

**KES Co., Ltd.**

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www.kes.co.kr

Report No.:

KES-EM-22T0664-R1

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EMC TEST REPORT

Test Report No. : KES-EM-22T0664-R1

Date of Issue : Feb. 24, 2023

Product name : NETWORK CAMERA

Model/Type No. : XND-8083RV

Variant Model : -

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

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 commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)

Equipment authorization : **Supplier's Declaration of Conformity**

Date of Receipt : Jul. 08, 2022

Test date : Jul. 14, 2022 ~ Jul. 15, 2022

Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Seon Ho, Choi
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Aug. 02, 2022	KES-EM-22T0664	Issued
Feb. 24, 2023	KES-EM-22T0664-R1	Change the Applicant and manufacturer at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/1.8" progressive CMOS
Resolution	3328x1872, 3072x1728, 2592x1944, 2688x1520, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 15fps/12fps(60Hz/50Hz)
Min. Illumination	(TBD) Color: 0.04Lux(F1.3, 1/30sec, 30IRE) B/W : 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation
Lens	
Focal Length (Zoom Ratio)	4.4~9.3mm(2.1x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	H : 112.1°(Wide)~47.5°(Tele) V : 58.0°(Wide)~26.6°(Tele) D : 137.5°(Wide)~54.6°(Tele)
Min. Object Distance	0.5m(1.64ft)
Focus Control	Simple focus, Manual
Lens Type	P-iris(IR corrected)
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~360° / -45°~85° / 0°~355°(TBD)
Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	None
Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SDR
Wide Dynamic Range	extremeWDR (120dB)
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	Support

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Motion Detection	8ea, 8point Polygonal zones
Privacy Masking	32ea, Quadrangle zones - Color : Gray, Green, Red, Blue, Black, White - Mosaic
Gain Control	Support
White Balance	ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor
LDC	Support (Fill/stretch mode)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec) Auto prefer shutter control(Based on AI engine)
Digital PTZ	Support
Video Rotation	Flip, Mirror, Hallway view(90°/270°)
Analytics	- Analytics events based on AI engine(NPU) : Object detection (Person/Face/Vehicle(car/truck/bus/bicycle/motorcycle)/Licence plate), IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion) - Analytics events : Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Appear/Disappear
Business Intelligence	Based on AI engine(NPU) : People counting, Queue management, Heatmap
Alarm I/O	2 configurable I/O ports, DC 12V output(Max. 50mA)
Alarm Triggers	Analytics, Network disconnect, Alarm input, App event, Time schedule
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) - Audio clip playback - PTZ preset
Audio In	Selectable(mic in/line in/built-in MIC) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
IR Viewable Length	WiseIR 50m(164.04ft)(TBD)
Network	
Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)

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Video Compression	H.265/H.264: Main/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
Smart Codec	Manual(Sea area), WiseStreamII, WiseStreamIII(Based on AI engine)
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 10 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, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast)
Security	TPM 2.0 (FIPS 140-2 level 2) HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2) Device Certificate(Hanwha Techwin Root CA, pre-installed) Secure by default certificate(TBD) Secure OS/Boot/Storage, Verify firmware forgery
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, Greek, Hungarian
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)
Memory	4GB RAM, 512MB Flash

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Environmental & Electrical	
Operating Temperature / Humidity	-25 °C ~ 50 °C(-13°F ~ +122°F) * Maximum temperature : +55°C (intermittent) less than 95% RH(non-condensing) Humidity control /w GORE vent
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH
Certification	IP52/IK10
Input Voltage	PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	TBD Power redundancy failover
Mechanical	
Color / Material	White / Aluminum Hard-coated dome bubble
RAL Code	RAL9003
Product Dimensions / Weight	Ø160x125mm(6.30x4.92"), 1.6kg(3.53 lb) (TBD)
Compatible Conduit hole / Gangbox	1/2" (M20) single, double, 4" octagon, 4" square
Hanging Mount (Dome)	SBP-167HMW
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	Wide: 44.8m(147.02ft) / Tele: 151.3m(496.29ft)
Observe (63PPM/ 19PPF)	Wide: 17.9m(58.81ft) / Tele: 60.5m(198.52ft)
Recognize (125PPM/ 38PPF)	Wide: 9.0m(29.4ft) / Tele: 30.3m(99.26ft)
Identify (250PPM/ 76PPF)	Wide: 4.5m(14.7ft) / Tele: 15.1m(49.63ft)

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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 120 V, 60 Hz (DC Adapter Input Power)
- ☒ AC 120 V, 60 Hz (PoE Adapter Input Power)

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	XND-8083RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC/DC Adapter	2ACB022F	-	ChAnnel Well Technology (Guangzhou) Co.,Ltd.	-
PoE Adapter	PSE156G	-	-	-
Notebook	LG15N54	410NZGK015231	LG Electronics Inc.	-
Notebook Adapter	ADP-90WH B	84ZW19F1663	DELTA ELECTRONICS (JIANGSU) LTD.	-
Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Headset	K550	-	Britz®	-
SmartPhone	SM-N920S	-	Samsung	-
Micro SD Card	-	-	SanDisk	-



1.6 External I/O Cabling

■ DC Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	2 Pin	AC/DC Adapter	2 Pin	1.6	U
	RJ-45	Notebook	RJ-45	3.0	S
	Alarm OUT	Alarm	Alarm IN	4.0	U
	Alarm IN	Button Alarm	Alarm OUT	3.5	U
	3.5 mm	Headset	3.5 mm	1.8	U
	3.5 mm		3.5 mm	1.8	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
Notebook	3.5 mm	SmartPhone	3.5 mm	1.1	U
	DC Jack	Notebook Adapter	DC Jack	1.9	U

* Unshielded=U, Shielded=S

■ PoE Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45(PoE)	PoE Adapter	RJ-45(PoE)	3.0	S
	Alarm OUT	Alarm	Alarm IN	4.0	U
	Alarm IN	Button Alarm	Alarm OUT	3.5	U
	3.5 mm	Headset	3.5 mm	1.8	U
	3.5 mm		3.5 mm	1.8	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
PoE Adapter	RJ-45(PoE)	Notebook	RJ-45(LAN)	2.0	S
Notebook	3.5 mm	SmartPhone	3.5 mm	1.1	U
	DC Jack	Notebook Adapter	DC Jack	1.9	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

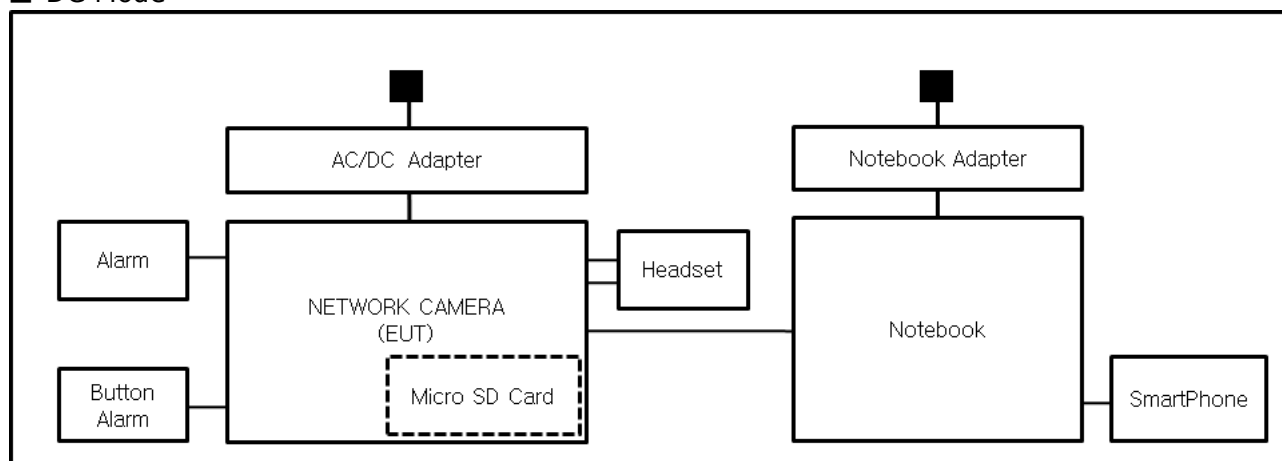
Test Mode	operating
DC Mode	Check the Normal Operation status. after testing, check if the recording is normally done on the Micro SD Card
PoE Mode	

