



EMC TEST REPORT For RCM

Test Report No. : KES-E1-19T0666-R1
Date of Issue : Feb. 24, 2023
Product name : Network Camera
Model/Type No. : PND-A9081RV
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)
Date of Receipt : Sep. 30, 2019
Test date : Oct. 09, 2019
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dong In, 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
Oct. 22, 2019	KES-E1-19T0666	Issued
Feb. 24, 2023	KES-E1-19T0666-R1	Change the Applicant and manufacturer at the request of the customer Factory deletion at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video	PND-A9081RV
Imaging Device	1/1.8" 8MP CMOS
Effective Pixels	3864(H) x 2180(V)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.1Lux(F1.6, 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)	4.5~10mm(2.2x) motorized varifocal
Max. Aperture Ratio	F1.6(Wide)~F2.65(Tele)
Angular Field of View	H: 101.4°(Wide)~45.5°(Tele) / V: 53.6°(Wide)~25.5°(Tele) / D: 120.7°(Wide)~52.3°(Tele)
Min. Object Distance	0.5m(1.64ft)
Focus Control	Simple focus
Lens Type	DC auto iris, P iris
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~360° / -45°~85° / 0°~355°
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	30m(98.42ft)
Camera Title	Off / On (Up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Auto scale by resolution
Day & Night	Auto(ICR)/Color/BW/External/Schedule
Backlight Compensation	BLC, WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR(2D+3D Noise Filter) (Off / On)
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	None
Motion Detection	8ea, 8point Polygonal zones
Privacy Masking	32ea, polygonal zones - Color : Gray, Green, Red, Blue, Black, White - Mosaic
Gain Control	Support

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White Balance	ATW / AWC / Manual / Indoor / Outdoor(include Mercury & Sodium)
Contrast	Level adjustment
LDC	Support
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (1/5~1/12,000sec)
Digital PTZ	Support(Preset, Group)
Video Rotation	Flip, Mirror, Hallway view(90°/270°)
Analytics	Object detection(Person/Vehicle/Face/ License plate), Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification, Shock detection BestShot, Feature extraction
Business Intelligence	People counting, Queue management, Heatmap
Serial Interface	None
Alarm I/O	Input 1ea / Output 1ea / 12V Power (Max. 50mA) 1ea - 2 configurable i/o ports
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 DPTZ Preset Handover 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	RJ-45(10/100/1000BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG
Resolution	3840x2160, 3072x1728, 2592x1944, 2688x1520, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800 x 600, 800 x 448, 720 x 576, 720x480, 640x480, 640x360

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Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 15fps/12fps(60Hz/50Hz)
Smart Codec	Manual(Sea 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 3 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, LLDP, SRTP (TCP, UDP Unicast)
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 각 256GB Total 512GB
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish,, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS: Windows 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Recommended Browser: Google Chrome Supported Browser: MS Explore11, MS Edge, Mozilla Firefox(Window 64bit only), Apple Safari(Mac OS X only)
Memory	4096MB RAM, 512MB Flash
Environmental	
Operating Temperature / Humidity	-25°C ~ +50°C (-13°F ~ +122°F) / Less than 90% RH (IR LED on) -25°C ~ +55°C (-13°F ~ +131°F) / Less than 90% RH (IR LED off)
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH
Certification	IP52, IK10

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Electrical	
Input Voltage	PoE+(IEEE802.3at), 12VDC
Power Consumption	PoE+: Max 24.50W, typical 20.00W 12VDC: Max 20.50W, typical 16.00W
Mechanical	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product dimensions / weight	Ø160x125mm(6.30x4.92"), Weight : 1.60Kg (3.53lb).
Conduit hole	1/2"
Hanging mount(Dome)	SBP-167HMW, SBP-167HM
Skin cover(Dome)	SBC-160B
Weather cap(Dome)	
Power module	
Backbox	

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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 ☐ 240 Vac ☐ 100 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	PND-A9081RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	NT730U3E	JJRE91CF200065A	SAMSUNG	-
Notebook Adaptor	PA-1600-66	AD-6019P	LITEON	-
PoE Adaptor	PT-PSE109GBRO-AH	EP06-003756A	Dongguan PROCET Network Technology Co.,Ltd	-
Alarm In	-	-	-	-
Alarm Out	SIP-1201DD D0	-	SAMSUNG TECHWIN CO., LTD.	-
Speaker	BR1000A Cuve Black 2	-	DONGGUAN EDIFIER TECHNOLOGY Co., Ltd	-
SmartPhone	SM-G900S	-	SAMSUNG	-
Micro SD Card	-	-	SAMSUNG	32 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)	RJ - 45	Notebook	RJ - 45	3.0	U
	2 Pin	Alarm In	2 Pin	3.0	U
	2 Pin	Alarm Out	2 Pin	3.0	U
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	SmartPhone	3.5 mm	0.8	U
	Micro SD Card Slot	Micro SD Card	-	-	-

* Unshielded=U, Shielded=S

■ PoE Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Network Camer (EUT)	RJ - 45	POE Adaptor	RJ - 45	3.0	U
	2 Pin	Alarm 1	2 Pin	3.0	U
	2 Pin	Alarm 2	2 Pin	3.0	U
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	SmartPhone	3.5 mm	0.8	U
	Micro SD Card Slot	Micro SD Card	-	-	-
	RJ - 45	POE Adaptor	RJ - 45	3.0	U

* Unshielded=U, Shielded=S

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1.7 EUT Operating Mode(s)

