



TEST REPORT



Report No. : KES-EM241535

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KES Co., Ltd.

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1. Client

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

2. Sample Description

Product name : LED MONITOR

Model/Type No. : SMT-4344

Variant Model : -

Manufacturer : Weihai Daewoo Electronics Co., Ltd.

Manufacturer Address : No.26, Hongkong Road, Economic & Technical Development Zone, 264205 Weihai City, Shandong Province, China

3. Date of Receipt :

4. Test date : May. 16, 2024 ~ May. 17, 2024

5. Date of Issue : May. 29, 2024

6. Test Results : In Compliance

Tested by

Reviewed by

Seong Min, Jang
EMC Test Engineer

Dong Hun, Jang
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
May. 29, 2024	KES-EM241535	Issued

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1.0 General Product Description

Main Specifications of EUT are:

SMT-4344		
Display		
Type		LED Monitor
Screen Size		43"
Max. Resolution		3840*2160 60Hz
Brightness		250 cd/m ² (Min), 300 cd/m ² (Typ)
Contrast Ratio		1000:1 (Min) 1200:1 (Typ)
Aspect Ratio		16:9
Viewing Angle (H/V)		178°/178°
Display Color		1.07G (8bits + FRC)
Response Time		8ms(Typ)
Video System		None
Panel Life		30,000 hours
Filter Type		None
Interface		
Video	Connectors	HDMI 2.0(2), DP 1.4(1), Two Windows (PIP/PBP)
Composite Video	Input	None
VGA	Connector	None
	Input Signal	None
	Available Format	None
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, 2560 x 1440@60Hz,'3840x2160@60Hz, 3840 x 2160P@30/50/60Hz, 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, 2560 x 1440@60Hz,'3840x2160@60Hz, 3840 x 2160P@30/50/60Hz, 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 Out
	Output Signal	Speakers :8Ω, 6Wx2
Application Support		Remote Controller
On Screen Display		
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)
	Power Consumption	<80W
Environmental	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)
	Operating Humidity	10% ~ 80% (non-condensing)
Mechanical	Dimensions with Stand (WxHxD)	967.0*637.2*236.7mm
	Dimensions without Stand (WxHxD)	967*560*73.5mm
	Weight	8.2Kg
	Protection Glass	None
	Cabinet Color	Black
	Wall Mounts	None
	VESA Mounts Interface	100*100mm /400*200mm



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 230 V 50 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
LED MONITOR	SMT-4344	-	Weihai Daewoo Electronics Co., Ltd.	EUT
Reomte controller	-	-	Weihai Daewoo Electronics Co., Ltd.	-

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PC	-	-	DELL	-
Keyboard	KB216t1	-	DELL	-
Mouse	MS116c Mouse	-	DELL	-
Headset	K550	-	Britz®	-

1.6 External I/O Cabling

■ HDMI, DisplayPort Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
LED MONITOR (EUT)	IR	Remote controller	IR	-	-
	HDMI	PC	HDMI	1.4	S
	HDMI		HDMI	1.3	S
	DiplyPort		DiplyPort	1.4	S
	3.5 mm	Headset	3.5 mm	2.5	U
PC	USB A-type	Keyboard	USB A-type	1.8	U
	USB A-type	Mouse	USB A-type	1.6	U

* Unshielded=U, Shielded=S



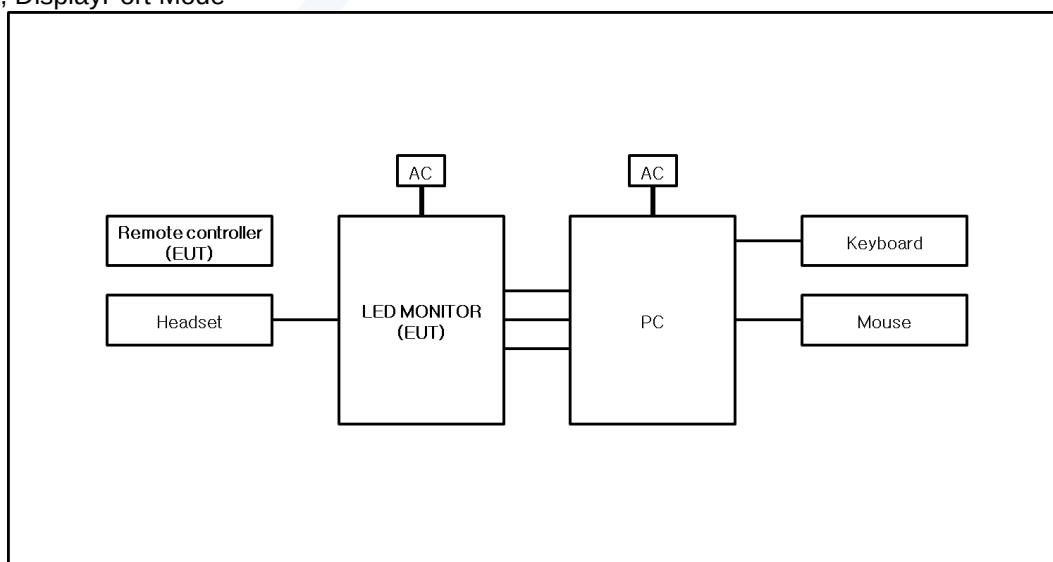
1.7 EUT Operating Mode(s)

Test mode	operating
- HDMI, DisplayPort	Monitoring EUT during the Test

EUT Test operating S/W - Vendor Support Program		
Name	Version	Manufacture Company
-	-	-

1.8 Configuration

■ HDMI, DisplayPort 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, 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:

☒ **EMC – Directive 2014/30/EU**

☒ EN 55032:2015/A11:2020

☒ Class A

☐ Class B

☒ EN 55035:2017/A11:2020

☒ EN IEC 61000-3-2:2019

☒ EN 61000-3-3:2013/A2:2021

☒ **EMC – Regulations 2016**

☒ EN 55032:2015/A11:2020

☒ Class A

☐ Class B

☒ EN 55035:2017/A11:2020

☒ EN IEC 61000-3-2:2019

☒ EN 61000-3-3:2013/A2:2021



2.1 Conducted Emissions at Mains Power Ports

Test Date

May. 16, 2024

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, 08, 2024
☒	LISN	ENV216	R & S	101787	11, 08, 2024
☒	LISN	ESH2-Z5	R & S	100450	11, 08, 2024
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 08, 2024

Test Conditions

Temperature: (22,6 ± 0,2) °C

Relative Humidity: (46,0 ± 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

RemarksSee Appendix A for test data.



2.2 Conducted Emissions at Telecommunication Ports

Test Date

N/A

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMI Test SW	EMC32	R & S	9.12.00	-
☐	EMI TEST RECEIVER	ESR3	R & S	101783	11, 08, 2024
☐	LISN	ENV216	R & S	101787	11, 08, 2024
☐	LISN	ENV216	R & S	101137	01, 10, 2025
☐	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 08, 2024
☐	8-WIRE ISN CAT3,5	ENY81	R & S	100174	11, 09, 2024
☐	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101666	03, 05, 2025

Test Conditions

Temperature:

°C

Relative Humidity:

% 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

RemarksN/A



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

May. 16, 2024

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	02, 13, 2025
☒	AMPLIFIER	SCU 01	R & S	100603	11, 08, 2024
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 17, 2024
☒	ATTENUATOR	8491A	HP	32173	02, 13, 2025

Test Conditions

Temperature: (22,6 ± 0,2) °C

Relative Humidity: (48,7 ± 0,1) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Measurement distance

10 m

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

May. 16, 2024

Test Location

SEMI ANECHOIC CHAMBER #3

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	ESR7	R & S	101190	07, 31, 2024
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	03, 05, 2025
☒	ATTENUATOR	8491A	HP	35496	02, 13, 2025
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 05, 2025

Test Conditions

Temperature: (22,5 ± 0,1) °C

Relative Humidity: (46,6 ± 0,1) % R.H.

Frequency Range of Measurement

1 GHz to 6 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.



2.5 Harmonic Current Emissions

Test Date

May. 17, 2024

Test Location

Electro wave Shieldroom #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	net.control	EM TEST	2.1.4	-
☒	DIGITAL POWER ANALYZER	DPA 500N	EM TEST	V1024106759	03, 28, 2025
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-

Test Conditions

Temperature: (22,8 ± 0,3) °C

Relative Humidity: (46,1 ± 0,1) % R.H.

Classification of Equipment for Harmonic Current Emissions

- ☐ Class A
☐ Class B
☐ Class C(Below 25 W)
☐ Class C(Above 25 W)
☒ Class D

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.



2.6 Voltage Fluctuations and Flicker

Test Date

May. 17, 2024

Test Location

Electro wave Shieldroom #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	net.control	EM TEST	2.1.4	-
☒	DIGITAL POWER ANALYZER	DPA 500N	EM TEST	V1024106759	03, 28, 2025
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-

Test Conditions

Temperature: (22,8 ± 0,3) °C

Relative Humidity: (46,1 ± 0,1) % R.H.

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.



3.0 Criteria for compliance

General performance criteria

General performance criteria are defined in 8.2, 8.3 and 8.4. These criteria shall be used during the testing of primary functions where no relevant annex is applicable.

When assessing the impact of a disturbance on a function, the assessment should take into consideration the function's performance prior to the application of the disturbance and only identify as failures those changes in performance that are a result of the disturbance.

Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed

below a performance level specified by the manufacturer when the equipment is used as intended.

The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed,

below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.



3.1 Electrostatic Discharge

Reference Standard

EN 61000-4-2

Test Date

May. 16, 2024

Test Location

EMS-ESD: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	ESD SIMULATOR	ESS-2000	Noise Ken	ESS01Z0454	01, 30, 2025
☒	HCP	-	KES	-	-
☒	VCP	-	Noise Ken	-	-

Test Conditions

Temperature: (22,7 ± 0,1) °C
Relative Humidity: (46,7 ± 0,1) % R.H.
Atmospheric Pressure: (100,2 ± 0,1) kPa

Test Specifications

Discharge Factor: ≥ 1 s

Discharge Impedance: 330 ohm / 150 pF

Kind of Discharge: Air, Contact (direct and indirect)

Polarity: Positive and Negative

Number of Discharge: 10 at all locations for Air discharge
10 at all locations for Contact discharge

Discharge Voltage:	Contact	Air	HCP	VCP
	☐ 2 kV	☒ 2 kV	☐ 2 kV	☐ 2 kV
	☒ 4 kV	☒ 4 kV	☒ 4 kV	☒ 4 kV
	☐ 6 kV	☐ 6 kV	☐ 6 kV	☐ 6 kV
	☐ 8 kV	☒ 8 kV	☐ 8 kV	☐ 8 kV
	☐ 15 kV	☐ 15 kV	☐ 15 kV	☐ 15 kV

