

FCC - TEST REPORT

Report Number : **6895025113501** Date of Issue: **2025-09-01**

Model : **20102, 20103**

Product Type : Nova

Applicant : Maturix ApS

Address : Thomas B. Thriges Gade 42, st., 5000 Odense C, Denmark

Manufacturer : Cre8tek (Shenzhen) Company Limited

Address : F4, Building A2, Xin Jian Xing Industry City, Guangqiao Road,
Guangming New District, Shenzhen, 518107, P.R China

Factory : Cre8tek (Shenzhen) Company Limited

Address : F4, Building A2, Xin Jian Xing Industry City, Guangqiao Road,
Guangming New District, Shenzhen, 518107, P.R China

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

Total pages including Appendices : **40**

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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

Fax: +86 755 8828 5299

FCC Registration No.: 514049

FCC Designation Number: CN5009

3 Description of the Equipment Under Test

Product:	Nova
Model no.:	20102, 20103
Brand name:	Maturix
FCC ID:	2BRK9-20102
Options and accessories:	N/A
Rating:	3.0VDC, 0.05A supplied by 1pc "CR2450" non-rechargeable Lithium Cell battery
RF Transmission Frequency:	2402MHz-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Data Rate:	1Mbps
Antenna Type:	PCB
Antenna Gain	0.81dBi Max
Description of the EUT:	The Equipment Under Test (EUT) is a Nova which Support Low Energy Bluetooth(1Mbps).

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

NOTE 2: The circuit boards of 20102 and 20103 are exactly the same. The only difference is that 20102 has only one temperature sensor probe, while 20103 has two sensor probes. The RF circuits are the same. 20102 is selected as a typical model for testing

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2024 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

Technical Requirements						
FCC Part 15 Subpart C						
Test Condition		Test Site	Test Result			Test Environment
			Pass	Fail	N/A	
§15.207	Conducted emission AC power port	Site 1	☐	☐	☒	T: --- H: ---
§15.247 (b) (3)	Conducted peak output power	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.247(a)(2)	6dB bandwidth and 99% Occupied Bandwidth	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.247(e)	Power spectral density	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.247(d)	Spurious RF conducted emissions	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.247(d)	Band edge	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Site 1	☒	☐	☐	T: 24.7°C H: 49.2%
§15.203	Antenna requirement	See note 2	☒	☐	☐	--

Note 1: N/A=Not Applicable.

Note 2: The EUT uses a PCB antenna, which gain is 0.81dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

Note 3: T: Temperature, H: Humidity.

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2BRK9-20102, complies with Section 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: 2025-06-18

Testing Start Date: 2025-06-18

Testing End Date: 2025-07-28

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

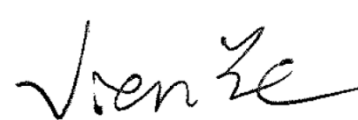
Reviewed by:

Prepared by:

Tested by:


John Zeng
EMC Project Manager

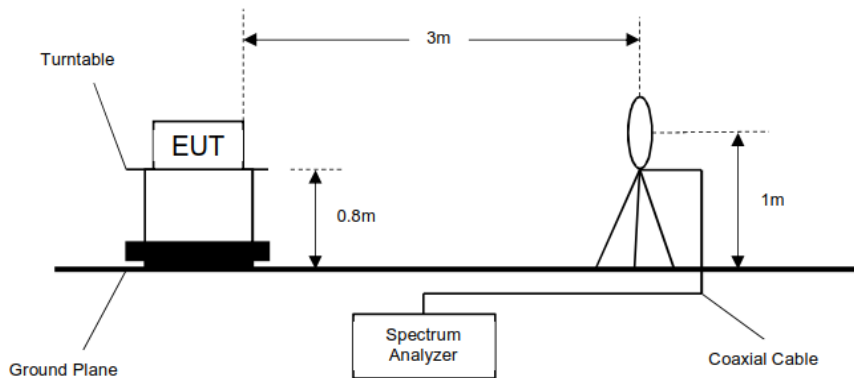

Hayden Hu
Project Engineer


Vier Ye
Test Engineer

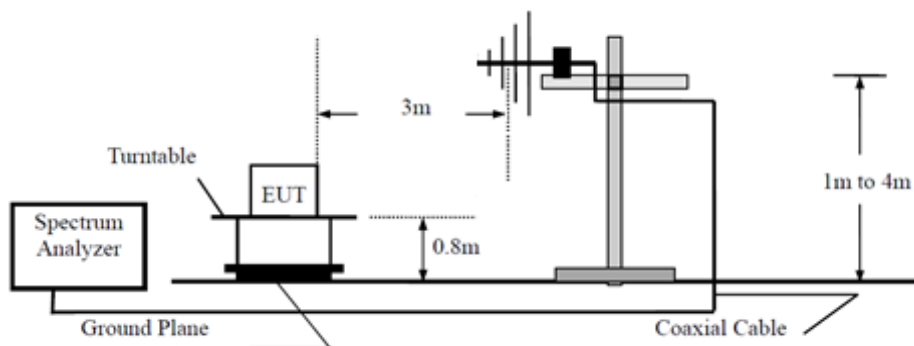
7 Test Setups

7.1 Radiated test setups

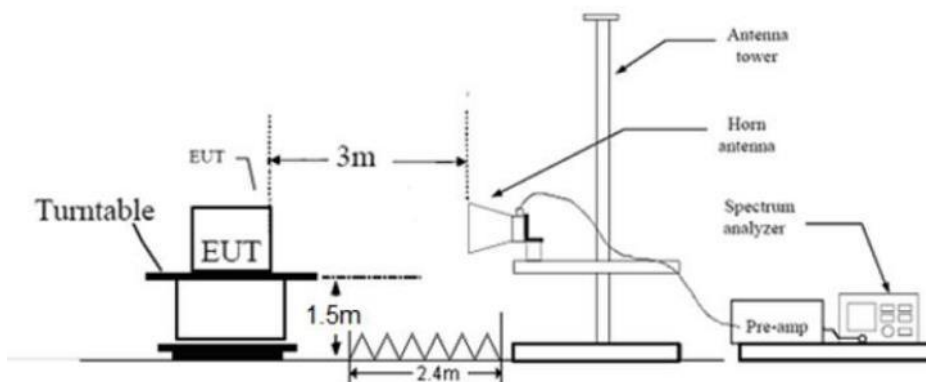
9KHz - 30MHz



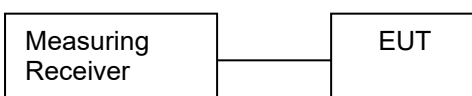
30MHz - 1GHz



Above 1GHz



7.2 Conducted RF test setups



8 Systems Test Configuration

Auxiliary Equipment Used during Test:

Description	Manufacturer	Model NO.	S/N
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Cables Used During Test:

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

Test software information:

Test Software Version		
Modulation	Setting TX Power	Packet Type
GFSK	Default	RBS9

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

9 Technical Requirement

9.1 Conducted Peak Output Power

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

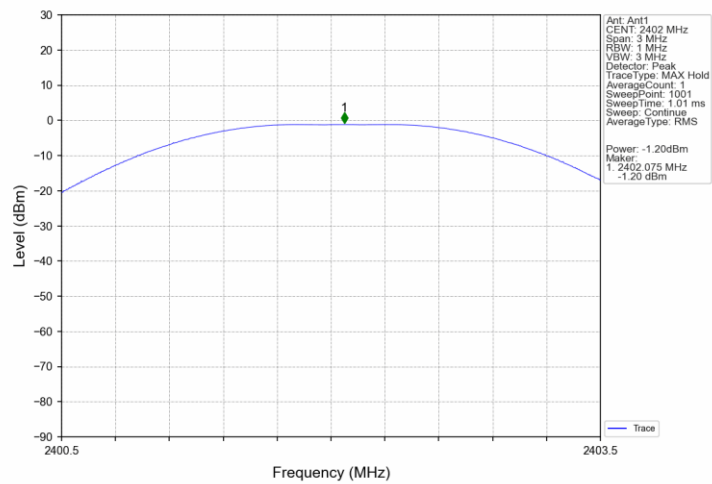
According to §15.247 (b)(3), conducted peak output power limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤ 1	≤ 30

