

## FCC - TEST REPORT

Report Number : **68.950.24.1022.01** Date of Issue: **2025-03-28**

Model/HVIN : **P1**

Product Type : **Art Projector**

Applicant : **SKRIVER INTERNATIONAL TRADLING LIMIED**

Address : **19H MAXGRAND PLAZA NO 3 TAI YAU STREET SAN PO Kong**  
**KL, Hong Kong, China**

Manufacturer : **SKRIVER INTERNATIONAL TRADLING LIMIED**

Address : **19H MAXGRAND PLAZA NO 3 TAI YAU STREET SAN PO Kong**  
**KL, Hong Kong, China**

Factory : **SKRIVER INTERNATIONAL TRADLING LIMIED**

Address : **19H MAXGRAND PLAZA NO 3 TAI YAU STREET SAN PO Kong**  
**KL, Hong Kong, China**

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including  
Appendices : **41**

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## 2 Details about the Test Laboratory

### Details about the Test Laboratory

#### Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu,  
Nantou, Nanshan District,  
Shenzhen, Guangdong, China


Telephone: +86 755 8828 6998

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FCC Registration No.: 514049

FCC Designation Number: CN5009

### 3 Description of the Equipment Under Test

Product:	Art Projector
Model no.:	P1
Brand name:	Caydo
FCC ID:	2BKPL-P1
Rating:	Powered by external adaptor: Adaptor Input: 100-240V~50/60Hz, 1.5A Max Output: 19V  2.5A
RF Transmission Frequency:	2402MHz-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Antenna Type:	FPC antenna
Antenna Gain	1.88dBi
Description of the EUT:	EUT is an Art Projector which supports Bluetooth (BR+EDR+BLE), Wi-Fi operated at 2.4GHz and 5GHz. BLE only supports 1Mbps.  Only Bluetooth Low Energy included in this report.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2023 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement Guidance and ANSI C63.10-2020.

## 5 Summary of Test Results

Test Condition		Test Result	Test Site
		Pass	
§15.207	Conducted emission AC power port	Pass	Site 1
§15.247 (b) (3)	Conducted peak output power	Pass	Site 1
§15.247(a)(2)	6dB bandwidth	Pass	Site 1
§15.247(e)	Power spectral density	Pass	Site 1
§15.247(d)	Spurious RF conducted emissions	Pass	Site 1
§15.247(d)	Band edge	Pass	Site 1
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Pass	Site 1
§15.203	Antenna requirement	See Note 2	--

Note 1: N/A=Not Applicable.

Note 2: The EUT uses a FPC antenna, which gain is 1.88dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

## 6 General Remarks

### Remarks

This submittal(s) (test report) is intended for FCC ID: 2BKPL-P1, complies with Section 15.207, 15.205, 15.209, 15.247 of the FCC Part 15, Subpart C rules.

### SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2024-10-21

Testing Start Date: 2024-10-21


Testing End Date: 2025-03-24

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch -

Reviewed by:

Prepared by:

Tested by:

  
John Zhi  
EMC Project Manager

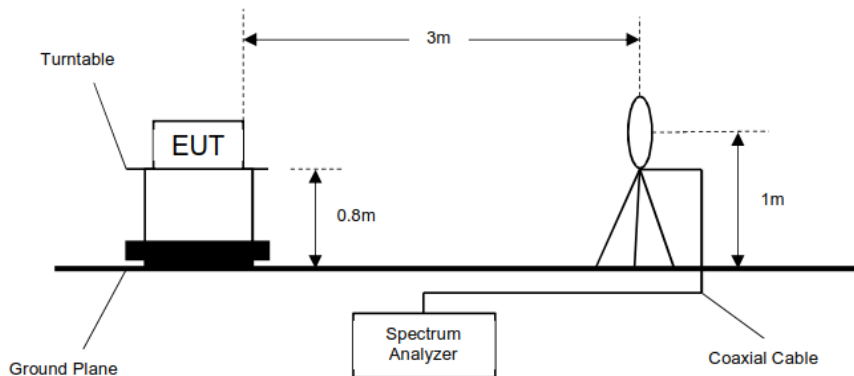
  
Hayden Hu  
Project Engineer

  
Carry Cai  
Test Engineer

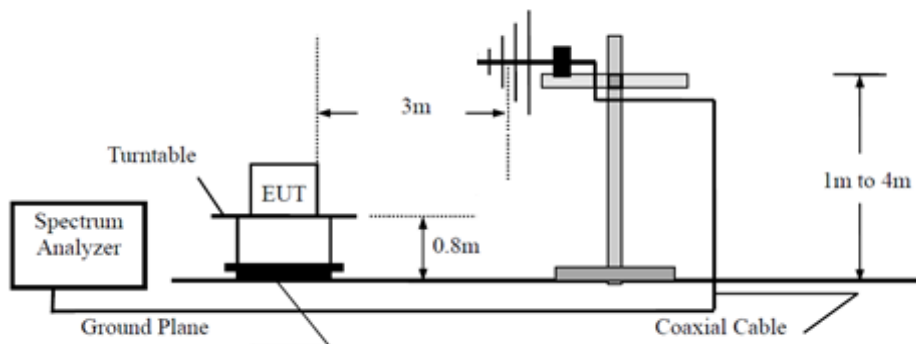
## 7 Test Setups

### 7.1 Radiated test setups

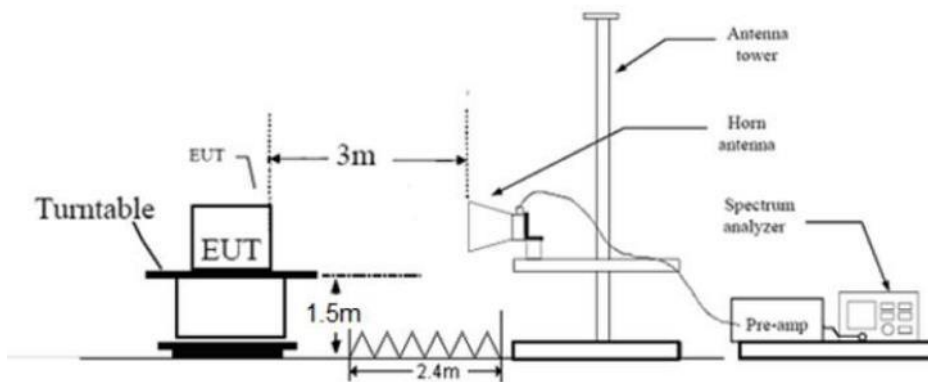
9KHz - 30MHz



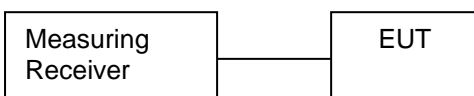
30MHz - 1GHz



Above 1GHz

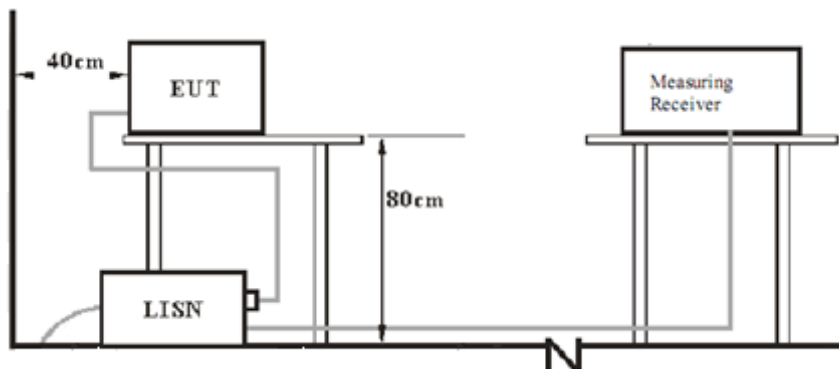


### 7.2 Conducted RF test setups





### 7.3 AC Power Line Conducted Emission test setups



## 8 Systems Test Configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model NO.	S/N
Computer	HP	TPN-CA16	L25298-002
Adaptor	Dong Guan City GangQi Electronic Co.,Ltd	GQ48-190250-AU	---
Serial port board	---	---	---

Cables Used During Test:

Cable	Length	Shielded/unshielded	With / without ferrite
---	---	---	---

Test software information:

Test Software Version	SecureCRT	
Modulation	Setting TX Power	Packet Type
GFSK	default	RBS9

The system was configured to non-hopping mode, testing channel 0, 19, 39, Only supports 1Mbps.

## 9 Technical Requirement

### 9.1 Conducted Emission

#### Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

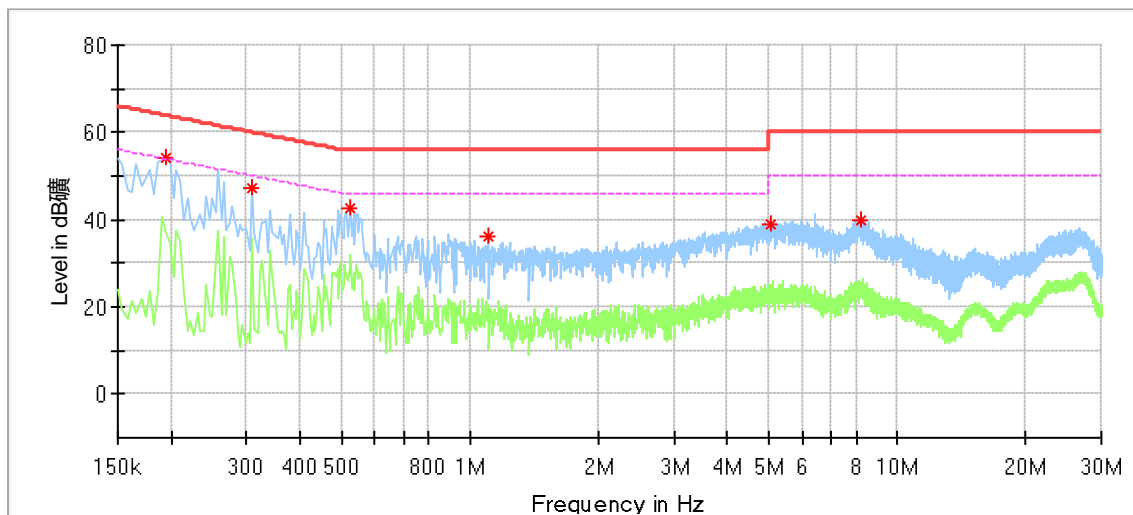
#### Limit

Frequency MHz	QP Limit dB $\mu$ V	AV Limit dB $\mu$ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

## Conducted Emission

Product Type : Art Projector  
 M/N : P1  
 Operating Condition : Transmitting  
 Test Specification : Line  
 Comment : AC 120V/60Hz



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.194000	54.23	---	63.86	9.63	L1	9.67
0.310000	47.15	---	59.97	12.82	L1	9.67
0.526000	42.63	---	56.00	13.37	L1	9.69
1.102000	36.02	---	56.00	19.98	L1	9.70
5.034000	38.73	---	60.00	21.27	L1	9.82
8.206000	39.90	---	60.00	20.10	L1	9.90

## Final\_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
---	---	---	---	---	---	---

Remark:

