



TEST REPORT



Report No. : KES-EM252724

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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 : +82-31-341-3838

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 : NETWORK CAMERA
- Model name : PNM-A13022RV
- 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. 08. 06. ~ 2025. 08. 07.

4. Location of Test : Permanent Testing Lab
○ Address : 473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Republic of Korea

5. Test method used : AS/NZS CISPR 32:2015/AMD1:2020

6. Test result : PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager by
	Name : KyeongJae Park	Name : DaeJung,Choi

2025. 08. 19

KES Co., Ltd.

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
2025. 08. 19	KES-EM252724	Issued

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

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



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1 Laboratory Information

1.1 Test Location

Category	Details
Address	473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Republic of Korea
Telephone Number	070-4910-6200
Facsimile Number	031-341-3838

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 240 V, 50 Hz / PoE

2.2 Summary of Test Results

Test Item	Test Standard	Test Result	Remark
Conducted Emissions at Mains Power Ports	AS/NZS CISPR 32:2015/AMD1:2020	PASS	-
Conducted Emissions at Telecommunication Ports		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
Internal highest clock frequency		1.2 GHz
Power	Rated power	DC 12 V (AC/DC Adapter Power), PoE Power
	Tested power	AC 120 V / 60 Hz
I/O Port	User Port	DC(2 Pin) 1 EA, RJ-45 1 EA, 7 Pin 1 EA, Micro SD Card Slot 2 EA
	Unused/Administrator Ports	USB Type-C 1 EA
features	product features	NETWORK CAMERA
	radio features	Not applicable
Components		EUT 1 EA, 7 Pin Cable 1 EA
communication speed		1 000 Mbps
etc		Please refer to product specifications



	PNM-A13022RV
Video	
Imaging Device	1/2.8" 5M CMOS (x3)
Resolution	5120x2592, 4112x2080, 3240x1640, 2940x1488, 2560x1296, 2016x1016, 1600x800, 1424x720, 1280x648,
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps(60Hz/50Hz)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec), 0Lux(IR LED on)
Video Out	USB: USB Type C, for installation
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	3.06mm fixed focal (x3)
Optical Zoom	None
Max. Aperture Ratio	F1.6
Angular Field of View	H: 194°, V: 93°
Min. Object Distance	5m(16.4ft)
Focus Control	Fixed
Lens Type	None
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~360° / 0°~50° / -
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, WDR, SDR, HLC
Wide Dynamic Range	120dB
Digital Noise Reduction	WiseNRII(Based on AI engine), SSNRV
Digital Image Stabilization	None
Defog	None
Motion Detection	8ea, 8point Polygonal zones
Privacy Masking	32ea, 4point quadrangle zones - Color : Gray, Green, Red, Blue, Black, White
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	None
Electronic Shutter Speed	Minimum / Maximum / Prefer / Anti flicker (2~1/12,000sec) Auto prefer shutter control(Based on AI engine)
Digital PTZ	None
Video Rotation	Flip, Mirror



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 Analytics events based on AI engine - Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), FaceMask detection, Slip&Fall detection, Social Distancing detection, Analytics events - Defocus detection, Tampering, Audio detection, Virtual area(Appear/Disappear)
Business Intelligence	Based on AI engine: People/Vehicle/Crowd/Object counting, Queue management, Heatmap
Serial Interface	None
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional SPM-4210 I/O box
Alarm Triggers	Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription
Alarm Events	When alarm trigger occurred - File upload(Image): SMTP/SMTSPS/FTP/SFTP - File upload(video clip): FTP/SFTP - Notification: SMTP/SMTSPS/FTP/SFTP - 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 Streaming	None
Audio In	Selectable(mic In/line In) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
Light Type	IR LED
Light Viewable Length	None
IR Viewable Length	20m(65.62ft)
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 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz Opus: 48Kbps
Smart Codec	Manual(Sea area), WiseStream (AI-Based WiseStream)
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control
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/StartTLS, DHCP, FTP/SFTP, SMTP/SMTPS, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast), MQTT, SIP
Security	None
SIP support (VoIP, Peer-to-peer, SIP/P	Support
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform - WiseAI application included - Cloud connector application included
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), 802.1AE(MACsec)
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
Audit	Access / System / Event / Remote Log management
Device ID	Device Certificate(Hanwha vision Root CA)
Secure Storage	Secure element, SDcard partition encrypt
General	
Webpage Language	English, French, German, Spanish, Italian, Simplified Chinese, Traditional Chinese, Korean, Russian, Japanese, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 2TB (1TB * 2)
Memory	8GB RAM, 8GB eMMC
Environmental & Electrical	
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) 0~100%RH (condensing)
Storage Temperature / Humidity	-50°C~+60°C(-58°F~+140°F) / 0~90% RH
Wind Load	None
EPA(Effective Projected Area)	0.0286 m ²
Certification	IP66, NEMA4X, IK10
Input Voltage	PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE+: Max 22.3W, typical 11.5W 12VDC: Max 20.0W, typical 10.0W Power redundancy failover



Mechanical	
Color / Material	White / Aluminum Bubble: Hard-coated dome
RAL Code	RAL9003
Product Dimensions / Weight	Ø253x170mm(9.96"x6.69"), 2800g(6.17lb)
Compatible Conduit hole / Gangbox	3/4"(M25) Single, Double, 4"Octagon, 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 IP66, IEC/EN 62262 IK10, NEMA 250 type 4X 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-250HWMW
Back Box	None
Ceiling Mount (Assy)	SBP-300CMW
Ceiling Mount (Single Unit)	SBP-300CMW1
Wall Mount	BP-250WMW, SBP-300WMW, SBP-300WMW1, SBP-400WMW
Wall Mount Adaptor	None
Pole Mount	SBP-250WMW, SBP-300PMW2
Corner Mount	SBP-156KMW
Parapet Mount	SBP-300LMW
Tilt Mount	None
Cabinet	None
Housing	None
Gang Plate	None
Skin Cover	None
Weather Cap	SBV-253WCW
Dome Cover	None
Conduit Adaptor	None
Power Module	None
Interface Box	None
Other Compatible Models	SPB-MDC21W
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	43.8m(143.85ft)
Observe (63PPM/ 19PPF)	17.5m(57.54ft)
Recognize (125PPM/ 38PPF)	8.8m(28.77ft)
Identify (250PPM/ 76PPF)	4.4m(14.39ft)



4 EUT Setup and Operation Mode

4.1 EUT Configuration

Equipment Under Test

Product Name	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	PNM-A13022RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

Support Equipments

Product Name	Model Number	Serial Number	Manufacturer	Remarks
PoE Adapter	PT-PSE106GBR-AH-S	-	Dongguan PROCET Network Technology Co.,Ltd	-
Laptop	LG15N54	506NZGK000615	LG Electronics	-
Laptop Adapter	PA-1650-43(65W)	OF58U63849302Y609	LG Electronics	-
Micro SD Card 1	-	-	SanDisk	-
Micro SD Card 2	-	-	SanDisk	-
LED Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
HEADSET	K550	-	Britz®	-
AC/DC Adapter	2ACB022F	-	ChAnnel Well Technology (Guangzhou) 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	Product Name	I/O Port	Product Name
NETWORK CAMERA (EUT)	2 Pin	AC/DC Adapter	DC JACK	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)	Laptop	RJ-45 (LAN)	3.1	U
	Alarm IN	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT	LED Alarm	Alarm IN	3.1	U
	Audio IN	HEADSET	3.5 mm	1.4	U
	Audio OUT		3.5 mm	1.4	U
Laptop	DC JACK	Laptop Adapter	DC JACK	1.6	U

