ELECTRONIC SYSTEMS, INC.

166 South Carter, Genoa City, WI 53128

Company:	RF Technologies
Model Tested:	0800-0590
Report Number:	23176
DLS Project:	9160

Code of Federal Regulations 47 Part 15 – Radio Frequency Devices

Subpart C – Intentional Radiators
Section 15.247
Operation within the bands 902 - 928 MHz,
2400 - 2483.5 MHz, 5725 - 5875 MHz,
and 24.0 - 24.25 GHz.

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

FCC ID: KXU-SP3FSZ24

Formal Name:	9600 Pendant
Kind of Equipment:	Wireless Nurse Call and Security Device
Frequency Range:	2405 to 2475 MHz
Test Configuration:	Handheld
Model Number(s):	0800-0590
Model(s) Tested:	0800-0590
Serial Number(s):	Radiated: Sample #6 RF Conducted: Sample #5 Duty cycle "normal operation": Sample #4
Date of Tests:	October 4 – 13, 2017
Test Conducted For:	RF Technologies 3125 N. 126th Street Brookfield, WI 53005, USA

NOTICE: "This test report relates only to the items tested and must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Description of Test Sample" page listed inside of this report.

ELECTRONIC SYSTEMS, INC.

166 South Carter, Genoa City, WI 53128

Company:	RF Technologies
Model Tested:	0800-0590
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SIGNATURE PAGE

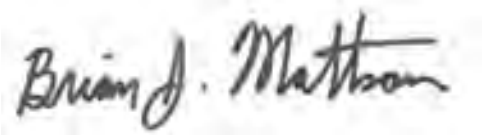
Tested By:

Craig Brandt
Senior Test Engineer

Reviewed By:

William Stumpf
OATS Manager

Approved By:



Brian Mattson
General Manager

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United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

D.L.S. Electronic Systems, Inc.
Wheeling, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2017-09-29 through 2018-09-30
Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

ELECTROMAGNETIC COMPATIBILITY & TELECOMMUNICATIONS

NVLAP LAB CODE 100276-0

Emissions

Designation	***Description***
Off-site test location	D.L.S. Electronics performs radiated emissions testing at an additional location, 166 South Carter Street, Genoa City, WI 53128.

166 South Carter, Genoa City, WI 53128

1.0 Summary of Test Report

It was determined that the RF Technologies 9600 Pendant, model 0800-0590, complies with the requirements of CFR 47 Part 15 Subpart C Section 15.247.

Subpart C Section 15.247 Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
15.35(c)	Duty Cycle	ANSI C63.10-2013 Section 11.6(b)	2	Informational
15.247(a)(2)	DTS Bandwidth	ANSI C63.10-2013 Sections 11.8 & 11.8.2	1	Yes
15.247(b)(3)	Fundamental Emission Output Power	ANSI C63.10-2013 Sections 11.9.1 & 11.9.1.1	1	Yes
15.247(e)	Maximum Power Spectral Density	ANSI C63.10-2013 Sections 11.10 & 11.10.2	1	Yes
15.247(d)	Operating Band-Edge Measurements – RF Conducted	ANSI C63.10-2013 Sections 11.11, 11.11.2 & 11.11.3	1	Yes
15.247(d) 15.205(a) 15.209(a)	Restricted Band-Edge Measurements - Radiated	ANSI C63.10-2013 Sections 11.12 & 11.12.1	2	Yes
15.247(d)	Emissions in Non-Restricted Frequency Bands – RF Conducted	ANSI C63.10-2013 Sections 11.11, 11.11.2 & 11.11.3	1	Yes
15.247(d) 15.205(a) 15.209(a)	Emissions in Restricted Frequency Bands – Radiated	ANSI C63.10-2013 Sections 11.12 & 11.12.1	2	Yes

Note 1: RF conducted measurement.
Note 2: Radiated emission measurement.

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2.0 Introduction

During October 4 – 13, 2017, the 9600 Pendant, model 0800-0590, as provided from RF Technologies was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.247. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S Electronic Systems, Inc.

3.0 Test Facilities

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at http://www.dlsemc.com/certificate. Our facilities are registered with the FCC, Innovation Science and Economic Development Canada, and VCCI.

Wisconsin Test Facility:
D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128

Wheeling Test Facility:
D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090

FCC Registration #90531

4.0 Description of Test Sample

Description:

The test sample is a wireless transceiver device that transmits and receivers signals to and from other wireless transceivers. The test sample communicates wirelessly with other devices to create a mesh of wireless connectivity.

Type of Equipment / Frequency Range:

Wireless Nurse Call and Security Device (portable) / 2405-2475 MHz

Physical Dimensions of Equipment Under Test:

Length: 55 mm, Width: 44 mm, Height: 15 mm

4.0 Description of Test Sample - continued

Power Source:

3 Volt battery

Internal Frequencies:

16 MHz

Transmit / Receive Frequencies Used For Test Purpose:

Low channel: 2405 MHz, Middle channel: 2440 MHz, High channel: 2475 MHz

Type of Modulation(s) / Antenna Type:

DSSS O-QPSK /

Two Separate 2.4GHz surface mount chip antennas,
P/N Antenova A5839, A5887 (2.1 dBi gain)

Description of Circuit Board(s) / Part Number:

9600 Call Pendant PCB Assembly	0830-0199 Rev A

5.0 Test Equipment

A list of the equipment used can be found in the table below. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

Radiated 30 – 1000 MHz (Site 2)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/006	20 Hz – 40 GHz	4-6-17	4-6-18
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	12-2-16	12-2-17
Antenna	EMCO	3104C	00054892	20 MHz – 200 MHz	3-11-16	3-11-18
Antenna	EMCO	3146	1205	200 MHz – 1 GHz	3-23-16	3-23-18
Cable	Belden	9914	CBL-005	9 kHz – 1 GHz	12-2-16	12-2-17
Cable	Belden	9273	CBL-028	9 kHz – 1 GHz	12-2-16	12-2-17
Cable	Manhattan/CDT	RG223/U	CBL-051	9 kHz – 1 GHz	12-2-16	12-2-17
Cable	Manhattan/CDT	RG223/U	CBL-036	9 kHz – 1 GHz	10-27-16	10-27-17
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

Radiated 1-26 GHz (Site G1)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	4-6-17	4-6-18
Preamp	Ciao	CA118-4010	101	1GHz-18GHz	1-9-17	1-9-18
Horn Antenna	Com-Power	AH-118	071127	1-18GHz	9-8-16	9-5-18
Filter- High-Pass	Q-Microwave	100462	2	4.2GHz-18GHz	7-7-17	7-7-18
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	438727	18GHz-26GHz	5-11-17	5-11-18
Horn Antenna	EMCO	3116	2549	18 – 40GHz	9-2-16	9-2-18
High Pass Filter	K & L	50140 11SH10-18000/T40000-K-K	8	18-40 GHz	1-9-17	1-9-18
Cable	Micro-Coax	UFB311A	CBL-100	1-18GHz	5-5-17	5-5-18
Cable	Micro-Coax	UFC142A	CBL-093	18-40GHz	5-10-17	5-10-18
Cable	Pasternack	PE3C0666-24	CBL-103	18-40GHz	5-10-17	5-10-18
Test Software	Rohde & Schwarz	ESK-1	V1.7.1	N/A	N/A	N/A

5.0 Test Equipment - continued

RF Conducted / Other

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Date	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	4-6-17	4-6-18
Cable	Micro-Coax	UFC142A	CBL-093	18-40GHz	5-10-17	5-10-18

6.0 Test Arrangements

Radiated Emissions Measurement Arrangement:

All radiated emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to ANSI C63.10-2013, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up. See Appendix C for measurement uncertainty.

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

RF Conducted Emissions Measurement Arrangement:

All RF conducted emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to ANSI C63.10-2013, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up. See Appendix C for measurement uncertainty.

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7.0 Test Conditions

Temperature and Humidity:

68°F at 57% RH unless otherwise noted on test data

Supply Voltage:

3 Volt battery

8.0 Modifications Made To EUT For Compliance

None.

9.0 Additional Descriptions

The EUT was programmed for continuous transmission on Low, Mid, and High channels, with a 100% duty cycle.

For radiated emissions, the EUT with was rotated through 3 orthoganal axis to find worst-case.

A duty cycle reduction factor as expressed in FCC Section15.35(c) was used in determining the unwanted emission levels radiated in the restricted bands as allowed per FCC KDB 558074 D01 DTS Meas Guidance v04. This worst-case duty cycle reduction factor was measured to be 38.95 dB. See next page for manufacturer's attestation regarding the duty cycle as it relates to the KDB allowance for reduction of levels based on maximum duty cycle.

October 3, 2017

To Whom It May Concern:

RF Technologies attests to the following for the QR Premiere Call Pendant 0800-0590:

The duty cycle reduction factor expressed in 15.35 (c) can be utilized for unwanted emissions (including spurious emissions) since the following conditions are satisfied:

1) *the unwanted emission is temporally related to the fundamental emission (i.e. an intermodulation or harmonic product)*
2) *the unwanted emission falls into a restricted frequency band*
3) *the maximum duty cycle used in determining the reduction factor is "hardwired" such that under no condition can it be changed or modified by either the device or the end user.*

Regards,

Steve Varga
Senior Vice President – Chief Technology Officer

phone: 800.669.9946 web: www.rft.com
3125 North 126th Street, Brookfield, WI 53005 USA

10.0 FCC 15.31 (e) Supply Voltage Requirement statement

FCC 15.31 (e) - For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Compliance Statement: This device complies with the requirements of Part 15.31(e):

☒ This device is battery operated. All tests were performed using a new (or fully charged) battery.

☐ This device provides a constant regulated voltage to the RF circuitry regardless of supply voltage (see schematic diagrams).

☐ This device does not provide a constant regulated voltage to the RF circuitry regardless of supply voltage. Data has been supplied in this test report that supports compliance. Details:

11.0 FCC 15.23 Antenna Requirement statement

SECTION 15.203 ANTENNA REQUIREMENT

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…. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221.

Statement: This wireless device (Intentional Radiator) meets the requirements of FCC Part 15.203:

☒ The antenna is permanently attached

☐ The antenna has a unique coupling to the intentional radiator.
Description of coupling:

☐ This intentional radiator is professionally installed

☐ This intentional radiator, in accordance with Section 15.31(d), must be measured at the installation site.

12.0 Results

Measurements were performed in accordance with CFR 47 Part 15 Subpart C Section 15.247 and ANSI C63.10-2013. Graphical and tabular data can be found in Appendix B at the end of this report.

13.0 Conclusion

The RF Technologies 9600 Pendant, model 0800-0590, tested during October 4 – 13, 2017 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.247.

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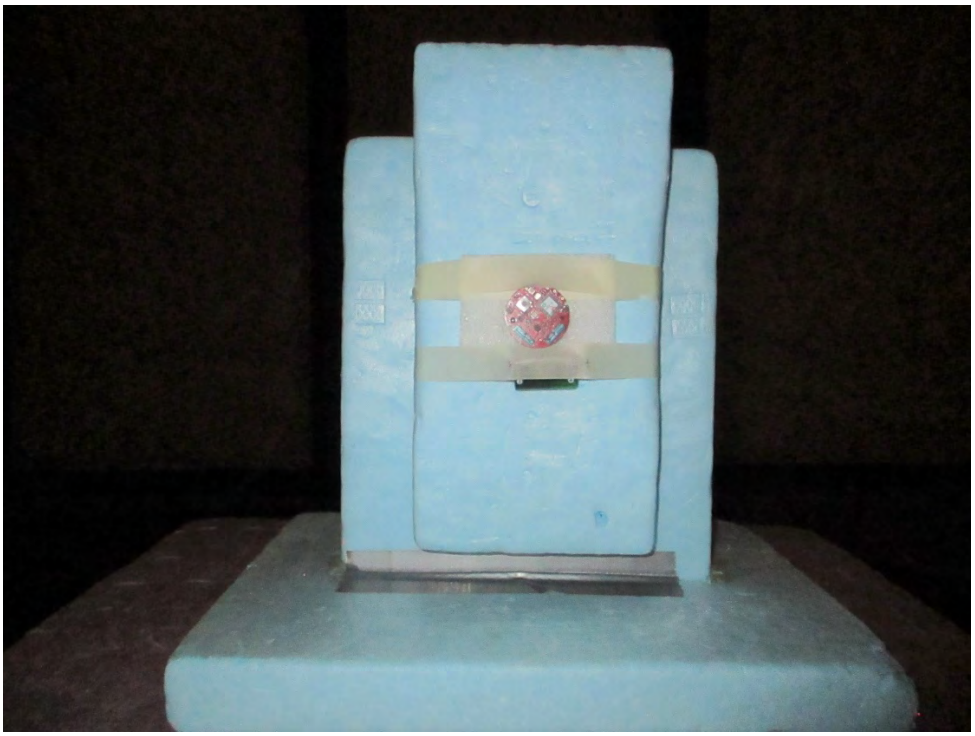
Appendix A – Test Setup Photos

Radiated Emissions below 1 GHz

Radiated Emissions below 1 GHz – Position 1



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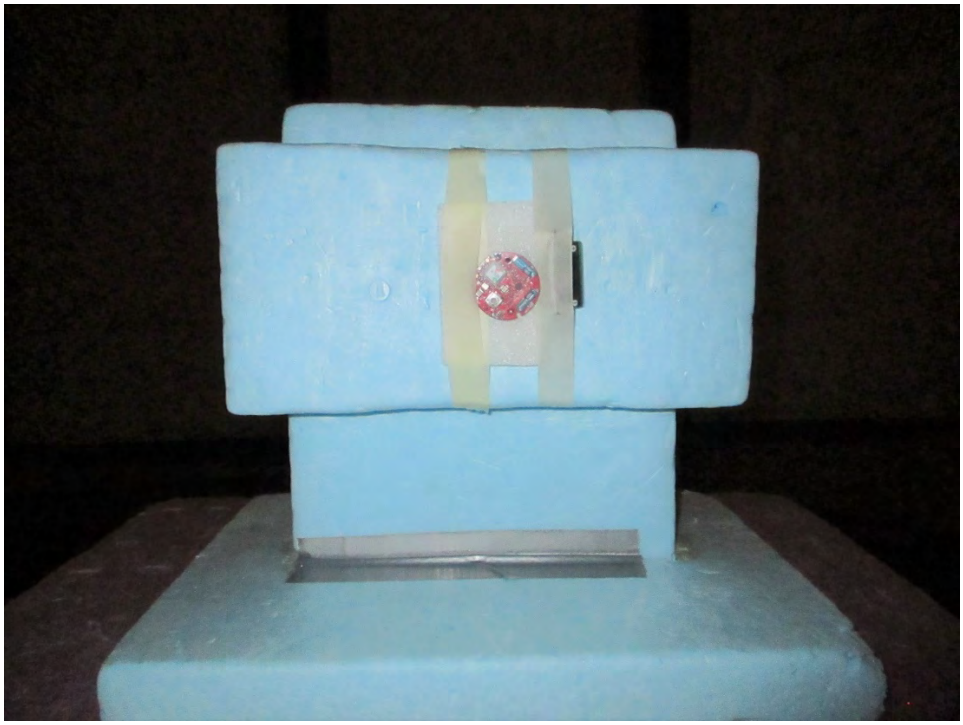
Appendix A – Test Setup Photos - continued

Radiated Emissions below 1 GHz – Position 2



Radiated Emissions below 1 GHz – Position 3

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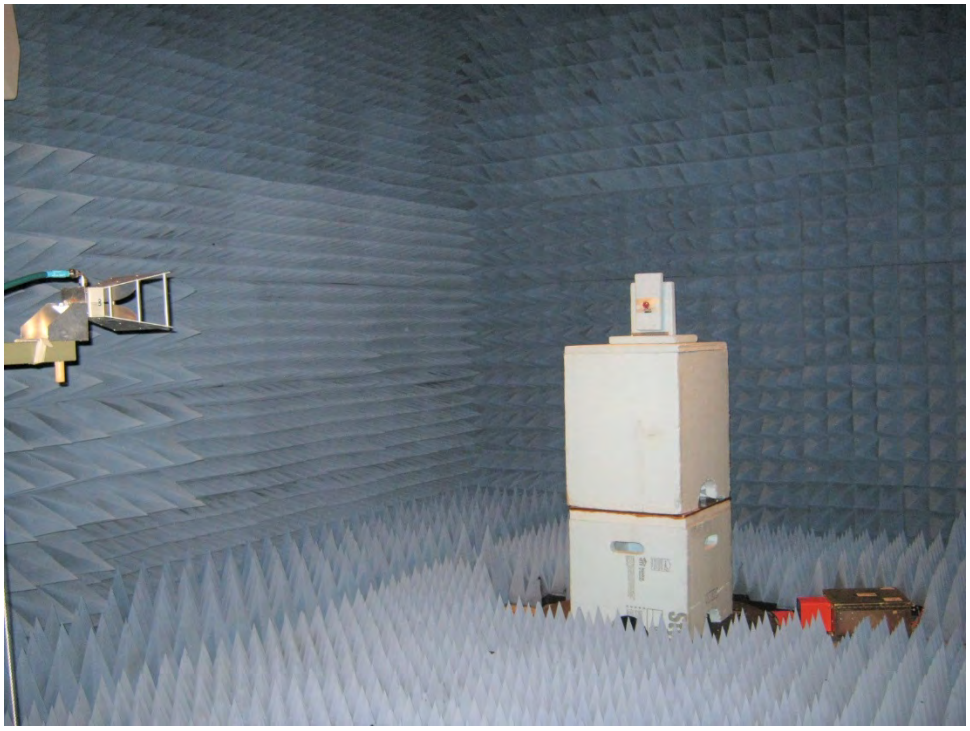
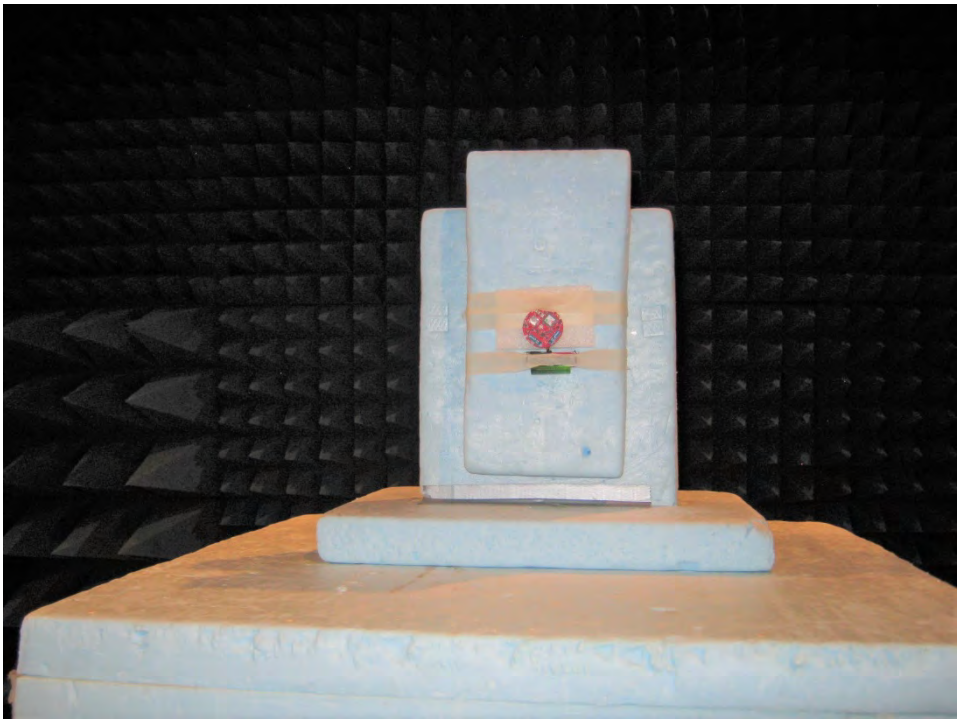
Appendix A – Test Setup Photos - continued

Radiated Emissions above 1 GHz



Radiated Emissions above 1 GHz – Position 1



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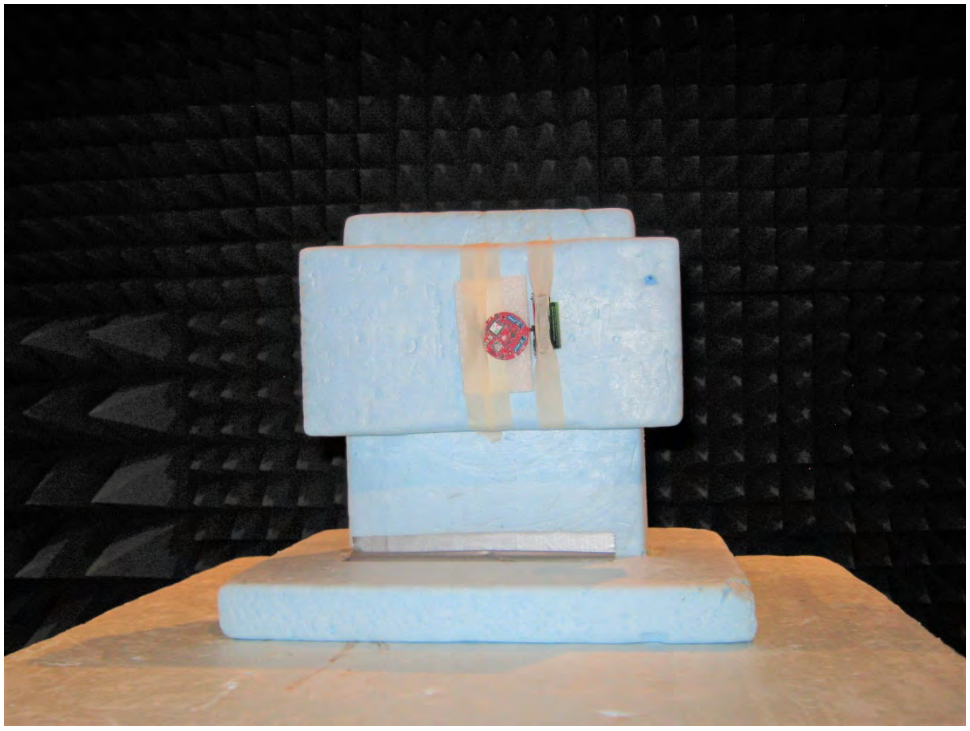
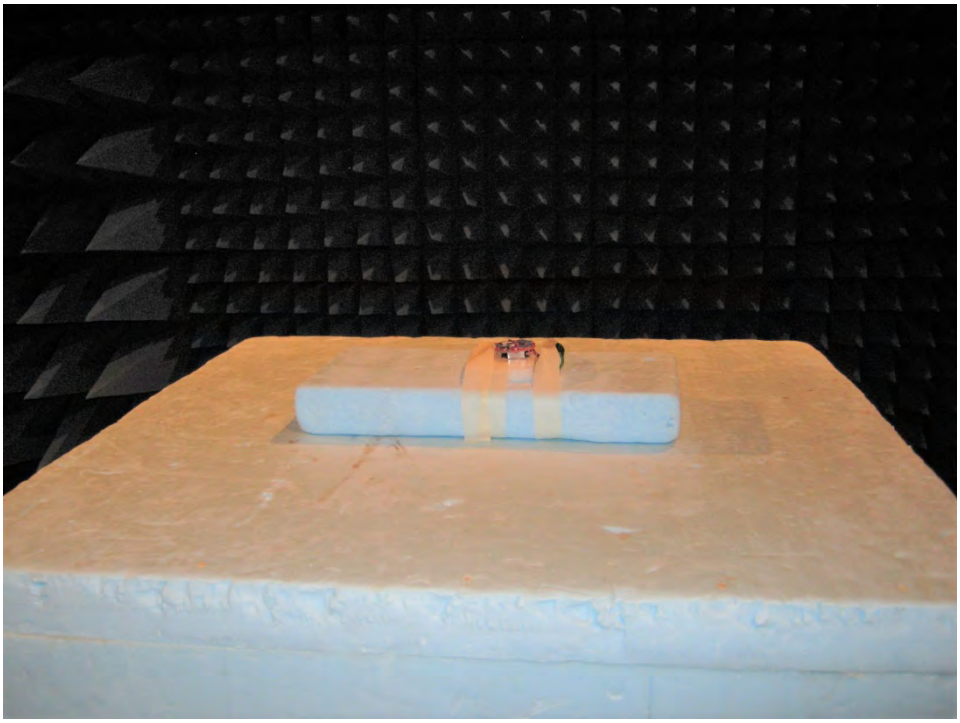
Appendix A – Test Setup Photos - continued

Radiated Emissions above 1 GHz – Position 2



Radiated Emissions above 1 GHz – Position 3



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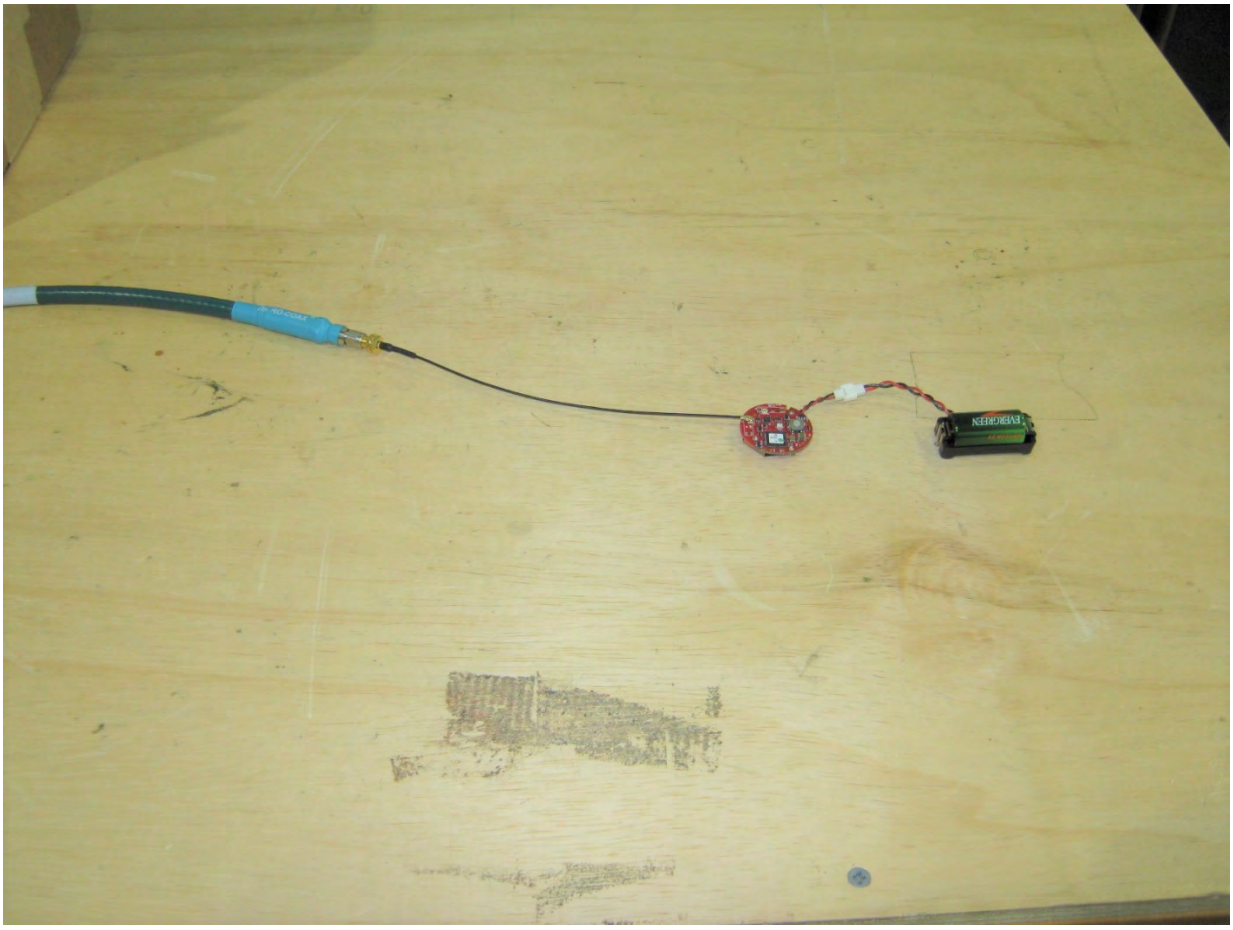
Appendix A – Test Setup Photos - continued

RF Conducted



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Appendix B – Measurement Data

B1.0 Duty Cycle during testing

Rule Part: Informative
FCC Part 15.35(c)

Test Procedure: ANSI 63.10-2013, section 11.6(b)

Limit: Not Applicable

Results: Duty Cycle of test unit = 100%
Fixed Duty Cycle of production unit = 1.13%

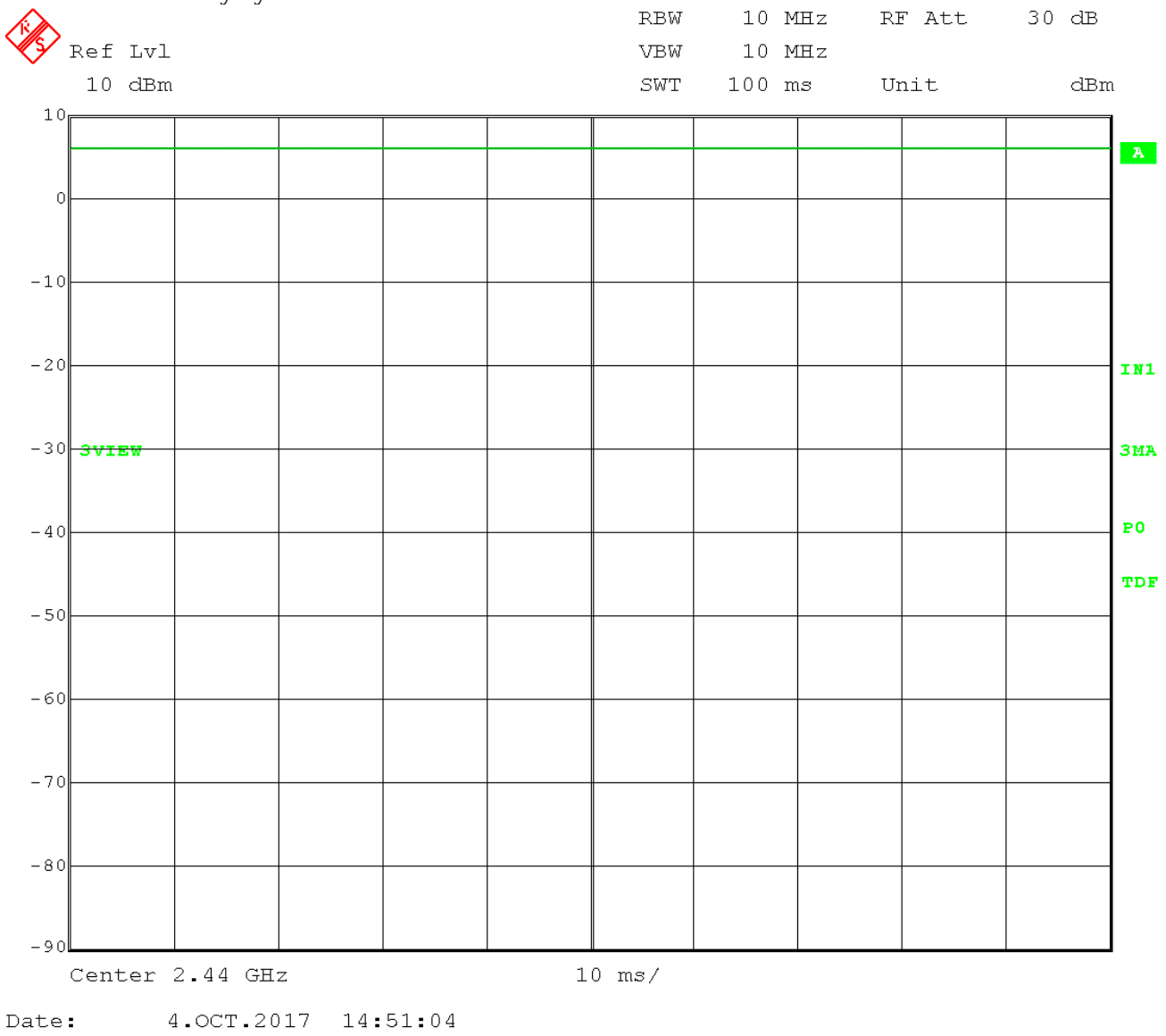
Duty Cycle reduction factor based on production unit:

Total on Time = 0.535969940 ms
Total on + off Time = 47.535 ms
Duty cycle x = (0.535969940 ms / 47.535 ms) = 0.01127527 = 1.127527%
Voltage Duty Cycle Correction Factor = 20 log (1/0.01127527) = **38.95 dB**

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Duty Cycle of test unit - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

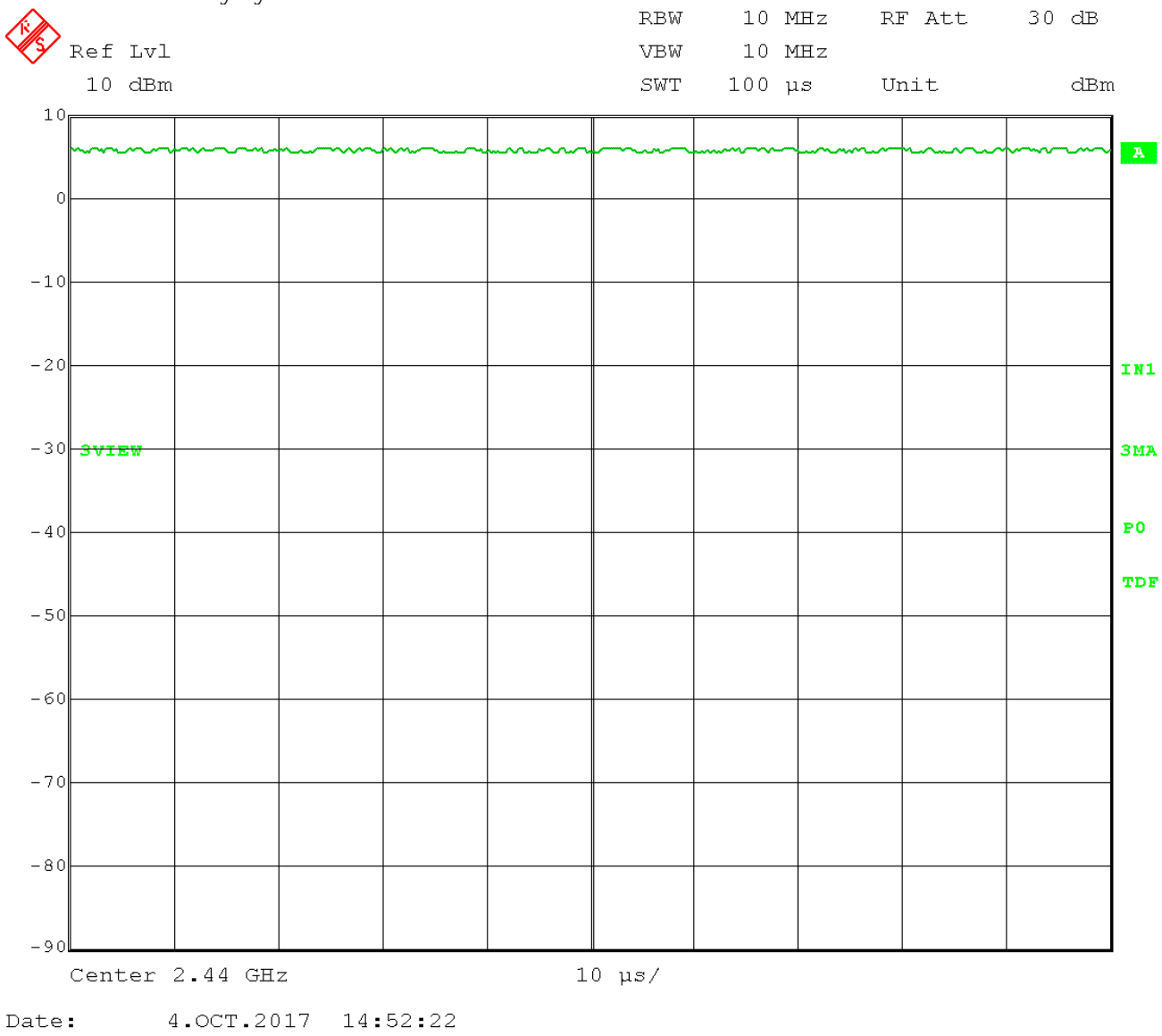
Duty cycle = 100%



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Duty Cycle of test unit - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Duty cycle = 100%



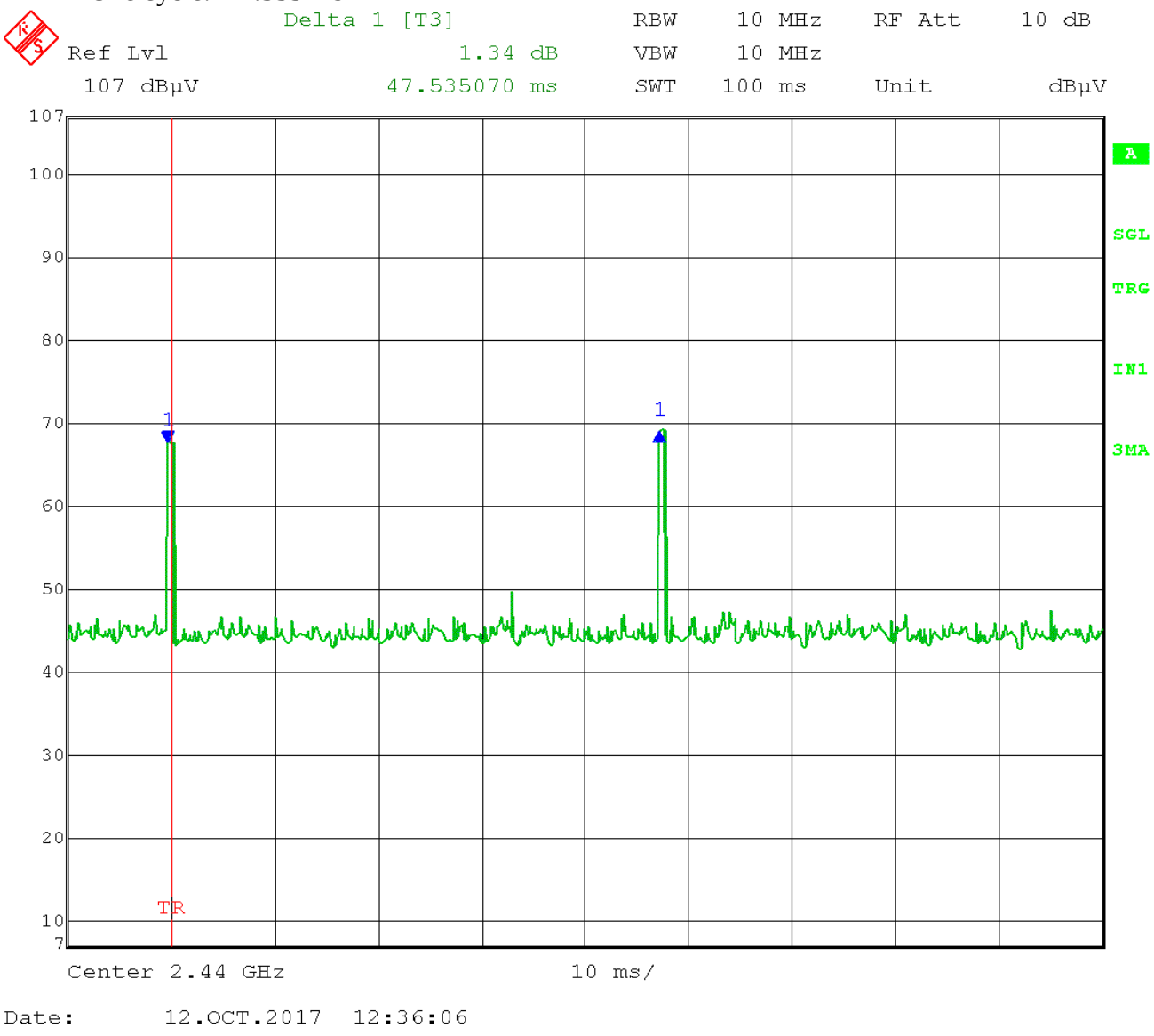
Date: 4.OCT.2017 14:52:22

Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Duty Cycle of production unit - Radiated
Operator: Craig B

Comment: Mid Channel: 2440 MHz

ON + OFF time = 47.535 ms
Duty cycle x = (0.535969940 ms / 47.535 ms) = 0.01127527 = 1.127527%
Voltage Duty Cycle Correction Factor = 20 log (1/0.01127527) = 38.95 dB

One cycle: 47.535 ms



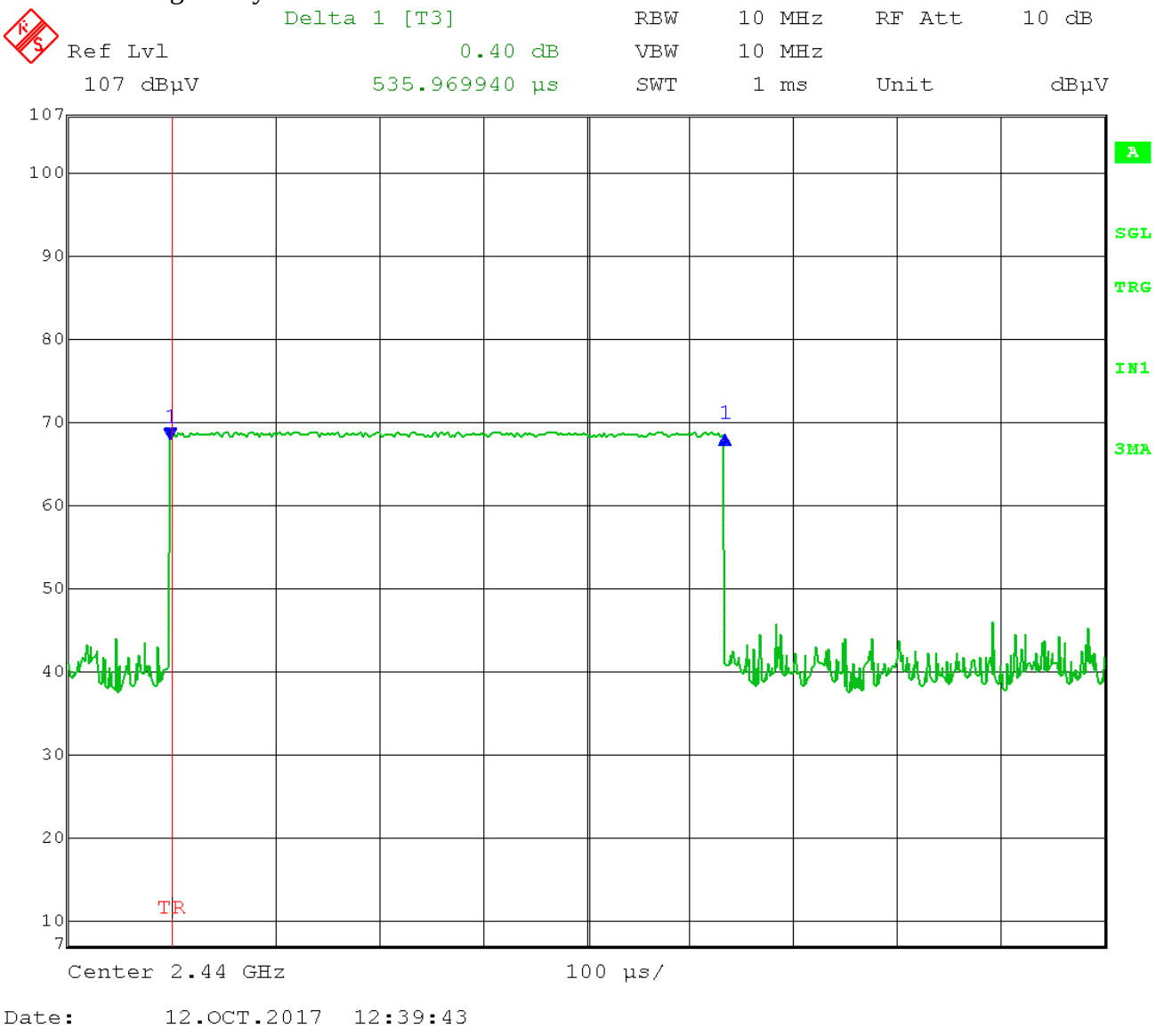
Date: 12.OCT.2017 12:36:06

Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Duty Cycle of production unit - Radiated
Operator: Craig B

Comment: Mid Channel: 2440 MHz

ON + OFF time = 47.535 ms
Duty cycle x = (0.535969940 ms / 47.535 ms) = 0.01127527 = 1.127527%
Voltage Duty Cycle Correction Factor = 20 log (1/0.01127527) = 38.95 dB

ON time during one cycle = 0.535969940 ms



Date: 12.OCT.2017 12:39:43

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Appendix B

B2.0 DTS Bandwidth (6 dB bandwidth)

Rule Part: FCC Part 15.247(a)(2)

Test Procedure: ANSI C63.10-2013, sections 11.8 & 11.8.2

Limit: Must be greater than 500 kHz.

