FCC/IC TEST REPORT

Job No.	**: GPWE2306000105EC**
Applicant	**: LG Electronics USA**
Equipment Under Test (EUT) :	
Product Name	**: VR Gen3.1 module**
Model Name	**: LVRF-001**
FCC Authorization Type	**: Certification**
Applied Standards	**: FCC Part 15 Subpart B, Class B**
	ICES-003 Issue 7:2020
FCC ID	**: BEJ-LVRF001**
IC Certification	**: 2703N-LVRF001**
Date of Receipt	**: June 15, 2023**
Date of Test	**: July 7, 2023**
Date of Issue	**: August 8, 2023**
Test Results	**: Complied**

Tested by : Lucas Ku

Reviewed by : Julia Choi

This test report does not assure KOLAS accreditation.
1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

Remarks :
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The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

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Contents

Revision History

Revision	Report number	Description
0	F690501-RF-EMC001582	Initial
1		

1. General Information

1.1 Client Information

Applicant	LG Electronics USA
Applicant Address	111 Sylvan Avenue North Building Englewood Cliffs, NJ 07632
Manufacturer	LG Electronics Inc.
Manufacturer Address	170, Seongsanpaechong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, 51533, Republic of Korea.

1.2 Test Laboratory

Name and Address	SGS Korea Co., Ltd.
- Giheung Laboratory	35, Giheungdanji-ro 121beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
- Gunpo Laboratory	4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 15807, Republic of Korea
- Dongtan Laboratory	12, Dongtansandan 10-gil, Hwaseong-si, Gyeonggi-do, 18487, Republic of Korea
FCC Registration No.	KR0150
IC Registration No.	7837B
Phone	+ 82 31 548 0710
Fax	+ 82 31 548 0719
e-mail	julia.choi@sgs.com

1.3 General Information of E.U.T.

Classification	Specification
Product Name	VR Gen3.1 module
Model Name	LVRF-001
Serial No.	-
EMI Classification	Class B
Internal Clock Frequency	2 480 ㎒
Rated Power	5 Vd.c., 12 Vd.c.
Test Voltage	5 Vd.c., 12 Vd.c.
H/W Version	V 1.0
S/W Version	V 1.0
Port	-
Components	-
Function	Bluetooth & Wi-Fi communication module

1.4 Operating Modes and Conditions

Operating mode	Operating Condition
1) Bluetooth Tx	The EUT is tested while transmitting to the Bluetooth test set.
2) Bluetooth Rx	The EUT is tested while receiving the Bluetooth test set.
3) WIFI	EUT was tested in communication with WIRELESS CONNECTIVITY TEST SET.

1.5 Peripheral Equipments

Description	Model	Serial No.	Manufacturer	Note.
Laptop	NT740U5L	-	Samsung Electronics Co., Ltd.	-
DC POWER SUPPLY	IT6720	-	ITECH	-
TEST JIG	-	-	-	-

1.6 Cable List

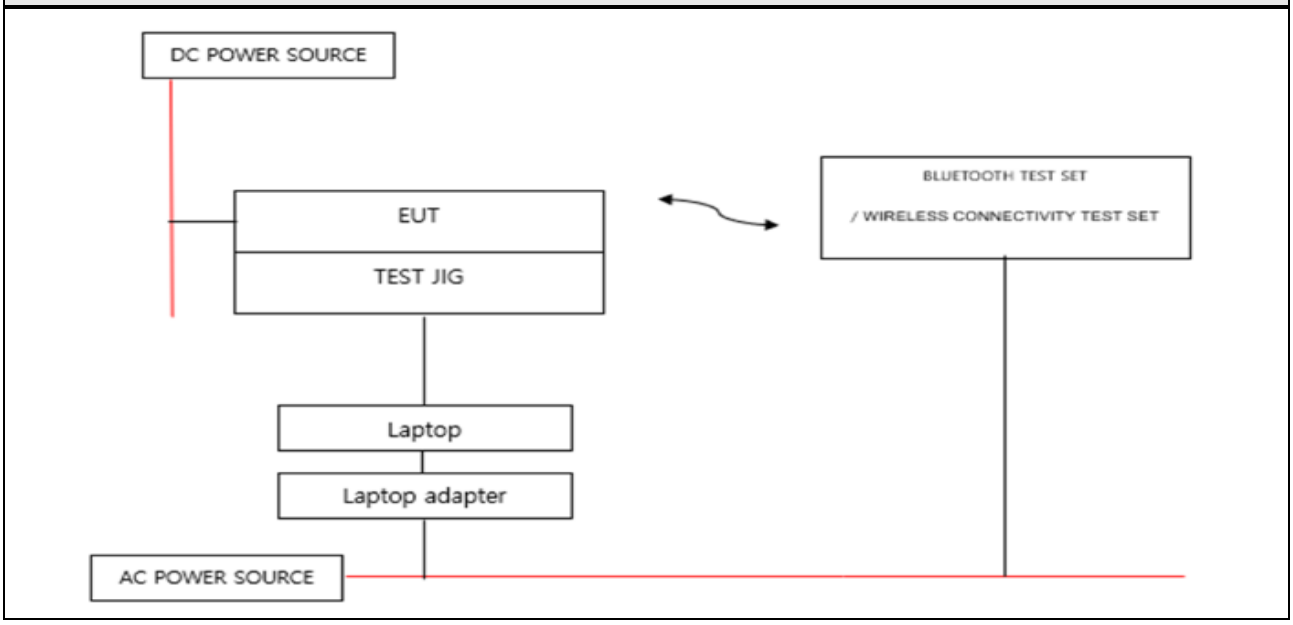
Start		END		Cable Spec.		Used core
Name	I/O Port	Name	I/O Port	Length (m)	Shield	
EUT	DC IN	DC POWER SOURCE	DC OUT	0.8	Unshield	-
	-	TEST JIG	-	-	-	-
	-	BLUETOOTH TEST SET/ WIRELESS CONNECTIVITY TEST SET	-	-	-	-
TEST JIG	USB	Laptop	USB	1.0	Shield	-

1.7 System Configurations

Description	Model	Serial No.	Manufacturer	Note
-	-	-	-	-

1.8 Test System Layout

Test System Layout



1.9 Modifications/Notes

- There was no modified item during the test.

1.10 Applicable Standards for Testing

Standards	Status	Deviation
FCC Part 15 : Subpart B ICES-003 Issue 7:2020	Applicable	No Deviation

1.11 Summary of Test Results

Test Item	Standards	Results
Conducted Emission	FCC Part 15 Subpart B Section 15.107 ICES-003 Issue 7:2020 ANSI C63.4a:2017	N/A
Radiated Emission	FCC Part 15 Subpart B Section 15.109 ICES-003 Issue 7:2020 ANSI C63.4a:2017	Complied

Note : Test methods of all test items are performed according to the basic standards in this table.

EMISSION

2.1 Test Results

Test Items	Standards	Test Results
Conducted Emission	FCC Part 15 Subpart B Section 15.107 ICES-003 Issue 7:2020 ANSI C63.4a:2017	N/A
Radiated Emission	FCC Part 15 Subpart B Section 15.109 ICES-003 Issue 7:2020 ANSI C63.4a:2017	Complied

2.2 Test Method and Limits

2.2.1 Test Method

Test Items	Measuring Frequency Range	RBW	Measuring Distance
Conducted Emission	0.15 ㎒ ~ 30 ㎒	9 ㎑	-
Radiated Emission	30 ㎒ ~ 1 ㎓	120 ㎑	10 m & 3 m
	Above 1 ㎓	1 ㎒	3 m

Note : 10 m method of radiated emission measurement is only applied to Class A equipment over the frequency range of 30 ㎒ ~ 1 ㎓. Except this, 3 m method is applied to Class B equipment over the frequency range of 30 ㎒ ~ 1 ㎓ and Class A and Class B equipment above 1 ㎓.

2.2.2 Test Limits

-Conducted Emission Limits

Frequency Range	Limits(dB μV)		Class
	Quasi-peak	Average	
0.15 ㎒ ~ 0.5 ㎒	79	66	Class A
0.5 ㎒ ~ 30 ㎒	73	60	
0.15 ㎒ ~ 0.5 ㎒	66 to 56	56 to 46	Class B
0.5 ㎒ ~ 5 ㎒	56	46	
5 ㎒ ~ 30 ㎒	60	50	

Note : The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of the frequency in the range 0.15 ㎒ to 0.5 ㎒.

-Radiated Emission Limits below 1 ㎓

[FCC Part 15 Subpart B]

Frequency Range	Limits(dB μV/m)	Class
	Quasi-peak	
30 ㎒ ~ 88 ㎒	39.0	Class A (10 m method)
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 960 ㎒	46.4	
960 ㎒ ~ 1 ㎓	49.5	
30 ㎒ ~ 88 ㎒	40.0	Class B (3 m method)
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 960 ㎒	46.0	
960 ㎒ ~ 1 ㎓	54.0	

[ICES-003 Issue 7 : 2020]

Frequency Range	Limits(dB μV/m)	Class
	Quasi-peak	
30 ㎒ ~ 88 ㎒	40.0	Class A (10 m method)
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 230 ㎒	46.4	
230 ㎒ ~ 960 ㎒	47.0	
960 ㎒ ~ 1 ㎓	49.5	
30 ㎒ ~ 88 ㎒	50.0	Class A (3 m method)
88 ㎒ ~ 216 ㎒	54.0	
216 ㎒ ~ 230 ㎒	56.9	
230 ㎒ ~ 960 ㎒	57.0	
960 ㎒ ~ 1 ㎓	60.0	
30 ㎒ ~ 88 ㎒	30.0	Class B (10 m method)
88 ㎒ ~ 216 ㎒	33.1	
216 ㎒ ~ 230 ㎒	35.6	
230 ㎒ ~ 960 ㎒	37.0	
960 ㎒ ~ 1 ㎓	43.5	
30 ㎒ ~ 88 ㎒	40.0	Class B (3 m method)
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 230 ㎒	46.0	
230 ㎒ ~ 960 ㎒	47.0	
960 ㎒ ~ 1 ㎓	54.0	

-Radiated Emission Limits above 1 ㎓ (3 m method)

[FCC Part 15 Subpart B]

Frequency Range	Limits(dB μV/m)		Class
	Average	Peak	
Above 1 ㎓	59.5	79.5	Class A
Above 1 ㎓	54.0	74.0	Class B

Note : The limits of class A equipment is extrapolated using an extrapolation factor of 20 ㏈/decade because it was measured at 3 m distance not 10 m distance.

[ICES-003 Issue 7 : 2020]

Frequency Range	Limits(dB μV/m)		Class
	Average	Peak	
Above 1 ㎓	60.0	80.0	Class A
Above 1 ㎓	54.0	74.0	Class B

2.3 Radiated Emission

The initial preliminary exploratory scans were performed over the measuring frequency range (30 ㎒ to 13 ㎓) using a max hold mode incorporating a Peak detector by using the EMI measuring software. The final test data was measured using a Quasi-Peak detector below 1 ㎓, Peak and CISPR Average detector above 1 ㎓. Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency.

