



TEST REPORT



Report No. : KES-EM250231

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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. : XNO-A8084R

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 : Jan. 20, 2025

4. Test date : Jan. 24, 2025 ~ Jan. 25, 2025

5. Date of Issue : Feb. 24, 2025

6. Test Results : In Compliance

Tested by

Reviewed by

Eun Gu, Jeon
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
Feb. 24, 2025	KES-EM250231	Issued

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Network		Mechanical	
Ethernet	Metal shielded RJ-45(10/100BASE-T)	Color / Material	White / Aluminum
Video Compression	H.265/H.264: Main/Baseline/High MPEG		Hard-coated window Recycled plastic: 77%
Audio Compression	G.711(PCM): 8kHz(64Kbps)	RAL Code	RAL9003
	G.726(ADPCM): 8kHz(16/24/32/40Kbps)	Product Dimensions / Weight	ø93.4x276.6mm(3.68x10.89"), 1630g(3.59lb)
	AAC-LC: 16kHz(48Kbps) OPUS: 48kHz(64Kbps)	Compatible Conduit hole / Gang	Single, double, 4" octagon, 4" square
Smart Codec	WideStream(Based on AI engine)	Certifications & Standards	
Video Quality Adjustment	None	Network	None
Bitrate Control	H.264/H.265: CBR or VBR MPEG: VBR	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
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		
SIP support (VoIP, Peer-to-peer, Security)	Support None	Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC/EN 62471
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform	Environment	IEC/EN 63000 IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10, NEMA 250 Type 4X, NEMA-TS 2(2.2.7.2-8, 2.2.8, 2.2.9) IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78
Security		Video	None
OS / Firmware Protect	Encrypted Firmware, Secure boot, Signed Firmware	Compatible Models	
User authentication	Digest Authentication, Prevent brute-force attack	Hanging Adaptor	SBP-160HMMW1
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)	Back Box	Included
Secure Communication	HTTPS, SRTP, WSS(Websocket secure)	Ceiling Mount (Assy)	SBP-150CMI, SBP-300CMI, SBP-300CMW1, SBP-900CMW, SBP-300CMTW, SBP-300CMTS
Access Control	IP-based access control, MAC-based access control, Auto logout	Ceiling Mount (Single Unit)	SBP-180CMB, SBP-140CMB, SBP-180CMS, SBP-900CMP, SBP-300CMP, SBP-150CMP, SBP-C15P, SBP-C15H
Data Protect	Encryption Credentials, Encrypt compress for live recording file export	Wall Mount	SBP-160WMW1, SBP-400WMW, SBP-250WMW, SBP-300WMW, SBP-300WMW1
Audit	Access / System / Event Log management	Wall Mount Adaptor	None
Device ID	Device Certificate(Hanwha vision Root CA)	Pole Mount	SBP-180PMW, SBP-300PMW2
Secure Storage	Secure element, SDcard partition encrypt	In-ceiling Mount	None
General		Corner Mount	SBP-156KMW, SBP-300KMW1, SBP-180KMA
Webpage Language	English, Korean, Simplified Chinese, Traditional Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek	Parapet Mount	SBP-156LMW1, SBP-300LMW
Web Viewer	None	Tilt Mount	None
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB	Cabinet	SBP-150NBW, SBP-300NBW
Memory	4GB RAM, 8GB eMMC	Housing	None
Environmental & Electrical		Gang Plate	None
Operating Temperature / Humidity	-40°C~+60°C(-40°F~+140°F) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	Skin Cover	None
		Weather Cap	None
		Dome Cover	None
Storage Temperature / Humidity	-50°C~+60°C(-58°F~+140°F) / 0~90% RH	Conduit Adaptor	SBP-0608A
Wind Load	None	Power Module	None
Certification	IP66/IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2-8, 2.2.8, 2.2.9)	Interface Box	SPM-4210
Input Voltage	PoE(IEEE802.3af, Class3)	Other Compatible Models	SPP-C7400, SBP-115PFA
Power Consumption	PoE: Max. 12.95W		



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 100 V, 60 Hz

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	XNO-A8084R	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE Injector	PT-PSE109GBRO-AH	-	Dongguan PROCET Network Technology Co.,Ltd	-
Laptop	P95G001	9JM8HT2	DELL INC.	-
Laptop Adapter	HA65NM130	-	Chicony Power Technology(Suzhou)Co.,Ltd.	-
Micro SD Card	-	-	-	-
Headset	K550	-	Britz®	-
Alarm	-	-	-	-
Button Alarm	-	-	-	-



1.6 External I/O Cabling

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 Slot	Micro SD Card	Micro SD Slot	-	-
	ALARM AUDIO (SPEAKER)	Headset	Line	1.8	U
	ALARM AUDIO (MIC)				
	ALARM AUDIO (ALARM IN)	Alarm	Line	3.1	U
	ALARM AUDIO (ALARM OUT)	Button Alarm	Line	3.1	U
PoE Adapter	RJ-45 (LAN)	Laptop	RJ-45 (LAN)	1.8	U
Laptop	DC Jack	Laptop Adapter	Line	1.2	U

