



TEST REPORT



Report No. : KES-EM260814

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KES Co., Ltd.

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1. Client

- Name : Hanwha Vision Co., Ltd.
- Address : 6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

2. Sample Description

- Product item : Public View Monitor
- Model name : SMT-2221PV
- Variant model : SMT-2221PVW
- Manufacturer etc. : GTT Co., Ltd
- Manufacturer address : 502, Pyeonghwa-ro, Paju-si, Gyeonggi-do, 10847 Korea

3. Date of test

: 2026. 03. 30. ~ 2026. 04. 03.

4. Location of Test

- : Permanent Testing Lab
- Address : 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Republic of Korea

5. Test method used

: EN 55032:2015+A1:2020, EN 50130-4:2011+A1:2014,
EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A2:2021

6. Test result

: PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

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This laboratory is not accredited for the test results marked *.

This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager by
	Name : SeHeon Kim	Name : DongHun Jang

2026. 04. 08.

KES Co., Ltd.

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
2026. 04. 08.	KES-EM260814	Issued

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Use of uncertainty of measurement for decisions on conformity (decision rule):

- ☒ No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty("simple acceptance" decision rule, previously known as "accuracy method").
- ☐ Other (to be specified, for example when required by the standard or client)



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1 Laboratory Information

1.1 Test Location

Category	Details
Address	473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Republic of Korea
Telephone Number	031-883-5092
Facsimile Number	031-883-5169

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

1.2 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 Test Summary

2.1 Class and Voltage

Test Class	Test Voltage
Class A	AC 230 V, 50 Hz

2.2 Summary of Test Results

Regulation
EMC Directive 2014/30/EU, EMC Regulations SI 2016/1091

Test Item	Test Standard		Test Result	Remark
Conducted Emissions at Mains Power Ports	EN 55032:2015+A1:2020		PASS	NOTE 1
Conducted Emissions at Telecommunication Ports			PASS	-
Radiated Emissions(Below 1 GHz)			PASS	-
Radiated Emissions(Above 1 GHz)			PASS	-
Harmonic Current Emissions	EN IEC 61000-3-2:2019		PASS	NOTE 1
Voltage Fluctuations and Flicker	EN 61000-3-3:2013+A2:2021		PASS	NOTE 1
Electrostatic Discharge	EN 50130-4:2011+A1:2014	EN 61000-4-2:2009	PASS	-
Continuous RF electromagnetic field disturbances		EN IEC 61000-4-3:2020	PASS	-
Electrical Fast Transients/Bursts		EN 61000-4-4:2012	PASS	NOTE 1
Surge		EN 61000-4-5 :2014+A1:2017	PASS	NOTE 1
Continuous Induced RF Disturbances		EN IEC 61000-4-6:2023	PASS	NOTE 1
Voltage Dips and Interruptions		EN IEC 61000-4-11:2020	PASS	NOTE 1

* N/A: Not Applicable

(NOTE 1) PoE Power Mode is powered by the PoE port, PoE port is considered to be wired network port, so power-related test items are excluded.



2.3 Remarks when standards applied

- The USB port was excluded from the test as a port for administrators.

2.4 Variant Model Differences

- Add derivatives due to color differences.
(Basic: Black, Derivative: White)

2.5 Device Modifications

N/A





3 General Product Description

SMT-2221PV		
Display		
Type		LED Monitor
Screen Size		22"(21.5")
Max. Resolution		1920*1080 60Hz (FHD)
Brightness		250cd/m ²
Contrast Ratio		1000:1
Aspect Ratio		16:9
Viewing Angle (H/V)		178°/178°
Display Color		16.7M Colors
Response Time		14 ms
Video System		None
Panel Life		30,000 hours
Filter Type		None
Interface		
Video	Connectors	Camera(Internal)
	Output Signal	Speakers : 8Ω 1Wx 2
Alarm	Alarm I/O	Input 1ea / Output 1ea
Network	Ethernet	1 RJ-45 10/100BASE-T,
General	Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Application Support		None
On Screen Display		
Functions		VESA™ DPMS Compatible
Language		English, Spanish, French
General		
Electrical	Input Voltage	DC24V, HPOE 802.3bt
	Power Consumption	22.5W (Typ.)
Environmental	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)
	Operating Humidity	10% ~ 80% (non-condensing)
Mechanical	Dimensions with Stand (WxDxH)	None
	Dimensions without Stand (WxDxH)	300.0mm x 48.0mm x 573.0mm
	Weight	5.45 Kg
	Protection Glass	None
	Cabinet Color	Black
	Wall Mounts	None
	VESA Mounts Interface	VESA 100 x 100mm



Camera		
Video	Imaging Device	1/2.8" 2MP CMOS
	Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 15fps/12fps(60Hz/50Hz)
	Min. Illumination	Color: 0.03Lux (F1.6, 1/30sec)
Lens	Focal Length (Zoom Ratio)	3.06mm fixed focal
	Max. Aperture Ratio	F1.6
	Angular Field of View	H: 107.7° / V: 59.0° / D: 126.7°
Operational	Backlight Compensation	BLC, WDR, SSDR
	Wide Dynamic Range	120dB
	Digital Noise Reduction	SSNR V, WiseNR II (Based on AI engine)
	Motion Detection	8ea, 8point Polygonal zones
	Privacy Masking	32ea, 4point Quadrangle zones
	Gain Control	Low / Middle / High
	White Balance	ATW / AWC / Manual / Indoor / Outdoor
	LDC	Support
	Electronic Shutter Speed	Minimum / Maximum / Anti flicker (1/5~1/12,000sec)
	Digital PTZ	Support
	Video Rotation	Flip, Mirror, Hallway view(90°/270°)
	Analytics	Classified object type: Person/Face Attributes: Not support Support DetectionShot Analytics events based on AI engine - Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Tampering, Virtual area(Appear/Disappear)
	Business Intelligence	People counting, Queue management, Heatmap based on AI engine
	Alarm Triggers	Analytics, Network disconnect, Alarm input
Network	Smart Codec	WiseStream III
	Security	None
	Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API)
General	Memory	2GB RAM, 1GB Flash
Security	OS / Firmware Protect	Secure boot, Signed firmware, Firmware encryption
	User authentication	Digest Authentication, Prevent brute-force attack
	Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)
	Secure Communication	HTTPS, SRTP, WSS(Websocket secure)
	Access Control	Access control based on IP address
	Data Protect	Authentication information encryption, ZIP compression encryption
	Audit	User Access/System/Event log management
	Device ID	Device Certificate(Hanwha Private Root CA)
	Secure Storage	SDcard partition encrypt
	Security Certificate	None



4 EUT Setup and Operation Mode

4.1 EUT Configuration

Product Name	Model Number	Serial Number	Manufacturer	Remarks
Public View Monitor	SMT-2221PV	-	GTT Co., Ltd	EUT
AC/DC Adapter	FSP060-DAAN3	-	Zhonghan Electronics (Shenzhen) Co., Ltd.	-
PoE Injector	PT-PSE109GBRO-AH-S	-	Dongguan PROCET Network Technology Co.,Ltd	-
Laptop	NT550XDZ	-	Samsung Electronics	-
Laptop AC/DC Adapter	AD-4019A	-	Chicony	-
Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Micro SD Card	-	-	SanDisk	-

4.2 System Configuration

Product Name	Model Number	Serial Number	Manufacturer	Remarks
Remote Control	-	-	-	-



4.3 External I/O Cabling

Mode 1

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	Product Name	I/O Port	Product Name
EUT	DC Jack	AC/DC Adapter	DC Jack	1.5	U
	RJ-45 (LAN)	PoE Injector	RJ-45 (LAN)	3.5	U
	Alarm OUT	Alarm	Alarm IN	3.1	U
	Alarm IN	Button Alarm	Alarm OUT	3.1	U
	Micro SD Slot	Micro SD Card	Micro SD Slot	-	-
PoE Injector	RJ-45	Laptop	RJ-45	1.5	U
Laptop	DC Jack	Laptop AC/DC Adapter	DC Jack	1.5	U

Mode 2

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	Product Name	I/O Port	Product Name
EUT	RJ-45 (PoE)	PoE Injector	RJ-45 (PoE)	3.5	U
	Alarm OUT	Alarm	Alarm IN	3.1	U
	Alarm IN	Button Alarm	Alarm OUT	3.1	U
	Micro SD Slot	Micro SD Card	Micro SD Slot	-	-
PoE Injector	RJ-45	Laptop	RJ-45	1.5	U
Laptop	DC Jack	Laptop AC/DC Adapter	DC Jack	1.5	U

* Unshielded=U, Shielded=S

4.4 EUT Operating Mode(s)

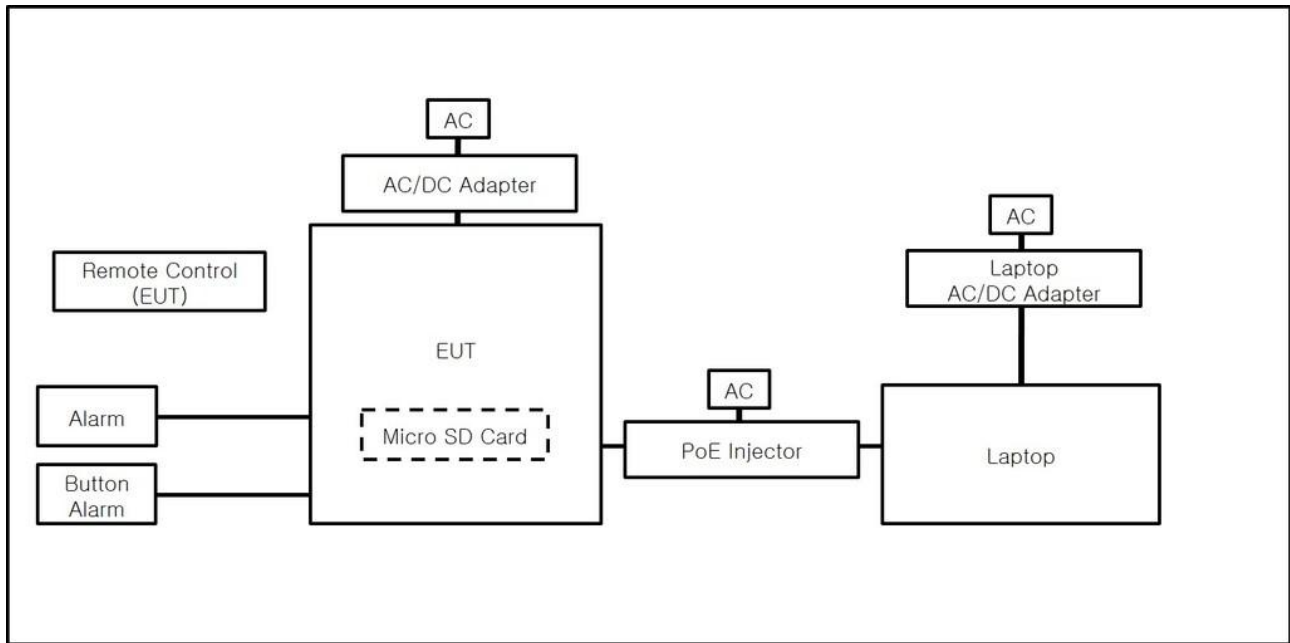
Category	Mode	Operating
Mode 1	DC Power	- View images of the EUT through Web Viewer in Laptop. - Verify the alarm operation by pressing the alarm button.
Mode 2	PoE Power	- Check the network of the EUT through Ping test on Laptop. - Check the files stored on the Micro SD Card after testing.