Note. Measuring software
- Giheung Lab.: EMC32(V10.40.10) from R&S
- Gunpo Lab.: EP5RE(V5.3.70) from TOYO
- Dongtan Lab.: EMC32(V10.40.10) from R&S

2.3.1 Test Equipments

Equipment	Model	Manufacturer	Serial No	Cal Due. Date
EMI TEST RECEIVER	ESU40	R&S	100075	2024.01.19
Hybrid ANTENNA	VULB 9163	SCHWARZBECK	9163-396	2024.03.22
Double Ridged Horn Antenna	HF907	R&S	102578	2024.05.17
PREAMPLIFIER	AM-1431	MITEQ	1336160	2024.05.23
AMPLIFIER	SCU 18	R&S	10070	2023.08.25
Bluetooth Test Set	MT8852B	Anritsu	6272420469	2024.03.29
Wireless Connectivity Test Set	MT8862A	Anritsu	6272328241	2024.04.17

Note: The calibration period of every equipment is 1 year.

2.3.2 Test Site

10 m SEMI-ANECHOIC CHAMBER in Giheung Laboratory

2.3.3 Environment Conditions

Below 1 ㎓

Temperature	(Minimum 21.5, Maximum 21.9) ℃
Humidity	(Minimum 45.0, Maximum 46.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.0) ㎪
Test Date	July 7, 2023

Above 1 ㎓

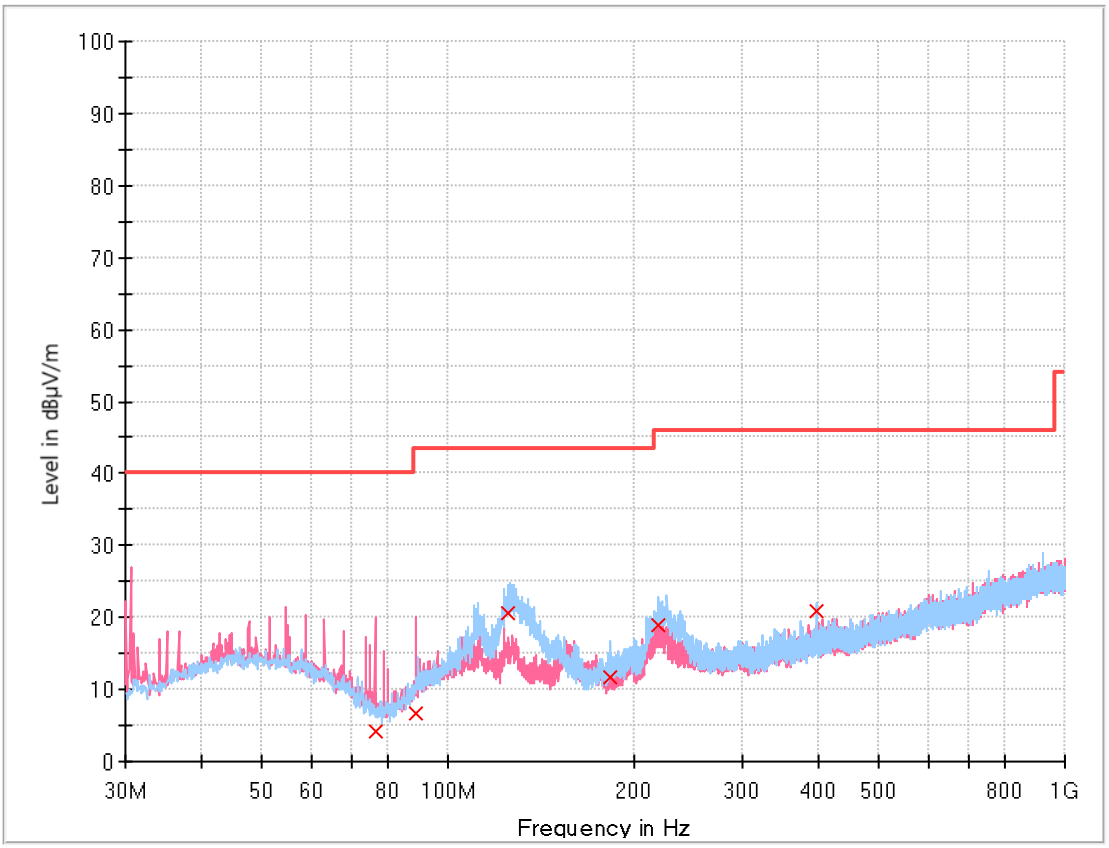
Temperature	(Minimum 21.5, Maximum 21.9) ℃
Humidity	(Minimum 45.0, Maximum 46.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.0) ㎪
Test Date	July 7, 2023

2.3.4 Test Results

Below 1 ㎓ (3 m method)

[FCC Part 15 Subpart B]

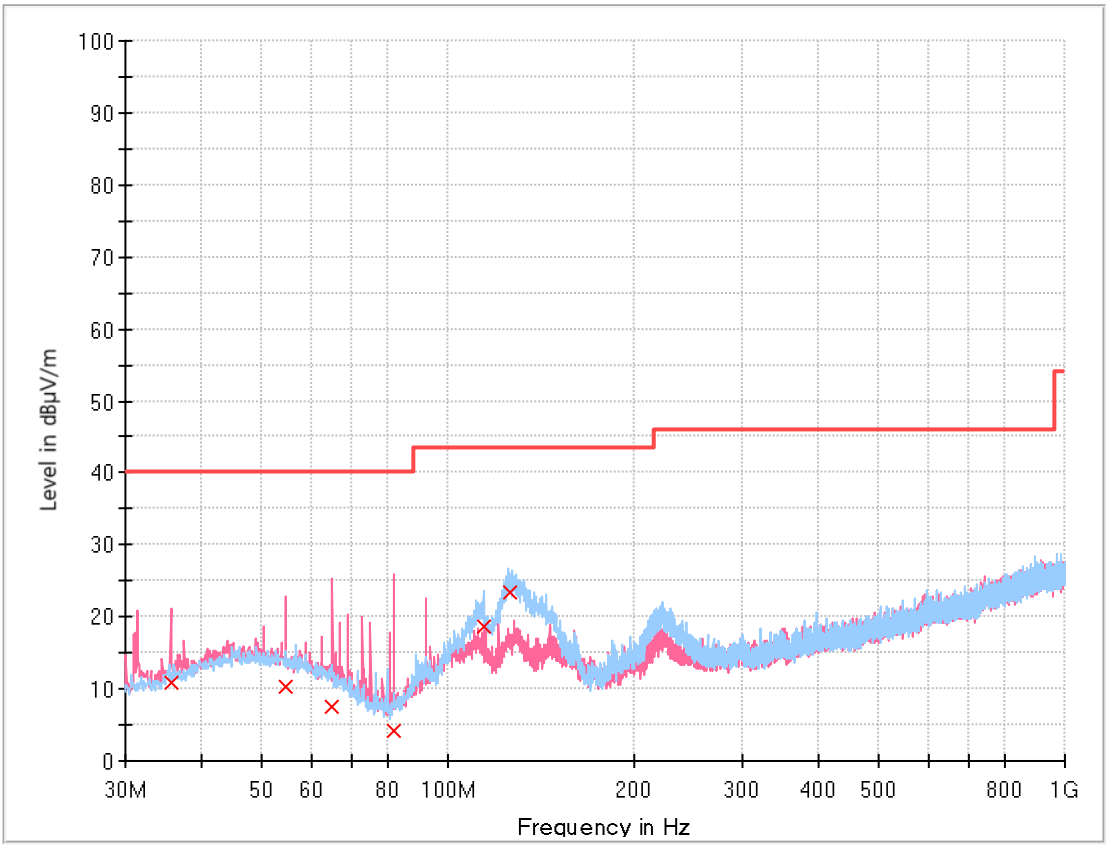
1) Bluetooth Tx Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
76.172	4.14	40.00	35.86	15 000.0	120.000	100.0	V	284.0	-24.3
88.782	6.56	43.50	36.94	15 000.0	120.000	100.0	V	118.0	-21.8
124.769	20.66	43.50	22.84	15 000.0	120.000	200.0	H	39.0	-22.3
183.357	11.73	43.50	31.77	15 000.0	120.000	200.0	H	281.0	-21.2
219.150	18.88	46.00	27.12	15 000.0	120.000	100.0	H	292.0	-19.6
395.981	20.98	46.00	25.02	15 000.0	120.000	100.0	H	292.0	-14.6

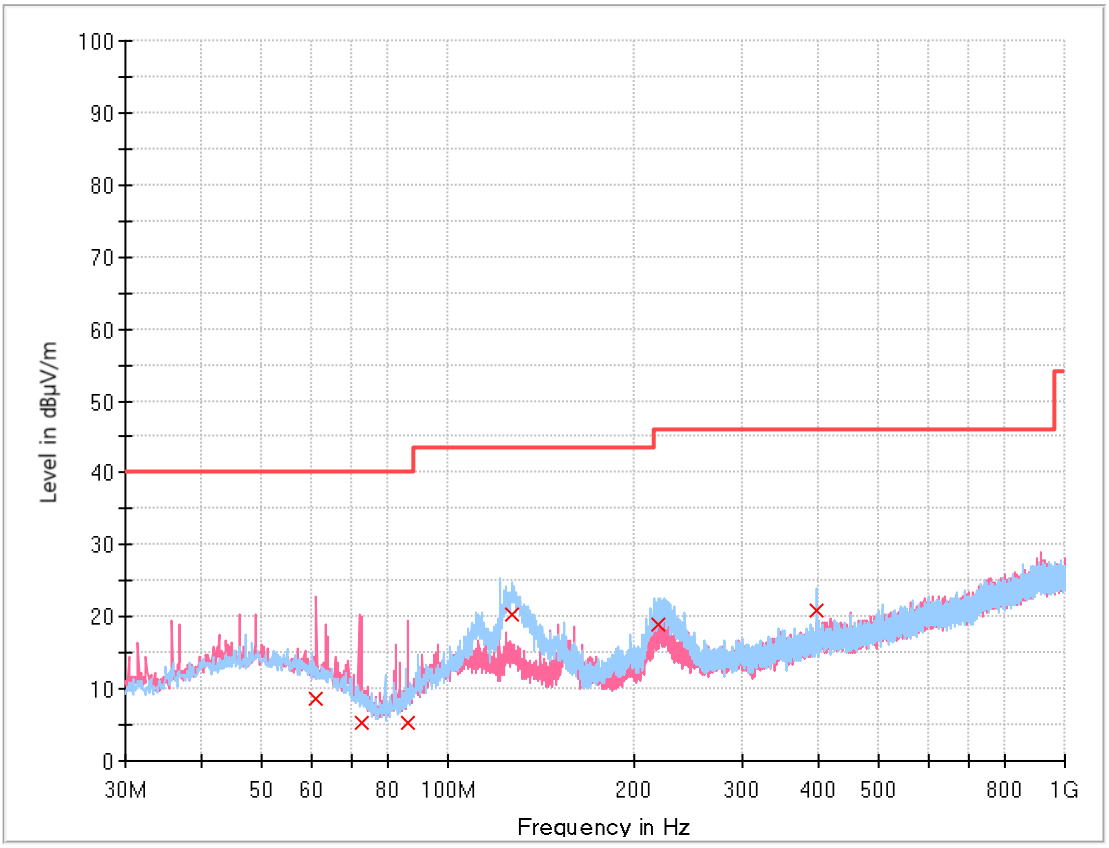
1) Bluetooth Tx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.529	10.82	40.00	29.18	15 000.0	120.000	100.0	V	42.0	-20.2
54.541	10.26	40.00	29.74	15 000.0	120.000	100.0	V	224.0	-17.9
65.017	7.64	40.00	32.36	15 000.0	120.000	100.0	V	207.0	-20.4
81.798	4.30	40.00	35.70	15 000.0	120.000	100.0	V	149.0	-24.1
114.002	18.78	43.50	24.72	15 000.0	120.000	300.0	H	52.0	-20.2
126.224	23.29	43.50	20.21	15 000.0	120.000	300.0	H	61.0	-22.5