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

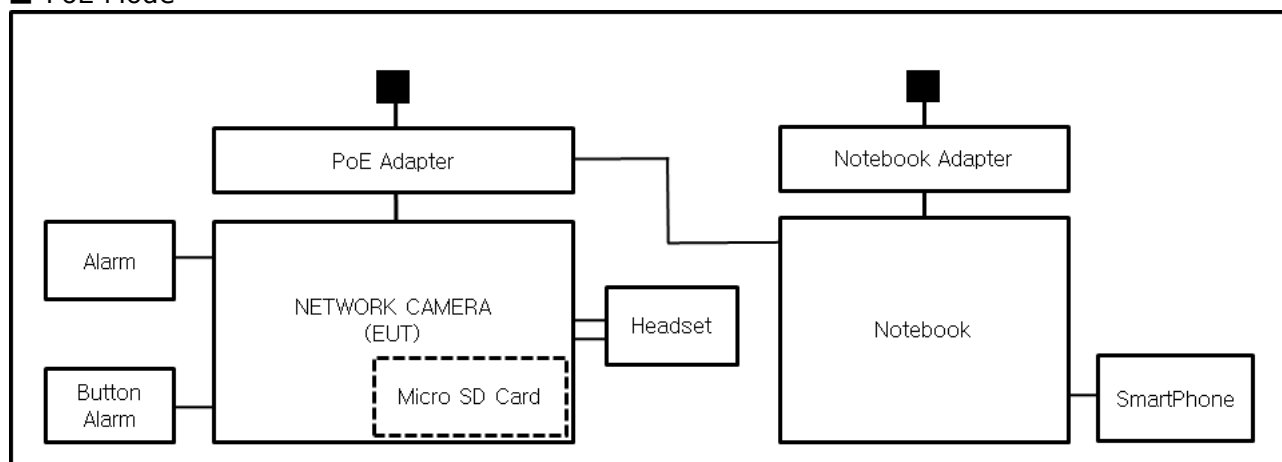
1.8 Configuration

■ AC Main
 □ DC Main

■ DC Mode



■ PoE Mode



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1.9 Remarks when standards applied

The USB, VIDEO ports were excluded from the test as administrator ports.

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 0004

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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. 11, 2022

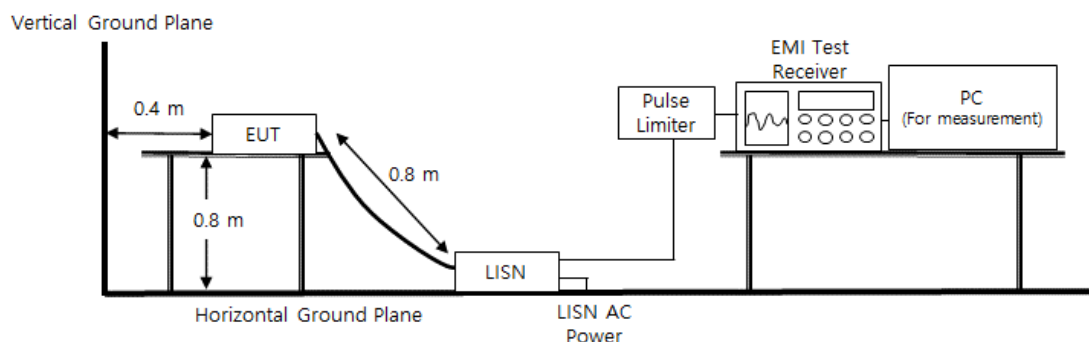
Test Location

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	12, 28, 2022
☒	LISN	ENV216	R & S	101787	12, 27, 2022
☒	LISN	ESH2-Z5	R & S	100450	12, 27, 2022
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022

Diagram of test setup



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Test Conditions

Temperature: (24,7 ± 0,3) °C

Relative Humidity: (44,8 ± 0,4) % 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.

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2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jul. 11, 2022

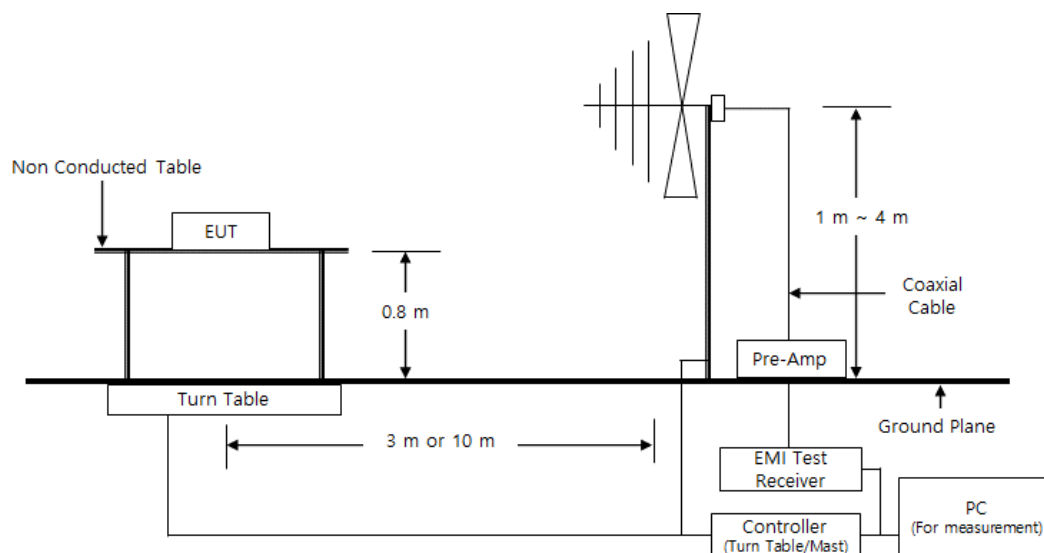
Test Location

☐ 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	03, 31, 2023
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 08, 2023

Diagram of test setup



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Test Conditions

Temperature: (24,5 ± 0,4) °C

Relative Humidity: (44,3 ± 0,5) % 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.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 12, 2022

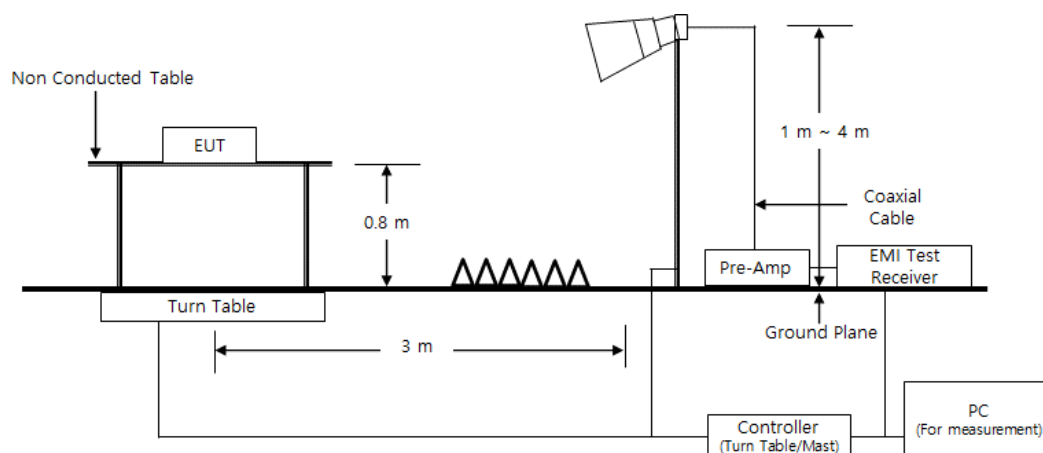
Test Location

SEMI ANECHOIC CHAMBER #5

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	08, 03, 2022
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	04, 01, 2023
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 03, 2023

Diagram of test setup



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Test Conditions

Temperature: (24,2 ± 0,3) °C

Relative Humidity: (44,1 ± 0,5) % R.H.

Frequency Range of Measurement

1 GHz to 5 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.

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APPENDIX A – TEST DATA

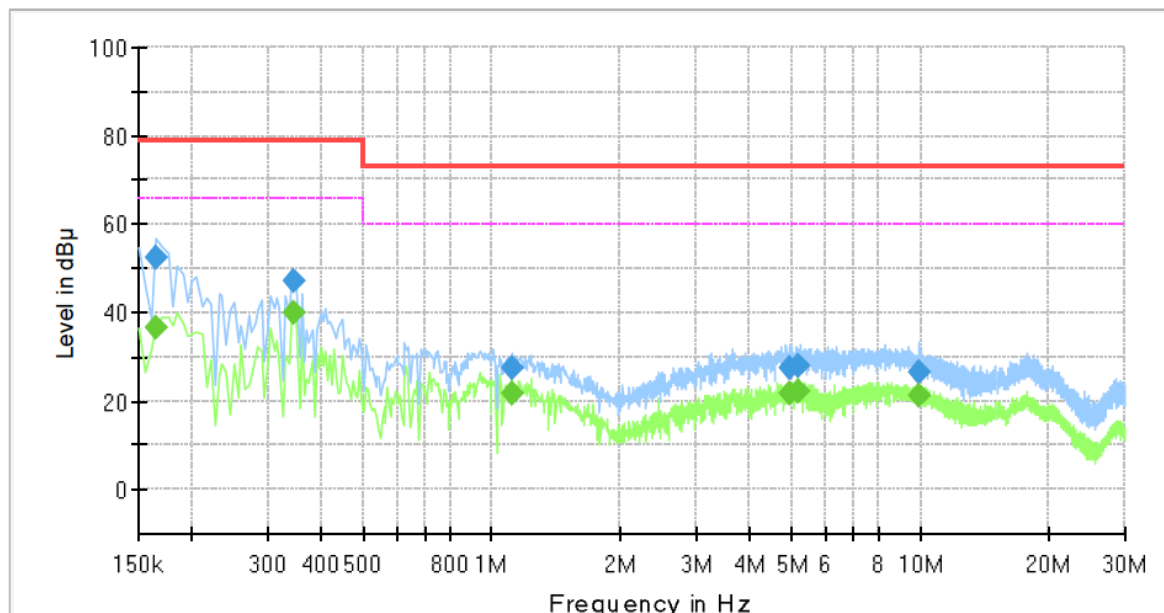
Conducted Emissions at Mains Power Ports

