

**KES Co., Ltd.**

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Report No.:

KES-E1-19T0560

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EMC TEST REPORT

Test Report No. : KES-E1-19T0560
Date of Issue : Sep. 19, 2019
Product name : Borescope
Model/Type No. : GBS-101
Variant Mode : GBU-101
Applicant : G.I.T CO.,LTD
Applicant Address : 87, Macheon-ro, Songpa-gu, Seoul, Republic of Korea
Manufacturer : G.I.T CO.,LTD
Manufacturer Address : 87, Macheon-ro, Songpa-gu, Seoul, Republic of Korea
FCC ID : TMGG0DKDNN041
Date of Receipt : Feb. 28, 2019
Test date : Sep. 05, 2019 ~ Sep. 06, 2019
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dae Hyun, Kim
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Sep. 19, 2019	KES-E1-19T0560	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Item	The details
Camera	2EA [Front(0°), Side(90°)]
Resolution	C-MOS [640X480,800X600,1280X960]
Lens	Angle of view: 67° / Iris: F2.8 None AF/Anti-fog coating
Focal length	9.5~300 mm
LED	White Chip LED 6EA
Outer diameter	Camera Head Ø8.2 Camera Joint Wire Ø8.0
Product length	1M
Magnetic holder	2 EA [Front(0°), Side(90°)]
3-part assembly	Camera / Flexible Tube / Body
Brightness adjustment	Implemented in Hardware (Step 3)
Camera connection method	Wi-Fi Direct (Wireless LAN IEEE 802.11 b/g/n) USB (UVC 1.1)
Battery capacity	2,600mAh
Use temperature	-20℃ ~ +70℃
Dustproof / Waterproof	IP64

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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.

Voltage ☐ 230 Vac ☒ 120 Vac ☐ 12 Vdc ☐ DC 3.7 V (Battery)

Frequency ☐ 50 Hz ☒ 60 Hz ☐ Hz

1.2 Variant Model Differences

Model addition by manufacturer classification

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Borescope	GBS-101	-	Aram Huvis Co.,LTD.	EUT
Adapter	SK21G-05002002	-	SIMSULKIAN	
Lens 1	-	-	-	
Lens 2	-	-	-	

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Tablet PC	SM-T536	-	Samsung Electronics Co., Ltd.,	-

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1.6 External I/O Cabling

■ Wireless-Lens 1 / Wireless-Lens 2 Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Borescope (EUT)	Wireless	Tablet PC	Wireless	-	-

■ Cable-Lens 1 / Cable-Lens 2 Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Borescope (EUT)	Micro 5 Pin	Tablet PC	Micro 5 Pin	1.6	U

■ Charge Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Borescope (EUT)	DC Jack	Adapter	USB	1.6	U

1.7 EUT Operating Mode(s)

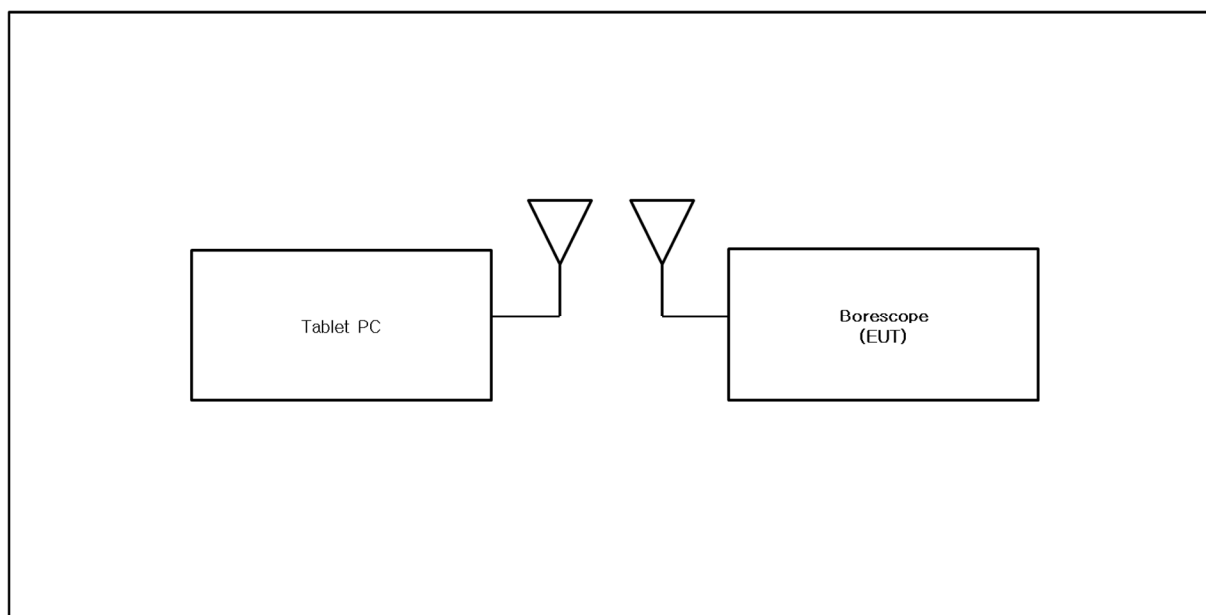
Test mode	operating
Wireless-Lens 1 / Wireless-Lens 2	1. Wifi connection of EUT and Tablet PC. 2. The Tablet PC program confirmed the operation.
Cable-Lens 1 / Cable-Lens 2	1. Cable connection of EUT and Tablet PC. 2. The Tablet PC program confirmed the operation.
Charge	1. Confirmed the charge of EUT through LED.