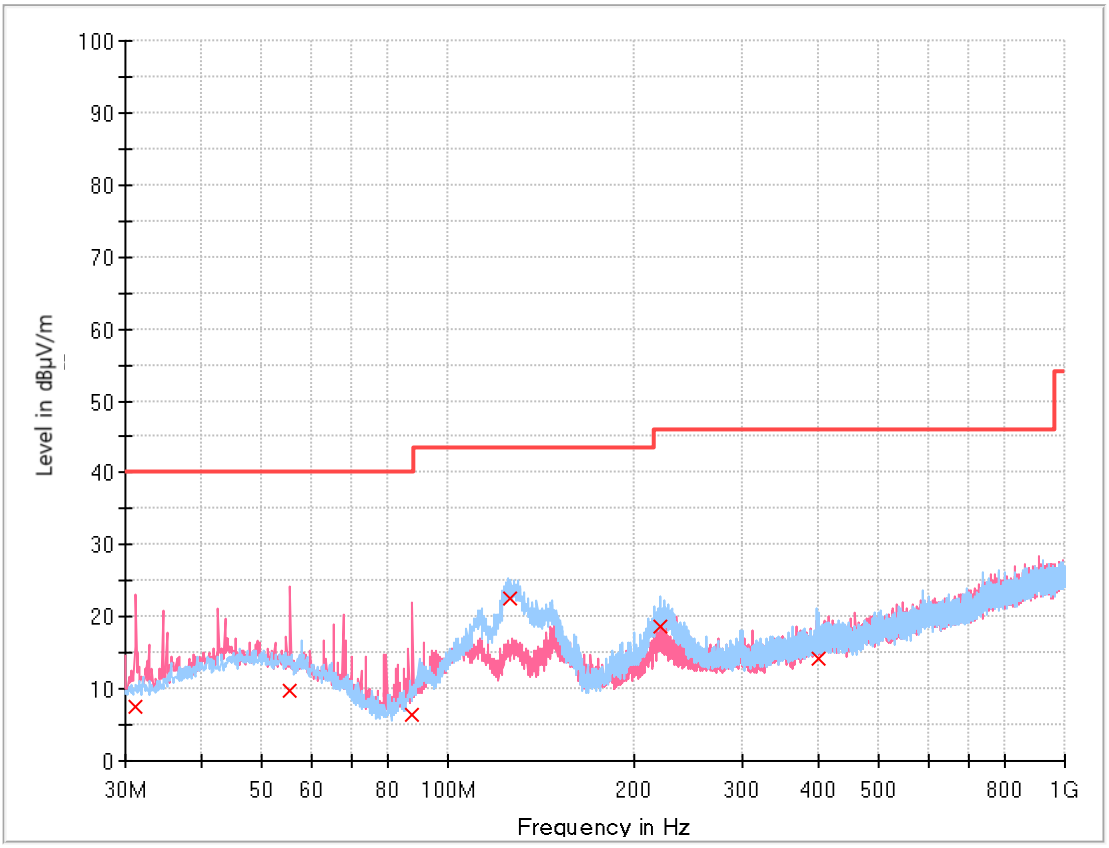
2) Bluetooth Rx Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
61.234	8.55	40.00	31.45	15 000.0	120.000	100.0	V	217.0	-19.1
72.583	5.20	40.00	34.80	15 000.0	120.000	100.0	V	234.0	-23.0
86.163	5.38	40.00	34.62	15 000.0	120.000	100.0	V	166.0	-22.7
127.097	20.46	43.50	23.04	15 000.0	120.000	200.0	H	33.0	-22.5
219.926	19.02	46.00	26.98	15 000.0	120.000	200.0	H	285.0	-19.5
395.981	20.80	46.00	25.20	15 000.0	120.000	100.0	H	7.0	-14.6

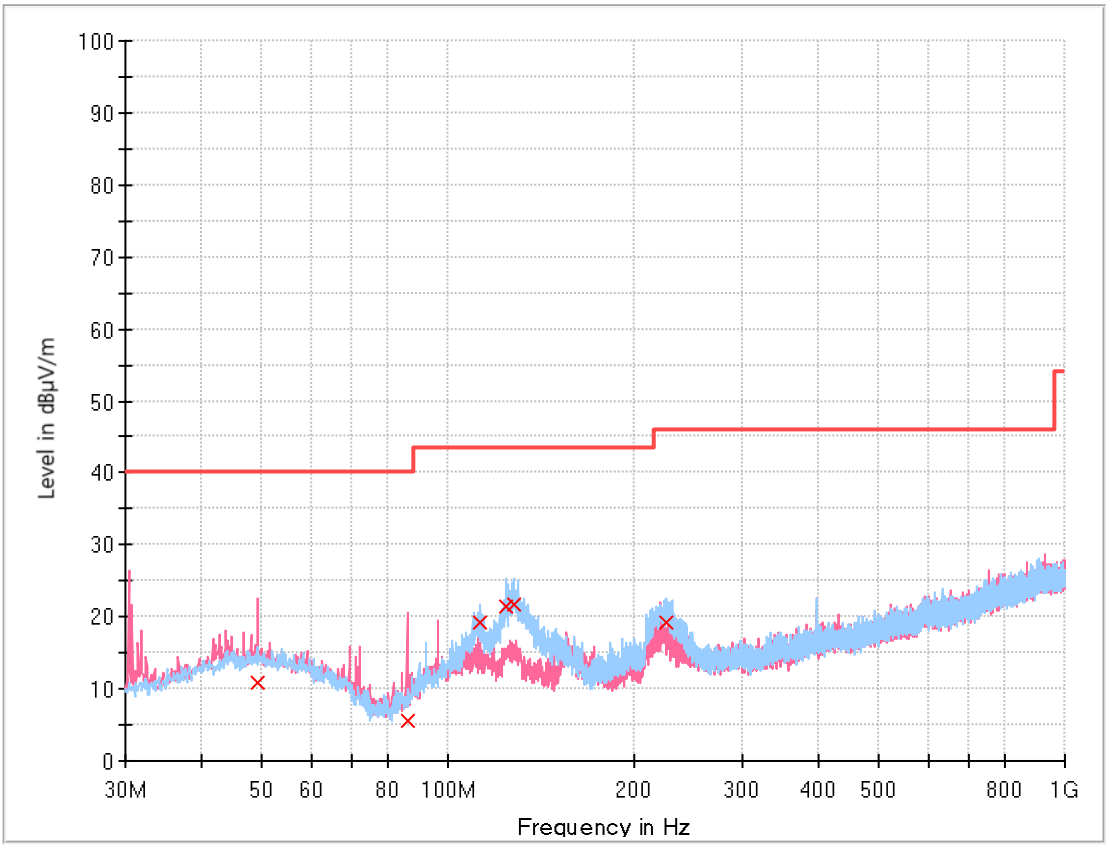
2) Bluetooth Rx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.164	7.56	40.00	32.44	15 000.0	120.000	200.0	V	153.0	-21.6
55.511	9.81	40.00	30.19	15 000.0	120.000	100.0	V	214.0	-18.0
87.715	6.46	40.00	33.54	15 000.0	120.000	100.0	V	223.0	-22.2
125.836	22.59	43.50	20.91	15 000.0	120.000	200.0	H	52.0	-22.5
220.896	18.71	46.00	27.29	15 000.0	120.000	100.0	H	293.0	-19.5
398.406	14.09	46.00	31.91	15 000.0	120.000	100.0	H	293.0	-14.6

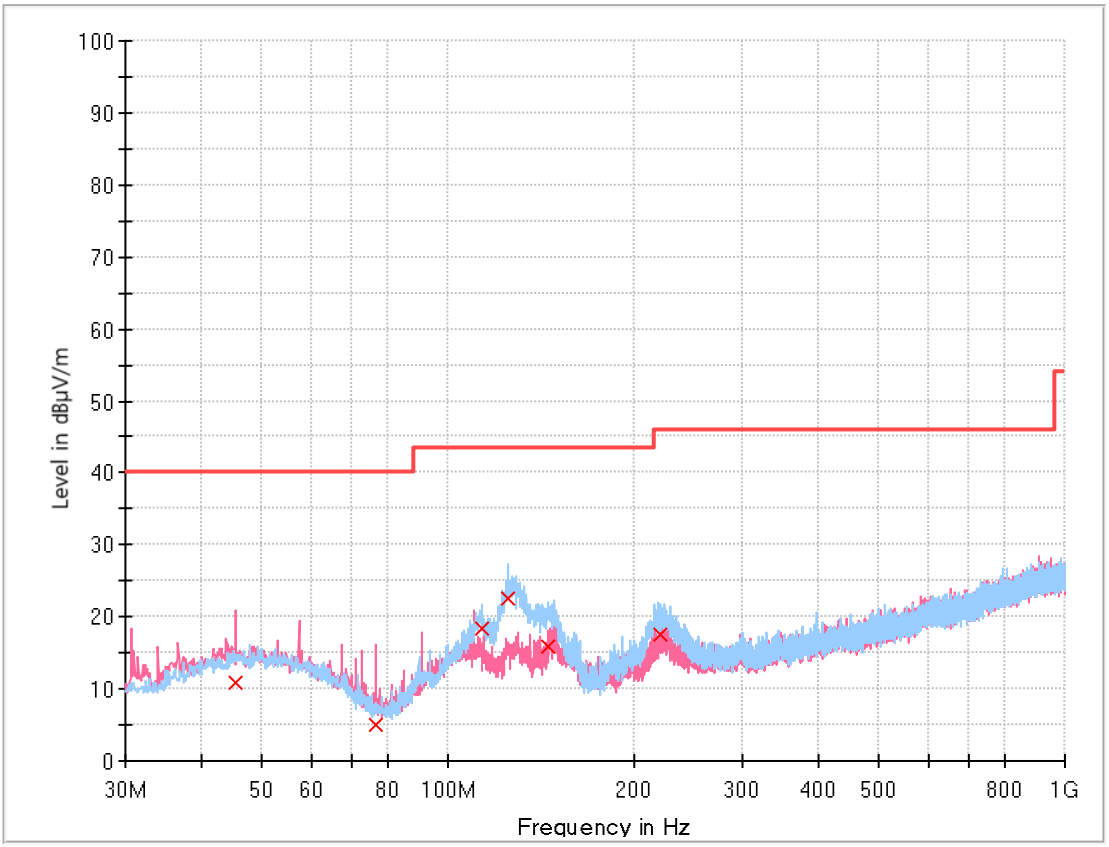
3) WIFI Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
49.206	10.78	40.00	29.22	15 000.0	120.000	100.0	V	225.0	-17.4
85.775	5.53	40.00	34.47	15 000.0	120.000	100.0	V	166.0	-22.8
112.935	19.19	43.50	24.31	15 000.0	120.000	200.0	H	43.0	-20.1
124.575	21.56	43.50	21.94	15 000.0	120.000	200.0	H	52.0	-22.3
127.485	21.63	43.50	21.87	15 000.0	120.000	200.0	H	43.0	-22.5
226.425	19.20	46.00	26.80	15 000.0	120.000	200.0	H	16.0	-19.1

3) WIFI Mode(12 Vd.c.)