Mode 2

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	Product Name	I/O Port	차폐여부
NETWORK CAMERA (EUT)	RJ-45 (PoE)	PoE Adapter	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	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT	LED Alarm	Alarm IN	3.1	U
	Audio IN	HEADSET	3.5 mm	1.4	U
	Audio OUT		3.5 mm	1.4	U
PoE Adapter	RJ-45 (LAN)	Laptop	RJ-45 (LAN)	1.8	U
Laptop	DC JACK	Laptop Adapter	DC JACK	1.6	U

* Unshielded=U, Shielded=S

**4.4 EUT Operating Mode(s)**

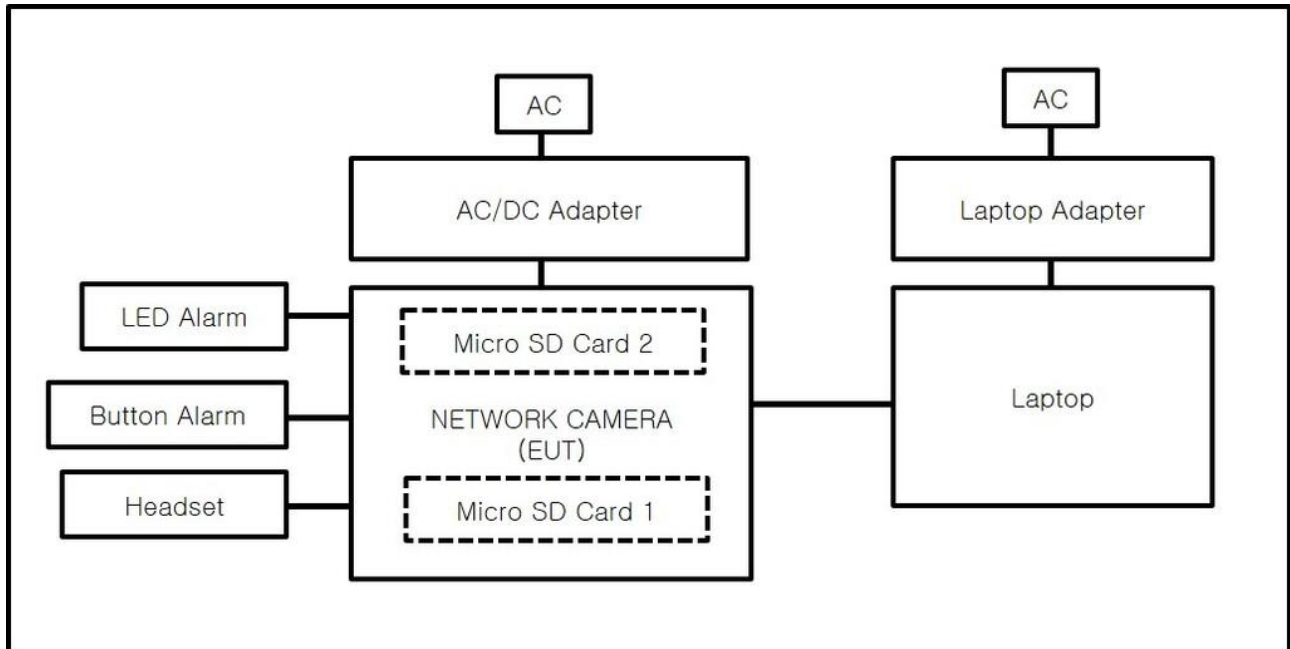
Category	Mode	Operating
Mode 1	AC/DC Adpater	- Monitoring EUT Using Web Viewer, Ping Test - When the Button Alarm is pressed, make sure the Alarm is working - Uploaded the 1 kHz tone sound to the Web Viewer and checked if the sound is output to the headset. - After the test, the recorded video stored on the Micro SD Card was checked and the microphone motion was also confirmed.
Mode 2	PoE	

4.5 Test operating S/W

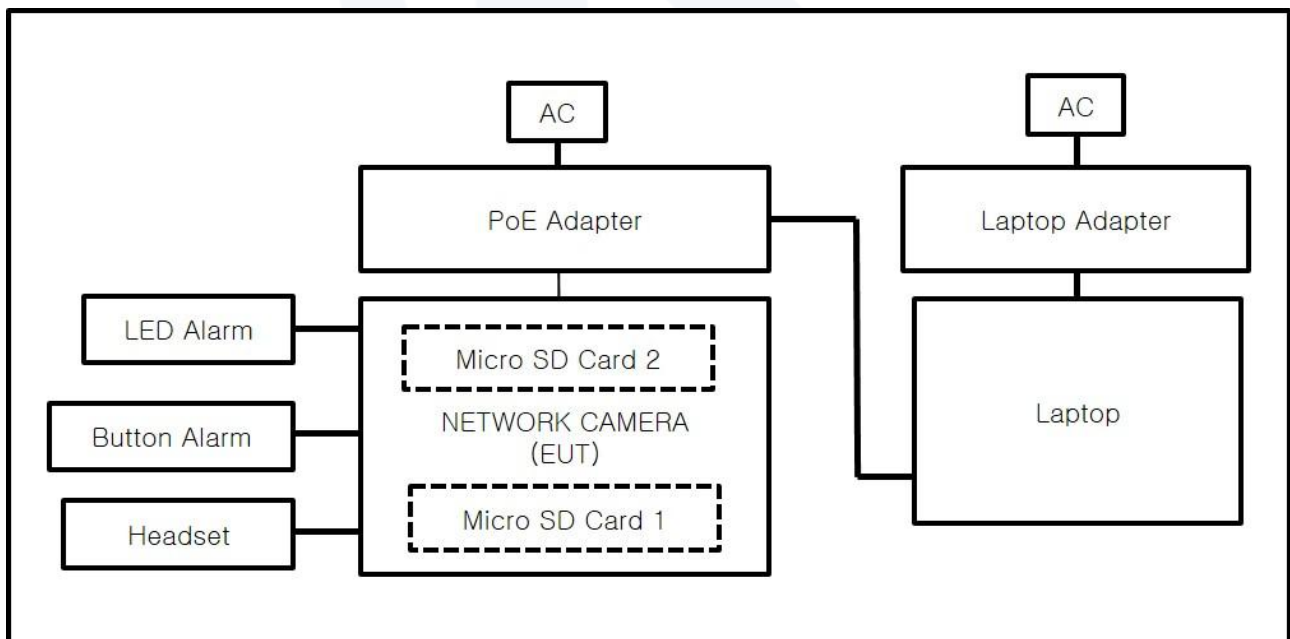
Name	Version	Manufacture Company
Web Viewer	-	HANWHA VISION VIETNAM COMPANY LIMITED



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 (Radiated Emissions(Below 1 GHz)) and 1 m (Radiated Emissions(Above 1 GHz)) 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.



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
(25.6 ~ 25.7) °C	(52.3 ~ 52.4) % R.H.

