

Dynascan Technology Corp.

TEST REPORT

Model:

68301, 68303, 68305, 68307

REPORT NUMBER

251200196THC-001

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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



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TEST REPORT

Revision History

Report No.	Issue Date	Revision Summary
251200196THC-001	May 26, 2026	Original report

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Summary of Test Data

Test Requirement	Applicable Rule (Section 15.247)	Result
Minimum 6 dB Bandwidth	15.247(a)(2)	Pass
Maximum Peak Conducted Output Power	15.247(b)(3)	Pass
Power Spectral Density	15.247(e)	Pass
Emissions In Non-Restricted Frequency Bands	15.247(d)	Pass
Emissions In Restricted Frequency Bands (Radiated emission measurements)	15.247(d), 15.205, 15.209	Pass
Emission On The Band Edge	15.247(d), 15.205	Pass
AC Power Line Conducted Emission	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
Model No.:	68301, 68307
Operating Frequency:	2402MHz ~ 2480MHz
Channel Number:	40 channels
Frequency of Each Channel:	2402MHz+2k, k=0 ~ 39
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. 2025/12/18 ~ 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.

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)
BLE 1M	19	2440	0.38	0.63	60.97	2.15
BLE 2M	19	2440	0.20	0.63	32.11	4.93

1.6 Peripherals equipment

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

2. Minimum 6 dB Bandwidth

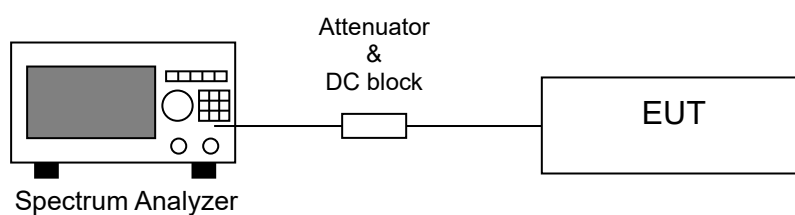
2.1 Instrument Setting

Spectrum Parameter	Setting
Detector	Peak
RBW	100kHz
VBW	$\geq 3 \times \text{RBW}$
Sweep	Auto couple
Trace	Allow the trace to stabilize.
Span	Between two times and five times the occupied bandwidth
Attenuation	Auto

2.2 Test Procedure

Step 1	The transmitter output was connected to the spectrum analyzer.
Step 2	Test was performed accordance with ANSI C63.10.
Step 3	Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

2.3 Test Diagram



2.4 Limit

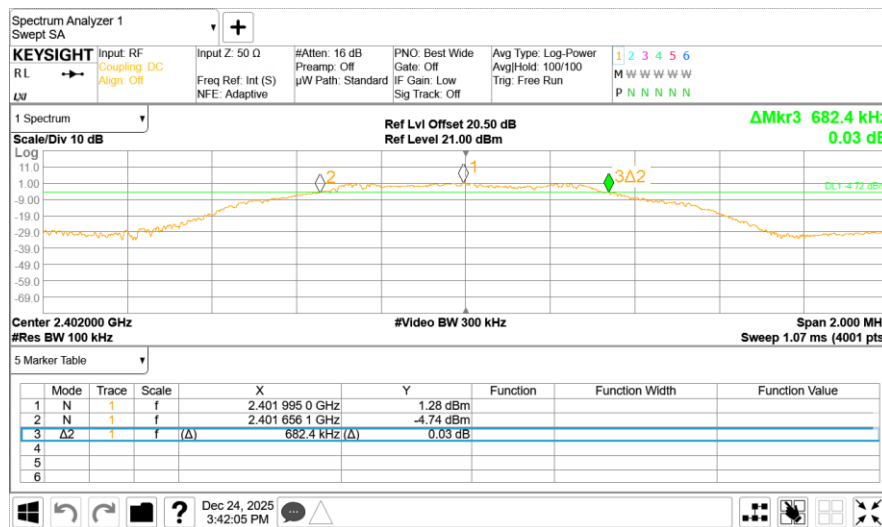
The minimum 6 dB bandwidth shall be at least 500 kHz.

2.5 Test Results

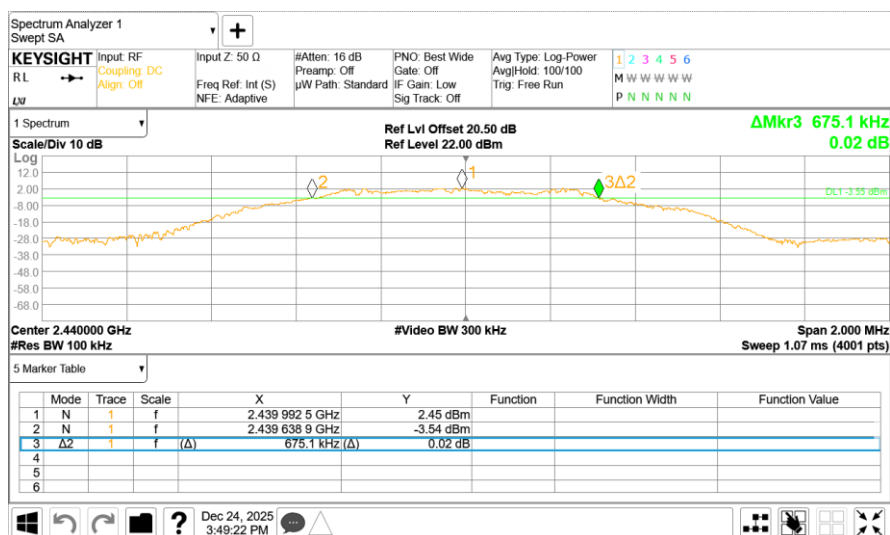
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	72
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
BLE 1M	0	2402	0.68	>0.5	Pass
	19	2440	0.68	>0.5	Pass
	39	2480	0.69	>0.5	Pass
BLE 2M	0	2402	1.23	>0.5	Pass
	19	2440	1.24	>0.5	Pass
	39	2480	1.22	>0.5	Pass

