TEST REPORT

KES Co., Ltd.
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Tel : +82-31-425-6200, Fax : +82-31-341-3838

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 : Decoder Monitor

Model/Type No. : SMT-2721D

Variant Model : -

Manufacturer : GTT Co., Ltd

Manufacturer Address : 502, Pyeonghwa-ro, Paju-si, Gyeonggi-do, 10847 Korea

3. Date of Receipt : Mar. 06, 2025

4. Test date : Apr. 01, 2025 ~ Apr. 04, 2025

5. Date of Issue : Apr. 11, 2025

6. Test Results : In Compliance

Tested by

[김세헌]2025/04/11

Se Heon, Kim
EMC Test Engineer

Reviewed by

[최성민]2025/04/11

Seong Min, Choi
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. 11, 2025	KES-EM250851	Issued

TABLE OF CONTENTS

1.0 General Product Description

Main Specifications of EUT are:

Division	Specificity
Internal highest operating frequency	1 200 MHz

		SMT-2721D(25. 3. 5) Preliminary	SMT-2721D(24. 8. 5) Preliminary
Max. Resolution		1920*1080 60Hz (FHD)	1920*1080 60Hz (FHD)
Brightness		300 cd/m² (Typ.)	300 cd/m²
Contrast Ratio		3000:1 (Typ.)	1000:1
Aspect Ratio		16:9	16:9
Viewing Angle (H/V)		178°/178° (Typ.)	178°/178°
Display Color		16.7M Colors	16.7M Colors
Response Time		12ms (Typ.)	14ms
Video System		None	None
Panel Life		30,000 hours	30,000 hours
Filter Type		None	None
Interface			
Video	Connectors	HDMI#1(Internal output) - Decoder main monitor HDMI#2(External output) - Decoder secondary monitor	HDMI#1(Internal) - Decoder main monitor HDMI#2(output) - Decoder secondary monitor
Composite Video	Input	None	None
VGA	Connector	None	None
	Input Signal	None	None
	Available Format	None	None
HDMI	Connector	HDMI#1(Internal), HDMI#2(output)	HDMI#1(Internal), HDMI#2(output)
	Available Format	1920 X 1080@60Hz (HDMI#1, HDMI#2) 1280 X 1024@60Hz (HDMI#1, HDMI#2) 1280 X 720@60Hz (HDMI#1, HDMI#2)	1920 X 1080@60Hz (HDMI#1, HDMI#2) 1280 X 1024@60Hz (HDMI#1, HDMI#2) 1280 X 720@60Hz (HDMI#1, HDMI#2)
DP	Connector	None	None
	Available Format	None	None
Audio	Connector	None	None
	Output Signal	Speakers : 8Ω 2Wx 2	Speakers : 8Ω 2Wx 2
Alarm	Alarm I/O	None	None
Network	Ethernet	1xRJ-45 10/1000BASE-T	1 RJ-45 10/1000BASE-T
USB	USB	2xUSB 2.0(Mouse,Keyboard), 1xUSB 2.0 (AD Firmware upgrade)	
General	Edge Storage	None	None
Application Support		None	None
On Screen Display			
Functions		VESA™ DPM Compatible	VESA™ DPM Compatible
Language		English, Spanish, French, 한국어	English, Spanish, French
General			
Electrical	Input Voltage	DC24V, HPOE 802.3bt	DC24V, HPOE 802.3bt
	Power Consumption	31W	31W
Environmental	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)	0 ~ +40°C (+32°F ~ +104°F)
	Operating Humidity	10% ~ 80% (non-condensing)	10% ~ 80% (non-condensing)
Mechanical	Dimensions with Stand (WxHxD)	None	None
	Dimensions without Stand (WxHxD)	624mm(W) x 387mm(H) x 58mm(D)	619mm(W) x 405mm(H) x 58mm(D)
	Weight	6.5kg	8.5kg
	Protection Glass	None	None
	Cabinet Color	Black	Black
	Wall Mounts	None	None
	VESA Mounts Interface	VESA 100 x 100mm, 200 x 100mm, 200 x 200mm	VESA 100 x 100mm, 200 x 100mm, 200 x 200mm
Decoder			
Video	Codec	H.265 / H.264 / MJPEG	H.265 / H.264 / MJPEG
	Max. Decoding Performance	2x8M@30fps, 12x2M@30fps	2x8M@30fps, 12x2M@30fps
	Division (/Monitor)	■ Clone mode (HDMI#1) Max. 64 ■ Expand mode (HDMI#1) Max. 36 (HDMI#2) Max. 25	■ Clone mode (HDMI#1) Max. 64 ■ Expand mode (HDMI#1) Max. 36 (HDMI#2) Max. 25
	Layout	Up to 20, Sequence support	Up to 20, Sequence support
Audio	Codec	G.711 / G.726 / AAC	G.711 / G.726 / AAC
Merge	Monitor Merge	None	None
	Tile Merge	None	None
Management		Local UI, Web-Viewer, SSM	Local UI, Web-Viewer, SSM
Time Setting		NTP/Manual	NTP/Manual
Export/Import		Configuration Export/Import	Configuration Export/Import
Log		Max. 100,000 (System log)	Max. 100,000 (System log)
Protocol		RTP, RTSP, HTTP, CGI (SUNAPI), ONVIF	RTP, RTSP, HTTP, CGI (SUNAPI), ONVIF
Security		IP address filtering, User access Log, 802.1x, Encryption, Device certificate(Hanwha Techwin Root CA), Signed firmware	IP address filtering, User access Log, 802.1x, Encryption, Device certificate(Hanwha Techwin Root CA), Signed firmware

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 ㎐ (AC/DC Adapter Input power)

☒ AC 230 V, 50 ㎐ (PoE Adapter Input power)

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
Decoder Monitor	SMT-2721D	-	GTT Co., Ltd	EUT
Remote control	-	-	-	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC/DC Adapter	FSP060-DAAN3	-	Zhonghan Electronics (Shenzhen) Co., Ltd.	-
PoE Injector1	PT-PSE109GBRO-AH	-	Dongguan PROCET Network Technology Co.,Ltd	-
PoE Injector2	GS728TPP	-	NETGEAR	-
Monitor	DELL E2222H DVT	8221TCM10D00103X	DELL INC.	-
Mouse	MS116c Mouse	-	DELL	-
USB Memory	-	-	SanDisk	-
Notebook	LG15N54	506NZGK000615	LG Electronics	-
Notebook AC/DC Adapter	PA-1650-43(65W)	OF58U63849302Y609	LG Electronics	-
IP Camera	PND-A7082RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	-
Headset	K550	-	Britz®	-
Smartphone	SHW-M110S	-	Samsung Electronics	-

1.6 External I/O Cabling

■mode 1

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
Decoder Monitor (EUT)	DC Jack	AC/DC Adapter	DC Jack	1.5	U
	RJ-45 (LAN)	PoE Injector1	RJ-45 (LAN)	3.5	U
	HDMI	Monitor	HDMI	1.5	U
	USB	Mouse	USB	1.3	U
	USB	USB Memory	USB	-	-
PoE Injector1	RJ-45 (PoE)	PoE Injector2	RJ-45	2.0	U
PoE Injector2	RJ-45	Notebook	RJ-45	2.0	U
	RJ-45	IP Camera	RJ-45	2.0	U
Notebook	DC Jack	Notebook AC/DC Adapter	DC Jack	1.5	U
IP Camera	Audio IN	Headset	Audio OUT	1.8	U

* Unshielded=U, Shielded=S

■mode 2

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
Decoder Monitor (EUT)	RJ-45 (PoE)	PoE Injector1	RJ-45 (LAN)	3.5	U
	HDMI	Monitor	HDMI	1.5	U
	USB	Mouse	USB	1.3	U
	USB	USB Memory	USB	-	-
PoE Injector1	RJ-45 (LAN)	PoE Injector2	RJ-45	2.0	U
PoE Injector2	RJ-45	Notebook	RJ-45	2.0	U
	RJ-45	IP Camera	RJ-45	2.0	U
Notebook	DC Jack	Notebook AC/DC Adapter	DC Jack	1.5	U
IP Camera	Audio IN	Headset	Audio OUT	1.8	U

* Unshielded=U, Shielded=S

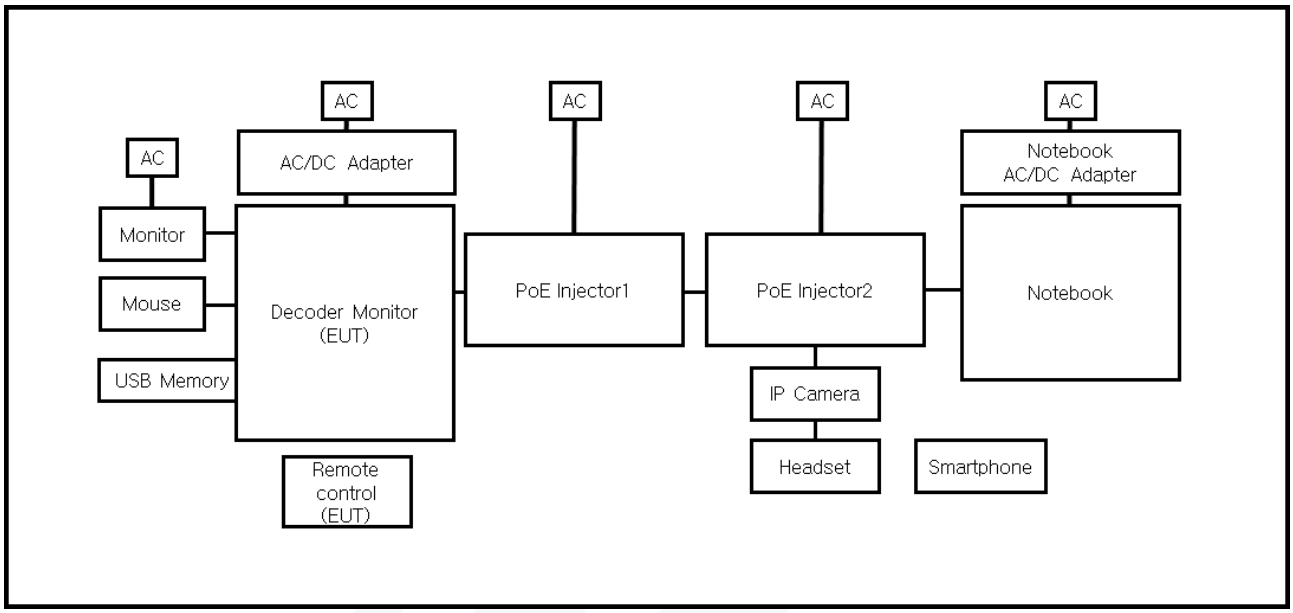
1.7 EUT Operating Mode(s)

Test No.	Test mode	Operating	Test Voltages
mode 1	DC Power	- The image output of the IP camera was confirmed through the display of the EUT and monitor. - Checked the normal operation of EUT's network through Ping test on a notebook. - The smartphone outputs 1 ㎑ tone sound and checked whether it is normally output to the EUT speaker through the IP camera.	AC 230 V, 50 ㎐
mode 2	PoE Power		

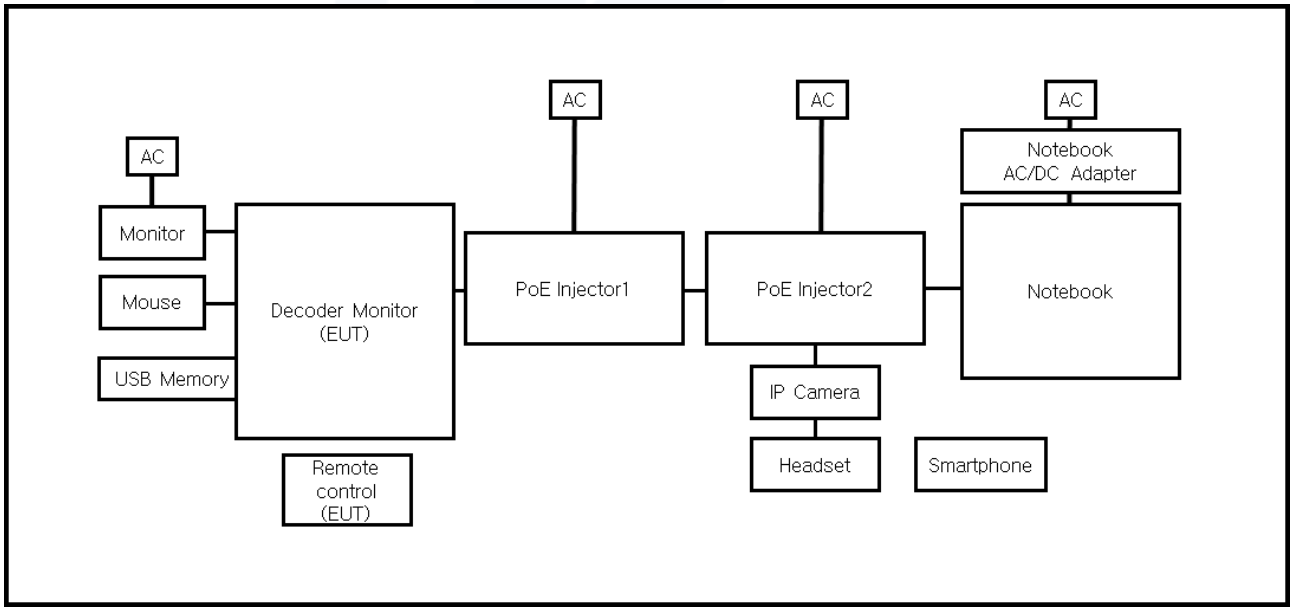
EUT Test operating S/W		
Name	**Version**	**Manufacture Company**
Web Viewer	-	Hanwha Vision Co., Ltd.

1.8 Configuration

■mode 1



■mode 2



1.9 Remarks when standards applied

- Mode 2 is powered by the PoE port, PoE port is considered to be wired network port, so power-related test items are excluded.
- The USB[MONITOR] port was excluded from the test as a port for administrators.

1.10 Calibration Details of Equipment Used for Measurement

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

1.11 Test Facility

The measurement facility is located at 473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea, 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 0008

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 50130-4:2011/A1:2014

☒ 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 50130-4:2011/A1:2014

☒ EN IEC 61000-3-2:2019

☒ EN 61000-3-3:2013/A2:2021

2.1 Conducted Emissions at Mains Power Ports

Test Date
Apr. 02, 2025

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, 06, 2025
☒	LISN	ENV216	R & S	101786	01, 09, 2026
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025

Test Conditions
Temperature: (22,6 ± 0,0) ℃
Relative Humidity: (47,5 ± 0,0) % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Apr. 02, 2025

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, 06, 2025
☒	LISN	ENV216	R & S	101786	01, 09, 2026
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025
☒	8-WIRE ISN CAT6	NTFM 8158	SCHWARZBECK	8158-0029	01, 09, 2026

Test Conditions
Temperature: (22,6 ± 0,1) ℃
Relative Humidity: (47,5 ± 0,0) % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.3 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
Apr. 01, 2025

Test Location
☒ SEMI ANECHOIC CHAMBER #4(10m)

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	ESW8	R & S	101319	03, 24, 2026
☒	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025
☒	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026
☒	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026

Test Conditions
Temperature: (23,5 ± 0,2) ℃
Relative Humidity: (46,3 ± 0,0) % R.H.

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 ㎓)

Test Date
Apr. 02, 2025

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	02, 13, 2026
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 04, 2025
☒	PREAMPLIFIER	8449B	HP	3008A00538	04, 30, 2025
☒	ATTENUATOR	8491B	HP	23094	02, 13, 2026

Test Conditions
Temperature: (23,1 ± 0,1) ℃
Relative Humidity: (46,1 ± 0,1) % R.H.

