EMC TEST REPORT

Test Report No.	:	KES-EM-20T0441-R1
Date of Issue	:	Feb. 24, 2023
Product name	:	NETWORK CAMERA
Model/Type No.	:	XNF-9010RV
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	:	Jun. 22, 2020
Test date	:	Jun. 29, 2020 ~ Jul. 01, 2020
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dae Jung, 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.

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jul. 13, 2020	KES-EM-20T0441	Issued
Feb. 24, 2023	KES-EM-20T0441-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:

maging Device	1/2.3" 12M CMOS
Effective Pixels	3008(H) x 3008(V)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.39 Lux (F2.2, 1/30sec), BW : 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)	1.08mm fixed focal
Max. Aperture Ratio	F2.2
Angular Field of View	H: 187° / V: 187° / D: 187°
Min. Object Distance	0.5m(1.64ft)
Focus Control	Simple focus
Lens Type	None
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	None
Pan Range	None
Pan Speed	None
Tilt Range	None
Tilt Speed	None
Rotate Range	None
Sequence	None
Preset Accuracy	None
Azimuth	None
Auto Tracking	None
Operational	
IR Viewable Length	10m(32.8ft)
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)

Backlight Compensation	BLC, HLC, WDR, SSDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNRⅤ
Digital Image Stabilization	None
Defog	None
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	(TBD)Minimum / Maximum / Anti flicker (2~1/12,000sec)
Digital PTZ	Support(Preset, Group)
Video Rotation	Flip, Mirror
Analytics	Defocus detection, Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification
Business Intelligence	People counting, Queue management, Heatmap
Serial Interface	None
Alarm I/O	2 configured I/O
Alarm Triggers	Analytics, Network disconnect
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Audio playback
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 Illuminator (Optional)	None
Wiper	None
Coaxial Protocol	None
Video Transmission Distance	None
Radiometry	

Temperature detect range	None
Temperature accuracy	None
Temperature detection	None
Additional	None
Network	
Ethernet	M12 (through RJ45 to M12 cable)
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG
Resolution	. Original view(1:1): 3008x3008~480x480 . Double panorama(2:1): 3584x1792~640x320 . Single panorama(4:1): 3584x896~640x160 . Quad view: 3584x2688~640x480 . Q1/Q2/Q3/Q4(4:3): 1792x1344~640x480
Max. Framerate	H.265/H.264: Overview-Max. 30fps/25fps@3008x3008(60Hz/50Hz), Double panorama-Max. 30fps/25fps@3584x1792(60Hz/50Hz) Single panorama-Max. 30fps/25fps@3584x896(60Hz/50Hz) MJPEG: Max. 15fps(60Hz/50Hz)
Smart Codec	Manual(5ea area), WiseStreamⅡ
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Quality level control
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)
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
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
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)
Edge Storage	Micro SD/SDHC/SDXC 2slot 2TB
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.12, 10.13, 10.14 Recommended Browser: Google Chrome Supported Browser : MS Explore11, MS Edge, Mozilla Firefox(Window 64bit only), Apple Safari(Mac OS X only)
Memory	TBD
Environmental	
Operating Temperature / Humidity	**(TBD)'-40°C ~ +60°C (-40°F ~ +131°F) / Less than 95% RH**
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / Less than 95% RH
Certification	IP66, IK10, NEMA4X **EN50155 class T3, EN-45545-2** **NEPA 130, BSS 7239**
Electrical	
Input Voltage	PoE(IEEE802.3af, Class3), 12VDC
Power Consumption	PoE: Max 12.95W (TBD) 12VDC: Max 12W (TBD)
Mechanical	
Color / Material	White / Plastic
RAL Code	RAL9003
Product dimensions / weight	TBD
Conduit hole	
Hanging mount(Dome)	
Skin cover(Dome)	
Weather cap(Dome)	
Power module	
Backbox	

DORI	
Detect (25PPM/ 8PPF)	
Observe (63PPM/ 19PPF)	
Recognize (125PPM/ 38PPF)	
Identify (250PPM/ 76PPF)	

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	XNF-9010RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	ProBook4430s	-	HP	-
Notebook Adaptor	SeriesPPP0009H	-	CHICONY POWER TECHNOLOGY (SUZHOU) CO.,LTD,	-
Notebook	LG15N54	411NZJV044052	LG	-
Notebook Adaptor	PA-1900-14	-	LITE-ON TECHNOLOGY (CHANGZHOU)CO., LTD	-
Micro SD Card	-	-	SanDisk	8 GB
PoE Adaptor	PT-PSE109GBRO-AH	PT1850221049	Dongguan PROCET Network Technology Co.,Ltd	-
DC Adaptor	2ACB022F	-	Channel Well Technology (Guangzhou) Co.,Ltd.	-
Alarm1	-	-	-	-
Alarm2	-	-	-	-
Speaker	BR1000A Cuve Black 2	-	DONGGUAN EDIFIER TECHNOLOGY Co., Ltd	-
MIC	MP1000	-	-	-
Smart Phone	LG-SU760	108KPQJ0186212	LG	-
Smart Phone	A1303	-	Apple	-

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)	RJ-45	Notebook	RJ-45	3.0	U
	SLOT	Micro SD Card	SLOT	-	-
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	MIC	3.5 mm	1.6	U
	Alarm in	Alarm1	Alarm out	3.0	U
	Alarm out	Alarm2	Alarm in	3.0	U
Notebook	3.5 mm	Smart Phone	3.5 mm	1.0	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	Notebook	PoE	3.0	U
	SLOT	Micro SD Card	SLOT	-	-
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	MIC	3.5 mm	1.6	U
	Alarm in	Alarm1	Alarm out	3.0	U
	Alarm out	Alarm2	Alarm in	3.0	U
Notebook	3.5 mm	Smart Phone	3.5 mm	1.0	U
	RJ-45	PoE Adaptor	RJ-45	1.0	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

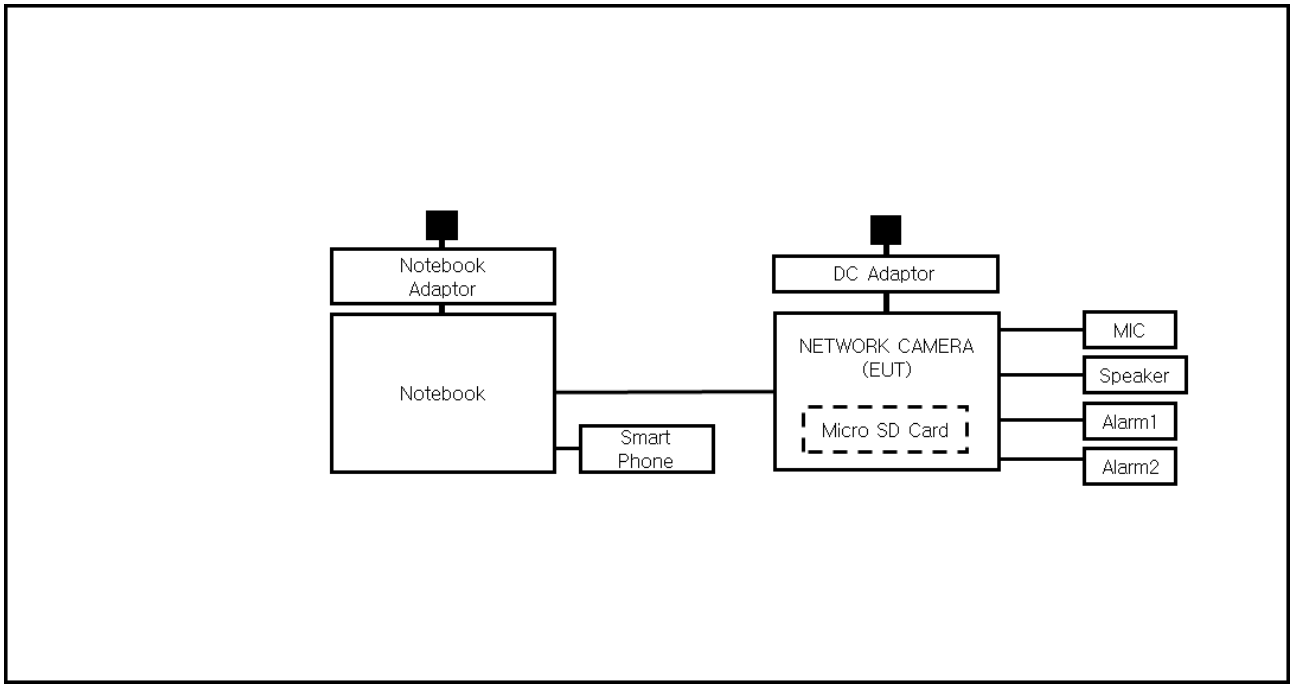
Test mode	operating
Operation mode	Monitoring EUT Using Web Viewer, Ping Test

