



TEST REPORT



Report No. : KES-EM250812

Page 1 / 37

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. : QNP-6320HS

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 : Mar. 05, 2025

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

5. Date of Issue : Mar. 31, 2025

6. Test Results : In Compliance

Tested by

Reviewed by

Keo Il, Lee
EMC Test Engineer

Dae Jung, Choi
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
Mar. 31, 2025	KES-EM250812	Issued

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. This document may be altered or revised by KES Co., Ltd. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KES Co., Ltd. will constitute fraud and shall nullify the document.



TABLE OF CONTENTS

1.0	General Product Description	4
1.1	Test Voltage & Frequency	8
1.2	Variant Model Differences	8
1.3	Device Modifications	8
1.4	Equipment Under Test	8
1.5	Support Equipments	8
1.6	External I/O Cabling	8
1.7	EUT Operating Mode(s)	9
1.8	Configuration	9
1.9	Remarks when standards applied	10
1.10	Calibration Details of Equipment Used for Measurement	10
1.11	Test Facility	10
1.12	Laboratory Accreditations and Listings	11
2.0	Test Regulations	12
2.1	Conducted Emissions at Mains Power Ports	13
2.2	Conducted Emissions at Telecommunication Ports	14
2.3	Radiated Electric Field Emissions(Below 1 GHz)	15
2.4	Radiated Electric Field Emissions(Above 1 GHz)	16
APPENDIX A – TEST DATA		17
Conducted Emissions at Mains Power Ports		17
Conducted Emissions at Telecommunication Ports		19
Radiated Electric Field Emissions(Below 1 GHz)		20
Radiated Electric Field Emissions(Above 1 GHz)		21
Test Setup Photos and Configuration		22
Conducted Emissions at Mains Power Ports		22
Conducted Emissions at Telecommunication Ports		23
Radiated Electric Field Emissions(Below 1 GHz)		24
Radiated Electric Field Emissions(Above 1 GHz)		25
EUT External Photographs		26
EUT Internal Photographs		27



1.0 General Product Description

Main Specifications of EUT are:

Division		Specificity
Internal highest operating frequency		Above 108 MHz
Power	Rated Power	PoE
	Test Power	AC 240 V, 50 Hz
Ports	I/O Port	Micro SD Card Slot 1 EA, RJ-45 1EA
	Unused Port / Service Port	Micro USB 1 EA
Components		Main Body 1 EA
Ethernet Speed		100 Mbps



Video	
Imaging Device	1/2.8" CMOS
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 60fps/50fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)
Video Out	None
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	4.44~142.6mm(32x) zoom
Max. Aperture Ratio	F1.6(Wide)~F4.4(Tele)
Angular Field of View	H: 64.66°(Wide)~2.29°(Tele) / V: 38.08°(Wide)~1.30°(Tele)
Min. Object Distance	Wide: 1.5m(4.92ft), Tele: 2m(6.56ft)
Focus Control	Oneshot AF
Lens Type	DC auto iris
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	None
Pan Range	360° Endless
Pan Speed	Preset: 700°/sec, Manual: 0.024°/sec~200°/sec
Tilt Range	105°(-15°~90°)
Tilt Speed	Preset: 300°/sec, Manual: 0.024°/sec~200°/sec
Rotate Range	None
Sequence	Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule
Preset Accuracy	±0.2°



Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	Support
Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNRV
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, Quadrangle Support - Color: Grey/Green/Red/Blue/Black/White - Solid/Mosaic
Gain Control	OFF/ LOW/ MID/ HIGH
White Balance	ATW / AWC / Manual / Indoor / Outdoor / Mercury / Sodium
LDC	None
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Digital PTZ	None
Video Rotation	Flip, Mirror
Analytics	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(with NW I/O Box)
Business Intelligence	None
Serial Interface	None
Alarm I/O	None
Alarm Triggers	Analytics, Network disconnect * Alarm input(with NW I/O Box)
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers PTZ Preset Handover * Alarm output(with NW I/O Box)



Network	
Ethernet	Metal-shielded RJ-45(10/100BASE-T)
Video Compression	H.265/H.264,MJPEG
Audio Compression	None
Smart Codec	Manual(Sea area), WiseStreamII
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 (128 user)Multiple streaming(Up to 10 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, SRTSP
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP)
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Memory	1024MB RAM, 256MB Flash
Environmental & Electrical	
Operating Temperature / Humidity	Normal : -35°C~+55°(-31°F ~ +131°F) / Intermittent : -40°C~+60°C(-40°F ~ +140°F) * Start up should be done at above -25°C Less than 95% RH(Non-condensing)
Storage Temperature / Humidity	-50°C~+60°C (-58°F~+140°F) / Less than 95% RH(Non-condensing)
Certification	IP66/IP67, IK10, NEMA4X
Input Voltage	PoE+(IEEE802.3at, Class4)
Power Consumption(TBD)	Max. 23W, Typ. 14W (TBD)



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

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	QNP-6320HS	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE Injector	PT-PSE109GBRO-AH-S	-	Dongguan PROCET Network Technology Co., Ltd	-
Laptop	LG15N54	-	LG Electronics	-
Laptop Adapter	PA-1900-14	-	LITE-ON TECHNOLOGY (CHANGZHOU)CO., LTD	-
Micro SD Card	-	-	SanDisk	16 GB

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)	3.3	U
	Micro SD Slot	Micro SD Card	Micro SD Slot	-	-
PoE Injector	RJ-45 (LAN)	Laptop	RJ-45 (LAN)	2.8	U
Laptop	DC Jack	Laptop Adapter	DC Jack	1.6	U

* Unshielded=U, Shielded=S

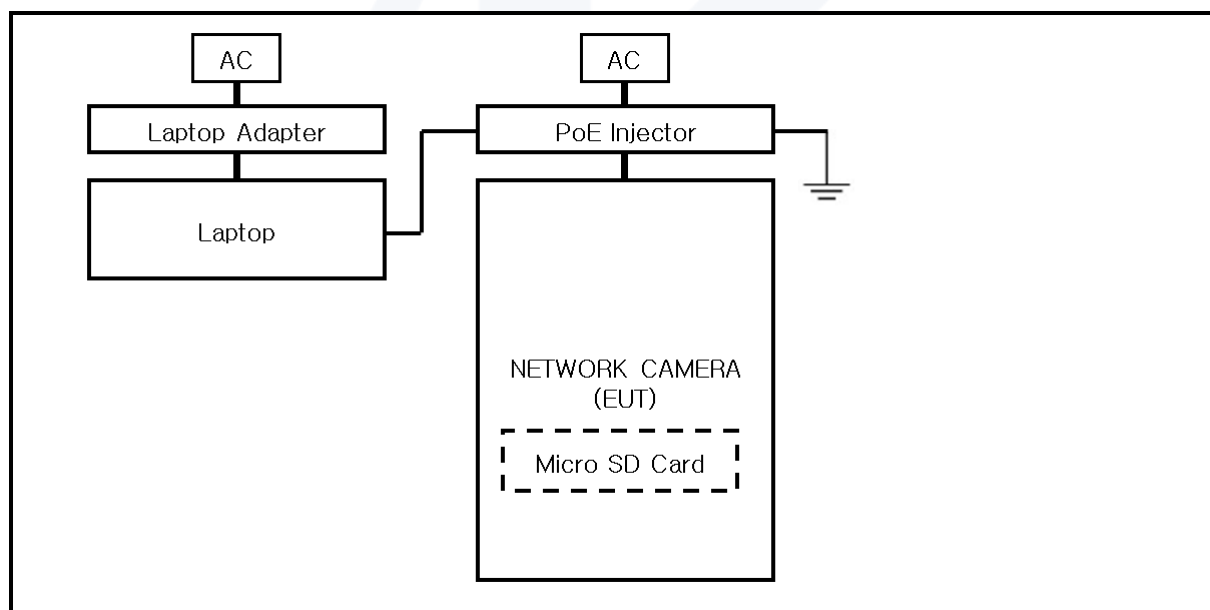


1.7 EUT Operating Mode(s)

Test mode	Normal operating
Operating	Checked the network status of the EUT with the laptop Ping test, and Checked the camera operation with watching streaming of through the Web Viewer. During the test, checked if EUT recognized Micro SD Cards inserted. After testing, check the data saving in Micro SD Cards.

