



Regulatory Test Report

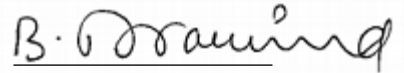
Prepared for Harman International Industries, Inc.

This report presents detailed information on

A110BT

Automotive Bluetooth Headphone

Prepared by:



Aravind Buddana

Engineer II

Approved by:



Jason Kanakry

General Manager

Issue date: 04/22/2025

Report No: J24185-A110BT-TR1 v2

This test result relates only to the described test object.

This document shall not be reproduced, except in full, without the written approval of Bureau Veritas Test Lab.

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 Testing53

1. Test Request Information

Test Request #:	7700319094
Test Requested By:	Marc Ruskin Harman International Industries, Inc. 30001 Cabot Drive, Novi, MI 48377
Test item Description:	A110BT
Part Number:	8740512
DUT Sample Number:	J24185#002, J24185#003
Hardware Version of DUT:	v03
Software Version of DUT:	v2.0.0
Component Category of DUT:	N/A
FCC ID:	2AHPN-BE2875
ISED ID:	6434C-BE2875
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:	01-23-2025
Date Test Started:	01-28-2025
Date Test Finished:	04-03-2025

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 3.6dBi 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, ISED Canada RSS-247 Issue 3

The product is **A110BT** Automotive Bluetooth Headphone 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	125ms
DUT Antenna Gain	3.6dBi ☒ Provided by Customer with Gain Report ☐ Not Provided by Customer
DUT Power Class/Power Settings	Power Class: 2
DUT Software Tool/Settings	AB157x_Airoha_Tool_Kit(ATK)_v5.4.0.3 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	J24185#003	Meets Requirement

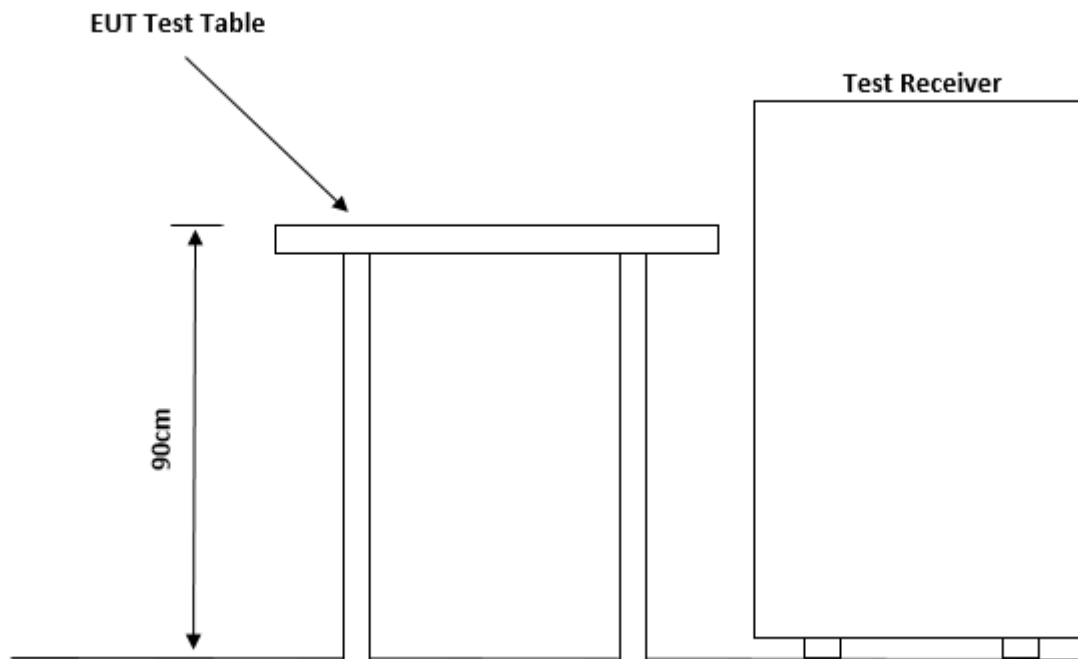
We found that the product met the above requirements without modification.

Test samples received in good condition.

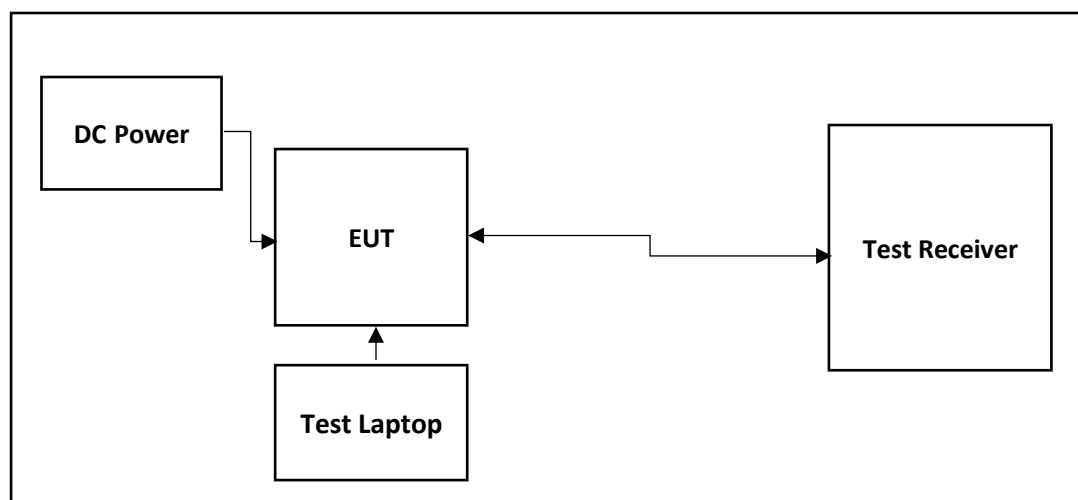
4.2 Test Setup

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
BVD0321	Fixed Attenuator 2W 20dB -40GHz	Mini-Circuits	BW-K20-2W44+	2103	01/27/2026
BVD0477	10db Attenuator -18GHz	Mouser	BW-S10W2+	2043	02/18/2026
BVD0612	Multimeter	Fluke	115	59701080MV	8/1/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025
N/A	Test-PC	Lenovo ThinkPad	E480	SL10Q37355	N/A

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No#	Cal Due
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	USB Type A to Type C Cable	N/A	N/A	N/A	N/A
N/A	YUAN USB Adapter	YUAN	N/A	N/A	N/A
N/A	AB157x_Airoha_Tool_Kit(ATK)_v5.4.0.3	N/A	N/A	N/A	5.4.0.3

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	3 / 3	3
Max Stable Difference	0.10 dB	0.50 dB

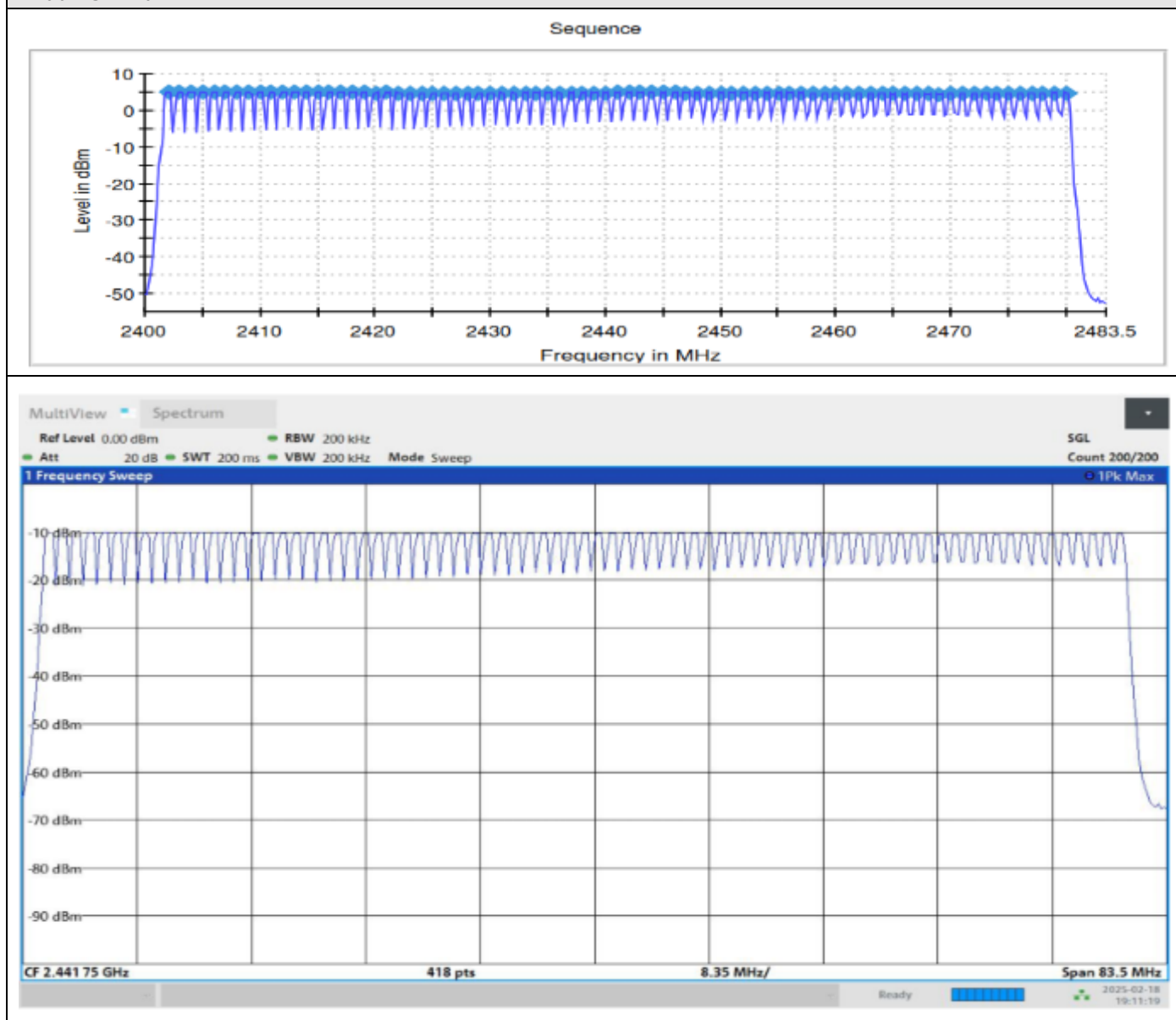
4.4.1.1 DH1

Channels:

Channels	Limit	Result
79	Min	PASS

Plots:

Hopping Frequencies



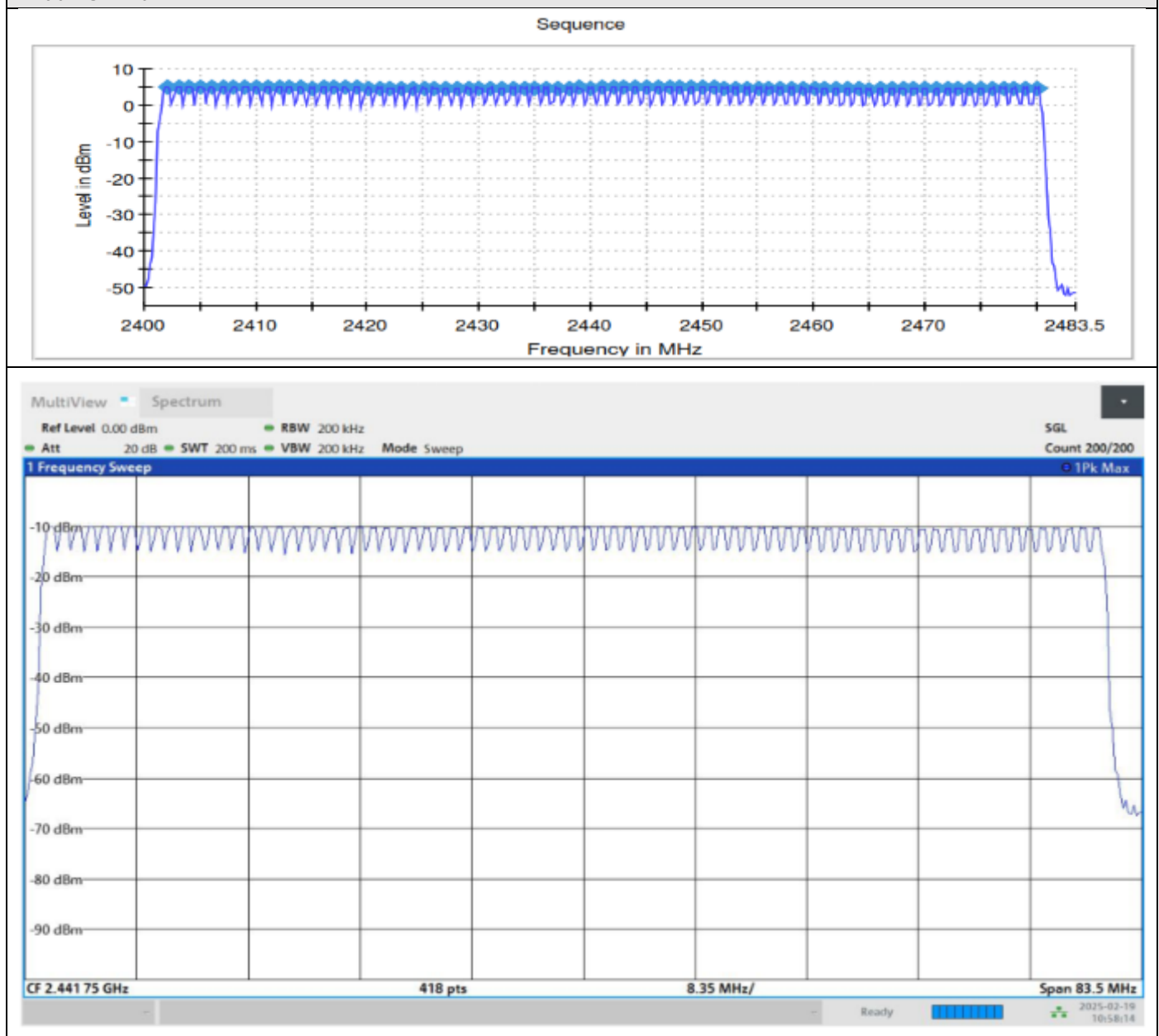
4.4.1.2 3-DH1

Channels:

Channels	Limit	Result
79	15	PASS

Plots:

Hopping Frequencies



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

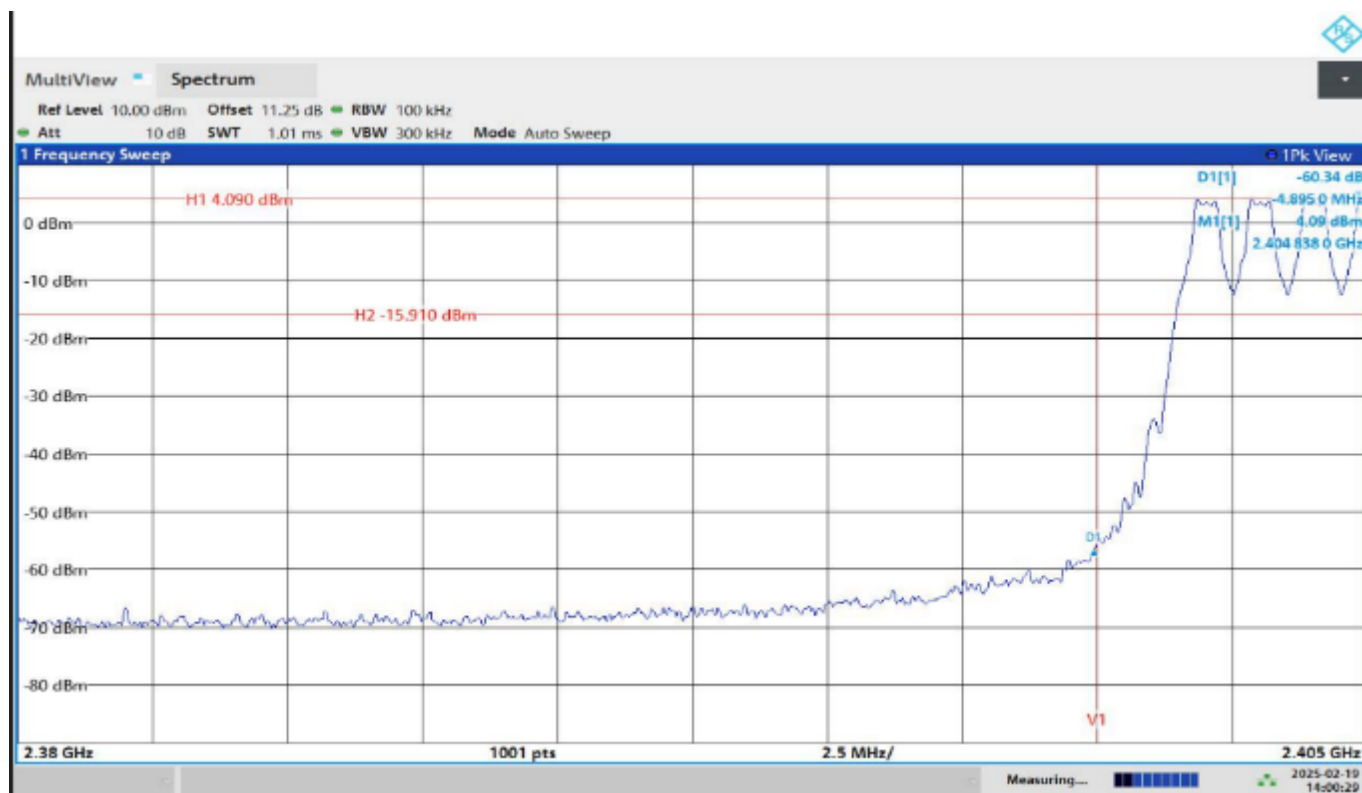
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

Data Rate	Frequency (MHz)	Level (dBm)
DH1 LCH	2404.838000	4.09
DH1 HCH	2479.857400	3.99
3-DH1 LCH	2403.839000	3.91
3-DH1 HCH	2478.863900	3.81

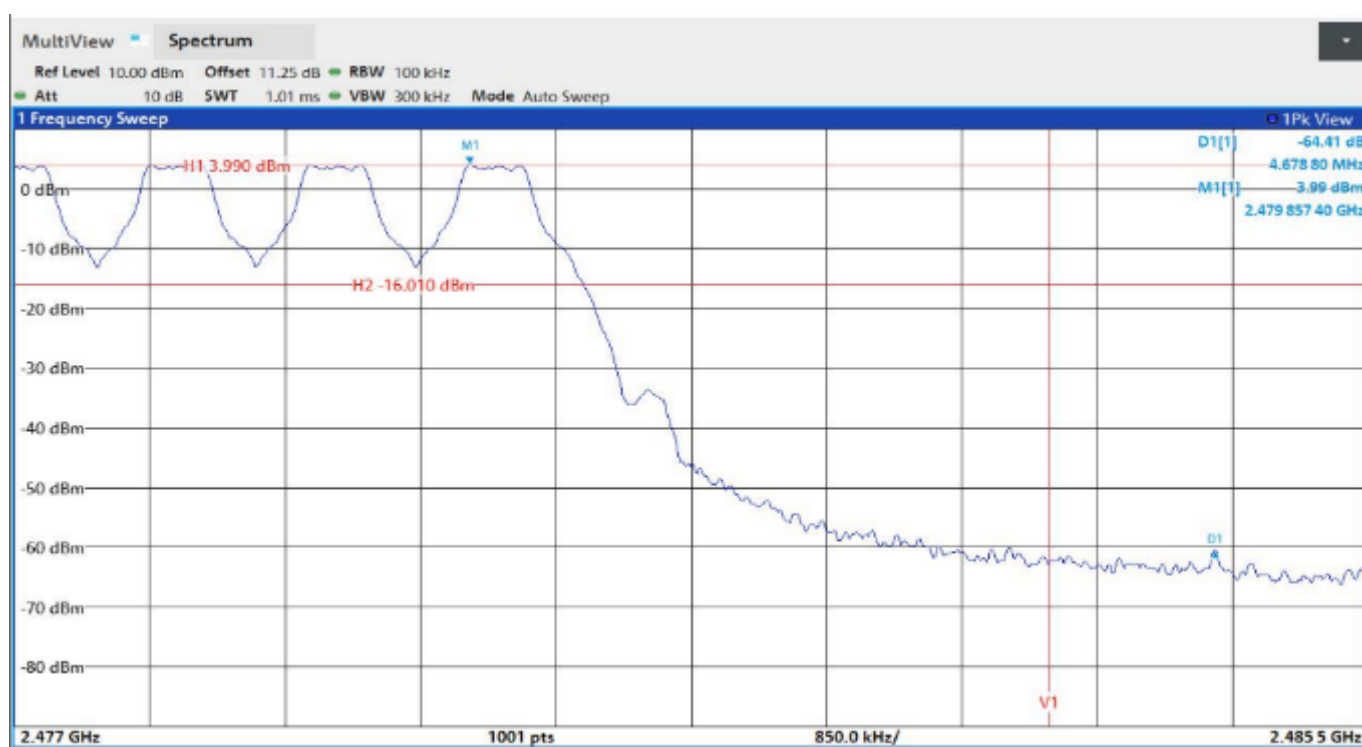
4.4.2.1 DH1

Plots:

DH1-LCH



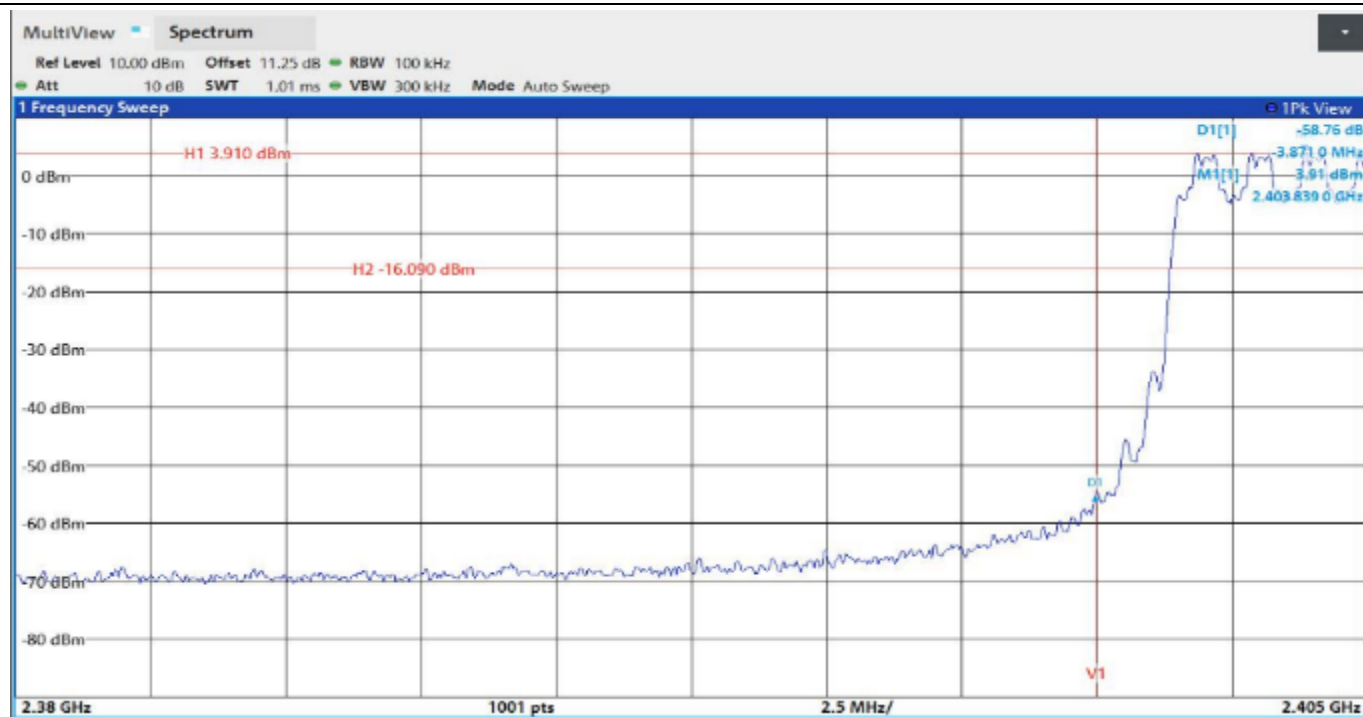
DH1-HCH



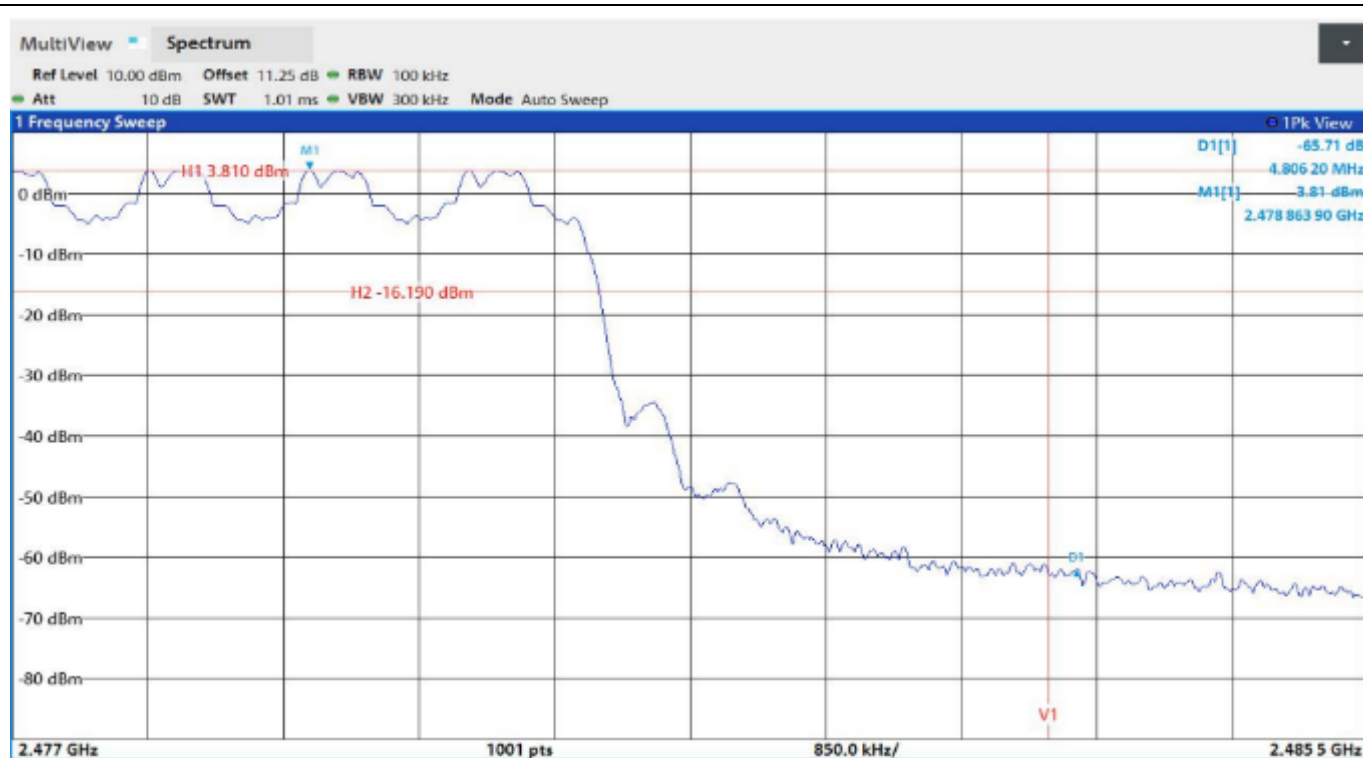
4.4.2.2 3-DH1

Plots:

3-DH1 LCH



3-DH1 HCH



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%

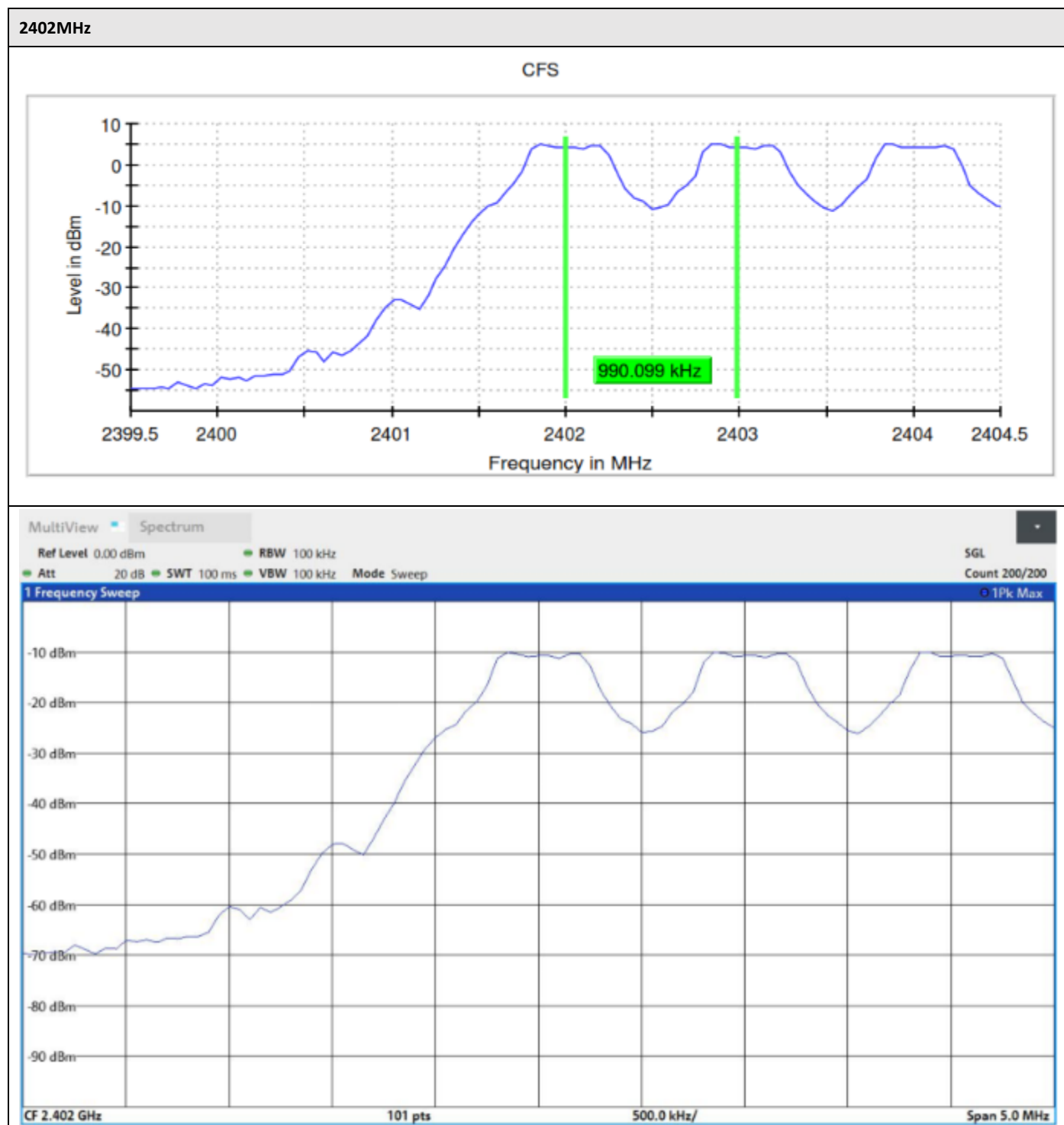
Hopping Mode				
Packet Type	2402MHz		2480MHz	
	Frequency Separation (MHz)	Minimum Limit (MHz)	Frequency Separation (MHz)	Minimum Limit (MHz)
DH1	0.990099	0.666667	0.990099	0.666667
3-DH1	0.990099	0.831682	0.990099	0.831682