Test mode	operating
DC	EUT Monitoring, Ping Test
POE	EUT Monitoring, Ping Test

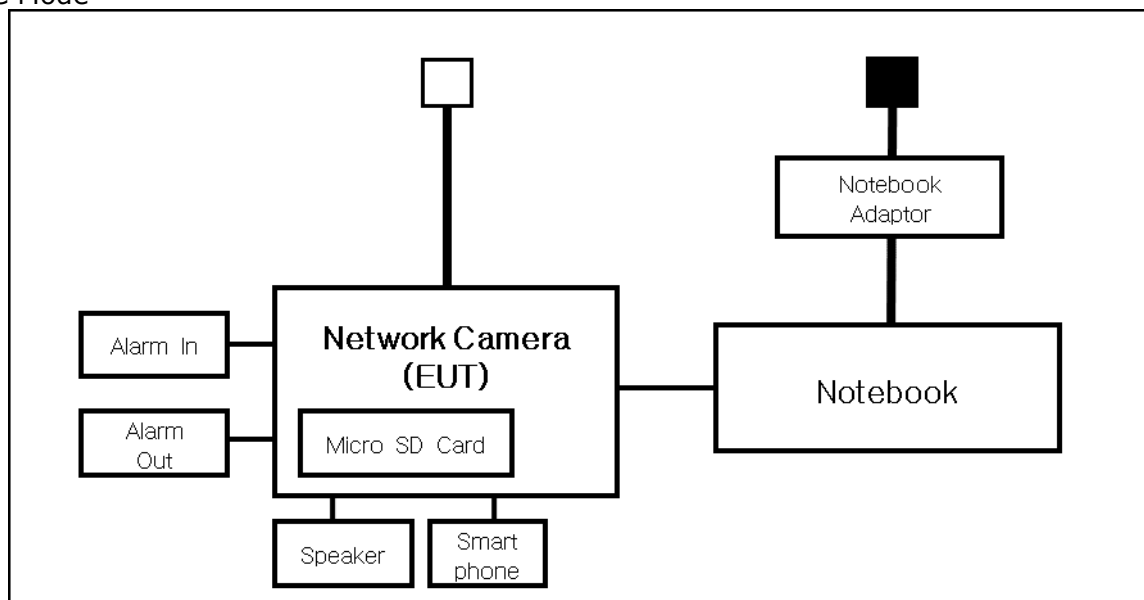
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd

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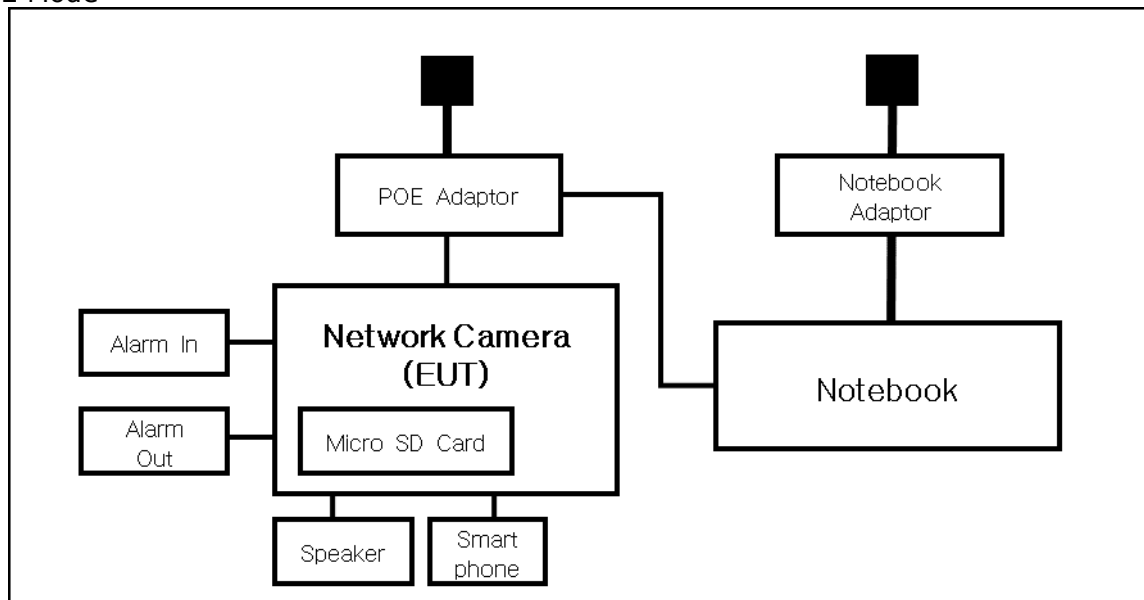
1.8 Configuration

■ AC Main
 □ DC Main

■ DC Mode



■ PoE 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
☐ 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



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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 C63.4-2009 | | |
|
 | | |
| ☐ IC Regulation ICES-003 : 2016 | | |
| ☐ CAN/CSA CISPR 22-10 | ☐ Class A | ☐ Class B |
| ☐ ANSI C63.4-2014 | | |
|
 | | |
| ☐ 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

N/A

Test Location

Electro wave Shieldroom

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	101781	04, 22, 2020
☐	LISN	ENV216	R & S	101787	01, 04, 2020
☐	LISN	ESH2-Z5	R & S	100450	04, 22, 2020
☐	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 26, 2019

Test Conditions

Temperature:

°C

Relative Humidity:

% 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

DC and PoE are not tested apply. PoE is considered to be wired networks ports.



2.2 Conducted Emissions at Telecommunication Ports

Test Date

Oct. 09, 2019

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	101781	04, 22, 2020
☒	LISN	ENV216	R & S	101787	01, 04, 2020
☒	LISN	ESH2-Z5	R & S	100450	04, 22, 2020
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 26, 2019
☐	8-WIRE ISN CAT3,5	ENY81	R & S	100174	01, 07, 2020
☒	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101665	01, 07, 2020

Test Conditions

Temperature: 23,1 °C
Relative Humidity: 54,6 % 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.

