



849 NW State Road 45
Newberry, FL 32669 USA
Ph.: 888.472.2424 or
352.472.5500
Fax: 352.472.2030
Email: info@timcoengr.com
Website: www.timcoengr.com

FCC PART 15.247

2.4 GHz DTS

TEST REPORT

Applicant	COBRA ELECTRONICS CORPORATION
Address	6500 WEST CORTLAND STREET CHICAGO IL 60707
FCC ID	BBO2016D
Model Number	iRAD
Product Description	RADAR DETECTOR W/ BT MODULE
Date Sample Received	1/12/2016
Final Test Date	7/25/2016
Tested By	Tim Royer
Approved By	Cory Leverett

Report Number	Version Number	Description	Issue Date
66BUT16TestReport	Rev1	Initial Issue	7/25/2016
	Rev2	Updated OCC BW plots	8/5/2016

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

Summary

The device under test does:

- ☒ Fulfill the general approval requirements as identified in this test report and was selected by the customer.
- ☐ Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669



Tested by: _____

Name and Title: Project Manager/Testing Engineer

Date: 7/ 25/ 2016



Reviewed and approved by:

Name and Title: Cory Leverett Engineer

Date: 8/ 5/ 2016

GENERAL INFORMATION

EUT Specification

Regulatory Standards	FCC Title 47 CFR Part 15.247		
FCC ID	BBO2016D		
Model	iRAD		
EUT Description	RADAR DETECTOR W/ BT MODULE		
Modulation Type	Bluetooth LE (GFSK 1 Mbps)		
Operating Frequency	TX: 2402 – 2480 MHz	RX: 2402 – 2480 MHz	
EUT Power Source	☐ 110–120Vac/50– 60Hz (While in charging Cradle)		
	☒ DC Power		
	☐ Battery Operated		
Test Item	☐ Prototype	☒ Pre-Production	☐ Production
Type of Equipment	☐ Fixed	☒ Mobile	☐ Portable
Antenna Connector	None (Temp Connector Provided for testing)		
Antenna	Integral PCB Chip		
Test Facility	Timco Engineering Inc. located at 849 NW State Road 45 Newberry, FL 32669 USA.		
Test Conditions	Temperature: 24-26°C Relative humidity: 50-65%		
Measurement Standard	ANSI C63.10-2013 (Measurement Procedures) ANSI C63.4-2014 (Radiated Site Validation)		
Test Exercise	The EUT was tested in a continuous transmission mode tuned to 3 places at in the band. A modulate carrier with a 1Mbps data rate and + 4dB Tx power was programmed.		

Test Supporting Equipment

Device	Manufacturer	Model	S/ N	Supplied By	Used For
N/A					

RESULTS SUMMARY

FCC Rule Part No.	IC Standard Ref.	Requirement	Test Item	Result
15.207 (a)	RSS-GEN 8.8	AC Powerline Conducted Emissions	Powerline Conducted	N/A
15.215 (c)	RSS-GEN 6.6	Occupied Bandwidth	99% Bandwidth	Pass
			20 dB Bandwidth	Pass
15.247(a)(e)	RSS-247 § 5.2	Digital Transmission Systems	6 dB Bandwidth	Pass
			Power Spectral Density	Pass
15.247(b)	RSS-247 § 5.4	Transmitter Output Power and Equivalent Isotropically Radiated Power	Peak Power Output (ERP)	Pass
			Antenna Gain (EIRP)	
15.247(d)	RSS-247 § 5.5	Unwanted Emissions	Bandedge	Pass
			Radiated Spurious	Pass

Notes:

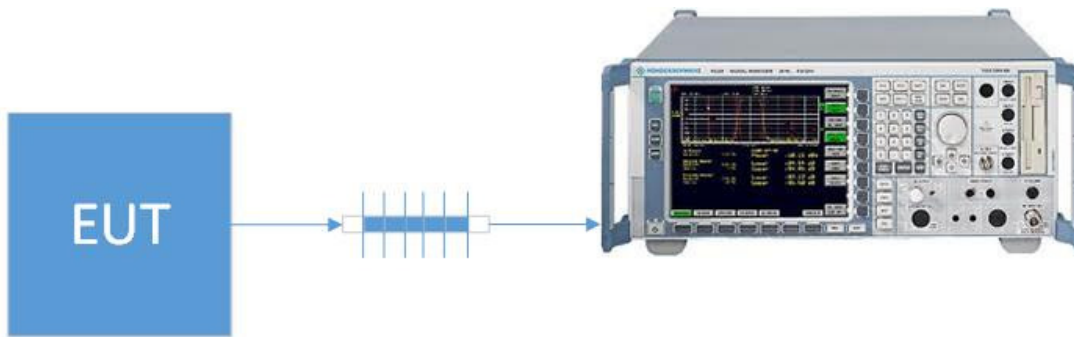
DTS BANDWIDTH

Rules Part No.: FCC 15.247 (a)(2)

Requirements: The minimum 6 dB bandwidth shall be 500 kHz.

Test Method: ANSI C63.10 § 11.8.1 DTS Bandwidth Option 1

Setup:



Test Data: 6 dB Occupied Bandwidth Measurement Table

Tuned Frequency (MHz)	6 dB BW (KHz)	Limit (KHz)	Margin (KHz)
2402	500.95	≥ 500	0.95
2442	520.22	≥ 500	20.22
2480	507.83	≥ 500	7.83

RESULTS: Meets Requirements

DTS BANDWIDTH

Test Data: 6dB Bandwidth Plot Low End of Band



05.Aug 16 08:25

Ref 13.6 dBm

*Att 40 dB

*RBW 100 kHz

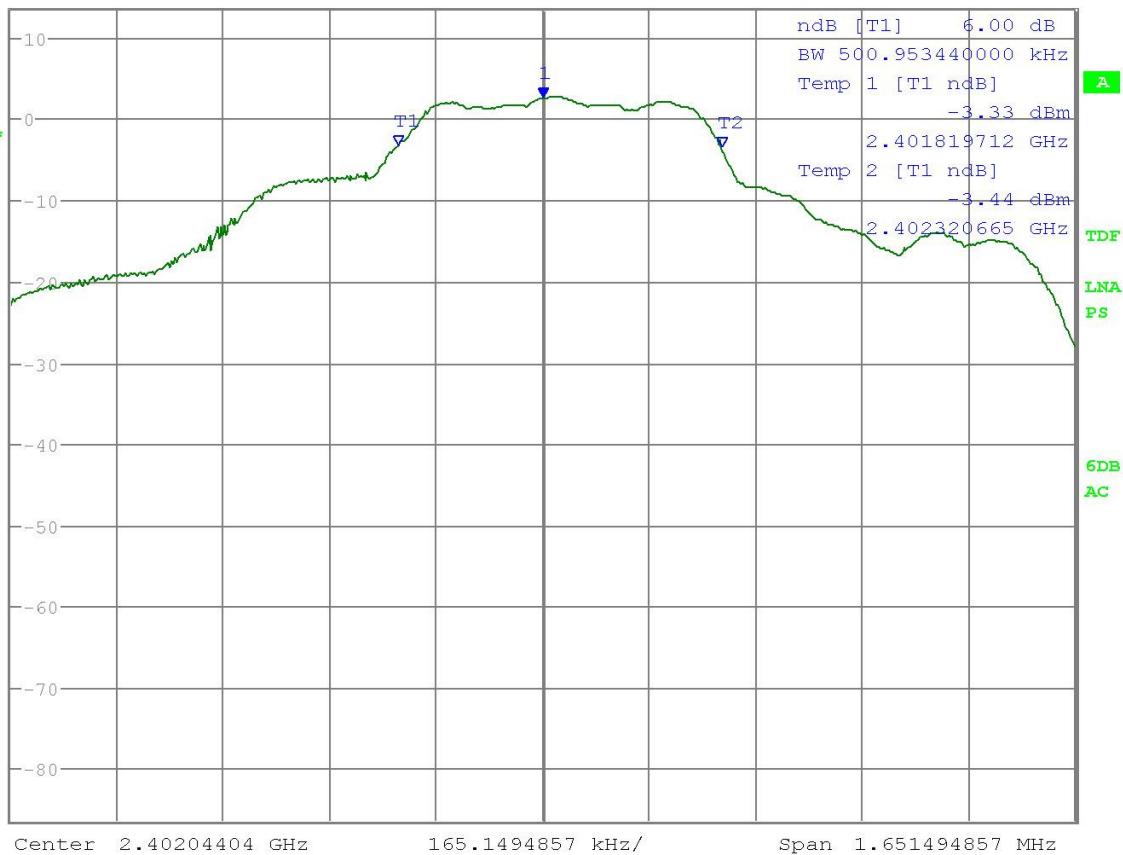
*VBW 300 kHz

SWT 5 ms

Marker 1 [T1]

2.65 dBm

2.402044040 GHz



Date: 5.AUG.2016 08:25:41

RESULTS: Meets Requirements

DTS BANDWIDTH

Test Data: 6dB Bandwidth Plot Middle of Band



05.Aug 16 08:32

Ref 13.6 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

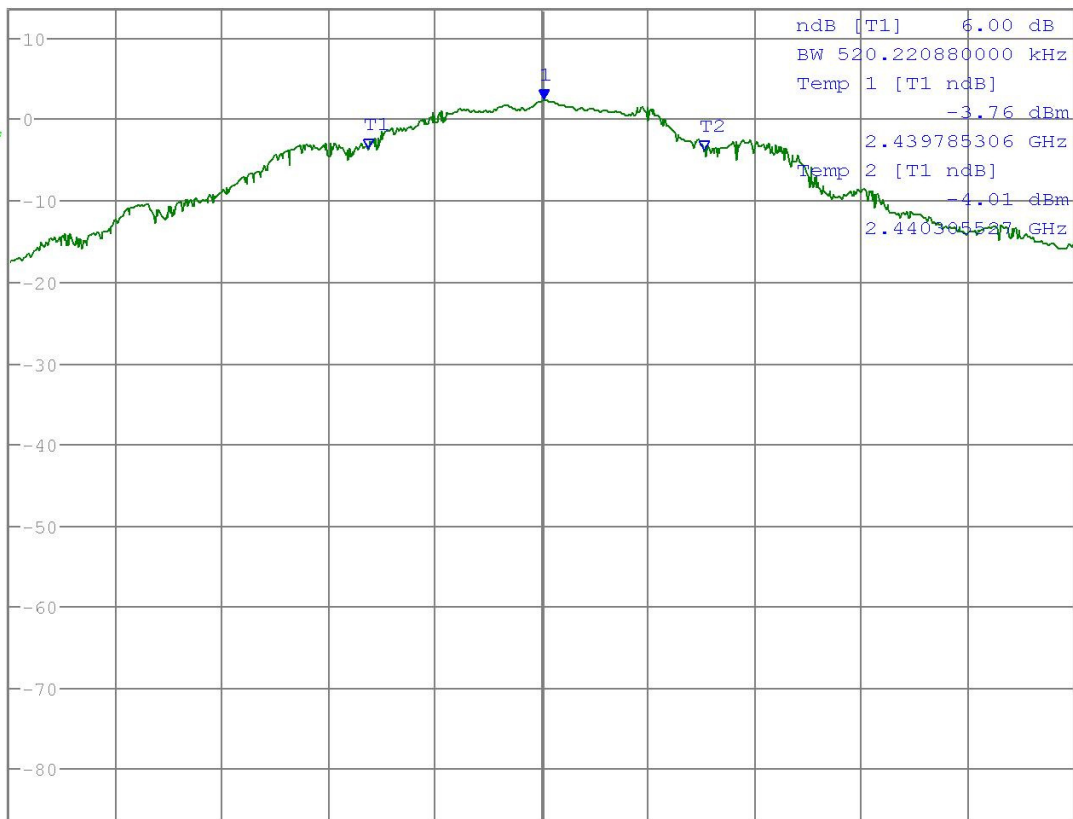
SWT 5 ms

Marker 1 [T1]

2.32 dBm

2.440057696 GHz

1 RM
VIEW



Center 2.44005505 GHz

165.1494857 kHz/

Span 1.651494857 MHz

Date: 5.AUG.2016 08:32:35

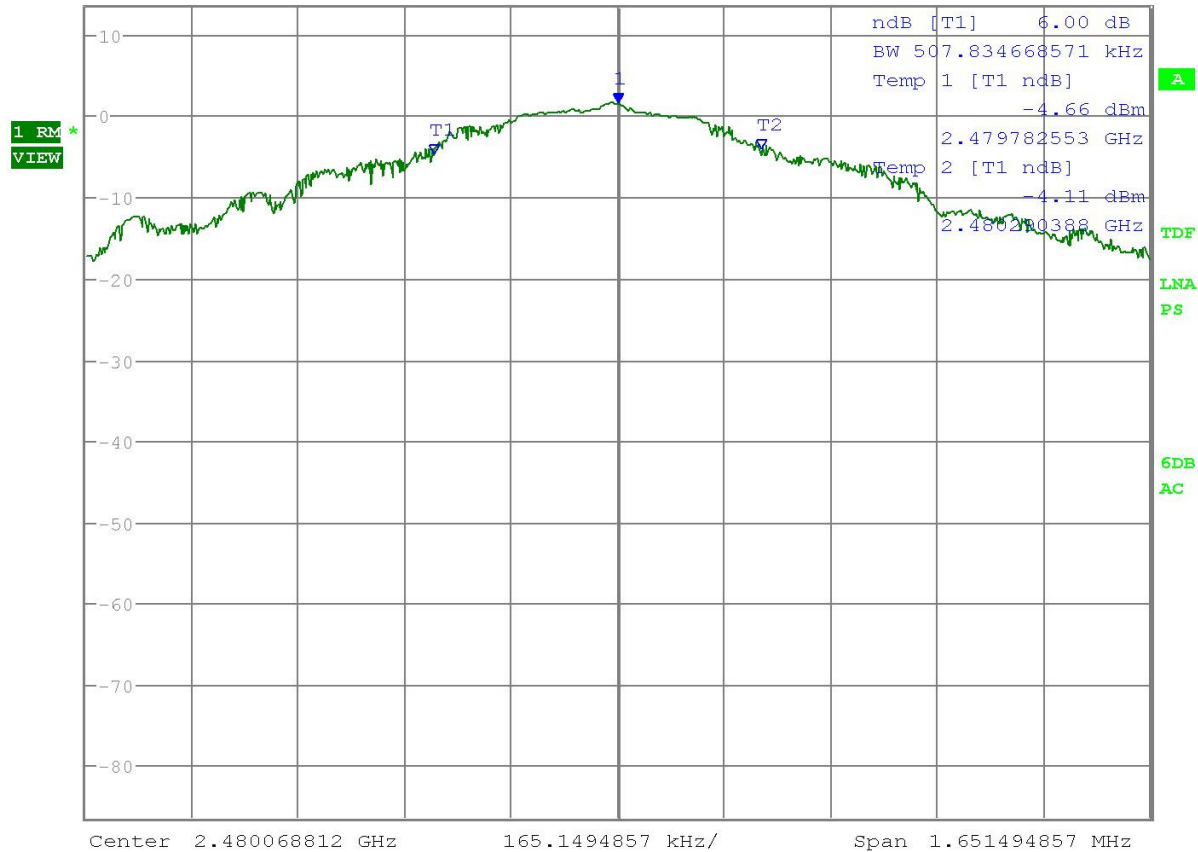
RESULTS: Meets Requirements

DTS BANDWIDTH

Test Data: 6dB Bandwidth Plot High end of Band



05.Aug 16 08:34
 Ref 13.6 dBm *Att 40 dB SWT 5 ms
 *RBW 100 kHz Marker 1 [T1] 1.55 dBm
 *VBW 300 kHz 2.480068812 GHz



