



EMC TEST REPORT

Test Report No. : KES-EM-23T0303
Date of Issue : Apr. 12, 2023
Product name : Security LED MONITOR
Model/Type No. : SMT-2710
Variant Model : -
Applicant : Hanwha Vision Co., Ltd
Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
Manufacturer : Weihai Daewoo Electronics Co., Ltd.
Manufacturer Address : No.26, Hongkong Road, Economic & Technical Development
Zone, 264205 Weihai City, Shandong Province, China
Date of Receipt : Mar. 28, 2023
Test date : Apr. 04, 2023
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

김종인

Dong In, Kim
EMC Test Engineer

Reviewed by

이종일

Dong Il, Lee
EMC Technical Manager

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



REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Apr. 12, 2023	KES-EM-23T0303	Issued

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TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	5
1.2	Variant Model Differences	5
1.3	Device Modifications	5
1.4	Equipment Under Test.....	5
1.5	Support Equipments	5
1.6	External I/O Cabling	6
1.7	EUT Operating Mode(s)	6
1.8	Configuration.....	7
1.9	Remarks when standards applied	8
1.10	Calibration Details of Equipment Used for Measurement	8
1.11	Test Facility	8
1.12	Laboratory Accreditations and Listings	8
2.0	Test Regulations.....	9
2.1	Conducted Emissions at Mains Power Ports	10
2.2	Radiated Electric Field Emissions(Below 1 GHz)	12
2.3	Radiated Electric Field Emissions(Above 1 GHz)	14
APPENDIX A – TEST DATA.....		16
Conducted Emissions at Mains Power Ports.....		16
Radiated Electric Field Emissions(Below 1 GHz)		22
Radiated Electric Field Emissions(Above 1 GHz)		28
Test Setup Photos and Configuration		31
Conducted Emissions at Mains Power Ports.....		31
Radiated Electric Field Emissions(Below 1 GHz)		32
Radiated Electric Field Emissions(Above 1 GHz)		33
EUT External Photographs		34
EUT Internal Photographs		35

1.0 General Product Description

Main Specifications of EUT are:

Model		FHD 27" SMT-2710	Remark
Display			
Screen Size		27"	
Max. Resolution		1920*1080 60Hz (FHD)	
Brightness		250 cd/m ² (Typ)	
Contrast Ratio		3000:1 (Min) 4000:1 (Typ)	
Aspect Ratio		16:9	
Viewing Angle (H/V)		178°/178°	
Display Color		16.7M	
Response Time		6.5ms(Typ)	
Panel Life		30,000 hours	
Interface			
Video	Connector	VGA (1) HDMI 1.4(1), DP 1.2(1) Ain(1) Aout (1)	
VGA	Connector	VGA	
	Available Format	640 x 480@60Hz, 800 x 600@56Hz/60Hz/72Hz/75Hz, 1024 x 768@60Hz/70Hz/75Hz, 1280 x 1024@60Hz/75Hz, 1440 x 900@60Hz, 1680 x 1050@60Hz, 1920 x 1080@50Hz/60Hz, 1280 x 800@60Hz, 1280 x 960@60Hz, 1280 x 720@60Hz	
HDMI	Connector	HDMI	
	Available Format	640 x 480@60Hz, 800 x 600@56Hz/60Hz/72Hz/75Hz, 1024 x 768@60Hz/70Hz/75Hz, 1280 x 1024@60Hz/75Hz, 1440 x 900@60Hz, 1680 x 1050@60Hz, 1920 x 1080@50Hz/60Hz, 720 x 480P60Hz, 1280 x 720P@50Hz, 720 x 576P@50Hz, 1920x1080P@50/60Hz, 1280 x 800@60Hz, 1280 x 960@60Hz, 1280 x 720@60Hz	
DP	Connector	DP	
	Available Format	640 x 480@60Hz, 800 x 600@56Hz/60Hz/72Hz/75Hz, 1024 x 768@60Hz/70Hz/75Hz, 1280 x 1024@60Hz/75Hz, 1440 x 900@60Hz, 1680 x 1050@60Hz, 1920 x 1080@50Hz/60Hz, 720 x 480P60Hz, 1280 x 720P@50Hz, 720 x 576P@50Hz, 1920x1080P@50/60Hz, 1280 x 800@60Hz, 1280 x 960@60Hz, 1280 x 720@60Hz	
Audio	Connector	Audio in/out	
	Output Signal	Loop-through line level(PC only), Speakers : 4Ω 2.5Wx 2	
PIP/PBP		NO	
Remocon		N/A	
On Screen Display (OSD)			
Functions		VESA™ DPM Compatible	
Language		Korean, English, Русский, Deutsch, Français, Español, Italiano, Português, Chinese (Simplified), Chinese (Traditional), Japanese, Arabic	
General			
Electrical	Input Voltage	AC 100-240V, 50/60HZ, 1.0A	
	Power Consumption	<45W	
Environmental	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)	
	Operating Humidity	10% ~ 80% (non-condensing)	
Mechanical	Dimensions with Stand	614.7*452.5*224.1mm	
	Dimensions without Stand	614.7*336.4*50.8mm	
	Bezel Size	3 Frameless : Top:2.2mm, Bottom:21mm, Side : 2.2mm	
	Cabinet Color	Black	
Weight	VESA Mounts Interface	100*100mm	
	Monitor with Stand	4.55kg	
	Monitor without Stand	4.14kg	
Stand		including	

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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.

☒ AC 120 V, 60 Hz

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Security LED MONITOR	SMT-2710	-	Weihai Daewoo Electronics Co., Ltd.	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Laptop 1	LG15N54	507NZET040180	LG	-
Laptop 1 Adapter	PA-1900-14	OF4A263348701J247	LITE-ON TECHNOLOGY COPORATION	-
Laptop 2	P95G001	8KM8HT2	DELL INC.	-
Laptop 2 Adapter	HA65NM130	-	Chicony Power Technology(Suzhou)Co., Ltd.	-
Desktop	D32M	-	DELL	-
Keyboard	KB216t1	-	DELL	-
Mouse	SM-9023	-	LG	-
Headset	K550	-	Britz®	-

1.6 External I/O Cabling

■ DP, HDMI, D-SUB Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Security LED MONITOR (EUT)	D-SUB	Laptop 1	D-SUB	1.5	S
	3.5 mm		3.5 mm	1.4	U
	HDMI	Laptop 2	HDMI	1.5	S
	DP	Desktop	DP	1.5	S
	3.5 mm	Headset	3.5 mm	1.8	U
Laptop 1	DC Jack	Laptop 1 Adapter	DC Jack	1.4	U
Laptop 2	DC Jack	Laptop 2 Adapter	DC Jack	1.4	U
Desktop	USB	Keyboard	USB	1.4	U
	USB	Mouse	USB	1.4	U

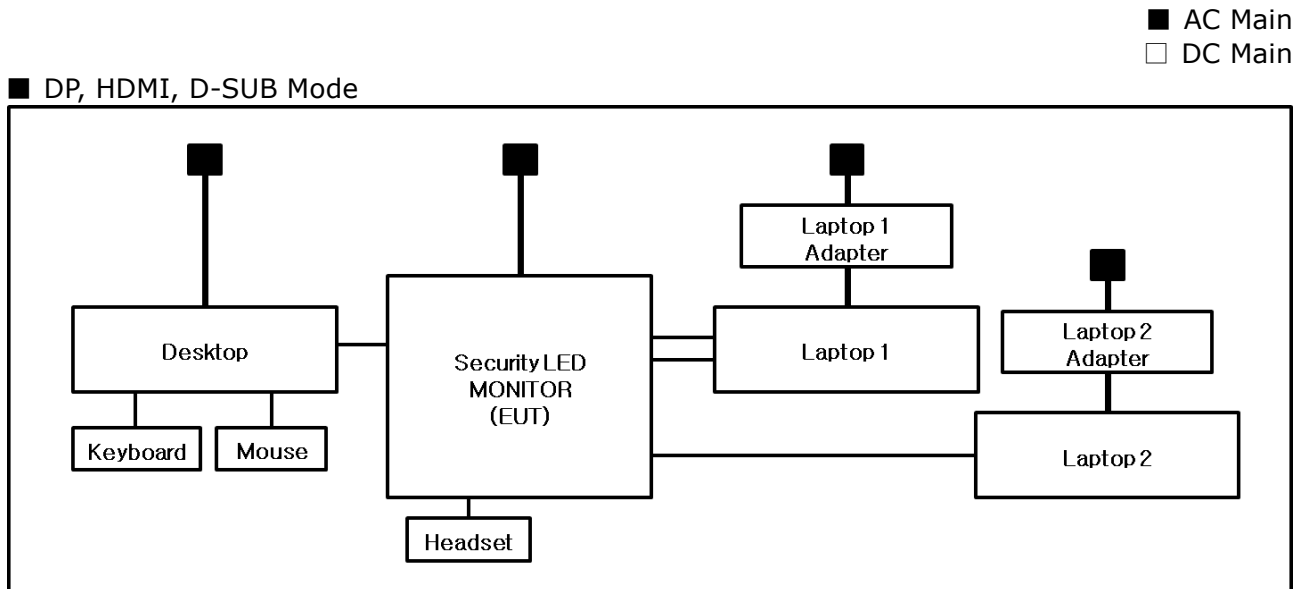
* Unshielded = U, Shielded = S

1.7 EUT Operating Mode(s)

Test mode	operating
DP	Play a includ 1 kHz tone moving color bar on the desktop. Check output of EUT and headset.
HDMI	Play a includ 1 kHz tone moving color bar on the laptop 2. Check output of EUT and headset.
D-SUB	Play a includ 1 kHz tone moving color bar on the laptop 1. Check output of EUT and headset.