Frequency Range of Measurement
1 ㎓ to 6 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.5 Harmonic Current Emissions

Test Date
Apr. 04, 2025

Test Location
Electro wave Shieldroom #7

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, 31, 2026
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-

Test Conditions

Temperature: (23,1 ± 0,0) ℃
Relative Humidity: (45,8 ± 0,0) % 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

Remarks
See Appendix A for test data.

2.6 Voltage Fluctuations and Flicker

Test Date
Apr. 04, 2025

Test Location
Electro wave Shieldroom #7

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, 31, 2026
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-

Test Conditions

Temperature: (23,1 ± 0,3) ℃
Relative Humidity: (45,8 ± 0,3) % R.H.

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

3.0 Criteria for compliance

Criteria for compliance was based on the following guidelines:
EN 50130-4:2011/A1 :2014 Alarm systems-Part 4: Electromagnetic compatibility Product family standard: Immunity requirements for components of fire, intruder and social alarm systems

The variety and the diversity of the apparatus within the scope of this document makes it difficult to define precise criteria for the evaluation of the immunity test results.

If as a result of the application of the tests defined in this standard, the apparatus

becomes dangerous or unsafe then the apparatus shall be deemed to have failed the test.

A functional description and a definition of performance by the manufacture and noted in the test

report, based on the following criteria:

Electrostatic discharge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing that is no

residual change in the EUT or any change in outputs, which could be interpreted by associated

equipment as a change.

Radiated electromagnetic fields

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

which could be interpreted by associated equipment as a change, and no such

Flickering of indicators occurs at a field strength of 3 V/m.

For components of CCTV systems, where the picture is allowed at 10 V/m, providing.

(a) there is no permanent damage or change to EUT

(e.g. no corruption of memory or changes to programmable setting etc.)

(b) at 3 V/m, any deterioration of the picture is so minor that the system could still be used; and

(c) there is no observable deterioration of the picture at 1 V/m.

Fast transient burst / slow high energy voltage surge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Conducted RF immunity

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change,

and no such flickering of indicators oeuvres at U = 130 $dB\mu V$.

For component of CCTV systems, where the status is monitored by observing the TV picture,

then deterioration of the picture is allowed at U = 140 $dB\mu V$, providing:

(a) there is no permanent damage or change to the EUT

(e.g. no corruption of memory or changes to programmable settings etc.)

(b) at U = 130 $dB\mu V$, any deterioration of the picture is so minor that the system could

still be used; and

(c) there in no observable deterioration of the picture at U = 120 $dB\mu V$.

Voltage dip/interruption / Voltage variation

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the conditioning is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change. The EUT shall meet the acceptance criteria for the functional test, after the conditioning.

3.1 Electrostatic Discharge

Reference Standard
EN 61000-4-2

Test Date
Apr. 04, 2025

Test Location
EMS-ESD: Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	ESD SIMULATOR	ESS-2000	Noise Ken	ESS01Z0454	01, 21, 2026
☒	HCP	-	KES	-	-
☒	VCP	-	Noise Ken	-	-

Test Conditions

Temperature: (23,3 ± 0,0) ℃
Relative Humidity: (45,9 ± 0,1) % R.H.
Atmospheric Pressure: (100,5 ± 0,0) 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

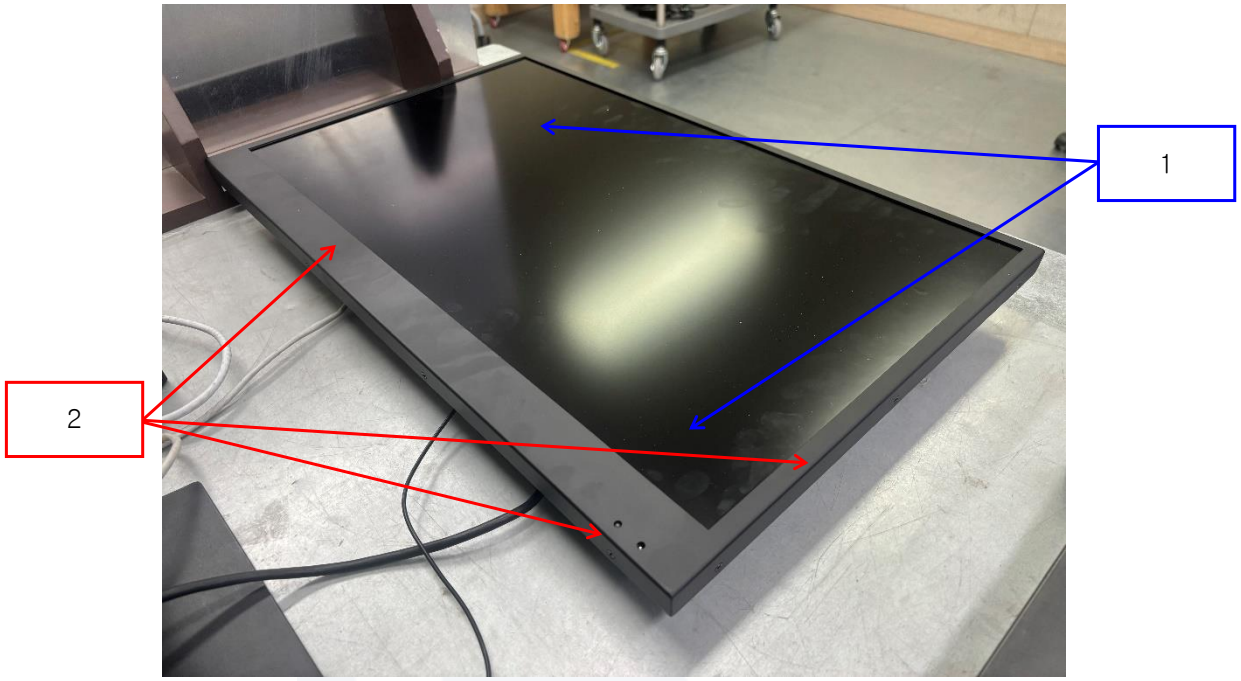
Required Performance Criteria: ☒ Complied

Location of Discharge:

Air

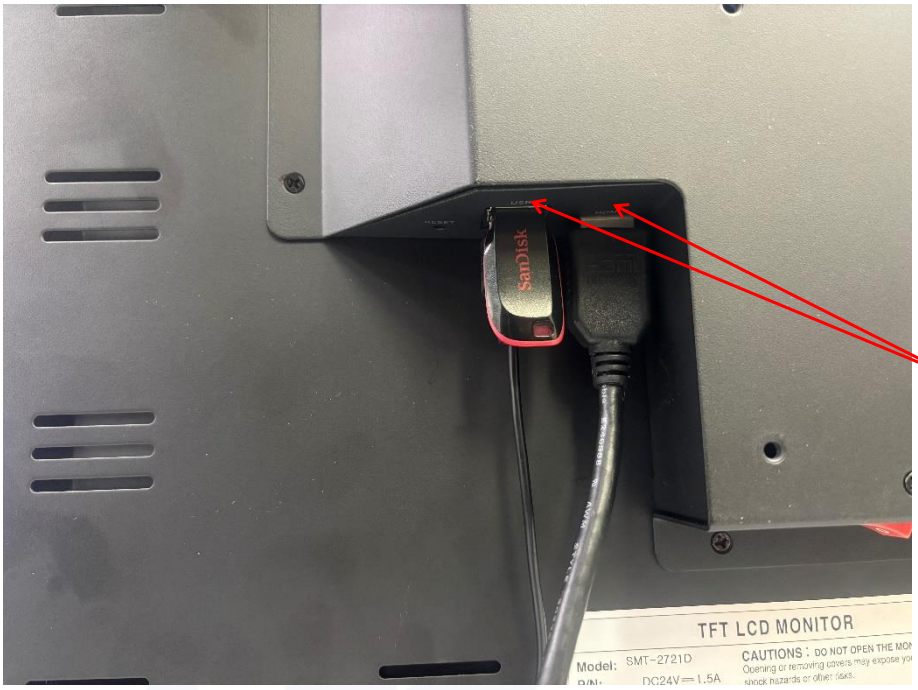
Contact

■ mode 1, mode 2

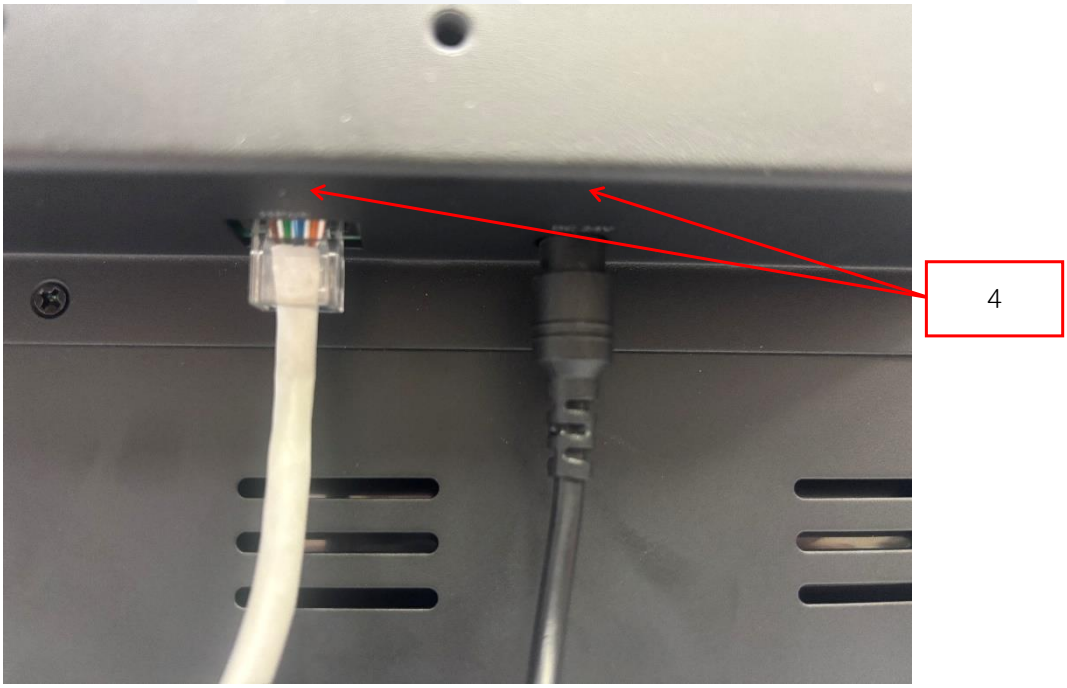


■ mode 1, mode 2

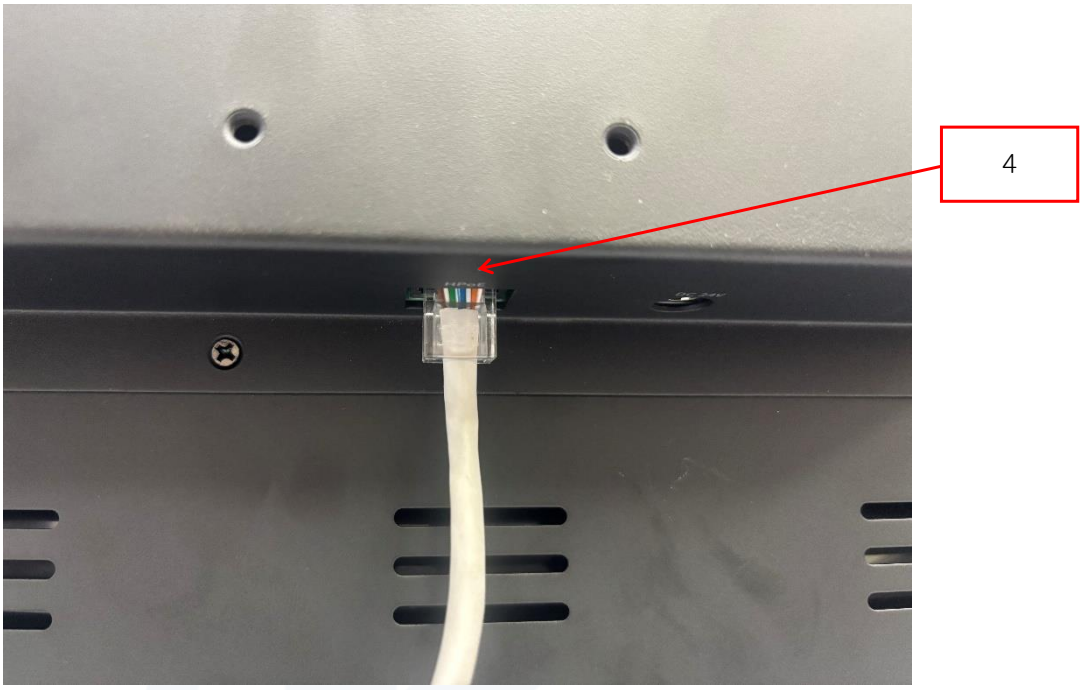
■ mode 1, mode 2



■ mode 1



■ mode 2



■ mode 1, mode 2

■ mode 1, mode 2

Test Data

■mode 1

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Display	Air Discharge	Complied	-
2	Enclosure	Contact Discharge	Complied	-
3	Screws	Contact Discharge	Complied	-
4	Ports	Contact Discharge	Complied	-
5	Switch	Contact Discharge	Complied	-
6	Remote Control Enclosure	Air Discharge	Complied	-

■mode 2

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Display	Air Discharge	Complied	-
2	Enclosure	Contact Discharge	Complied	-
3	Screws	Contact Discharge	Complied	-
4	Ports	Contact Discharge	Complied	-
5	Switch	Contact Discharge	Complied	-
6	Remote Control Enclosure	Air Discharge	Complied	-

Note: “Blank” = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria

3.2 Radiated Electric Field Immunity

Reference Standard
EN IEC 61000-4-3

Test Date
Apr. 04, 2025

Test Location
EMS-RS: ☒ SEMI ANECHOIC CHAMBER #3 ☐ SEMI ANECHOIC CHAMBER #4(10 m)

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, 29, 2025
☒	HIGH POWER DUAL AMP	SSA532	SUNGSAN	SSA532-001	-
☒	POWER METER	E4419B	Agilent	GB40203000	02, 13, 2026
☒	AVERAGE POWER SENSOR	E9301A	Agilent	MY52170007	02, 13, 2026
☒	AVERAGE POWER SENSOR	E9301A	Agilent	MY41498669	02, 13, 2026
☒	STACKED DOUBLE LOG-PER- ANTENNA	STPL9128 E	Schwarzbeck	9128ES-121	-
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 05, 2026

Test Conditions
Temperature: (23,4 ± 1,2) ℃
Relative Humidity: (46,4 ± 0,7) % R.H.
Atmospheric Pressure: (100,3 ± 0,0) 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 ☐ 1,4 GHz to 2,7 GHz ☒ 80 MHz to 2,7 GHz
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
# of Sides Radiated:	☒ 4
Required Performance Criteria:	☒ Complied

Test Data

■mode 1

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

■mode 2

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria

3.3 Electrical Fast Transients/Bursts

Reference Standard
EN 61000-4-4

Test Date
Apr. 03, 2025

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, 06, 2025
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 07, 2025
☒	CAPACITIVE COUPLING CLAMP	HFK	EM TEST	P1633183115	11, 06, 2025

Test Conditions

Temperature: (23,3 ± 0,2) ℃
Relative Humidity: (46,0 ± 0,2) % R.H.
Atmospheric Pressure: (100,6 ± 0,0) kPa

