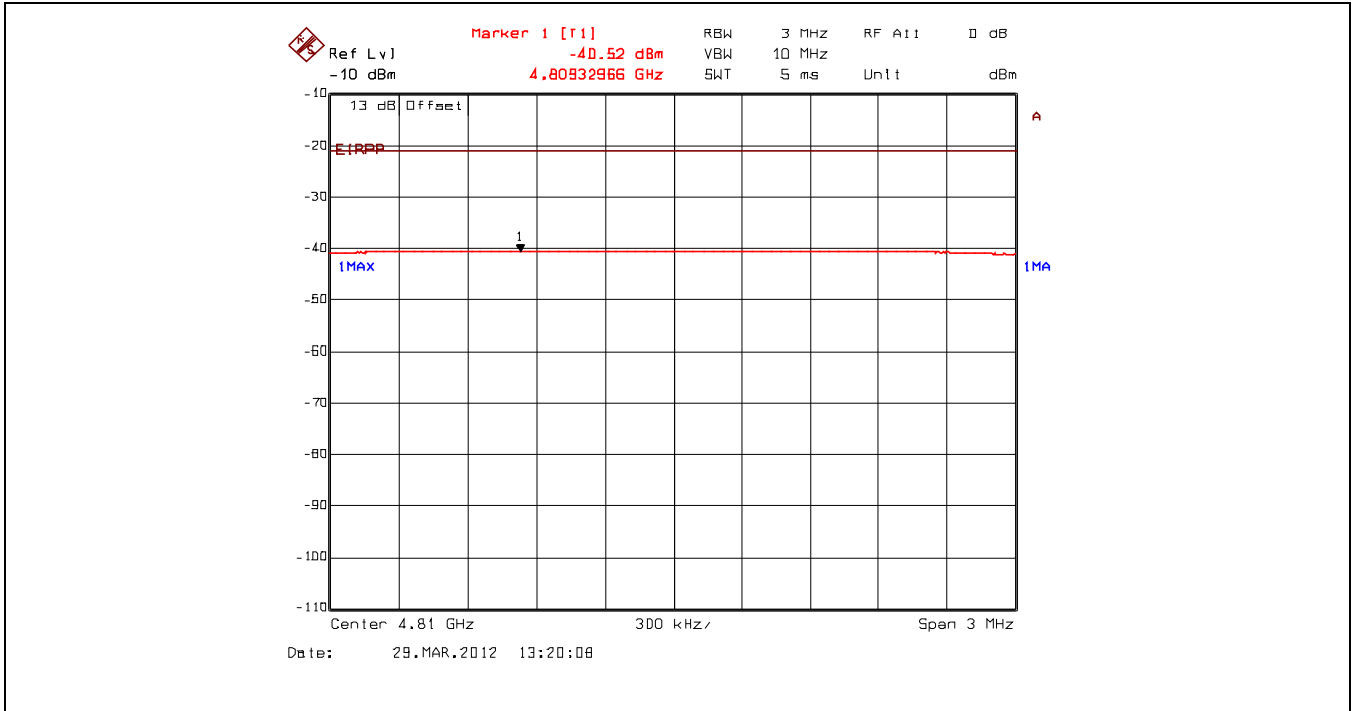
Plot 5.4.4.3.3. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, 30 MHz - 1 GHz, Peak Detector



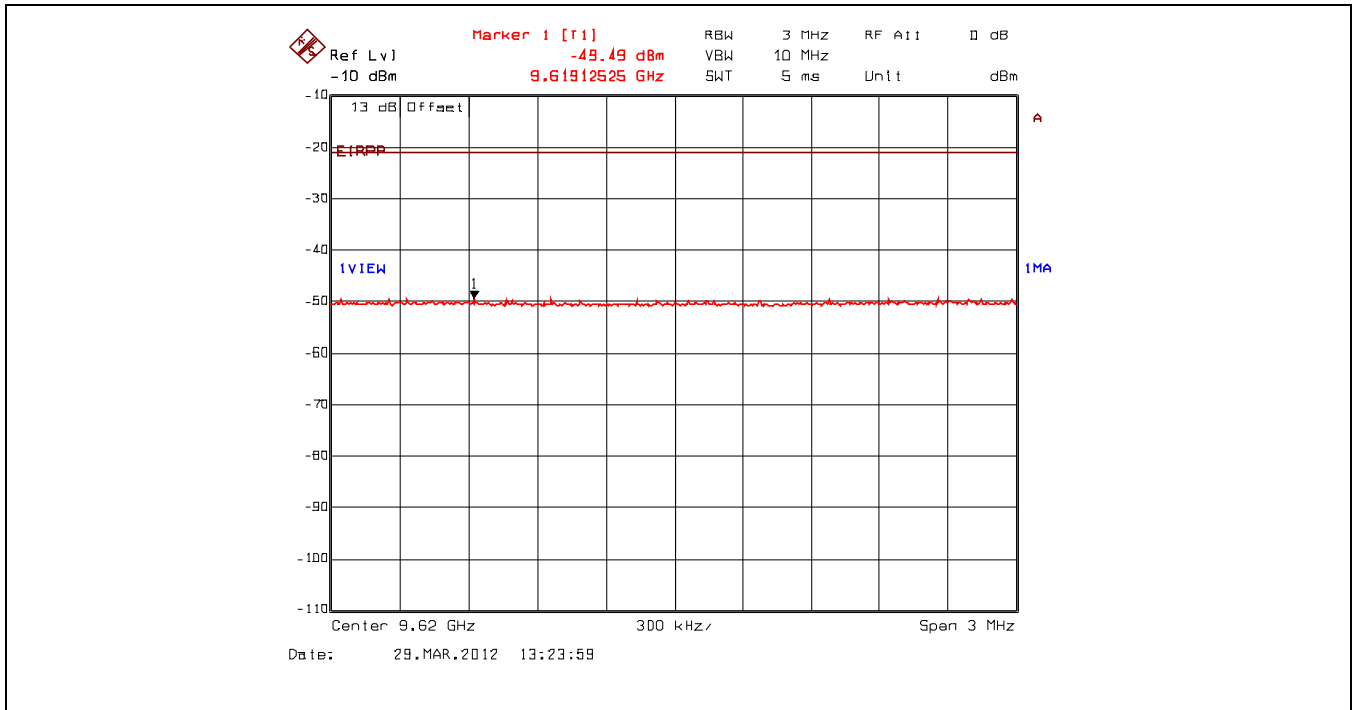
Plot 5.4.4.3.4. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, 1 GHz - 25 GHz, Power Average (RMS) Detector