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

1.8 Configuration



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, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 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 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 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
JAPAN	VCCI	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	 C-20136, T-20137, R-20181, G-20176
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0004

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

2.1 Conducted Emissions at Mains Power Ports

Test Date

Apr. 04, 2023

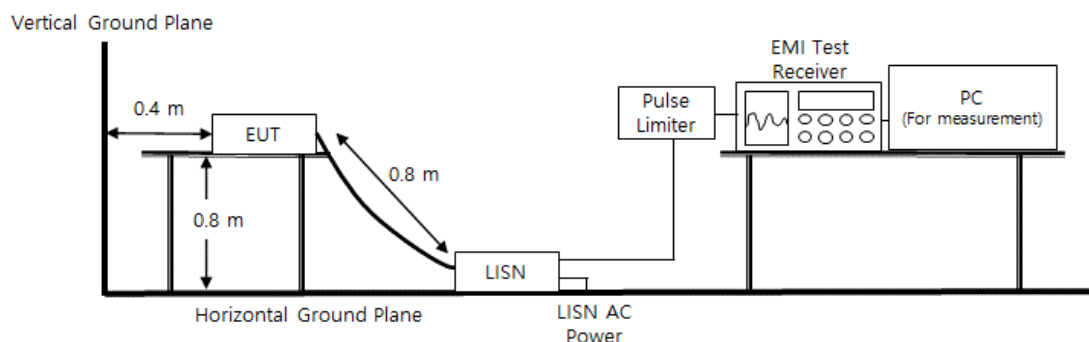
Test Location

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	101783	11, 11, 2023
☒	LISN	ENV216	R & S	101787	11, 10, 2023
☒	LISN	ESH2-Z5	R & S	100450	11, 10, 2023
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 10, 2023

Diagram of test setup





KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

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Page (11) of (40)

Test Conditions

Temperature: (23,2 ± 0,0) °C
Relative Humidity: (42,9 ± 0,1) % 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.

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2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Apr. 04, 2023

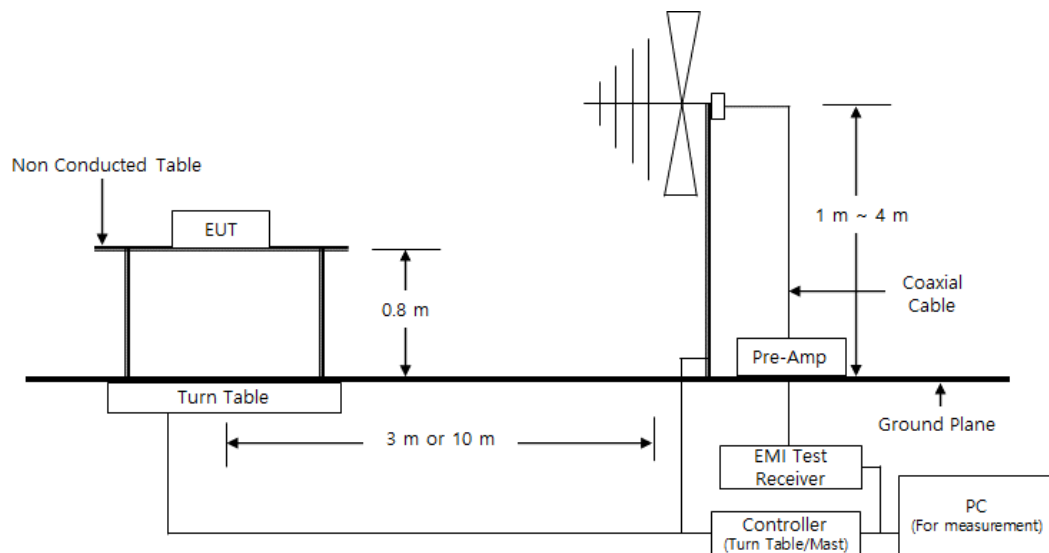
Test Location

☐ 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	03, 21, 2024
☒	AMPLIFIER	SCU 01	R & S	100603	11, 10, 2023
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 17, 2024
☒	ATTENUATOR	8491A	HP	32173	03, 03, 2024

Diagram of test setup



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Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
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Page (13) of (40)

Test Conditions

Temperature: (22,1 ± 0,0) °C
Relative Humidity: (42,2 ± 0,1) % 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.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Apr. 04, 2023

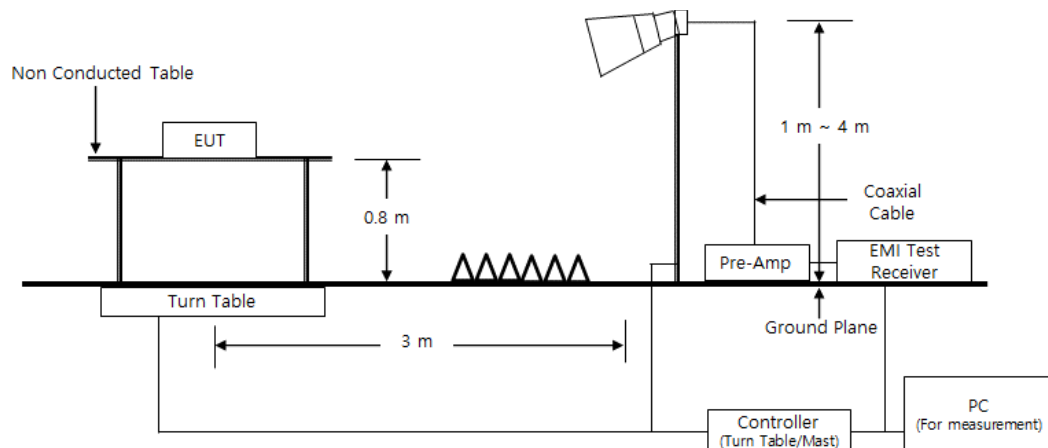
Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	03, 21, 2024
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 08, 2023
☒	PREAMPLIFIER	8449B	HP	3008A00538	06, 02, 2023
☒	ATTENUATOR	8491B	HP	23094	03, 21, 2024

Diagram of test setup





KES Co., Ltd.

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Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
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Page (15) of (40)

Test Conditions

Temperature: (24,6 ± 0,0) °C
Relative Humidity: (43,3 ± 0,2) % R.H.

Frequency Range of Measurement

1 GHz to 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.

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APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

■ DP Mode

HOT LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

Operator Name:

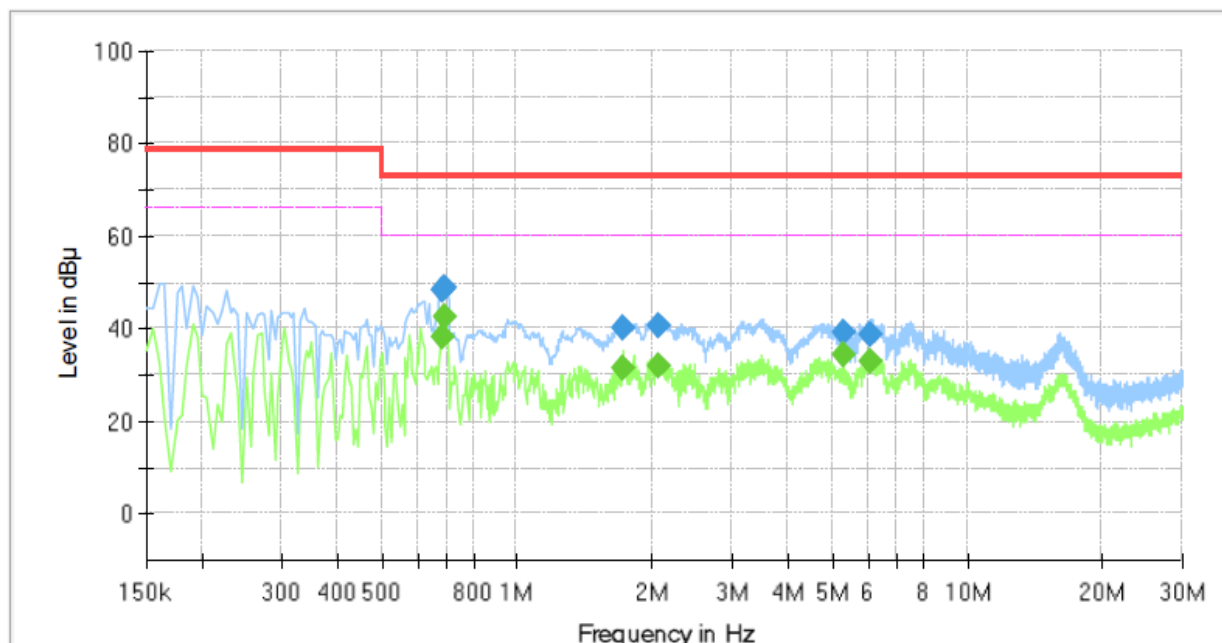
Conducted Emission

SMT-2710

L1

DP

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.680000	---	38.36	60.00	21.64	1000.0	9.000	L1	19.9
0.680000	48.58	---	73.00	24.42	1000.0	9.000	L1	19.9
0.690000	---	42.50	60.00	17.50	1000.0	9.000	L1	19.9
0.690000	48.95	---	73.00	24.05	1000.0	9.000	L1	19.9
1.720000	---	31.69	60.00	28.31	1000.0	9.000	L1	20.3
1.720000	40.33	---	73.00	32.67	1000.0	9.000	L1	20.3
2.055000	---	31.75	60.00	28.25	1000.0	9.000	L1	20.3
2.055000	40.47	---	73.00	32.53	1000.0	9.000	L1	20.3
5.315000	---	34.57	60.00	25.43	1000.0	9.000	L1	19.6
5.315000	39.23	---	73.00	33.77	1000.0	9.000	L1	19.6
6.085000	---	33.03	60.00	26.97	1000.0	9.000	L1	19.6
6.085000	38.94	---	73.00	34.06	1000.0	9.000	L1	19.6

