



EMC TEST REPORT

Test Report No. : KES-EM-22T0114-R1
Date of Issue : Feb. 24, 2023
Product name : NETWORK CAMERA
Model/Type No. : QNV-7082R
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 : Jan. 14, 2022
Test date : Jan. 19, 2022 ~ Jan. 20, 2022
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

김 세 현

Se Heon, Kim
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
Jan. 26, 2022	KES-EM-22T0114	Issued
Feb. 24, 2023	KES-EM-22T0114-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	1/3" CMOS
Resolution	2560x1440, 1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264 : Max. 30fps at 4M all resolutions, MJPEG : Max. 15fps
Min. Illumination	Color : 0.1Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)
Video Out	CVBS : 1.0 Vpp/75Ω composite, 720x480(N), 720x576(P) for installation
Lens	
Focal Length (Zoom Ratio)	3.2~10mm(3.1x) motorized varifocal
Max. Aperture Ratio	F1.6(Wide) ~ F2.9(Tele)
Angular Field of View	H : 98.6(Wide) ~ 30.8(Tele), V : 52.3(Wide) ~ 17.3(Tele), D : 115.7(Wide) ~ 35.3(Tele)
Focus Control	Simple focus
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~350° / 0°~67° / 0°~355°
Operational	
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SSDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR
Motion Detection	4ea, polygonal zones
Privacy Masking	6ea, rectangular zones

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Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	Support
Electronic Shutter Speed	Minimum/Maximum/Anti flicker (1/5~1/12,000sec)
Video Rotation	Flip, Mirror, Hallway view(90/270)
Analytics	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Analytics, Network disconnect, Alarm input
Alarm Events	File upload via FTP and e-mail, Notification via e-mail, SD/SDHC/SDXC or NAS recording at event triggers, Alarm output, Handover
Audio In	Line in
IR Viewable Length	30m(98.42ft)
Network	
Ethernet	RJ-45 (10/100BASE-T)
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
Smart Codec	Manual (5ea area), WiseStream II
Bitrate Control	H.264/H.265 : CBR or VBR MJPEG : VBR
Streaming	Unicast (6 users) / Multicast Multiple streaming (Up to 3 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP

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Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1X Authentication
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI (HTTP API)
General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 1slot 128GB
Memory	512MB RAM, 256MB Flash
Environmental & Electrical	
Operating Temperature / Humidity	-40°C~+55°C (-40°F~+131°F) / Less than 95% RH * Start up should be done at -30°C or above
Storage Temperature / Humidity	-40°C~+60°C (-40°F~+140°F) / Less than 95% RH
Certification	IP66, IK10
Input Voltage	PoE(IEEE802.3af, Class3), 12VDC
Power Consumption	PoE: Max 11.4W, typical 8.5W 12VDC: Max 9.6W, typical 7.2W
Mechanical	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product Dimensions / Weight	Ø137.0 x 106.1mm (Ø5.39 x 4.18"), 710g (1.565 lb)
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	Wide: 27m(89.86ft) / Tele: 129m(422.61ft)
Observe (63PPM/ 19PPF)	Wide: 11m(35.95ft) / Tele: 52m(169.04ft)
Recognize (125PPM/ 38PPF)	Wide: 6m(17.97ft) / Tele: 26m(84.52ft)
Identify (250PPM/ 76PPF)	Wide: 3m(8.99ft) / Tele: 13m(42.26ft)

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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 (AC/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	QNV-7082R	-	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 Injector	POE 36U-1AT-R	-	PHIHONG	-
Notebook	P98F004	21599158359	DELL INC.	-
Notebook Adapter	LA240PM190	-	LITE-ON TECHNOLOGY(CHANGZ HOU)CO.,LTD.	-
Multimeter	FLUKE 107	-	Fluke Corporation	-
MIC	MP1000	-	-	-
Button ALARM	-	-	-	-
Micro SD Card	-	-	SanDisk	16 GB



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)	DC Jack	AC/DC Adapter	DC Jack	1.4	U
	RJ-45	Notebook	RJ-45	3.0	U
	ALARM OUT	Multimeter	ALARM OUT	3.0	U
	ALARM IN	Button ALARM	ALARM IN	3.0	U
	AUDIO IN	MIC	AUDIO IN	2.0	U
	SLOT	Micro SD Card	SLOT	-	-
Notebook	DC Jack	Notebook Adapter	DC Jack	1.3	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)	AC/DC Adapter	RJ-45 (PoE)	3.0	U
	ALARM OUT	Multimeter	ALARM OUT	3.0	U
	ALARM IN	Button ALARM	ALARM IN	3.0	U
	AUDIO IN	MIC	AUDIO IN	2.0	U
	SLOT	Micro SD Card	SLOT	-	-
Notebook	RJ-45 (LAN)	PoE Injector	RJ-45 (LAN)	1.0	U
	DC Jack	Notebook Adapter	DC Jack	1.3	U

* Unshielded=U, Shielded=S

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1.7 EUT Operating Mode(s)

Test Mode	operating
Operation mode	Monitoring EUT Using Web Viewer, Ping Test

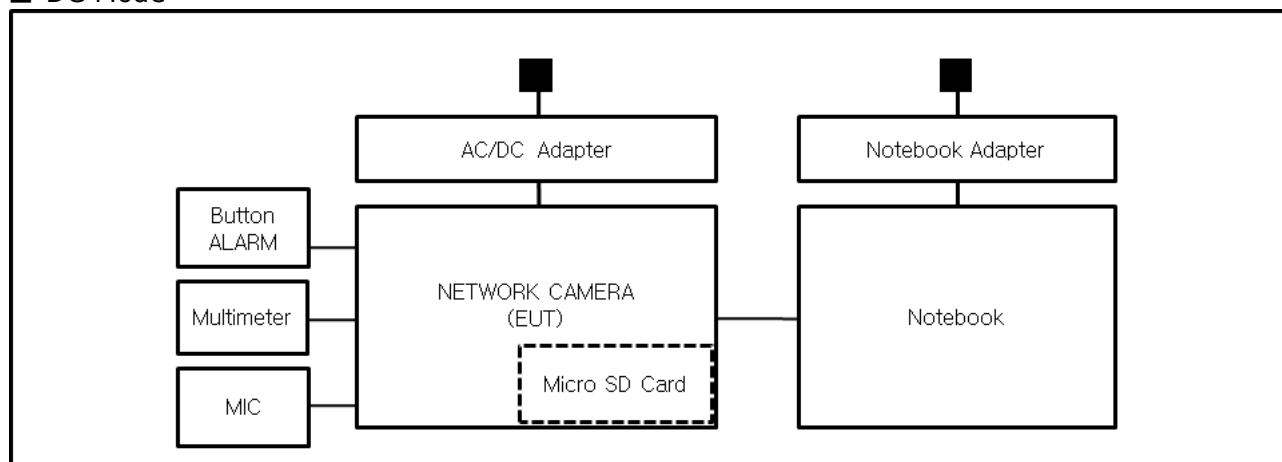
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	-

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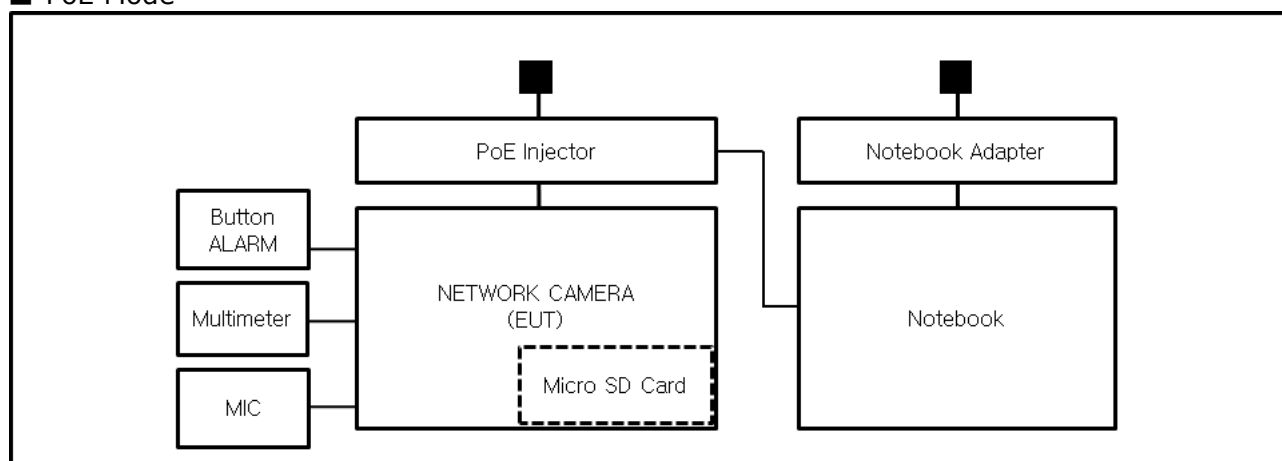
1.8 Configuration

■ AC Main
 □ DC Main

■ DC Mode



■ PoE Mode



1.9 Remarks when standards applied

VIDEO port is not used and is excluded from testing.