2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Oct. 09, 2019

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, 09, 2020
☒	AMPLIFIER	SCU 01	R & S	100603	11, 26, 2019
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 29, 2020
☒	ATTENUATOR	8491A	HP	32173	03, 11, 2020

Test ConditionsTemperature: 22,8 °C
Relative Humidity: 53,5 % 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

RemarksSee Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Oct. 09, 2019

Test Location

SEMI ANECHOIC CHAMBER #3

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, 06, 2019
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	05, 27, 2020
☐	ATTENUATOR	8491A	HP	35496	03, 11, 2020
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 12, 2021

Test Conditions

Temperature: 22,9 °C
Relative Humidity: 53,8 % R.H.

Frequency Range of Measurement

1 GHz to 6 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



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APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

N/A

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NEUTRAL LINE

N/A

◆ 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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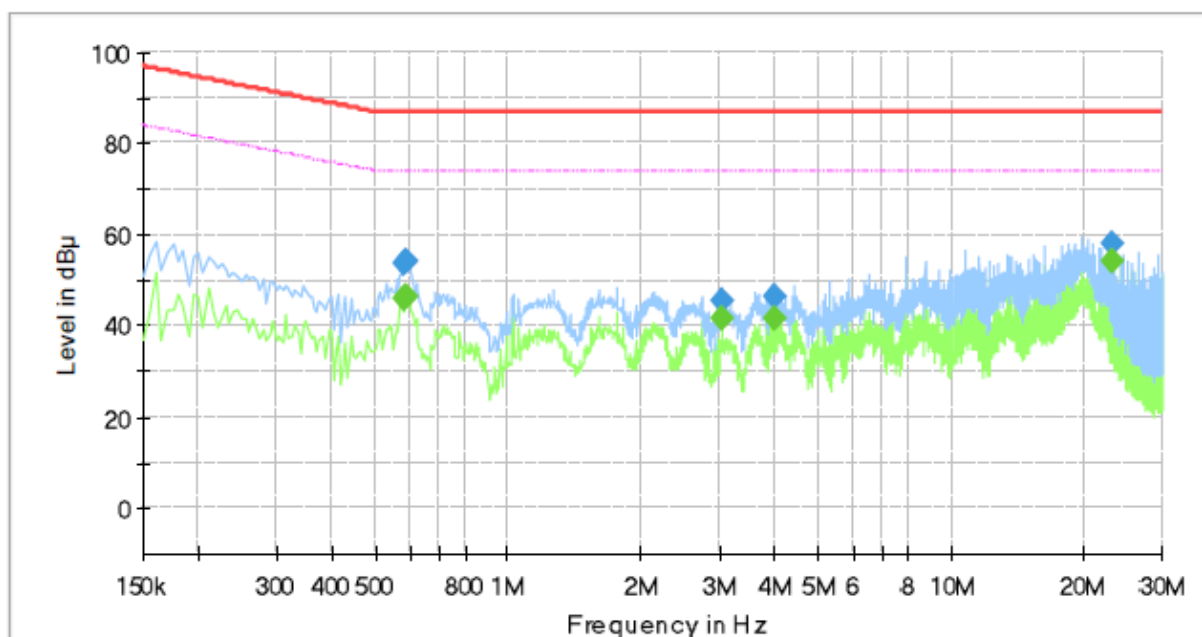
Conducted Emissions at Telecommunication Ports

■ DC Mode

[1 000 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	PND-A9081RV
Mode :	DC
Speed :	1 000 Mbps
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.585000	---	45.92	74.00	28.08	1000.0	9.000	Single Line	20.0
0.585000	53.67	---	87.00	33.33	1000.0	9.000	Single Line	20.0
0.590000	---	46.53	74.00	27.47	1000.0	9.000	Single Line	20.0
0.590000	53.95	---	87.00	33.05	1000.0	9.000	Single Line	20.0
3.040000	---	41.39	74.00	32.61	1000.0	9.000	Single Line	20.0
3.040000	45.63	---	87.00	41.37	1000.0	9.000	Single Line	20.0
4.015000	---	41.78	74.00	32.22	1000.0	9.000	Single Line	19.6
4.015000	46.62	---	87.00	40.38	1000.0	9.000	Single Line	19.6
23.130000	---	54.39	74.00	19.61	1000.0	9.000	Single Line	20.5
23.130000	58.04	---	87.00	28.96	1000.0	9.000	Single Line	20.5

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■ PoE Mode
[1 000 Mbps]

Common Information

Test Description:

Model No.:

Mode :

Speed :

Operator Name:

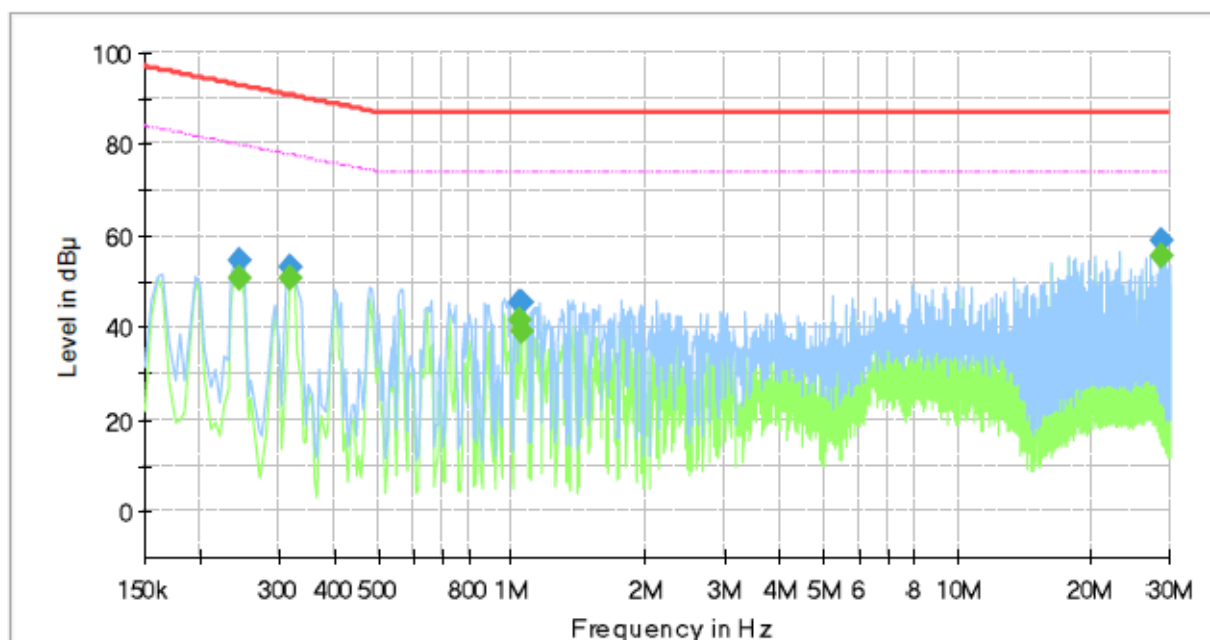
Telecommunication Emission

PND-A9081RV

POE

1 000 Mbps

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.245000	---	50.98	79.92	28.94	1000.0	9.000	Single Line	19.8
0.245000	54.60	---	92.92	38.32	1000.0	9.000	Single Line	19.8
0.320000	---	50.79	77.71	26.92	1000.0	9.000	Single Line	19.8
0.320000	53.16	---	90.71	37.55	1000.0	9.000	Single Line	19.8
1.045000	---	41.80	74.00	32.20	1000.0	9.000	Single Line	20.3
1.045000	45.59	---	87.00	41.41	1000.0	9.000	Single Line	20.3
1.050000	---	39.19	74.00	34.81	1000.0	9.000	Single Line	20.3
1.050000	45.59	---	87.00	41.41	1000.0	9.000	Single Line	20.3
28.685000	---	55.44	74.00	18.56	1000.0	9.000	Single Line	20.8
28.685000	58.95	---	87.00	28.05	1000.0	9.000	Single Line	20.8

◆ Calculation

$$\text{QuasiPeak [dBuV]} / \text{CAverage [dBuV]} = \text{Reading Value [dBuV]} + \text{Corr. [dB]}$$

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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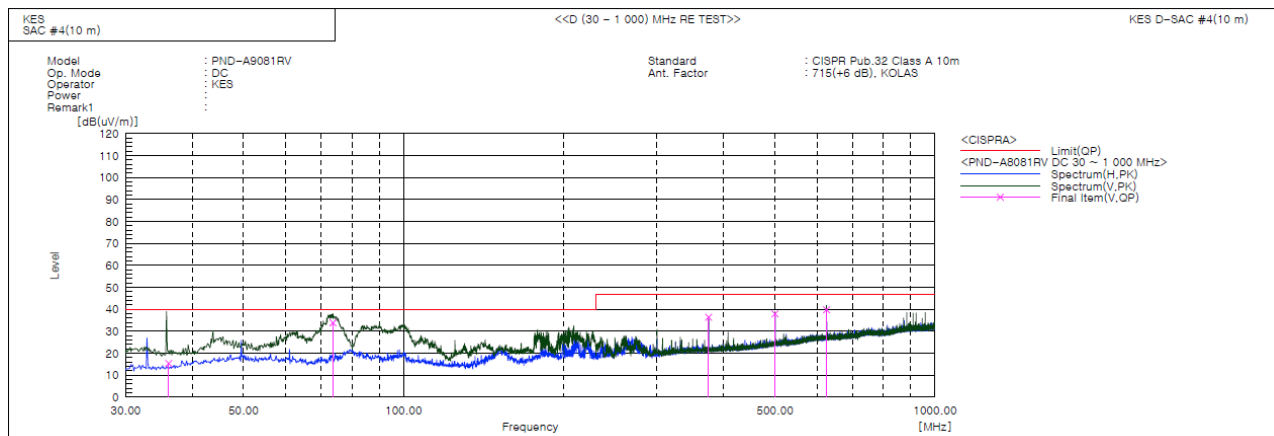
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Radiated Electric Field Emissions(Below 1 GHz)

■ DC Mode



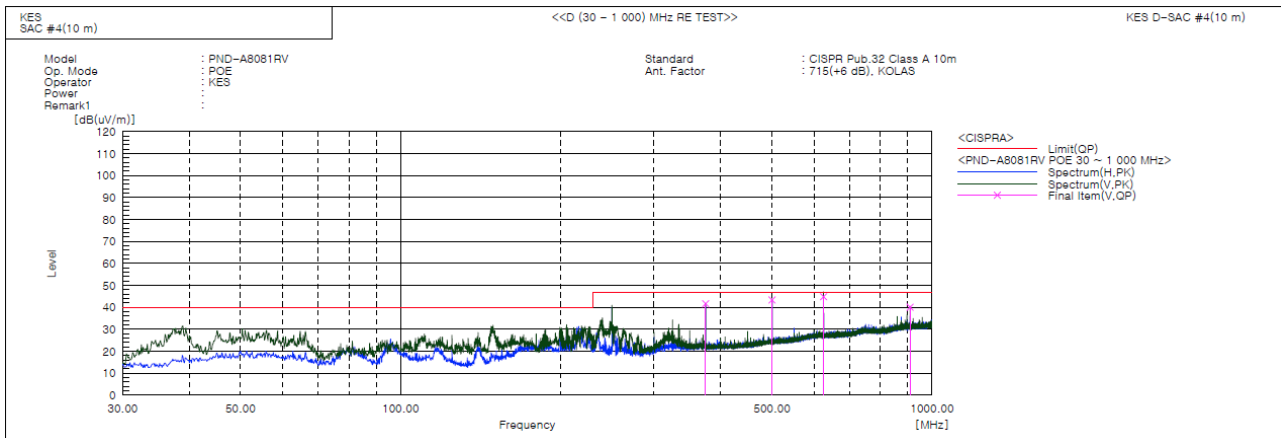
Final Result

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	36.150	V	40.1	-24.7	15.4	40.0	24.6	100.0	72.0	
2	73.674	V	60.2	-26.3	33.9	40.0	6.1	114.0	118.0	
3	374.996	V	52.1	-15.7	36.4	47.0	10.6	129.0	186.0	
4	499.994	V	50.6	-12.7	37.9	47.0	9.1	132.0	14.0	
5	624.993	V	49.3	-9.5	39.8	47.0	7.2	138.0	12.0	

