

# Electromagnetic Compatibility Test Report

*Prepared in accordance with*

**CFR 47 Part 15C and RSS-210, Issue 8**

Tested using the procedures of ANSI C63.10-2013 and C63.10:2009

On

## WiFi Transmitter DRX Plus Detector Radio

Prepared for:

Carestream Health Inc.





150 Verona St

Rochester NY, 14608

Prepared by:

**TUV Rheinland of North America, Inc.**

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

<b>Auftraggeber:</b> <i>Client:</i>		Carestream Health Inc. 150 Verona St Rochester NY, 14608	Ronald Cain 585-627-8321 / 585-477-2718 ronald.cain@carestreamhealth.com
<b>Bezeichnung:</b> <i>Identification:</i>	WiFi Transmitter	<b>Serien-Nr.:</b> <i>Serial No.</i>	13A32S1011361
<b>Gegenstand der Prüfung:</b> <i>Test item:</i>	DRX Plus Detector Radio	<b>Prüfdatum:</b> <i>Date tested:</i>	03/5/2015
<b>Prüfort:</b> <i>Testing location:</i>	TUV Rheinland of North America 710 Resende Road Webster, NY 14580 U.S.A. Tel: (585) 645-0125		
<b>Prüfgrundlage:</b> <i>Test specification:</i>	Emissions: FCC Part 15.407 Subpart E FCC Part 15.209(a) FCC part 15.407(a)(1), FCC Part 15.407(a)(5) RSS-210 Issue 7, FCC Part 15.407(a)(6), FCC Part 15.407(b)(8), FCC Part 15.205, FCC Part 15.407(c), FCC Part 15.407(g), FCC Part 15.203, RSS-210		
<b>Test Result</b>	<b>The above product was found to be Compliant to the above test standard(s)</b>		
<b>geprüft / tested by:</b> Randall Masline		<b>reviewed by:</b> Cecil Gittens	
15 May 2015 <b>Datum</b> <i>Date</i>		15 May 2015 <b>Date</b>	
<b>Name</b> <i>Name</i>		<b>Name</b> <i>Name</i>	
<b>Unterschrift</b> <i>Signature</i>		<b>Signature</b> <i>Signature</i>	
			
US5253	Testing Cert.# 3331.08	Industry Canada	VCCI
		482B-1	A-0203
			SL2-IN-E-050R

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## Manufacturer's statement - attestation

The manufacturer; Carestream Health Inc., as the responsible party for the equipment tested, hereby affirms:

- a) That he has reviewed and concurs that the test shown in this report are reflective of the operational characteristics of the device for which certification is sought;
- b) That the device in this test report will be representative of production units;
- c) That all changes (in hardware and software/firmware) to the subject device will be reviewed.
- d) That any changes impacting the attributes, functionality or operational characteristics documented in this report will be communicated to the body responsible for approving (certifying) the subject equipment.

**Ronald Cain**

Printed name of official

Signature of official

1049 W. Ridge Road  
Rochester, NY 14615

Address

3/5/2015

Date

585-627-8321

Telephone number

Ronald.cain@carestream.com

Email address of official

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## TABLE OF CONTENTS

<b>1</b>	<b>GENERAL INFORMATION .....</b>	<b>5</b>
1.1	SCOPE .....	5
1.2	PURPOSE .....	5
1.3	SUMMARY OF TEST RESULTS .....	6
<b>2</b>	<b>LABORATORY INFORMATION .....</b>	<b>7</b>
2.1	ACCREDITATIONS & ENDORSEMENTS .....	7
2.2	MEASUREMENT UNCERTAINTY .....	8
2.3	CALIBRATION TRACEABILITY .....	8
2.4	MEASUREMENT EQUIPMENT USED .....	9
<b>3</b>	<b>PRODUCT INFORMATION .....</b>	<b>10</b>
3.1	PRODUCT DESCRIPTION .....	10
3.2	EQUIPMENT MODIFICATIONS .....	10
3.3	TEST PLAN .....	11
<b>4</b>	<b>EMISSIONS.....</b>	<b>12</b>
4.1	RADIATED EMISSIONS .....	12
4.2	CONDUCTED EMISSIONS .....	19
4.3	CONDUCTED OUTPUT POWER LIMITS .....	19
4.4	PEAK POWER SPECTRAL DENSITY .....	23
4.5	PEAK POWER EXCURSION .....	23
4.6	BAND EDGE .....	65
4.7	-26 DB BANDWIDTH .....	69
4.8	ANTENNA REQUIREMENTS .....	80
4.9	99% BANDWIDTH .....	81
	<b>APPENDIX A .....</b>	<b>84</b>
<b>5</b>	<b>TEST PLAN.....</b>	<b>84</b>
5.1	GENERAL INFORMATION .....	84
5.2	MODEL(S) NAME .....	84
5.3	TYPE OF PRODUCT .....	84
5.4	EUT ELECTRICAL POWERED INFORMATION .....	85
5.5	ELECTRICAL SUPPORT EQUIPMENT .....	85
5.6	EUT TEST PROGRAM.....	85

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 1 General Information

### 1.1 Scope

This report is intended to document the status of conformance with the requirements of the CFR 47 Part 15C and RSS-210, Issue 8, based on the results of testing performed on 03/5/2015 on the WiFi Transmitter, Model No. DRX Plus Detector Radio, manufactured by Carestream Health Inc.. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

### 1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT (Equipment Under Test) in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

### 1.3 Summary of Test Results

<b>Applicant</b>	Carestream Health Inc. 150 Verona St Rochester NY, 14608	<b>Tel</b>	585-627-8321	<b>Contact</b>	Ronald Cain
		<b>Fax</b>	585-477-2718	<b>e-mail</b>	ronald.cain@carestreamhealth.com
<b>Description</b>	WiFi Transmitter	<b>Model Number</b>	DRX Plus Detector Radio		
<b>Serial Number</b>	13A32S1011361	<b>Test Voltage/Freq.</b>	Battery 12VDC		
<b>Test Date Completed:</b>	03/5/2015	<b>Test Engineer</b>	Randall Masline		
<b>Standards</b>	<b>Description</b>	<b>Severity Level or Limit</b>		<b>Measurement</b>	<b>Test Result</b>
RSS-210 Issue 7	Industry Canada - Low-power License-exempt Radiocommunication Devices	See called out basic standards below		See Below	Complies
FCC Part 15.407 Subpart E	Unlicensed National Information Infrastructure Devices	See called out basic standards below		See Below	Complies
FCC Part 15.209(a)	Radiated Emissions	Class B, 30 - 1000 MHz			Complies
FCC Part 15.207(c)	Conducted Emissions	Class B, 0.15 - 30 MHz		Not Required Battery Powered	Complies
FCC Part 15.407(a) (1)	Conducted Output Power	50 mw Maximum			Complies
FCC part 15.407(a)(1)	-26 dB Bandwidth				Complies
FCC Part 15.407(a)(5)	Peak Power Spectral Density				Complies
FCC Part 15.407(a)(6)	Peak Power Excursion				Complies
FCC Part 15.407(b)(8)	Band Edge				Complies
FCC Part 15.205	Restricted Bands				Complies
FCC Part 15.407(c)	Discontinuance Of Transmission				Complies
FCC Part 15.407(g)	Frequency Stability				Complies
FCC Part 15.203	Antenna Requirements				Complies
RSS-210	99% Bandwidth				Complies

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 2 Laboratory Information

### 2.1 Accreditations & Endorsements

#### 2.1.1 US Federal Communications Commission

TUV Rheinland of North America located at, 710 Resende Road, Building 199, Webster, NY 14580 is accredited by the commission for performing testing services for the general public on a fee basis. This laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (Registration No 90575). The laboratory scope of accreditation includes: Title 47 CFR Part 15, and 18. The accreditation is updated every 3 years.

#### 2.1.2 ILAC/A2LA

This is a program which is administered under the auspices of A2LA. The laboratory has been assessed and accredited in accordance with ISO Standard 17025:2005 (Certificate Number: 3331.08). The scope of laboratory accreditation includes emission and immunity testing. The accreditation is updated annually.

#### 2.1.3 VCCI

VCCI Accredited test lab. Registration numbers A-0203

#### 2.1.4 Industry Canada

(Registration No.: 482B-1) The 10M SEMI-ANECHOIC CHAMBER has been accepted by Industry Canada to perform testing to 3 and to 10m, based on the test procedures described in ANSI C63.4-2009.

#### 2.1.5 BSMI

Registration No.: SL2-IN-E-050R. The BSMI accreditation was obtained by NIST MRA with the BSMI.

#### 2.1.6 Korea

Recognized by Radio Research Agency as an accredited Conformity Assessment Body (CAB) under the terms of Phase I of the APEC TEL.

## 2.2 Measurement Uncertainty

### General

<input type="checkbox"/>	The estimated combined standard uncertainty for ESD immunity measurements is $\pm 0.43\%$ .
<input type="checkbox"/>	The estimated combined standard uncertainty for radiated immunity measurements is $\pm 2.0\text{dB}$ .
<input type="checkbox"/>	The estimated combined standard uncertainty for EFT fast transient immunity measurements is $\pm 6.0\%$ .
<input type="checkbox"/>	The estimated combined standard uncertainty for surge immunity measurements is $\pm 5.0\%$ .
<input type="checkbox"/>	The estimated combined standard uncertainty for conducted immunity measurements is $\pm 2.0$ dB.
<input type="checkbox"/>	The estimated combined standard uncertainty for power frequency magnetic field immunity measurements is $\pm 2.57\%$ .
<input type="checkbox"/>	The estimated combined standard uncertainty for voltage variation and interruption measurements is $\pm 4.89\%$ .
<input checked="" type="checkbox"/>	The estimated combined standard uncertainty for radiated emissions measurements is $\pm 4.6$ dB.
<input type="checkbox"/>	The estimated combined standard uncertainty for conducted emissions measurements is $\pm 2.6$ dB.
<input type="checkbox"/>	The estimated combined standard uncertainty for harmonic current $\pm 7.27\%$ and flicker measurements is $\pm 3.87\%$ .

## 2.3 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2005. Equipment calibration records are kept on file at the test facility.



## 2.4 Measurement Equipment Used

Equipment	Manufacturer	Model #	Ref.	Serial #	Last Cal dd/mm/yy	Next Cal dd/mm/yy	Test
Radiated Emissions							
Analyzer w RF Filter Section 85460A	HP	8546A		3325A00134	12-Aug-14	12-Aug-15	RE
Multimeter	Fluke	83	C437	48162892	12-Aug-14	12-Aug-15	RE
BiLog	Chase	CBL6111	C017	1169	22 Aug 13	22 Aug 15	RE
Receiver (20Hz-40GHz)	Rohde & Schwarz	ESI(B) 40		100274	15-Aug-14	15-Aug-15	RE
Horn (1-18 GHz)	ETS	3117			16-Jan-14	16-Jan-16	RE
Horn( 18-26.5 GHz)	ETS	3117			3-Jan-14	3-Jan-15	RE

Note: CE = Conducted Emissions, CI= Conducted Immunity, DP=Disturbance Power, EFT=Electrical Fast Transients, ESD = Electrostatic Discharge, FLI=Flicker, HAR=Harmonics, MF=Magnetic Field Immunity, RE=Radiated Emissions, RI=Radiated Immunity, SI=Surge Immunity, VDSI=Voltage Dips and Short Interruptions

### 3 Product Information

#### 3.1 Product Description

WiFi operating in the UNII Bands of FCC Part 15.407

#### Operating in 5150MHz ~ 5350MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz

#### Operating in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
100	5500 MHz
104	5520 MHz
108	5540 MHz
112	5560 MHz
116	5580 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

#### 3.2 Equipment Modifications

No modifications were needed to bring product into compliance.

### 3.3 Test Plan

The EUT product information, test configuration, mode of operation, test types, test procedures, test levels, pass/failure criteria, in this report were carried out per the product test plan located in appendix A of this report.

## 4 Emissions

### 4.1 Radiated Emissions

This test measures the electromagnetic levels of spurious signals generated by the EUT that radiated from the EUT and may affect the performance of other nearby electronic equipment.

#### 4.1.1 Over View of Test

<b>Results</b>	<b>Complies</b> (as tested per this report)				<b>Date</b>	
<b>Standard</b>	FCC Part 15.209(a)					
<b>Product Model</b>	DRX Plus Detector Radio	<b>Serial#</b>	13A32S1011361			
<b>Configuration</b>	See test plan for details					
<b>Test Set-up</b>	Tested on 10m O.A.T.S. placed on turn-table, see test plans for details					
<b>EUT Powered By</b>	Battery 12VDC	<b>Temp</b>	24°C	<b>Humidity</b>	54%	<b>Pressure</b> 1013mbar
<b>Frequency Range</b>	30 - 1000 MHz @ 10m					
<b>Criteria</b>	Class B. (Below Limit)		<b>Perf. Verification</b>	Readings Under Limit		
<b>Mod. to EUT</b>	None		<b>Test Performed By</b>	Randall Masline		

#### 4.1.2 Test Procedure(s)

Radiated and FCC emissions tests were performed using the procedures of ANSI C63.4 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration.

The frequency range from 30 - 1000 MHz was investigated for radiated emissions.

Radiated emission testing was first performed at a distance of 3 meters in the semi-anechoic chamber in order to identify the specific frequencies for which these measurements will be made on the 10M SEMI-ANECHOIC CHAMBER.

In accordance with FCC Public Notice DA 02-2138 Measurement Procedure updated for Peak Transmit Power in the Unlicensed National Information Infrastructure (U-NII) Bands.

The transmitter was transmitting continuously at maximum power for all tests. Therefore; method 2 was used to measure peak power..

#### 4.1.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated emission test.

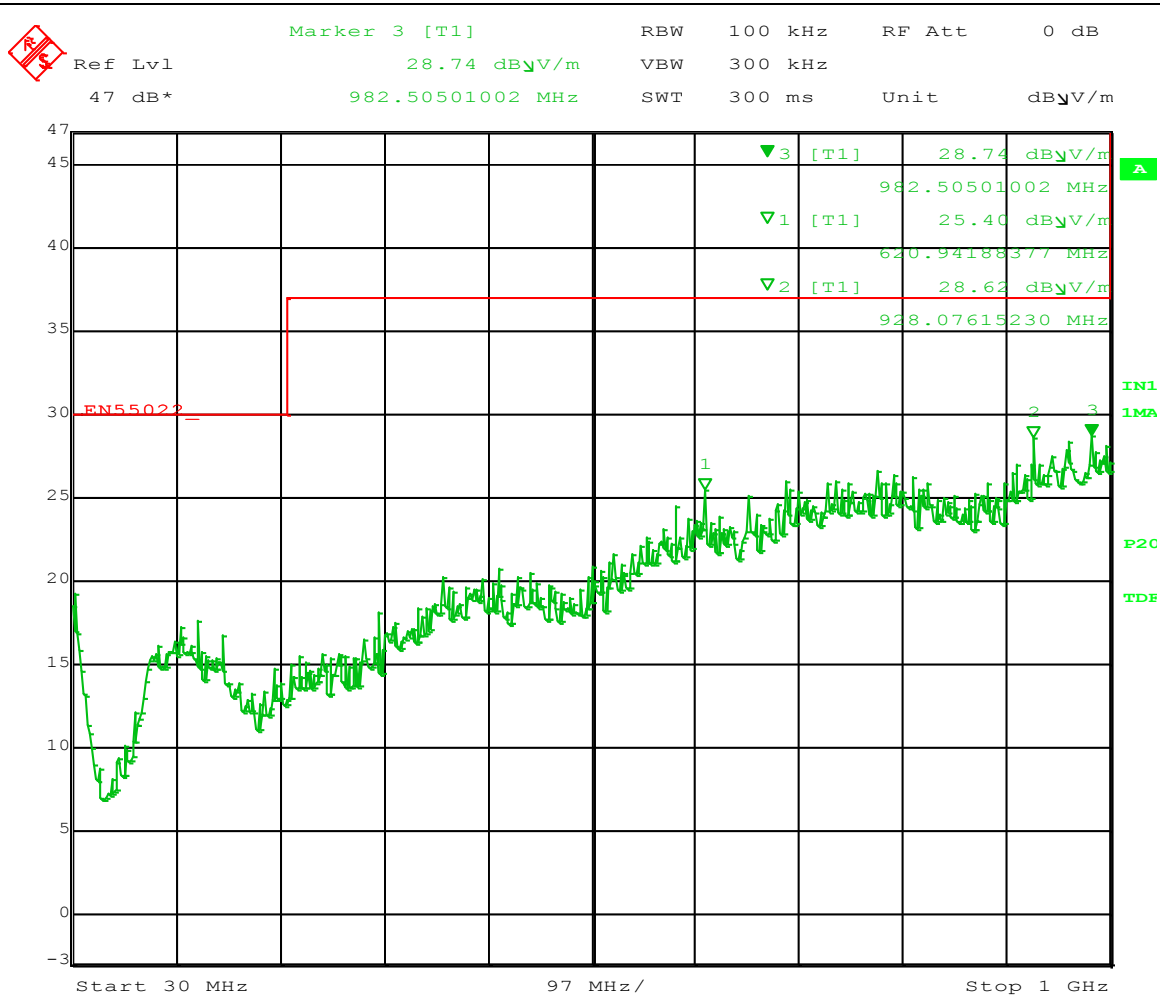
#### 4.1.4 Final Test

All final radiated emissions measurements were below (in compliance) the limits.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

4.1.5 Final Data

**Worst-Case Radiated Emissions 30MHz to 1000MHz**  
**Horizontal**



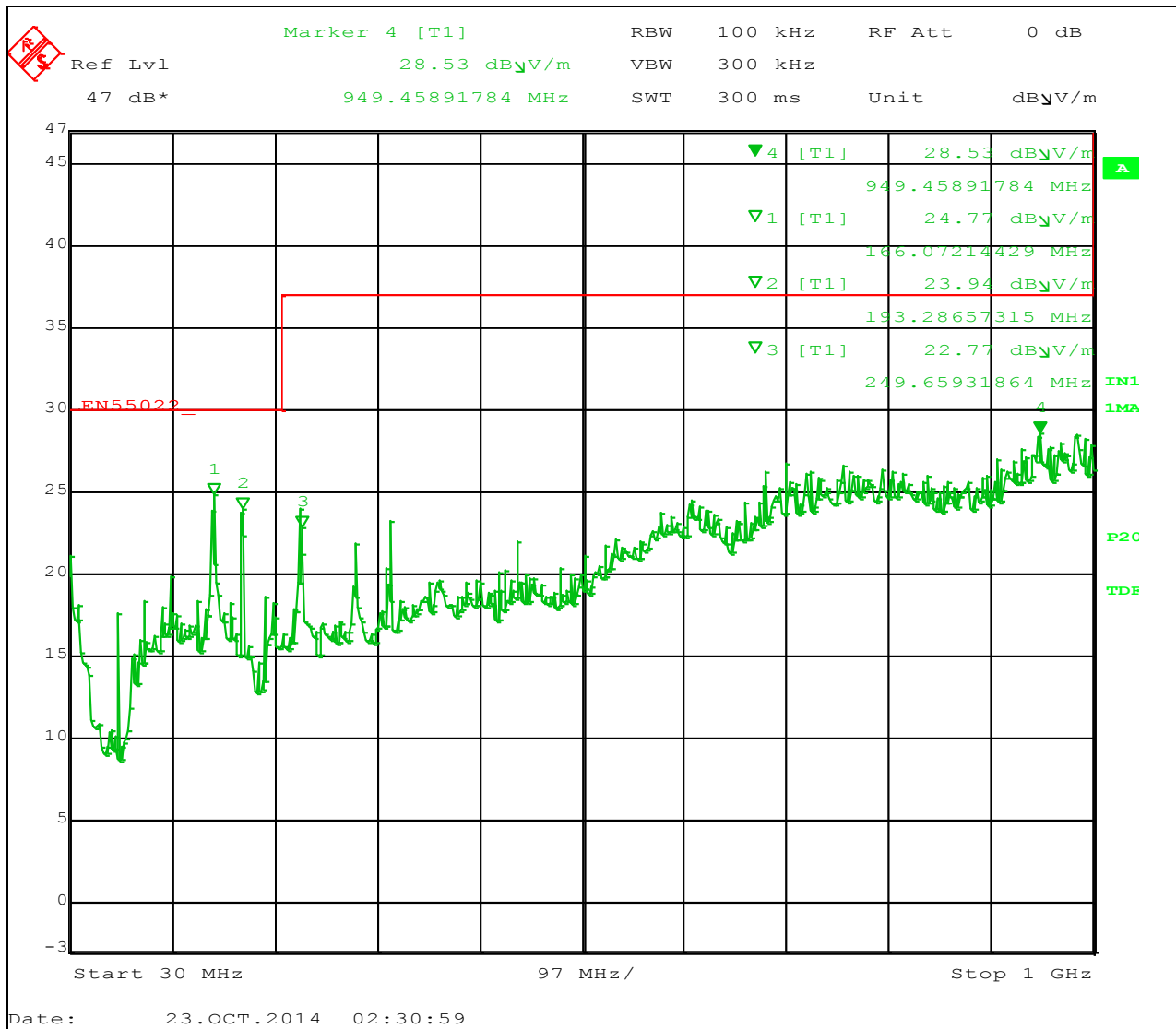
Date: 23.OCT.2014 02:32:04

Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Limit (dBuV)	Result
620.94	25.40	23.41	37	Complies
928.076	28.076	26.58	37	Complies
982.505	28.74	26.13	37	Complies

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**Worst-Case Radiated Emissions 30MHz to 1000MHz**

Vertical

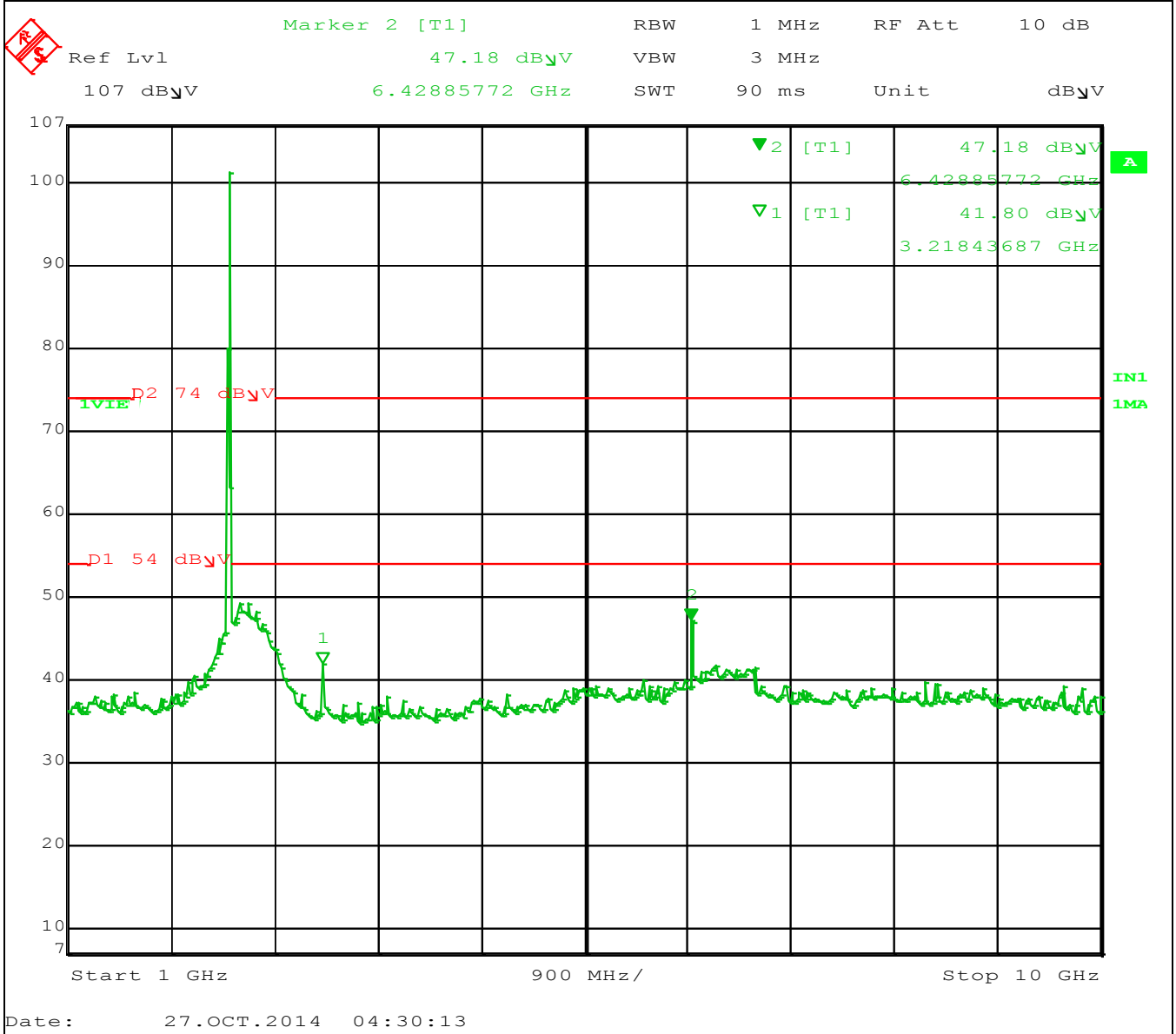


Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Limit (dBuV)	Result
166.072	24.77	22.35	30	Complies
193.286	23.94	21.56	30	Complies
149.659	22.77	20.84	37	Complies
949.458	28.53	26.3	37	Complies

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**Worst-Case Radiated Emissions 1GHz to 10GHz**

Horizontal

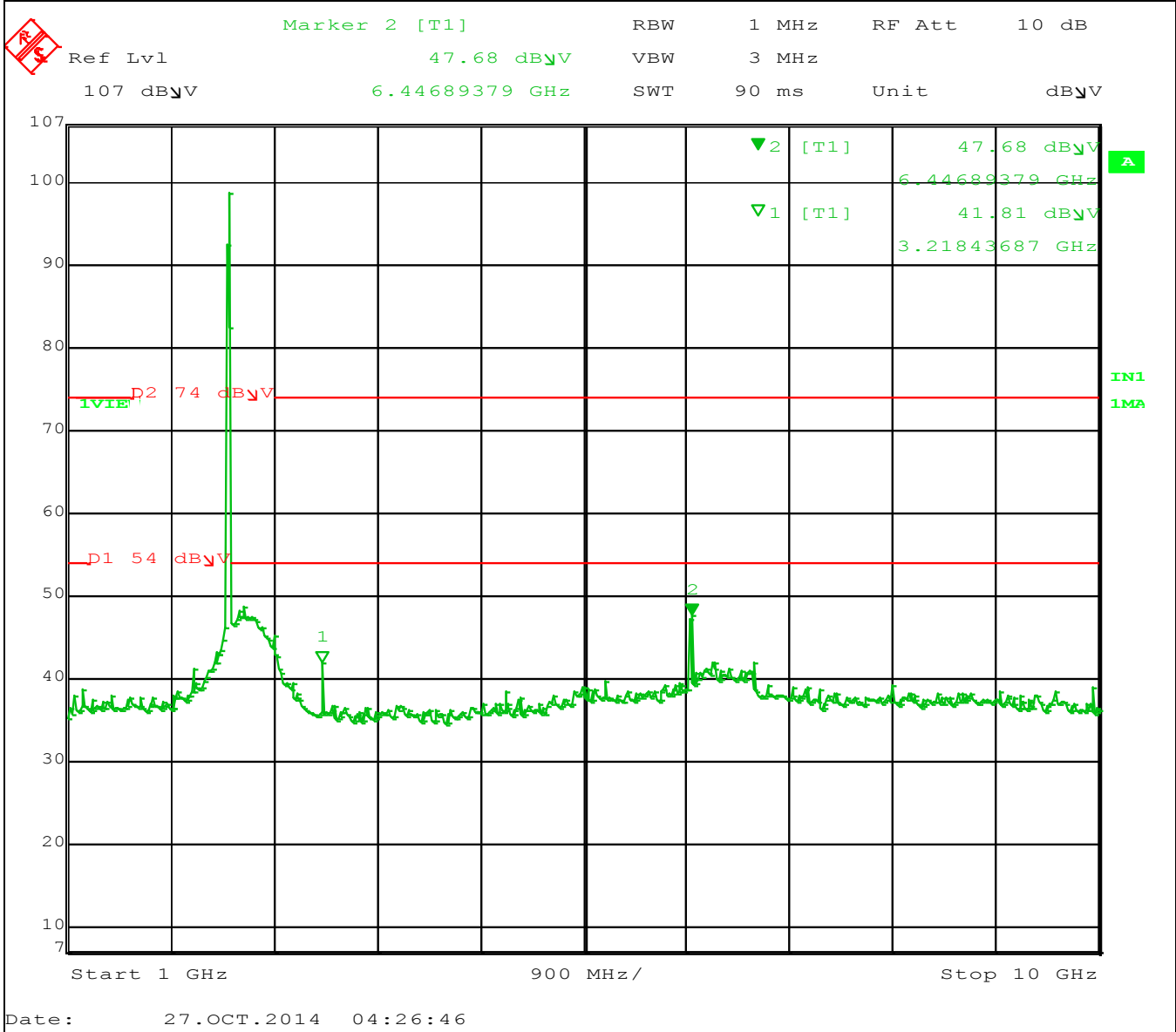


Frequency (MHz)	Peak (dBuV)	AV (dBuV)	AV Limit (dBuV)	Result
3.21	41.8	40.25	54	Complies
6.42	47.18	45.65	54	Complies

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**Worst-Case Radiated Emissions 1GHz to 10GHz**

**Vertical**



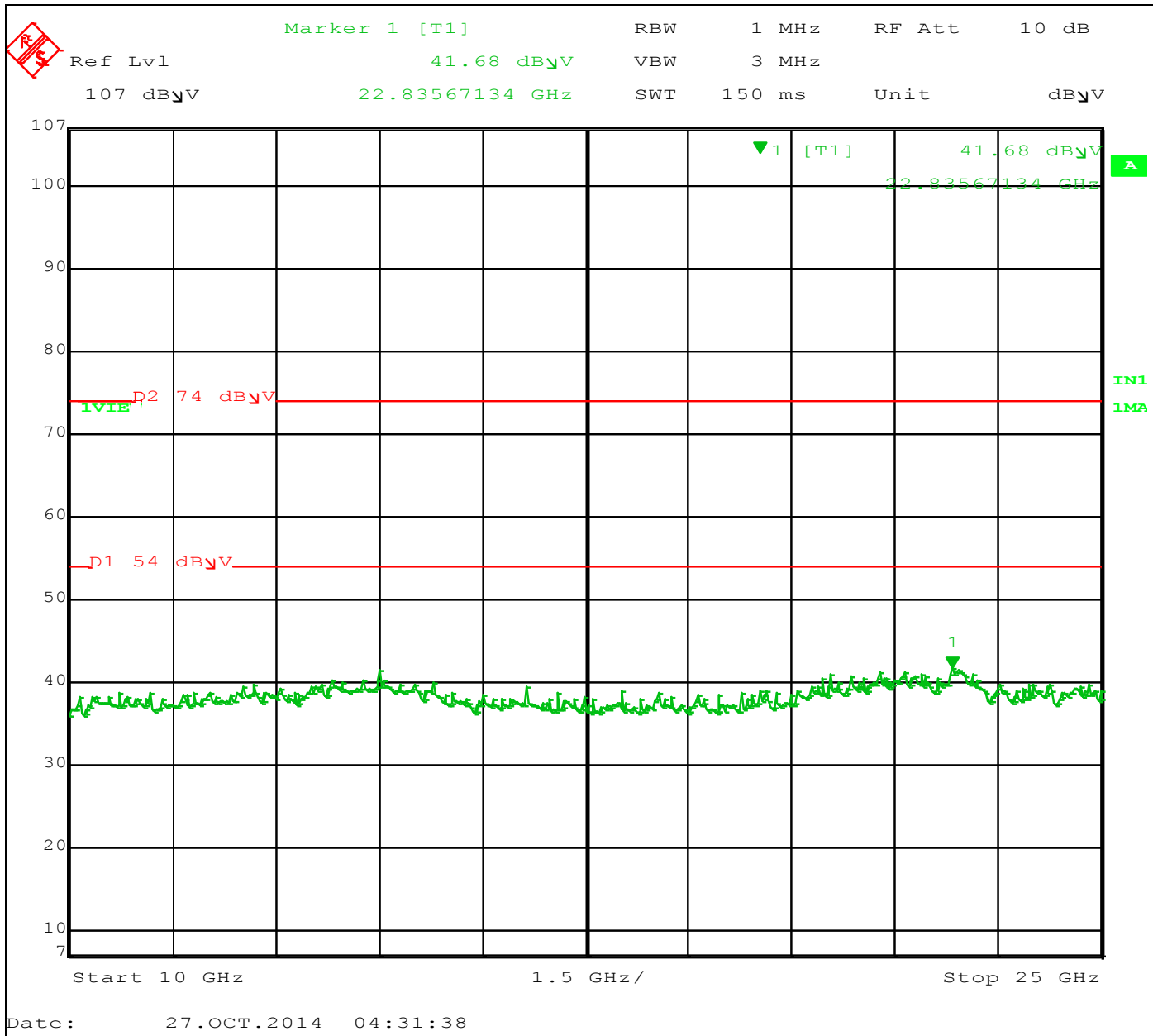
Frequency (GHz)	Peak (dBuV)	AV (dBuV)	AV Limit (dBuV)	Result
3.21	41.81	39.87	54	Complies
6.44	47.68	45.32	54	Complies

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



**Worst-Case Radiated Emissions 10GHz to 25GHz**

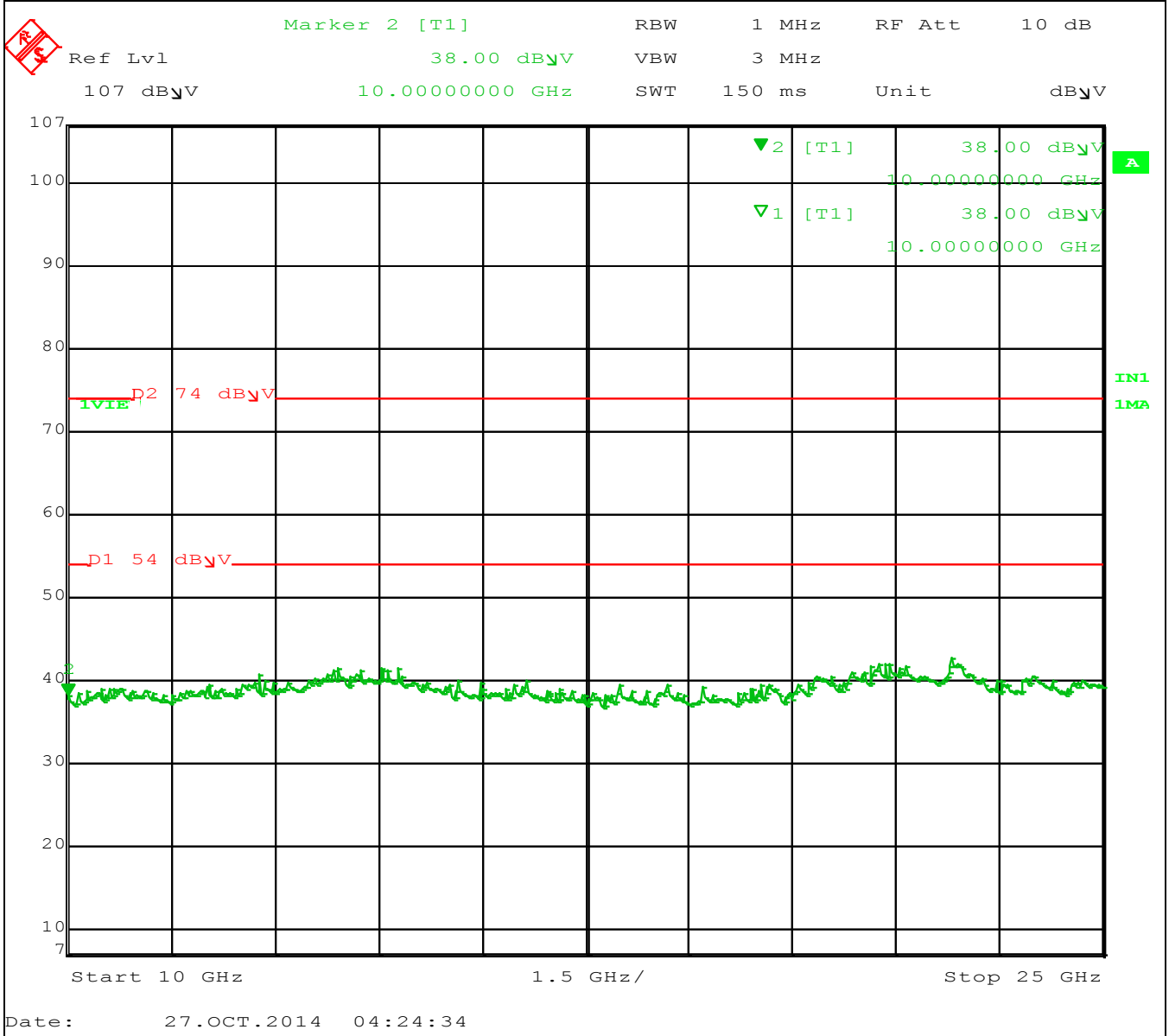
**Horizontal**



The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**Worst-Case Radiated Emissions 10GHz to 25GHz**

**Vertical**



The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.2 Conducted Emissions

This test measures the electromagnet levels of spurious signals generated by the EUT on the AC power line that may affect the performance of other near by electronic equipment.

