



TEST REPORT



Report No. : KES-EM253190

Page 1 / 39

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 : REMOTE HEAD CAMERA
- Model name : XNB-A8004B
- Variant model : -
- Manufacturer etc. : HANWHA VISION VIETNAM COMPANY LIMITED
- Manufacturer address : Lot O-2, Que Vo Industrial Zone Extended Area, Nam Son Ward, Bac Ninh Province, Vietnam
- Manufacturer etc. : D-TECH CO.,LTD.
- Manufacturer address : 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)

3. Date of test : 2025. 09. 24. ~ 2025. 09. 26.

4. Location of Test : Permanent Testing Lab

- Address : 473-21, Gayeo-ro, Yeuju-si, Gyeonggi-do, 12658, Republic of Korea

5. Test method used : FCC 47 CFR Part 15, Subpart B (ANSI C63.4a-2017),
IC ICES-003 Issue 7 (ANSI C63.4a-2017)

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 test report is not related to KOLAS accreditation.

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

2025. 10. 29.

KES Co., Ltd.

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
2025. 10. 29.	KES-EM253190	Issued

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

■ No decision rule is specified by the 1 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)



TABLE OF CONTENTS

1	Laboratory Information	4
1.1	Test Location.....	4
1.2	Laboratory Accreditations and Listings	4
2	Test Summary	5
2.1	Class and Voltage.....	5
2.2	Summary of Test Results	5
2.3	Remarks when standards applied	5
2.4	Variant Model Differences	5
2.5	Device Modifications	5
3	General Product Description	6
4	EUT Setup and Operation Mode	10
4.1	EUT Configuration	10
4.2	System Configuration	10
4.3	External I/O Cabling	11
4.4	EUT Operating Mode(s).....	12
4.5	Test operating S/W	12
4.6	Configuration	13
5	Measurement Procedure.....	14
6	Test Item.....	15
6.1	Conducted Emissions at Mains Power Ports.....	15
6.2	Radiated Emissions(Below 1 GHz)	20
6.3	Radiated Emissions(Above 1 GHz)	25
7	Test Setup Photos and EUT Photographs	30
7.1	Test Setup Photos	30
7.2	EUT Photographs	36
7.3	Label	39



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 120 V, 60 Hz

2.2 Summary of Test Results

Regulation			
47 CFR Part 15, Subpart B, ICES-003 Issue 7			
Test Item	Test Standard	Test Result	Remark
Conducted Emissions at Mains Power Ports	ANSI C63.4a-2017	PASS	-
Radiated Emissions(Below 1 GHz)		PASS	-
Radiated Emissions(Above 1 GHz)		PASS	-
* N/A: Not Applicable			

2.3 Remarks when standards applied

N/A

2.4 Variant Model Differences

N/A

2.5 Device Modifications

N/A



3 General Product Description

Division		Specificity
maximum operating frequency		3 GHz
Power	Rated power	DC 12 V / 0.72 A PoE 48 V / 0.22 A
	Test power	AC 230 V / 50 Hz
I/O Port	User port	DC IN 1 EA, RJ-45(PoE) 1 EA, ALARM I/O 4 EA, AUDIO IN 1 EA, AUDIO OUT 1 EA, CAM(6 PIN)
	Unused/Administrator Ports	USB-TYPE C 1 EA, VIDEO(2 PIN)1 EA
function	Product function	REMOTE HEAD CAMERA
	Wireless function	Not applicable
Components		Main 1 EA
Other		Not applicable

XNB-A8004B		
Video		
Resolution		2560x1920, 2560x1440, 1920x1080, 1600x1200, 1280x960, 1280x720, 1024x768, 800x600, 640x480, 640x360, 320x240, 320x180
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)
	MJPEG	30fps(@5MP Max. 5fps)
Video Out		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type C
Lens		
Optional Lens		SLA-F2480A/F2480VA, SLA-F4780A/F4780VA, SLA-F1080FA
Operational		
Day & Night		Auto(Electrical)
Backlight Compensation		BLC, HLC, WDR, SSDR
Wide Dynamic Range (dB)		120
Digital Noise Reduction		WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization		Support
Defog		Support
Motion Detection	Quantity	8ea
	Shape	8point Polygonal zones
Privacy Masking	Quantity	32ea
	Shape	8point Polygonal zones



	Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
	Dynamic Privacy Masking: Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
Gain Control		Off, Max gain, Manual
White Balance		ATW, NarrowATW, AWC, Manual, Indoor, Outdoor
LDC		Support(Not support for fisheye lens)
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	2~1/30,000sec
Digital PTZ		None
Video Rotation		Flip, Mirror, Hallway view(90°/270°)
Serial Interface		None
Alarm Interface	In/Out	2 configurable I/O ports
	Others	Support extra alarm I/O via optional I/O box
Alarm Triggers		Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription, Day/Night, Storage disruption
Alarm Events When Alarm Trigger Occurred		File upload(image): e-mail/FTP/SFTP, File upload(video clip): FTP/SFTP, Notification: e-mail, Recording: SD/SDHC/SDXC or NAS recording at event triggers, Alarm output, Handover: PTZ preset, send message by HTTP/HTTPS/TCP, Audio clip playback, MQTT: publication
Audio In		Selectable(mic in/line in)
Audio Out		Line out
Analytics		
Classified Object Type		Person, Face, Vehicle, License plate
Attributes	Person	Upper/Lower clothes color, Gender, Bag
	Vehicle	Type(car, bus, truck, motorcycle, bicycle), Color
	Face	Age, Gender, Face mask, Glasses
Re-ID		Person
Thumbnail		BestShot
Analytics Events	Based on AI Engine	Object detection, Virtual line(Crossing/Direction), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear)
	Normal	Defocus detection, Tampering, Audio detection, Shock detection
Business Intelligence	Based on AI Engine	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting
Network		
Ethernet		Metal shielded RJ-45(10/100BASE-T)
Video Compression		H.265/H.264: Main/Baseline/High, MJPEG



Audio Compression		G.711(PCM): 8kHz(64kbps), G.726(ADPCM): 8kHz(16/24/32/40kbps), AAC-LC: 16kHz(48kbps), OPUS: 48kHz(64kbps)
Smart Codec		WiseStream(Based on AI engine)
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 5 profiles, 3 virtual channel support
Protocol		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, SMTP(StartTLS), Syslog
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
Direct Cloud Connection		Support
Security		
OS / Firmware Protect		Encrypted firmware, Secure boot, Signed firmware
User authentication		Digest authentication, Prevent brute-force attack
Network authentication		IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication		HTTPS, WSS(WebSocket Secure), SRTP
Access Control		IP-based access control, MAC-based access control, Auto logout
Data Protect		Encryption credentials, Encrypt compress for live recording file export
Audit		Access / System / Event Log management
Device ID		Device certificate(Hanwha Vision Root CA)
Secure Storage		SDcard partition encrypt(AES-256), Secure element
Supply Chain Security		SBOM
Security Certificate		Secure element(FIPS 140-3 level3, CC EAL6+), Consumer IoT Security Standard (ETSI EN 303 645), Security Built-in Process Certification (IEC 62443-4-1)
General		
Memory	RAM	4GB
	Flash	8GB eMMC
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 1slot
Edge Storage(OnCloud)	Micro SD/SDHC/SDXC	Max. 1TB x 1slot *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording. KES Co., Ltd



Environmental & Electrical		
Operating Condition	Temperature	-10°C~+50°C(+14°F~+122°F)
	Humidity	0~95% RH(non-condensing)
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		PoE(IEEE802.3af, Class3), 12VDC
Power Consumption	PoE	Max. 10.6W, typical 9.3W
	12VDC	Max. 10.5W, typical 9.0W
Wisepower		Power monitoring
Power Redundance Failover		Support
Mechanical		
Color		Black
Material		Aluminum, PC(Polycarbonate)
Material Management	Declaration	RoHS(EU RoHS directive 2011/65/EU and IEC/EN 63000:2018), REACH(Regulation (EC) No. 1907/2006), Conflict mineral policy(Section 1502 of US Dodd Frank Act)
	Recycle Rate	None
RAL Code		RAL9005
Product Dimensions		131.1(W)x33.5(H)x86(D)mm(5.16x1.32x3.39")
Product Weight		467g(1.03lb)



4 EUT Setup and Operation Mode

4.1 EUT Configuration

Equipment	Model	Manufacturing number	Manufacturer	Remarks
REMOTE HEAD CAMERA	XNB-A8004B	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
LENS MODULE	SLA-F2480VA	-	HANWHA VISION VIETNAM COMPANY LIMITED	-
AC/DC ADAPTOR	FSP060-DIBAN2	-	Zhonghan Electronics(Shenzhen) Co., Ltd.	-
PoE Injector	PT-PSE109GBRO-AH	PT1933220259	Dongguan PROCET Network Technology Co.,Ltd	-
Micro SD CARD	-	-	Transcend	-
SMART PHONE	V50	-	LG	-
LAPTOP	NT630Z5J	JK9091EF400142M	SAMSUNG	-
LAPTOP ADAPTOR	PA-1400-14	AA-PA2N40W	LITEON	-
HEADSET	K550	-	Britz®	-
Button Alarm	-	-	-	-
LED Alarm	SIP-1201DD D0	-	SAMSUNG TECHWIN CO., LTD.	-

4.2 System Configuration

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



4.3 External I/O Cabling

Mode 1

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	I/O Port	Length(m)	Shield
REMOTE HEAD CAMERA (EUT)	DC IN (2 PIN)	AC/DC ADAPTOR	DC OUT (2 PIN)	1.0	U
	RJ-45 (PoE)	LAPTOP	RJ-45	3.1	U
	CAM (6 PIN)	LENS MODULE	CAM (6 PIN)	10.0	S
	Alarm In (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	AUDIO OUT (3.5 mm)	HEADSET	3.5 mm	2.0	U
	AUDIO IN (3.5 mm)		3.5 mm		
	Micro SD SLOT	Micro SD CARD	Micro SD SLOT	-	-
LAPTOP	3.5 mm	SMARTPHONE	3.5 mm	1.5	U