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

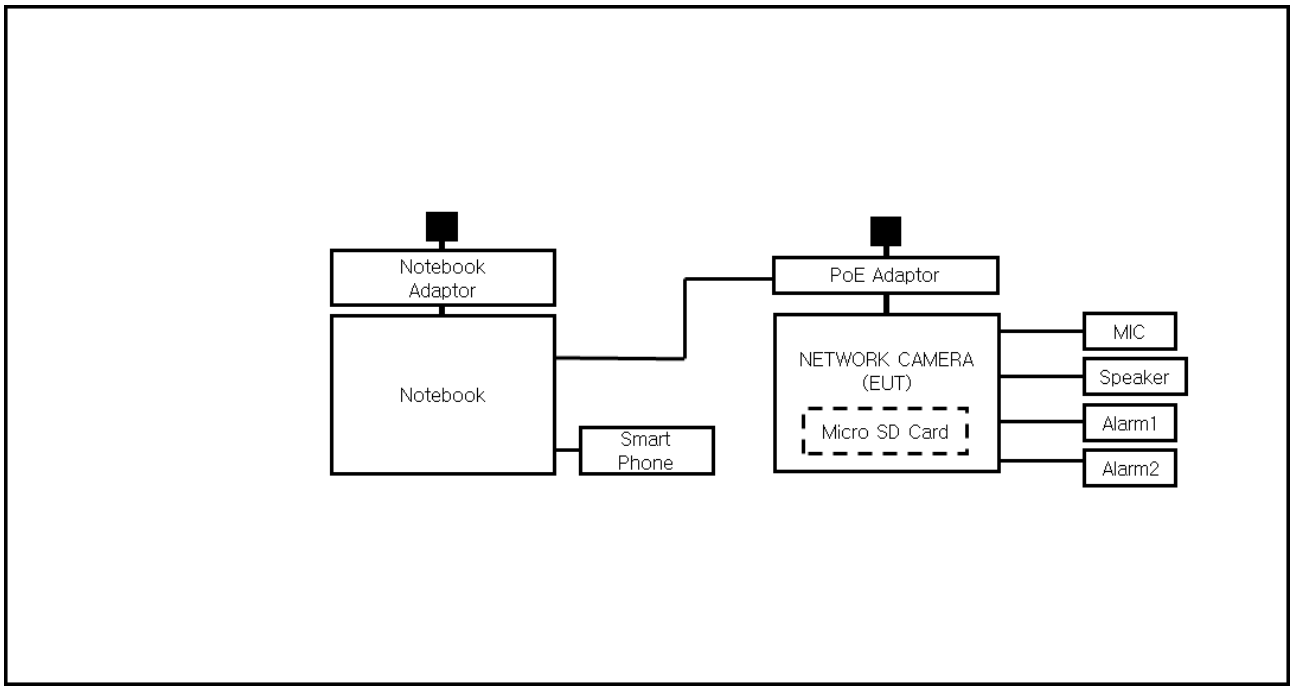
1.8 Configuration

■ AC Main
□ DC Main

■ DC Mode



■ PoE Mode



1.9 Remarks when standards applied

- During the DC 12 V mode test in the Conducted Emissions at Mains Power Ports test was conducted using an adapter.
- During the PoE mode test in the Conducted Emissions at Mains Power Ports test, Notebook and Smart Phone were changed and tested.

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, Yeoju-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 ☐ Class A	☐ Group 2 ☐ 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		

☐ **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 C63.4-2014	☒ Class A	☐ Class B
☒ **IC Regulation ICES-003 : 2016**		
☐ CAN/CSA CISPR 22-10	☐ Class A	☐ Class B
☒ ANSI C63.4-2014	☒ 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

2.1 Conducted Emissions at Mains Power Ports

Test Date
Jul. 01, 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	ESU26	R & S	100552	04, 01, 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: 23,5 ℃
Relative Humidity: 52,0 % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

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 ㎓)

Test Date
Jun. 29, 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 ℃
Relative Humidity: 51,4 % R.H.

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

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 ㎓)

Test Date
Jun. 29, 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 ℃
Relative Humidity: 51,4 % R.H.

Frequency Range of Measurement
1 ㎓ to 5 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:
☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

APPENDIX A – TEST DATA

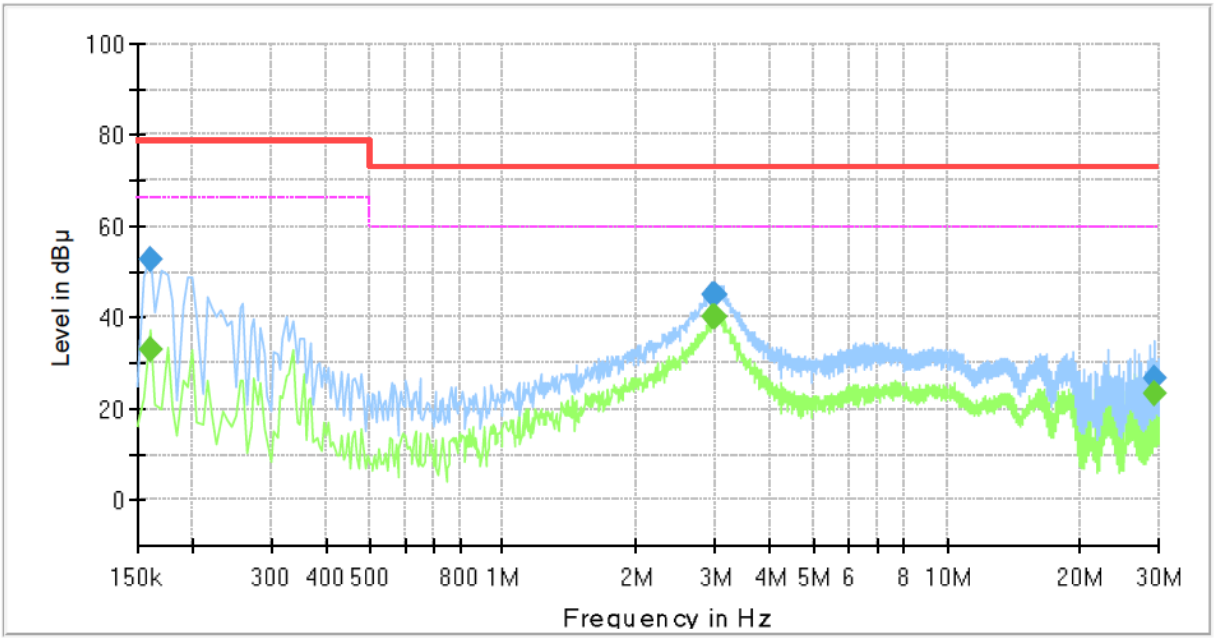
Conducted Emissions at Mains Power Ports

■ DC Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNF-9010RV
Phase:	L1
Mode:	DC
Operator Name:	KES



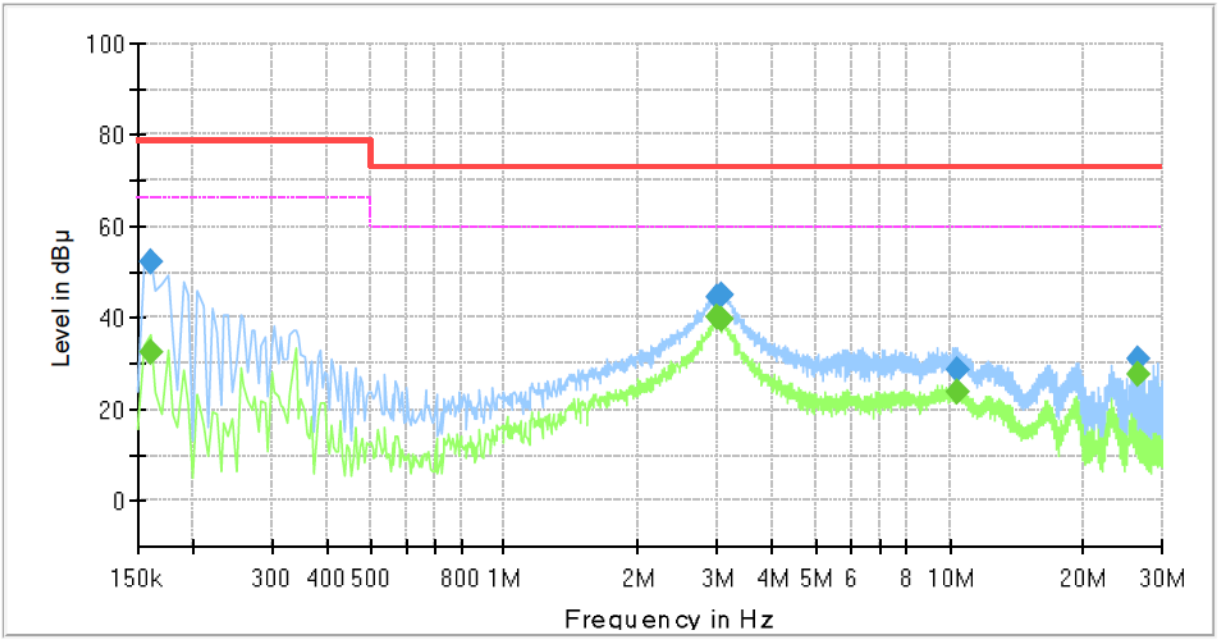
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	32.93	66.00	33.07	1000.0	9.000	L1	19.5
0.160000	52.64	---	79.00	26.36	1000.0	9.000	L1	19.5
2.985000	---	40.12	60.00	19.88	1000.0	9.000	L1	19.7
2.985000	44.84	---	73.00	28.16	1000.0	9.000	L1	19.7
3.005000	---	40.12	60.00	19.88	1000.0	9.000	L1	19.7
3.005000	44.96	---	73.00	28.04	1000.0	9.000	L1	19.7
29.235000	---	23.46	60.00	36.54	1000.0	9.000	L1	20.4
29.235000	26.74	---	73.00	46.26	1000.0	9.000	L1	20.4