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	16 / max. 50	max. 50
Stable	10 / 10	10
Max Stable Difference	0.00 dB	0.50 dB

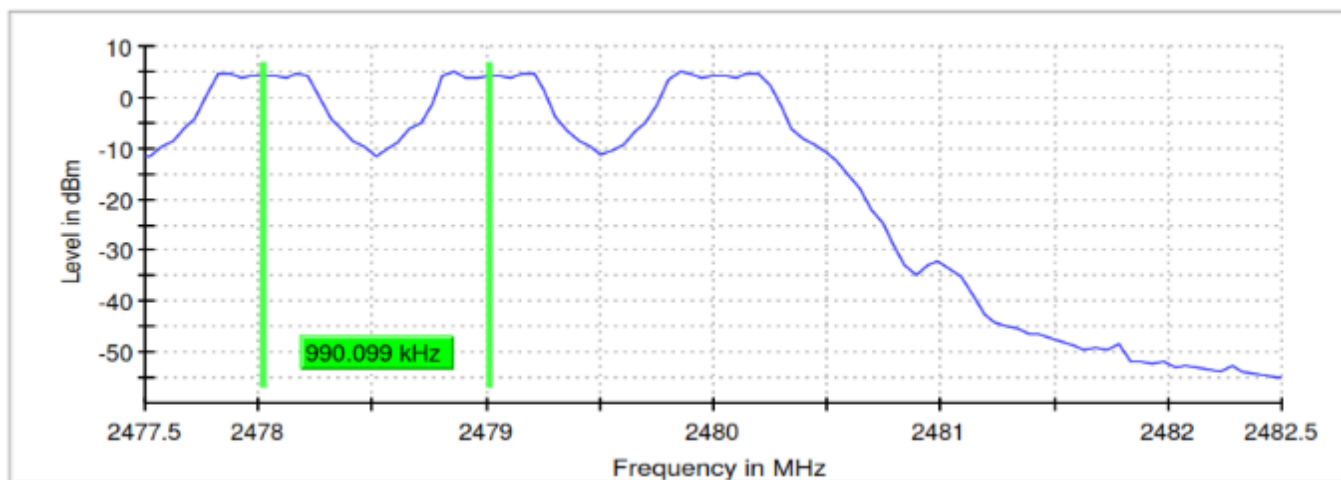
4.4.3.1 DH1

Plots:



2480MHz

CFS



MultiView Spectrum

Ref Level 0.00 dBm

RBW 100 kHz

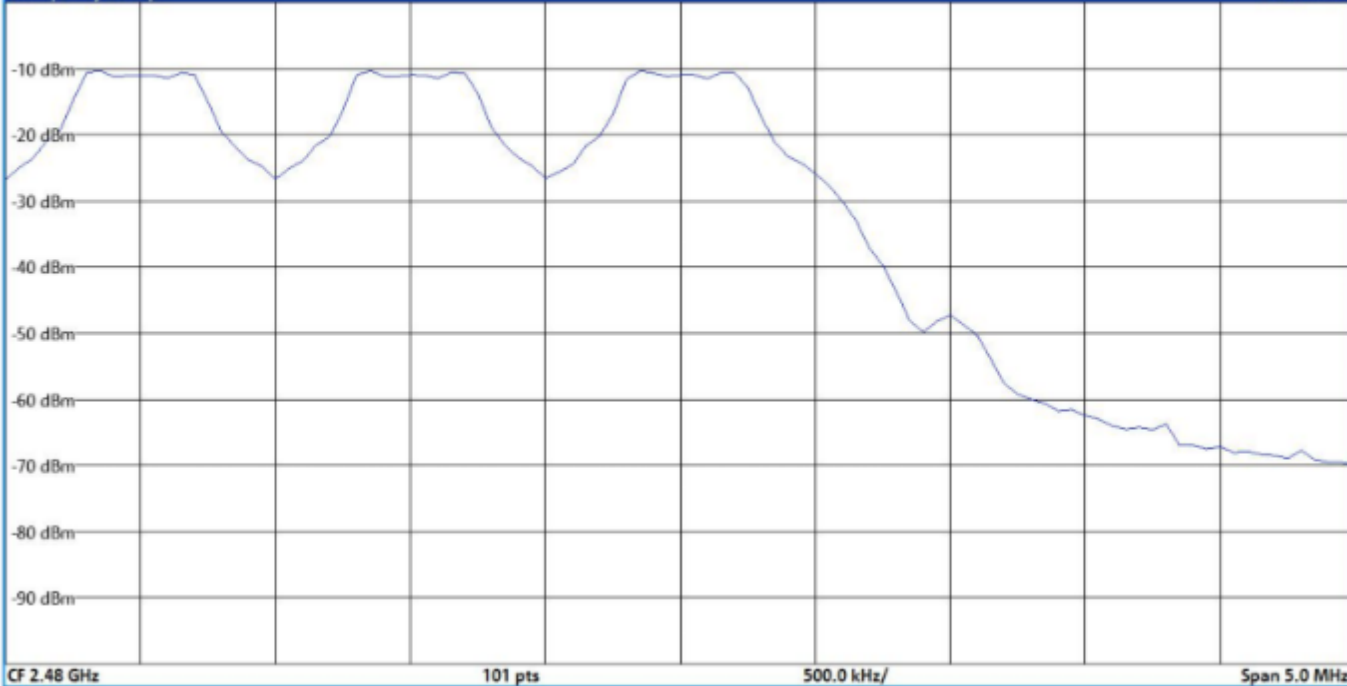
SGL

Count 200/200

Att 20 dB SWT 100 ms VBW 100 kHz Mode Sweep

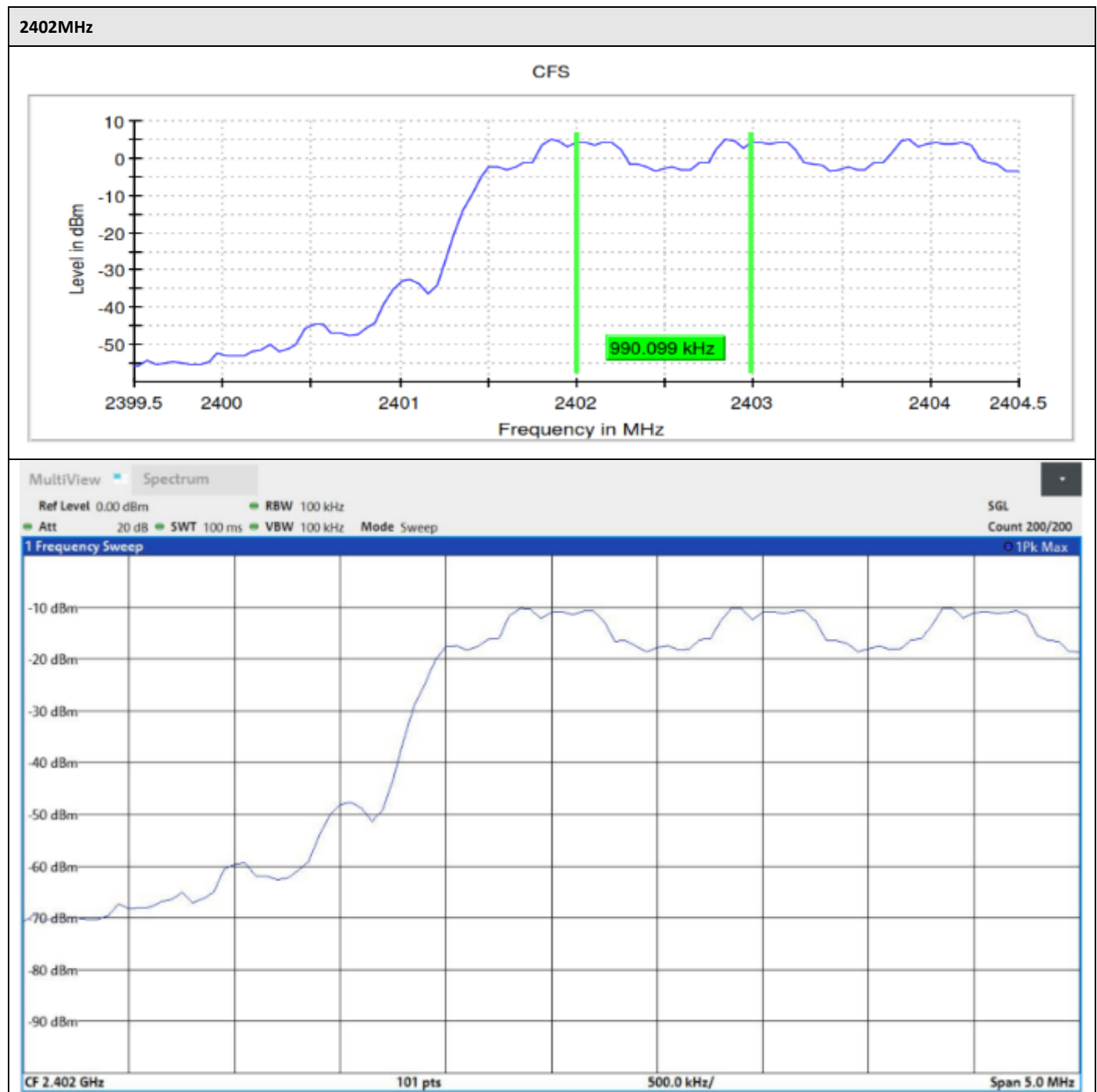
1 Frequency Sweep

1Pk Max

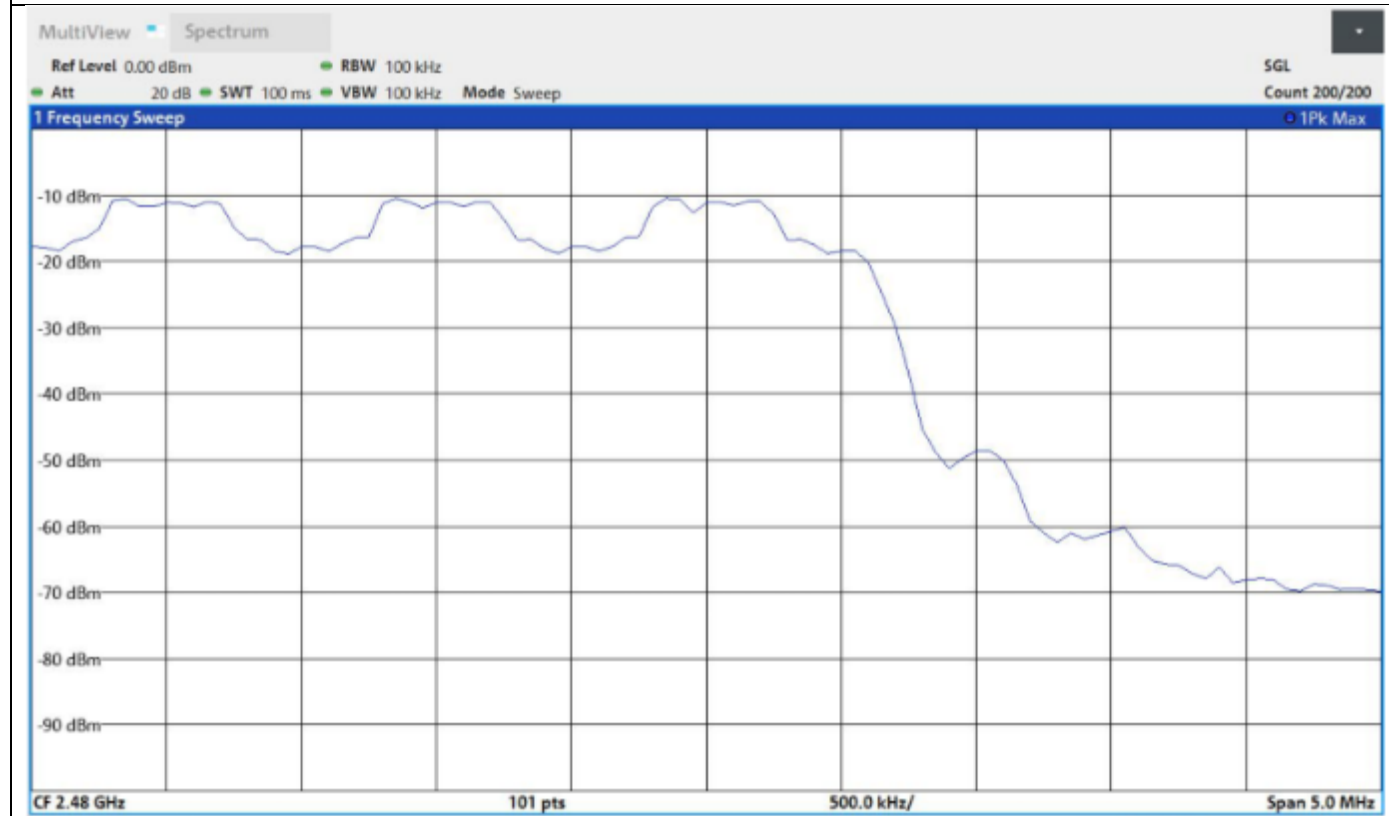
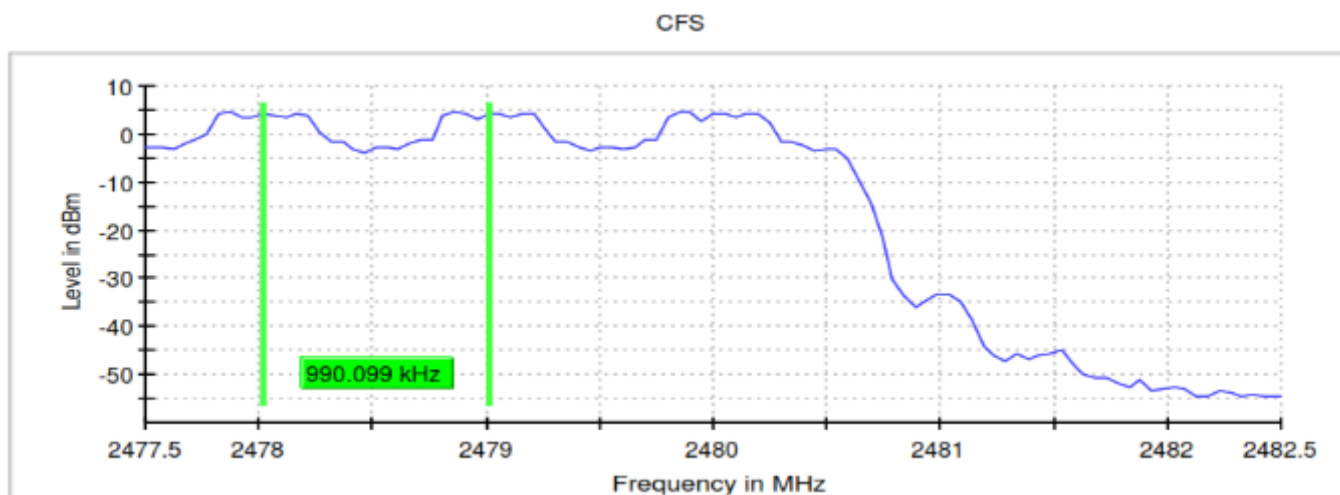


4.4.3.2 3-DH1

Plots:



2480MHz



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.

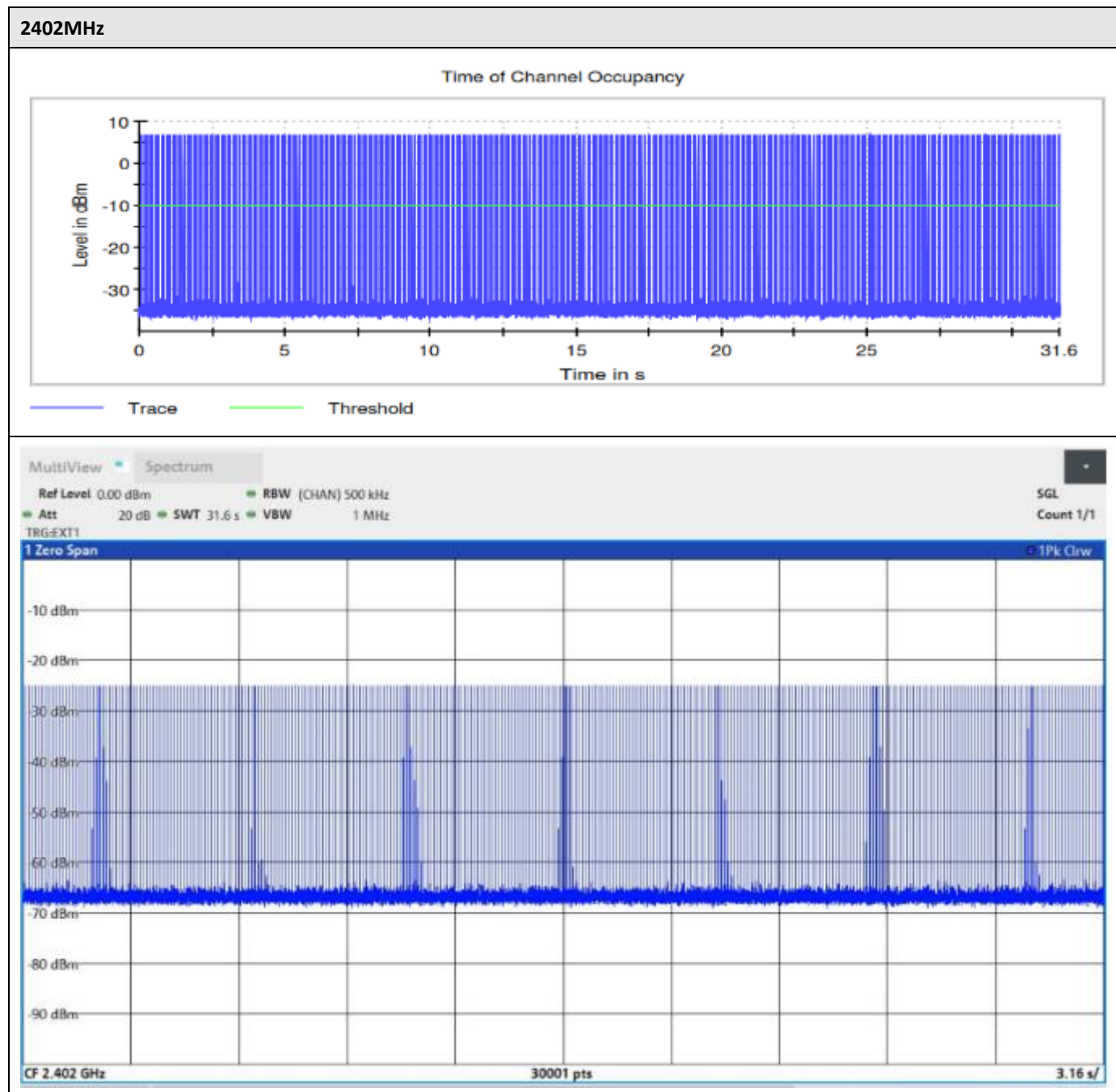
Frequency	Data Rate	Mean Transmit Time per Hop (ms)	Number of Hops	Time (ms)	Limit Max (ms)	Result
2402	DH1	0.388	319	124.140	400.000	PASS
2402	3-DH1	0.391	319	125.050	400.000	PASS
2441	DH1	0.388	319	124.160	400.000	PASS
2441	3-DH1	0.391	319	125.080	400.000	PASS
2480	DH1	0.388	319	124.160	400.000	PASS
2480	3-DH1	0.391	319	125.070	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

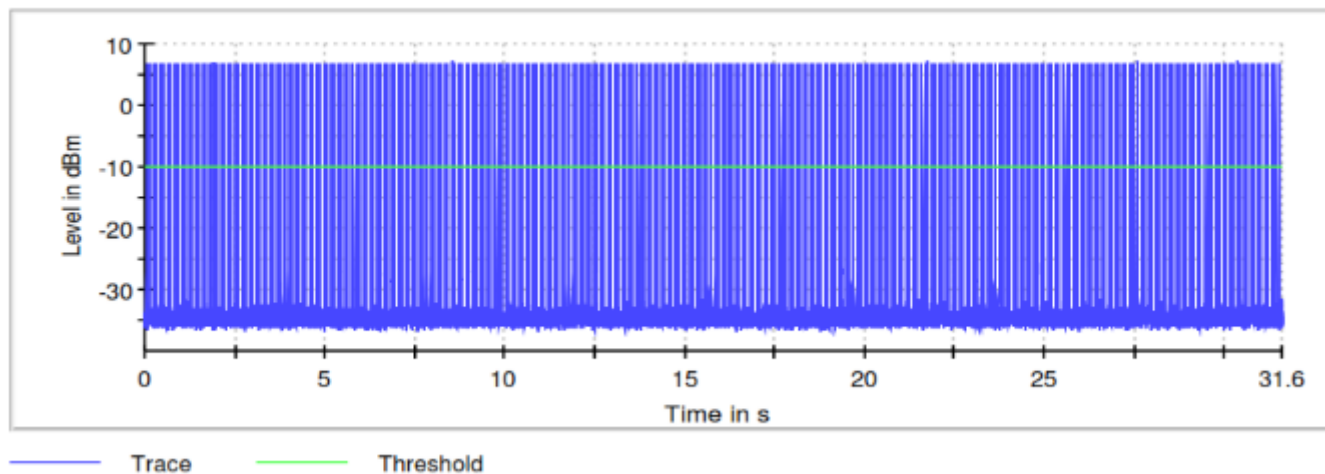
4.4.4.1 DH1

Plots:



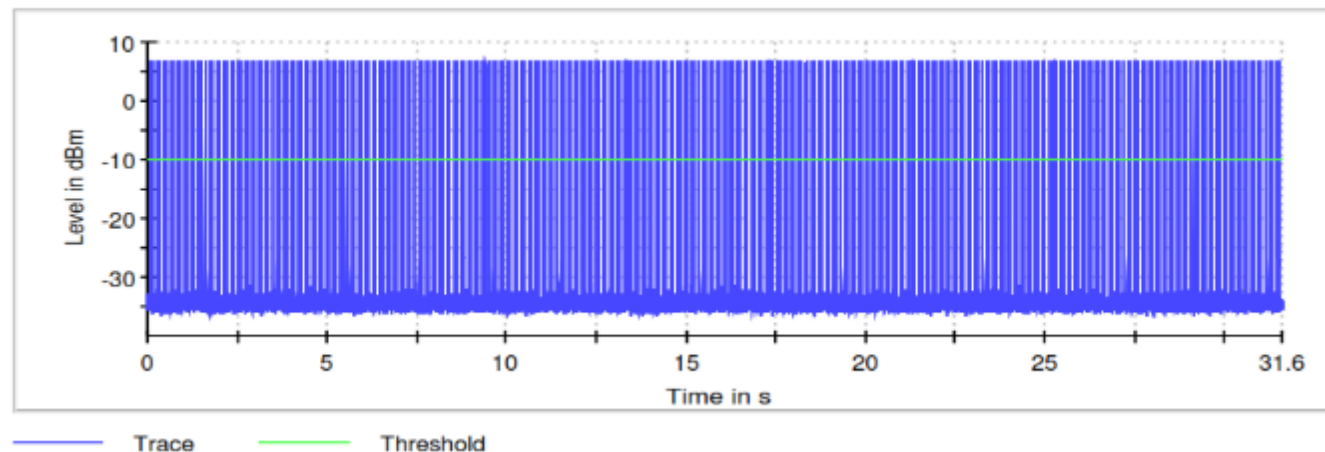
2441MHz

Time of Channel Occupancy



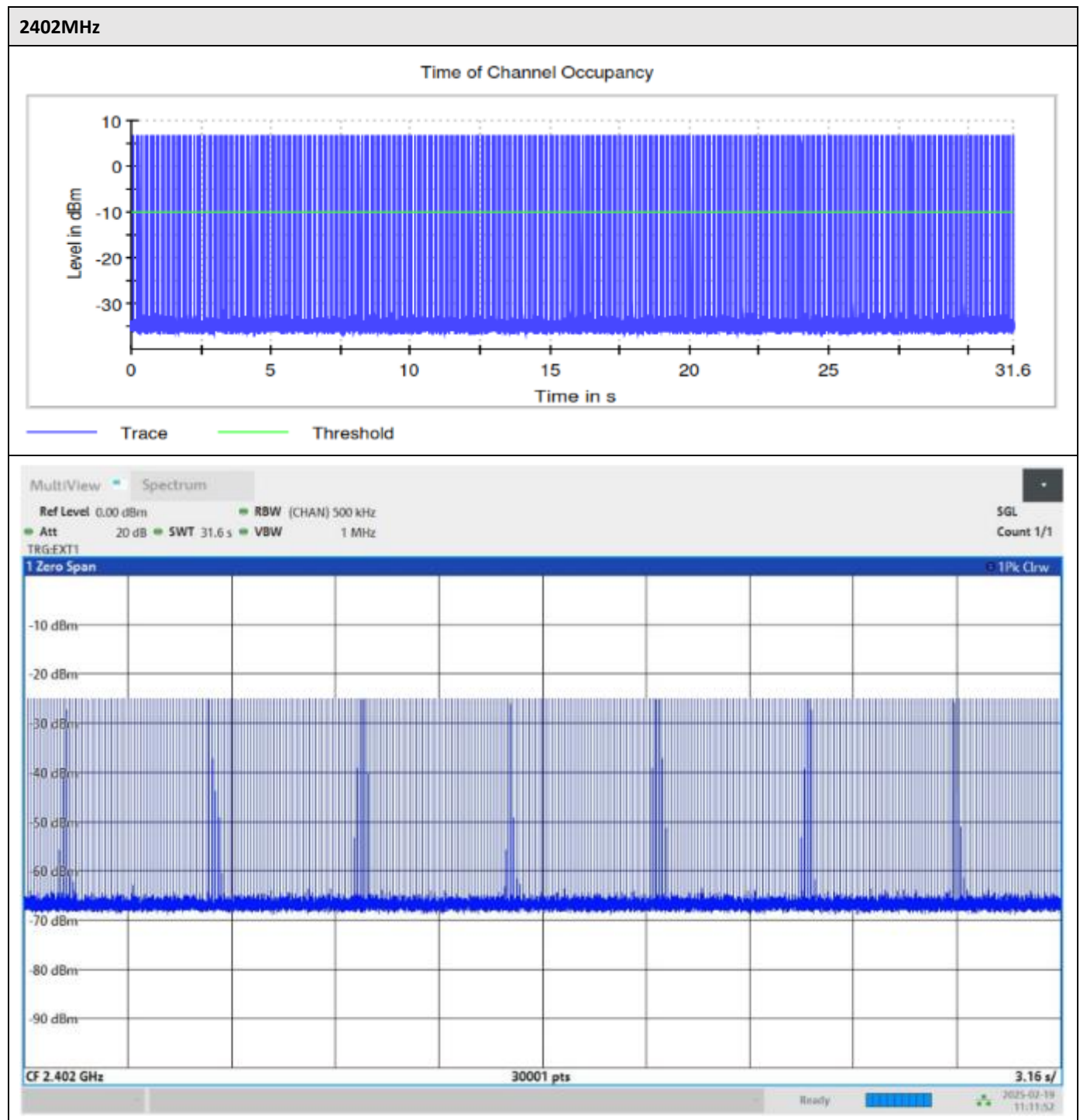
2480MHz

Time of Channel Occupancy



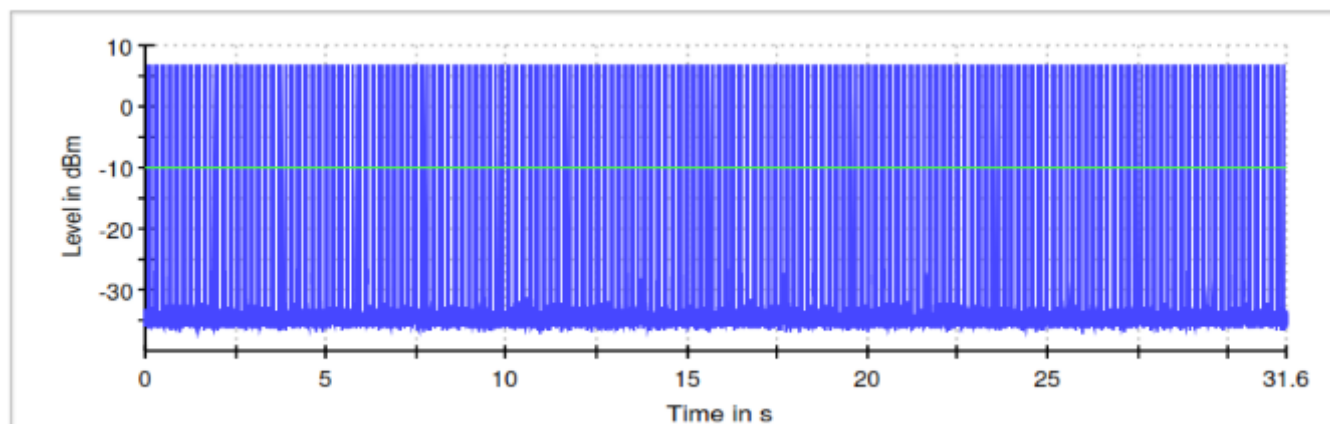
4.4.4.2 3-DH1

Plots:



2441MHz

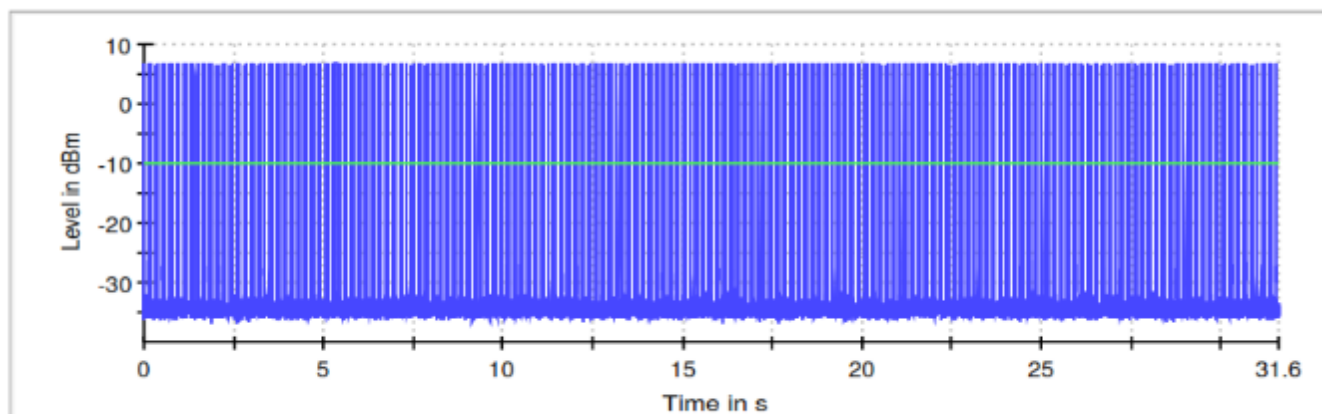
Time of Channel Occupancy



Trace Threshold

2480MHz

Time of Channel Occupancy



Trace Threshold

4.4.5 Peak Output Power

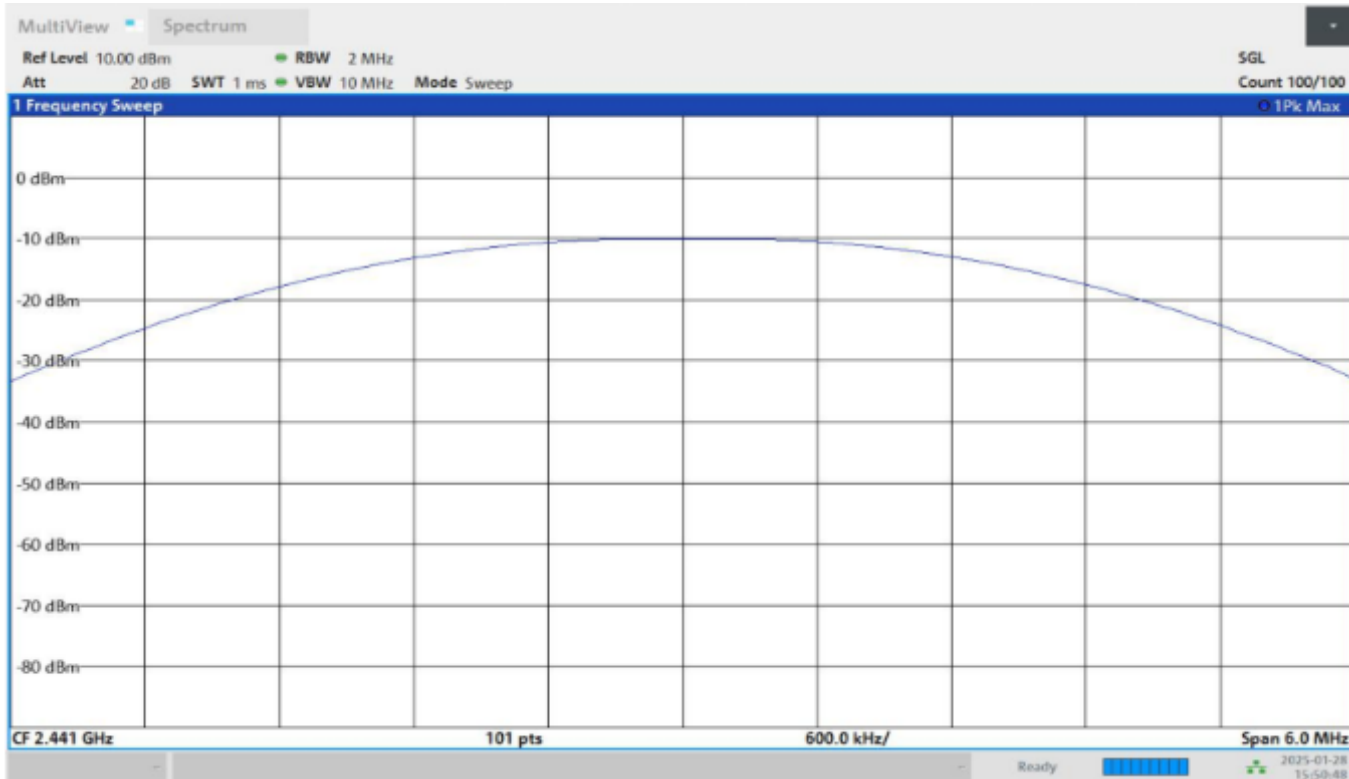
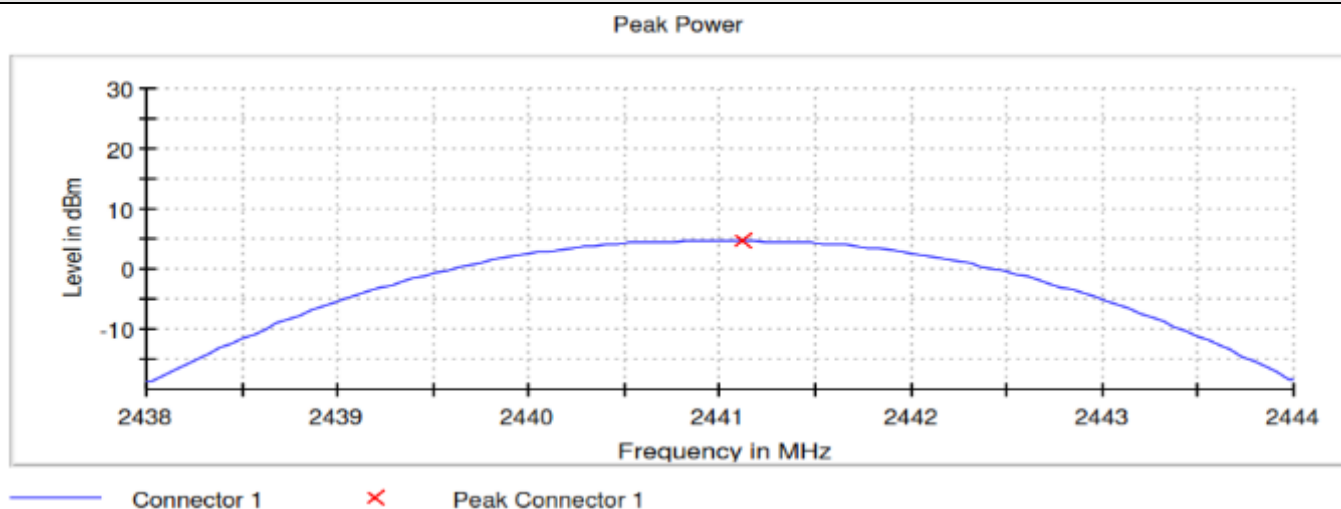
Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 7.8.5, RSS-247 Section 5.4 (b)

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	4.538	4.551	4.435	21.0
DH3	4.537	4.548	4.412	21.0
DH5	4.515	4.529	4.408	21.0
2-DH1	4.546	4.585	4.445	21.0
2-DH3	4.547	4.577	4.439	21.0
2-DH5	4.545	4.577	4.452	21.0
3-DH1	4.727	4.756	4.607	21.0
3-DH3	4.691	4.724	4.590	21.0
3-DH5	4.648	4.663	4.530	21.0

4.4.5.1 DH1

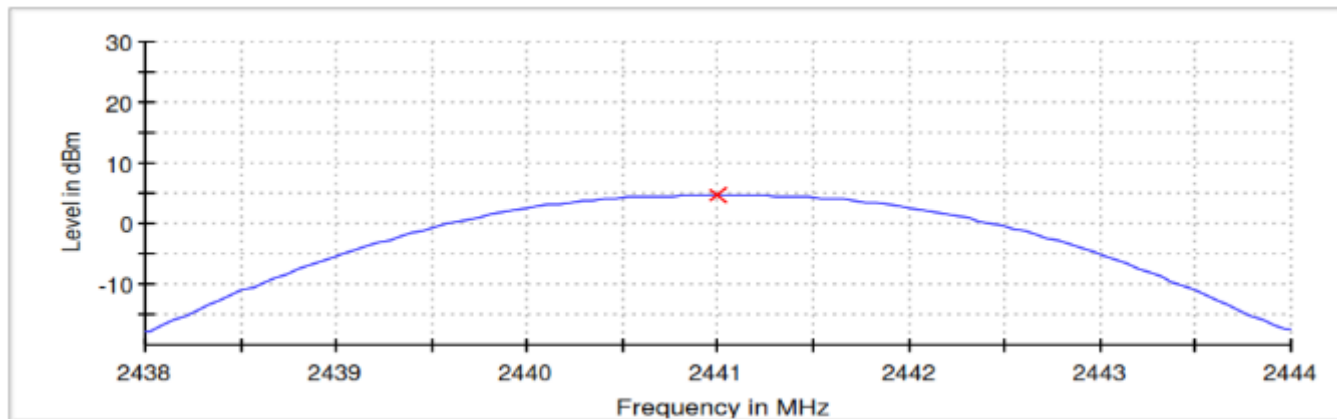
2441MHz



4.4.5.2 3-DH1

2441MHz

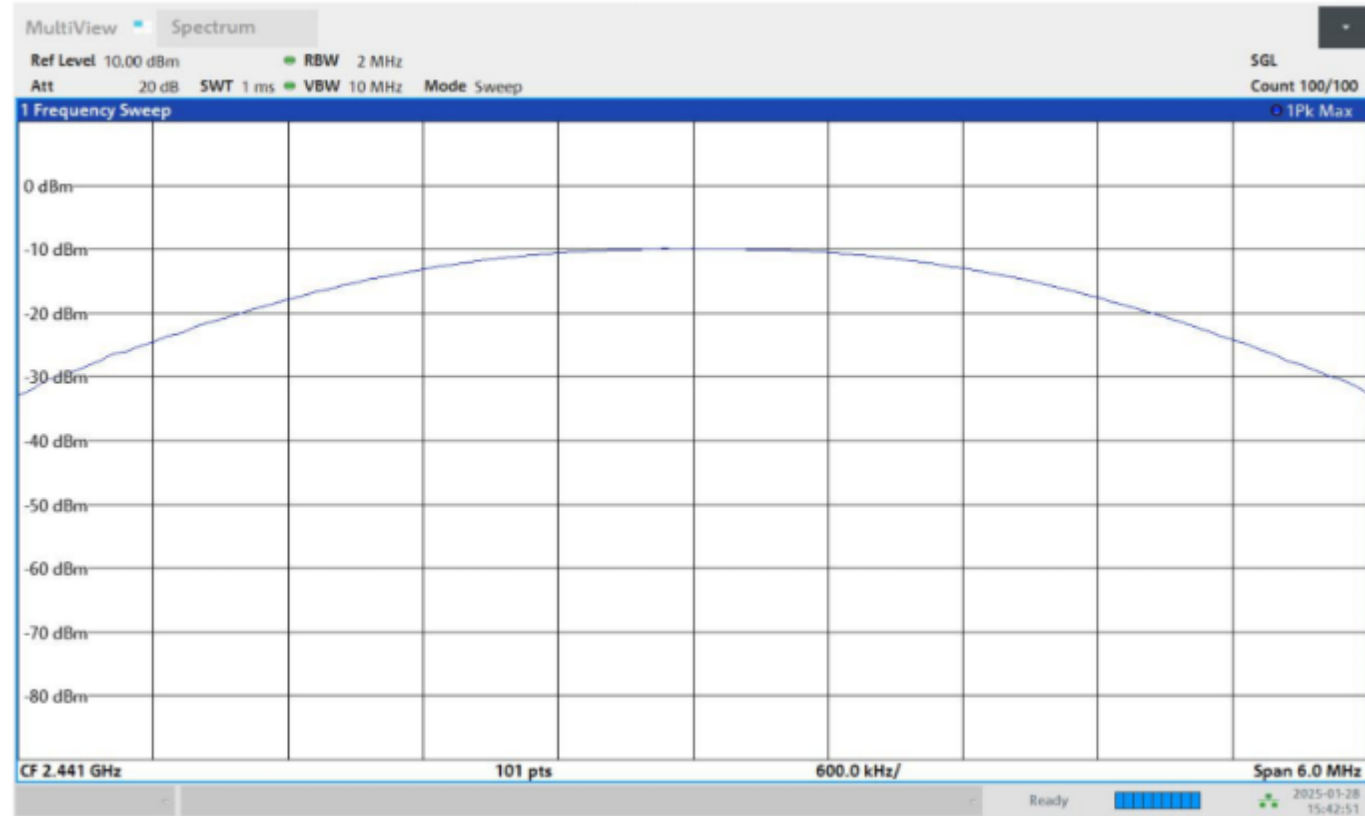
Peak Power



Connector 1



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	0.980198	2401.524752	2402.504950	PASS
	3-DH1	1.247524	2401.405941	2402.653465	PASS
39 / 2441	DH1	0.980198	2440.524752	2441.504950	PASS
	3-DH1	1.247524	2440.405941	2441.653465	PASS
78 / 2480	DH1	0.980198	2479.524752	2480.504950	PASS
	3-DH1	1.247524	2479.405941	2480.653465	PASS

Spectrum Analyzer Settings:

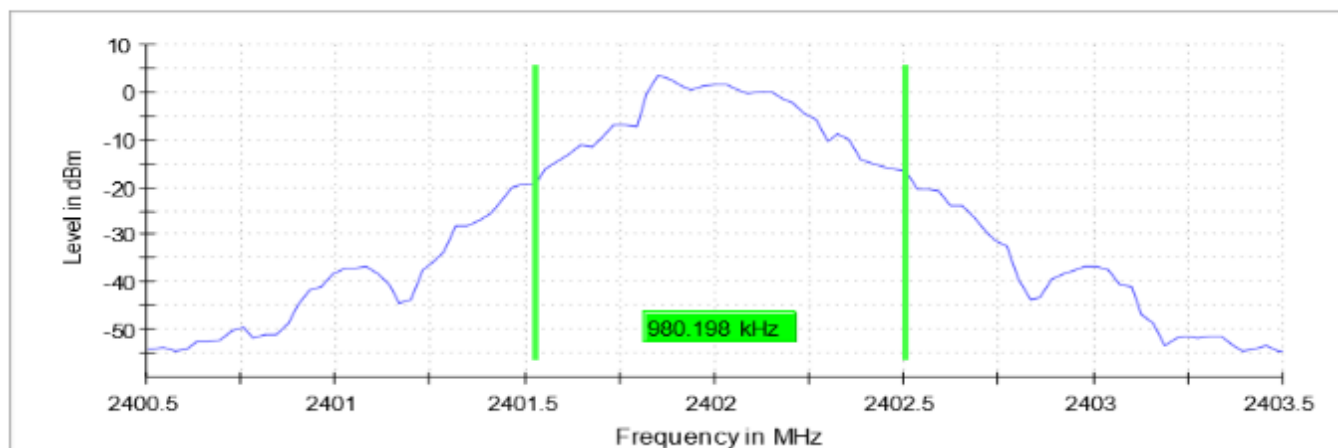
Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40350 GHz	2.40350 GHz
Span	3.000 MHz	3.000 MHz
RBW	30.000 kHz	>= 30.000 kHz
VBW	100.000 kHz	>= 90.000 kHz
SweepPoints	101	~ 101
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 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:

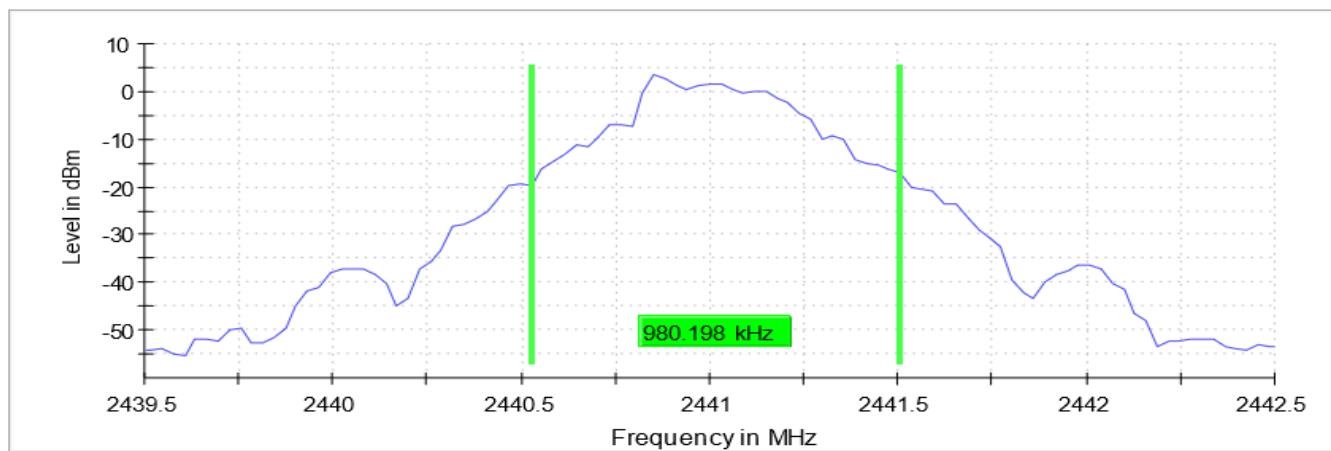
2402MHz

20 dB Bandwidth



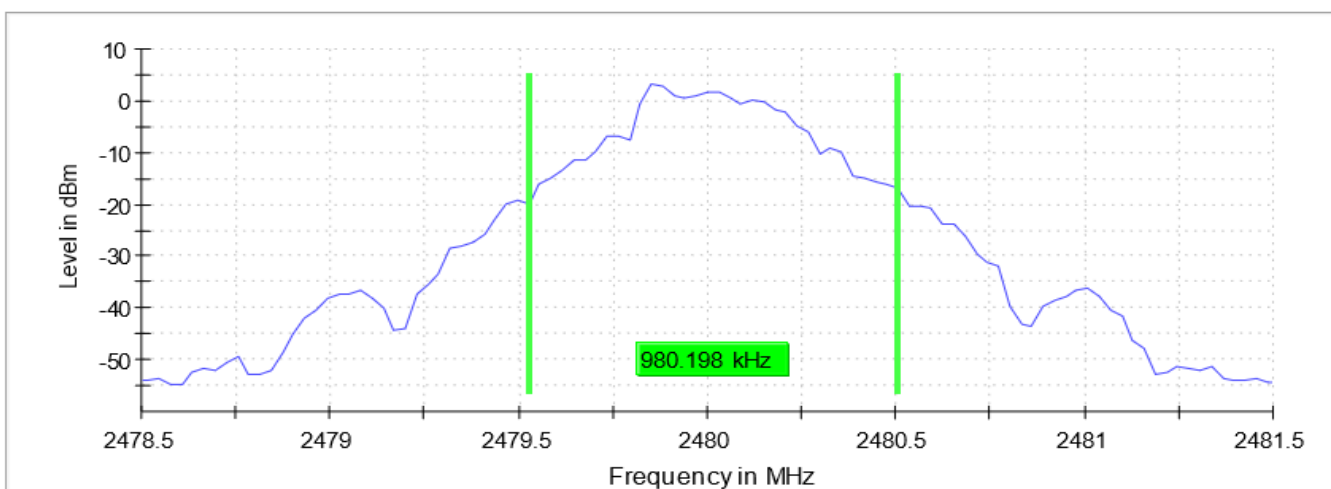
2441MHz

20 dB Bandwidth



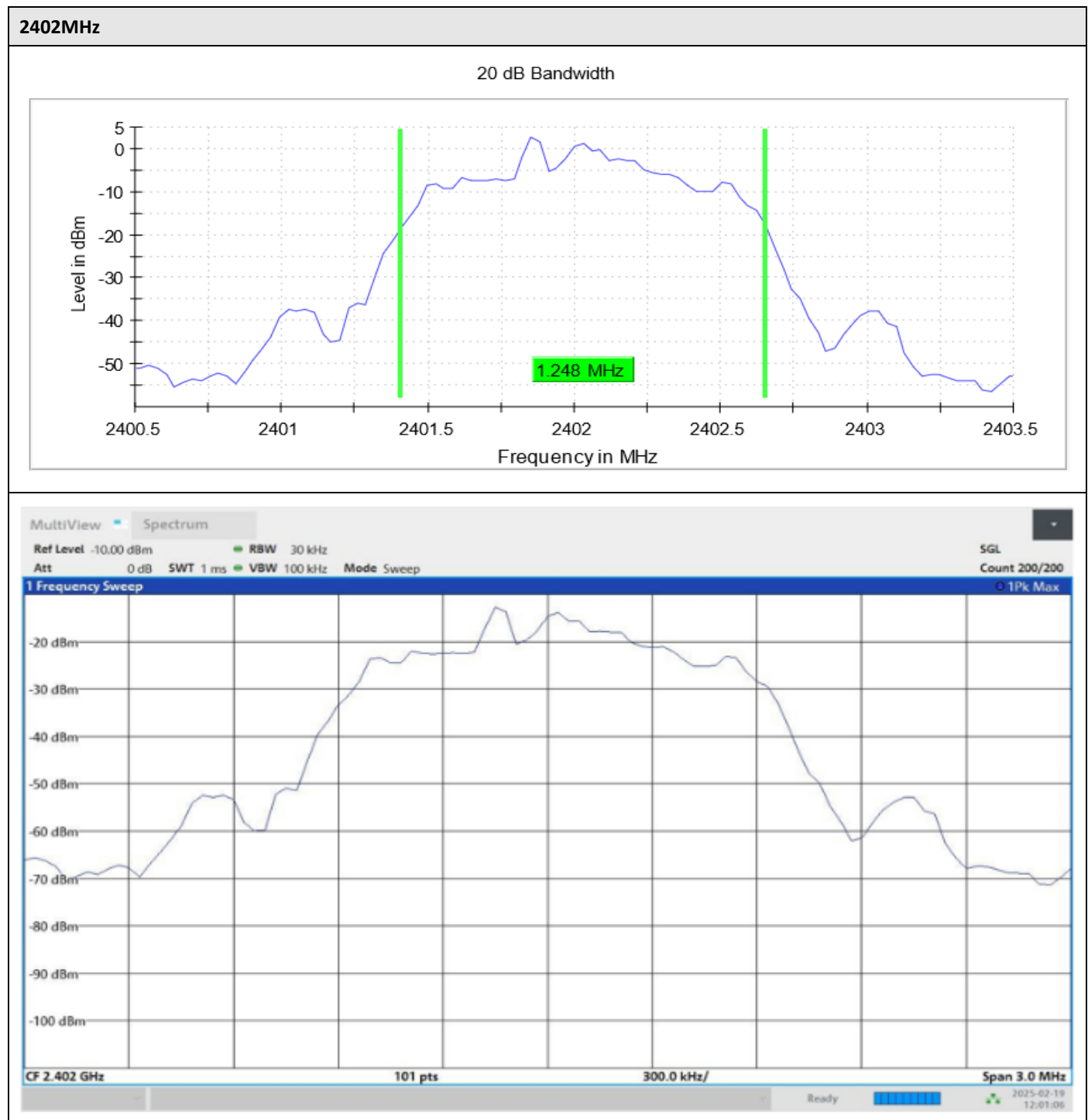
2480MHz

20 dB Bandwidth



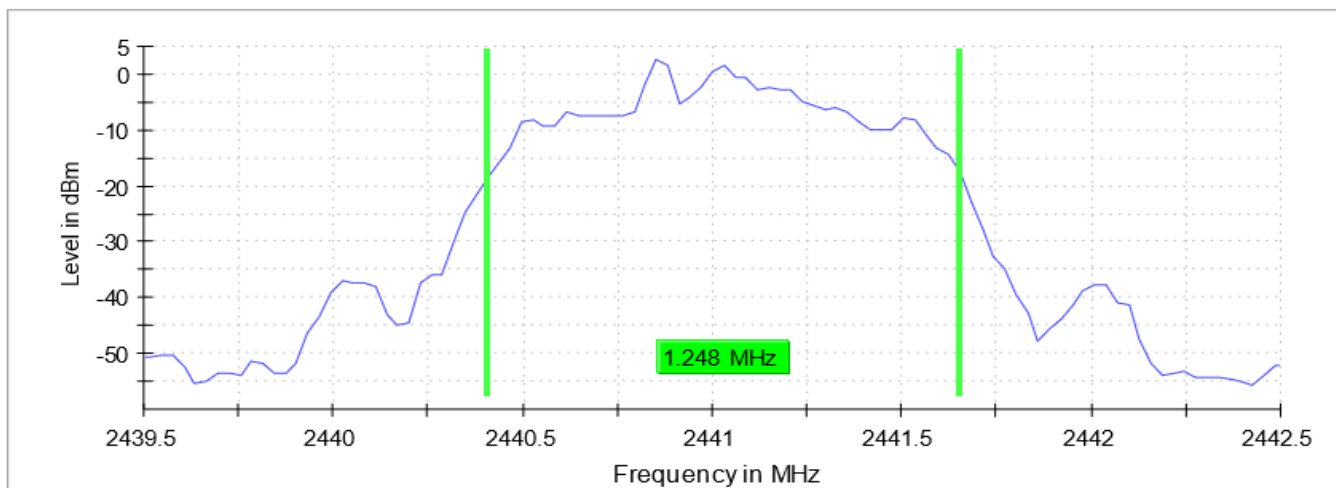
4.4.6.2 3-DH1

Plots:



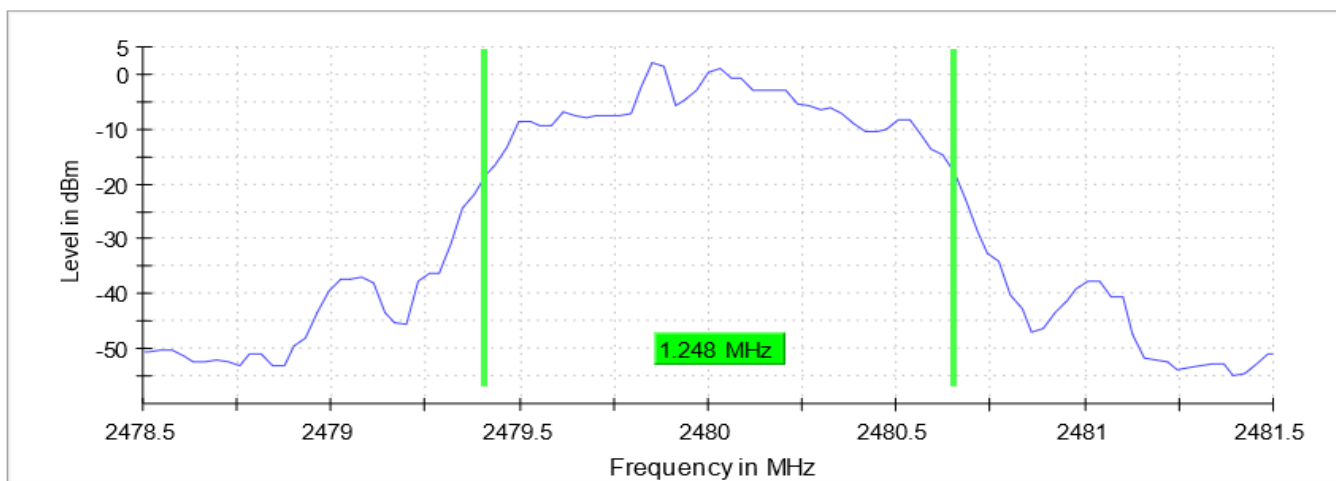
2441MHz

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%

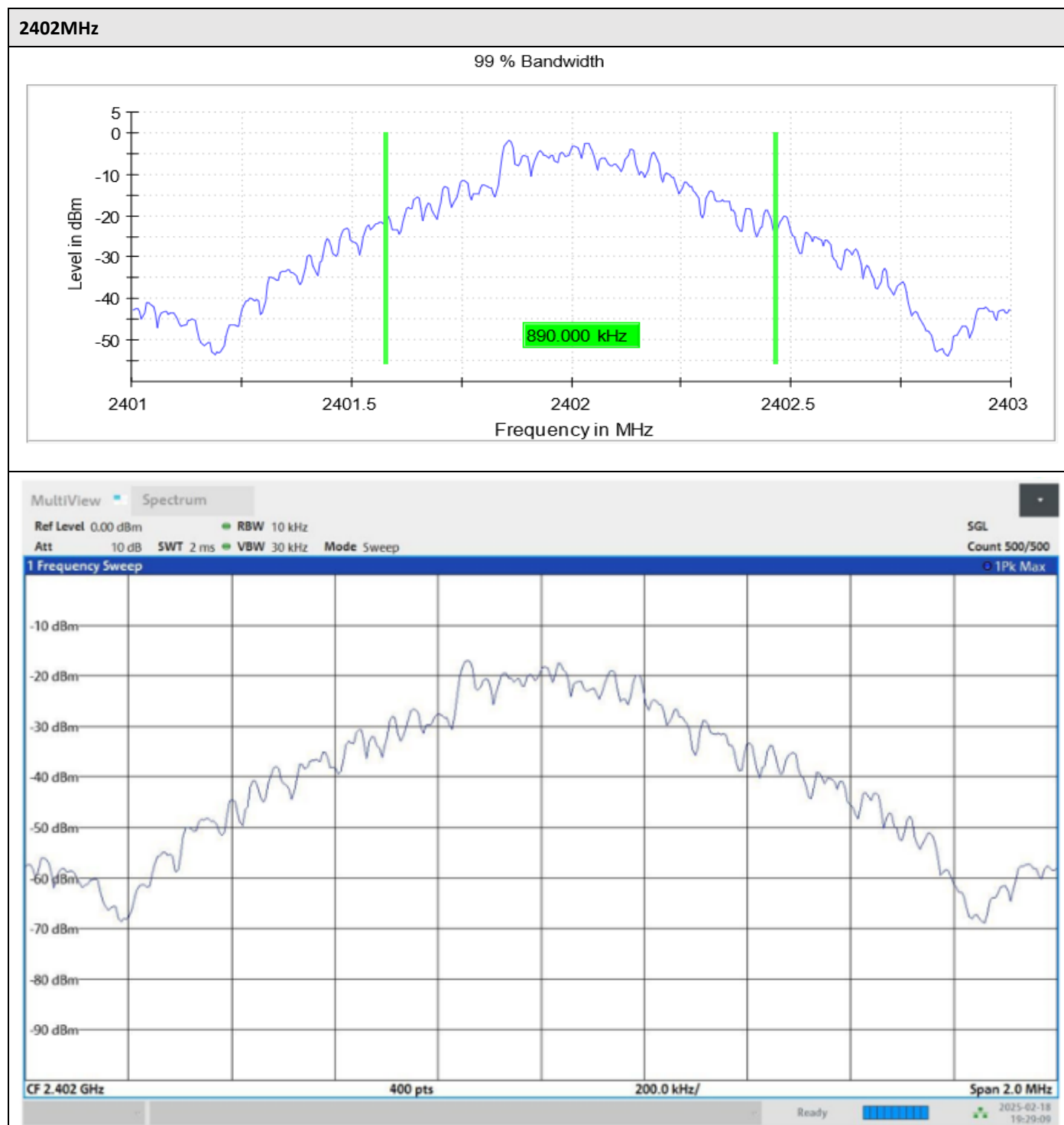
Channel / Frequency (MHz)	Packet Type	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
0 / 2402	DH1	0.890000	2401.577500	2402.467500	PASS
	3-DH1	1.127819	2401.458647	2402.586466	PASS
39 / 2441	DH1	0.890000	2440.577500	2441.467500	PASS
	3-DH1	1.127819	2440.458647	2441.586466	PASS
78 / 2480	DH1	0.890000	2479.577500	2480.467500	PASS
	3-DH1	1.127819	2479.458647	2480.586466	PASS

Spectrum Analyzer Settings DH1:

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	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamplifier	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	0.29 dB	0.30 dB