Mode 2

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	I/O Port	Length(m)	Shield
REMOTE HEAD CAMERA (EUT)	RJ-45 (PoE)	PoE Injector	RJ-45 (PoE)	3.1	U
	CAM (6 PIN)	LENS MODULE	CAM (6 PIN)	10.0	S
	Alarm In (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	AUDIO OUT (3.5 mm)	HEADSET	3.5 mm	2.0	U
	AUDIO IN (3.5 mm)		3.5 mm		
	Micro SD SLOT	Micro SD CARD	Micro SD SLOT	-	-
LAPTOP	3.5 mm	SMARTPHONE	3.5 mm	1.5	U
	RJ-45	PoE Injector	RJ-45 (LAN)	1.0	U

* Unshielded=U, Shielded=S

**4.4 EUT Operating Mode(s)**

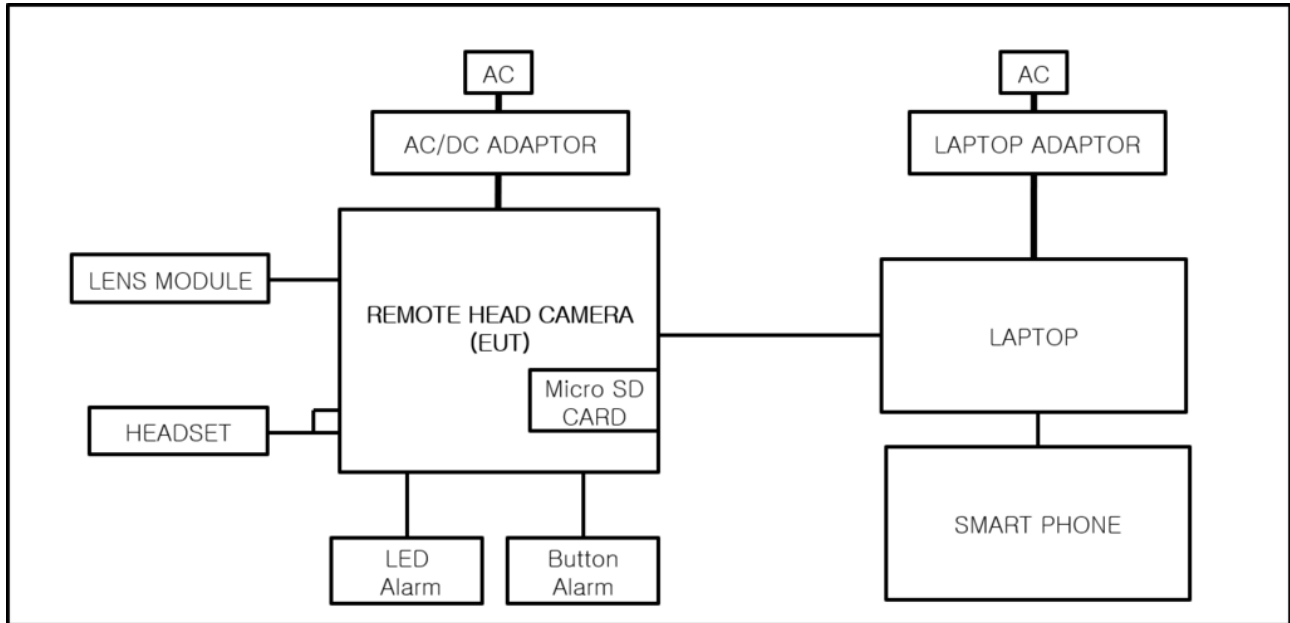
Category	Mode	Operating
Mode 1	DC	1. By connecting the test equipment and the DC power supply with a wired connection, the image output of the test equipment is confirmed by the WEB VIEWER. 2. After activating the operation of the microphone, run a 1 KHz Tone voice file on a smartphone connected to a laptop to check whether the headset outputs sound normally or not on the headset connected to the test equipment. 3. Check the ping test of the laptop to see if the network of the test equipment is operating normally or not. 4. After the test, it was confirmed that the recorded image stored in the Micro SD Card was checked.
Mode 2	PoE	1. By connecting the test equipment and the PoE Injector by wire, the image output of the test equipment is checked by WEB VIEWER. 2. After activating the operation of the microphone, run a 1 KHz Tone voice file on a smartphone connected to a laptop to check whether the headset outputs sound normally or not on the headset connected to the test equipment. 3. Check the ping test of the laptop to see if the network of the test equipment is operating normally or not. 4. After the test, it was confirmed that the recorded image stored in the Micro SD Card was checked.

4.5 Test operating S/W

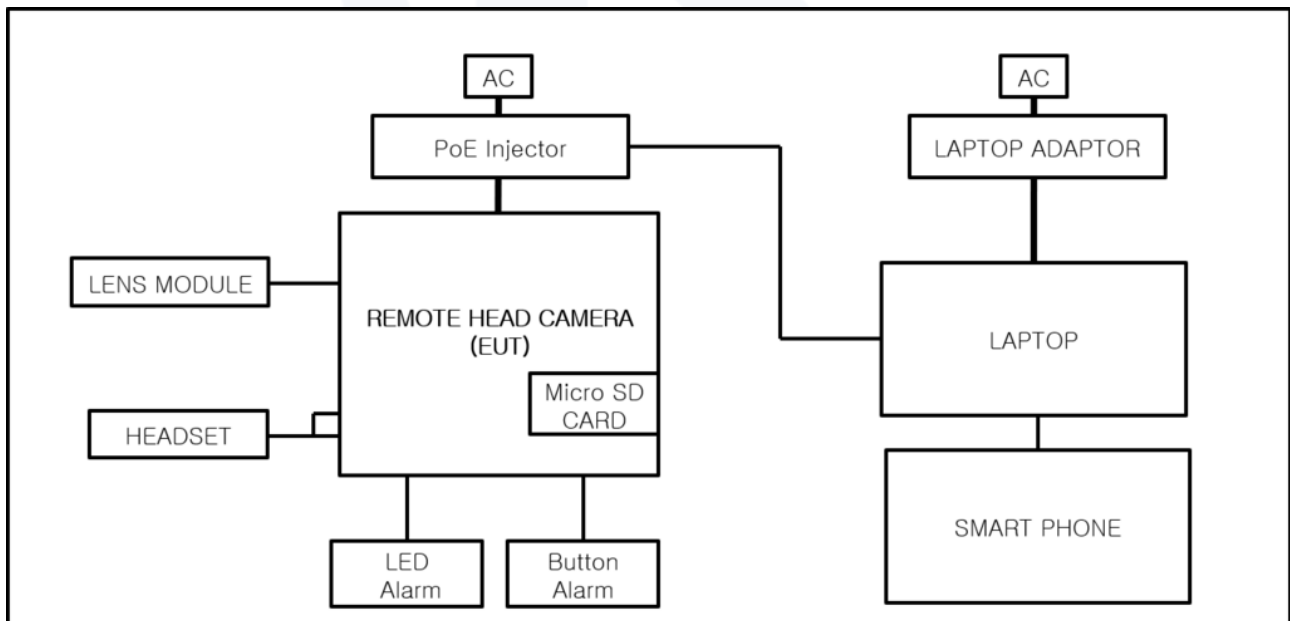
Name	Version	Manufacture Company
WEB VIEWER	-	Hanwha Vision Co., Ltd.



4.6 Configuration



Mode 1



Mode 2



5 Measurement Procedure

- Conducted Emissions

The conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emission exceed the average limit with the instrument set to the quasi-peak mode, the measurements are made in the average mode. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limits were measured and have been recorded. Quasi-peak readings are distinguished with a "QP".

- Radiated Electric Field Emissions

The test was done at a SEMI ANECHOIC CHAMBER with quasi-peak detector. The final test data was measured using a Quasi-Peak detector below 1 GHz at 10 m or 3 m distance and a Peak and Average detector above 1 GHz at 3 m distance. Test was proceeded worst case test mode and cable configuration. Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency.

Measurement procedures was In accordance with ANSI C63.4 or CISPR 32.

◆ Calculation

- Conducted Emissions

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

- Radiated Emissions(Below 1 GHz)

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

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

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)

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

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

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

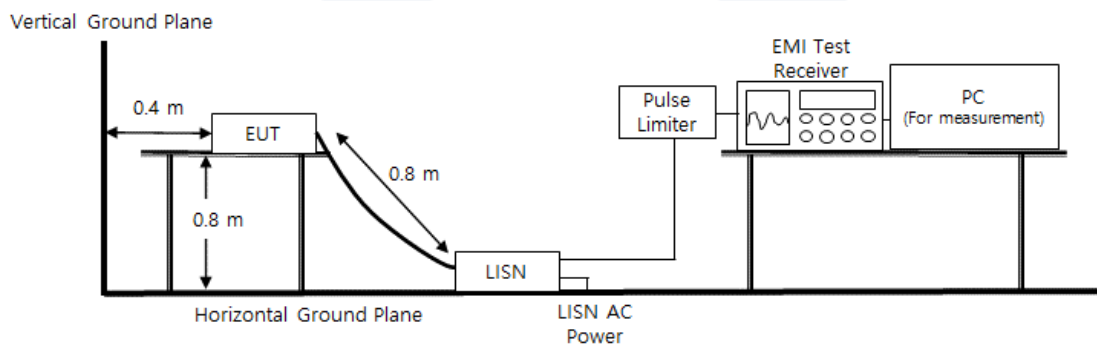
Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	9.12.00	-	-	■
EMI TEST RECEIVER	ESR3	Rohde & Schwarz	101783	2024-11-06	2025-11-06	■
LISN	ENV216	Rohde & Schwarz	101786	2025-01-09	2026-01-09	■
ARTIFICIAL MAINS NETWORK	ESH2-Z5	Rohde & Schwarz	100450	2024-11-06	2025-11-06	■
PULSE LIMITER	ESH3-Z2	Rohde & Schwarz	101915	2024-11-06	2025-11-06	■

6.1.2 Test Location : SHIELD ROOM #6

6.1.3 Test Conditions :

Temperature	Relative Humidity
(24.5 ~ 24.6) °C	(57.2 ~ 57.3) % R.H.