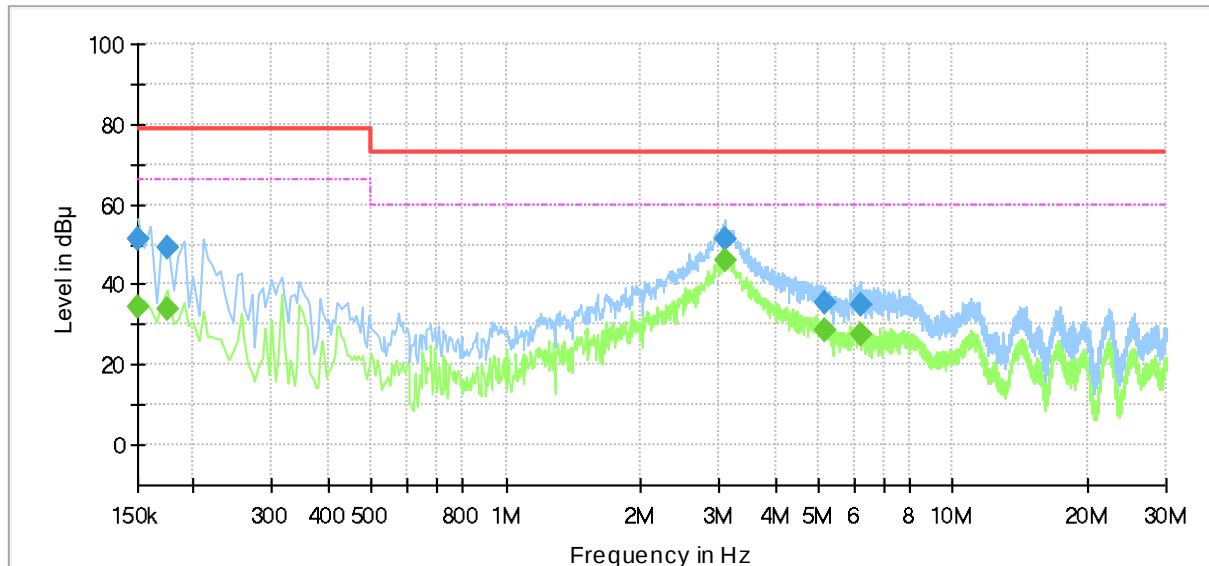


6.1.4 Test Result

- Test Date : 2025-08-07
- Test Mode : Mode 1

Test Report

Test Description: Conducted Emission
Job No.: KES-EM252724
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)
0.150000	—	34.47	66.00	31.53	1000.0	9.000	N	19.5
0.150000	51.32	—	79.00	27.68	1000.0	9.000	N	19.5
0.175000	—	33.85	66.00	32.15	1000.0	9.000	N	19.5
0.175000	49.14	—	79.00	29.86	1000.0	9.000	N	19.5
3.095000	—	46.05	60.00	13.95	1000.0	9.000	N	19.7
3.095000	51.22	—	73.00	21.78	1000.0	9.000	N	19.7
5.145000	—	28.51	60.00	31.49	1000.0	9.000	N	19.9
5.145000	35.22	—	73.00	37.78	1000.0	9.000	N	19.9
6.245000	—	27.74	60.00	32.26	1000.0	9.000	N	19.9
6.245000	34.72	—	73.00	38.28	1000.0	9.000	N	19.9



Report No. : KES-EM252724

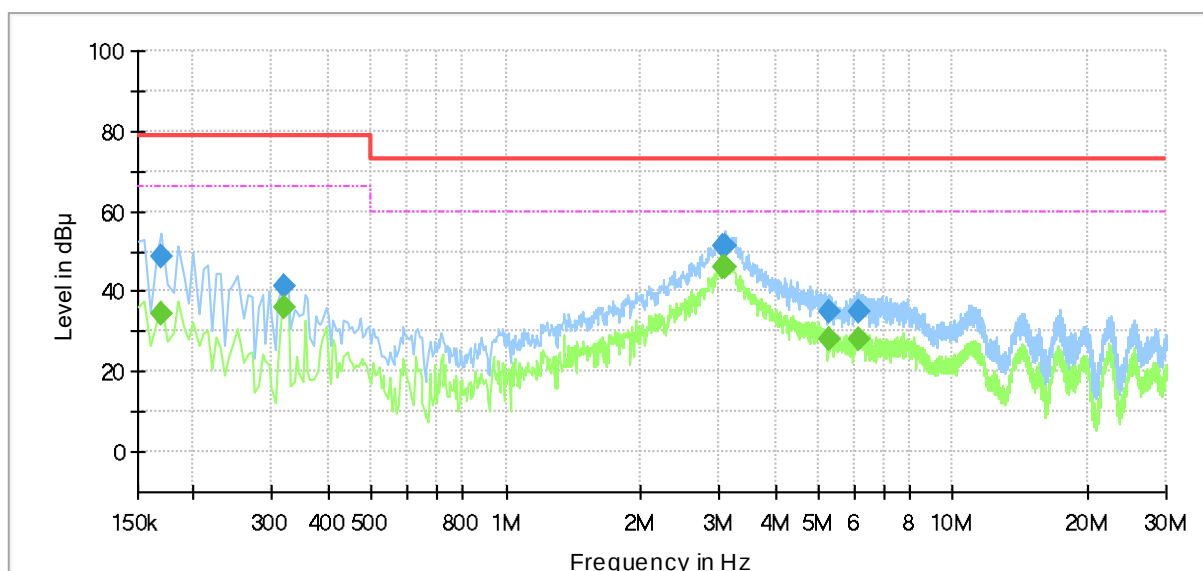
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○ Test Date : 2025-08-07

● Test Mode : Mode 1

Test Report

Test Description: Conducted Emission
Job No.: KES-EM252724
Phase: N
Mode: Mode 1
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	—	34.20	66.00	31.80	1000.0	9.000	N	19.5
0.170000	48.84	—	79.00	30.16	1000.0	9.000	N	19.5
0.320000	—	35.90	66.00	30.10	1000.0	9.000	N	19.5
0.320000	41.54	—	79.00	37.46	1000.0	9.000	N	19.5
3.075000	—	46.07	60.00	13.93	1000.0	9.000	N	19.7
3.075000	51.38	—	73.00	21.62	1000.0	9.000	N	19.7
3.100000	—	46.15	60.00	13.85	1000.0	9.000	N	19.7
3.100000	51.44	—	73.00	21.56	1000.0	9.000	N	19.7
5.260000	—	28.19	60.00	31.81	1000.0	9.000	N	19.9
5.260000	34.77	—	73.00	38.23	1000.0	9.000	N	19.9
6.180000	—	27.90	60.00	32.10	1000.0	9.000	N	19.9
6.180000	34.87	—	73.00	38.13	1000.0	9.000	N	19.9

6.1.5 Remark

Complies with the test requirements.



6.2 Conducted Emissions at Telecommunication Ports

6.2.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	9.12.00	-	-	■
EMI TEST RECEIVER	ESR3	Rohde & Schwarz	101783	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	■
8-WIRE ISN CAT6	ENY81-CAT6	Rohde & Schwarz	101666	2025-02-27	2026-02-27	■

6.2.2 Test Location : SHIELD ROOM #6

6.2.3 Test Conditions :

Temperature	Relative Humidity
(25.6 ~ 25.7) °C	(52.3 ~ 52.4) % R.H.