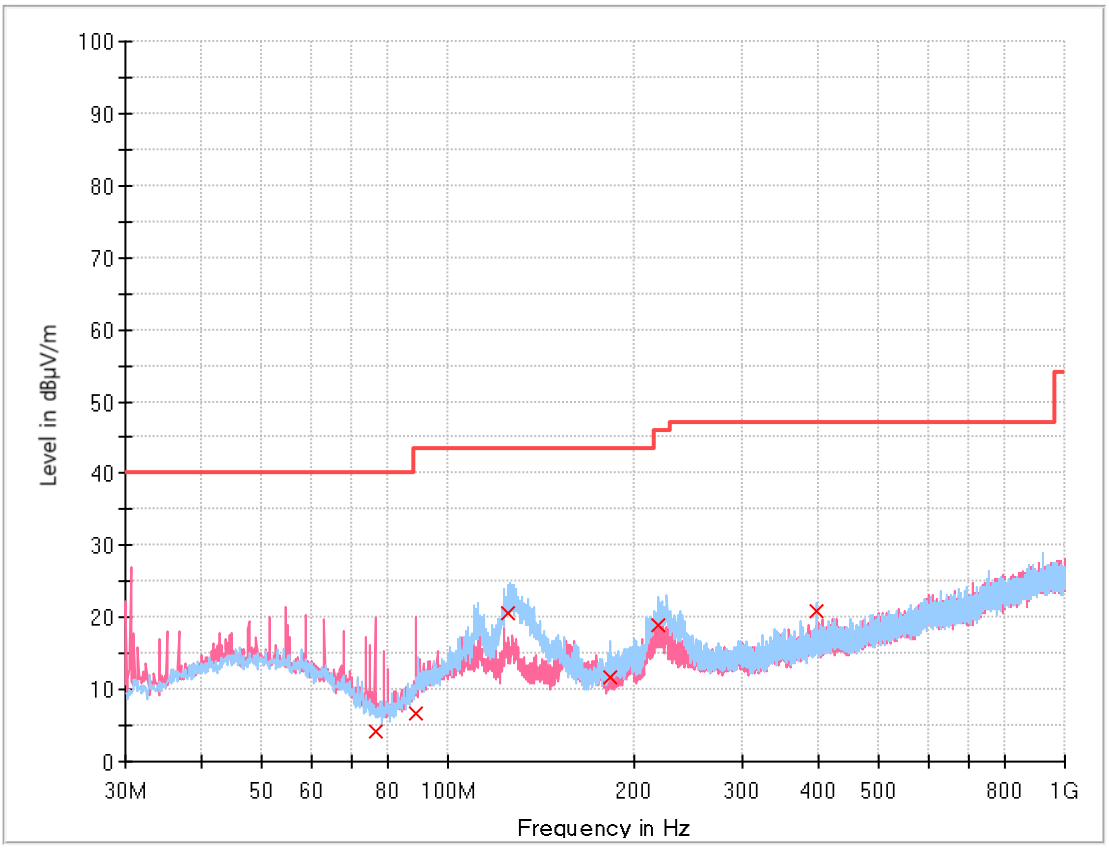


Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
45.326	10.89	40.00	29.11	15 000.0	120.000	100.0	V	50.0	-17.6
76.366	5.04	40.00	34.96	15 000.0	120.000	200.0	V	292.0	-24.3
113.323	18.25	43.50	25.25	15 000.0	120.000	200.0	H	68.0	-20.1
125.157	22.46	43.50	21.04	15 000.0	120.000	200.0	H	52.0	-22.4
145.527	15.75	43.50	27.75	15 000.0	120.000	200.0	H	42.0	-23.4
220.702	17.57	46.00	28.43	15 000.0	120.000	200.0	H	93.0	-19.5

[ICES-003 Issue 7: 2020]

1) Bluetooth Tx Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
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88.782	6.56	43.50	36.94	15 000.0	120.000	100.0	V	118.0	-21.8
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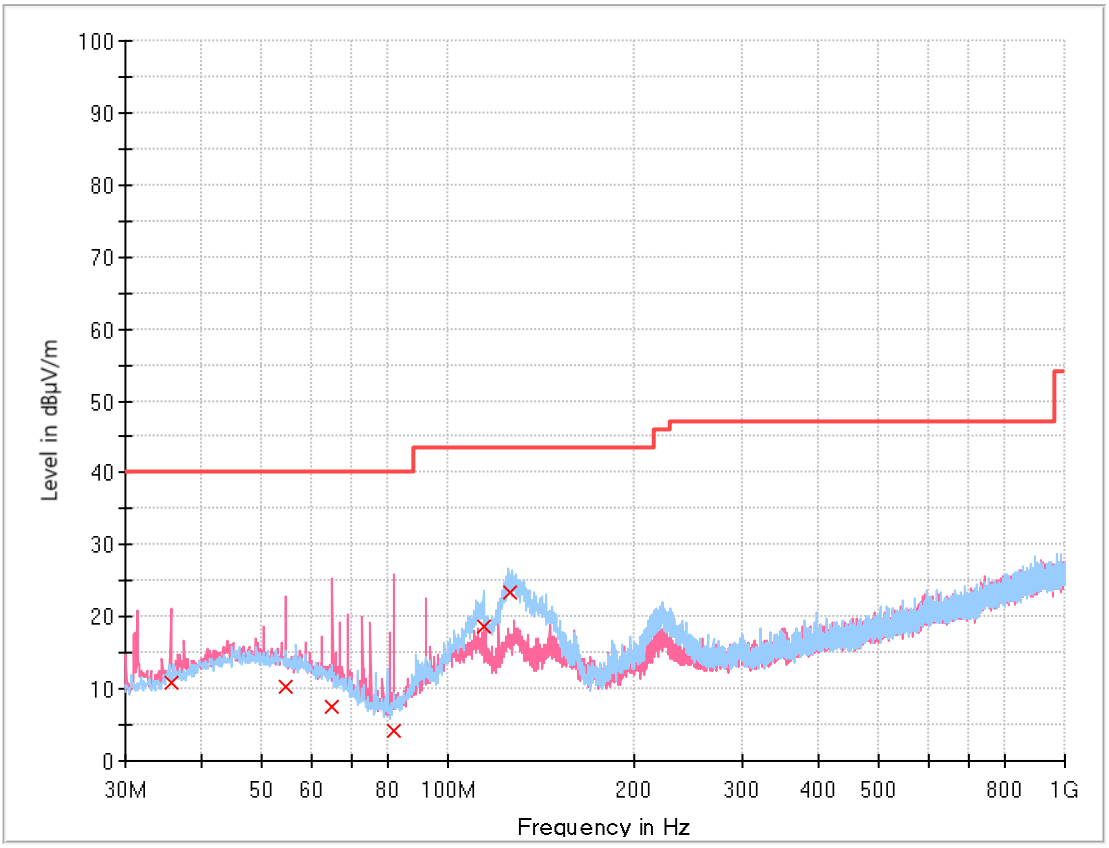
183.357	11.73	43.50	31.77	15 000.0	120.000	200.0	H	281.0	-21.2
219.150	18.88	46.00	27.12	15 000.0	120.000	100.0	H	292.0	-19.6
395.981	20.98	47.00	26.02	15 000.0	120.000	100.0	H	292.0	-14.6

1) Bluetooth Tx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.529	10.82	40.00	29.18	15 000.0	120.000	100.0	V	42.0	-20.2
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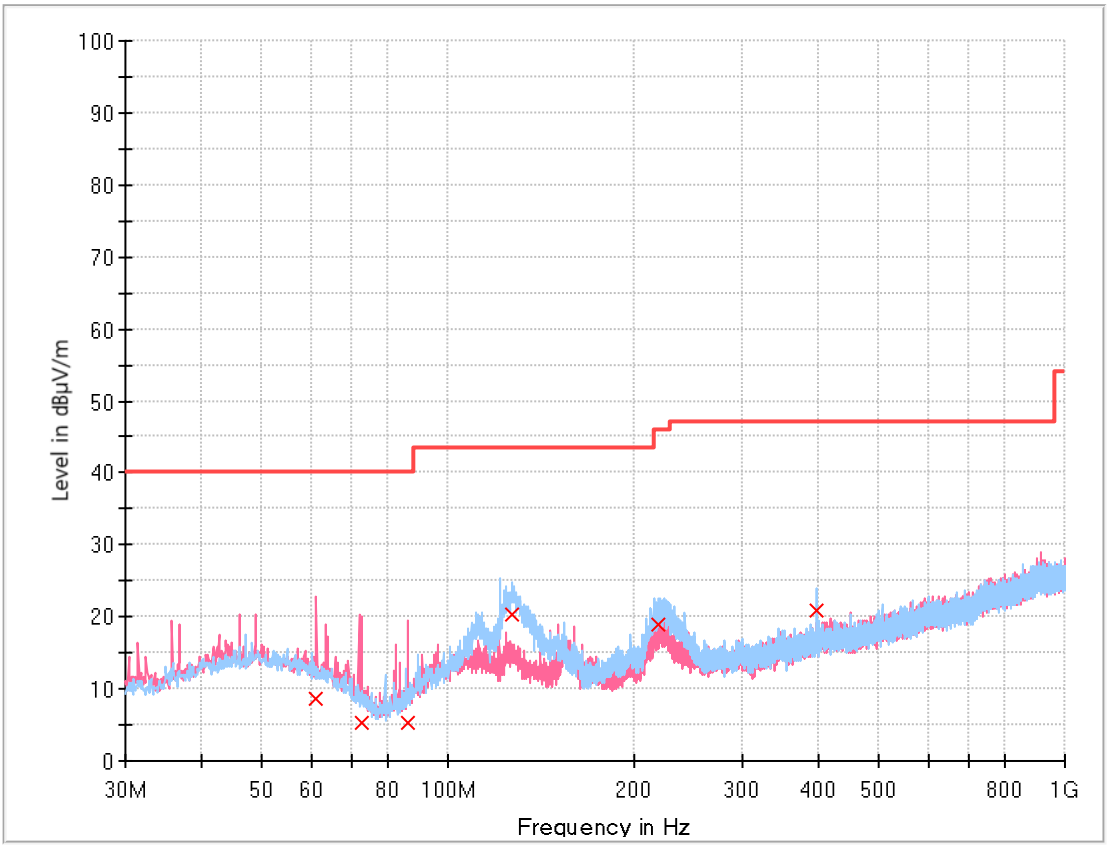
65.017	7.64	40.00	32.36	15 000.0	120.000	100.0	V	207.0	-20.4
81.798	4.30	40.00	35.70	15 000.0	120.000	100.0	V	149.0	-24.1
114.002	18.78	43.50	24.72	15 000.0	120.000	300.0	H	52.0	-20.2
126.224	23.29	43.50	20.21	15 000.0	120.000	300.0	H	61.0	-22.5