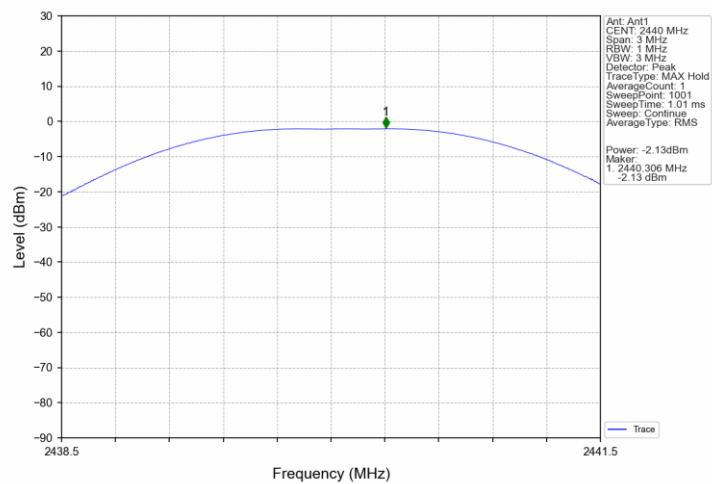
Conducted Peak Output Power

Frequency MHz	Mode	Conducted Peak Output Power dBm	Result
Bottom channel 2402MHz	LE 1Mbps	-1.20	Pass
Middle channel 2440MHz	LE 1Mbps	-2.13	Pass
Top channel 2480MHz	LE 1Mbps	-3.00	Pass

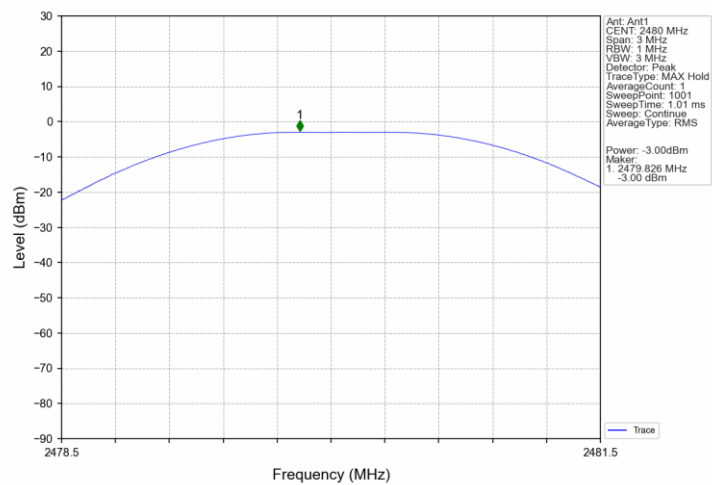
BLE_1M_BT4.0_Ant1_2402



BLE_1M_BT4.0_Ant1_2440



BLE_1M_BT4.0_Ant1_2480



9.2 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

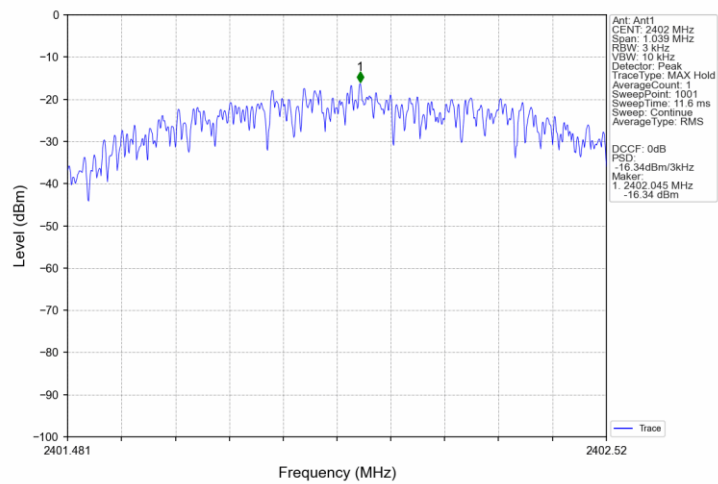
Limit [dBm/3KHz]

≤ 8

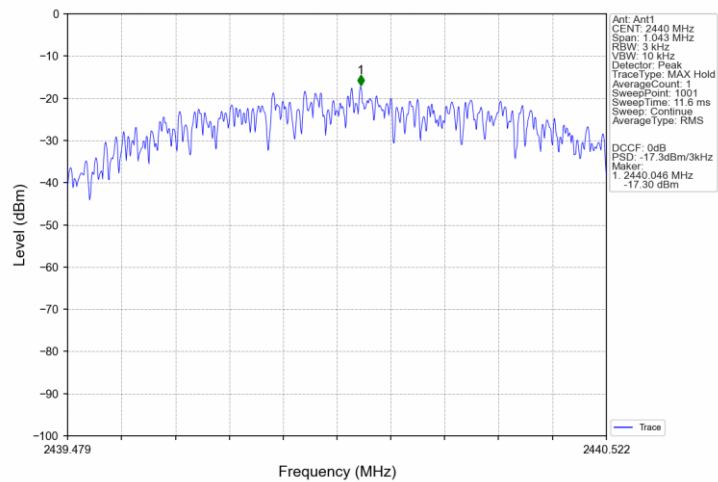
Test result

Frequency MHz	Mode	Power spectral density dBm/3KHz	Result
Bottom channel 2402MHz	LE 1Mbps	-16.34	Pass
Middle channel 2440MHz	LE 1Mbps	-17.30	Pass
Top channel 2480MHz	LE 1Mbps	-18.25	Pass

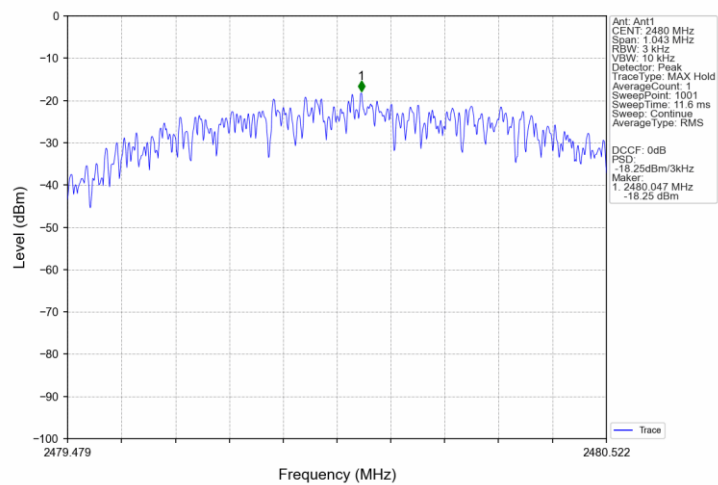
BLE_1M_BT4.0_Ant1_2402



BLE_1M_BT4.0_Ant1_2440



BLE_1M_BT4.0_Ant1_2480



9.3 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 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:
RBW=100KHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, 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. Allow the trace to stabilize, record the 6 dB Bandwidth value.

Limit

Limit [kHz]

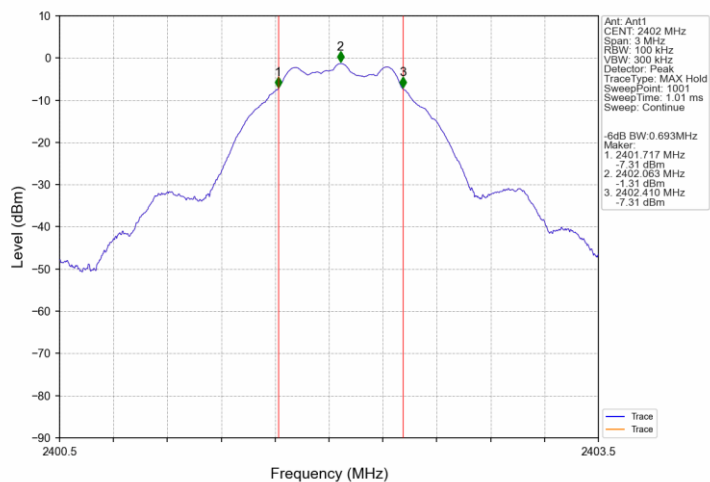
≥ 500

Test result

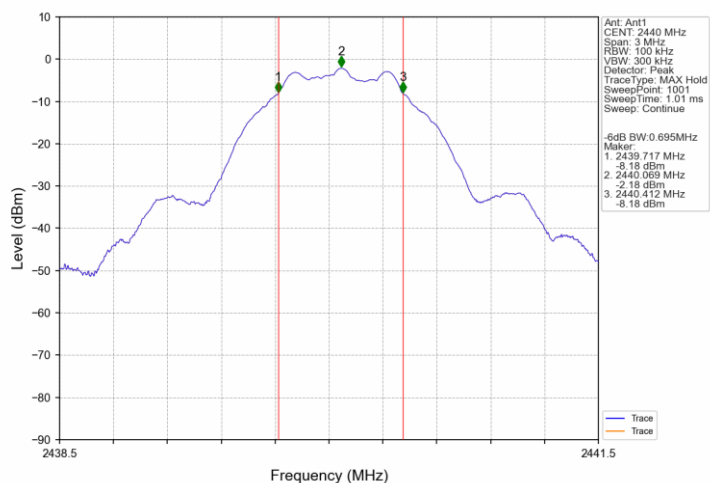
Frequency MHz	Mode	6dB bandwidth MHz	Result
Bottom channel 2402MHz	LE 1Mbps	0.693	Pass
Middle channel 2440MHz	LE 1Mbps	0.695	Pass
Top channel 2480MHz	LE 1Mbps	0.695	Pass