EUT Test operating S/W		
Name	Version	Manufacture Company
GITStarter	-	-

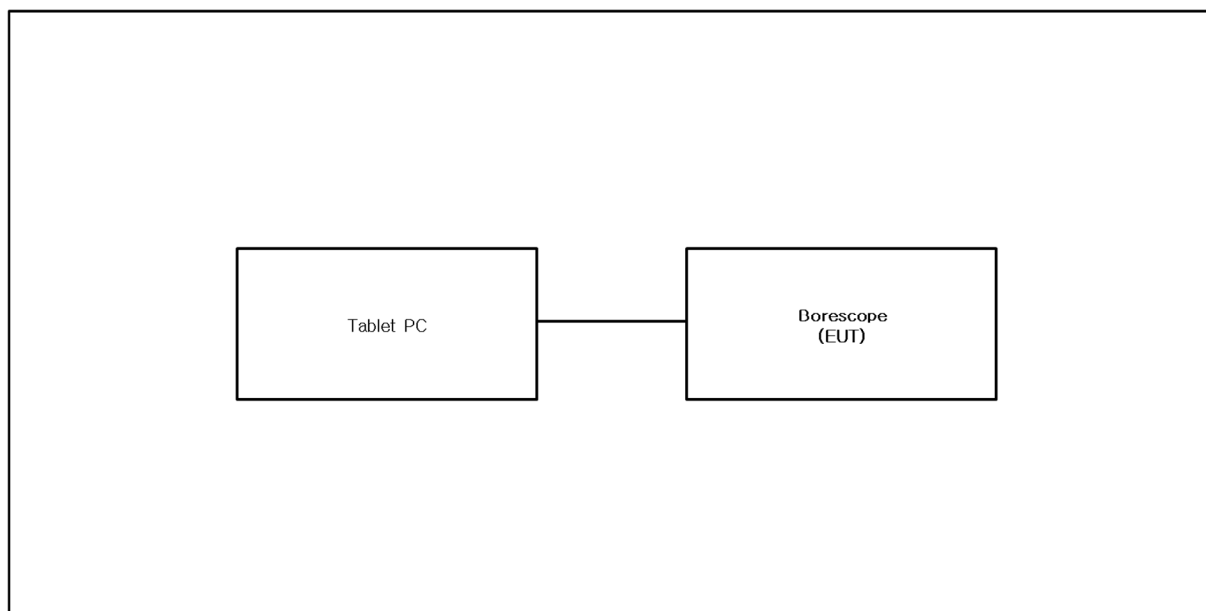
1.8 Configuration

- AC Main
- DC Main

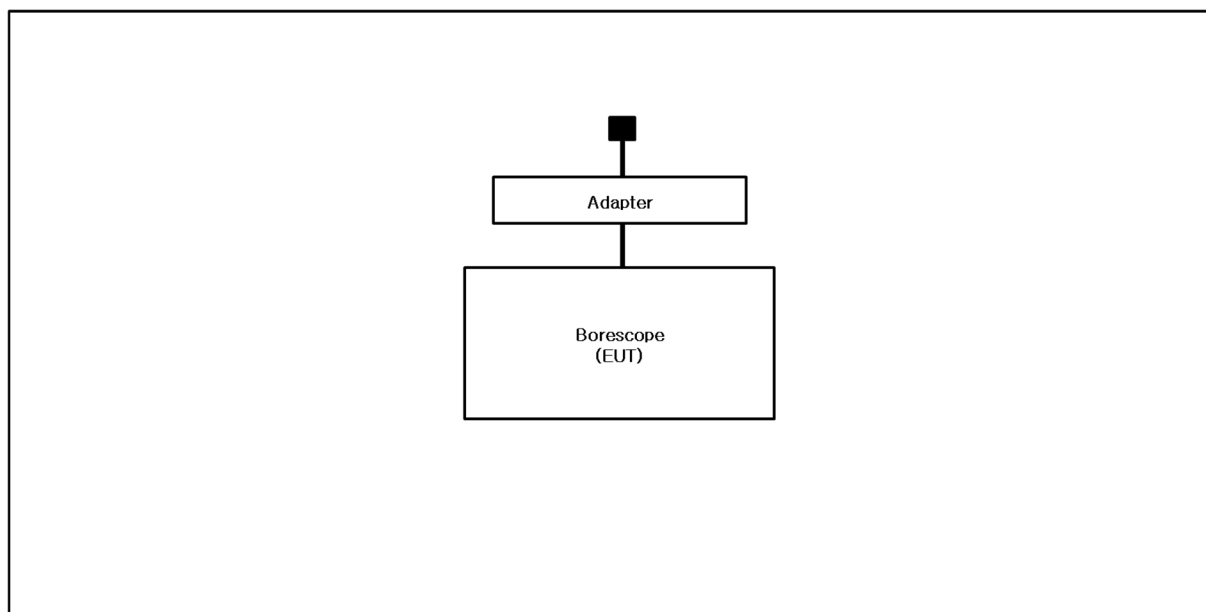
■ Wireless-Lens 1 / Wireless-Lens 2 Mode



■ Cable-Lens 1 / Cable-Lens 2 Mode



■ Charge 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, Yeosu-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4:2014 and CISPR 16-1-4:2012

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	RRA	EMI (3 m & 10 m Semi-Aechoic 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-Aechoic Chamber, and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KT489
USA	FCC	3 m & 10 m Semi-Aechoic Chamber, 10 m Open Area and Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Aechoic 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-Aechoic Chamber, 10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0003



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

☐ Group 1
☐ Class A

☐ Group 2
☐ Class B

☐ EN 55014-1:2006 +A2:2011

☐ EN 55014-2:1997 +A2:2008

☐ EN 55015:2013

☐ EN 55032:2015

☐ Class A

☐ Class B

☐ EN 55024:2010

☐ EN 50130-4:2011 +A1:2014

☐ EN 61000-3-2:2014

☐ EN 61000-3-3:2013

☐ EN 61326-1:2013



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☐ **VCCI V-3 / 2015.04**

☐ Class A

☐ Class B

☐ **AS/NZS:2013**

☐ Class A

☐ Class B

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4-2014

☒ Class A

☐ Class B

☐ **IC Regulation ICES-003 : 2016**

☐ CAN/CSA CISPR 22-10

☐ Class A

☐ Class B

☐ ANSI C63.4-2014

☐ Class A

☐ Class B

☐ **RE- Directive 2014/53/EU**

☐ EN 301 489-1 V1.9.2

☐ Equipment for fixed use

☐ Equipment for vehicular use

☐ Equipment for portable use

☐ EN 301 489-3 V1.6.1

☐ EN 301 489-17 V2.2.1

☐ EN 60945:2002

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Sep. 05, 2019

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101781	04, 22, 2020
☒	LISN	ENV216	R & S	101787	01, 04, 2020
☐	LISN	ESH2-Z5	R & S	100450	04, 22, 2020
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 26, 2019

Test Conditions

Temperature: 23.5 °C
Relative Humidity: 50.7 % 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

RemarksSee Appendix A for test data.

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2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Sep. 05, 2019

Test Location

☐ OPEN AREA TEST SITE #2

☒ SEMI ANECHOIC CHAMBER #4(10 m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	04, 09, 2020
☒	AMPLIFIER	SCU 01	R & S	100603	11, 26, 2019
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 29, 2020
☒	ATTENUATOR	8491A	HP	32173	03, 11, 2020

Test Conditions

Temperature: 25.0 °C

Relative Humidity: 47.4 % 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 three orthogonal orientations X, Y and Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Sep. 06, 2019

Test Location

SEMI ANECHOIC CHAMBER #4(10 m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	04, 09, 2020
☒	PREAMPLIFIER	8449B	AGILENT	3008A01742	01, 08, 2020
☒	ATTENUATOR	8491A	HP	35496	03, 11, 2020
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 12, 2021

Test Conditions

Temperature: 24.1 °C
Relative Humidity: 51.0 % R.H.