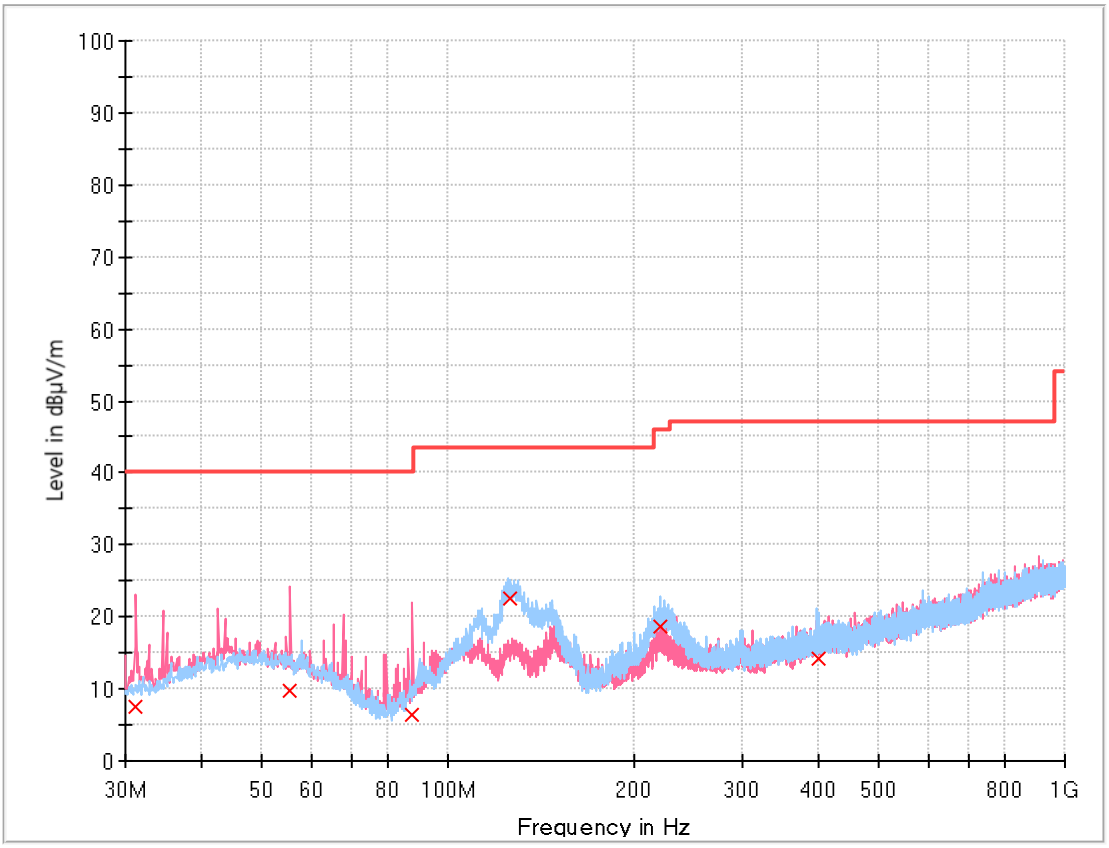
2) Bluetooth Rx Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
61.234	8.55	40.00	31.45	15 000.0	120.000	100.0	V	217.0	-19.1
72.583	5.20	40.00	34.80	15 000.0	120.000	100.0	V	234.0	-23.0
86.163	5.38	40.00	34.62	15 000.0	120.000	100.0	V	166.0	-22.7
127.097	20.46	43.50	23.04	15 000.0	120.000	200.0	H	33.0	-22.5
219.926	19.02	46.00	26.98	15 000.0	120.000	200.0	H	285.0	-19.5
395.981	20.80	47.00	26.20	15 000.0	120.000	100.0	H	7.0	-14.6

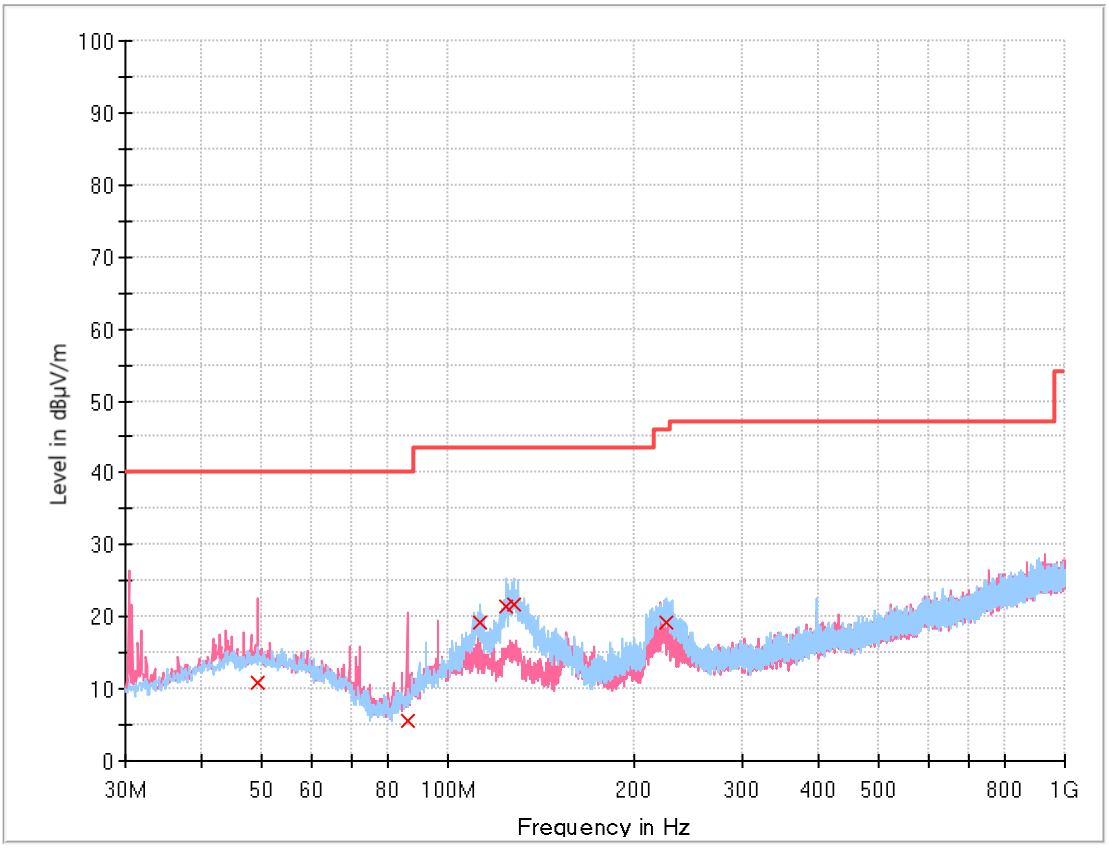
2) Bluetooth Rx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.164	7.56	40.00	32.44	15 000.0	120.000	200.0	V	153.0	-21.6
55.511	9.81	40.00	30.19	15 000.0	120.000	100.0	V	214.0	-18.0
87.715	6.46	40.00	33.54	15 000.0	120.000	100.0	V	223.0	-22.2
125.836	22.59	43.50	20.91	15 000.0	120.000	200.0	H	52.0	-22.5
220.896	18.71	46.00	27.29	15 000.0	120.000	100.0	H	293.0	-19.5
398.406	14.09	47.00	32.91	15 000.0	120.000	100.0	H	293.0	-14.6

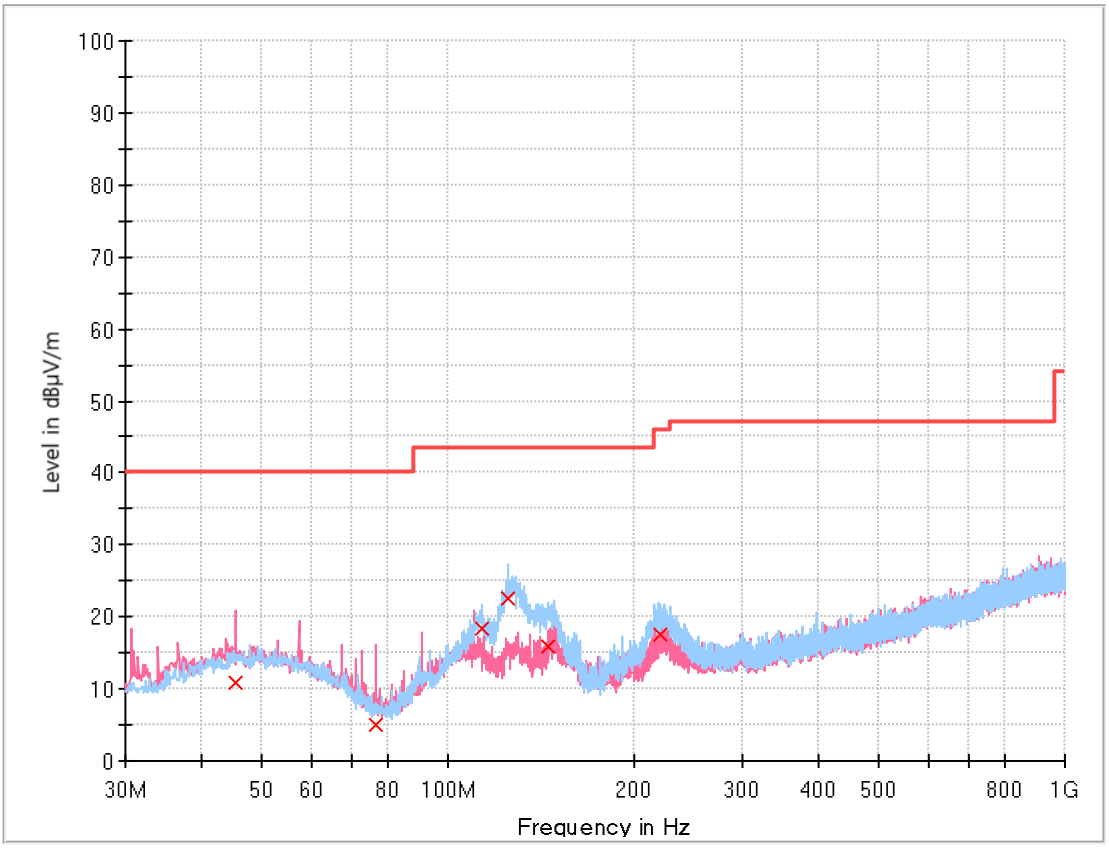
3) WIFI Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
49.206	10.78	40.00	29.22	15 000.0	120.000	100.0	V	225.0	-17.4
85.775	5.53	40.00	34.47	15 000.0	120.000	100.0	V	166.0	-22.8
112.935	19.19	43.50	24.31	15 000.0	120.000	200.0	H	43.0	-20.1
124.575	21.56	43.50	21.94	15 000.0	120.000	200.0	H	52.0	-22.3
127.485	21.63	43.50	21.87	15 000.0	120.000	200.0	H	43.0	-22.5
226.425	19.20	46.00	26.80	15 000.0	120.000	200.0	H	16.0	-19.1

3) WIFI Mode(12 Vd.c.)



