



TEST REPORT



Report No. : KES-EM241386

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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. : PNM-C16083RQZ

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. 29, 2024

4. Test date : May. 27, 2024 ~ May. 30, 2024

5. Date of Issue : Jun. 25, 2024

6. Test Results : In Compliance

Tested by

Reviewed by

Dae Soo, Kim
EMC Test Engineer

Seong Min, Choi
EMC Assistant 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
Jun. 25, 2024	KES-EM241386	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Highest internal Frequency : 2.5 GHz

Video		Operational	
Imaging Device	1/2.8" CMOS x 4CH	Camera Title	Displayed up to 85 characters
Resolution	2592x1520, 1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240	Direction Indicator	None
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(@4MP Max. 5fps)	Day & Night	Auto(ICR)
NETD	None	Backlight Compensation	BLC, WDR, SSOR
Pixel Size	None	Wide Dynamic Range	120dB
Min. Illumination	Color: 0.01Lux(F1.6, 1/30sec, 30IRE) BW: 0Lux(IR LED on)	Digital Noise Reduction	WiseNR II (Based on AI engine), SSNRV
Video Out	None	Digital Image Stabilization	None
Video Transmission Distance	None	Defog	Support
Lens		Motion Detection	8ea, 8point Polygonal zones
Focal Length (Zoom Ratio)	3.3~10.2mm(3.1x) motorized varifocal	Privacy Masking	6ea, 4point Polygonal zones - Color: Gray/Black/White
Max. Aperture Ratio	F1.6(Wide)~F3.1(Tele)	Gain Control	Off / Low / Middle / High
Angular Field of View	H: 93°(Wide)~29.8°(Tele) V: 53°(Wide)~17.5°(Tele) D: 111°(Wide)~34.6°(Tele)	White Balance	ATW / AWC / Manual / Indoor / Outdoor
Min. Object Distance	1.2m (3.93ft)	LDC	Support
Focus Control	Simple focus	Electronic Shutter Speed	Minimum / Maximum / Anti flicker(1/5~1/12,000sec) prefer shutter control(Based on AI engine)
Lens Type	P-Iris	Digital PTZ	None
Mount Type	None	Video Rotation	Flip, Mirror, Halfway view(90°/270°) - each CH separately
Optional Lens	None	Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Color and Type: Car/Bus/Truck/Motorcycle/Bicycle), Person (upper and bottom clothing color) Support BestShot Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)
Pan / Tilt / Rotate		Business Intelligence	Not Support
Pan / Tilt / Rotate Range	Remote adjustment (Max. 200cycles) 0°~360° / 30°~90° / 0°~90°	Serial Interface	None
Pan Range	None	Alarm I/O	2 configurable I/O ports * Support Alarm via optional SPM-4210 I/O box
Pan Speed	None	Alarm Triggers	Analytics, Network disconnect, Alarm input, App event, Time schedule, MQTT subscription, Tampering
Tilt Range	None	Alarm Events	When alarm trigger occurred - File upload(image): e-mail/FTP - Notification: e-mail - Recording: SD/SDHC/SDXC or NAS recording at event triggers - Alarm output - Handover: PTZ preset, send message by HTTP/HTTPS/TCP - MQTT: publication
Tilt Speed	None	Audio In	* Support Audio via optional SPM-4210 I/O box
Rotate Range	None	Audio Out	* Support Audio via optional SPM-4210 I/O box
Sequence	None	IR Viewable Length	WiseIR 25m(82.02ft)
Preset Accuracy	None	IR Illuminator (Optional)	None
Radiometry		Water Removal	None
Temperature Detect Range	None	Auto Tracking	None
Temperature Accuracy	None	Coaxial Protocol	None
Temperature Detection	None	Color Palettes	None
Additional	None	Mechanical	
Network		Color / Material	White / Aluminum + PC Hard-coated dome bubble
Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)	RAL Code	RAL9003
Video Compression	H.265/H.264: Main/High, MJPEG	Product Dimensions / Weight	ø312.7x145.9mm(ø12.31x5.74") / under 4400g(9.7lb)
Audio Compression	None	Compatible Conduit hole / Gangbox	19.1mm(3/4")M25 single, double, 4" octagon, 4" square
Smart Codec	Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)	Hanging Mount (Dome)	SPB-317HMMW
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control H.264/H.265: CBR or VBR MJPEG: VBR	Skin Cover (Dome)	None
Bitrate Control	Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per CH)	Weather Cap (Dome)	None
Streaming		Power Module	None
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, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT	Backbox	None
Security	OS / Firmware Protect: Secure boot, Signed firmware, Firmware encryption User authentication: Digest Authentication, Prevent brute-force attack Network authentication: 802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2) Secure Communication: HTTPS, WSS(Websocket secure) Access Control: IP address filtering Data Protect: Authentication information encryption, ZIP compression encryption Audit: User Access/System/Event log Device ID: Device Certificate/Baransha Vision Root CA, pre-installed Secure Storage: TPM with FIPS 140-2 level2, Secure by default	Certifications & Standards	
SIP support (VoIP, Peer-to-peer, SIP/P)	None	Network	None
Application Programming Interface	ONVIF Profile S/T/M SUNAPI(HTTP API) Wisenet open platform	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 C1SPR 32 Class A RCM AS/NZS CISPR 32 Class A KS C 9832 Class A, KS C 9835
General		Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC/EN 62471
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Greek, Hungarian	Environment	IEC/EN 63000 IEC/EN 60529 IP66, IEC/EN 62662 IK10 NEMA 250 type 4X
Web Viewer	None	Video	None
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)	DORI (EN62676-4 standard)	
Memory	8GB RAM, 16GB eMMC	Detect (25PPM/ 8PPF)	Wide: 49.2m(161.40ft) / Tele: 194.8m(639.20ft)
Environmental & Electrical		Observe (63PPM/ 19PPF)	Wide: 19.7m(64.56ft) / Tele: 77.9m(255.68ft)
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing) * Start up should be done at above -35°C Humidity control /w AIR vent	Recognize (125PPM/ 38PPF)	Wide: 9.8m(32.28ft) / Tele: 39.0m(127.84ft)
Storage Temperature / Humidity	-50°C~+60°C(-58°F~+140°F) / 0~90% RH	Identify (250PPM/ 76PPF)	Wide: 4.9m(16.14ft) / Tele: 19.5m(63.92ft)
Certification	IP66, NEMA 4X, IK10		
Input Voltage	PoE++ (IEEE802.3bt type3, Class6)		
Power Consumption	Max. 41W		

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

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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, 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	PNM-C16083RQZ	-	HANWHA VISION VIETNAM COMPANY LIMITED.	EUT
PoE Injector 1	PT-PSE109GBRO-AH-S	PT2402228137	Dongguan PROCET Network Technology Co., Ltd	R-R-LJ9-PSE109G BRO-A02

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Laptop	LG15U56	605NZ8J002174	LG	-
Laptop Adapter	ADS-65AI-19-3	EAY65689605	SHENZHEN HONOR ELECTRONIC CO.,LTD.	-
LED Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Micro SD Card 1	-	-	SanDisk	-
PoE Injector 2	GS728TPP	-	NETGEAR	-



1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	Micro SD	Micro SD Card	Micro SD Slot	-	-
	PoE	PoE Injector 1 (EUT)	RJ-45 (PoE)	2.0	S
	ALARM OUT	LED Alarm	Alarm IN	3.1	U
	ALARM IN	Button Alarm	Alarm OUT	3.1	U
	GROUND	GROUND	GROUND	2.0	U
PoE Injector 1 (EUT)	RJ-45 (DATA)	Laptop	RJ-45	3.1	S
	SFP	PoE Injector 2	SFP	10.0	U
Laptop	DC jack	Laptop Adapter	DC jack	1.5	U