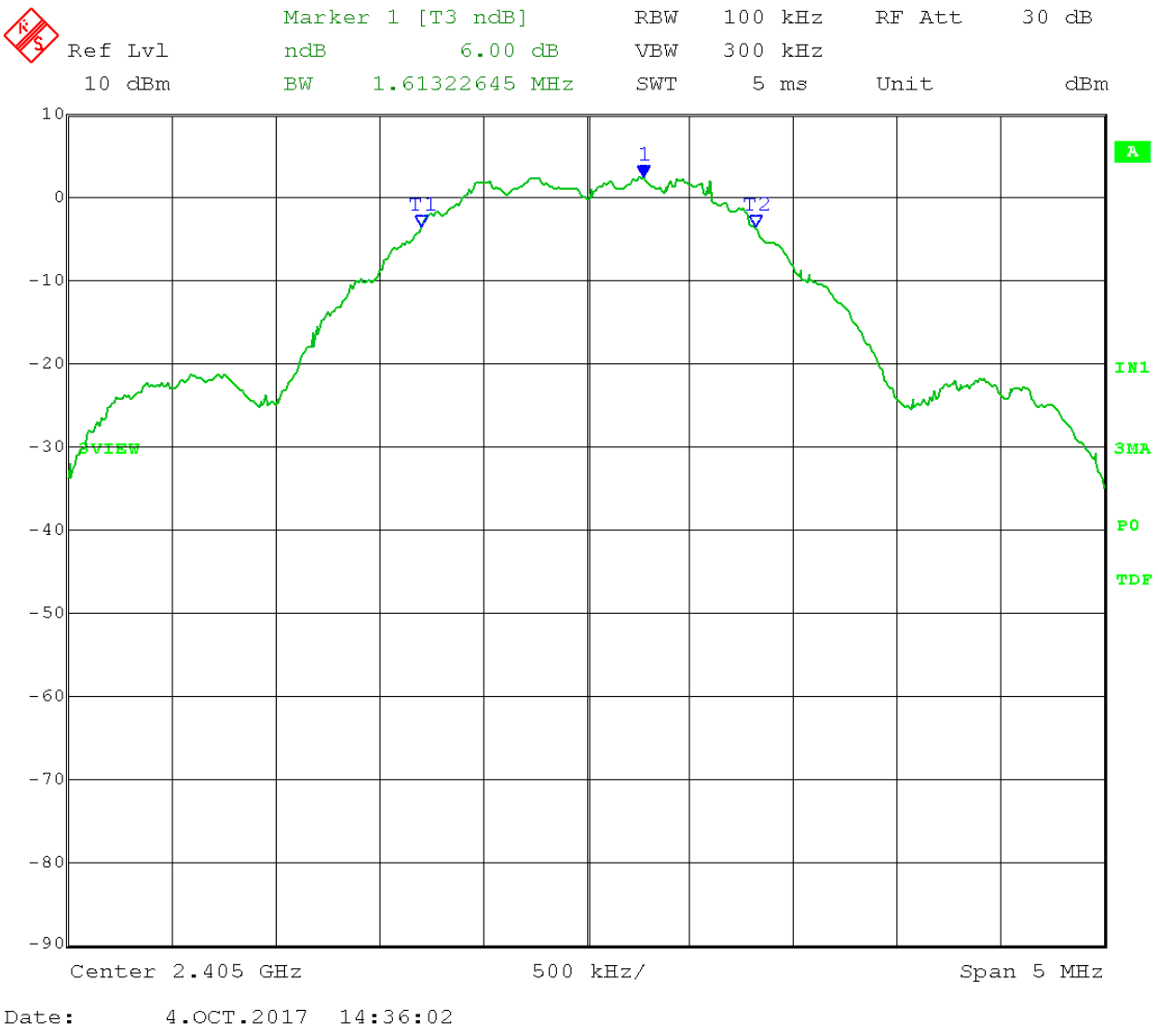
Results: Compliant
6 dB bandwidth = 1.60 MHz

Notes: The EUT was set to transmit at its maximum power with 100% duty cycle.
The EUT was tested at Low, Mid., and High Channels.

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

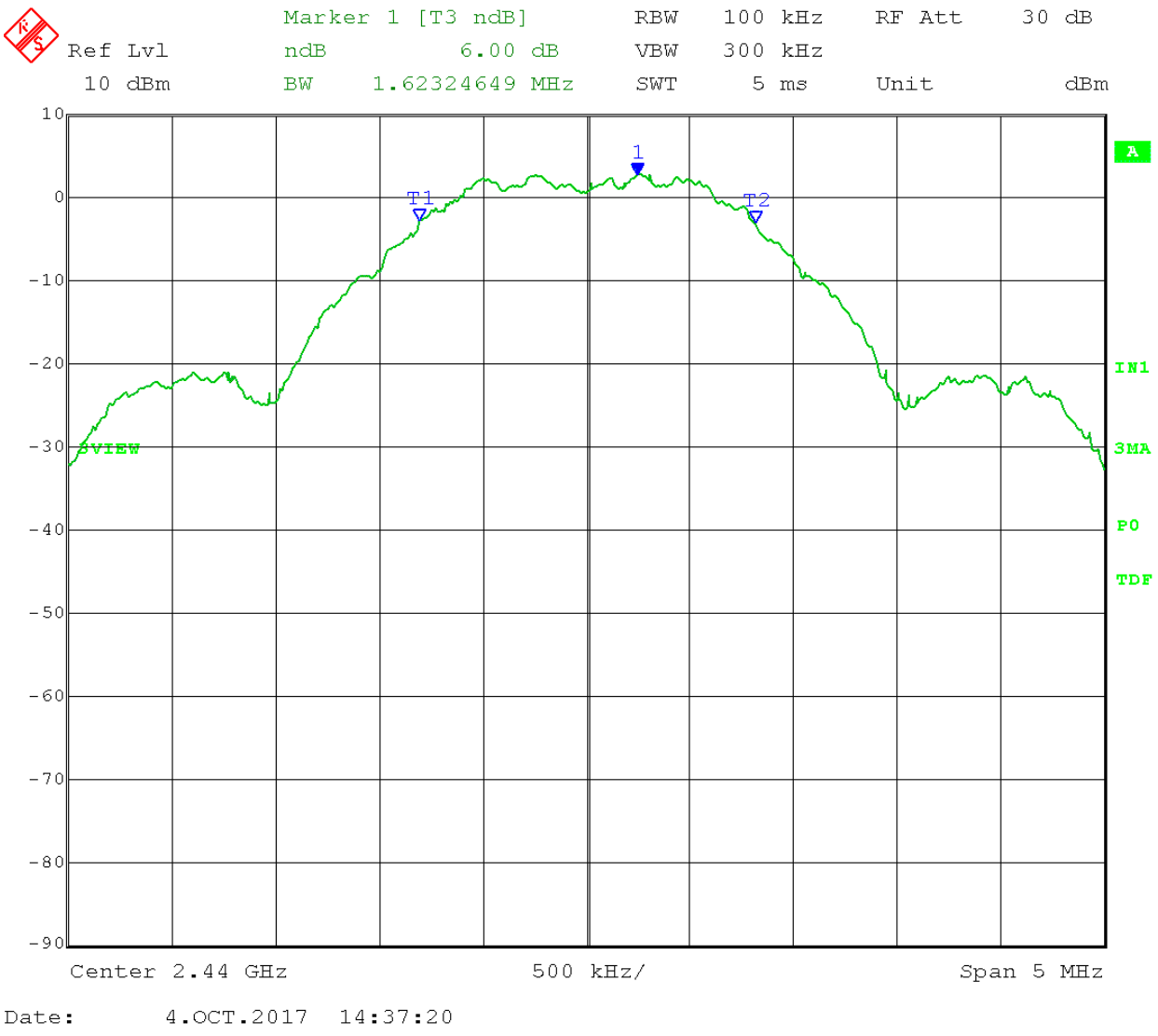
6 dB Bandwidth = 1.61 MHz



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

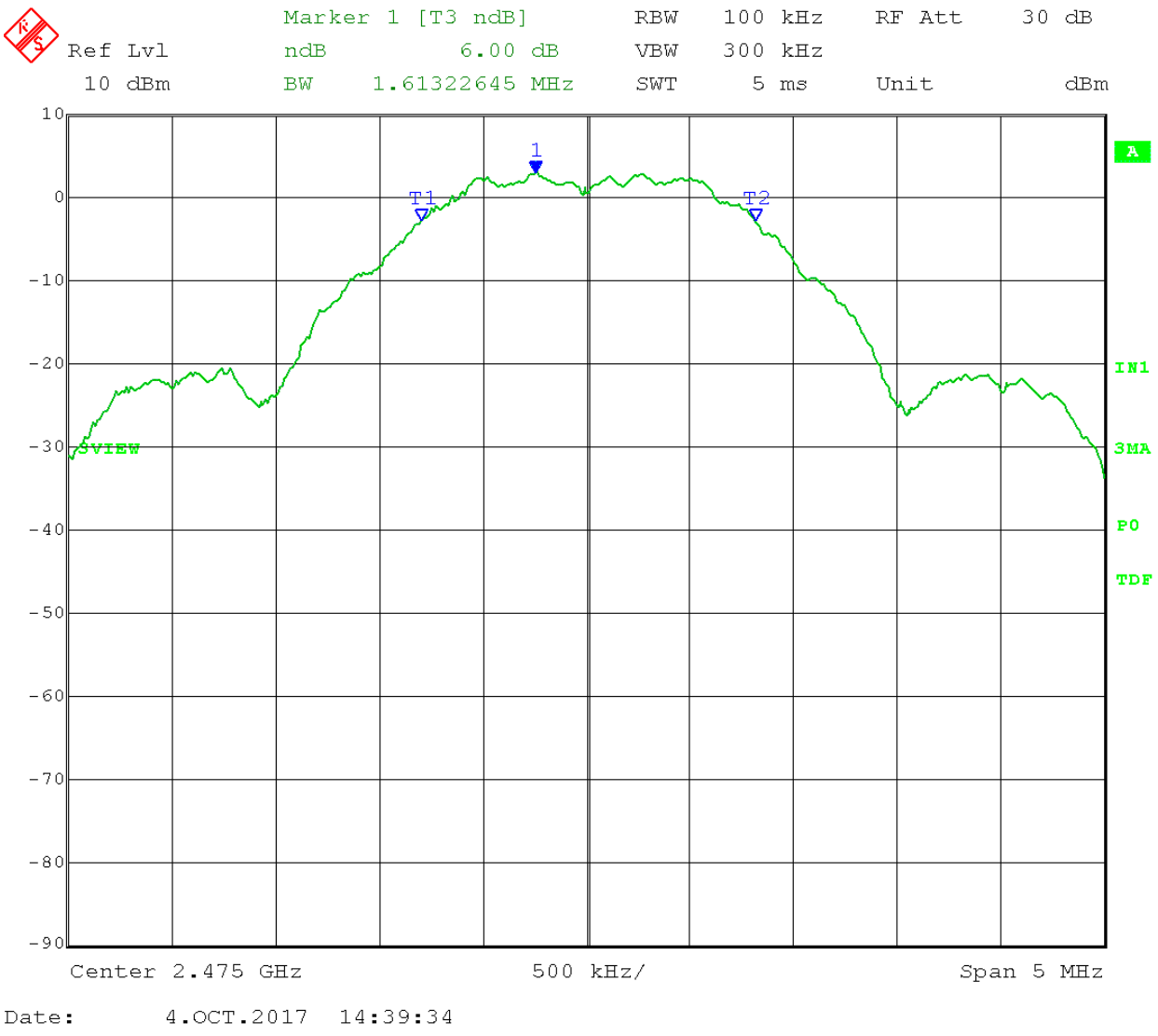
6 dB Bandwidth = 1.62 MHz



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

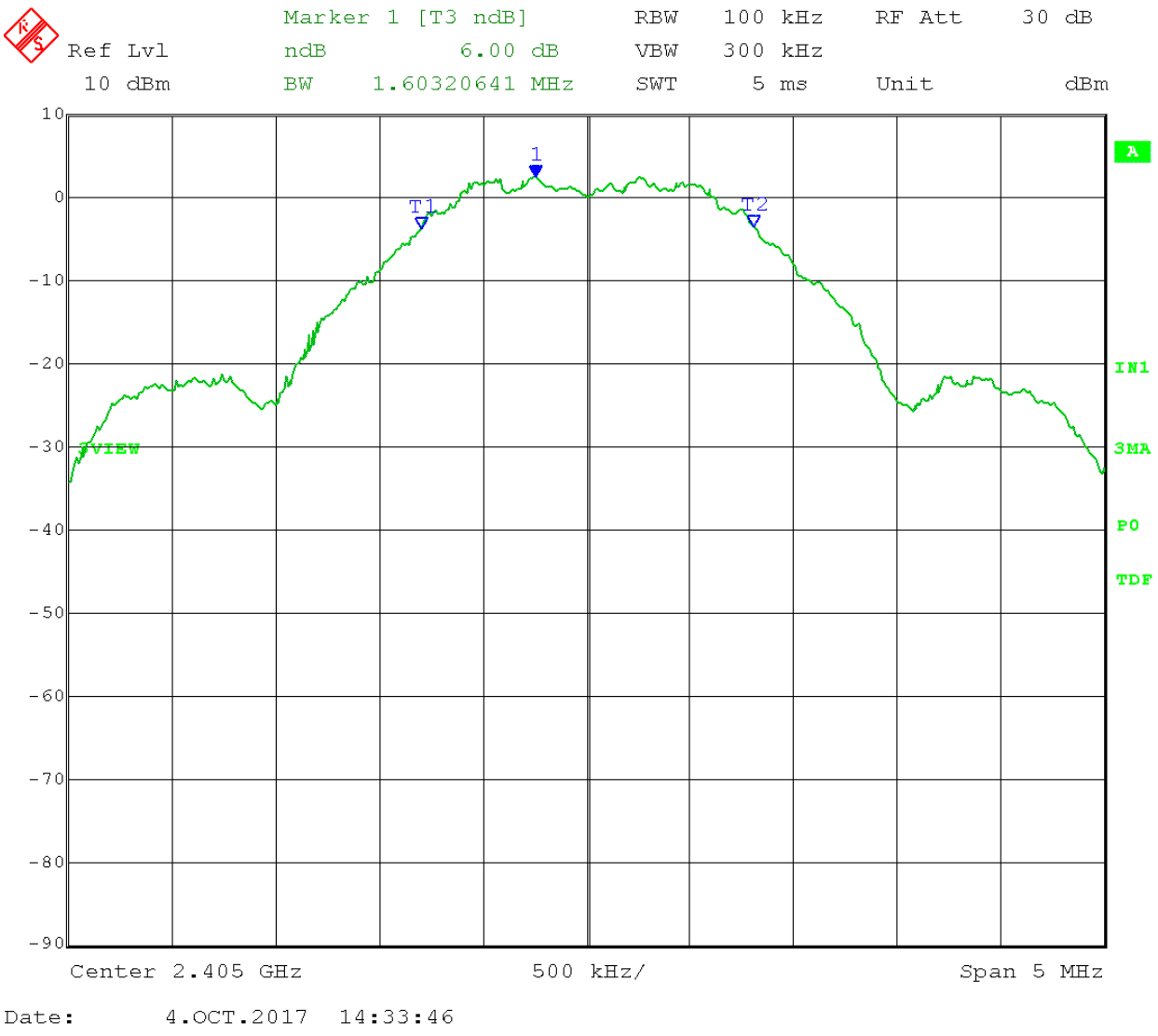
6 dB Bandwidth = 1.61 MHz



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

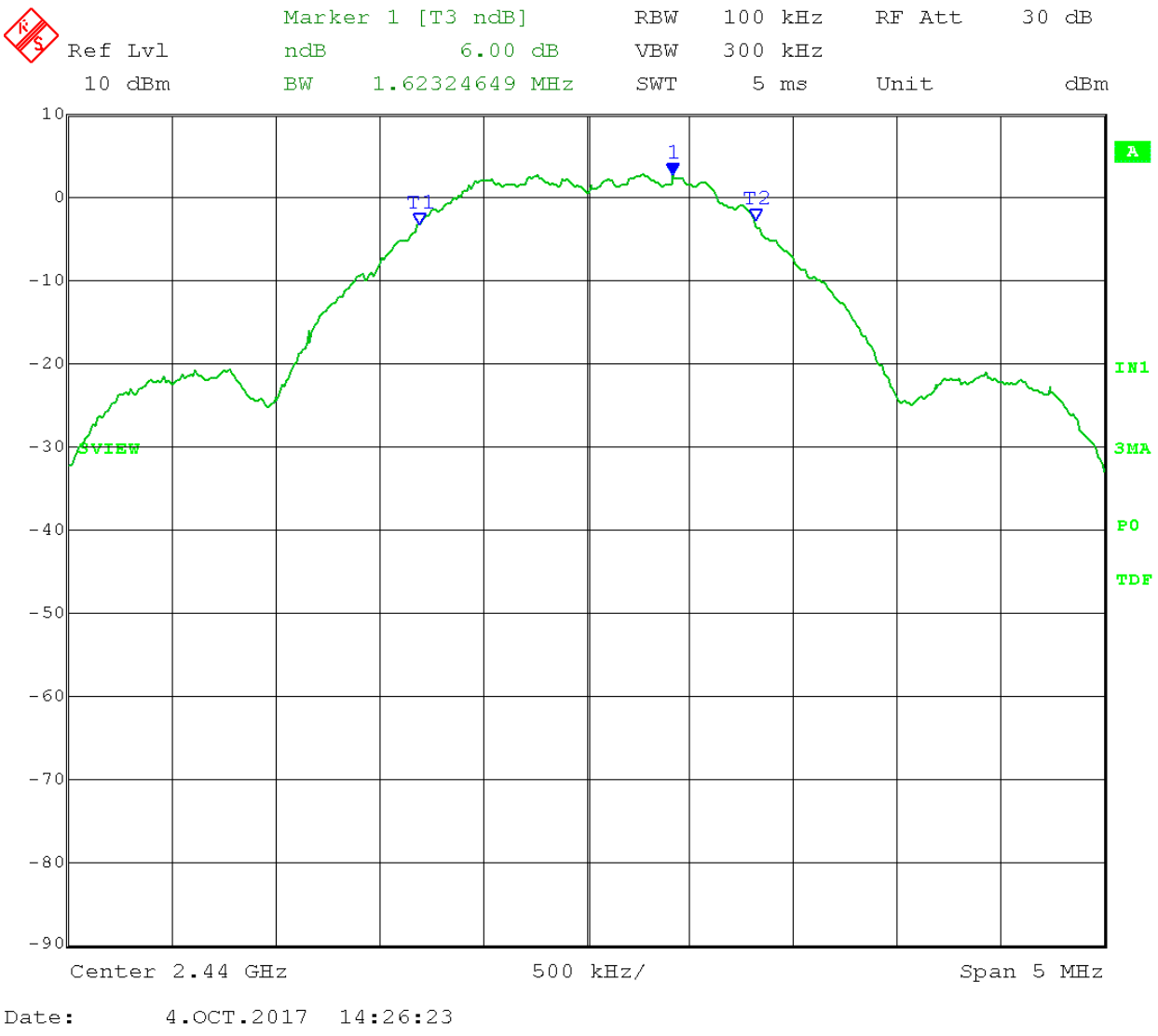
6 dB Bandwidth = 1.60 MHz



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

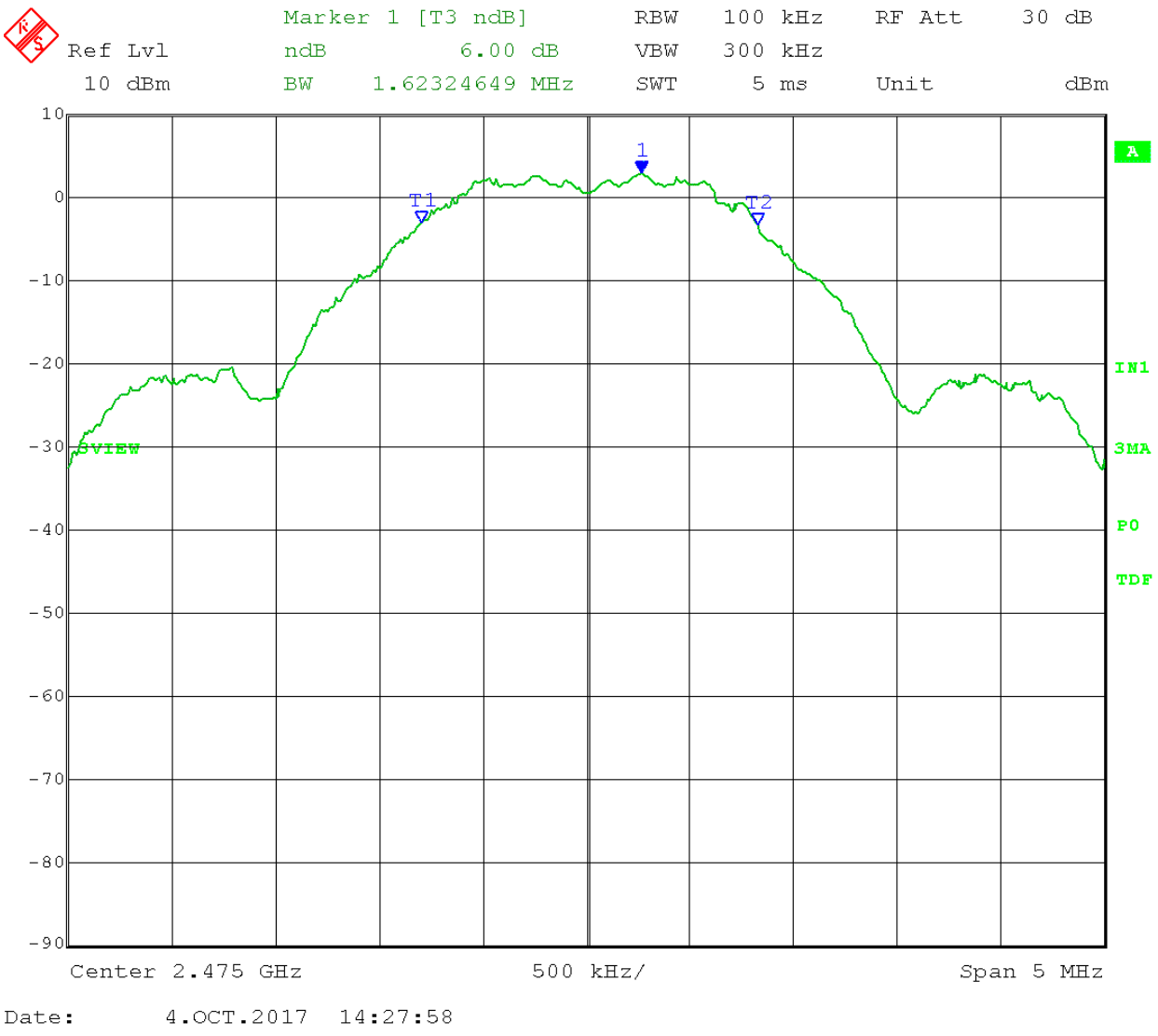
6 dB Bandwidth = 1.62 MHz



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: DTS (6 dB) Bandwidth - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

6 dB Bandwidth = 1.62 MHz



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Appendix B

B3.0 Fundamental Emission Output Power

Rule Part: FCC Part 15.247(b)(3)

Test Procedure: ANSI C63.10-2013, sections 11.9.1 & 11.9.1.1

Limit: 1 Watt (30 dBm)

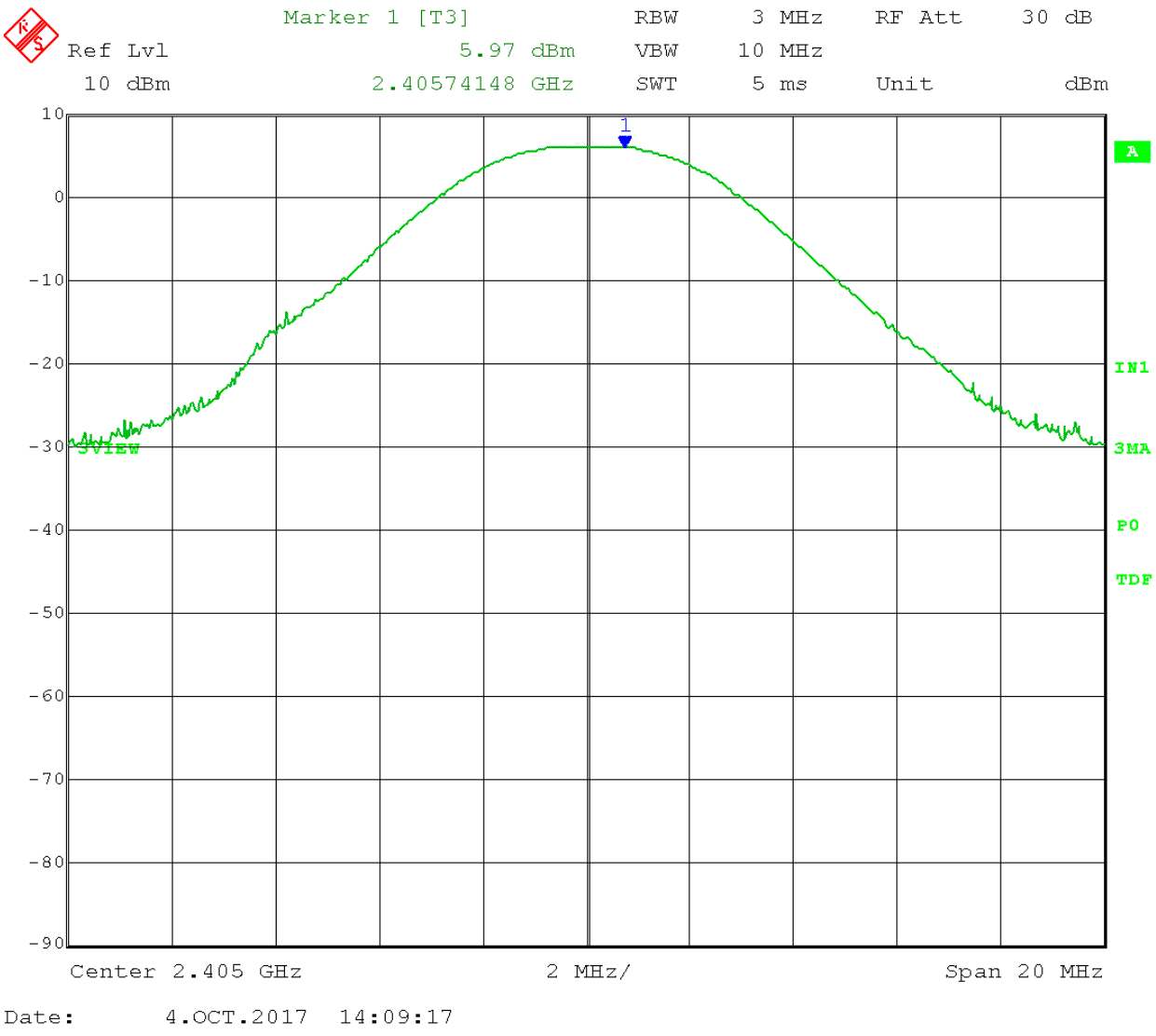
Results: Compliant
Maximum peak conducted output power = 6.30 dBm

Notes: This was an RF conducted measurement. The EUT was connected to the measuring equipment through a temporary external antenna connector. Cable loss was accounted for in the transducer factors set in the analyzer. The EUT was set to transmit continuously (100% Duty Cycle) at its maximum power level at the low, middle and high channels of the operating band. Peak Output power was measured with a spectrum analyzer.

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

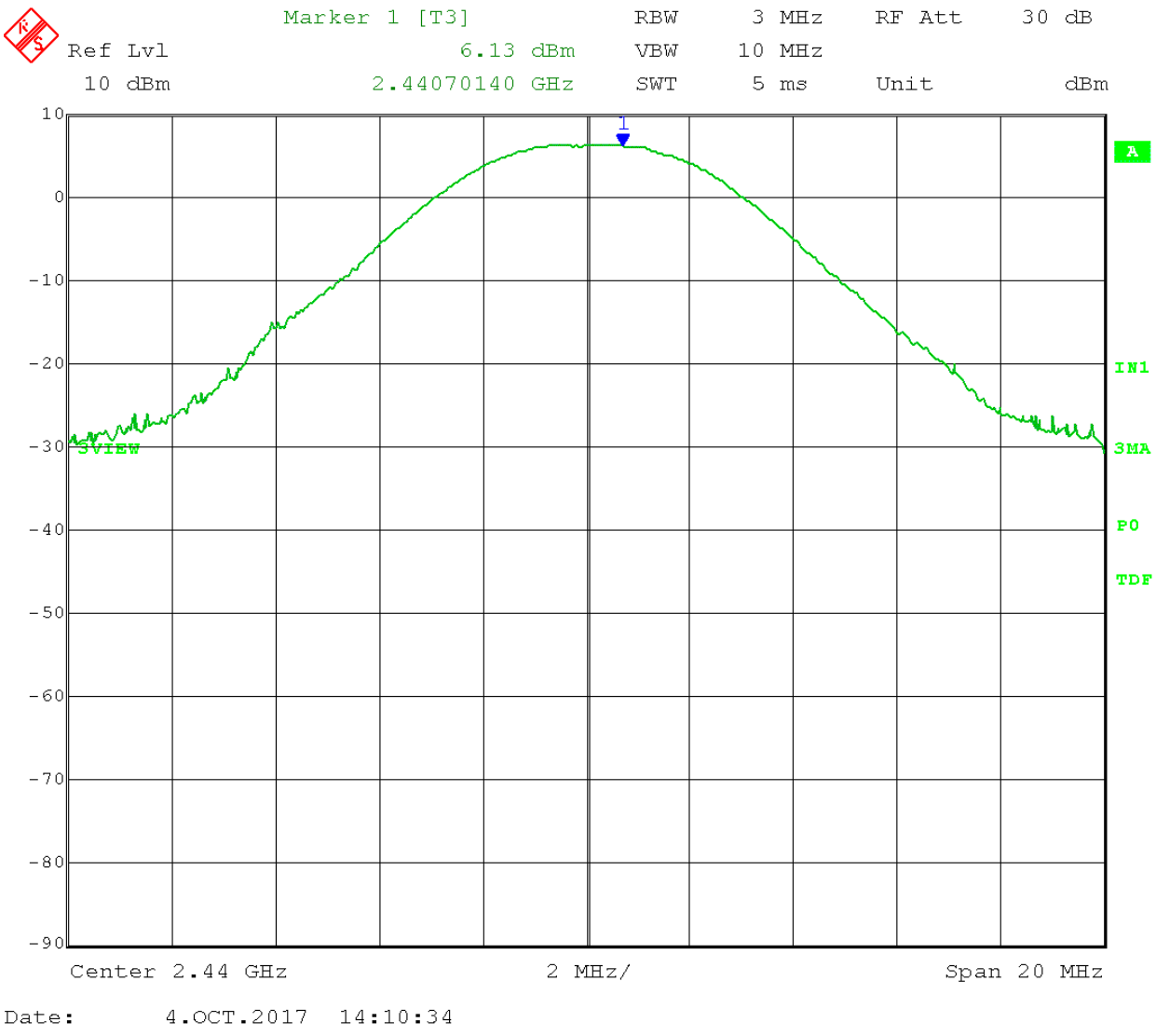
Peak Output Power = 5.97 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

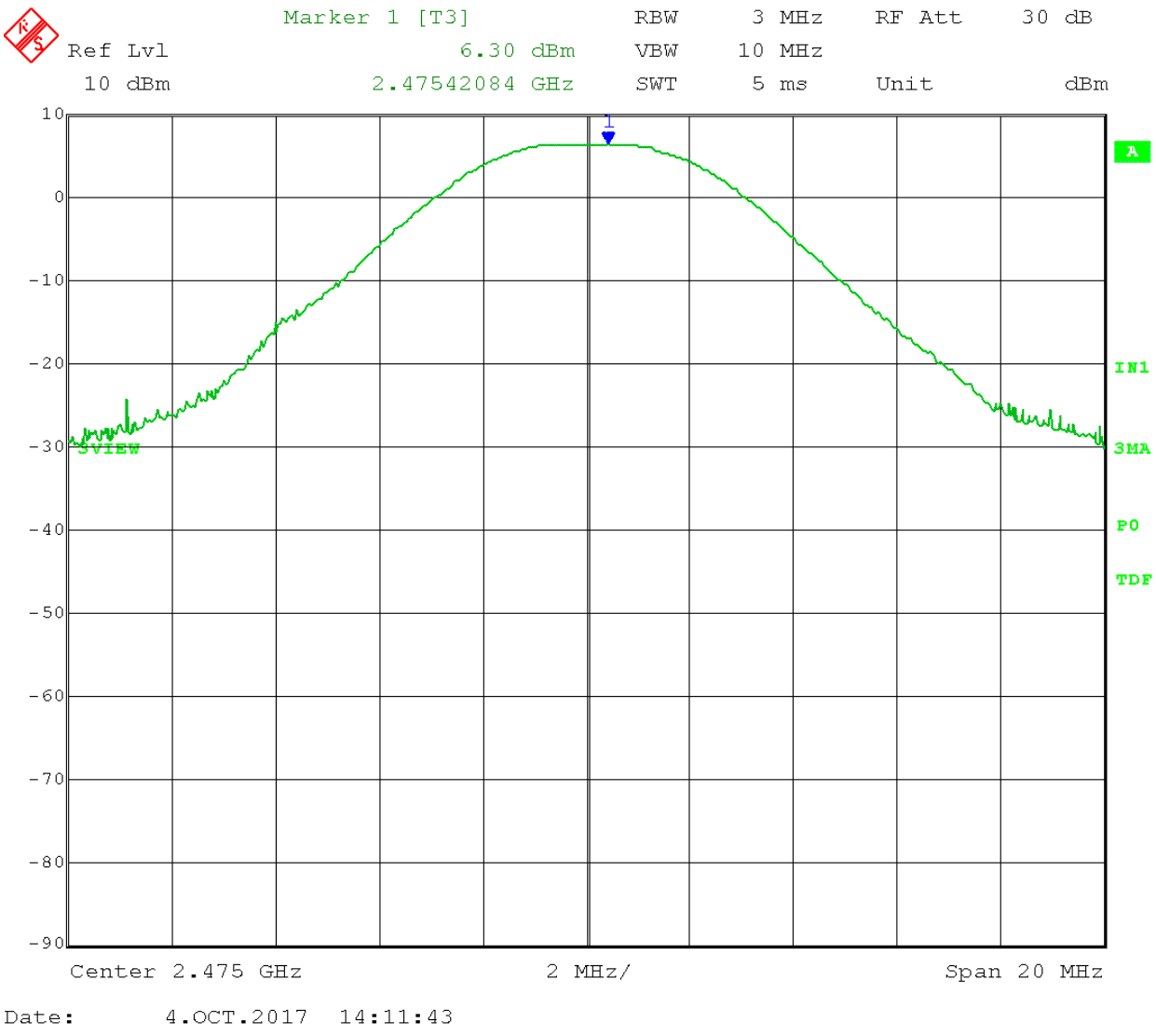
Peak Output Power = 6.13 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

