



TEST REPORT



Report No. : KES-EM242541

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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. : QND-C8023R

Variant Model : QND-C8013R

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 : Jul. 24, 2024

4. Test date : Jul. 26, 2024 ~ Jul. 28, 2024

5. Date of Issue : Aug. 02, 2024

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
Aug. 02, 2024	KES-EM242541	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Highest Maximum Frequency	1 866 MHz
Video	
Imaging Device	1/2.8" CMOS
Resolution	2592x1944, 2560x1440, 1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) (WDR on/off) MJPEG: Max. 30fps(@5MP Max. 5fps)
Min. Illumination	Color: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on) (TBD)
Video Out	USB: Micro USB Type B, 1280x720 for installation
Lens	
Focal Length (Zoom Ratio)	4.0mm fixed focal
Max. Aperture Ratio	F1.6
Angular Field of View	H: 80° / V: 59° / D: 102°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Fixed
Lens Type	Fixed IRIS
Mount Type	M12
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~350° / 0°~70° / 0°~355°
Operational	
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SDR
Wide Dynamic Range	120dB
Digital Noise Reduction	WiseNR II (Based on AI engine) SSNR-V
Motion Detection	8ea, 8point polygonal zones 32ea, 4point quadrangle zones
Privacy Masking	- Color: Gray/Green/Red/Blue/Black/White Dynamic Privacy Mask - Mosaic
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	Support
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (1/5~1/25,000sec) Prefer shutter control(Based on AI engine)
Video Rotation	Flip, Mirror, Hallway view(90°/270°)
Analytics	Classified object type: Person/Vehicle(Type:car/bus/truck/motorcycle/bicycle) Attributes: Person(Upper/lower clothes color), Vehicle(Type:car/bus/truck/motorcycle/bicycle and color) Support DetectionShot Analytics events based on AI engine - Motion detection*, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Tampering, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap
Alarm I/O	Input 1ea / Output 1ea * Alarm I/O is supported through an optional cable(SPP-C7200)
Alarm Triggers	Analytics, Network disconnect, Alarm input
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
Audio In	Built-in MIC
Light Type	IR LED (850nm)
Light Viewable Length	25m(82.02ft) (TBD)
IR Wavelength	long-life 850 nm IR LED



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Network	
Ethernet	RJ-45(10/100BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG
Smart Codec	Manual(Sea area), WiseStreamIII(Based on AI engine)
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 5 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, UPnP, Bonjour, LLDP, CDP, SRTP (TCP, UDP Unicast), MQTT
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API)
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, SRTP, WSS(Websocket secure)
Access Control	Access control based on IP address
Data Protect	Authentication information encryption, ZIP compression encryption
Audit	User Access/System/Event log management
Device ID	Device Certificate(Hanwha Private Root CA)
Secure Storage	SDcard partition encrypt
General	
Webpage Language	English, Korean, Simplified Chinese, Traditional Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Memory	2GB RAM, 1GB Flash
Environmental & Electrical	
Operating Temperature / Humidity	-10°C~+45°C(+14°F~+113°F) / 0~95% RH(non-condensing)
Storage Temperature / Humidity	-30°C~+60°C(-22°F~+140°F) / 0~95% RH
Input Voltage	PoE(IEEE802.3af, Class3)
Power Consumption	PoE: Max 8.1W, typical 4.0W
Mechanical	
Color / Material	White / Plastic Bubble : Hard-coated dome
RAL Code	RAL9003
Product Dimensions / Weight	ø110x90mm(ø4.33x3.54"), 317.0g(0.70 lb)
Compatible Conduit hole / Gang	SBD-110GP1 : Single, Double, 4" Octagon (Sold separately)
Certifications & Standards	
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
Compatible Models	
Hanging Adaptor	SBP-120HWW
Back Box	SBV-140BW
Ceiling Mount (Assy)	SBP-300CMW1/900CMW, SBP-150CML/300CML, SBP-300CMTW, SBP-300CMTS
Wall Mount	SBP-125WMW1, SBP-300WMW/WMW1, SBP-390WMW2
Pole Mount	SBD-140PMW, SBP-300PMW2, SBD-140PMB
In-ceiling Mount	SHD-1200FPV
Corner Mount	SBP-300KMW1, SBD-140KMB
Parapet Mount	SBP-300LMW, SBP-156LMW1
Tilt Mount	SBV-140TMW
Cabinet	SBP-300N8W
Gang Plate	SBD-110GP1
Other Compatible Models	SPP-C7200 (Alarm Cable)
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	61.8m(202.7ft)
Observe (63PPM/ 19PPF)	24.7m(81.1ft)
Recognize (125PPM/ 38PPF)	12.4m(40.5ft)
Identify (250PPM/ 76PPF)	6.2m(20.3ft)
Ver	
Ver	202407



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 120 V, 60 Hz(PoE Adapter Input Power)

1.2 Variant Model Differences

Addition of a simple derivative model due to the difference in fixed lenses
(No electronics in the lens)

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	QND-C8023R	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Laptop	P95G001	9JM8HT2	DELL INC.	-
Laptop Adapter	HA65NM130	-	Chicony Power Technology(Suzhou)Co.,Ltd.	-
Alarm	-	-	-	-
Button Alarm	-	-	-	-
Micro SD Card	-	-	SanDisk	16 GB
PoE Injector	MA-INJ-4		Changzhou Wujin Hong Guang radio Factory Co.,LTD	-
Headset	K550	-	Britz®	-
Cell Phone	SM-N960N	-	Samsung Electronics Co., Ltd.	-



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
	7 Pin (Alarm/Audio)	Headset	Line	2.2	U
		Alarm	Line	3.5	U
		Button Alarm	Line	3.5	U
	Micor SD Slot	Micor SD Card	Micor SD Slot	-	-
PoE Injector	RJ-45 (LAN)	Laptop	RJ-45	3.1	U
Laptop	DC Jack	Laptop Adapter	Line	1.4	U
	3.5 mm	Cell Phone	3.5 mm	1.2	U