Frequency Range of Measurement

1 GHz to 12.5 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, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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APPENDIX A – TEST DATA

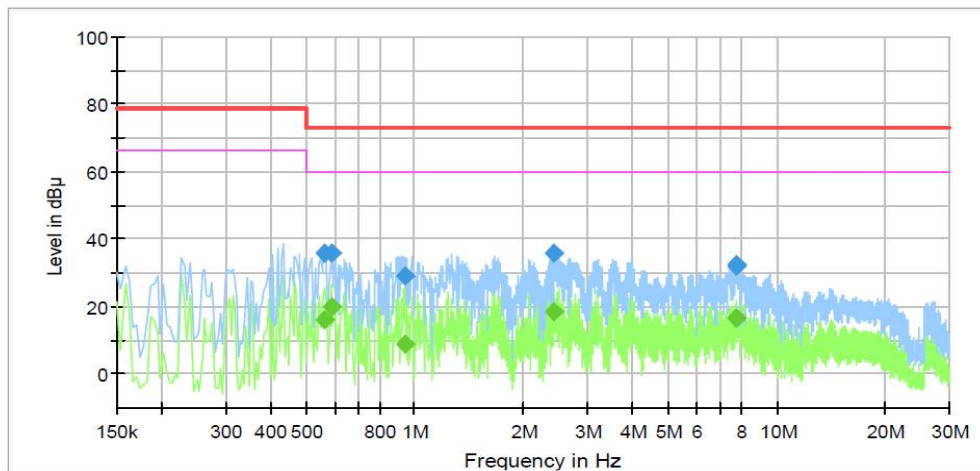
Conducted Emissions at Mains Power Ports

■ Charge Mode

HOT LINE

Common Information

Test Description: Conducted Emission
Model No.: GBS-101
Phase:
Mode: Charge / FCC
Operator Name: KES



Final Result

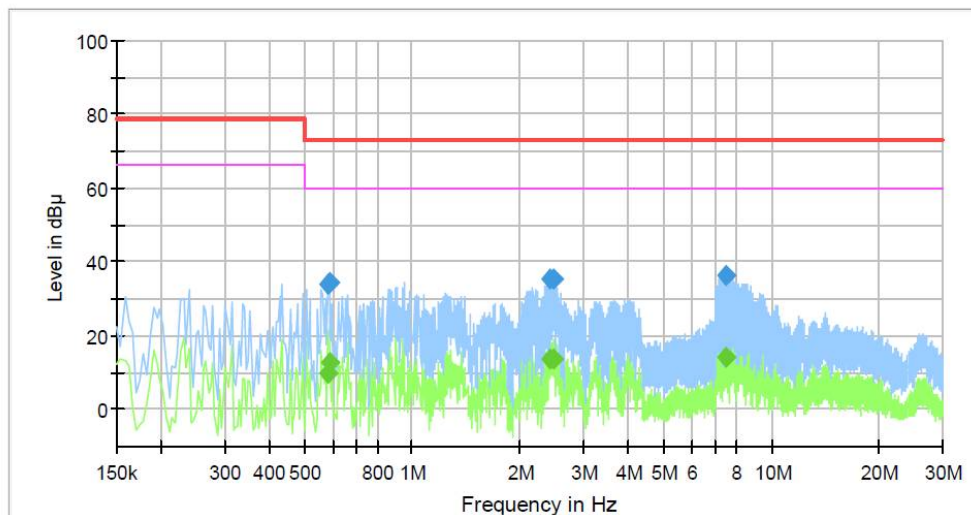
Frequency (MHz)	MaxPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.562000	---	16.19	60.00	43.81	1000.0	9.000	L1	9.7
0.562000	35.76	---	73.00	37.24	1000.0	9.000	L1	9.7
0.586000	---	19.68	60.00	40.32	1000.0	9.000	L1	9.7
0.586000	35.63	---	73.00	37.37	1000.0	9.000	L1	9.7
0.938000	---	8.67	60.00	51.33	1000.0	9.000	L1	9.7
0.938000	28.97	---	73.00	44.03	1000.0	9.000	L1	9.7
2.406000	---	18.53	60.00	41.47	1000.0	9.000	L1	9.7
2.406000	36.00	---	73.00	37.00	1000.0	9.000	L1	9.7
7.730000	---	16.70	60.00	43.30	1000.0	9.000	L1	9.9
7.730000	32.21	---	73.00	40.79	1000.0	9.000	L1	9.9
7.742000	---	16.38	60.00	43.62	1000.0	9.000	L1	9.9
7.742000	32.23	---	73.00	40.77	1000.0	9.000	L1	9.9

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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	GBS-101
Phase:	
Mode:	Charge / FCC
Operator Name:	KES



Final Result

Frequency (MHz)	MaxPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.582000	---	10.02	60.00	49.98	1000.0	9.000	N	9.6
0.582000	34.07	---	73.00	38.93	1000.0	9.000	N	9.6
0.586000	---	12.46	60.00	47.54	1000.0	9.000	N	9.6
0.586000	34.15	---	73.00	38.85	1000.0	9.000	N	9.6
2.430000	---	13.47	60.00	46.53	1000.0	9.000	N	9.7
2.430000	35.20	---	73.00	37.80	1000.0	9.000	N	9.7
2.470000	---	13.86	60.00	46.14	1000.0	9.000	N	9.7
2.470000	35.26	---	73.00	37.74	1000.0	9.000	N	9.7
7.478000	---	14.14	60.00	45.86	1000.0	9.000	N	9.9
7.478000	36.52	---	73.00	36.48	1000.0	9.000	N	9.9

◆ Calculation

$$\text{QuasiPeak [dBuV]} / \text{CAverage [dBuV]} = \text{Reading Value [dBuV]} + \text{Corr. [dB]}$$

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

Uncertainty of measurement

HOT Line : Uncertainty of measurement 2.38 dB
(Confidence level: Approx. 95 %, $k=2$)

Neutral Line : Uncertainty of measurement 2.38 dB
(Confidence level: Approx. 95 %, $k=2$)