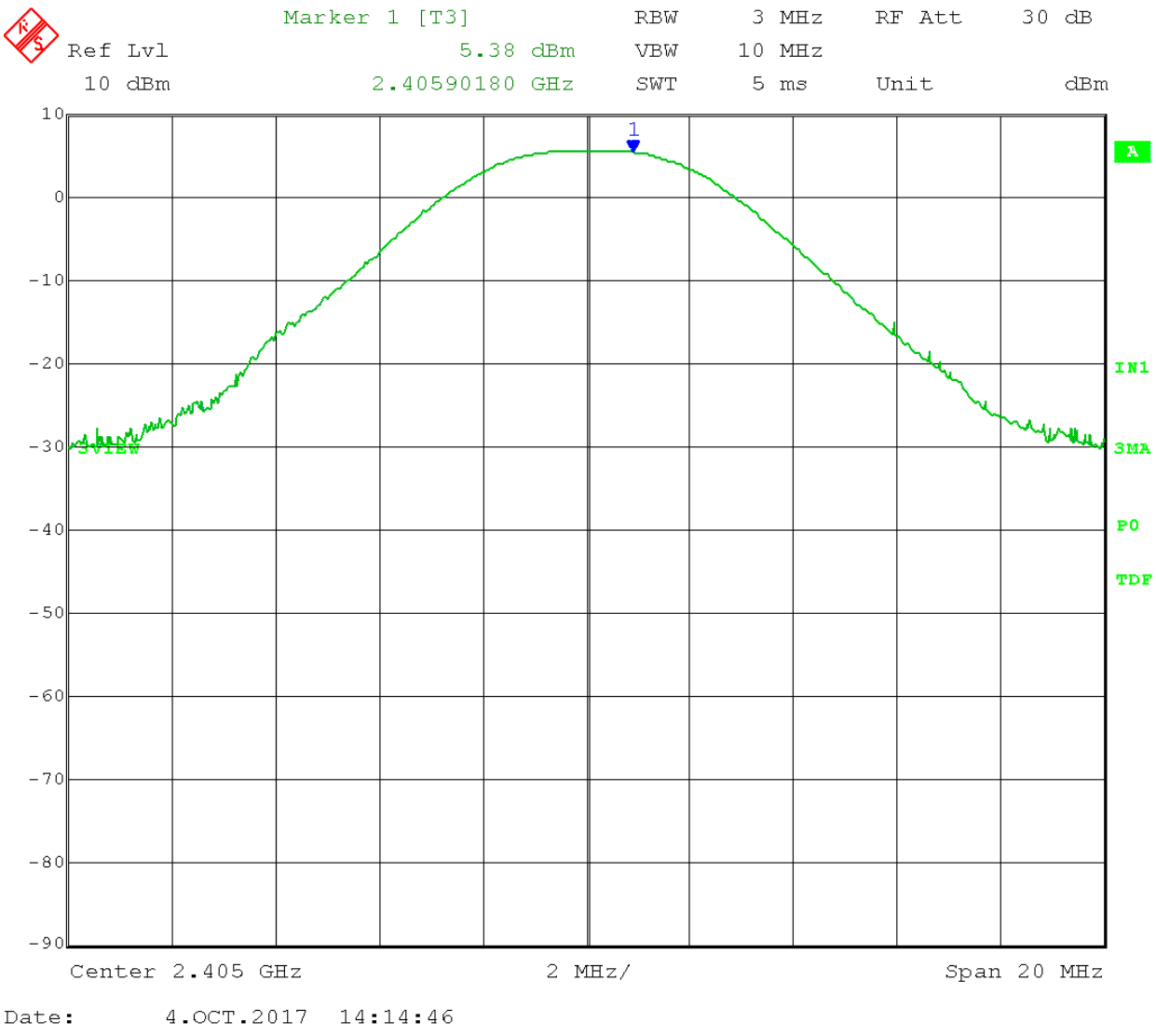
Peak Output Power = 6.30 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

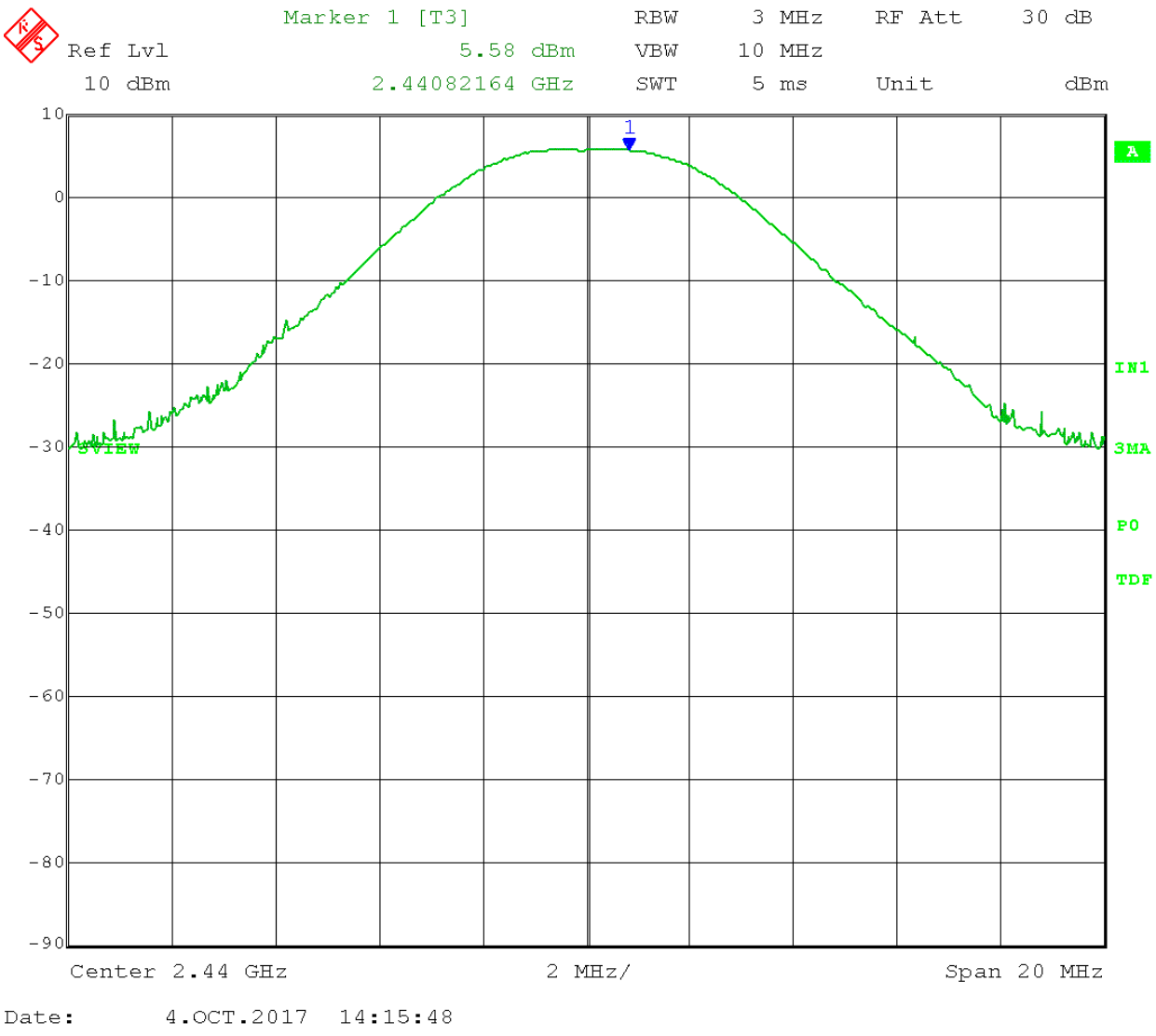
Peak Output Power = 5.38 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

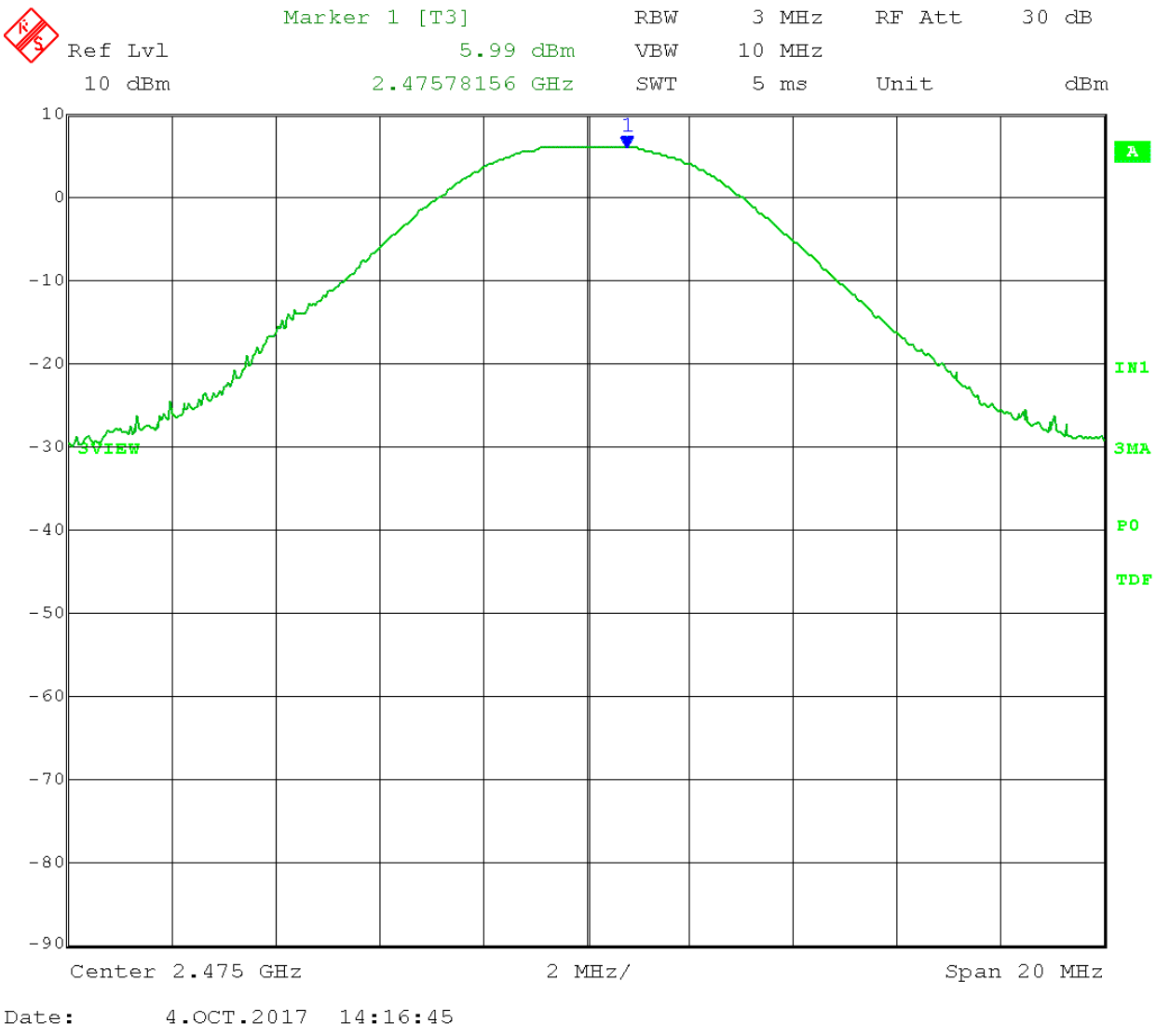
Peak Output Power = 5.58 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Output power - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Peak Output Power = 5.99 dBm



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Appendix B

B4.0 Maximum Power Spectral Density

Rule Part: FCC Part 15.247(e)

Test Procedure: ANSI C63.10-2013, sections 11.10 & 11.10.2

Limit: +8 dBm / 3 kHz

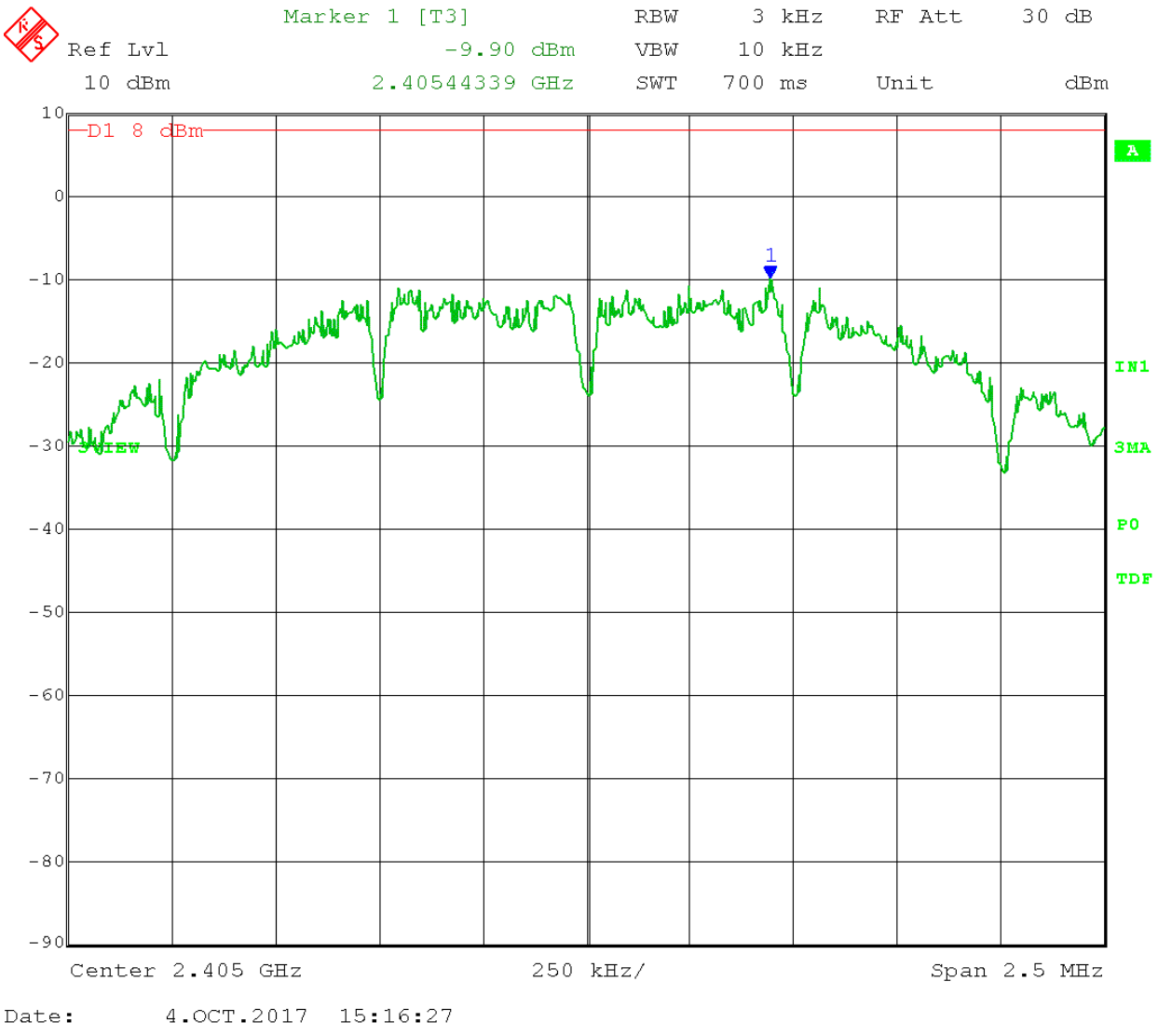
Results: Compliant
Maximum peak power spectral density = -9.15 dBm / 3 kHz

Notes: The EUT was set to transmit at its maximum power with 100% duty cycle. Low, Mid. & High Channels were tested. PSD Method PKPSD was used for this test.

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

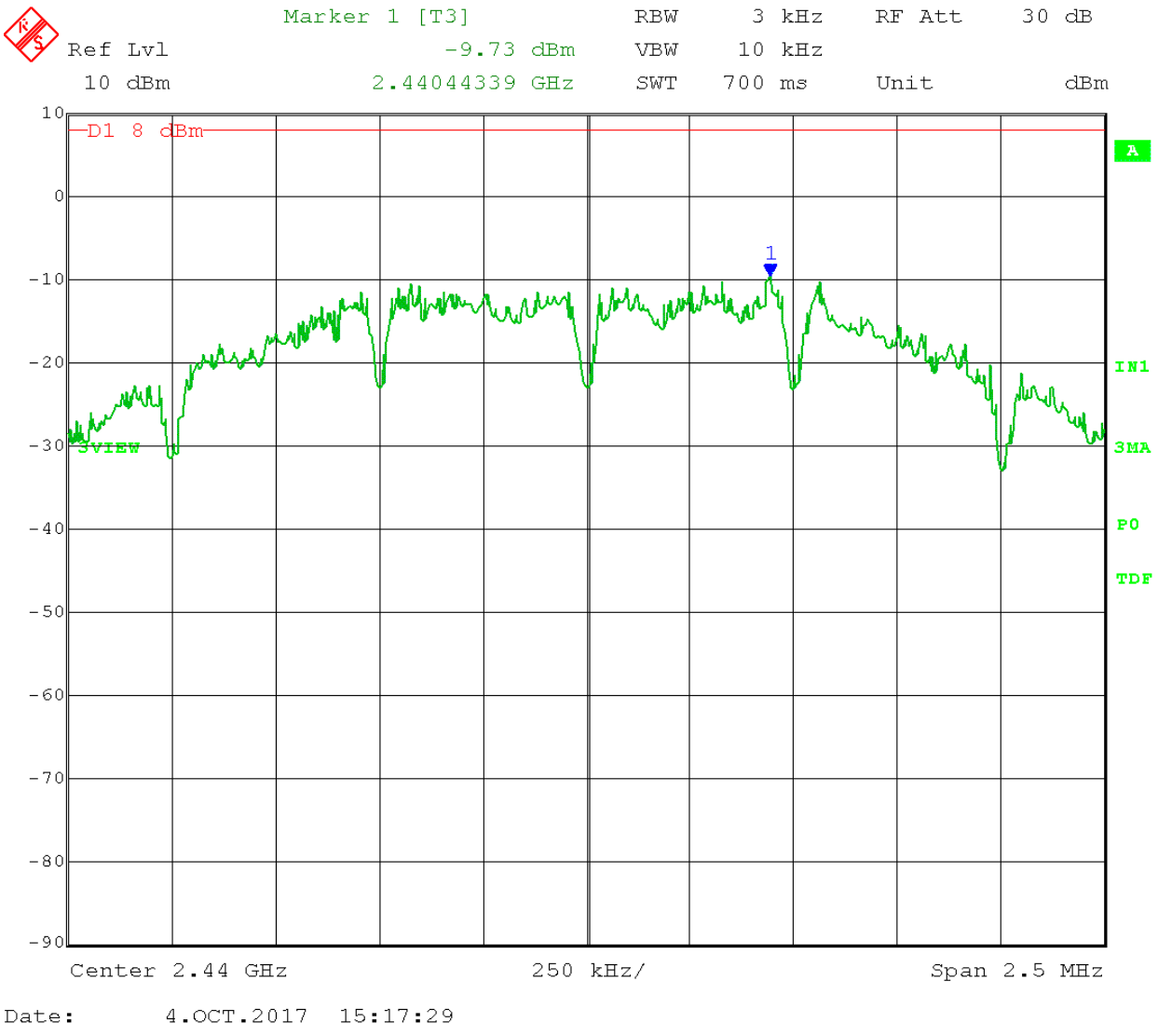
Power in 3 kHz Bandwidth = -9.90 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

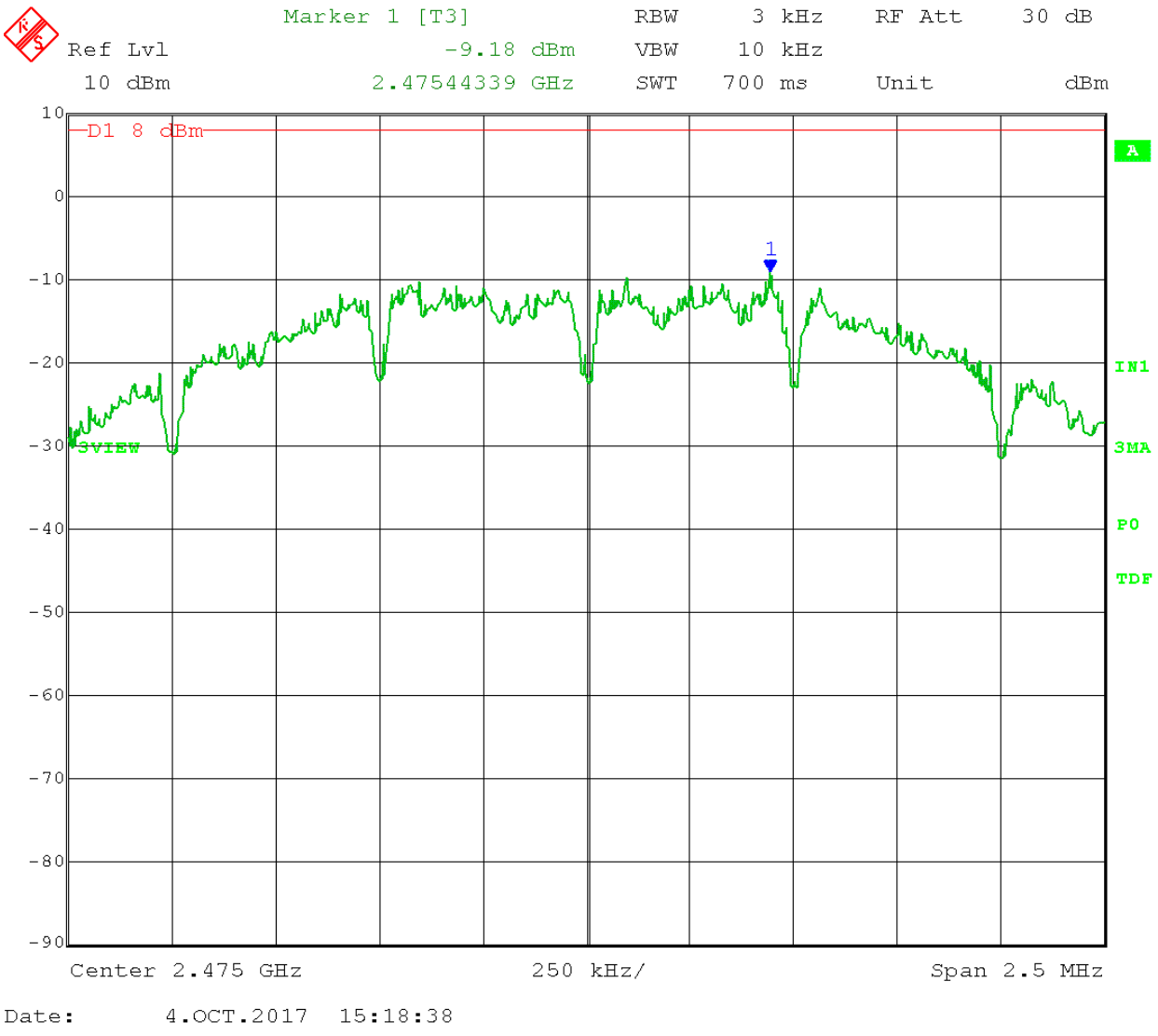
Power in 3 kHz Bandwidth = -9.73 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

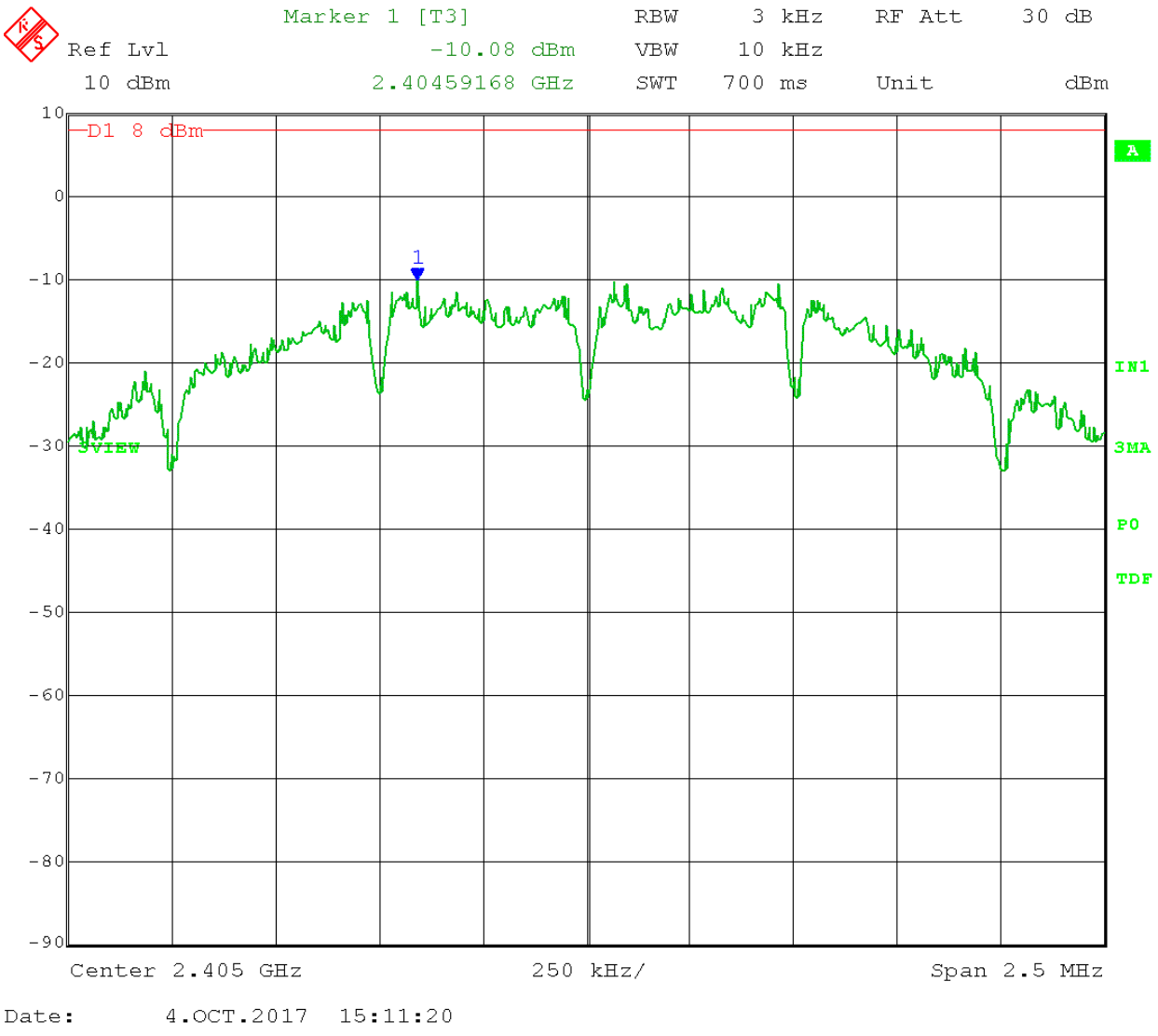
Power in 3 kHz Bandwidth = -9.18 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

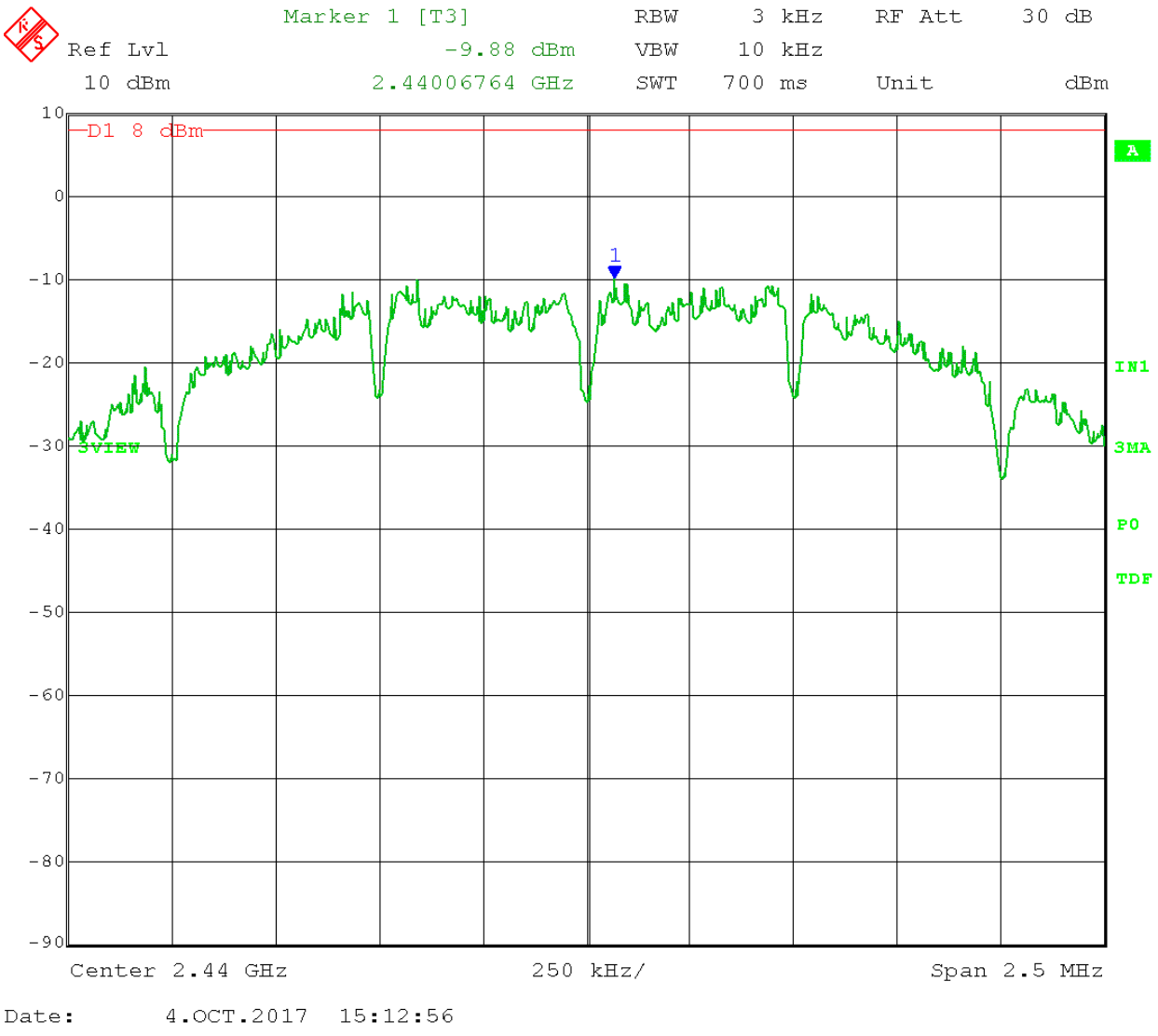
Power in 3 kHz Bandwidth = -10.08 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

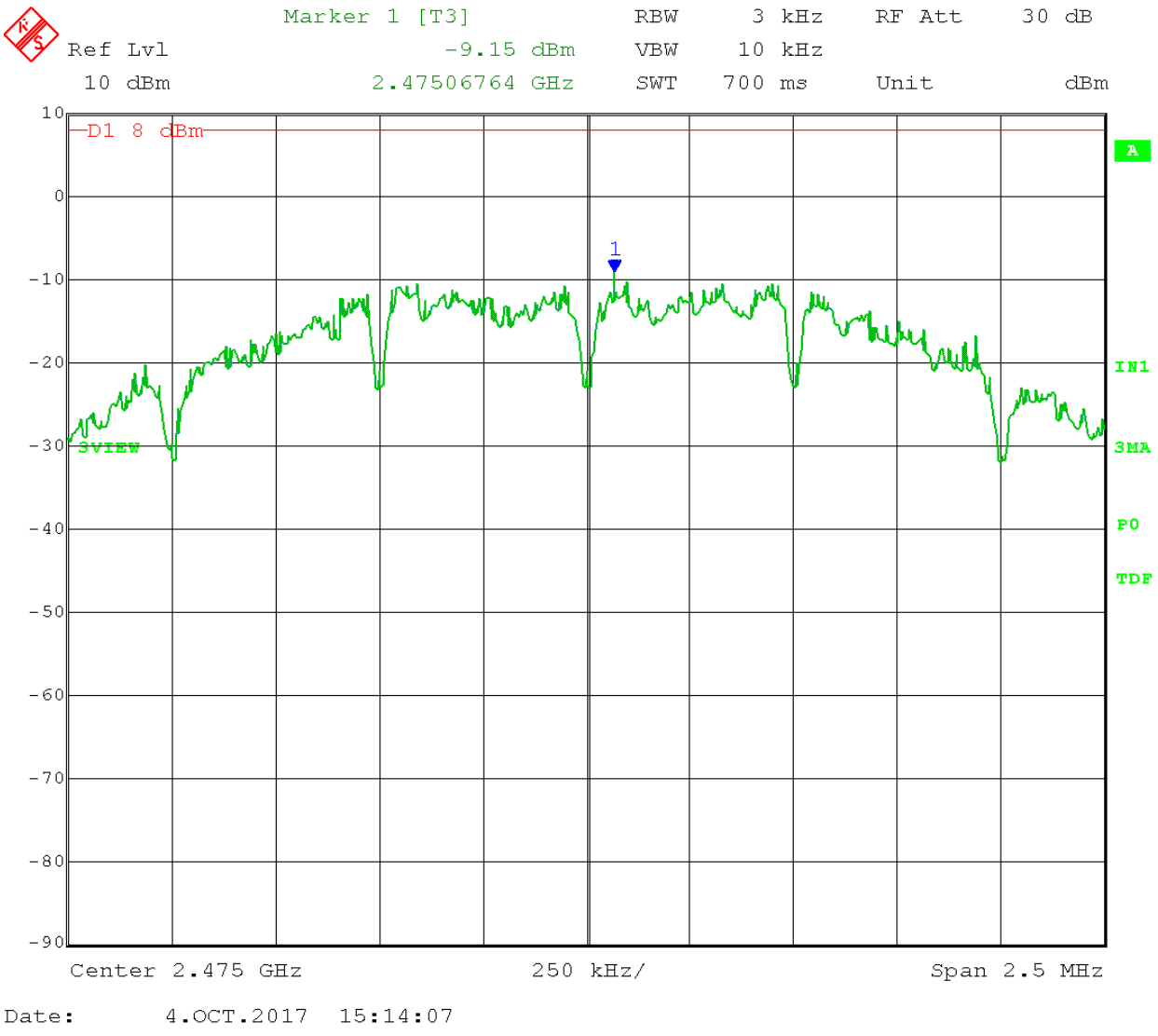
Power in 3 kHz Bandwidth = -9.88 dBm



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Power Spectral Density - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Power in 3 kHz Bandwidth = -9.15 dBm



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Appendix B

B5.0 Operating Band-Edge – RF Conducted

Rule Part: FCC Part 15.247(d)

Test Procedure: ANSI C63.10-2013, sections 11.11, 11.11.2, and 11.11.3

Limit: 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. (Device complies with Power Option 1).

Results: Compliant

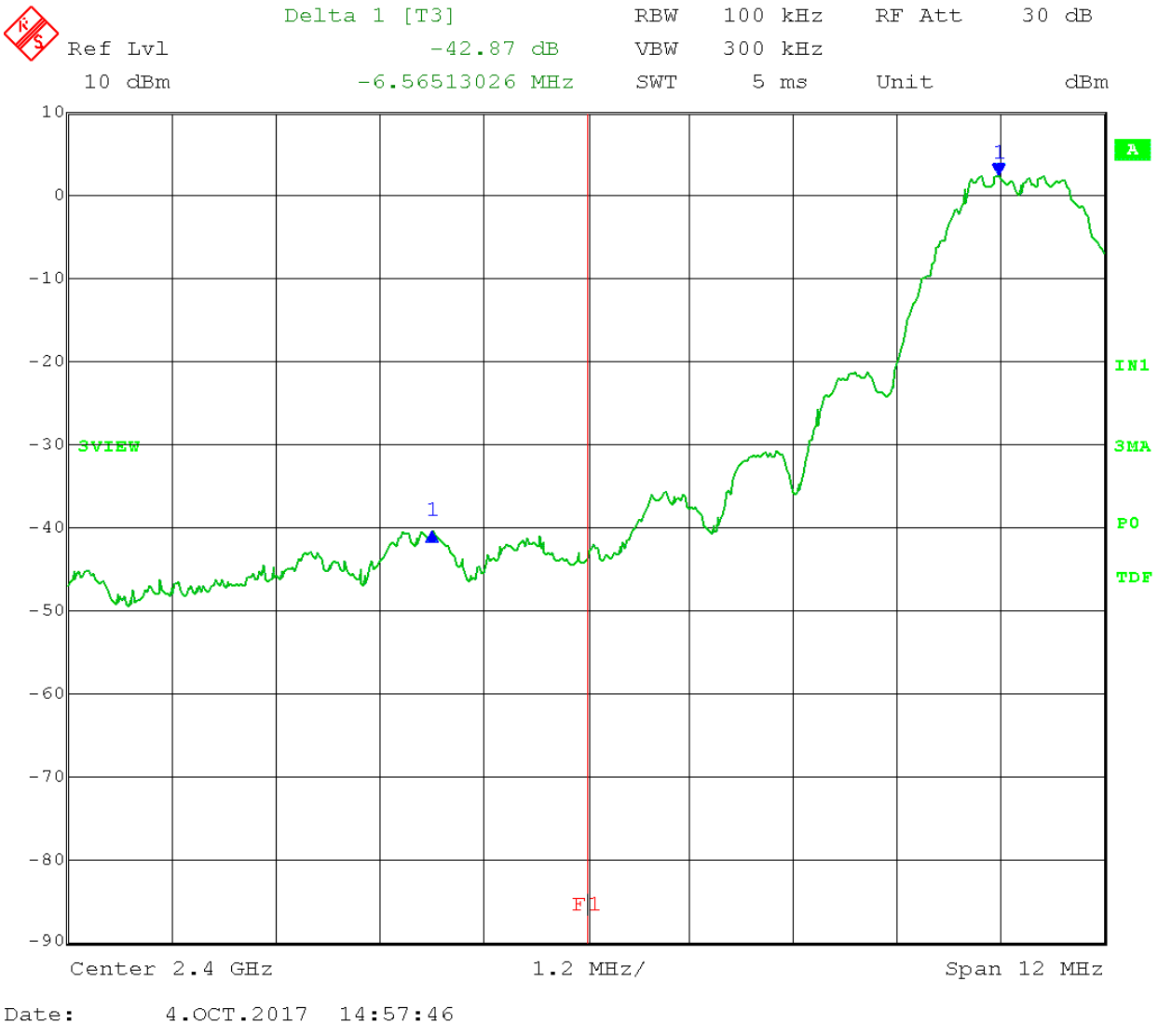
Notes: This was an RF conducted measurement. The EUT was connected to the measuring equipment through a temporary external antenna connector. Cable loss was accounted for in the transducer factors set in the analyzer.

The EUT was set to transmit at its maximum power with 100% duty cycle at the low and high channels of the operating band.

