HCT CO.,LTD.
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EVALUATION REPORT

Applicant Name:
SAMSUNG Electronics Co., Ltd.

Address:
129, Samsung-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:
January 19, 2022
Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

FCC ID:	**A3LSMA536U**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Equipment Class(es) :	DSS, DTS, NII, DXX
Rule Part(s) :	15
Application's Statement :	The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID.
Differences Brief Description :	Hardware and software of this device are identical to the implementation in A3LSMA536V The operational description includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.
Test Reference :	KDB 484596 D01 Reference Test Data v01

The detail test data can be found in this documents, Appendix A.

Category	Spot Check	Verdict
Unlicensed EMC	Band Edge	Share
	Spurious Emissions	Share

Reference Detail Section

Reference FCC ID	Equipment Class	Report Title	Section
A3LSMA536V	DSS	Bluetooth Report	All sections
	DTS	DTS Report	All sections
		BT LE Report	All sections
	NII	UNII Test Report	All sections
	DXX	NFC Report	All sections

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Report prepared by : Woong Jin Kim

Engineer of Telecommunication testing center

Approved by : Jong Seok Lee

Manager of Telecommunication testing center

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	January 19, 2022	Initial Release

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Appendix A. The Spot check test data

1. Summary of the spot check for Unlicensed EMC

Mod	Test Item	Mod / Channel	Measured Frequency [MHz]	SM-A536V Result [dBµV/m]		SM-A536U Result [dBµV/m]		Deviation (dB)	
				Average	Peak	Average	Peak	Average	Peak
BT	Band Edge	3DH 5 / ch 78	2483.5 MHz ~ 2500 MHz	23.67	68.53	23.82	67.74	-0.15	0.79
	RSE	DH 5 / ch 78	7440 MHz	21.55	54.65	21.47	55.26	0.08	-0.61
BT LE	Band Edge	2M_37 Bytes / ch 39	2483.5 MHz ~ 2484.5 MHz	50.07	59.99	49.52	59.76	0.55	0.23
			2484.5 MHz	49.09	64.17	48.98	64.17	0.11	0.00
	RSE	2M_37 Bytes / ch 0	7206 MHz	45.93	54.19	46.04	54.06	-0.11	0.13
WLAN	DTS BE	802.11n / ch11	2483.5 MHz	-	71.59	-	70.65	-	0.94
			2483.5 MHz ~ 2484.5 MHz	50.85	-	50.89	-	-0.04	-
			2484.5 MHz	50.61	-	51.30	-	-0.69	-
	DTS RSE	802.11b / ch11 / 3rd	7386 MHz	50.41	57.09	50.20	57.71	0.21	-0.62
	UNII BE	802.11ac80 / ch58	5350 MHz ~ 5460 MHz	51.61	65.42	50.71	63.34	0.90	2.08
	UNII RSE	802.11a / ch64 / 2nd	10640 MHz	41.60	54.90	40.33	53.74	1.27	1.16
NFC		Fundamental	13.56 MHz	11.74		11.69		0.05	
		RSE	30MHz ~ 1GHz	28.72		29.33		-0.61	

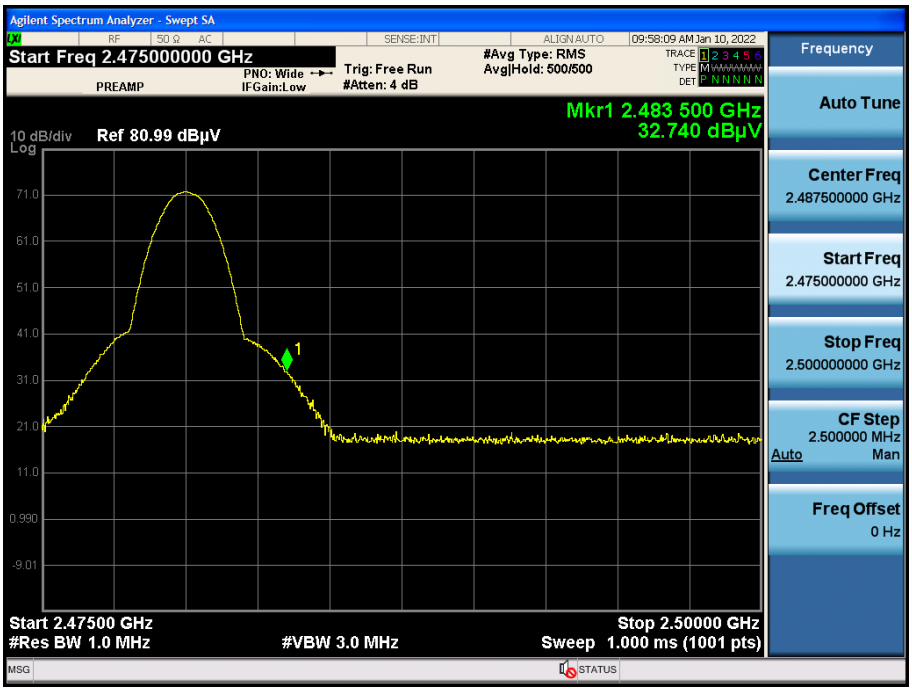
2. Test Plot

BT Band Edge (3-DH5 /ch.78)

Bandedge

Frequency [MHz]	Measured Value [dBµV]	A.F.+C.L [dB/m]	Pol. [H/V]	Duty Cycle Correction [dB]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2483.5	32.740	35.00	H	0	67.74	73.98	6.24	PK
2483.5	13.552	35.00	H	-24.73	23.82	53.98	30.16	AV

[Radiated Restricted Band Edges plot- Peak Result]