The EUT operated on DC battery only, therefore testing was not performed.

## 4.3 Conducted Output Power Limits

Testing has been carried out on the EUT in accordance with 47 CFR Part 15.407(a)(1) in order to determine the -26 dB emission bandwidth of the transmitted signal. It has been determined that the -26 emission bandwidth is 44.94 MHz.

The peak transmit power limit based on the -26dB emission bandwidth in the frequency band of 5150 – 5250 MHz can be calculated as follows:

+4 dBm + 10 log B where B is the -26 dB emission Bandwidth in MHz

+4 dBm + 10 log 40 = +4 dBm + 16.52 = 20.52 dBm (112mW)

In accordance with 47 CFR Part 15.404(a)(1) the peak transmit power in the frequency band of 5150 – 5250 MHz shall not exceed the lesser of 50 mW or +4 dBm + 10log B, where B is the -26 dB emission bandwidth in MHz.

In accordance with 47 CFR Part 15.407(a)(1), the peak transmit power limit, in the frequency band of 5150 – 5250 MHz, has been determined at +16.9 dBm (50mW)

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TUV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TUV Rheinland, NVLAP or any agency of the United States Government.

#### 4.3.1 Maximum Peak Transmit Power Test Results

##### Operating in 5150MHz ~ 5350MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz

##### Operating in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
100	5500 MHz
104	5520 MHz
112	5540 MHz
116	5560 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

Table 1 – Maximum Peak transmit power at 20MHz Bandwidth

**POWER OUTPUT: Multiple chains - 802.11a:**

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)				
36	5180	9.3	10.12	20.5	13.12	16.91	PASS
40	5200	8.95	12.18	24.4	13.89	16.91	PASS
48	5240	8.94	10.76	18.11	12.58	16.91	PASS
52	5260	8.63	11.06	19.3	12.86	23.91	PASS
60	5300	9.45	9.49	17.4	12.41	23.91	PASS
64	5320	8.95	8.60	19.36	12.87	23.91	PASS
100	5500	8.86	7.47	13.21	11.21	22.23	PASS
116	5580	7.84	8.06	12.64	11.02	22.23	PASS
132	5660	9.11	10.43	19.67	12.94	22.23	PASS
140	5700	10.24	11.39	19.99	13.01	22.23	PASS

Figure 1 – Power output 802.11a

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**POWER OUTPUT: 802.11n (20MHz) Multiple chains OFDM MODULATION:**

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)				
36	5180	11.7	11.44	28.7	14.58	16.91	PASS
40	5200	11.7	11.44	28.7	14.58	16.91	PASS
48	5240	11.68	10.8	26.7	14.27	16.91	PASS
52	5260	11.56	11.0	26.9	14.31	23.91	PASS
60	5300	11.32	11.46	27.8	14.45	23.91	PASS
64	5320	11.17	11.46	27.0	14.32	23.91	PASS
100	5500	10.8	11.42	25.8	14.13	22.23	PASS
116	5580	10.34	11.34	24.3	13.87	22.23	PASS
132	5660	11.72	11.64	29.4	14.69	22.23	PASS
140	5700	11.93	11.9	31.0	14.92	22.23	PASS

Figure 2 – Power Output 802.11n

**For Operation in 5150MHz ~ 5250MHz bands: Highest Antenna gain is -0.8 dBi**

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 2.21 dBi

**For Operation in 5250MHz ~ 5350MHz bands: Highest Antenna Gain is -0.8 dBi**

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 2.21 dBi

**For Operation in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands: Highest Antenna Gain is -2.3 dBi**

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 0.71 dBi

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.4 Peak Power Spectral Density

The results of the testing on the EUT, carried out in accordance with 47 CFR Part 15.407(a)(5), are depicted in the table below. The limits have been derived from 47 CFR Part 15.407(a)(1)

In accordance with FCC Public Notice DA 02-2138 Measurement Procedure updated for Peak Transmit Power in the Unlicensed National Information Infrastructure (U-NII) Bands. Method #1 was used

#### 4.5 Peak Power Excursion

The results of the testing on the EUT, carried out in accordance with 47 CFR Part 15.407(a)(6), are depicted in table below.

## 4.5.1 Test Results

## Multiple chain - 802.11a OFDM MODULATION:

TX chain	CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK POWER EXCURSION LIMIT (dB)	PASS/ FAIL
0	36	5180	10.27	-1.53	11.8	13	PASS
	40	5200	10.32	2.33	7.99	13	PASS
	48	5240	10.29	2.4	7.89	13	PASS
	52	5260	9.77	1.29	8.48	13	PASS
	60	5300	10.18	1.43	8.75	13	PASS
	64	5320	9.85	1.61	8.24	13	PASS
	100	5500	8.54	1.04	7.5	13	PASS
	116	5580	8.46	1.59	6.87	13	PASS
	132	5660	9.84	2.08	7.76	13	PASS
	140	5700	9.59	1.81	7.78	13	PASS
1	36	5180	10.33	2.33	8.0	13	PASS
	40	5200	10.71	3.44	7.27	13	PASS
	48	5240	11.07	1.94	9.13	13	PASS
	52	5260	10.33	2.38	7.95	13	PASS
	60	5300	11.23	1.72	9.51	13	PASS
	64	5320	9.85	1.43	8.42	13	PASS
	100	5500	9.06	0.16	8.9	13	PASS
	116	5580	9.50	-1.16	9.66	13	PASS
	132	5660	11.47	2.54	8.93	13	PASS
	140	5700	10.07	2.83	7.24	13	PASS

Figure 3 – Peak Power Spectral Density at 20MHz Bandwidth

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

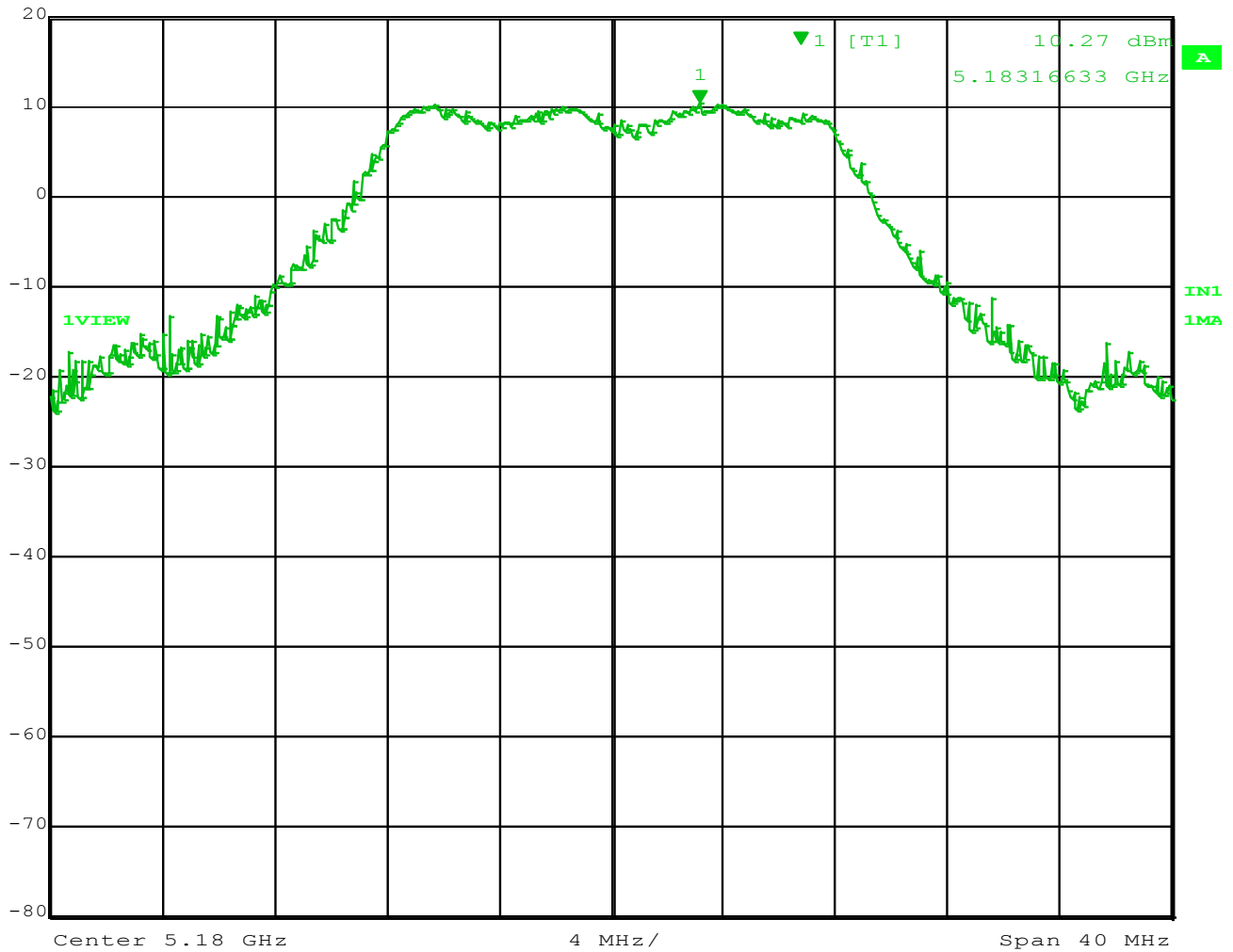


### 4.5.2 Final Test Chain 0

The EUT met the performance criteria requirement as specified in the test plan of this report and in the standards.



	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	10.27 dBm	VBW	3 MHz		
20 dBm	5.18316633 GHz	SWT	5 ms	Unit	dBm



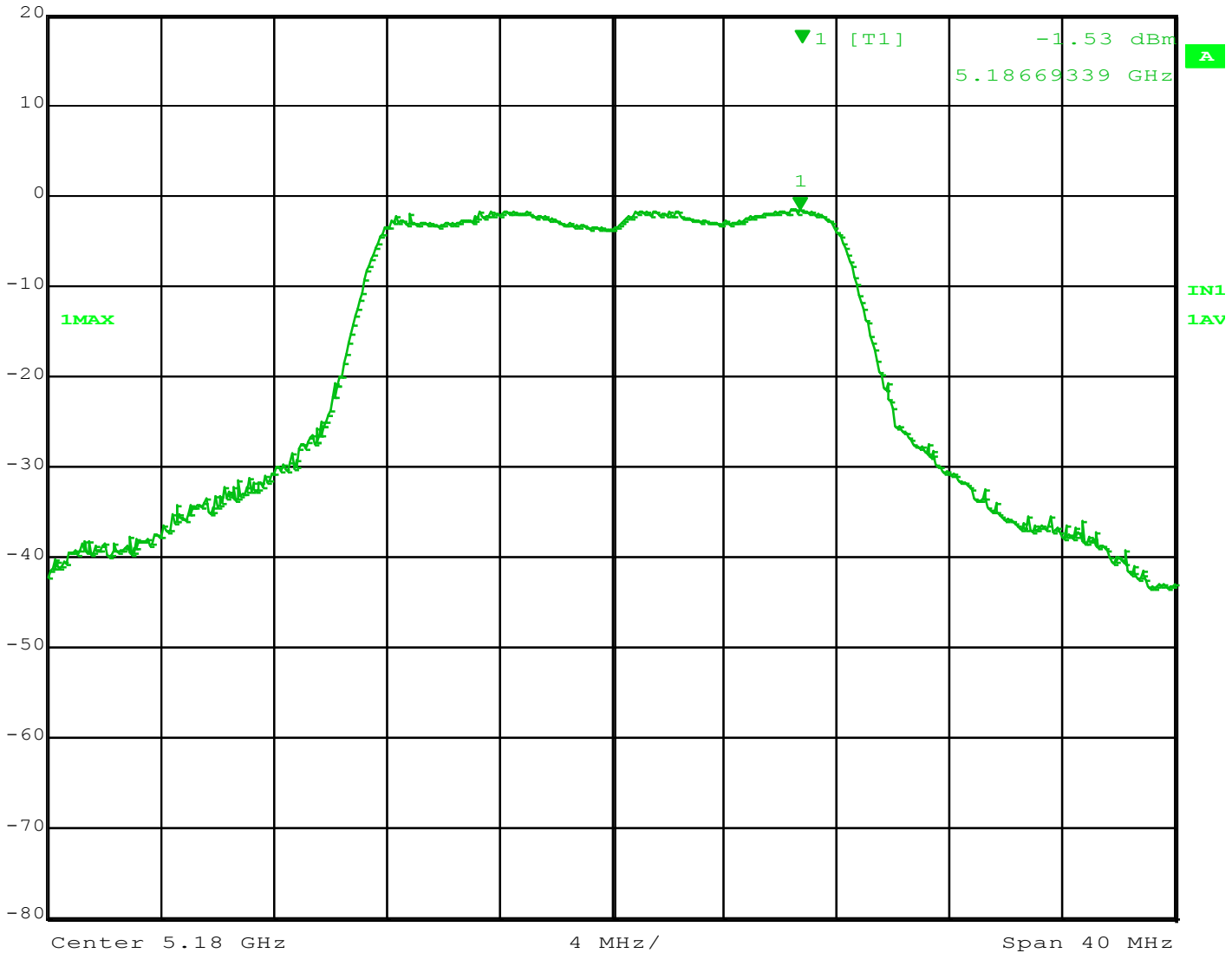
Date: 2.APR.2015 14:06:24

Figure 4 – Peak Power (conducted)  
EUT operating on Ch 36 (5180 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.18669339 GHz	RBW	1 MHz	RF Att	30 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



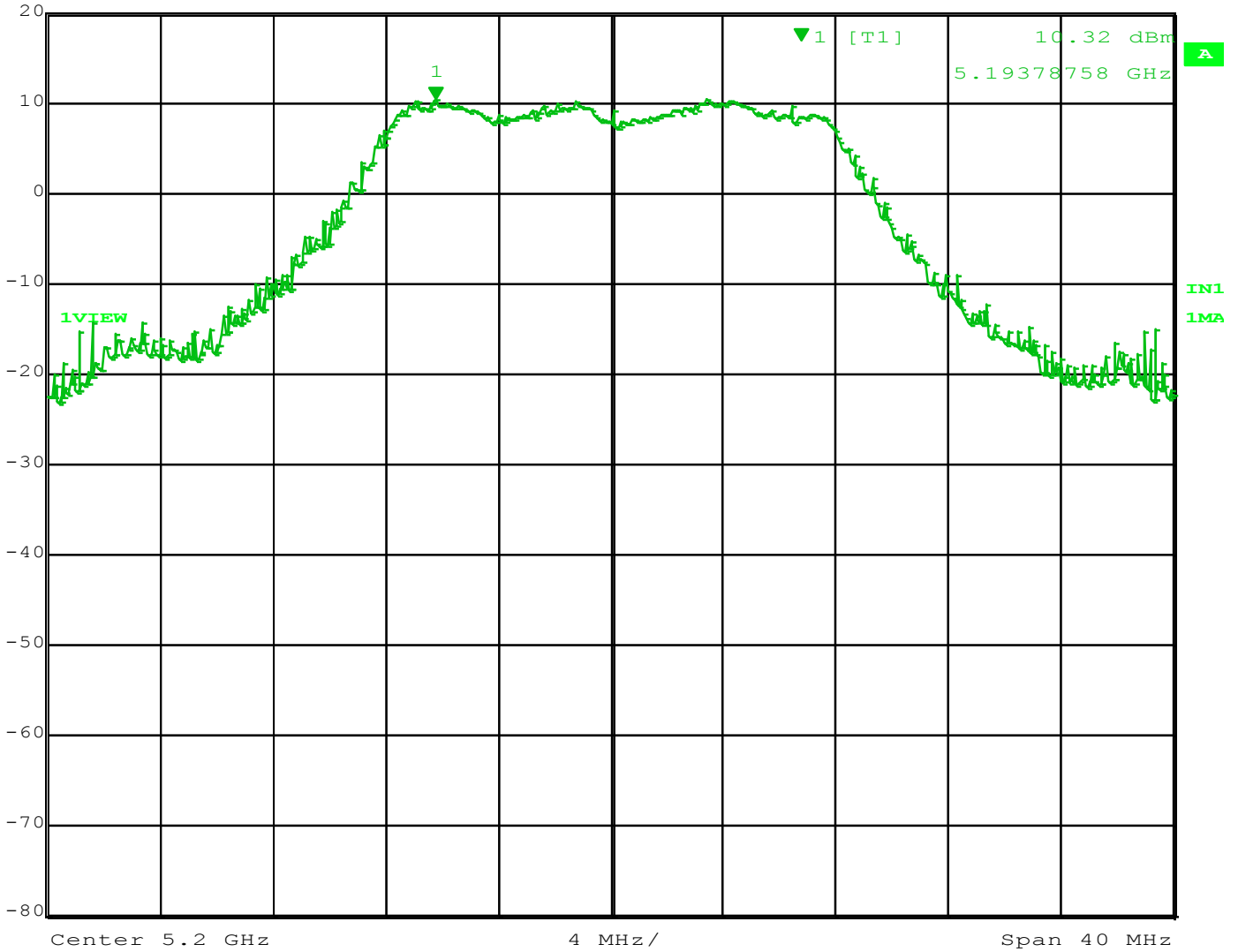
Date: 2.APR.2015 13:34:20

Figure 5 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 36 (5180 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.19378758 GHz	RBW	1 MHz	RF Att	30 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



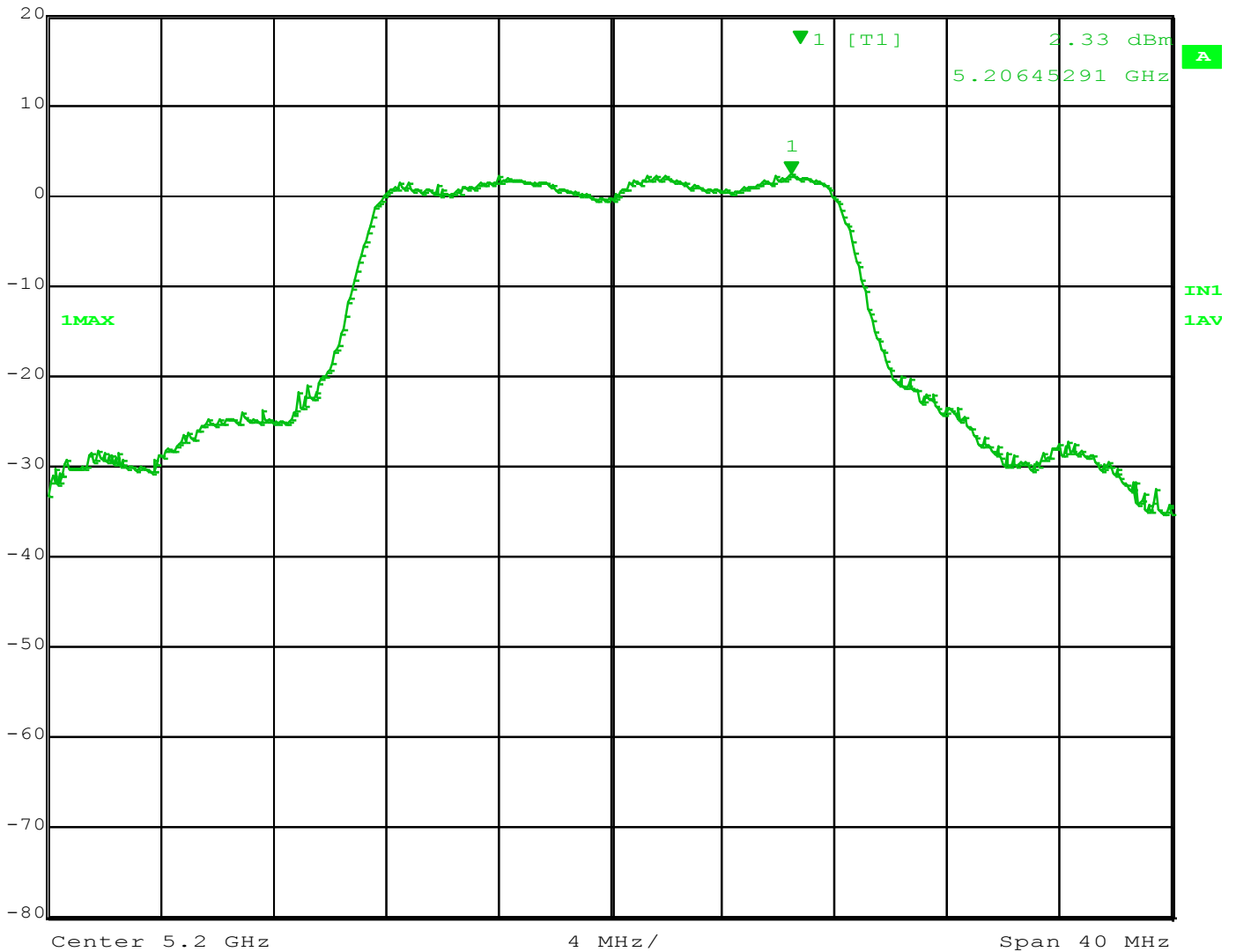
Date: 2.APR.2015 14:19:35

Figure 6 – Peak Power (conducted)  
EUT operating on Ch 40 (5200 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.20645291 GHz	RBW	1 MHz	RF Att	30 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



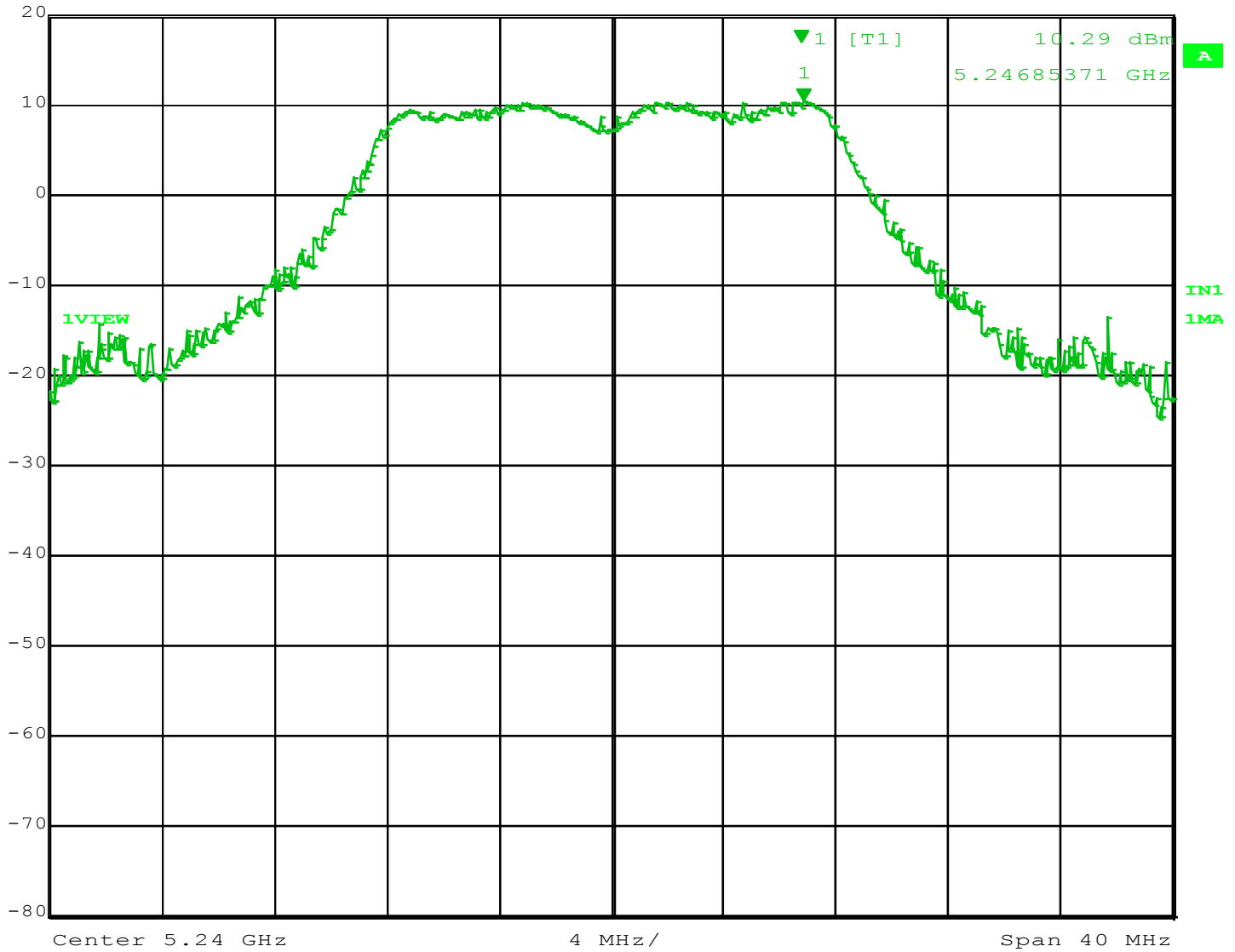
Date: 2.APR.2015 13:36:05

Figure 7 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 40 (5200 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	10.29 dBm	VBW	3 MHz	
20 dBm	5.24685371 GHz	SWT	5 ms	Unit dBm



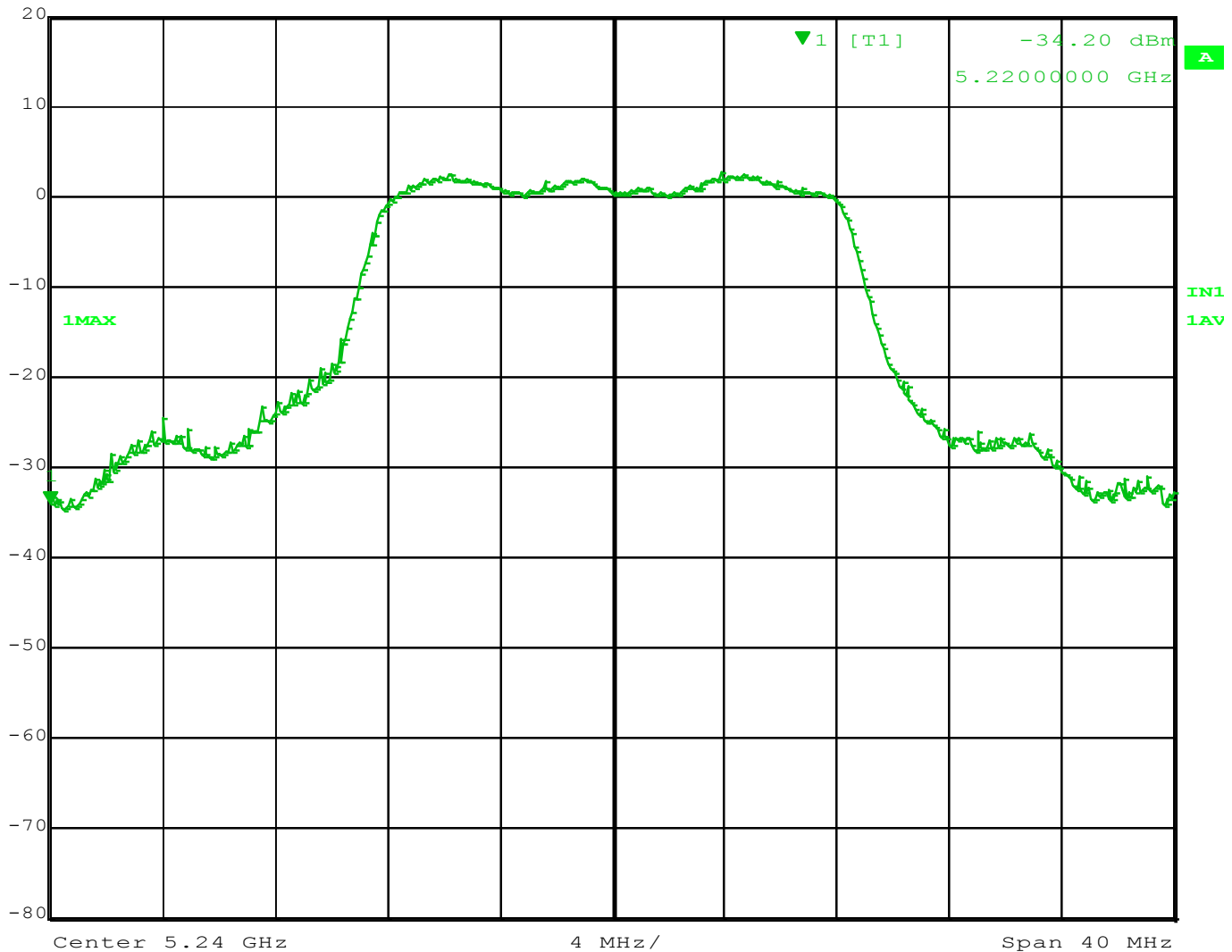
Date: 2.APR.2015 14:20:06

Figure 8 – Peak Power (conducted)  
EUT operating on Ch 48 (5240 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	-34.20 dBm	VBW	3 MHz		
20 dBm	5.2200000 GHz	SWT	5 ms	Unit	dBm