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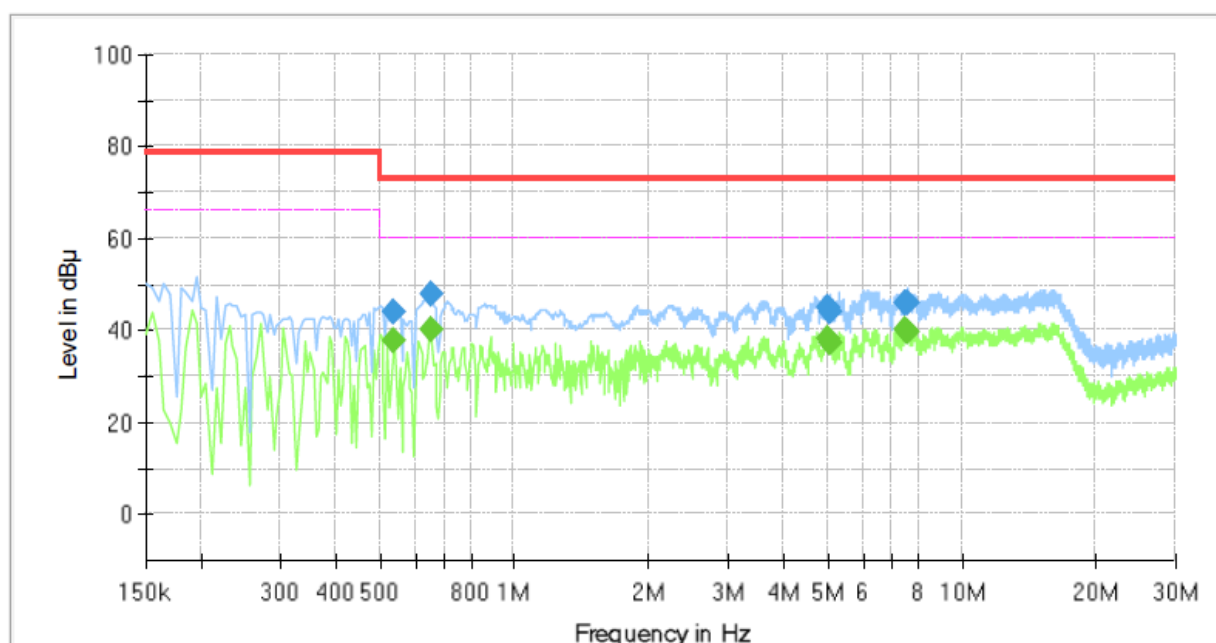
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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	SMT-2710
Phase:	N
Mode:	DP
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.540000	---	37.97	60.00	22.03	1000.0	9.000	N	19.8
0.540000	44.10	---	73.00	28.90	1000.0	9.000	N	19.8
0.650000	---	39.96	60.00	20.04	1000.0	9.000	N	19.9
0.650000	47.66	---	73.00	25.34	1000.0	9.000	N	19.9
5.025000	---	38.47	60.00	21.53	1000.0	9.000	N	19.7
5.025000	45.14	---	73.00	27.86	1000.0	9.000	N	19.7
5.085000	---	37.22	60.00	22.78	1000.0	9.000	N	19.7
5.085000	44.18	---	73.00	28.82	1000.0	9.000	N	19.7
7.480000	---	40.04	60.00	19.96	1000.0	9.000	N	19.6
7.480000	45.79	---	73.00	27.21	1000.0	9.000	N	19.6
7.545000	---	39.62	60.00	20.38	1000.0	9.000	N	19.6
7.545000	45.75	---	73.00	27.25	1000.0	9.000	N	19.6

■ HDMI Mode

HOT LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

Operator Name:

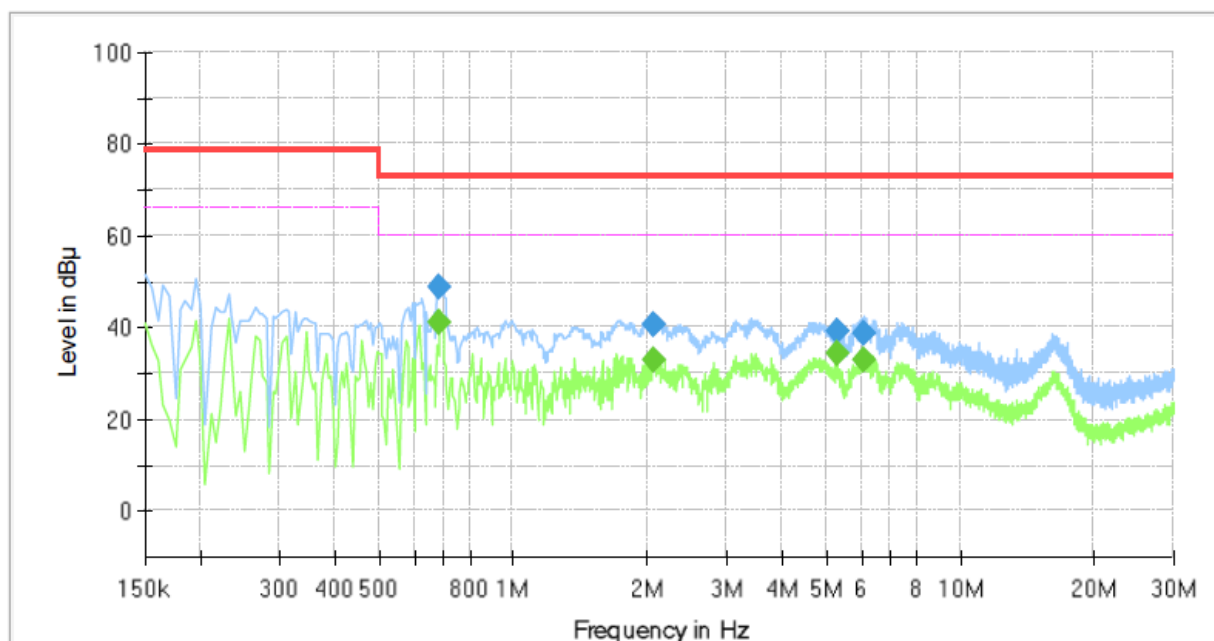
Conducted Emission

SMT-2710

L1

HDMI

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.685000	---	40.97	60.00	19.03	1000.0	9.000	L1	19.9
0.685000	48.98	---	73.00	24.02	1000.0	9.000	L1	19.9
2.065000	---	32.84	60.00	27.16	1000.0	9.000	L1	20.3
2.065000	40.76	---	73.00	32.24	1000.0	9.000	L1	20.3
5.315000	---	34.58	60.00	25.42	1000.0	9.000	L1	19.6
5.315000	39.33	---	73.00	33.67	1000.0	9.000	L1	19.6
6.100000	---	32.97	60.00	27.03	1000.0	9.000	L1	19.6
6.100000	38.92	---	73.00	34.08	1000.0	9.000	L1	19.6

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NEUTRAL LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

Operator Name:

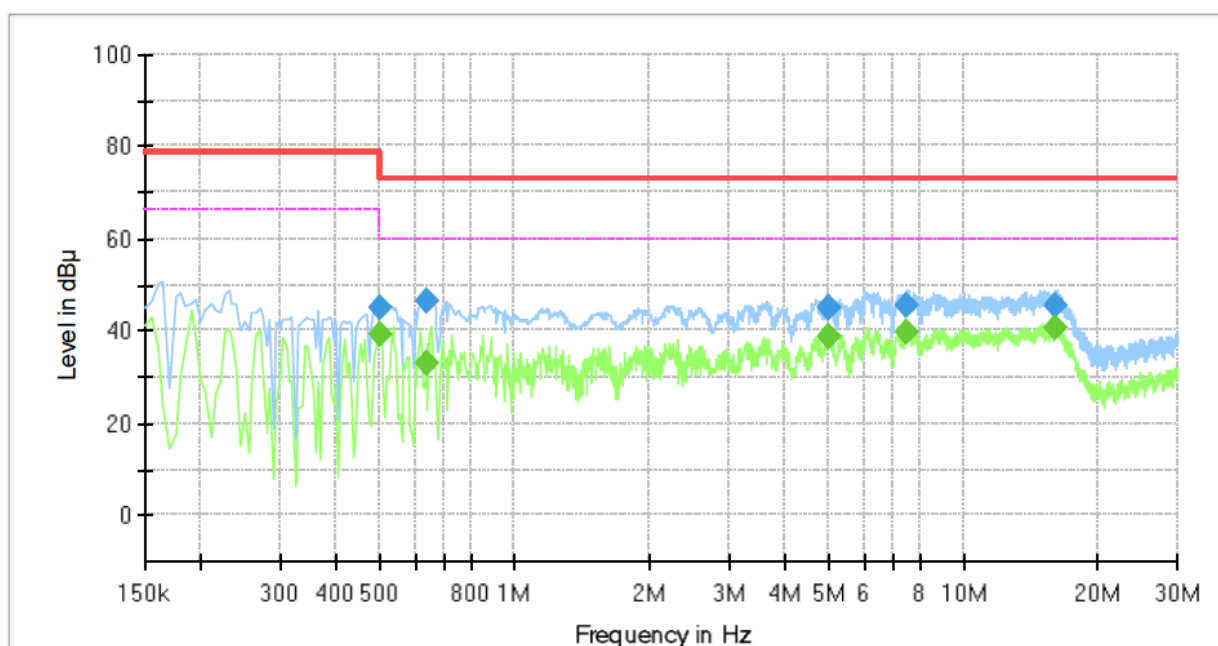
Conducted Emission

SMT-2710

N

HDMI

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.500000	---	39.01	60.00	20.99	1000.0	9.000	N	19.7
0.500000	44.83	---	79.00	28.17	1000.0	9.000	N	19.7
0.635000	---	33.05	60.00	26.95	1000.0	9.000	N	19.8
0.635000	46.25	---	73.00	26.75	1000.0	9.000	N	19.8
5.000000	---	38.73	60.00	21.27	1000.0	9.000	N	19.7
5.000000	45.15	---	73.00	27.85	1000.0	9.000	N	19.7
5.015000	---	38.55	60.00	21.45	1000.0	9.000	N	19.7
5.015000	44.97	---	73.00	28.03	1000.0	9.000	N	19.7
7.445000	---	39.63	60.00	20.37	1000.0	9.000	N	19.6
7.445000	45.57	---	73.00	27.43	1000.0	9.000	N	19.6
16.030000	---	40.47	60.00	19.53	1000.0	9.000	N	19.9
16.030000	45.49	---	73.00	27.51	1000.0	9.000	N	19.9