Notes: HCP: Horizontal coupling plane

VCP: Vertical coupling plane

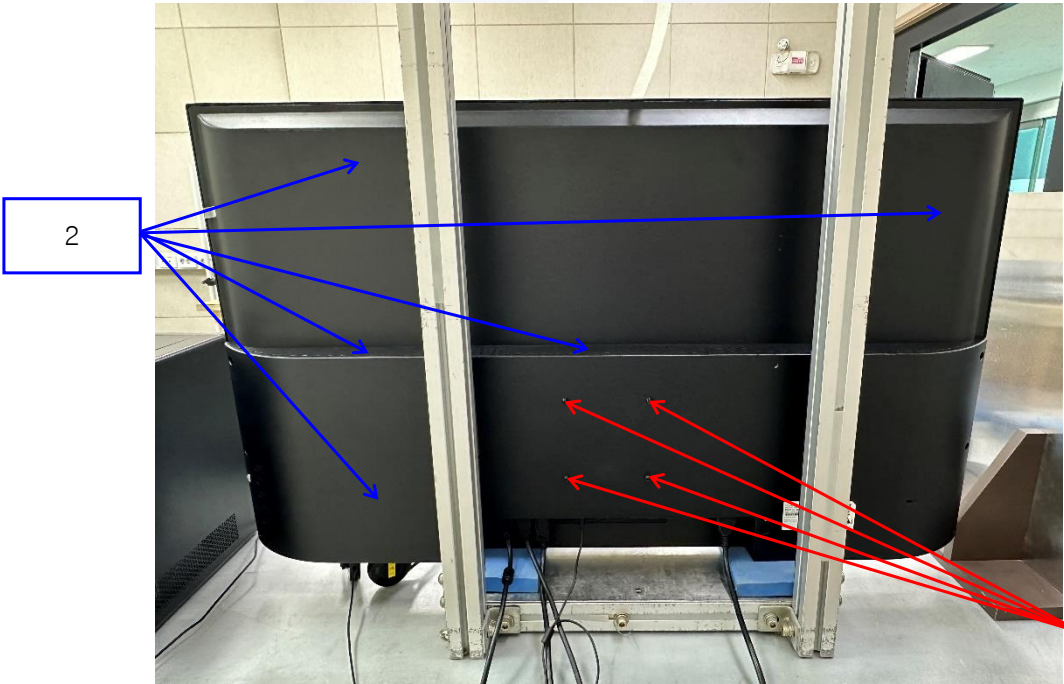
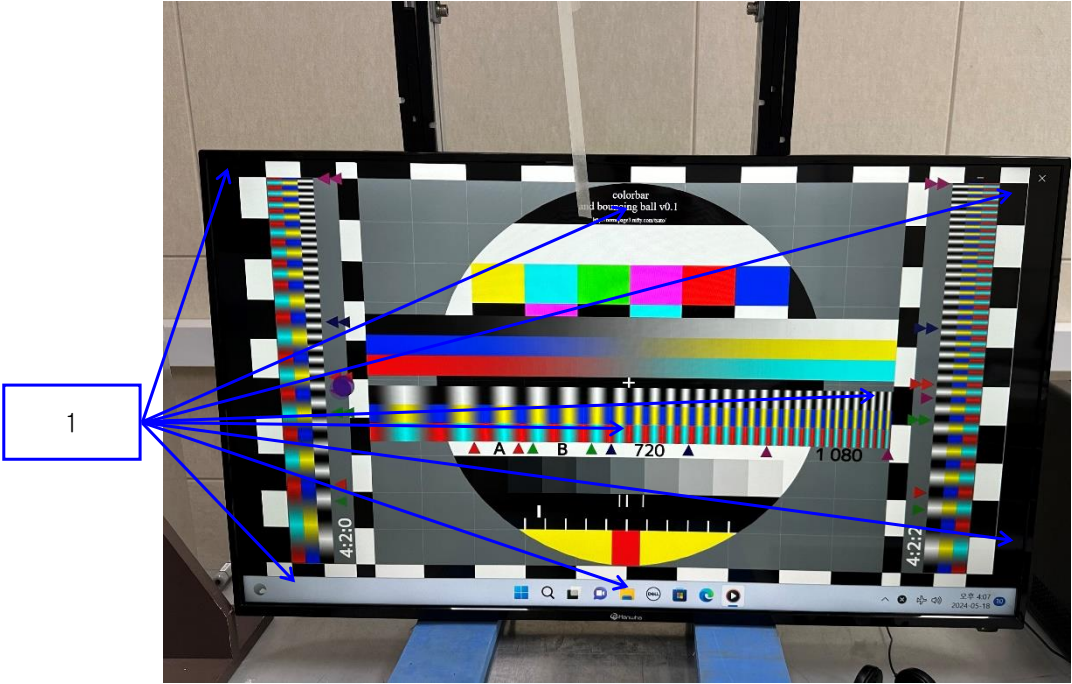
Required Performance Criteria: ☒ B

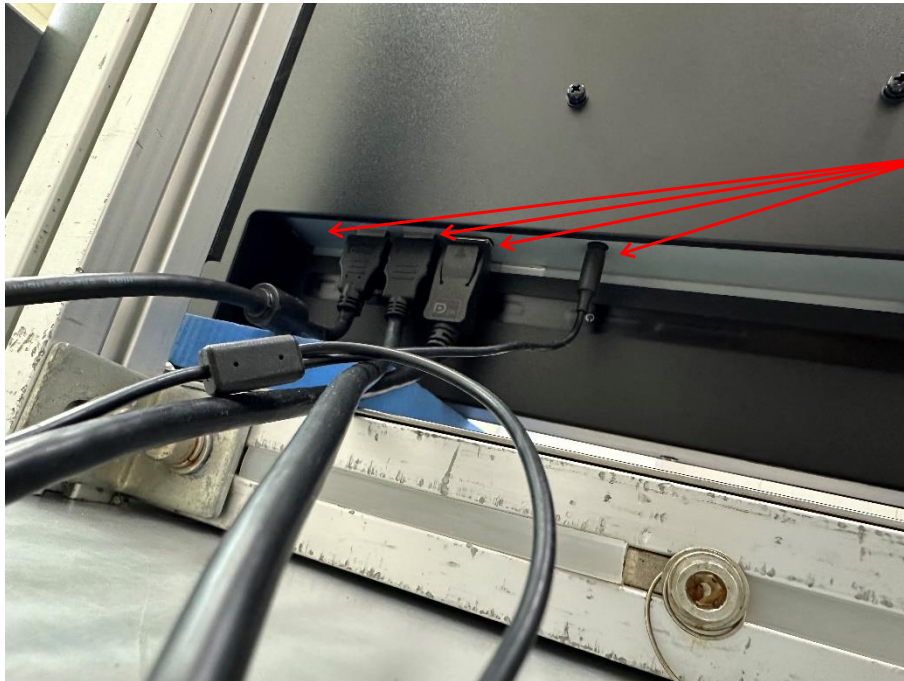


Location of Discharge:



■ HDMI, DisplayPort Mode





**Test Data**

■ HDMI Mode

No.	Test Point	Discharge Method	Performance		Remarks
			Criteria	Results	
1	HCP Contact	Contact Discharge	B	A	-
2	VCP Contact	Contact Discharge	B	A	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Display	Air Discharge	A	-
2	Enclosure	Air Discharge	A	-
3	Screw	Contact Discharge	A	-
4	Port	Contact Discharge	A	-
5	Reomte controller Enclosure	Air Discharge	A	-

■ DisplayPort Mode

No.	Test Point	Discharge Method	Performance		Remarks
			Criteria	Results	
1	HCP Contact	Contact Discharge	B	A	-
2	VCP Contact	Contact Discharge	B	A	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Display	Air Discharge	A	-
2	Enclosure	Air Discharge	A	-
3	Screw	Contact Discharge	A	-
4	Port	Contact Discharge	A	-
5	Reomte controller Enclosure	Air Discharge	A	-

Note: "Blank" = Not performed

Results:

A – No degradation of function

B – Distortion/Error of function (self-recoverable)

C – Loss of function

Test Results☒ PASS Required Performance Criteria☐ NOT PASS Required Performance Criteria**Remarks**N/A



3.2 Radiated Electric Field Immunity

Reference Standard

EN IEC 61000-4-3

Test Date

May. 17, 2024

Test LocationEMS-RS: ☐ SEMI ANECHOIC CHAMBER #1☒ SEMI ANECHOIC CHAMBER #3**Test Equipment**

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	EMC32	R & S	10.10.02	-
☒	SIGNAL GENERATOR	SMB 100A	Rohde & Schwarz	108252	07, 31, 2024
☒	HIGH POWER DUAL AMP	SSA532	SUNGSAN	SSA532-001	-
☒	POWER METER	E4419B	Agilent	GB40203000	02, 13, 2025
☒	AVERAGE POWER SENSOR	E9301A	Agilent	MY52170007	02, 13, 2025
☒	AVERAGE POWER SENSOR	E9301A	Agilent	MY41498669	02, 13, 2025
☒	STACKED DOUBLE LOG-PER- ANTENNA	STPL9128 E	Schwarzbeck	9128ES-121	-
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 05, 2025

Test Conditions

Temperature: (22,4 ± 0,1) °C
Relative Humidity: (46,4 ± 0,1) % R.H.
Atmospheric Pressure: (100,1 ± 0,1) kPa



Test Specifications

Antenna Polarization: Horizontal & vertical unless indicated otherwise

Antenna Distance: ☒ 3 m

Field Strength: ☐ 1 V/m ☒ 3 V/m
☐ 10 V/m

Frequency Range: ☒ 80 MHz to 1 GHz (swept test) ☐ 1,4 GHz to 2,7 GHz
☒ 1.8 GHz , 2.6 GHz , 3.5 GHz , 5 GHz ($\pm 1\%$)(spot test)

Modulation: ☒ AM, 80 %, 1 kHz sine wave
☐ PM, 1 Hz (0,5 s ON : 0,5 s OFF)

Frequency step: ☒ 1 % step

Dwell Time: ☐ 1 s ☒ 3 s (spot test)

of Sides Radiated: ☒ 4

Required Performance Criteria: ☒ A

**Test Data****■ HDMI Mode**

Side Exposed	Performance Criteria	Results	
		Horizontal	Vertical
Front	A	A	A
Right	A	A	A
Back	A	A	A
Left	A	A	A

[Audio output function]

☐ Electrical Measurements / ☐ Acoustic Measurements

Measured parts	Test method	Level (dB)		Performance criteria	Observations	
		Criteria	Measured		Horizontal	Vertical
-	-	-	-	A	-	-

* The SOUND ACOUSTIC TESTER mark characteristics indicate low if less than 50 dB.

■ DisplayPort Mode

Side Exposed	Performance Criteria	Results	
		Horizontal	Vertical
Front	A	A	A
Right	A	A	A
Back	A	A	A
Left	A	A	A

[Audio output function]

☐ Electrical Measurements / ☐ Acoustic Measurements

Measured parts	Test method	Level (dB)		Performance criteria	Observations	
		Criteria	Measured		Horizontal	Vertical
-	-	-	-	A	-	-

* The SOUND ACOUSTIC TESTER mark characteristics indicate low if less than 50 dB.