Final_Result

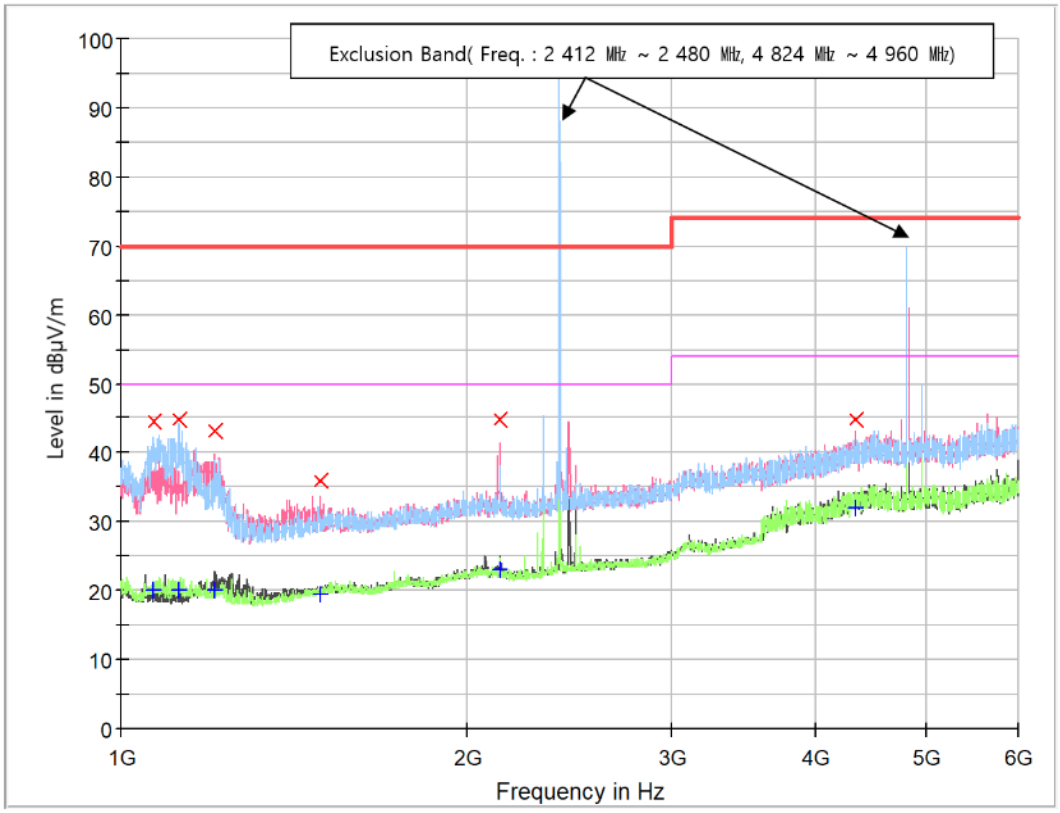
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
45.326	10.89	40.00	29.11	15 000.0	120.000	100.0	V	50.0	-17.6
76.366	5.04	40.00	34.96	15 000.0	120.000	200.0	V	292.0	-24.3
113.323	18.25	43.50	25.25	15 000.0	120.000	200.0	H	68.0	-20.1
125.157	22.46	43.50	21.04	15 000.0	120.000	200.0	H	52.0	-22.4
145.527	15.75	43.50	27.75	15 000.0	120.000	200.0	H	42.0	-23.4
220.702	17.57	46.00	28.43	15 000.0	120.000	200.0	H	93.0	-19.5

Measurement Uncertainty: See Appendix A

Note : • POL H = Horizontal • POL V = Vertical
• Margin = Limit – Quasi Peak • Corr. = Antenna Factor + Cable loss – Amplifier Gain

Above 1 ㎓ (3 m method)

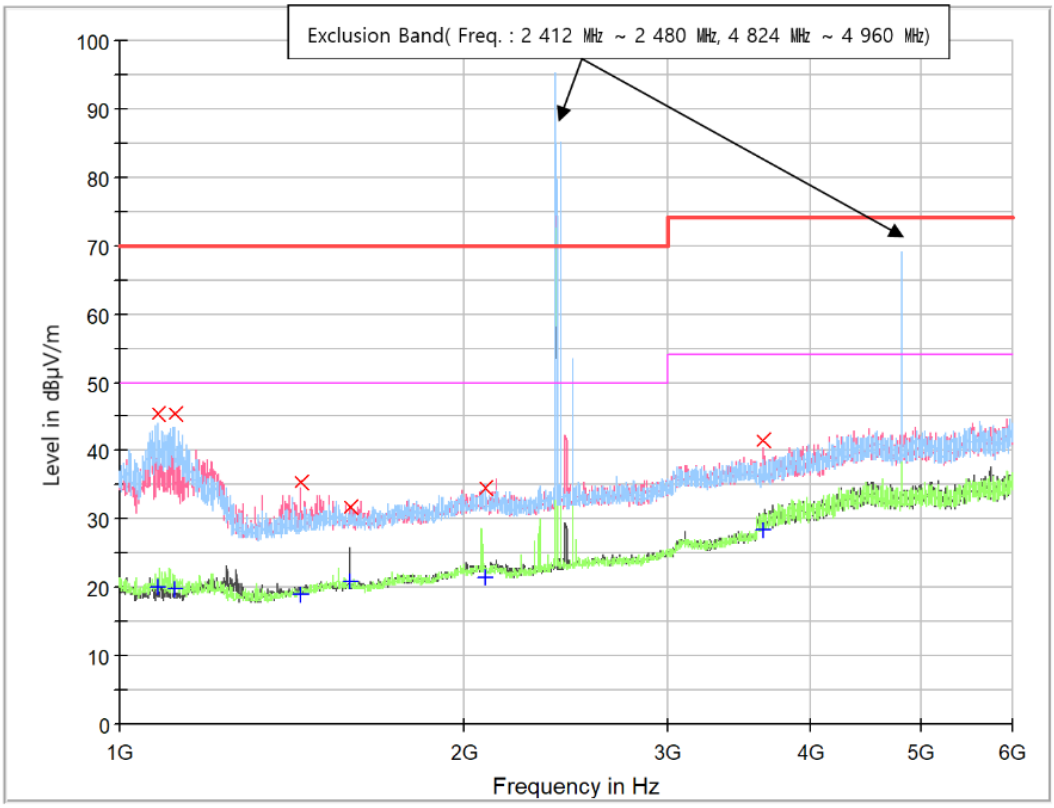
1) Bluetooth Tx Mode(5 Vd.c.)



Final_Result

Frequency (㎒)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(㎳)	Bandwidth (㎑)	Height (㎝)	Pol	Azimuth (deg)	Corr. (dB)
1 068.500	44.50	---	70.00	25.50	15 000.0	1 000.000	100.0	H	348.0	-14.9
1 068.500	---	20.00	50.00	30.00	15 000.0	1 000.000	100.0	H	348.0	-14.9
1 123.500	44.82	---	70.00	25.18	15 000.0	1 000.000	100.0	H	334.0	-14.8
1 123.500	---	19.92	50.00	30.08	15 000.0	1 000.000	100.0	H	334.0	-14.8
1 204.500	43.05	---	70.00	26.95	15 000.0	1 000.000	100.0	V	282.0	-14.7
1 204.500	---	20.16	50.00	29.84	15 000.0	1 000.000	100.0	V	282.0	-14.7
1 488.000	35.95	---	70.00	34.05	15 000.0	1 000.000	100.0	V	295.0	-12.2
1 488.000	---	19.55	50.00	30.45	15 000.0	1 000.000	100.0	V	295.0	-12.2
2 132.500	44.82	---	70.00	25.18	15 000.0	1 000.000	100.0	V	14.0	-7.9
2 132.500	---	23.03	50.00	26.97	15 000.0	1 000.000	100.0	V	14.0	-7.9
4 333.000	44.85	---	74.00	29.15	15 000.0	1 000.000	100.0	V	1.0	2.9
4 333.000	---	31.98	54.00	22.02	15 000.0	1 000.000	100.0	V	1.0	2.9

