



TEST REPORT



Report No. : KES-EM252067

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KES Co., Ltd.

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1. Client

Applicant : Hanwha Vision Co., Ltd

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

2. Sample Description

Product name : NETWORK CAMERA

Model/Type No. : XNB-A8004

Variant Model : -

Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone Extended Area, Nam Son Ward, Bac Ninh Province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do, Korea (Suwon Industrial Complex)

3. Date of Receipt : Jun. 09, 2025

4. Test date : Jul. 16, 2025 ~ Jul. 18, 2025

5. Date of Issue : Aug. 19, 2025

6. Test Results : In Compliance

Tested by

Reviewed by

Seong Jun, Park
EMC Test Engineer

Dong Hun, Jang
EMC Technical Manager

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

KES-QP16-F01(00-23-01-01)

KES Co., Ltd.

The authenticity of this test report can be found on the verification page of our website (www.kes.co.kr)



REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Aug. 19, 2025	KES-EM252067	Issued

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1.0 General Product Description

Main Specifications of EUT are:

		XNB-A8004
Video		
Imaging Device	Size	1/2.8"
	Type	CMOS
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	USB: Micro USB Type C	
Lens		
Focus Control	Simple focus	
Lens Type	DC auto iris, P iris(IR corrected), Manual, I-CS	
Mount Type	C mount, CS mount	
Operational		
Day & Night	Auto(ICR)	
Backlight Compensation	BLC, HLC, WDR, SDR	
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(Fill/stretch mode)	
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	2~1/30,000sec
Video Rotation	Flip, Mirror, Hallway view(90°/270°)	
Serial Interface	RS-485(Samsung-T, Pelco-D/P, Panasonic, Bosch, AD, GE, Vicon, Honeywell)	
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, SIP: call generation	
Audio In	Selectable(mic in/line in), Built-in mic	
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(Littering/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(PCMU): 8KHz(64kpbs), G.726(ADPCM): 8KHz(16/24/32/40kpbs), AAC-LC: 16kHZ(48kpbs), OPUS: 48kHZ(64kpbs)
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, RTPTCP, RTSP, 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), SIP, Syslog
SIP support (VoIP, Peer-to-peer, SIP/PBX integration)		Tested with Cisco, Grandstream, Yealink VoIP phones and Asterisk PBX software
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
	OnCloud(미사용 항목)	OnCloud edge recording, compatible with Hanwha SD cards up to 1TB
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, 802.1AE(MACsec)
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/RPS 140-3 level3, CC EAL6+, ETSI EN 303 645, IEC 62443-4-1

General		
Memory	RAM	4GB
	Flash	8GB eMMC
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 2slot(Total 2TB)
	SSD	None
Environmental & Electrical		
Operating Condition	Temperature	-10°C~+55°C(+14°F~+131°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	Max. 8.9W, typical 7.5W
Power Consumption	PoE	Max. 8.1W, typical 6.7W
Wisepower	12VDC	Power monitoring, ECO mode
Power Redundance Fallback		Support
Mechanical		
Color		Black
Material		Aluminum
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		81(W)x67(H)x165(D)(mm)(3.19x2.64x6.48")
Product Weight		851g(1.88lb)
Certifications & Standards		
EMC		FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3, VCCI CISPR 32 Class A, RCM AS-N25 CISPR 32 Class A, KS C 9832 Class A, KS C 9835
Safety		UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC 62471
Environment		IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78



1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

☒ AC 120 V, 60 Hz ☒ AC 120 V, 60 Hz (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
NETWORK CAMERA	XNB-A8004	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Adapter	FSP060-DIBAN2	-	FSP GROUP INC.	-
PoE Injector	PT-PSE106GBR-AH-S	-	Dongguan PROCET Network Technology Co., Ltd	-
Notebook	NT500R5W	-	Samsung Eelcotronics Co., Ltd.	-
Notebook Adapter	PA-1400-96	-	LITE-ON TECHNOLOGY CHANGZHOU CO.,LTD	-
Micro SD Card 1	-	-	SanDisk	-
Micro SD Card 2	-	-	SanDisk	-
LED Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Earphone	-	-	-	-
Smartphone	SM-N950N	-	Samsung Eelcotronics Co., Ltd.	-
Controller	SPC-1010	-	SamSung Techwin Co.,Ltd.	-



1.6 External I/O Cabling

■mode 1

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	2 Pin	Adapter	2 Pin	1.6	U
	Micro SD Card Slot	Micro SD Card 1	Micro SD Card Slot	-	-
	Micro SD Card Slot	Micro SD Card 2	Micro SD Card Slot	-	-
	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	3.1	U
	Alarm IN (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	RS-485 (2 PIN)	Controller	2 Pin	3.1	U
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
	Ground	Ground	Ground	1.5	-
Notebook	DC Jack	Notebook Adapter	DC Jack	1.6	U

* Unshielded=U, Shielded=S

■mode 2

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45 (PoE)	PoE Injector	RJ-45 (PoE)	3.1	U
	Micro SD Card Slot	Micro SD Card 1	Micro SD Card Slot	-	-
	Micro SD Card Slot	Micro SD Card 2	Micro SD Card Slot	-	-
	Alarm IN (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	RS-485 (2 PIN)	Controller	2 Pin	3.1	U
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
	Ground	Ground	Ground	1.5	-
Notebook	DC Jack	Notebook Adapter	DC Jack	1.6	U

* Unshielded=U, Shielded=S



1.7 EUT Operating Mode(s)

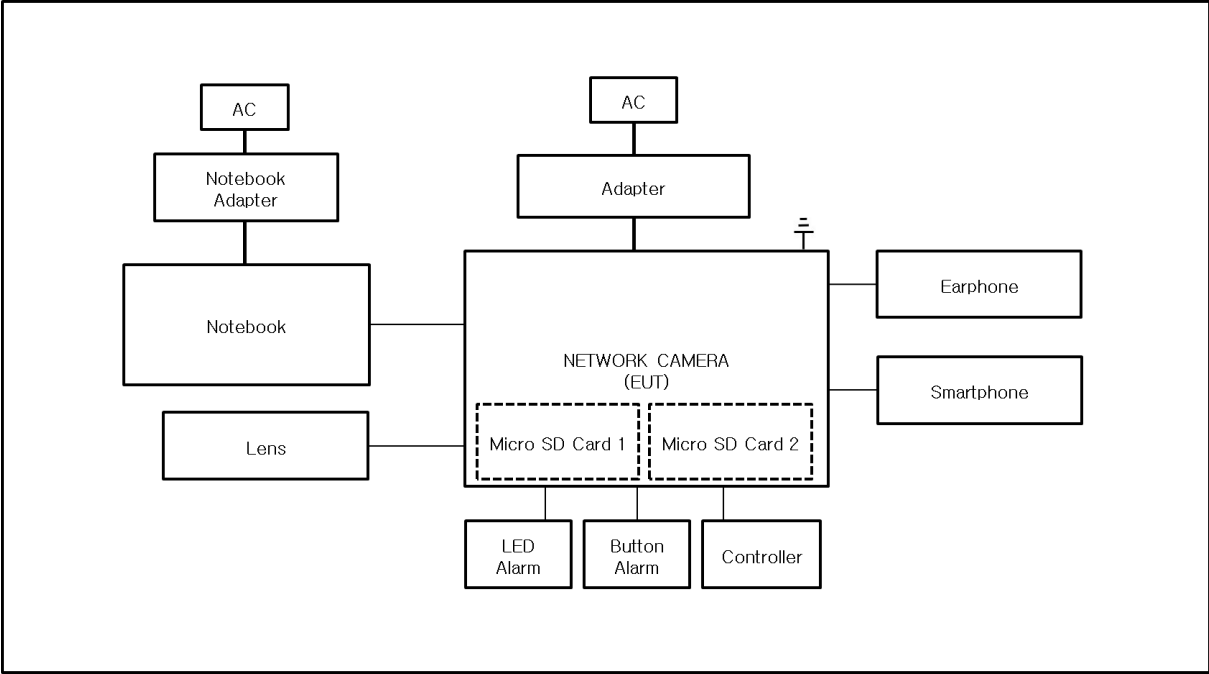
Test mode		Normal operating
mode 1	Adapter	- IP from the test equipment to the laptop was tested by Ping Test on the laptop. - The test was conducted by checking whether the camera image was output normally in the Web Viewer. - After the test, I checked whether the video was recorded normally on the Micro SD Card.
mode 2	PoE	

EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	HANWHA VISION VIETNAM COMPANY LIMITED

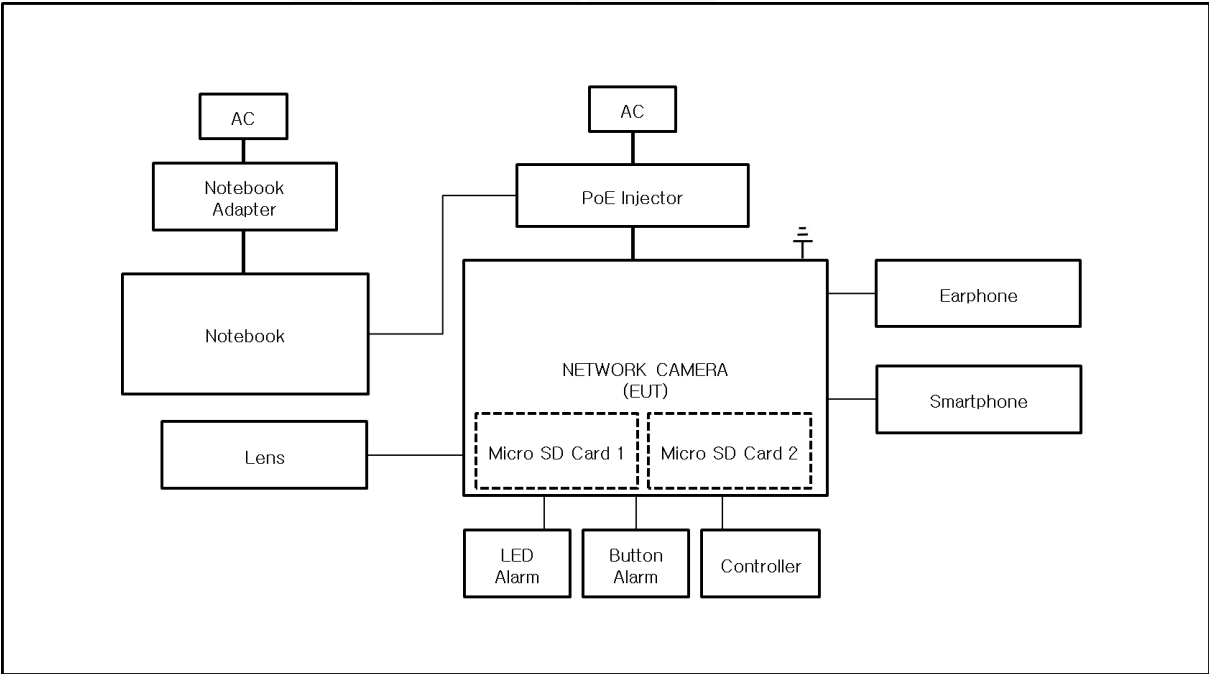


1.8 Configuration

mode 1



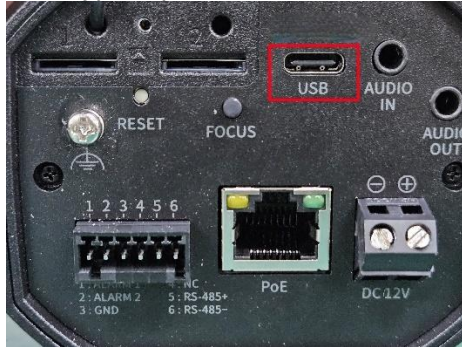
mode 2





1.9 Remarks when standards applied

USB Type-C ports are not used and have not been tested.