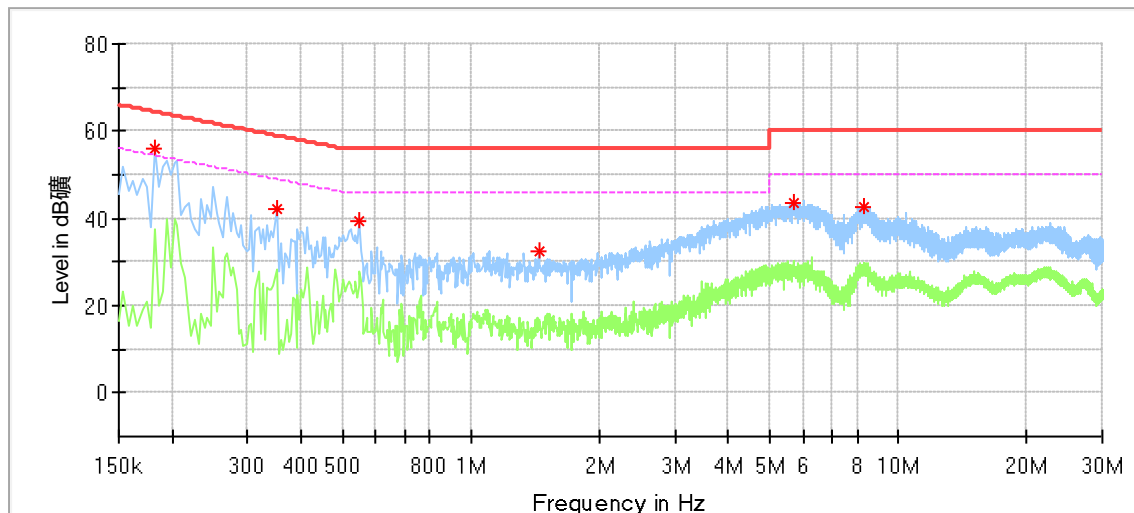
\*Level=Reading Level + Correction Factor

\*\*Correction Factor=Cable Loss + LISN Factor

(The Reading Level is recorded by software which is not shown in the sheet)

## Conducted Emission

Product Type : Art Projector  
 M/N : P1  
 Operating Condition : Transmitting  
 Test Specification : Neutral  
 Comment : AC 120V/60Hz



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.182000	56.12	---	64.39	8.27	N	9.67
0.350000	42.26	---	58.96	16.71	N	9.67
0.550000	39.48	---	56.00	16.52	N	9.68
1.442000	32.40	---	56.00	23.60	N	9.70
5.674000	43.50	---	60.00	16.50	N	9.82
8.266000	42.77	---	60.00	17.23	N	9.89

## Final\_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
---	---	---	---	---	---	---

Remark:

\*Level=Reading Level + Correction Factor

\*\*Correction Factor=Cable Loss + LISN Factor

(The Reading Level is recorded by software which is not shown in the sheet)

## 9.2 Conducted Peak Output Power & EIRP

### Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Use the following test receiver settings:  
Span = approximately 5 times the 6dB bandwidth, centered on a channel need to test,  
RBW > the 6dB bandwidth of the emission being measured, VBW $\geq$ 3RBW,  
Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power and record the results in the test report.
5. Repeat above procedures until all frequencies measured were complete.

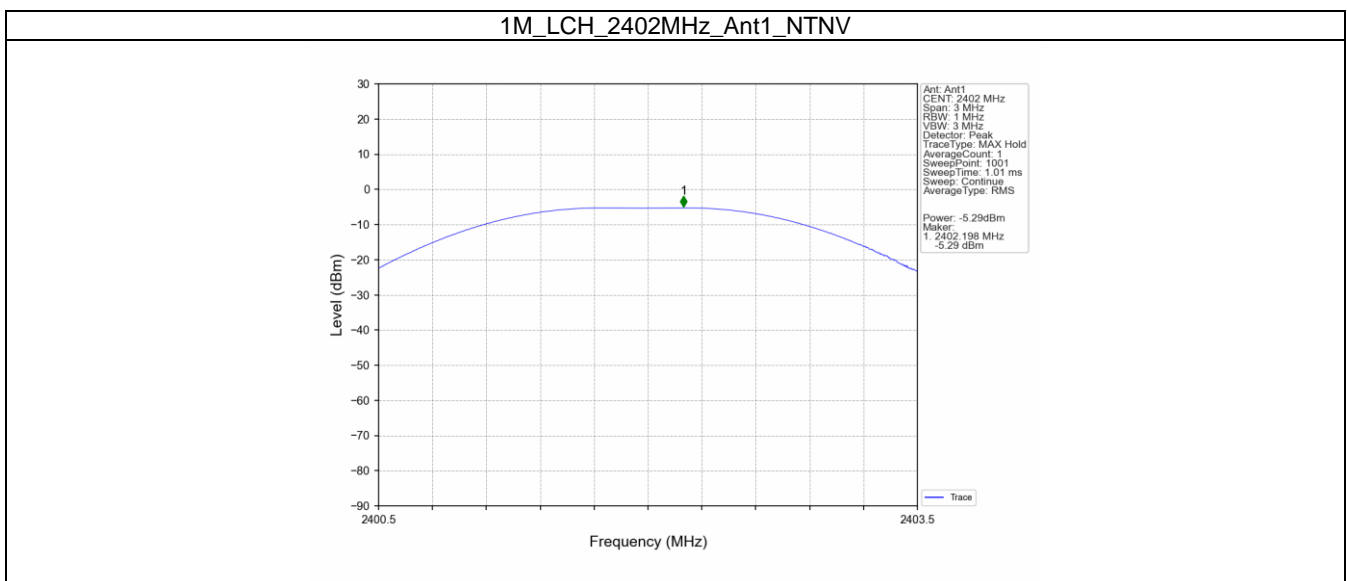
### Limits

According to §15.247 (b) (3) conducted peak output power limit as below:

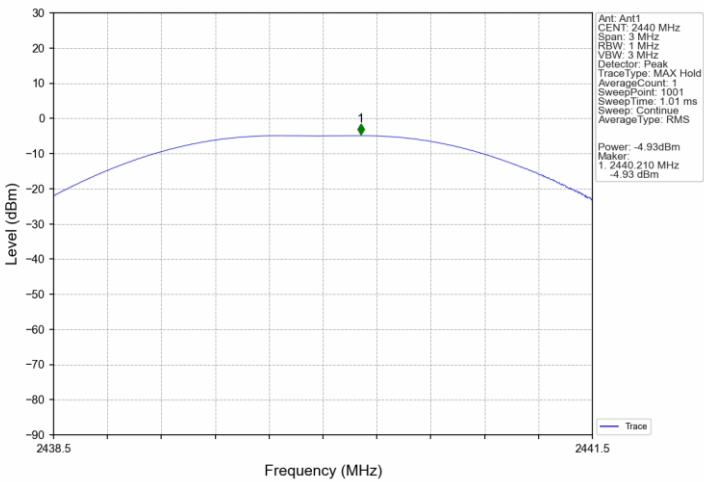
Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	$\leq 1$	$\leq 30$

### Conducted Peak Output Power

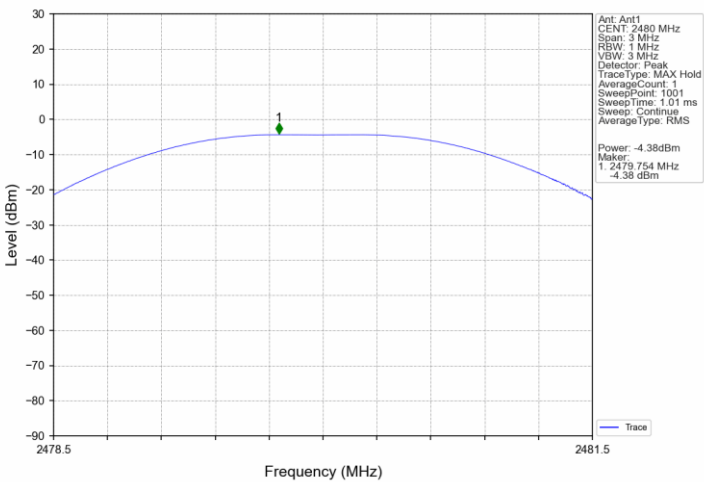
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-5.29	$\leq 30$	Pass
		2440	-4.93	$\leq 30$	Pass
		2480	-4.38	$\leq 30$	Pass



1M\_MCH\_2440MHz\_Ant1\_NTNV



1M\_HCH\_2480MHz\_Ant1\_NTNV



### 9.3 Power Spectral Density

#### Test Method

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
4. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW $\geq$ 3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
5. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
6. Repeat above procedures until other frequencies measured were completed.

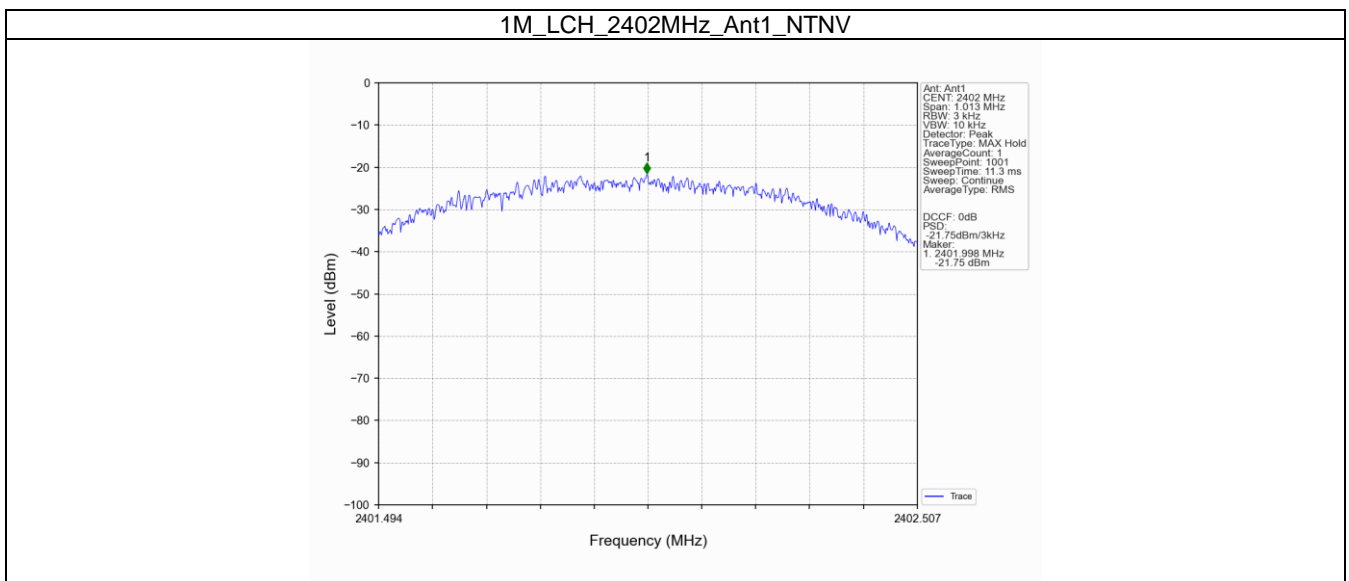
#### Limit

Limit [dBm/3KHz]