Date: 5.AUG.2016 08:34:01

RESULTS: Meets Requirements

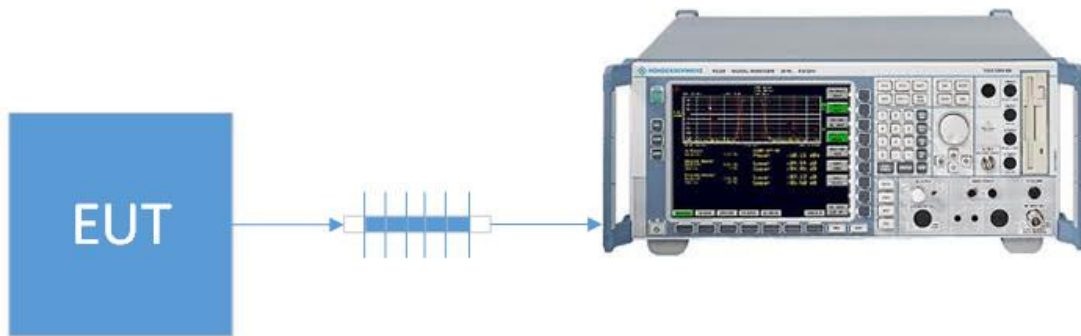
PEAK POWER OUTPUT

Rules Part No.: FCC 15.247(b) (3) (4)

Requirements: Maximum Conducted Peak Power Output shall not exceed 1 Watt
Also the Peak Power Output shall not exceed 4 Watts EIRP

Test Method: ANSI C63.10 § 11.2 Power Limits, definitions, and device configuration
ANSI C63.10 § 11.9.1.1 Fundamental Output Power RBW $\geq$ DTS Bandwidth
ANSI C63.10 § Annex G Relationship among Field Strength and ERP/EIRP

Setup:



PEAK POWER OUTPUT

Test Data: **Peak Conducted Power Output Measurement Table**

Peak Conducted Power Output Measurement				
Tuned Frequency (MHz)	P _{Cond} (dBm)	P _{Conducted} (W)	Limit (W)	Margin (W)
2402	2.15	0.00164	1.00	0.99836
2442	2.23	0.00167	1.00	0.99833
2480	1.64	0.00146	1.00	0.99854

ERP to EIRP Conversion formula: $EIRP = ERP + 2.15 \text{ dB}$

Peak EIRP Power Output Calculation				
Tuned Frequency (MHz)	P _T (dBm)	EIRP (W)	Limit (W)	Margin (W)
2402	2.15	0.00269	4.00	3.99731
2442	2.23	0.00274	4.00	3.99726
2480	1.64	0.00239	4.00	3.99761

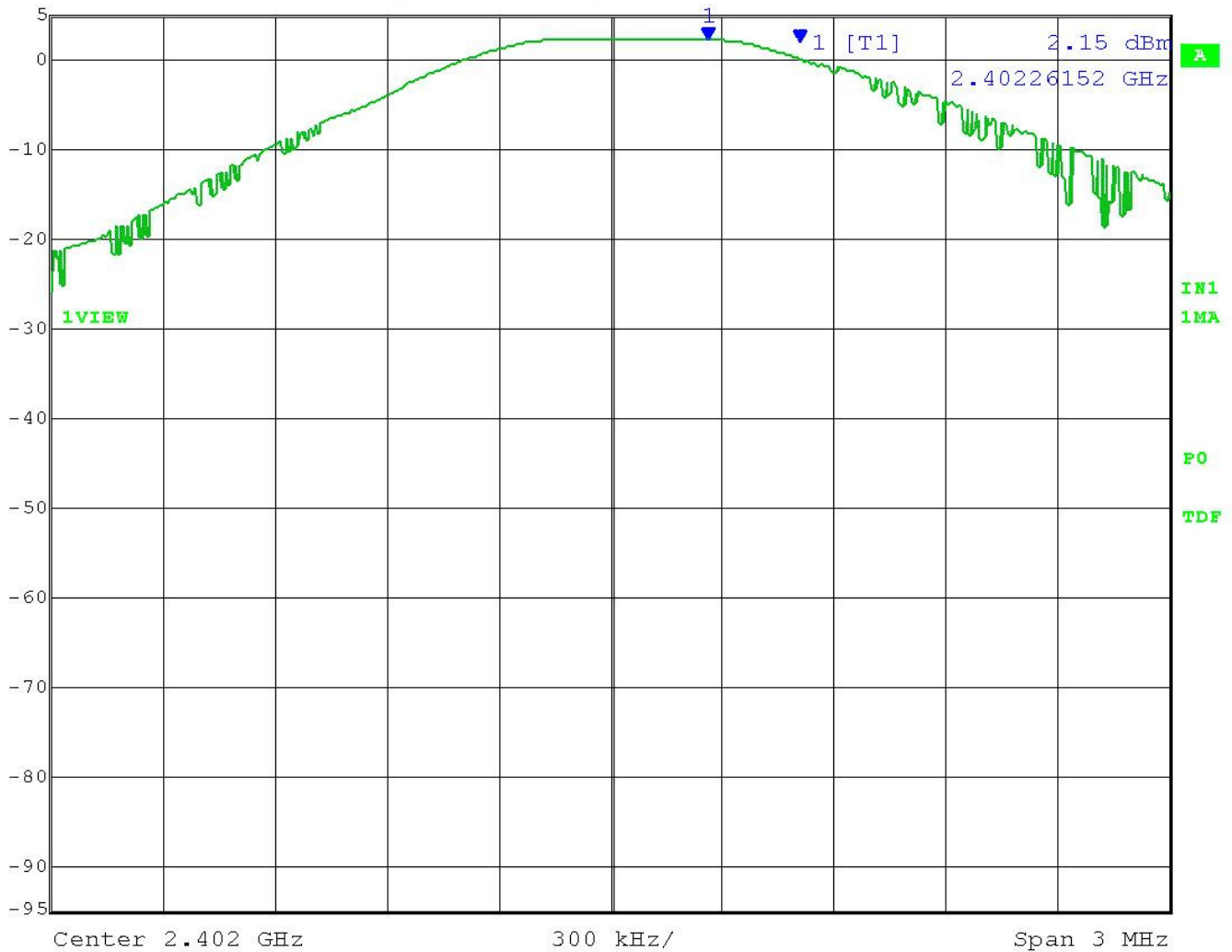
RESULTS: Meets Requirements

PEAK POWER OUTPUT

Test Data: Peak Power Output Plot Low End of Band



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
5 dBm	2.15 dBm	VBW	3 MHz		
	2.40226152 GHz	SWT	5 ms	Unit	dBm



Date: 21.JUL.2016 15:50:16

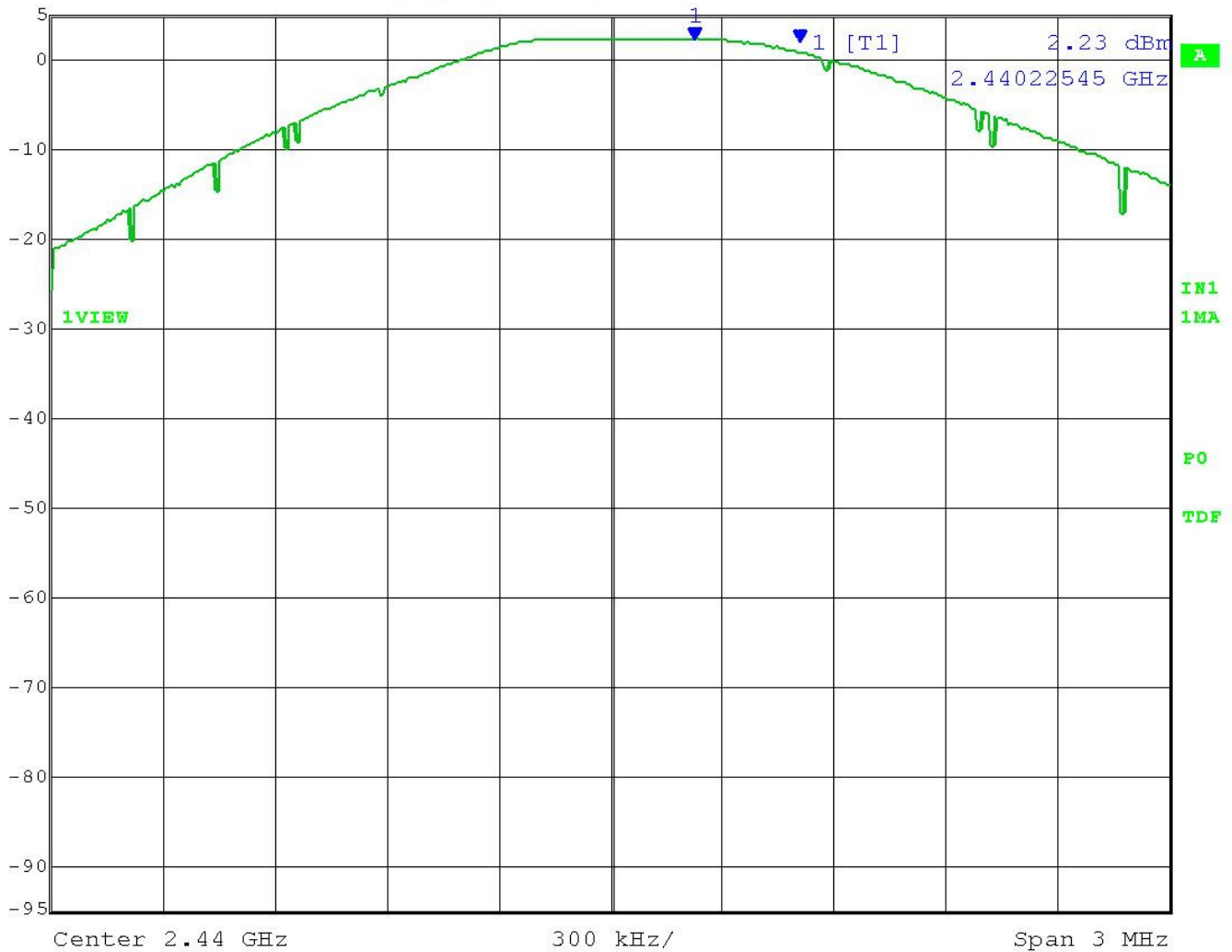
RESULTS: Meets Requirements

PEAK POWER OUTPUT

Test Data: Peak Power Output Plot Middle of Band



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
5 dBm	2.23 dBm	VBW	3 MHz		
	2.44022545 GHz	SWT	5 ms	Unit	dBm

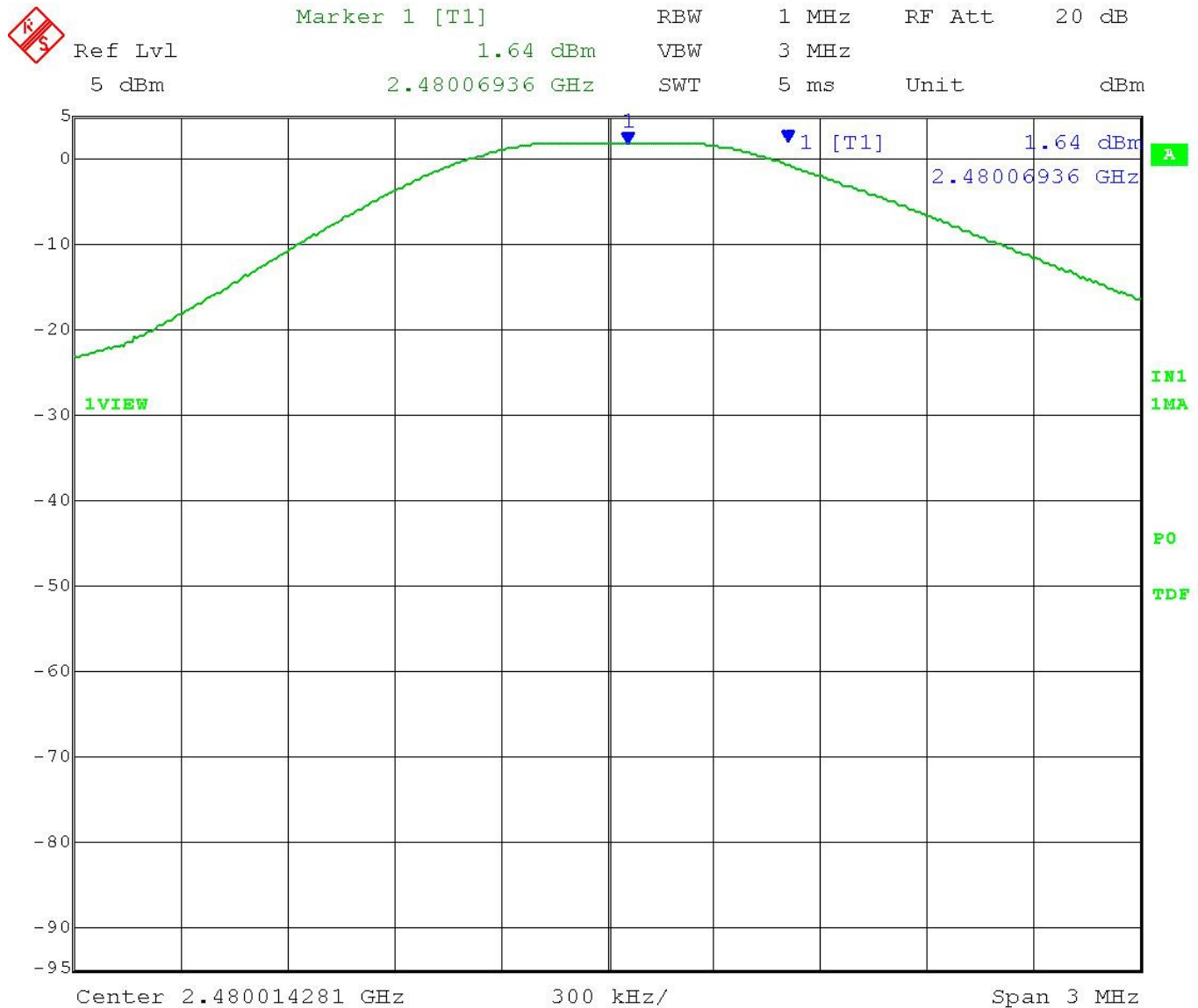


Date: 21.JUL.2016 15:48:39

RESULTS: Meets Requirements

PEAK POWER OUTPUT

Test Data: Peak Power Output High End of Band



Date: 21.JUL.2016 15:47:29

RESULTS: Meets Requirements

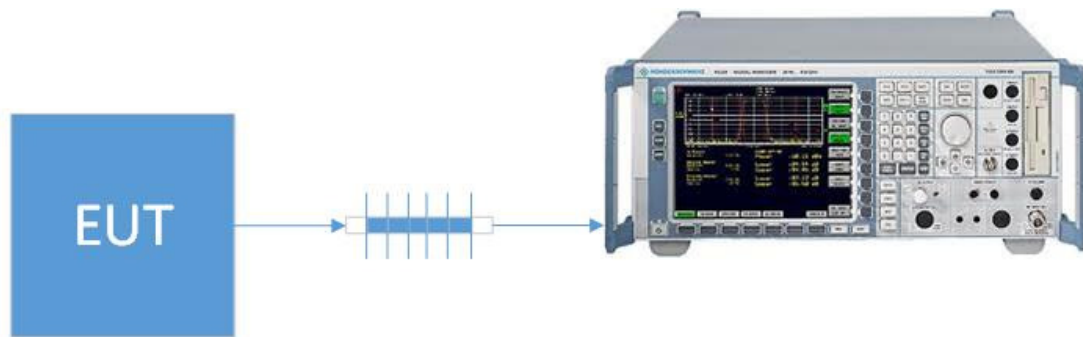
POWER SPECTRAL DENSITY

Rules Part No.: FCC 15.247(e)

