



EMC TEST REPORT

Test Report No. : KES-E1-19T0075-R2
Date of Issue : Feb. 24, 2023
Product name : Network Camera
Model/Type No. : XND-8081RV
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 : **Supply's Declaration of Conformity**
Date of Receipt : Jan. 21, 2019
Test date : Jan. 22, 2019
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.

**KES Co., Ltd.**

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Feb. 08, 2019	KES-E1-19T0075	Issued
Nov. 19, 2021	KES-E1-19T0075-R1	- Delete Manufacturer on Customer Request - IC Regulation ICES-003 Issue 7 Update ANSI C63.4-2014 or ANSI C63.4-2014 amended as per ANSI C63.4a-2017
Feb. 24, 2023	KES-E1-19T0075-R2	Change the Applicant, Applicant address and manufacturer at the request of the customer

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KES Co., Ltd.

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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1.0 General Product Description

Main Specifications of EUT are:

Items		Description		
		XNV-8081R	XND-8081RV	XND-8081RF
Video	Imaging Device	1/1.8" 6MP CMOS		
	Effective Pixels	2616(H) x 1976(V)		
	NETD	None		
	Pixel Size	None		
	Min. Illumination	Color: 0.07 Lux(F1.2, 1/30sec) B/W: 0 Lux(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)	3.6~9.4mm(2.6x) motorized varifocal		
	Max. Aperture Ratio	F1.2(Wide) ~ F2.4(Tele)		
	Angular Field of View	H: 102.5°(Wide) ~ 38.7°(Tele) V: 74.2°(Wide) ~ 29.0°(Tele) D: 135.5°(Wide) ~ 48.6°(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	Remote adjustment (Max. 200 cycles)		
	Pan Speed	None		
	Tilt Range	None		
	Tilt Speed	None		
	Rotate Range	None		
	Sequence	None		
	Preset Accuracy	None		
	Azimuth	None		
	Auto Tracking	None		

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Items		Description		
		XNV-8081R	XND-8081RV	XND-8081RF
Operational	IR Viewable Length	50m(164.04ft)		
	Camera Title	Displayed up to 85 characters		
	Day & Night	Auto (ICR)		
	Backlight Compensation	BLC, HLC, WDR, SSDR		
	Wide Dynamic Range	150dB		
	Digital Noise Reduction	SSNR V		
	Digital Image Stabilization	Support (built-in Gyro Sensor)		
	Defog	Support		
	Motion Detection	8ea, 8point Polygonal zones		
	Privacy Masking	32ea, polygonal zones - Color : Gray, Green, Red, Blue, Black, White - Mosaic		
	Gain Control	Low / Middle / High		
	White Balance	ATW / AWC / Manual / Indoor / Outdoor		
	LDC	Support		
	Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)		
	Video Rotation	Flip, Mirror, Halfway view(90°/270°)		
	Analytics	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification, Shock detection		
	Business Intelligence	People counting, Queue management, Heatmap		
	Serial Interface	None		
Operational	Alarm I/O	Input 1ea / Output 1ea		
	Alarm Triggers	Analytics, Network disconnect, Alarm input		
	Alarm events		Description	
			XNV-8081R	XND-8081RV
	Audio In		Description	
			XNV-8081R	XND-8081RV
	Audio out		Description	
			XNV-8081R	XND-8081RV
	Wiper		Description	
			XNV-8081R	XND-8081RV
Radiometry	Temperature detect range		Description	
			XNV-8081R	XND-8081RV
	Temperature accuracy		Description	
			XNV-8081R	XND-8081RV
Network	Ethernet		Description	
			XNV-8081R	XND-8081RV
	Video Compression		Description	
			XNV-8081R	XND-8081RV
Network	Resolution		Description	
			XNV-8081R	XND-8081RV
Network	Max. Framerate		Description	
			XNV-8081R	XND-8081RV

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Items		Description		
		XNV-8081R	XND-8081RV	XND-8081RF
Network	Smart Codec	Manual(See area), WiseStream II		
	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 μ -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, PIM-SM, UPnP, Bonjour, LLDP		
	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication (EAP-TLS, EAP-LEAP)		
	Edge Storage	Micro SD/SDHC/SDXC 2slot 512GB		
	Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet Open Platform		
	Web Viewer	Supported OS : Windows 7 / 8.1 / 10, MAC OS X 10.10, 10.11, 10.12 Recommended Browser : Google Chrome Supported web browsers : MS Explorer11, MS Edge, Mozilla Firefox (Window 64bit only), Apple Safari (Mac OS X only)		
	Memory	1024MB RAM, 256MB Flash		
Items		Description		
		XNV-8081R	XND-8081RV	XND-8081RF
Environmental	Operating Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH *Start up should be done at above -35°C	-25°C ~ +60°C (-13°F ~ +140°F) / Less than 90% RH	
	Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH		
	Certification	IP66/IP67, IK10+, NEMA4X	IP52, IK10	IP52, Plenum rate(UL2820)
Electrical	Input Voltage	PoE(IEEE802.3af, Class3), 24VAC, 12VDC	PoE(IEEE802.3af, Class3), 12VDC	
	Power Consumption	PoE: Max 12.95W, typical 10.90W 12VDC: Max 11.7W, typical 8.90W 24VAC: Max 14.9W, typical 11.30W	PoE: Max 12.95W, typical 10.10W 12VDC: Max 11.7W, typical 7.90W	
Mechanical	Color / Material	White / Aluminum		
	RAL Code	RAL9003		
	Product dimensions / weight	Ø180x125mm(7.09x4.92"), 1.75kg(3.86 lb)	Ø180x125mm(6.30x4.92"), 1.45kg(3.20 lb)	Ø205x155mm(8.07x6.10"), 1.80kg(3.97 lb)