4.5 Test operating S/W

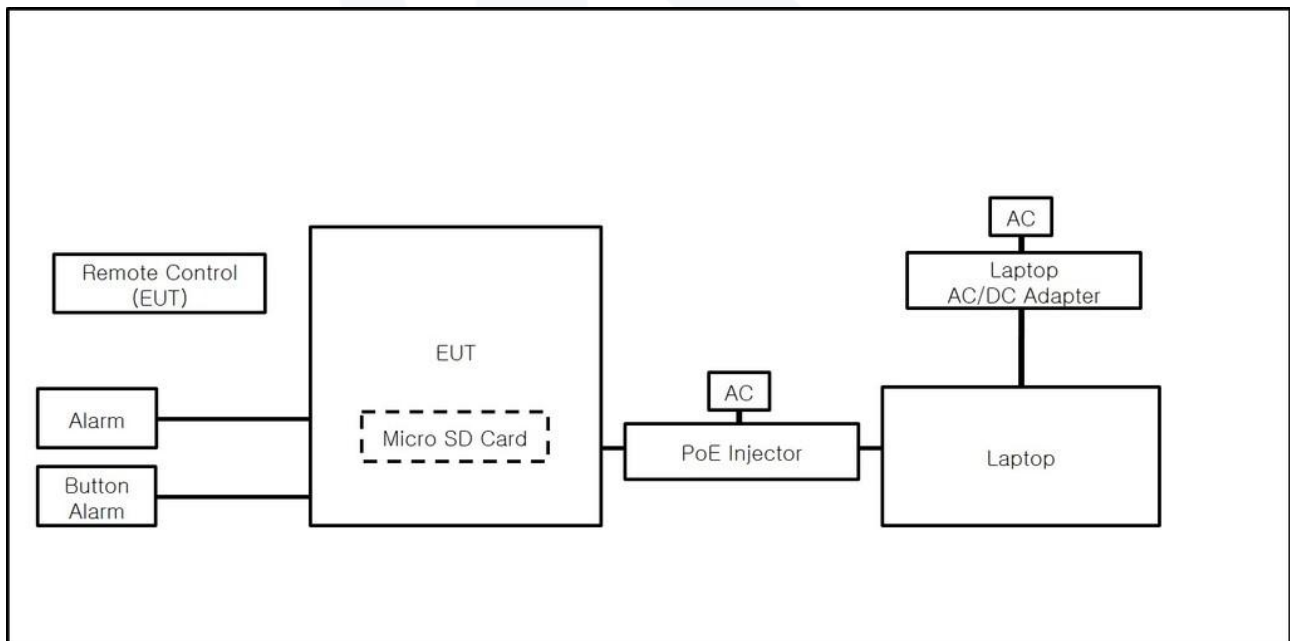
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd.



4.6 Configuration



Mode 1



Mode 2



5 General Performance Criteria

Criteria for compliance was based on the following guidelines:

EN 50130-4 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 $U = 130 \text{ dB}\mu\text{V}$.

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

then deterioration of the picture is allowed at $U = 140 \text{ dB}\mu\text{V}$, 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 $U = 130 \text{ dB}\mu\text{V}$, 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 $U = 120 \text{ dB}\mu\text{V}$.

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.

◆ Calculation**- Conducted Emissions**

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

- Radiated Emissions(Below 1 GHz)

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

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

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

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

- Radiated Emissions(Above 1 GHz)

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

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

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



6 Test Item

6.1 Conducted Emissions at Mains Power Ports

6.1.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	9.12.00	-	-	■
EMI TEST RECEIVER	ESR3	Rohde & Schwarz	101783	2025-11-03	2026-11-03	■
LISN	ENV216	Rohde & Schwarz	101787	2025-09-04	2026-09-04	■
ARTIFICIAL MAINS NETWORK	ESH2-Z5	Rohde & Schwarz	100450	2025-11-03	2026-11-03	■
PULSE LIMITER	ESH3-Z2	Rohde & Schwarz	101915	2025-11-03	2026-11-03	■

6.1.2 Test Location : SHIELD ROOM #6

6.1.3 Test Conditions :

Temperature	Relative Humidity
(22.6 ~ 22.6) °C	(35.9 ~ 35.9) % R.H.

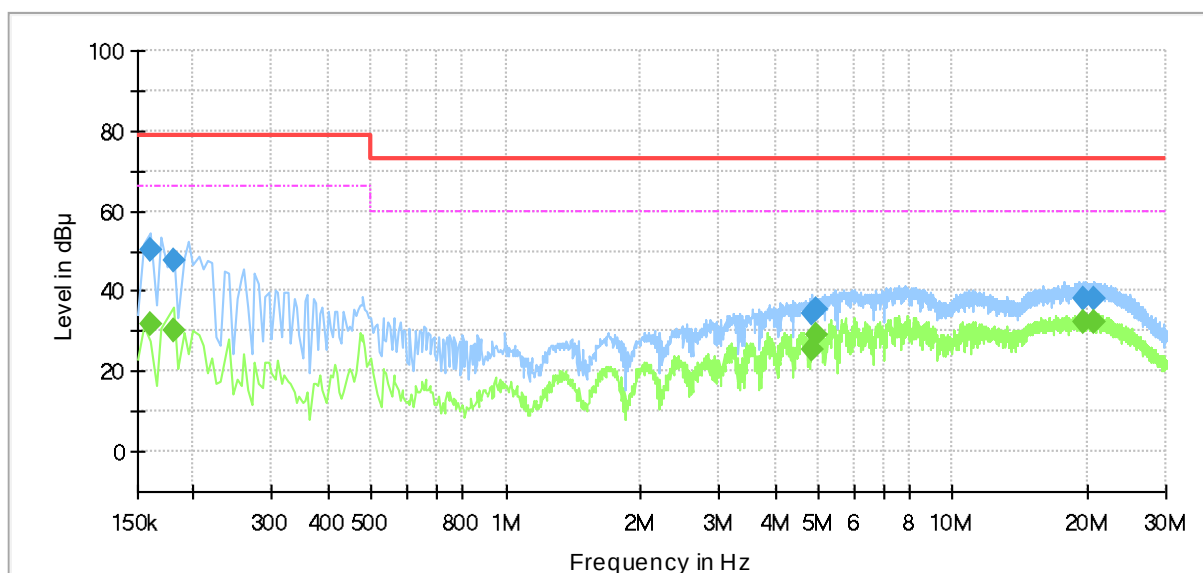


6.1.4 Test Result

- Test Date : 2026-03-30
- Test Mode : Mode 1

Test Report

Test Description: Conducted Emission
Job No.: KES-EM260814
Phase: L
Mode: Mode 1
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	—	31.62	66.00	34.38	1000.0	9.000	L1	19.4
0.160000	50.13	—	79.00	28.87	1000.0	9.000	L1	19.4
0.180000	—	30.09	66.00	35.91	1000.0	9.000	L1	19.4
0.180000	47.47	—	79.00	31.53	1000.0	9.000	L1	19.4
4.830000	—	25.50	60.00	34.50	1000.0	9.000	L1	19.8
4.830000	34.67	—	73.00	38.33	1000.0	9.000	L1	19.8
4.935000	—	29.24	60.00	30.76	1000.0	9.000	L1	19.8
4.935000	35.26	—	73.00	37.74	1000.0	9.000	L1	19.8
19.695000	—	32.31	60.00	27.69	1000.0	9.000	L1	20.2
19.695000	38.34	—	73.00	34.66	1000.0	9.000	L1	20.2
20.750000	—	32.25	60.00	27.75	1000.0	9.000	L1	20.3
20.750000	38.28	—	73.00	34.72	1000.0	9.000	L1	20.3



Report No. : KES-EM260814

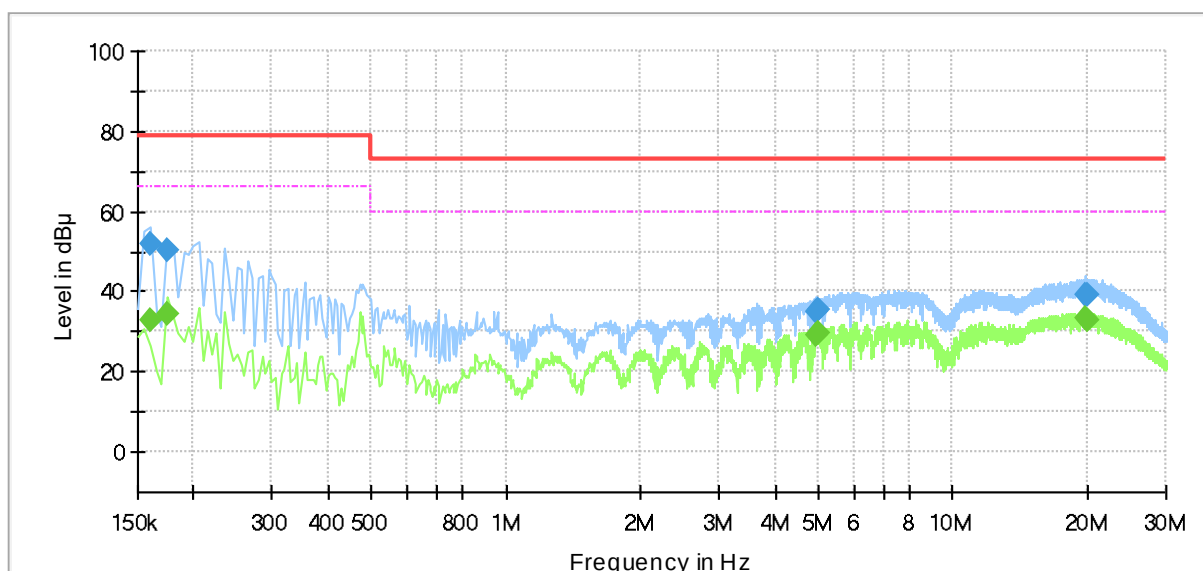
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○ Test Date : 2026-03-30

● Test Mode : Mode 1

Test Report

Test Description: Conducted Emission
Job No.: KES-EM260814
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)
0.160000	—	32.65	66.00	33.35	1000.0	9.000	N	19.4
0.160000	51.69	—	79.00	27.31	1000.0	9.000	N	19.4
0.175000	—	34.27	66.00	31.73	1000.0	9.000	N	19.4
0.175000	50.16	—	79.00	28.84	1000.0	9.000	N	19.4
4.930000	—	29.14	60.00	30.86	1000.0	9.000	N	19.8
4.930000	35.16	—	73.00	37.84	1000.0	9.000	N	19.8
4.975000	—	29.73	60.00	30.27	1000.0	9.000	N	19.8
4.975000	35.38	—	73.00	37.62	1000.0	9.000	N	19.8
19.750000	—	33.16	60.00	26.84	1000.0	9.000	N	20.3
19.750000	39.28	—	73.00	33.72	1000.0	9.000	N	20.3
19.940000	—	33.04	60.00	26.96	1000.0	9.000	N	20.3
19.940000	39.22	—	73.00	33.78	1000.0	9.000	N	20.3

6.1.5 Remark

Complies with the test requirements.



6.2 Conducted Emissions at Telecommunication Ports

6.2.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	9.12.00	-	-	■
EMI TEST RECEIVER	ESR3	Rohde & Schwarz	101783	2025-11-03	2026-11-03	■
LISN	ENV216	Rohde & Schwarz	101787	2025-09-04	2026-09-04	■
ARTIFICIAL MAINS NETWORK	ESH2-Z5	Rohde & Schwarz	100450	2025-11-03	2026-11-03	■
PULSE LIMITER	ESH3-Z2	Rohde & Schwarz	101915	2025-11-03	2026-11-03	■
8-WIRE ISN CAT6	ENY81-CAT6	Rohde & Schwarz	101666	2026-02-24	2027-02-24	■

6.2.2 Test Location : SHIELD ROOM #6

6.2.3 Test Conditions :

Temperature	Relative Humidity
(22.6 ~ 22.6) °C	(35.9 ~ 35.9) % R.H.