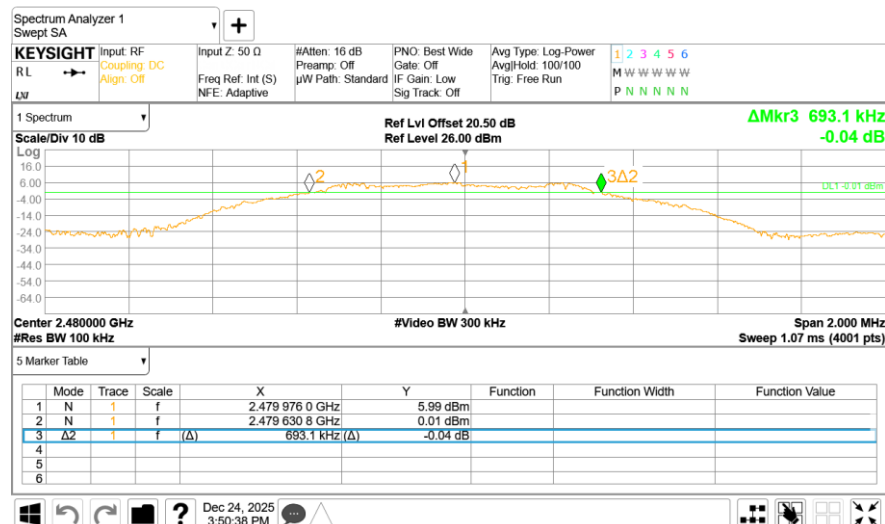
6dB Bandwidth @ BLE 1M Ch 0



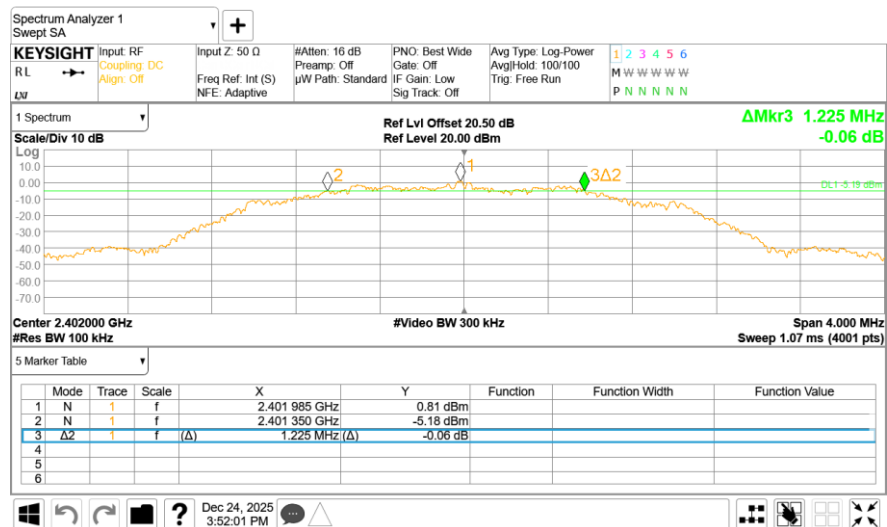
6dB Bandwidth @ BLE 1M Ch 19



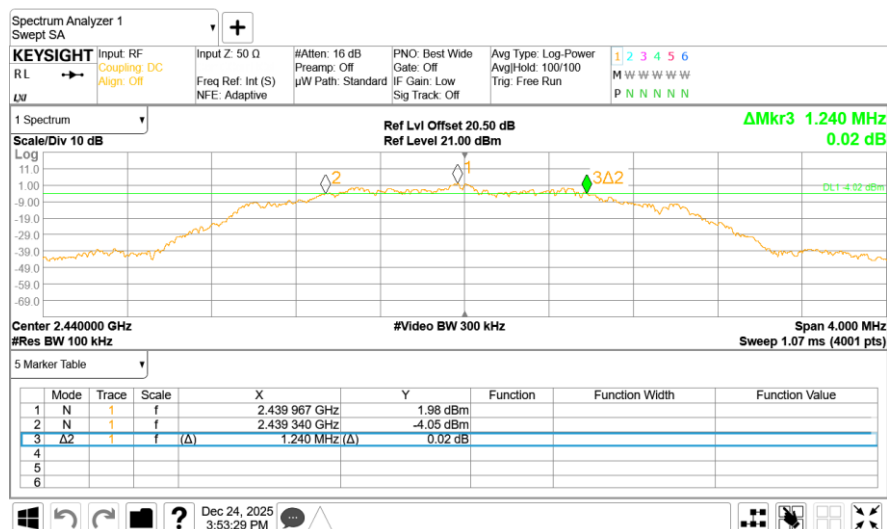
6dB Bandwidth @ BLE 1M Ch 39



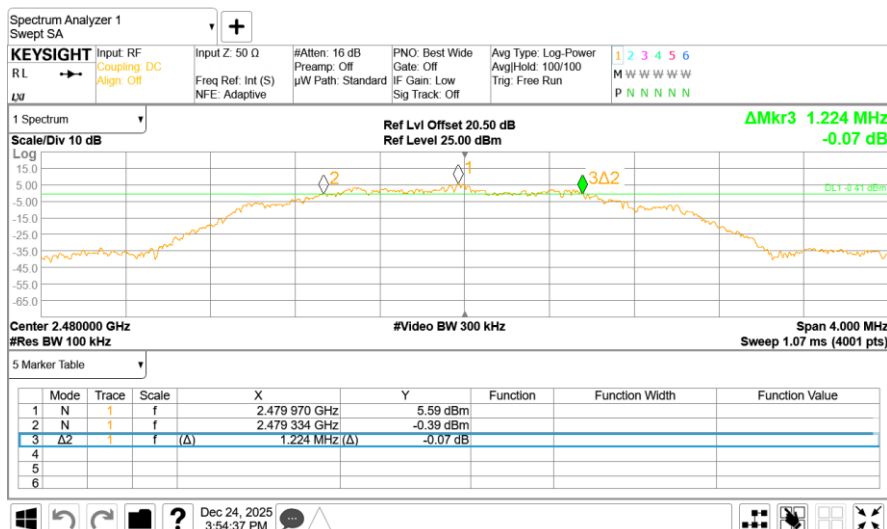
6dB Bandwidth @ BLE 2M Ch 0



6dB Bandwidth @ BLE 2M Ch 19



6dB Bandwidth @ BLE 2M Ch 39



3. Maximum Peak Conducted Output Power

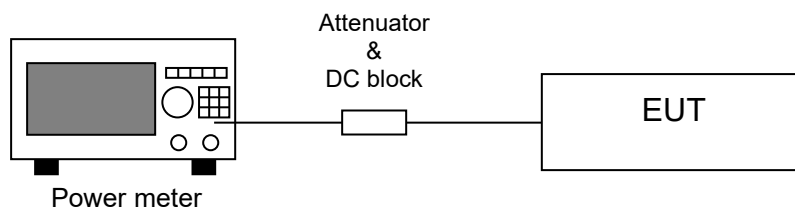
3.1 Instrument Setting

Power Meter Parameter	Setting
Bandwidth	65MHz bandwidth is greater than the EUT emission bandwidth
Detector	Peak & Average

3.2 Test Procedure

The preferred methodology is to use integrated average power measurements, as described in 11.9.2 and 11.13.3 of ANSI C63.10. The peak integrated band power methods of 11.9.1.2 and 11.13.3.2 of ANSI C63.10 are not applicable for FCC compliance testing purposes.

3.3 Test Diagram



3.4 Limit

For systems using digital modulation in the 2400-2483.5 MHz: 1 Watt (30dBm)

3.5 Test Results

Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	72
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)
BLE 1M	0	2402	0.87	1.22	2.05	1.60	30	-27.95
	19	2440	2.07	1.61	2.93	1.96	30	-27.07
	39	2480	6.37	4.34	6.91	4.91	30	-23.09
BLE 2M	0	2402	0.86	1.22	2.31	1.70	30	-27.69
	19	2440	2.07	1.61	3.18	2.08	30	-26.82
	39	2480	6.37	4.34	7.09	5.12	30	-22.91

4. Power Spectral Density

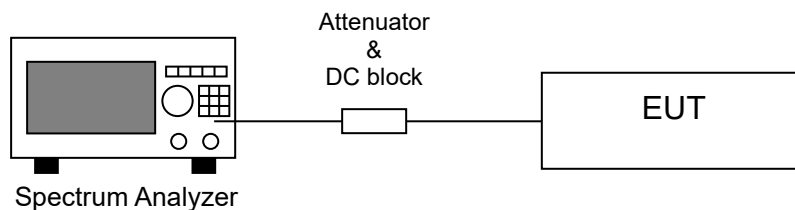
4.1 Instrument Setting

Spectrum Function	Setting
Detector	Peak
RBW	≥ 3 kHz
VBW	$\geq 3 \times$ RBW
Sweep	Auto couple
Trace	Max hold
Span	1.5 times x 6dB bandwidth
Attenuation	Auto

4.2 Test Procedure

Step 1	Test procedure refer to subclause 11.10 of ANSI C63.10.
Step 2	Using the maximum conducted output power in the fundamental emission demonstrates compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
Step 3	Use the peak marker function to determine the maximum amplitude level within the RBW.

4.3 Test Diagram



4.4 Limit

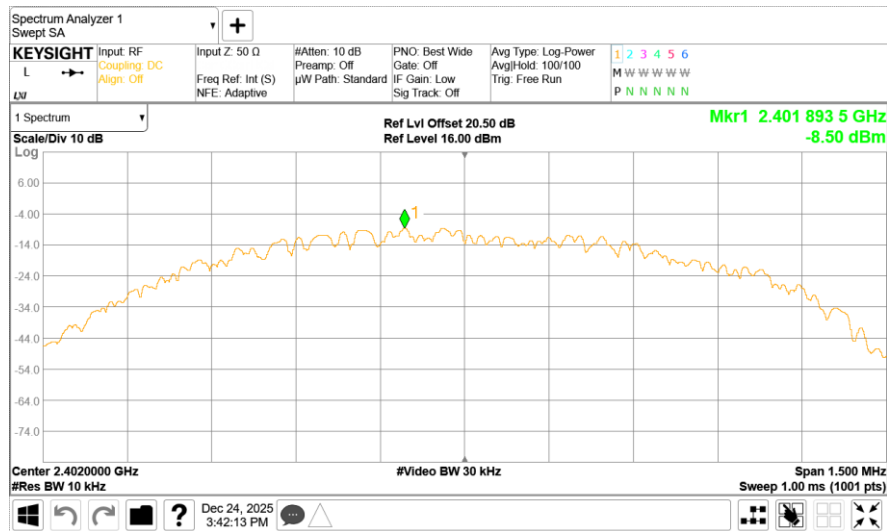
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

4.5 Test Results

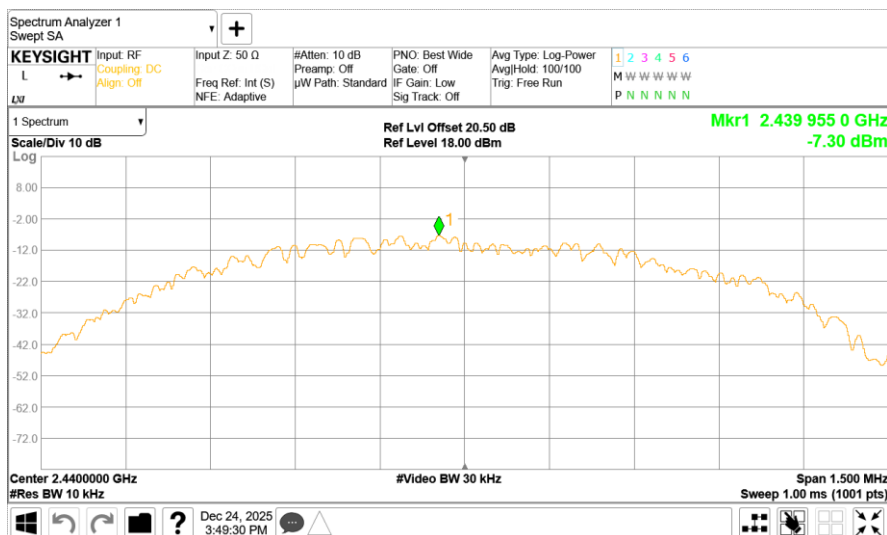
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	72
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
BLE 1M	0	2402	-8.50	8	-16.50
	19	2440	-7.30	8	-15.30
	39	2480	-3.73	8	-11.73
BLE 2M	0	2402	-11.01	8	-19.01
	19	2440	-9.64	8	-17.64
	39	2480	-6.13	8	-14.13

