

Dynascan Technology Corp.

TEST REPORT

Model:

68301, 68303, 68305, 68307

REPORT NUMBER

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Radio Spectrum TEST REPORT

Applicant:	Dynascan Technology Corp. 6F., No. 88, Wenmao Rd., Guishan Dist., Taoyuan City 333001, Taiwan
Product:	EPAPER DISPLAY
Model No.:	68301, 68303, 68305, 68307
FCC ID:	2AKWY-XBP501
Test Method/ Standard:	47 CFR FCC Part 15.247 & ANSI C63.10-2020 KDB 558074 D01 v05r02
Test By:	Intertek Testing Services Taiwan Ltd., Hsinchu Laboratory No. 17, Ln. 246, Niupu S. Rd., Xiangshan Dist, Hsinchu City 300075, Taiwan



Rich Nien

Rich Nien
Engineer

Rico Deng

Rico Deng
Reviewer

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Revision History

Report No.	Issue Date	Revision Summary
251200017THC-001	May 26, 2026	Original report

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Summary of Test Data

Test Requirement	Applicable Rule (Section 15.247)	Result
20dB Bandwidth Test	15.247(a)(1)	Pass
Carrier Frequency Separation Test	15.247(a)(1)	Pass
Number of Hopping Frequencies Test	15.247(a)(1)	Pass
Time of Occupancy (Dwell Time) Test	15.247(a)(1)(iii)	Pass
Maximum Output Power Test	15.247(b)	Pass
RF Antenna Conducted Spurious Test	15.247(d)	Pass
Radiated Spurious Emission Test	15.205, 15.209	Pass
Emission on the Band Edge Test	15.247(d)	Pass
AC Power Line Conducted Emission Test	15.207	Pass
Antenna Requirement	15.203	Pass

Note: Please note that the test results with statement of conformity, the decision rules which are based on: Safety Testing: the specification, standard or IEC Guide 115.

Other Testing: the specification, standard and not taking into account the measurement uncertainty.

1. General Information

1.1 Identification of the EUT

Product:	EPAPER DISPLAY
Test model:	68301, 68307
Operating Frequency:	2402MHz ~ 2480MHz
Channel Number:	78 channels
Frequency of Each Channel:	2402MHz+2k, k=0 ~ 78
Rating:	1. DC 5V 2.5A from USB-C Charger for 68301 2. DC 12V 2.5A from USB-C Charger for 68307
Sample receiving date:	1. 2025/12/02 for 68301 2. 2026/04/22 for 68307
Sample condition:	Workable
Test Date(s):	1. 2025/12/19 ~ 2026/01/09 for 68301 2. 2026/05/06 for 68307

1.2 Adapter information

The EUT will be supplied with a power supply from below list:

No.	Model no.	Specification
USB-C Charger	A1C030AC	I/P: 100-240V~ 50/60Hz, 1.2A O/P: 5.0V=3.0A 15.0W/9.0V=3.0A 27.0W/12.0V=2.5A 30.0W/15.0V=2.0A 30.0W/ 20.0V=1.5A 30.0W

1.3 Additional information about the EUT

The customer confirmed the models listed as below were series model to model 68301 (EUT), the difference between main model and series model are listed as below.

Model Number	Protective Glass	Dimensions
68301	V	13.3"
68303	X	13.3"
68305	X	28.54"
68307	V	28.54"

After engineer judgment, the Radiated emission test (30MHz~1GHz) for 68307 was considered necessary.

1.4 Antenna description

Antenna Gain: 2.24dBi
Antenna Type: FPC antenna
Connector Type: I-Pex
Remark: Antenna information provided by the client.

1.5 Operation mode

Connected to Notebook via USB Cable, executing “cmd” to select different frequency and modulation.

With individual verifying, we select GFSK(DH5) & 8-DPSK(3DH5) as the worst cases for radiation above 1GHz.

The signal is maximized through rotation and placement in the Two orthogonal axes.



X axis



Y axis

After verifying three axes, we found the maximum electromagnetic field was occurred at X axis. The final test data was executed under this configuration.

Mode	Channel	Frequency (MHz)	Signal on time (ms)	Signal on & off time (ms)	Duty cycle	Duty Cycle factor (dB)
DH5	39	2441	2.89	3.75	76.97	2.27
2DH5	39	2441	2.89	3.75	76.97	2.27
3DH5	39	2441	2.90	3.75	77.21	2.25

1.6 Peripherals equipment

Peripheral Name	Brand	Model No.	Serial No.
Notebook PC	Dell	PC14250	14941295292
Battery	Panasonic	NCR18650GA	N/A

2. 20dB Bandwidth Test

2.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

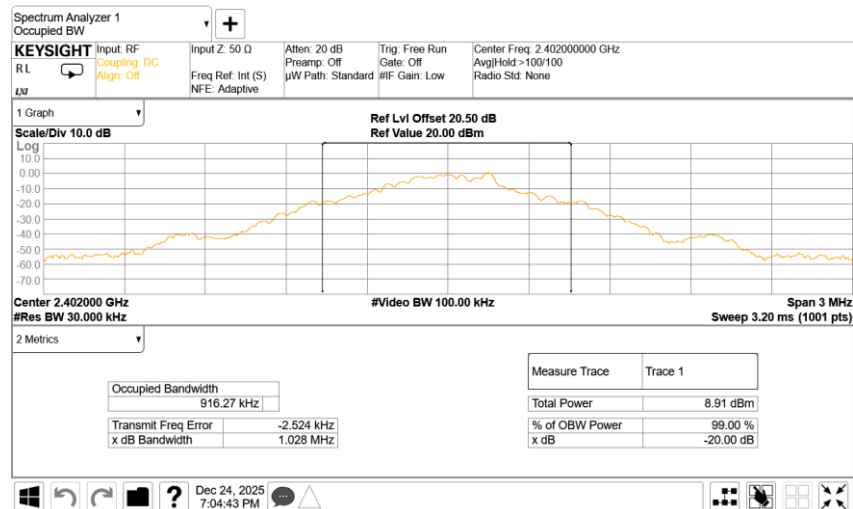
The 20dB bandwidth per FCC §15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set $\geq 1\%$ of 20dB Bandwidth, the video bandwidth $\geq$ RBW, and the SPAN may equal to approximately 2 to 3 times the 20dB bandwidth. The test was performed at 3 channels (lowest, middle and highest channel). The maximum 20dB modulation bandwidth is in the following Table.

2.2 Test Results

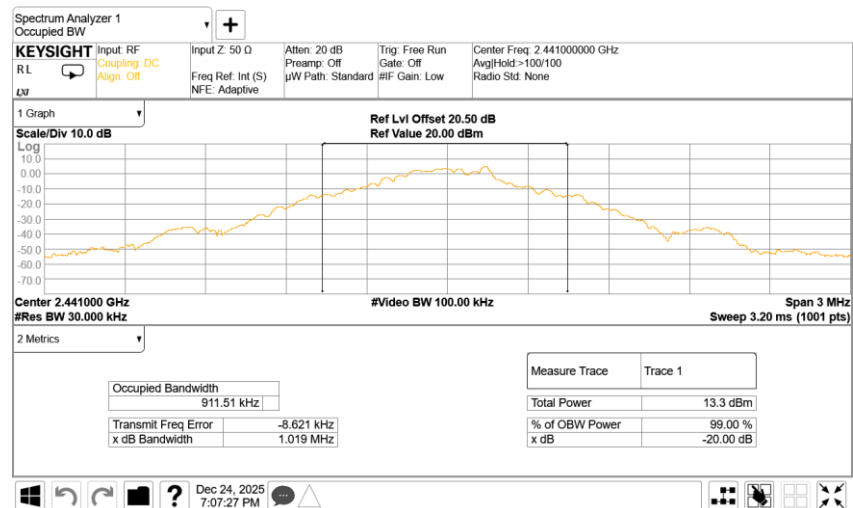
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	20dB Bandwidth (MHz)
DH5	0	2402	1.03
	39	2441	1.02
	78	2480	1.03
2DH5	0	2402	1.34
	39	2441	1.35
	78	2480	1.35
3DH5	0	2402	1.30
	39	2441	1.30
	78	2480	1.31