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNF-9010RV
Phase:	N
Mode:	DC
Operator Name:	KES



Final_Result

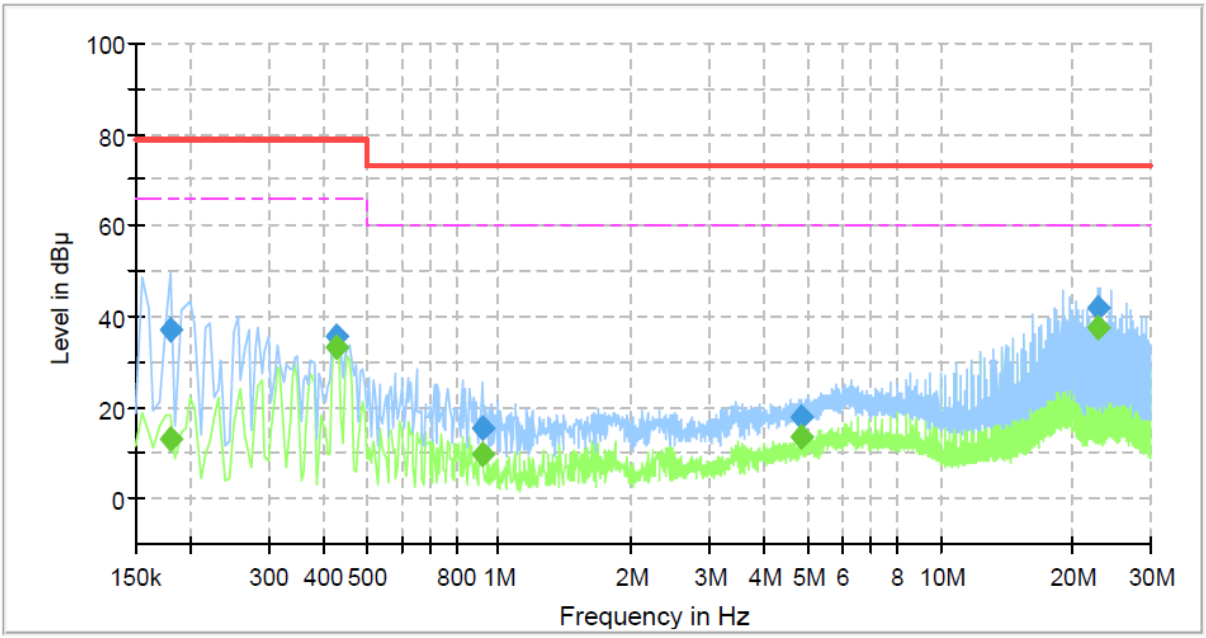
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	32.54	66.00	33.46	1000.0	9.000	N	19.5
0.160000	52.28	---	79.00	26.72	1000.0	9.000	N	19.5
3.010000	---	39.96	60.00	20.04	1000.0	9.000	N	19.7
3.010000	44.66	---	73.00	28.34	1000.0	9.000	N	19.7
3.070000	---	39.93	60.00	20.07	1000.0	9.000	N	19.7
3.070000	44.76	---	73.00	28.24	1000.0	9.000	N	19.7
10.395000	---	23.84	60.00	36.16	1000.0	9.000	N	20.0
10.395000	28.78	---	73.00	44.22	1000.0	9.000	N	20.0
26.485000	---	27.81	60.00	32.19	1000.0	9.000	N	20.4
26.485000	31.02	---	73.00	41.98	1000.0	9.000	N	20.4

■ PoE Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNF-9010RVM
Phase:	
Mode:	PoE
Operator Name:	KES



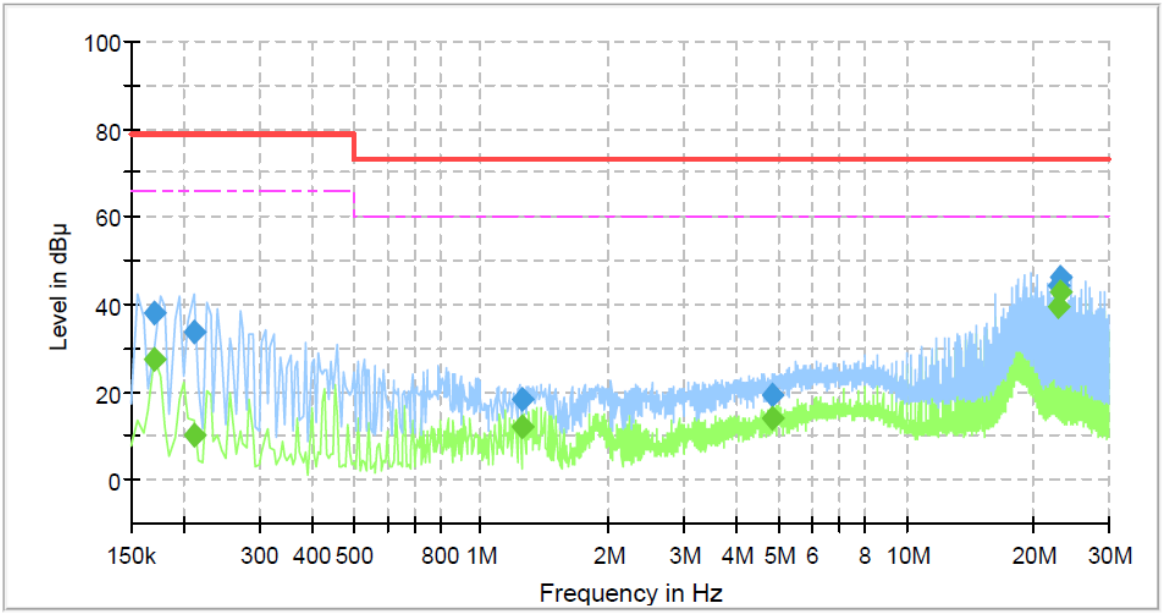
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.180000	---	13.29	66.00	52.71	1000.0	9.000	L1	19.5
0.180000	37.01	---	79.00	41.99	1000.0	9.000	L1	19.5
0.430000	---	33.21	66.00	32.79	1000.0	9.000	L1	19.6
0.430000	35.68	---	79.00	43.32	1000.0	9.000	L1	19.6
0.915000	---	9.76	60.00	50.24	1000.0	9.000	L1	19.6
0.915000	15.65	---	73.00	57.35	1000.0	9.000	L1	19.6
4.830000	---	13.42	60.00	46.58	1000.0	9.000	L1	19.7
4.830000	17.66	---	73.00	55.34	1000.0	9.000	L1	19.7
22.885000	---	37.38	60.00	22.62	1000.0	9.000	L1	20.3
22.885000	41.91	---	73.00	31.09	1000.0	9.000	L1	20.3

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNF-9010RVM
Phase:	
Mode:	PoE
Operator Name:	KES



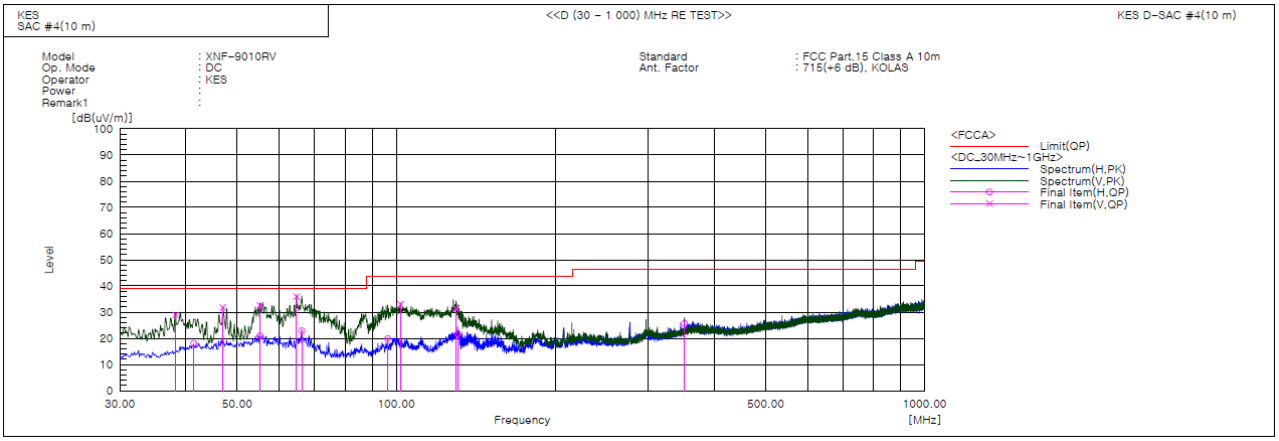
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	27.55	66.00	38.45	1000.0	9.000	N	19.5
0.170000	38.14	---	79.00	40.86	1000.0	9.000	N	19.5
0.210000	---	10.04	66.00	55.96	1000.0	9.000	N	19.5
0.210000	33.59	---	79.00	45.41	1000.0	9.000	N	19.5
1.250000	---	12.32	60.00	47.68	1000.0	9.000	N	19.7
1.250000	18.29	---	73.00	54.71	1000.0	9.000	N	19.7
4.825000	---	13.87	60.00	46.13	1000.0	9.000	N	19.7
4.825000	19.24	---	73.00	53.76	1000.0	9.000	N	19.7
22.885000	---	39.69	60.00	20.31	1000.0	9.000	N	20.3
22.885000	44.05	---	73.00	28.95	1000.0	9.000	N	20.3
23.130000	---	43.02	60.00	16.98	1000.0	9.000	N	20.4
23.130000	46.31	---	73.00	26.69	1000.0	9.000	N	20.4