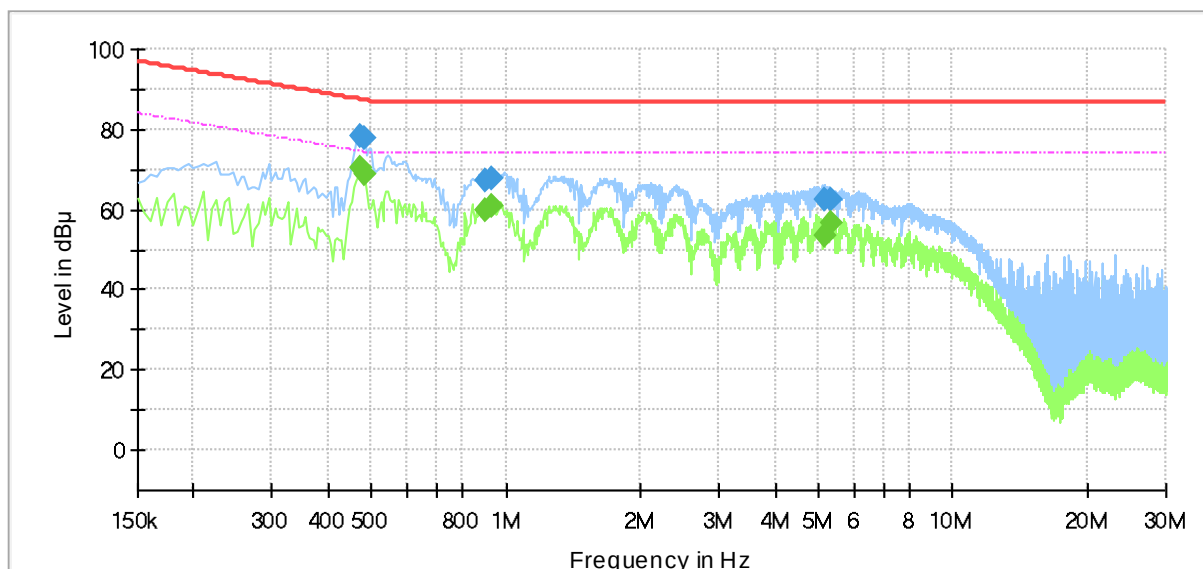


6.2.4 Test Result

- Test Date : 2026-03-30
- Test Mode : Mode 1

Test Report

Test Description: Telecommunication Emission
Job No.: KES-EM260814
Mode : Mode 1
Speed : 100 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.470000	—	70.44	74.51	4.07	1000.0	9.000	Single Line	19.4
0.470000	78.23	—	87.51	9.28	1000.0	9.000	Single Line	19.4
0.485000	—	69.02	74.25	5.23	1000.0	9.000	Single Line	19.4
0.485000	77.78	—	87.25	9.47	1000.0	9.000	Single Line	19.4
0.895000	—	59.88	74.00	14.12	1000.0	9.000	Single Line	19.3
0.895000	66.99	—	87.00	20.01	1000.0	9.000	Single Line	19.3
0.930000	—	60.92	74.00	13.08	1000.0	9.000	Single Line	19.3
0.930000	67.62	—	87.00	19.38	1000.0	9.000	Single Line	19.3
5.175000	—	53.41	74.00	20.59	1000.0	9.000	Single Line	19.4
5.175000	62.26	—	87.00	24.74	1000.0	9.000	Single Line	19.4
5.335000	—	56.56	74.00	17.44	1000.0	9.000	Single Line	19.4
5.335000	62.46	—	87.00	24.54	1000.0	9.000	Single Line	19.4



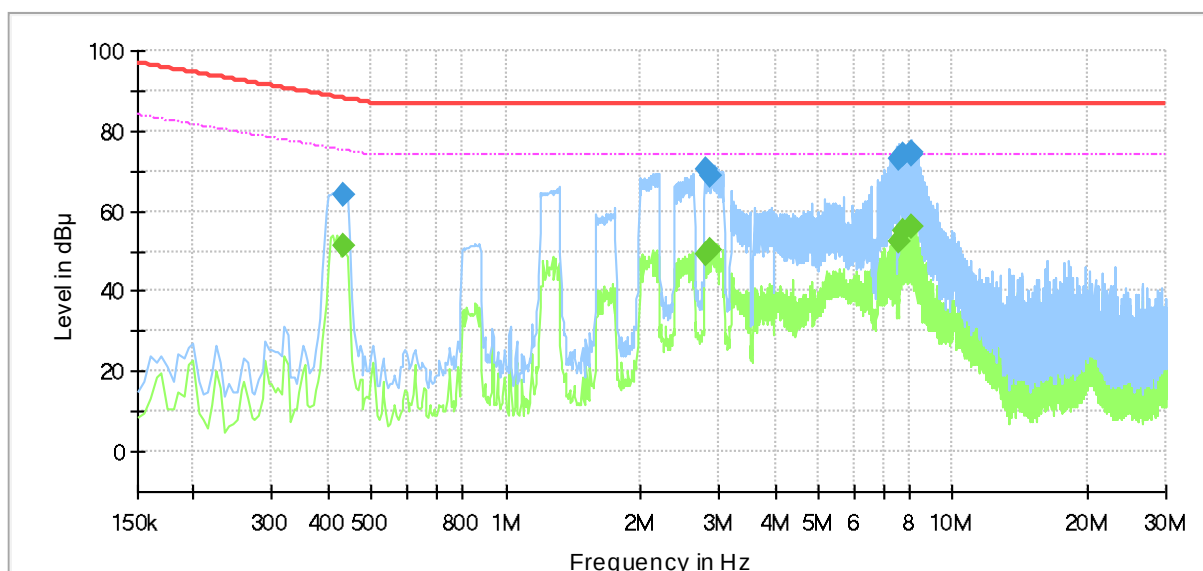
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- Test Date : 2026-03-30
- Test Mode : Mode 2

Test Report

Test Description: Telecommunication Emission
Job No.: KES-EM260814
Mode : Mode 2
Speed : 100 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.435000	—	51.51	75.16	23.65	1000.0	9.000	Single Line	19.4
0.435000	63.86	—	88.16	24.30	1000.0	9.000	Single Line	19.4
2.790000	—	49.07	74.00	24.93	1000.0	9.000	Single Line	19.3
2.790000	70.24	—	87.00	16.76	1000.0	9.000	Single Line	19.3
2.850000	—	50.06	74.00	23.94	1000.0	9.000	Single Line	19.3
2.850000	68.59	—	87.00	18.41	1000.0	9.000	Single Line	19.3
7.575000	—	52.25	74.00	21.75	1000.0	9.000	Single Line	19.5
7.575000	73.27	—	87.00	13.73	1000.0	9.000	Single Line	19.5
7.780000	—	54.93	74.00	19.07	1000.0	9.000	Single Line	19.5
7.780000	73.93	—	87.00	13.07	1000.0	9.000	Single Line	19.5
8.075000	—	56.09	74.00	17.91	1000.0	9.000	Single Line	19.5
8.075000	74.22	—	87.00	12.78	1000.0	9.000	Single Line	19.5
8.130000	—	56.04	74.00	17.96	1000.0	9.000	Single Line	19.5
8.130000	74.64	—	87.00	12.36	1000.0	9.000	Single Line	19.5

6.2.5 Remark

Complies with the test requirements.



6.3 Radiated Emissions(Below 1 GHz)

6.3.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #4(10 m)	-	DYMSTEC	-	-	-	■
EP5/RE Software	EP5/RE	TOYO	6.0.0	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100551	2026-02-12	2027-02-12	■
AMPLIFIER	SCU 01	Rohde & Schwarz	100603	2025-11-03	2026-11-03	■
BILOG ANTENNA	VULB 9168	SCHWARZBEC K	9168-461	2024-05-09	2026-05-09	■

6.3.2 Test Location : SEMI ANECHOIC CHAMBER #4(10 m) Measurement Distance : □ 3 m, ■ 10 m

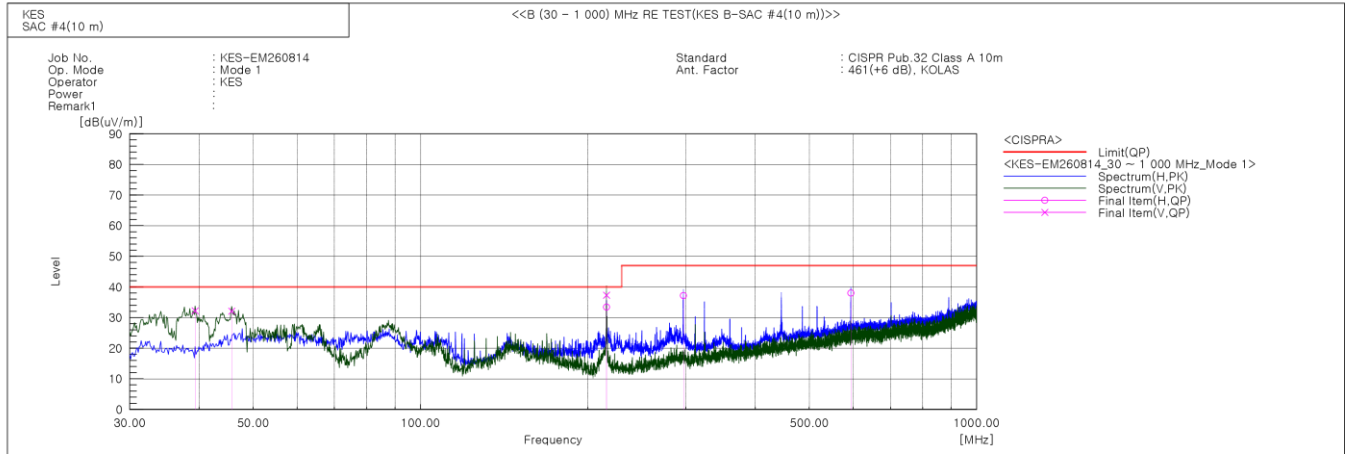
6.3.3 Test Conditions :

Temperature	Relative Humidity
(22.7 ~ 22.8) °C	(35.8 ~ 35.8) % R.H.



6.3.4 Test Result

- Test Date : 2026-03-30
- Test Mode : 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	39.336	V	53.6	-21.4	32.2	40.0	7.8	107.0	333.0	
2	45.763	V	52.8	-20.7	32.1	40.0	7.9	139.0	341.0	
3	215.998	H	54.9	-21.5	33.4	40.0	6.6	391.0	119.0	
4	215.998	V	58.8	-21.5	37.3	40.0	2.7	158.0	333.0	
5	296.993	H	54.3	-17.1	37.2	47.0	9.8	365.0	332.0	
6	594.055	H	45.1	-7.1	38.0	47.0	9.0	370.0	175.0	

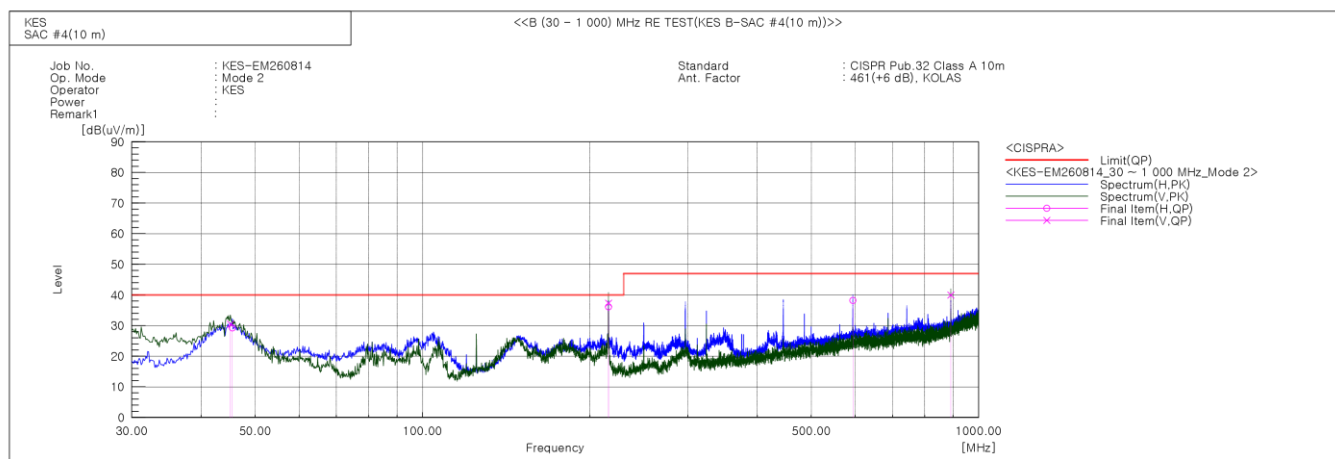
※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.



