



EMC TEST REPORT

Test Report No. : KES-EM-20T0695-R2
Date of Issue : Feb. 24, 2023
Product name : NETWORK CAMERA
Model/Type No. : PNM-9022V
Variant Mode : -
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 : Sep. 16, 2020
Test date : Sep. 21, 2020
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dong Hyun, Won
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
Oct. 16, 2020	KES-EM-20T0695	Issued
Nov. 15, 2021	KES-EM-20T0695-R1	- IC Regulation ICES-003 Issue 7 Update ANSI C63.4-2014 amended as per ANSI C63.4a-2017
Feb. 24, 2023	KES-EM-20T0695-R2	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:

Imaging Device	1/2.8" CMOS x 4
Resolution	[209° Mode] 4608X1800, 4032X1576, 3456X1352, 2864X1124, 2304X900, 1728X676, 1152X452, 560X224, 720X576 [180° Mode] 4096X1800, 3584X1576, 3072X1352, 2560X1124, 2048X900, 1536X676, 1024X452, 512X224, 720X576
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.15Lux(F1.6, 1/30sec, 30IRE) BW: 0.015Lux(F1.6, 1/30sec, 30IRE)
Video Out	USB : Micro USB Type B, 1280x720 for installation
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	2.8mm fixed focal x 4
Max. Aperture Ratio	F1.6
Angular Field of View	H: 209°, V: 83.3°
Min. Object Distance	1.5m
Focus Control	Fixed
Lens Type	None
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~355° / 0°~60° / -
Pan Range	None
Pan Speed	None
Tilt Range	None
Tilt Speed	None
Rotate Range	None
Sequence	None
Preset Accuracy	None
Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	None
Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SDR
Wide Dynamic Range	extreme WDR(120dB)
Digital Noise Reduction	SSNRV
Digital Image Stabilization	None
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, polygonal zones - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	None
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Digital PTZ	Support(2CH)
Video Rotation	Flip, Mirror
Analytics	Defocus detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line, Audio detection

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Business Intelligence	Heatmap
Serial Interface	None
Alarm I/O	Selectable 2 port
Alarm Triggers	Analytics, Network disconnect, Alarm input
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC recording at event triggers Alarm output
Audio In	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
IR Viewable Length	None
IR Illuminator (Optional)	None
Water Removal	None
Auto Tracking	None
Coaxial Protocol	None
Color Palettes	None
Radiometry	
Temperature detect range	None
Temperature accuracy	None
Temperature detection	None
Additional	None
Network	
Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression	H.265/H.264: Main/Baseline/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
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)
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, SRTP
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP) Device Certificate(Hanwha Techwin Root CA)
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 2slot 1TB(256GB X 2)
Memory	4GB RAM, 512MB Flash
Environmental & Electrical	

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Operating Temperature / Humidity	-40°C ~ +60°C(-40°F ~ +131°F) / Less than 95% RH(Non-condensing) * Maximum temperature : +60°C (intermittent)
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH
Certification	IP66, IK10, NEMA4X
Input Voltage	PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE+: Max 18W, Typical 10.4W 12VDC: Max 16W, Typical 9W
Mechanical	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product dimensions / weight	Ø253x170mm(9.96"x6.69"), 2880g
Conduit hole	3/4"
Hanging mount(Dome)	SBP-276HMMW
Skin cover(Dome)	None
Weather cap(Dome)	None
Power module	None
Backbox	None
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	.
Observe (63PPM/ 19PPF)	
Recognize (125PPM/ 38PPF)	
Identify (250PPM/ 76PPF)	

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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.

Voltage ☐ 230 Vac ☒ 120 Vac ☐ 24 Vac ☐ 12 Vdc ☐ PoE

Frequency ☐ 50 Hz ☒ 60 Hz ☐ 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-9022V	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT



1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE Adapter	POE36U-1AT-R	-	PHIHONG SWITCHING POWER SUPPLY	-
AC / DC Adapter	FSP060-DIBAN2	-	FSP GROUP INC.	-
Notebook	P95G001	POE36U-1AT-R	Wistron Infocom (Chengdu) Company Limited	-
Notebook Adapter	LA65NS2-01	-	LITE-ON TECHNOLOGY (CHANGZHOU) CO., LTD.	-
Speaker	BR1000A Cuve Black 2	-	DONGGUAN EDIFIER TECHNOLOGY Co., Ltd	-
MIC	MP1000	-	-	-
Alarm	SIP-1201DD D0	-	SAMSUNG TECHWIN CO., LTD.	-
Alarm Adapter	2ACB022F	-	Channel Well Technology (Guangzhou) Co., Ltd.	-
Button Alarm	SLE-0001 DO	C64167JDB601268 F	-	-
Smart Phone	SHV-E210L	R33D713KA3F	Samsung Electronics Co., Ltd.	-
Micro SD Card	-	-	-	16 GB



1.6 External I/O Cabling

■ DC Adapter Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45	Notebook	RJ-45	4.0	U
	3.5mm	Speaker	3.5mm	1.4	U
	3.5mm	MIC	3.5mm	1.7	U
	Alarm OUT	Alarm	Alarm IN	10.0	U
	Alarm IN	Button Alarm	Alarm OUT	10.0	U
	Slot	Micro SD Card	Slot	-	-
Notebook	3.5mm	Smart Phone	3.5mm	1.0	U

* Unshielded=U, Shielded=S

■ PoE Adapter Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45	PoE Adapter	RJ-45	4.0	U
	3.5mm	Speaker	3.5mm	1.4	U
	3.5mm	MIC	3.5mm	1.4	U
	Alarm OUT	Alarm	Alarm IN	10.0	U
	Alarm IN	Button Alarm	Alarm OUT	10.0	U
	Slot	Micro SD Card	Slot	-	-
Notebook	RJ-45	PoE Adapter	RJ-45	3.0	U
	3.5mm	Smart Phone	3.5mm	1.0	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

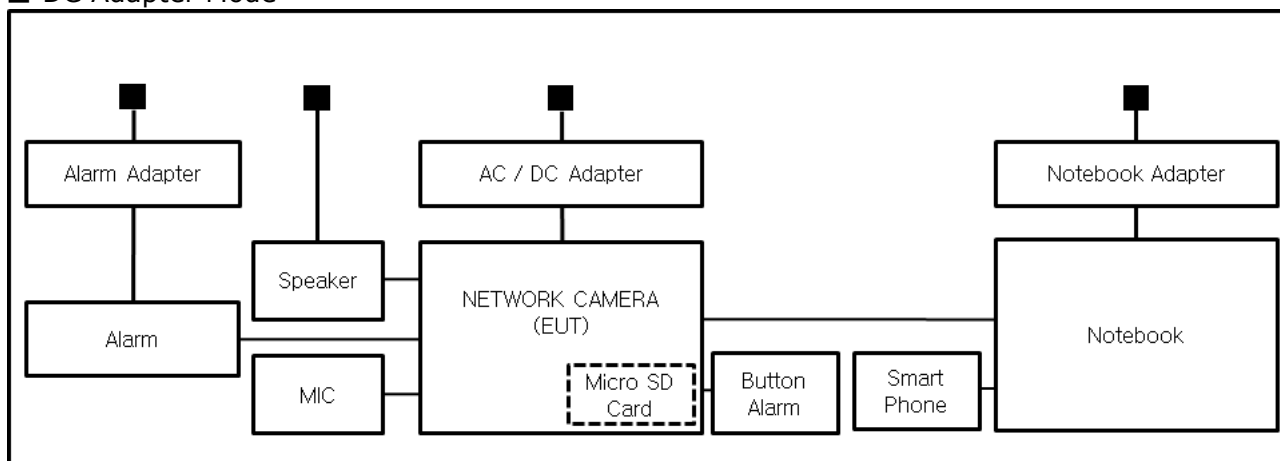
Test mode	operating
DC Adapter Mode	EUT Monitoring, Ping Test
PoE Adapter Mode	