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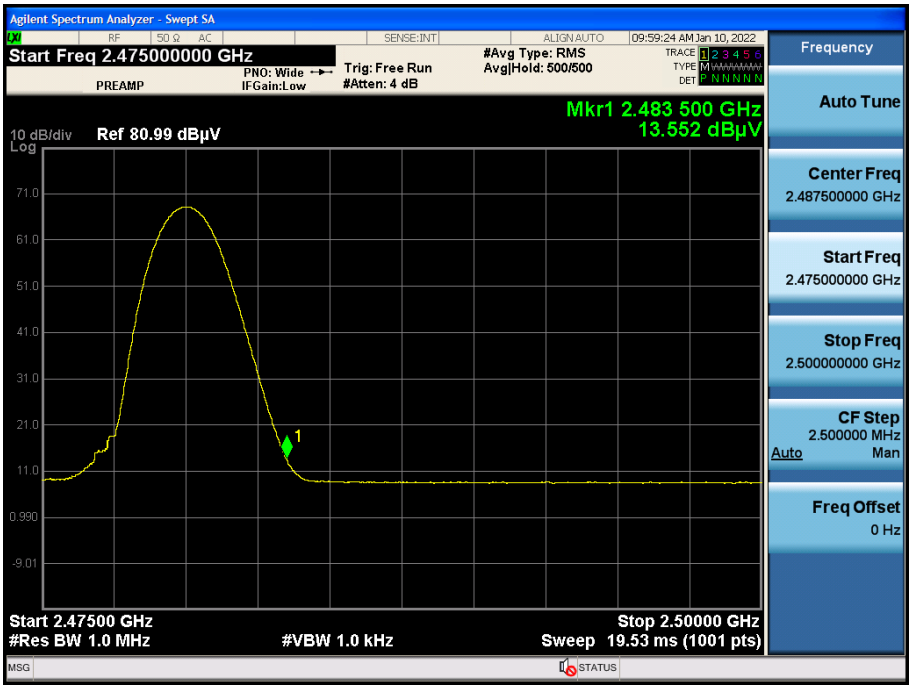
[Radiated Restricted Band Edges plot- Average Result]

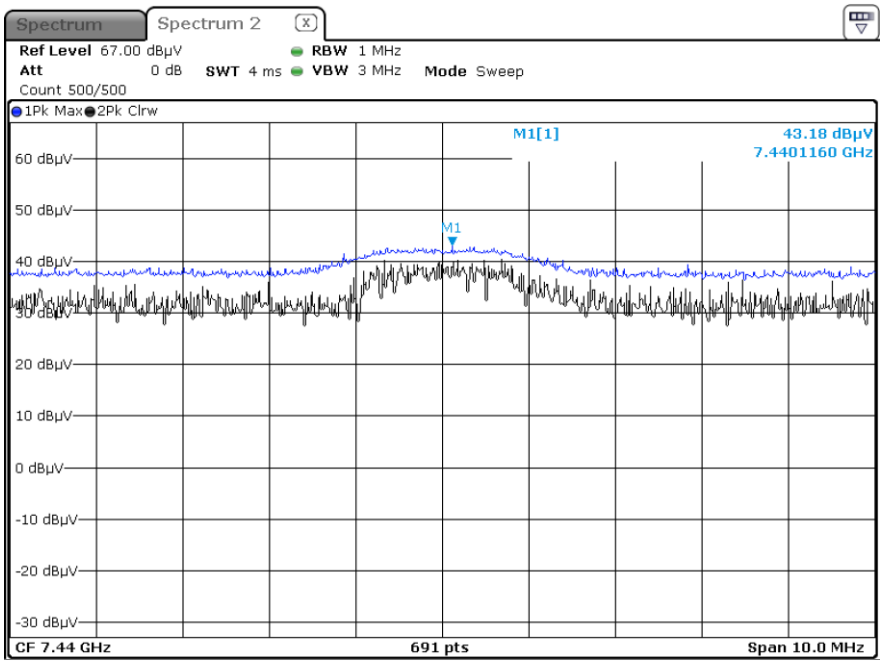


BT R.S.E 3rd Harmonic(DH5/ch.78)

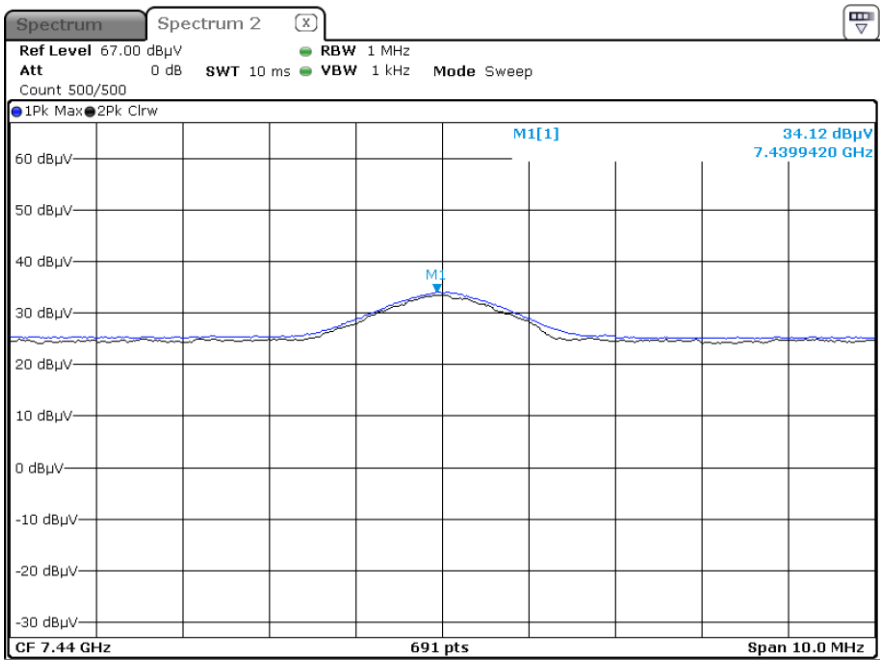
RSE

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-AMP G [dB/m]	Pol. [H/V]	Duty Cycle Correction [dB]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
7440	43.18	12.08	H	0	55.26	73.98	18.72	PK
7440	34.12	12.08	H	-24.73	21.47	53.98	32.51	AV

[Radiated Spurious Emissions plot – Peak Result]



[Radiated Spurious Emissions plot – Average Result]



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DTS Band Edge (802.11n_20 MHz BW 6.5 Mbps_ch11)