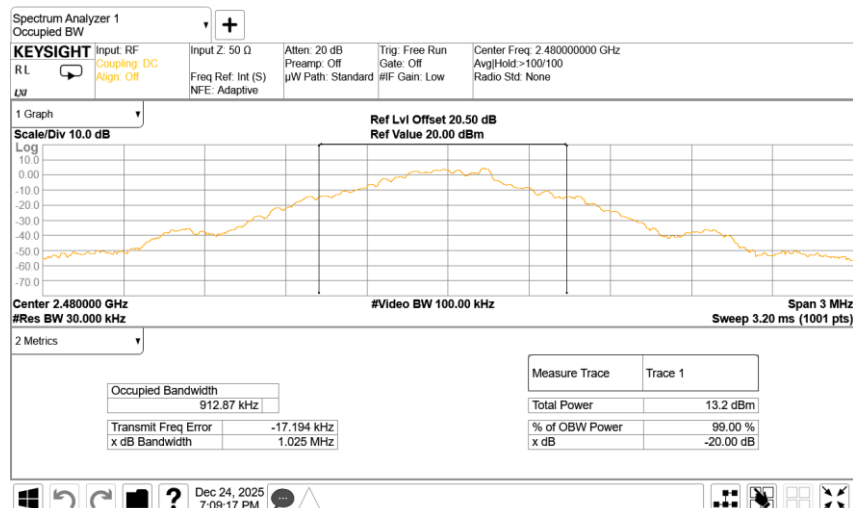
20dB Occupied Bandwidth @ DH5 Ch 0



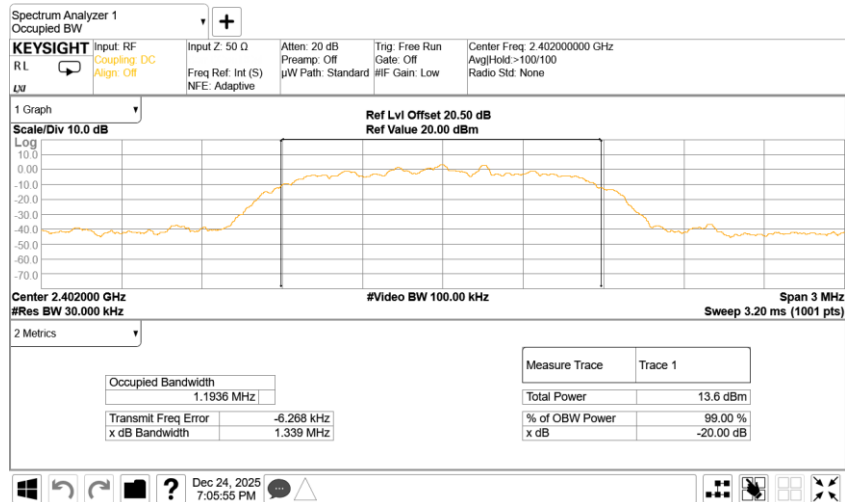
20dB Occupied Bandwidth @ DH5 Ch 39



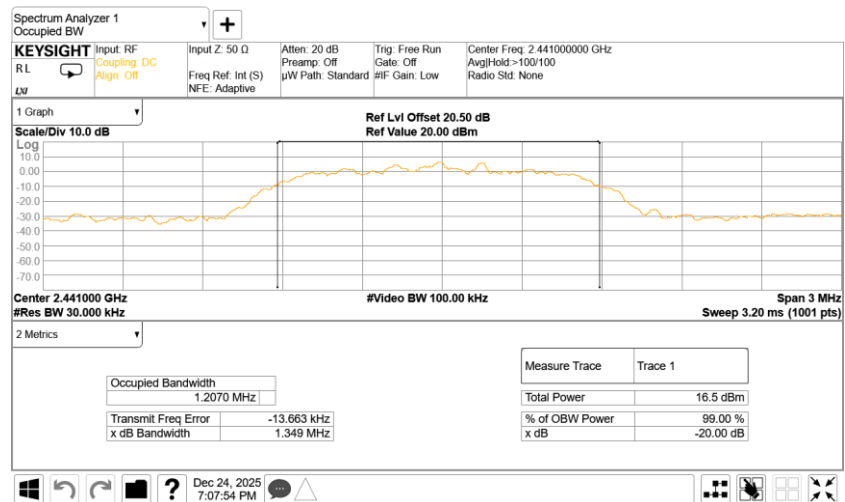
20dB Occupied Bandwidth @ DH5 Ch 78



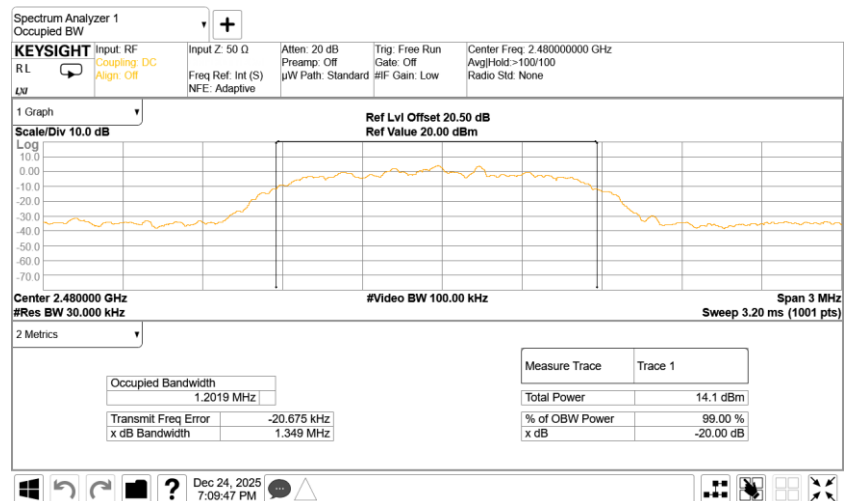
20dB Occupied Bandwidth @ 2DH5 Ch 0



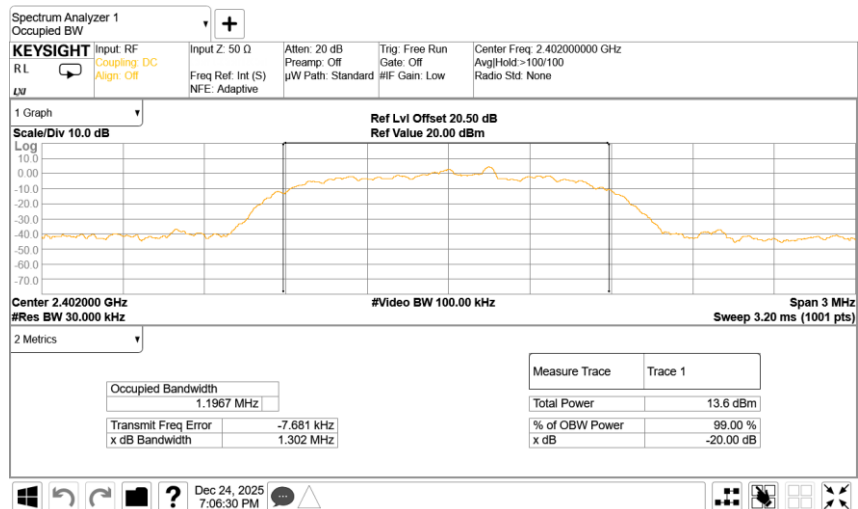
20dB Occupied Bandwidth @ 2DH5 Ch 39



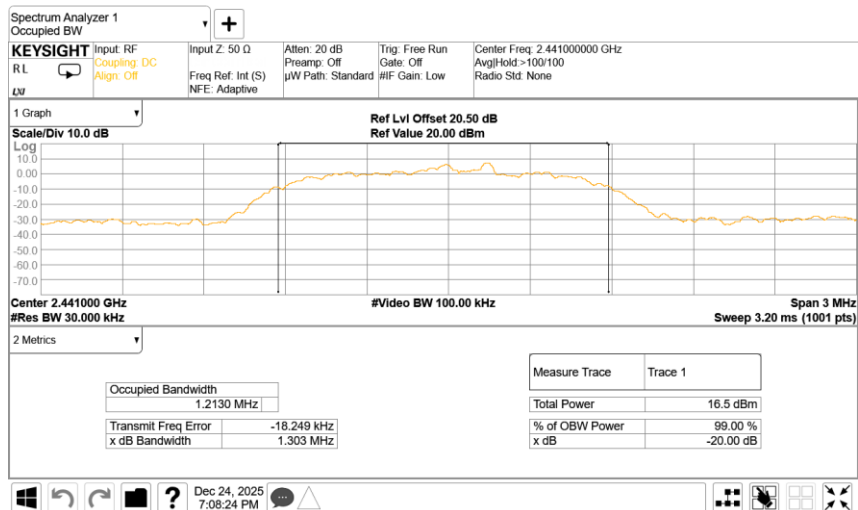
20dB Occupied Bandwidth @ 2DH5 Ch 78



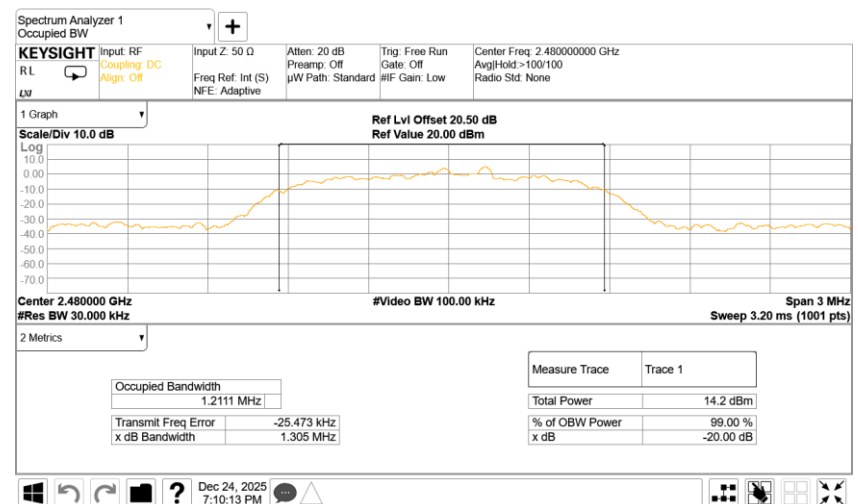
20dB Occupied Bandwidth @ 3DH5 Ch 0



20dB Occupied Bandwidth @ 3DH5 Ch 39



20dB Occupied Bandwidth @ 3DH5 Ch 78



3. Carrier Frequency Separation Test

3.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

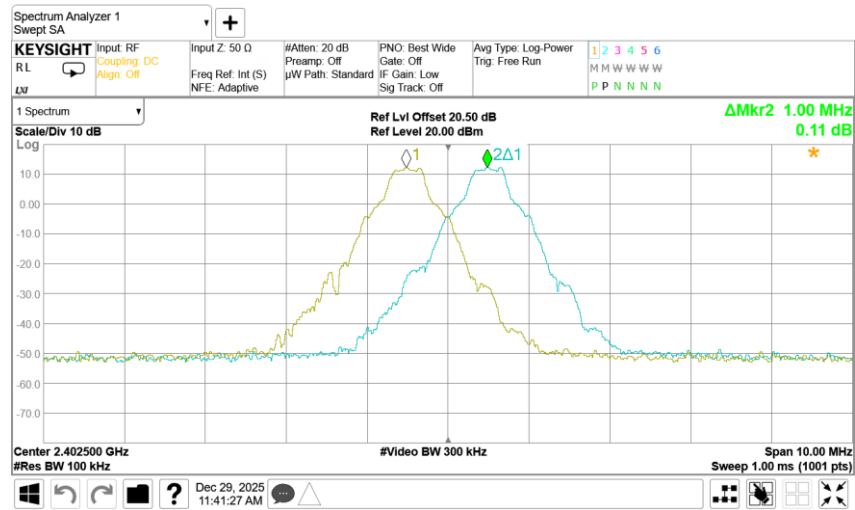
The carrier frequency separation per FCC §15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at $\geq 1\%$ of the span, the video bandwidth $\geq$ RBW, and the SPAN was wide enough to capture the peaks of two adjacent channels. The carrier frequency separation result is in the following Table.

3.2 Test Results

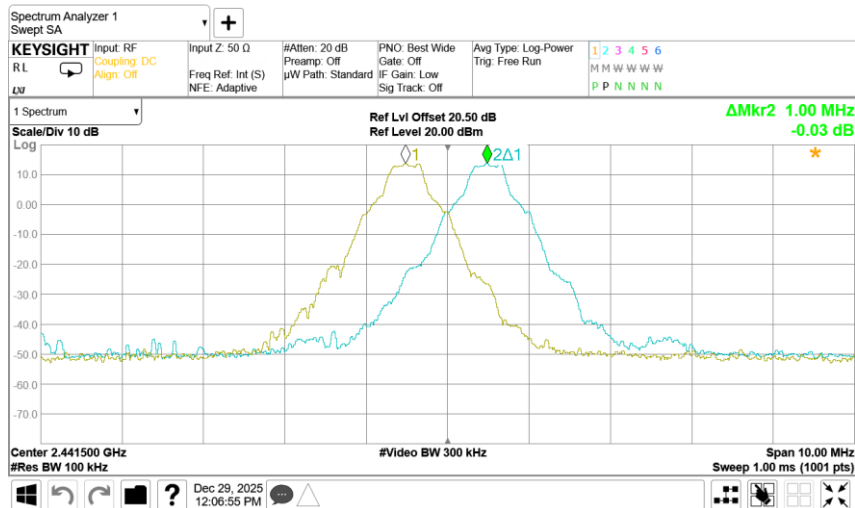
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2025/12/29

Mode	Channel	Frequency (MHz)	Adjacent channel separation (MHz)	Limit (MHz)
DH5	0	2402	1.00	0.69
	39	2441	1.00	0.68
	78	2480	1.00	0.68
2DH5	0	2402	1.00	0.89
	39	2441	1.00	0.90
	78	2480	1.00	0.90
3DH5	0	2402	1.00	0.87
	39	2441	1.00	0.87
	78	2480	1.00	0.87