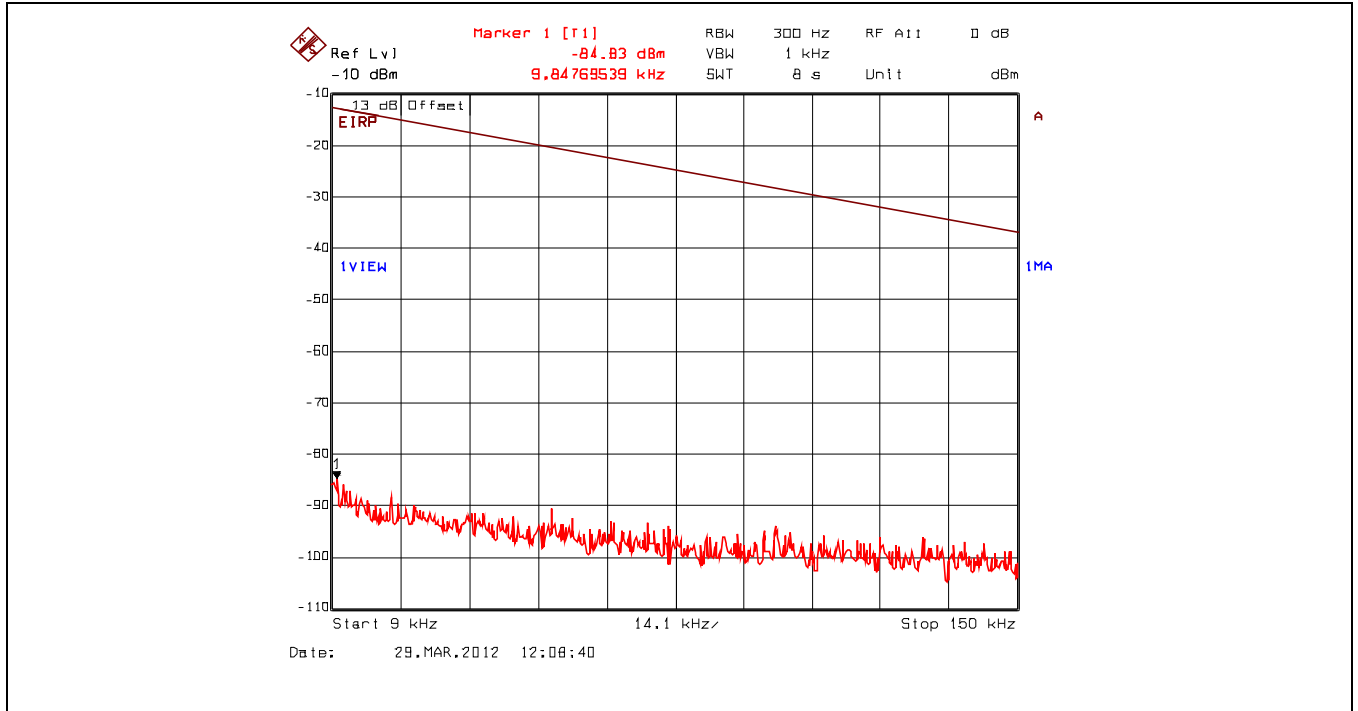
Plot 5.4.4.3.5. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, Peak Power at 4.81 GHz



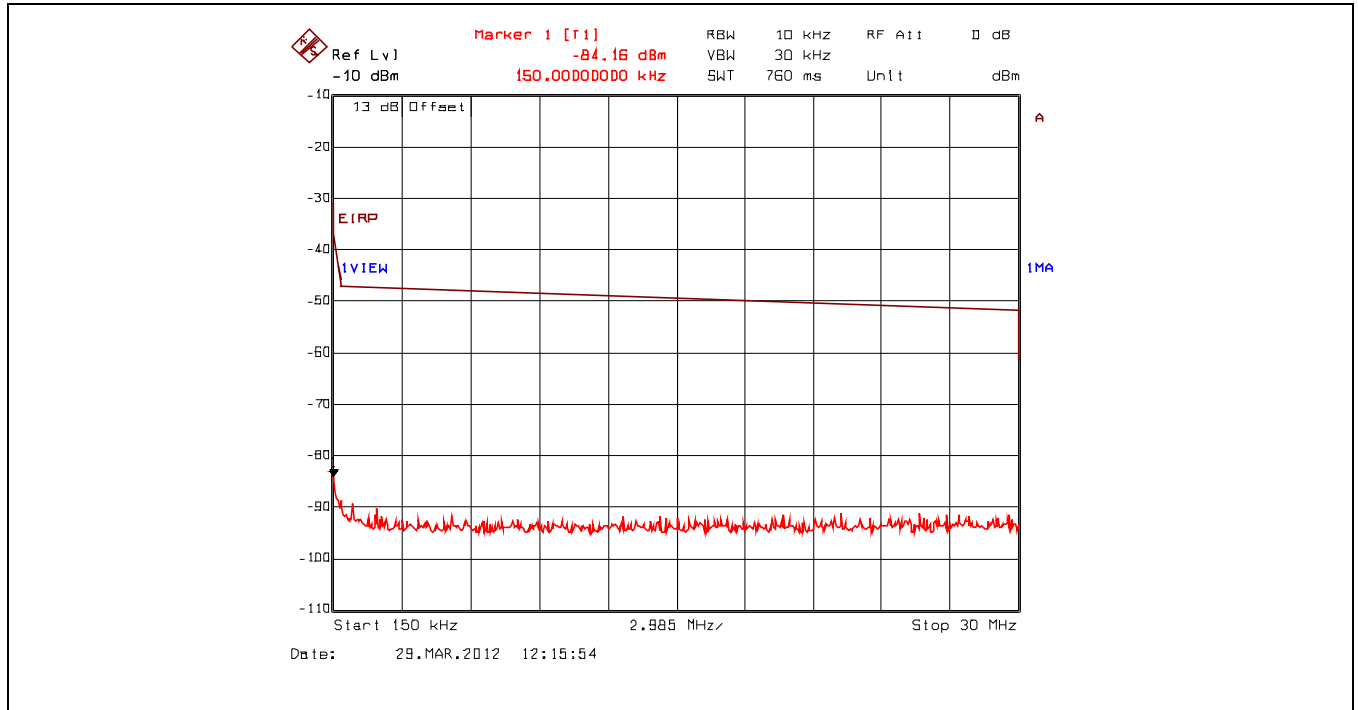
Plot 5.4.4.3.6. Conducted Spurious Emissions – Restricted Bands, 2405 MHz, Peak Power at 9.62 GHz