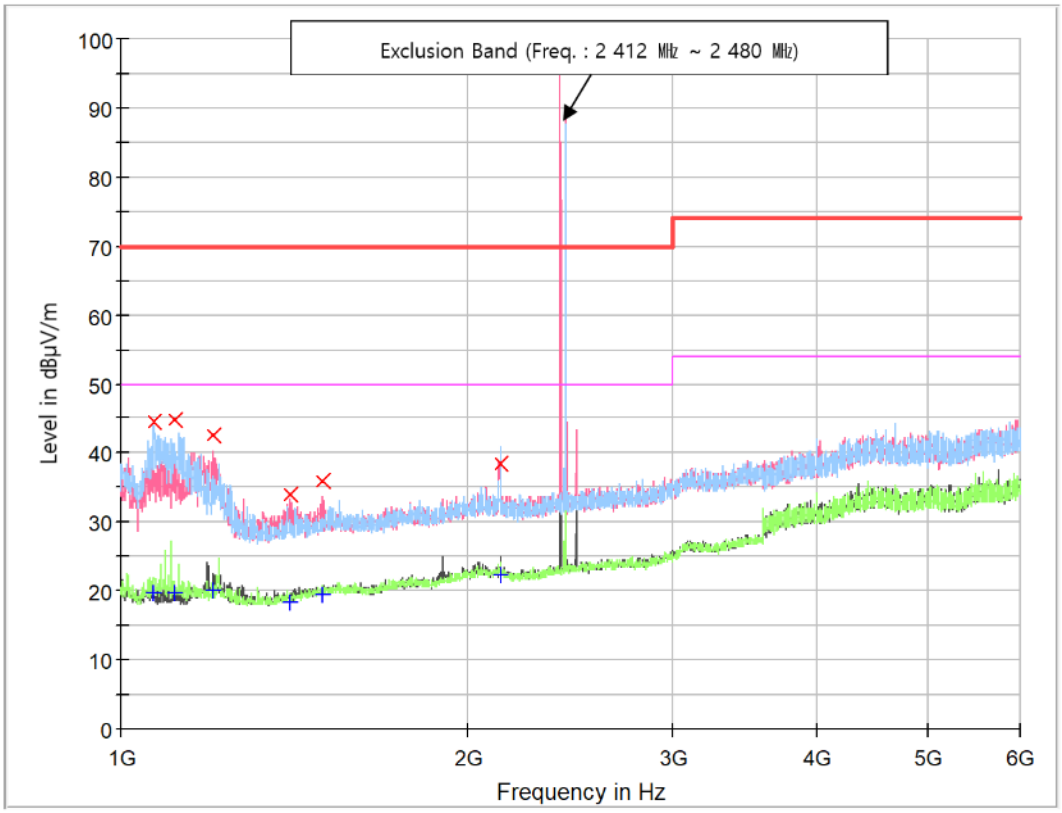
1) Bluetooth Tx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 080.000	45.32	---	70.00	24.68	15 000.0	1 000.000	100.0	H	347.0	-14.9
1 080.000	---	19.97	50.00	30.03	15 000.0	1 000.000	100.0	H	347.0	-14.9
1 118.500	---	19.90	50.00	30.10	15 000.0	1 000.000	100.0	H	333.0	-14.8
1 118.500	45.40	---	70.00	24.60	15 000.0	1 000.000	100.0	H	333.0	-14.8
1 437.000	35.33	---	70.00	34.67	15 000.0	1 000.000	100.0	V	344.0	-12.8
1 437.000	---	18.93	50.00	31.07	15 000.0	1 000.000	100.0	V	344.0	-12.8
1 587.500	---	20.86	50.00	29.14	15 000.0	1 000.000	100.0	V	0.0	-11.6
1 587.500	31.72	---	70.00	38.28	15 000.0	1 000.000	100.0	V	0.0	-11.6
2 084.500	---	21.41	50.00	28.59	15 000.0	1 000.000	100.0	H	31.0	-7.9
2 084.500	34.63	---	70.00	35.37	15 000.0	1 000.000	100.0	H	31.0	-7.9
3 642.500	---	28.35	54.00	25.65	15 000.0	1 000.000	100.0	V	358.0	-0.9
3 642.500	41.43	---	74.00	32.57	15 000.0	1 000.000	100.0	V	358.0	-0.9

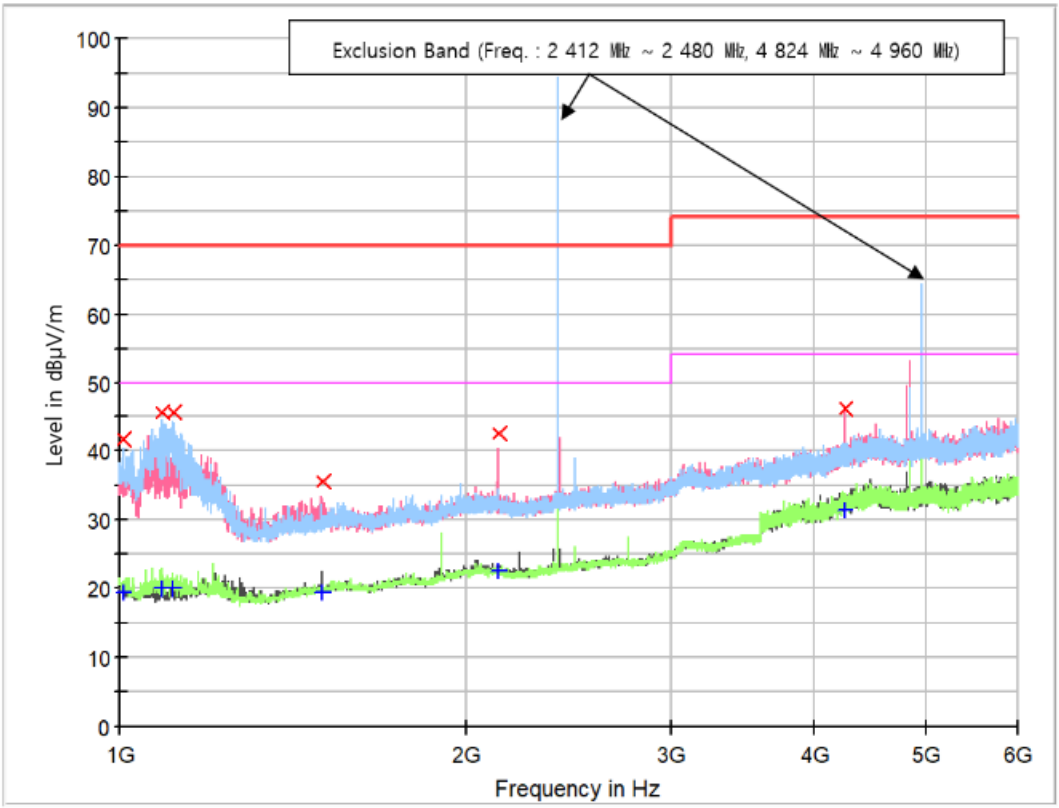
2) Bluetooth Rx Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 069.000	44.58	---	70.00	25.42	15 000.0	1 000.000	100.0	H	348.0	-14.9
1 069.000	---	19.77	50.00	30.23	15 000.0	1 000.000	100.0	H	348.0	-14.9
1 114.500	---	19.65	50.00	30.35	15 000.0	1 000.000	100.0	H	334.0	-14.8
1 114.500	44.98	---	70.00	25.02	15 000.0	1 000.000	100.0	H	334.0	-14.8
1 203.000	---	20.18	50.00	29.82	15 000.0	1 000.000	100.0	V	273.0	-14.7
1 203.000	42.71	---	70.00	27.29	15 000.0	1 000.000	100.0	V	273.0	-14.7
1 397.500	---	18.40	50.00	31.60	15 000.0	1 000.000	100.0	V	348.0	-13.3
1 397.500	34.05	---	70.00	35.95	15 000.0	1 000.000	100.0	V	348.0	-13.3
1 491.500	35.83	---	70.00	34.17	15 000.0	1 000.000	100.0	V	198.0	-12.2
1 491.500	---	19.41	50.00	30.59	15 000.0	1 000.000	100.0	V	198.0	-12.2
2 131.500	---	22.25	50.00	27.75	15 000.0	1 000.000	100.0	H	100.0	-7.9
2 131.500	38.56	---	70.00	31.44	15 000.0	1 000.000	100.0	H	100.0	-7.9

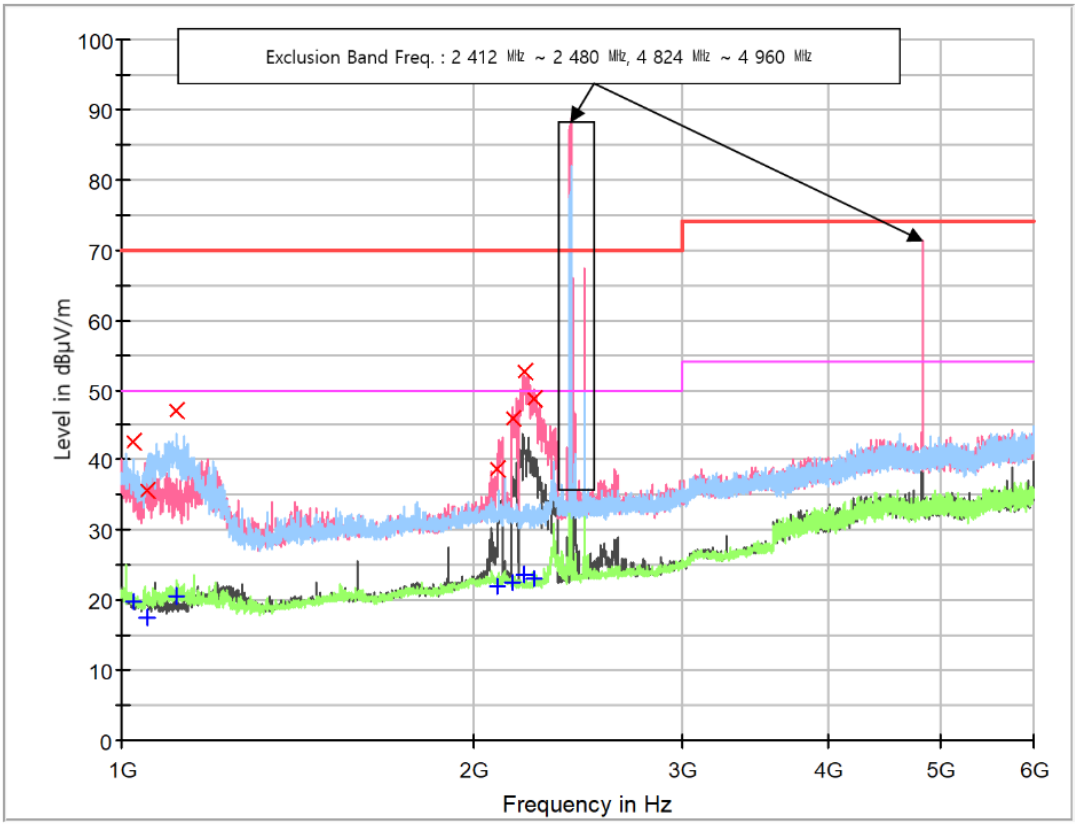
2) Bluetooth Rx Mode(12 Vd.c.)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 006.000	41.79	---	70.00	28.21	15 000.0	1 000.000	100.0	H	344.0	-15.2
1 006.000	---	19.63	50.00	30.37	15 000.0	1 000.000	100.0	H	344.0	-15.2
1 086.500	---	20.11	50.00	29.89	15 000.0	1 000.000	100.0	H	344.0	-14.9
1 086.500	45.61	---	70.00	24.39	15 000.0	1 000.000	100.0	H	344.0	-14.9
1 115.000	45.81	---	70.00	24.19	15 000.0	1 000.000	100.0	H	330.0	-14.8
1 115.000	---	19.92	50.00	30.08	15 000.0	1 000.000	100.0	H	330.0	-14.8
1 499.000	35.53	---	70.00	34.47	15 000.0	1 000.000	100.0	V	288.0	-12.1
1 499.000	---	19.57	50.00	30.43	15 000.0	1 000.000	100.0	V	288.0	-12.1
2 127.000	---	22.42	50.00	27.58	15 000.0	1 000.000	100.0	V	14.0	-7.9
2 127.000	42.58	---	70.00	27.42	15 000.0	1 000.000	100.0	V	14.0	-7.9
4 252.000	46.18	---	74.00	27.82	15 000.0	1 000.000	100.0	V	1.0	2.6
4 252.000	---	31.60	54.00	22.40	15 000.0	1 000.000	100.0	V	1.0	2.6