◆ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
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 ㎓)

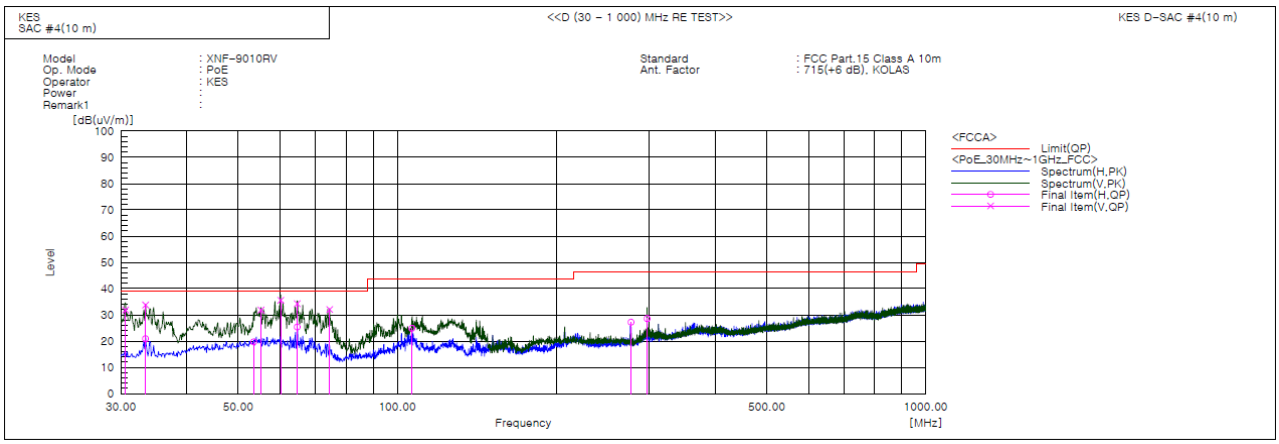
■ DC Mode



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	38.245	V	52.8	-23.9	28.9	39.0	10.1	103.0	200.0	
2	41.398	H	40.7	-22.6	18.1	39.0	20.9	378.0	104.0	
3	46.975	V	53.5	-21.7	31.8	39.0	7.2	163.0	98.0	
4	55.220	V	54.5	-21.9	32.6	39.0	6.4	400.0	301.0	
5	55.220	H	42.9	-21.9	21.0	39.0	18.0	400.0	240.0	
6	64.799	V	59.6	-23.6	36.0	39.0	3.0	100.0	292.0	
7	66.254	H	46.9	-24.0	22.9	39.0	16.1	142.0	229.0	
8	96.324	H	43.1	-23.2	19.9	43.5	23.6	363.0	355.0	
9	101.901	V	55.6	-22.6	33.0	43.5	10.5	122.0	193.0	
10	129.789	V	57.1	-25.6	31.5	43.5	12.0	132.0	184.0	
11	130.759	H	47.5	-25.7	21.8	43.5	21.7	375.0	171.0	
12	350.949	H	42.1	-16.4	25.7	46.5	20.8	176.0	79.0	

■ PoE Mode



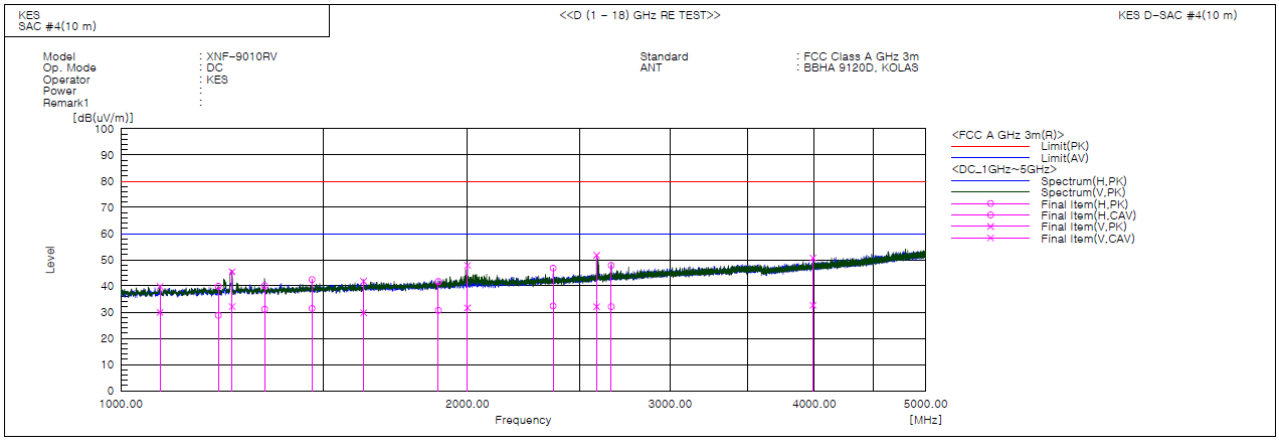
Final Result

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	30.606	V	57.1	-25.2	31.9	39.0	7.1	107.0	251.0	
2	33.395	V	58.8	-25.0	33.8	39.0	5.2	104.0	155.0	
3	33.395	H	45.9	-25.0	20.9	39.0	18.1	352.0	157.0	
4	53.523	H	41.4	-21.7	19.7	39.0	19.3	174.0	327.0	
5	55.220	V	53.8	-21.9	31.9	39.0	7.1	117.0	285.0	
6	60.191	V	58.2	-22.6	35.6	39.0	3.4	132.0	278.0	
7	64.678	V	57.9	-23.6	34.3	39.0	4.7	324.0	123.0	
8	64.678	H	49.0	-23.6	25.4	39.0	13.6	122.0	112.0	
9	74.499	V	58.8	-26.7	32.1	39.0	6.9	236.0	145.0	
10	106.630	H	47.5	-22.6	24.9	43.5	18.6	388.0	314.0	
11	276.986	H	46.8	-19.6	27.2	46.5	19.3	400.0	64.0	
12	296.993	H	47.5	-18.9	28.6	46.5	17.9	374.0	172.0	

♦ Calculation – SAC #4(10 m)
Result(QP) [dB(㎶/m)] = (Reading(QP)[dB(㎶)] + c.f[dB(1/m)]
Margin(QP)[dB] = Limit[dB(㎶/m)] - Result(QP) [dB(㎶/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 ㎓)

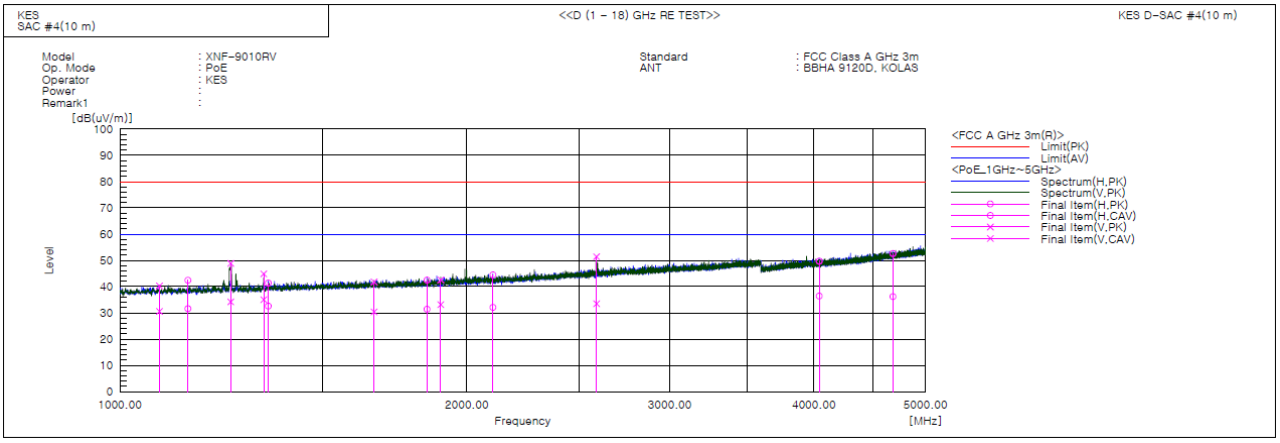
■ DC Mode



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	1081.000	V	44.6	34.6	-4.7	39.9	29.9	80.0	60.0	40.1	30.1	352.0	350.0	
2	1215.500	H	43.8	32.7	-3.9	39.9	28.8	80.0	60.0	40.1	31.2	372.0	210.0	
3	1249.000	V	49.2	35.9	-3.7	45.5	32.2	80.0	60.0	34.5	27.8	156.0	337.0	
4	1333.000	H	43.4	34.3	-3.2	40.2	31.1	80.0	60.0	39.8	28.9	102.0	57.0	
5	1465.500	H	44.9	33.9	-2.5	42.4	31.4	80.0	60.0	37.6	28.6	389.0	337.0	
6	1624.500	V	43.7	31.6	-1.8	41.9	29.8	80.0	60.0	38.1	30.2	325.0	173.0	
7	1886.500	H	42.3	31.3	-0.6	41.7	30.7	80.0	60.0	38.3	29.3	395.0	349.0	
8	1999.500	V	48.0	31.8	-0.1	47.9	31.7	80.0	60.0	32.1	28.3	162.0	350.0	
9	2373.500	H	45.2	30.8	1.6	46.8	32.4	80.0	60.0	33.2	27.6	400.0	172.0	
10	2589.250	V	49.1	29.4	2.7	51.8	32.1	80.0	60.0	28.2	27.9	106.0	352.0	
11	2666.000	H	44.8	29.0	3.1	47.9	32.1	80.0	60.0	32.1	27.9	114.0	26.0	
12	3990.500	V	42.4	24.4	8.3	50.7	32.7	80.0	60.0	29.3	27.3	100.0	298.0	