1.10 Calibration Details of Equipment Used for Measurement

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

1.11 Test Facility

The measurement facility is located at 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Korea, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.12 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 C63.4-2014 7.3.3, 7.3.4, 8.3.1.1, 8.3.1.2, 8.3.2.1, 8.3.2.2

**1.13 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:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17

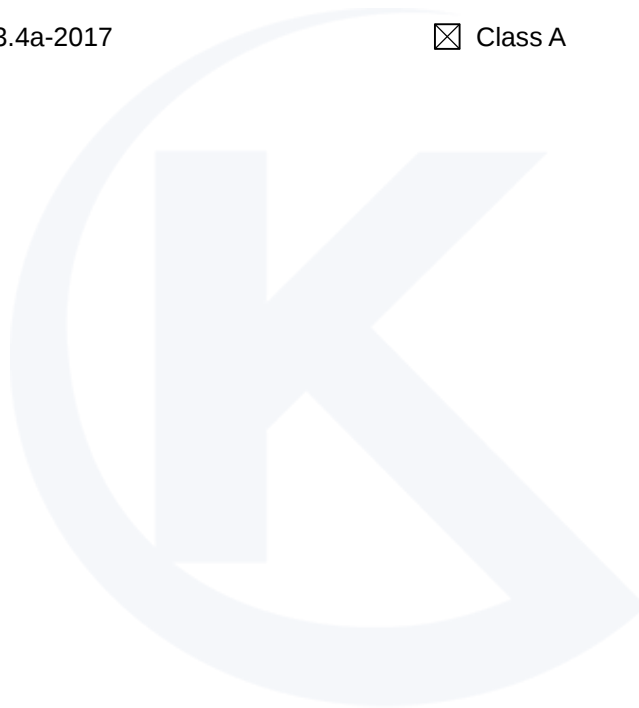
☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B





2.1 Conducted Emissions at Mains Power Ports

Test Date

Jul. 17, 2025

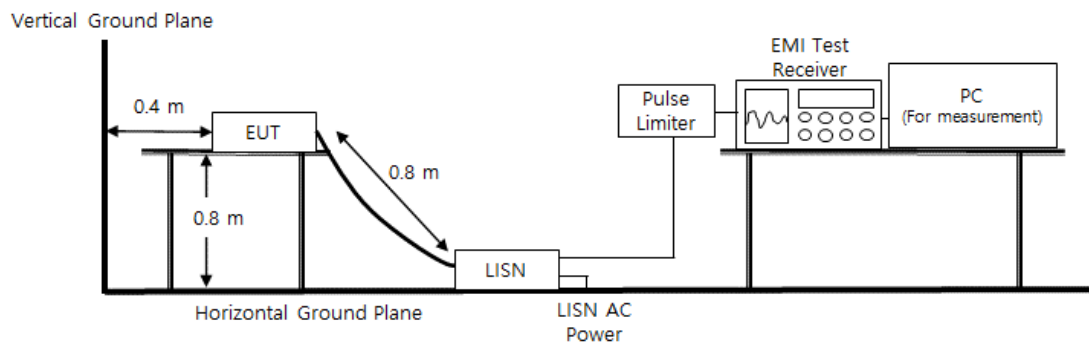
Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	EMC32	R & S	9.12.00	-	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	11, 06, 2025	1 Year
☒	LISN	ENV216	R & S	101786	01, 09, 2026	1 Year
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025	1 Year
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025	1 Year

Diagram of test setup





Test Conditions

Temperature: (23,8 ± 0,1) °C
Relative Humidity: (46,2 ± 0,1) % R.H.

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

Remarks

See Appendix A for test data.





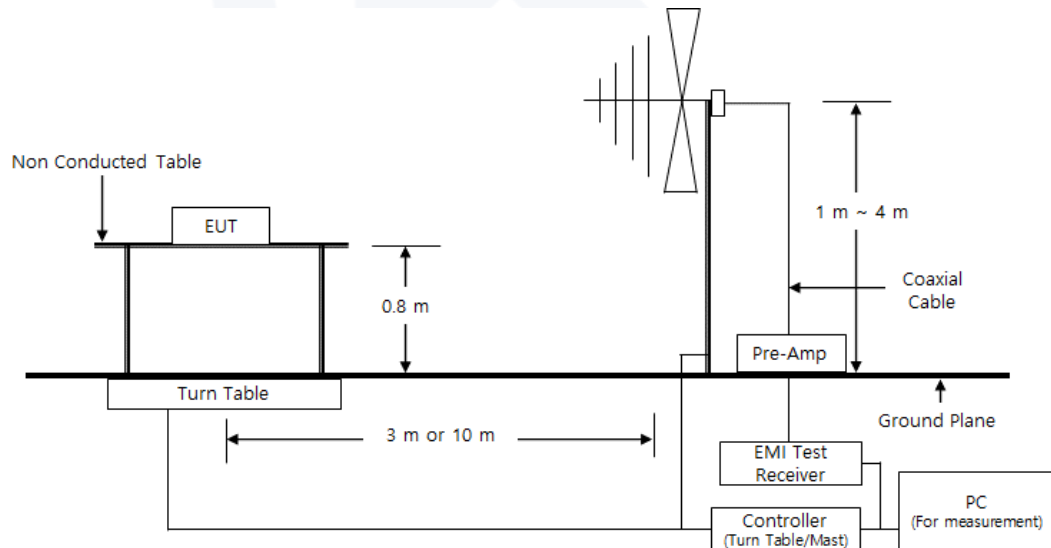
2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jul. 16, 2025

Test Location☐ OPEN AREA TEST SITE #2☒ SEMI ANECHOIC CHAMBER #4(10m)**Test Equipment**

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-	-
☒	EMI TEST RECEIVER	ESW8	R & S	101319	03, 24, 2026	1 Year
☒	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025	1 Year
☒	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026	2 Year
☒	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026	1 Year

Diagram of test setup



Test Conditions

Temperature: (24,0 ± 0,1) °C
Relative Humidity: (47,5 ± 0,1) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

Remarks

See Appendix A for test data.





2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 18, 2025

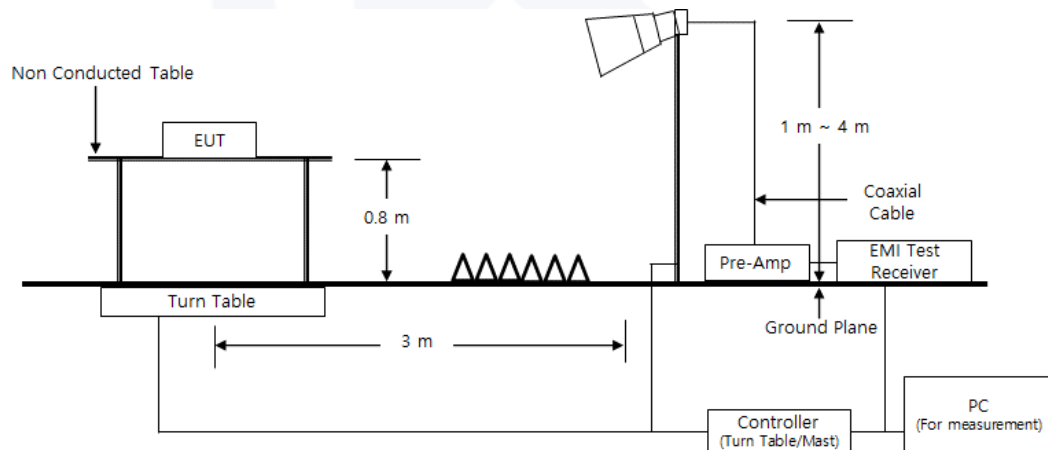
Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	02, 13, 2026	1 Year
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 04, 2025	1 Year
☒	PREAMPLIFIER	8449B	HP	3008A00899	03, 05, 2026	1 Year
☒	ATTENUATOR	8491B	HP	23094	02, 13, 2026	1 Year

Diagram of test setup





Test Conditions

Temperature: (23,5 ± 0,1)°C
Relative Humidity: (46,6 ± 0,1) % R.H.

Frequency Range of Measurement

1 GHz to 8 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

Remarks

- See Appendix A for test data.
- The Average of the test data is the cispr average result.



APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

■mode 1

HOT LINE

Test Description:

Conducted Emission

Job No.:

KES-EM252067

Phase:

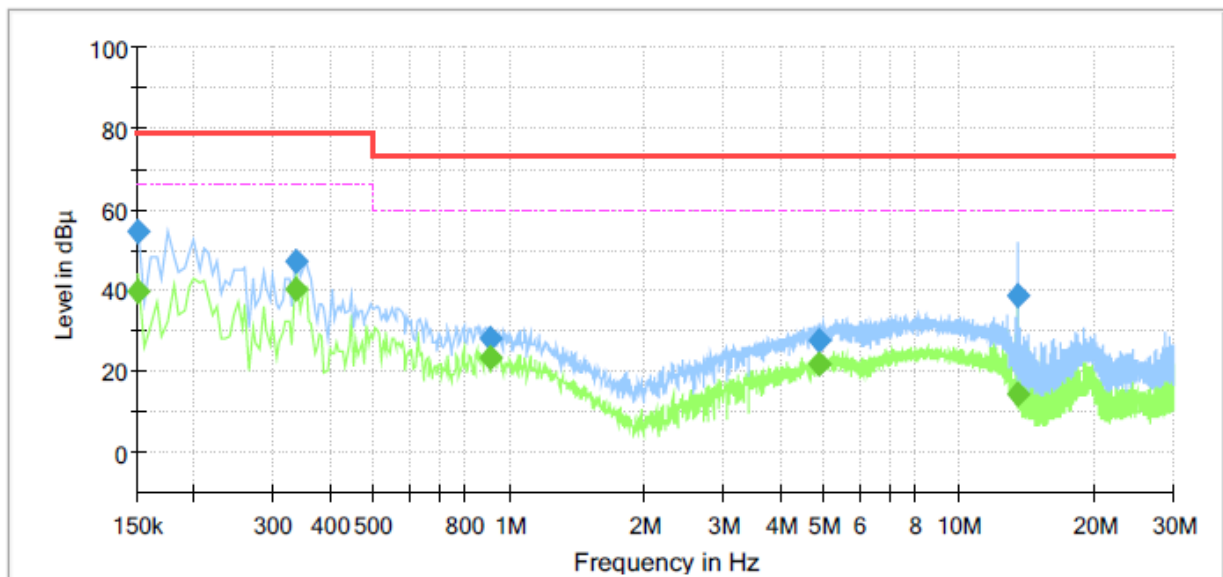
L

Mode:

Mode 1

Operator Name:

KES

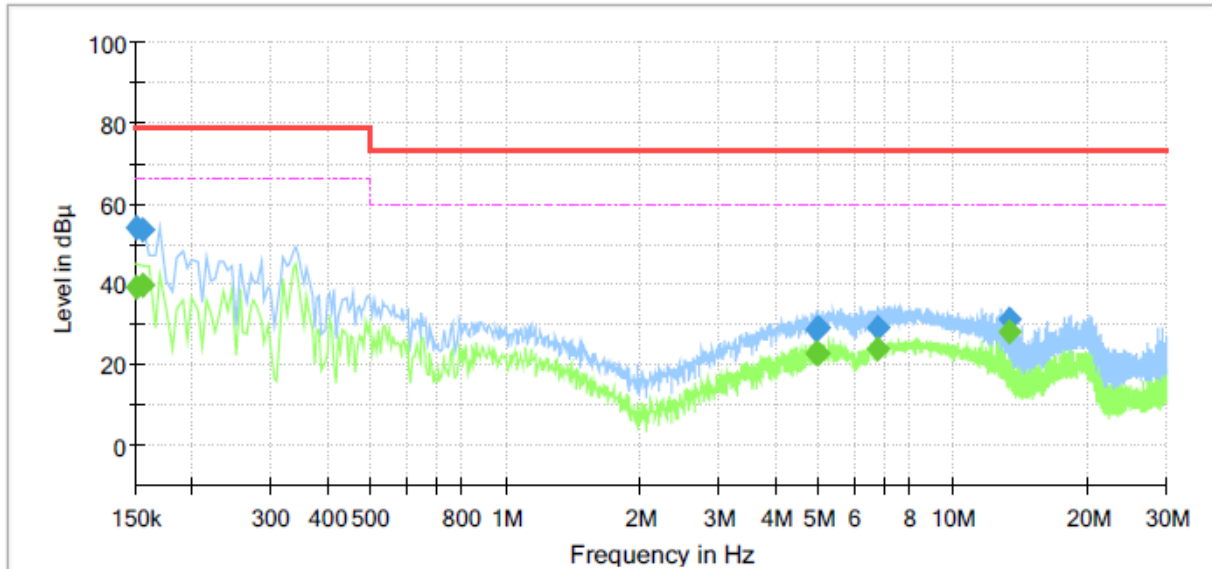


Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	39.53	66.00	26.47	1000.0	9.000	L1	19.5
0.150000	54.78	---	79.00	24.22	1000.0	9.000	L1	19.5
0.335000	---	40.33	66.00	25.67	1000.0	9.000	L1	19.6
0.335000	47.14	---	79.00	31.86	1000.0	9.000	L1	19.6
0.905000	---	23.39	60.00	36.61	1000.0	9.000	L1	19.6
0.905000	27.83	---	73.00	45.17	1000.0	9.000	L1	19.6
4.900000	---	21.81	60.00	38.19	1000.0	9.000	L1	19.9
4.900000	27.38	---	73.00	45.62	1000.0	9.000	L1	19.9
13.560000	---	14.10	60.00	45.90	1000.0	9.000	L1	20.2
13.560000	38.68	---	73.00	34.32	1000.0	9.000	L1	20.2



Test Description: NEUTRAL LINE
Job No.: Conducted Emission
Phase: KES-EM252067
Mode: N
Operator Name: Mode 1
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)
0.150000	---	39.32	66.00	26.68	1000.0	9.000	N	19.5
0.150000	53.98	---	79.00	25.02	1000.0	9.000	N	19.5
0.155000	---	39.88	66.00	26.12	1000.0	9.000	N	19.5
0.155000	53.53	---	79.00	25.47	1000.0	9.000	N	19.5
4.920000	---	22.78	60.00	37.22	1000.0	9.000	N	19.9
4.920000	28.57	---	73.00	44.43	1000.0	9.000	N	19.9
5.020000	---	22.93	60.00	37.07	1000.0	9.000	N	19.9
5.020000	28.95	---	73.00	44.05	1000.0	9.000	N	19.9
6.815000	---	23.75	60.00	36.25	1000.0	9.000	N	20.0
6.815000	29.31	---	73.00	43.69	1000.0	9.000	N	20.0
13.360000	---	28.00	60.00	32.00	1000.0	9.000	N	20.2
13.360000	31.48	---	73.00	41.52	1000.0	9.000	N	20.2



■mode 2

HOT LINE

Test Description:

Job No.:

Phase:

Mode:

Operator Name:

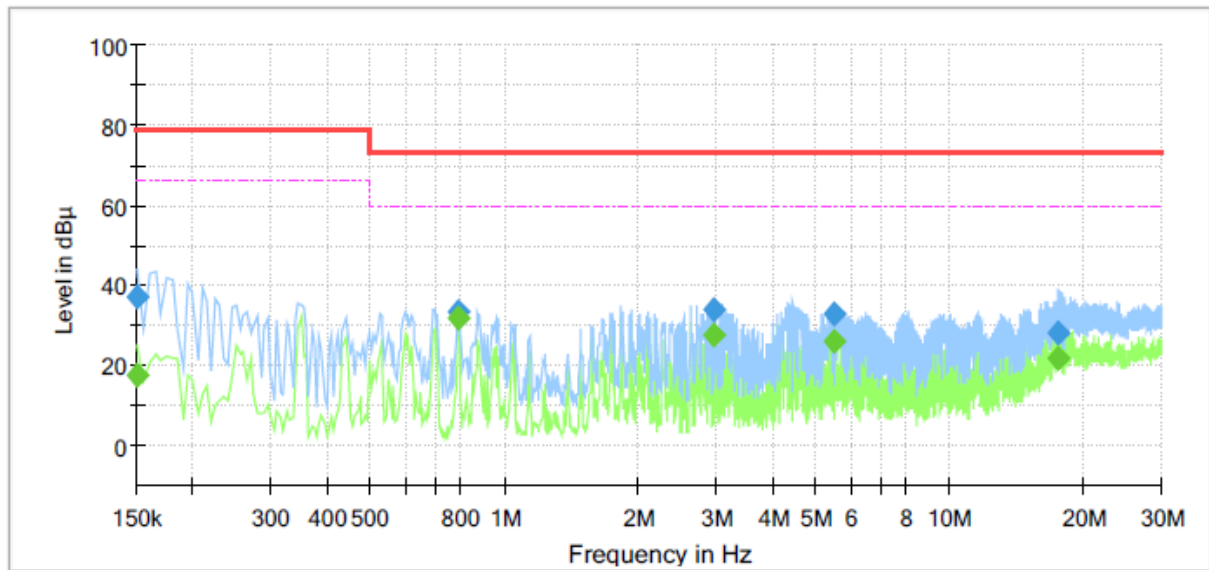
Conducted Emission

KES-EM252067

L

Mode 2

KES



Final_Result

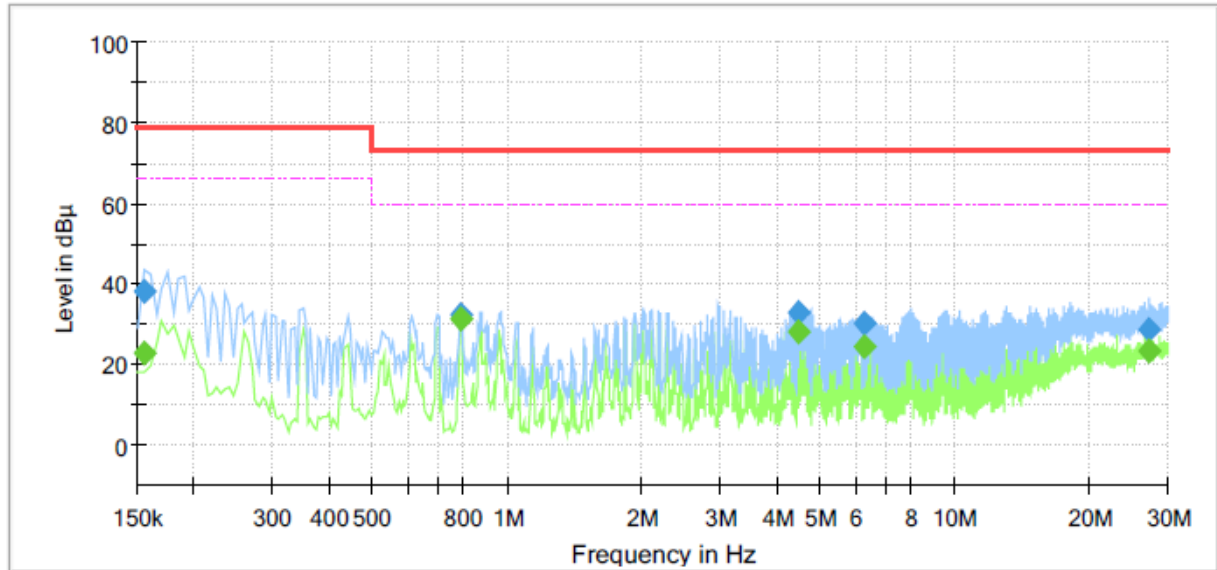
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	17.73	66.00	48.27	1000.0	9.000	L1	19.5
0.150000	37.03	---	79.00	41.97	1000.0	9.000	L1	19.5
0.790000	---	31.83	60.00	28.17	1000.0	9.000	L1	19.6
0.790000	33.18	---	73.00	39.82	1000.0	9.000	L1	19.6
2.970000	---	27.80	60.00	32.20	1000.0	9.000	L1	19.7
2.970000	33.75	---	73.00	39.25	1000.0	9.000	L1	19.7
5.500000	---	26.09	60.00	33.91	1000.0	9.000	L1	19.9
5.500000	32.72	---	73.00	40.28	1000.0	9.000	L1	19.9
17.600000	---	21.79	60.00	38.21	1000.0	9.000	L1	20.3
17.600000	27.99	---	73.00	45.01	1000.0	9.000	L1	20.3



NEUTRAL LINE

Test Description:
Job No.:
Phase:
Mode:
Operator Name:

Conducted Emission
KES-EM252067
N
Mode 2
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)
0.155000	---	22.82	66.00	43.18	1000.0	9.000	N	19.5
0.155000	37.98	---	79.00	41.02	1000.0	9.000	N	19.5
0.790000	---	31.16	60.00	28.84	1000.0	9.000	N	19.6
0.790000	32.06	---	73.00	40.94	1000.0	9.000	N	19.6
4.460000	---	28.31	60.00	31.69	1000.0	9.000	N	19.8
4.460000	33.03	---	73.00	39.97	1000.0	9.000	N	19.8
6.295000	---	24.34	60.00	35.66	1000.0	9.000	N	19.9
6.295000	30.33	---	73.00	42.67	1000.0	9.000	N	19.9
27.275000	---	23.16	60.00	36.84	1000.0	9.000	N	20.5
27.275000	28.50	---	73.00	44.50	1000.0	9.000	N	20.5