6.1.4 Diagram of test setup





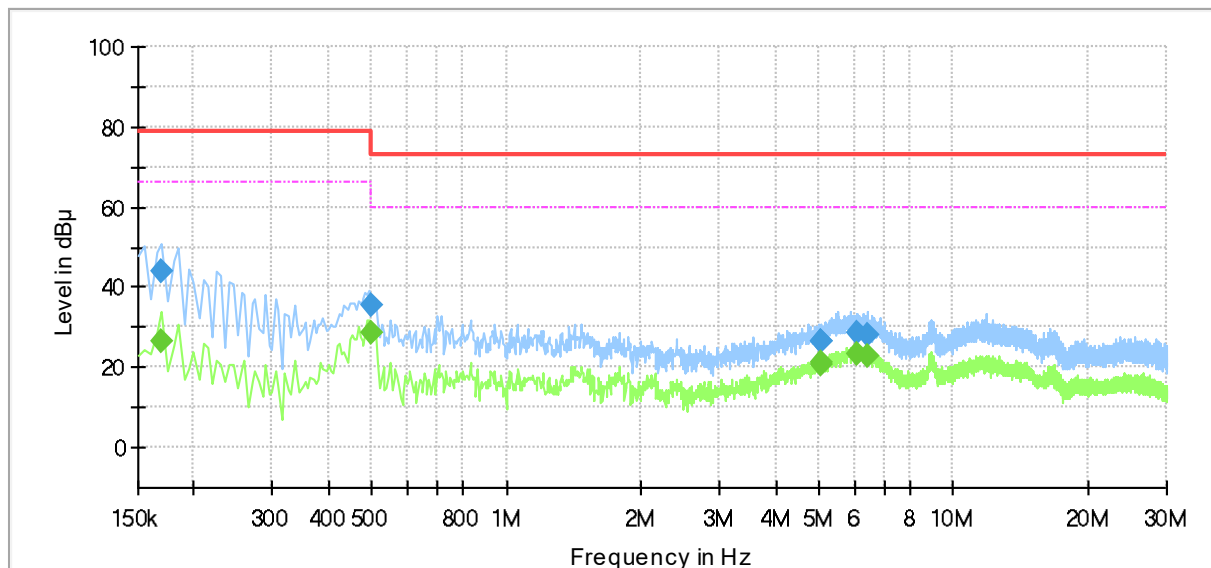
6.1.5 Test Result

- Test Date : 2025-09-26
- Test Mode : Mode 1

Test Report

1 / 1

Test Description: Conducted Emission
Job No.: KES-EM253190
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	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	26.75	66.00	39.25	1000.0	9.000	L1	19.5
0.170000	43.88	---	79.00	35.12	1000.0	9.000	L1	19.5
0.500000	---	28.87	66.00	37.13	1000.0	9.000	L1	19.6
0.500000	35.46	---	73.00	37.54	1000.0	9.000	L1	19.6
5.030000	---	20.99	60.00	39.01	1000.0	9.000	L1	19.9
5.030000	26.26	---	73.00	46.74	1000.0	9.000	L1	19.9
5.055000	---	20.92	60.00	39.08	1000.0	9.000	L1	19.9
5.055000	26.28	---	73.00	46.72	1000.0	9.000	L1	19.9
6.060000	---	23.23	60.00	36.77	1000.0	9.000	L1	20.0
6.060000	28.67	---	73.00	44.33	1000.0	9.000	L1	20.0
6.410000	---	22.58	60.00	37.42	1000.0	9.000	L1	20.0
6.410000	28.09	---	73.00	44.91	1000.0	9.000	L1	20.0



Report No. : KES-EM253190

Page 17 / 39

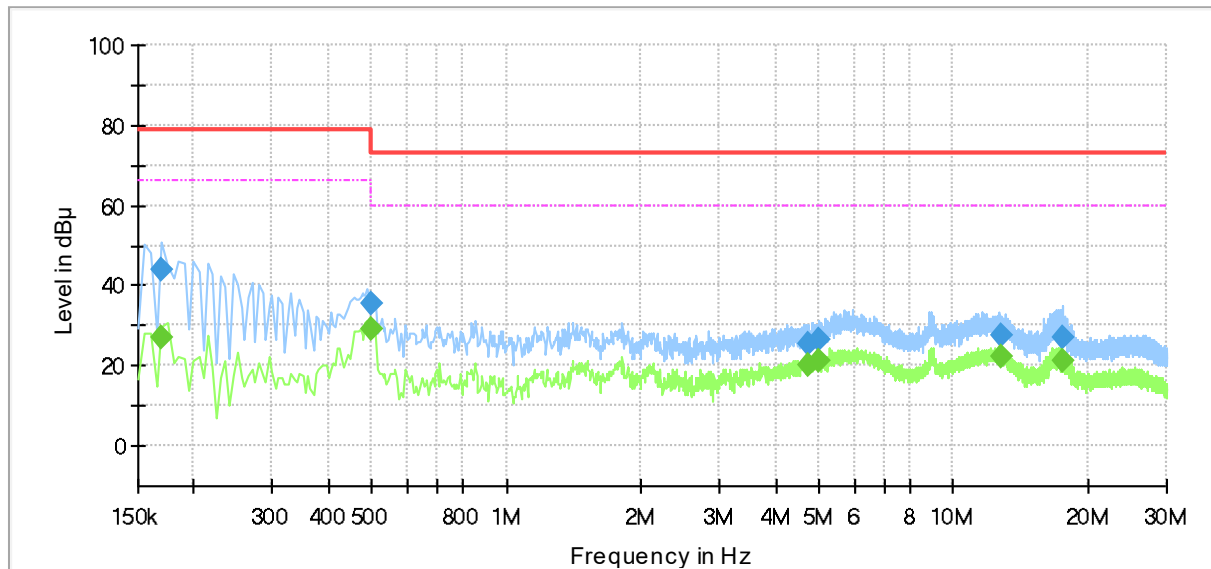
○ Test Date : 2025-09-26

● Test Mode : Mode 1

Test Report

1 / 1

Test Description: Conducted Emission
Job No.: KES-EM253190
Phase: N
Mode: Mode 1
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	26.84	66.00	39.16	1000.0	9.000	N	19.5
0.170000	43.95	---	79.00	35.05	1000.0	9.000	N	19.5
0.500000	---	29.02	66.00	36.98	1000.0	9.000	N	19.5
0.500000	35.26	---	73.00	37.74	1000.0	9.000	N	19.5
4.760000	---	20.38	60.00	39.62	1000.0	9.000	N	19.9
4.760000	25.60	---	73.00	47.40	1000.0	9.000	N	19.9
4.990000	---	20.97	60.00	39.03	1000.0	9.000	N	19.9
4.990000	26.35	---	73.00	46.65	1000.0	9.000	N	19.9
12.855000	---	22.07	60.00	37.93	1000.0	9.000	N	20.1
12.855000	27.61	---	73.00	45.39	1000.0	9.000	N	20.1
17.555000	---	21.33	60.00	38.67	1000.0	9.000	N	20.3
17.555000	27.28	---	73.00	45.72	1000.0	9.000	N	20.3



Report No. : KES-EM253190

Page 18 / 39

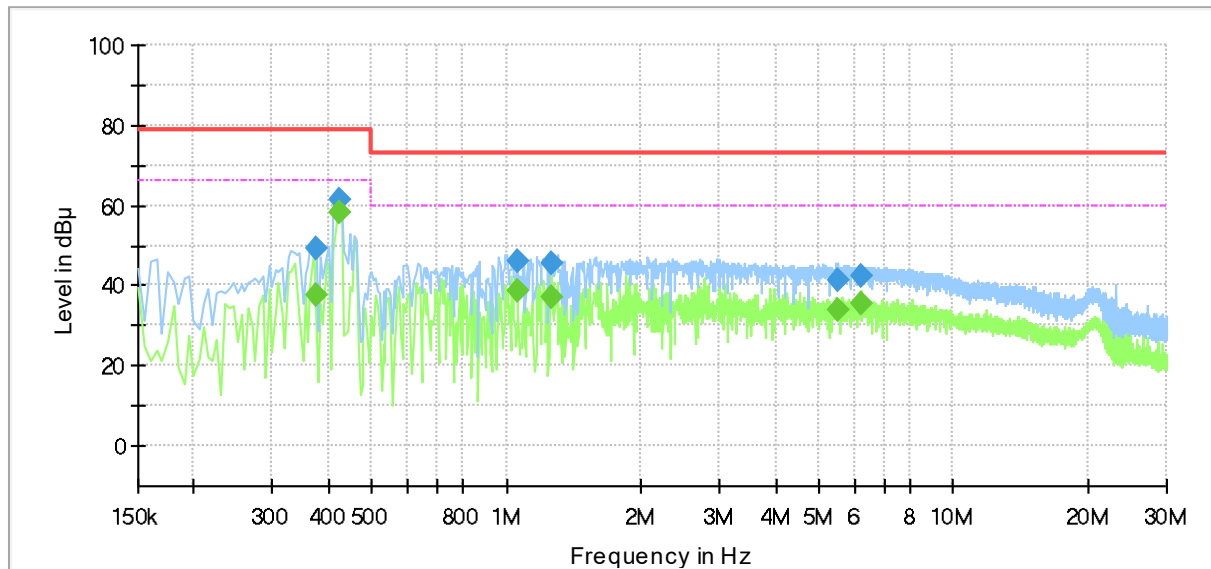
○ Test Date : 2025-09-26

● Test Mode : Mode 2

Test Report

1 / 1

Test Description: Conducted Emission
Job No.: KES-EM253190
Phase: L
Mode: Mode 2
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Corr. (dB)
0.375000	49.30	---	79.00	29.70	1000.0	9.000	L1	19.6
0.375000	---	37.61	66.00	28.39	1000.0	9.000	L1	19.6
0.425000	61.21	---	79.00	17.79	1000.0	9.000	L1	19.6
0.425000	---	58.31	66.00	7.69	1000.0	9.000	L1	19.6
1.060000	46.26	---	73.00	26.74	1000.0	9.000	L1	19.6
1.060000	---	38.85	60.00	21.15	1000.0	9.000	L1	19.6
1.260000	45.73	---	73.00	27.27	1000.0	9.000	L1	19.6
1.260000	---	36.83	60.00	23.17	1000.0	9.000	L1	19.6
5.535000	41.28	---	73.00	31.72	1000.0	9.000	L1	19.9
5.535000	---	33.81	60.00	26.19	1000.0	9.000	L1	19.9
6.235000	42.43	---	73.00	30.57	1000.0	9.000	L1	20.0
6.235000	---	35.66	60.00	24.34	1000.0	9.000	L1	20.0



