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Email: info@timcoengr.com
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FCC PART 15.247 & IC RSS-247

2.4 GHz DSS

TEST REPORT

Applicant	**UNICATION CO., LTD.**
Address	**5F, NO.6, WU-KUNG 5 RD.**
	HSINCHUANG CITY, TAIPEI TAIWAN
FCC ID	LEA-U3-700-800
IC Certification Number	3819A-U700800
Model Number	U3-700-800
Product Description	UHF 700/800 PTT RADIO W/GPS & BT
Date Sample Received	6/23/2015
Final Test Date	7/23/2015
Tested By	Tim Royer
Approved By	Cory Leverett

Report Number	Version Number	Description	Issue Date
1272DUT15TestReport.docx	Rev1	Initial Issue	8/12/2015

TABLE OF CONTENTS

GENERAL REMARKS

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

The test results relate only to the items tested.

Summary

The device under test does:

☒ Fulfill the general approval requirements as identified in this test report
☐ 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: 2005 requirements.

I attest that the necessary measurements were made, under my supervision, at:

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

Authorized Signatory Name:

Tim Royer
Engineering Project Manager

Date: 8/12/2015

Table of Contents

GENERAL INFORMATION

EUT Specification

Regulatory Standards	FCC Title 47 CFR Part 15.247 IC RSS-247 Issue 1 & RSS-GEN Issue 4		
FCC ID	LEA-U3-700-800		
IC Certification Number	3819A-U700800		
Model	U3-700-800		
EUT Description	UHF 700/800 PTT RADIO W/GPS & BT		
BT Chipset Version	BT V2.1		
Operating Frequency	TX: 2402 – 2480 MHz	RX: 2402 – 2480 MHz	
EUT Power Source	☐ 110–120Vac/50– 60Hz		
	☐ DC Power		
	☒ Battery Operated Exclusively		
Test Item	☐ Prototype	☒ Pre-Production	☐ Production
Type of Equipment	☐ Fixed	☐ Mobile	☒ Portable
Antenna Connector	None		
Antenna	Integral Chip Antenna		
Test Facility	Timco Engineering Inc. located at 849 NW State Road 45 Newberry, FL 32669 USA.		
Test Conditions	Temperature: 24-26ºC Relative humidity: 50-65%		
Measurement Standard	ANSI C63.10-2013 FCC DA 00-705 ANSI C63.4-2009 (Radiated Site Validation)		
Test Exercise	Engineering Software was used to enable the modes of operation, DH5 Packet types were used for all tests		

Test Supporting Equipment

Device	Manufacturer	Model	S/N	Supplied By	Used For
Bluetooth	Jabra	SP200	TTBHF1100	Unication	Testing

RESULTS SUMMARY

Specification	FCC Rules Part	IC RSS Part	Result
FHSS Channel Separation	15.247(a,1)	247 § 5.1.2	Pass
FHSS Hopping Sequence		247 § 5.1.1	Pass
FHSS System Receiver Bandwidth		247 § 5.1.2	Pass
FHSS Number of Hopping Channels	15.247(a,1,iii)	247 § 5.1.4	Pass
FHSS Hopping Channel Occupancy Time			Pass
Peak Power Output	15.247(b,1) & (b,4)	247 § 5.4.2	Pass
Bandedge Compliance	15.247(d)	247 § 5.5	Pass
Radiated Spurious Emissions			Pass
Occupied Bandwidth	15.215(c)	247 § 5.1.1	Pass
RSS-GEN Compliance	NA	247 § 3.1	Pass
AC Powerline Conducted Emissions	15.207	GEN § 8.8	Pass
Restricted Band of Operation	15.205	GEN § 8.10	Pass
Antenna Requirement	15.203	GEN § 8.3	Pass

Notes:

Table of Contents

FHSS REQUIREMENTS

Rules Part No.: FCC 15.247(a, 1) , IC RSS 247 § 5.1.1 & 5.1.2

Requirements:

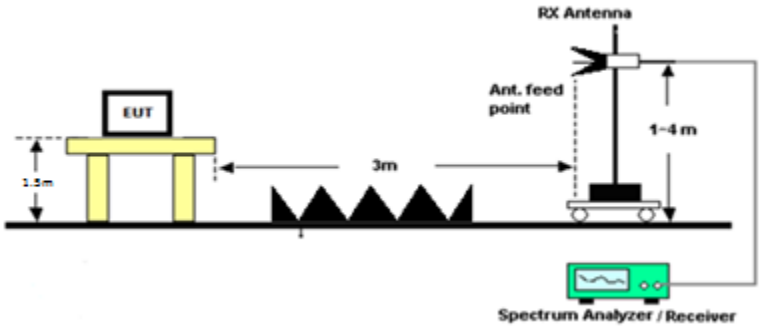
Channel Separation
Hopping channel carrier frequencies shall be separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Hopping Sequence
The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter.

Receiver Input Bandwidth
The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Test Method: ANSI C63.10 § 7.8.2 Carrier frequency separation
DA 00-705 § Pseudorandom Frequency Hopping Sequence
DA 00-705 § Equal Hopping Frequency Use
DA 00-705 § System Receiver Input Bandwidth

Setup:



FHSS REQUIREMENTS

Test Data: **FHSS Channel Separation**

Data Rate	Separation (KHz)	(2/3 of 20 dB OBW) Limit (KHz)	Pass / Fail
1 MBps (GFSK)	1000	≥753.3	Pass

FHSS Hopping Sequence and Receiver Bandwidth Verification

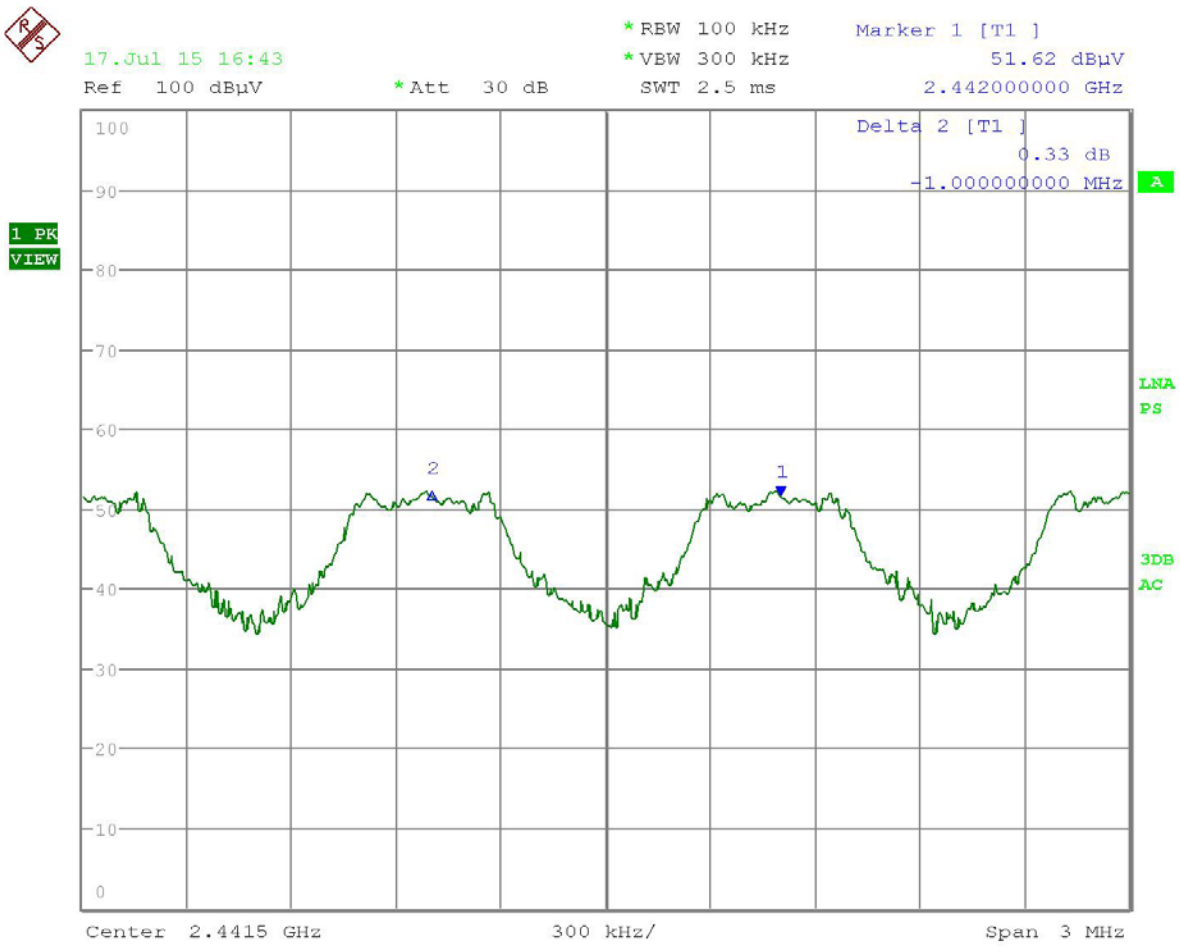
Requirement	FHSS Protocol	Pass / Fail
Pseudorandom Hopping Sequence	Follows BT v2.1	Pass
Equal Frequency Use		Pass
Receiver Input Bandwidth		Pass

RESULTS: Meets Requirements

Table of Contents

FHSS REQUIREMENTS

Test Data:	1DH5 Channel Separation Plot



Results Meets Requirements

Table of Contents

FHSS REQUIREMENTS

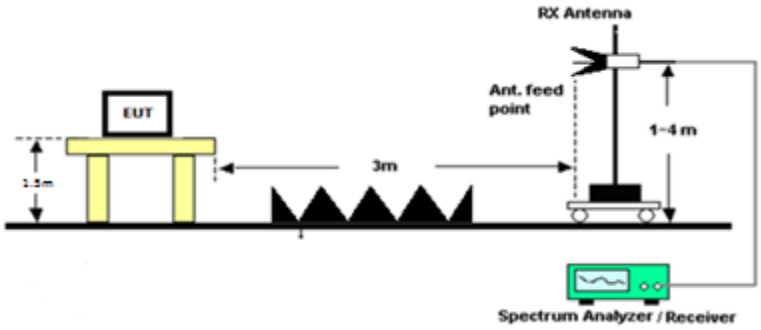
Rules Part No.: FCC 15.247(a, 1, iii), IC RSS 247 § 5.1.4

Requirements: **Number of Hopping Channels**
The System shall use at least 15 channels.

Hopping Channel Occupancy Time
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test Method: ANSI C63.10 § 7.8.3 Number of hopping frequencies
ANSI C63.10 § 7.8.3 Time of Occupancy

Setup:



Test Data: **Number of Hopping Channels**

Data Rate	Number of channels	Limit	Pass / Fail
1 MBps (GFSK)	79	>15	Pass

Hopping Channel Occupancy Time

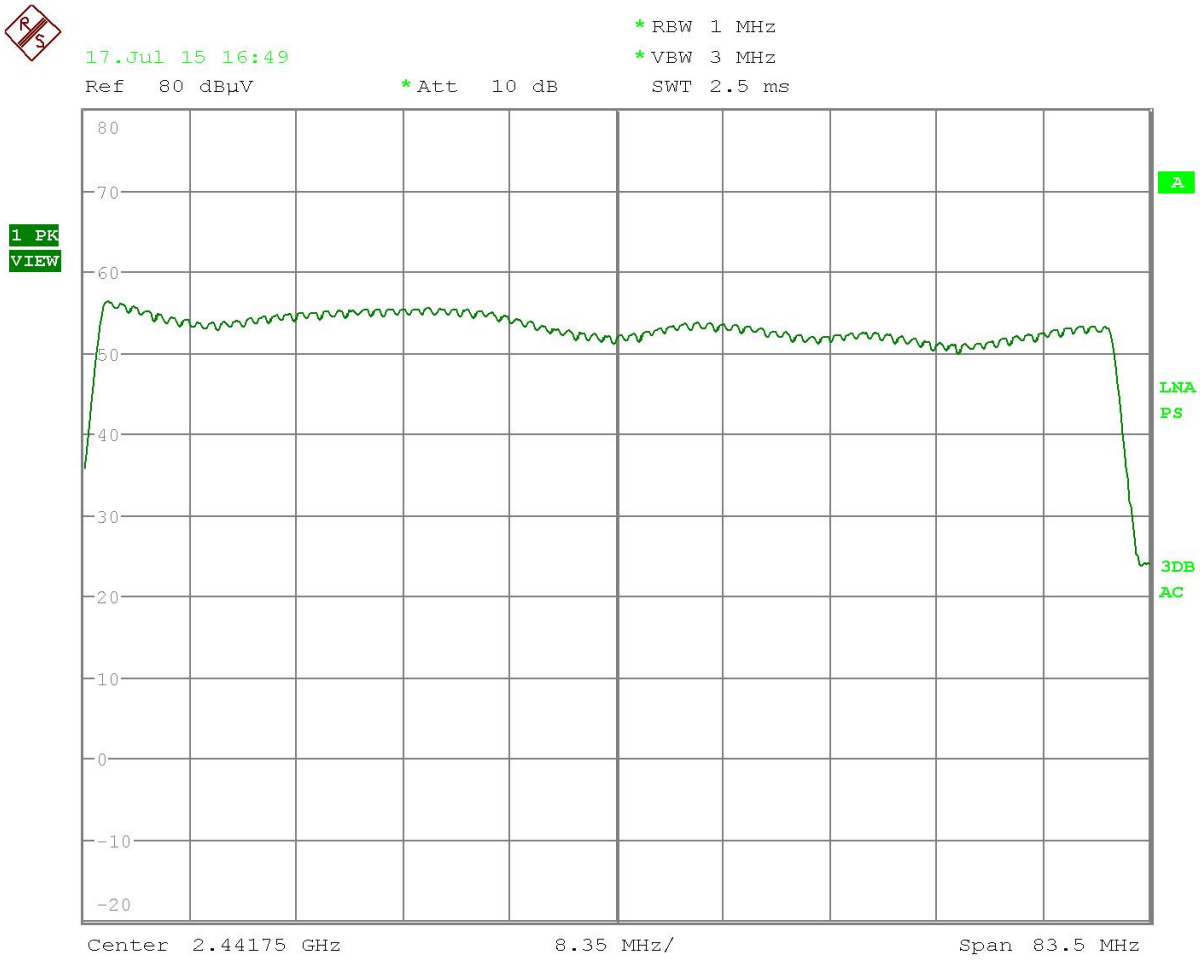
Data Rate	Dwell Time (Sec)	Limit (sec)	Pass / Fail
1 MBps (GFSK)	0.030625	< .4	Pass

RESULTS: Meets Requirements

Table of Contents

FHSS REQUIREMENTS

Test Data:	Number of Channels Plot



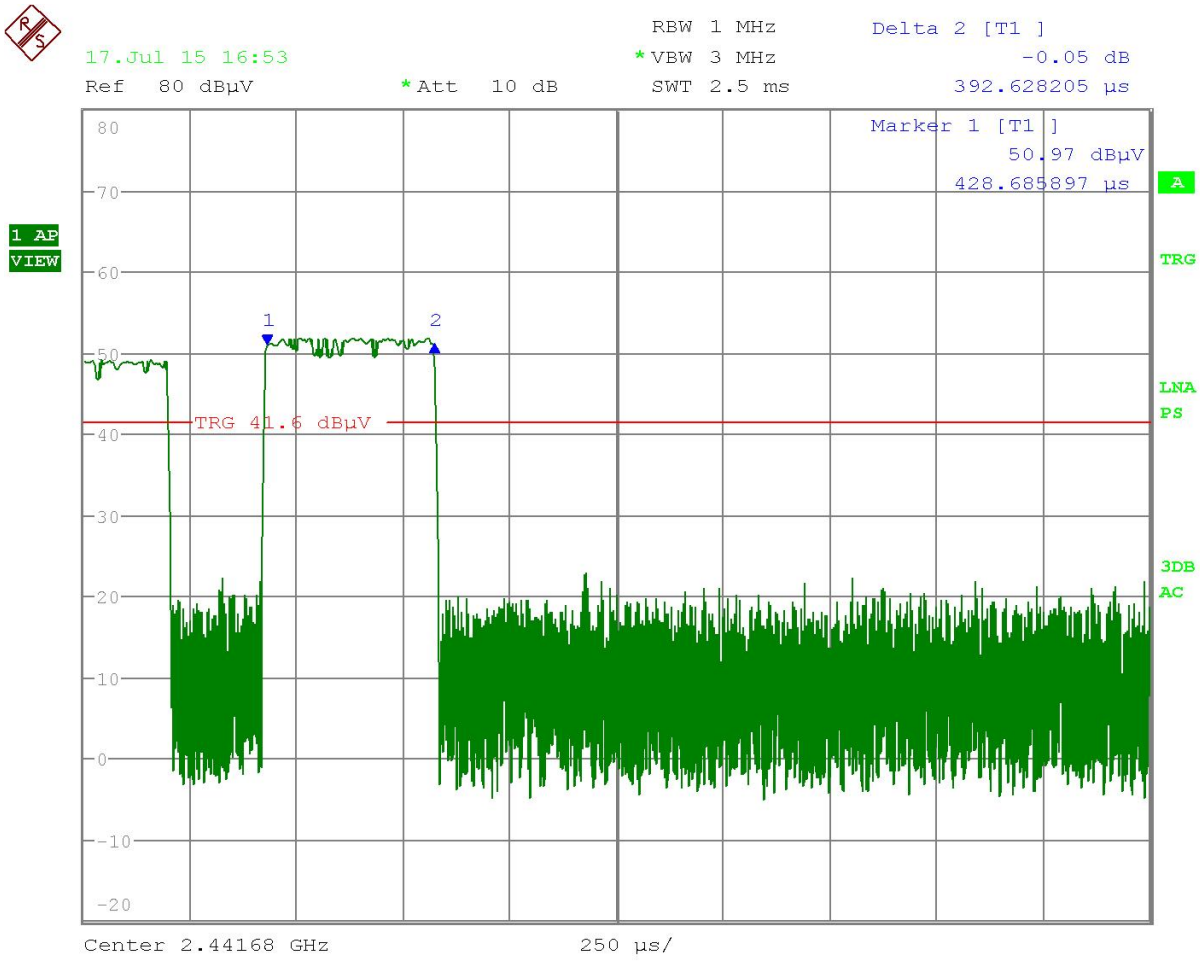
Date: 17.JUL.2015 16:49:09

Results Meets Requirements

Table of Contents

FHSS REQUIREMENTS

Test Data:	1DH5 Channel Occupancy Time Plot



Date: 17.JUL.2015 16:53:18

Results Meets Requirements

PEAK POWER OUTPUT

Rules Part No.: FCC 15.247(b) (1) (4), IC RSS 247 § 5.4.2

Requirements: **FHSS Using Hopset ≥ 75 Channels**
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 § 7.8.5 Output Power test procedure for FHSS, utilizing the alternative radiated procedure described in DA 00-705. The radiated field strength at 3 meters was converted to EIRP following the guidance of ANSI C63.10 § Annex G using the field strength approach and relationship between ERP and EIRP as follows:

Field Strength Conversion Formula: **$eirp = (E \times d)^2 / 30$**

E = electric field strength in V/m,
d = measurement distance in meters (m).

EIRP to ERP Conversion Formula: **erp = eirp / 1.64**

Setup:

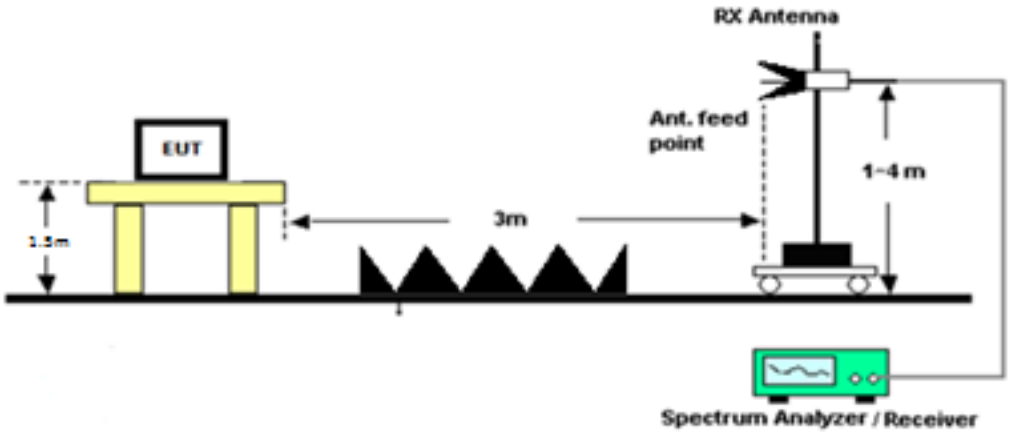


Table of Contents

PEAK POWER OUTPUT

Test Data: Peak Power Output Measurement Table

Calculated EIRP for 4 Watt Limit					
Modulation (MBps)	Packet Type (Time Slot)	Tuned Frequency (MHz)	3M Field Strength (dBuV/M)	EIRP (W)	Margin (W)
1	DH5	2402	95.28	0.00101	3.998988
		2441	92.25	0.00050	3.999496
		2480	92.74	0.00056	3.999436

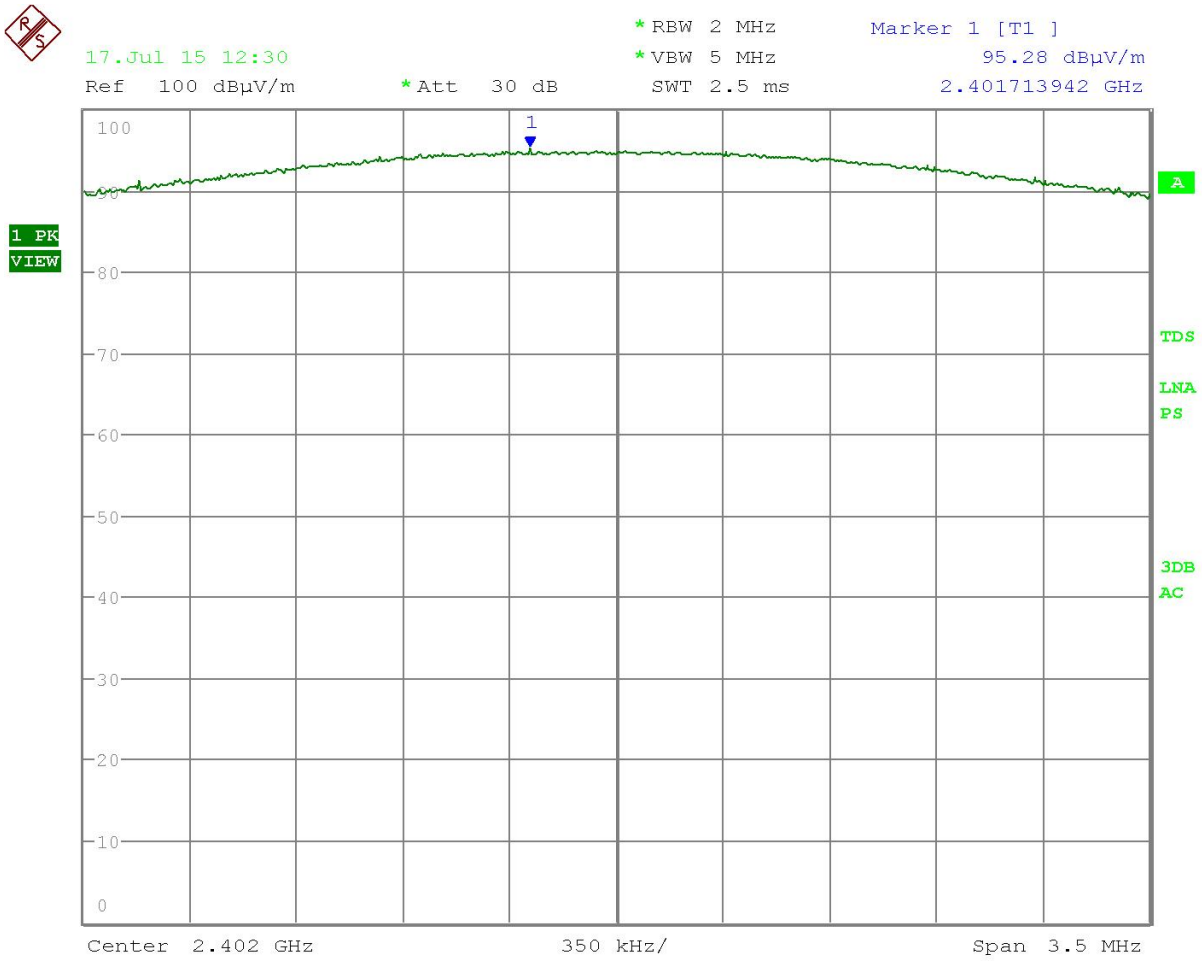
Calculated ERP for 1 Watt Limit				
Modulation (MBps)	Packet Type (Time Slot)	Tuned Frequency (MHz)	ERP (W)	Margin (W)
1	DH5	2402	0.00062	0.99938
		2441	0.00031	0.99969
		2480	0.00034	0.99966