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Band Edge Compliance - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Band-Edge Frequency = 2.4 GHz
Limit at Band-Edge > 20 dB Below Peak In-Band Emission

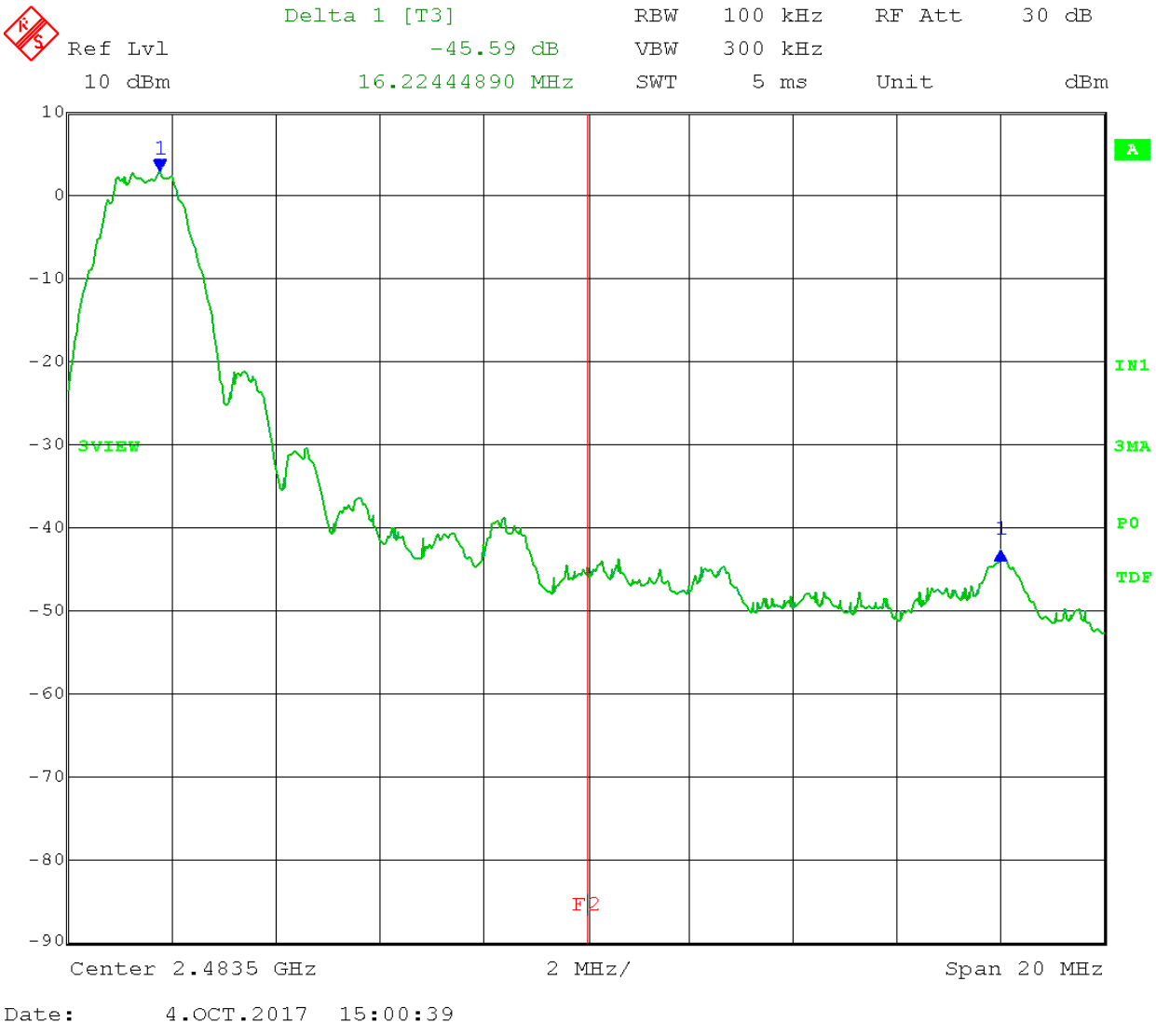


Date: 4.OCT.2017 14:57:46

Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Band Edge Compliance - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

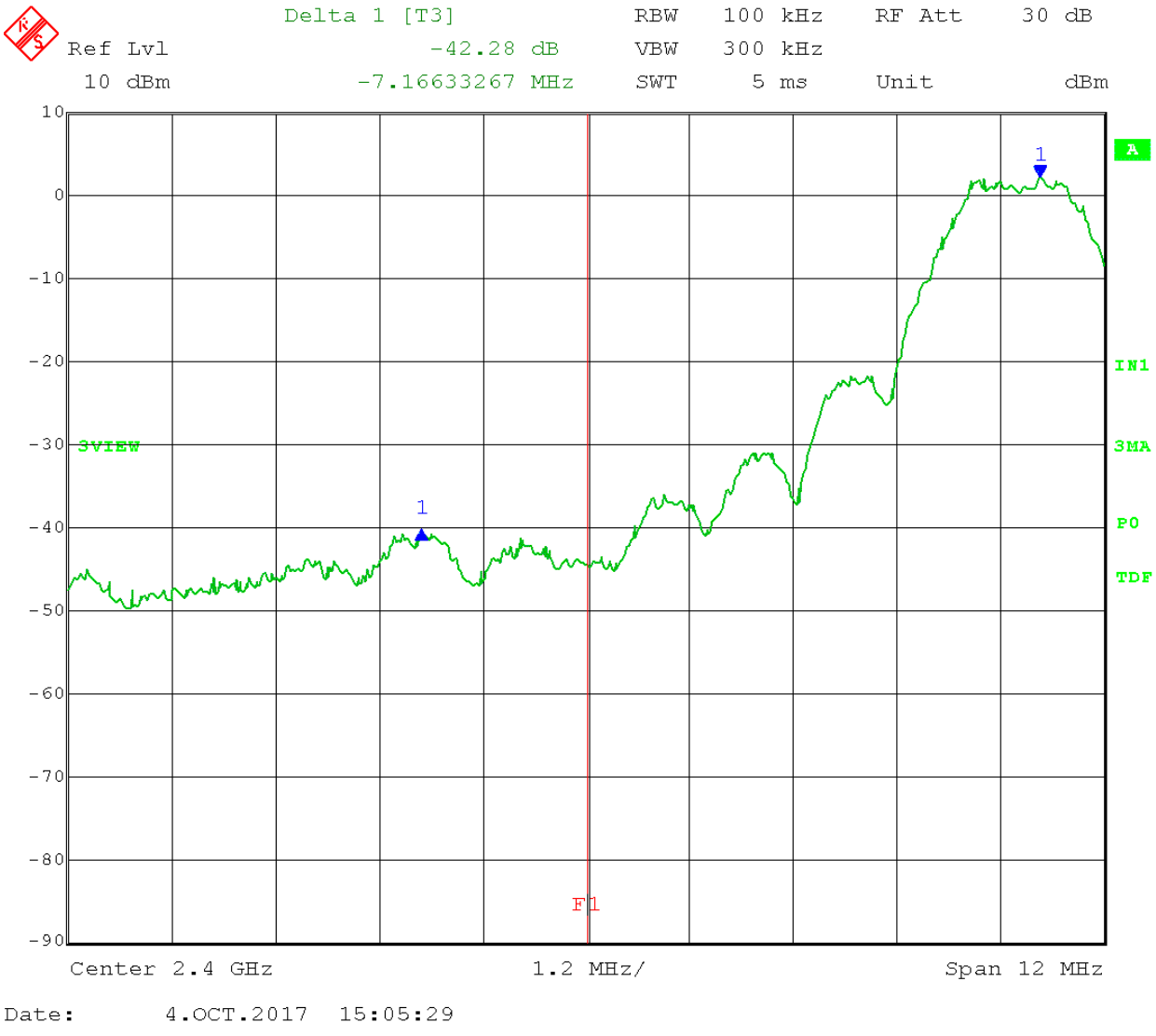
Band-Edge Frequency = 2.4835 GHz
Limit at Band-Edge > 20 dB Below Peak In-Band Emission



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Band Edge Compliance - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

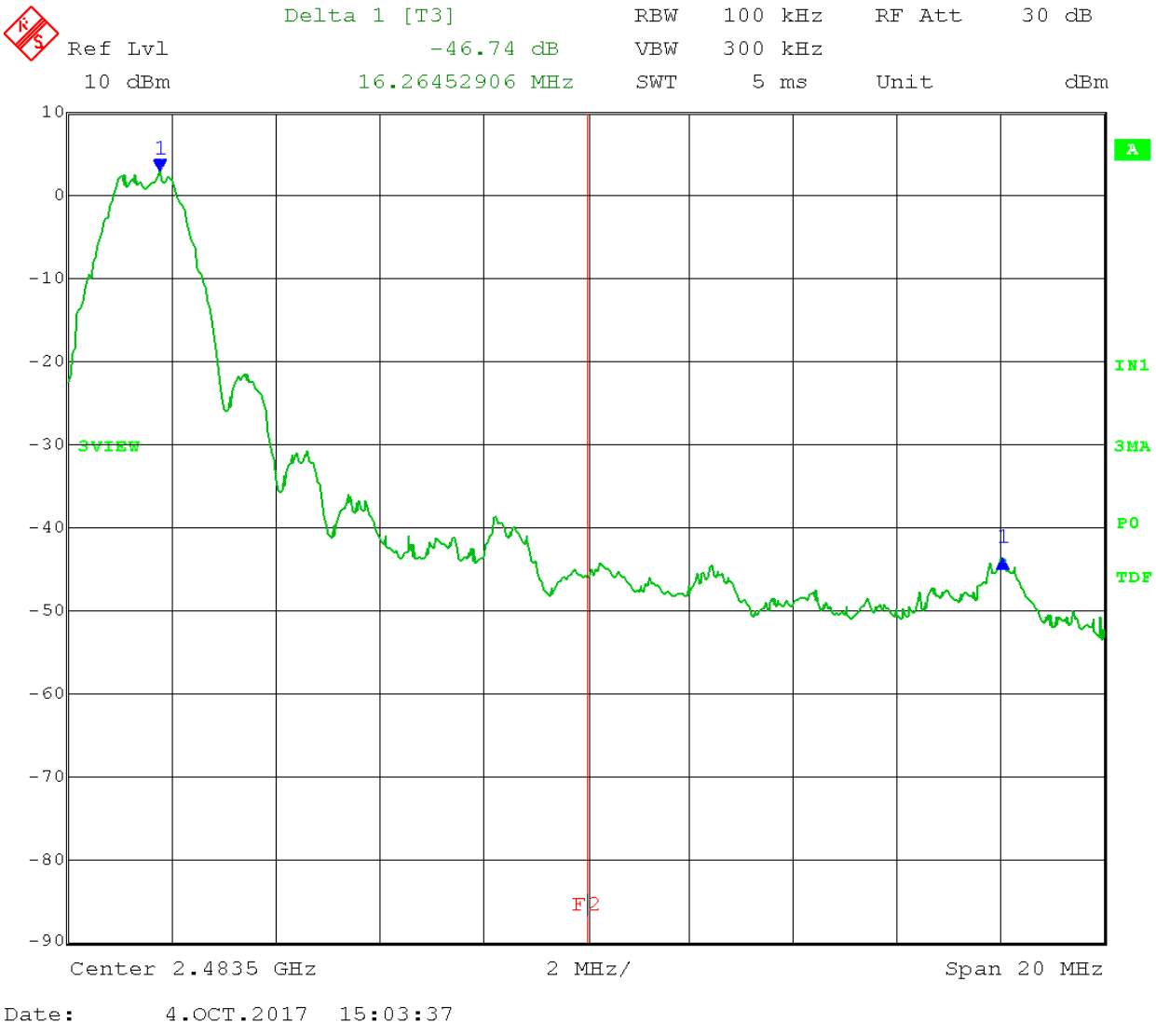
Band-Edge Frequency = 2.4 GHz
Limit at Band-Edge > 20 dB Below Peak In-Band Emission



Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Band Edge Compliance - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Band-Edge Frequency = 2.4835 GHz
Limit at Band-Edge > 20 dB Below Peak In-Band Emission



Date: 4.OCT.2017 15:03:37

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Appendix B

B6.0 Restricted Band-Edge – Radiated

Rule Part: FCC Part 15.247(d), 15.205(a), 15.209(a)

Test Procedure: ANSI C63.10-2013, sections 11.12 & 11.12.1

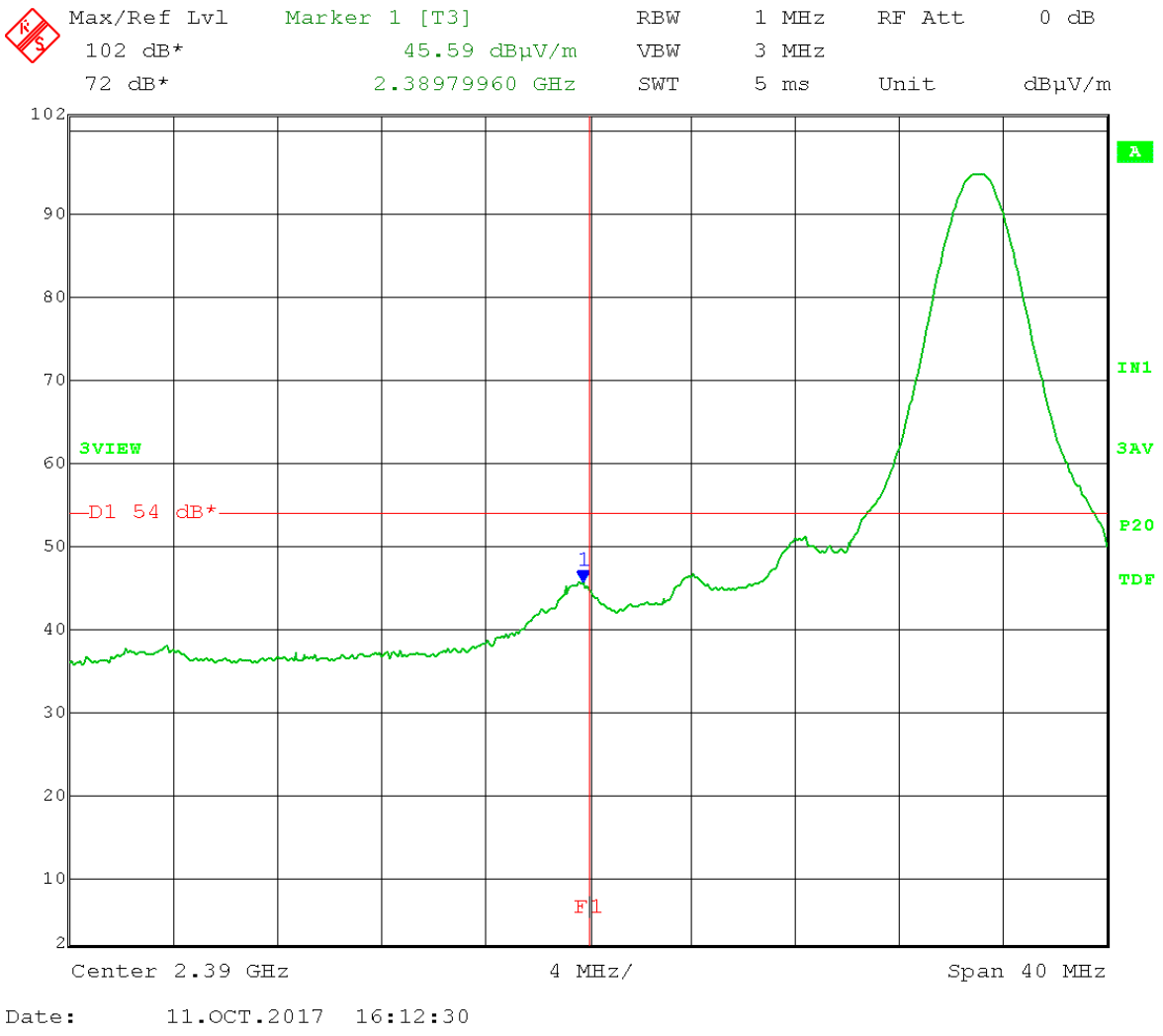
Limit: FCC 15.209

Results: Compliant

Notes: The EUT was set to transmit at its maximum power with 100% duty cycle at the low and high channels of the operating band.

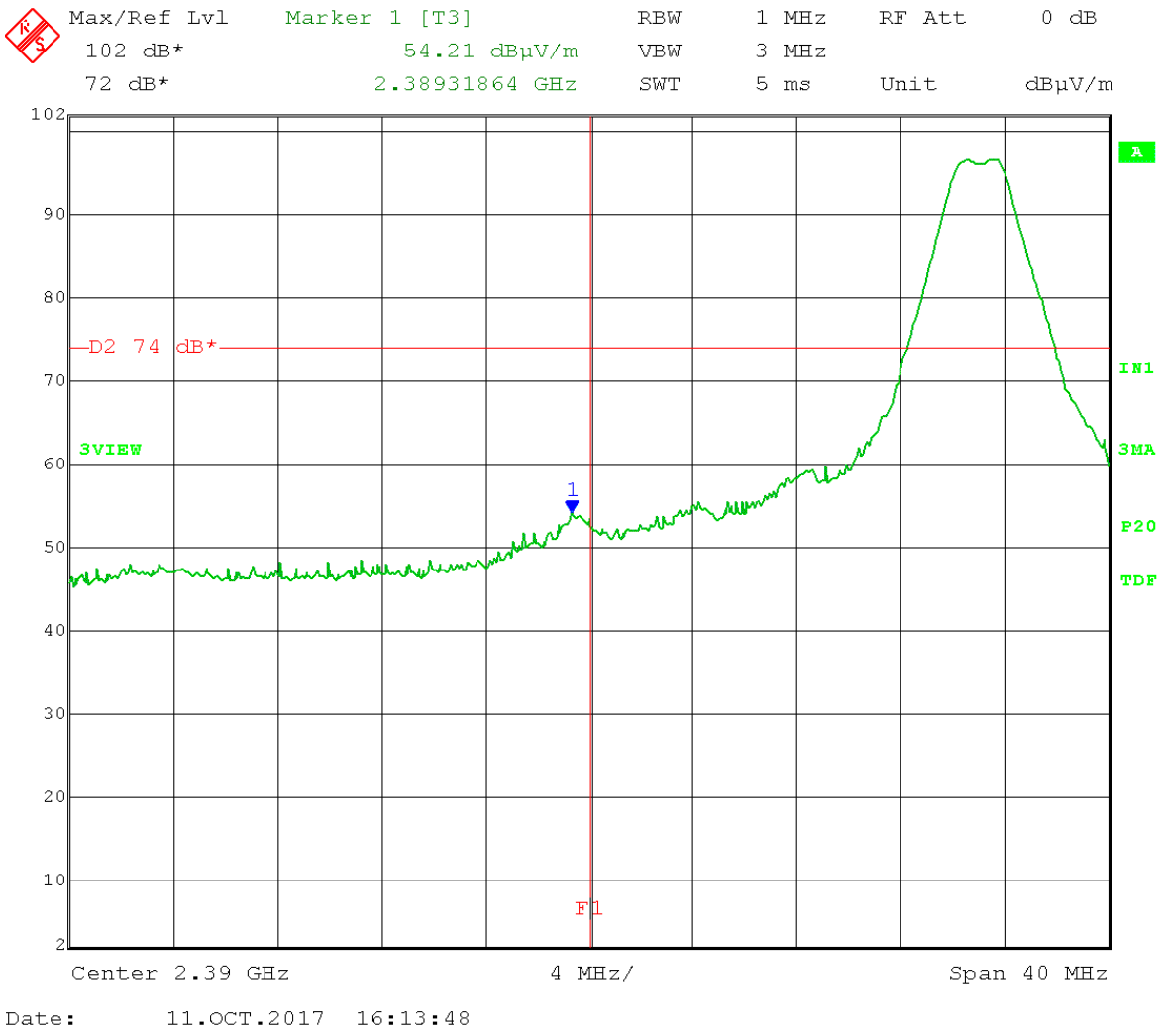
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E1**

Polarization = Vertical
Detector = Average



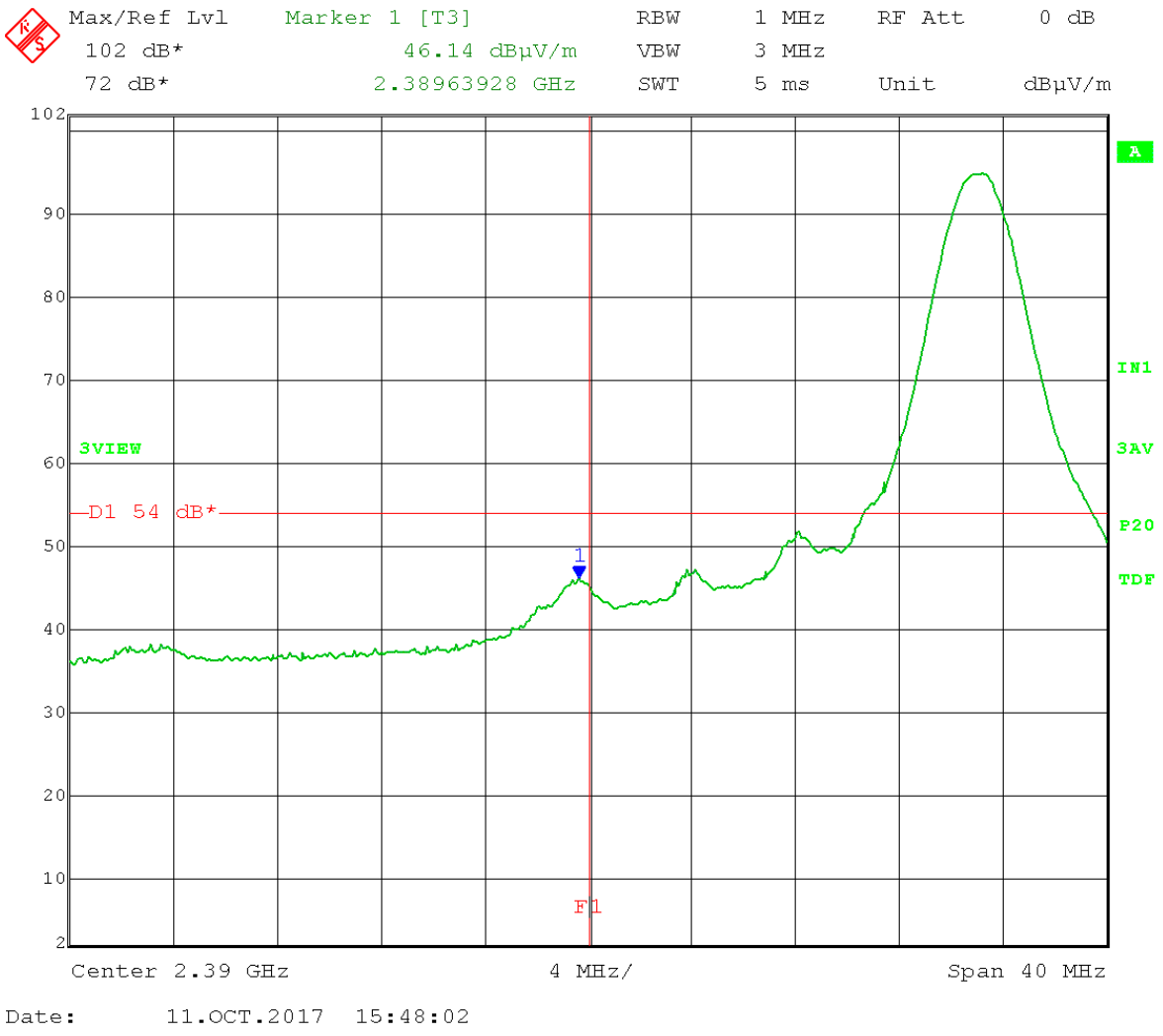
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E1**

Polarization = Vertical
Detector = Peak



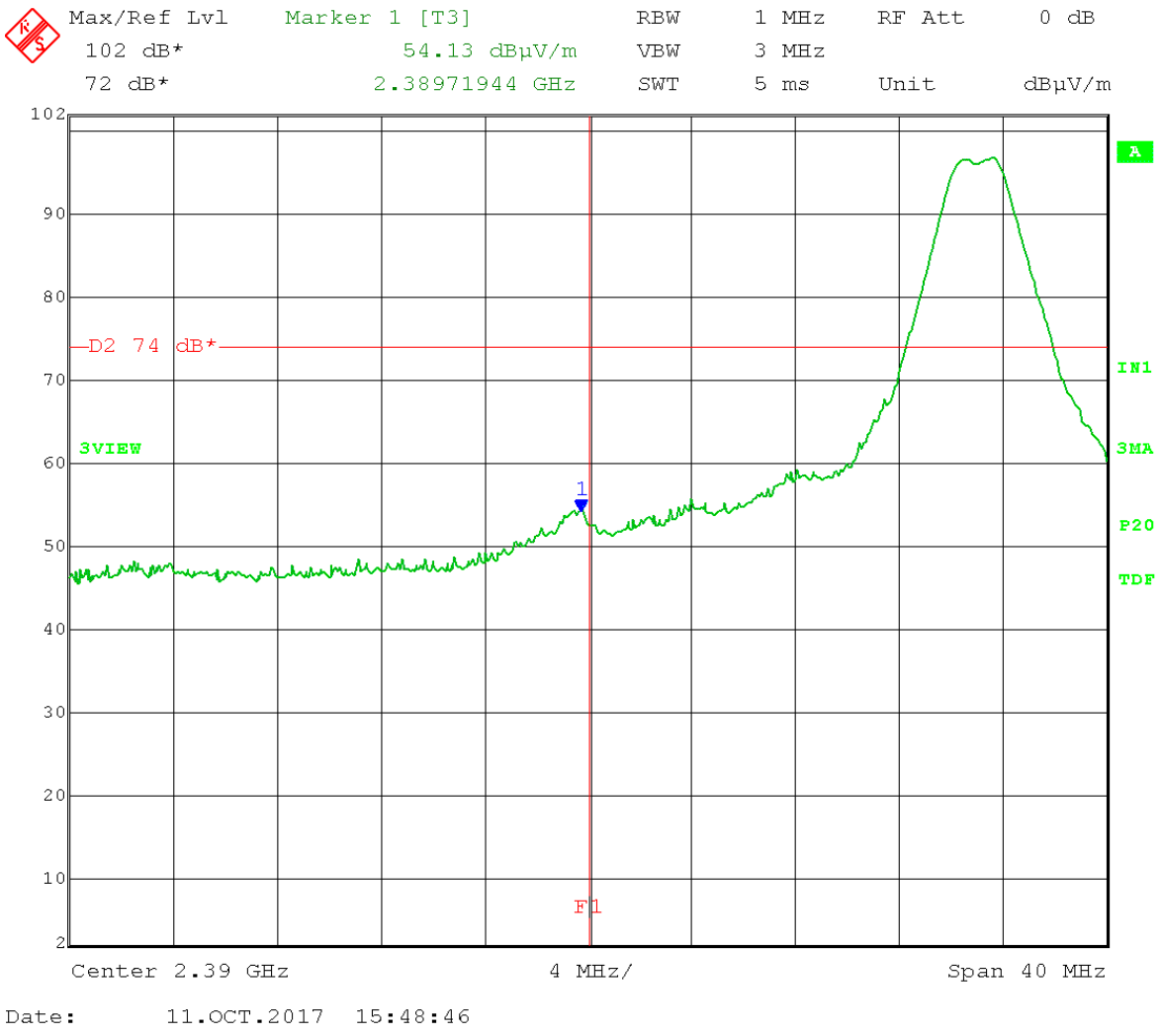
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E1**

Polarization = Horizontal
Detector = Average



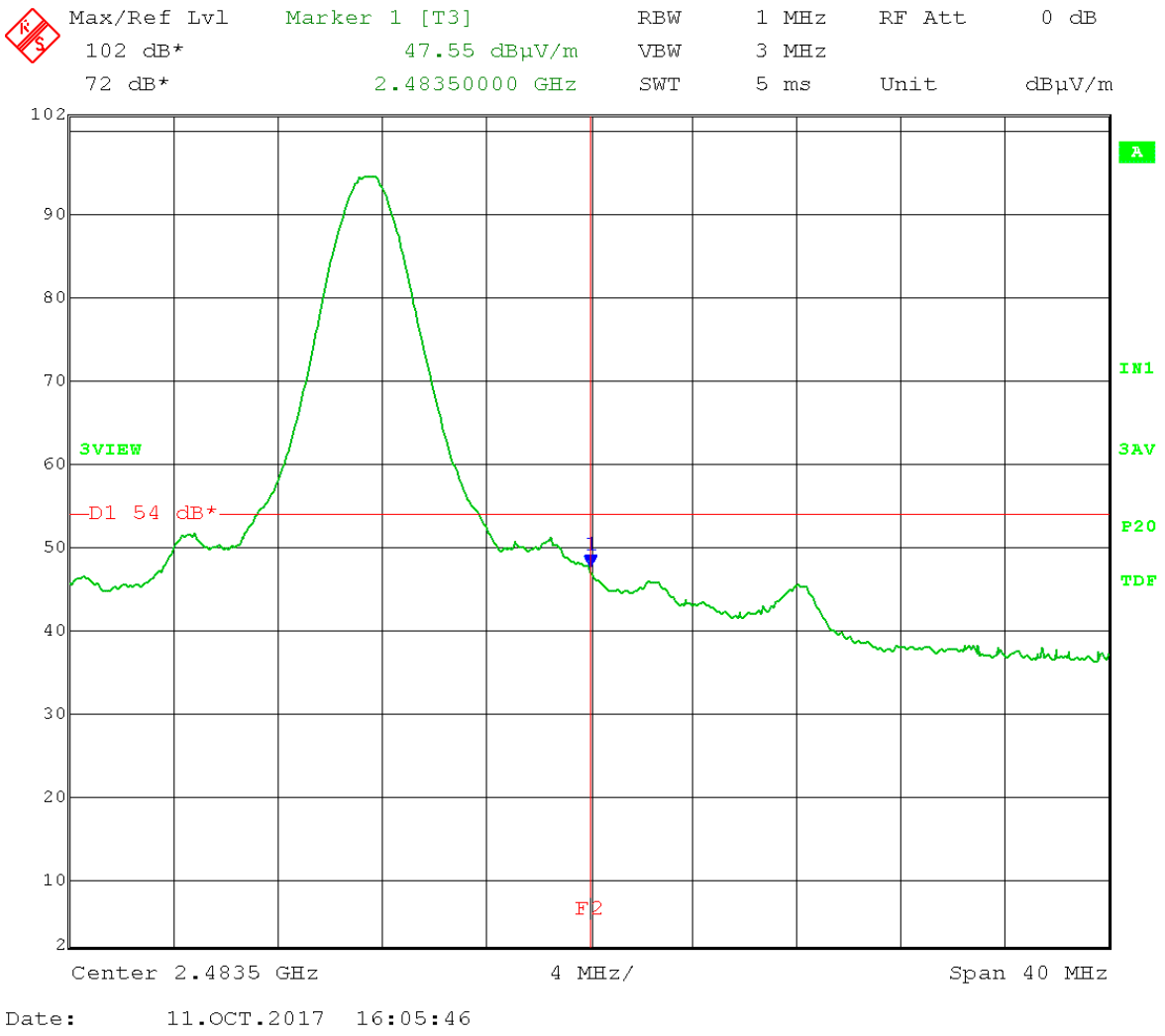
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E1**

Polarization = Horizontal
Detector = Peak



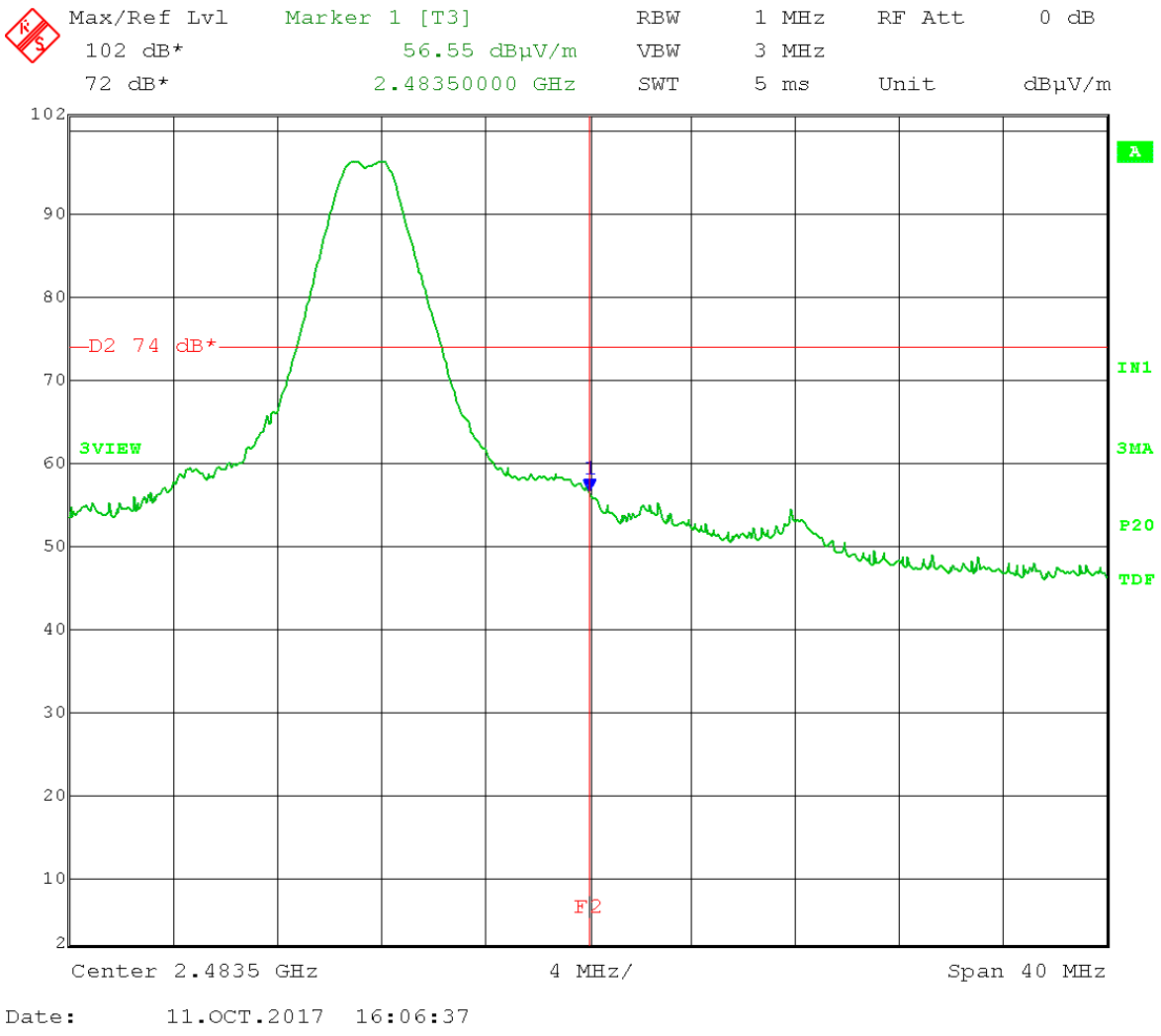
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E1**

Polarization = Vertical
Detector = Average



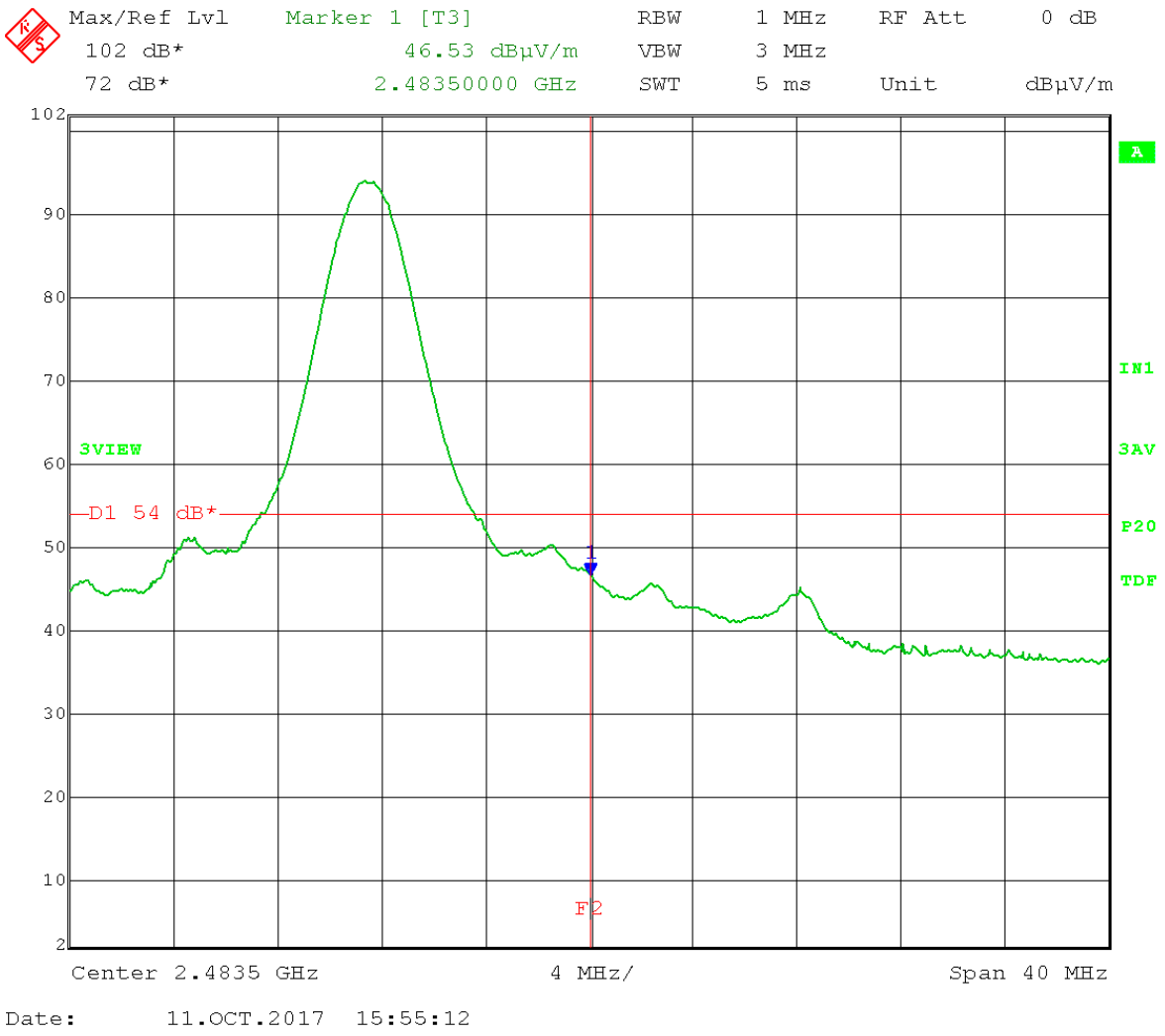
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E1**

