



Regulatory Test Report

Prepared for Harman International Industries, Inc.

This report presents detailed information on

R1 INT NA 3B HW4

Prepared by

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Engineer II

Approved by

Jason Kanakry

General Manager

Issue date: 01/17/2024

Report No: J23133-R1 INT NA 3B HW4-TR3 v2

This test result relates only to the described test object.

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Customer must not use this test report as the product certification of each accreditation body or each national organization.

The test is traceable to national standard or related international standard

Contents

1. Test Request Information.....3

2. Test Laboratory Information.....4

3. Statement of Conformity.....5

4. Conducted Testing6

5. Radiated Testing60

1. Test Request Information

Test Request #:	7700206789
Test Requested By:	Pranav Patel Harman International Industries, Inc. 30001 Cabot Drive, Novi, MI 48377
Test item Description:	R1 INT NA 3B HW4
Part Number:	P68581660ZZ
DUT Sample Number:	J23133#2 NA 3B
FVIN :	FCA-MY24.MNL-OD.3426
Hardware Version of DUT:	N/A
Software Version of DUT:	N/A
Component Category of DUT:	N/A
FCC ID:	2AHPN-BE2878
ISED ID:	6434C-BE2878
Type of Test:	FCC/ISED Certification
Test Method:	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 3, ISED Canada RSS-Gen Issue 5 and ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02
Deviations from standard:	None
Approved Test Plan Number:	N/A
Test Plan Revision:	N/A
Date test Sample Received:	06-26-2024
Date Test Started:	07-24-2024
Date Test Finished:	10-16-2024

2. Test Laboratory Information

Location of Test Lab:	The radiated and conducted emissions test sites are located at Bureau Veritas 815 N. Opdyke Rd #100, Auburn Hills, MI 48326, Phone: +1-248-836-4700
Key Contact:	Jason Kanakry (General Manager) Jason.Kanakry@BureauVeritas.com Phone: +1-248-836-4747
Laboratory Accreditations:	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
ISO/IEC 17025:2017:	5678.01
FCC Test Site Number:	US1278 (242530)
IC Test Site Number:	US0229 (26240)

3. Statement of Conformity

RSS-GEN	RSS 247	Part 15	Comments
6.4		15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
		15.19	The label shown in the label exhibit.
		15.21	Information to the user shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
3.2		15.31	The EUT tested in accordance with the measurement standards in this section.
6.13.2		15.33	Frequency range investigated according to this section, unless noted in specific rule section under which the equipment operates.
6.13.1		15.35	The EUT emissions are measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
6.8		15.203	EUT employs integrated PCB antenna with -1.24dBi gain.
8.10		15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable
8.8		15.207	N/A. EUT is vehicle battery powered only.

4. Conducted Testing

4.1 Test Summary

This test report supports an application for certification of a transmitter operating pursuant to:

CFR Title 47 FCC Part 15.247, ISSED Canada RSS-247 Issue 3

The product is **R1 INT NA 3B HW4** frequency hopping spread spectrum transmitter that operates in the 2402 – 2480 MHz frequency range.

Details	Description
Frequency Range (MHz)	2402 – 2480
Supported Modulation	GFSK, $\pi/4$ DQPSK, 8DPSK
Tested Modulation	GFSK (DH1), 8DPSK (3-DH1) - Highest Emissions
Number of Channels	79
Tested Channels	0,39,78
DUT Antenna Type	Integrated PCB antenna
Number of transmit chains	1
Equipment type	Frequency Hopping Spread Spectrum
Dwell Time	350ms
DUT Antenna Gain	-1.24dBi ☒ Provided by Customer with Gain Report ☐ Not Provided by Customer
DUT Power Class/Power Settings	Power Class: 1 (MRVL_Class1)
DUT Software Tool/Settings	MFGBridge_Tool/Dut labtool is used to configure device Bluetooth modes and data rates.

79 channels are provided for BT mode:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461		

Notes: The channels 0, 39 and 78 were selected as representative test channels.

Full testing is performed on worst case modulation 3-DH1 from EDR and on DH1 from BDR Family.

Test Results Summary

Test	Frequency (MHz)	DH1 Result	DH3 Result	DH5 Result	2-DH1 Result	2-DH3 Result	2-DH5 Result	3-DH1 Result	3-DH3 Result	3-DH5 Result
Hopping Frequencies	--- (hopping)	Pass	--	--	--	--	--	Pass	--	--
Band Edge High	--- (hopping)	Pass	--	--	--	--	--	Pass	--	--
Carrier Frequency Separation	2402.000 (hopping)	Pass	--	--	--	--	--	Pass	--	--
Carrier Frequency Separation	2480.000 (hopping)	Pass	--	--	--	--	--	Pass	--	--
Time of Channel Occupancy	2402.000 (hopping)	Pass	--	--	--	--	--	Pass	--	--
Time of Channel Occupancy	2441.000 (hopping)	Pass	--	--	--	--	--	Pass	--	--
Time of Channel Occupancy	2480.000 (hopping)	Pass	--	--	--	--	--	Pass	--	--
Emissions Bandwidth 20dB	2402.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Occupied Channel Bandwidth 99%	2402.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Band Edge Low	2402.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Peak Output Power	2402.000 (single)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tx Spurious	2402.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Emissions Bandwidth 20dB	2441.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Occupied Channel Bandwidth 99%	2441.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Peak Output Power	2441.000 (single)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tx Spurious	2441.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Emissions Bandwidth 20dB	2480.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Occupied Channel Bandwidth 99%	2480.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Band Edge High	2480.000 (single)	Pass	--	--	--	--	--	Pass	--	--
Peak Output Power	2480.000 (single)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Tx Spurious	2480.000 (single)	Pass	--	--	--	--	--	Pass	--	--

Test Item	Sample #	Result
FCC 15.247 Bluetooth Classic	J23133#2 NA 3B	Meets Requirement

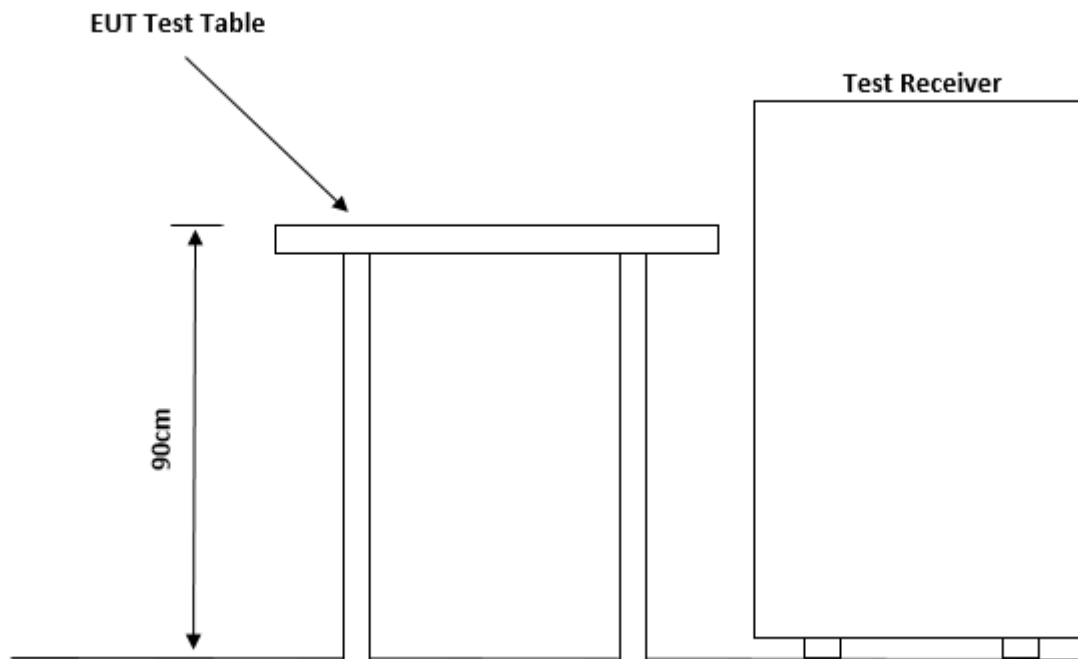
We found that the product met the above requirements without modification.

Test samples received in good condition.

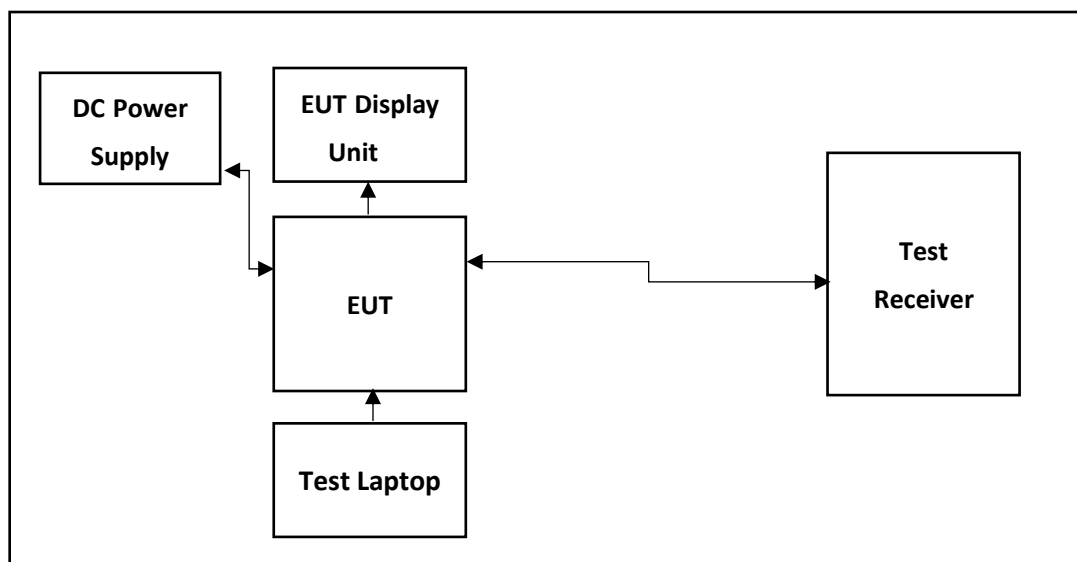
4.2 Test Setup

Conducted Test Site Description

The site is accommodated to test tabletop and floor standing test equipment.



TEST SETUP DIAGRAM



4.3 Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0226	Spectrum Analyzer 10Hz-44GHz	Rohde & Schwarz	FSV3044	101018	4/20/2025
BVD0227	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP150	101100	11/24/2025
BVD0228	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP220	101632	11/14/2025
BVD0224	Signal Generator 100kHz-40GHz	Rohde & Schwarz	SMB100A	181741	4/20/2025
BVD0225	Signal Generator 100k-6GHz with GPS simulator	Rohde & Schwarz	SMW200A	107664	4/20/2025
BVD0250	Wireless Connectivity Tester 70M-6GHz	Rohde & Schwarz	CMW270	102113	4/20/2025
BVD0302	DC power supply 1-15VDC 60A 110/220 11.5A max input	BK Precision	1693	257F17180	N/A
BVD0321	Fixed Attenuator 2W 20dB -40GHz	Mini-Circuits	BW-K20-2W44+	2103	12/11/2024
BVD0430	Multimeter	Fluke	117	49710262SV	11/17/2024
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025
N/A	Test-PC	Lenovo ThinkPad	E480	SL10Q37355	N/A

Notes:- DC power supply verified before use with calibrated Multimeter.

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	N/A	N/A	N/A
N/A	Display Unit	MOBIS	BMM6100000	231107 01	N/A
N/A	Shark Fin Antenna	Alfa Romeo	B901	719147	N/A
N/A	Antenna	Aptiv	APN35409682	N/A	N/A
N/A	Camera	N/A	23295906C	N/A	N/A
N/A	MFGBridge_Tool/Dut labtool	N/A	N/A	N/A	2.0.0.89

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	11.20.00	N/A

4.4 Test Data

4.4.1 Number of Hopping Frequencies

Test according to FCC title 47 part 15 §15.247(a),(g), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.3, RSS-247 Section 5.1(d)

Spectrum Analyzer Settings

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	200.000 kHz	<= 200.000 kHz
VBW	200.000 kHz	>= 200.000 kHz
SweepPoints	418	~ 418
Sweptime	200.000 ms	200.000 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	10 / max. 10	max. 10
Stable	1 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

4.4.1.1 DH1

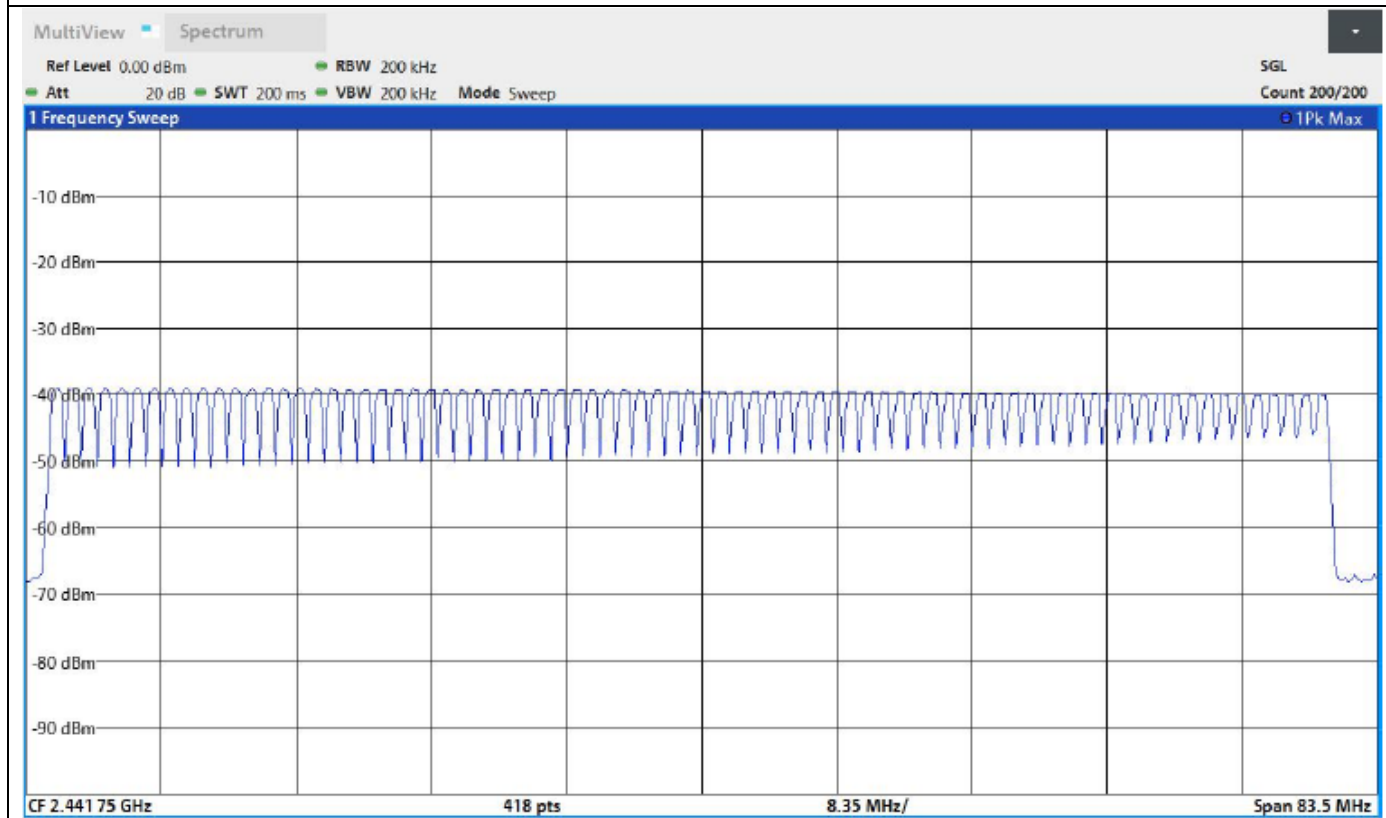
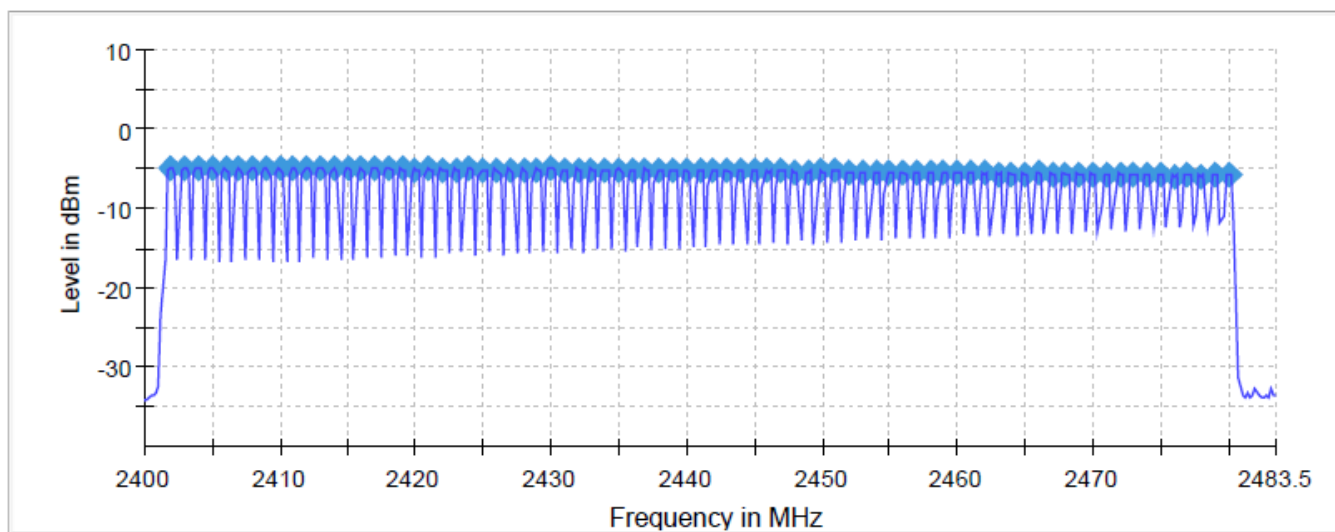
Channels:

Channels	Limit Min	Result
79	15	PASS

Plots:

Hopping Frequencies

Sequence



4.4.1.1 3-DH1

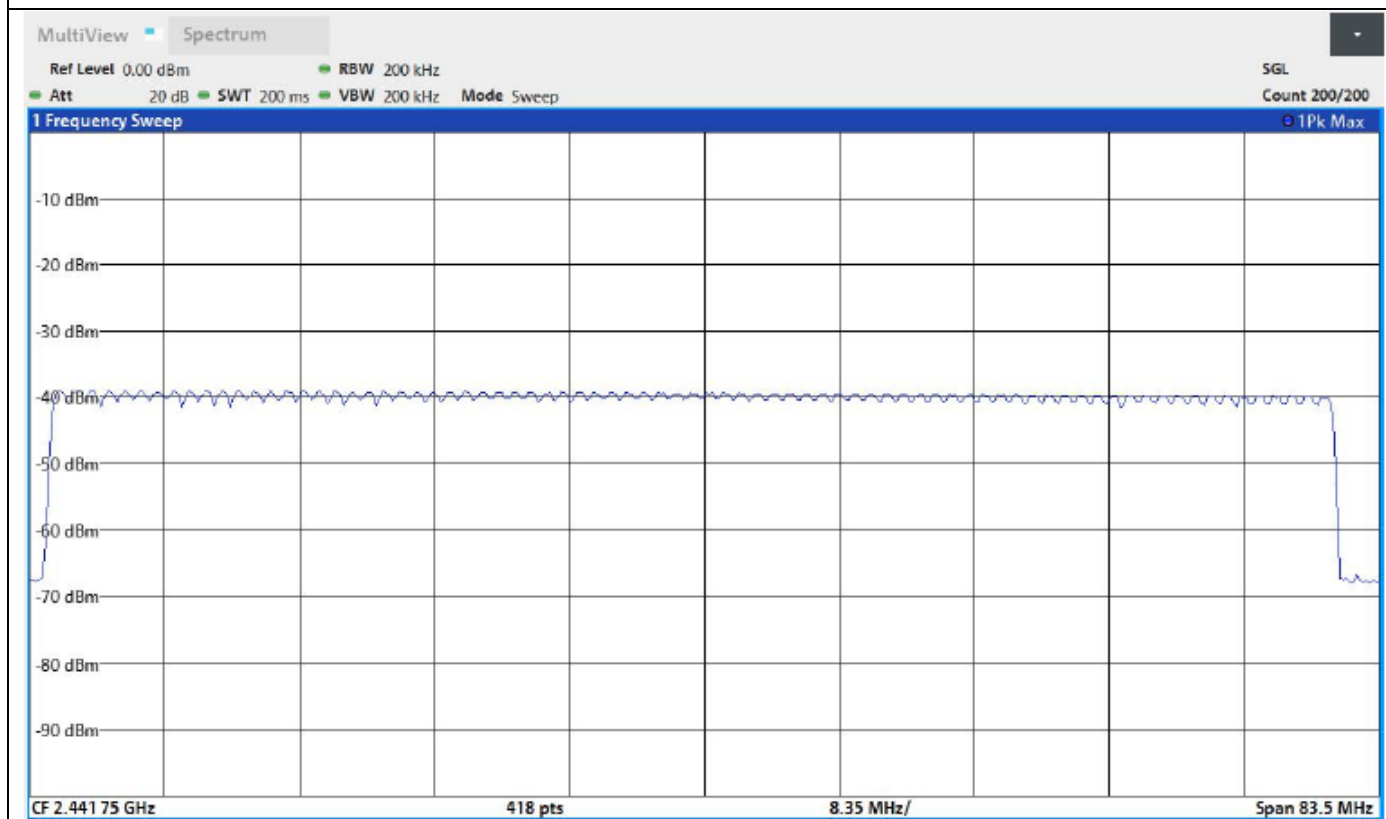
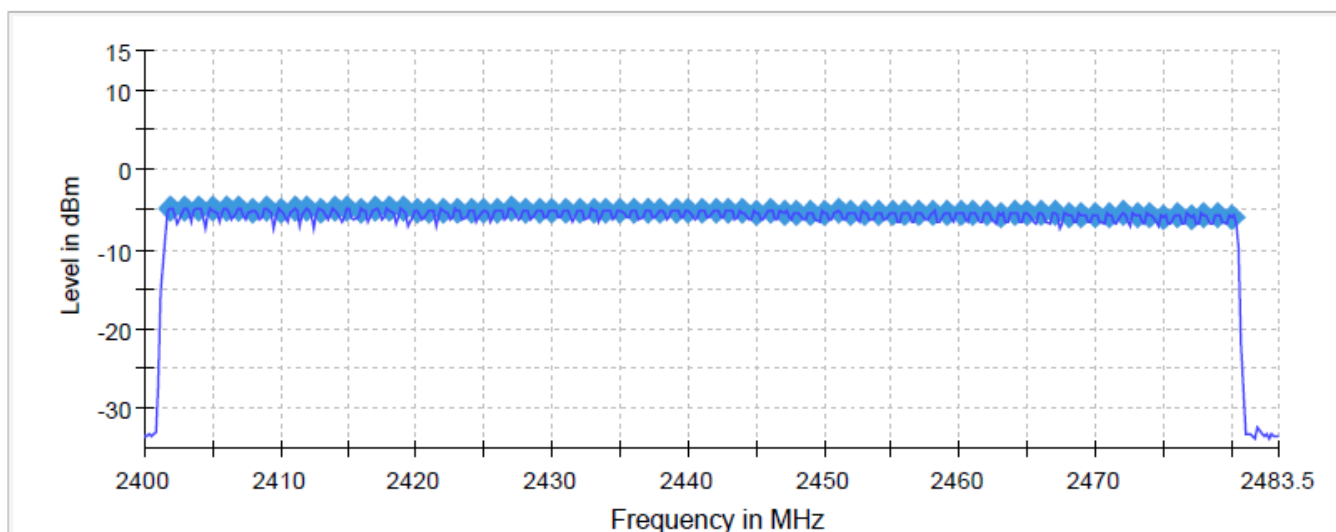
Channels:

Channels	Limit Min	Result
79	15	PASS

Plots:

Hopping Frequencies

Sequence



4.4.2 Band Edge (Hopping)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.6, RSS-247 Section 5.5

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

Data Rate	Frequency (MHz)	Level (dBm)
DH1-HCH	2401.825000	-5.4
3-DH1-HCH	2417.825000	-6.3

Spectrum Analyzer Settings

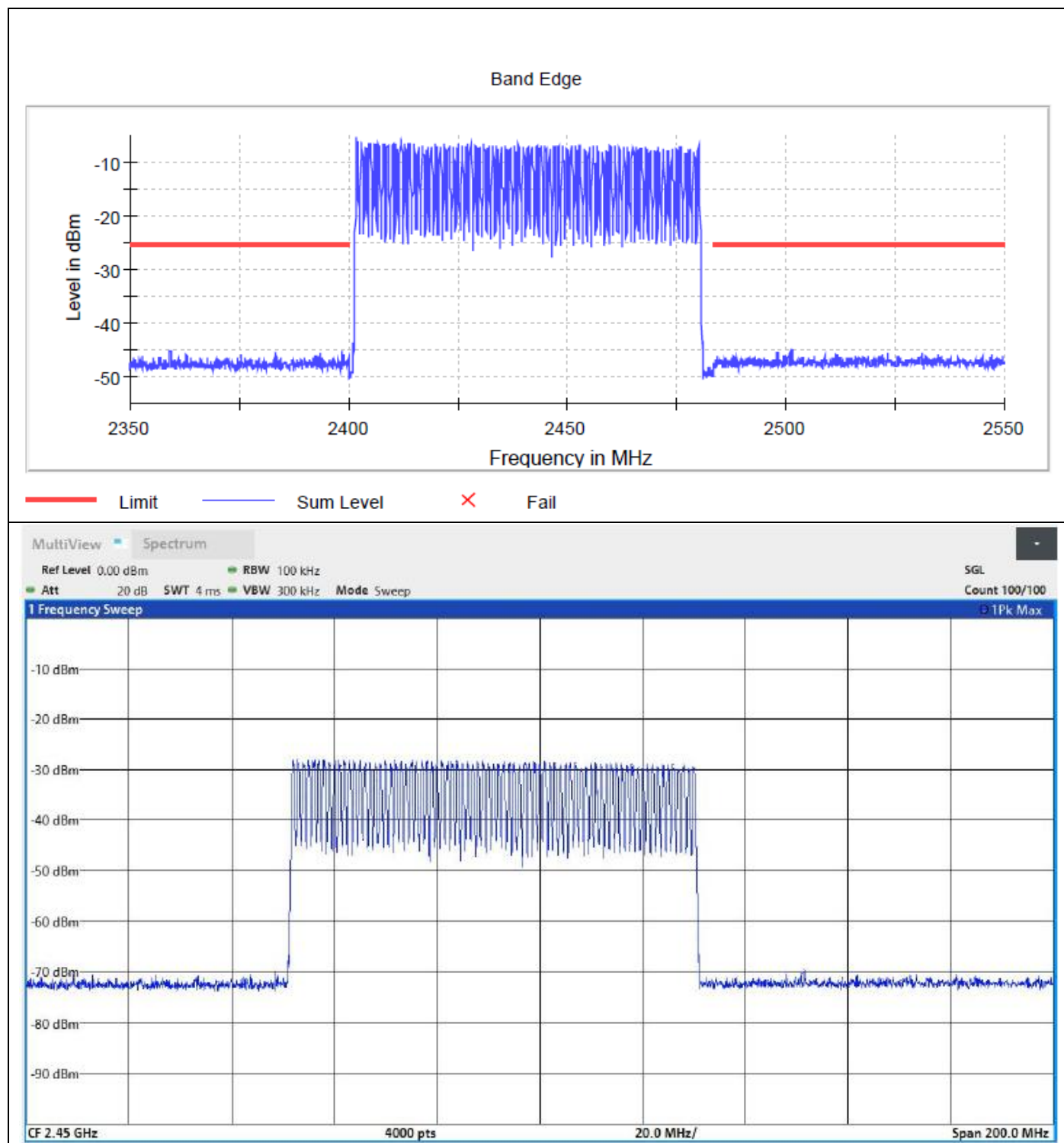
Setting	Instrument Value	Target Value
Start Frequency	2.35000 GHz	2.35000 GHz
Stop Frequency	2.55000 GHz	2.55000 GHz
Span	200.000 MHz	200.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	4000	~ 4000
Sweeptime	4.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	47 / max. 50	max. 50
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

4.4.2.1 DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2501.525000	-44.9	19.5	-25.4	PASS
2501.475000	-45.0	19.7	-25.4	PASS
2398.575000	-45.3	19.9	-25.4	PASS
2500.925000	-45.4	20.0	-25.4	PASS
2500.975000	-45.4	20.0	-25.4	PASS
2359.225000	-45.4	20.0	-25.4	PASS
2359.275000	-45.4	20.1	-25.4	PASS
2398.525000	-45.5	20.1	-25.4	PASS
2501.575000	-45.5	20.1	-25.4	PASS
2498.025000	-45.6	20.2	-25.4	PASS
2498.075000	-45.6	20.2	-25.4	PASS
2531.175000	-45.7	20.3	-25.4	PASS
2523.275000	-45.7	20.3	-25.4	PASS
2531.225000	-45.7	20.3	-25.4	PASS
2393.575000	-45.7	20.3	-25.4	PASS

Plots:

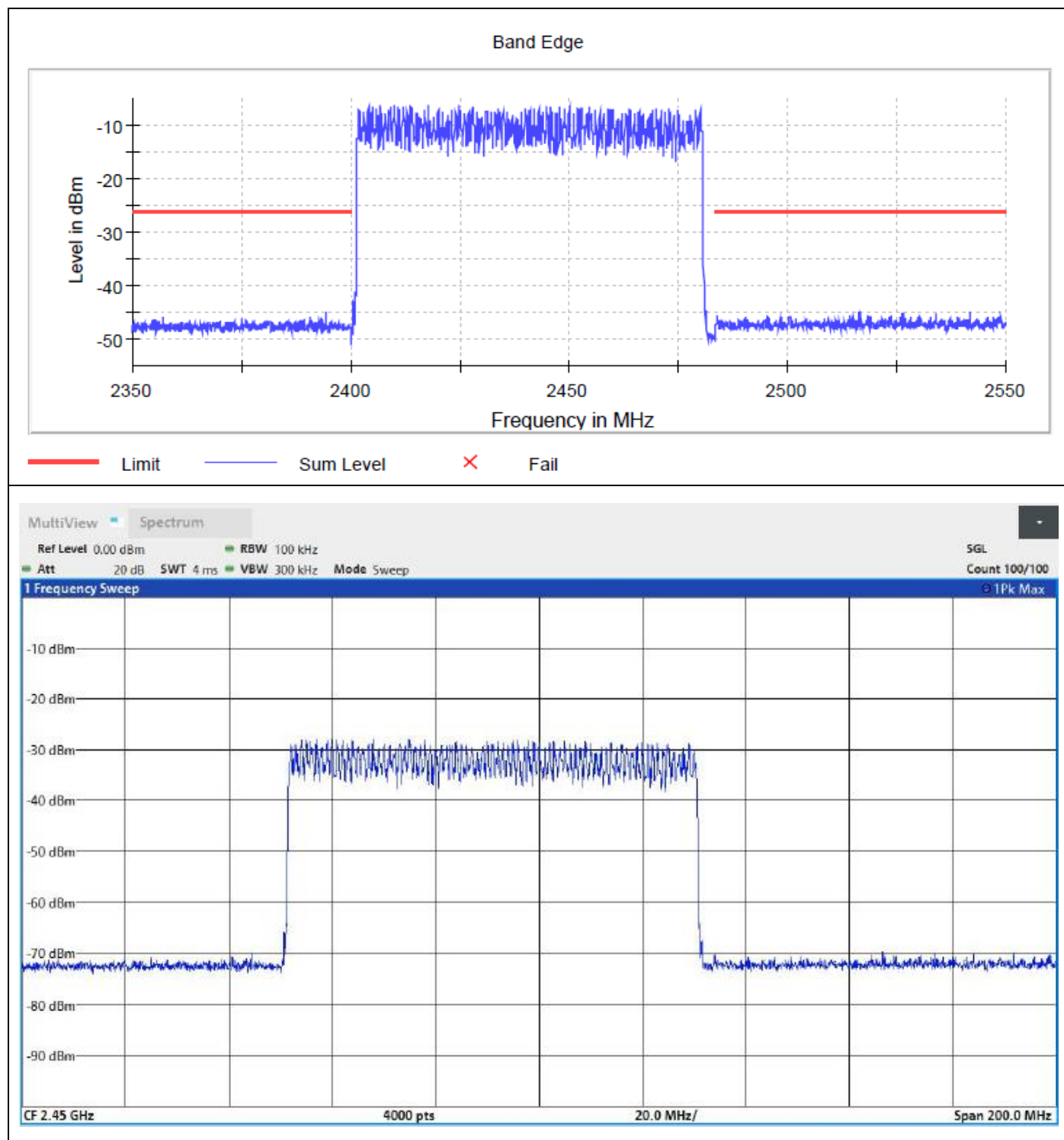


4.4.2.2 3-DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2516.425000	-44.9	18.6	-26.3	PASS
2516.475000	-45.1	18.8	-26.3	PASS
2394.325000	-45.1	18.8	-26.3	PASS
2541.775000	-45.1	18.9	-26.3	PASS
2394.275000	-45.2	18.9	-26.3	PASS
2534.025000	-45.3	19.0	-26.3	PASS
2516.375000	-45.3	19.0	-26.3	PASS
2526.375000	-45.3	19.0	-26.3	PASS
2541.725000	-45.4	19.1	-26.3	PASS
2526.425000	-45.4	19.1	-26.3	PASS
2514.325000	-45.5	19.2	-26.3	PASS
2483.925000	-45.5	19.2	-26.3	PASS
2534.075000	-45.5	19.2	-26.3	PASS
2548.675000	-45.5	19.3	-26.3	PASS
2483.875000	-45.6	19.4	-26.3	PASS

Plots:



4.4.3 Carrier Frequency Separation

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.2, RSS-247 Section 5.1(b)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty ($k = 2$) < 1%

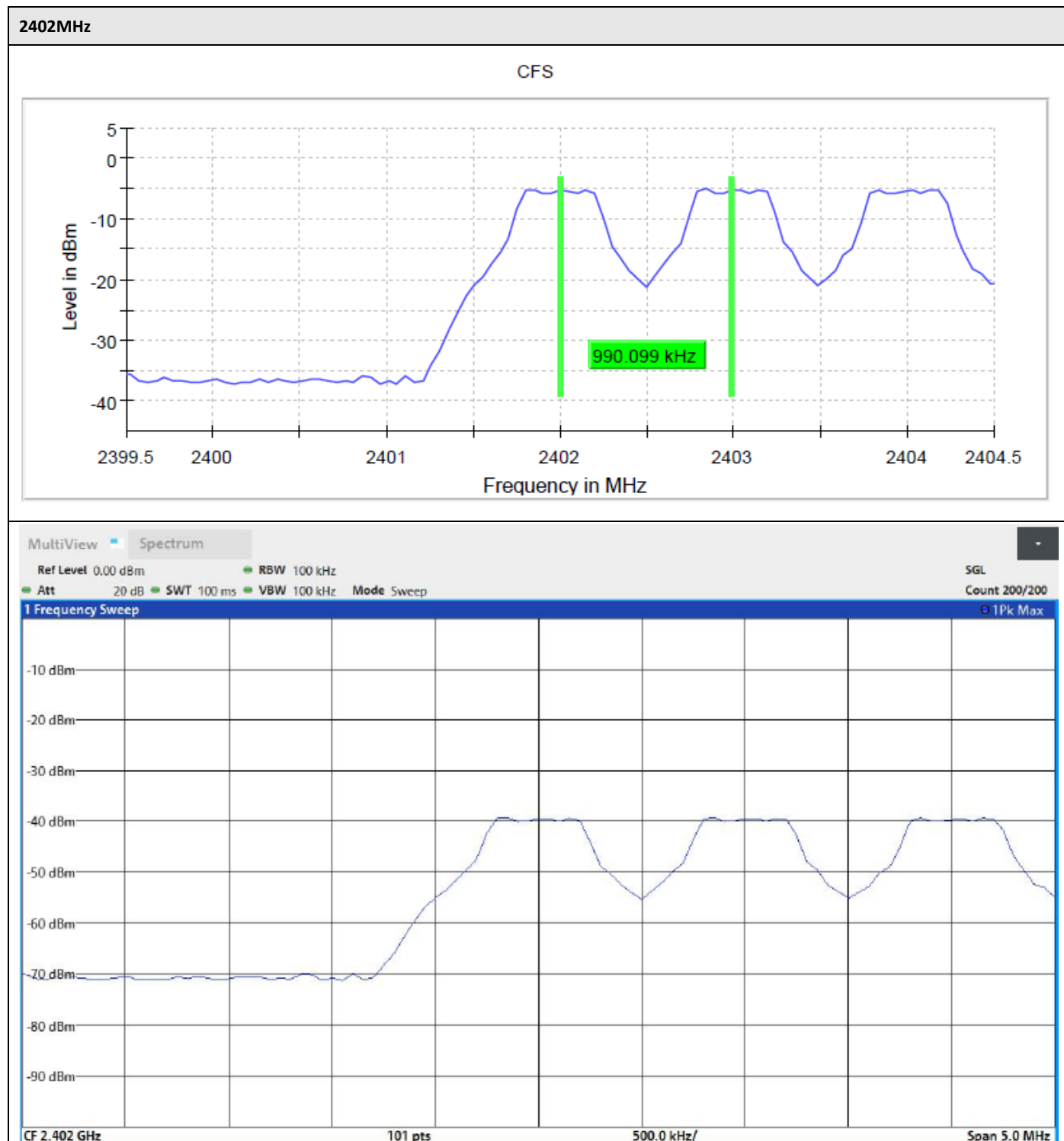
Hopping Mode				
Packet Type	2402MHz		2480MHz	
	Frequency Separation (MHz)	Minimum Limit (MHz)	Frequency Separation (MHz)	Minimum Limit (MHz)
DH1	0.990099	0.666667	0.990099	0.666667
3-DH1	0.990099	0.891089	0.990099	0.891089