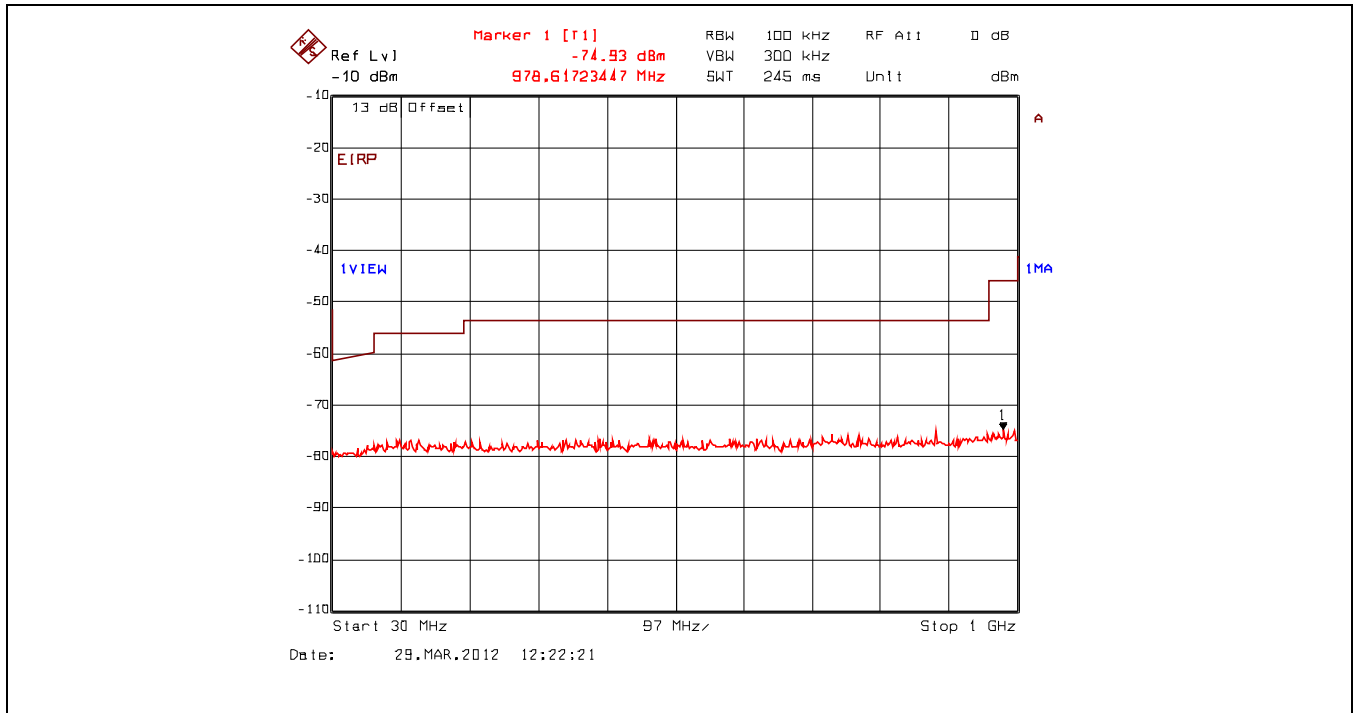
Plot 5.4.4.3.7. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, 9 kHz - 150 kHz, Peak Detector



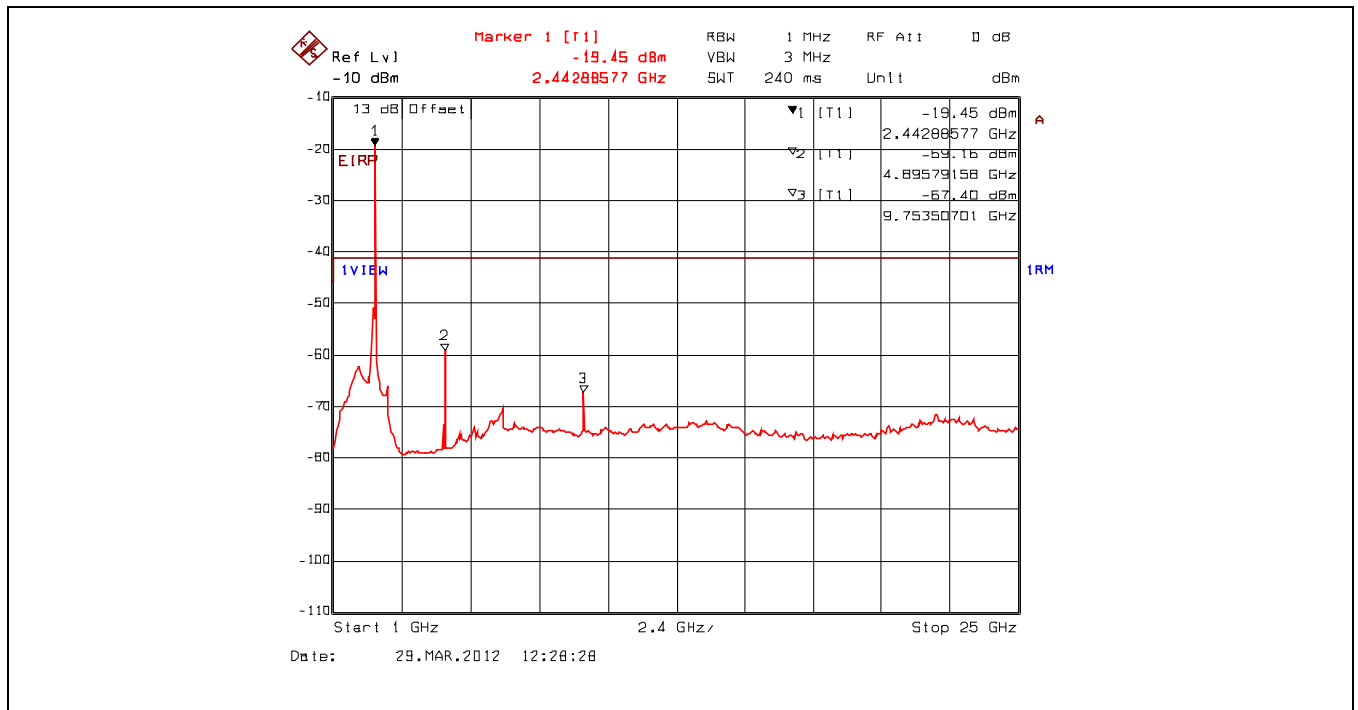
Plot 5.4.4.3.8. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, 150 kHz - 30 MHz, Peak Detector



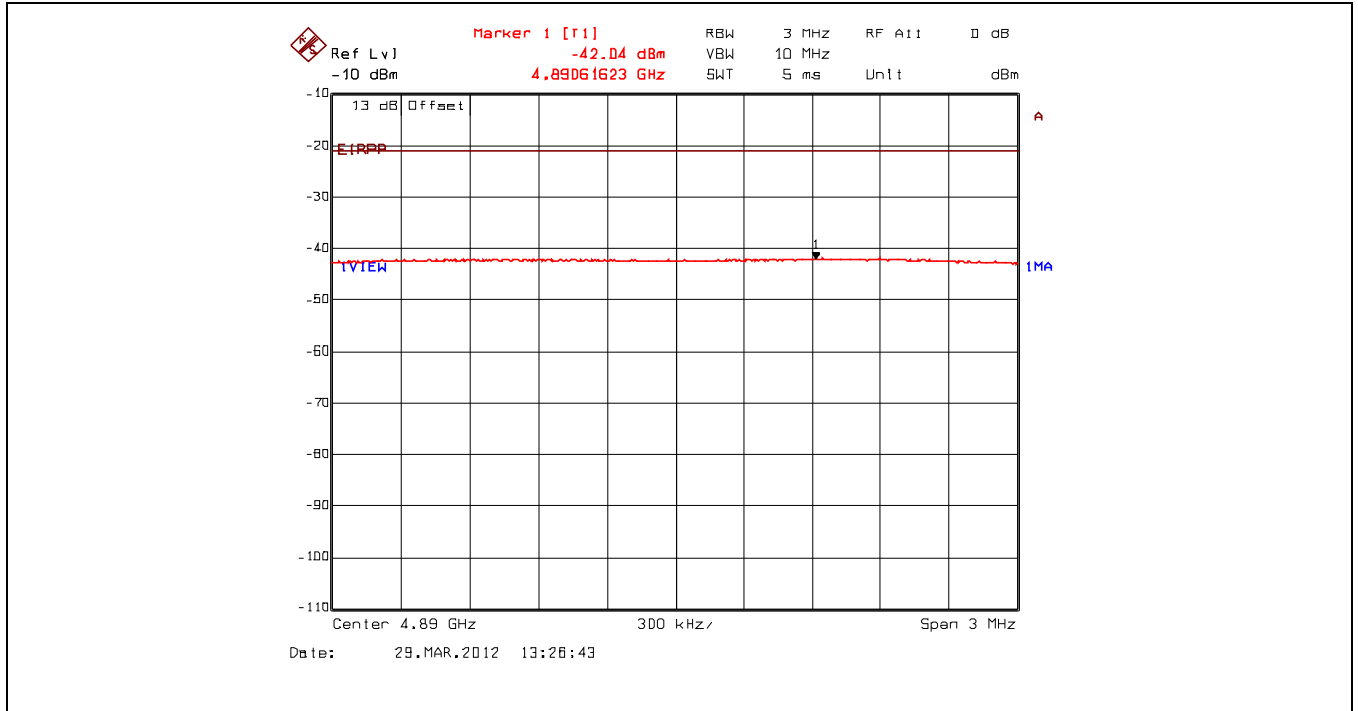
Plot 5.4.4.3.9. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, 30 MHz - 1 GHz, Peak Detector