* Unshielded=U, Shielded=S

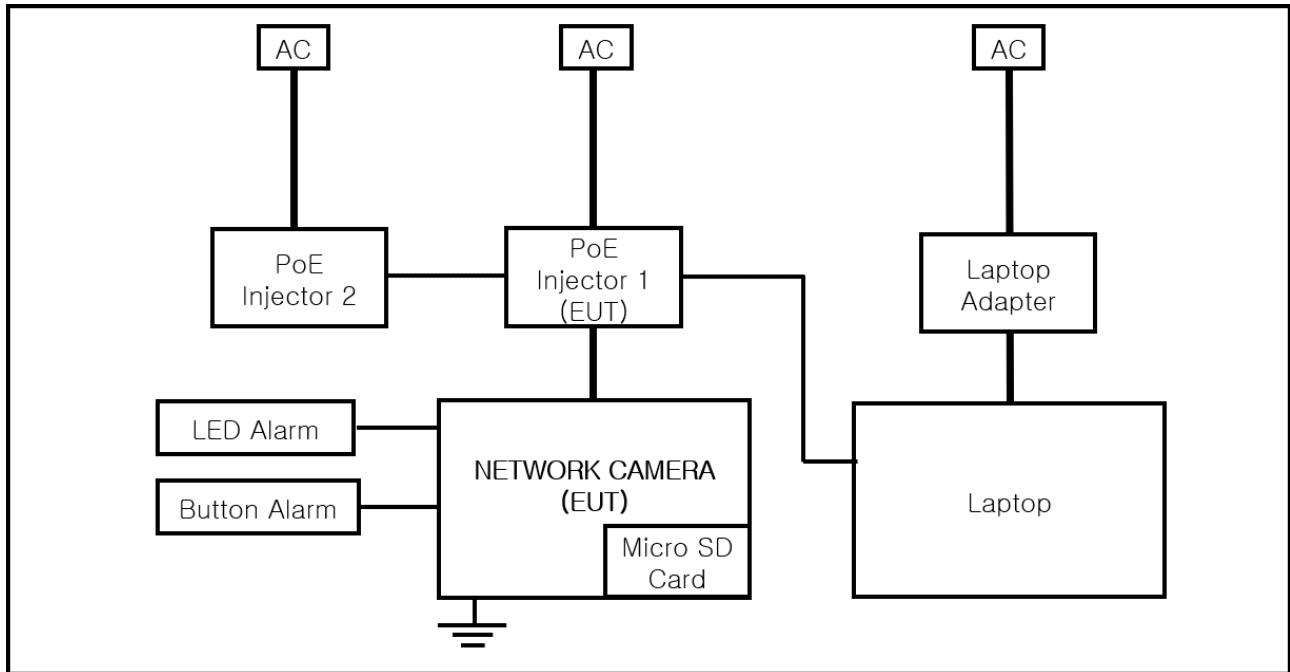
1.7 EUT Operating Mode(s)

Test mode	Normal operating	Test Voltages
Operating	Monitoring EUT Using Web Viewer, Ping Test	AC 100 V, 50 Hz

EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd.



1.8 Configuration



**1.9 Remarks when standards applied**

N/A

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:

☒ VCCI-CISPR 32:2016

☒ Class A

☐ Class B





2.1 Conducted Emissions Mains Power Ports

Test Date

May. 28, 2024

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, 08, 2024
☒	LISN	ENV216	R & S	101787	11, 08, 2024
☒	LISN	ESH2-Z5	R & S	101137	01, 10, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 08, 2024

Test Conditions

Temperature: (21,9 ± 0,0) °C

Relative Humidity: (45,8 ± 0,0) % 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.



2.2 Conducted Emissions at Telecommunication Ports

Test Date

May. 28, 2024

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, 08, 2024
☒	LISN	ENV216	R & S	101787	11, 08, 2024
☒	LISN	ESH2-Z5	R & S	101137	01, 10, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 08, 2024
☐	8-WIRE ISN CAT3,5	ENY81	R & S	100174	11, 09, 2024
☐	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101666	03, 05, 2025
☒	ISN	ISN S8	SCHWARZBECK	ISN-S8-0019	03, 05, 2025

Test Conditions

Temperature: (21,9 ± 0,0) °C

Relative Humidity: (45,8 ± 0,0) % 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

May. 28, 2024

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, 08, 2024
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 17, 2024
☒	ATTENUATOR	8491A	HP	32173	02, 13, 2025

Test Conditions

Temperature: (22,5 ± 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

May. 27, 2024

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	ESR7	R & S	101190	07, 31, 2024
☒	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: (22,6 ± 0,1) °C

Relative Humidity: (46,2 ± 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.



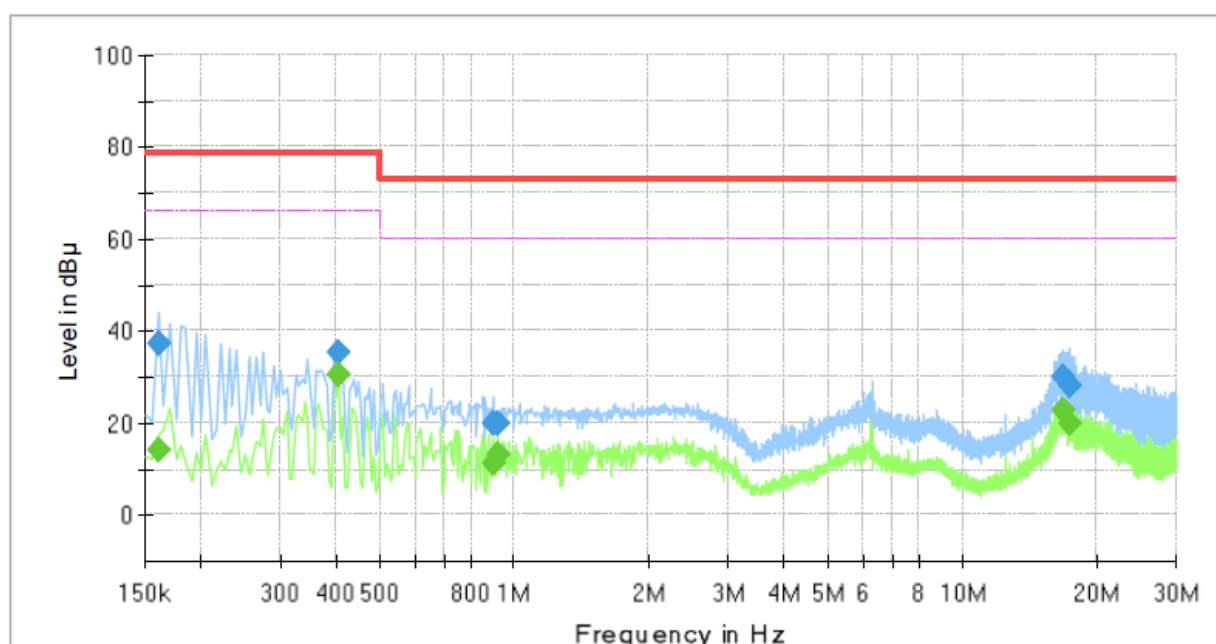
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241386
Phase: L
Mode:
Operator Name: KES



Final Result

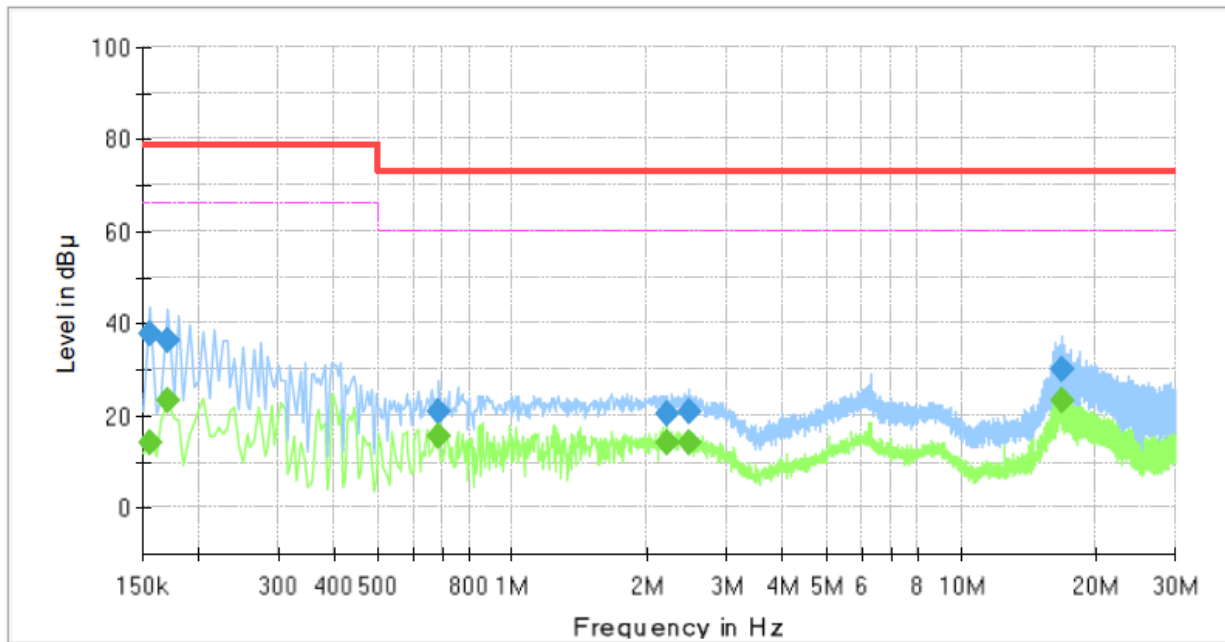
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	14.25	66.00	51.75	1000.0	9.000	L1	19.4
0.160000	37.07	---	79.00	41.93	1000.0	9.000	L1	19.4
0.405000	---	30.63	66.00	35.37	1000.0	9.000	L1	19.4
0.405000	35.25	---	79.00	43.75	1000.0	9.000	L1	19.4
0.895000	---	11.26	60.00	48.74	1000.0	9.000	L1	19.4
0.895000	19.84	---	73.00	53.16	1000.0	9.000	L1	19.4
0.915000	---	13.34	60.00	46.66	1000.0	9.000	L1	19.4
0.915000	20.15	---	73.00	52.85	1000.0	9.000	L1	19.4
16.810000	---	22.92	60.00	37.08	1000.0	9.000	L1	20.2
16.810000	30.22	---	73.00	42.78	1000.0	9.000	L1	20.2
17.440000	---	20.10	60.00	39.90	1000.0	9.000	L1	20.2
17.440000	28.02	---	73.00	44.98	1000.0	9.000	L1	20.2



NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM241386
Phase: N
Mode:
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	37.77	---	79.00	41.23	1000.0	9.000	N	19.3
0.155000	---	13.99	66.00	52.01	1000.0	9.000	N	19.3
0.170000	---	23.19	66.00	42.81	1000.0	9.000	N	19.3
0.170000	36.50	---	79.00	42.50	1000.0	9.000	N	19.3
0.680000	---	15.53	60.00	44.47	1000.0	9.000	N	19.4
0.680000	20.99	---	73.00	52.01	1000.0	9.000	N	19.4
2.200000	---	14.24	60.00	45.76	1000.0	9.000	N	19.5
2.200000	20.56	---	73.00	52.44	1000.0	9.000	N	19.5
2.475000	---	14.34	60.00	45.66	1000.0	9.000	N	19.6
2.475000	21.03	---	73.00	51.97	1000.0	9.000	N	19.6
16.795000	---	23.10	60.00	36.90	1000.0	9.000	N	20.2
16.795000	30.01	---	73.00	42.99	1000.0	9.000	N	20.2

◆ 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))

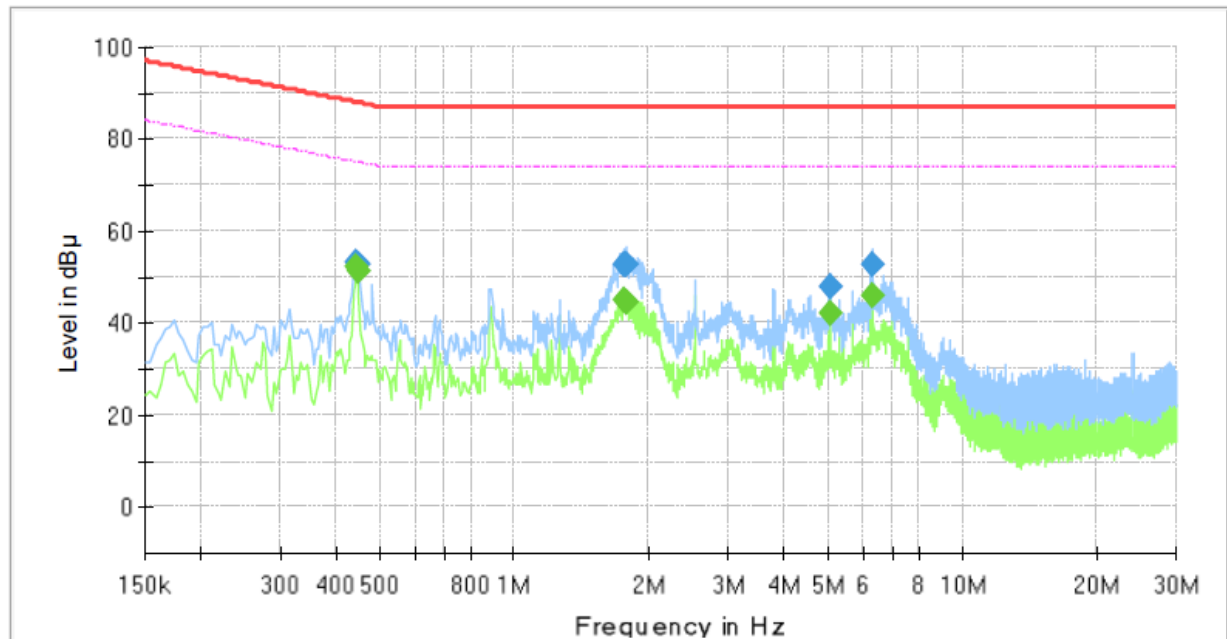
**Conducted Emissions at Telecommunication Ports**

■ LAN

[1 000 Mbps]

Common Information

Test Description: Telecommunication Emission
Job No.: KES-EM241386
Mode : LAN
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)
0.442000	53.19	---	88.02	34.83	1000.0	9.000	Single Line	19.2
0.442000	---	52.01	75.02	23.01	1000.0	9.000	Single Line	19.2
0.446000	52.61	---	87.95	35.34	1000.0	9.000	Single Line	19.2
0.446000	---	51.32	74.95	23.63	1000.0	9.000	Single Line	19.2
1.762000	52.76	---	87.00	34.24	1000.0	9.000	Single Line	19.3
1.762000	---	45.01	74.00	28.99	1000.0	9.000	Single Line	19.3
1.774000	52.74	---	87.00	34.26	1000.0	9.000	Single Line	19.3
1.774000	---	44.69	74.00	29.31	1000.0	9.000	Single Line	19.3
5.050000	47.70	---	87.00	39.30	1000.0	9.000	Single Line	19.5
5.050000	---	42.12	74.00	31.88	1000.0	9.000	Single Line	19.5
6.314000	---	45.76	74.00	28.24	1000.0	9.000	Single Line	19.6
6.314000	52.65	---	87.00	34.35	1000.0	9.000	Single Line	19.6

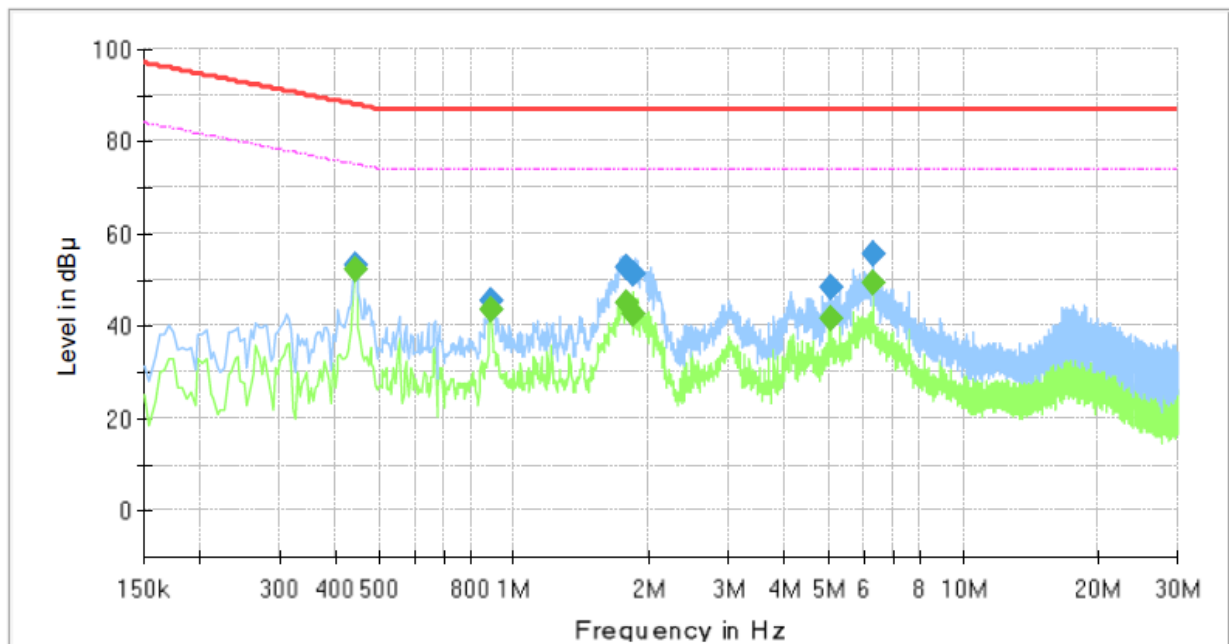


■ PoE

[1 000 Mbps]

Common Information

Test Description: Telecommunication Emission
Job No.: KES-EM241386
Mode : PoE
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)
0.442000	53.25	---	88.02	34.77	1000.0	9.000	Single Line	19.2
0.442000	---	52.21	75.02	22.81	1000.0	9.000	Single Line	19.2
0.886000	---	43.47	74.00	30.53	1000.0	9.000	Single Line	19.3
0.886000	45.72	---	87.00	41.28	1000.0	9.000	Single Line	19.3
1.774000	---	44.81	74.00	29.19	1000.0	9.000	Single Line	19.3
1.774000	52.78	---	87.00	34.22	1000.0	9.000	Single Line	19.3
1.842000	51.18	---	87.00	35.82	1000.0	9.000	Single Line	19.3
1.842000	---	42.75	74.00	31.25	1000.0	9.000	Single Line	19.3
5.050000	48.15	---	87.00	38.85	1000.0	9.000	Single Line	19.5
5.050000	---	41.67	74.00	32.33	1000.0	9.000	Single Line	19.5
6.310000	55.61	---	87.00	31.39	1000.0	9.000	Single Line	19.6
6.310000	---	49.24	74.00	24.76	1000.0	9.000	Single Line	19.6