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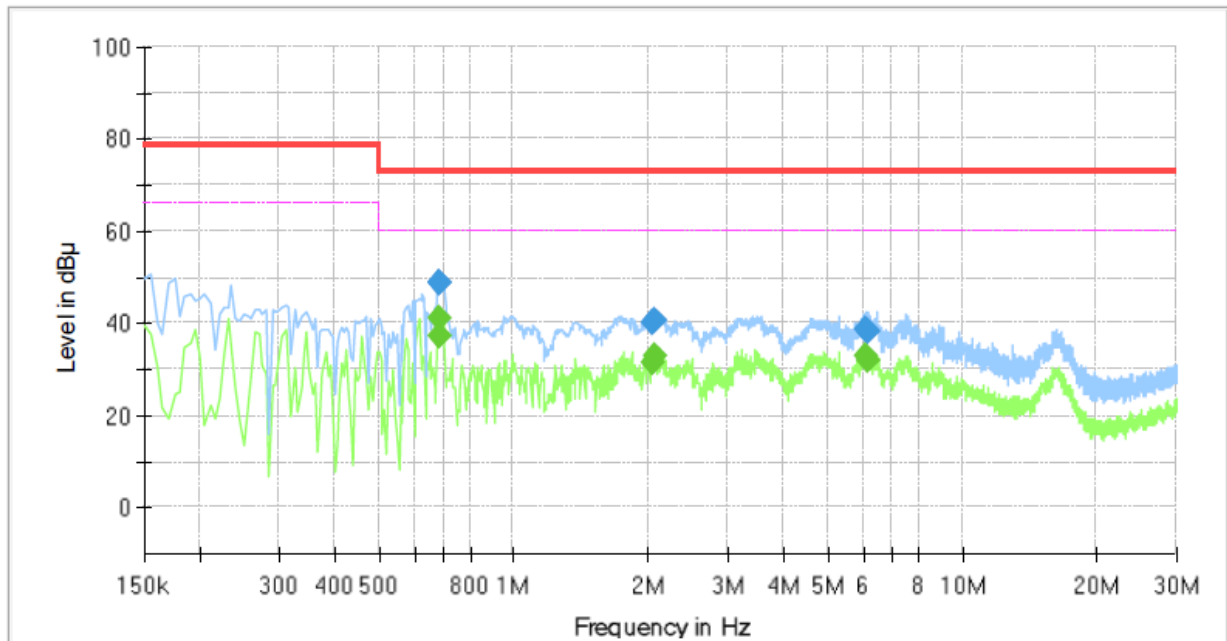
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D-SUB Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	SMT-2710
Phase:	L1
Mode:	D-SUB
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.680000	---	37.50	60.00	22.50	1000.0	9.000	L1	19.9
0.680000	48.67	---	73.00	24.33	1000.0	9.000	L1	19.9
0.685000	---	41.07	60.00	18.93	1000.0	9.000	L1	19.9
0.685000	48.99	---	73.00	24.01	1000.0	9.000	L1	19.9
2.050000	---	31.51	60.00	28.49	1000.0	9.000	L1	20.3
2.050000	40.36	---	73.00	32.64	1000.0	9.000	L1	20.3
2.065000	---	32.80	60.00	27.20	1000.0	9.000	L1	20.3
2.065000	40.73	---	73.00	32.27	1000.0	9.000	L1	20.3
6.095000	---	33.00	60.00	27.00	1000.0	9.000	L1	19.6
6.095000	38.79	---	73.00	34.21	1000.0	9.000	L1	19.6
6.190000	---	32.07	60.00	27.93	1000.0	9.000	L1	19.6
6.190000	38.15	---	73.00	34.85	1000.0	9.000	L1	19.6

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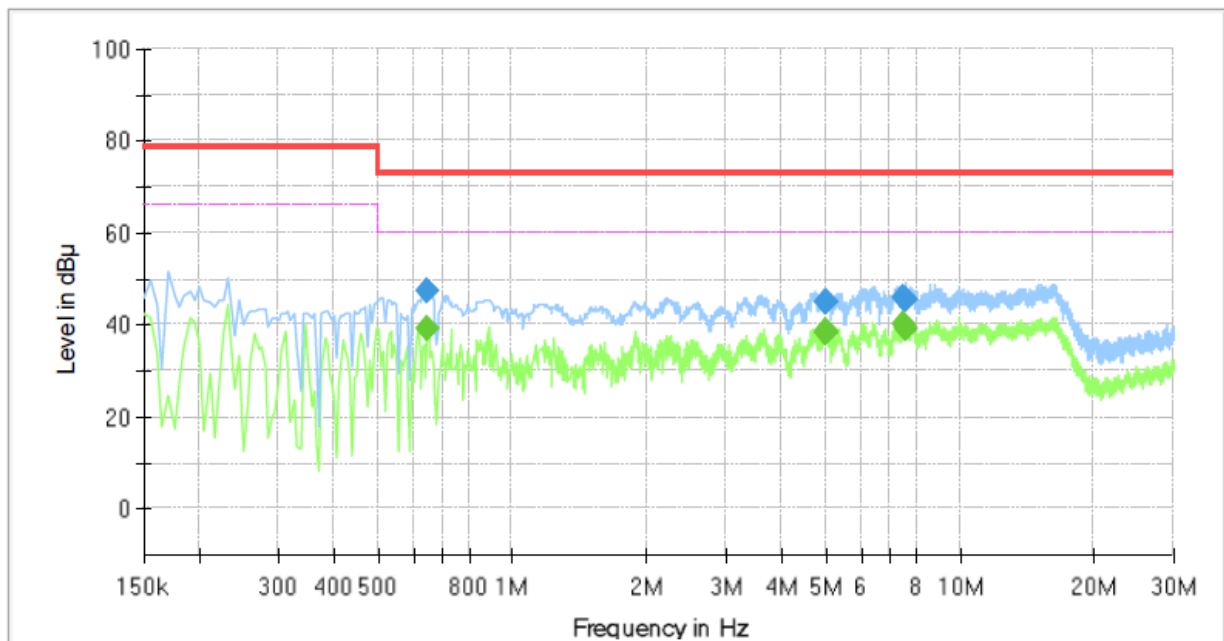
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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	SMT-2710
Phase:	N
Mode:	D-SUB
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.645000	---	38.99	60.00	21.01	1000.0	9.000	N	19.9
0.645000	47.43	---	73.00	25.57	1000.0	9.000	N	19.9
4.990000	---	38.46	60.00	21.54	1000.0	9.000	N	19.7
4.990000	45.00	---	73.00	28.00	1000.0	9.000	N	19.7
5.035000	---	38.55	60.00	21.45	1000.0	9.000	N	19.7
5.035000	44.93	---	73.00	28.07	1000.0	9.000	N	19.7
7.480000	---	40.10	60.00	19.90	1000.0	9.000	N	19.6
7.480000	45.78	---	73.00	27.22	1000.0	9.000	N	19.6
7.560000	---	39.41	60.00	20.59	1000.0	9.000	N	19.6
7.560000	45.65	---	73.00	27.35	1000.0	9.000	N	19.6

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

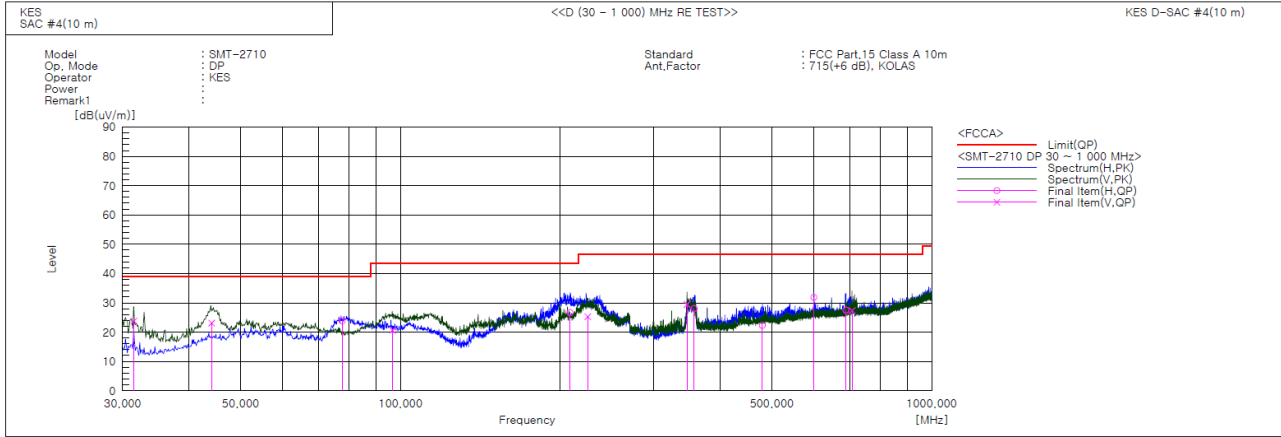
Reading Value : Not shown in the table.