Note: "Blank" = Not performed

Results:

A – No degradation of function

B – Distortion/Error of function (self-recoverable)

C – Loss of function

Test Results☒ PASS Required Performance Criteria☐ NOT PASS Required Performance Criteria**Remarks**

N/A



3.3 Electrical Fast Transients/Bursts

Reference Standard

EN 61000-4-4

Test Date

May. 16, 2024

Test Location

EMS-EFT: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	iec.control	EM TEST	5.4.8	-
☒	ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	11, 09, 2024
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 09, 2024
☐	CAPACITIVE COUPLING CLAMP	HFK	EM TEST	P1633183115	11, 10, 2024

Test Conditions

Temperature: (22,7 ± 0,2) °C
Relative Humidity: (46,7 ± 0,1) % R.H.
Atmospheric Pressure: (100,2 ± 0,1) kPa

Test Specifications

Pulse Amplitude & Polarity:
(Power Lines) ☒ ± 1.0 kV ☐ ± 2.0 kV
☐ ± 4.0 kV

Pulse Amplitude & Polarity:
(Signal Lines) ☐ ± 0.5 kV ☐ ± 1.0 kV
☐ ± 2.0 kV

Burst Period: ☒ 300 ms ☐ 2 s

Repetition Rate: ☒ 5 klz ☐ 100 klz

Duration of Test Voltage: ☒ ≥ 1 min

Required Performance Criteria: ☒ B

**Test Data**☒ HDMI Mode☒ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
L	B	A	A
N	B	A	A
PE	B	A	A
L – N	B	A	A
L – PE	B	A	A
N – PE	B	A	A
L – N – PE	B	A	A

☐ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
-	B	-	-

☐ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
-	B	-	-

**■ DisplayPort Mode**☒ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
L	B	A	A
N	B	A	A
PE	B	A	A
L – N	B	A	A
L – PE	B	A	A
N – PE	B	A	A
L – N – PE	B	A	A

☐ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
-	B	-	-

☐ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Performance Criteria	Results	
		(+) Burst (kV)	(-) Burst (kV)
-	B	-	-

Note: “Blank” = Not performed

Results:

A – No degradation of function

B – Distortion/Error of function (self-recoverable)

C – Loss of function

Test Results☒ PASS Required Performance Criteria☐ NOT PASS Required Performance Criteria**Remarks**N/A



3.4 Surge

Reference Standard

EN 61000-4-5

Test Date

May. 16, 2024

Test Location

EMS-Surge: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	iec.control	EM TEST	5.4.8	-
☒	ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	11, 09, 2024
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 09, 2024
☒	CDN	CNV 508N1	EM TEST	P1610176296	11, 10, 2024

Test Conditions

Temperature: (22,7 ± 0,2) °C
Relative Humidity: (46,7 ± 0,2) % R.H.
Atmospheric Pressure: (100,2 ± 0,1) kPa



Test Specifications

AC Power Lines

Source Impedance: 12 ohm for common mode and 2 ohm for differential mode

Surge Amplitude :
Common Mode
☒ (0,5 / 1,0 / 2,0) kV
Differential Mode
☒ (0,5 / 1,0) kV

Number of Surges: ☒ 5 surges per angle

Angle: ☒ 90°, 270° (input a.c. power port)

Polarity: ☒ Positive & Negative

Repetition Rate: ☐ 1 surge per min ☒ 1 surge per 30 sec.

Required Performance Criteria: ☒ B

Signal Lines

Source Impedance: 42 ohm for common mode

Surge Amplitude: Common Mode
☐ (1,0) kV

Number of Surges: ☐ 5 Surges

Polarity: ☐ Positive & Negative

Repetition Rate: ☐ 1 surge per min ☐ 1 surge per 30 sec.

Required Performance Criteria: ☐ B

**Test Data**☒ HDMI Mode☒ Line to Line – Differential Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
L - N	B	A	A

☒ Line to Earth – Common Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
L – PE	B	A	A
N – PE	B	A	A

Signal Lines☐ Line to Earth – Common Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
-	B	-	-



■ DisplayPort Mode

☒ Line to Line – Differential Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
L - N	B	A	A

☒ Line to Earth – Common Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
L – PE	B	A	A
N – PE	B	A	A

Signal Lines

☐ Line to Earth – Common Mode

Mode of Application	Performance Criteria	Results	
		(+) Surge (kV)	(-) Surge (kV)
-	B	-	-

Note: “Blank” = Not performed

Results:

A – No degradation of function

B – Distortion/Error of function (self-recoverable)

C – Loss of function

Test Results

☒ PASS Required Performance Criteria

☐ NOT PASS Required Performance Criteria

Remarks

N/A



3.5 Conducted Disturbance

Reference Standard

EN 61000-4-6

Test Date

May. 16, 2024

Test Location

EMS-CS: Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	icd.control	EM TEST	5.3.12	-
☒	CONTINUOUS WAVE SIMULATOR	CWS 500N1.4	EM TEST	P1602169880	11, 08, 2024
☒	ATTENUATOR	ATT 6/80	EM TEST	P1614178148	11, 08, 2024
☒	CDN	CDN M016	TESEQ	43694	11, 08, 2024
☒	CDN	CDN M016	TESEQ	43697	11, 08, 2024
☐	CDN	CDN T8RJ45	EM TEST	0909-09	07, 31, 2024
☐	EM CLAMP	KEMZ 801A	TESEQ	44099	11, 09, 2024

Test Conditions

Temperature: (22,6 ± 0,2) °C
Relative Humidity: (46,0 ± 0,1) % R.H.
Atmospheric Pressure: (100,1 ± 0,1) kPa



Test Specifications

Frequency range:

☐ 150 kHz to 100 MHz

☒ 150 kHz to 80 MHz

Voltage Level:

☒ 3 Vrms (150 kHz to 10 MHz)

☒ 3 Vrms to 1Vrms (10 MHz to 30 MHz)

☒ 1 Vrms (30 MHz to 80 MHz)

Modulation:

☒ AM, 80 %, 1 kHz sine wave

☐ PM, 1 Hz (0,5 s ON : 0,5 s OFF)

Frequency step:

☒ 1 % step

Dwell Time:

☒ 1 s

☐ 3 s

Required Performance Criteria:

☒ A

**Test Data**☒ HDMI Mode☒ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
L – N – PE	CDN	A	A

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
-	-	A	-

☐ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
-	-	A	-

[Audio output function]

☐ Electrical Measurements / ☐ Acoustic Measurements

Measured parts	Test method	Level (dB)		Performance criteria	Results
		Criteria	Measured		
-	-	-	-	A	-

* The SOUND ACOUSTIC TESTER mark characteristics indicate low if less than 50 dB.

☒ DisplayPort Mode☐ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
L – N – PE	CDN	A	A

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
-	-	A	-

☐ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Performance Criteria	Results
-	-	A	-

[Audio output function]

☐ Electrical Measurements / ☐ Acoustic Measurements

Measured parts	Test method	Level (dB)		Performance criteria	Results
		Criteria	Measured		
-	-	-	-	A	-

* The SOUND ACOUSTIC TESTER mark characteristics indicate low if less than 50 dB.

Notes: CDN = Coupling Decoupling Network
“blank” = Not performed

Results:

A – No degradation of function
B – Distortion/Error of function (self-recoverable)
C – Loss of function

Test Results

- ☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

N/A



3.6 Power Frequency Magnetic Field Immunity

Reference Standard

EN 61000-4-8

Test Date

N/A

Test Location

EMS-Magnetic: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMS Test S/W	iec.control	EM TEST	5.4.8	-
☐	ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	11, 09, 2024
☐	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 09, 2024
☐	MAGNETIC FIELD COIL	MS 100N	EM TEST	P1536163691	11, 10, 2024
☐	CURRENT TRANSFORMER	MC 2630	EM TEST	P1629182219	11, 10, 2024

Test Conditions

Temperature:

°C

Relative Humidity:

% R.H.

Atmospheric Pressure:

kPa

Test Specifications

Field Strength:

☐ 1 A/m☐ 3 A/m☐ 30 A/m

Frequency:

☐ 50 Hz☐ 60 Hz

Required Performance Criteria:

☐ A

**Test Data**☐ Immersion method

Coil orientation	Performance Criteria	Results
X - axis	A	-
Y - axis	A	-
Z - axis	A	-

Note: "blank" = Not performed

Results:

A – No degradation of function

B – Distortion/Error of function (self-recoverable)

C – Loss of function

Test Results☐ PASS Required Performance Criteria☐ NOT PASS Required Performance Criteria☒ NOT APPLICABLE**Remarks**Not affected by magnetic fields.



3.7 Voltage Dips and Short Interruptions

Reference Standard

EN IEC 61000-4-11

Test Date

May. 16, 2024

Test Location

EMS-Voltage dip: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	iec.control	EM TEST	5.4.8	-
☒	ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	11, 09, 2024
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 09, 2024

Test Conditions

Temperature: (22,7 ± 0,2) °C
Relative Humidity: (46,7 ± 0,2) % R.H.
Atmospheric Pressure: (100,2 ± 0,1) kPa

**Test Data**

■ HDMI Mode

NO	Depth	Duration	Performance		Remarks
			Criteria	Results	
1	95 %	0.5	B	A	-
2	30 %	25	C	A	-
3	95 %	250	C	C	-

■ DisplayPort Mode

NO	Depth	Duration	Performance		Remarks
			Criteria	Results	
1	95 %	0.5	B	A	-
2	30 %	25	C	A	-
3	95 %	250	C	C	-

Results:

- A – No response observed from EUT
B – Unit shuts down then automatically restarts when full voltage is restored.
C – Unit shuts down then manually restarts when full voltage is restored or Loss of function.

Test Results

- ☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

C : During the interruption (95 %, 250 cycle), EUT was turned off but after the test, it was recovered by operator's intervention.



APPENDIX A – TEST DATA

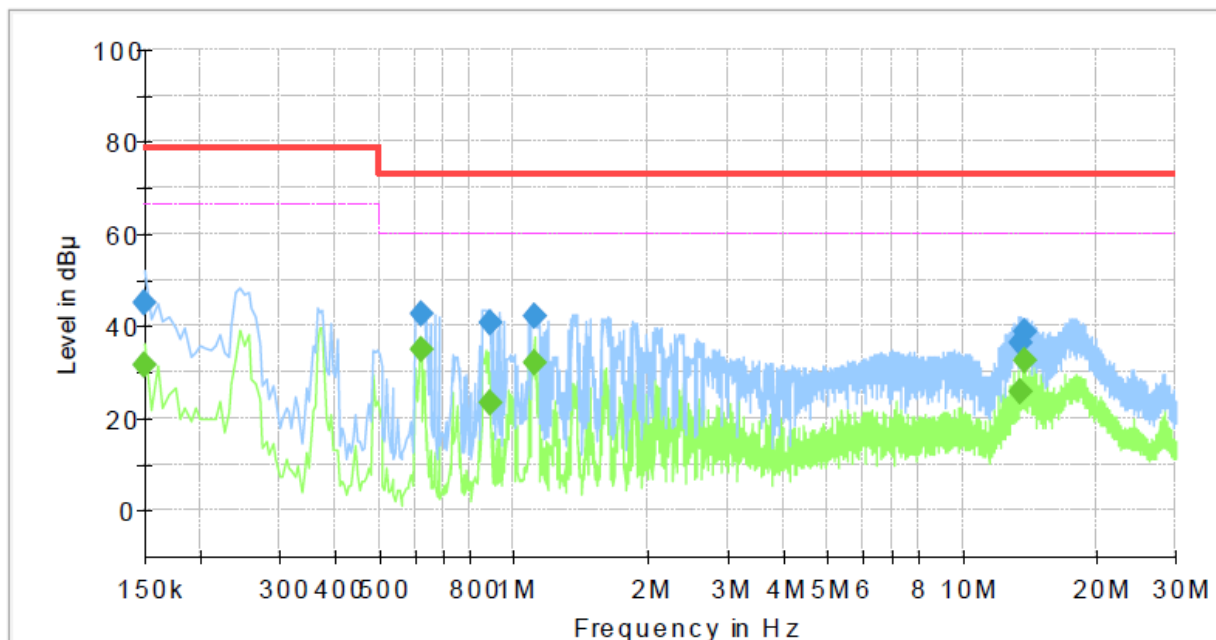
Conducted Emissions at Mains Power Ports

■ HDMI Mode

[HOT]

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241535
Phase: L1
Mode: HDMI
Operator Name: KES