Polarization = Vertical
Detector = Peak



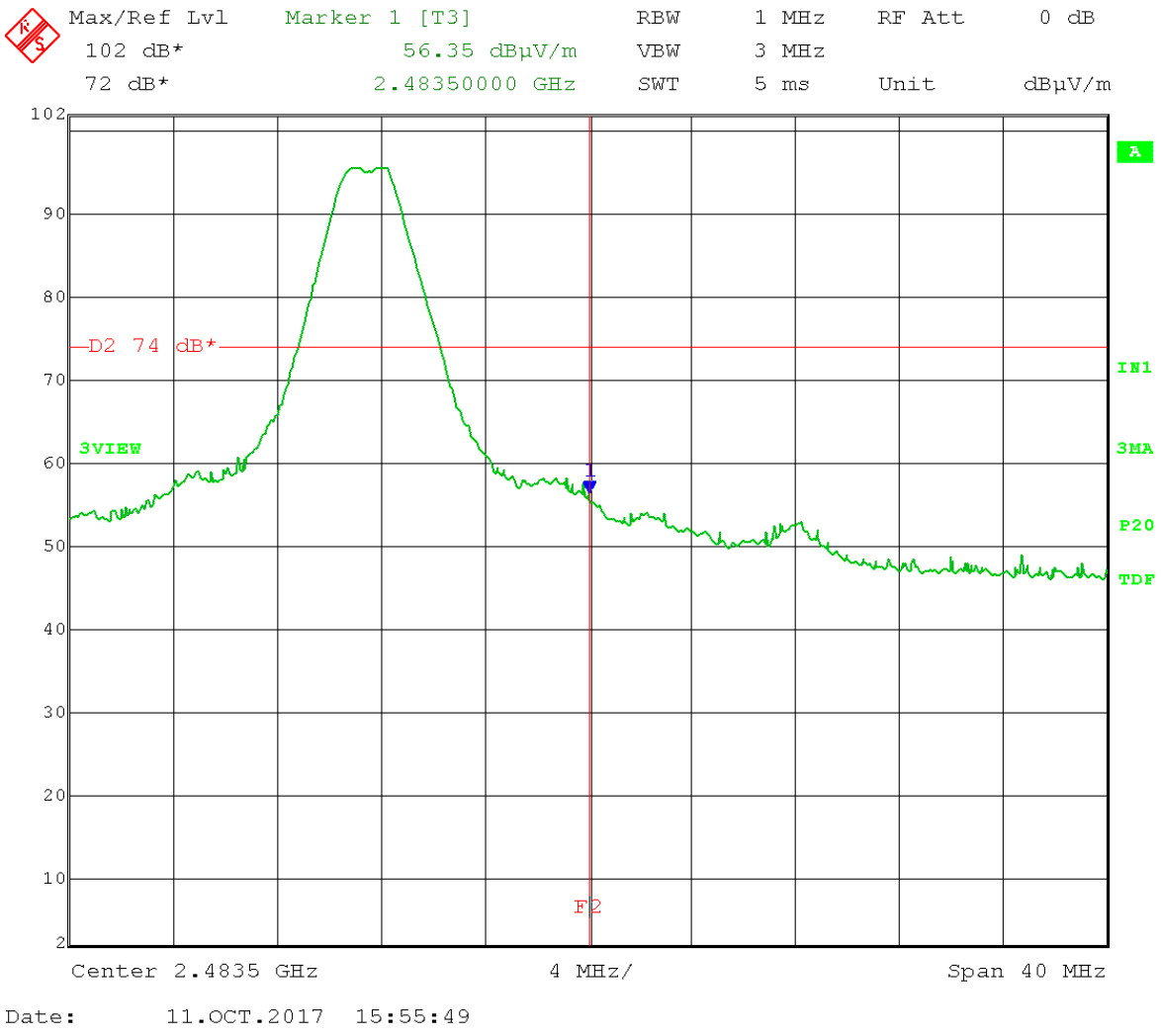
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E1**

Polarization = Horizontal
Detector = Average



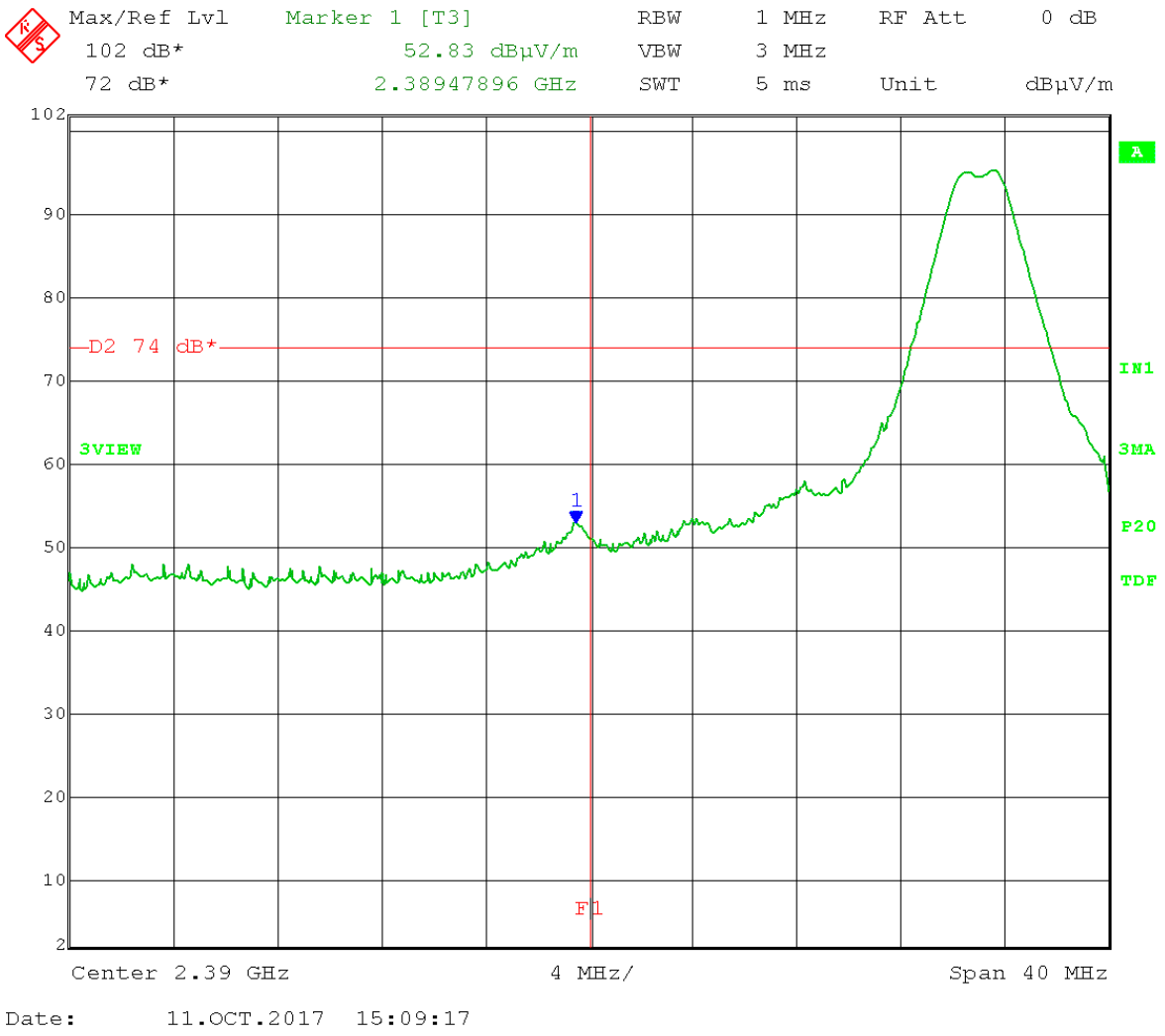
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E1**

Polarization = Horizontal
Detector = Peak



Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E2**

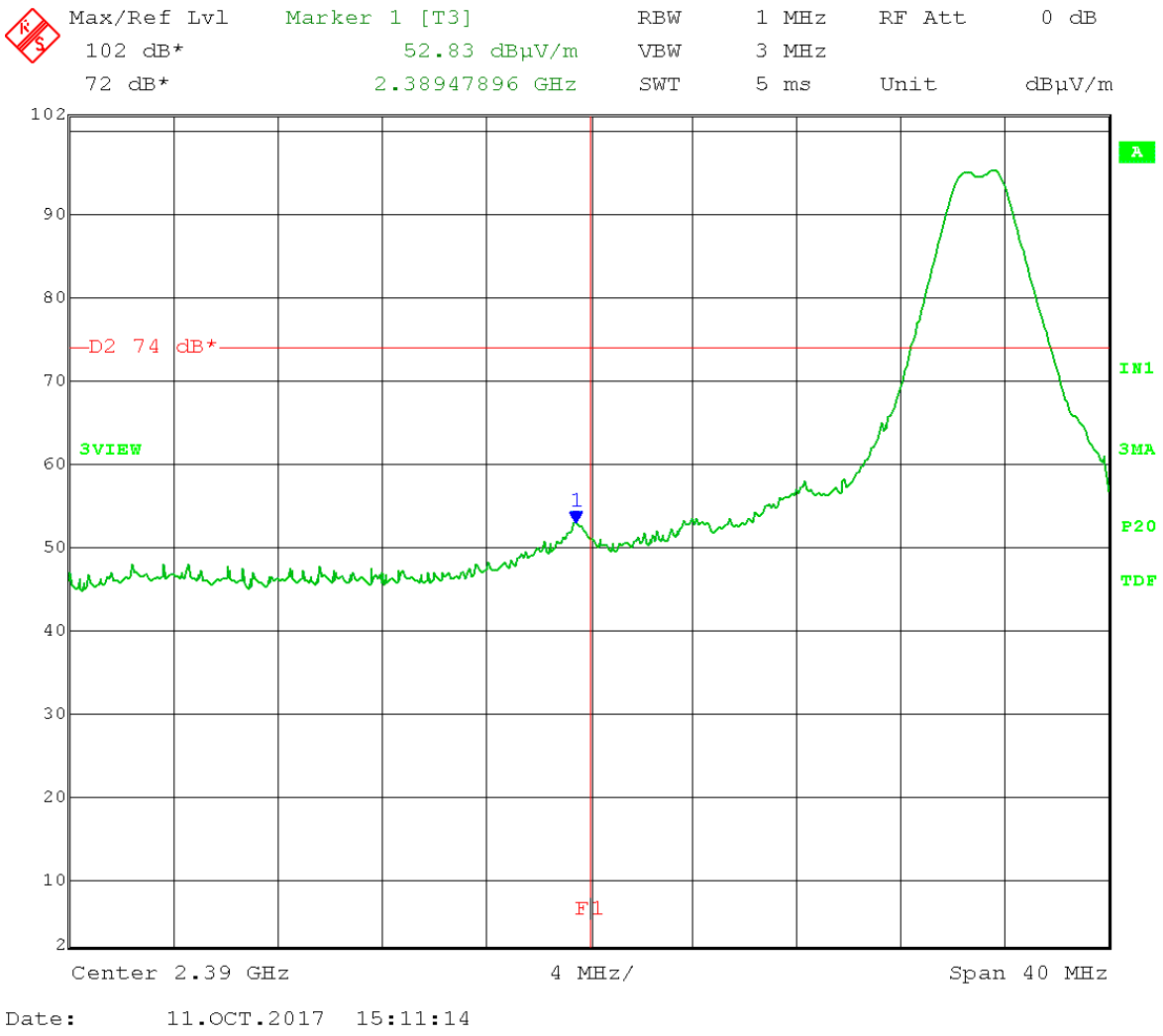
Polarization = Vertical
Detector = Average*



**** NOTE: The detector and limit line at the time of test was inadvertently set to Peak while it was intended to be a measurement of Average emission level. Note that this measurement shows the emission level using a Peak detector is under the 54 dBuV/m Average limit, and is therefore compliant.***

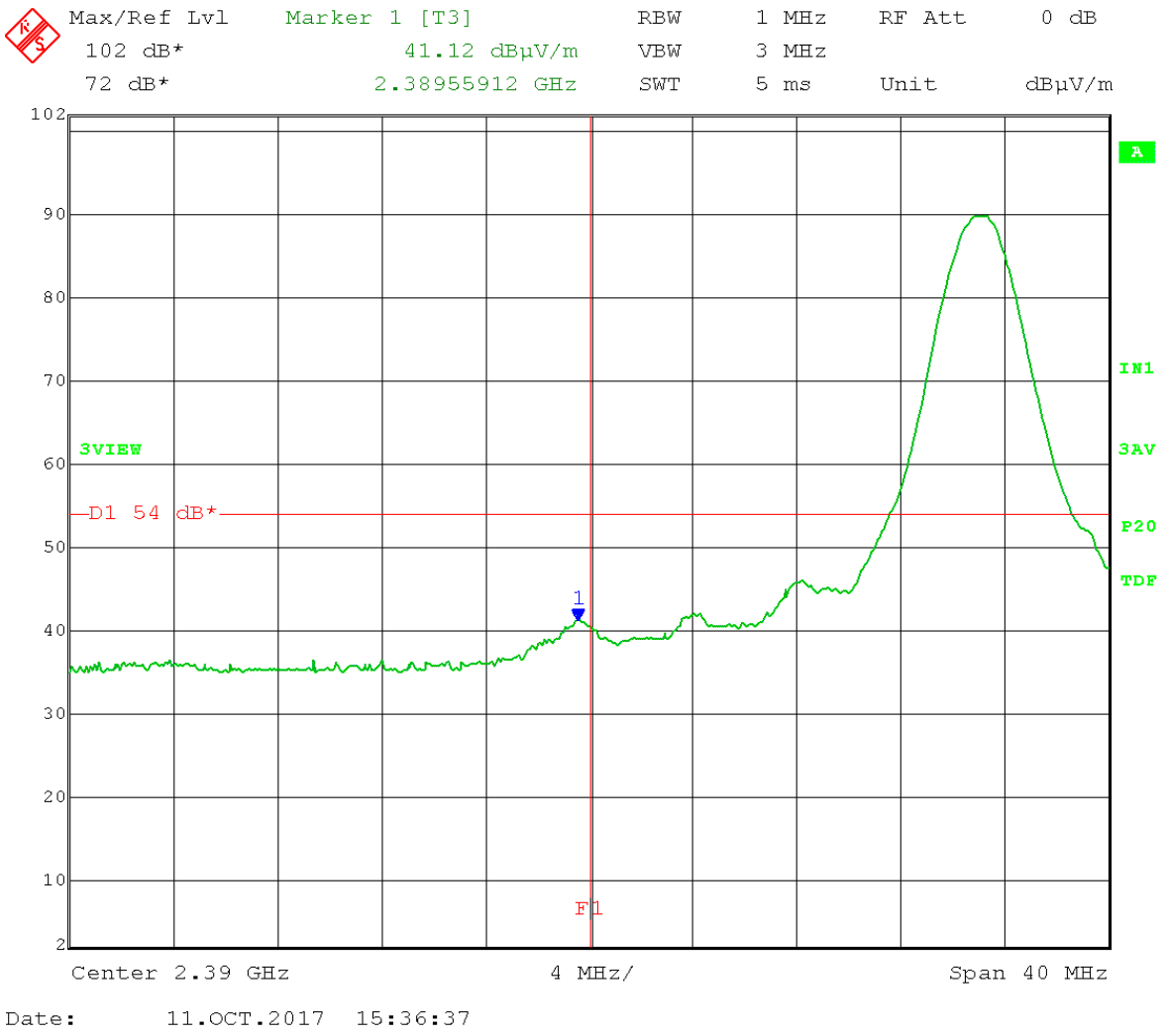
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E2**

Polarization = Vertical
Detector = Peak



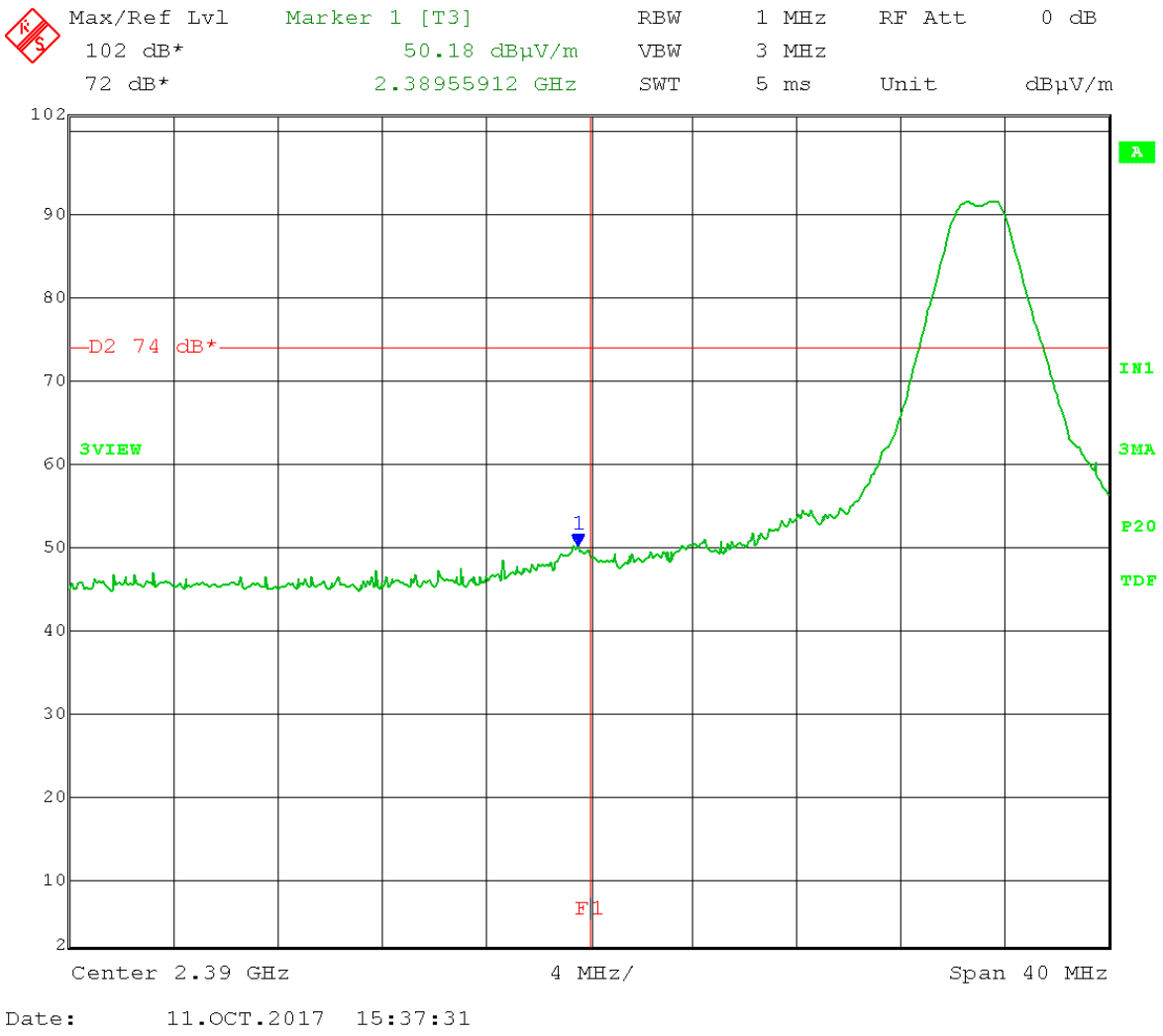
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E2**

Polarization = Horizontal
Detector = Average



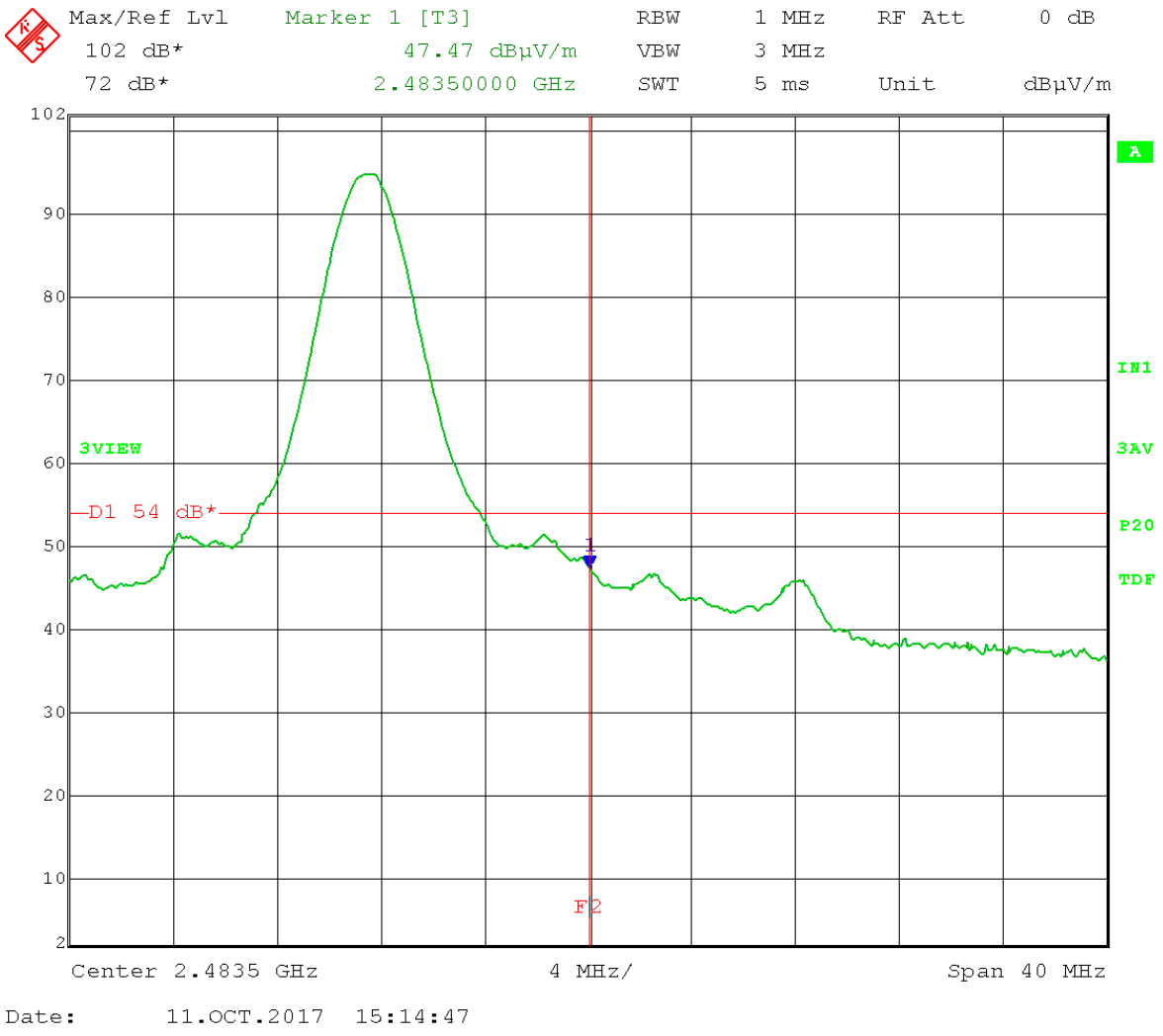
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Lower Restricted Band Edge – Radiated
Operator: Craig B
Comment: Low Channel: 2405 MHz
Antenna **E2**

Polarization = Horizontal
Detector = Peak



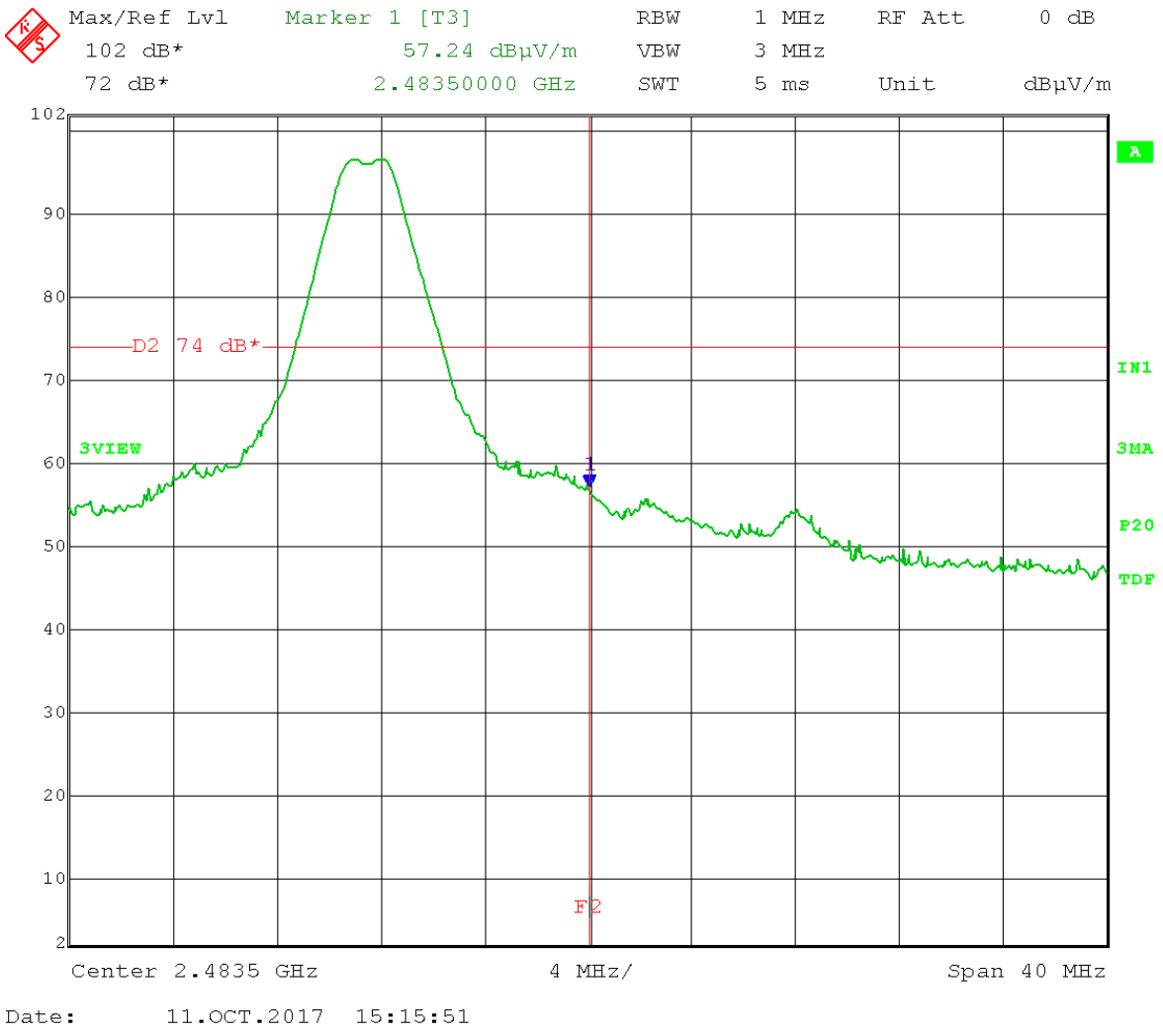
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E2**

Polarization = Vertical
Detector = Average



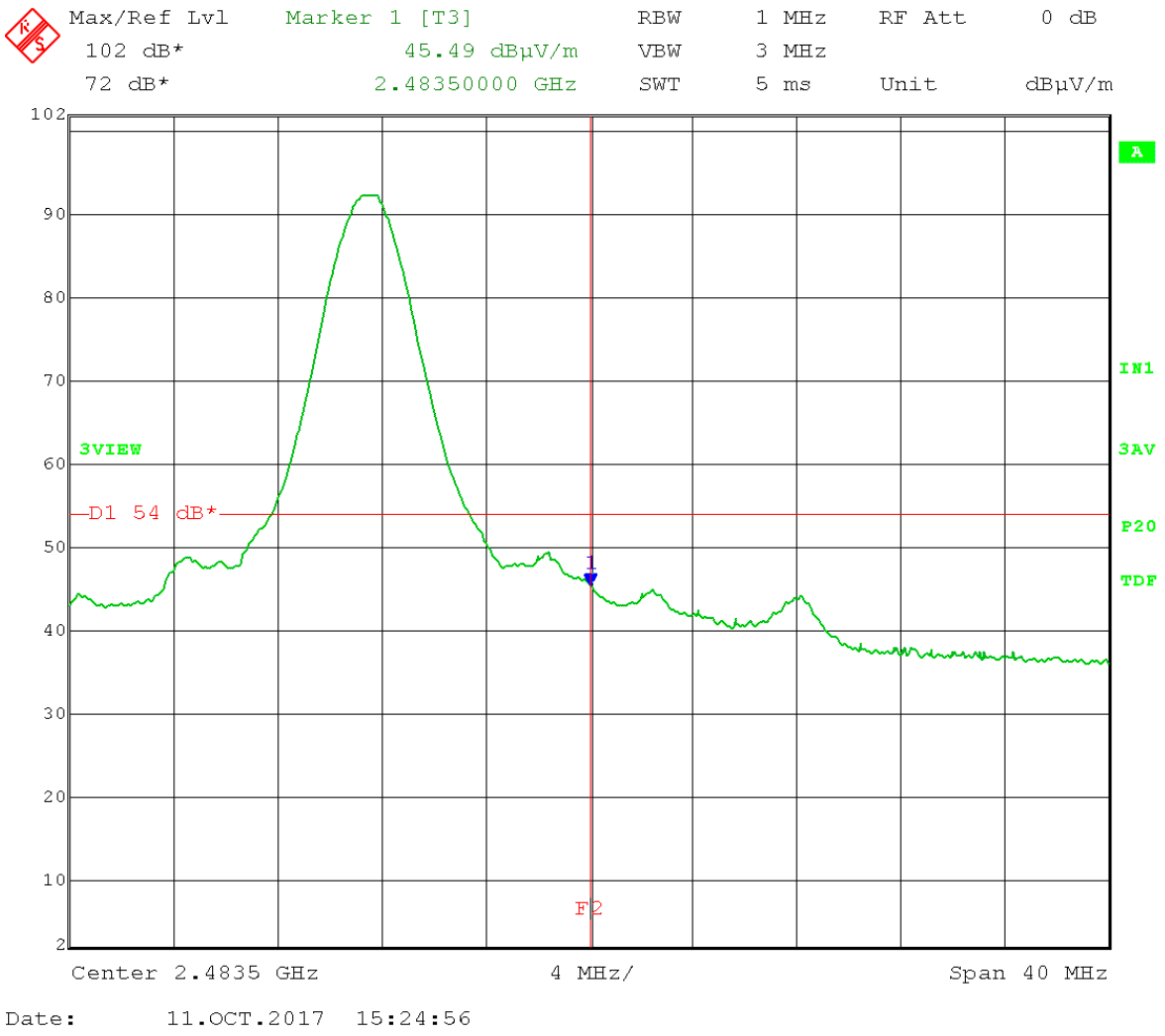
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E2**

Polarization = Vertical
Detector = Peak



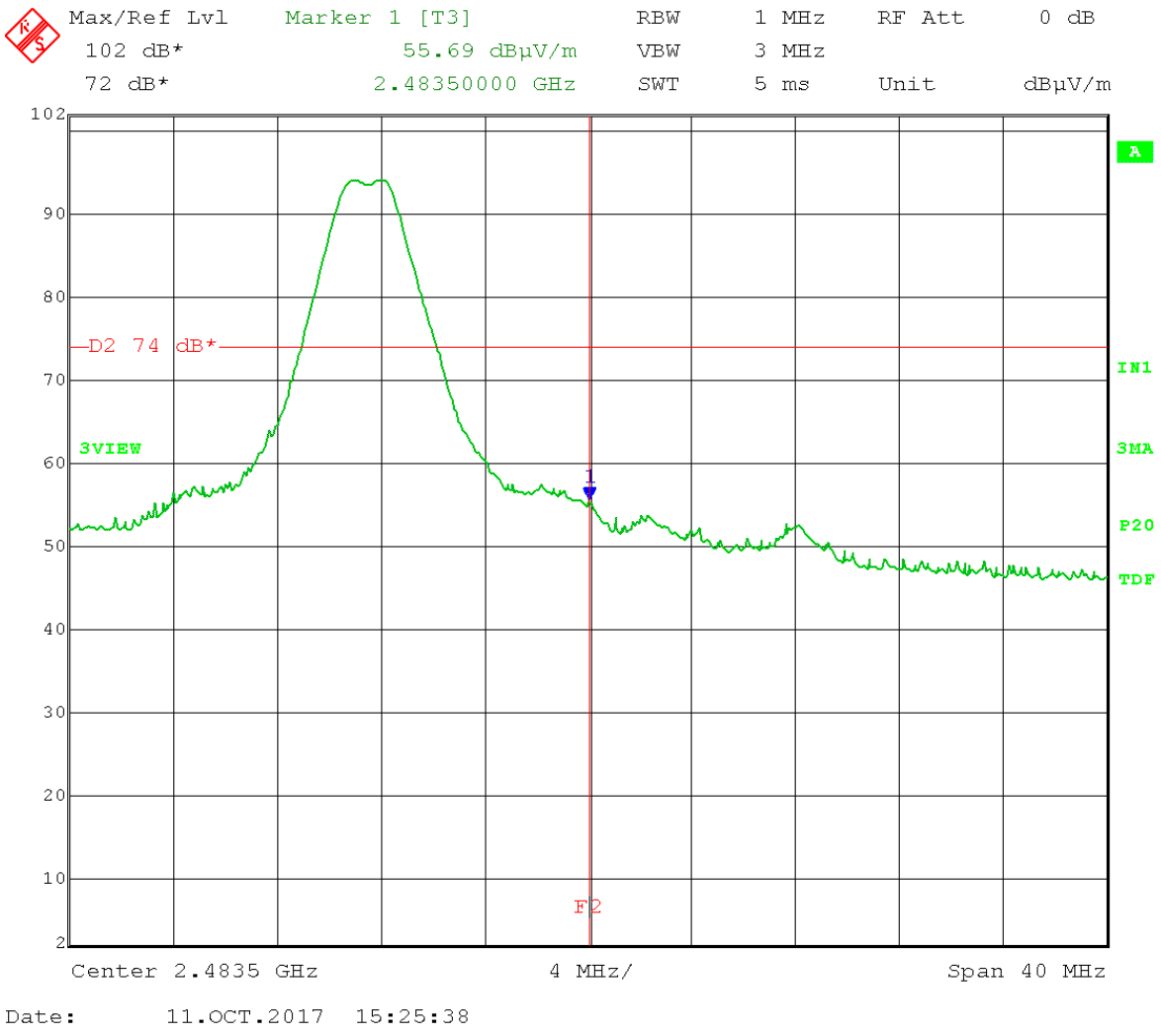
Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E2**

Polarization = Horizontal
Detector = Average



Test Date: 10-11-2017
Company: RF Technologies
EUT: 0800-0590
Test: Upper Restricted Band Edge – Radiated
Operator: Craig B
Comment: High Channel: 2475 MHz
Antenna **E2**

Polarization = Horizontal
Detector = Peak



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Appendix B

B7.0 Emissions in Non-Restricted Frequency Bands – RF Conducted

Rule Part: FCC Part 15.247(d)

Test Procedure: ANSI C63.10-2013, sections 11.11, 11.11.1, 11.11.2, 11.11.3

Limit: 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. (Device complies with Power Option 1).

Results: Compliant

Notes: This was an RF conducted measurement. The EUT was connected to the measuring equipment through a temporary external antenna connector. Cable loss was accounted for in the transducer factors set in the analyzer.

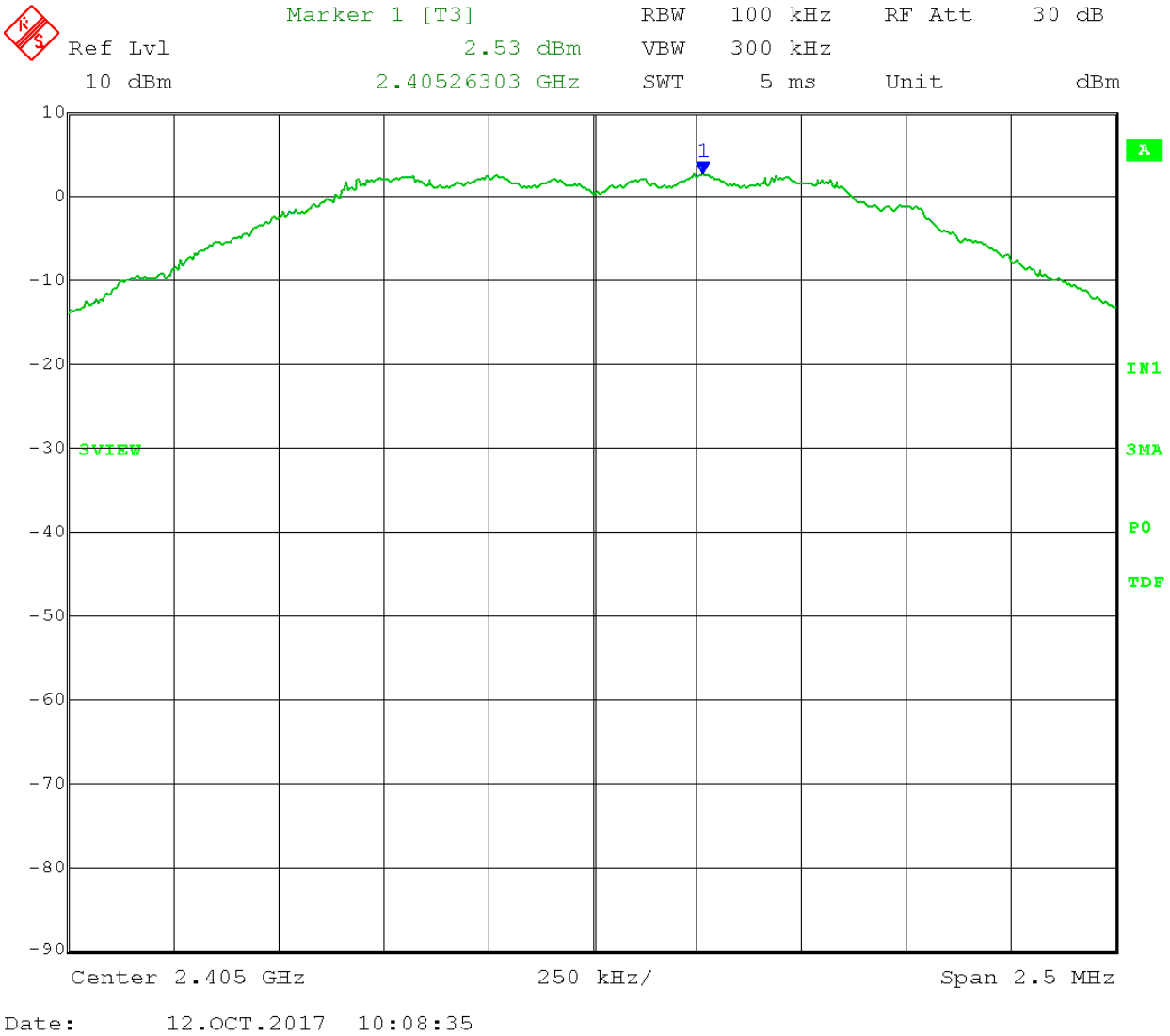
The EUT was set to transmit at its maximum power with 100% duty cycle at the low, middle and high channels of the operating band.
A peak detector was used for this test.

Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Reference Level measurement

Reference Level = 2.53 dBm
Limit = 2.53 dBm – 20 dB = -17.47 dBm



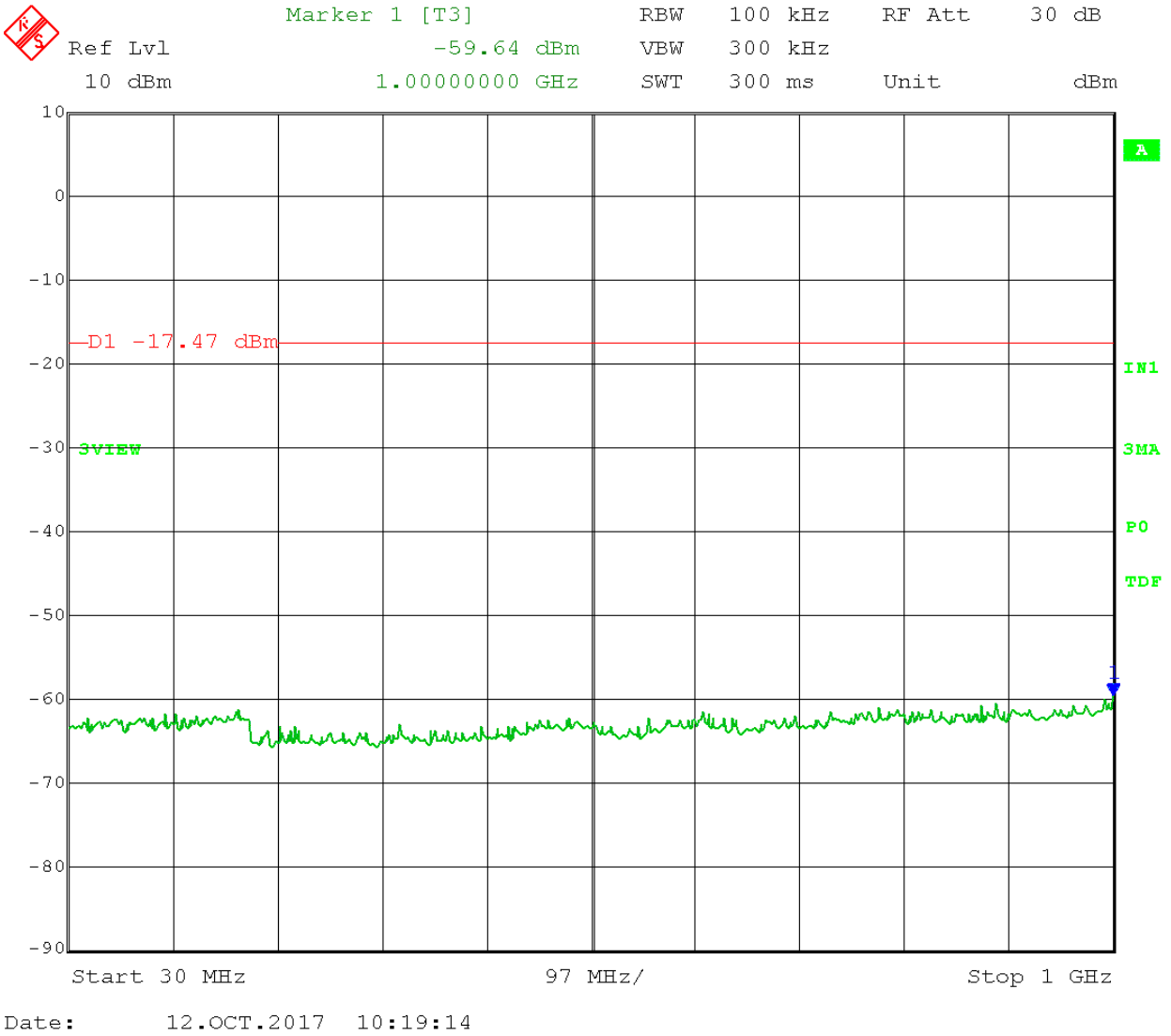
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.53 dBm
Limit = 2.53 dBm – 20 dB = -17.47 dBm

Frequency Range: 30 – 1000 MHz



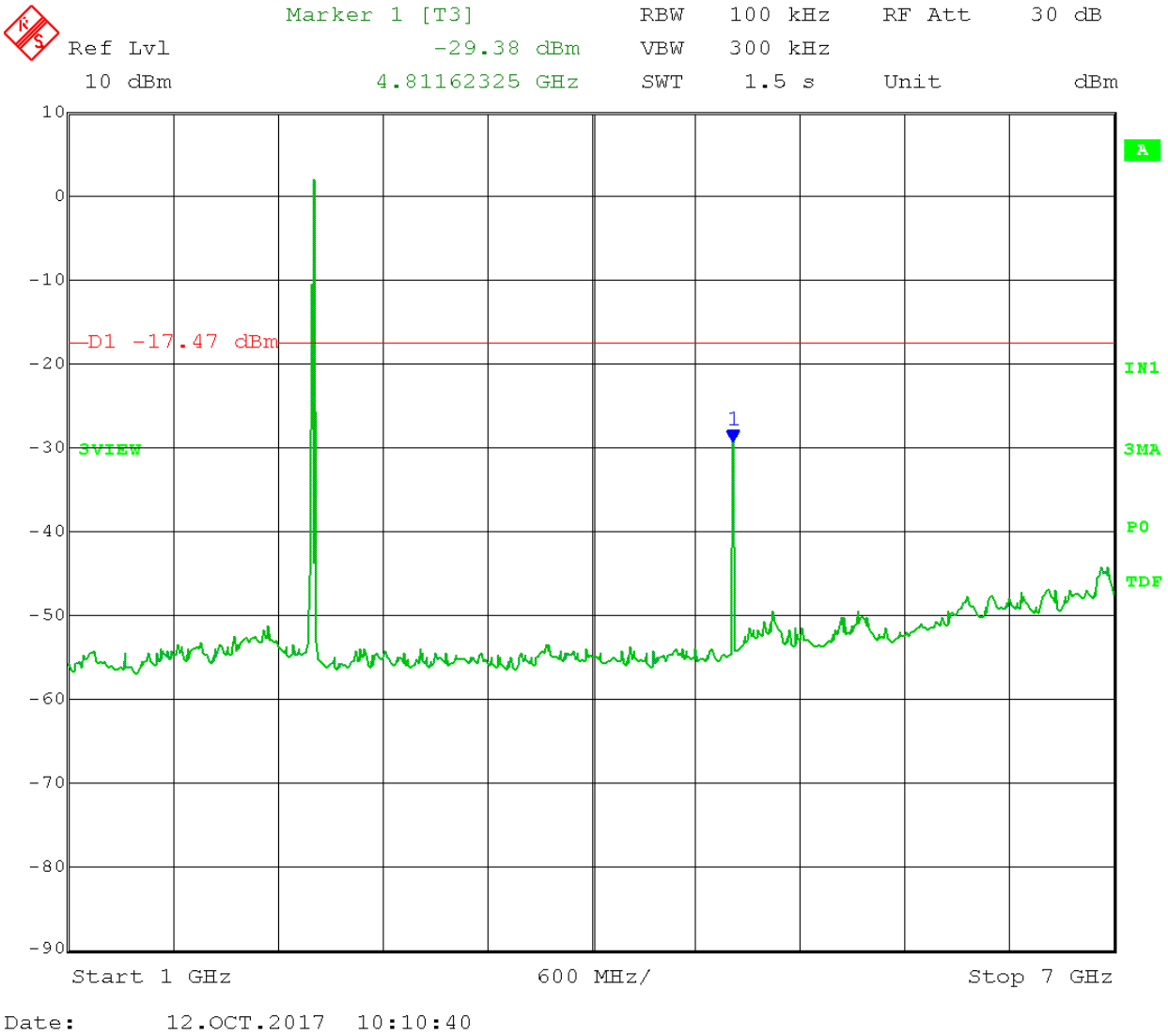
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.53 dBm
Limit = 2.53 dBm – 20 dB = -17.47 dBm

Frequency Range: 1 – 7 GHz



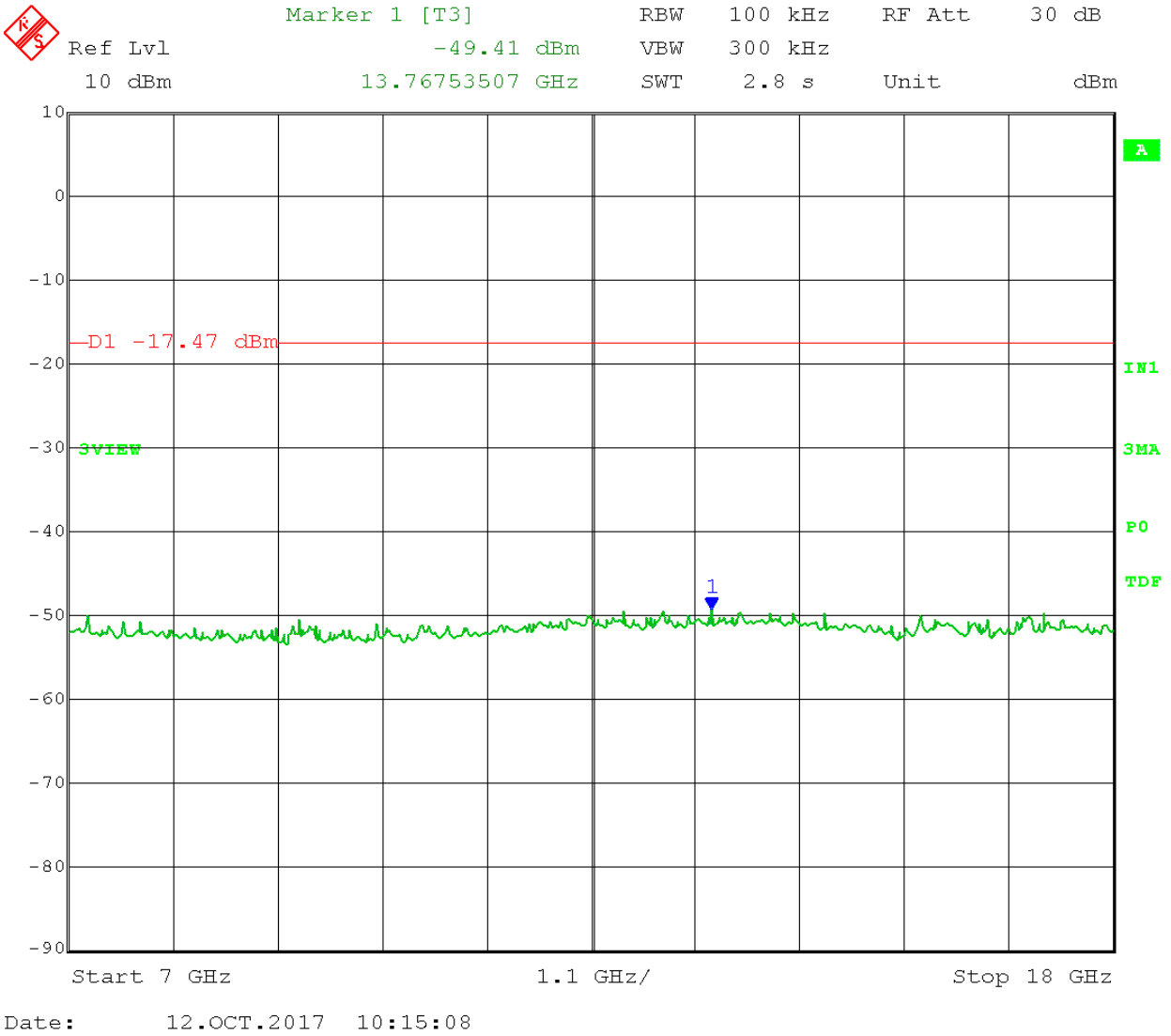
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.53 dBm
Limit = 2.53 dBm – 20 dB = -17.47 dBm

Frequency Range: 7 – 18 GHz



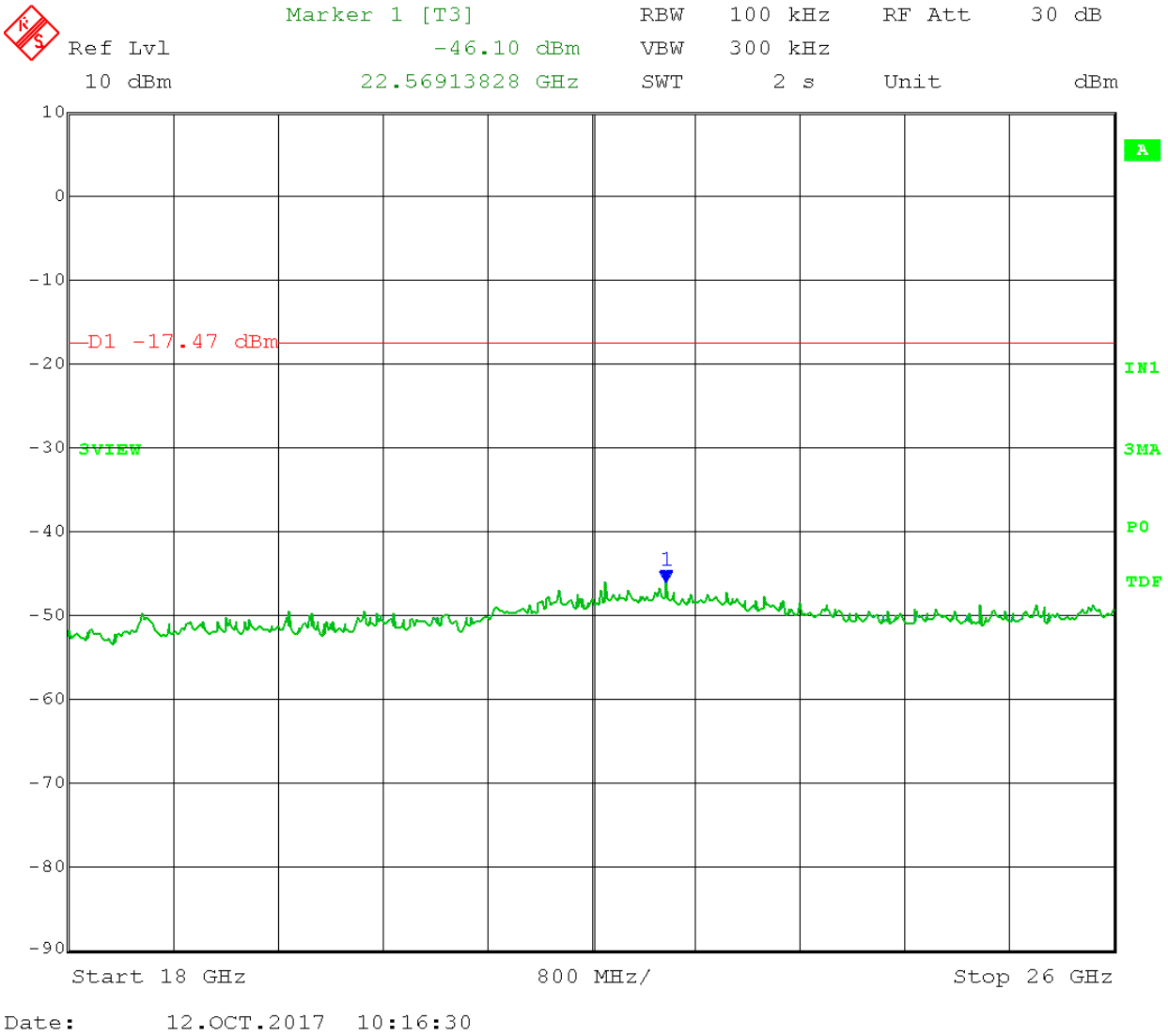
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.53 dBm
Limit = 2.53 dBm – 20 dB = -17.47 dBm

Frequency Range: 18 – 26 GHz

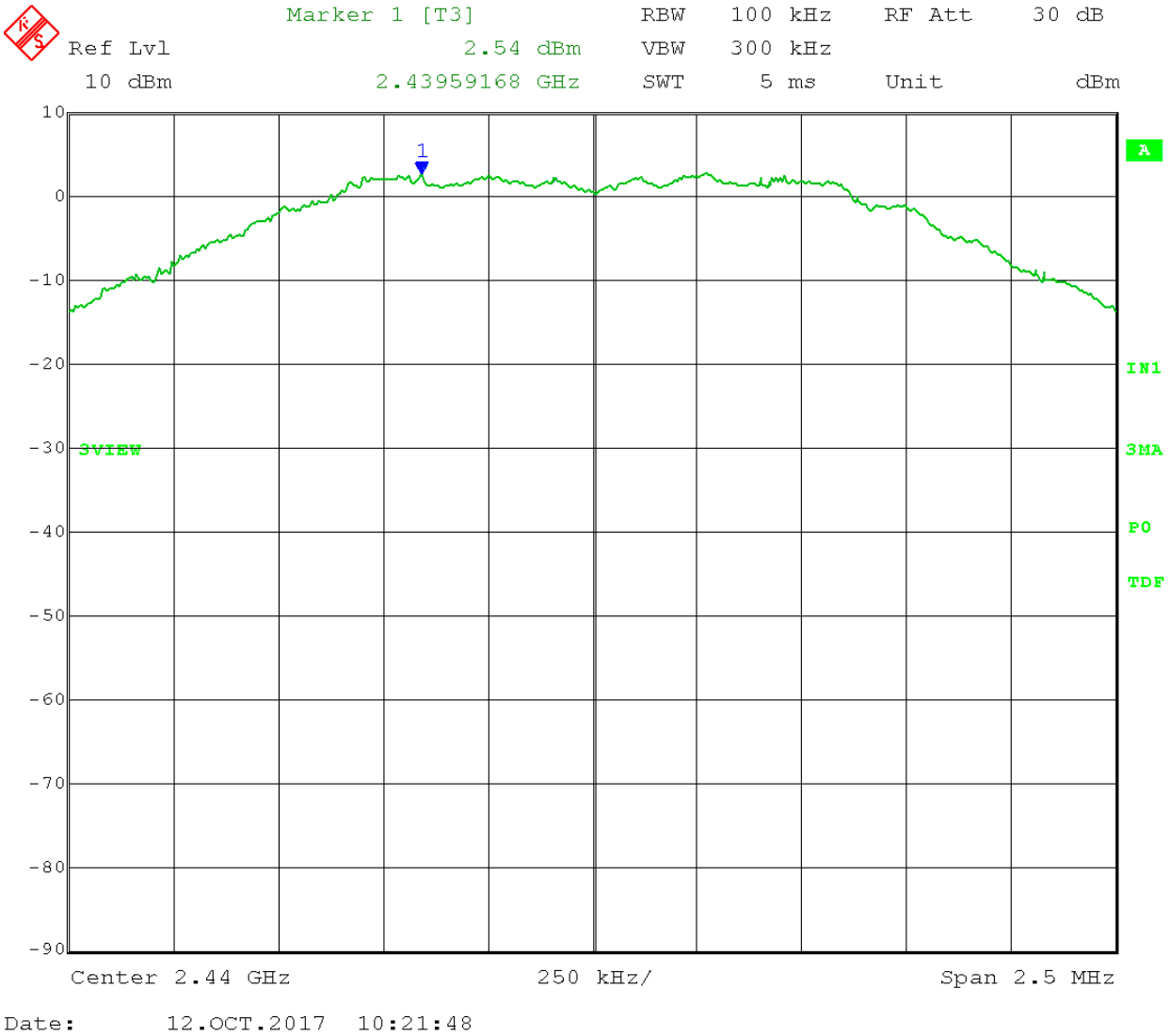


Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Reference Level measurement

Reference Level = 2.54 dBm
Limit = 2.54 dBm – 20 dB = -17.46 dBm



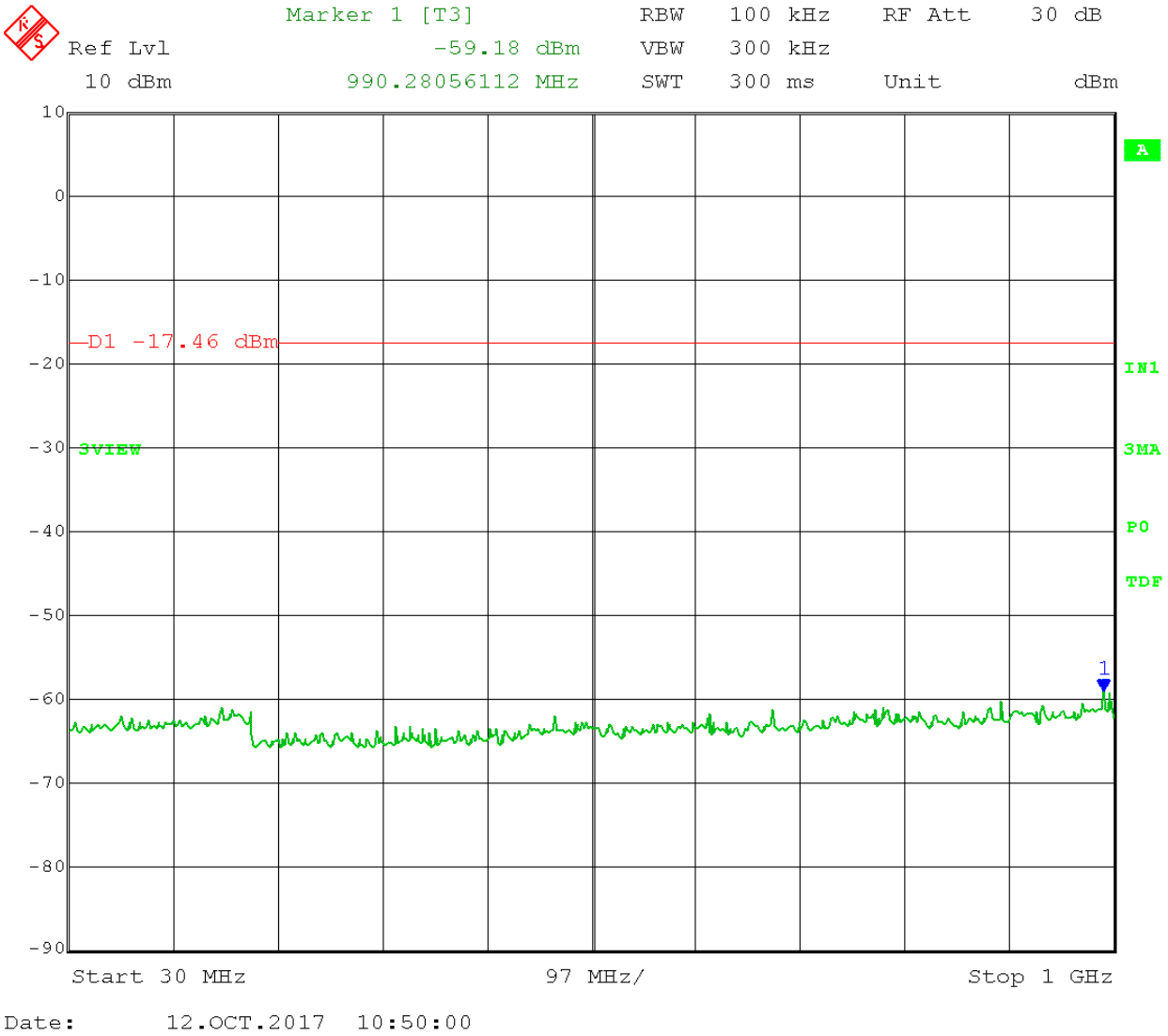
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.54 dBm
Limit = 2.54 dBm – 20 dB = -17.46 dBm

Frequency Range: 30 – 1000 MHz



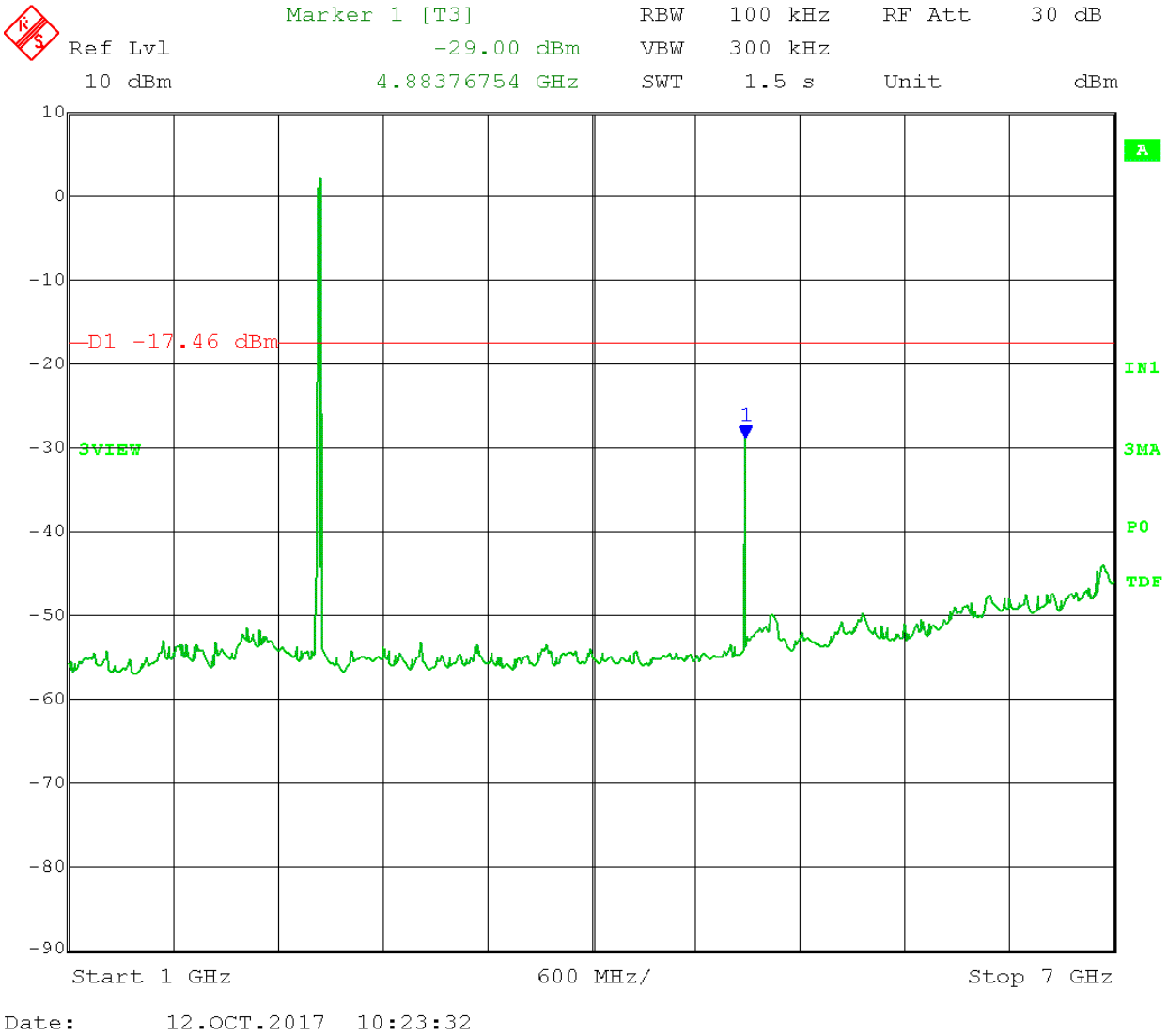
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.54 dBm
Limit = 2.54 dBm – 20 dB = -17.46 dBm

Frequency Range: 1 – 7 GHz



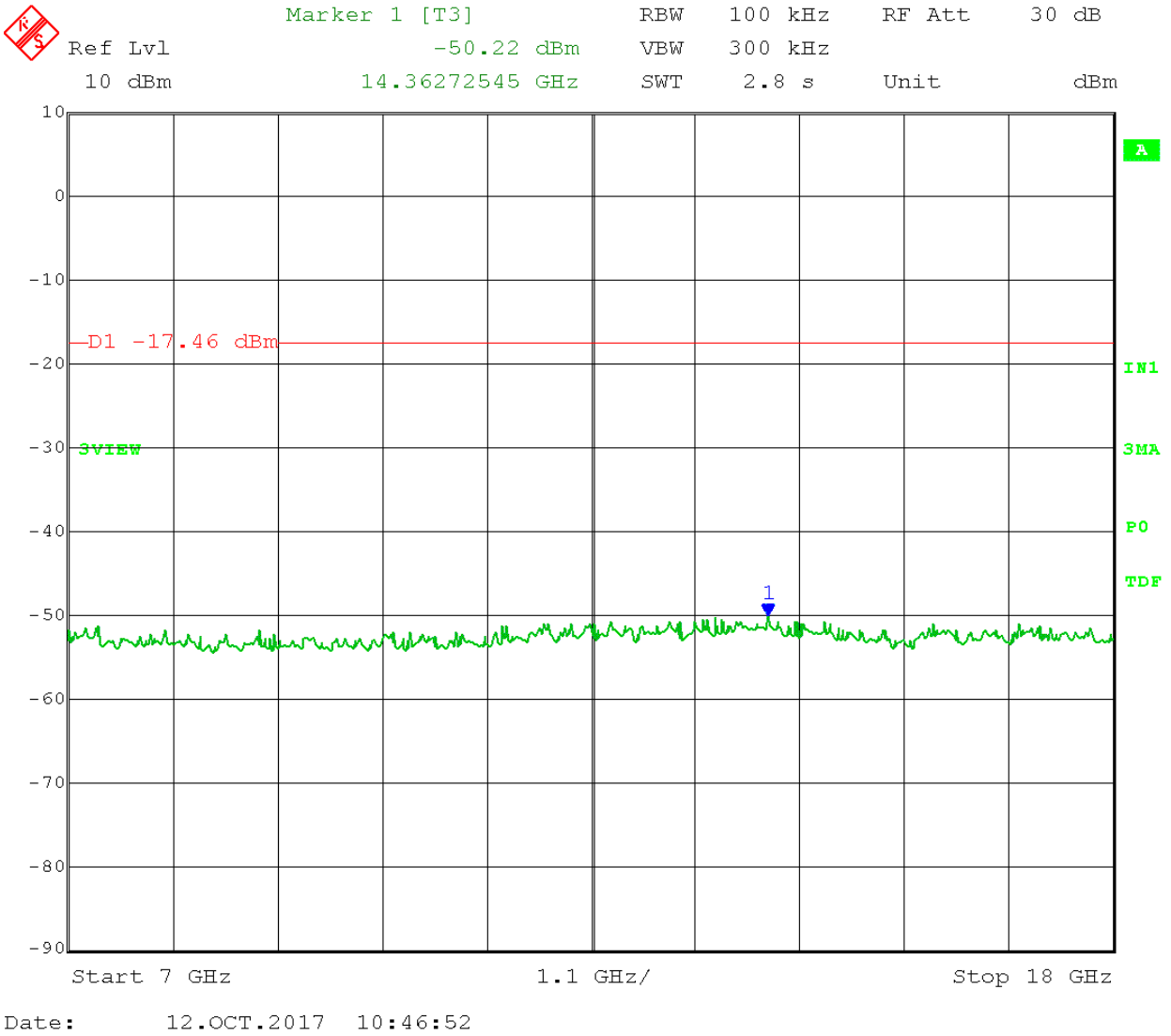
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.54 dBm
Limit = 2.54 dBm – 20 dB = -17.46 dBm

Frequency Range: 7 – 18 GHz



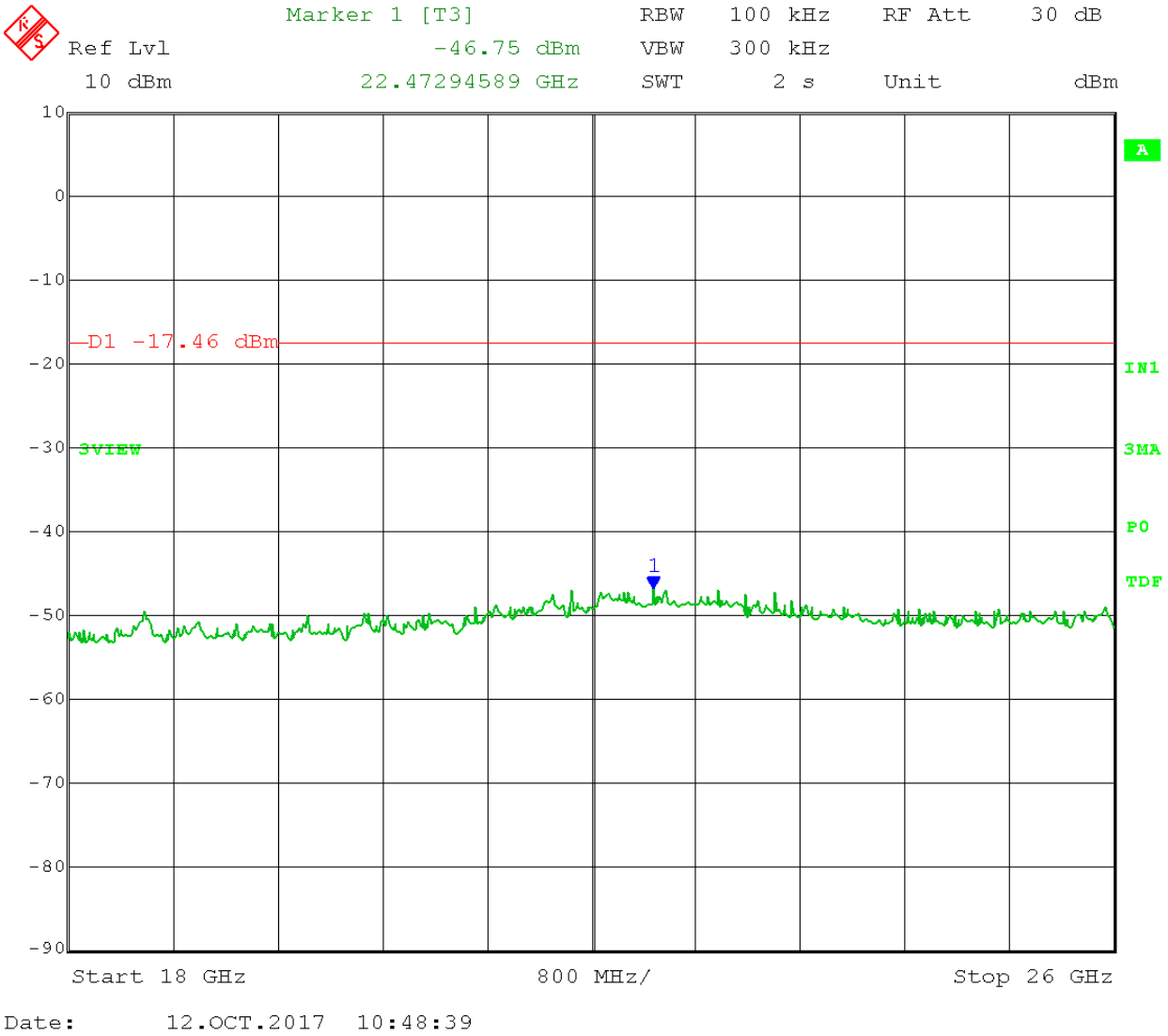
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.54 dBm
Limit = 2.54 dBm – 20 dB = -17.46 dBm

Frequency Range: 18 – 26 GHz

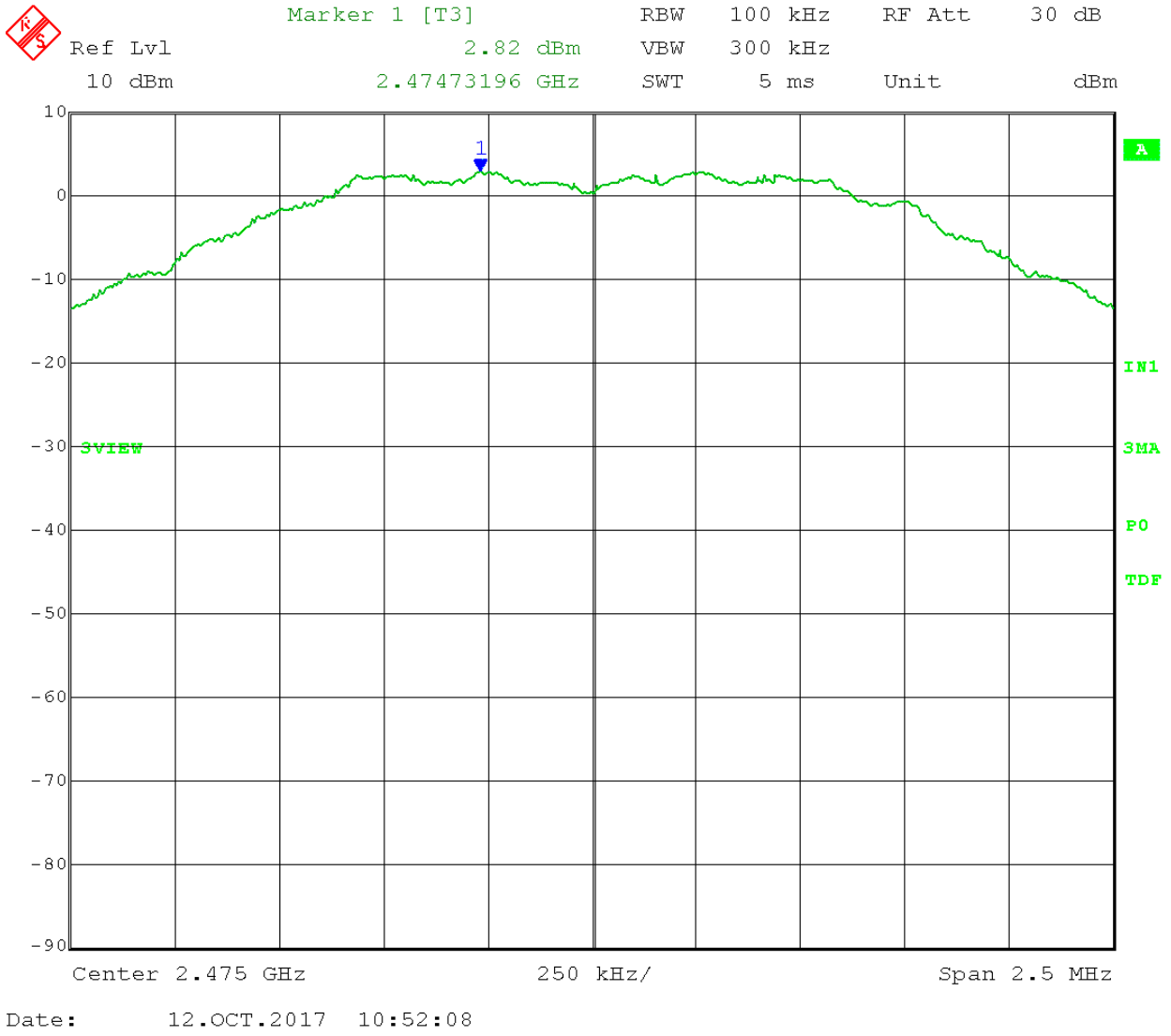


Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

Reference Level measurement

Reference Level = 2.82 dBm
Limit = 2.82 dBm – 20 dB = -17.18 dBm



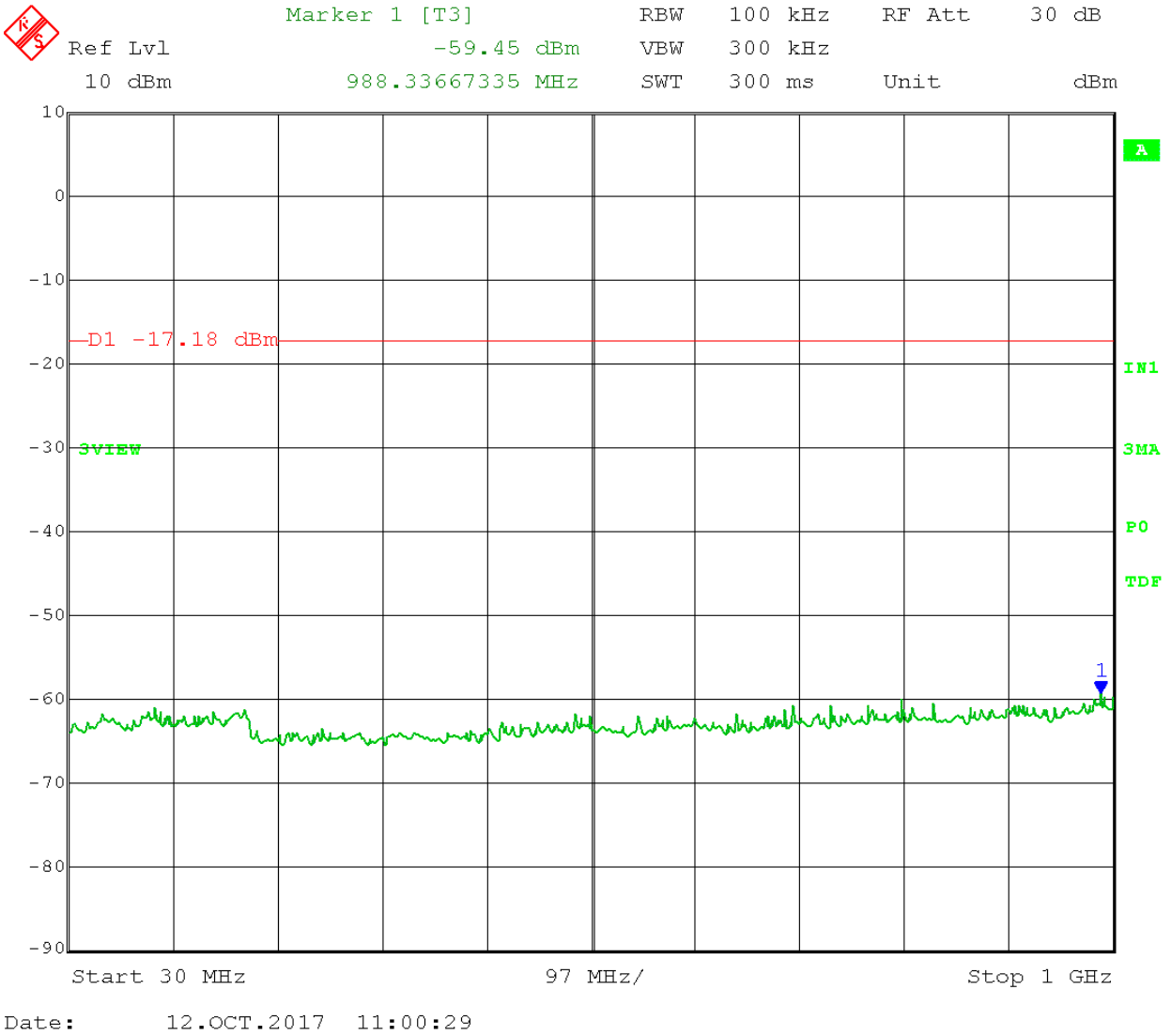
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.82 dBm
Limit = 2.82 dBm – 20 dB = -17.18 dBm