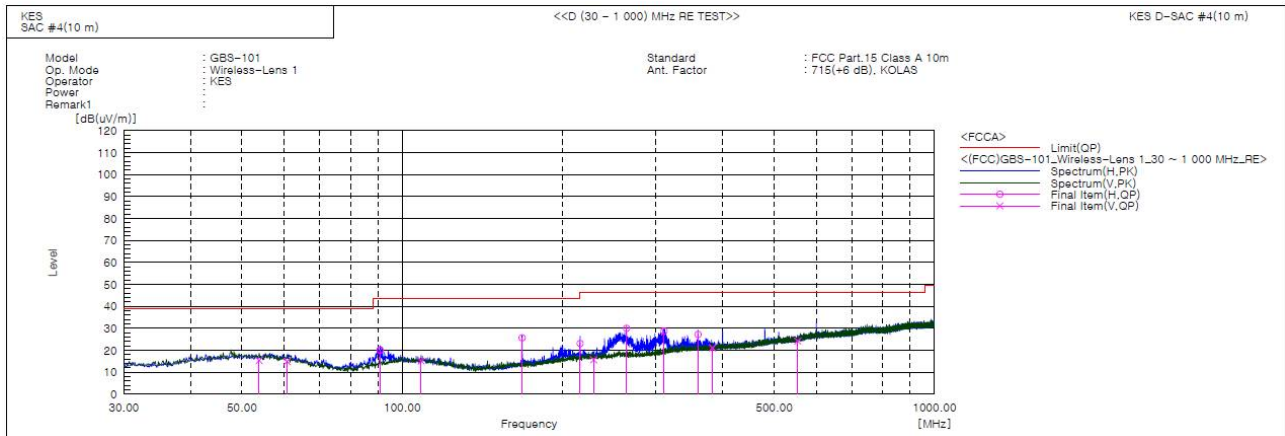
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Radiated Electric Field Emissions(Below 1 GHz)

■ Wireless-Lens 1 Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	53.872	V	37.0	-21.6	15.4	39.0	23.6	122.0	301.0	
2	60.799	V	37.5	-22.6	14.9	39.0	24.1	102.0	106.0	
3	90.892	H	44.6	-24.5	20.1	43.5	23.4	400.0	186.0	
4	108.582	V	37.6	-22.5	15.1	43.5	28.4	131.0	31.0	
5	167.983	H	50.2	-24.5	25.7	43.5	17.8	392.0	122.0	
6	215.975	H	43.8	-20.7	23.1	43.5	20.4	400.0	146.0	
7	228.980	V	36.0	-20.3	15.7	46.5	30.8	100.0	252.0	
8	264.017	H	49.8	-19.8	30.0	46.5	16.5	389.0	138.0	
9	310.466	H	46.8	-18.0	28.8	46.5	17.7	345.0	125.0	
10	359.564	H	43.3	-16.1	27.2	46.5	19.3	398.0	129.0	
11	382.719	V	36.7	-15.6	21.1	46.5	25.4	200.0	166.0	
12	553.436	V	35.8	-11.6	24.2	46.5	22.3	156.0	233.0	

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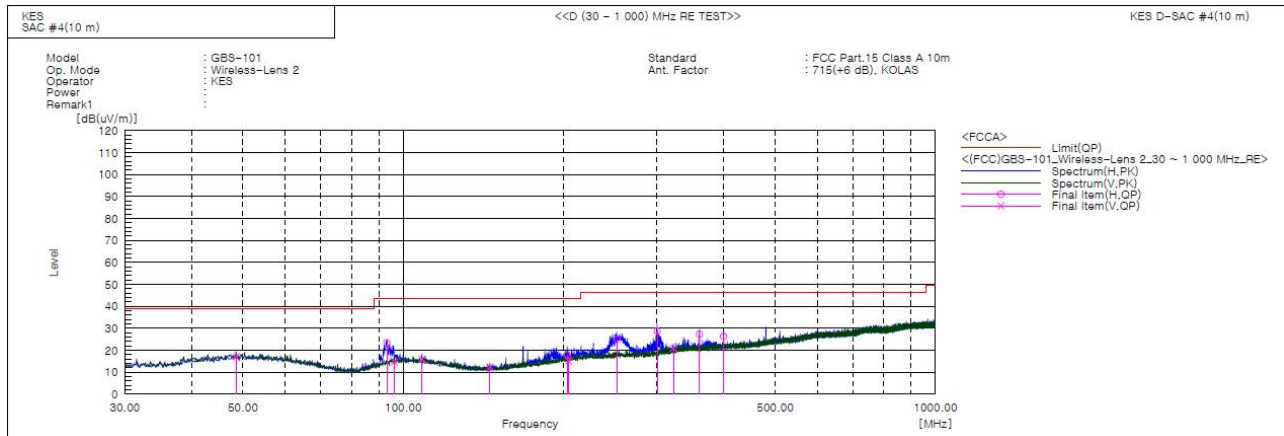


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Wireless-Lens 2 Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	48.573	V	38.5	-21.4	17.1	39.0	21.9	122.0	214.0	
2	93.182	H	47.4	-23.9	23.5	43.5	20.0	390.0	131.0	
3	96.238	V	37.9	-23.1	14.8	43.5	28.7	100.0	126.0	
4	108.469	V	38.6	-22.5	16.1	43.5	27.4	111.0	195.0	
5	145.565	V	38.3	-25.9	12.4	43.5	31.1	100.0	203.0	
6	203.395	H	39.4	-21.5	17.9	43.5	25.6	400.0	316.0	
7	204.633	V	36.5	-21.4	15.1	43.5	28.4	162.0	43.0	
8	252.152	H	44.9	-20.0	24.9	46.5	21.6	388.0	139.0	
9	300.039	H	47.4	-18.6	28.8	46.5	17.7	342.0	119.0	
10	321.850	V	38.3	-17.3	21.0	46.5	25.5	124.0	162.0	
11	360.428	H	43.5	-16.1	27.4	46.5	19.1	400.0	292.0	
12	399.920	H	41.6	-15.2	26.4	46.5	20.1	389.0	22.0	