■ 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	1082.000	V	45.0	35.3	-4.7	40.3	30.6	80.0	60.0	39.7	29.4	196.0	230.0	
2	1145.500	H	46.7	35.9	-4.3	42.4	31.6	80.0	60.0	37.6	28.4	400.0	280.0	
3	1247.830	V	52.6	37.9	-3.7	48.9	34.2	80.0	60.0	31.1	25.8	158.0	227.0	
4	1332.500	V	48.1	38.3	-3.2	44.9	35.1	80.0	60.0	35.1	24.9	104.0	350.0	
5	1345.000	H	44.6	35.8	-3.2	41.4	32.6	80.0	60.0	38.6	27.4	368.0	28.0	
6	1661.500	V	43.4	32.0	-1.6	41.8	30.4	80.0	60.0	38.2	29.6	109.0	96.0	
7	1846.500	H	43.3	32.2	-0.8	42.5	31.4	80.0	60.0	37.5	28.6	142.0	284.0	
8	1898.000	V	43.1	33.7	-0.5	42.6	33.2	80.0	60.0	37.4	26.8	133.0	272.0	
9	2106.500	H	44.1	31.7	0.4	44.5	32.1	80.0	60.0	35.5	27.9	322.0	238.0	
10	2590.770	V	48.7	30.8	2.7	51.4	33.5	80.0	60.0	28.6	26.5	104.0	273.0	
11	4044.000	H	41.1	27.8	8.6	49.7	36.4	80.0	60.0	30.3	23.6	304.0	97.0	
12	4685.000	H	40.8	24.4	11.8	52.6	36.2	80.0	60.0	27.4	23.8	341.0	319.0	

♦ 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)]

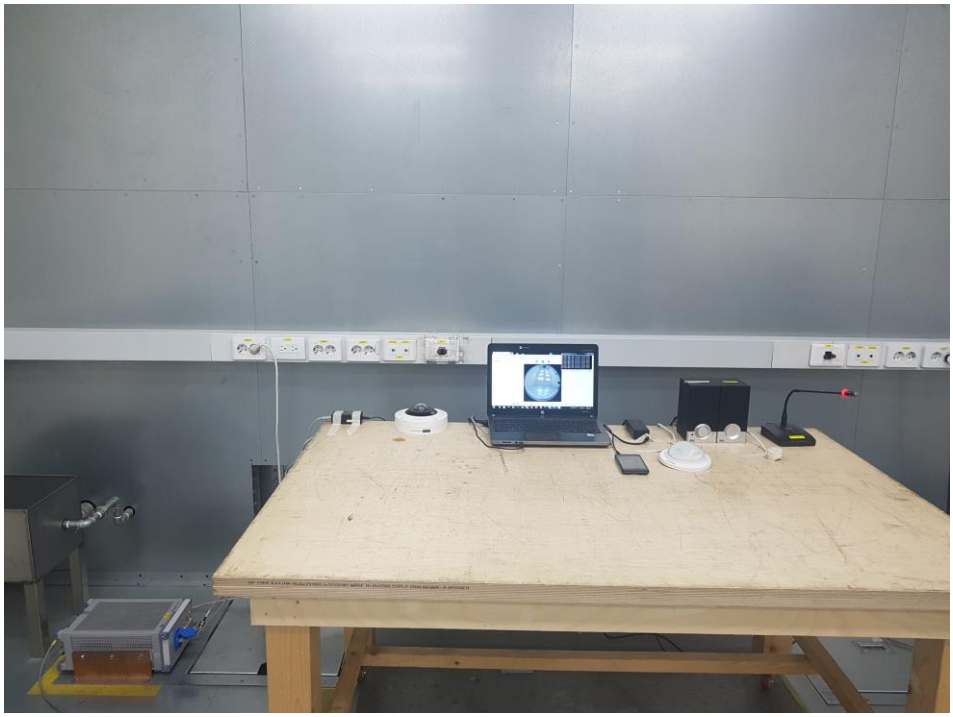
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

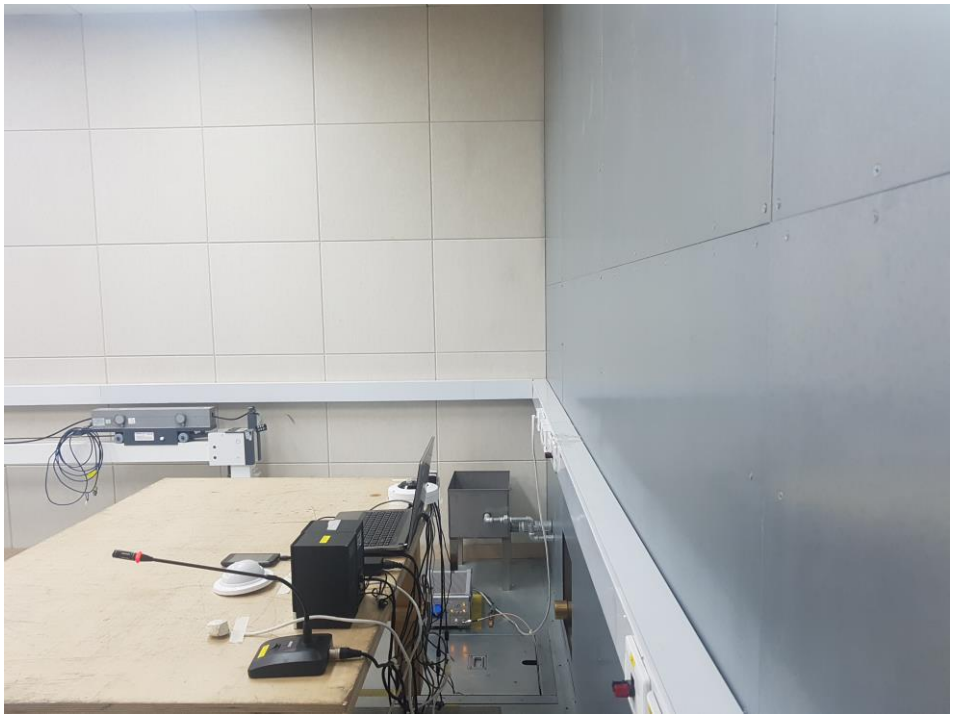
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

■ DC Mode





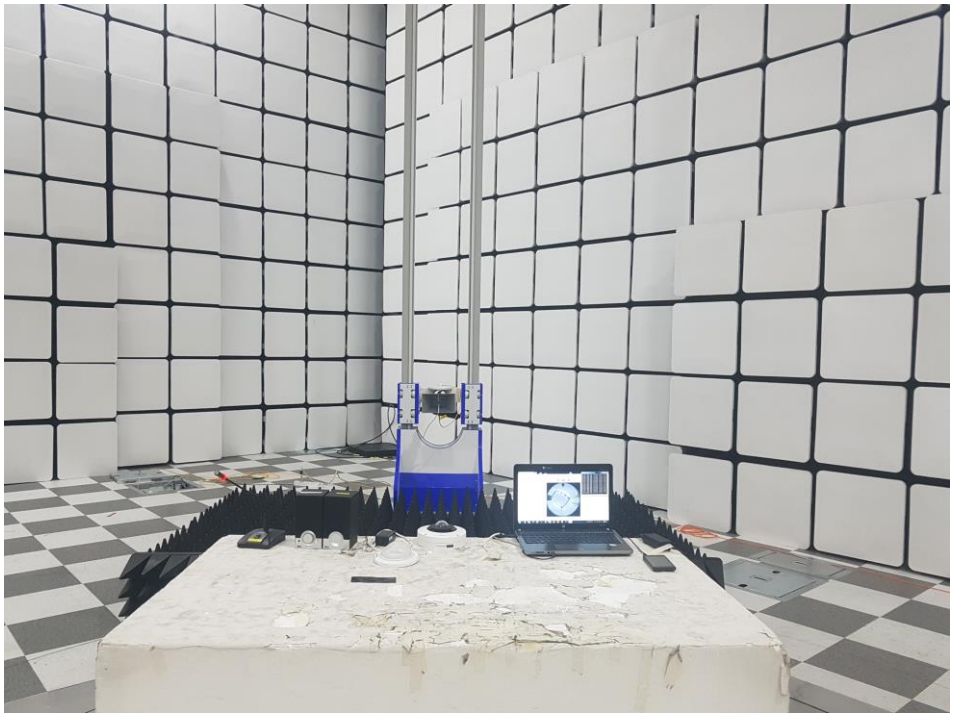
Radiated Electric Field Emissions(Below 1 ㎓)