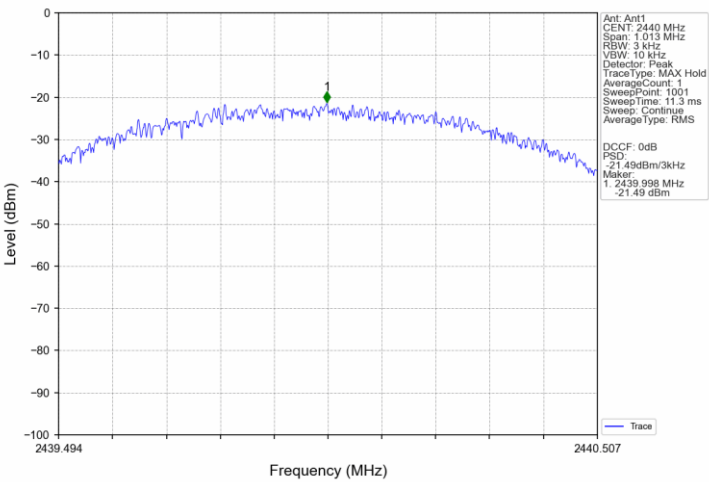
$\leq 8$

#### Test result

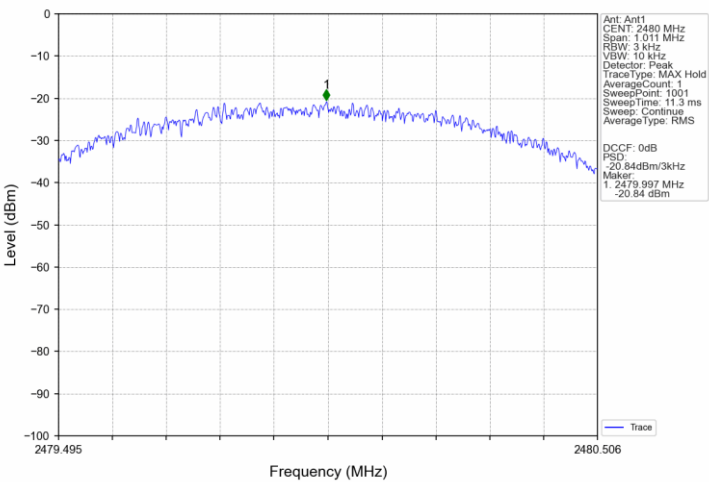
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-21.75	$\leq 8$	Pass
		2440	-21.49	$\leq 8$	Pass
		2480	-20.84	$\leq 8$	Pass



1M\_MCH\_2440MHz\_Ant1\_NTNV



1M\_HCH\_2480MHz\_Ant1\_NTNV





## 9.4 6 dB Bandwidth

### Test Method for 6 dB Bandwidth

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set center frequency to the nominal EUT channel center frequency
3. Set RBW =1% to 5% of the OBW but not less than 100kHz, VBW $\geq$  3  $\times$  RBW Detector = Peak. Trace mode = max hold. Sweep = auto Trace = max hold
4. 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.
5. Record the results in the test report.

### Limit

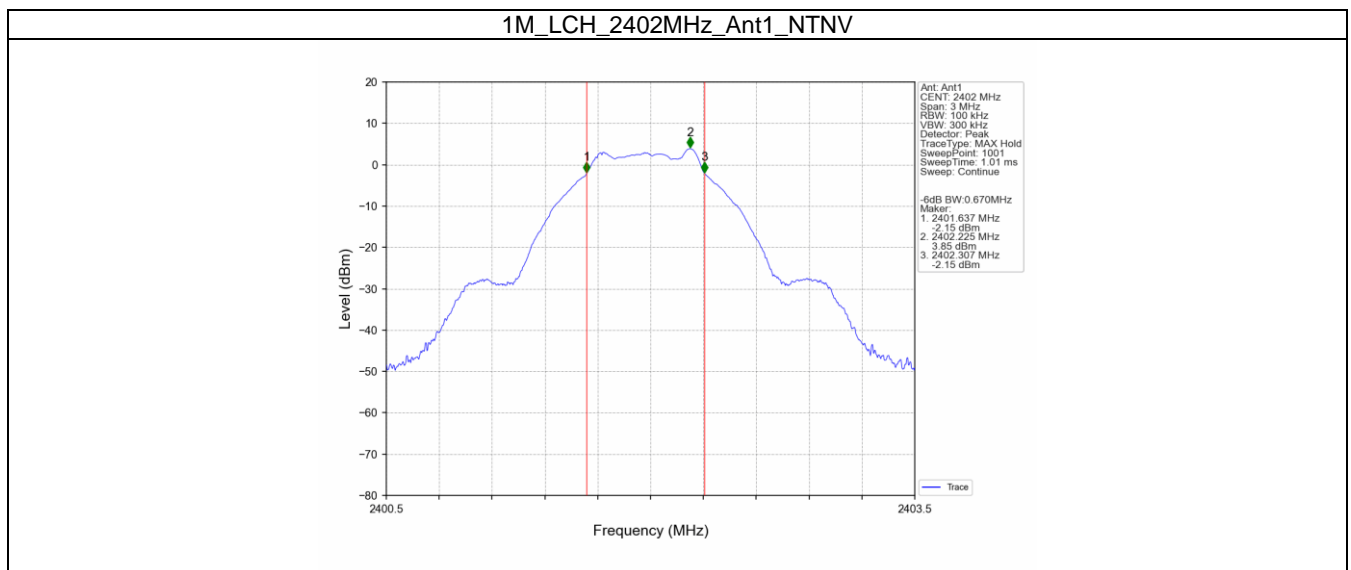
Limit [kHz]

$\geq 500$

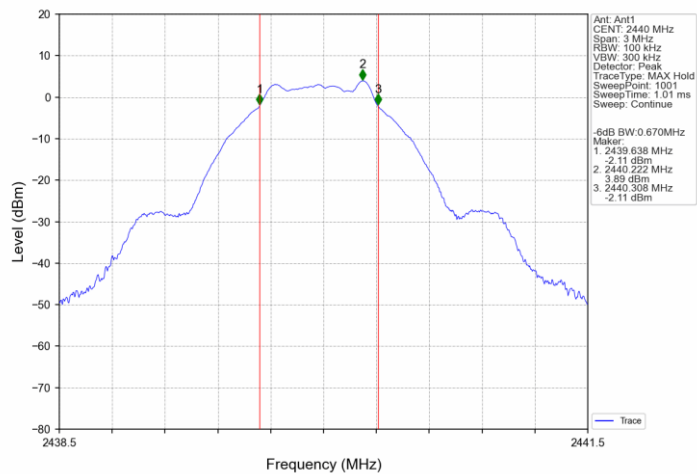
### Test result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	Result	Limit	
1M	SISO	2402	1	0.670	$\geq 0.5$	1.023	/	Pass
		2440	1	0.670	$\geq 0.5$	1.025	/	Pass
		2480	1	0.670	$\geq 0.5$	1.026	/	Pass

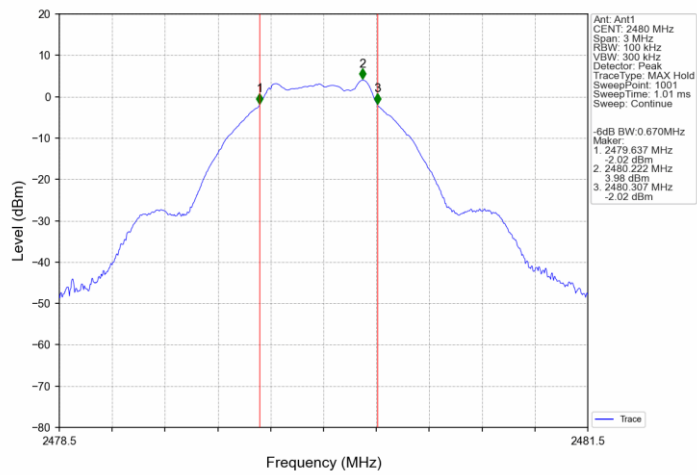
## 6 dB Bandwidth



1M\_MCH\_2440MHz\_Ant1\_NTNV



1M\_HCH\_2480MHz\_Ant1\_NTNV



## 9.5 Spurious RF Conducted Emissions

### Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:  
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10<sup>th</sup> harmonic. Typically, several plots are required to cover this entire span.  
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

### Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20

## Test results

### Reference:

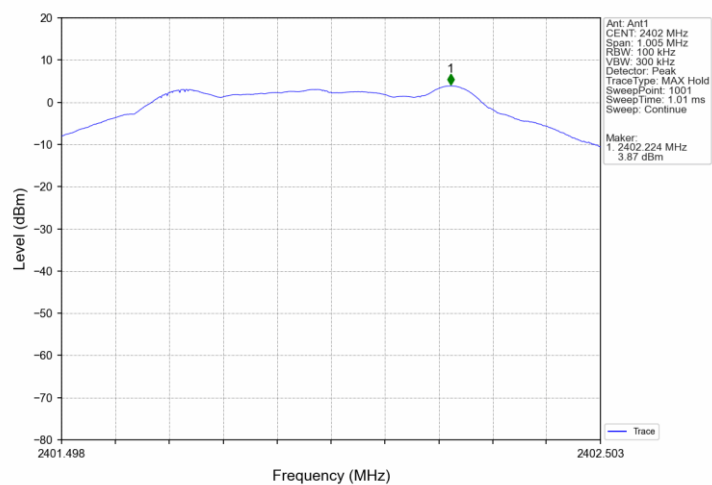
Mode	Tx Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	3.87
		2440	1	3.91
		2480	1	3.99
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.				

### Conducted spurious emission:

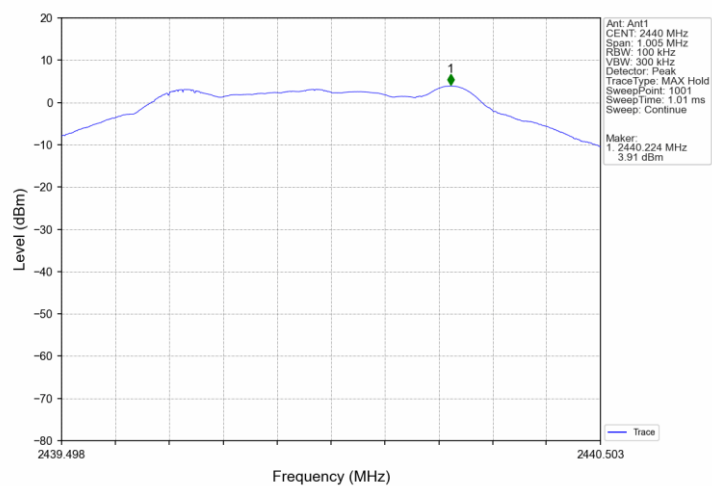
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	3.87	-16.13	Pass
		2440	1	3.91	-16.09	Pass
		2480	1	3.99	-16.01	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.						