Requirements: The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Method: ANSI C63.10 § 11.2 Power Limits, definitions, and device configuration
ANSI C63.10 § 11.10.2 Maximum PSD in the fundamental- Method PKPSD

Setup:



POWER SPECTRAL DENSITY

Test Data: Power Spectral Density Measurement Table

Peak Conducted Power Spectral Density			
Tuned Frequency (MHz)	Level (dBm/3KHz)	Limit (dBm/3KHz)	Margin (dB)
2402	-9.13	8.00	17.13
2442	-9.08	8.00	17.08
2480	-10.39	8.00	18.39

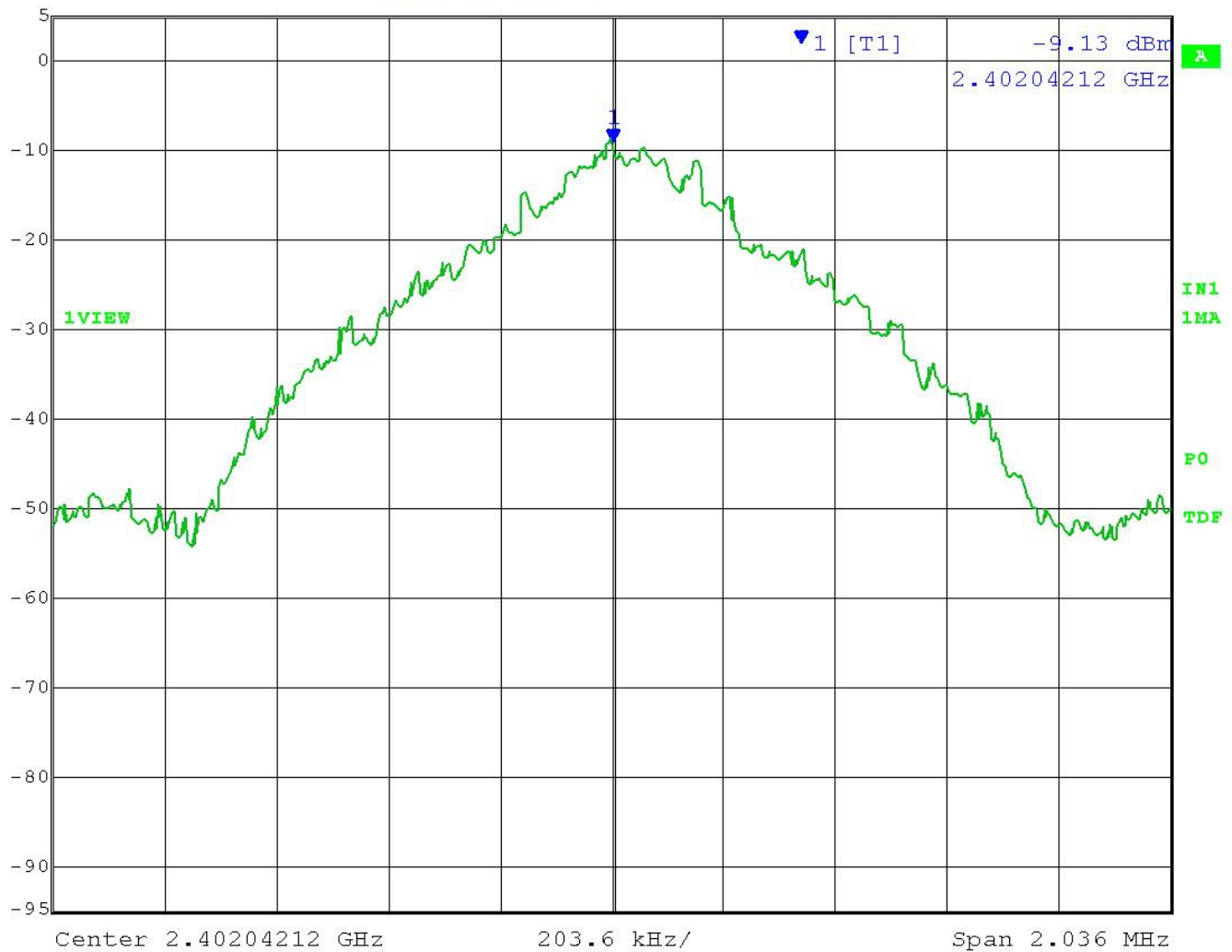
RESULTS: Meets Requirements

POWER SPECTRAL DENSITY

Test Data: Power Spectral Density Plot Low End of Band



Ref Lvl 5 dBm
 Marker 1 [T1] 2.40204212 GHz
 RBW 3 kHz
 VBW 10 kHz
 RF Att 20 dB
 SWT 580 ms
 Unit dBm



Date: 21.JUL.2016 15:20:02

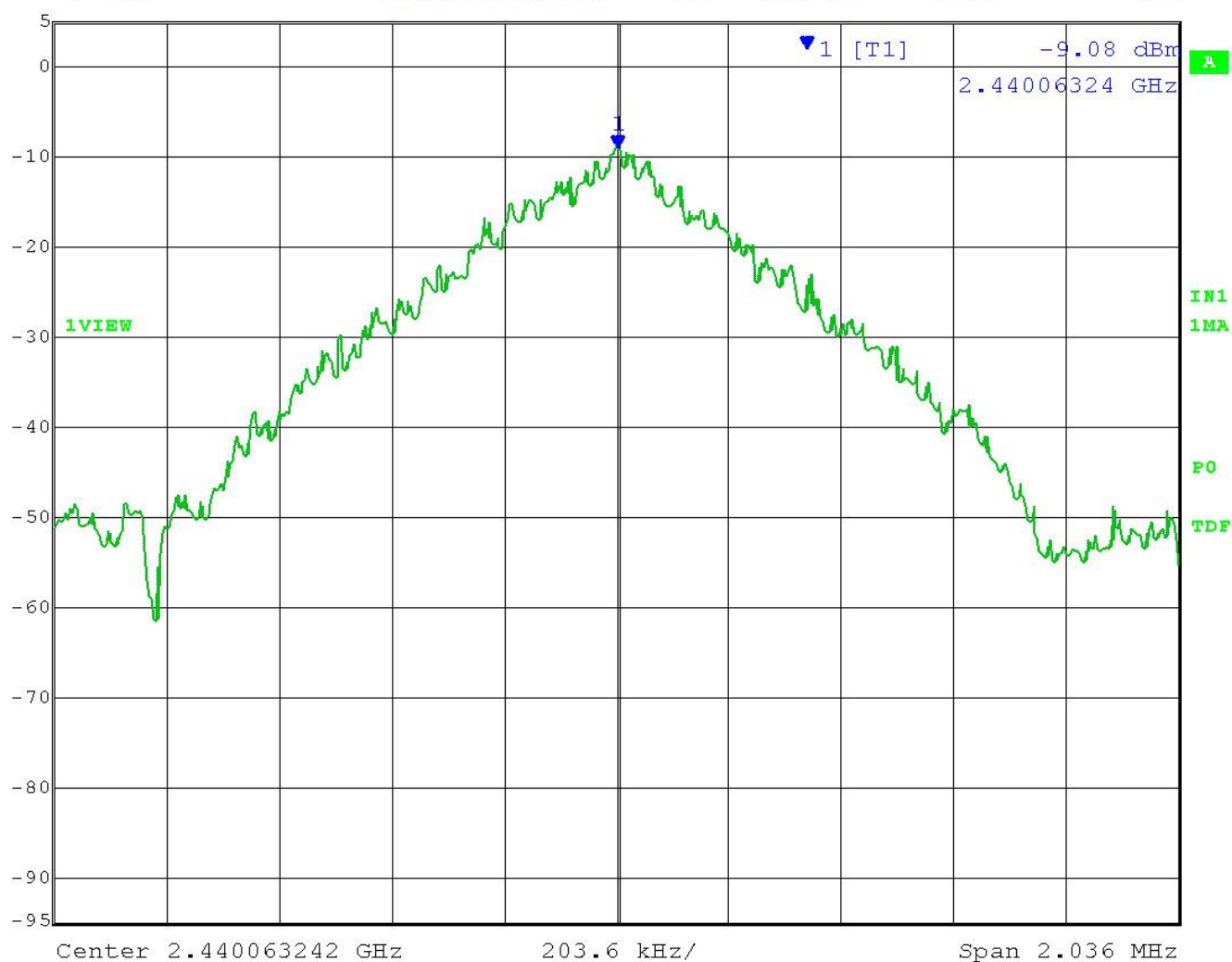
RESULTS: Meets Requirements

POWER SPECTRAL DENSITY

Test Data: Power Spectral Density Plot Middle of Band



Ref Lvl 5 dBm
 Marker 1 [T1] -9.08 dBm
 2.44006324 GHz
 RBW 3 kHz
 VBW 10 kHz
 RF Att 20 dB
 SWT 580 ms
 Unit dBm

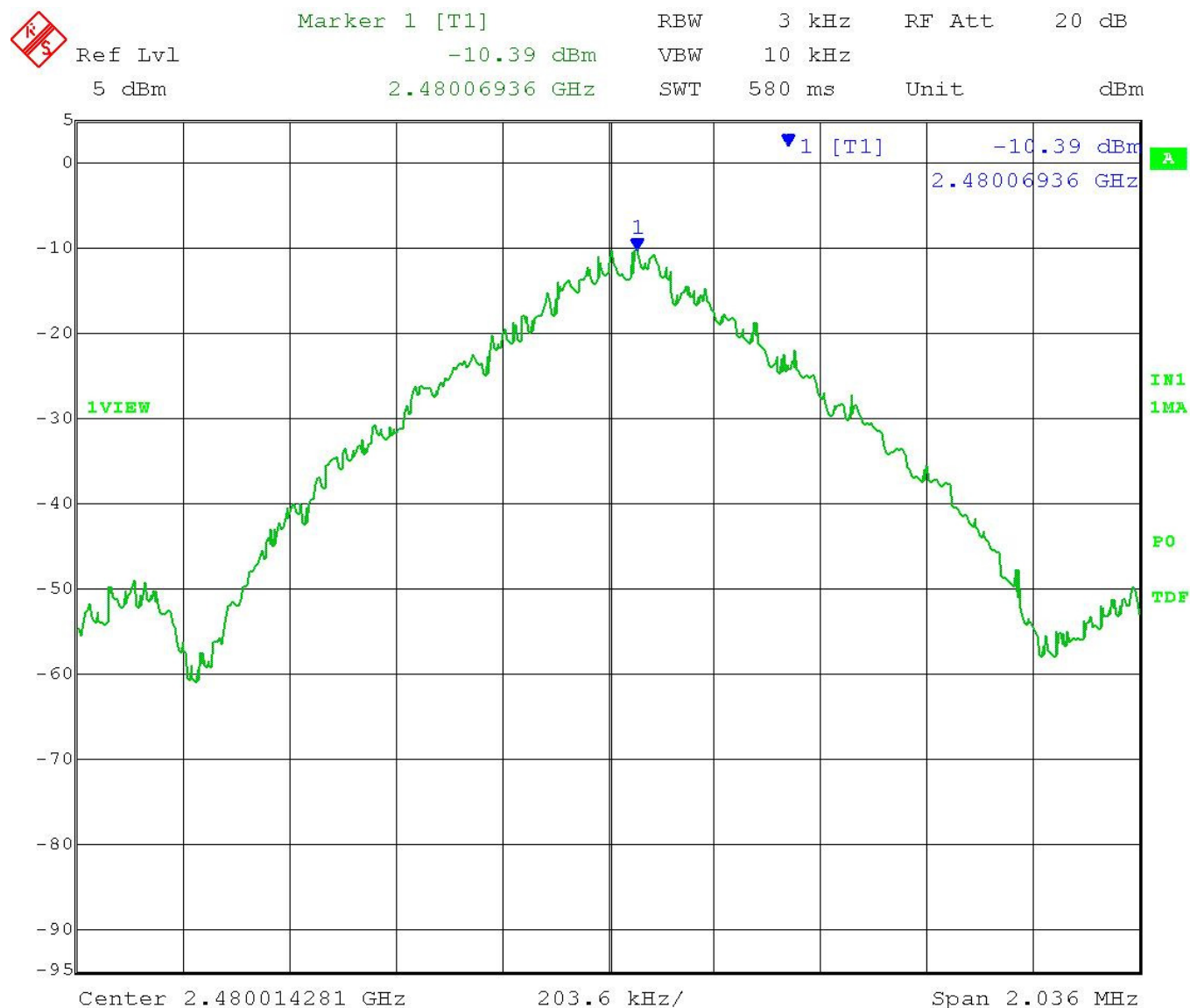


Date: 21.JUL.2016 15:21:21

RESULTS: Meets Requirements

POWER SPECTRAL DENSITY

Test Data: Power Spectral Density Plot High End of Band



Date: 21.JUL.2016 15:23:19

RESULTS: Meets Requirements

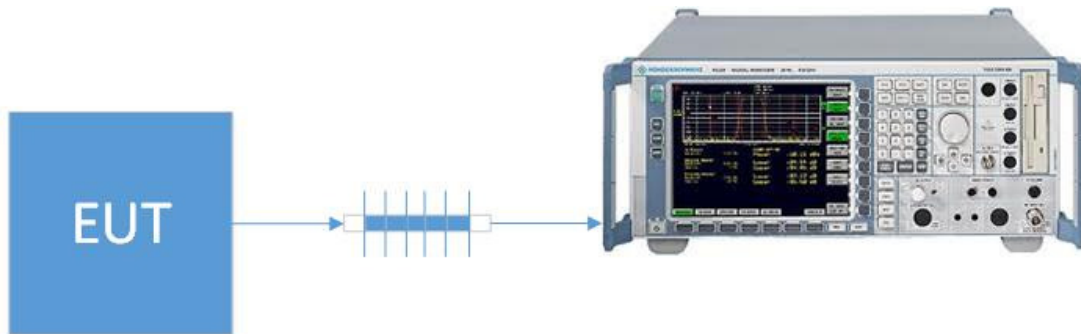
OCCUPIED BANDWIDTH

Rules Part No.: FCC 15.215 (c)

Requirements: The 20 dB Bandwidth shall remain inside the band of operation.
The 99% Bandwidth is for reporting only.