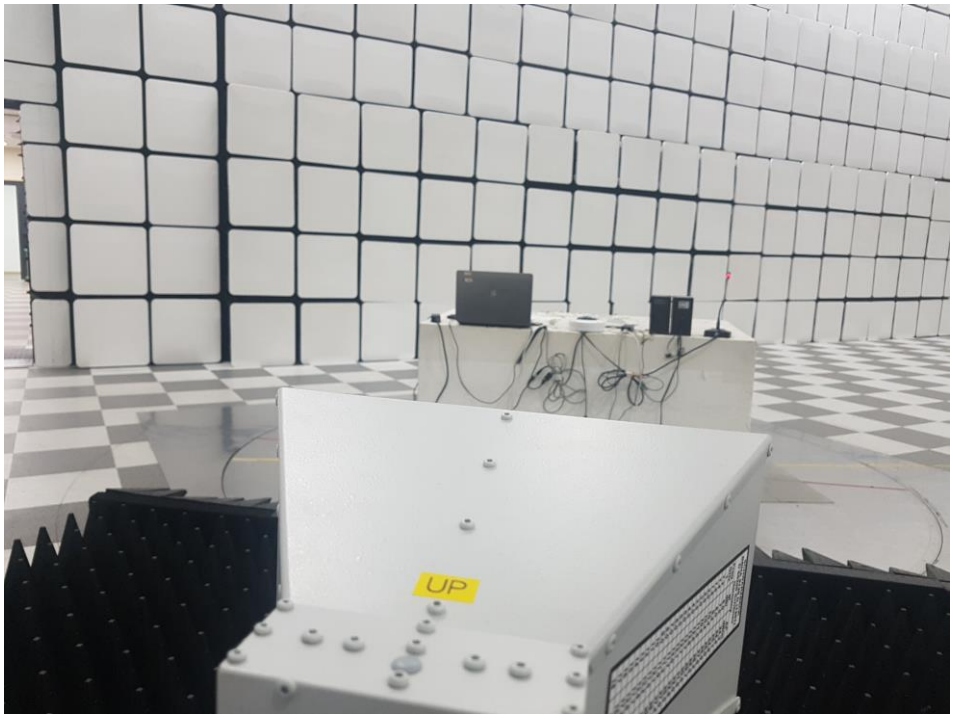
■ DC Mode

■ PoE Mode

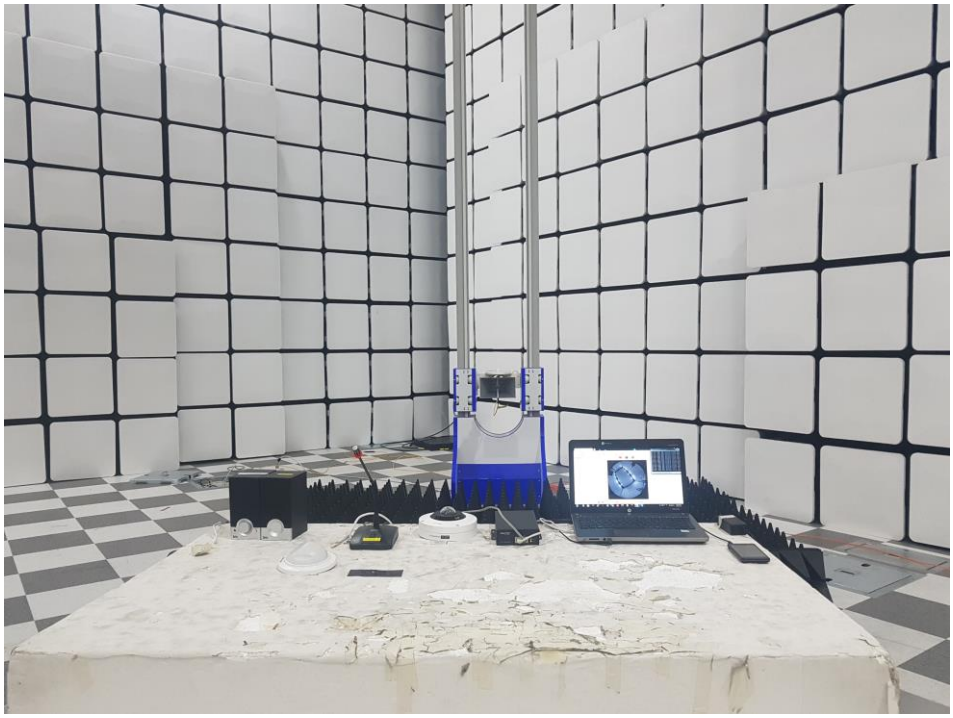
Radiated Electric Field Emissions(Above 1 ㎓)