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 ports are not used and have not been tested. (Port for service)



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 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

N/A

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
☐	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

Mar. 17, 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 CAT3,5	ENY81	R & S	100174	11, 12, 2025

Test Conditions

Temperature: (23,4 ± 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

Mar. 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
☒	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) °C

Relative Humidity: (46,3 ± 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

Mar. 18, 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	3008A00538	04, 30, 2025
☒	ATTENUATOR	8491B	HP	23094	02, 13, 2026

Test Conditions

Temperature: (22,9 ± 0,1) °C

Relative Humidity: (46,0 ± 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.The Average of the test data is the cispr average result.



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]

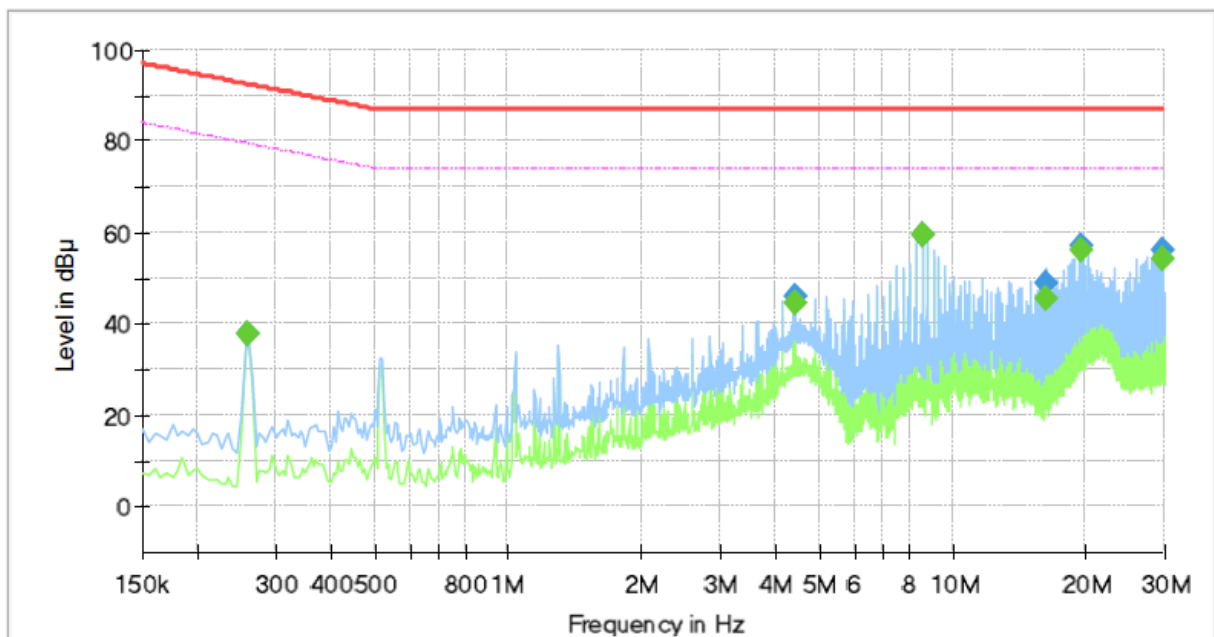
QuasiPeak / CAverage : The Final Value

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-EM250812
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)
0.260000	37.85	---	92.43	54.58	1000.0	9.000	Single Line	19.6
0.260000	---	37.88	79.43	41.55	1000.0	9.000	Single Line	19.6
4.400000	46.12	---	87.00	40.88	1000.0	9.000	Single Line	19.5
4.400000	---	44.70	74.00	29.30	1000.0	9.000	Single Line	19.5
8.540000	59.67	---	87.00	27.33	1000.0	9.000	Single Line	19.6
8.540000	---	59.44	74.00	14.56	1000.0	9.000	Single Line	19.6
16.170000	---	45.62	74.00	28.38	1000.0	9.000	Single Line	19.8
16.170000	48.95	---	87.00	38.05	1000.0	9.000	Single Line	19.8
19.410000	---	56.01	74.00	17.99	1000.0	9.000	Single Line	19.9
19.410000	56.83	---	87.00	30.17	1000.0	9.000	Single Line	19.9
29.760000	---	54.29	74.00	19.71	1000.0	9.000	Single Line	20.3
29.760000	55.97	---	87.00	31.03	1000.0	9.000	Single Line	20.3

♦ Calculation

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

QuasiPeak / CAverage : The Final Value

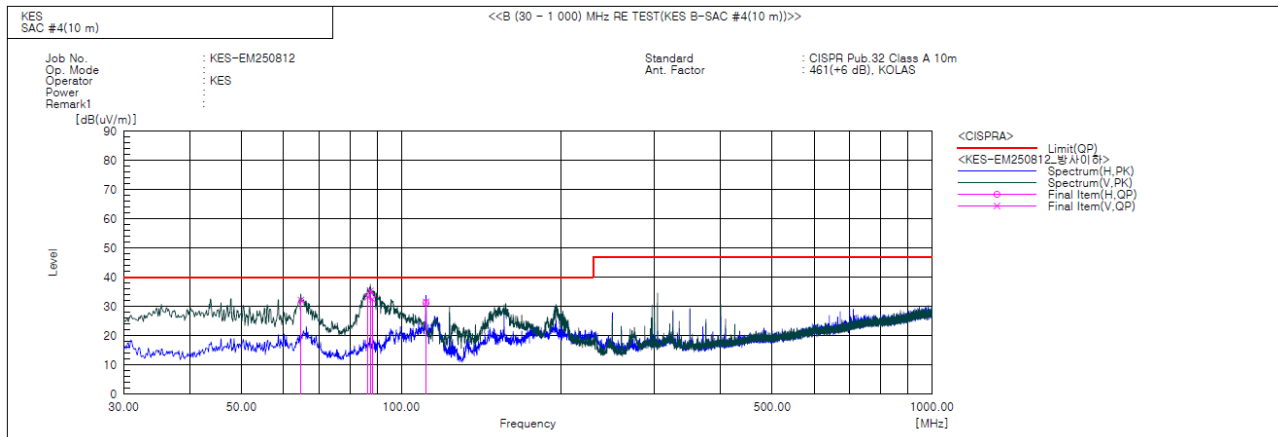
Reading Value : Not shown in the table.

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

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)

**Radiated Electric Field Emissions(Below 1 GHz)****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	64.678	V	54.0	-21.8	32.2	40.0	7.8	110.0	298.0	
2	86.503	V	59.4	-26.1	33.3	40.0	6.7	156.0	295.0	
3	87.473	V	61.5	-26.2	35.3	40.0	4.7	156.0	217.0	
4	88.200	V	58.6	-26.1	32.5	40.0	7.5	161.0	209.0	
5	111.359	V	54.9	-23.3	31.6	40.0	8.4	112.0	31.0	
6	111.359	H	54.6	-23.3	31.3	40.0	8.7	400.0	147.0	