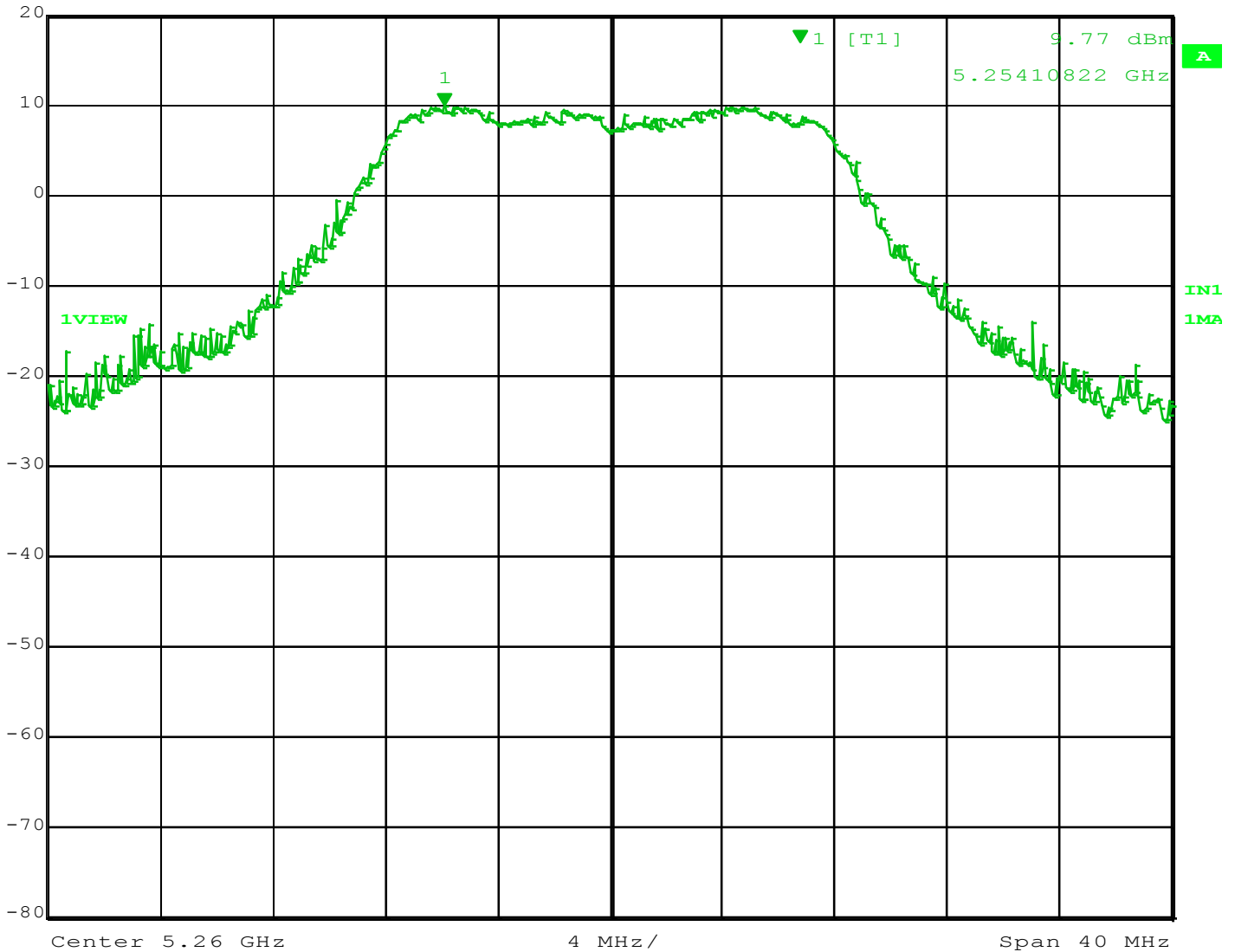
Date: 2.APR.2015 13:37:02

Figure 9 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 48 (5240 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	9.77 dBm	RBW	1 MHz	RF Att	30 dB
			5.25410822 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



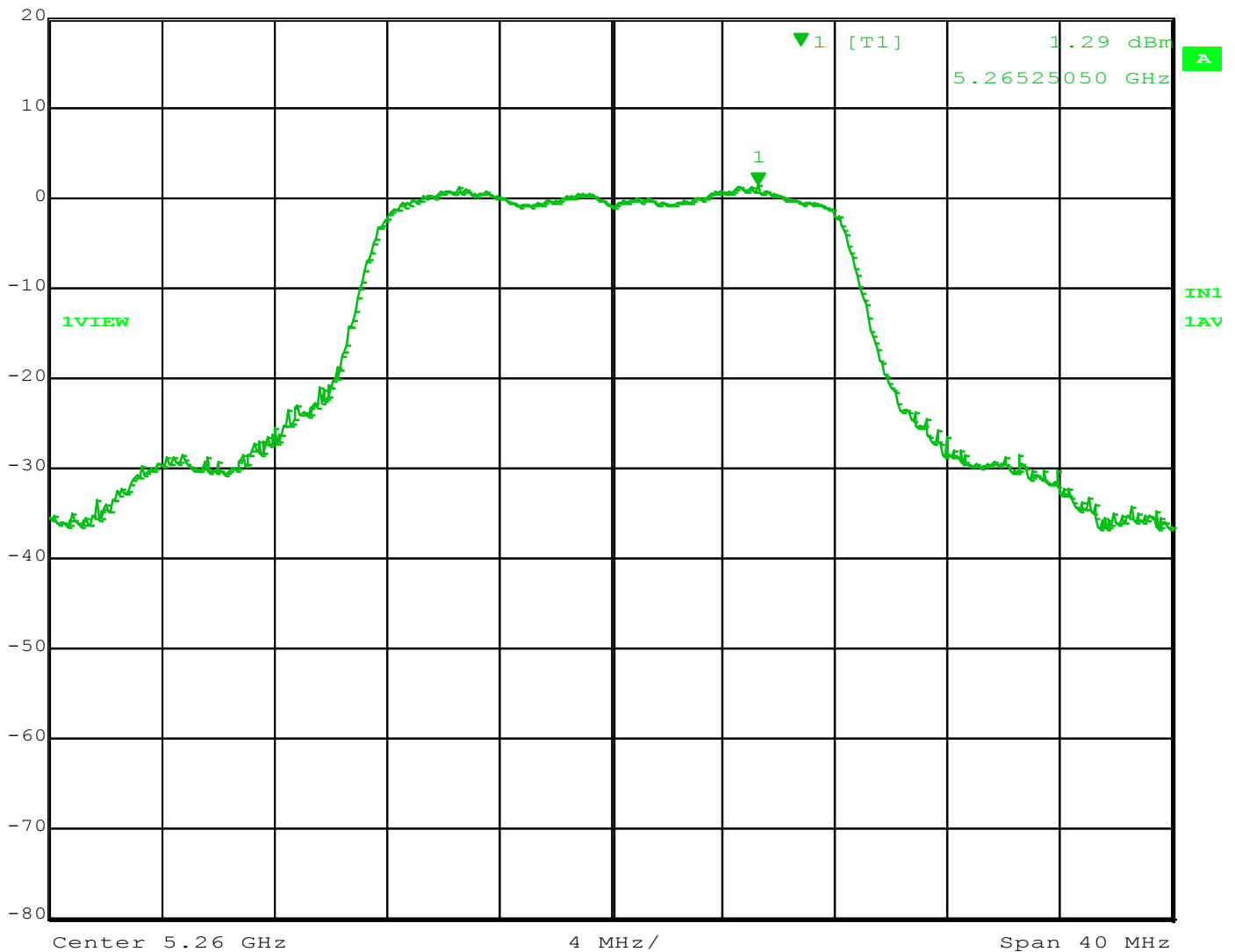
Date: 2.APR.2015 14:20:37

Figure 10 – Peak Power (conducted)  
EUT operating on Ch 52 (5260 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	1.29 dBm	5.26525050 GHz	RBW	1 MHz	RF Att	30 dB	VBW	3 MHz	SWT	5 ms	Unit	dBm
---------	--------	---------------	----------	----------------	-----	-------	--------	-------	-----	-------	-----	------	------	-----



Date: 2.APR.2015 16:55:16

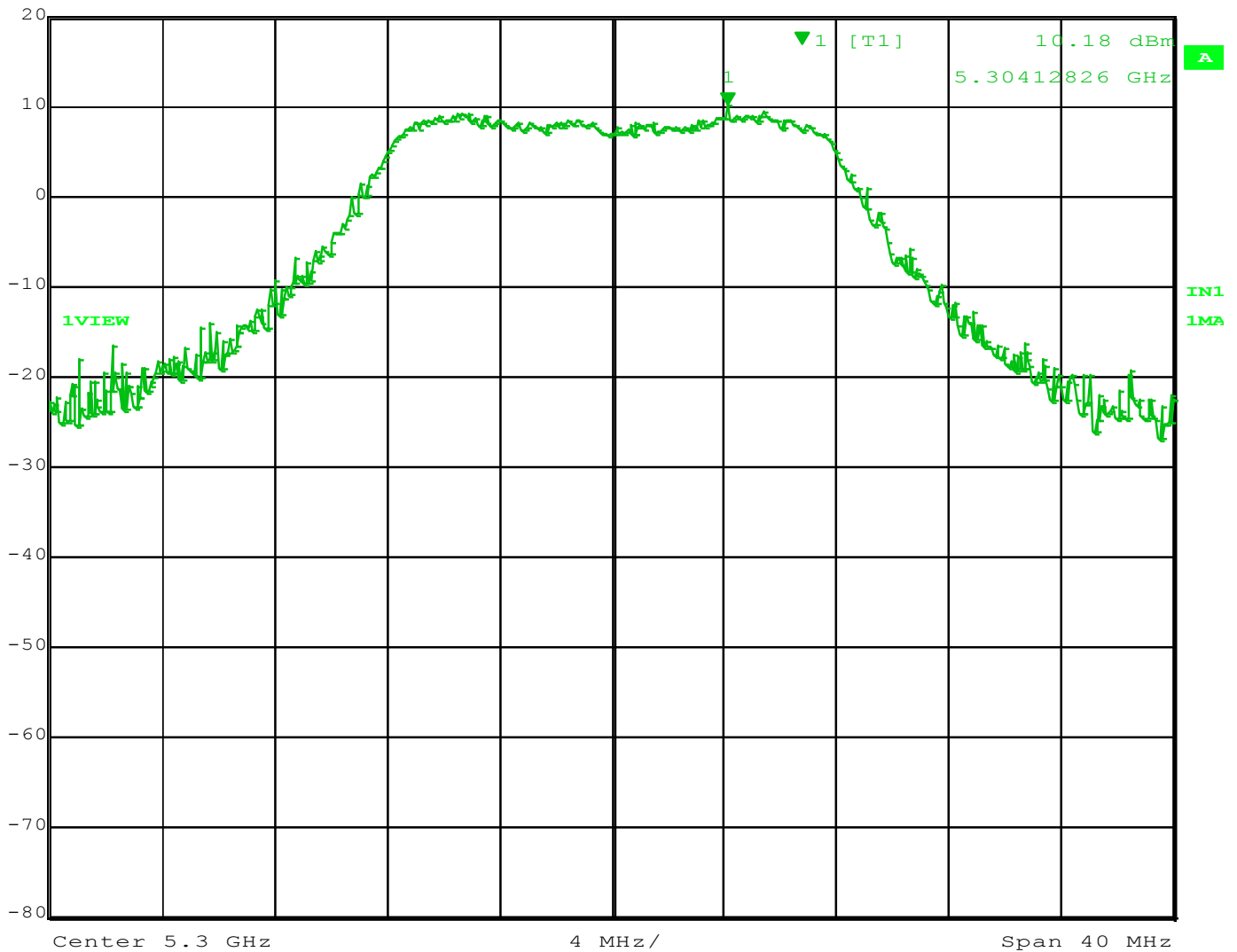
Figure 11 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 52 (5260 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.





Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	10.18 dBm	VBW	3 MHz		
	5.30412826 GHz	SWT	5 ms	Unit	dBm



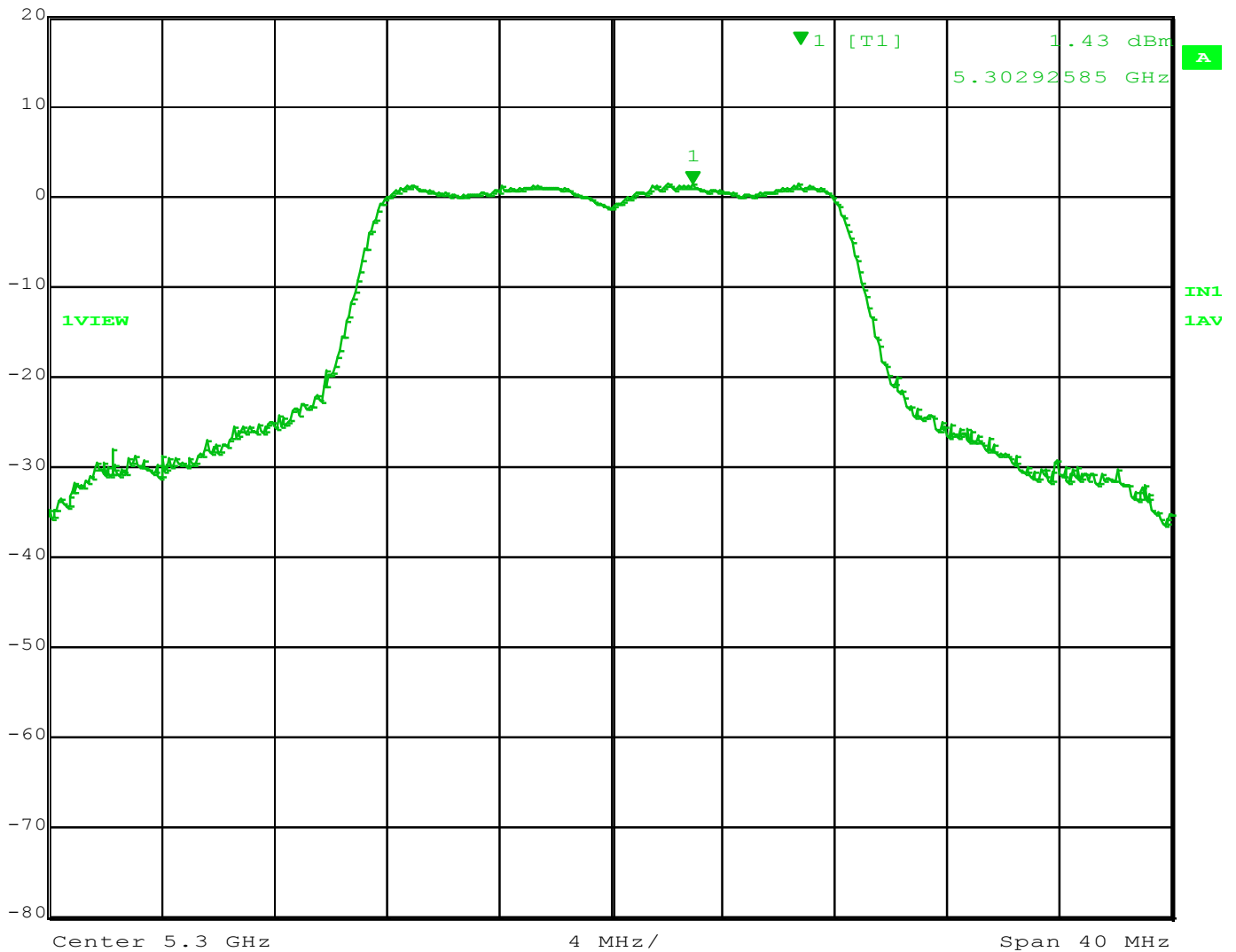
Date: 2.APR.2015 14:21:08

Figure 12 – Peak Power (conducted)  
EUT operating on Ch 60 (5300 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.30292585 GHz	RBW	1 MHz	RF Att	30 dB
			1.43 dBm	VBW	3 MHz		
				SWT	5 ms	Unit	dBm

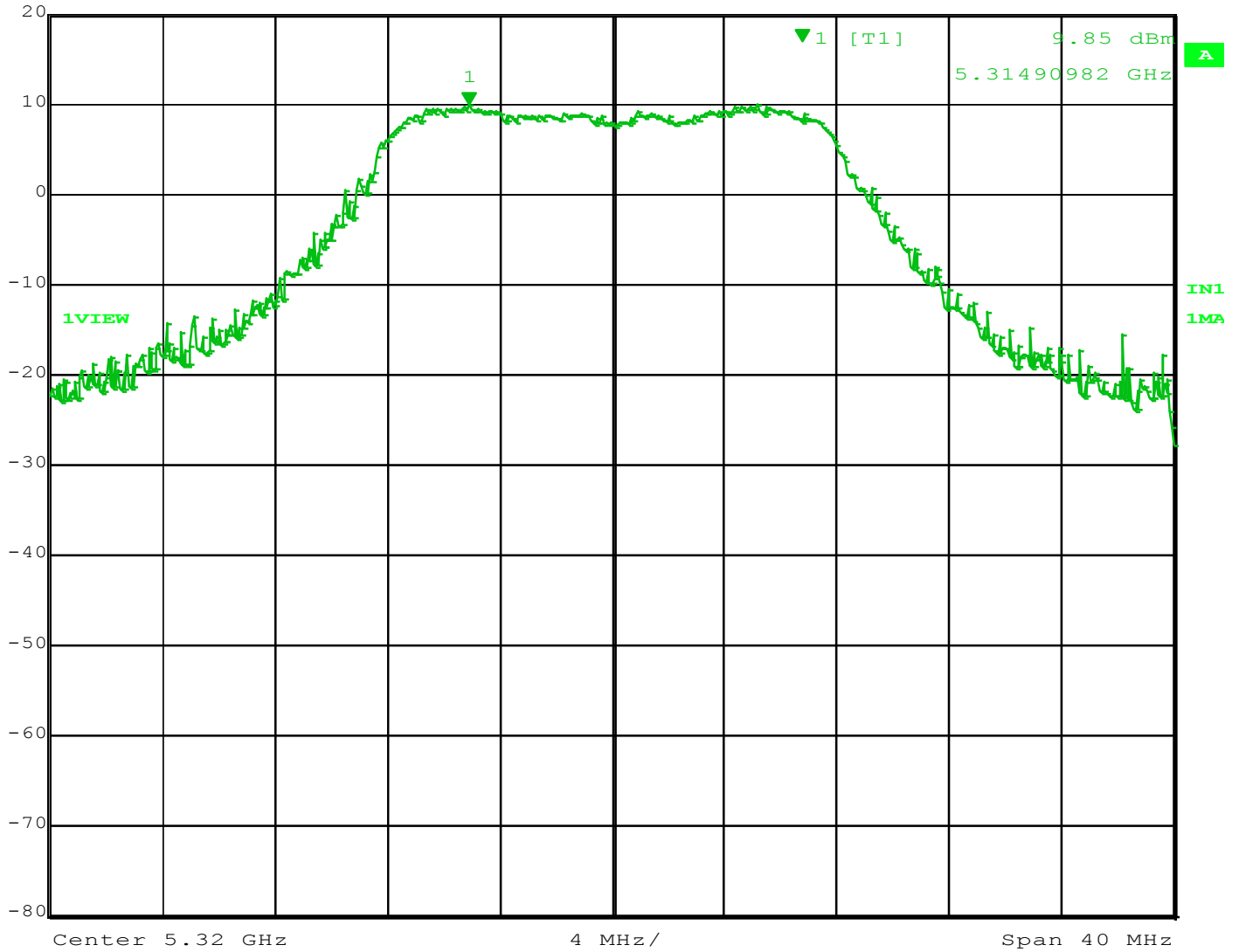


Date: 2.APR.2015 16:59:34

Figure 13 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 60 (5300 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	Ref Lvl	9.85 dBm	VBW	3 MHz	
	20 dBm	5.31490982 GHz	SWT	5 ms	Unit



Date: 2.APR.2015 14:21:41

Figure 14 – Peak Power (conducted)  
EUT operating on Ch 64 (5320 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]

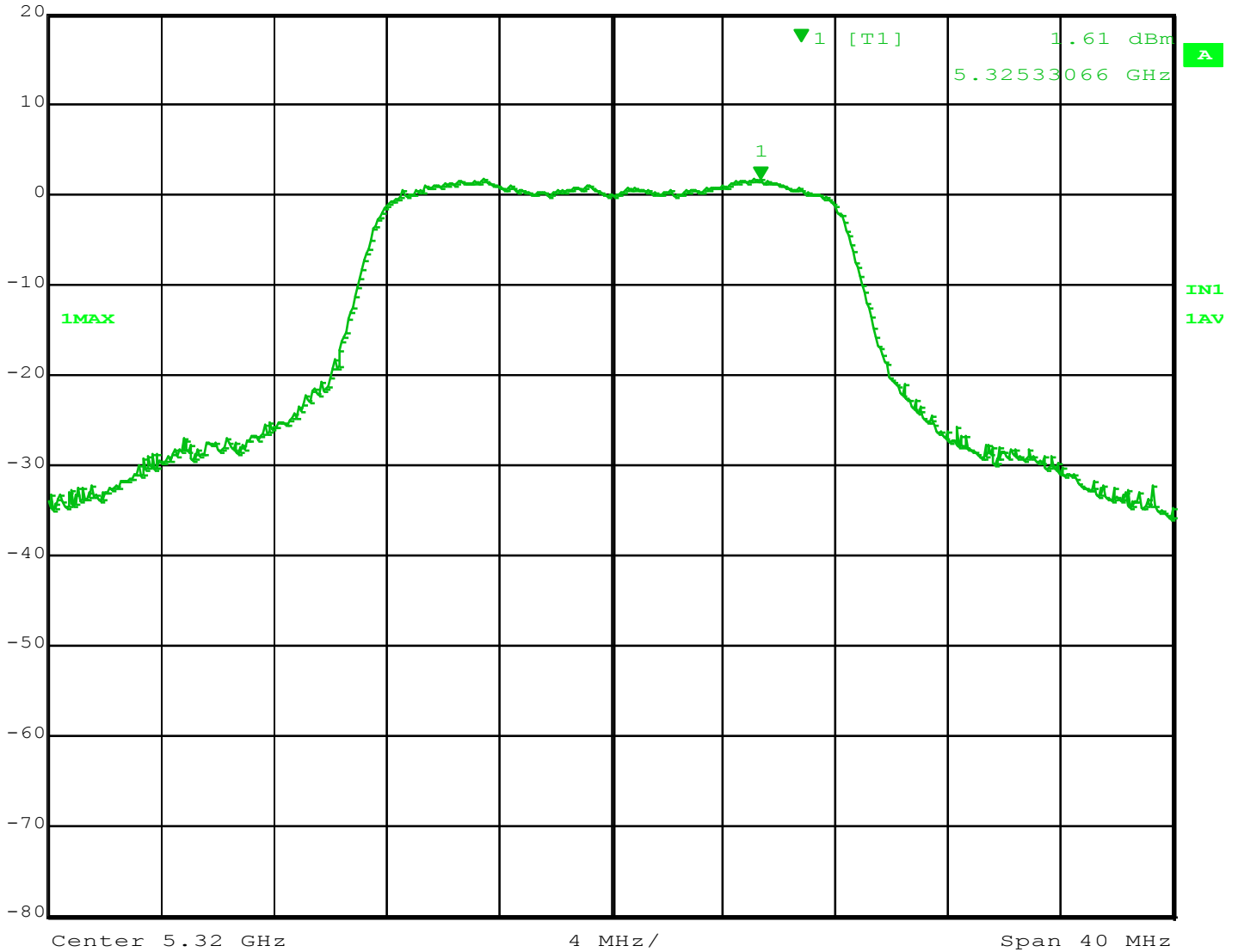
RBW 1 MHz RF Att 30 dB

Ref Lvl 1.61 dBm

VBW 3 MHz

20 dBm 5.32533066 GHz

SWT 5 ms Unit dBm



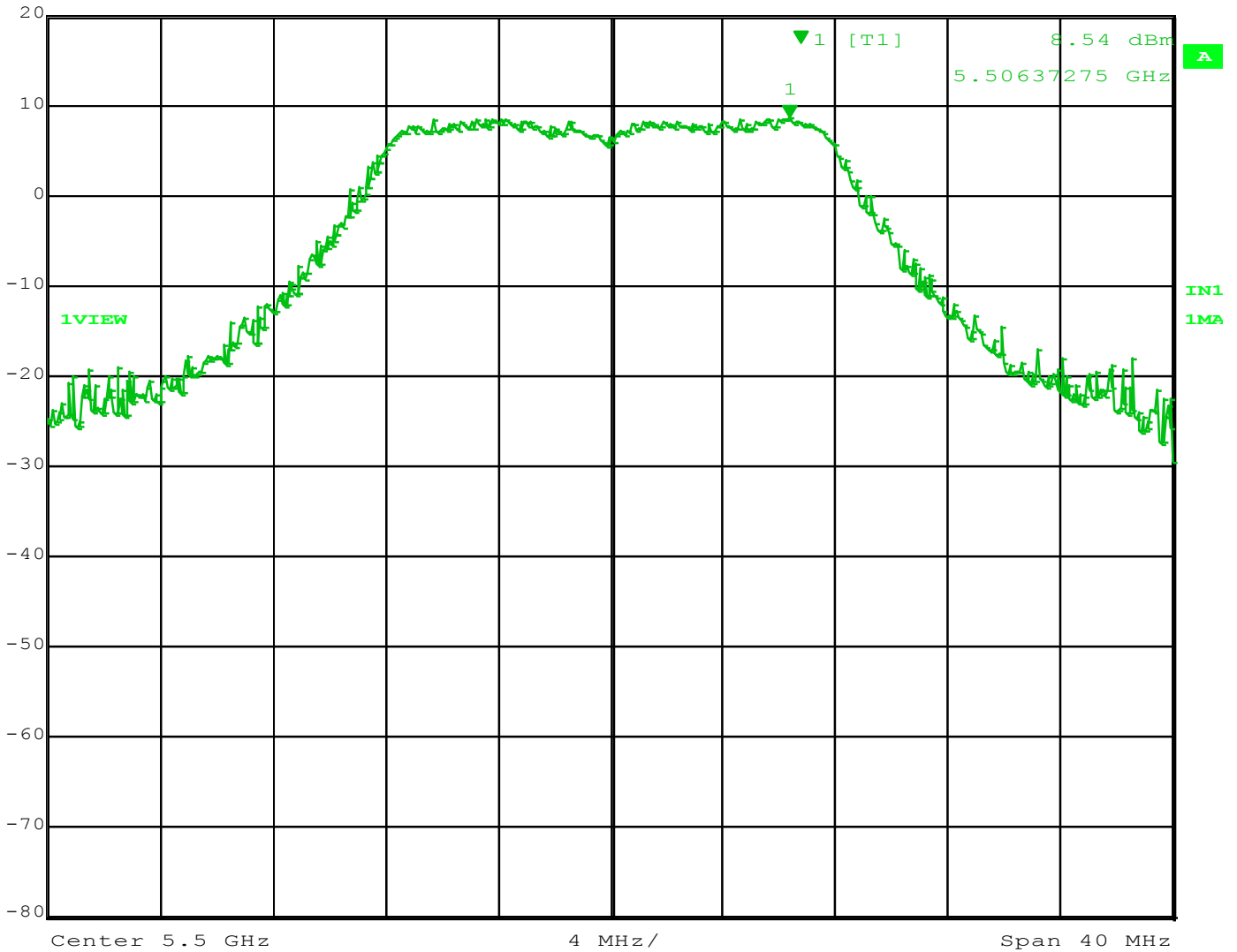
Date: 2.APR.2015 13:38:57

Figure 15 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 64 (5320 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	8.54 dBm	RBW	1 MHz	RF Att	30 dB
			5.50637275 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



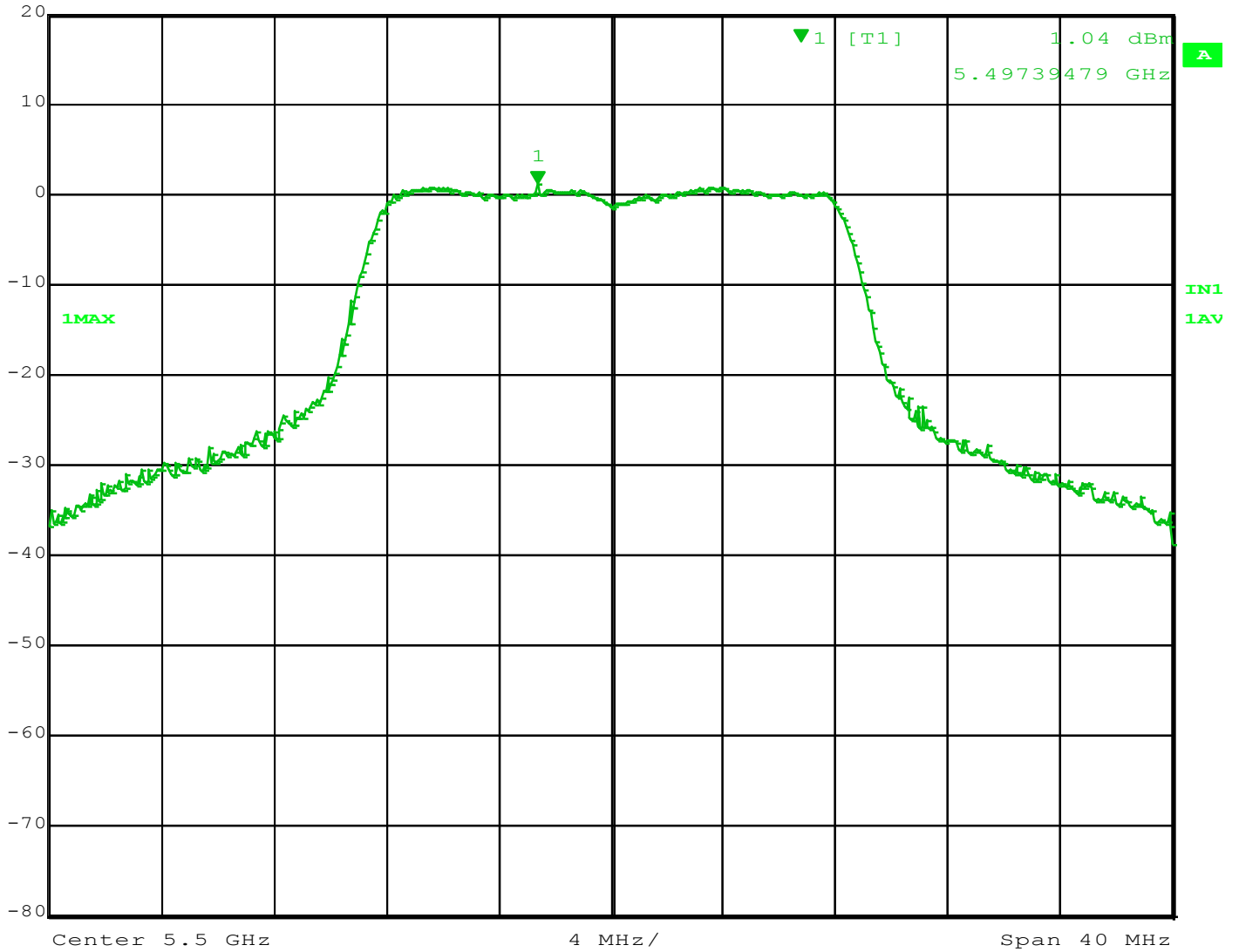
Date: 2.APR.2015 14:22:12

Figure 16 – Peak Power (conducted)  
EUT operating on Ch 100 (5500 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	1.04 dBm	VBW	3 MHz		
	5.49739479 GHz	SWT	5 ms	Unit	dBm

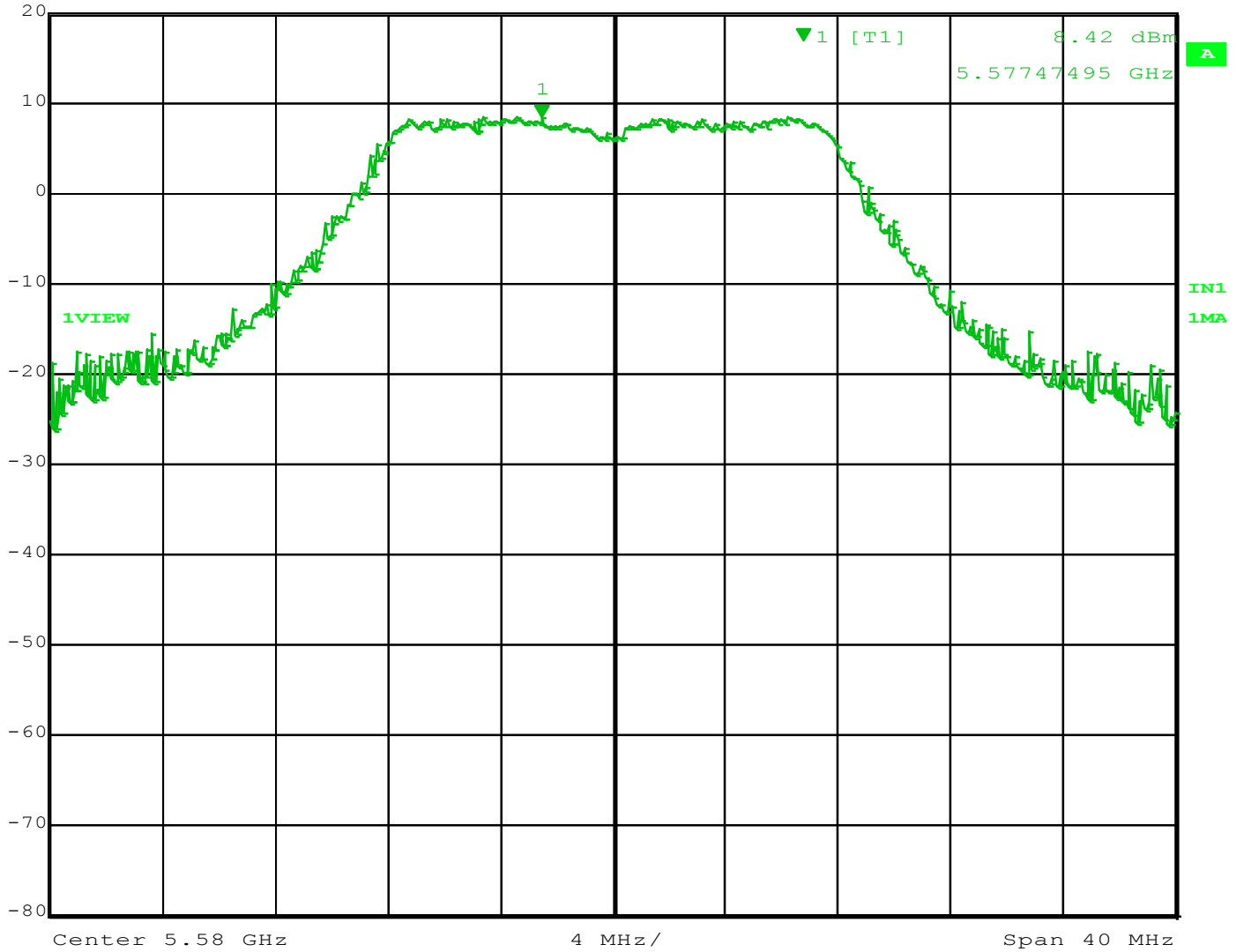


Date: 2.APR.2015 13:39:45

Figure 17 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 100 (5500 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	Ref Lvl	8.42 dBm	VBW	3 MHz	
	20 dBm	5.57747495 GHz	SWT	5 ms	Unit dBm