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■ PoE Mode



Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		QP		QP	QP	QP			
			[dB(uV)]	[dB(1/m)]	[dB(uV/m)]	[dB(uV/m)]	[dB]	[cm]	[deg]	
1	374.992	V	57.4	-15.7	41.7	47.0	5.3	127.0	349.0	
2	499.980	V	56.1	-12.7	43.4	47.0	3.6	142.0	342.0	
3	624.990	V	54.4	-9.5	44.9	47.0	2.1	136.0	263.0	
4	909.323	V	45.7	-5.6	40.1	47.0	6.9	219.0	355.0	

◆ Calculation

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)]

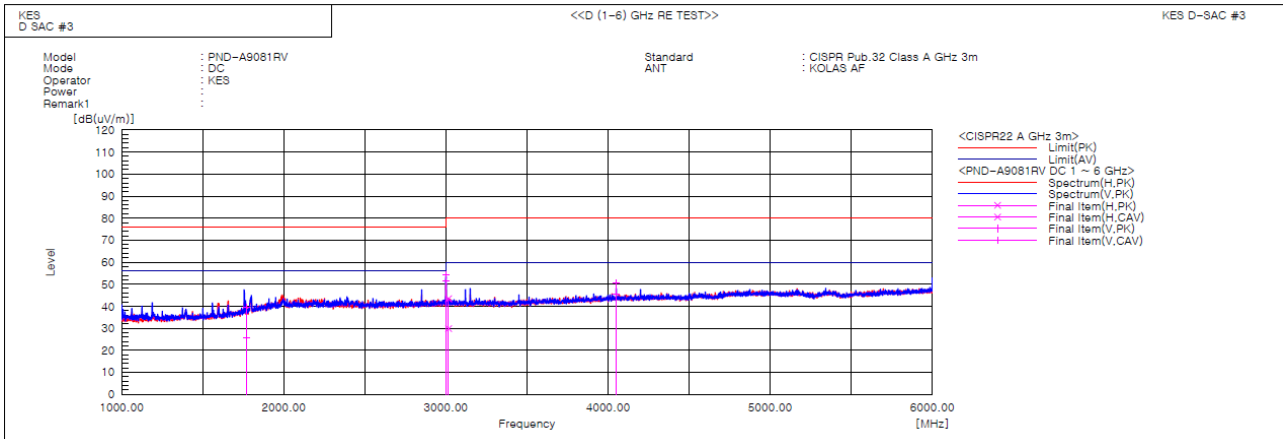
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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



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	1768.957	V	43.3	29.4	-3.8	39.5	25.6	76.0	56.0	36.5	30.4	101.0	349.9	
2	3000.070	V	52.7	50.2	1.5	54.2	51.7	80.0	60.0	25.8	8.3	101.0	84.7	
3	3015.797	H	41.9	28.3	1.6	43.5	29.9	80.0	60.0	36.5	30.1	101.0	181.4	
4	4050.020	V	46.0	40.8	4.8	50.8	45.6	80.0	60.0	29.2	14.4	101.0	259.4	

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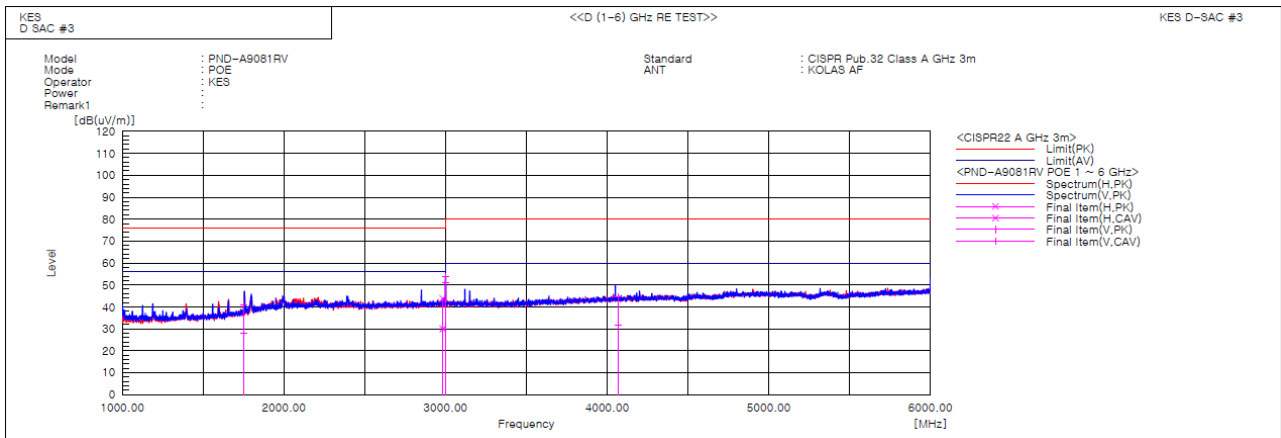
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
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Report No.:

KES-E1-19T0666-R1

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■ PoE Mode



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	1750.011	V	45.1	31.8	-4.0	41.1	27.8	76.0	56.0	34.9	28.2	101.0	172.9	
2	2999.810	V	52.3	49.6	1.5	53.8	51.1	76.0	56.0	22.2	4.9	101.0	87.0	
3	2982.933	H	42.3	28.5	1.5	43.8	30.0	76.0	56.0	32.2	26.0	101.0	181.8	
4	4069.456	V	39.7	26.6	4.9	44.6	31.5	80.0	60.0	35.4	28.5	101.0	247.9	