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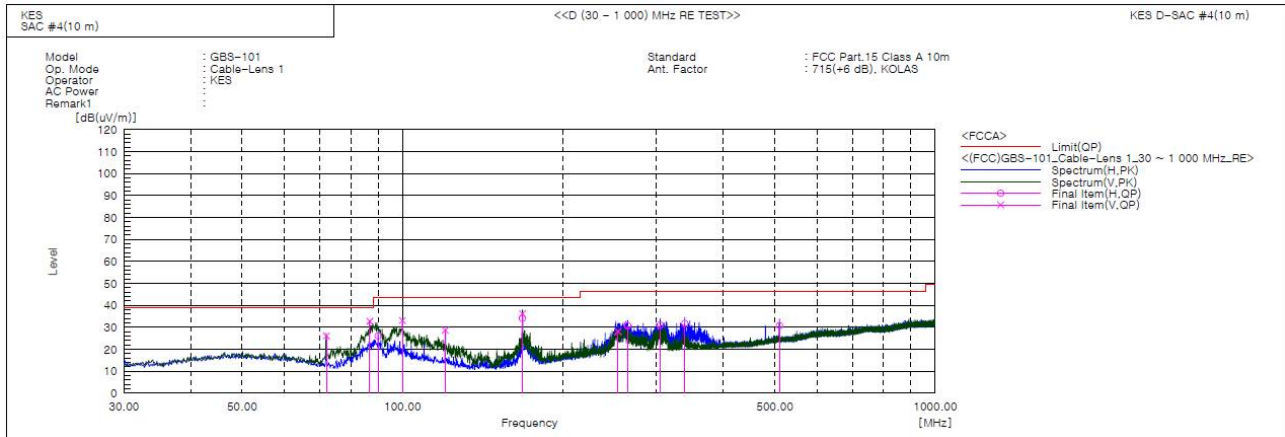


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Cable-Lens 1 Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	71.966	V	51.8	-25.7	26.1	39.0	12.9	106.0	73.0	
2	86.866	V	58.5	-25.7	32.8	39.0	6.2	200.0	212.0	
3	90.032	H	50.9	-24.8	26.1	43.5	17.4	399.0	99.0	
4	99.961	V	55.6	-22.5	33.1	43.5	10.4	100.0	237.0	
5	120.331	V	52.7	-24.0	28.7	43.5	14.8	100.0	201.0	
6	167.976	H	58.6	-24.5	34.1	43.5	9.4	400.0	103.0	
7	167.982	V	60.7	-24.5	36.2	43.5	7.3	100.0	118.0	
8	253.830	V	48.0	-19.9	28.1	46.5	18.4	177.0	116.0	
9	264.732	H	50.6	-19.8	30.8	46.5	15.7	386.0	300.0	
10	304.631	H	49.4	-18.3	31.1	46.5	15.4	400.0	91.0	
11	338.843	H	48.3	-16.5	31.8	46.5	14.7	377.0	91.0	
12	510.029	H	43.3	-12.5	30.8	46.5	15.7	298.0	280.0	

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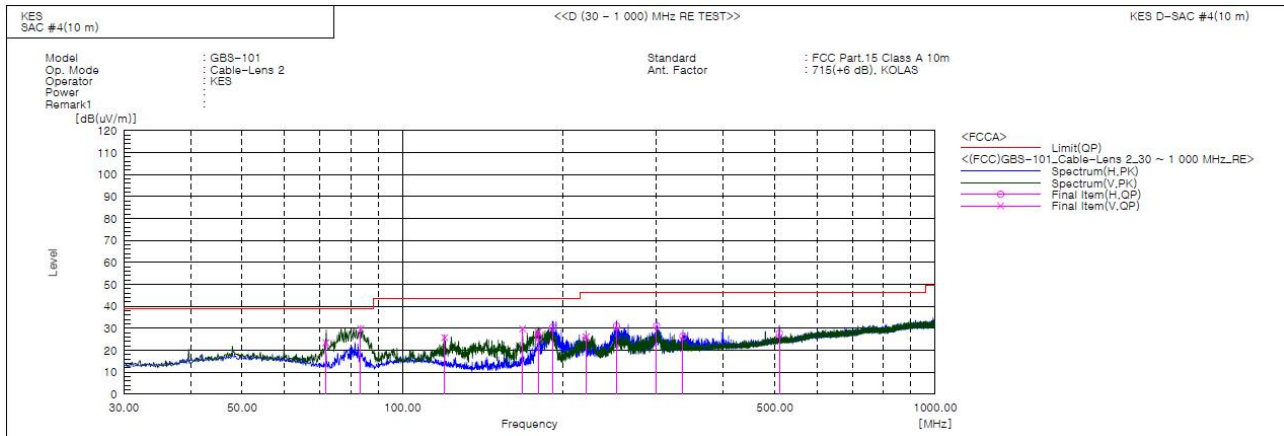


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■ Cable-Lens 2 Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	71.832	V	49.2	-25.7	23.5	39.0	15.5	110.0	212.0	
2	83.479	V	56.6	-26.8	29.8	39.0	9.2	102.0	280.0	
3	119.973	V	49.7	-23.9	25.8	43.5	17.7	124.0	304.0	
4	167.993	V	54.3	-24.5	29.8	43.5	13.7	122.0	180.0	
5	179.744	V	52.2	-23.8	28.4	43.5	15.1	109.0	225.0	
6	180.242	H	49.6	-23.8	25.8	43.5	17.7	400.0	258.0	
7	191.376	H	53.1	-22.6	30.5	43.5	13.0	400.0	254.0	
8	221.099	V	46.6	-20.5	26.1	46.5	20.4	100.0	140.0	
9	252.251	H	51.1	-20.0	31.1	46.5	15.4	392.0	27.0	
10	300.012	H	49.7	-18.6	31.1	46.5	15.4	375.0	237.0	
11	336.065	H	43.0	-16.6	26.4	46.5	20.1	390.0	289.0	
12	510.046	H	40.3	-12.5	27.8	46.5	18.7	400.0	5.0	

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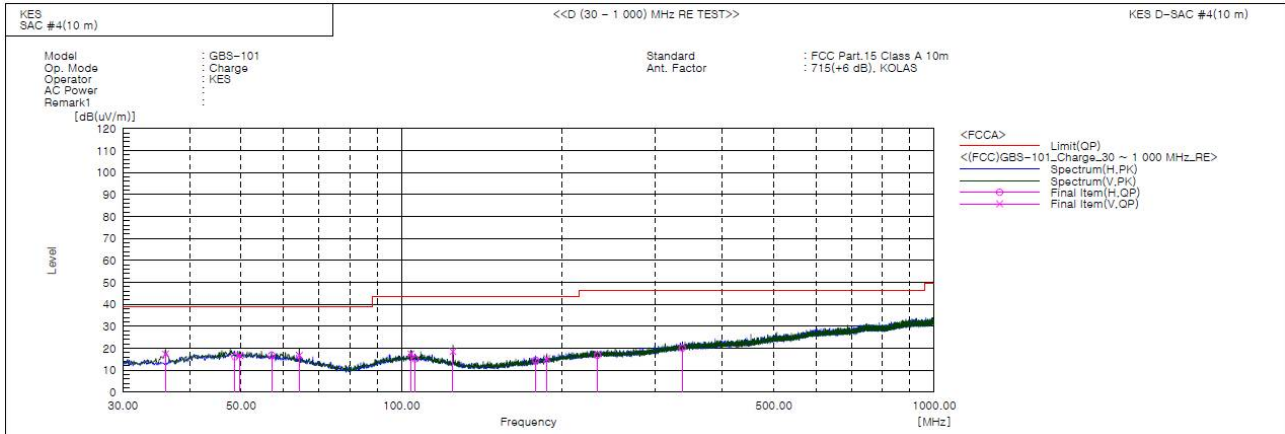