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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	XND-8081RV	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

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1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC / DC Adaptor	2ACB022F	-	Channel Well Technology (Guangzhou) Co., Ltd.	-
PoE Adaptor	PSE156G	3115156G000013	-	-
Notebook	LG15N54	410NZET022292	LG Electronics	-
Notebook Adaptor	PA-1900-08	9702591703	Dongguang Lite Power 2nd Plant	-
Speaker	BR1000A Cuve Black 2	-	DONGGUAN EDIFIER TECHNOLOGY Co., Ltd	-
MIC	MP1000	-	-	-
Alarm 1	SIP-1201DD D0	-	SAMSUNG TECHWIN CO., LTD.	-
Alarm 2	-	-	-	-
Micro SD Card	-	-	SanDisk	4 GB
Cellular phone	SHV-E210L	R33D713KA3F	Samsung ElectronicCo.,Ltd.	-

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1.6 External I/O Cabling

■ DC 12 V

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
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	MIC	3.5 mm	1.4	U
	Alarm Out	Alarm 1	Alarm In	3.0	U
	Alarm In	Alarm 2	Alarm Out	3.0	U
	SLOT	Micro SD Card	SLOT	-	-
Notebook	3.5 mm	Cellular phone	3.5 mm	1.0	U

* Unshielded=U, Shielded=S

■ PoE

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
Network Camera (EUT)	RJ-45	PoE Adaptor	RJ-45	3.0	U
	3.5 mm	Speaker	3.5 mm	1.4	U
	3.5 mm	MIC	3.5 mm	1.4	U
	Alarm Out	Alarm 1	Alarm In	3.0	U
	Alarm In	Alarm 2	Alarm Out	3.0	U
	SLOT	Micro SD Card	SLOT	-	-
Notebook	3.5 mm	Cellular phone	3.5 mm	1.0	U
	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 12 V	EUT Monitoring, Ping Test
PoE	EUT Monitoring, Ping Test

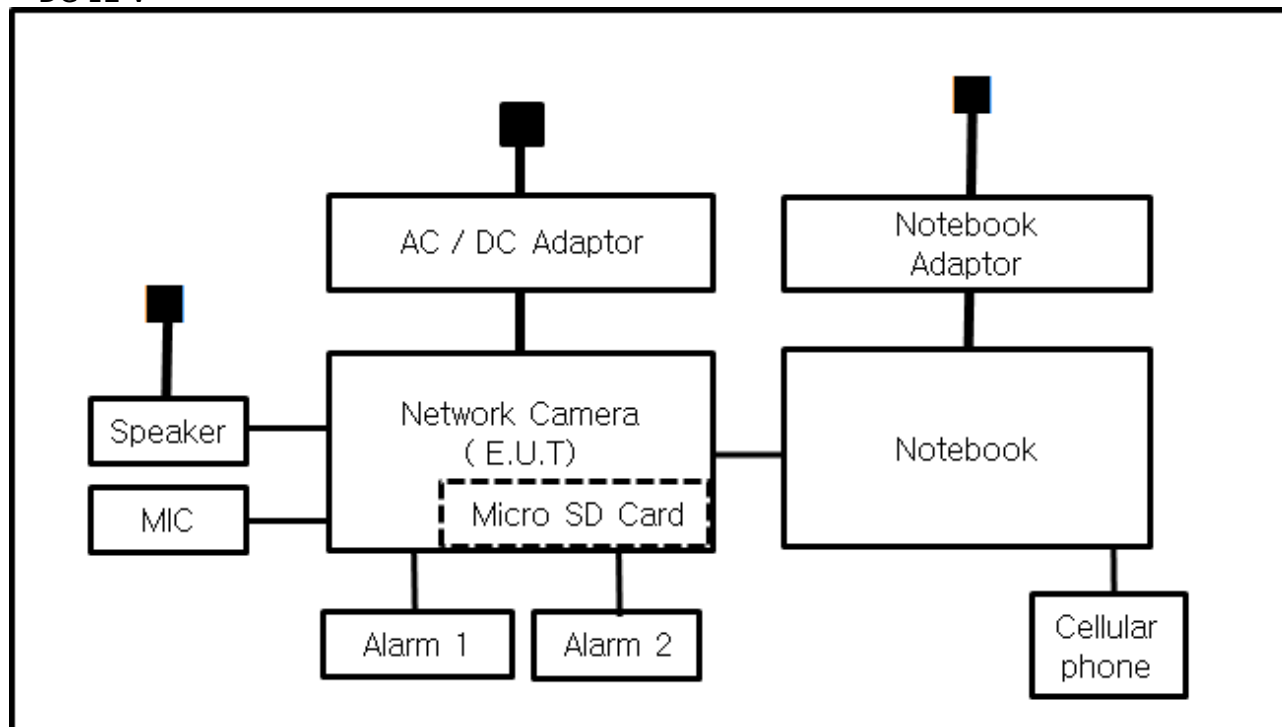
EUT Test operating S/W		
Name	Version	Manufacture Company
WebViewer	-	Hanwha Vision Co., Ltd