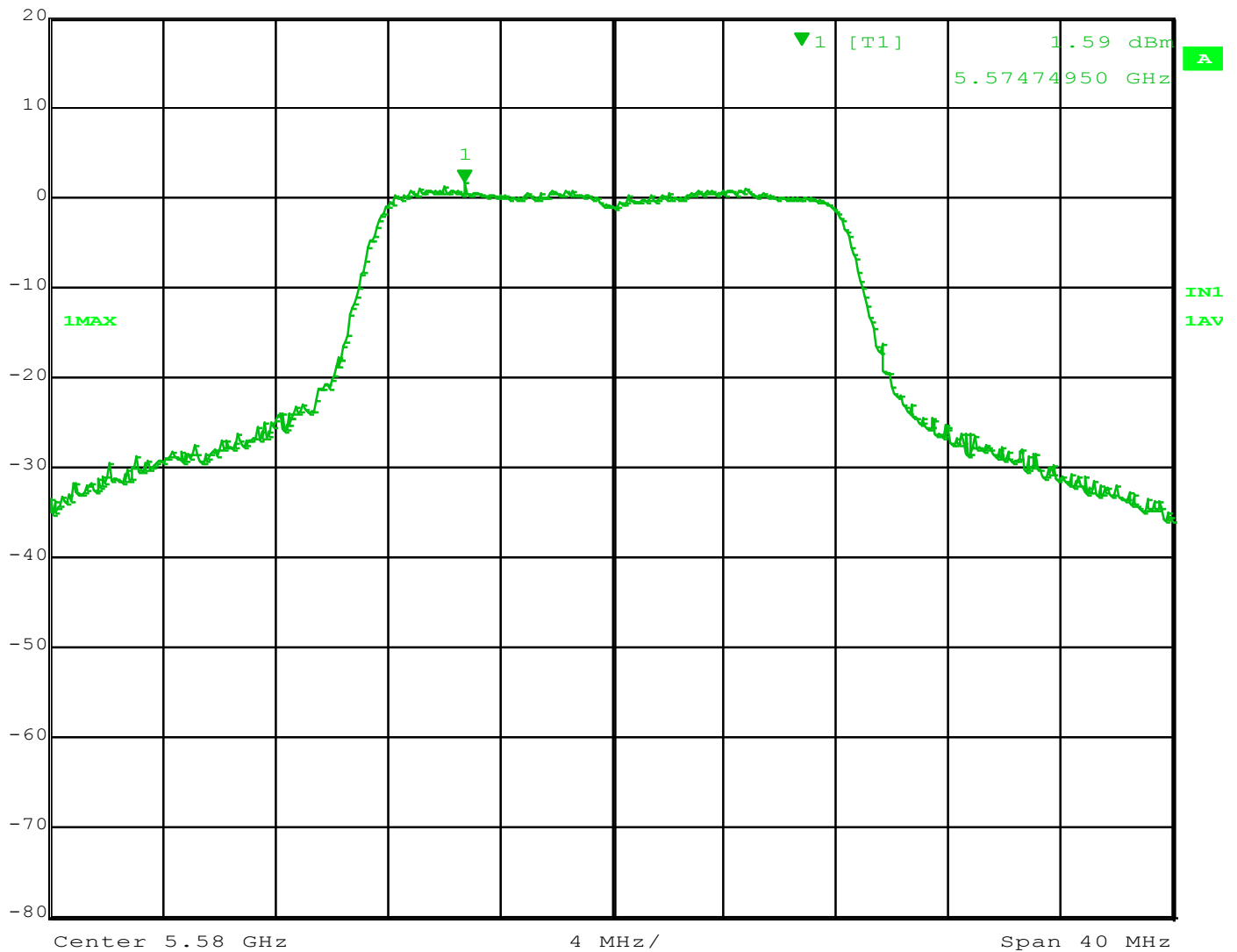
Date: 2.APR.2015 14:39:40

Figure 18 – Peak Power (conducted)  
EUT operating on Ch 116 (5580 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	1.59 dBm	VBW	3 MHz		
	5.57474950 GHz	SWT	5 ms	Unit	dBm



Date: 2.APR.2015 13:40:18

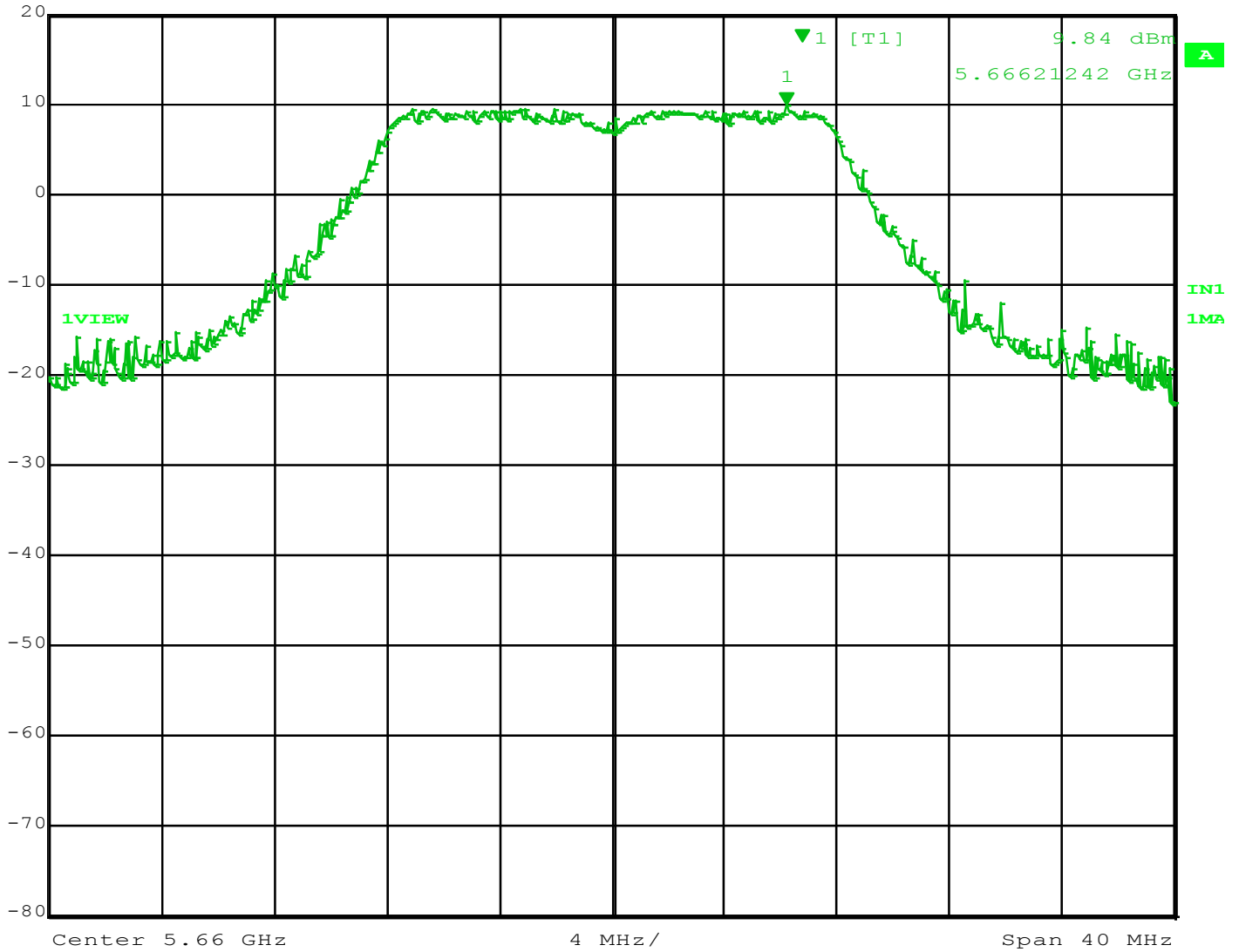
Figure 19 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 116 (5580 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.





Ref Lvl	20 dBm	Marker 1 [T1]	9.84 dBm	RBW	1 MHz	RF Att	30 dB
			5.66621242 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



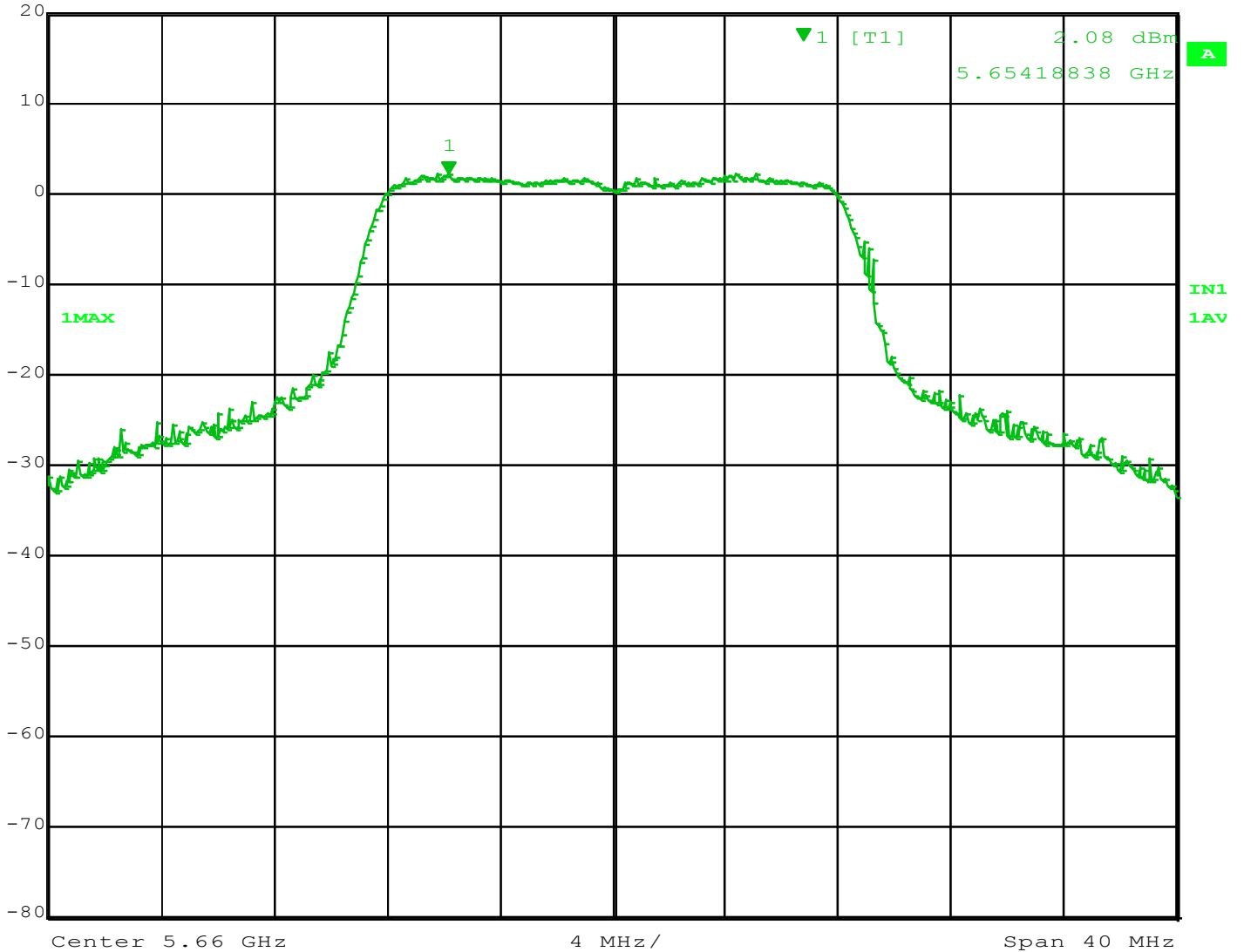
Date: 2.APR.2015 14:40:09

Figure 20 – Peak Power (conducted)  
EUT operating on Ch 132 (5660 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.65418838 GHz	RBW	1 MHz	RF Att	30 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



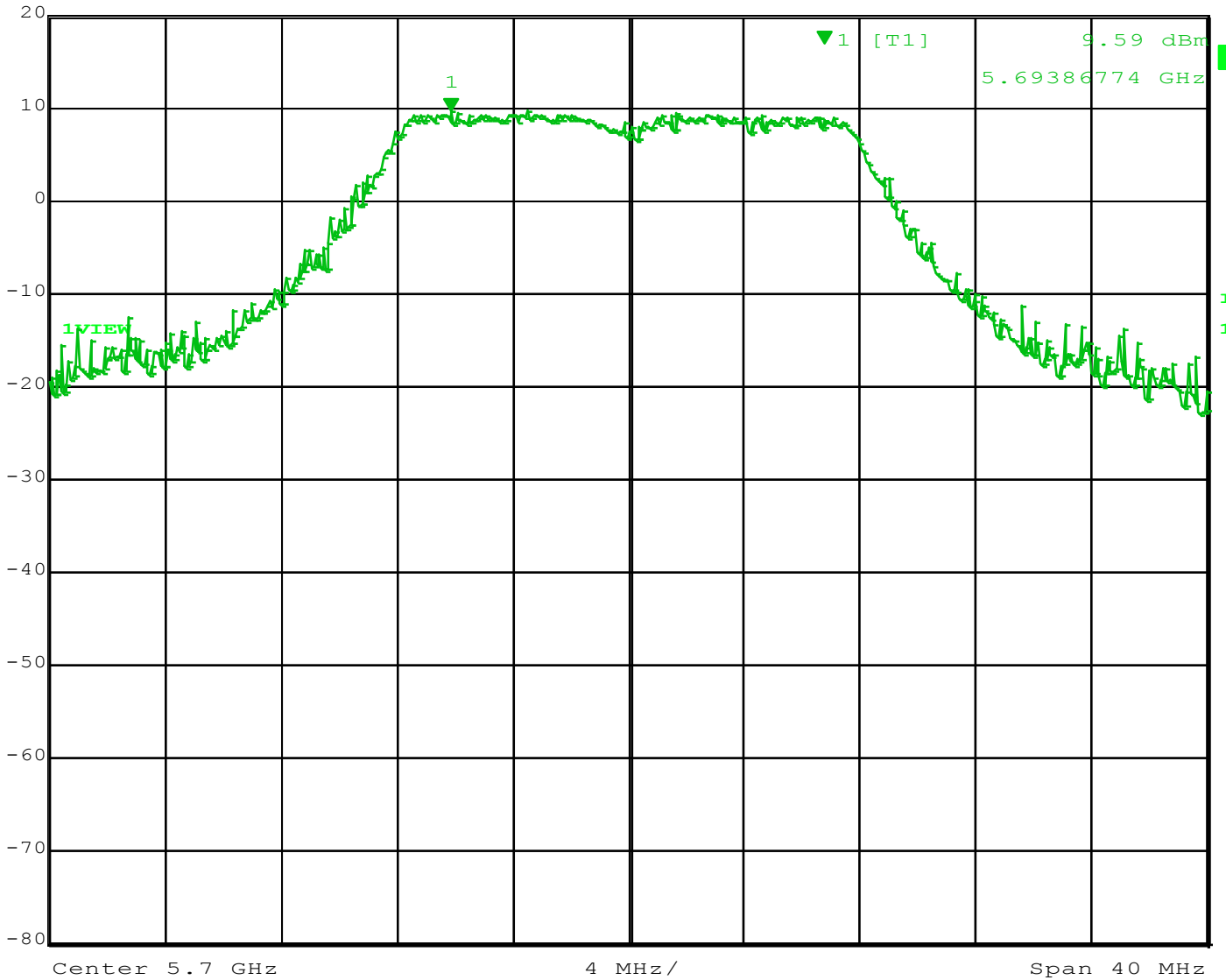
Date: 2.APR.2015 13:40:50

Figure 21 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 132 (5600 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	9.59 dBm	VBW	3 MHz		
	5.69386774 GHz	SWT	5 ms	Unit	dBm



Date: 2.APR.2015 14:40:41

Figure 22 – Peak Power (conducted)  
EUT operating on Ch 140 (5700 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]

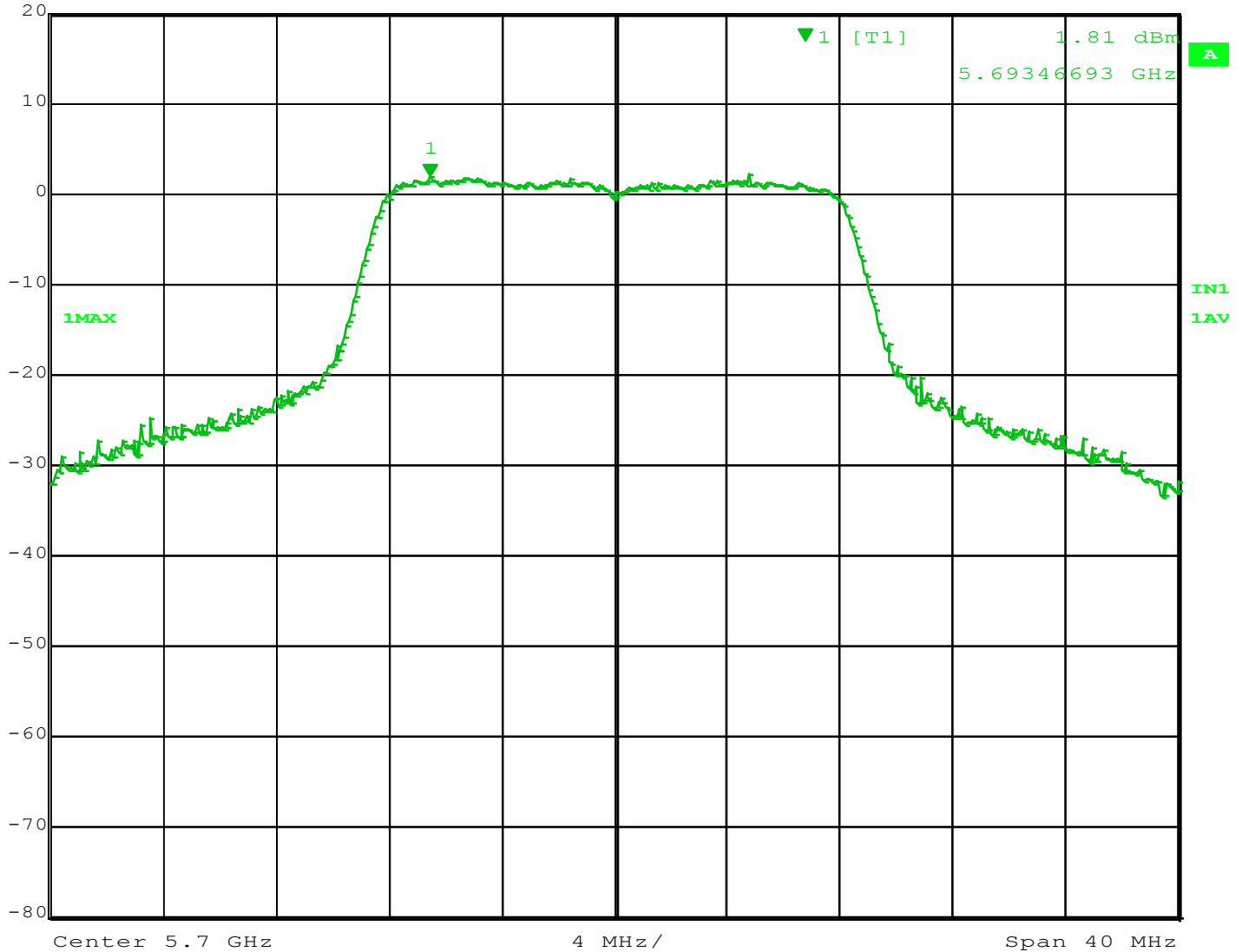
RBW 1 MHz RF Att 30 dB

Ref Lvl 1.81 dBm

VBW 3 MHz

20 dBm 5.69346693 GHz

SWT 5 ms Unit dBm



Date: 2.APR.2015 13:41:28

Figure 23 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 140 (5700 MHz)

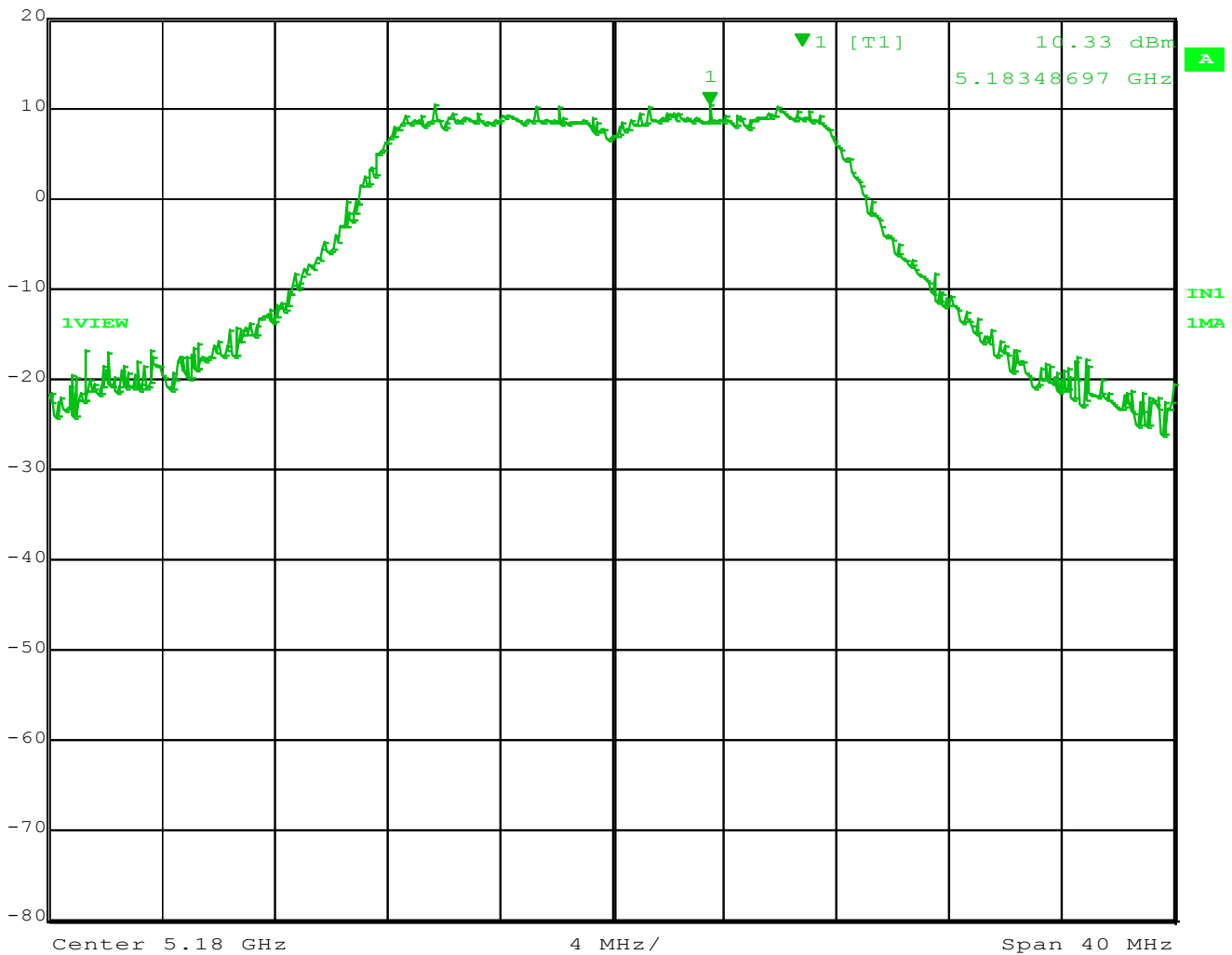
The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

### 4.5.1 Final Test Chain 1

The EUT met the performance criteria requirement as specified in the test plan of this report and in the standards.



Ref Lvl	20 dBm	Marker 1 [T1]	10.33 dBm	RBW	1 MHz	RF Att	30 dB
			5.18348697 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



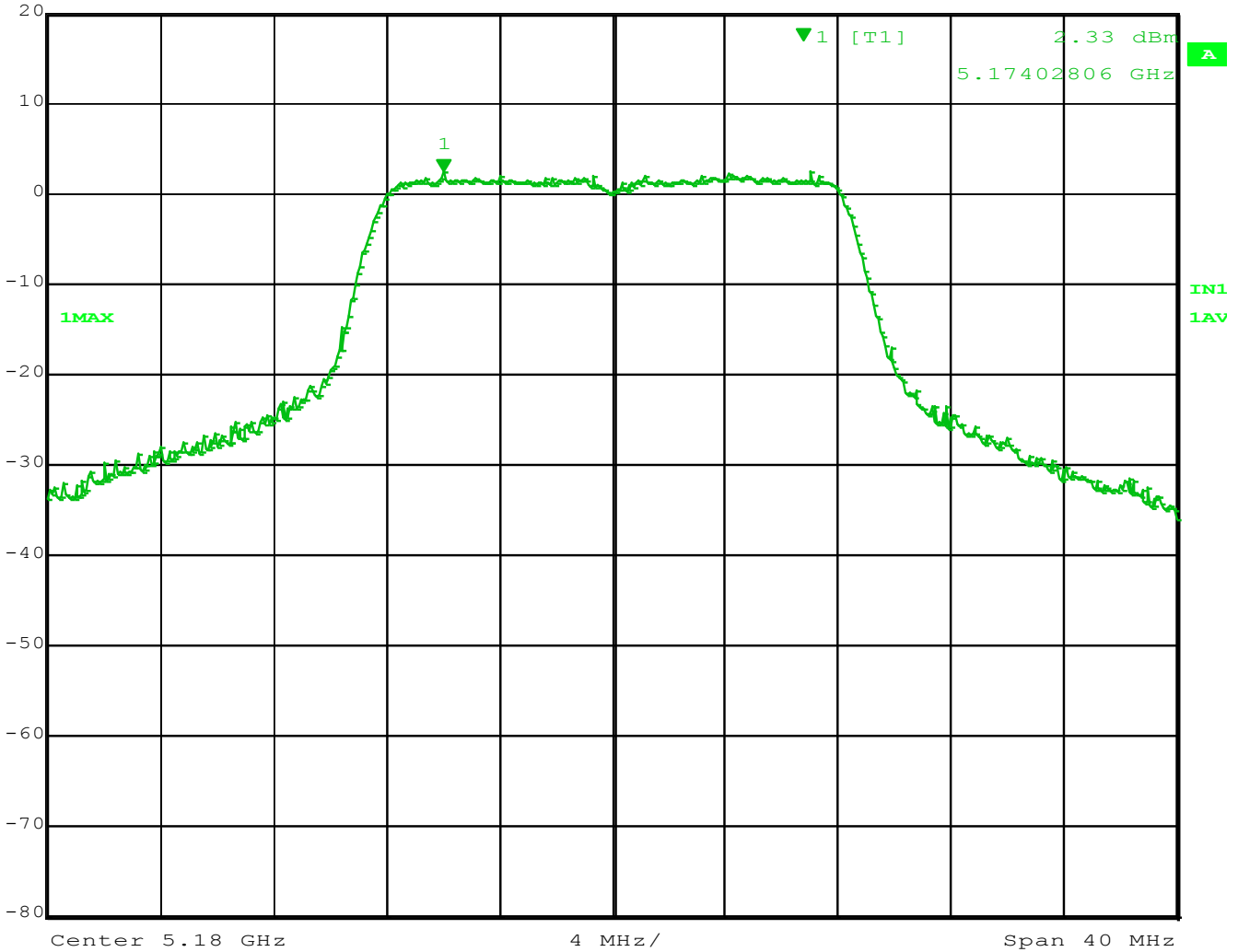
Date: 2.APR.2015 14:00:57

Figure 24 – Peak Power (conducted)  
EUT operating on Ch 36 (5180 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TUV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TUV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	2.33 dBm	RBW	1 MHz	RF Att	30 dB
			5.17402806 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



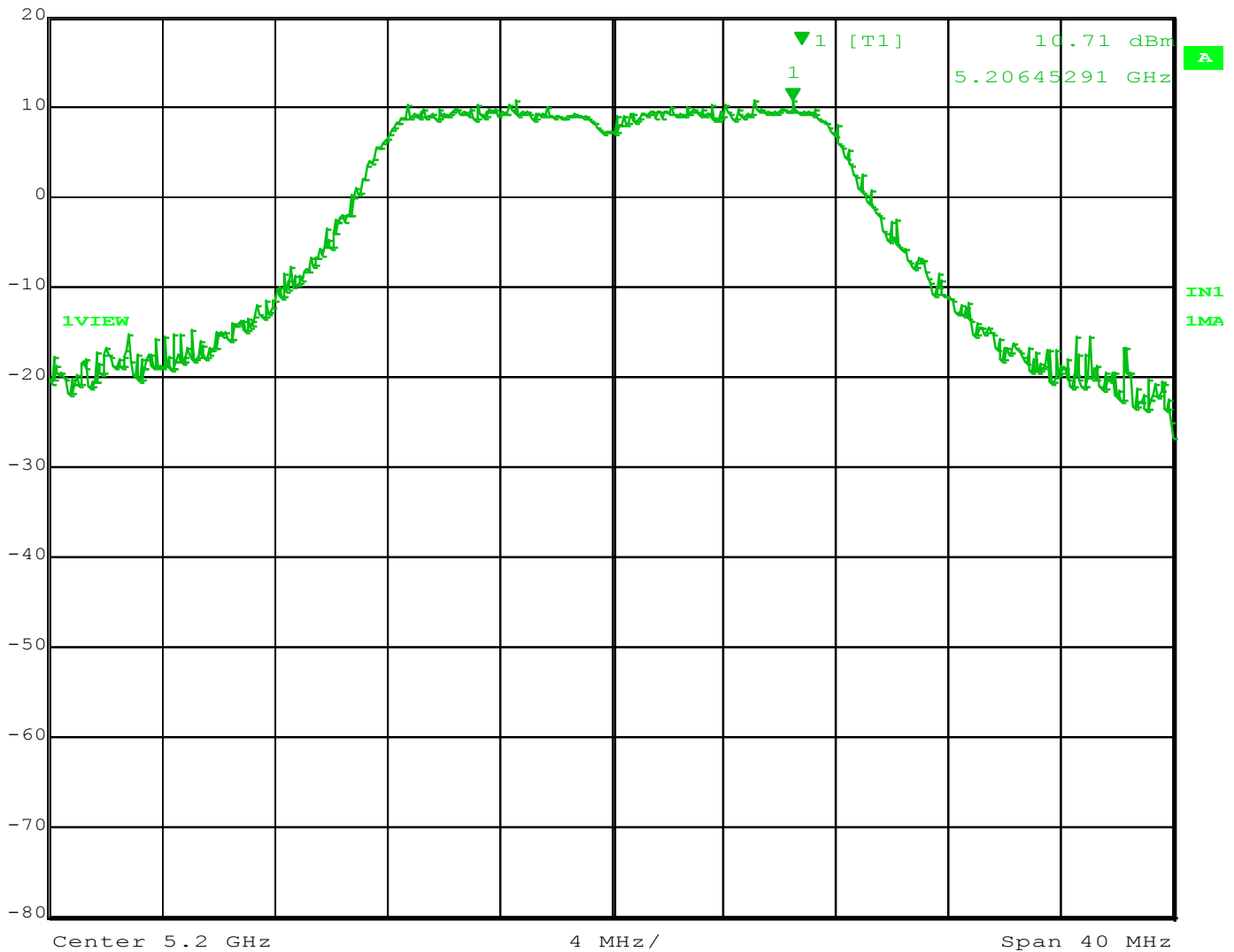
Date: 2.APR.2015 13:44:30

Figure 25 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 36 (5180 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	10.71 dBm	VBW	3 MHz		
20 dBm	5.20645291 GHz	SWT	5 ms	Unit	dBm