RESULTS: Meets Requirements

Table of Contents

PEAK POWER OUTPUT

Test Data: 1DH5 Low End of Band Peak Power 3 Meter Field Strength Plots



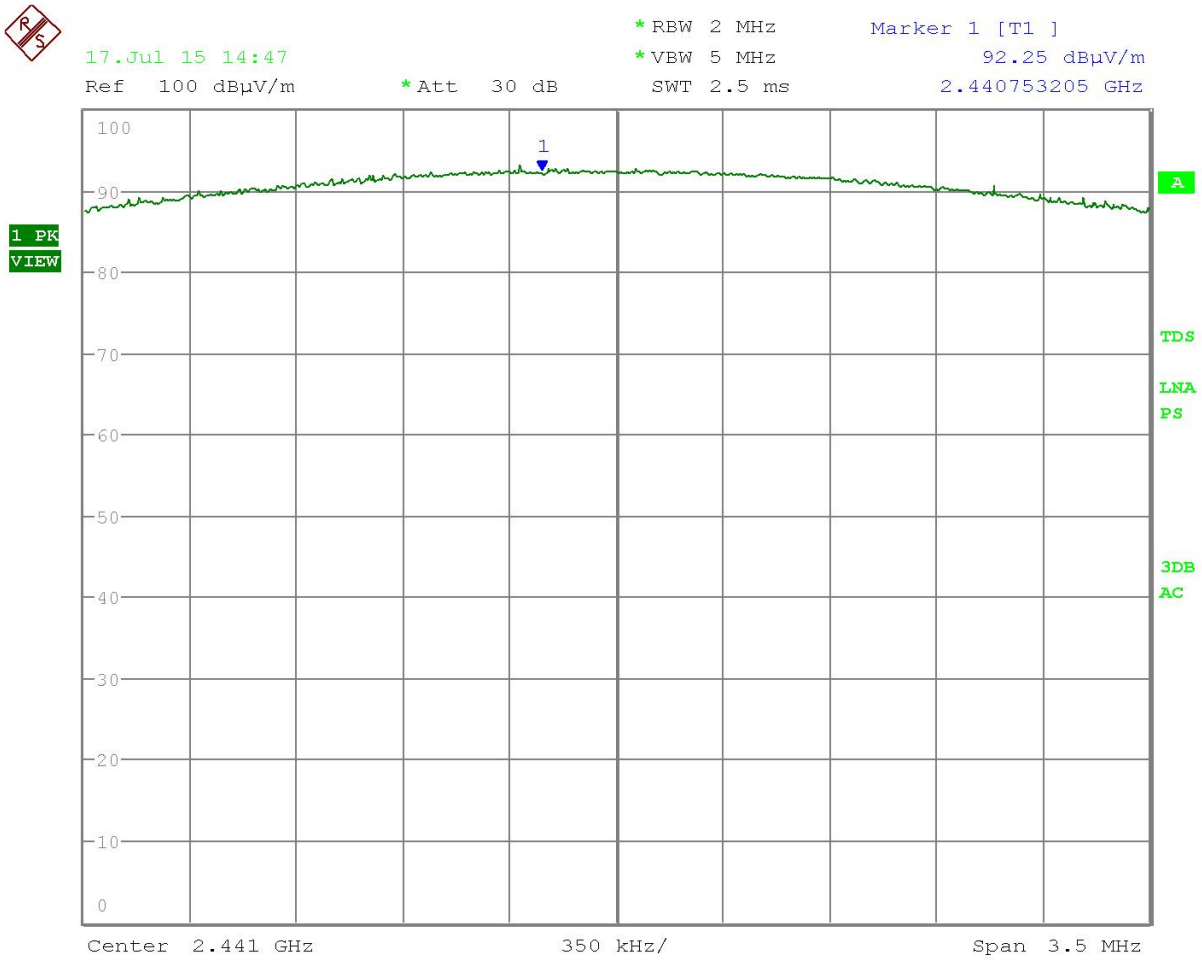
Date: 17.JUL.2015 12:30:43

Results Meets Requirements

Table of Contents

PEAK POWER OUTPUT

Test Data: 1DH5 Middle of Band Peak Power 3 Meter Field Strength Plots



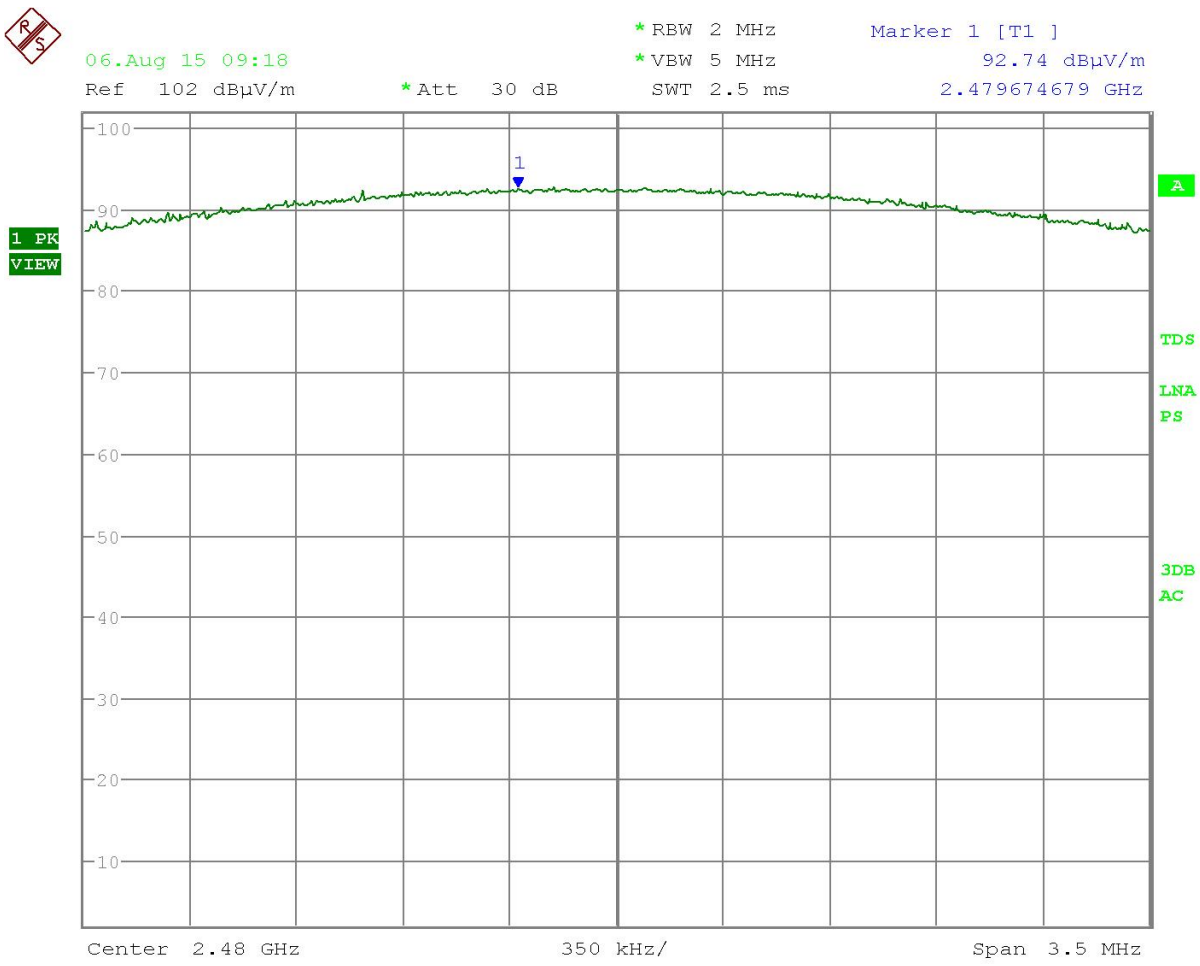
Date: 17.JUL.2015 14:47:34

Results Meets Requirements

Table of Contents

PEAK POWER OUTPUT

Test Data: 1DH5 High End of Band Peak Power 3 Meter Field Strength Plots



Date: 6.AUG.2015 09:18:16

Results Meets Requirements

OCCUPIED BANDWIDTH

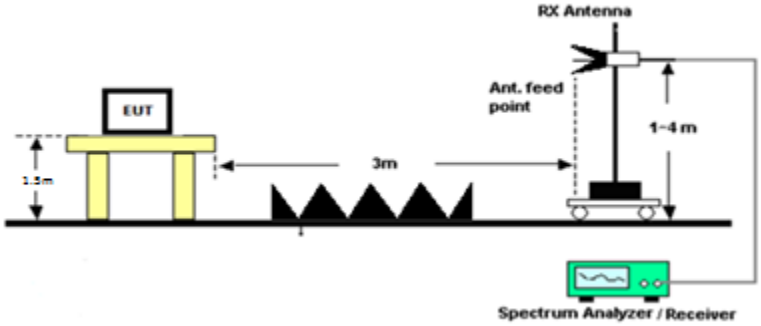
Rules Part No.: FCC 15.215(C), IC RSS 247 § 5.1.1 & RSS GEN § 6.6

FCC Requirements: The 20 dB bandwidth of the emission shall be contained within the frequency band designated in the rule section under which the equipment is operated.

IC Requirements: 20 dB & 99% Bandwidth reporting only

Test Method: ANSI C63.10 § 6.9.2 Occupied bandwidth-20dB Relative procedure
ANSI C63.10 § 6.9.3 Occupied bandwidth-99% procedure

Setup:



Test Data: 20 dB Occupied Bandwidth Measurement

Tuned Frequency (MHz)	1MBps (MHz)
2402	1.13
2441	1.15
2480	1.12

99% Occupied Bandwidth Measurement

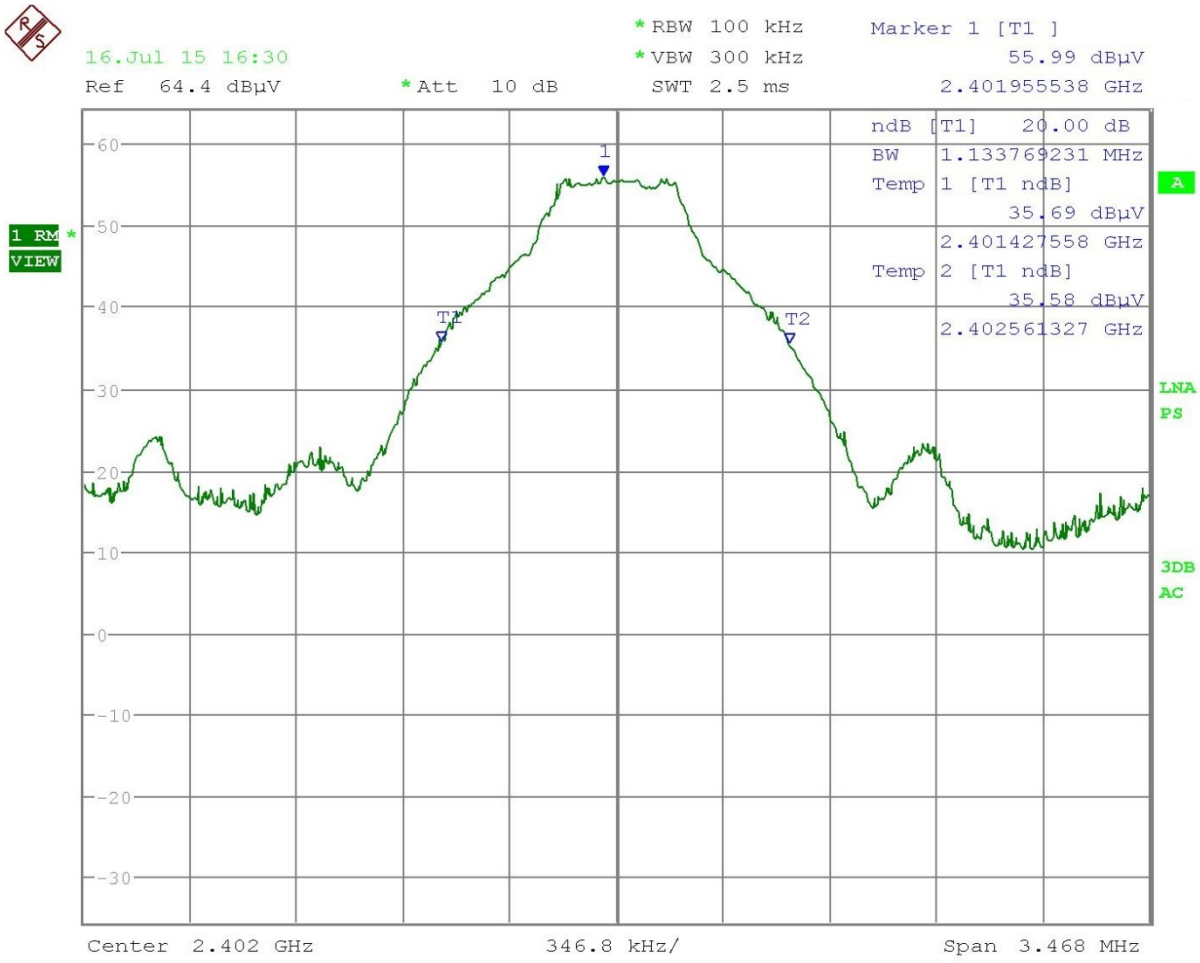
Tuned Frequency (MHz)	1MBps (MHz)
2402	978.15
2441	983.71
2480	967.03