6 dB Bandwidth

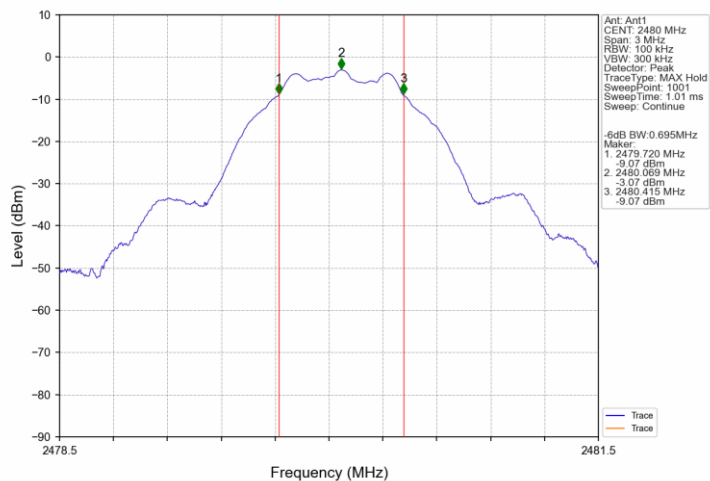
BLE_1M_BT4.0_Ant1_2402



BLE_1M_BT4.0_Ant1_2440



BLE_1M_BT4.0_Ant1_2480



9.4 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 10th 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.

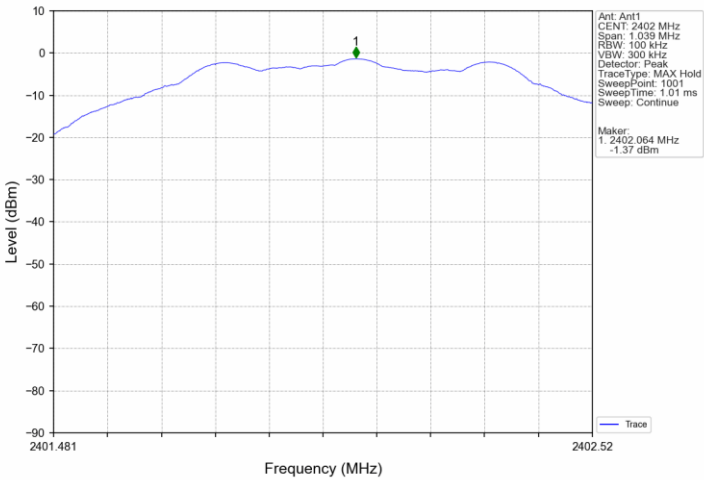
Limit

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

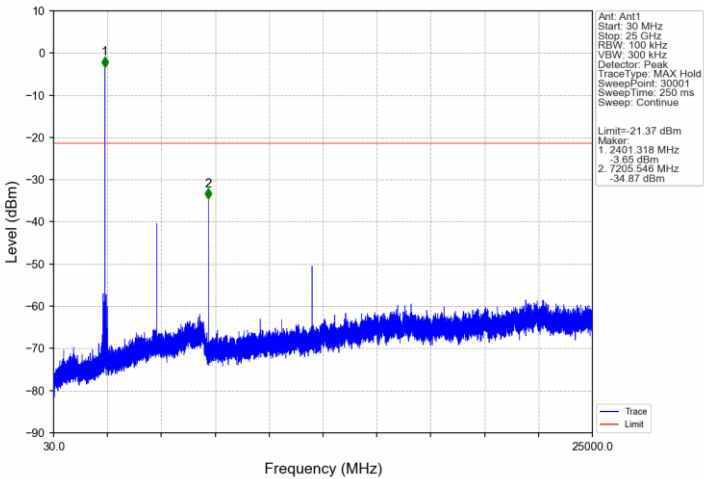
Spurious RF conducted emissions

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1Mbps	SISO	2402	1	-1.37	-21.37	Pass
		2440	1	-2.16	-22.16	Pass
		2480	1	-3.08	-23.08	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.						

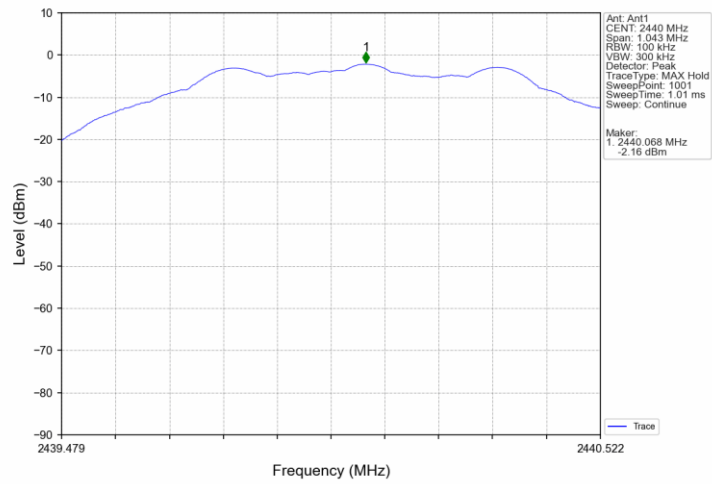
1M_LCH_2402MHz_Ant1_NTNV



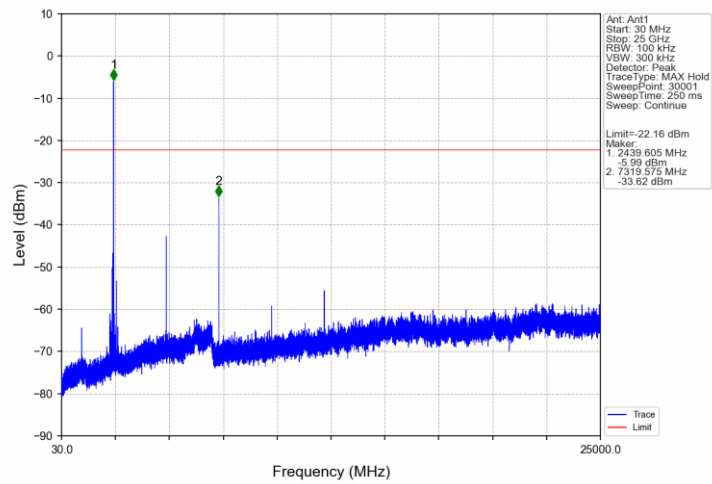
1M_LCH_2402MHz_Ant1_NTNV



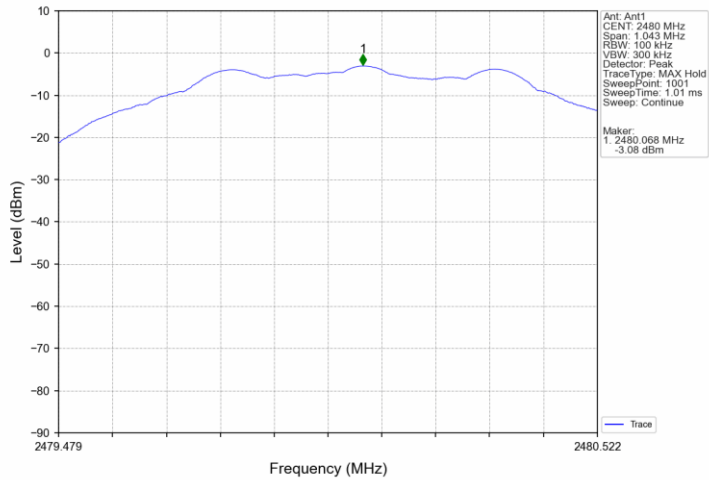
1M_MCH_2440MHz_Ant1_NTNV



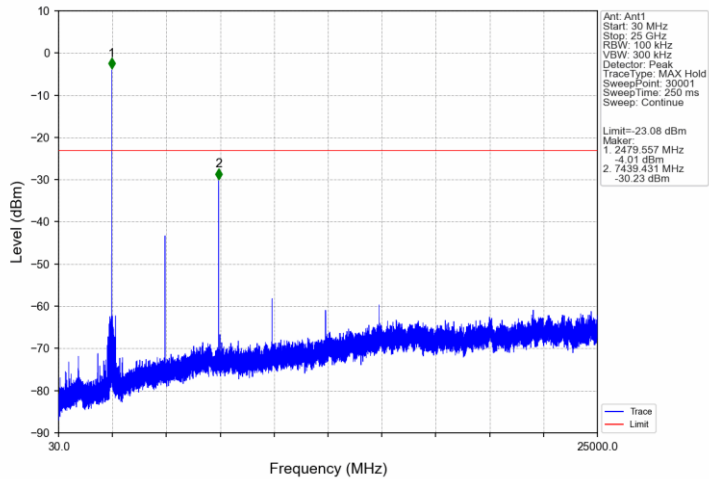
1M_MCH_2440MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



9.5 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 10th 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), the attenuation required shall be 30 dB instead of 20 dB.