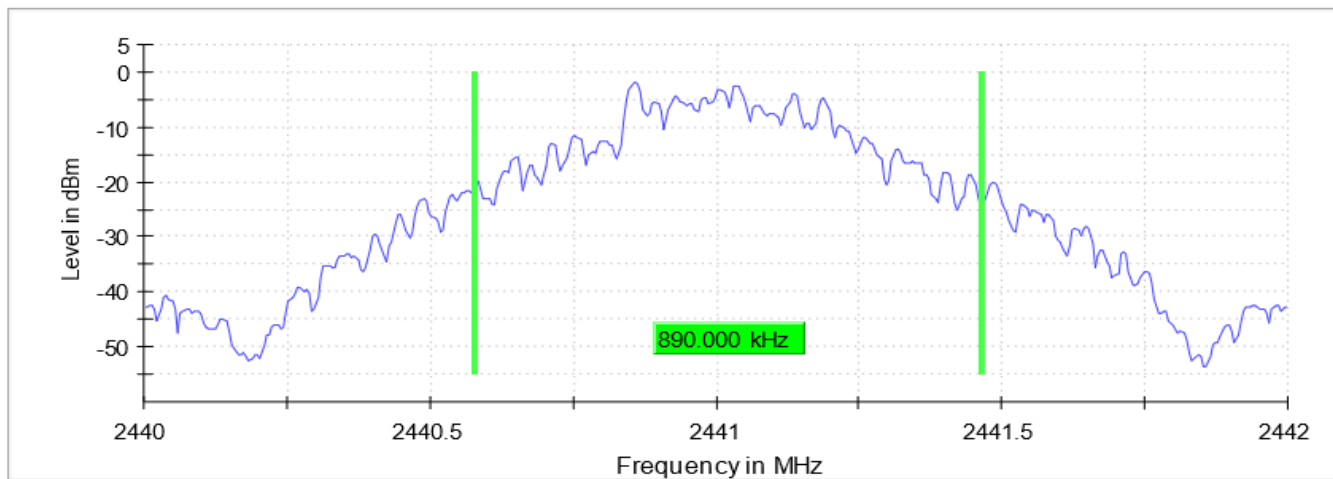
4.4.7.1 DH1

Plots:



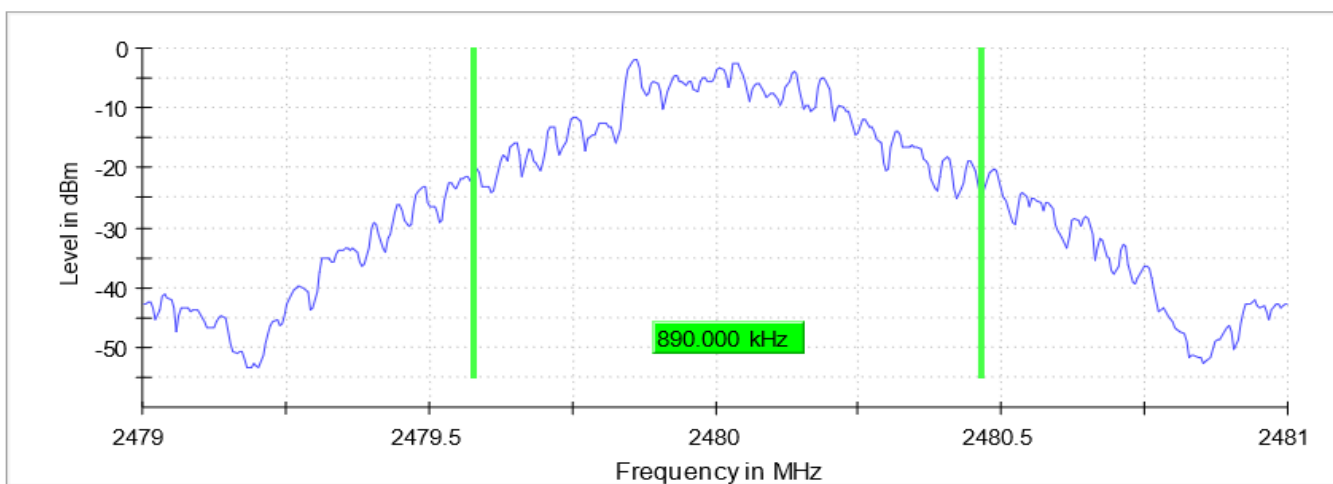
2441MHz

99 % Bandwidth



2480MHz

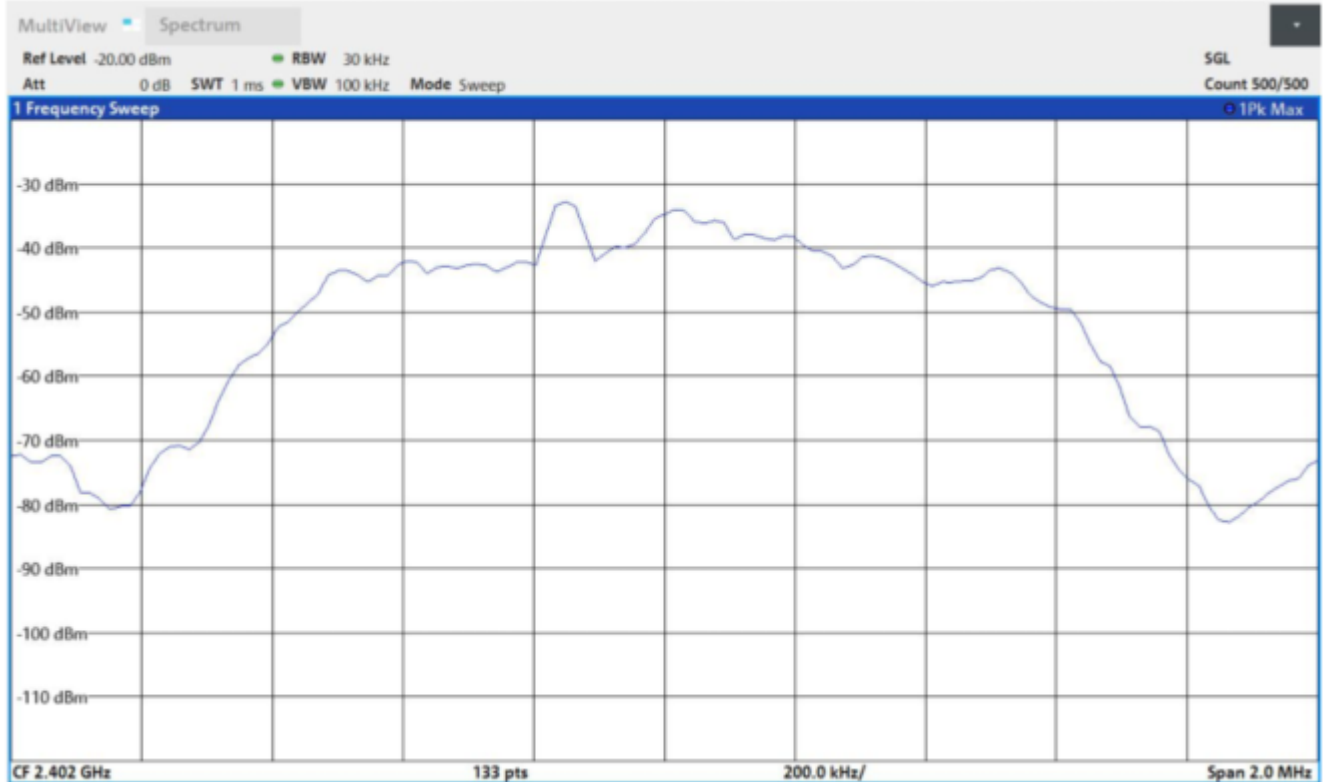
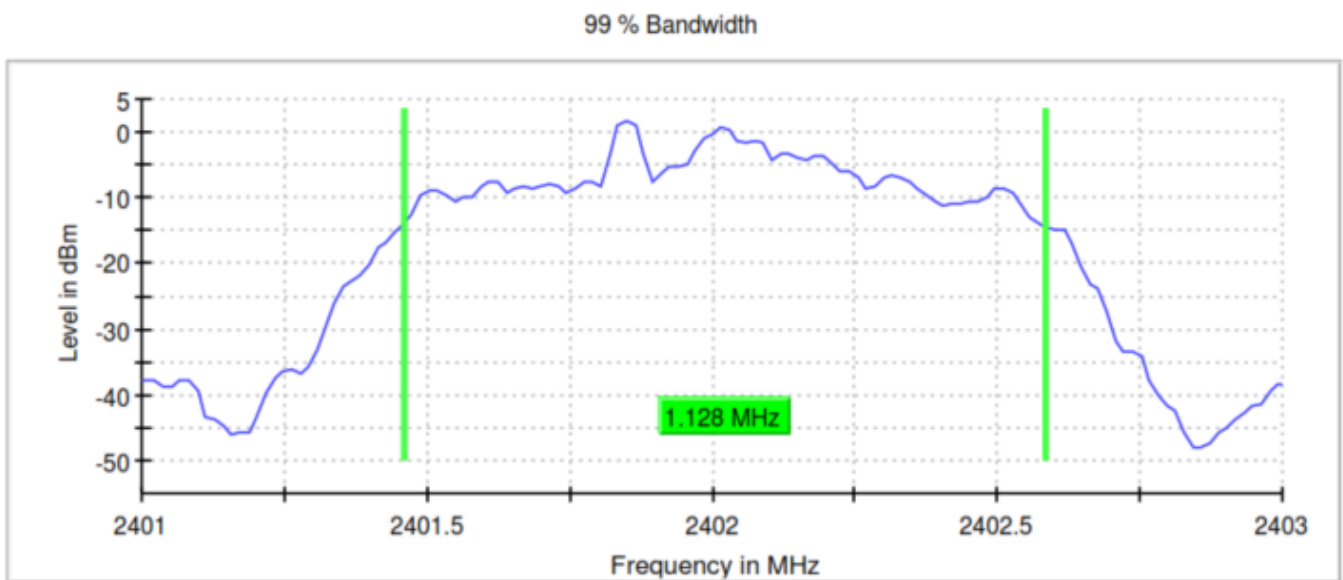
99 % Bandwidth



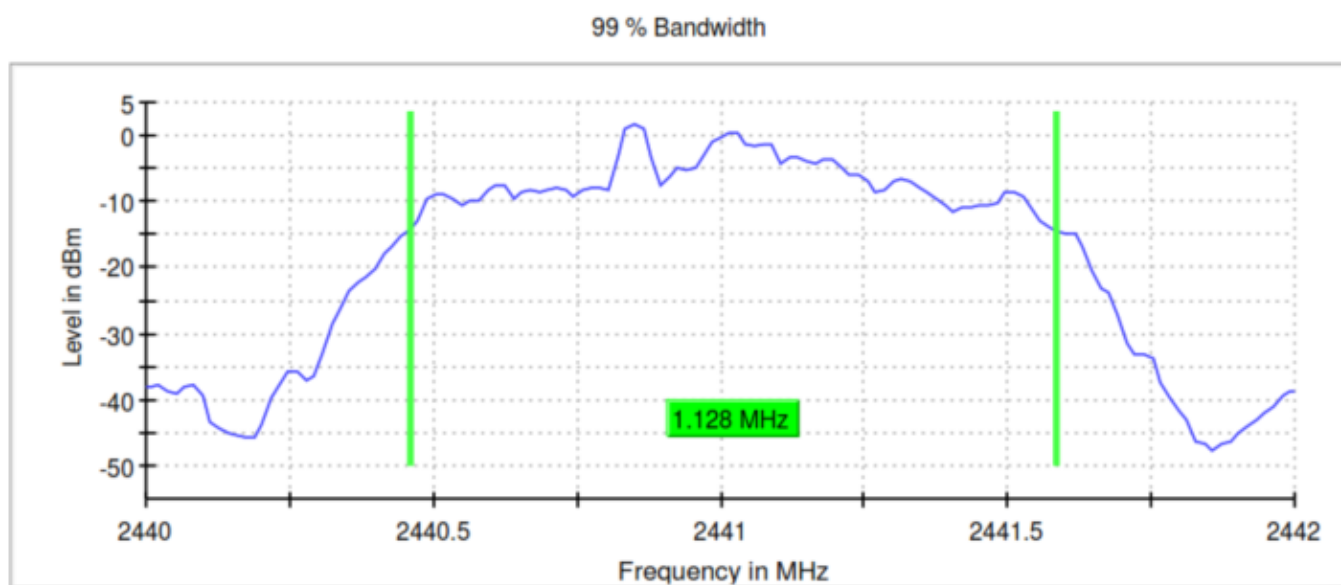
4.4.7.2 3-DH1

Plots:

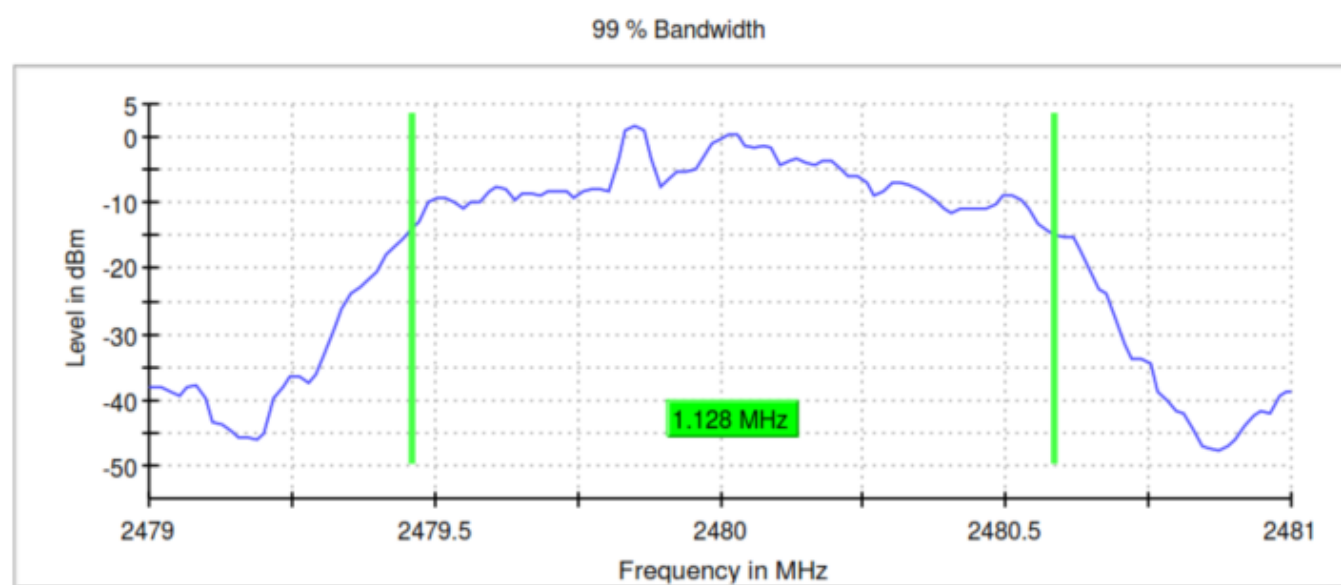
2402MHz



2441MHz



2480MHz



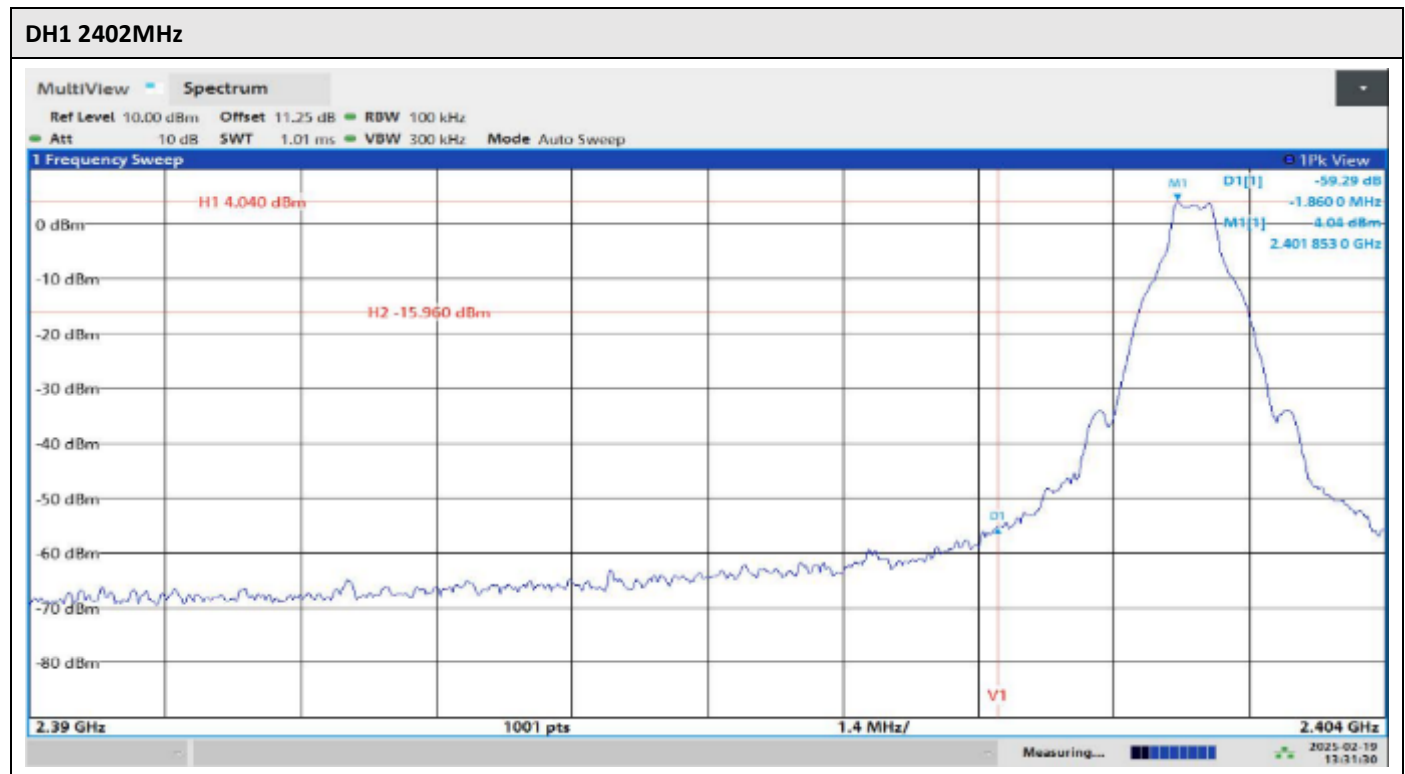
4.4.8 Band Edge Low (2402 MHz)

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

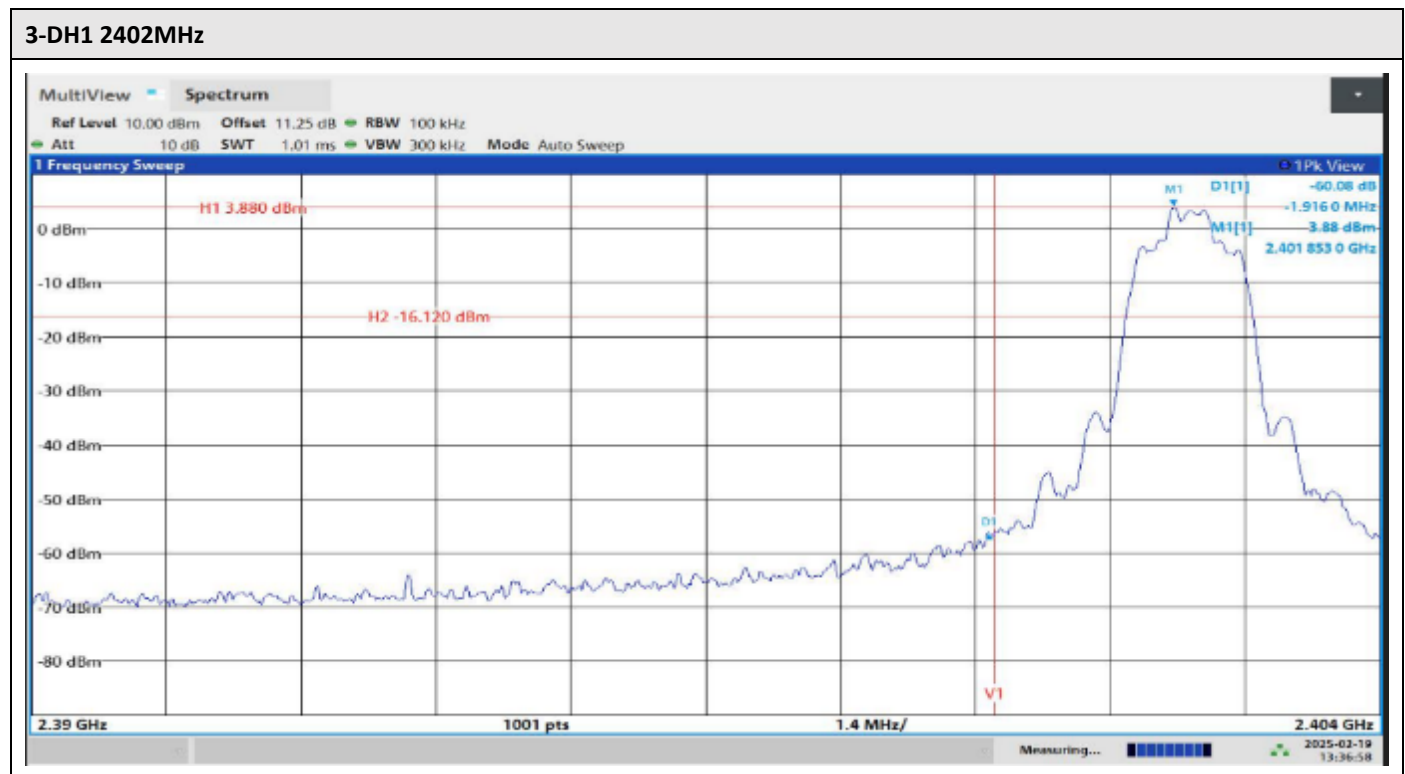
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

Data Rate	Frequency (MHz)	Level(dBm)
DH1	2401.853000	4.04
3-DH1	2401.853000	3.88

4.4.8.1 DH1



4.4.8.2 3-DH1



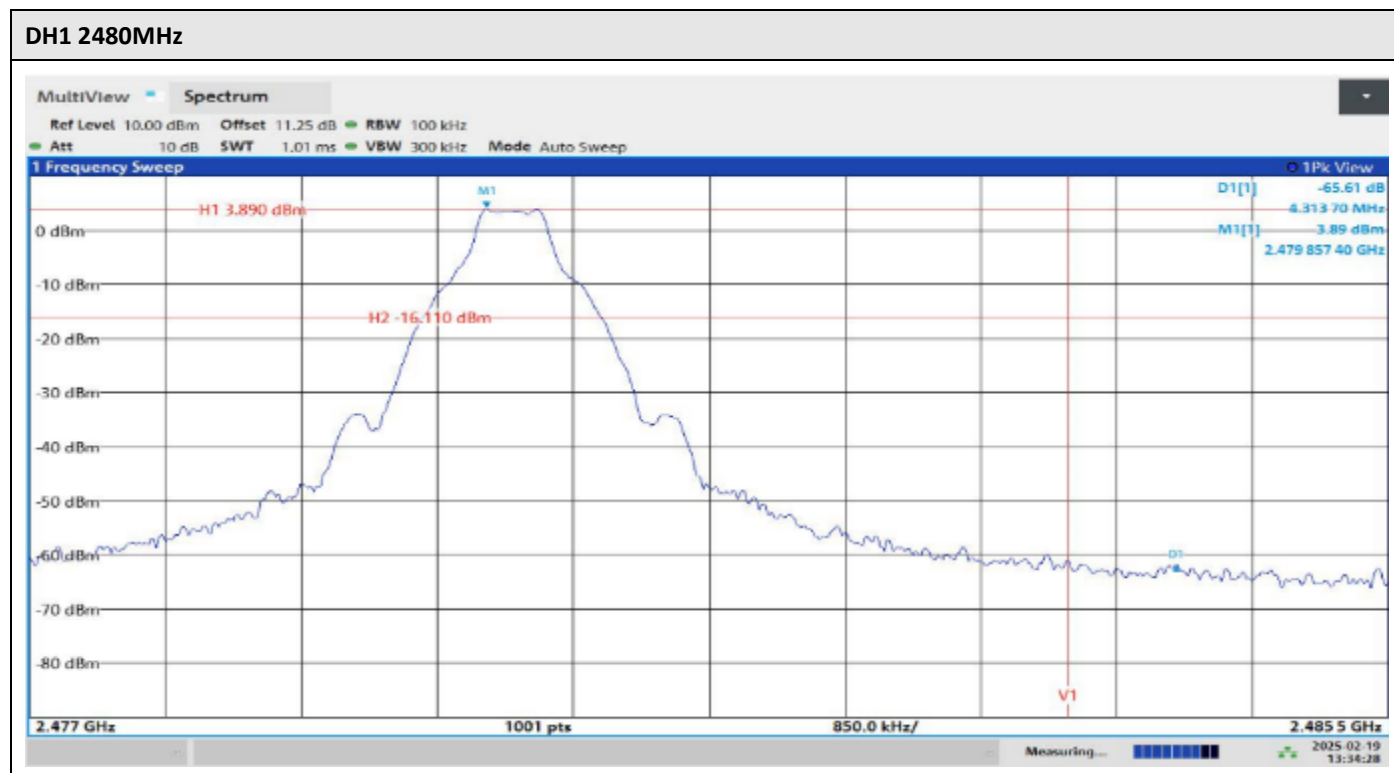
4.4.9 Band Edge High (2480 MHz)

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

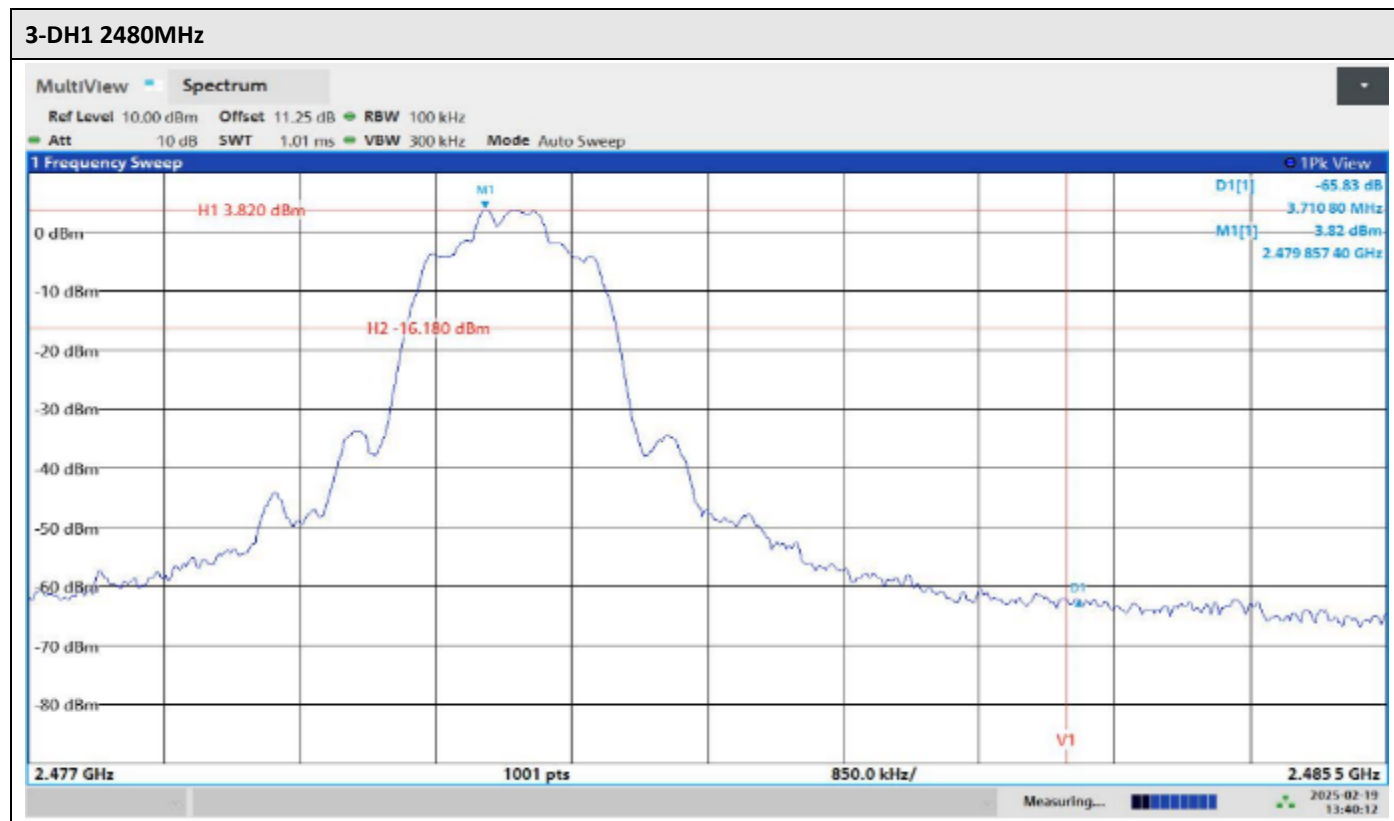
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB

Data Rate	Frequency (MHz)	Level(dBm)
DH1	2479.857400	3.89
3-DH1	2479.857400	3.82

4.4.9.1 DH1



4.4.9.2 3-DH1



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	-10.000 dBm	-30.000 dBm
Attenuation	20.000 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	5 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Spectrum Analyzer Final-Measurement Settings:

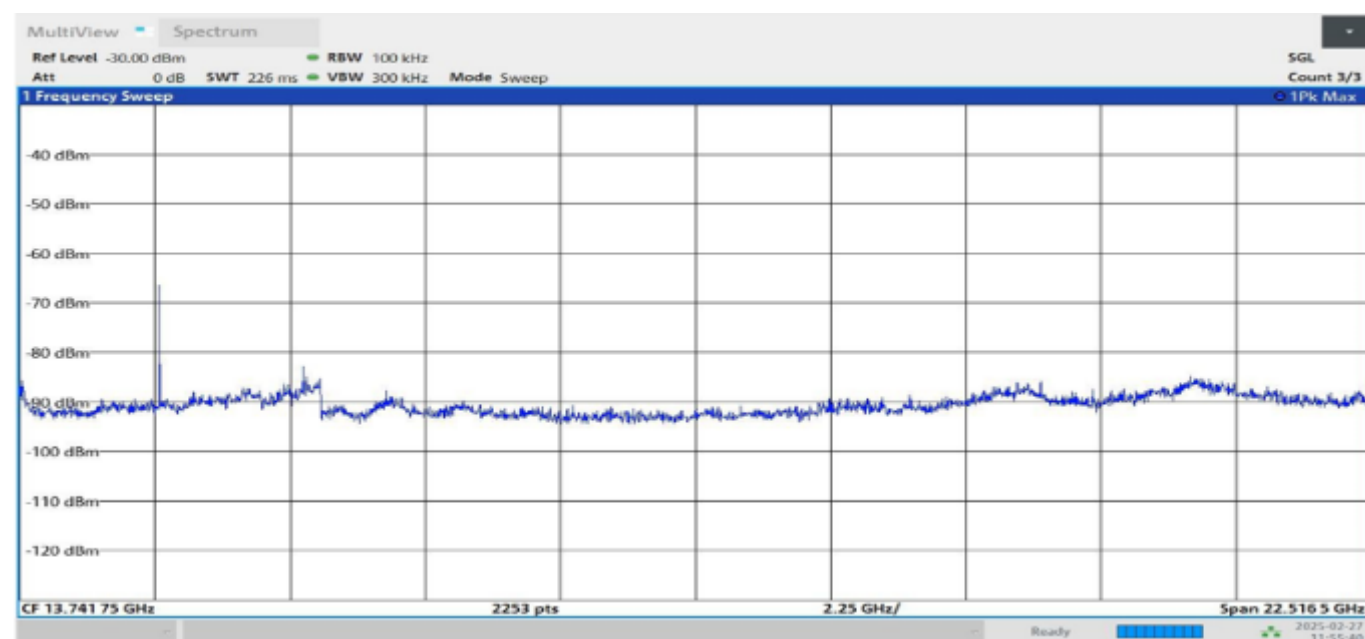
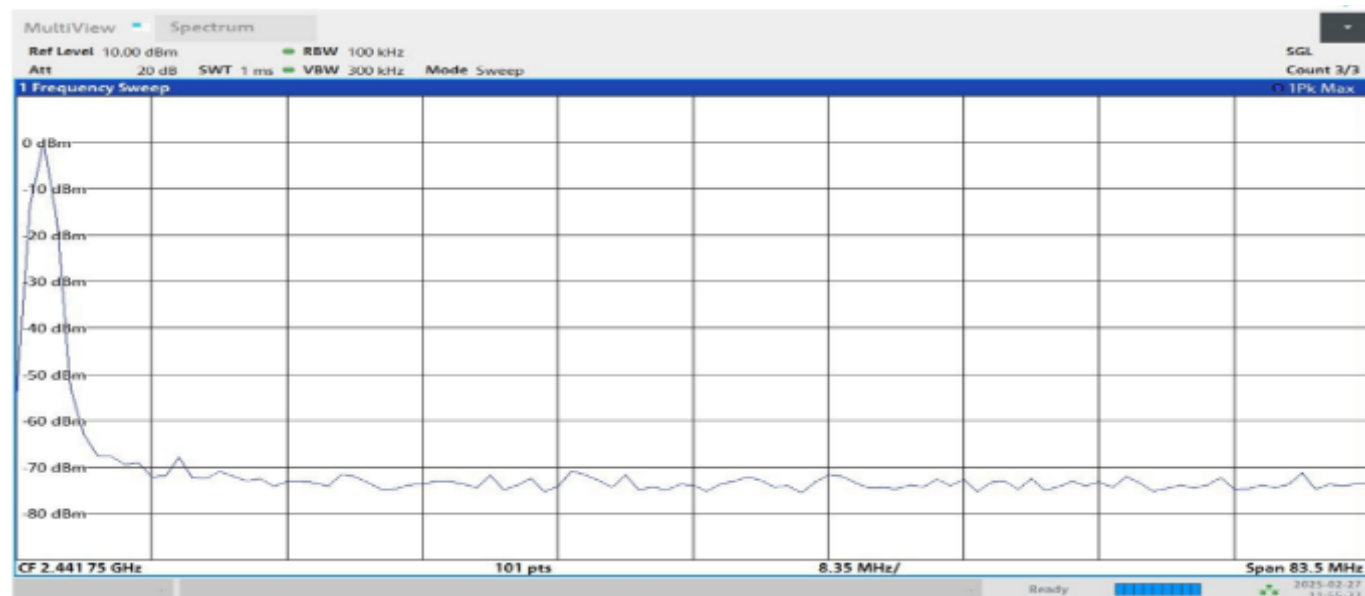
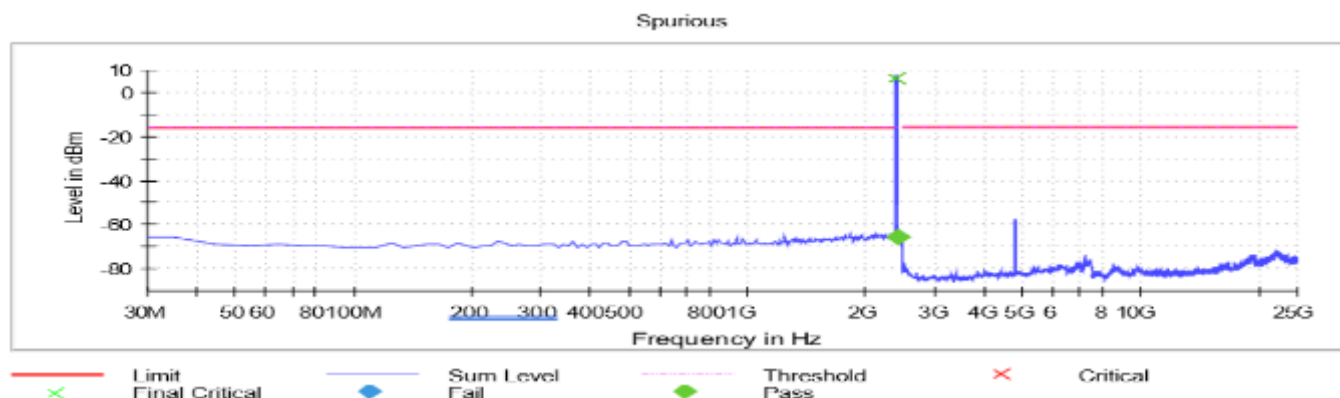
Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	401	~ 401
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Average Linear	Average 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)
2399.958664	2.5	-65.7	49.7	-16.0
Pre-Measurement				
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	
2395.021008	6.1	-22.1	-16.0	
4807.106858	-58.0	42.0	-16.0	
2385.063025	-62.4	46.4	-16.0	
1827.415966	-64.4	48.4	-16.0	
2255.609244	-64.4	48.4	-16.0	
2146.071429	-64.6	48.6	-16.0	
2345.231092	-64.7	48.6	-16.0	
2116.197479	-65.0	49.0	-16.0	
2235.693277	-65.1	49.1	-16.0	
2355.189076	-65.1	49.1	-16.0	
1956.869748	-65.4	49.3	-16.0	
2066.407563	-65.4	49.4	-16.0	
2375.105042	-65.4	49.4	-16.0	
2076.365546	-65.4	49.4	-16.0	
2315.357143	-65.4	49.4	-16.0	

Plots:

2402MHz

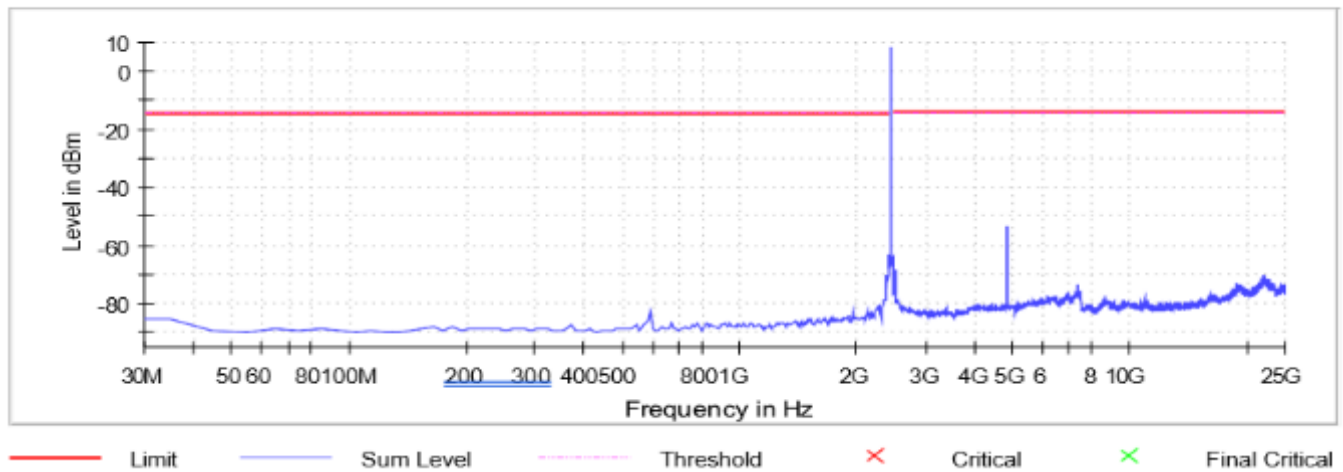


2441MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4887.058921	-53.8	39.8	-14.1
4877.064913	-54.6	40.5	-14.1
2508.485020	-68.8	54.7	-14.1
22056.764647	-71.0	56.9	-14.1
2375.105042	-71.0	56.9	-14.1
22076.752663	-71.0	56.9	-14.1
22006.794607	-71.1	57.0	-14.1
22176.692743	-71.4	57.4	-14.1
22126.722703	-71.6	57.5	-14.1
21836.896471	-71.7	57.6	-14.1
22036.776631	-71.8	57.7	-14.1
22016.788615	-71.8	57.7	-14.1
22196.680759	-71.8	57.8	-14.1
22026.782623	-71.9	57.8	-14.1
22096.740679	-72.0	57.9	-14.1

Spurious

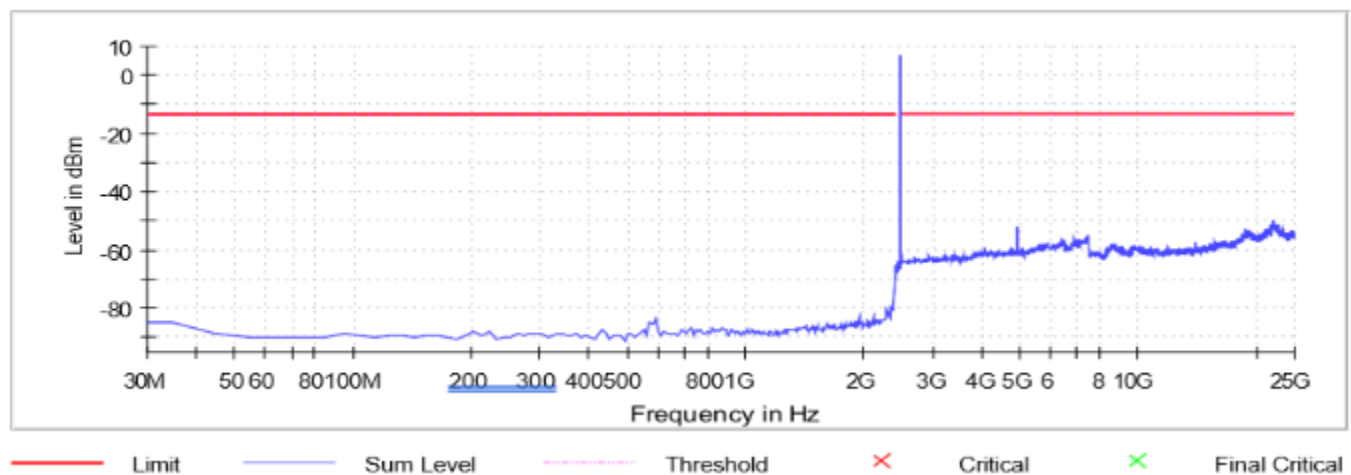


2480MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22026.782623	-50.1	36.7	-13.5
22006.794607	-50.7	37.2	-13.5
22046.770639	-50.9	37.4	-13.5
21986.806591	-51.1	37.6	-13.5
21946.830559	-51.5	38.0	-13.5
22066.758655	-51.5	38.0	-13.5
22106.734687	-51.5	38.0	-13.5
22126.722703	-51.5	38.0	-13.5
22076.752663	-51.6	38.1	-13.5
22306.614847	-51.6	38.1	-13.5
22116.728695	-51.7	38.2	-13.5
21996.800599	-51.7	38.2	-13.5
22416.548935	-51.8	38.3	-13.5
21886.866511	-51.8	38.3	-13.5
22686.387150	-51.8	38.3	-13.5

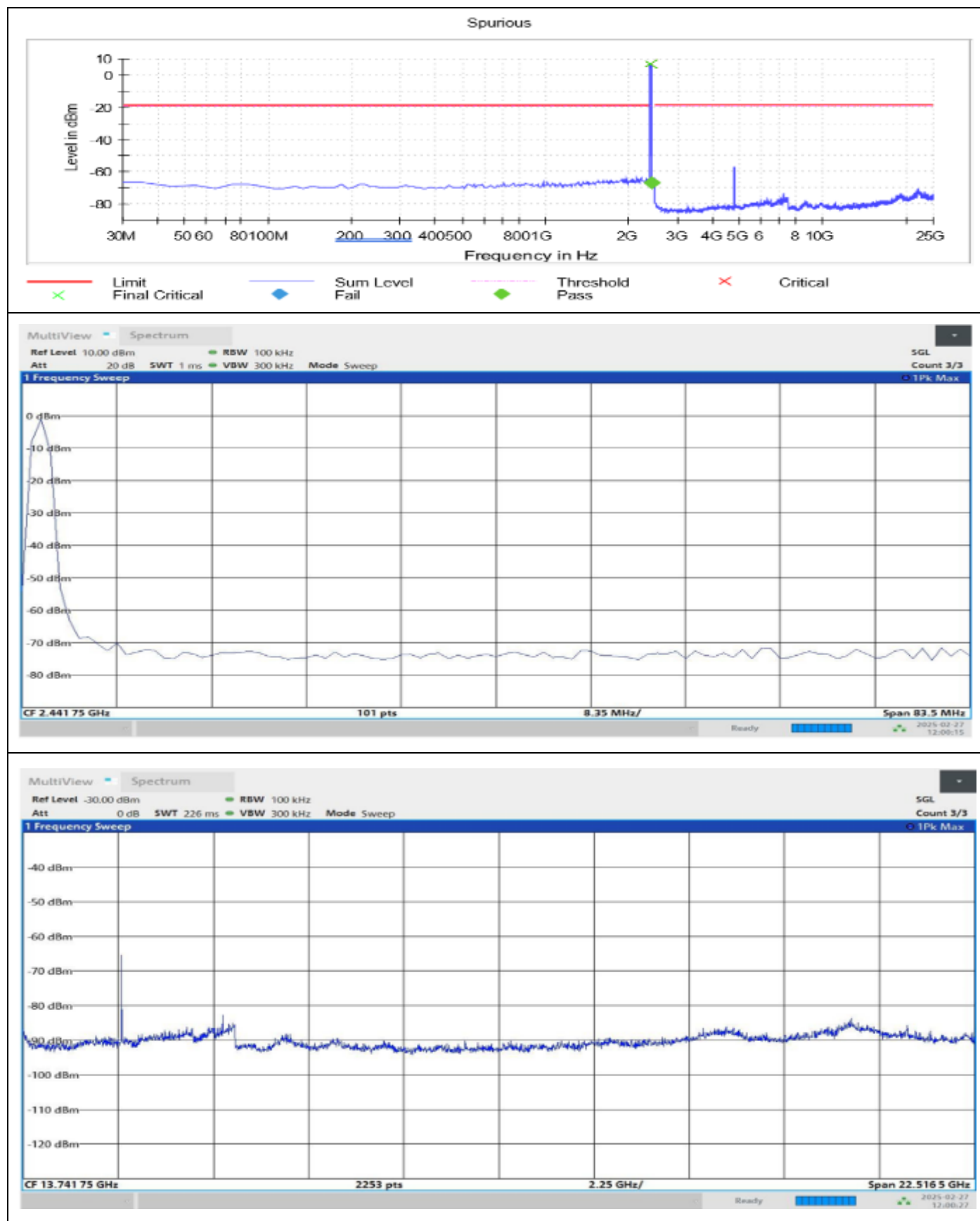
Spurious



4.4.10.2 3-DH1

2402MHz				
Final-Measurement				
Frequency (MHz)	Level Pre-Measurement (dBm)	Level (dBm)	Margin (dB)	Limit (dBm)
2399.858913	3.2	-67.0	48.2	-18.8
Pre-Measurement				
Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	
2395.021008	6.7	-25.4	-18.8	
4807.106858	-57.0	38.2	-18.8	
2385.063025	-61.9	43.1	-18.8	
2215.777311	-64.1	45.4	-18.8	
2146.071429	-64.2	45.4	-18.8	
2375.105042	-64.2	45.4	-18.8	
1966.827731	-64.5	45.7	-18.8	
2165.987395	-64.7	45.9	-18.8	
2325.315126	-64.8	46.0	-18.8	
2365.147059	-64.9	46.1	-18.8	
2175.945378	-64.9	46.2	-18.8	
2335.273109	-65.0	46.2	-18.8	
2036.533613	-65.0	46.2	-18.8	
1887.163866	-65.1	46.3	-18.8	
2086.323529	-65.1	46.3	-18.8	

Plots:

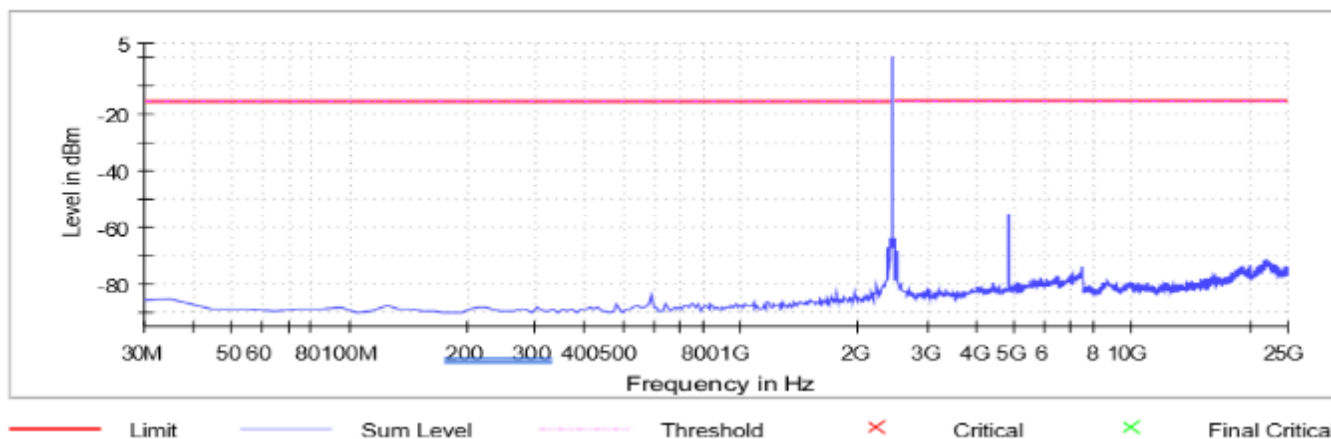


2441MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4877.064913	-55.7	40.1	-15.6
4887.058921	-55.8	40.1	-15.6
2375.105042	-67.4	51.8	-15.6
2508.485020	-69.0	53.4	-15.6
21976.812583	-71.8	56.2	-15.6
22136.716711	-71.9	56.2	-15.6
22056.764647	-72.0	56.4	-15.6
21986.806591	-72.2	56.5	-15.6
21846.890479	-72.3	56.6	-15.6
22086.746671	-72.4	56.8	-15.6
22016.788615	-72.5	56.8	-15.6
21896.860519	-72.5	56.8	-15.6
21906.854527	-72.5	56.8	-15.6
22126.722703	-72.5	56.9	-15.6
22076.752663	-72.5	56.9	-15.6

Spurious

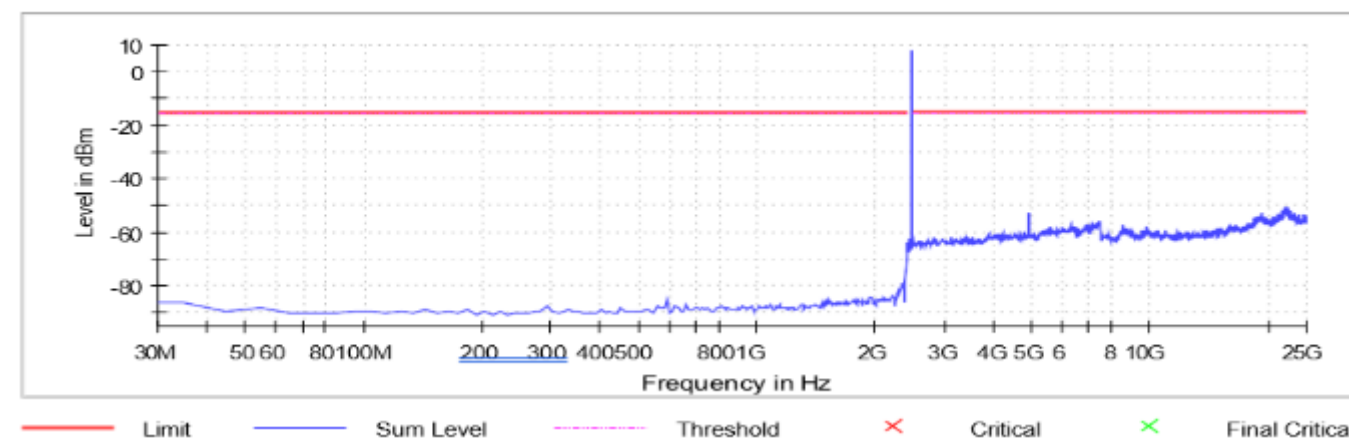


2480MHz

Pre-Measurement

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
22436.536951	-51.0	35.6	-15.5
22206.674767	-51.1	35.6	-15.5
22036.776631	-51.7	36.3	-15.5
21986.806591	-51.8	36.3	-15.5
22026.782623	-51.8	36.4	-15.5
22076.752663	-51.8	36.4	-15.5
22056.764647	-51.9	36.4	-15.5
22096.740679	-51.9	36.4	-15.5
21976.812583	-52.0	36.6	-15.5
21916.848535	-52.1	36.6	-15.5
22136.716711	-52.1	36.6	-15.5
22236.656791	-52.1	36.7	-15.5
22146.710719	-52.1	36.7	-15.5
22086.746671	-52.3	36.8	-15.5
22156.704727	-52.3	36.8	-15.5

Spurious



5. Radiated Testing

5.1 Test Summary

Start: 02/05/2025	End: 02/27/2025	Temperature: 21.2°C Humidity: 21.3%R.H	Initials: SS/AB
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DUT S/N	J24185#002	DUT Operating Mode		Bluetooth Classic
Comment	Worst case modulation 3-DH1 from EDR and DH1 from BDR family are tested.			
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	

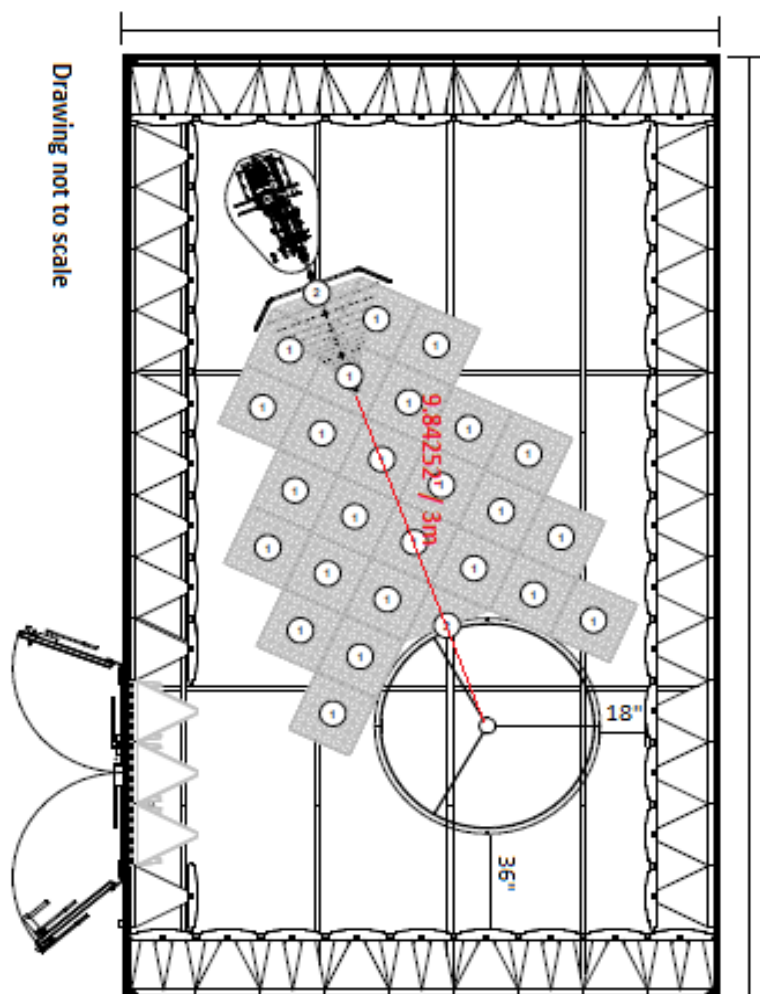
Notes: V meets the requirements of the acceptance criteria.

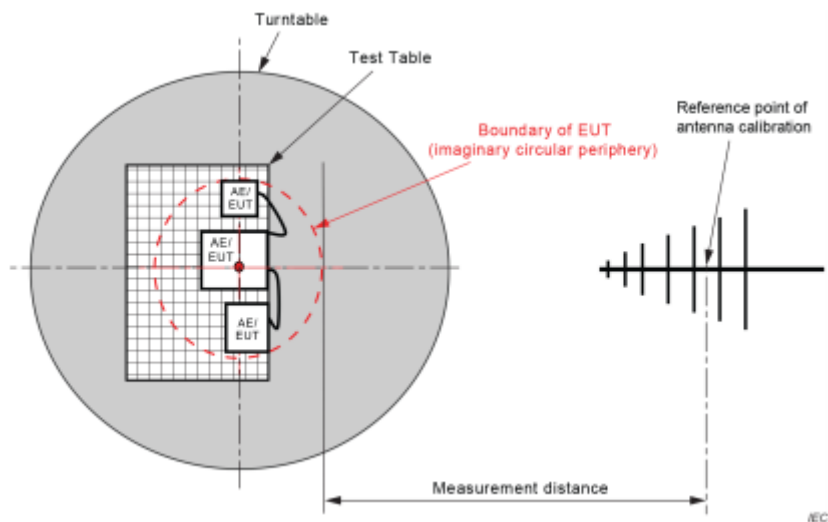
5.2 Test Setup

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
BVD0186	Preamplifier 25dB cal to 100kHz-1GHz	Rohde & Schwarz	TS-PR1	102079	5/13/2025
BVD0184	Preamplifier 29dB 1-18GHz	Rohde & Schwarz	TS-PR18	101646	7/13/2025
BVD0185	Preamplifier 45dB 18-40GHz	Rohde & Schwarz	TS-PR1840	100064	7/13/2025
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	10/30/2025
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	7/3/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No#	Cal Due
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	2024.0.8.0	N/A

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	USB Type A to Type C Cable	N/A	N/A	N/A	N/A
N/A	YUAN USB Adapter	YUAN	N/A	N/A	N/A
N/A	AB157x_Airoha_Tool_Kit(ATK)_v5.4.0.3	N/A	N/A	N/A	5.4.0.3

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(kHz) + 40 Log (300m/3m)	128.5 ~ 93.8
0.490 ~ 1.705	24000/F(kHz) + 40 Log (30m/3m)	73.8 ~ 62.96
1.705 ~ 30.0	29.54 + 40 Log (30m/3m)	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 377 Ω .

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: SS/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 table below

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:

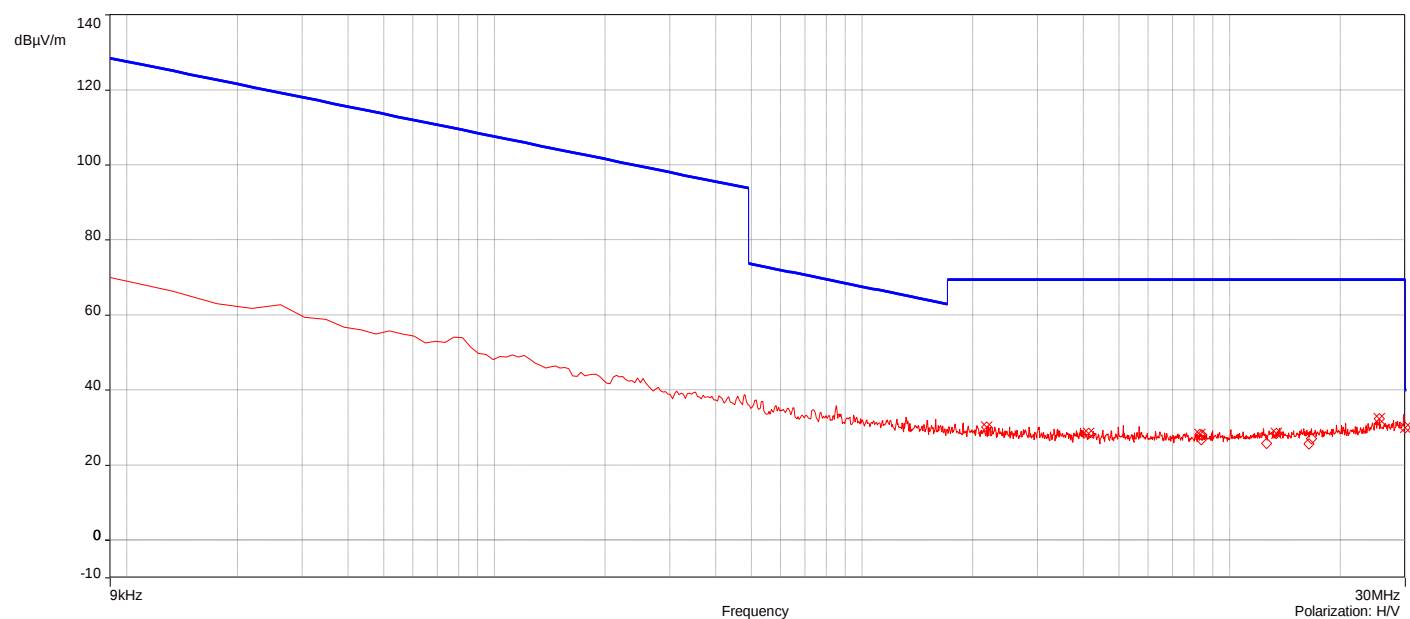
1. Level Average Reading (dBμV/m) = Raw Average Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Average Reading – Limit

J24185_BT_DH1_Ch 39_9kHz-30MHz_Ground-Parallel

2/5/2025 9:24:13 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	30.19	19.59	69.54	-39.35	3.05	220.60	H/V	Passed
2.	4.126924MHz	28.48	19.74	69.54	-41.06	3.05	29.50	H/V	Passed
3.	8.291984MHz	28.21	19.53	69.54	-41.33	3.05	79.00	H/V	Passed
4.	13.386897MHz	28.50	19.90	69.54	-41.04	3.05	0.10	H/V	Passed
5.	25.526417MHz	32.40	21.14	69.54	-37.14	3.05	44.40	H/V	Passed
6.	30MHz	30.06	22.04	40.00	-9.94	3.05	348.00	H/V	Passed

Overall Graphs:

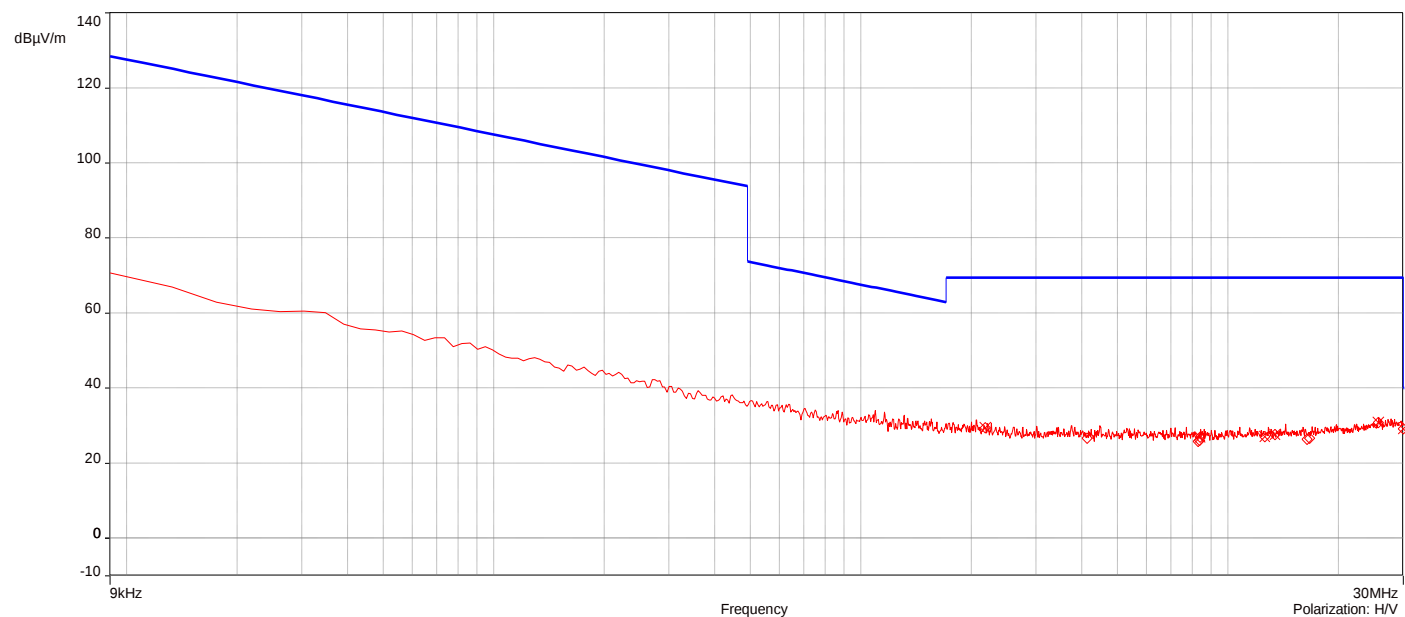


J24185_BT_DH1_Ch 39_9kHz-30MHz_Parallel

2/5/2025 8:48:19 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	29.46	19.59	69.54	-40.08	3.05	155.10	H/V	Passed
2.	8.38197MHz	26.95	19.52	69.54	-42.59	3.05	17.60	H/V	Passed
3.	12.577024MHz	27.08	19.84	69.54	-42.46	3.05	236.80	H/V	Passed
4.	13.399752MHz	27.69	19.90	69.54	-41.85	3.05	198.00	H/V	Passed
5.	25.624973MHz	30.89	21.15	69.54	-38.65	3.05	261.50	H/V	Passed
6.	30MHz	29.19	22.04	40.00	-10.81	3.05	245.80	H/V	Passed

Overall Graphs:

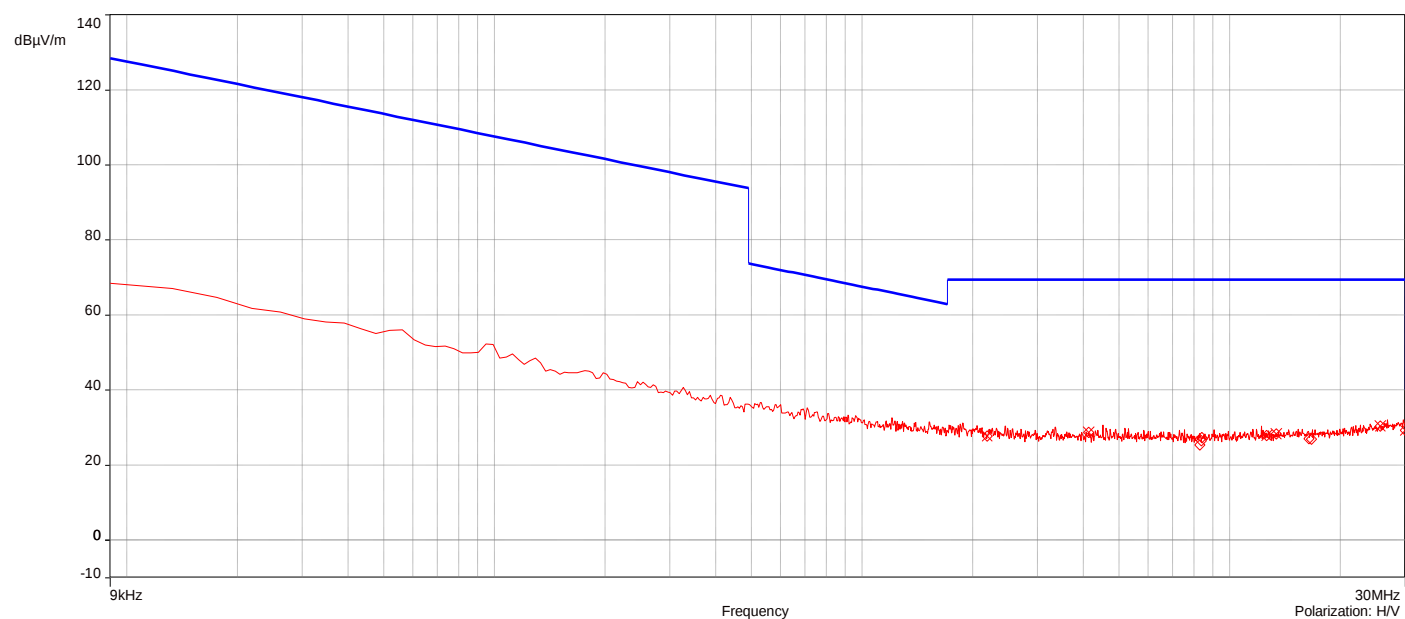


J24185_BT_DH1_Ch 39_9kHz-30MHz_Perpendicular

2/5/2025 9:17:48 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	27.85	19.59	69.54	-41.69	3.05	136.90	H/V	Passed
2.	4.126924MHz	28.76	19.74	69.54	-40.78	3.05	51.80	H/V	Passed
3.	12.577024MHz	27.96	19.84	69.54	-41.58	3.05	62.60	H/V	Passed
4.	13.369757MHz	28.38	19.90	69.54	-41.16	3.05	337.10	H/V	Passed
5.	25.637829MHz	30.44	21.15	69.54	-39.10	3.05	302.50	H/V	Passed
6.	30MHz	29.36	22.04	40.00	-10.64	3.05	357.30	H/V	Passed

Overall Graphs:

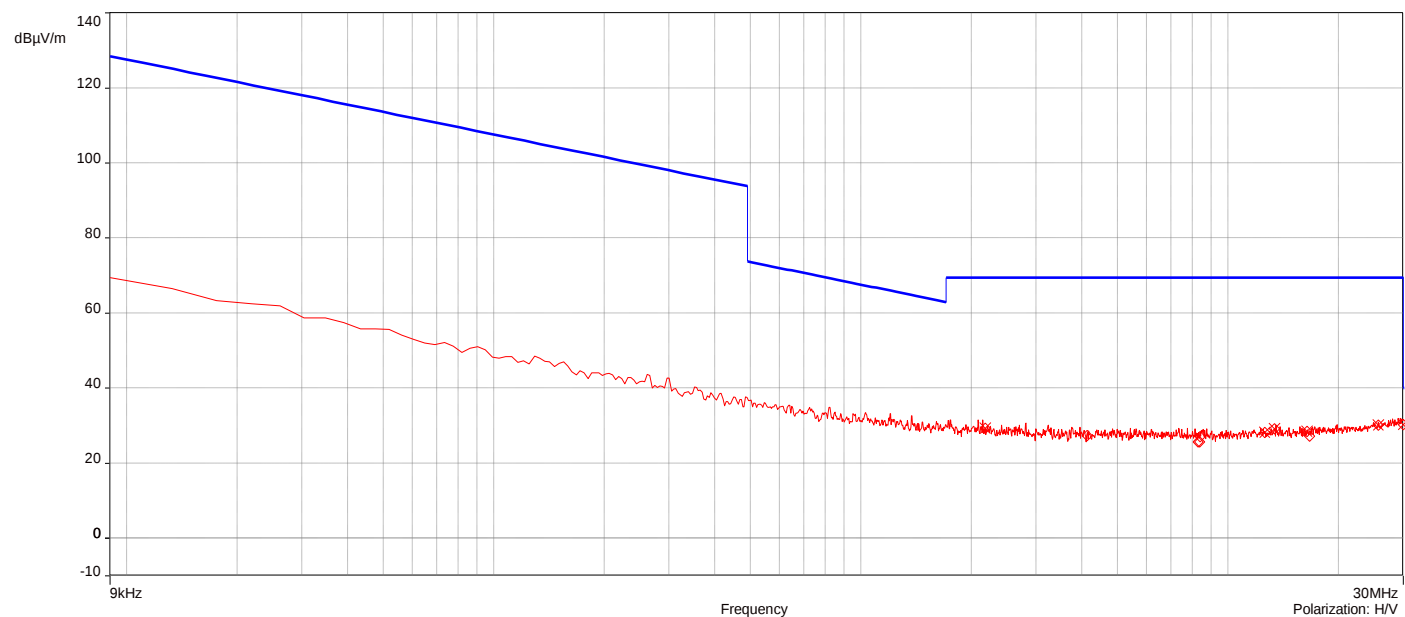


J24185_BT_3-DH1_Ch 39_9kHz-30MHz_Ground-Parallel

2/5/2025 9:45:13 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	29.31	19.59	69.54	-40.23	3.05	10.20	H/V	Passed
2.	12.577024MHz	28.18	19.84	69.54	-41.36	3.05	130.00	H/V	Passed
3.	13.391182MHz	29.22	19.90	69.54	-40.32	3.05	279.30	H/V	Passed
4.	16.420706MHz	28.54	20.07	69.54	-41.00	3.05	76.50	H/V	Passed
5.	25.667824MHz	30.20	21.15	69.54	-39.34	3.05	55.10	H/V	Passed
6.	30MHz	30.31	22.04	40.00	-9.69	3.05	35.50	H/V	Passed

Overall Graphs:

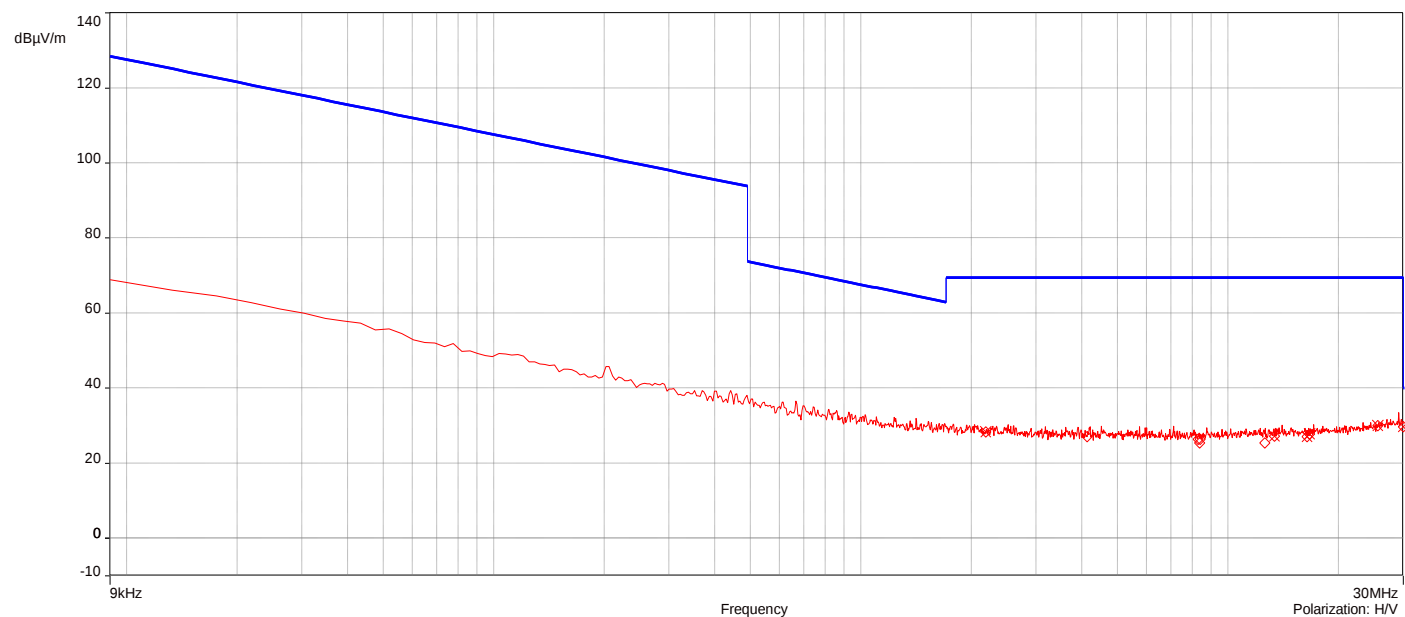


J24185_BT_3-DH1_Ch 39_9kHz-30MHz_Parallel

2/5/2025 8:59:06 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	28.28	19.59	69.54	-41.26	3.05	19.00	H/V	Passed
2.	13.361187MHz	27.21	19.90	69.54	-42.33	3.05	148.00	H/V	Passed
3.	16.420706MHz	27.07	20.07	69.54	-42.47	3.05	334.80	H/V	Passed
4.	16.694949MHz	27.78	20.11	69.54	-41.76	3.05	0.10	H/V	Passed
5.	25.552128MHz	29.96	21.15	69.54	-39.58	3.05	143.90	H/V	Passed
6.	30MHz	29.76	22.04	40.00	-10.24	3.05	357.40	H/V	Passed

Overall Graphs:

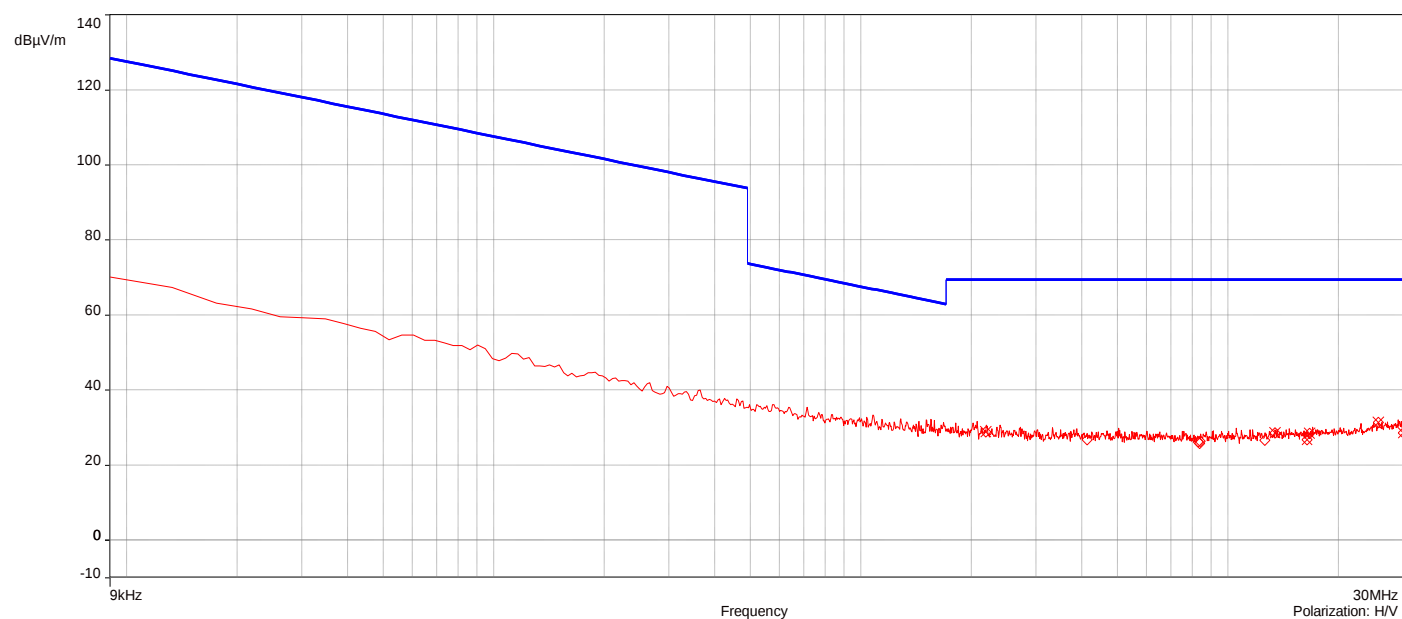


J24185_BT_3-DH1_Ch 39_9kHz-30MHz_Perpendicular

2/5/2025 9:14:43 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	28.93	19.59	69.54	-40.61	3.05	17.90	H/V	Passed
2.	13.408322MHz	28.61	19.91	69.54	-40.93	3.05	283.70	H/V	Passed
3.	16.420706MHz	26.88	20.07	69.54	-42.66	3.05	198.20	H/V	Passed
4.	16.694949MHz	28.52	20.11	69.54	-41.02	3.05	196.10	H/V	Passed
5.	25.650684MHz	31.47	21.15	69.54	-38.07	3.05	116.30	H/V	Passed
6.	30MHz	28.64	22.04	40.00	-11.36	3.05	238.80	H/V	Passed

Overall Graphs:

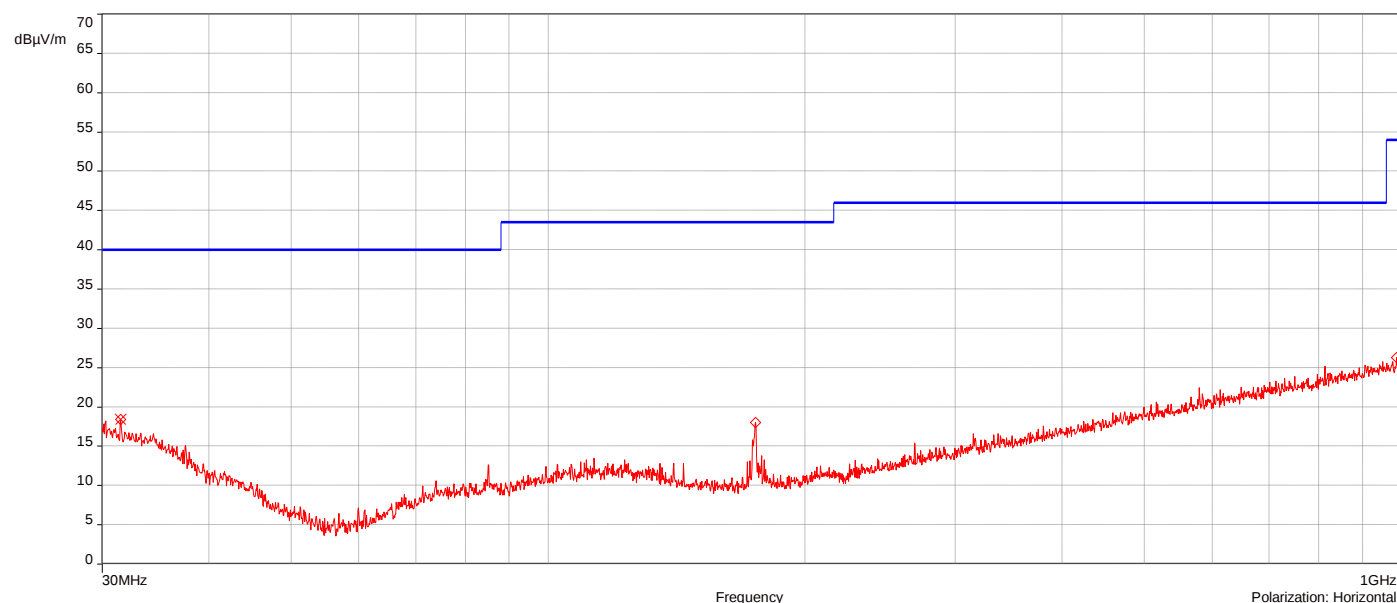


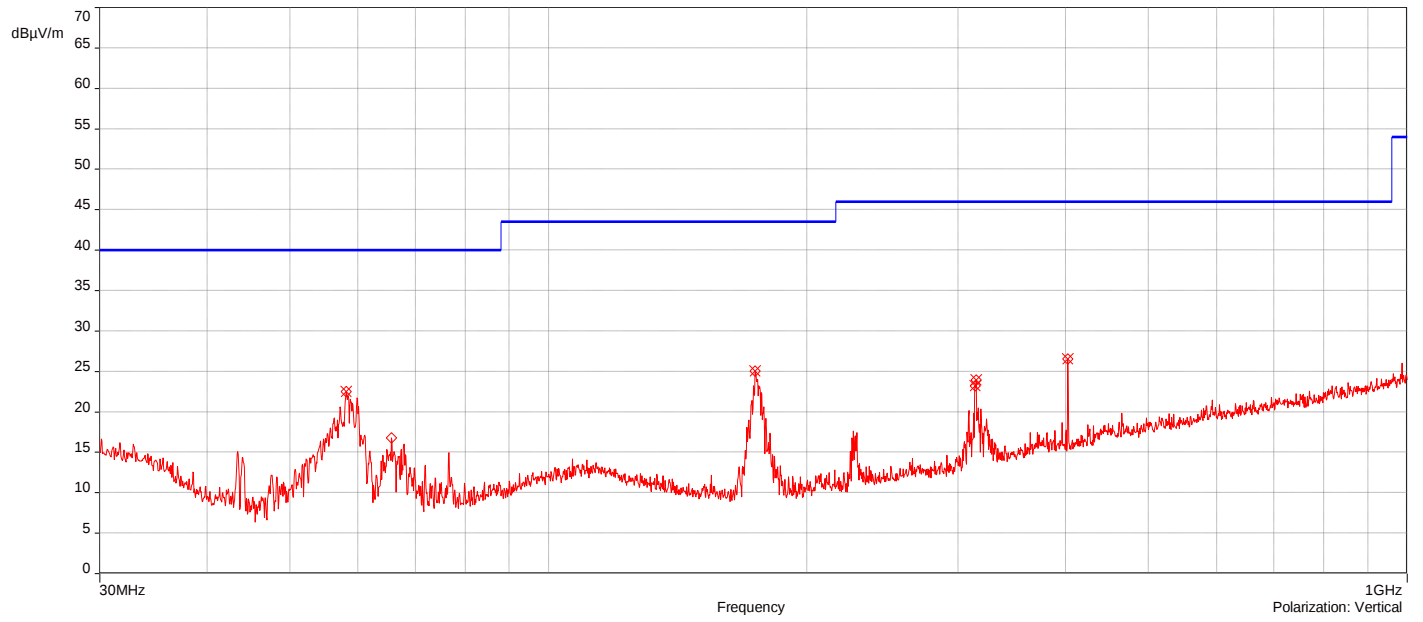
J24185_BT_DH1_Ch 39_30MHz-1GHz

2/21/2025 3:46:37 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	58.131655MHz	22.49	-19.53	40.00	-17.51	1.75	250.00	Vertical	Passed
2.	174.02494MHz	25.05	-14.28	43.50	-18.45	1.00	139.90	Vertical	Passed
3.	313.71316MHz	23.25	-11.63	46.00	-22.75	1.25	199.00	Vertical	Passed
4.	314.62615MHz	23.93	-11.62	46.00	-22.07	1.00	199.70	Vertical	Passed
5.	402.50191MHz	26.56	-9.36	46.00	-19.44	1.00	314.30	Vertical	Passed
6.	31.540679MHz	18.39	-5.82	40.00	-21.61	2.00	38.60	Horizontal	Passed

Overall Graphs:



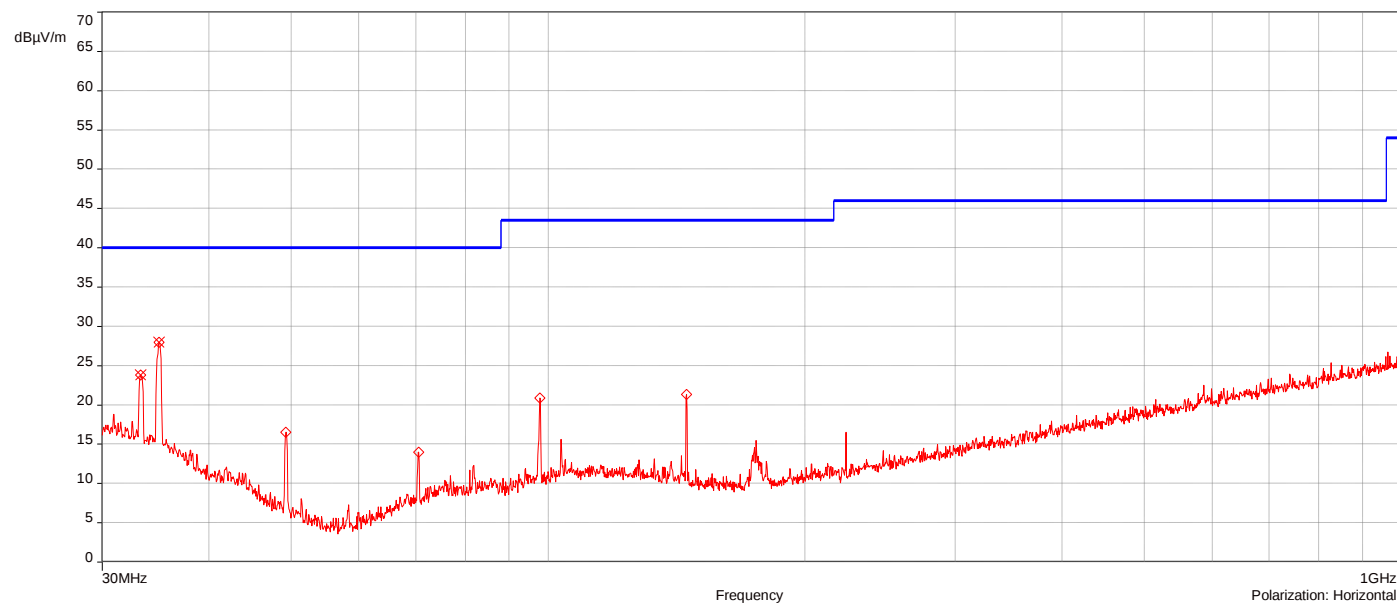


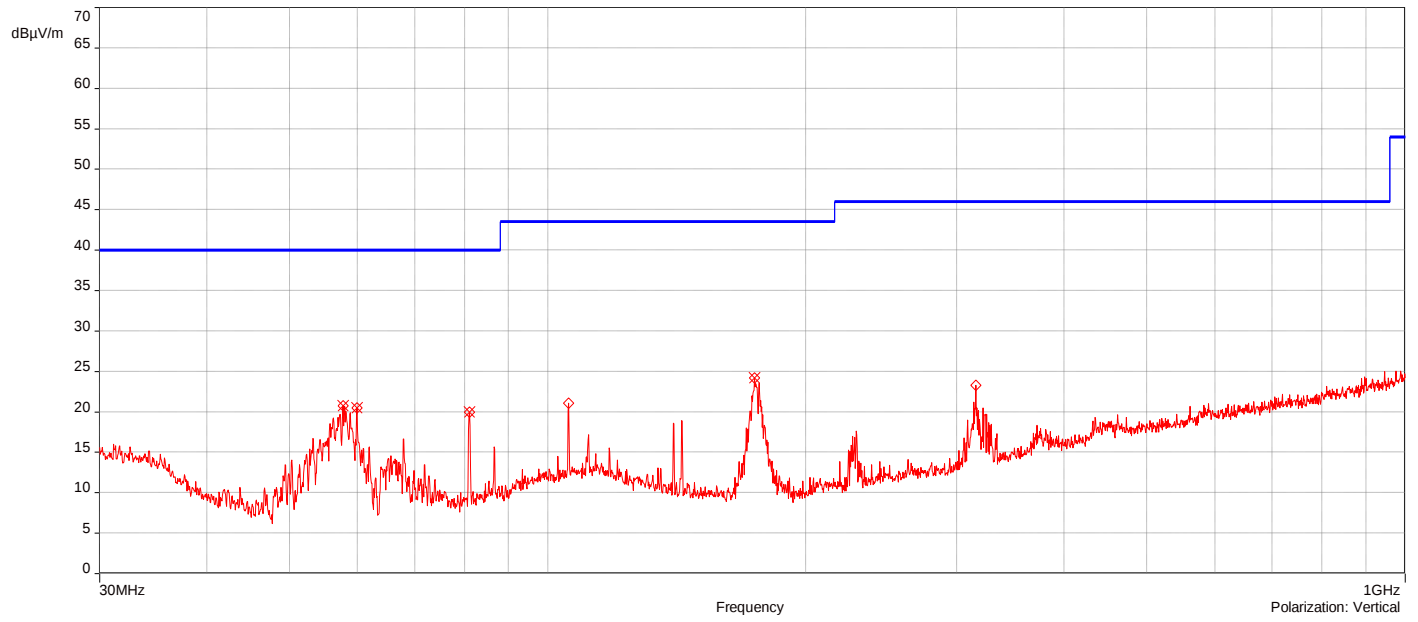
J24185_BT_3-DH1_Ch 39_30MHz-1GHz

2/21/2025 4:11:03 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	57.675157MHz	20.75	-19.55	40.00	-19.25	1.50	57.10	Vertical	Passed
2.	59.84352MHz	20.52	-19.26	40.00	-19.48	1.50	111.60	Vertical	Passed
3.	80.956527MHz	19.95	-14.91	40.00	-20.05	3.00	0.10	Vertical	Passed
4.	174.19613MHz	24.22	-14.21	43.50	-19.28	1.00	286.70	Vertical	Passed
5.	33.252544MHz	23.79	-6.82	40.00	-16.21	2.75	0.10	Horizontal	Passed
6.	34.96441MHz	28.00	-7.73	40.00	-12.00	2.75	0.10	Horizontal	Passed

Overall Graphs:





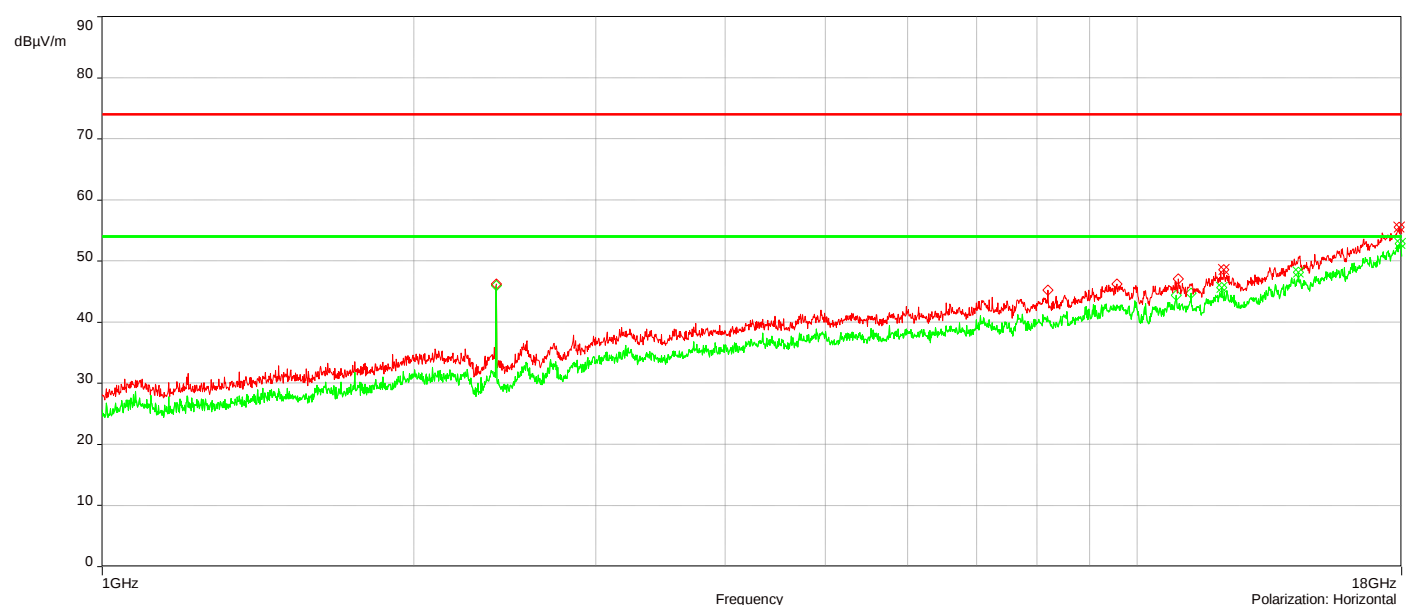
J24185_BT_DH1_Ch 0_1-18GHz

2/5/2025 10:54:22 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	12.127327GHz	48.60	12.53	74.00	-25.40	1.00	280.50	Vertical	Passed
2.	14.317392GHz	51.69	15.78	74.00	-22.31	1.00	225.50	Vertical	Passed
3.	15.847437GHz	52.30	16.59	74.00	-21.70	1.00	0.10	Vertical	Passed
4.	17.943498GHz	55.85	21.31	74.00	-18.15	3.00	359.90	Vertical	Passed
5.	12.120827GHz	48.58	12.64	74.00	-25.42	4.00	108.30	Horizontal	Passed
6.	17.891497GHz	55.56	21.19	74.00	-18.44	4.00	323.80	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	12.059825GHz	43.16	12.48	54.00	-10.84	3.00	93.90	Vertical	Passed
2.	15.752934GHz	47.04	17.00	54.00	-6.96	2.50	294.80	Vertical	Passed
3.	17.957499GHz	52.93	21.45	54.00	-1.07	1.00	359.90	Vertical	Passed
4.	12.059825GHz	42.96	12.53	54.00	-11.04	3.00	0.10	Horizontal	Passed
5.	14.314892GHz	45.69	15.73	54.00	-8.31	3.00	116.80	Horizontal	Passed
6.	17.939498GHz	52.53	21.29	54.00	-1.47	1.00	0.10	Horizontal	Passed