Spectrum Analyzer Settings:

Setting	Instrument Value	Target Value
Start Frequency	2.39950 GHz	2.39950 GHz
Stop Frequency	2.40450 GHz	2.40450 GHz
Span	5.000 MHz	5.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	100.000 kHz	>= 100.000 kHz
SweepPoints	101	~ 50
SweepTime	100.000 ms	100.000 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	FFT
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	15 / max. 50	max. 50
Stable	10 / 10	10
Max Stable Difference	0.03 dB	0.50 dB

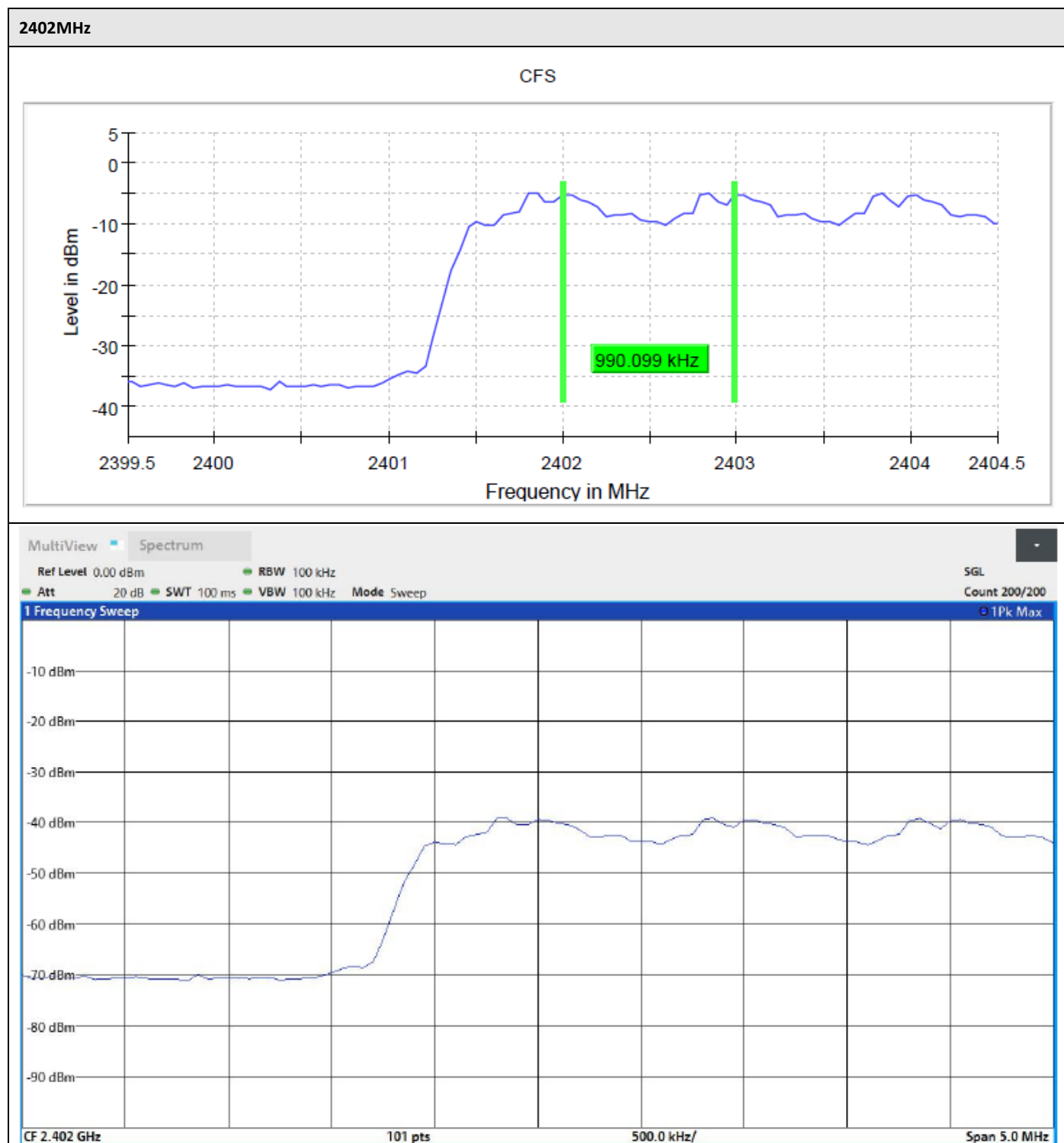
4.4.3.1 DH1

Plots:



4.4.3.2 3-DH1

Plots:



4.4.4 Time of Channel Occupancy

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.4, RSS-247 Section 5.1(d)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1%

The transmit time per hop was measured by summing the sweep points above a threshold at least 10dB from the maximum level on the spectrum analyzer display.

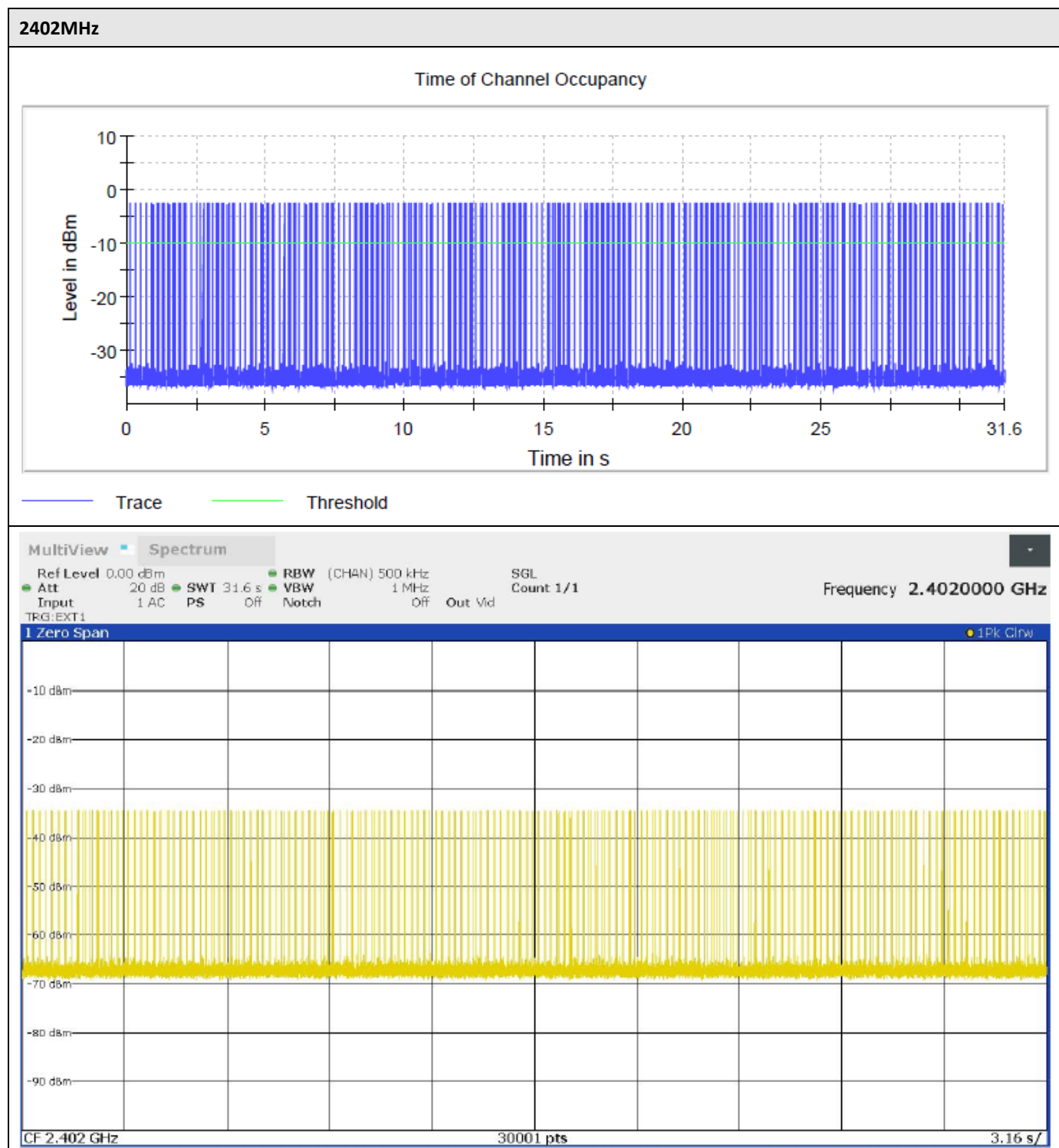
Frequency	Data Rate	Mean Transmit Time per Hop (ms)	Number of Hops	Time (ms)	Limit Max (ms)	Result
2402	DH1	0.394	319	125.950	400.000	PASS
2402	3-DH1	0.352	319	112.630	400.000	PASS
2441	DH1	0.395	318	125.960	400.000	PASS
2441	3-DH1	0.351	319	112.410	400.000	PASS
2480	DH1	0.394	318	125.830	400.000	PASS
2480	3-DH1	0.343	318	109.610	400.000	PASS

Spectrum Analyzer Settings:

Setting	Instrument Value	Target Value
Center Frequency	2.40200 GHz	2.40200 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
Sweeptype	Sweep	AUTO
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

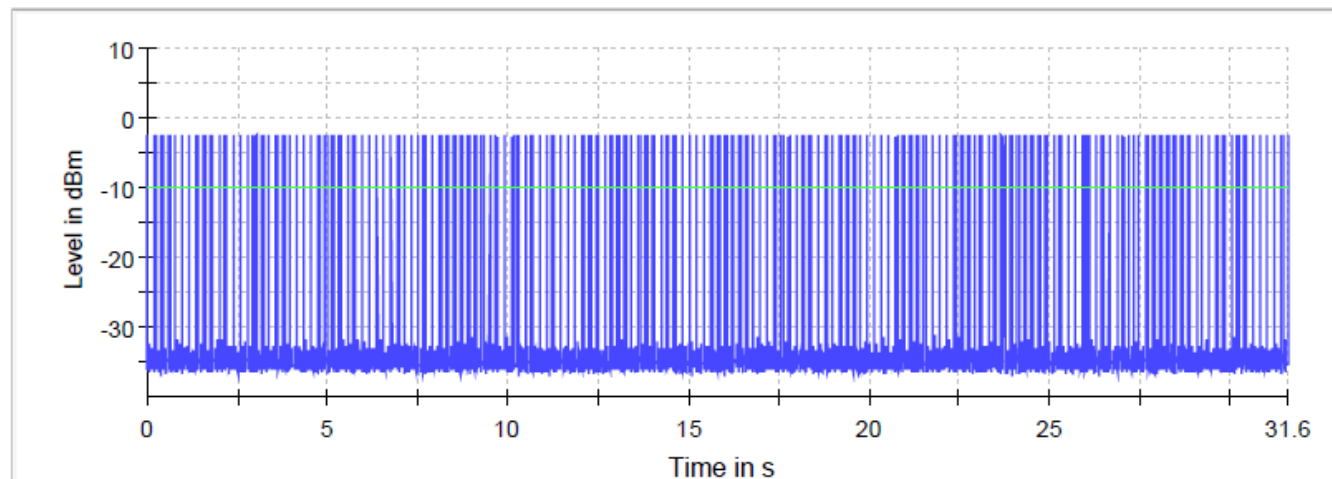
4.4.4.1 DH1

Plots:



2441MHz

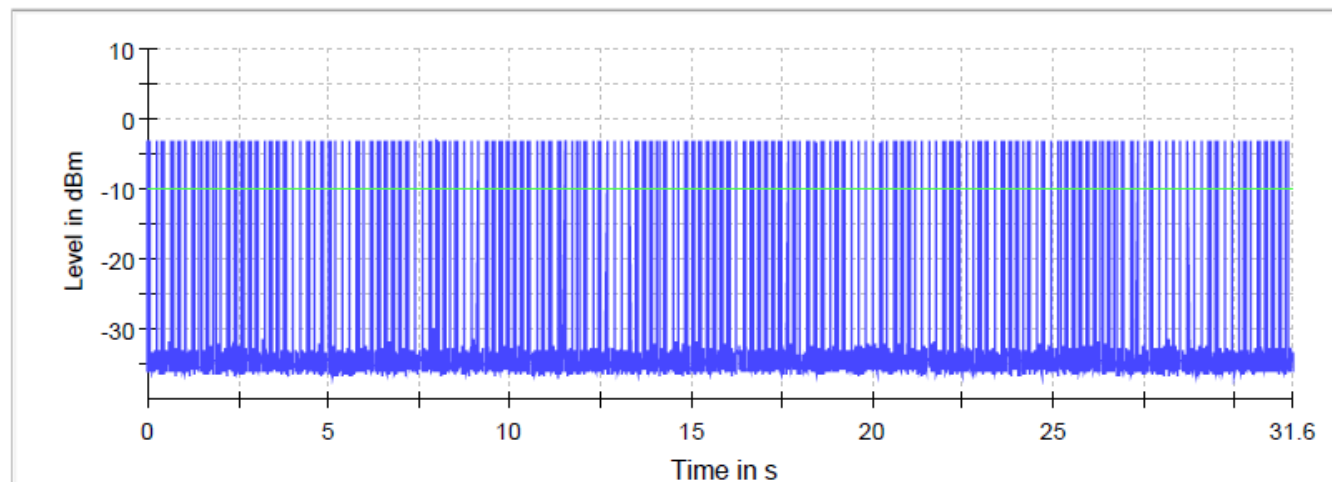
Time of Channel Occupancy



Trace Threshold

2480MHz

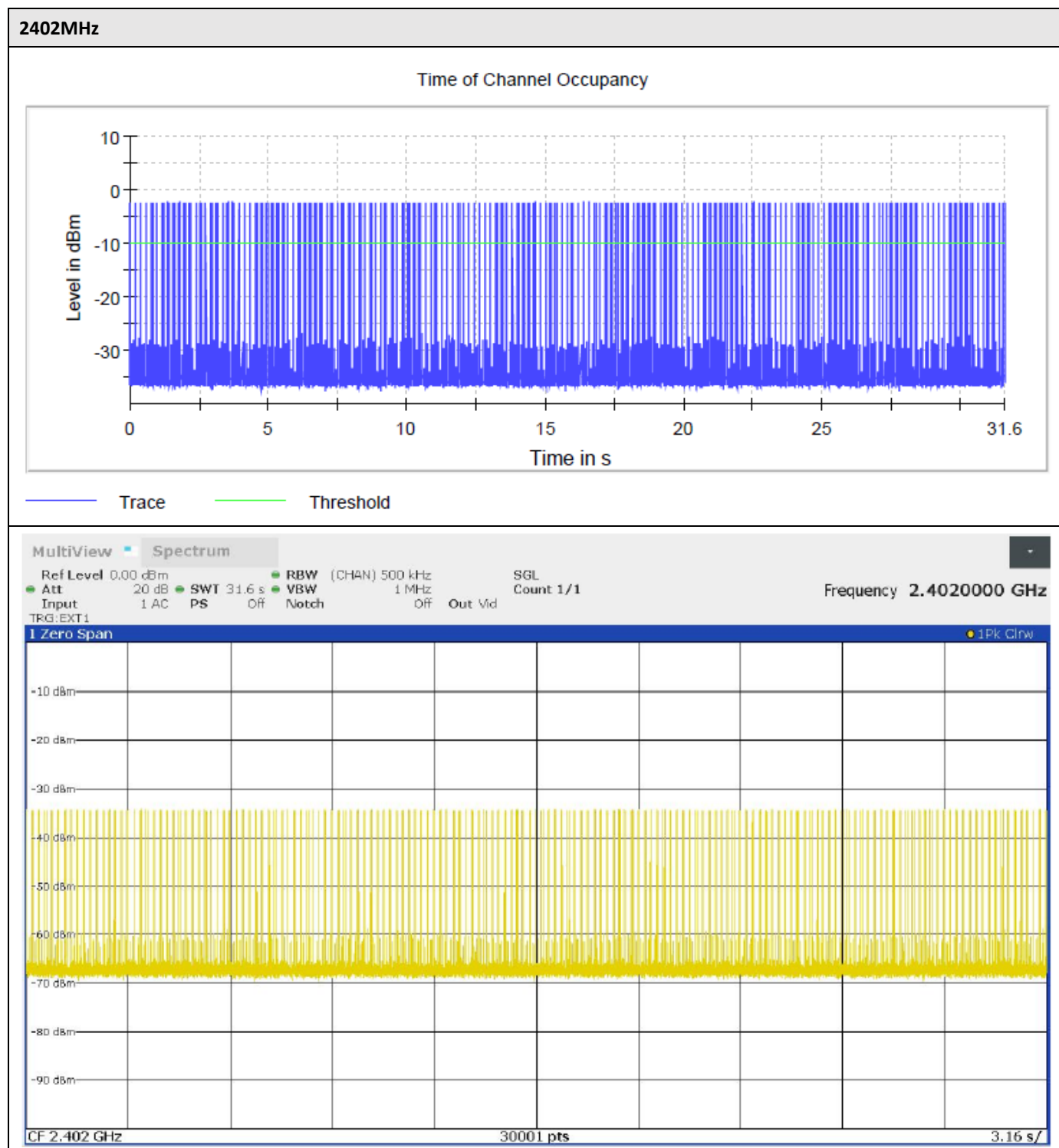
Time of Channel Occupancy



Trace Threshold

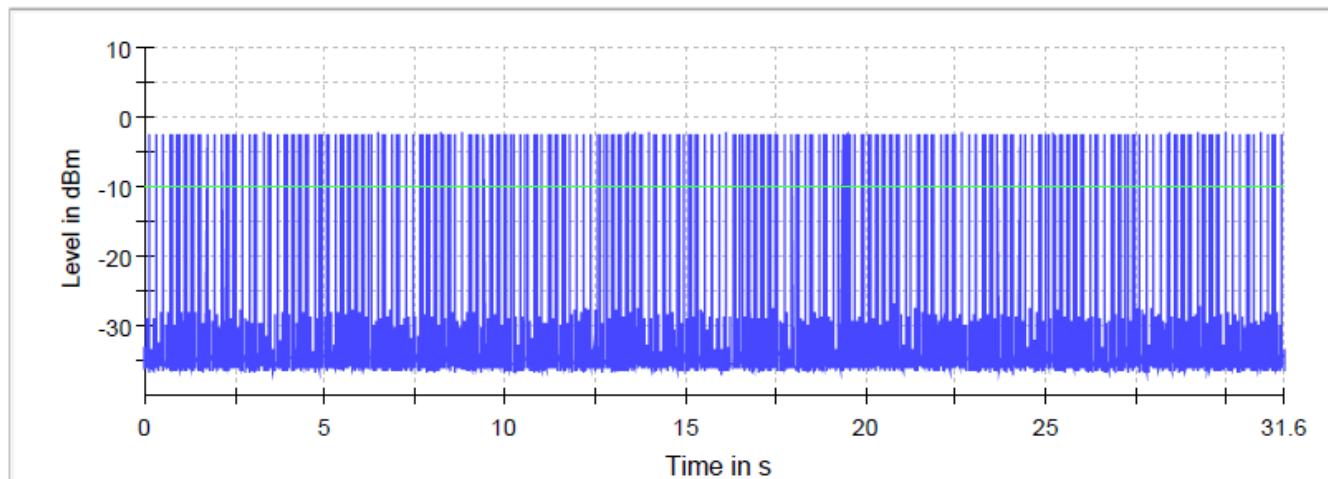
4.4.4.2 3-DH1

Plots:



2441MHz

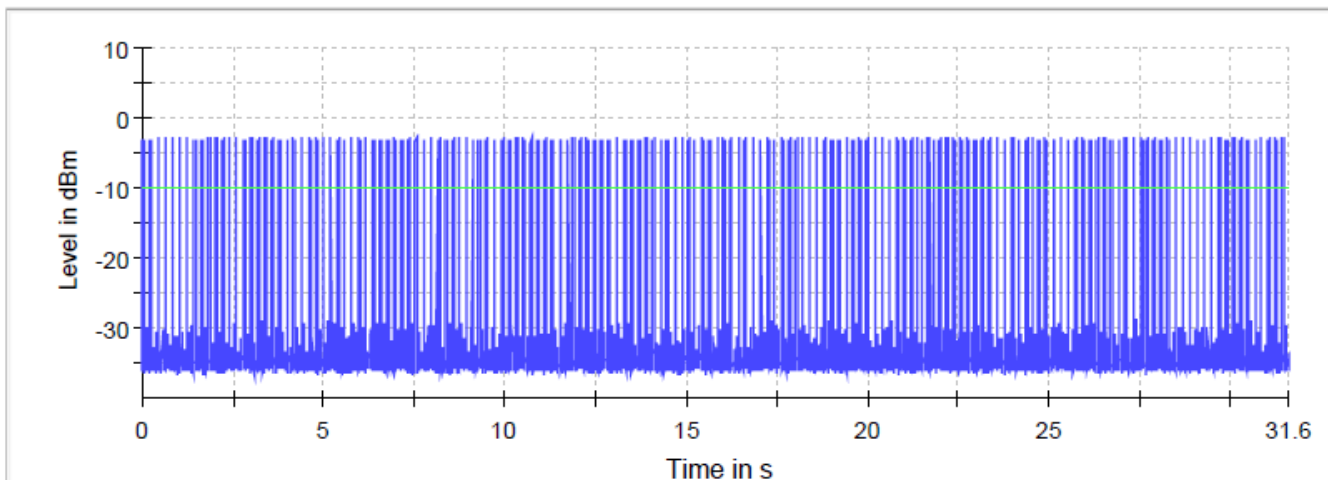
Time of Channel Occupancy



Trace Threshold

2480MHz

Time of Channel Occupancy



Trace Threshold

4.4.5 Peak Output Power

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.5, RSS-247 Section 5.4 (b)

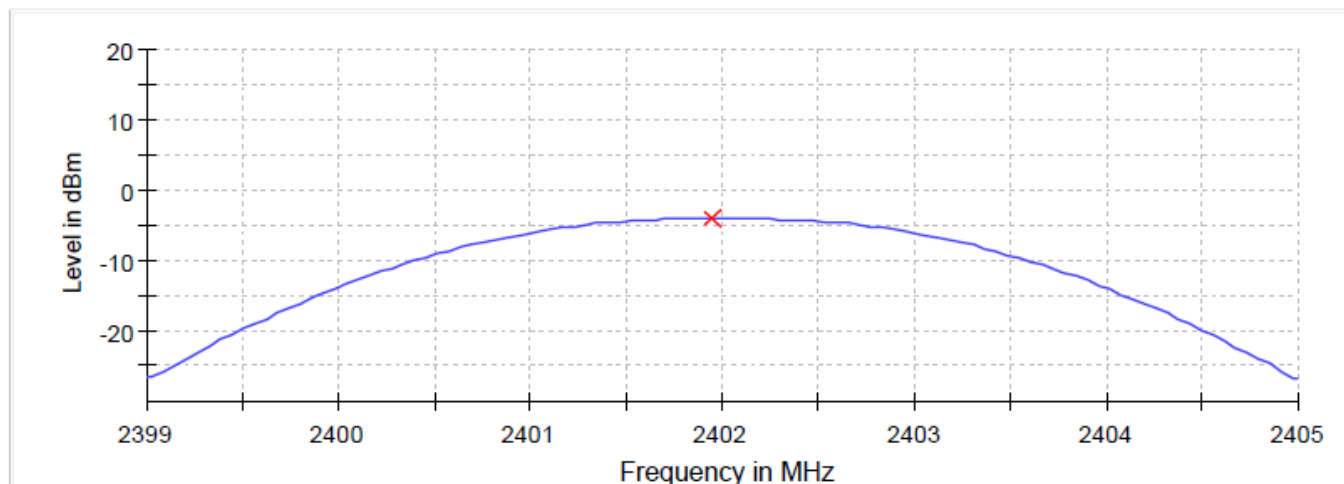
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Data Rate	2402 MHz	2441 MHz	2480 MHz	Limit dBm
DH1	-4.164	-4.219	-4.700	21.0
DH3	-4.236	-4.302	-4.760	21.0
DH5	-4.250	-4.338	-4.811	21.0
2-DH1	-2.615	-2.909	-3.511	21.0
2-DH3	-2.634	-2.952	-3.537	21.0
2-DH5	-2.633	-2.941	-3.515	21.0
3-DH1	-2.334	-2.652	-3.224	21.0
3-DH3	-2.444	-2.713	-3.336	21.0
3-DH5	-2.425	-2.732	-3.316	21.0

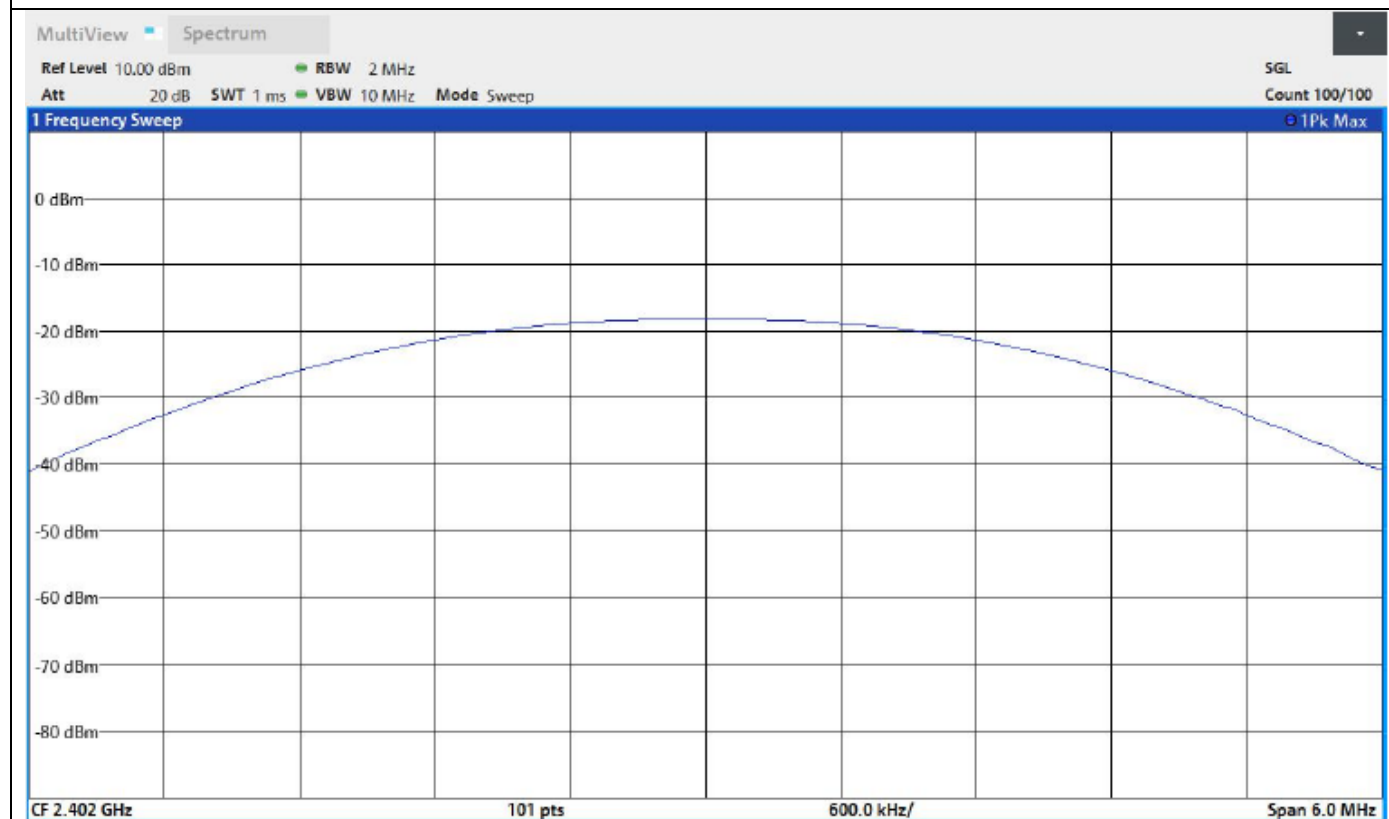
4.4.5.1 DH1

2402MHz

Peak Power



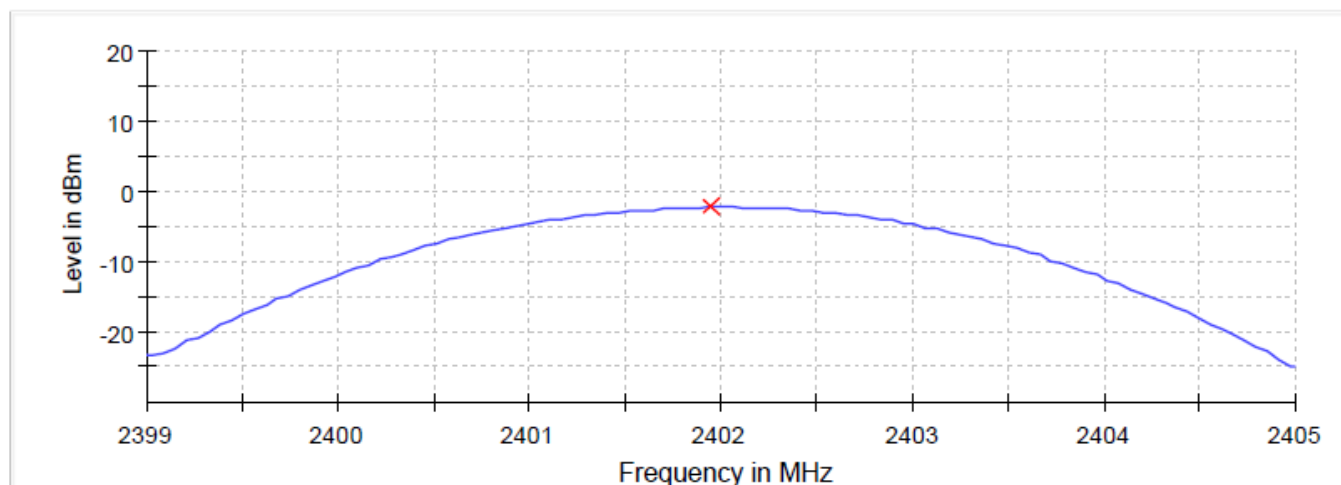
Connector 1 × Peak Connector 1



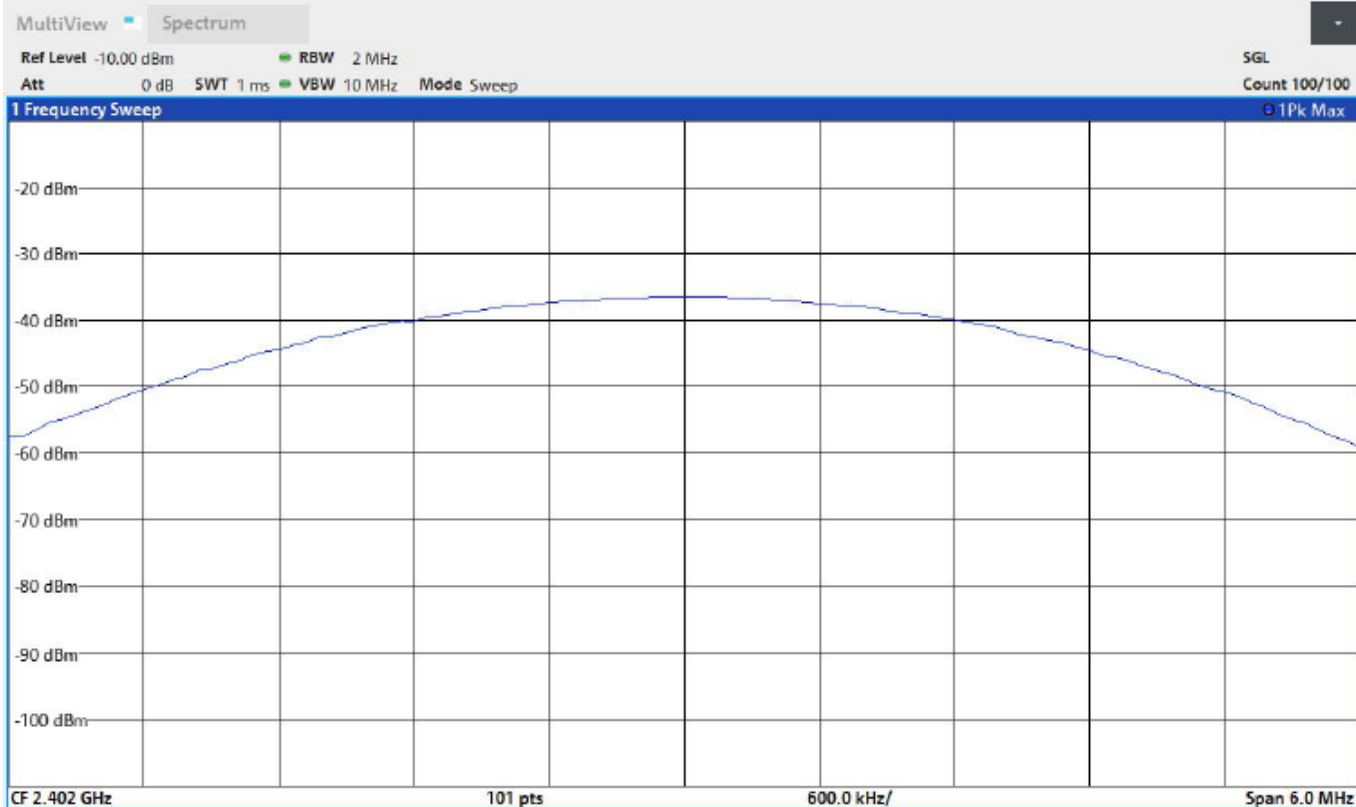
4.4.5.2 3-DH1

2402MHz

Peak Power



Connector 1 X Peak Connector 1



4.4.6 Emission Bandwidth 20dB

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.7, RSS-247 Section 5.1(a)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