* Unshielded=U, Shielded=S

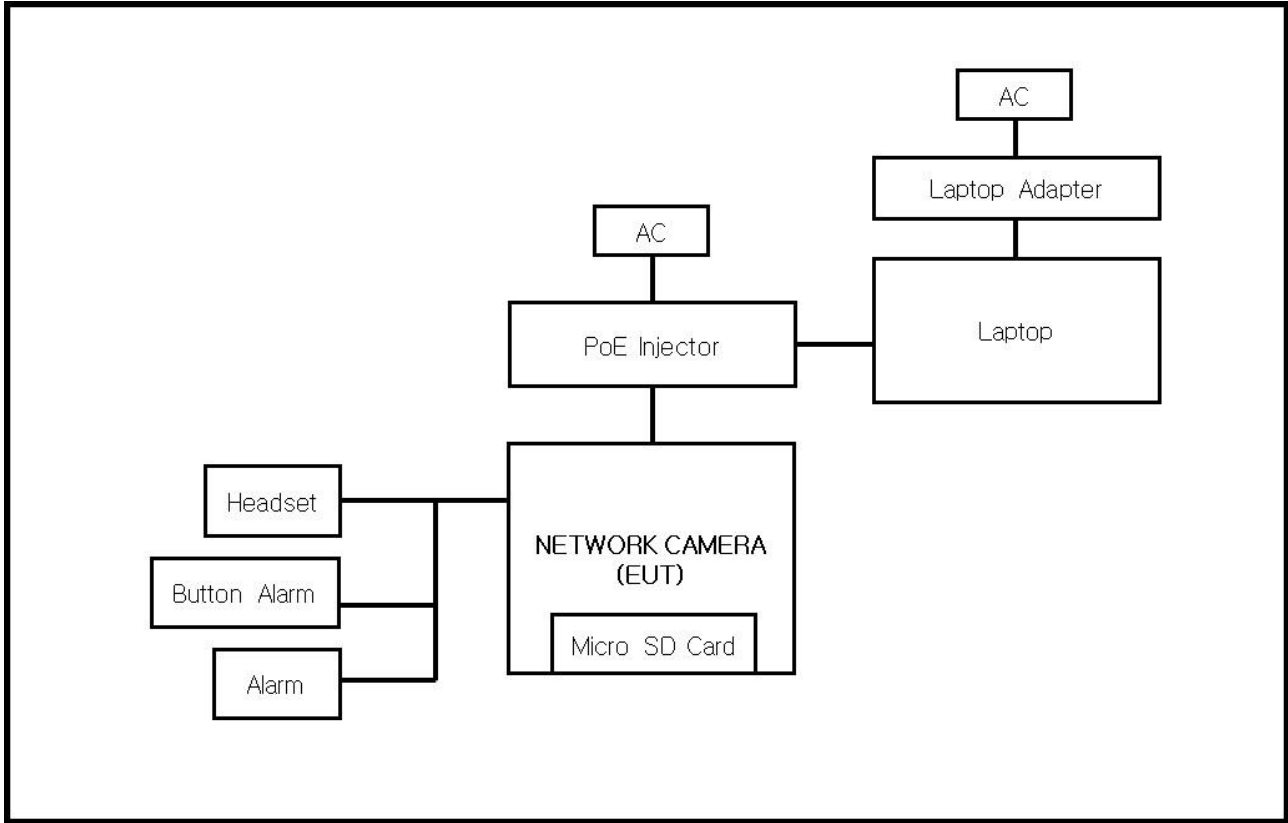
1.7 EUT Operating Mode(s)

Test mode	Normal operating
Operating	- Check the network behavior of the EUT with the laptop's ping test - View images of the camera through the Web Viewer - Insert 1 kHz tone through the web viewer to see if the sound is output to the headset - Enable the MIC through the Web Viewer to check the operation of the headset microphone - After testing, check the recording with Micro SD Card

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



1.8 Configuration





1.9 Remarks when standards applied

USB C Type Port is not tested because it is for unused port



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:

☒ VCCI-CISPR 32:2016

☒ Class A

☐ Class B





2.1 Conducted Emissions Mains Power Ports

Test Date

N/A

Test Location

Electro wave Shieldroom #6

Test Equipment

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

Test Conditions

Temperature:

°C

Relative Humidity:

% 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

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

Jan. 25, 2025

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test SW	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 CAT3,5	ENY81	R & S	100174	11, 12, 2025

Test Conditions

Temperature: (23,6 ± 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

RemarksSee Appendix A for test data.



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jan. 25, 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	ESU26	R & S	100551	02, 13, 2025
☒	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, 2025

Test Conditions

Temperature: (22,7 ± 0,1) °C

Relative Humidity: (46,0 ± 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

RemarksSee Appendix A for test data.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jan. 24, 2025

Test Location

SEMI ANECHOIC CHAMBER #3

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	ESU26	R & S	100517	10, 07, 2025
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	03, 05, 2025
☒	ATTENUATOR	8491A	HP	35496	02, 13, 2025
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 05, 2025

Test Conditions

Temperature: (23,3 ± 0,1) °C

Relative Humidity: (45,9 ± 0,1) % R.H.