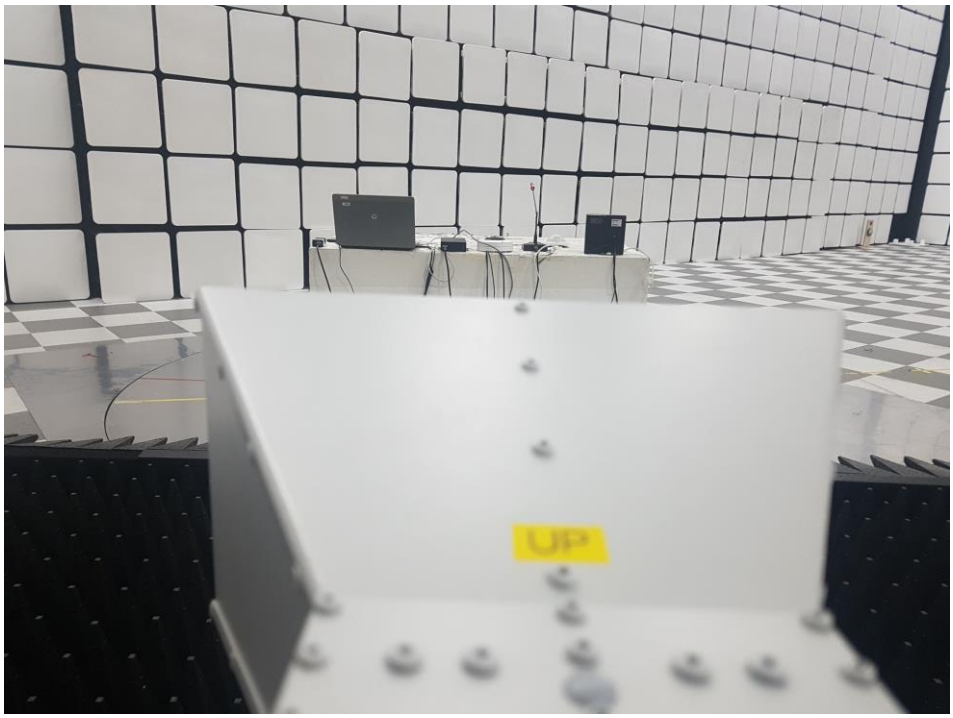
■ DC Mode





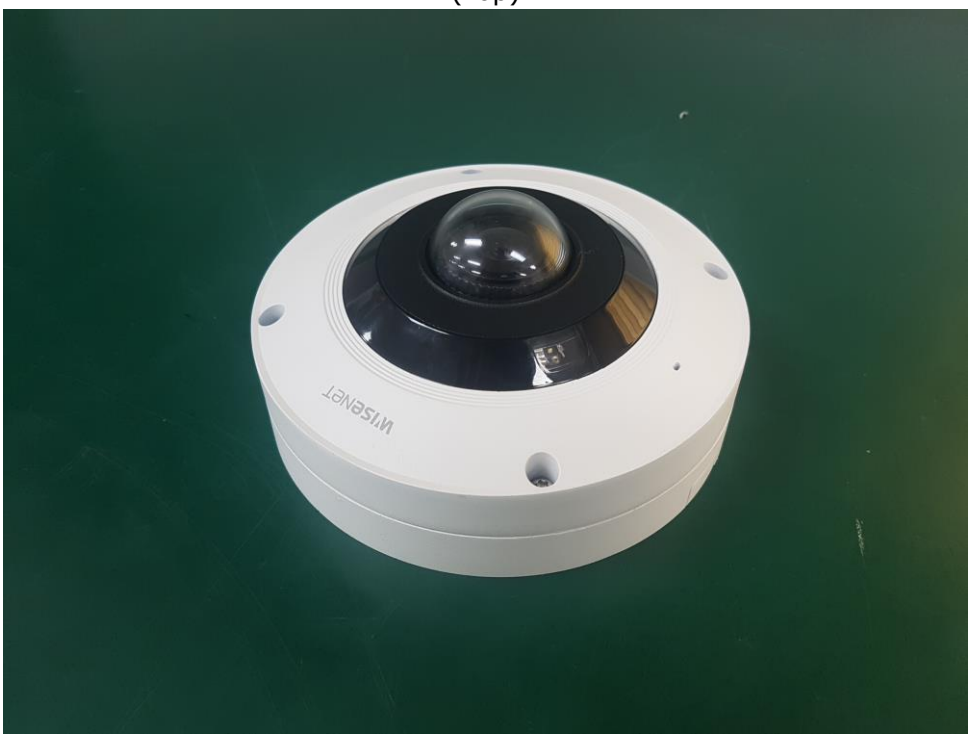
■ PoE Mode



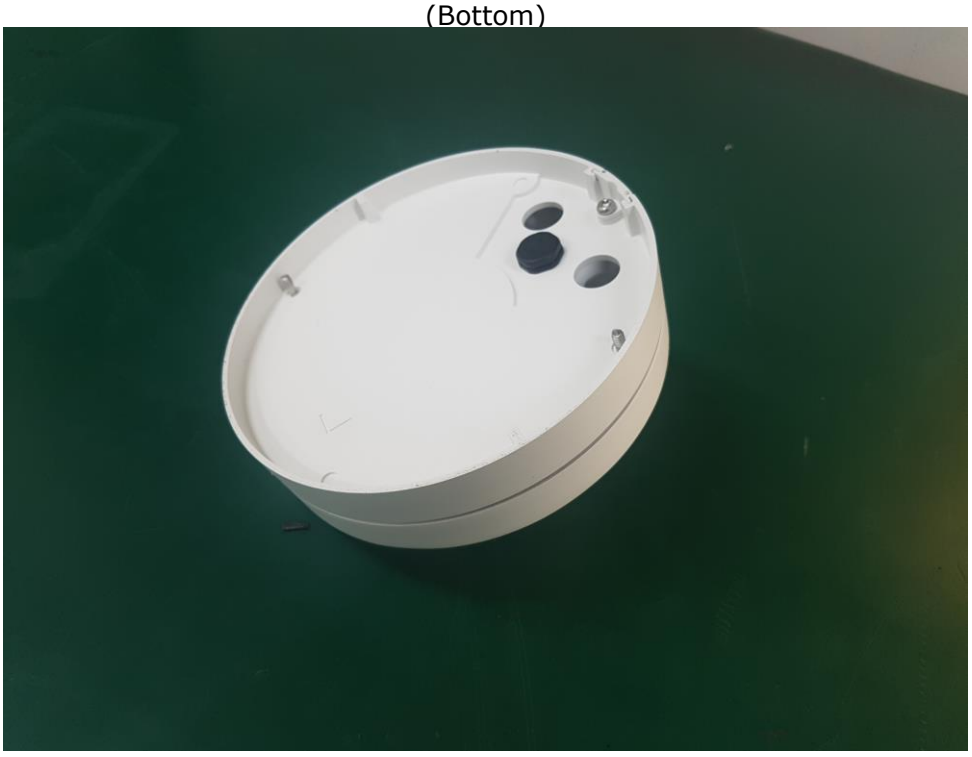


EUT External Photographs

(Top)

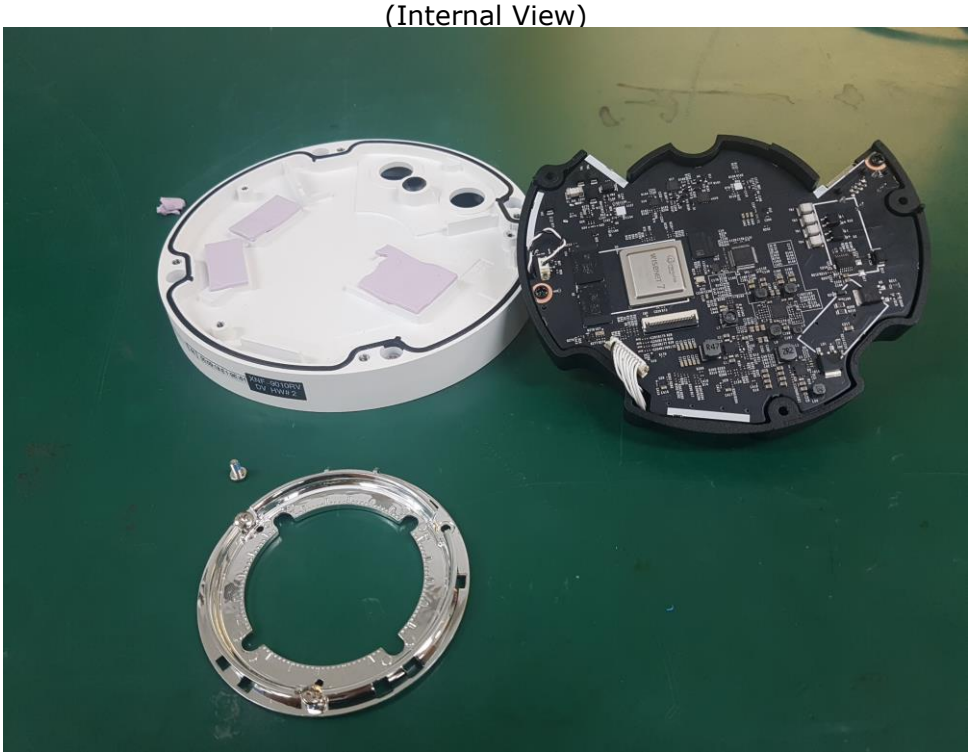


(Bottom)



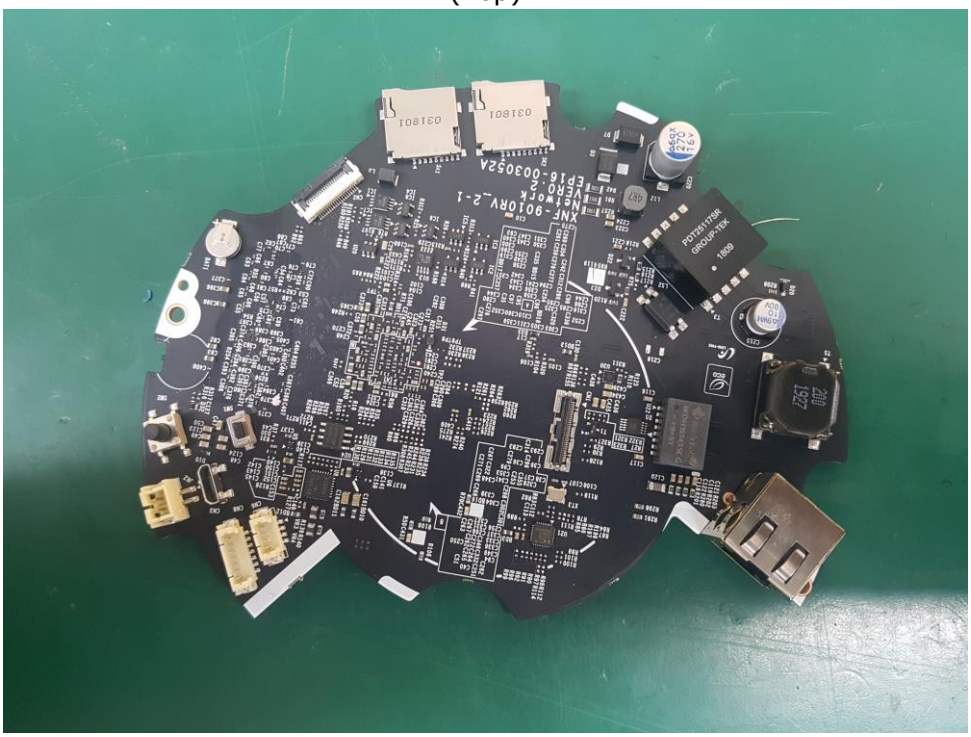
EUT Internal Photographs

(Internal View)

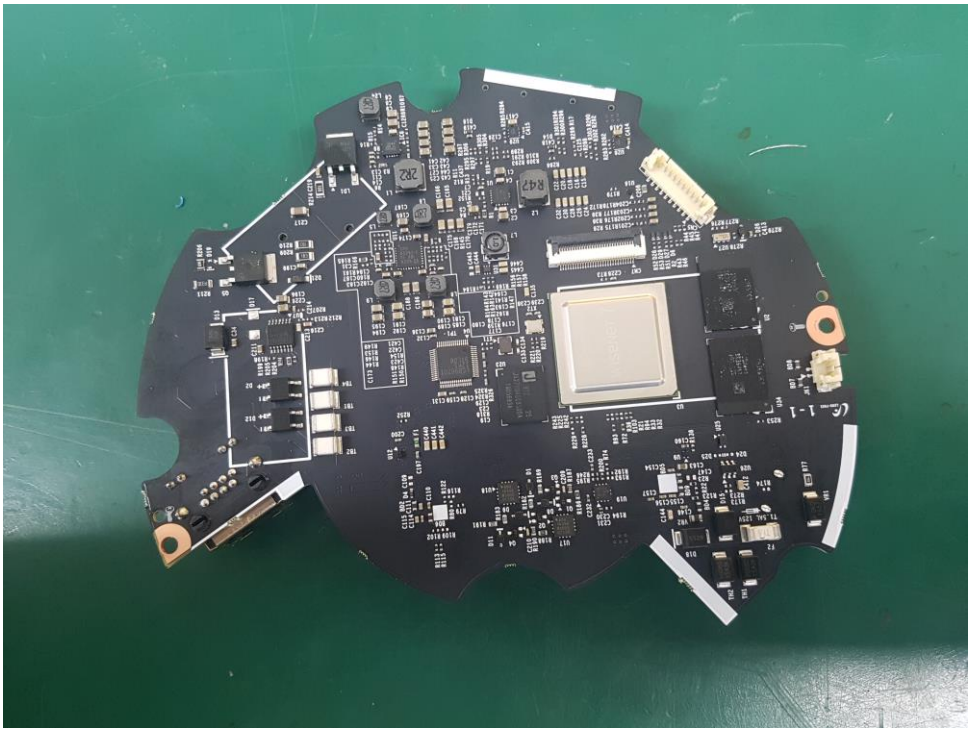


EUT Internal View – Main Board

(Top)