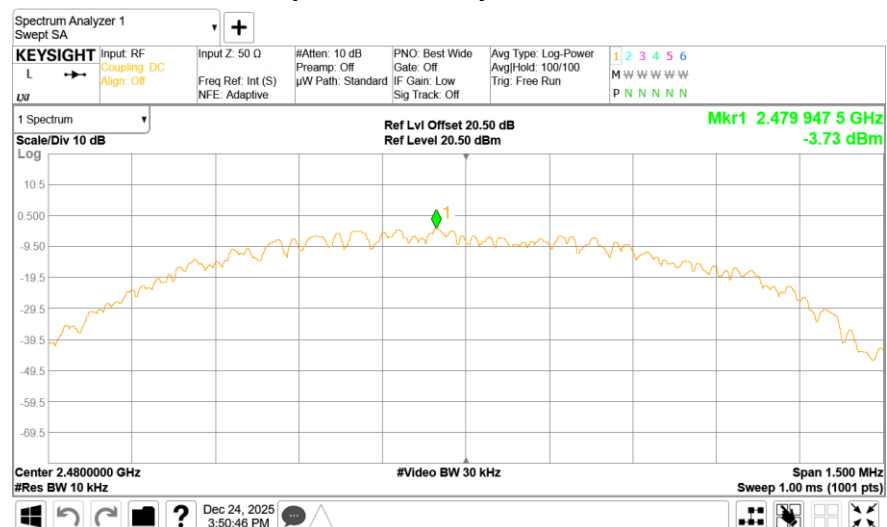
Power Spectral Density @ BLE 1M Ch 0



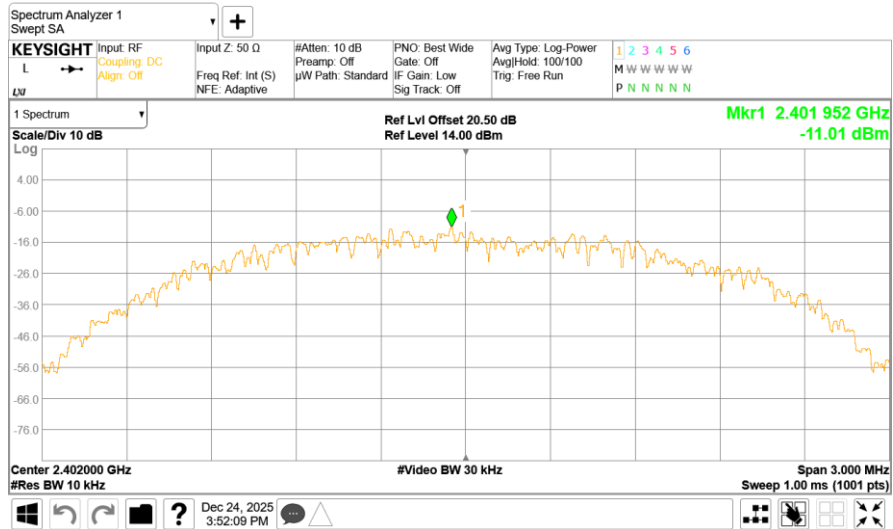
Power Spectral Density @ BLE 1M Ch 19



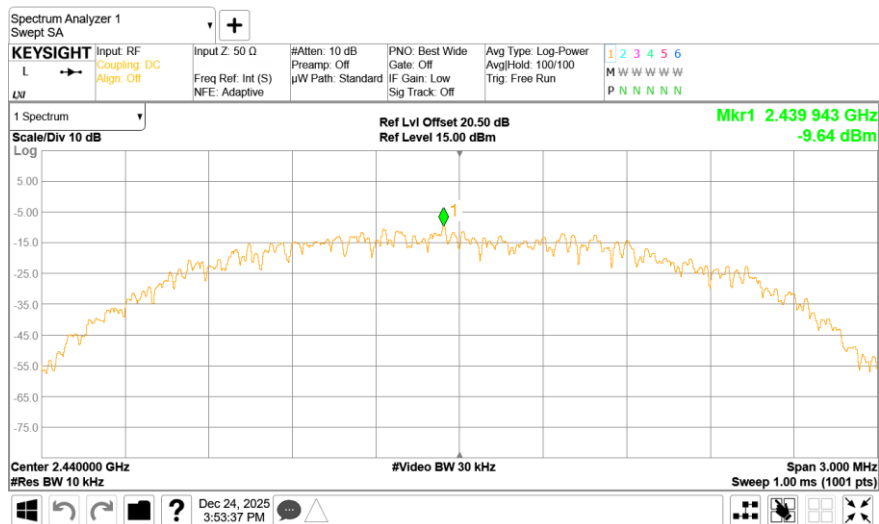
Power Spectral Density @ BLE 1M Ch 39



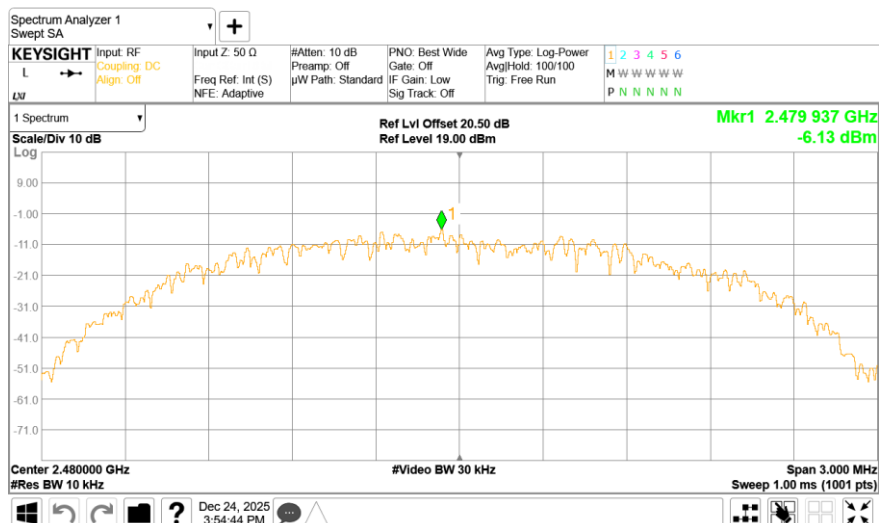
Power Spectral Density @ BLE 2M Ch 0



Power Spectral Density @ BLE 2M Ch 19



Power Spectral Density @ BLE 2M Ch 39



5. Emissions in Non-Restricted Frequency Bands

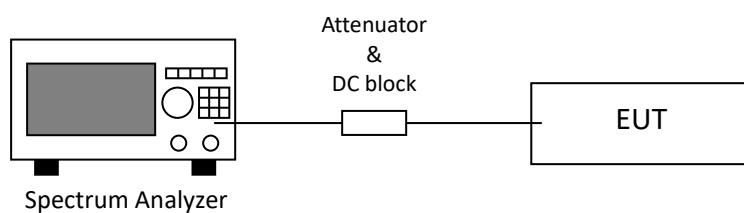
5.1 Instruments Setting

Spectrum Function	Setting (Reference Level)	Setting (Emission Level)
Detector	Peak	Peak
RBW	≥ 100 kHz	≥ 100 kHz
VBW	$\geq 3 \times$ RBW	$\geq 3 \times$ RBW
Sweep	Auto couple	Auto couple
Trace	Max hold	Max hold
Span	≥ 1.5 time 6dB bandwidth	
Attenuation	Auto	Auto

5.2 Test Procedure

- Step 1 The procedure was used in antenna-port conducted and connected to the spectrum analyzer.
- Step 2 Set instrument center frequency to center frequency.
- Step 3 Use the parameter configured in subclause 11.11 of ANSI C63.10 to measure.
- Step 4 Use the peak marker function to determine the maximum amplitude level.

5.3 Test Diagram



5.4 Limit

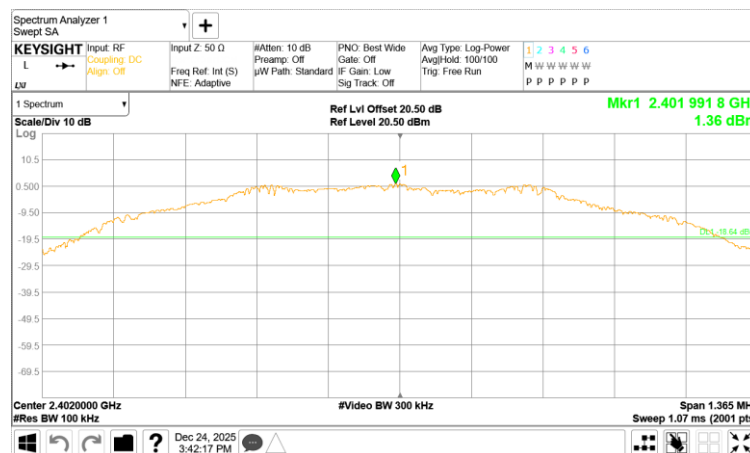
The peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz

5.5 Test Results

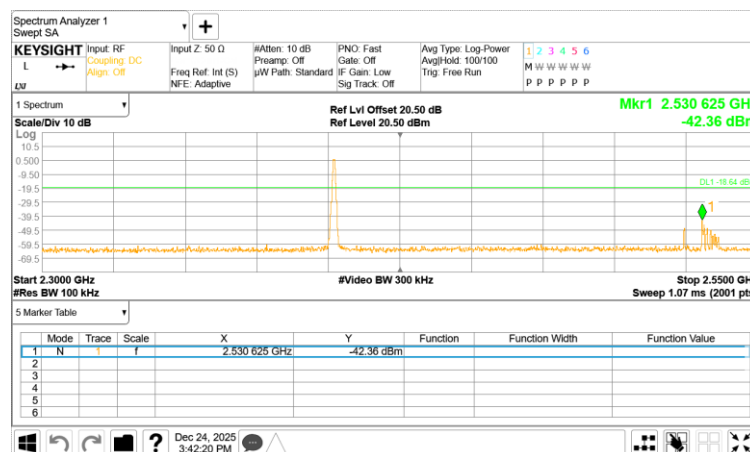
Test model:	68301
Temperature (°C):	22
Relative Humidity (%):	72
Test date:	2025/12/24

Mode	Channel	Frequency (MHz)	Delta (dBc)	Limit (dBc)
BLE 1M	0	2402	43.72	>20
	19	2440	36.24	>20
	39	2480	54.66	>20
BLE 2M	0	2402	43.77	>20
	19	2440	55.32	>20
	39	2480	47.68	>20