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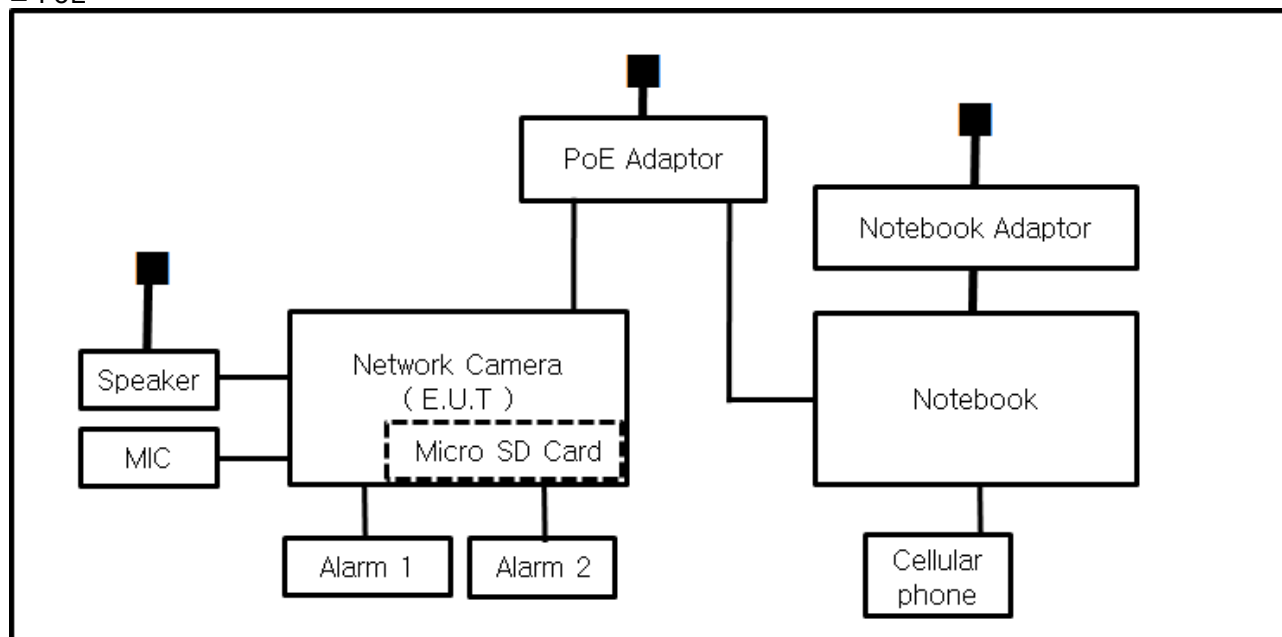
1.8 Configuration

■ AC Main
 □ DC Main

■ DC 12 V



■ PoE



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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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3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
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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

Jan. 22, 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, 25, 2019
☒	LISN	ENV216	R & S	101787	01, 04, 2020
☒	LISN	ESH2-Z5	R & S	100450	04, 25, 2019
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 26, 2019

Test ConditionsTemperature: 23,9 °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

RemarksSee Appendix A for test data.

2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jan. 22, 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, 11, 2019
☒	AMPLIFIER	SCU 01	R & S	100603	11, 26, 2019
☒	ATTENUATOR	8491A	HP	32173	03, 21, 2019
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 29, 2020

Test Conditions

Temperature: 23,8 °C
Relative Humidity: 51,4 % 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.

2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jan. 22, 2019

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, 11, 2019
☒	PREAMPLIFIER	8449B	AGILENT	3008A01742	01, 08, 2020
☐	ATTENUATOR	8491A	HP	35496	03, 21, 2019
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	09, 04, 2019

Test ConditionsTemperature: 23,8 °C
Relative Humidity: 51,4 % 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

RemarksSee Appendix A for test data.