Report No. : KES-EM253190

Page 19 / 39

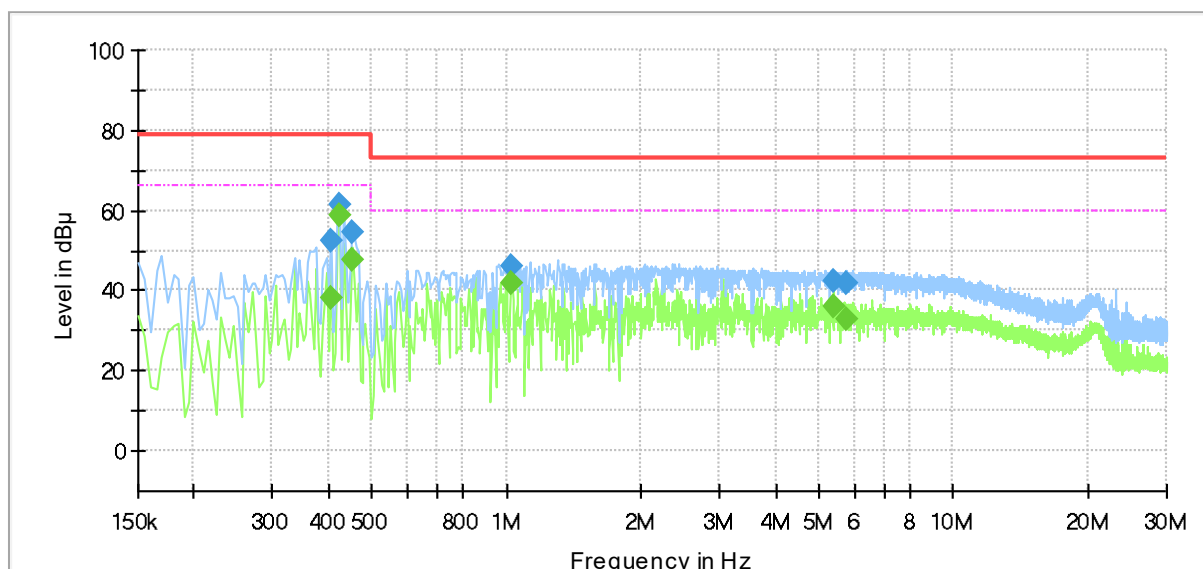
○ Test Date : 2025-09-26

● Test Mode : Mode 2

Test Report

1 / 1

Test Description: Conducted Emission
Job No.: KES-EM253190
Phase: N
Mode: Mode 2
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Corr. (dB)
0.405000	52.44	---	79.00	26.56	1000.0	9.000	N	19.5
0.405000	---	38.04	66.00	27.96	1000.0	9.000	N	19.5
0.425000	61.37	---	79.00	17.63	1000.0	9.000	N	19.5
0.425000	---	58.51	66.00	7.49	1000.0	9.000	N	19.5
0.450000	54.57	---	79.00	24.43	1000.0	9.000	N	19.5
0.450000	---	47.70	66.00	18.30	1000.0	9.000	N	19.5
1.030000	46.16	---	73.00	26.84	1000.0	9.000	N	19.6
1.030000	---	41.75	60.00	18.25	1000.0	9.000	N	19.6
5.385000	42.38	---	73.00	30.62	1000.0	9.000	N	19.9
5.385000	---	36.07	60.00	23.93	1000.0	9.000	N	19.9
5.745000	41.57	---	73.00	31.43	1000.0	9.000	N	19.9
5.745000	---	33.00	60.00	27.00	1000.0	9.000	N	19.9

6.1.6 Remark

Complies with the test requirements.



6.2 Radiated Emissions(Below 1 GHz)

6.2.1 Test Equipment

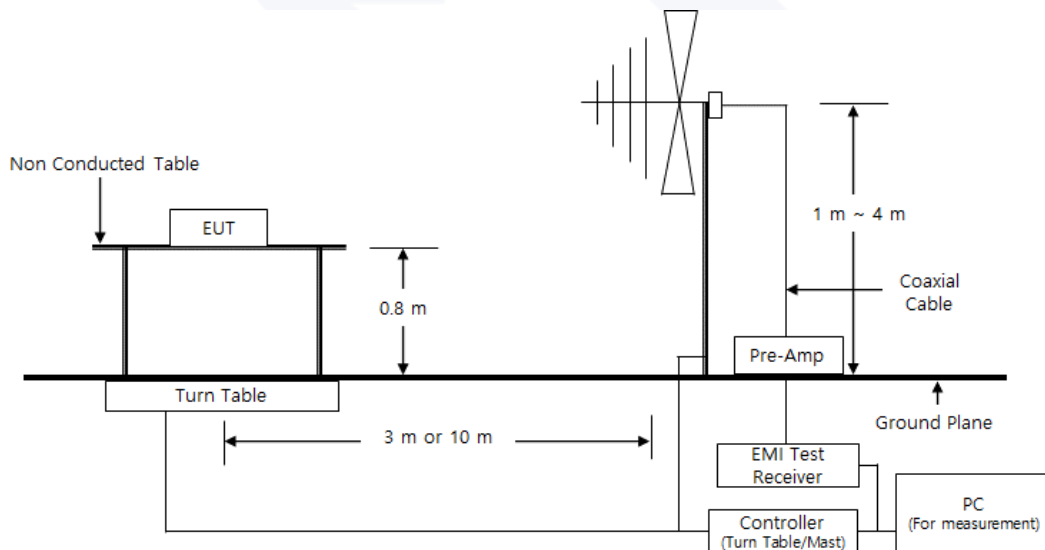
Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #4(10 m)	-	DYMSTEC	-	-	-	■
EP5/RE Software	EP5/RE	TOYO	6.0.0	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100551	2025-02-13	2026-02-13	■
AMPLIFIER	SCU 01	Rohde & Schwarz	100603	2024-11-06	2025-11-06	■
BILOG ANTENNA	VULB 9168	SCHWARZBEC K	9168-461	2024-05-09	2026-05-09	■
ATTENUATOR	6806.17.A	HUBER+SUHNER	-	2025-02-13	2026-02-13	■

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

6.2.3 Test Conditions :

Temperature	Relative Humidity
(23.5 ~ 23.7) °C	(58.1 ~ 58.3) % R.H.

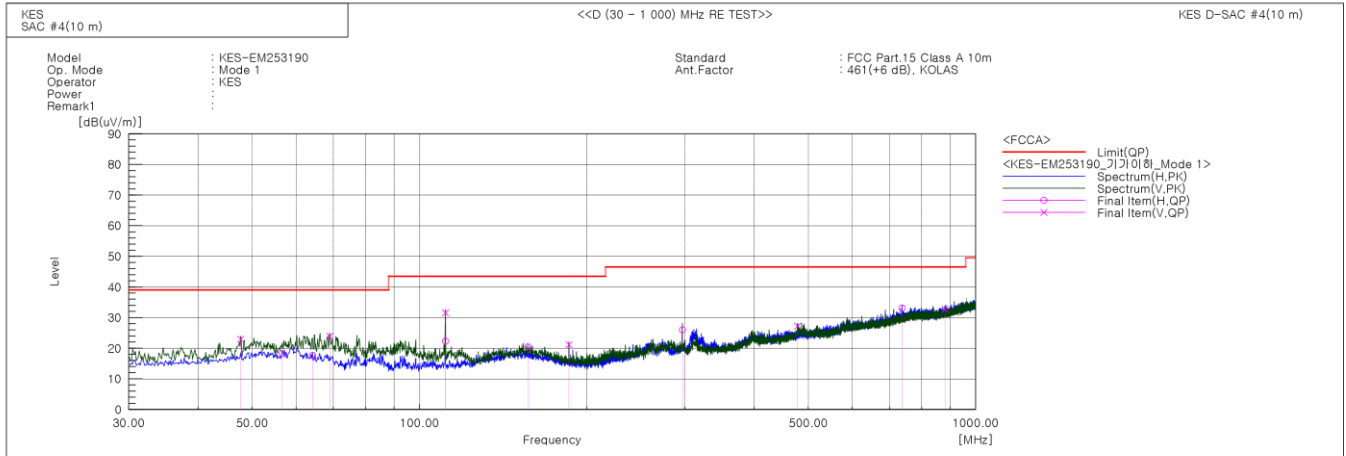
6.2.4 Diagram of test setup





6.2.5 Test Result

- Test Date : 2025-09-24
- Test Mode : Mode 1_FCC



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	47.703	V	44.0	-21.1	22.9	39.0	16.1	142.0	283.0	
2	56.675	H	39.4	-21.2	18.2	39.0	20.8	332.0	322.0	
3	64.193	H	39.4	-21.8	17.6	39.0	21.4	400.0	168.0	
4	68.921	V	46.4	-22.5	23.9	39.0	15.1	162.0	169.0	
5	111.359	H	45.7	-23.4	22.3	43.5	21.2	326.0	209.0	
6	111.359	V	55.0	-23.4	31.6	43.5	11.9	152.0	71.0	
7	156.585	H	39.8	-19.4	20.4	43.5	23.1	307.0	358.0	
8	185.564	V	42.5	-21.4	21.1	43.5	22.4	104.0	22.0	
9	296.993	H	43.2	-17.2	26.0	46.5	20.5	313.0	277.0	
10	478.383	V	37.9	-10.7	27.2	46.5	19.3	125.0	42.0	
11	737.251	H	37.1	-4.0	33.1	46.5	13.4	227.0	4.0	
12	880.811	V	34.9	-2.2	32.7	46.5	13.8	114.0	11.0	

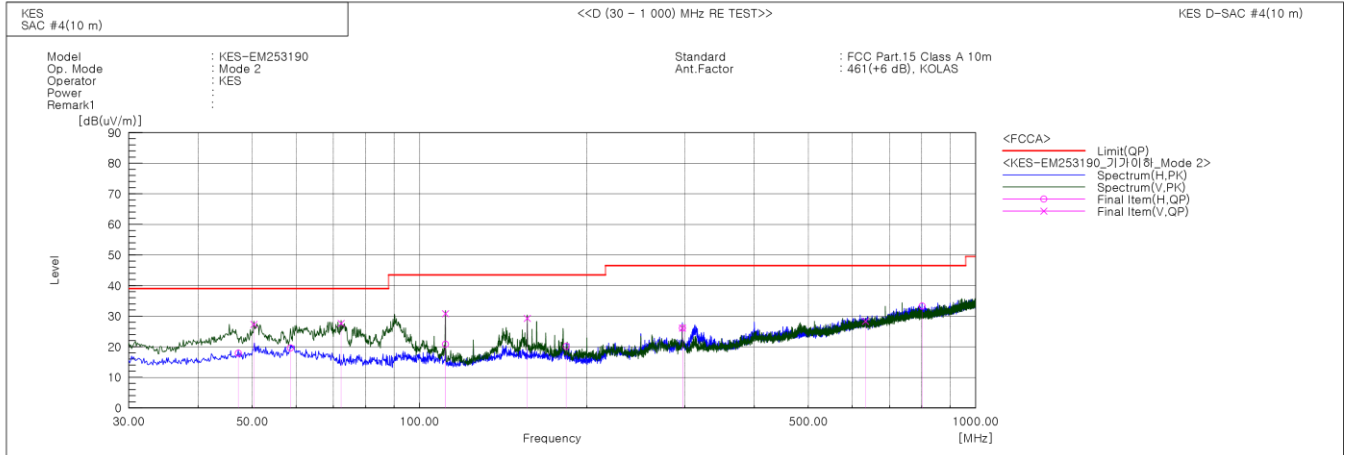
※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.