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

Radiated Electric Field Emissions(Below 1 GHz)

- 47 CFR Part 15, Subpart B

■ DP Mode

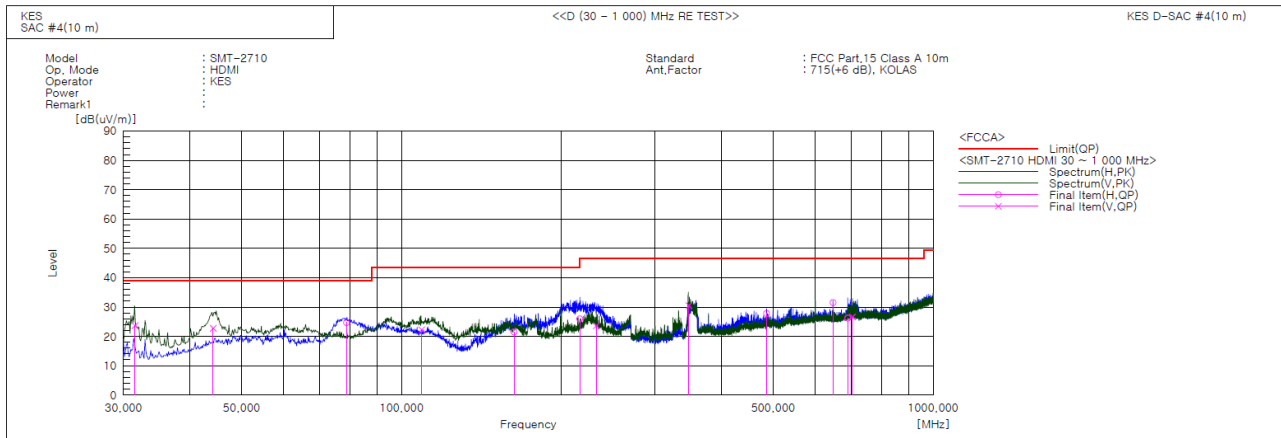


Final Result

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	31.480	V	48.7	-24.9	23.8	39.0	15.2	100.0	260.0	
2	44.102	V	44.3	-21.2	23.1	39.0	15.9	100.0	292.0	
3	77.650	H	51.1	-27.3	23.8	39.0	15.2	391.0	123.0	
4	96.540	V	43.3	-22.6	20.7	43.5	22.8	106.0	280.0	
5	208.500	H	47.3	-20.6	26.7	43.5	16.8	385.0	184.0	
6	225.030	V	45.0	-19.7	25.3	46.5	21.2	122.0	250.0	
7	346.223	V	44.9	-15.4	29.5	46.5	17.0	138.0	160.0	
8	357.236	H	43.0	-14.9	28.1	46.5	18.4	377.0	59.0	
9	479.989	H	34.0	-11.7	22.3	46.5	24.2	100.0	221.0	
10	599.992	H	40.1	-8.2	31.9	46.5	14.6	374.0	47.0	
11	689.345	H	35.1	-7.6	27.5	46.5	19.0	355.0	53.0	
12	707.503	V	34.9	-7.5	27.4	46.5	19.1	163.0	125.0	

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■ HDMI Mode



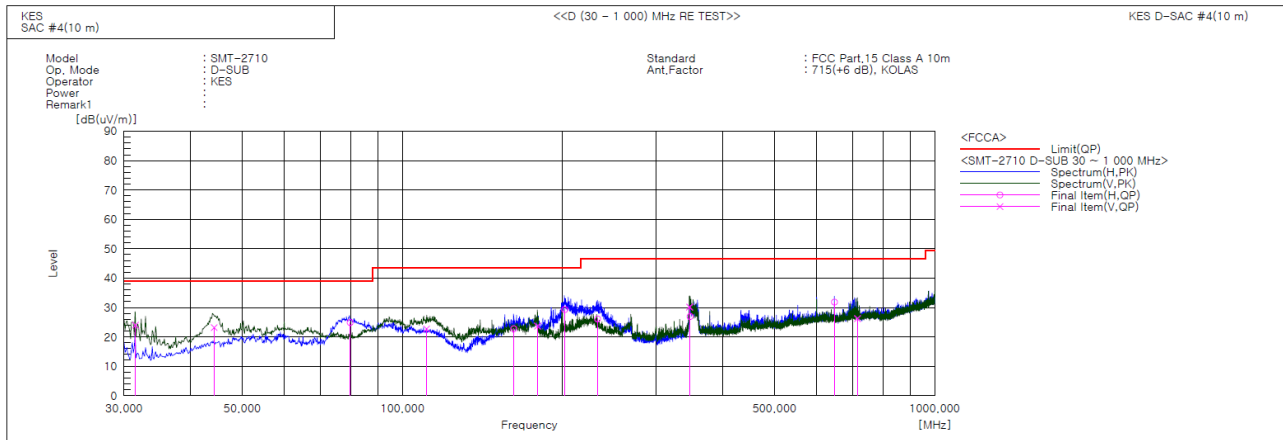
Final Result

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	31.501	V	48.6	-24.9	23.7	39.0	15.3	100.0	291.0	
2	44.226	V	44.0	-21.2	22.8	39.0	16.2	105.0	245.0	
3	78.812	H	52.2	-27.5	24.7	39.0	14.3	389.0	147.0	
4	109.030	V	45.1	-22.8	22.3	43.5	21.2	110.0	146.0	
5	162.840	H	46.4	-24.9	21.5	43.5	22.0	392.0	192.0	
6	216.353	H	46.1	-20.1	26.0	46.5	20.5	388.0	154.0	
7	232.508	V	43.1	-19.5	23.6	46.5	22.9	118.0	243.0	
8	347.114	V	45.8	-15.3	30.5	46.5	16.0	133.0	157.0	
9	486.002	H	39.3	-11.5	27.8	46.5	18.7	384.0	273.0	
10	648.017	H	39.4	-7.9	31.5	46.5	15.0	367.0	53.0	
11	690.912	H	33.8	-7.6	26.2	46.5	20.3	354.0	45.0	
12	704.544	V	34.2	-7.6	26.6	46.5	19.9	163.0	117.0	

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■ D-SUB 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	31.510	V	48.9	-24.9	24.0	39.0	15.0	100.0	286.0	
2	44.269	V	44.4	-21.2	23.2	39.0	15.8	102.0	237.0	
3	79.779	H	52.4	-27.5	24.9	39.0	14.1	400.0	145.0	
4	111.042	V	45.7	-23.0	22.7	43.5	20.8	111.0	162.0	
5	161.926	H	47.6	-24.9	22.7	43.5	20.8	396.0	179.0	
6	179.327	V	47.4	-23.7	23.7	43.5	19.8	122.0	338.0	
7	201.834	H	50.4	-21.1	29.3	43.5	14.2	388.0	168.0	
8	232.564	H	45.6	-19.5	26.1	46.5	20.4	381.0	216.0	
9	346.239	V	45.6	-15.4	30.2	46.5	16.3	132.0	154.0	
10	346.867	H	42.3	-15.4	26.9	46.5	19.6	378.0	45.0	
11	648.005	H	39.7	-7.9	31.8	46.5	14.7	358.0	53.0	
12	715.767	V	33.5	-7.3	26.2	46.5	20.3	150.0	130.0	

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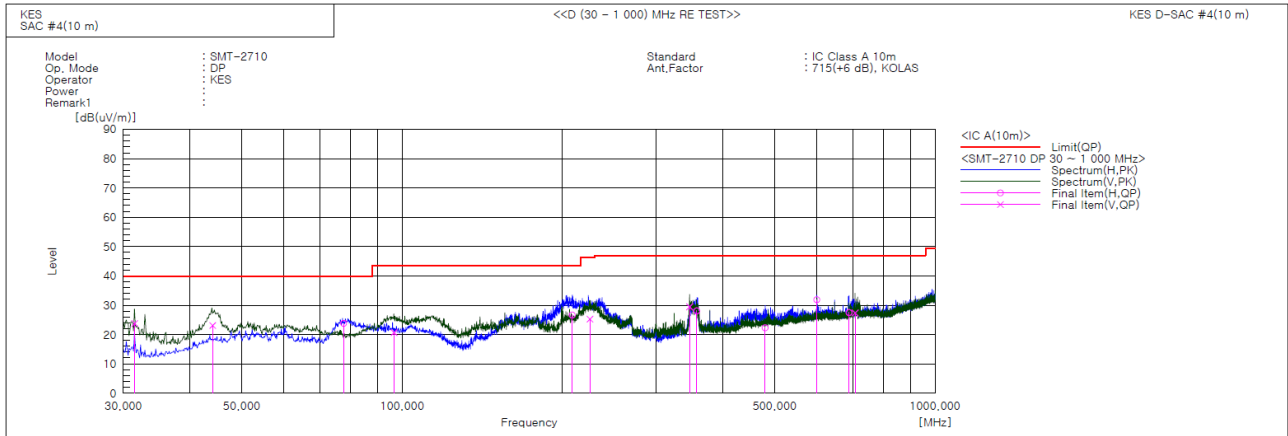
KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:
KES-EM-23T0303
Page (25) of (40)