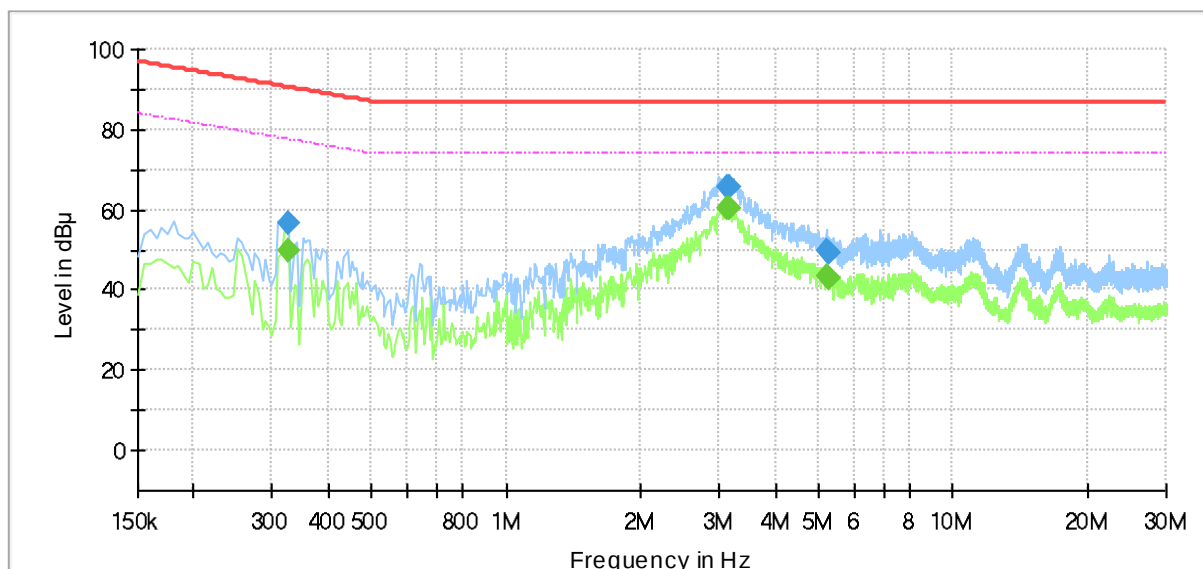


6.2.4 Test Result

- Test Date : 2025-08-07
- Test Mode : Mode 1

Test Report

Test Description: Telecommunication Emission
Job No.: KES-EM252724
Mode : Mode 1
Speed : 1 000 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.325000	—	49.58	77.58	28.00	1000.0	9.000	Single Line	19.5
0.325000	56.59	—	90.58	33.99	1000.0	9.000	Single Line	19.5
3.125000	—	60.40	74.00	13.60	1000.0	9.000	Single Line	19.3
3.125000	65.65	—	87.00	21.35	1000.0	9.000	Single Line	19.3
3.145000	—	60.13	74.00	13.87	1000.0	9.000	Single Line	19.3
3.145000	65.52	—	87.00	21.48	1000.0	9.000	Single Line	19.3
5.200000	—	43.31	74.00	30.69	1000.0	9.000	Single Line	19.5
5.200000	49.87	—	87.00	37.13	1000.0	9.000	Single Line	19.5
5.260000	—	42.88	74.00	31.12	1000.0	9.000	Single Line	19.5
5.260000	49.46	—	87.00	37.54	1000.0	9.000	Single Line	19.5



Report No. : KES-EM252724

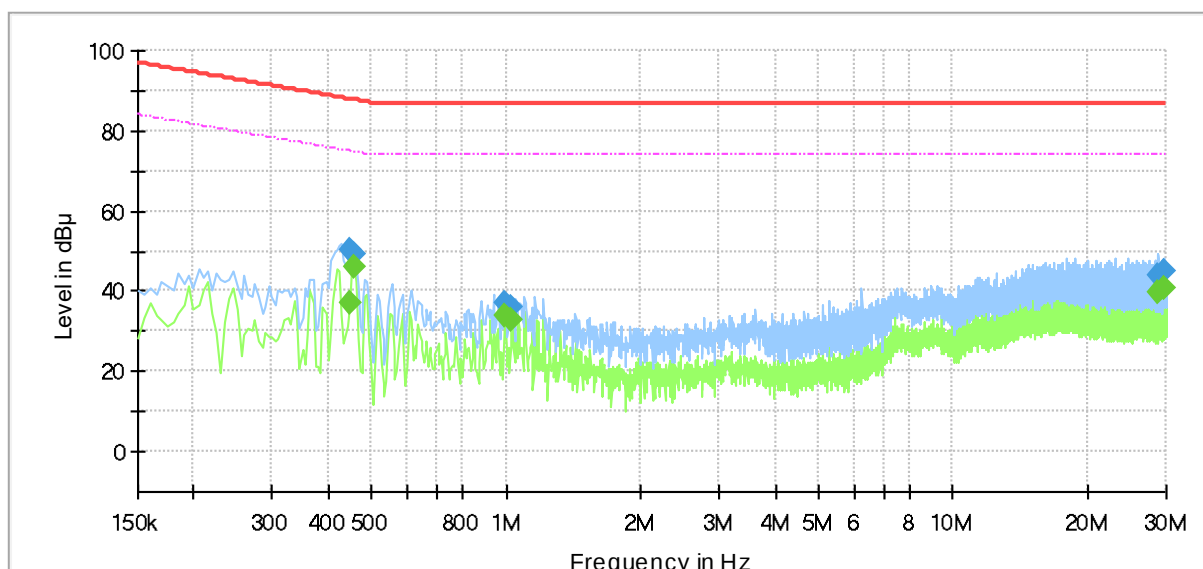
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○ Test Date : 2025-08-07

● Test Mode : Mode 2

Test Report

Test Description: Telecommunication Emission
Job No.: KES-EM252724
Mode : Mode 2
Speed : 1 000 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.445000	—	37.05	74.97	37.92	1000.0	9.000	Single Line	19.4
0.445000	50.40	—	87.97	37.57	1000.0	9.000	Single Line	19.4
0.455000	—	46.31	74.78	28.47	1000.0	9.000	Single Line	19.4
0.455000	49.21	—	87.78	38.57	1000.0	9.000	Single Line	19.4
0.995000	—	33.99	74.00	40.01	1000.0	9.000	Single Line	19.3
0.995000	36.96	—	87.00	50.04	1000.0	9.000	Single Line	19.3
1.030000	—	32.64	74.00	41.36	1000.0	9.000	Single Line	19.3
1.030000	36.07	—	87.00	50.93	1000.0	9.000	Single Line	19.3
28.770000	—	39.92	74.00	34.08	1000.0	9.000	Single Line	20.0
28.770000	43.93	—	87.00	43.07	1000.0	9.000	Single Line	20.0
29.640000	—	40.87	74.00	33.13	1000.0	9.000	Single Line	20.1
29.640000	44.93	—	87.00	42.07	1000.0	9.000	Single Line	20.1

6.2.5 Remark

Complies with the test requirements.



6.3 Radiated Emissions(Below 1 GHz)

6.3.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #4(10 m)	-	DYMSTEC	-	-	-	■
EP5/RE Software	EP5/RE	TOYO	6.0.0	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100551	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+SUHNE R	-	2025-02-13	2026-02-13	■

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

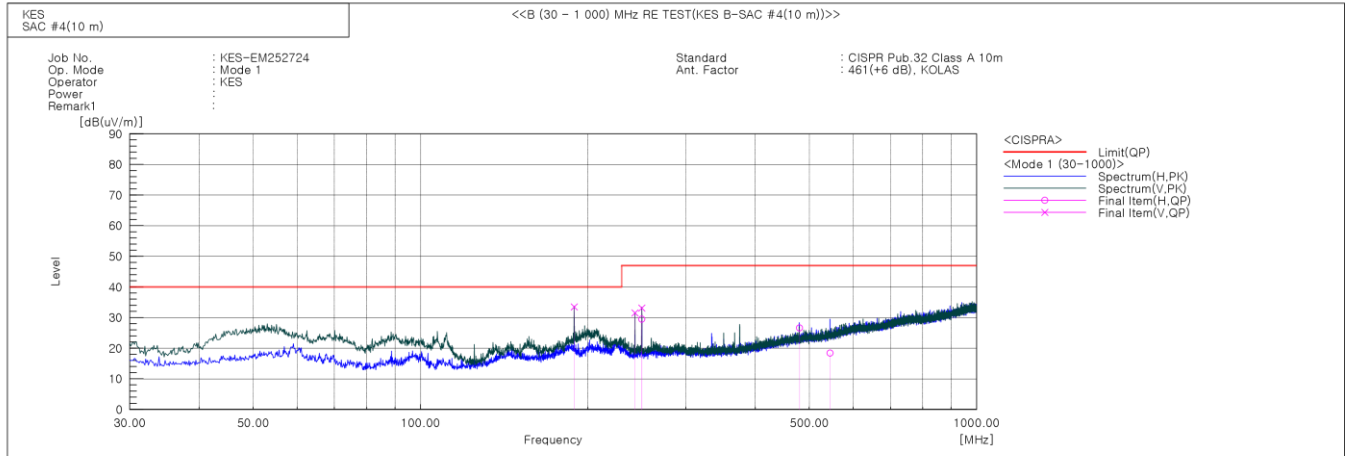
6.3.3 Test Conditions :

Temperature	Relative Humidity
(26.1 ~ 26.2) °C	(55.9 ~ 56.0) % R.H.