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- Test Date : 2026-03-30
- Test Mode : Mode 2



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	45.156	V	51.2	-20.8	30.4	40.0	9.6	145.0	322.0	
2	45.520	H	50.0	-20.8	29.2	40.0	10.8	400.0	149.0	
3	215.998	V	58.8	-21.5	37.3	40.0	2.7	160.0	325.0	
4	215.998	H	57.6	-21.5	36.1	40.0	3.9	377.0	63.0	
5	594.055	H	45.3	-7.1	38.2	47.0	8.8	368.0	179.0	
6	891.118	V	42.9	-2.9	40.0	47.0	7.0	131.0	348.0	

※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.

6.3.5 Remark

Complies with the test requirements.



6.4 Radiated Emissions(Above 1 GHz)

6.4.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #5	-	SY Corporation	-	-	-	■
ES10/RE Software	ES10/RE	TOYO	2022.01.000	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	2026-02-12	2027-02-12	■
PREAMPLIFIER	8449B	HP	3008A00538	2025-04-30	2026-04-30	■
ATTENUATOR	8491B	HP	23094	2026-02-12	2027-02-12	■
HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	2025-11-05	2026-11-05	■

6.4.2 Test Location : SEMI ANECHOIC CHAMBER #5

6.4.3 Test Conditions :

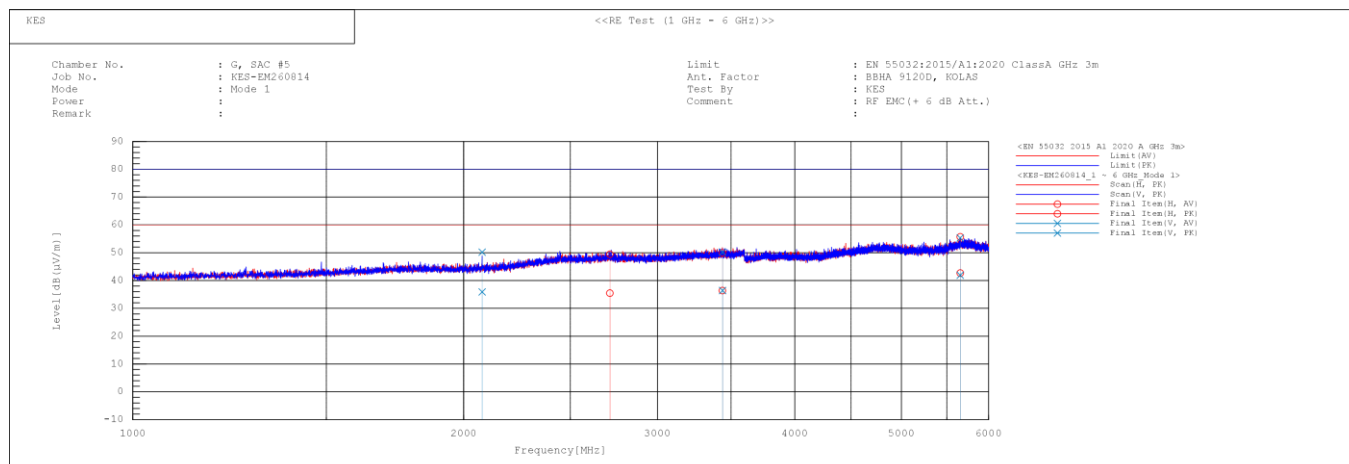
Temperature	Relative Humidity
(23.7 ~ 23.8) °C	(36.9 ~ 37.0) % R.H.



6.4.4 Test Result

○ Test Date : 2026-04-01

● Test Mode : 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]	Angle [deg]	Remark
1	2078.511	V	32.2	46.5	3.7	35.9	50.2	60.0	80.0	24.1	29.8	231.5	
2	2716.243	H	29.3	43.2	6.2	35.5	49.4	60.0	80.0	24.5	30.6	357.0	
3	3437.024	H	28.9	42.5	7.5	36.4	50.0	60.0	80.0	23.6	30.0	79.9	
4	3438.825	V	28.9	42.7	7.5	36.4	50.2	60.0	80.0	23.6	29.8	270.5	
5	5655.749	V	28.1	41.5	13.8	41.9	55.3	60.0	80.0	18.1	24.7	201.7	
6	5656.136	H	28.9	41.9	13.8	42.7	55.7	60.0	80.0	17.3	24.3	128.9	

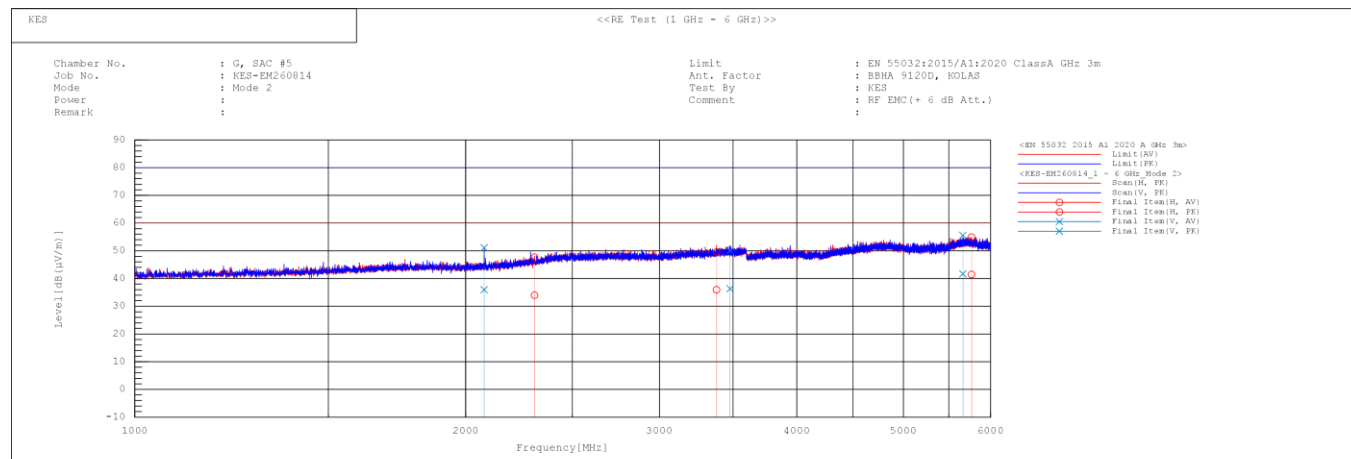
- ✖ The data is the result of measured by the detector in PK and CISPR Average on the Peak graph.
✖ The Average of the test data is the cispr average result.



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- Test Date : 2026-04-01
- Test Mode : Mode 2



- ✖ The data is the result of measured by the detector in PK and CISPR Average on the Peak graph.
- ✖ The Average of the test data is the cispr average result.

6.4.5 Remark

Complies with the test requirements.



6.5 Harmonic Current Emissions

6.5.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
net.control Software	net.control	EM TEST	2.1.4	-	-	■
DIGITAL POWER ANALYZER (Harmonic)	DPA 500N	EM TEST	V1024106759	2025-03-31	2026-03-31	■
POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-	-	■

6.5.2 Test Location : SHIELD ROOM #7

6.5.3 Test Conditions :

Temperature	Relative Humidity
(22.6 ~ 22.6) °C	(36.3 ~ 36.3) % R.H.

6.5.4 Classification of Equipment for Harmonic Current Emissions

- ☐ Limits for Class A equipment
- ☐ Limits for Class B equipment
- ☐ Limits for Class C equipment(Rated Power > 25 W)
- ☐ Limits for Class C equipment(Rated Power ≥ 5 W and ≤ 25 W)
- ☒ Limits for Class D equipment

**6.5.5 Test Result**

- Test Date : 2026-03-30
- Test Mode : Mode 1

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.077			
2	0.002			
3	0.071	2.055	3.450	PASS
4	0.003			
5	0.069	4.037	1.710	PASS
6	0.003			
7	0.067	5.843	1.155	PASS
8	0.003			
9	0.066	11.004	0.600	PASS
10	0.003			
11	0.063	12.786	0.495	PASS
12	0.003			
13	0.060	18.948	0.315	PASS
14	0.003			
15	0.056	24.929	0.225	PASS
16	0.003			
17	0.052	26.484	0.198	PASS
18	0.003			
19	0.049	27.557	0.177	PASS
20	0.003			
21	0.045	27.831	0.161	PASS
22	0.003			
23	0.041	27.552	0.147	PASS
24	0.003			
25	0.036	26.895	0.135	PASS
26	0.002			
27	0.032	25.796	0.125	PASS
28	0.002			
29	0.028	23.906	0.117	PASS
30	0.002			
31	0.024	21.842	0.110	PASS
32	0.002			
33	0.020	19.743	0.102	PASS
34	0.002			
35	0.016	17.140	0.096	PASS
36	0.002			
37	0.013	14.336	0.092	PASS
38	0.001			
39	0.010	11.600	0.087	PASS
40	0.001			

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.



Test Data - Harmonics (continued)

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	0.076			
2	0.002			
3	0.071	3.077	2.300	PASS
4	0.003			
5	0.068	6.008	1.140	PASS
6	0.003			
7	0.067	8.718	0.770	PASS
8	0.002			
9	0.066	16.466	0.400	PASS
10	0.003			
11	0.063	19.131	0.330	PASS
12	0.003			
13	0.059	28.321	0.210	PASS
14	0.003			
15	0.056	37.144	0.150	PASS
16	0.002			
17	0.052	39.530	0.132	PASS
18	0.003			
19	0.049	41.119	0.118	PASS
20	0.003			
21	0.045	27.727	0.161	PASS
22	0.003			
23	0.040	27.468	0.147	PASS
24	0.002			
25	0.036	26.771	0.135	PASS
26	0.002			
27	0.032	25.665	0.125	PASS
28	0.002			
29	0.028	23.745	0.117	PASS
30	0.002			
31	0.024	21.705	0.110	PASS
32	0.002			
33	0.020	19.595	0.102	PASS
34	0.001			
35	0.016	17.025	0.096	PASS
36	0.001			
37	0.013	14.194	0.092	PASS
38	0.001			
39	0.010	11.456	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.



6.5.6 Remark

Complies with the test requirements.





6.6 Voltage Fluctuations and Flicker

6.6.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
net.control Software	net.control	EM TEST	2.1.4	-	-	■
DIGITAL POWER ANALYZER (Flicker)	DPA 500N	EM TEST	V1024106759	2025-04-01	2026-04-01	■
POWER SOURCE	ACS 500N6	EM TEST	V1024106760	-	-	■

6.6.2 Test Location : SHIELD ROOM #7

6.6.3 Test Conditions :

Temperature	Relative Humidity
(22.5 ~ 22.8) °C	(36.1 ~ 36.5) % R.H.