Test Method: ANSI C63.10 § 6.9.2 Occupied Bandwidth- Relative procedure
ANSI C63.10 § 6.9.3 Occupied Bandwidth- 99% Power Bandwidth procedure

Setup:



Test Data: Occupied Bandwidth Measurement Table

Tuned Frequency (MHz)	20 dB BW (MHz)	99% BW (MHz)
2402	947.1	1.038
2442	954.1	991.2
2480	925.4	920.5

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 20 dB Bandwidth Plot Low End of Band



05.Aug 16 08:48

Ref 7.7 dBm

*Att 10 dB

*RBW 30 kHz

*VBW 100 kHz

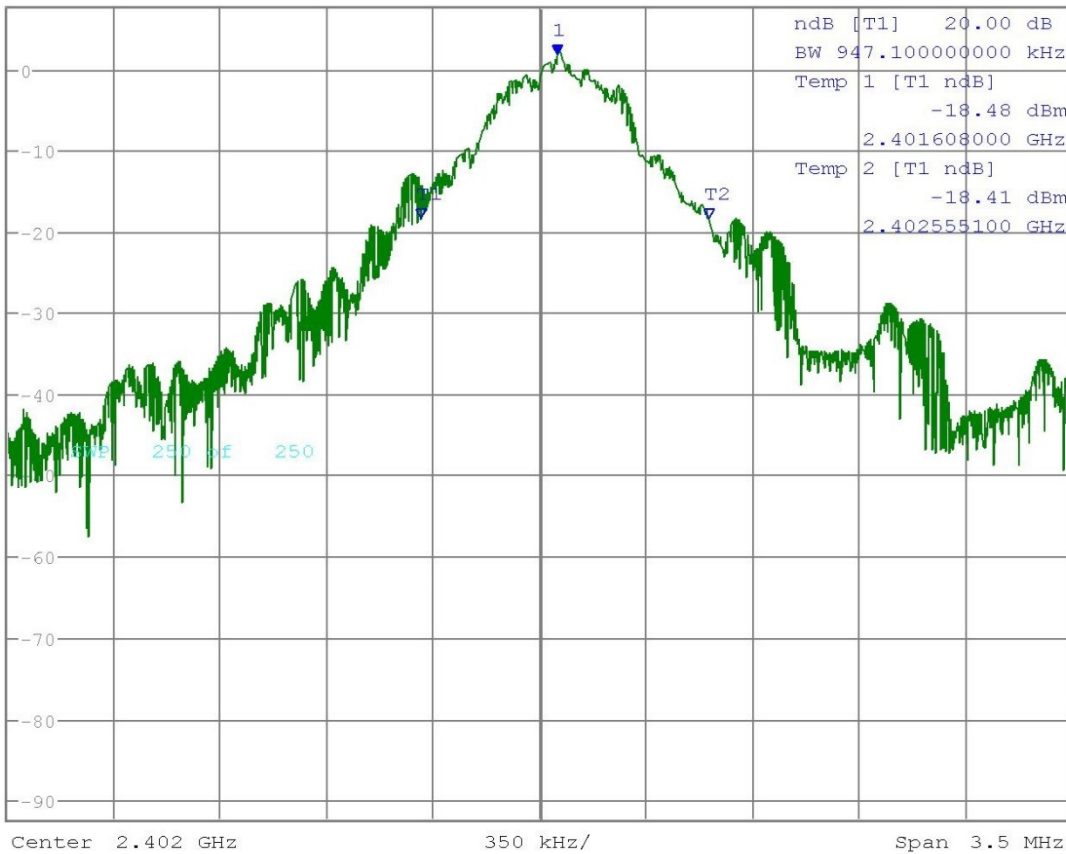
SWT 25 ms

Marker 1 [T1]

1.81 dBm

2.402058800 GHz

1 PK
VIEW



A

TDF

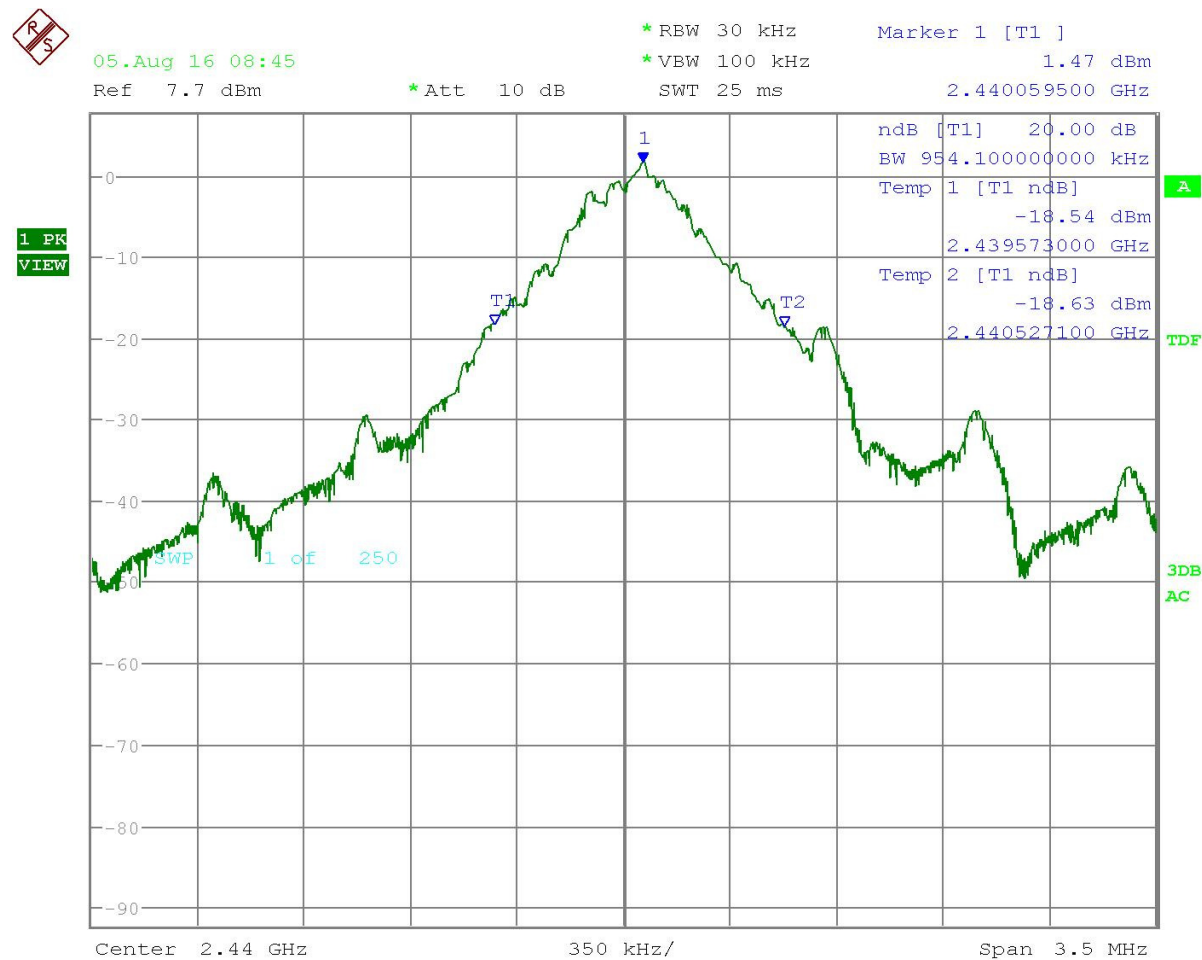
3DB
AC

Date: 5.AUG.2016 08:48:45

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 20 dB Bandwidth Plot Middle of Band

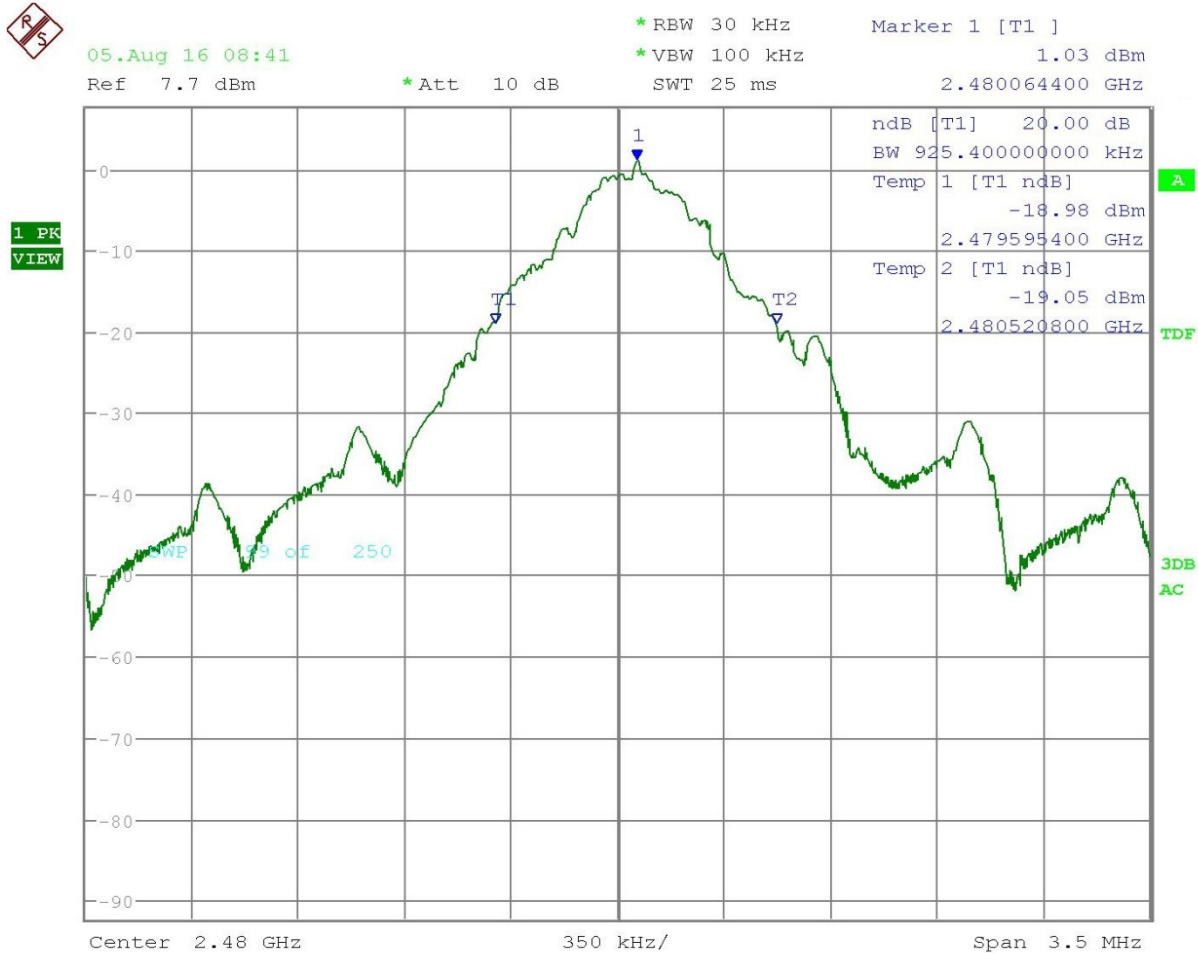


Date: 5.AUG.2016 08:45:09

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 20 dB Bandwidth Plot High end of Band



Date: 5.AUG.2016 08:41:47

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 99% Bandwidth Plot Low End of Band



05.Aug 16 08:47

Ref 7.7 dBm

*Att 10 dB

*RBW 30 kHz

*VBW 100 kHz

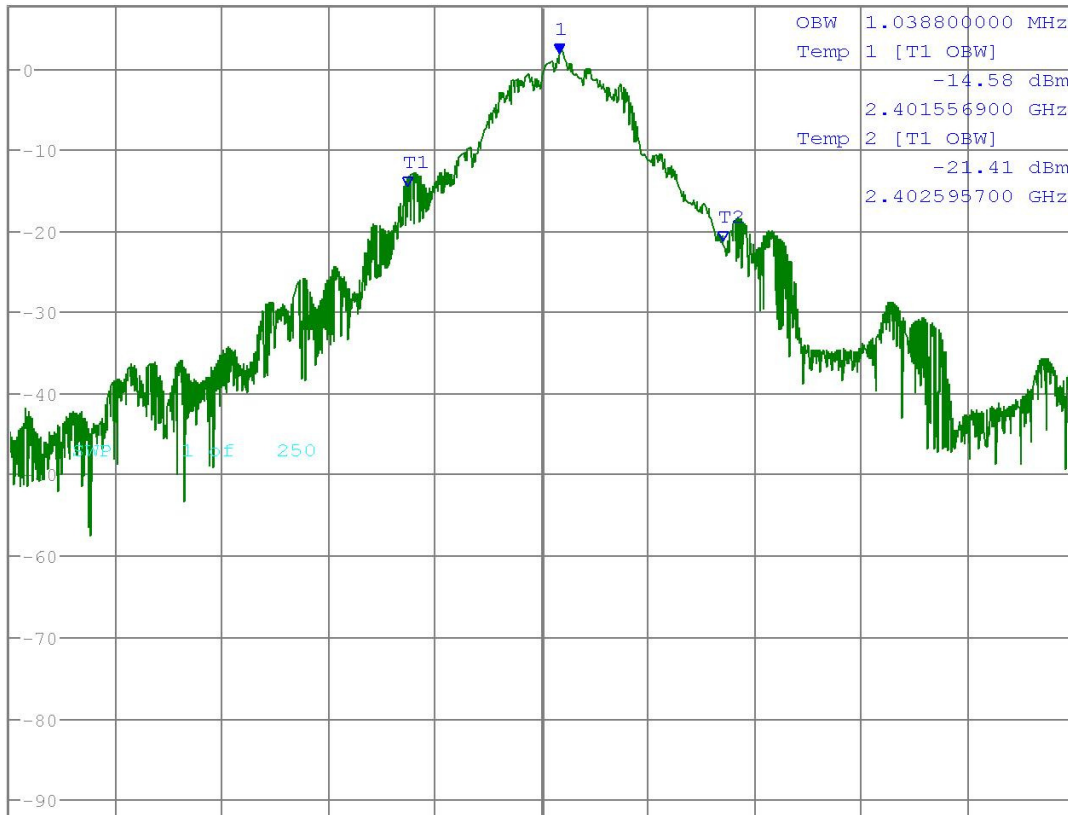
SWT 25 ms

Marker 1 [T1]