Test Specifications

Pulse Amplitude & Polarity: (AC Power Lines)	☐ ± 1.0 kV ☐ ± 4.0 kV	☒ ± 2.0 kV
Pulse Amplitude & Polarity: (Other supply / Signal Lines)	☐ ± 0.5 kV ☐ ± 2.0 kV	☒ ± 1.0 kV
Burst Period:	☒ 300 ms	☐ 2 s
Repetition Rate:	☐ 5 kHz	☒ 100 kHz
Duration of Test Voltage:	☒ ≥ 1 min	
Required Performance Criteria:	☒ Complied	

Test Data

■mode 1

☒ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
L	Complied	Complied
N	Complied	Complied
PE	Complied	Complied
L – N	Complied	Complied
L – PE	Complied	Complied
N – PE	Complied	Complied
L – N – PE	Complied	Complied

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

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
RJ-45 (LAN)	Complied	Complied

■mode 2

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

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

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

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Observations	
	(+) Burst (㎸)	(-) Burst (㎸)
RJ-45 (PoE)	Complied	Complied

Note: "Blank" = Not performed
Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria

3.4 Surge Transients

Reference Standard
EN 61000-4-5

Test Date
Apr. 03, 2025

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, 07, 2025
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 07, 2025
☒	CDN	CNV 508N1	EM TEST	P1610176296	11, 08, 2025

Test Conditions

Temperature: (23,3 ± 0,4) ℃
Relative Humidity: (46,0 ± 0,3) % R.H.
Atmospheric Pressure: (100,6 ± 0,0) 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:	☒ 0°, 90°, 180°, 270° (input a.c. power port)
Polarity:	☒ Positive & Negative
Repetition Rate:	☐ 1 surge per min ☒ 1 surge per 30 sec.
Required Performance Criteria:	☒ Complied

Other supply / Signal Lines

Source Impedance:	42 ohm for common Mode
Surge Amplitude:	Common Mode ☒ (0,5 / 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:	☒ Complied

Test Data

■mode 1

☒ Line to Line – Differential Mode

Mode of Application	Observations	
	(+) Surge (㎸)	(-) Surge (㎸)
L – N	Complied	Complied

☒ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (㎸)	(-) Surge (㎸)
L – PE	Complied	Complied
N – PE	Complied	Complied

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	Coupling Method	Observations	
		(+) Surge (㎸)	(-) Surge (㎸)
RJ-45 (LAN)	CDN	Complied	Complied
	LINE	Complied	Complied

■mode 2

☐ Line to Line – Differential Mode

Mode of Application	Observations	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

☐ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	Coupling Method	Observations	
		(+) Surge (㎸)	(-) Surge (㎸)
RJ-45 (PoE)	CDN	Complied	Complied
	LINE	Complied	Complied

Note:“Blank” = Not performed
Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria

3.5 Conducted Disturbance

Reference Standard
EN 61000-4-6

Test Date
Apr. 04, 2025

Test Location
EMS-CS: Electro wave Shieldroom #7

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMS Test S/W	icd.control	EM TEST	7.2.0	-
☒	TEST SYSTEM FOR CONDUCTED AND RADIATED	NSG4070	TESEQ	65585	11, 18, 2025
☒	ATTENUATOR	ATT 6/80	EM TEST	P1614178148	11, 06, 2025
☒	CDN	CDN M016	TESEQ	43694	11, 07, 2025
☒	CDN	CDN M016	TESEQ	43697	11, 07, 2025
☐	EM CLAMP	KEMZ 801A	TESEQ	44099	11, 08, 2025
☒	CDN	CDN T8RJ45	EM TEST	0909-09	07, 29, 2025

Test Conditions

Temperature: (23,3 ± 0,6) ℃
Relative Humidity: (45,9 ± 0,2) % R.H.
Atmospheric Pressure: (100,5 ± 0,0) ㎪

Test Specifications

Frequency range: ☒ 150 ㎑ to 100 ㎒ ☐ 150 ㎑ to 80 ㎒

Voltage Level: ☐ 1 Vrms ☐ 3 Vrms
☒ 10 Vrms

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

Frequency step: ☒ 1 % step

Dwell Time: ☐ 1 s ☒ 3 s

Required Performance Criteria: ☒ Complied

Test Data

■mode 1

☒ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
L – N – PE	CDN	Complied

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	-	-

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ-45 (LAN)	CDN	Complied

■mode 2

☐ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	-	-

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	-	-

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ-45 (PoE)	CDN	Complied

Notes: CDN = Coupling Decoupling Network
"blank" = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria

3.6 Voltage Dips and Short Interruptions

Reference Standard
EN IEC 61000-4-11

Test Date
Apr. 03, 2025

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, 07, 2025
☒	MOTOR VARIAC	MV2616	EM TEST	P1552169719	11, 07, 2025

Test Conditions

Temperature: (23,3 ± 0,0) ℃
Relative Humidity: (46,0 ± 0,0) % R.H.
Atmospheric Pressure: (100,6 ± 0,0) kPa

Test Specifications & Observations/Remarks

■mode 1

- Voltage Dips and Short Interruptions

Test Level	Duration [in period/ms (50 ㎐)]	Results
☒ 20 % dip	☒ 250 / 5 000	Complied
☒ 30 % dip	☒ 25 / 500	Complied
☒ 60 % dip	☒ 10 / 200	Complied
☒ 100 % dip	☒ 250 / 5 000	Degradation

- Voltage variations

☒ Unom + 10 %	☒ 253.0 V (ac)	Complied
☒ Unom - 15 %	☒ 195.5 V (ac)	Complied

Observations:
Complied – No degradation of function
Degradation - See "Remarks "

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria
☐ NOT APPLICABLE

Remarks

Degradation : *During the test(100%, 250cycle), EUT was turned off but after the test, it was recovered without operator’s intervention.

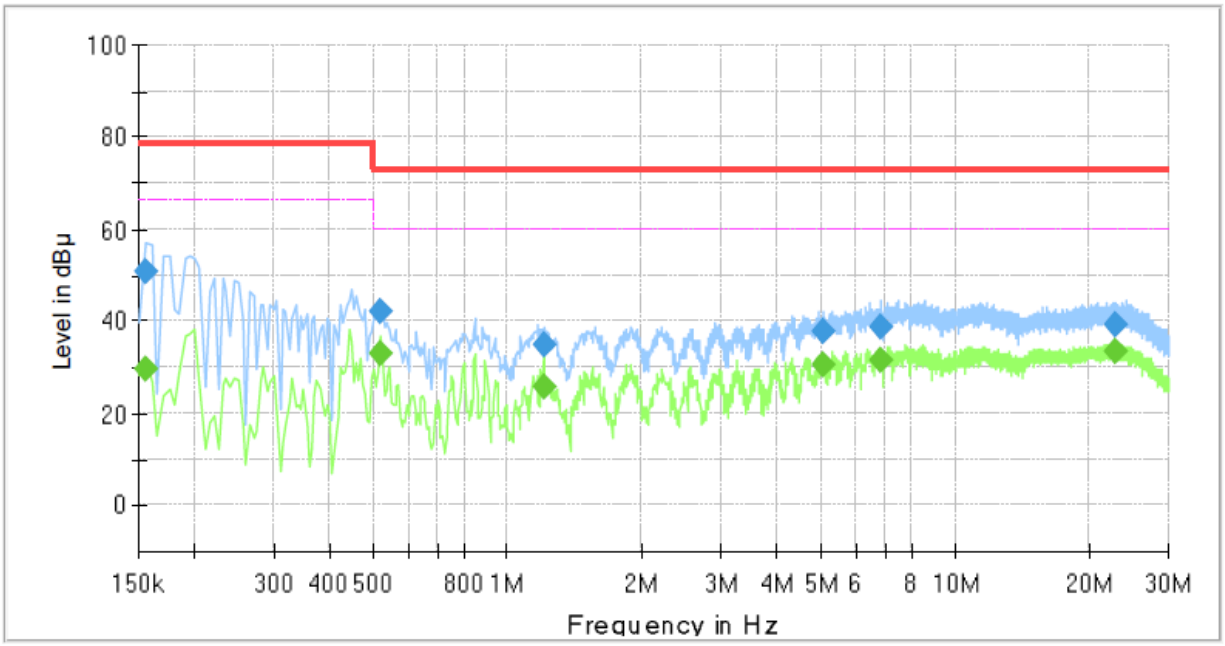
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

■mode 1

[HOT]

Test Description:	Conducted Emission
Job No.:	KES-EM250851
Phase:	L
Mode:	mode 1
Operator Name:	KES

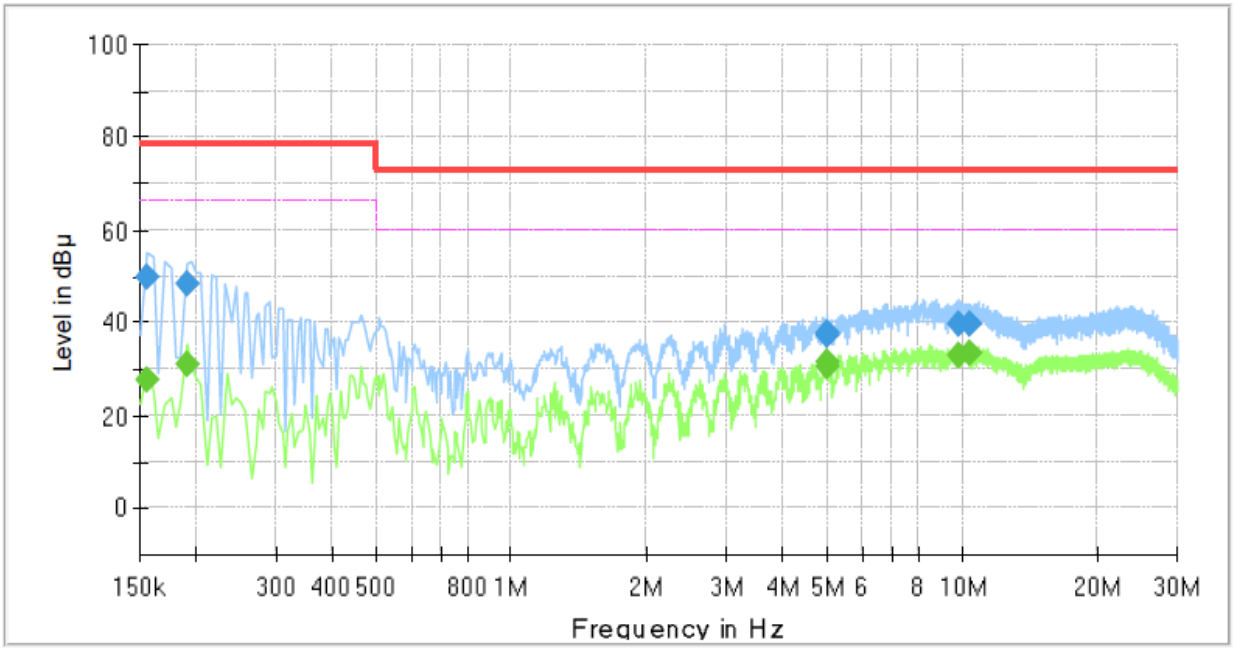


Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	29.38	66.00	36.62	1000.0	9.000	L1	19.5
0.155000	50.99	---	79.00	28.01	1000.0	9.000	L1	19.5
0.520000	---	32.74	60.00	27.26	1000.0	9.000	L1	19.6
0.520000	42.01	---	73.00	30.99	1000.0	9.000	L1	19.6
1.205000	---	25.54	60.00	34.46	1000.0	9.000	L1	19.6
1.205000	34.65	---	73.00	38.35	1000.0	9.000	L1	19.6
5.050000	---	30.70	60.00	29.30	1000.0	9.000	L1	19.9
5.050000	37.77	---	73.00	35.23	1000.0	9.000	L1	19.9
6.840000	---	31.60	60.00	28.40	1000.0	9.000	L1	20.0
6.840000	38.86	---	73.00	34.14	1000.0	9.000	L1	20.0
22.770000	---	33.34	60.00	26.66	1000.0	9.000	L1	20.5
22.770000	39.24	---	73.00	33.76	1000.0	9.000	L1	20.5

[NEUTRAL]

Test Description:	Conducted Emission
Job No.:	KES-EM250851
Phase:	N
Mode:	mode 1
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	---	27.53	66.00	38.47	1000.0	9.000	N	19.5
0.155000	49.91	---	79.00	29.09	1000.0	9.000	N	19.5
0.190000	---	31.21	66.00	34.79	1000.0	9.000	N	19.5
0.190000	48.54	---	79.00	30.46	1000.0	9.000	N	19.5
4.995000	---	31.33	60.00	28.67	1000.0	9.000	N	19.9
4.995000	37.58	---	73.00	35.42	1000.0	9.000	N	19.9
5.015000	---	30.70	60.00	29.30	1000.0	9.000	N	19.9
5.015000	37.10	---	73.00	35.90	1000.0	9.000	N	19.9
9.840000	---	32.96	60.00	27.04	1000.0	9.000	N	20.0
9.840000	39.84	---	73.00	33.16	1000.0	9.000	N	20.0
10.390000	---	33.20	60.00	26.80	1000.0	9.000	N	20.0
10.390000	39.93	---	73.00	33.07	1000.0	9.000	N	20.0

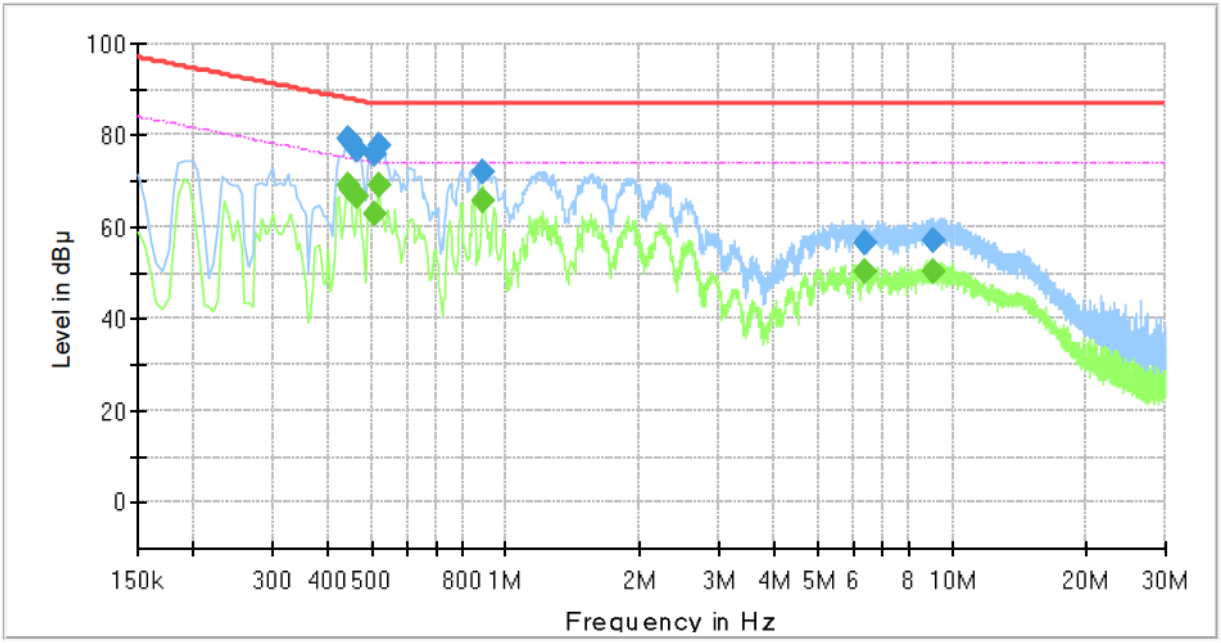
♦ Calculation
QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Conducted Emissions at Telecommunication Ports

■mode 1

[1 000 Mbps]