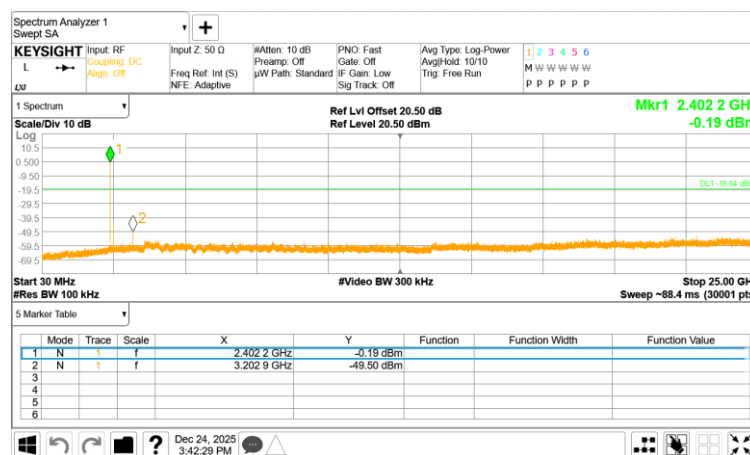
Chain0 : Conducted Spurious @ LE 1M Mode Ch 0



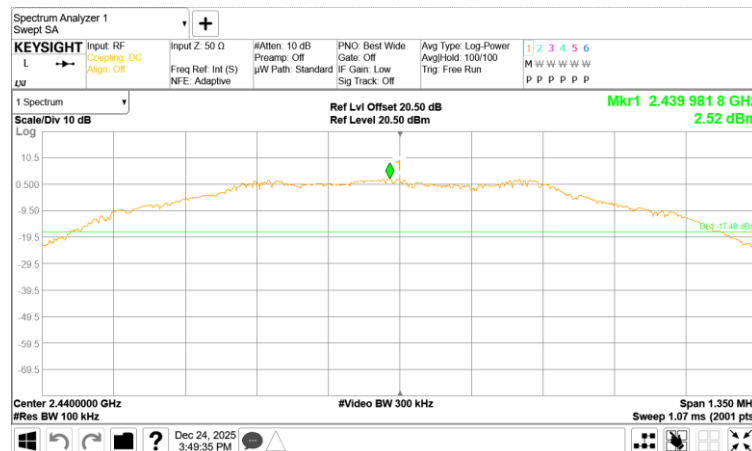
Chain0 : Conducted Spurious @ LE 1M Mode Ch 0



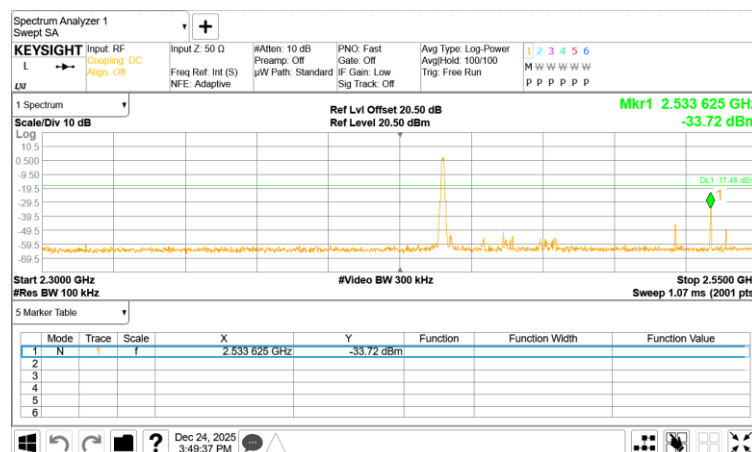
Chain0 : Conducted Spurious @ LE 1M Mode Ch 0



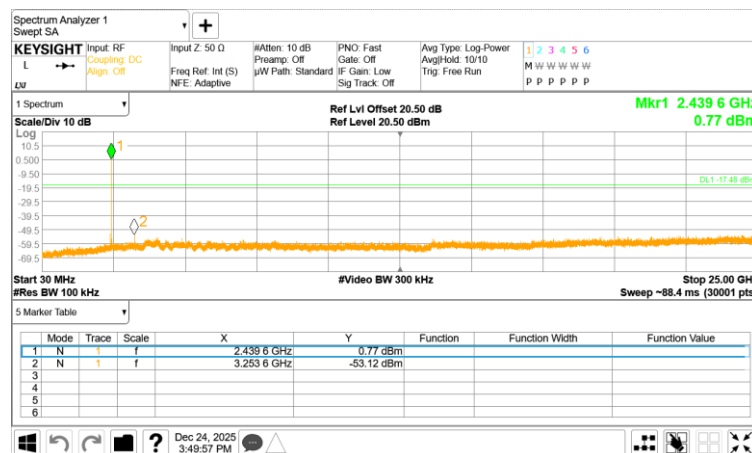
Chain0 : Conducted Spurious @ LE 1M Mode Ch 19



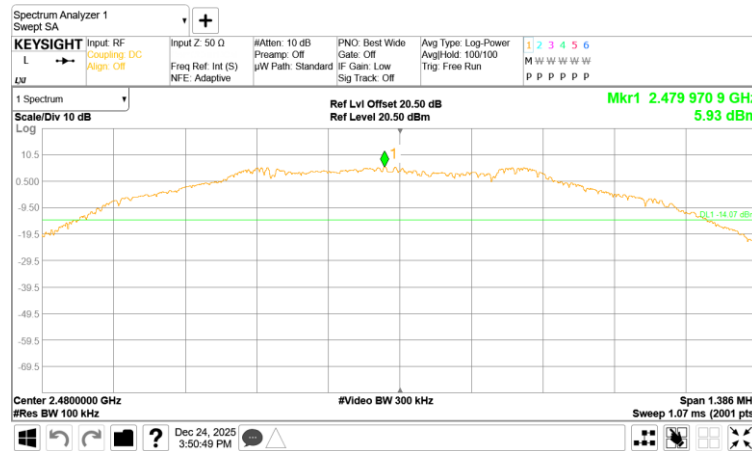
Chain0 : Conducted Spurious @ LE 1M Mode Ch 19



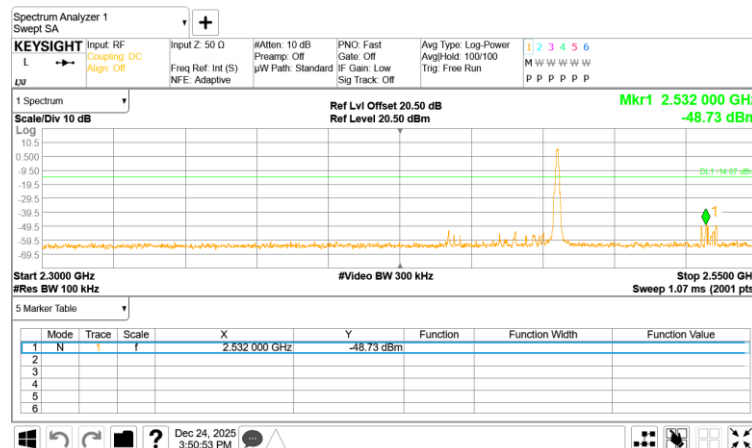
Chain0 : Conducted Spurious @ LE 1M Mode Ch 19



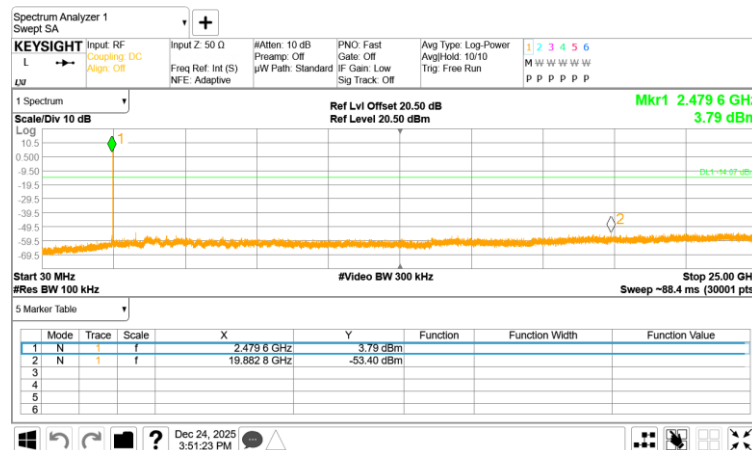
Chain0 : Conducted Spurious @ LE 1M Mode Ch 39



Chain0 : Conducted Spurious @ LE 1M Mode Ch 39



Chain0 : Conducted Spurious @ LE 1M Mode Ch 39



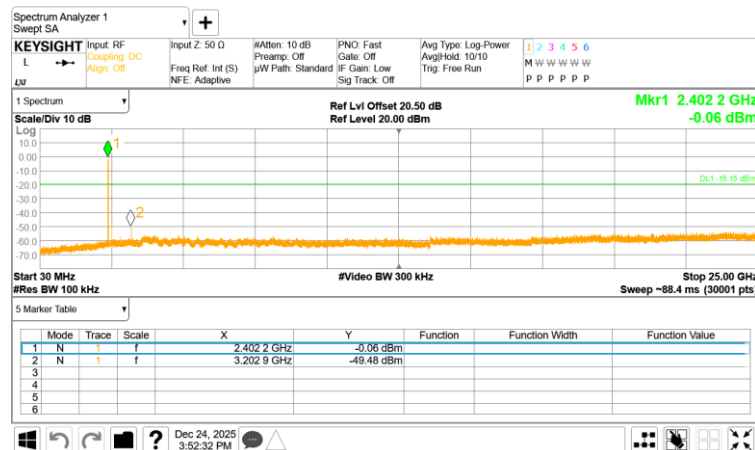
Chain0 : Conducted Spurious @ LE 2M Mode Ch 0