■ DC Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XND-8083RV
Phase:	H
Mode:	
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	36.40	66.00	29.60	1000.0	9.000	L1	19.4
0.165000	52.67	---	79.00	26.33	1000.0	9.000	L1	19.4
0.345000	---	39.79	66.00	26.21	1000.0	9.000	L1	19.5
0.345000	46.94	---	79.00	32.06	1000.0	9.000	L1	19.5
1.115000	---	21.71	60.00	38.29	1000.0	9.000	L1	20.1
1.115000	27.64	---	73.00	45.36	1000.0	9.000	L1	20.1
4.975000	---	21.87	60.00	38.13	1000.0	9.000	L1	19.6
4.975000	27.64	---	73.00	45.36	1000.0	9.000	L1	19.6
5.215000	---	22.18	60.00	37.82	1000.0	9.000	L1	19.6
5.215000	28.12	---	73.00	44.88	1000.0	9.000	L1	19.6
9.960000	---	21.19	60.00	38.81	1000.0	9.000	L1	19.8
9.960000	26.28	---	73.00	46.72	1000.0	9.000	L1	19.8

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Report No.:

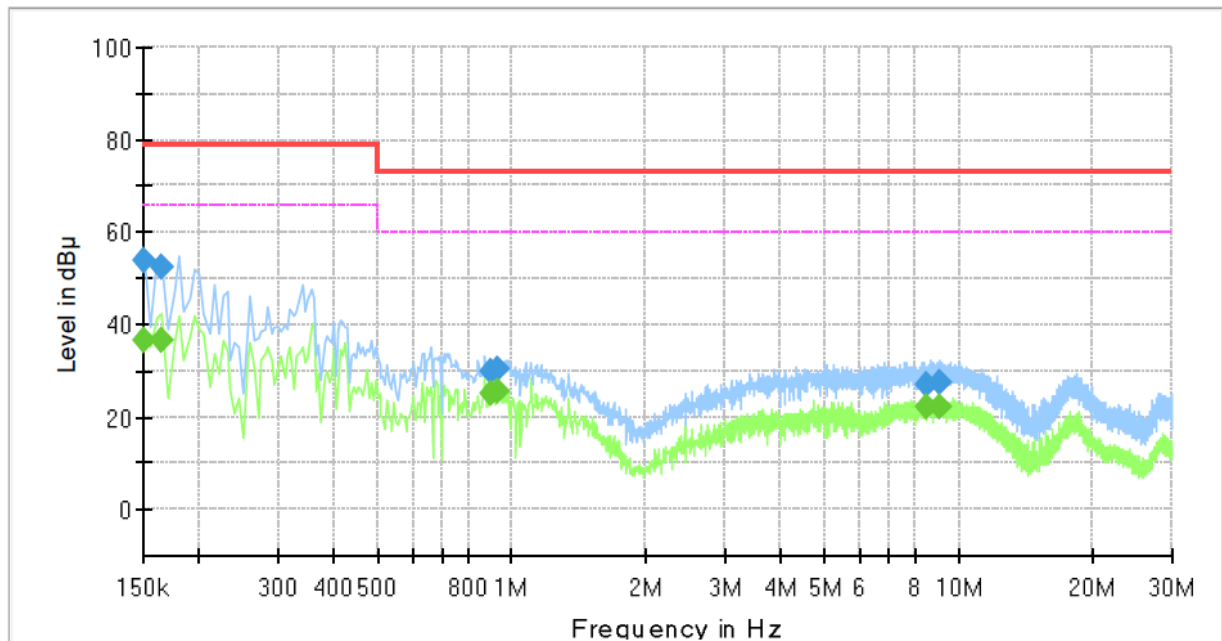
KES-EM-22T0664-R1

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NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Model No.: XND-8083RV
Phase: N
Mode:
Operator Name: KES



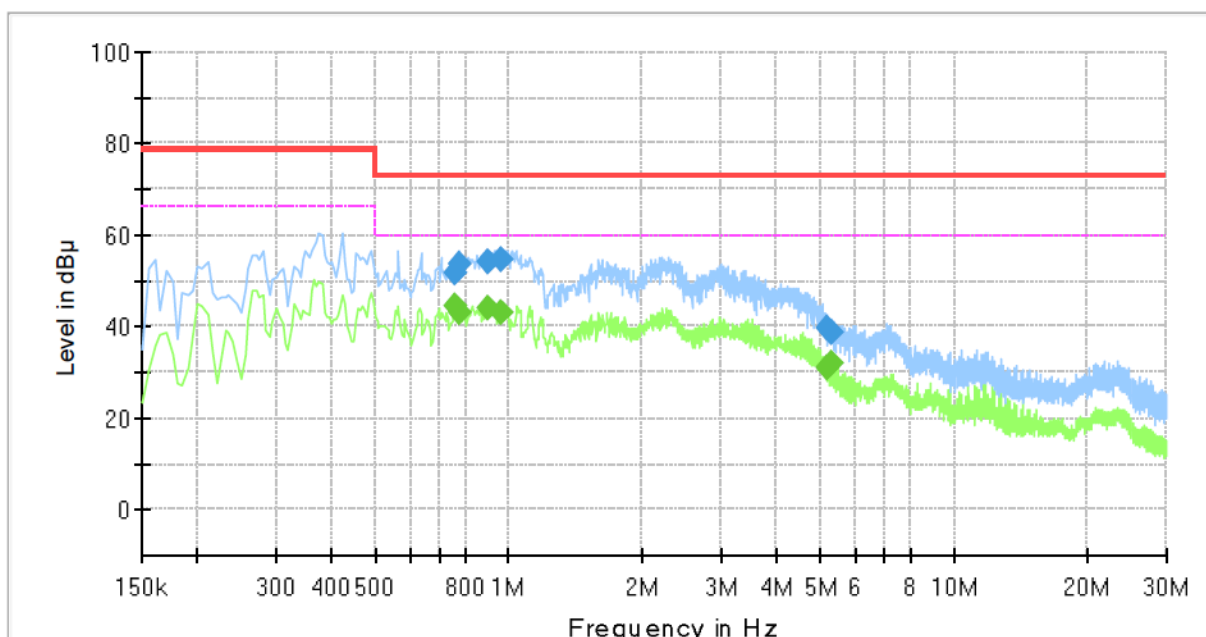
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	36.60	66.00	29.40	1000.0	9.000	N	19.4
0.150000	54.05	---	79.00	24.95	1000.0	9.000	N	19.4
0.165000	---	36.50	66.00	29.50	1000.0	9.000	N	19.4
0.165000	52.32	---	79.00	26.68	1000.0	9.000	N	19.4
0.900000	---	25.03	60.00	34.97	1000.0	9.000	N	20.1
0.900000	29.88	---	73.00	43.12	1000.0	9.000	N	20.1
0.930000	---	25.54	60.00	34.46	1000.0	9.000	N	20.1
0.930000	30.20	---	73.00	42.80	1000.0	9.000	N	20.1
8.485000	---	22.02	60.00	37.98	1000.0	9.000	N	19.6
8.485000	27.22	---	73.00	45.78	1000.0	9.000	N	19.6
9.065000	---	22.04	60.00	37.96	1000.0	9.000	N	19.7
9.065000	27.49	---	73.00	45.51	1000.0	9.000	N	19.7

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PoE Mode
HOT LINE
Common Information

Test Description:	Conducted Emission
Model No.:	XND-8083RV
Phase:	H
Mode:	PoE
Operator Name:	KES