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Charge Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	36.075	V	42.1	-24.7	17.4	39.0	21.6	100.0	73.0	
2	48.676	H	37.5	-21.4	16.1	39.0	22.9	399.0	94.0	
3	49.759	V	38.0	-21.3	16.7	39.0	22.3	103.0	177.0	
4	57.056	H	38.9	-22.0	16.9	39.0	22.1	400.0	145.0	
5	64.339	V	40.2	-23.4	16.8	39.0	22.2	122.0	273.0	
6	104.205	V	39.9	-22.4	17.5	43.5	26.0	105.0	249.0	
7	106.054	H	37.5	-22.4	15.1	43.5	28.4	400.0	193.0	
8	124.939	V	43.2	-24.7	18.5	43.5	25.0	116.0	43.0	
9	178.544	H	38.5	-23.9	14.6	43.5	28.9	357.0	333.0	
10	187.504	V	38.5	-23.1	15.4	43.5	28.1	100.0	249.0	
11	233.232	H	37.0	-20.2	16.8	46.5	29.7	400.0	74.0	
12	336.751	H	36.7	-16.6	20.1	46.5	26.4	388.0	61.0	

◆ Calculation – SAC #4(10 m)

Result(QP) [dB(μV/m)] = (Reading(QP)[dB(μV)] + c.f[dB(1/m)])

Margin(QP)[dB] = Limit[dB(μV/m)] - Result(QP) [dB(μV/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

Uncertainty of measurement

Horizontal : Uncertainty of measurement 4.16 dB

(Confidence level: Approx. 95 %, k=2)

Vertical : Uncertainty of measurement 4.24 dB

(Confidence level: Approx. 95 %, k=2)

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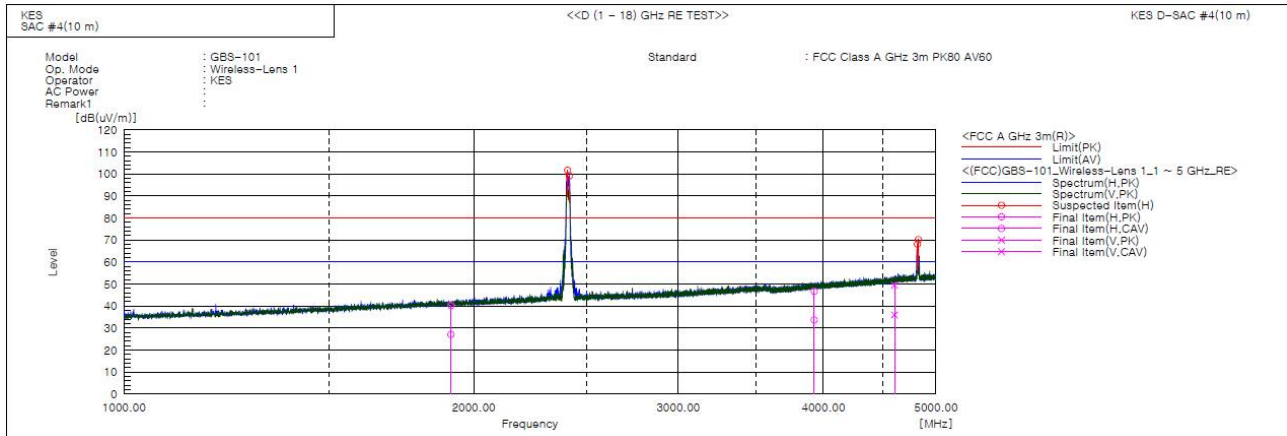
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Radiated Electric Field Emissions(Above 1 GHz)

■ Wireless-Lens 1 Mode – (1 ~ 5) GHz



Final Result

No.	Frequency [MHz]	(P)	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	1911.935	H	39.5	26.4	0.7	40.2	27.1	80.0	60.0	39.8	32.9	347.0	37.0	
2	3927.885	H	36.8	23.8	9.9	46.7	33.7	80.0	60.0	33.3	26.3	332.0	228.0	
3	4605.970	V	36.5	23.0	13.0	49.5	36.0	80.0	60.0	30.5	24.0	121.0	323.0	
4	2409.500	H			3.4			80.0	60.0			100.0	231.0	
5	2418.500	H			3.4			80.0	60.0			100.0	187.0	
6	4820.500	H			13.9			80.0	60.0			100.0	179.0	
7	4829.000	H			14.0			80.0	60.0			100.0	183.0	

* Wireless-Lens 1 Mode Exclusion Band

- Fundamental Frequency: 2.4 GHz
- Harmonic Frequency: 4.8 GHz

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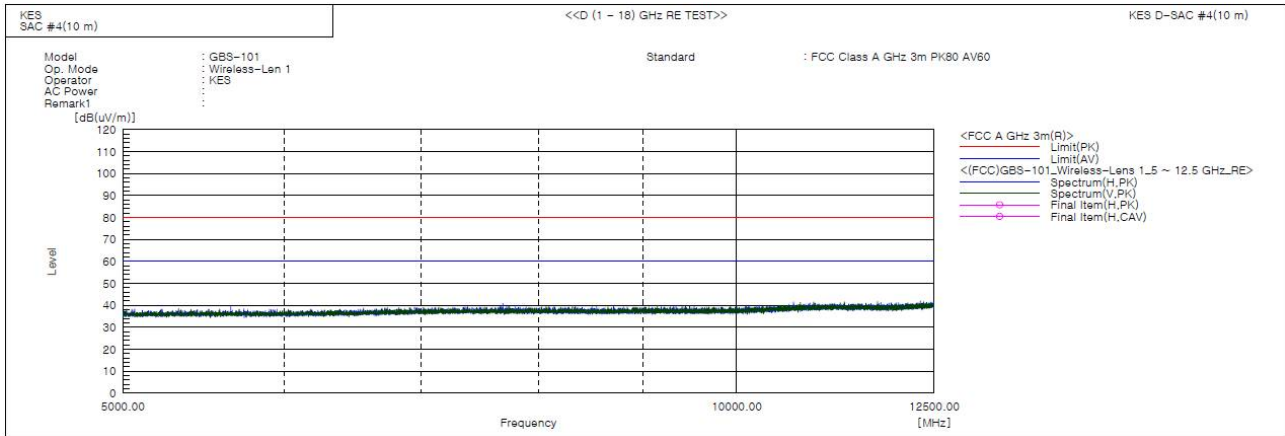