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

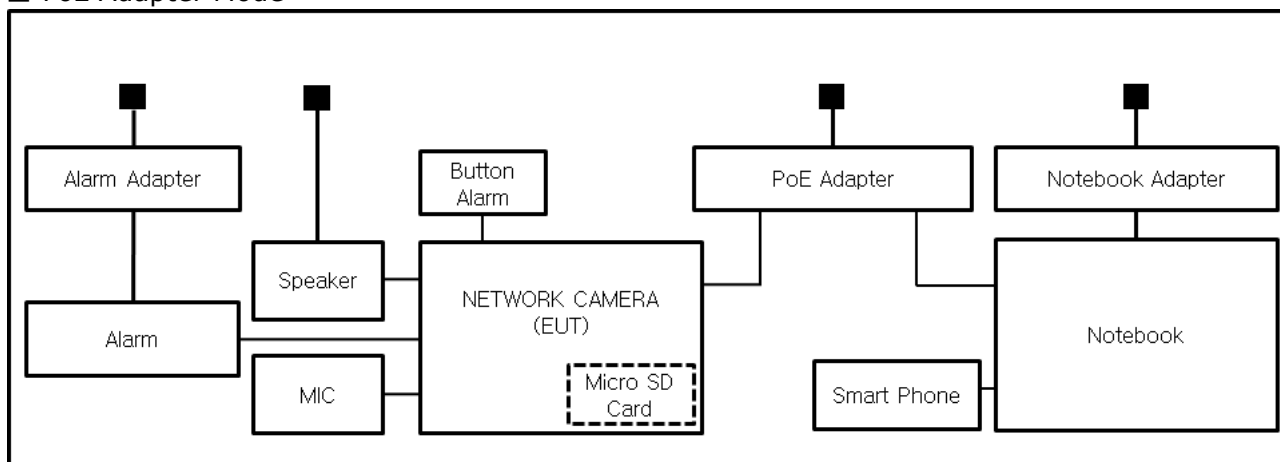
1.8 Configuration

■ AC Main
 □ DC Main

■ DC Adapter Mode



■ PoE Adapter Mode



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 0004



2.0 Test Regulations

The emissions tests were performed according to following regulations:

☐ **EMC – Directive 2014/30/EU**

☐ EN 61000-6-3:2011

☐ EN 61000-6-1:2007

☐ EN 61000-6-4:2007 +A1:2011

☐ EN 61000-6-2:2005

☐ EN 55011:2007 +A1:2010

☐ Group 1

☐ Group 2

☐ Class A

☐ Class B

☐ EN 55014-1:2006 +A2:2011

☐ EN 55014-2:1997 +A2:2008

☐ EN 55015:2013

☐ EN 55032:2015

☐ Class A

☐ Class B

☐ EN 55024:2010

☐ EN 50130-4:2011 +A1:2014

☐ EN 61000-3-2:2014

☐ EN 61000-3-3:2013

☐ EN 61326-1:2013

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☐ **VCCI-CISPR 32:2016**☐ Class A☐ Class B☐ **AS/NZS CISPR32:2015**☐ Class A☐ Class B☒ **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☐ **RE- Directive 2014/53/EU**☐ EN 301 489-1 V1.9.2☐ Equipment for fixed use☐ Equipment for vehicular use☐ Equipment for portable use☐ EN 301 489-3 V1.6.1☐ EN 301 489-17 V2.2.1☐ EN 60945:2002

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Sep. 21, 2020

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	01, 20, 2021
☒	LISN	ENV216	R & S	101787	01, 02, 2021
☒	LISN	ESH2-Z5	R & S	100450	01, 02, 2021
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	01, 02, 2021

Test Conditions

Temperature: 22,9 °C
Relative Humidity: 52,7 % 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

Sep. 21, 2020

Test Location☐ OPEN AREA TEST SITE #2 ☒ SEMI ANECHOIC CHAMBER #4(10 m)**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	04, 01, 2021
☒	AMPLIFIER	SCU 01	R & S	100603	11, 25, 2020
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 29, 2020
☒	ATTENUATOR	8491A	HP	32173	03, 10, 2021

Test Conditions

Temperature: 23,2 °C
Relative Humidity: 53,0 % 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.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Sep. 21 2020

Test Location

SEMI ANECHOIC CHAMBER #4(10 m)

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	04, 01, 2021
☒	PREAMPLIFIER	8449B	AGILENT	3008A01742	01, 02, 2021
☐	ATTENUATOR	8491A	HP	35496	03, 10, 2021
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 13, 2020

Test Conditions

Temperature: 23,2 °C
Relative Humidity: 53,0 % 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.

APPENDIX A – TEST DATA

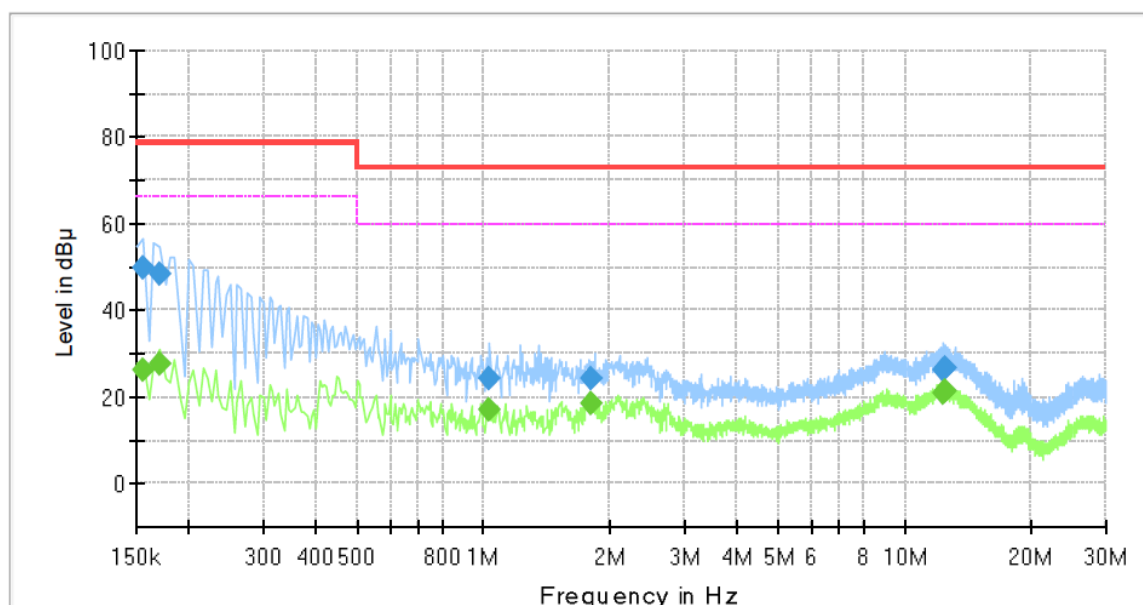
Conducted Emissions at Mains Power Ports

■ DC Adapter Mode

HOT LINE

Common Information

Test Description: Conducted Emission
 Model No.: PNM-9022V
 Phase:
 Mode: DC_H
 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	---	26.28	66.00	39.72	1000.0	9.000	L1	19.5
0.155000	49.78	---	79.00	29.22	1000.0	9.000	L1	19.5
0.170000	---	27.46	66.00	38.54	1000.0	9.000	L1	19.5
0.170000	48.50	---	79.00	30.50	1000.0	9.000	L1	19.5
1.030000	---	17.25	60.00	42.75	1000.0	9.000	L1	20.1
1.030000	24.38	---	73.00	48.62	1000.0	9.000	L1	20.1
1.795000	---	18.52	60.00	41.48	1000.0	9.000	L1	20.2
1.795000	24.34	---	73.00	48.66	1000.0	9.000	L1	20.2
12.315000	---	20.80	60.00	39.20	1000.0	9.000	L1	19.9
12.315000	26.06	---	73.00	46.94	1000.0	9.000	L1	19.9
12.455000	---	21.57	60.00	38.43	1000.0	9.000	L1	19.9
12.455000	26.88	---	73.00	46.12	1000.0	9.000	L1	19.9

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NEUTRAL LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

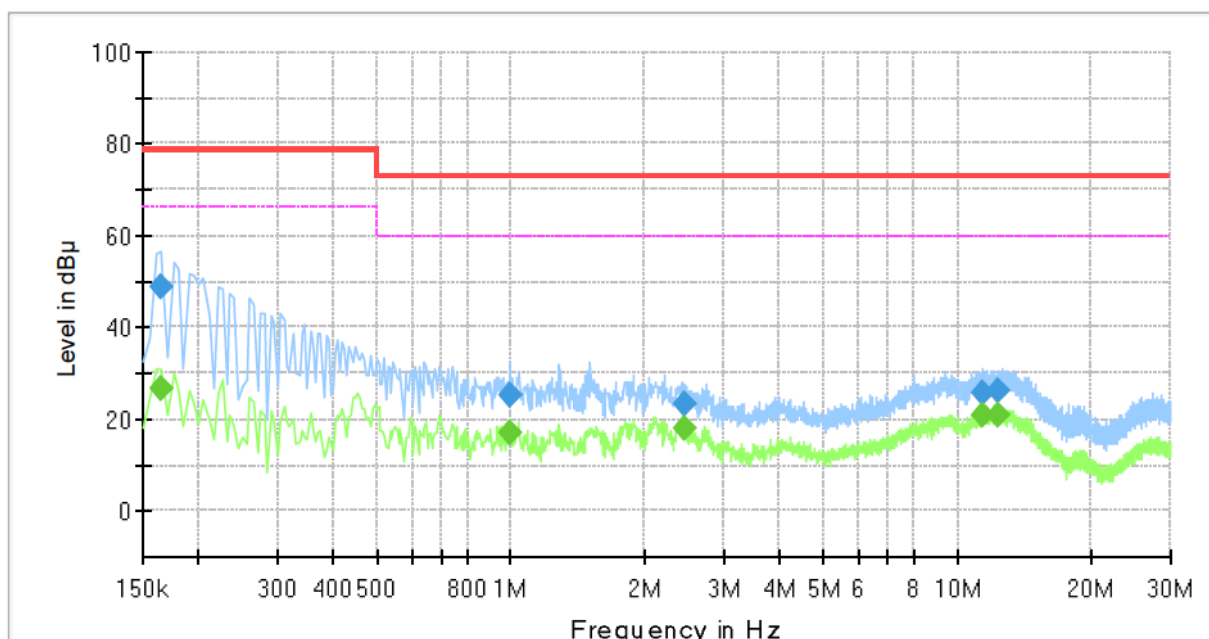
Operator Name:

Conducted Emission

PNM-9022V

DC_N

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	26.87	66.00	39.13	1000.0	9.000	N	19.4
0.165000	48.88	---	79.00	30.12	1000.0	9.000	N	19.4
0.995000	---	16.92	60.00	43.08	1000.0	9.000	N	20.1
0.995000	25.16	---	73.00	47.84	1000.0	9.000	N	20.1
2.450000	---	18.01	60.00	41.99	1000.0	9.000	N	20.2
2.450000	23.36	---	73.00	49.64	1000.0	9.000	N	20.2
11.440000	---	20.72	60.00	39.28	1000.0	9.000	N	20.0
11.440000	25.86	---	73.00	47.14	1000.0	9.000	N	20.0
12.330000	---	20.75	60.00	39.25	1000.0	9.000	N	20.0
12.330000	26.08	---	73.00	46.92	1000.0	9.000	N	20.0

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Report No.:

KES-EM-20T0695-R2

Page (19) of (36)

■ PoE Adapter Mode

HOT LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

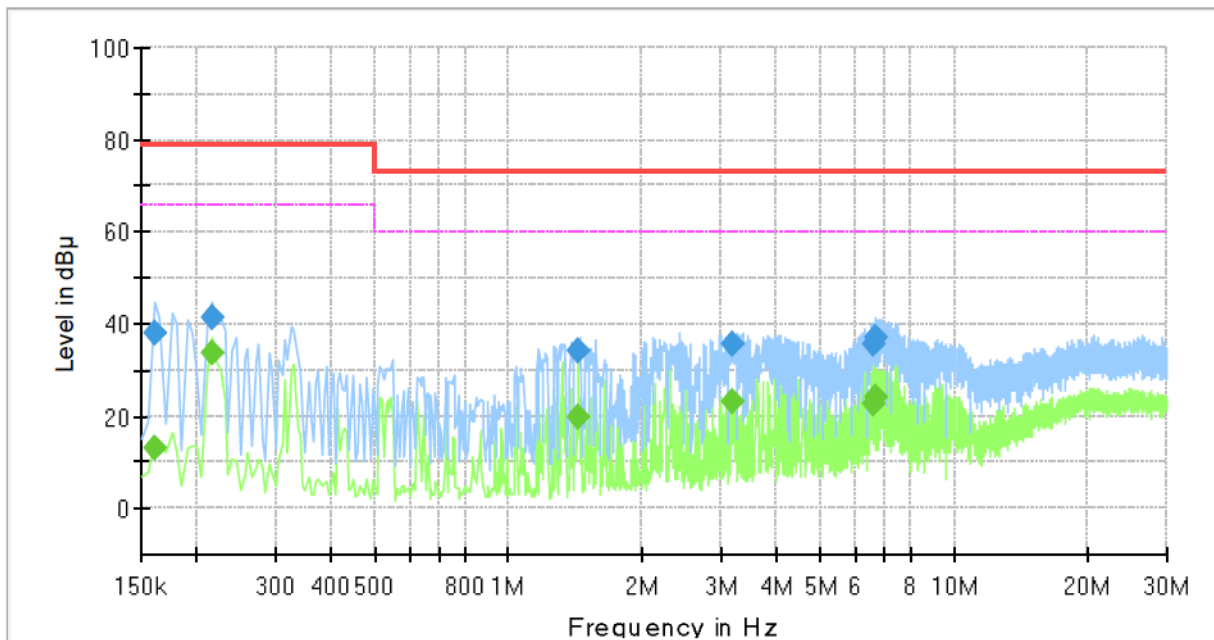
Operator Name:

Conducted Emission

PNM-9022V

PoE_H

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	13.24	66.00	52.76	1000.0	9.000	L1	19.5
0.160000	37.84	---	79.00	41.16	1000.0	9.000	L1	19.5
0.215000	---	33.71	66.00	32.29	1000.0	9.000	L1	19.5
0.215000	41.63	---	79.00	37.37	1000.0	9.000	L1	19.5
1.430000	---	19.71	60.00	40.29	1000.0	9.000	L1	20.2
1.430000	34.10	---	73.00	38.90	1000.0	9.000	L1	20.2
3.180000	---	23.36	60.00	36.64	1000.0	9.000	L1	20.0
3.180000	35.52	---	73.00	37.48	1000.0	9.000	L1	20.0
6.580000	---	22.67	60.00	37.33	1000.0	9.000	L1	19.5
6.580000	35.76	---	73.00	37.24	1000.0	9.000	L1	19.5
6.695000	---	24.32	60.00	35.68	1000.0	9.000	L1	19.5
6.695000	37.26	---	73.00	35.74	1000.0	9.000	L1	19.5

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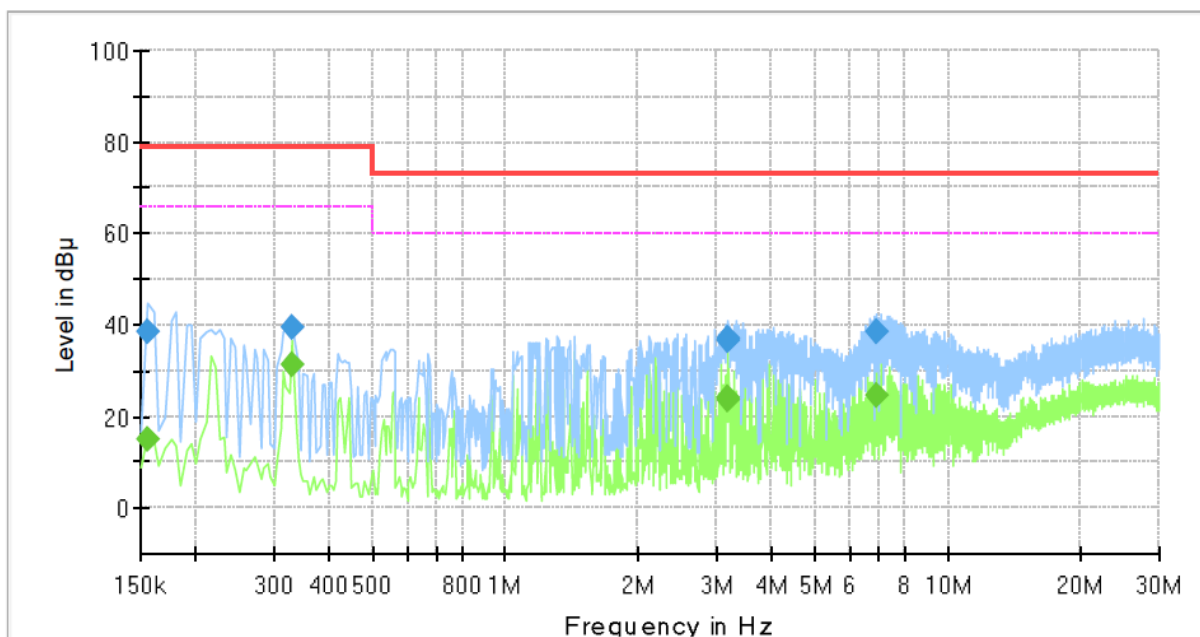
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NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Model No.: PNM-9022V
Phase:
Mode: PoE_N
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	---	15.19	66.00	50.81	1000.0	9.000	N	19.4
0.155000	38.43	---	79.00	40.57	1000.0	9.000	N	19.4
0.330000	---	31.44	66.00	34.56	1000.0	9.000	N	19.6
0.330000	39.49	---	79.00	39.51	1000.0	9.000	N	19.6
3.185000	---	24.21	60.00	35.79	1000.0	9.000	N	20.0
3.185000	36.44	---	73.00	36.56	1000.0	9.000	N	20.0
3.195000	---	23.44	60.00	36.56	1000.0	9.000	N	20.0
3.195000	36.85	---	73.00	36.15	1000.0	9.000	N	20.0
6.885000	---	24.65	60.00	35.35	1000.0	9.000	N	19.5
6.885000	38.74	---	73.00	34.26	1000.0	9.000	N	19.5