1.81 dBm

2.402058800 GHz

1 PK
VIEW



Center 2.402 GHz

350 kHz/

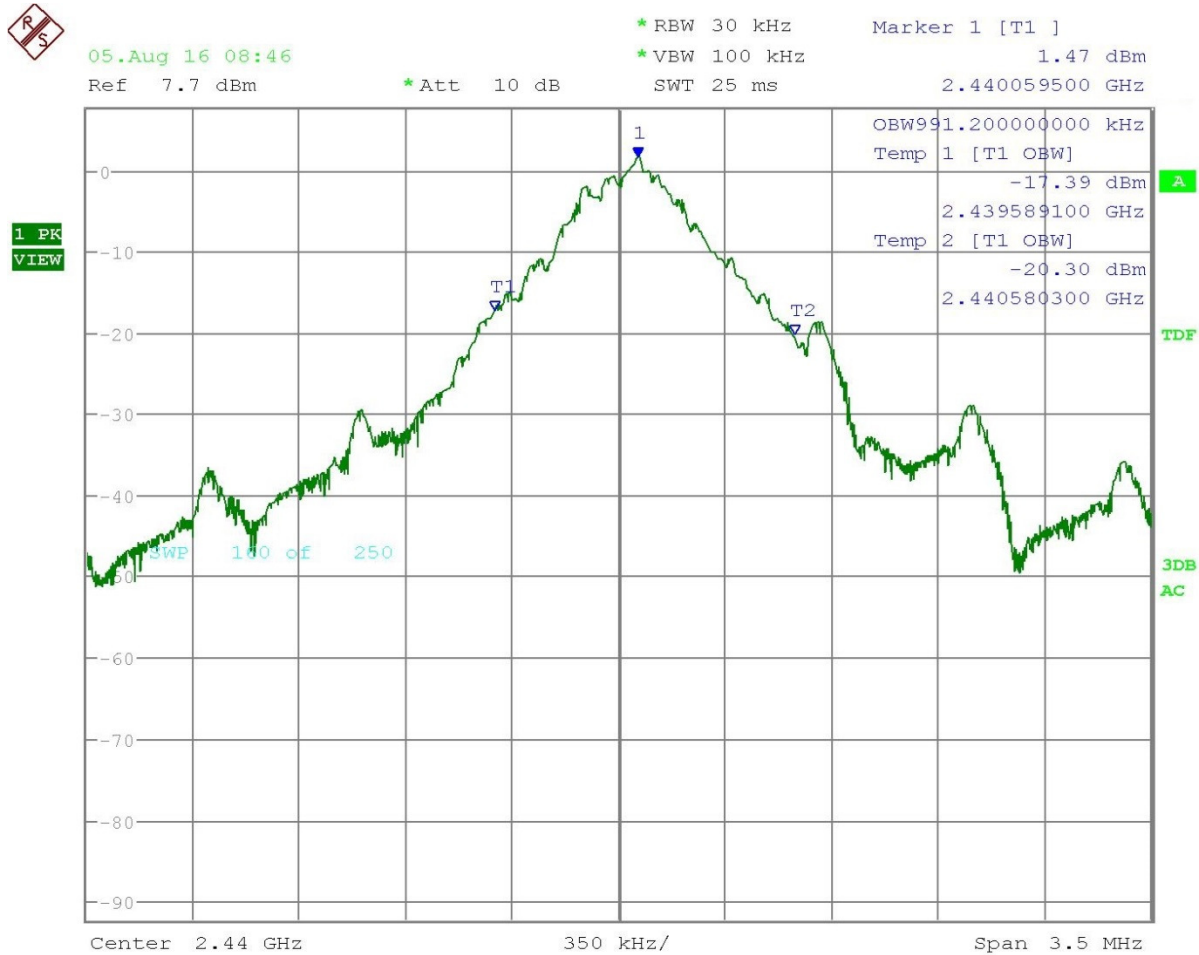
Span 3.5 MHz

Date: 5.AUG.2016 08:47:56

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 99% Bandwidth Plot Middle of Band

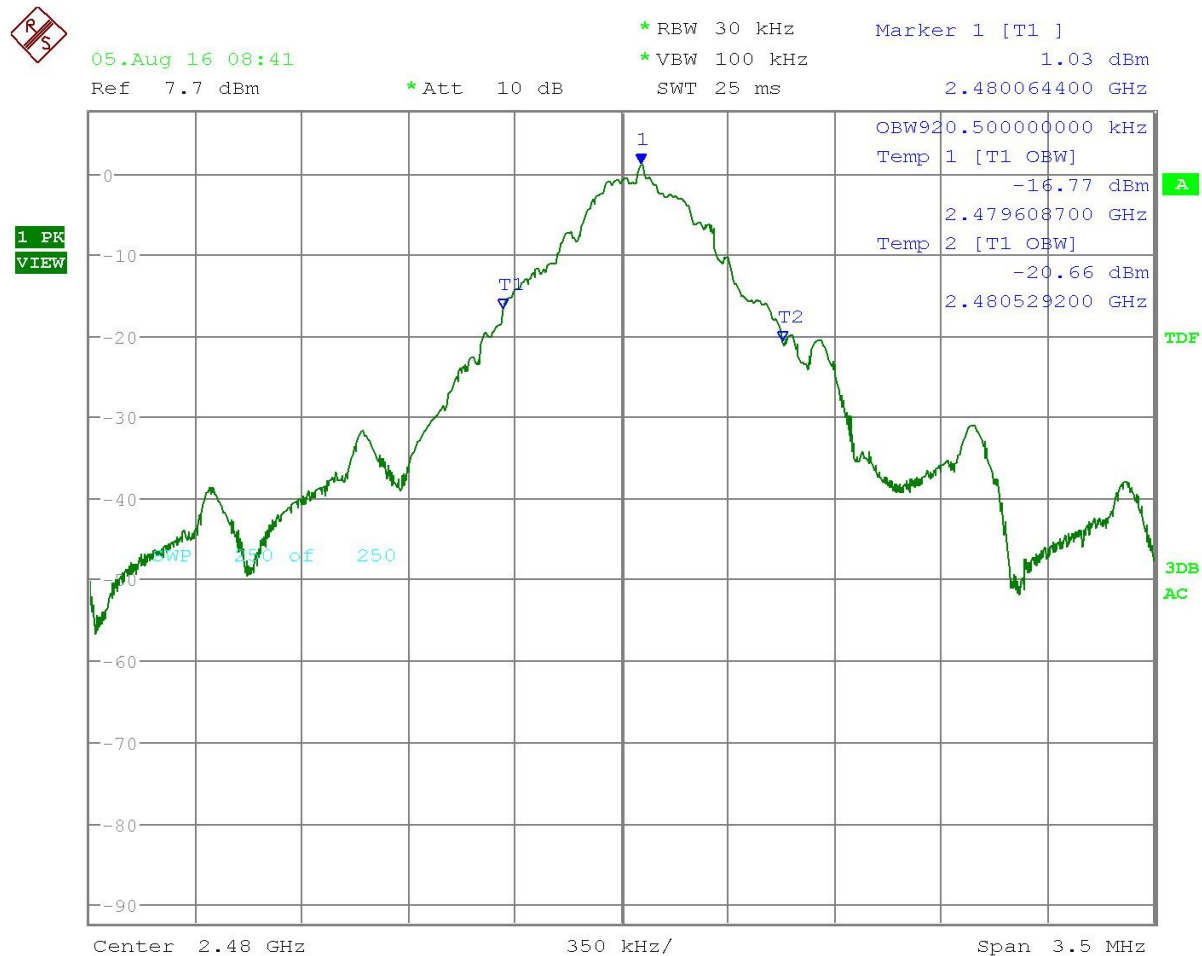


Date: 5.AUG.2016 08:46:00

RESULTS: Meets Requirements

OCCUPIED BANDWIDTH

Test Data: 99% Bandwidth Plot High end of Band



Date: 5.AUG.2016 08:41:29

RESULTS: Meets Requirements

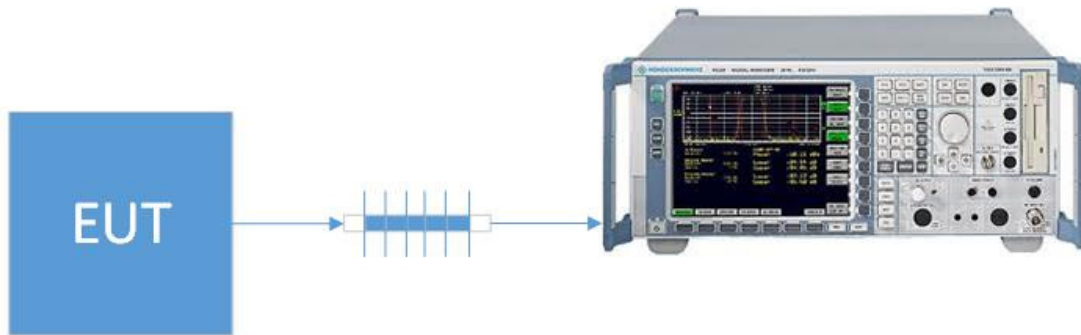
BANDEDGE

Rule Part No.: FCC 15.247(d)

Requirements: Emissions must be at least 20dB down from the highest emission level
Within the authorized band as measured with a 100 kHz RBW.

Test Method: ANSI C63.10 § 6.10.4 Authorized band-edge relative method (non-restricted)
ANSI C63.10 § 6.10.6 Marker Delta Method (restricted band edge)

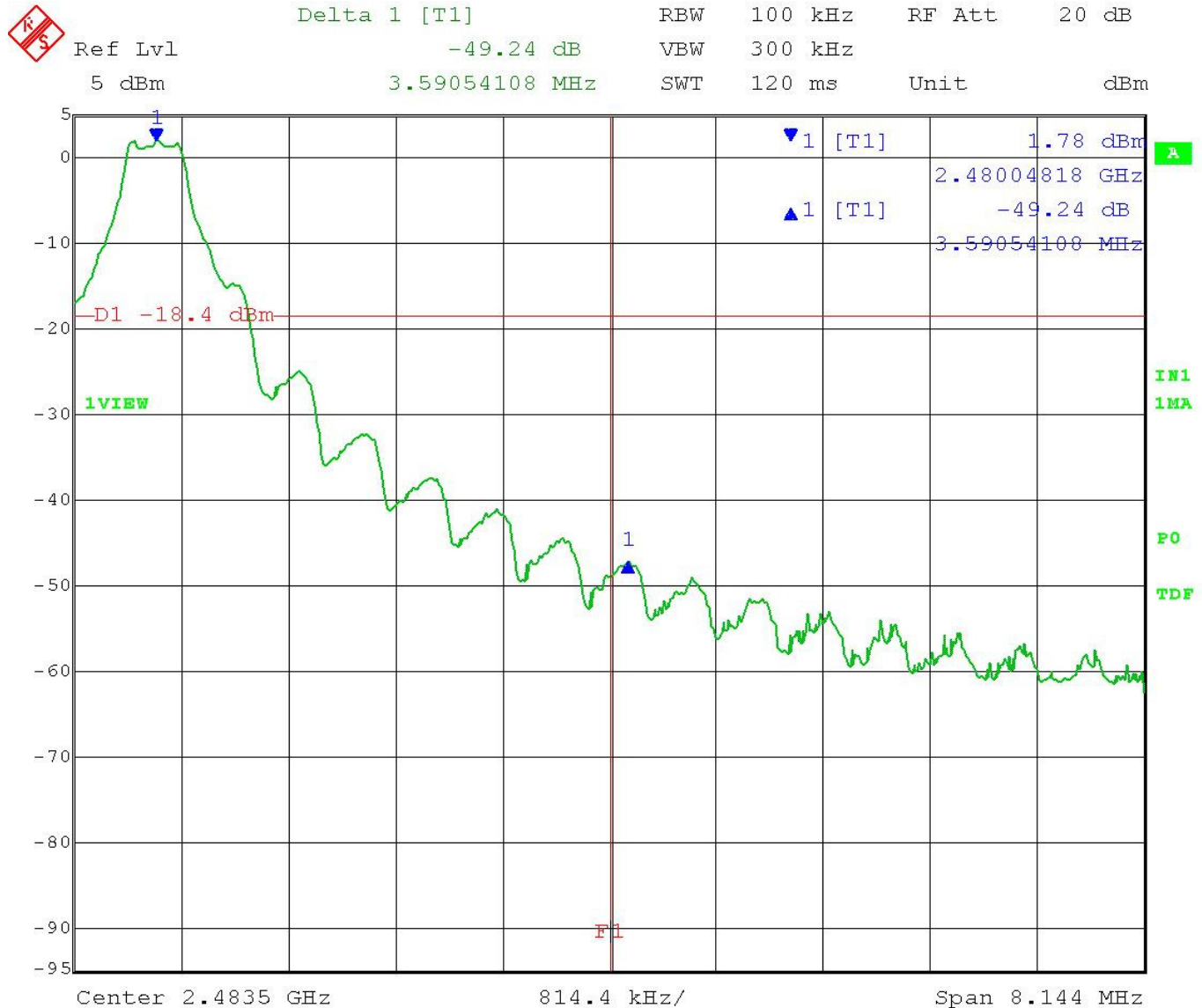
Setup:



BANDEDGE

Test Data: Upper Band Edge Plot Marker Delta Method

Peak/ Average	Field Strength of Carrier (dBuV/ m)	Emission Level Below Carrier (dB)	Field Strength of Emission (dBuV/ m)	Emission Limit (dBuV/ m)	Margin (dB)
Peak	74.61	49.24	25.37	74	48.63
Average	72.08	49.24	22.84	54	31.16



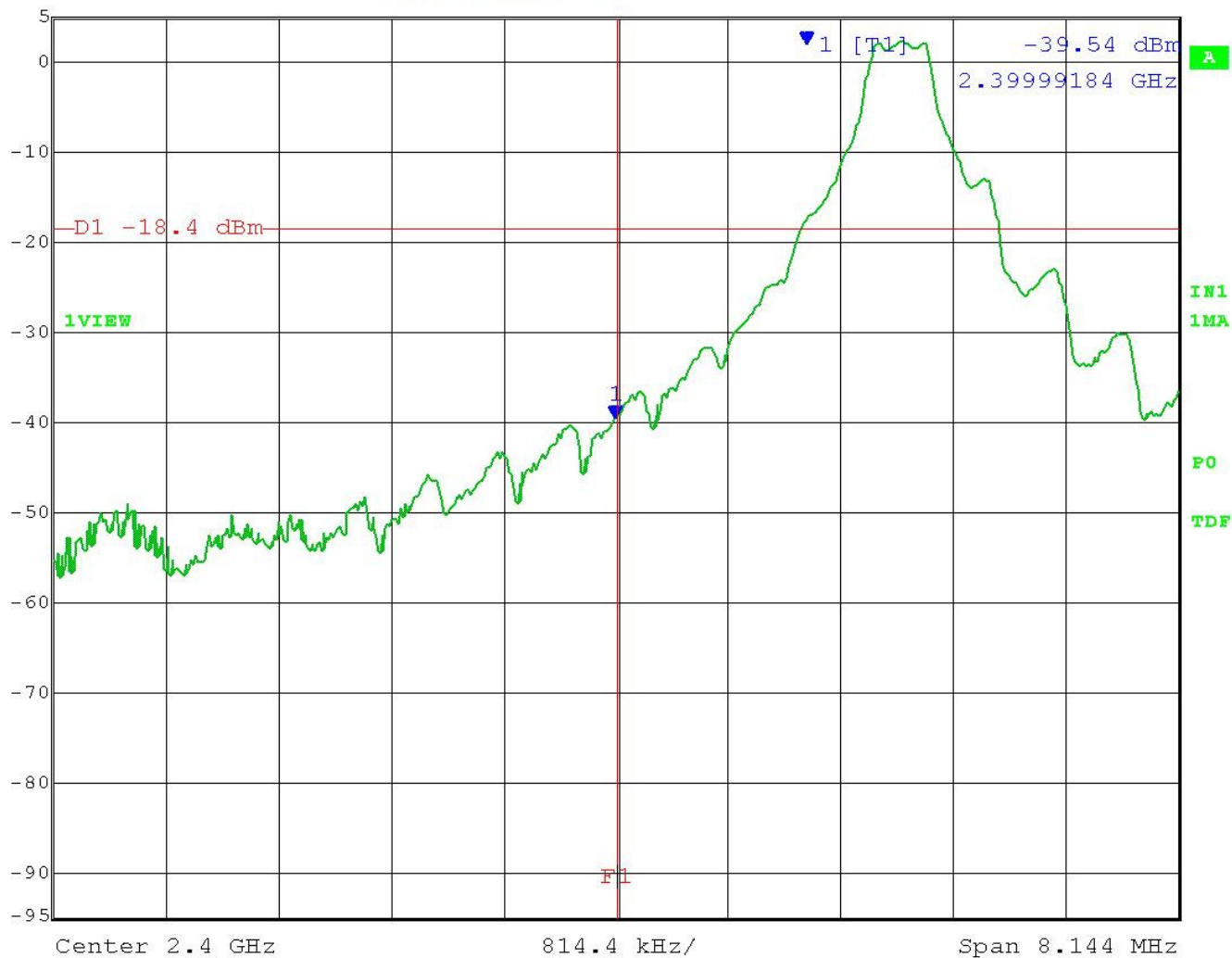
Date: 21.JUL.2016 15:06:08

RESULTS: Meets Requirements

BANDEDGE

Test Data: Lower Band Edge Plot


 Ref Lvl 5 dBm
 Marker 1 [T1] -39.54 dBm
 2.39999184 GHz
 RBW 100 kHz
 VBW 300 kHz
 SWT 120 ms
 RF Att 20 dB
 Unit dBm