6.3.4 Test Result

- Test Date : 2025-08-06
- Test Mode : Mode 1



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	188.991	V	55.0	-21.5	33.5	40.0	6.5	108.0	144.0	
2	242.995	V	51.4	-19.9	31.5	47.0	15.5	109.0	6.0	
3	249.990	V	52.5	-19.4	33.1	47.0	13.9	105.0	42.0	
4	249.996	H	48.9	-19.4	29.5	47.0	17.5	398.0	245.0	
5	480.016	H	37.2	-10.6	26.6	47.0	20.4	390.0	344.0	
6	544.779	H	27.5	-9.1	18.4	47.0	28.6	388.0	181.0	

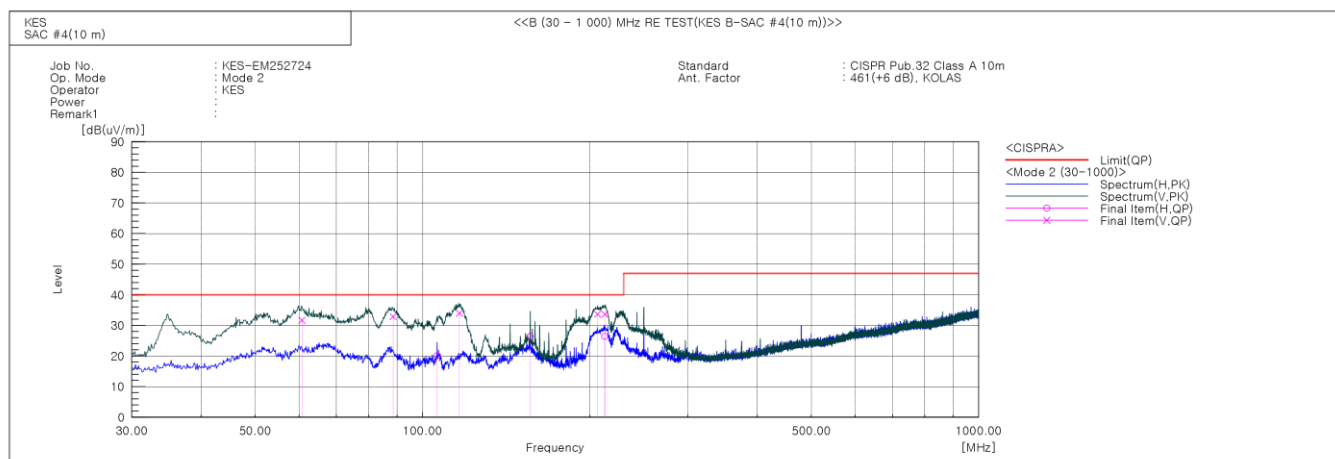
※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.



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- Test Date : 2025-08-06
- Test Mode : Mode 2



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	60.688	V	53.1	-21.4	31.7	40.0	8.3	155.0	113.0	
2	88.526	V	59.0	-26.1	32.9	40.0	7.1	153.0	109.0	
3	106.248	H	44.0	-23.9	20.1	40.0	19.9	395.0	282.0	
4	116.489	V	56.7	-22.7	34.0	40.0	6.0	110.0	191.0	
5	156.282	H	45.7	-19.3	26.4	40.0	13.6	398.0	135.0	
6	206.310	V	55.4	-21.7	33.7	40.0	6.3	104.0	168.0	
7	212.485	H	47.9	-21.5	26.4	40.0	13.6	395.0	86.0	
8	212.660	V	55.2	-21.5	33.7	40.0	6.3	109.0	179.0	

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

6.3.5 Remark

Complies with the test requirements.



6.4 Radiated Emissions(Above 1 GHz)

6.4.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #5	-	SY Corporation	-	-	-	■
ES10/RE Software	ES10/RE	TOYO	2022.01.000	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	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	SCHWARZBECK	9120D-1802	2024-11-04	2025-11-04	■

6.4.2 Test Location : SEMI ANECHOIC CHAMBER #5

6.4.3 Test Conditions :

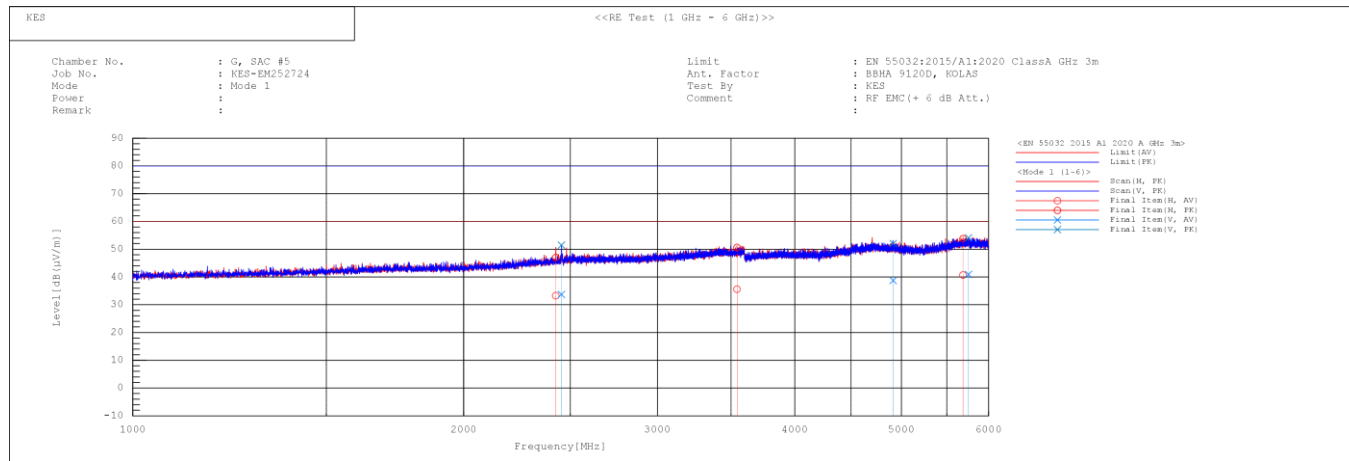
Temperature	Relative Humidity
(25.7 ~ 25.8) °C	(57.5 ~ 57.6) % R.H.



