

Shenzhen Ronghui Technology Co., LTD.

RF TEST REPORT

Report Type:

FCC Part 95 RF report

Model:

RH-MSR-GF01/704AAR

REPORT NUMBER:

2401B1484SHA-001

ISSUE DATE:

April 12, 2024

DOCUMENT CONTROL NUMBER:

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Manufacturer: Shenzhen Ronghui Technology Co., LTD.
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Manufacturing site: Shanghai Baolong Automotive (Anhui) Co. Ltd.
No.1588 Tiandu Road, Hefei Economic Development Zone, Anhui
Province, P.R.China

Product Name: Millimeter wave radar

Type/Model: RH-MSR-GF01/704AAR

FCC ID: 2BE8F-SZRHMSRGF01

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 95 (2021): FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 95 – Personal Radio Services

ANSI C63.26 (2015): American National Standard of Procedures for Compliance Testing of Transmitters Used in Licensed Radio Services

47CFR Part 2 (2021): Frequency allocations and radio treaty matters; general rules and regulations

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Revision History

Report No.	Version	Description	Issued Date
2401B1484SHA-001	Rev. 01	Initial issue of report	April 12, 2024

Measurement result summary

TEST ITEM	FCC REFERENCE	RESULT
Radiated Power	§ 95.3367 (a); § 95.3367 (b)	Pass
Occupied Bandwidth	§ 2.202 (a); § 2.1049	Pass
Spurious Radiated Emissions	§ 95.3379 (a)	Pass
Frequency Stability	§95.3379 (b)	Pass

Notes: 1: NA =Not Applicable

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Millimeter wave radar
Type/Model:	RH-MSR-GF01/704AAR
Description of EUT:	The EUT is a Millimeter wave radar, it has only one model.
Rating:	DC 9-16V
Highest operating frequency:	<77GHz
Category of EUT:	Class B
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	00.00.01
Hardware Version:	HW0.7.0.0
Sample received date:	January 3, 2024
Date of test:	January 3, 2024~ April 10, 2024

1.2 Technical Specification

Frequency Range:	76000MHz ~ 77000MHz
Type of Modulation:	FMCW
Modulation waveform:	Sawtooth wave
Total bandwidth:	430MHz
Sweep slope (rise):	1.54e13Hz/s
Scanning time (rise):	28us
Scanning time (decrease):	4us
Channel Number:	1
Antenna Information:	Integrated antenna

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252
	NVLAP Accreditation Lab NVLAP LAB CODE: 200849-0
	A2LA Accreditation Lab Certificate Number: 3309.02

Above 40G unwanted emissions was subcontract:

Name:	JiangSu ELECTRONIC Information PRODUCTS Quanlity Su
Address:	No.100 Jinshui Road, Binhu District, WuXi, Jiangsu, P.R.China
Telephone:	86 0510 85105775
Telefax:	86 0510 85104572

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0262
	FCC Accredited Lab Designation Number: CN1380

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 95 (2021)
 47CFR Part 2 (2021)
 ANSI C63.26 (2015)
 KDB 653005 D01

2.2 Mode of operation during the test

The channel was tested as representatives.

Frequency Band (MHz)				76000 ~ 77000			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	76500	-	-	-	-	-	-

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	ESxS-K1	R&S	V2.1.0
Radiated emission	ES-K1	R&S	V1.71

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
-	-	-	-

2.5 Test environment condition:

Test items	Temperature	Humidity
Radiated Power	23°C	52% RH
Occupied bandwidth		
Spurious Radiated Emissions	22°C	55% RH
Frequency Stability	22°C	55% RH

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2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input type="checkbox"/>	Test Receiver	R&S	ESR7	EC 6194	2025-02-27
<input type="checkbox"/>	A.M.N.	R&S	ESH2-Z5	EC 3119	2024-11-19
<input type="checkbox"/>	A.M.N.	R&S	ENV4200	EC 3558	2024-06-05
<input type="checkbox"/>	Attenuator	Hua Xiang	Ts5-10db-6g	EC 6194-1	2024-12-07
<input type="checkbox"/>	Shielded room	Zhongyu	-	EC 2838	2025-01-11
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESIB 26	EC 3045	2024-08-22
<input checked="" type="checkbox"/>	PXA Signal Analyzer	R&S	ESR	EC6501	2024-09-24
<input checked="" type="checkbox"/>	Bilog Antenna	TESEQ	CBL 6112B	EC 6411	2024-09-12
<input type="checkbox"/>	Pre-amplifier	R&S	AFS42-00101800-25-S-42	EC 5262	2024-06-15
<input checked="" type="checkbox"/>	Pre-amplifier	Tonscend	tap01018050	EC 6432-1	2024-12-07
<input checked="" type="checkbox"/>	Horn antenna	Tonscend	bha9120d	EC 6432-2	2025-02-16
<input checked="" type="checkbox"/>	Horn antenna	ETS	3116c	EC 5955	2024-07-22
<input checked="" type="checkbox"/>	Horn antenna	Vdi	M12RH	EC6382	2025-03-12
<input checked="" type="checkbox"/>	Horn antenna	Vdi	M15RH	EC6381	2025-03-12
<input checked="" type="checkbox"/>	Horn antenna	Vdi	M19RH	EC6529	2025-03-09
<input checked="" type="checkbox"/>	Horn antenna	Vdi	M5RH	EC6384	2025-03-28
<input checked="" type="checkbox"/>	Horn antenna	Mol	M15RH	EC6383	2024-07-08
<input checked="" type="checkbox"/>	Semi-anechoic chamber	Albatross project	-	EC 3048	2024-07-08
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Therom-Hygrograph	Testo	175h1	EC 6640	2024-08-28
<input checked="" type="checkbox"/>	Pressure meter	YM3	Shanghai Mengde	EC 3320	2024-08-16

2.7 Measurement uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Measurement uncertainty
Maximum peak output power	$\pm 0.74\text{dB}$
Radiated Emissions in restricted frequency bands below 1GHz	$\pm 4.90\text{dB}$
Radiated Emissions in restricted frequency bands above 1GHz	$\pm 5.02\text{dB}$
Emission outside the frequency band	$\pm 2.89\text{dB}$

3 Radiated Power

Test result: Pass

3.1 Limit

The fundamental radiated emission limits within the 76-81 GHz band are expressed in terms of Equivalent Isotropically Radiated Power (EIRP) and are as shown below.

Frequencies (GHz)	Limit (EIRP)
76.0 - 81.0 GHz	50 dBm (Average)
	55 dBm/MHz (PEAK)

The radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified showed as below:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

3.2 Measurement Procedure

For Radiated emission below 30MHz:

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) Both X and Y axes of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

TEST REPORT**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

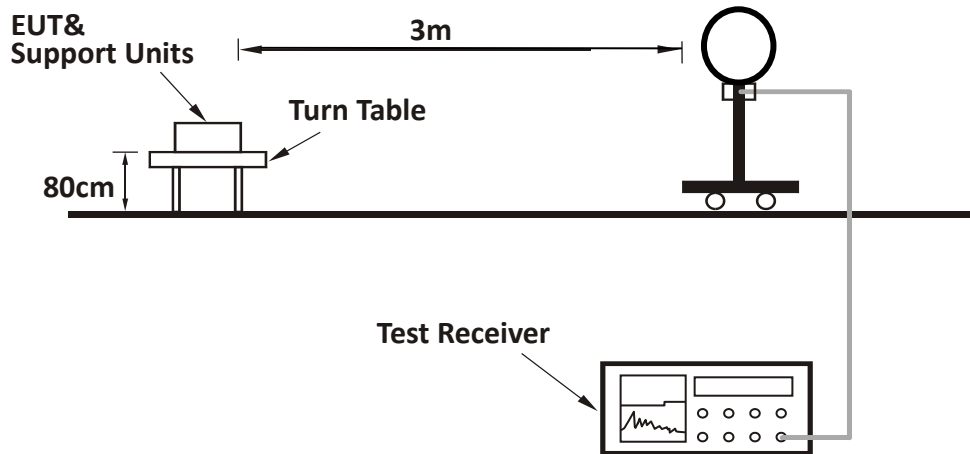
- a) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 or 1 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

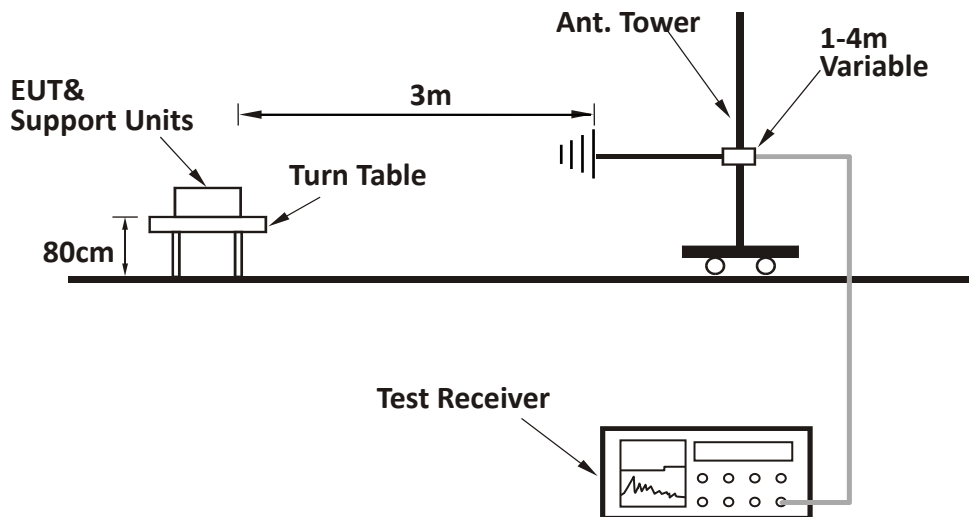
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or $3 \times \text{RBW}$ (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported

3.3 Test Configuration

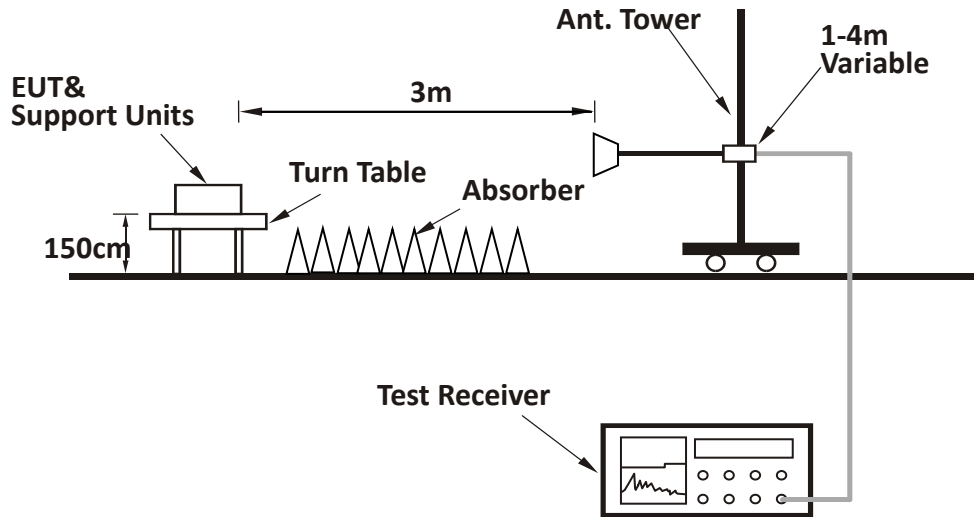
For Radiated emission below 30MHz:



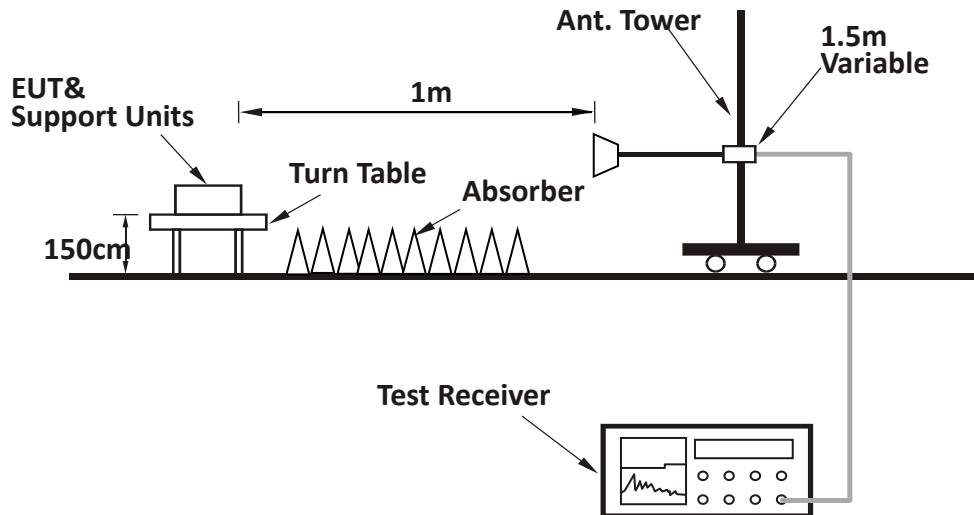
For Radiated emission 30MHz to 1GHz:



For Radiated emission 1GHz to 40GHz:



For Radiated emission above 40GHz:



3.4 Test Results of Radiated Emissions

Peak Power

Frequencies (GHz)	Radiated Peak Power (eirp) [dBm]	Limit	Verdict
76.0 - 81.0 GHz	29.2 dBm/MHz	55 dBm/MHz	Pass

Mean Power

Frequencies (GHz)	Radiated Mean Power (eirp)	Limit	Verdict
76.0 - 81.0 GHz	13.9 dBm	50 dBm	Pass

4 Radiated Emissions

Test result: Pass

4.1 Limit

The radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified showed as below:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Frequencies (GHz)	Measurement distance (meters)	Power Density
40 ~ 200	3	600 pW/cm ² → -1.7 dBm
200 ~ 231	3	1000 pW/cm ² → 0.5 dBm

4.2 Measurement Procedure

For Radiated emission below 30MHz:

- f) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- g) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- h) Both X and Y axes of the antenna are set to make the measurement.
- i) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- j) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at

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frequency below 30MHz.

For Radiated emission above 30MHz:

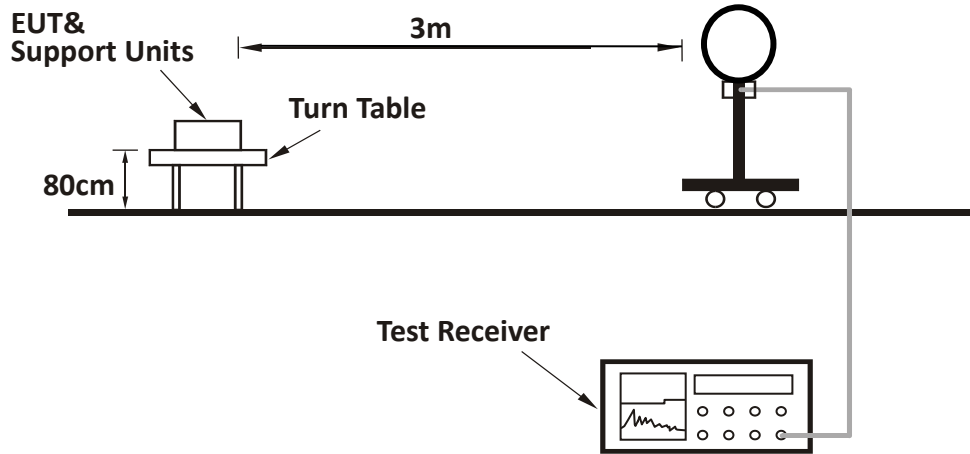
- g) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- h) The EUT was set 3 or 1 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- i) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- j) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- k) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- l) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

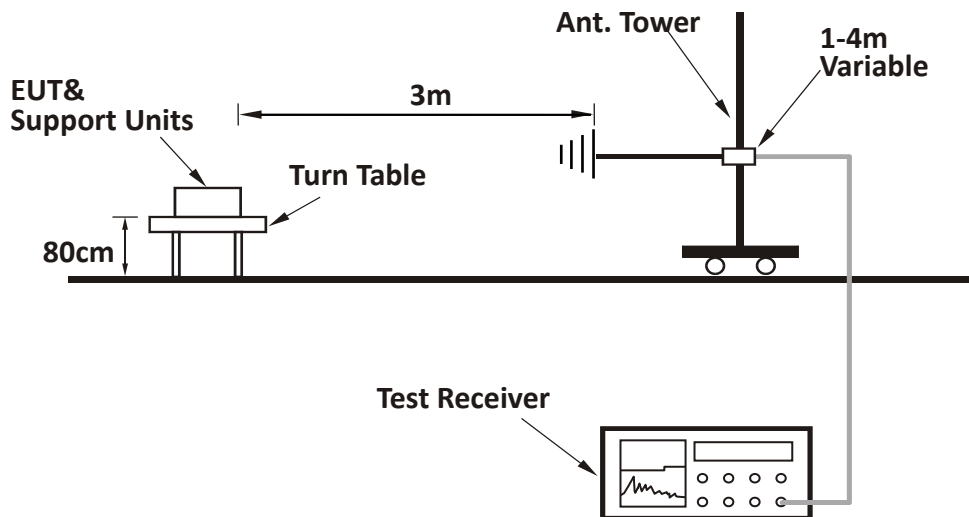
- 5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 6. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 7. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 3 x RBW (Duty cycle \geq 98%) for Average detection (AV) at frequency above 1GHz.
- 8. All modes of operation were investigated and the worst-case emissions are reported