◆ Calculation

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

Margin(PK/CAV)[dB] = Limit[dB(μ V/m)] - Result(PK/CAV) [dB(μ V/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 Voltage Emissions

N/A

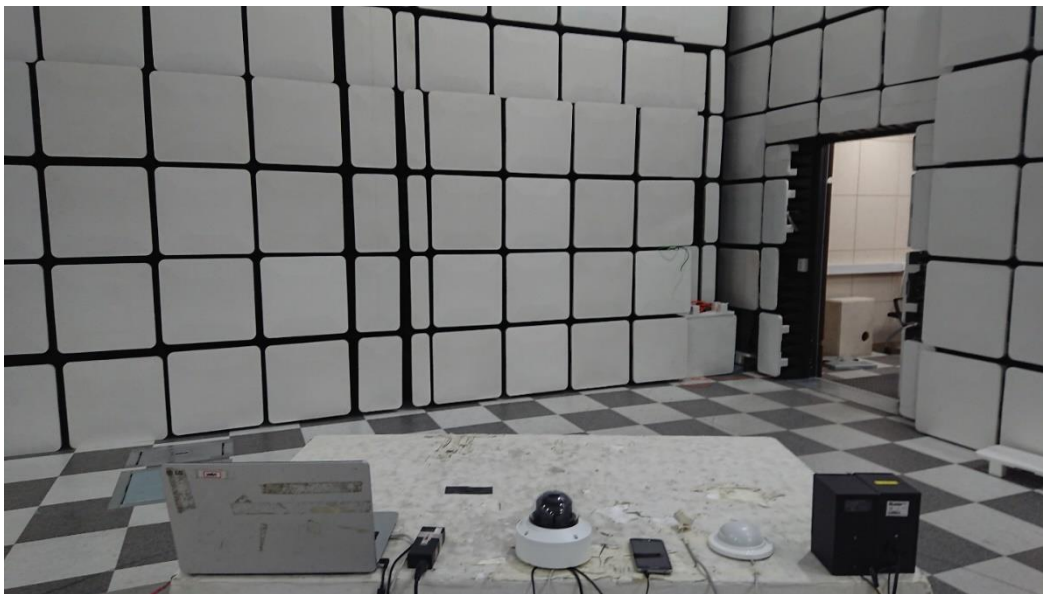
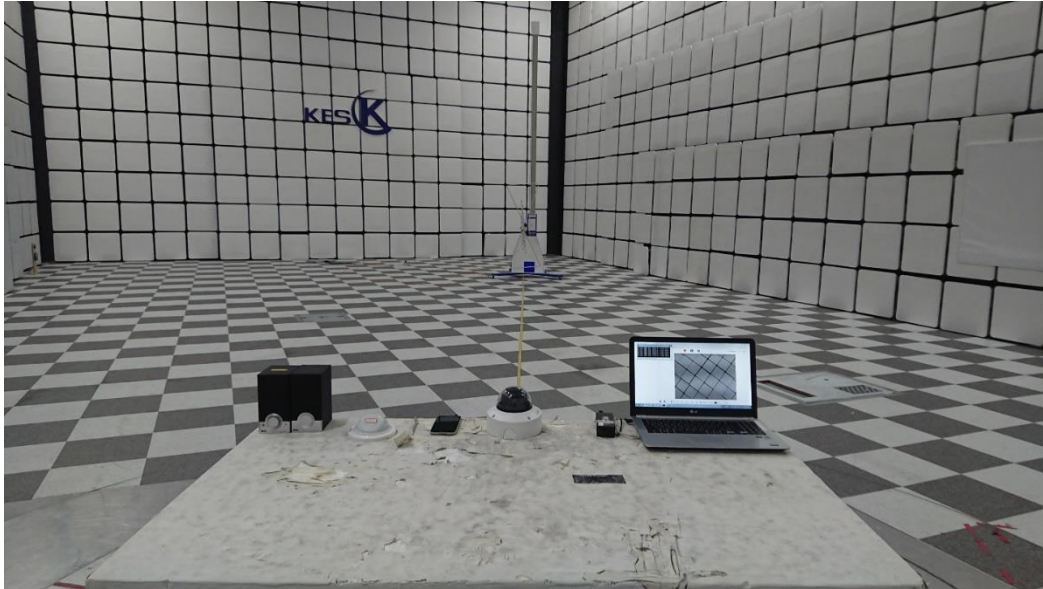
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Conducted Telecommunication Emissions



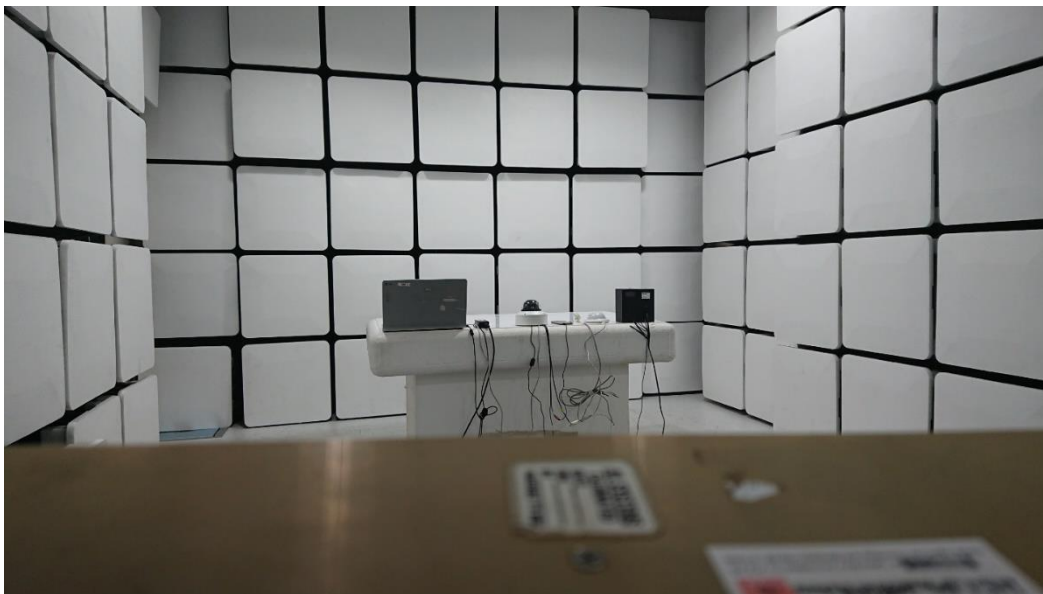
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