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

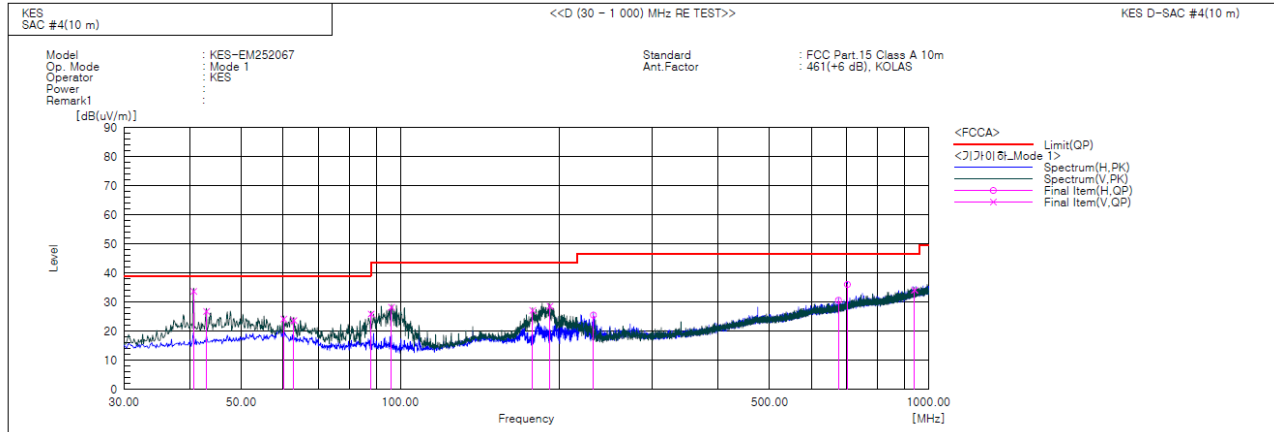
Reading Value : Not shown in the table.

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

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

■ mode 1

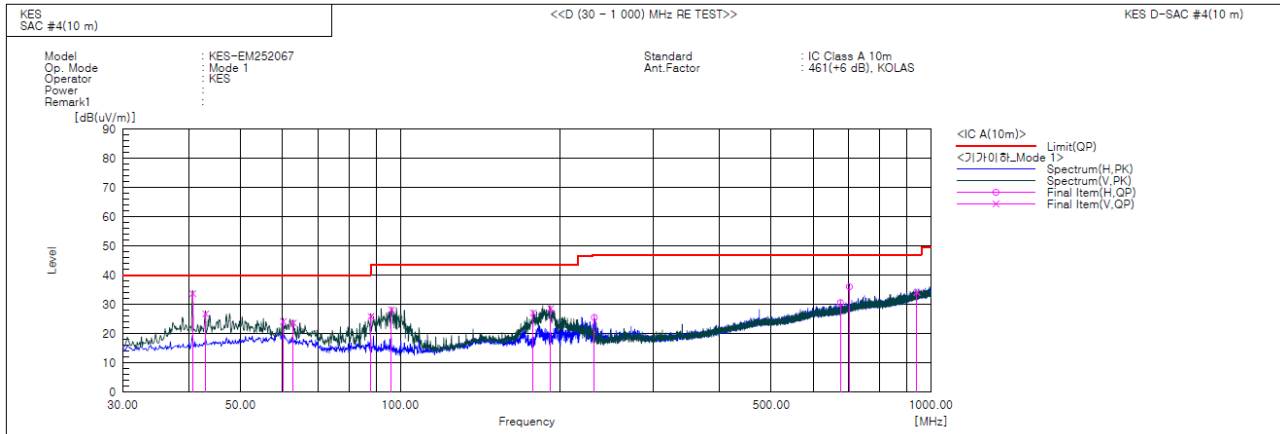
- 47 CFR Part 15, Subpart B

**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	40.670	V	55.5	-21.8	33.7	39.0	5.3	360.0	314.0	
2	42.974	V	48.3	-21.5	26.8	39.0	12.2	199.0	293.0	
3	60.191	V	45.5	-21.3	24.2	39.0	14.8	112.0	85.0	
4	62.859	V	45.3	-21.6	23.7	39.0	15.3	189.0	89.0	
5	88.079	V	52.0	-26.1	25.9	43.5	17.6	201.0	58.0	
6	96.203	V	53.7	-25.5	28.2	43.5	15.3	128.0	85.0	
7	178.046	V	47.7	-20.6	27.1	43.5	16.4	103.0	345.0	
8	191.990	V	50.3	-21.7	28.6	43.5	14.9	190.0	356.0	
9	232.003	H	46.0	-20.5	25.5	46.5	21.0	300.0	319.0	
10	675.050	H	36.3	-5.7	30.6	46.5	15.9	100.0	9.0	
11	701.968	H	40.9	-4.9	36.0	46.5	10.5	196.0	302.0	
12	940.345	V	34.9	-0.8	34.1	46.5	12.4	339.0	349.0	



- IC Regulation ICES-003 Issue 7



Final Result

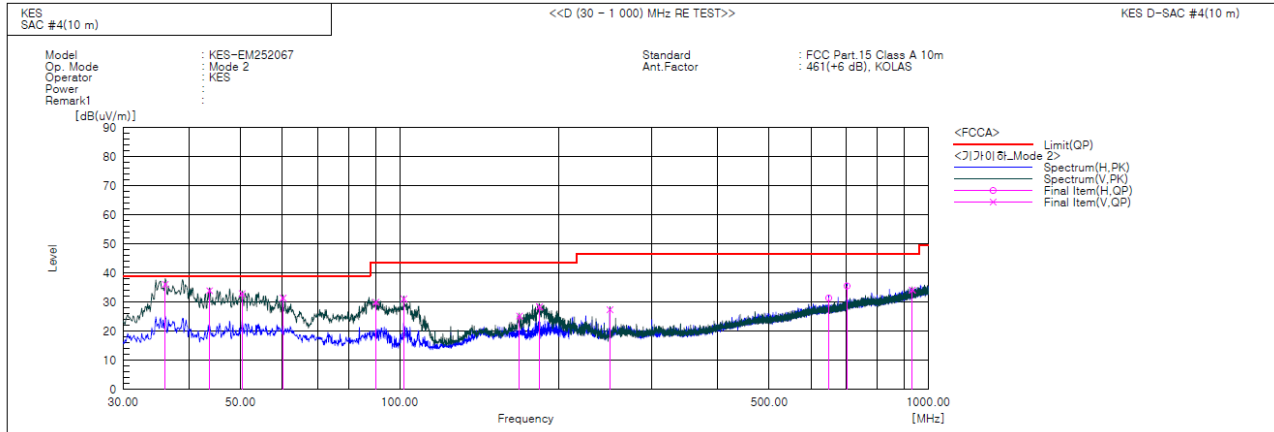
No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	40.670	V	55.5	-21.8	33.7	40.0	6.3	360.0	314.0	
2	42.974	V	48.3	-21.5	26.8	40.0	13.2	199.0	293.0	
3	60.191	V	45.5	-21.3	24.2	40.0	15.8	112.0	85.0	
4	62.859	V	45.3	-21.6	23.7	40.0	16.3	189.0	89.0	
5	88.079	V	52.0	-26.1	25.9	43.5	17.6	201.0	58.0	
6	96.203	V	53.7	-25.5	28.2	43.5	15.3	128.0	85.0	
7	178.046	V	47.7	-20.6	27.1	43.5	16.4	103.0	345.0	
8	191.990	V	50.3	-21.7	28.6	43.5	14.9	190.0	356.0	
9	232.003	H	46.0	-20.5	25.5	47.0	21.5	300.0	319.0	
10	675.050	H	36.3	-5.7	30.6	47.0	16.4	100.0	9.0	
11	701.968	H	40.9	-4.9	36.0	47.0	11.0	196.0	302.0	
12	940.345	V	34.9	-0.8	34.1	47.0	12.9	339.0	349.0	



Report No. : KES-EM252067

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■ mode 2
- 47 CFR Part 15, Subpart B



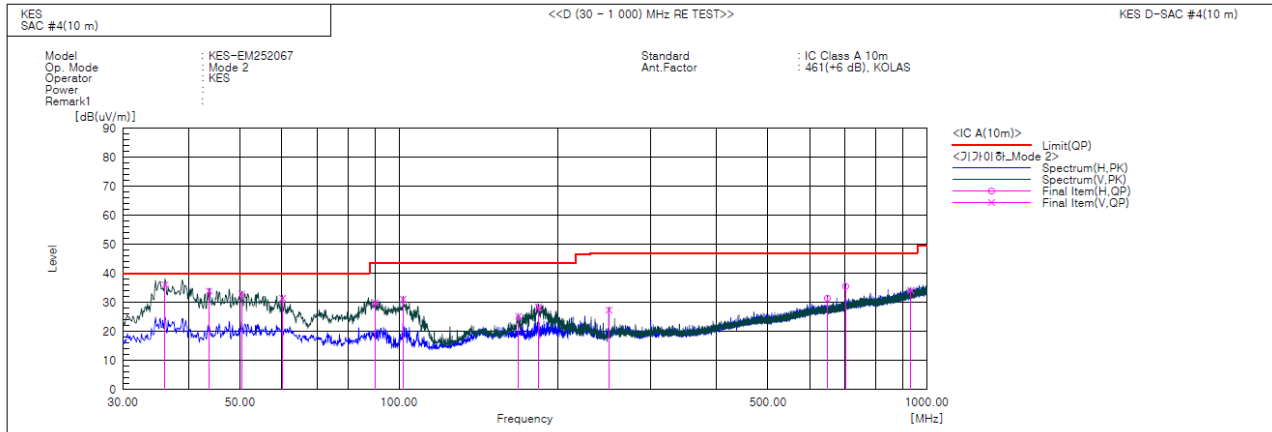
Final Result

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	36.063	V	58.2	-22.1	36.1	39.0	2.9	209.0	71.0	
2	43.701	V	55.3	-21.4	33.9	39.0	5.1	170.0	255.0	
3	50.370	V	53.8	-20.9	32.9	39.0	6.1	134.0	108.0	
4	60.191	V	52.7	-21.3	31.4	39.0	7.6	113.0	101.0	
5	90.261	V	56.1	-26.1	30.0	43.5	13.5	228.0	210.0	
6	101.901	V	55.6	-24.5	31.1	43.5	12.4	291.0	90.0	
7	168.468	V	45.1	-19.9	25.2	43.5	18.3	142.0	201.0	
8	183.866	V	49.5	-21.1	28.4	43.5	15.1	287.0	216.0	
9	249.948	V	46.8	-19.4	27.4	46.5	19.1	190.0	354.0	
10	648.011	H	37.6	-6.2	31.4	46.5	15.1	105.0	314.0	
11	702.089	H	40.4	-4.9	35.5	46.5	11.0	100.0	310.0	
12	932.585	V	35.2	-1.0	34.2	46.5	12.3	259.0	315.0	