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

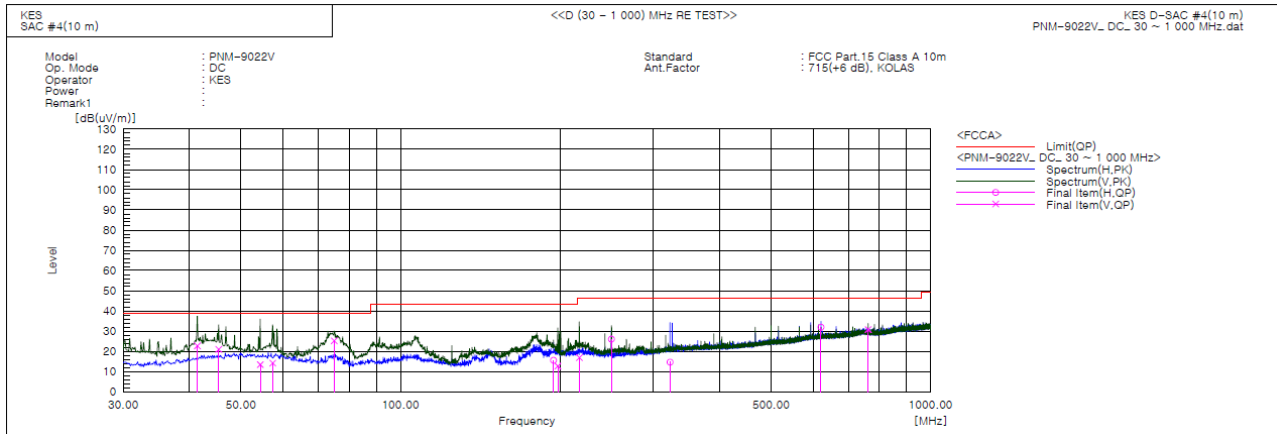
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Radiated Electric Field Emissions(Below 1 GHz)

■ DC Adapter Mode



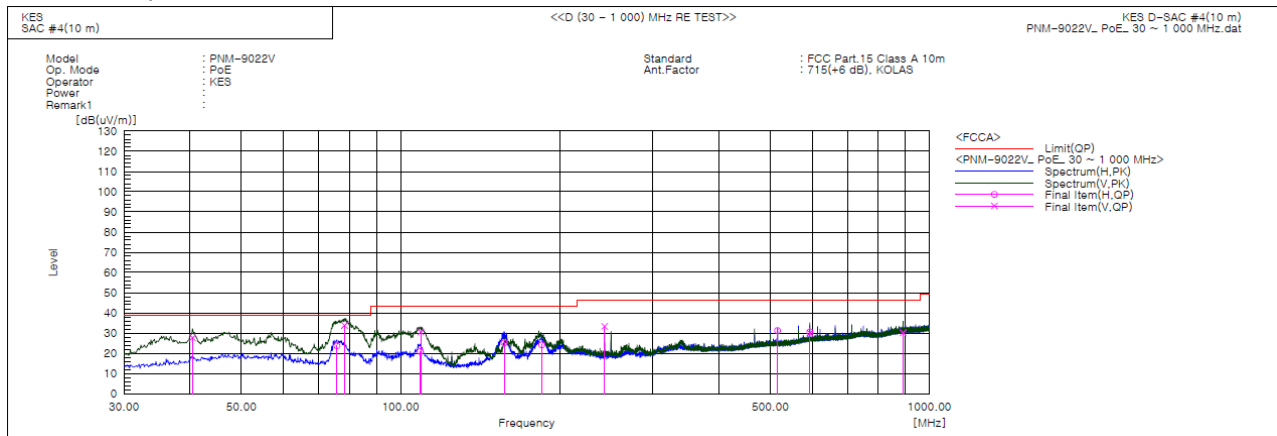
Final Result

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	41.398	V	45.1	-22.4	22.7	39.0	16.3	124.0	124.0	
2	45.399	V	42.8	-21.8	21.0	39.0	18.0	116.0	138.0	
3	54.371	V	35.1	-21.7	13.4	39.0	25.6	152.0	110.0	
4	57.403	V	36.3	-22.1	14.2	39.0	24.8	105.0	48.0	
5	74.984	V	52.0	-26.8	25.2	39.0	13.8	139.0	3.0	
6	194.415	H	37.9	-22.4	15.5	43.5	28.0	356.0	85.0	
7	197.931	V	34.7	-22.0	12.7	43.5	30.8	148.0	188.0	
8	217.331	V	37.6	-20.7	16.9	46.5	29.6	150.0	133.0	
9	249.948	H	46.0	-20.0	26.0	46.5	20.5	397.0	111.0	
10	322.334	H	31.9	-17.3	14.6	46.5	31.9	385.0	274.0	
11	620.973	H	41.4	-9.5	31.9	46.5	14.6	249.0	2.0	
12	761.865	V	38.3	-7.5	30.8	46.5	15.7	162.0	141.0	

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PoE Adapter 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	40.428	V	50.4	-22.7	27.7	39.0	11.3	148.0	99.0	
2	75.833	H	50.7	-27.0	23.7	39.0	15.3	376.0	74.0	
3	78.379	V	61.3	-27.5	33.8	39.0	5.2	150.0	87.0	
4	108.934	H	43.6	-22.7	20.9	43.5	22.6	394.0	118.0	
5	109.176	V	53.3	-22.7	30.6	43.5	12.9	139.0	119.0	
6	156.949	H	50.7	-25.5	25.2	43.5	18.3	392.0	137.0	
7	184.958	H	47.6	-23.4	24.2	43.5	19.3	355.0	126.0	
8	243.036	V	53.5	-20.1	33.4	46.5	13.1	126.0	189.0	
9	516.091	H	43.8	-12.5	31.3	46.5	15.2	279.0	334.0	
10	594.004	V	40.0	-9.9	30.1	46.5	16.4	114.0	158.0	
11	594.055	H	40.4	-9.9	30.5	46.5	16.0	262.0	114.0	
12	891.118	V	35.9	-5.7	30.2	46.5	16.3	124.0	2.0	

◆ 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)]

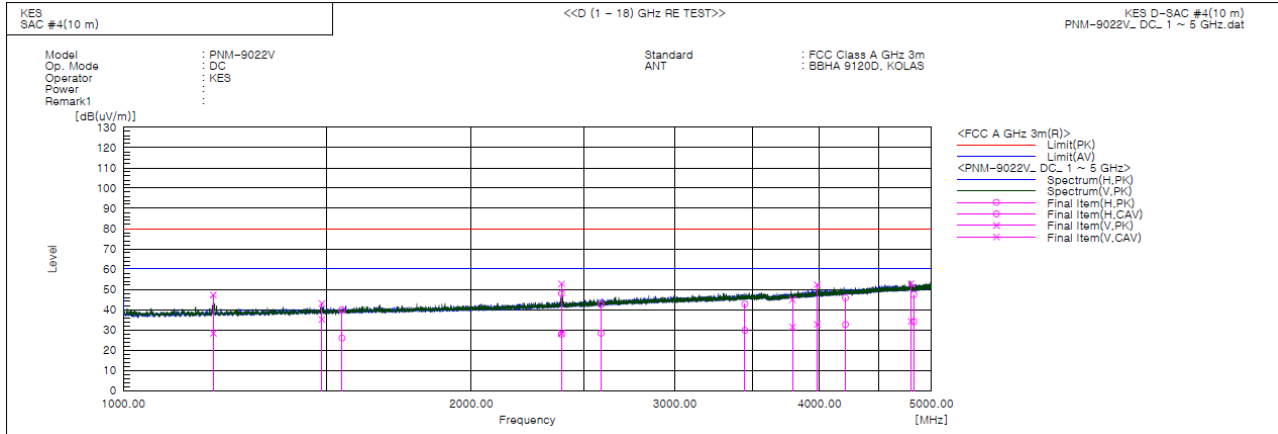
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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



Radiated Electric Field Emissions(Above 1 GHz)

■ DC Adapter 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	1195.990	V	51.5	32.5	-4.2	47.3	28.3	80.0	60.0	32.7	31.7	368.0	266.0	
2	1485.210	V	45.7	37.8	-2.7	43.0	35.1	80.0	60.0	37.0	24.9	106.0	251.0	
3	1545.640	H	42.3	28.4	-2.4	39.9	26.0	80.0	60.0	40.1	34.0	386.0	358.0	
4	2393.860	V	51.3	26.8	1.5	52.8	28.3	80.0	60.0	27.2	31.7	168.0	294.0	
5	2393.910	H	46.5	26.3	1.5	48.0	27.8	80.0	60.0	32.0	32.2	114.0	203.0	
6	2590.335	H	39.9	25.7	2.6	42.5	28.3	80.0	60.0	37.5	31.7	229.0	265.0	
7	3448.320	H	37.2	24.2	5.6	42.8	29.8	80.0	60.0	37.2	30.2	103.0	239.0	
8	3791.760	V	37.7	24.3	7.2	44.9	31.5	80.0	60.0	35.1	28.5	233.0	287.0	
9	3982.915	V	44.2	24.5	8.2	52.4	32.7	80.0	60.0	27.6	27.3	123.0	224.0	
10	4213.530	H	36.7	23.5	9.1	45.8	32.6	80.0	60.0	34.2	27.4	285.0	287.0	
11	4799.710	V	41.5	22.9	11.3	52.8	34.2	80.0	60.0	27.2	25.8	159.0	262.0	
12	4827.175	H	36.1	22.6	11.4	47.5	34.0	80.0	60.0	32.5	26.0	168.0	336.0	