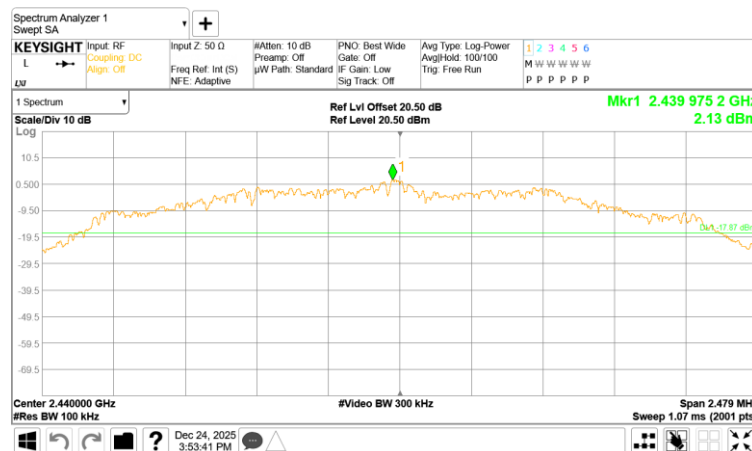
Chain0 : Conducted Spurious @ LE 2M Mode Ch 0



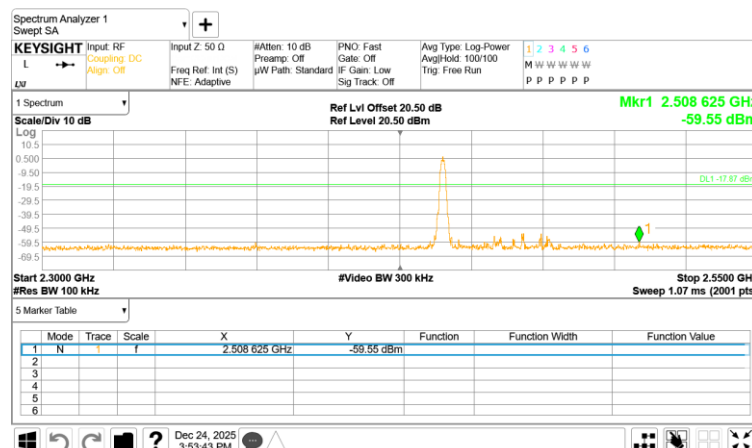
Chain0 : Conducted Spurious @ LE 2M Mode Ch 0



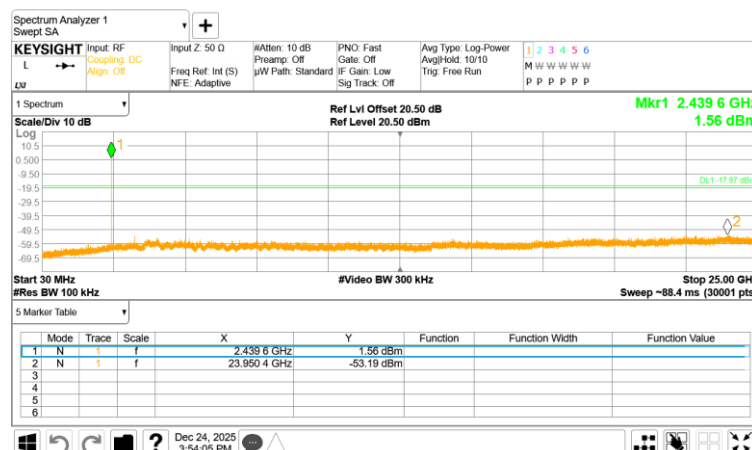
Chain0 : Conducted Spurious @ LE 2M Mode Ch 19



Chain0 : Conducted Spurious @ LE 2M Mode Ch 19



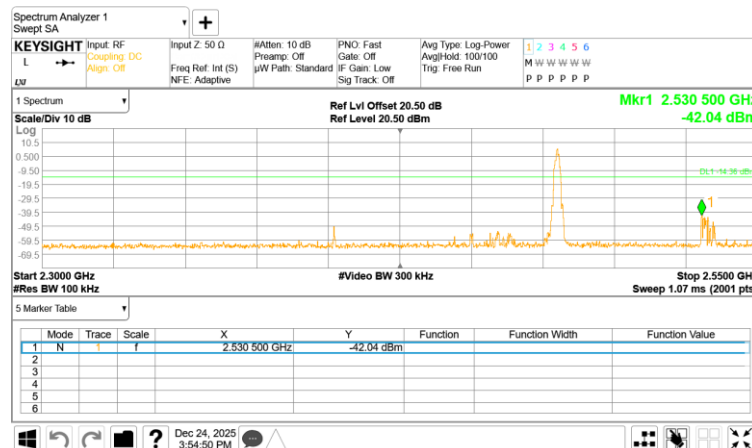
Chain0 : Conducted Spurious @ LE 2M Mode Ch 19



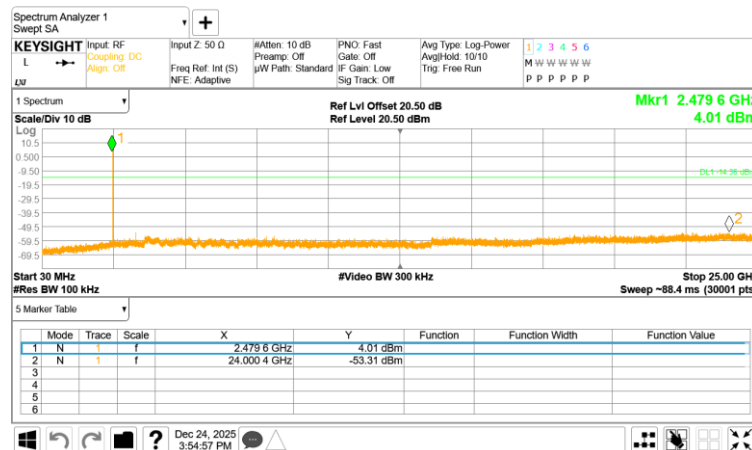
Chain0 : Conducted Spurious @ LE 2M Mode Ch 39



Chain0 : Conducted Spurious @ LE 2M Mode Ch 39



Chain0 : Conducted Spurious @ LE 2M Mode Ch 39



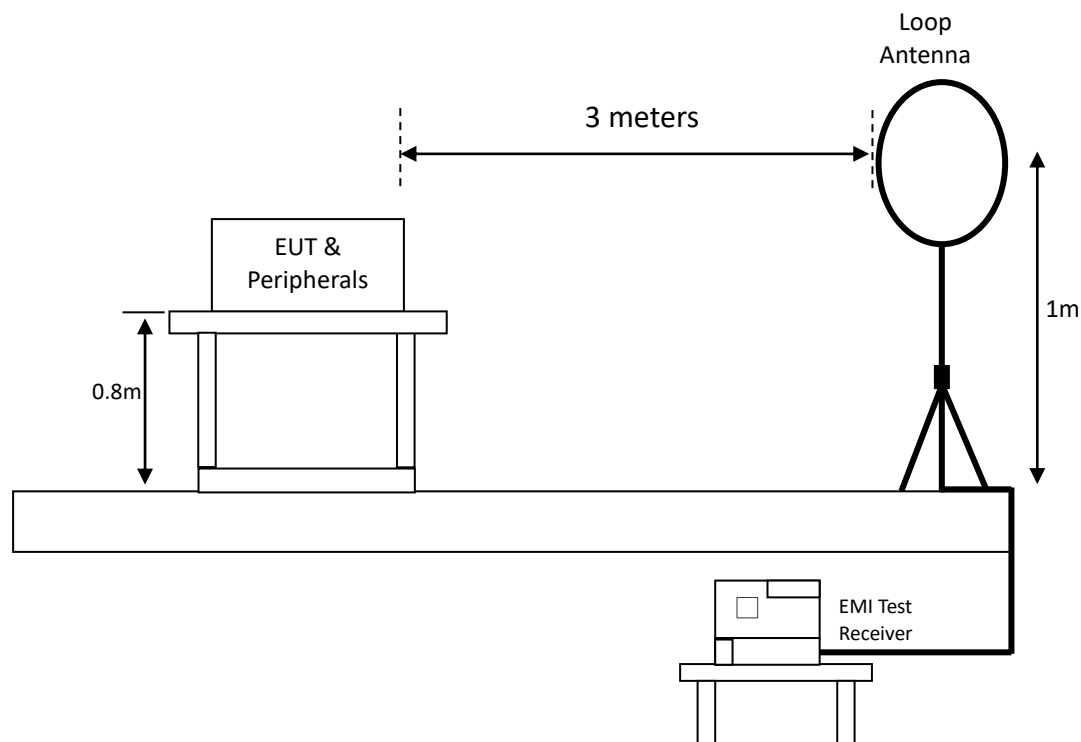
6. Emissions in Restricted Frequency Bands (Radiated emission measurements)