* Unshielded=U, Shielded=S

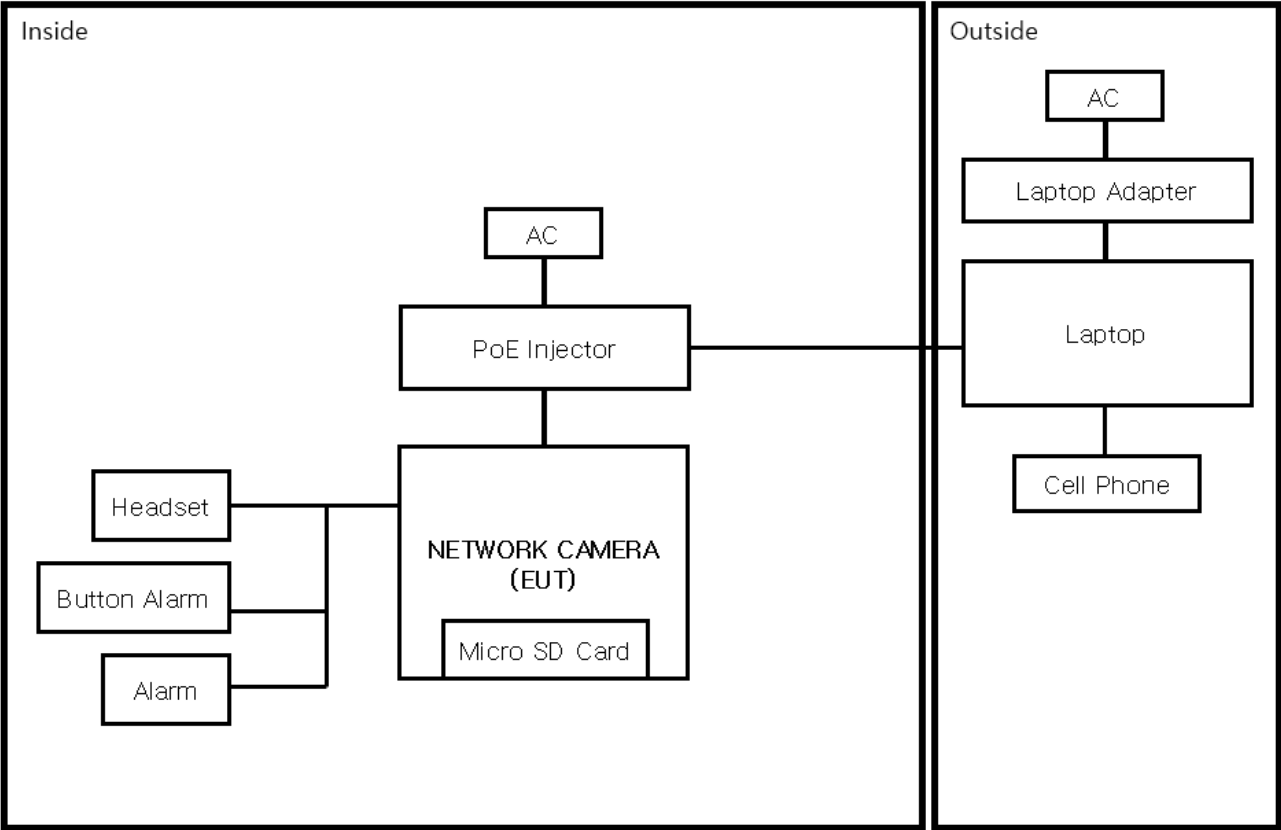
1.7 EUT Operating Mode(s)

Test mode	Normal operating	Test Voltages
Operating	<ul style="list-style-type: none">- Monitoring EUT Using Web Viewer, Ping Test- Check Audio Port Behavior Through Headset- When the Button Alarm is pressed, make sure the Alarm is working- Check the files stored on the Micro SD Card after testing	AC 120 V, 60 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

- The USB port was excluded from the test as a port for administrators.
 - It receives PoE power, and the PoE port is considered a wired network port.
- Test items related to the power port are not applicable.

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:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B





2.1 Conducted Emissions at Mains Power Ports

Test Date

Jul. 26, 2024

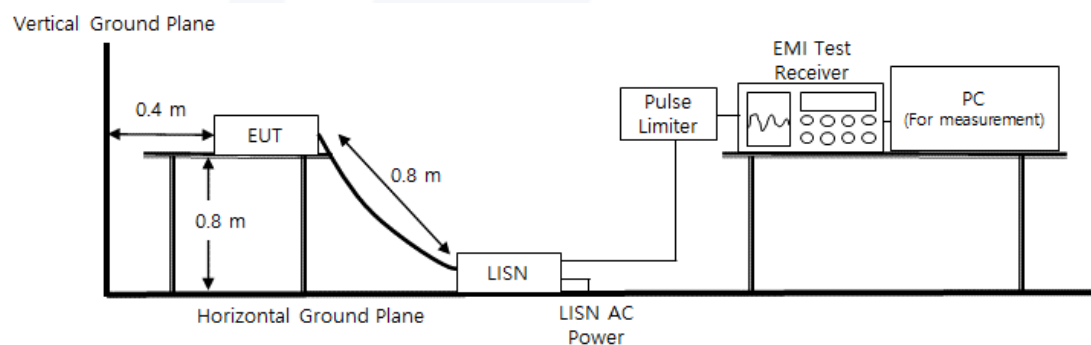
Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EMC32	R & S	9.12.00	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101783	11, 08, 2024
<input checked="" type="checkbox"/>	LISN	ENV216	R & S	101787	11, 08, 2024
<input type="checkbox"/>	LISN	ESH2-Z5	R & S	101137	01, 10, 2025
<input checked="" type="checkbox"/>	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 08, 2024

Diagram of test setup





Test Conditions

Temperature: (24,2 ± 0,1) °C
Relative Humidity: (50,2 ± 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

Remarks

See Appendix A for test data.





