TEST REPORT

KES Co., Ltd.
#3002, #3503, #3701, 40, Simin-daero365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Republic of Korea
Tel : +82-31-425-6200, Fax : +82-31-381-3838

1. Client

Applicant : Hanwha Vision Co., Ltd

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

2. Sample Description

Product name : NETWORK CAMERA

Model/Type No. : PND-A7082RV

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 City, Bac Ninh Province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do, Korea (Suwon Industrial Complex)

3. Date of Receipt : Apr. 28, 2025

4. Test date : May. 08, 2025 ~ May. 12, 2025

5. Date of Issue : May. 23, 2025

6. Test Results : In Compliance

Tested by

[박성준]2025/05/23

Seong Jun, Park
EMC Test Engineer

Reviewed by

[장동훈]2025/05/23

Dong Hun, Jang
EMC Technical Manager

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

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
May. 23, 2025	KES-EM251557	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/1.8" CMOS
Resolution	2592x1520, 2560x1440, 1920x1080, 1600x1200, 1280x960, 1280x720, 1024x768, 800x600, 640x480, 640x360, 320x240, 320x180
Max. Framerate	H.265/H.264: Max. 60fps/50fps(60Hz/50Hz) MJPEG: Max. 30fps(@4MP Max. 5fps)
NETD	None
Pixel Size	None
Video Out	USB: Micro USB Type C for installation
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	4.6~9.35mm(2.0x) motorized varifocal
Optical Zoom	None
Max. Aperture Ratio	F1.3(Wide)~F2.15(Tele)
Angular Field of View	H: 105°(Wide)~47°(Tele) V: 58°(Wide)~27°(Tele) D: 128°(Wide)~55°(Tele)
Min. Object Distance	1.5m(4.92ft)
Focus Control	Simple focus
Lens Type	P-iris(IR corrected)
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~360° / 0°~85° / 0°~355°
Pan Range	None
Pan Speed	None
Tilt Range	None
Tilt Speed	None
Rotate Range	None
Sequence	None
Preset Accuracy	None
Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	None
Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SSDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNRⅤ, WiseNRⅡ(Based on AI engine)
Digital Image Stabilization	Support
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, 8point polygonal zones - Color: gray/green/red/blue/black/white/purple/yellow - Mosaic Dynamic Privacy Mask(Based on AI engine) - Color: gray/green/red/blue/black/white/purple/yellow - Mosaic

Gain Control	Off / Max Gain / Manual
White Balance	ATW / NarrowATW / AWC / Manual / Indoor / Outdoor
LDC	Support(Fill/Stretch mode)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker(2~1/30,000sec) Prefer shutter control(Based on AI engine)
Digital PTZ	None
Video Rotation	Flip, mirror, hallway view(90°/270°)
Analytics	Classified object type: Person/Face/Vehicle(Type: car/bus/truck/motorcycle/bicycle)/License plate Attributes: Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) Support BestShot Support Re-ID(Person) Analytics events based on AI engine - Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection, Sound classification(To be released) Analytics events - Defocus detection, Tampering, Shock detection, Audio detection
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap
Serial Interface	None
Alarm I/O	2 configurable I/O ports, DC 12V output(Max. 50mA)
Alarm Triggers	Analytics, Network disconnection, Alarm input, Time schedule, MQTT subscription, Day/Night, Storage disruption, Case tampering
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(WAV, MP3) - MQTT: publication
Audio Streaming	None
Audio In	Selectable(mic in/line in/built-in 3mics)
Audio Out	Line out
Light Type	IR LED
Light Viewable Length	WiseIR 60m(196.85ft)
IR Viewable Length	None
IR Illuminator (Optional)	None
IR Radiation angle	None
IR LED	None
IR Wavelength	850nm
IR Operation	None
Water Removal	None
Auto Tracking	None
Coaxial Protocol	None
Color Palettes	None
Radiometry	
Temperature Detect Range	None
Temperature Accuracy	None
Temperature Detection	None
Additional	None

Network	
Ethernet	Metal shielded RJ-45(10/100/1000BASE-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)
Video Quality Adjustment	None
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast 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, SMTP(StartTLS), ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast), CDP, MQTT, Syslog
SIP support (VoIP, Peer-to-peer	None
Security	None
Application Programming Inter	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform
Security	
OS / Firmware Protect	Encrypted Firmware, Secure boot, Signed Firmware
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	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	Secure element, SDcard partition encrypt
Security Certificate	ETSI EN 303 645, Secure element(FIPS 140-3 level3, CC EAL6+)
General	
Webpage Language	English, Korean, Simplified Chinese, Traditional Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 2slots 2TB(1TBx2)
Memory	4GB RAM, 8GB eMMC
Environmental & Electrical	
Operating Temperature / Humi	-25°C~+50°C(-13°F~+122°F) / 0~100% RH Humidity control /w AIR vent
Storage Temperature / Humidit	-50°C~+60°C(-58°F~+140°F) / 0~90% RH
Wind Load	None
EPA(Effective Projected Area)	0.0148㎡
Certification	IP52, IK10
Input Voltage	PoE+(IEEE802.3at type2, Class4), 12VDC
Power Consumption	PoE: Max. 15.0W, typical 9.0W 12VDC: Max. 12.7W, typical 7.8W Support Wisepower - Power monitoring(Max./Current/Avg.) - Power Redundance Failover

Mechanical	
Color / Material	White / Aluminum Bubble: Hard-coated dome
RAL Code	RAL9003
Product Dimensions / Weight	ø160x125mm(ø6.30x4.92"), 1550g(3.42lb)
Compatible Conduit hole / Gar	12.7mm(1/2")(M20) single, double, 4" octagon, 4" square
Certifications & Standards	
Network	None
EMC	FCC 47 CFR 15 Subpart B Class A ICES-3(A)/NMB-3(A) CE/UKCA - EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3 VCCI CISPR 32 Class A RCM AS/NZS CISPR 32 Class A KS C 9832 Class A , KS C 9835
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC/EN 62471
Environment	IEC/EN 63000 IEC/EN 60529 IP52, IEC/EN 62262 IK10 IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78
Video	None
Compatible Models	
Hanging Adaptor	SBP-160HMW1
Back Box	SBV-180BW, SBV-180WW
Ceiling Mount (Assy)	SBP-150CMI, SBP-300CMI, SBP-300CMW1, SBP-900CMW, SBP-300CMTW, SBP-300CMTS
Ceiling Mount (Single Unit)	SBP-180CMB, SBP-140CMB, SBP-180CMS, SBP-900CMP, SBP-300CMP, SBP-150CMP, SBP-C15P, SBP-C15H
Wall Mount	SBP-160WMW1, SBP-400WMW, SBP-250WMW, SBP-300WMW, SBP-300WMW1
Wall Mount Adaptor	None
Pole Mount	SBD-180PMW
In-ceiling Mount	SHD-1372FPW
Corner Mount	SBD-180KMA
Parapet Mount	SBP-156LMW1, SBP-300LMW
Tilt Mount	SBP-160TMW1
Cabinet	SBP-150NBW, SBP-300NBW
Housing	None
Gang Plate	None
Skin Cover	None
Weather Cap	SBV-161WCW
Dome Cover	SPB-IND87W
Conduit Adaptor	None
Power Module	None
Interface Box	SPM-4210
Other Compatible Models	SBP-115PFA
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	Wide: 39.8m(130.51ft) / Tele: 119.2m(391.15ft)
Observe (63PPM/ 19PPF)	Wide: 15.9m(52.20ft) / Tele: 47.7m(156.46ft)
Recognize (125PPM/ 38PPF)	Wide: 8.0m(26.10ft) / Tele: 23.8m(78.23ft)
Identify (250PPM/ 76PPF)	Wide: 4.0m(13.05ft) / Tele: 11.9m(39.12ft)

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 240 V, 50 Hz ☒ PoE

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	PND-A7082RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC/DC 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.	-

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	AC/DC 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
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
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
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
Notebook	DC Jack	Notebook Adapter	DC Jack	1.6	U

* Unshielded=U, Shielded=S

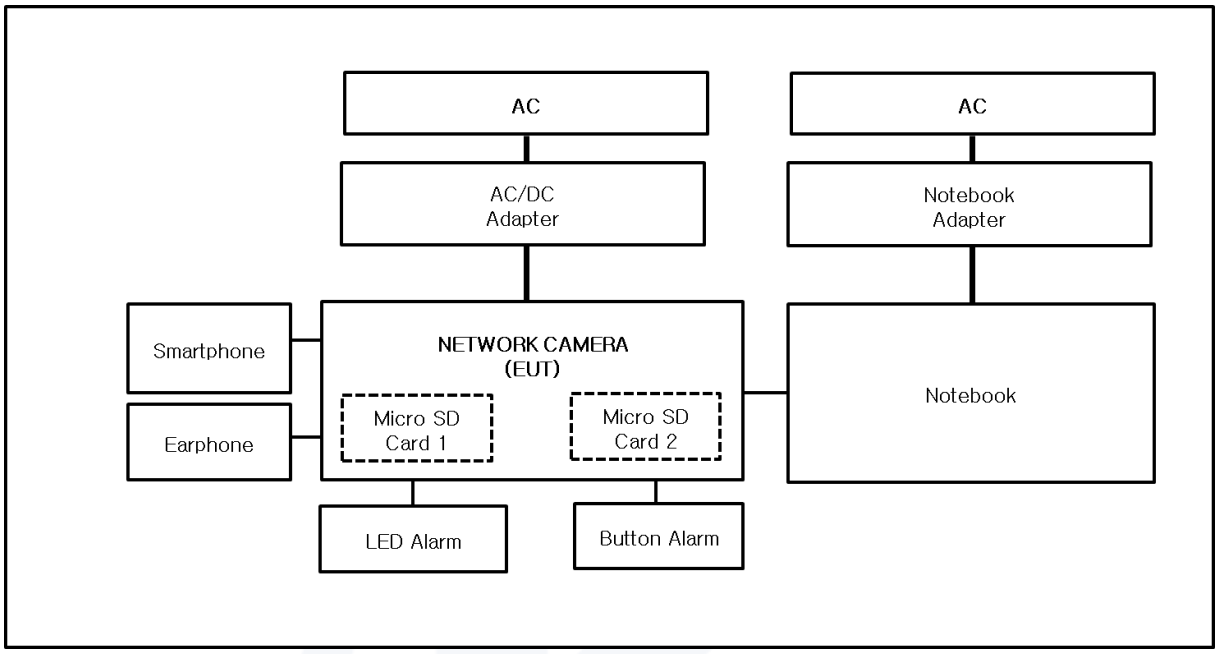
1.7 EUT Operating Mode(s)

Test mode		Normal operating
mode 1	AC/DC 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	