6.1 Instrument Setting

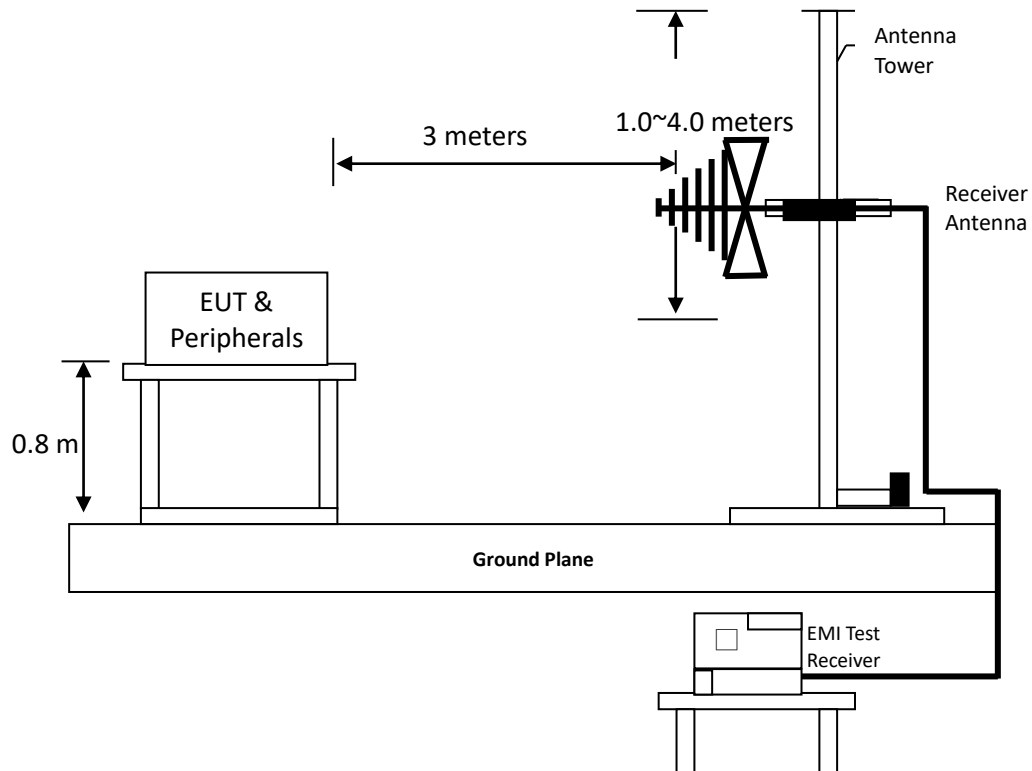
Receiver Function	Setting (Below 1GHz)	Setting (Above 1GHz)
Detector	QP	Peak and Average
RBW	9-150 kHz ; 200-300 Hz 0.15-30 MHz; 9-10 kHz 30-1000 MHz; 100-120 kHz	1MHz
VBW	$\geq 3 \times \text{RBW}$	3MHz & 1/T Minimum VBW
Sweep	Auto couple	Auto couple
Start Frequency	9 kHz	1GHz
Stop Frequency	1 GHz	Tenth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

6.2 Test setup & procedure

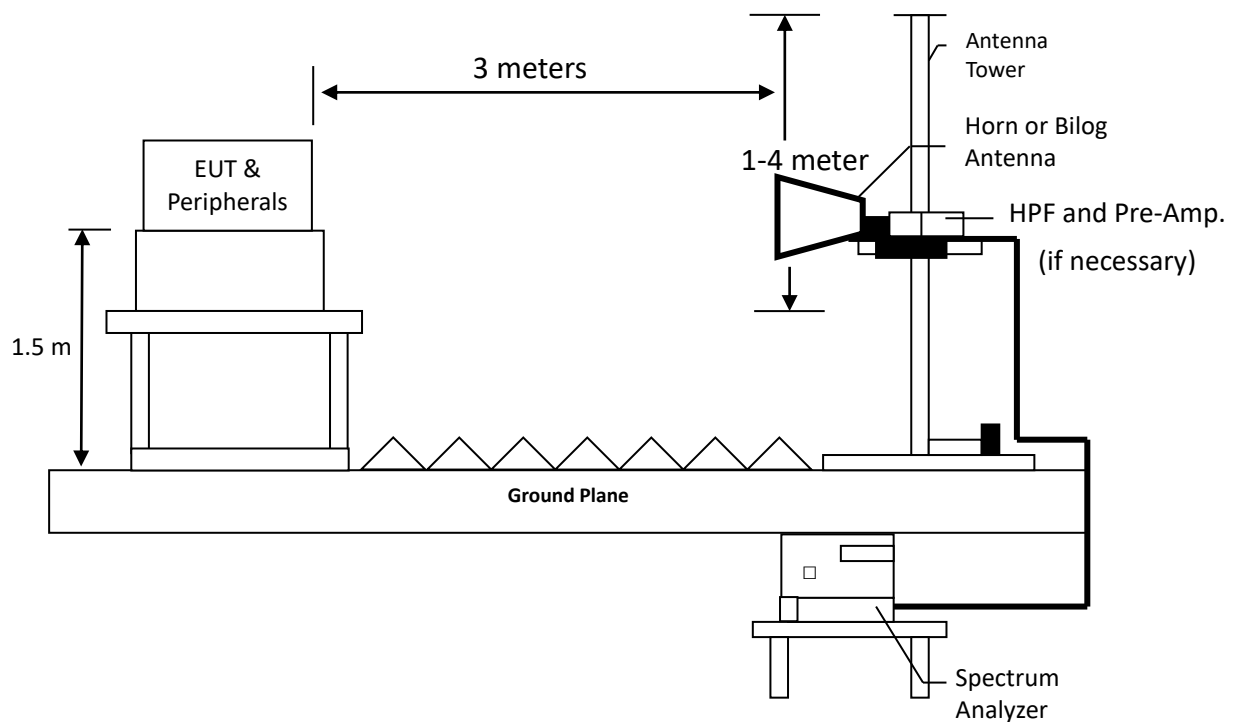
Radiated emission from 9kHz to 30MHz uses Loop Antenna:



Radiated emission below 1GHz using Bilog Antenna



Radiated emission above 1GHz using Horn Antenna



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.

6.3 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

6.4 Test Result

6.4.1 Measurement results: frequencies 9kHz to 30MHz

Test model:	68301
Temperature (°C):	20
Relative Humidity (%):	71
Test date:	2025/12/19

The test was performed on EUT under continuously transmitting mode. The worst case occurred at BLE 2M, Ch 39.

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Perpendicular	0.34	PK	18.20	19.93	38.13	97.00	-58.87
Perpendicular	0.61	PK	18.31	16.26	34.57	71.91	-37.34
Perpendicular	2.02	PK	18.30	12.76	31.06	69.54	-38.48
Perpendicular	3.55	PK	18.67	11.29	29.96	69.54	-39.58
Perpendicular	6.52	PK	20.03	7.69	27.72	69.54	-41.82
Perpendicular	10.36	PK	20.51	8.01	28.52	69.54	-41.02

Remark: Corr. Factor = Antenna Factor + Cable Loss

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Parallel	0.52	PK	18.22	16.97	35.19	73.30	-38.11
Parallel	1.00	PK	18.40	13.81	32.21	67.61	-35.40
Parallel	4.36	PK	19.01	9.98	28.99	69.54	-40.55
Parallel	5.68	PK	19.82	8.83	28.65	69.54	-40.89
Parallel	7.21	PK	19.92	6.21	26.13	69.54	-43.41
Parallel	11.65	PK	20.78	6.79	27.57	69.54	-41.97

Remark: Corr. Factor = Antenna Factor + Cable Loss

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Ground-parallel	0.58	PK	18.28	15.73	34.01	72.35	-38.34
Ground-parallel	1.45	PK	18.36	12.37	30.73	64.38	-33.65
Ground-parallel	2.17	PK	18.32	13.17	31.49	69.54	-38.05
Ground-parallel	3.73	PK	18.76	10.52	29.28	69.54	-40.26
Ground-parallel	6.28	PK	20.07	7.64	27.71	69.54	-41.83
Ground-parallel	11.29	PK	20.75	6.53	27.28	69.54	-42.26

Remark: Corr. Factor = Antenna Factor + Cable Loss

6.4.2 Measurement results: frequencies below 1 GHz

Test model:	68301
Temperature (°C):	20
Relative Humidity (%):	71
Test date:	2025/12/19

The test was performed on EUT under continuously transmitting mode. The worst case occurred at BLE 2M, Ch 39.

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Horizontal	52.31	PK	20.44	1.83	22.27	40.00	-17.73
Horizontal	128.94	PK	18.30	9.44	27.74	43.50	-15.76
Horizontal	141.55	PK	19.66	9.68	29.34	43.50	-14.16
Horizontal	176.47	PK	19.17	5.07	24.24	43.50	-19.26
Horizontal	197.81	PK	17.03	16.87	33.90	43.50	-9.60
Horizontal	205.57	PK	17.18	10.40	27.58	43.50	-15.92

Remark: Corr. Factor = Antenna Factor + Cable Loss

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Vertical	47.46	PK	20.26	3.63	23.89	40.00	-16.11
Vertical	70.74	PK	18.16	7.24	25.40	40.00	-14.60
Vertical	128.94	PK	18.30	10.78	29.08	43.50	-14.42
Vertical	197.81	PK	17.03	7.67	24.70	43.50	-18.80
Vertical	288.02	PK	20.74	4.61	25.35	46.00	-20.65
Vertical	344.28	PK	21.96	3.41	25.37	46.00	-20.63

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 BLE 2M, Ch 39.