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:

☒ **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

Jan. 19, 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

Test Conditions

Temperature: (22,5 ± 0,1) °C

Relative Humidity: (42,5 ± 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

Remarks

See Appendix A for test data.



2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jan. 19, 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	04, 01, 2022
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 10, 2022

Test Conditions

Temperature: (23,0 ± 0,1) °C

Relative Humidity: (43,6 ± 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.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jan. 20, 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	6.0.120	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	04, 01, 2022
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 11, 2022
☒	PREAMPLIFIER	8449B	HP	3008A00538	06, 21, 2022

Test Conditions

Temperature: (22,5 ± 0,2) °C

Relative Humidity: (42,6 ± 0,1) % 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

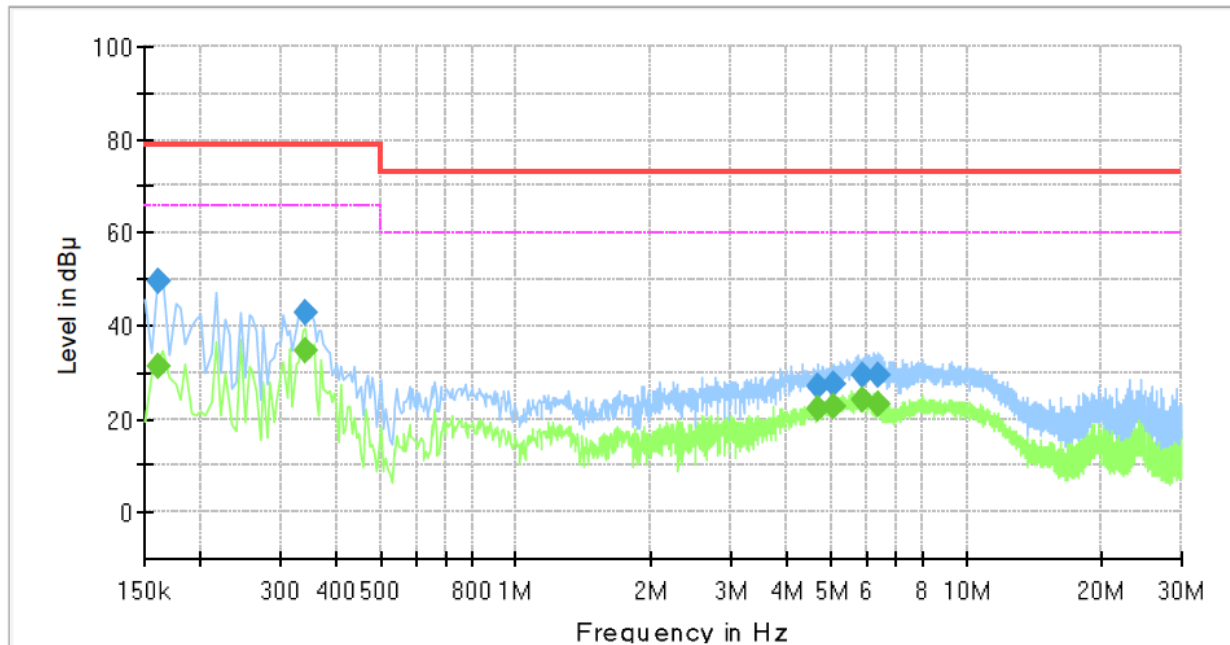
Conducted Emissions at Mains Power Ports

■ DC Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	QNV-7082R
Phase:	L1
Mode:	DC
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	---	31.30	66.00	34.70	1000.0	9.000	L1	19.5
0.160000	49.43	---	79.00	29.57	1000.0	9.000	L1	19.5
0.340000	---	34.85	66.00	31.15	1000.0	9.000	L1	19.6
0.340000	42.74	---	79.00	36.26	1000.0	9.000	L1	19.6
4.685000	---	22.18	60.00	37.82	1000.0	9.000	L1	19.8
4.685000	27.22	---	73.00	45.78	1000.0	9.000	L1	19.8
5.045000	---	22.59	60.00	37.41	1000.0	9.000	L1	19.7
5.045000	27.27	---	73.00	45.73	1000.0	9.000	L1	19.7
5.915000	---	24.15	60.00	35.85	1000.0	9.000	L1	19.6
5.915000	29.44	---	73.00	43.56	1000.0	9.000	L1	19.6
6.365000	---	22.93	60.00	37.07	1000.0	9.000	L1	19.5
6.365000	29.42	---	73.00	43.58	1000.0	9.000	L1	19.5

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NEUTRAL LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

Operator Name:

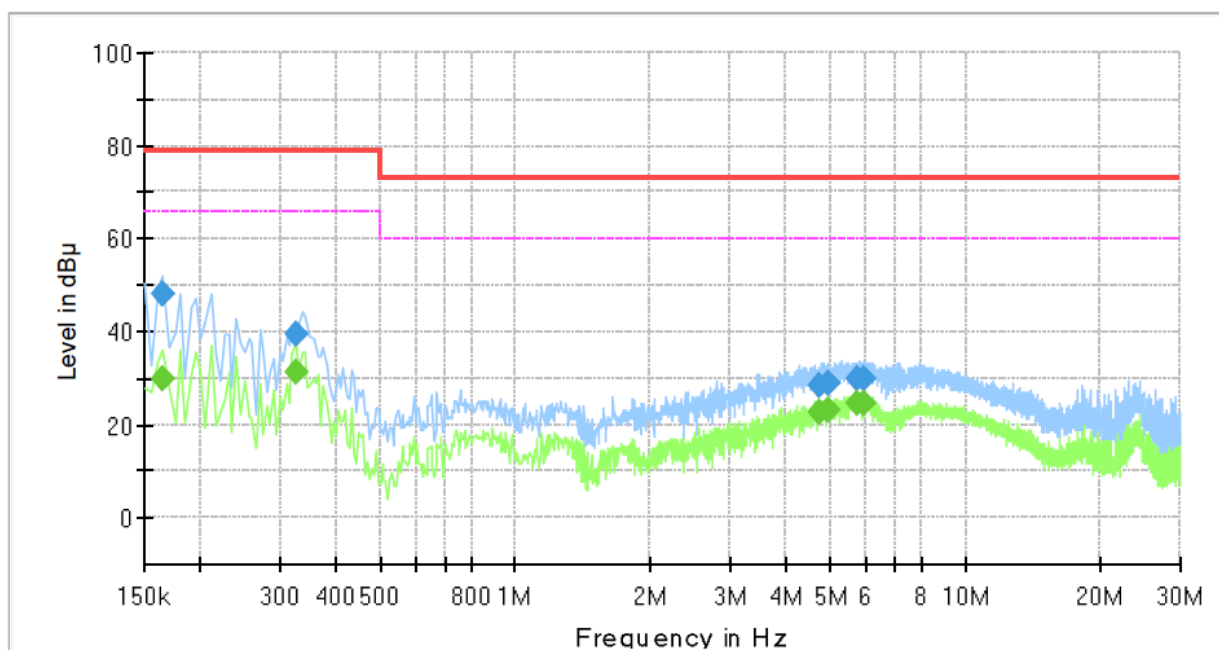
Conducted Emission

QNV-7082R

N

DC

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	30.02	66.00	35.98	1000.0	9.000	N	19.4
0.165000	47.98	---	79.00	31.02	1000.0	9.000	N	19.4
0.325000	---	31.17	66.00	34.83	1000.0	9.000	N	19.6
0.325000	39.36	---	79.00	39.64	1000.0	9.000	N	19.6
4.730000	---	22.81	60.00	37.19	1000.0	9.000	N	19.7
4.730000	28.41	---	73.00	44.59	1000.0	9.000	N	19.7
4.945000	---	23.28	60.00	36.72	1000.0	9.000	N	19.7
4.945000	28.87	---	73.00	44.13	1000.0	9.000	N	19.7
5.755000	---	24.53	60.00	35.47	1000.0	9.000	N	19.6
5.755000	29.94	---	73.00	43.06	1000.0	9.000	N	19.6
5.925000	---	24.46	60.00	35.54	1000.0	9.000	N	19.6
5.925000	29.85	---	73.00	43.15	1000.0	9.000	N	19.6

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PoE Mode
HOT LINE
Common Information

Test Description:

Model No.:

Phase:

Mode:

Operator Name:

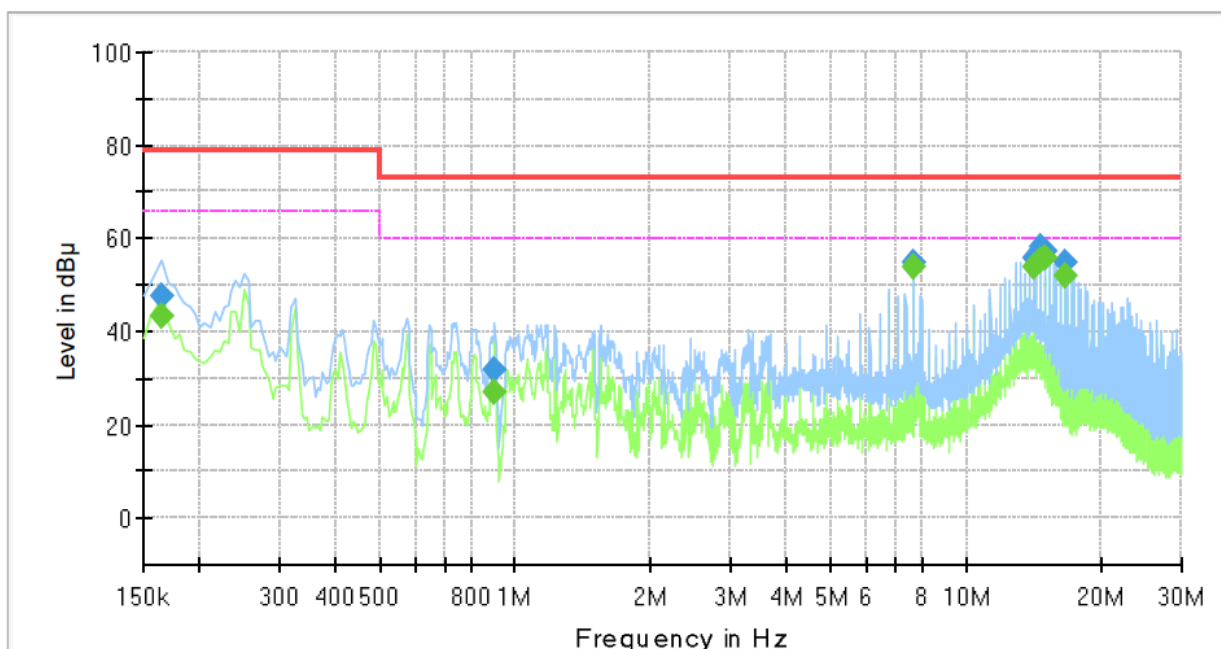
Conducted Emission

QNV-7082R

L1

PoE

KES


Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	47.72	---	79.00	31.28	1000.0	9.000	L1	19.5
0.165000	---	43.18	66.00	22.82	1000.0	9.000	L1	19.5
0.900000	31.88	---	73.00	41.12	1000.0	9.000	L1	20.1
0.900000	---	26.95	60.00	33.05	1000.0	9.000	L1	20.1
7.650000	54.99	---	73.00	18.01	1000.0	9.000	L1	19.6
7.650000	---	53.97	60.00	6.03	1000.0	9.000	L1	19.6
14.070000	55.82	---	73.00	17.18	1000.0	9.000	L1	19.9
14.070000	---	54.03	60.00	5.97	1000.0	9.000	L1	19.9
14.685000	58.08	---	73.00	14.92	1000.0	9.000	L1	19.9
14.685000	---	55.42	60.00	4.58	1000.0	9.000	L1	19.9
14.990000	---	55.95	60.00	4.05	1000.0	9.000	L1	19.9
14.990000	57.16	---	73.00	15.84	1000.0	9.000	L1	19.9
16.520000	---	52.20	60.00	7.80	1000.0	9.000	L1	20.0
16.520000	54.76	---	73.00	18.24	1000.0	9.000	L1	20.0

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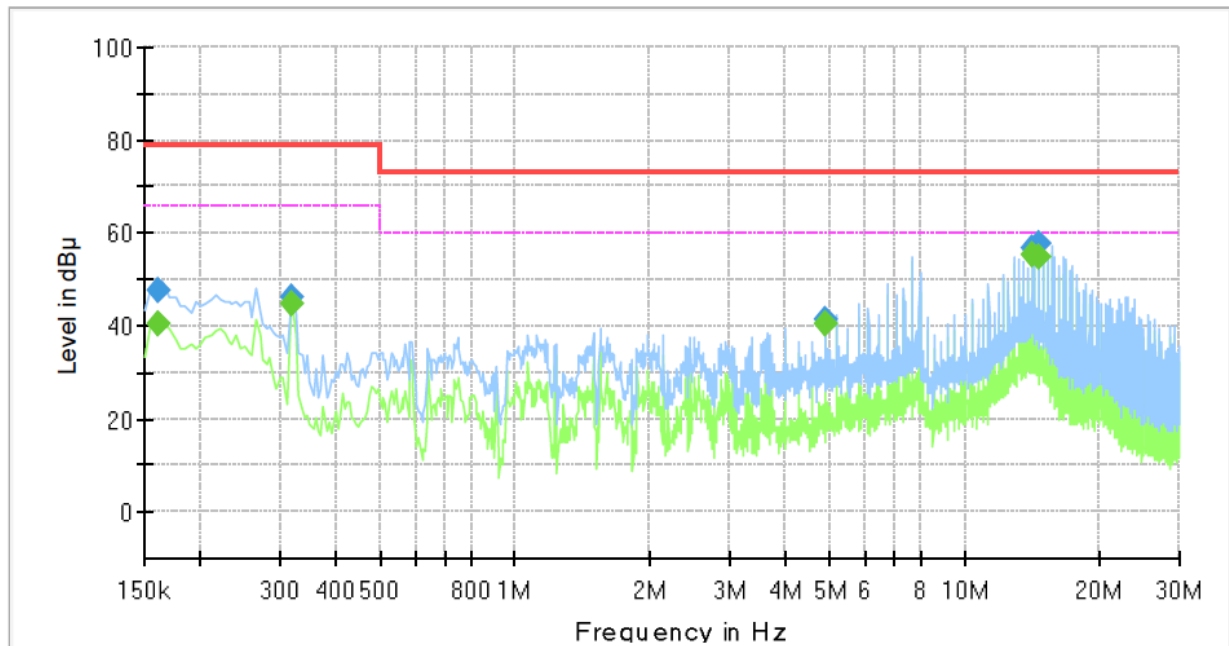
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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	QNV-7082R
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)
0.160000	---	40.30	66.00	25.70	1000.0	9.000	N	19.4
0.160000	47.83	---	79.00	31.17	1000.0	9.000	N	19.4
0.320000	---	44.61	66.00	21.39	1000.0	9.000	N	19.6
0.320000	45.98	---	79.00	33.02	1000.0	9.000	N	19.6
4.895000	---	40.44	60.00	19.56	1000.0	9.000	N	19.7
4.895000	41.62	---	73.00	31.38	1000.0	9.000	N	19.7
14.070000	---	55.12	60.00	4.88	1000.0	9.000	N	19.9
14.070000	56.60	---	73.00	16.40	1000.0	9.000	N	19.9
14.685000	---	54.81	60.00	5.19	1000.0	9.000	N	19.9
14.685000	57.63	---	73.00	15.37	1000.0	9.000	N	19.9

◆ 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.:

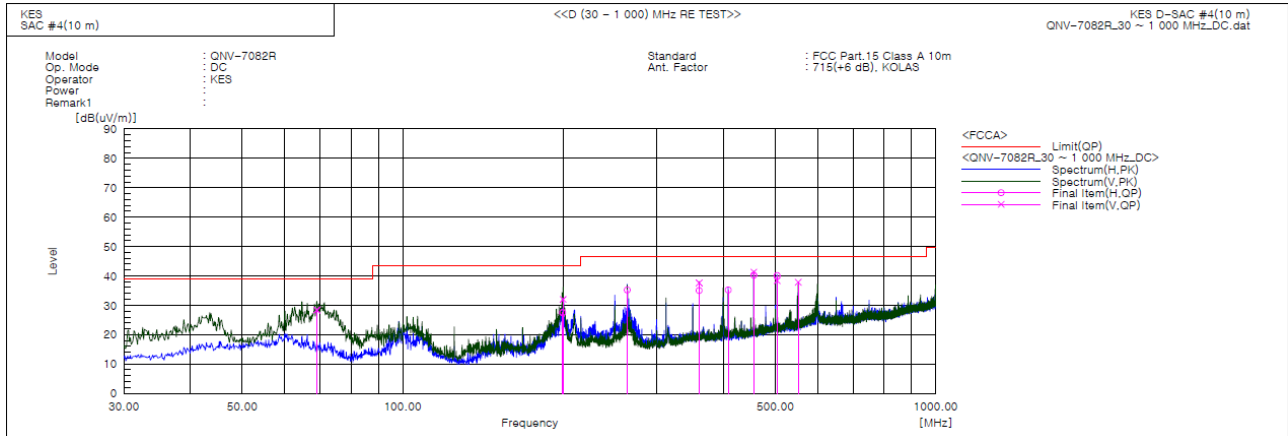
KES-EM-22T0114-R1

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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	69.043	V	52.8	-24.4	28.4	39.0	10.6	111.0	140.0	
2	199.629	H	48.3	-20.8	27.5	43.5	16.0	372.0	139.0	
3	199.993	V	52.8	-20.8	32.0	43.5	11.5	143.0	341.0	
4	263.891	H	54.0	-18.8	35.2	46.5	11.3	393.0	147.0	
5	359.921	V	52.6	-15.0	37.6	46.5	8.9	107.0	273.0	
6	359.921	H	50.0	-15.0	35.0	46.5	11.5	392.0	35.0	
7	407.936	H	49.1	-13.9	35.2	46.5	11.3	375.0	203.0	
8	455.830	V	54.0	-12.7	41.3	46.5	5.2	141.0	348.0	
9	455.830	H	52.9	-12.7	40.2	46.5	6.3	369.0	143.0	
10	503.845	V	49.6	-11.2	38.4	46.5	8.1	132.0	216.0	
11	503.845	H	51.3	-11.2	40.1	46.5	6.4	368.0	35.0	
12	551.860	V	48.0	-10.1	37.9	46.5	8.6	147.0	166.0	