Date: 21.JUL.2016 15:13:14

RESULTS: Meets Requirements

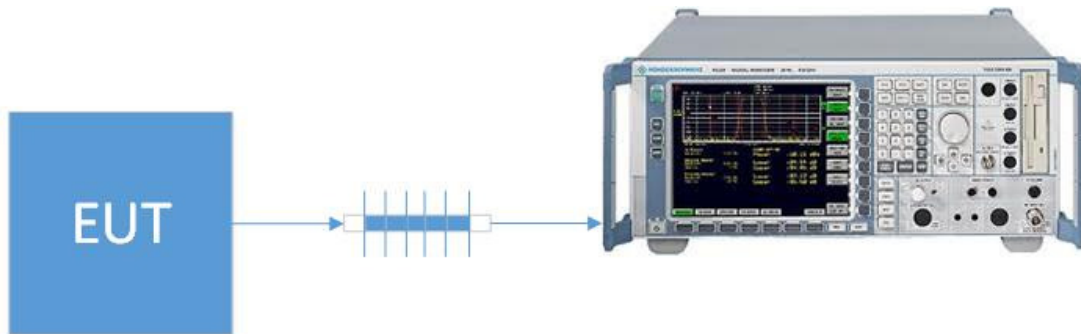
ANTENNA CONDUCTED SPURIOUS EMISSIONS

Rules Part No.: FCC part 15.247 (d) & 15.209

Requirements: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below

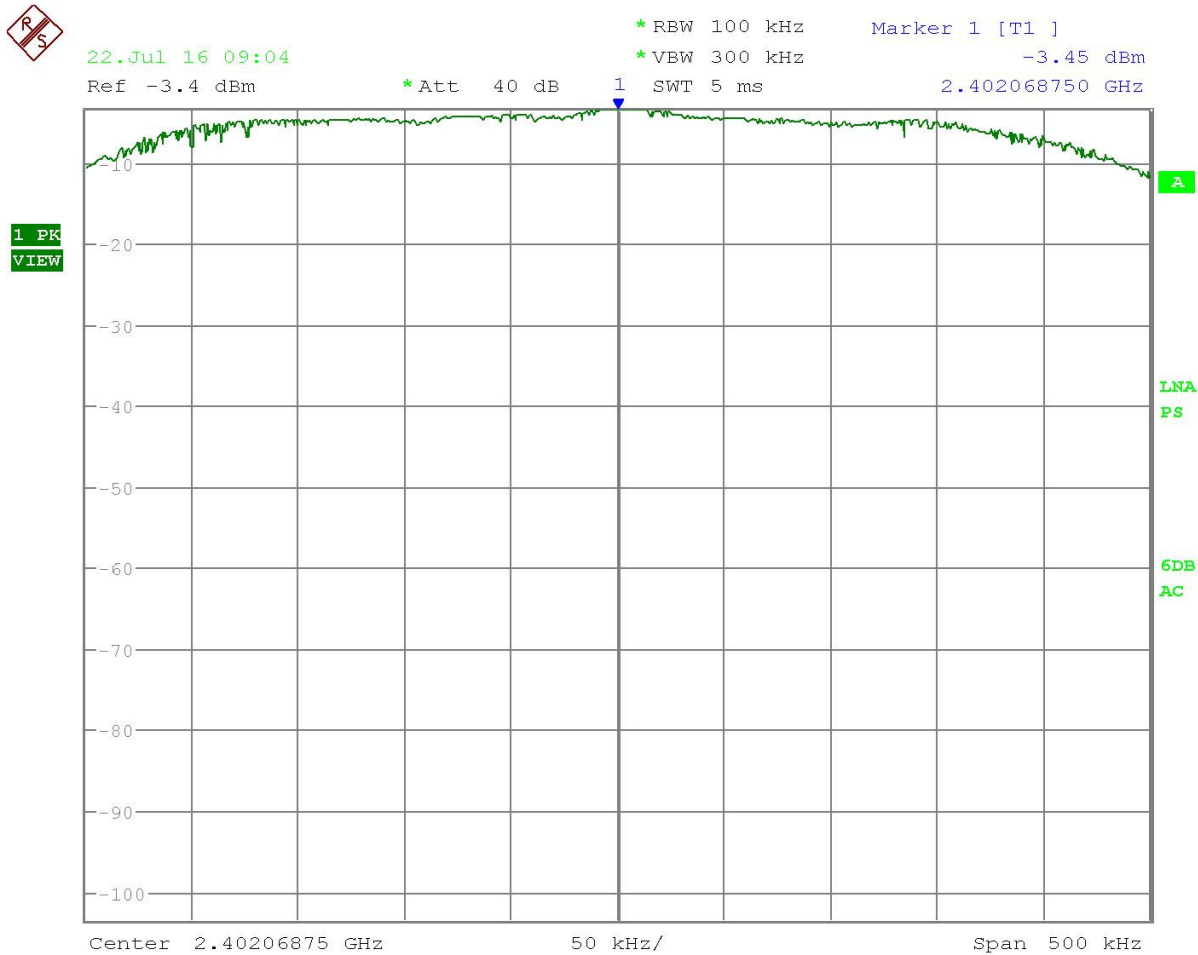
Test Method: ANSI C63.10 § 11.11.1 General Information
ANSI C63.10 § 11.11.2 Reference level measurement
ANSI C63.10 § 11.11.3 Emission level measurement

Setup:



ANTENNA CONDUCTED SPURIOUS EMISSIONS

Test Data: 100 KHz Reference Level Plot

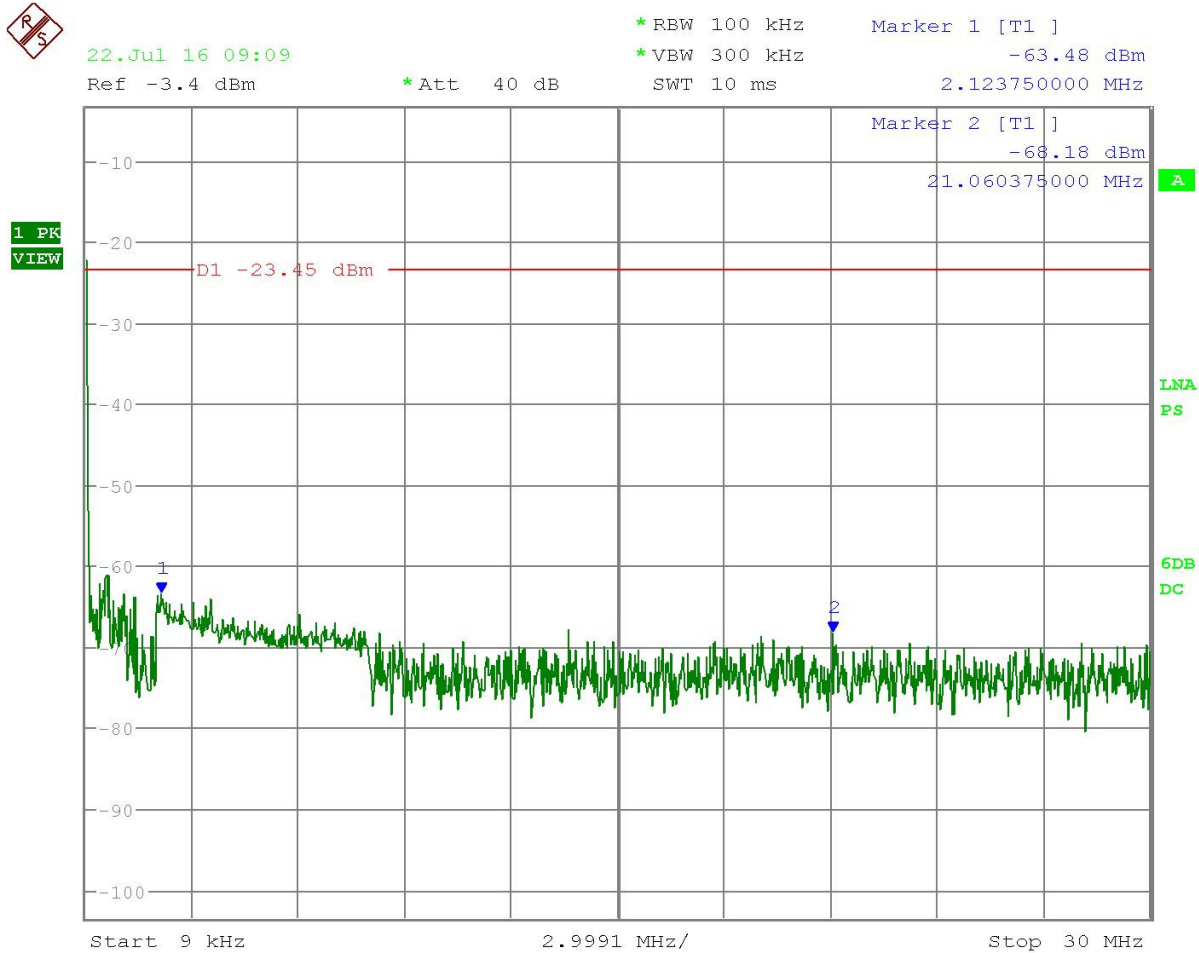


Date: 22.JUL.2016 09:04:20

RESULTS: Meets Requirements

ANTENNA CONDUCTED SPURIOUS EMISSIONS

Test Data: Low End of Band 9 KHz – 30 MHz Plot



Date: 22.JUL.2016 09:09:12

RESULTS: Meets Requirements

Test Data: Low End of Band 30 MHz – 2.4 GHz Plot



22.Jul 16 09:11

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

SWT 580 ms

Marker 1 [T1]

-54.58 dBm

1.201175000 GHz

Marker 2 [T1]

-57.08 dBm

2.303225000 GHz

Marker 3 [T1]

-50.89 dBm

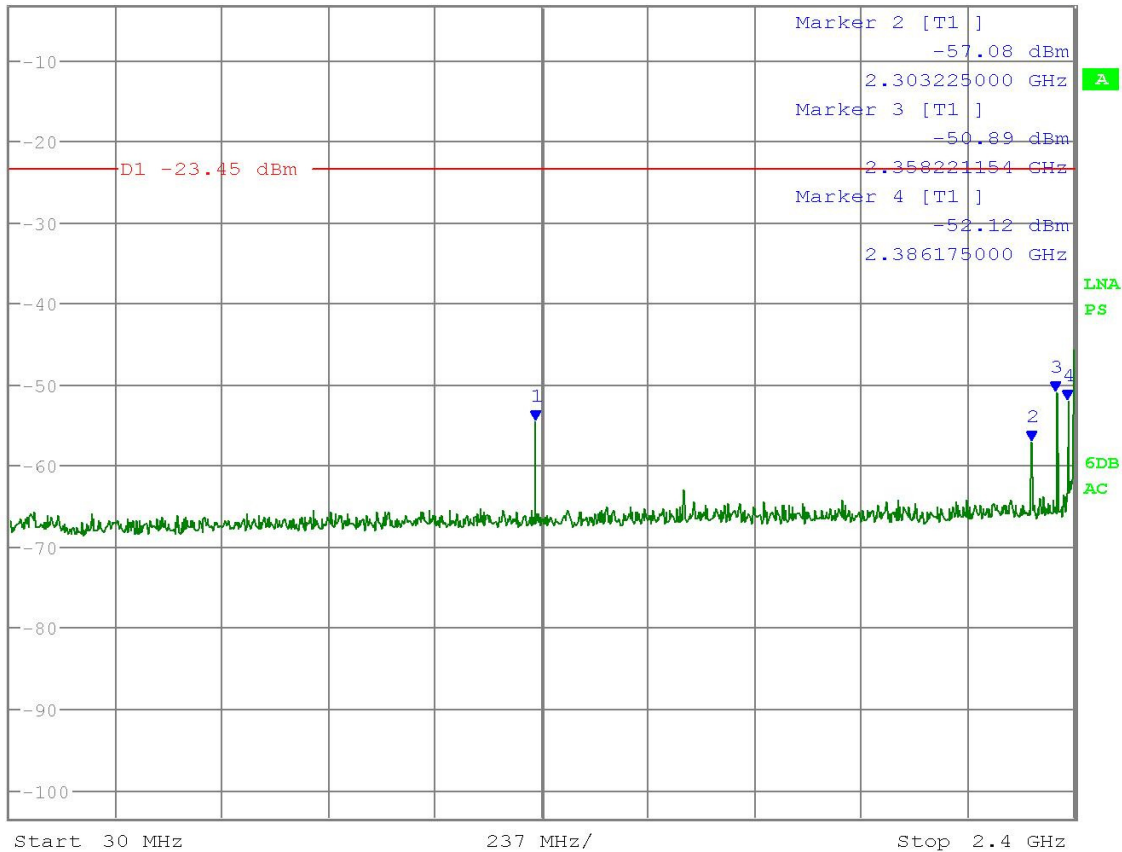
2.358221154 GHz

Marker 4 [T1]