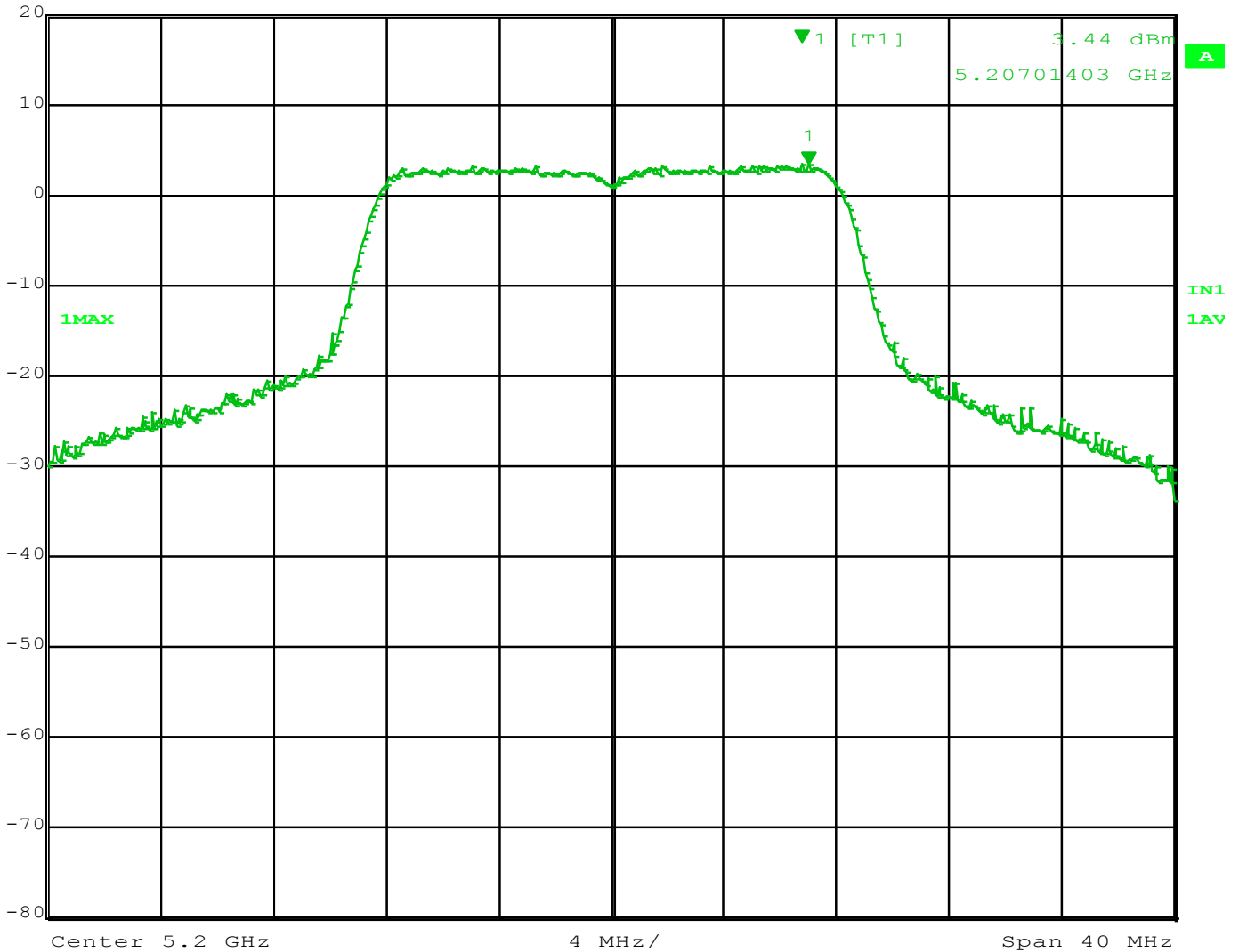
Date: 2.APR.2015 14:00:23

Figure 26 – Peak Power (conducted)  
EUT operating on Ch 40 (5200 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	3.44 dBm	VBW	3 MHz	
20 dBm	5.20701403 GHz	SWT	5 ms	Unit dBm



Date: 2.APR.2015 13:45:54

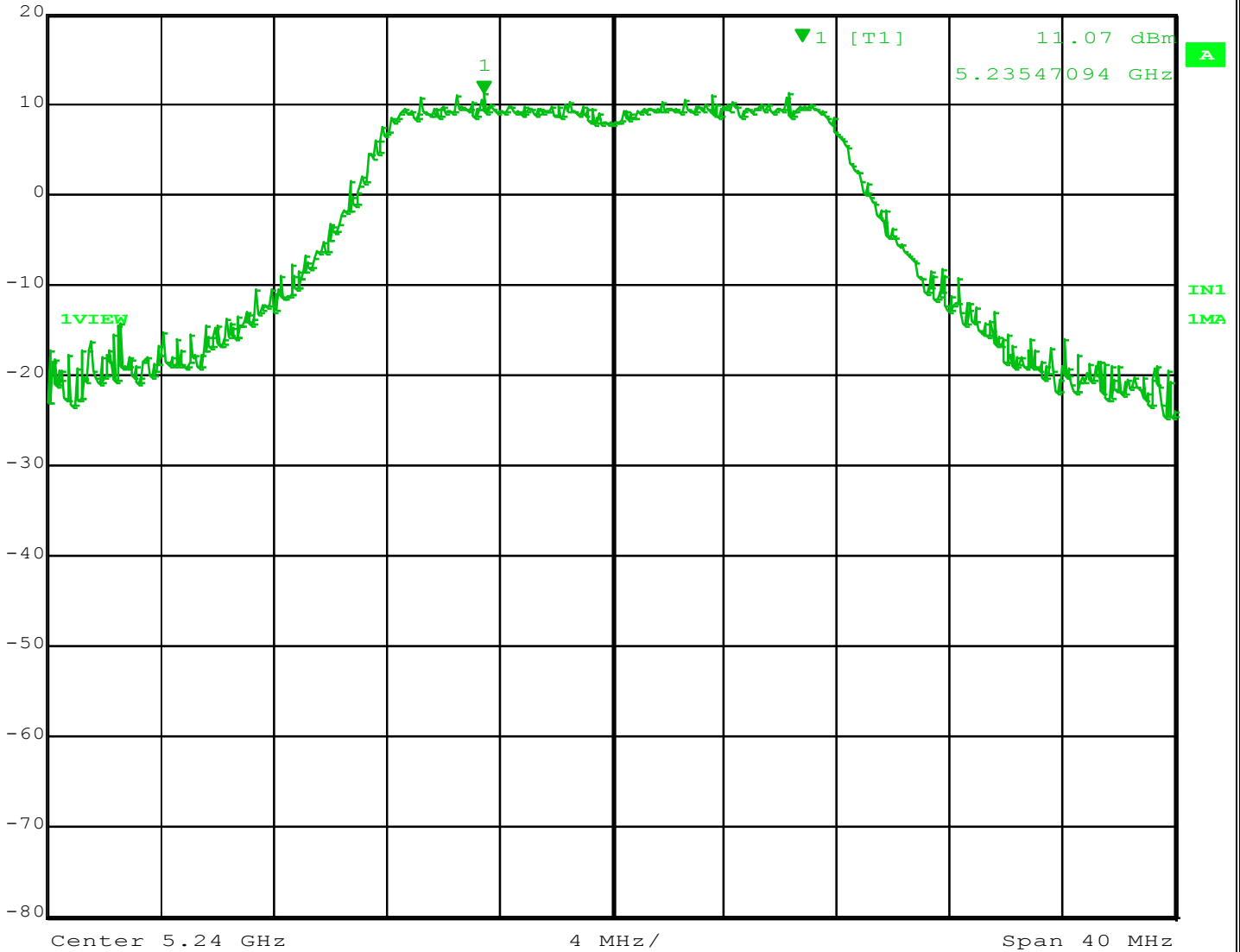
Figure 27 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 40 (5200 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.





	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	11.07 dBm	VBW	3 MHz		
20 dBm	5.23547094 GHz	SWT	5 ms	Unit	dBm



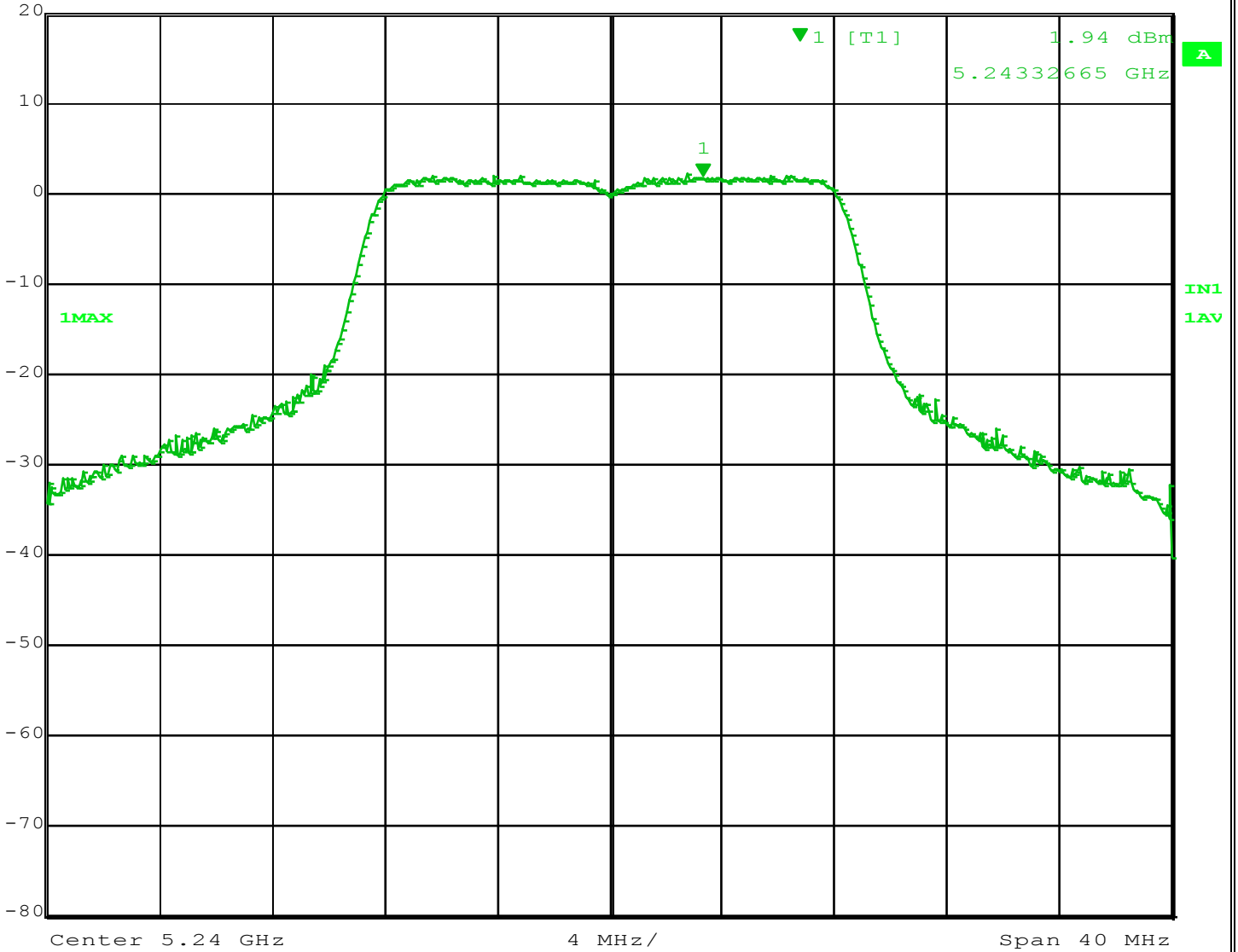
Date: 2.APR.2015 13:59:37

Figure 28 – Peak Power (conducted)  
EUT operating on Ch 48 (5240 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	1.94 dBm	5.24332665 GHz	RBW	1 MHz	RF Att	30 dB	VBW	3 MHz	SWT	5 ms	Unit	dBm
---------	--------	---------------	----------	----------------	-----	-------	--------	-------	-----	-------	-----	------	------	-----



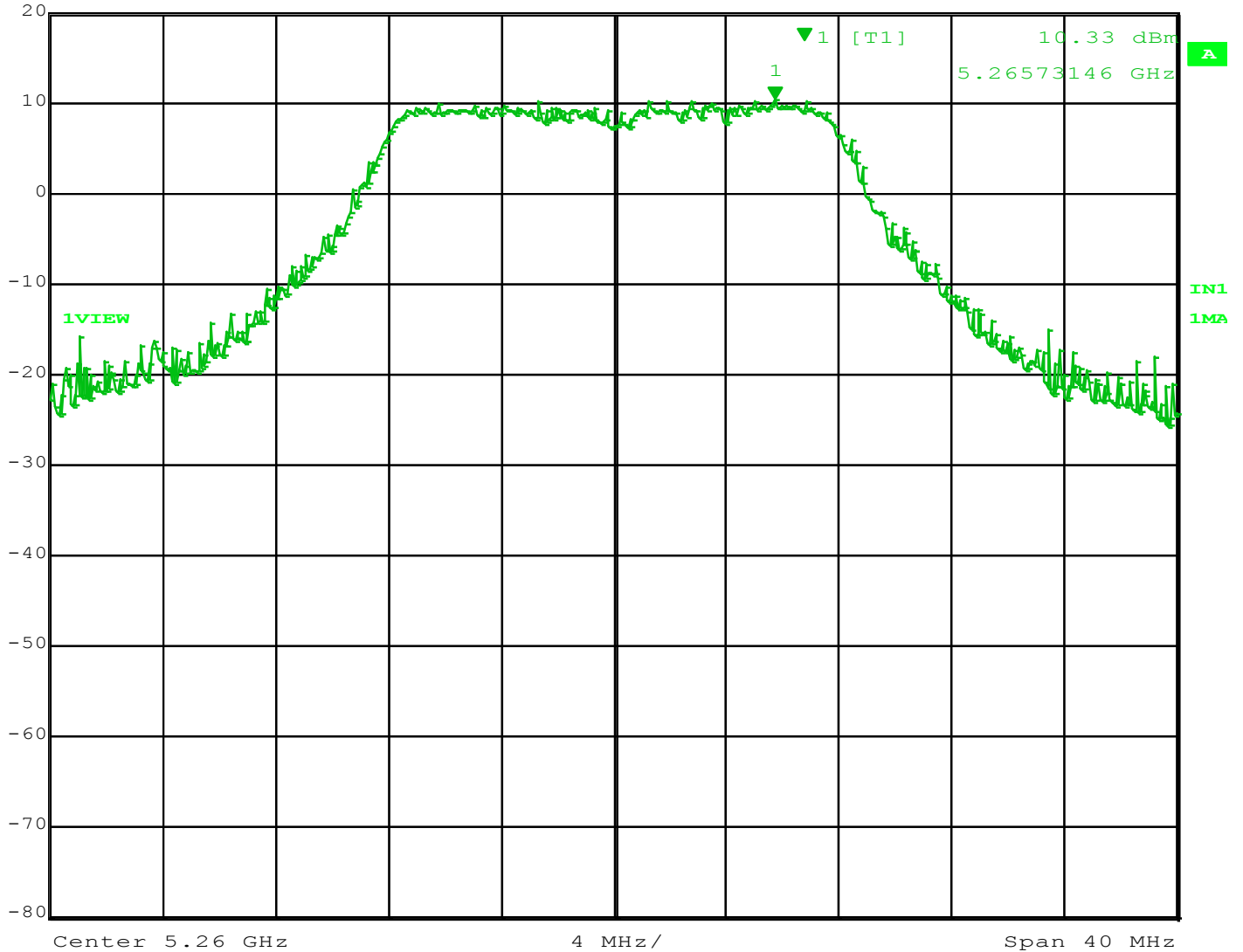
Date: 2.APR.2015 13:46:31

Figure 29 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 48 (5240 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	10.33 dBm	VBW	3 MHz		
20 dBm	5.26573146 GHz	SWT	5 ms	Unit	dBm



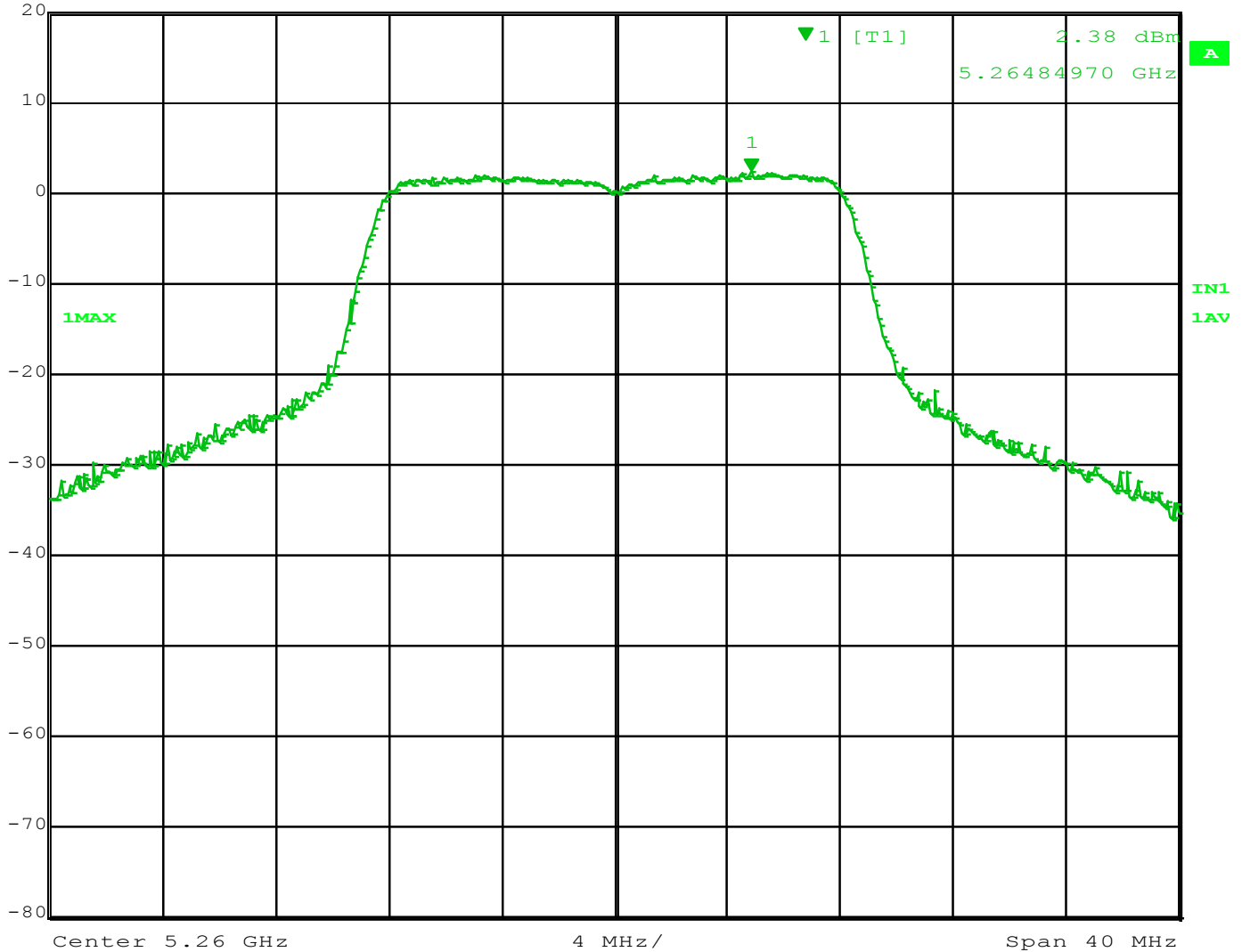
Date: 2.APR.2015 13:59:09

Figure 30 – Peak Power (conducted)  
EUT operating on Ch 52 (5260 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	2.38 dBm	VBW	3 MHz	
20 dBm	5.26484970 GHz	SWT	5 ms	Unit dBm



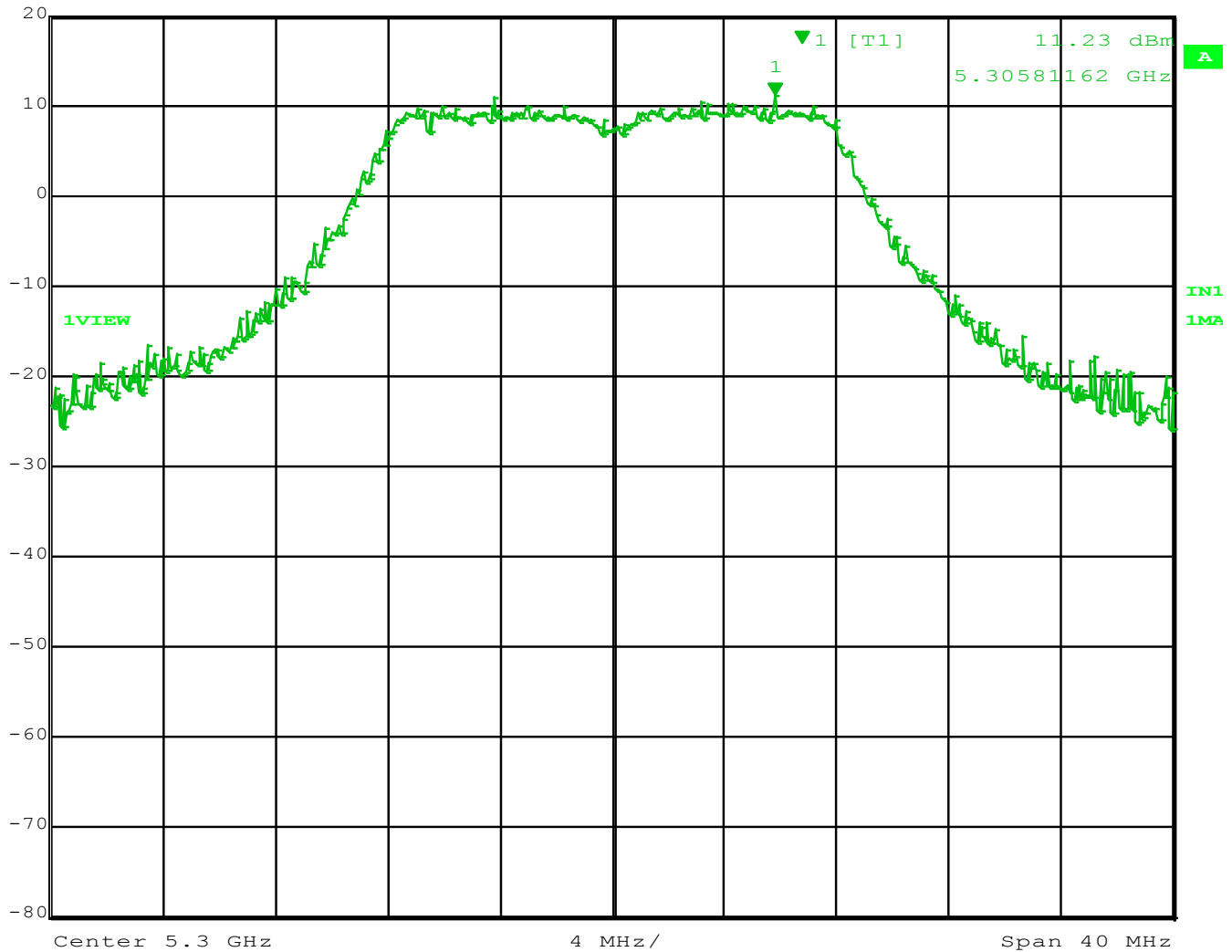
Date: 2.APR.2015 13:47:09

Figure 31 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 52 (5260 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	11.23 dBm	RBW	1 MHz	RF Att	30 dB
			5.30581162 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



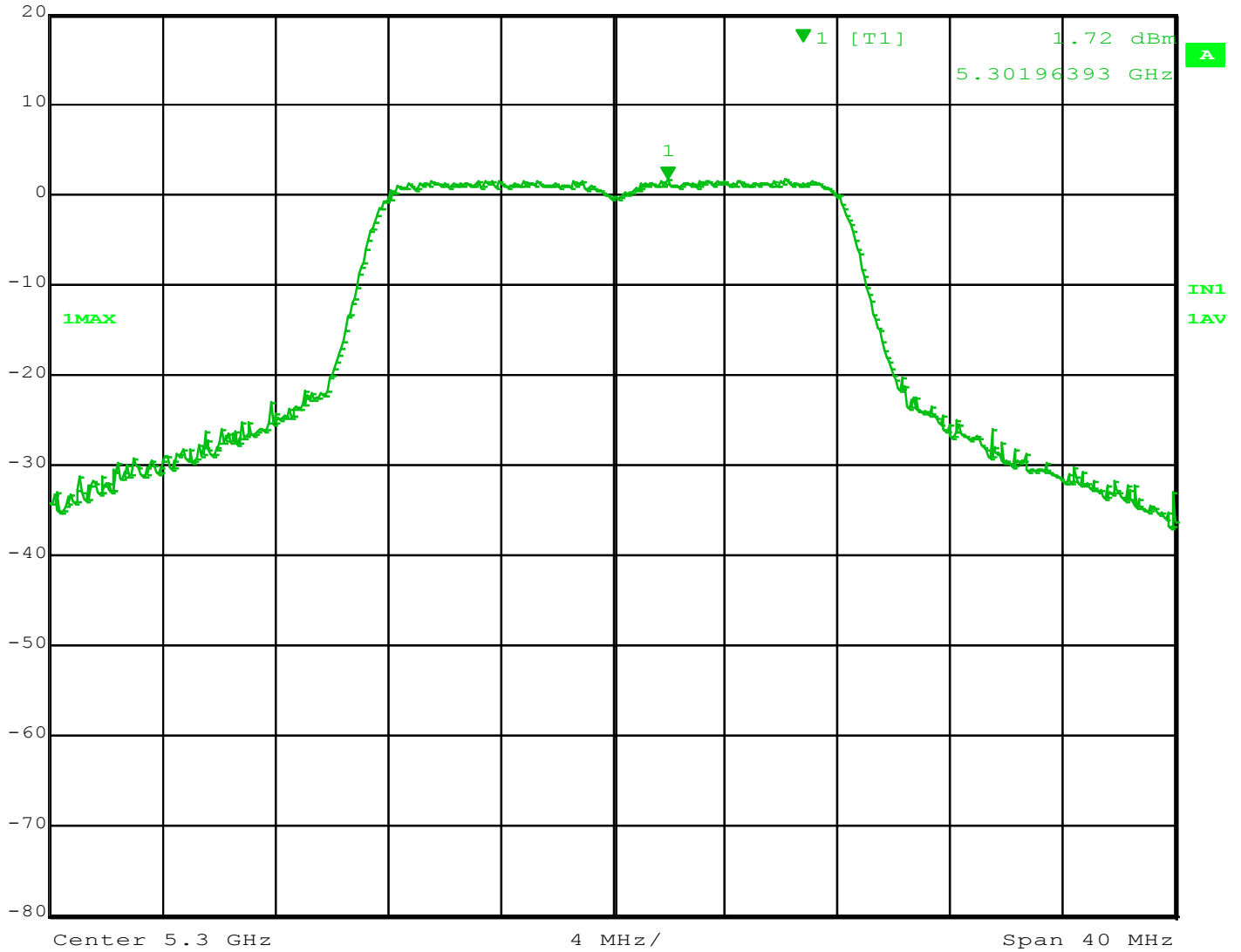
Date: 2.APR.2015 13:58:41

Figure 32 – Peak Power (conducted)  
EUT operating on Ch 60 (5300 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	1.72 dBm	VBW	3 MHz	
20 dBm	5.30196393 GHz	SWT	5 ms	Unit dBm



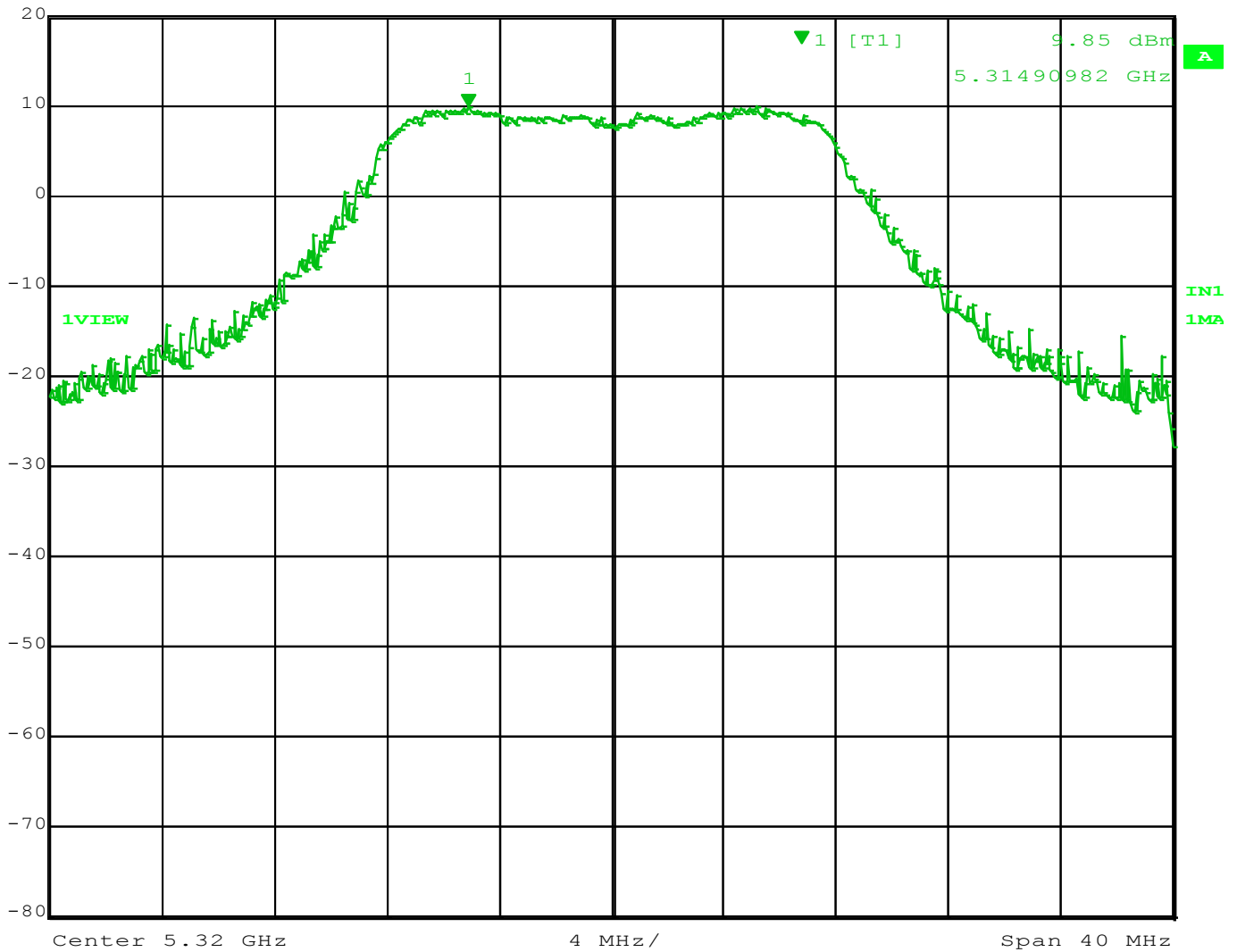
Date: 2.APR.2015 13:47:44

Figure 33 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 60 (5300 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	9.85 dBm	VBW	3 MHz		
	5.31490982 GHz	SWT	5 ms	Unit	dBm



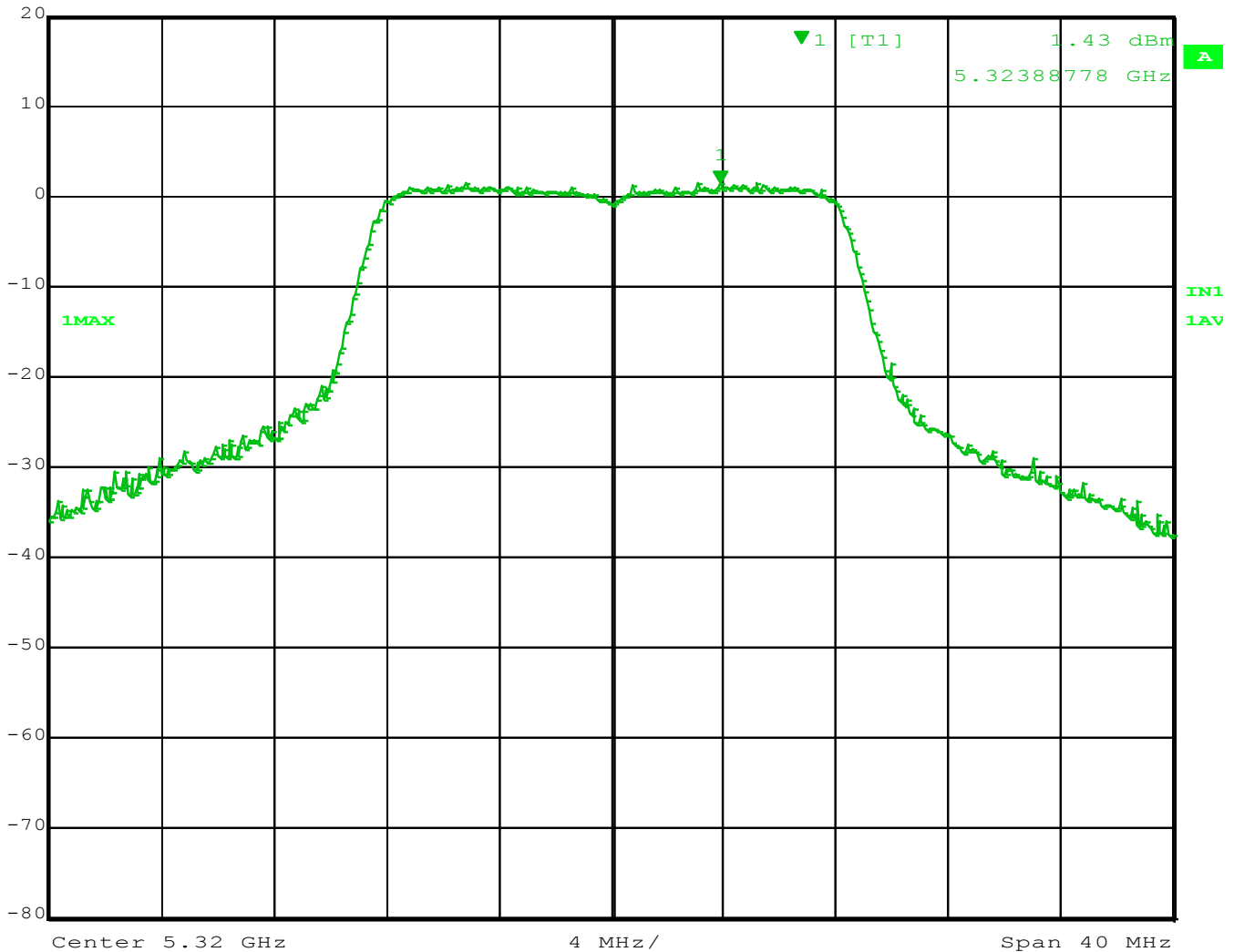
Date: 2.APR.2015 14:21:41

Figure 34 – Peak Power (conducted)  
EUT operating on Ch 64 (5320 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	1.43 dBm	VBW	3 MHz		
	5.32388778 GHz	SWT	5 ms	Unit	dBm




