



KES Co., Ltd.

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Report No.:
KES-EM-21T0503
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EMC TEST REPORT

Test Report No. : KES-EM-21T0503
Date of Issue : Jun. 29, 2021
Product name : DUALSONIC EFFECT
Model/Type No. : JOMT-AH-21A
Variant Model : JOMT-AH-22A, JOMT-AH-23A, JOMT-AH-24A, JOMT-AH-25A, JOMT-AH-26A
Applicant : JION MEDITECH
Applicant Address : #403, 250 Hagui-ro, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea
Manufacturer : JION MEDITECH
Manufacturer Address : #403, 250 Hagui-ro, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea
FCC ID : 2AQQZJOMT-AH-21A
Equipment authorization : **Supplier's Declaration of Conformity**
Date of Receipt : May. 19, 2021
Test date : Jun. 20, 2021 ~ Jun. 22, 2021
Test Results : **In Compliance** **Not in Compliance**

Tested by

Dae Hyun, Kim
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jun. 29, 2021	KES-EM-21T0503	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Item	Details
Operating Mode	HIFU – 1.5, 3.0, 4.5 RF – 1 Level ~ 3 Level Micro-Current – 1 Level ~ 3 Level LED – Red, IR, Yellow
Operating Frequency	Bluetooth 2.4 GHz
Wireless	802.15 Bluetooth Low Energy 4.2
Rated Voltage	Input : DC 5 V, 2 A Internal Battery : 3.65 V, 2,750 mAh (Lithium Ion Battery)
Environment condition	Temp. : 0 ~ 50 °C Humidity : 30 ~ 90 %R.H.
Dimension	35 mm * 55 mm * 195 mm
Weight	192 g



1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

- AC 120 V, 60 Hz(Adapter): Cradle Charge, USB Charge Mode
- DC 3.7 V Battery: Lift-Up, Cos-Up, Daily-Up, Bluetooth Mode

1.2 Variant Model Differences

Add simple derivative model by buyer request.

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
DUALSONIC EFFECT	JOMT-AH-21A	-	JION MEDITECH	EUT
Cradle	-	-	JION MEDITECH	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC/DC Adapter	PS10J050K2000KU	-	Shenzhen flypower technology co.,ltd	-
SmartPhone	A1429	-	Apple	-



1.6 External I/O Cabling

■ Cradle Charge Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
DUALSONIC EFFECT (EUT)	USB C Type	Cradle (EUT)	USB C Type	-	-
Cradle (EUT)	USB C Type	AC/DC Adapter	USB	0.8	U

* Unshielded=U, Shielded=S

■ USB Charge Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
DUALSONIC EFFECT (EUT)	USB C Type	AC/DC Adapter	USB	0.8	U

* Unshielded=U, Shielded=S

■ Lift-Up Mode / Cos-Up Mode / Daily-Up Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
DUALSONIC EFFECT (EUT)	-	-	-	-	-

* Unshielded=U, Shielded=S

■ Bluetooth Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
DUALSONIC EFFECT (EUT)	Wireless	SmartPhone	Wireless	-	-

* Unshielded=U, Shielded=S



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1.7 EUT Operating Mode(s)

Test Mode	operating
Cradle Charge /USB Charge	Tested while checking the normal state of charge.
Lift-Up / Cos-Up / Daily-Up	Tested while checking the normal operation status on the LCD screen of the EUT.
Bluetooth	Normal operation was confirmed with SmartPhone.

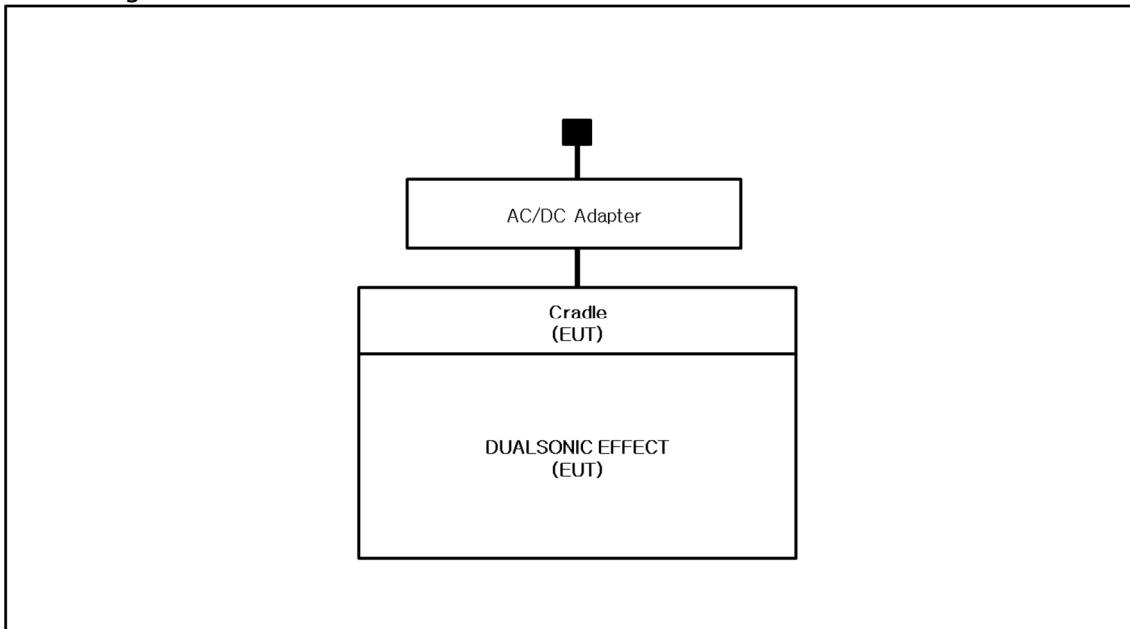
EUT Test operating S/W		
Name	Version	Manufacture Company
DUALSONIC App	-	JION MEDITECH

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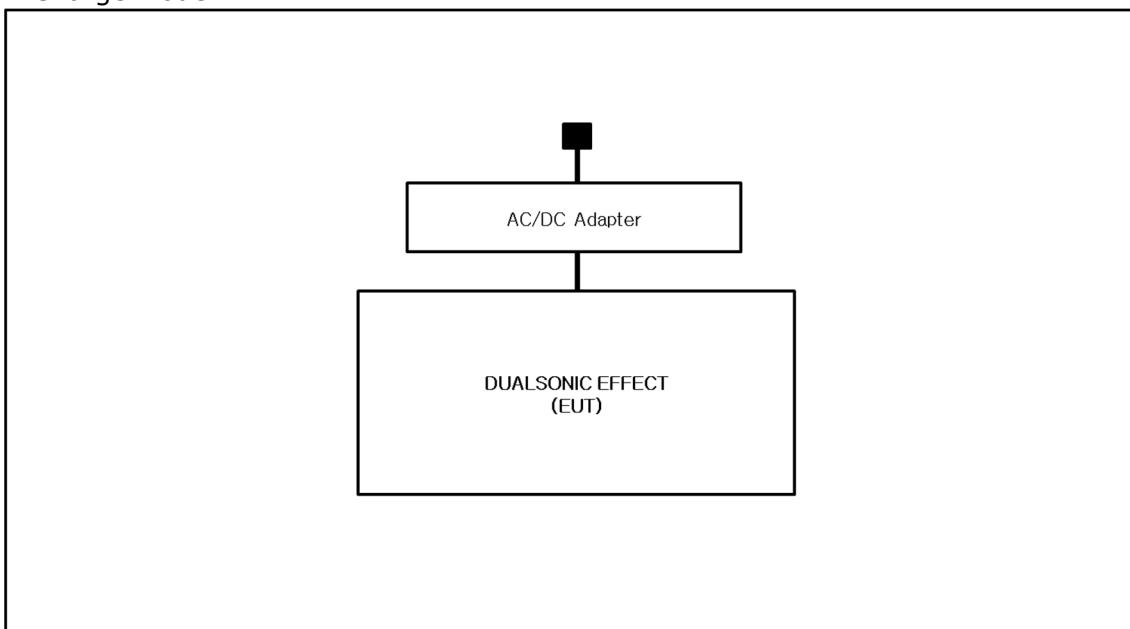
1.8 Configuration