6.6.4 Test Result

- Test Date : 2026-03-30
- Test Mode : Mode 1

Flicker Measurements					
	P _{lt}	Max P _{st}	Max D _c	Max D _{max}	Max T _{max}
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

6.6.5 Remark

Complies with the test requirements.



6.7 Electrostatic Discharge

6.7.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
ESD SIMULATOR	ESS-2000	NoiseKen	ESS01Z0454	2026-01-13	2027-01-13	■
HCP	-	KES	-	-	-	■
VCP	-	Noise Ken	-	-	-	■

6.7.2 Test Location : SHIELD ROOM #6

6.7.3 Test Conditions :

Temperature	Relative Humidity
Temperature(15 ~ 35) °C	(23.0 ~ 23.0) °C
Relative Humidity(30 ~ 60) % R.H.	(36.3 ~ 36.3) % R.H.
Atmospheric Pressure(86 ~ 106) kPa	(100.4 ~ 100.4) kPa

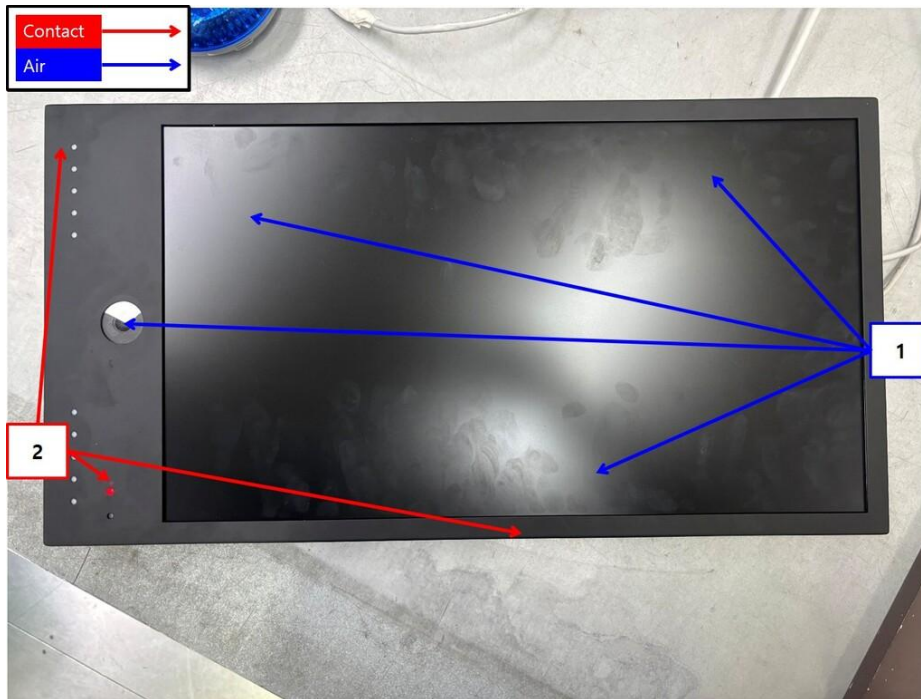
6.7.4 Test Specifications :

Discharge Factor	: 1 s
Discharge Impedance	: 330 Ω / 150 pF
Kind of Discharge	: Direct Discharge - Contact Discharge, Air Discharge Indirect Discharge - HCP, VCP
Polarity	: Positive and Negative
Number of Discharge	: 10 at all locations for Contact Discharge, 10 at all locations for Air Discharge
Performance Criteria	: Complied
Discharge Voltage	:

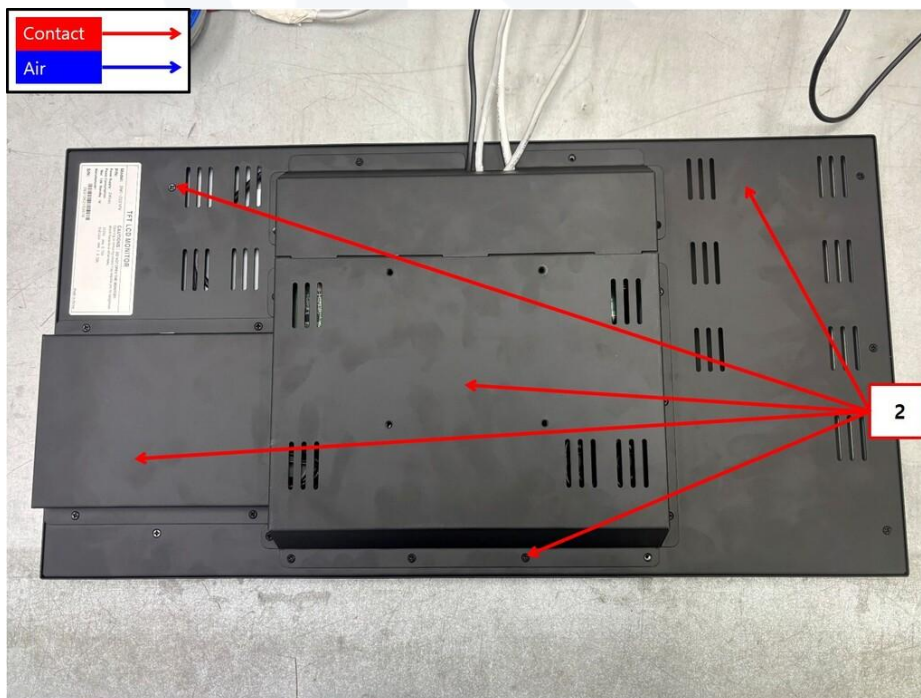
Type	Direct Discharge		Indirect Discharge	
	Contact Discharge	Air Discharge	Horizontal Coupling Plane	Vertical Coupling Plane
Test Voltage	-	± 2 kV	-	-
	± 6 kV	± 4 kV	± 6 kV	± 6 kV
	-	± 8 kV	-	-



6.7.5 Location of Discharge



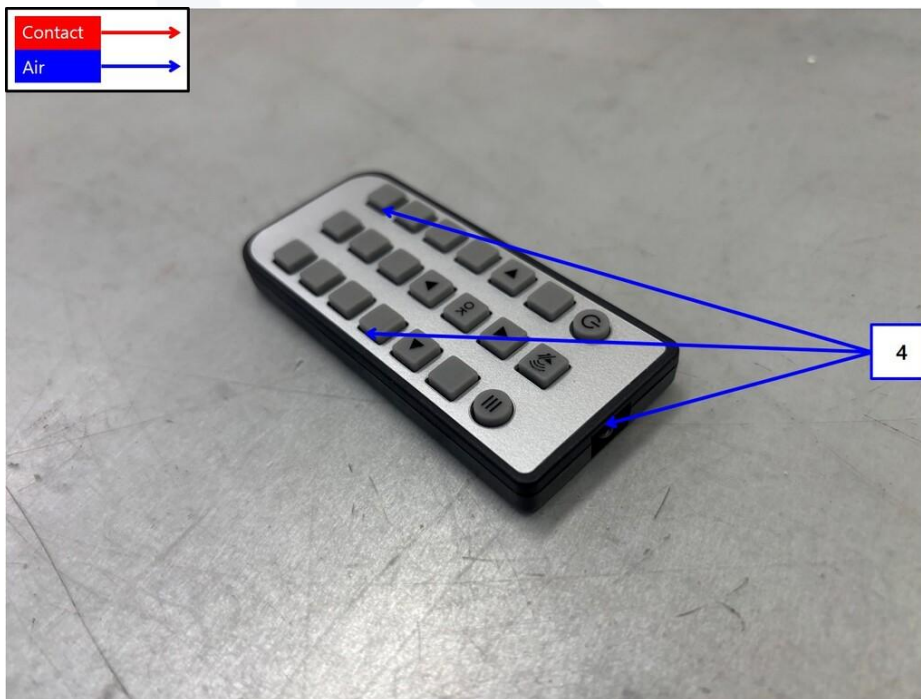
<Location of Discharge-1>



<Location of Discharge-2>



<Location of Discharge-3>



<Location of Discharge-4>

**6.7.6 Test Result**

- Test Date : 2026-04-01
- Test Mode : Mode 1

○ Indirect Discharge

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	LCD, Lens	Air Discharge	Complied	-
2	Enclosure	Contact Discharge	Complied	-
3	Port	Contact Discharge	Complied	-
4	Remote Control Enclosure	Air Discharge	Complied	-

- Test Date : 2026-04-01
- Test Mode : Mode 2

○ Indirect Discharge

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	LCD, Lens	Air Discharge	Complied	-
2	Enclosure	Contact Discharge	Complied	-
3	Port	Contact Discharge	Complied	-
4	Remote Control Enclosure	Air Discharge	Complied	-

6.7.7 Remark

No loss of performance of function.



6.8 Continuous RF electromagnetic field disturbances

6.8.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #3	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	10.10.02	-	-	■
SIGNAL GENERATOR	SMB 100A	Rohde & Schwarz	108252	2025-07-28	2026-07-28	■
HIGH POWER DUAL AMP	SSA532	SUNGSAN	SSA532-001	-	-	■
POWER METER	E4419B	Agilent	GB40203000	2026-02-12	2027-02-12	■
AVERAGE POWER SENSOR	E9301A	Agilent	MY52170007	2026-02-12	2027-02-12	■
AVERAGE POWER SENSOR	E9301A	Agilent	MY41498669	2026-02-12	2027-02-12	■
STACKED DOUBLE LOG-PER- ANTENNA	STPL9128 E	SCHWARZBECK	9128ES-121	-	-	■
DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H. SYSTEM,INC	781	2026-03-06	2027-03-06	■

6.8.2 Test Location : SEMI ANECHOIC CHAMBER #3

6.8.3 Test Conditions :

Temperature	Relative Humidity
(23.0 ~ 23.7) °C	(36.1 ~ 36.9) % R.H.



6.8.4 Test Specifications :

Antenna Polarization	:	Horizontal & Vertical unless indicated otherwise
Antenna Distance	:	3 m
Field Strength	:	10 V/m (rms)
Frequency Range	:	80 MHz ~ 2.7 GHz
Modulation	:	AM 80 %, 1 kHz, Sine wave PM 1 Hz (0.5 s ON : 0.5 s OFF)
Dwell Time	:	3 s
Frequency Step	:	1 %
Application method	:	4
Performance Criteria	:	Complied

**6.8.5 Test Result**

- Test Date : 2026-04-02
- Test Mode : Mode 1
- Enclosure Port

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

- Test Date : 2026-04-02
- Test Mode : Mode 2
- Enclosure Port

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

6.8.6 Remark

No loss of performance of function.



6.9 Electrical Fast Transients/Bursts

6.9.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
iec.control Software	iec.control	EM TEST	5.4.8	-	-	■
ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	2025-11-05	2026-11-05	■
MOTOR VARIAC	MV 2616	EM TEST	P1552169719	2025-11-05	2026-11-05	■
CAPACITIVE COUPLING CLAMP	HFK	EM TEST	P1633183115	2025-11-05	2026-11-05	■

6.9.2 Test Location : SHIELD ROOM #7

6.9.3 Test Conditions :

Temperature	Relative Humidity
(22.1 ~ 22.3) °C	(37.9 ~ 38.2) % R.H.

6.9.4 Test Specifications :

Pulse Amplitude & Polarity	: Input a.c power ports ± 2.0 kV Other supply and Signal ports ± 1 kV
Repetition Rate	: 100 kHz
Impulse Rise Time	: 5 ns ± 30 %
Impulse Period	: 50 ns ± 30 %
Burst Duration	: 15 ms ± 20 %
Burst Period	: 300 ms ± 20 %
Duration of Test Voltage	: 1 min
Application Method	: a.c / d.c power ports (Coupling / Decoupling Network) Other than a.c / d.c power poerts (Capacitive Coupling Clamp)
Performance Criteria	: Complied



6.9.5 Test Result

- Test Date : 2026-04-03
- Test Mode : Mode 1

- Input a.c power ports

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

Mode of Application	Observations	
	(+) Burst	(-) Burst
N/A	-	-

- Signal ports and telecommunication ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
RJ-45(LAN)	Complied	Complied
ALARM OUT	Complied	Complied
ALARM IN	Complied	Complied



○ Test Date : 2026-04-03

● Test Mode : Mode 2

○ Input a.c power ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
N/A	-	-

○ Input d.c power ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
N/A	-	-

○ Signal ports and telecommunication ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
RJ-45(PoE)	Complied	Complied
ALARM OUT	Complied	Complied
ALARM IN	Complied	Complied

6.9.6 Remark

No loss of performance of function.