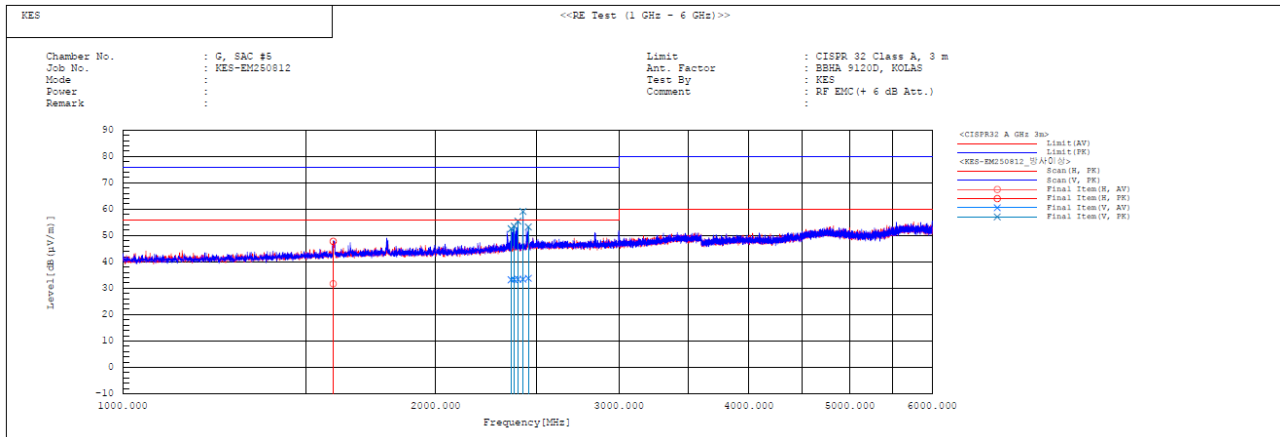
◆ Calculation

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)****Final Result**

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			
			[dB(μV)]	[dB(μV)]	[dB(1/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB(μV/m)]	[dB]	[dB]	[cm]	[deg]	
1	1593.675	H	30.1	46.2	1.6	31.7	47.8	56.0	76.0	24.3	26.2	100.0	58.6	
2	2363.536	V	29.6	47.9	4.6	33.2	52.5	56.0	76.0	22.8	23.5	100.0	179.9	
3	2379.832	V	29.7	48.9	4.6	33.3	53.5	56.0	76.0	22.7	22.5	100.0	187.5	
4	2399.095	V	29.7	50.7	4.7	33.4	55.4	56.0	76.0	22.6	20.6	100.0	187.5	
5	2425.472	V	29.6	54.3	4.8	33.4	59.1	56.0	76.0	22.6	16.9	100.0	334.8	
6	2454.649	V	29.9	48.3	4.9	33.8	53.2	56.0	76.0	22.2	22.8	100.0	24.9	

◆ 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



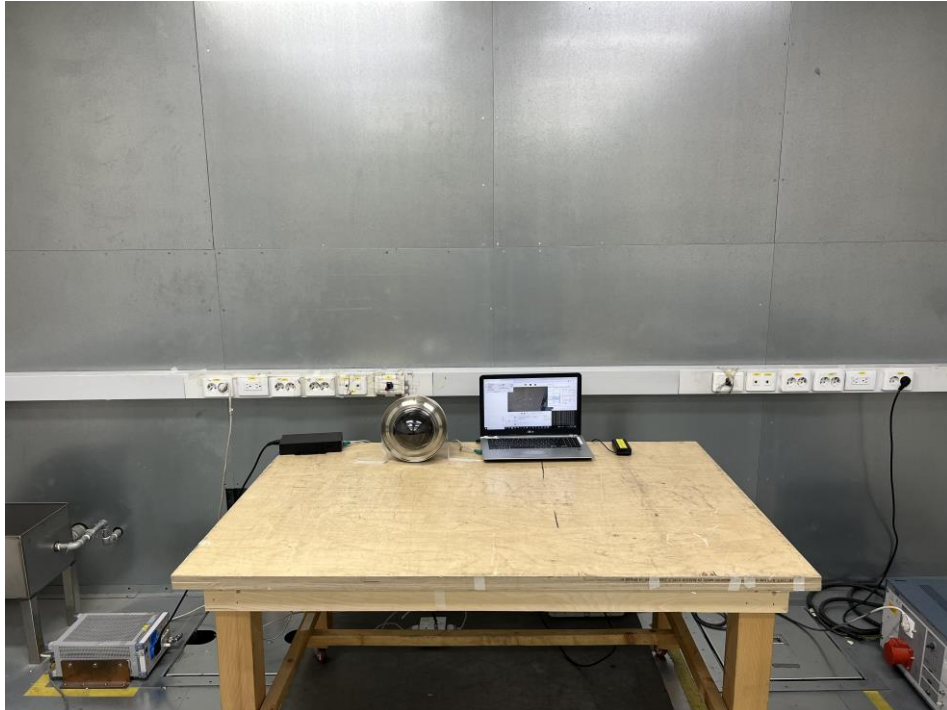
Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

N/A

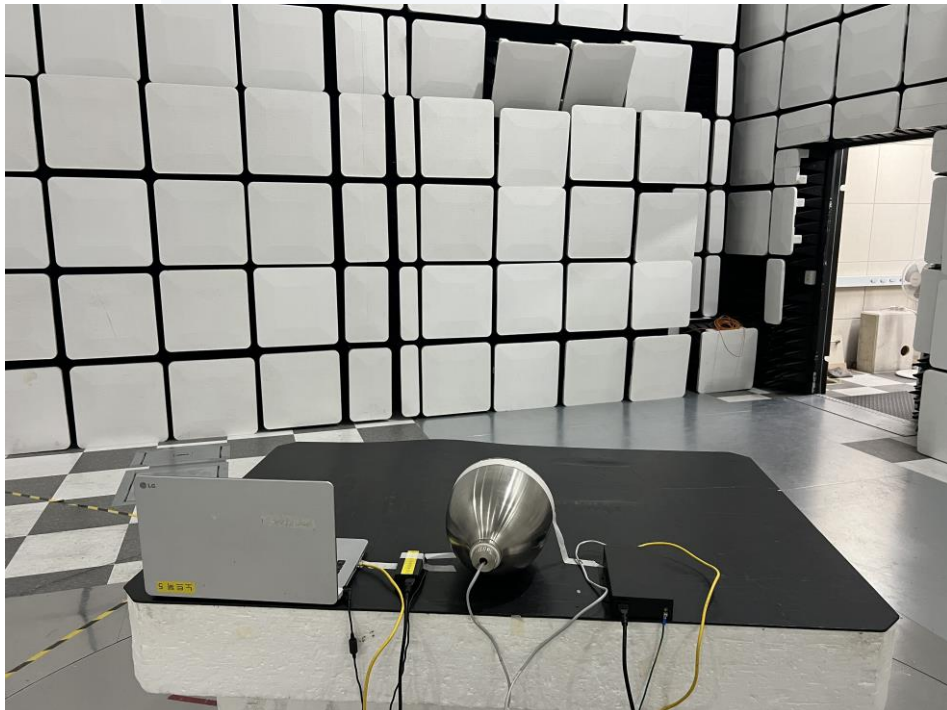
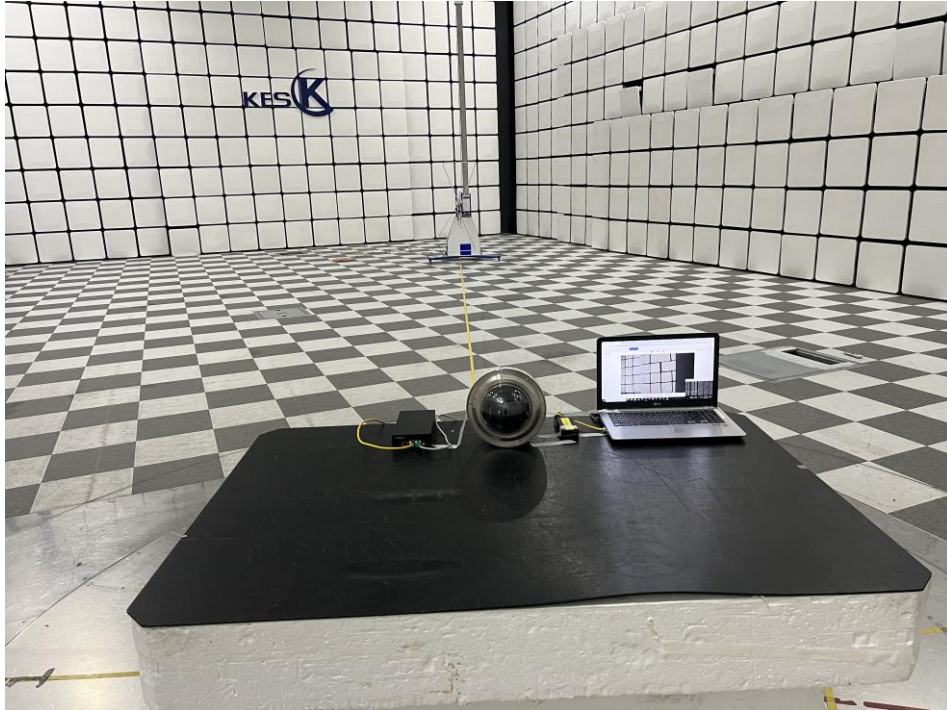