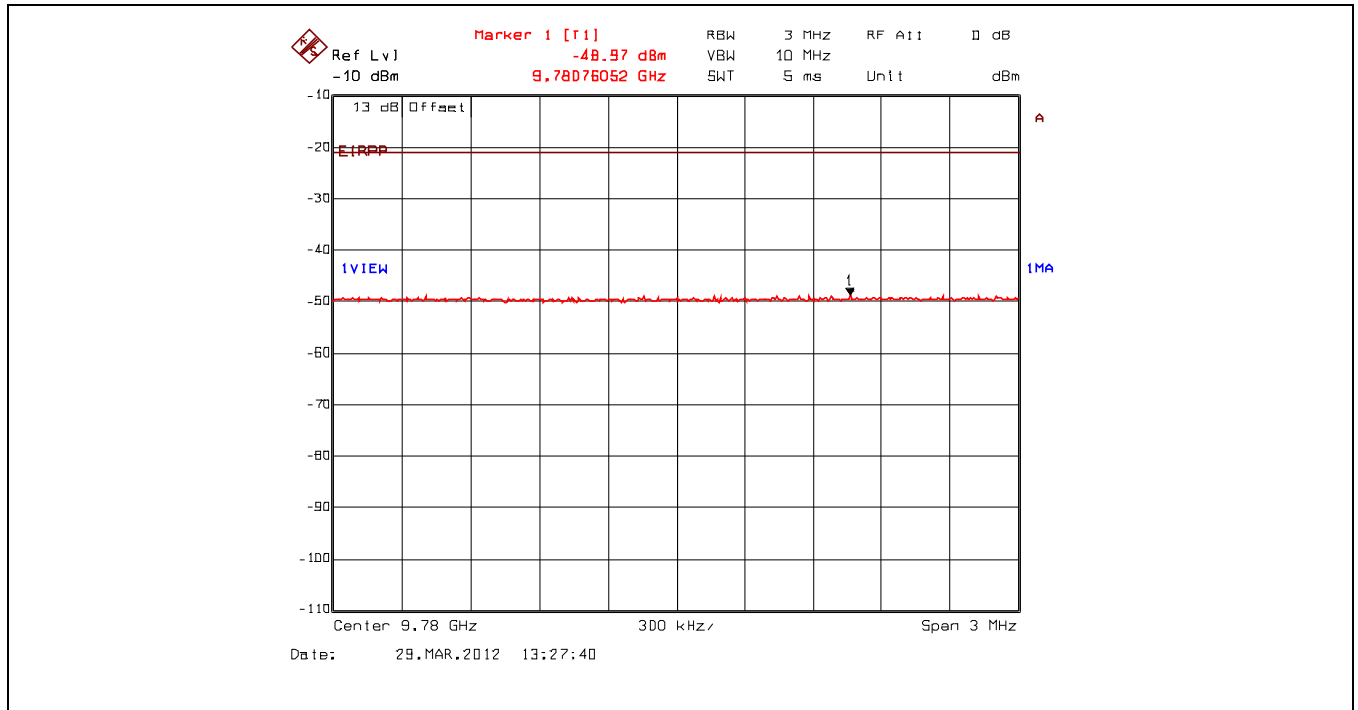
Plot 5.4.4.3.10. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, 1 GHz - 25 GHz, Power Average (RMS) Detector



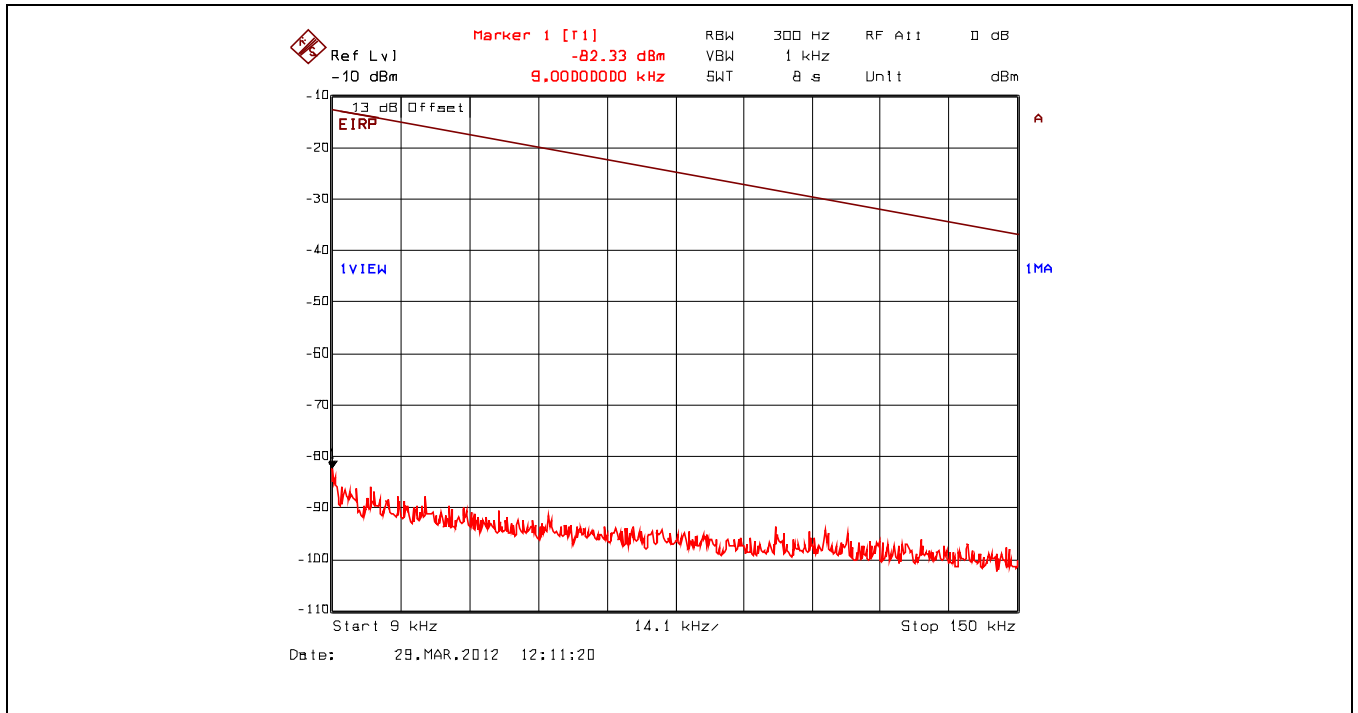
Plot 5.4.4.3.11. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, Peak Power at 4.89 GHz