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

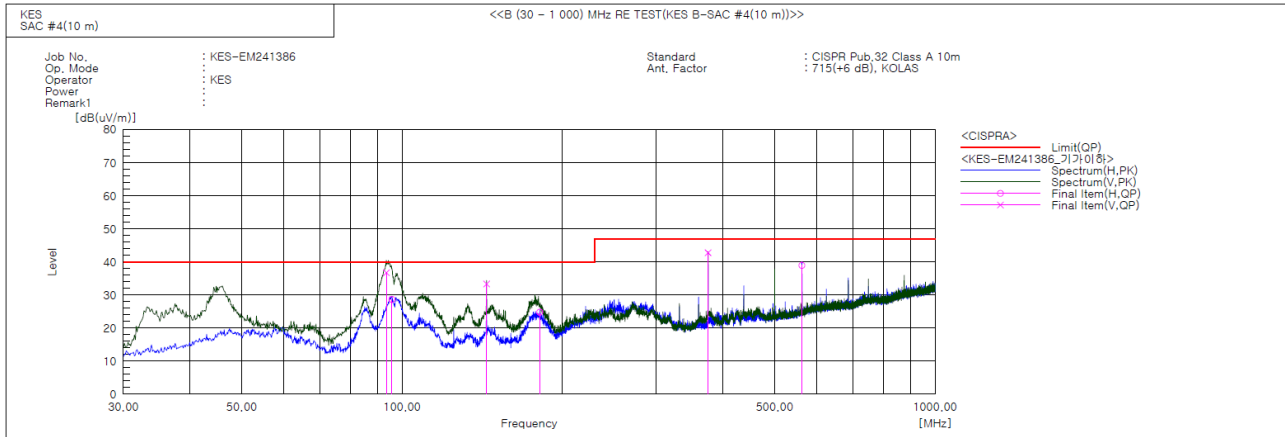
Reading Value : Not shown in the table.

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

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**

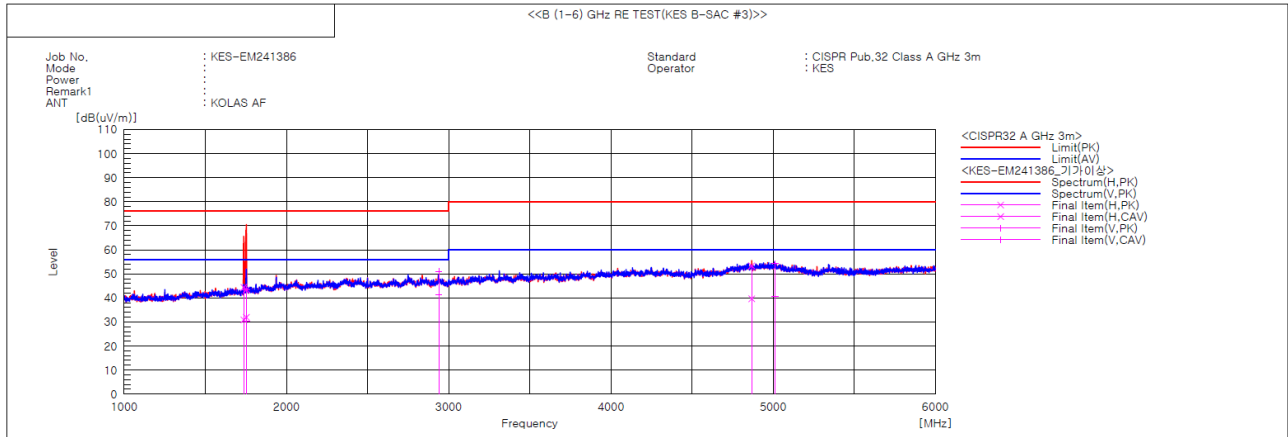
No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	93.414	V	59.8	-23.1	36.7	40.0	3.3	111.0	242.0	
2	95.718	H	51.3	-22.7	28.6	40.0	11.4	366.0	278.0	
3	143.975	V	58.5	-25.2	33.3	40.0	6.7	157.0	196.0	
4	181.199	H	47.9	-23.1	24.8	40.0	15.2	400.0	146.0	
5	374.956	V	57.2	-14.4	42.8	47.0	4.2	149.0	207.0	
6	562.530	H	48.2	-9.3	38.9	47.0	8.1	293.0	311.0	

◆ Calculation

Corrected Amplitude [dBuV] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

**Radiated Electric Field Emissions(Above 1 GHz)****Final Result**

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	1736.915	H	42.6	29.1	1.8	44.4	30.9	76.0	56.0	31.6	25.1	100.0	14.1	
2	1752.900	H	41.5	30.1	1.9	43.4	32.0	76.0	56.0	32.6	24.0	100.0	295.1	
3	1752.790	V	41.5	28.5	1.9	43.4	30.4	76.0	56.0	32.6	25.6	100.0	350.2	
4	2938.570	V	43.8	34.2	7.2	51.0	41.4	76.0	56.0	25.0	14.6	100.0	190.3	
5	4868.284	H	38.5	24.8	14.9	53.4	39.7	80.0	60.0	26.6	20.3	100.0	337.9	
6	5009.821	V	38.8	25.2	15.5	54.3	40.7	80.0	60.0	25.7	19.3	100.0	32.6	

◆ 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)]

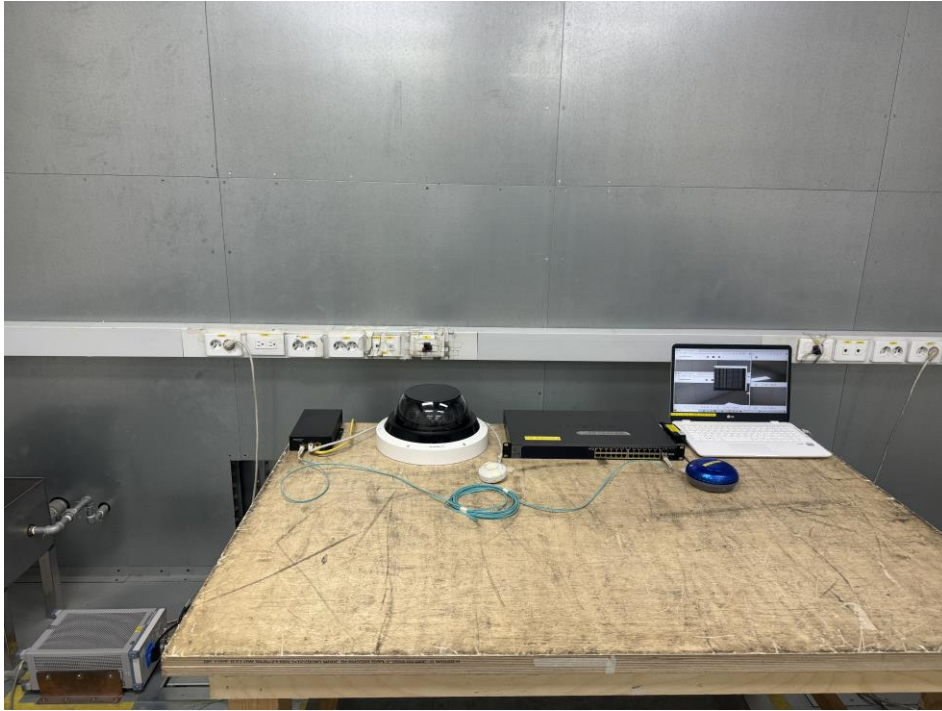
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