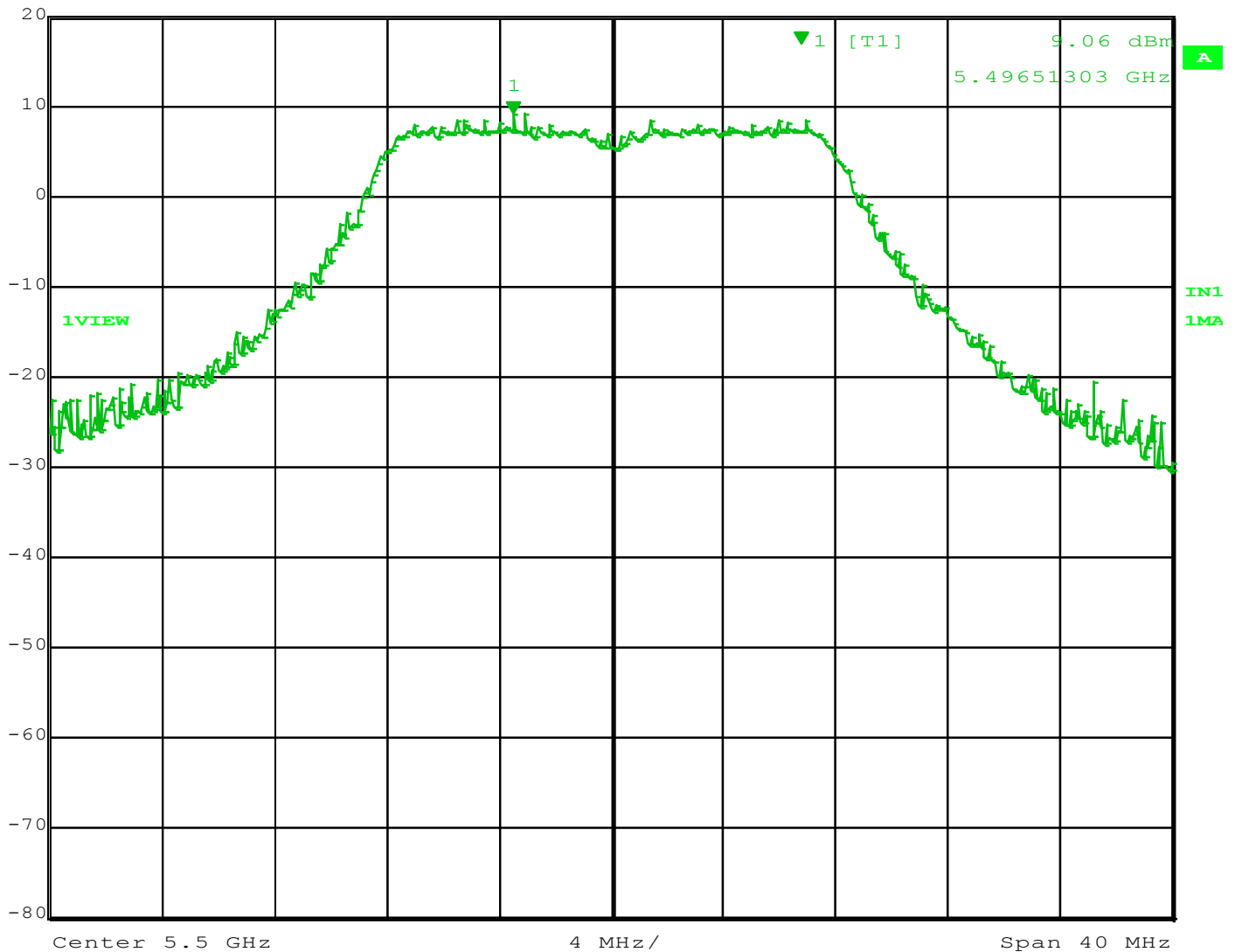
Date: 2.APR.2015 13:48:17

Figure 35 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 64 (5320 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	Ref Lvl	9.06 dBm	VBW	3 MHz	
	20 dBm	5.49651303 GHz	SWT	5 ms	Unit



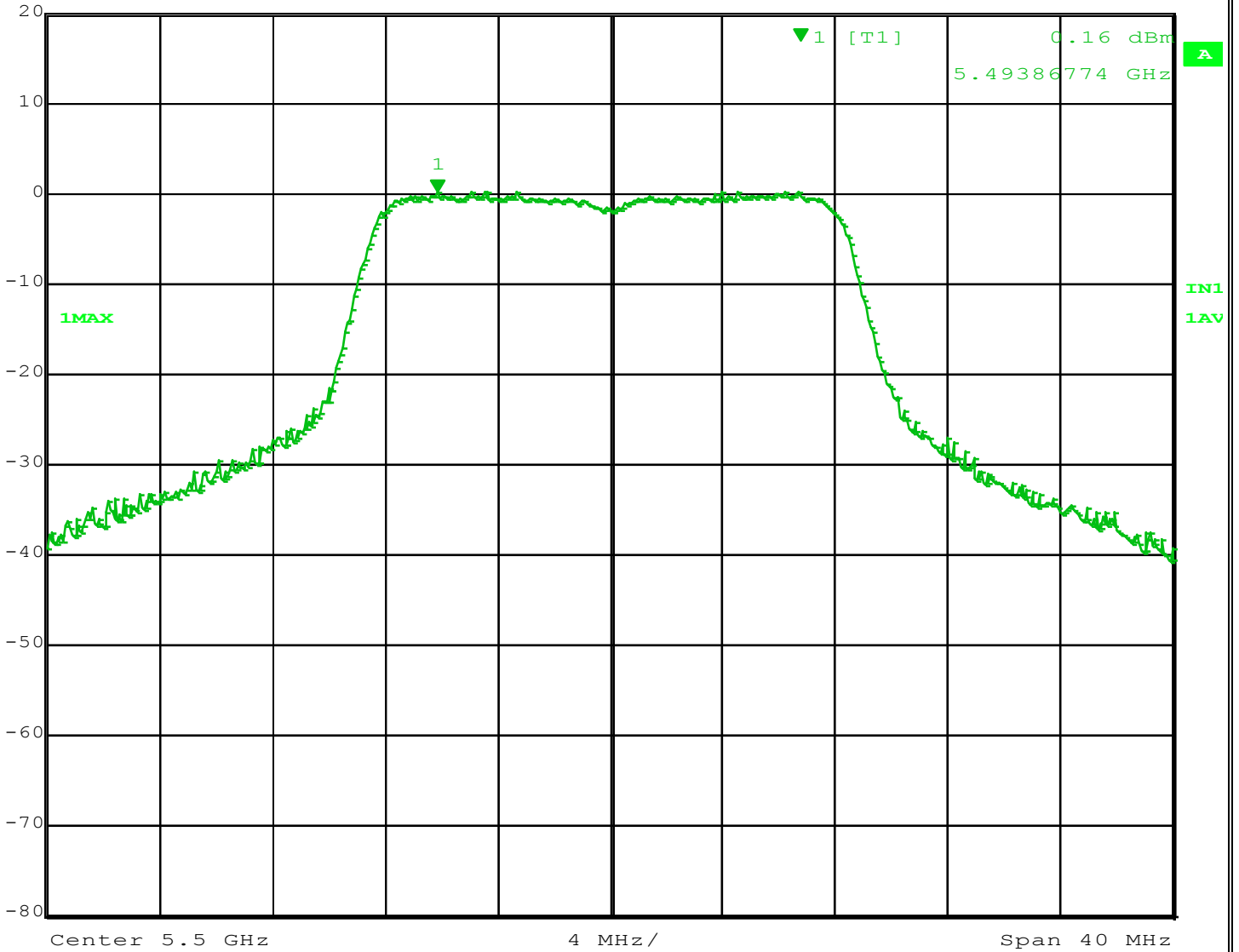
Date: 2.APR.2015 13:56:46

Figure 36 – Peak Power (conducted)  
EUT operating on Ch 100 (5500 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	5.49386774 GHz	RBW	1 MHz	RF Att	30 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



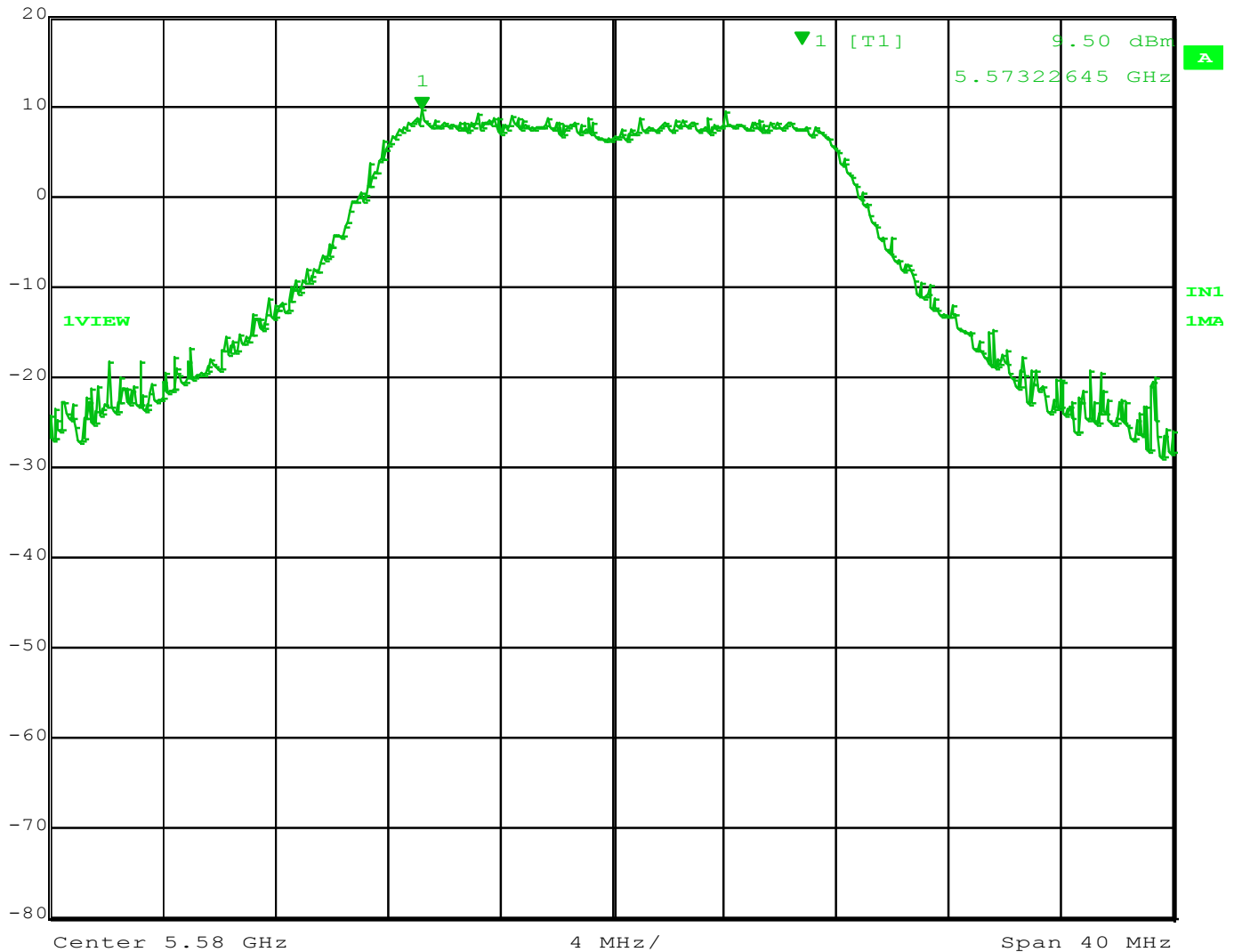
Date: 2.APR.2015 13:48:53

Figure 37 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 100 (5500 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	9.50 dBm	5.57322645 GHz	RBW	1 MHz	RF Att	30 dB	VBW	3 MHz	SWT	5 ms	Unit	dBm
---------	--------	---------------	----------	----------------	-----	-------	--------	-------	-----	-------	-----	------	------	-----



Date: 2.APR.2015 13:56:11

Figure 38 – Peak Power (conducted)  
EUT operating on Ch 116 (5580 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]

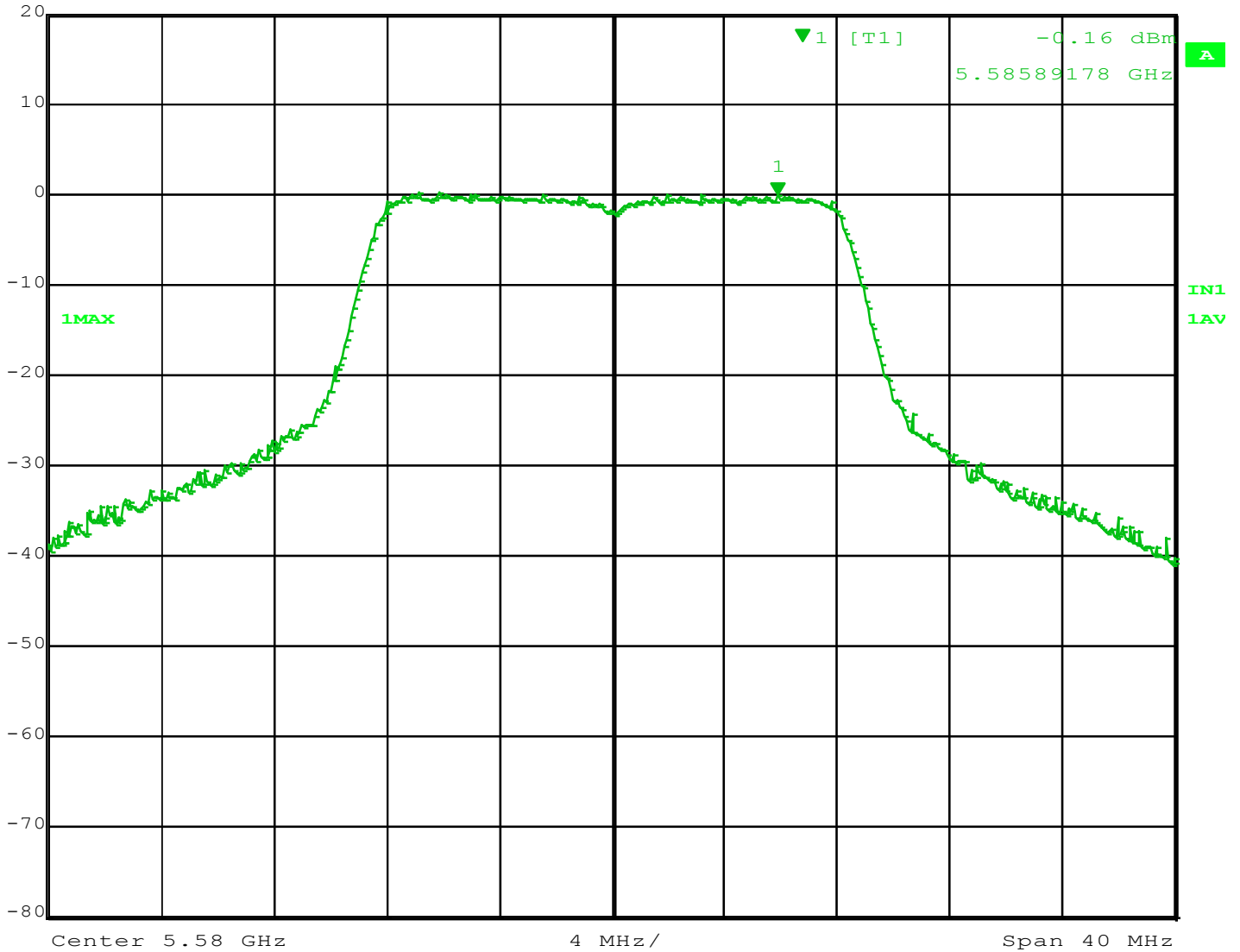
RBW 1 MHz RF Att 30 dB

Ref Lvl -0.16 dBm

VBW 3 MHz

20 dBm 5.58589178 GHz

SWT 5 ms Unit dBm



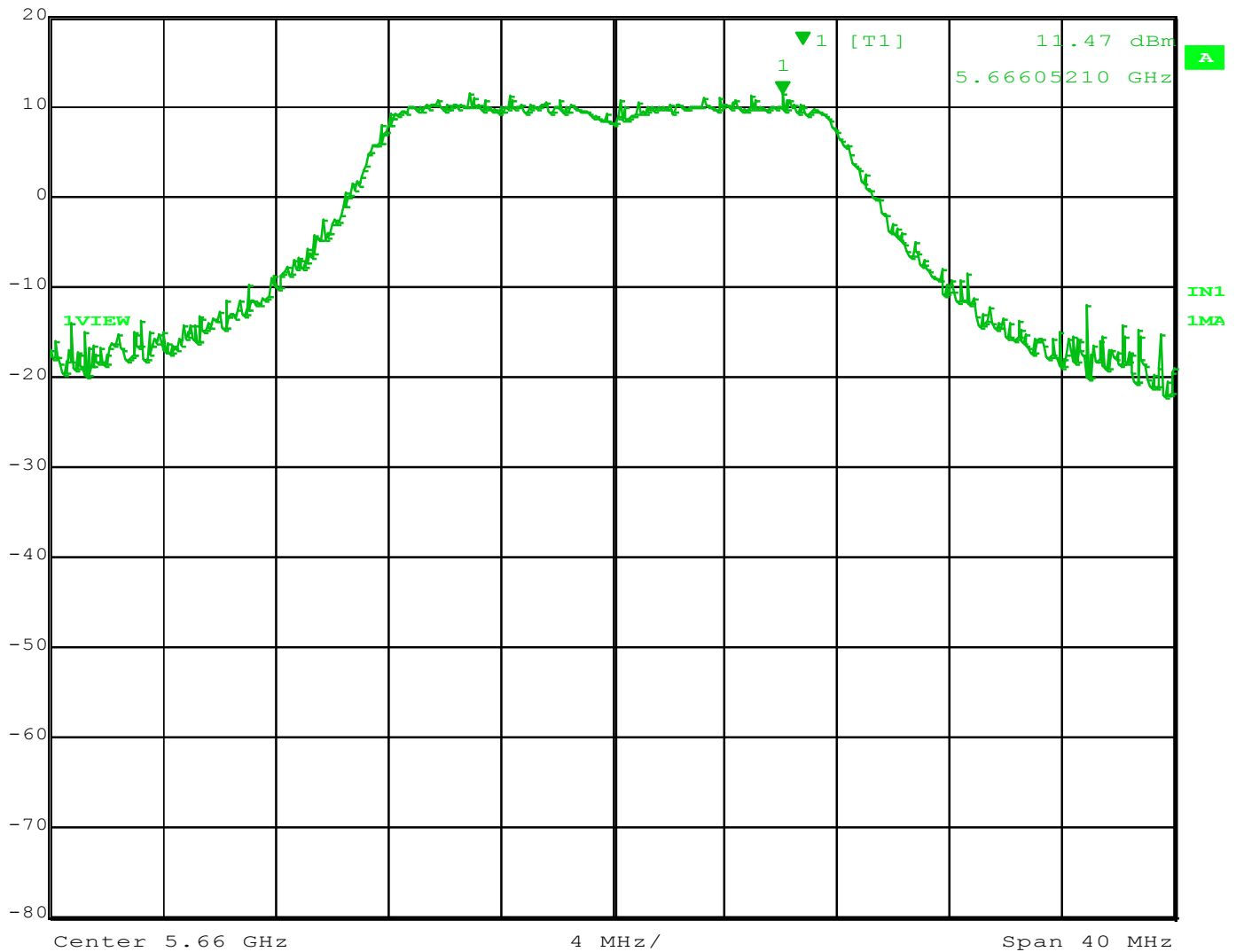
Date: 2.APR.2015 13:49:31

Figure 39 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 116 (5580 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	20 dBm	Marker 1 [T1]	11.47 dBm	RBW	1 MHz	RF Att	30 dB
			5.66605210 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		

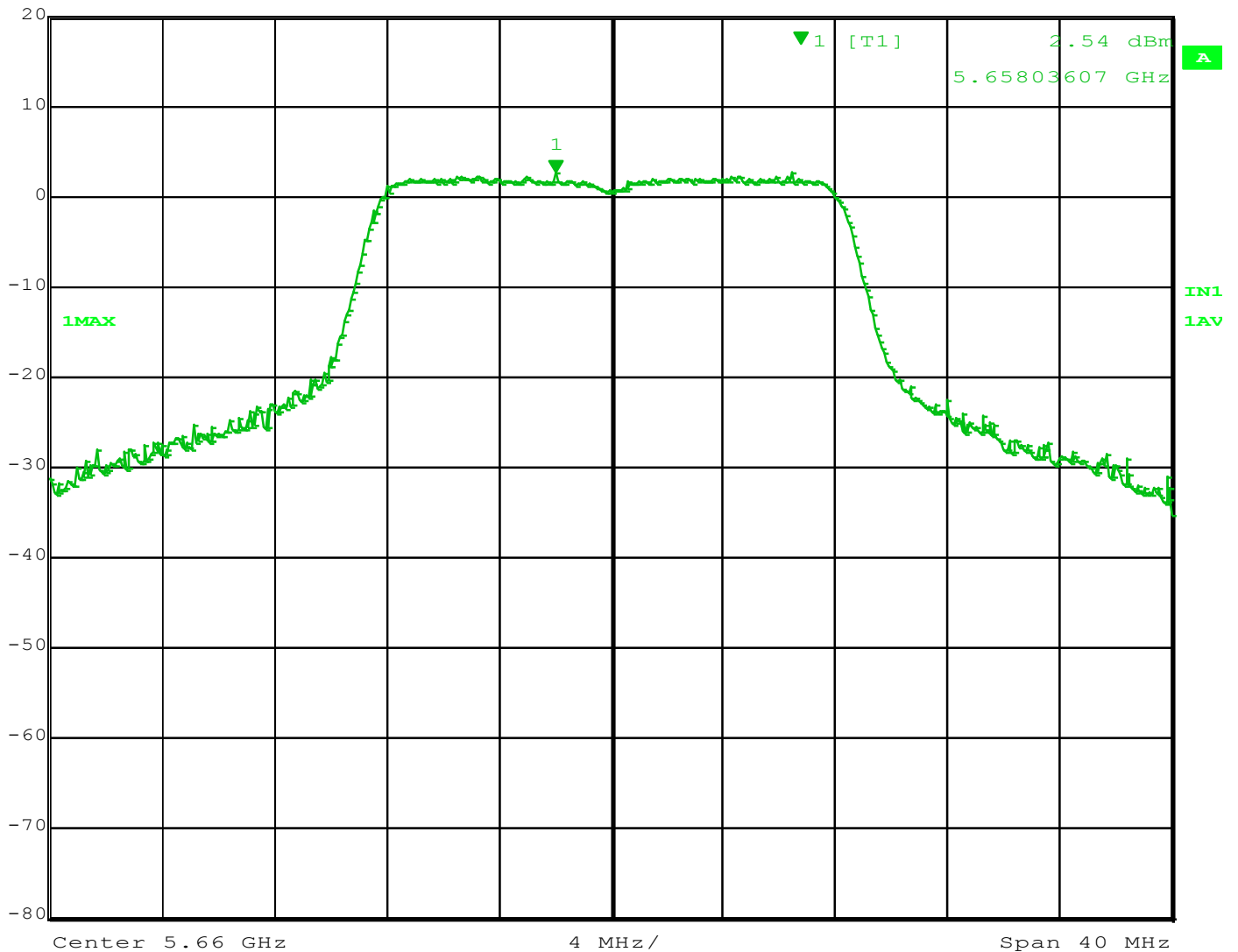


Date: 2.APR.2015 13:55:37

Figure 40 – Peak Power (conducted)  
EUT operating on Ch 132 (5660 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	Ref Lvl	2.54 dBm	VBW	3 MHz	
	20 dBm	5.65803607 GHz	SWT	5 ms	Unit dBm



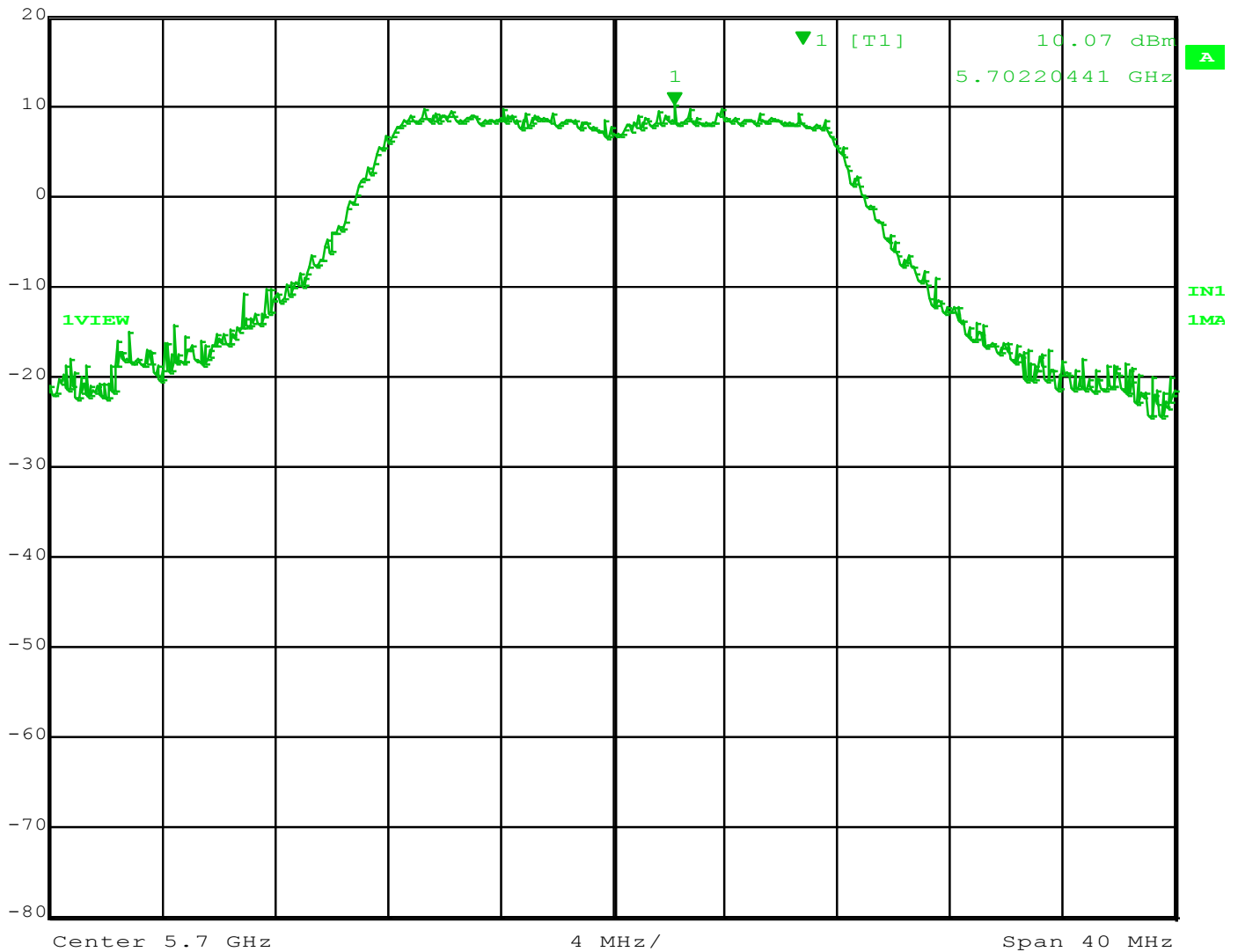
Date: 2.APR.2015 13:50:02

Figure 41 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 132 (5600 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



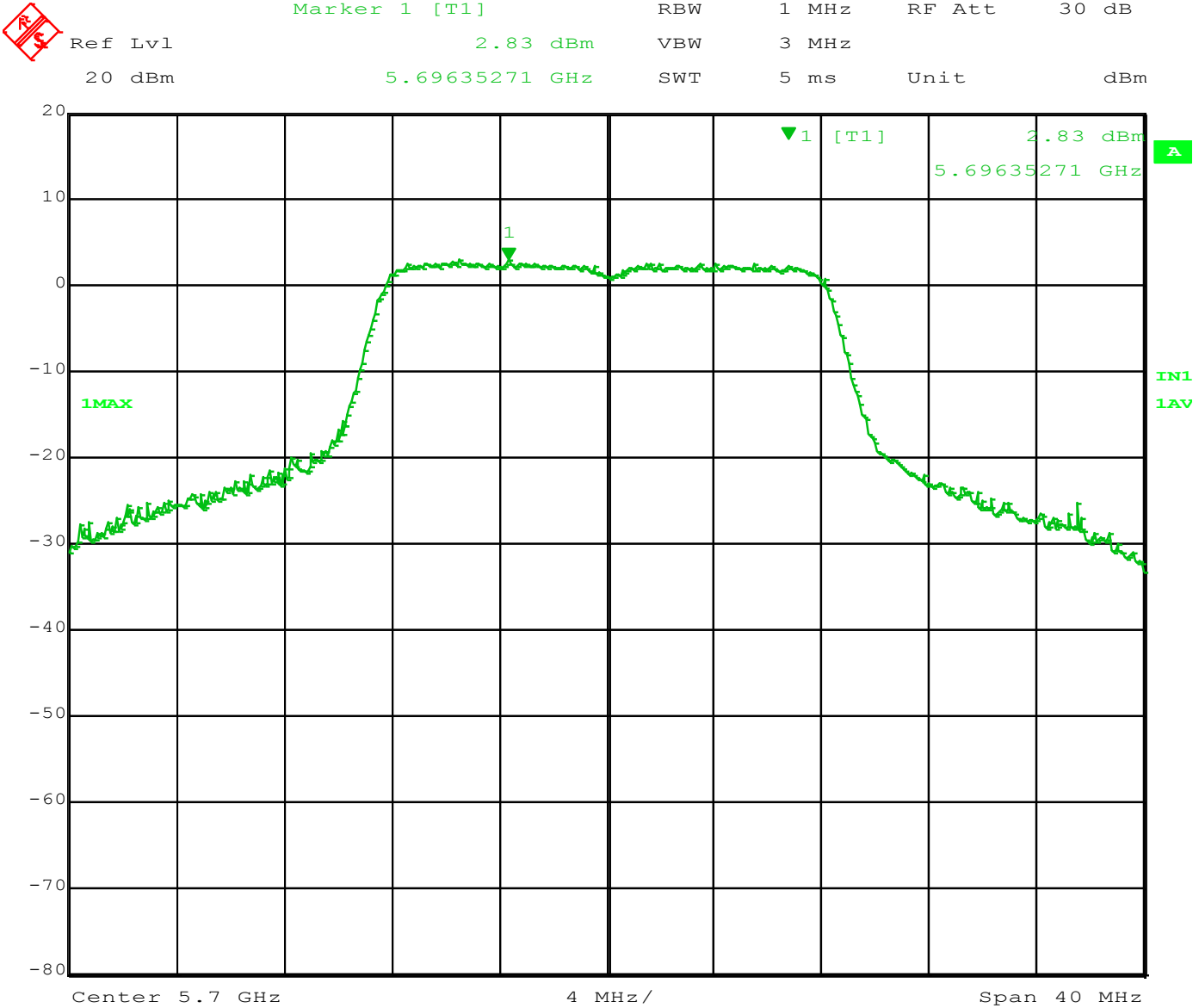
Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
20 dBm	10.07 dBm	VBW	3 MHz		
	5.70220441 GHz	SWT	5 ms	Unit	dBm



Date: 2.APR.2015 13:55:03

Figure 42 – Peak Power (conducted)  
EUT operating on Ch 140 (5700 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Date: 2.APR.2015 13:50:37

Figure 43 – Peak Power Spectral Density (conducted) in any 1 MHz band  
EUT operating on Ch 140 (5700 MHz)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

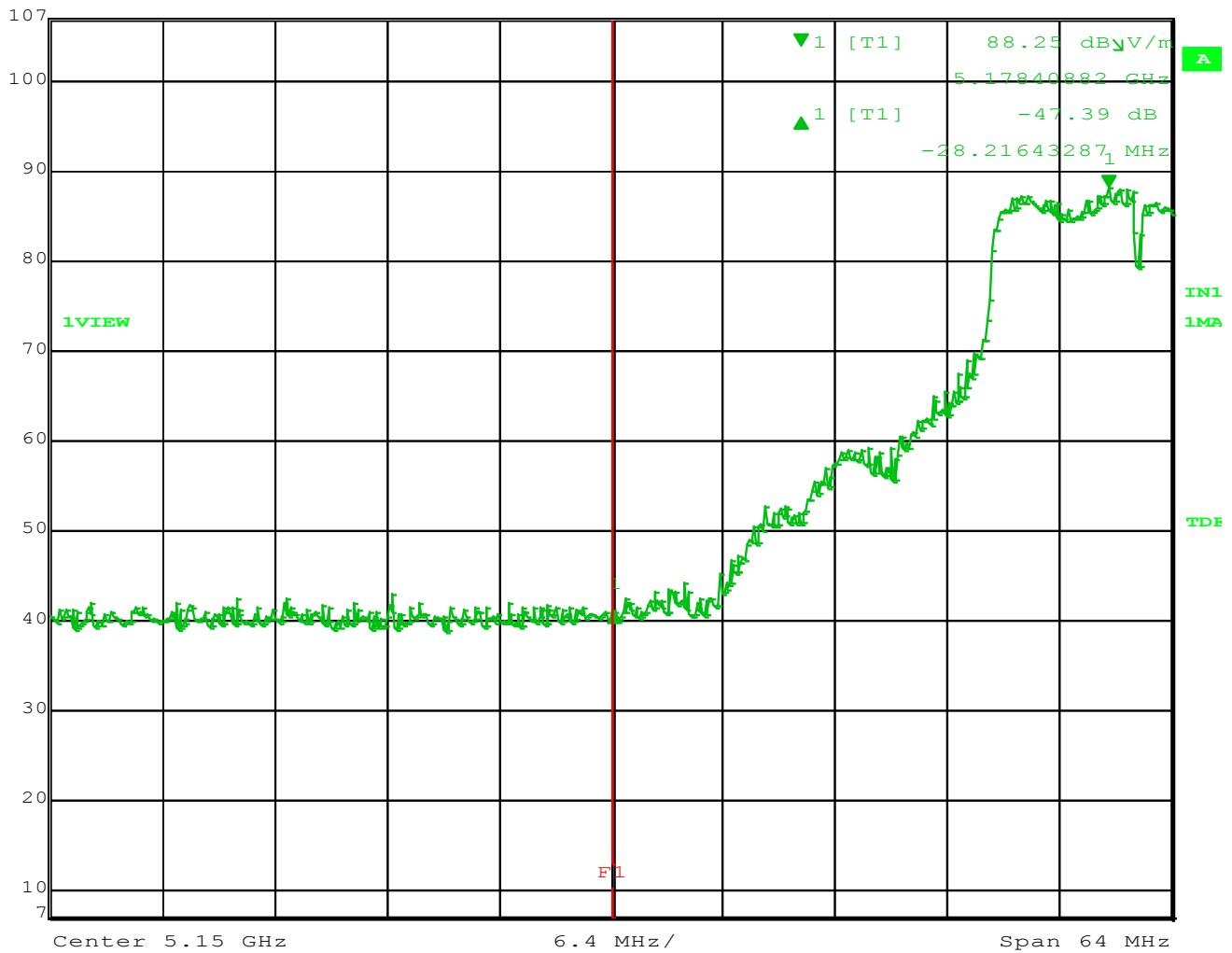


### 4.6 Band Edge

In accordance with 47 CFR Part 15.407(b) All emissions outside of the 5.15 – 5.25 GHz Band shall not exceed an EIRP of -27dBm/MHz.