RESULTS: Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 20 dB OBW 1Mbps Low End of Band



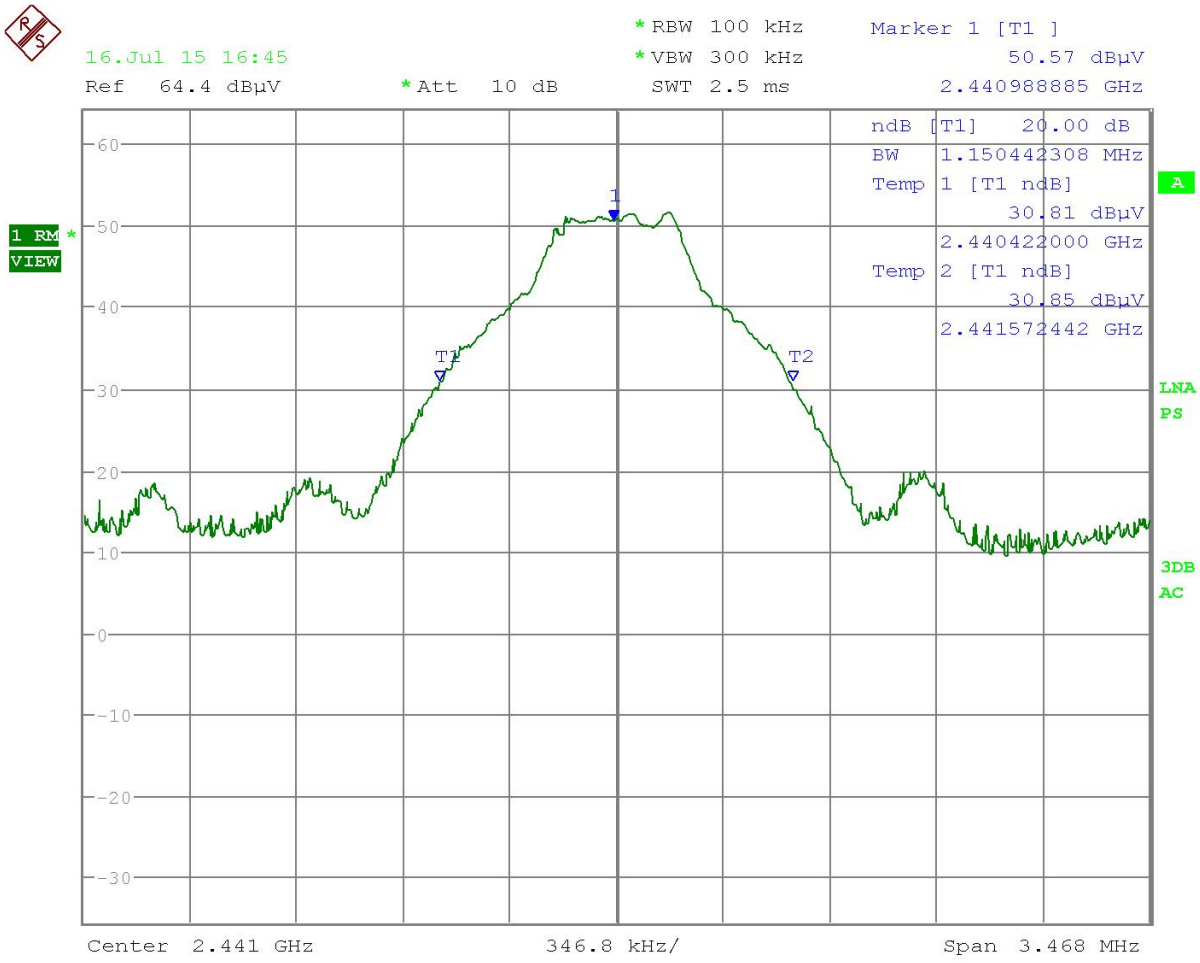
Date: 16.JUL.2015 16:30:05

Results Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 20 dB OBW 1Mbps Middle of Band



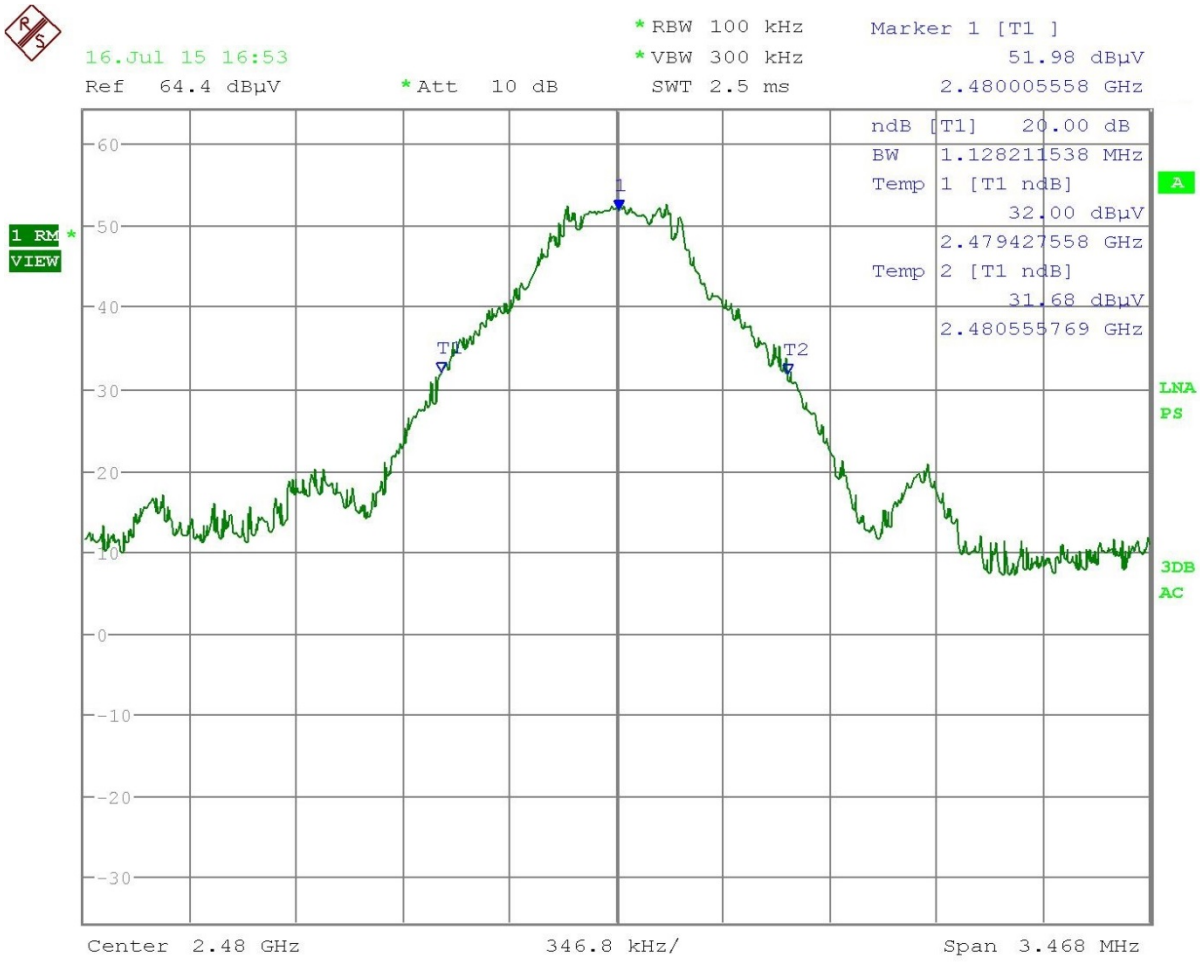
Date: 16.JUL.2015 16:45:39

Results Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 20 dB OBW 1Mbps High end of Band



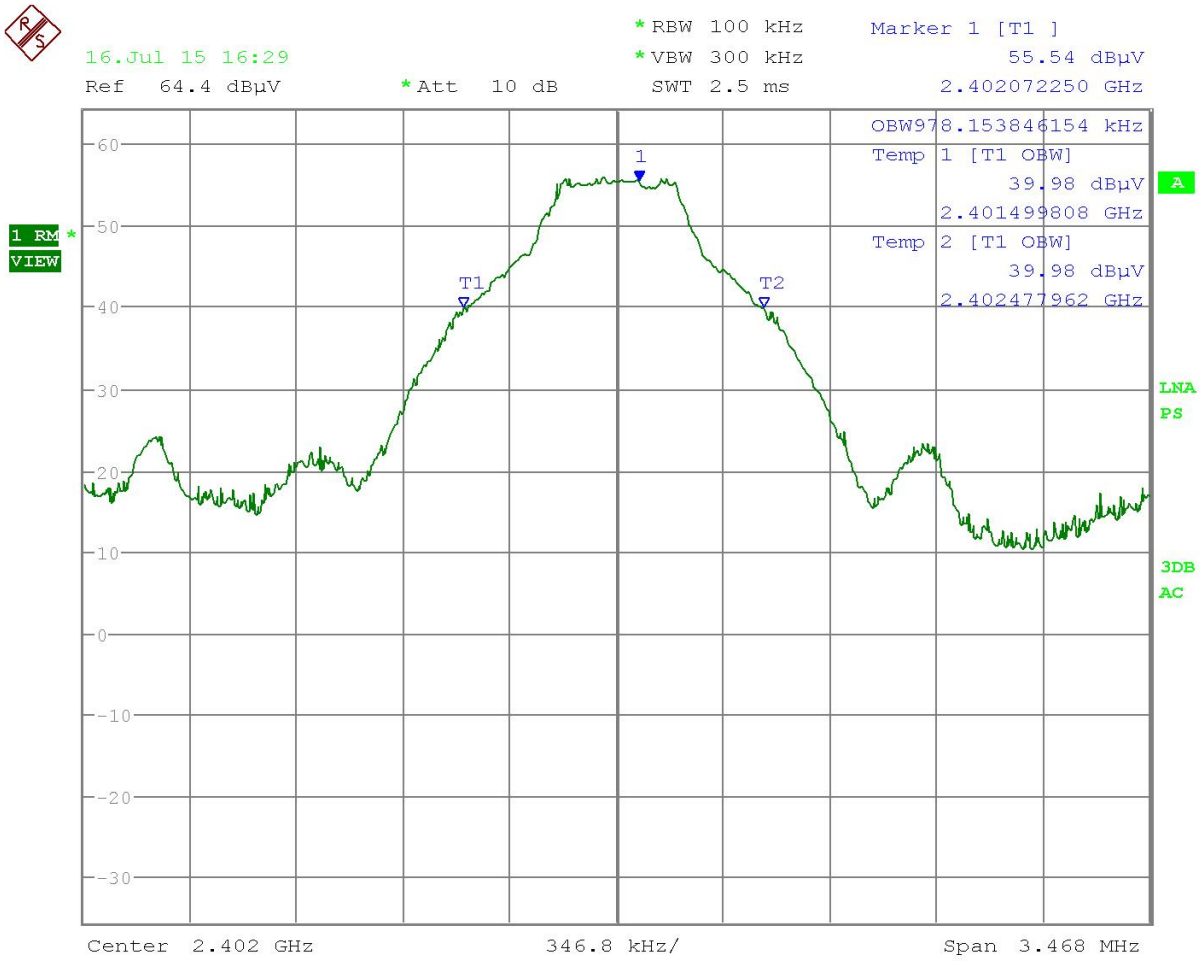
Date: 16.JUL.2015 16:53:54

Results Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 99% OBW 1Mbps Low End of Band