Final Result

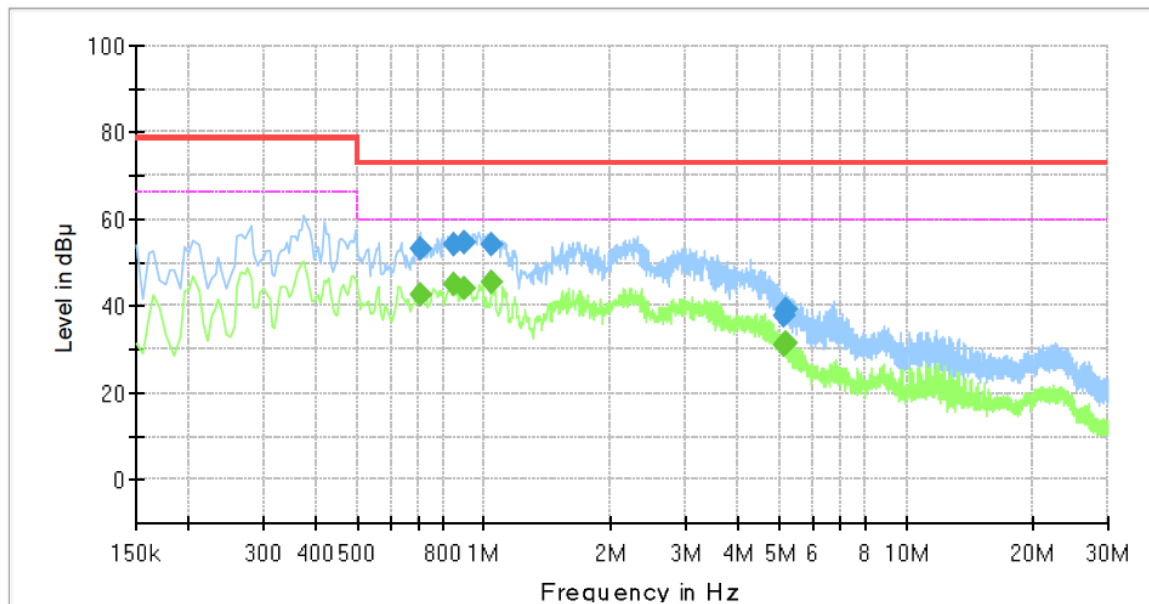
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.760000	---	44.56	60.00	15.44	1000.0	9.000	L1	20.0
0.760000	51.61	---	73.00	21.39	1000.0	9.000	L1	20.0
0.775000	---	43.25	60.00	16.75	1000.0	9.000	L1	20.0
0.775000	53.66	---	73.00	19.34	1000.0	9.000	L1	20.0
0.900000	---	44.05	60.00	15.95	1000.0	9.000	L1	20.1
0.900000	54.21	---	73.00	18.79	1000.0	9.000	L1	20.1
0.965000	---	42.91	60.00	17.09	1000.0	9.000	L1	20.0
0.965000	54.60	---	73.00	18.40	1000.0	9.000	L1	20.0
5.160000	---	31.23	60.00	28.77	1000.0	9.000	L1	19.6
5.160000	39.60	---	73.00	33.40	1000.0	9.000	L1	19.6
5.335000	---	31.82	60.00	28.18	1000.0	9.000	L1	19.6
5.335000	38.60	---	73.00	34.40	1000.0	9.000	L1	19.6

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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XND-8083RV
Phase:	N
Mode:	PoE
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.705000	---	42.67	60.00	17.33	1000.0	9.000	N	19.9
0.705000	53.31	---	73.00	19.69	1000.0	9.000	N	19.9
0.845000	---	45.24	60.00	14.76	1000.0	9.000	N	20.0
0.845000	54.35	---	73.00	18.65	1000.0	9.000	N	20.0
0.900000	---	44.23	60.00	15.77	1000.0	9.000	N	20.1
0.900000	54.56	---	73.00	18.44	1000.0	9.000	N	20.1
1.040000	---	45.27	60.00	14.73	1000.0	9.000	N	20.1
1.040000	54.37	---	73.00	18.63	1000.0	9.000	N	20.1
5.130000	---	31.07	60.00	28.93	1000.0	9.000	N	19.6
5.130000	37.57	---	73.00	35.43	1000.0	9.000	N	19.6
5.165000	---	31.62	60.00	28.38	1000.0	9.000	N	19.6
5.165000	38.98	---	73.00	34.02	1000.0	9.000	N	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 (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Report No.:

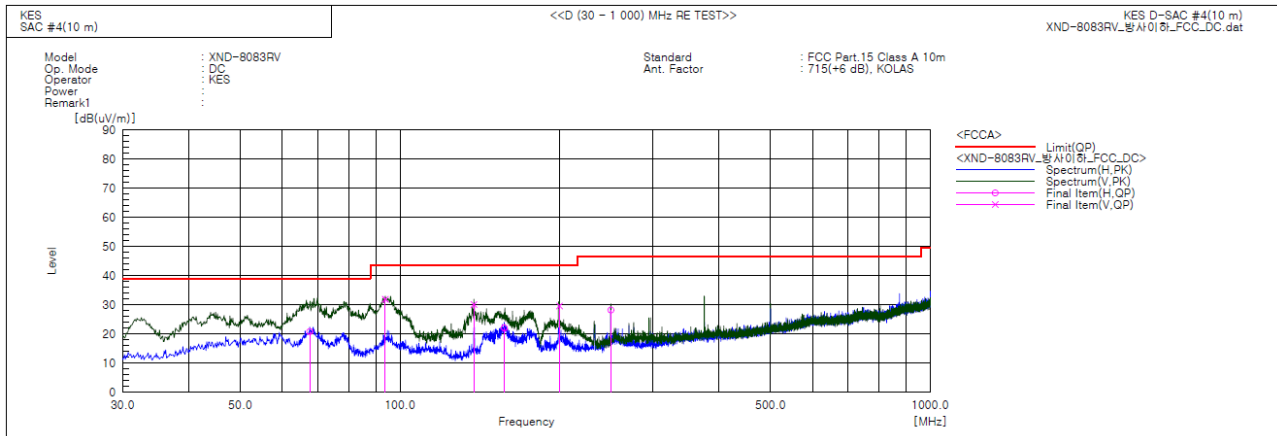
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Radiated Electric Field Emissions(Below 1 GHz)

- 47 CFR Part 15, Subpart B

■ DC Mode



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	67.588	H	44.8	-24.0	20.8	39.0	18.2	305.0	343.7	
2	93.899	V	55.5	-23.6	31.9	43.5	11.6	100.0	254.7	
3	137.913	V	55.6	-25.5	30.1	43.5	13.4	112.0	54.4	
4	157.313	H	46.9	-24.8	22.1	43.5	21.4	391.0	236.7	
5	199.871	V	50.6	-21.0	29.6	43.5	13.9	108.0	200.6	
6	249.948	H	47.5	-19.3	28.2	46.5	18.3	400.0	272.0	

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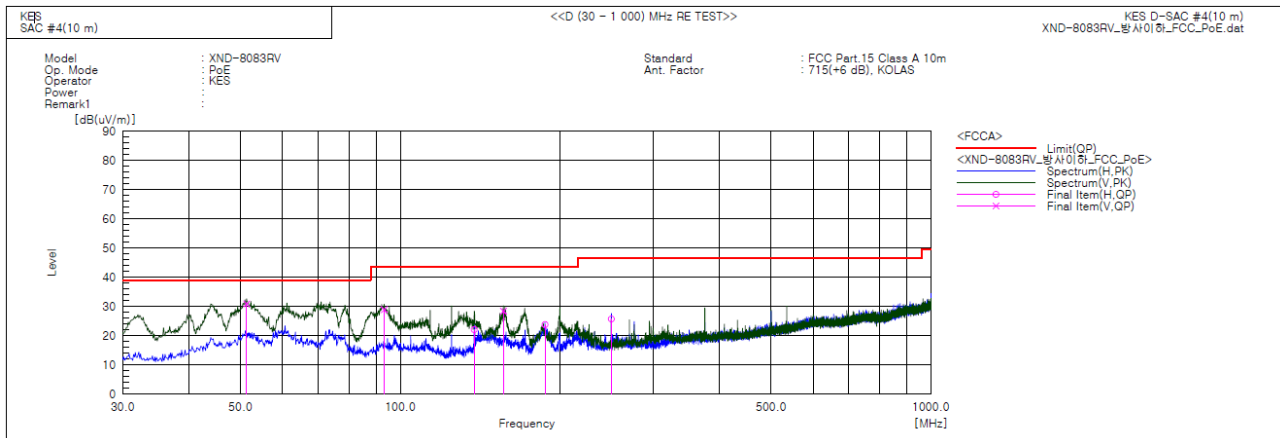
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PoE Mode



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	51.340	V	52.0	-21.1	30.9	39.0	8.1	114.0	230.5	
2	93.293	V	52.6	-23.7	28.9	43.5	14.6	100.0	324.6	
3	137.913	H	47.6	-25.5	22.1	43.5	21.4	400.0	215.2	
4	156.464	V	53.3	-24.9	28.4	43.5	15.1	106.0	325.0	
5	187.383	H	46.4	-22.6	23.8	43.5	19.7	397.0	198.0	
6	249.948	H	45.0	-19.3	25.7	46.5	20.8	392.0	324.5	