Frequency Range of Measurement

1 GHz to 6 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.



APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

N/A



NEUTRAL LINE

N/A

◆ Calculation

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

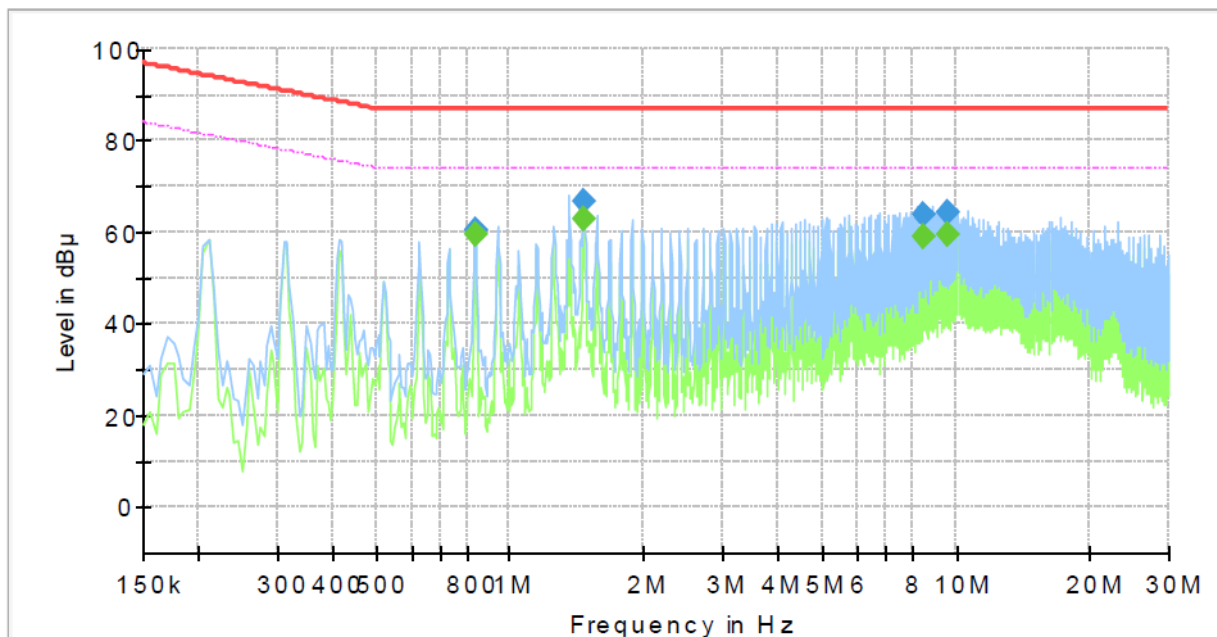
QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

**Conducted Emissions at Telecommunication Ports****[100 Mbps]****Common Information**

Test Description: Telecommunication Emission
Job No.: KES-EM250231
Mode :
Speed : 100 Mbps
Operator Name: KES

**Final_Result**

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.835000	---	59.35	74.00	14.65	1000.0	9.000	Single Line	19.5
0.835000	60.52	---	87.00	26.48	1000.0	9.000	Single Line	19.5
1.460000	---	62.70	74.00	11.30	1000.0	9.000	Single Line	19.5
1.460000	66.49	---	87.00	20.51	1000.0	9.000	Single Line	19.5
8.440000	---	59.09	74.00	14.91	1000.0	9.000	Single Line	19.6
8.440000	63.95	---	87.00	23.05	1000.0	9.000	Single Line	19.6
9.585000	---	59.36	74.00	14.64	1000.0	9.000	Single Line	19.6
9.585000	64.16	---	87.00	22.84	1000.0	9.000	Single Line	19.6

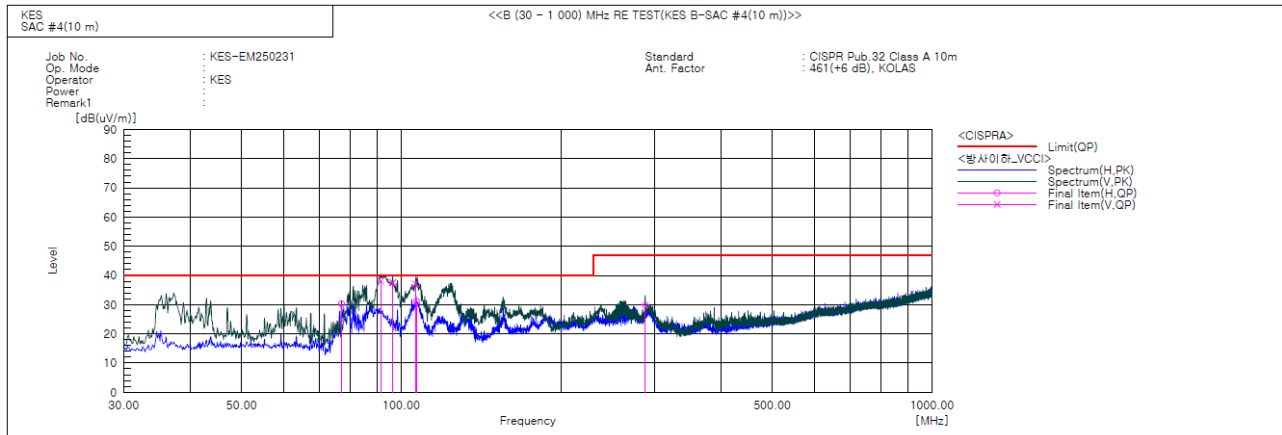
◆ Calculation

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 GHz)****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	77.166	H	55.3	-25.0	30.3	40.0	9.7	366.0	209.0	
2	91.474	V	64.3	-26.2	38.1	40.0	1.9	134.0	246.0	
3	96.324	V	63.2	-25.6	37.6	40.0	2.4	162.0	248.0	
4	106.267	V	61.3	-24.1	37.2	40.0	2.8	113.0	270.0	
5	106.921	H	55.1	-24.0	31.1	40.0	8.9	351.0	213.0	
6	288.195	H	47.5	-17.7	29.8	47.0	17.2	399.0	357.0	