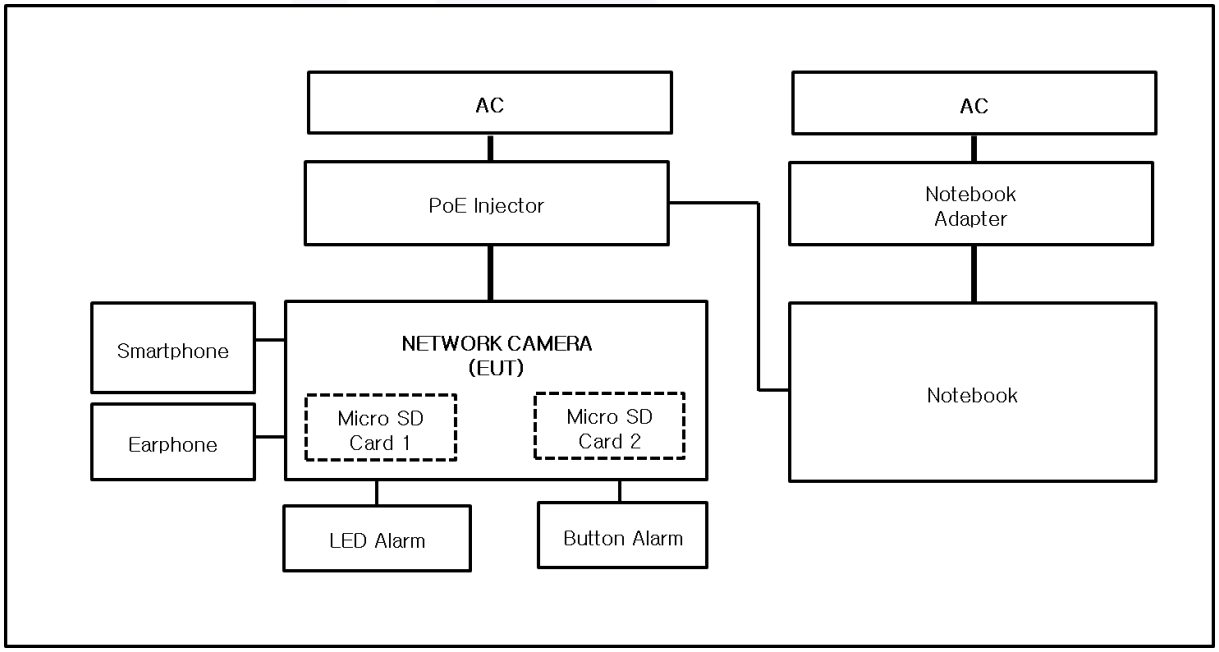
EUT Test operating S/W		
Name	**Version**	**Manufacture Company**
Web Viewer	-	HANWHA VISION VIETNAM COMPANY LIMITED

1.8 Configuration

■ mode 1



■ mode 2



1.9 Remarks when standards applied

USB C Type 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, Yeoju-si, Gyeonggi-do, 12658, Korea, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	**RRA**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
International	**KOLAS**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KT489
USA	**FCC**	3 m & 10 m Semi-Anechoic Chamber Conducted test site to perform FCC Part 15/18 measurements.	KR0100
Canada	**ISED**	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	23298
JAPAN	**VCCI**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	C-20136, T-20137, R-20181, G-20176
Europe	**TÜV SÜD**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	CARAT 001633 0008

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **AS/NZS CISPR 32:2015 AMD 1:2020** ☒ Class A ☐ Class B

2.1 Conducted Emissions at Mains Power Ports

Test Date
May. 09, 2025

Test Location
Electro wave Shieldroom #6

Test Equipment

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

Test Conditions
Temperature: (22,3 ± 0,1) ℃
Relative Humidity: (47.0 ± 0,1) % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
- See Appendix A for test data.
- The LAN port is regarded as a wired communication network port and power-related ports are not tested.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
May. 08, 2025

Test Location
Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	11, 06, 2025
☒	LISN	ENV216	R & S	101786	01, 09, 2026
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025
☒	8-WIRE ISN CAT6	ENY81-CAT6	SCHWARZBECK	101666	02, 27, 2026

Test Conditions
Temperature: (23,3 ± 0,1) ℃
Relative Humidity: (46,7 ± 0,1) % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.3 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
May. 12, 2025

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

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESR3	R & S	101781	01, 09, 2026
☒	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025
☒	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026
☒	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026

Test Conditions
Temperature: (23,3 ± 0,1) ℃
Relative Humidity: (47,0 ± 0,1) % R.H.

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 ㎓)

Test Date
May. 09, 2025

Test Location
SEMI ANECHOIC CHAMBER #5

Test Equipment

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

Test Conditions
Temperature: (23.4 ± 0,1) ℃
Relative Humidity: (47.0 ± 0,1) % R.H.

Frequency Range of Measurement
1 ㎓ to 6 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

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

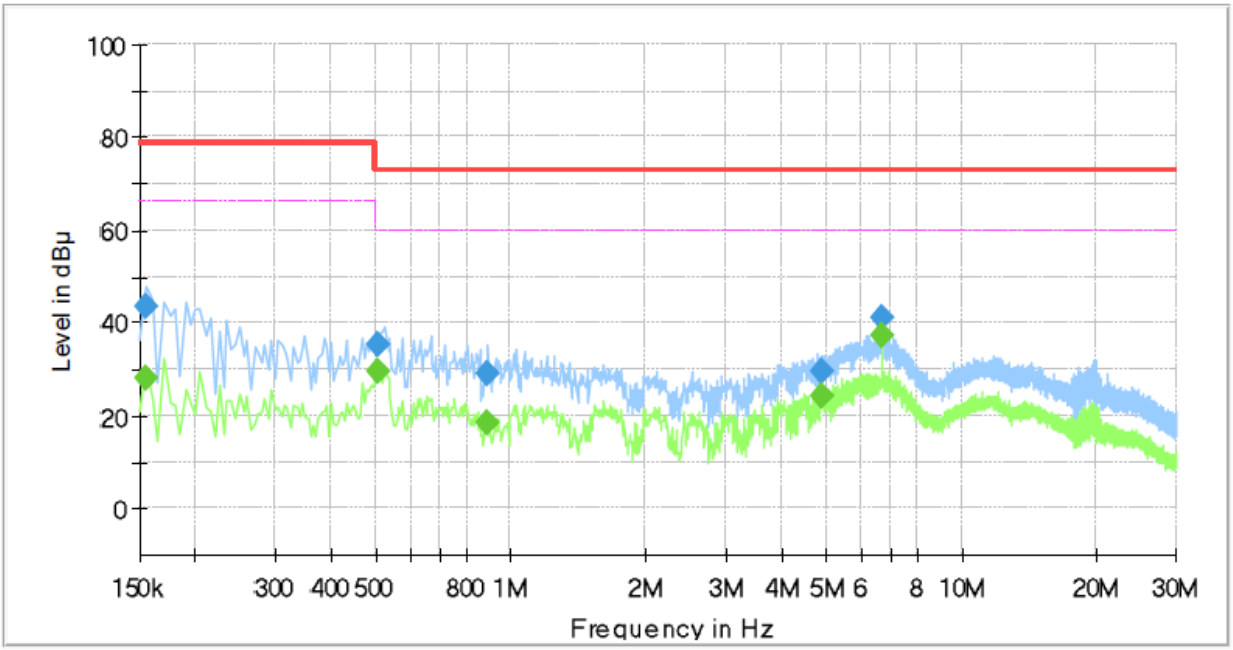
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

■ mode 1

HOT LINE

Test Description:	Conducted Emission
Job No.:	KES-EM251557
Phase:	L
Mode:	mode 1
Operator Name:	KES

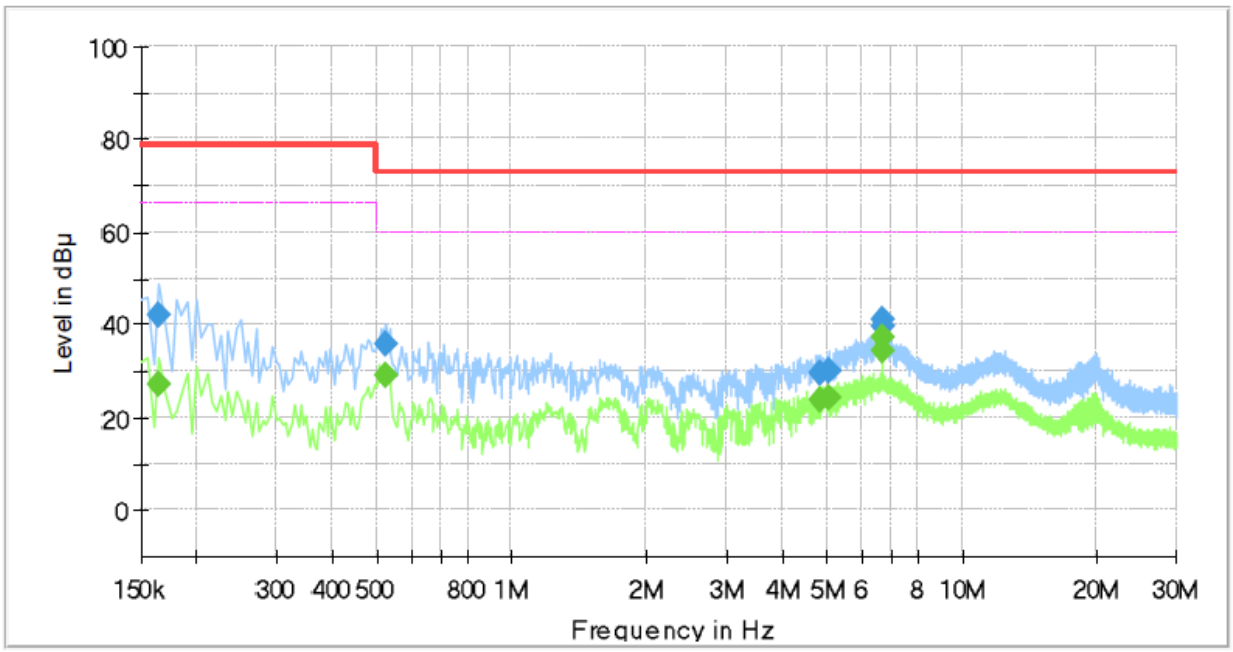


Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	28.35	66.00	37.65	1000.0	9.000	L1	19.5
0.155000	43.62	---	79.00	35.38	1000.0	9.000	L1	19.5
0.510000	---	29.52	60.00	30.48	1000.0	9.000	L1	19.6
0.510000	35.39	---	73.00	37.61	1000.0	9.000	L1	19.6
0.890000	---	18.55	60.00	41.45	1000.0	9.000	L1	19.6
0.890000	28.97	---	73.00	44.03	1000.0	9.000	L1	19.6
4.910000	---	24.04	60.00	35.96	1000.0	9.000	L1	19.9
4.910000	29.38	---	73.00	43.62	1000.0	9.000	L1	19.9
6.650000	---	37.51	60.00	22.49	1000.0	9.000	L1	20.0
6.650000	41.00	---	73.00	32.00	1000.0	9.000	L1	20.0