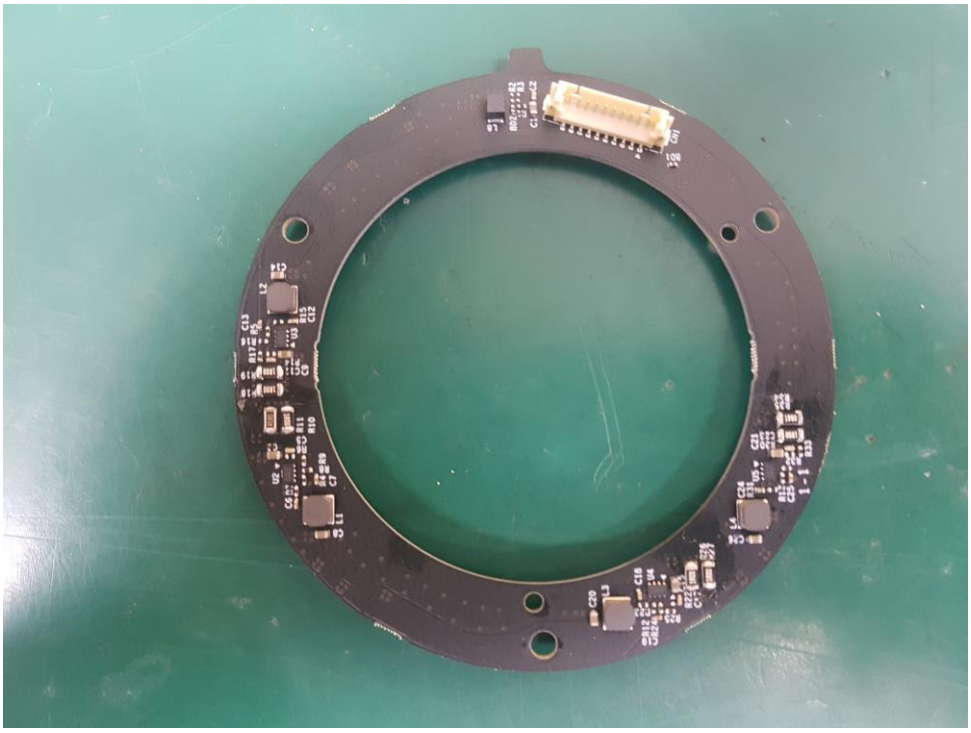
(Bottom)



EUT Internal View – SUB Board

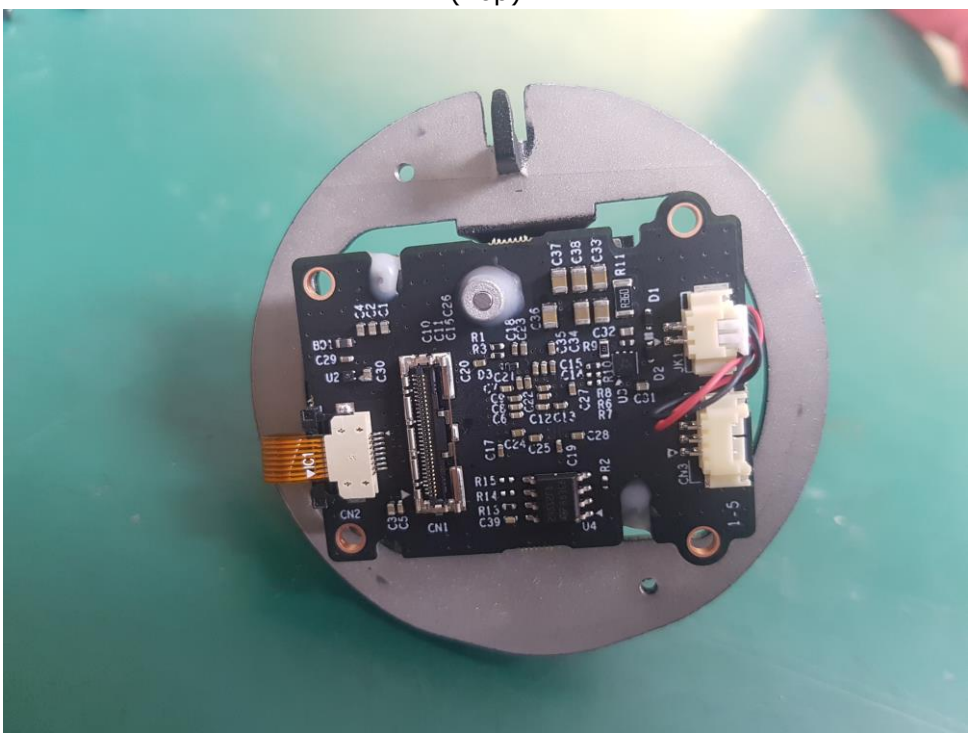
(Top)

(Bottom)

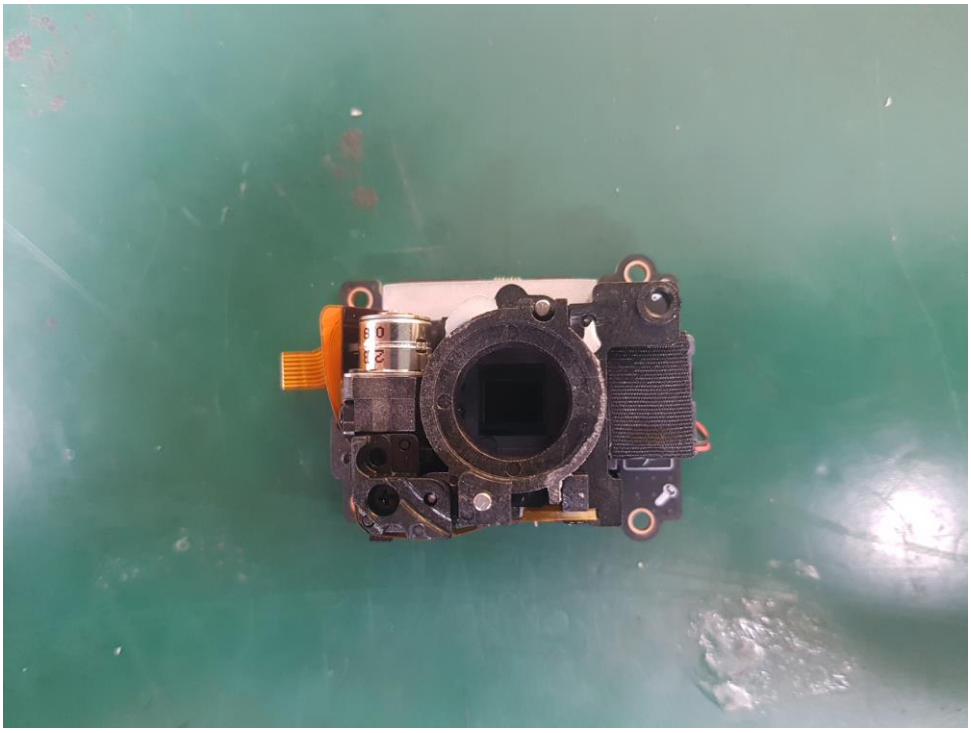


EUT Internal View – Camera Board

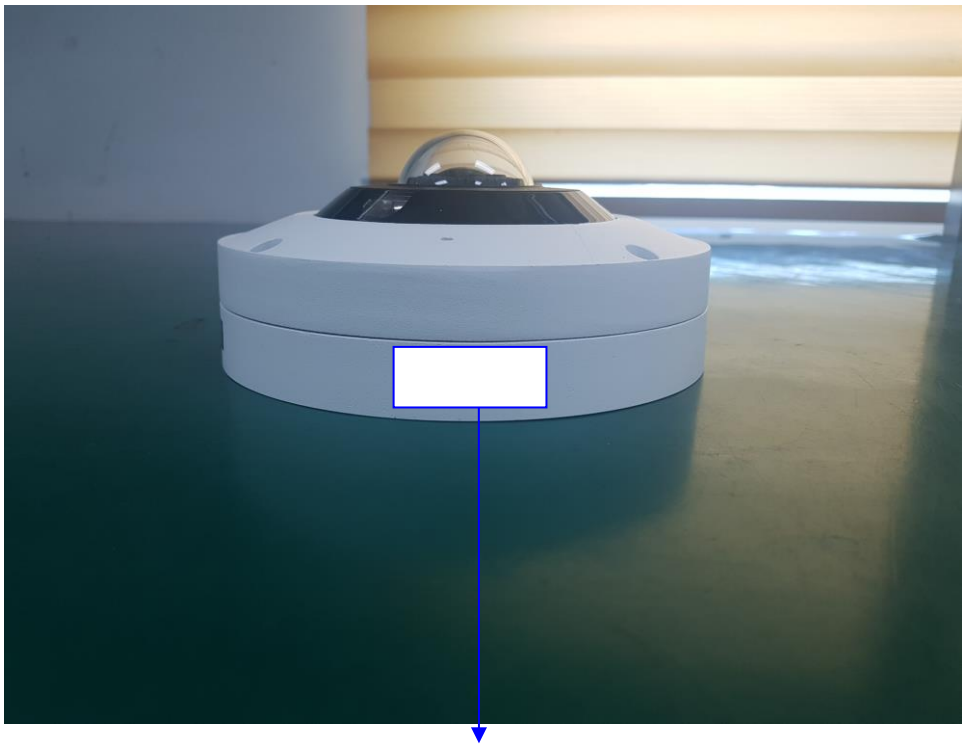
(Top)



(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.