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APPENDIX A – TEST DATA

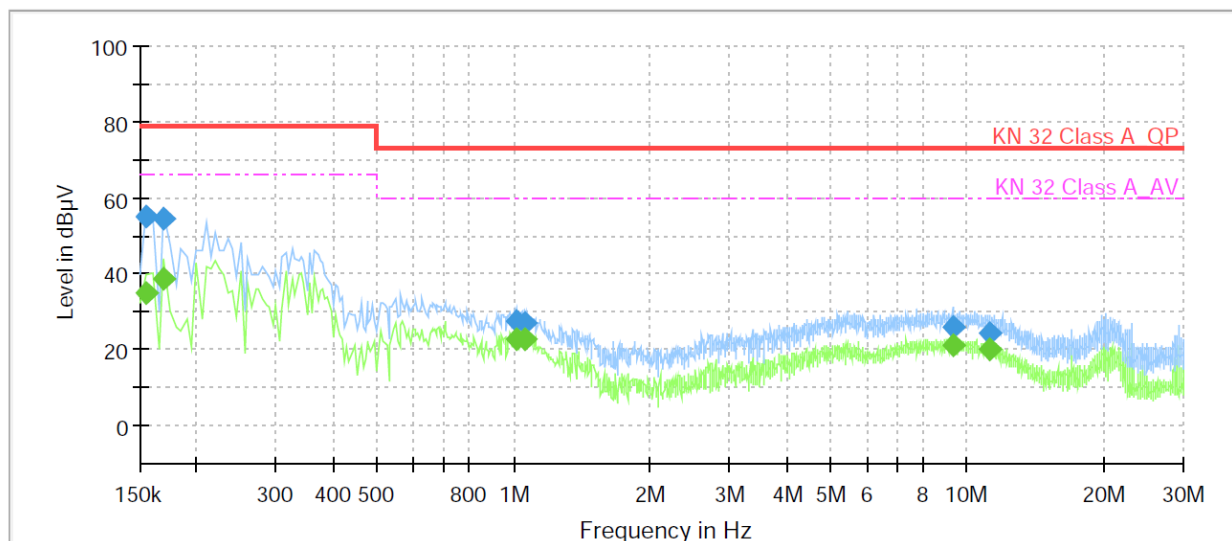
Conducted Emissions at Mains Power Ports

■ DC 12 V

HOT LINE

Common Information

Test Description: Conducted Emission
Model No.: XND-8081RV
Mode: 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	---	34.76	66.00	31.24	1000.0	9.000	L1	19.5
0.155000	54.94	---	79.00	24.06	1000.0	9.000	L1	19.5
0.170000	---	38.70	66.00	27.30	1000.0	9.000	L1	19.5
0.170000	54.52	---	79.00	24.48	1000.0	9.000	L1	19.5
1.015000	---	22.99	60.00	37.01	1000.0	9.000	L1	20.1
1.015000	27.63	---	73.00	45.37	1000.0	9.000	L1	20.1
1.060000	---	23.03	60.00	36.97	1000.0	9.000	L1	20.1
1.060000	27.01	---	73.00	45.99	1000.0	9.000	L1	20.1
9.275000	---	21.39	60.00	38.61	1000.0	9.000	L1	19.9
9.275000	25.81	---	73.00	47.19	1000.0	9.000	L1	19.9
11.265000	---	19.95	60.00	40.05	1000.0	9.000	L1	20.1
11.265000	24.59	---	73.00	48.41	1000.0	9.000	L1	20.1

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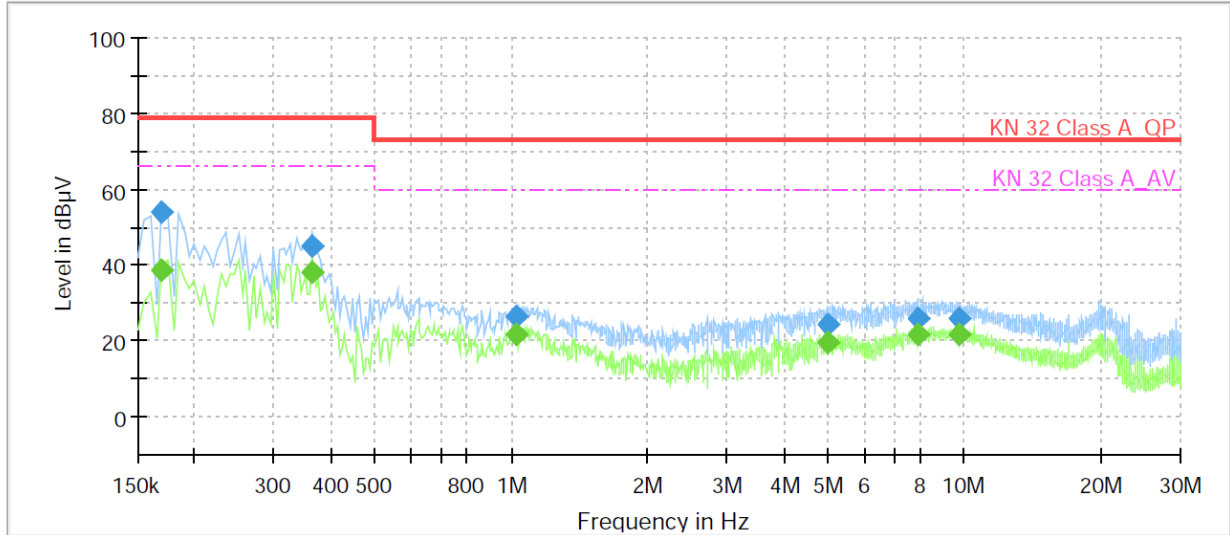
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NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Model No.: XND-8081RV
Mode: N
Operator Name: KES