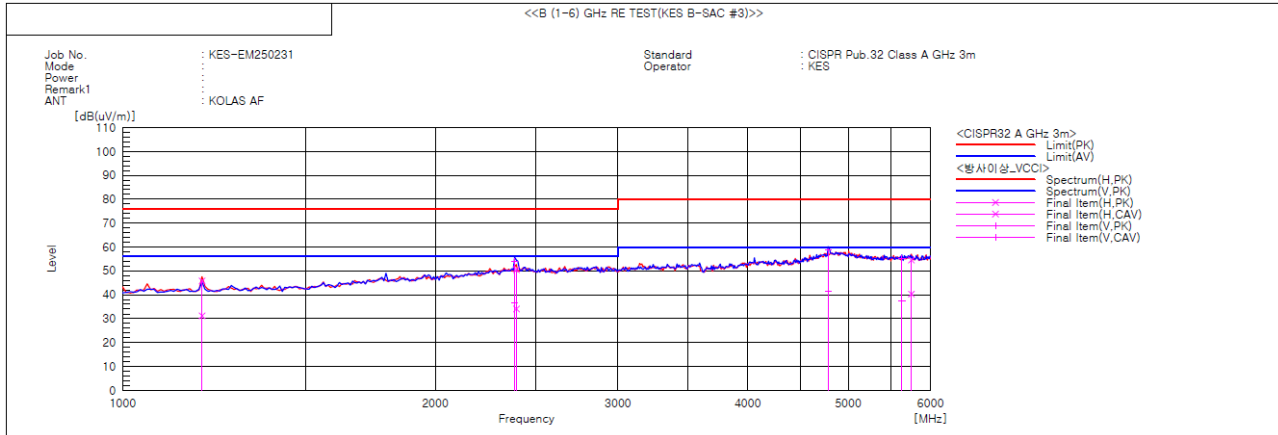
◆ Calculation

Result(QP) [dB(μV/m)] = (Reading(QP)[dB(μV)] + c.f[dB(1/m)])

Margin(QP)[dB] = Limit[dB(μV/m)] - Result(QP) [dB(μV/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)**

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1192.308	H	48.6	34.0	-2.8	45.8	31.2	76.0	56.0	30.2	24.8	100.0	48.7	
2	2386.218	V	47.7	30.3	6.4	54.1	36.7	76.0	56.0	21.9	19.3	100.0	59.5	
3	2394.231	H	44.1	27.7	6.4	50.5	34.1	76.0	56.0	25.5	21.9	100.0	99.6	
4	4782.051	V	43.1	25.8	15.7	58.8	41.5	80.0	60.0	21.2	18.5	100.0	182.9	
5	5631.411	V	40.2	22.5	14.8	55.0	37.3	80.0	60.0	25.0	22.7	100.0	209.0	
6	5751.603	H	39.5	25.3	15.0	54.5	40.3	80.0	60.0	25.5	19.7	100.0	249.3	

◆ 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

N/A

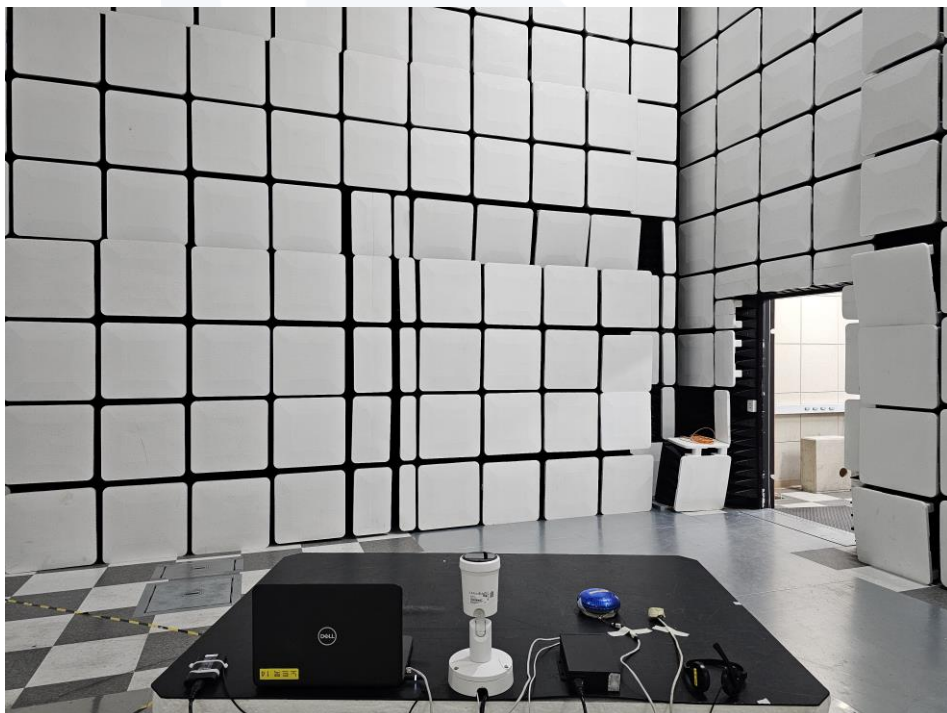
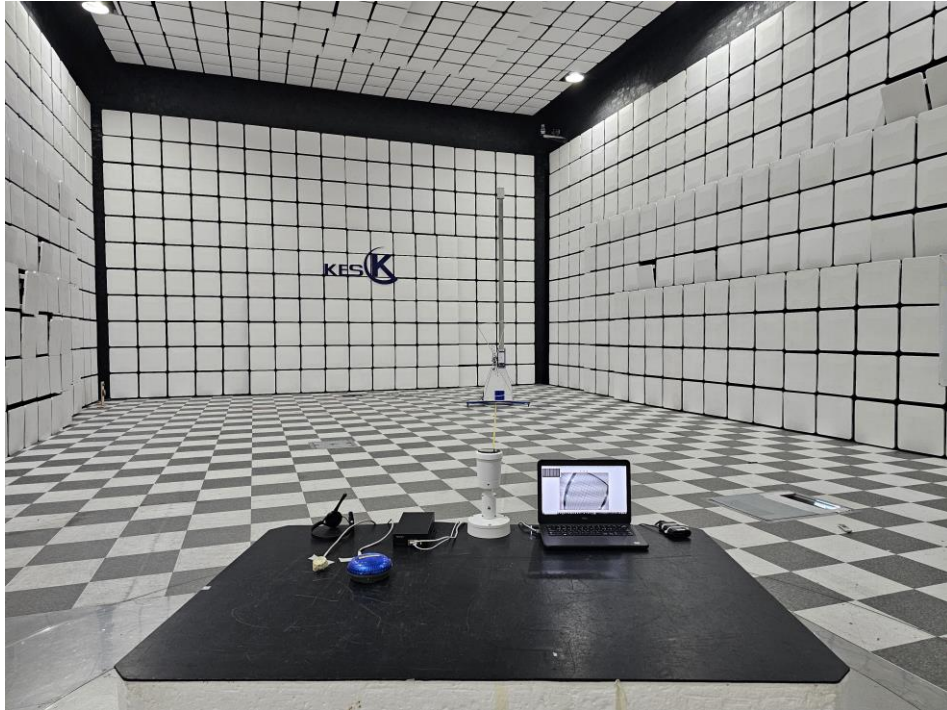