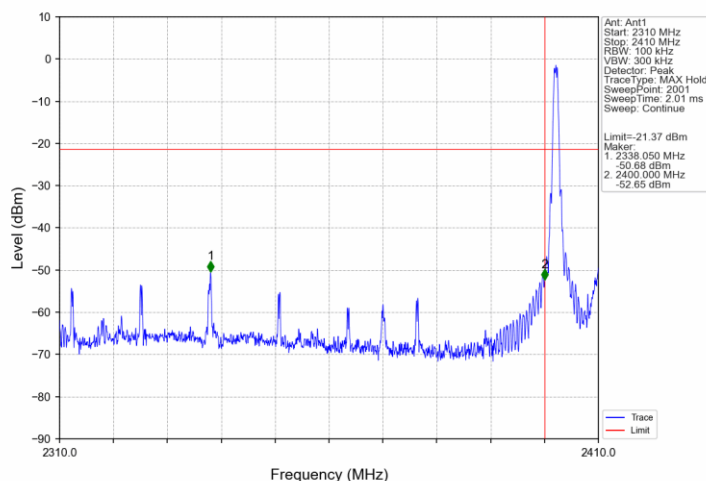
Frequency Range MHz	Limit (dBc)
30-25000	-20

Band edge testing

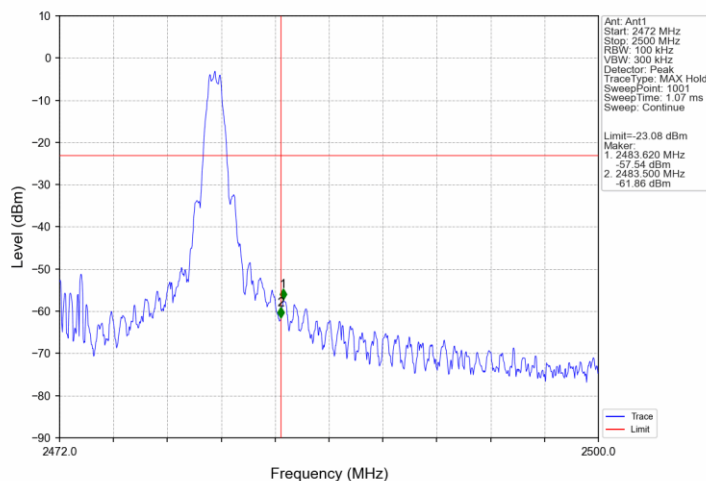
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1Mbps	SISO	2402	1	-1.37	-21.37	Pass
		2480	1	-3.08	-23.08	Pass

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



9.6 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 [span / (# of points in sweep)] \ 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), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).

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)

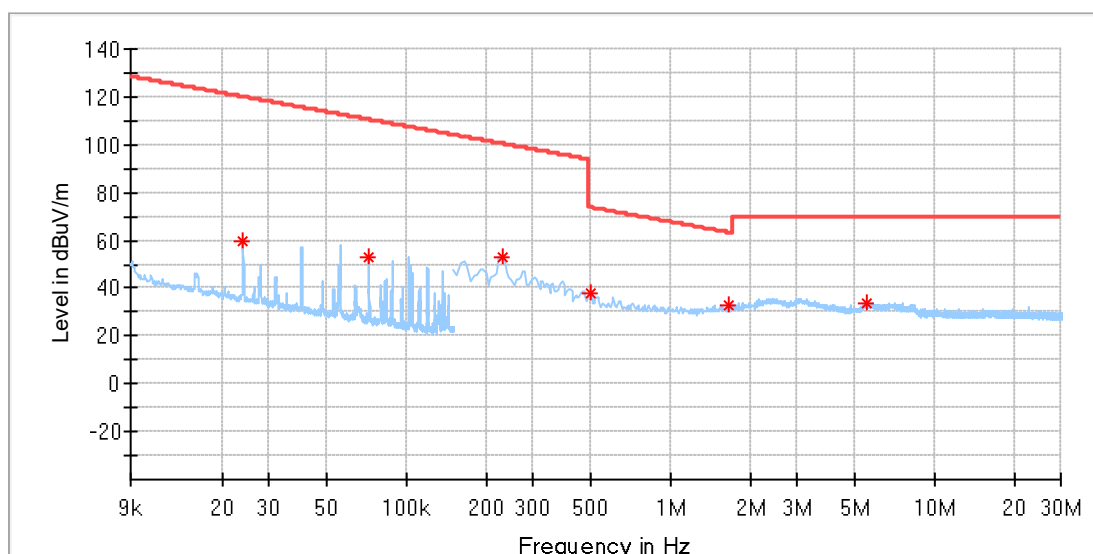
Spurious radiated emissions for transmitter

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

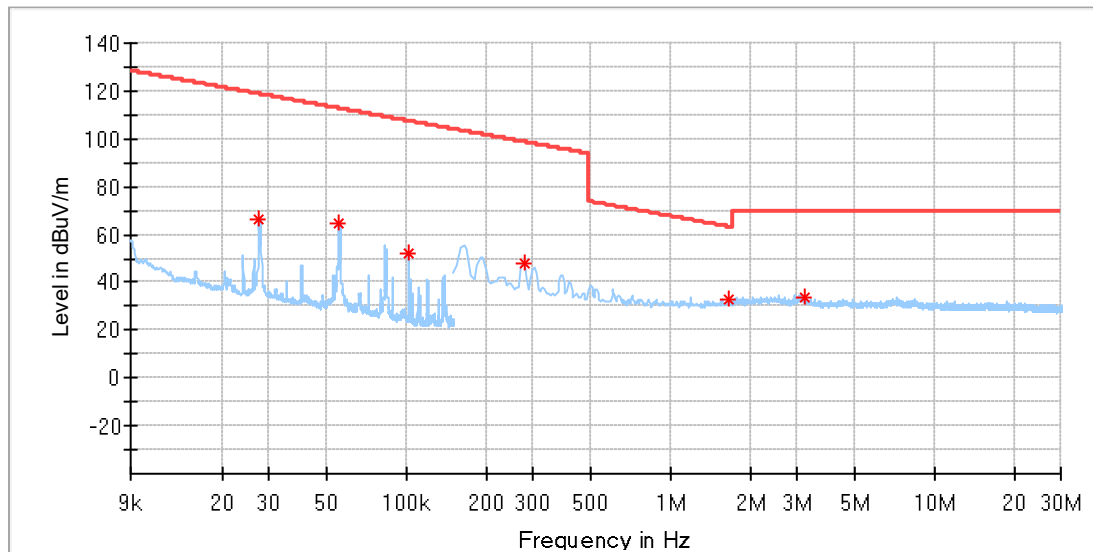


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.023946	59.73	120.01	60.27	H	0.0	19.87
0.071980	52.75	110.45	57.70	H	0.0	19.91
0.229600	52.75	100.38	47.63	H	3.0	19.88
0.498250	37.60	73.66	36.05	H	328.0	19.89
1.652450	32.84	63.27	30.43	H	1.0	20.01
5.508075	33.62	69.50	35.88	H	24.0	20.16

Final_Result

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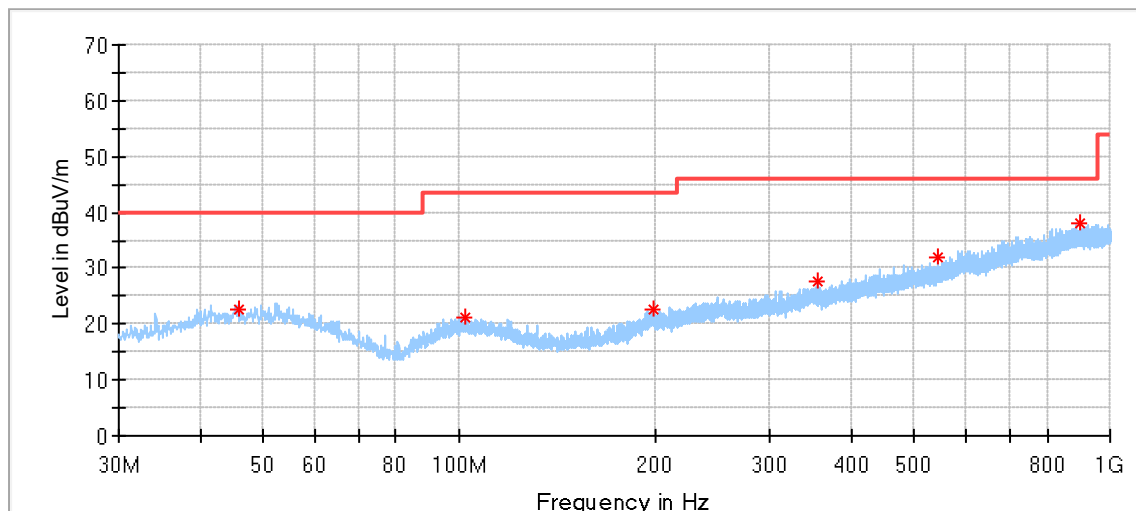
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
0.027518	66.70	118.80	52.10	V	116.0	19.88
0.055201	64.89	112.76	47.87	V	4.0	19.92
0.101684	51.74	107.45	55.71	V	247.0	19.93
0.279350	47.52	98.68	51.16	V	42.0	19.90
1.652450	32.85	63.27	30.42	V	140.0	20.01
3.239475	33.53	69.50	35.97	V	54.0	20.14