- IC Regulation ICES-003 Issue 7

■ DP Mode

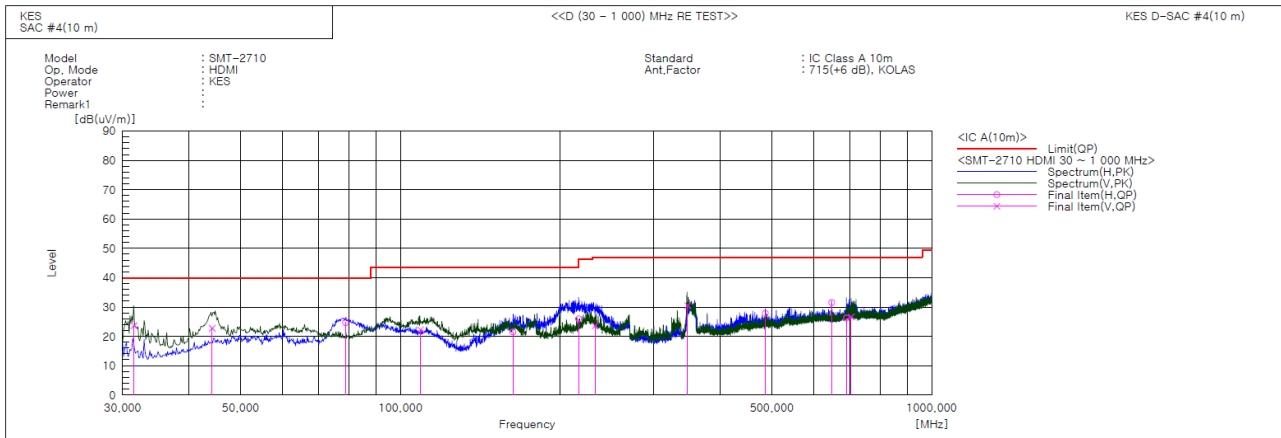


Final Result

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	31.480	V	48.7	-24.9	23.8	40.0	16.2	100.0	260.0	
2	44.102	V	44.3	-21.2	23.1	40.0	16.9	100.0	292.0	
3	77.650	H	51.1	-27.3	23.8	40.0	16.2	391.0	123.0	
4	96.540	V	43.3	-22.6	20.7	43.5	22.8	106.0	280.0	
5	208.500	H	47.3	-20.6	26.7	43.5	16.8	385.0	184.0	
6	225.030	V	45.0	-19.7	25.3	46.4	21.1	122.0	250.0	
7	346.223	V	44.9	-15.4	29.5	47.0	17.5	138.0	160.0	
8	357.236	H	43.0	-14.9	28.1	47.0	18.9	377.0	59.0	
9	479.989	H	34.0	-11.7	22.3	47.0	24.7	100.0	221.0	
10	599.992	H	40.1	-8.2	31.9	47.0	15.1	374.0	47.0	
11	689.345	H	35.1	-7.6	27.5	47.0	19.5	355.0	53.0	
12	707.503	V	34.9	-7.5	27.4	47.0	19.6	163.0	125.0	

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■ HDMI Mode

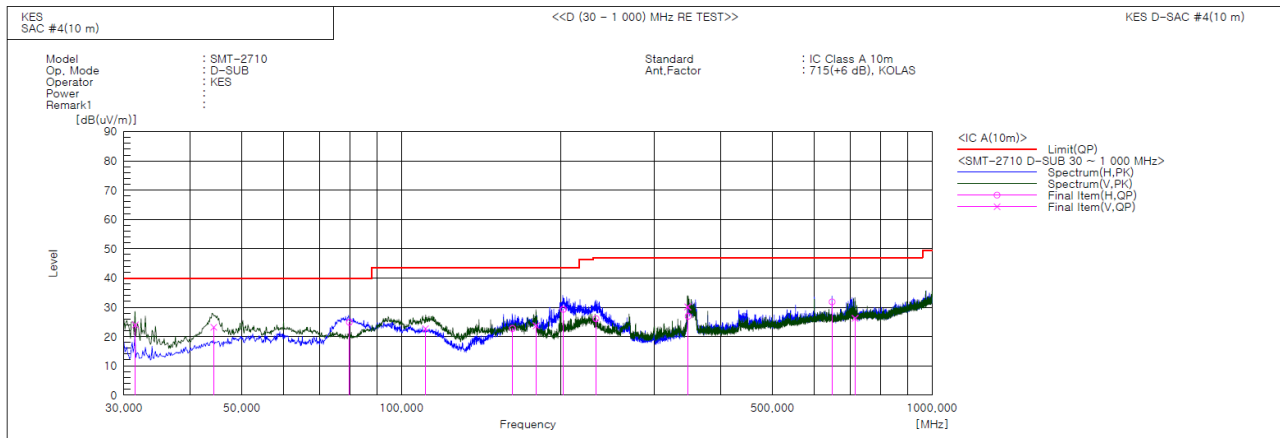


Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		QP [dB(uV)]	[dB(1/m)]	QP [dB(uV/m)]	QP [dB(uV/m)]	QP [dB]	[cm]	[deg]	
1	31.501	V	48.6	-24.9	23.7	40.0	16.3	100.0	291.0	
2	44.226	V	44.0	-21.2	22.8	40.0	17.2	105.0	245.0	
3	78.812	H	52.2	-27.5	24.7	40.0	15.3	389.0	147.0	
4	109.030	V	45.1	-22.8	22.3	43.5	21.2	110.0	146.0	
5	162.840	H	46.4	-24.9	21.5	43.5	22.0	392.0	192.0	
6	216.353	H	46.1	-20.1	26.0	46.4	20.4	388.0	154.0	
7	232.508	V	43.1	-19.5	23.6	47.0	23.4	118.0	243.0	
8	347.114	V	45.8	-15.3	30.5	47.0	16.5	133.0	157.0	
9	486.002	H	39.3	-11.5	27.8	47.0	19.2	384.0	273.0	
10	648.017	H	39.4	-7.9	31.5	47.0	15.5	367.0	53.0	
11	690.912	H	33.8	-7.6	26.2	47.0	20.8	354.0	45.0	
12	704.544	V	34.2	-7.6	26.6	47.0	20.4	163.0	117.0	

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■ D-SUB Mode



Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		QP [dB(uV)]	[dB(1/m)]	QP [dB(uV/m)]	QP [dB(uV/m)]	QP [dB]	[cm]	[deg]	
1	31.510	V	48.9	-24.9	24.0	40.0	16.0	100.0	286.0	
2	44.269	V	44.4	-21.2	23.2	40.0	16.8	102.0	237.0	
3	79.779	H	52.4	-27.5	24.9	40.0	15.1	400.0	145.0	
4	111.042	V	45.7	-23.0	22.7	43.5	20.8	111.0	162.0	
5	161.926	H	47.6	-24.9	22.7	43.5	20.8	396.0	179.0	
6	179.327	V	47.4	-23.7	23.7	43.5	19.8	122.0	338.0	
7	201.834	H	50.4	-21.1	29.3	43.5	14.2	388.0	168.0	
8	232.564	H	45.6	-19.5	26.1	47.0	20.9	381.0	216.0	
9	346.239	V	45.6	-15.4	30.2	47.0	16.8	132.0	154.0	
10	346.867	H	42.3	-15.4	26.9	47.0	20.1	378.0	45.0	
11	648.005	H	39.7	-7.9	31.8	47.0	15.2	358.0	53.0	
12	715.767	V	33.5	-7.3	26.2	47.0	20.8	150.0	130.0	

◆ Calculation - SAC #4(10 m)

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

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

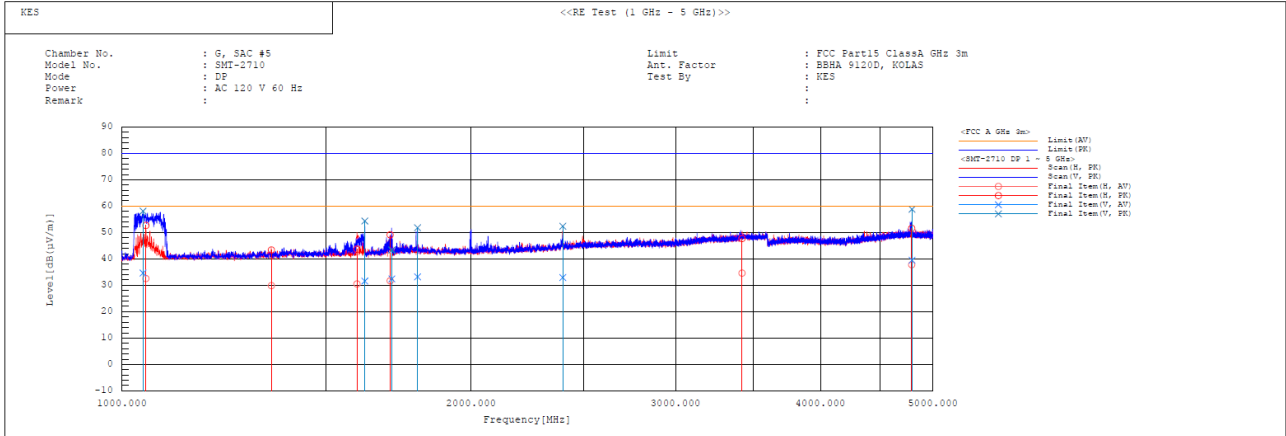
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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



Radiated Electric Field Emissions(Above 1 GHz)

DP Mode



Final Result

No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result AV [dB(μV/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1042.871	V	36.7	60.2	-2.1	34.6	58.1	60.0	80.0	25.4	21.9	133.0	0.7	
2	1048.813	H	34.6	54.7	-2.0	32.6	52.7	60.0	80.0	27.4	27.3	311.0	119.5	
3	1345.045	H	30.1	43.6	-0.2	29.9	43.4	60.0	80.0	30.1	36.6	388.0	270.7	
4	1594.355	H	30.2	43.4	0.3	30.5	43.7	60.0	80.0	29.5	36.3	344.0	263.9	
5	1618.903	V	31.1	53.9	0.5	31.6	54.4	60.0	80.0	28.4	25.6	184.0	334.8	
6	1702.794	H	30.6	48.0	1.1	31.7	49.1	60.0	80.0	28.3	30.9	352.0	60.3	
7	1708.418	V	31.3	42.2	1.1	32.4	43.3	60.0	80.0	27.6	36.7	201.0	323.7	
8	1797.786	V	31.4	50.0	1.8	33.2	51.8	60.0	80.0	26.8	28.2	163.0	143.6	
9	2398.873	V	29.8	49.3	3.1	32.9	52.4	60.0	80.0	27.1	27.6	202.0	136.3	
10	3423.077	H	28.8	41.9	5.8	34.6	47.7	60.0	80.0	25.4	32.3	308.0	78.3	
11	4791.879	H	27.8	41.6	10.0	37.8	51.6	60.0	80.0	22.2	28.4	296.0	9.2	
12	4795.929	V	29.5	48.8	10.0	39.5	58.8	60.0	80.0	20.5	21.2	166.0	44.5	