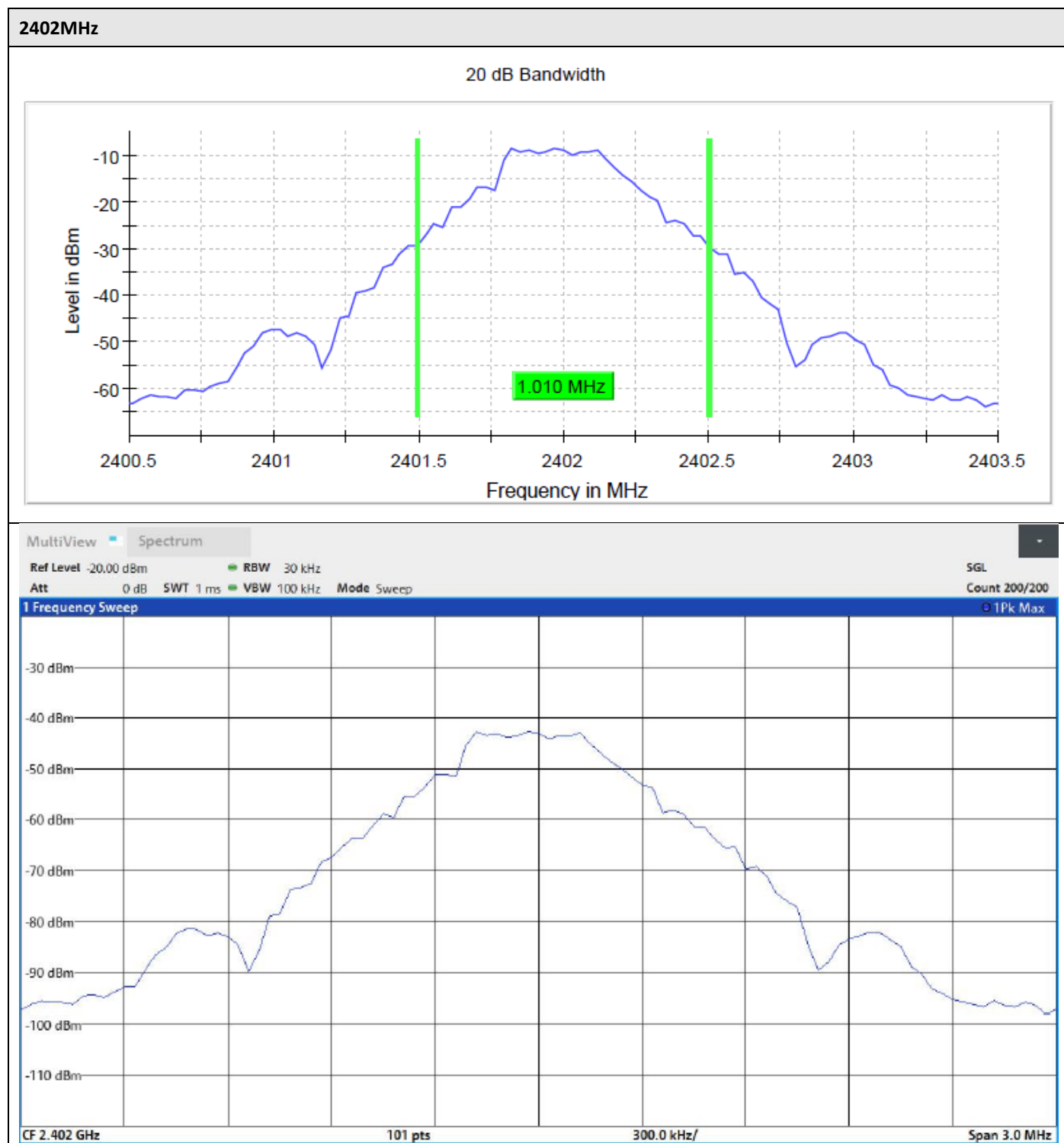
Channel / Frequency (MHz)	Packet Type	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
0 / 2402	DH1	1.009900	2401.495050	2402.504950	PASS
	3-DH1	1.336633	2401.316832	2402.653465	PASS
39 / 2441	DH1	1.009900	2440.495050	2441.504950	PASS
	3-DH1	1.336633	2440.316832	2441.653465	PASS
78 / 2480	DH1	1.009900	2479.495050	2480.504950	PASS
	3-DH1	1.336633	2479.316832	2480.653465	PASS

Spectrum Analyzer Settings:

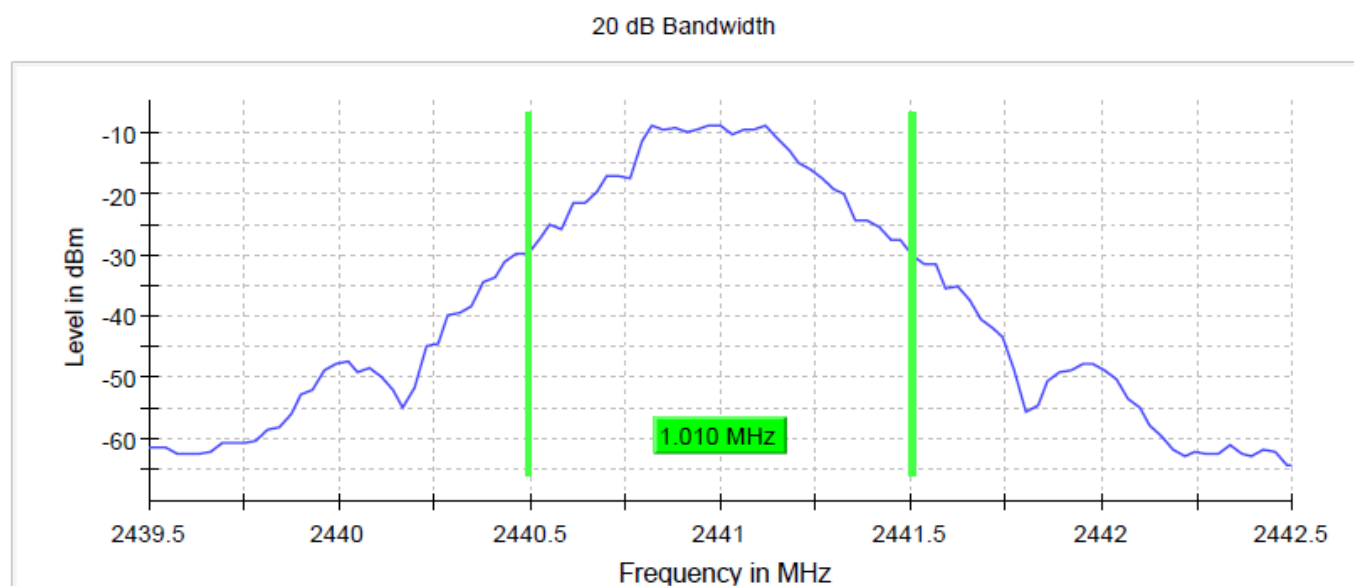
Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40350 GHz	2.40350 GHz
Span	3.000 MHz	3.000 MHz
RBW	30.000 kHz	>= 30.000 kHz
VBW	100.000 kHz	>= 90.000 kHz
SweepPoints	101	~ 101
Sweptime	1.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	7 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.10 dB	0.50 dB

4.4.6.1 DH1

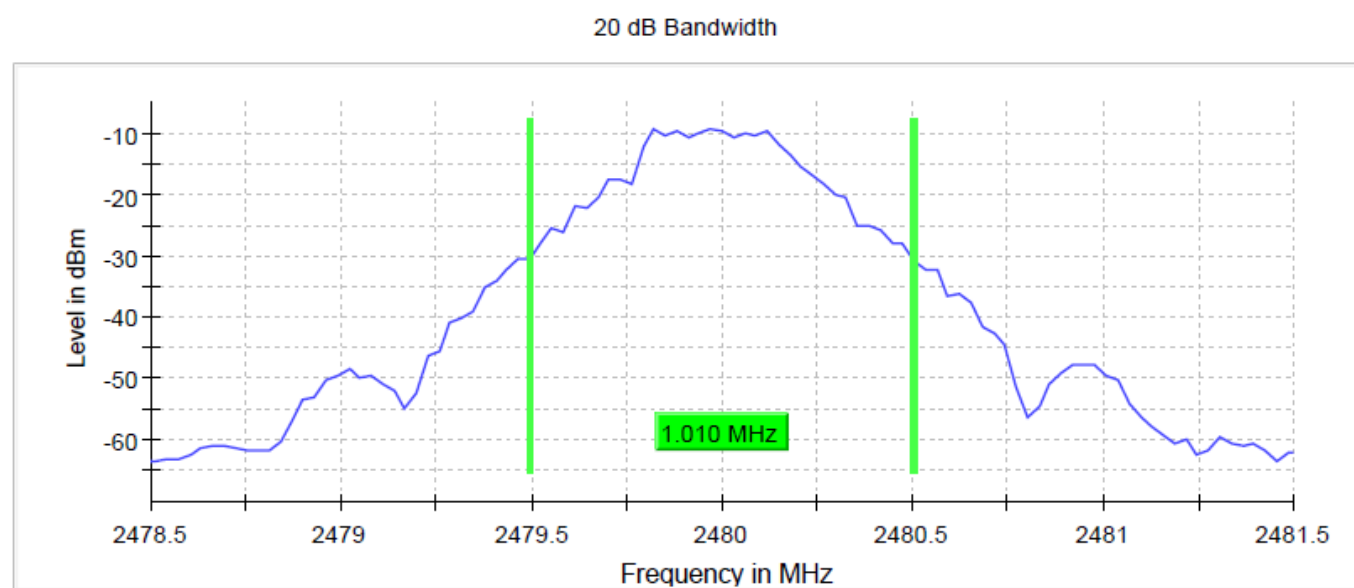
Plots:



2441MHz

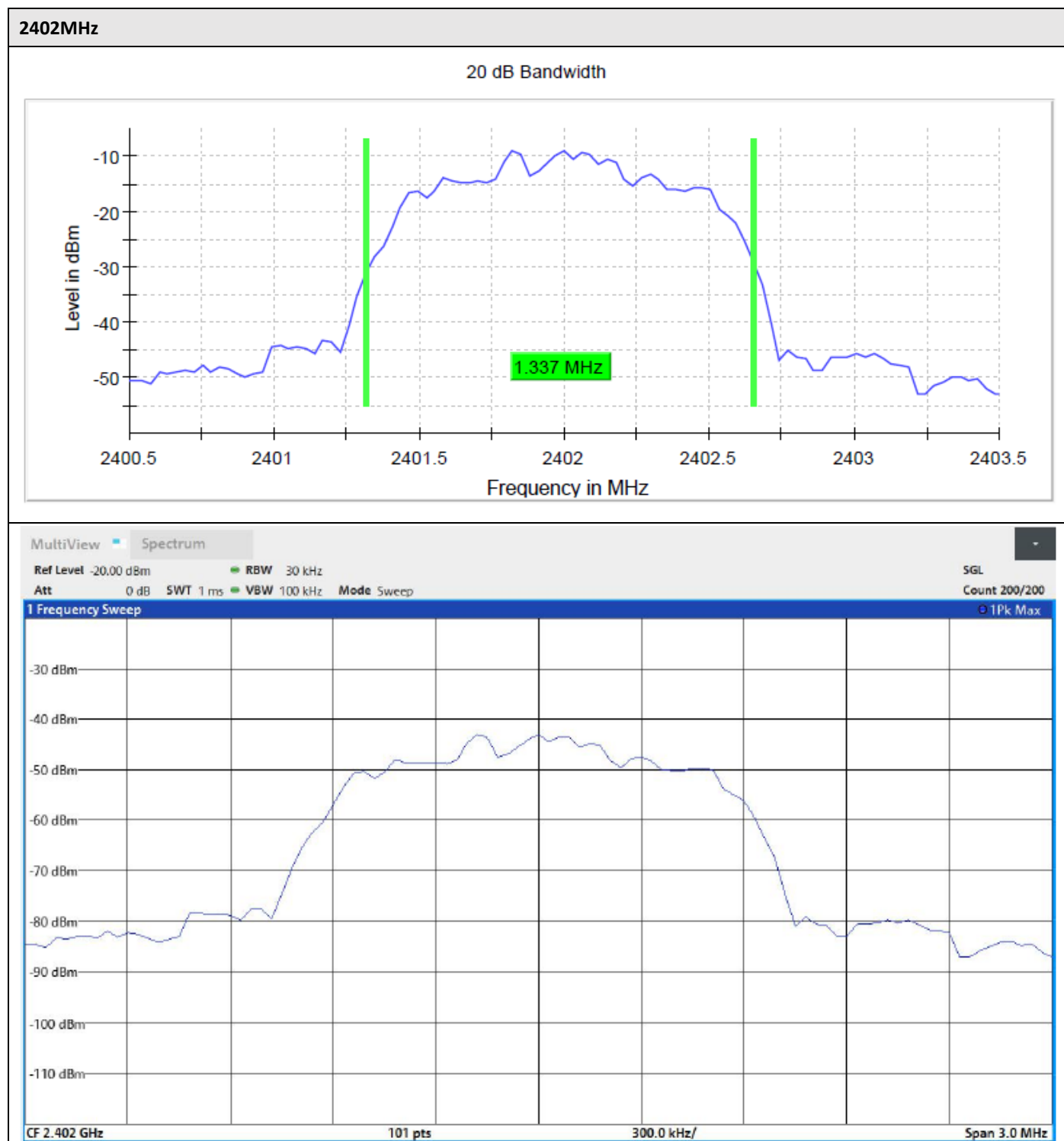


2480MHz



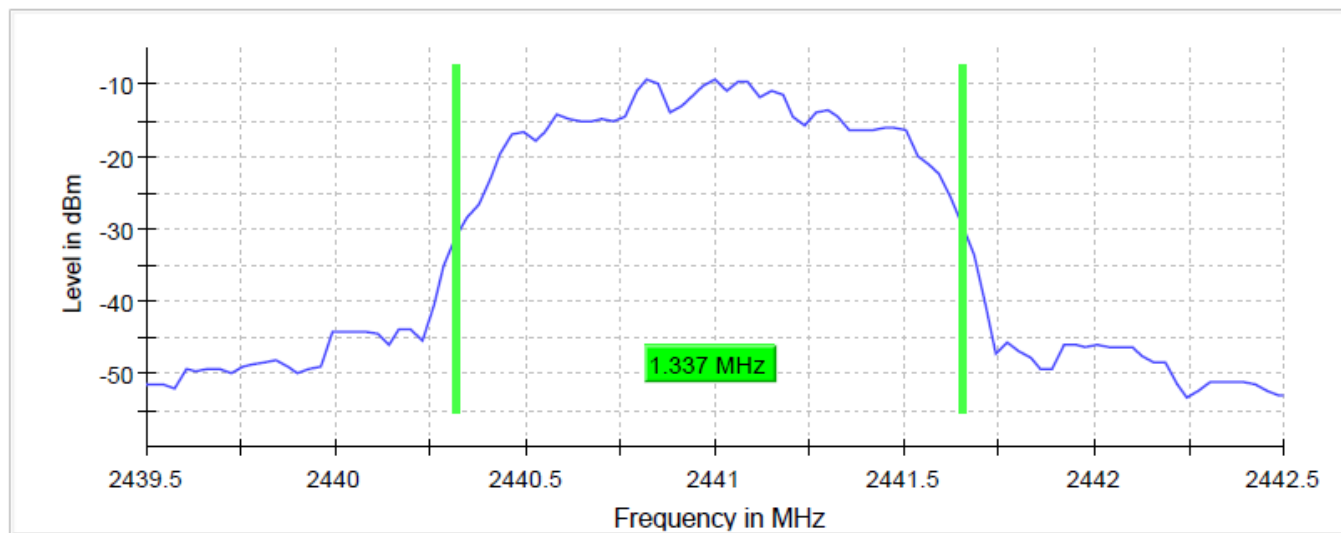
4.4.6.2 3-DH1

Plots:



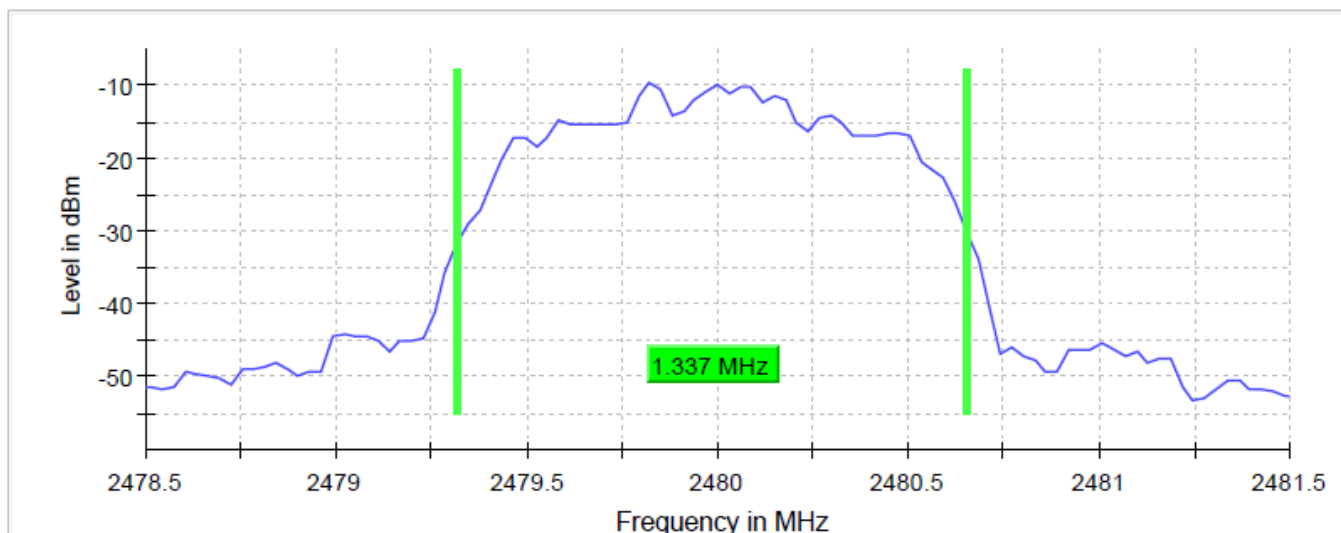
2441MHz

20 dB Bandwidth



2480MHz

20 dB Bandwidth



4.4.7 Occupied Channel Bandwidth 99%

Test according to RSS-GEN Section 6.7, KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

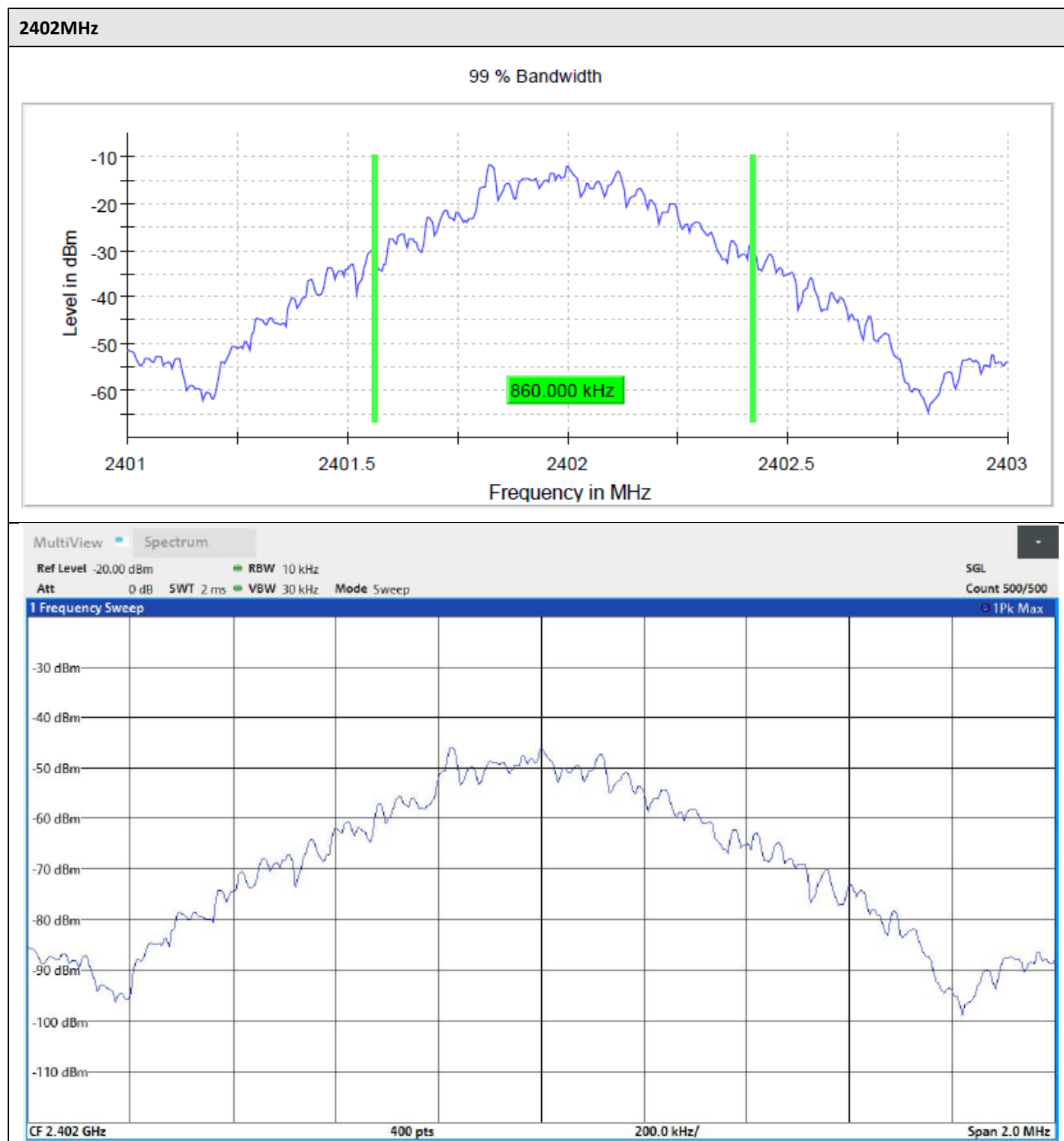
Channel / Frequency (MHz)	Packet Type	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
0 / 2402	DH1	0.860000	2401.562500	2402.422500	PASS
	3-DH1	1.155000	2401.427500	2402.582500	PASS
39 / 2441	DH1	0.860000	2440.562500	2441.422500	PASS
	3-DH1	1.155000	2440.427500	2441.582500	PASS
78 / 2480	DH1	0.860000	2479.562500	2480.422500	PASS
	3-DH1	1.160000	2479.422500	2480.582500	PASS

Spectrum Analyzer Settings:

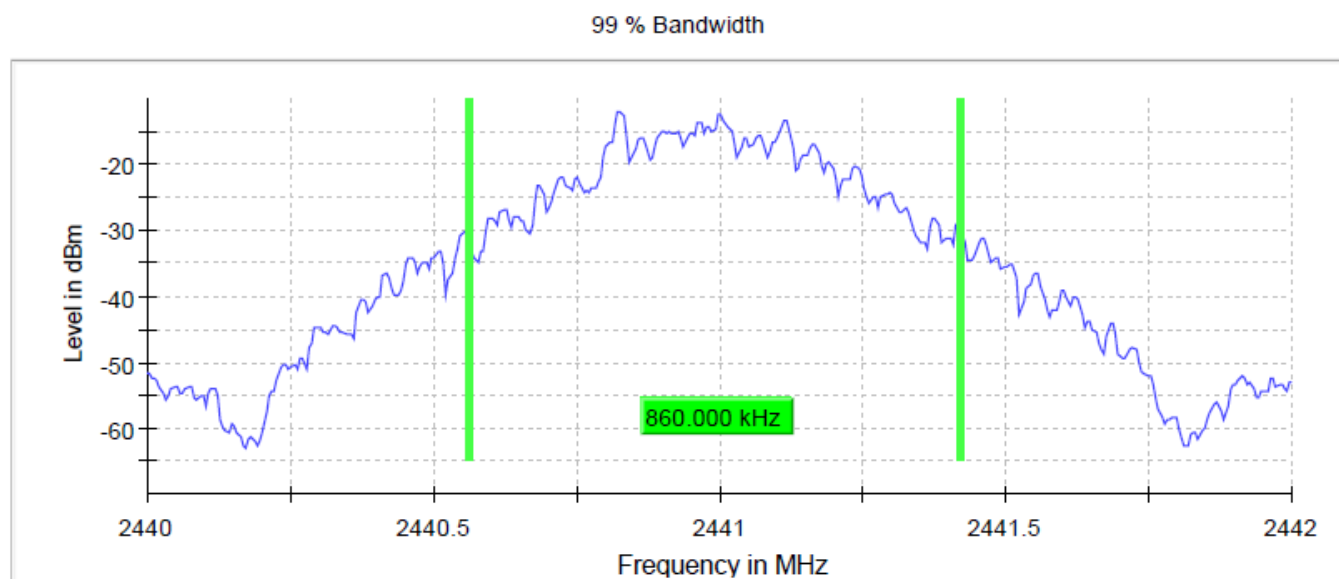
Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	2.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.05 dB	0.30 dB

4.4.7.1 DH1

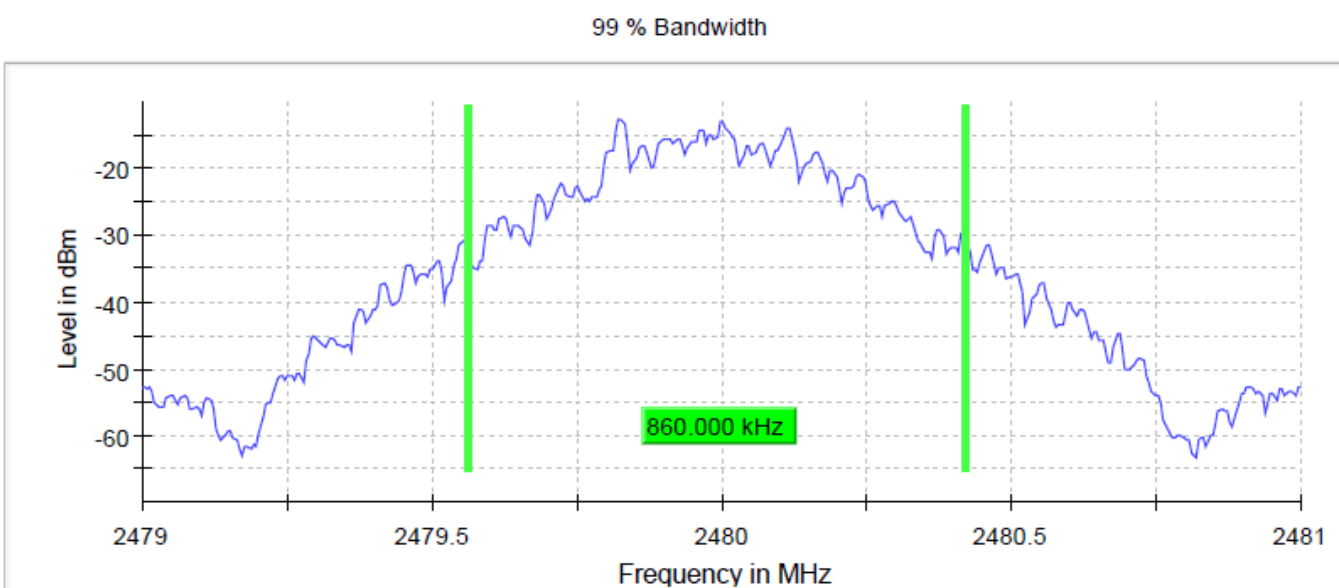
Plots:



2441MHz

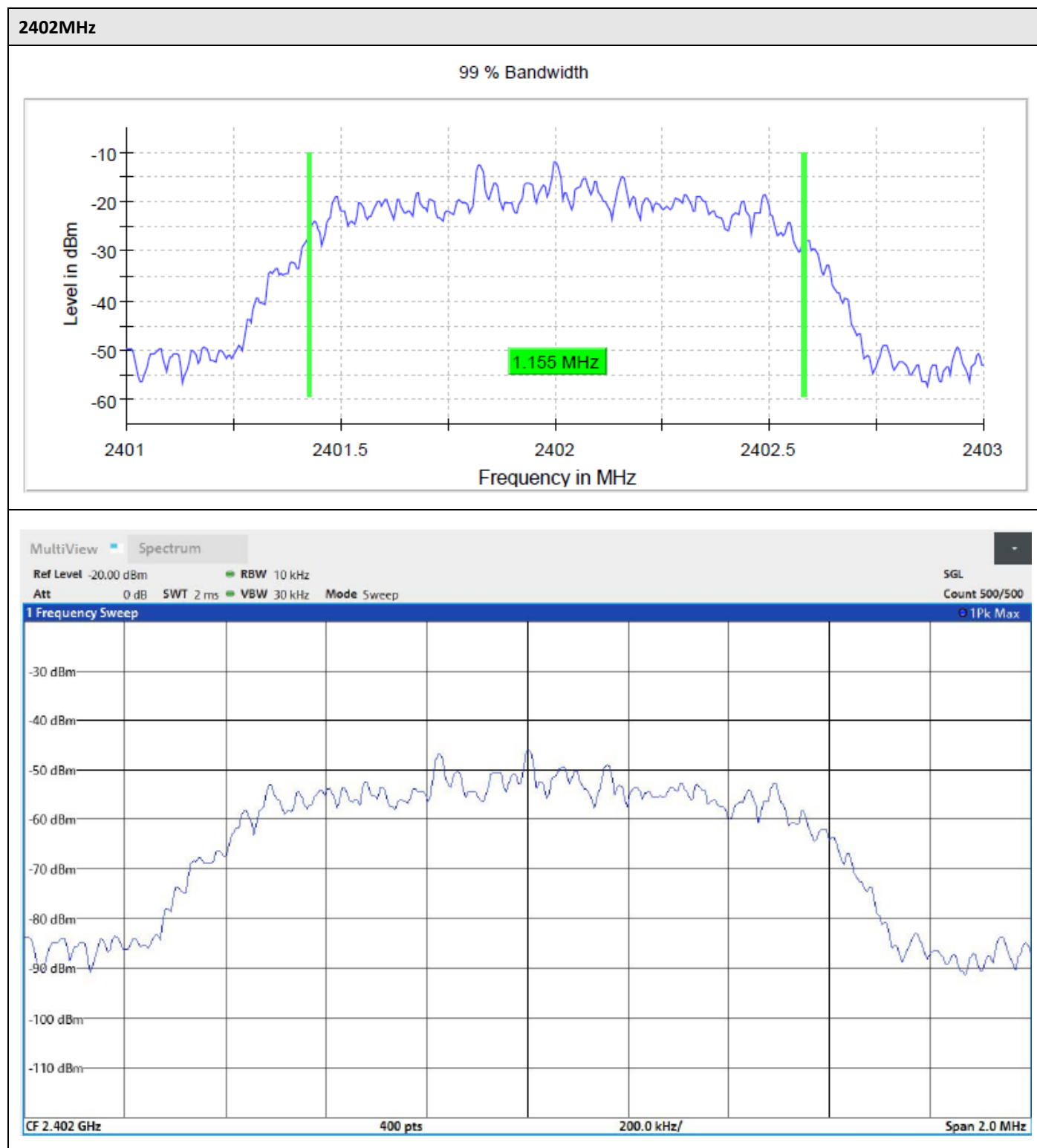


2480MHz

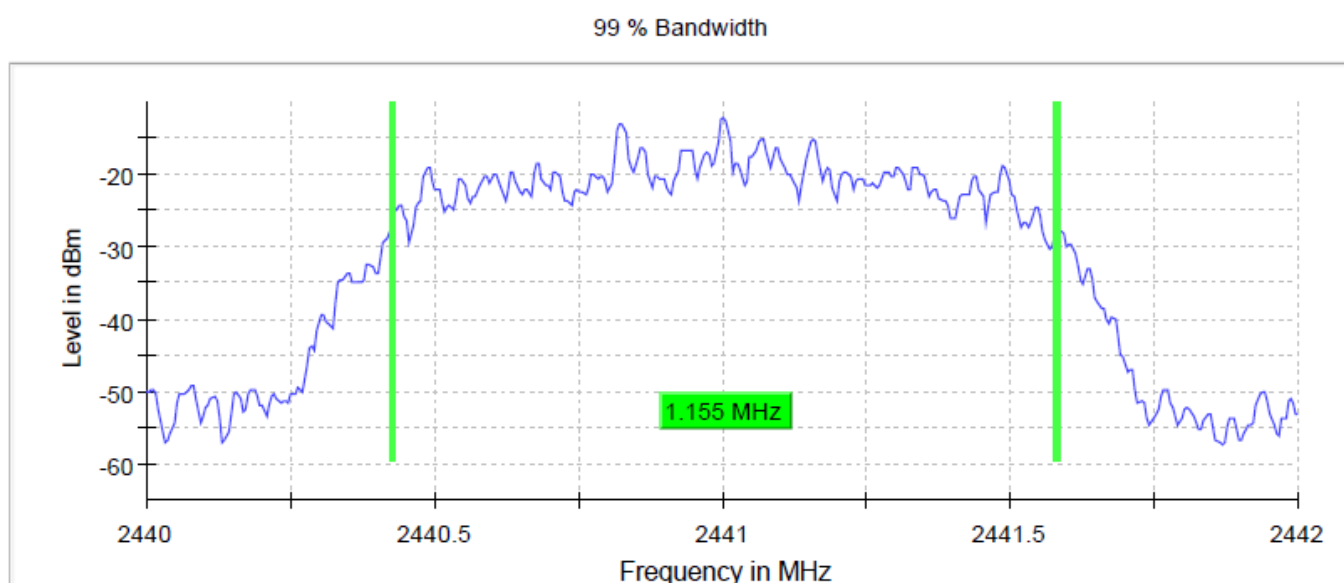


4.4.7.2 3-DH1

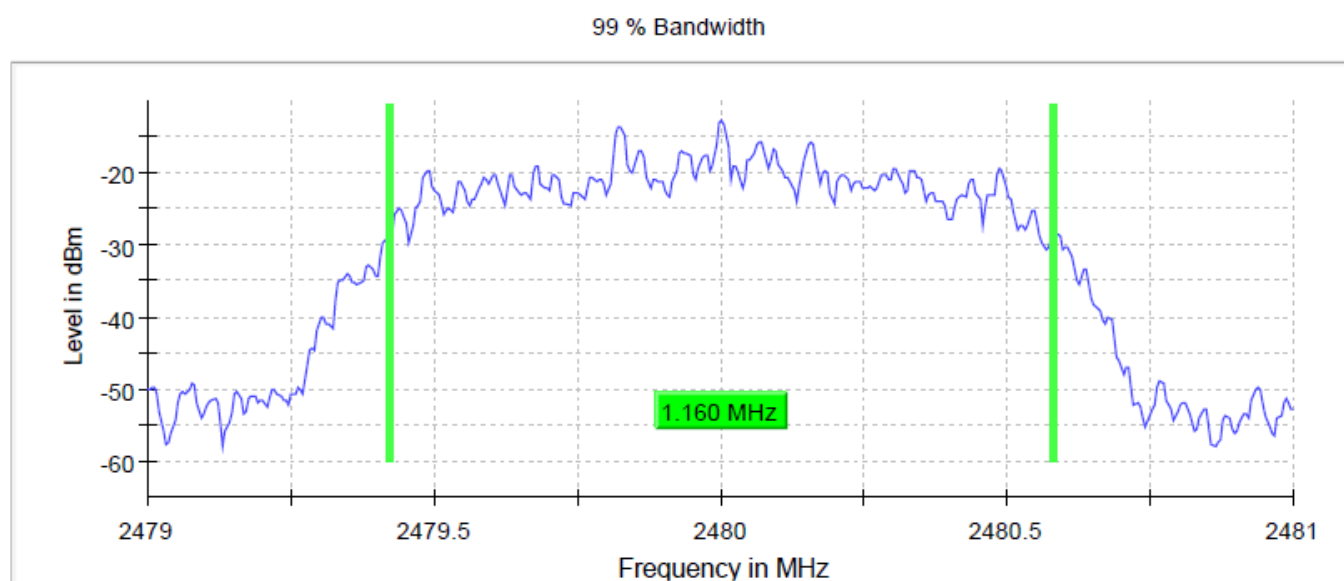
Plots:



2441MHz



2480MHz



4.4.8 Band Edge Low (2402 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.6, RSS-247 Section 5.5

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

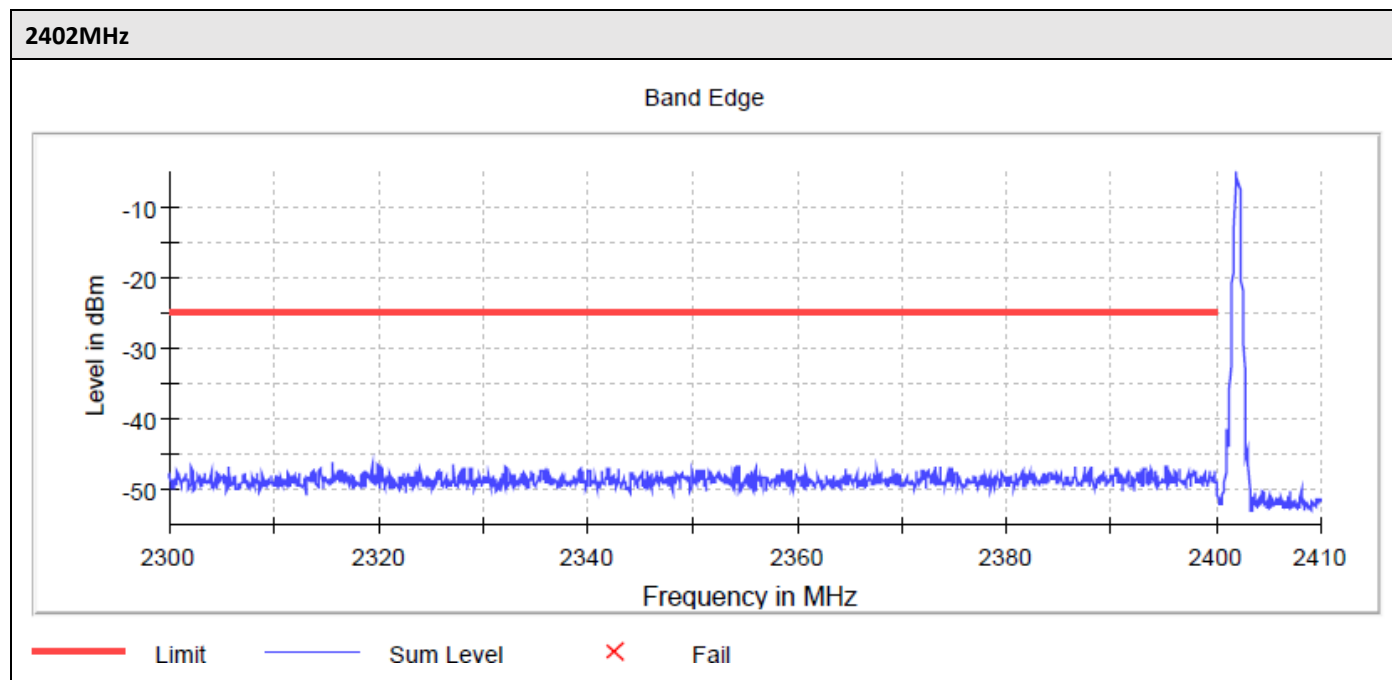
Data Rate	Frequency (MHz)	Level(dBm)
DH1	2401.825000	-5.1
3-DH1	2401.825000	-5.0

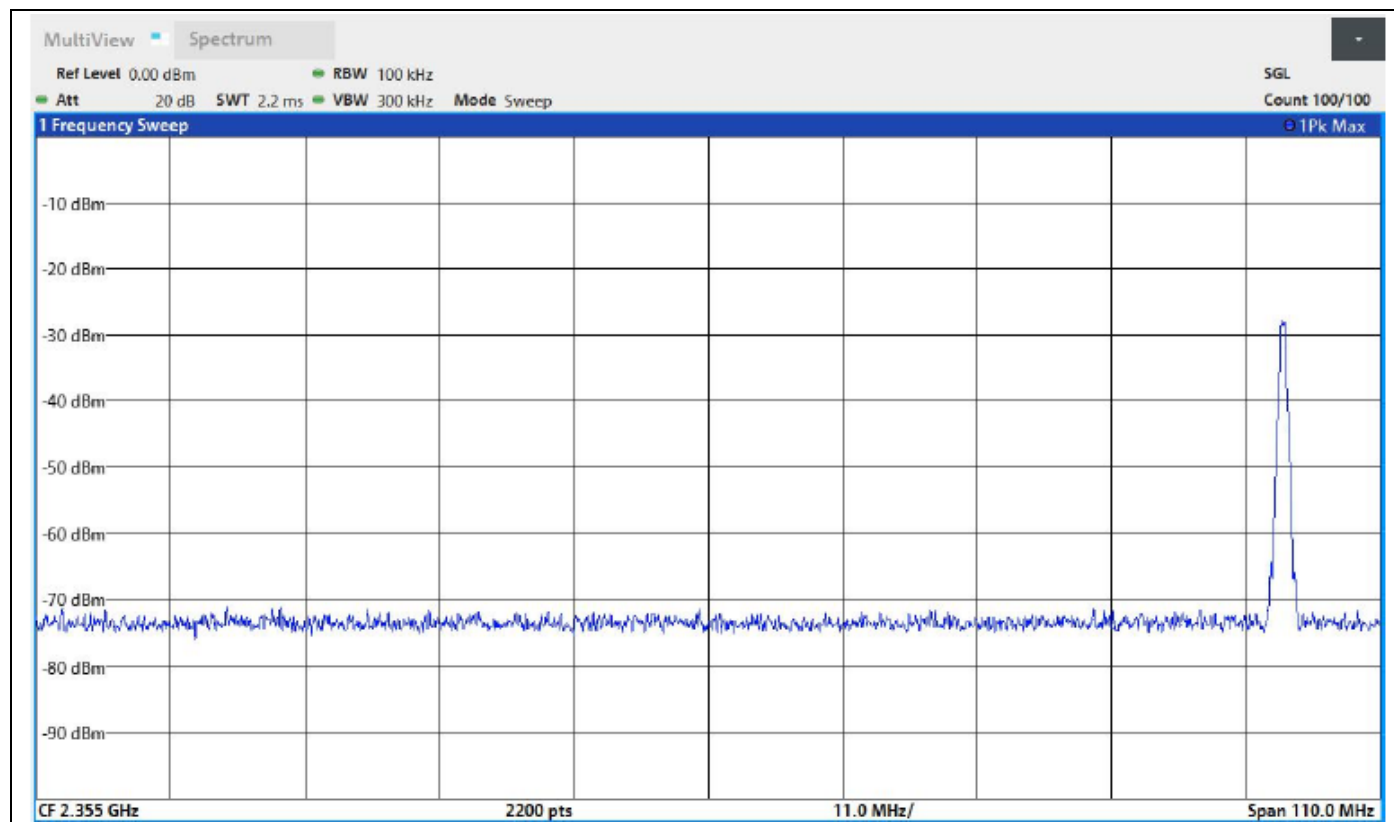
4.4.8.1 DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2315.575000	-46.2	21.2	-25.1	PASS
2315.625000	-46.3	21.2	-25.1	PASS
2319.975000	-46.4	21.4	-25.1	PASS
2319.325000	-46.7	21.6	-25.1	PASS
2327.125000	-46.7	21.6	-25.1	PASS
2319.375000	-46.7	21.6	-25.1	PASS
2386.475000	-46.7	21.7	-25.1	PASS
2320.025000	-46.7	21.7	-25.1	PASS
2386.525000	-46.7	21.7	-25.1	PASS
2395.275000	-46.7	21.7	-25.1	PASS
2302.125000	-46.8	21.7	-25.1	PASS
2354.275000	-46.8	21.8	-25.1	PASS
2354.325000	-46.8	21.8	-25.1	PASS
2395.225000	-46.8	21.8	-25.1	PASS
2395.175000	-46.8	21.8	-25.1	PASS

Plots:



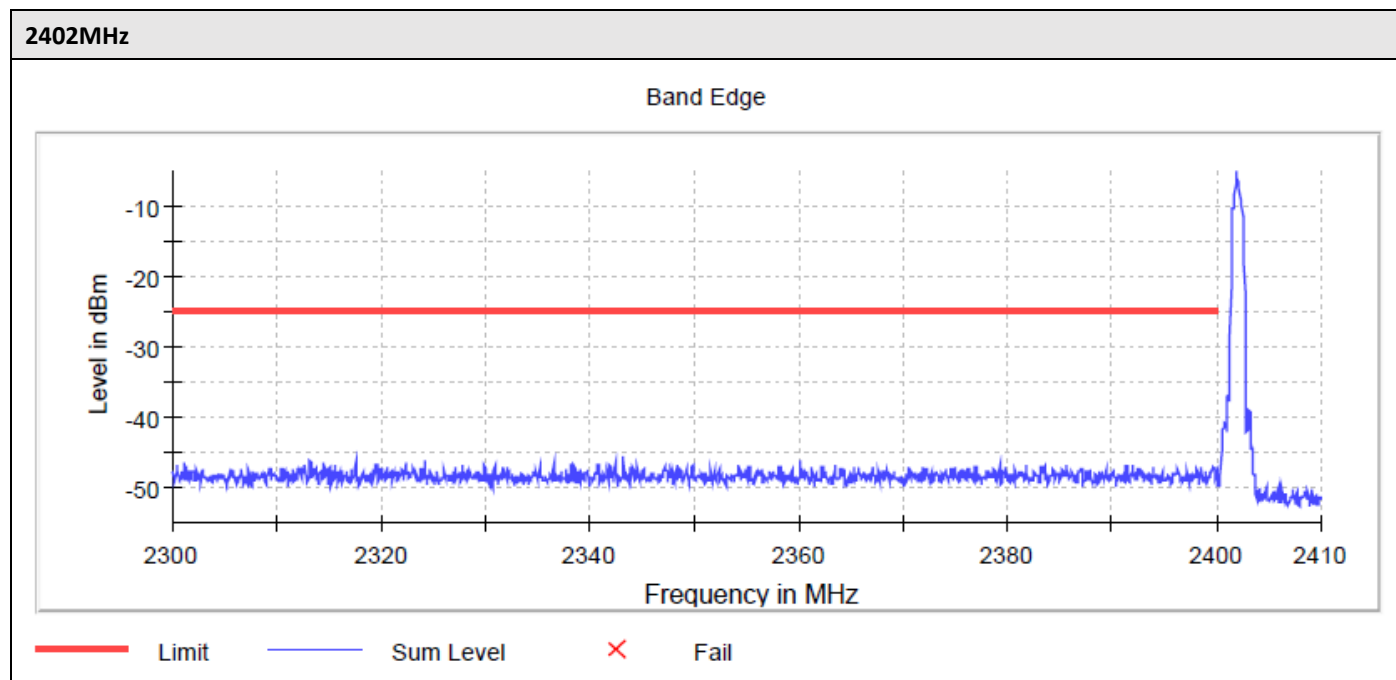


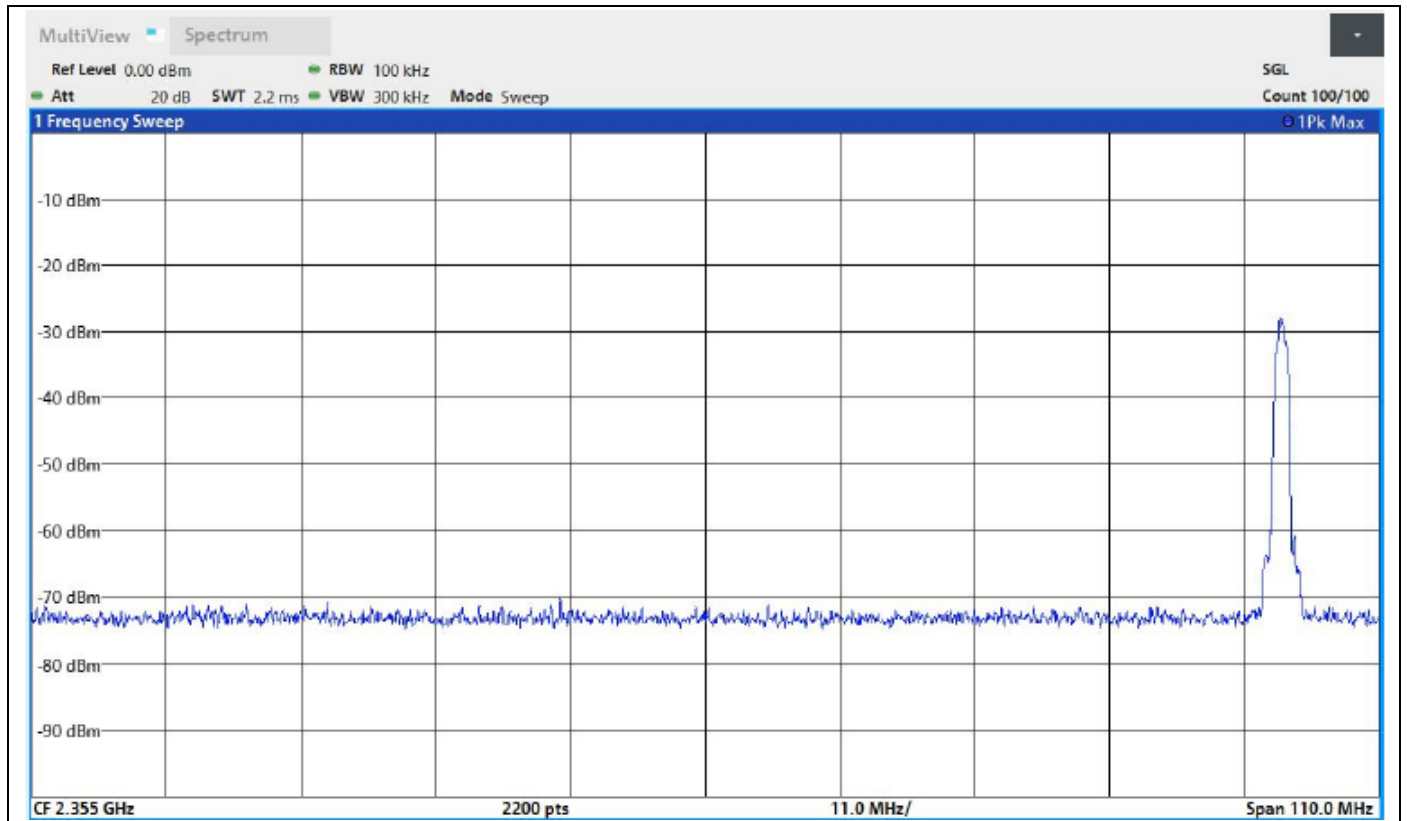
4.4.7.2 3-DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2343.175000	-45.7	20.7	-25.0	PASS
2343.225000	-46.1	21.1	-25.0	PASS
2324.125000	-46.1	21.1	-25.0	PASS
2324.175000	-46.2	21.1	-25.0	PASS
2317.525000	-46.3	21.3	-25.0	PASS
2317.575000	-46.4	21.3	-25.0	PASS
2360.125000	-46.4	21.3	-25.0	PASS
2313.175000	-46.4	21.3	-25.0	PASS
2343.125000	-46.4	21.4	-25.0	PASS
2342.425000	-46.4	21.4	-25.0	PASS
2336.525000	-46.5	21.5	-25.0	PASS
2336.575000	-46.5	21.5	-25.0	PASS
2313.225000	-46.6	21.5	-25.0	PASS
2314.425000	-46.6	21.5	-25.0	PASS
2342.375000	-46.6	21.6	-25.0	PASS

Plots:





4.4.9 Band Edge High (2480 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.6, RSS-247 Section 5.5

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

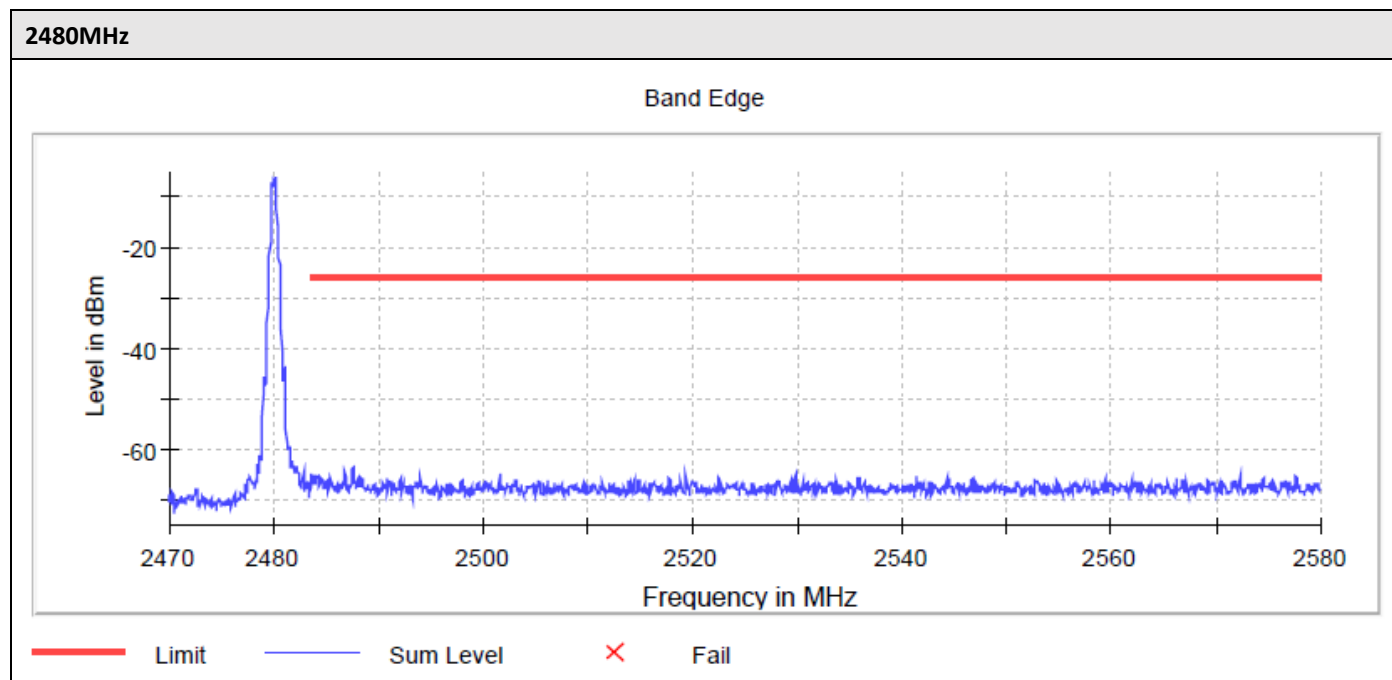
Data Rate	Frequency (MHz)	Level(dBm)
DH1	2480.175000	-6.1
3-DH1	2480.025000	-6.1

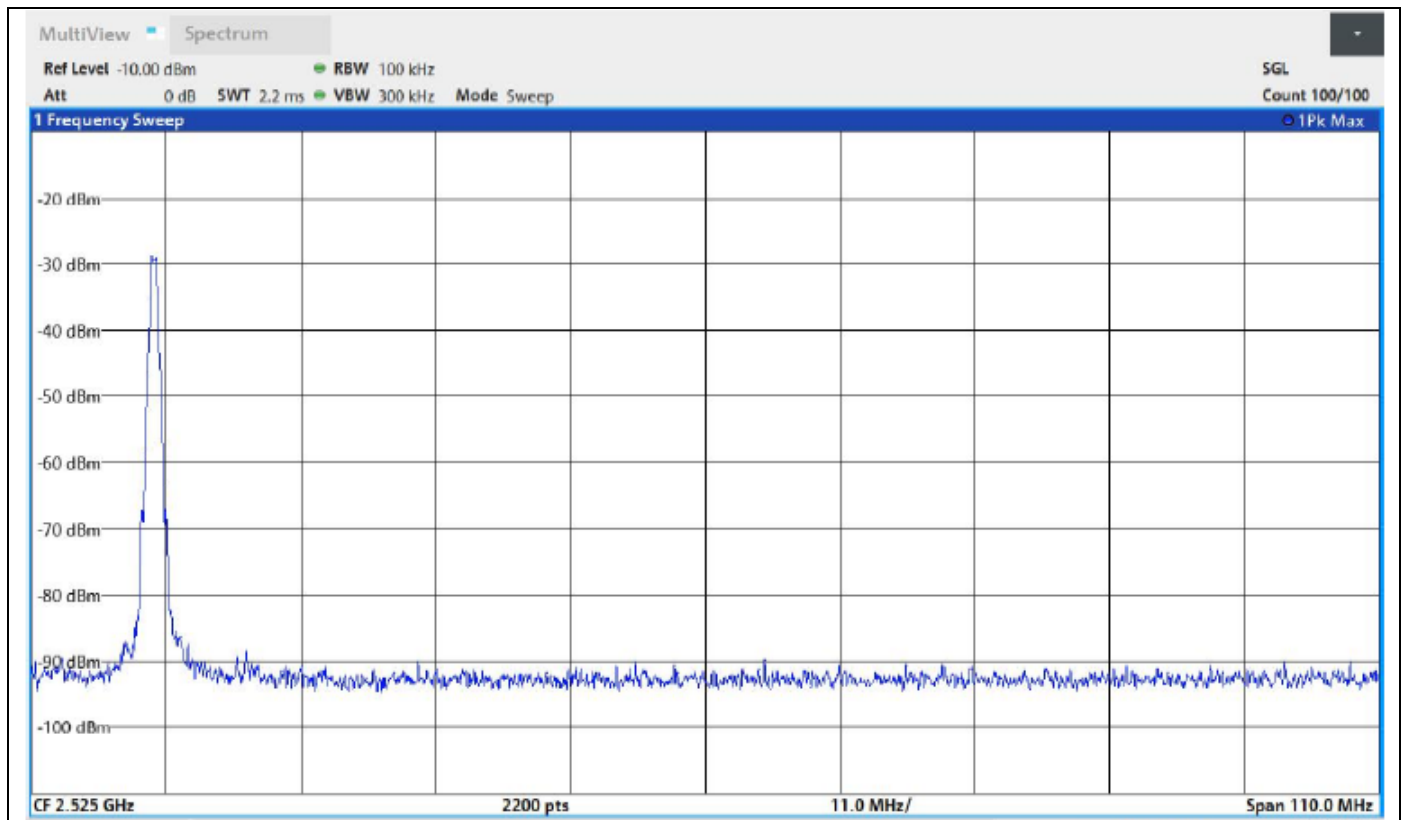
4.4.9.1 DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2487.525000	-63.6	37.5	-26.1	PASS
2487.475000	-63.9	37.8	-26.1	PASS
2486.775000	-64.4	38.3	-26.1	PASS
2487.575000	-64.5	38.4	-26.1	PASS
2486.825000	-64.6	38.5	-26.1	PASS
2529.775000	-64.9	38.8	-26.1	PASS
2529.825000	-64.9	38.8	-26.1	PASS
2483.525000	-65.1	39.0	-26.1	PASS
2519.275000	-65.1	39.0	-26.1	PASS
2519.325000	-65.1	39.0	-26.1	PASS
2501.575000	-65.2	39.1	-26.1	PASS
2501.525000	-65.2	39.1	-26.1	PASS
2484.125000	-65.2	39.1	-26.1	PASS
2483.875000	-65.3	39.2	-26.1	PASS
2577.625000	-65.3	39.2	-26.1	PASS

Plots:



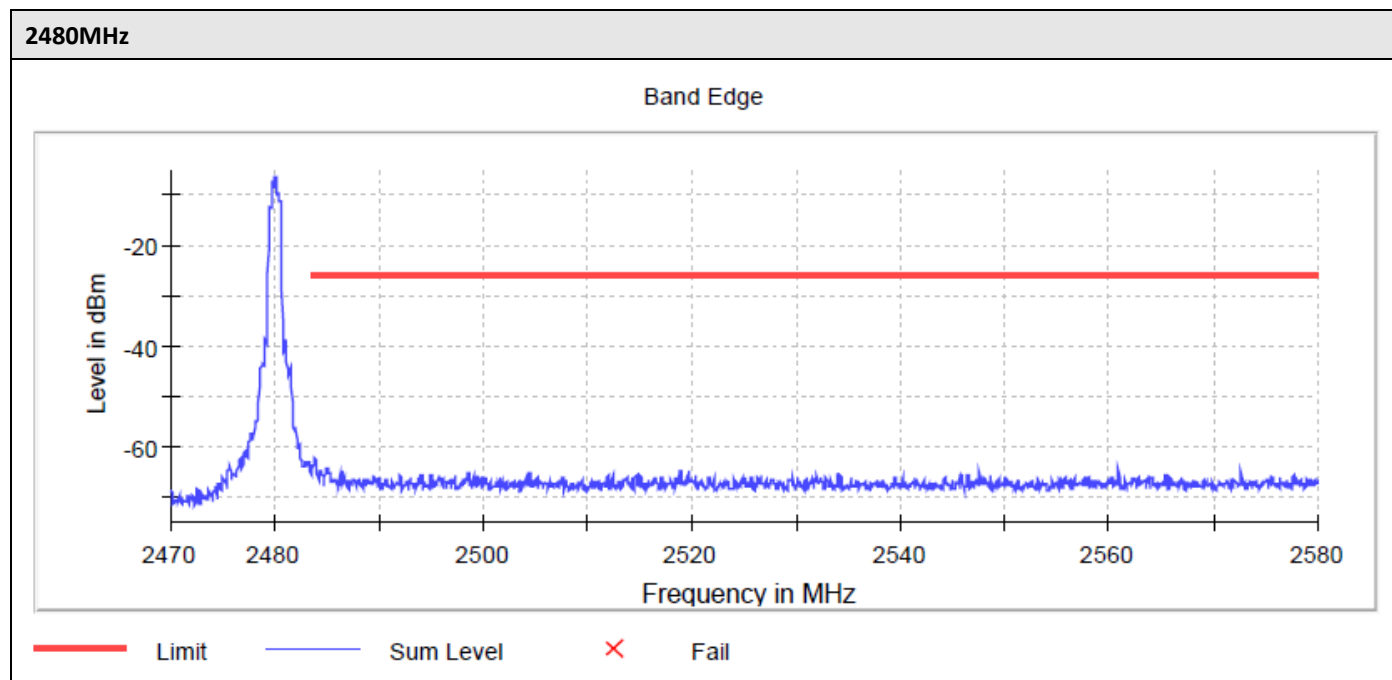


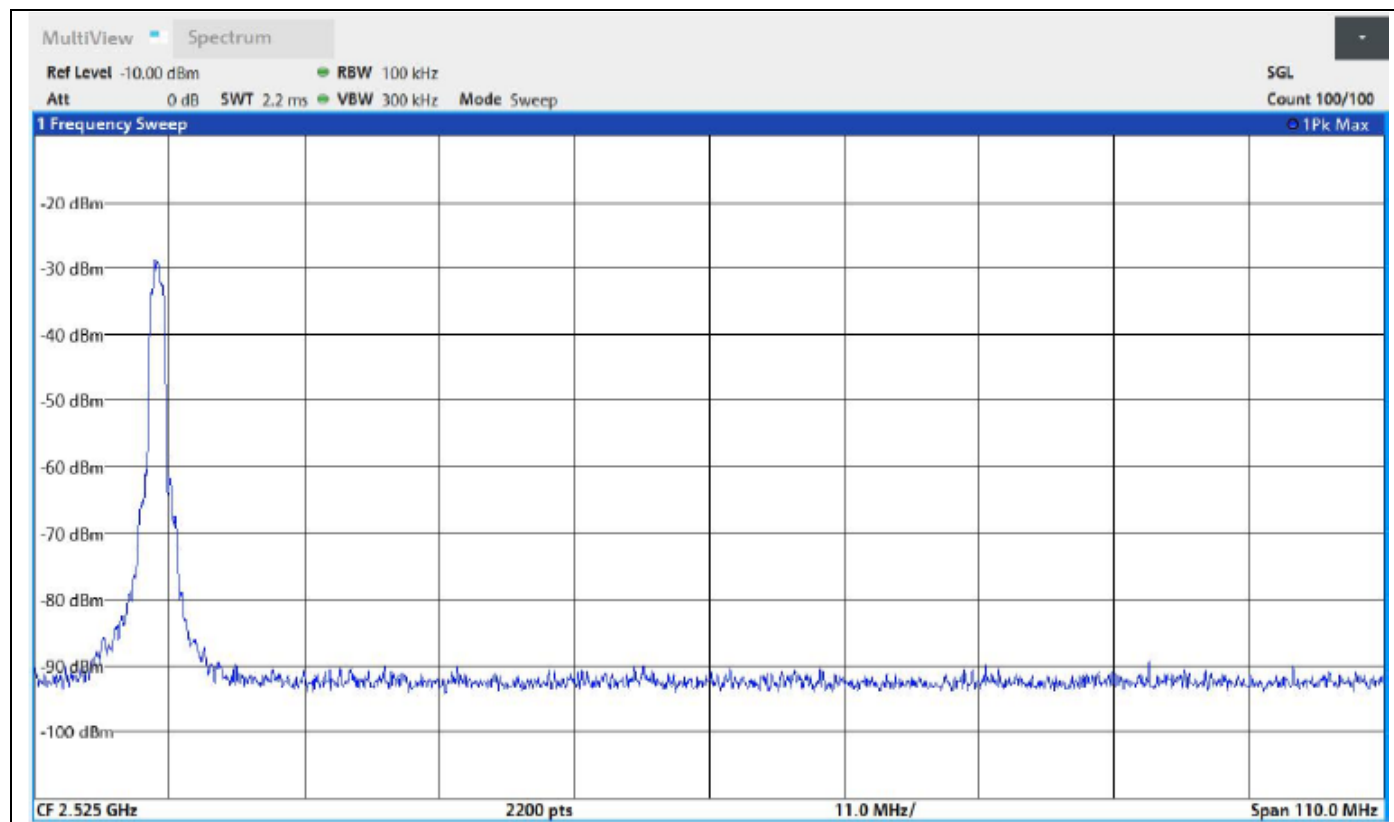
4.4.9.2 3-DH1

Measurements:

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.825000	-62.3	36.2	-26.1	PASS
2483.875000	-62.4	36.3	-26.1	PASS
2483.925000	-62.9	36.8	-26.1	PASS
2483.775000	-63.5	37.4	-26.1	PASS
2483.725000	-63.6	37.5	-26.1	PASS
2483.675000	-63.6	37.5	-26.1	PASS
2483.525000	-63.8	37.7	-26.1	PASS
2483.975000	-64.0	37.9	-26.1	PASS
2483.575000	-64.3	38.2	-26.1	PASS
2560.875000	-64.4	38.3	-26.1	PASS
2484.975000	-64.5	38.4	-26.1	PASS
2483.625000	-64.5	38.4	-26.1	PASS
2485.025000	-64.6	38.5	-26.1	PASS
2560.825000	-64.6	38.5	-26.1	PASS
2484.025000	-64.7	38.6	-26.1	PASS

Plots:





4.4.10 Tx Spurious Emission

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 Section 7.8.8, RSS-247 Section 5.5. Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.8 dB

Spectrum Analyzer Pre-Measurement Settings:

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
SweepTime	23.700 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Spectrum Analyzer Final-Measurement Settings:

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	401	~ 401
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB

Trace Mode	Average Linear	Average Linear
Sweeptype	Sweep	AUTO
Preamp	off	off

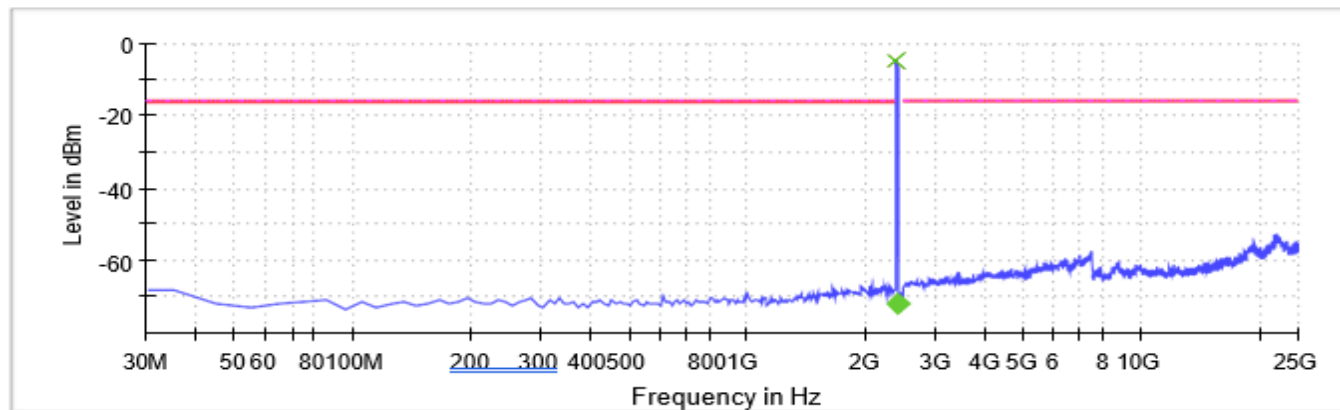
4.4.10.1 DH1

2402MHz				
Final Measurement				
Frequency (MHz)	Level Pre-Measurement (dBm)	Level (dBm)	Margin (dB)	Limit (dBm)
2399.659412	-6.7	-72.0	56.0	-16.0
Pre-Measurement				
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	
2395.021008	-4.8	-11.2	-16.0	
22056.764647	-52.9	36.9	-16.0	
22016.788615	-53.0	37.0	-16.0	
21866.878495	-53.3	37.3	-16.0	
22126.722703	-53.3	37.3	-16.0	
22086.746671	-53.4	37.4	-16.0	
21996.800599	-53.5	37.5	-16.0	
22066.758655	-53.5	37.5	-16.0	
21896.860519	-53.5	37.5	-16.0	
22116.728695	-53.6	37.6	-16.0	
22046.770639	-53.6	37.6	-16.0	
21826.902463	-53.7	37.7	-16.0	
21976.812583	-53.7	37.7	-16.0	
22106.734687	-53.7	37.7	-16.0	
22026.782623	-53.7	37.7	-16.0	

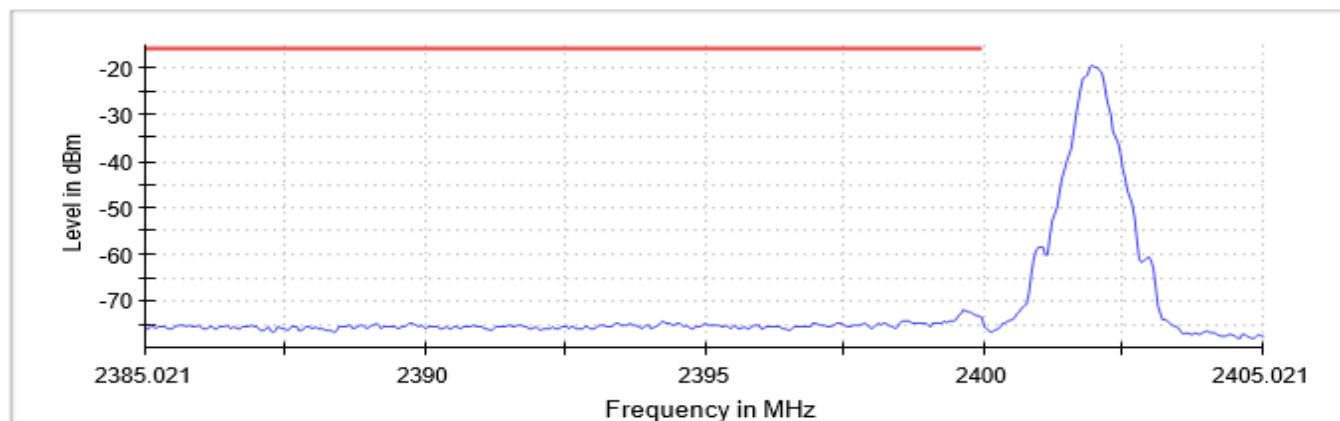
Plots:

2402MHz

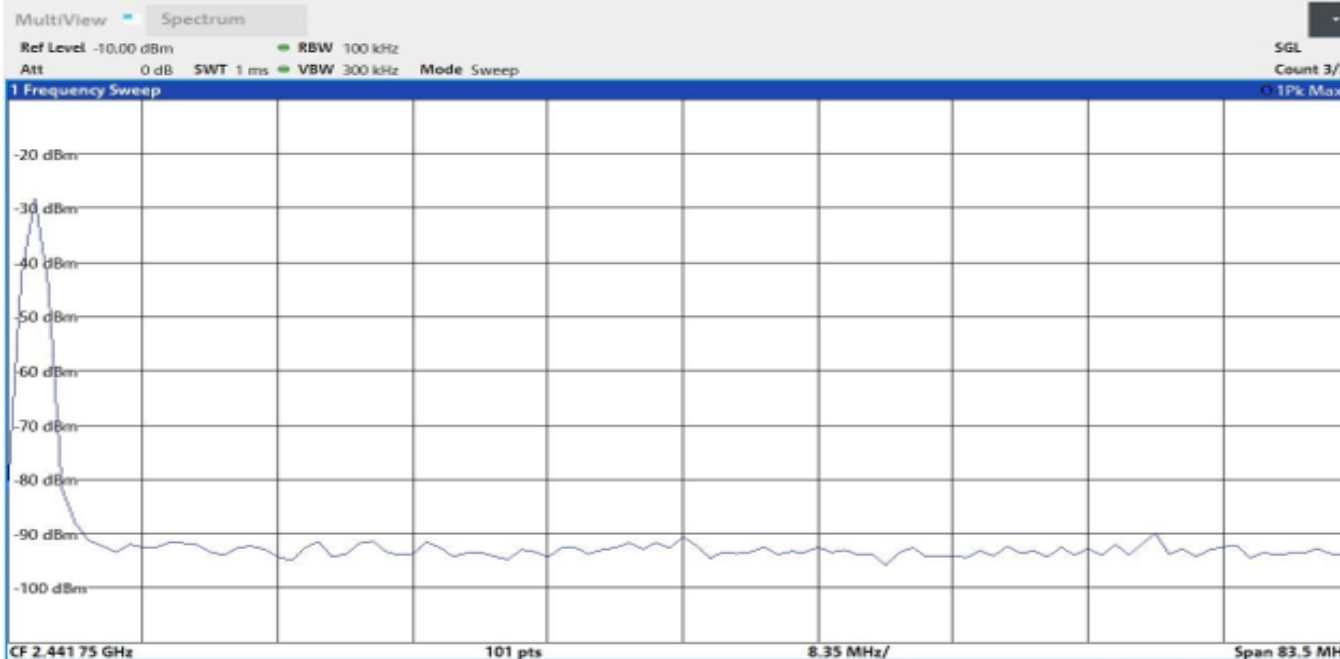
Spurious



FinalMeas_2395021008Hz



Sum Level Limit

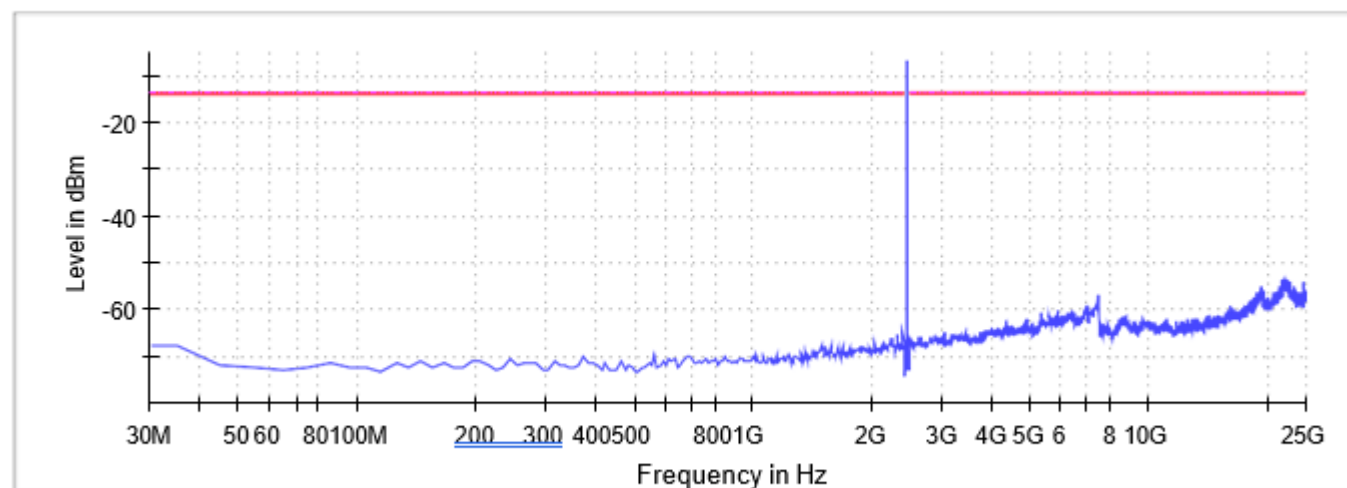


2441MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22526.483023	-53.5	39.5	-14.1
22086.746671	-53.6	39.5	-14.1
22056.764647	-53.6	39.5	-14.1
22136.716711	-53.7	39.7	-14.1
21946.830559	-53.7	39.7	-14.1
22066.758655	-53.8	39.7	-14.1
22006.794607	-53.8	39.7	-14.1
21856.884487	-53.8	39.7	-14.1
21956.824567	-53.9	39.8	-14.1
22126.722703	-54.0	39.9	-14.1
22216.668775	-54.2	40.1	-14.1
21926.842543	-54.2	40.2	-14.1
22166.698735	-54.3	40.2	-14.1
22666.399134	-54.3	40.2	-14.1
22576.453063	-54.3	40.3	-14.1

Spurious

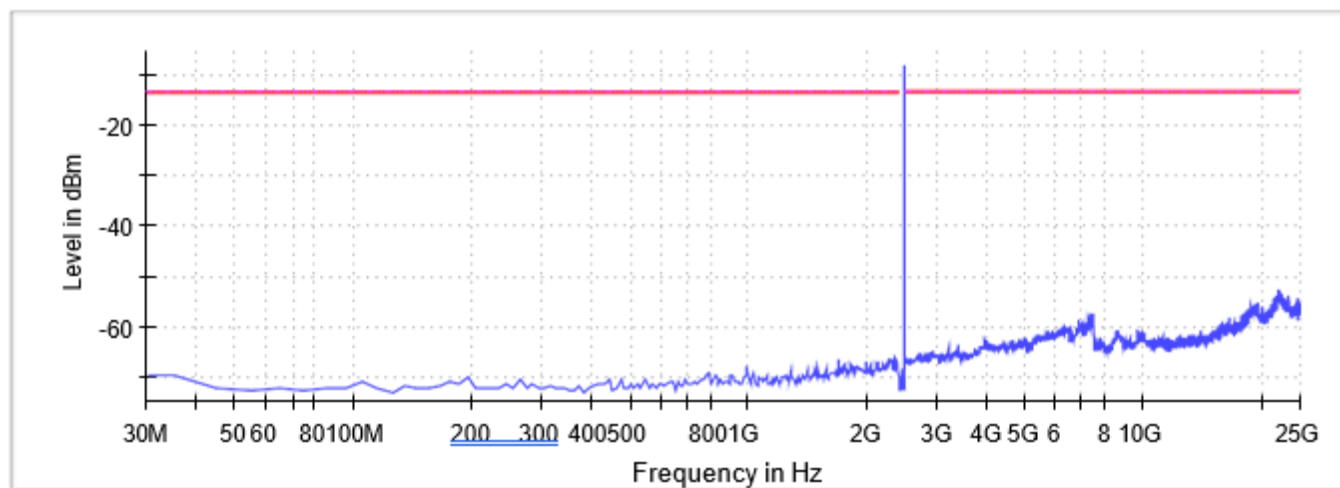


2480MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22136.716711	-52.8	39.3	-13.5
22066.758655	-53.2	39.7	-13.5
22086.746671	-53.3	39.8	-13.5
22046.770639	-53.3	39.8	-13.5
22056.764647	-53.3	39.8	-13.5
22036.776631	-53.4	39.9	-13.5
22426.542943	-53.5	40.0	-13.5
22106.734687	-53.5	40.0	-13.5
21986.806591	-53.6	40.1	-13.5
22156.704727	-53.7	40.2	-13.5
22076.752663	-53.7	40.2	-13.5
21846.890479	-53.8	40.3	-13.5
22016.788615	-53.8	40.3	-13.5
22486.506991	-53.8	40.4	-13.5
22536.477031	-54.0	40.5	-13.5

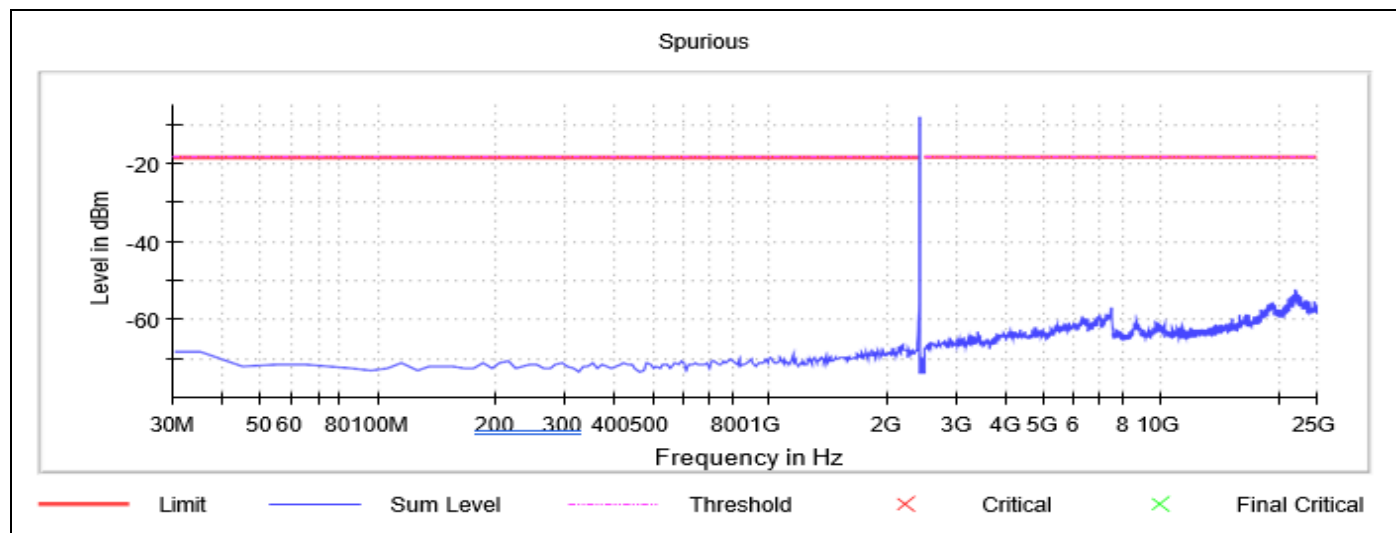
Spurious

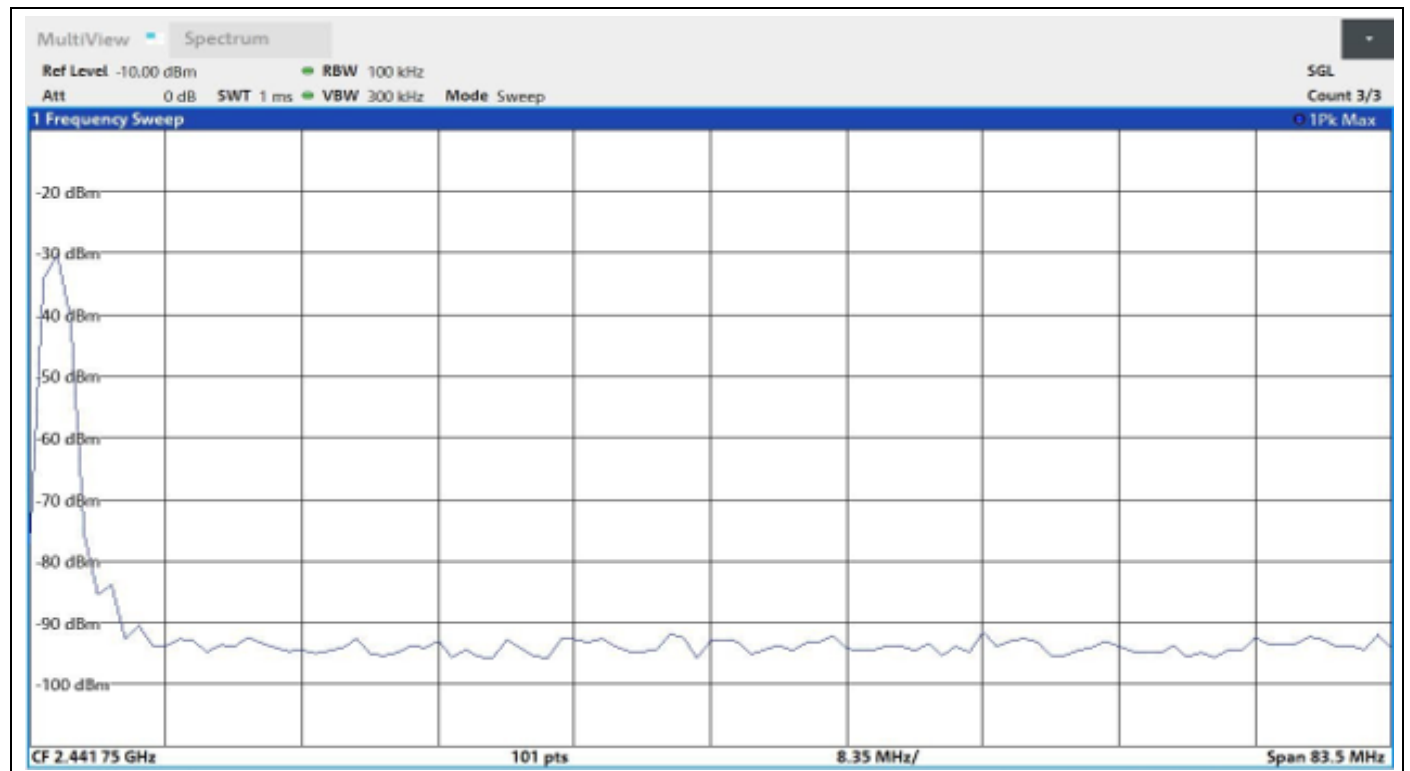


4.4.10.2 3-DH1

2402MHz			
Pre-Measurement			
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22086.746671	-52.4	33.7	-18.8
22046.770639	-52.8	34.1	-18.8
22076.752663	-53.0	34.2	-18.8
22026.782623	-53.0	34.2	-18.8
22016.788615	-53.5	34.7	-18.8
22426.542943	-53.6	34.8	-18.8
22056.764647	-53.6	34.9	-18.8
22536.477031	-53.6	34.9	-18.8
22036.776631	-53.7	34.9	-18.8
22136.716711	-53.7	35.0	-18.8
21886.866511	-53.8	35.0	-18.8
22486.506991	-53.8	35.0	-18.8
22066.758655	-53.9	35.1	-18.8
22116.728695	-53.9	35.2	-18.8
22126.722703	-53.9	35.2	-18.8

Plots:



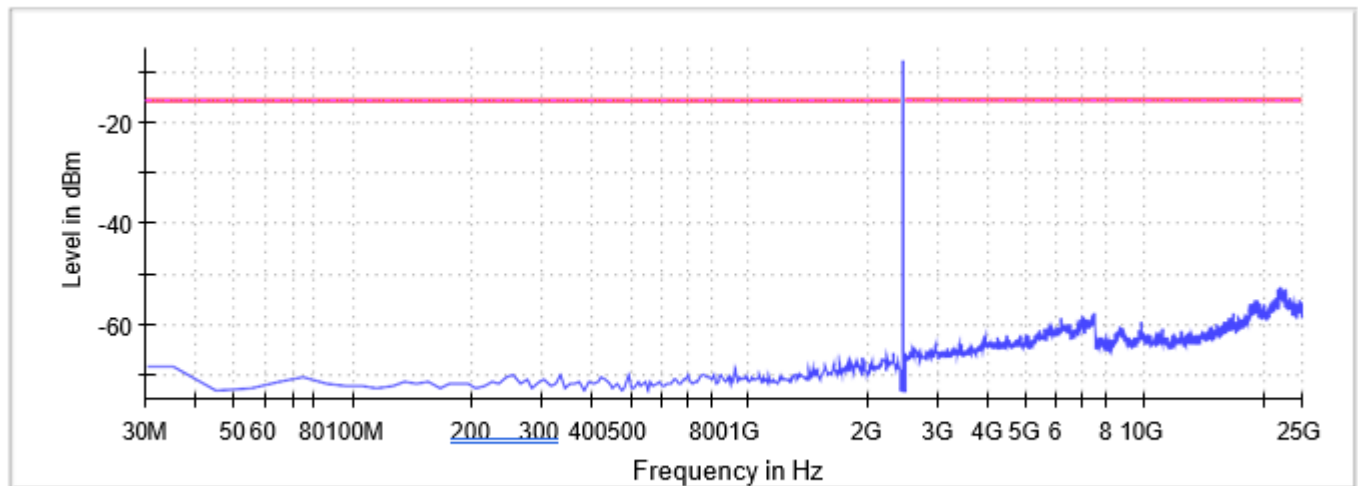


2441MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22176.692743	-52.7	37.0	-15.6
22136.716711	-52.9	37.3	-15.6
22026.782623	-53.0	37.4	-15.6
22636.417111	-53.3	37.7	-15.6
21876.872503	-53.3	37.7	-15.6
21916.848535	-53.4	37.8	-15.6
22166.698735	-53.5	37.8	-15.6
22446.530959	-53.5	37.9	-15.6
22076.752663	-53.5	37.9	-15.6
22066.758655	-53.5	37.9	-15.6
22256.644807	-53.6	37.9	-15.6
22146.710719	-53.6	37.9	-15.6
22096.740679	-53.6	38.0	-15.6
22466.518975	-53.7	38.0	-15.6
21986.806591	-53.7	38.0	-15.6

Spurious

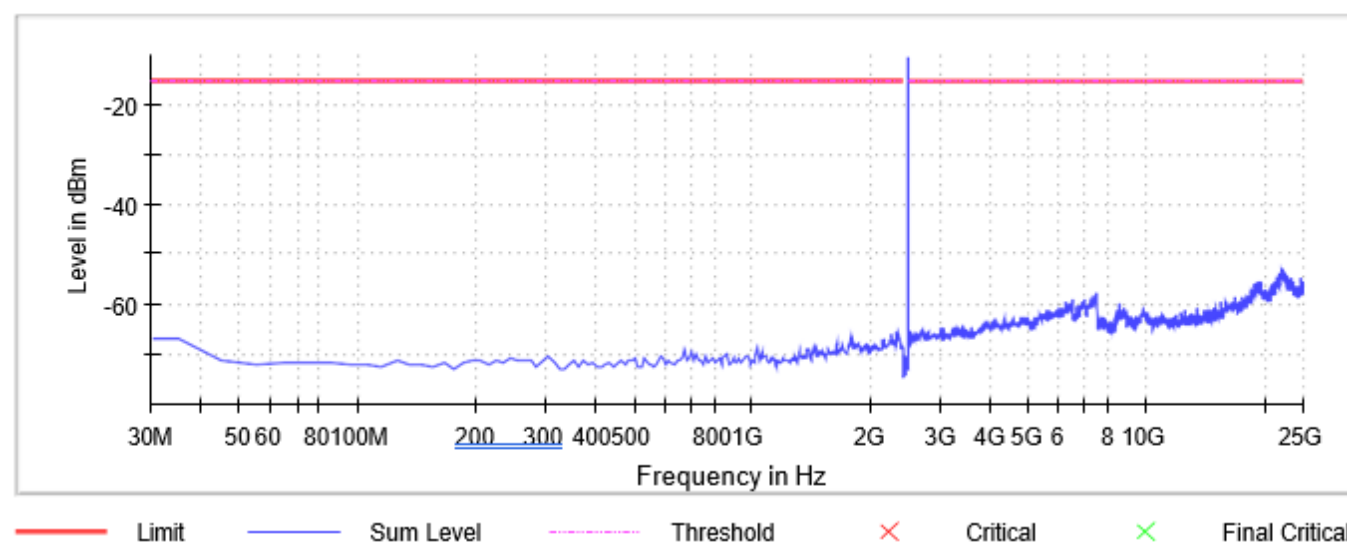


2480MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22126.722703	-52.7	37.3	-15.5
22146.710719	-53.1	37.6	-15.5
22136.716711	-53.2	37.8	-15.5
22116.728695	-53.4	37.9	-15.5
21986.806591	-53.4	38.0	-15.5
22236.656791	-53.5	38.0	-15.5
21916.848535	-53.6	38.1	-15.5
22166.698735	-53.6	38.1	-15.5
22086.746671	-53.6	38.1	-15.5
22186.686751	-53.6	38.2	-15.5
22006.794607	-53.6	38.2	-15.5
22096.740679	-53.7	38.2	-15.5
22066.758655	-53.7	38.3	-15.5
22076.752663	-53.7	38.3	-15.5
22316.608855	-53.8	38.3	-15.5

Spurious



5. Radiated Testing

5.1 Test Summary

Start: 07/24/2024	End: 10/16/2024	Temperature: 22.6°C	Initials: AP/AB
		Humidity: 49.4%R.H	

DUT S/N	J23133#2 NA 3B	DUT Operating Mode		BT Classic
Comment	DH1, 3-DH1			
Antenna	Frequency Range	Polarization	Result Over/Under Limit	Notes
Loop	9kHz-30MHz	Parallel	☐ Over ☒ Under	√
		Perpendicular	☐ Over ☒ Under	√
		Ground-Parallel	☐ Over ☒ Under	√
Log Periodic	30MHz-1GHz	Horizontal	☐ Over ☒ Under	√
		Vertical	☐ Over ☒ Under	√
Horn	1GHz-18GHz	Horizontal	☐ Over ☒ Under	√
		Vertical	☐ Over ☒ Under	√
Horn	18GHz-27.5GHz	Horizontal	☐ Over ☒ Under	√
		Vertical	☐ Over ☒ Under	√

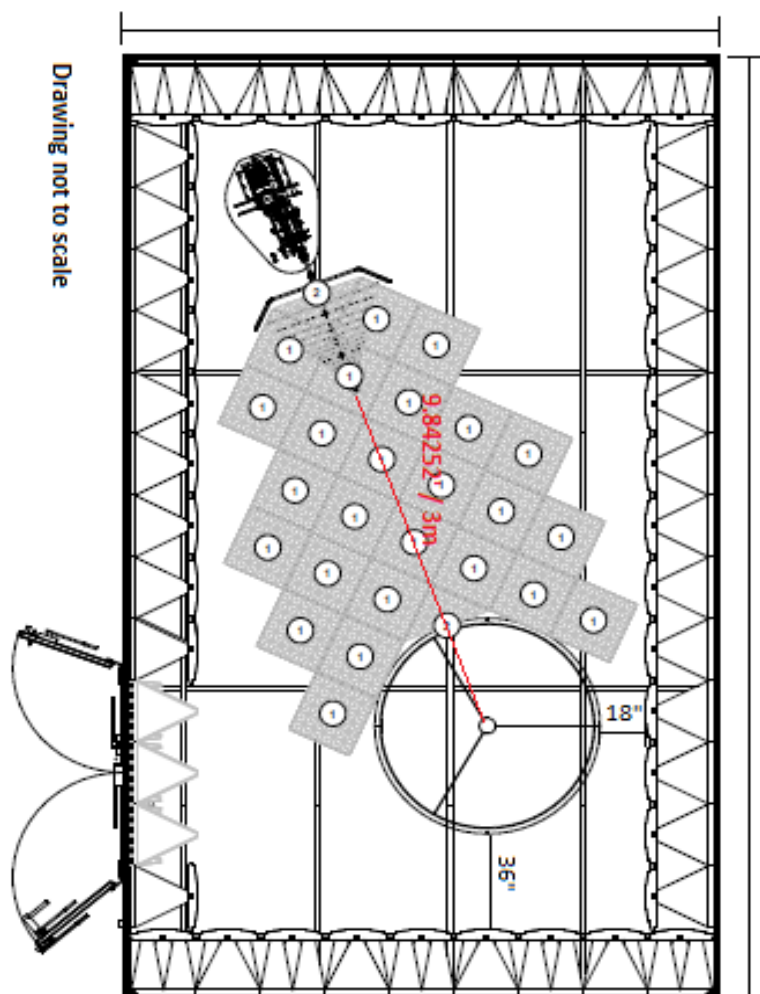
Notes: √ meets the requirements of the acceptance criteria.

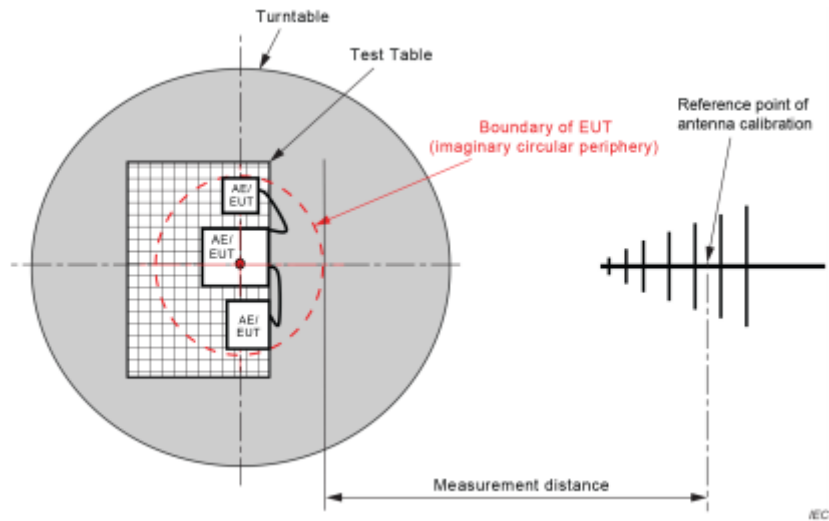
5.2 Test Setup

Semi-Anechoic Chamber Test Site-3 meter

Chamber Location	815 N Opdyke Rd Auburn Hills, Michigan 48326
Chamber Manufacturer:	ETS-Lindgren
Chamber Type	Semi-Anechoic
Model	FACT™ 3-2.0 Plus
Chamber Dimensions (L x W x H)	18'x18'x30'
Quiet Zone Diameter	2.0 meters
Quiet Zone Test Heights	1 & 2 meters (front only)
Test Distance	3.0 meters
Test Frequency Range	1-40 GHz
Measured Performance	4.87 dB Site sVSWR

Chamber Dimensions





5.3 Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0217	Receiver 2Hz-44GHz	Rohde & Schwarz	ESW44	101871	4/21/2025
BVD0118	Antenna Mast Position Controller	ETS	7006-001	00214778/00214648	N/A
BVD0111	3 Meter Anechoic Chamber	ETS	N/A	N/A	N/A
BVD0247	Turn Table	ETS	920250	N/A	N/A
BVD0323	Foam Test Table For 3 Meter Chamber	ETS-Lindgren	LDT-1.5	N/A	N/A
BVD0069	Bore Sight Tower	ETS	2171B	226732	N/A
BVD0312	Optima 12V Blue top Marine battery	Optima	D34M	N/A	N/A
BVD0187	Preamplifier 25dB cal to 100kHz-1GHz	Rohde & Schwarz	TS-PR1	102080	1/23/2025
BVD0184	Preamplifier 29dB 1-18GHz	Rohde & Schwarz	TS-PR18	101646	6/20/2025
BVD0185	Preamplifier 45dB 18-40GHz	Rohde & Schwarz	TS-PR1840	100064	6/20/2025
BVD0011	Loop Antenna 9kHz-30MHz	Rohde & Schwarz	FMZB1519B	145	6/10/2025
BVD0021	UltraLog Antenna 30-6000MHz	Rohde & Schwarz	HL562E	101113	6/26/2025
BVD0267	Double Ridge Waveguide 800MHz-18GHz	Rohde & Schwarz	HF907	102832	6/27/2025
BVD0320	18-40GHz Horn Antenna	L3 Narda ATM	PNR 180-442-KF	136164-01	7/15/2025
BVD0045	Field Probe Mast	Rohde & Schwarz	TS-FPMA	N/A	N/A
BVD0480	Band Reject Filter 50dB from 2400 to 2500MHz	Micro-Tronics	BRM50702	G482	6/17/2025
BVD0394	Double Shielded N-Type Cable 6.9 Meter	Rohde & Schwarz	N-Type	N/A	4/8/2025
BVD0398	Double Shielded N-Type Cable 2 Meter	Rohde & Schwarz	N-Type	N/A	4/8/2025
BVD0563	RF Cable Assembly	Huber+Suhner, inc	SUCOFLEX 102A	502215/2A	10/17/2024
BVD0407	Double Shielded N-Type Cable 410mm (For PreAmp)	Rohde & Schwarz	N-Type	N/A	10/15/2025
BVD0495	SMA Shielded Cable approx 100mm (for Pre-Amp)	Rohde & Schwarz	SMA-Type	N/A	7/15/2025
BVD0587	Double Shielded N-Type Cable 440mm (For PreAmp)	Winchester Interconnect	250-251-660157 REV A	N/A	1/9/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No.	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	11.20.00	N/A

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	N/A	N/A	N/A
N/A	Display Unit	MOBIS	BMM6100000	231107 01	N/A
N/A	Shark Fin Antenna	Alfa Romeo	B901	719147	N/A
N/A	Antenna	Aptiv	APN35409682	N/A	N/A
N/A	Camera	N/A	23295906C	N/A	N/A
N/A	MFGBridge_Tool/Dut labtool	N/A	N/A	N/A	2.0.0.89

5.4 Test Limits and Procedures

Radiated emissions that fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

Frequencies (MHz)	Field strength ($\mu\text{V/m}$)	Field strength (dB $\mu\text{V/m}$)	Measurement distance (meters)
0.009 ~ 0.490	2400/F(kHz)	48.5 - 13.8	300
0.490 ~ 1.705	24000/F(kHz)	33.8 - 23	30
1.705 ~ 30.0	30	29.54	30
30 ~ 88	100	40.0	3
88 ~ 216	150	43.5	3
216 ~ 960	200	46.0	3
Above 960	500	54.0	3

Note:

- The lower limit shall apply at the transition frequencies.
- As per 15.35(b), for frequencies above 1000MHz, the field strength limits based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
- For performing measurements at a specified distance of 3m, the values are extrapolated using extrapolation factor.
Frequencies below 30MHz are extrapolated using 40dB/decade.
Frequencies above 30MHz are extrapolated using 20dB/decade.

Frequencies (MHz)	Formula for Limits derivation for below 30MHz	Limits for frequencies below 30MHz (dB $\mu\text{V/m}$)
0.009 ~ 0.490	$2400/F(\text{kHz}) + 40 \text{ Log } (300\text{m}/3\text{m})$	128.5 ~ 93.8
0.490 ~ 1.705	$24000/F(\text{kHz}) + 40 \text{ Log } (30\text{m}/3\text{m})$	73.8 ~ 62.96
1.705 ~ 30.0	$29.54 + 40 \text{ Log } (30\text{m}/3\text{m})$	69.54

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω .

The measurement procedures are as per ANSI C63.10-2013 Sections 6.3, Section 6.4, Section 6.5, and Section 6.6

1. The table height for emissions measurements
 - i) Below 1 GHz, the table height is 80 cm above the reference ground plane.
 - ii) Above 1 GHz, the table height is 1.5 m
2. Radiated emission tests are performed in the frequency range
 - i) 9 kHz to 30 MHz, using a calibrated loop antenna
 - ii) 30 MHz to 1GHz, using a calibrated log antenna
 - iii) Above 1 GHz using a calibrated horn antenna
3. Measurements performed with the EUT rotated from 0° to 360°, the antenna height scanned between 1m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

5.5 EMI Test Receiver/Spectrum Analyzer Settings

Below 1GHz

Frequency	RBW	Detector
9KHz to 30MHz	9KHz	Peak

Frequency	RBW	Detector
30MHz to 1GHz	120KHz	Peak/Quasi Peak

Above 1GHz

Frequency	RBW	Detector
1GHz to 40GHz	1 MHz	Peak/ Power Averaging (RMS)

Note: Trace average is 100 traces for continuous transmission else the traces shall be increased by a factor of $1/x$, where x is the duty cycle. Duty cycle $> 98\%$ no correction factor needed and for Duty cycle $< 98\%$ the correction factor $10 \log (1/x)$, where x is the duty cycle.

5.6 Test Plots

Uncertainty

Radiated Emissions (30MHz to 40GHz)

Test Engineer Initials: AP/AB

The test is to measure the radiated emissions of the EUT. Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

30MHz to 1GHZ

Source of Uncertainty	Value (dB)	ProbabilityDistribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter – Receiver	0.25	U-Shape	2.449	1	0.1768033
NSA Calibration	4.0	Triangular	1.414	1	1.633332
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					2.113781
Expanded Uncertainty (K=2)					4.227562

The total derived measurement uncertainty is +/- 4.228 dB

1GHz to 40GHz

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105000
Filter Insertion Loss	0.25	Normal	2	1	0.125000
Antenna Factor	0.65	Normal	2	1	0.325000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.866051
PRF Response	1.5	Rectangular	1.732	1	0.866051
Mismatch Filter – Receiver	0.25	U-Shape	1.414	1	0.176803
VSWR Calibration	2.0	Triangular	2.449	1	0.816659
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					1.869213
Expanded Uncertainty (K=2)					3.738426

The total derived measurement uncertainty is +/- 3.738 dB.