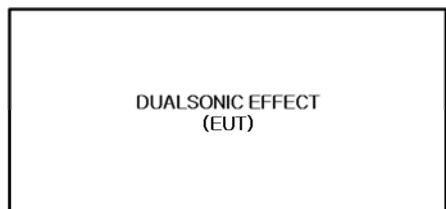
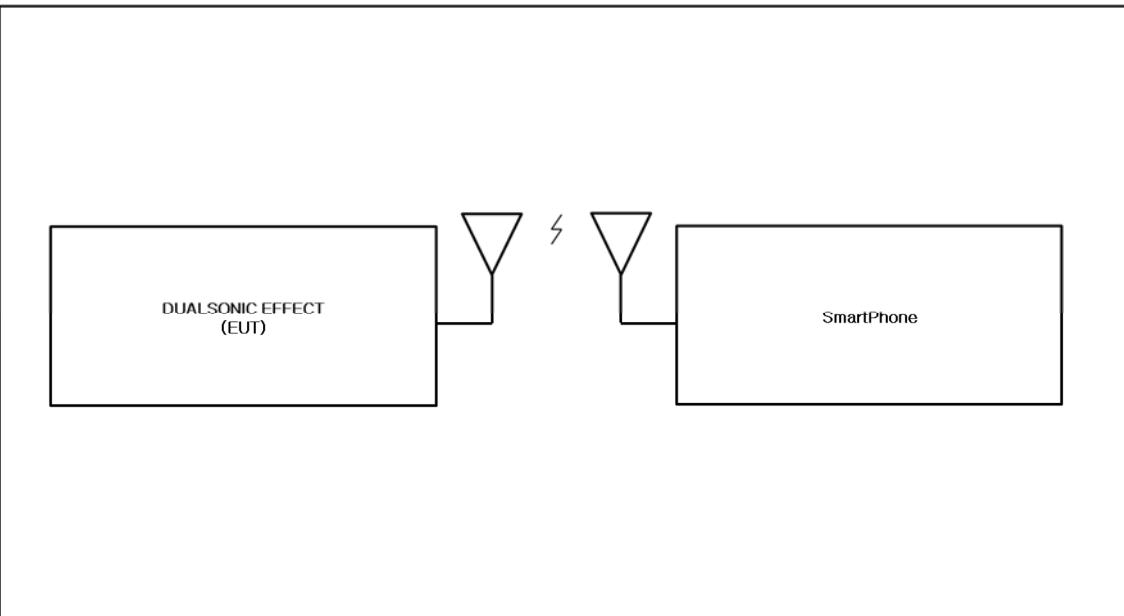
- AC Main
- DC Main

■ Cradle Charge Mode



■ USB Charge Mode



■ Lift-Up Mode / Cos-Up Mode / Daily-Up Mode**■ Bluetooth Mode**



1.9 Remarks when standards applied

N/A

1.10 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

1.11 Test Facility

The measurement facility is located at 473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4:2014 and CISPR 16-1-4:2019

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	RRA	EMI (3 m & 10 m Semi-Anechoic Chamber , 10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KR0100
International	KOLAS	EMI (3 m & 10 m Semi-Anechoic Chamber , and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KT489
USA	FCC	3 m & 10 m Semi-Anechoic Chamber, 10 m Open Area and Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	 23298-1
JAPAN	VCCI	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	 R-20056, C-20036, T-20040, G-20057
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber , 10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0004

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2.0 Test Regulations

The emissions tests were performed according to following regulations:

EMC – Directive 2014/30/EU

- EN 61000-6-3:2011
- EN 61000-6-1:2007
- EN 61000-6-4:2007 +A1:2011
- EN 61000-6-2:2005
- EN 55011:2007 +A1:2010
- EN 55014-1:2006 +A2:2011
- EN 55014-2:1997 +A2:2008
- EN 55015:2013
- EN 55032:2015
- EN 55024:2010
- EN 50130-4:2011 +A1:2014
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 61326-1:2013

Group 1
 Class A

Group 2
 Class B



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<input type="checkbox"/> VCCI-CISPR 32:2016	<input type="checkbox"/> Class A	<input type="checkbox"/> Class B
<input type="checkbox"/> AS/NZS CISPR32:2015	<input type="checkbox"/> Class A	<input type="checkbox"/> Class B
<input checked="" type="checkbox"/> 47 CFR Part 15, Subpart B		
<input type="checkbox"/> CISPR 22:2009 +A1:2010	<input type="checkbox"/> Class A	<input type="checkbox"/> Class B
<input checked="" type="checkbox"/> ANSI C63.4-2017	<input type="checkbox"/> Class A	<input checked="" type="checkbox"/> Class B
<input type="checkbox"/> IC Regulation ICES-003 Issue 7		
<input type="checkbox"/> CAN/CSA CISPR 32:17	<input type="checkbox"/> Class A	<input type="checkbox"/> Class B
<input type="checkbox"/> ANSI C63.4-2017	<input type="checkbox"/> Class A	<input type="checkbox"/> Class B
<input type="checkbox"/> RE- Directive 2014/53/EU		
<input type="checkbox"/> EN 301 489-1 V2.2.3		
<input type="checkbox"/> Equipment for fixed use		
<input type="checkbox"/> Equipment for vehicular use		
<input type="checkbox"/> Equipment for portable use		
<input type="checkbox"/> EN 301 489-3 V1.6.1		
<input type="checkbox"/> EN 301 489-17 V2.2.1		
<input type="checkbox"/> EN 60945:2002		

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Jun. 20, 2021

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EMC32	R & S	9.12.00	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101783	01, 15, 2022
<input checked="" type="checkbox"/>	LISN	ENV216	R & S	101787	12, 29, 2021
<input type="checkbox"/>	LISN	ESH2-Z5	R & S	100450	12, 29, 2021
<input checked="" type="checkbox"/>	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 29, 2021

Test Conditions

Temperature: $(24,8 \pm 0,1) ^\circ\text{C}$

Relative Humidity: $(47,1 \pm 0,1) \% \text{ R.H.}$

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- PASS
- NOT PASS
- NOT APPLICABLE

Remarks

See Appendix A for test data.



2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jun. 21, 2021

Test Location

OPEN AREA TEST SITE #2 SEMI ANECHOIC CHAMBER #4

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	R & S	100551	04, 01, 2022
<input checked="" type="checkbox"/>	AMPLIFIER	SCU 01	R & S	100603	11, 25, 2021
<input checked="" type="checkbox"/>	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
<input checked="" type="checkbox"/>	ATTENUATOR	8491A	HP	32173	03, 10, 2022

Test Conditions

Temperature: (24,4 ± 0,3) °C

Relative Humidity: (46,3 ± 0,2) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

PASS
 NOT PASS
 NOT APPLICABLE

Remarks

- See Appendix A for test data.
- The fundamental of the EUT was investigated in there orthogonal orientations X, Y and Z.



2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jun. 22, 2021

Test Location

SEMI ANECHOIC CHAMBER #4(10m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	R & S	100551	04, 01, 2022
<input checked="" type="checkbox"/>	PREAMPLIFIER	8449B	AGILENT	3008A01742	12, 29, 2021
<input type="checkbox"/>	ATTENUATOR	8491A	HP	35496	03, 10, 2022
<input checked="" type="checkbox"/>	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 14, 2021

Test Conditions

Temperature: (24,5 \pm 0,3) °C

Relative Humidity: (46,8 \pm 0,4) % R.H.

Frequency Range of Measurement

1 GHz to 12.4 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- PASS
- NOT PASS
- NOT APPLICABLE

Remarks

- See Appendix A for test data.
- The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z.

APPENDIX A – TEST DATA

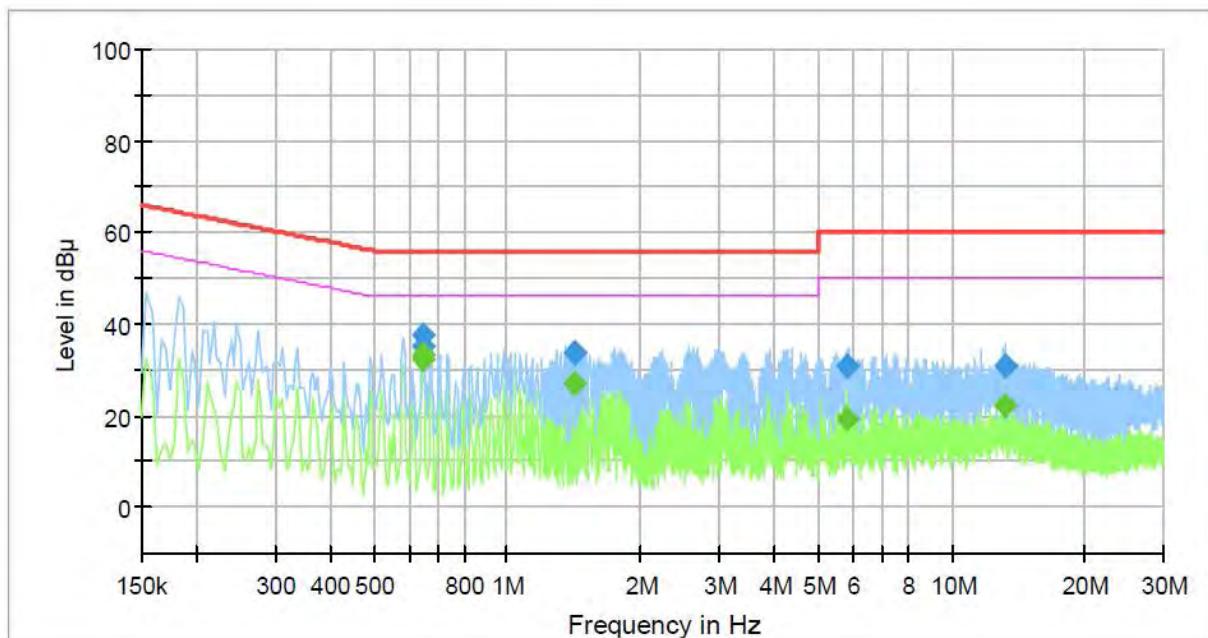
Conducted Emissions at Mains Power Ports

■ Cradle Charge Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	JOMT-AH-21A
Phase:	
Mode:	Charge / FCC
Operator Name:	KES