-52.12 dBm

2.386175000 GHz

1 PK
VIEW



Date: 22.JUL.2016 09:11:46

RESULTS: Meets Requirements

Test Data: Low End of Band 2.4835 GHz – 25 GHz Plot



22.Jul 16 09:13

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

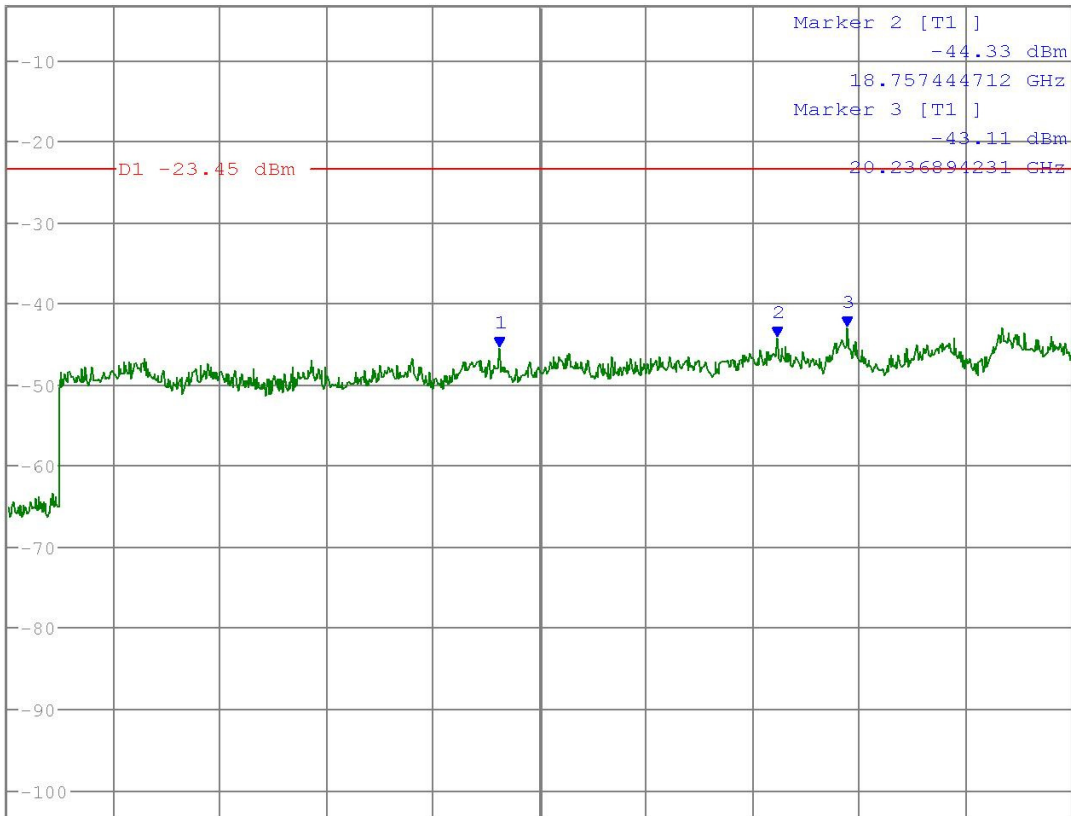
SWT 5.6 s

Marker 1 [T1]

-45.63 dBm

12.875730769 GHz

1 PK
VIEW



Start 2.4835 GHz

2.25165 GHz/

Stop 25 GHz

LNA
PS

6DB
AC

Date: 22.JUL.2016 09:13:47

RESULTS: Meets Requirements

Test Data: Middle of Band 9 KHz – 30 MHz Plot



22.Jul 16 09:38

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

SWT 10 ms

Marker 1 [T1]

-67.14 dBm

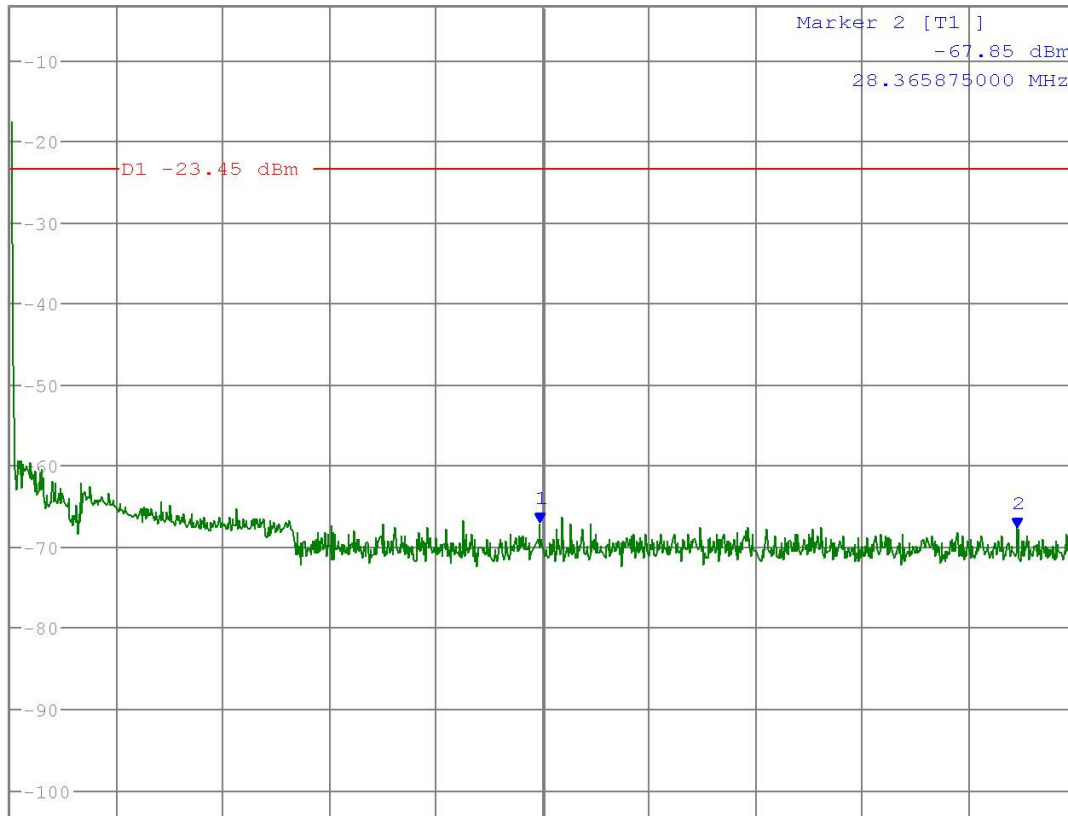
14.908375000 MHz

Marker 2 [T1]

-67.85 dBm

28.365875000 MHz

1 PK
VIEW



Start 9 kHz

2.9991 MHz/

Stop 30 MHz

Date: 22.JUL.2016 09:38:09

RESULTS: Meets Requirements

Test Data: Middle of Band 30 MHz – 2.4 GHz Plot



22.Jul 16 09:35

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

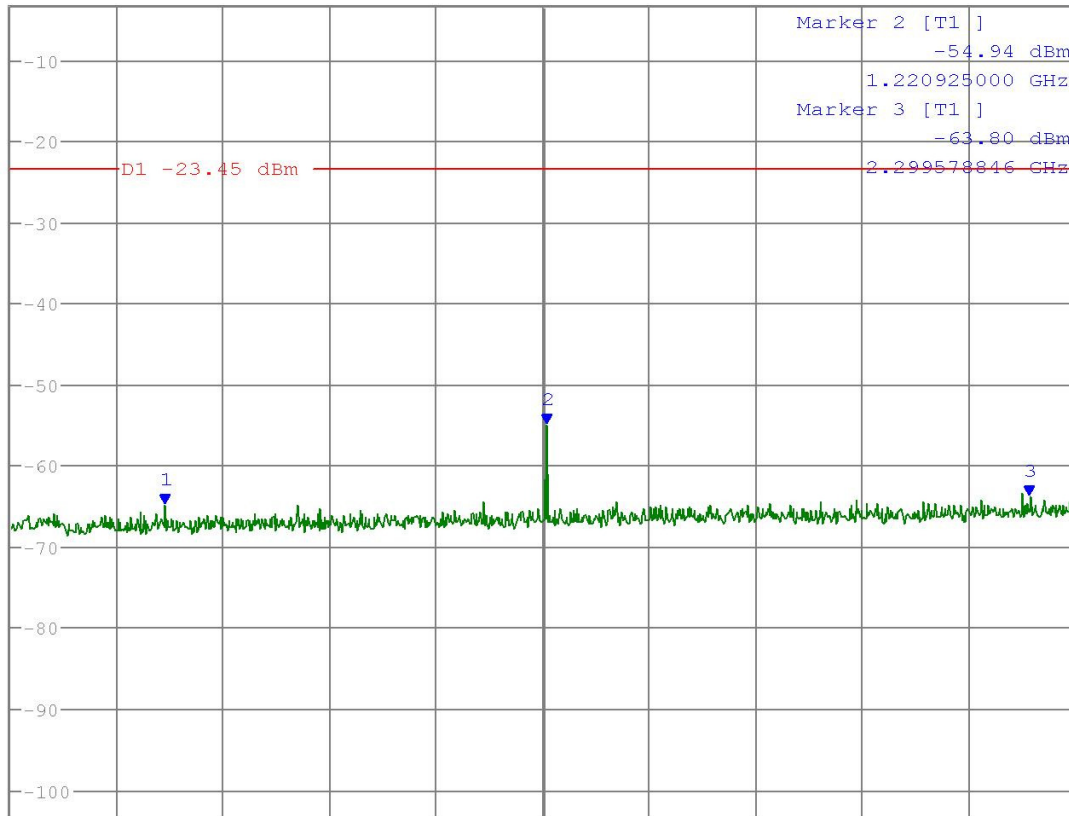
SWT 580 ms

Marker 1 [T1]

-64.78 dBm

373.953846154 MHz

1 PK
VIEW



Start 30 MHz

237 MHz/

Stop 2.4 GHz

LNA
PS

6DB
AC

Date: 22.JUL.2016 09:35:07

RESULTS: Meets Requirements

Test Data: Middle of Band 2.4835 GHz – 25 GHz Plot



22.Jul 16 09:29

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

SWT 5.6 s

Marker 1 [T1]

-46.42 dBm

3.890781250 GHz

Marker 2 [T1]

-46.25 dBm

15.690293269 GHz

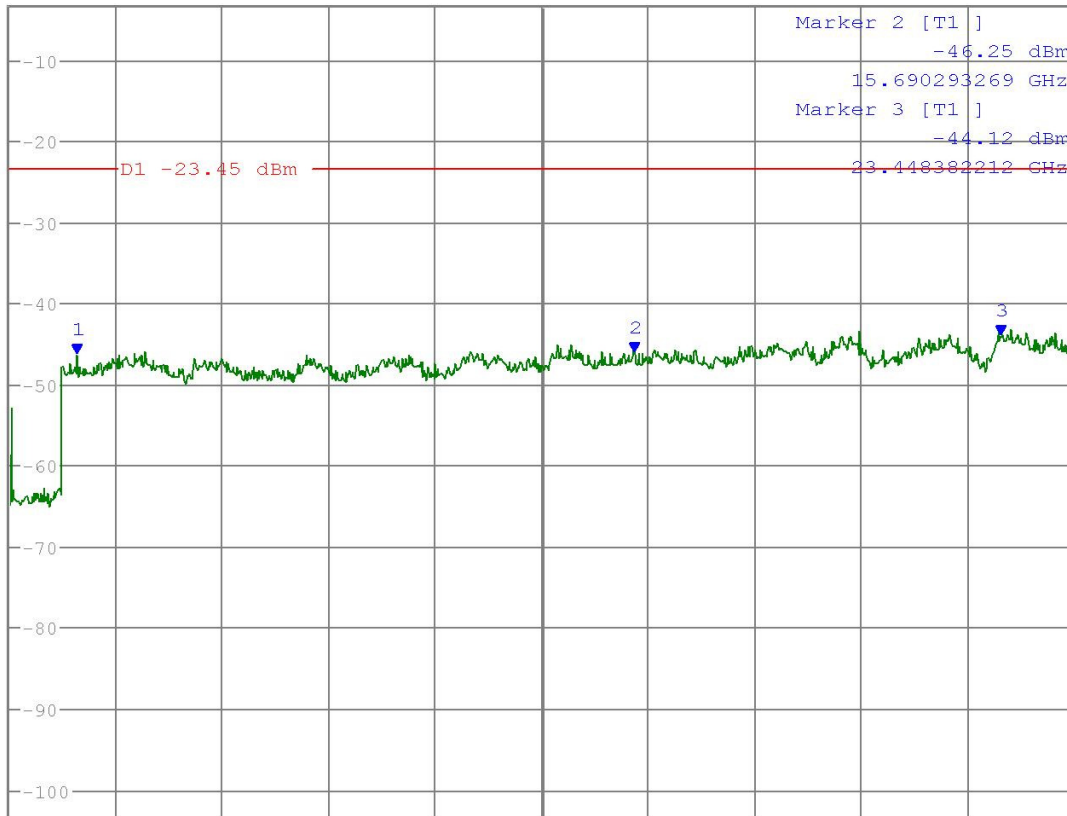
Marker 3 [T1]

-44.12 dBm

23.448382212 GHz

1 PK
VIEW

D1 -23.45 dBm



Center 13.74175 GHz

2.25165 GHz/

Span 22.5165 GHz

Date: 22.JUL.2016 09:29:46

RESULTS: Meets Requirements

Test Data: High End of Band 9 KHz – 30 MHz Plot



22.Jul 16 09:43

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

SWT 10 ms

Marker 1 [T1]

-67.11 dBm

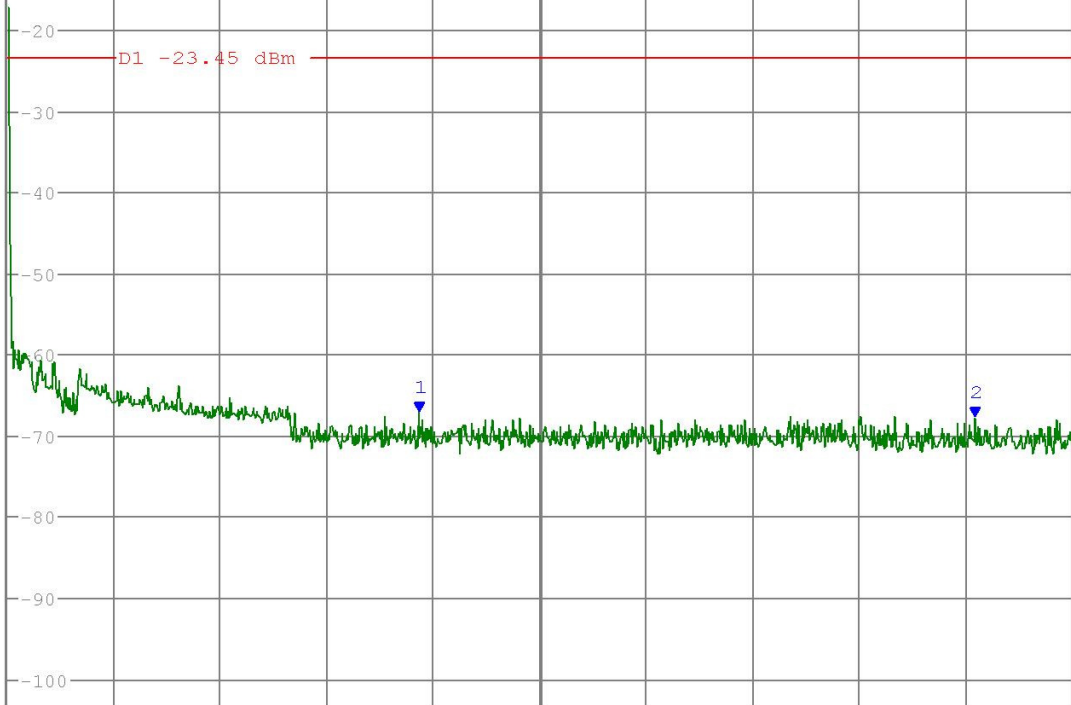
11.592062500 MHz

Marker 2 [T1]