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Horizontal	33.88	PK	18.86	6.96	25.82	40.00	-14.18
Horizontal	87.23	PK	14.91	13.35	28.26	40.00	-11.74
Horizontal	188.11	PK	18.61	9.57	28.18	43.50	-15.32
Horizontal	235.64	PK	19.47	9.02	28.49	46.00	-17.51
Horizontal	345.25	PK	22.92	5.06	27.98	46.00	-18.02
Horizontal	593.57	PK	29.10	5.49	34.59	46.00	-11.41

Remark: Corr. Factor = Antenna Factor + Cable Loss

Antenna Polarity	Frequency (MHz)	Spectrum Analyzer Detector	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
Vertical	33.88	PK	18.86	13.25	32.11	40.00	-7.89
Vertical	88.20	PK	14.98	11.37	26.35	43.50	-17.15
Vertical	122.15	PK	18.20	8.40	26.60	43.50	-16.90
Vertical	175.50	PK	20.18	4.55	24.73	43.50	-18.77
Vertical	308.39	PK	22.23	4.07	26.30	46.00	-19.70
Vertical	443.22	PK	26.01	5.68	31.69	46.00	-14.31

Remark: Corr. Factor = Antenna Factor + Cable Loss

6.4.3 Measurement results: frequency above 1GHz

Test model:	68301
Temperature (°C):	20
Relative Humidity (%):	71
Test date:	2025/12/18

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)
BLE 1M Ch 0	4804	PK	H	-6.86	42.94	36.08	74	-37.92
	4804	PK	V	-6.86	45.19	38.33	74	-35.67
BLE 1M Ch 19	4880	PK	H	-6.54	42.27	35.73	74	-38.27
	4880	PK	V	-6.54	42.88	36.34	74	-37.66
BLE 1M Ch 39	4960	PK	H	-6.26	42.06	35.80	74	-38.20
	4960	PK	V	-6.26	41.80	35.54	74	-38.46
BLE 2M Ch 0	4804	PK	H	-6.86	43.29	36.43	74	-37.57
	4804	PK	V	-6.86	43.07	36.21	74	-37.79
BLE 2M Ch 19	4880	PK	H	-6.54	43.03	36.49	74	-37.51
	4880	PK	V	-6.54	42.82	36.28	74	-37.72
BLE 2M Ch 39	4960	PK	H	-6.26	41.96	35.70	74	-38.30
	4960	PK	V	-6.26	42.06	35.80	74	-38.20

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.

7. Emission on Band Edge

7.1 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

7.2 Test Procedure

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

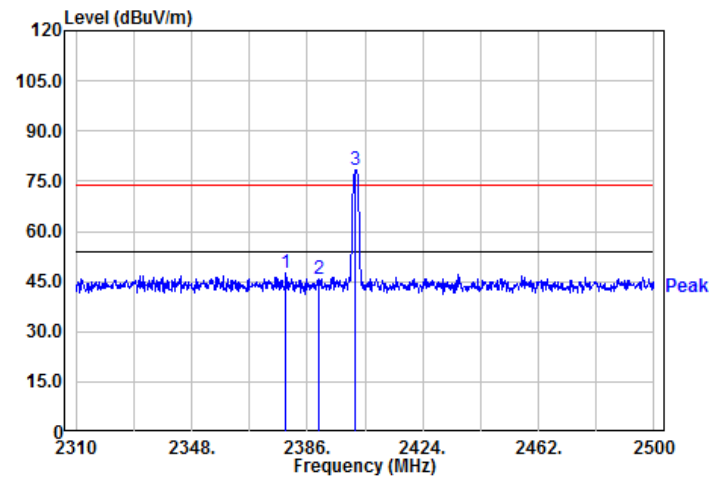
7.3 Test Results

Test model:	68301
Temperature (°C):	20
Relative Humidity (%):	71
Test date:	2025/12/18

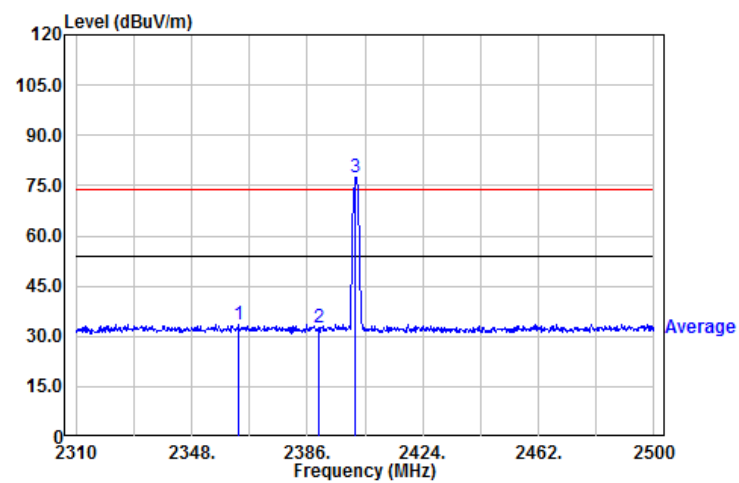
Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)	Restricted band (MHz)
BLE 1M	2378.97	PK	H	32.40	14.98	47.38	74	-26.62	2310~2390
	2363.39	AV	H	32.46	1.25	33.71	54	-20.29	
	2493.35	PK	H	32.36	14.82	47.18	74	-26.82	2483.5~2500
	2486.13	AV	H	32.35	1.14	33.49	54	-20.51	
BLE 2M	2356.36	PK	H	32.49	15.23	47.72	74	-26.28	2310~2390
	2385.62	AV	H	32.37	3.55	35.92	54	-18.08	
	2490.88	PK	H	32.35	15.39	47.74	74	-26.26	2483.5~2500
	2485.56	AV	H	32.35	3.20	35.55	54	-18.45	

Remark: Correction Factor = Antenna Factor + Cable Loss

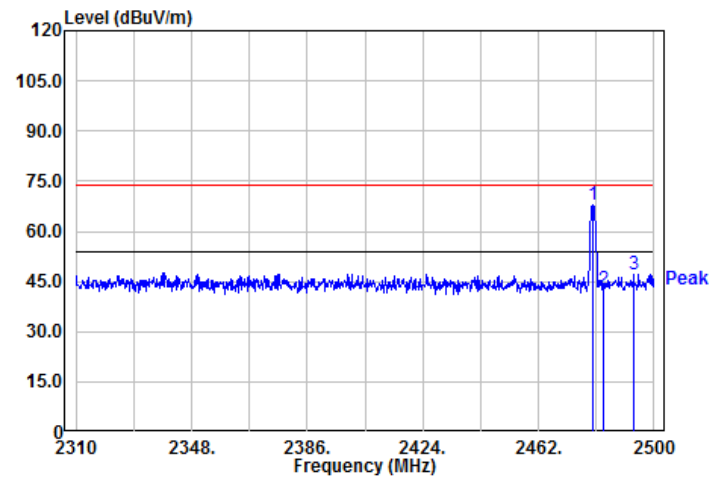
Restricted Band Bandedge @ BLE 1M Mode Ch0 PK



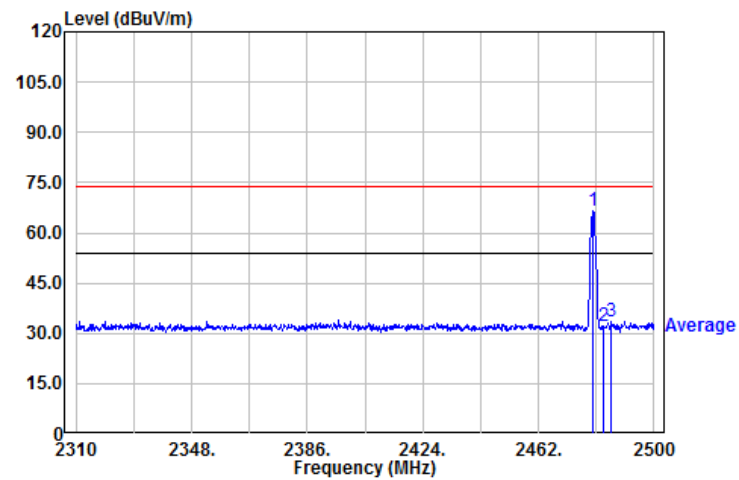
Restricted Band Bandedge @ BLE 1M Mode Ch0 AV



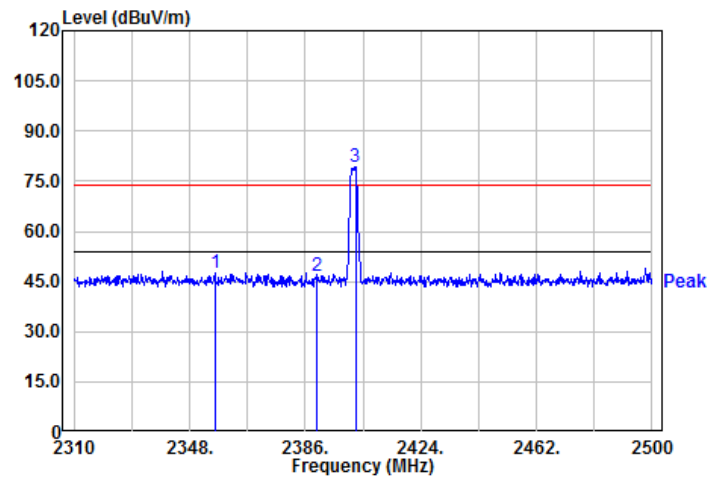
Restricted Band Bandedge @ BLE 1M Mode Ch39 PK



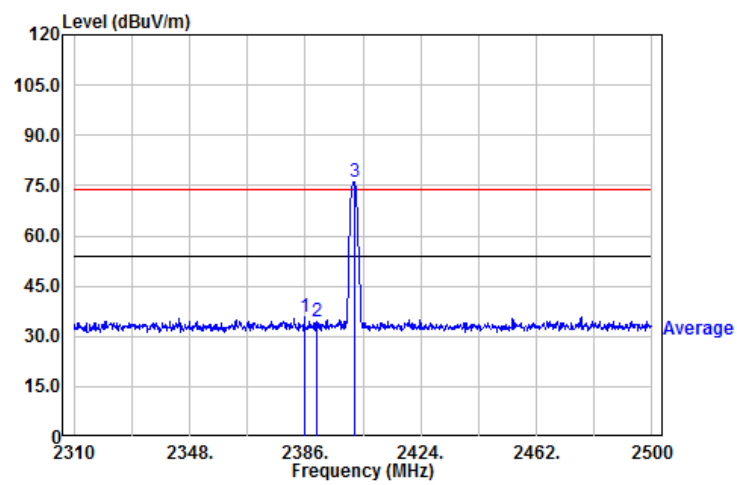
Restricted Band Bandedge @ BLE 1M Mode Ch39 AV