Conducted Emissions at Telecommunication Ports



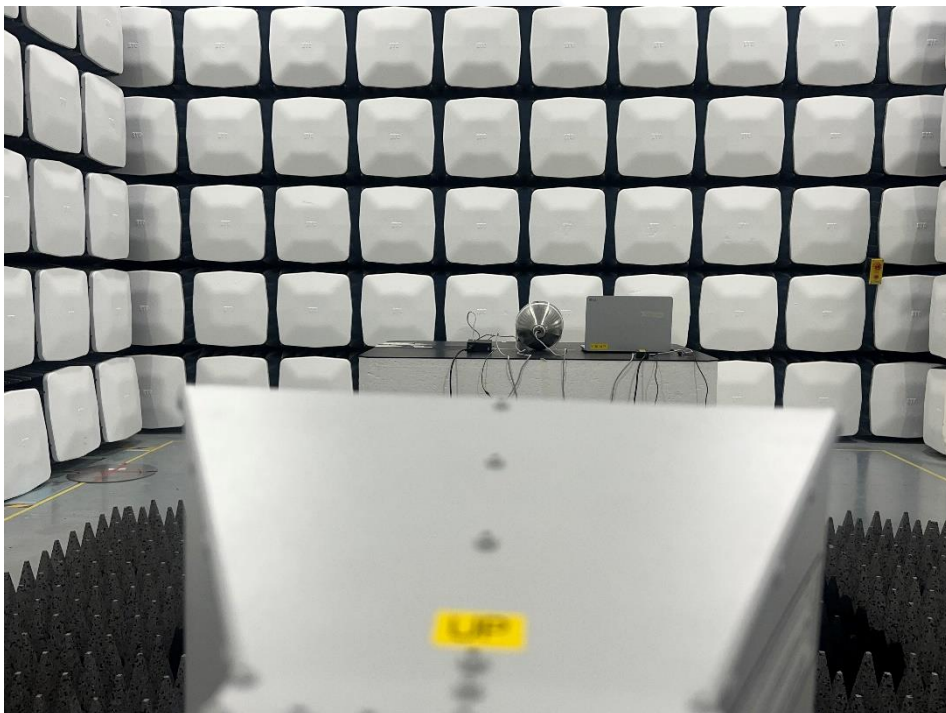
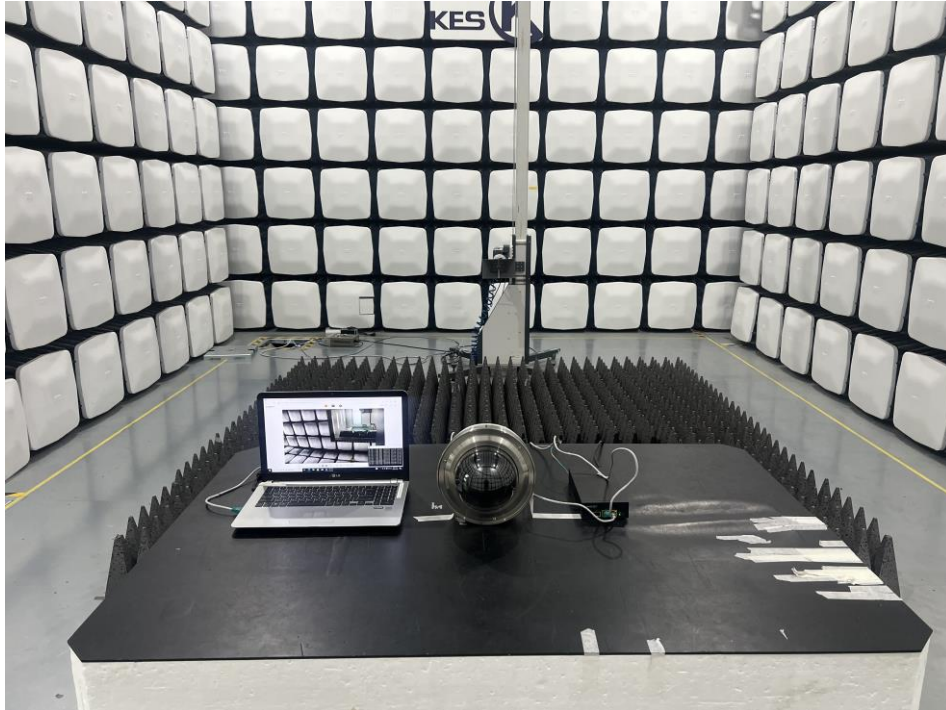


Radiated Electric Field Emissions(Below 1 GHz)





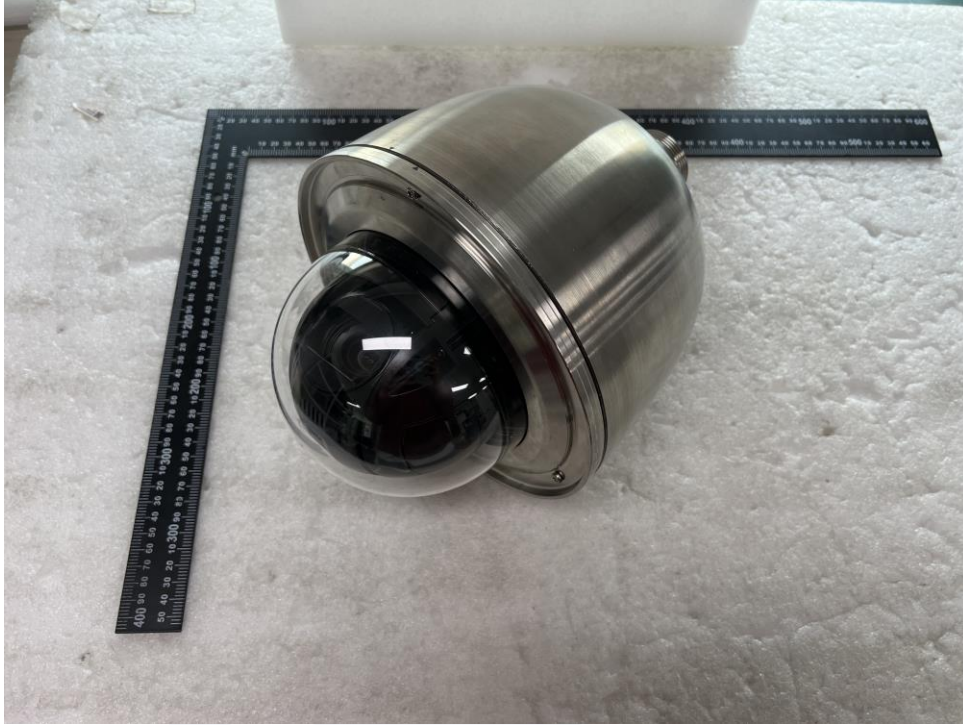
Radiated Electric Field Emissions(Above 1 GHz)



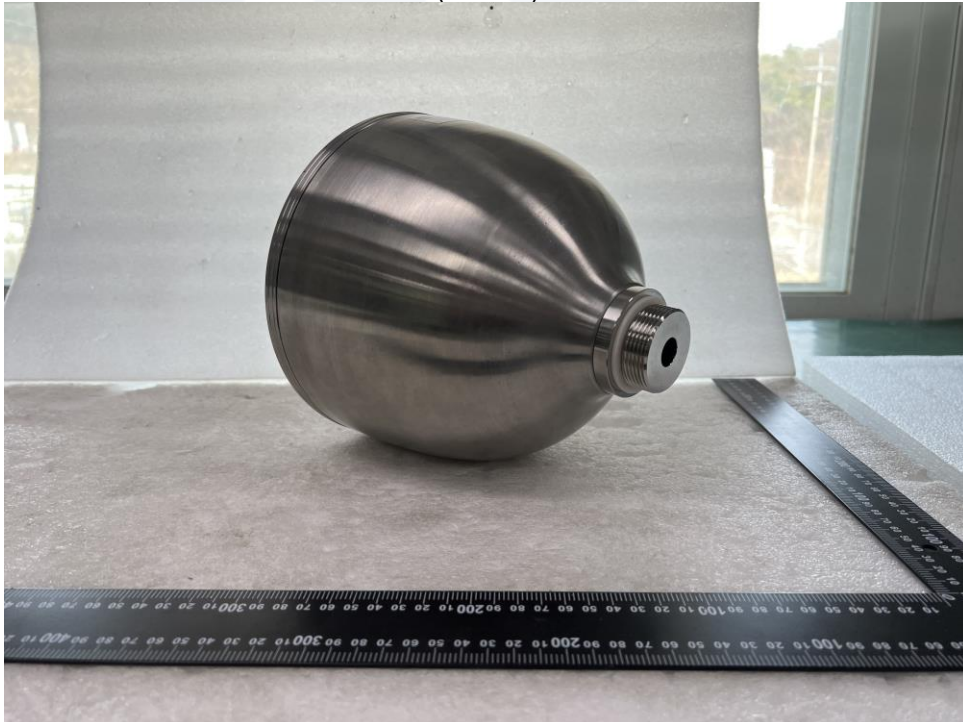


EUT External Photographs

(Top)