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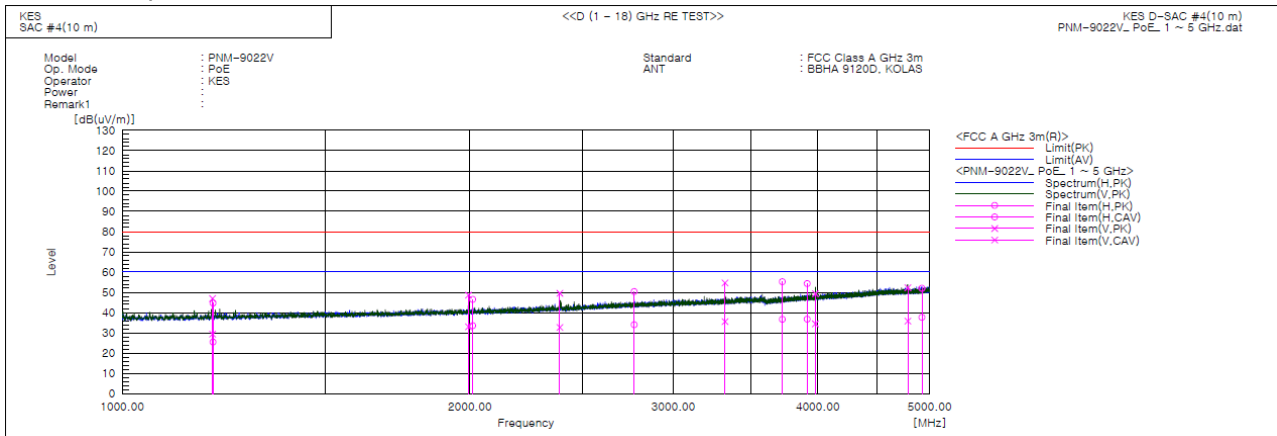
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
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Report No.:

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PoE Adapter 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	1197.000	V	51.2	33.6	-4.2	47.0	29.4	80.0	60.0	33.0	30.6	350.0	117.0	
2	1198.500	H	48.9	29.7	-4.2	44.7	25.5	80.0	60.0	35.3	34.5	368.0	155.0	
3	1993.500	V	49.0	33.4	-0.4	48.6	33.0	80.0	60.0	31.4	27.0	116.0	299.0	
4	2010.500	H	46.8	33.9	-0.3	46.5	33.6	80.0	60.0	33.5	26.4	321.0	40.0	
5	2392.000	V	48.1	31.2	1.5	49.6	32.7	80.0	60.0	30.4	27.3	100.0	358.0	
6	2774.000	H	46.9	30.5	3.5	50.4	34.0	80.0	60.0	29.6	26.0	124.0	26.0	
7	3324.000	V	49.3	30.2	5.4	54.7	35.6	80.0	60.0	25.3	24.4	105.0	246.0	
8	3727.000	H	48.6	30.0	6.7	55.3	36.7	80.0	60.0	24.7	23.3	375.0	276.0	
9	3917.000	H	46.4	28.9	7.9	54.3	36.8	80.0	60.0	25.7	23.2	248.0	271.0	
10	3981.500	V	41.2	26.3	8.2	49.4	34.5	80.0	60.0	30.6	25.5	109.0	234.0	
11	4786.000	V	41.0	24.6	11.3	52.3	35.9	80.0	60.0	27.7	24.1	116.0	250.0	
12	4922.000	H	40.2	25.9	11.8	52.0	37.7	80.0	60.0	28.0	22.3	364.0	202.0	

◆ 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 Adapter Mode

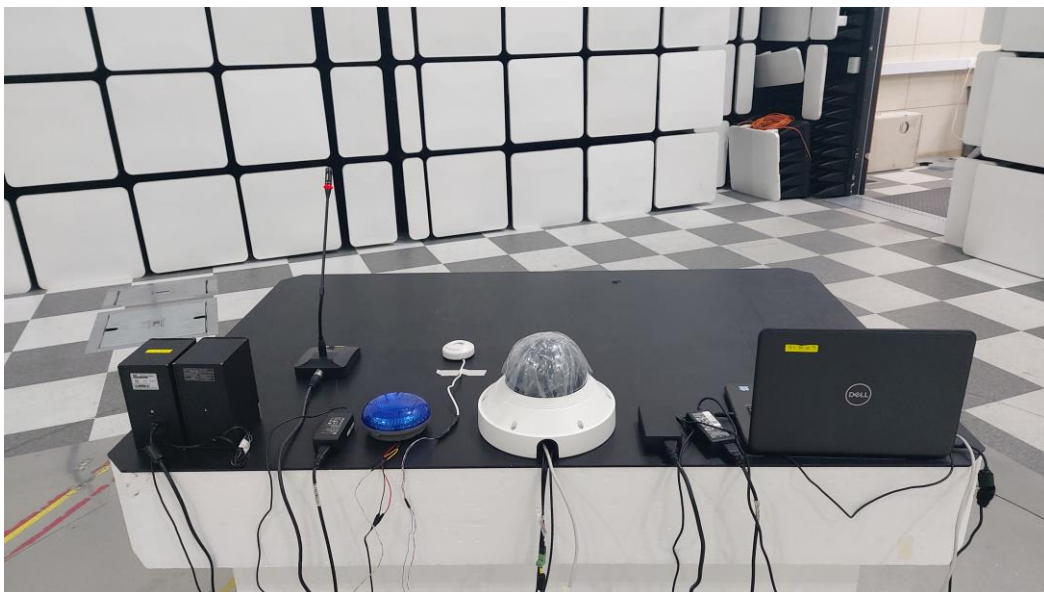
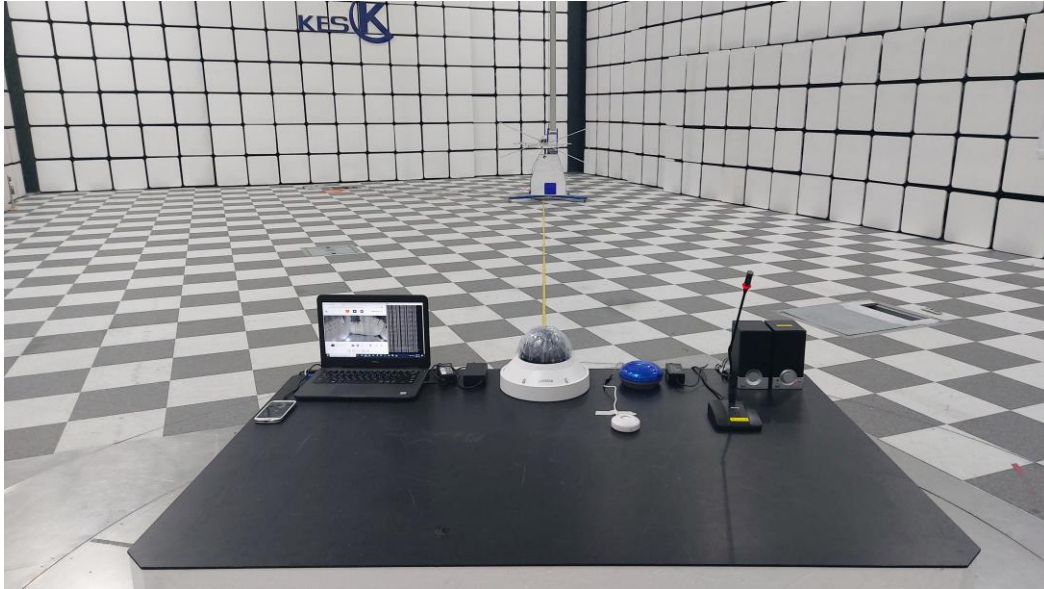