Conducted Emissions at Telecommunication Ports



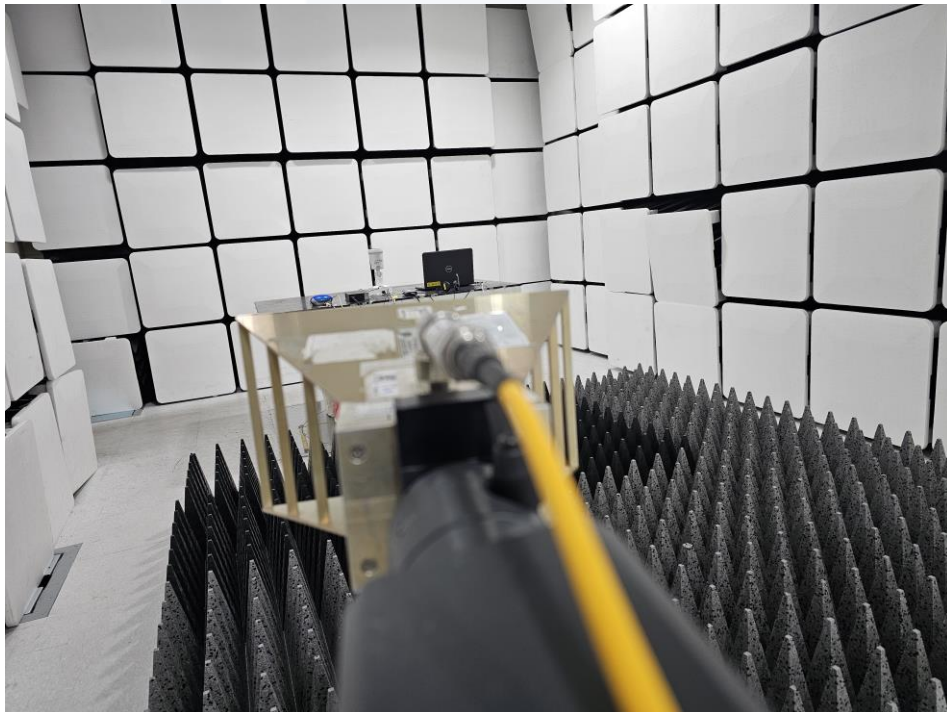
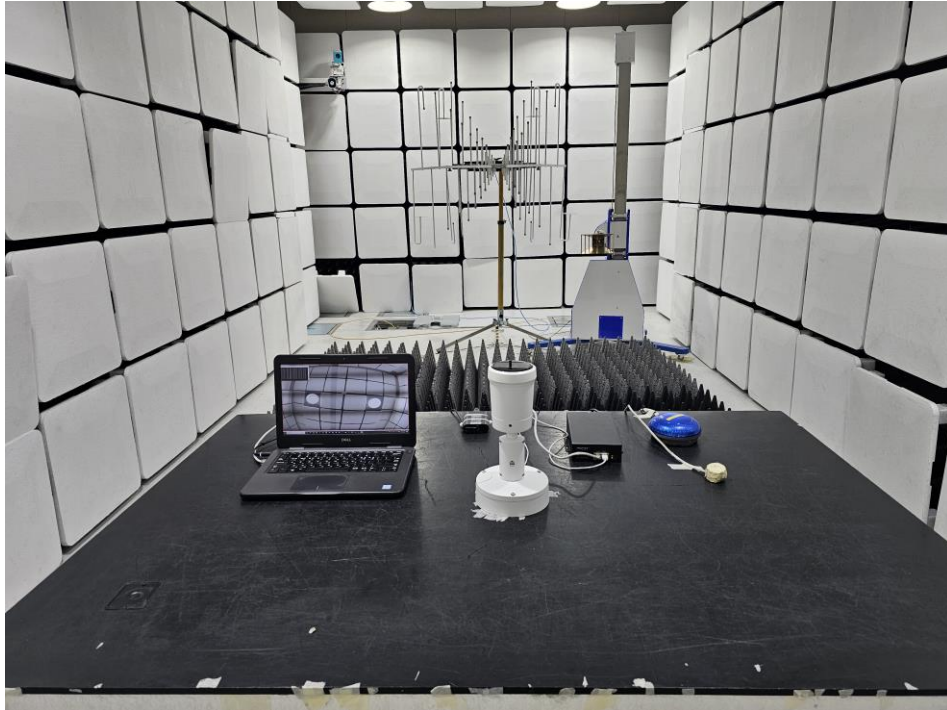