Report No. : KES-EM252067

- IC Regulation ICES-003 Issue 7



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	36.063	V	58.2	-22.1	36.1	40.0	3.9	209.0	71.0	
2	43.701	V	55.3	-21.4	33.9	40.0	6.1	170.0	255.0	
3	50.370	V	53.8	-20.9	32.9	40.0	7.1	134.0	108.0	
4	60.191	V	52.7	-21.3	31.4	40.0	8.6	113.0	101.0	
5	90.261	V	56.1	-26.1	30.0	43.5	13.5	228.0	210.0	
6	101.901	V	55.6	-24.5	31.1	43.5	12.4	291.0	90.0	
7	168.468	V	45.1	-19.9	25.2	43.5	18.3	142.0	201.0	
8	183.866	V	49.5	-21.1	28.4	43.5	15.1	287.0	216.0	
9	249.948	V	46.8	-19.4	27.4	47.0	19.6	190.0	354.0	
10	648.011	H	37.6	-6.2	31.4	47.0	15.6	105.0	314.0	
11	702.089	H	40.4	-4.9	35.5	47.0	11.5	100.0	310.0	
12	932.585	V	35.2	-1.0	34.2	47.0	12.8	259.0	315.0	

◆ Calculation

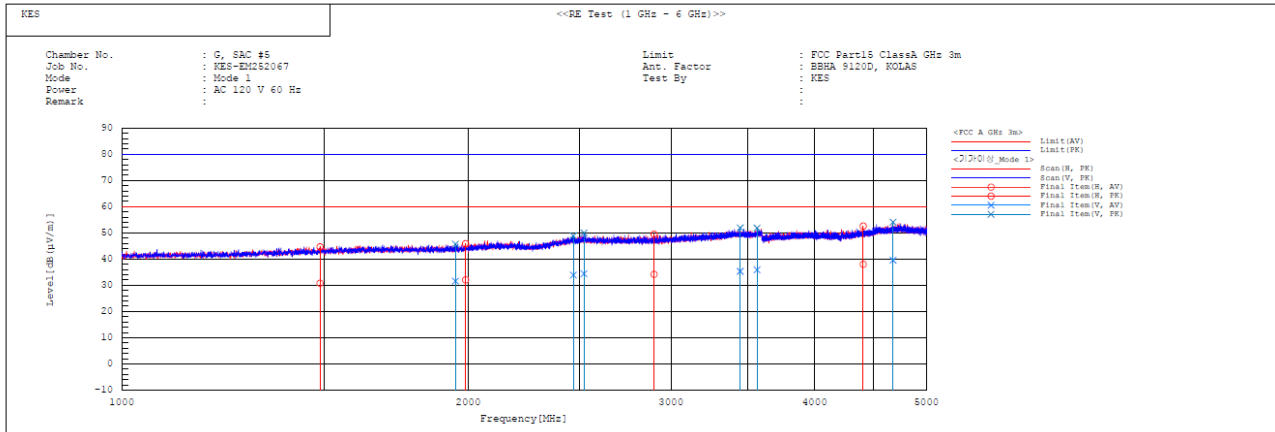
$$\text{Result(QP)} [\text{dB}(\mu\text{V/m})] = (\text{Reading(QP)}[\text{dB}(\mu\text{V})] + \text{c.f}[\text{dB}(1/\text{m})])$$
$$\text{Margin(QP)}[\text{dB}] = \text{Limit}[\text{dB}(\mu\text{V/m})] - \text{Result(QP)} [\text{dB}(\mu\text{V/m})]$$

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 Electric Field Emissions(Above 1 GHz)**

■ mode 1
(1~5) GHz

**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	1487.339	H	29.8	43.7	1.0	30.8	44.7	60.0	80.0	29.2	35.3	339.0	134.0	
2	1949.453	V	28.8	42.9	2.8	31.6	45.7	60.0	80.0	28.4	34.3	243.0	70.3	
3	1989.990	H	29.2	43.0	2.9	32.1	45.9	60.0	80.0	27.9	34.1	294.0	261.6	
4	2468.990	V	29.0	44.0	4.9	33.9	48.9	60.0	80.0	26.1	31.1	194.0	176.6	
5	2521.354	V	29.3	44.9	5.1	34.4	50.0	60.0	80.0	25.6	30.0	239.0	140.6	
6	2901.075	H	28.1	43.4	6.1	34.2	49.5	60.0	80.0	25.8	30.5	303.0	1.1	
7	3446.930	V	28.1	44.7	7.2	35.3	51.9	60.0	80.0	24.7	28.1	295.0	327.2	
8	3564.930	V	28.5	44.4	7.4	35.9	51.8	60.0	80.0	24.1	28.2	299.0	288.8	
9	4407.651	H	27.4	42.0	10.6	38.0	52.6	60.0	80.0	22.0	27.4	269.0	218.3	
10	4678.314	V	28.1	42.6	11.5	39.6	54.1	60.0	80.0	20.4	25.9	332.0	148.7	
11	5335.216	V	25.4	40.2	13.2	38.6	53.4	60.0	80.0	21.4	26.6	320.0	206.9	
12	5721.402	V	27.2	41.3	13.9	41.1	55.2	60.0	80.0	18.9	24.8	343.0	108.7	



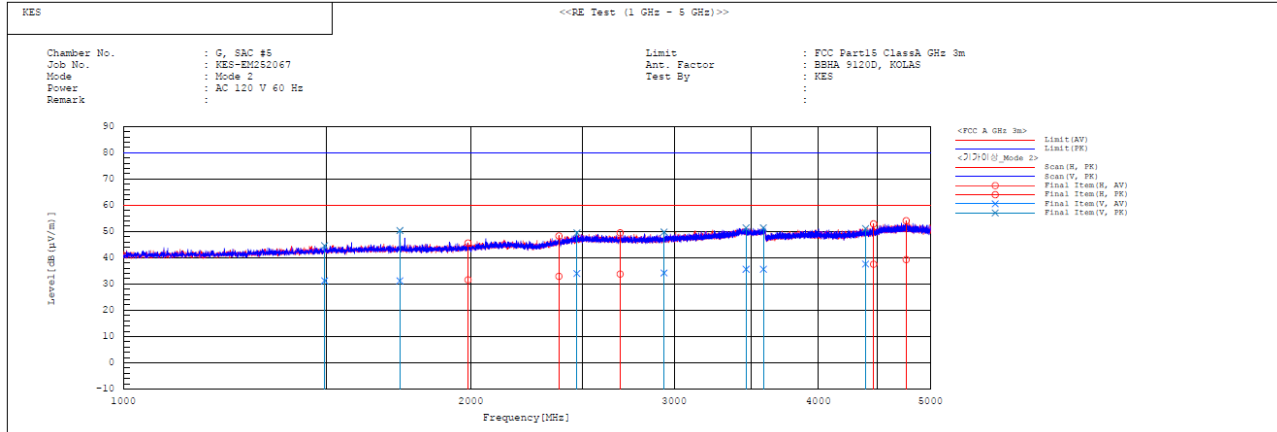
(5~16) GHz

- 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)
6 846.237	41.000	H	1.000	35.730	9.970	34.690	52.010	80.000	27.990
7 809.384	41.100	V	1.000	36.750	11.310	33.780	55.380	80.000	24.620

- 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)
6 846.237	27.700	H	1.000	35.730	9.970	34.690	38.710	60.000	21.290
7 809.384	27.300	V	1.000	36.750	11.310	33.780	41.580	60.000	18.420

mode 2
(1~5) GHz

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	1494.499	V	30.1	43.5	1.1	31.2	44.6	60.0	80.0	28.8	35.4	244.0	351.0	
2	1736.735	V	29.2	48.3	2.0	31.2	50.3	60.0	80.0	28.8	29.7	172.0	167.8	
3	1988.987	H	28.7	42.7	2.9	31.6	45.6	60.0	80.0	28.4	34.4	399.0	79.5	
4	2383.930	H	28.3	43.7	4.6	32.9	48.3	60.0	80.0	27.1	31.7	394.0	134.4	
5	2471.294	V	29.1	44.6	4.9	34.0	49.5	60.0	80.0	26.0	30.5	224.0	247.3	
6	2694.300	H	28.2	43.9	5.6	33.8	49.5	60.0	80.0	26.2	30.5	338.0	258.7	
7	2940.314	V	27.9	43.5	6.3	34.2	49.8	60.0	80.0	25.8	30.2	138.0	198.9	
8	3463.834	V	28.4	44.2	7.2	35.6	51.4	60.0	80.0	24.4	28.6	282.0	143.3	
9	3584.834	V	28.2	44.0	7.4	35.6	51.4	60.0	80.0	24.4	28.6	387.0	298.5	
10	4394.409	V	27.1	40.6	10.5	37.6	51.1	60.0	80.0	22.4	28.9	343.0	177.7	
11	4466.210	H	26.7	42.1	10.8	37.5	52.9	60.0	80.0	22.5	27.1	123.0	186.5	
12	4765.436	H	27.6	42.4	11.7	39.3	54.1	60.0	80.0	20.7	25.9	249.0	63.9	



(5~16) GHz

- 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)
5 730.379	40.600	H	1.000	32.920	8.880	33.740	48.660	80.000	31.340
6 833.128	41.500	V	1.000	35.670	9.960	34.700	52.430	80.000	27.570

- 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)
5 730.379	26.900	H	1.000	32.920	8.880	33.740	34.960	60.000	25.040
6 833.128	27.600	V	1.000	35.670	9.960	34.700	38.530	60.000	21.470

◆ Calculation

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

Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

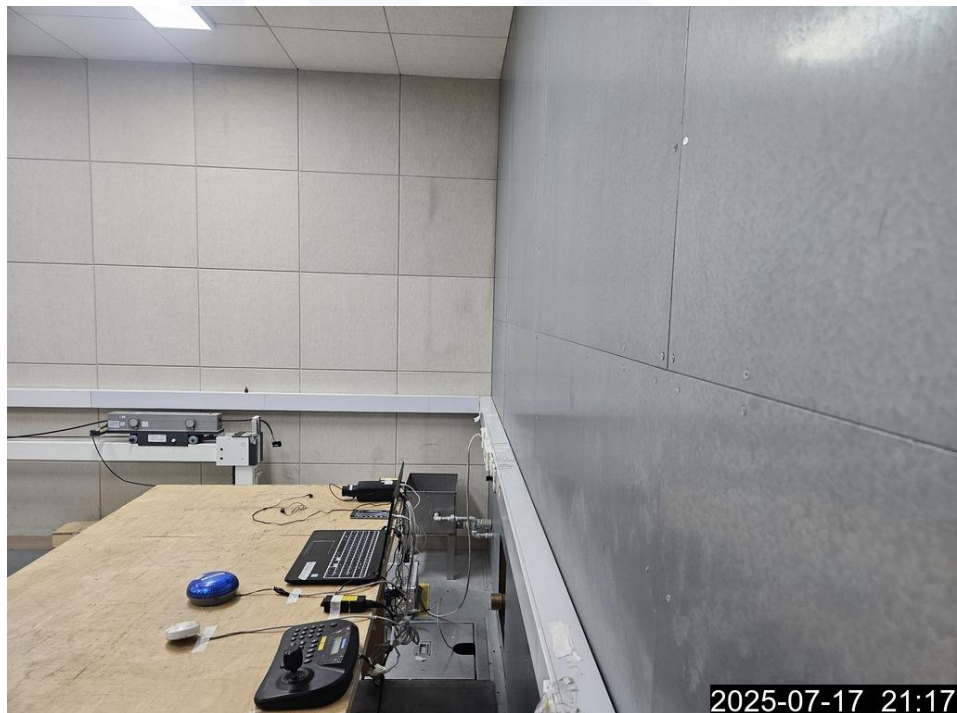
Limit(PK/CAV) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value