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



Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



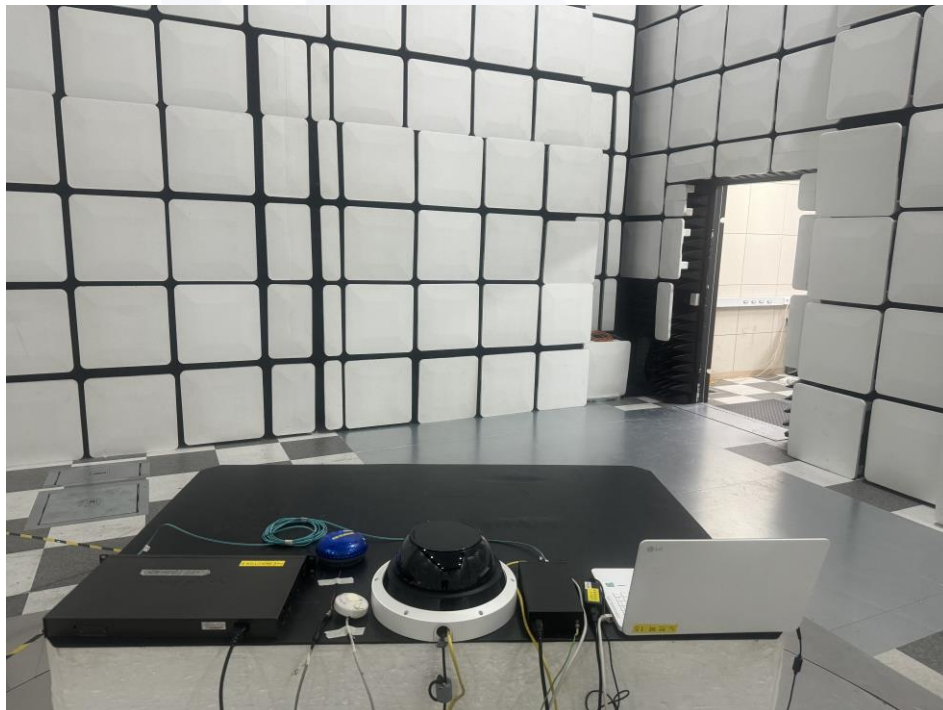
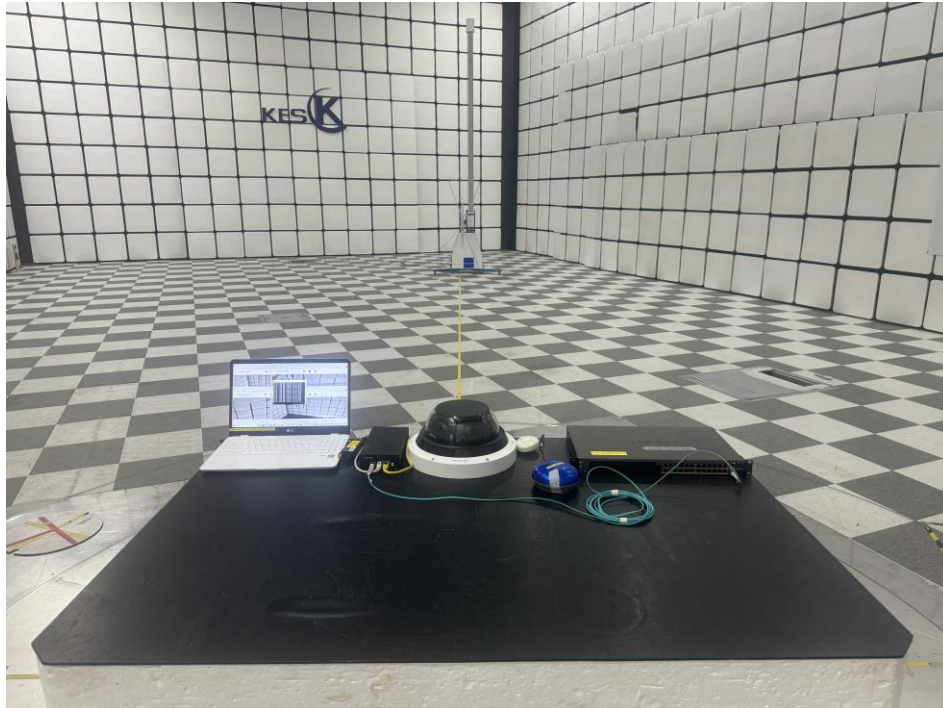


Conducted Emissions at Telecommunication Ports



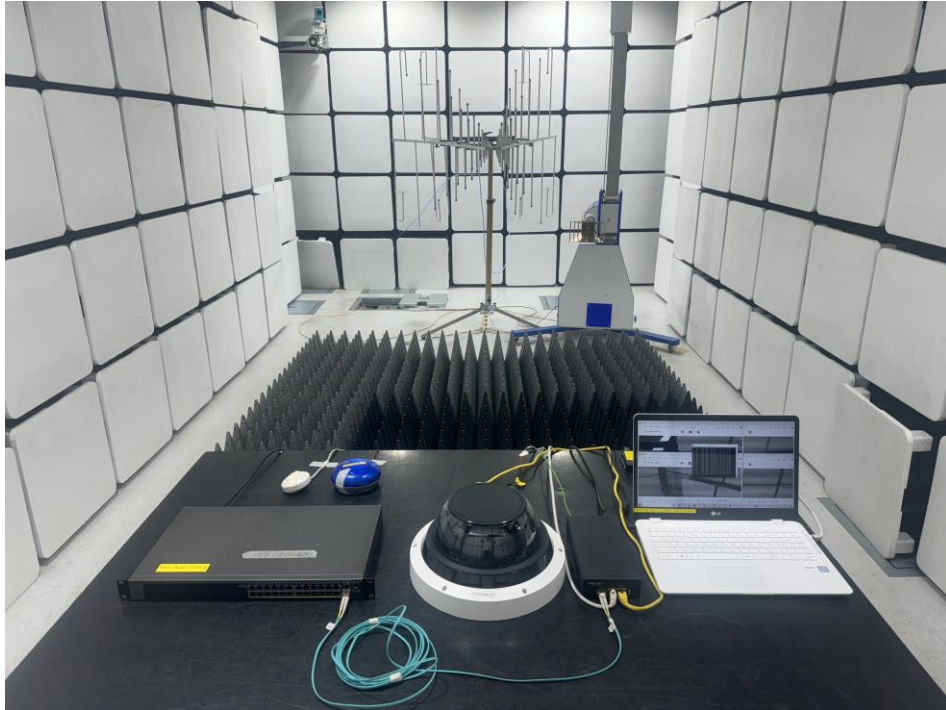


Radiated Electric Field Emissions(Below 1 GHz)





Radiated Electric Field Emissions(Above 1 GHz)





EUT External Photographs

(Top)



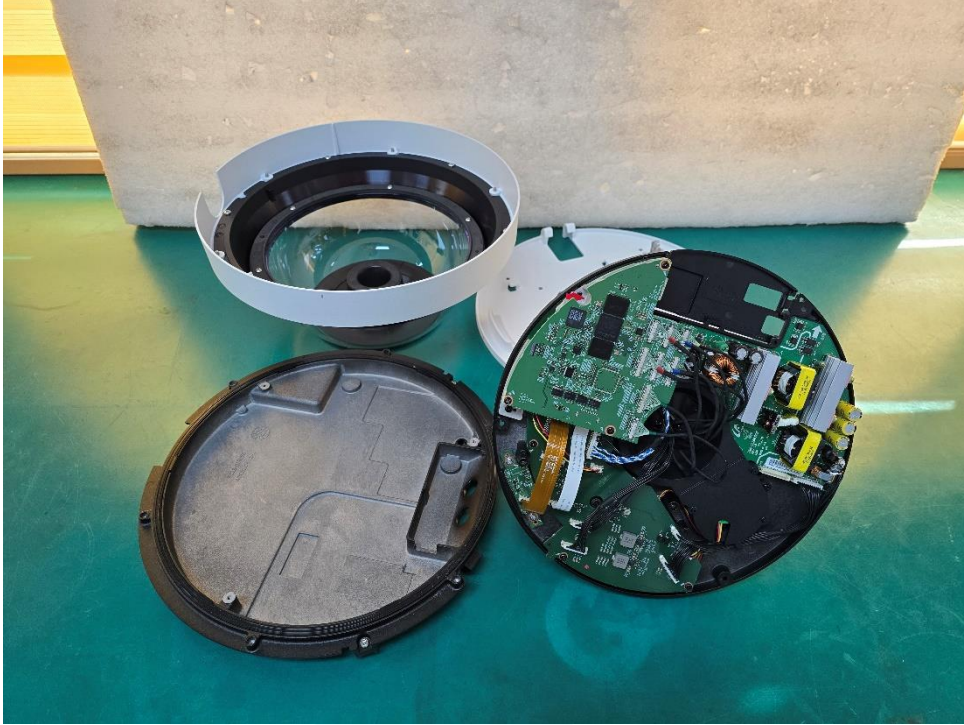
(Bottom)