6.10 Surge

6.10.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
iec.control Software	iec.control	EM TEST	5.4.8	-	-	■
ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	2025-11-05	2026-11-05	■
MOTOR VARIAC	MV 2616	EM TEST	P1552169719	2025-11-05	2026-11-05	■
CDN	CNV 508N1	EM TEST	P1610176296	2025-11-05	2026-11-05	■

6.10.2 Test Location : SHIELD ROOM #7

6.10.3 Test Conditions :

Temperature	Relative Humidity
(22.0 ~ 22.8) °C	(38.0 ~ 38.6) % R.H.

6.10.4 Test Specifications :

Surge	: Input a.c power ports	Line to Line ±0.5 kV, ±1.0 kV
		Line to Ground ±0.5 kV, ±1.0 kV, ±2.0 kV
	Other supply / Signal lines	Line to Ground ±0.5 kV, ±1.0 kV
Input a.c / Other supply / Signal lines		
Open-Circuit Voltage Waveform	: 1.2/50 µs	
Short-Circuit Current Waveform	: 8/20 µs	
Number of Applications	: Apply 5 surges for each polarity	
Phase Angle	: 0° ~ 270° (input a.c. power port)	
Polarity	: Positive and Negative	
Repetition Rate	: 1 surge per 30 s	
Performance Criteria	: Complied	

**6.10.5 Test Result**

○ Test Date : 2026-04-03

● Test Mode : Mode 1

○ Input a.c power ports

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

○ Signal ports and telecommunication ports

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

○ Test Date : 2026-04-03

● Test Mode : Mode 2

○ Input a.c power ports

Mode of Application	Observations	
	(+) Surge	(-) Surge
N/A	-	-

○ Signal ports and telecommunication ports

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

6.10.6 Remark

No loss of performance of function.



6.11 Continuous Induced RF Disturbances

6.11.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
icd.control Software	icd.control	EM TEST	8.0.0	-	-	■
TEST SYSTEM FOR CONDUCTED AND RADIATED	NSG4070	TESEQ	65585	2025-11-03	2026-11-03	■
ATTENUATOR	ATT 6/80	EM TEST	P1614178148	2025-11-03	2026-11-03	■
CDN	CDN M016	TESEQ	43694	2025-11-03	2026-11-03	■
CDN	CDN M016	TESEQ	43697	2025-11-03	2026-11-03	■
CDN	CDN T8 RJ45	SCHWARZBEC K	00103	2025-07-07	2026-07-07	■
EM CLAMP	KEMZ 801A	TESEQ	44099	2025-11-05	2026-11-05	■

6.11.2 Test Location : SHIELD ROOM #7

6.11.3 Test Conditions :

Temperature	Relative Humidity
(22.2 ~ 23.2)°C	(36.1 ~ 36.6) % R.H.

6.11.4 Test Specifications

Frequency range and Voltage Level	: 0.15 MHz ~ 100 MHz : 10 V(r.m.s)
Modulation	: AM 80 %, 1 kHz, Sine wave PM 1 Hz (0.5 s ON : 0.5 s OFF)
Dwell Time	: 3 s
Frequency Step	: 1 %
Performance Criteria	: Complied

**6.11.5 Test Result**

○ Test Date : 2026-04-01

● Test Mode : 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
N/A	-	-

○ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ-45(LAN)	CDN	Complied
ALARM OUT	Clamp	Complied
ALARM IN	Clamp	Complied

○ Test Date : 2026-04-01

● Test Mode : Mode 2

○ Input a.c power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
N/A	-	-

○ Input d.c power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
N/A	-	-

○ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ-45(PoE)	CDN	Complied
ALARM OUT	Clamp	Complied
ALARM IN	Clamp	Complied



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6.11.6 Remark

No loss of performance of function.





6.12 Voltage Dips and Interruptions

6.12.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
iec.control Software	iec.control	EM TEST	5.4.8	-	-	■
ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	2025-11-05	2026-11-05	■
MOTOR VARIAC	MV 2616	EM TEST	P1552169719	2025-11-05	2026-11-05	■

6.12.2 Test Location : SHIELD ROOM #7

6.12.3 Test Conditions :

Temperature	Relative Humidity
(22.1 ~ 22.1) °C	(38.0 ~ 38.0) % R.H.

6.12.4 Test Specifications

Instantaneous peak overshoot/undershoot of the actual voltage	: Less than 5 %
Voltage Rise Time, Voltage Fall Time	: Between 1 μs and 5 μs
Test Voltage Frequency Deviation for Voltage Dips	: with in ± 2 %
EUT Voltage	: AC 230 V, 50 Hz
Number of Applications	: 3 cycles
Test Interval	: 10 s
Performance Criteria	: Complied

Voltage Dips and Interruptions	Duration [in period]
20 % Voltage reduction	250 T
30 % Voltage reduction	25 T
60 % Voltage reduction	10 T
100 % Voltage reduction	250 T

Voltage Variations	Supply Voltage
Supply Voltage max (Umax)	Unom a + 10 %
Supply Voltage min (Umin)	Unom a - 15 %



6.12.5 Test Result

- Test Date: 2026-04-03
- Test Mode: Mode 1

○ Voltage Dips and Short Interruptions

Depth	Duration [in period]	Observations
20 % Voltage reduction	250 T	Complied
30 % Voltage reduction	25 T	Complied
60 % Voltage reduction	10 T	Complied
100 % Voltage reduction	250 T	Degradation

○ Voltage variations

Voltage Variations	Supply Voltage	Observations
Supply voltage max ($U_{\max} = U_{\text{nom}} + 10\%$)	253 V	Complied
Supply voltage min ($U_{\min} = U_{\text{nom}} - 15\%$)	195.5 V	Complied

U_{nom} = Nominal mains voltage, $U_{\max}$ = (Maximum U_{nom}) + 10 %, $U_{\min}$ = (Minimum U_{nom}) – 15 %.

6.12.6 Remark

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

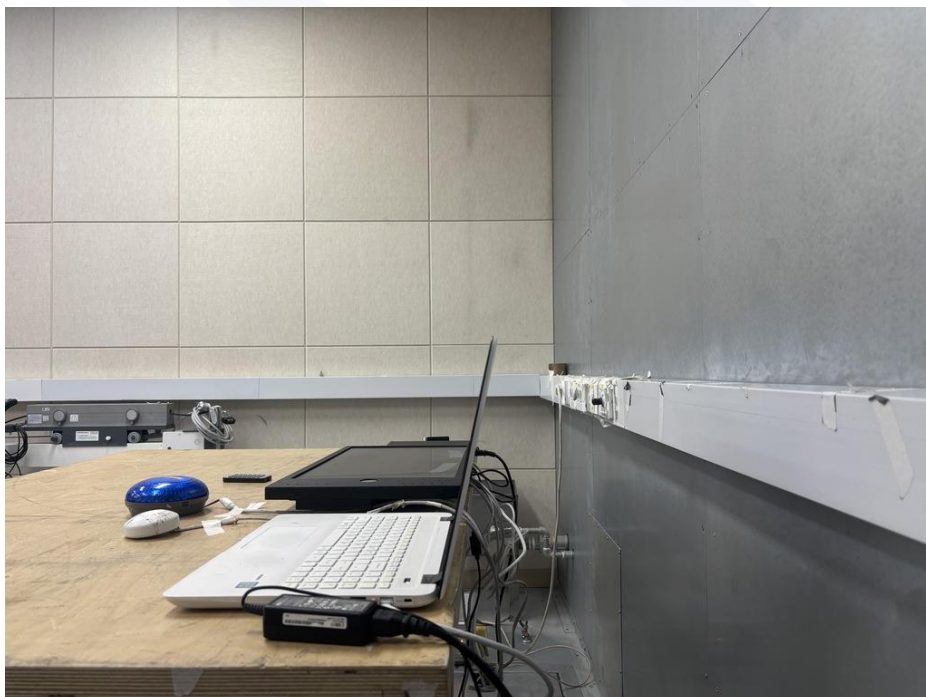


7 Test Setup Photos and EUT Photographs

7.1 Test Setup Photos



<Conducted Emissions at Mains Power Ports - Front> Mode 1



<Conducted Emissions at Mains Power Ports - Rear> Mode 1



<Conducted Emissions at Telecommunication Ports - Front>Mode 1



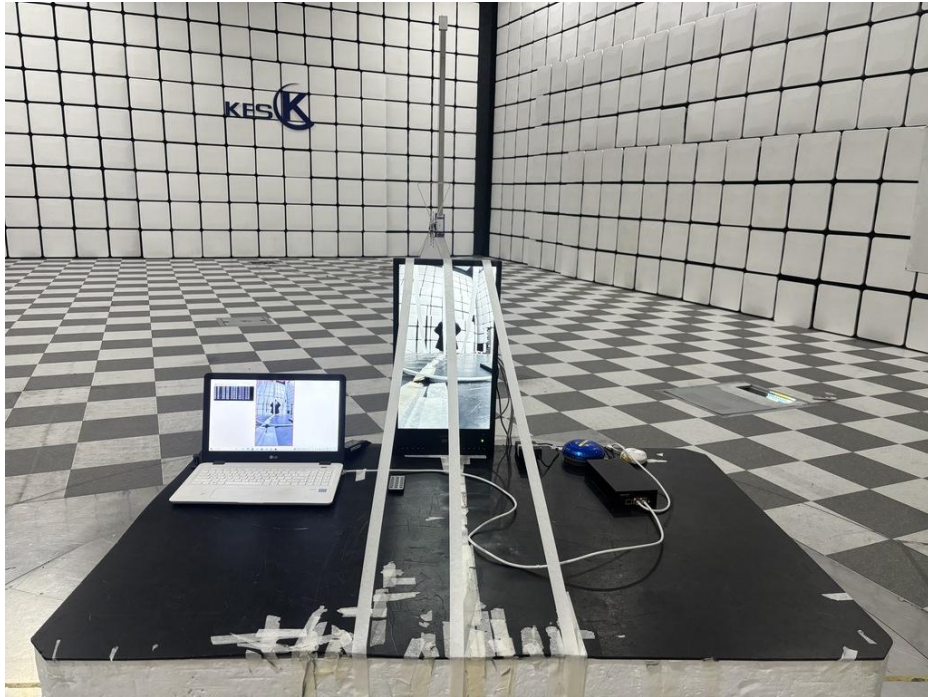
<Conducted Emissions at Telecommunication Ports - Rear> Mode 1