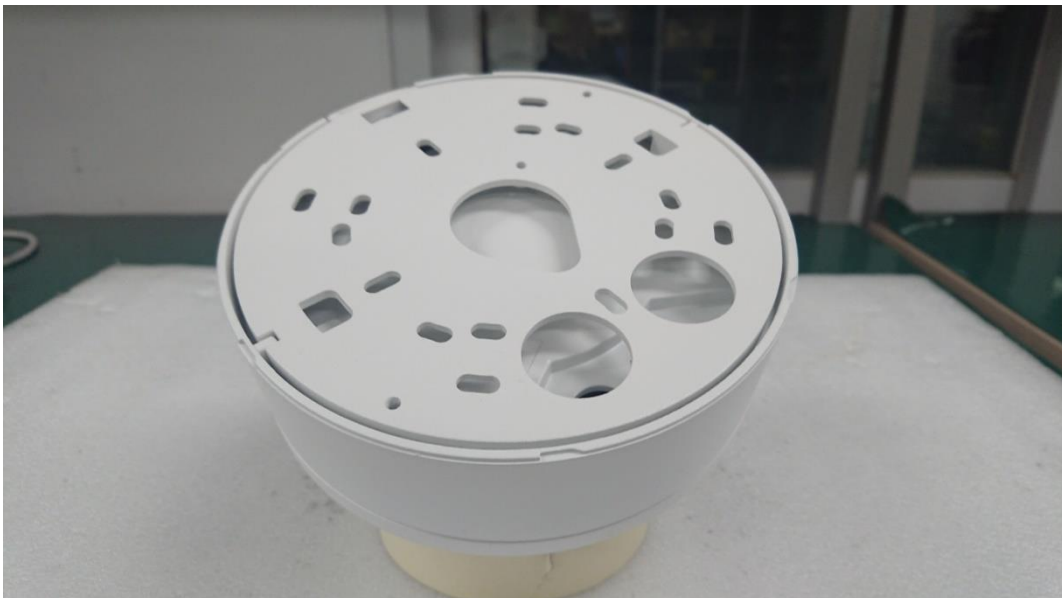
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EUT External Photographs

(Top)



(Bottom)



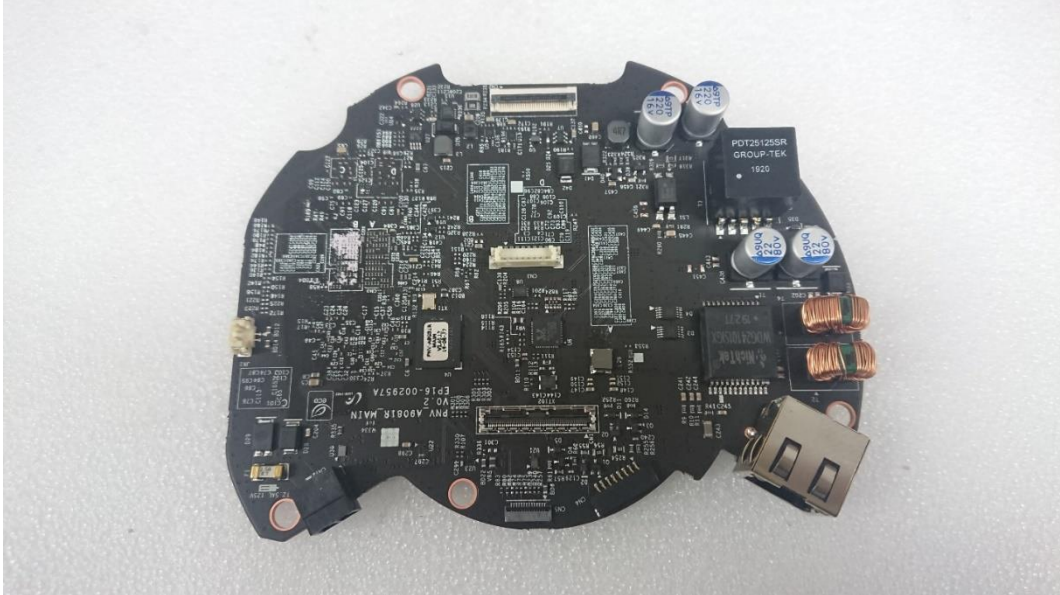
EUT Internal Photographs

(Internal View)



EUT Internal View – Main Board

(Top)



(Bottom)



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EUT Internal View – IR Board

(Top)