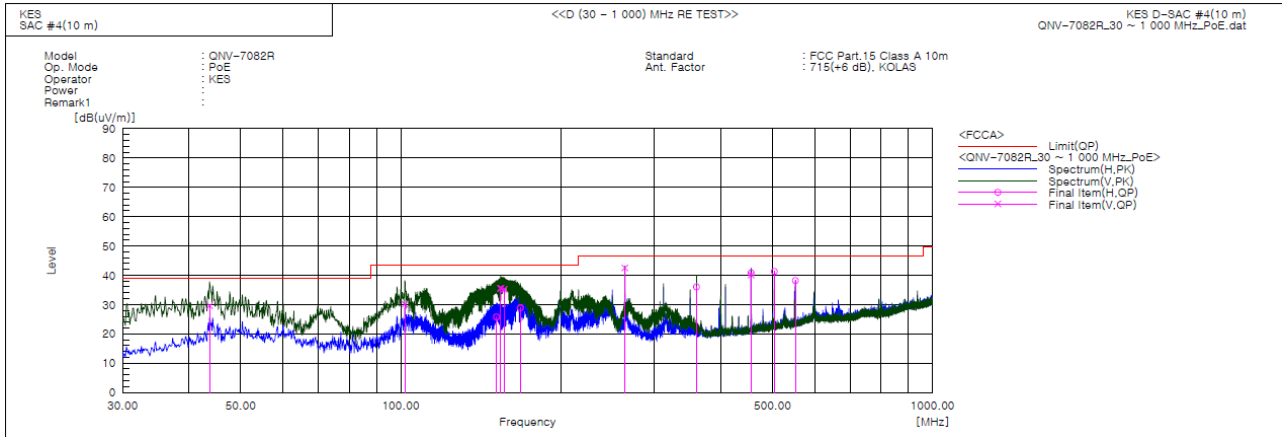
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■ PoE Mode



Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		QP [dB(uV)]	[dB(1/m)]	QP [dB(uV/m)]	QP [dB(uV/m)]	QP [dB]	[cm]	[deg]	
1	43.701	V	51.1	-21.5	29.6	39.0	9.4	147.0	300.0	
2	101.780	V	52.5	-22.4	30.1	43.5	13.4	109.0	300.0	
3	151.371	H	50.9	-25.1	25.8	43.5	17.7	354.0	7.0	
4	154.160	V	60.5	-24.9	35.6	43.5	7.9	130.0	7.0	
5	156.343	V	60.0	-24.8	35.2	43.5	8.3	114.0	7.0	
6	167.861	H	53.1	-24.2	28.9	43.5	14.6	364.0	7.0	
7	263.891	V	61.3	-18.8	42.5	46.5	4.0	128.0	188.0	
8	359.921	H	51.0	-15.0	36.0	46.5	10.5	366.0	136.0	
9	455.830	H	53.5	-12.7	40.8	46.5	5.7	395.0	91.0	
10	455.830	V	52.8	-12.7	40.1	46.5	6.4	145.0	45.0	
11	503.845	H	52.5	-11.2	41.3	46.5	5.2	388.0	102.0	
12	551.860	H	48.3	-10.1	38.2	46.5	8.3	373.0	61.0	

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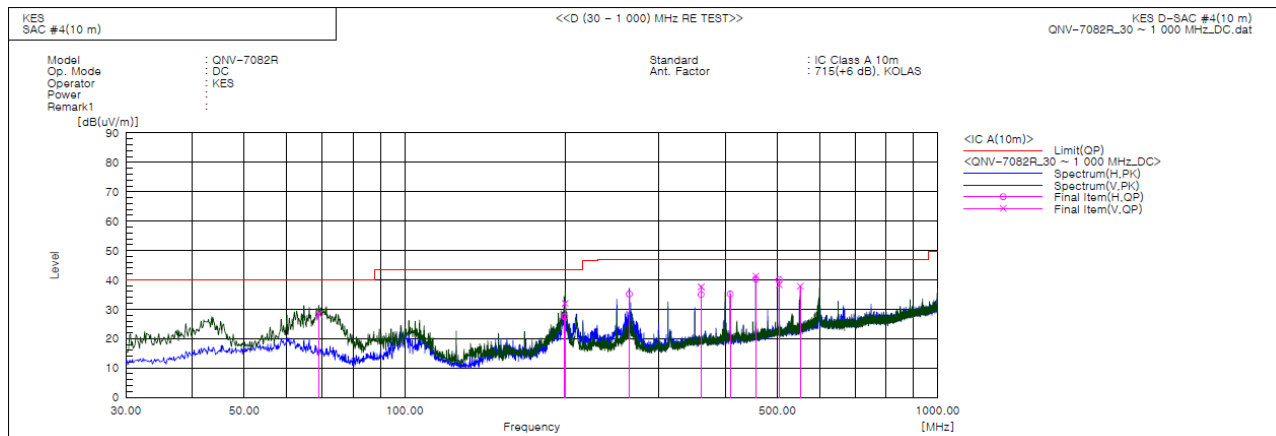
Report No.:

KES-EM-22T0114-R1

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- IC Regulation ICES-003 Issue 7

■ DC Mode



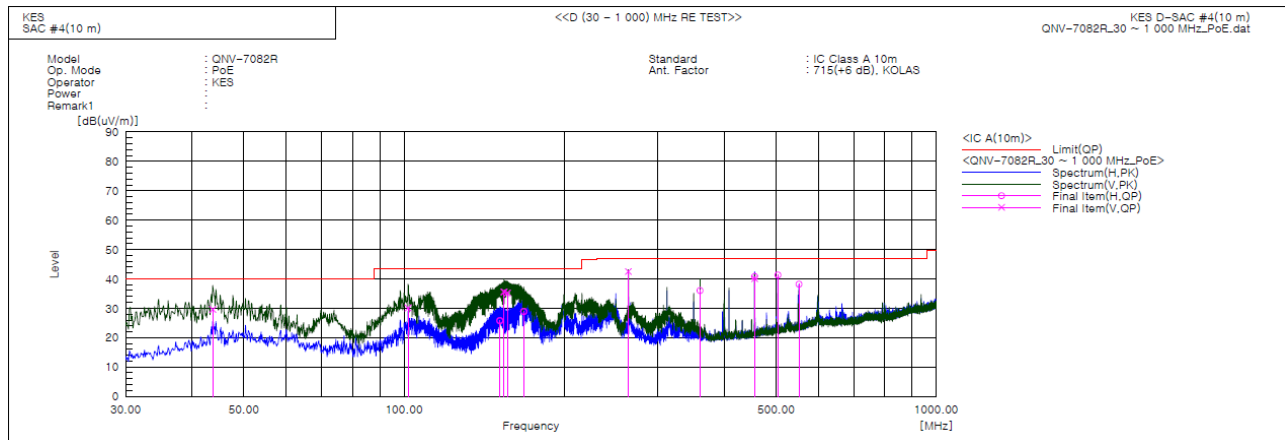
Final Result

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	69.043	V	52.8	-24.4	28.4	40.0	11.6	111.0	140.0	
2	199.629	H	48.3	-20.8	27.5	43.5	16.0	372.0	139.0	
3	199.993	V	52.8	-20.8	32.0	43.5	11.5	143.0	341.0	
4	263.891	H	54.0	-18.8	35.2	47.0	11.8	393.0	147.0	
5	359.921	V	52.6	-15.0	37.6	47.0	9.4	107.0	273.0	
6	359.921	H	50.0	-15.0	35.0	47.0	12.0	392.0	35.0	
7	407.936	H	49.1	-13.9	35.2	47.0	11.8	375.0	203.0	
8	455.830	V	54.0	-12.7	41.3	47.0	5.7	141.0	348.0	
9	455.830	H	52.9	-12.7	40.2	47.0	6.8	369.0	143.0	
10	503.845	V	49.6	-11.2	38.4	47.0	8.6	132.0	216.0	
11	503.845	H	51.3	-11.2	40.1	47.0	6.9	368.0	35.0	
12	551.860	V	48.0	-10.1	37.9	47.0	9.1	147.0	166.0	