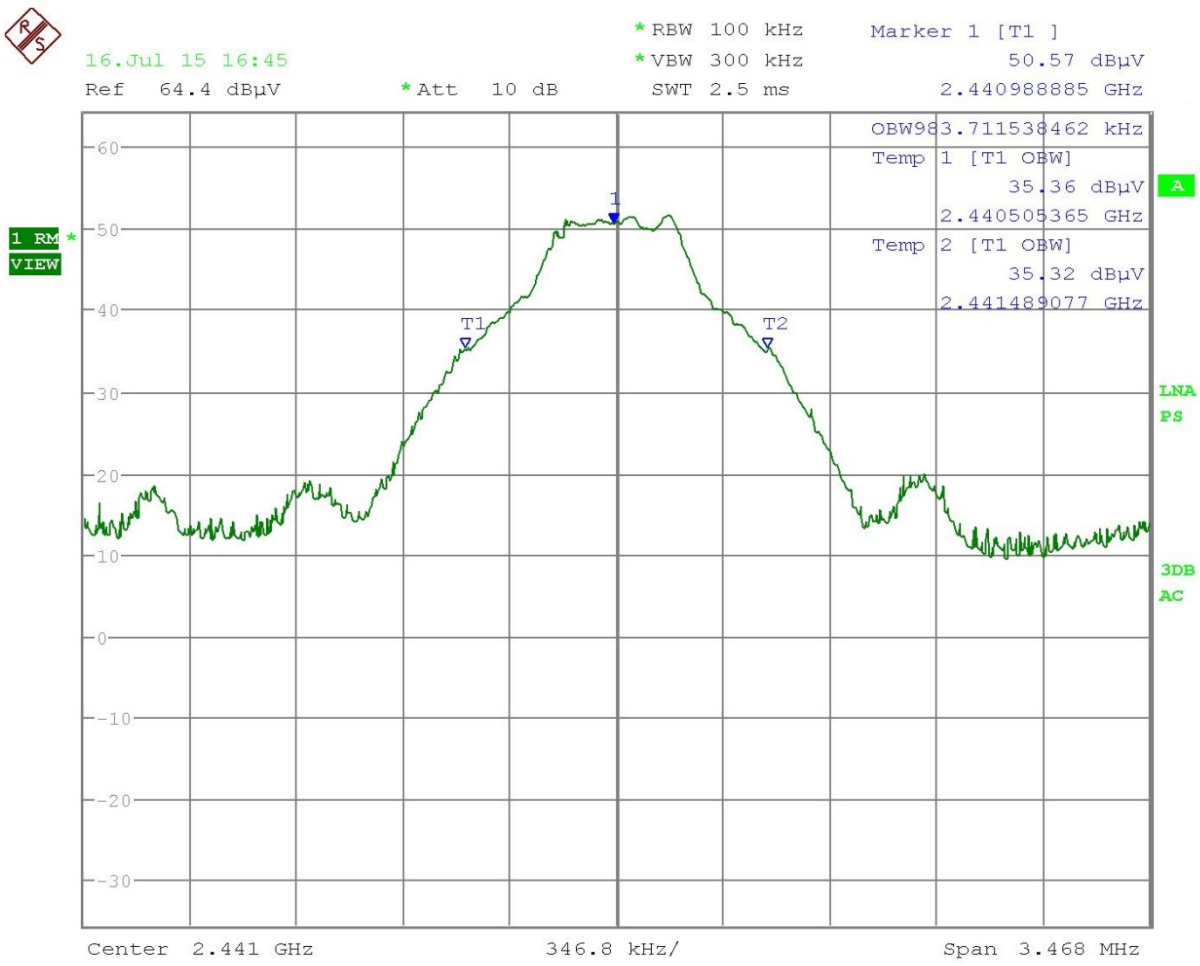
Date: 16.JUL.2015 16:29:26

Results Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 99% OBW 1Mbps Middle of Band



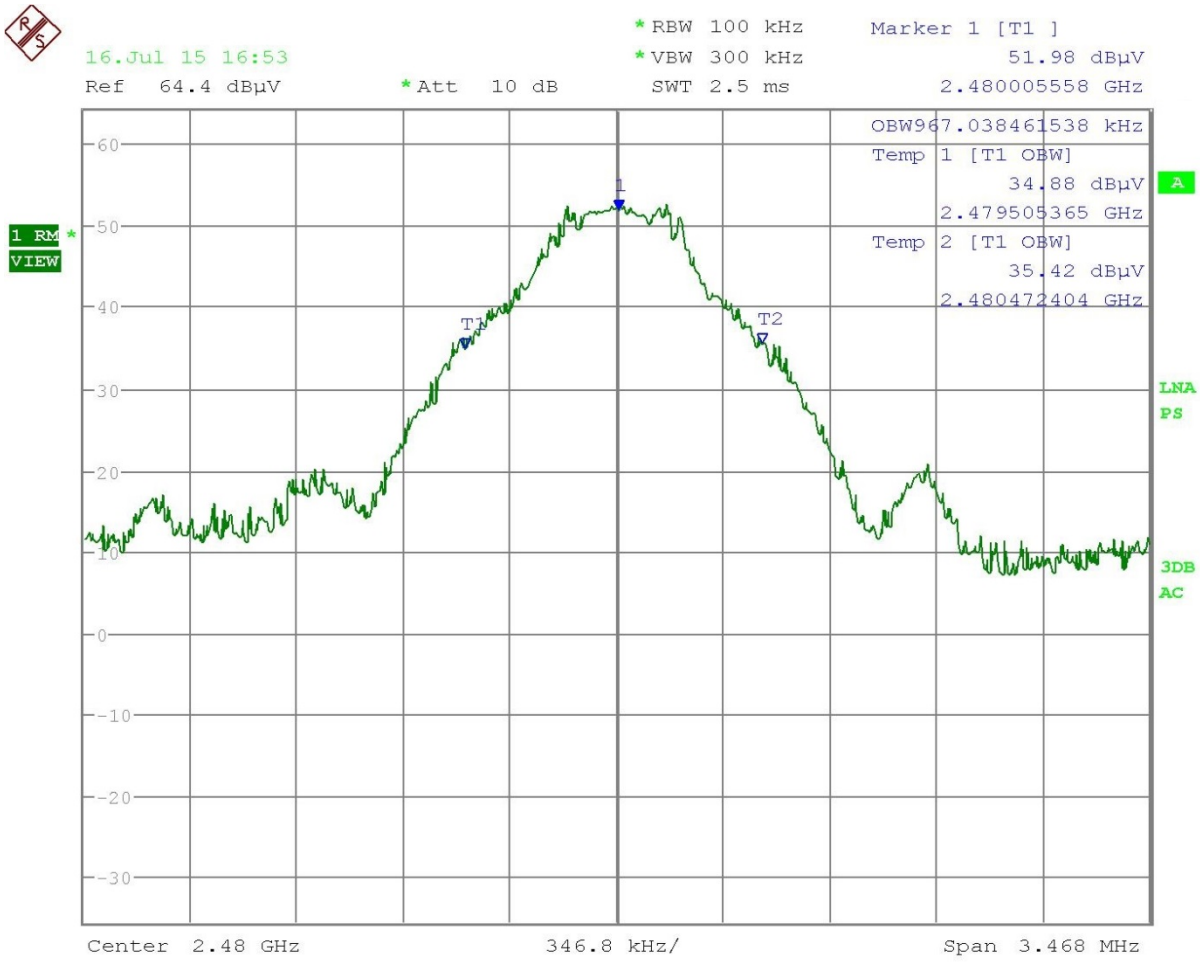
Date: 16.JUL.2015 16:45:58

Results Meets Requirements

Table of Contents

OCCUPIED BANDWIDTH

Test Data: 99% OBW 1Mbps High End of Band



Date: 16.JUL.2015 16:53:38

Results Meets Requirements

Table of Contents

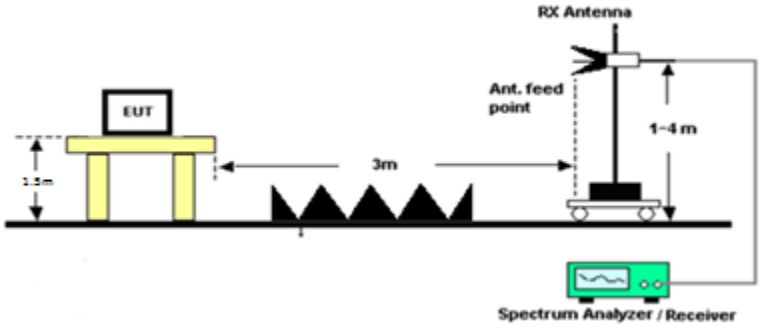
BANDEDGE

Rule Part No.: FCC 15.247(d) & 15.209, IC RSS 247 § 5.5 & RSS GEN § 8.9

Requirements: Emissions must be at least 20dB down from the highest emission level Within the authorized band as measured with a 100 kHz RBW, additionally adjacent restricted band edge emissions must comply with 15.209 and RSS-GEN 8.9 limits.

Test Method: ANSI C63.10 § 6.10.4 Authorized band-edge relative method
ANSI C63.10 § 6.10.6 Restricted band-edge marker delta method

Setup:



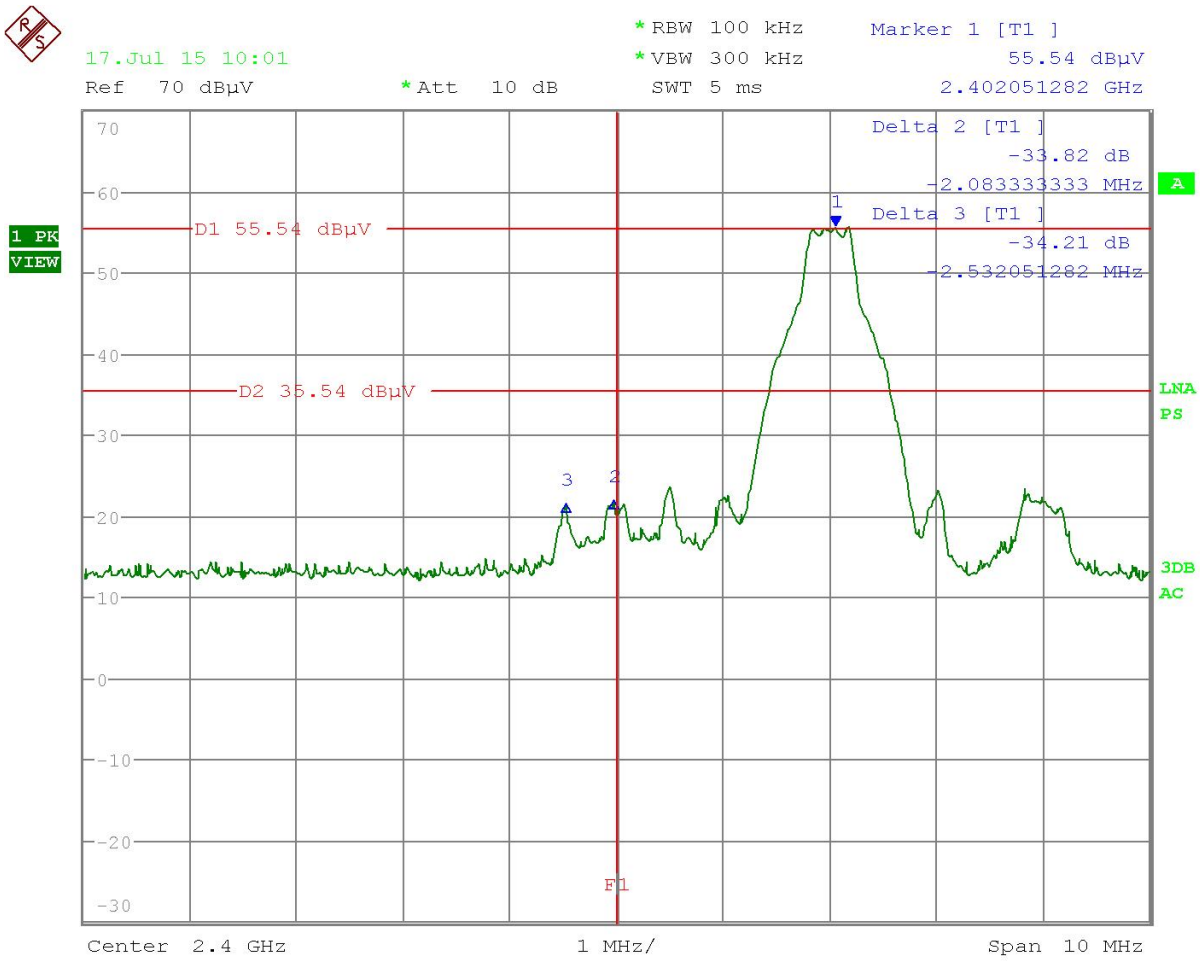
Notes: The marker delta method of measurement technique used for adjacent restricted bandedges may be used for measuring emissions that are up to 2 MHz removed from the bandedge. Radiated emissions that are removed by more than 2 MHz from the bandedge must be measured in the conventional manner.