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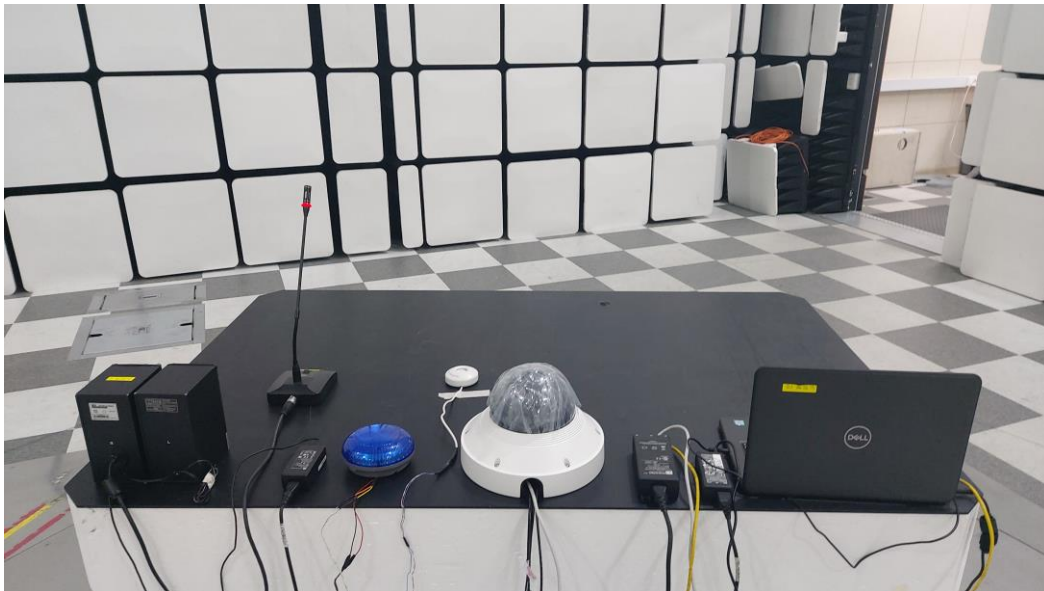
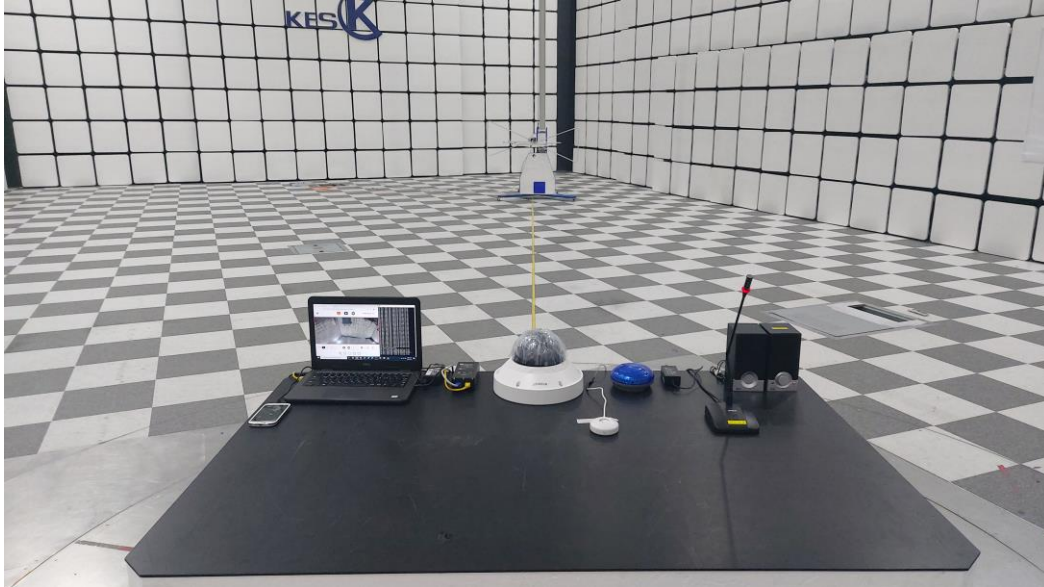
■ PoE Adapter Mode

Radiated Electric Field Emissions(Below 1 GHz)

■ DC Adapter Mode

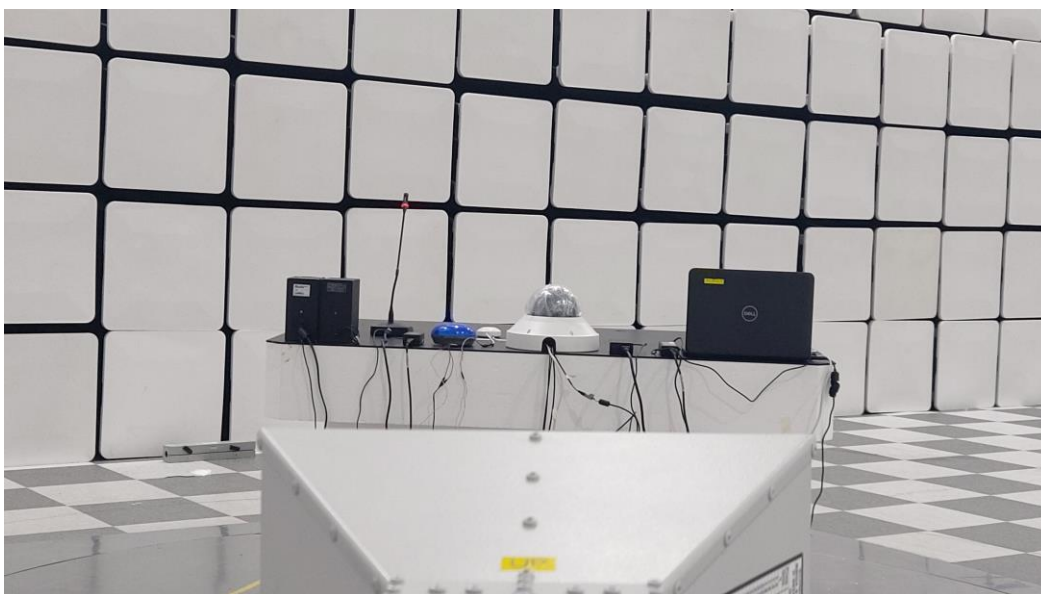
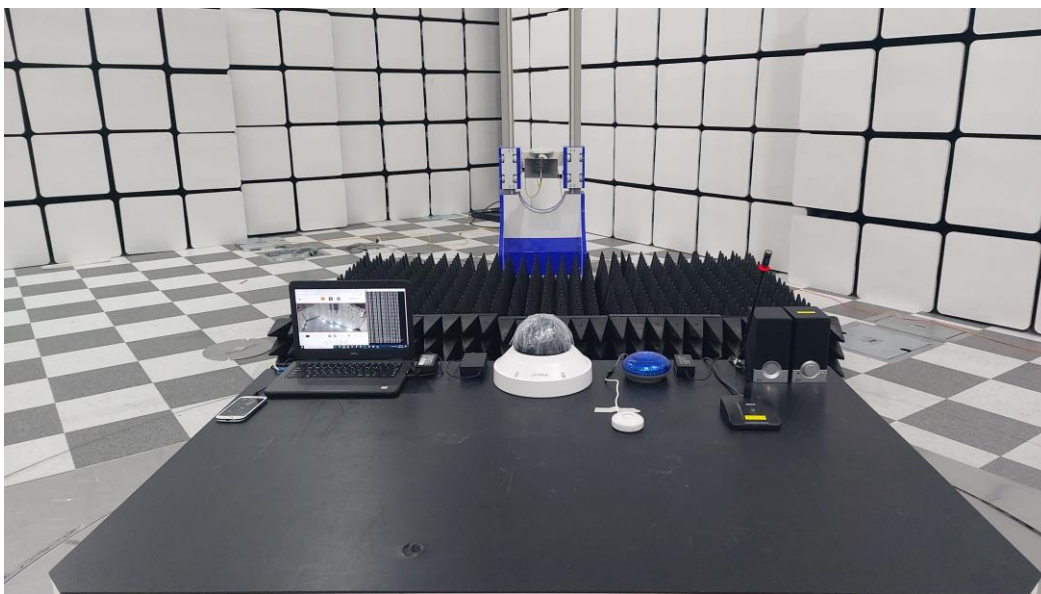