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■ PoE Mode



Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dB(uV)]	[dB(1/m)]	[dB(uV/m)]	[dB(uV/m)]	[dB]	[cm]	[deg]	
1	43.701	V	51.1	-21.5	29.6	40.0	10.4	147.0	300.0	
2	101.780	V	52.5	-22.4	30.1	43.5	13.4	109.0	300.0	
3	151.371	H	50.9	-25.1	25.8	43.5	17.7	354.0	7.0	
4	154.160	V	60.5	-24.9	35.6	43.5	7.9	130.0	7.0	
5	156.343	V	60.0	-24.8	35.2	43.5	8.3	114.0	7.0	
6	167.861	H	53.1	-24.2	28.9	43.5	14.6	364.0	7.0	
7	263.891	V	61.3	-18.8	42.5	47.0	4.5	128.0	188.0	
8	359.921	H	51.0	-15.0	36.0	47.0	11.0	366.0	136.0	
9	455.830	H	53.5	-12.7	40.8	47.0	6.2	395.0	91.0	
10	455.830	V	52.8	-12.7	40.1	47.0	6.9	145.0	45.0	
11	503.845	H	52.5	-11.2	41.3	47.0	5.7	388.0	102.0	
12	551.860	H	48.3	-10.1	38.2	47.0	8.8	373.0	61.0	

◆ Calculation - SAC #4(10 m)

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

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

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

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



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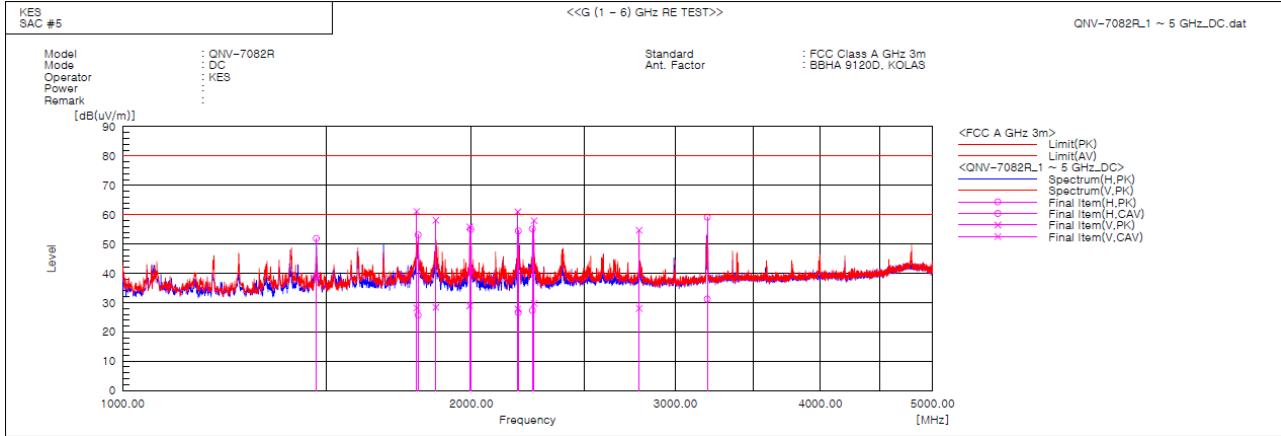
Report No.:

KES-EM-22T0114-R1

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Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



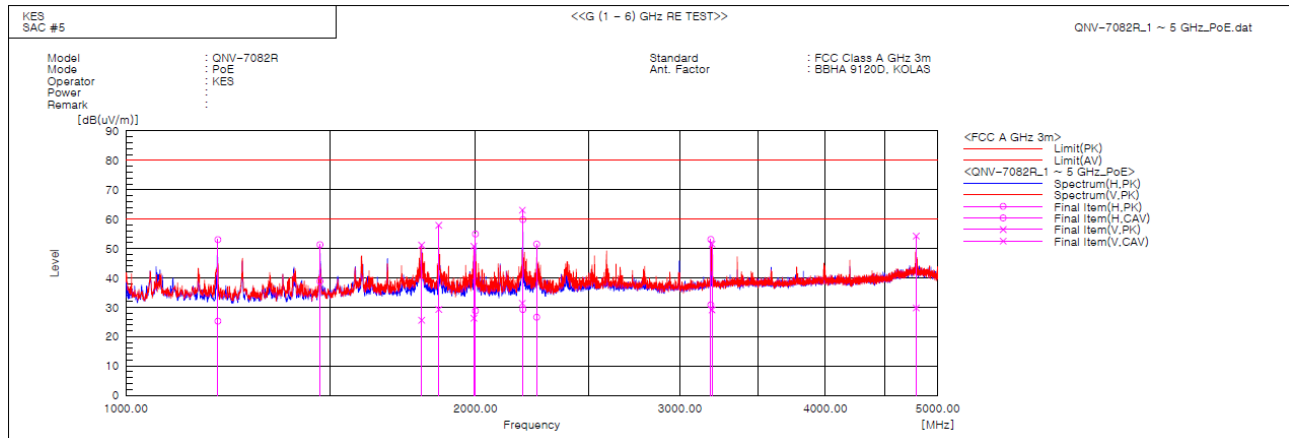
Final Result

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	3195.625	H	58.6	30.7	0.5	59.1	31.2	80.0	60.0	20.9	28.8	388.6	85.3	
2	2257.500	H	57.7	29.9	-2.6	55.1	27.3	80.0	60.0	24.9	32.7	281.7	109.5	
3	1798.750	H	57.2	29.8	-4.1	53.1	25.7	80.0	60.0	26.9	34.3	354.8	114.3	
4	1469.375	H	57.4	44.5	-5.5	51.9	39.0	80.0	60.0	28.1	21.0	108.6	319.8	
5	1997.500	H	58.5	44.5	-3.5	55.0	41.0	80.0	60.0	25.0	19.0	231.2	107.7	
6	2195.325	H	57.2	29.4	-2.8	54.4	26.6	80.0	60.0	25.6	33.4	131.2	351.8	
7	2192.515	V	63.9	30.7	-2.9	61.0	27.8	80.0	60.0	19.0	32.2	149.8	72.8	
8	2265.000	V	60.5	32.2	-2.5	58.0	29.7	80.0	60.0	22.0	30.3	100.8	80.4	
9	1993.125	V	59.4	32.4	-3.5	55.9	28.9	80.0	60.0	24.1	31.1	111.4	82.8	
10	1793.605	V	65.3	32.4	-4.2	61.1	28.2	80.0	60.0	18.9	31.8	138.9	198.9	
11	1863.295	V	62.0	32.3	-3.9	58.1	28.4	80.0	60.0	21.9	31.6	107.6	183.5	
12	2790.625	V	55.0	28.3	-0.3	54.7	28.0	80.0	60.0	25.3	32.0	144.7	154.2	

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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	1199.970	H	59.9	32.2	-6.9	53.0	25.3	80.0	60.0	27.0	34.7	340.2	80.6	
2	1469.165	H	56.8	44.3	-5.5	51.3	38.8	80.0	60.0	28.7	21.2	359.9	305.5	
3	1796.875	V	55.3	29.7	-4.1	51.2	25.6	80.0	60.0	28.8	34.4	142.8	297.7	
4	1859.375	V	61.8	33.2	-3.9	57.9	29.3	80.0	60.0	22.1	30.7	136.1	189.0	
5	1993.125	V	54.3	29.8	-3.5	50.8	26.3	80.0	60.0	29.2	33.7	107.2	182.9	
6	1999.405	H	58.4	32.3	-3.5	54.9	28.8	80.0	60.0	25.1	31.2	133.8	111.3	
7	2194.650	V	65.9	34.2	-2.8	63.1	31.4	80.0	60.0	16.9	28.6	100.3	68.3	
8	2196.875	H	62.6	32.0	-2.8	59.8	29.2	80.0	60.0	20.2	30.8	264.1	98.1	
9	2257.625	H	54.1	29.2	-2.6	51.5	26.6	80.0	60.0	28.5	33.4	177.7	173.9	
10	3188.070	H	52.6	30.3	0.5	53.1	30.8	80.0	60.0	26.9	29.2	309.8	91.9	
11	3196.100	V	51.0	28.6	0.5	51.5	29.1	80.0	60.0	28.5	30.9	104.8	231.7	
12	4789.880	V	49.0	24.6	5.2	54.2	29.8	80.0	60.0	25.8	30.2	121.9	211.8	