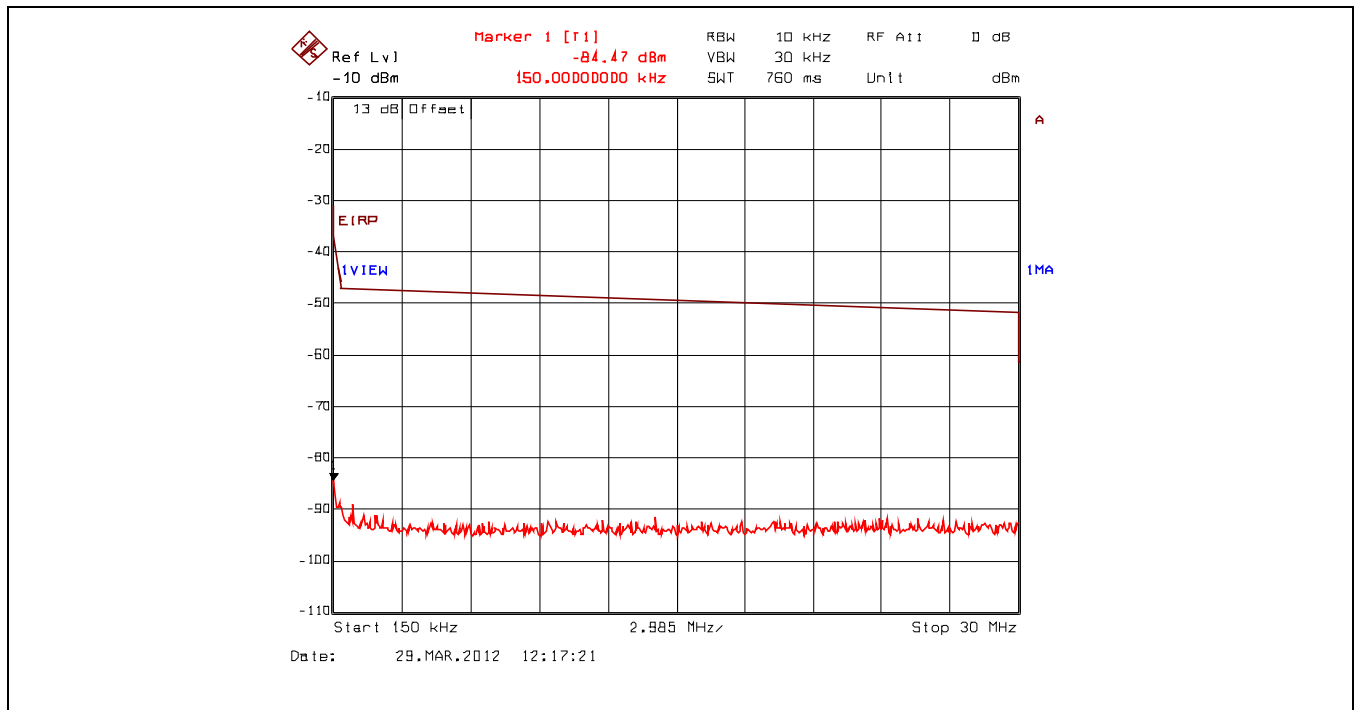
Plot 5.4.4.3.12. Conducted Spurious Emissions – Restricted Bands, 2445 MHz, Peak Power at 9.80 GHz



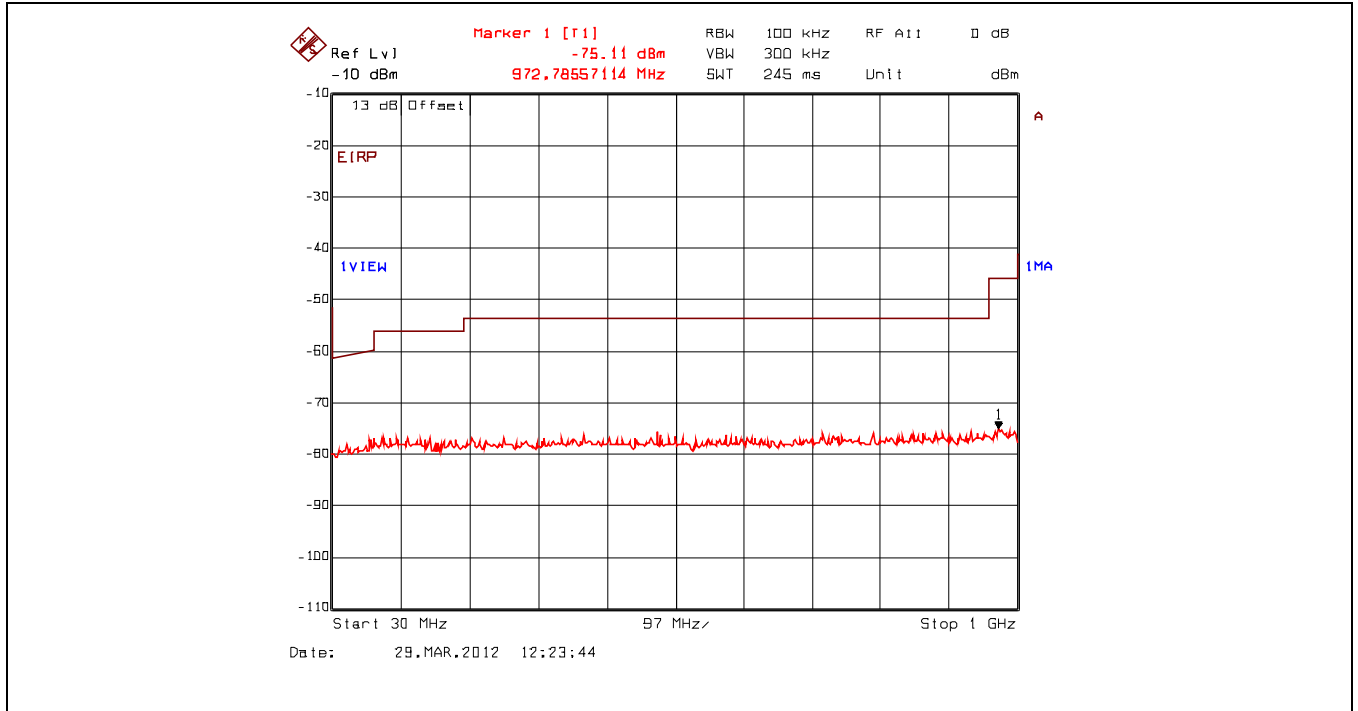
Plot 5.4.4.3.13. Conducted Spurious Emissions – Restricted Bands, 2480 MHz, 9 kHz - 150 kHz, Peak Detector