4.3 Test Configuration

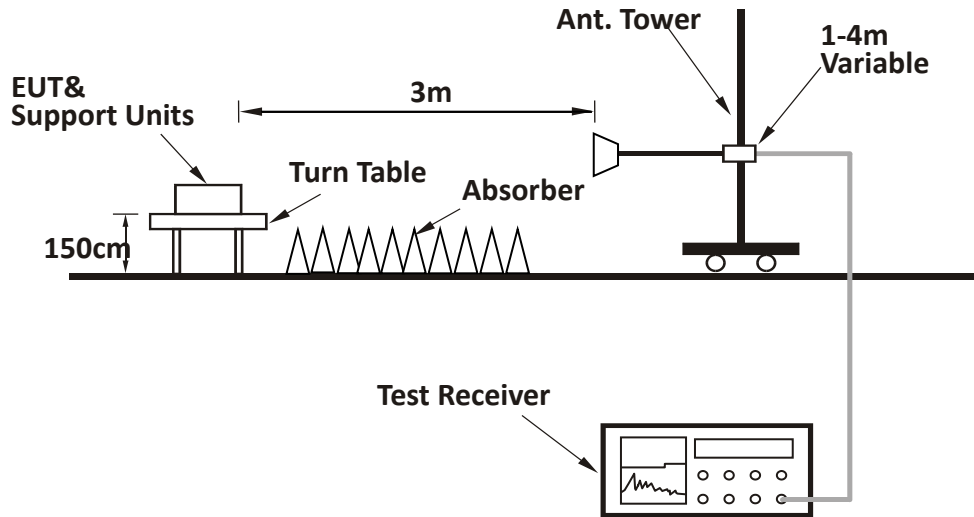
For Radiated emission below 30MHz:



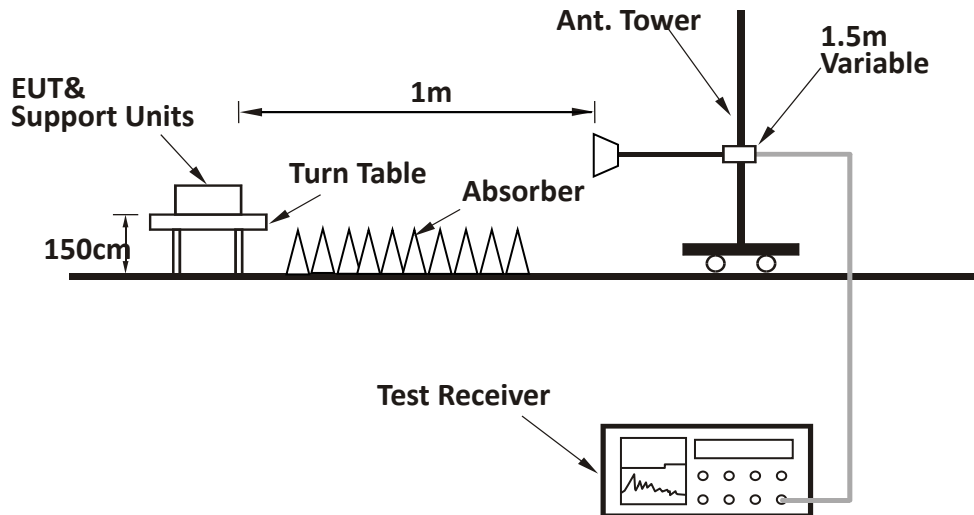
For Radiated emission 30MHz to 1GHz:



For Radiated emission 1GHz to 40GHz:



For Radiated emission above 40GHz:

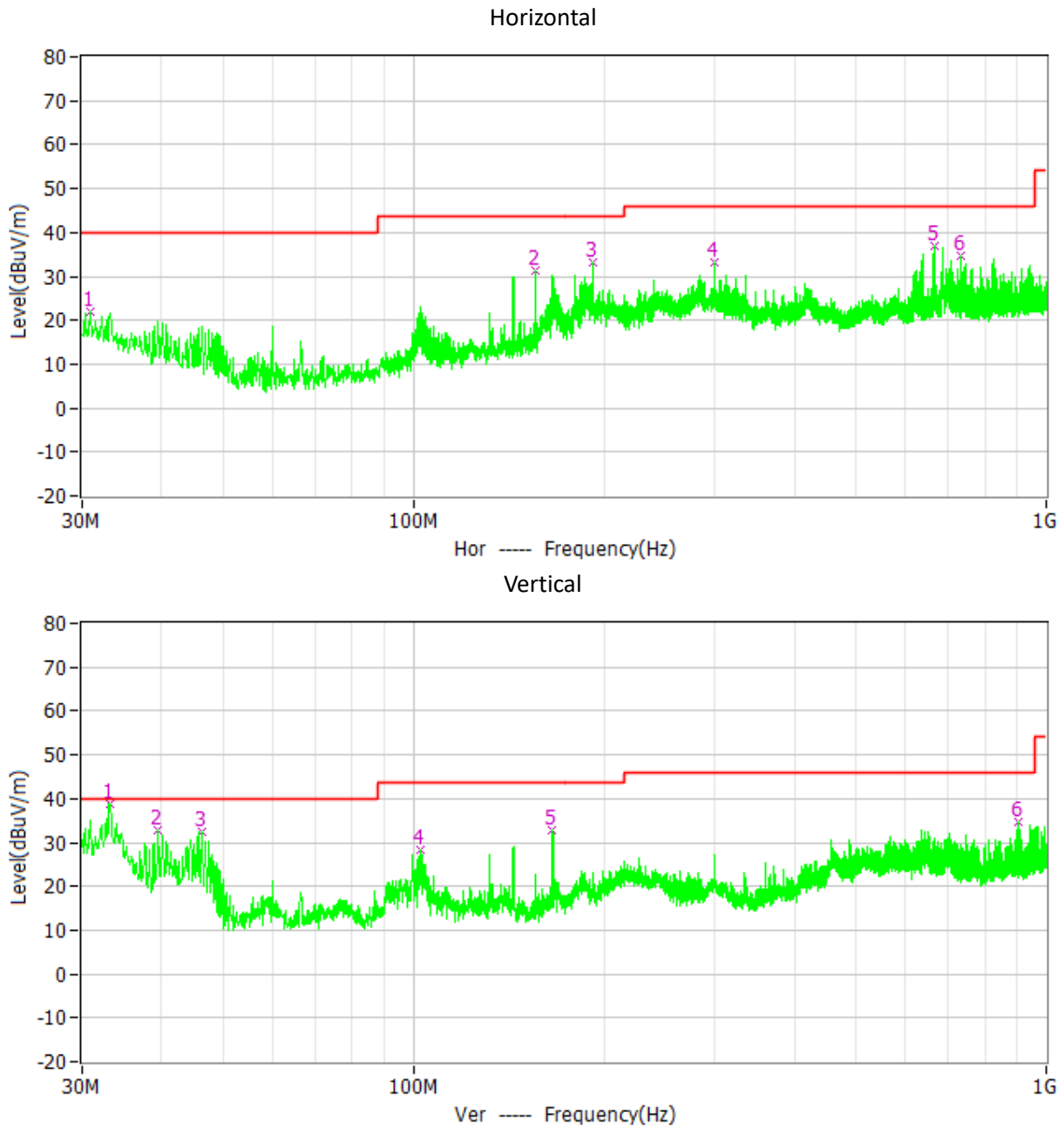


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4.4 Test Results of Radiated Emissions

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

The worst waveform from 30MHz to 1000MHz is listed as below:



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Test data below 1GHz

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	30.873	21.9	40.0	18.1	QP
H	156.003	31.4	43.5	12.1	QP
H	191.990	33.1	43.5	10.4	QP
H	299.854	33.2	46.0	12.8	QP
H	665.738	37.1	46.0	8.9	QP
H	731.601	34.6	46.0	11.4	QP
V	33.201	38.8	40.0	1.2	QP
V	39.506	32.9	40.0	7.1	QP
V	46.393	32.5	40.0	7.5	QP
V	102.847	28.4	43.5	15.1	QP
V	165.994	32.7	43.5	10.8	QP
V	901.157	34.6	46.0	11.4	QP

Test result above 1GHz:

The emission was conducted from 1GHz to 40GHz

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	1750	39.2	-22.2	74.0	34.8	PK
H	2465	54.1	-18.7	74.0	19.9	PK
H	7269	49.9	-10.5	74.0	24.1	PK
H	9687	56.9	-7.4	74.0	17.1	PK
H	12140	50.9	-5.0	74.0	23.1	PK
H	17387	50.6	0.1	74.0	23.4	PK
H	1954	25.3	-20.5	54.0	28.7	AV
H	2397	33.3	-18.9	54.0	20.7	AV
H	4168	26.3	-14.1	54.0	27.7	AV
H	7269	30.5	-10.5	54.0	23.5	AV
H	12140	38.5	-5.0	54.0	15.5	AV
H	17387	30.7	0.1	54.0	23.3	AV
V	1886	51.7	-21.1	74.0	22.3	PK

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V	2465	54.1	-18.7	74.0	19.9	PK
V	3078	43.4	-17.2	74.0	30.6	PK
V	7200	44.8	-10.6	74.0	29.2	PK
V	12243	54.2	-4.8	74.0	19.8	PK
V	14423	54.2	-3.4	74.0	19.8	PK
V	1954	34.1	-20.5	54.0	19.9	AV
V	2397	33.8	-18.9	54.0	20.2	AV
V	2976	29.2	-17.4	54.0	24.8	AV
V	6655	27.6	-11.2	54.0	26.4	AV
V	12243	42.5	-4.8	54.0	11.5	AV
V	14423	28.2	-3.4	54.0	25.8	AV

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (- Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.

2. Corrected Reading = Original Receiver Reading + Correct Factor

3. Margin = Limit - Corrected Reading

4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,

Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
Limit = 40.00dBuV/m.