Frequency Range: 30 – 1000 MHz



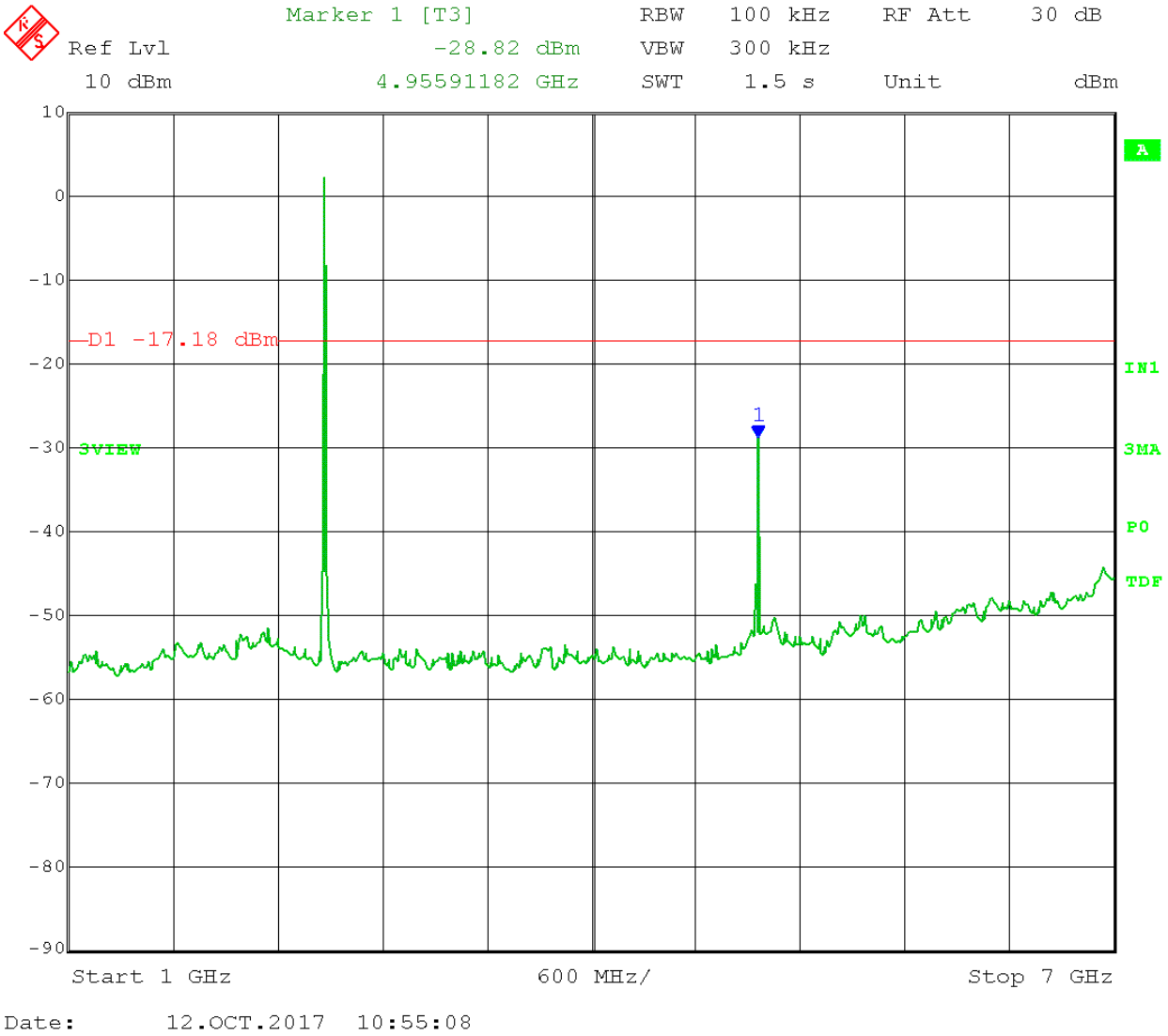
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.82 dBm
Limit = 2.82 dBm – 20 dB = -17.18 dBm

Frequency Range: 1 – 7 GHz



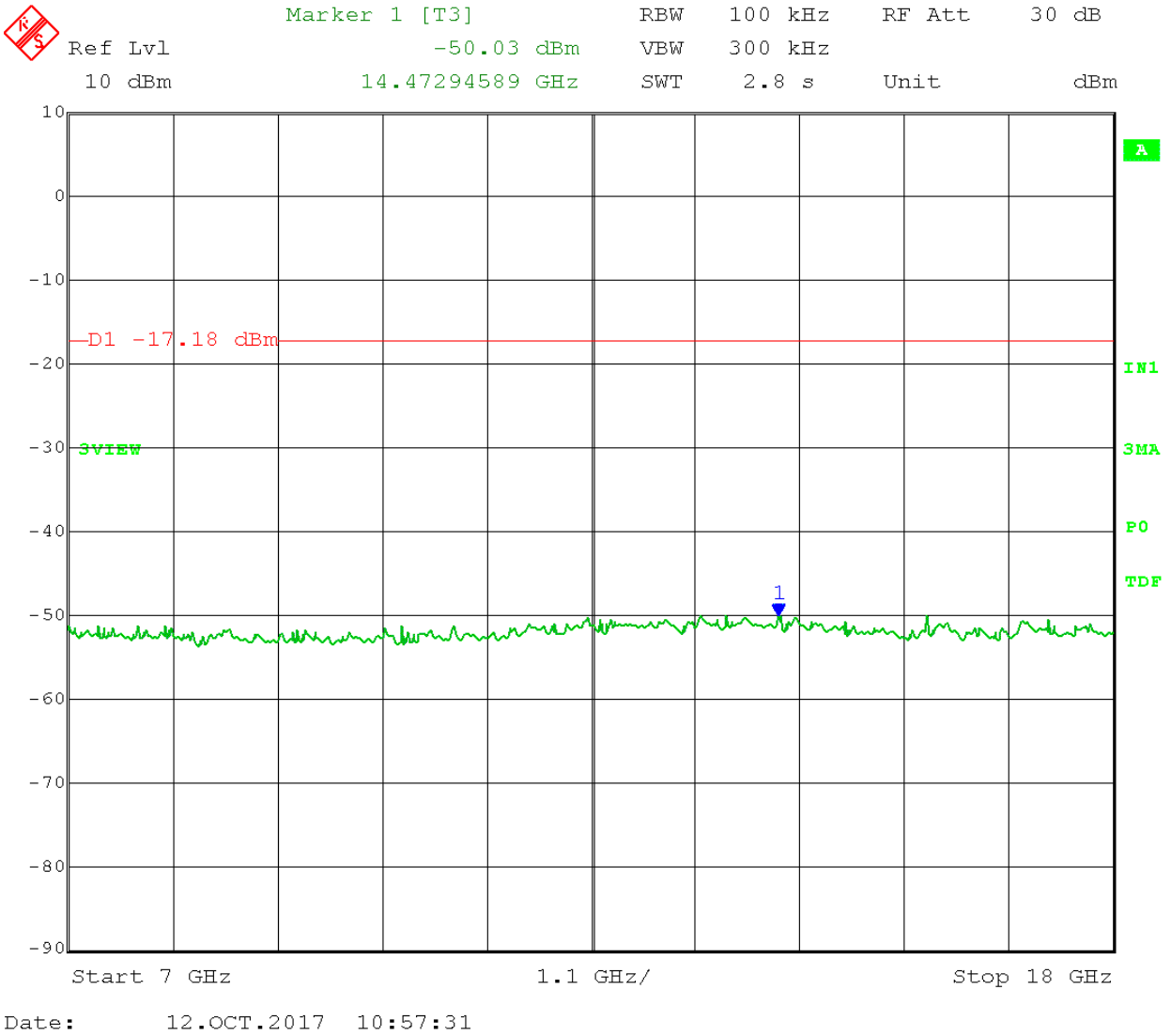
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.82 dBm
Limit = 2.82 dBm – 20 dB = -17.18 dBm

Frequency Range: 7 – 18 GHz



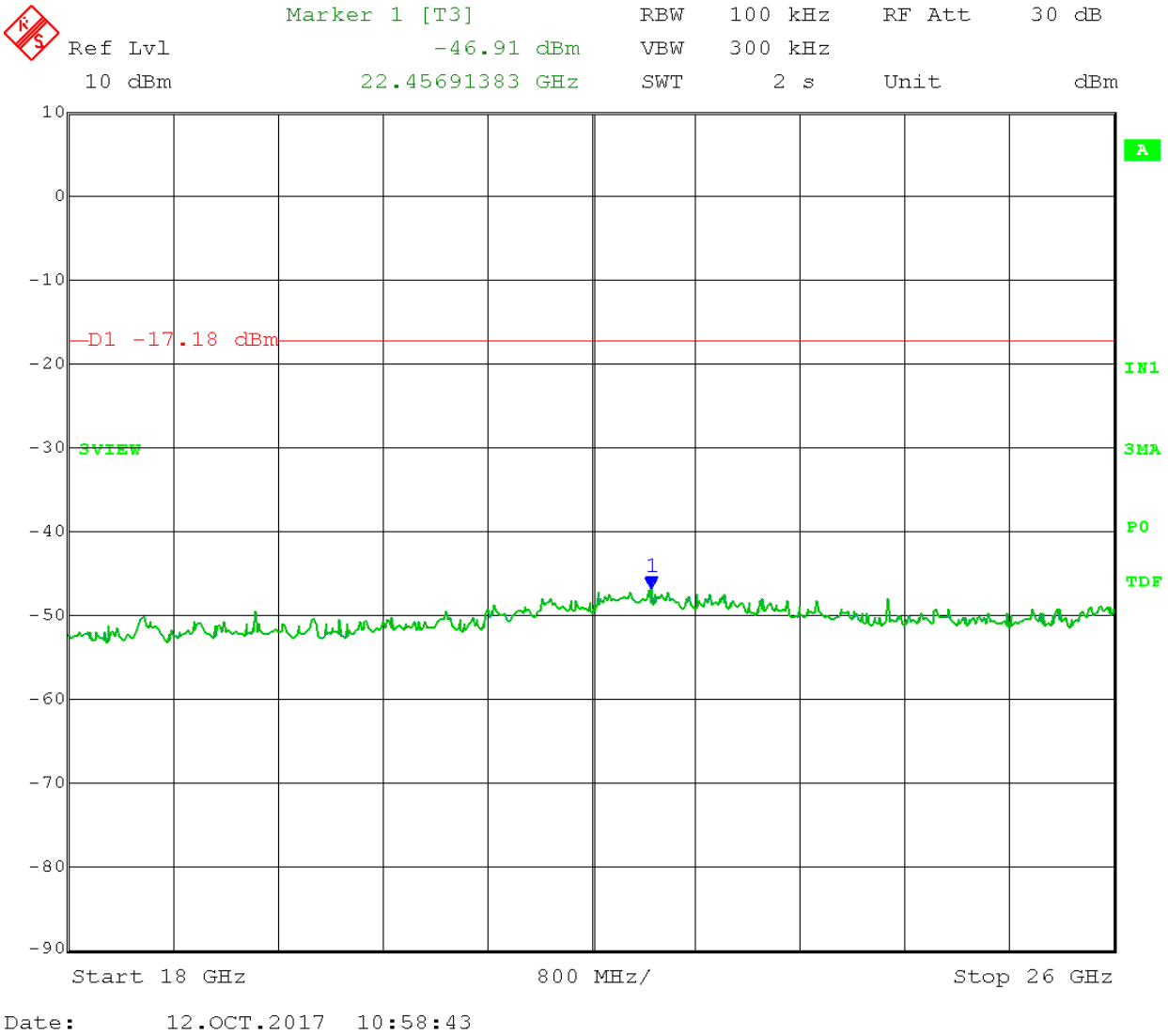
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E1**

Emission Level measurement

Reference Level = 2.82 dBm
Limit = 2.82 dBm – 20 dB = -17.18 dBm

Frequency Range: 18 – 26 GHz

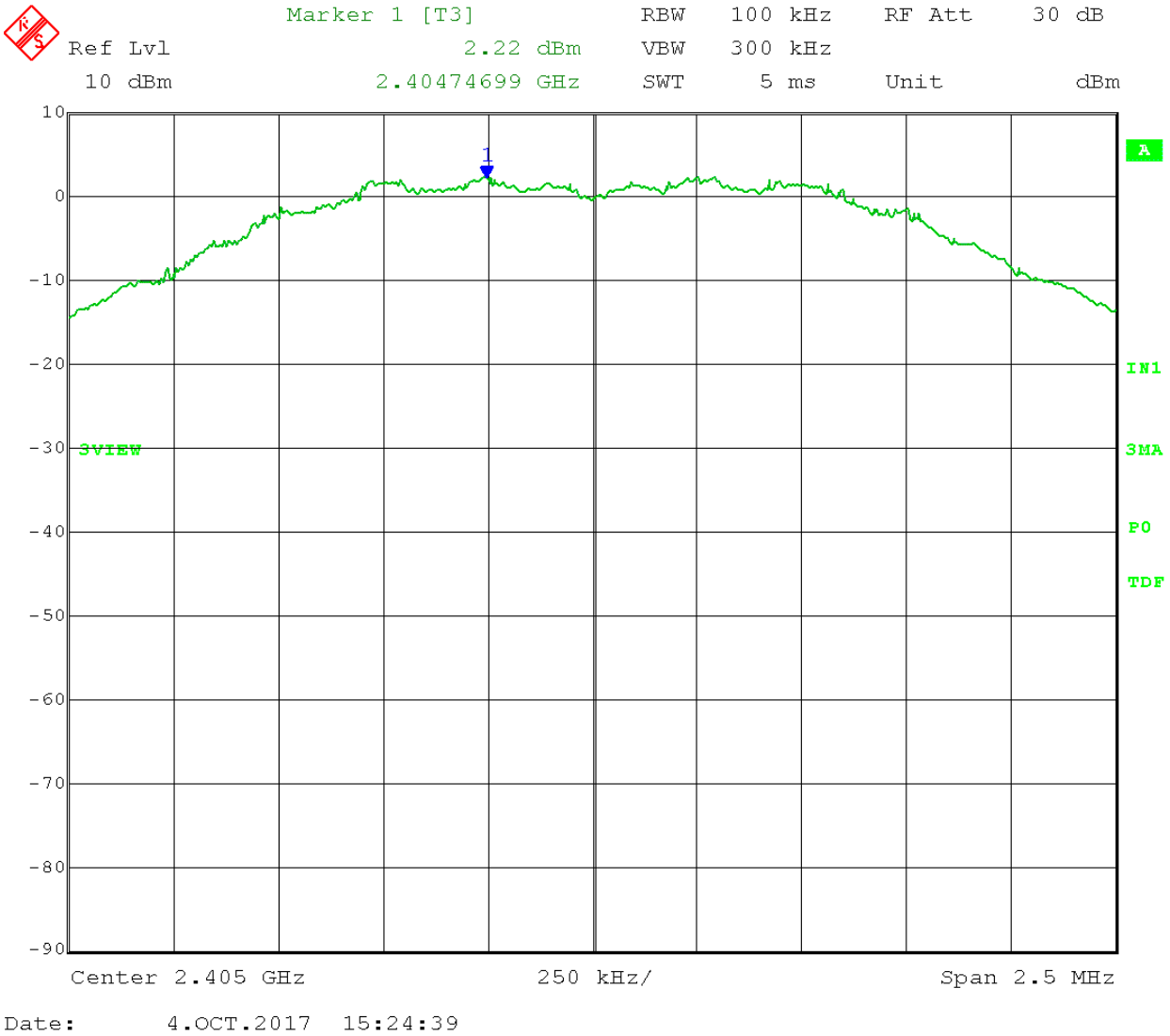


Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

Reference Level measurement

Reference Level = 2.22 dBm
Limit = 2.22 dBm – 20 dB = -17.78 dBm



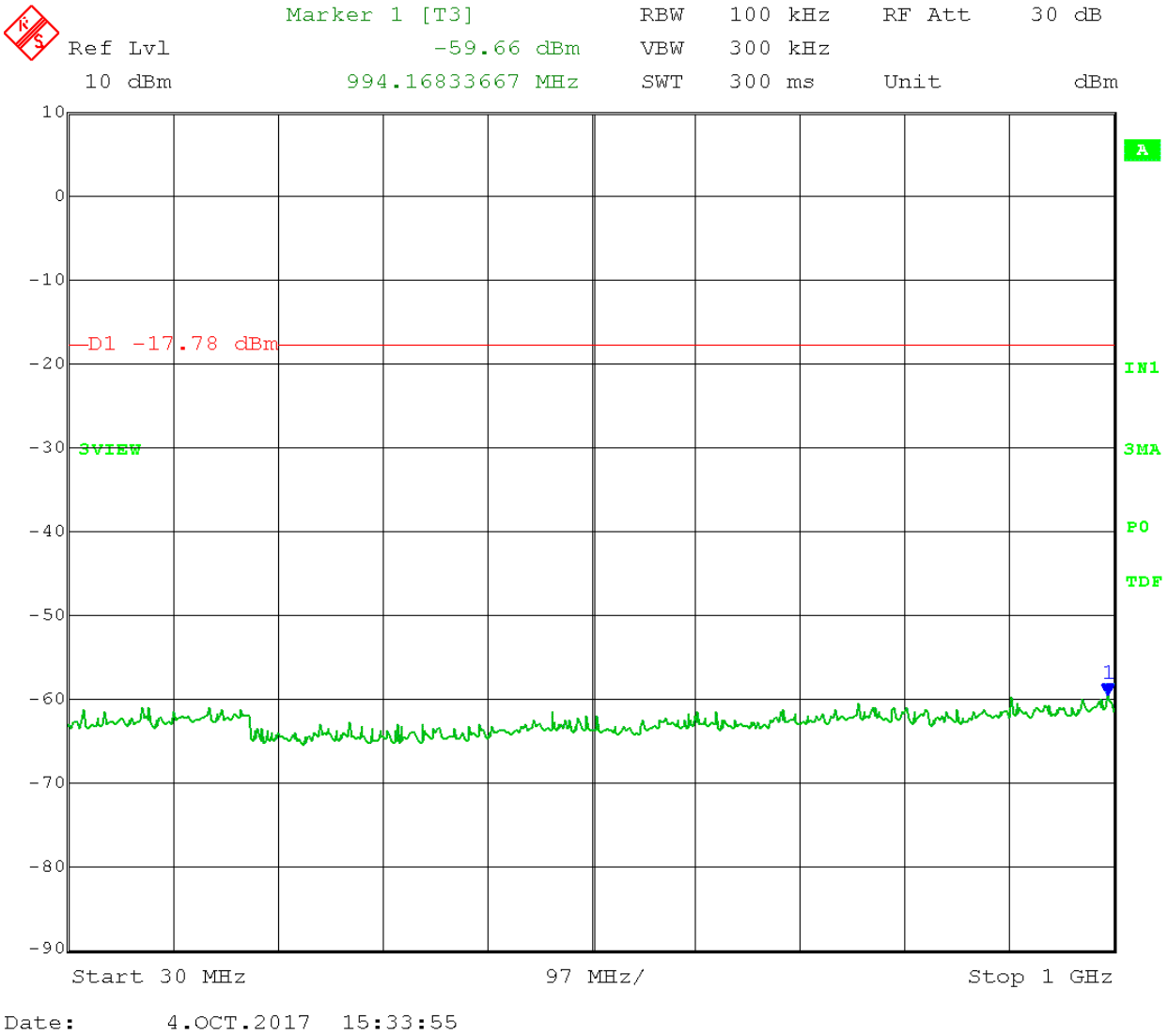
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.22 dBm
Limit = 2.22 dBm – 20 dB = -17.78 dBm

Frequency Range: 30 – 1000 MHz



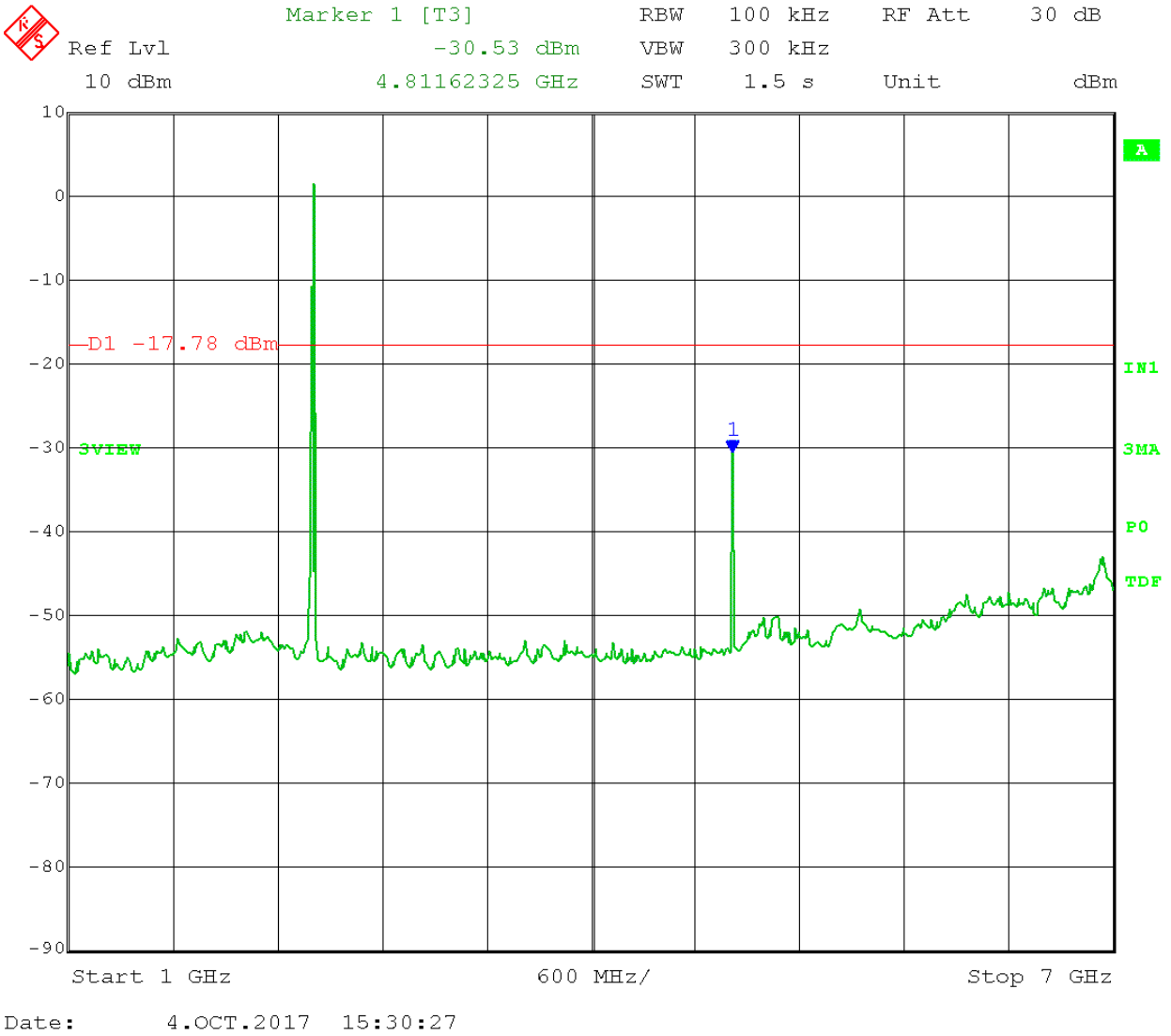
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.22 dBm
Limit = 2.22 dBm – 20 dB = -17.78 dBm

Frequency Range: 1 – 7 GHz



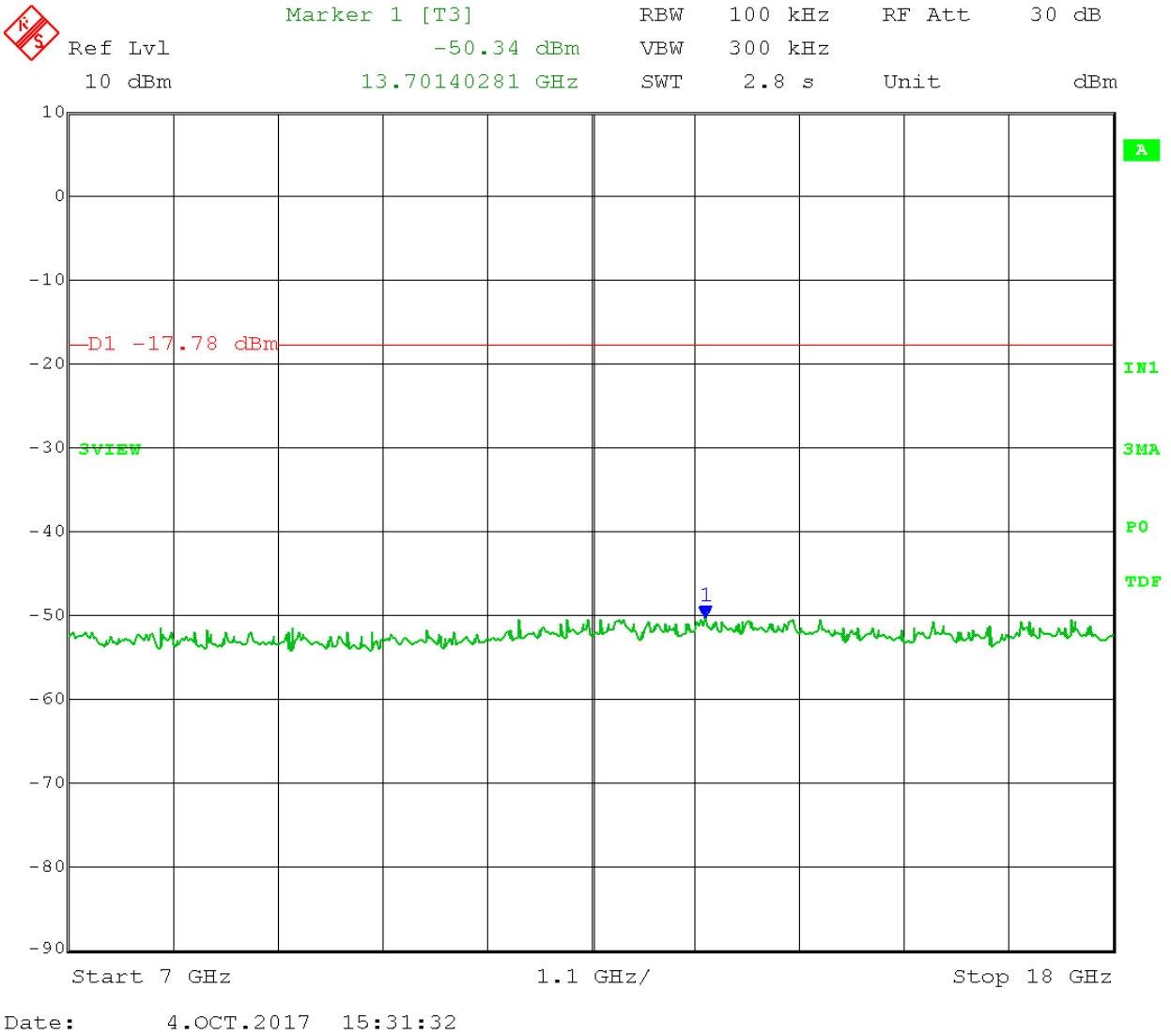
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.22 dBm
Limit = 2.22 dBm – 20 dB = -17.78 dBm

Frequency Range: 7 – 18 GHz



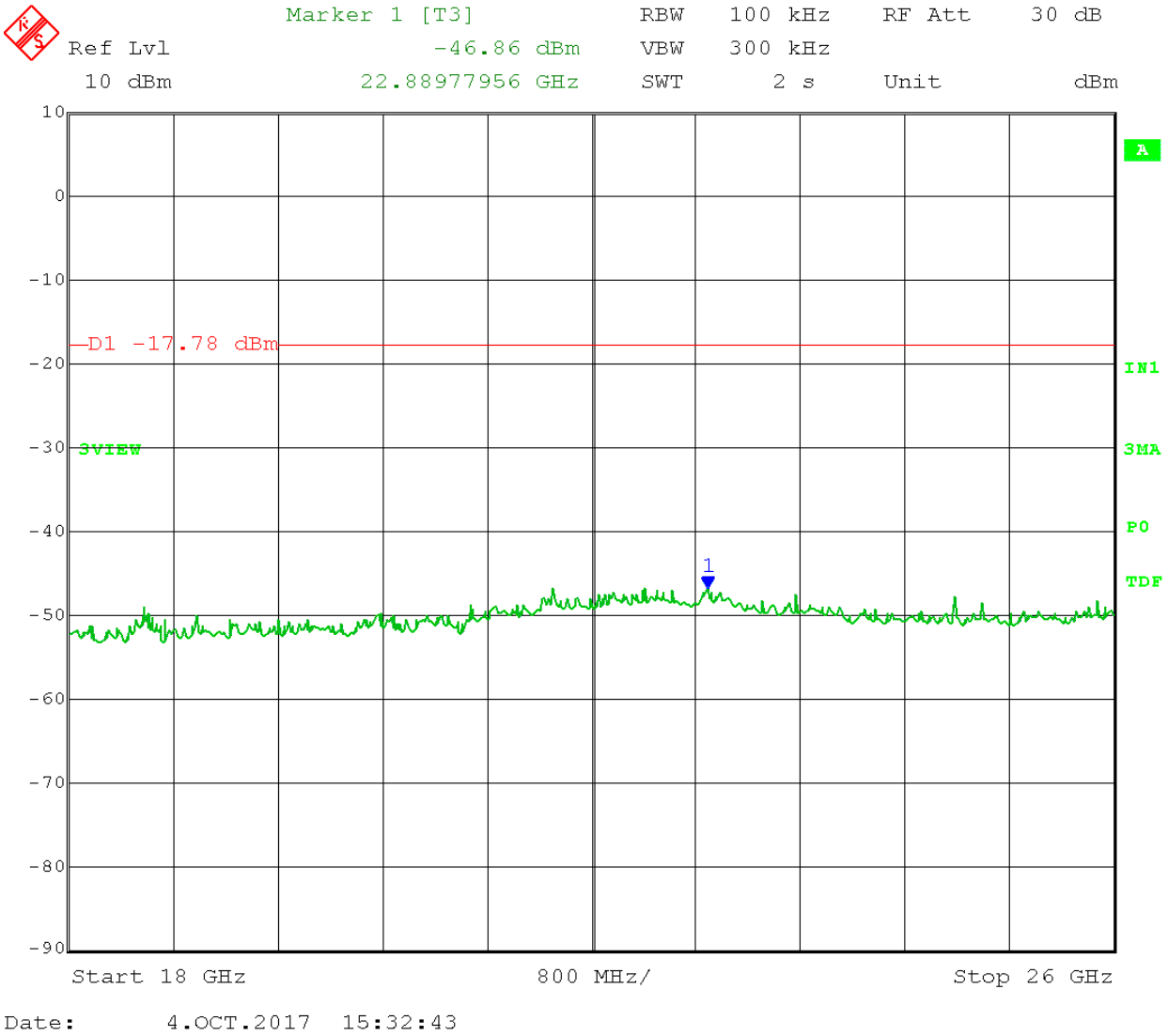
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Low Channel: 2405 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.22 dBm
Limit = 2.22 dBm – 20 dB = -17.78 dBm

Frequency Range: 18 – 26 GHz

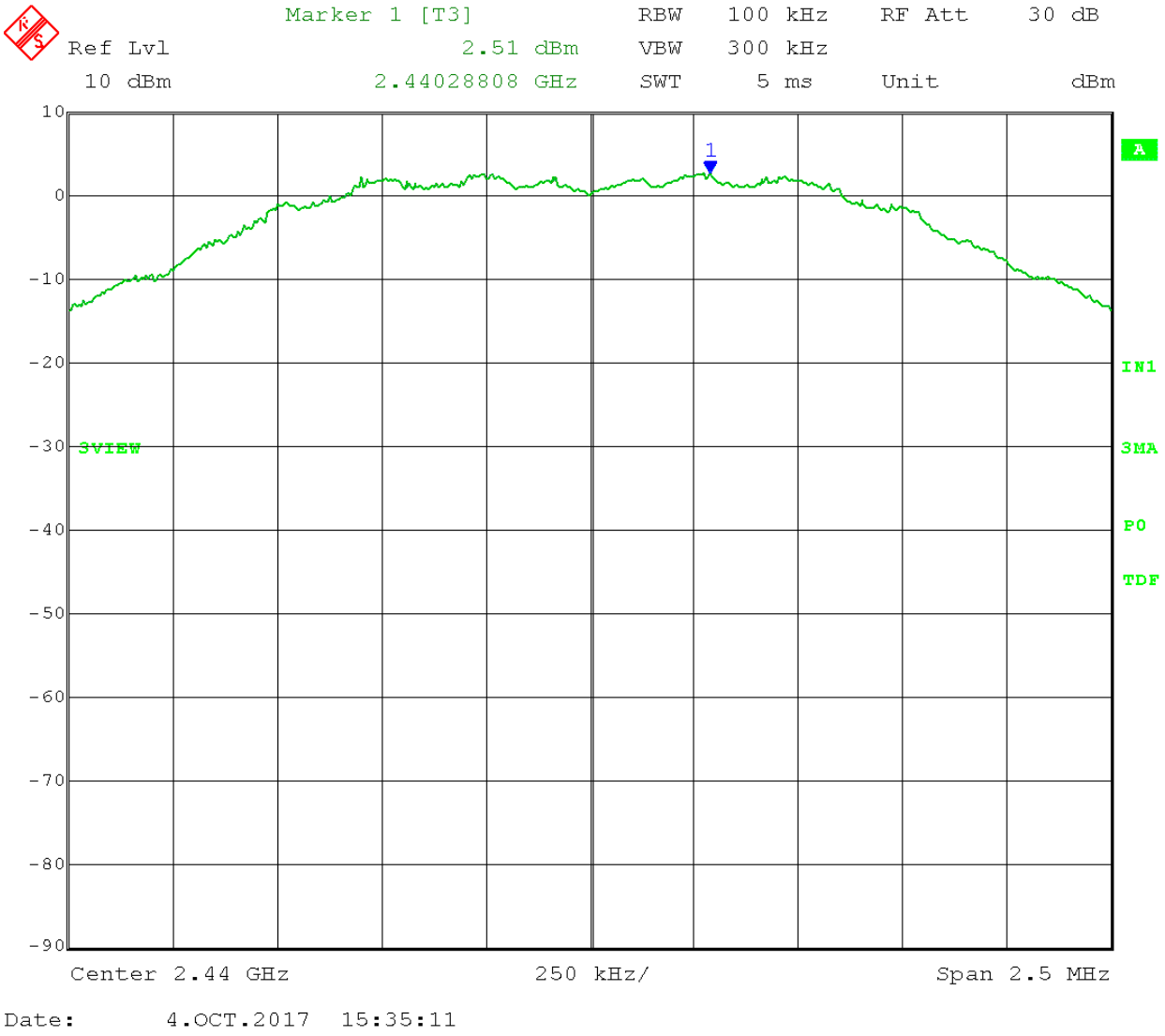


Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

Reference Level measurement

Reference Level = 2.51 dBm
Limit = 2.51 dBm – 20 dB = -17.49 dBm



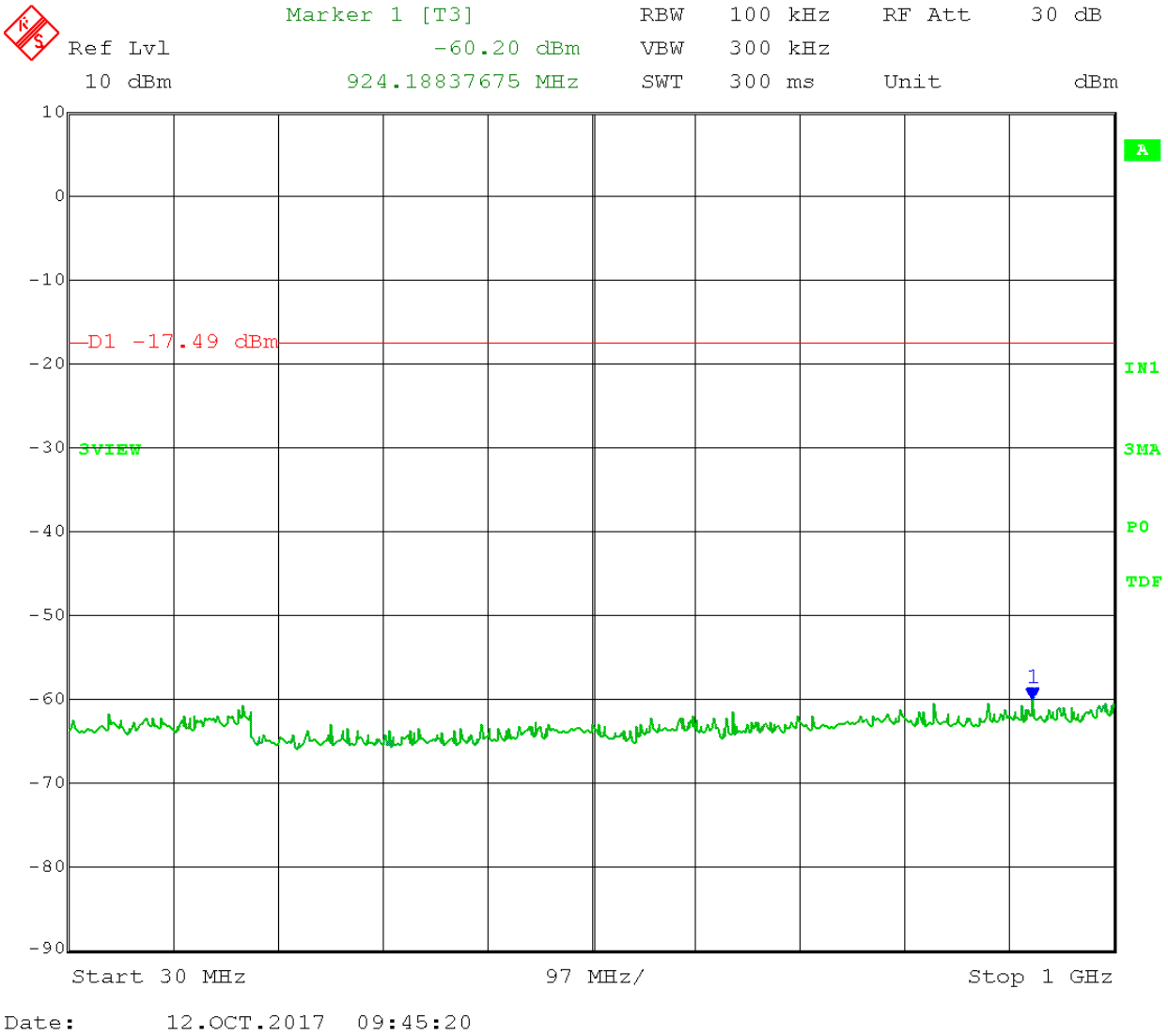
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.51 dBm
Limit = 2.51 dBm – 20 dB = -17.49 dBm