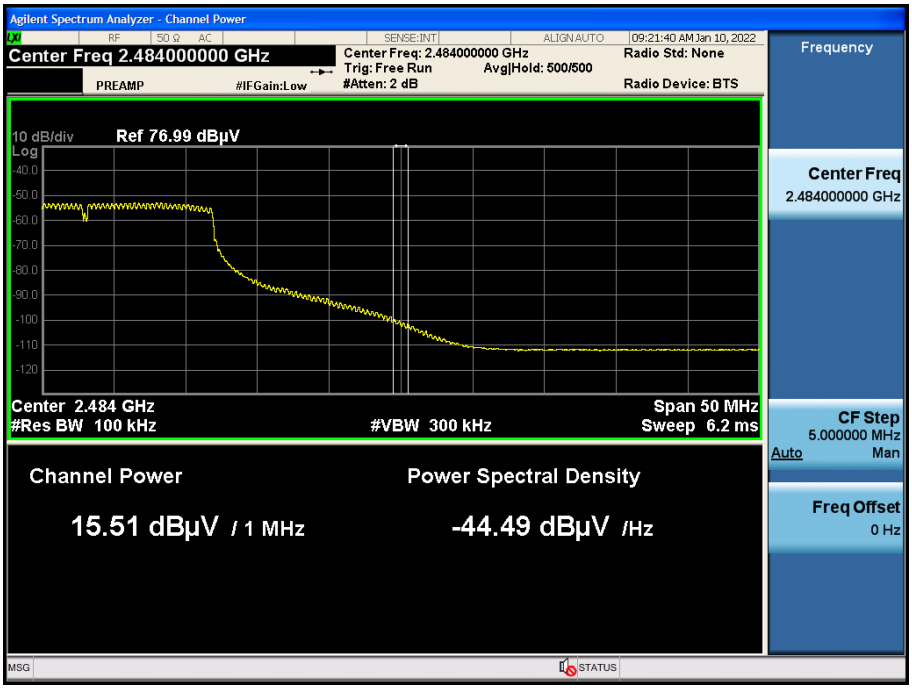
Bandedge

Frequency [MHz]	Measured Value [dBµV]	Duty Cycle Factor[dB]	A.F.+C.L [dB/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
2483.5	35.646	0.000	35.00	H	70.65	73.98	3.33	PK
# 2483.5~2484.5	15.51	0.379	35.00	H	50.89	53.98	3.09	AV
2484.5	15.922	0.379	35.00	H	51.30	53.98	2.68	AV

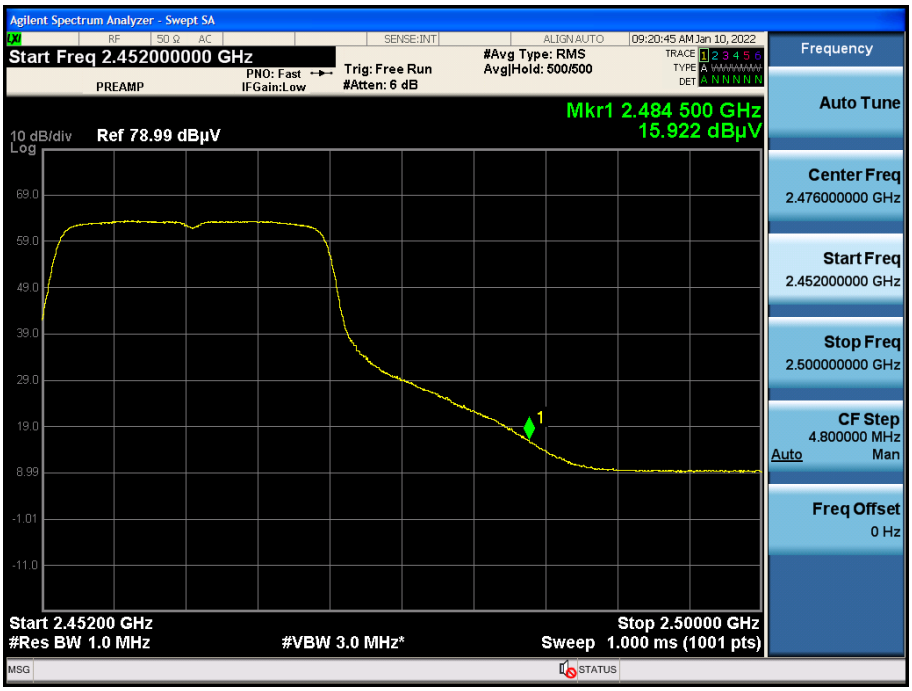
integration method Used

[Radiated Restricted Band Edges plot – Peak Result_2483.5 ~2500 MHz]

[Radiated Restricted Band Edges plot – Average Result(# 2483.5 ~ 2484.5 MHz)]



[Radiated Restricted Band Edges plot – Average Result(2484.5 ~ 2500 MHz)]