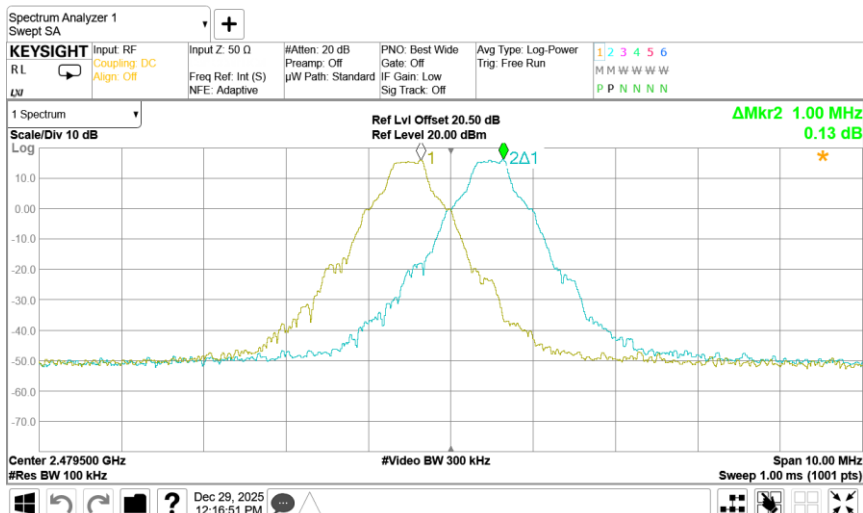
Frequency Separation @ DH5 Ch 0



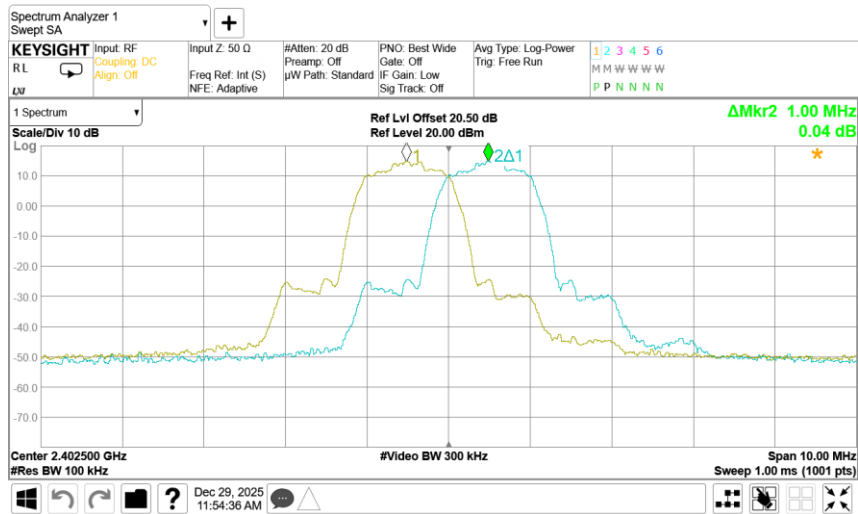
Frequency Separation @ DH5 Ch 39



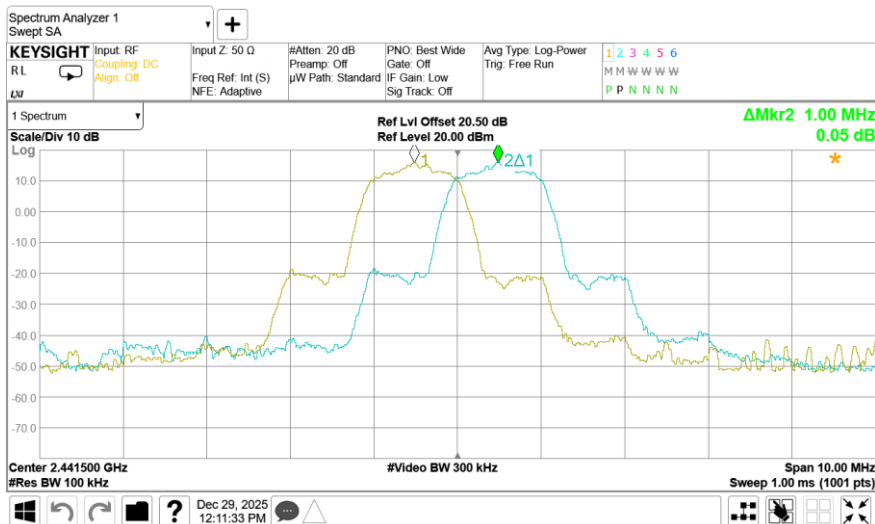
Frequency Separation @ DH5 Ch 78



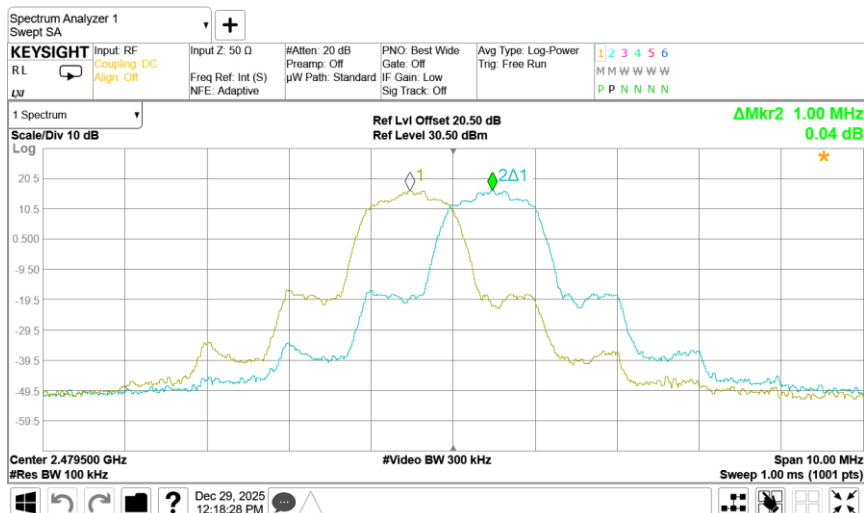
Frequency Separation @ 2DH5 Ch 0



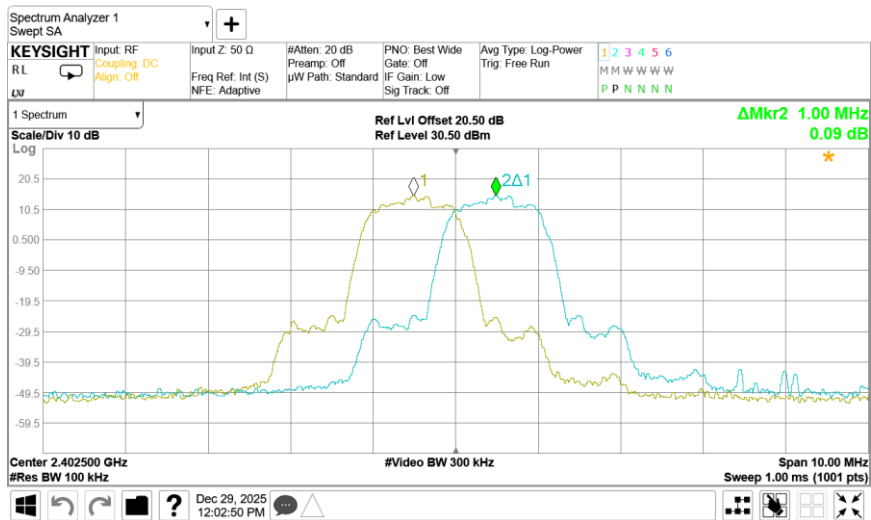
Frequency Separation @ 2DH5 Ch 39



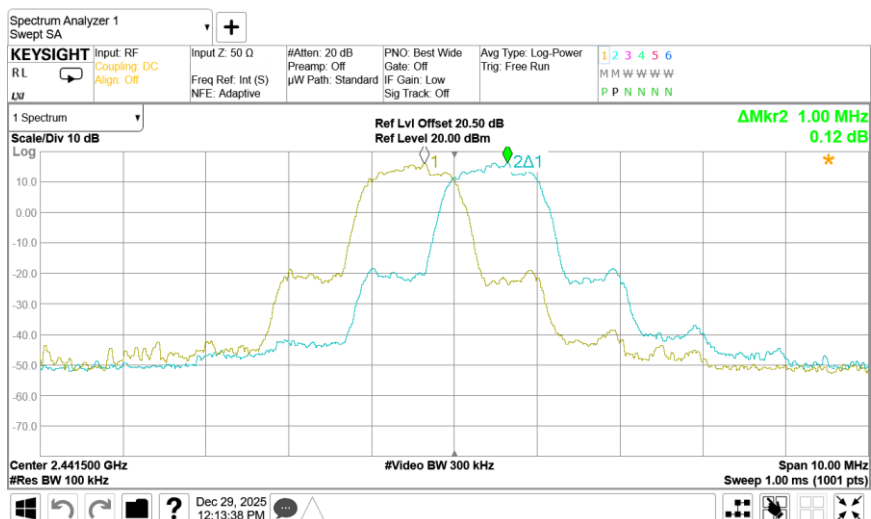
Frequency Separation @ 2DH5 Ch 78



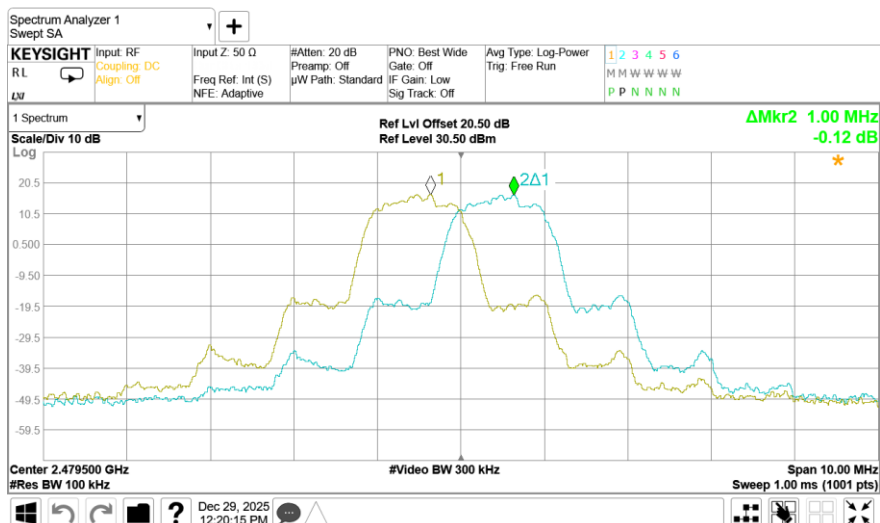
Frequency Separation @ 3DH5 Ch 0



Frequency Separation @ 3DH5 Ch 39



Frequency Separation @ 3DH5 Ch 78



4. Number of Hopping Frequencies Test

4.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

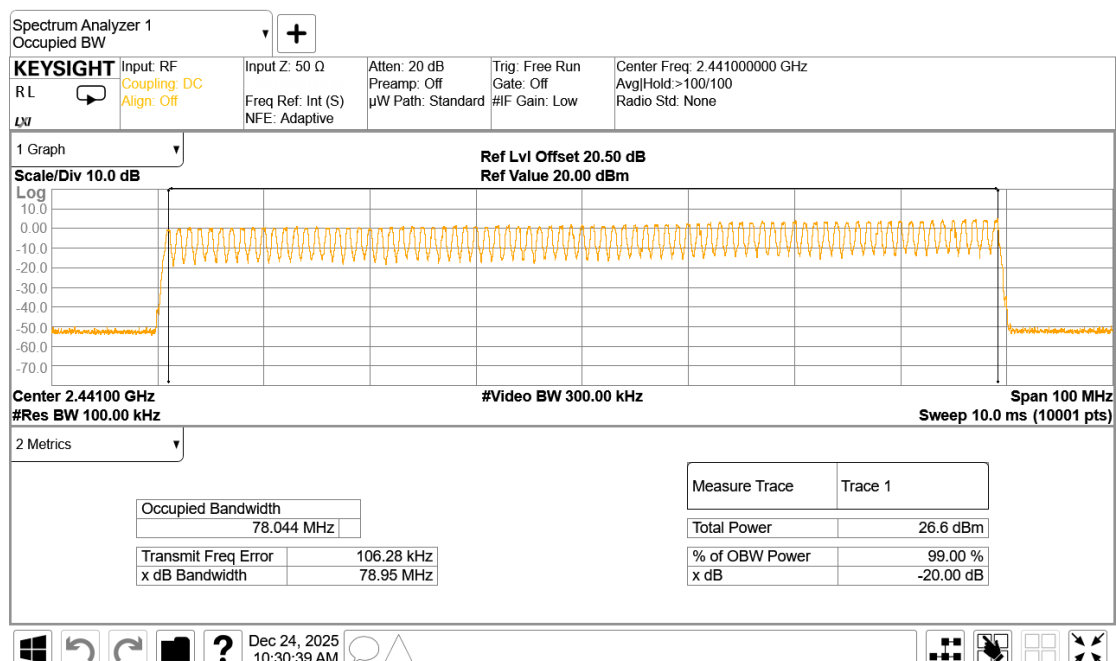
The number of hopping frequencies per FCC §15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at $\geq 1\%$ of the span, the video bandwidth $\geq$ RBW, and the SPAN was the frequency band of operation. The carrier frequency separation result is in the following Table.

4.2 Test Results

Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2026/01/20

Frequency Range (MHz)	Hopping Channels
2402~2480	79

Number of Hopping Frequencies @ DH5 Hopping Mode



5. Time of Occupancy (Dwell Time)

5.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

The time of occupancy (dwell time) per FCC §15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at 1MHz, the video bandwidth $\geq$ RBW, and the zero span function of spectrum analyzer was enable. The EUT has its hopping function enable.

5.2 Test Results

Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2025/12/24

The total sweep time is $0.4 \times 79 \text{ Channels} = 31.6 \text{ seconds}$

Due to the number of hops in the 31.6s sweep, we determined to reduce the sweep time to 5s, count the number of hops and multiply by 6.32. The total number of hops will be multiplied by the measured time of one pulse.

Mode	Pulse duration (ms)	Measure time (s)	Dwell time (s)	<Limit (s)	Results
DH1	0.38	31.6	0.123	0.4	Pass
DH3	1.64	31.6	0.262	0.4	Pass
DH5	2.89	31.6	0.308	0.4	Pass
2DH1	0.39	31.6	0.125	0.4	Pass
2DH3	1.65	31.6	0.264	0.4	Pass
2DH5	2.89	31.6	0.309	0.4	Pass
3DH1	0.39	31.6	0.125	0.4	Pass
3DH3	1.64	31.6	0.263	0.4	Pass
3DH5	2.90	31.6	0.309	0.4	Pass

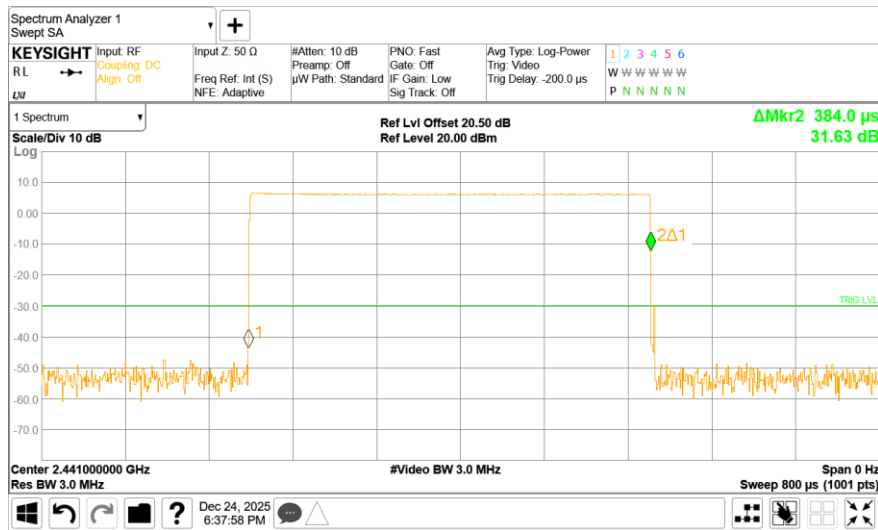
Note: (1) Dwell time = $1600 \div (79 \times N) \times \text{Pulse duration} \times \text{Measure time}$