NEUTRAL LINE

Test Description:	Conducted Emission
Job No.:	KES-EM251557
Phase:	N
Mode:	mode 1
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	27.13	66.00	38.87	1000.0	9.000	N	19.5
0.165000	42.23	---	79.00	36.77	1000.0	9.000	N	19.5
0.525000	---	29.00	60.00	31.00	1000.0	9.000	N	19.5
0.525000	35.75	---	73.00	37.25	1000.0	9.000	N	19.5
4.850000	---	23.62	60.00	36.38	1000.0	9.000	N	19.9
4.850000	29.61	---	73.00	43.39	1000.0	9.000	N	19.9
5.080000	---	24.03	60.00	35.97	1000.0	9.000	N	19.9
5.080000	29.83	---	73.00	43.17	1000.0	9.000	N	19.9
6.655000	---	37.30	60.00	22.70	1000.0	9.000	N	19.9
6.655000	40.94	---	73.00	32.06	1000.0	9.000	N	19.9
6.660000	---	34.43	60.00	25.57	1000.0	9.000	N	19.9
6.660000	39.82	---	73.00	33.18	1000.0	9.000	N	19.9

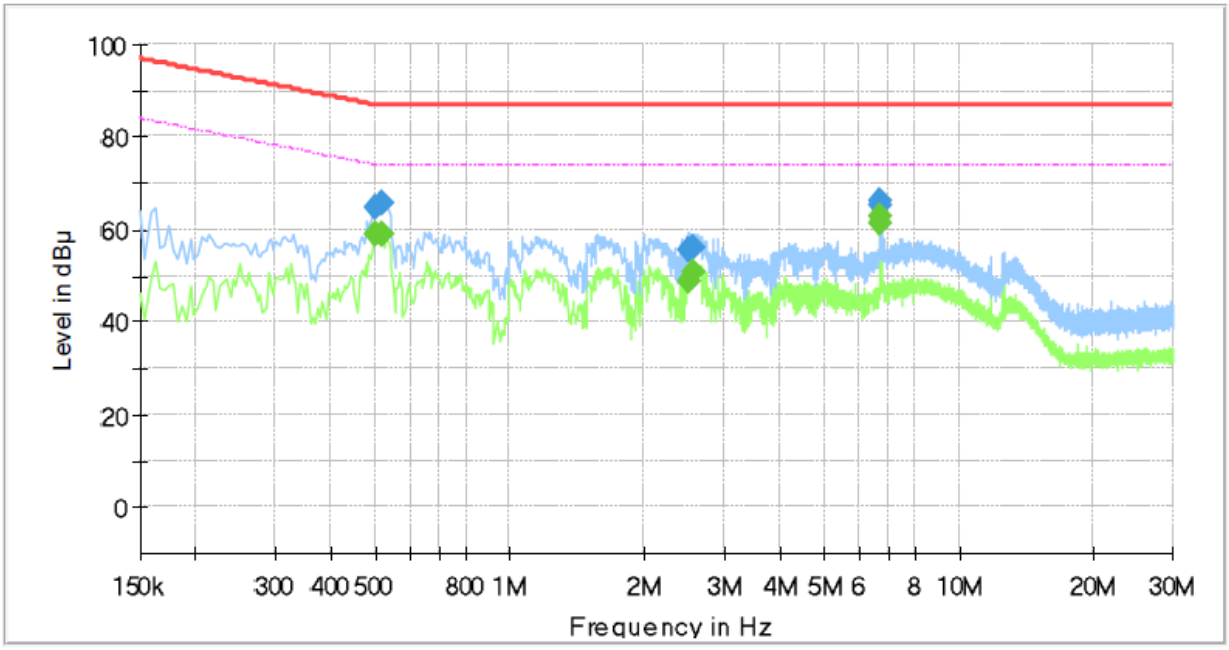
♦ Calculation
QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Conducted Emissions at Telecommunication Ports

■ mode 1

[1 000 Mbps]

Test Description:	Telecommunication Emission
Job No.:	KES-EM251557
Mode :	mode 1
Speed :	1 000
Operator Name:	KES



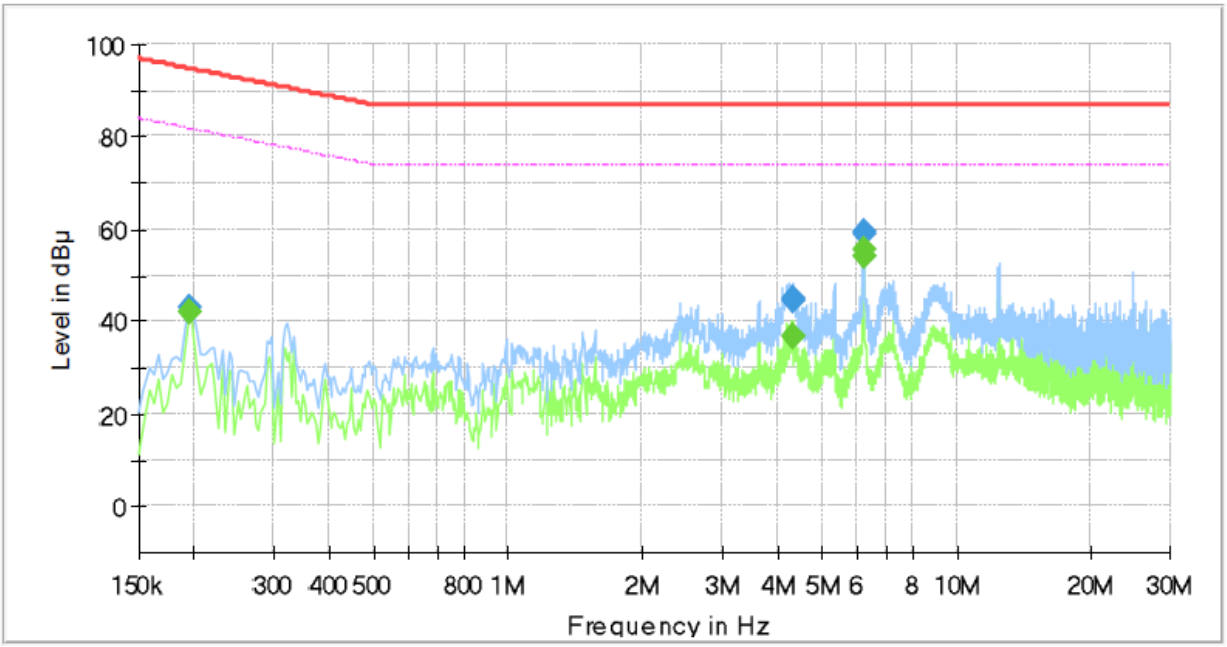
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.502000	---	59.05	74.00	14.95	1000.0	9.000	Single Line	19.4
0.502000	64.66	---	87.00	22.34	1000.0	9.000	Single Line	19.4
0.522000	---	59.11	74.00	14.89	1000.0	9.000	Single Line	19.4
0.522000	65.91	---	87.00	21.09	1000.0	9.000	Single Line	19.4
2.490000	---	49.04	74.00	24.96	1000.0	9.000	Single Line	19.4
2.490000	55.47	---	87.00	31.53	1000.0	9.000	Single Line	19.4
2.558000	---	51.02	74.00	22.98	1000.0	9.000	Single Line	19.4
2.558000	56.24	---	87.00	30.76	1000.0	9.000	Single Line	19.4
6.674000	---	62.79	74.00	11.21	1000.0	9.000	Single Line	19.7
6.674000	66.12	---	87.00	20.88	1000.0	9.000	Single Line	19.7
6.678000	---	61.38	74.00	12.62	1000.0	9.000	Single Line	19.7
6.678000	65.38	---	87.00	21.62	1000.0	9.000	Single Line	19.7

■ mode 2

[1 000 Mbps]

Test Description:	Telecommunication Emission
Job No.:	KES-EM251557
Mode :	mode 2
Speed :	1 000
Operator Name:	KES



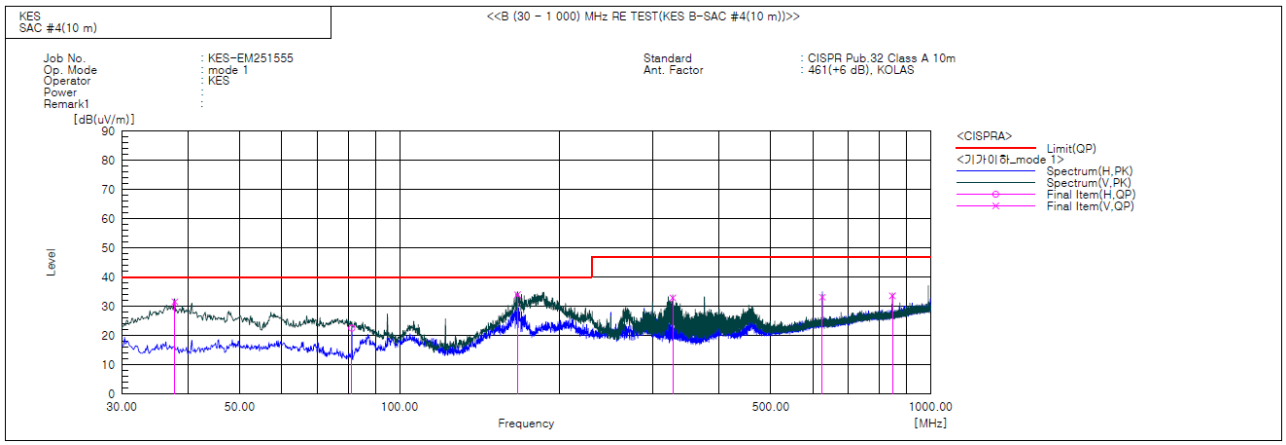
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.194000	---	41.95	81.86	39.91	1000.0	9.000	Single Line	19.4
0.194000	43.12	---	94.86	51.74	1000.0	9.000	Single Line	19.4
4.310000	---	36.70	74.00	37.30	1000.0	9.000	Single Line	19.6
4.310000	44.86	---	87.00	42.14	1000.0	9.000	Single Line	19.6
4.318000	---	36.60	74.00	37.40	1000.0	9.000	Single Line	19.6
4.318000	44.63	---	87.00	42.37	1000.0	9.000	Single Line	19.6
6.202000	---	55.65	74.00	18.35	1000.0	9.000	Single Line	19.7
6.202000	59.69	---	87.00	27.31	1000.0	9.000	Single Line	19.7
6.206000	---	54.15	74.00	19.85	1000.0	9.000	Single Line	19.7
6.206000	58.91	---	87.00	28.09	1000.0	9.000	Single Line	19.7