Remarks:

1. Level Q-Peak Reading (dBμV/m) = Raw Q-Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Q-Peak Reading – Limit

Remarks:

1. Level Peak Reading (dBμV/m) = Raw Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Peak Reading – Limit

Remarks:

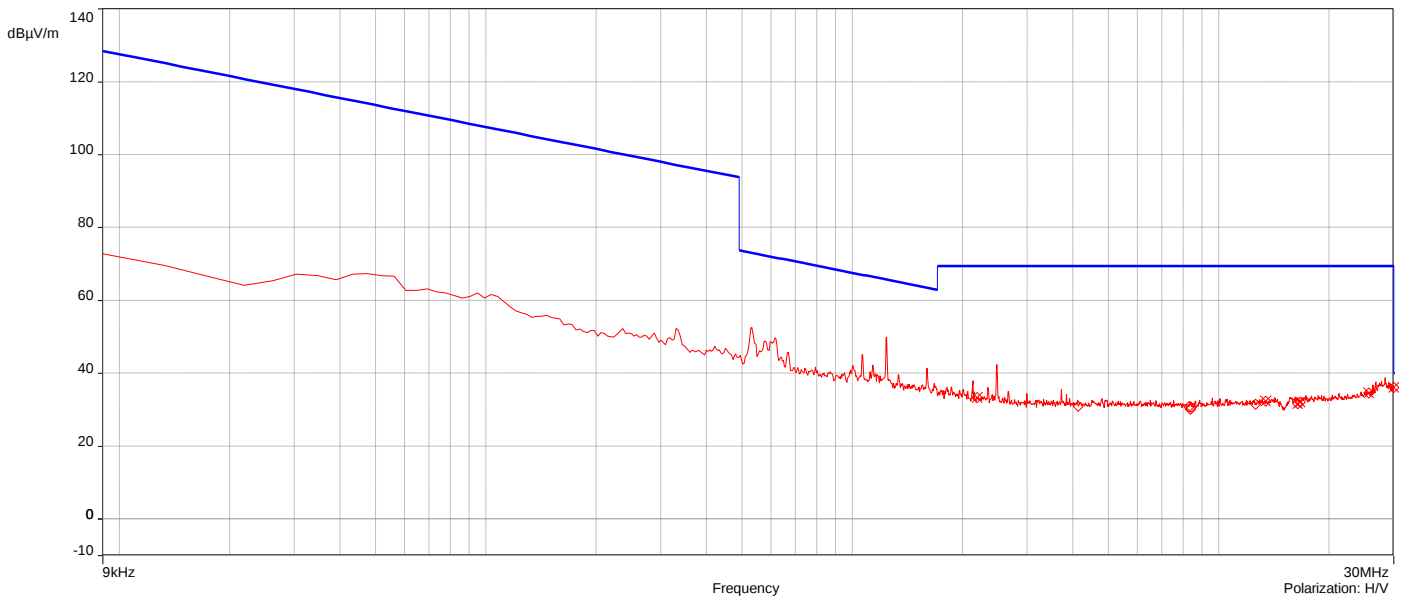
1. Level Average Reading (dBμV/m) = Raw Average Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Average Reading – Limit

J23133_BT_DH1_Ch 39_9kHz-30MHz_Ground-Parallel

8/1/2024 6:39:37 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	33.34	19.59	69.54	-36.20	1.00	169.90	H/V	Passed
2.	13.404037MHz	32.42	19.90	69.54	-37.12	1.00	182.60	H/V	Passed
3.	16.420706MHz	31.69	20.07	69.54	-37.85	1.00	121.80	H/V	Passed
4.	16.694949MHz	32.11	20.11	69.54	-37.43	1.00	239.30	H/V	Passed
5.	25.654969MHz	34.67	21.15	69.54	-34.87	1.00	345.60	H/V	Passed
6.	30MHz	36.20	22.04	40.00	-3.80	1.00	285.00	H/V	Passed

Overall Graphs:

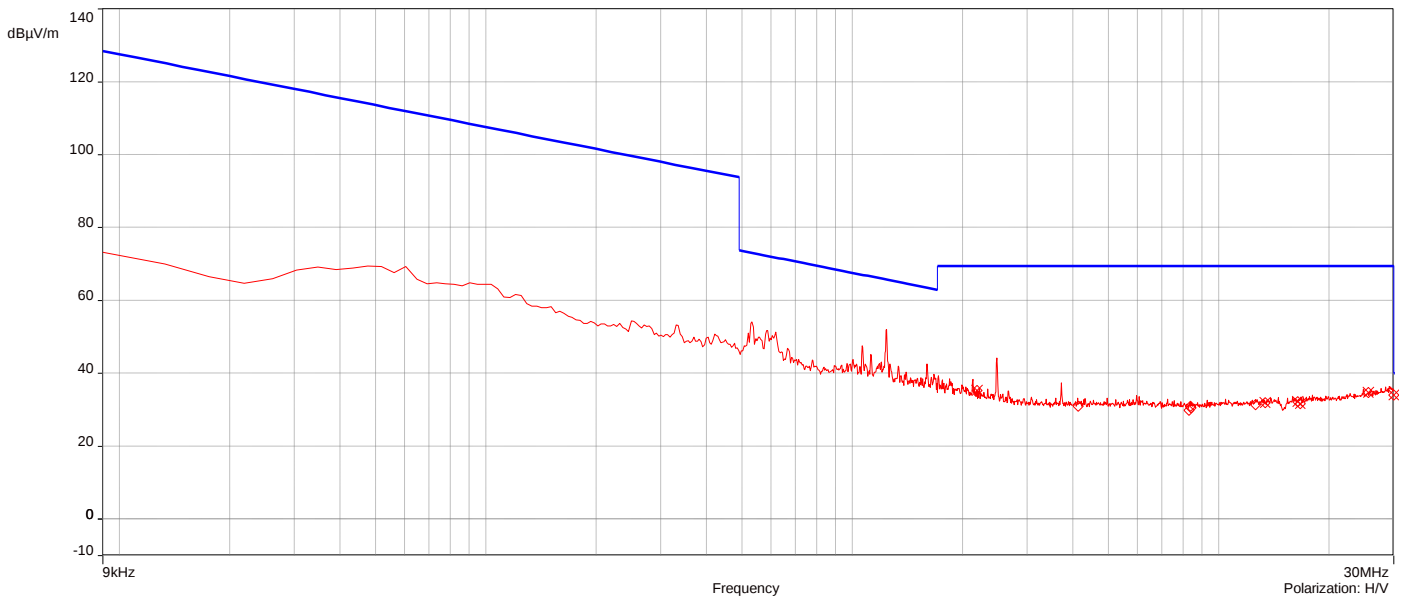


J23133_BT_DH1_Ch 39_9kHz-30MHz_Parallel

8/1/2024 6:34:04 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.185801MHz	35.36	19.59	69.54	-34.18	1.00	145.60	H/V	Passed
2.	13.391182MHz	31.92	19.90	69.54	-37.62	1.00	131.90	H/V	Passed
3.	16.420706MHz	32.23	20.07	69.54	-37.31	1.00	145.60	H/V	Passed
4.	16.694949MHz	31.63	20.11	69.54	-37.91	1.00	319.90	H/V	Passed
5.	25.594978MHz	34.78	21.15	69.54	-34.76	1.00	206.50	H/V	Passed
6.	30MHz	34.08	22.04	40.00	-5.92	1.00	14.70	H/V	Passed

Overall Graphs:

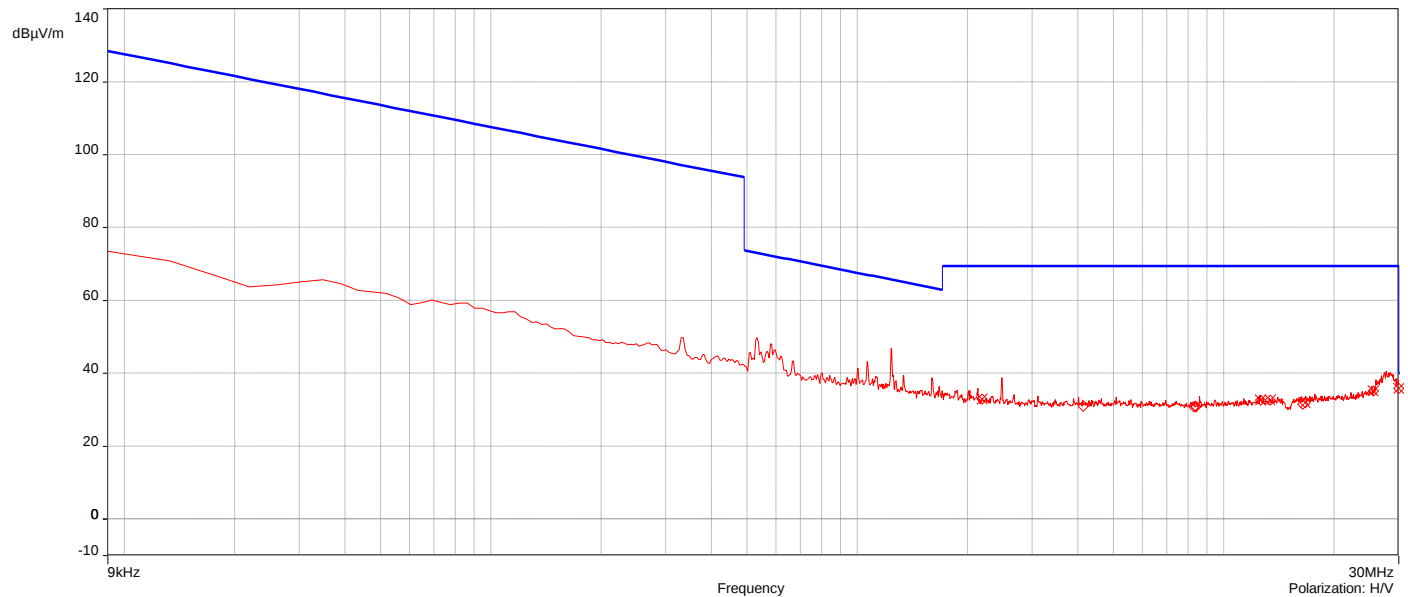


J23133_BT_DH1_Ch 39_9kHz-30MHz_Perpendicular

8/1/2024 6:36:38 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.90	19.59	69.54	-36.64	1.00	41.70	H/V	Passed
2.	12.577024MHz	32.65	19.84	69.54	-36.89	1.00	44.10	H/V	Passed
3.	13.369757MHz	32.61	19.90	69.54	-36.93	1.00	249.00	H/V	Passed
4.	16.694949MHz	31.96	20.11	69.54	-37.58	1.00	194.40	H/V	Passed
5.	25.616403MHz	35.16	21.15	69.54	-34.38	1.00	266.40	H/V	Passed
6.	30MHz	35.85	22.04	40.00	-4.15	1.00	266.40	H/V	Passed

Overall Graphs:

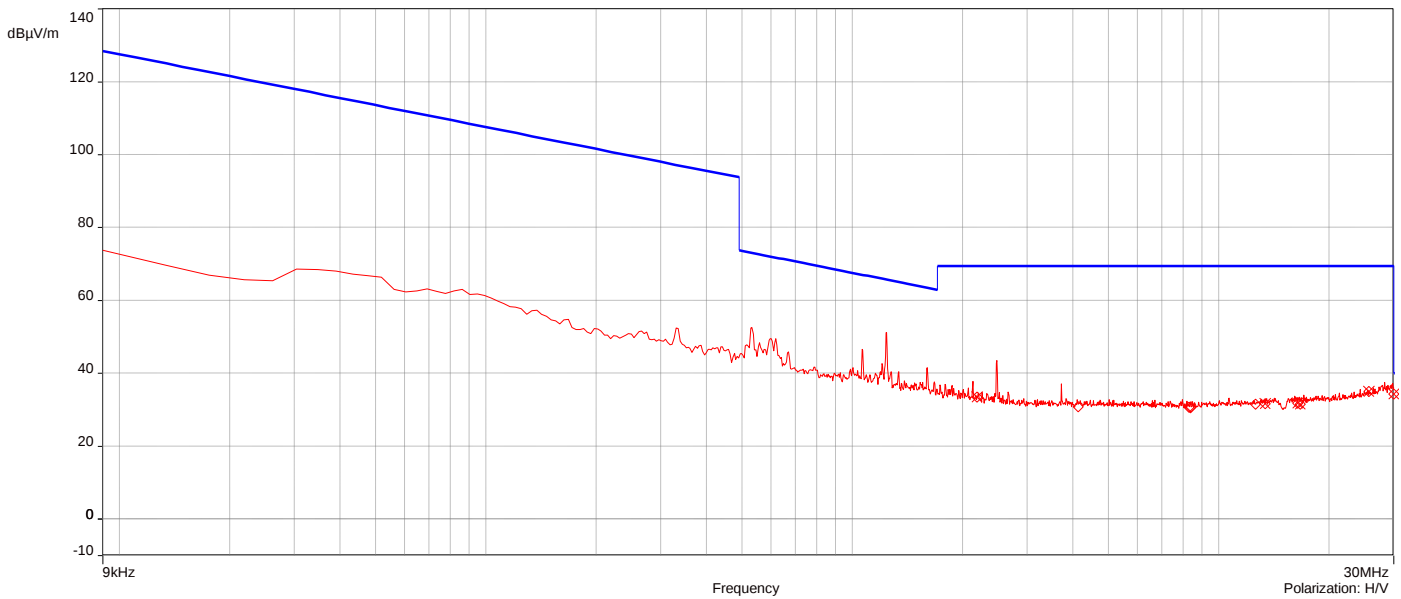


J23133_BT_3-DH1_Ch 0_9kHz-30MHz_Ground-Parallel

8/1/2024 6:47:32 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	33.49	19.59	69.54	-36.05	1.00	143.80	H/V	Passed
2.	13.374042MHz	31.65	19.90	69.54	-37.89	1.00	196.20	H/V	Passed
3.	16.420706MHz	31.85	20.07	69.54	-37.69	1.00	132.80	H/V	Passed
4.	16.694949MHz	31.62	20.11	69.54	-37.92	1.00	185.10	H/V	Passed
5.	25.633544MHz	35.00	21.15	69.54	-34.54	1.00	156.90	H/V	Passed
6.	30MHz	34.28	22.04	40.00	-5.72	1.00	226.40	H/V	Passed

Overall Graphs:

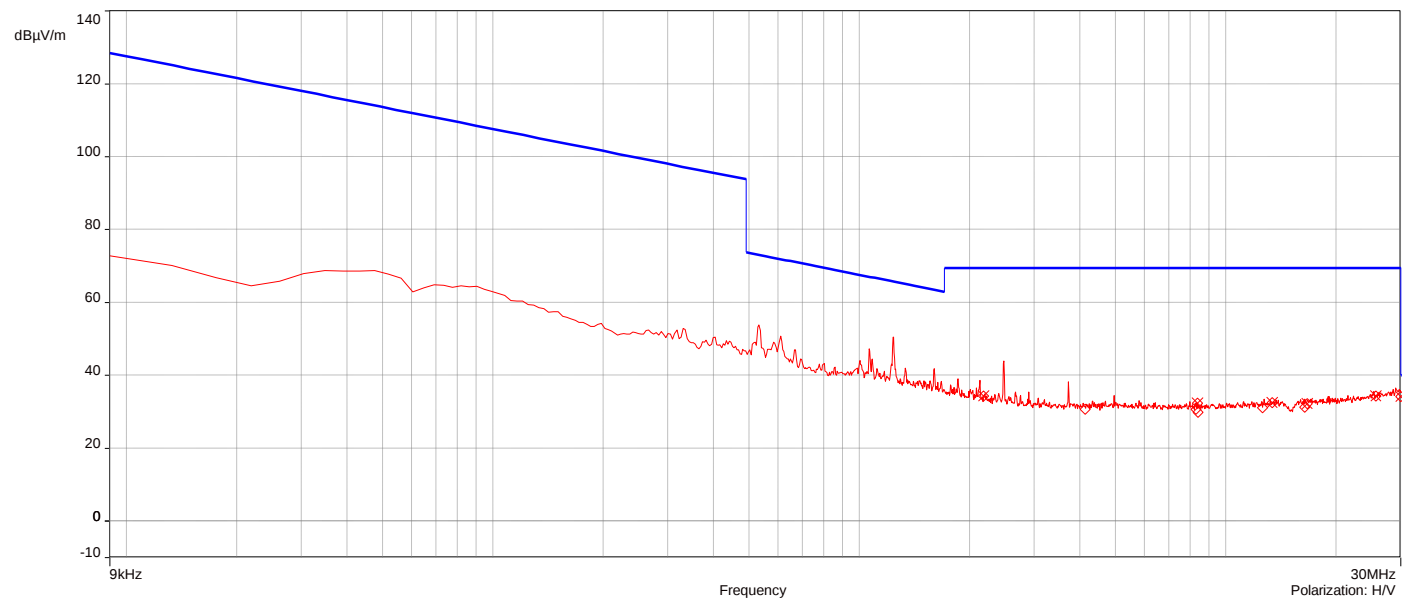


J23133_BT_3-DH1_Ch 0_9kHz-30MHz_Parallel

8/1/2024 6:54:05 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.181516MHz	34.32	19.59	69.54	-35.22	1.00	117.70	H/V	Passed
2.	8.364829MHz	32.35	19.52	69.54	-37.19	1.00	150.30	H/V	Passed
3.	13.365472MHz	32.50	19.90	69.54	-37.04	1.00	302.60	H/V	Passed
4.	16.694949MHz	32.22	20.11	69.54	-37.32	1.00	300.50	H/V	Passed
5.	25.633544MHz	34.32	21.15	69.54	-35.22	1.00	356.20	H/V	Passed
6.	30MHz	34.24	22.04	40.00	-5.76	1.00	93.90	H/V	Passed

Overall Graphs:

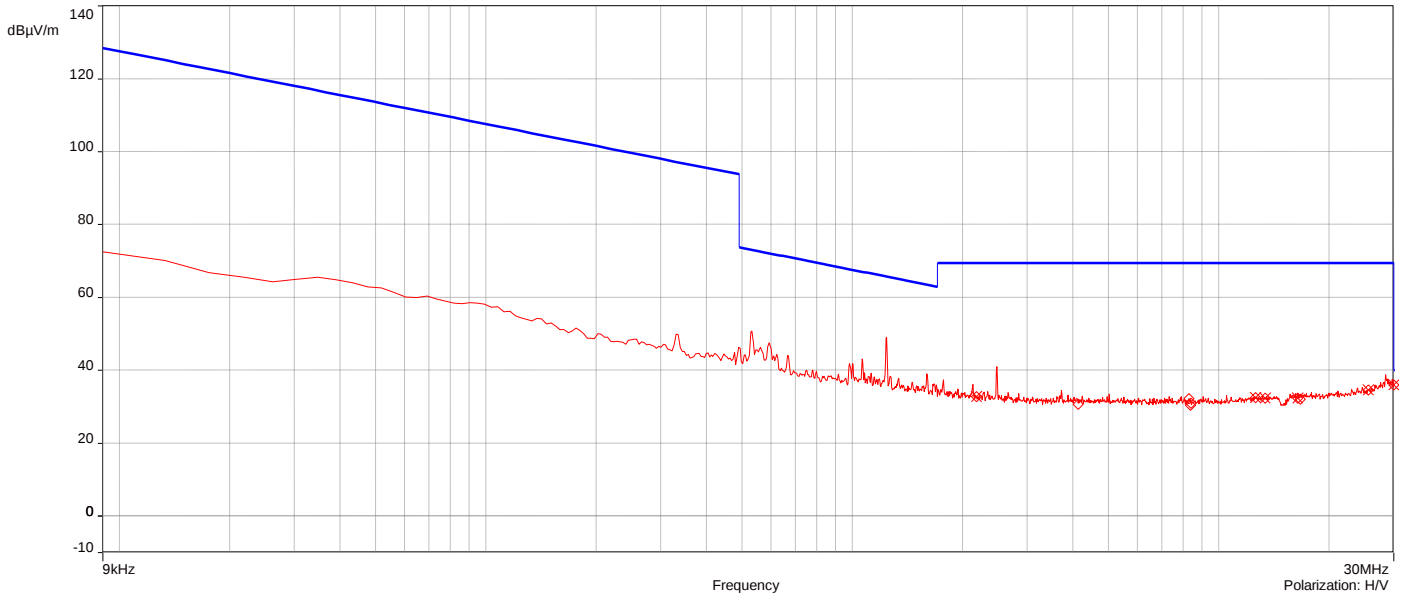


J23133_BT_3-DH1_Ch 0_9kHz-30MHz_Perpendicular

8/1/2024 6:51:14 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.181516MHz	32.81	19.59	69.54	-36.73	1.00	161.10	H/V	Passed
2.	12.577024MHz	32.48	19.84	69.54	-37.06	1.00	224.20	H/V	Passed
3.	13.365472MHz	32.43	19.90	69.54	-37.11	1.00	159.00	H/V	Passed
4.	16.420706MHz	32.42	20.07	69.54	-37.12	1.00	119.80	H/V	Passed
5.	25.582123MHz	34.65	21.15	69.54	-34.89	1.00	228.50	H/V	Passed
6.	30MHz	36.02	22.04	40.00	-3.98	1.00	237.20	H/V	Passed

Overall Graphs:

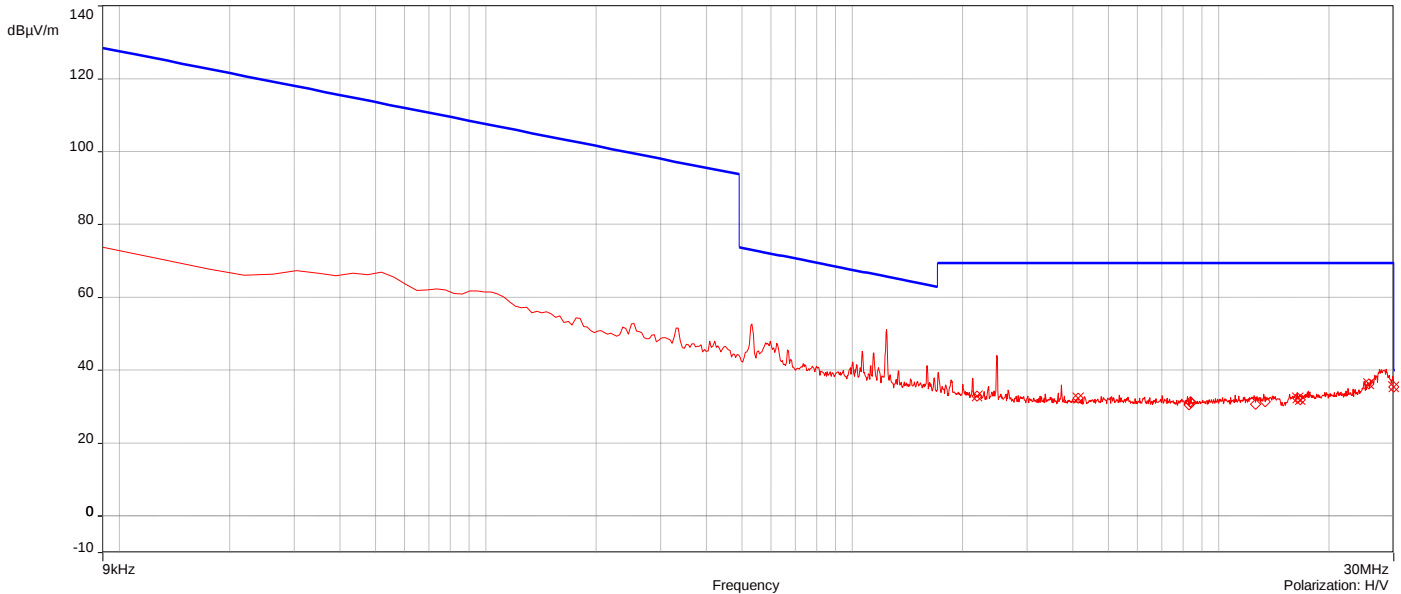


J23133_BT_3-DH1_Ch 39_9kHz-30MHz_Ground-Parallel

8/1/2024 7:20:12 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	33.00	19.59	69.54	-36.54	1.00	336.00	H/V	Passed
2.	4.126924MHz	32.40	19.74	69.54	-37.14	1.00	0.10	H/V	Passed
3.	16.420706MHz	32.38	20.07	69.54	-37.16	1.00	289.00	H/V	Passed
4.	16.694949MHz	32.01	20.11	69.54	-37.53	1.00	358.80	H/V	Passed
5.	25.637829MHz	36.23	21.15	69.54	-33.31	1.00	72.40	H/V	Passed
6.	30MHz	35.40	22.04	40.00	-4.60	1.00	184.00	H/V	Passed

Overall Graphs:

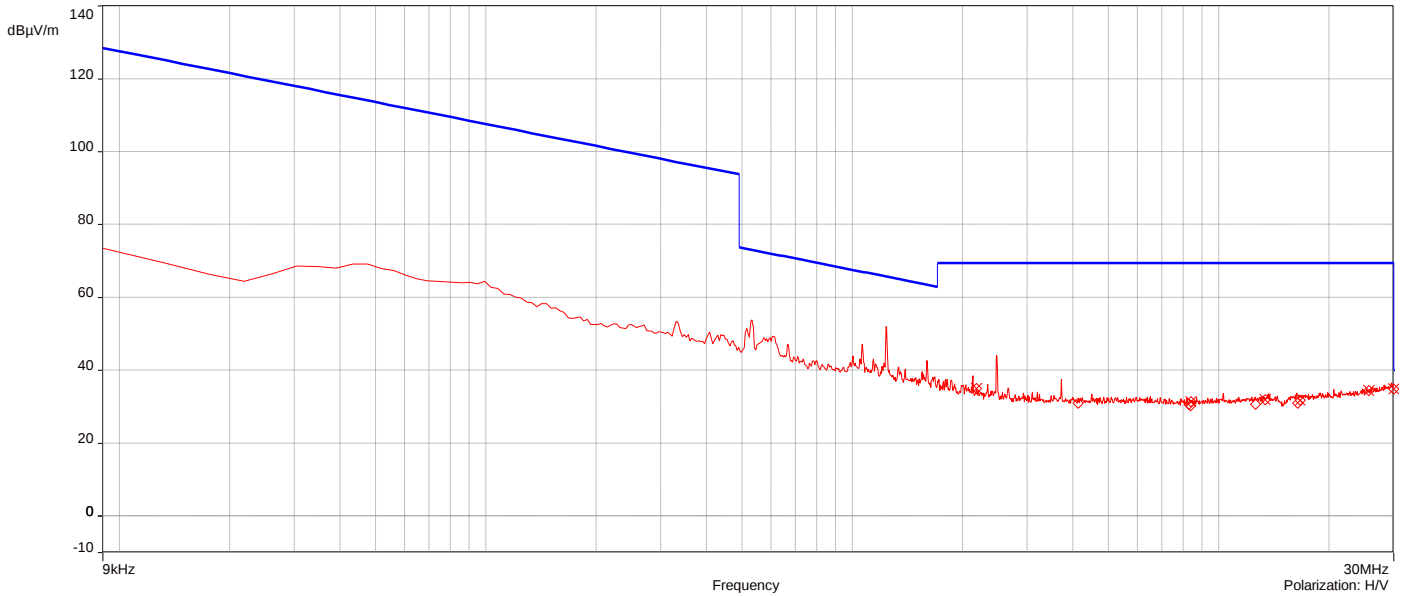


J23133_BT_3-DH1_Ch 39_9kHz-30MHz_Parallel

8/1/2024 6:59:10 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.177231MHz	35.00	19.59	69.54	-34.54	1.00	83.00	H/V	Passed
2.	8.386255MHz	31.35	19.52	69.54	-38.19	1.00	294.30	H/V	Passed
3.	13.365472MHz	32.04	19.90	69.54	-37.50	1.00	211.40	H/V	Passed
4.	16.694949MHz	31.90	20.11	69.54	-37.64	1.00	21.60	H/V	Passed
5.	25.629258MHz	34.51	21.15	69.54	-35.03	1.00	226.80	H/V	Passed
6.	30MHz	34.85	22.04	40.00	-5.15	1.00	17.50	H/V	Passed

Overall Graphs:

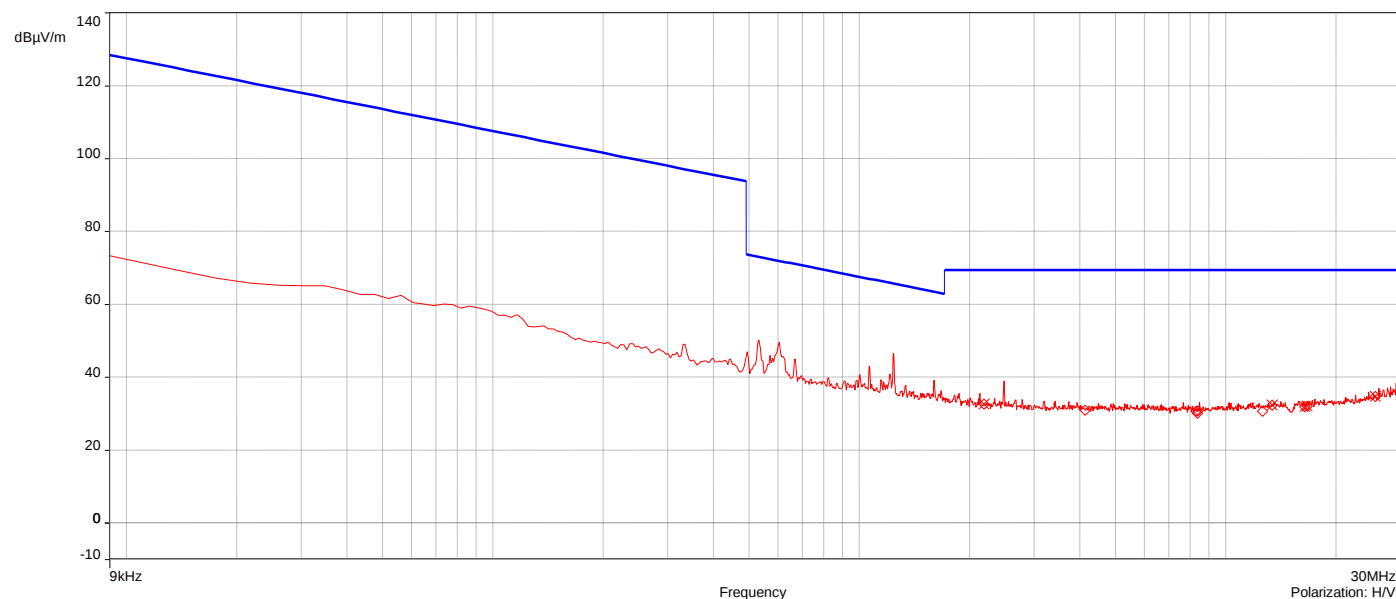


J23133_BT_3-DH1_Ch 39_9kHz-30MHz_Perpendicular

8/1/2024 7:16:17 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.66	19.59	69.54	-36.88	1.00	335.80	H/V	Passed
2.	13.382612MHz	32.35	19.90	69.54	-37.19	1.00	129.20	H/V	Passed
3.	16.420706MHz	31.97	20.07	69.54	-37.57	1.00	335.80	H/V	Passed
4.	16.694949MHz	32.11	20.11	69.54	-37.43	1.00	248.90	H/V	Passed
5.	25.534988MHz	34.81	21.14	69.54	-34.73	1.00	320.70	H/V	Passed
6.	30MHz	35.30	22.04	40.00	-4.70	1.00	285.80	H/V	Passed

Overall Graphs:

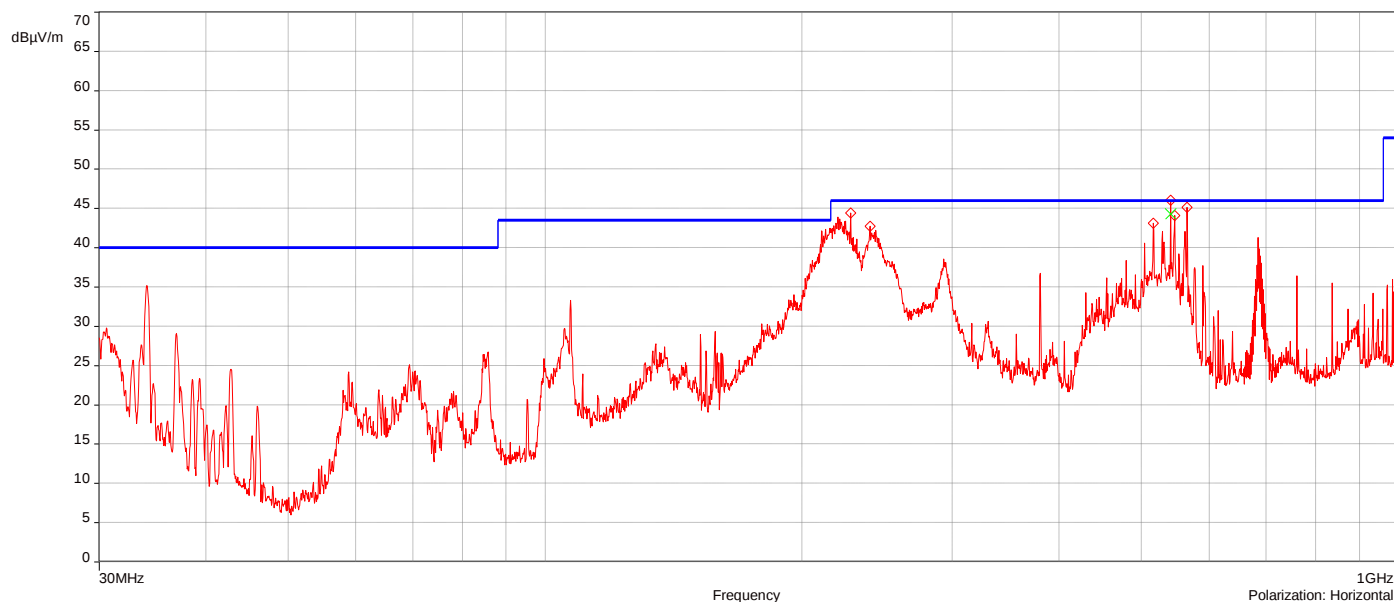


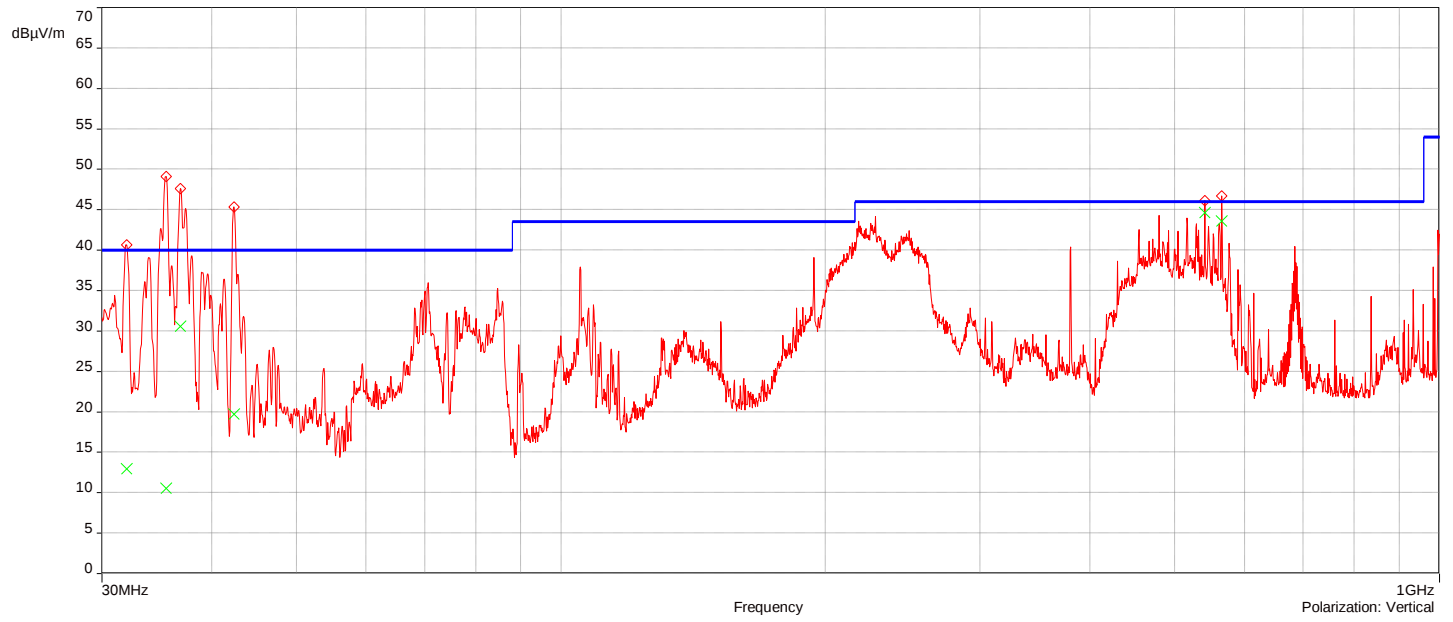
J23133_BT_DH1_Ch 0_30MHz-1GHz

8/1/2024 12:56:39 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	31.997176MHz	12.96	-8.06	40.00	-27.04	2.75	171.10	Vertical	Passed
2.	35.477969MHz	10.52	-9.99	40.00	-29.48	1.25	29.10	Vertical	Passed
3.	36.847462MHz	30.55	-10.80	40.00	-9.45	1.00	152.90	Vertical	Passed
4.	42.439555MHz	19.71	-14.09	40.00	-20.29	1.25	118.10	Vertical	Passed
5.	540.70651MHz	44.65	-6.74	46.00	-1.35	1.00	326.90	Vertical	Passed
6.	565.30031MHz	43.58	-6.24	46.00	-2.42	1.00	347.90	Vertical	Passed
7.	540.70651MHz	44.32	-5.74	46.00	-1.68	1.50	343.90	Horizontal	Passed

Overall Graphs:



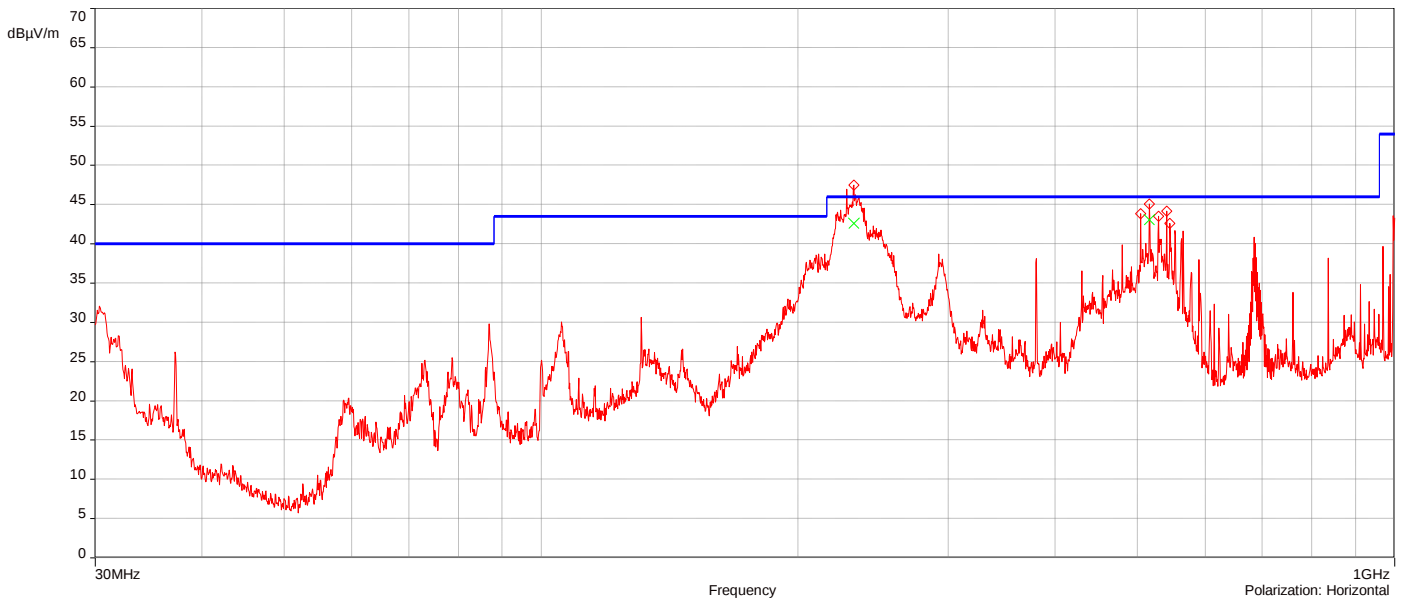


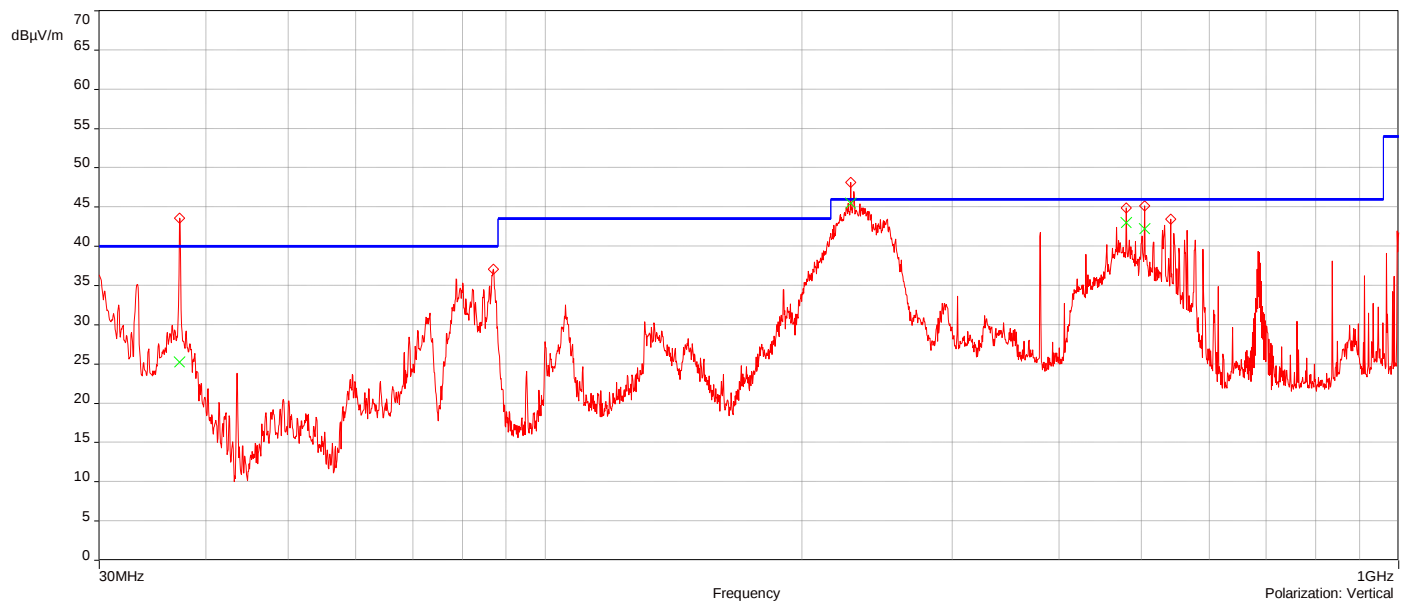
J23133_BT_DH1_Ch 39_30MHz-1GHz

8/1/2024 10:48:48 AM

No	Frequency (MHz)	Level Q- Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	37.246897MHz	25.23	-11.03	40.00	-14.77	1.25	345.10	Vertical	Passed
2.	228.00576MHz	45.47	-14.31	46.00	-0.53	1.00	205.90	Vertical	Passed
3.	479.25054MHz	43.01	-7.77	46.00	-2.99	1.25	3.10	Vertical	Passed
4.	503.84434MHz	42.24	-7.09	46.00	-3.76	1.25	22.10	Vertical	Passed
5.	232.22837MHz	42.64	-13.57	46.00	-3.36	1.25	179.10	Horizontal	Passed
6.	516.11271MHz	43.07	-6.12	46.00	-2.93	1.50	346.90	Horizontal	Passed

Overall Graphs:





J23133_BT_3-DH1_Ch 0_30MHz-1GHz

8/1/2024 11:39:13 AM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	37.303959MHz	13.33	-11.07	40.00	-26.67	1.00	346.90	Vertical	Passed
2.	245.40973MHz	40.86	-13.61	46.00	-5.14	1.00	206.10	Vertical	Passed
3.	540.70651MHz	44.84	-6.74	46.00	-1.16	1.00	333.90	Vertical	Passed
4.	565.30031MHz	42.43	-6.24	46.00	-3.57	1.00	351.90	Vertical	Passed
5.	241.30125MHz	40.59	-13.07	46.00	-5.41	1.50	179.10	Horizontal	Passed
6.	565.24325MHz	44.41	-5.24	46.00	-1.59	1.50	351.90	Horizontal	Passed

Overall Graphs:





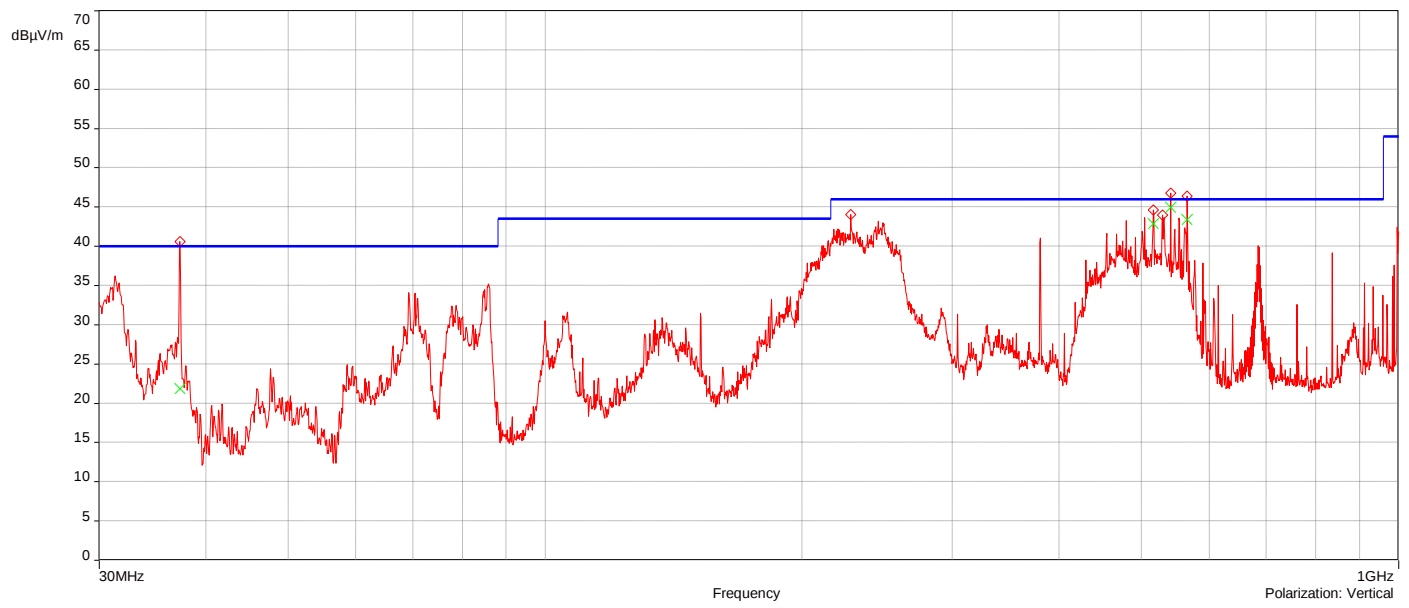
J23133_BT_3-DH1_Ch 39_30MHz-1GHz

8/1/2024 12:24:36 PM

No	Frequency (MHz)	Level Q- Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	37.303959MHz	21.85	-11.07	40.00	-18.15	1.25	347.90	Vertical	Passed
2.	516.11271MHz	42.90	-6.92	46.00	-3.10	1.00	319.90	Vertical	Passed
3.	540.70651MHz	44.93	-6.74	46.00	-1.07	1.00	336.10	Vertical	Passed
4.	565.30031MHz	43.42	-6.24	46.00	-2.58	1.00	333.10	Vertical	Passed
5.	540.70651MHz	42.89	-5.74	46.00	-3.11	1.50	0.10	Horizontal	Passed
6.	565.30031MHz	42.23	-5.24	46.00	-3.77	1.50	347.90	Horizontal	Passed

Overall Graphs:





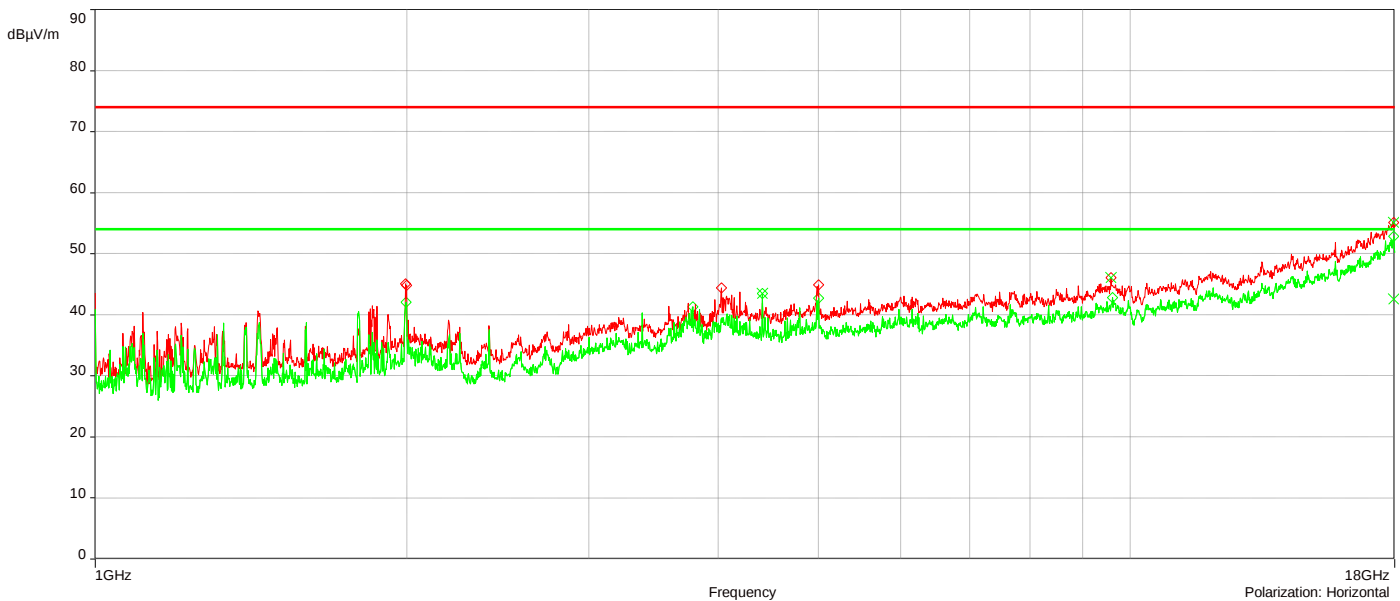
J23133_BT_DH1_Ch 0_1-18GHz

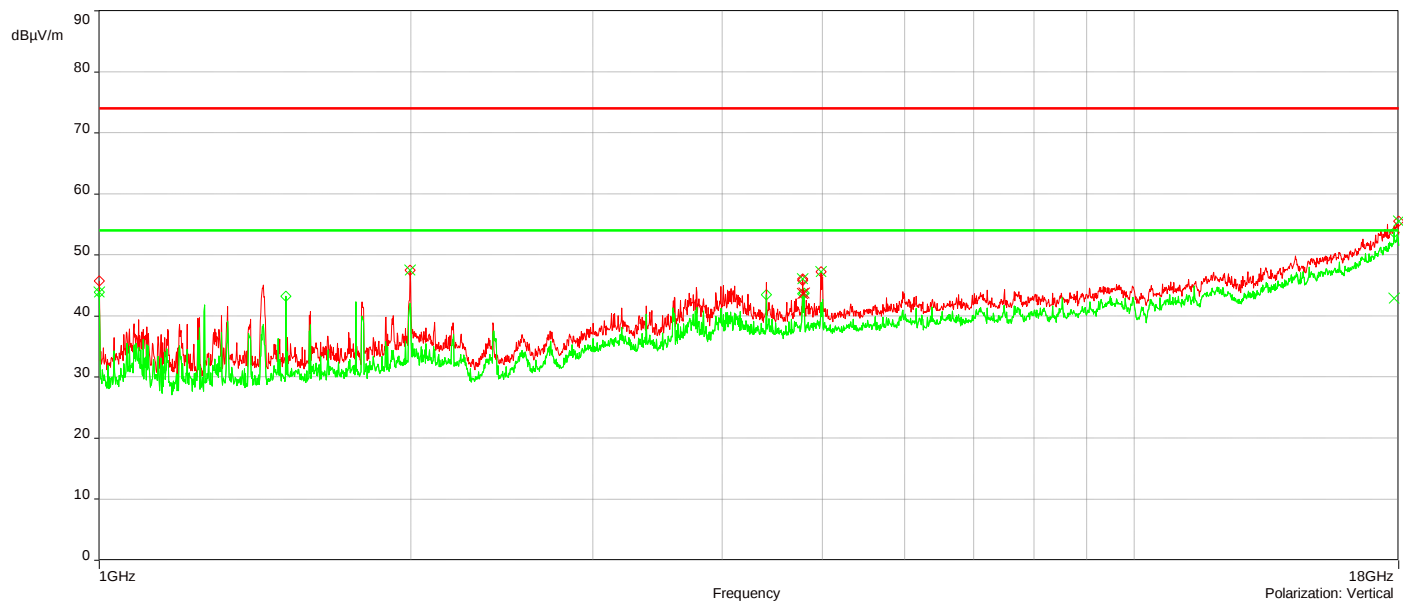
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	1.9960293GHz	47.48	-2.24	74.00	-26.52	2.50	74.10	Vertical	Passed
2.	4.7811112GHz	46.06	4.78	74.00	-27.94	1.00	70.40	Vertical	Passed
3.	4.9806171GHz	47.26	5.71	74.00	-26.74	1.00	79.60	Vertical	Passed
4.	17.9985GHz	55.52	22.06	74.00	-18.48	4.00	306.30	Vertical	Passed
5.	9.5722521GHz	46.09	9.84	74.00	-27.91	4.00	74.00	Horizontal	Passed
6.	17.950999GHz	55.16	21.08	74.00	-18.84	1.50	194.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	1GHz	43.93	-7.69	54.00	-10.07	1.50	229.40	Vertical	Passed
2.	4.7821112GHz	43.70	4.78	54.00	-10.30	1.00	0.0	Vertical	Passed
3.	4.7996118GHz	43.76	4.84	54.00	-10.24	1.00	0.0	Vertical	Passed
4.	17.817495GHz	42.94	21.02	54.00	-11.06	1.00	155.90	Vertical	Passed
5.	4.4096003GHz	43.48	4.43	54.00	-10.52	4.00	359.90	Horizontal	Passed
6.	17.950999GHz	42.58	21.08	54.00	-11.42	1.50	194.40	Horizontal	Passed

Overall Graphs:





J23133_BT_DH1_Ch 39_1-18GHz

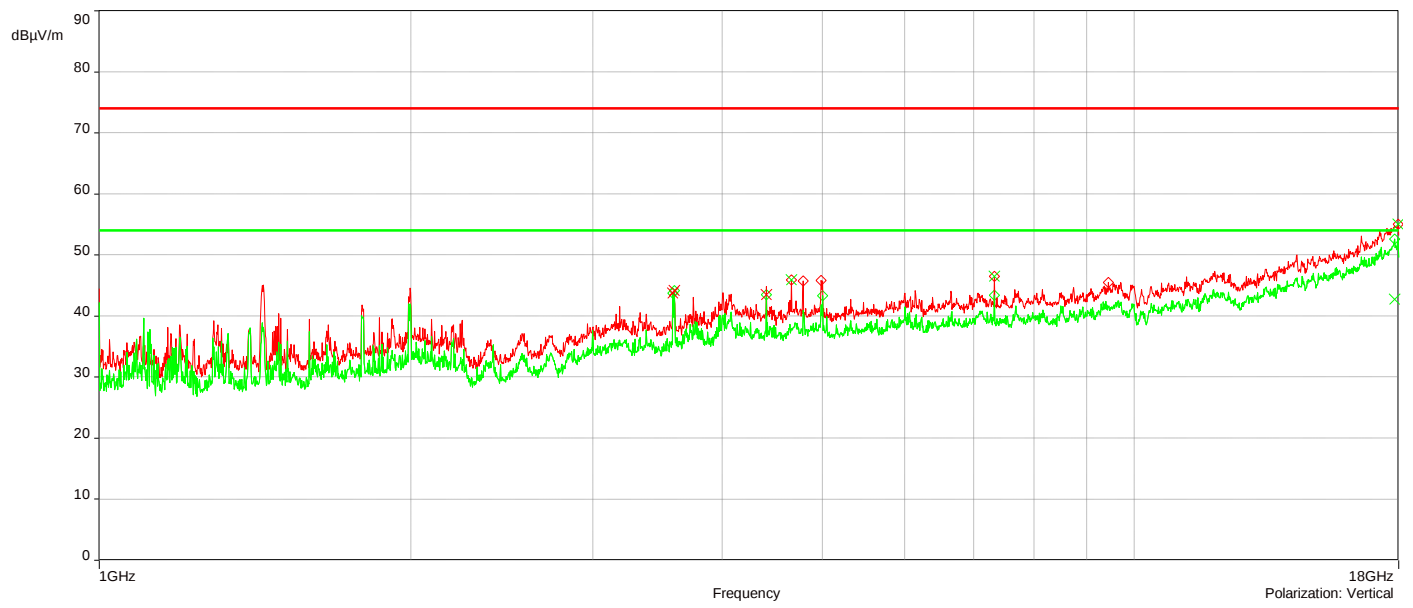
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No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.6636078GHz	45.95	4.28	74.00	-28.05	1.00	77.00	Vertical	Passed
2.	7.3221859GHz	46.51	7.49	74.00	-27.49	1.00	77.00	Vertical	Passed
3.	17.9845GHz	55.08	21.74	74.00	-18.92	2.00	244.20	Vertical	Passed
4.	9.6317539GHz	46.20	10.48	74.00	-27.80	1.00	184.90	Horizontal	Passed
5.	12.048825GHz	47.49	12.19	74.00	-26.51	1.50	354.00	Horizontal	Passed
6.	17.861996GHz	55.55	21.12	74.00	-18.45	4.00	359.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	3.583076GHz	43.72	2.00	54.00	-10.28	1.00	359.90	Vertical	Passed
2.	3.5935763GHz	44.14	1.99	54.00	-9.86	1.00	359.90	Vertical	Passed
3.	4.4096003GHz	43.48	4.42	54.00	-10.52	1.00	359.90	Vertical	Passed
4.	17.843495GHz	42.74	21.17	54.00	-11.26	1.50	32.10	Vertical	Passed
5.	11.917321GHz	44.91	12.03	54.00	-9.09	1.00	73.40	Horizontal	Passed
6.	17.989GHz	42.64	21.78	54.00	-11.36	1.00	174.90	Horizontal	Passed

Overall Graphs:





J23133_BT_DH1_Ch 78_1-18GHz

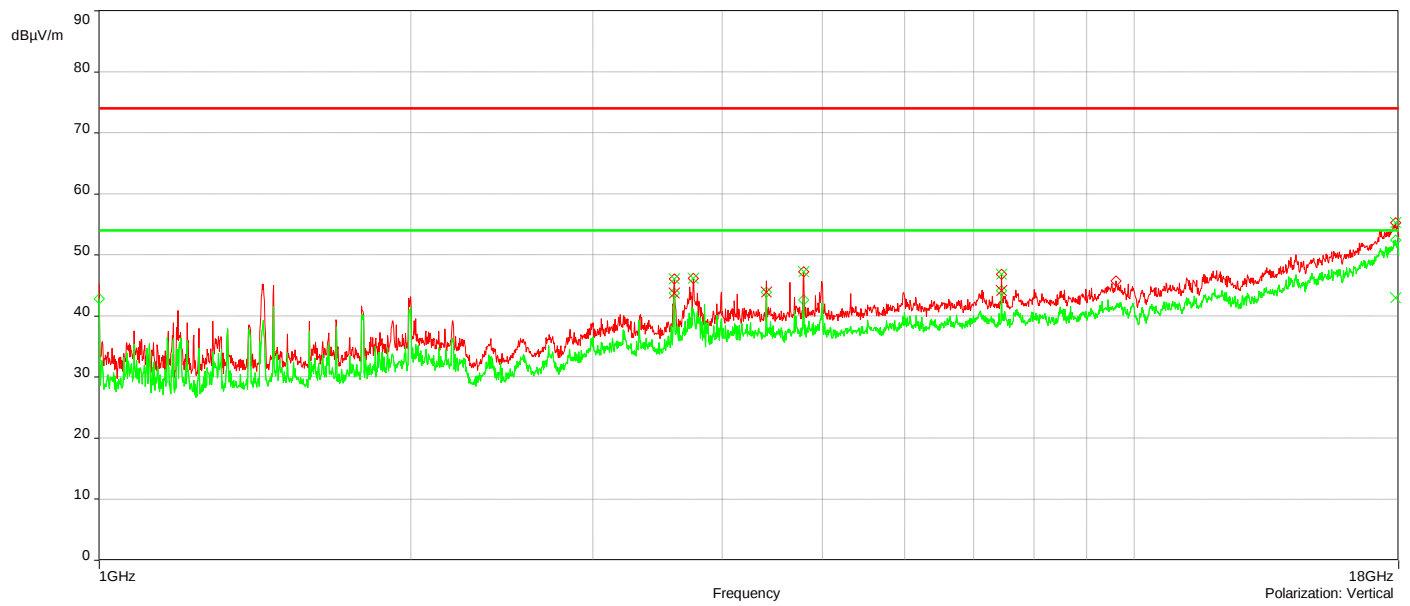
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	3.5930763GHz	46.12	1.99	74.00	-27.88	2.00	305.80	Vertical	Passed
2.	3.7465808GHz	46.19	2.79	74.00	-27.81	2.50	82.80	Vertical	Passed
3.	4.7921115GHz	47.27	4.82	74.00	-26.73	3.00	0.20	Vertical	Passed
4.	7.4396894GHz	46.86	7.82	74.00	-27.14	1.00	98.50	Vertical	Passed
5.	17.883497GHz	55.33	21.25	74.00	-18.67	1.50	263.20	Vertical	Passed
6.	17.850996GHz	55.34	21.10	74.00	-18.66	2.50	222.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	3.5930763GHz	43.73	1.99	54.00	-10.27	2.00	305.80	Vertical	Passed
2.	4.4096003GHz	43.89	4.42	54.00	-10.11	2.50	0.20	Vertical	Passed
3.	7.4396894GHz	44.18	7.82	54.00	-9.82	1.00	98.50	Vertical	Passed
4.	17.869996GHz	42.96	21.23	54.00	-11.04	2.50	299.90	Vertical	Passed
5.	7.4396894GHz	44.19	7.84	54.00	-9.81	1.00	0.0	Horizontal	Passed
6.	17.946998GHz	42.89	21.07	54.00	-11.11	2.00	260.90	Horizontal	Passed

Overall Graphs:





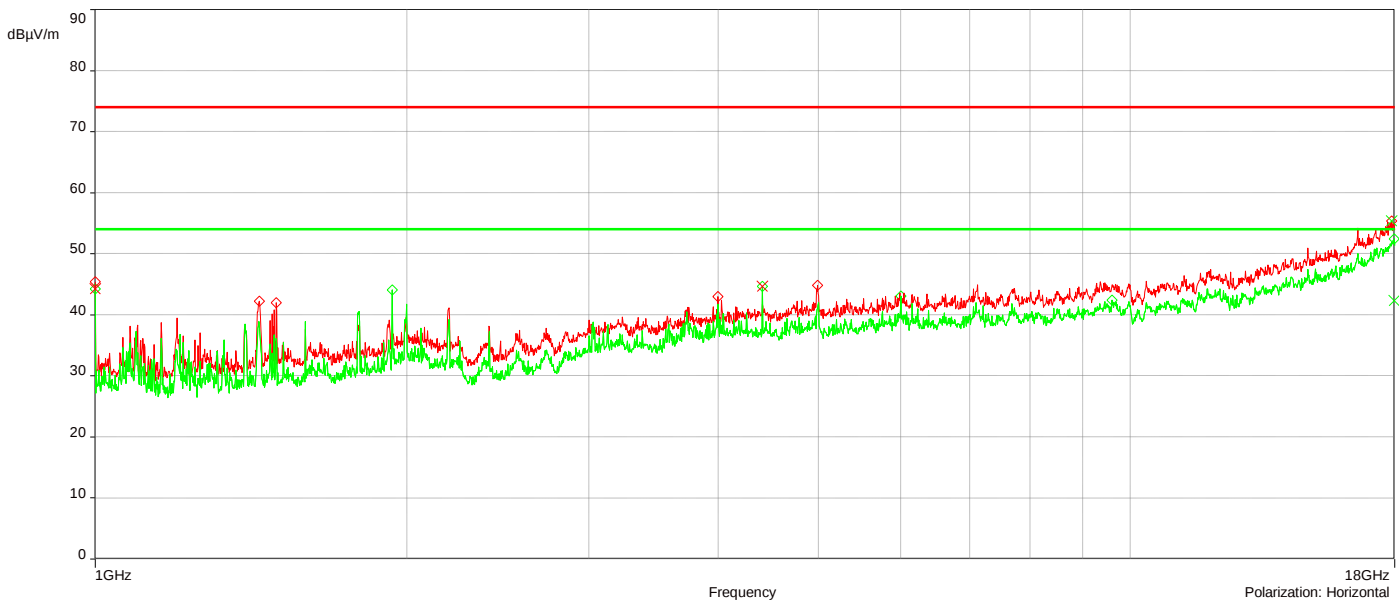
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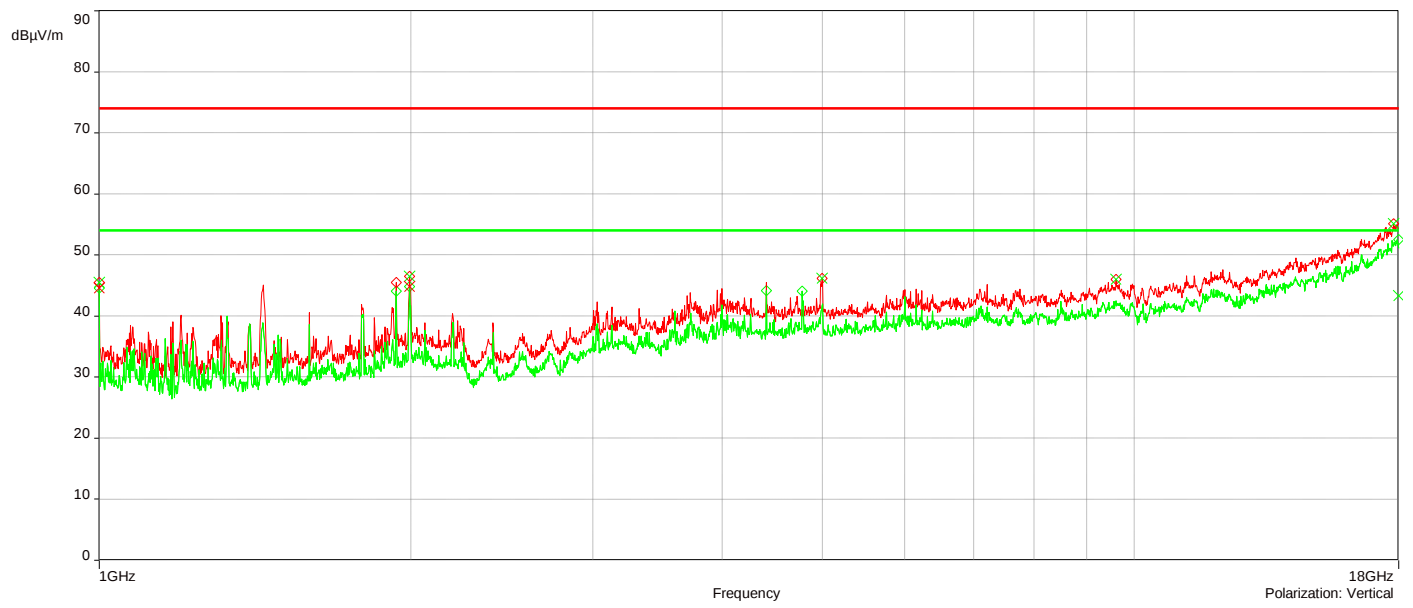
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	1GHz	45.53	-7.69	74.00	-28.47	2.50	270.30	Vertical	Passed
2.	1.9940292GHz	46.53	-2.26	74.00	-27.47	3.50	68.40	Vertical	Passed
3.	4.9921174GHz	46.20	5.67	74.00	-27.80	2.00	65.70	Vertical	Passed
4.	9.602253GHz	46.03	10.19	74.00	-27.97	4.00	80.60	Vertical	Passed
5.	17.798994GHz	55.16	20.90	74.00	-18.84	4.00	338.00	Vertical	Passed
6.	17.880496GHz	55.36	21.15	74.00	-18.64	4.00	40.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	1GHz	44.56	-7.69	54.00	-9.44	2.50	270.30	Vertical	Passed
2.	1.9940292GHz	44.82	-2.26	54.00	-9.18	3.50	68.40	Vertical	Passed
3.	17.996GHz	43.37	22.00	54.00	-10.63	1.00	360.00	Vertical	Passed
4.	1GHz	44.27	-7.97	54.00	-9.73	2.50	32.90	Horizontal	Passed
5.	4.4096003GHz	44.64	4.43	54.00	-9.36	3.00	0.10	Horizontal	Passed
6.	17.973999GHz	42.37	21.46	54.00	-11.63	1.50	360.00	Horizontal	Passed

Overall Graphs:





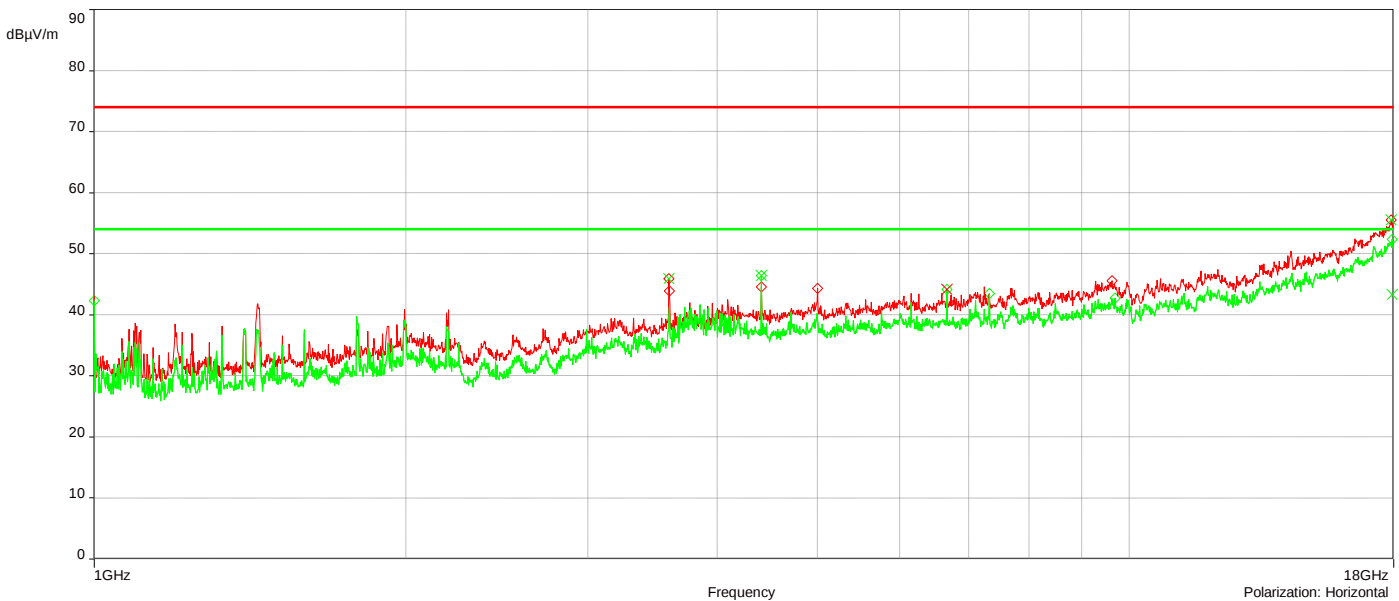
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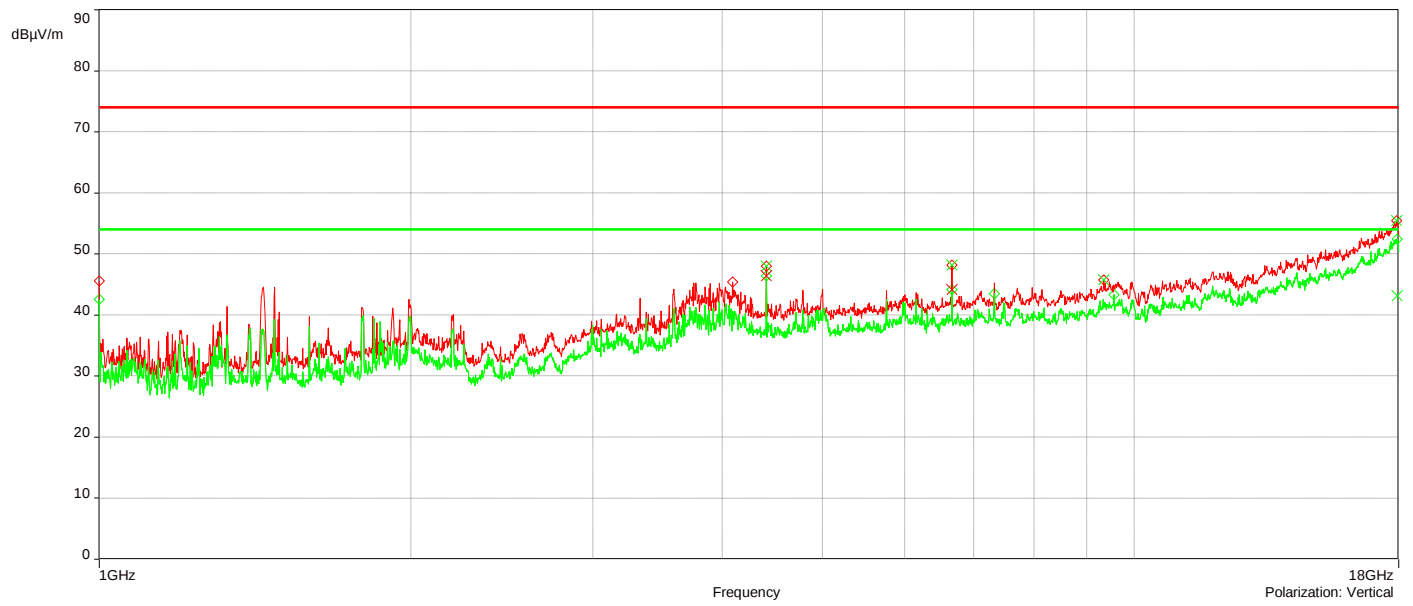
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.4096003GHz	48.06	4.42	74.00	-25.94	4.00	320.50	Vertical	Passed
2.	6.6616665GHz	48.18	7.03	74.00	-25.82	3.00	95.20	Vertical	Passed
3.	9.3422454GHz	45.74	9.55	74.00	-28.26	4.00	292.50	Vertical	Passed
4.	17.923498GHz	55.47	21.21	74.00	-18.53	2.50	353.10	Vertical	Passed
5.	3.5885761GHz	45.95	1.98	74.00	-28.05	3.00	160.40	Horizontal	Passed
6.	17.899997GHz	55.54	21.19	74.00	-18.46	3.50	185.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	4.4096003GHz	46.46	4.42	54.00	-7.54	4.00	320.50	Vertical	Passed
2.	6.6616665GHz	44.14	7.03	54.00	-9.86	3.00	95.20	Vertical	Passed
3.	17.939998GHz	43.13	21.17	54.00	-10.87	1.50	359.90	Vertical	Passed
4.	4.4096003GHz	46.46	4.43	54.00	-7.54	4.00	0.0	Horizontal	Passed
5.	6.6616665GHz	44.18	7.07	54.00	-9.82	3.00	359.90	Horizontal	Passed
6.	17.939998GHz	43.32	21.08	54.00	-10.68	1.50	1.90	Horizontal	Passed