Final Result

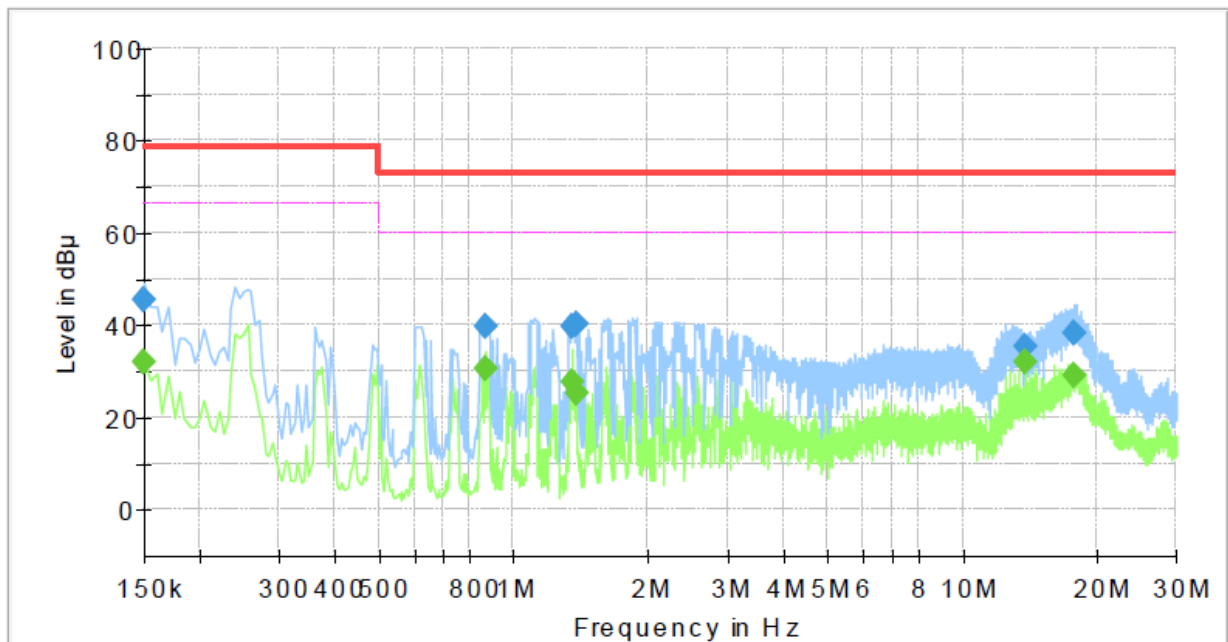
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	31.68	66.00	34.32	1000.0	9.000	L1	19.4
0.150000	44.84	---	79.00	34.16	1000.0	9.000	L1	19.4
0.620000	---	34.81	60.00	25.19	1000.0	9.000	L1	19.4
0.620000	42.70	---	73.00	30.30	1000.0	9.000	L1	19.4
0.885000	---	23.17	60.00	36.83	1000.0	9.000	L1	19.4
0.885000	40.84	---	73.00	32.16	1000.0	9.000	L1	19.4
1.110000	---	32.17	60.00	27.83	1000.0	9.000	L1	19.5
1.110000	42.14	---	73.00	30.86	1000.0	9.000	L1	19.5
13.580000	---	25.69	60.00	34.31	1000.0	9.000	L1	20.1
13.580000	36.42	---	73.00	36.58	1000.0	9.000	L1	20.1
13.870000	---	32.65	60.00	27.35	1000.0	9.000	L1	20.1
13.870000	38.57	---	73.00	34.43	1000.0	9.000	L1	20.1



[NEUTRAL]

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241535
Phase: N
Mode: HDMI
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	32.14	66.00	33.86	1000.0	9.000	N	19.3
0.150000	45.43	---	79.00	33.57	1000.0	9.000	N	19.3
0.865000	---	30.56	60.00	29.44	1000.0	9.000	N	19.4
0.865000	39.86	---	73.00	33.14	1000.0	9.000	N	19.4
1.350000	---	27.71	60.00	32.29	1000.0	9.000	N	19.5
1.350000	39.83	---	73.00	33.17	1000.0	9.000	N	19.5
1.380000	---	25.14	60.00	34.86	1000.0	9.000	N	19.5
1.380000	40.07	---	73.00	32.93	1000.0	9.000	N	19.5
13.870000	---	31.92	60.00	28.08	1000.0	9.000	N	20.1
13.870000	35.57	---	73.00	37.43	1000.0	9.000	N	20.1
17.760000	---	29.12	60.00	30.88	1000.0	9.000	N	20.2
17.760000	38.44	---	73.00	34.56	1000.0	9.000	N	20.2

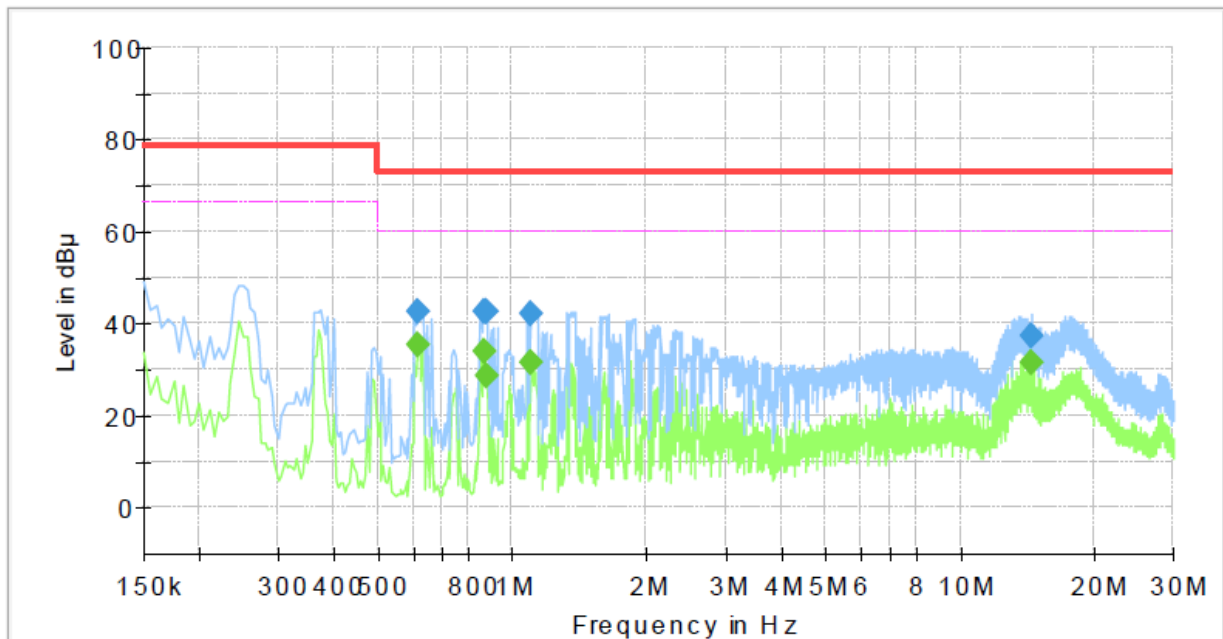


■ DisplayPort Mode

[HOT]

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241535
Phase: L1
Mode: DisplayPort
Operator Name: KES



Final Result

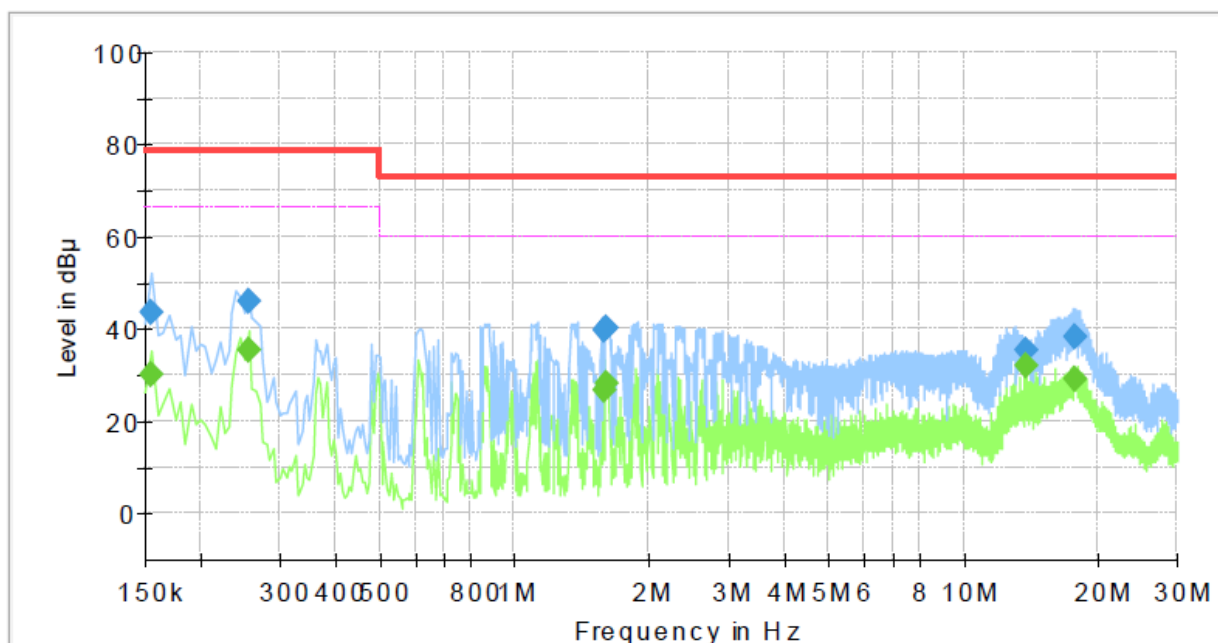
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.615000	---	35.58	60.00	24.42	1000.0	9.000	L1	19.4
0.615000	42.59	---	73.00	30.41	1000.0	9.000	L1	19.4
0.865000	---	33.69	60.00	26.31	1000.0	9.000	L1	19.4
0.865000	42.64	---	73.00	30.36	1000.0	9.000	L1	19.4
0.880000	---	28.63	60.00	31.37	1000.0	9.000	L1	19.4
0.880000	42.44	---	73.00	30.56	1000.0	9.000	L1	19.4
1.105000	---	31.57	60.00	28.43	1000.0	9.000	L1	19.5
1.105000	41.88	---	73.00	31.12	1000.0	9.000	L1	19.5
14.405000	---	31.61	60.00	28.39	1000.0	9.000	L1	20.1
14.405000	37.28	---	73.00	35.72	1000.0	9.000	L1	20.1



[NEUTRAL]

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241535
Phase: N
Mode: DisplayPort
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	30.10	66.00	35.90	1000.0	9.000	N	19.3
0.155000	43.39	---	79.00	35.61	1000.0	9.000	N	19.3
0.255000	---	35.34	66.00	30.66	1000.0	9.000	N	19.3
0.255000	45.74	---	79.00	33.26	1000.0	9.000	N	19.3
1.585000	---	26.85	60.00	33.15	1000.0	9.000	N	19.5
1.585000	39.72	---	73.00	33.28	1000.0	9.000	N	19.5
1.605000	---	28.09	60.00	31.91	1000.0	9.000	N	19.5
1.605000	40.01	---	73.00	32.99	1000.0	9.000	N	19.5
13.870000	---	31.77	60.00	28.23	1000.0	9.000	N	20.1
13.870000	35.33	---	73.00	37.67	1000.0	9.000	N	20.1
17.790000	---	28.88	60.00	31.12	1000.0	9.000	N	20.2
17.790000	38.20	---	73.00	34.80	1000.0	9.000	N	20.2



Conducted Emissions at Telecommunication Ports

[1 000 Mbps]