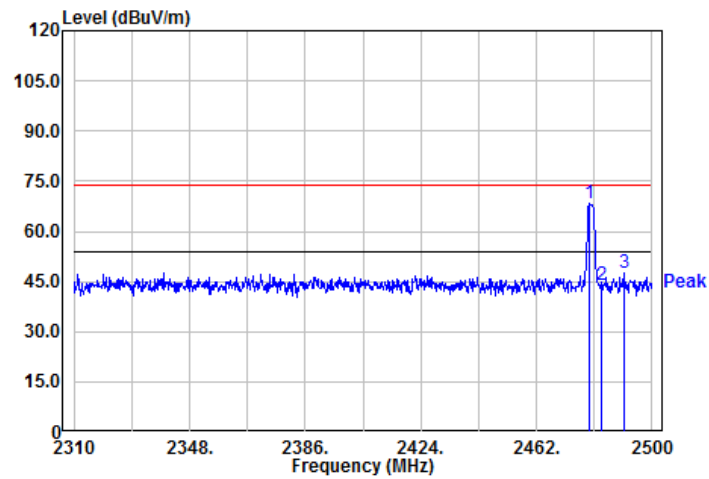
Restricted Band Bandedge @ BLE 2M Mode Ch0 PK



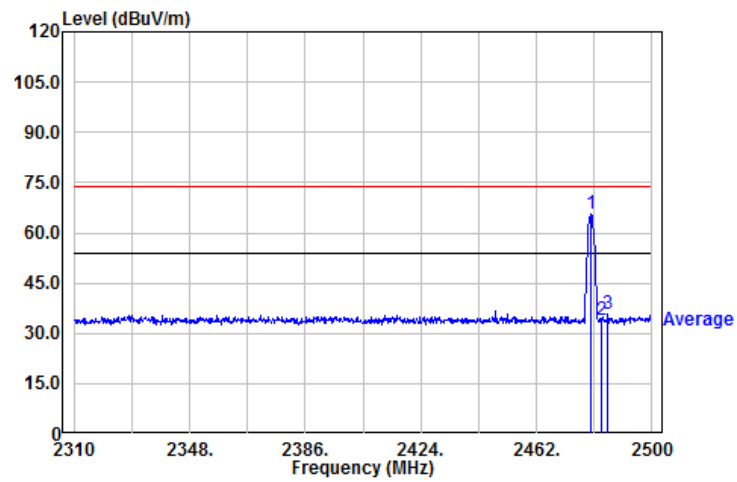
Restricted Band Bandedge @ BLE 2M Mode Ch0 AV



Restricted Band Bandedge @ BLE 2M Mode Ch39 PK



Restricted Band Bandedge @ BLE 2M Mode Ch39 AV



8. AC Power Line Conducted Emission

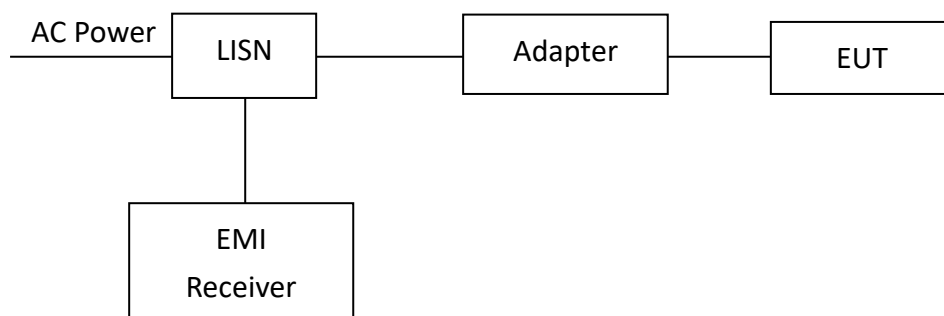
8.1 Measuring instrument setting

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

8.2 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.

8.3 Test Diagram

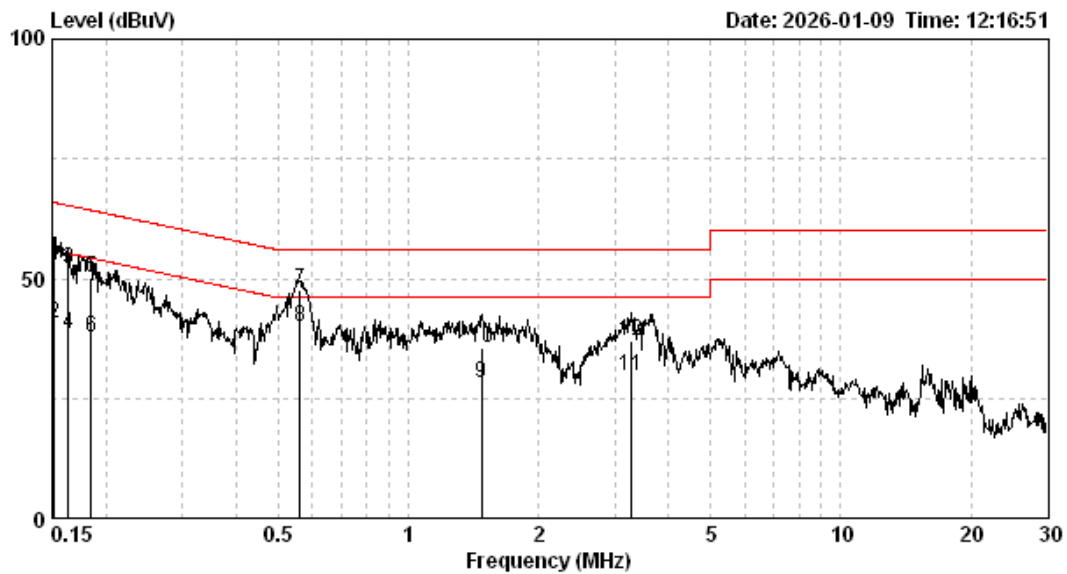


8.4 Limit

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

8.5 Test Results

Test model:	68301
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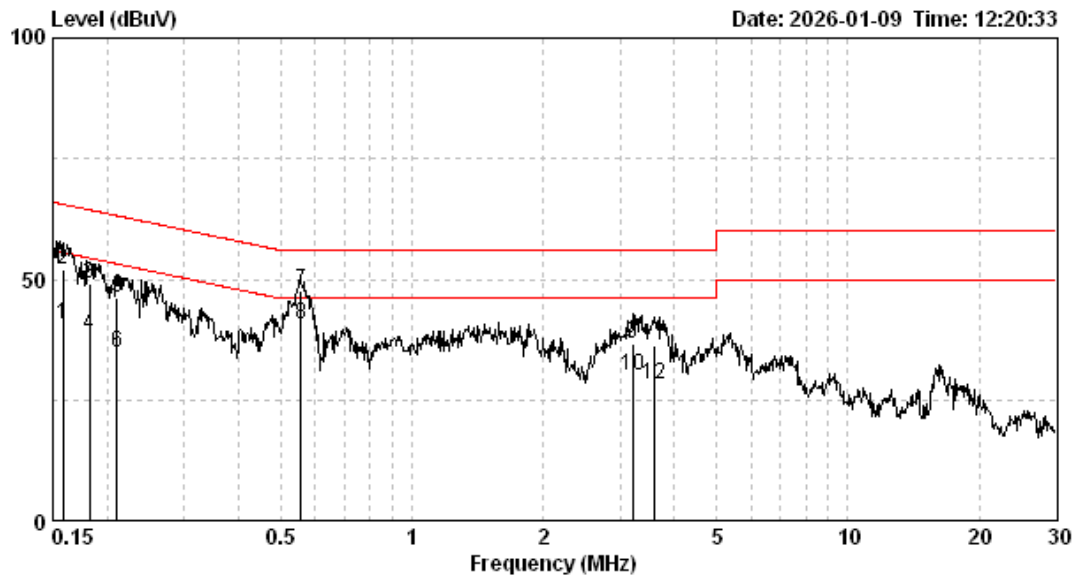


Test voltage : AC 120V / 60Hz
 Temp. / R.H. : 22 °C / 72 %
 Atmospheric pressure : 1010 hPa

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	0.152	9.79	42.57	52.36	65.91	30.94	40.73	55.91	-13.55	-15.18
LINE	0.163	9.81	42.35	52.16	65.30	28.62	38.43	55.30	-13.13	-16.86
LINE	0.184	9.84	40.21	50.05	64.28	27.92	37.76	54.28	-14.24	-16.52
LINE	0.561	9.92	37.80	47.72	56.00	30.16	40.07	46.00	-8.28	-5.93
LINE	1.480	10.01	25.68	35.69	56.00	18.06	28.08	46.00	-20.31	-17.92
LINE	3.276	10.00	26.92	36.92	56.00	19.64	29.64	46.00	-19.08	-16.36

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	0.158	9.78	42.23	52.02	65.56	30.99	40.77	55.56	-13.54	-14.79
NEUTRAL	0.182	9.82	39.36	49.18	64.37	28.79	38.61	54.37	-15.19	-15.76
NEUTRAL	0.211	9.85	36.29	46.15	63.18	25.03	34.88	53.18	-17.04	-18.30
NEUTRAL	0.555	9.92	37.66	47.58	56.00	30.65	40.56	46.00	-8.42	-5.44
NEUTRAL	3.207	10.00	26.74	36.74	56.00	20.13	30.14	46.00	-19.26	-15.86
NEUTRAL	3.584	10.00	26.26	36.26	56.00	18.30	28.29	46.00	-19.74	-17.71

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