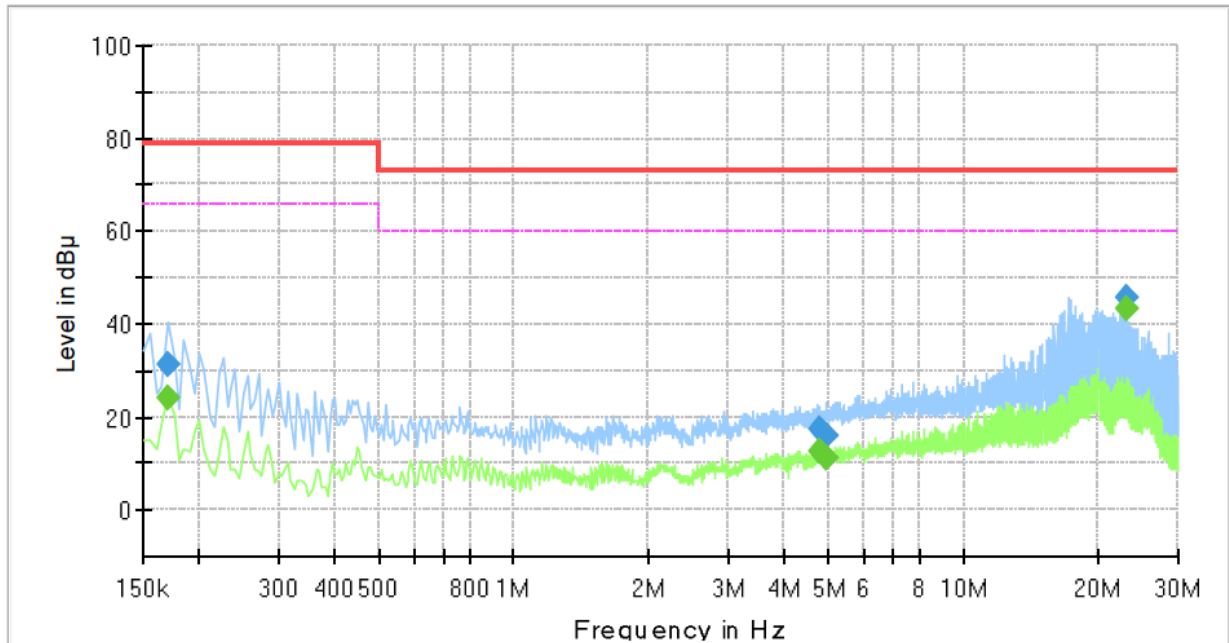
Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	38.43	66.00	27.57	1000.0	9.000	N	19.5
0.170000	54.00	---	79.00	25.00	1000.0	9.000	N	19.5
0.365000	---	38.36	66.00	27.64	1000.0	9.000	N	19.6
0.365000	45.22	---	79.00	33.78	1000.0	9.000	N	19.6
1.025000	---	21.88	60.00	38.12	1000.0	9.000	N	20.1
1.025000	26.36	---	73.00	46.64	1000.0	9.000	N	20.1
5.010000	---	19.40	60.00	40.60	1000.0	9.000	N	19.8
5.010000	24.58	---	73.00	48.42	1000.0	9.000	N	19.8
7.885000	---	21.47	60.00	38.53	1000.0	9.000	N	19.8
7.885000	26.05	---	73.00	46.95	1000.0	9.000	N	19.8
9.780000	---	21.56	60.00	38.44	1000.0	9.000	N	20.0
9.780000	25.96	---	73.00	47.04	1000.0	9.000	N	20.0

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PoE
HOT LINE
Common Information

Test Description:	Conducted Emission
Model No.:	XND-8081RV
Phase:	
Mode:	PoE_H
Operator Name:	KES