N/A

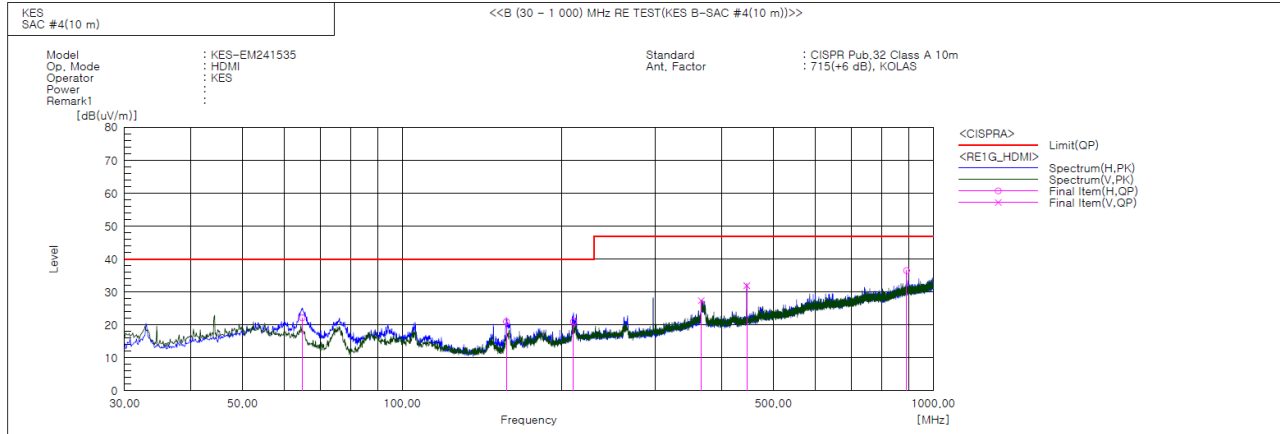
◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

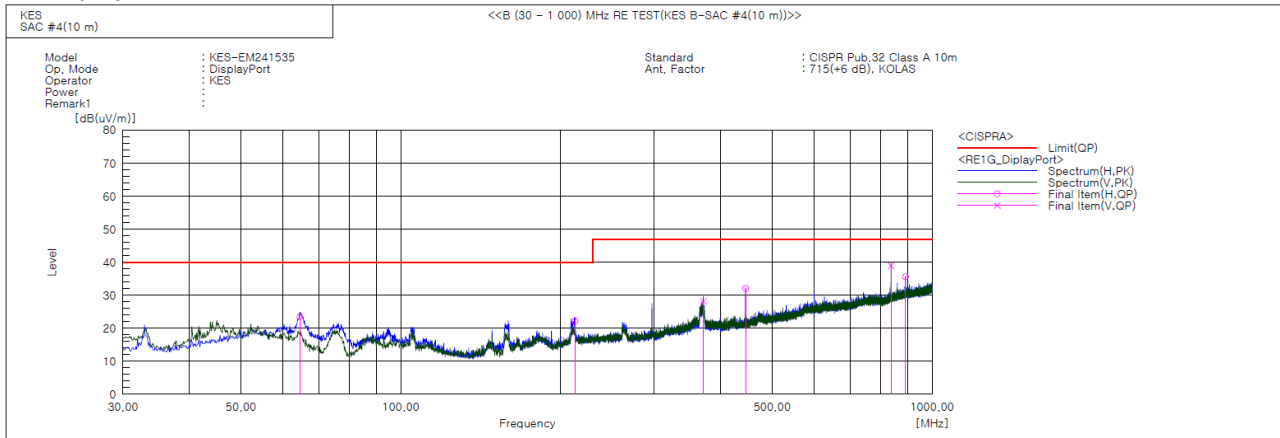
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

**Radiated Electric Field Emissions(Below 1 GHz)****■ 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	64.799	H	45.4	-23.3	22.1	40.0	17.9	103.0	220.0	
2	157.070	H	46.0	-25.0	21.0	40.0	19.0	400.0	231.0	
3	210.178	H	41.0	-20.0	21.0	40.0	19.0	387.0	163.0	
4	365.741	V	41.9	-14.5	27.4	47.0	19.6	400.0	213.0	
5	445.524	V	44.8	-12.9	31.9	47.0	15.1	100.0	43.0	
6	891.118	H	39.7	-3.2	36.5	47.0	10.5	101.0	35.0	



■ DisplayPort 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	64.556	H	46.7	-23.2	23.5	40.0	16.5	399.0	189.0	
2	212.724	H	42.1	-19.9	22.2	40.0	17.8	400.0	159.0	
3	370.834	V	42.6	-14.4	28.2	47.0	18.8	105.0	211.0	
4	445.524	H	45.0	-12.9	32.1	47.0	14.9	104.0	356.0	
5	837.040	V	43.4	-4.5	38.9	47.0	8.1	100.0	201.0	
6	891.118	H	38.8	-3.2	35.6	47.0	11.4	100.0	80.0	

◆ Calculation

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

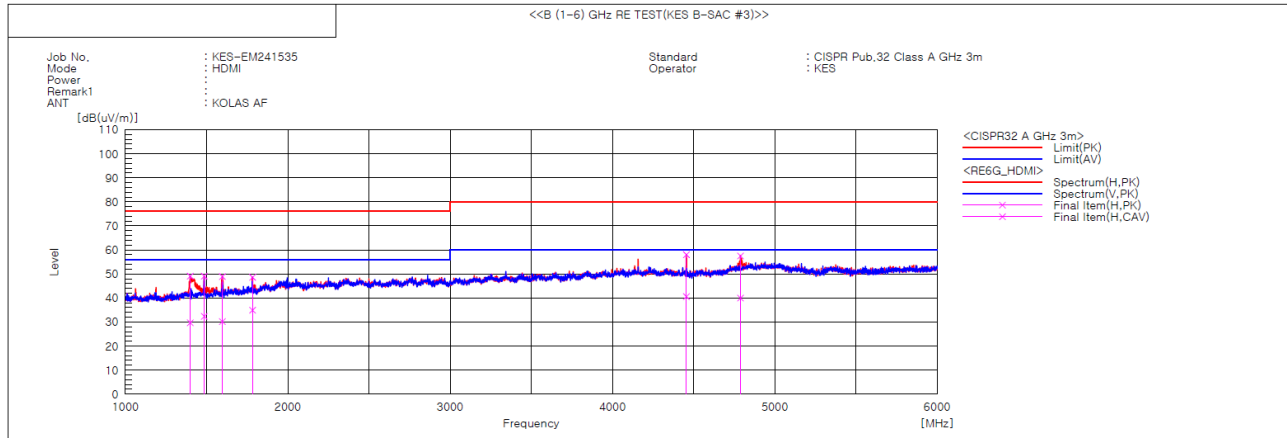
Margin(QP)[dB] = Limit[dB(μV/m)] - Result(QP) [dB(μV/m)]

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

**Radiated Electric Field Emissions(Above 1 GHz)**

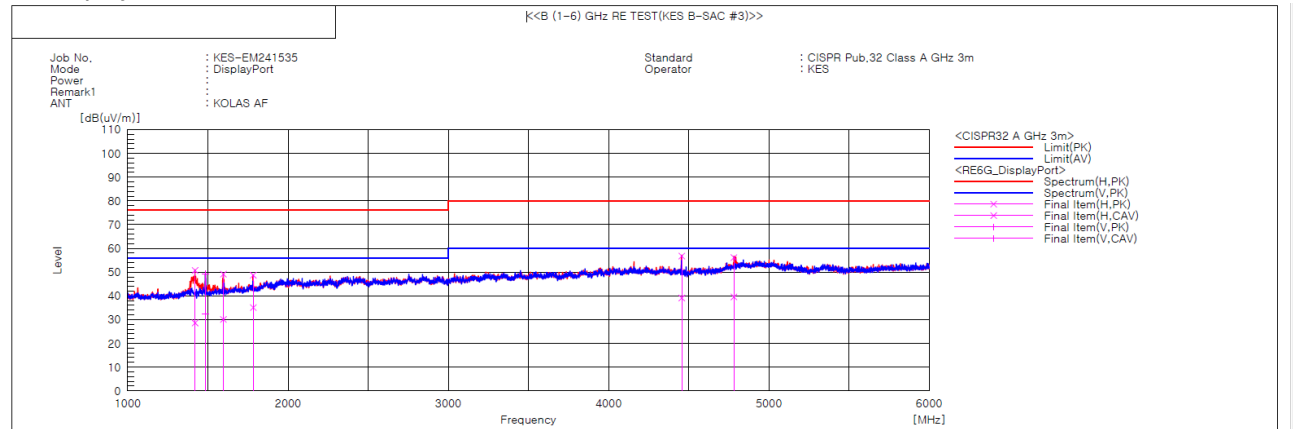
■ HDMI Mode

**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	1398.636	H	50.0	30.6	-0.9	49.1	29.7	76.0	56.0	26.9	26.3	100.0	49.8	
2	1485.164	H	49.4	32.7	-0.3	49.1	32.4	76.0	56.0	26.9	23.6	100.0	44.0	
3	1597.044	H	48.4	29.7	0.5	48.9	30.2	76.0	56.0	27.1	25.8	100.0	49.8	
4	1782.216	H	46.3	32.6	2.3	48.6	34.9	76.0	56.0	27.4	21.1	100.0	345.1	
5	4455.630	H	45.3	27.9	12.7	58.0	40.6	80.0	60.0	22.0	19.4	100.0	1.7	
6	4789.020	H	43.3	25.8	14.2	57.5	40.0	80.0	60.0	22.5	20.0	100.0	96.3	



■ DisplayPort Mode



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	1419.636	H	51.4	29.3	-0.7	50.7	28.6	76.0	56.0	25.3	27.4	100.0	44.7	
2	1485.632	V	49.5	32.8	-0.3	49.2	32.5	76.0	56.0	26.8	23.5	100.0	305.1	
3	1596.002	H	48.7	29.6	0.5	49.2	30.1	76.0	56.0	26.8	25.9	100.0	50.5	
4	1782.701	H	46.4	32.8	2.3	48.7	35.1	76.0	56.0	27.3	20.9	100.0	344.5	
5	4456.033	H	44.1	26.4	12.7	56.8	39.1	80.0	60.0	23.2	20.9	100.0	3.7	
6	4782.001	H	42.0	25.4	14.2	56.2	39.6	80.0	60.0	23.8	20.4	100.0	128.2	

◆ 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 - Preamp Factor), Margin: Margin value

**Harmonic Current Emissions and Voltage Fluctuations and Flicker**

■ HDMI Mode

Average harmonic current results				
Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.305			
2	0.002			
3	0.100	4.331	2.300	PASS
4	0.002			
5	0.018	1.595	1.140	PASS
6	0.002			
7	0.006	0.791	0.770	PASS
8	0.002			
9	0.006	1.466	0.400	PASS
10	0.002			
11	0.005	1.489	0.330	n/a
12	0.002			
13	0.005	2.441	0.210	PASS
14	0.002			
15	0.002	1.617	0.150	n/a
16	0.001			
17	0.004	3.238	0.132	n/a
18	0.001			
19	0.002	1.682	0.118	n/a
20	0.001			
21	0.004	2.226	0.161	n/a
22	0.001			
23	0.002	1.408	0.147	n/a
24	0.001			
25	0.002	1.227	0.135	n/a
26	0.001			
27	0.001	1.197	0.125	n/a
28	0.001			
29	0.002	1.550	0.117	n/a
30	0.001			
31	0.002	2.056	0.110	n/a
32	0.001			
33	0.004	3.901	0.102	n/a
34	0.001			
35	0.002	1.674	0.096	n/a
36	0.001			
37	0.002	1.835	0.092	n/a
38	0.001			
39	0.002	2.849	0.087	n/a
40	0.001			

Note: Harmonic currents less than 0.6 % of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

* Application of limits for average is 100% except for odd harmonics from 21 to 39, where 150% applies.