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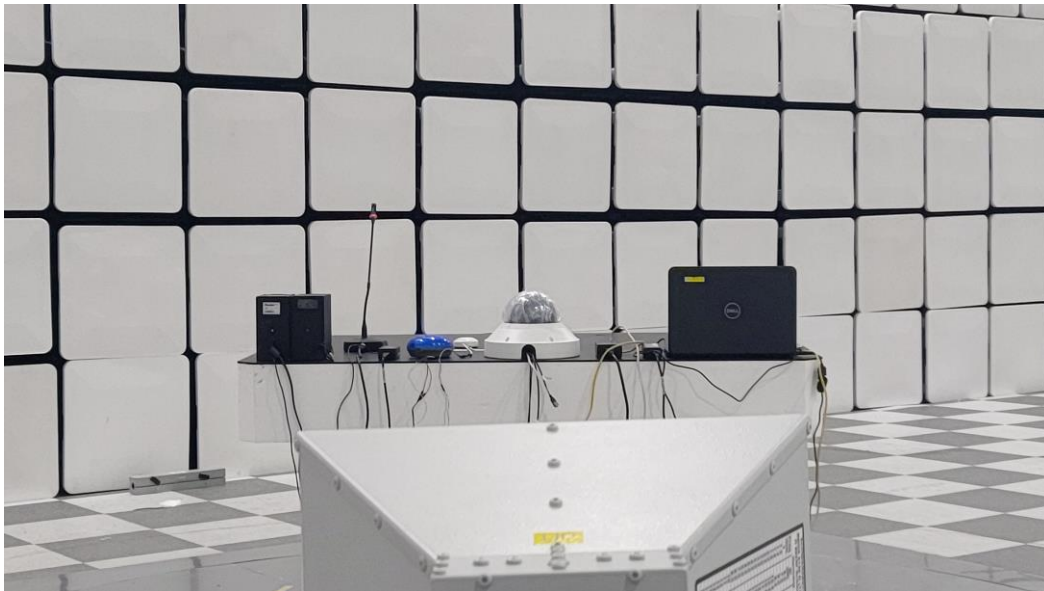
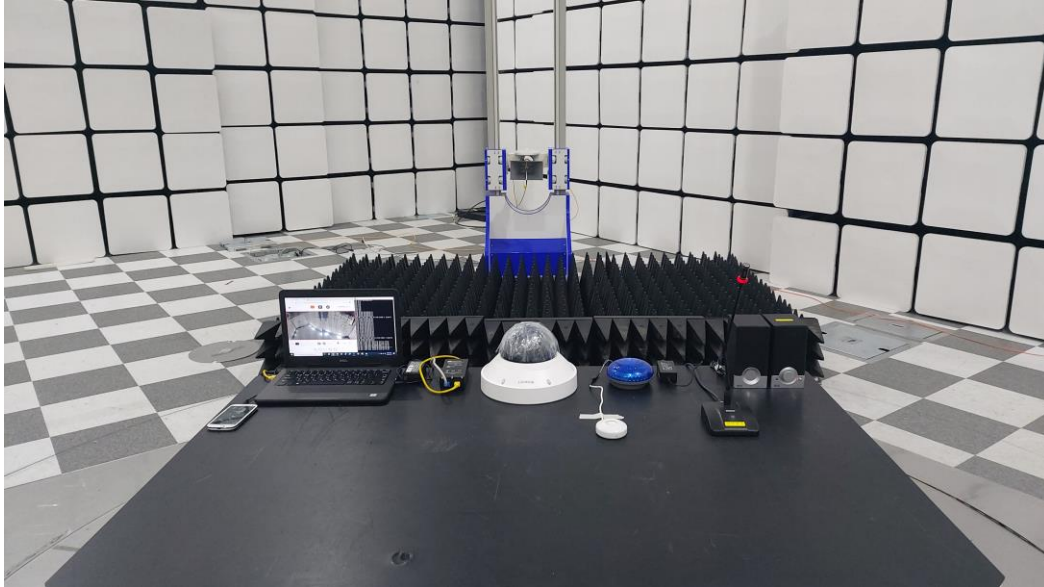
■ PoE Adapter Mode

Radiated Electric Field Emissions(Above 1 GHz)

■ DC Adapter Mode



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■ PoE Adapter Mode

EUT External Photographs

(Top)



(Bottom)



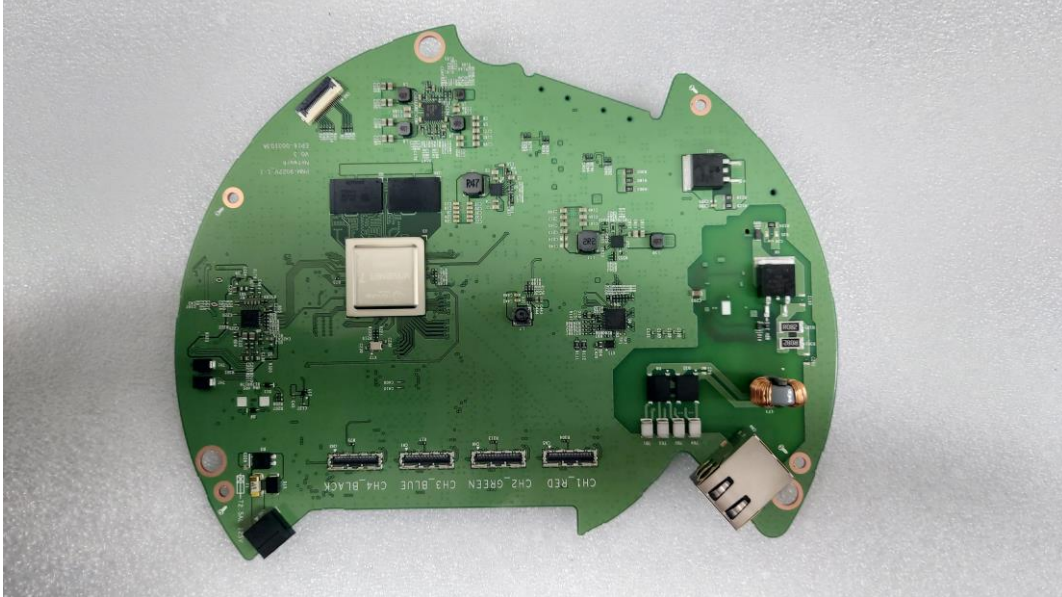
EUT Internal Photographs

(Internal View)

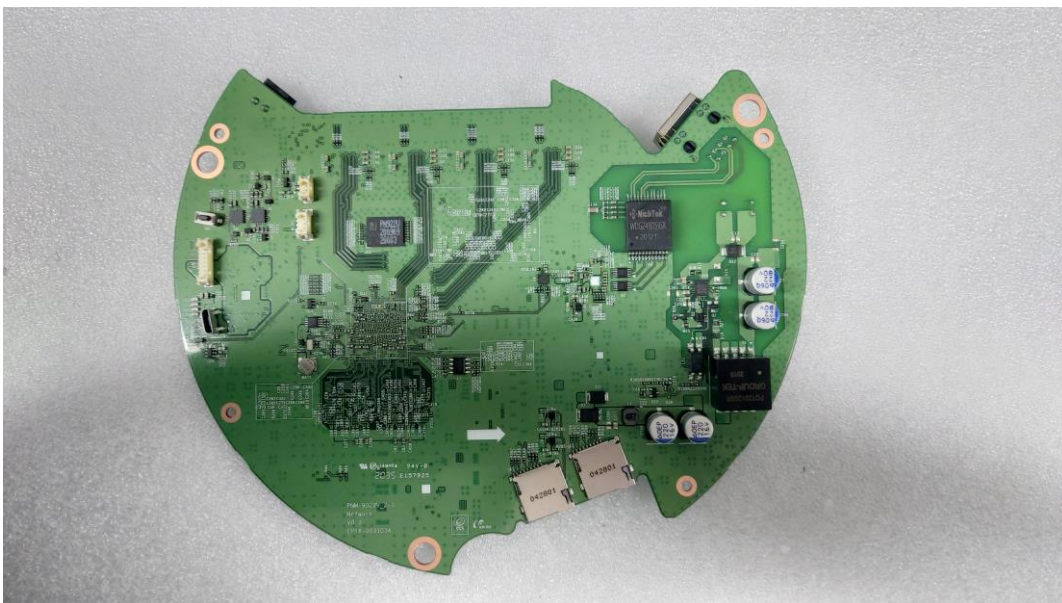


EUT Internal View – Main Board

(Top)