2.2 Radiated Electric Field Emissions(Below 1 GHz)

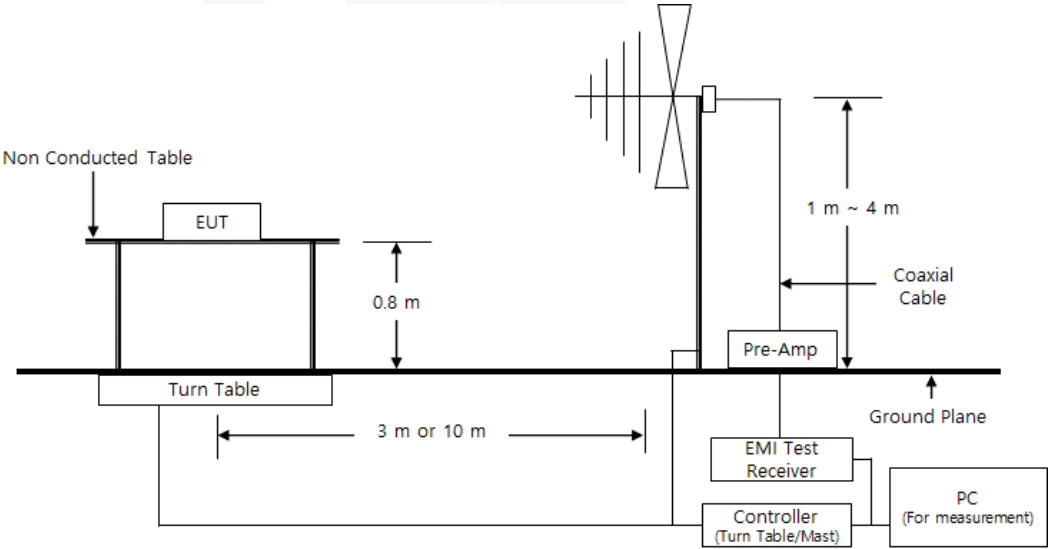
Test Date
Jul. 28, 2024

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

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	R & S	100551	02, 13, 2025
<input checked="" type="checkbox"/>	AMPLIFIER	SCU 01	R & S	100603	11, 08, 2024
<input checked="" type="checkbox"/>	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 17, 2024
<input checked="" type="checkbox"/>	ATTENUATOR	8491A	HP	32173	02, 13, 2025

Diagram of test setup





Test Conditions

Temperature: (23,9 ± 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

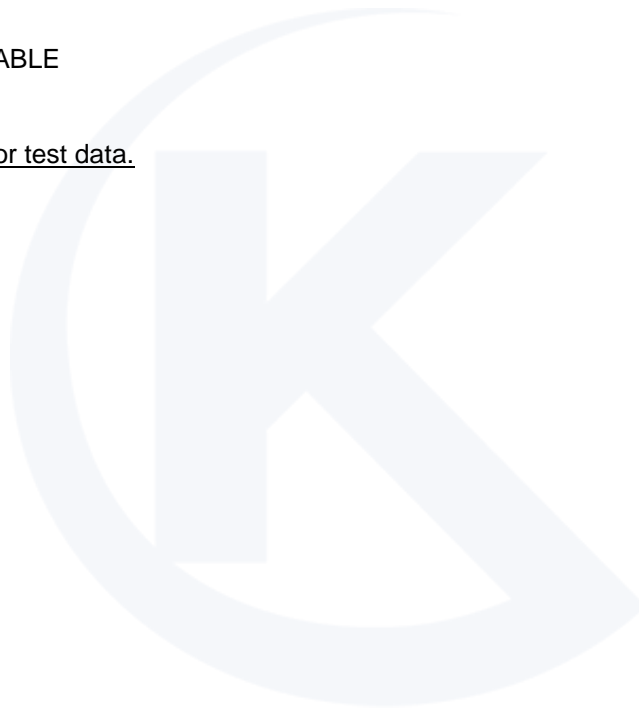
Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

Remarks

See Appendix A for test data.





2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 26, 2024

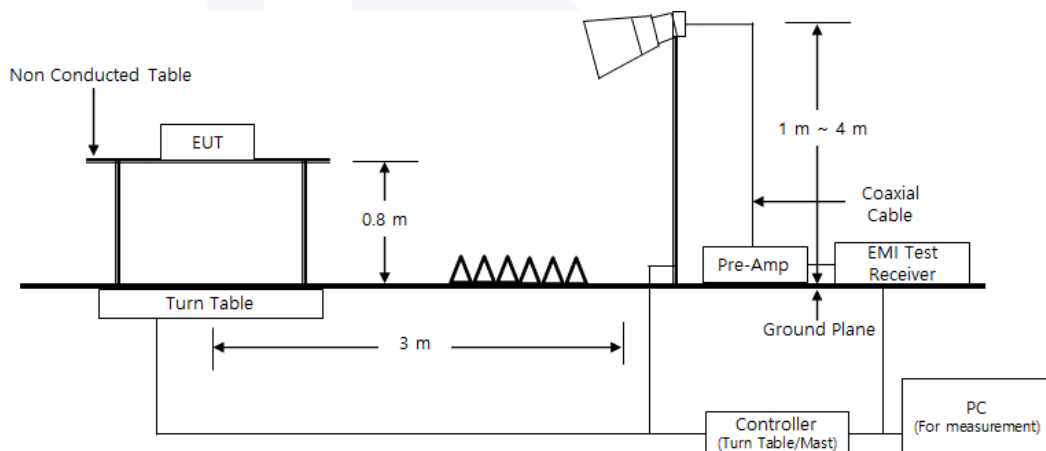
Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	02, 13, 2025
<input checked="" type="checkbox"/>	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 03, 2024
<input checked="" type="checkbox"/>	PREAMPLIFIER	8449B	HP	3008A00538	04, 30, 2025
<input checked="" type="checkbox"/>	ATTENUATOR	8491B	HP	23094	02, 13, 2025

Diagram of test setup





Test Conditions

Temperature: (23,2 ± 0,1)°C
Relative Humidity: (48,0 ± 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

Remarks

See Appendix A for test data.