(2) DH1, N=2

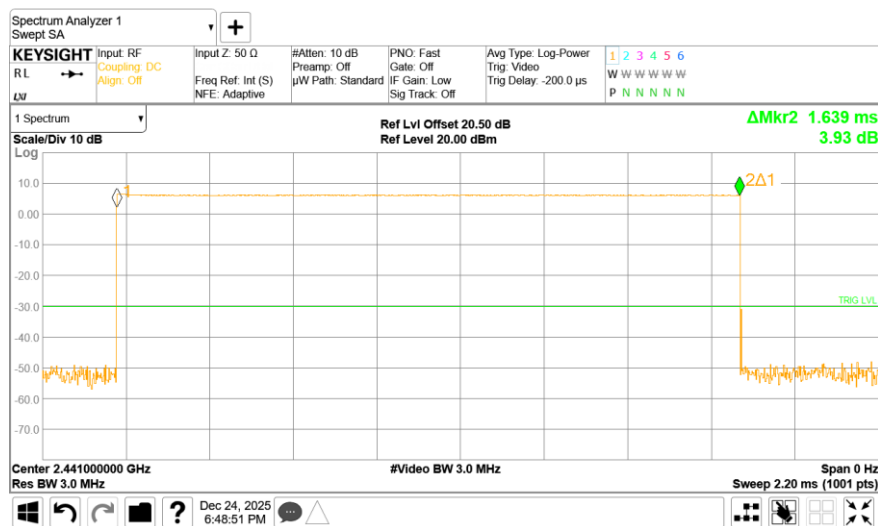
DH3, N=4

DH5, N=6

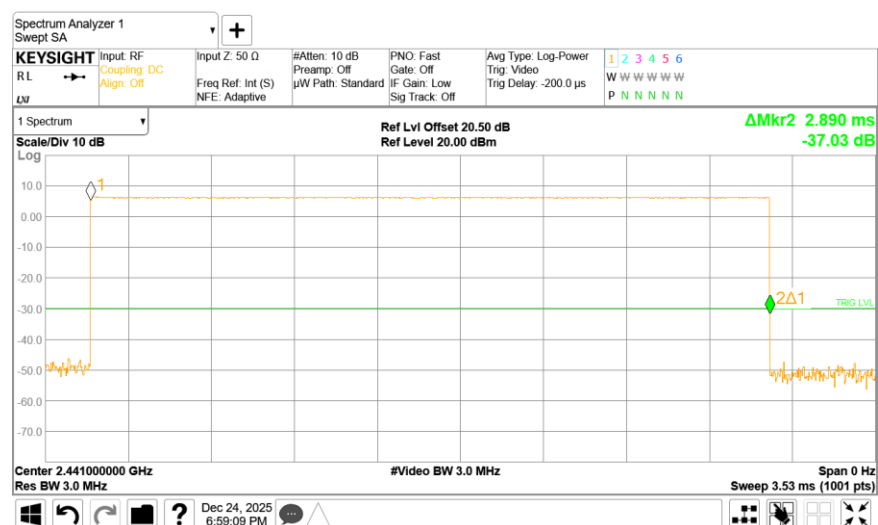
Dwell Time @ DH1 Ch 39



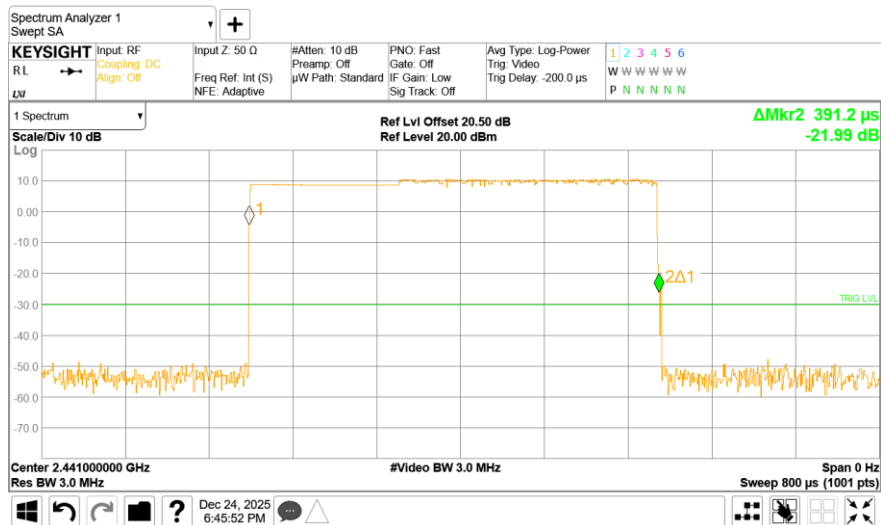
Dwell Time @ DH3 Ch 39



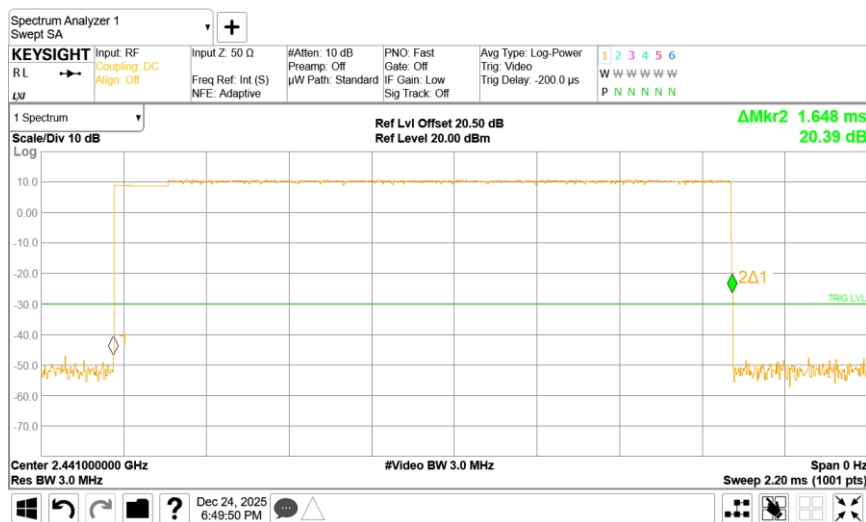
Dwell Time @ DH5 Ch 39



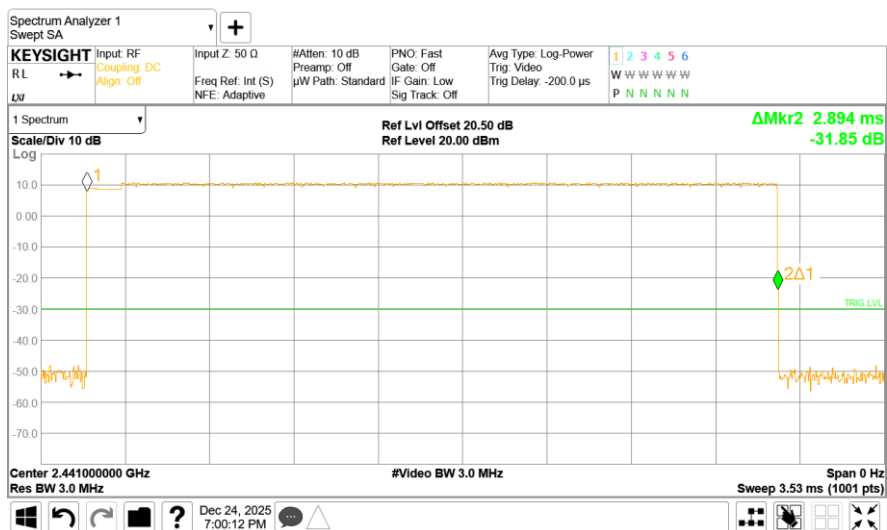
Dwell Time @ 2DH1 Ch 39



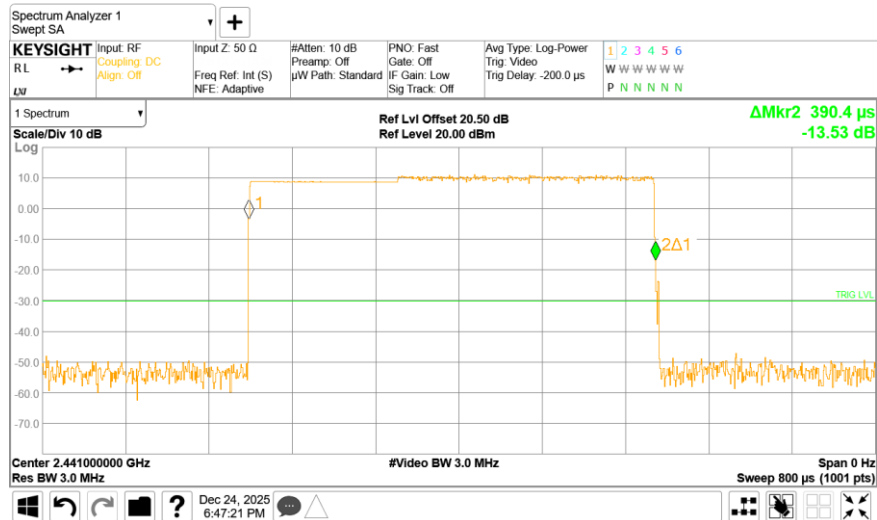
Dwell Time @ 2DH3 Ch 39



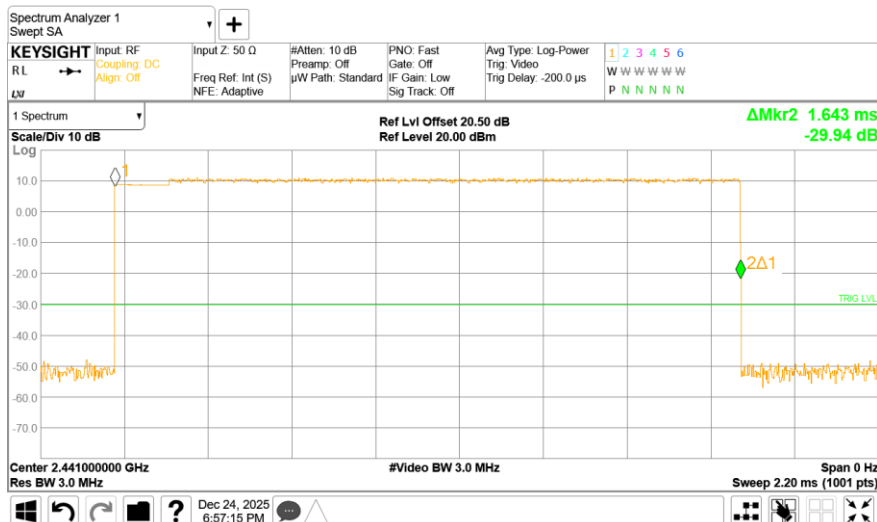
Dwell Time @ 2DH5 Ch 39



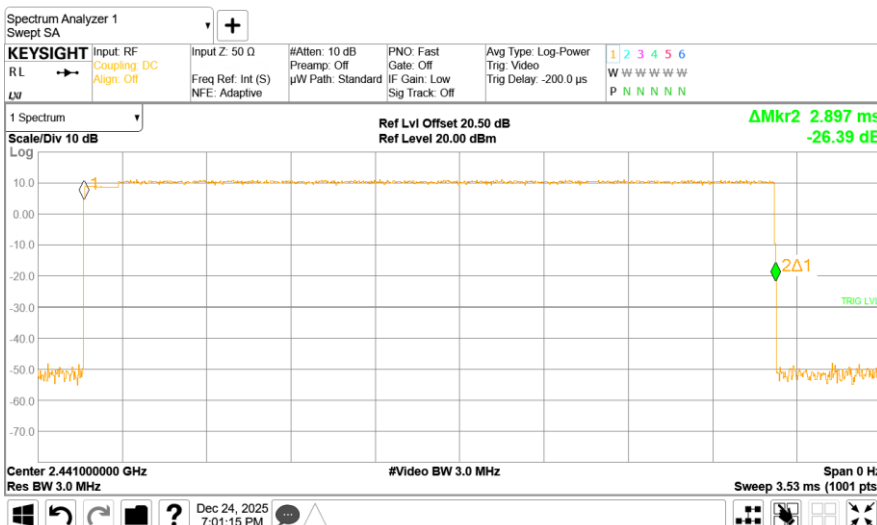
Dwell Time @ 3DH1 Ch 39



Dwell Time @ 3DH3 Ch 39



Dwell Time @ 3DH5 Ch 39



6. Maximum Output Power Test

6.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

The power output per FCC §15.247(b) was measured on the EUT using a 50 ohm SMA cable connected to peak power meter via power sensor. Power was read directly and cable loss correction (2 dB) was added to the reading to obtain power at the EUT antenna terminals. The test was performed at 3 channels (lowest, middle and highest channel).

6.2 Test Results

Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	Output Power (AV) (dBm)	Total Power (AV) (mW)	Maximum power (PK) (dBm)	Maximum power (PK) (mW)	Limit (dBm)	Margin (dB)
DH5	0	2402	0.46	1.11	1.61	1.45	30	-28.39
	39	2441	2.08	1.61	2.71	1.87	30	-27.29
	78	2480	6.21	4.18	6.53	4.50	30	-23.47
2DH5	0	2402	4.66	2.92	7.14	5.18	21	-13.86
	39	2441	5.04	3.19	7.47	5.58	21	-13.53
	78	2480	5.91	3.90	7.73	5.93	21	-13.27
3DH5	0	2402	4.55	2.85	7.63	5.79	21	-13.37
	39	2441	5.09	3.23	7.47	5.58	21	-13.53
	78	2480	5.91	3.90	7.77	5.98	21	-13.23

7. RF Antenna Conducted Spurious Test

7.1 Test Setup & Procedure

The test procedure was according to FCC measurement guidelines DA 00-705.

The measurements were performed from 30MHz to 25GHz RF antenna conducted per FCC 15.247 (c) was measured from the EUT antenna port using a 50ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 100 kHz.

Harmonics and spurious noise must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

7.2 Operating Environment Condition

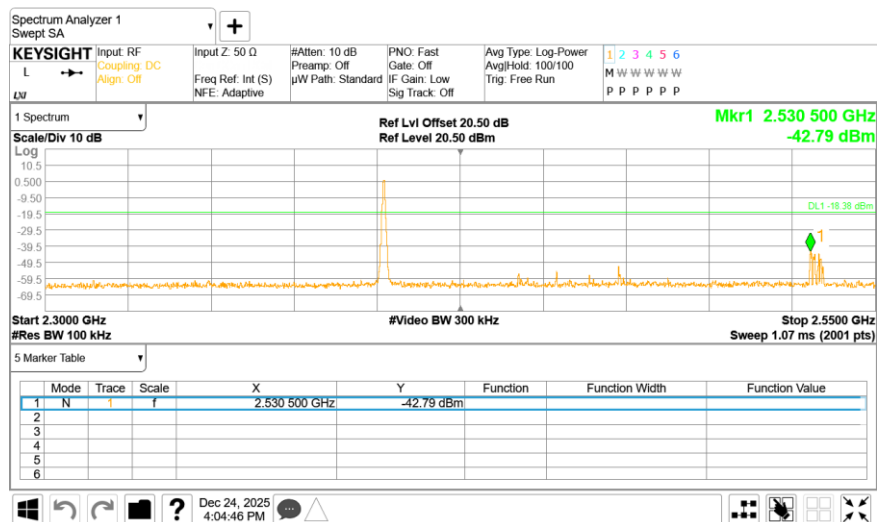
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	65
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	Delta (dBc)	Limit (dBc)
DH5	0	2402	44.41	>20
	39	2441	62.97	>20
	78	2480	65.87	>20
2DH5	0	2402	46.51	>20
	39	2441	51.37	>20
	78	2480	63.09	>20
3DH5	0	2402	60.30	>20
	39	2441	52.17	>20
	78	2480	61.32	>20

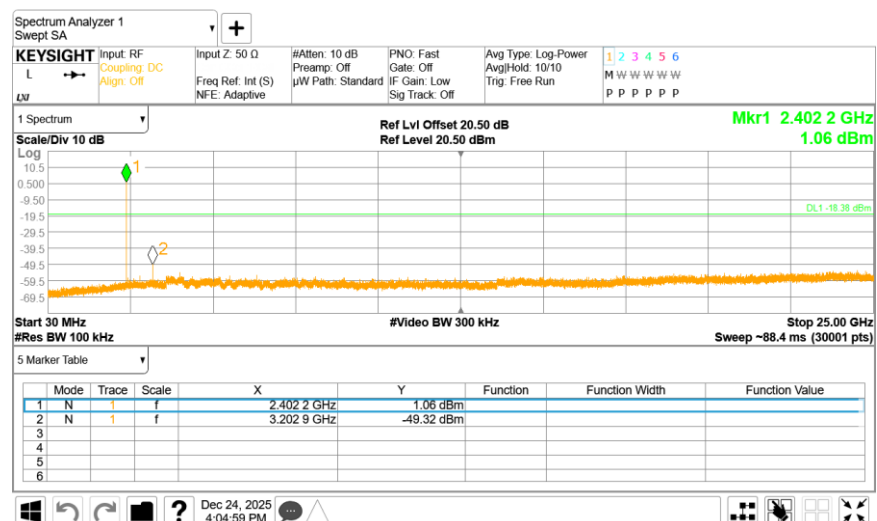
Conducted Spurious @ DH5 Ch 0



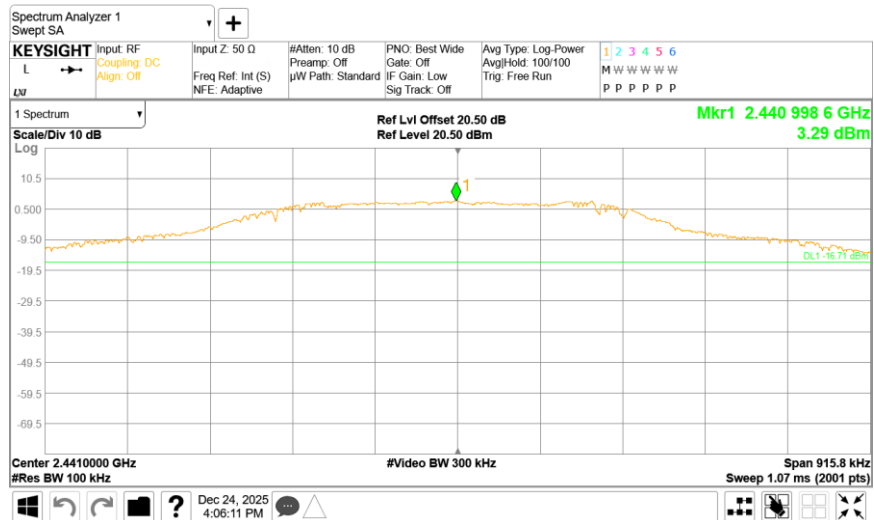
Conducted Spurious @ DH5 Ch 0



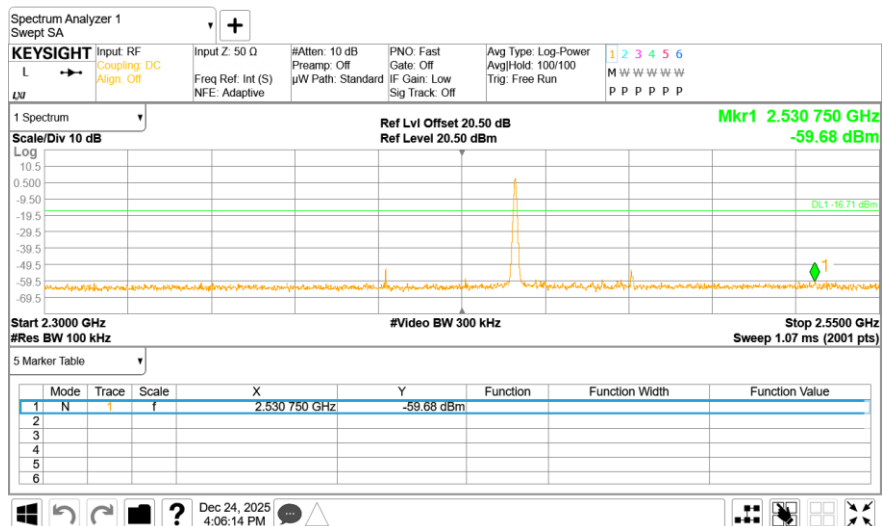
Conducted Spurious @ DH5 Ch 0



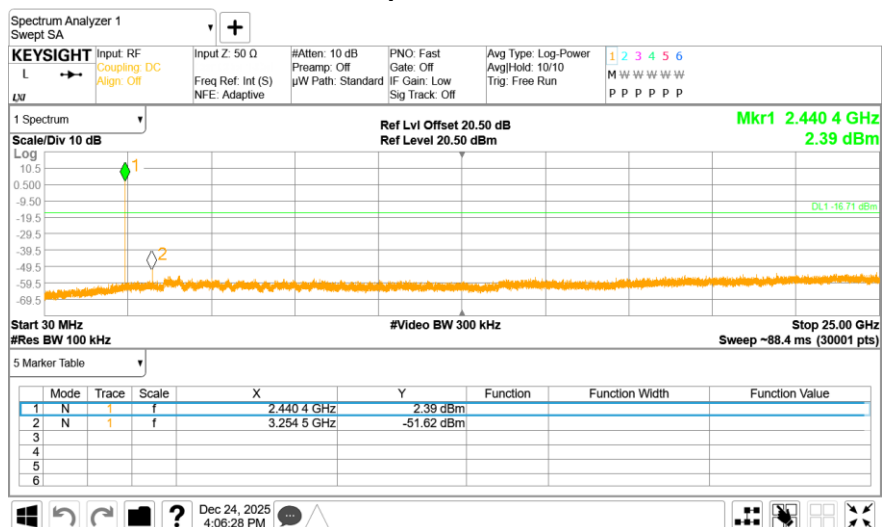
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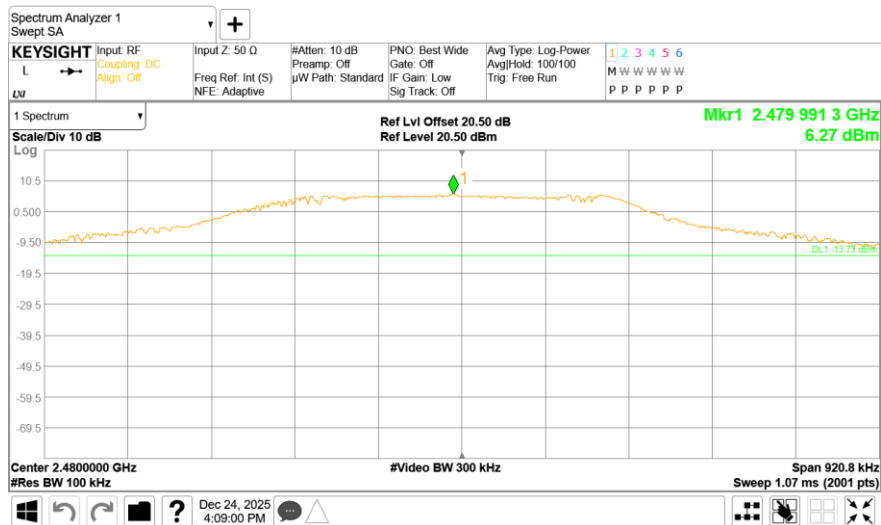
Conducted Spurious @ DH5 Ch 39