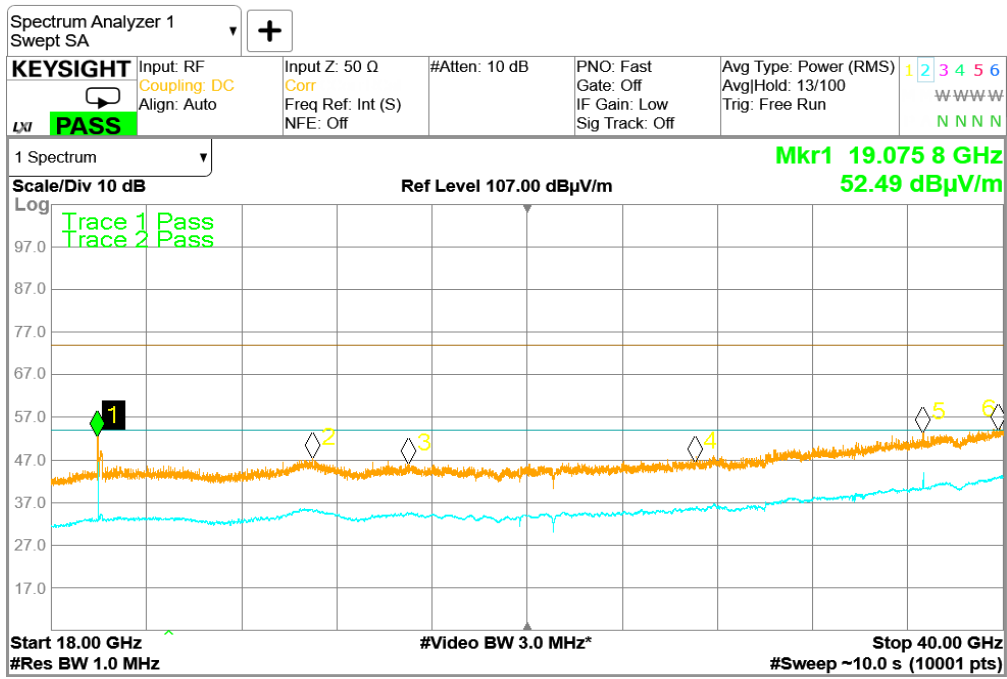
Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;

Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;

Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

18GHz-40GHz

Horizontal



Vertical



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Test data (18GHz ~ 40GHz):

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	19075.8	52.9	74.0	21.1	PK
H	24043.4	47.3	74.0	26.7	PK
H	26258.8	46.0	74.0	28.0	PK
H	32880.8	46.4	74.0	27.6	PK
H	38149.8	53.4	74.0	20.6	PK
H	39905.4	54.0	74.0	20.0	PK
H	19075.8	46.5	54.0	7.5	AV
H	24043.4	35.2	54.0	18.8	AV
H	26258.8	34.4	54.0	19.6	AV
H	32880.8	35.4	54.0	18.6	AV
H	38149.8	42.6	54.0	11.4	AV
H	39905.4	43.2	54.0	10.8	AV
V	19075.8	57.6	74.0	16.4	PK
V	23871.8	50.0	74.0	24.0	PK
V	26239.0	50.5	74.0	23.5	PK
V	33257.0	52.1	74.0	21.9	PK
V	38528.2	58.4	74.0	15.6	PK
V	39964.8	59.3	74.0	14.7	PK
V	19075.8	52.1	54.0	1.9	AV
V	23871.8	39.8	54.0	14.2	AV
V	26239.0	39.3	54.0	14.7	AV
V	33257.0	40.1	54.0	13.9	AV
V	38528.2	47.9	54.0	6.1	AV
V	39964.8	49.1	54.0	4.9	AV

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.

2. Corrected Reading = Original Receiver Reading + Correct Factor

3. Margin = Limit - Corrected Reading

4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,

Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,

Limit = 40.00dBuV/m.

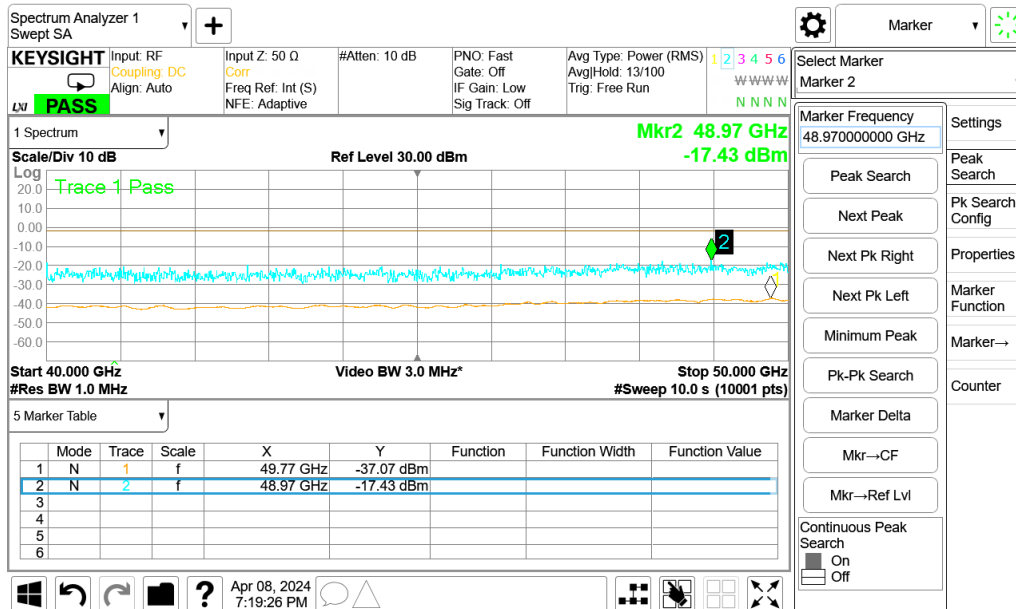
Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;

Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;

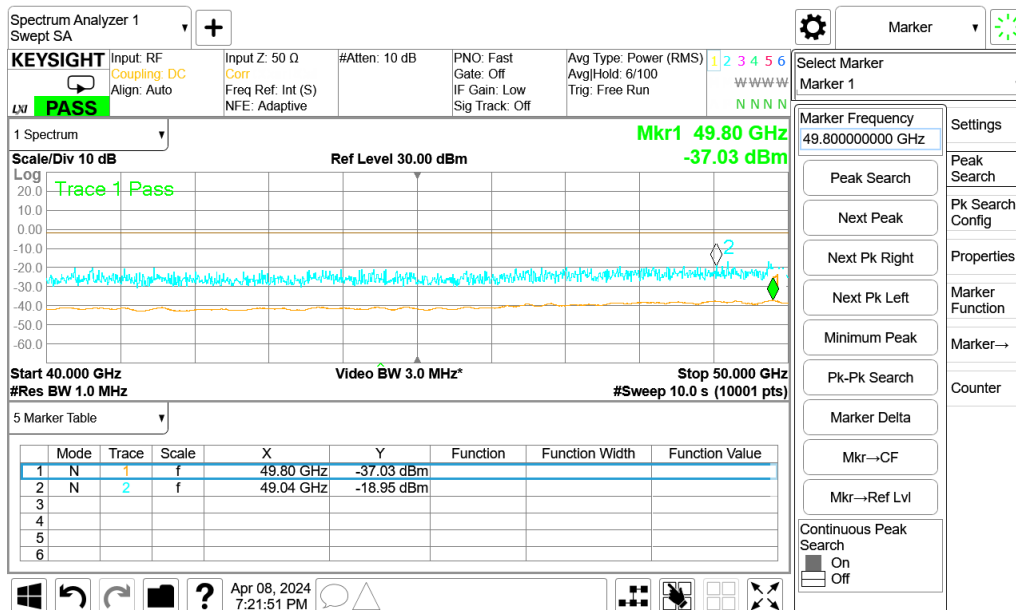
Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80d