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



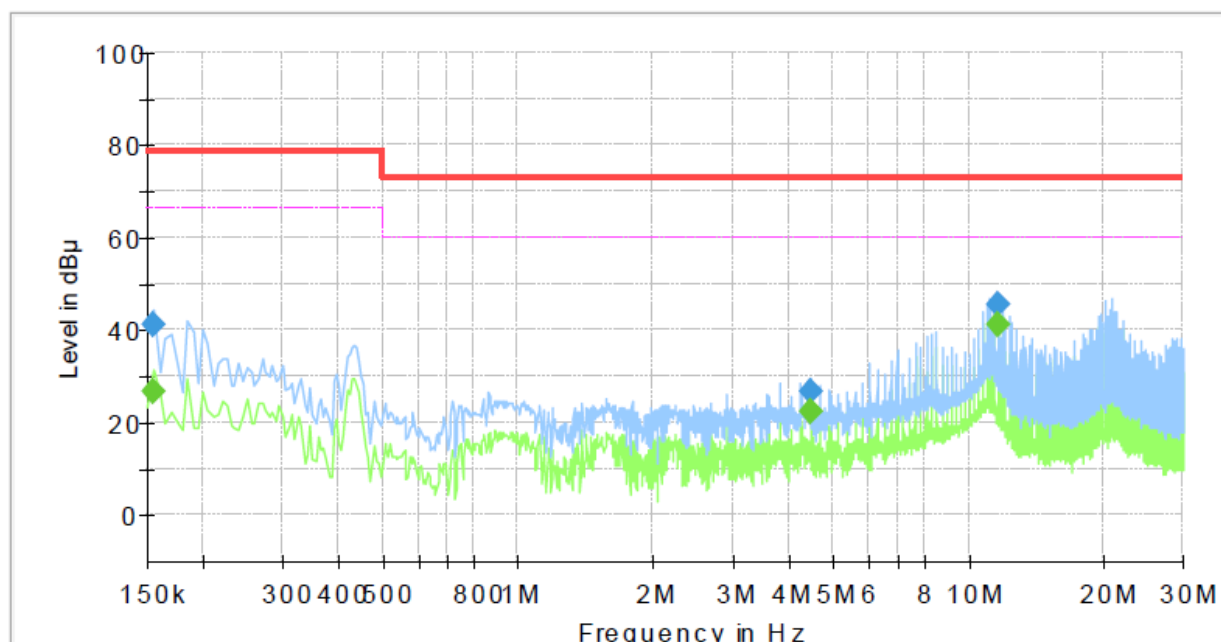
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM242541
Phase: L
Mode:
Operator Name: KES



Final Result

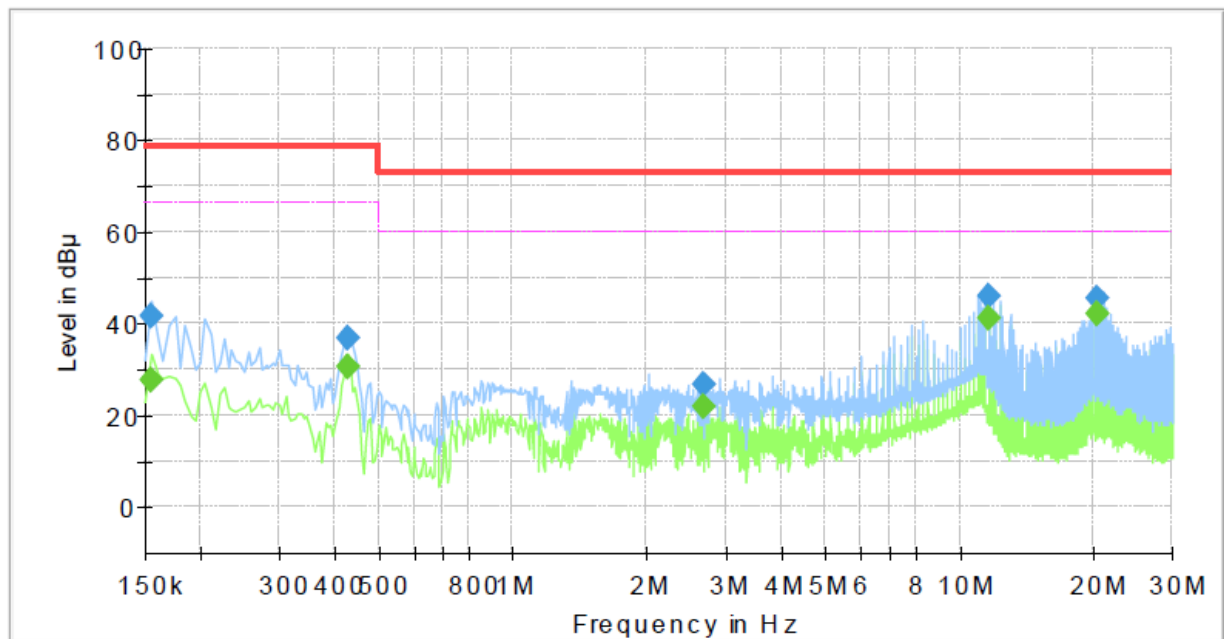
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	26.54	66.00	39.46	1000.0	9.000	L1	19.6
0.155000	41.23	---	79.00	37.77	1000.0	9.000	L1	19.6
4.480000	---	22.35	60.00	37.65	1000.0	9.000	L1	19.9
4.480000	26.50	---	73.00	46.50	1000.0	9.000	L1	19.9
11.640000	---	41.10	60.00	18.90	1000.0	9.000	L1	20.2
11.640000	45.65	---	73.00	27.35	1000.0	9.000	L1	20.2



NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM242541
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	---	27.57	66.00	38.43	1000.0	9.000	N	19.5
0.155000	41.55	---	79.00	37.45	1000.0	9.000	N	19.5
0.430000	---	30.72	66.00	35.28	1000.0	9.000	N	19.6
0.430000	36.83	---	79.00	42.17	1000.0	9.000	N	19.6
2.685000	---	21.70	60.00	38.30	1000.0	9.000	N	19.8
2.685000	26.59	---	73.00	46.41	1000.0	9.000	N	19.8
11.645000	---	41.34	60.00	18.66	1000.0	9.000	N	20.2
11.645000	45.82	---	73.00	27.18	1000.0	9.000	N	20.2
20.375000	---	41.99	60.00	18.01	1000.0	9.000	N	20.4
20.375000	45.48	---	73.00	27.52	1000.0	9.000	N	20.4

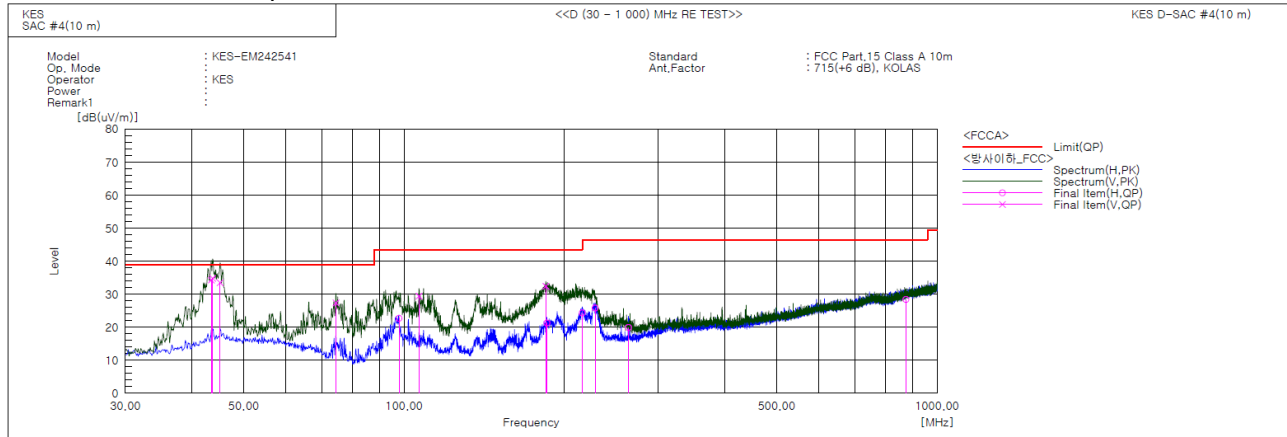
♦ Calculation

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))

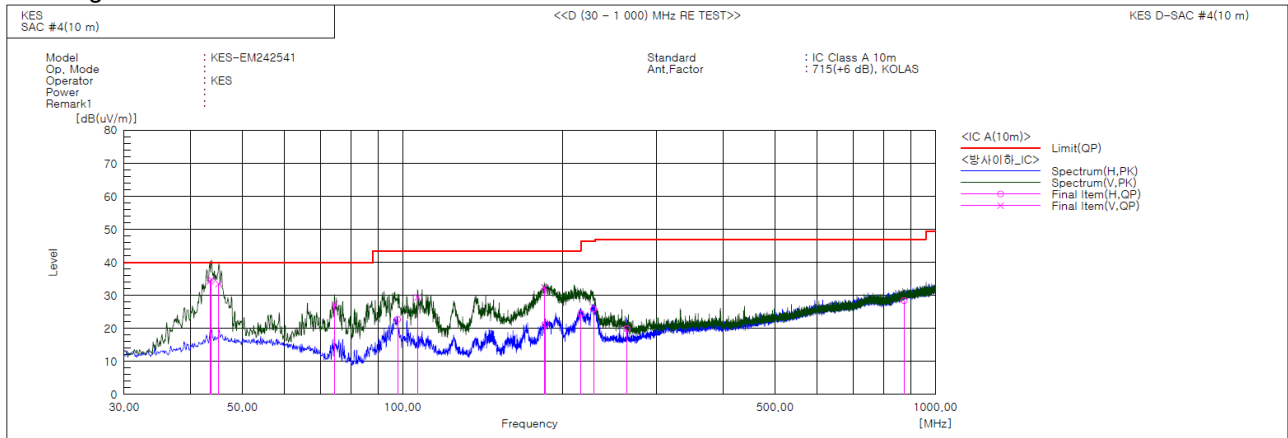
**Radiated Electric Field Emissions(Below 1 GHz)****- 47 CFR Part 15, Subpart B****Final Result**

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	43.459	V	56.1	-21.8	34.3	39.0	4.7	131.0	311.0	
2	43.701	V	56.6	-21.8	34.8	39.0	4.2	114.0	322.0	
3	45.156	V	55.0	-21.5	33.5	39.0	5.5	158.0	257.0	
4	74.471	V	54.0	-26.6	27.4	39.0	11.6	168.0	138.0	
5	97.779	H	45.2	-22.5	22.7	43.5	20.8	361.0	167.0	
6	106.630	V	52.0	-22.6	29.4	43.5	14.1	100.0	168.0	
7	184.473	V	55.0	-22.6	32.4	43.5	11.1	131.0	347.0	
8	185.284	H	43.8	-22.5	21.3	43.5	22.2	314.0	297.0	
9	215.876	H	43.9	-19.6	24.3	43.5	19.2	396.0	74.0	
10	228.123	H	45.0	-19.2	25.8	46.5	20.7	331.0	317.0	
11	263.528	H	38.4	-18.5	19.9	46.5	26.6	377.0	89.0	
12	874.385	H	31.8	-3.4	28.4	46.5	18.1	357.0	74.0	