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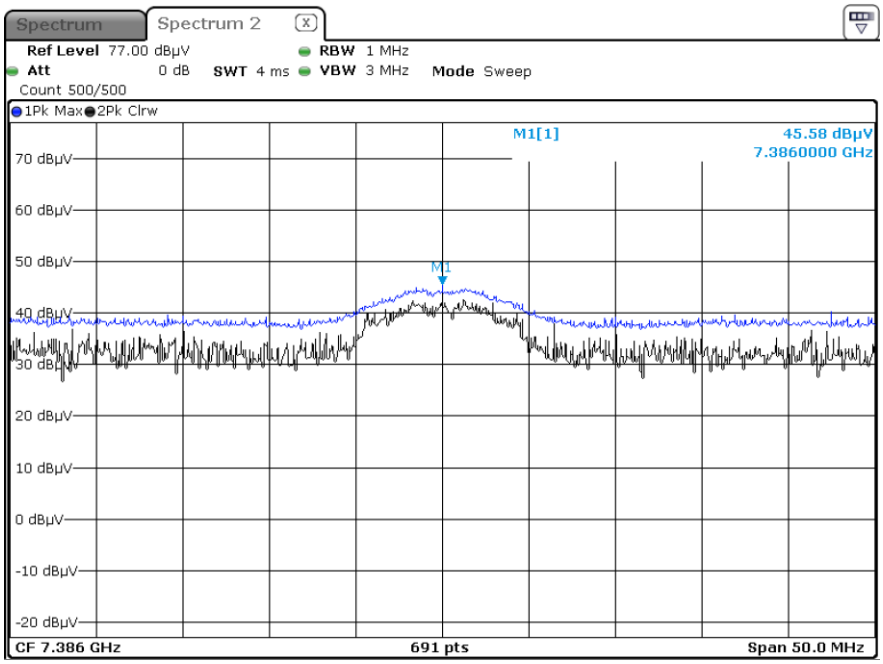
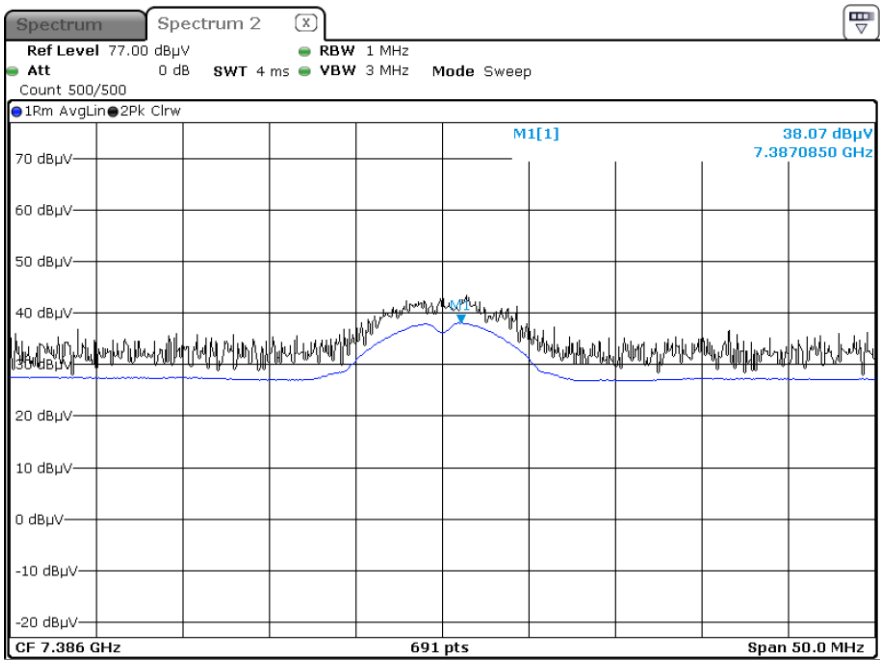
DTS R.S.E 3rd Harmonic(802.11b 1 Mbps Ch.11)

Frequency [MHz]	Measured Value [dBµV]	A.F+C.L-AMP G [dB/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
7386	45.58	12.13	V	57.71	73.98	16.27	PK
7386	38.07	12.13	V	50.20	53.98	3.78	AV

[Radiated Spurious Emissions plot – Peak Result]



[Radiated Spurious Emissions plot – Average Result]



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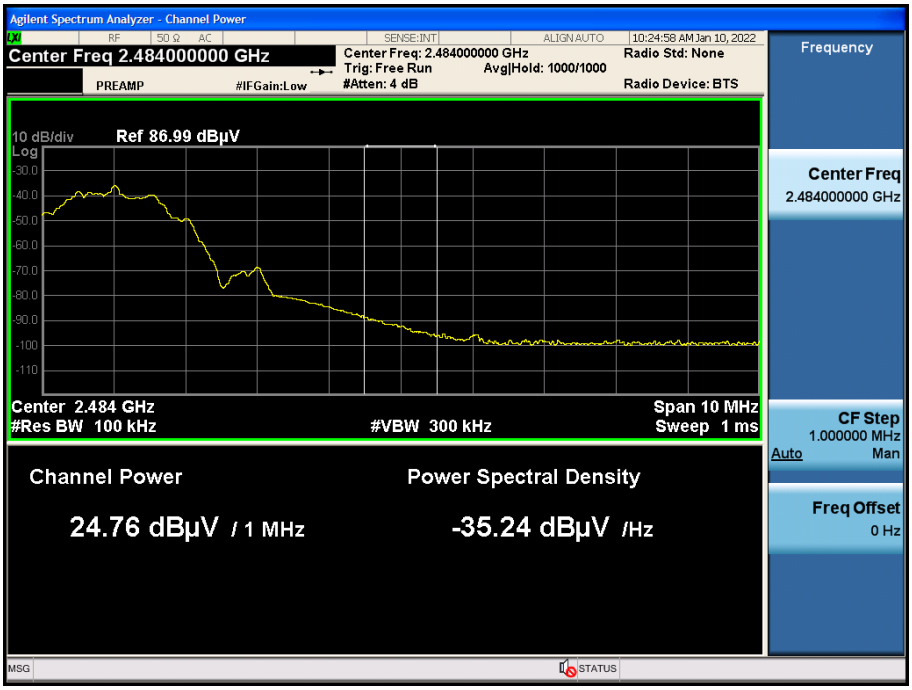
BT(LE) Band Edge (LE(5.1) 2M 37 byte/ch.39)