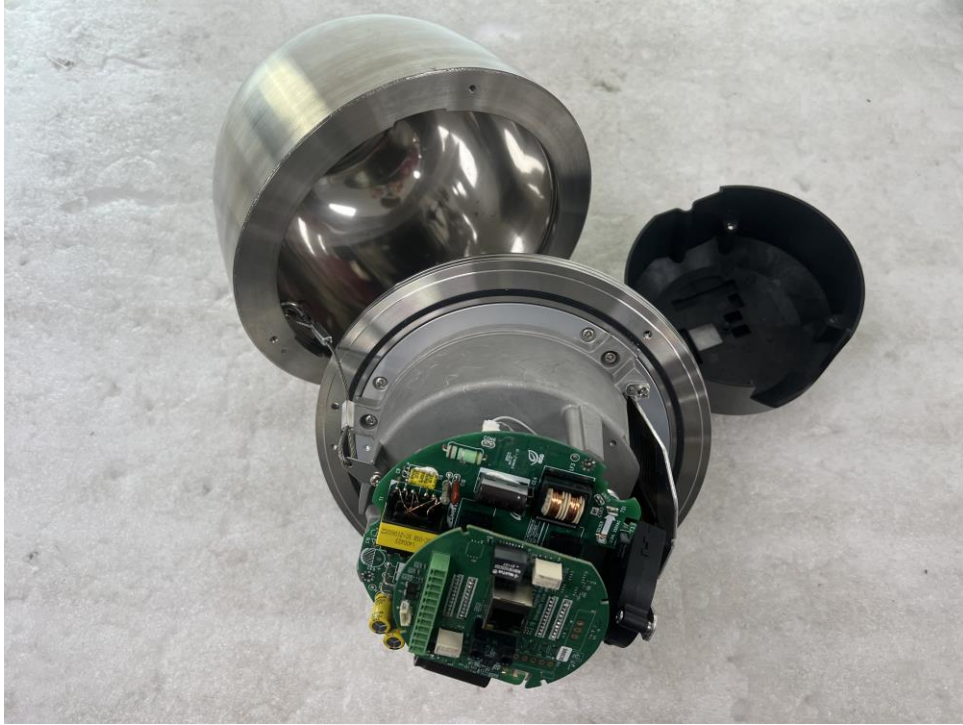
(Bottom)





EUT Internal Photographs

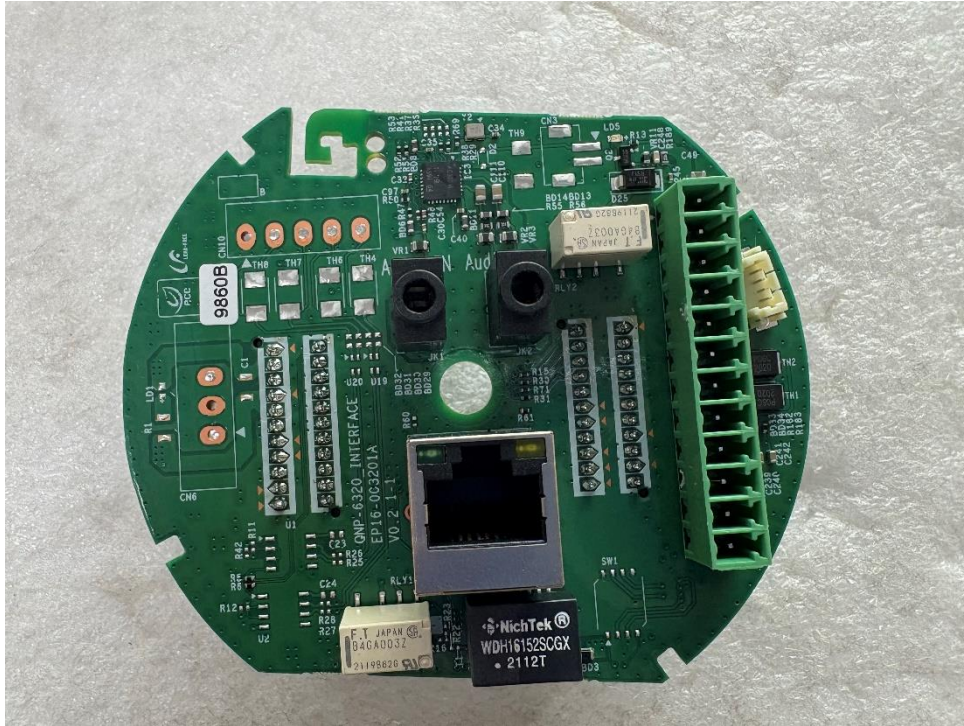
(Internal View)



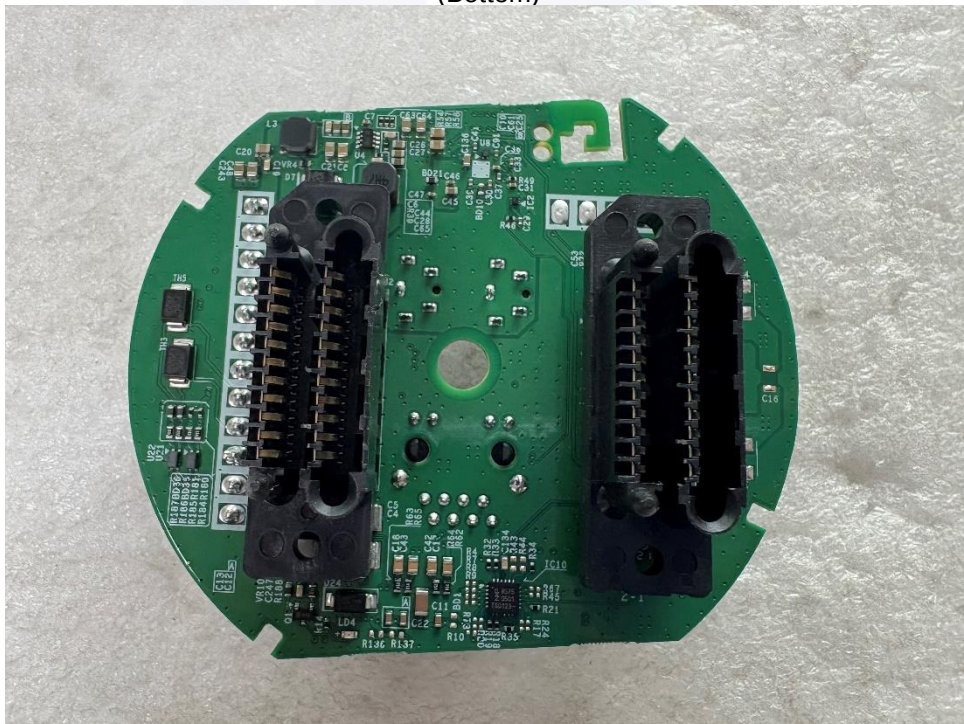


EUT Internal View – Board 1

(Top)