RESULTS: Meets Requirements

Table of Contents

BANDEDGE

Data: 1DH5 Low Band Edge Hopping Stopped



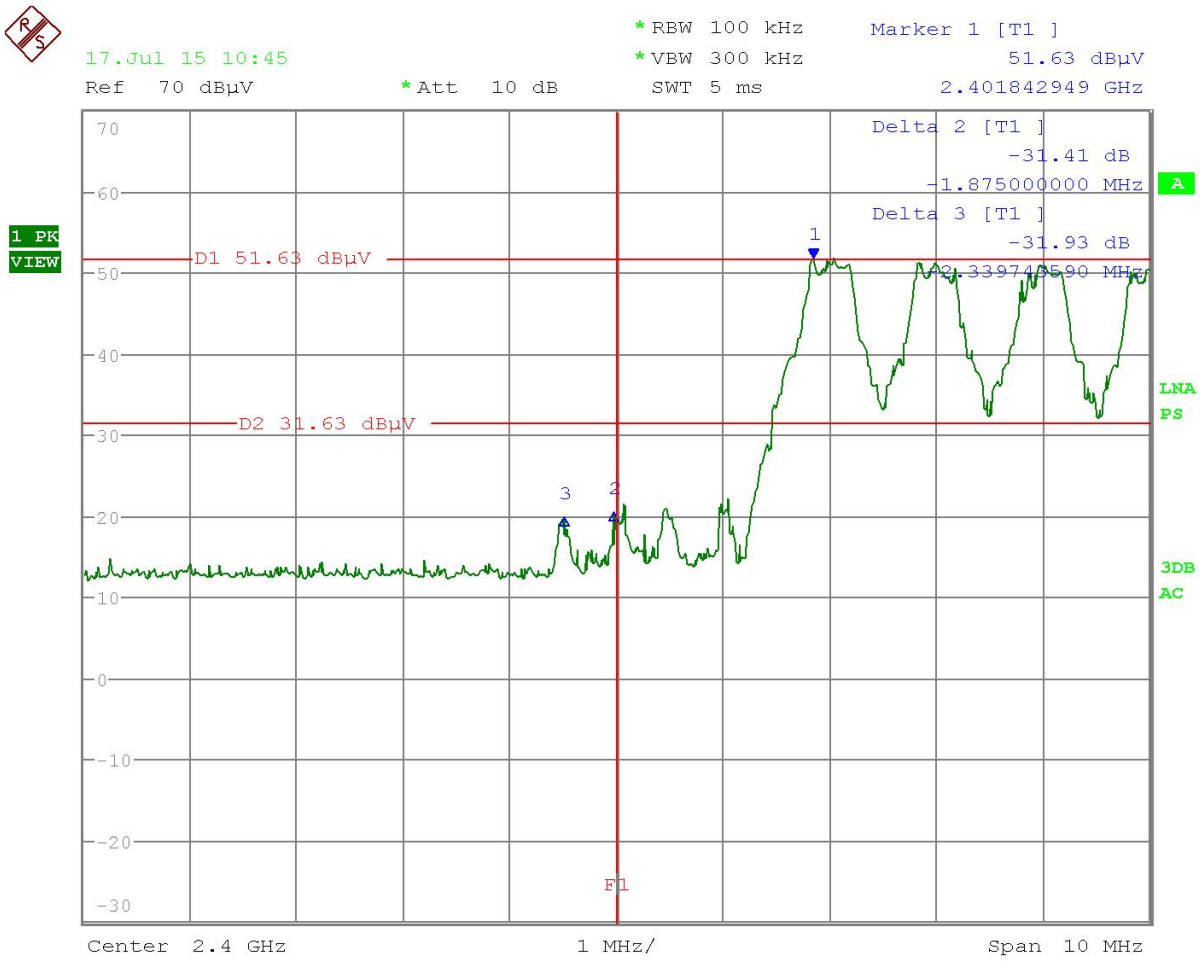
Date: 17.JUL.2015 10:01:05

Results Meets Requirements

Table of Contents

BANDEDGE

Data: 1DH5 Low Band Edge Hopping



Date: 17.JUL.2015 10:45:29

Results Meets Requirements

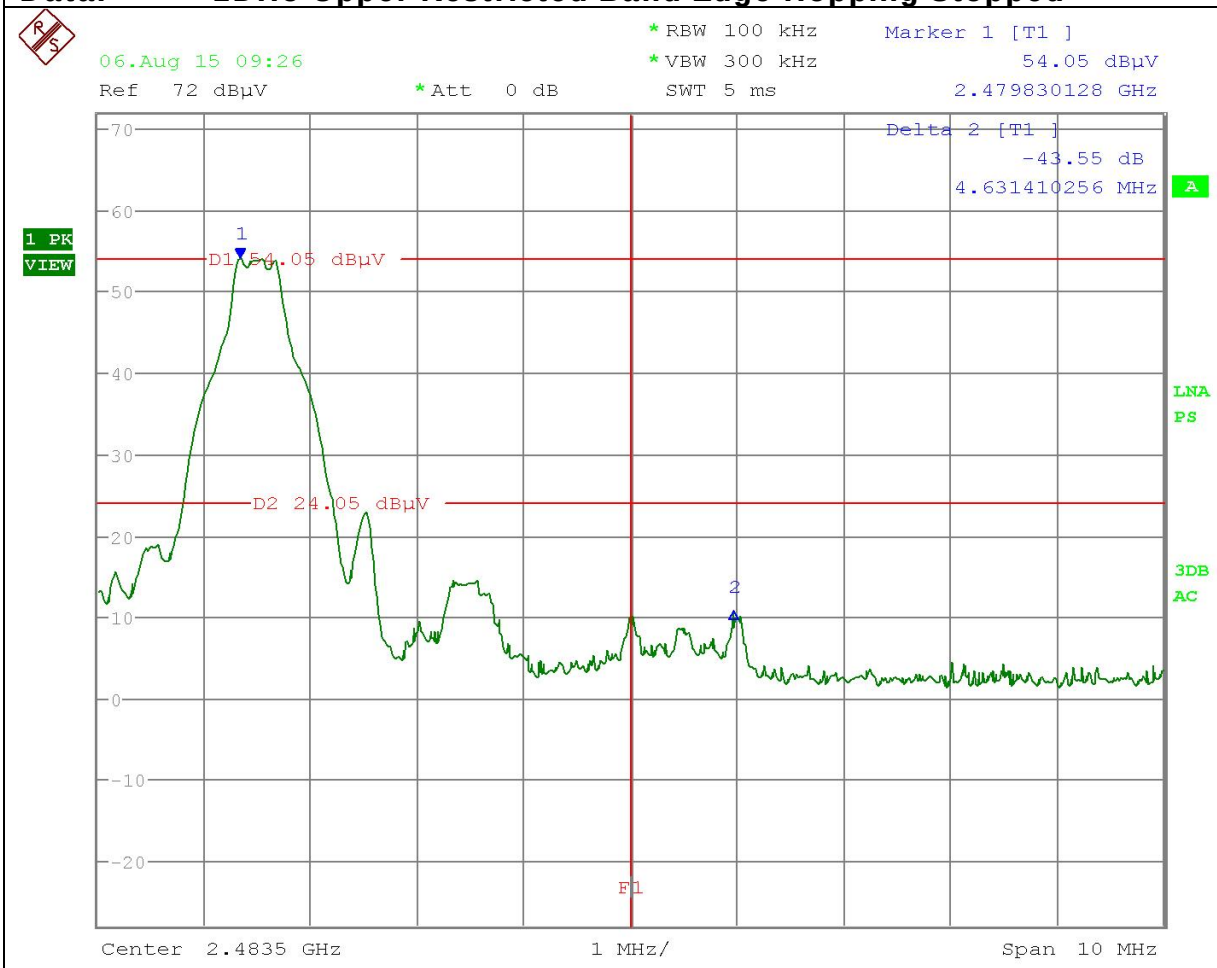
Table of Contents

BANDEDGE

Data: 1DH5 Upper Restricted Band Edge Hopping Stopped

Field Strength of Carrier (dBuV/m)	Emission Level Below Carrier (dB)	Field Strength of Emission (dBuV/m)	Emission Limit (dBuV/m)	Margin (dB)
92.74	43.55	49.19	54	4.8

Data: 1DH5 Upper Restricted Band Edge Hopping Stopped



Results Meets Requirements

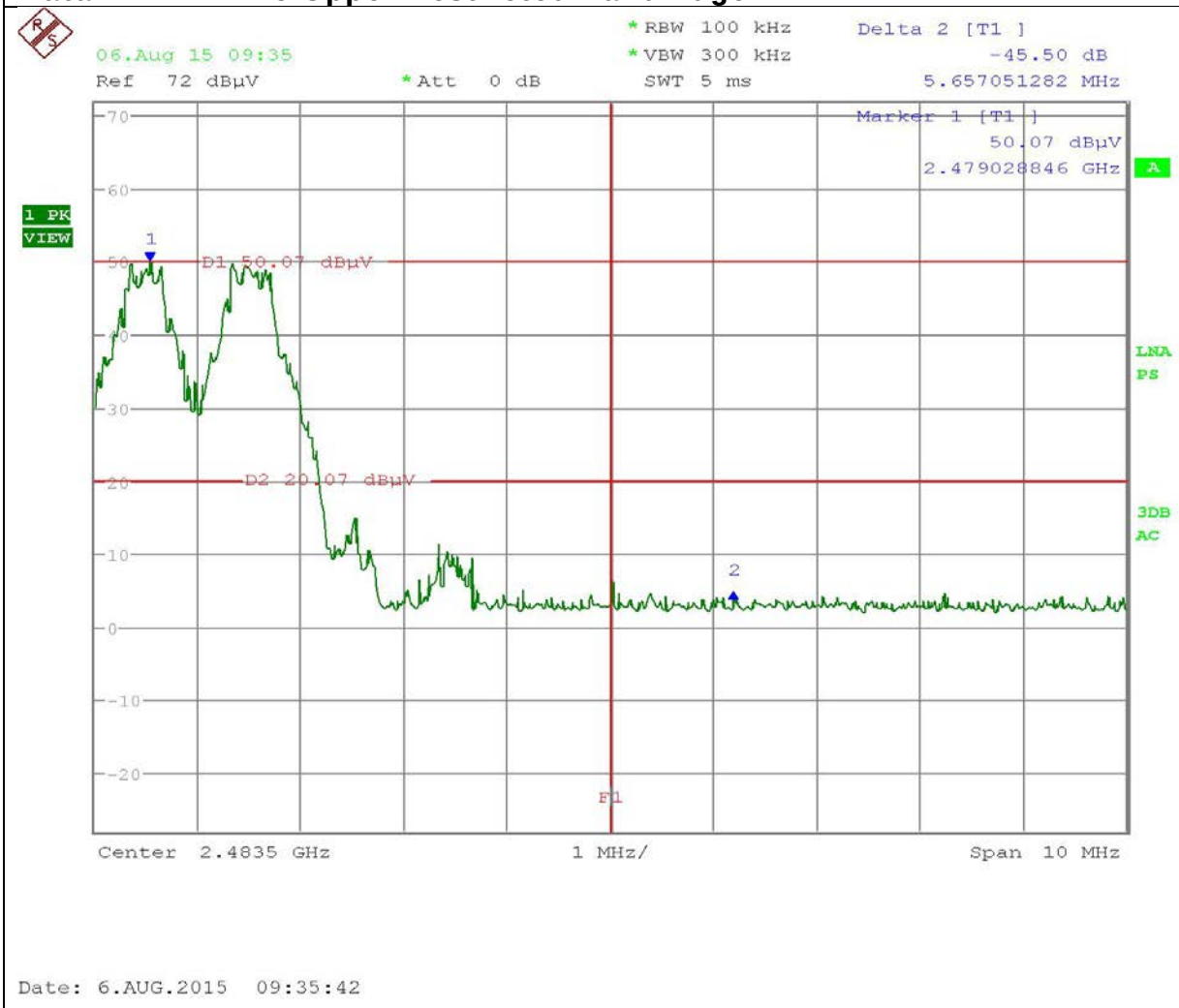
Table of Contents

BANDEDGE

Data: 1DH5 Upper Restricted Band Edge Hopping

Field Strength of Carrier (dBuV/m)	Emission Level Below Carrier (dB)	Field Strength of Emission (dBuV/m)	Emission Limit (dBuV/m)	Margin (dB)
92.74	45.5	47.24	54	6.76