EUT Internal Photographs

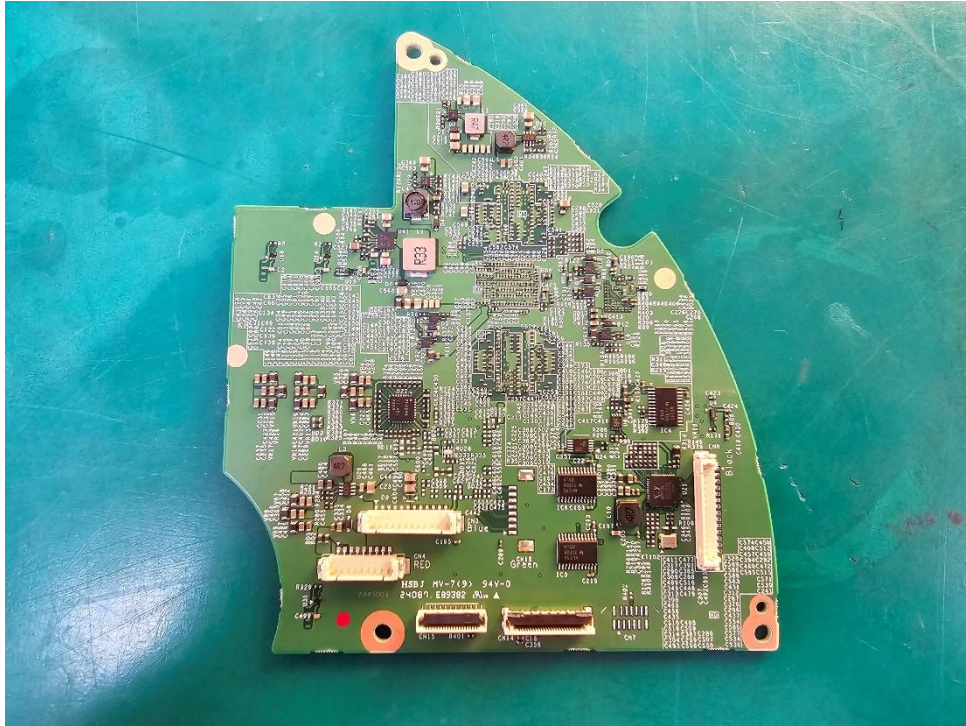
(Internal View)



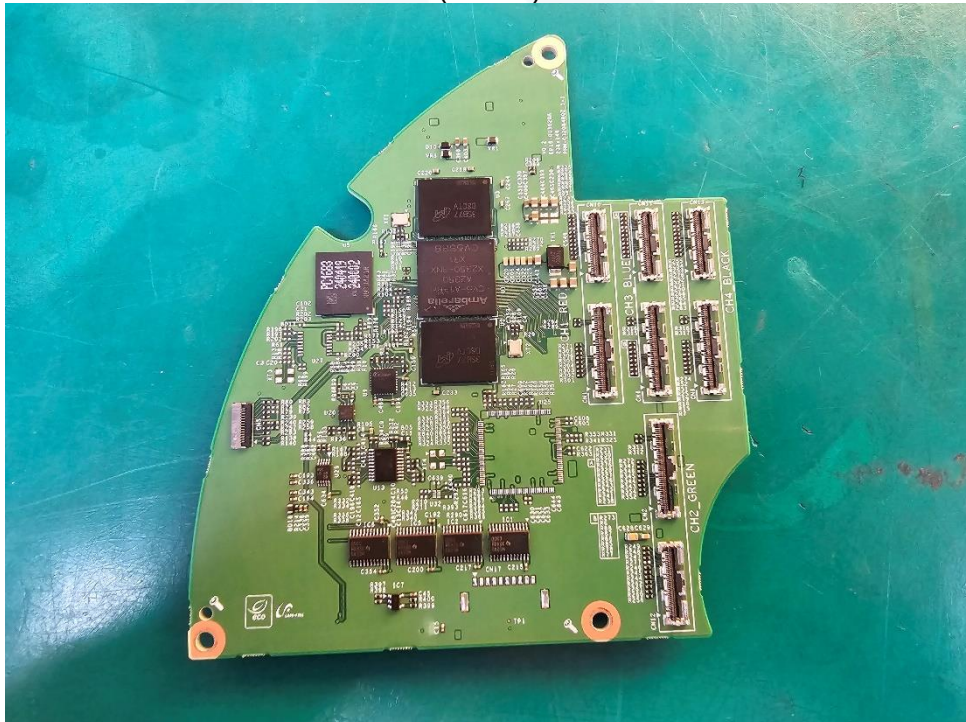


EUT Internal View – Board 1

(Top)



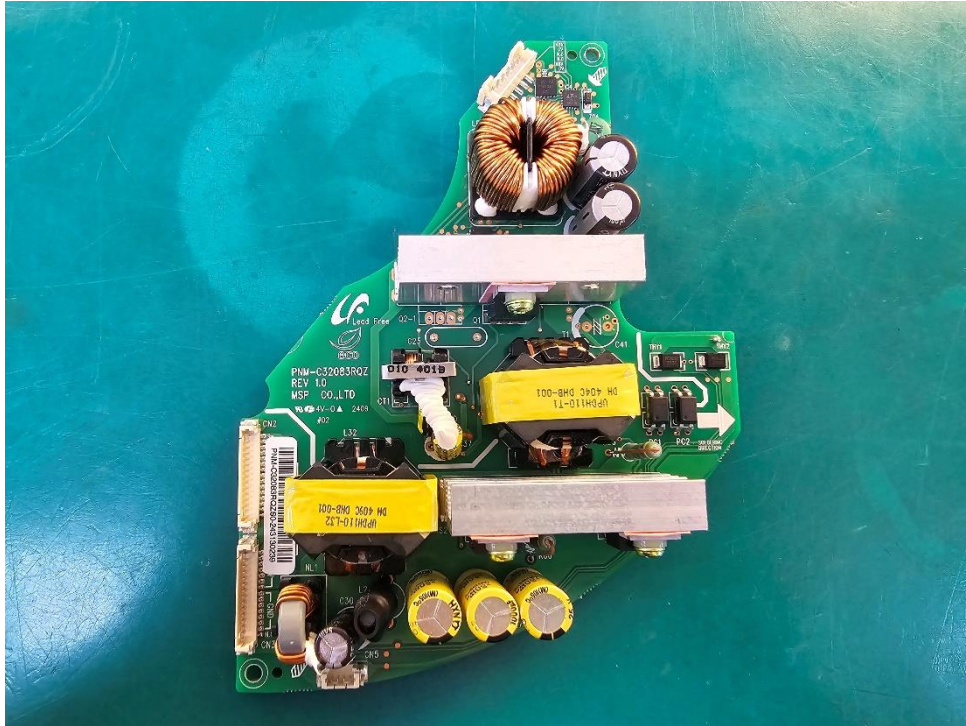
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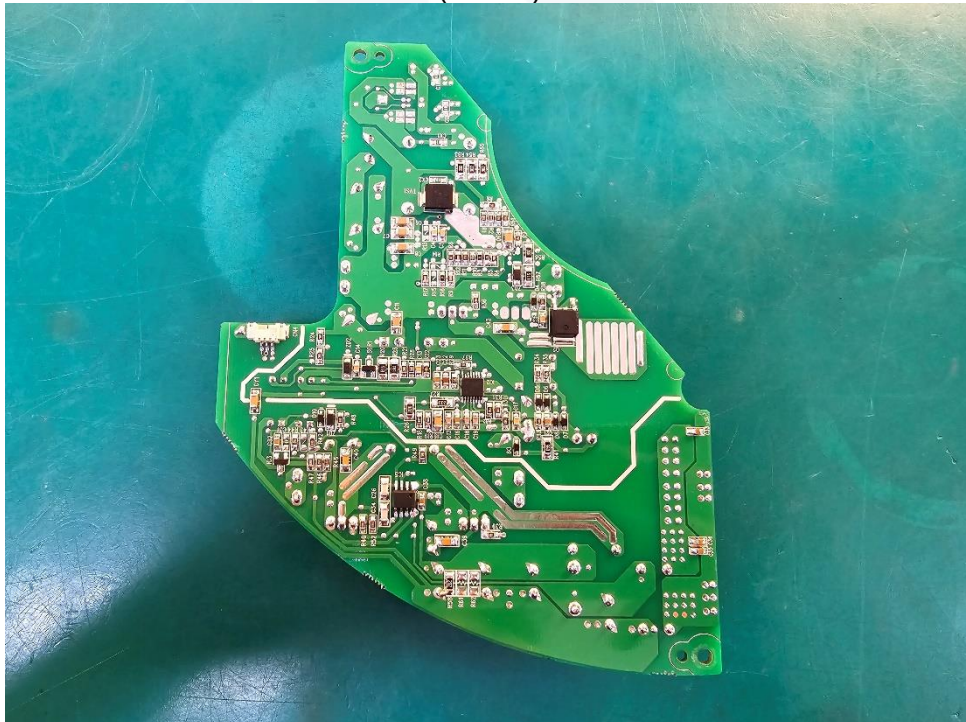


EUT Internal View – Board 2

(Top)