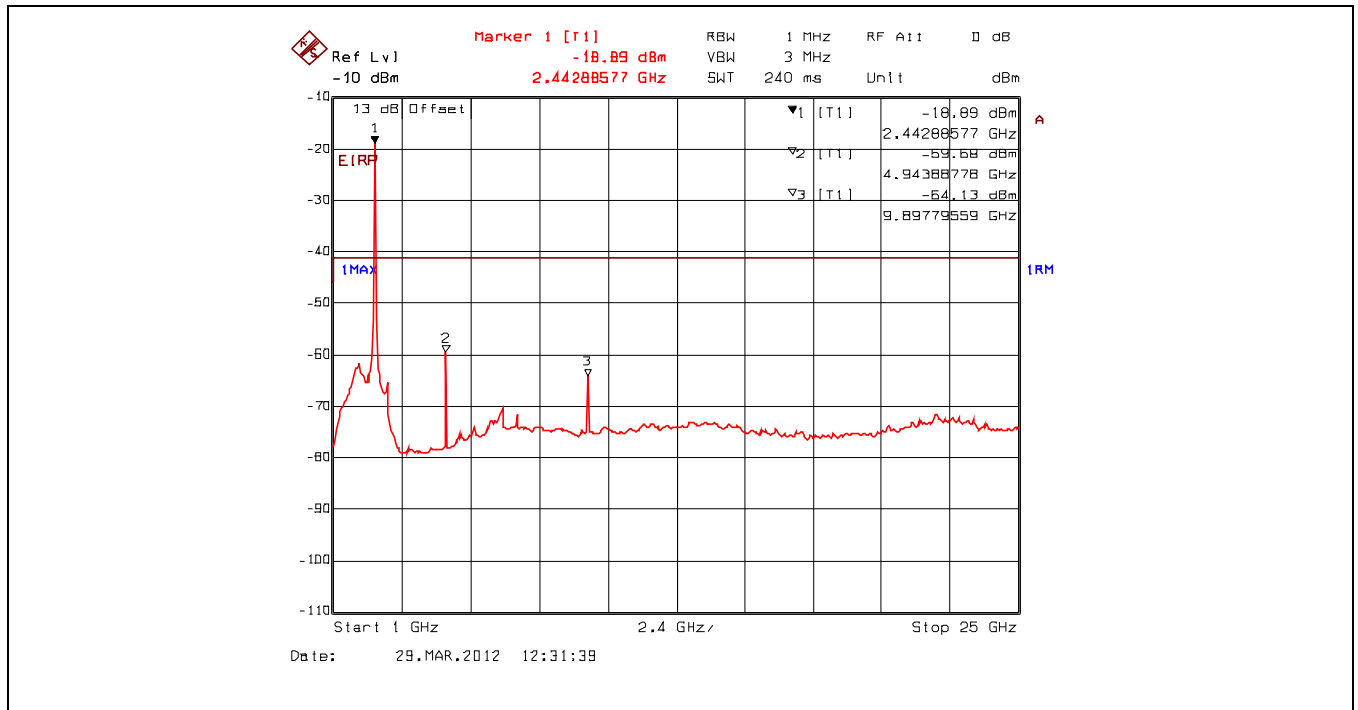
Plot 5.4.4.3.14. Conducted Spurious Emissions – Restricted Bands, 2480 MHz, 150 kHz - 30 MHz, Peak Detector



Plot 5.4.4.3.15. Conducted Spurious Emissions – Restricted Bands, 2480 MHz, 30 MHz - 1 GHz, Peak Detector



Plot 5.4.4.3.16. Conducted Spurious Emissions – Restricted Bands, 2480 MHz, 1 GHz - 25 GHz, Power Average (RMS) Detector



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

5.5.1. Limit(s)

§ 15.247 (d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Section 15.205(a) - Restricted Bands of Operation

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

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

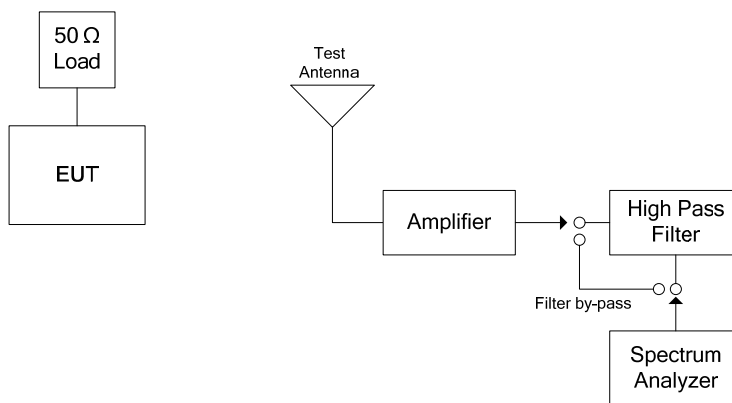
**Section 15.209(a)
 -- Field Strength Limits within Restricted Frequency Bands --**

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 - 0.490	2,400 / F (kHz)	300
0.490 - 1.705	24,000 / F (kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

5.5.2. Method of Measurements

KDB Publication No. 558074 D01: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.

5.5.3. Test Arrangement



5.5.4. Test Data

Remarks:

- 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.
- The following test results are the worst-case measurements.

Fundamental Frequency:		2405 MHz					
Test Frequency 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
2405	105.81	--	V	--	--	--	--
2405	108.83	--	H	--	--	--	--
4810	51.50	43.09	V	54.0	88.8	-10.9	Pass*
4810	53.62	43.27	H	54.0	88.8	-10.7	Pass*

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

Fundamental Frequency:		2445 MHz					
Test Frequency 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
2445	107.53	--	V	--	--	--	--
2445	108.95	--	H	--	--	--	--
4890	51.98	41.35	V	54.0	89.0	-12.65	Pass*
4890	53.91	43.23	H	54.0	89.0	-10.77	Pass*
7335	55.74	45.19	V	54.0	89.0	-8.81	Pass*
7335	56.43	44.50	H	54.0	89.0	-9.50	Pass*

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

Fundamental Frequency:		2480 MHz					
Test Frequency Range:		30 MHz – 25 GHz					
Frequency (MHz)	RF Peak Level (dBµV/m)	RF Avg Level (dBµV/m)	Antenna Plane (H/V)	Limit 15.209 (dBµV/m)	Limit 15.247 (dBµV/m)	Margin (dB)	Pass/Fail
2480	107.34	--	V	--	--	--	--
2480	107.93	--	H	--	--	--	--
4960	51.35	39.53	V	54.0	87.9	-14.5	Pass*
4960	52.45	44.11	H	54.0	87.9	-9.9	Pass*
7440	57.70	46.83	V	54.0	87.9	-7.2	Pass*
7440	57.03	46.42	H	54.0	87.9	-7.6	Pass*

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

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

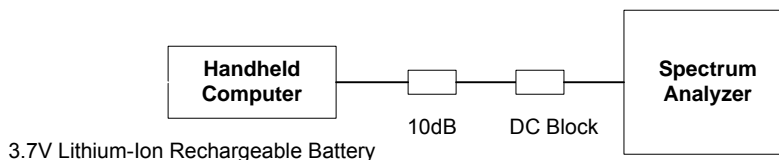
5.6.1. Limit(s)

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

5.6.2. Method of Measurements

KDB Publication No. 558074 D01 Section 5.3.1 Measurement Procedure PKPSD.