40GHz-50GHz

Horizontal



Vertical

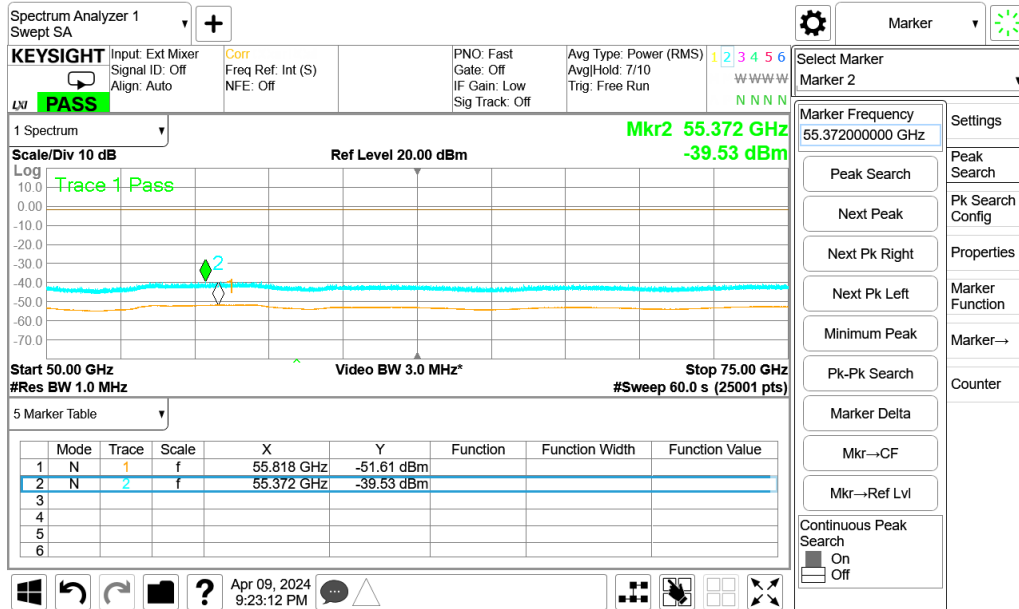


Test data

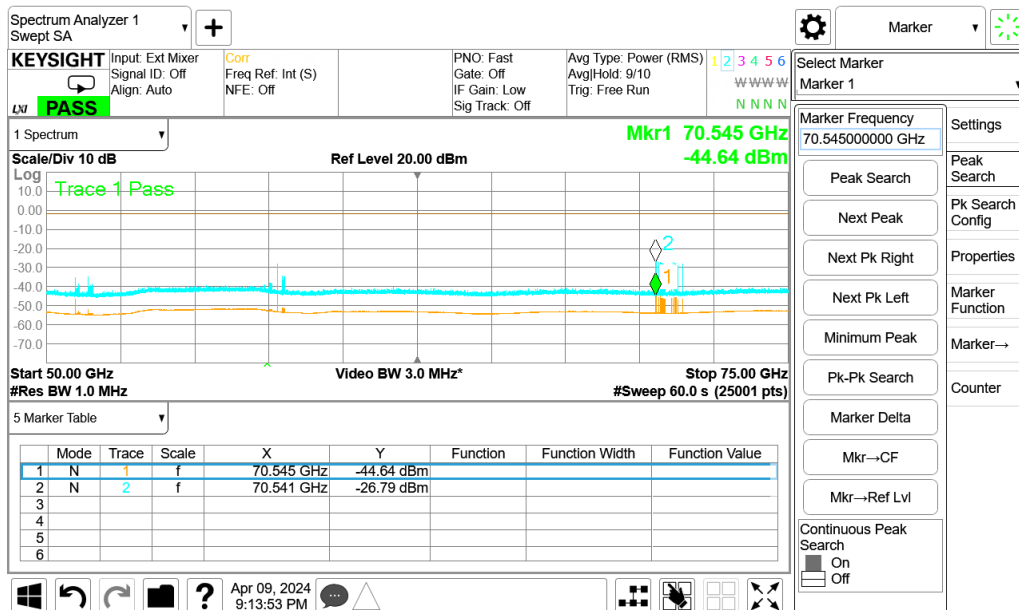
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	49770	-37.07	-1.7	35.37	RMS
V	49800	-37.03	-1.7	35.33	RMS

50GHz-75GHz

Horizontal



Vertical

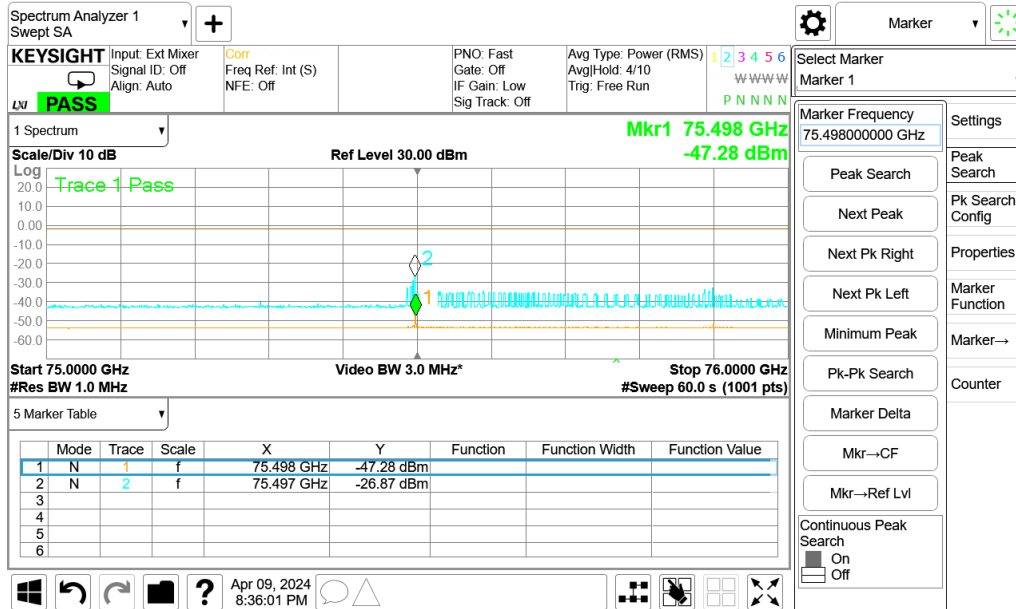


Test data

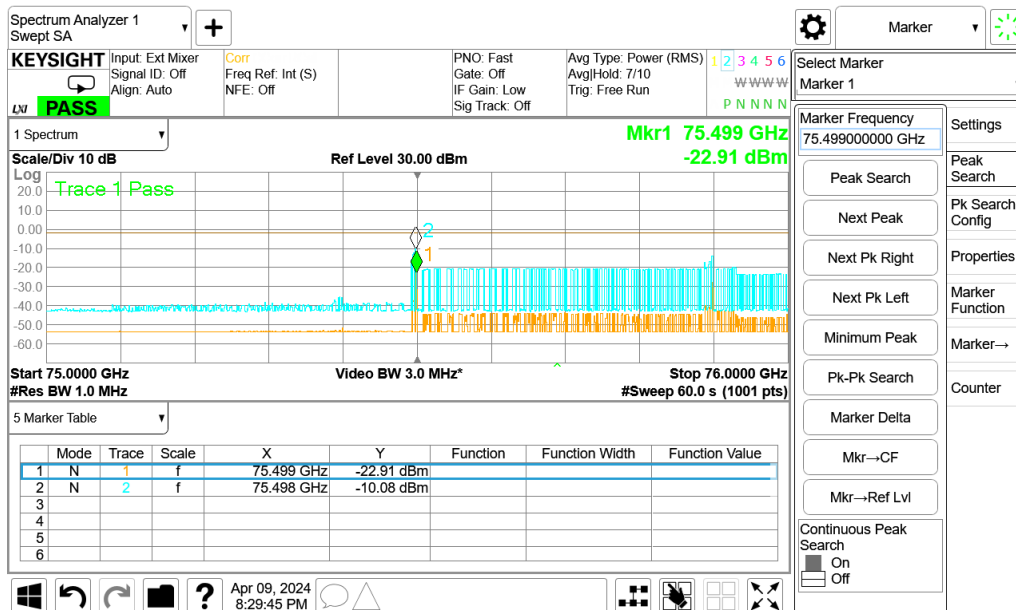
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	55818	-51.61	-1.7	49.91	RMS
V	70545	-44.64	-1.7	42.94	RMS