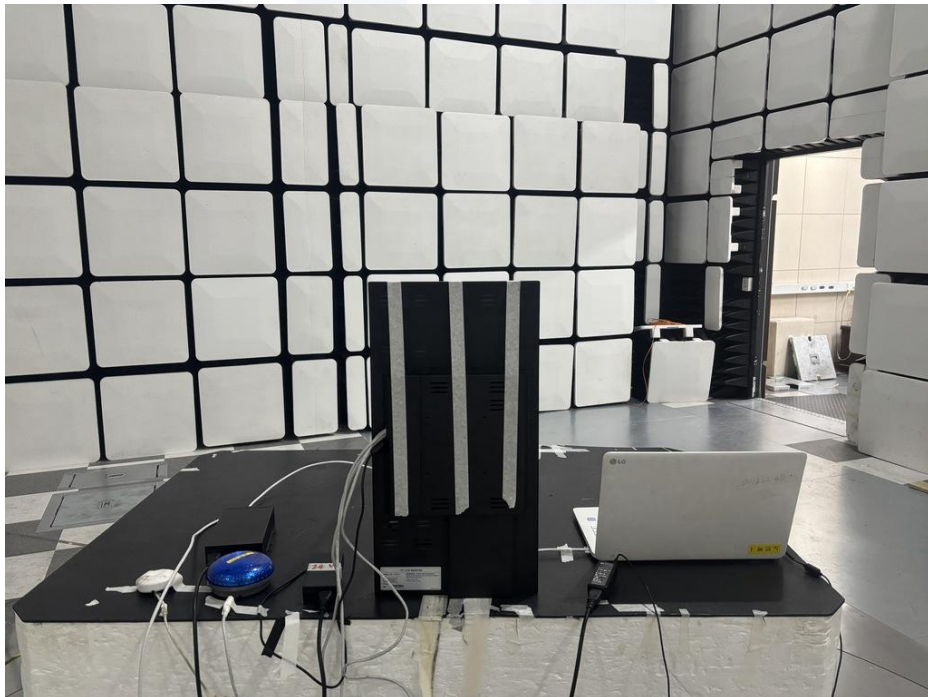
<Conducted Emissions at Telecommunication Ports - Front>Mode 2



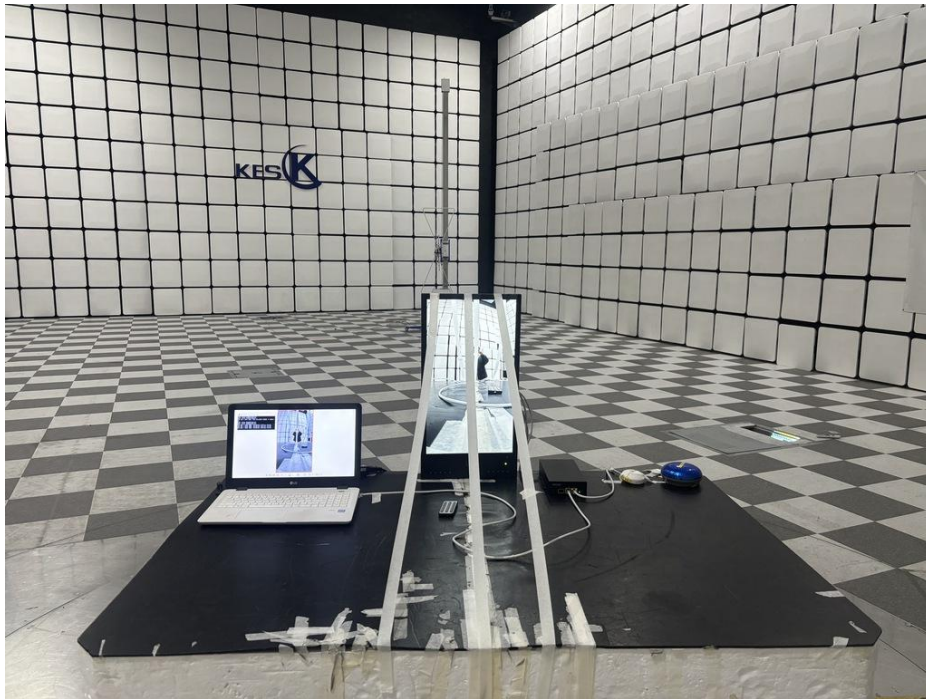
<Conducted Emissions at Telecommunication Ports - Rear> Mode 2



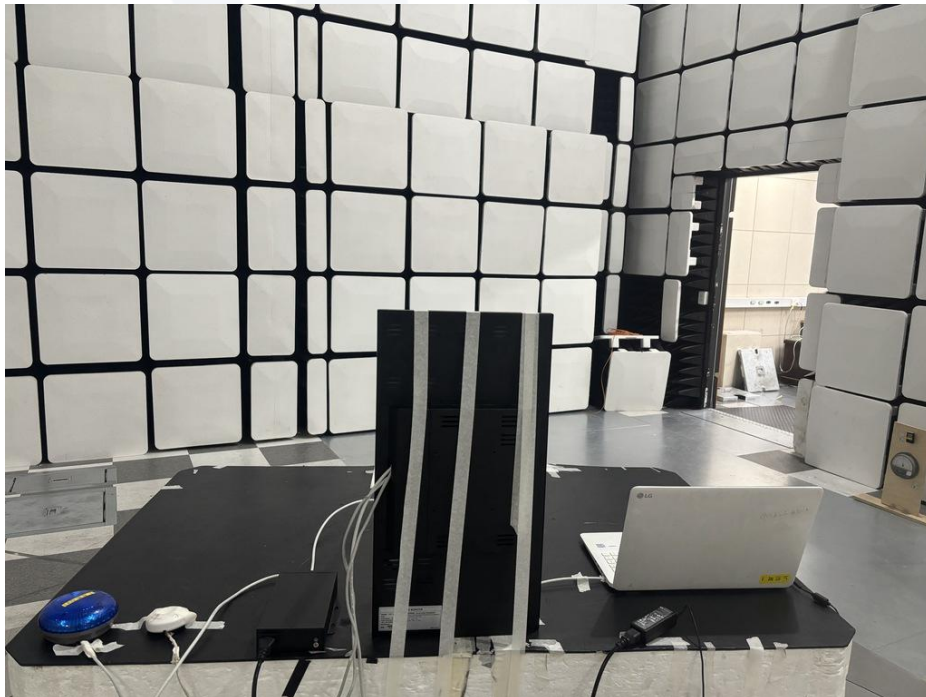
<Radiated Emissions(Below 1 GHz) - Front> Mode 1



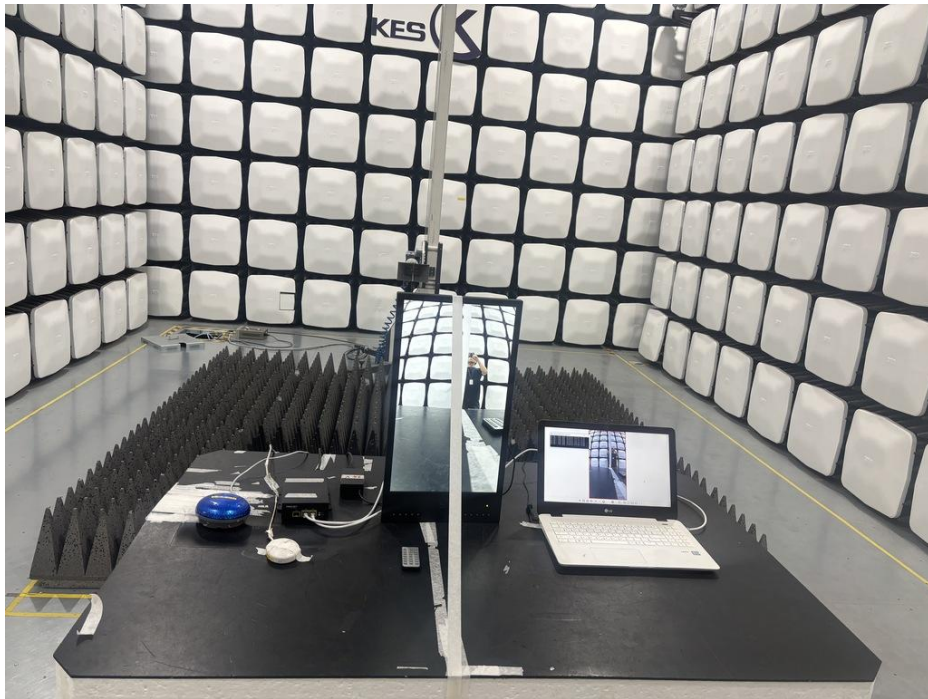
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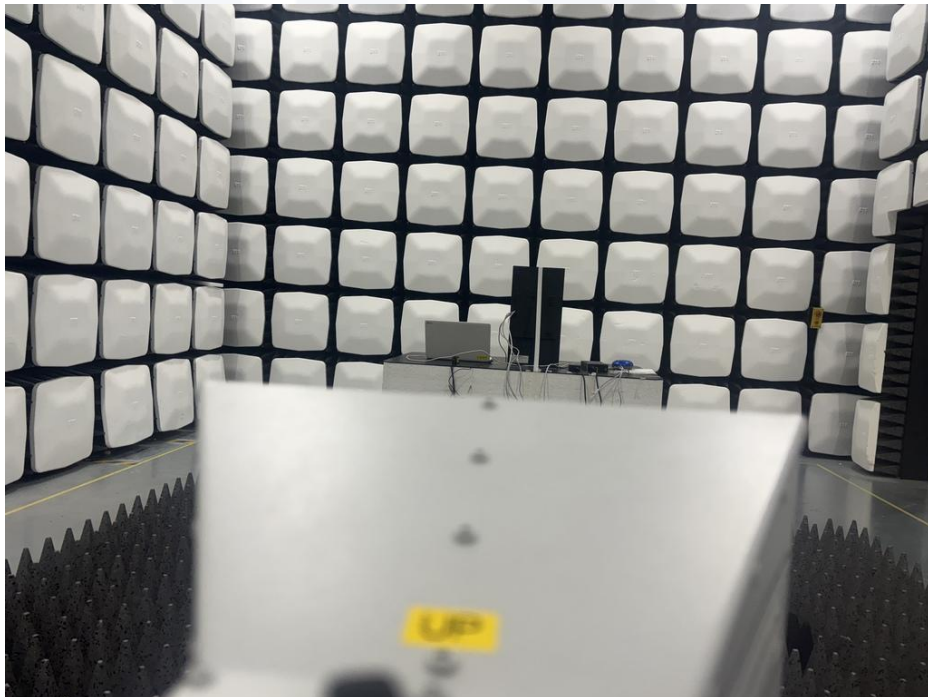
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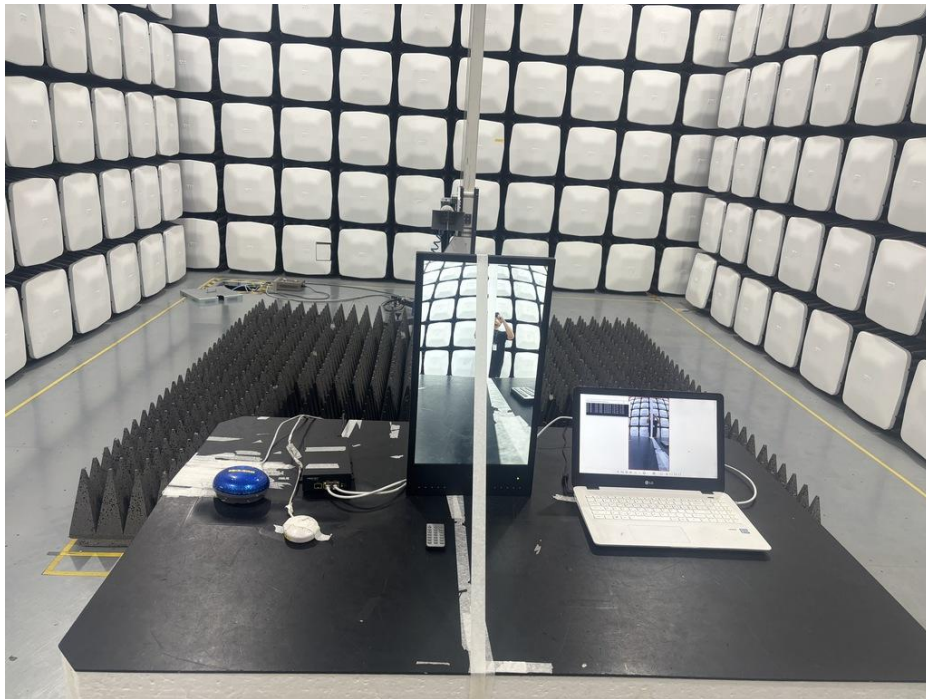
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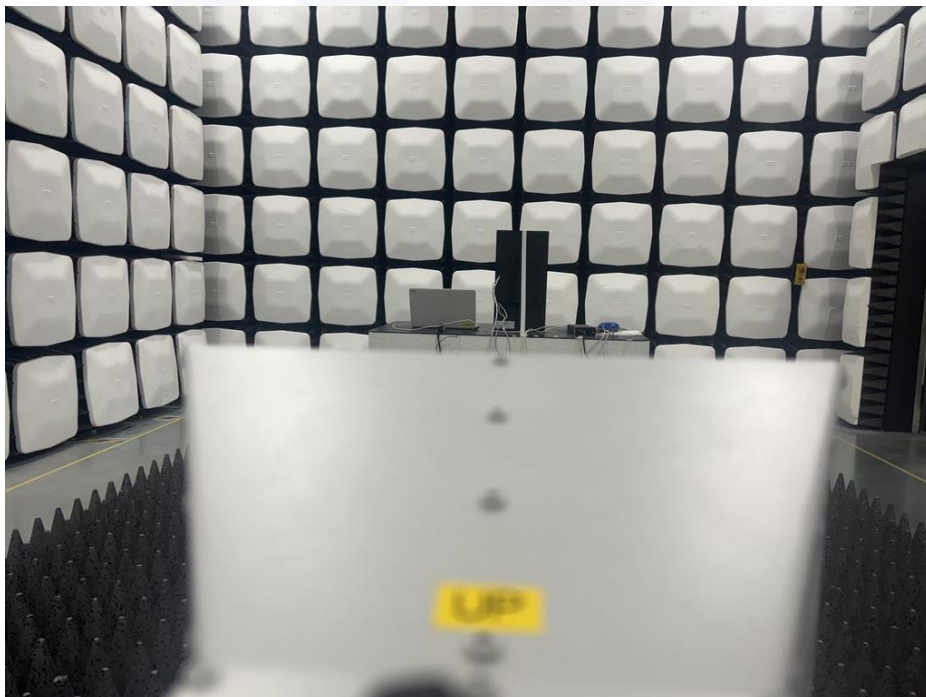
<Radiated Emissions(Above 1 GHz) - Front> Mode 1