Test Setup Photos and Configuration

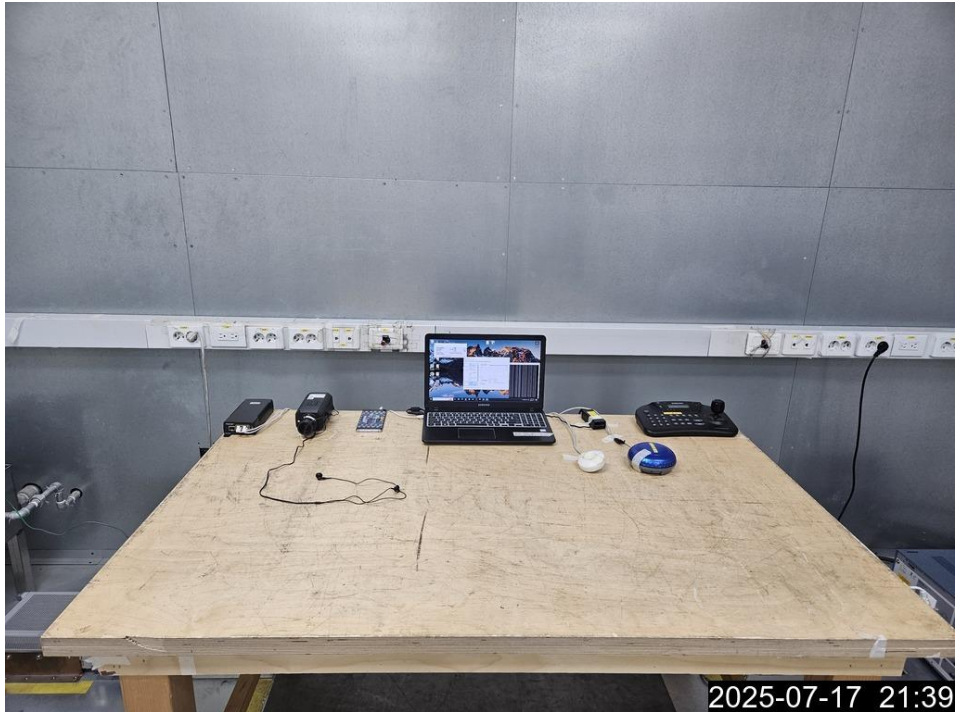
Conducted Emissions at Mains Power Ports

■ mode 1





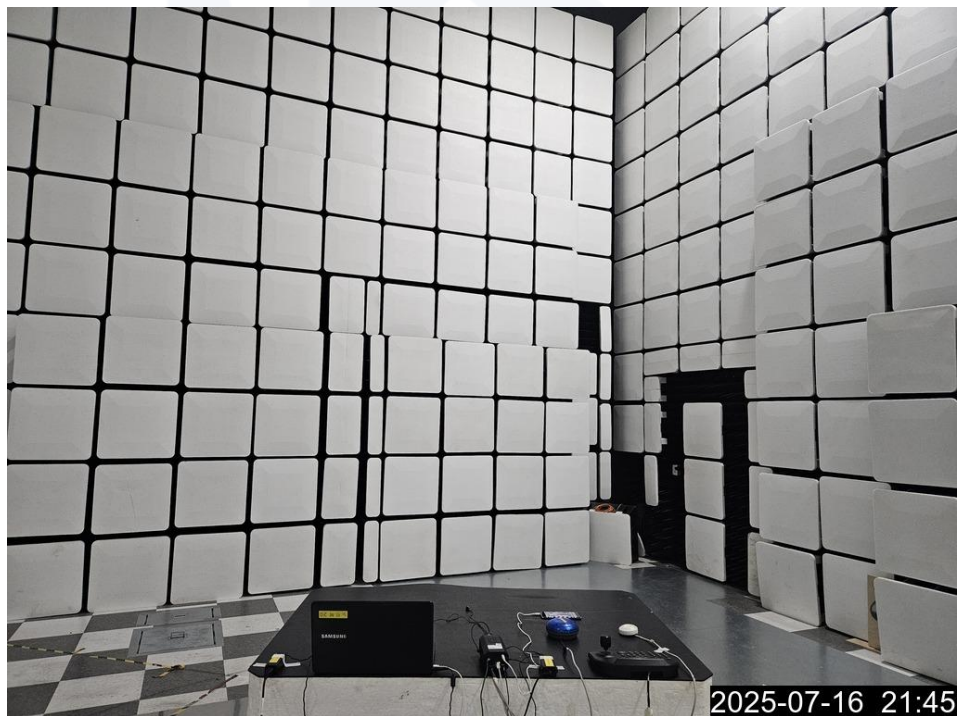
■ mode 2





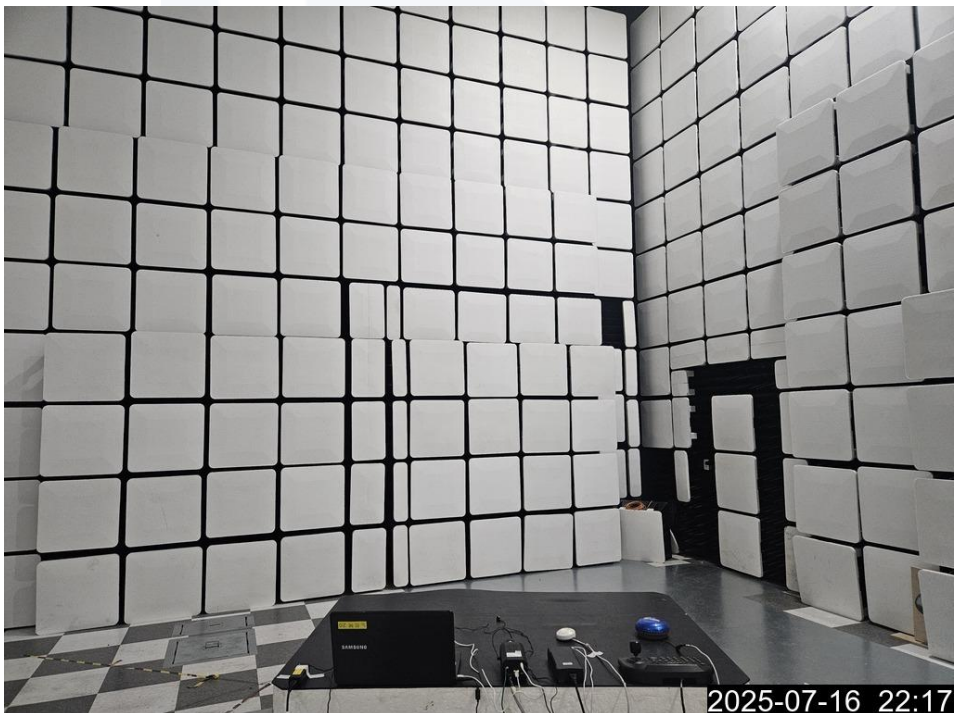
Radiated Electric Field Emissions(Below 1 GHz)

■ mode 1





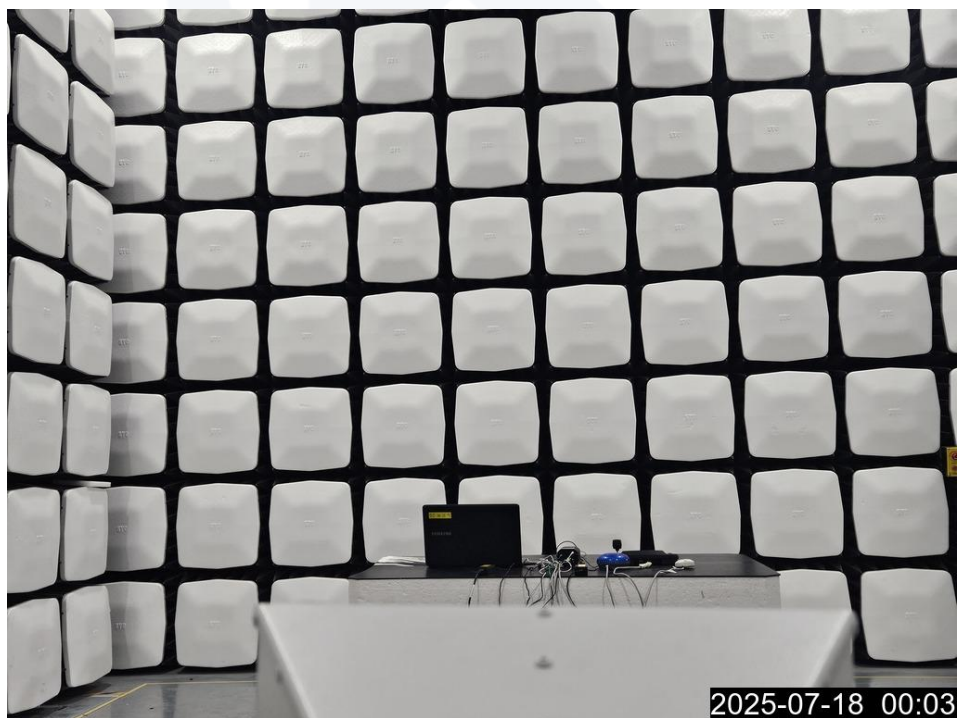
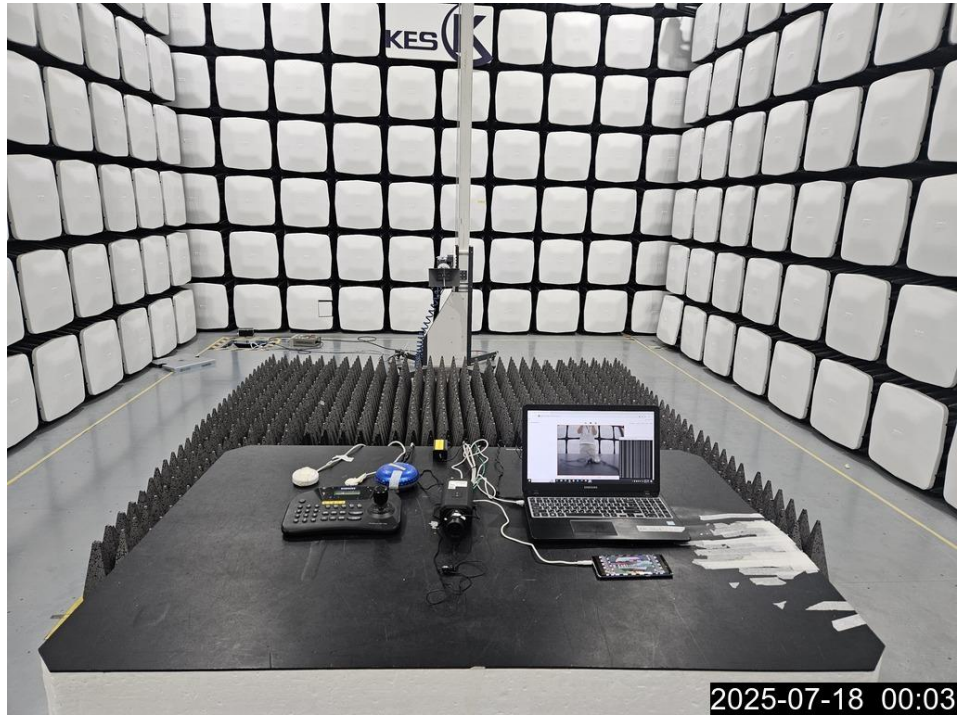
■ mode 2