Report No. : KES-EM253190

Page 22 / 39

- Test Date : 2025-09-24
- Test Mode : Mode 2_FCC



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	47.218	H	39.0	-21.1	17.9	39.0	21.1	294.0	265.0	
2	50.370	V	48.3	-21.0	27.3	39.0	11.7	107.0	143.0	
3	58.615	H	40.9	-21.3	19.6	39.0	19.4	326.0	34.0	
4	72.316	V	51.0	-23.4	27.6	39.0	11.4	167.0	168.0	
5	111.359	H	44.2	-23.4	20.8	43.5	22.7	355.0	168.0	
6	111.359	V	54.2	-23.4	30.8	43.5	12.7	158.0	81.0	
7	156.221	V	48.7	-19.4	29.3	43.5	14.2	113.0	212.0	
8	183.624	H	41.3	-21.2	20.1	43.5	23.4	312.0	176.0	
9	296.993	H	43.3	-17.2	26.1	46.5	20.4	351.0	290.0	
10	296.993	V	43.3	-17.2	26.1	46.5	20.4	125.0	120.0	
11	633.461	V	34.6	-6.3	28.3	46.5	18.2	130.0	285.0	
12	801.029	H	37.0	-3.7	33.3	46.5	13.2	376.0	237.0	

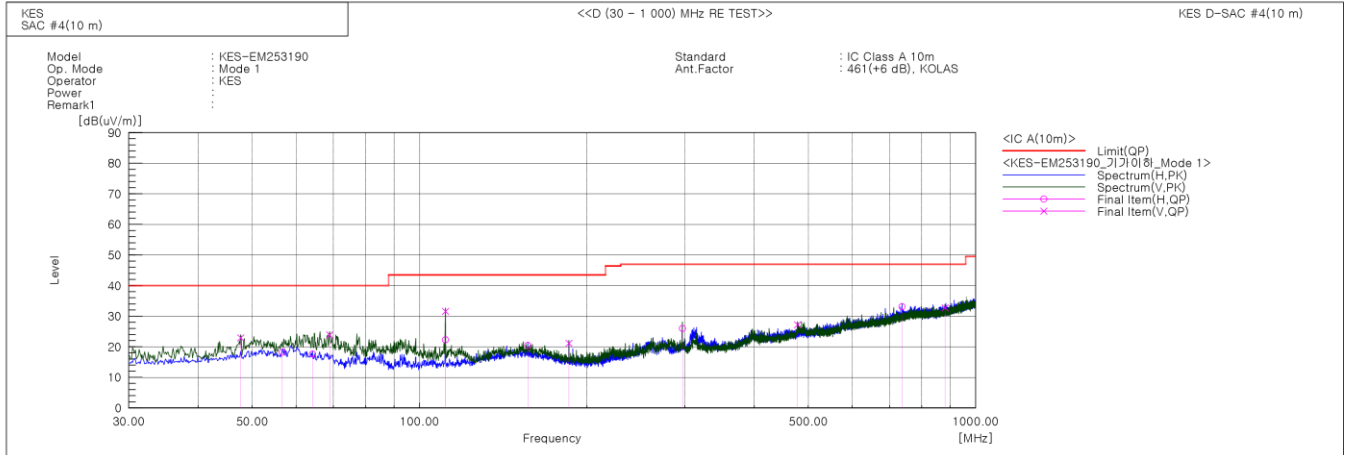
※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.



Report No. : KES-EM253190

Page 23 / 39

- Test Date : 2025-09-24
- Test Mode : Mode 1_IC



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	47.703	V	44.0	-21.1	22.9	40.0	17.1	142.0	283.0	
2	56.675	H	39.4	-21.2	18.2	40.0	21.8	332.0	322.0	
3	64.193	H	39.4	-21.8	17.6	40.0	22.4	400.0	168.0	
4	68.921	V	46.4	-22.5	23.9	40.0	16.1	162.0	169.0	
5	111.359	H	45.7	-23.4	22.3	43.5	21.2	326.0	209.0	
6	111.359	V	55.0	-23.4	31.6	43.5	11.9	152.0	71.0	
7	156.585	H	39.8	-19.4	20.4	43.5	23.1	307.0	358.0	
8	185.564	V	42.5	-21.4	21.1	43.5	22.4	104.0	22.0	
9	296.993	H	43.2	-17.2	26.0	47.0	21.0	313.0	277.0	
10	478.383	V	37.9	-10.7	27.2	47.0	19.8	125.0	42.0	
11	737.251	H	37.1	-4.0	33.1	47.0	13.9	227.0	4.0	
12	880.811	V	34.9	-2.2	32.7	47.0	14.3	114.0	11.0	

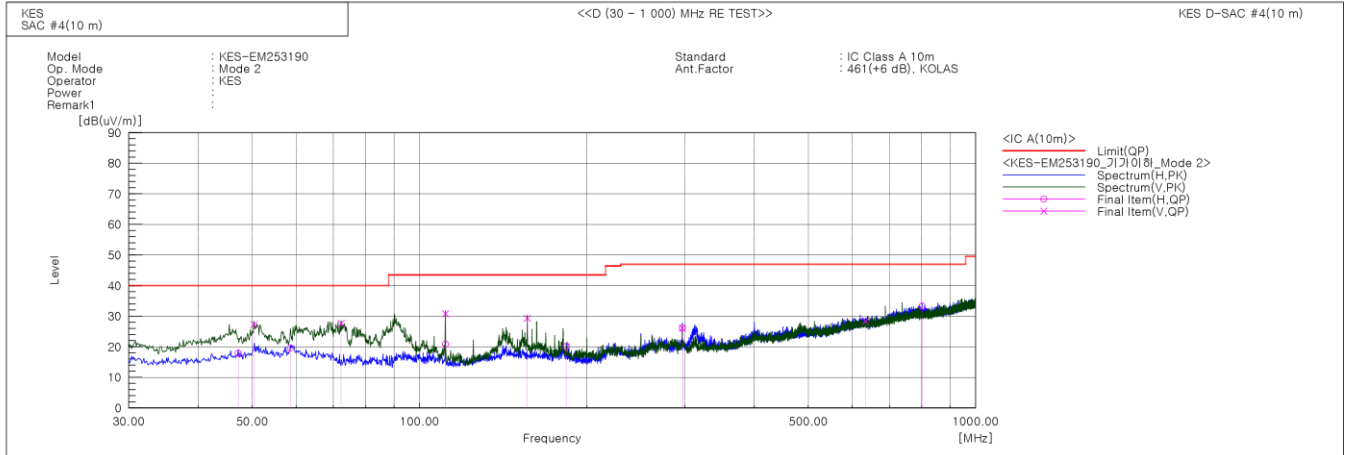
※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.



Report No. : KES-EM253190

Page 24 / 39

- Test Date : 2025-09-24
- Test Mode : Mode 2_IC



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	47.218	H	39.0	-21.1	17.9	40.0	22.1	294.0	265.0	
2	50.370	V	48.3	-21.0	27.3	40.0	12.7	107.0	143.0	
3	58.615	H	40.9	-21.3	19.6	40.0	20.4	326.0	34.0	
4	72.316	V	51.0	-23.4	27.6	40.0	12.4	167.0	168.0	
5	111.359	H	44.2	-23.4	20.8	43.5	22.7	355.0	168.0	
6	111.359	V	54.2	-23.4	30.8	43.5	12.7	158.0	81.0	
7	156.221	V	48.7	-19.4	29.3	43.5	14.2	113.0	212.0	
8	183.624	H	41.3	-21.2	20.1	43.5	23.4	312.0	176.0	
9	296.993	H	43.3	-17.2	26.1	47.0	20.9	351.0	290.0	
10	296.993	V	43.3	-17.2	26.1	47.0	20.9	125.0	120.0	
11	633.461	V	34.6	-6.3	28.3	47.0	18.7	130.0	285.0	
12	801.029	H	37.0	-3.7	33.3	47.0	13.7	376.0	237.0	

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

6.2.6 Remark

Complies with the test requirements.



6.3 Radiated Emissions(Above 1 GHz)

6.3.1 Test Equipment

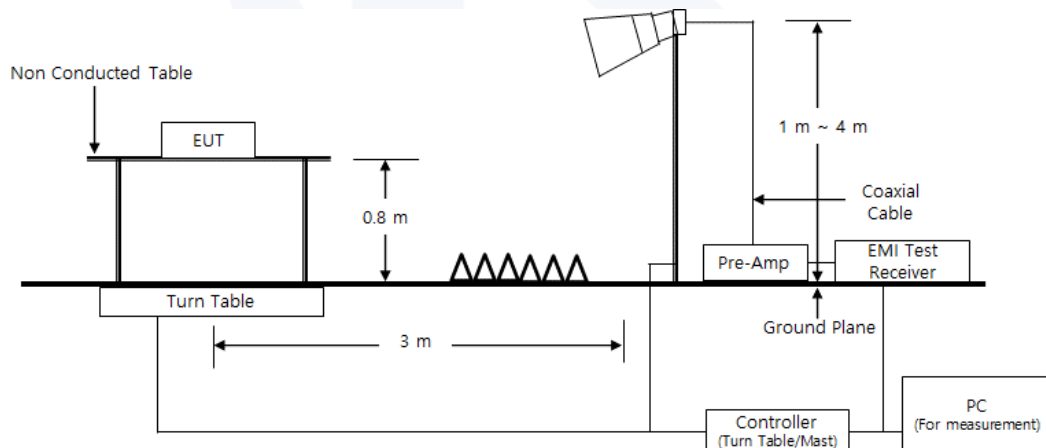
Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #5	-	SY Corporation	-	-	-	■
ES10/RE Software	ES10/RE	TOYO	2022.01.000	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	2025-02-13	2026-02-13	■
PREAMPLIFIER	8449B	HP	3008A00538	2025-04-30	2026-04-30	■
ATTENUATOR	8491B	HP	23094	2025-02-13	2026-02-13	■
HORN ANTENNA	BBHA 9120D	SCHWARZBEC K	9120D-1802	2024-11-04	2025-11-04	■

6.3.2 Test Location : SEMI ANECHOIC CHAMBER #5

6.3.3 Test Conditions :

Temperature	Relative Humidity
(24.3 ~ 24.5) °C	(57.1 ~ 57.3) % R.H.