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

Radiated Electric Field Emissions(Below 1 ㎓)

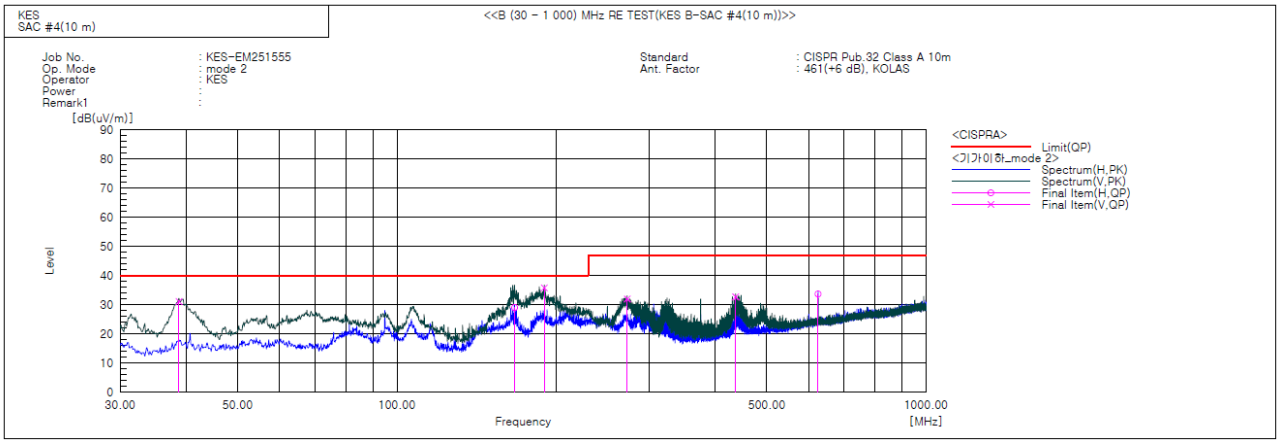
■ mode 1



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	37.760	V	53.6	-22.0	31.6	40.0	8.4	177.0	279.0	
2	81.289	H	48.2	-25.7	22.5	40.0	17.5	322.0	311.0	
3	166.770	V	53.8	-19.8	34.0	40.0	6.0	178.0	279.0	
4	326.820	V	49.0	-16.1	32.9	47.0	14.1	187.0	6.0	
5	624.974	V	39.6	-6.5	33.1	47.0	13.9	196.0	6.0	
6	846.861	V	36.4	-2.8	33.6	47.0	13.4	186.0	6.0	

■ mode 2



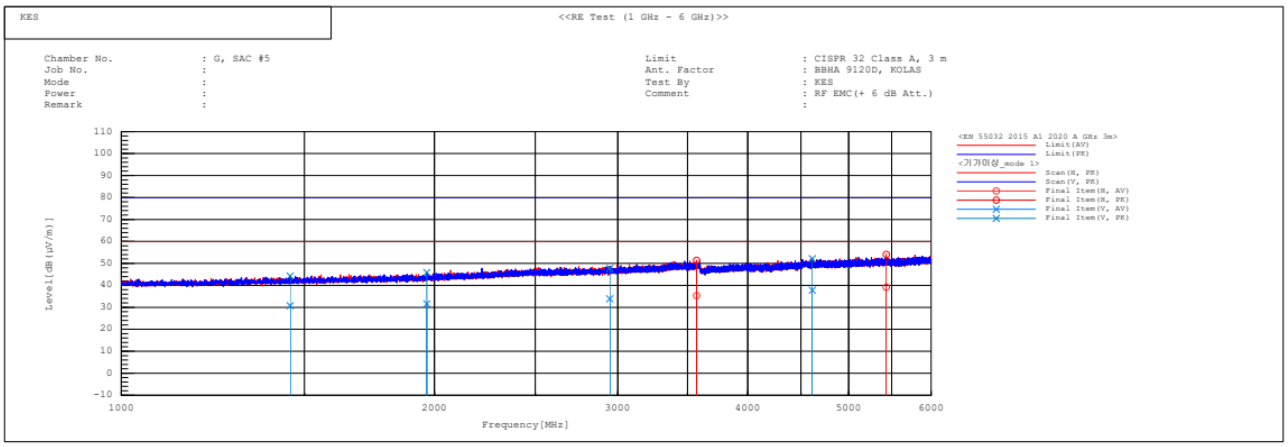
Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	38.730	V	53.0	-21.9	31.1	40.0	8.9	179.0	308.0	
2	166.891	H	48.8	-19.8	29.0	40.0	11.0	382.0	324.0	
3	189.929	V	57.4	-21.6	35.8	40.0	4.2	197.0	339.0	
4	272.379	V	50.2	-18.2	32.0	47.0	15.0	137.0	347.0	
5	436.673	V	44.7	-12.0	32.7	47.0	14.3	169.0	33.0	
6	625.095	H	40.2	-6.5	33.7	47.0	13.3	303.0	265.0	

♦ Calculation
Result(QP) [dB(㎶/m)] = (Reading(QP)[dB(㎶)] + c.f[dB(1/m)]
Margin(QP)[dB] = Limit[dB(㎶/m)] - Result(QP) [dB(㎶/m)]
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Radiated Electric Field Emissions(Above 1 ㎓)

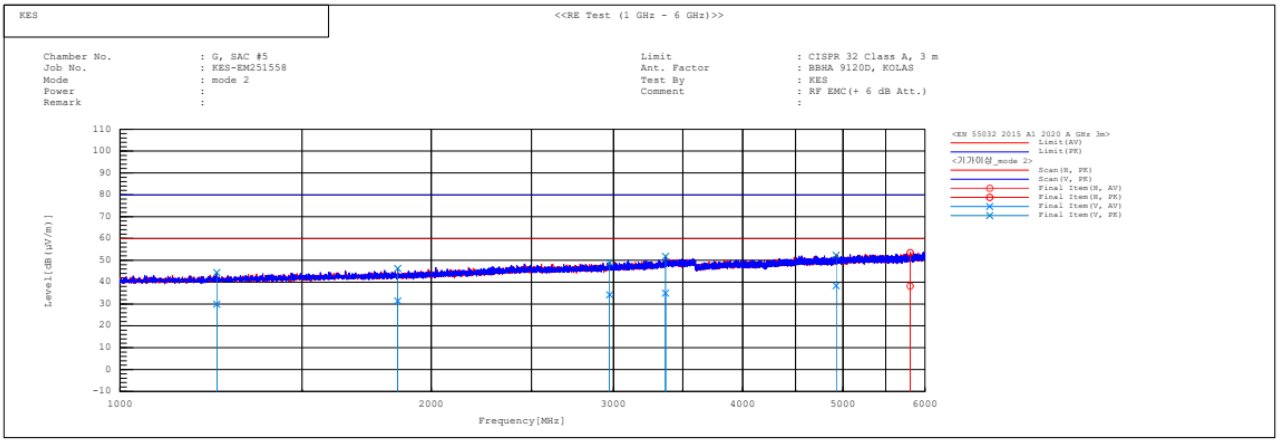
■ mode 1



Final Result

No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result 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	1453.000	V	29.3	42.8	1.4	44.2	60.0	80.0	29.3	35.8	100.0	4.9	
2	1966.253	V	28.5	42.7	3.1	45.8	60.0	80.0	28.4	34.2	100.0	359.3	
3	2948.136	V	27.8	41.6	6.1	47.7	60.0	80.0	26.1	32.3	100.0	158.7	
4	3571.055	H	27.7	43.8	7.6	51.4	60.0	80.0	24.7	28.6	100.0	249.5	
5	4615.121	V	27.0	41.3	10.8	52.1	60.0	80.0	22.2	27.9	100.0	164.2	
6	5433.880	H	26.9	41.9	12.2	54.1	60.0	80.0	20.9	25.9	100.0	255.0	

■ mode 2



Final Result

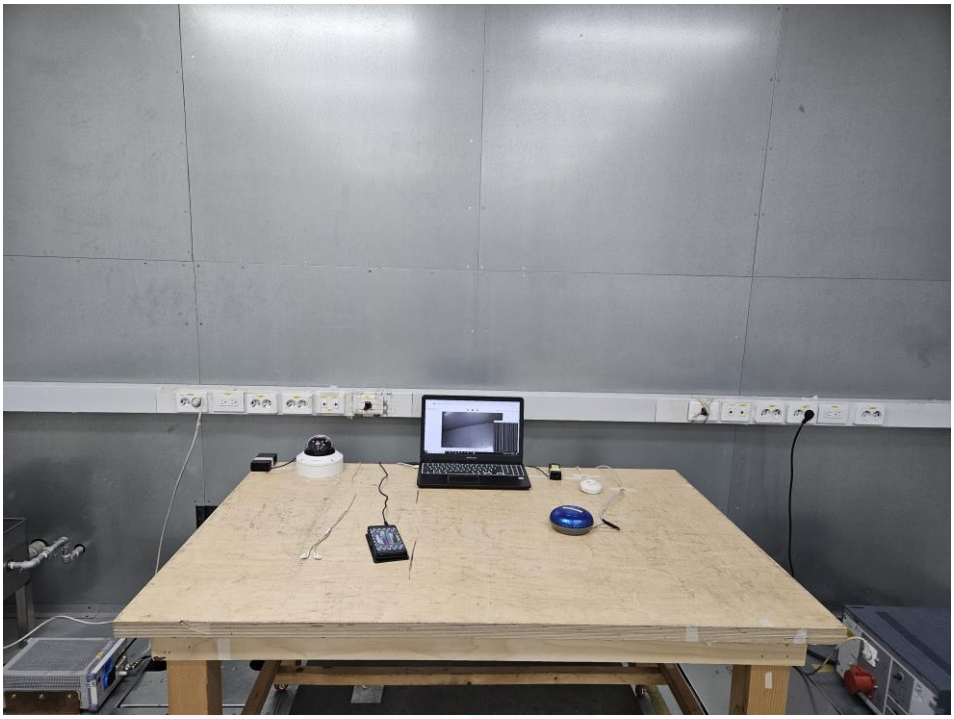
No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1240.500	V	29.5	44.0	0.4	44.4	60.0	80.0	30.1	35.6	100.0	200.3	
2	1856.404	V	28.7	43.6	2.7	46.3	60.0	80.0	28.6	33.7	100.0	67.9	
3	2974.212	V	28.0	42.7	6.2	48.9	60.0	80.0	25.8	31.1	100.0	145.8	
4	3369.221	V	27.9	44.7	7.1	51.8	60.0	80.0	25.0	28.2	100.0	119.6	
5	4925.217	V	27.1	41.0	11.3	52.3	60.0	80.0	21.6	27.7	100.0	228.8	
6	5807.459	H	25.2	40.5	13.0	53.5	60.0	80.0	21.8	26.5	100.0	307.5	