Final Result

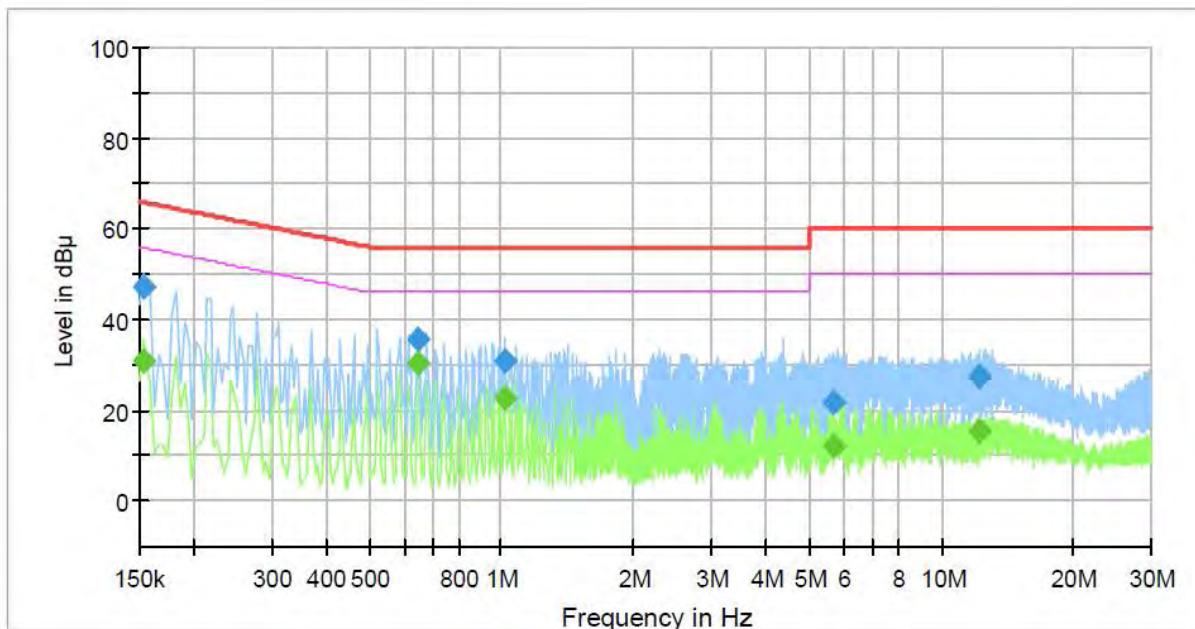
Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.642000	---	33.07	46.00	12.93	1000.0	9.000	L1	20.2
0.642000	37.36	---	56.00	18.64	1000.0	9.000	L1	20.2
0.646000	---	32.09	46.00	13.91	1000.0	9.000	L1	20.2
0.646000	35.28	---	56.00	20.72	1000.0	9.000	L1	20.2
1.410000	---	27.05	46.00	18.95	1000.0	9.000	L1	20.5
1.410000	33.87	---	56.00	22.13	1000.0	9.000	L1	20.5
5.790000	---	19.47	50.00	30.53	1000.0	9.000	L1	20.0
5.790000	31.03	---	60.00	28.97	1000.0	9.000	L1	20.0
13.138000	---	21.98	50.00	28.02	1000.0	9.000	L1	20.6
13.138000	30.96	---	60.00	29.04	1000.0	9.000	L1	20.6

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NEUTRAL LINE

Common Information

Test Description: Conducted Emission
 Model No.: JOMT-AH-21A
 Phase:
 Mode: Charge / FCC
 Operator Name: KES



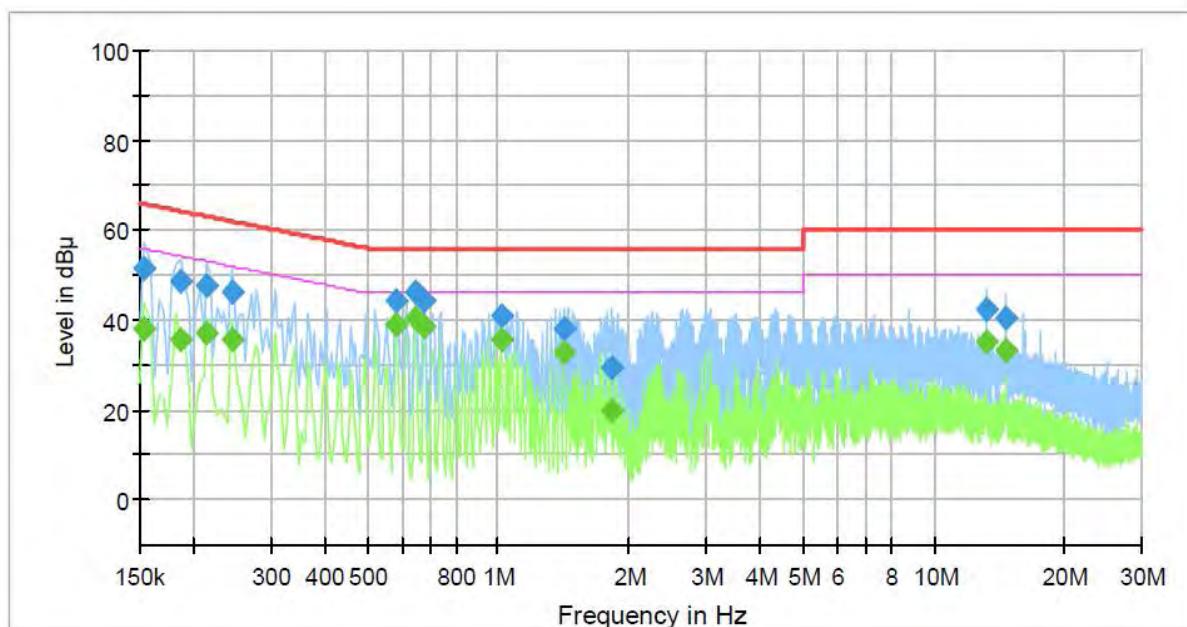
Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154000	---	30.99	55.78	24.79	1000.0	9.000	N	19.7
0.154000	47.16	---	65.78	18.62	1000.0	9.000	N	19.7
0.646000	---	30.56	46.00	15.44	1000.0	9.000	N	20.2
0.646000	35.43	---	56.00	20.57	1000.0	9.000	N	20.2
1.018000	---	22.75	46.00	23.25	1000.0	9.000	N	20.4
1.018000	31.02	---	56.00	24.98	1000.0	9.000	N	20.4
5.670000	---	11.90	50.00	38.10	1000.0	9.000	N	20.0
5.670000	21.68	---	60.00	38.32	1000.0	9.000	N	20.0
12.178000	---	15.35	50.00	34.65	1000.0	9.000	N	20.6
12.178000	27.49	---	60.00	32.51	1000.0	9.000	N	20.6

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■ USB Charge Mode**HOT LINE****Common Information**

Test Description: Conducted Emission
Model No.: JOMT-AH-21A
Phase:
Mode: USB Charge / FCC
Operator Name: KES



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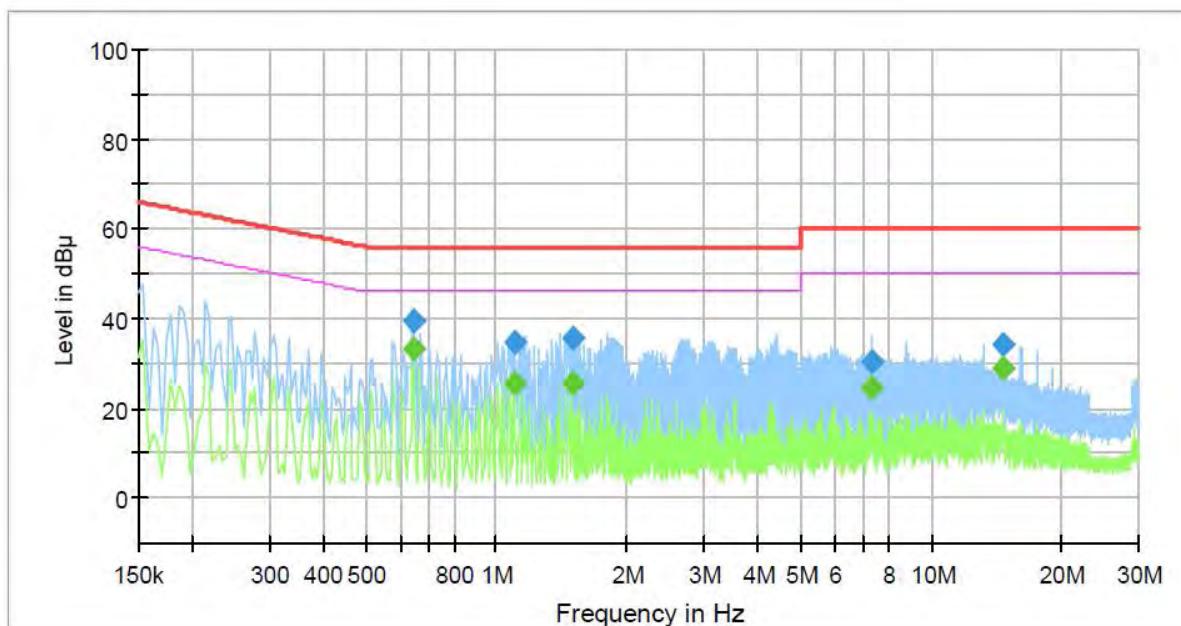
Final_Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154000	51.67	---	65.78	14.11	1000.0	9.000	L1	19.7
0.154000	---	37.99	55.78	17.79	1000.0	9.000	L1	19.7
0.186000	48.44	---	64.21	15.77	1000.0	9.000	L1	19.7
0.186000	---	35.47	54.21	18.74	1000.0	9.000	L1	19.7
0.214000	---	36.94	53.05	16.11	1000.0	9.000	L1	19.8
0.214000	47.60	---	63.05	15.45	1000.0	9.000	L1	19.8
0.246000	---	35.71	51.89	16.18	1000.0	9.000	L1	19.8
0.246000	46.03	---	61.89	15.86	1000.0	9.000	L1	19.8
0.582000	---	38.77	46.00	7.23	1000.0	9.000	L1	20.1
0.582000	44.26	---	56.00	11.74	1000.0	9.000	L1	20.1
0.646000	---	40.60	46.00	5.40	1000.0	9.000	L1	20.2
0.646000	46.42	---	56.00	9.58	1000.0	9.000	L1	20.2
0.674000	---	38.71	46.00	7.29	1000.0	9.000	L1	20.2
0.674000	44.06	---	56.00	11.94	1000.0	9.000	L1	20.2
1.014000	41.00	---	56.00	15.00	1000.0	9.000	L1	20.4
1.014000	---	35.72	46.00	10.28	1000.0	9.000	L1	20.4
1.414000	---	32.61	46.00	13.39	1000.0	9.000	L1	20.5
1.414000	37.92	---	56.00	18.08	1000.0	9.000	L1	20.5
1.814000	---	19.59	46.00	26.41	1000.0	9.000	L1	20.6
1.814000	29.25	---	56.00	26.75	1000.0	9.000	L1	20.6
13.178000	42.32	---	60.00	17.68	1000.0	9.000	L1	20.6
13.178000	---	34.96	50.00	15.04	1000.0	9.000	L1	20.6
14.642000	40.62	---	60.00	19.38	1000.0	9.000	L1	20.6
14.642000	---	33.09	50.00	16.91	1000.0	9.000	L1	20.6