Final_Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test data_30MHz to 1000MHz- BLE 2402MHz

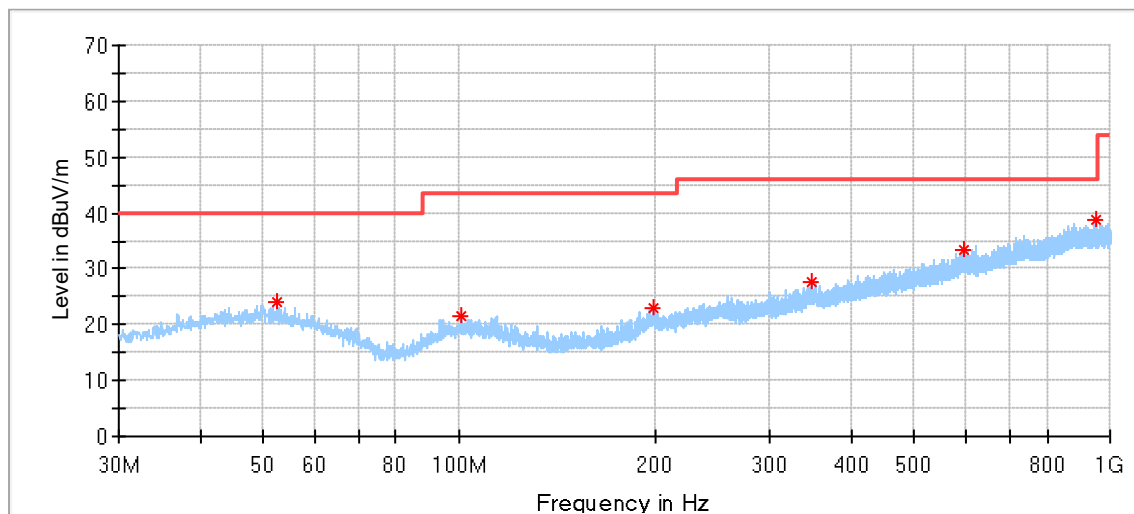


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
45.843333	22.50	40.00	17.50	200.0	H	296.0	18.08
102.211111	21.19	43.50	22.31	200.0	H	148.0	15.68
198.295000	22.54	43.50	20.96	200.0	H	37.0	16.44
354.411111	27.56	46.00	18.44	200.0	H	166.0	20.07
544.100000	31.94	46.00	14.06	200.0	H	305.0	23.71
898.042222	37.97	46.00	8.03	200.0	H	194.0	29.46

Final_Result

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

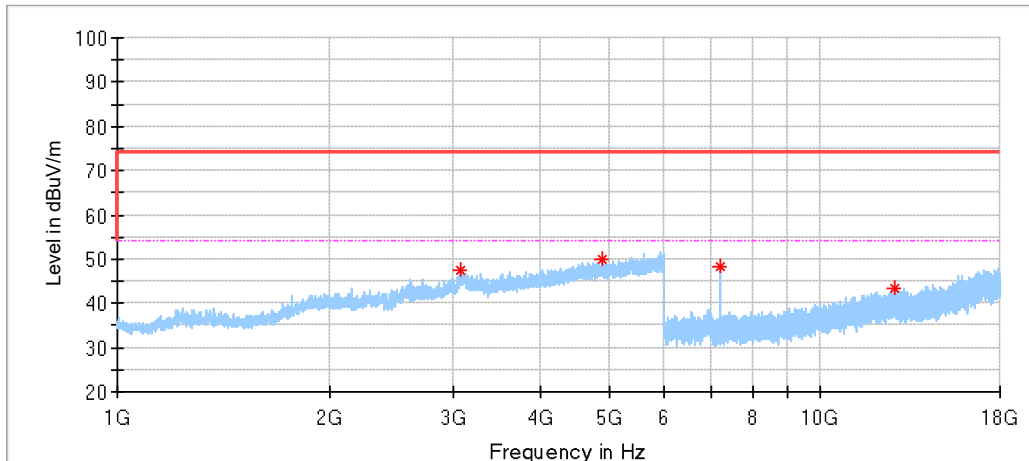
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
52.471667	24.07	40.00	15.93	100.0	V	203.0	17.91
100.486667	21.39	43.50	22.11	100.0	V	277.0	15.67
198.618333	23.14	43.50	20.36	100.0	V	63.0	16.38
347.190000	27.69	46.00	18.31	100.0	V	32.0	20.26
595.456111	33.43	46.00	12.57	100.0	V	182.0	25.16
951.553889	38.65	46.00	7.35	100.0	V	319.0	29.71

Final_Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Report Number: 6895025113501

Test data 1GHz to 18GHz:
BLE_1Mbps_Low Channel:

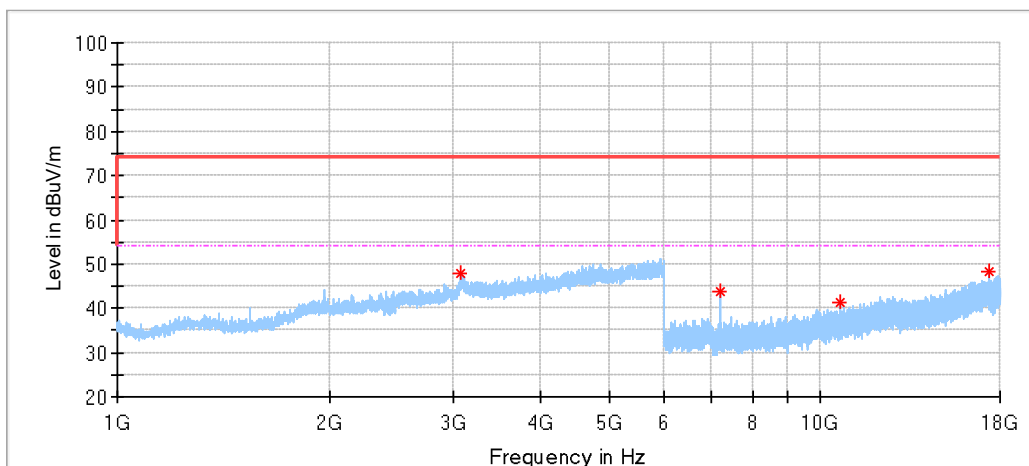


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3081.500000	47.37	74.00	26.63	100.0	H	97.0	2.29
4892.000000	49.92	74.00	24.08	100.0	H	336.0	5.96
7206.500000	48.37	74.00	25.63	100.0	H	343.0	8.95
12773.000000	43.36	74.00	30.64	100.0	H	282.0	16.59

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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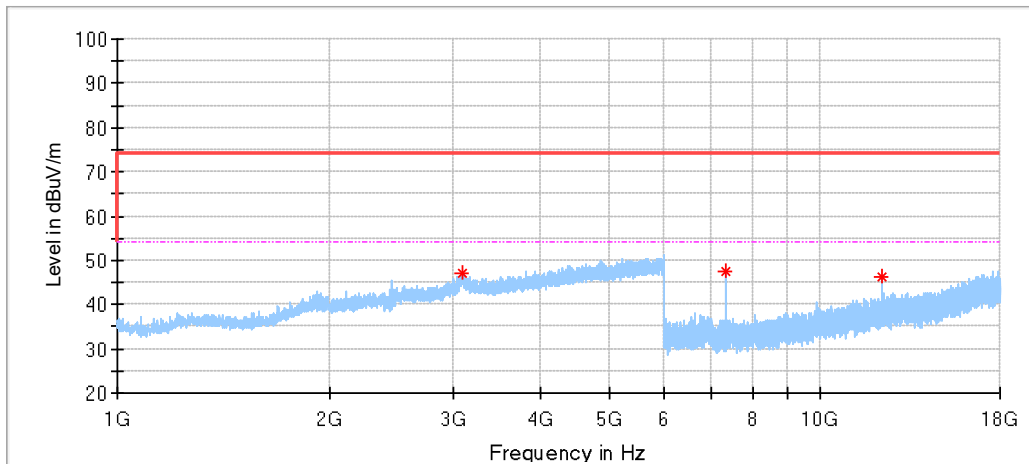
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3085.000000	47.87	74.00	26.13	100.0	V	212.0	2.38
7205.500000	43.77	74.00	30.23	100.0	V	156.0	8.94
10643.000000	41.27	74.00	32.73	100.0	V	115.0	13.45
17400.500000	48.29	74.00	25.71	100.0	V	156.0	24.50