♦ Calculation
Result(PK/CAV) [dB(μV/m)] = (Reading(PK/CAV)[dB(μV)] + c.f[dB(1/m)]
Margin(PK/CAV)[dB] = Limit[dB(μV/m)] - Result(PK/CAV) [dB(μV/m)]
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value
Limit(PK/CAV) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Test Setup Photos and Configuration

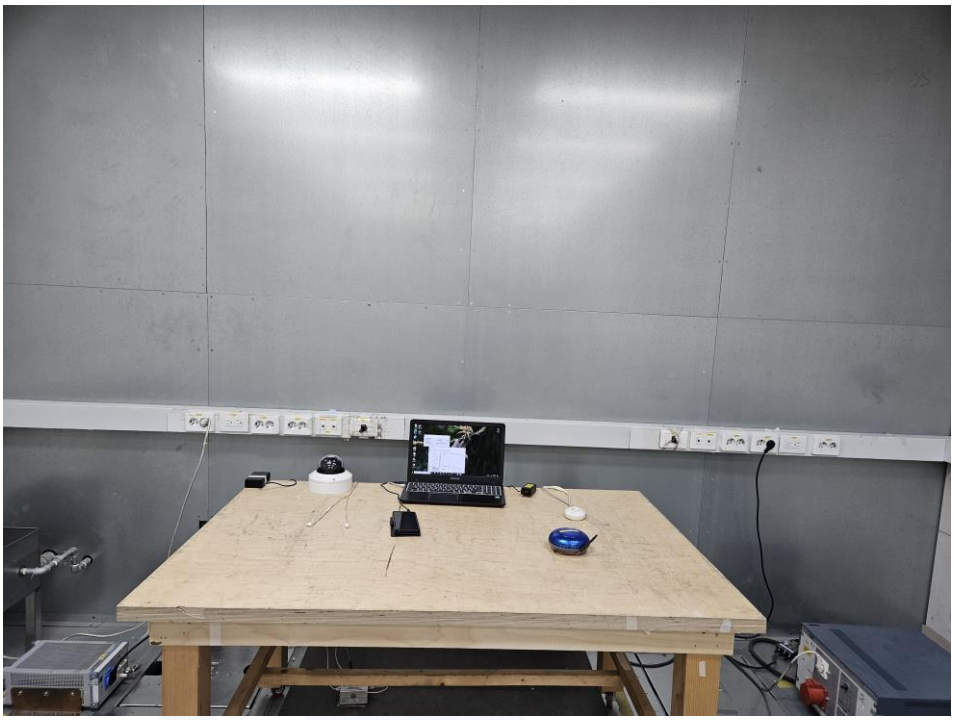
Conducted Emissions at Mains Power Ports

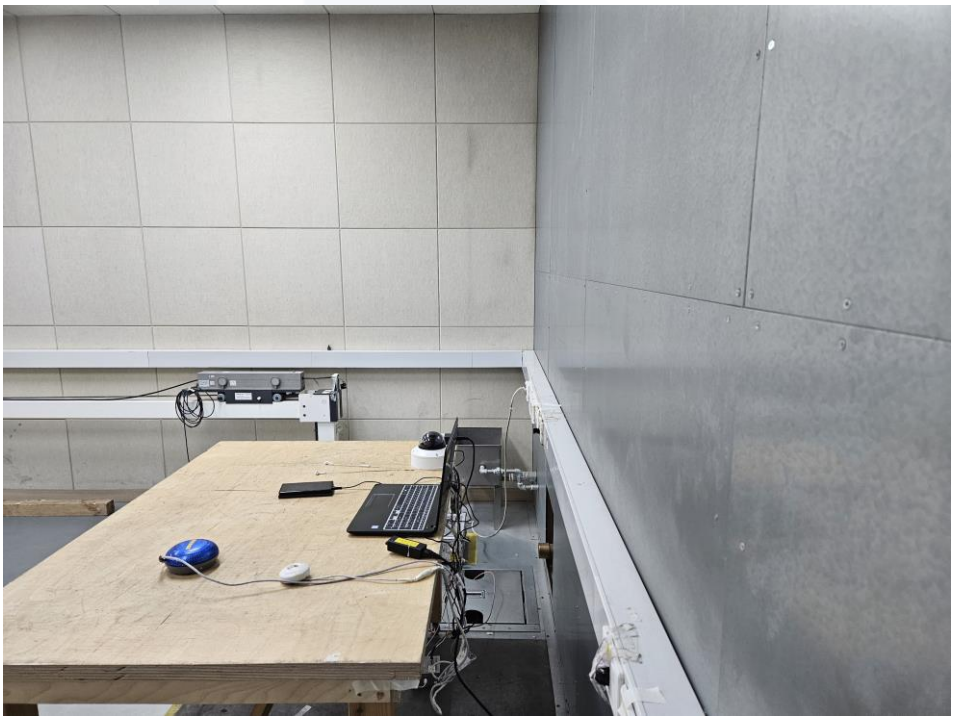
■ mode 1



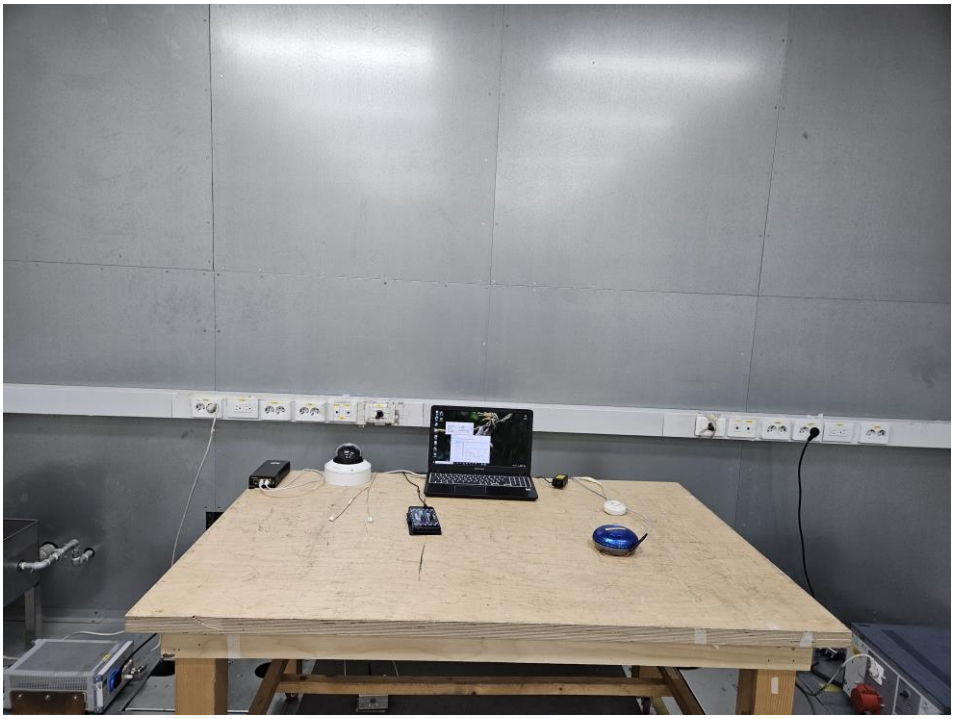
Conducted Emissions at Telecommunication Ports