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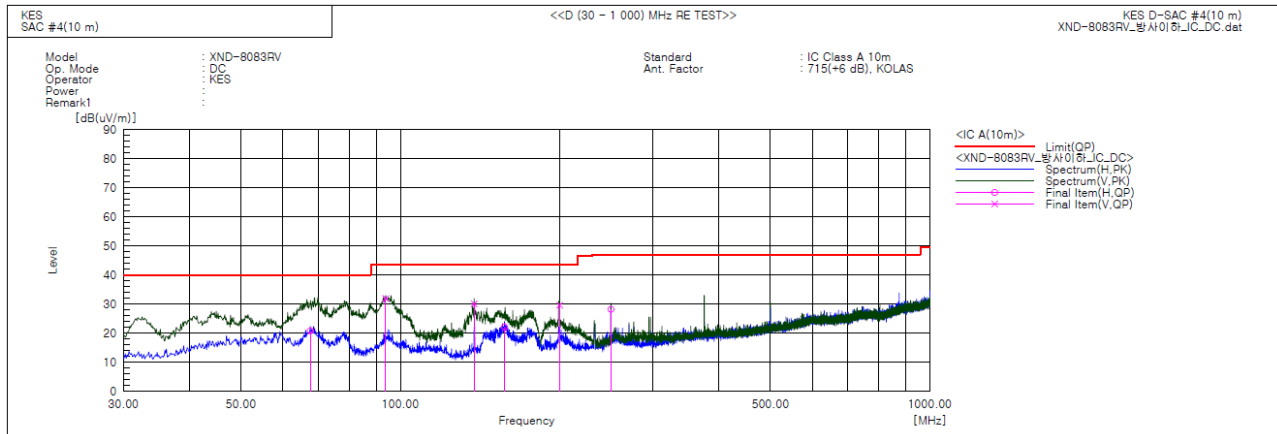
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- IC Regulation ICES-003 Issue 7

■ DC Mode



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	67.588	H	44.8	-24.0	20.8	40.0	19.2	305.0	343.7	
2	93.899	V	55.5	-23.6	31.9	43.5	11.6	100.0	254.7	
3	137.913	V	55.6	-25.5	30.1	43.5	13.4	112.0	54.4	
4	157.313	H	46.9	-24.8	22.1	43.5	21.4	391.0	236.7	
5	199.871	V	50.6	-21.0	29.6	43.5	13.9	108.0	200.6	
6	249.948	H	47.5	-19.3	28.2	47.0	18.8	400.0	272.0	

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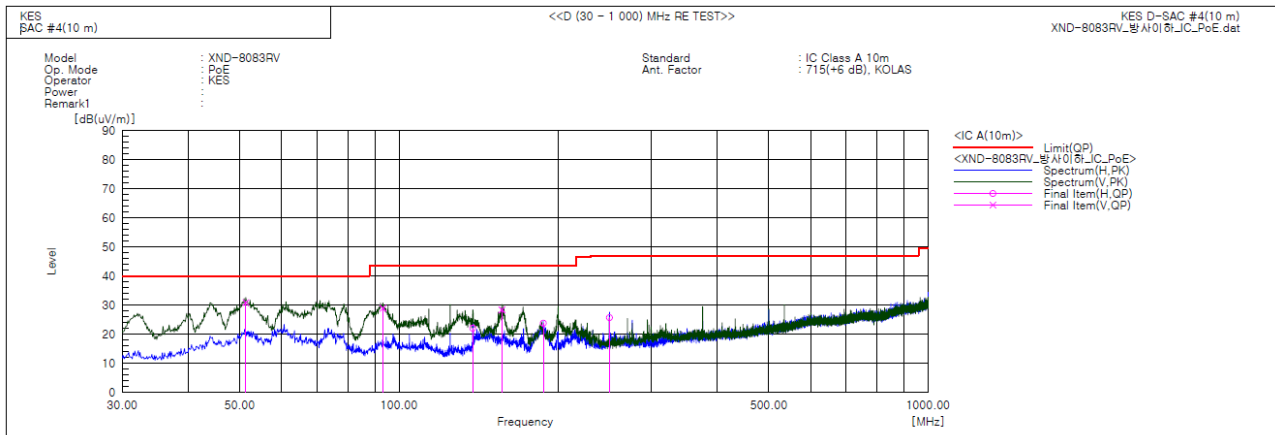
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■ PoE Mode



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	51.340	V	52.0	-21.1	30.9	40.0	9.1	114.0	230.5	
2	93.293	V	52.6	-23.7	28.9	43.5	14.6	100.0	324.6	
3	137.913	H	47.6	-25.5	22.1	43.5	21.4	400.0	215.2	
4	156.464	V	53.3	-24.9	28.4	43.5	15.1	106.0	325.0	
5	187.383	H	46.4	-22.6	23.8	43.5	19.7	397.0	198.0	
6	249.948	H	45.0	-19.3	25.7	47.0	21.3	392.0	324.5	

◆ Calculation – SAC #4(10 m)

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

Margin(QP)[dB] = Limit[dB(μ V/m)] - Result(QP) [dB(μ 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

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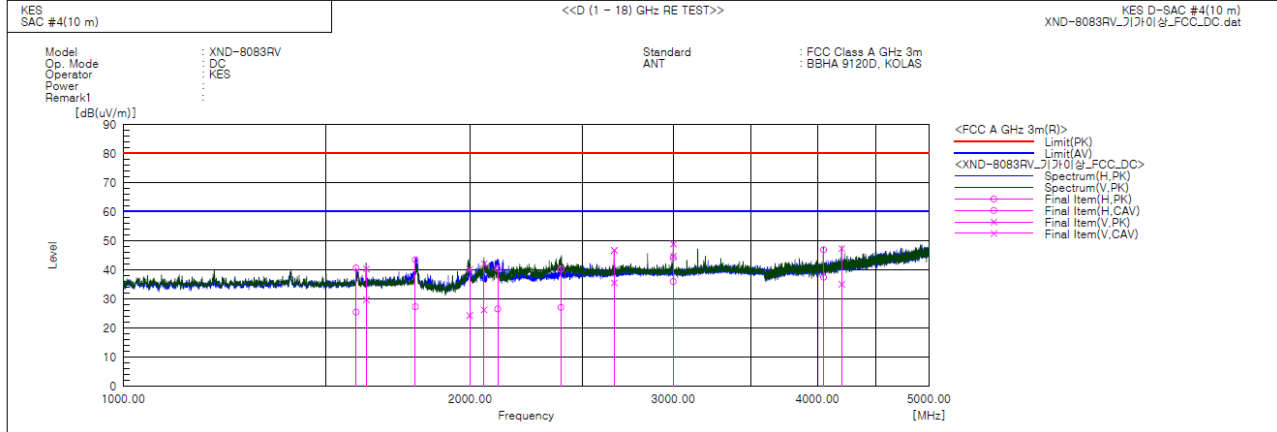
Report No.:

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Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



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	1592.154	H	43.6	28.4	-2.9	40.7	25.5	80.0	60.0	39.3	34.5	311.0	171.9	
2	1625.336	V	43.1	32.6	-2.8	40.3	29.8	80.0	60.0	39.7	30.2	100.0	115.2	
3	1792.221	H	45.7	29.6	-2.2	43.5	27.4	80.0	60.0	36.5	32.6	316.0	189.7	
4	1997.119	V	41.5	25.7	-1.3	40.2	24.4	80.0	60.0	39.8	35.6	100.0	187.1	
5	2055.789	V	43.1	27.3	-1.0	42.1	26.3	80.0	60.0	37.9	33.7	184.0	133.2	
6	2112.945	H	41.2	27.3	-0.7	40.5	26.6	80.0	60.0	39.5	33.4	354.0	208.0	
7	2397.551	H	39.5	26.3	0.8	40.3	27.1	80.0	60.0	39.7	32.9	358.0	135.6	
8	2666.881	V	44.7	33.6	2.0	46.7	35.6	80.0	60.0	33.3	24.4	103.0	7.0	
9	3000.112	H	40.9	32.7	3.3	44.2	36.0	80.0	60.0	35.8	24.0	302.0	135.6	
10	3000.416	V	45.6	41.4	3.3	48.9	44.7	80.0	60.0	31.1	15.3	198.0	79.4	
11	4050.471	H	39.6	30.2	7.3	46.9	37.5	80.0	60.0	33.1	22.5	399.0	153.6	
12	4200.445	V	38.9	26.7	8.4	47.3	35.1	80.0	60.0	32.7	24.9	192.0	115.2	