Overall Graphs:





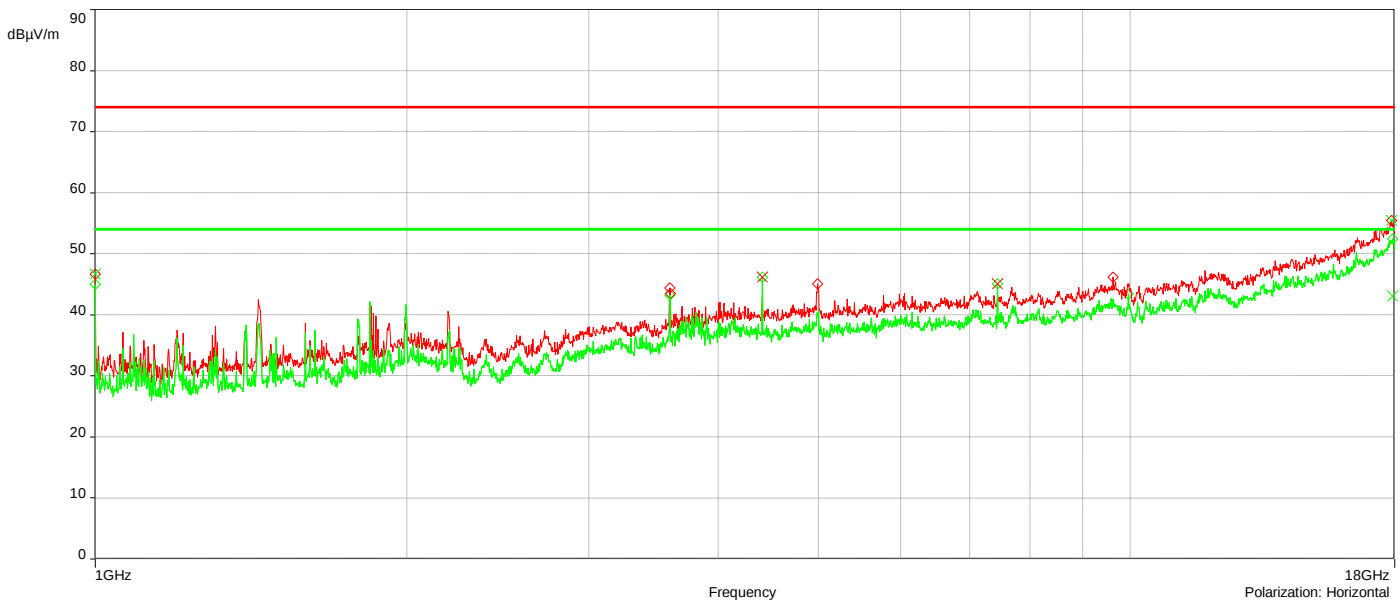
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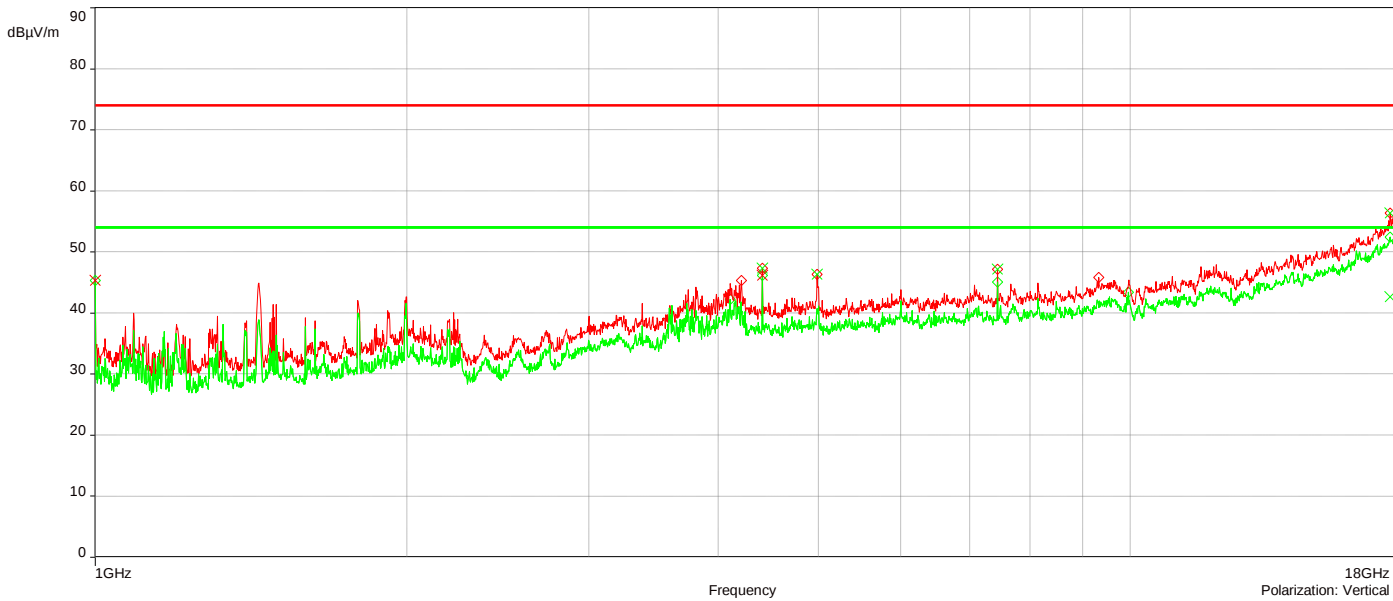
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.4096003GHz	47.32	4.42	74.00	-26.68	4.00	319.70	Vertical	Passed
2.	4.9816171GHz	46.32	5.71	74.00	-27.68	1.50	60.40	Vertical	Passed
3.	7.4401894GHz	47.16	7.82	74.00	-26.84	1.00	88.90	Vertical	Passed
4.	17.824495GHz	56.39	21.06	74.00	-17.61	3.00	40.30	Vertical	Passed
5.	1GHz	46.66	-7.97	74.00	-27.34	2.50	59.80	Horizontal	Passed
6.	17.886497GHz	55.48	21.16	74.00	-18.52	1.00	286.50	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	1GHz	45.30	-7.69	54.00	-8.70	2.50	359.90	Vertical	Passed
2.	4.4096003GHz	46.15	4.42	54.00	-7.85	4.00	319.70	Vertical	Passed
3.	17.824495GHz	42.64	21.06	54.00	-11.36	3.00	40.30	Vertical	Passed
4.	4.4096003GHz	46.16	4.43	54.00	-7.84	4.00	359.90	Horizontal	Passed
5.	7.4411894GHz	45.09	7.84	54.00	-8.91	1.00	359.90	Horizontal	Passed
6.	17.928498GHz	43.06	21.11	54.00	-10.94	2.50	359.90	Horizontal	Passed

Overall Graphs:





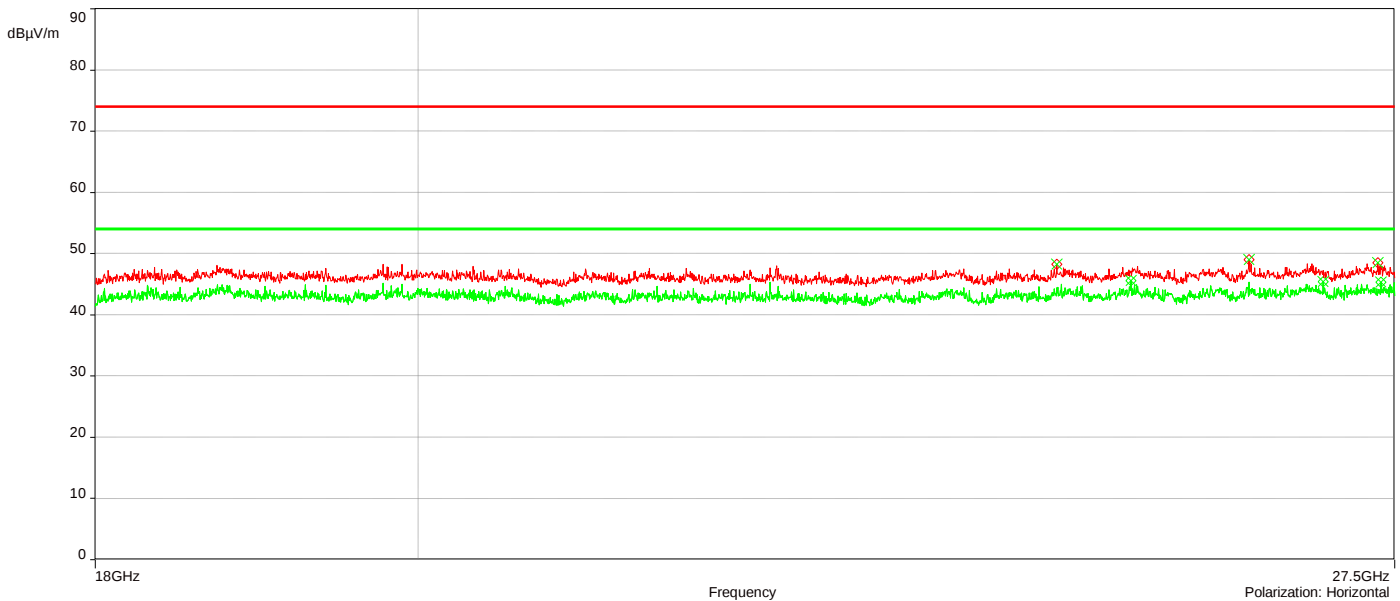
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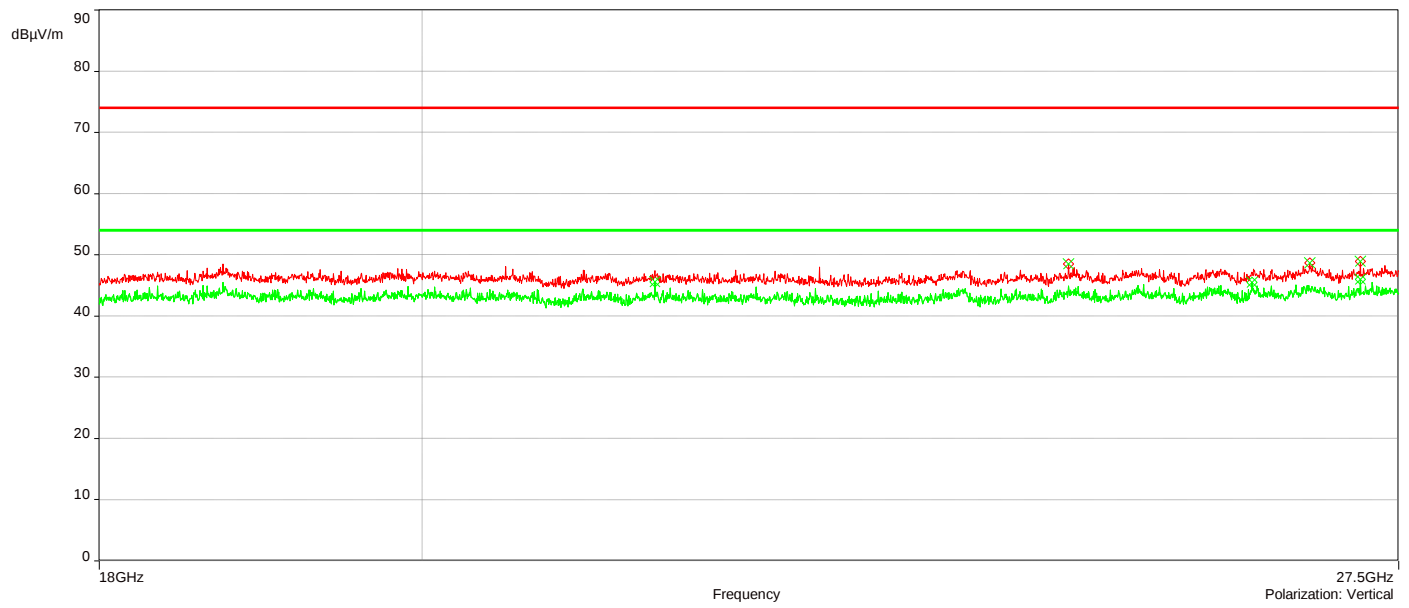
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	24.692135GHz	48.51	1.31	74.00	-25.49	4.00	337.40	Vertical	Passed
2.	26.714311GHz	48.66	1.43	74.00	-25.34	1.52	90.20	Vertical	Passed
3.	27.160833GHz	48.97	1.15	74.00	-25.03	3.52	292.60	Vertical	Passed
4.	24.630857GHz	48.31	1.17	74.00	-25.69	1.94	67.50	Horizontal	Passed
5.	26.225036GHz	49.00	1.02	74.00	-25.00	3.00	315.10	Horizontal	Passed
6.	27.349892GHz	48.50	1.24	74.00	-25.50	3.57	337.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	21.576454GHz	45.62	0.71	54.00	-8.38	2.32	202.60	Vertical	Passed
2.	26.217436GHz	45.55	1.00	54.00	-8.45	2.32	67.50	Vertical	Passed
3.	27.160833GHz	46.00	1.15	54.00	-8.00	3.52	292.60	Vertical	Passed
4.	25.232712GHz	45.56	0.65	54.00	-8.44	4.00	135.10	Horizontal	Passed
5.	26.865843GHz	45.39	1.51	54.00	-8.61	3.54	135.10	Horizontal	Passed
6.	27.375069GHz	45.37	1.50	54.00	-8.63	3.71	67.50	Horizontal	Passed

Overall Graphs:





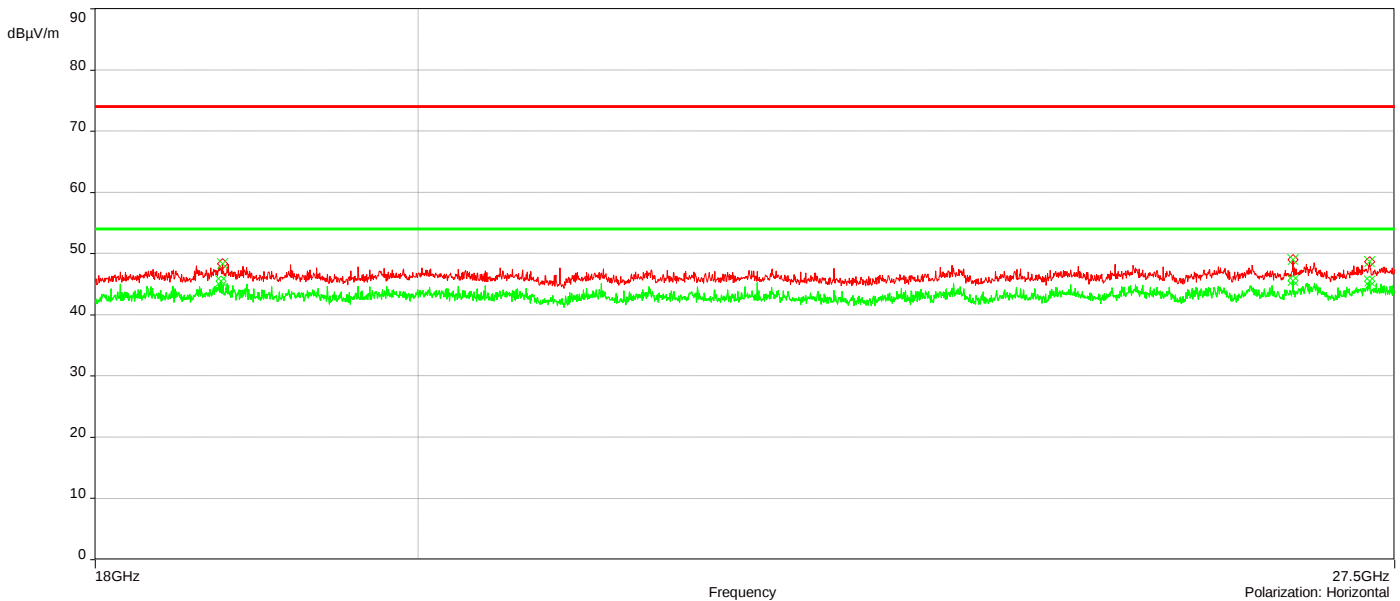
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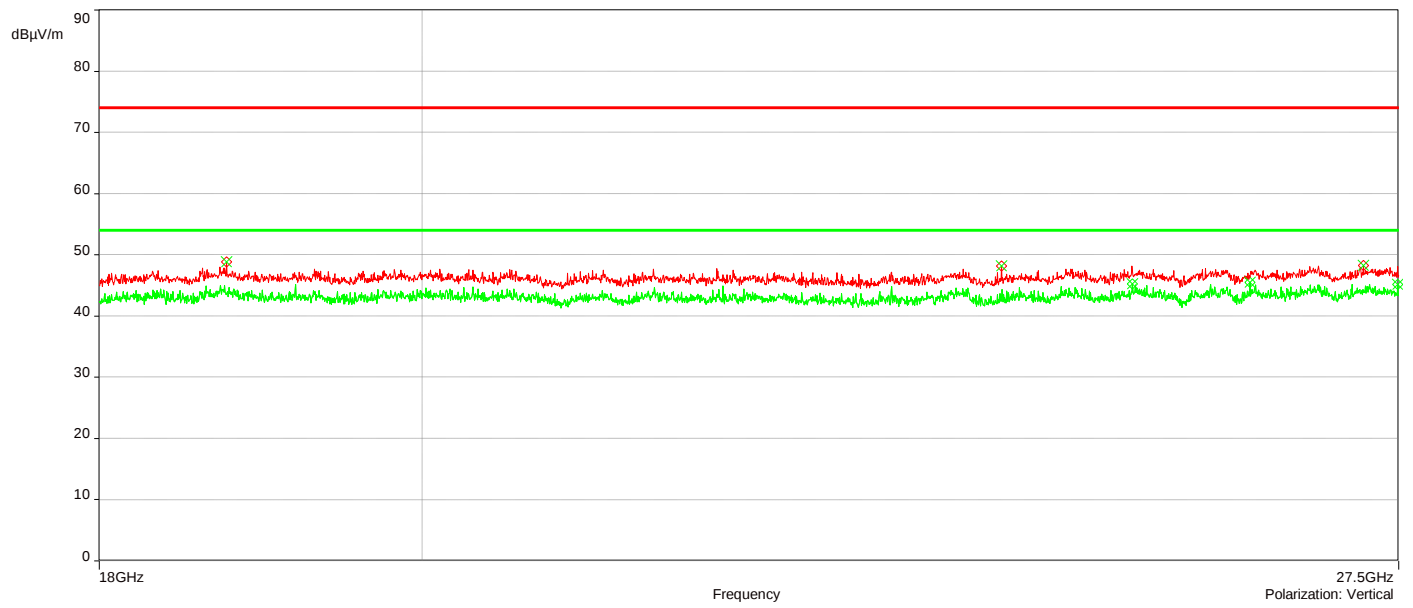
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	18.764313GHz	48.84	-0.97	74.00	-25.16	2.89	112.40	Vertical	Passed
2.	24.157258GHz	48.18	1.07	74.00	-25.82	2.34	67.40	Vertical	Passed
3.	27.186959GHz	48.30	1.04	74.00	-25.70	1.92	157.40	Vertical	Passed
4.	18.762413GHz	48.36	-0.96	74.00	-25.64	3.92	67.40	Horizontal	Passed
5.	26.60173GHz	49.05	1.57	74.00	-24.95	2.74	202.40	Horizontal	Passed
6.	27.275314GHz	48.71	1.31	74.00	-25.29	3.97	134.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	25.212286GHz	45.25	0.41	54.00	-8.75	3.97	202.40	Vertical	Passed
2.	26.198435GHz	45.49	0.89	54.00	-8.51	1.29	134.90	Vertical	Passed
3.	27.491925GHz	45.21	1.57	54.00	-8.79	1.17	22.40	Vertical	Passed
4.	18.753863GHz	45.50	-0.89	54.00	-8.50	1.54	337.40	Horizontal	Passed
5.	26.60173GHz	45.63	1.57	54.00	-8.37	2.74	202.40	Horizontal	Passed
6.	27.275314GHz	45.53	1.31	54.00	-8.47	3.97	134.90	Horizontal	Passed

Overall Graphs:





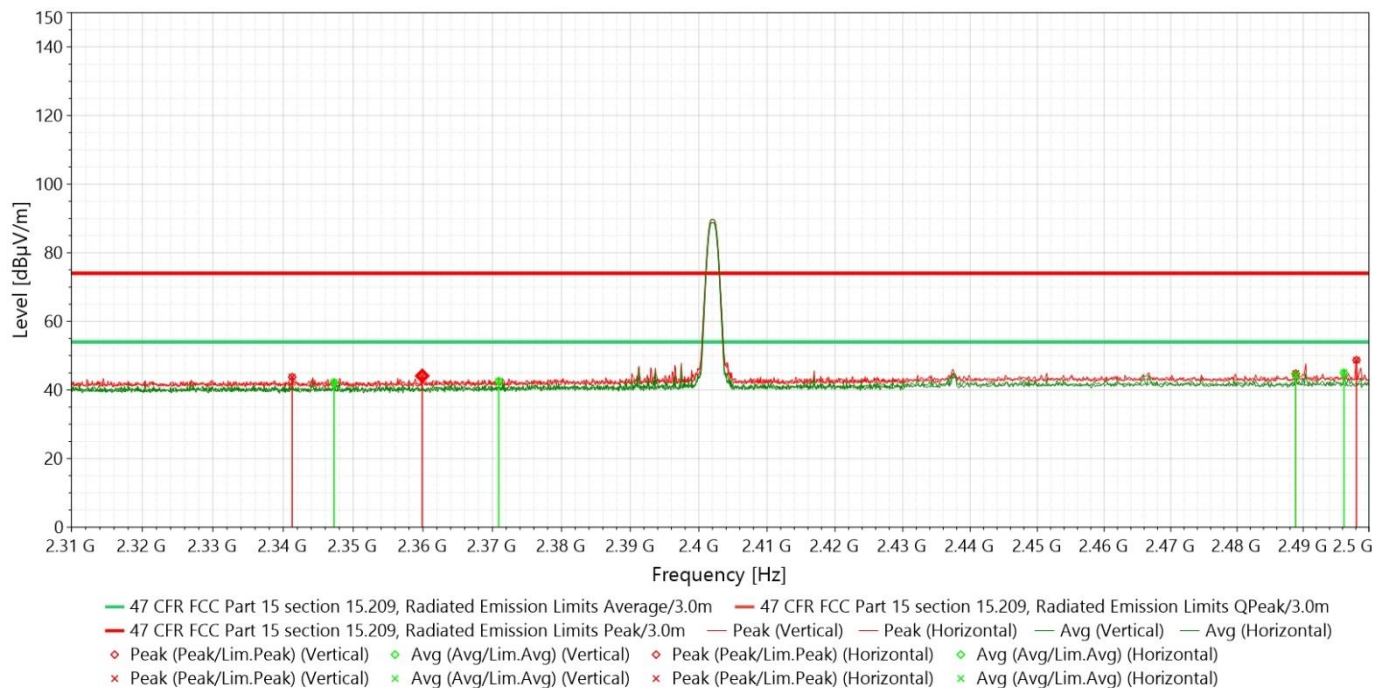
J23133_Restricted Bandedge_BT Classic_DH1_Ch 0

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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.3598999GHz	44.11	-2.55	74.00	-29.89	1.39	89.90	Vertical	Passed
2.	2.498099GHz	48.71	-1.85	74.00	-25.29	1.02	134.90	Vertical	Passed
3.	2.3412706GHz	43.76	-2.87	74.00	-30.24	1.65	0.00	Horizontal	Passed
4.	2.4888794GHz	44.77	-1.80	74.00	-29.23	1.66	67.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3709255GHz	42.58	-2.40	54.00	-11.42	3.97	337.40	Vertical	Passed
2.	2.4961981GHz	45.02	-1.85	54.00	-8.98	1.00	112.40	Vertical	Passed
3.	2.3472586GHz	42.21	-2.87	54.00	-11.79	3.59	134.90	Horizontal	Passed
4.	2.4888794GHz	44.45	-1.80	54.00	-9.55	1.66	67.40	Horizontal	Passed

Overall Graphs:



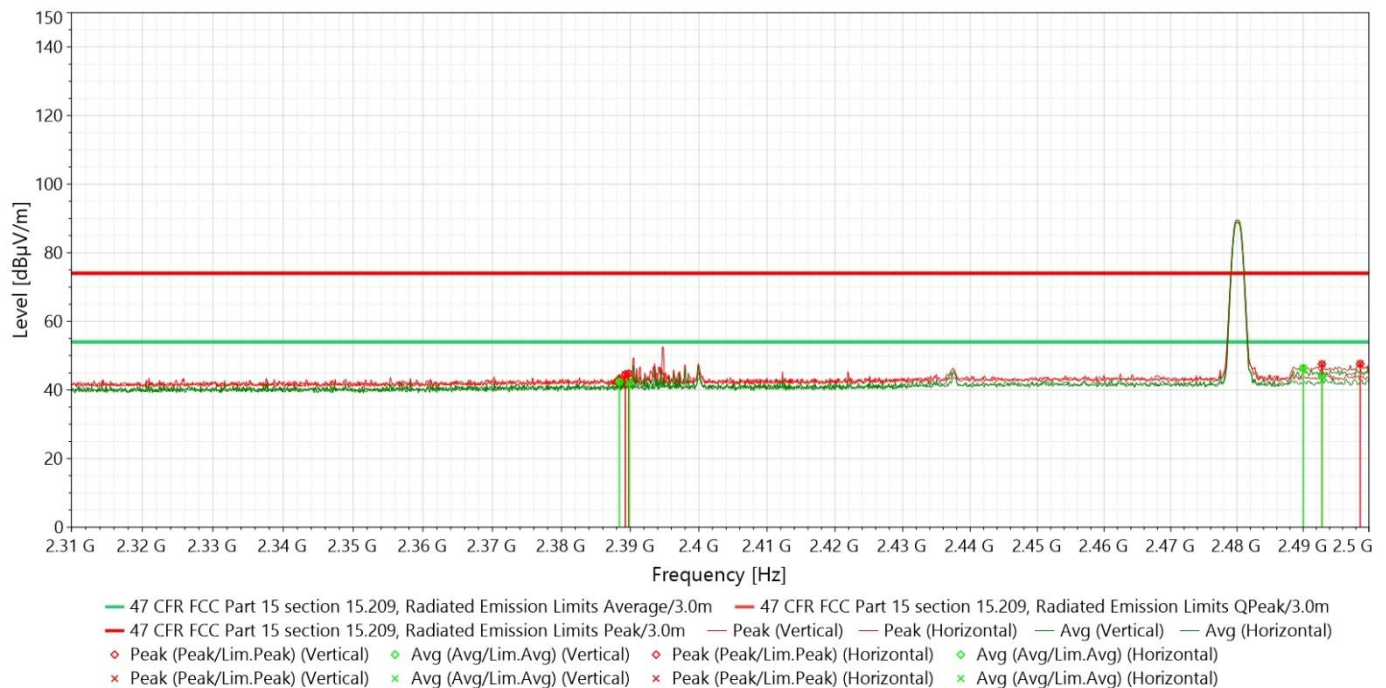
J23133_Restricted Bandedge_BT Classic_DH1_Ch 78

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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.3892696GHz	44.53	-2.31	74.00	-29.47	3.01	89.10	Vertical	Passed
2.	2.4986693GHz	47.63	-1.85	74.00	-26.37	2.59	66.70	Vertical	Passed
3.	2.3897449GHz	44.77	-2.37	74.00	-29.23	3.20	156.70	Horizontal	Passed
4.	2.4928714GHz	47.53	-1.81	74.00	-26.47	2.76	44.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3884142GHz	42.43	-2.31	54.00	-11.57	3.81	89.10	Vertical	Passed
2.	2.49002GHz	46.42	-1.83	54.00	-7.58	2.67	156.70	Vertical	Passed
3.	2.3898399GHz	42.14	-2.37	54.00	-11.86	1.93	336.60	Horizontal	Passed
4.	2.4928714GHz	43.99	-1.81	54.00	-10.01	2.76	44.00	Horizontal	Passed

Overall Graphs:



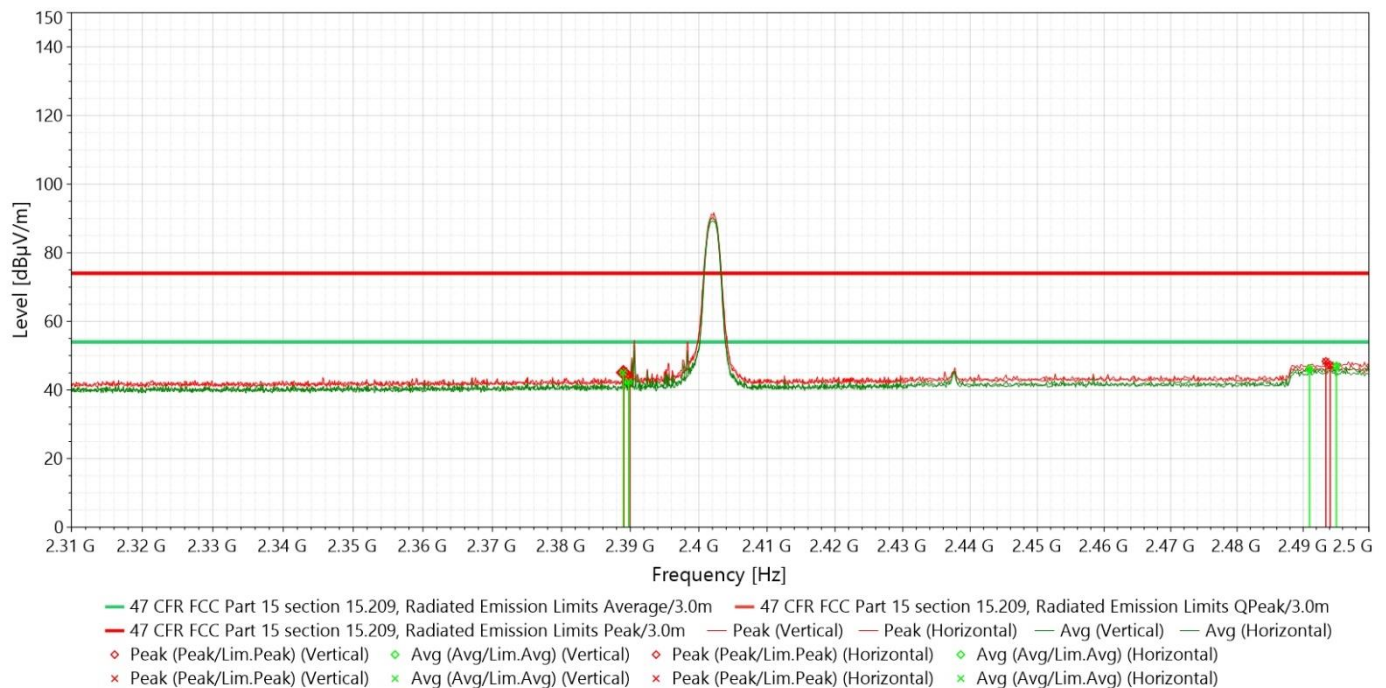
J23133_Restricted Bandedge_BT Classic_3-DH1_Ch 0

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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.3890795GHz	45.58	-2.31	74.00	-28.42	3.10	89.10	Vertical	Passed
2.	2.4941071GHz	47.26	-1.84	74.00	-26.74	3.85	134.10	Vertical	Passed
3.	2.389935GHz	44.00	-2.37	74.00	-30.00	1.83	314.10	Horizontal	Passed
4.	2.4934417GHz	48.33	-1.81	74.00	-25.67	1.03	66.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3889845GHz	45.09	-2.31	54.00	-8.91	3.10	89.10	Vertical	Passed
2.	2.4909705GHz	46.08	-1.83	54.00	-7.92	1.93	66.60	Vertical	Passed
3.	2.3897449GHz	42.48	-2.37	54.00	-11.52	1.55	134.10	Horizontal	Passed
4.	2.4950575GHz	46.99	-1.82	54.00	-7.01	1.55	44.10	Horizontal	Passed

Overall Graphs:



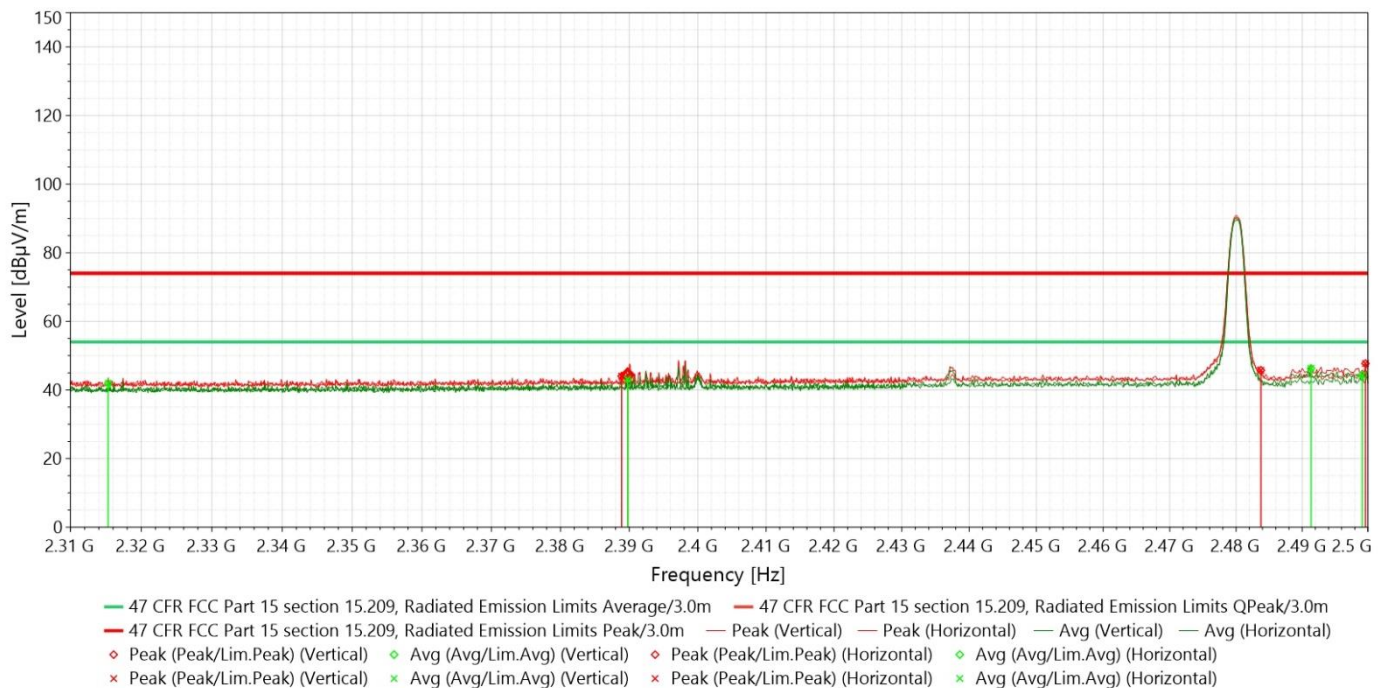
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.3897449GHz	44.46	-2.31	74.00	-29.54	1.74	179.90	Vertical	Passed
2.	2.4996198GHz	47.71	-1.84	74.00	-26.29	2.47	179.90	Vertical	Passed
3.	2.3888894GHz	44.03	-2.38	74.00	-29.97	1.36	44.90	Horizontal	Passed
4.	2.4837469GHz	45.74	-1.79	74.00	-28.26	3.46	247.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3897449GHz	43.20	-2.31	54.0074.00	-10.80	1.74	179.90	Vertical	Passed
2.	2.4913507GHz	46.29	-1.83	54.00	-7.71	3.51	337.40	Vertical	Passed
3.	2.3153227GHz	41.95	-2.78	54.00	-12.05	3.88	179.90	Horizontal	Passed
4.	2.4991446GHz	44.31	-1.81	54.00	-9.69	1.65	202.40	Horizontal	Passed

Overall Graphs:



Document Revisions

Version	Date	Modifier	Changes
1.0	10/25/2024	Aravind Buddana	Initial Release
2.0	01/17/2025	Aravind Buddana	- Updated Section 1 and Section 4.1 with RSS-247 Issue version. - Updated Section 1 with EUT FVIN Information - Updated Section 4.4.3 Limits of 3-DH1 of carrier frequency separation.

End of Report