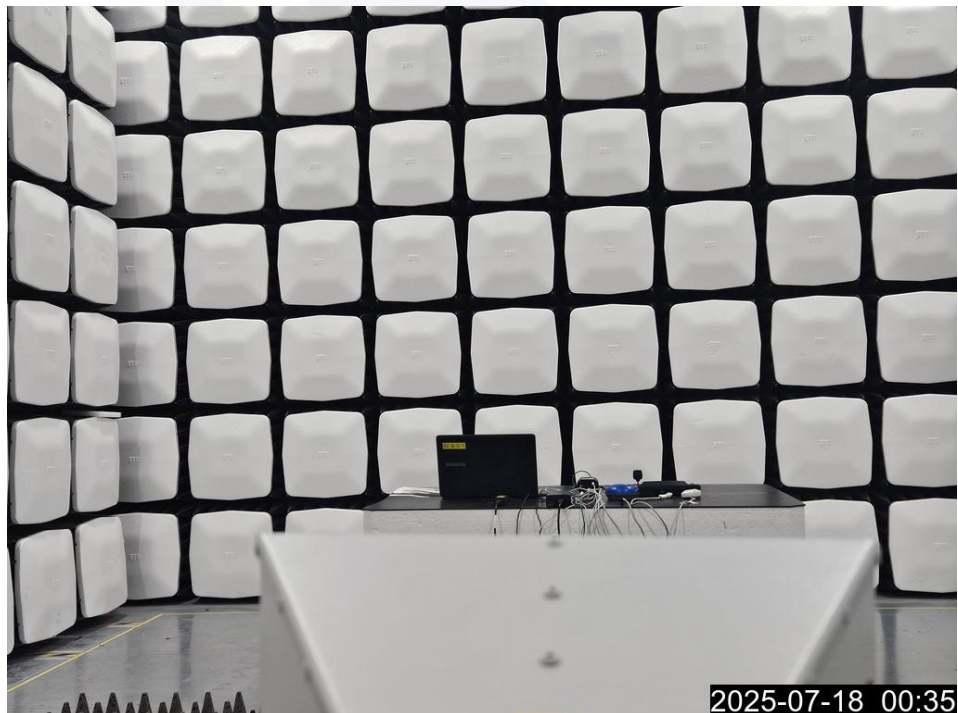
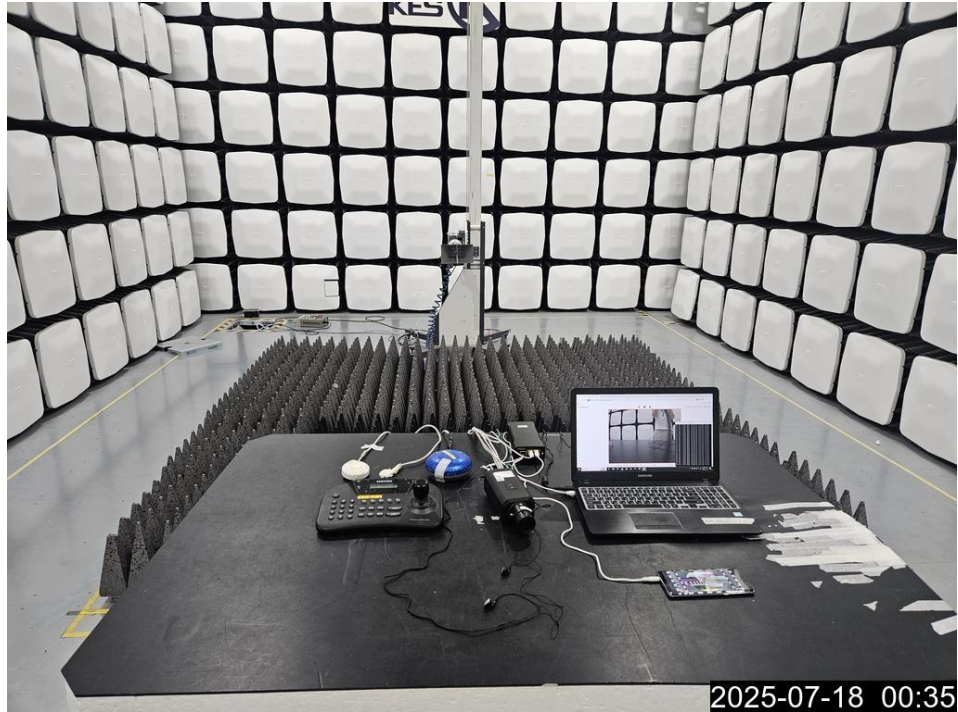
Radiated Electric Field Emissions(Above 1 GHz)

■ mode 1





■ mode 2





EUT External Photographs

(Top)



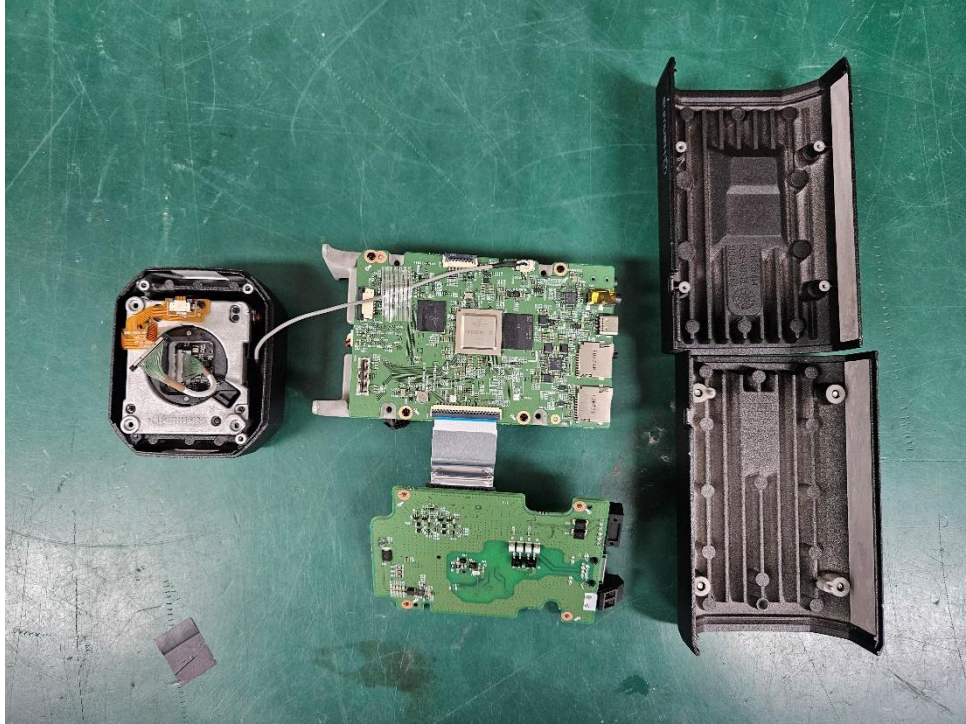
(Bottom)





EUT Internal Photographs

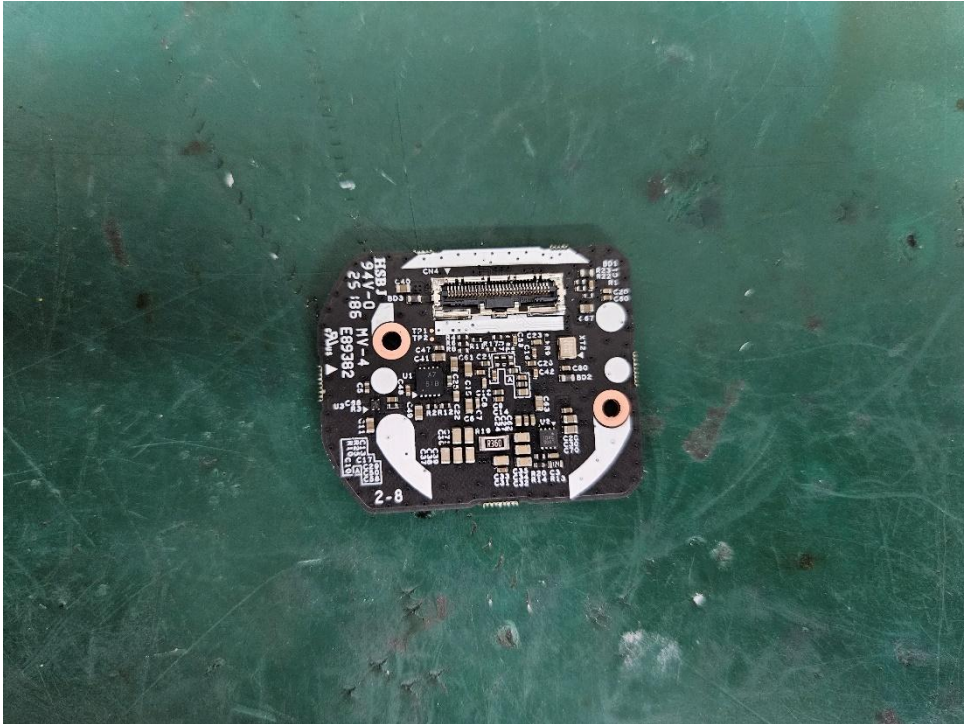
(Internal View)