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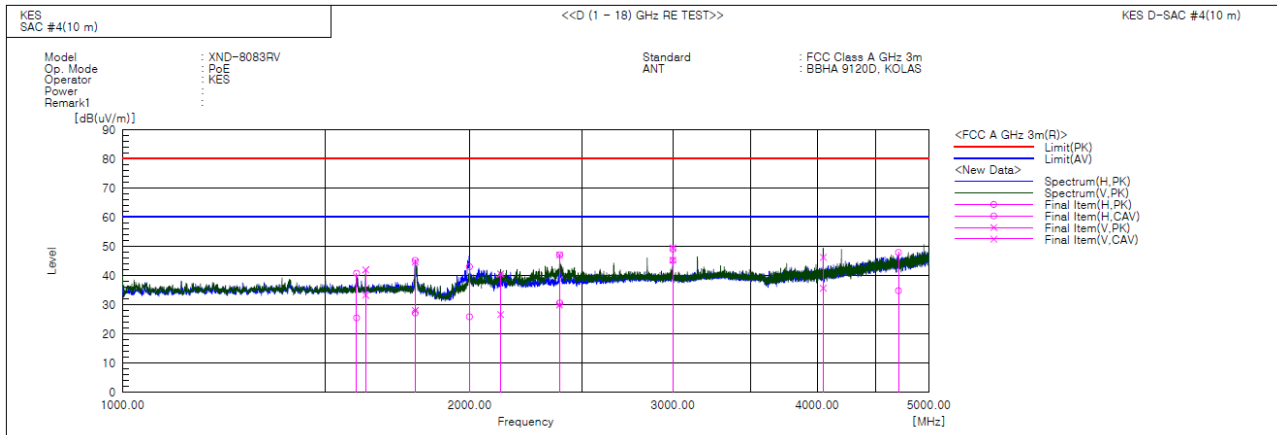
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PoE Mode



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	1595.915	H	43.7	28.4	-2.9	40.8	25.5	80.0	60.0	39.2	34.5	306.0	359.0	
2	1624.830	V	44.8	36.1	-2.8	42.0	33.3	80.0	60.0	38.0	26.7	107.0	359.0	
3	1793.415	V	46.9	30.3	-2.2	44.7	28.1	80.0	60.0	35.3	31.9	188.0	359.0	
4	1793.560	H	47.4	29.4	-2.2	45.2	27.2	80.0	60.0	34.8	32.8	315.0	359.0	
5	1998.875	H	44.3	27.2	-1.3	43.0	25.9	80.0	60.0	37.0	34.1	312.0	359.0	
6	2126.760	V	41.3	27.4	-0.7	40.6	26.7	80.0	60.0	39.4	33.3	158.0	359.0	
7	2392.180	V	46.3	29.1	0.8	47.1	29.9	80.0	60.0	32.9	30.1	191.0	359.0	
8	2393.470	H	46.3	29.8	0.8	47.1	30.6	80.0	60.0	32.9	29.4	351.0	359.0	
9	2999.940	H	45.9	42.0	3.2	49.1	45.2	80.0	60.0	30.9	14.8	394.0	359.0	
10	3000.120	V	46.2	42.0	3.3	49.5	45.3	80.0	60.0	30.5	14.7	100.0	359.0	
11	4049.765	V	39.0	28.4	7.3	46.3	35.7	80.0	60.0	33.7	24.3	117.0	359.0	
12	4705.475	H	36.4	23.3	11.5	47.9	34.8	80.0	60.0	32.1	25.2	400.0	359.0	

◆ 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

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Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

■ DC Mode



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■ PoE Mode



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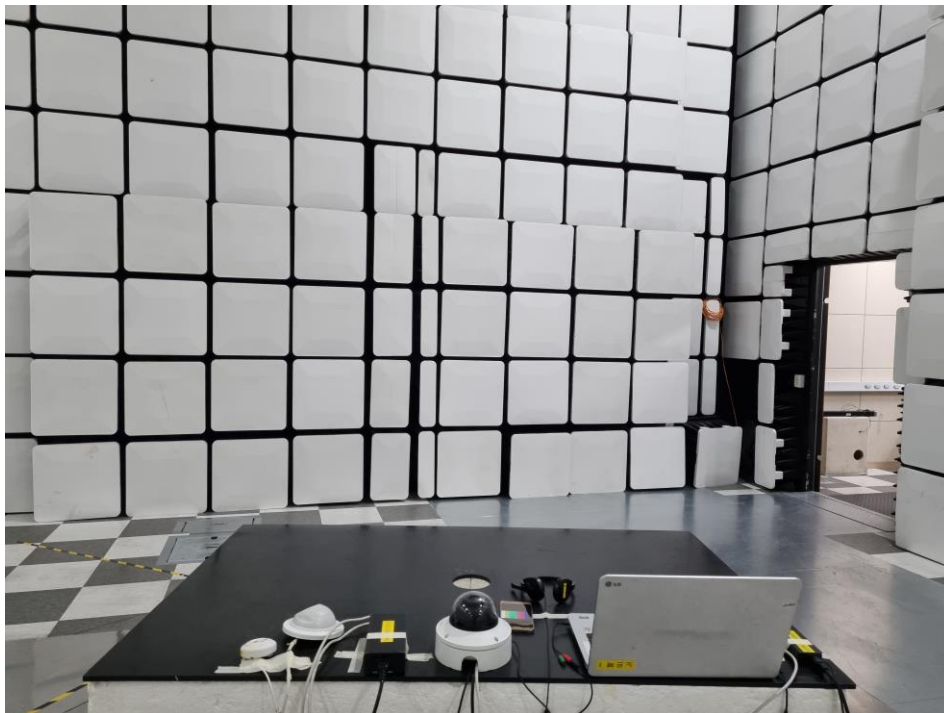
Radiated Electric Field Emissions(Below 1 GHz)

■ DC Mode



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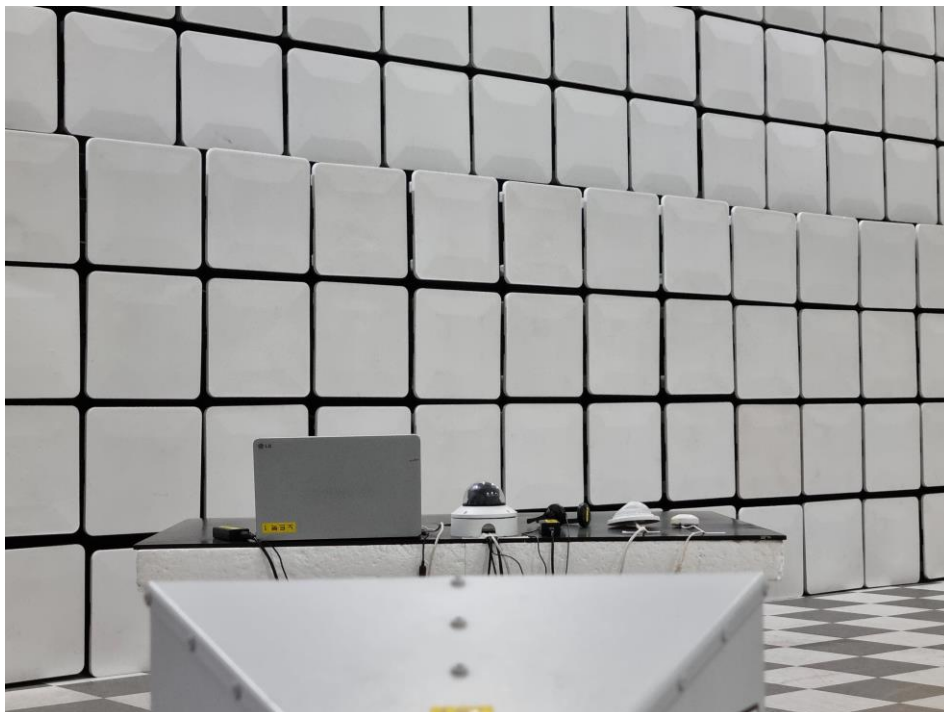
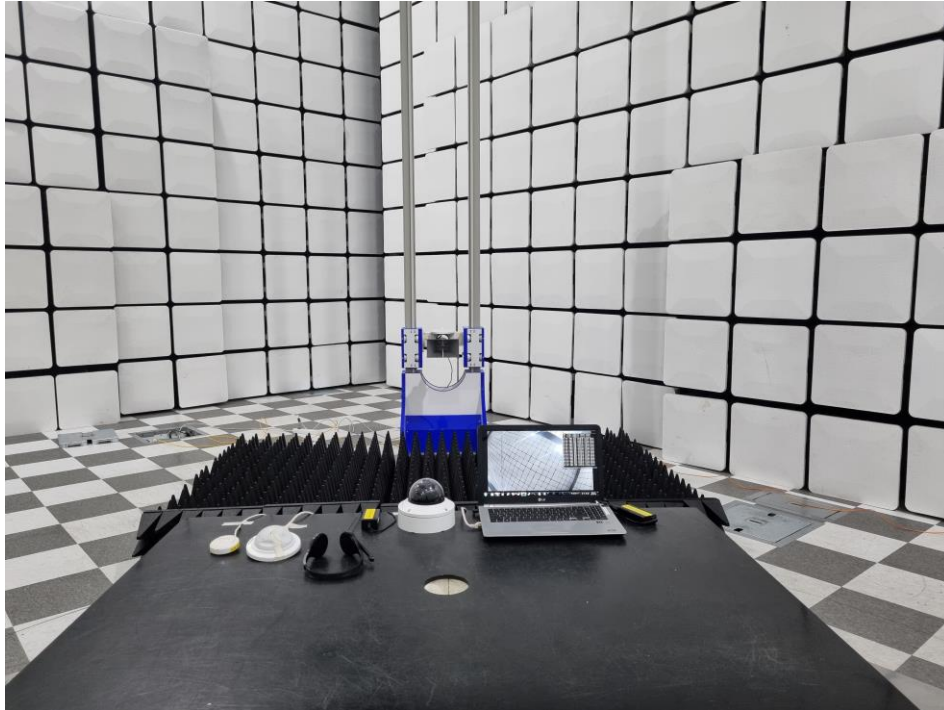
■ PoE Mode