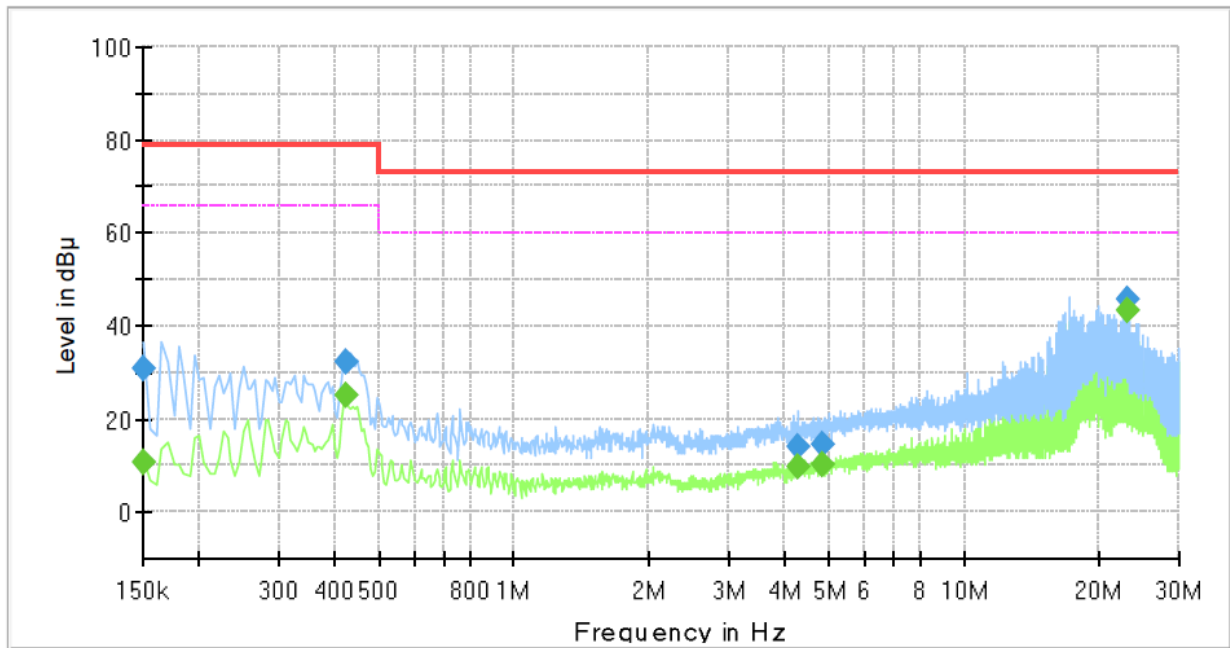

Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	24.16	66.00	41.84	1000.0	9.000	L1	19.5
0.170000	31.08	---	79.00	47.92	1000.0	9.000	L1	19.5
4.780000	---	12.60	60.00	47.40	1000.0	9.000	L1	19.8
4.780000	17.50	---	73.00	55.50	1000.0	9.000	L1	19.8
4.940000	---	11.13	60.00	48.87	1000.0	9.000	L1	19.8
4.940000	16.02	---	73.00	56.98	1000.0	9.000	L1	19.8
23.130000	---	43.33	60.00	16.67	1000.0	9.000	L1	20.2
23.130000	45.54	---	73.00	27.46	1000.0	9.000	L1	20.2

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XND-8081RV
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)
0.150000	---	10.61	66.00	55.39	1000.0	9.000	N	19.6
0.150000	30.96	---	79.00	48.04	1000.0	9.000	N	19.6
0.425000	---	25.11	66.00	40.89	1000.0	9.000	N	19.7
0.425000	32.48	---	79.00	46.52	1000.0	9.000	N	19.7
4.275000	---	9.58	60.00	50.42	1000.0	9.000	N	19.8
4.275000	13.83	---	73.00	59.17	1000.0	9.000	N	19.8
4.835000	---	10.28	60.00	49.72	1000.0	9.000	N	19.8
4.835000	14.31	---	73.00	58.69	1000.0	9.000	N	19.8
23.130000	---	43.45	60.00	16.55	1000.0	9.000	N	20.4
23.130000	45.65	---	73.00	27.35	1000.0	9.000	N	20.4

◆ 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 (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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KES Co., Ltd.