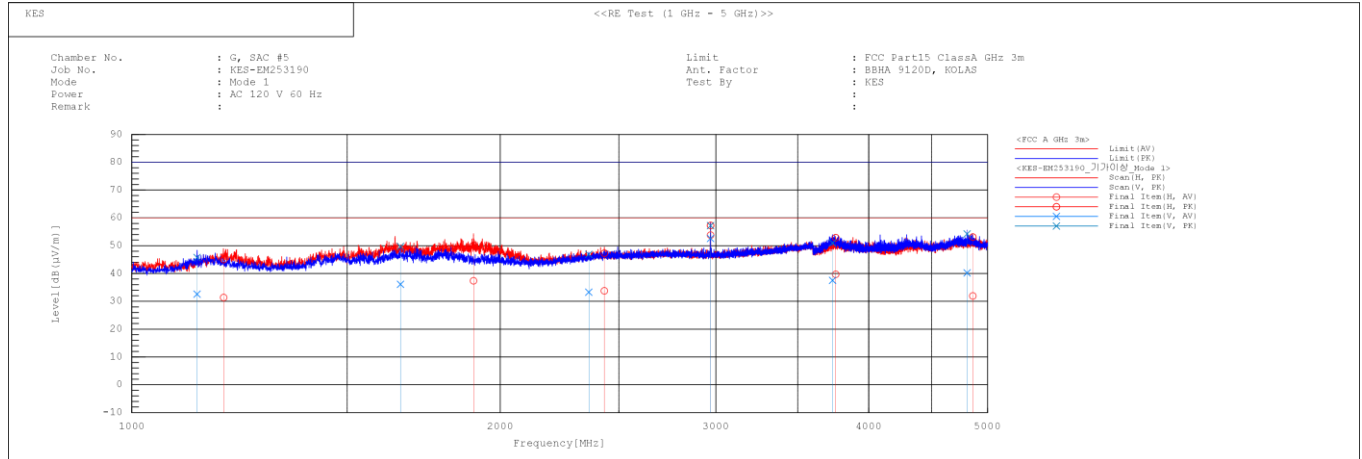
6.3.4 Diagram of test setup





6.3.5 Test Result

- Test Date : 2025-09-24
- 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]	Height [cm]	Angle [deg]
1	1130.781	V	33.5	46.6	-0.9	32.6	45.7	60.0	80.0	27.4	34.3	100.0	204.3
2	1188.762	H	32.0	45.6	-0.6	31.4	45.0	60.0	80.0	28.6	35.0	310.0	323.3
3	1658.128	V	34.3	47.9	1.8	36.1	49.7	60.0	80.0	23.9	30.3	111.0	192.6
4	1901.565	H	34.8	47.5	2.6	37.4	50.1	60.0	80.0	22.6	29.9	253.0	336.0
5	2362.742	V	28.6	42.2	4.7	33.3	46.9	60.0	80.0	26.7	33.1	124.0	141.6
6	2432.163	H	28.8	42.3	5.0	33.8	47.3	60.0	80.0	26.2	32.7	214.0	161.2
7	2969.976	H	47.3	50.8	6.5	53.8	57.3	60.0	80.0	6.2	22.7	277.0	167.3
8	2969.969	V	46.1	50.7	6.5	52.6	57.2	60.0	80.0	7.4	22.8	120.0	278.5
9	3735.983	V	29.4	42.9	8.1	37.5	51.0	60.0	80.0	22.5	29.0	139.0	198.9
10	3757.842	H	31.6	44.8	8.1	39.7	52.9	60.0	80.0	20.3	27.1	317.0	208.0
11	4812.193	V	28.5	42.5	11.7	40.2	54.2	60.0	80.0	19.8	25.8	102.0	196.9
12	4864.028	H	20.0	41.2	11.9	31.9	53.1	60.0	80.0	28.1	26.9	296.0	200.5

※ 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.



○ Test Date : 2025-09-24

● Test Mode : Mode 1

PK									
Frequency (MHz)	Reading PK (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 618.807	39.900	V	1.000	32.300	8.820	33.880	47.140	80.000	32.860
6 873.488	39.800	H	1.000	35.690	9.970	34.700	50.760	80.000	29.240
10 483.678	39.200	V	1.000	40.060	12.540	31.300	60.500	80.000	19.500
10 929.205	39.500	H	1.000	39.800	12.760	32.900	59.160	80.000	20.840
CISPR AV									
Frequency (MHz)	Reading CISPR AV (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 709.800	26.900	H	1.000	32.680	8.870	33.780	34.670	60.000	25.330
6 916.200	27.300	V	1.000	35.900	9.970	34.690	38.480	60.000	21.520
9 994.600	27.300	H	1.000	39.790	12.030	34.290	44.830	60.000	15.170
10 913.700	30.100	V	1.000	39.800	12.750	32.840	49.810	60.000	10.190

※ No spurious emission were detected above 15 GHz

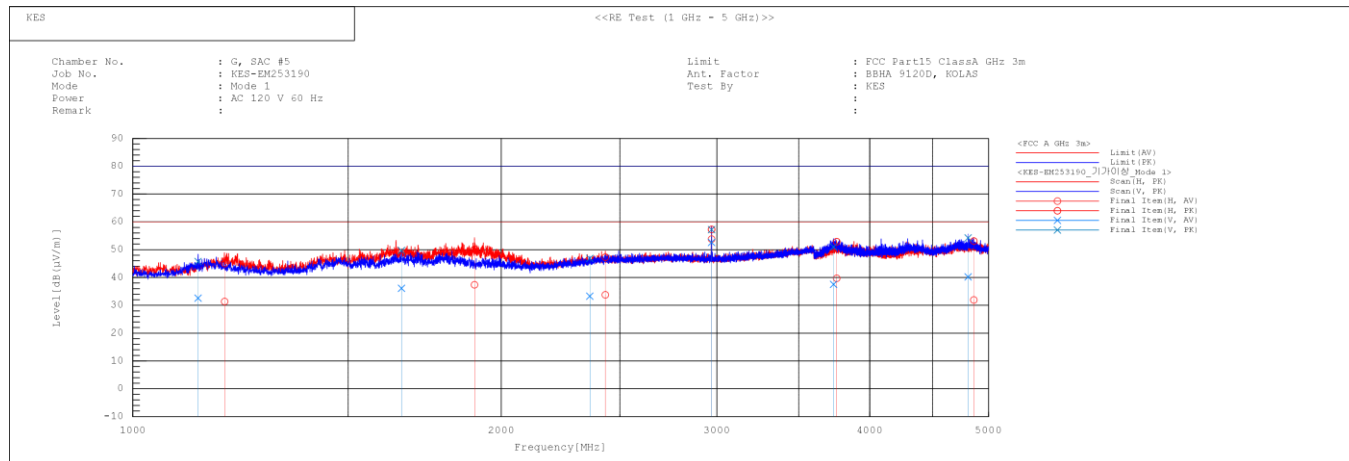


Report No. : KES-EM253190

Page 28 / 39

○ Test Date : 2025-09-24

● Test Mode : 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]
1	1130.781	V	33.5	46.6	-0.9	32.6	45.7	60.0	80.0	27.4	34.3	100.0	204.3
2	1188.762	H	32.0	45.6	-0.6	31.4	45.0	60.0	80.0	28.6	35.0	310.0	323.3
3	1658.128	V	34.3	47.9	1.8	36.1	49.7	60.0	80.0	23.9	30.3	111.0	192.6
4	1901.565	H	34.8	47.5	2.6	37.4	50.1	60.0	80.0	22.6	29.9	253.0	336.0
5	2362.742	V	28.6	42.2	4.7	33.3	46.9	60.0	80.0	26.7	33.1	124.0	141.6
6	2432.163	H	28.8	42.3	5.0	33.8	47.3	60.0	80.0	26.2	32.7	214.0	161.2
7	2969.976	H	47.3	50.8	6.5	53.8	57.3	60.0	80.0	6.2	22.7	277.0	167.3
8	2969.969	V	46.1	50.7	6.5	52.6	57.2	60.0	80.0	7.4	22.8	120.0	278.5
9	3735.983	V	29.4	42.9	8.1	37.5	51.0	60.0	80.0	22.5	29.0	139.0	198.9
10	3757.842	H	31.6	44.8	8.1	39.7	52.9	60.0	80.0	20.3	27.1	317.0	208.0
11	4812.193	V	28.5	42.5	11.7	40.2	54.2	60.0	80.0	19.8	25.8	102.0	196.9
12	4864.028	H	20.0	41.2	11.9	31.9	53.1	60.0	80.0	28.1	26.9	296.0	200.5

※ 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.



○ Test Date : 2025-09-24

● Test Mode : Mode 2

PK									
Frequency (MHz)	Reading PK (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 618.807	40.100	V	1.000	32.300	8.820	33.880	47.340	80.000	32.660
6 873.488	39.600	H	1.000	35.690	9.970	34.700	50.560	80.000	29.440
10 483.678	38.700	V	1.000	40.060	12.540	31.300	60.000	80.000	20.000
10 929.205	40.600	H	1.000	39.800	12.760	32.900	60.260	80.000	19.740
CISPR AV									
Frequency (MHz)	Reading CISPR AV (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 646.100	26.200	H	1.000	32.410	8.840	33.850	33.600	60.000	26.400
6 940.900	28.600	V	1.000	36.020	9.970	34.670	39.920	60.000	20.080
8 850.600	27.800	H	1.000	37.930	11.780	34.200	43.310	60.000	16.690
11 670.300	25.700	V	1.000	39.460	13.520	30.560	48.120	60.000	11.880

※ No spurious emission were detected above 15 GHz

6.3.6 Remark

Complies with the test requirements.