Report No. : KES-EM242541

- IC Regulation ICES-003 Issue 7



Final Result

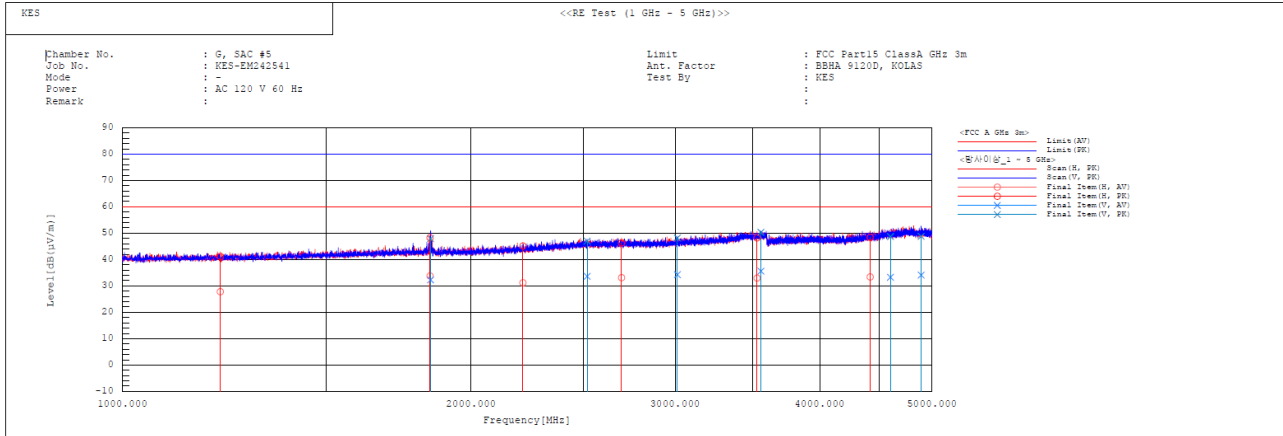
No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	43.459	V	56.1	-21.8	34.3	40.0	5.7	131.0	311.0	
2	43.701	V	56.6	-21.8	34.8	40.0	5.2	114.0	322.0	
3	45.156	V	55.0	-21.5	33.5	40.0	6.5	158.0	257.0	
4	74.471	V	54.0	-26.6	27.4	40.0	12.6	168.0	138.0	
5	97.779	H	45.2	-22.5	22.7	43.5	20.8	361.0	167.0	
6	106.630	V	52.0	-22.6	29.4	43.5	14.1	100.0	168.0	
7	184.473	V	55.0	-22.6	32.4	43.5	11.1	131.0	347.0	
8	185.284	H	43.8	-22.5	21.3	43.5	22.2	314.0	297.0	
9	215.876	H	43.9	-19.6	24.3	43.5	19.2	396.0	74.0	
10	228.123	H	45.0	-19.2	25.8	46.4	20.6	331.0	317.0	
11	263.528	H	38.4	-18.5	19.9	47.0	27.1	377.0	89.0	
12	874.385	H	31.8	-3.4	28.4	47.0	18.6	357.0	74.0	

◆ Calculation

$$\text{Result(QP)} [\text{dB}(\mu\text{V/m})] = (\text{Reading(QP)} [\text{dB}(\mu\text{V})] + \text{c.f} [\text{dB}(1/\text{m})])$$
$$\text{Margin(QP)} [\text{dB}] = \text{Limit} [\text{dB}(\mu\text{V/m})] - \text{Result(QP)} [\text{dB}(\mu\text{V/m})]$$

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)****- (1 ~ 5) GHz****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	1214.441	H	28.5	41.8	-0.7	27.8	41.1	60.0	80.0	32.2	38.9	231.0	69.0	
2	1842.761	H	31.7	46.2	2.1	33.8	48.3	60.0	80.0	26.2	31.7	191.0	32.3	
3	1845.262	V	30.1	45.7	2.2	32.3	47.9	60.0	80.0	27.7	32.1	114.0	23.1	
4	2216.347	H	27.5	41.5	3.7	31.2	45.2	60.0	80.0	28.8	34.8	179.0	307.4	
5	2518.811	V	28.8	42.2	4.8	33.6	47.0	60.0	80.0	26.4	33.0	222.0	79.5	
6	2697.248	H	27.7	40.9	5.4	33.1	46.3	60.0	80.0	26.9	33.7	100.0	279.2	
7	3013.662	V	28.0	41.9	6.3	34.3	48.2	60.0	80.0	25.7	31.8	109.0	317.5	
8	3531.215	H	25.9	41.1	7.1	33.0	48.2	60.0	80.0	27.0	31.8	241.0	49.6	
9	3557.498	V	28.4	43.1	7.2	35.6	50.3	60.0	80.0	24.4	29.7	100.0	44.1	
10	4421.235	H	23.3	38.3	10.1	33.4	48.4	60.0	80.0	26.6	31.6	310.0	52.6	
11	4603.358	V	22.5	37.9	10.8	33.3	48.7	60.0	80.0	26.7	31.3	144.0	286.9	
12	4892.437	V	22.1	36.8	12.0	34.1	48.8	60.0	80.0	25.9	31.2	109.0	130.0	



Report No. : KES-EM242541

- (5 ~ 18) GHz

- PK

Frequency (MHz)	Reading PK (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 677.336	38.800	H	1.910	32.710	8.840	33.880	46.470	80.000	33.530
6 614.641	37.900	V	1.000	34.570	9.290	34.700	47.060	80.000	32.940

- CISPR AV

Frequency (MHz)	Reading CISPR AV (dBuV)	Polarization	Height (m)	ANT Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 677.336	22.400	H	1.910	32.710	8.840	33.880	30.070	60.000	29.930
6 614.641	22.100	V	1.000	34.570	9.290	34.700	31.260	60.000	28.740

◆ Calculation

$$\text{Result(QP)} [\text{dB}(\mu\text{V/m})] = (\text{Reading(QP)}[\text{dB}(\mu\text{V})] + \text{c.f}[\text{dB}(1/\text{m})])$$
$$\text{Margin(QP)}[\text{dB}] = \text{Limit}[\text{dB}(\mu\text{V/m})] - \text{Result(QP)} [\text{dB}(\mu\text{V/m})]$$