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– (5 ~ 12.5) GHz



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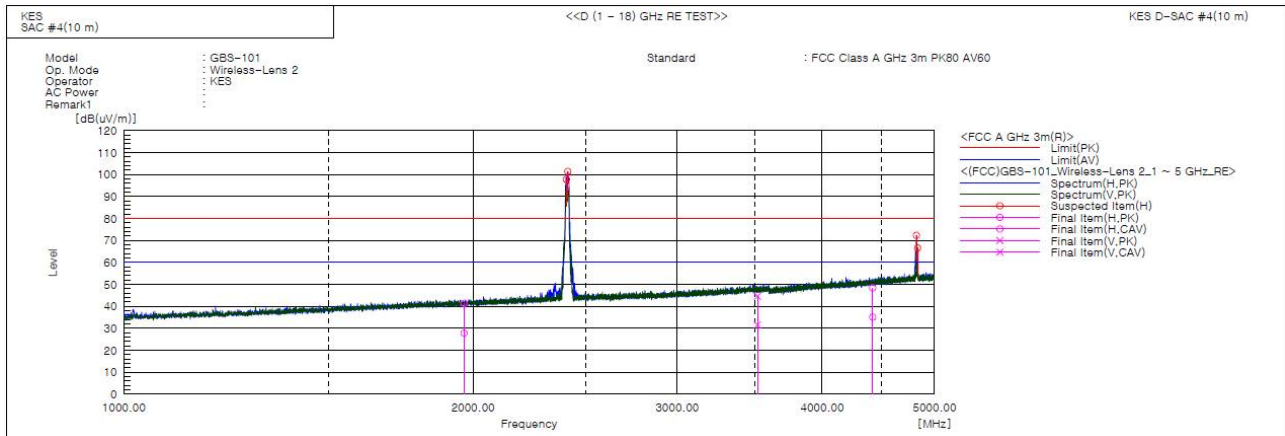


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■ Wireless-Lens 2 Mode – (1 ~ 5) GHz



Final Result

No.	Frequency [MHz]	(P)	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	1964.900	H	40.3	26.7	1.1	41.4	27.8	80.0	60.0	38.6	32.2	374.0	355.0	
2	3518.370	V	36.9	23.9	7.7	44.6	31.6	80.0	60.0	35.4	28.4	121.0	102.0	
3	4422.840	H	36.2	22.9	12.2	48.4	35.1	80.0	60.0	31.6	24.9	362.0	131.0	
4	2407.500	H	-----	-----	3.4	-----	-----	80.0	60.0	-----	-----	100.0	333.0	
5	2414.500	H	-----	-----	3.4	-----	-----	80.0	60.0	-----	-----	100.0	150.0	
6	4824.000	H	-----	-----	13.9	-----	-----	80.0	60.0	-----	-----	100.0	165.0	
7	4835.500	H	-----	-----	14.0	-----	-----	80.0	60.0	-----	-----	100.0	218.0	

* Wireless-Lens 1 Mode Exclusion Band

- Fundamental Frequency: 2.4 GHz
- Harmonic Frequency: 4.8 GHz

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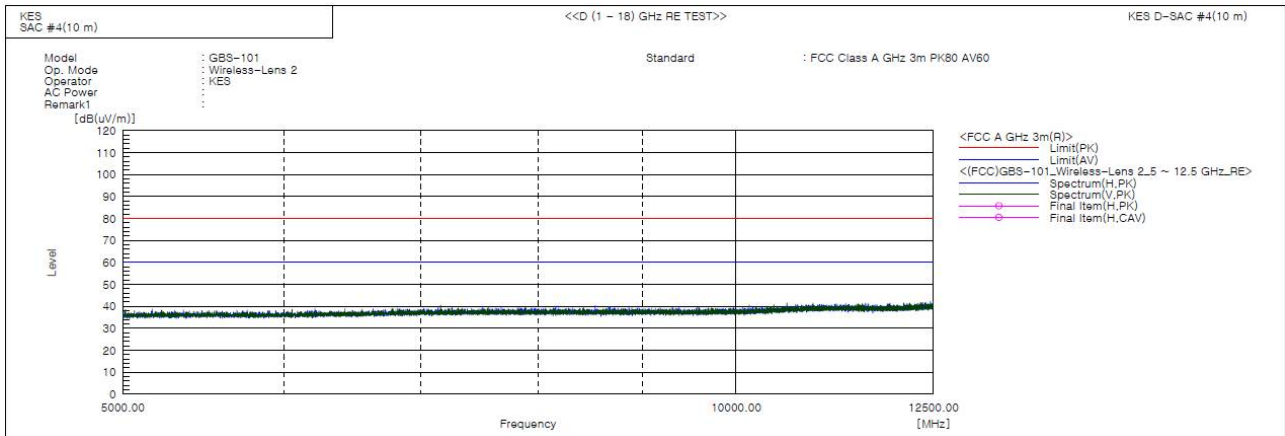


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- (5 ~ 12.5) GHz



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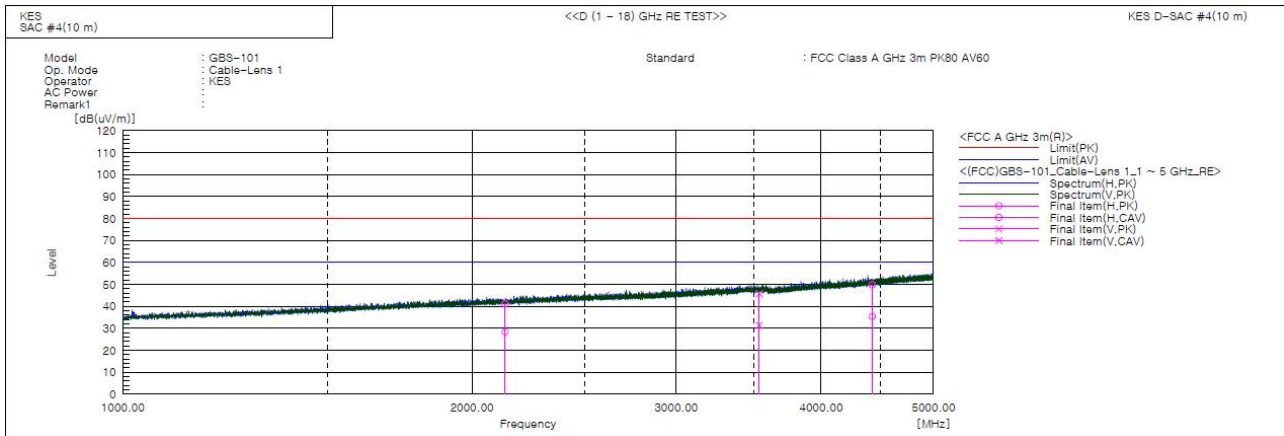