Reference:

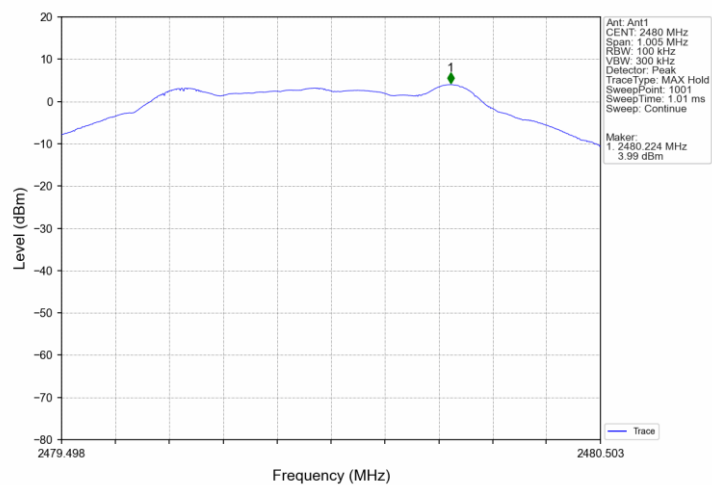
1M\_LCH\_2402MHz\_Ant1\_NTNV



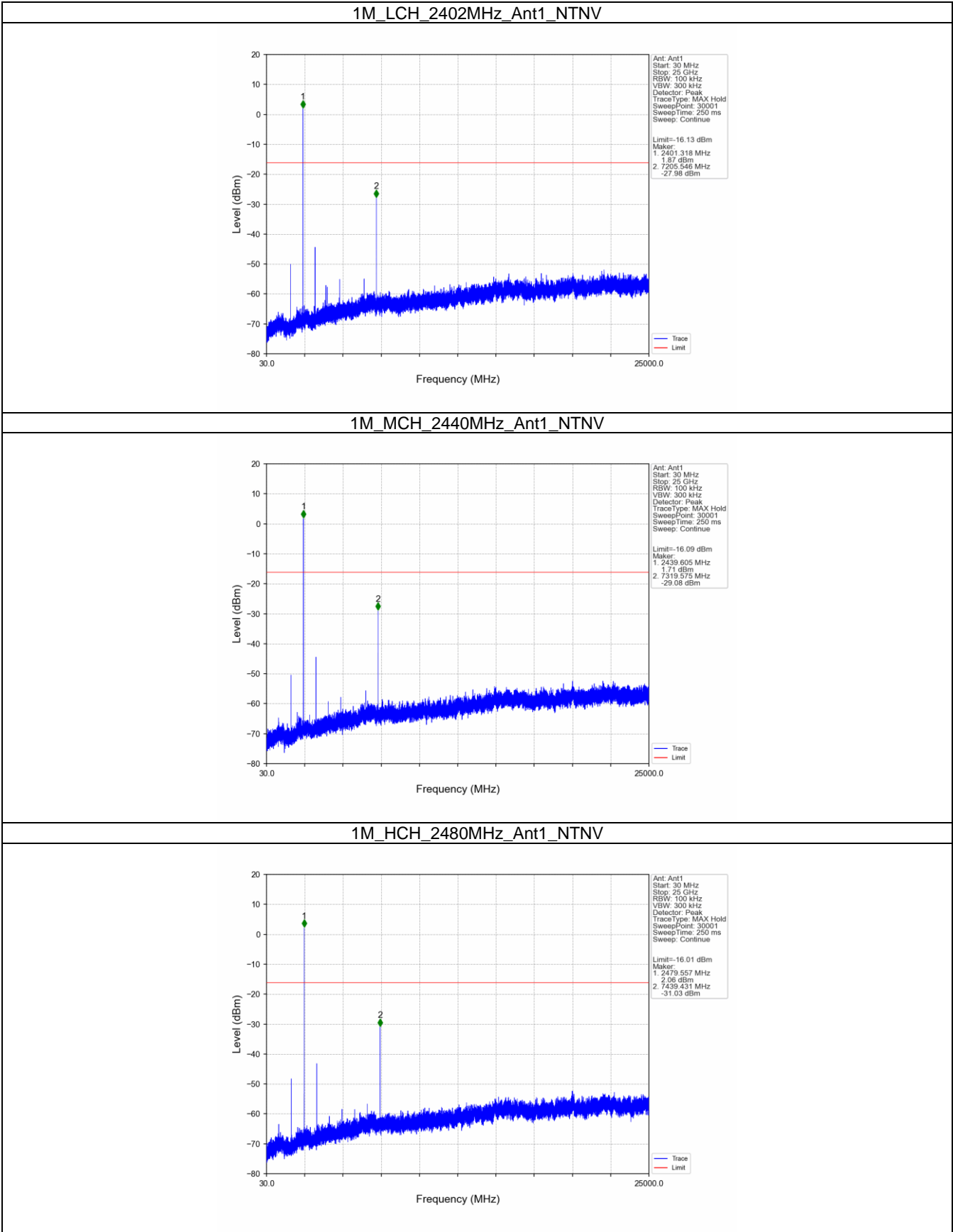
1M\_MCH\_2440MHz\_Ant1\_NTNV



1M\_HCH\_2480MHz\_Ant1\_NTNV



CSE:



## 9.6 Band Edge

### Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:  
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10<sup>th</sup> harmonic. Typically, several plots are required to cover this entire span.  
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

### Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3) and RSS-247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

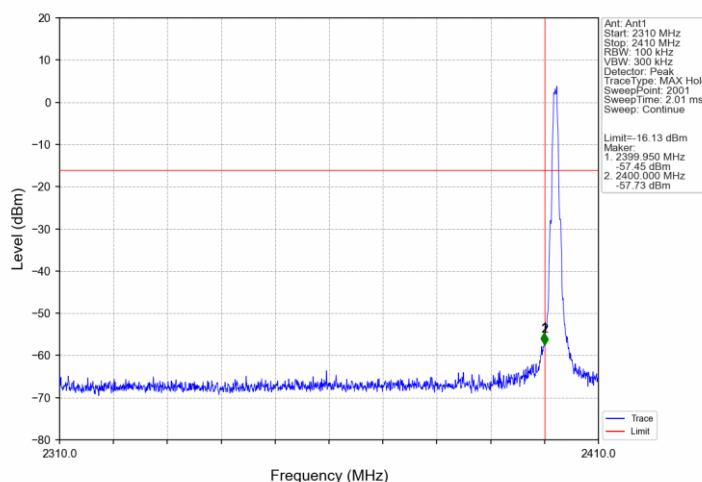
Frequency Range MHz	Limit (dBc)
30-25000	-20

## Test results

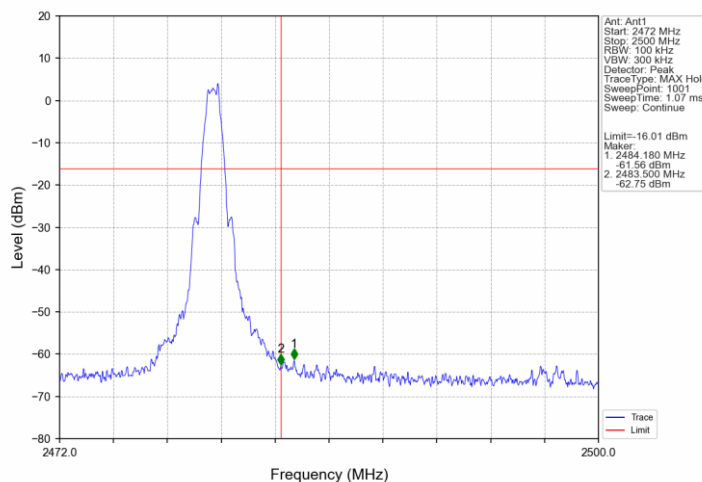
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	3.87	-16.13	Pass
		2440	1	3.91	-16.09	Pass
		2480	1	3.99	-16.01	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

1M\_LCH\_2402MHz\_Ant1\_NTNV



1M\_HCH\_2480MHz\_Ant1\_NTNV





## 9.7 Spurious Radiated Emissions for Transmitter

### Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. 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.
4. 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.
5. Use the following spectrum analyzer settings According to C63.10:

For Below 1GHz

Use the following test receiver settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious  
 RBW = 100 KHz to 120KHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Peak unwanted emissions Above 1GHz:

Span = wide enough to capture the peak level of the in-band emission and all spurious  
 RBW = 1MHz, VBW ≥ RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

Procedures for average unwanted emissions measurements above 1000 MHz

a) RBW = 1MHz.

b) VBW \ [3 × RBW].

c) Detector = RMS (power averaging), if  $[\text{span} / (\# \text{ of points in sweep})] \leq \text{RBW} / 2$ .

Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of  $1 / D$ , where  $D$  is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is  $[10 \log (1 / D)]$ , where  $D$  is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction

factor is  $[20 \log (1 / D)]$ , where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission (AV) at frequency above 1GHz.

## Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3) and RSS 247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in § 15.209(a) and RSS-Gen is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a) and RSS-Gen section 8.9, must also comply with the radiated emission limits specified in § 15.209(a) and RSS-Gen section 8.10.

Frequency MHz	Field Strength $\mu\text{V/m}$	Field Strength $\text{dB}\mu\text{V/m}$	Detector	Measurement distance meters
0.009-0.490	2400/F(kHz)	48.5-13.8	AV	300
0.490-1.705	24000/F(kHz)	33.8-23.0	QP	30
1.705-30	30	29.5	QP	30
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3
Above 1000	500	54	AV	3
Above 1000	5000	74	PK	3

Note 1: Limit  $3\text{m}(\text{dB}\mu\text{V/m}) = \text{Limit } 300\text{m}(\text{dB}\mu\text{V/m}) + 40\text{Log}(300\text{m}/3\text{m})$  (Below 30MHz)

Note 2: Limit  $3\text{m}(\text{dB}\mu\text{V/m}) = \text{Limit } 30\text{m}(\text{dB}\mu\text{V/m}) + 40\text{Log}(30\text{m}/3\text{m})$  (Below 30MHz)

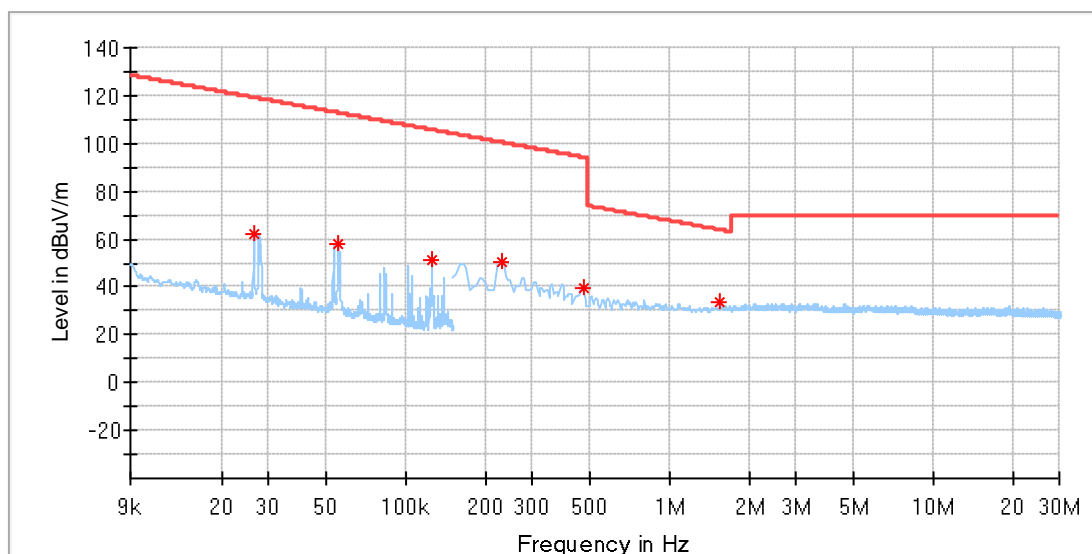
## Spurious radiated emissions for transmitter

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

All test modes at test frequencies from 9KHz to 1GHz were evaluated in the report, but only the only poor case test results were listed.