	Delta 1 [T1]	RBW	100 kHz	RF Att	10 dB
Ref Lvl	-47.39 dB	VBW	300 kHz		
107 dB*	-28.21643287 MHz	SWT	16 ms	Unit	dBµV/m



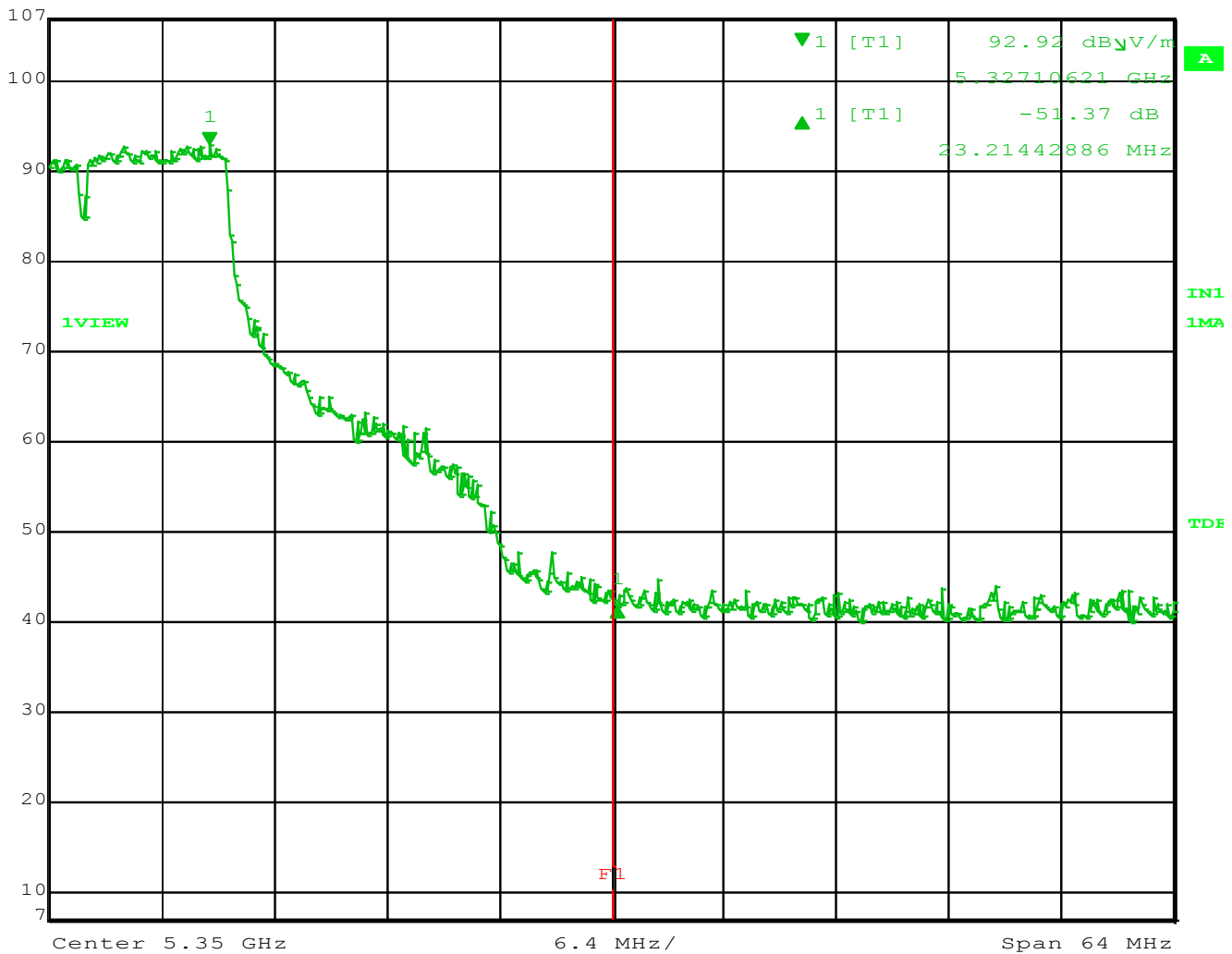
Date: 6.JAN.2015 14:32:13

Figure 44 – Lower Band edge at 5150 MHz

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1] RBW 100 kHz RF Att 10 dB  
 Ref Lvl -51.37 dB VBW 300 kHz  
 107 dB\* 23.21442886 MHz SWT 16 ms Unit dB $\mu$ V/m



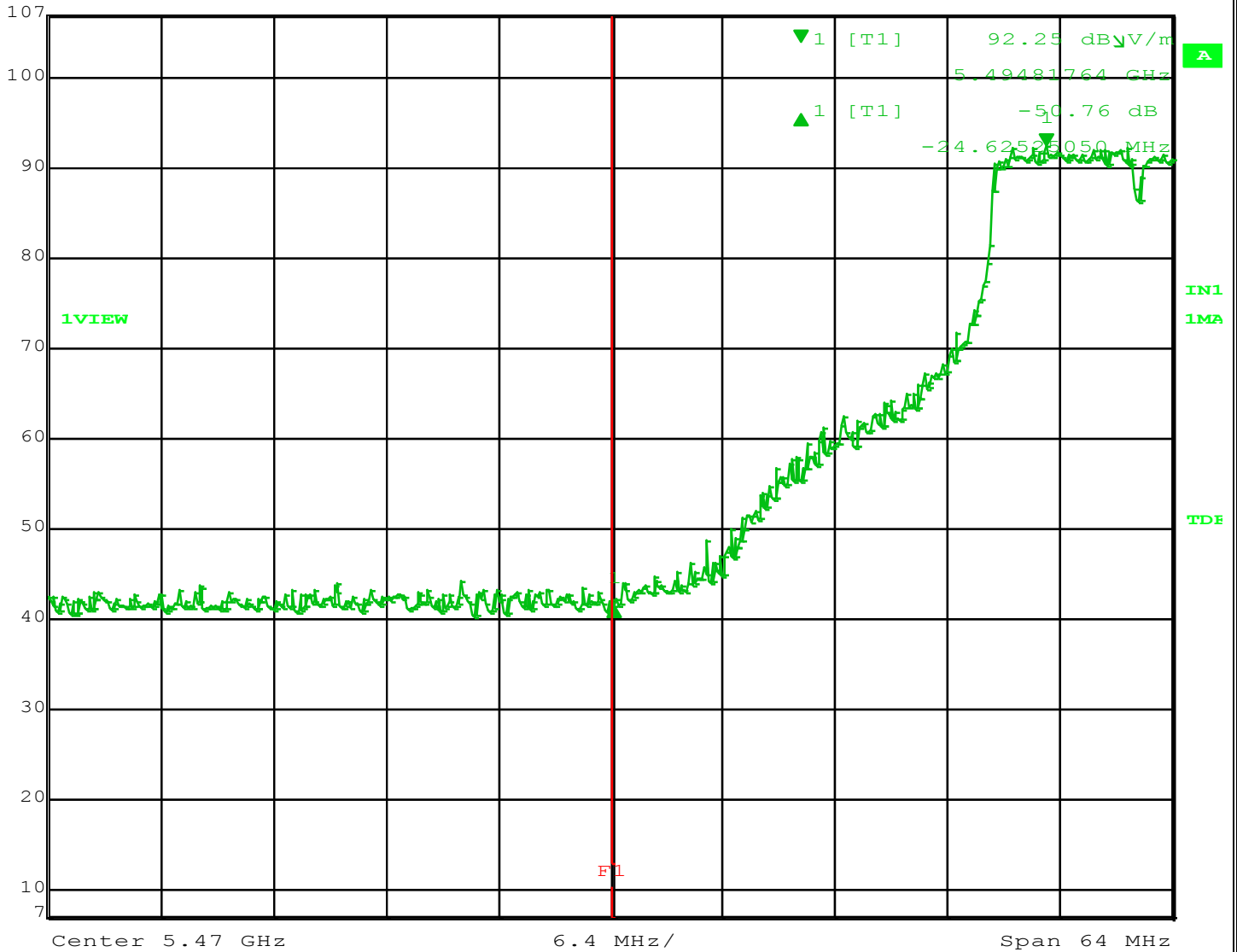
Date: 6.JAN.2015 14:50:56

Figure 45 – Upper Band edge at 5350 MHz

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1]	RBW	100 kHz	RF Att	10 dB
Ref Lvl	VBW	300 kHz		
107 dB*	SWT	16 ms	Unit	dBμV/m



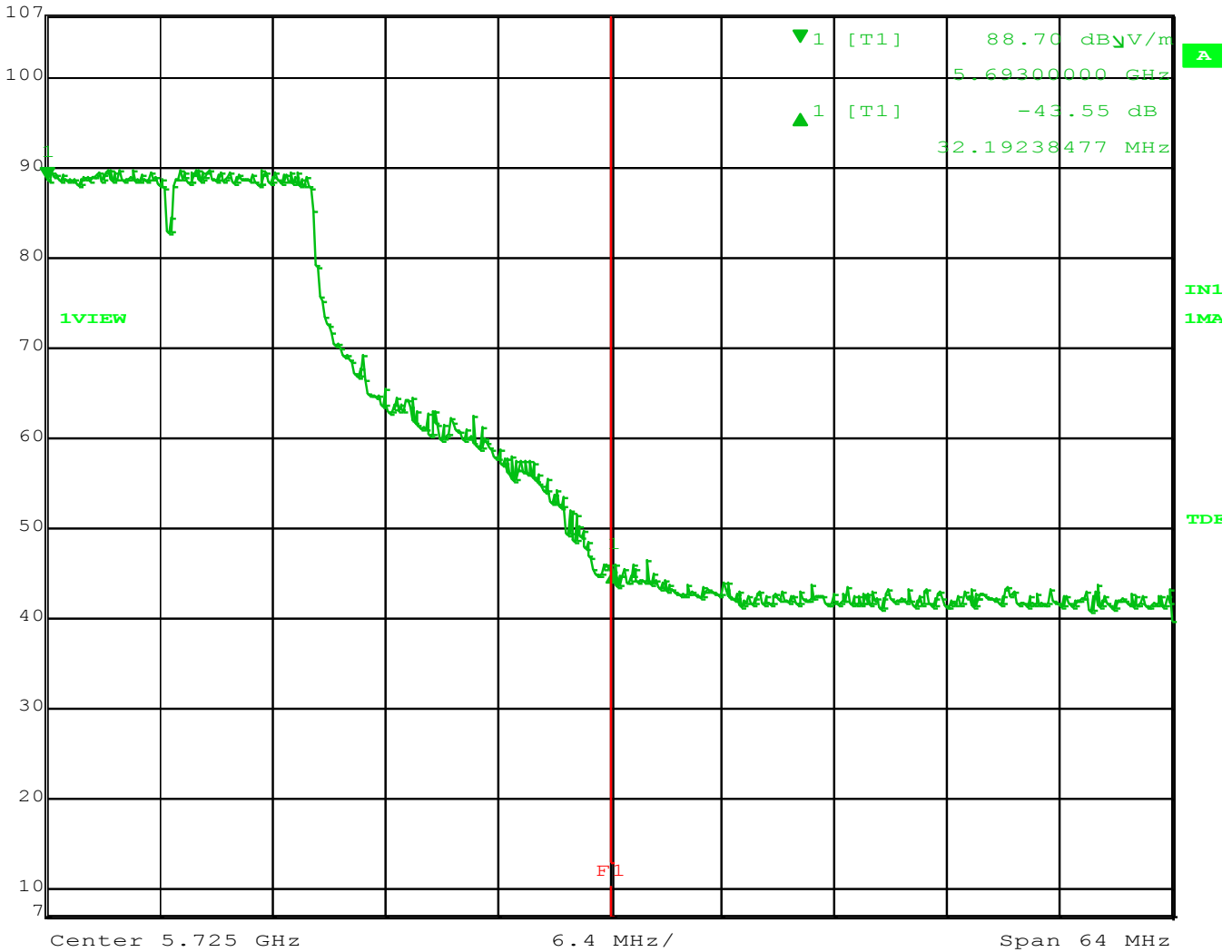
Date: 6.JAN.2015 14:27:46

Figure 46 – Lower Band edge at 5470 MHz

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1]	RBW	100 kHz	RF Att	10 dB
Ref Lvl			VBW	300 kHz
107 dB*			SWT	16 ms
			Unit	dB $\mu$ V/m



Date: 6.JAN.2015 14:30:48

Figure 47 – Upper Band edge at 5725 MHz

### 4.6.1 Final Test

The EUT met the performance criteria requirement as specified in the test plan of this report and in the standards.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.7 -26 dB Bandwidth

In accordance with 47 CFR Part 15.407(a) (1)

#### 26dB OCCUPIED BANDWIDTH: Single chain - 802.11a OFDM MODULATION:

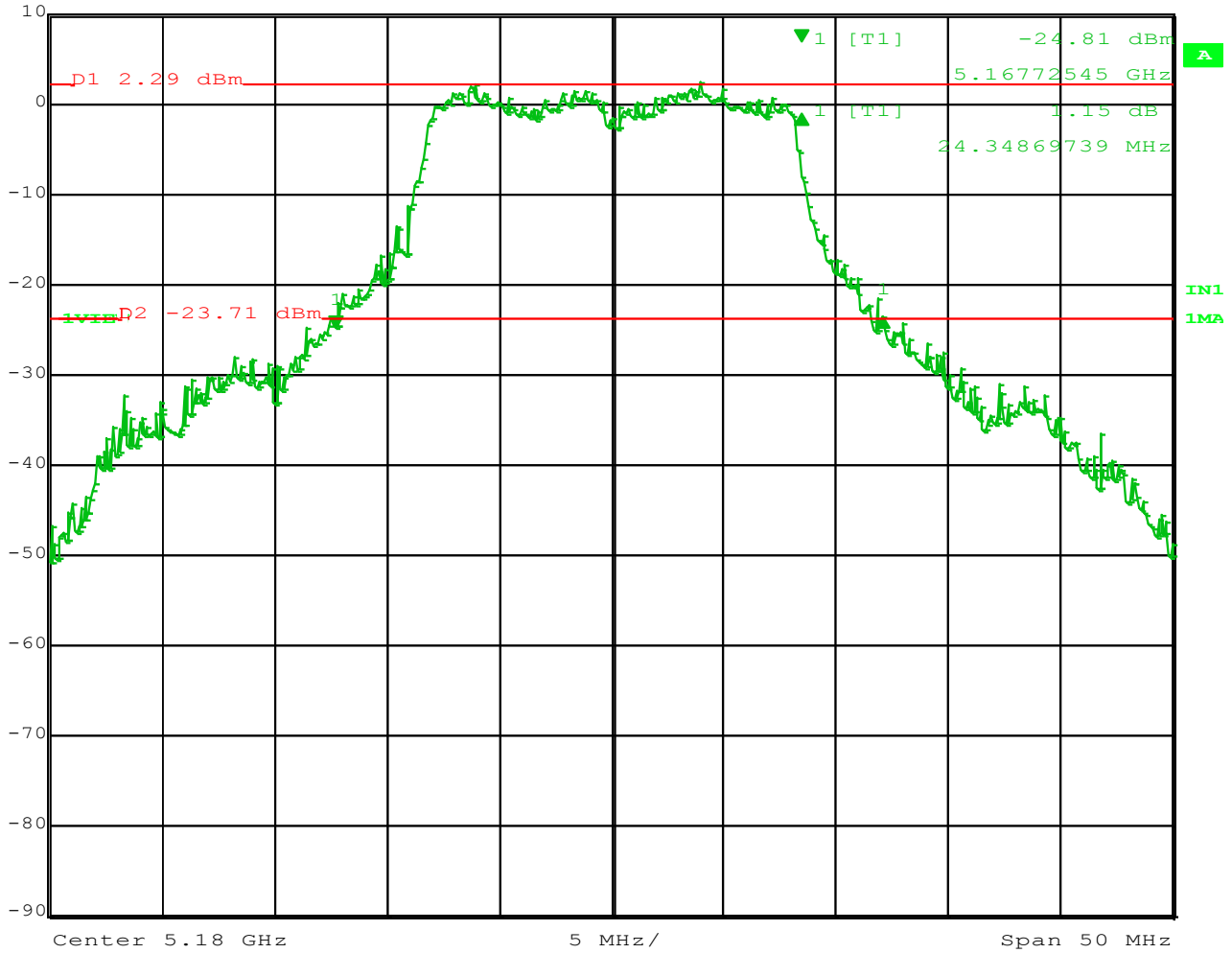
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)
36	5180	24.34
40	5200	24.94
48	5240	25.25
52	5260	26.99
60	5300	25.45
64	5320	25.55
100	5500	24.94
116	5580	25.85
132	5660	25.55
140	5700	26.25

Figure 48 – 26 dBc Bandwidth

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
20 dBm	1.15 dB	VBW	1 MHz		
	24.34869739 MHz	SWT	5 ms	Unit	dBm



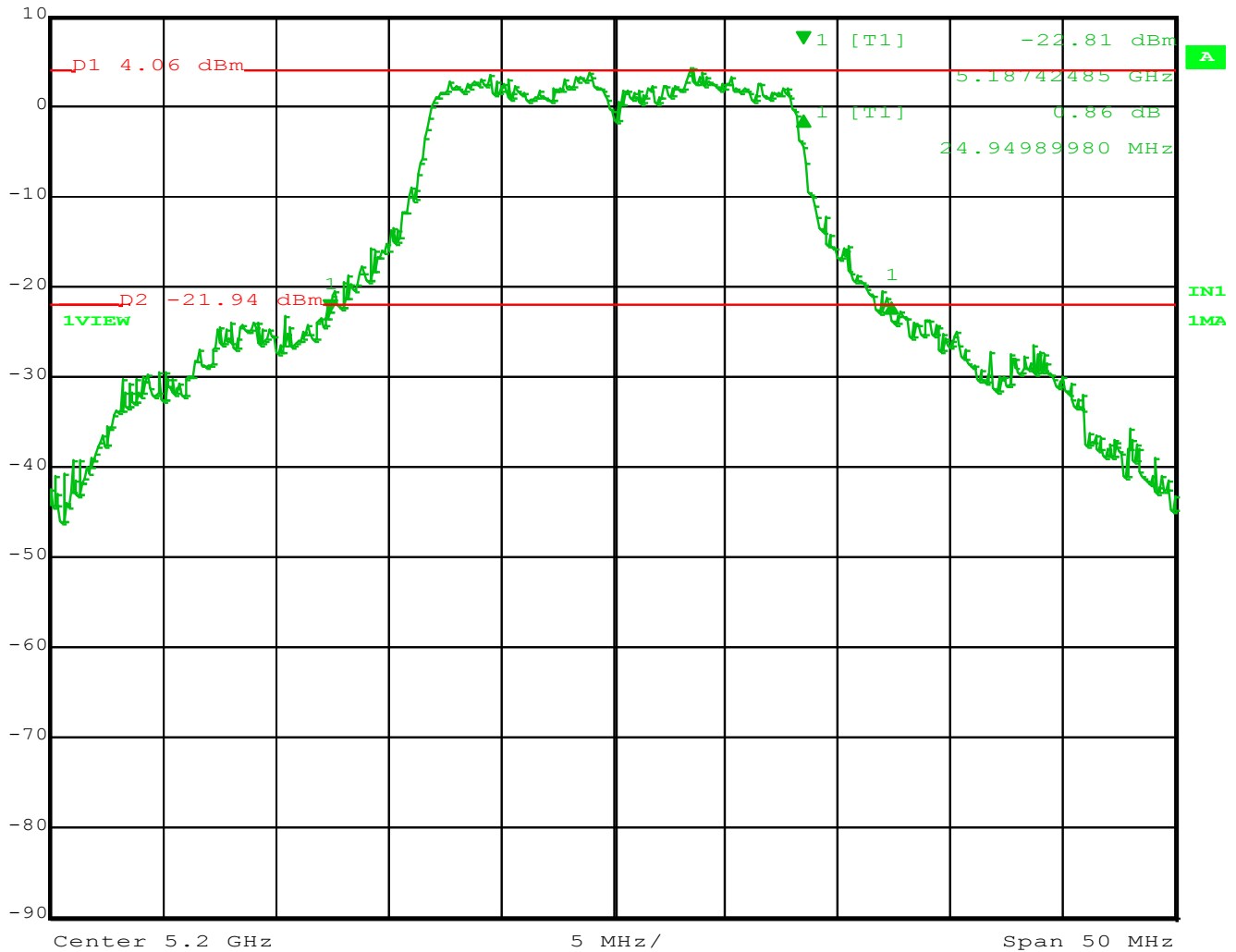
Date: 6.NOV.2014 16:22:58

Figure 49 – (-26) dB Bandwidth of EUT operating on Ch 36 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	0.86 dB	VBW	1 MHz		
20 dBm	24.94989980 MHz	SWT	5 ms	Unit	dBm



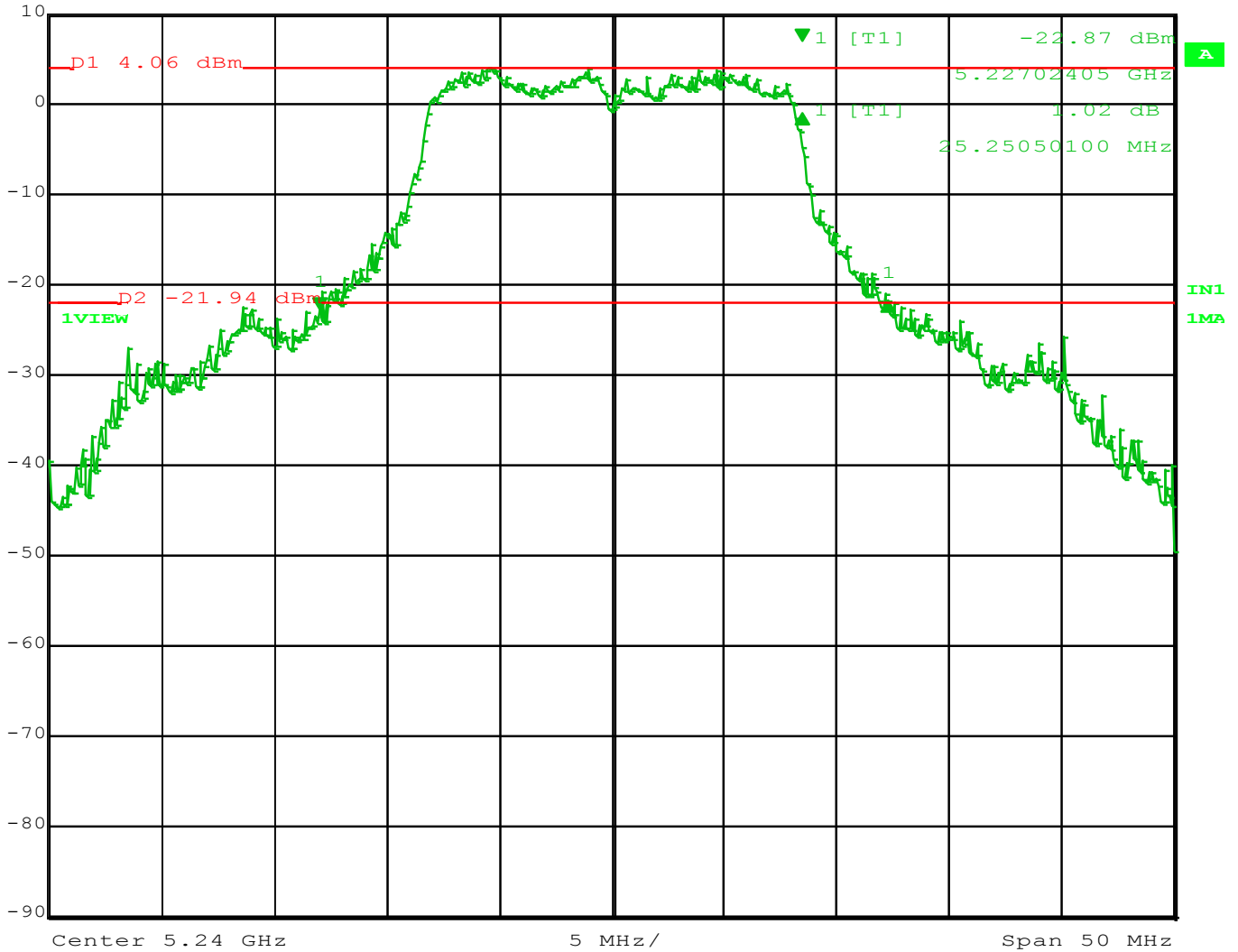
Date: 6.NOV.2014 16:25:29

Figure 50 – (-26) dB Bandwidth of EUT operating on Ch 40 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	1.02 dB	VBW	1 MHz		
20 dBm	25.25050100 MHz	SWT	5 ms	Unit	dBm



Date: 6.NOV.2014 16:29:57

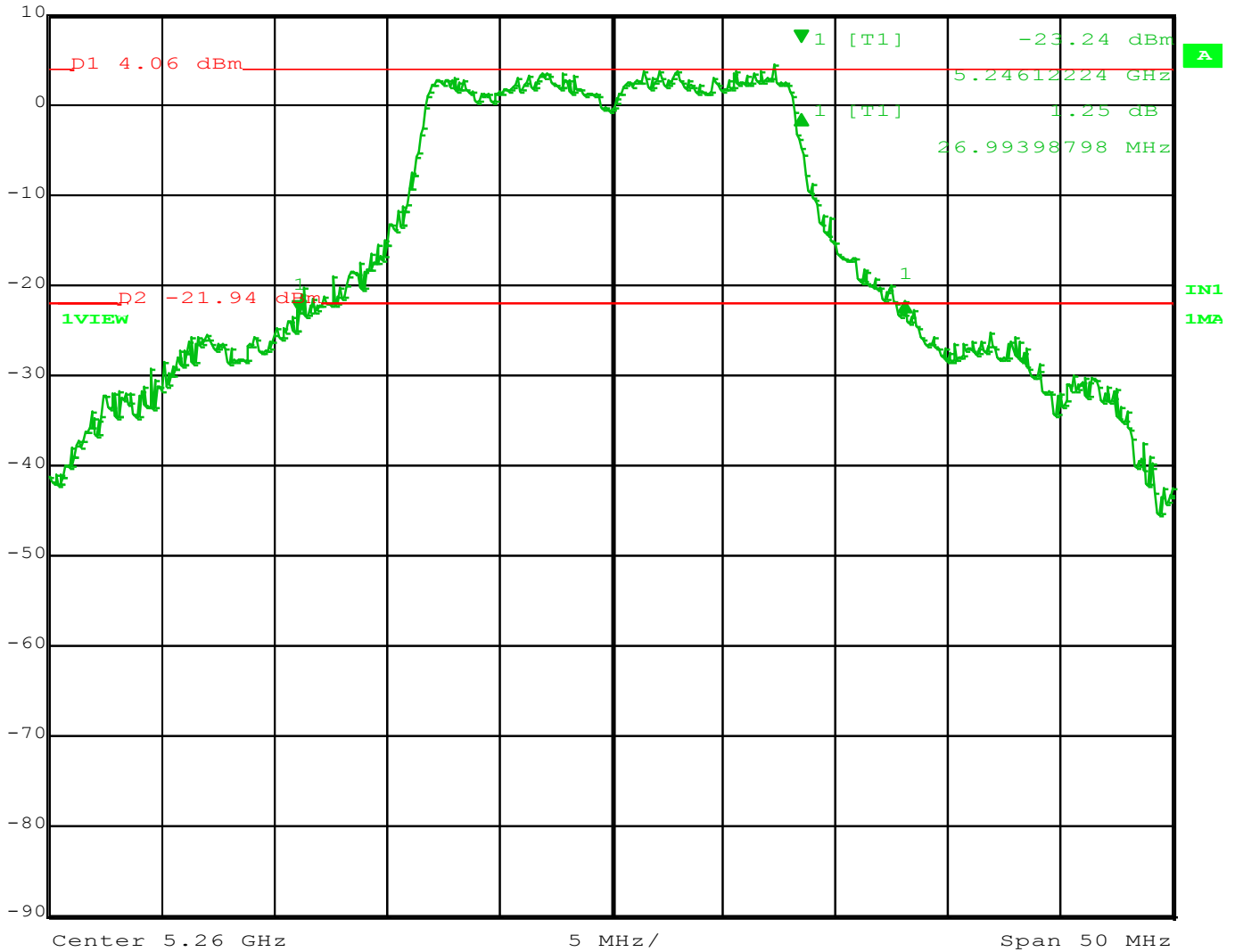
Figure 51 – (-26) dB Bandwidth of EUT operating on Ch 48 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.