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NEUTRAL LINE
Common Information

Test Description: Conducted Emission
 Model No.: JOMT-AH-21A
 Phase:
 Mode: USB Charge / FCC
 Operator Name: KES


Final_Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.642000	---	33.36	46.00	12.64	1000.0	9.000	N	20.2
0.642000	39.34	---	56.00	16.66	1000.0	9.000	N	20.2
1.098000	---	25.58	46.00	20.42	1000.0	9.000	N	20.4
1.098000	34.45	---	56.00	21.55	1000.0	9.000	N	20.4
1.494000	---	25.64	46.00	20.36	1000.0	9.000	N	20.5
1.494000	35.41	---	56.00	20.59	1000.0	9.000	N	20.5
7.334000	---	24.53	50.00	25.47	1000.0	9.000	N	20.0
7.334000	30.29	---	60.00	29.71	1000.0	9.000	N	20.0
14.662000	---	29.03	50.00	20.97	1000.0	9.000	N	20.6
14.662000	34.34	---	60.00	25.66	1000.0	9.000	N	20.6

◆ Calculation

QuasiPeak[dB μ V] / CAverage [dB μ V] = Reading Value[dB μ V] + Corr. [dB]

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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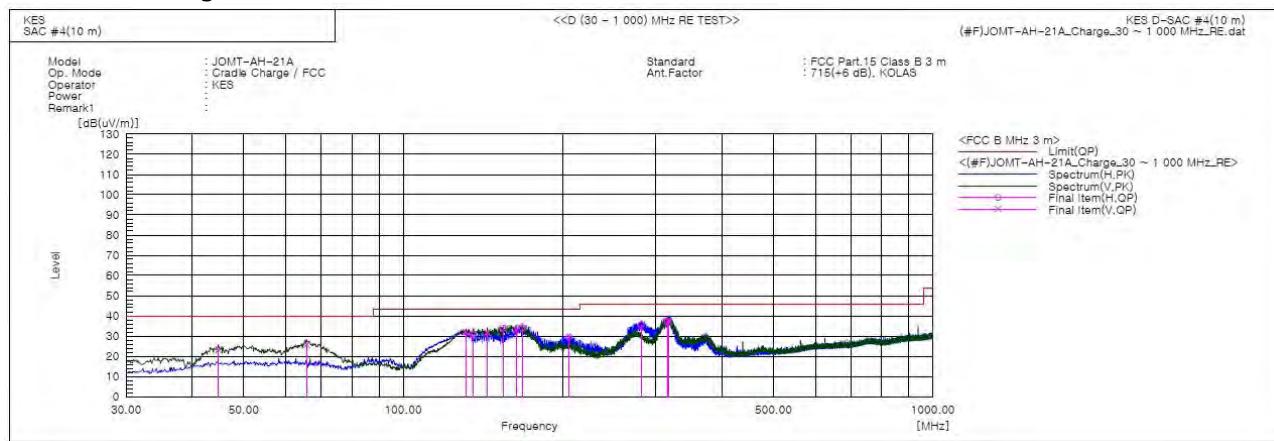
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Radiated Electric Field Emissions(Below 1 GHz)

■ Cradle Charge Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading QP [dB(1/m)]	c.f [dB(uV/m)]	Result QP [dB(uV/m)]	Limit QP [dB]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	44.793	V	45.0	-21.9	23.1	40.0	16.9	113.0	15.0	
2	65.769	V	49.6	-23.9	25.7	40.0	14.3	107.0	259.0	
3	131.365	V	58.0	-25.9	32.1	43.5	11.4	100.0	189.0	
4	135.609	H	57.1	-26.1	31.0	43.5	12.5	398.0	78.0	
5	144.096	V	57.7	-26.0	31.7	43.5	11.8	103.0	52.0	
6	154.524	H	59.5	-25.6	33.9	43.5	9.6	332.0	85.0	
7	163.496	V	58.1	-25.1	33.0	43.5	10.5	127.0	10.0	
8	167.740	H	59.0	-24.9	34.1	43.5	9.4	289.0	59.0	
9	205.691	H	51.1	-21.5	29.6	43.5	13.9	400.0	67.0	
10	281.351	H	55.0	-19.5	35.5	46.0	10.5	264.0	279.0	
11	314.938	H	55.5	-18.1	37.4	46.0	8.6	135.0	245.0	
12	316.999	V	55.2	-18.0	37.2	46.0	8.8	136.0	67.0	

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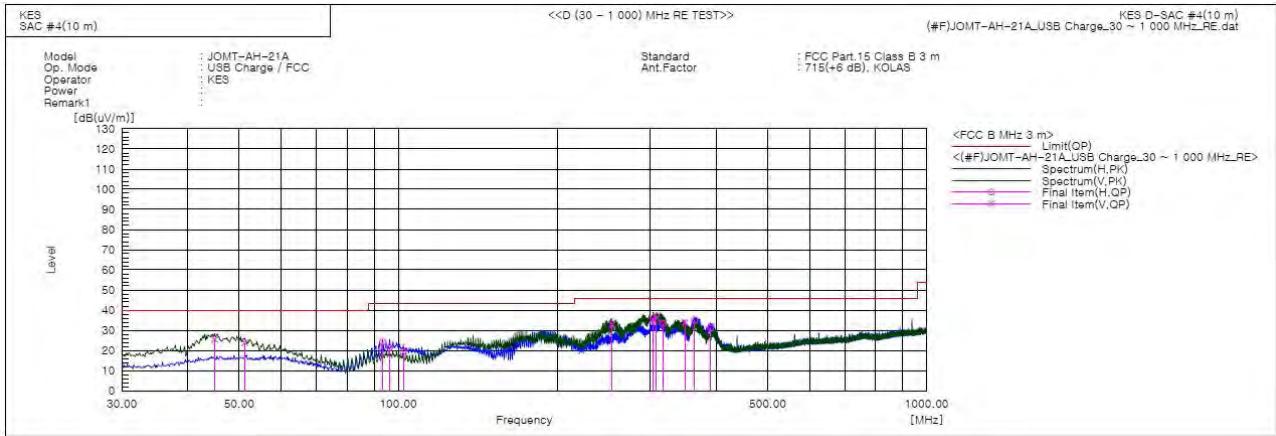


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■ USB Charge Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading QP [dB(1/m)]	c.f [dB(uV/m)]	Result QP [dB(uV/m)]	Limit QP [dB]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	44.914	V	47.4	-21.9	25.5	40.0	14.5	106.0	256.0	
2	51.219	V	45.3	-21.5	23.8	40.0	16.2	110.0	206.0	
3	93.414	H	48.5	-24.3	24.2	43.5	19.3	400.0	211.0	
4	96.324	H	45.2	-23.8	21.4	43.5	22.1	400.0	19.0	
5	102.265	H	42.5	-23.1	19.4	43.5	24.1	399.0	170.0	
6	253.828	V	52.7	-19.9	32.8	46.0	13.2	138.0	306.0	
7	303.298	V	54.3	-18.8	35.5	46.0	10.5	105.0	332.0	
8	307.905	V	54.6	-18.5	36.1	46.0	9.9	112.0	234.0	
9	316.756	H	51.3	-18.0	33.3	46.0	12.7	400.0	34.0	
10	348.645	V	50.3	-16.4	33.9	46.0	12.1	100.0	317.0	
11	363.559	H	51.2	-16.2	35.0	46.0	11.0	366.0	87.0	
12	389.870	H	46.8	-15.7	31.1	46.0	14.9	392.0	95.0	