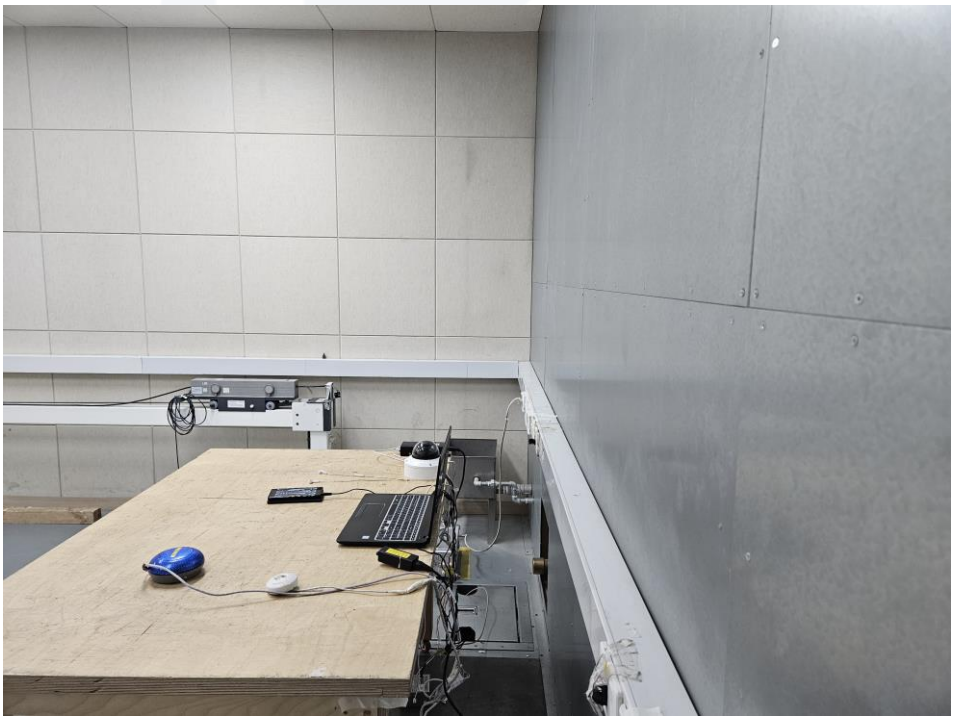
■ mode 1





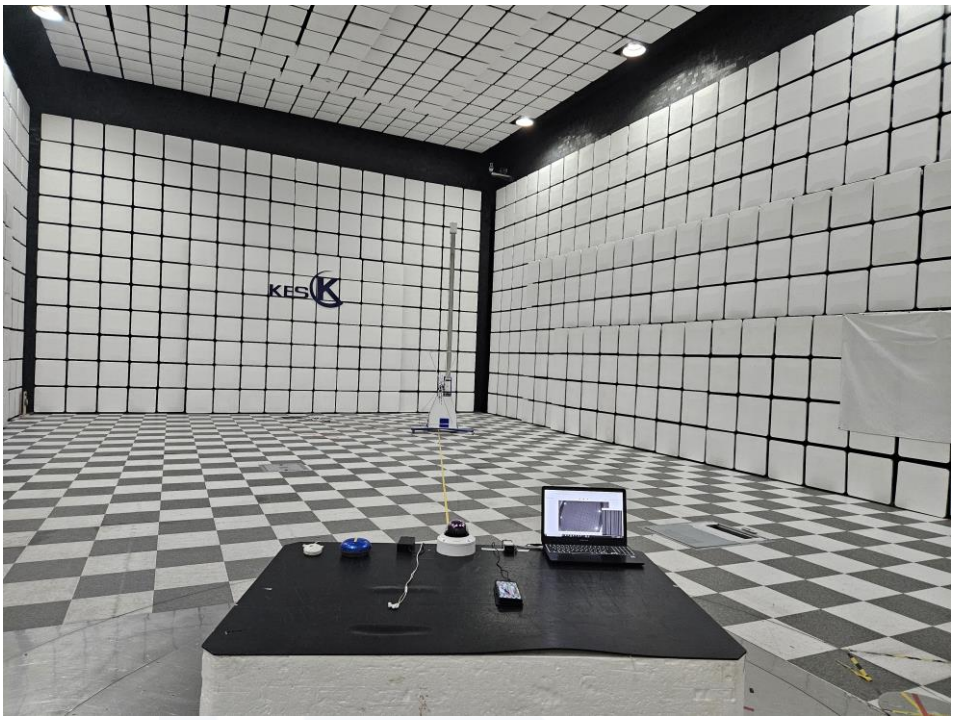
■ mode 2



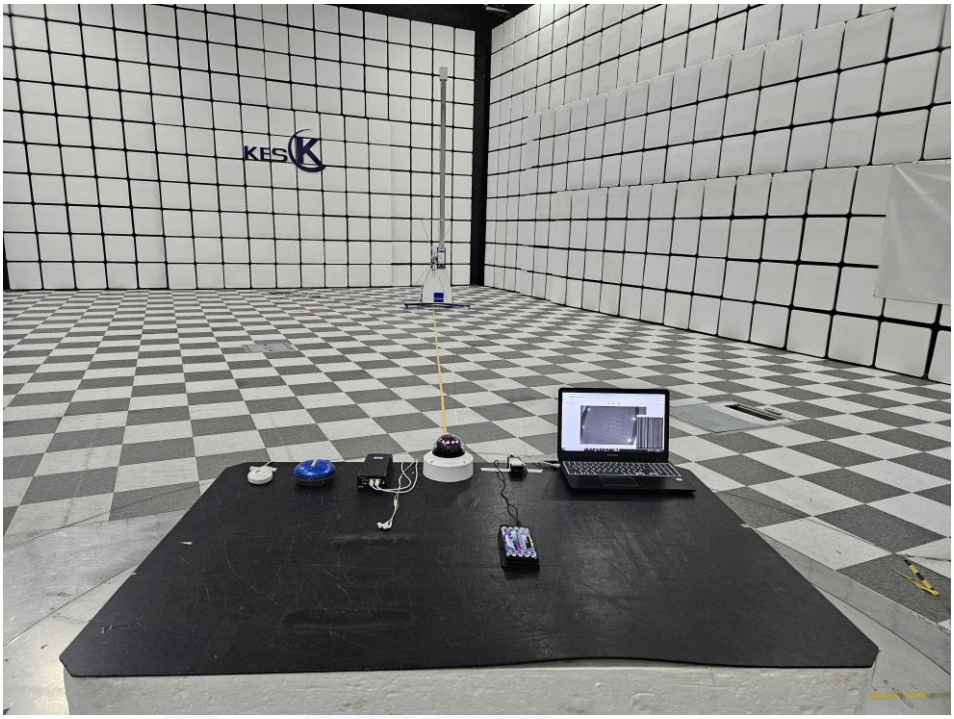


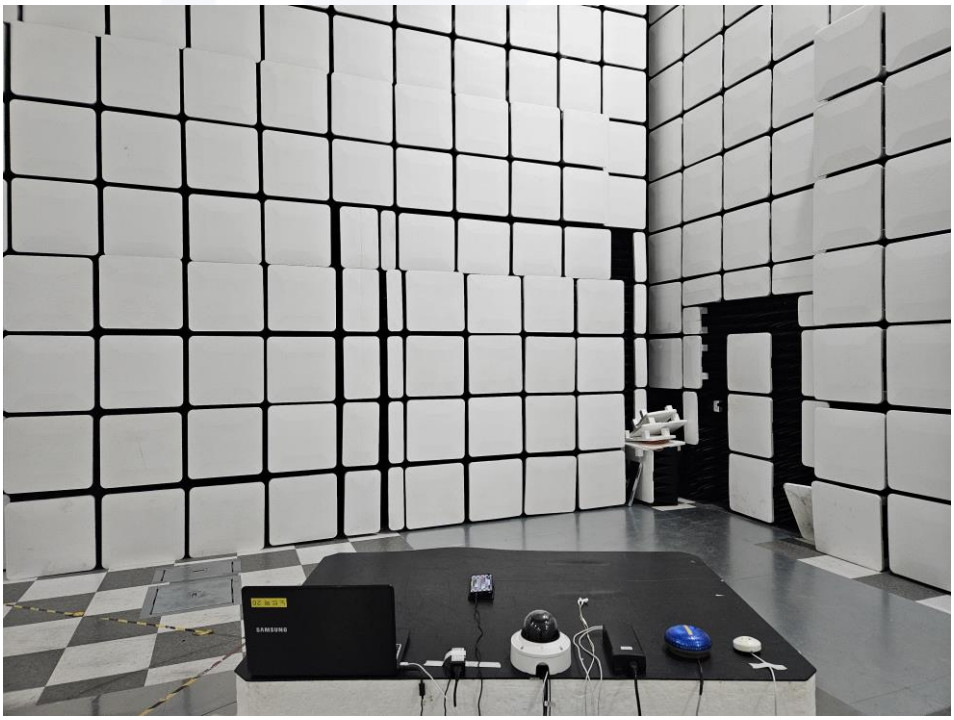
Radiated Electric Field Emissions(Below 1 ㎓)