Overall Graphs:





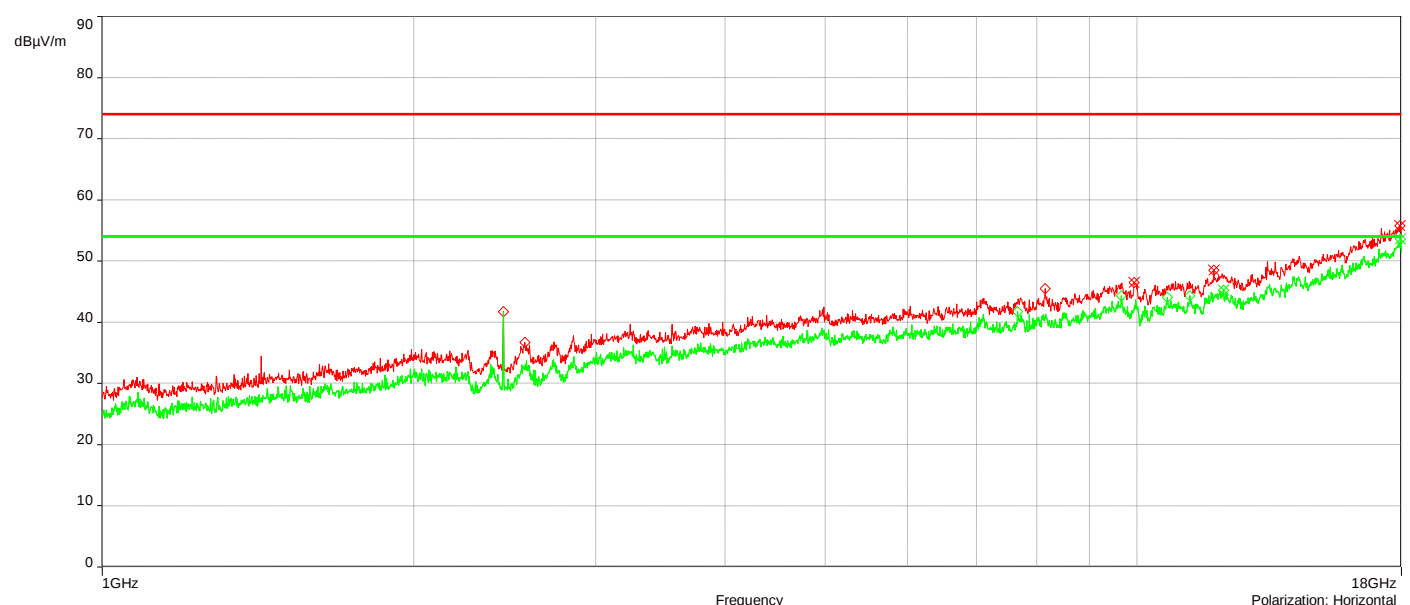
J24185_BT_DH1_Ch 39_1-18GHz

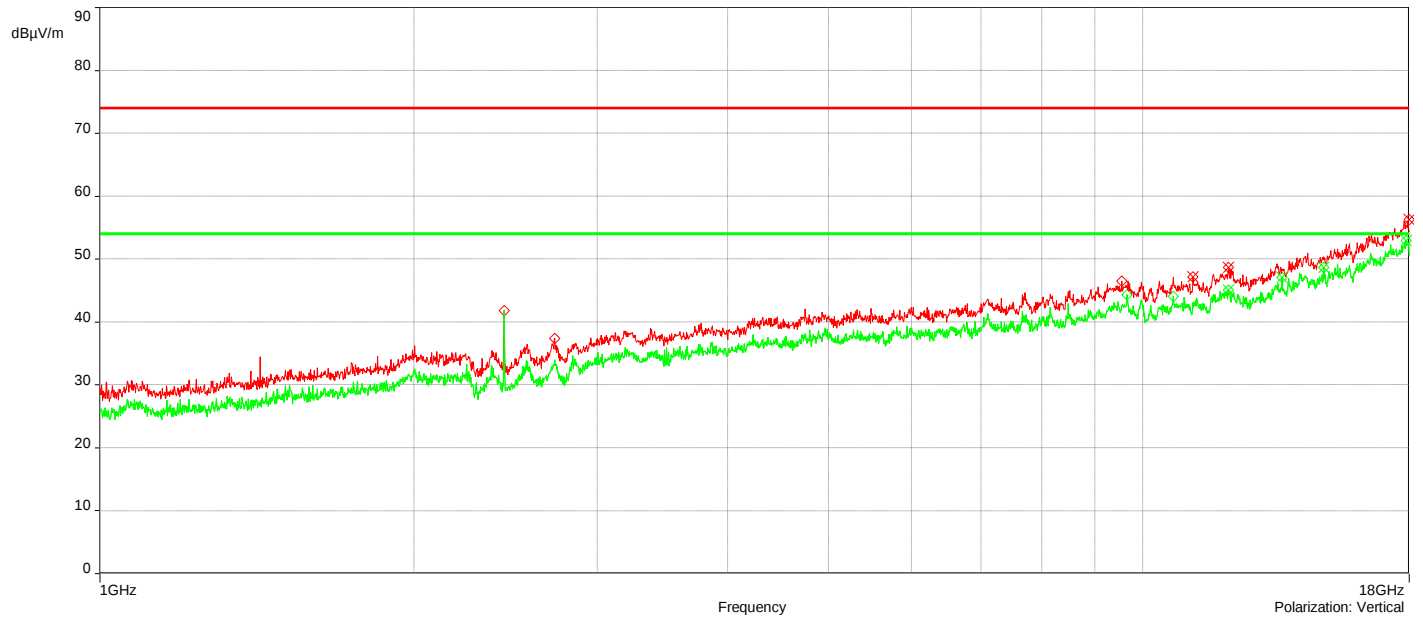
2/5/2025 12:30:43 PM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	11.167799GHz	47.20	11.16	74.00	-26.80	1.50	106.70	Vertical	Passed
2.	12.078826GHz	48.65	12.55	74.00	-25.35	2.00	347.00	Vertical	Passed
3.	17.9975GHz	56.27	22.22	74.00	-17.73	2.00	197.20	Vertical	Passed
4.	9.9267626GHz	46.55	10.76	74.00	-27.45	3.50	138.90	Horizontal	Passed
5.	11.853319GHz	48.50	11.94	74.00	-25.50	4.00	356.80	Horizontal	Passed
6.	17.931498GHz	55.79	21.27	74.00	-18.21	2.50	18.20	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	12.078326GHz	43.07	12.55	54.00	-10.93	3.00	359.90	Vertical	Passed
2.	13.597871GHz	44.34	13.83	54.00	-9.66	1.00	359.90	Vertical	Passed
3.	14.903409GHz	46.22	16.29	54.00	-7.78	2.00	359.90	Vertical	Passed
4.	17.872996GHz	52.85	21.03	54.00	-1.15	4.00	72.90	Vertical	Passed
5.	12.118827GHz	42.96	12.64	54.00	-11.04	2.00	23.60	Horizontal	Passed
6.	17.958499GHz	52.7	21.44	54.00	-1.3	2.00	267.80	Horizontal	Passed

Overall Graphs:





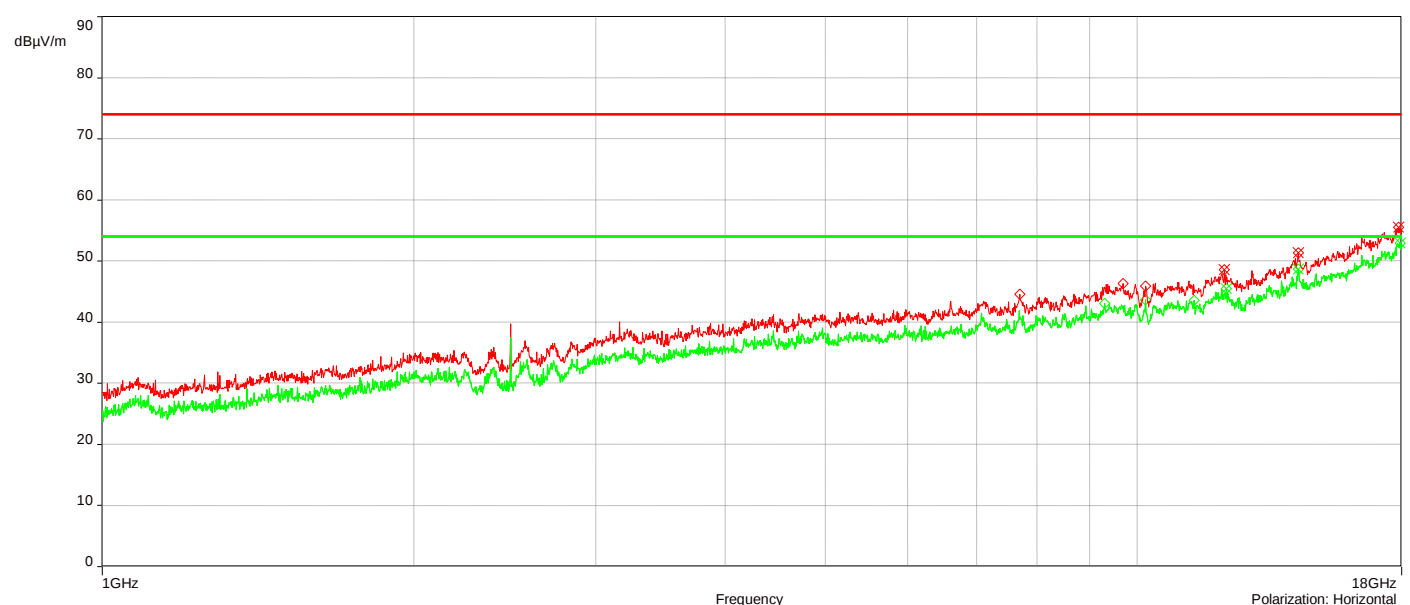
J24185_BT_DH1_Ch 78_1-18GHz

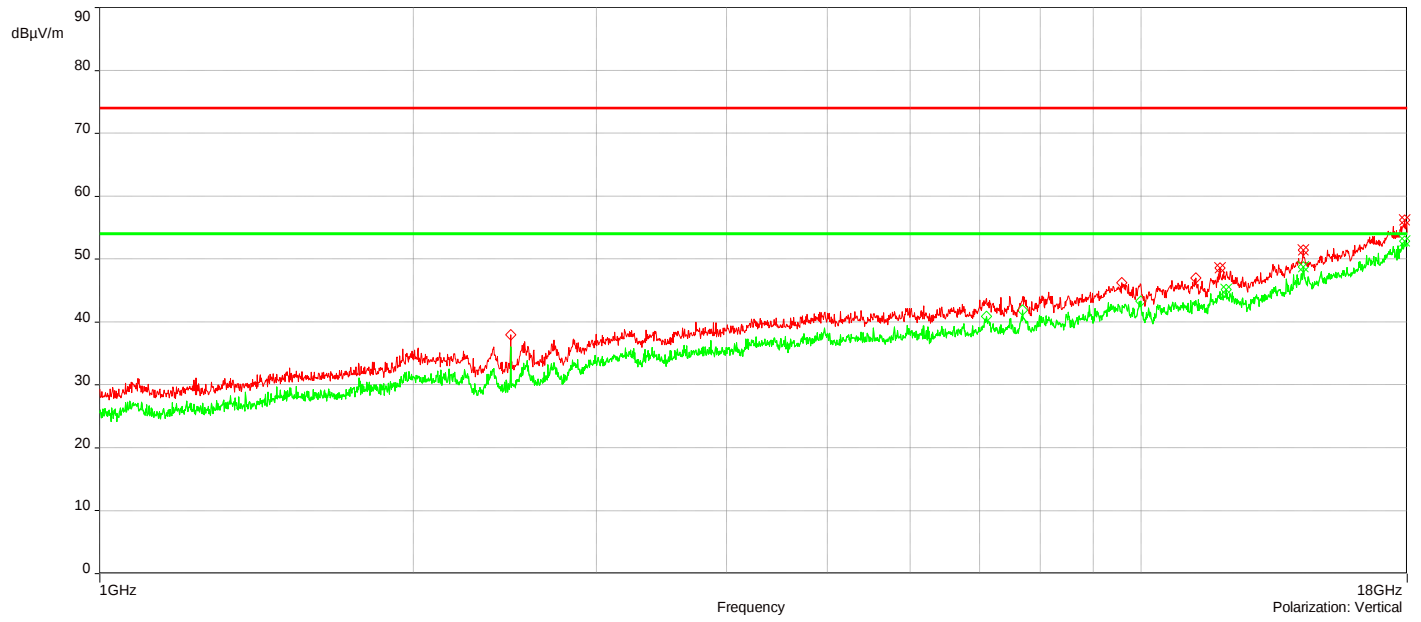
2/5/2025 11:33:30 AM

No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	11.89382GHz	48.63	12.08	74.00	-25.37	1.00	89.90	Vertical	Passed
2.	14.306891GHz	51.42	15.85	74.00	-22.58	4.00	50.70	Vertical	Passed
3.	17.908997GHz	56.24	21.17	74.00	-17.76	3.50	205.00	Vertical	Passed
4.	12.136828GHz	48.60	12.60	74.00	-25.40	3.00	279.60	Horizontal	Passed
5.	14.308891GHz	51.39	15.77	74.00	-22.61	1.50	291.10	Horizontal	Passed
6.	17.876996GHz	55.56	21.15	74.00	-18.44	3.00	34.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	12.058825GHz	43.15	12.48	54.00	-10.85	2.50	359.90	Vertical	Passed
2.	14.306891GHz	45.59	15.85	54.00	-8.41	4.00	50.70	Vertical	Passed
3.	17.892497GHz	52.65	21.10	54.00	-1.35	1.50	74.80	Vertical	Passed
4.	12.192829GHz	42.93	12.59	54.00	-11.07	4.00	359.90	Horizontal	Passed
5.	14.306891GHz	45.91	15.78	54.00	-8.09	4.00	359.90	Horizontal	Passed
6.	17.929998GHz	52.81	21.27	54.00	-1.19	1.00	0.0	Horizontal	Passed

Overall Graphs:





J24185_BT_3-DH1_Ch 0_1-18GHz

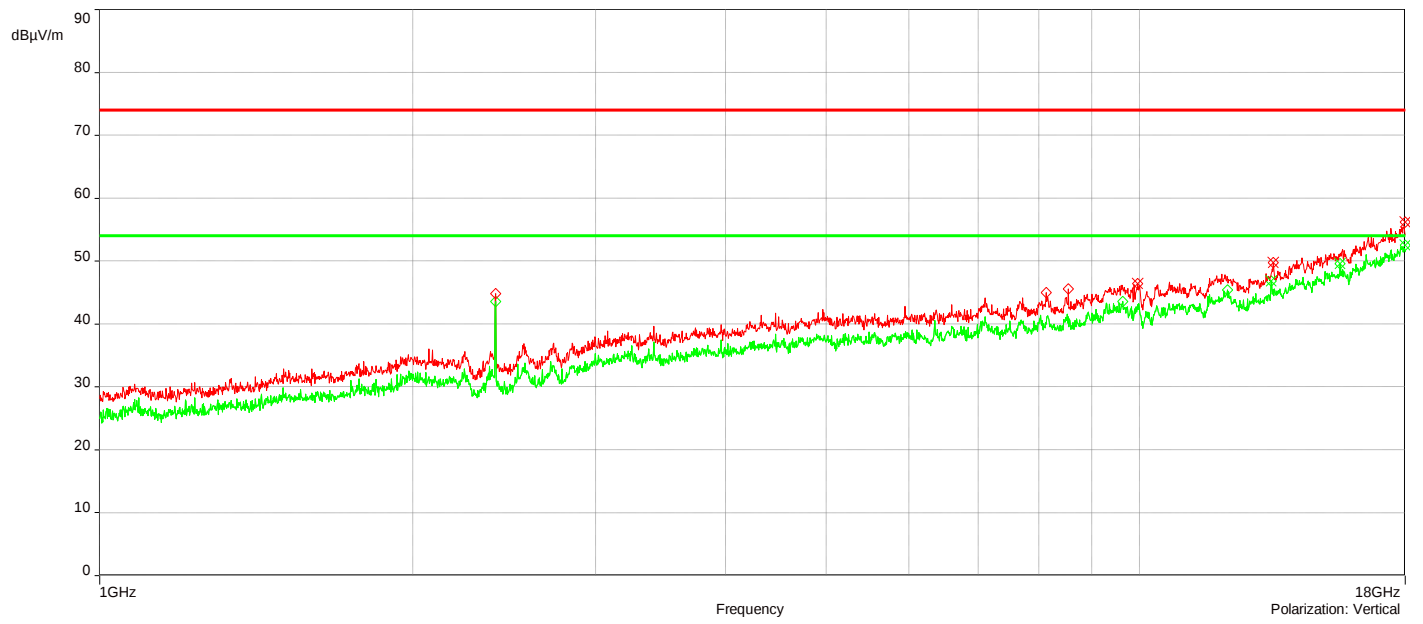
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	9.9497632GHz	46.40	11.09	74.00	-27.60	3.50	271.70	Vertical	Passed
2.	13.438366GHz	49.81	13.65	74.00	-24.19	1.00	289.80	Vertical	Passed
3.	17.995GHz	56.19	22.16	74.00	-17.81	2.50	104.00	Vertical	Passed
4.	9.4027471GHz	46.59	9.82	74.00	-27.41	4.00	346.80	Horizontal	Passed
5.	11.671314GHz	48.64	12.06	74.00	-25.36	2.00	300.40	Horizontal	Passed
6.	17.269979GHz	55.76	19.91	74.00	-18.24	3.50	329.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	13.382864GHz	43.63	13.79	54.00	-10.37	1.00	0.10	Vertical	Passed
2.	15.570929GHz	46.48	16.95	54.00	-7.52	1.00	0.10	Vertical	Passed
3.	17.995GHz	52.58	22.16	54.00	-1.42	2.50	104.00	Vertical	Passed
4.	12.140328GHz	42.88	12.59	54.00	-11.12	3.00	359.90	Horizontal	Passed
5.	13.395865GHz	43.44	13.87	54.00	-10.56	2.50	337.20	Horizontal	Passed
6.	17.470484GHz	51.36	20.20	54.00	-2.64	3.00	234.30	Horizontal	Passed

Overall Graphs:





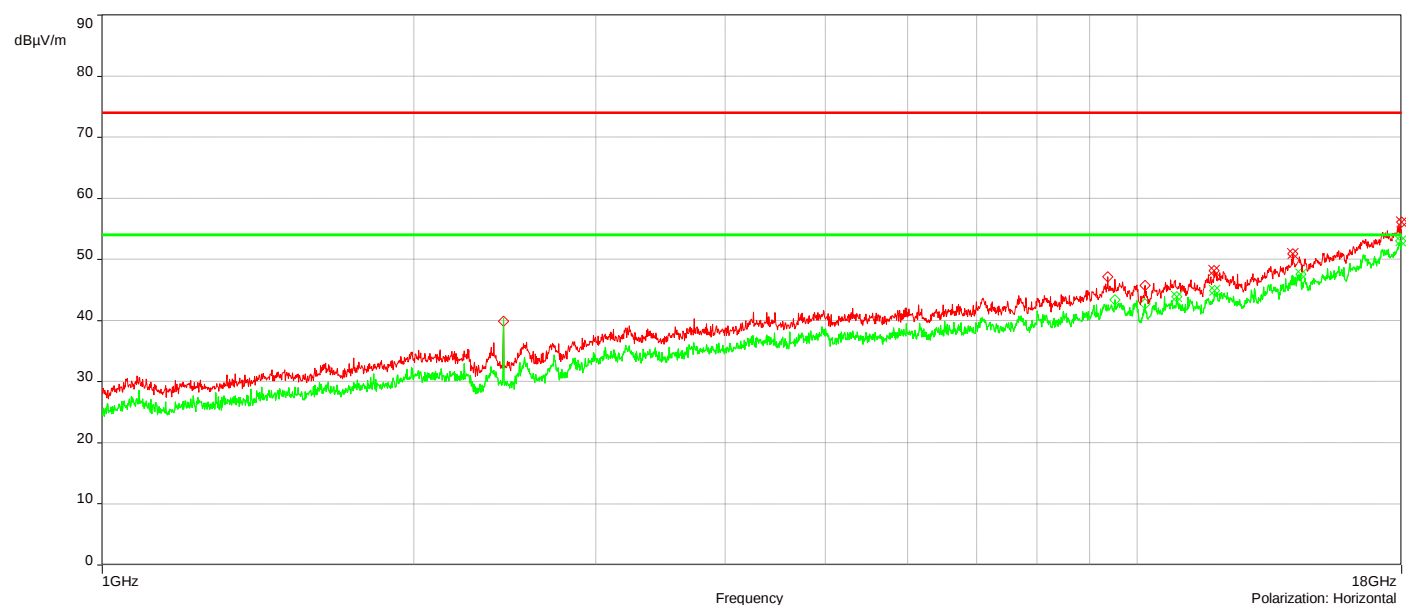
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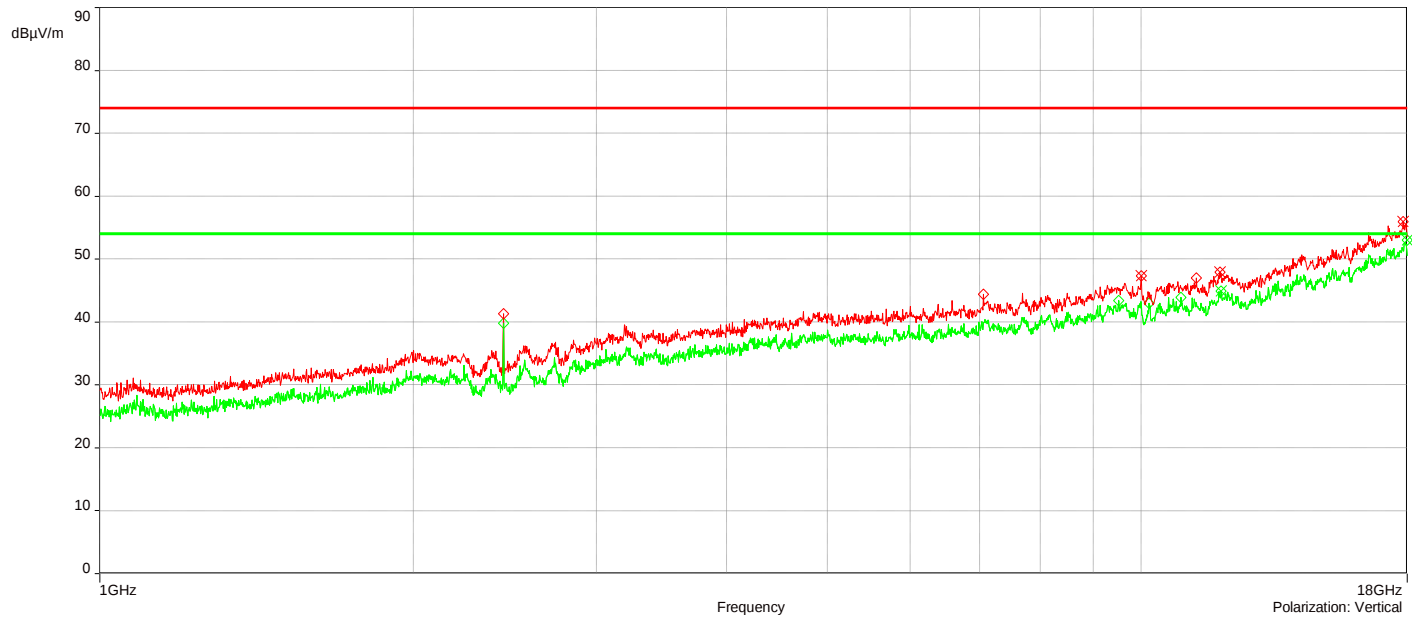
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	9.9952646GHz	47.38	10.51	74.00	-26.62	3.50	104.60	Vertical	Passed
2.	11.89482GHz	47.93	12.09	74.00	-26.07	1.00	44.80	Vertical	Passed
3.	17.839495GHz	55.94	20.89	74.00	-18.06	2.00	316.60	Vertical	Passed
4.	11.86382GHz	48.15	11.99	74.00	-25.85	2.00	347.50	Horizontal	Passed
5.	14.130386GHz	50.93	15.36	74.00	-23.07	4.00	31.40	Horizontal	Passed
6.	17.991GHz	56.11	22.03	74.00	-17.89	1.50	250.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	11.920321GHz	42.13	12.08	54.00	-11.87	3.50	167.30	Vertical	Passed
2.	17.993GHz	52.56	22.11	54.00	-1.44	1.00	72.50	Vertical	Passed
3.	10.916292GHz	40.38	11.03	54.00	-13.62	3.50	317.70	Horizontal	Passed
4.	11.87032GHz	41.98	12.03	54.00	-12.02	4.00	0.0	Horizontal	Passed
5.	14.385394GHz	44.92	15.44	54.00	-9.08	4.00	0.0	Horizontal	Passed
6.	17.967999GHz	52.79	21.59	54.00	-1.21	1.00	0.10	Horizontal	Passed

Overall Graphs:





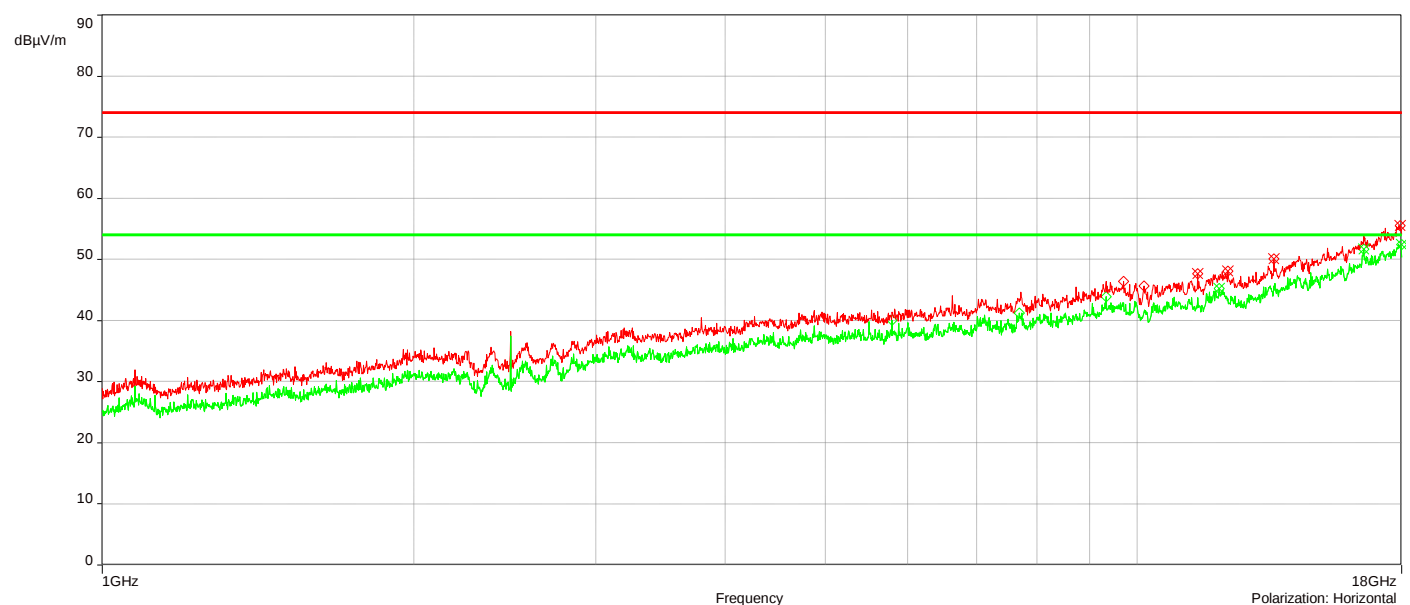
J24185_BT_3-DH1_Ch 78_1-18GHz

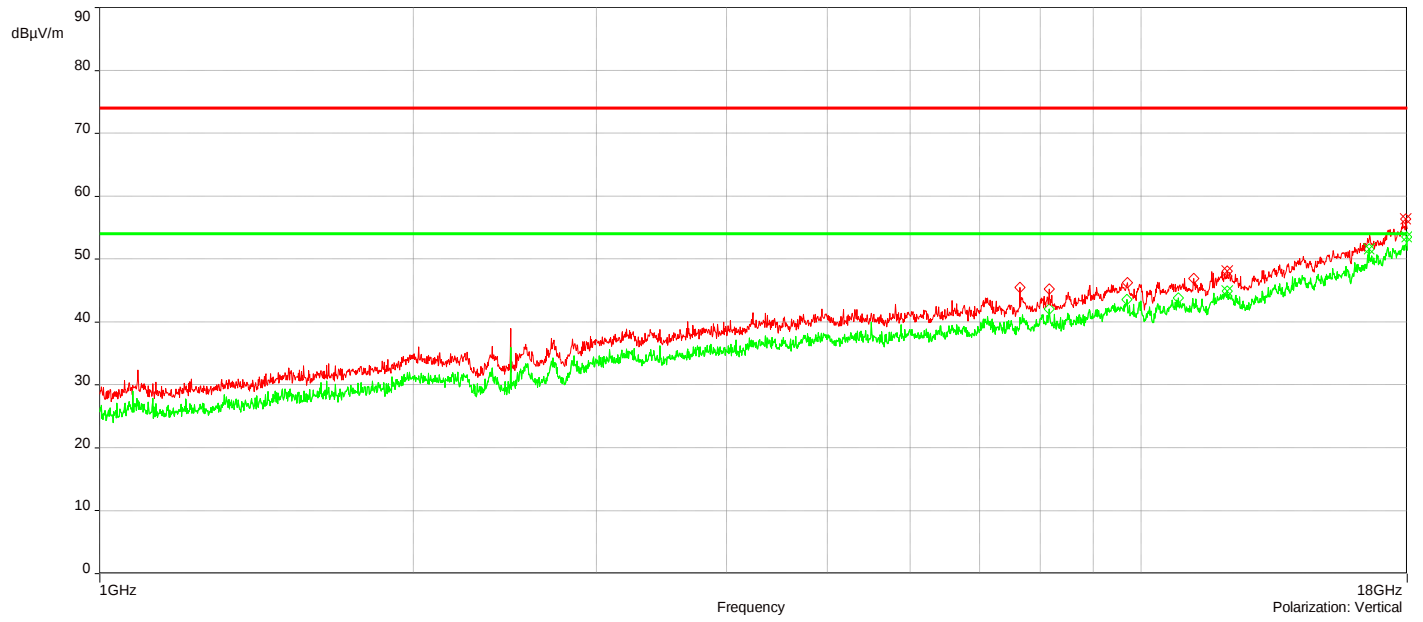
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	12.096826GHz	48.11	12.58	74.00	-25.89	4.00	314.80	Vertical	Passed
2.	17.928998GHz	56.36	21.24	74.00	-17.64	3.00	31.50	Vertical	Passed
3.	11.440307GHz	47.71	11.53	74.00	-26.29	3.00	251.70	Horizontal	Passed
4.	12.22283GHz	48.08	12.55	74.00	-25.92	4.00	75.10	Horizontal	Passed
5.	13.545369GHz	50.13	13.44	74.00	-23.87	3.50	190.90	Horizontal	Passed
6.	17.945998GHz	55.55	21.30	74.00	-18.45	2.00	264.20	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	12.096826GHz	43.43	12.58	54.00	-10.57	4.00	314.80	Vertical	Passed
2.	16.539957GHz	50.17	18.63	54.00	-3.83	1.50	359.90	Vertical	Passed
3.	17.9845GHz	52.42	21.92	54.00	-1.58	3.50	318.20	Vertical	Passed
4.	11.997323GHz	42.75	12.14	54.00	-11.25	4.00	37.20	Horizontal	Passed
5.	16.539957GHz	50.22	18.72	54.00	-3.78	1.50	192.20	Horizontal	Passed
6.	17.999GHz	52.68	22.21	54.00	-1.32	2.50	0.0	Horizontal	Passed