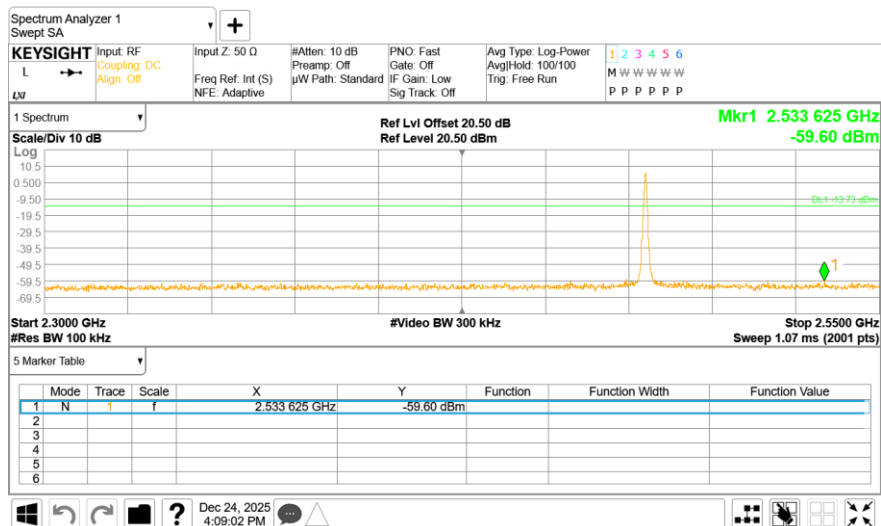
Conducted Spurious @ DH5 Ch 39



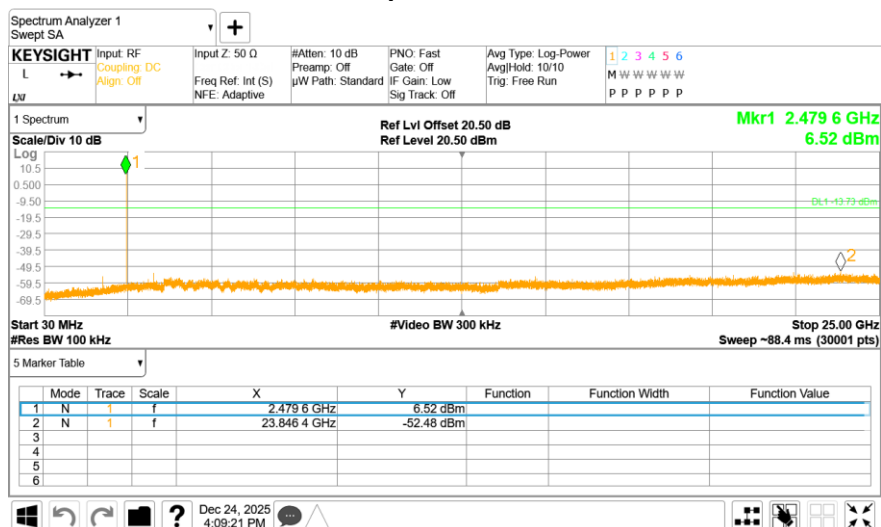
Conducted Spurious @ DH5 Ch 78



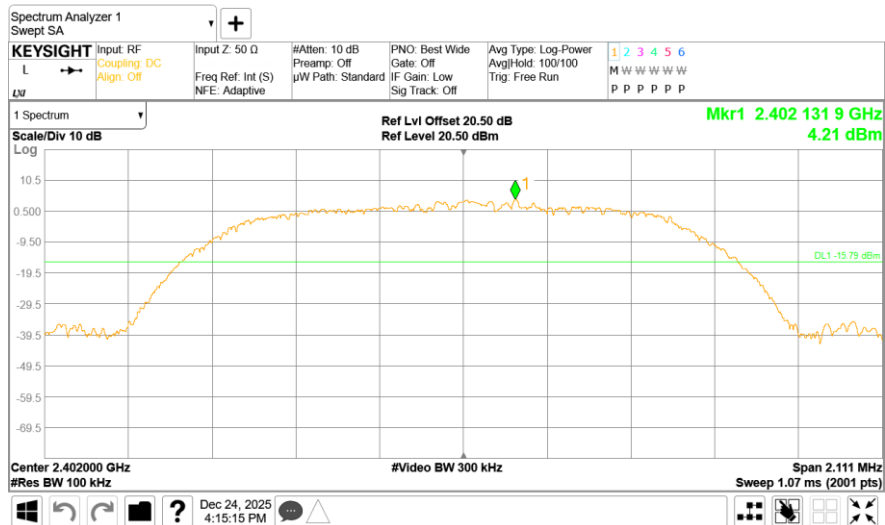
Conducted Spurious @ DH5 Ch 78



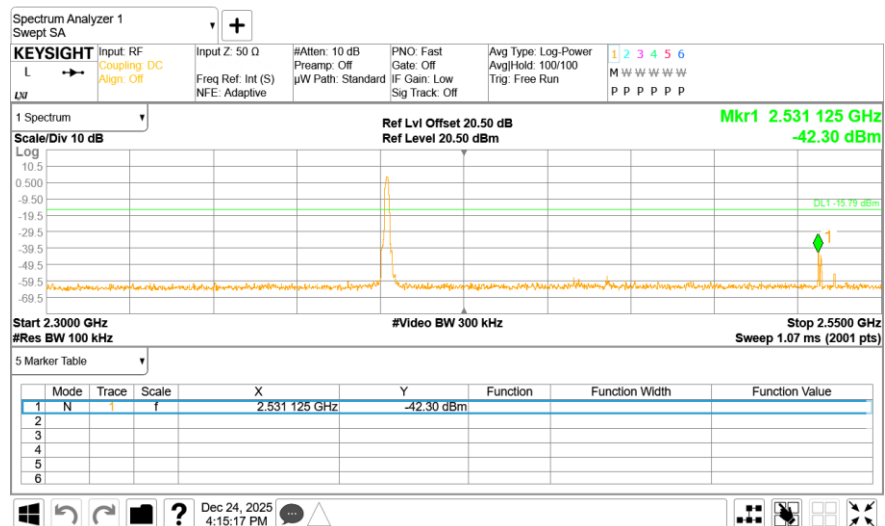
Conducted Spurious @ DH5 Ch 78



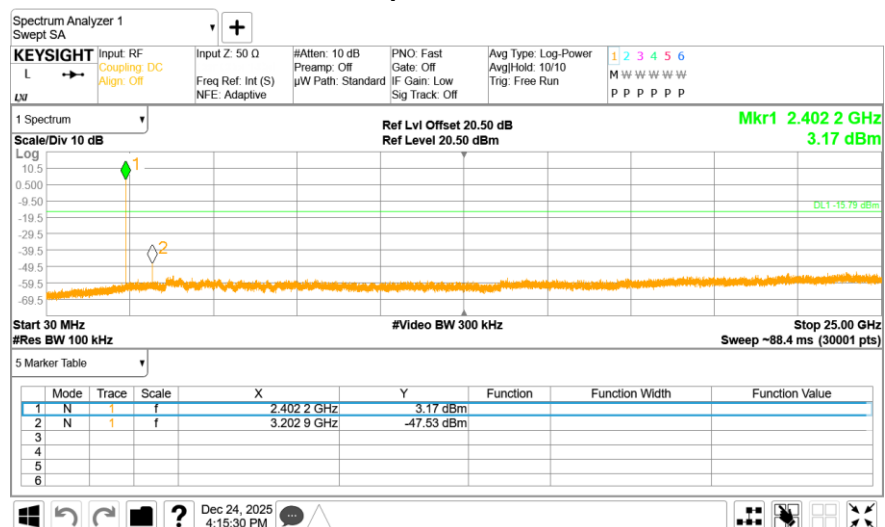
Conducted Spurious @ 2DH5 Ch 0



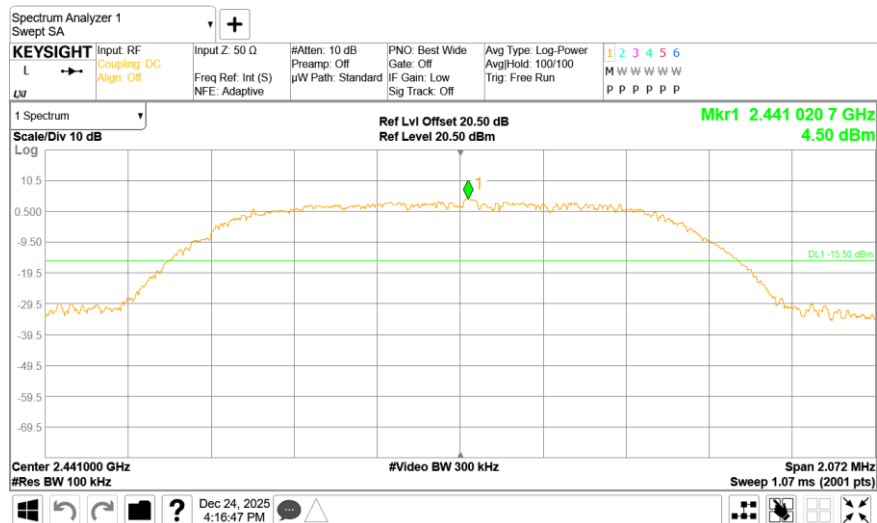
Conducted Spurious @ 2DH5 Ch 0



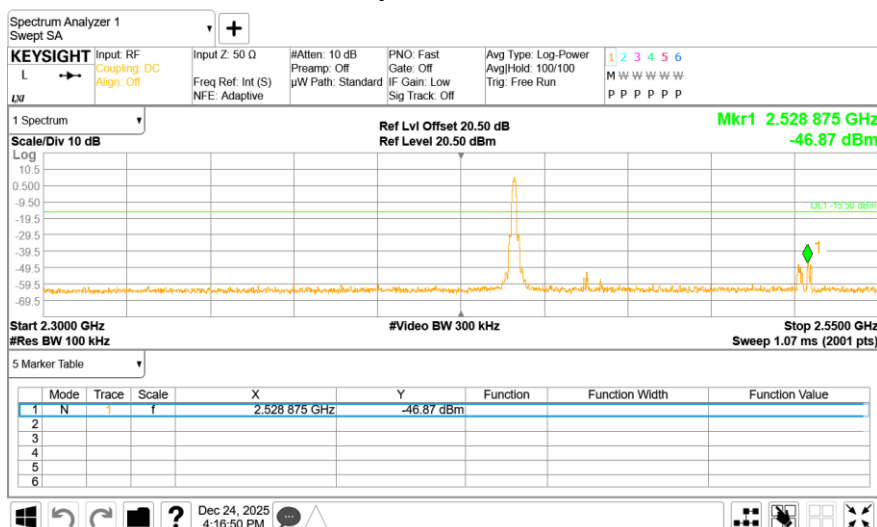
Conducted Spurious @ 2DH5 Ch 0



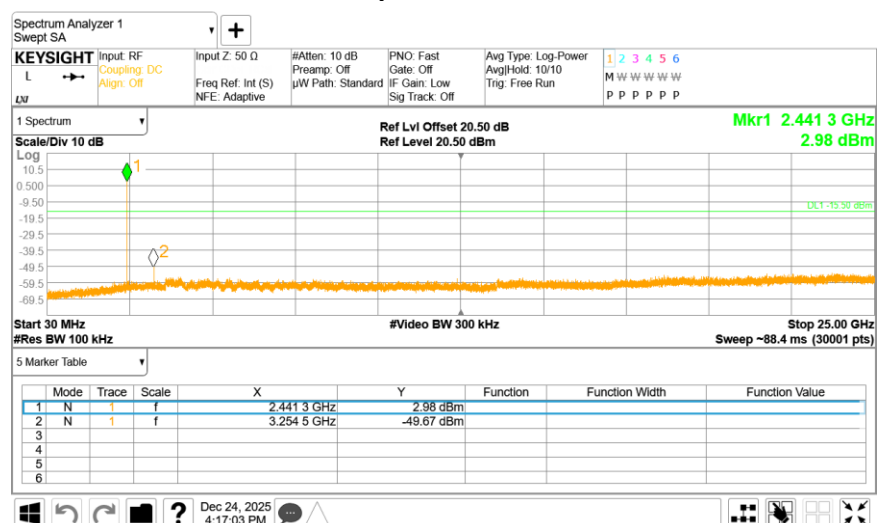
Conducted Spurious @ 2DH5 Ch 39



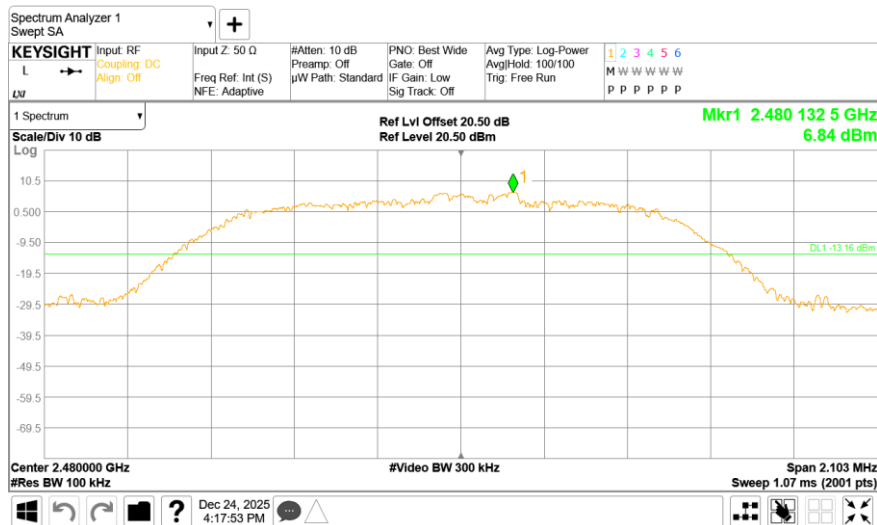
Conducted Spurious @ 2DH5 Ch 39



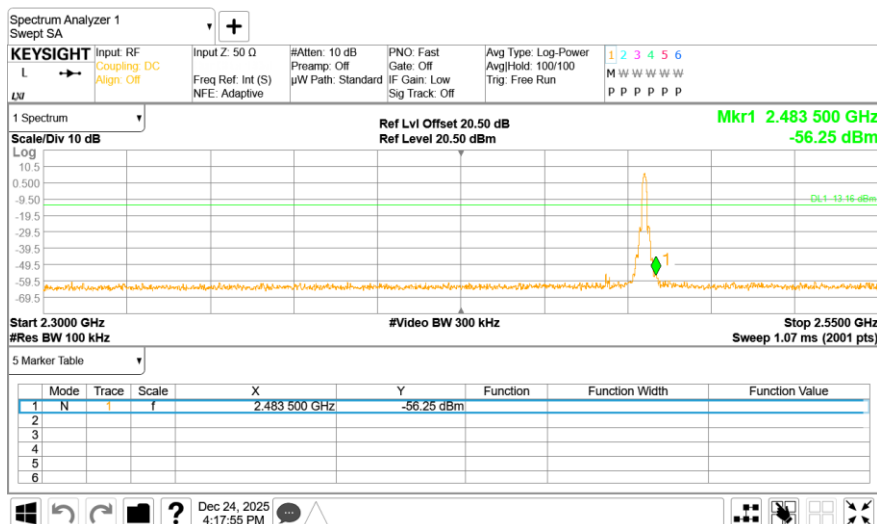
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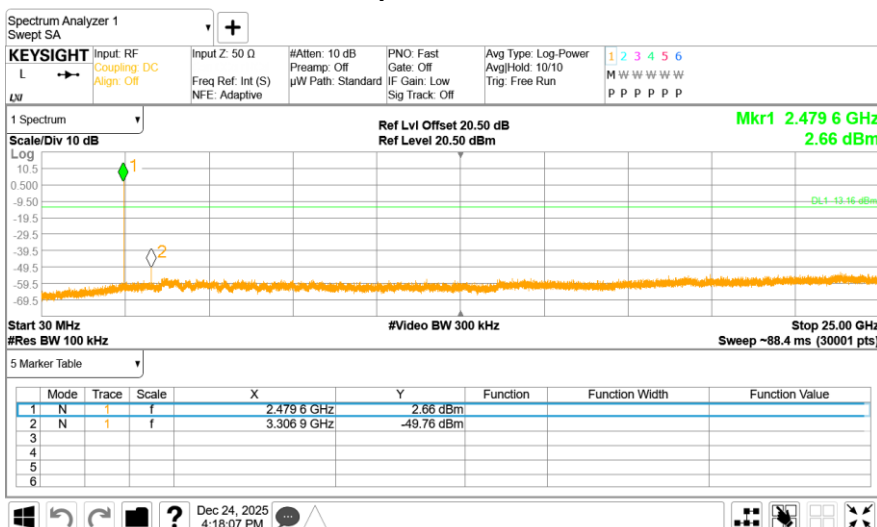
Conducted Spurious @ 2DH5 Ch 78