75GHz-76GHz

Horizontal



Vertical

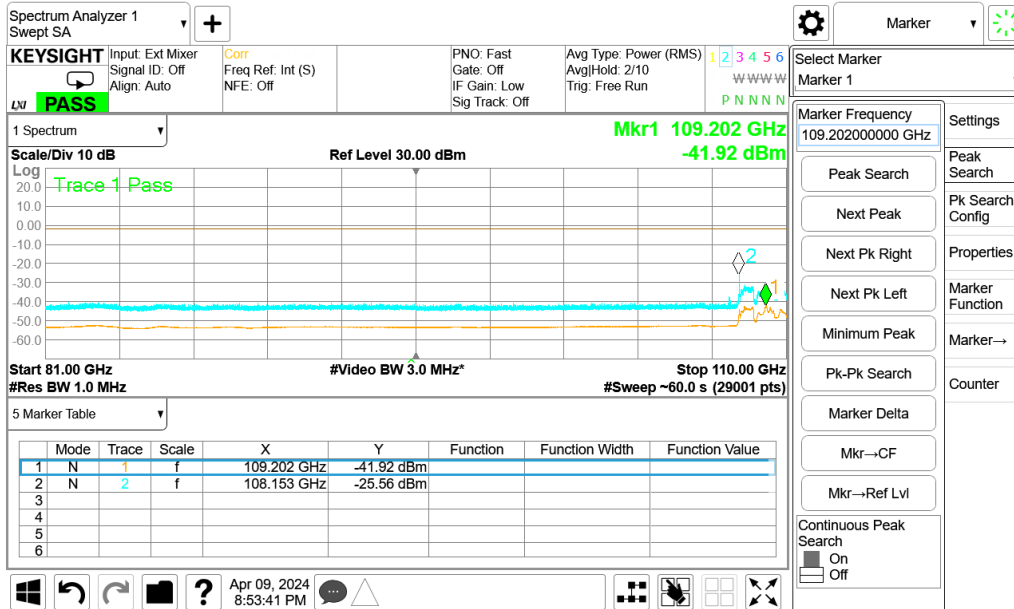


Test data

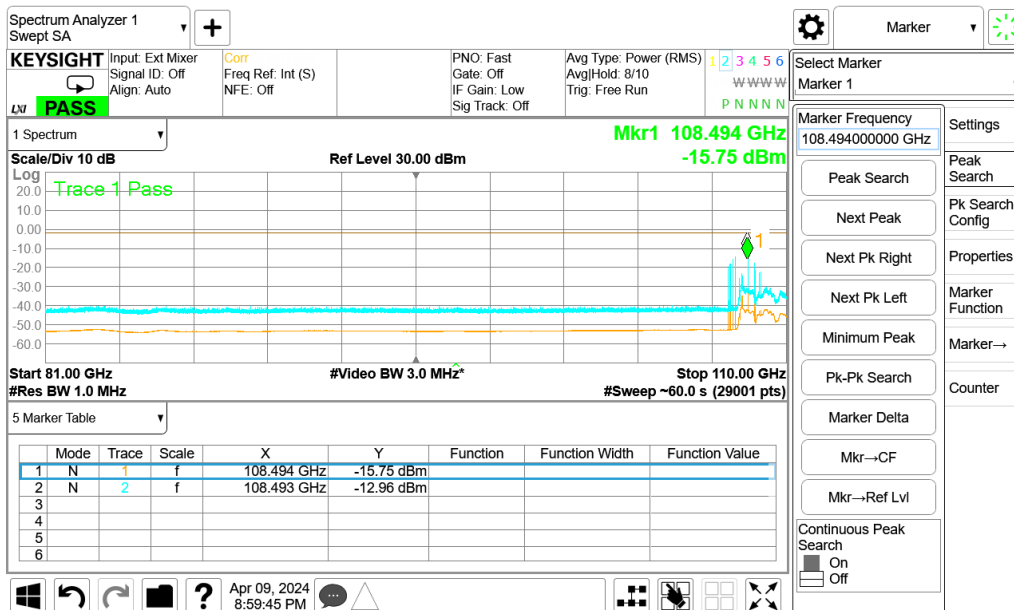
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	75498	-47.28	-1.7	45.58	RMS
V	75499	-22.91	-1.7	21.21	RMS

81GHz-110GHz

Horizontal



Vertical

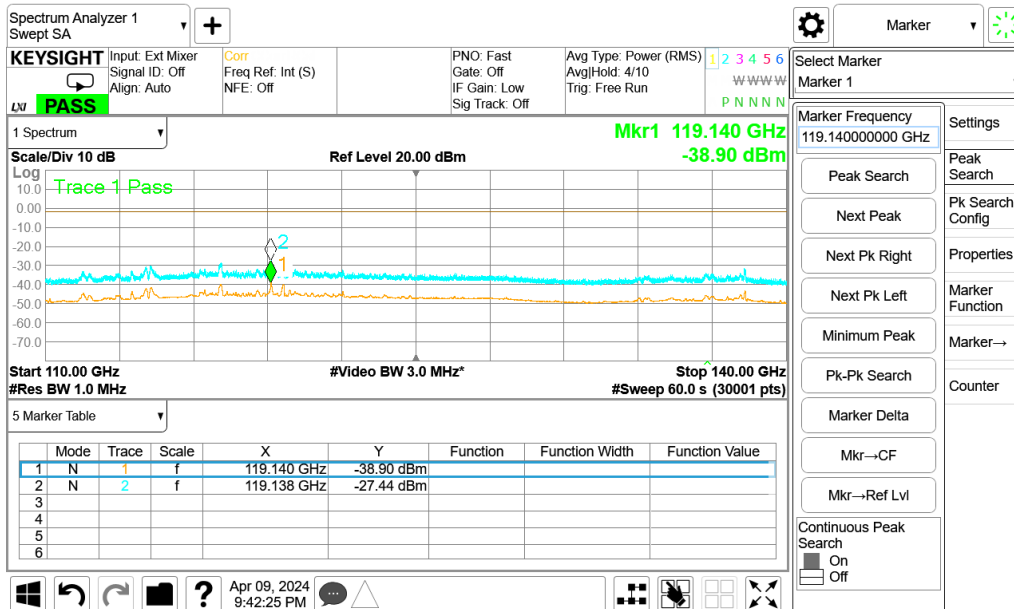


Test data

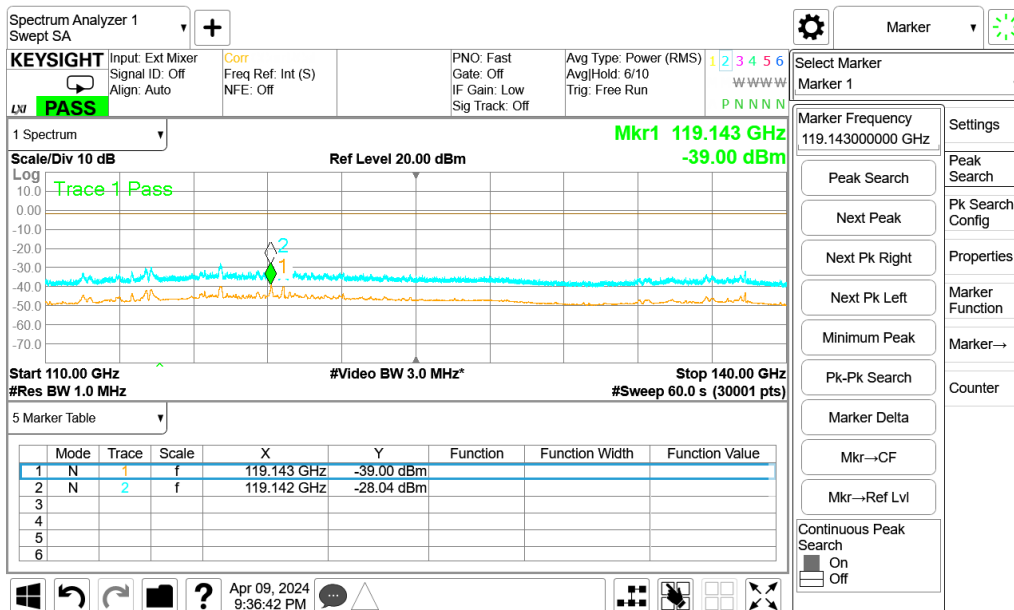
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	109202	-41.92	-1.7	40.22	RMS
V	108494	-15.75	-1.7	14.05	RMS

110GHz-140GHz

Horizontal



Vertical

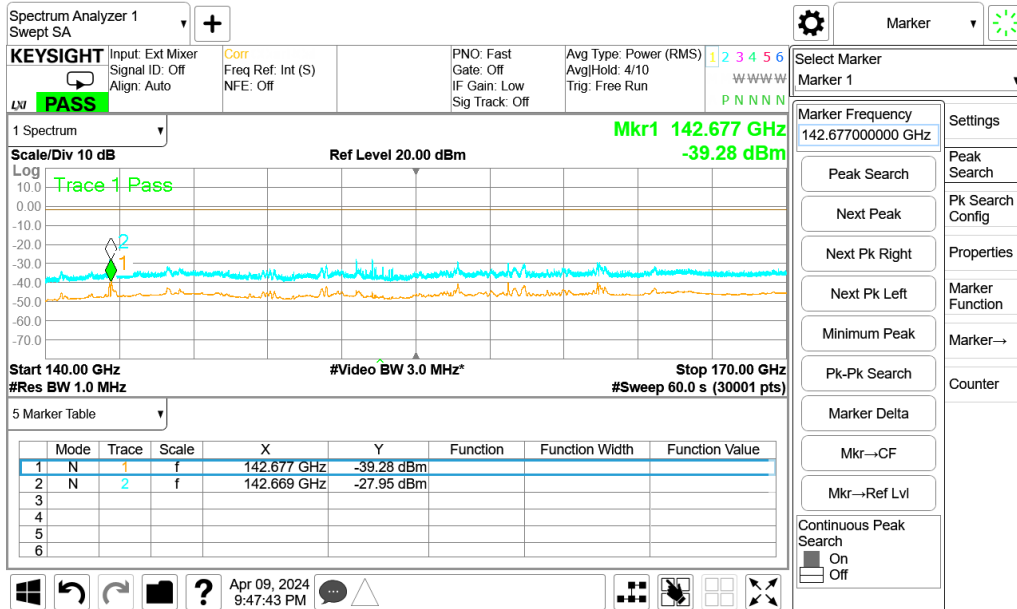


Test data

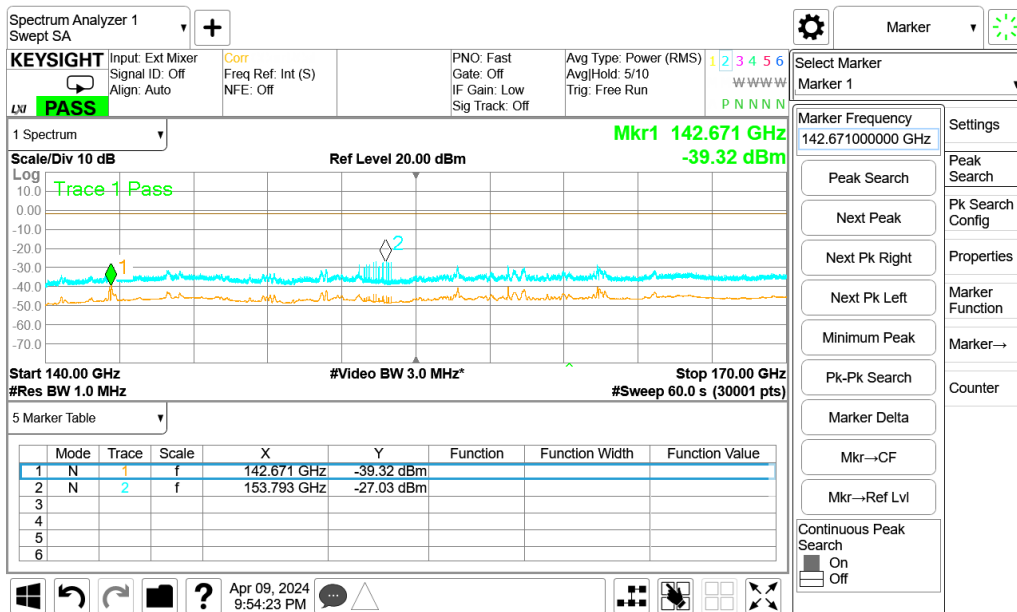
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	119140	-38.90	-1.7	37.2	RMS
V	119143	-39.00	-1.7	37.3	RMS