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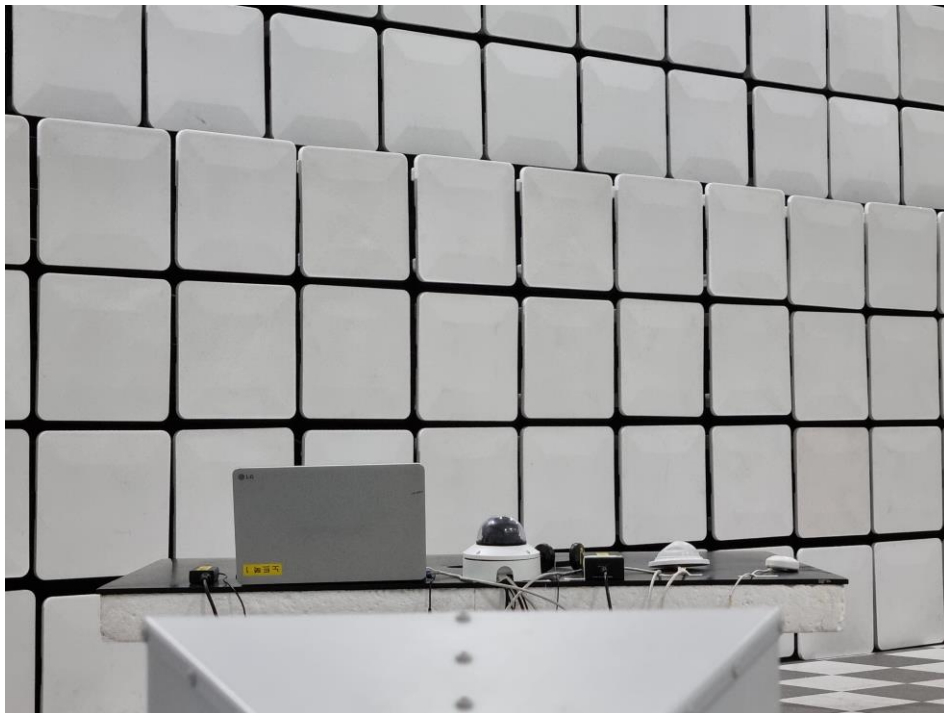
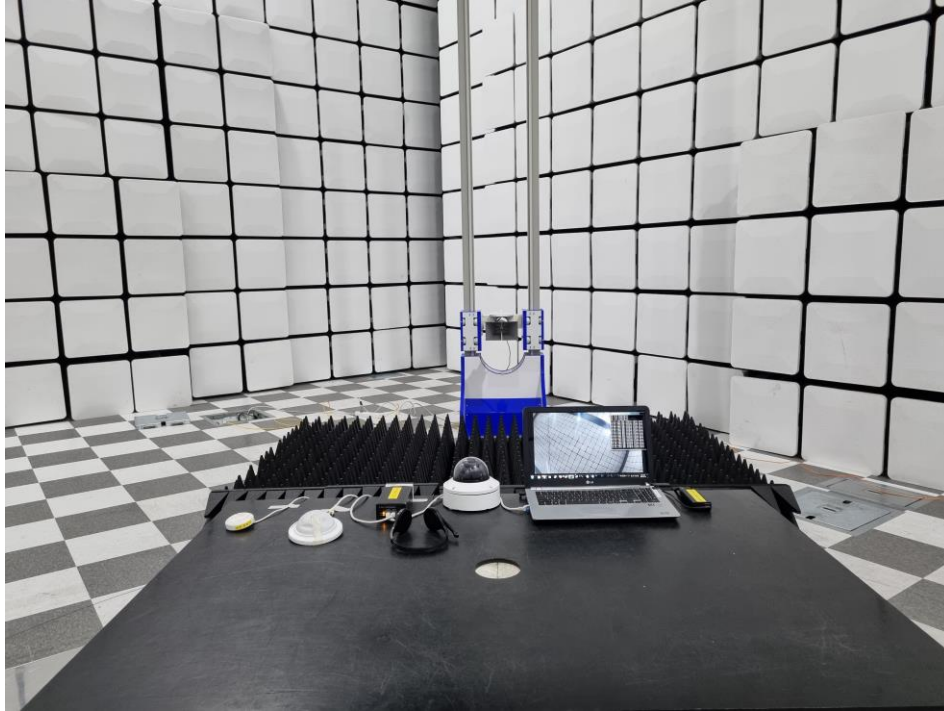
Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



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■ PoE Mode



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EUT External Photographs

(Top)



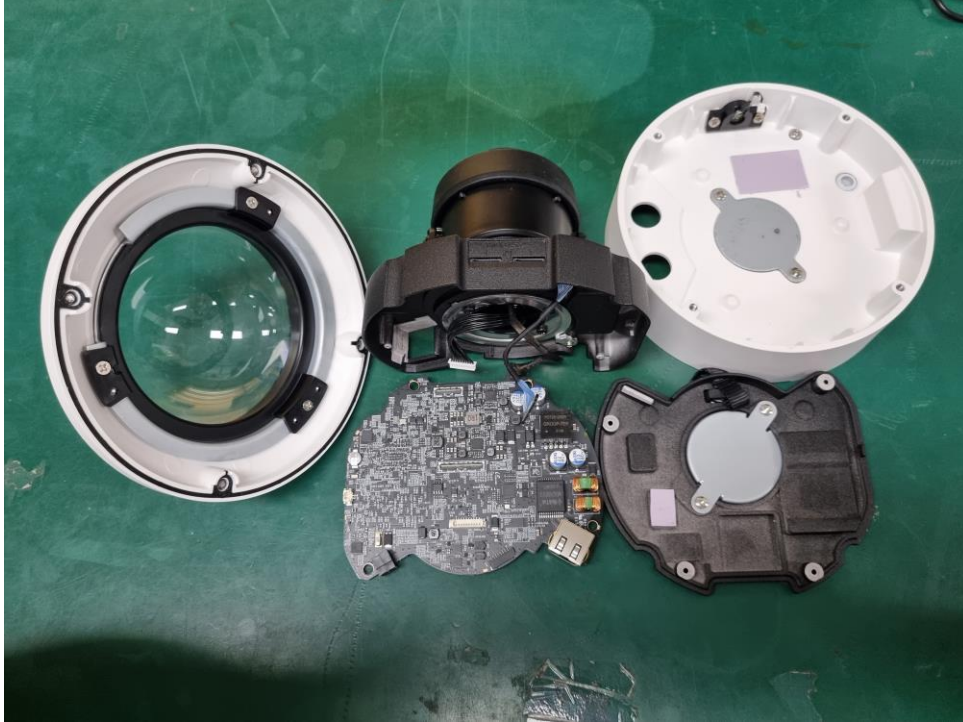
(Bottom)