	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	1.25 dB	VBW	1 MHz		
20 dBm	26.99398798 MHz	SWT	5 ms	Unit	dBm



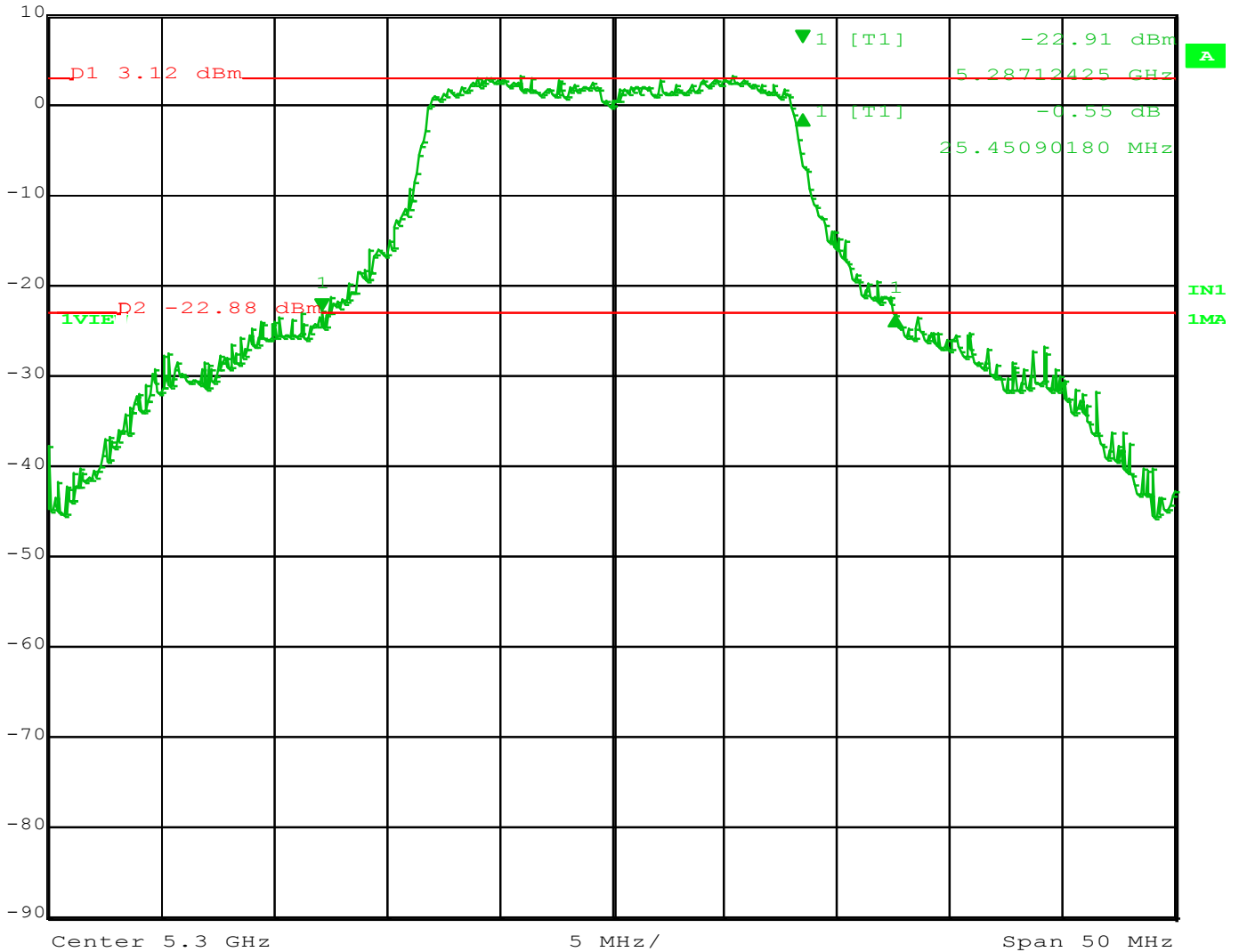
Date: 6.NOV.2014 16:32:41

Figure 52 – (-26) dB Bandwidth of EUT operating on Ch 52 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	-0.55 dB	VBW	1 MHz	
20 dBm	25.45090180 MHz	SWT	5 ms	Unit dBm



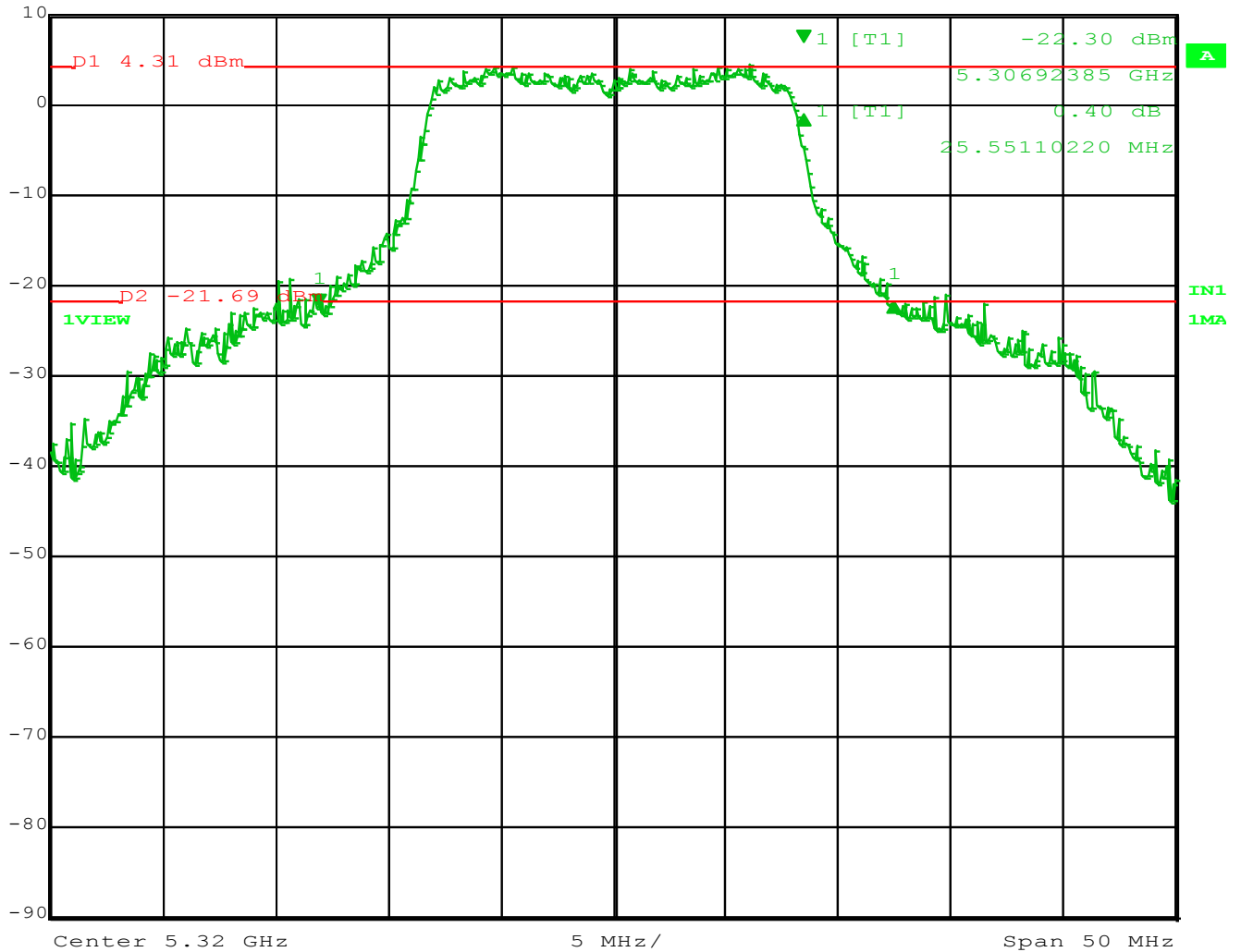
Date: 6.NOV.2014 16:40:40

Figure 53 – (-26) dB Bandwidth of EUT operating on Ch 60 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	0.40 dB	VBW	1 MHz		
20 dBm	25.55110220 MHz	SWT	5 ms	Unit	dBm



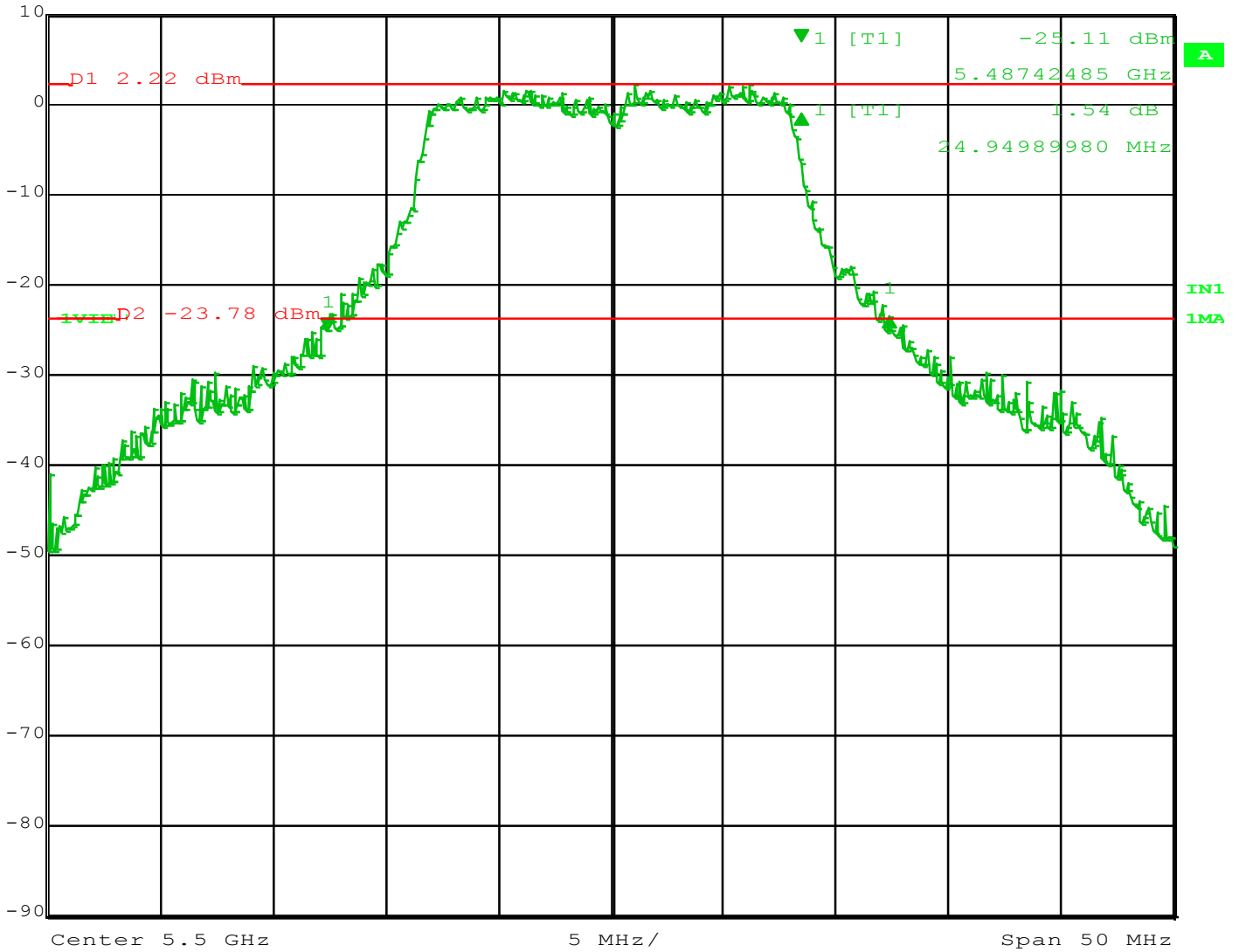
Date: 6.NOV.2014 16:57:07

Figure 54 – (-26) dB Bandwidth of EUT operating on Ch 64 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	1.54 dB	VBW	1 MHz		
20 dBm	24.94989980 MHz	SWT	5 ms	Unit	dBm



Date: 7.NOV.2014 08:51:04

Figure 55 – (-26) dB Bandwidth of EUT operating on Ch 100 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1]

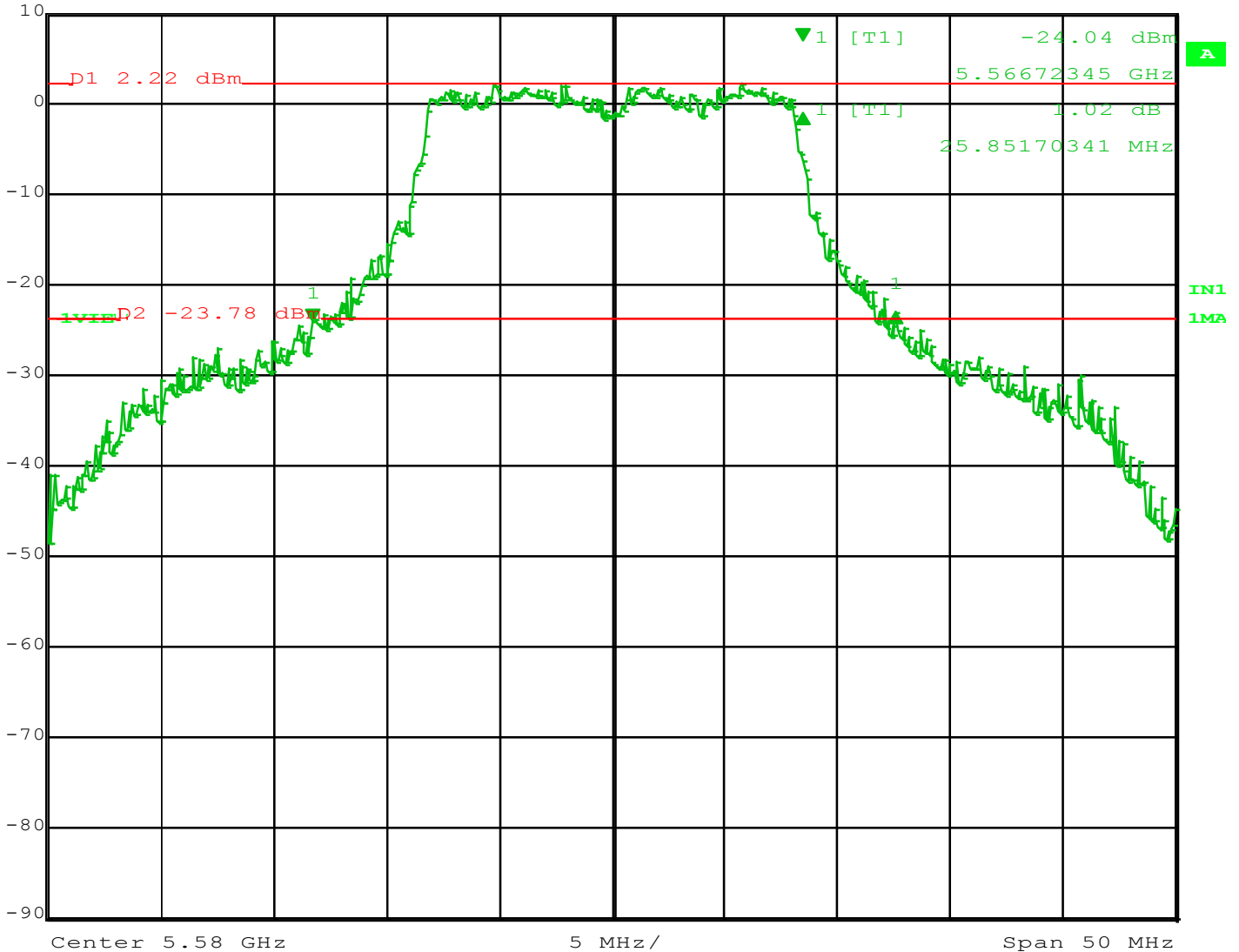
RBW 300 kHz RF Att 30 dB

Ref Lvl 1.02 dB

VBW 1 MHz

20 dBm 25.85170341 MHz

SWT 5 ms Unit dBm



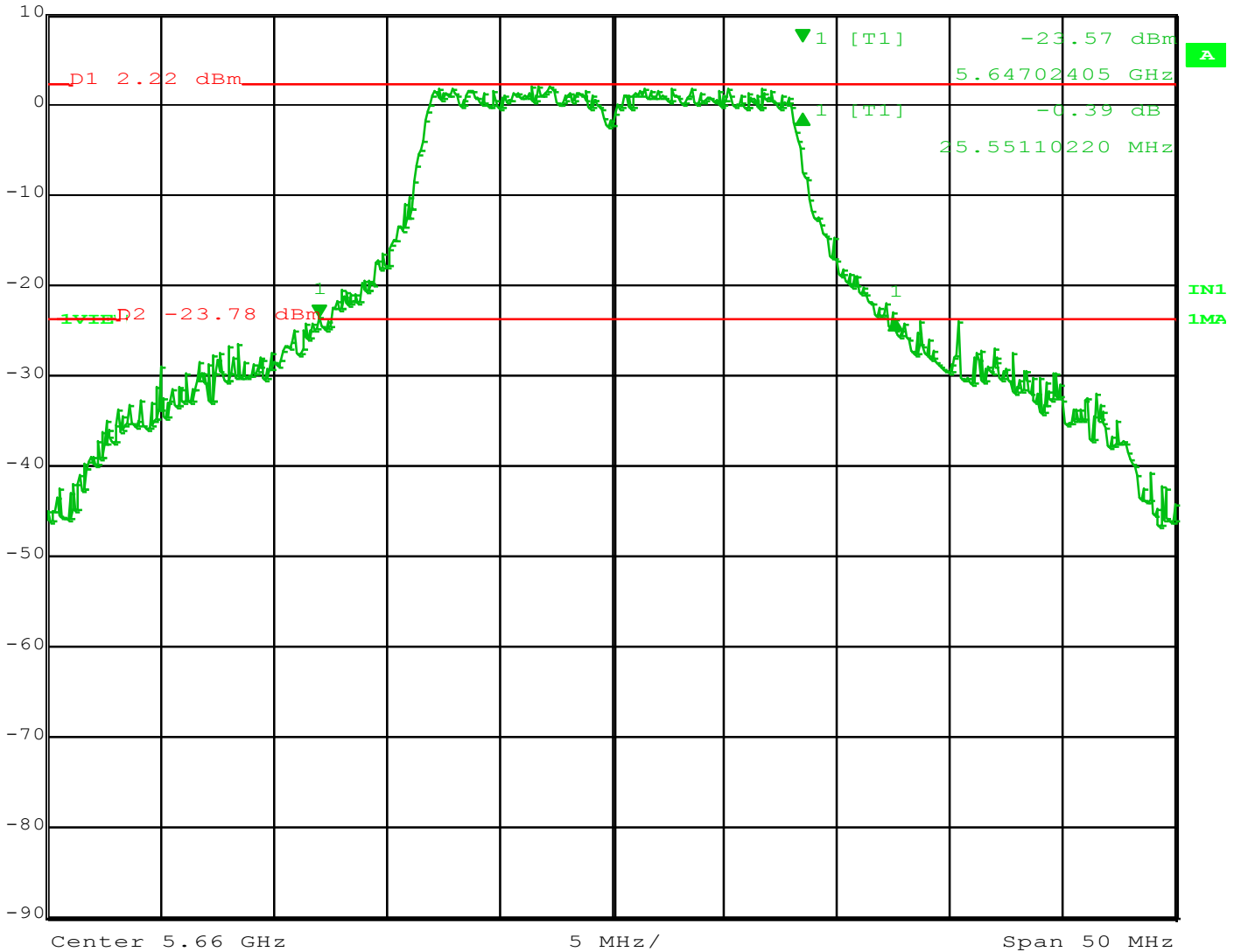
Date: 7.NOV.2014 09:36:47

Figure 56 – (-26) dB Bandwidth of EUT operating on Ch 116 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



	Delta 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	-0.39 dB	VBW	1 MHz		
20 dBm	25.55110220 MHz	SWT	5 ms	Unit	dBm



Date: 7.NOV.2014 09:38:13

Figure 57 – (-26) dB Bandwidth of EUT operating on Ch 132 at 20 MHz band

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Delta 1 [T1]

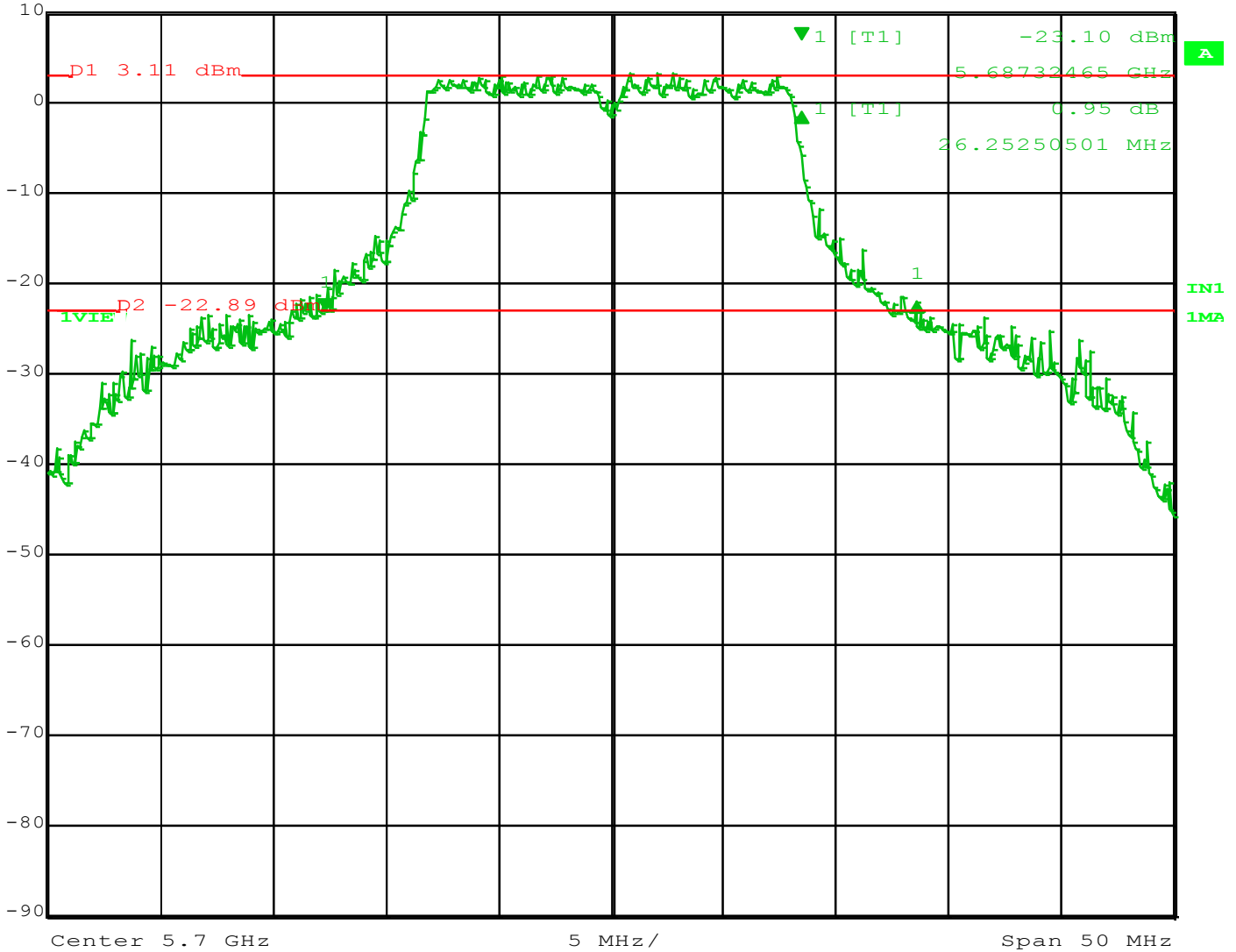
RBW 300 kHz RF Att 30 dB

Ref Lvl 0.95 dB

VBW 1 MHz

20 dBm 26.25250501 MHz

SWT 5 ms Unit dBm



Date: 7.NOV.2014 09:40:08

Figure 58 – (-26) dB Bandwidth of EUT operating on Ch 140 at 20 MHz band

**4.7.1 Final Test**

The EUT met the performance criteria requirement as specified in the test plan of this report and in the standards.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.8 Antenna Requirements

In accordance with 47 CFR Part 15.203 an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The following configuration feature assures that only the antenna furnished by Carestream will be used with the associated radio - FCC ID U72DRXPSL and IC: 7027A-DRXPSL.

The Carestream antenna is attached to the DRX Plus Detector (host) with an aggressive pressure sensitive adhesive. The Carestream antenna cannot be removed without extensive damage to the Detector and RF connections to the radio.

The antenna is not a field replaceable component. Replacement of the antenna must be performed in Carestream repair depot by trained personnel.

**Ronald L. Cain**  
**Senior EMC-Wireless Compliance Engineer**

Equipment Compliance & Commercialization  
Regulatory Affairs & Quality Systems

[ronald.cain@carestream.com](mailto:ronald.cain@carestream.com)  
office 585.627.8321 Fax: 585.627.8802



#### 4.9 99% Bandwidth

In accordance with Industry Canada's RSS-210 Issue 8

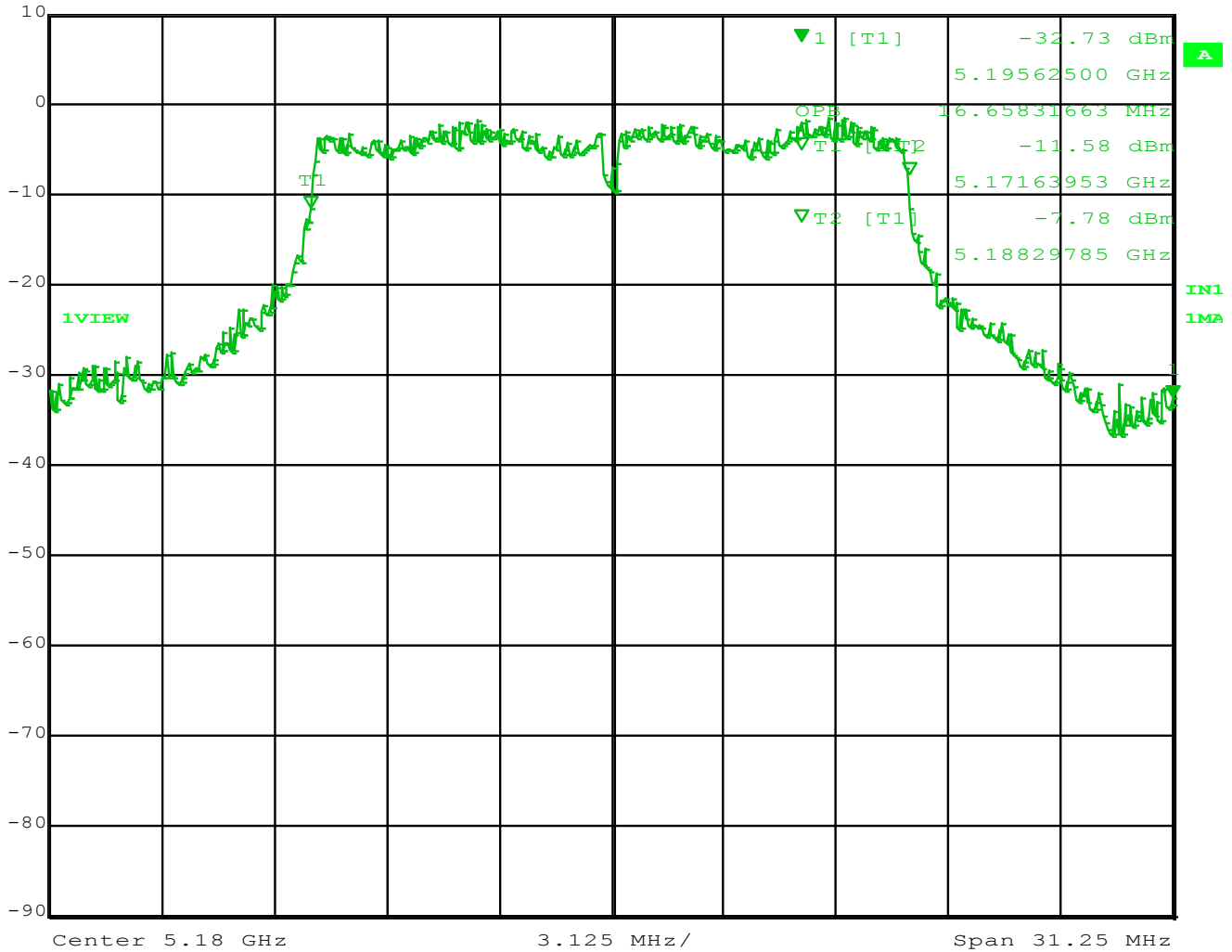
##### Multiple chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
36	5180	17.07	16.73
40	5200	17.07	16.99
48	5240	16.99	16.91
52	5260	17.07	16.91
60	5300	17.07	16.91
64	5320	16.99	16.91
100	5500	16.91	16.83
116	5580	17.15	16.83
132	5660	17.23	16.99
140	5700	17.31	17.47

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Ref Lvl	10 dBm	Marker 1 [T1]	-32.73 dBm	RBW	100 kHz	RF Att	20 dB
			5.19562500 GHz	VBW	300 kHz	Unit	dBm
				SWT	8 ms		



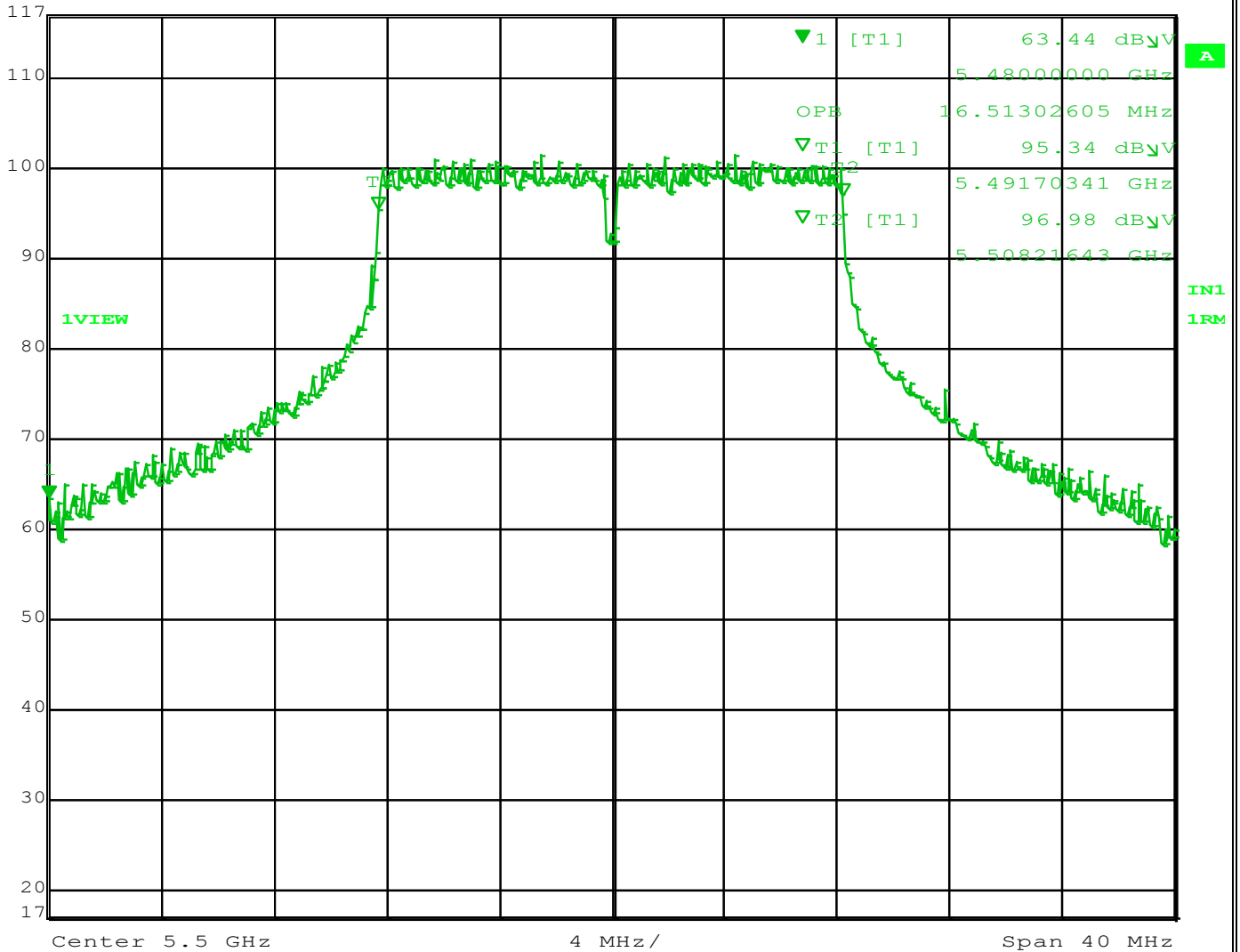
Date: 19.JAN.2015 13:50:50

Figure 59 – 99% Bandwidth Ch 36 = 16.65 MHz

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Marker 1 [T1]	RBW	100 kHz	RF Att	20 dB
63.44 dB $\mu$ V	VBW	300 kHz		
117 dB $\mu$ V	SWT	10 ms	Unit	dB $\mu$ V
5.48000000 GHz				



Date: 15.DEC.2014 15:16:41

Figure 60 – 99% Bandwidth Ch 100 = 16.513 MHz

### 4.9.1 Final Test

The EUT met the performance criteria requirement as specified in the test plan of this report and in the standards.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## Appendix A

### 5 Test Plan

This test report is intended to follow this test plan outlined here in unless other wise stated in this here report. The following test plan will give details on product information, standards to be used, test set ups and refer to TUV test procedures. The test procedures will give the steps to be taken when performing the stated test. The product information below came via client, product manual, product itself and or the internet.

#### 5.1 General Information

<b>Client</b>	Carestream Health Inc.
<b>Address</b>	150 Verona St
<b>Address</b>	Rochester NY, 14608
<b>Contact Person</b>	Ronald Cain
<b>Telephone</b>	585-627-8321
<b>Fax</b>	585-477-2718
<b>e-mail</b>	ronald.cain@carestreamhealth.com

#### 5.2 Model(s) Name

DRX Plus Detector Radio

#### 5.3 Type of Product

WiFi Transmitter

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 5.4 EUT Electrical Powered Information

### 5.4.1 Electrical Power Type

<input type="checkbox"/>	AC	<input type="checkbox"/>	DC	<input checked="" type="checkbox"/>	Batteries	<input type="checkbox"/>	Host -
--------------------------	----	--------------------------	----	-------------------------------------	-----------	--------------------------	--------

## 5.5 Electrical Support Equipment

Type	Manufacture	Model	Connected To
Laptop	IBM	Thinkpad T30	Radio

## 5.6 EUT Test Program

ART2-GUI

Version 2.3

Build Date: 2015/Apr/2

CART

Version 4.6

Build Date 450251