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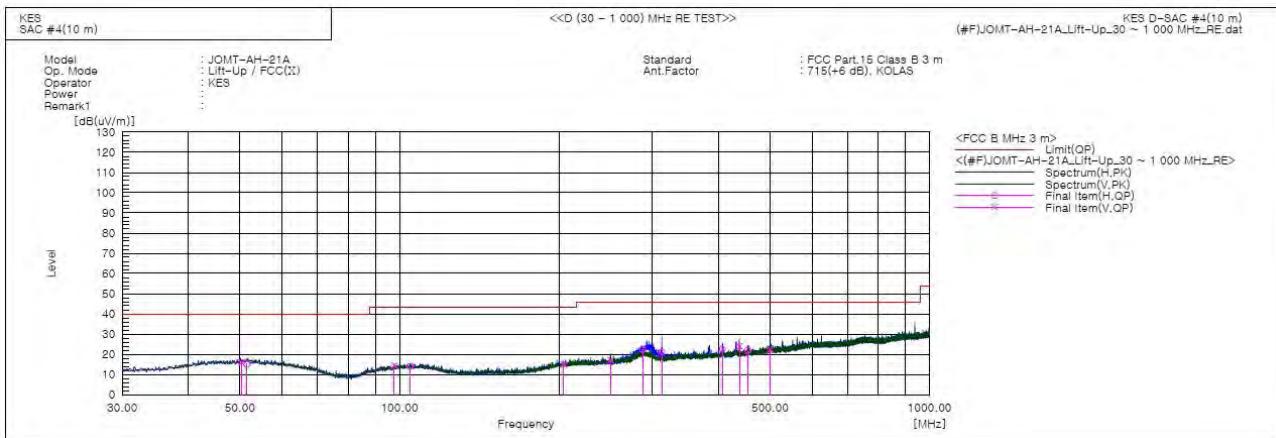


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■ Lift-Up Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height [cm]	Angle [deg]	Remark
1	50.370	V	37.4	-21.5	15.9	40.0	24.1	100.0	29.0	
2	51.583	H	36.6	-21.5	15.1	40.0	24.9	400.0	93.0	
3	97.779	V	37.8	-23.4	14.4	43.5	29.1	116.0	271.0	
4	104.811	H	37.0	-23.0	14.0	43.5	29.5	400.0	353.0	
5	203.994	V	36.4	-21.5	14.9	43.5	28.6	175.0	327.0	
6	249.948	V	37.1	-20.0	17.1	46.0	28.9	130.0	170.0	
7	287.535	H	41.8	-19.4	22.4	46.0	23.6	400.0	68.0	
8	312.513	H	39.5	-18.3	21.2	46.0	24.8	396.0	60.0	
9	406.845	H	37.9	-15.3	22.6	46.0	23.4	400.0	268.0	
10	437.521	V	38.7	-14.7	24.0	46.0	22.0	119.0	282.0	
11	453.648	H	36.2	-14.3	21.9	46.0	24.1	371.0	245.0	
12	499.965	V	35.4	-13.0	22.4	46.0	23.6	100.0	252.0	

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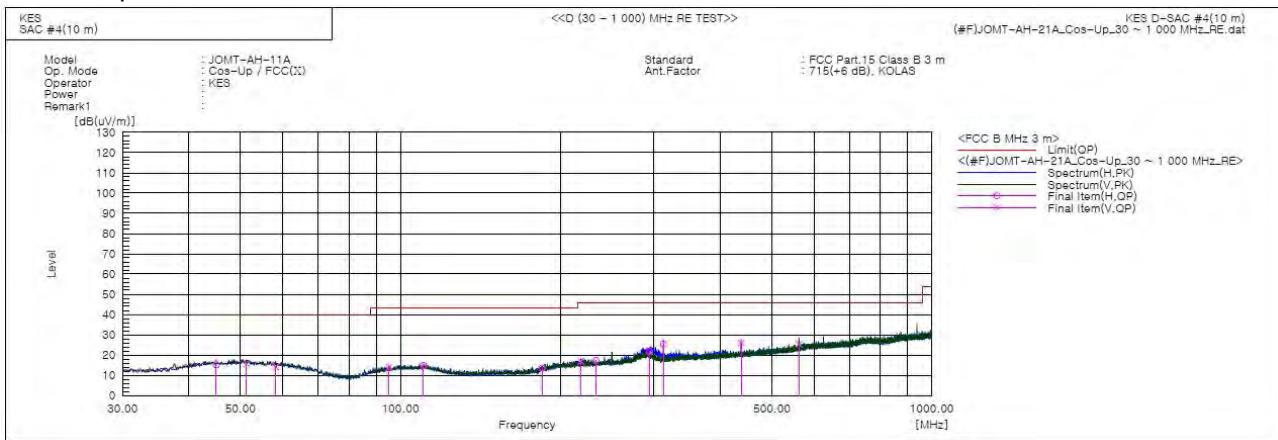


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■ Cos-Up Mode



Final Result

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle	Remark
	[MHz]		[dB(uV)]	[dB(1/m)]	[dB(uV/m)]	[dB(uV/m)]	[dB]	[cm]	[deg]	
1	45.035	H	37.0	-21.9	15.1	40.0	24.9	400.0	126.0	
2	51.340	V	37.3	-21.5	15.8	40.0	24.2	110.0	339.0	
3	58.251	V	36.4	-22.2	14.2	40.0	25.8	102.0	269.0	
4	95.233	V	38.1	-24.0	14.1	43.5	29.4	128.0	186.0	
5	110.510	H	37.9	-23.0	14.9	43.5	28.6	400.0	86.0	
6	184.715	H	37.2	-23.6	13.6	43.5	29.9	337.0	90.0	
7	218.665	V	38.0	-21.1	16.9	46.0	29.1	219.0	219.0	
8	233.336	H	38.0	-20.6	17.4	46.0	28.6	296.0	282.0	
9	294.083	H	41.1	-19.2	21.9	46.0	24.1	384.0	109.0	
10	312.513	H	43.7	-18.3	25.4	46.0	20.6	400.0	245.0	
11	437.521	V	40.7	-14.7	26.0	46.0	20.0	112.0	89.0	
12	562.530	V	36.8	-11.3	25.5	46.0	20.5	100.0	311.0	

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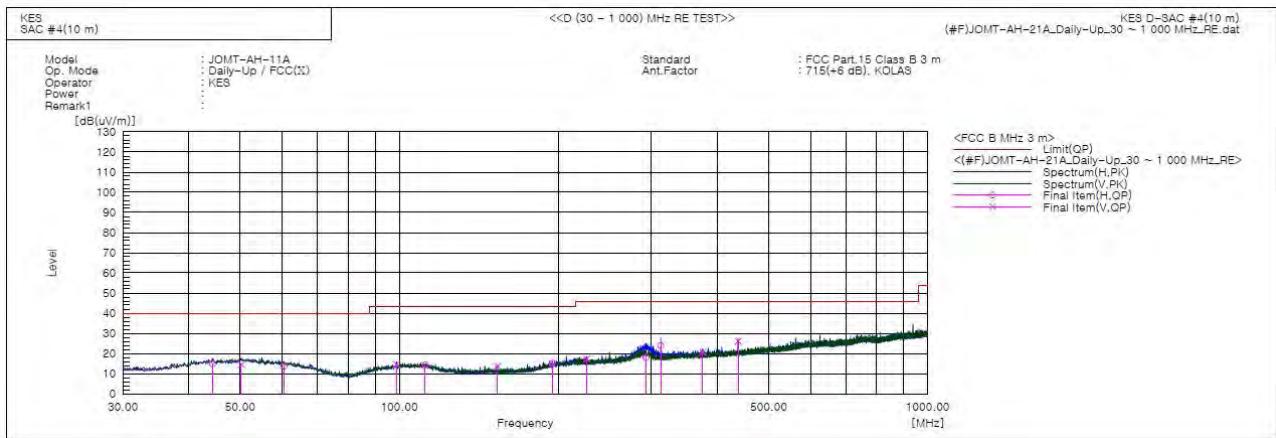


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■ Daily-Up Mode



Final Result

No.	Frequency	(P)	Reading QP	c.f	Result QP	Limit QP	Margin QP	Height	Angle	Remark
	[MHz]		[dB(uV)]	[dB(1/m)]	[dB(uV/m)]	[dB(uV/m)]	[dB]	[cm]	[deg]	
1	44.308	H	36.8	-21.9	14.9	40.0	25.1	331.0	228.0	
2	50.249	V	36.1	-21.5	14.6	40.0	25.4	103.0	89.0	
3	60.555	H	36.3	-22.6	13.7	40.0	26.3	399.0	49.0	
4	98.870	V	37.8	-23.2	14.6	43.5	28.9	107.0	137.0	
5	111.965	H	37.5	-23.1	14.4	43.5	29.1	400.0	282.0	
6	153.311	V	39.2	-25.6	13.6	43.5	29.9	129.0	108.0	
7	194.779	H	37.3	-22.0	15.3	43.5	28.2	249.0	67.0	
8	226.304	V	38.2	-20.8	17.4	46.0	28.6	177.0	197.0	
9	292.870	H	37.2	-19.2	18.0	46.0	28.0	400.0	86.0	
10	312.513	H	42.2	-18.3	23.9	46.0	22.1	382.0	53.0	
11	374.956	V	36.7	-16.0	20.7	46.0	25.3	160.0	156.0	
12	437.521	V	40.8	-14.7	26.1	46.0	19.9	100.0	100.0	