<Radiated Emissions(Above 1 GHz) - Rear> Mode 1



<Radiated Emissions(Above 1 GHz) - Front> Mode 2



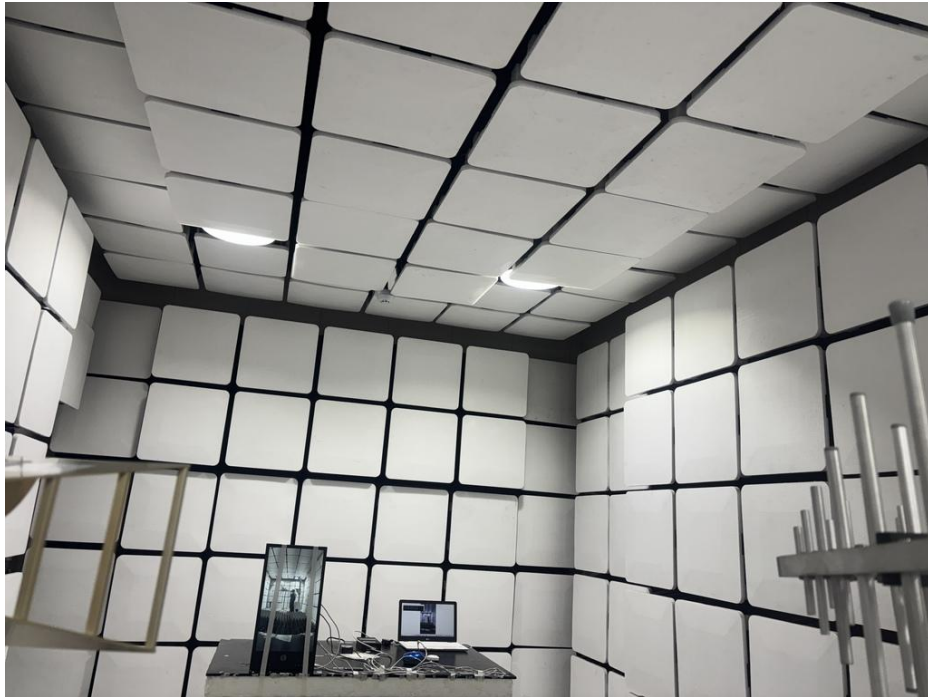
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<Electrostatic Discharge> Mode 1



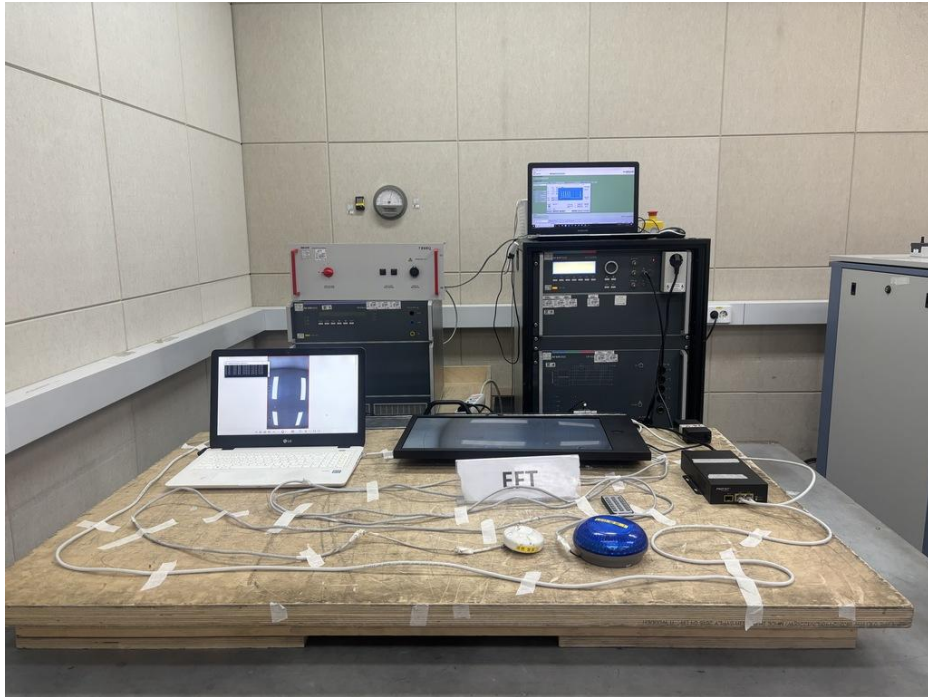
<Electrostatic Discharge> Mode 2



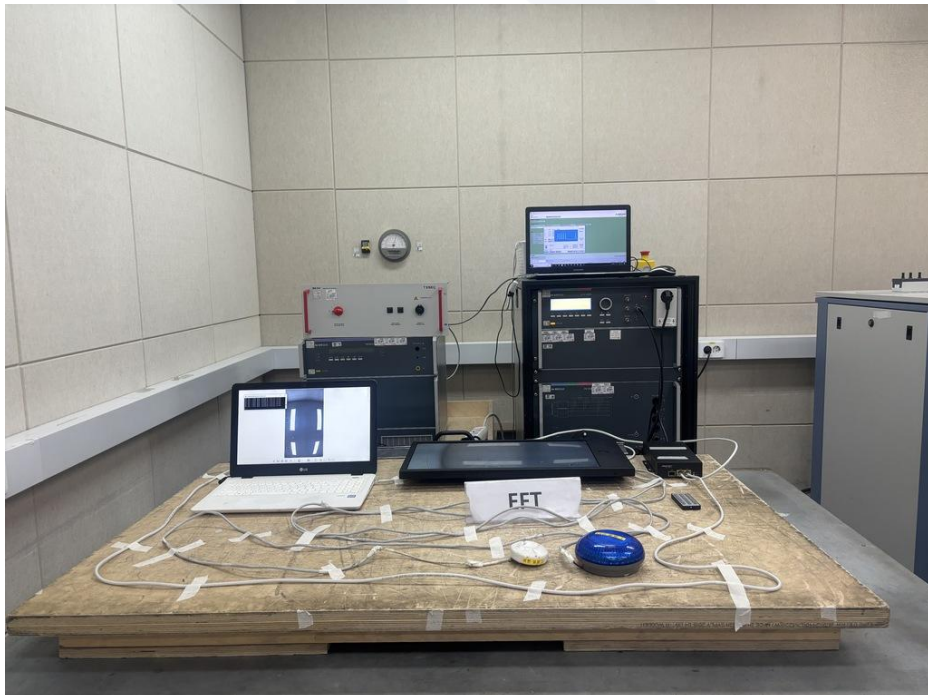
<Continuous RF electromagnetic field disturbances> Mode 1



<Continuous RF electromagnetic field disturbances> Mode 2



<Electrical Fast Transients/Bursts> Mode 1



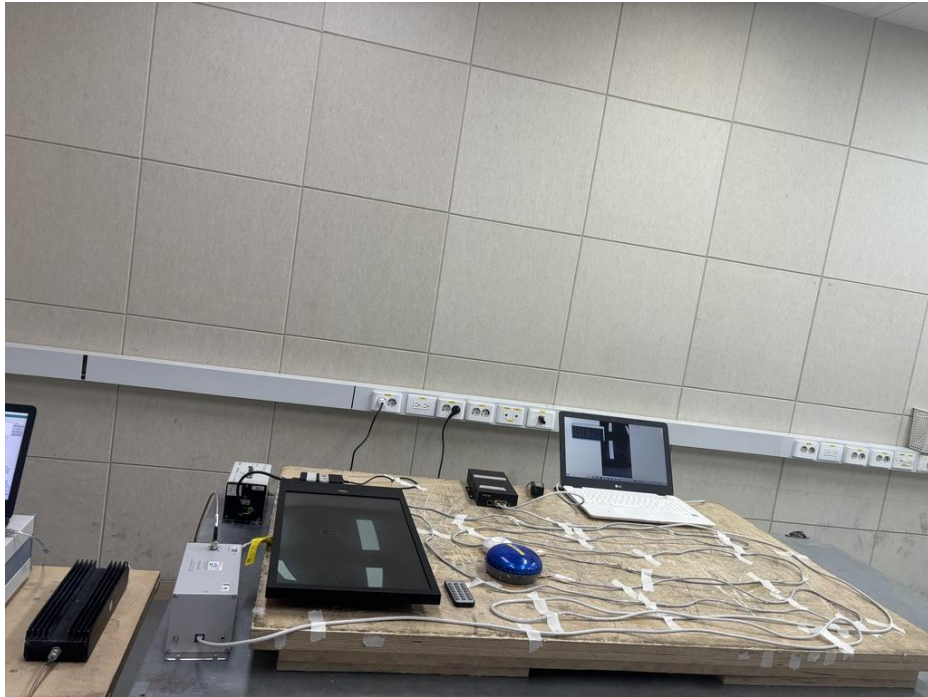
<Electrical Fast Transients/Bursts> Mode 2



<Surge> Mode 1



<Surge> Mode 2



<Continuous Induced RF Disturbances> Mode 1



<Continuous Induced RF Disturbances> Mode 2



<Voltage Dips and Interruptions> Mode 1



7.2 EUT Photographs



<EUT External Photographs - Top>



<EUT External Photographs - Bottom>



<Components>



<Port-1>



<Port-2>



<EUT Internal Photographs>



7.3 Label



Name : Hanwha Vision Co., Ltd.
Product item : Public View Monitor
Model name : SMT-2221PV

The End.