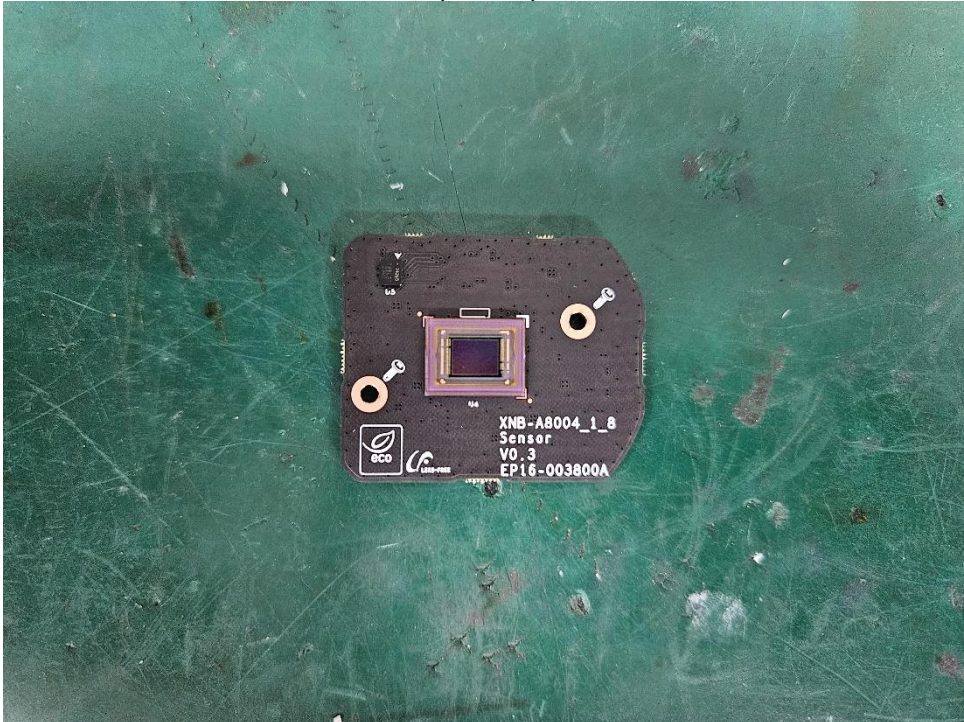


EUT Internal View – Board 1

(Top)



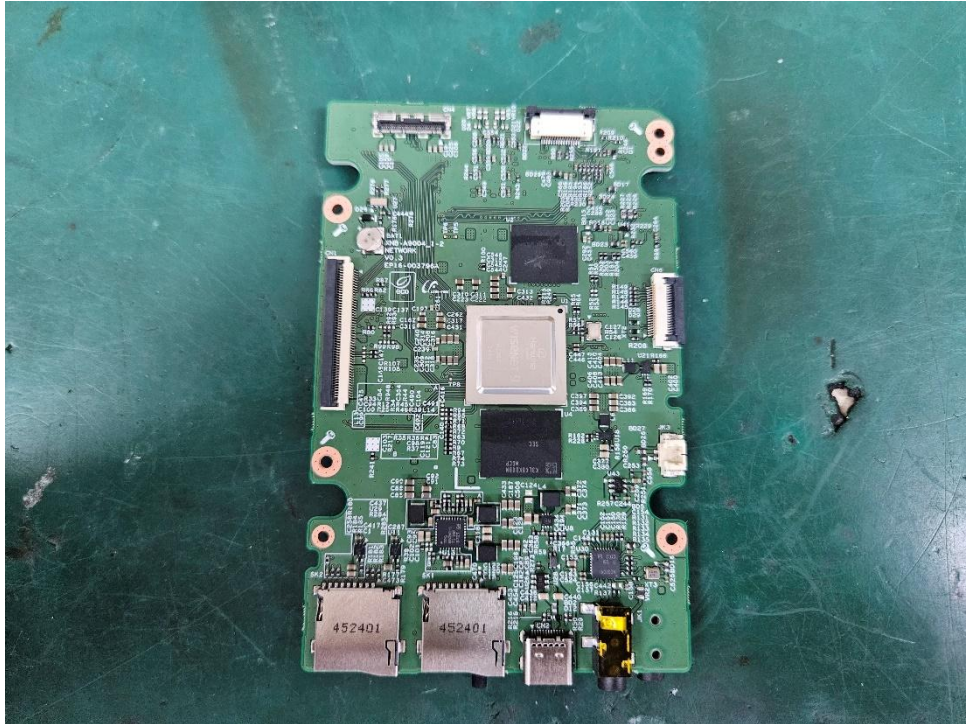
(Bottom)



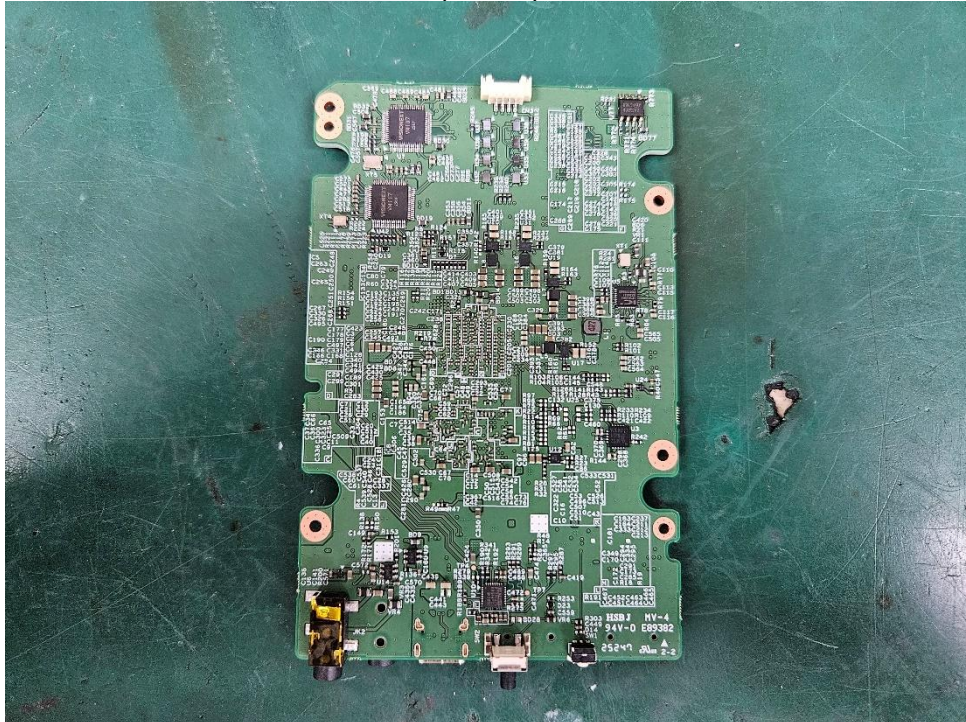


EUT Internal View – Board 2

(Top)



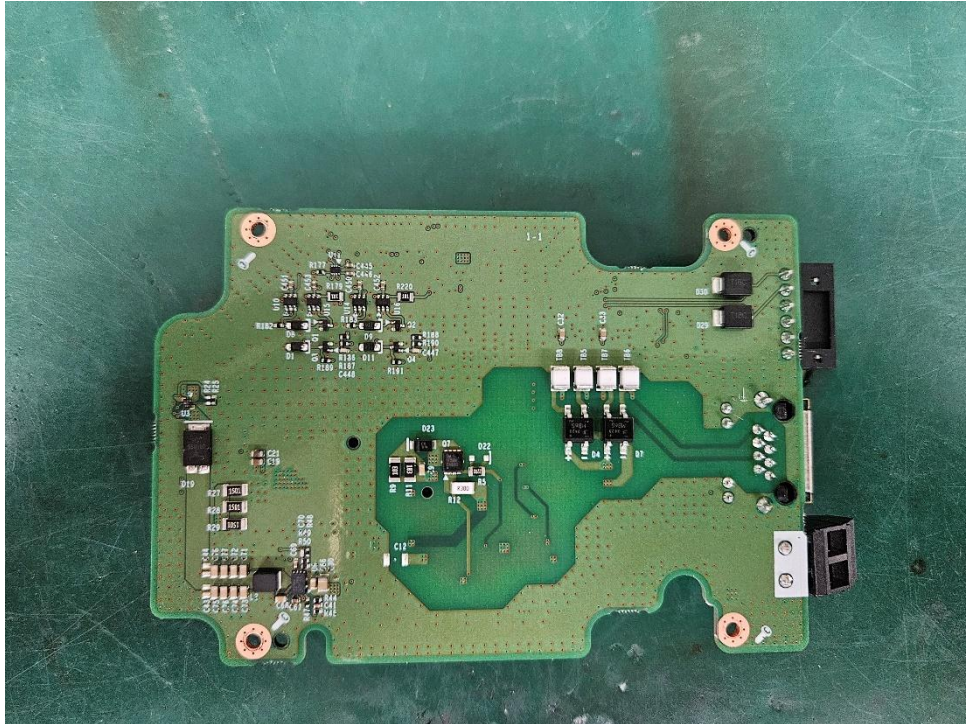
(Bottom)



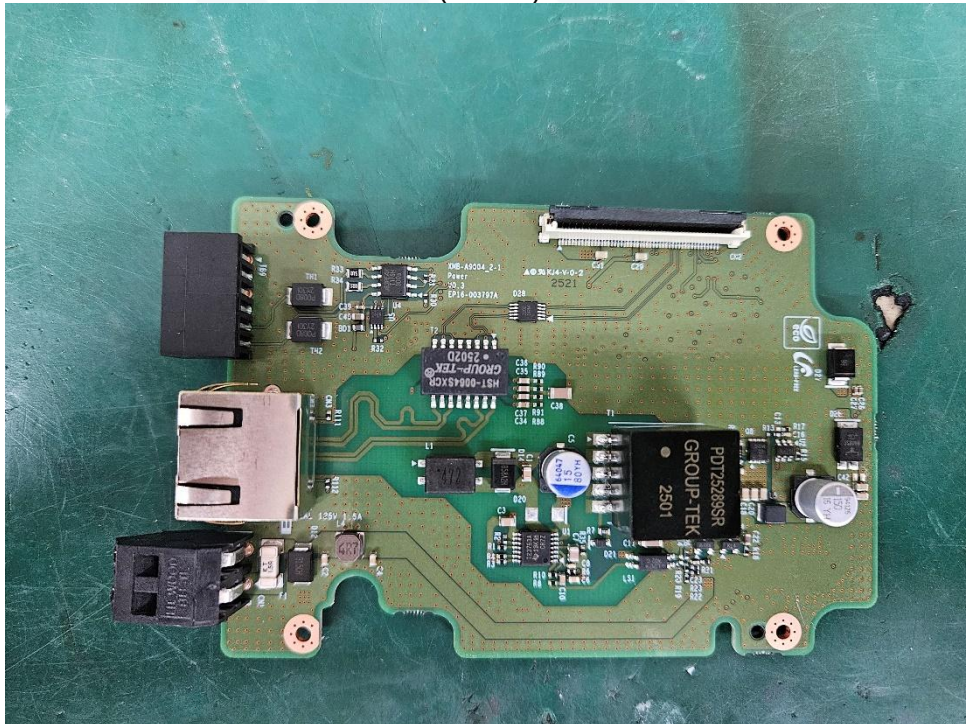


EUT Internal View – Board 3

(Top)



(Bottom)





EUT Internal View – Speaker

(Top)



(Bottom)





Label Photographs

FCC Label



NETWORK CAMERA

XNB-A8004

IC Label

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

This device complies with ICES-003 Canada Rules Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The End.