Data: 1DH5 Upper Restricted Band Edge



Results Meets Requirements

Table of Contents

RADIATED SPURIOUS EMISSIONS

Rules Part No.: FCC part 15.247 (d) & 15.209, IC RSS 247 § 5.5 & RSS GEN § 8.9

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

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) µV/m @ 300 meters
490 to 1705 kHz	24000/F (kHz) µV/m @ 30 meters
1705 kHz to 30 MHz	29.54 dBµV/m @ 30 meters
30 – 88	40.0 dBµV/m @ 3 meters
80 – 216	43.5 dBµV/m @ 3 meters
216 – 960	46.0 dBµV/m @ 3 meters
Above 960	54.0 dBµV/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 dBµV) 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:

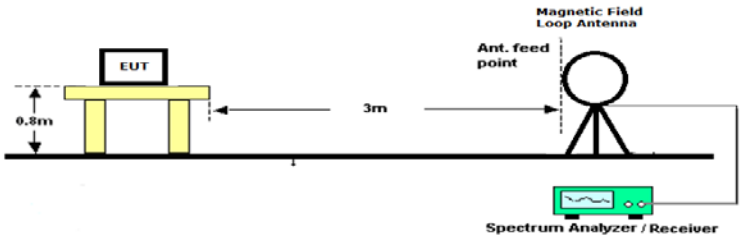
Freq (MHz)	Meter Reading	+ ACF	+ CL = FS
33	20 dBµV	+ 10.36 dB	+ 0.5 = 30.86 dBµV/m @ 3m

Table of Contents

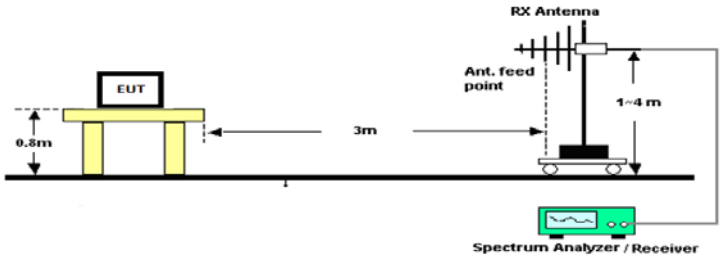
RADIATED SPURIOUS EMISSIONS

Setup:

Emissions below 30 MHz



Emissions 30 – 1000 MHz



Emissions above 1 GHz

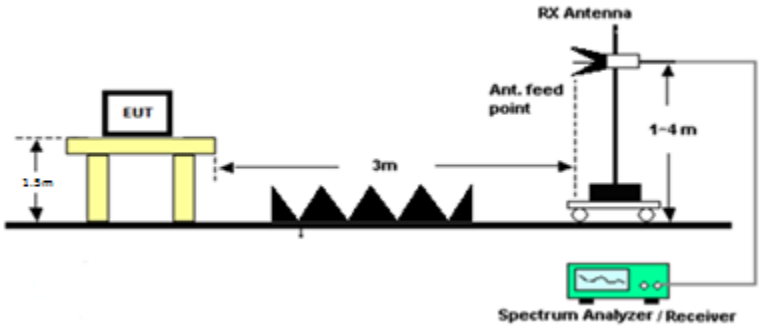


Table of Contents

RADIATED SPURIOUS EMISSIONS

Notes: Only the worst case data rate and Output Power which produced emissions within 20dB of the limit are reported from 9 KHz to 25 GHz

Test Data: **1DH5 Field Strength at 3 Meters**

Tuned Freq MHz	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2402	13.00	4.45	V	0.11	10.58	15.14	24.86
2402	16.29	2.20	V	0.13	10.40	12.73	27.27
2402	25.72	-3.22	V	0.16	9.26	6.20	33.80
2402	1119.66	13.00	H	2.74	27.24	42.98	11.02
2402	1272.91	12.63	V	3.15	27.55	43.33	10.67
2402	1459.66	12.39	H	3.01	27.94	43.34	10.66
2402	1600.41	12.98	V	3.14	28.69	44.81	9.19
2402	1759.96	12.66	H	2.91	29.75	45.32	8.68
2402	2276.41	13.76	V	3.09	31.90	48.75	5.25
2402	2323.89	13.19	H	3.13	31.99	48.31	5.69
2402	2328.50	16.35	V	3.13	32.00	71.48	2.52
2402	2328.50	10.41*	V	3.13	32.00	45.54	8.46
2402	2358.08	17.57	H	3.15	32.06	72.78	1.22
2402	2358.08	17.57	V	3.15	32.06	72.78	1.22
2402	2358.08	10.40*	H	3.150	32.06	45.62	8.37
2402	2358.08	10.40*	V	3.150	32.06	45.62	8.37
2402	2359.31	13.35	H	3.15	32.06	48.56	5.44
2402	2379.97	14.02	H	3.17	32.10	49.29	4.71
2402	2486.33	12.98	V	3.24	32.31	48.53	5.47
2402	2486.84	12.44	H	3.24	32.31	47.99	6.01
2402	2492.54	11.24	V	3.24	32.33	46.81	7.19
2402	2495.39	13.23	H	3.25	32.33	48.81	5.19
2402	2498.24	12.27	V	3.25	32.34	47.86	6.14
2402	2498.39	13.01	H	3.25	32.34	48.60	5.40
2402	4475.88	10.79	H	4.74	34.03	49.56	4.44
2402	5150.52	11.63	H	5.05	34.28	50.96	3.04
2402	5230.69	11.26	H	5.07	34.35	50.68	3.32

* Denotes Average measurment

Results Meets Requirements

Table of Contents

RADIATED SPURIOUS EMISSIONS

Test Data: 1DH5 Field Strength at 3 Meters

Tuned Freq MHz	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2441	14.96	5.38	V	0.12	10.50	16.00	24.00
2441	19.86	5.48	V	0.14	10.11	15.73	24.27
2441	25.01	4.39	V	0.16	9.40	13.95	26.05
2441	1146.95	18.53	V	2.78	27.29	48.60	5.40
2441	1161.65	18.19	V	2.80	27.32	48.31	5.69
2441	1197.33	17.43	H	2.86	27.40	47.69	6.31
2441	1552.13	17.52	V	3.08	28.37	48.97	5.03
2441	1619.31	18.67	V	3.09	28.81	50.57	3.43
2441	1644.50	16.54	H	3.03	28.98	48.55	5.45
2441	1932.21	17.64	V	3.06	30.90	71.60	2.40
2441	1932.21	1.55*	V	3.06	30.90	35.51	18.49
2441	2022.38	18.26	H	2.92	31.39	72.57	1.43
2441	2022.38	1.55*	H	2.92	31.39	35.86	18.14
2441	2032.88	17.47	V	2.92	31.42	71.81	2.19
2441	2032.88	1.71*	V	2.92	31.42	36.05	17.95
2441	2322.80	13.89	V	3.13	31.99	49.01	4.99
2441	2326.20	18.34	H	3.13	32.00	73.47	0.53
2441	2326.20	1.40*	H	3.13	32.00	36.53	17.47
2441	2351.00	18.48	H	3.15	32.04	73.67	0.33
2441	2351.00	1.30*	H	3.15	32.04	36.49	17.51
2441	2353.04	17.82	V	3.15	32.05	73.02	0.98
2441	2353.04	1.40*	V	3.15	32.05	36.60	17.40
2441	2386.96	18.00	H	3.17	32.12	73.29	0.71
2441	2386.96	1.40*	H	3.17	32.12	36.69	17.31
2441	2389.68	17.44	V	3.17	32.12	72.73	1.27
2441	2389.68	1.40*	V	3.17	32.12	36.69	17.31
2441	2394.00	17.54	V	3.18	32.13	72.85	1.15
2441	2394.00	1.50*	V	3.18	32.13	36.81	17.19

* Denotes Average measurement

Results Meets Requirements

Table of Contents

Test Data: **1DH5 Field Strength at 3 Meters (Continued)**

Tuned Freq MHz	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2441	2394.99	16.65	V	3.18	32.13	71.96	2.04
2441	2394.99	1.40*	V	3.18	32.13	36.71	17.29
2441	2394.99	17.65	V	3.18	32.13	72.96	1.04
2441	2394.99	1.50*	V	3.18	32.13	36.81	17.19
2441	2486.52	17.84	H	3.24	32.31	73.39	0.61
2441	2486.52	1.40*	H	3.24	32.31	36.95	17.05
2441	2488.12	16.46	V	3.24	32.32	72.02	1.98
2441	2488.12	1.40*	V	3.24	32.32	36.96	17.04
2441	2489.17	17.58	V	3.24	32.32	73.14	0.86
2441	2489.17	1.50*	V	3.24	32.32	37.06	16.94
2441	2491.50	16.89	H	3.24	32.32	72.45	1.55
2441	2491.50	1.70*	H	3.24	32.32	37.26	16.74
2441	2493.39	16.20	V	3.25	32.33	71.78	2.22
2441	2493.39	1.50*	V	3.25	32.33	37.08	16.92
2441	2493.98	18.19	V	3.25	32.33	73.77	0.23
2441	2493.98	1.40*	V	3.25	32.33	36.98	17.02
2441	2498.95	15.72	H	3.25	32.34	71.31	2.69
2441	2498.95	1.40*	H	3.25	32.34	36.99	17.01
2441	2499.20	17.00	V	3.25	32.34	72.59	1.41
2441	2499.20	1.50*	V	3.25	32.34	37.09	16.91
2441	4793.36	13.50	H	4.90	34.12	72.52	1.48
2441	4793.36	2.10*	H	4.90	34.12	41.12	12.88
2441	4793.36	13.79	V	4.90	34.12	72.81	1.19
2441	4793.36	2.00*	V	4.90	34.12	41.02	12.98
2441	4883.63	14.27	V	4.94	34.14	73.35	0.65
2441	4883.63	2.40*	V	4.94	34.14	41.48	12.52

* Denotes Average measurement

Results Meets Requirements

Table of Contents

Test Data: **1DH5 Field Strength at 3 Meters**

Tuned Freq MHz	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2480	16.05	6.99	V	0.12	10.42	17.53	22.47
2480	22.78	4.40	V	0.15	9.71	14.26	25.74
2480	28.77	7.00	V	0.17	8.65	15.82	24.18
2480	1159.55	16.54	H	2.80	27.32	46.66	7.34
2480	1279.21	17.03	V	3.18	27.57	47.78	6.22
2480	1514.30	17.48	V	3.03	28.12	48.63	5.37
2480	1514.34	17.24	H	3.03	28.12	48.39	5.61
2480	2005.50	17.84	V	2.90	31.36	72.10	1.90
2480	2005.50	1.50*	V	2.90	31.36	35.76	18.24
2480	2121.05	17.40	H	2.98	31.59	71.97	2.03
2480	2121.05	1.40*	H	2.98	31.59	35.97	18.03
2480	2317.35	17.51	H	3.12	31.98	72.61	1.39
2480	2317.35	1.20*	H	3.12	31.98	36.30	17.70
2480	2322.80	14.74	V	3.13	31.99	49.86	4.14
2480	2342.82	17.13	H	3.14	32.03	72.30	1.70
2480	2342.82	1.40*	H	3.14	32.03	36.57	17.43
2480	2353.40	15.73	V	3.15	32.05	70.93	3.07
2480	2369.25	17.00	H	3.16	32.08	52.24	1.76
2480	2369.25	1.00*	H	3.16	32.08	76.24	17.76
2480	2387.30	15.71	V	3.17	32.12	51.00	3.00
2480	2485.45	16.54	V	3.24	32.31	72.09	1.91
2480	2485.45	1.50*	V	3.24	32.31	37.05	16.95