Radiated Electric Field Emissions(Below 1 GHz)





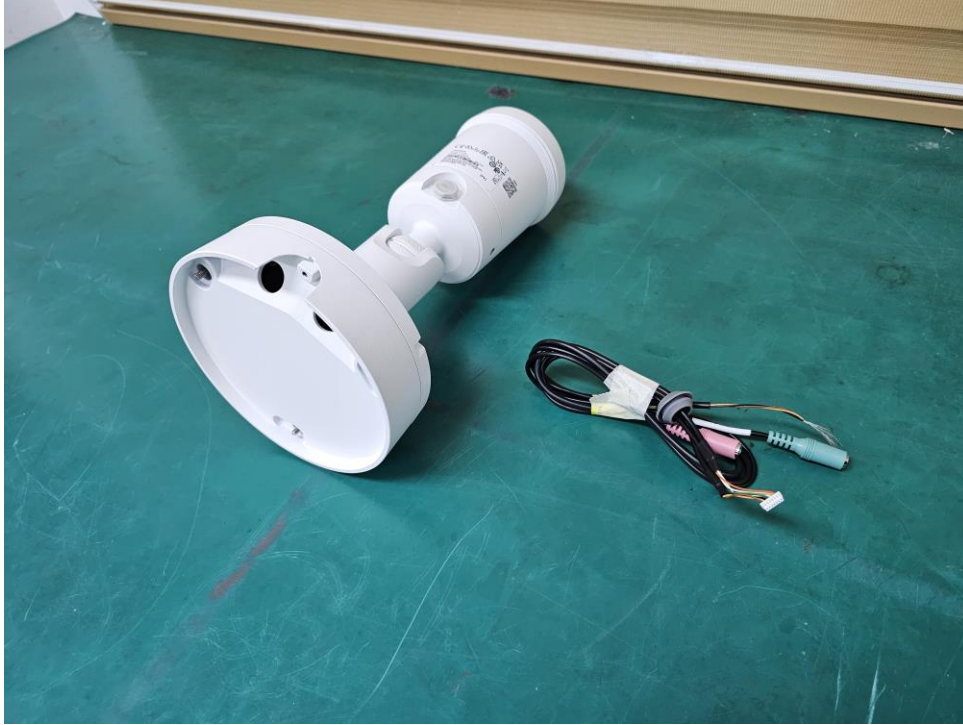
Radiated Electric Field Emissions(Above 1 GHz)



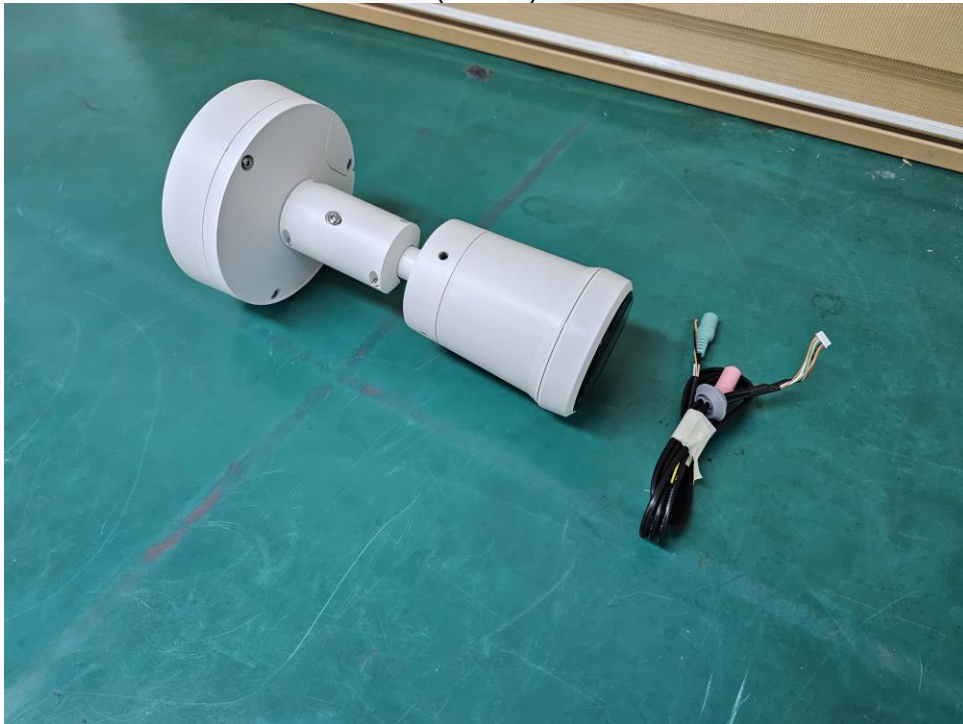


EUT External Photographs

(Top)



(Bottom)