Frequency Range: 30 – 1000 MHz



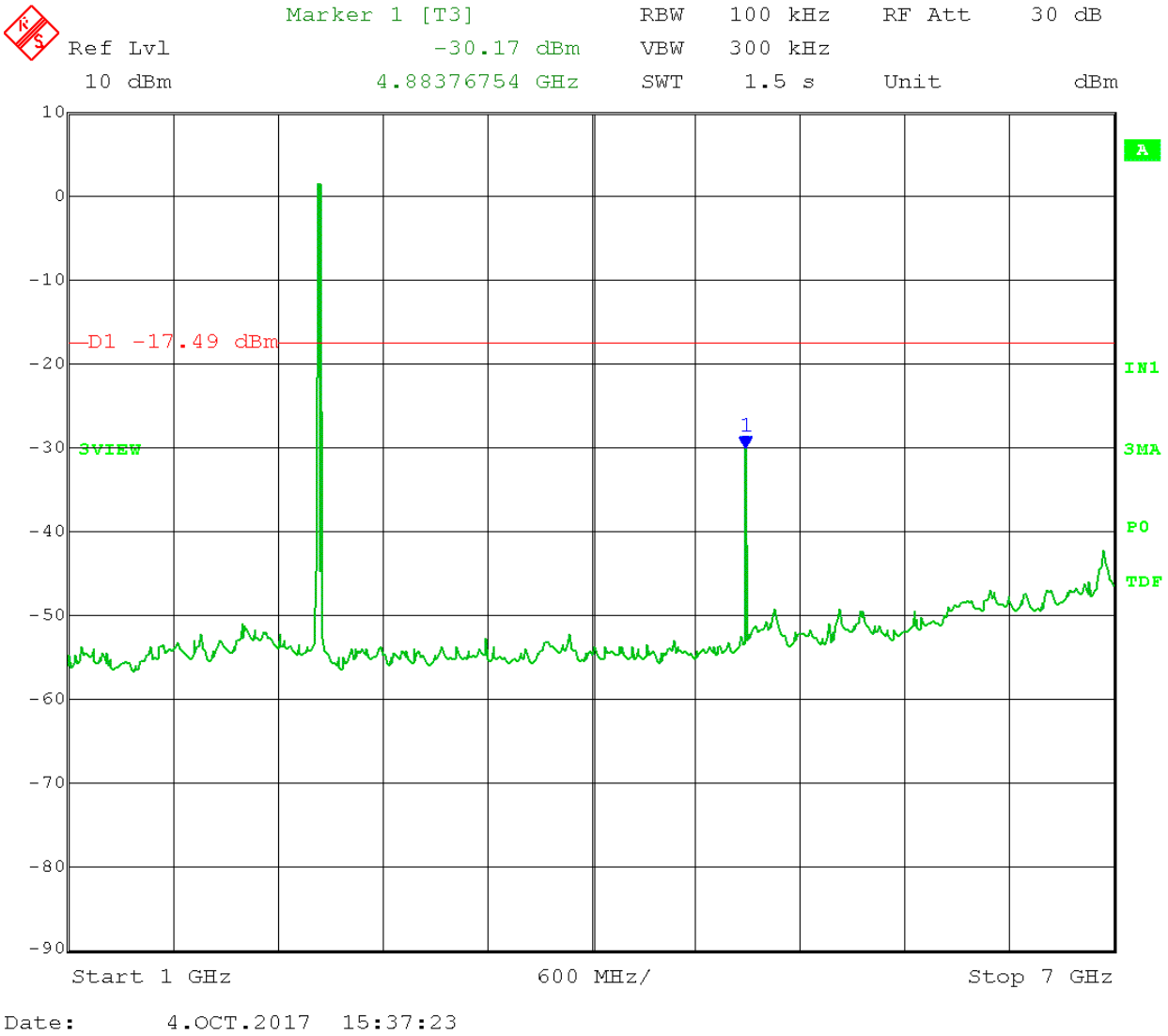
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.51 dBm
Limit = 2.51 dBm – 20 dB = -17.49 dBm

Frequency Range: 1 – 7 GHz



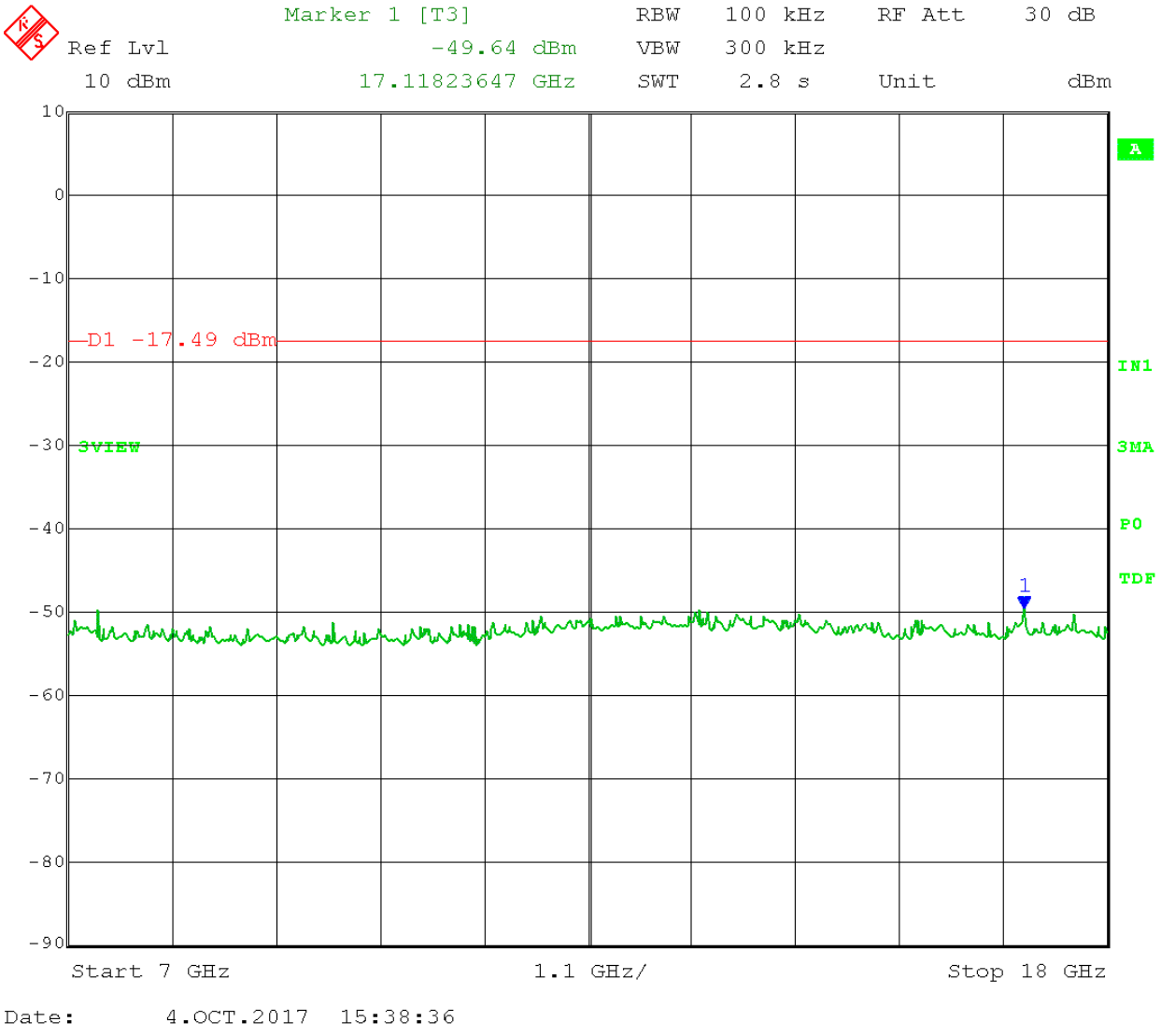
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.51 dBm
Limit = 2.51 dBm – 20 dB = -17.49 dBm

Frequency Range: 7 – 18 GHz



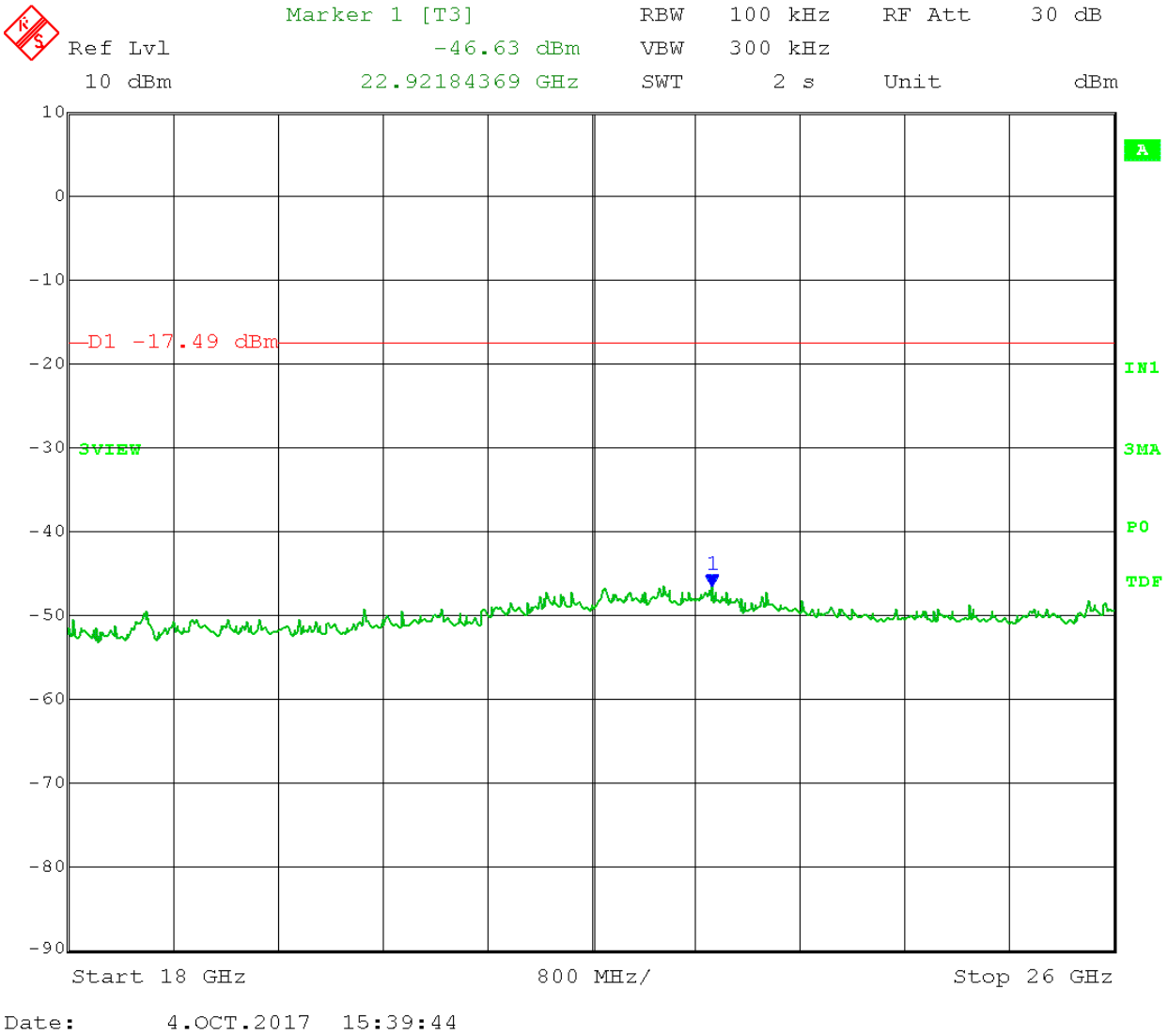
Test Date: 10-04-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: Mid Channel: 2440 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.51 dBm
Limit = 2.51 dBm – 20 dB = -17.49 dBm

Frequency Range: 18 – 26 GHz

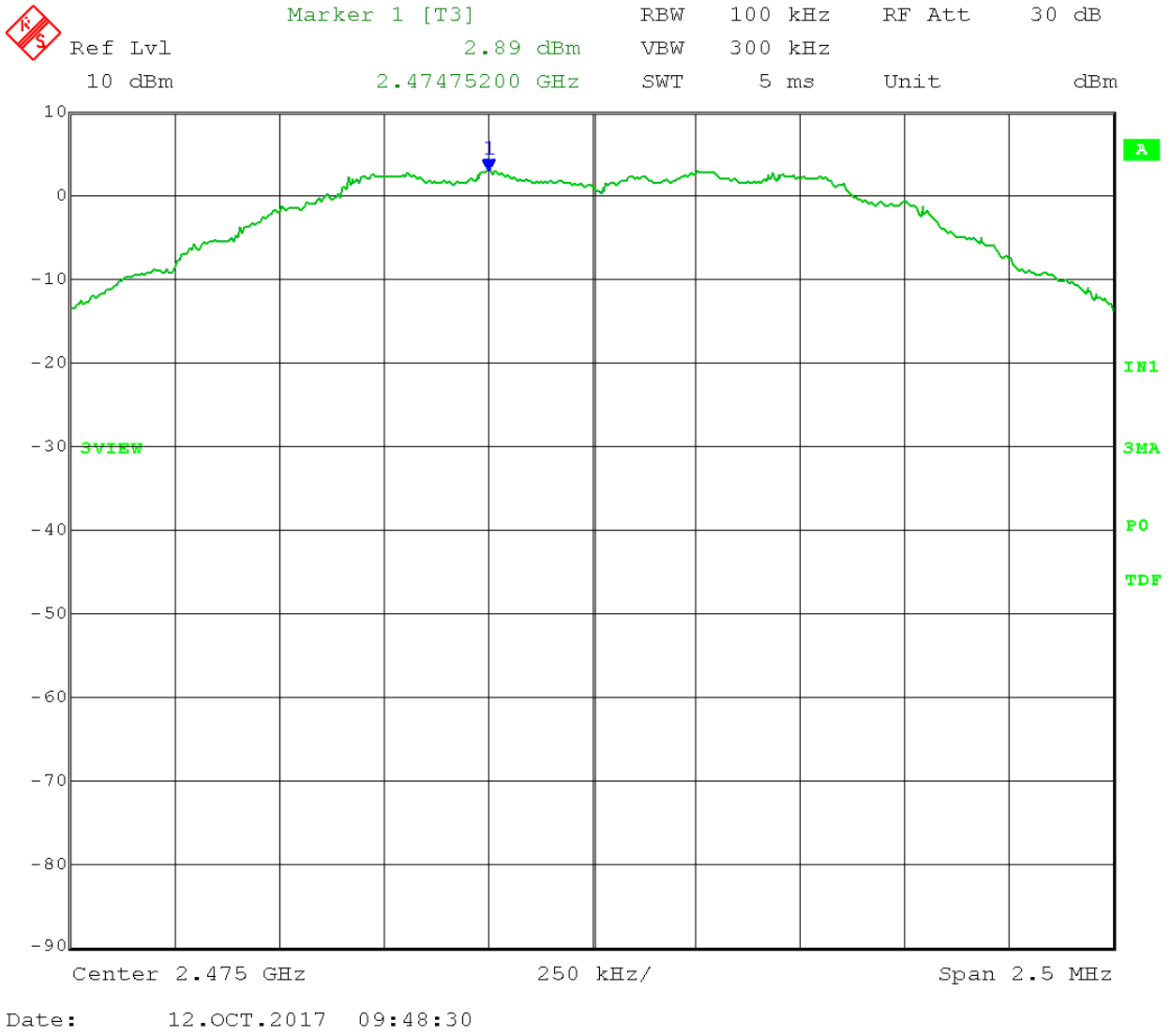


Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Reference Level measurement

Reference Level = 2.89 dBm
Limit = 2.89 dBm – 20 dB = -17.11 dBm



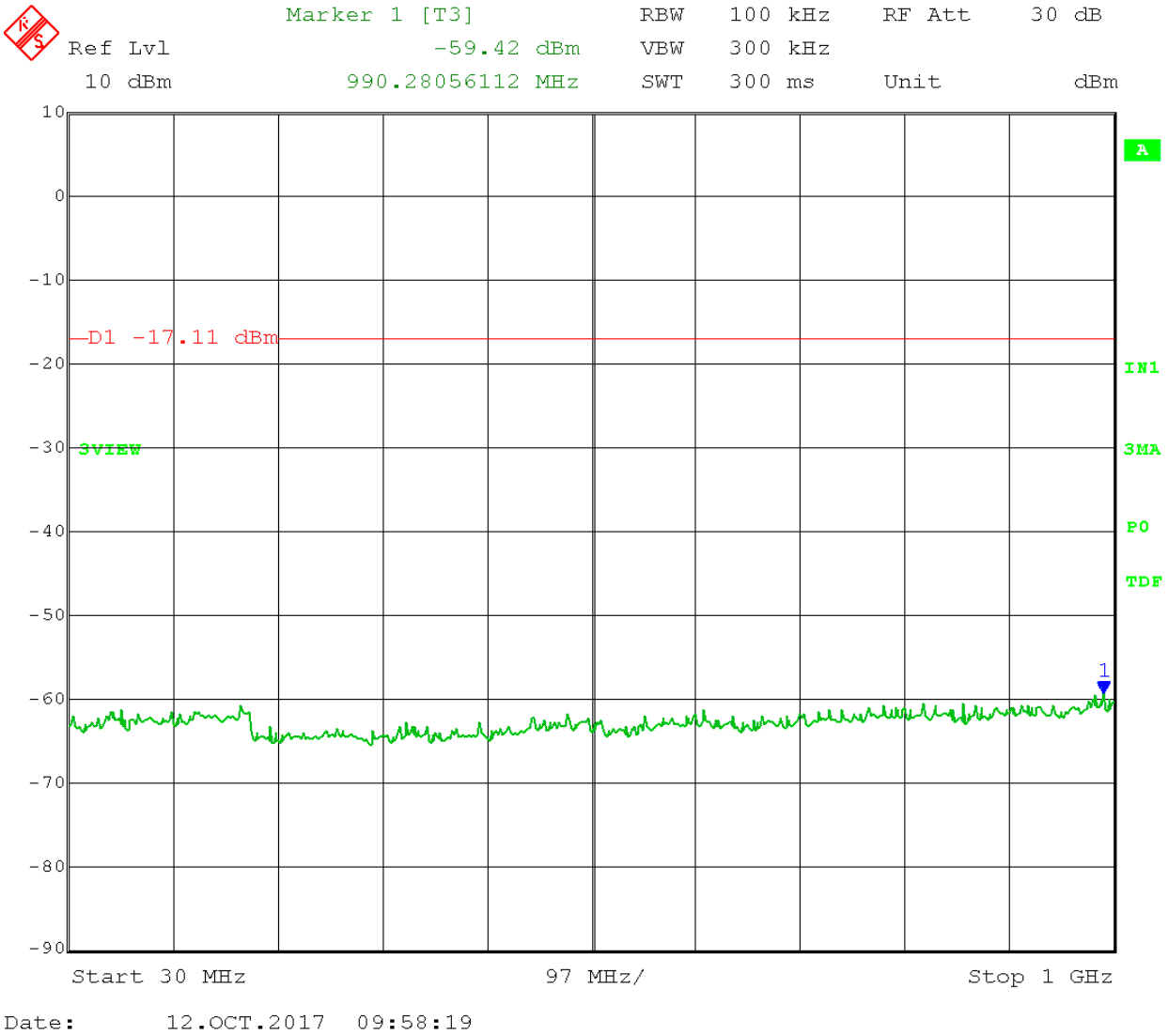
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.89 dBm
Limit = 2.89 dBm – 20 dB = -17.11 dBm

Frequency Range: 30 – 1000 MHz



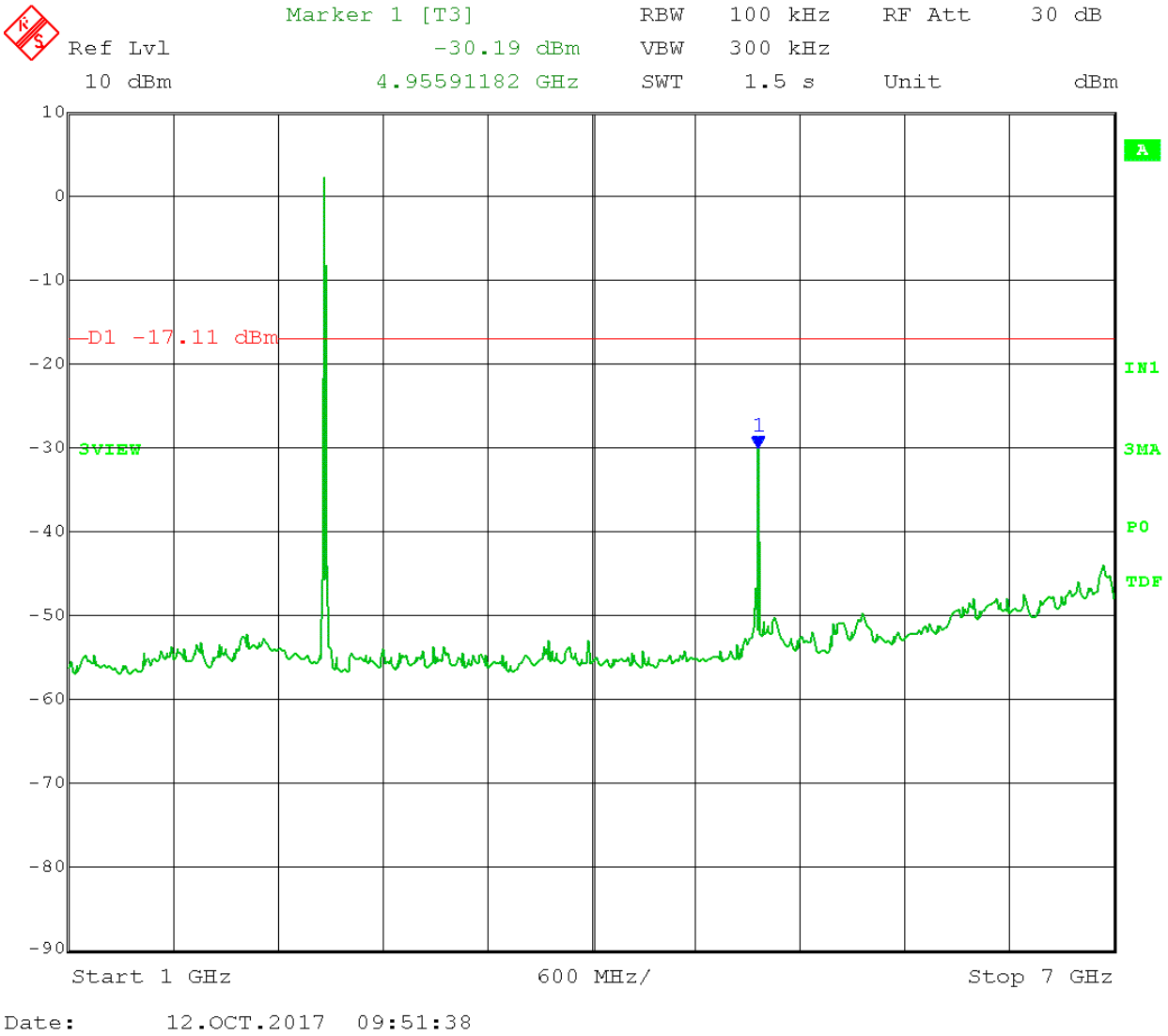
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.89 dBm
Limit = 2.89 dBm – 20 dB = -17.11 dBm

Frequency Range: 1 – 7 GHz



Date: 12.OCT.2017 09:51:38

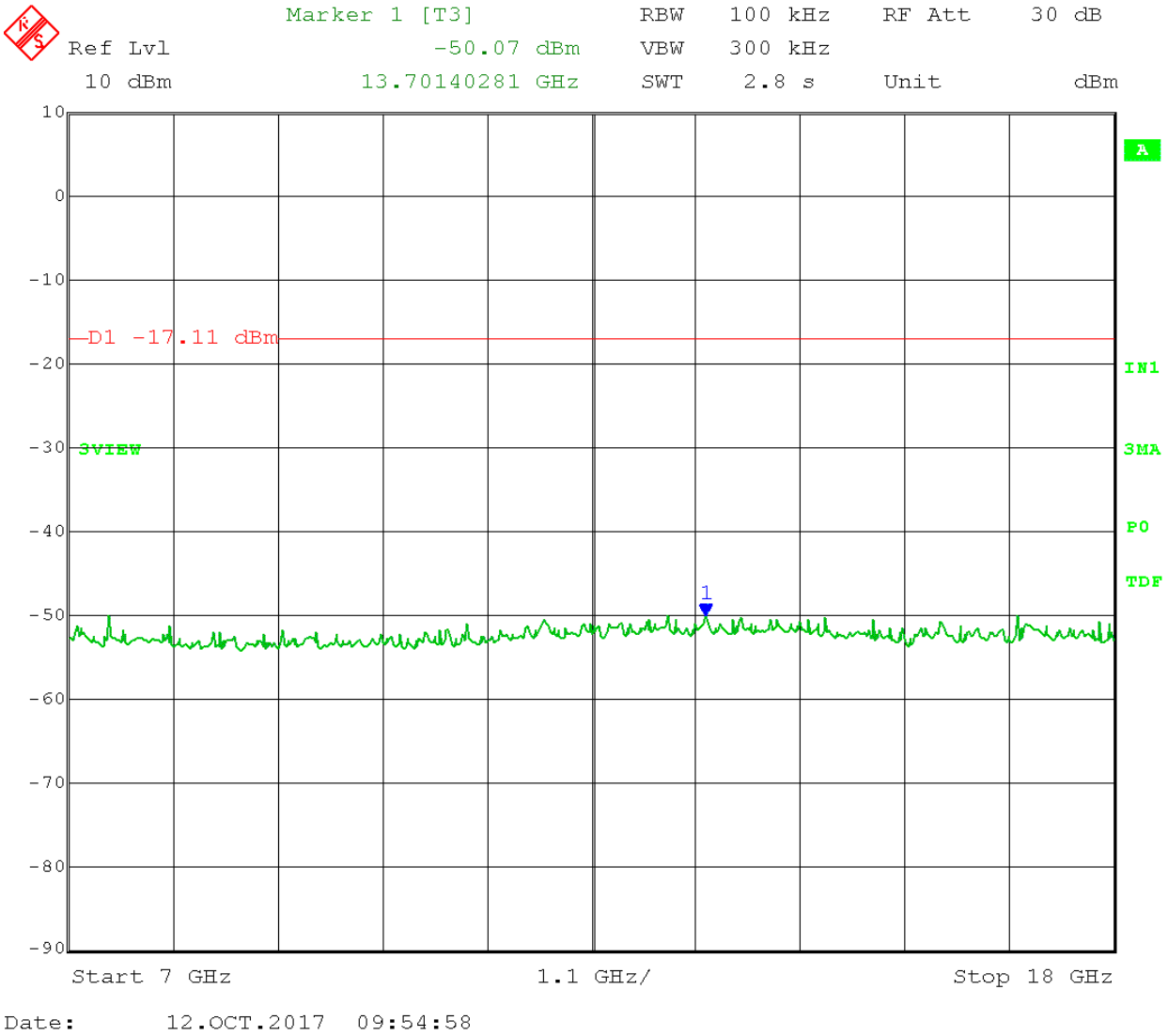
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.89 dBm
Limit = 2.89 dBm – 20 dB = -17.11 dBm

Frequency Range: 7 – 18 GHz



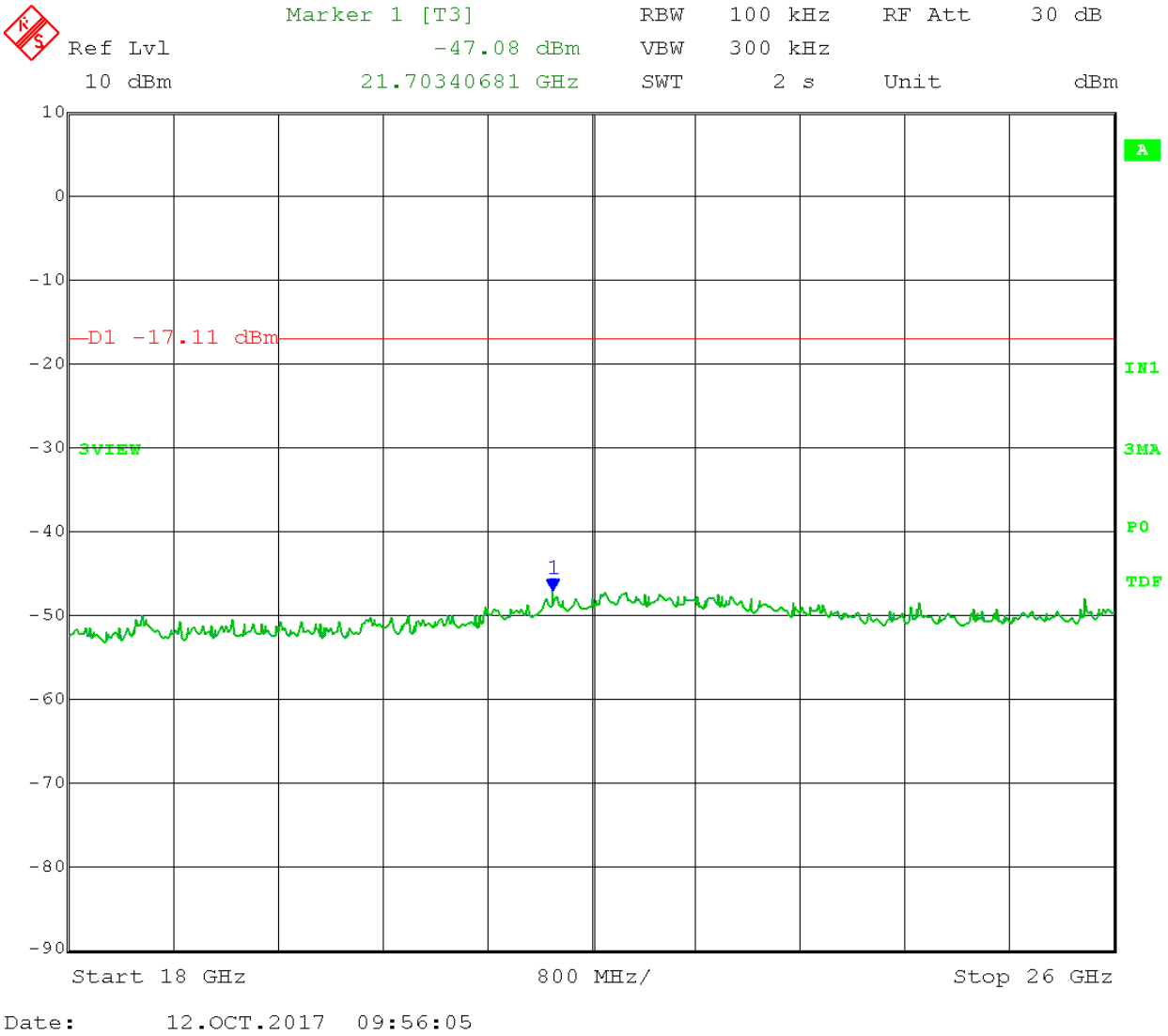
Test Date: 10-12-2017
Company: RF Technologies
EUT: 0800-0590
Test: Emissions in non-restricted frequency bands - Conducted
Operator: Craig B

Comment: High Channel: 2475 MHz
Antenna port **E2**

Emission Level measurement

Reference Level = 2.89 dBm
Limit = 2.89 dBm – 20 dB = -17.11 dBm

Frequency Range: 7 – 18 GHz



166 South Carter, Genoa City, WI 53128

Appendix B

B8.0 Emissions in Restricted Frequency Bands – Radiated

Rule Part: FCC Part 15.247(d), 15.205(a), 15.209(a)

Test Procedure: ANSI C63.10-2013, sections 11.12 & 11.12.1

Limit: FCC 15.209

Results: Compliant

Notes: The EUT was set to transmit at its maximum power with 100% duty cycle at the low, middle and high channels of the operating band. Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz. Average measurements were taken with RBW = 1 MHz, VBW = 3MHz. A voltage duty cycle reduction factor of 38.95 dB was subtracted from the Average measurements. (Production units have a fixed duty cycle of 1.13%)

No emissions were found from 30 – 1000 MHz or 18 – 26 GHz.

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **Low Channel: 2405 MHz** - Antenna **E1**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4810.990	Max Peak	Vert	71.66	33.04	-36.5	68.2	0	68.2	74	5.8	1.4	111	H / RB
4810.990	Average	Vert	65.76	33.04	-36.5	62.3	38.95	23.4	54	30.7	1.4	111	H / RB
4810.980	Max Peak	Horz	72.46	33.04	-36.5	69.0	0	69.0	74	5.0	1.8	332	H / RB
4810.980	Average	Horz	66.46	33.04	-36.5	63.0	38.95	24.1	54	30.0	1.8	332	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **Mid Channel: 2440 MHz** - Antenna **E1**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4880.990	Max Peak	Vert	69.88	33.02	-36.5	66.4	0	66.4	74	7.6	1.5	115	H / RB
4880.990	Average	Vert	63.68	33.02	-36.5	60.2	38.95	21.3	54	32.8	1.5	115	H / RB
4880.960	Max Peak	Horz	70.88	33.02	-36.5	67.4	0	67.4	74	6.6	1.5	323	H / RB
4880.960	Average	Horz	64.88	33.02	-36.5	61.4	38.95	22.5	54	31.6	1.5	323	H / RB
7318.710	Max Peak	Vert	57.43	37.17	-33.8	60.8	0	60.8	74	13.2	1.2	336	H / RB
7318.710	Average	Vert	49.03	37.17	-33.8	52.4	38.95	13.5	54	40.6	1.2	336	H / RB
7318.650	Max Peak	Horz	58.43	37.17	-33.8	61.8	0	61.8	74	12.2	1.0	336	H / RB
7318.650	Average	Horz	50.13	37.17	-33.8	53.5	38.95	14.6	54	39.5	1.0	336	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **High Channel: 2475 MHz** - Antenna **E1**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4950.960	Max Peak	Vert	69.73	33.17	-36.6	66.3	0	66.3	74	7.7	1.9	177	H / RB
4950.960	Average	Vert	63.73	33.17	-36.6	60.3	38.95	21.4	54	32.7	1.9	177	H / RB
4950.990	Max Peak	Horz	71.13	33.17	-36.6	67.7	0	67.7	74	6.3	1.6	331	H / RB
4950.990	Average	Horz	65.13	33.17	-36.6	61.7	38.95	22.8	54	31.3	1.6	331	H / RB
7423.580	Max Peak	Vert	57.55	37.05	-33.5	61.1	0	61.1	74	12.9	1.1	4	H / RB
7423.580	Average	Vert	49.05	37.05	-33.5	52.6	38.95	13.7	54	40.4	1.1	4	H / RB
7423.600	Max Peak	Horz	57.45	37.05	-33.5	61.0	0	61.0	74	13.0	1.1	347	H / RB
7423.600	Average	Horz	48.65	37.05	-33.5	52.2	38.95	13.3	54	40.8	1.1	347	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **Low Channel: 2405 MHz** - Antenna **E2**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4810.990	Max Peak	Vert	64.06	33.04	-36.5	60.6	0	60.6	74	13.4	1.6	356	H / RB
4810.990	Average	Vert	57.36	33.04	-36.5	53.9	38.95	15.0	54	39.1	1.6	356	H / RB
4810.990	Max Peak	Horz	65.26	33.04	-36.5	61.8	0	61.8	74	12.2	1.5	341	H / RB
4810.990	Average	Horz	58.66	33.04	-36.5	55.2	38.95	16.3	54	37.8	1.5	341	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **Mid Channel: 2440 MHz** - Antenna **E2**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4881.010	Max Peak	Vert	63.78	33.02	-36.5	60.3	0	60.3	74	13.7	1.6	129	H / RB
4881.010	Average	Vert	57.18	33.02	-36.5	53.7	38.95	14.8	54	39.3	1.6	129	H / RB
4880.980	Max Peak	Horz	66.08	33.02	-36.5	62.6	0	62.6	74	11.4	1.5	13	H / RB
4880.980	Average	Horz	59.58	33.02	-36.5	56.1	38.95	17.2	54	36.9	1.5	13	H / RB
7321.340	Max Peak	Vert	57.53	37.17	-33.7	61.0	0	61.0	74	13.0	1.0	47	H / RB
7321.340	Average	Vert	49.33	37.17	-33.7	52.8	38.95	13.9	54	40.2	1.0	47	H / RB
7321.370	Max Peak	Horz	52.13	37.17	-33.7	55.6	0	55.6	74	18.4	1.0	31	H / RB
7321.370	Average	Horz	59.93	37.17	-33.7	63.4	38.95	24.5	54	29.6	1.0	31	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Radiated Emissions in Restricted Bands – 30 MHz to 26 GHz
Tested at a 3 Meter Distance 30 MHz to 18 GHz
Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: 0800-0590
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 57% R.H.
Test Site: Chamber G1
Operator: Craig B; #9160
Test Specification: FCC Part 15.247 & 15.205
Comment: **High Channel: 2475 MHz** - Antenna **E2**
Date: 10-11-2017

Notes: All other emissions at least 20 dB under the limit.
EUT tested in continuous tramsmit mode (100% duty cycle)

Frequency (MHz)	Measurement Detector	Antenna Polarization	Raw Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	EUT Angle (deg)	Comment
4950.950	Max Peak	Vert	65.93	33.17	-36.6	62.5	0	62.5	74	11.5	1.7	127	H / RB
4950.950	Average	Vert	59.53	33.17	-36.6	56.1	38.95	17.2	54	36.9	1.7	127	H / RB
4950.970	Max Peak	Horz	66.73	33.17	-36.6	63.3	0	63.3	74	10.7	1.9	16	H / RB
4950.970	Average	Horz	60.13	33.17	-36.6	56.7	38.95	17.8	54	36.3	1.9	16	H / RB
7426.380	Max Peak	Vert	58.55	37.05	-33.5	62.1	0	62.1	74	11.9	1.0	114	H / RB
7426.380	Average	Vert	50.85	37.05	-33.5	54.4	38.95	15.5	54	38.6	1.0	114	H / RB
7426.370	Max Peak	Horz	60.25	37.05	-33.5	63.8	0	63.8	74	10.2	1.1	24	H / RB
7426.370	Average	Horz	52.55	37.05	-33.5	56.1	38.95	17.2	54	36.9	1.1	24	H / RB

Comments: H=Harmonic ; RB=Restricted Band
Total Level = Raw Level + Antenna Factor + System Loss
Final Corrected = Total Level - Duty Cycle Correction Factor
Margin = Limit - Final Corrected

Appendix C – Measurement Uncertainty

Compliance with the limits in this standard are based on the results of the compliance measurement. Our calculated measurement uncertainty including the measurement instrumentation, associated connections between the various instruments in the measurement chain, and other contributions, are provided in this section of the test report.

Parameter		Expanded Uncertainty (K=2)
Occupied Channel Bandwidth		+/-1.14%
RF Output Power, Conducted		+/-0.89dB
Unwanted Emissions, Conducted		+/-2.62dB
All Emissions, Radiated		+/-4.95dB
DC and Low Frequency Voltages		+/-2.42%
Duty Cycle		+/-0.05%

166 South Carter, Genoa City, WI 53128

Company: RF Technologies
Model Tested: 0800-0590
Report Number: 23176
DLS Project: 9160

END OF REPORT

Revision #	Date	Comments	By
1.0	October 20, 2017	Initial Release	CB
1.1	December 12, 2017	Added note (p. 60) regarding Peak detector & limit	CB
1.2	Decemver 12, 2017	Added cables to equipment list	CB