* Denotes Average measurment

Results Meets Requirements

Table of Contents

Test Data: 1DH5 Field Strength at 3 Meters (Continued)

Tuned Freq MHz	Emission Frequency MHz	Meter Reading dBu V	Antenna Polarity	Coax Loss Db	Correction Factor dB/M	Field Strength dBu V/M	Margin
2480	2487.10	17.04	H	3.24	32.31	72.59	1.41
2480	2487.10	1.40*	H	3.24	32.31	36.95	17.05
2480	2491.10	16.98	H	3.24	32.32	72.54	1.46
2480	2491.10	1.40*	H	3.24	32.32	36.96	17.04
2480	2494.30	16.22	H	3.25	32.33	71.80	2.20
2480	2494.30	1.20*	H	3.25	32.33	36.78	17.22
2480	2496.07	17.66	V	3.25	32.33	73.24	0.76
2480	2496.07	1.50*	V	3.25	32.33	37.08	16.92
2480	4720.89	13.20	V	4.86	34.11	72.17	1.83
2480	4720.89	2.10*	V	4.86	34.11	41.07	12.93
2480	4972.50	14.02	H	4.99	34.16	73.17	0.83
2480	4972.50	2.40*	H	4.99	34.16	41.55	12.45

* Denotes Average measurment

Results Meets Requirements

Table of Contents

AC POWER LINE CONDUCTED EMISSIONS

Rules Part No.: FCC 15.207(a)

Requirements:

Frequency (MHz)	Quasi Peak Limits (dBµV)	Average Limits (dBµV)
0.15 – 0.5	66 – 56 *	56 – 46 *
0.5 – 5.0	56	46
5.0 – 30	60	50
* Decrease with logarithm of frequency		

Test Method: ANSI C63.10 § 6.2 Test Method for AC power-line conducted emissions

Setup:

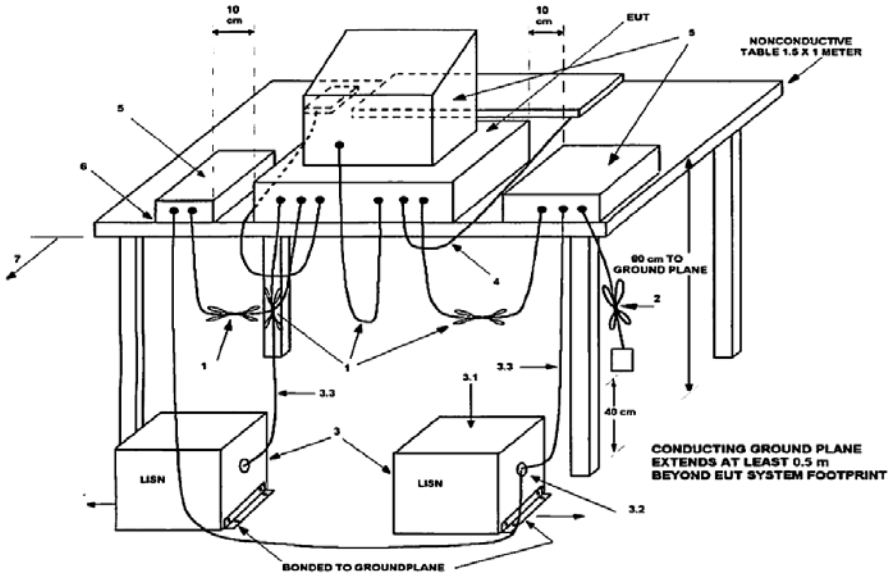
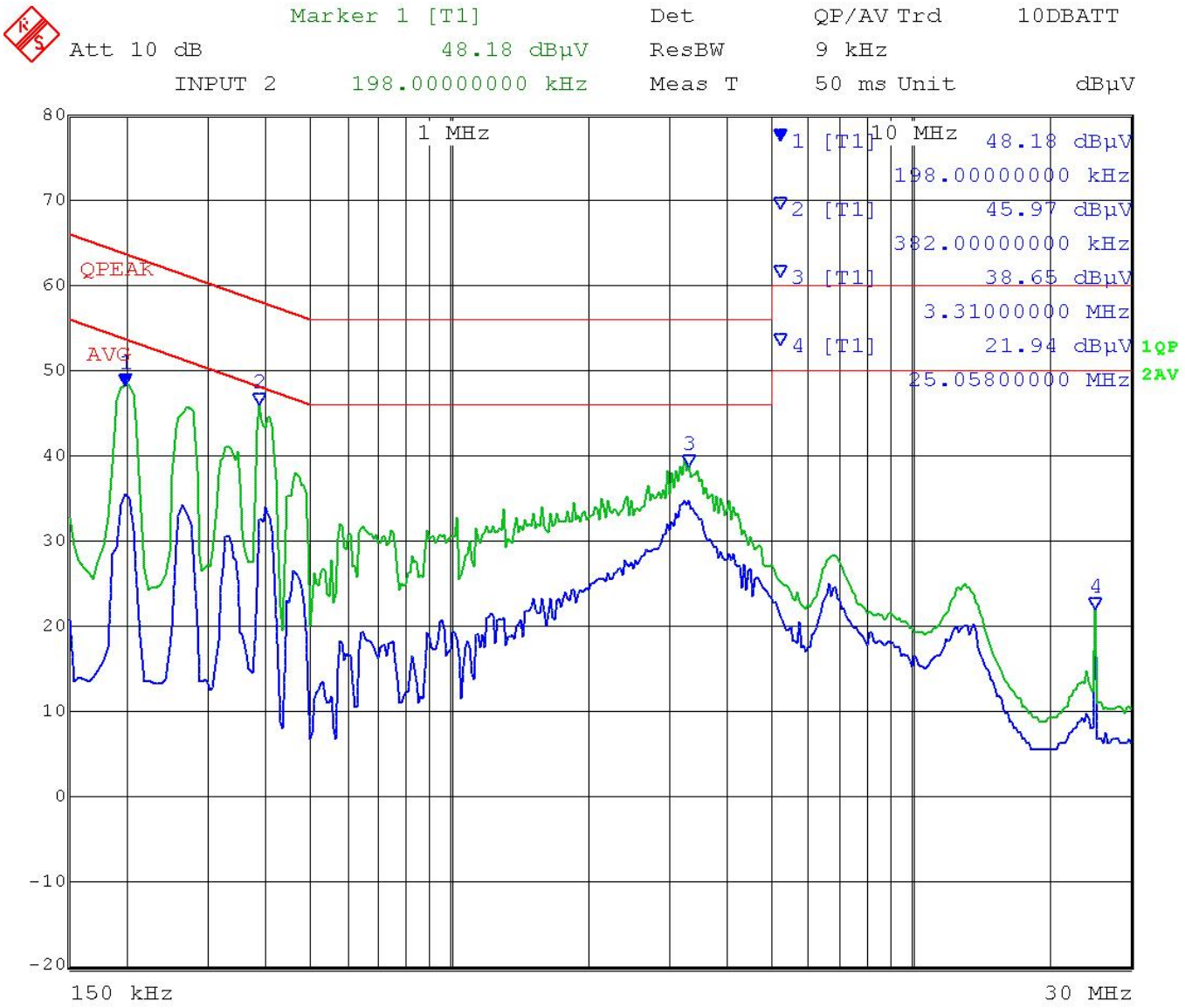


Table of Contents

AC POWER LINE CONDUCTED EMISSIONS

Test Data: The following plots represent the emissions read for power line Conducted. Both lines were observed.



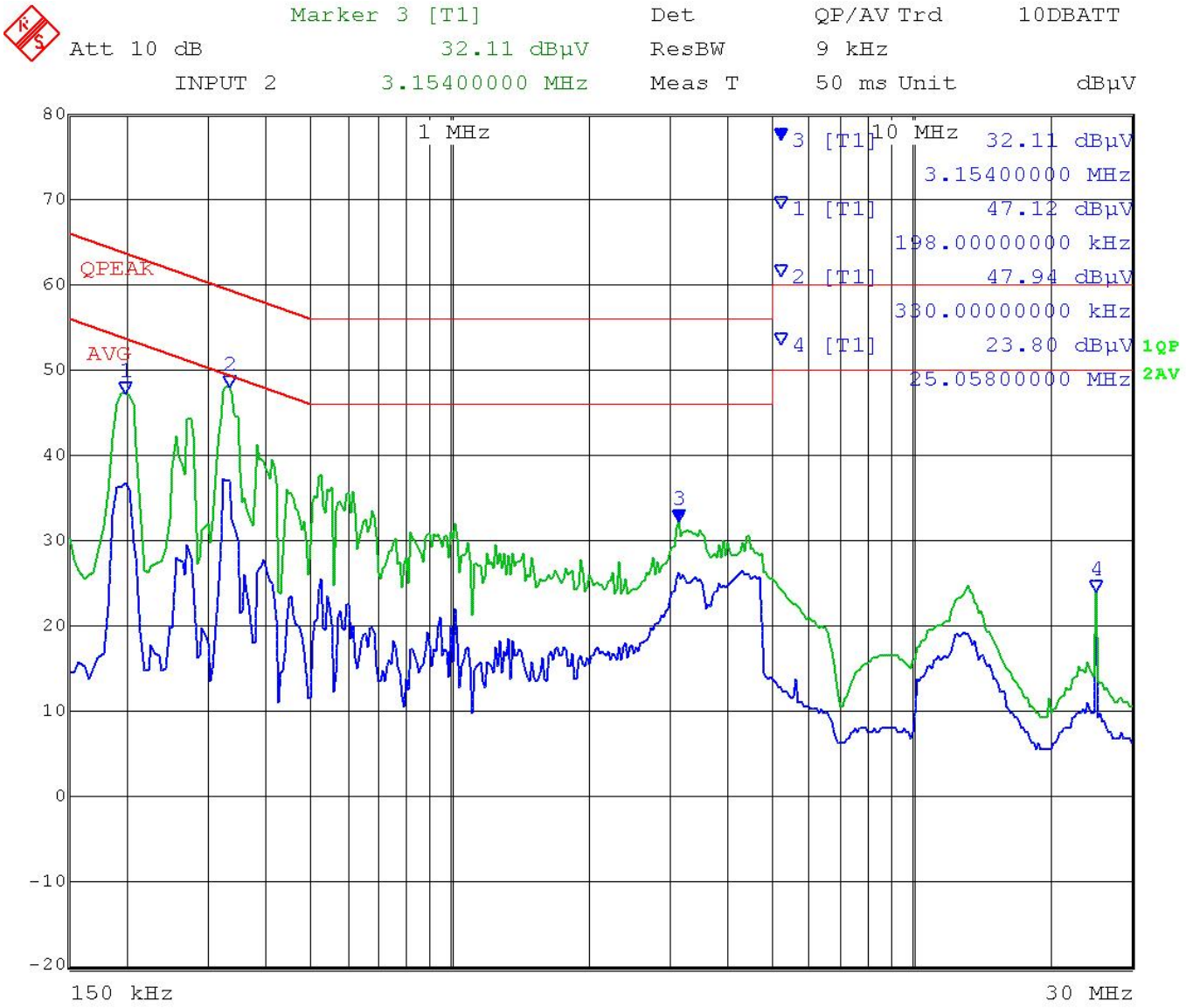
Date: 11.AUG.2015 14:15:31

RESULTS: Meets Requirements

Table of Contents

POWER LINE CONDUCTED INTERFERENCE

Test Data:



Date: 11.AUG.2015 16:12:23

RESULTS: Meets Requirements

Table of Contents

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Antenna: Biconnical Chamber	Eaton Chamber	94455-1	1057	06/14/13	12/14/15
Antenna: Log-Periodic Chamber	Eaton	96005	1243	05/31/13	11/30/15
Antenna: Passive Loop	EMC Test Systems	EMCO 6512	9706-1211	07/09/15	07/09/17
LISN	Electro-Metrics	ANS-25/2	2604	07/15/15	07/15/17
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	12/31/13	12/31/15
Ant: Double-Ridged Horn/ETS Horn 1 Ch	ETS-Lindgren Chamber	3117	00035923	06/13/14	06/13/16
EMI Test Receiver R & S ESIB 40 Screen Room	Rohde & Schwarz	ESIB 40	100274	08/12/14	08/12/16
EMI Test Receiver R & S ESU 40 Chamber	Rohde & Schwarz	ESU 40	100320	03/11/14	03/11/16

***EMI RECEIVER SOFTWARE VERSION**

The receiver firmware used was version 4.43 Service Pack 3

Table of Contents