Bandedge

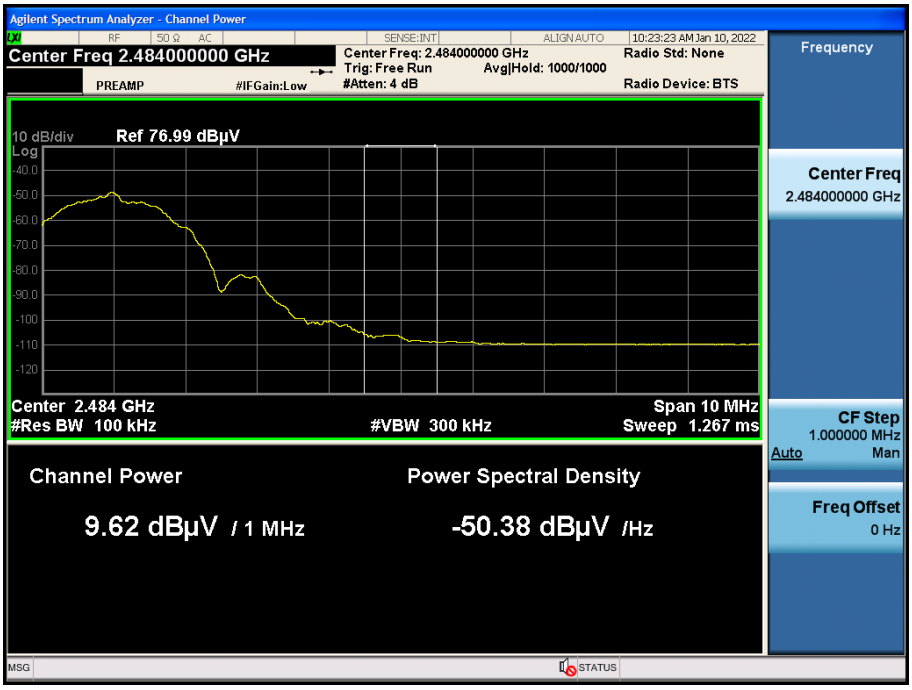
Frequency [MHz]	Measured Value [dBµV]	Duty Cycle Factor[dB]	A.F.+C.L [dB/m/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
# 2483.5~2484.5	24.76	0.00	35.00	H	59.76	73.98	14.22	PK
# 2483.5~2484.5	9.62	4.90	35.00	H	49.52	53.98	4.46	AV
2484.5	29.166	0.00	35.00	H	64.17	73.98	9.81	PK
2484.5	9.084	4.90	35.00	H	48.98	53.98	5.00	AV

integration method Used

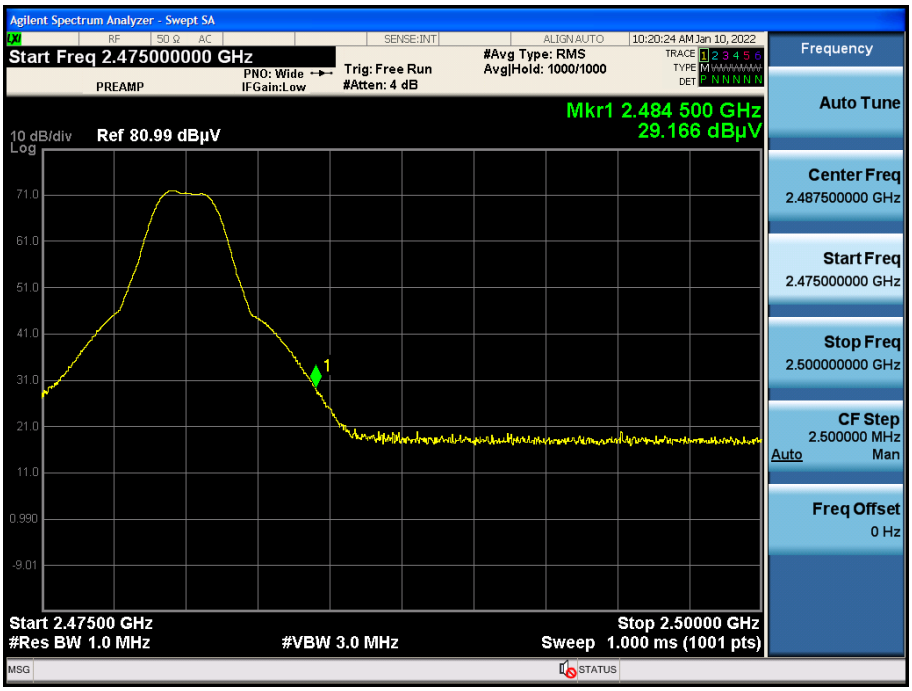
[Radiated Restricted Band Edges plot – Peak Result(#2483.5 ~ 2484.5 MHz)]



[Radiated Restricted Band Edges plot – Average Result(#2483.5 ~ 2484.5 MHz)]



[Radiated Restricted Band Edges plot – Peak Result(2484.5 MHz)]



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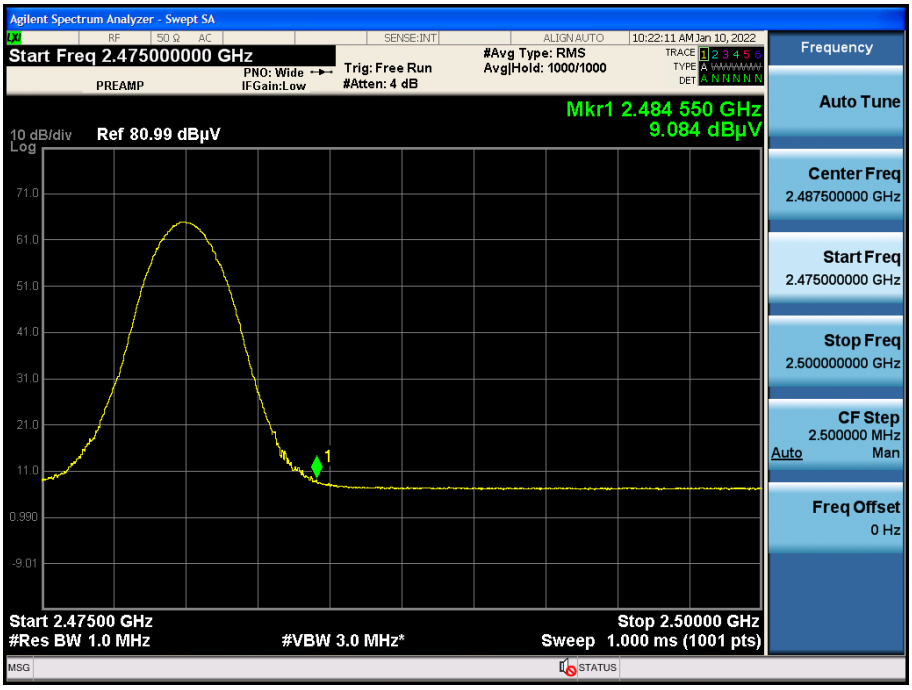
[Radiated Restricted Band Edges plot – Average Result(2484.5 MHz)]