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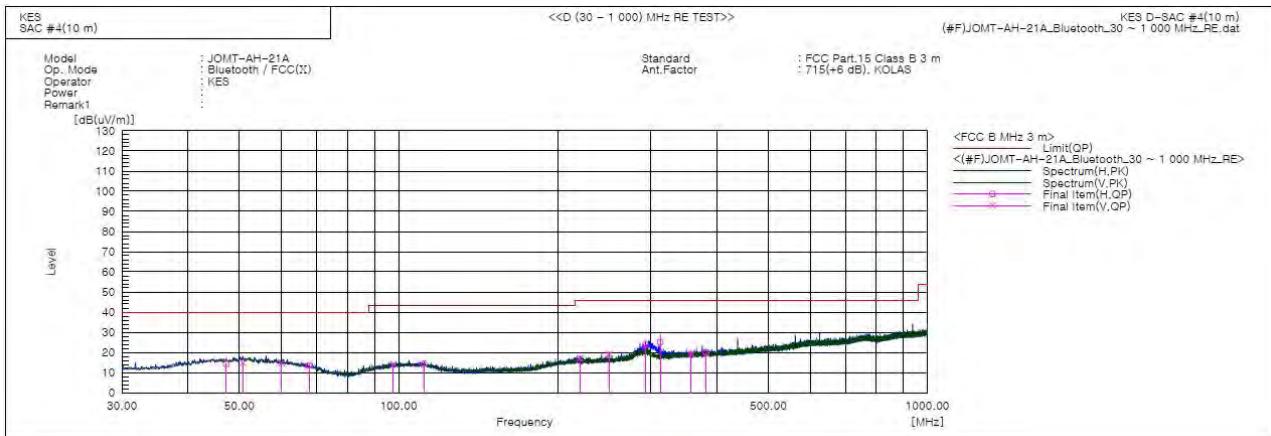


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■ Bluetooth Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading QP [dB(1/m)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	47.218	H 35.8	-21.6	14.2	40.0	25.8	392.0	104.0		
2	50.734	V 36.4	-21.5	14.9	40.0	25.1	100.0	204.0		
3	60.070	V 37.2	-22.5	14.7	40.0	25.3	100.0	196.0		
4	67.709	H 38.0	-24.5	13.5	40.0	26.5	400.0	234.0		
5	97.779	V 37.6	-23.4	14.2	43.5	29.3	110.0	10.0		
6	111.723	H 37.4	-23.0	14.4	43.5	29.1	382.0	124.0		
7	220.120	V 38.3	-21.1	17.2	46.0	28.8	107.0	186.0		
8	249.948	V 39.1	-20.0	19.1	46.0	26.9	120.0	149.0		
9	292.749	H 43.0	-19.2	23.8	46.0	22.2	309.0	245.0		
10	312.513	H 43.4	-18.3	25.1	46.0	20.9	228.0	127.0		
11	357.496	V 35.5	-16.3	19.2	46.0	26.8	127.0	268.0		
12	380.898	H 35.8	-15.8	20.0	46.0	26.0	400.0	127.0		

it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

♦ Calculation – SAC #4(10 m)

$$\text{Result(QP)} [\text{dB}(\mu\text{V}/\text{m})] = (\text{Reading(QP)} [\text{dB}(\mu\text{V})] + \text{c.f} [\text{dB}(1/\text{m})])$$

$$\text{Margin(QP)} [\text{dB}] = \text{Limit} [\text{dB}(\mu\text{V}/\text{m})] - \text{Result(QP)} [\text{dB}(\mu\text{V}/\text{m})]$$

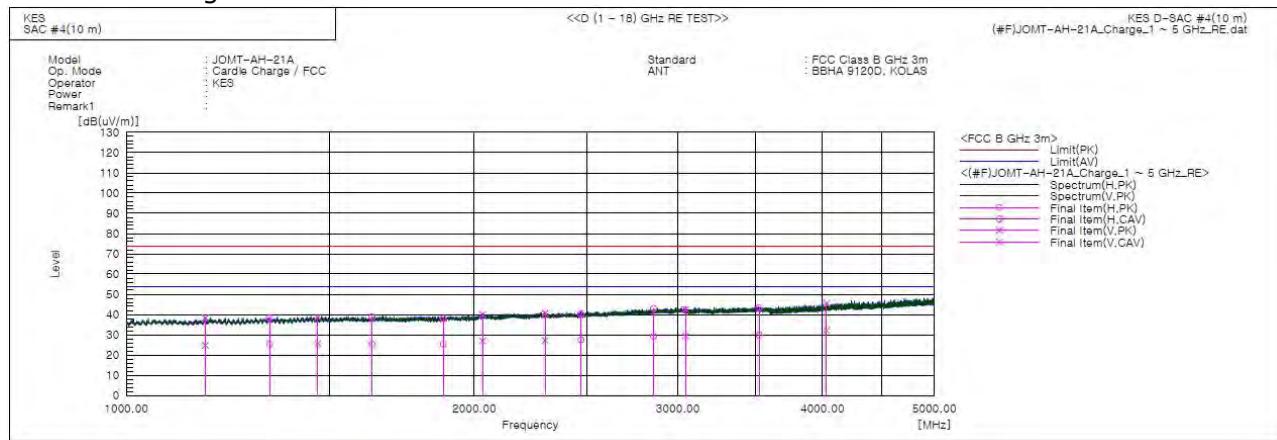
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value



Radiated Electric Field Emissions(Above 1 GHz)

■ Cradle Charge Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading PK [dB(uV)]	Reading CAV [dB(1/m)]	c.f.	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1170.142	V	42.7	29.2	-4.4	38.3	24.8	74.0	54.0	35.7	29.2	112.0	290.0	
2	1330.136	H	41.7	28.8	-3.4	38.3	25.4	74.0	54.0	35.7	28.6	398.0	312.0	
3	1464.043	V	41.4	28.4	-2.7	38.7	25.7	74.0	54.0	35.3	28.3	100.0	89.0	
4	1631.305	H	40.7	27.3	-1.9	38.8	25.4	74.0	54.0	35.2	28.6	377.0	141.0	
5	1879.533	H	38.9	26.1	-0.8	38.1	25.3	74.0	54.0	35.9	28.7	400.0	34.0	
6	2033.127	V	40.2	27.0	-0.1	40.1	26.9	74.0	54.0	33.9	27.1	200.0	211.0	
7	2302.227	V	39.3	25.9	1.3	40.6	27.2	74.0	54.0	33.4	26.8	200.0	341.0	
8	2474.168	H	38.2	25.3	2.2	40.4	27.5	74.0	54.0	33.6	26.5	390.0	74.0	
9	2857.502	H	39.1	25.3	3.9	43.0	29.2	74.0	54.0	31.0	24.8	400.0	11.0	
10	3045.109	V	37.9	24.7	4.7	42.6	29.4	74.0	54.0	31.4	24.6	100.0	18.0	
11	3526.905	H	37.4	24.0	5.9	43.3	29.9	74.0	54.0	30.7	24.1	400.0	278.0	
12	4032.909	V	36.9	23.4	8.7	45.6	32.1	74.0	54.0	28.4	21.9	111.0	156.0	

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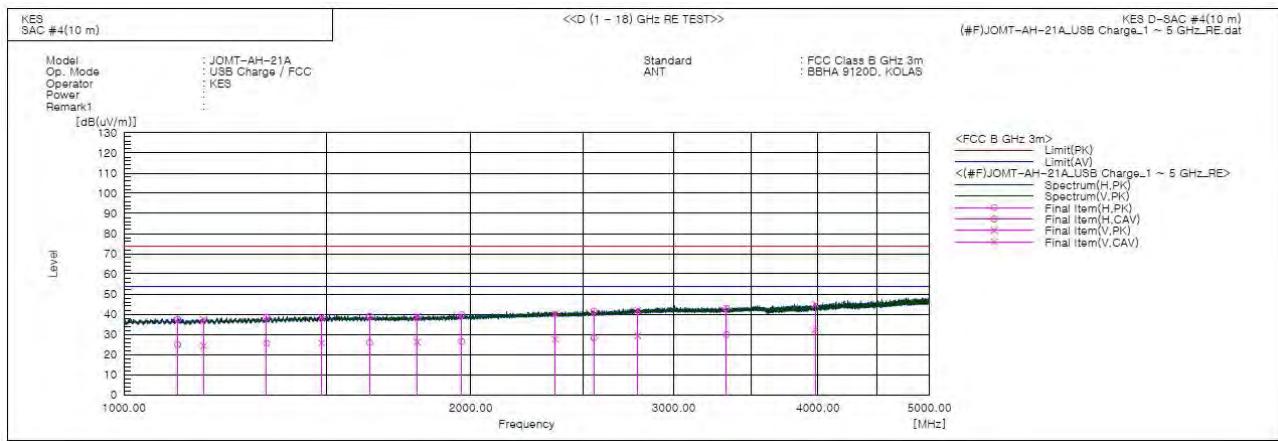