Overall Graphs:





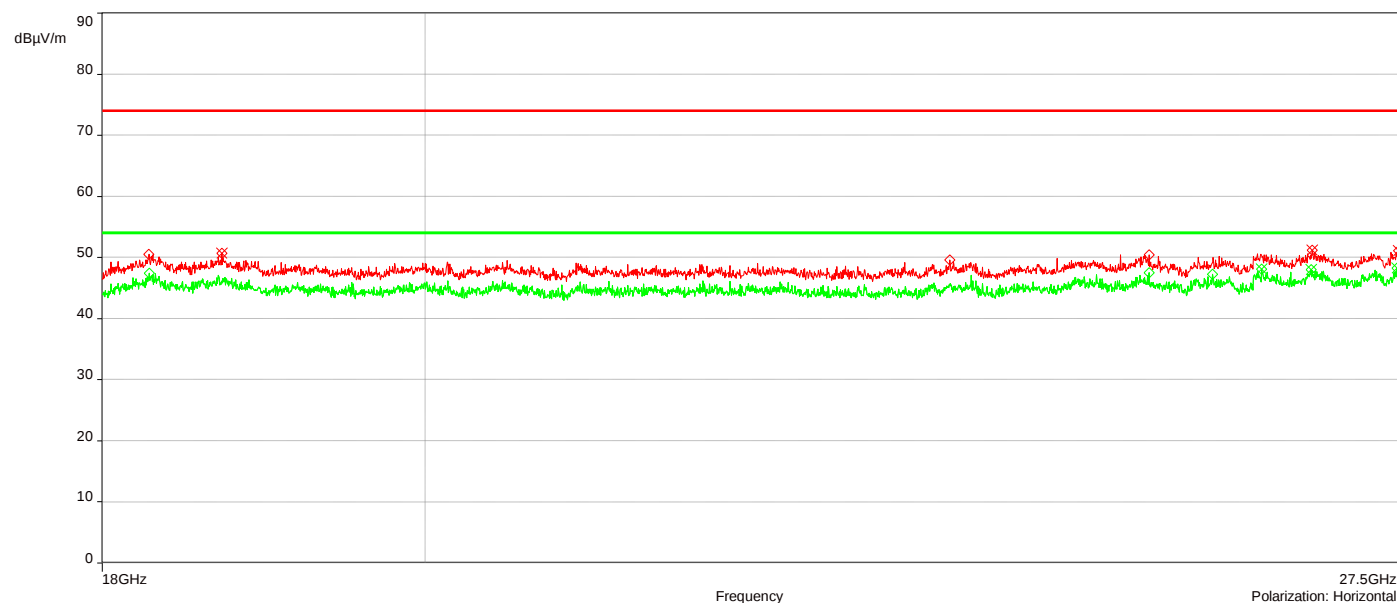
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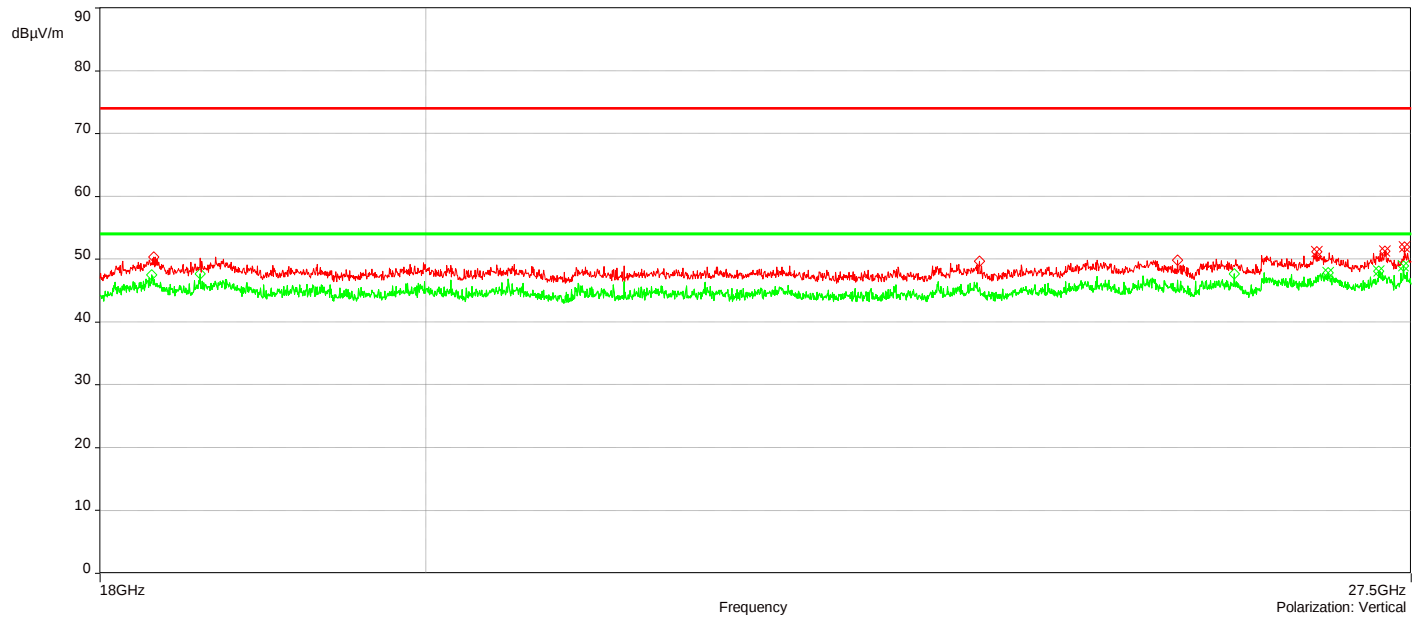
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	26.672034GHz	51.22	2.93	74.00	-22.78	1.46	315.10	Vertical	Passed
2.	27.268188GHz	51.31	2.75	74.00	-22.69	3.97	135.10	Vertical	Passed
3.	27.441097GHz	51.91	3.08	74.00	-22.09	1.28	202.60	Vertical	Passed
4.	18.717761GHz	50.68	0.98	74.00	-23.32	2.40	292.60	Horizontal	Passed
5.	26.711461GHz	51.20	2.91	74.00	-22.80	3.97	247.60	Horizontal	Passed
6.	27.473399GHz	51.09	2.88	74.00	-22.91	2.78	292.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	26.771314GHz	47.87	2.83	54.00	-6.13	4.00	112.70	Vertical	Passed
2.	27.212136GHz	48.09	2.54	54.00	-5.91	2.14	135.10	Vertical	Passed
3.	27.430647GHz	48.93	2.88	54.00	-5.07	2.18	337.40	Vertical	Passed
4.	26.270639GHz	48.14	2.37	54.00	-5.86	1.53	135.10	Horizontal	Passed
5.	26.698635GHz	48.03	2.97	54.00	-5.97	1.23	112.70	Horizontal	Passed
6.	27.456773GHz	48.26	3.11	54.00	-5.74	1.00	157.50	Horizontal	Passed

Overall Graphs:





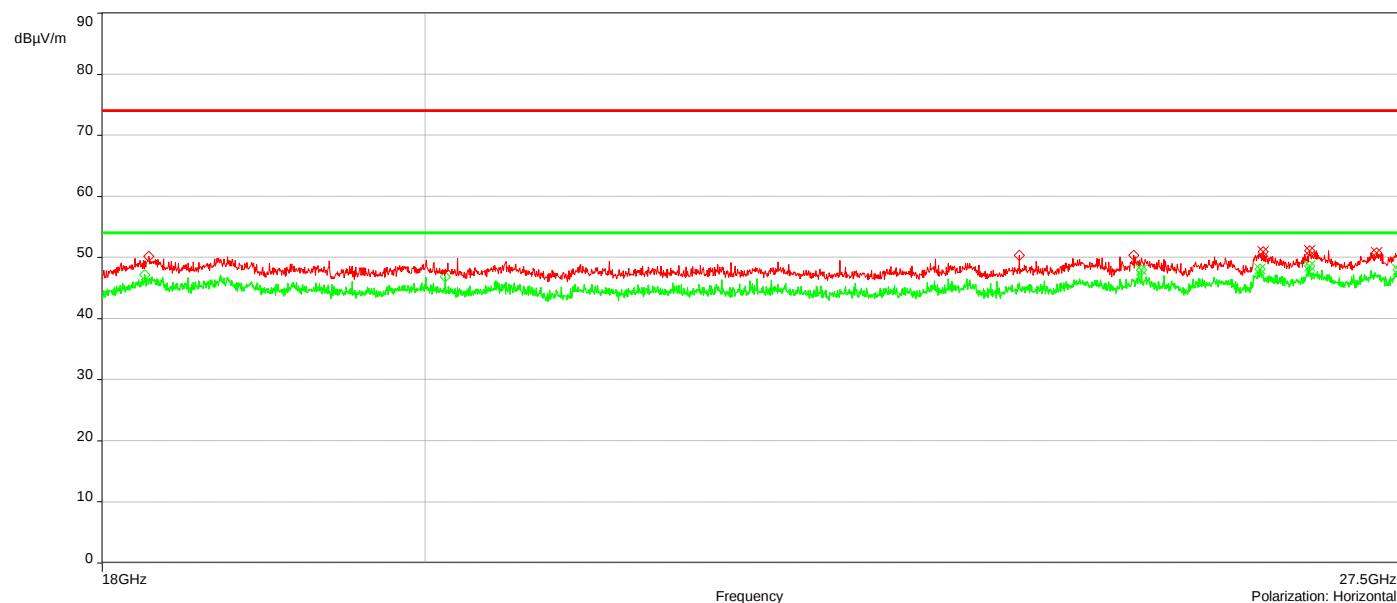
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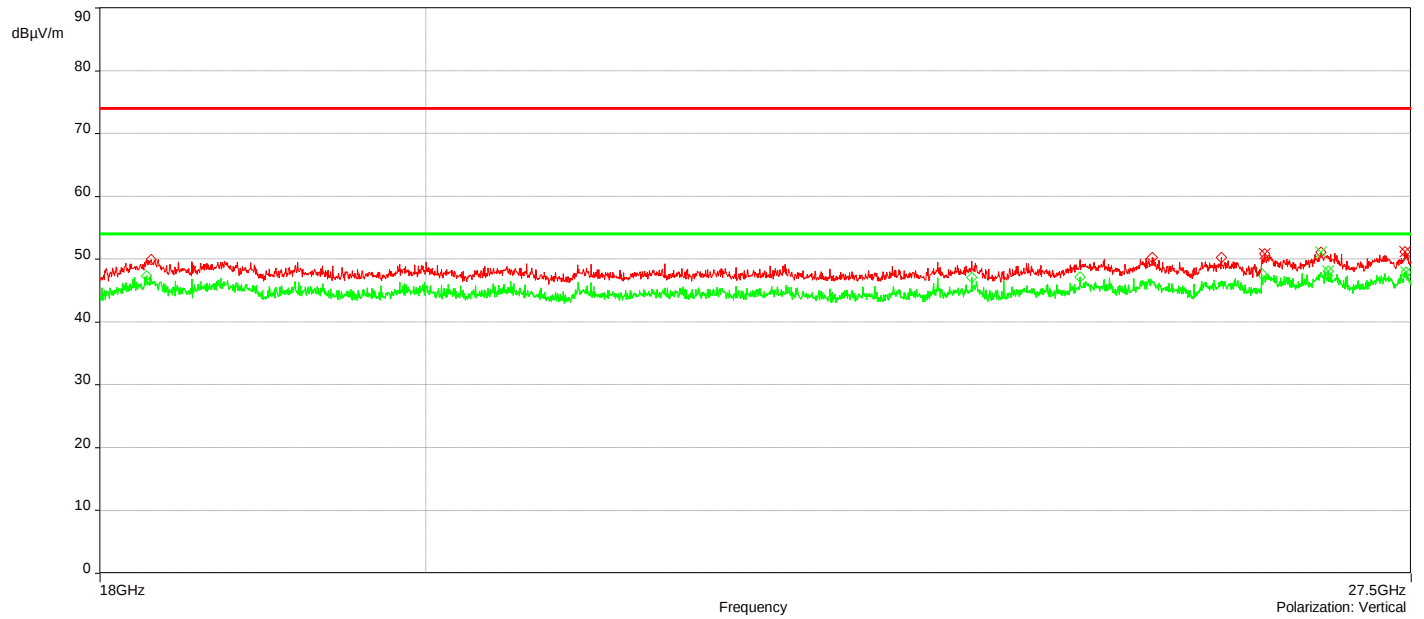
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No	Frequency (MHz)	Level Peak Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	26.226936GHz	50.85	2.37	74.00	-23.15	1.33	202.40	Vertical	Passed
2.	26.709085GHz	51.09	2.95	74.00	-22.91	1.94	0.0	Vertical	Passed
3.	27.442997GHz	51.16	3.11	74.00	-22.84	2.05	269.90	Vertical	Passed
4.	26.286314GHz	50.99	2.31	74.00	-23.01	3.16	134.90	Horizontal	Passed
5.	26.687709GHz	51.11	2.96	74.00	-22.89	1.49	179.90	Horizontal	Passed
6.	27.274839GHz	50.81	2.72	74.00	-23.19	2.54	224.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	26.770364GHz	48.09	2.84	54.00	-5.91	3.97	314.90	Vertical	Passed
2.	27.455823GHz	47.92	3.13	54.00	-6.08	1.33	22.40	Vertical	Passed
3.	25.260738GHz	47.93	2.15	54.00	-6.07	2.34	89.90	Horizontal	Passed
4.	26.256863GHz	48.09	2.40	54.00	-5.91	1.86	314.90	Horizontal	Passed
5.	26.687709GHz	48.59	2.96	54.00	-5.41	1.49	179.90	Horizontal	Passed
6.	27.469123GHz	48.01	2.95	54.00	-5.99	3.02	89.90	Horizontal	Passed

Overall Graphs:





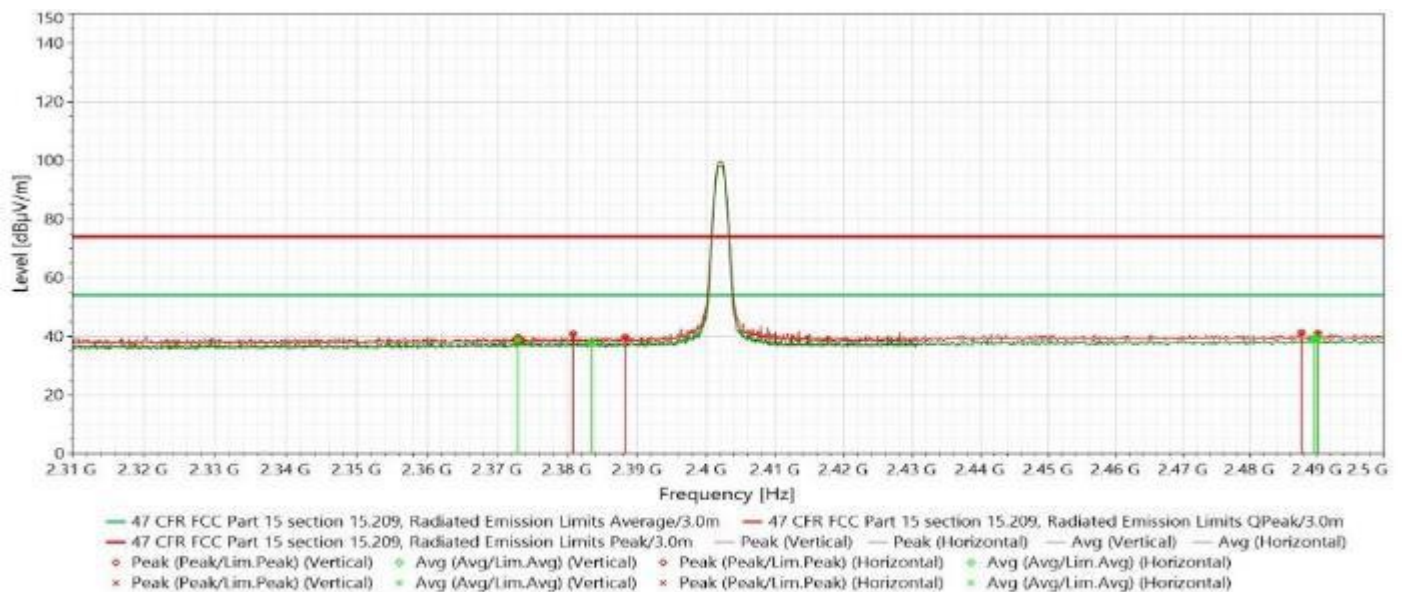
J24185_BT_DH1_Ch 0_Restricted Bandedge

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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.	2.3808104GHz	40.88	-2.62	74.00	-33.12	1.29	89.90	Vertical	Passed
2.	2.4876438GHz	41.28	-1.99	74.00	-32.72	3.17	314.90	Vertical	Passed
3.	2.3883192GHz	39.71	-2.57	74.00	-34.29	2.41	314.90	Horizontal	Passed
4.	2.4901151GHz	41.06	-1.97	74.00	-32.94	1.10	89.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3729215GHz	26.17	-2.68	54.00	-27.83	2.91	44.90	Vertical	Passed
2.	2.4895448GHz	26.97	-1.97	54.00	-27.03	1.00	157.40	Vertical	Passed
3.	2.3834717GHz	26.49	-2.60	54.00	-27.51	1.66	314.90	Horizontal	Passed
4.	2.4901151GHz	27.66	-1.97	54.00	-26.34	1.10	89.90	Horizontal	Passed

Overall Graphs:



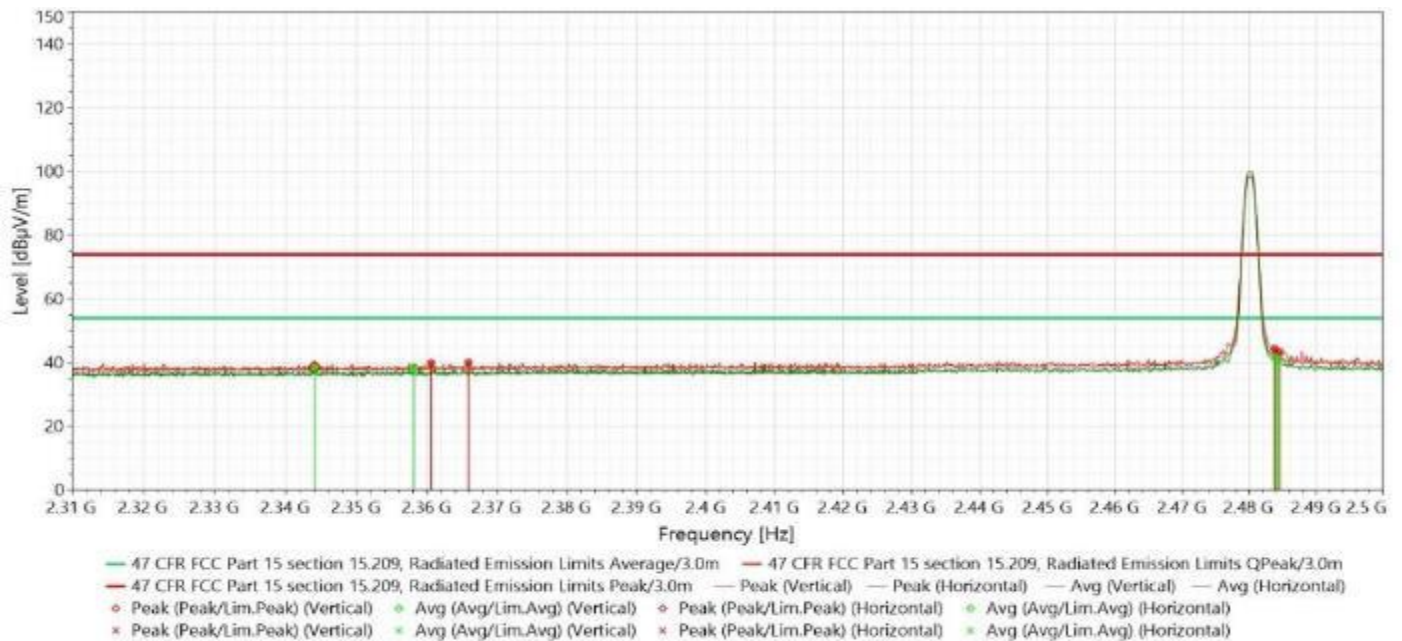
J24185_BT_DH1_Ch 78_Restricted Bandedge

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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.	2.3605653GHz	39.90	-2.78	74.00	-34.10	1.03	44.00	Vertical	Passed
2.	2.4845073GHz	43.41	-2.01	74.00	-30.59	1.48	21.70	Vertical	Passed
3.	2.3658879GHz	40.08	-2.75	74.00	-33.92	3.14	134.20	Horizontal	Passed
4.	2.4837469GHz	44.38	-2.02	74.00	-29.62	1.03	336.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.344027GHz	25.72	-2.88	54.00	-28.28	1.48	21.70	Vertical	Passed
2.	2.4842221GHz	30.45	-2.01	54.00	-23.55	1.12	359.90	Vertical	Passed
3.	2.358094GHz	25.66	-2.87	54.00	-28.34	1.47	224.20	Horizontal	Passed
4.	2.483937GHz	31.44	-2.02	54.00	-22.56	1.03	336.60	Horizontal	Passed

Overall Graphs:



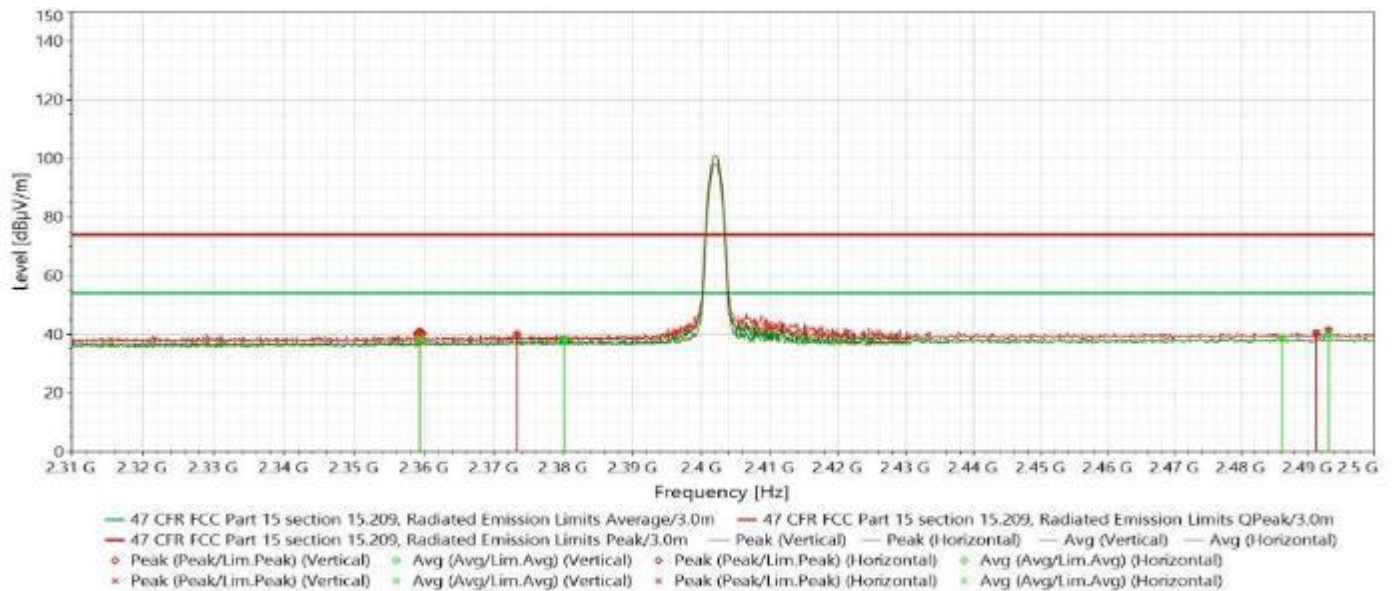
J24185_BT_3-DH1_Ch 0_Restricted Bandedge

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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.	2.3593297GHz	40.31	-2.79	74.00	-33.69	1.21	156.60	Vertical	Passed
2.	2.4931566GHz	41.48	-1.98	74.00	-32.52	2.10	314.10	Vertical	Passed
3.	2.3733017GHz	40.13	-2.65	74.00	-33.87	1.68	179.00	Horizontal	Passed
4.	2.4912556GHz	40.42	-1.98	74.00	-33.58	2.46	66.50	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3593297GHz	26	-2.79	54.00	-28	1.21	156.60	Vertical	Passed
2.	2.4931566GHz	26.98	-1.98	54.00	-27.02	2.10	314.10	Vertical	Passed
3.	2.3801451GHz	26.79	-2.62	54.00	-27.21	3.07	201.70	Horizontal	Passed
4.	2.4861231GHz	26.82	-2.00	54.00	-27.18	2.77	359.90	Horizontal	Passed

Overall Graphs:



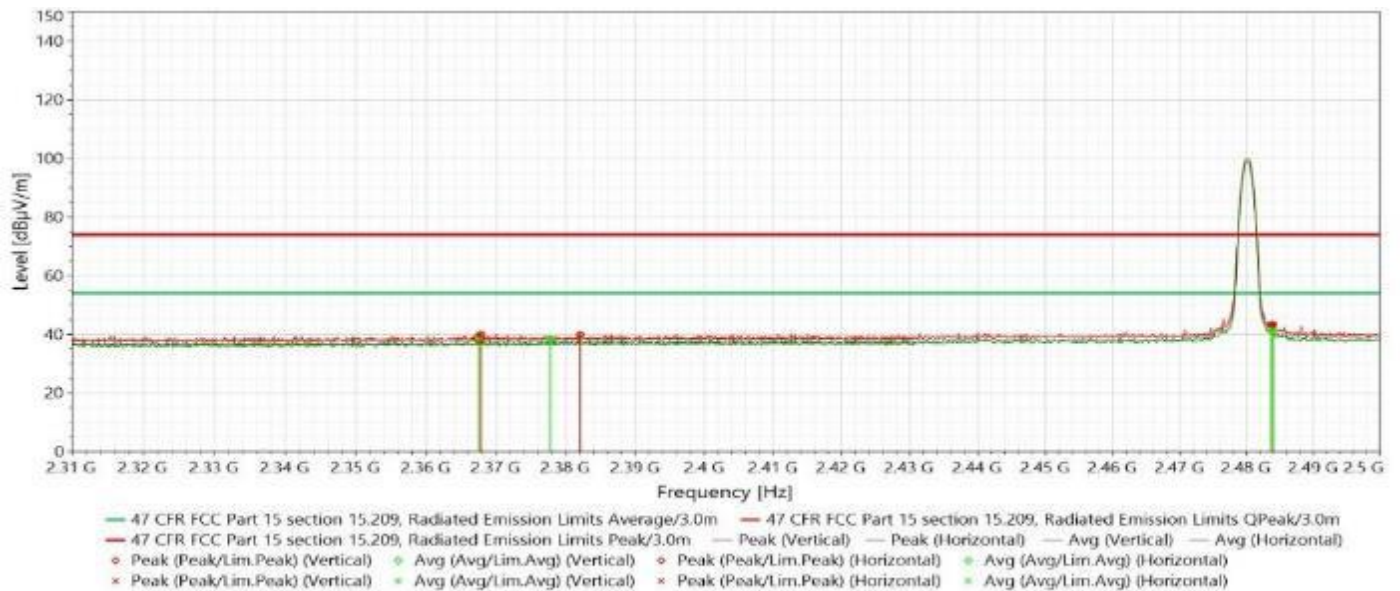
J24185_BT_3-DH1_Ch 78_Restricted Bandedge

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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.	2.382046GHz	39.93	-2.61	74.00	-34.07	3.36	269.10	Vertical	Passed
2.	2.4836518GHz	43.33	-2.02	74.00	-30.67	1.49	21.50	Vertical	Passed
3.	2.3677889GHz	40.06	-2.72	74.00	-33.94	1.00	44.20	Horizontal	Passed
4.	2.483937GHz	43.36	-2.02	74.00	-30.64	1.38	336.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBμV/m)	Correction Factor (dB)	Limit dBμV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.3675038GHz	26.13	-2.73	54.00	-27.87	1.02	179.10	Vertical	Passed
2.	2.4836518GHz	29.75	-2.02	54.00	-24.25	1.49	21.50	Vertical	Passed
3.	2.3777689GHz	26.55	-2.62	54.00	-27.45	1.02	156.50	Horizontal	Passed
4.	2.483937GHz	29.83	-2.02	54.00	-24.17	1.38	336.60	Horizontal	Passed

Overall Graphs:



Document Revisions

Version	Date	Modifier	Changes
1.0	02/28/2025	Aravind Buddana	Initial Release
2.0	04/22/2025	Aravind Buddana	- Updated Section 1 with correct RSS Issue version. - Updated Section 4.3 Test Equipment used table with Attenuator Information. - Updated Section 4.4.7.2 Test Data and plots with correct RBW as per RSS-GEN Section 6.7

End of Report