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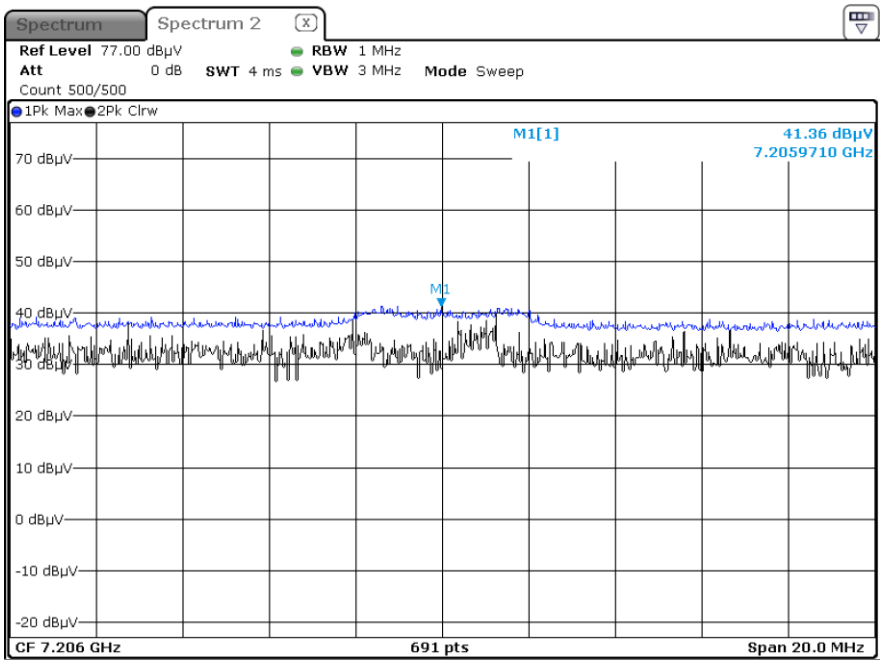
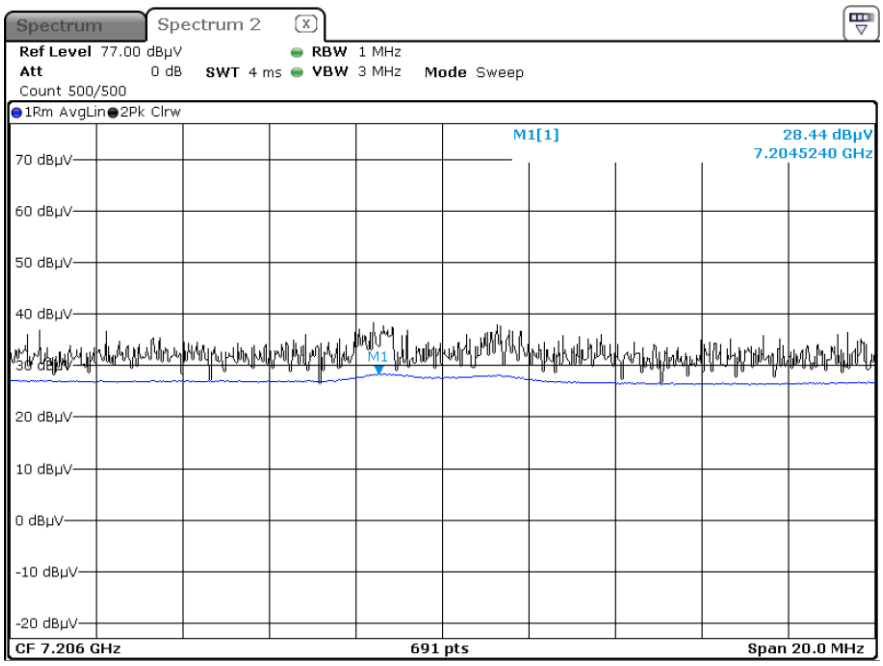
BT(LE) R.S.E 3rd Harmonic (LE(5.1) 2M 37 byte/ch.0)

Frequency [MHz]	Measured Value [dBµV]	Duty Cycle Factor[dB]	A.F.+C.L [dB/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
7206	41.36	0.00	12.70	H	54.06	73.98	19.92	PK
7206	28.44	4.90	12.70	H	46.04	53.98	7.94	AV

[Radiated Spurious Emissions plot – Peak Result]



[Radiated Spurious Emissions plot – Average Result]



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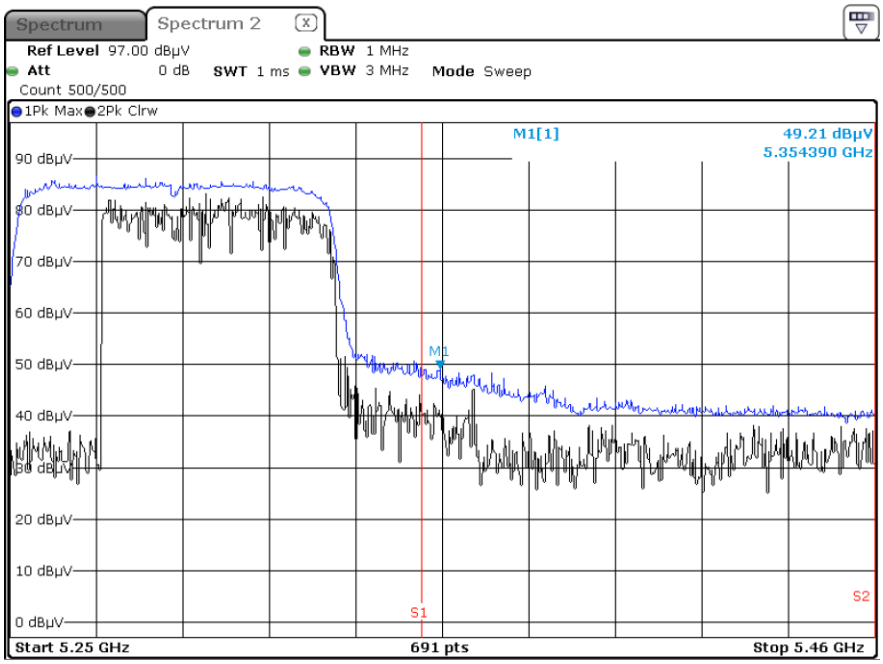
U-NII Band Edge (802.11ac_80 MHz BW MCS0_ch58)