Test Data - Harmonics (continued)

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.305			
2	0.002			
3	0.101	2.914	3.450	PASS
4	0.003			
5	0.019	1.123	1.710	PASS
6	0.003			
7	0.007	0.609	1.155	PASS
8	0.003			
9	0.007	1.116	0.600	PASS
10	0.003			
11	0.006	1.172	0.495	PASS
12	0.003			
13	0.006	1.889	0.315	PASS
14	0.002			
15	0.003	1.261	0.225	n/a
16	0.002			
17	0.005	2.404	0.198	n/a
18	0.002			
19	0.002	1.412	0.177	n/a
20	0.002			
21	0.004	2.635	0.161	n/a
22	0.002			
23	0.003	1.906	0.147	n/a
24	0.002			
25	0.002	1.600	0.135	n/a
26	0.002			
27	0.002	1.695	0.125	n/a
28	0.002			
29	0.002	1.965	0.117	n/a
30	0.001			
31	0.003	2.671	0.110	n/a
32	0.001			
33	0.004	4.305	0.102	n/a
34	0.001			
35	0.002	2.516	0.096	n/a
36	0.001			
37	0.002	2.604	0.092	n/a
38	0.002			
39	0.003	3.405	0.087	n/a
40	0.001			

Note: Harmonic currents less than 0.6 % of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

* Application of limits for average is 100% except for odd harmonics from 21 to 39, where 150% applies.



■ DisplayPort Mode

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.304			
2	0.002			
3	0.100	4.333	2.300	PASS
4	0.002			
5	0.018	1.622	1.140	PASS
6	0.002			
7	0.006	0.761	0.770	PASS
8	0.002			
9	0.006	1.478	0.400	PASS
10	0.002			
11	0.005	1.413	0.330	n/a
12	0.002			
13	0.005	2.338	0.210	n/a
14	0.002			
15	0.002	1.577	0.150	n/a
16	0.001			
17	0.004	2.977	0.132	n/a
18	0.001			
19	0.002	1.640	0.118	n/a
20	0.002			
21	0.003	2.126	0.161	n/a
22	0.001			
23	0.003	1.940	0.147	n/a
24	0.002			
25	0.002	1.639	0.135	n/a
26	0.001			
27	0.002	1.525	0.125	n/a
28	0.001			
29	0.002	2.038	0.117	n/a
30	0.001			
31	0.003	2.651	0.110	n/a
32	0.001			
33	0.004	3.698	0.102	n/a
34	0.001			
35	0.002	1.633	0.096	n/a
36	0.001			
37	0.002	1.652	0.092	n/a
38	0.001			
39	0.002	2.818	0.087	n/a
40	0.001			

Note: Harmonic currents less than 0.6 % of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

* Application of limits for average is 100% except for odd harmonics from 21 to 39, where 150% applies.



Test Data - Harmonics (continued)

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.304			
2	0.003			
3	0.101	2.925	3.450	PASS
4	0.003			
5	0.020	1.161	1.710	PASS
6	0.003			
7	0.007	0.598	1.155	PASS
8	0.002			
9	0.007	1.149	0.600	PASS
10	0.002			
11	0.005	1.108	0.495	PASS
12	0.002			
13	0.006	1.927	0.315	PASS
14	0.002			
15	0.003	1.279	0.225	n/a
16	0.002			
17	0.005	2.309	0.198	n/a
18	0.002			
19	0.003	1.465	0.177	n/a
20	0.002			
21	0.004	2.632	0.161	n/a
22	0.002			
23	0.004	2.666	0.147	n/a
24	0.002			
25	0.003	2.102	0.135	n/a
26	0.002			
27	0.003	2.018	0.125	n/a
28	0.002			
29	0.003	2.675	0.117	n/a
30	0.002			
31	0.003	3.101	0.110	n/a
32	0.001			
33	0.004	4.208	0.102	n/a
34	0.002			
35	0.002	2.327	0.096	n/a
36	0.002			
37	0.002	2.354	0.092	n/a
38	0.001			
39	0.003	3.304	0.087	n/a
40	0.002			

Note: Harmonic currents less than 0.6 % of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

* Application of limits for average is 100% except for odd harmonics from 21 to 39, where 150% applies.



Test Data - Voltage Fluctuations

■ HDMI Mode

Flicker Measurements					
	Plt	Max Pst	Max Dc	Max Dmax	Max Tmax
Line 1:	0.028	0.028	0	< 0.2	0
Limits:	0.65	1	3.3	4	0.5
Results:	PASS	PASS	PASS	PASS	PASS

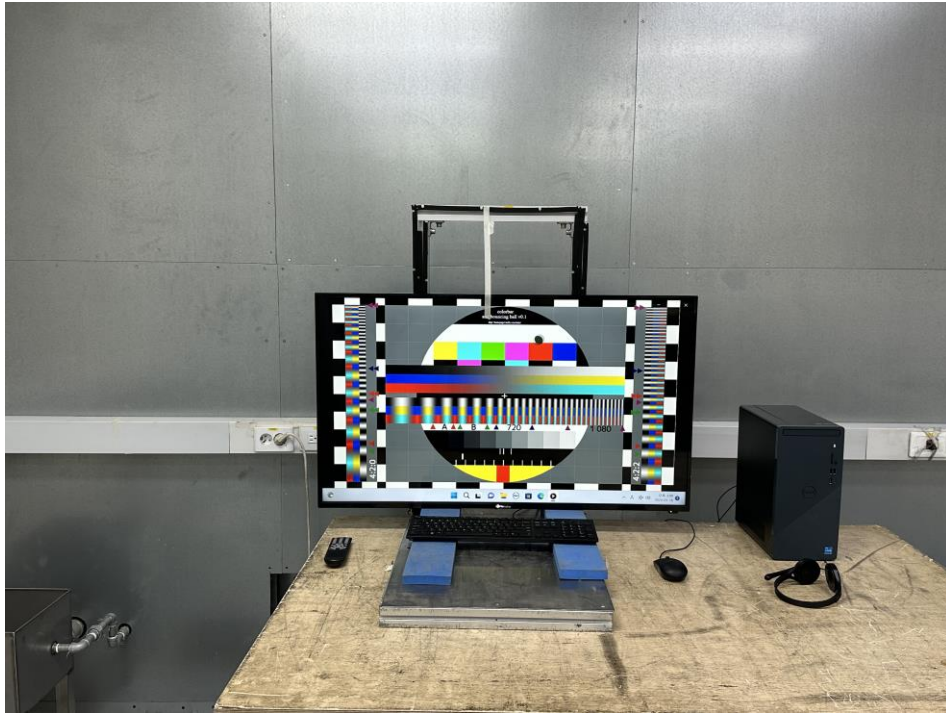
■ DisplayPort Mode

Flicker Measurements					
	Plt	Max Pst	Max Dc	Max Dmax	Max Tmax
Line 1:	0.028	0.028	0	< 0.2	0
Limits:	0.65	1	3.3	4	0.5
Results:	PASS	PASS	PASS	PASS	PASS



APPENDIX B – Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports





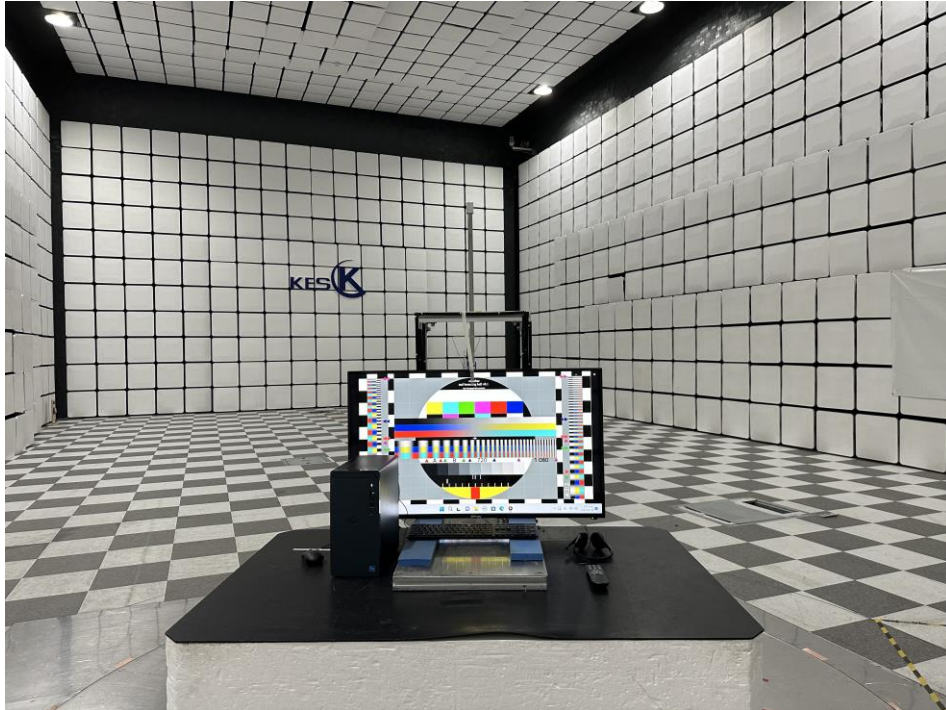
Conducted Telecommunication Emissions

N/A





Radiated Electric Field Emissions(Below 1 GHz)





Radiated Electric Field Emissions(Above 1 GHz)

e





Harmonic Current Emissions and Voltage Fluctuations and Flicker





Electrostatic Discharge



Radiated Electric Field Immunity





Electrical Fast Transients/Bursts



Surge Transients





Conducted Disturbance

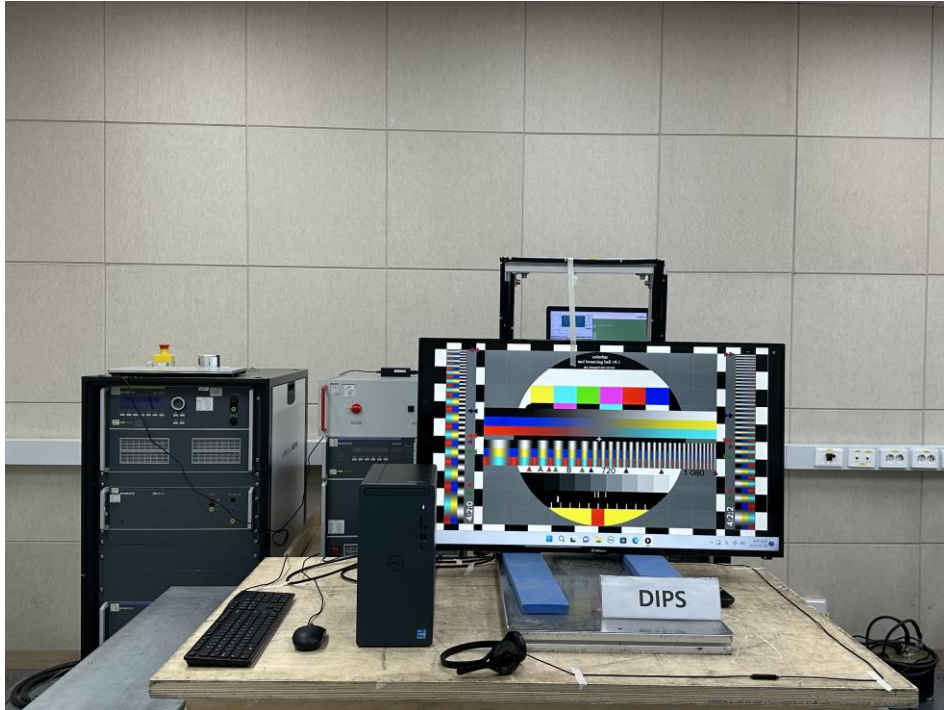


Power Frequency Magnetic Field Immunity

N/A



Voltage Dips and Short Interruptions





APPENDIX C – EUT Photographs

EUT External Photographs

(Top)