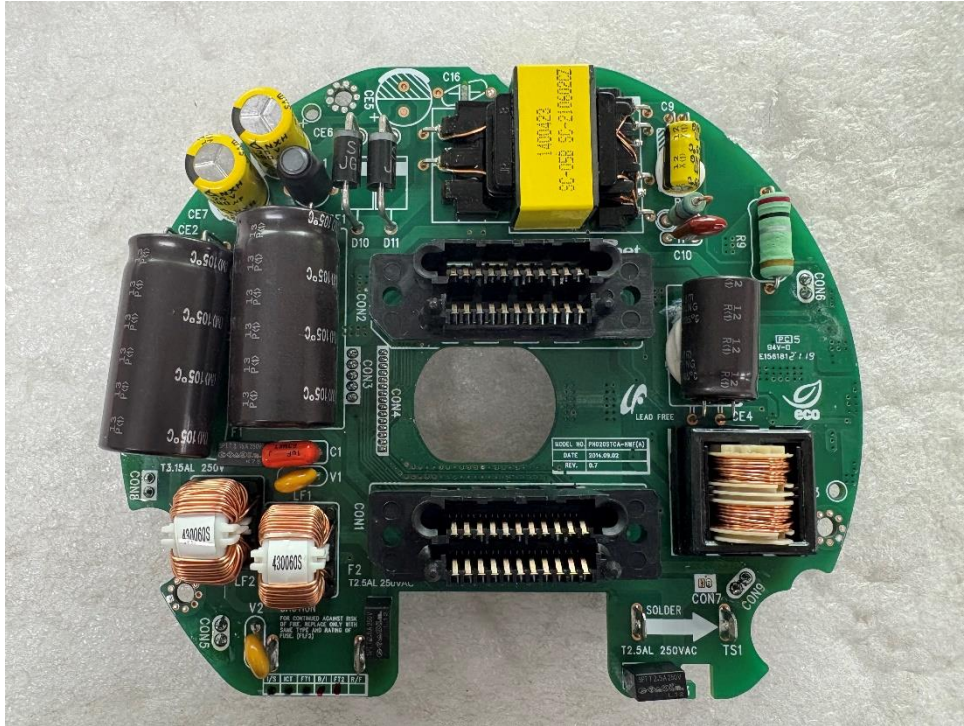
(Bottom)



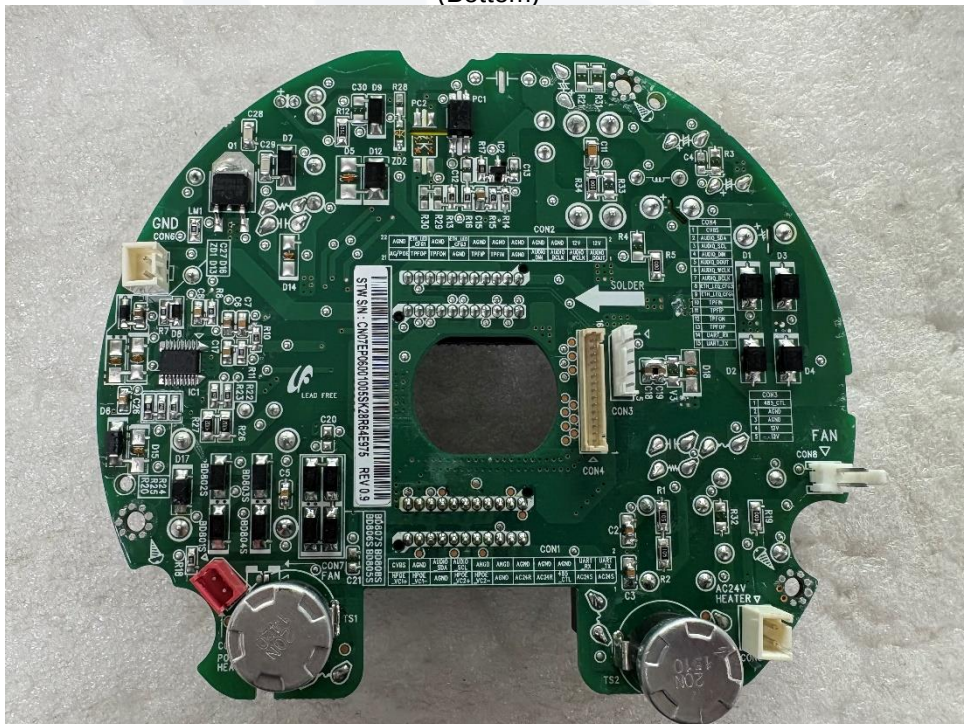


EUT Internal View – Board 2

(Top)



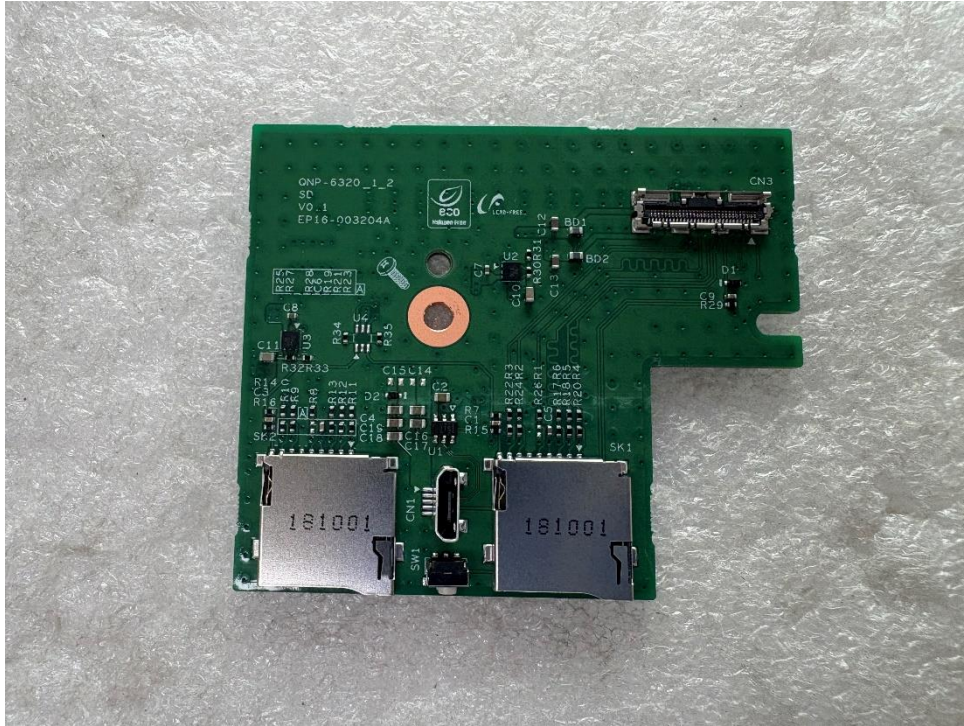
(Bottom)



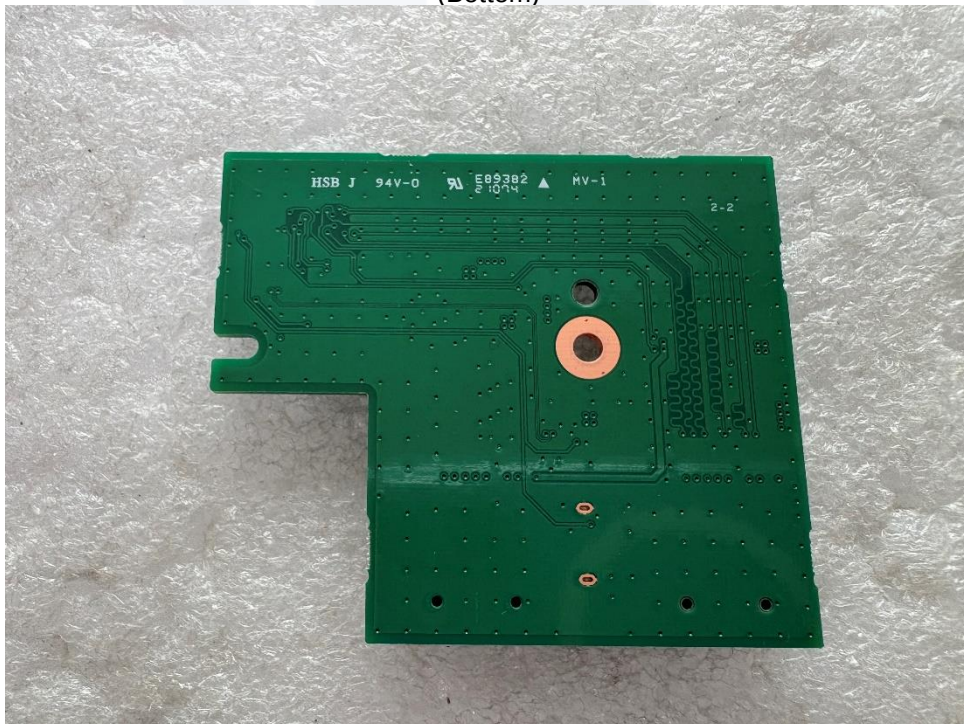


EUT Internal View – Board 3

(Top)