### Transmitting spurious emission test result as below:

Test data\_9KHz to 30MHz- BLE 2402MHz

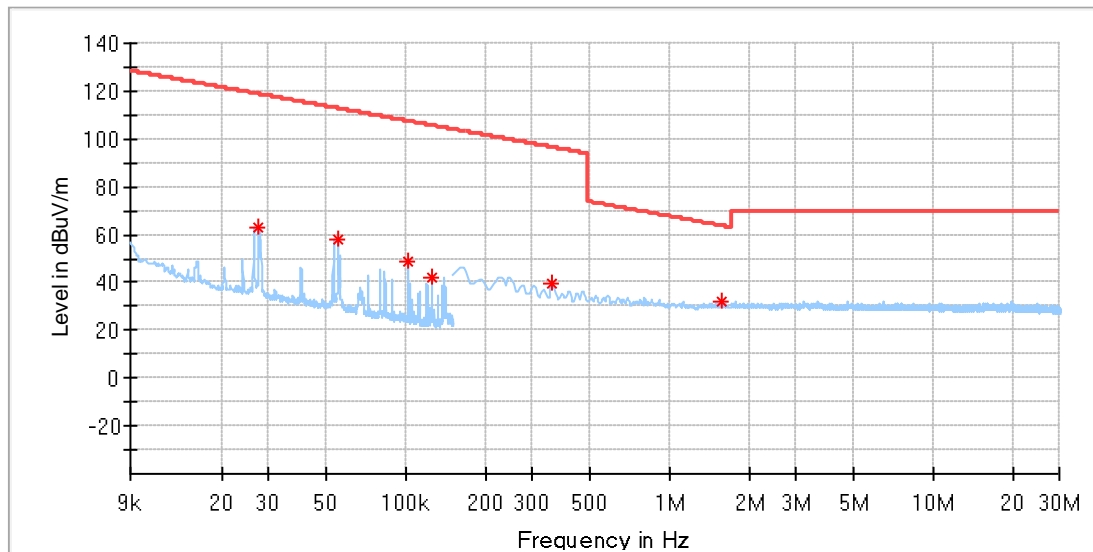


### Critical Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.026484	61.81	119.13	57.32	H	182.0	19.87
0.055248	57.74	112.75	55.00	H	9.0	19.92
0.125231	51.55	105.64	54.09	H	200.0	19.92
0.229600	50.77	100.38	49.61	H	0.0	19.88
0.468400	39.28	94.19	54.91	H	173.0	19.89
1.552950	33.63	63.81	30.18	H	1.0	20.00

### Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---		---	---



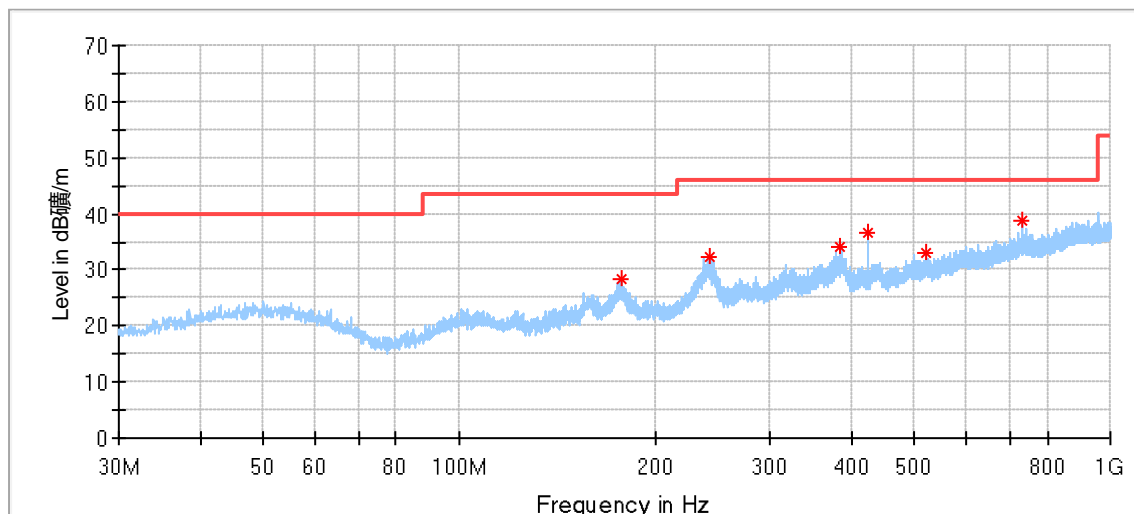
### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.027659	62.85	118.75	55.90	V	5.0	19.88
0.055295	58.00	112.74	54.74	V	350.0	19.92
0.101966	48.81	107.43	58.61	V	350.0	19.93
0.125231	42.18	105.64	63.46	V	313.0	19.92
0.358950	39.55	96.50	56.96	V	0.0	19.90
1.572850	32.13	63.70	31.56	V	118.0	20.00

### Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---		---	---

Test data\_30MHz to 1000MHz- BLE 2402MHz

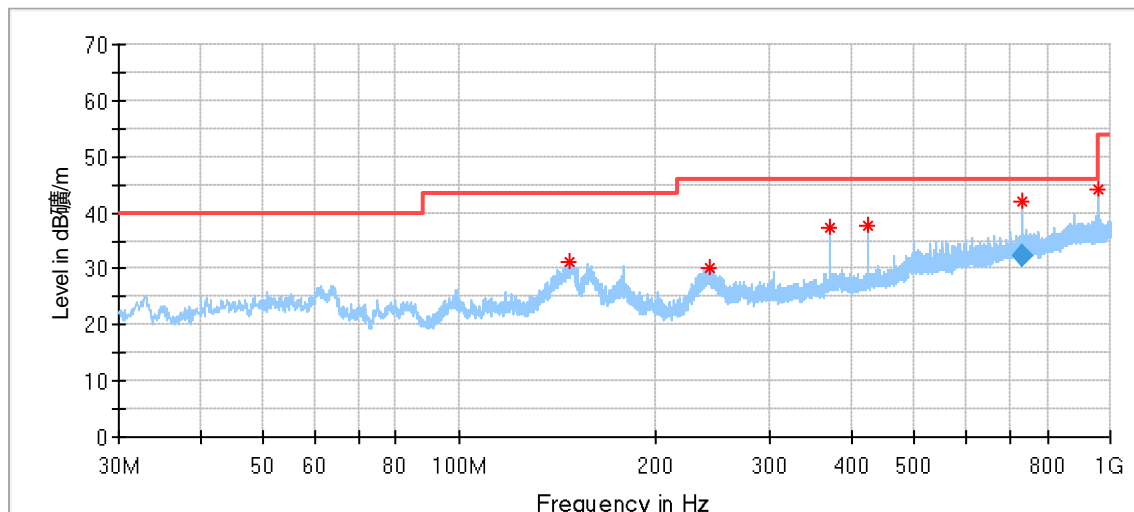


### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
177.008889	28.42	43.50	15.08	100.0	H	69.0	13.90	---
242.591667	32.39	46.00	13.61	200.0	H	81.0	17.28	---
385.451111	34.00	46.00	12.00	100.0	H	268.0	20.90	---
424.520556	36.56	46.00	9.44	100.0	H	11.0	21.67	---
521.790000	32.90	46.00	13.10	200.0	H	291.0	23.19	---
733.465556	38.81	46.00	7.19	100.0	H	205.0	27.07	---

### Final\_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
---	---	---	---	---	---	---	---	---



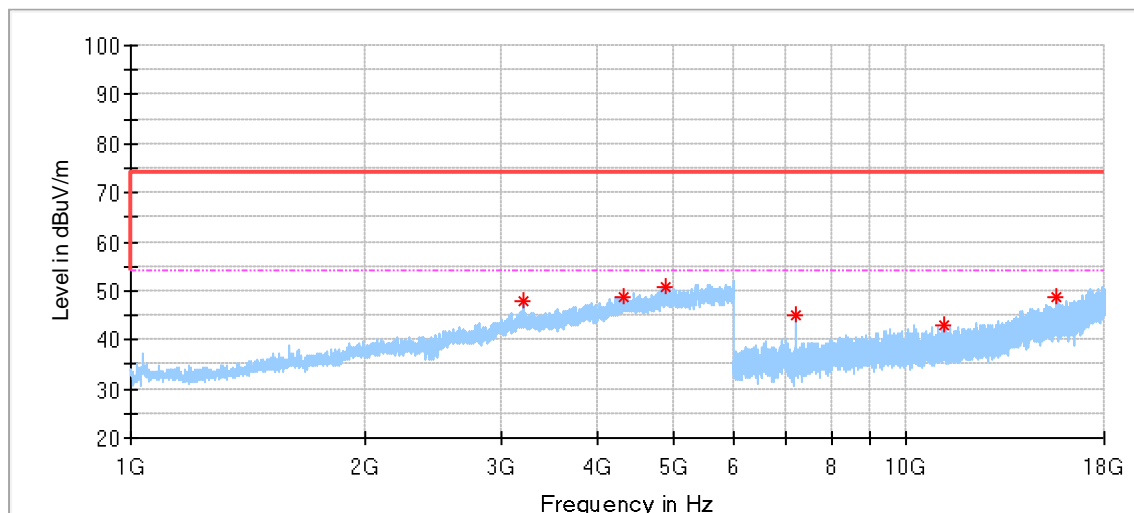
## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
147.747222	31.14	43.50	12.36	100.0	V	279.0	12.56	---
243.346111	30.27	46.00	15.73	200.0	V	355.0	17.31	---
371.978889	37.40	46.00	8.60	100.0	V	346.0	20.33	---
424.520556	37.71	46.00	8.29	100.0	V	346.0	21.67	---
733.897977	42.08	46.00	3.92	294.0	V	264.0	27.08	---
960.014444	44.31	54.00	9.69	100.0	V	269.0	29.58	---

## Final\_Result

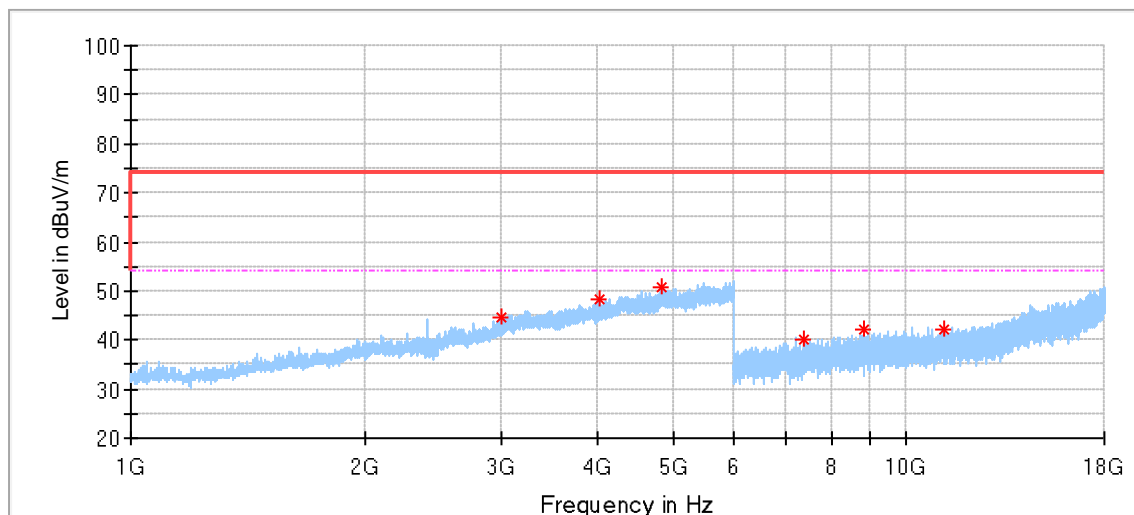
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
733.897977	32.41	46.00	13.59	294.0	V	264.0	27.09	---

Test data 1GHz to 18GHz:  
BLE\_1Mbps\_Low Channel:



### Critical\_Freqs

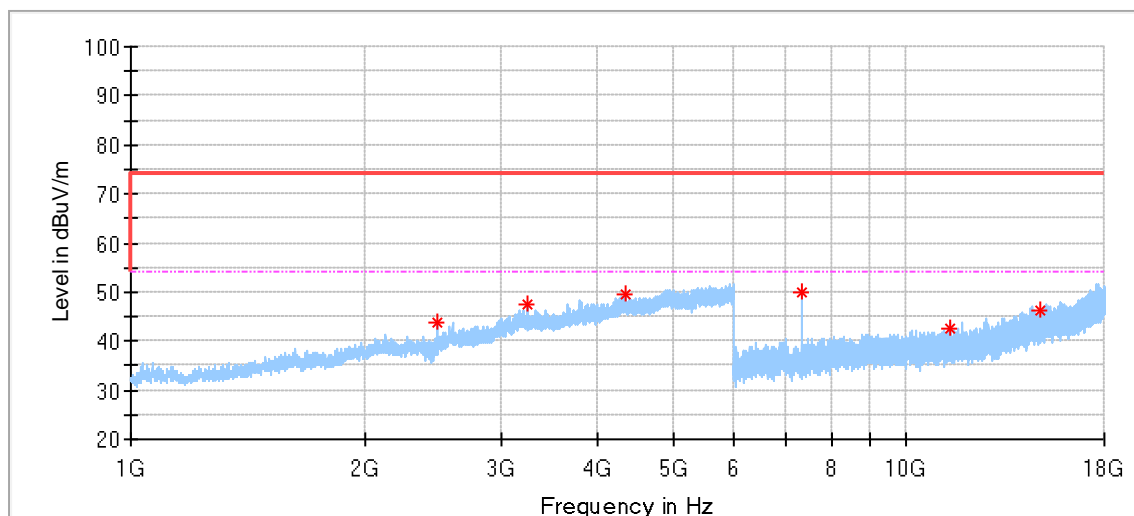
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3202.500000	47.92	74.00	26.08	150.0	H	347.0	0.01
4317.000000	48.73	74.00	25.27	150.0	H	101.0	4.14
4906.000000	50.70	74.00	23.30	150.0	H	77.0	5.78
7206.000000	45.04	74.00	28.96	150.0	H	353.0	9.12
11152.500000	43.13	74.00	30.87	150.0	H	132.0	13.97
15609.000000	48.76	74.00	25.24	150.0	H	82.0	20.52



### Critical\_Freqs

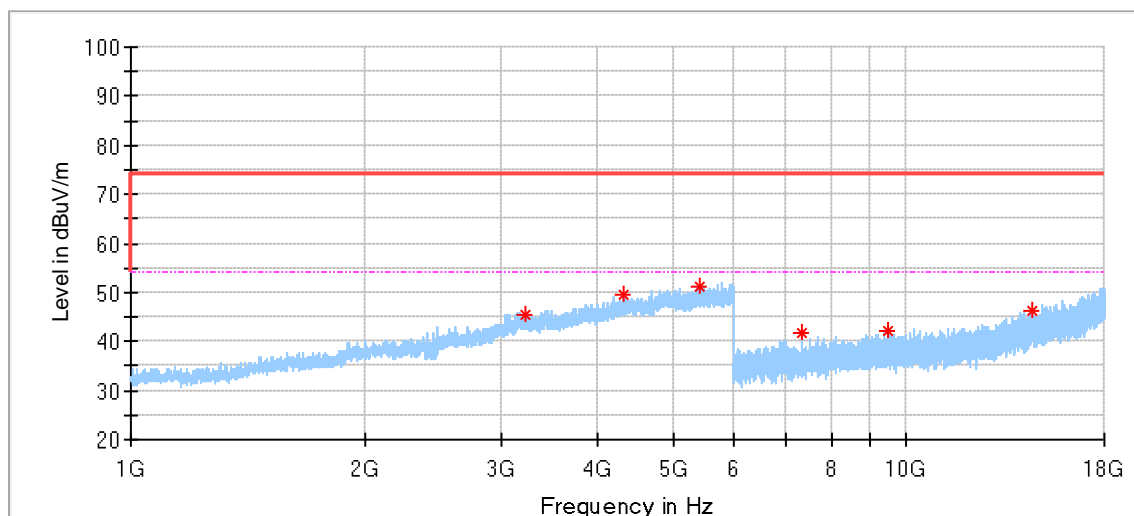
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3011.000000	44.47	74.00	29.53	150.0	V	56.0	-1.20
4020.000000	48.23	74.00	25.77	150.0	V	164.0	2.15
4821.500000	50.84	74.00	23.16	150.0	V	307.0	5.25
7360.500000	40.23	74.00	33.77	150.0	V	137.0	9.49
8812.500000	42.07	74.00	31.93	150.0	V	137.0	12.22
11160.500000	42.16	74.00	31.84	150.0	V	4.0	13.95

## BLE\_1Mbps \_Middle Channel:



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2479.500000	43.63	74.00	30.37	150.0	H	238.0	-4.49
3253.000000	47.64	74.00	26.36	150.0	H	131.0	-0.21
4342.500000	49.61	74.00	24.39	150.0	H	250.0	4.04
7320.000000	49.86	74.00	24.14	150.0	H	303.0	9.54
11389.500000	42.66	74.00	31.34	150.0	H	132.0	14.21
14899.500000	46.21	74.00	27.79	150.0	H	255.0	19.29

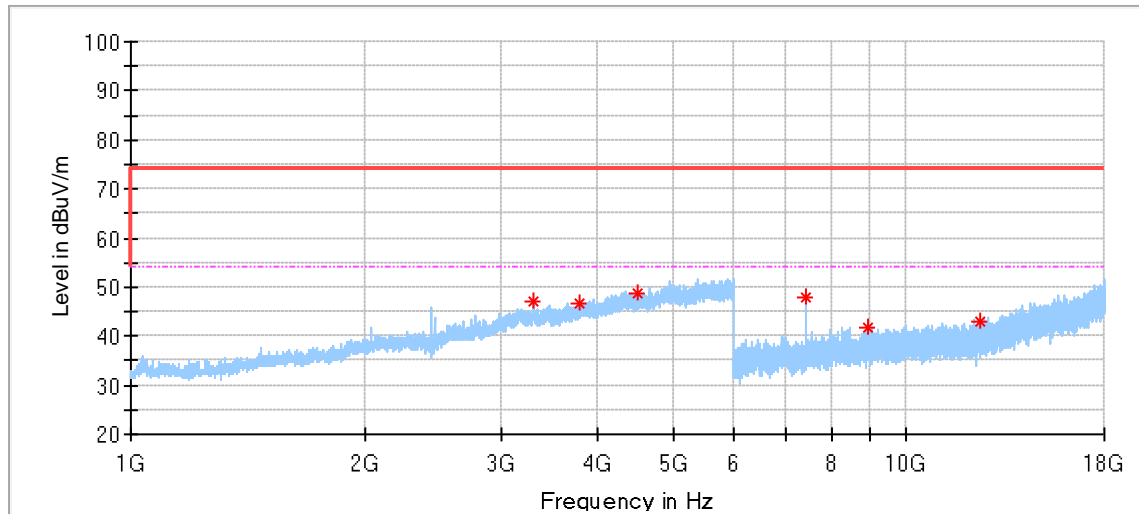


## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3227.500000	45.43	74.00	28.57	150.0	V	262.0	0.04
4323.500000	49.51	74.00	24.49	150.0	V	310.0	4.12
5421.000000	51.05	74.00	22.95	150.0	V	0.0	6.72
7320.000000	41.78	74.00	32.22	150.0	V	184.0	9.54
9460.000000	42.24	74.00	31.76	150.0	V	331.0	13.03
14507.500000	46.24	74.00	27.76	150.0	V	353.0	18.80

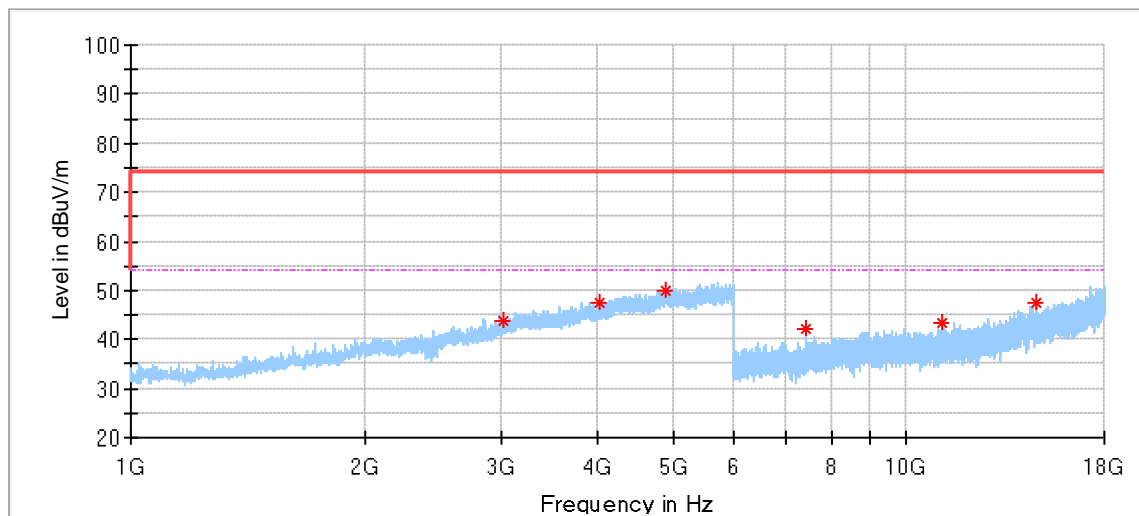


## BLE\_1Mbps \_High Channel:



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3306.500000	46.90	74.00	27.10	150.0	H	31.0	-0.08
3790.500000	46.71	74.00	27.29	150.0	H	55.0	1.67
4502.500000	48.64	74.00	25.36	150.0	H	331.0	4.05
7440.000000	47.74	74.00	26.26	150.0	H	306.0	9.66
8947.500000	41.64	74.00	32.36	150.0	H	157.0	12.33
12438.000000	43.12	74.00	30.88	150.0	H	157.0	15.05

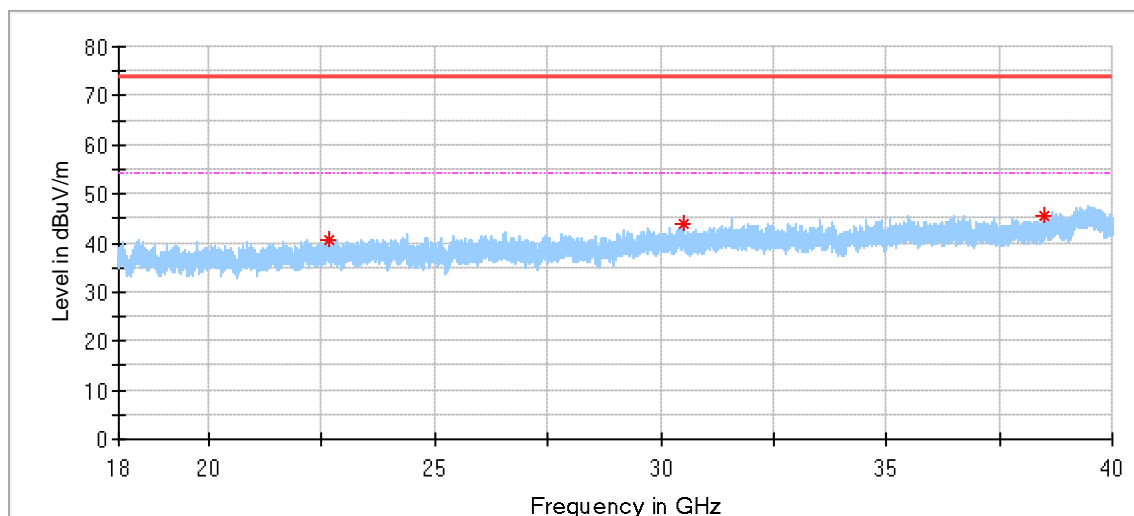


## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3027.500000	43.94	74.00	30.06	150.0	V	44.0	-1.06
4016.500000	47.45	74.00	26.55	150.0	V	240.0	2.14
4895.500000	50.01	74.00	23.99	150.0	V	240.0	5.74
7439.500000	42.04	74.00	31.96	150.0	V	206.0	9.66
11118.500000	43.32	74.00	30.68	150.0	V	328.0	14.04
14714.000000	47.56	74.00	26.44	150.0	V	181.0	18.89