140GHz-170GHz

Horizontal



Vertical

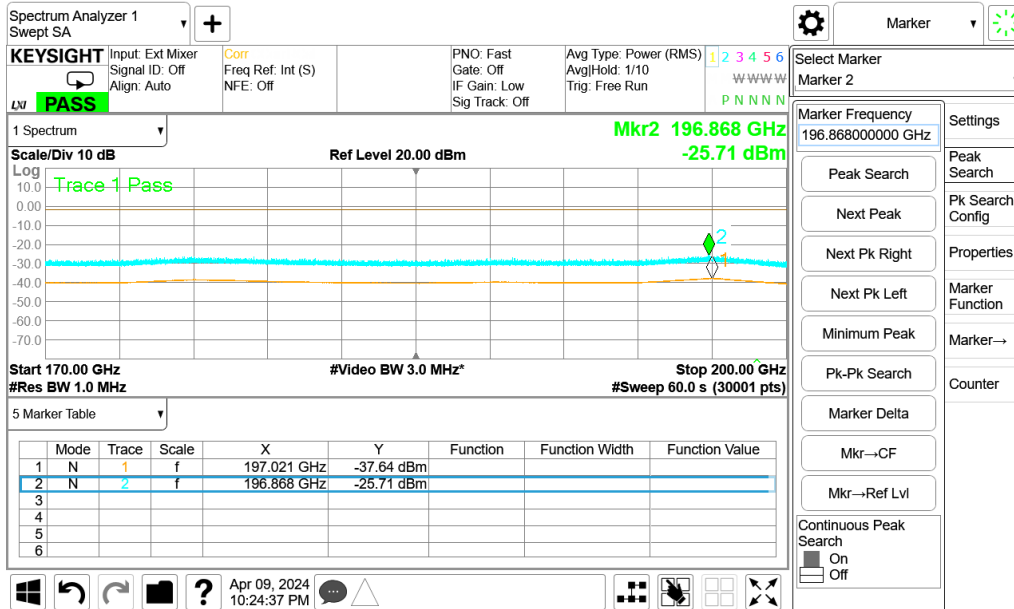


Test data

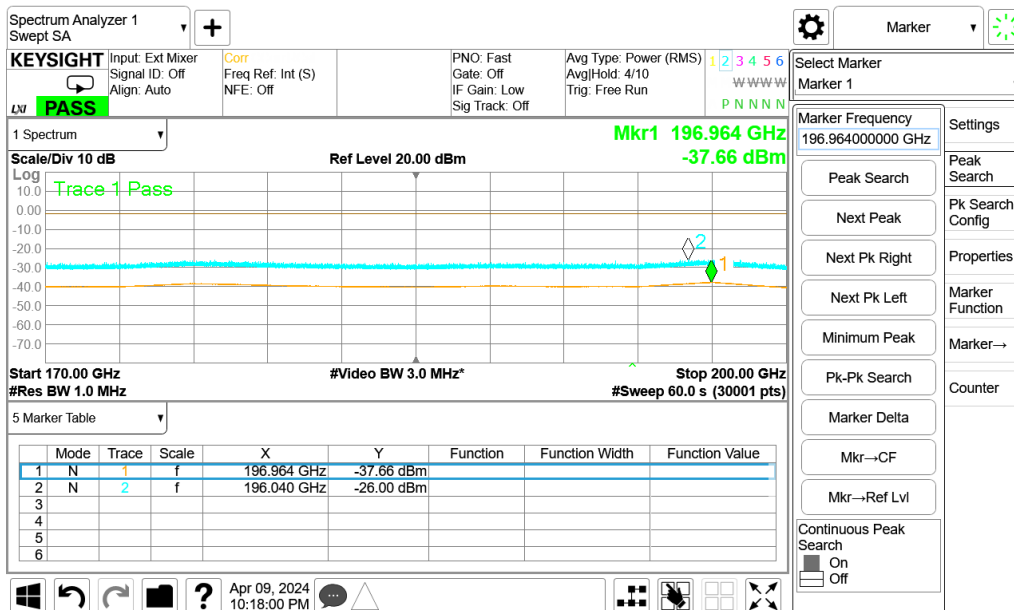
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	142677	-39.28	-1.7	37.58	RMS
V	142671	-39.32	-1.7	37.62	RMS

170GHz-2000GHz

Horizontal



Vertical

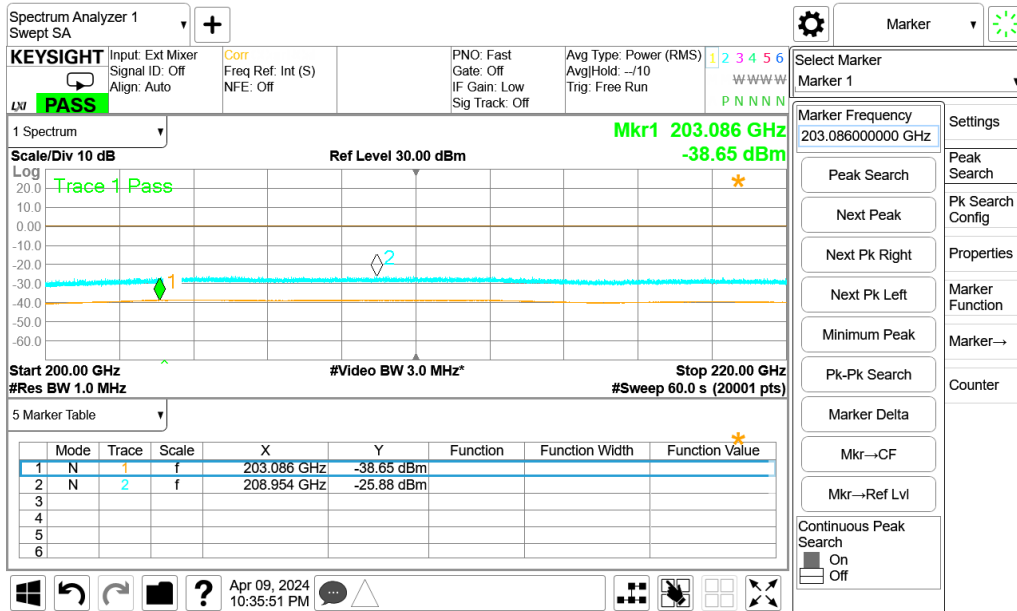


Test data

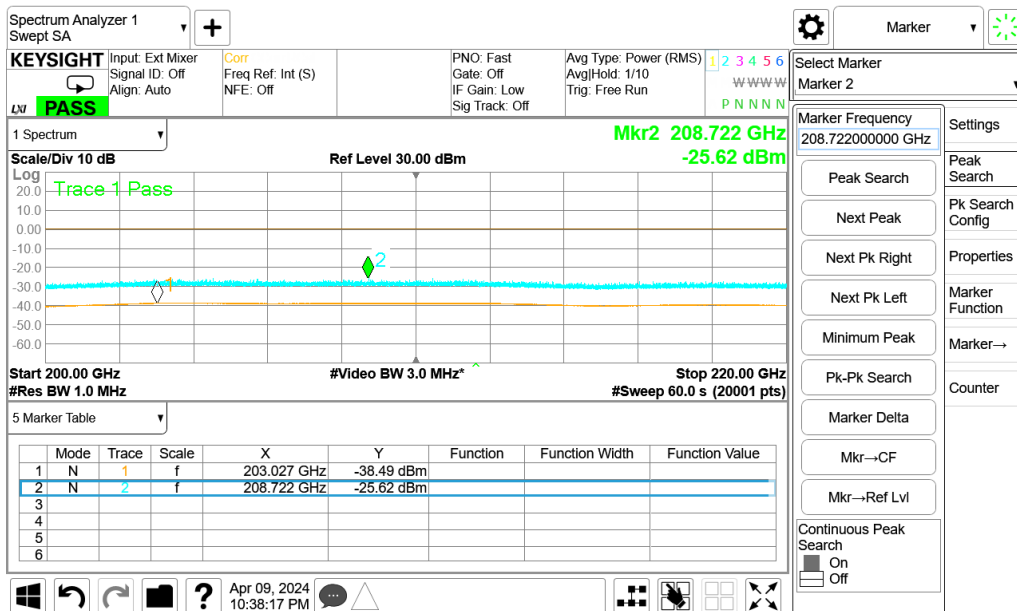
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	197021	-37.64	-1.7	35.94	RMS
V	196964	-37.66	-1.7	35.96	RMS