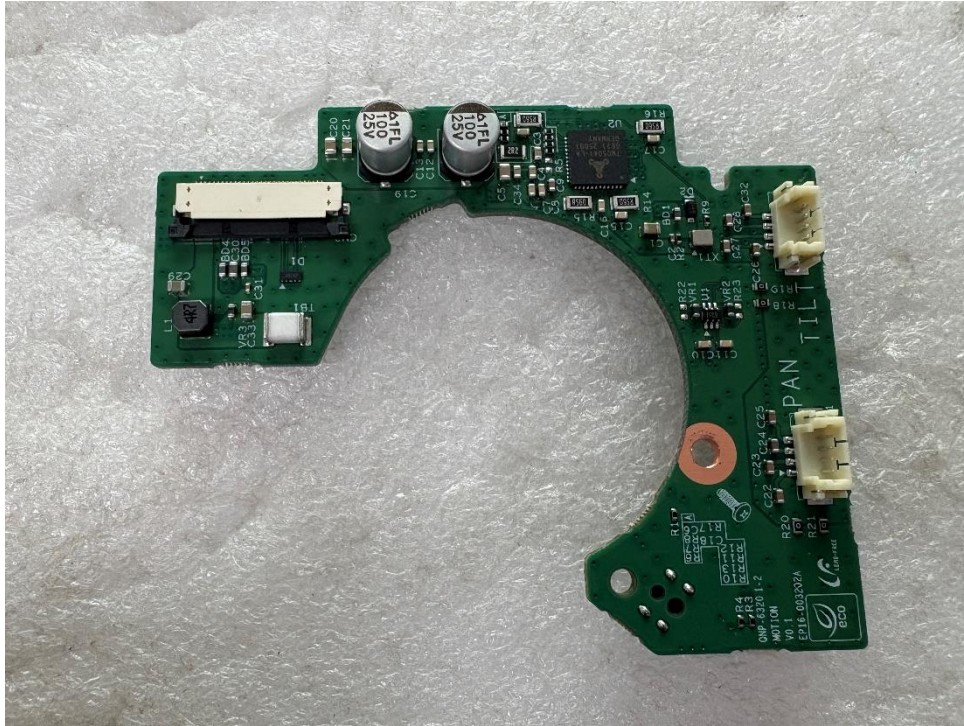
(Bottom)



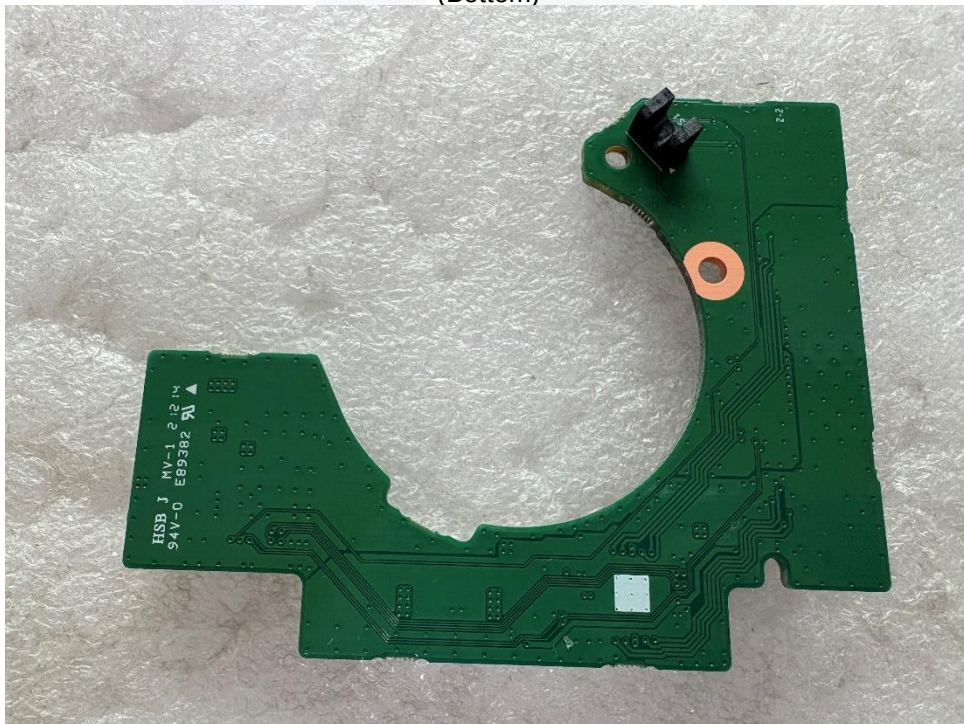


EUT Internal View – Board 4

(Top)



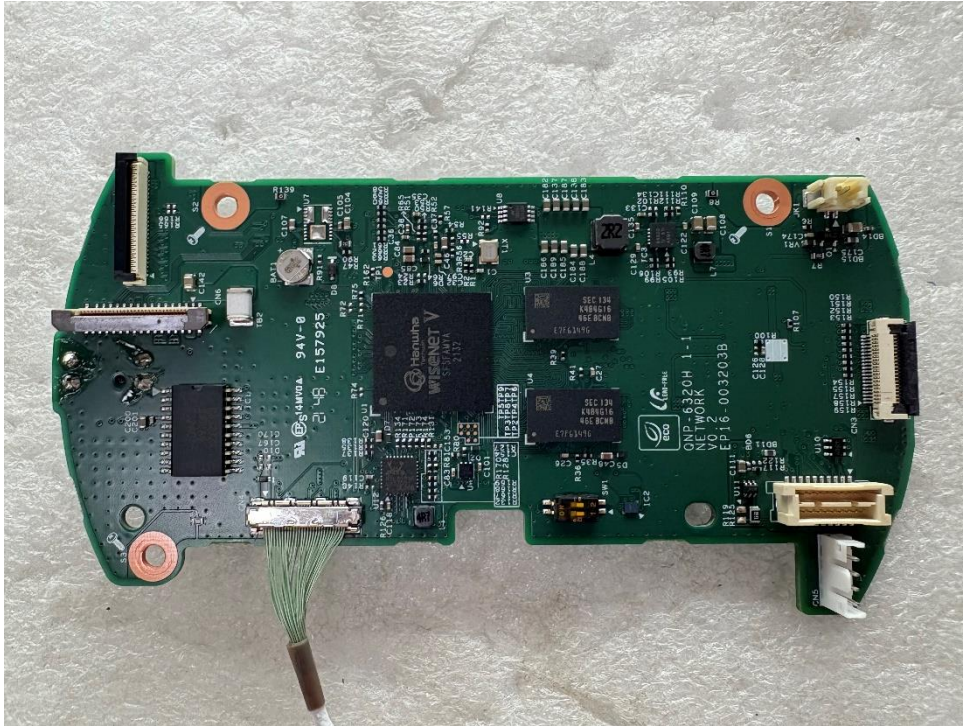
(Bottom)