Test Description:	Telecommunication Emission
Job No.:	KES-EM250851
Mode :	mode 1
Speed :	1 000 Mbps
Operator Name:	KES



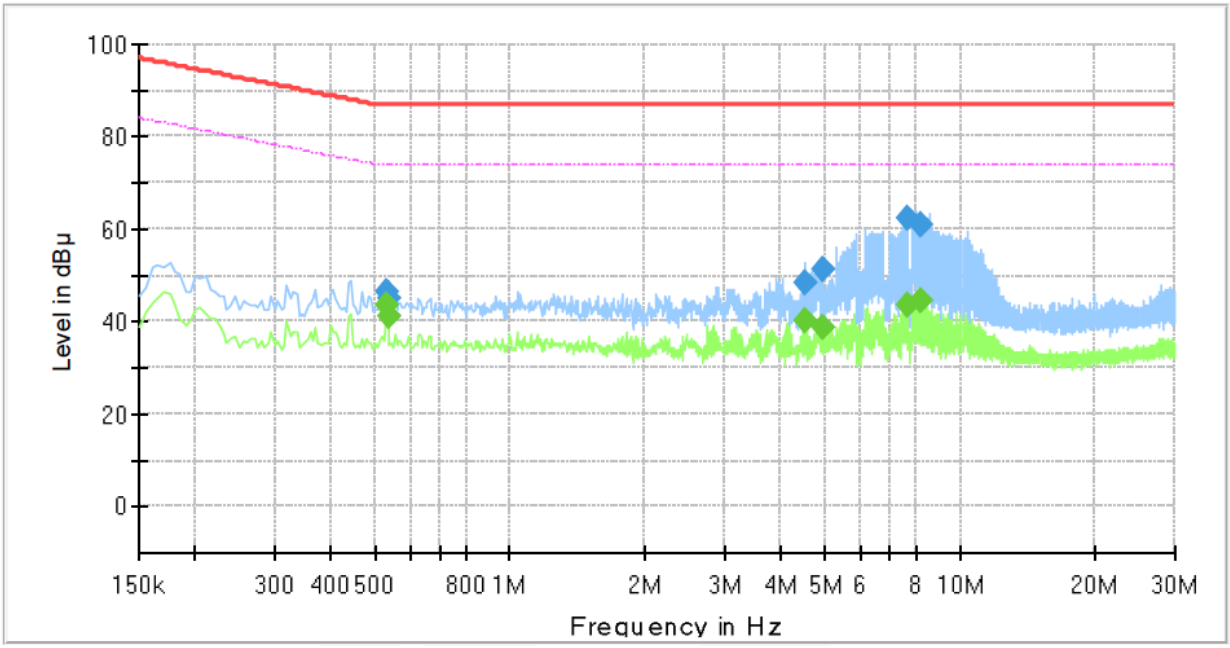
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.445000	---	69.35	74.97	5.62	1000.0	9.000	Single Line	19.4
0.445000	79.09	---	87.97	8.88	1000.0	9.000	Single Line	19.4
0.450000	---	68.34	74.88	6.54	1000.0	9.000	Single Line	19.4
0.450000	78.99	---	87.88	8.89	1000.0	9.000	Single Line	19.4
0.465000	---	66.95	74.60	7.65	1000.0	9.000	Single Line	19.4
0.465000	76.80	---	87.60	10.80	1000.0	9.000	Single Line	19.4
0.505000	---	63.00	74.00	11.00	1000.0	9.000	Single Line	19.4
0.505000	75.98	---	87.00	11.02	1000.0	9.000	Single Line	19.4
0.520000	---	68.98	74.00	5.02	1000.0	9.000	Single Line	19.4
0.520000	77.86	---	87.00	9.14	1000.0	9.000	Single Line	19.4
0.890000	---	65.65	74.00	8.35	1000.0	9.000	Single Line	19.3
0.890000	71.90	---	87.00	15.10	1000.0	9.000	Single Line	19.3
6.375000	---	50.20	74.00	23.80	1000.0	9.000	Single Line	19.5
6.375000	56.71	---	87.00	30.29	1000.0	9.000	Single Line	19.5
9.040000	---	50.14	74.00	23.86	1000.0	9.000	Single Line	19.6
9.040000	57.28	---	87.00	29.72	1000.0	9.000	Single Line	19.6

■mode 2

[1 000 Mbps]

Test Description:	Telecommunication Emission
Job No.:	KES-EM250851
Mode :	mode 2
Speed :	1 000 Mbps
Operator Name:	KES



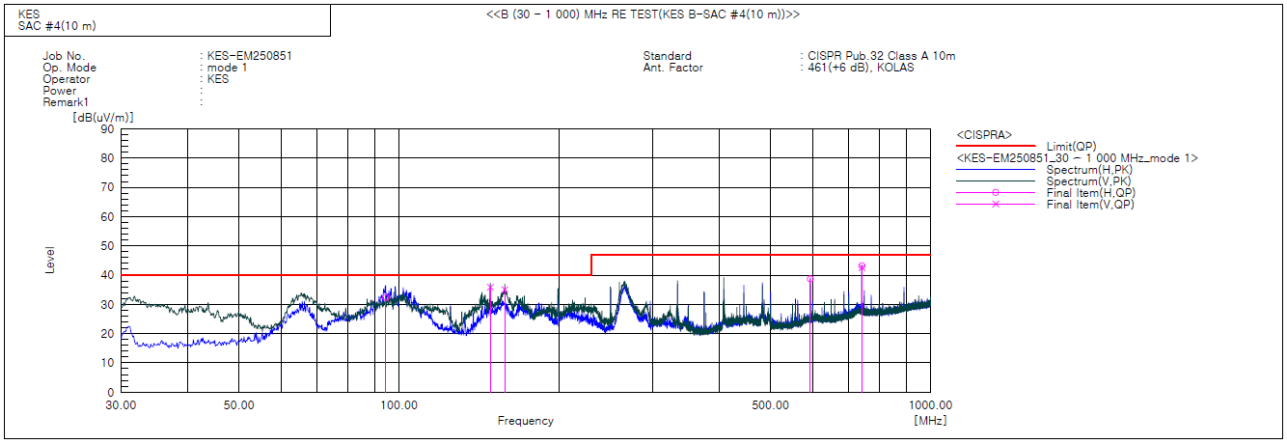
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.530000	---	43.52	74.00	30.48	1000.0	9.000	Single Line	19.4
0.530000	46.52	---	87.00	40.48	1000.0	9.000	Single Line	19.4
0.535000	---	40.95	74.00	33.05	1000.0	9.000	Single Line	19.4
0.535000	44.90	---	87.00	42.10	1000.0	9.000	Single Line	19.4
4.510000	---	40.03	74.00	33.97	1000.0	9.000	Single Line	19.5
4.510000	48.44	---	87.00	38.56	1000.0	9.000	Single Line	19.5
4.960000	---	38.77	74.00	35.23	1000.0	9.000	Single Line	19.5
4.960000	51.16	---	87.00	35.84	1000.0	9.000	Single Line	19.5
7.665000	---	43.43	74.00	30.57	1000.0	9.000	Single Line	19.5
7.665000	62.27	---	87.00	24.73	1000.0	9.000	Single Line	19.5
8.205000	---	44.75	74.00	29.25	1000.0	9.000	Single Line	19.6
8.205000	61.13	---	87.00	25.87	1000.0	9.000	Single Line	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 (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Radiated Electric Field Emissions(Below 1 ㎓)

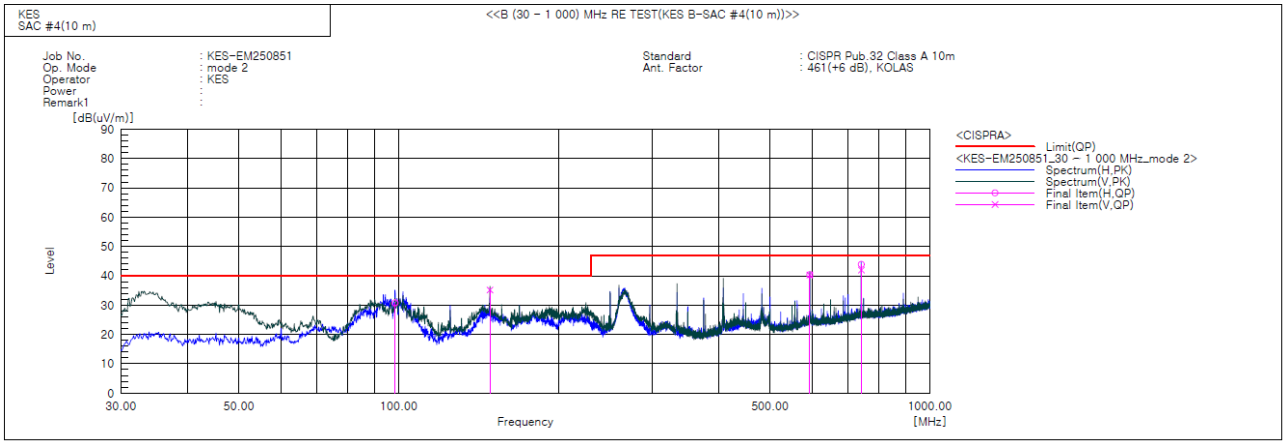
■mode 1



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	94.384	H	58.2	-25.8	32.4	40.0	7.6	354.0	99.0	
2	148.461	V	55.2	-19.3	35.9	40.0	4.1	142.0	238.0	
3	158.161	V	54.5	-19.4	35.1	40.0	4.9	158.0	273.0	
4	594.055	H	45.9	-7.2	38.7	47.0	8.3	377.0	1.0	
5	742.586	V	46.5	-3.9	42.6	47.0	4.4	136.0	65.0	
6	742.586	H	47.1	-3.9	43.2	47.0	3.8	326.0	225.0	

■mode 2



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	98.385	H	55.9	-25.1	30.8	40.0	9.2	369.0	102.0	
2	148.461	V	54.5	-19.3	35.2	40.0	4.8	138.0	249.0	
3	594.055	V	47.5	-7.2	40.3	47.0	6.7	147.0	154.0	
4	594.055	H	47.6	-7.2	40.4	47.0	6.6	322.0	157.0	
5	742.586	V	45.9	-3.9	42.0	47.0	5.0	120.0	182.0	
6	742.586	H	47.8	-3.9	43.9	47.0	3.1	380.0	302.0	

♦ Calculation

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

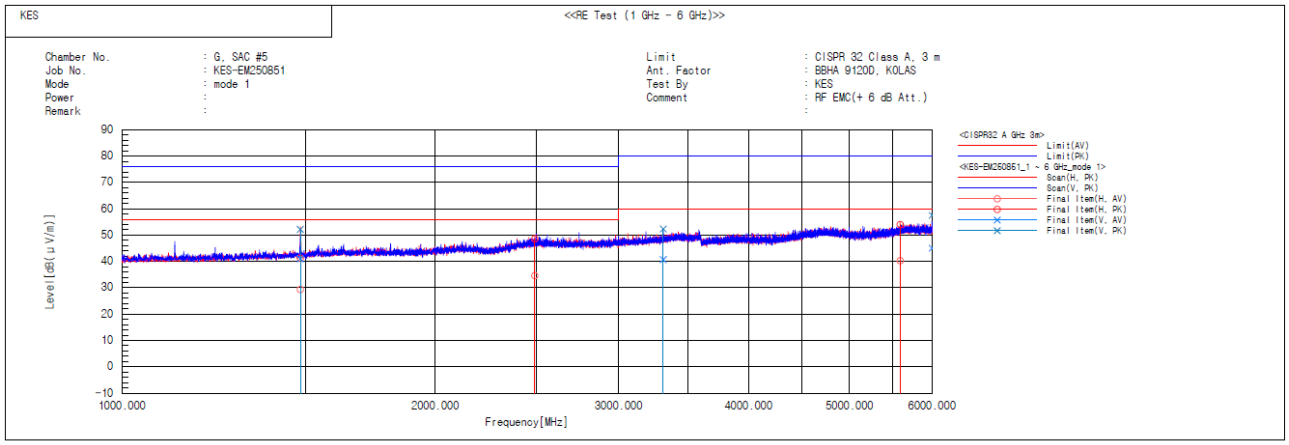
Margin(QP)[dB] = Limit[dB(㎶/m)] - Result(QP) [dB(㎶/m)]

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 ㎓)

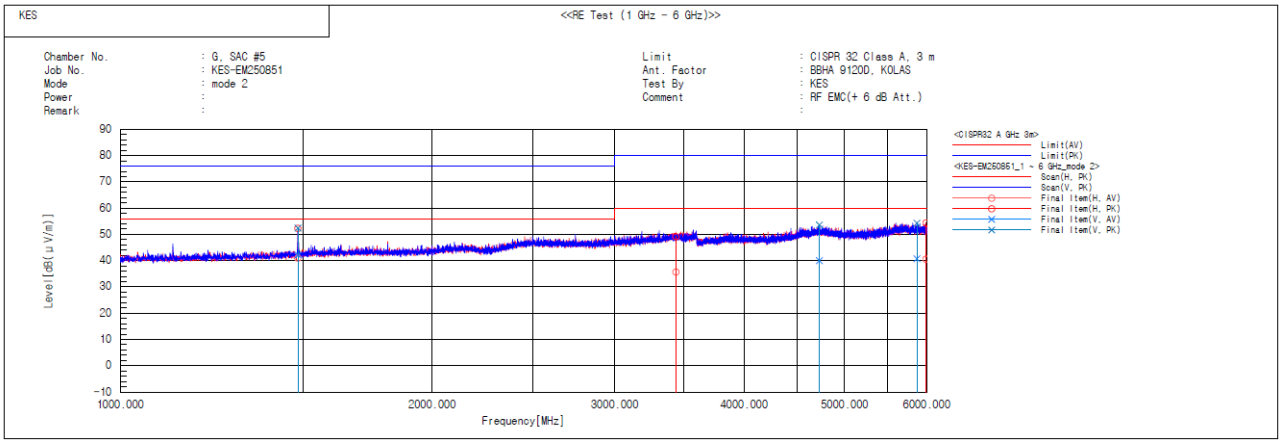
■mode 1



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	1484.135	V	39.9	51.1	1.1	41.0	52.2	56.0	76.0	15.0	23.8	100.0	237.0	
2	1484.248	H	28.3	40.2	1.1	29.4	41.3	56.0	76.0	26.6	34.7	100.0	0.9	
3	2492.754	H	29.6	43.6	5.0	34.6	48.6	56.0	76.0	21.4	27.4	100.0	233.6	
4	3312.110	V	33.8	45.4	6.9	40.7	52.3	60.0	80.0	19.3	27.7	100.0	169.2	
5	5592.296	H	26.7	40.4	13.6	40.3	54.0	60.0	80.0	19.7	26.0	100.0	245.3	
6	6000.000	V	30.6	43.1	14.4	45.0	57.5	60.0	80.0	15.0	22.5	100.0	223.5	

■mode 2



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	1484.237	H	39.9	51.2	1.1	41.0	52.3	56.0	76.0	15.0	23.7	100.0	0.7	
2	1484.724	V	41.0	51.3	1.1	42.1	52.4	56.0	76.0	13.9	23.6	100.0	160.8	
3	3436.942	H	28.6	42.0	7.1	35.7	49.1	60.0	80.0	24.3	30.9	100.0	351.0	
4	4727.902	V	28.4	42.0	11.6	40.0	53.6	60.0	80.0	20.0	26.4	100.0	342.8	
5	5872.389	V	26.4	40.0	14.3	40.7	54.3	60.0	80.0	19.3	25.7	100.0	30.5	
6	5987.781	H	26.2	40.0	14.4	40.6	54.4	60.0	80.0	19.4	25.6	100.0	333.1	