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



Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports





Radiated Electric Field Emissions(Below 1 GHz)





Radiated Electric Field Emissions(Above 1 GHz)



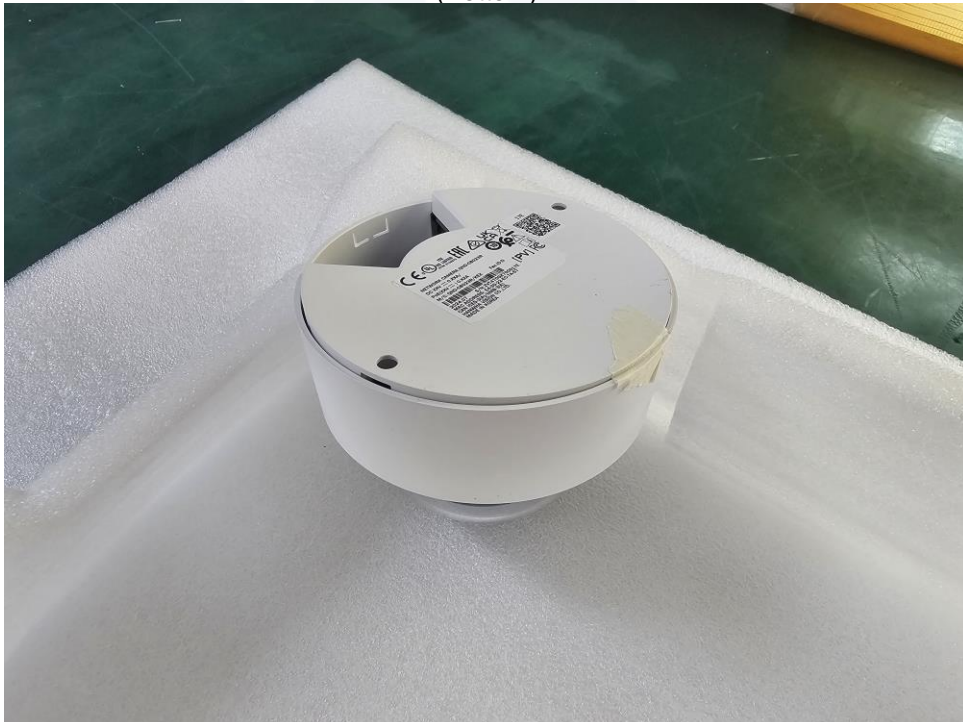


EUT External Photographs

(Top)



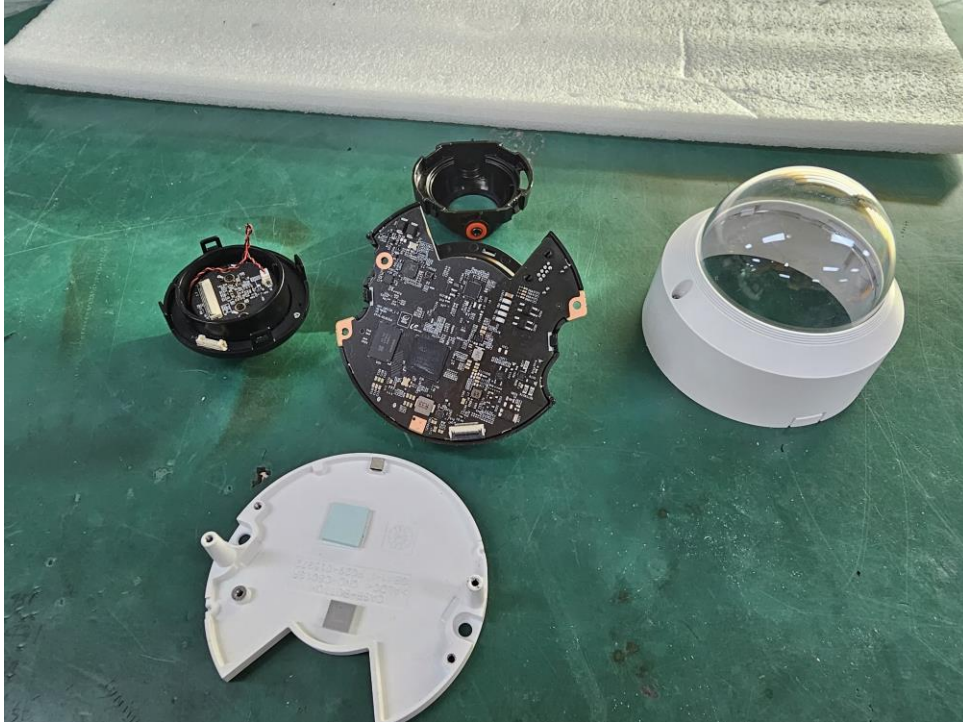
(Bottom)





EUT Internal Photographs

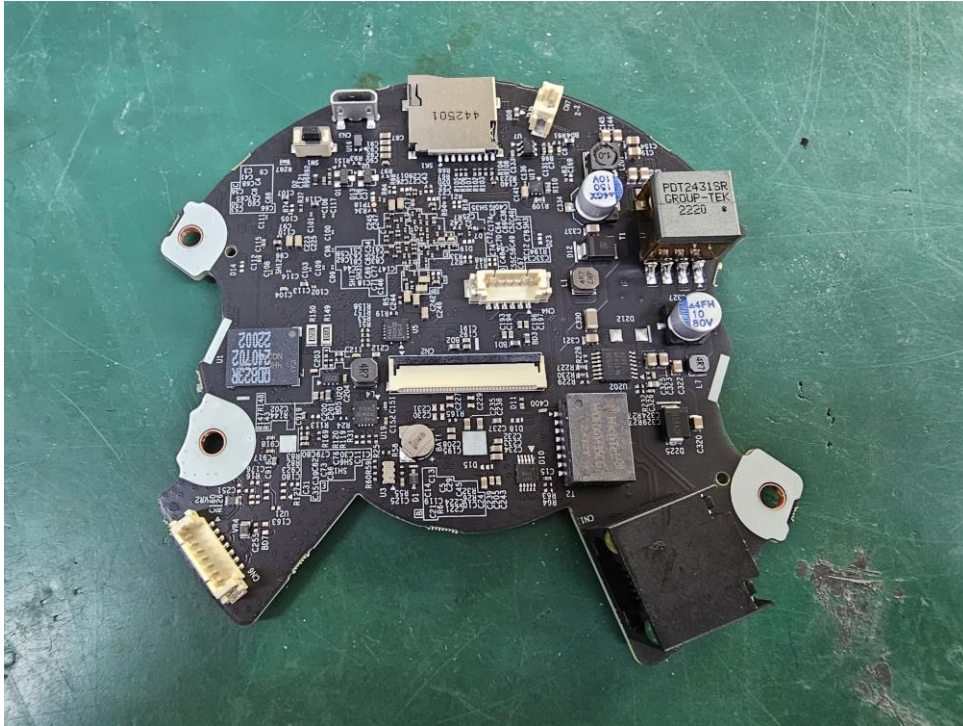
(Internal View)