6.4.4 Test Result

○ Test Date : 2025-08-07

● 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]	Remark
1	2425.353	H	28.5	42.2	4.8	33.3	47.0	60.0	80.0	26.7	33.0	100.0	70.7	
2	2453.817	V	28.8	46.6	4.9	33.7	51.5	60.0	80.0	26.3	28.5	100.0	244.4	
3	3543.544	H	28.2	43.2	7.4	35.6	50.6	60.0	80.0	24.4	29.4	100.0	32.2	
4	4913.784	V	26.5	39.8	12.2	38.7	52.0	60.0	80.0	21.3	28.0	100.0	2.8	
5	5689.483	H	26.9	40.0	13.8	40.7	53.8	60.0	80.0	19.3	26.2	100.0	347.2	
6	5755.211	V	26.9	40.1	14.0	40.9	54.1	60.0	80.0	19.1	25.9	100.0	359.0	

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

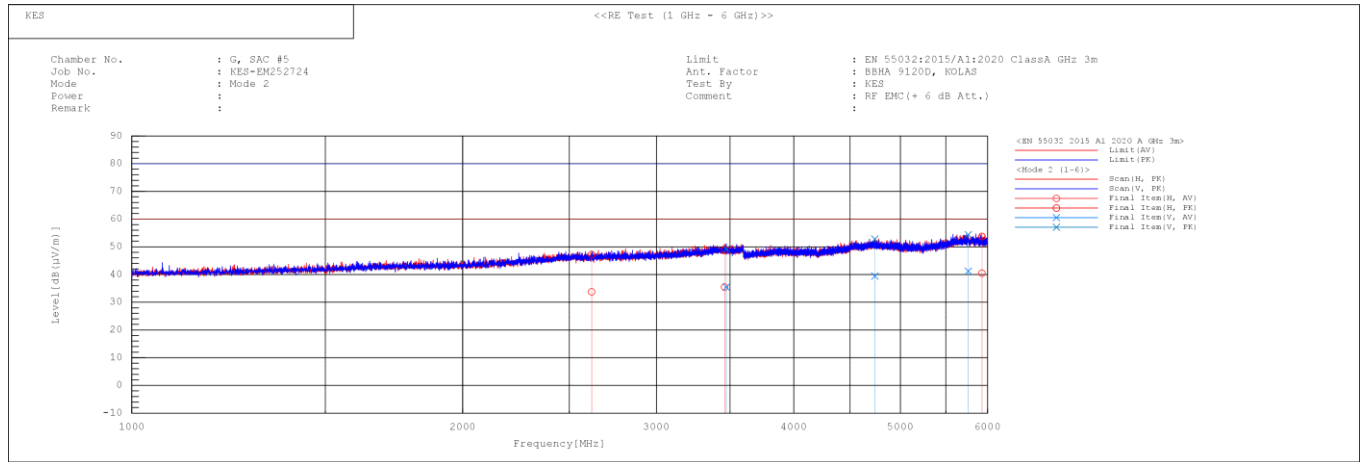


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○ Test Date : 2025-08-07

● Test Mode : Mode 2



No.	Frequency	Pol	Reading	Reading	c.f	Result	Result	Limit	Limit	Margin	Margin	Height	Angle	Remark
	[MHz]		AV	PK		AV	PK	AV	PK	AV	PK	[cm]	[deg]	
1	2619.242	H	28.5	41.9	5.3	33.8	47.2	60.0	80.0	26.2	32.8	100.0	170.6	
2	3459.362	H	28.3	41.7	7.2	35.5	48.9	60.0	80.0	24.5	31.1	100.0	191.0	
3	3473.209	V	28.3	42.0	7.2	35.5	49.2	60.0	80.0	24.5	30.8	100.0	271.2	
4	4739.733	V	27.8	41.2	11.6	39.4	52.8	60.0	80.0	20.6	27.2	100.0	35.1	
5	5762.961	V	27.2	40.4	14.0	41.2	54.4	60.0	80.0	18.8	25.6	100.0	334.2	
6	5929.975	H	26.2	39.4	14.3	40.5	53.7	60.0	80.0	19.5	26.3	100.0	356.9	

※ The data is the result of measured by the detector in PK and CISPR Average on the Peak graph.

※ The Average of the test data is the cispr average result.

6.4.5 Remark

Complies with the test requirements.

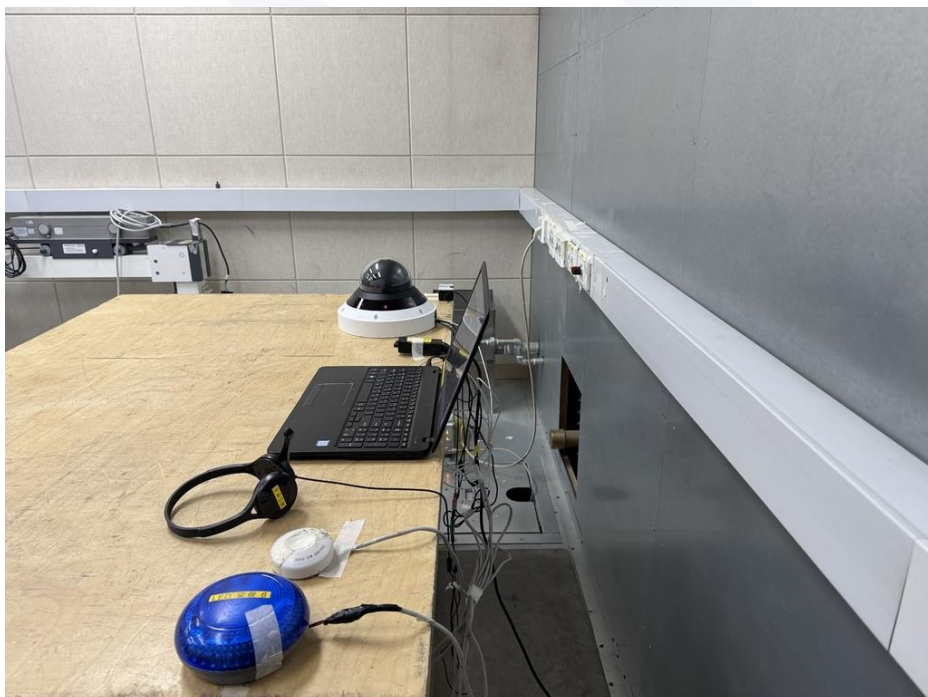


7 Test Setup Photos and EUT Photographs

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 Telecommunication Ports - Front>Mode 1



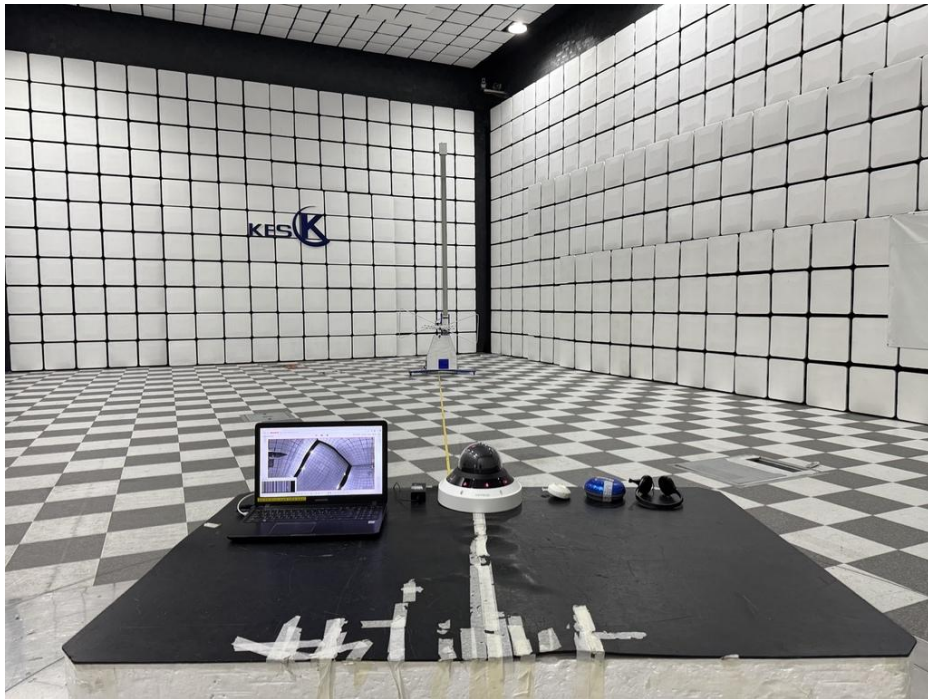
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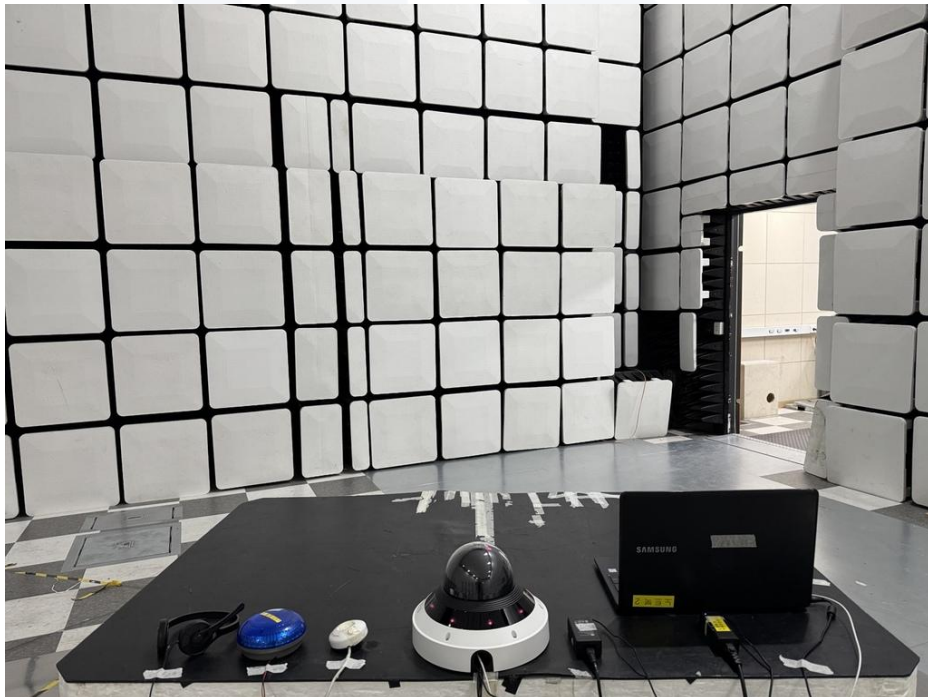
<Conducted Emissions at Telecommunication Ports - Front>Mode 2