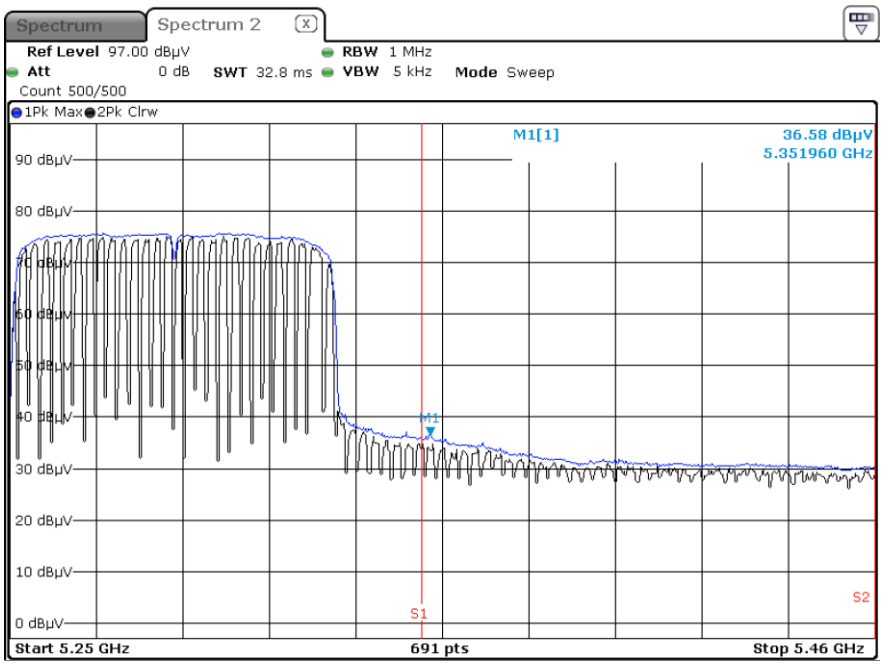
Bandedge

Frequency [MHz]	Measured Value [dBµV]	C.L+A.F+D.F-A.G [dB/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
5350	49.21	14.13	H	63.34	73.98	10.64	PK
5350	36.58	14.13	H	50.71	53.98	3.27	AV

Radiated Restricted Band Edges plot – Peak Result



Radiated Restricted Band Edges plot – Average Result



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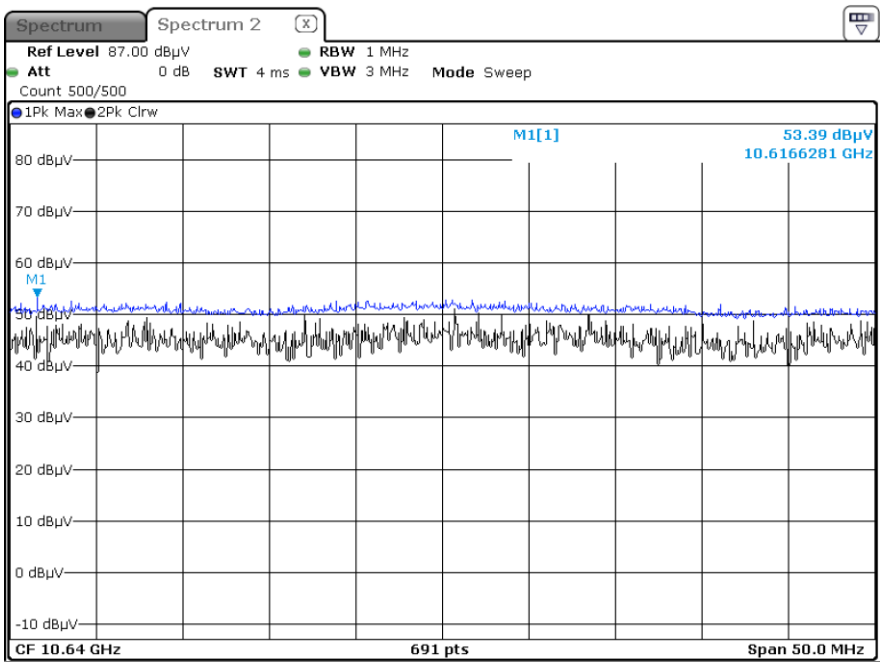
U-NII R.S.E 2nd Harmonic (802.11a 6 Mbps_ch64)

RSE

Frequency [MHz]	Measured Value [dBµV]	C.L+A.F+D.F-A.G [dB/m]	Pol. [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
10 640	53.39	0.35	V	53.74	73.98	20.24	PK
10 640	39.98	0.35	V	40.33	53.98	13.65	AV

[Radiated Spurious Emissions plot – Peak Result]



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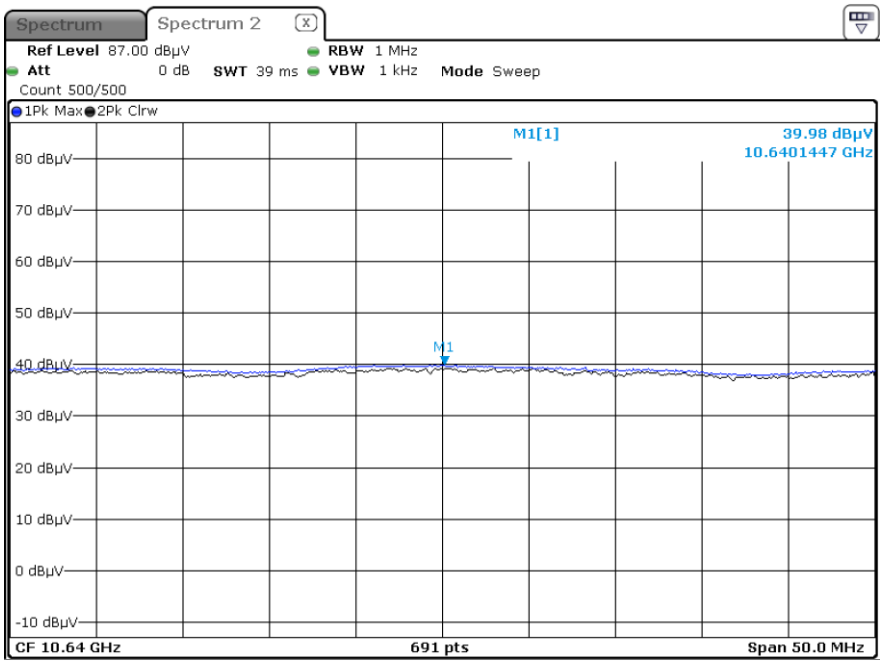
[Radiated Spurious Emissions plot – Average Result]