EUT Internal Photographs

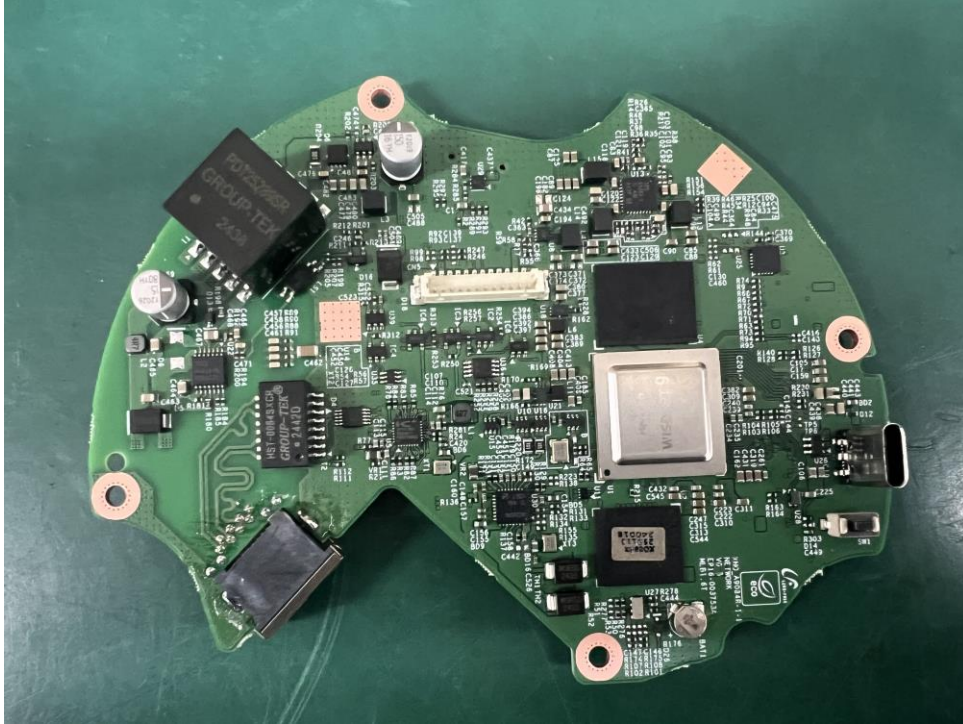
(Internal View)



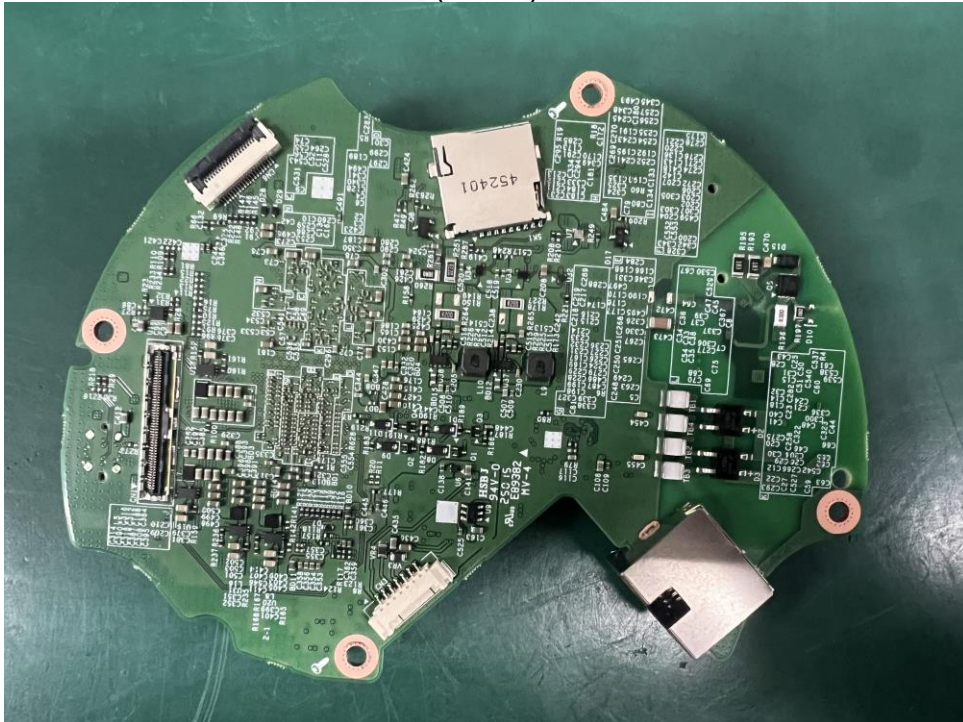


EUT Internal View – Main Board

(Top)



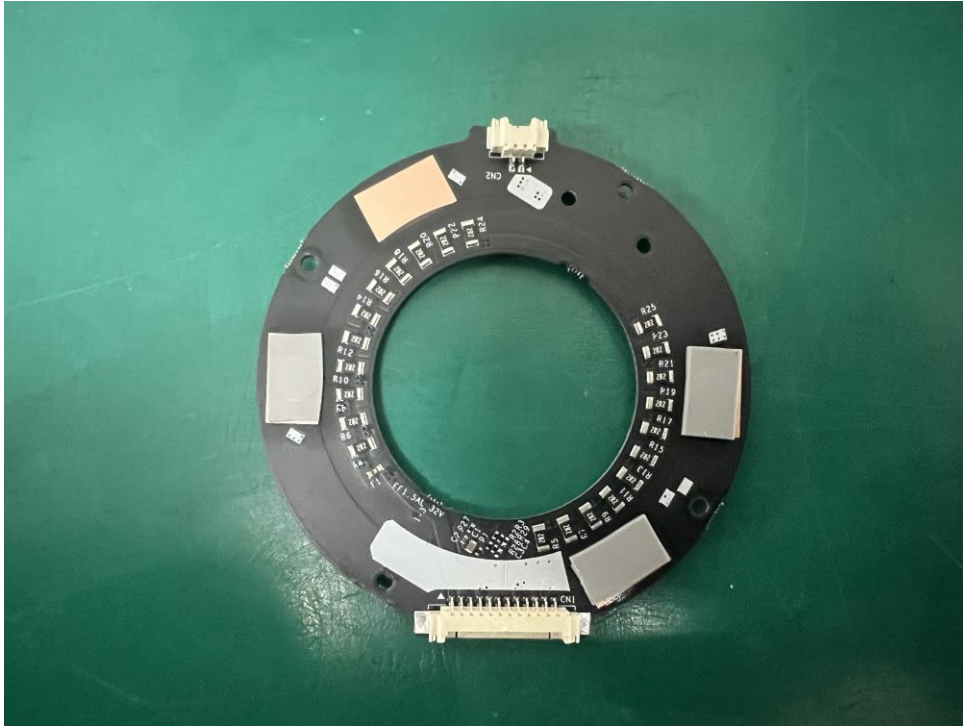
(Bottom)