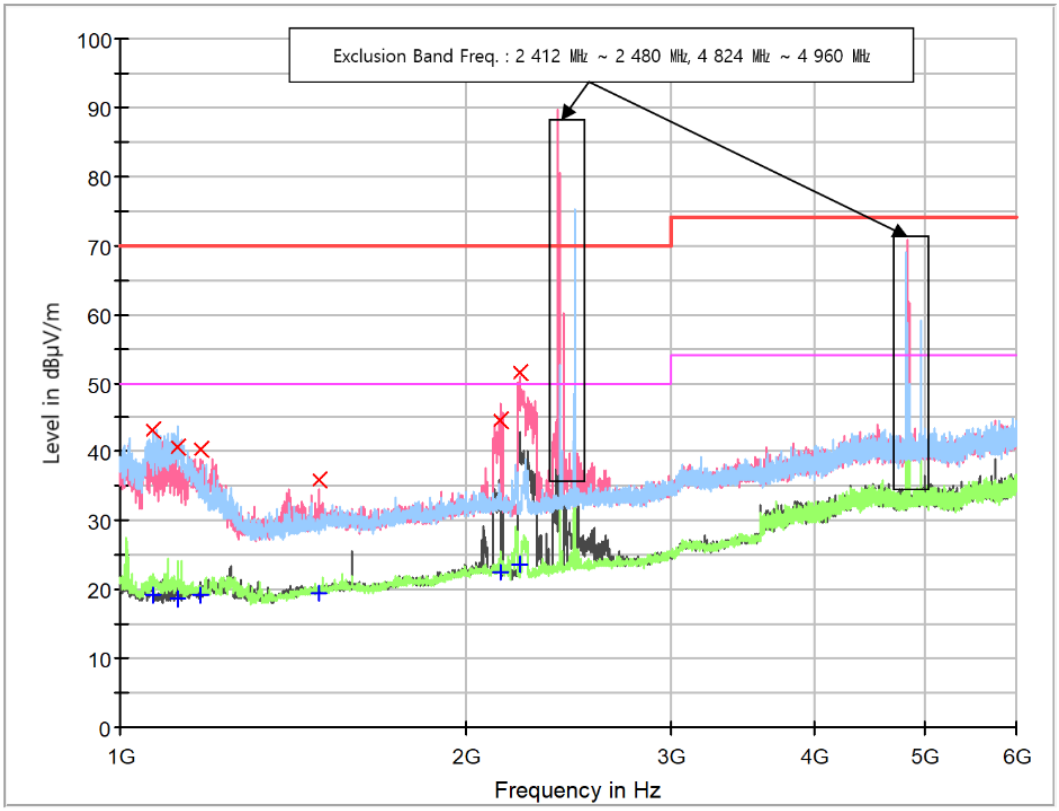
3) WIFI Mode(5 Vd.c.)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 023.500	42.64	---	70.00	27.36	15 000.0	1 000.000	100.0	H	214.0	-15.1
1 023.500	---	19.74	50.00	30.26	15 000.0	1 000.000	100.0	H	214.0	-15.1
1 052.500	35.69	---	70.00	34.31	15 000.0	1 000.000	100.0	H	164.0	-14.9
1 052.500	---	17.52	50.00	32.48	15 000.0	1 000.000	100.0	H	164.0	-14.9
1 113.500	---	20.51	50.00	29.49	15 000.0	1 000.000	100.0	H	227.0	-14.8
1 113.500	47.03	---	70.00	22.97	15 000.0	1 000.000	100.0	H	227.0	-14.8
2 089.500	---	22.01	50.00	27.99	15 000.0	1 000.000	100.0	V	68.0	-7.9
2 089.500	38.58	---	70.00	31.42	15 000.0	1 000.000	100.0	V	68.0	-7.9
2 153.500	---	22.68	50.00	27.32	15 000.0	1 000.000	100.0	V	158.0	-7.9
2 153.500	45.83	---	70.00	24.17	15 000.0	1 000.000	100.0	V	158.0	-7.9
2 206.000	---	23.56	50.00	26.44	15 000.0	1 000.000	100.0	V	210.0	-8.1
2 206.000	52.54	---	70.00	17.46	15 000.0	1 000.000	100.0	V	210.0	-8.1
2 246.500	---	23.18	50.00	26.82	15 000.0	1 000.000	100.0	V	274.0	-7.9
2 246.500	48.84	---	70.00	21.16	15 000.0	1 000.000	100.0	V	274.0	-7.9

3) WIFI Mode(12 Vd.c.)



Final_Result

Frequency (㎒)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time(㎳)	Bandwidth (㎑)	Height (㎝)	Pol	Azimuth (deg)	Corr. (dB)
1 069.000	43.18	---	70.00	26.82	15 000.0	1 000.000	100.0	H	349.0	-14.9
1 069.000	---	19.31	50.00	30.69	15 000.0	1 000.000	100.0	H	349.0	-14.9
1 123.000	40.62	---	70.00	29.38	15 000.0	1 000.000	100.0	H	1.0	-14.8
1 123.000	---	18.78	50.00	31.22	15 000.0	1 000.000	100.0	H	1.0	-14.8
1 173.500	40.49	---	70.00	29.51	15 000.0	1 000.000	100.0	V	271.0	-14.8
1 173.500	---	19.24	50.00	30.76	15 000.0	1 000.000	100.0	V	271.0	-14.8
1 486.500	---	19.46	50.00	30.54	15 000.0	1 000.000	100.0	V	284.0	-12.3
1 486.500	35.96	---	70.00	34.04	15 000.0	1 000.000	100.0	V	284.0	-12.3
2 139.500	---	22.66	50.00	27.34	15 000.0	1 000.000	100.0	V	271.0	-7.9
2 139.500	44.46	---	70.00	25.54	15 000.0	1 000.000	100.0	V	271.0	-7.9
2 220.000	51.63	---	70.00	18.37	15 000.0	1 000.000	100.0	V	208.0	-8.0
2 220.000	---	23.74	50.00	26.26	15 000.0	1 000.000	100.0	V	208.0	-8.0

Measurement Uncertainty : See Appendix A

Note : • AF = Antenna Factor • CL = Cable Loss • AMP = Amplifier Gain
• POL H = Horizontal • POL V = Vertical • A = Angle
• H = Height • Margin = Limit – Result
• Corr. = AF + CL – AMP ** The value of 'Level' includes 'Corr.'.

Ex) In case

Freq ; 100 ㎒, level ; 30 dB(µV/m), AF ; 10 ㏈/m, CL ; 4 ㏈, Amp ; 25 ㏈

Result = Level + AF + CL – Amp
= 30 + 10 + 4 - 25
= 19

Margin = Limit – Result
= 43.5 – 19
= 24.5

Appendix A : Measurement Uncertainty

- Giheung Laboratory

Test Method		Measurement Uncertainty	
Conducted Emission		ENV216	3.7 dB (The confidential level is 95 %, *k*=2)
		ESH2-Z5	3.2 dB (The confidential level is 95 %, *k*=2)
		ESH3-Z6	3.2 dB (The confidential level is 95 %, *k*=2)
		NNLK8129	3.1 dB (The confidential level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.4 dB (The confidential level is 95 %, *k*=2)
		ISN ST08	6.6 dB (The confidential level is 95 %, *k*=2)
Discontinuous		2.7 dB (The confidential level is 95 %, *k*=2)	
Radiated Emission	9 kHz ~30 MHz	Horizontal	3.3 dB (The confidential level is 95 %, *k*=2)
		Vertical	3.3 dB (The confidential level is 95 %, *k*=2)
	30 MHz ~ 1 000 MHz	Horizontal	4.3 dB (The confidential level is 95 %, *k*=2)
		Vertical	4.6 dB (The confidential level is 95 %, *k*=2)
	1 GHz ~ 18 GHz	Horizontal	3.9 dB (The confidential level is 95 %, *k*=2)
		Vertical	4.0 dB (The confidential level is 95 %, *k*=2)

- Gunpo Laboratory

Test Method		Measurement Uncertainty	
Conducted Emission		ENV216	4.0 dB (The confidential level is 95 %, *k*=2)
		ESH2-Z5	3.6 dB (The confidential level is 95 %, *k*=2)
		ESH3-Z6	3.8 dB (The confidential level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.8 dB (The confidential level is 95 %, *k*=2)
		ISNT8-Cat6	5.8 dB (The confidential level is 95 %, *k*=2)
		ISN S751	7.5 dB (The confidential level is 95 %, *k*=2)
Disturbance Voltage at Antenna Terminal		2.9 dB (The confidential level is 95 %, *k*=2)	
Radiated Emission	9 kHz ~30 MHz	Horizontal	3.4 dB (The confidential level is 95 %, *k*=2)
		Vertical	3.4 dB (The confidential level is 95 %, *k*=2)
	30 MHz ~ 1 000 MHz	Horizontal	4.5 dB (The confidential level is 95 %, *k*=2)
		Vertical	5.1 dB (The confidential level is 95 %, *k*=2)
	1 GHz ~ 18 GHz	Horizontal	3.7 dB (The confidential level is 95 %, *k*=2)
		Vertical	3.9 dB (The confidential level is 95 %, *k*=2)

- Dongtan Laboratory

Test Method		Measurement Uncertainty	
Conducted Emission		ENV216	3.5 dB (The confidential level is 95 %, *k*=2)
		ESH2-Z5	3.3 dB (The confidential level is 95 %, *k*=2)
		ESH3-Z6	3.3 dB (The confidential level is 95 %, *k*=2)
		NNLK8129	3.4 dB (The confidential level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.7 dB (The confidential level is 95 %, *k*=2)
		ISN ST08	5.5 dB (The confidential level is 95 %, *k*=2)
Discontinous		2.9 dB (The confidential level is 95 %, *k*=2)	
disturbance Power		3.9 dB (The confidential level is 95 %, *k*=2)	
Radiated Emission	9 kHz ~30 MHz (Triple Loop Ant.)	3.4 dB (The confidential level is 95 %, *k*=2)	
	9 kHz ~30 MHz (Loop Ant.)	Horizontal	3.8 dB (The confidential level is 95 %, *k*=2)
		Vertical	3.8 dB (The confidential level is 95 %, *k*=2)
	30 MHz ~ 1 000 MHz	Horizontal	4.8 dB (The confidential level is 95 %, *k*=2)
		Vertical	5.4 dB (The confidential level is 95 %, *k*=2)
	1 GHz ~ 18 GHz	Horizontal	4.1 dB (The confidential level is 95 %, *k*=2)
		Vertical	4.2 dB (The confidential level is 95 %, *k*=2)

- End of Test Report -