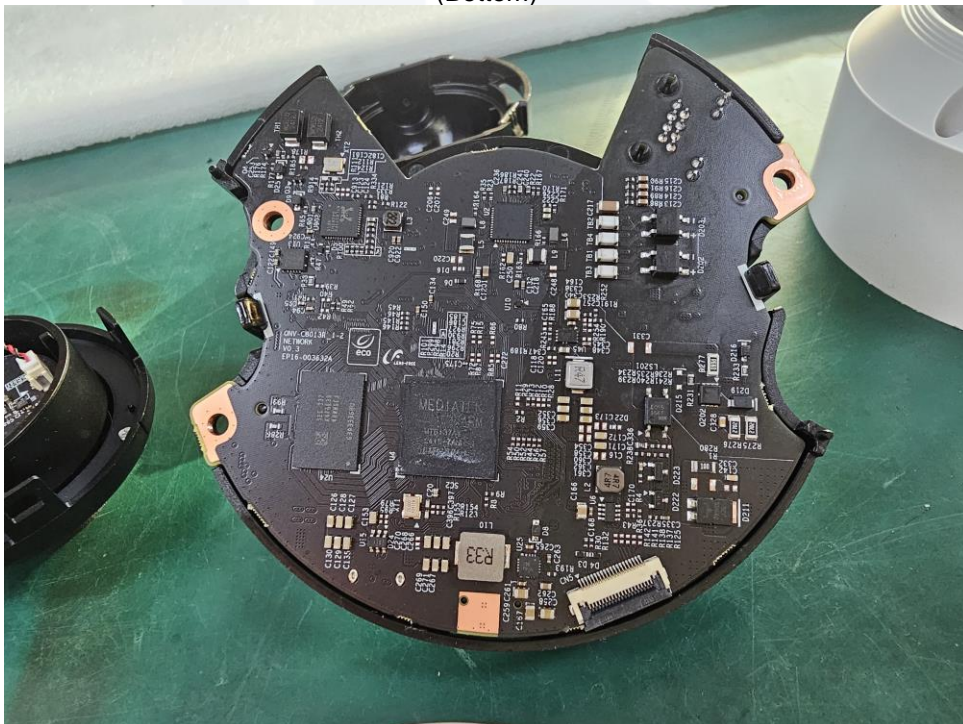


EUT Internal View – Board 1

(Top)



(Bottom)





EUT Internal View – Board 2

(Top)



(Bottom)



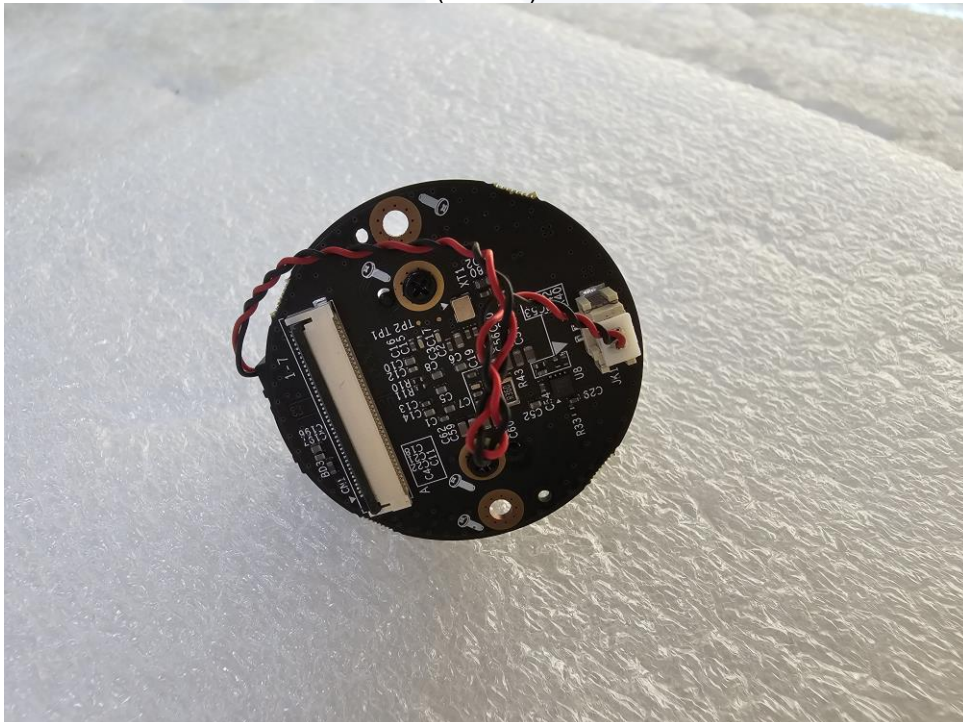


EUT Internal View – Board 3

(Top)



(Bottom)





Label Photographs

FCC Label



NETWORK CAMERA

QND-C8023R

IC Label

CAN ICES-003(A) / NMB-003(A)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.