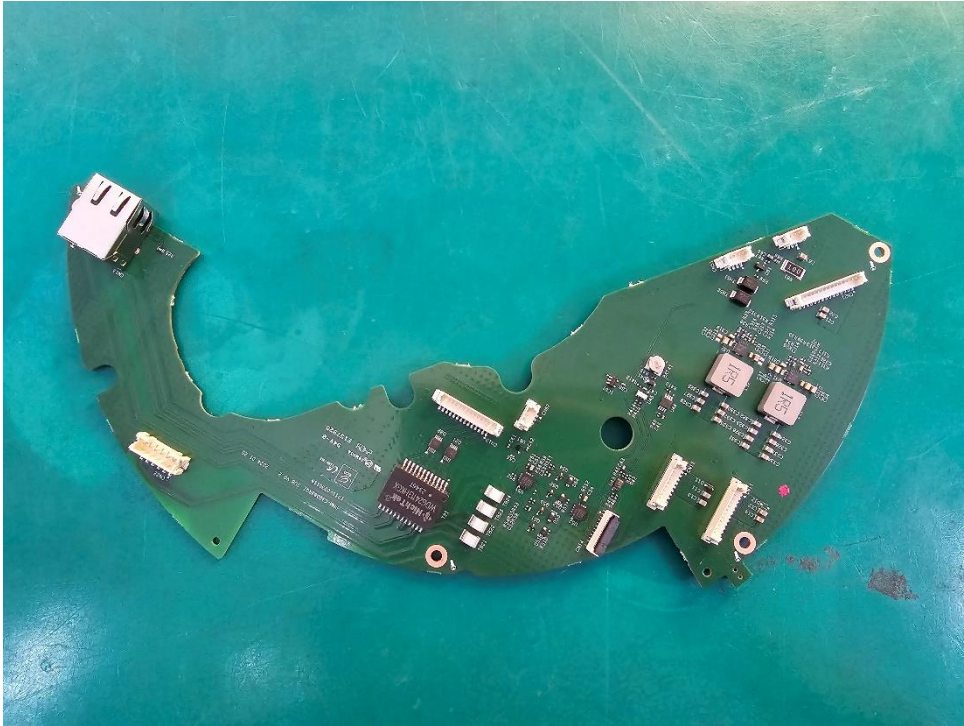
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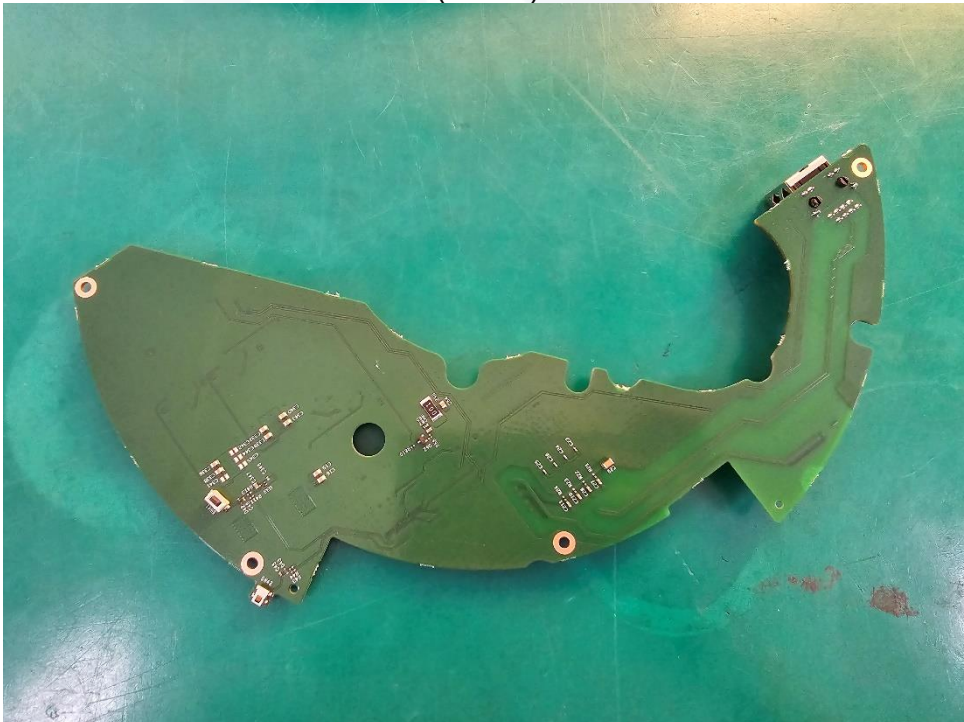


EUT Internal View – Board 3

(Top)



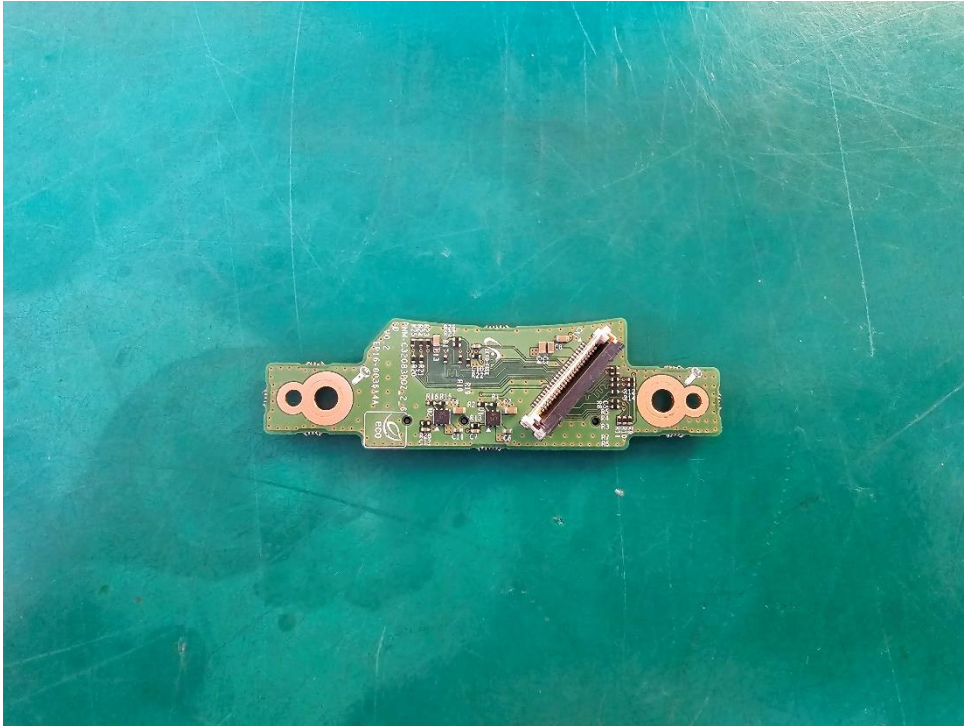
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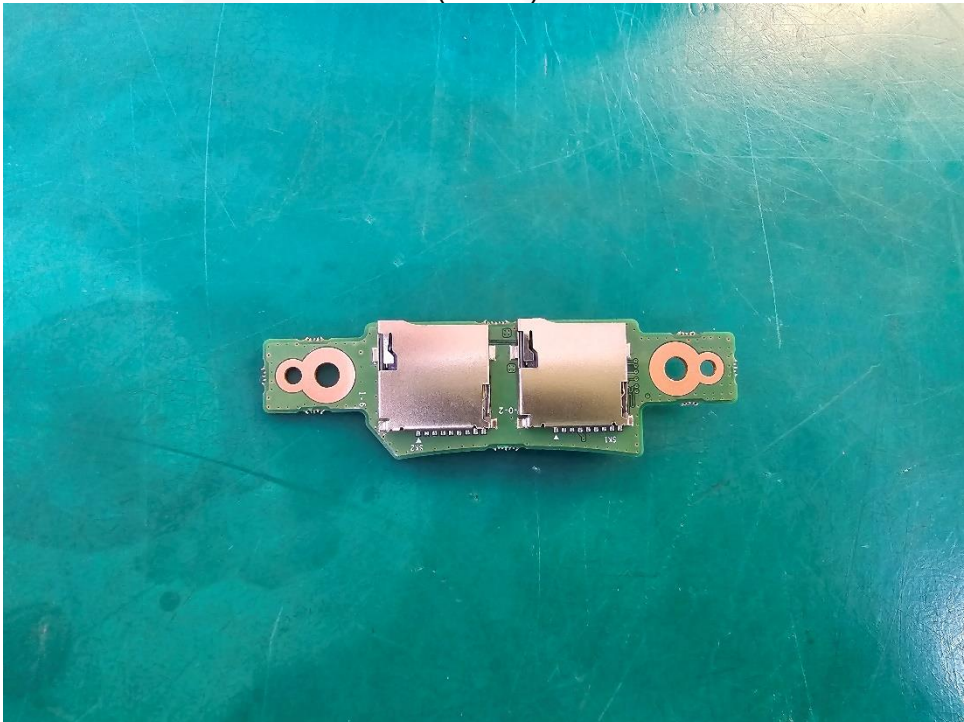


EUT Internal View – Board 4

(Top)



(Bottom)