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■ USB Charge Mode



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f	Result PK [dB(1/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1113.147	H	42.3	29.5	-4.7	37.6	24.8	74.0	54.0	36.4	29.2	386.0	164.0	
2	1172.420	V	41.9	28.8	-4.4	37.5	24.4	74.0	54.0	36.5	29.6	115.0	173.0	
3	1329.577	H	41.9	29.0	-3.4	38.5	25.6	74.0	54.0	35.5	28.4	294.0	194.0	
4	1484.309	V	41.0	28.3	-2.6	38.4	25.7	74.0	54.0	35.6	28.3	204.0	229.0	
5	1633.071	H	40.8	27.8	-1.9	38.9	25.9	74.0	54.0	35.1	28.1	362.0	140.0	
6	1796.926	V	40.1	27.3	-1.1	39.0	26.2	74.0	54.0	35.0	27.8	139.0	10.0	
7	1963.438	H	40.1	26.8	-0.4	39.7	26.4	74.0	54.0	34.3	27.6	330.0	41.0	
8	2366.010	V	38.6	26.0	1.7	40.3	27.7	74.0	54.0	33.7	26.3	100.0	279.0	
9	2557.563	H	39.0	25.6	2.6	41.6	28.2	74.0	54.0	32.4	25.8	400.0	299.0	
10	2790.944	V	38.5	25.8	3.5	42.0	29.3	74.0	54.0	32.0	24.7	109.0	1.0	
11	3332.463	H	37.4	24.4	5.5	42.9	29.9	74.0	54.0	31.1	24.1	397.0	122.0	
12	3980.184	V	36.6	23.9	8.4	45.0	32.3	74.0	54.0	29.0	21.7	100.0	332.0	

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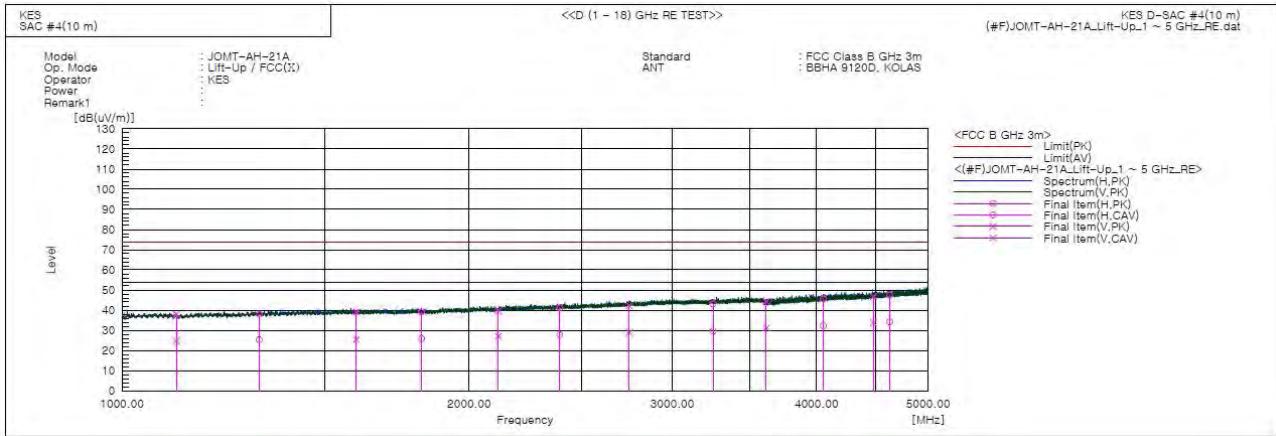


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■ Lift-Up Mode



Final Result

No.	Frequency [MHz]	(P)	Reading	Reading	c.f.	Result	Result	Limit	Limit	Margin	Margin	Height	Angle	Remark
			PK [dB(uV)]	CAV [dB(uV)]	[dB(1/m)]	PK [dB(uV/m)]	CAV [dB(uV/m)]	PK [dB(uV/m)]	AV [dB(uV/m)]	PK [dB]	[dB]	[cm]	[deg]	
1	1114.521	V	42.7	29.5	-4.7	38.0	24.8	74.0	54.0	36.0	29.2	115.0	7.0	
2	1315.075	H	41.5	28.9	-3.5	38.0	25.4	74.0	54.0	36.0	28.6	359.0	312.0	
3	1596.115	V	41.1	27.6	-2.0	39.1	25.6	74.0	54.0	34.9	28.4	112.0	59.0	
4	1818.399	H	40.1	26.9	-1.0	39.1	25.9	74.0	54.0	34.9	28.1	400.0	222.0	
5	2119.502	V	39.4	26.7	0.3	39.7	27.0	74.0	54.0	34.3	27.0	110.0	130.0	
6	2396.409	H	39.3	26.1	1.8	41.1	27.9	74.0	54.0	32.9	26.1	392.0	166.0	
7	2753.265	V	38.6	25.5	3.4	42.0	28.9	74.0	54.0	32.0	25.1	129.0	264.0	
8	3253.566	H	37.8	24.4	5.2	43.0	29.6	74.0	54.0	31.0	24.4	390.0	185.0	
9	3618.115	V	38.1	24.9	6.3	44.4	31.2	74.0	54.0	29.6	22.8	109.0	14.0	
10	4055.777	H	36.8	23.5	8.8	45.6	32.3	74.0	54.0	28.4	21.7	400.0	6.0	
11	4481.220	V	36.6	23.7	10.1	46.7	33.8	74.0	54.0	27.3	20.2	214.0	344.0	
12	4629.109	H	36.4	23.1	11.1	47.5	34.2	74.0	54.0	26.5	19.8	197.0	215.0	

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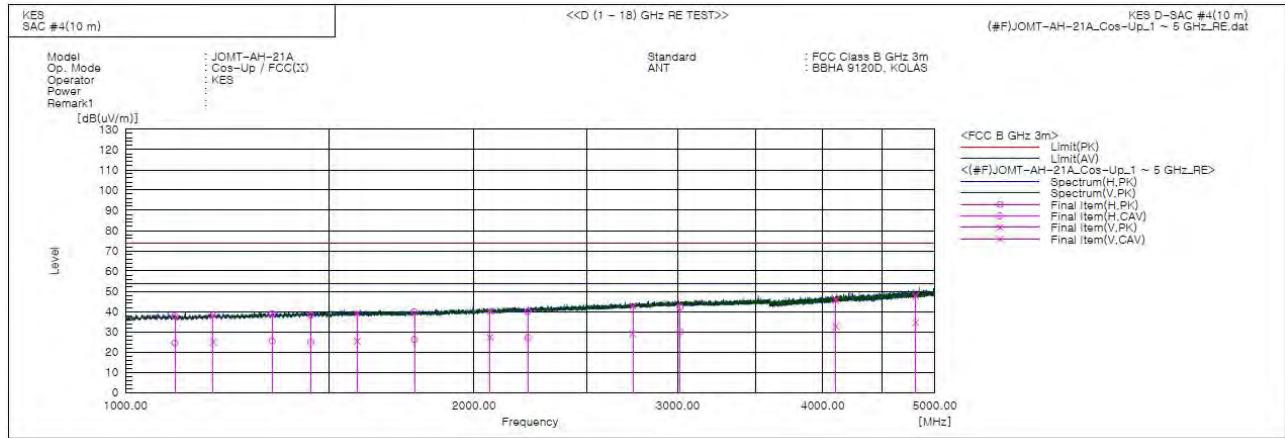


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■ Cos-Up Mode



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f. [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1103.578	H 42.5	42.5	29.3	-4.8	37.7	24.5	74.0	54.0	36.3	29.5	384.0	32.0	
2	1190.427	V 42.4	42.4	29.1	-4.3	38.1	24.8	74.0	54.0	35.9	29.2	112.0	248.0	
3	1338.332	H 42.4	42.4	28.9	-3.4	39.0	25.5	74.0	54.0	35.0	28.5	390.0	114.0	
4	1445.487	H 41.0	41.0	27.6	-2.8	38.2	24.8	74.0	54.0	35.8	29.2	400.0	218.0	
5	1585.095	V 41.2	41.2	27.5	-2.1	39.1	25.4	74.0	54.0	34.9	28.6	100.0	308.0	
6	1776.509	H 41.1	41.1	27.4	-1.2	39.9	26.2	74.0	54.0	34.1	27.8	388.0	125.0	
7	2064.517	V 40.0	40.0	27.1	0.1	40.1	27.2	74.0	54.0	33.9	26.8	100.0	74.0	
8	2226.110	H 39.0	39.0	26.1	0.9	39.9	27.0	74.0	54.0	34.1	27.0	358.0	84.0	
9	2742.262	V 39.3	39.3	25.7	3.3	42.6	29.0	74.0	54.0	31.4	25.0	100.0	178.0	
10	3011.711	H 37.6	37.6	25.4	4.6	42.2	30.0	74.0	54.0	31.8	24.0	299.0	259.0	
11	4107.110	V 36.6	36.6	23.7	9.0	45.6	32.7	74.0	54.0	28.4	21.3	178.0	141.0	
12	4812.846	V 36.1	36.1	22.9	11.6	47.7	34.5	74.0	54.0	26.3	19.5	117.0	200.0	