<Conducted Emissions at Telecommunication Ports - Rear> Mode 2



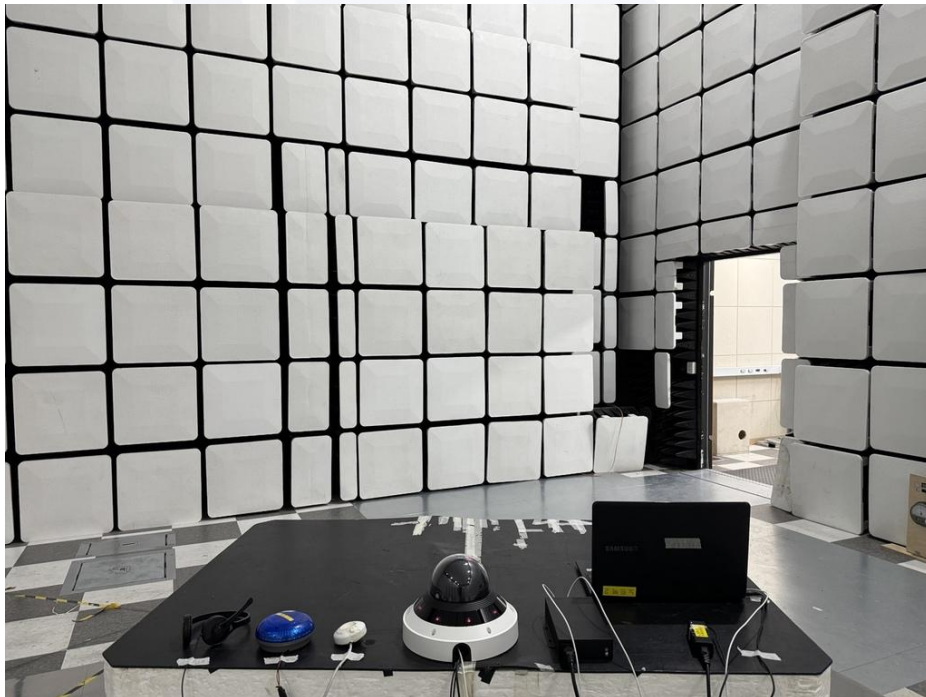
<Radiated Emissions(Below 1 GHz) - Front> Mode 1



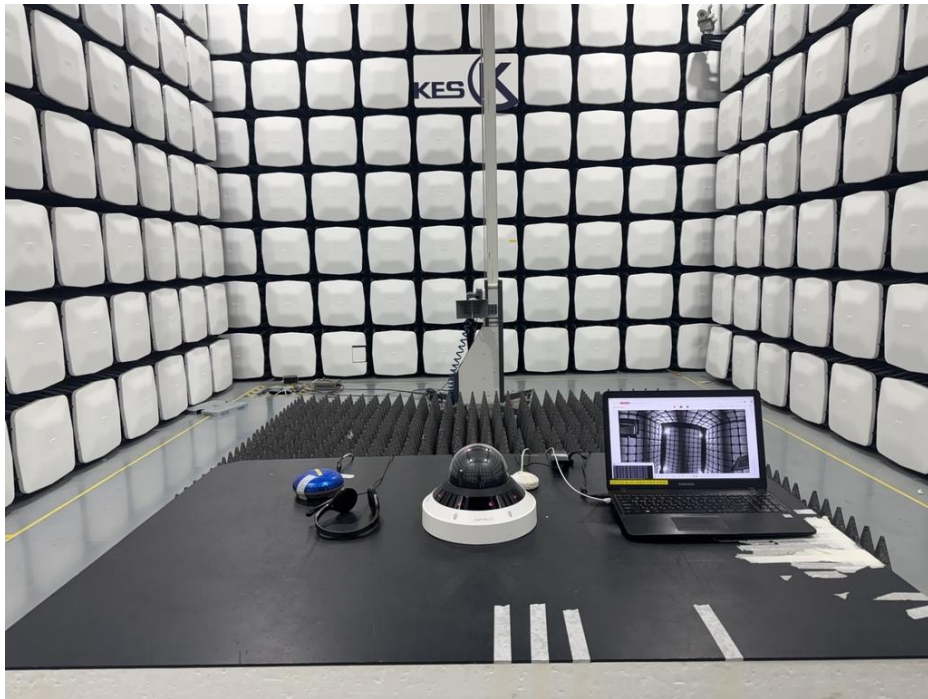
<Radiated Emissions(Below 1 GHz) - Rear> Mode 1



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



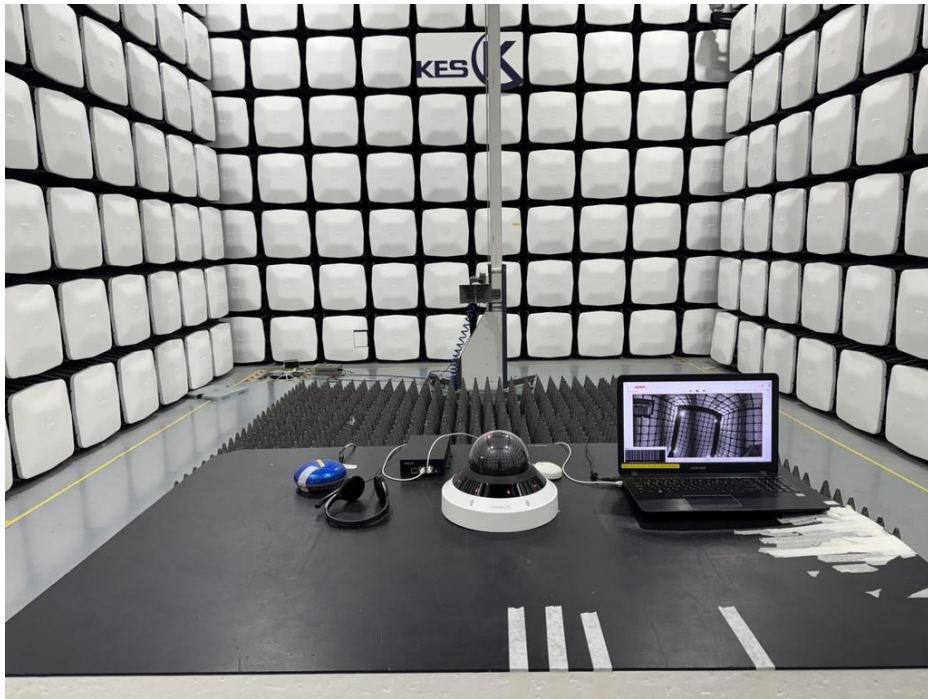
<Radiated Emissions(Below 1 GHz) - Rear> Mode 2