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■ Cable-Lens 1 Mode



Final Result

No.	Frequency [MHz]	(P)	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	2136.524	H	39.0	26.3	2.1	41.1	28.4	80.0	60.0	38.9	31.6	322.0	95.0	
2	3538.158	V	38.0	23.6	7.8	45.8	31.4	80.0	60.0	34.2	28.6	100.0	183.0	
3	4428.022	H	37.6	23.2	12.2	49.8	35.4	80.0	60.0	30.2	24.6	346.0	195.0	

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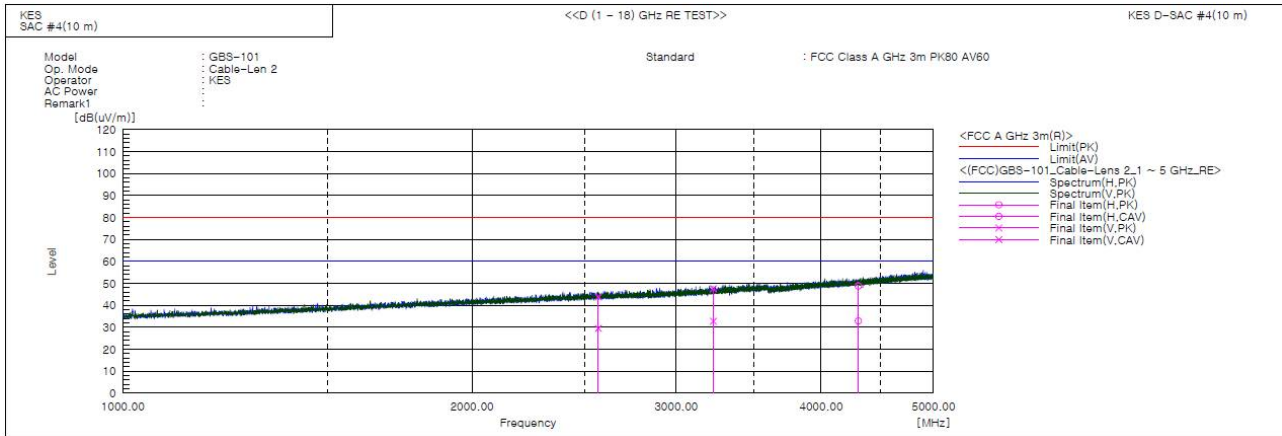


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■ Cable-Lens 2 Mode



Final Result

No.	Frequency [MHz]	(P)	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	2570.531	V	39.7	25.4	4.1	43.8	29.5	80.0	60.0	36.2	30.5	100.0	113.0	
2	3230.024	V	40.9	26.1	6.7	47.6	32.8	80.0	60.0	32.4	27.2	116.0	8.0	
3	4307.155	H	37.3	21.4	11.5	48.8	32.9	80.0	60.0	31.2	27.1	400.0	71.0	

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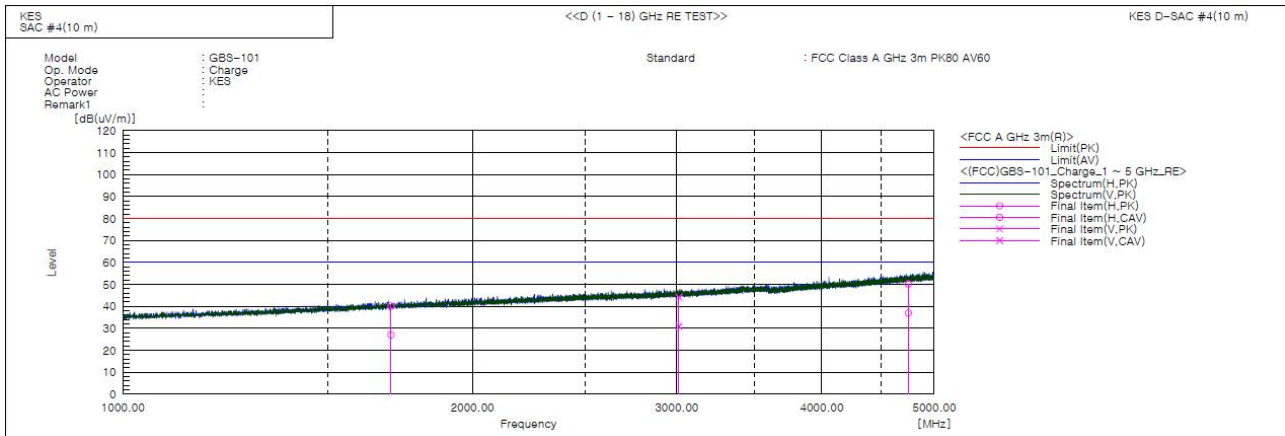


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■ Charge Mode



Final Result

No.	Frequency [MHz]	(P)	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	1702.050	H	41.0	27.8	-0.8	40.2	27.0	80.0	60.0	39.8	33.0	299.0	131.0	
2	3013.535	V	38.3	25.1	5.8	44.1	30.9	80.0	60.0	35.9	29.1	152.0	357.0	
3	4749.485	H	36.5	23.3	13.7	50.2	37.0	80.0	60.0	29.8	23.0	371.0	55.0	

◆ Calculation

Result(PK/CAV) [dB(μ V/m)] = (Reading(PK/CAV)[dB(μ V)] + c.f[dB(1/m)])

Margin(PK/CAV)[dB] = Limit[dB(μ V/m)] - Result(PK/CAV) [dB(μ V/m)]

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

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

* No spurious emission were detected above 5 GHz.

Uncertainty of measurement

Uncertainty of measurement 5.76 dB
(Confidence level: Approx. 95 %, $k=2$)

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