7 Test Setup Photos and EUT Photographs

7.1 Test Setup Photos



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



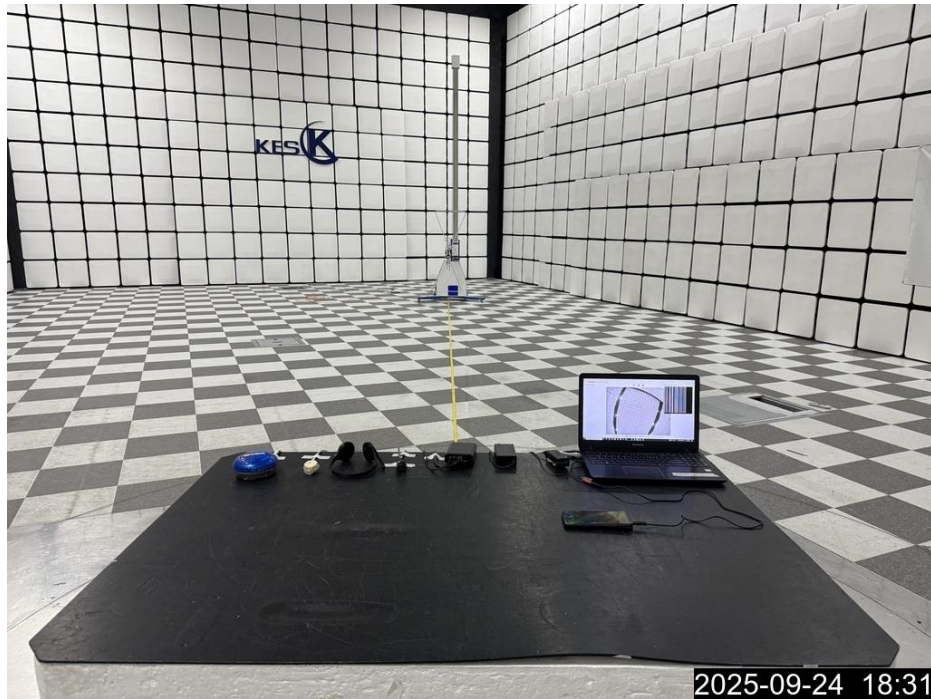
<Conducted Emissions at Mains Power Ports - Rear> Mode 1



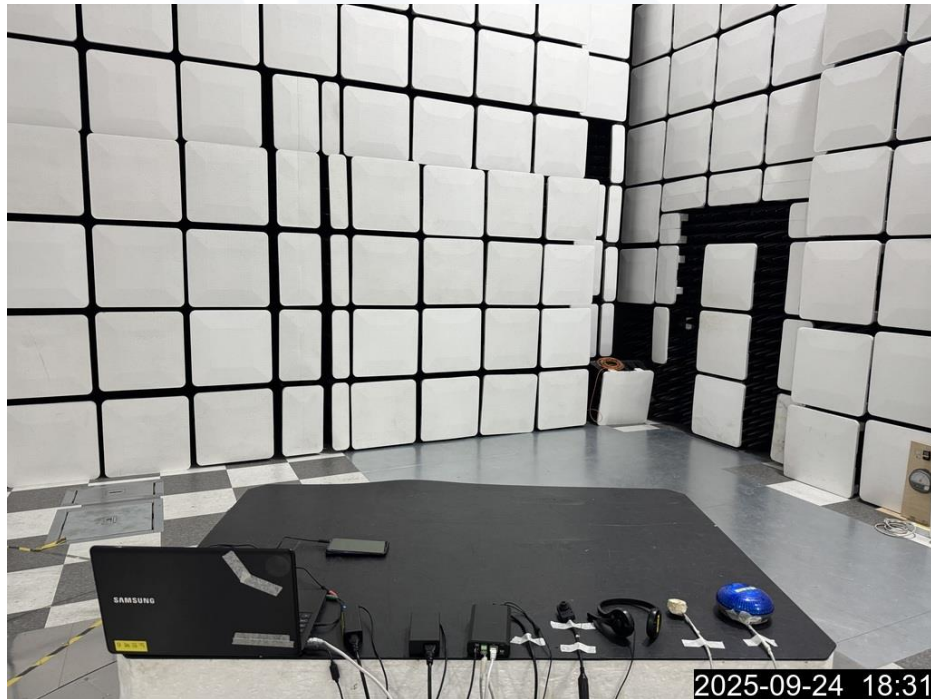
<Conducted Emissions at Mains Power Ports - Front> Mode 2



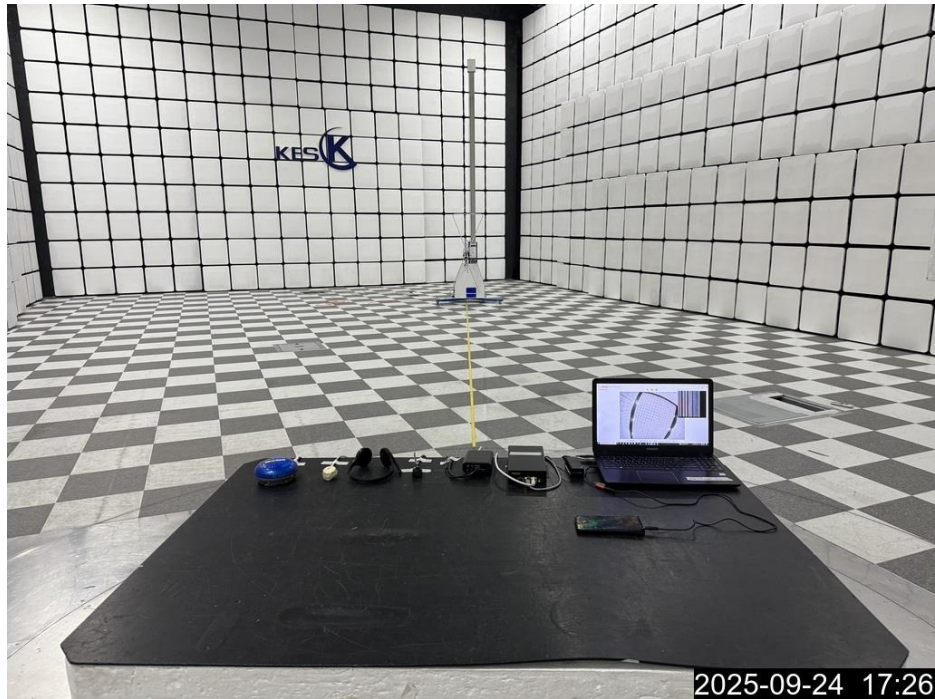
<Conducted Emissions at Mains Power Ports - Rear> Mode 2



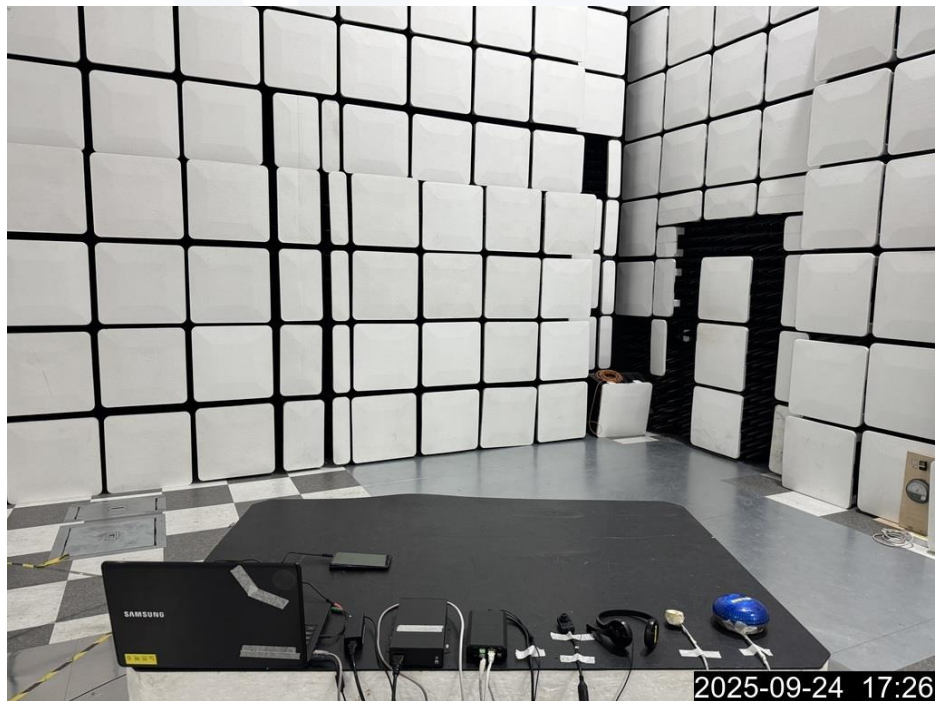
<Radiated Emissions(Below 1 GHz) - Front> Mode 1



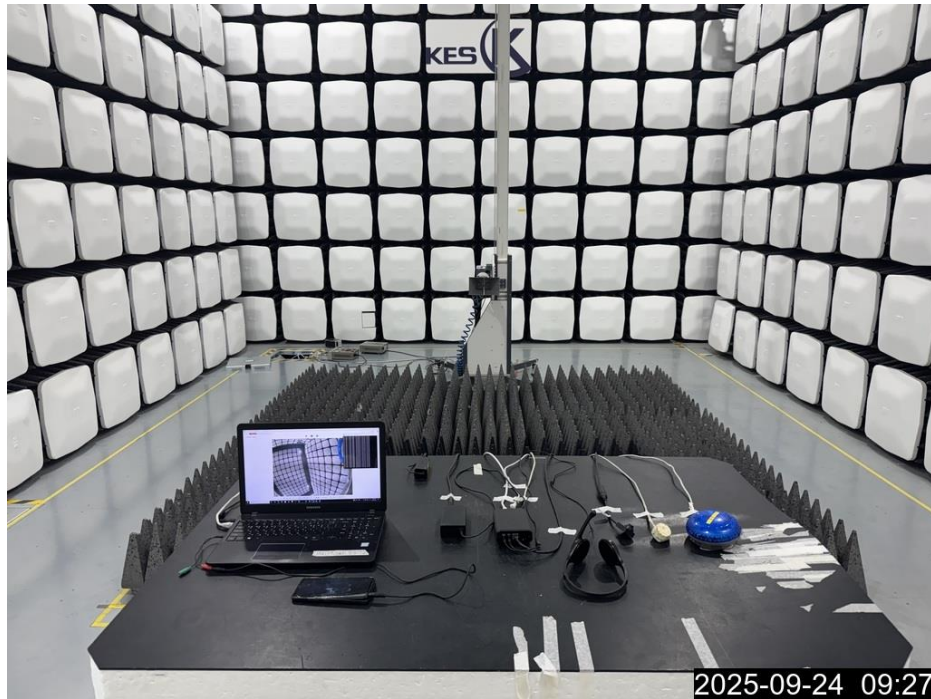
<Radiated Emissions(Below 1 GHz) - Rear> Mode 1