♦ 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(PK/CAV) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Harmonic Current Emissions and Voltage Fluctuations and Flicker

■mode 1

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1	0.136			
2	0.002			
3	0.130	5.669	2.300	PASS
4	0.002			
5	0.126	11.027	1.140	PASS
6	0.003			
7	0.122	15.793	0.770	PASS
8	0.002			
9	0.117	29.226	0.400	PASS
10	0.003			
11	0.110	33.229	0.330	PASS
12	0.003			
13	0.101	48.040	0.210	PASS
14	0.002			
15	0.092	61.221	0.150	PASS
16	0.002			
17	0.083	62.801	0.132	PASS
18	0.002			
19	0.074	62.486	0.118	PASS
20	0.002			
21	0.065	40.205	0.161	PASS
22	0.002			
23	0.055	37.746	0.147	PASS
24	0.002			
25	0.047	34.700	0.135	PASS
26	0.002			
27	0.039	31.208	0.125	PASS
28	0.002			
29	0.032	26.960	0.117	PASS
30	0.002			
31	0.025	23.038	0.110	PASS
32	0.002			
33	0.020	19.547	0.102	PASS
34	0.001			
35	0.016	16.483	0.096	PASS
36	0.001			
37	0.013	14.199	0.092	PASS
38	0.001			
39	0.011	12.848	0.087	PASS
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	Ieff [A]	% of Limit	Limit [A]	Result
1	0.065	40.205	0.161	PASS
2	0.002			
3	0.055	37.746	0.147	PASS
4	0.002			
5	0.047	34.700	0.135	PASS
6	0.002			
7	0.039	31.208	0.125	PASS
8	0.002			
9	0.032	26.960	0.117	PASS
10	0.002			
11	0.025	23.038	0.110	PASS
12	0.002			
13	0.020	19.547	0.102	PASS
14	0.001			
15	0.016	16.483	0.096	PASS
16	0.001			
17	0.013	14.199	0.092	PASS
18	0.001			
19	0.011	12.848	0.087	PASS
20	0.001			
21	0.065	40.470	0.161	PASS
22	0.002			
23	0.056	38.054	0.147	PASS
24	0.002			
25	0.047	35.046	0.135	PASS
26	0.002			
27	0.039	31.600	0.125	PASS
28	0.002			
29	0.032	27.367	0.117	PASS
30	0.002			
31	0.026	23.447	0.110	PASS
32	0.002			
33	0.020	19.950	0.102	PASS
34	0.002			
35	0.016	16.900	0.096	PASS
36	0.001			
37	0.013	14.518	0.092	PASS
38	0.001			
39	0.011	12.997	0.087	PASS
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 - Voltage Fluctuations

■mode 1

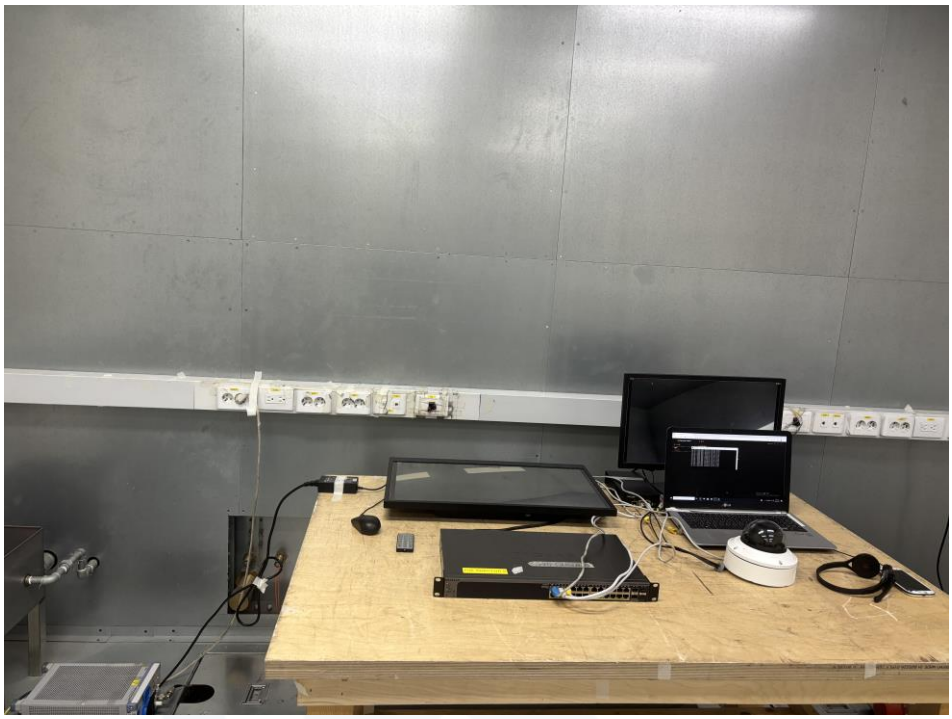
Maximum Flicker results

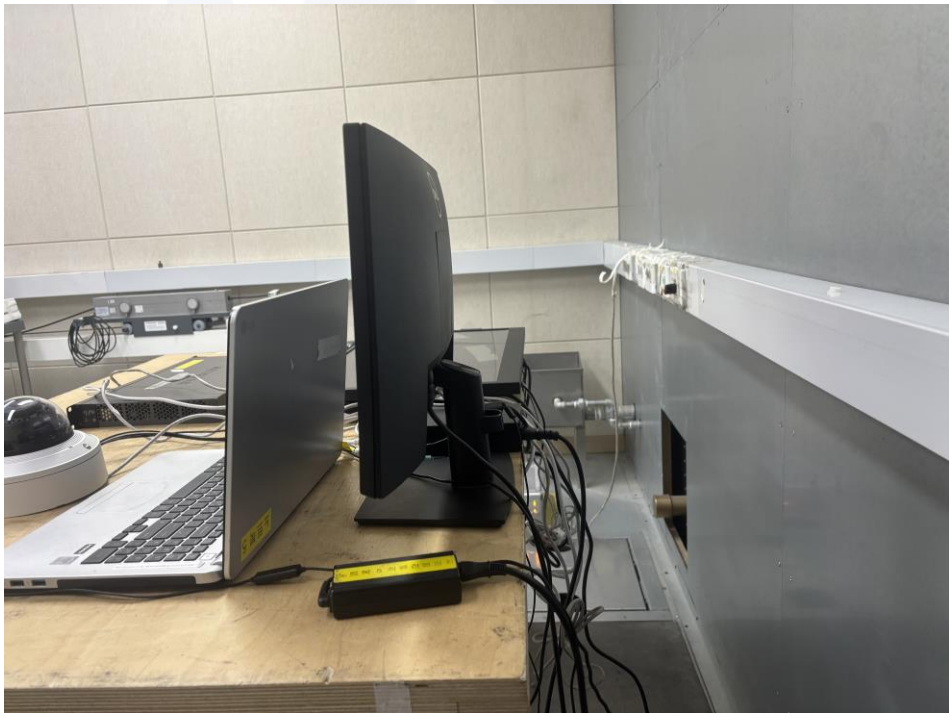
Flicker Measurements					
	Plt	**Max Pst**	**Max Dc**	**Max Dmax**	**Max Tmax**
Line 1:	0.028	0.028	0	< 0.2	0
Limits:	0.65	1	3.3	4	0.5
Results:	PASS	PASS	PASS	PASS	PASS

Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

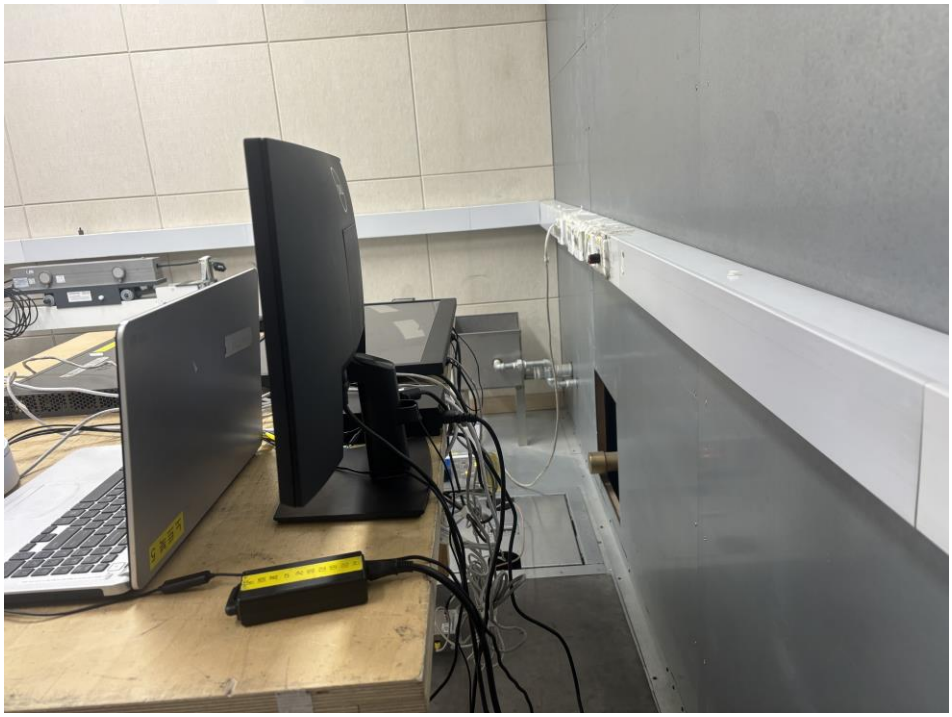
■mode 1



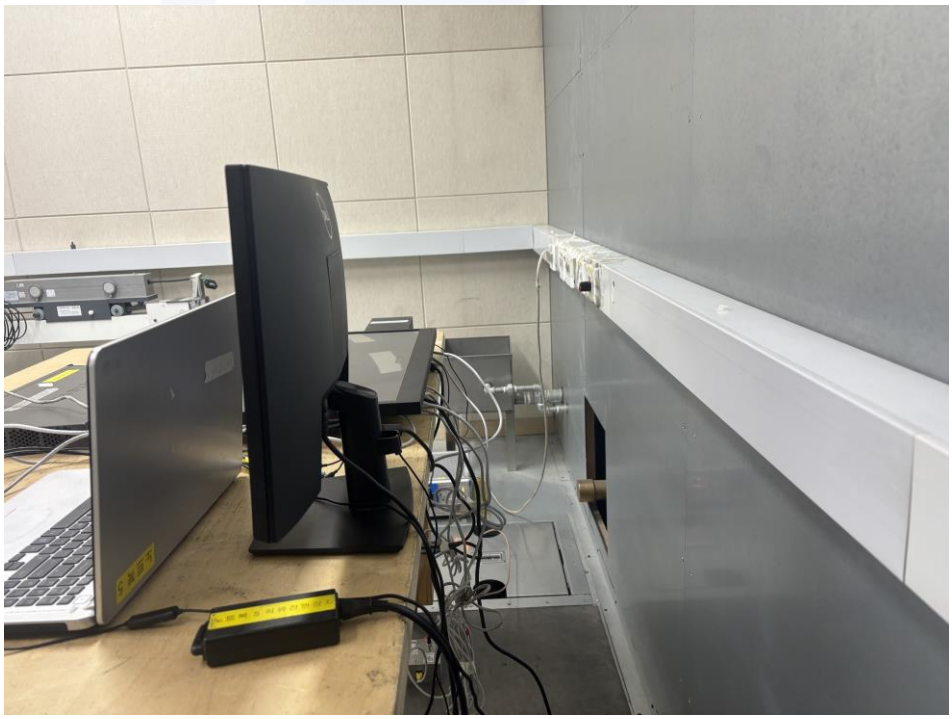


Conducted Emissions at Telecommunication Ports

■mode 1

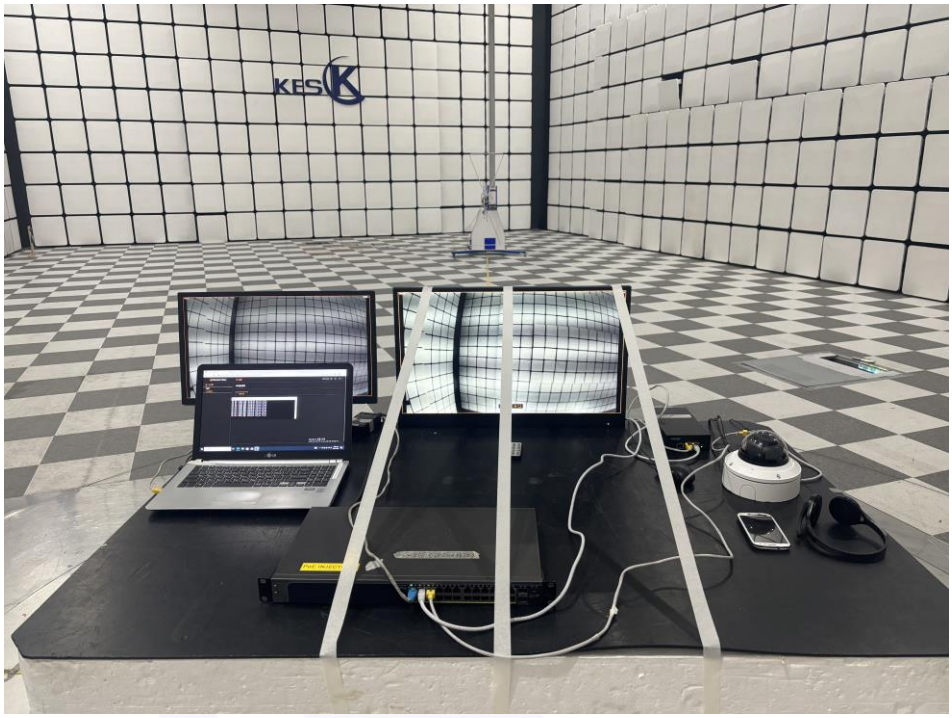


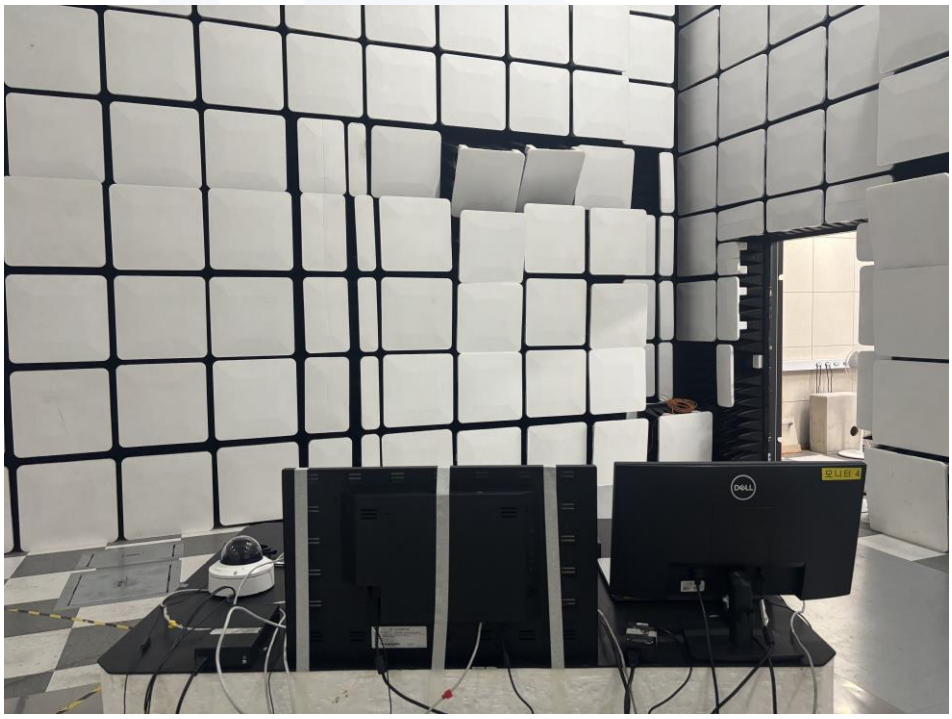
■mode 2



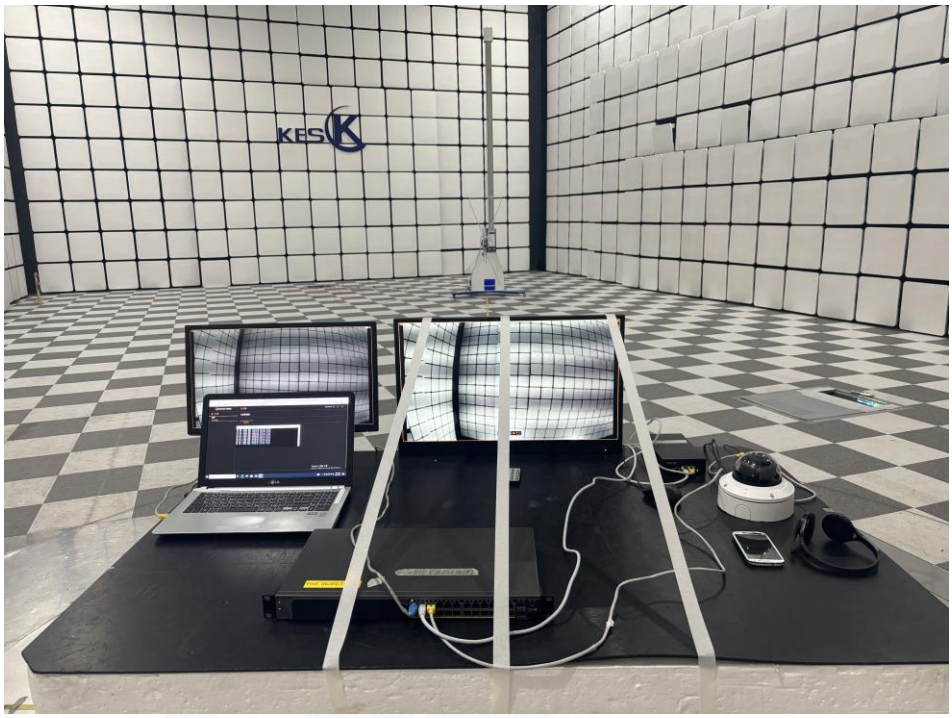
Radiated Electric Field Emissions(Below 1 ㎓)

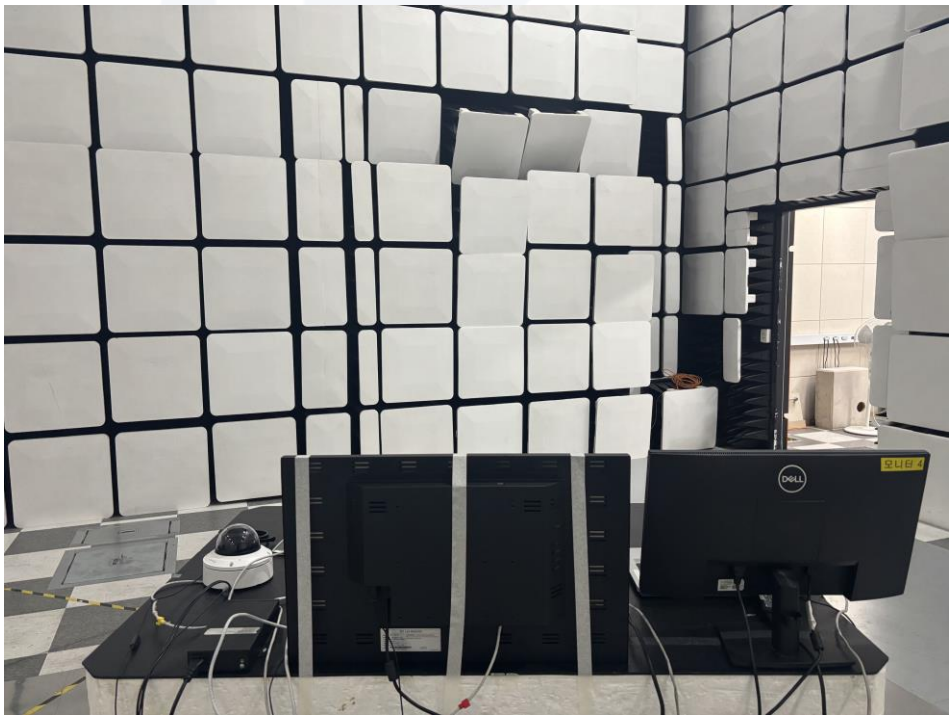
■mode 1





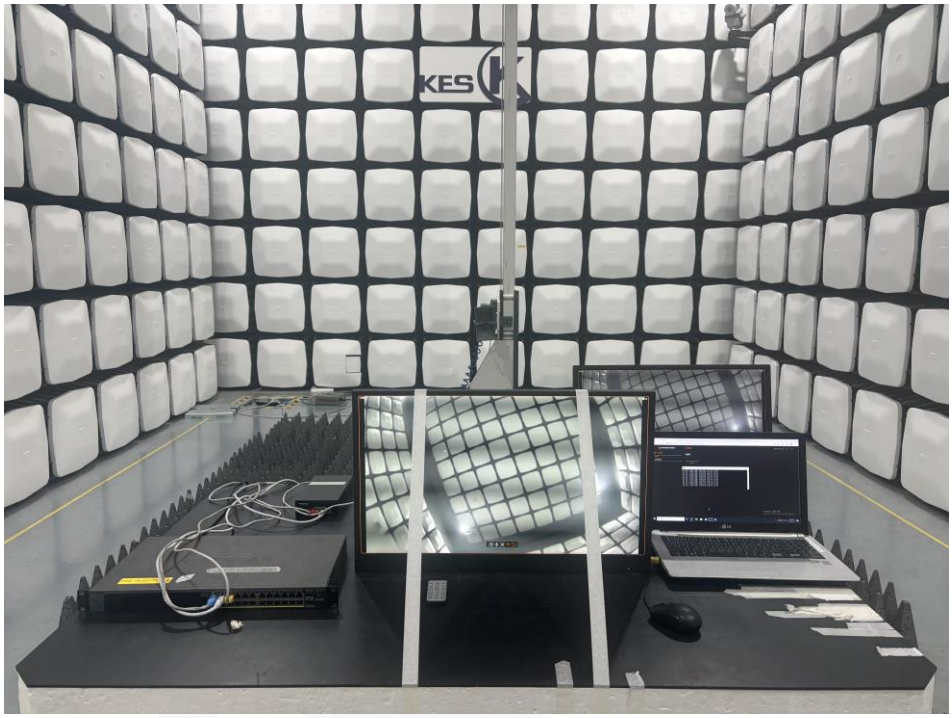
■mode 2

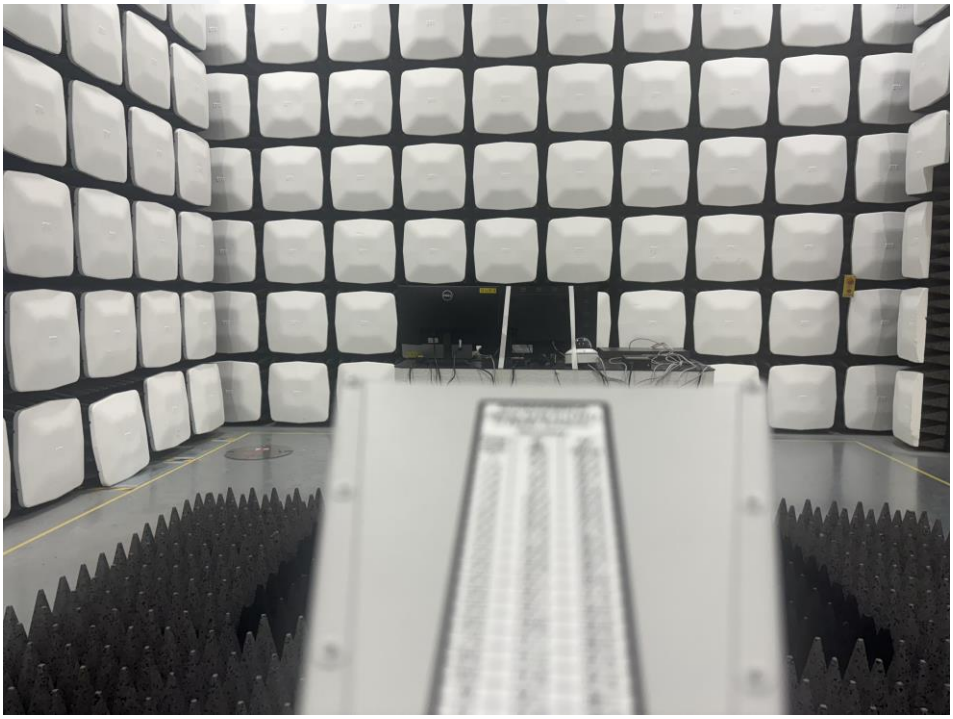




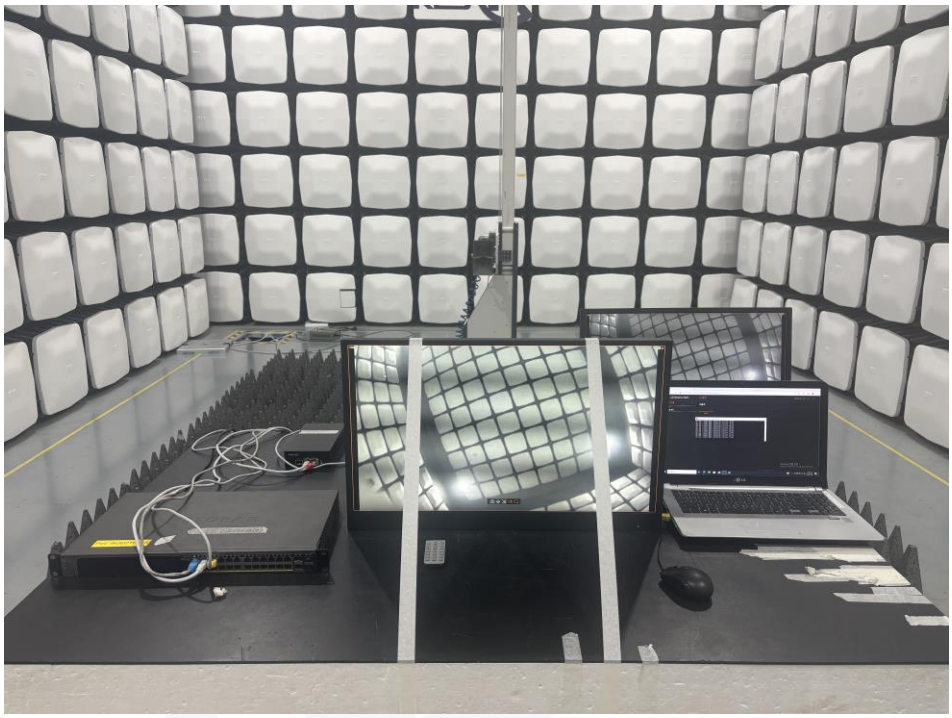
Radiated Electric Field Emissions(Above 1 ㎓)