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

■ DC Mode



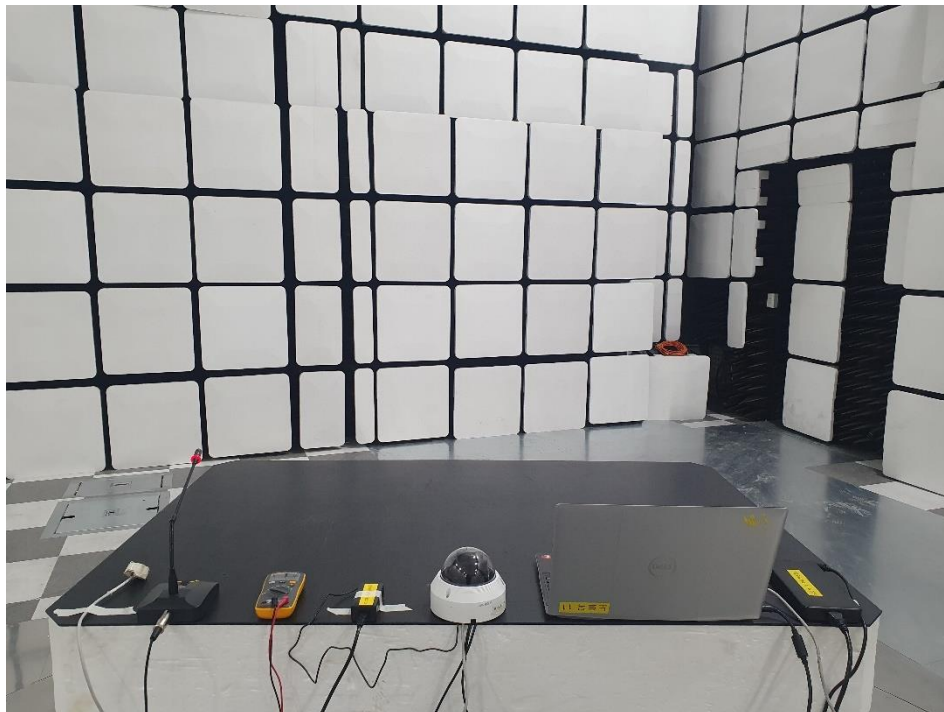
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■ PoE Mode



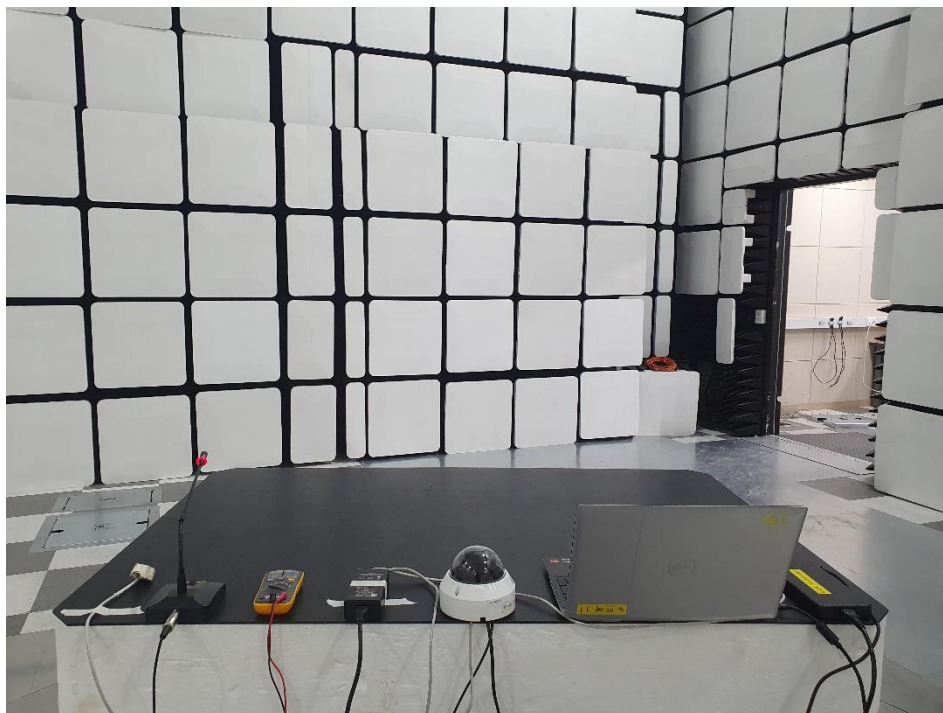
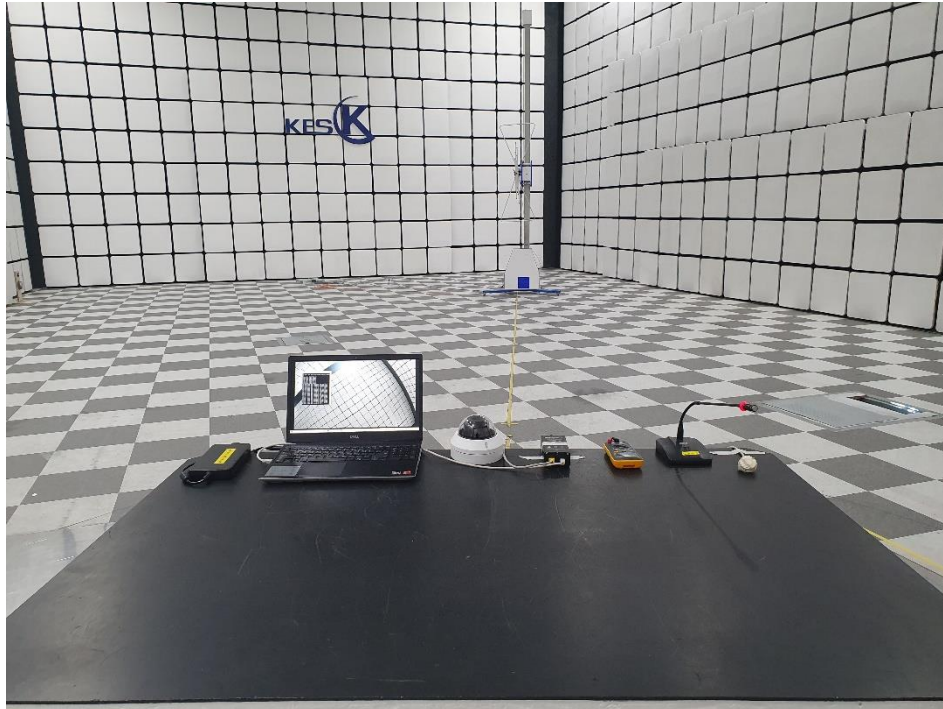
Radiated Electric Field Emissions(Below 1 GHz)

■ DC Mode



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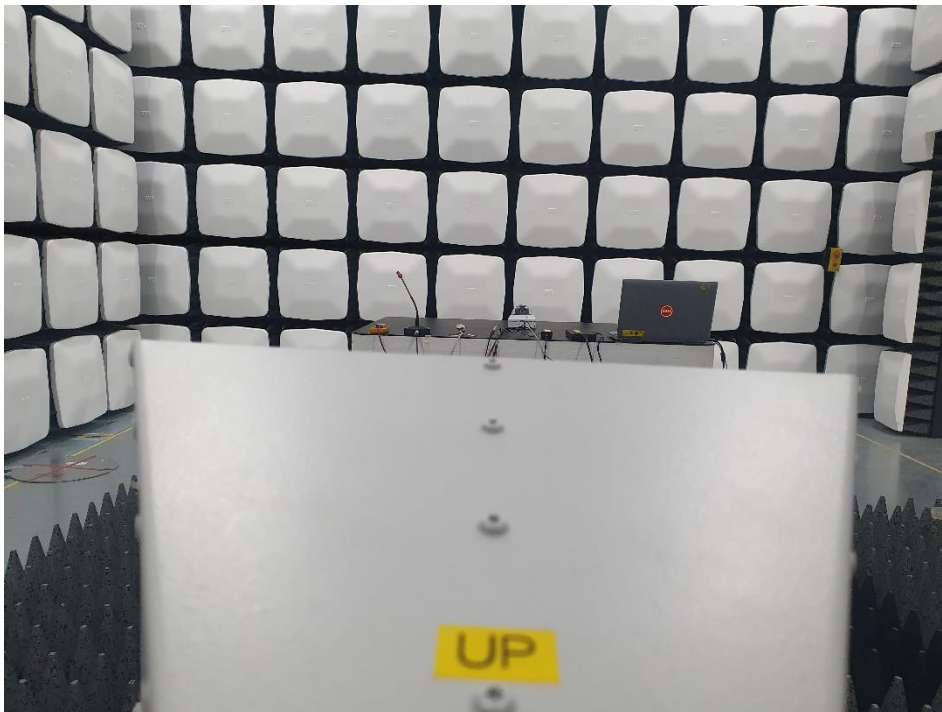
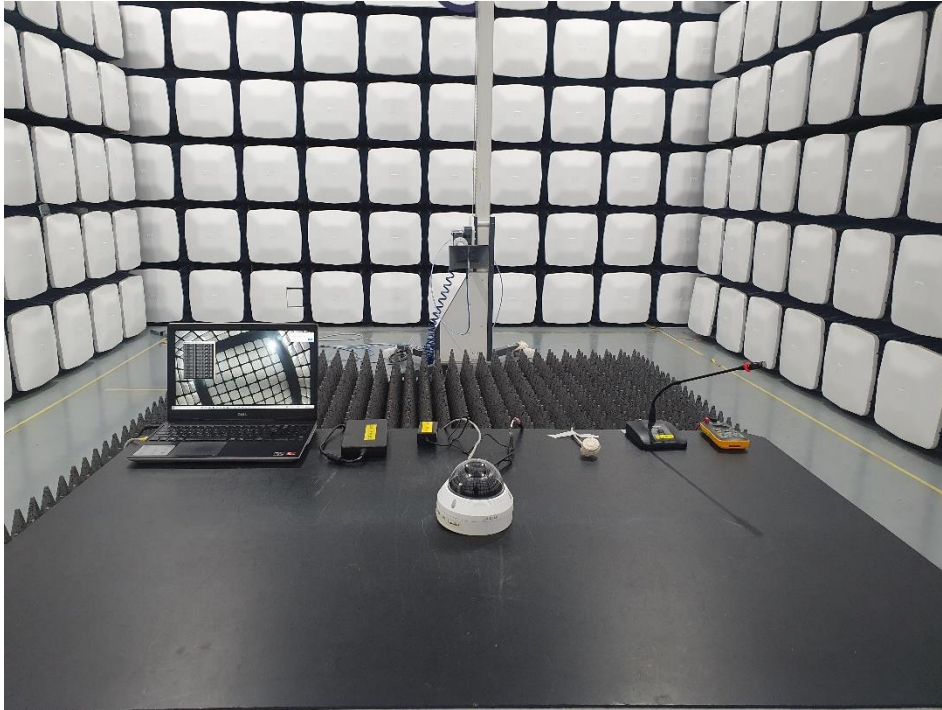
■ PoE Mode