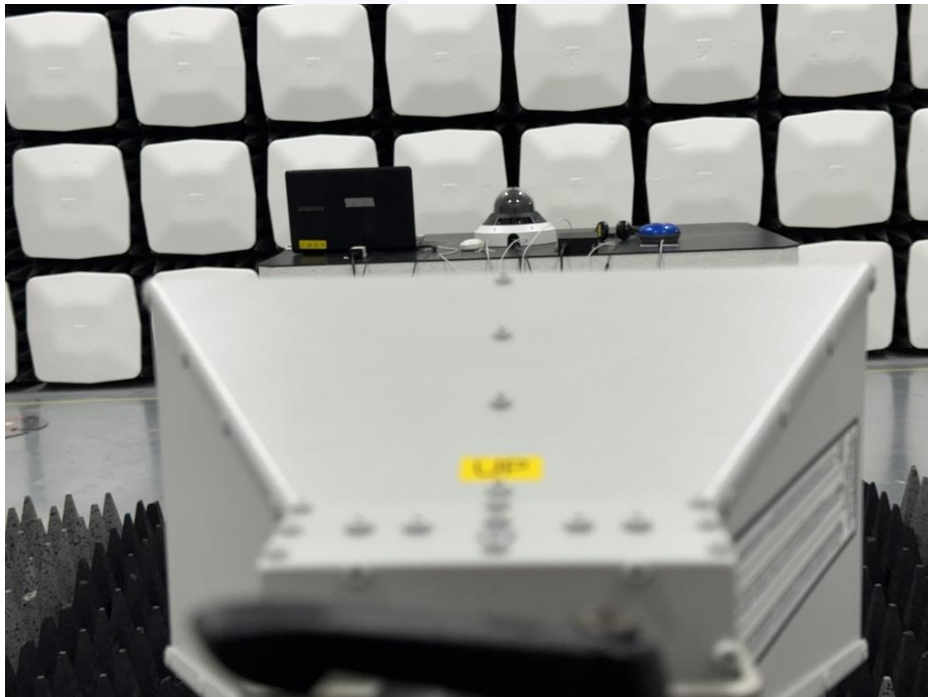
<Radiated Emissions(Above 1 GHz) - Front> Mode 1



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



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



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



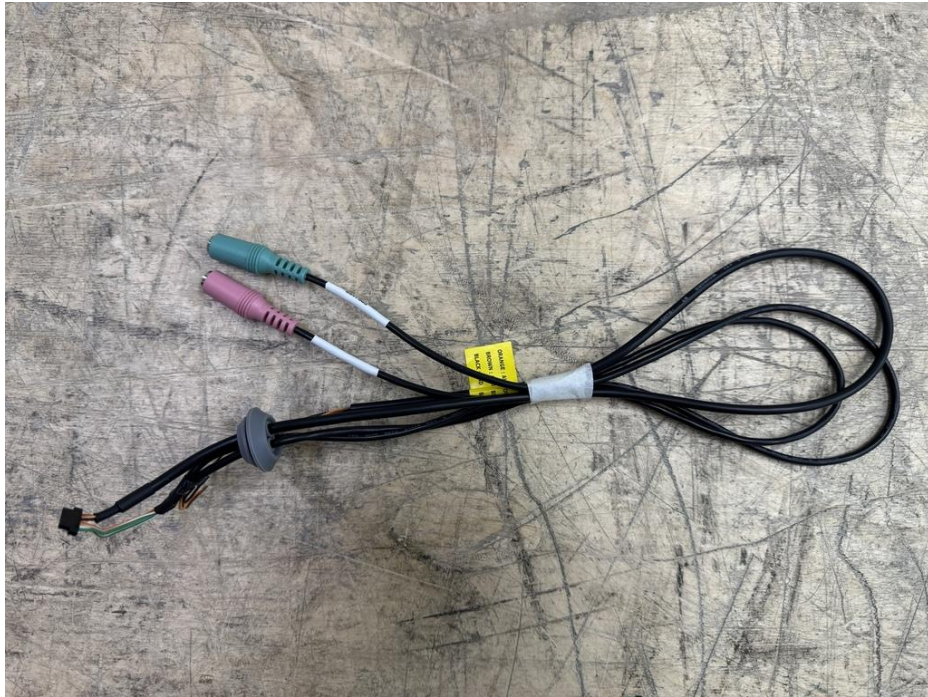
7.2 EUT Photographs



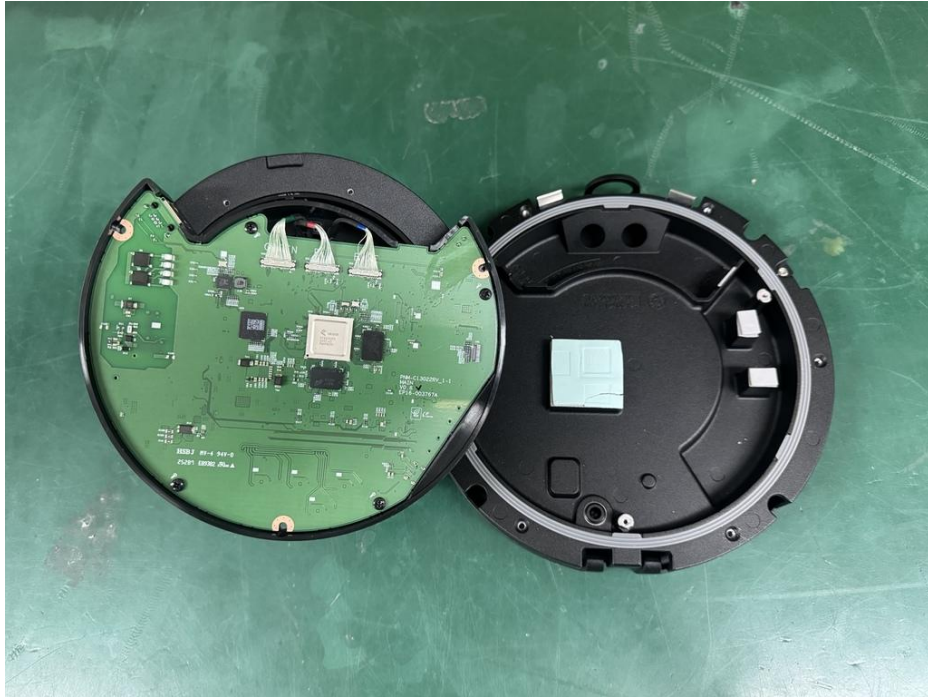
<EUT External Photographs - Top>



<EUT External Photographs - Bottom>



<Components>



<EUT Internal Photographs>



7.3 Label



Name : Hanwha Vision Co., Ltd.
Product item : NETWORK CAMERA
Model name : PNM-A13022RV

The End.