(Bottom)





EUT Internal Photographs

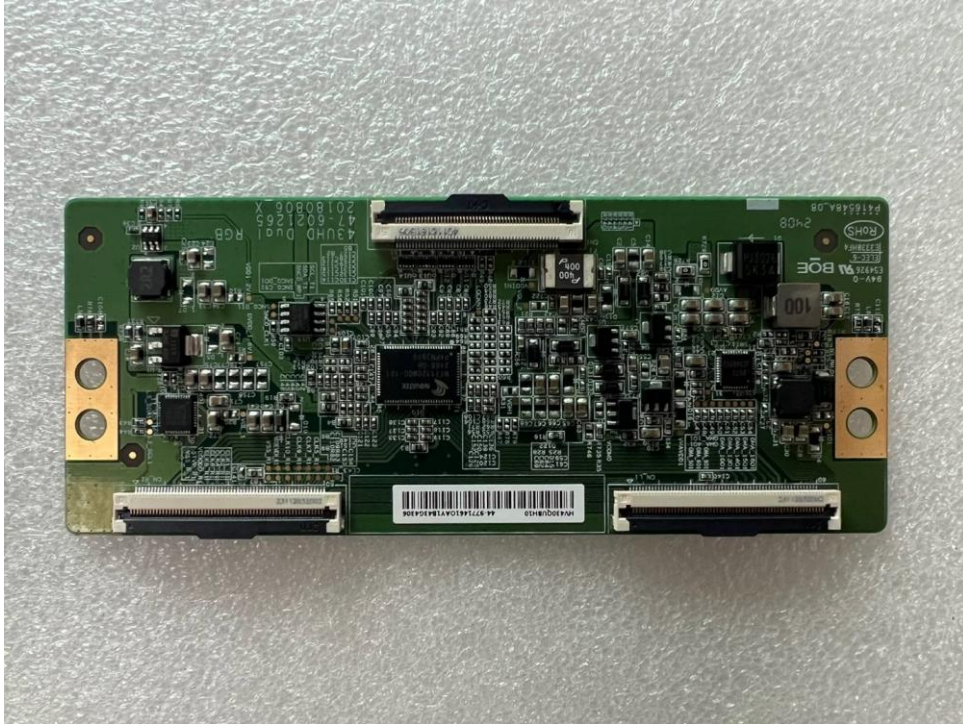
(Internal View)



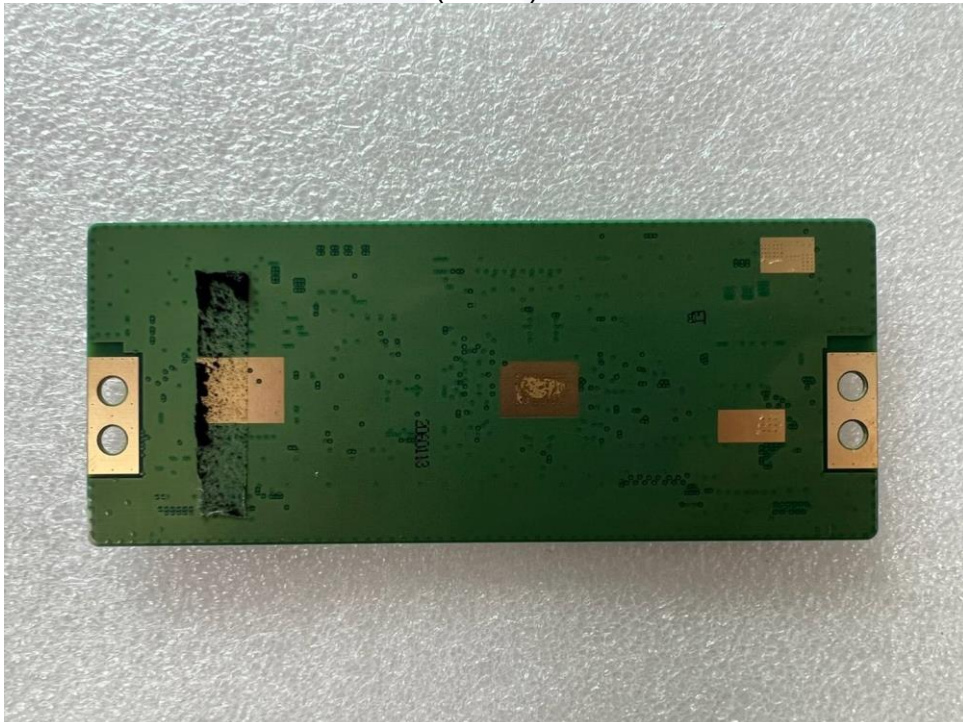


EUT Internal View – Board 1

(Top)



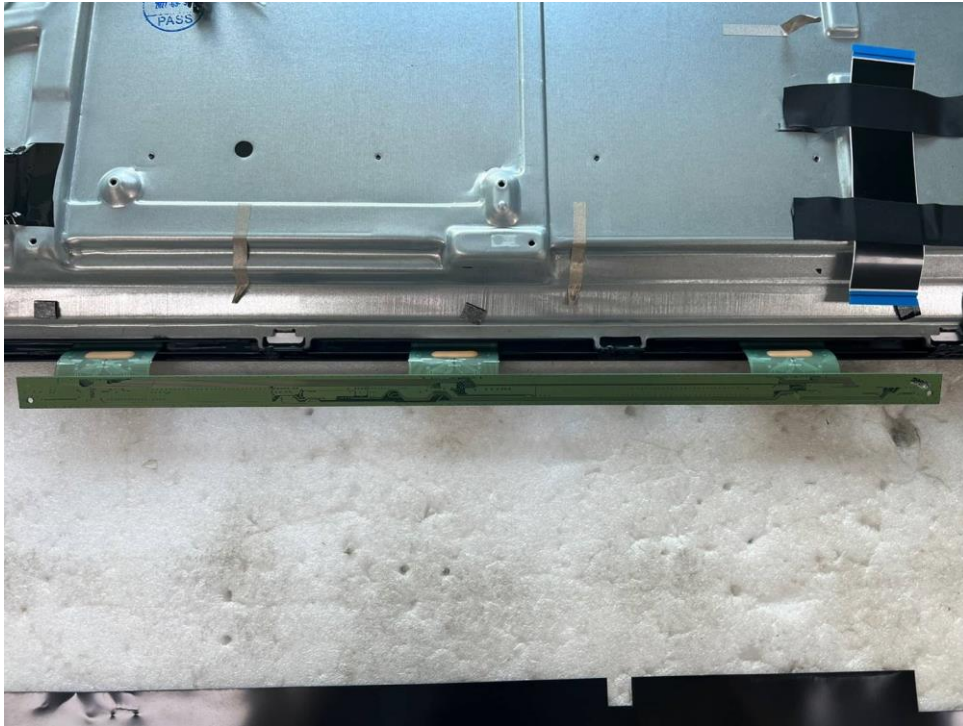
(Bottom)





EUT Internal View – Board 2

(Top)



(Bottom)





EUT Internal View – Board 3

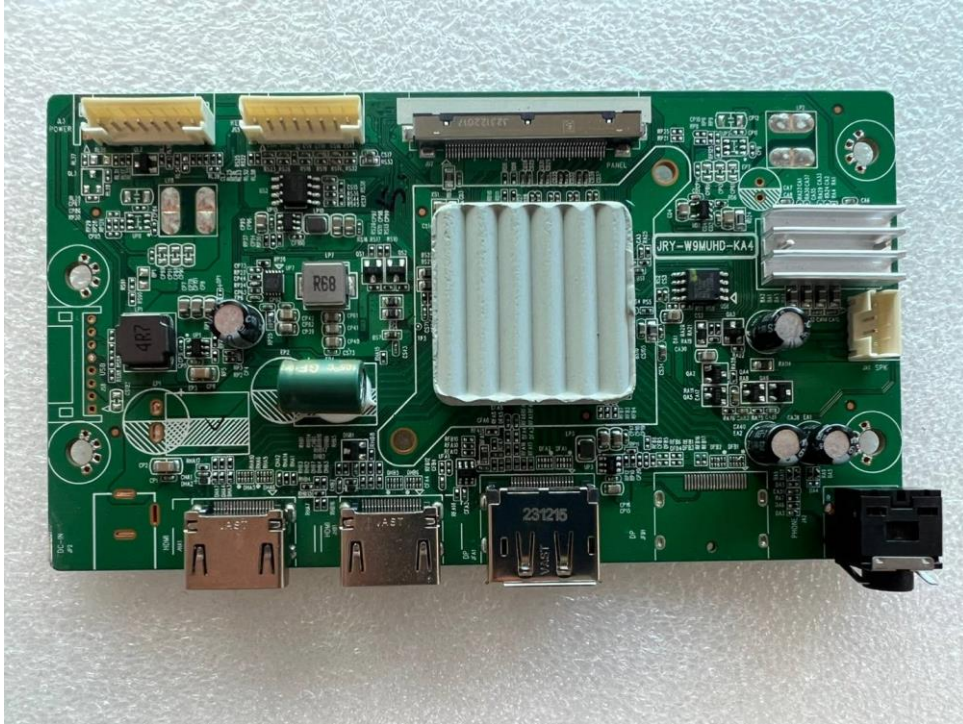
(Bottom)



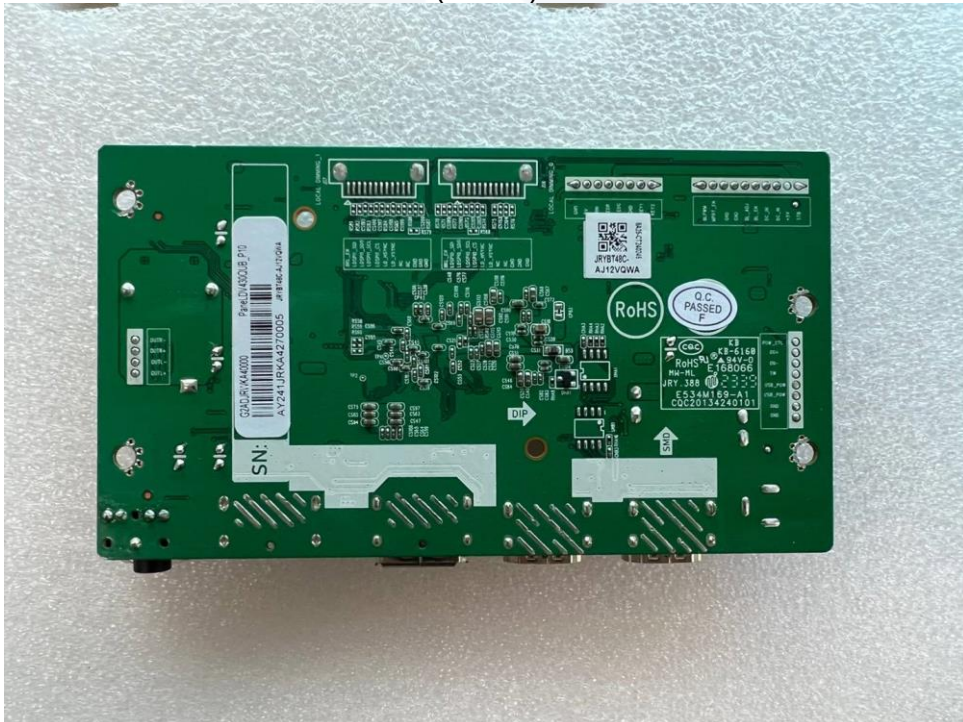


EUT Internal View – Board 4

(Top)