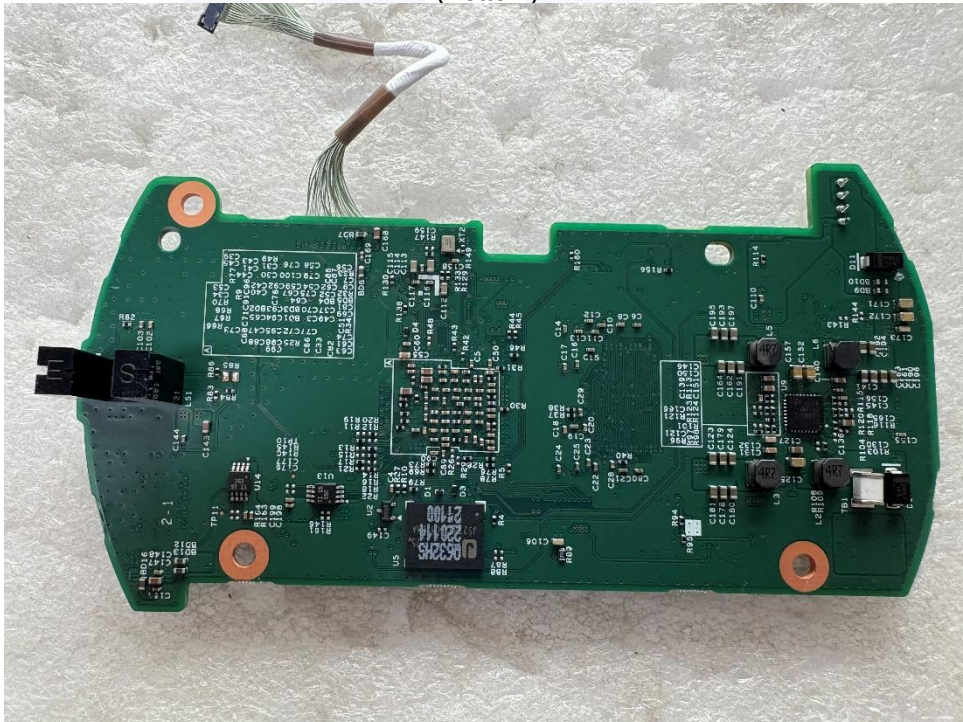


EUT Internal View – Board 5

(Top)



(Bottom)





EUT Internal View – Board 6

(Top)



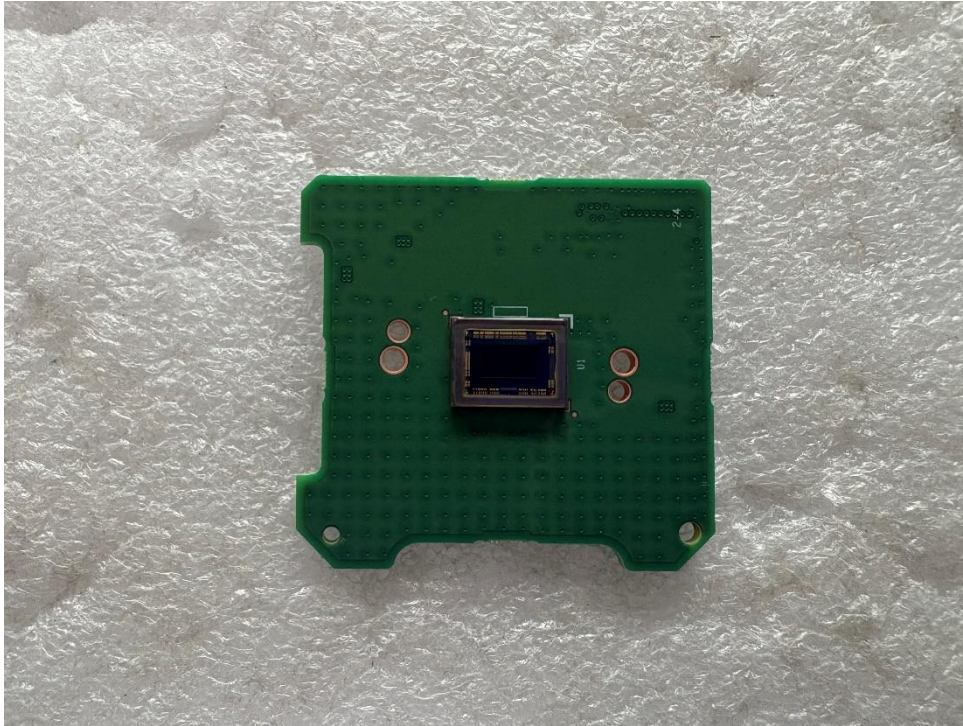
(Bottom)



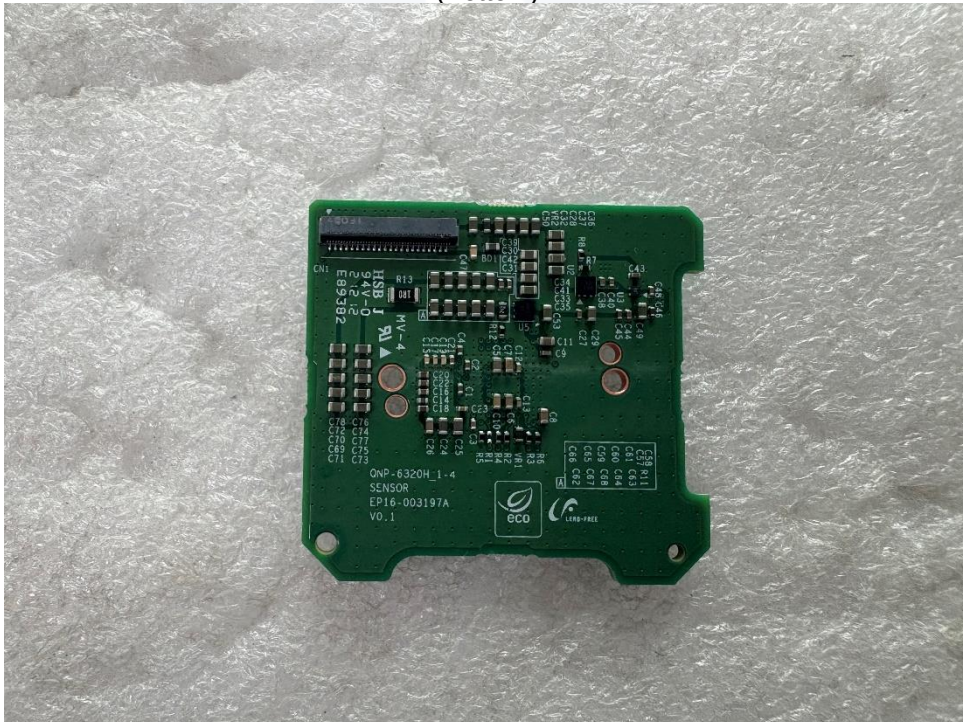


EUT Internal View – Lens Board

(Top)



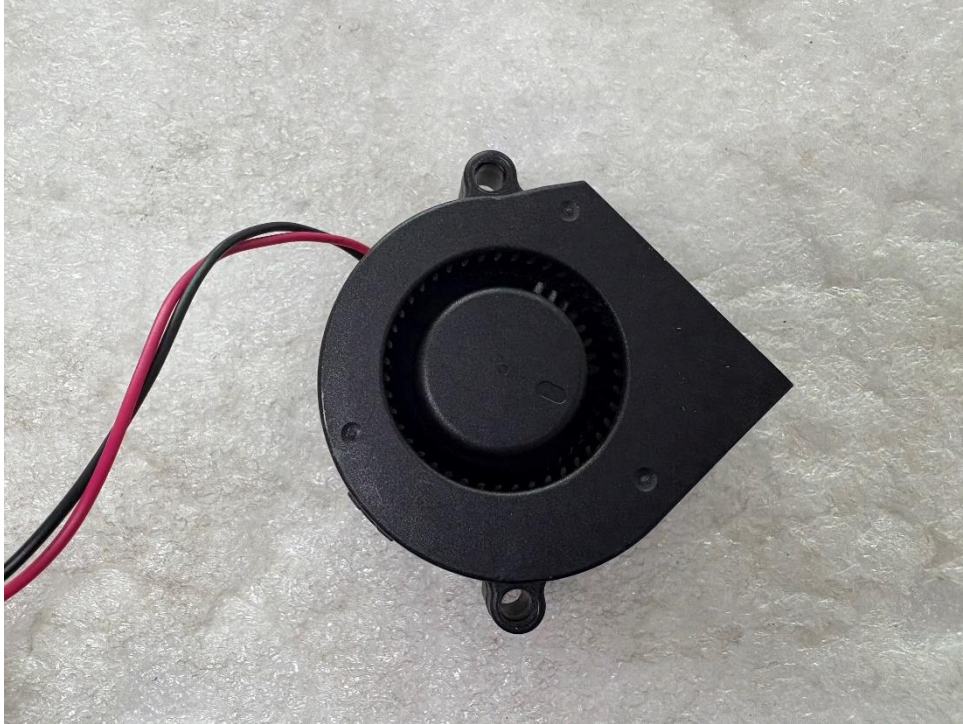
(Bottom)





EUT Internal View – FAN

(Top)



(Bottom)





EUT Internal View – Motor 1



EUT Internal View – Motor 2





EUT Internal View – Lens



The End.