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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BLE_1Mbps _Middle Channel:

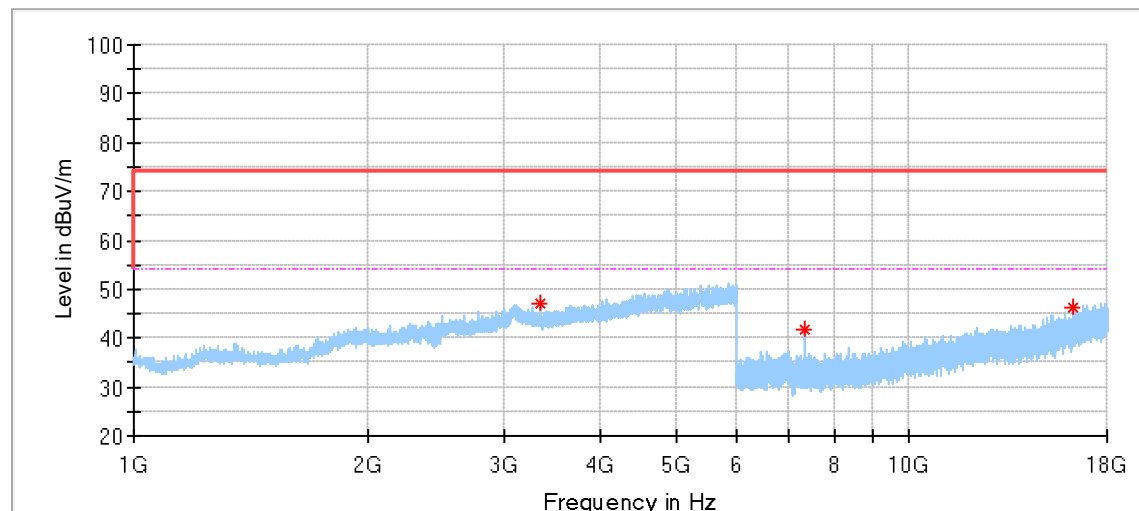


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3102.500000	46.95	74.00	27.05	150.0	H	225.0	2.69
7321.000000	47.63	74.00	26.37	150.0	H	325.0	9.62
12199.000000	46.09	74.00	27.91	150.0	H	154.0	16.30

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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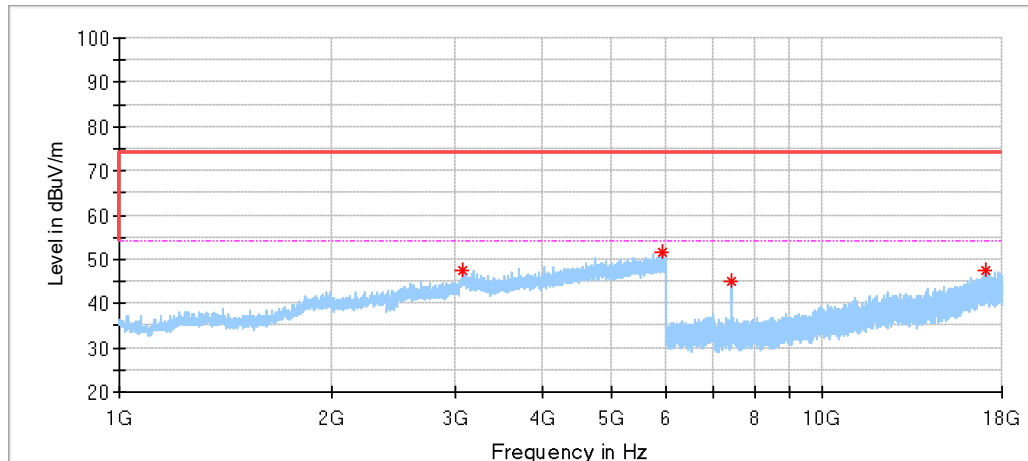
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3339.500000	47.12	74.00	26.88	150.0	V	152.0	1.15
7320.500000	41.69	74.00	32.31	150.0	V	128.0	9.62
16231.000000	46.16	74.00	27.84	150.0	V	0.0	21.75

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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BLE_1Mbps_High Channel:

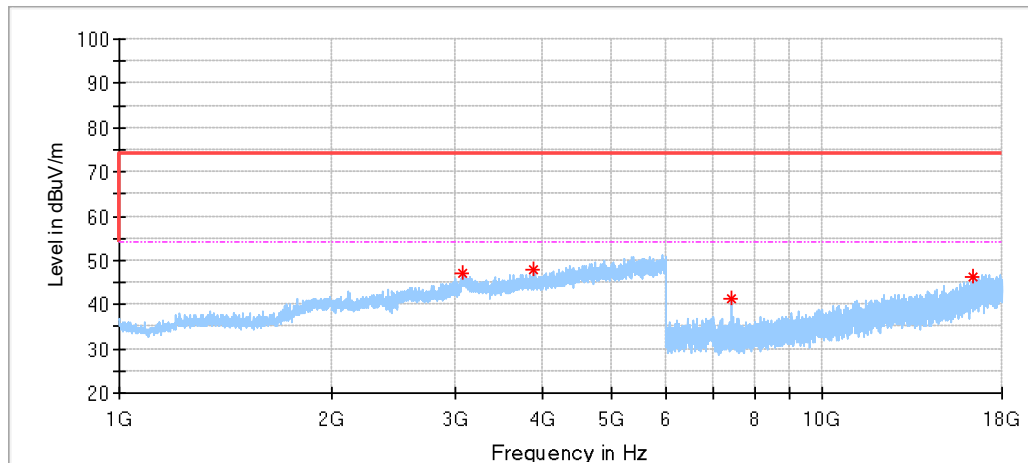


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3081.500000	47.68	74.00	26.32	150.0	H	47.0	2.29
5920.000000	51.71	74.00	22.29	150.0	H	347.0	8.08
7439.500000	45.07	74.00	28.93	150.0	H	132.0	9.58
17045.000000	47.66	74.00	26.34	150.0	H	206.0	24.61

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Critical_Freqs

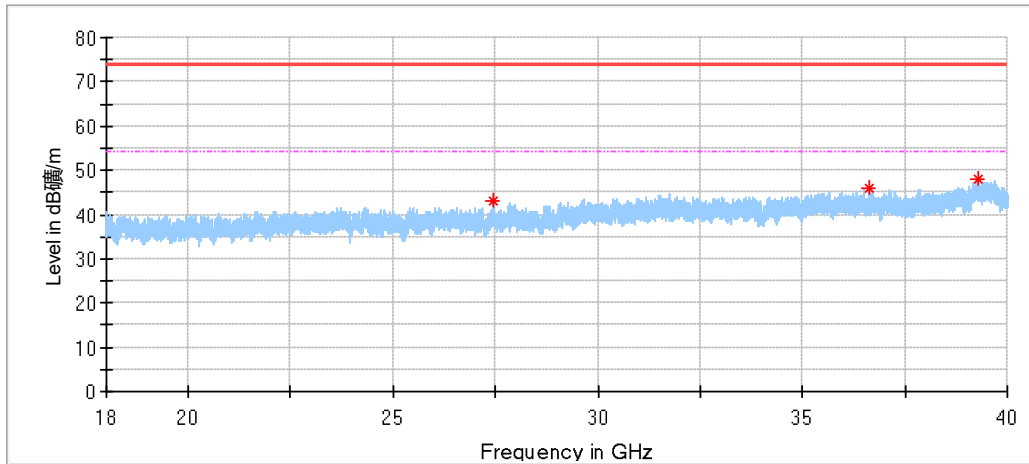
Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3086.000000	47.10	74.00	26.90	150.0	V	0.0	2.40
3873.000000	47.98	74.00	26.02	150.0	V	214.0	2.60
7439.500000	41.44	74.00	32.56	150.0	V	298.0	9.58
16402.000000	46.13	74.00	27.87	150.0	V	29.0	22.04

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Report Number: 6895025113501

Test data 18GHz to 40GHz:
BLE_1Mbps_Low Channel:

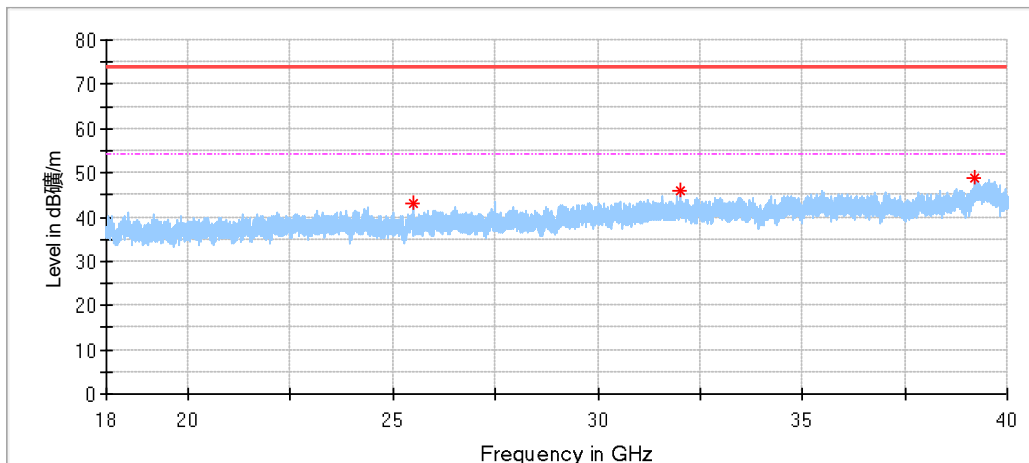


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
27445.562500	43.07	74.00	30.93	150.0	H	19.0	1.01
36637.437500	46.08	74.00	27.92	150.0	H	0.0	2.31
39307.000000	47.96	74.00	26.04	150.0	H	330.0	5.07

Final_Result

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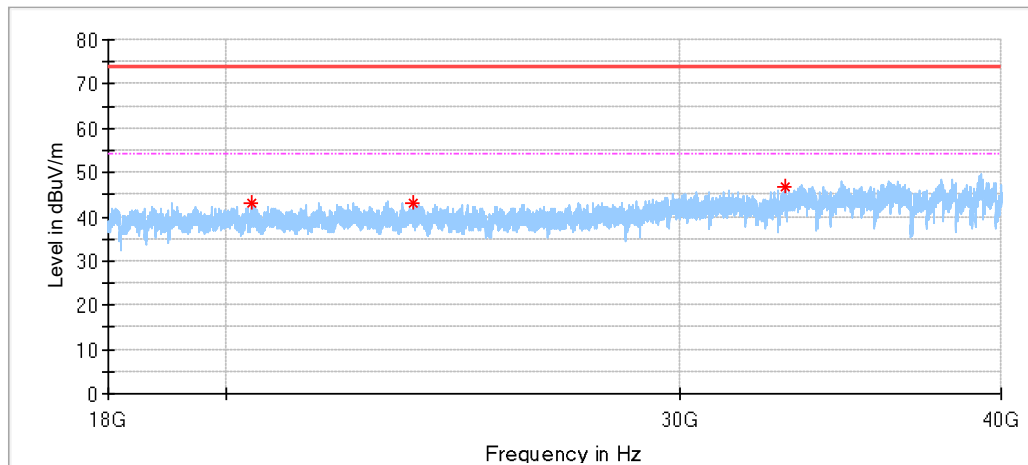
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
25484.125000	43.00	74.00	31.00	150.0	V	208.0	0.49
32000.250000	46.10	74.00	27.90	150.0	V	181.0	1.70
39221.062500	48.95	74.00	25.05	150.0	V	181.0	4.54

Final_Result

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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BLE_1Mbps _Middle Channel:

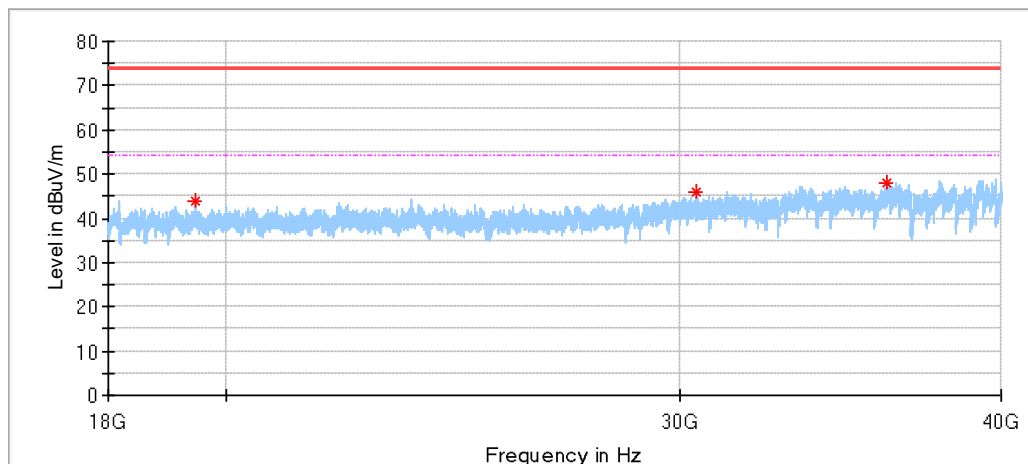


Critical Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
20458.500000	42.91	74.00	31.09	150.0	H	226.0	0.09	---
23638.875000	42.94	74.00	31.06	150.0	H	283.0	1.82	---
32961.375000	46.75	74.00	27.25	150.0	H	135.0	3.63	---

Final Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
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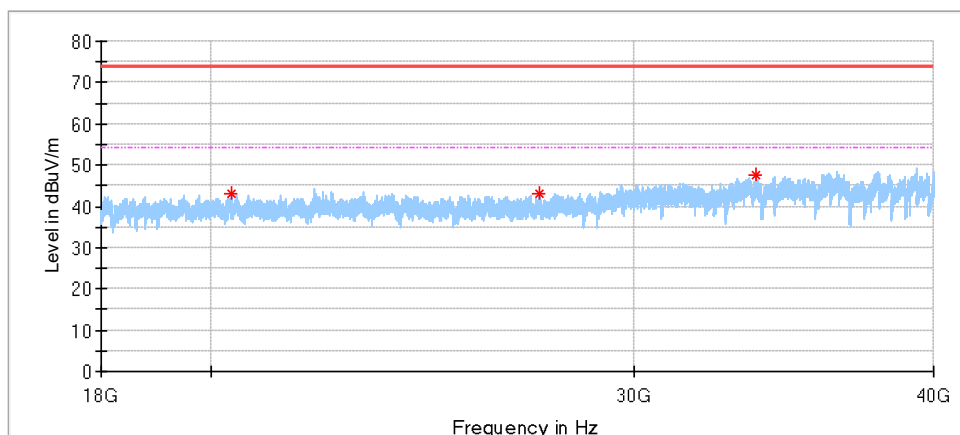
Critical Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
19460.937500	43.98	74.00	30.02	150.0	V	283.0	-0.77	---
30436.875000	45.94	74.00	28.06	150.0	V	203.0	3.16	---
36131.437500	48.10	74.00	25.90	150.0	V	29.0	5.43	---

Final Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
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BLE_1Mbps_High Channel:

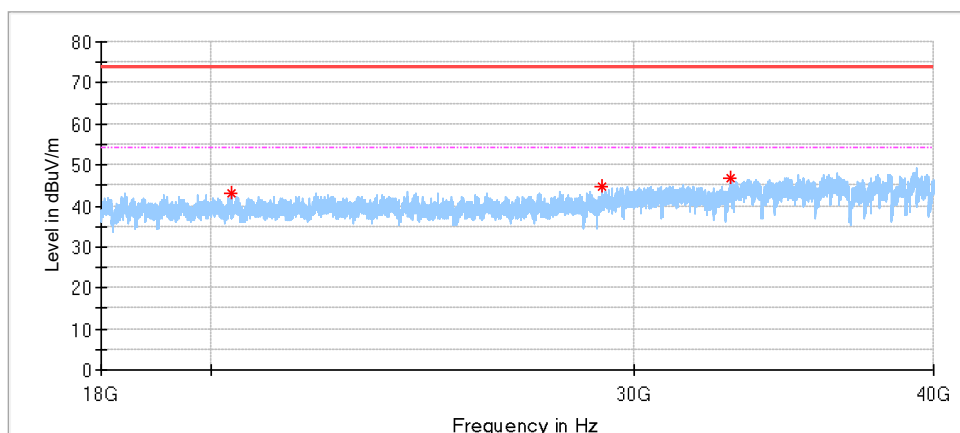


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
20397.312500	43.18	74.00	30.82	150.0	H	249.0	-0.01	---
27416.687500	43.15	74.00	30.85	150.0	H	0.0	2.83	---
33745.812500	47.40	74.00	26.60	150.0	H	0.0	4.28	---