200GHz-220GHz

Horizontal



Vertical

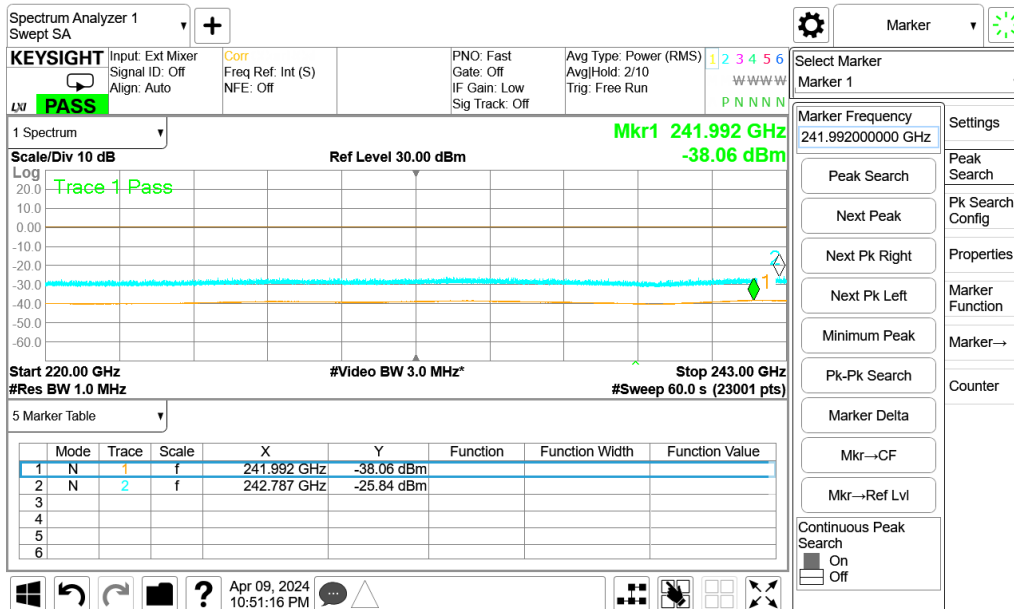


Test data

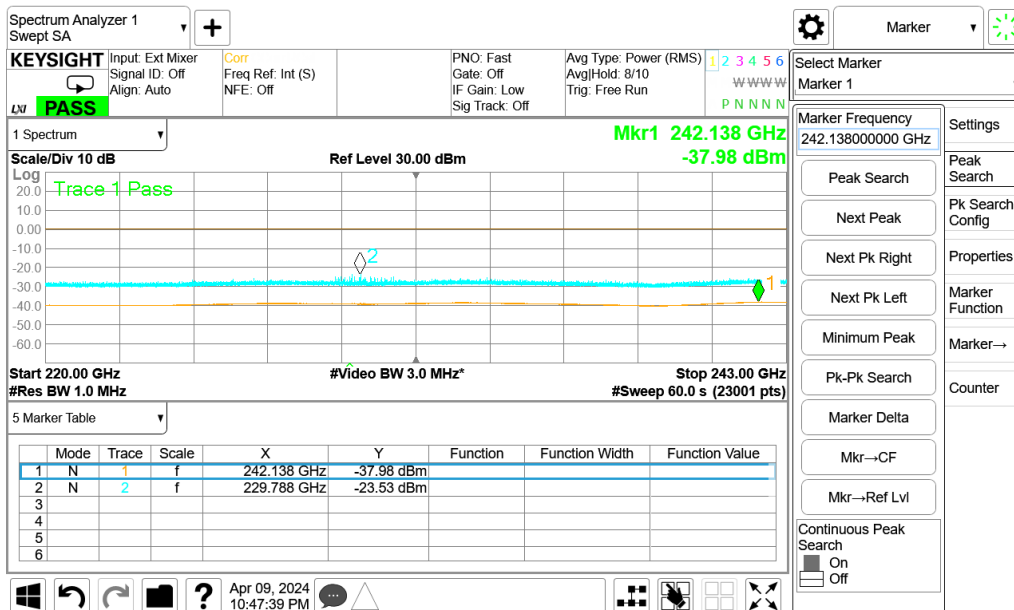
Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	203086	-38.65	0.5	39.15	RMS
V	203027	-38.49	0.5	38.99	RMS

220GHz-243GHz

Horizontal



Vertical



Test data

Antenna	Frequency (MHz)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)	Detector
H	241992	-38.06	0.5	38.56	RMS
V	242138	-37.88	0.5	38.38	RMS

5 Frequency stability

Test result: Pass

5.1 Limit

Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range -20 to + 50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

Test Result

VOLTAGE (%)	POWER (V AC)	TEMP (°C)	Tested Frequency: 76.50 GHz	
			Measured low frequency(FL) (GHz)	Measured High frequency(FH) (GHz)
100%	12	-20	76.287	76.728
100%		-10	76.287	76.727
100%		0	76.287	76.728
100%		+10	76.287	76.726
100%		+20	76.287	76.727
100%		+30	76.287	76.728
100%		+40	76.287	76.728
100%		+50	76.287	76.728
115%	13.8	+20	76.287	76.728
85%	10.2	+20	76.287	76.728

Note: Fundamental emissions were contained within the frequency bands

6 Occupied Bandwidth

Test result: Pass

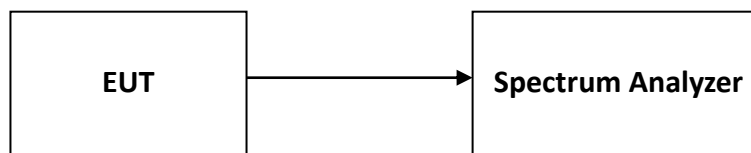
6.1 Limit

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emission is contained within the allocated frequency band.

6.2 Measurement Procedure

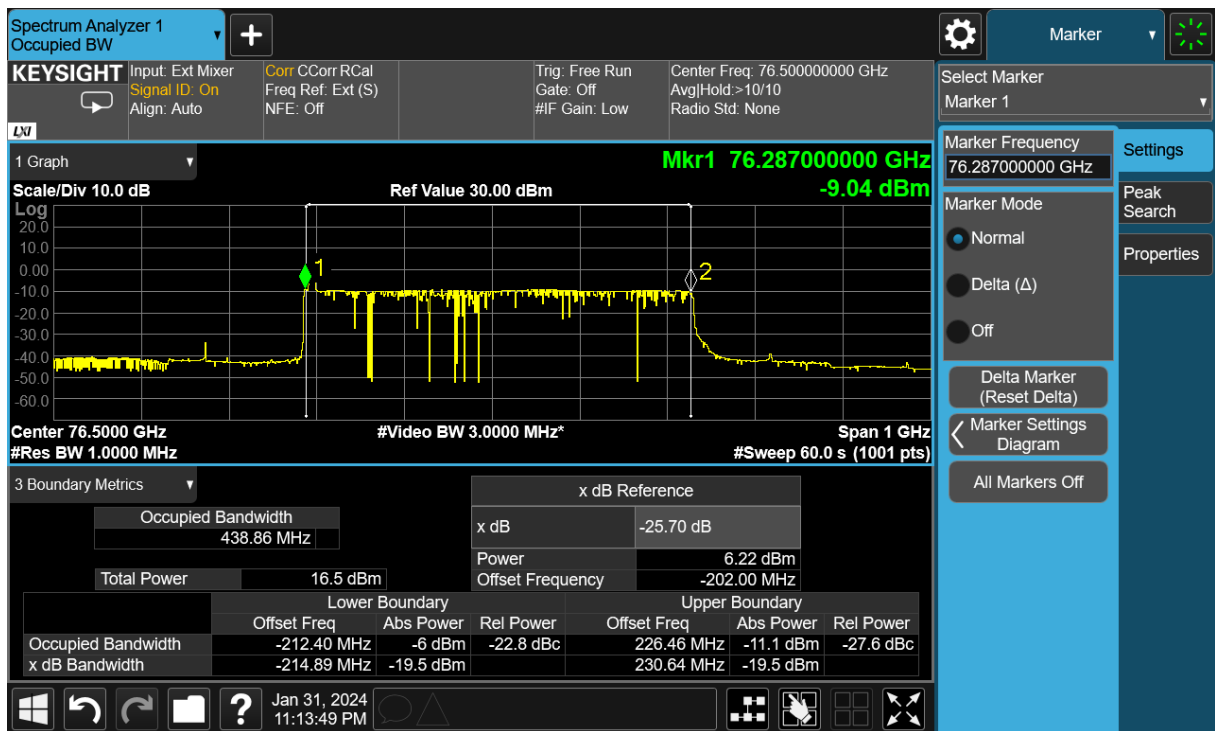
The 20dB Bandwidth is measured using the Spectrum Analyzer.
Set Span = 2 to 3 times the 20 dB bandwidth, RBW = approximately 1% of the 20 dB bandwidth, VBW>RBW, Sweep = auto, Detector = peak, Trace = max hold.
The test was performed at 2 channels (lowest and highest channel).

6.3 Test Configuration



The results

Frequency band (MHz)	99% Bandwidth (MHz)	F _L at 99% OBW (MHz)	F _H at 99% OBW (MHz)
76000 ~ 77000	438.9	76287	76727
Limit	N/A	F _L > 76000	F _H < 81000
Result	Complied		



***** END *****