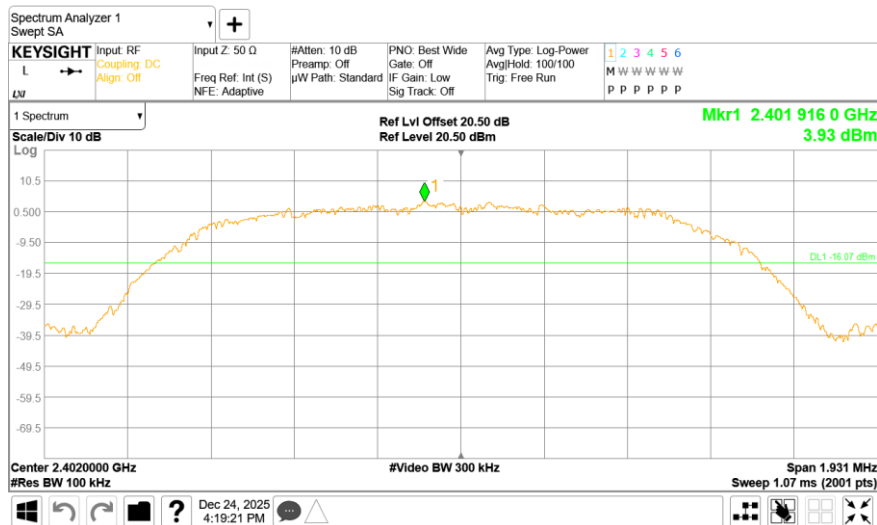
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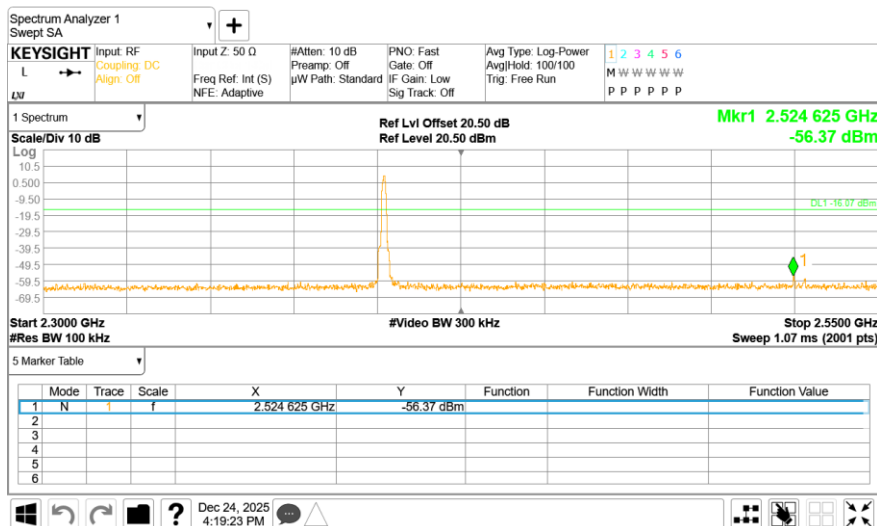
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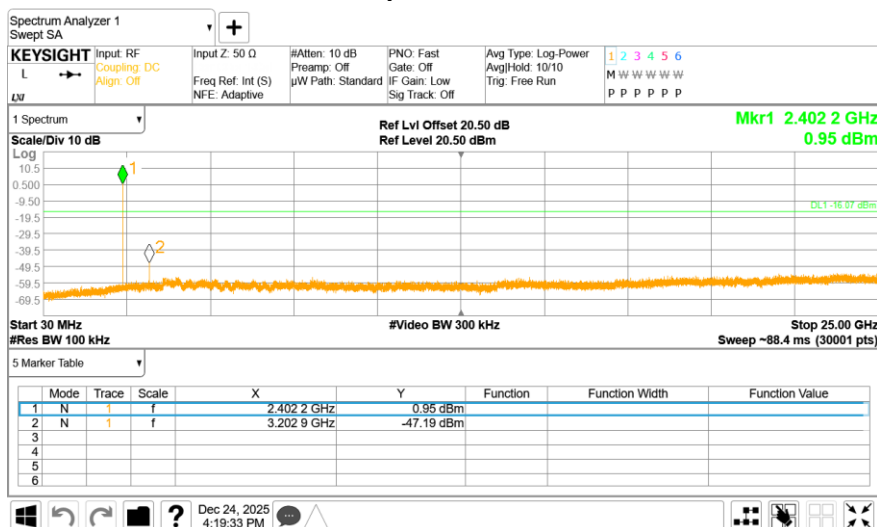
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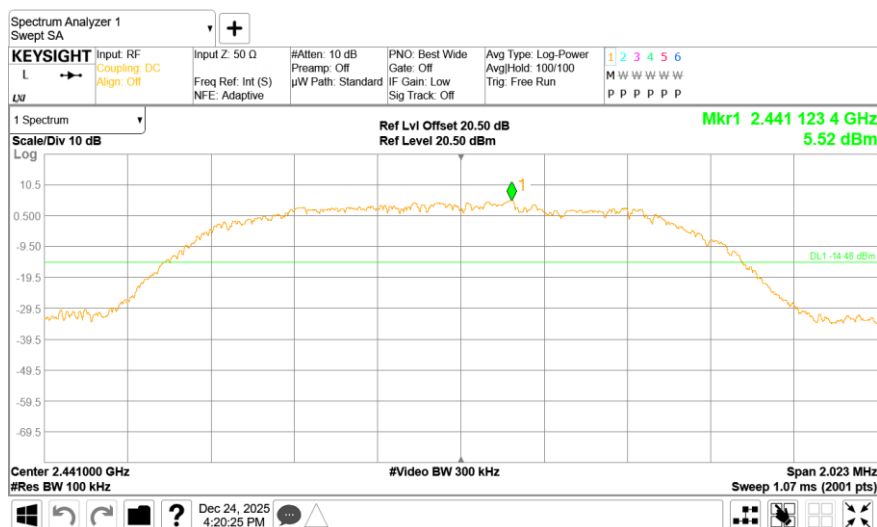
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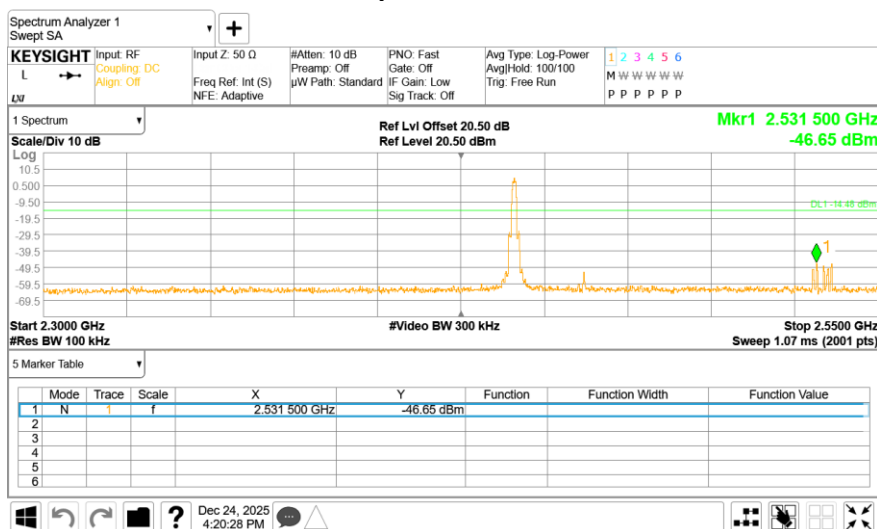
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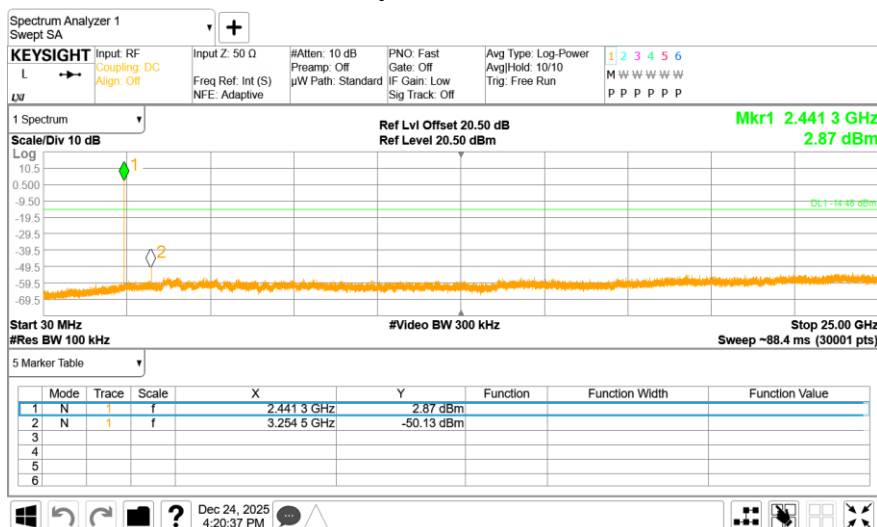
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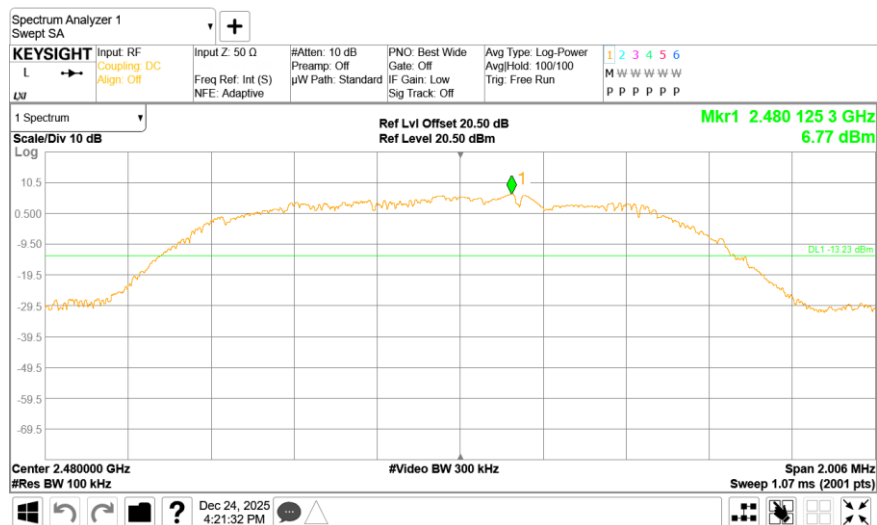
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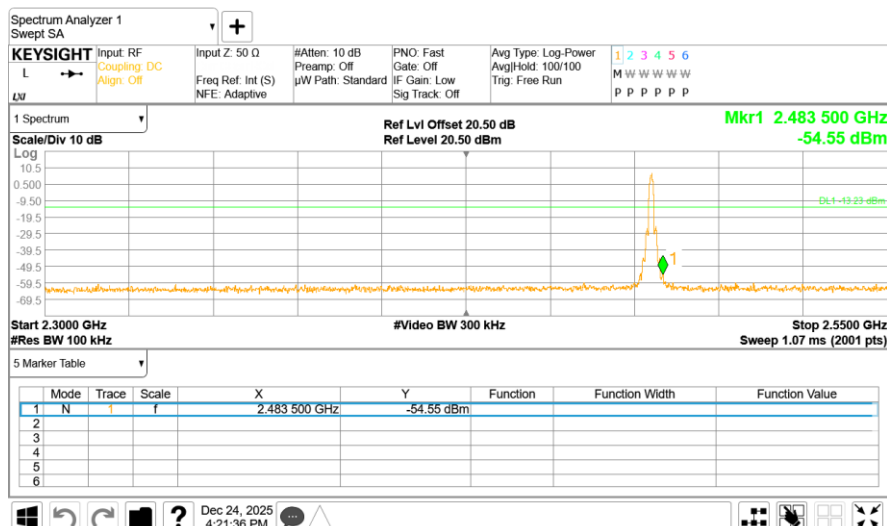
Conducted Spurious @ 3DH5 Ch 39



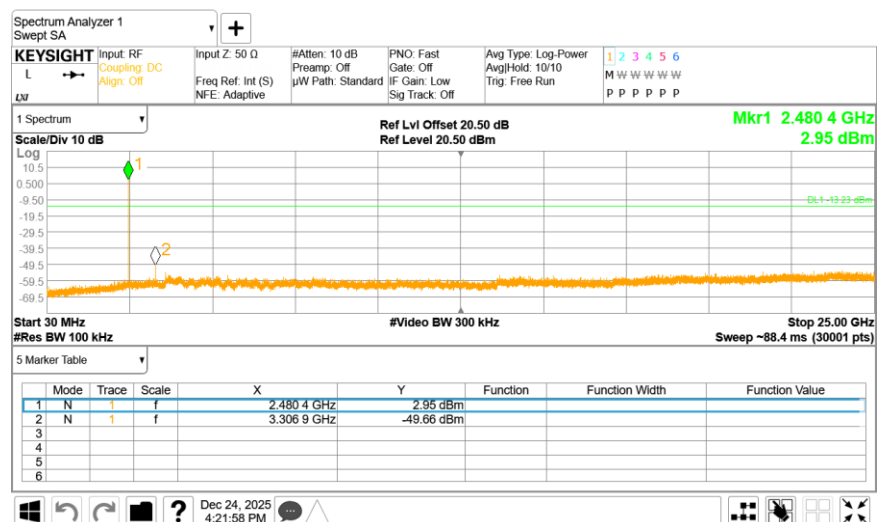
Conducted Spurious @ 3DH5 Ch 78



Conducted Spurious @ 3DH5 Ch 78



Conducted Spurious @ 3DH5 Ch 78



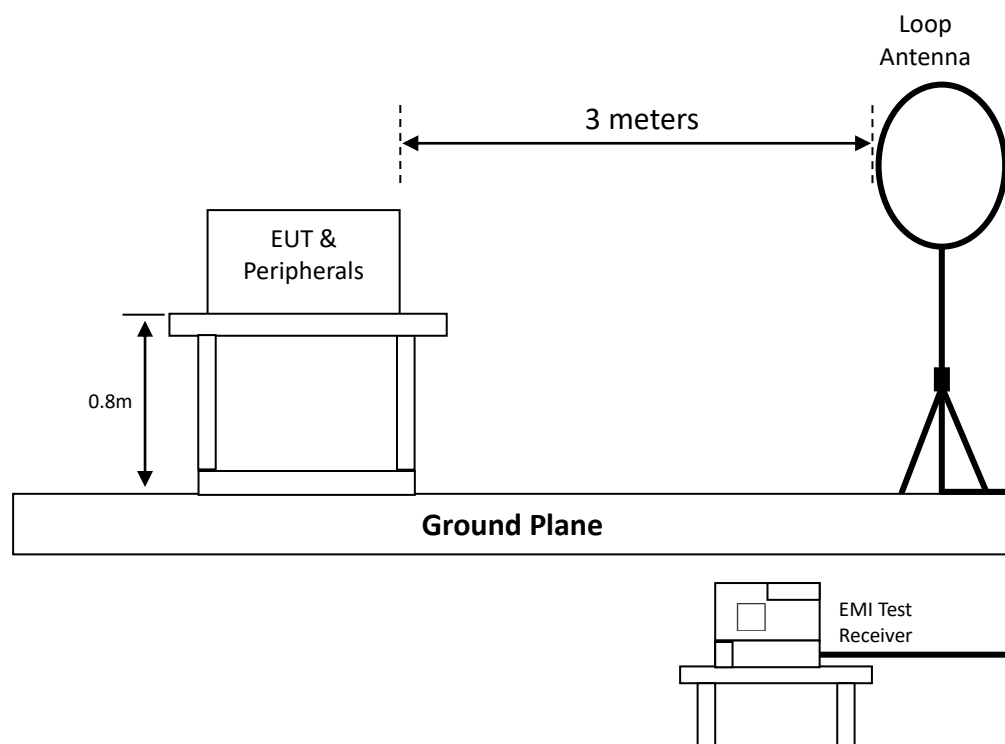
8. Emissions in Restricted Frequency Bands (Radiated emission measurements)

8.1 Instrument Setting

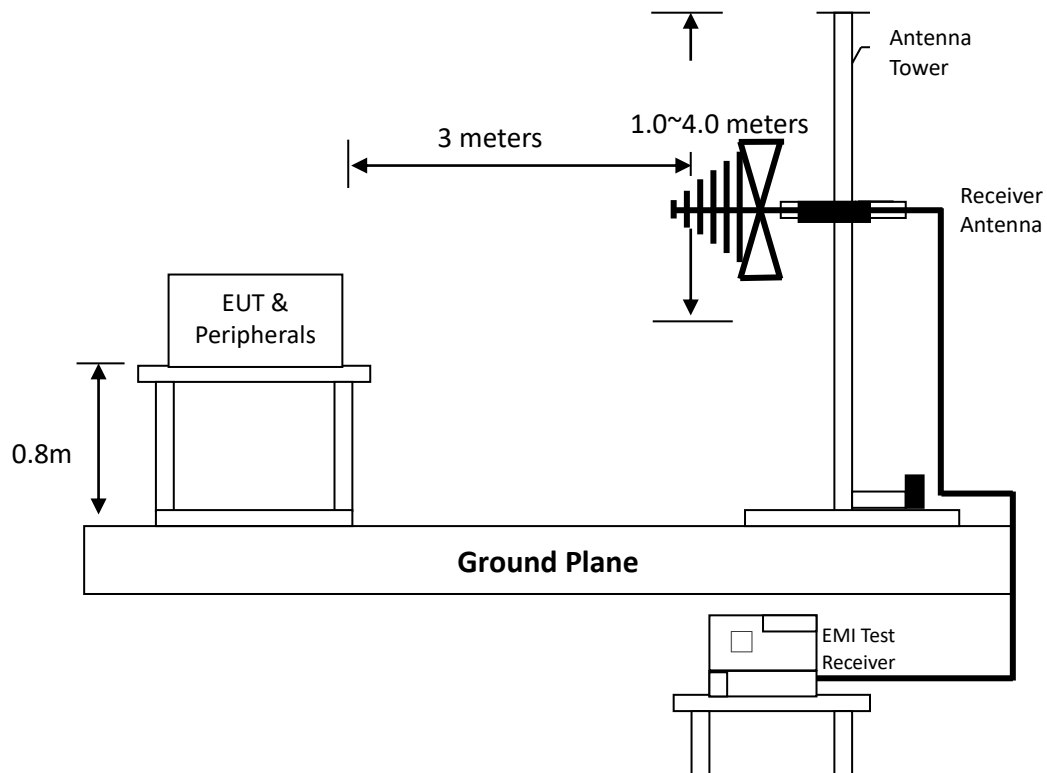
Receiver Function	Setting (Below 1GHz)	Setting (Above 1GHz)
Detector	QP	Peak and Average
RBW	9-150 kHz ; 200-300 Hz 0.15-30 MHz; 9-10 kHz 30-1000 MHz; 100-120 kHz	1MHz
VBW	$\geq 3 \times \text{RBW}$	3MHz & 1/T Minimum VBW
Sweep	Auto couple	Auto couple
Start Frequency	9 kHz	1GHz
Stop Frequency	1 GHz	Tenth harmonic
Attenuation	Auto	Auto