5.6.3. Test Arrangement

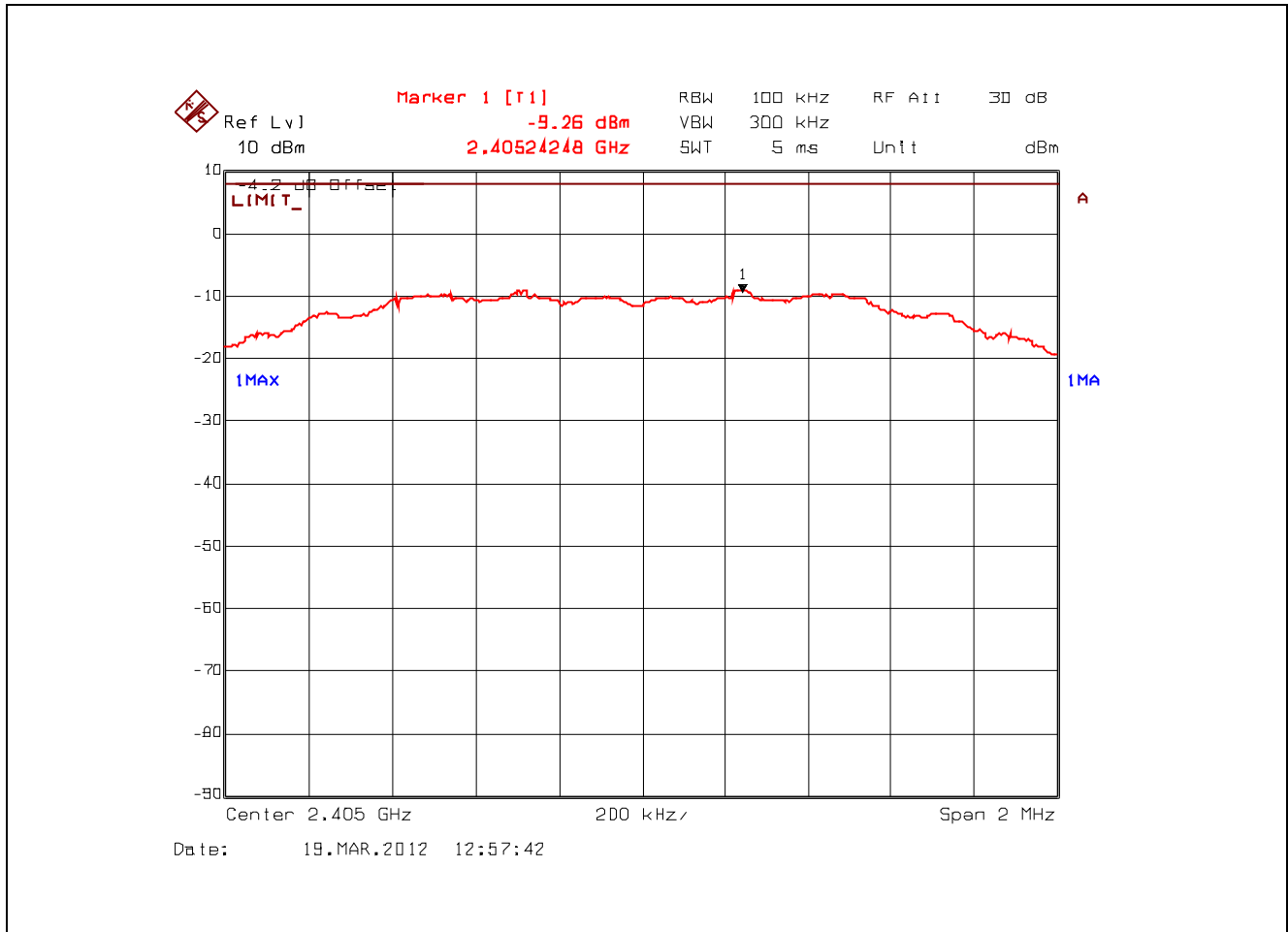


5.6.4. Test Data

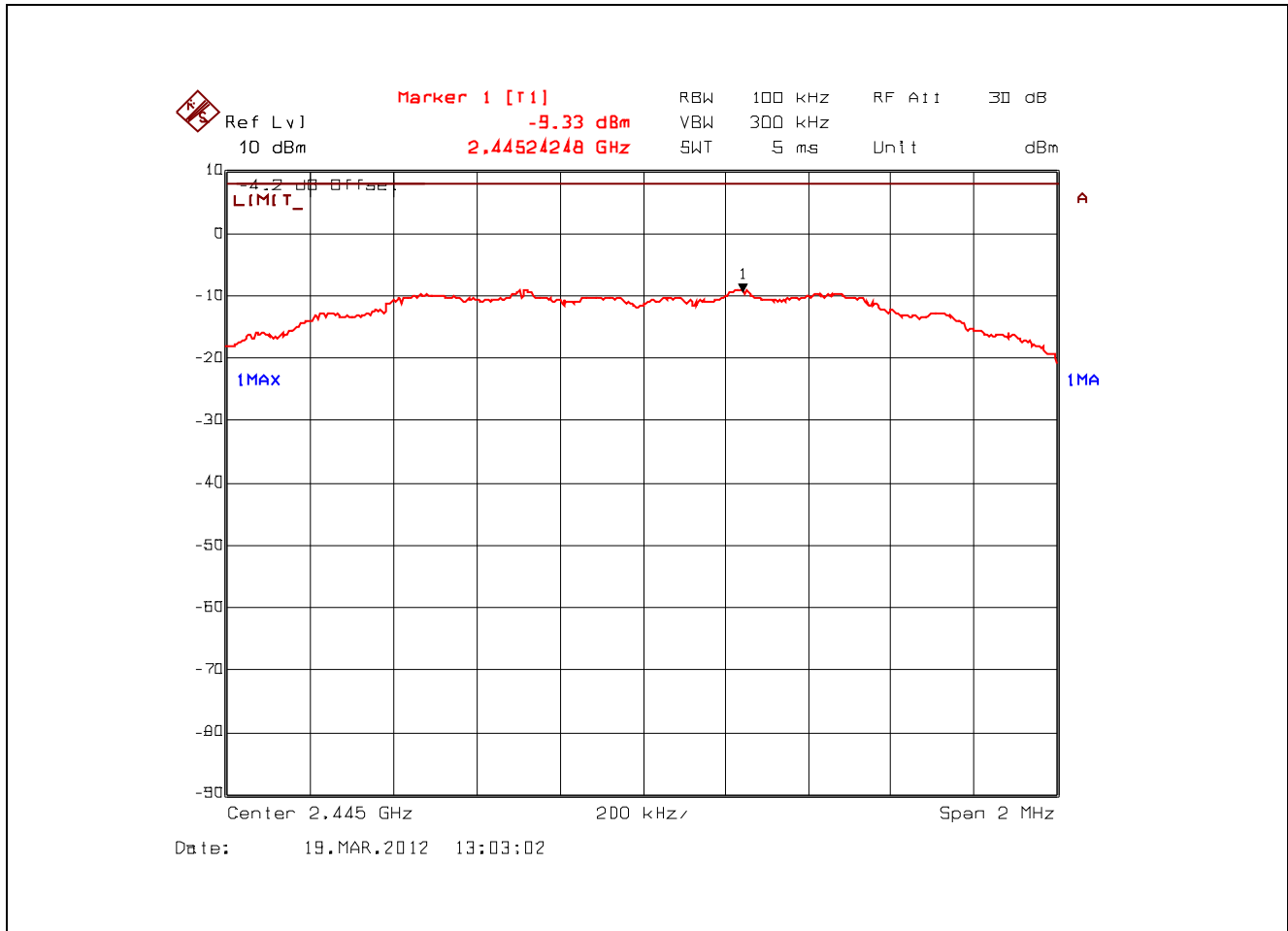
Remark(s): Measurement method: Section 5.3.1 Measurement Procedure PKPSD			
Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
2405	-9.26	8	-17.26
2445	-9.33	8	-17.33
2480	-9.32	8	-17.32

*See the following plots for measurement details.