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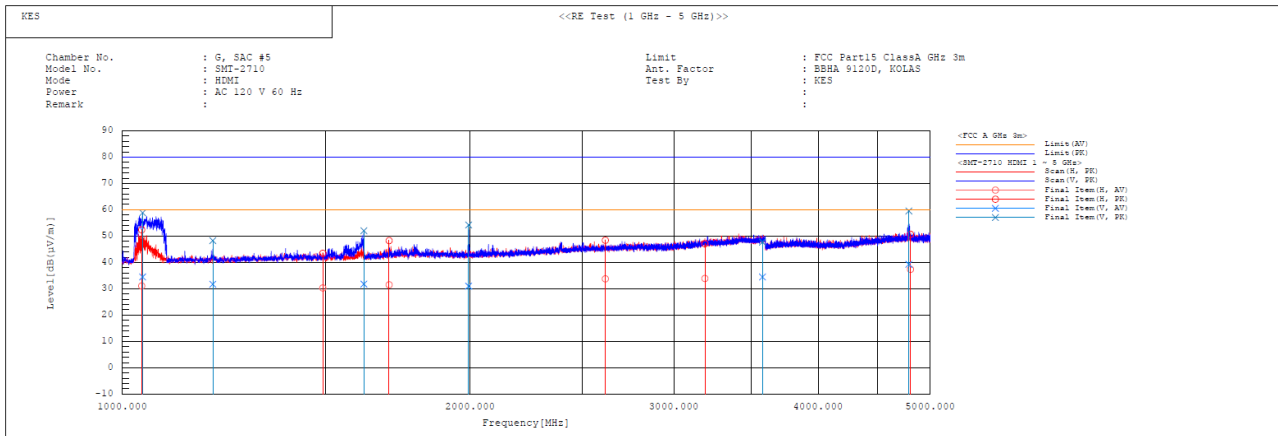


KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:
KES-EM-23T0303
Page (29) of (40)

HDMI Mode



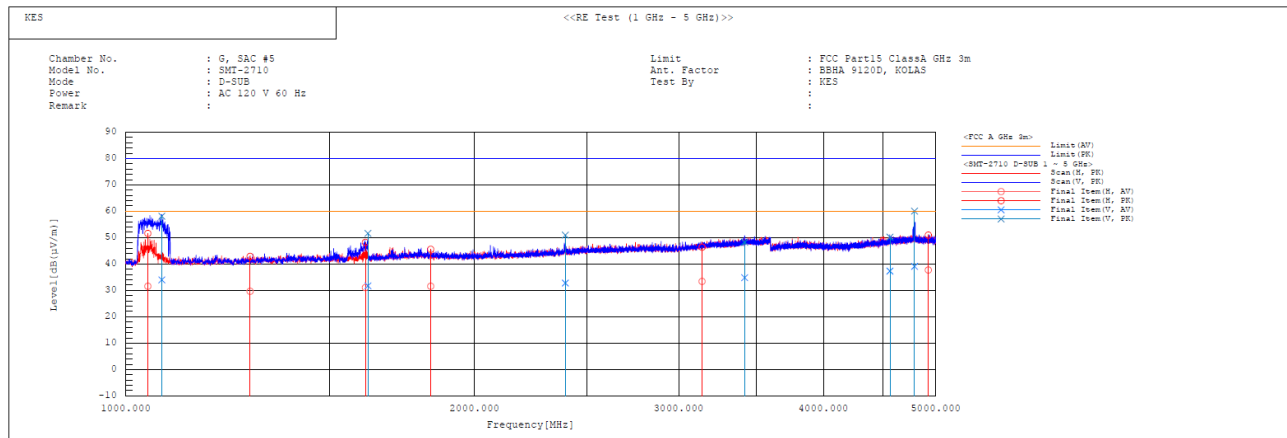
Final Result

No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB (1/m)]	Result AV [dB(μV/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1039.545	H	33.2	54.5	-2.1	31.1	52.4	60.0	80.0	28.9	27.6	359.0	122.9	
2	1041.235	V	36.6	60.9	-2.1	34.5	58.8	60.0	80.0	25.5	21.2	131.0	180.7	
3	1197.715	V	32.9	49.5	-1.2	31.7	48.3	60.0	80.0	28.3	31.7	151.0	26.7	
4	1490.933	H	30.1	43.3	0.2	30.3	43.5	60.0	80.0	29.7	36.5	354.0	26.5	
5	1617.814	V	31.3	51.5	0.5	31.8	52.0	60.0	80.0	28.2	28.0	143.0	1.6	
6	1701.183	H	30.4	47.2	1.1	31.5	48.3	60.0	80.0	28.5	31.7	371.0	42.6	
7	1993.141	V	29.0	52.2	2.0	31.0	54.2	60.0	80.0	29.0	25.8	129.0	174.0	
8	2617.421	H	29.7	44.3	4.1	33.8	48.4	60.0	80.0	26.2	31.6	366.0	352.8	
9	3190.871	H	28.0	41.2	5.9	33.9	47.1	60.0	80.0	26.1	32.9	322.0	41.9	
10	3579.560	V	28.6	41.8	5.9	34.5	47.7	60.0	80.0	25.5	32.3	203.0	282.8	
11	4790.326	V	29.3	49.5	10.0	39.3	59.5	60.0	80.0	20.7	20.5	100.0	32.3	
12	4807.111	H	27.3	40.6	10.1	37.4	50.7	60.0	80.0	22.6	29.3	319.0	120.6	

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D-SUB Mode



Final Result

No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result AV [dB(μV/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1044.863	H	33.7	53.7	-2.1	31.6	51.6	60.0	80.0	28.4	28.4	371.0	119.0	
2	1074.322	V	35.9	60.0	-1.9	34.0	58.1	60.0	80.0	26.0	21.9	145.0	176.0	
3	1280.080	H	30.4	43.6	-0.7	29.7	42.9	60.0	80.0	30.3	37.1	366.0	333.6	
4	1609.441	H	30.7	47.8	0.4	31.1	48.2	60.0	80.0	28.9	31.8	372.0	352.6	
5	1618.168	V	31.2	51.1	0.5	31.7	51.6	60.0	80.0	28.3	28.4	118.0	323.9	
6	1832.806	H	29.8	43.8	1.8	31.6	45.6	60.0	80.0	28.4	34.4	354.0	10.9	
7	2394.818	V	29.7	47.9	3.1	32.8	51.0	60.0	80.0	27.2	29.0	138.0	264.9	
8	3142.546	H	27.7	40.7	5.7	33.4	46.4	60.0	80.0	26.6	33.6	323.0	335.2	
9	3420.497	V	29.0	42.5	5.8	34.8	48.3	60.0	80.0	25.2	31.7	182.0	174.1	
10	4563.656	V	27.9	40.8	9.4	37.3	50.2	60.0	80.0	22.7	29.8	211.0	4.6	
11	4793.209	V	29.1	50.0	10.0	39.1	60.0	60.0	80.0	20.9	20.0	229.0	22.8	
12	4926.087	H	27.1	40.4	10.6	37.7	51.0	60.0	80.0	22.3	29.0	320.0	154.1	

Calculation

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

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

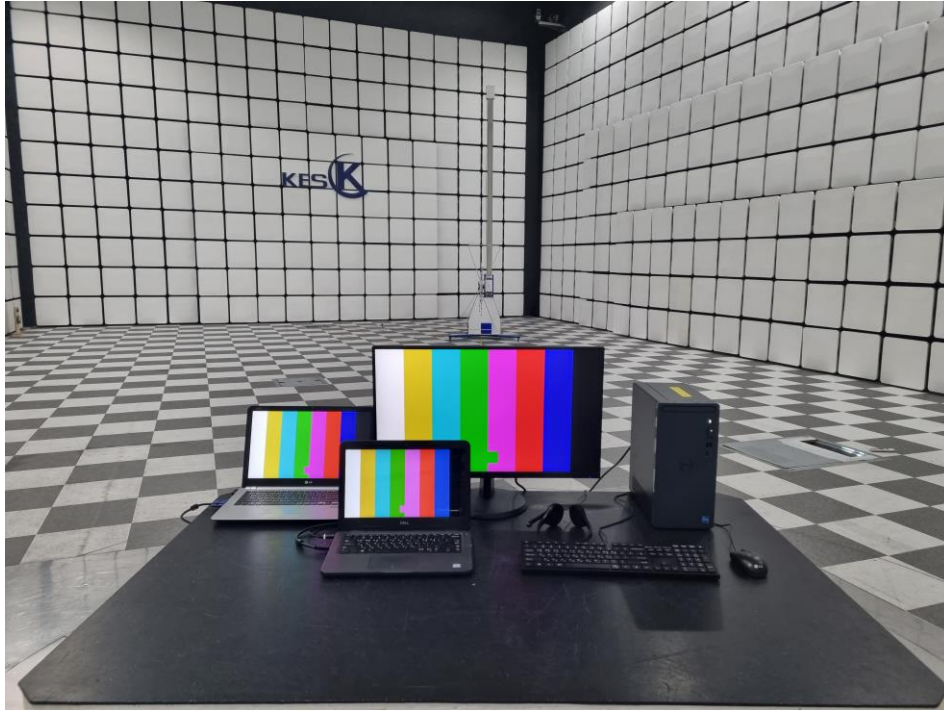
Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