8.2 Test setup & procedure

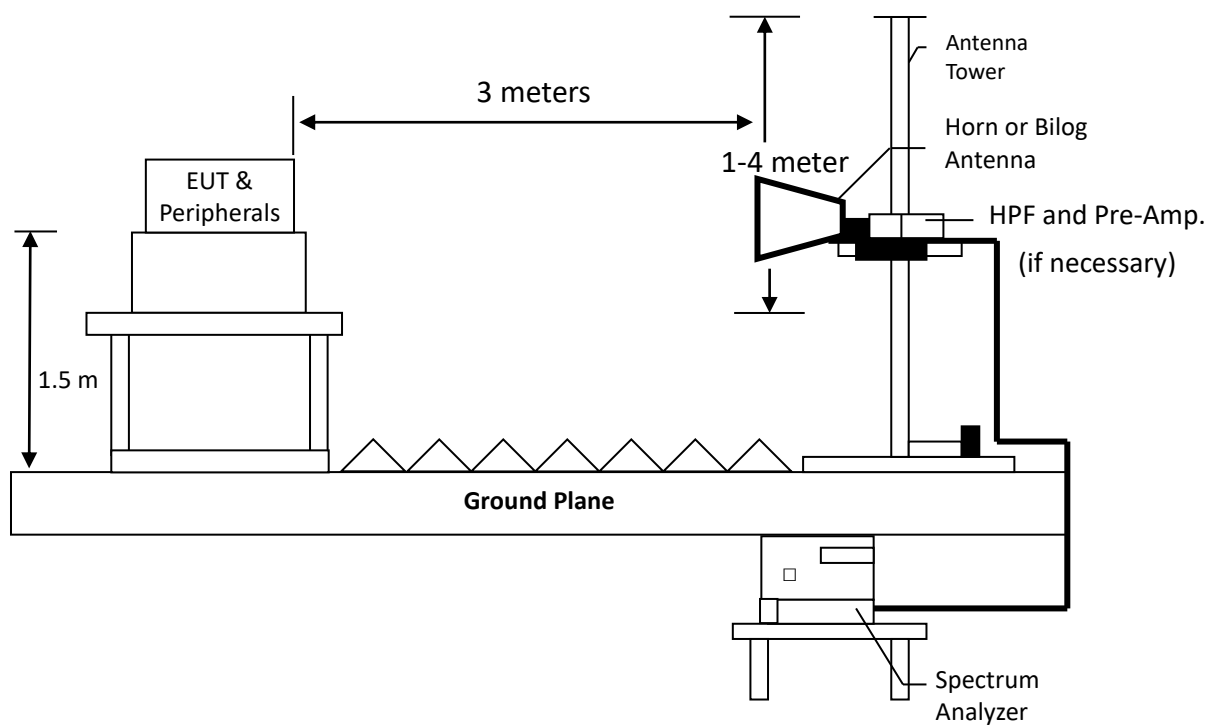
Radiated emission from 9kHz to 30MHz uses Loop Antenna:



Radiated emission below 1GHz using Bilog Antenna



Radiated emission above 1GHz using Horn Antenna



TEST REPORT

Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1 MHz RBW/ 3 MHz VBW) recorded also on the report.

The EUT for testing is arranged on a turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

8.3 Limit

Frequency(MHz)	Field Strength(uV/m)	Measurement distance(m)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

8.4 Test Result

8.4.1 Measurement results: frequencies 9kHz to 30MHz

Test model:	68301
Temperature (°C):	21
Relative Humidity (%):	74
Test date:	2025/12/23

The test was performed on EUT under continuously transmitting mode. The worst case occurred at 3DH5 Ch 78.

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Perpendicular	0.61	PK	18.31	14.77	33.08	71.91	-38.83
Perpendicular	1.87	PK	18.31	11.86	30.17	69.54	-39.37
Perpendicular	2.67	PK	18.37	10.59	28.96	69.54	-40.58
Perpendicular	3.31	PK	18.55	10.11	28.66	69.54	-40.88
Perpendicular	4.06	PK	18.92	10.17	29.09	69.54	-40.45
Perpendicular	12.37	PK	20.76	6.89	27.65	69.54	-41.89

Remark: Corr. Factor = Antenna Factor + Cable Loss

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Parallel	0.97	PK	18.40	13.97	32.37	67.88	-35.51
Parallel	1.39	PK	18.36	12.32	30.68	64.75	-34.07
Parallel	2.68	PK	18.37	11.69	30.06	69.54	-39.48
Parallel	3.43	PK	18.61	10.85	29.46	69.54	-40.08
Parallel	10.45	PK	20.54	6.16	26.70	69.54	-42.84
Parallel	13.30	PK	20.61	6.45	27.06	69.54	-42.48

Remark: Corr. Factor = Antenna Factor + Cable Loss

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Ground-parallel	0.61	PK	18.31	14.78	33.09	71.91	-38.82
Ground-parallel	2.32	PK	18.33	11.25	29.58	69.54	-39.96
Ground-parallel	3.52	PK	18.66	10.79	29.45	69.54	-40.09
Ground-parallel	4.24	PK	18.97	9.63	28.60	69.54	-40.94
Ground-parallel	5.53	PK	19.68	7.63	27.31	69.54	-42.23
Ground-parallel	11.86	PK	20.81	5.95	26.76	69.54	-42.78

Remark: Corr. Factor = Antenna Factor + Cable Loss

8.4.2 Measurement results: frequencies below 1 GHz

Test model:	68301
Temperature (°C):	21
Relative Humidity (%):	74
Test date:	2025/12/23

The test was performed on EUT under continuously transmitting mode. The worst case occurred at 3DH5 Ch 78.

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Horizontal	59.10	PK	19.95	2.05	22.00	40.00	-18.00
Horizontal	128.94	PK	18.30	7.11	25.41	43.50	-18.09
Horizontal	141.55	PK	19.66	6.69	26.35	43.50	-17.15
Horizontal	148.34	PK	19.94	13.79	33.73	43.50	-9.77
Horizontal	197.81	PK	17.03	16.07	33.10	43.50	-10.40
Horizontal	207.51	PK	17.27	7.94	25.21	43.50	-18.29

Remark: Corr. Factor = Antenna Factor + Cable Loss

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Vertical	69.77	PK	18.13	9.33	27.46	40.00	-12.54
Vertical	77.53	PK	16.61	10.07	26.68	40.00	-13.32
Vertical	155.13	PK	20.18	2.91	23.09	43.50	-20.41
Vertical	171.62	PK	19.69	2.64	22.33	43.50	-21.17
Vertical	197.81	PK	17.03	7.86	24.89	43.50	-18.61
Vertical	303.54	PK	21.13	2.48	23.61	46.00	-22.39

Remark: Corr. Factor = Antenna Factor + Cable Loss

Test model:	68307
Temperature (°C):	22
Relative Humidity (%):	74
Test date:	2026/05/06

The test was performed on EUT under continuously transmitting mode. The worst case occurred at 3DH5 Ch 78.

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Horizontal	192.96	PK	18.17	8.79	26.96	43.50	-16.54
Horizontal	215.27	PK	18.57	12.07	30.64	43.50	-12.86
Horizontal	272.50	PK	21.20	7.36	28.56	46.00	-17.44
Horizontal	295.78	PK	21.77	6.55	28.32	46.00	-17.68
Horizontal	369.50	PK	23.78	5.63	29.41	46.00	-16.59
Horizontal	463.59	PK	26.28	3.65	29.93	46.00	-16.07

Remark: Corr. Factor = Antenna Factor + Cable Loss

Ant Polarity	Frequency (MHz)	Detector	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)
Vertical	35.82	PK	18.77	11.58	30.35	40.00	-9.65
Vertical	64.92	PK	19.39	8.18	27.57	40.00	-12.43
Vertical	262.80	PK	20.67	7.95	28.62	46.00	-17.38
Vertical	340.40	PK	22.91	9.36	32.27	46.00	-13.73
Vertical	362.71	PK	23.40	7.33	30.73	46.00	-15.27
Vertical	446.13	PK	26.05	6.66	32.71	46.00	-13.29

Remark: Corr. Factor = Antenna Factor + Cable Loss

TEST REPORT

8.4.3 Measurement results: frequency above 1GHz

Test model:	68301
Temperature (°C):	21
Relative Humidity (%):	74
Test date:	2025/12/19

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
DH5_Ch0	4804	PK	H	-6.86	42.93	36.07	74	-37.93
	4804	PK	V	-6.86	44.55	37.69	74	-36.31
DH5_Ch39	4882	PK	H	-6.54	43.14	36.60	74	-37.40
	4882	PK	V	-6.54	42.65	36.11	74	-37.89
DH5_Ch78	4960	PK	H	-6.26	41.84	35.58	74	-38.42
	4960	PK	V	-6.26	41.78	35.52	74	-38.48
3DH5_Ch0	4804	PK	H	-6.86	48.59	41.73	74	-32.27
	4804	PK	V	-6.86	51.64	44.78	74	-29.22
3DH5_Ch39	4882	PK	H	-6.54	42.33	35.79	74	-38.21
	4882	PK	V	-6.54	43.42	36.88	74	-37.12
3DH5_Ch78	4960	PK	H	-6.26	41.80	35.54	74	-38.46
	4960	PK	V	-6.26	43.87	37.61	74	-36.39

Remark: 1. Correction Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Pre_Amplifier Gain

2. The emissions were very low against the limit above 18 GHz.

9. Emission on Band Edge

9.1 Instrument Setting

Spectrum Function	Setting
Detector	Peak and Average
RBW	1MHz
VBW	3MHz & 1/T Minimum VBW
Sweep	Auto couple
Restrict bands	2310 MHz ~ 2390 MHz 2483.5 MHz ~ 2500 MHz
Attenuation	Auto

9.2 Test Procedure

The test procedure is the same as Emissions in Restricted Frequency Bands (Radiated emission measurements).

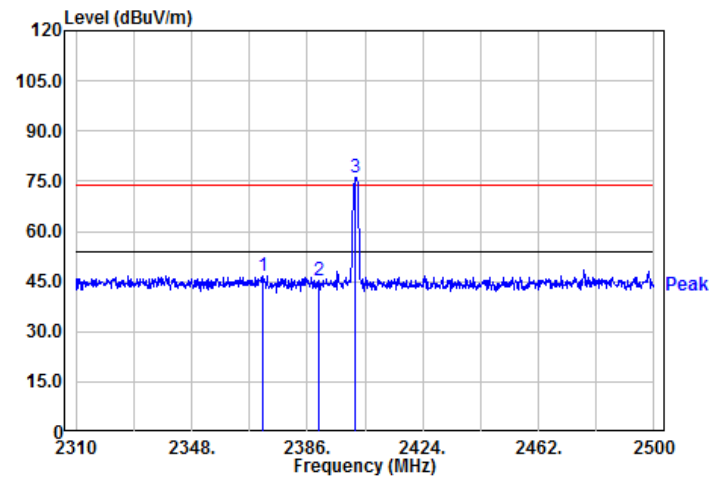
9.3 Test Results

Test model:	68301
Temperature (°C):	21
Relative Humidity (%):	74
Test date:	2025/12/19

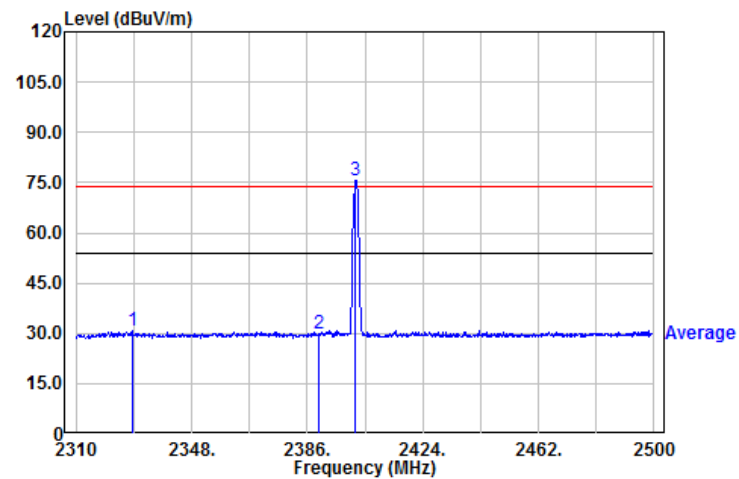
Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)	Restricted band (MHz)
DH5	2371.18	PK	H	32.43	14.26	46.69	74	-27.31	2310~2390
	2328.62	AV	H	32.49	-1.92	30.57	54	-23.43	
	2487.08	PK	H	32.35	14.36	46.71	74	-27.29	2483.5~2500
	2492.59	AV	H	32.36	-1.92	30.44	54	-23.56	
3DH5	2387.90	PK	H	32.35	15.08	47.43	74	-26.57	2310~2390
	2327.29	AV	H	32.48	-1.94	30.54	54	-23.46	
	2488.41	PK	H	32.35	13.80	46.15	74	-27.85	2483.5~2500
	2498.29	AV	H	32.37	-1.80	30.57	54	-23.43	

Remark: Correction Factor = Antenna Factor + Cable Loss

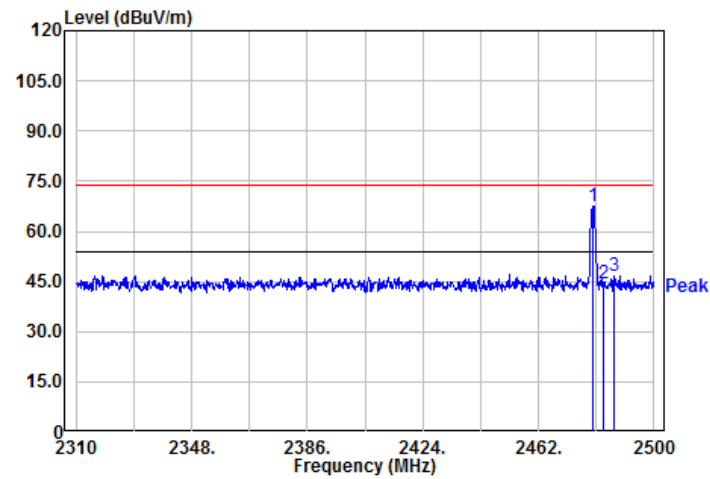
Chain0 : Restricted Band Bandedge @ DH5 Mode Ch0 PK



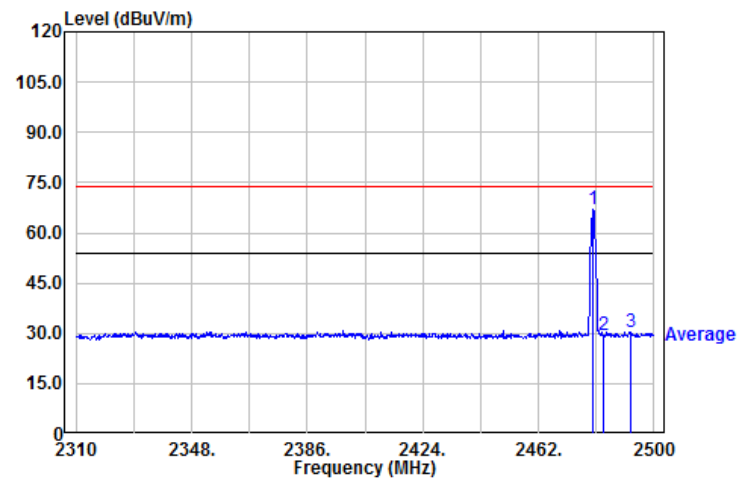
Chain0 : Restricted Band Bandedge @ DH5 Mode Ch0 AV