Plot 5.6.4.1. Power Spectral Density, 2405 MHz
 Offset: Insertion Loss + BWCF = 11.02 dB + 10*log(3 kHz/ 100 kHz) = -4.2 dB



Plot 5.6.4.2. Power Spectral Density, 2445 MHz
Offset: Insertion Loss + BWCF = 11.02 dB + 10*log(3 kHz / 100 kHz) = -4.2 dB



Plot 5.6.4.3. Power Spectral Density, 2480 MHz
Offset: Insertion Loss + BWCF = 11.02 dB + 10*log(3 kHz / 100 kHz) = -4.2 dB

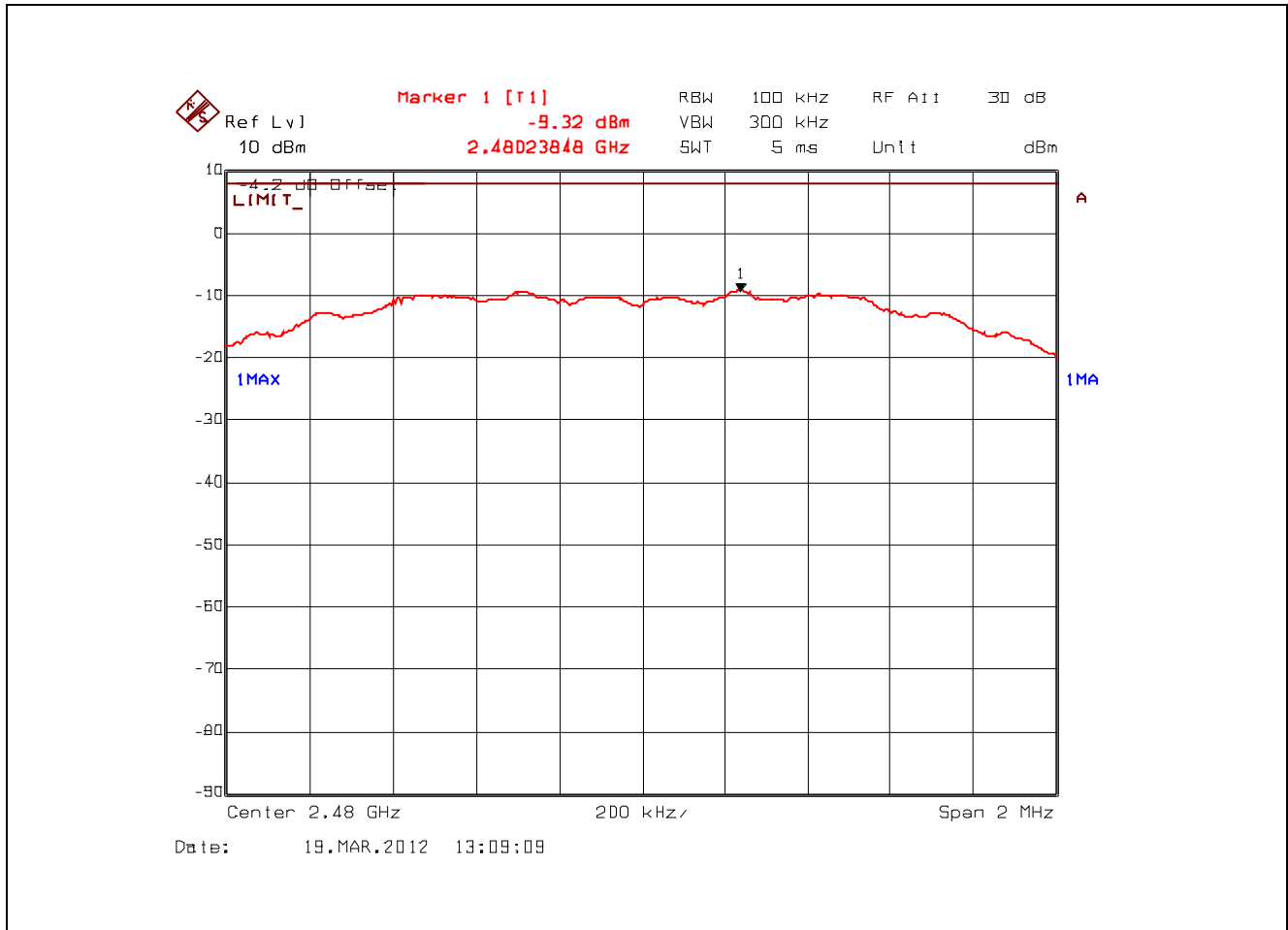


EXHIBIT 6. TEST EQUIPMENT LIST

Test Instruments	Manufacturer	Model No.	Serial No.	Frequency Range	Cal. Due Date
Spectrum Analyzer	Hewlett Packard	HP 8593EM	3412A00103	9 kHz – 26.5 GHz	30 Jan 2013
LISN	ULT AC LISN	--	ULT-01;-02;-03;-04	10 kHz – 30 MHz	21 Feb 2013
Attenuator	Pasternack	PE7010-20	-	DC – 2 GHz	9 Jan 2013
Band Pass Filter	Telemeter Electronics	MTA-HPF-150	2110465-007	-	17 Aug 2013
Spectrum Analyzer	Rohde & Schwarz	FSEK30	100077	20Hz–40 GHz	27 Sep 2012
Attenuator	Pasternack	PE7024-10	-	DC–26.5 GHz	Cal on use
DC Block	Hewlett Packard	11742A	12460	0.045–26.5 GHz	Cal on use
Attenuator	Pasternack	PE7024-10	-	DC–26.5 GHz	Cal on use
High Pass Filter	K & L	11SH10-4000/T12000	4	Cut off 2400 MHz	Cal on use
Spectrum Analyzer	Rohde & Schwarz	ESU40	100037	20 Hz – 40 GHz	19 Mar 2013
RF Amplifier	Hewlett Packard	84498	3008A00769	1 – 26.5 GHz	1 Dec 2012
RF Amplifier	AH System	PAM-0118	225	20 MHz – 18 GHz	16 Mar 2013
High Pass Filter	K & L	11SH10-4000/T12000	4	Cut off 2400 MHz	Cal on use
Horn Antenna	EMCO	3155	5955	1 – 18 GHz	20 Feb 2013
Biconi-Log Antenna	EMCO	3142C	00034792	26 – 3000 MHz	26 April 2012
Horn Antenna	EMCO	3160-09	118385	18 – 26.5 GHz	30 May 2012

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 #: TEK-678F15C247
 April 10, 2012

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 (150 kHz – 30 MHz):	Measured	Limit
u_c	Combined standard uncertainty: $u_c(y) = \sqrt{\sum_{i=1}^m u_i^2(y)}$	± 1.57	± 1.8
U	Expanded uncertainty U: $U = 2u_c(y)$	± 3.14	± 3.6

7.2. RADIATED EMISSION MEASUREMENT UNCERTAINTY

	Radiated Emission Measurement Uncertainty @ 3m, Horizontal (30-1000 MHz):	Measured	Limit
u_c	Combined standard uncertainty: $u_c(y) = \sqrt{\sum_{i=1}^m u_i^2(y)}$	± 2.15	± 2.6
U	Expanded uncertainty U: $U = 2u_c(y)$	± 4.30	± 5.2

	Radiated Emission Measurement Uncertainty @ 3m, Vertical (30-1000 MHz):	Measured	Limit
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	Limit
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