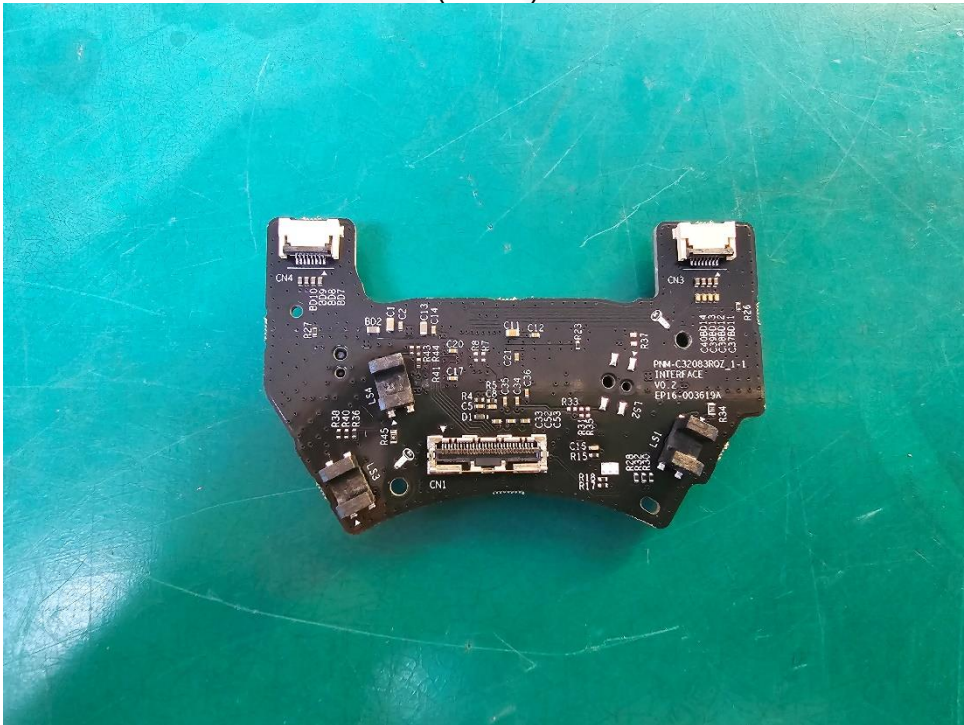


EUT Internal View – Board 5

(Top)



(Bottom)





EUT Internal View – Board 6

(Top)



(Bottom)



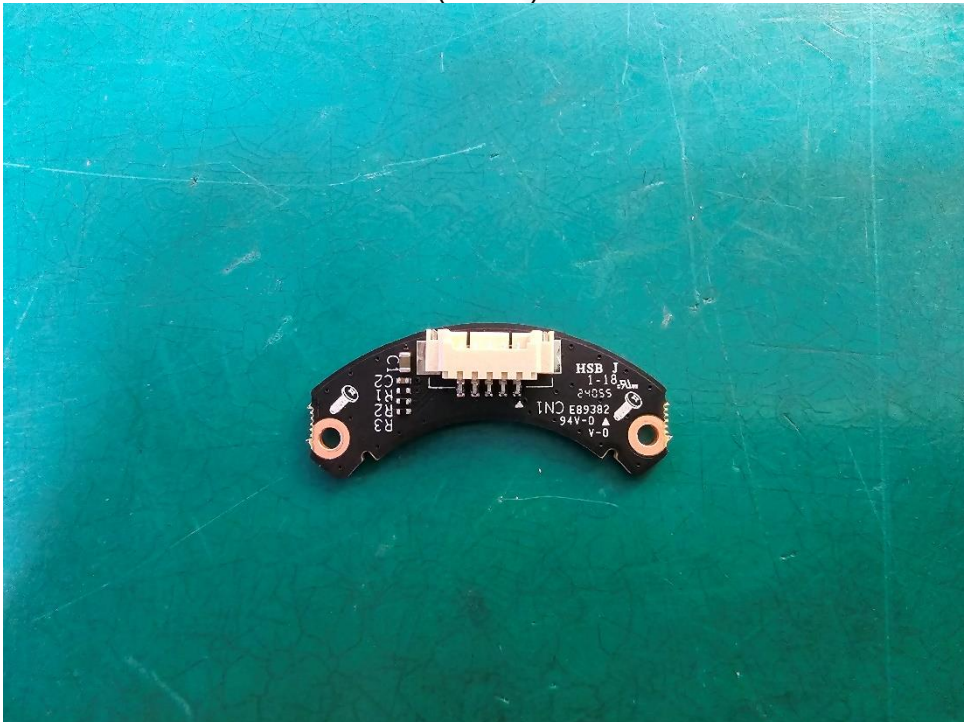


EUT Internal View – Board 7

(Top)



(Bottom)





EUT Internal View – Board 8

(Top)





EUT Internal View – Board 9

(Top)





EUT Internal View – PoE Injector

(Top)



(Bottom)





EUT Internal View – Motor 1

(Top)



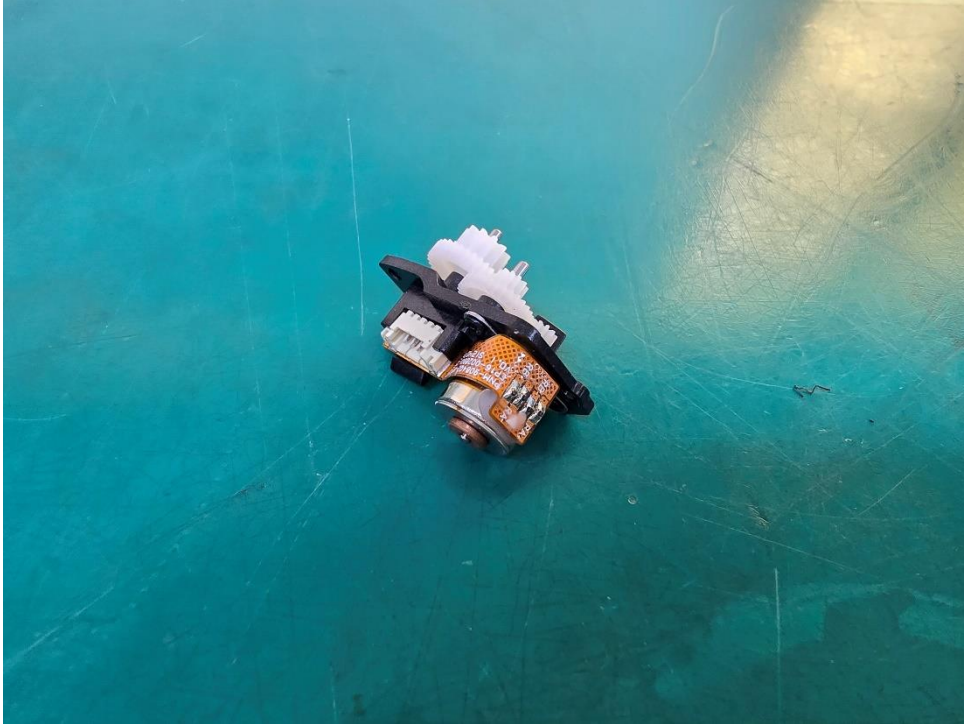
(Bottom)





EUT Internal View – Motor 2

(Top)

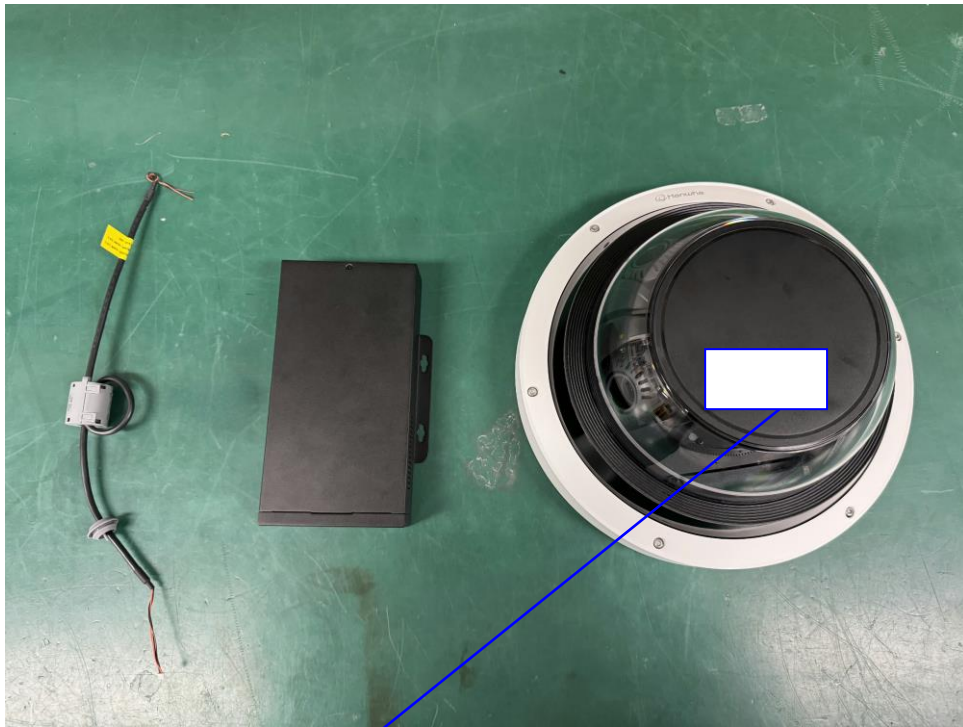


(Bottom)





Label Photographs



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