■ mode 1



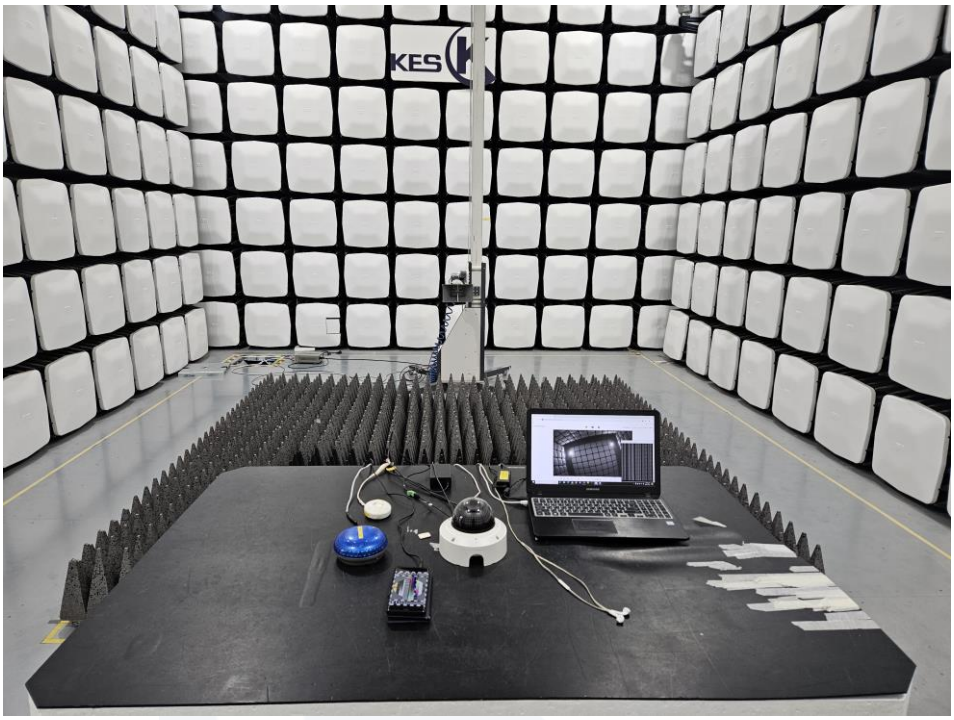
■ mode 2

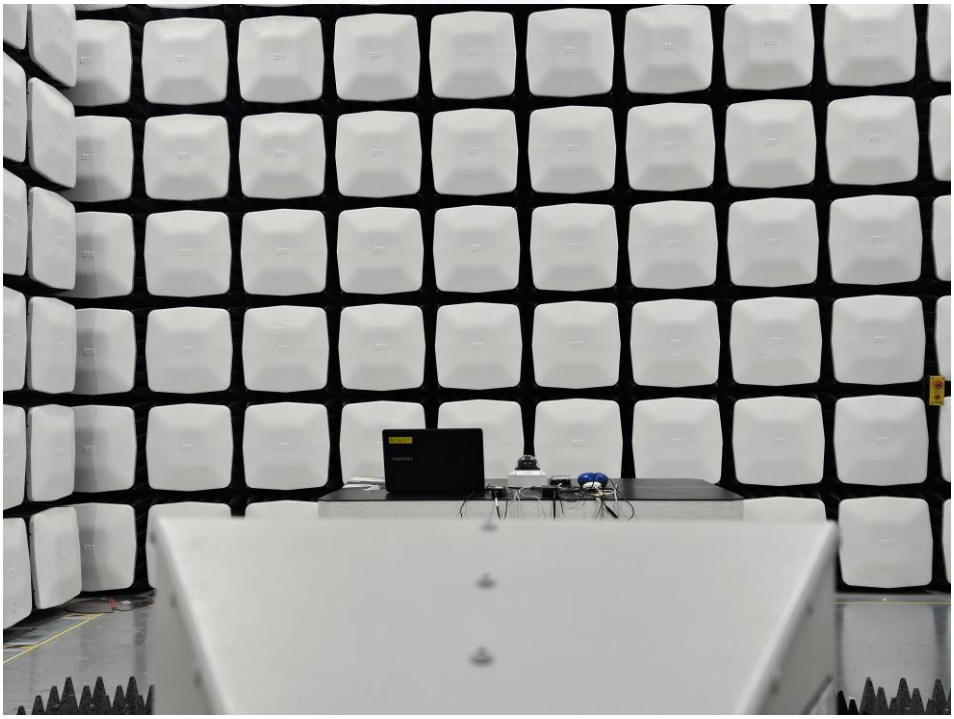




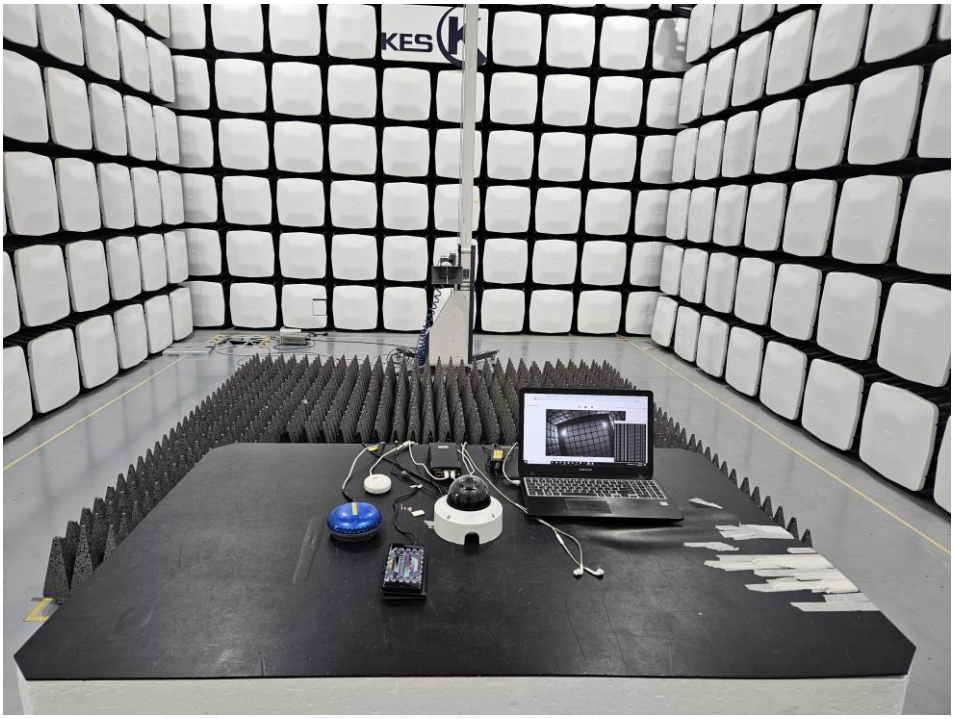
Radiated Electric Field Emissions(Above 1 ㎓)

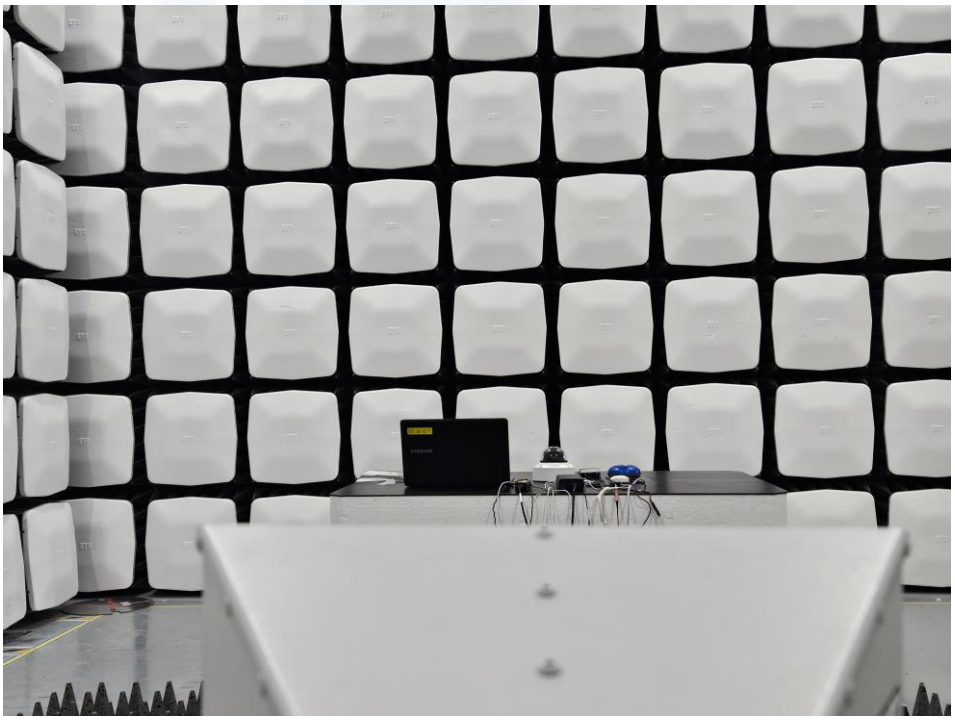
■ mode 1





■ mode 2





EUT External Photographs

(Top)

(Bottom)

EUT Internal Photographs

(Internal View)

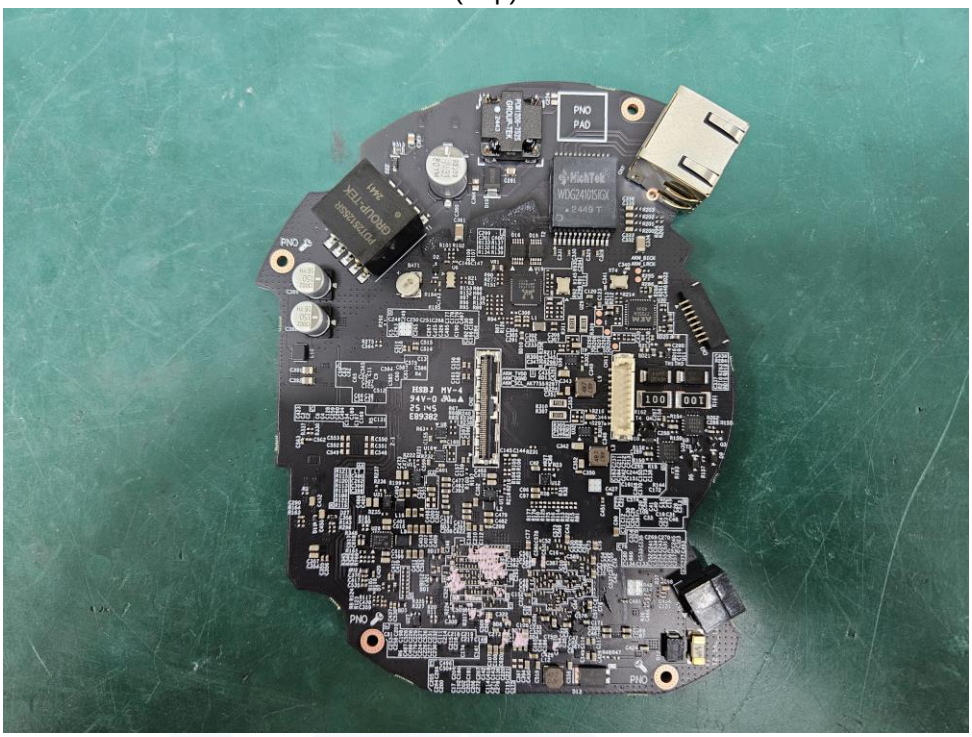
EUT Internal View – Board 1

(Top)

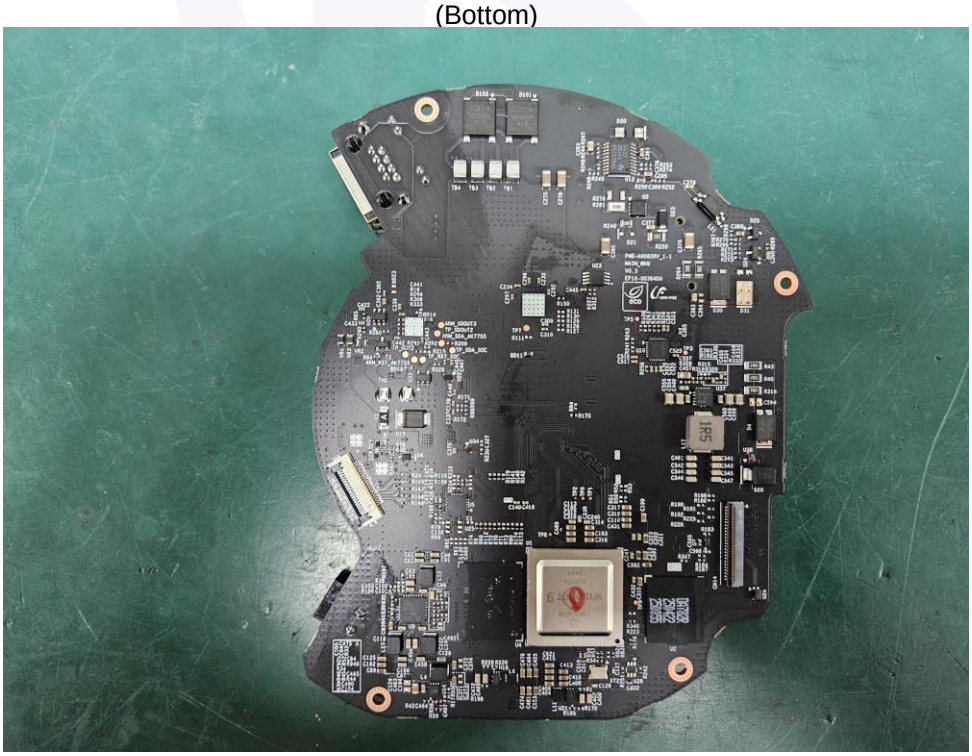
(Bottom)

EUT Internal View – Board 2

(Top)

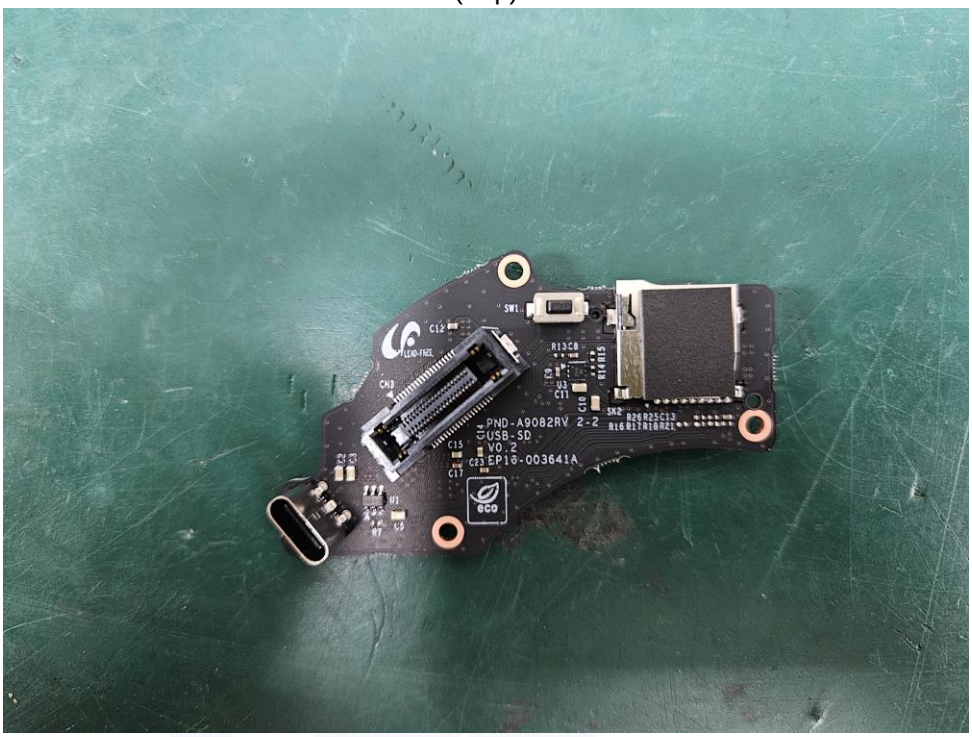


(Bottom)