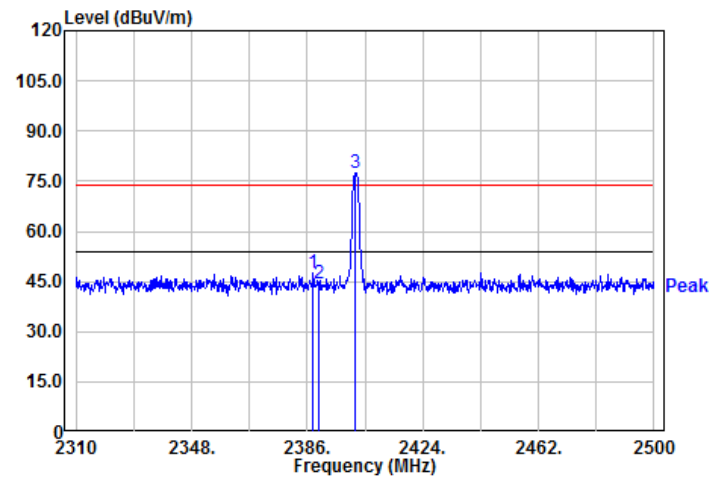
Chain0 : Restricted Band Bandedge @ DH5 Mode Ch78 PK



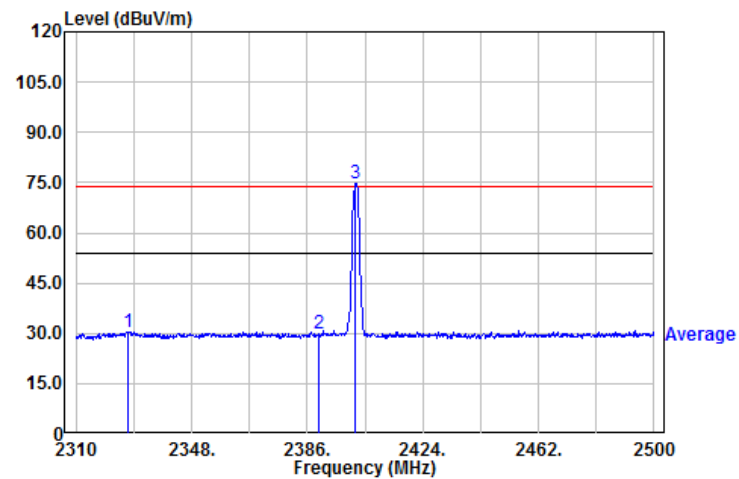
Chain0 : Restricted Band Bandedge @ DH5 Mode Ch78 AV



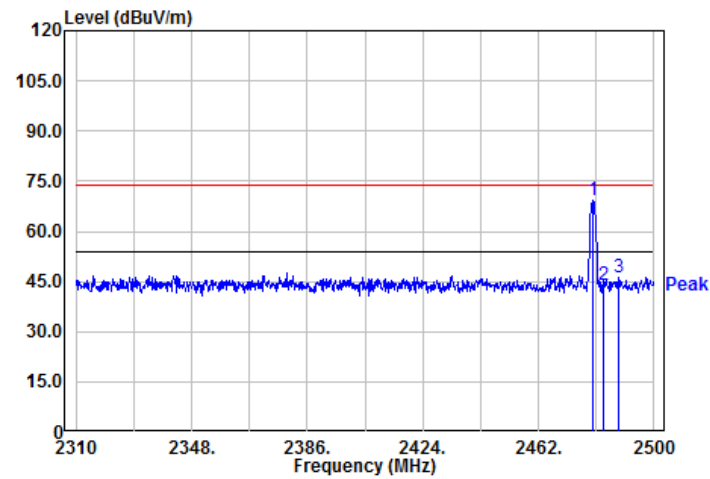
Chain0 : Restricted Band Bandedge @ 3DH5 Mode Ch0 PK



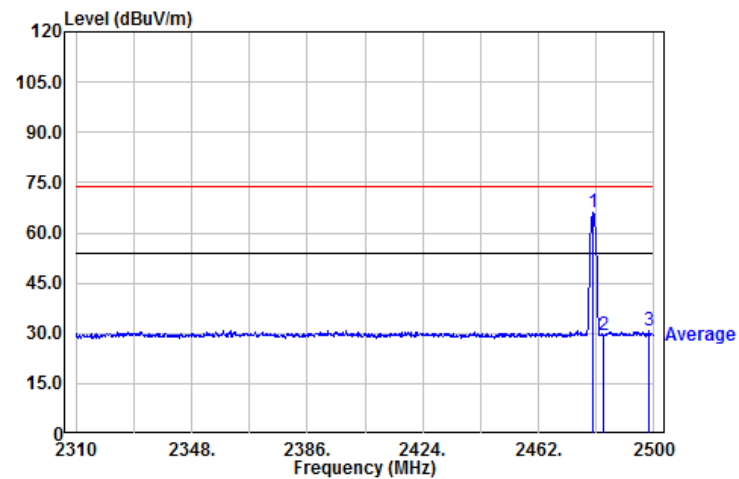
Chain0 : Restricted Band Bandedge @ 3DH5 Mode Ch0 AV



Chain0 : Restricted Band Bandedge @ 3DH5 Mode Ch78 PK



Chain0 : Restricted Band Bandedge @ 3DH5 Mode Ch78 AV



10. AC Power Line Conducted Emission

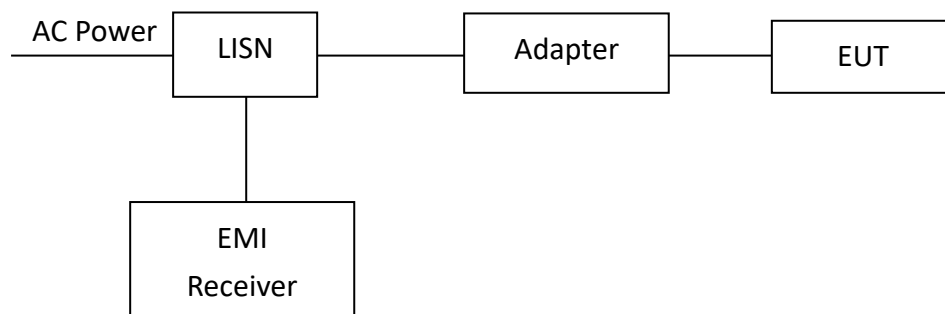
10.1 Measuring instrument setting

Receiver Function	Setting
Detector	QP
Start frequency	0.15MHz
Stop frequency	30MHz
IF bandwidth	9 kHz
Attenuation	10dB

10.2 Test Procedure

Step 1	Configure the EUT according to ANSI C63.10-2020. The EUT or host of EHT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
Step 2	Connect EUT or host of EUT to the power mains through a line impedance stabilization network.
Step 3	All the companion devices are connected to the other LISN. The LISN should provide 50Uh/50ohms coupling impedance.
Step 4	The frequency range from 150 kHz to 30MHz was searched.
Step 5	Set the test-receiver system to peak detector and specified bandwidth with maximum hold mode.
Step 6	The measurement has to be done between each power line and ground at the power terminal.

10.3 Test Diagram

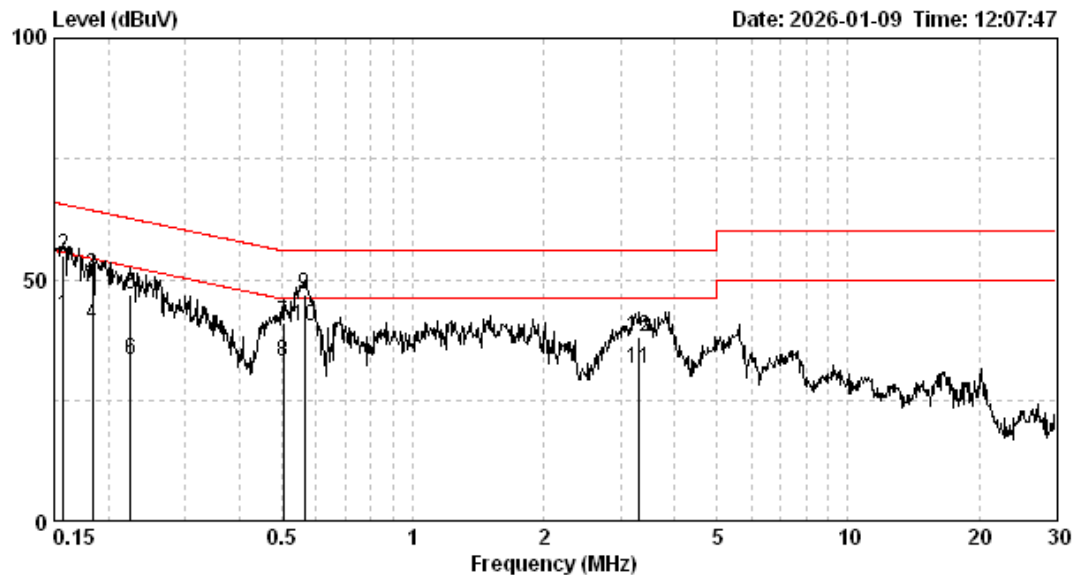


10.4 Limit

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi Peak	Average
0.15~0.50	66 – 56	56 – 46
0.50~5.00	56	46
5.00~30.0	60	50

10.5 Test Results

Test model:	68301
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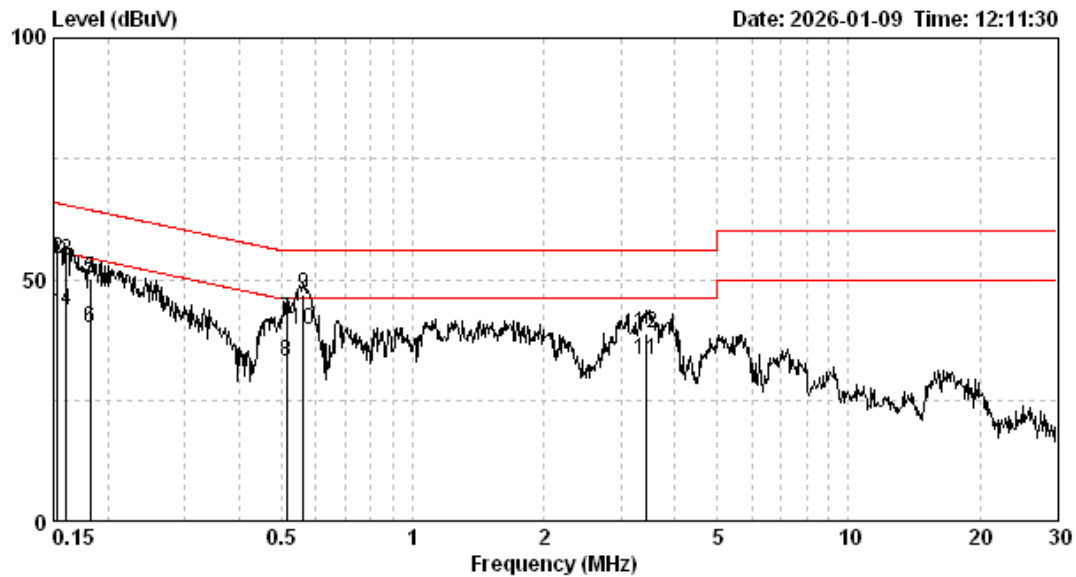


Test voltage : AC 120V / 60Hz
 Temp. / R.H. : 22 °C / 72 %
 Atmospheric pressure : 1010 hPa

Phase	Frequency (MHz)	Corr. Factor (dB)	Reading QP (dBuV)	Level QP (dBuV)	Limit QP (dBuV)	Reading AV (dBuV)	Level AV (dBuV)	Limit AV (dBuV)	Margin (dB)	
									QP	AV
LINE	0.157	9.80	45.12	54.92	65.60	32.71	42.51	55.60	-10.69	-13.10
LINE	0.183	9.84	40.96	50.80	64.33	30.98	40.82	54.33	-13.52	-13.51
LINE	0.224	9.86	37.10	46.97	62.66	23.61	33.48	52.66	-15.69	-19.18
LINE	0.505	9.89	31.07	40.96	56.00	22.98	32.87	46.00	-15.04	-13.13
LINE	0.564	9.92	37.11	47.03	56.00	30.32	40.23	46.00	-8.97	-5.77
LINE	3.310	10.00	27.95	37.94	56.00	21.61	31.61	46.00	-18.06	-14.39

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)



Test voltage : AC 120V / 60Hz
 Temp. / R.H. : 22 °C / 72 %
 Atmospheric pressure : 1010 hPa

Phase	Frequency (MHz)	Corr. Factor (dB)	Reading QP (dBuV)	Level QP (dBuV)	Limit QP (dBuV)	Reading AV (dBuV)	Level AV (dBuV)	Limit AV (dBuV)	Margin (dB)	
									QP	AV
NEUTRAL	0.153	9.77	44.56	54.33	65.82	33.25	43.02	55.82	-11.49	-12.80
NEUTRAL	0.161	9.79	44.11	53.89	65.43	33.74	43.53	55.43	-11.53	-11.90
NEUTRAL	0.182	9.82	40.36	50.18	64.37	30.07	39.89	54.37	-14.19	-14.48
NEUTRAL	0.513	9.90	31.75	41.65	56.00	23.03	32.93	46.00	-14.35	-13.07
NEUTRAL	0.561	9.92	36.93	46.84	56.00	29.48	39.40	46.00	-9.16	-6.60
NEUTRAL	3.436	10.00	28.76	38.76	56.00	23.34	33.34	46.00	-17.24	-12.66

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)

Appendix A: Test equipment list

Test Equipment/ Test site	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
Pre-Amplifier	SGH	SGH118	20220105-1	2025/12/15	2026/12/14
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-172	2025/12/15	2026/12/14
966-2_3m Semi-Anechoic Chamber	CHANCE MOST	CEM-966_2	N/A	2025/07/29	2026/07/28
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170159	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-456	2025/12/02	2026/12/01
Power Meter	Anritsu	ML2495A	0844001	2025/11/28	2026/11/27
Power Sensor	Anritsu	MA2491A	031543	2025/11/28	2026/11/27
Cable	SUHNER	SUCOFLEX 104	295105/4	2025/02/27	2026/02/26
Cable	SUHNER	SUCOFLEX 104P	CB0005	2025/02/27	2026/02/26
Hight Pass Filter	Wainwright	WHKX3.0/18G-12SS	N/A	2025/05/22	2026/05/21
Active Loop Antenna	SCHWARZBECK	FMZB1519	1519-067	2025/11/17	2026/11/16
20dB Attenuator	PE	PE7001-20	N/A	2025/05/22	2026/05/21
Pre-amplifier	SGH	SGH184	20201124-1	2025/11/25	2026/11/24
Cable	SUHNER	SUCOFLEX 104P	9403 / 4P	2025/11/21	2026/11/20
Spectrum analyzer	KEYSIGHT	N9020B	MY63450146	2026/01/30	2027/01/29
EMI Test Receiver	KEYSIGHT	N9038B	MY63060107	2026/01/14	2027/01/13
Test software	Audix	e3	V9	NCR	NCR
EMI Test Receiver	R&S	ESCI	100059	2025/09/03	2026/09/02
Cable	SUHNER	EMCCFD300-BM-NM -6000	170502	2025/06/24	2026/06/23
LISN	R&S	ENV216	101160	2025/06/19	2026/06/18
Test software	Audix	e3	V4.20040112L	NCR	NCR
Test site	Intertek	Con-2	N/A	NCR	NCR

Note: No Calibration Required (NCR).

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2.0$.

Item	Uncertainty
Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m	2.73 dB
Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	3.91 dB
Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	3.49 dB
Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.71 dB
Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.71 dB
Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	3.26 dB
Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	3.26 dB
Conducted Measurement	0.69 dB
AC Power Line Conducted Emission	1.31 dB