3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

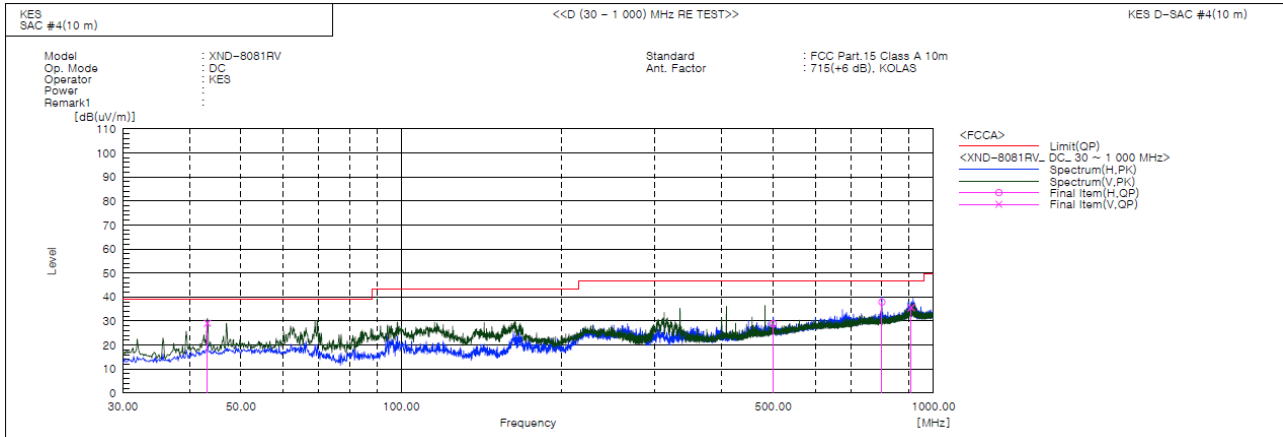
Report No.:

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Radiated Electric Field Emissions(Below 1 GHz)

■ DC 12 V



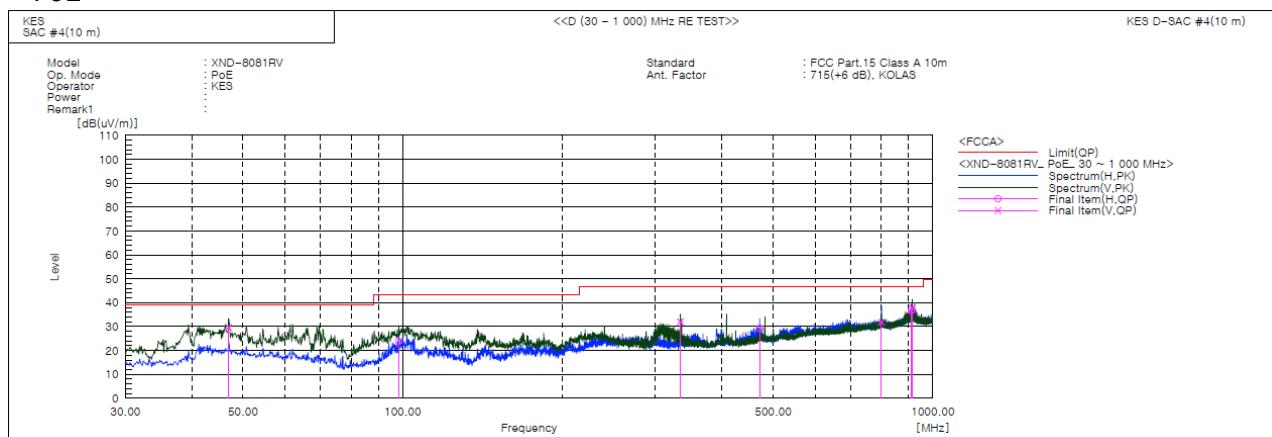
Final Result

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	43.263	V	51.4	-22.3	29.1	39.0	9.9	131.0	258.0	
2	500.086	H	41.9	-13.0	28.9	46.5	17.6	293.0	12.0	
3	800.059	H	45.8	-7.9	37.9	46.5	8.6	352.0	317.0	
4	907.971	V	41.5	-5.9	35.6	46.5	10.9	210.0	24.0	

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■ PoE



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	46.975	V	51.6	-21.9	29.7	39.0	9.3	106.0	55.0	
2	98.385	H	46.8	-22.8	24.0	43.5	19.5	344.0	5.0	
3	334.095	V	49.0	-17.0	32.0	46.5	14.5	142.0	15.0	
4	471.471	H	43.4	-14.0	29.4	46.5	17.1	275.0	288.0	
5	799.993	V	39.8	-7.9	31.9	46.5	14.6	129.0	354.0	
6	910.881	H	42.6	-5.9	36.7	46.5	9.8	326.0	181.0	
7	914.883	V	43.7	-5.9	37.8	46.5	8.7	231.0	348.0	

◆ 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



KES Co., Ltd.