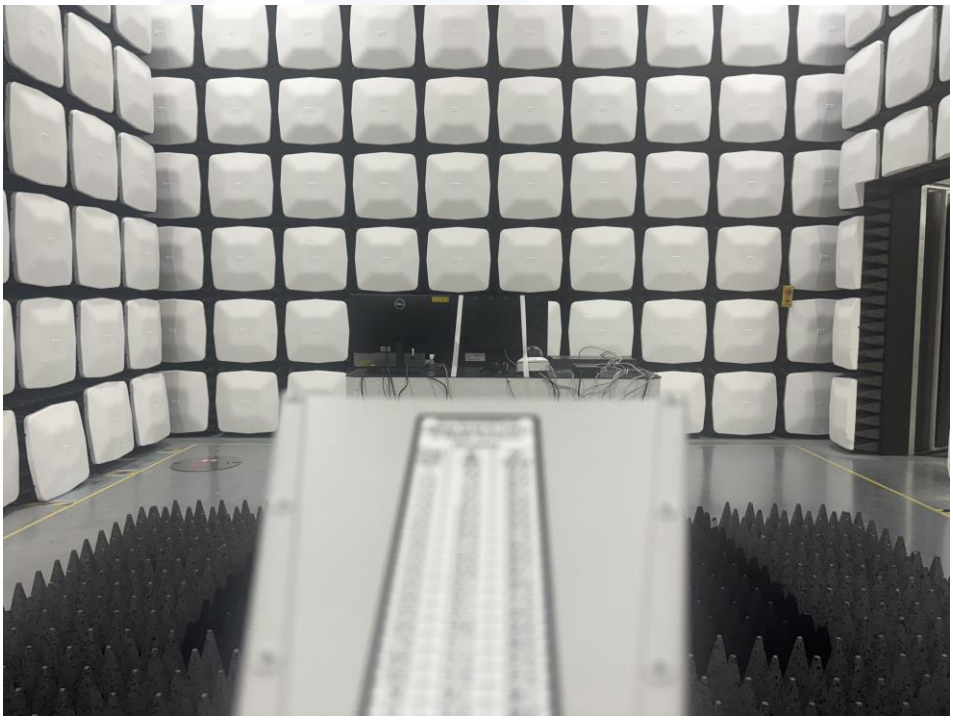
■mode 1





■mode 2



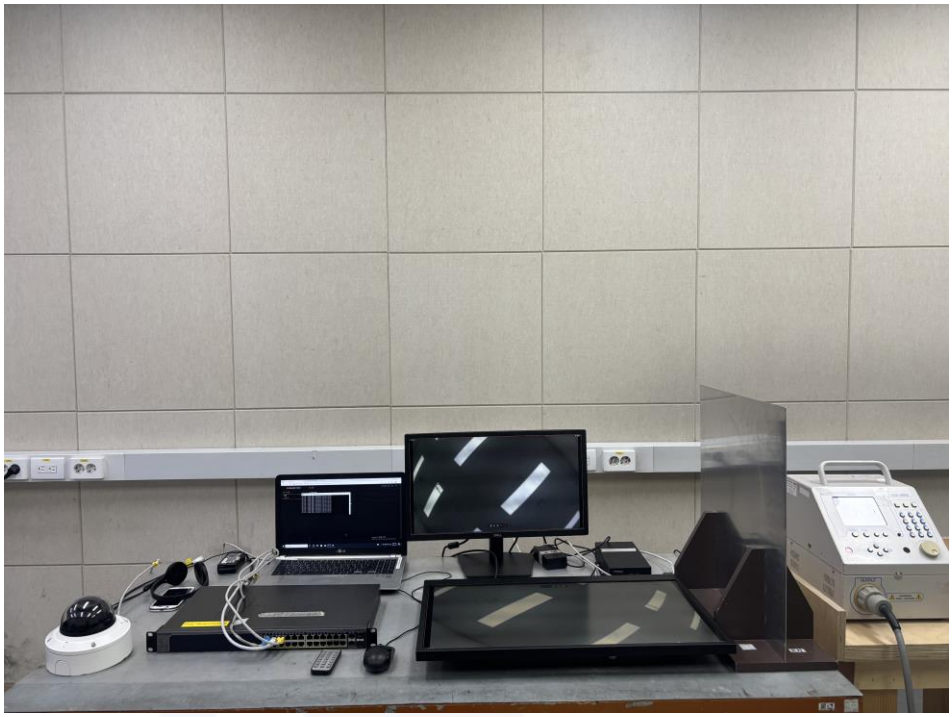


Harmonic Current Emissions and Voltage Fluctuations and Flicker

■mode 1

Electrostatic Discharge

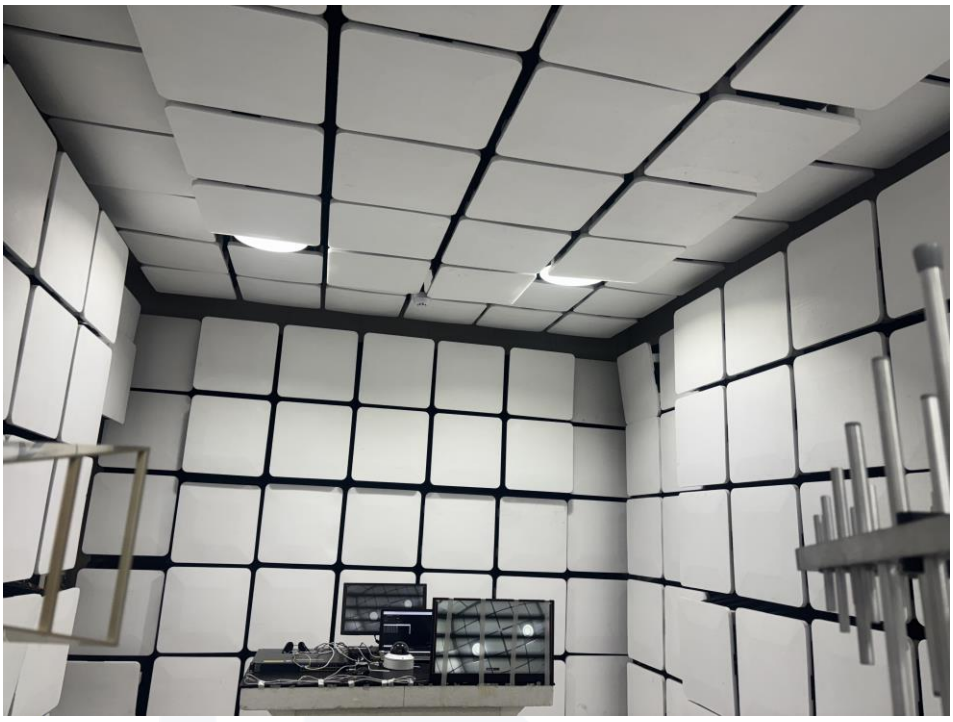
■mode 1



■mode 2

Radiated Electric Field Immunity

■mode 1



■mode 2

Electrical Fast Transients/Bursts

■mode 1

■mode 2

Surge Transients

■mode 1

■mode 2

Conducted Disturbance

■mode 1

■mode 2

Voltage Dips and Short Interruptions

■mode 1

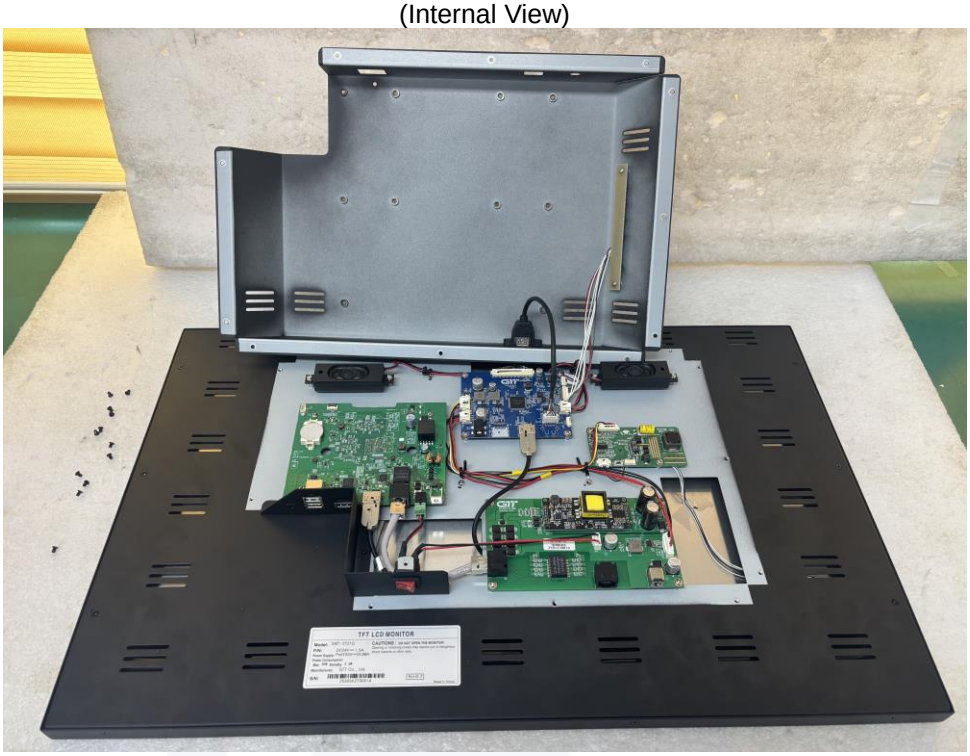
EUT External Photographs

(Top)

(Bottom)

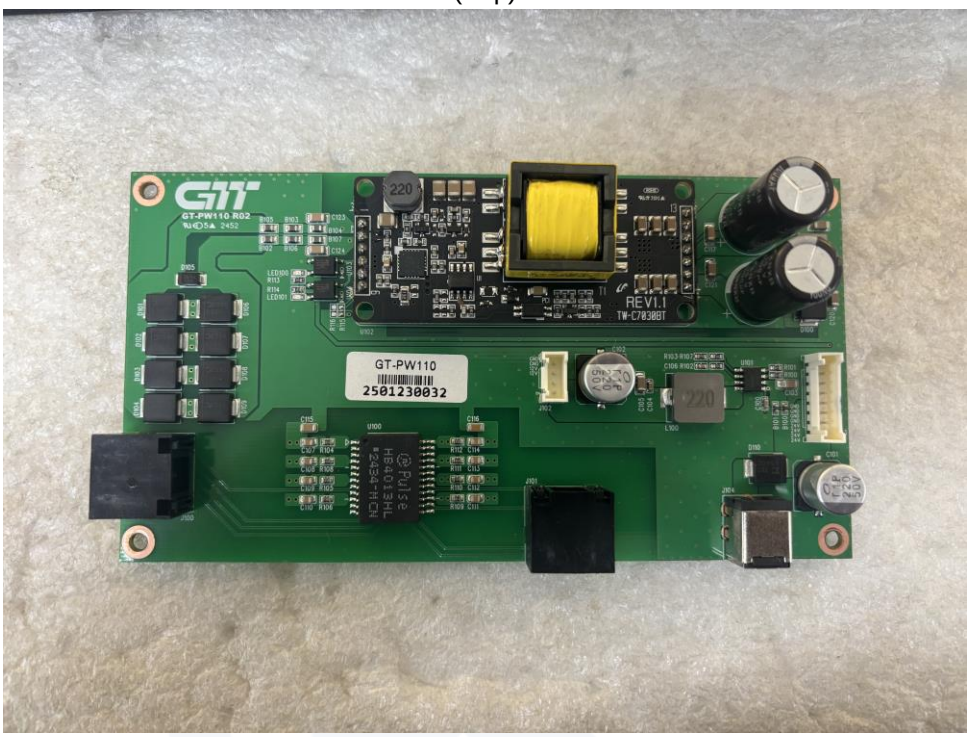
EUT Internal Photographs

(Internal View)

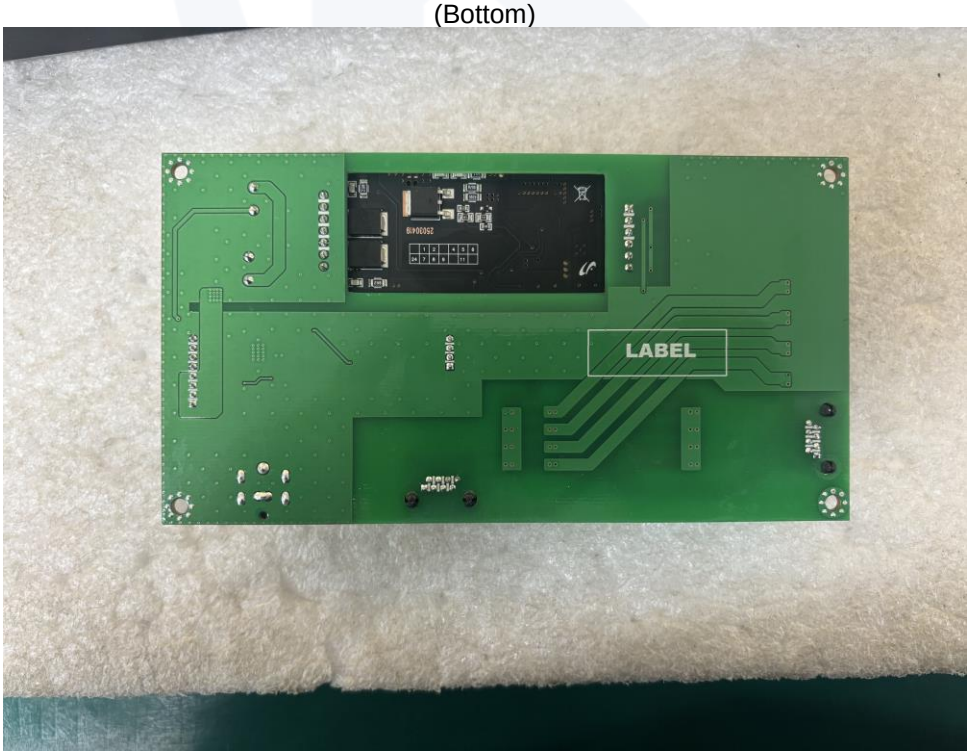


EUT Internal View – Board 1

(Top)

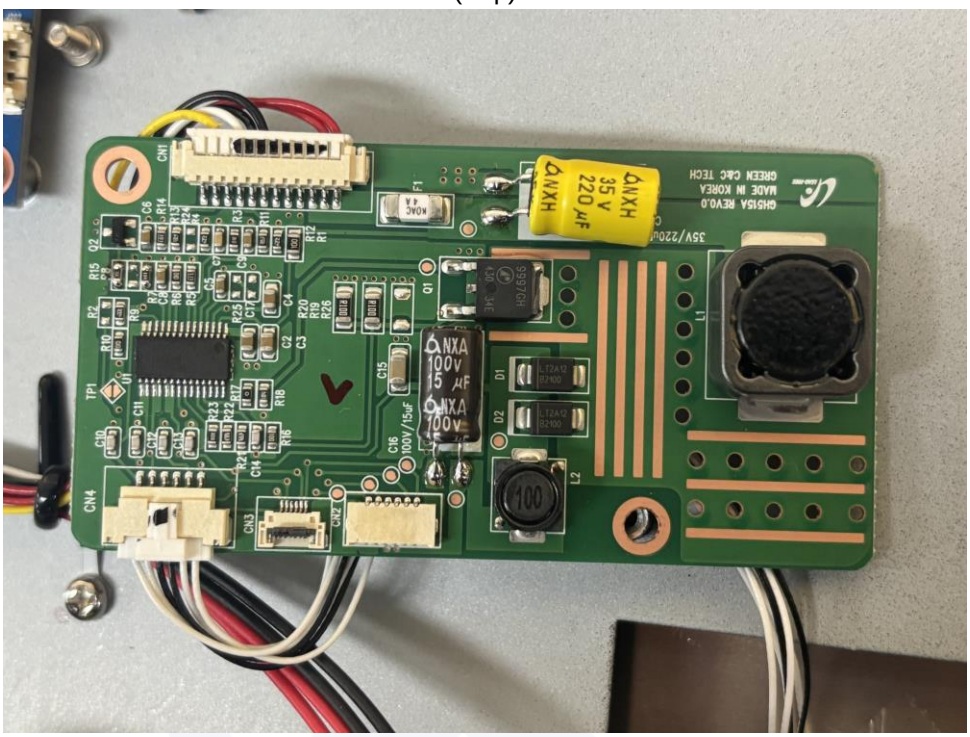


(Bottom)

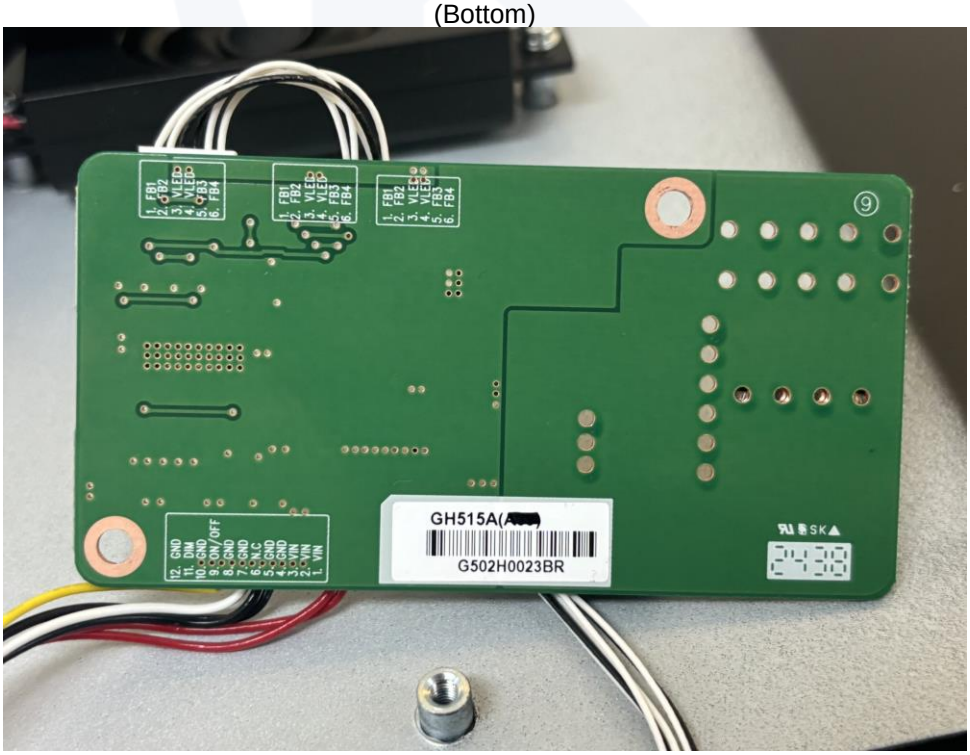


EUT Internal View – Board 2

(Top)