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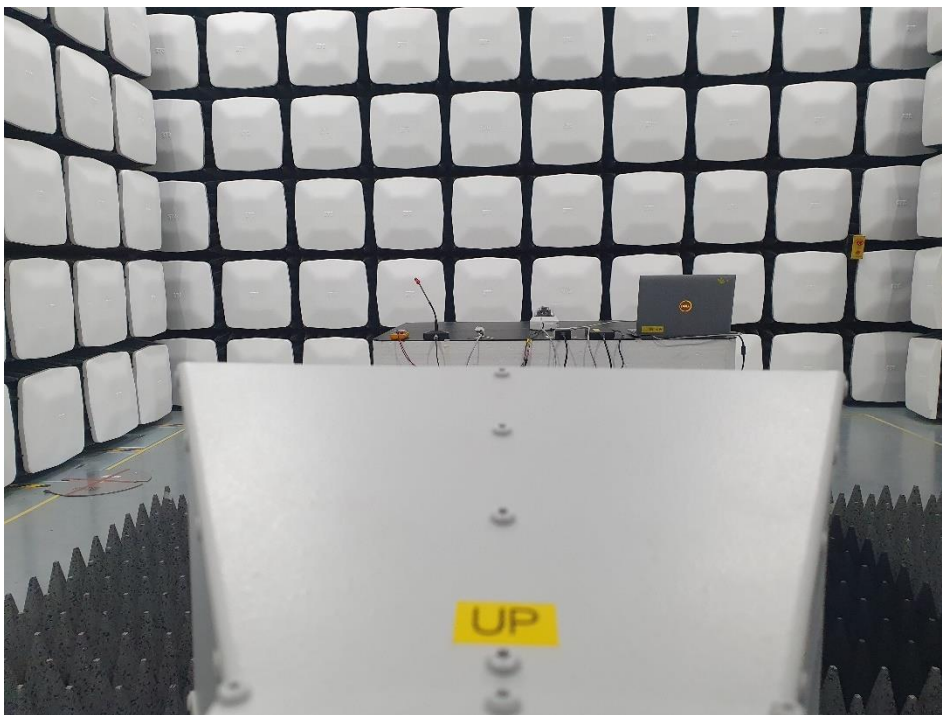
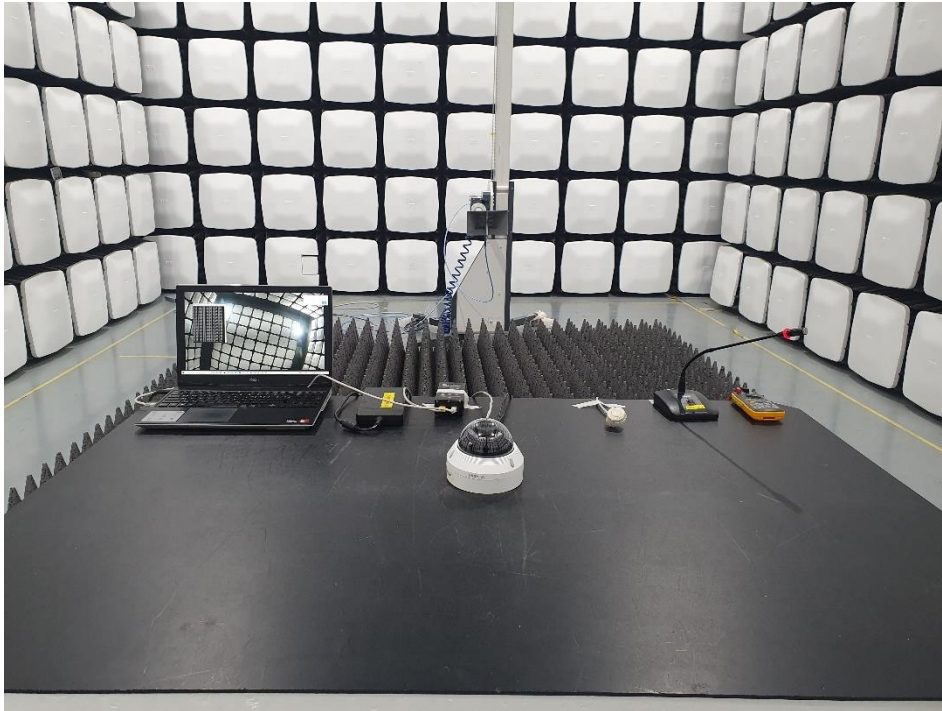
Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



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■ PoE Mode



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EUT External Photographs

(Top)



(Bottom)



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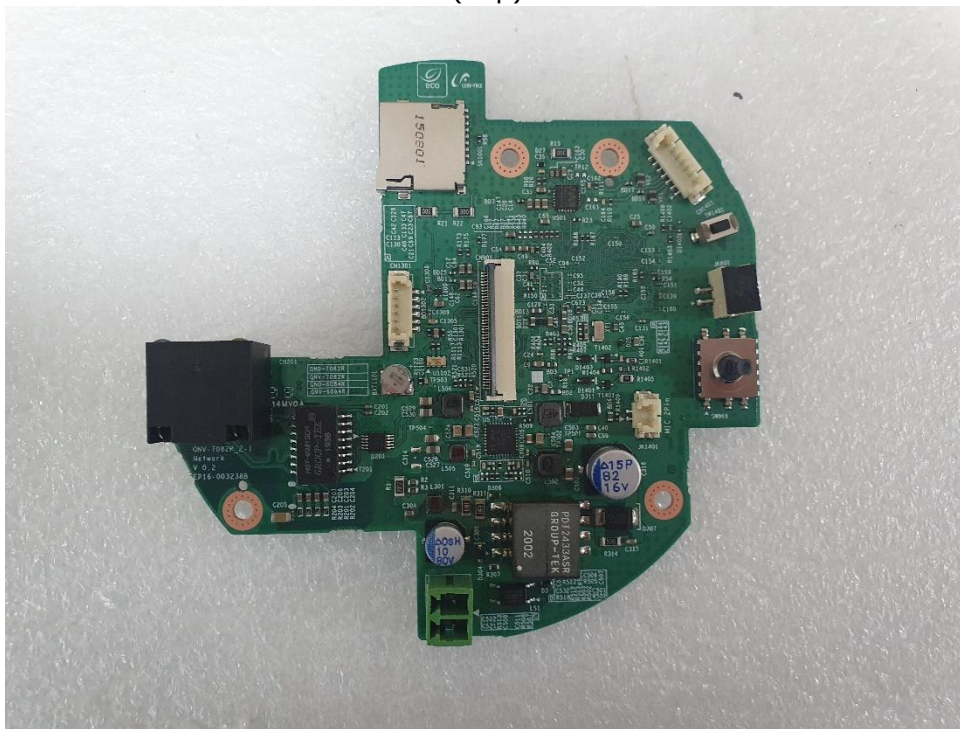
EUT Internal Photographs

(Internal View)