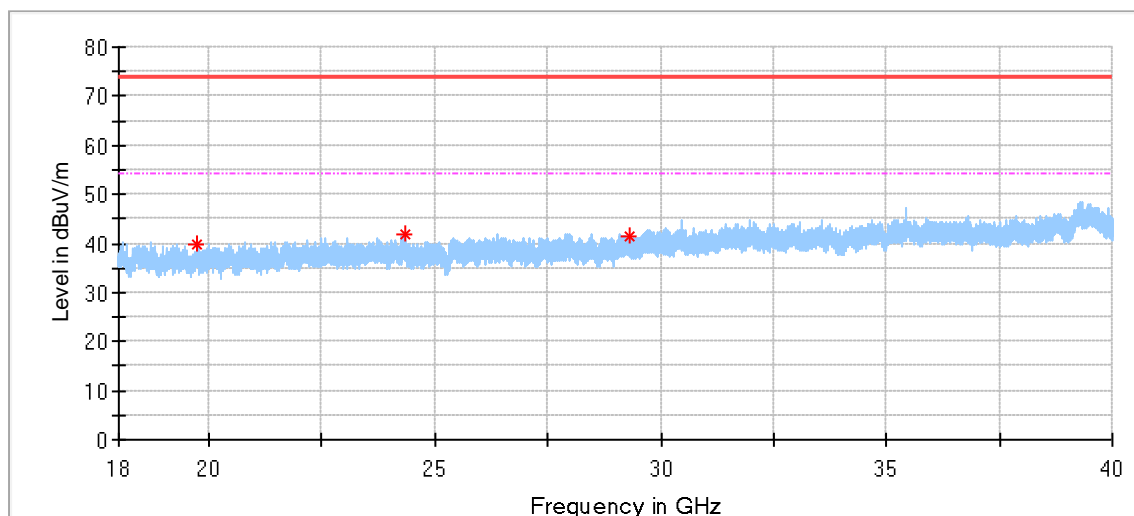
Test data 18GHz to 40GHz:

BLE\_1Mbps\_Low Channel:



### Critical Freqs

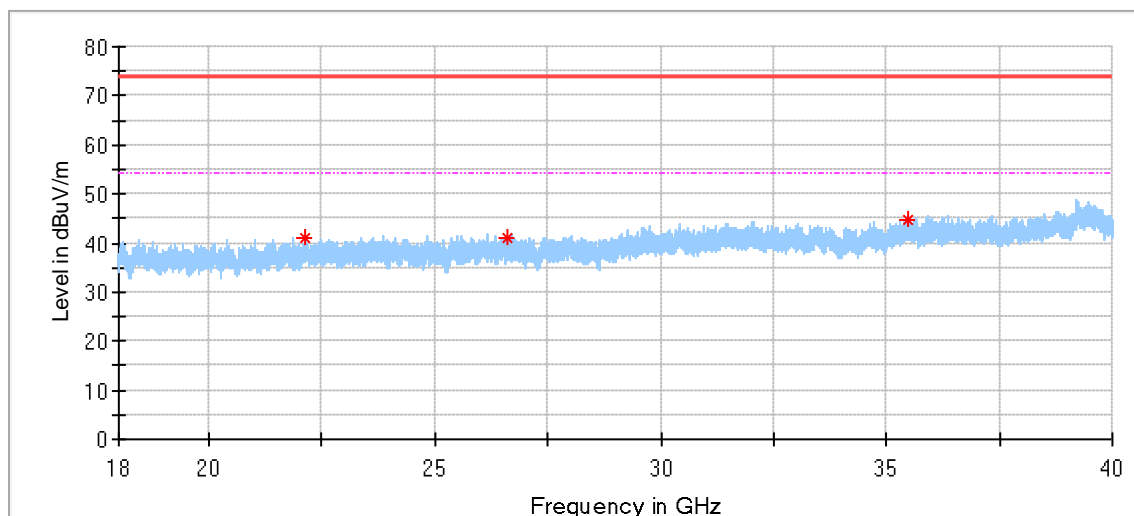
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
22637.875000	40.75	74.00	33.25	150.0	H	112.0	-0.79	---
30522.812500	43.71	74.00	30.29	150.0	H	192.0	0.99	---
38501.250000	45.70	74.00	28.30	150.0	H	59.0	2.54	---



### Critical Freqs

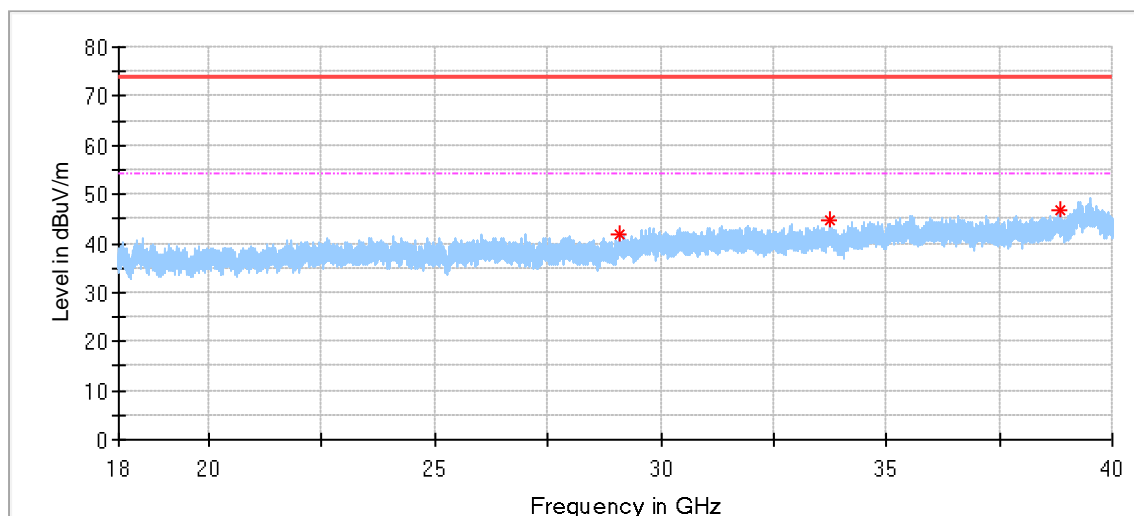
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
19746.250000	39.73	74.00	34.27	150.0	V	0.0	-4.09	---
24320.875000	41.95	74.00	32.05	150.0	V	258.0	-0.17	---
29304.562500	41.35	74.00	32.65	150.0	V	58.0	0.48	---

BLE\_1Mbps \_Middle Channel:



### Critical Freqs

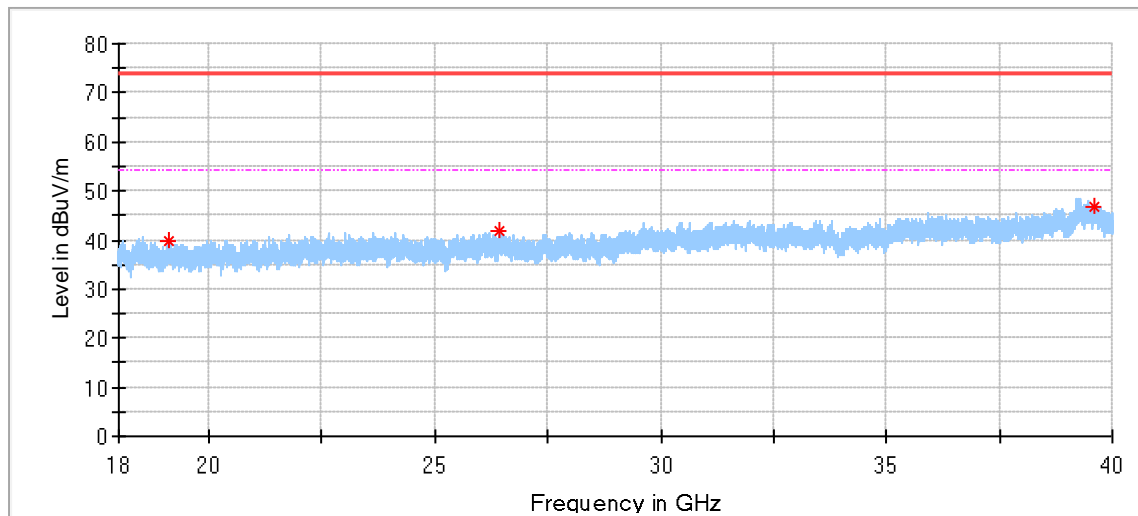
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
22136.687500	41.01	74.00	32.99	150.0	H	128.0	-1.23	---
26601.312500	41.05	74.00	32.95	150.0	H	88.0	1.19	---
35479.000000	44.79	74.00	29.21	150.0	H	234.0	3.04	---



### Critical Freqs

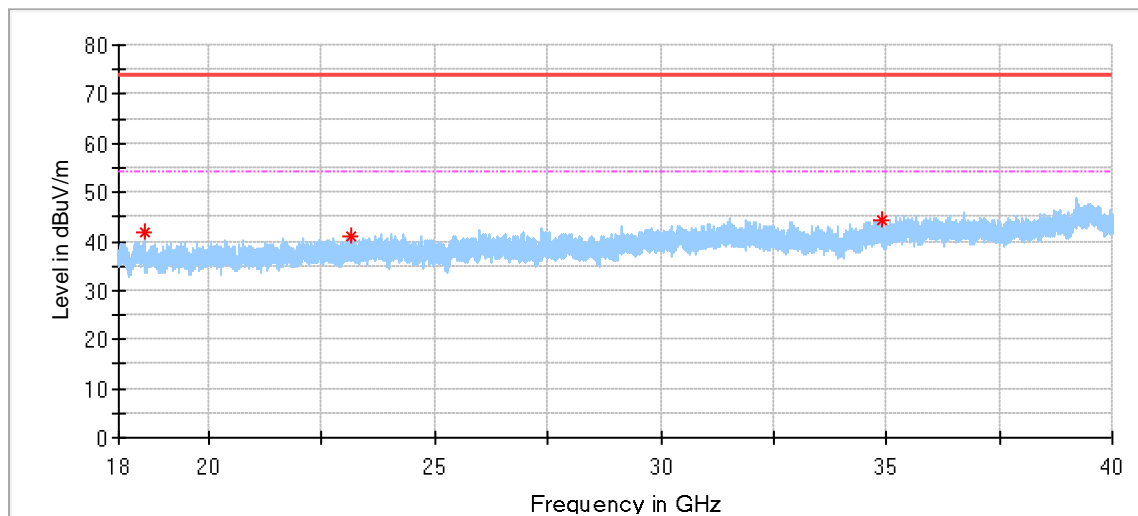
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
29067.375000	41.68	74.00	32.32	150.0	V	195.0	0.61	---
33766.437500	44.80	74.00	29.20	150.0	V	2.0	1.10	---
38848.437500	46.81	74.00	27.19	150.0	V	222.0	3.21	---

## BLE\_1Mbps \_High Channel:



## Critical Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
19110.312500	39.90	74.00	34.10	150.0	H	84.0	-4.35	---
26428.750000	41.79	74.00	32.22	150.0	H	345.0	1.15	---
39586.812500	46.89	74.00	27.11	150.0	H	0.0	5.80	---