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EUT Internal Photographs

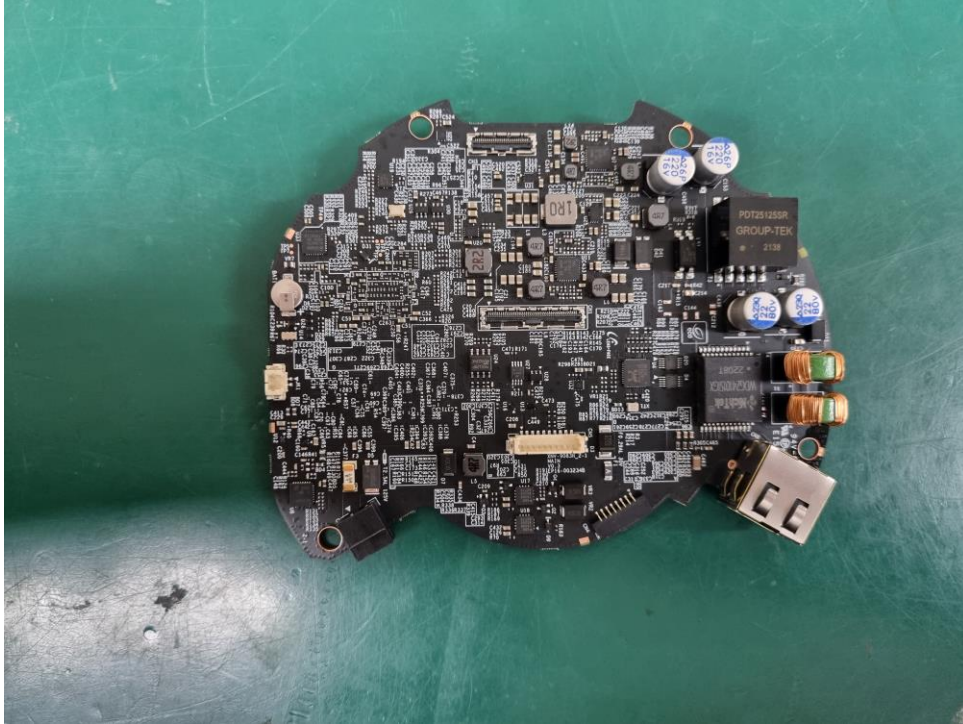
(Internal View)



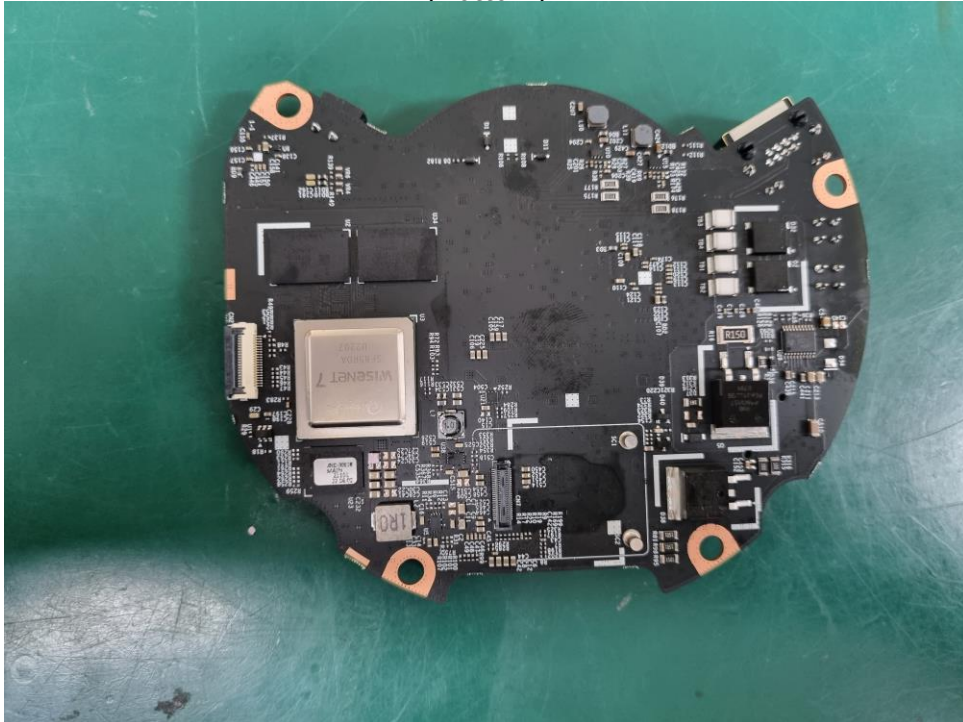
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EUT Internal View – Board 1

(Top)



(Bottom)



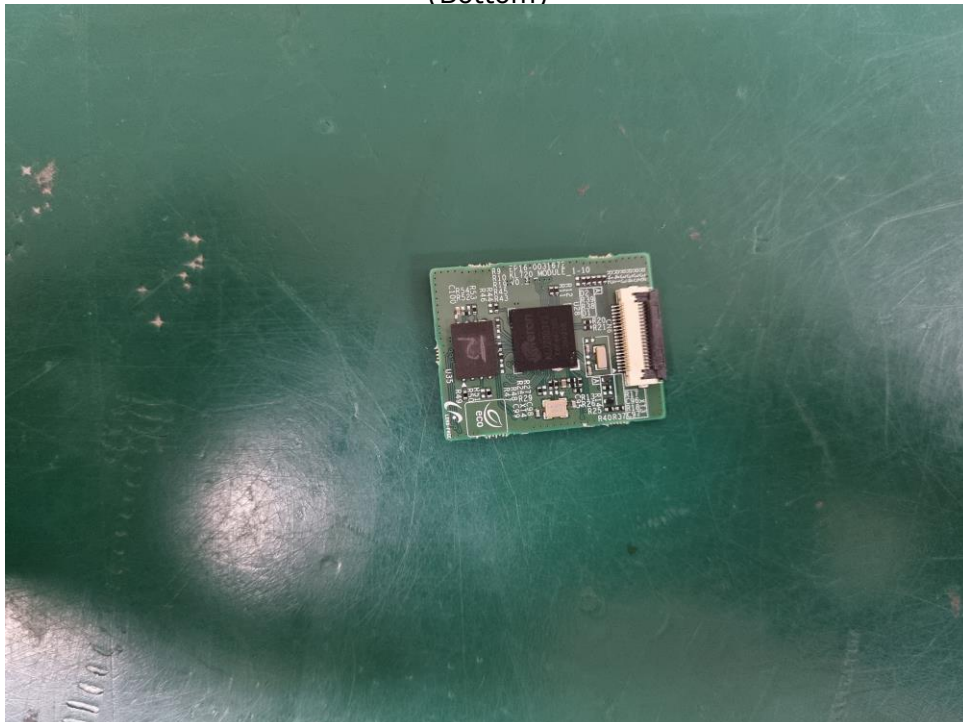
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EUT Internal View – Board 2

(Top)



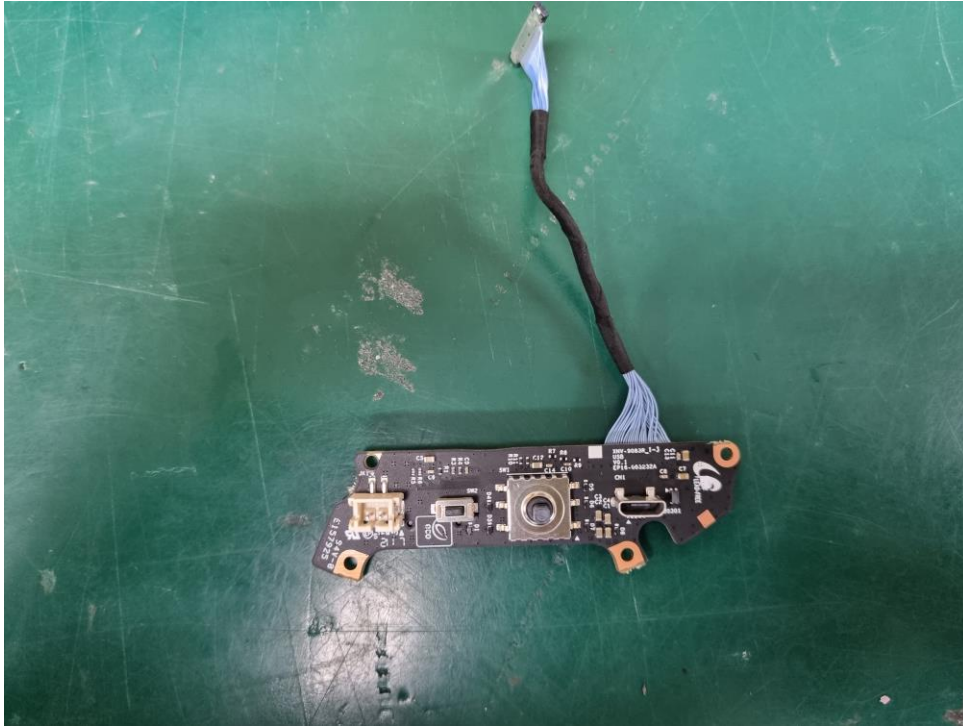
(Bottom)



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EUT Internal View – Board 3

(Top)



(Bottom)



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EUT Internal View – Board 4

(Top)



(Bottom)



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EUT Internal View – Lens Board

(Top)



(Bottom)



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Label Photographs

FCC Label



Hanwha Vision Co., Ltd

XND-8083RV

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.