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
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Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
20398.000000	43.17	74.00	30.83	150.0	V	167.0	-0.01	---
29104.500000	44.65	74.00	29.35	150.0	V	213.0	2.43	---
32913.937500	46.69	74.00	27.31	150.0	V	0.0	3.58	---

Final_Result

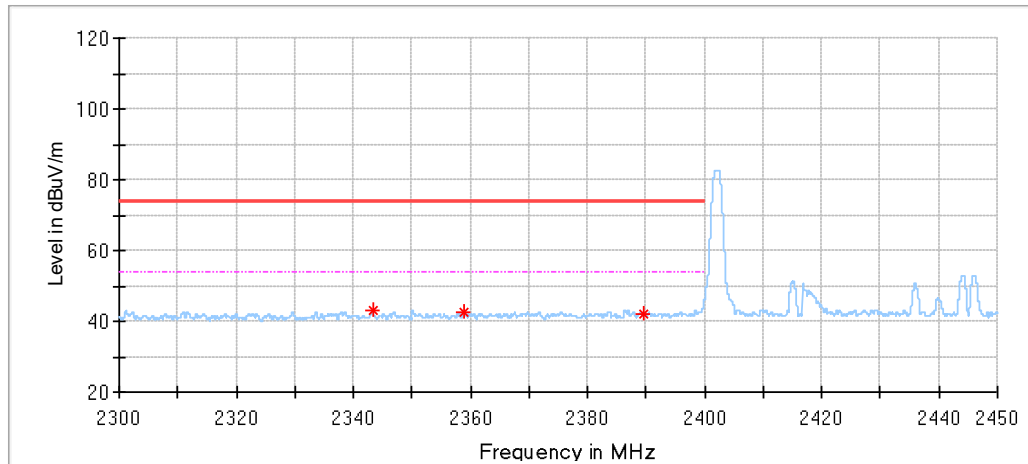
Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
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Remark:

- (1) 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)

Restricted bands of operation. test result as below:

1M 2402MHz:

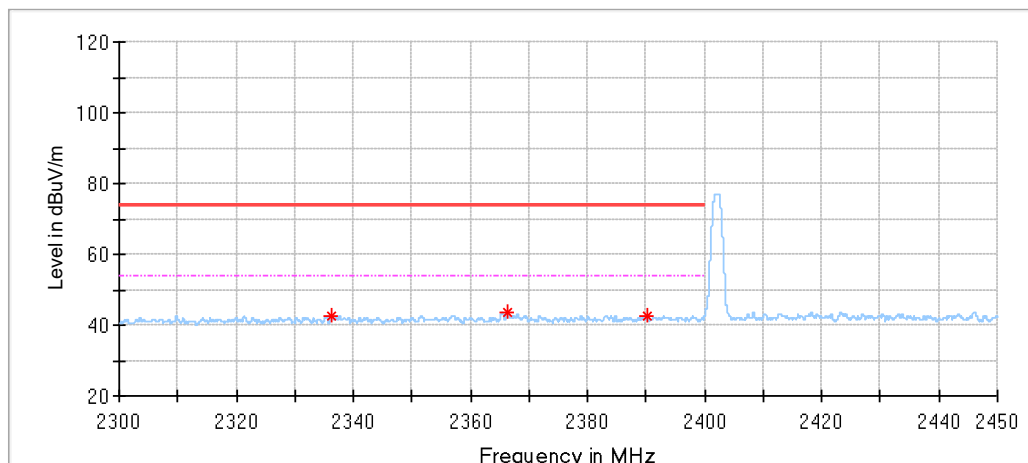


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2343.335000	42.90	74.00	31.10	150.0	H	326.0	-2.40
2358.980000	42.49	74.00	31.51	150.0	H	96.0	-2.36
2389.670000	42.15	74.00	31.85	150.0	H	302.0	-1.92

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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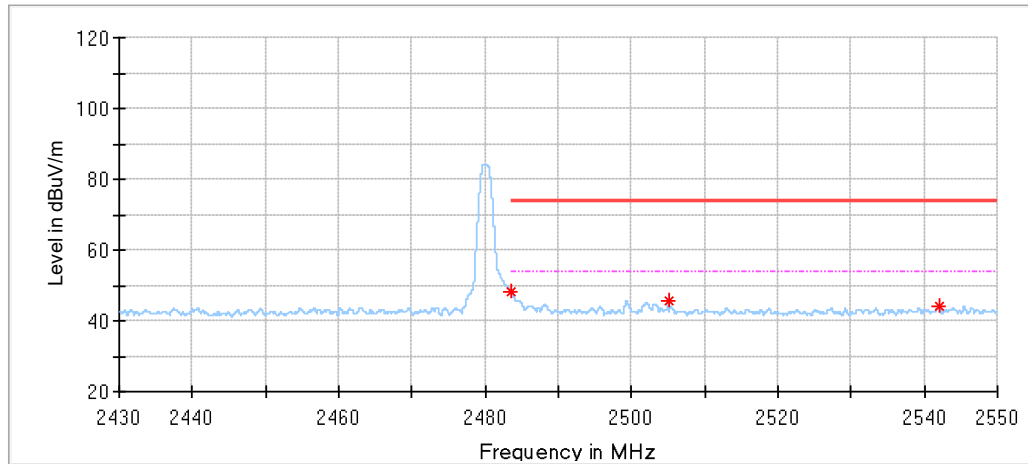
Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2336.300000	42.54	74.00	31.46	150.0	V	203.0	-2.37
2366.270000	43.66	74.00	30.34	150.0	V	359.0	-2.27
2390.150000	42.45	74.00	31.55	150.0	V	215.0	-1.92

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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1M 2480MHz:

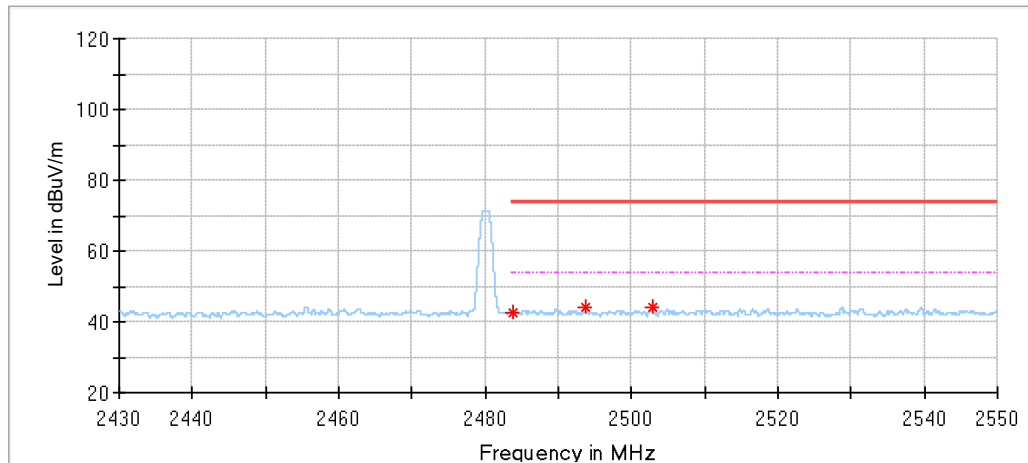


Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.508000	48.25	74.00	25.75	150.0	H	225.0	-1.45
2505.000000	45.51	74.00	28.49	150.0	H	225.0	-1.47
2541.972000	43.97	74.00	30.03	150.0	H	356.0	-1.10

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Critical_Freqs

Frequency (MHz)	MaxPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.892000	42.43	74.00	31.57	150.0	V	0.0	-1.45
2493.756000	43.95	74.00	30.05	150.0	V	0.0	-1.47
2502.912000	44.00	74.00	30.00	150.0	V	106.0	-1.47

Final_Result

Frequency (MHz)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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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	2026-4-25
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	68-4-90-14-002-A10	Version 9.15.00	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	2026-4-25
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	2026-4-19
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	2026-4-25
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	2026-4-19
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-003	100747	1	2026-4-19
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	2026-4-25
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2026-6-19
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

RF Conducted 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	2026-4-18
RF Meas. and Switch Matrix Unit	TST PASS	TSCB3023R2	68-4-93-23-001	2811685c	1	2026-4-18
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 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: 4.79dB Vertical: 5.86dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.37dB Vertical: 5.37dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) above 18000MHz	Horizontal: 5.10dB Vertical: 5.10dB
Uncertainty for RF Conducted Measurement power	1.12dB
Uncertainty Evaluation for PSD Conducted measurement	1.05dB
Uncertainty Evaluation for Spurious emissions Conducted measurement	2.07dB
Uncertainty Evaluation for OBW	2.32%
Uncertainty Evaluation for Humidity	1.32%
Uncertainty Evaluation for Temperature	0.26 °C

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---