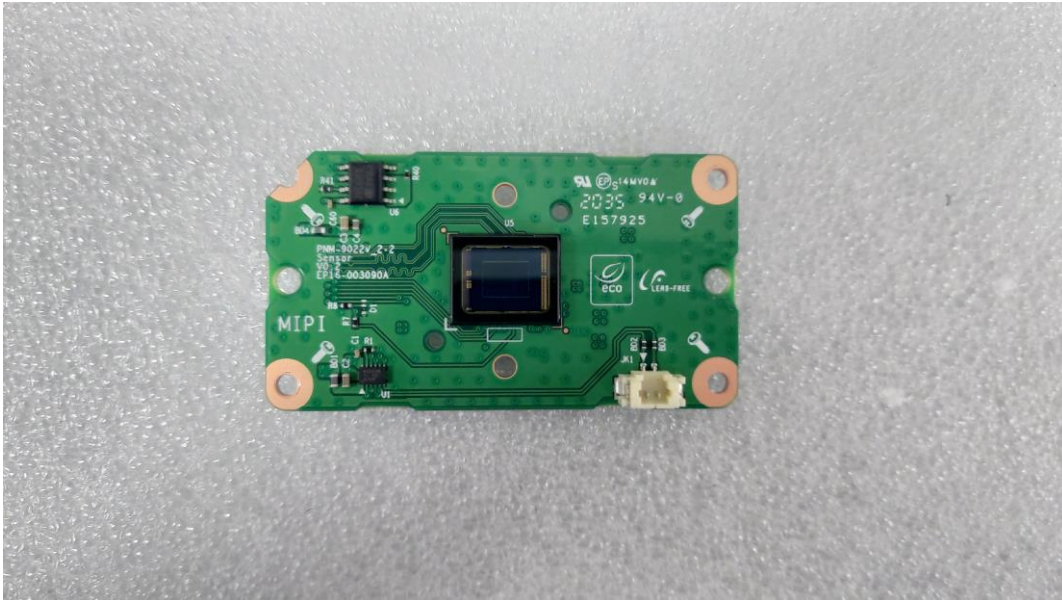
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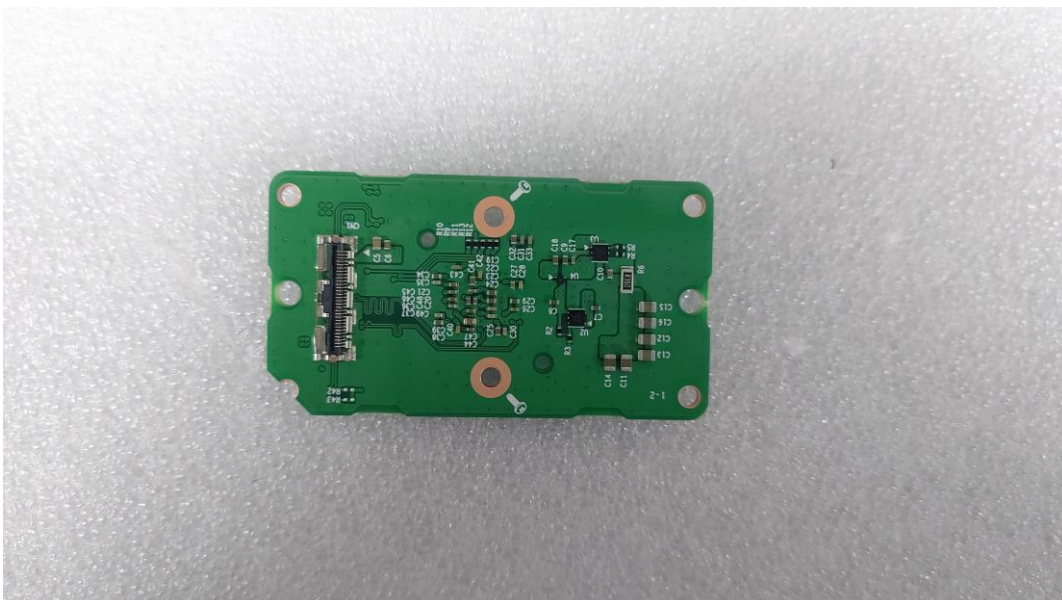
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EUT Internal View – Lens Board

(Top)

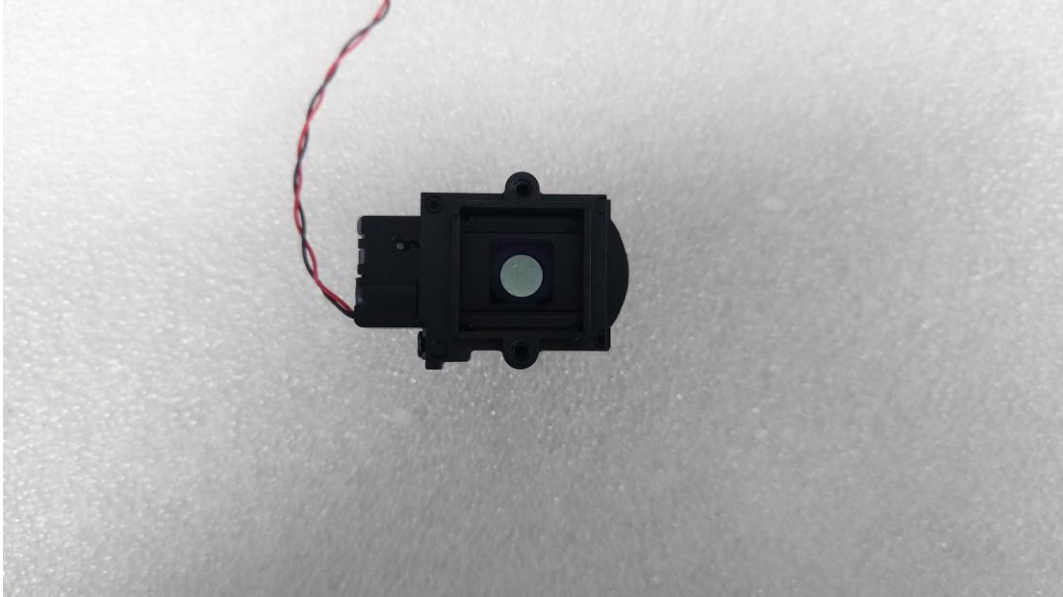


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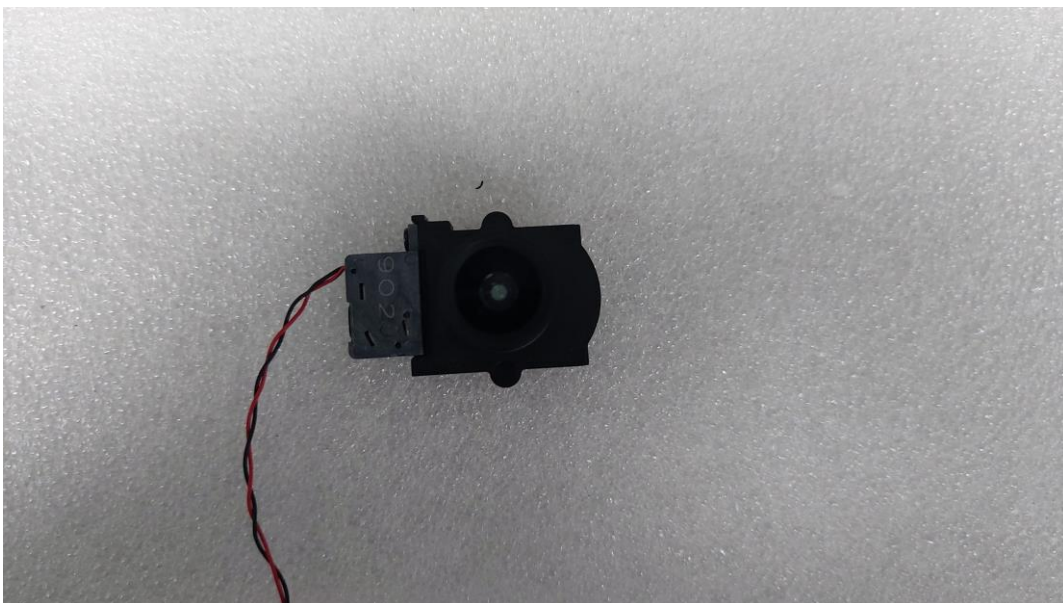


EUT Internal View – Lens

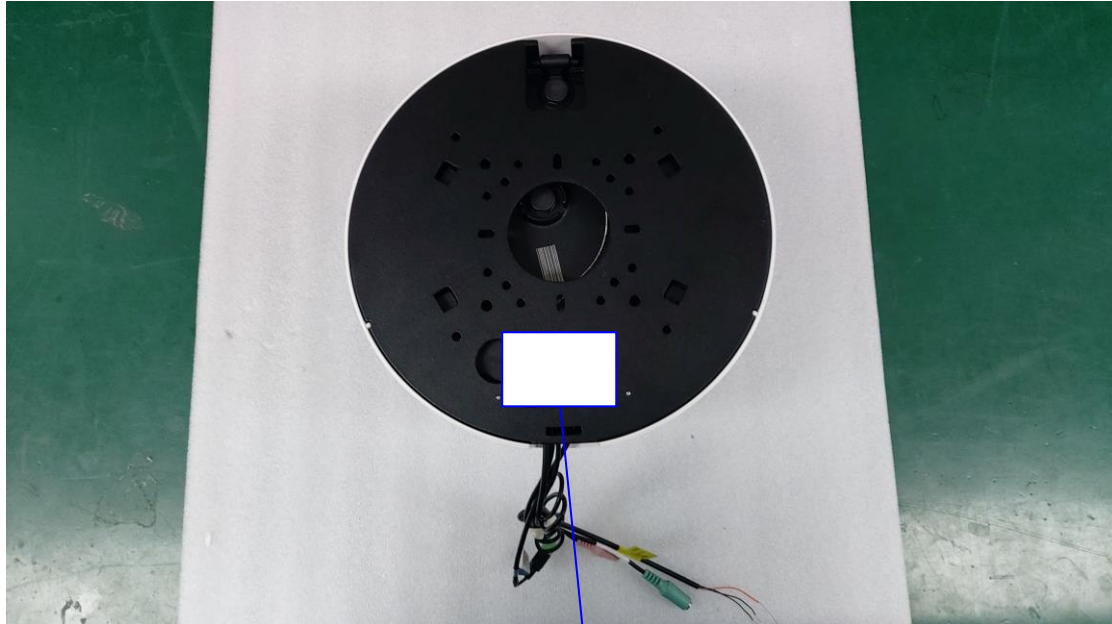
(Top)



(Bottom)



Label Photographs



CAN ICES-3(A) / NMB-3(A)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

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.