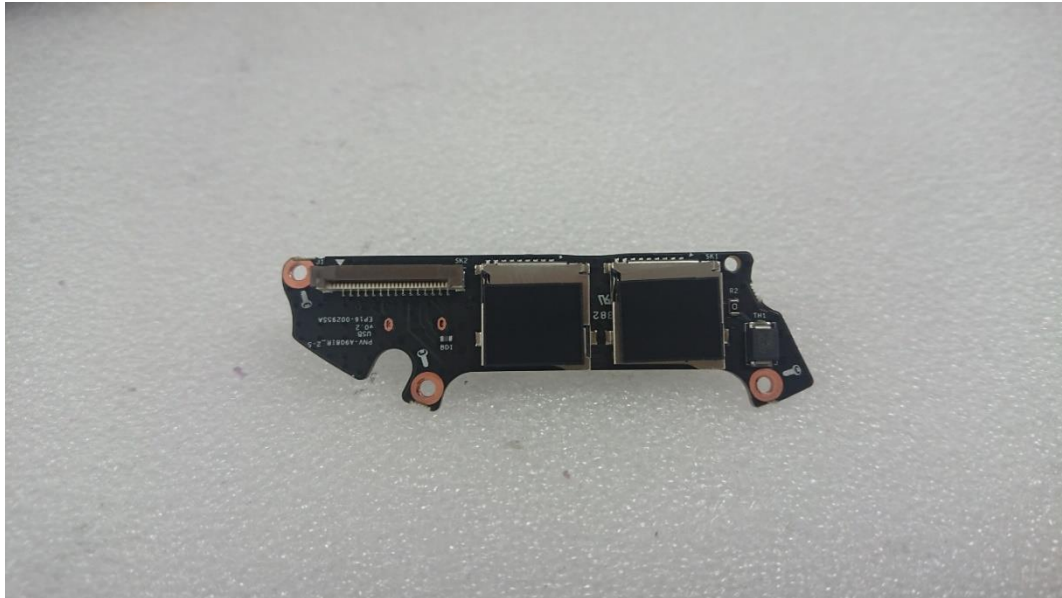


(Bottom)

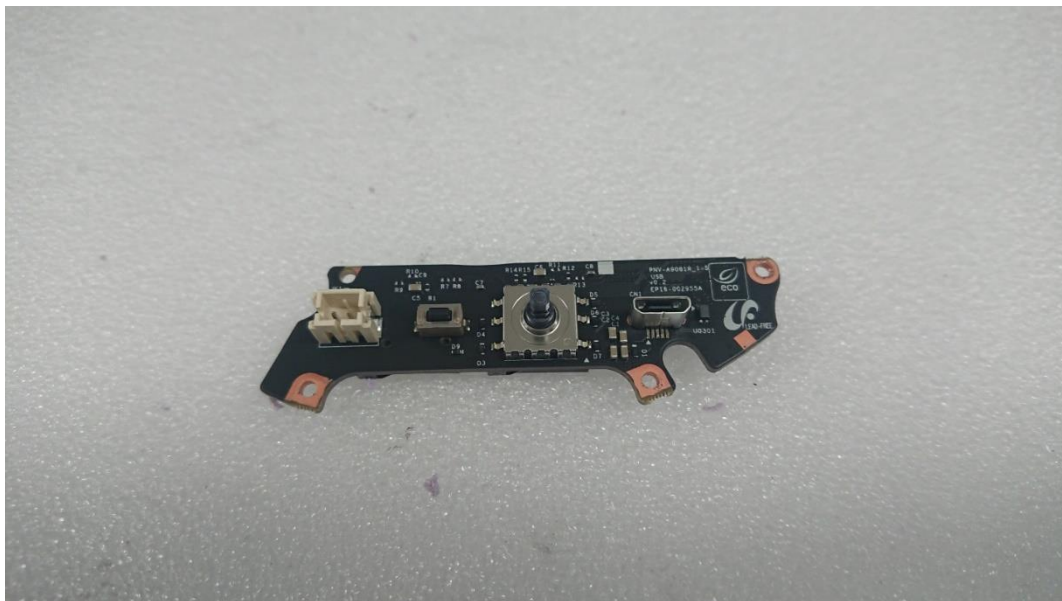


EUT Internal View – USB Board

(Top)



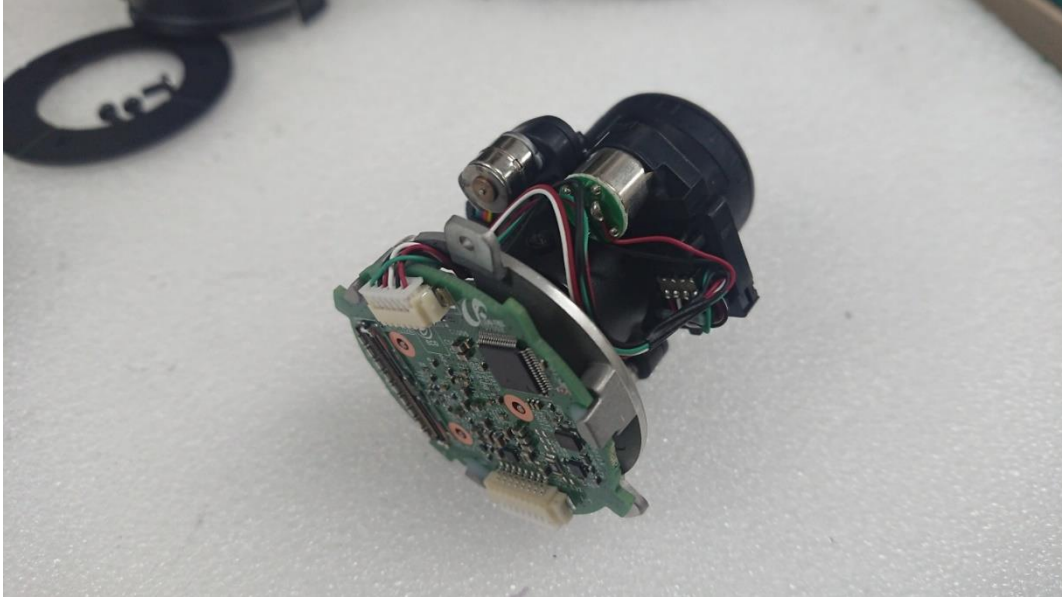
(Bottom)



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EUT Internal View – LENS Module

(Top)



(Bottom)