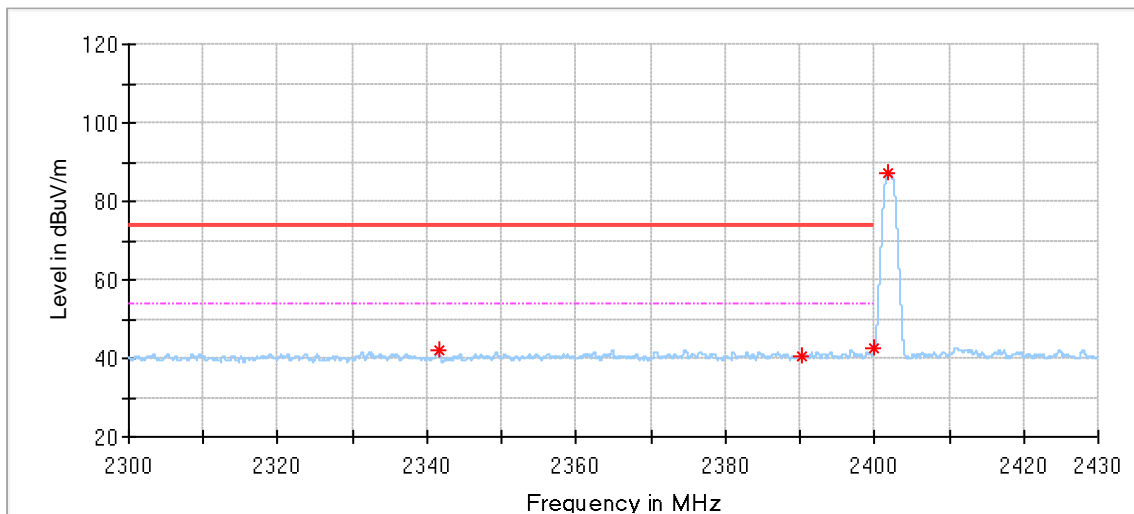


## Critical Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
18563.750000	41.69	74.00	32.31	150.0	V	289.0	-4.39	---
23142.500000	40.99	74.00	33.01	150.0	V	222.0	-0.59	---
34891.187500	44.27	74.00	29.73	150.0	V	263.0	2.00	---

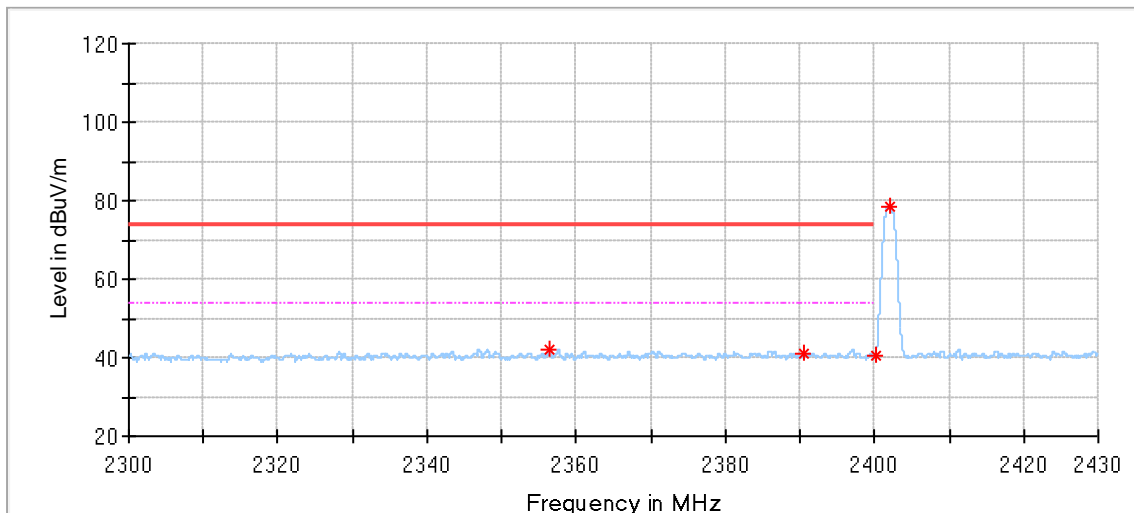
## Restricted-band band-edge

BLE\_1Mbps\_Low Channel:



### Critical Freqs

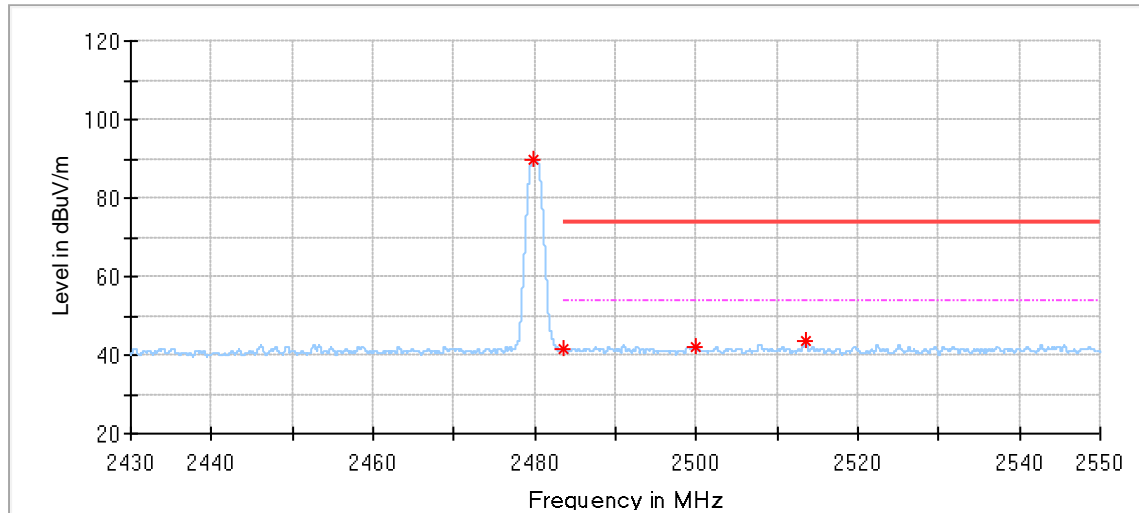
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2341.509000	41.94	74.00	32.06	150.0	H	0.0	-5.89
2390.285000	40.40	74.00	33.60	150.0	H	198.0	-5.41
2399.996000	42.34	74.00	31.66	150.0	H	325.0	-5.26



### Critical Freqs

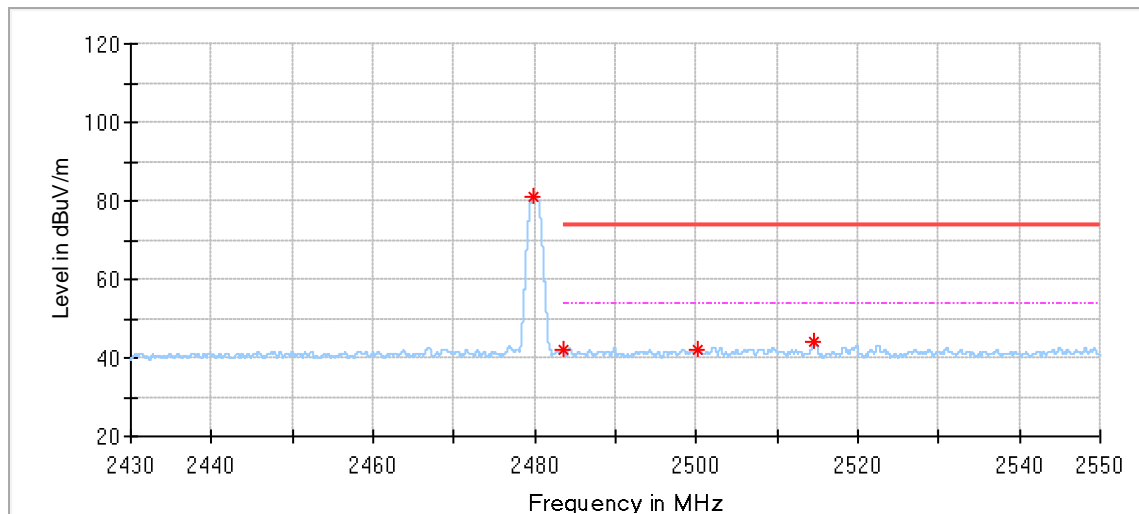
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2356.433000	42.22	74.00	31.78	150.0	V	183.0	-5.89
2390.571000	40.96	74.00	33.04	150.0	V	225.0	-5.41
2400.139000	40.67	---	---	150.0	V	35.0	-5.26

## BLE\_1Mbps \_High Channel:



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.544000	41.47	74.00	32.53	150.0	H	11.0	-4.91
2499.864000	42.13	74.00	31.87	150.0	H	264.0	-4.88
2513.472000	43.45	74.00	30.55	150.0	H	190.0	-4.84



## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.508000	42.21	74.00	31.79	150.0	V	87.0	-4.91
2500.164000	42.10	74.00	31.90	150.0	V	0.0	-4.88
2514.648000	43.87	74.00	30.13	150.0	V	356.0	-4.84

## Remark:

Corrected Amplitude = Read level + Corrector factor  
 Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain  
 Below 1GHz: Corrector factor = Antenna Factor + Cable Loss  
 (The Reading Level is recorded by software which is not shown in the sheet)

## 10 Test Equipment List

### List of Test Instruments

#### Radiated Emission Test (9kHz-30MHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 7	68-4-74-19-001	102176	1	2025-5-13
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	1	2025-7-24
Cable	HUBER-SUHNER	RG214	68-4-90-14-001-A21	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #1	68-4-90-14-001	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-14-001-A10	Version10.35.02	N/A	N/A

#### Radiated Emission Test (30MHz-1GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2025-5-13
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	1	2026-2-11
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	1	2025-5-11
Cable	OUQIAO	18DLB5-NMNM-7000	68-4-90-19-006-A22	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

#### Radiated Emission Test (1GHz-18GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2025-5-13
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2026-3-10
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	1	2025-5-11
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	1	2025-5-11
Cable	OUQIAO	18DLB5-NMNM-7000	68-4-90-19-006-A22	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

#### Radiated Emission Test (18GHz-40GHz)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2025-5-13
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2025-7-2
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2025-7-17
Cable	JUNFLON	MWX241	68-4-90-19-006-A21	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

**Conducted Emission Test**

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-19-002	102590	1	2025-5-13
LISN	Rohde & Schwarz	ENV216	68-4-87-19-001	102472	1	2025-5-12
LISN	Rohde & Schwarz	ENV4200	68-4-87-14-001	100249	1	2025-5-13
Attenuator	Shanghai Huaxiang	TS2-26-3	68-4-81-16-003	080928189	1	2025-5-11
Cable	OUQIAO	RG142	68-4-90-19-005-A20	----	----	----
Test software	Rohde & Schwarz	EMC32	68-4-90-19-005-A01	Version10.35.02	N/A	N/A
Shielding Room	TDK	CSR #2	68-4-90-19-005	----	3	2025-10-15

**RF Test**

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2025-5-11
RF Meas. and Switch Matrix Unit	TST PASS	TSCB3023R2	68-4-93-23-001	2811685c	1	2025-5-11
Cable	JUNFLON	J12J103539	68-4-90-19-003-A20	----	----	----
Test software	TST PASS	TST PASS	68-4-93-23-001-A03	Version 2.0	N/A	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2025-10-15



## 11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission in new shielding room (68-4-90-19-005) 150kHz-30MHz	3.14dB
Uncertainty for Radiated Emission in 3m chamber (68-4-90-14-001) 9kHz-30MHz	4.69dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 30MHz-1000MHz	Horizontal: 4.80dB Vertical: 5.91dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.40dB Vertical: 5.40dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) above 18000MHz	Horizontal: 5.10dB Vertical: 5.10dB
Uncertainty for Conducted RF test with TS 8997	RF Power Conducted: 1.31dB Frequency test involved: $0.6 \times 10^{-8}$ or 1%

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.4.3 and 4.5.1.

---THE END OF REPORT---