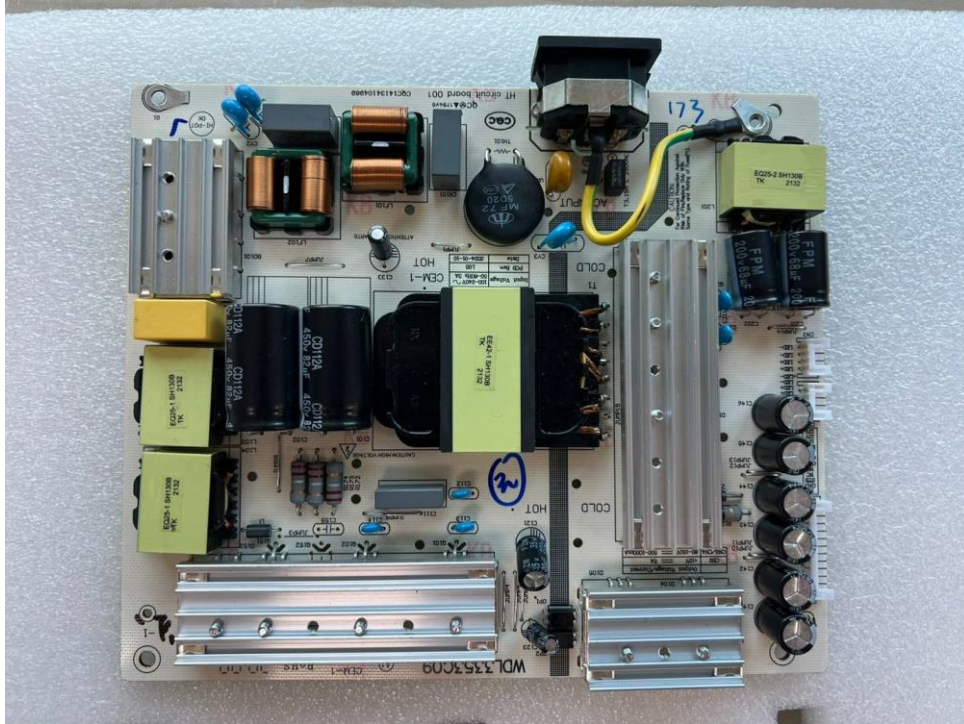
(Bottom)



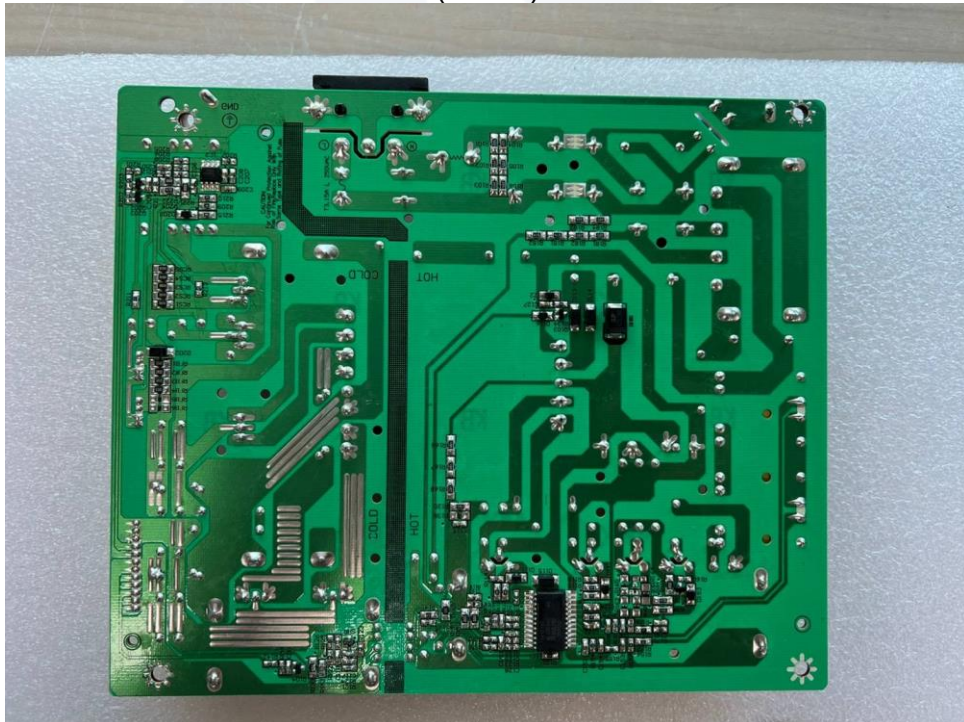


EUT Internal View – Board 5

(Top)



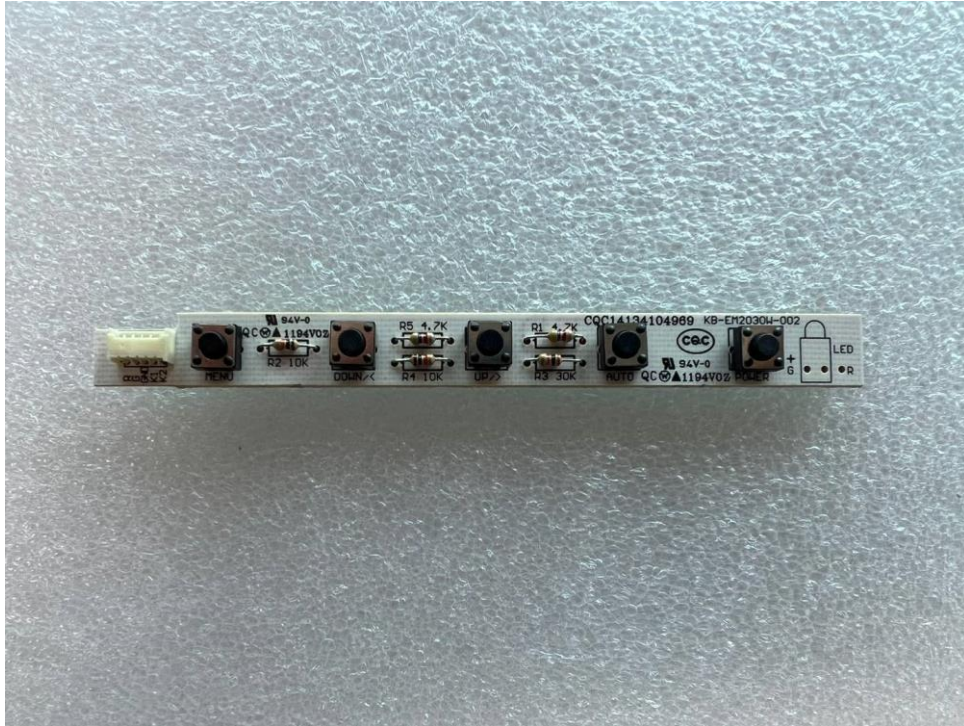
(Bottom)





EUT Internal View – Board 6

(Top)



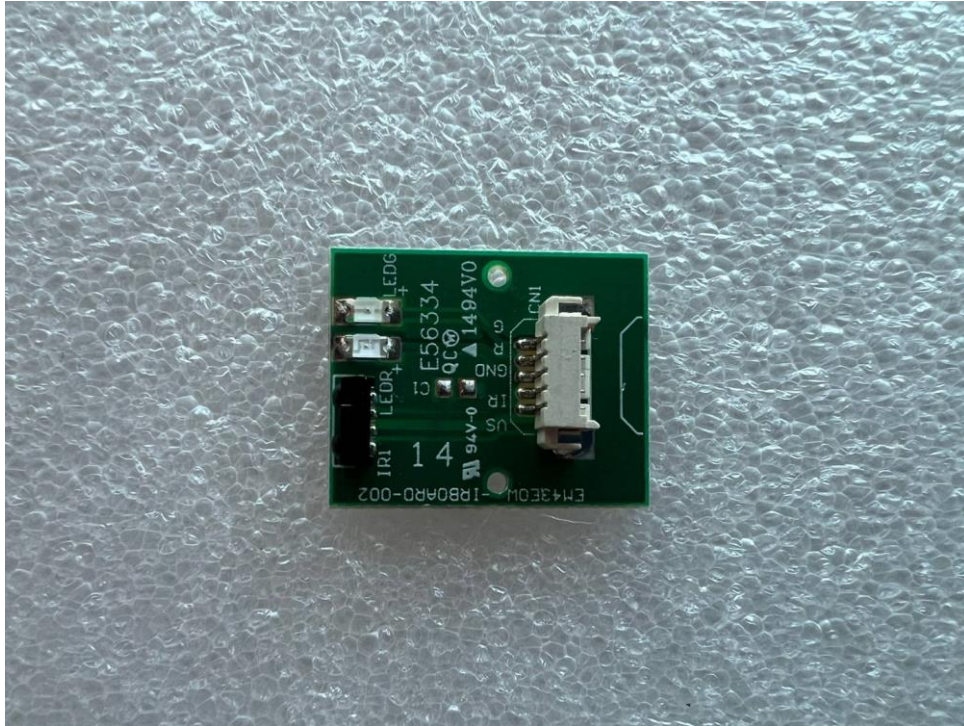
(Bottom)



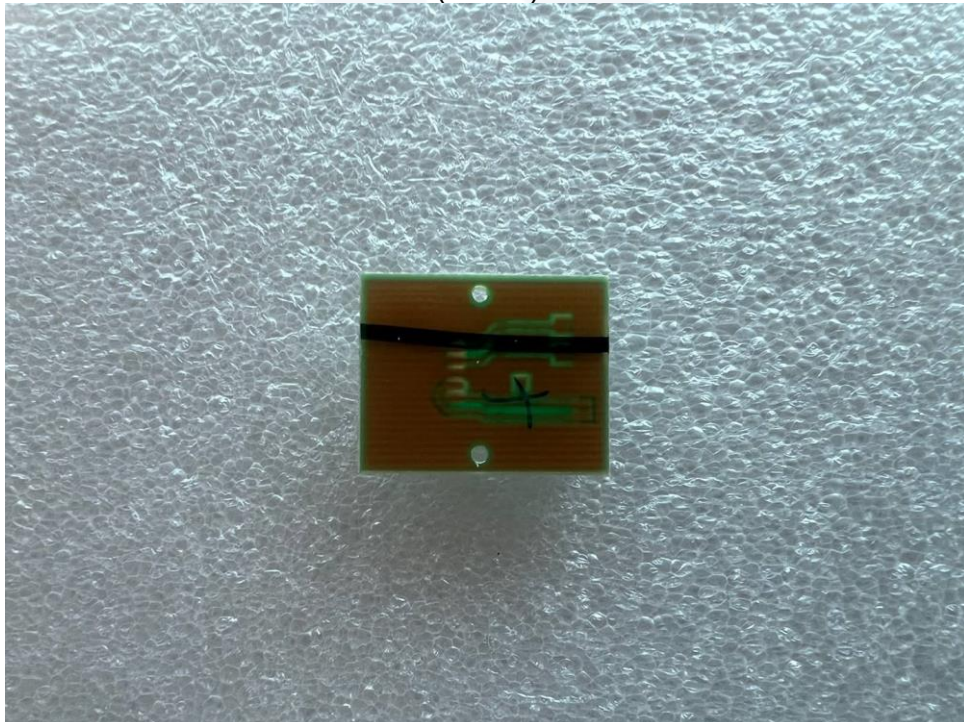


EUT Internal View – Board 7

(Top)



(Bottom)





EUT Internal View – Speaker

(Top)



(Bottom)





EUT Internal View – Panel

(Top)



(Bottom)





Label and Location



LED MONITOR

Model No : SMT-4344

Manufacturer : Weihai Daewoo Electronics Co., Ltd.

Made in China