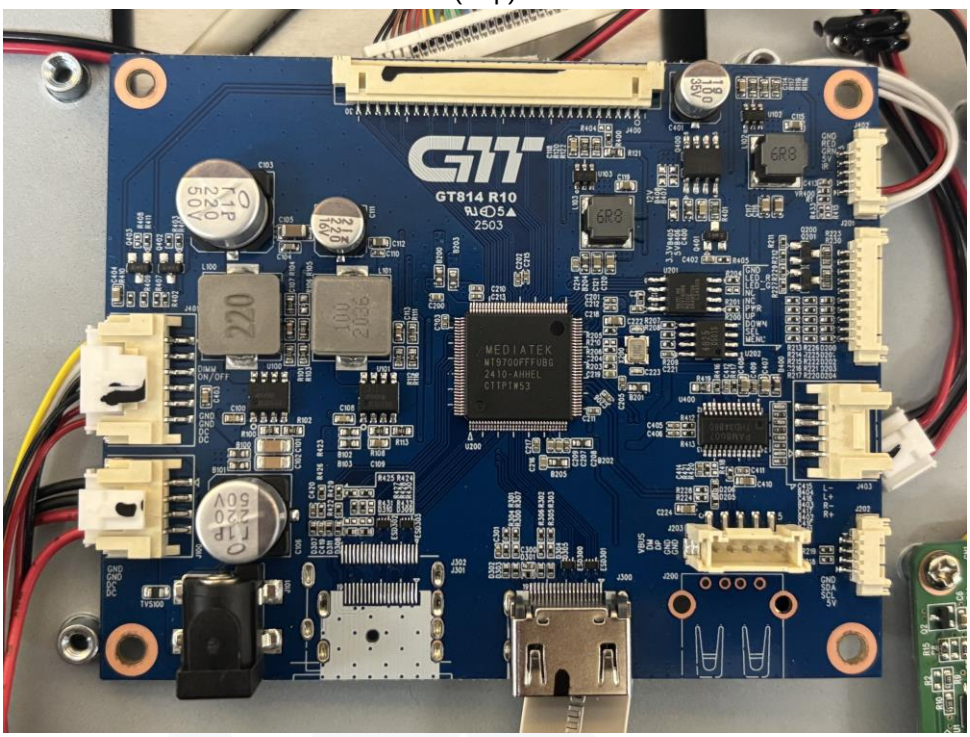


(Bottom)

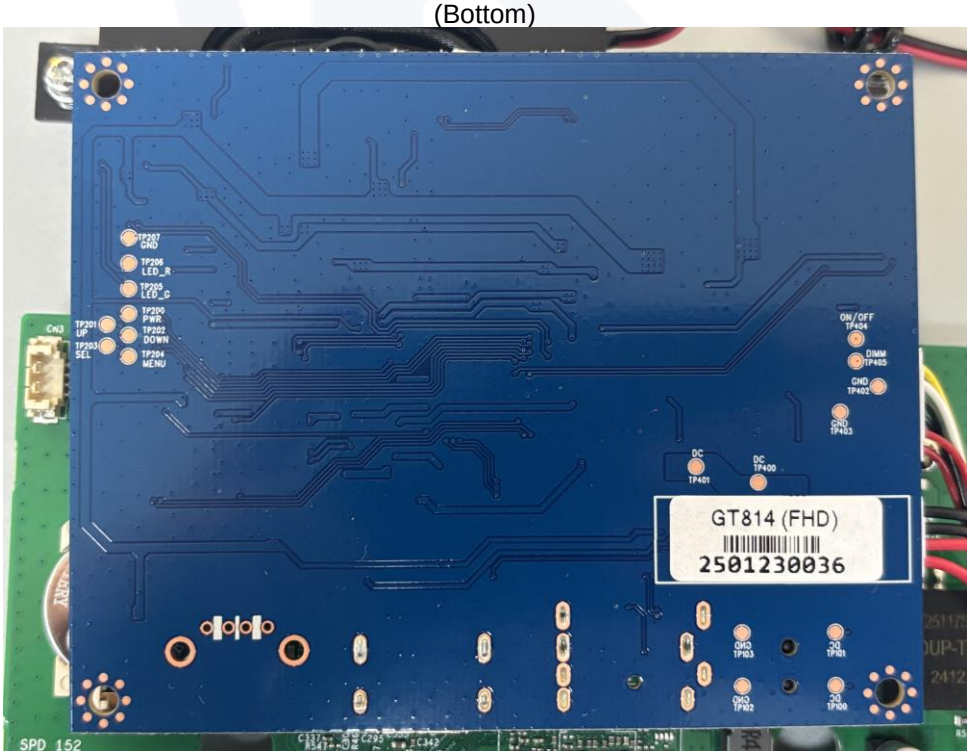


EUT Internal View – Board 3

(Top)

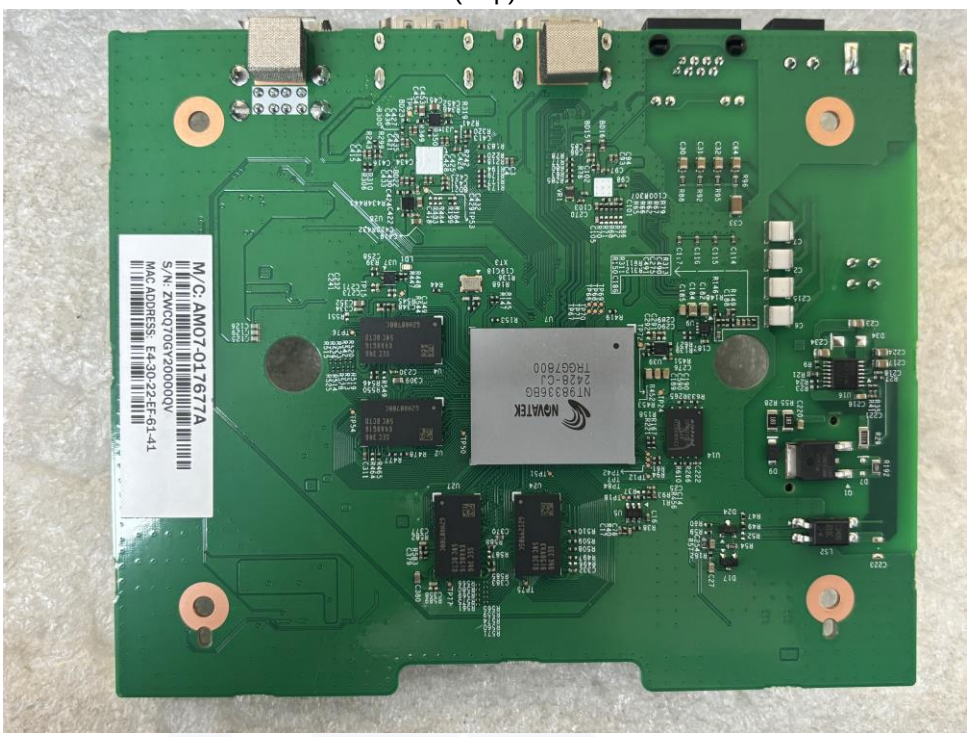


(Bottom)

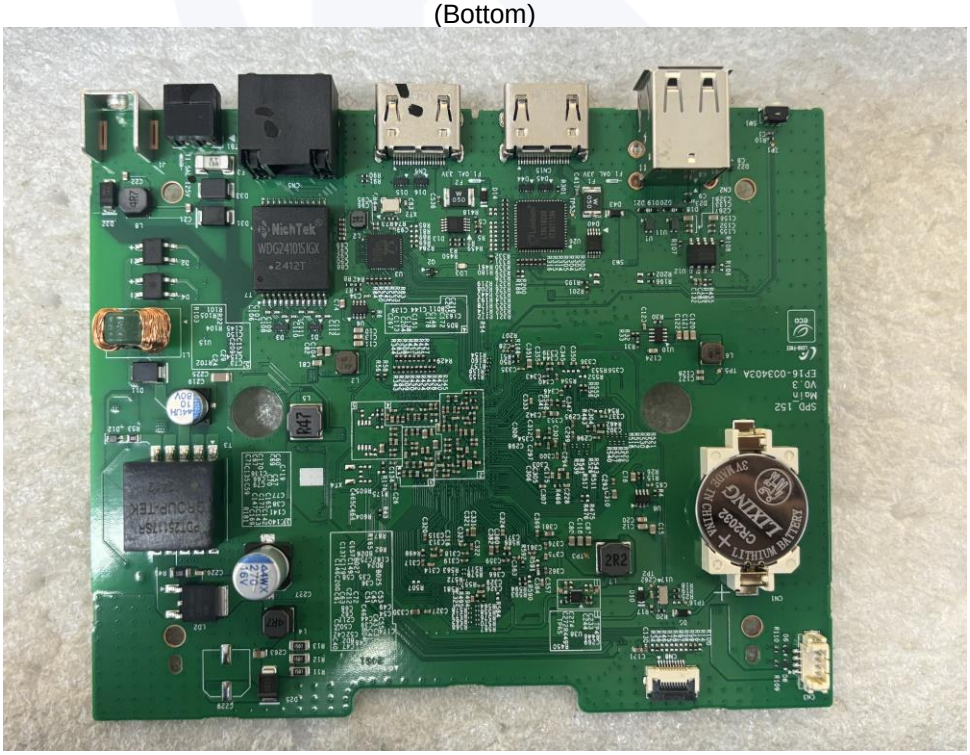


EUT Internal View – Board 4

(Top)



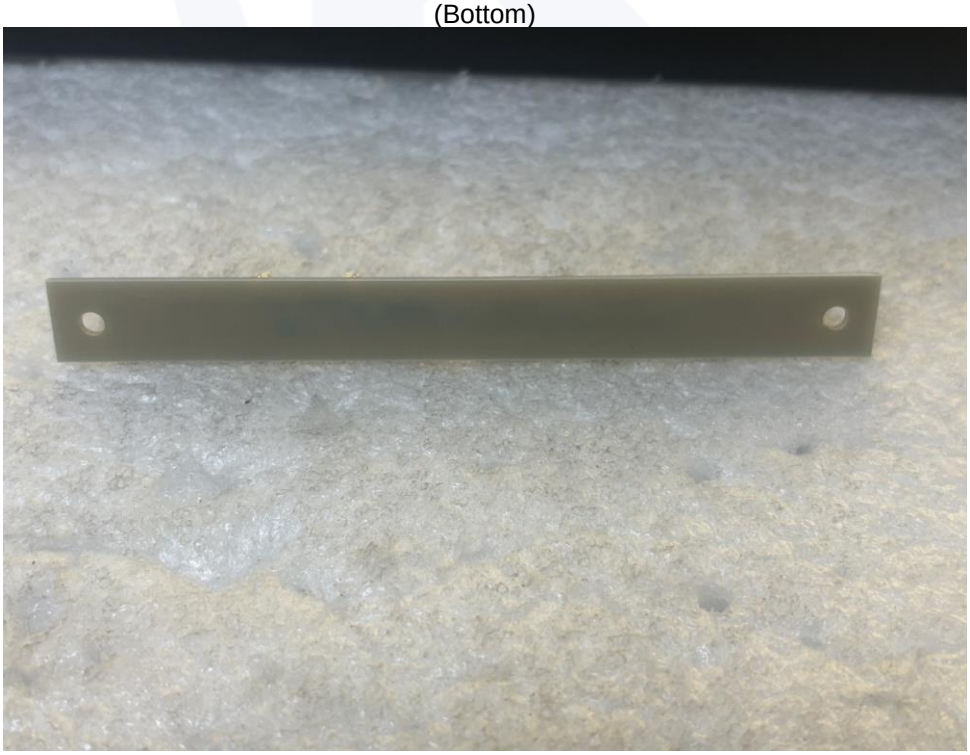
(Bottom)



EUT Internal View – Board 5

(Top)

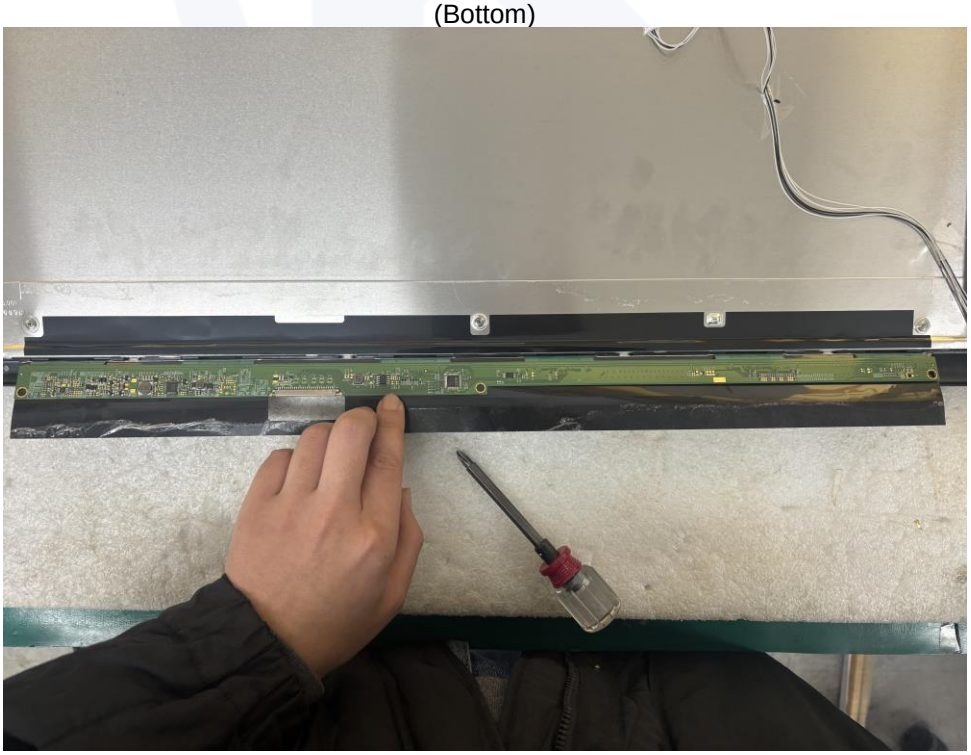
(Bottom)



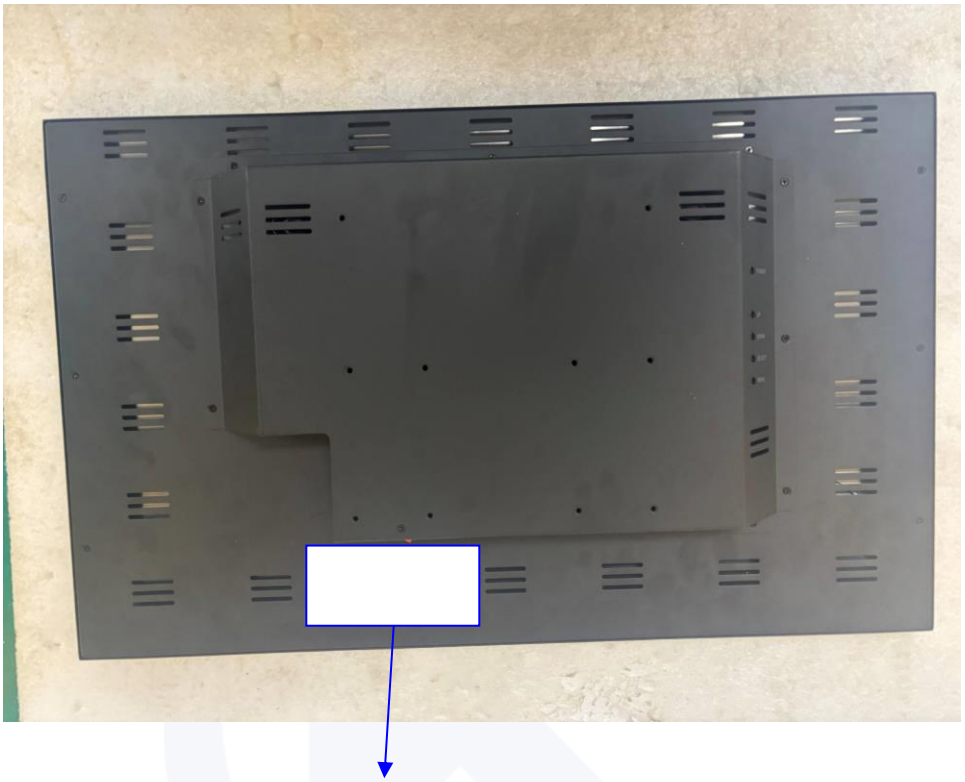
EUT Internal View – Board 6

(Top)

(Bottom)



Label and Location



Decoder Monitor

Model No : SMT-2721D

Manufacturer : GTT Co., Ltd

Made in Korea

The End.