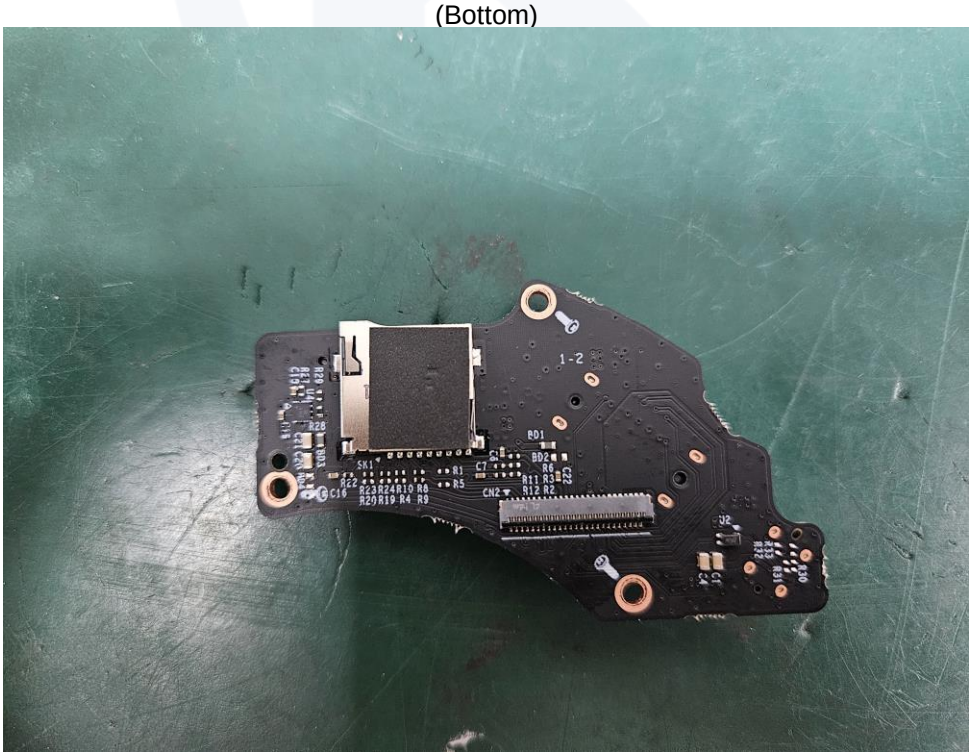


EUT Internal View – Board 3

(Top)

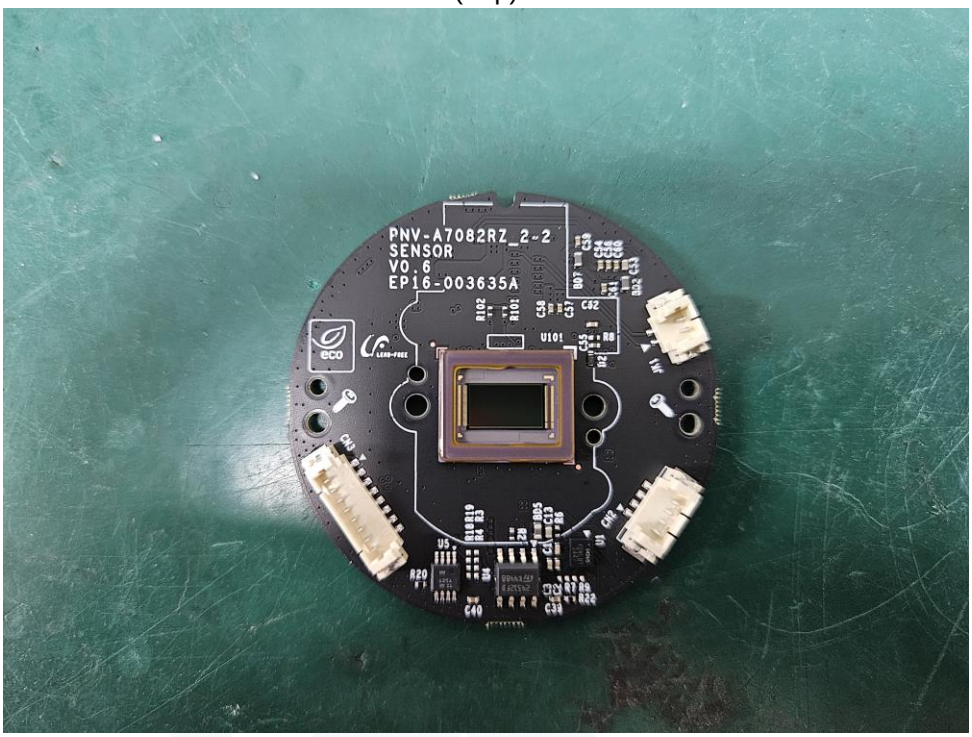


(Bottom)

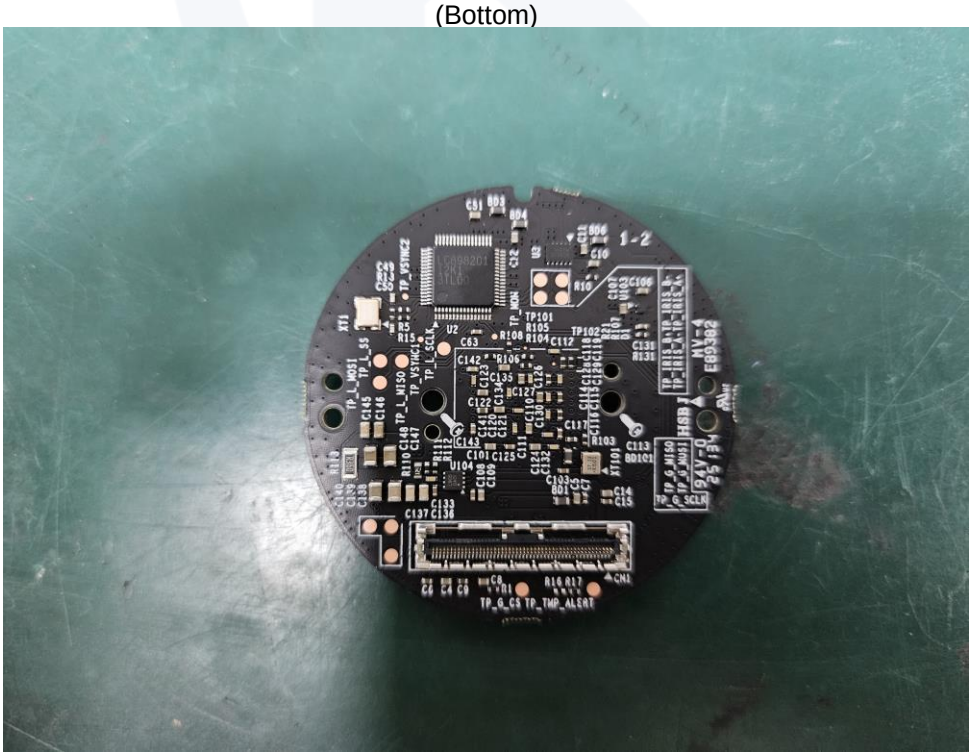


EUT Internal View – Board 4

(Top)



(Bottom)



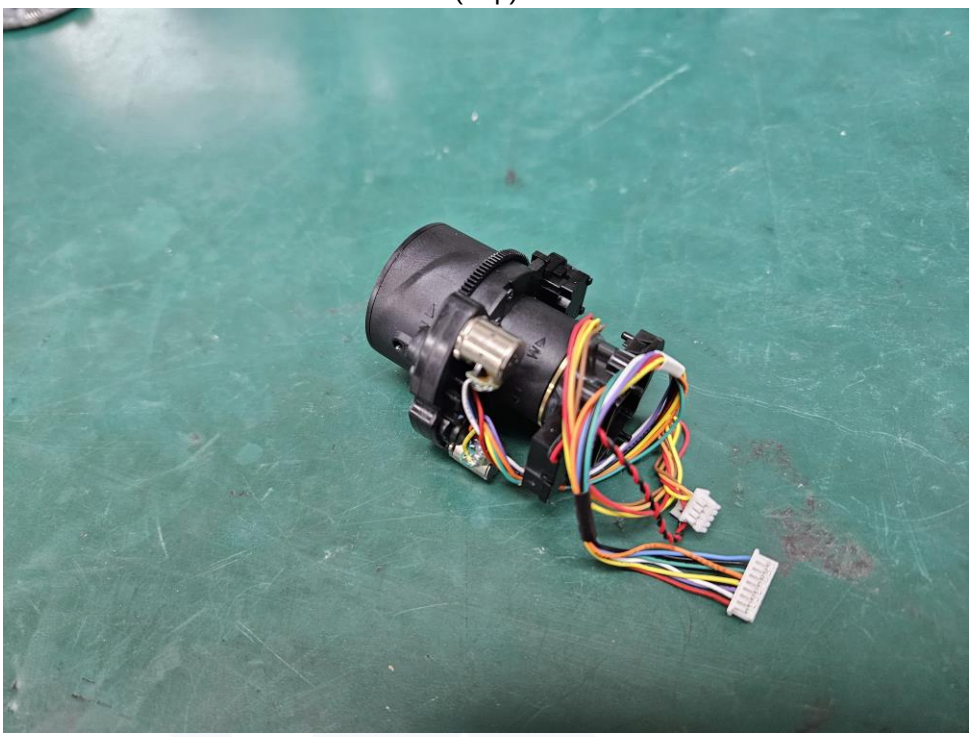
EUT Internal View – Board 5

(Top)

(Bottom)

EUT Internal View – Camera

(Top)



(Bottom)

The End.