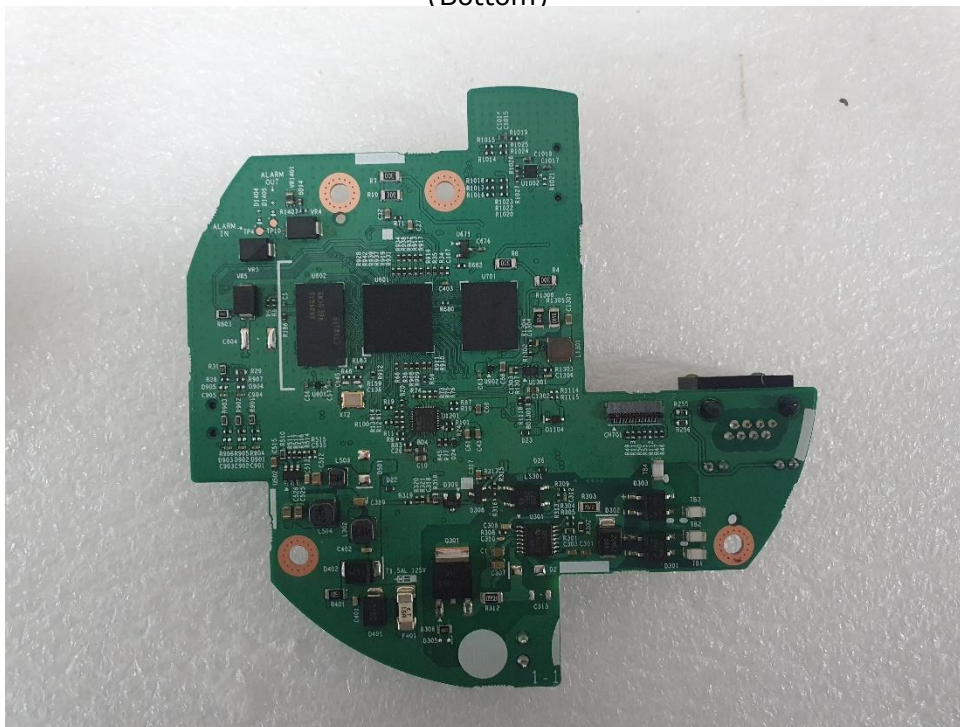


EUT Internal View – Board 1

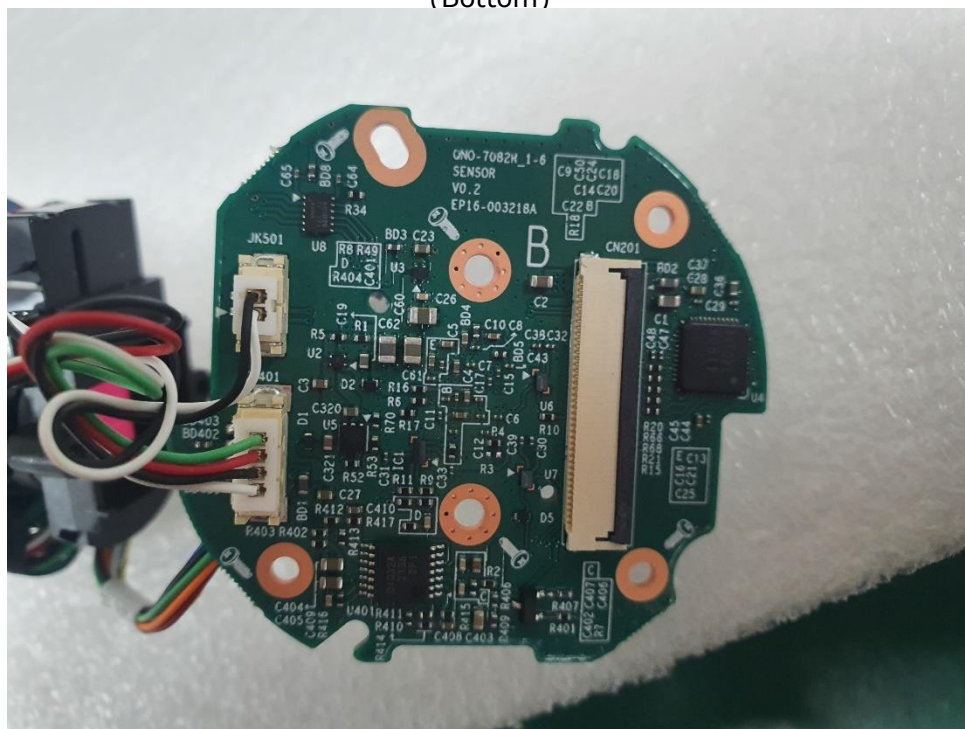
(Top)



(Bottom)



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EUT Internal View – Board 3

(Top)



(Bottom)



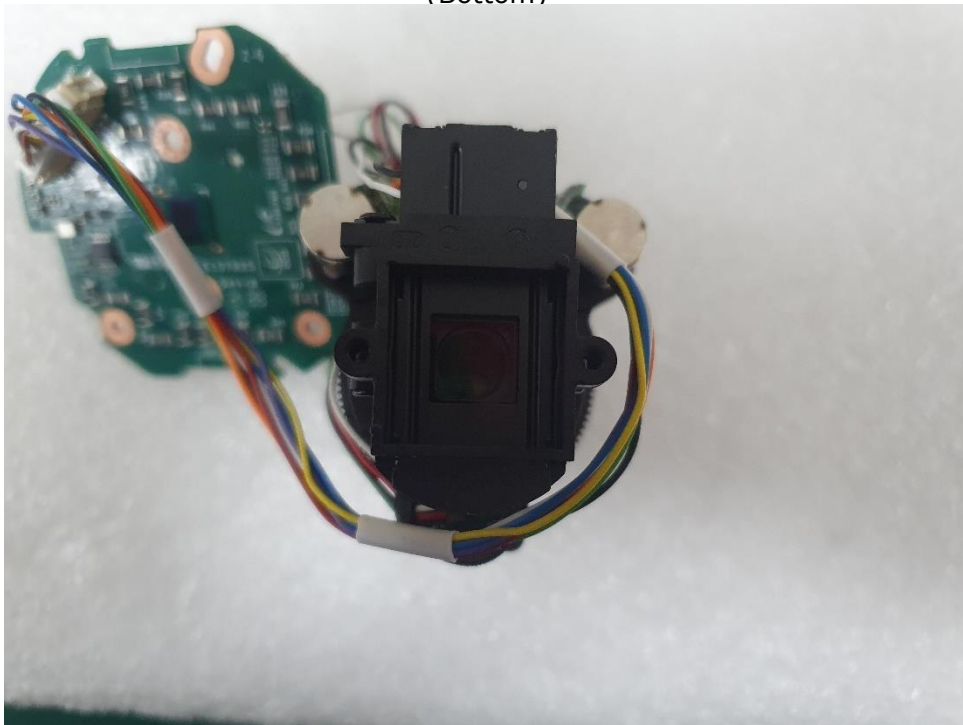
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EUT Internal View – Lens

(Top)

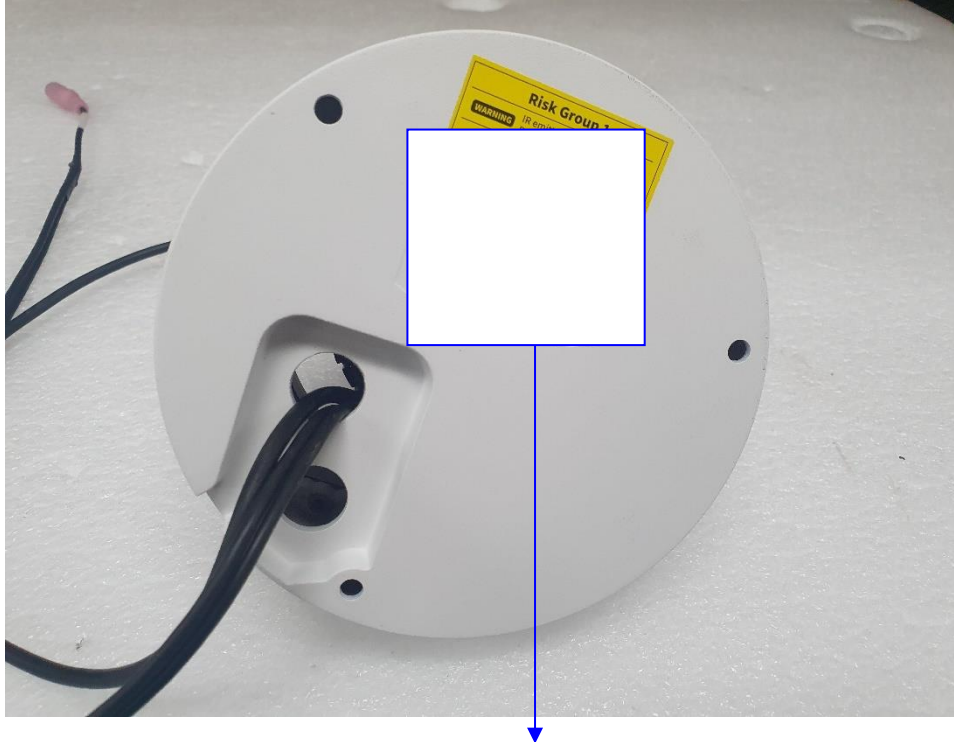


(Bottom)



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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.