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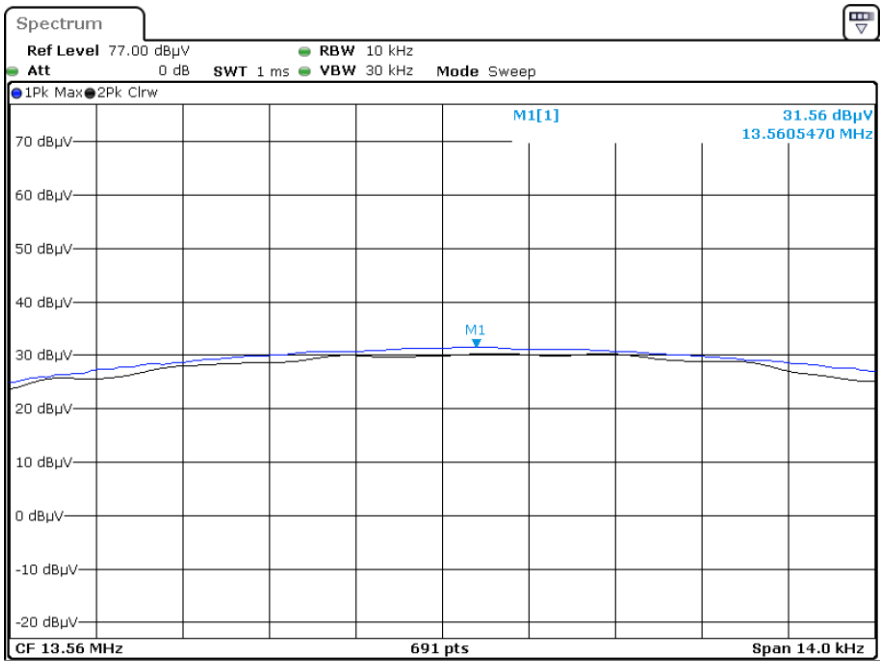
NFC Fundamental

Frequency (MHz)	Measured Leve (dBµV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBµV/m)@30m	Limit (dBµV/m)@30m	Margin (dB)
13.56	31.56	20.13	-40	11.69	84	72.31

[plot]



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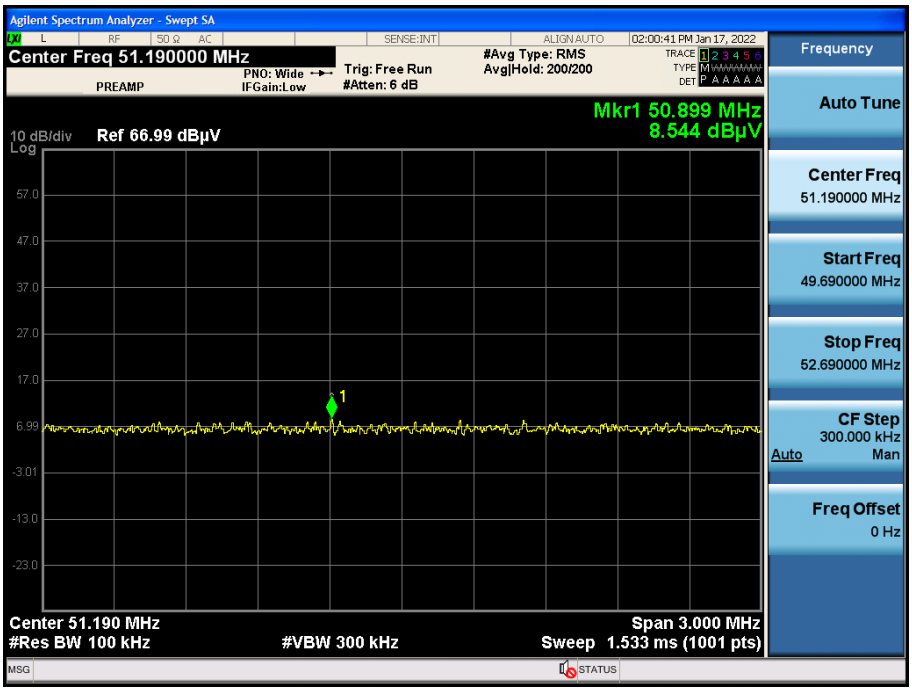
NFC R.S.E Harmonic

RSE

Frequency [MHz]	Measured Value [dBµV]	Ant. factor [dB /m]	Cable loss [dB]	Ant. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]
50.899	8.544	20.23	0.56	H	29.33	40	10.666

[Radiated Spurious Emissions plot]



3. List of test equipment

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller(Antenna mast)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	N/A	N/A	N/A
Controller	EM1000	Audix	060520	N/A	N/A
Turn Table	N/A	Audix	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/19/2022	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/22/2023	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	02299	05/19/2022	Biennial
Horn Antenna (15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170541	11/16/2023	Biennial
Spectrum Analyzer	FSV40-N	Rohde & Schwarz	102168	07/05/2022	Annual
Bluetooth Tester	TC-3000B	TESCOM	3000B670110	12/16/2022	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	01/11/2023	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/24/2022	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/24/2022	Annual
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	01/06/2023	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	02/08/2022	Annual
High Pass Filter	WHK3.0/18G-10EF	Wainwright Instruments	8	02/03/2022	Annual
High Pass Filter	WHKX8-6090-7000-18000-40SS	Wainwright Instruments	25	02/03/2022	Annual
Attenuator (3 dB)	18B-03	Api tech.	1	02/03/2022	Annual
Attenuator(10 dB)	8493C-10	Agilent	08285	02/03/2022	Annual
Power Amplifier	CBLU1183540	CERNEX	22964	02/03/2022	Annual
Power Amplifier	CBL06185030	CERNEX	22965	02/03/2022	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/02/2022	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/23/2022	Annual