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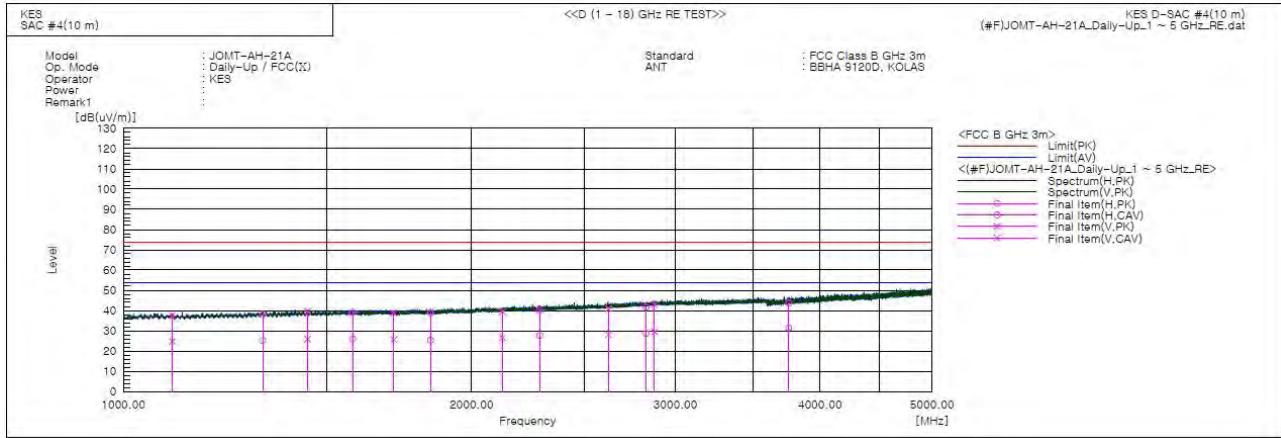


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■ Daily-Up Mode



Final Result

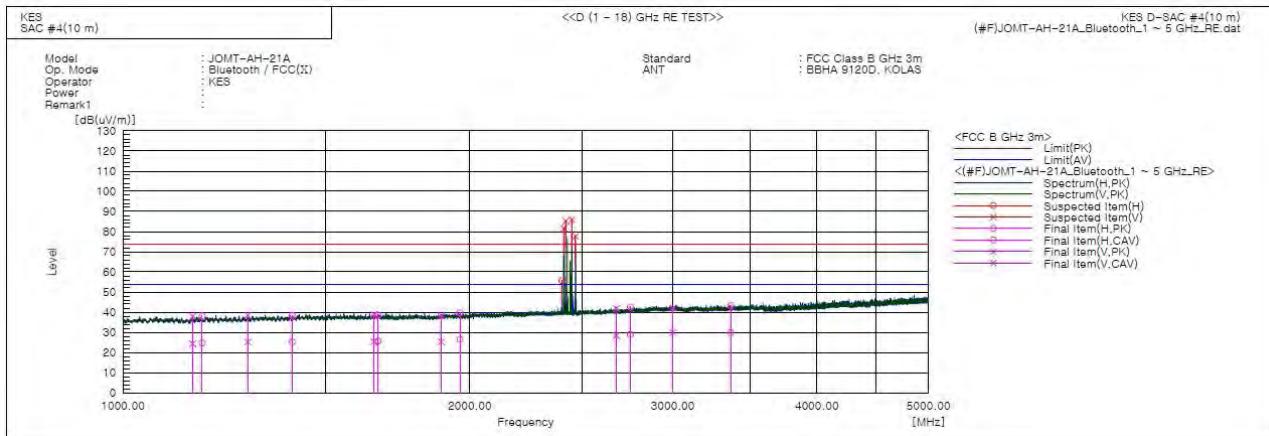
No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f.	Result PK [dB(1/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1102.177	V	42.4	29.6	-4.8	37.6	24.8	74.0	54.0	36.4	29.2	105.0	166.0	
2	1319.387	H	41.6	28.8	-3.5	38.1	25.3	74.0	54.0	35.9	28.7	298.0	29.0	
3	1442.525	V	42.6	28.7	-2.8	39.8	25.9	74.0	54.0	34.2	28.1	169.0	244.0	
4	1578.179	H	41.3	28.0	-2.1	39.2	25.9	74.0	54.0	34.8	28.1	200.0	308.0	
5	1712.380	V	40.4	27.2	-1.5	38.9	25.7	74.0	54.0	35.1	28.3	100.0	36.0	
6	1842.559	H	39.7	26.3	-0.9	38.8	25.4	74.0	54.0	35.2	28.6	400.0	256.0	
7	2126.209	V	39.0	26.2	0.4	39.4	26.6	74.0	54.0	34.6	27.4	200.0	277.0	
8	2289.529	H	38.9	26.5	1.2	40.1	27.7	74.0	54.0	33.9	26.3	400.0	275.0	
9	2625.229	V	38.1	25.4	2.8	40.9	28.2	74.0	54.0	33.1	25.8	200.0	21.0	
10	2830.158	H	38.0	25.0	3.7	41.7	28.7	74.0	54.0	32.3	25.3	385.0	70.0	
11	2876.564	V	38.9	25.5	4.0	42.9	29.5	74.0	54.0	31.1	24.5	200.0	107.0	
12	3759.116	H	36.6	24.2	7.2	43.8	31.4	74.0	54.0	30.2	22.6	200.0	22.0	

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■ Bluetooth Mode

- (1 ~ 5) GHz



Final Result

No.	Frequency [MHz]	(P) [dB(uV)]	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f. [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1149.058	V	42.4	28.9	-4.5	37.9	24.4	74.0	54.0	36.1	29.6	106.0	117.0	
2	1171.374	H	42.6	29.1	-4.4	38.2	24.7	74.0	54.0	35.8	29.3	400.0	326.0	
3	1283.210	V	42.3	29.0	-3.7	38.6	25.3	74.0	54.0	35.4	28.7	116.0	270.0	
4	1402.241	H	41.3	28.3	-3.0	38.3	25.3	74.0	54.0	35.7	28.7	338.0	204.0	
5	1651.062	V	40.8	27.2	-1.8	39.0	25.4	74.0	54.0	35.0	28.6	103.0	181.0	
6	1665.177	H	40.3	27.4	-1.7	38.6	25.7	74.0	54.0	35.4	28.3	347.0	300.0	
7	1888.295	V	39.0	26.0	-0.7	38.3	25.3	74.0	54.0	35.7	28.7	100.0	322.0	
8	1960.557	H	40.1	26.9	-0.4	39.7	26.5	74.0	54.0	34.3	27.5	400.0	118.0	
9	2679.139	V	38.8	25.2	3.1	41.9	28.3	74.0	54.0	32.1	25.7	139.0	173.0	
10	2755.980	H	39.2	25.6	3.4	42.6	29.0	74.0	54.0	31.4	25.0	369.0	215.0	
11	3000.924	V	37.5	25.5	4.5	42.0	30.0	74.0	54.0	32.0	24.0	249.0	233.0	
12	3368.521	H	37.6	24.3	5.6	43.2	29.9	74.0	54.0	30.8	24.1	389.0	78.0	
13	2403.500	H	-----	-----	1.9	-----	-----	74.0	54.0	-----	-----	100.0	133.0	
14	2413.500	V	-----	-----	1.9	-----	-----	74.0	54.0	-----	-----	100.0	251.0	
15	2422.000	V	-----	-----	2.0	-----	-----	74.0	54.0	-----	-----	200.0	270.0	
16	2452.000	V	-----	-----	2.1	-----	-----	74.0	54.0	-----	-----	200.0	289.0	
17	2470.500	V	-----	-----	2.2	-----	-----	74.0	54.0	-----	-----	100.0	32.0	

* Exclusion bands

- Fundamental Frequency : 2.4 GHz Band

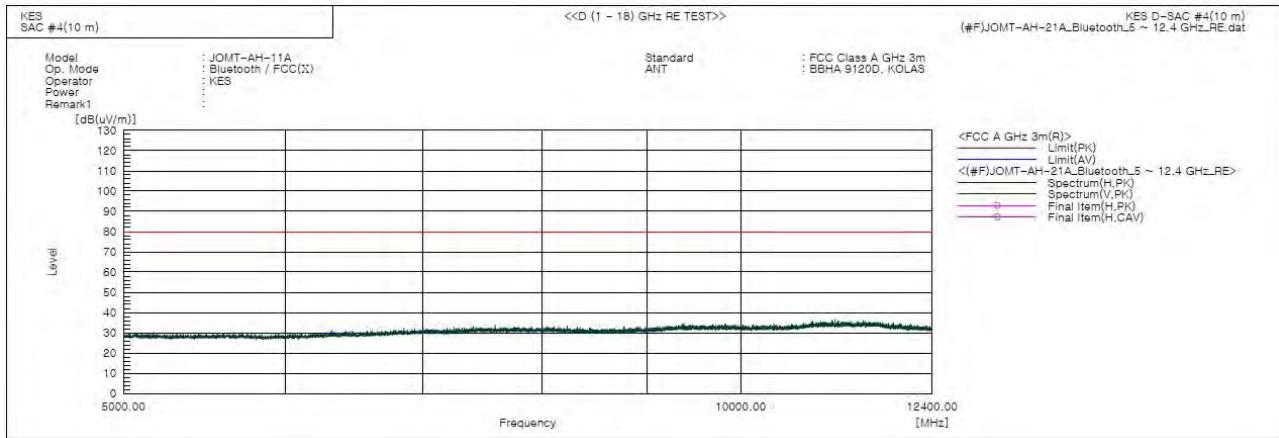


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- (5 ~ 12.4) GHz



* No spurious emission were detected above 5 GHz.

it was determined that X orientation was worst-case orientation; therefore, al final radiated testing was performed with the EUT in X orientation.

◆ Calculation

$$\text{Result(PK/CAV)} [\text{dB}(\mu\text{V}/\text{m})] = (\text{Reading(PK/CAV)} [\text{dB}(\mu\text{V})] + \text{c.f}[\text{dB}(1/\text{m})]$$

$$\text{Margin(PK/CAV)} [\text{dB}] = \text{Limit}[\text{dB}(\mu\text{V}/\text{m})] - \text{Result(PK/CAV)} [\text{dB}(\mu\text{V}/\text{m})]$$

Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

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