-67.80 dBm

27.260437500 MHz

1 PK
VIEW



Center 15.0045 MHz

2.9991 MHz/

Span 29.991 MHz

LNA
PS

6DB
DC

Date: 22.JUL.2016 09:43:10

RESULTS: Meets Requirements

Test Data: High End of Band 30 MHz – 2.4 GHz Plot



22.Jul 16 09:50

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

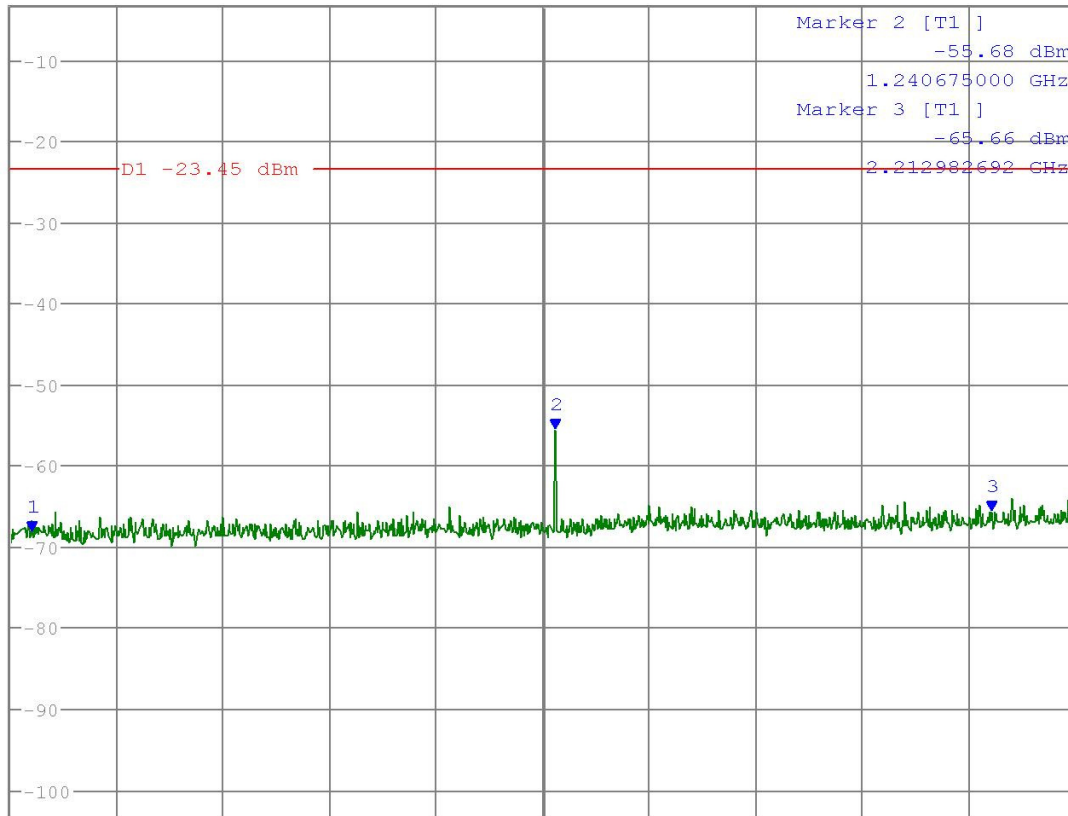
SWT 580 ms

Marker 1 [T1]

-68.25 dBm

75.576923077 MHz

1 PK
VIEW



Start 30 MHz

237 MHz/

Stop 2.4 GHz

Date: 22.JUL.2016 09:50:39

RESULTS: Meets Requirements

Test Data: High End of Band 2.4835 GHz – 25 GHz Plot



22.Jul 16 09:55

Ref -3.4 dBm

*Att 40 dB

*RBW 100 kHz

*VBW 300 kHz

SWT 5.6 s

Marker 1 [T1]

-46.62 dBm

4.957428269 GHz

Marker 2 [T1]

-47.29 dBm

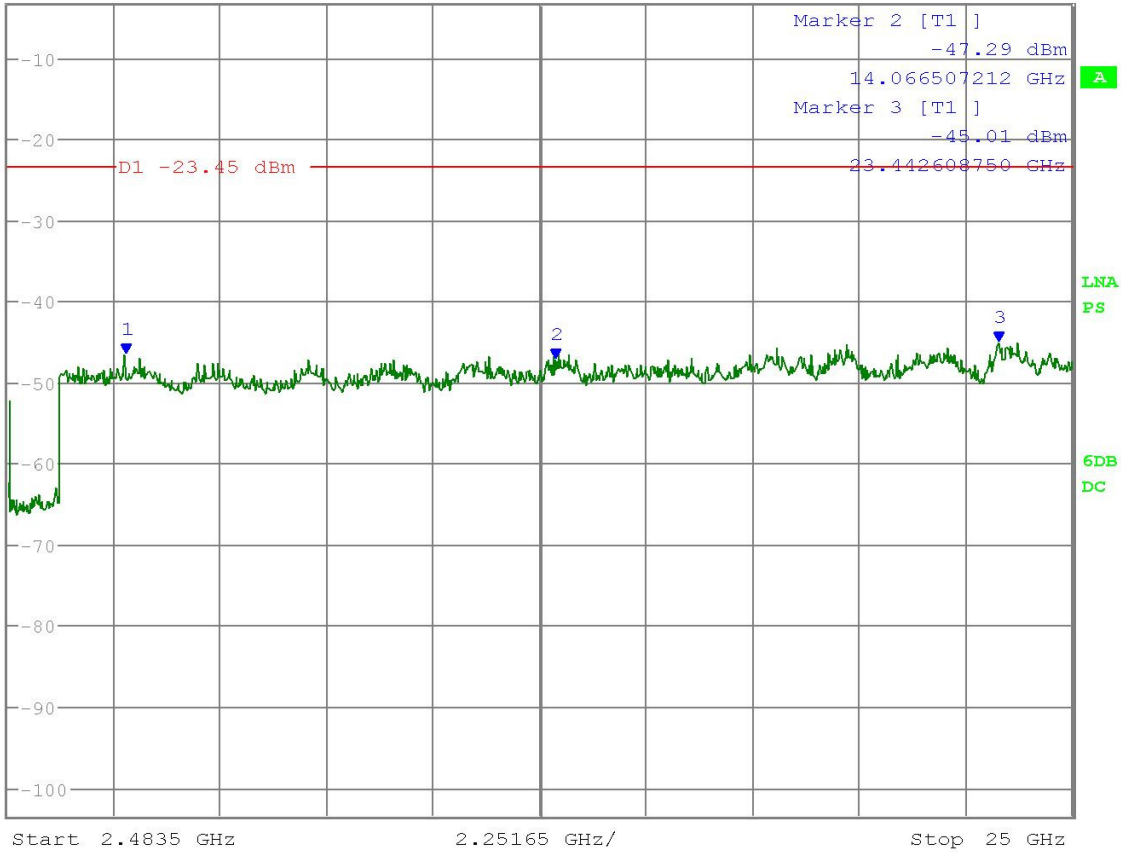
14.066507212 GHz

Marker 3 [T1]

-45.01 dBm

23.442608750 GHz

1 PK
VIEW



Date: 22.JUL.2016 09:55:15

RESULTS: Meets Requirements

RADIATED SPURIOUS EMISSIONS

Rules Part No.: FCC part 15.247 (d) & 15.209

Requirements: Emissions found in restricted bands the levels must comply with the general limits found in FCC part 15.209

Frequency	Limits
FCC Part 15.209, IC RSS-GEN 8.9	
9 to 490 kHz	2400/F (kHz) μ V/m @ 300 meters
490 to 1705 kHz	24000/F (kHz) μ V/m @ 30 meters
1705 kHz to 30 MHz	29.54 dB μ V/m @ 30 meters
30 – 88	40.0 dB μ V/m @ 3 meters
80 – 216	43.5 dB μ V/m @ 3 meters
216 – 960	46.0 dB μ V/m @ 3 meters
Above 960	54.0 dB μ V/m @ 3 meters

Test Method: ANSI C63.4 § Annex D Validation of radiated emissions standard test sites
 ANSI C63.10 § 6.3 Common requirements radiated emissions
 ANSI C63.10 § 6.4 Emissions below 30 MHz
 ANSI C63.10 § 6.5 Emissions between 30 & 1000 MHz
 ANSI C63.10 § 6.6 Emissions above 1 GHz

Field Strength Calculation:

The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dB μ V) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

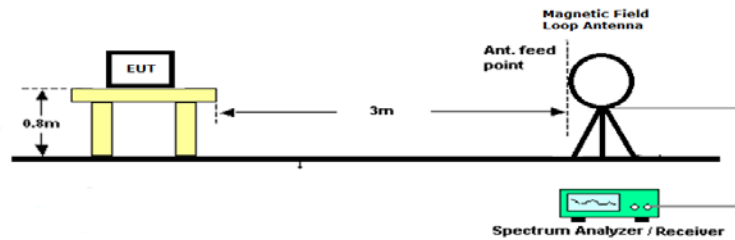
Freq (MHz)	Meter Reading	+ ACF	+ CL = FS
33	20 dB μ V	+ 10.36 dB	+ 0.5 = 30.86 dB μ V/m @ 3m

Notes: Only emissions within 20dB of the limit are reported from 9 KHz to 25 GHz

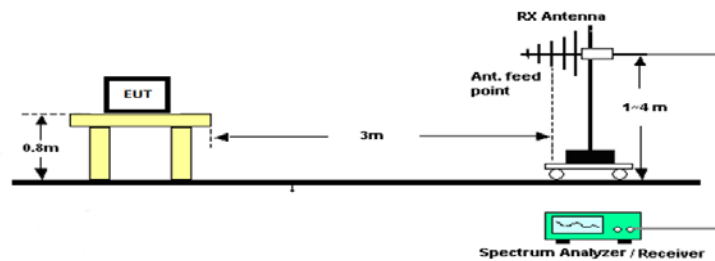
RADIATED SPURIOUS EMISSIONS

Setup:

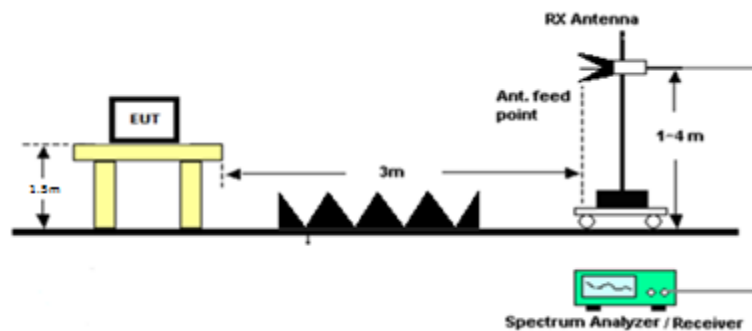
Emissions below 30 MHz



Emissions 30 – 1000 MHz



Emissions above 1 GHz



RADIATED SPURIOUS EMISSIONS

Notes: The EUT was checked in three orthogonal planes as required, a setup photo is provided to show the orientation of the worst case position.

Only emissions within 20dB of the limit are reported.

The spectrum was measured from 9 KHz to 25 GHz

Test Data: Field Strength table

Tuned Freq MHz	Detector	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2402.00	Peak	4804.00	7.78	V	8.07	34.00	49.85	4.15
2402.00	Peak	7506.00	10.39	H	10.12	35.60	56.11	17.89
2402.00	Average	7506.00	-2.62	H	10.12	35.60	43.10	10.90
2402.00	Peak	12010.00	3.41	H	13.05	39.30	55.76	18.24
2402.00	Average	12010.00	-10.66	H	13.05	39.30	41.69	12.31
2402.00	Peak	12010.00	0.39	V	13.05	39.30	52.74	1.26
2402.00	Peak	7206.00	6.04	V	9.92	35.41	51.37	2.63
2402.00	Peak	4804.00	4.80	V	8.07	34.00	46.87	7.13
2441.00	Peak	4882.00	5.80	H	8.14	33.92	47.86	6.14
2441.00	Peak	7323.00	3.79	H	10.00	35.60	49.39	4.61
2441.00	Peak	12205.00	1.37	H	13.14	39.30	53.81	0.19
2441.00	Peak	12205.00	-10.37	H	13.14	39.30	42.07	11.93
2441.00	Peak	12205.00	-0.21	H	13.14	39.30	52.23	1.77
2441.00	Peak	7323.00	4.31	H	10.00	35.60	49.91	4.09
2441.00	Peak	4882.00	6.53	H	8.14	33.92	48.59	5.41
2441.00	Peak	4882.00	4.83	V	8.14	33.92	46.89	7.11
2441.00	Peak	7323.00	4.01	V	10.00	35.60	49.61	4.39
2441.00	Peak	12205.00	0.42	V	13.14	39.30	52.86	1.14
2480.00	Peak	4960.00	4.34	H	8.20	33.96	46.50	7.50
2480.00	Peak	4960.00	3.94	V	8.20	33.96	46.10	7.90
2480.00	Peak	12400.00	1.30	V	13.24	39.20	53.74	0.26
2480.00	Peak	12400.00	-10.56	V	13.24	39.20	41.88	12.12
2480.00	Peak	12400.00	-0.41	V	13.24	39.20	52.03	1.97

Results Meet Requirements

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Antenna: Biconical 1057	Eaton	94455-1	1057	11/18/15	11/18/17
Antenna: Log- Periodic 1122	Electro-Metrics	LPA-25	1122	07/14/15	07/14/17
Antenna: Double-Ridged Horn/ETS Horn 2	ETS-Lindgren Chamber	3117	00041534	02/25/15	02/25/17
EMI Test Receiver R & S ESIB 40 Screen Room	Rohde & Schwarz	ESIB 40	100274	08/12/14	08/12/16
Software: Field Strength Program	Timco	N/A	Version 4.0 NO	N/A	N/A
Antenna: Active Loop	ETS-Lindgren	6502	00062529	11/18/15	11/18/17
Attenuator # 26 - K 6dB 2W DC-40G	Narda	4768-6	1044-2 (# 26)	06/25/15	06/25/17
Coaxial Cable # 103 - KMKM- 0180-01 Aqua	Micro-Coax	UFB142A-0- 0720-200200	225363-002 (# 103)	08/05/15	08/05/17
EMI Test Receiver R & S ESU 40 Chamber	Rohde & Schwarz	ESU 40	100320	04/01/16	04/01/18
Antenna: Double-Ridged Horn 18-40 GHz	EMCO	3116	9011-2145	11/18/15	11/18/17
Coaxial Cable - Chamber 3 cable set (Primary)	Micro-Coax	Chamber 3 cable set (Primary)	KMKM-0244- 00; KMKM- 0670-00; KFKF-0198-00	12/05/15	12/05/17
Notch Filter	Micro-Tronics	BRM50702-02	G042	05/05/2016	05/05/2018
Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	01/04/16	01/04/18

* EMI RECEIVER SOFTWARE VERSION

The receiver firmware used was version 4.43 Service Pack 3

END OF REPORT