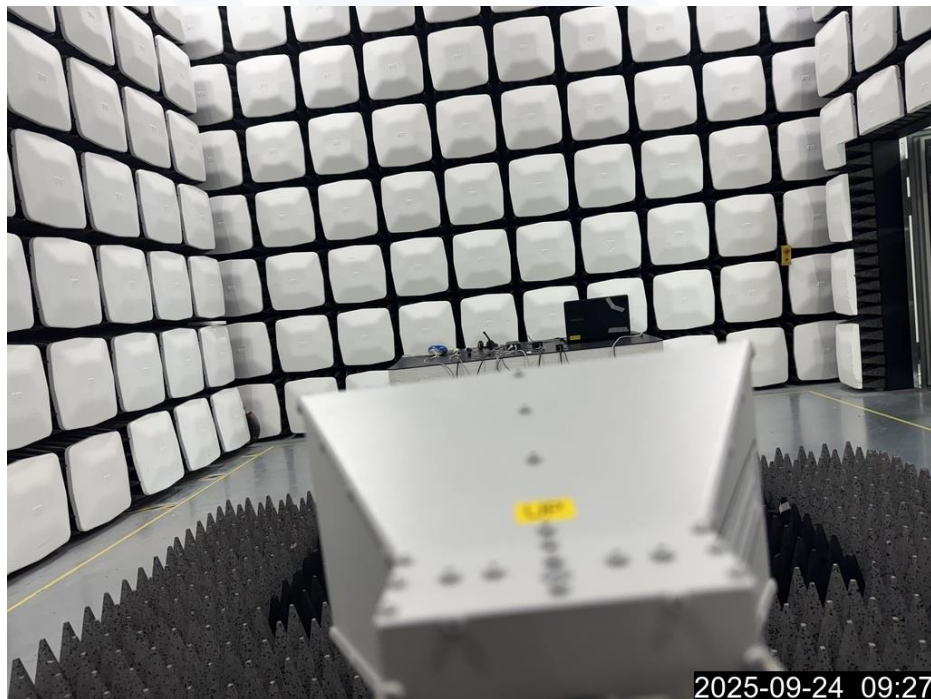
<Radiated Emissions(Below 1 GHz) - Front> Mode 2



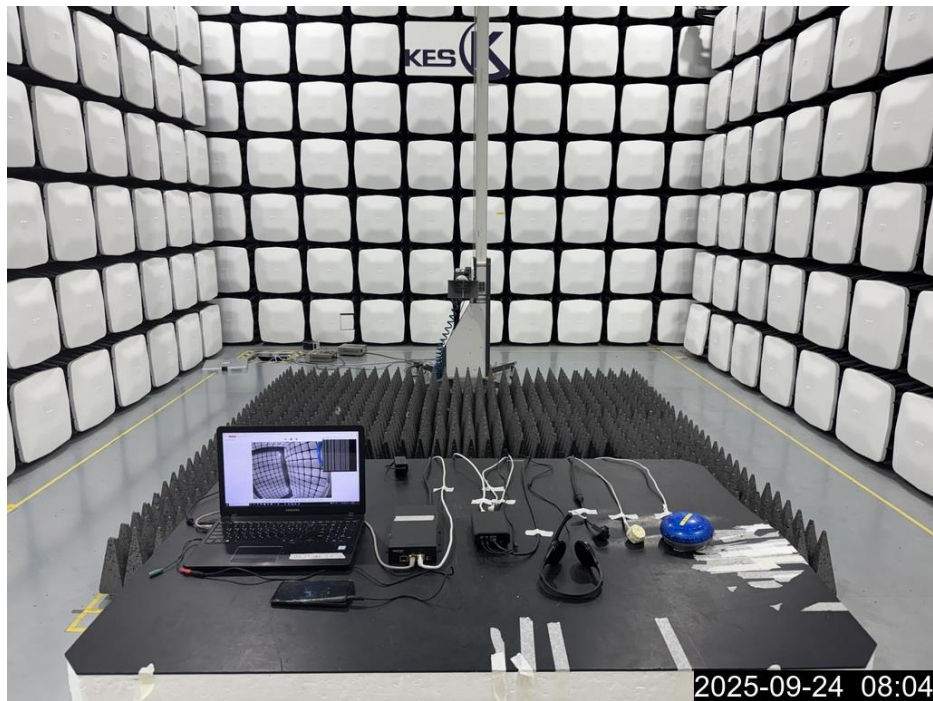
<Radiated Emissions(Below 1 GHz) - Rear> Mode 2



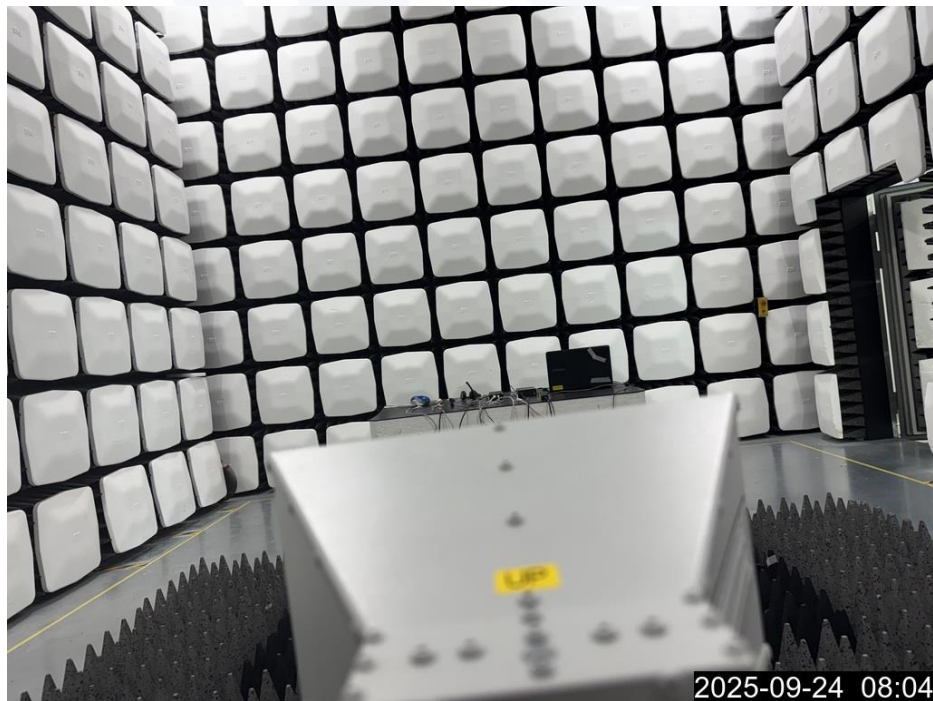
<Radiated Emissions(Above 1 GHz) - Front> Mode 1



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



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



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



7.2 EUT Photographs



<EUT External Photographs - Top>



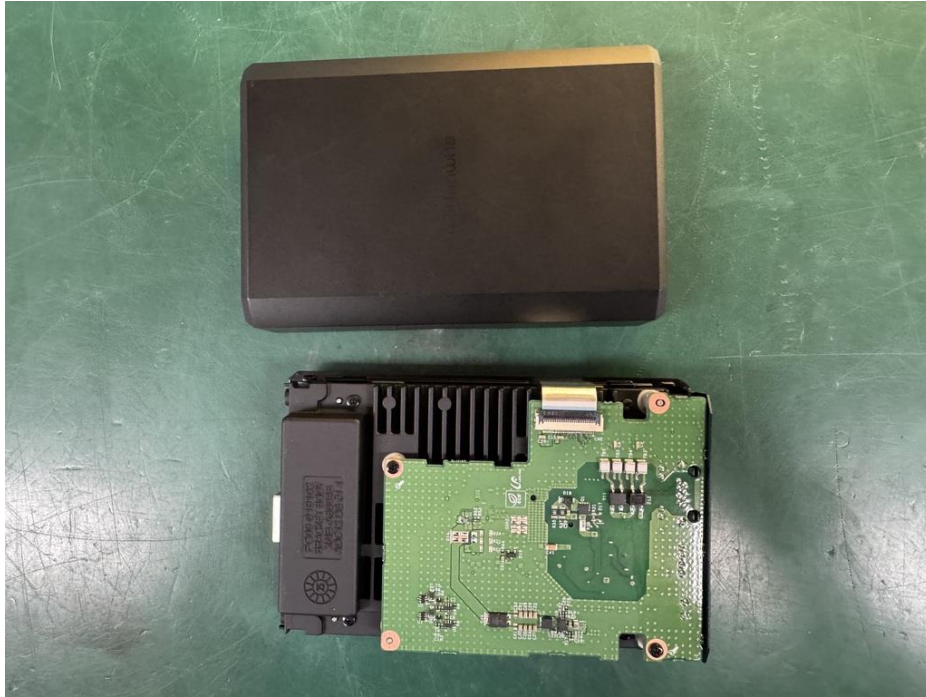
<EUT External Photographs - Bottom>



<Port-1>



<Port-2>



<EUT Internal Photographs>



7.3 Label

The above label is only an example. The specific format is left to the manufacturer to decide, as long as the label includes the required information, in accordance with ICES-Gen. The requirements specified in ICES-Gen shall apply. An example ISED compliance label, to be placed on each unit of an equipment model (or in the user manual, if allowed), is given below:

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

The End.