EUT Internal View – Board

(Top)



(Bottom)



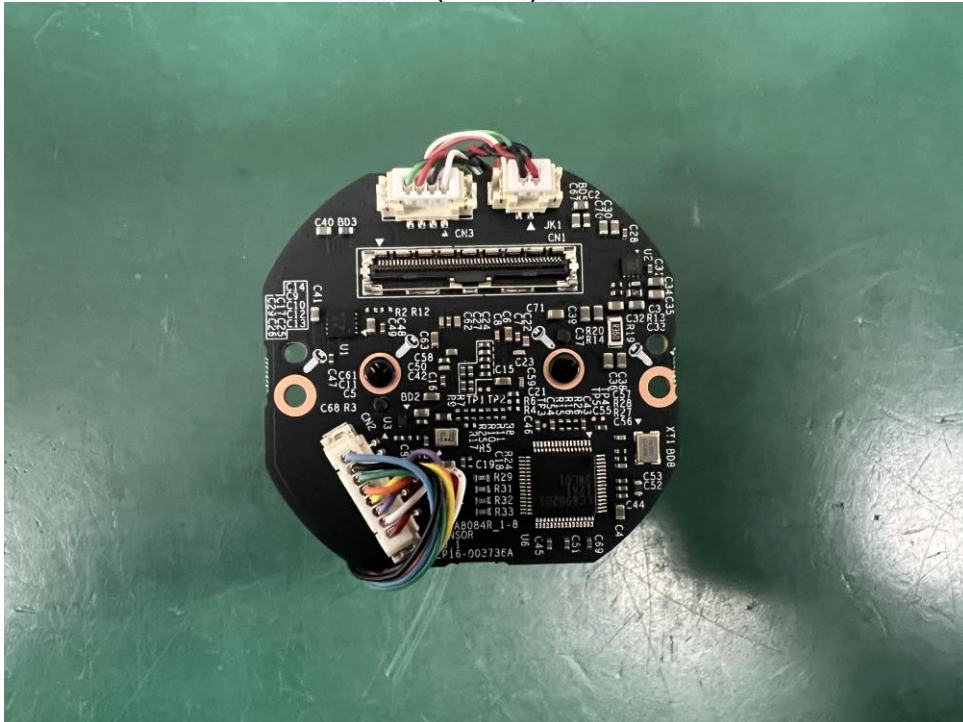


EUT Internal View – Camera board

(Top)

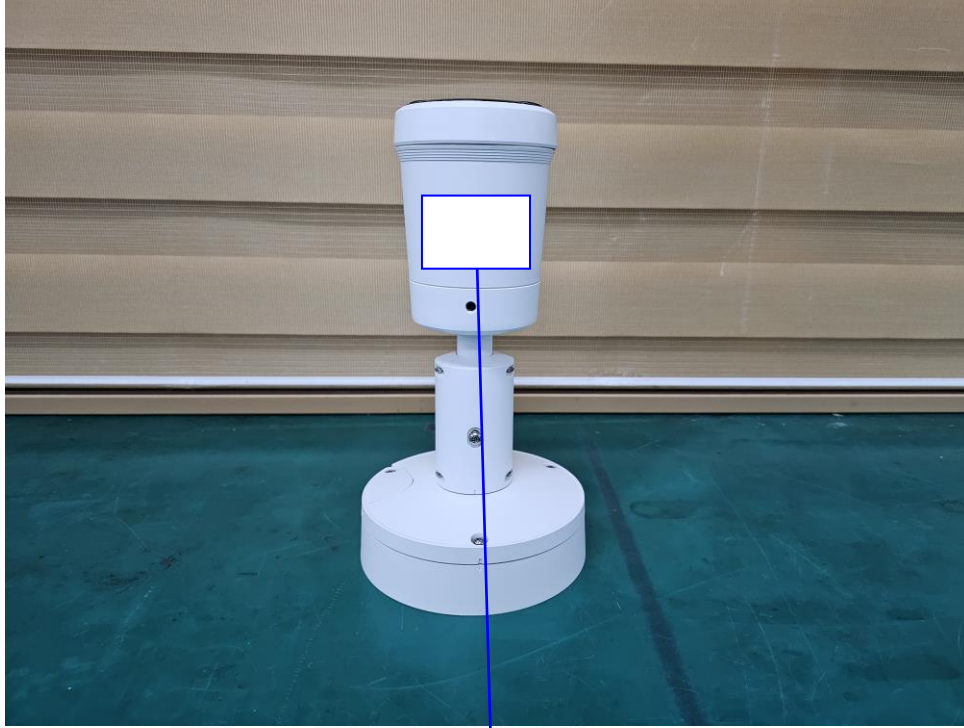


(Bottom)





Label Photographs



この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

The End.