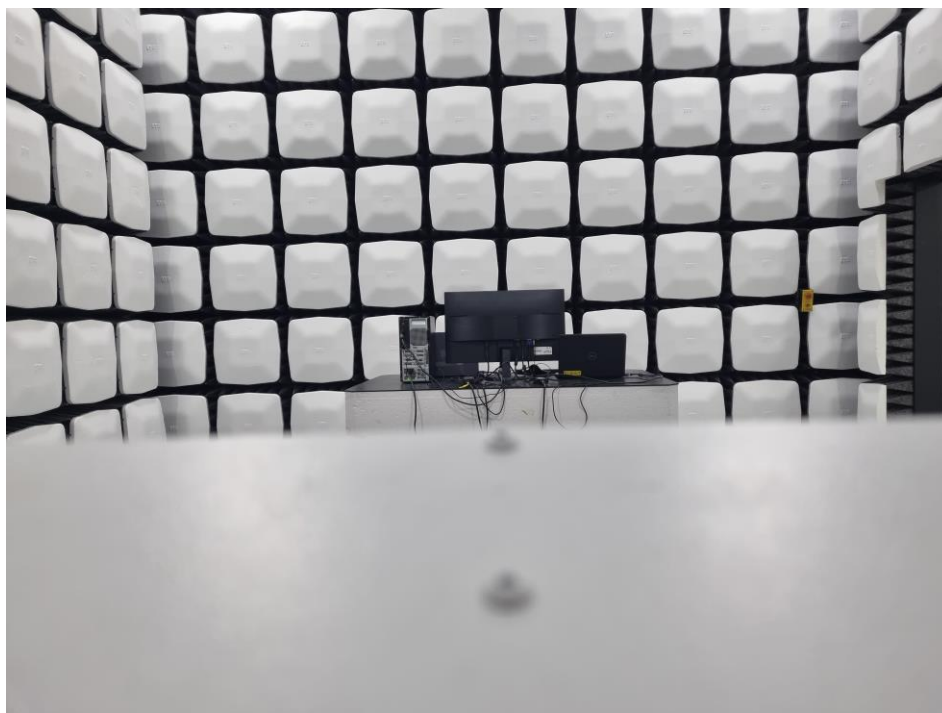
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



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EUT External Photographs

(Top)



(Bottom)



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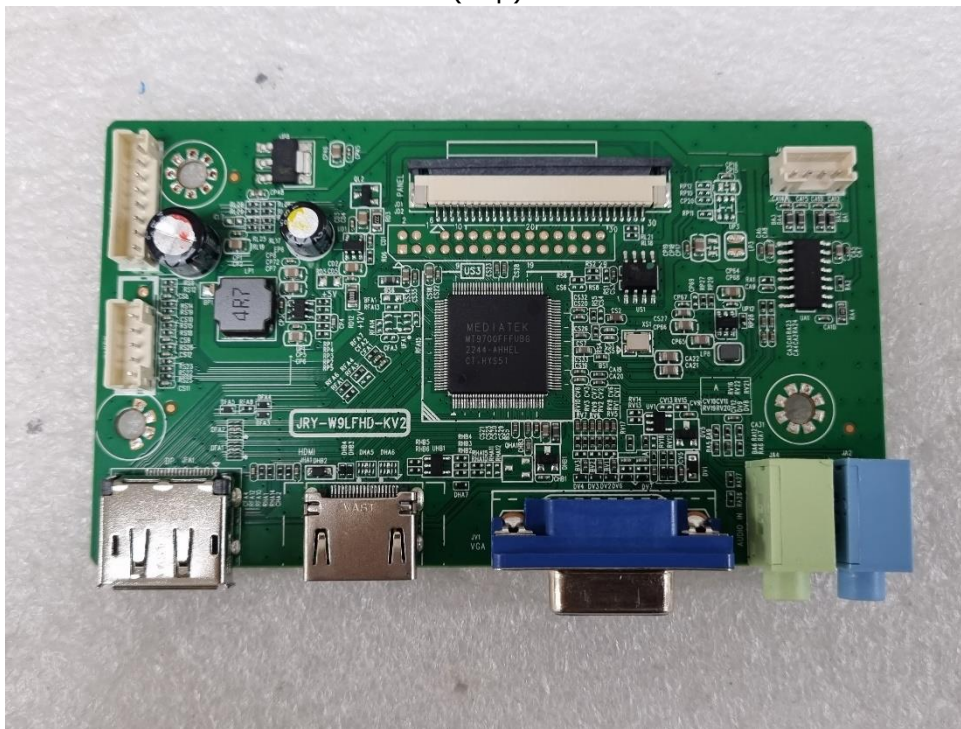
EUT Internal Photographs

(Internal View)



EUT Internal View – Main Board

(Top)



(Bottom)



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EUT Internal View – Button Board

(Top)



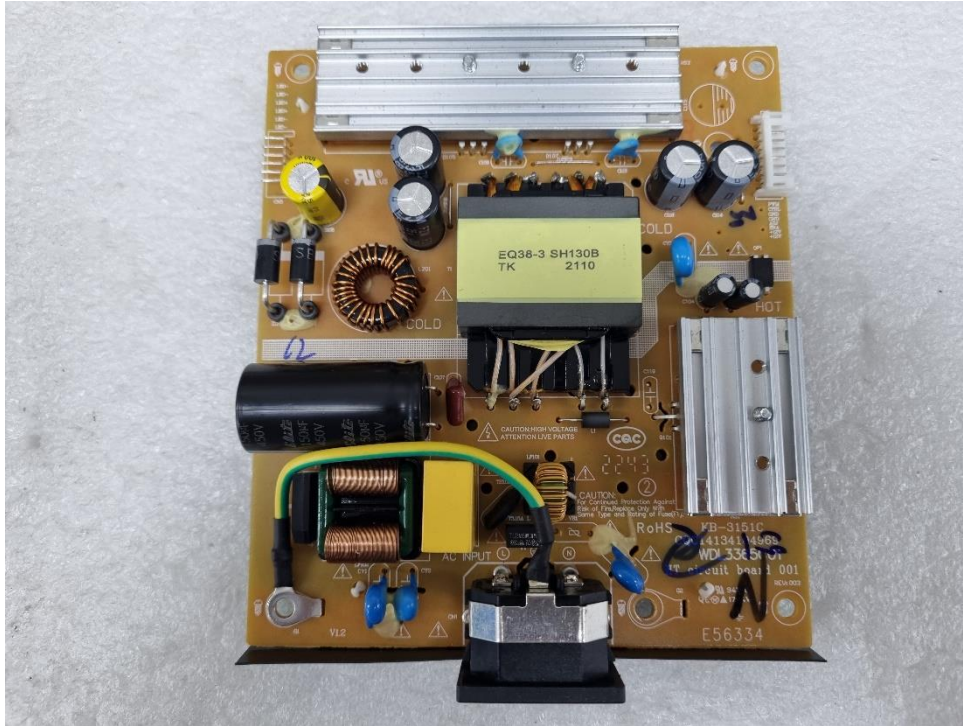
(Bottom)



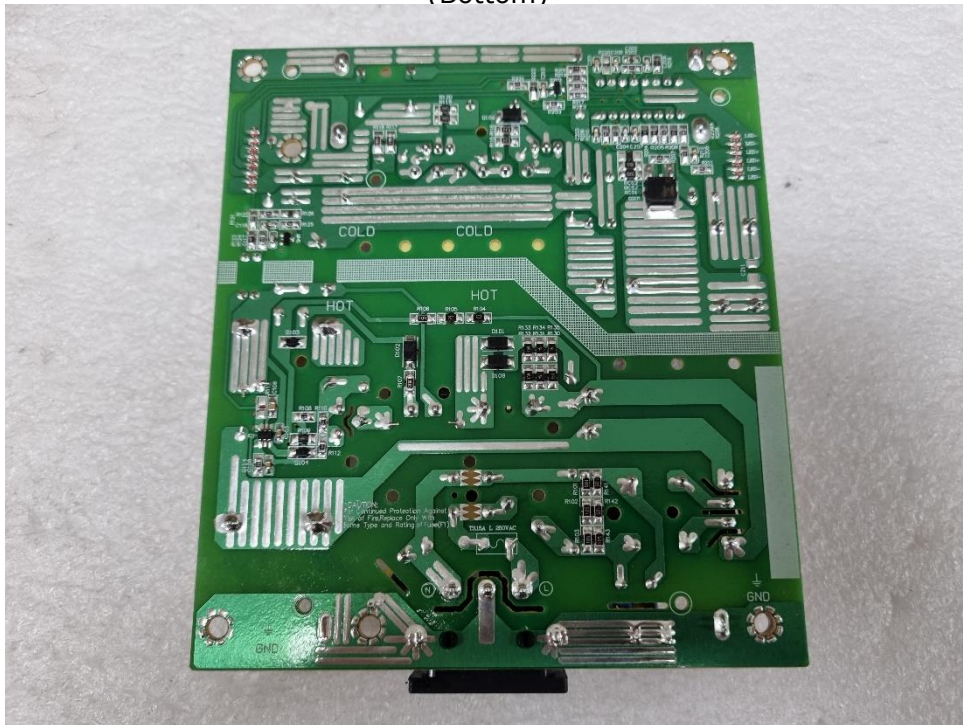
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EUT Internal View – Power Board

(Top)



(Bottom)



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EUT Internal View – Panel

(Top)



(Bottom)



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Label Photographs

FCC Label



Security LED MONITOR

SMT-2710

IC Label

CAN ICES-003(A) / NMB-003(A)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.