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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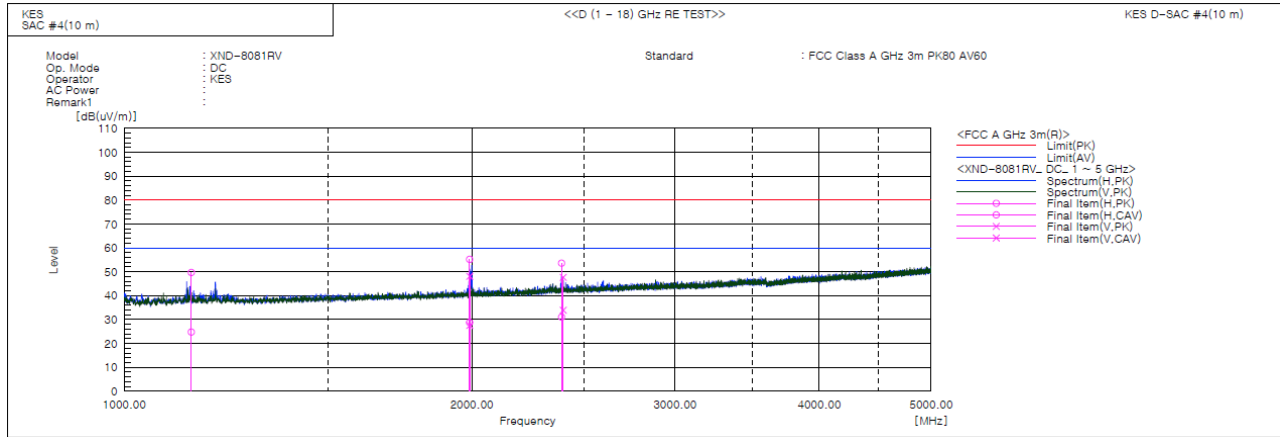
Report No.:

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Radiated Electric Field Emissions(Above 1 GHz)

■ DC 12 V



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	1143.210	H	55.1	30.2	-5.4	49.7	24.8	80.0	60.0	30.3	35.2	262.0	353.0	
2	1991.940	V	48.8	28.3	-0.7	48.1	27.6	80.0	60.0	31.9	32.4	139.0	34.0	
3	1991.235	H	55.9	29.4	-0.7	55.2	28.7	80.0	60.0	24.8	31.3	166.0	335.0	
4	2392.510	H	52.4	29.9	1.2	53.6	31.1	80.0	60.0	26.4	28.9	172.0	30.0	
5	2400.410	V	46.5	32.7	1.2	47.7	33.9	80.0	60.0	32.3	26.1	114.0	345.0	

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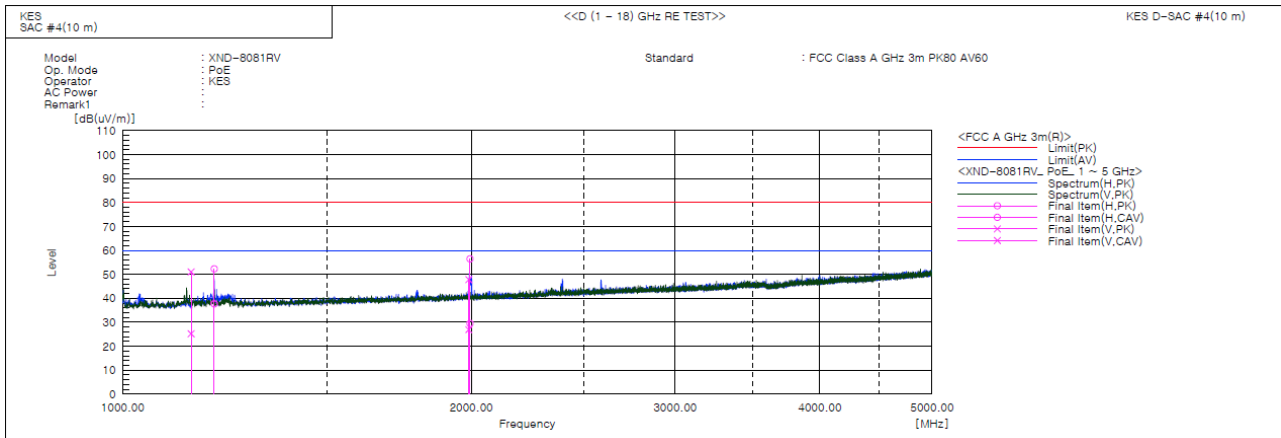
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Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
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■ PoE



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	1145.800	V	56.4	30.6	-5.4	51.0	25.2	80.0	60.0	29.0	34.8	177.0	53.0	
2	1199.910	H	57.2	42.6	-4.9	52.3	37.7	80.0	60.0	27.7	22.3	101.0	51.0	
3	1995.480	H	57.2	30.2	-0.7	56.5	29.5	80.0	60.0	23.5	30.5	104.0	2.0	
4	1990.265	V	48.5	27.6	-0.7	47.8	26.9	80.0	60.0	32.2	33.1	103.0	46.0	

◆ Calculation

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

Margin(PK/CAV)[dB] = Limit[dB(uV/m)] - Result(PK/CAV) [dB(uV/m)]

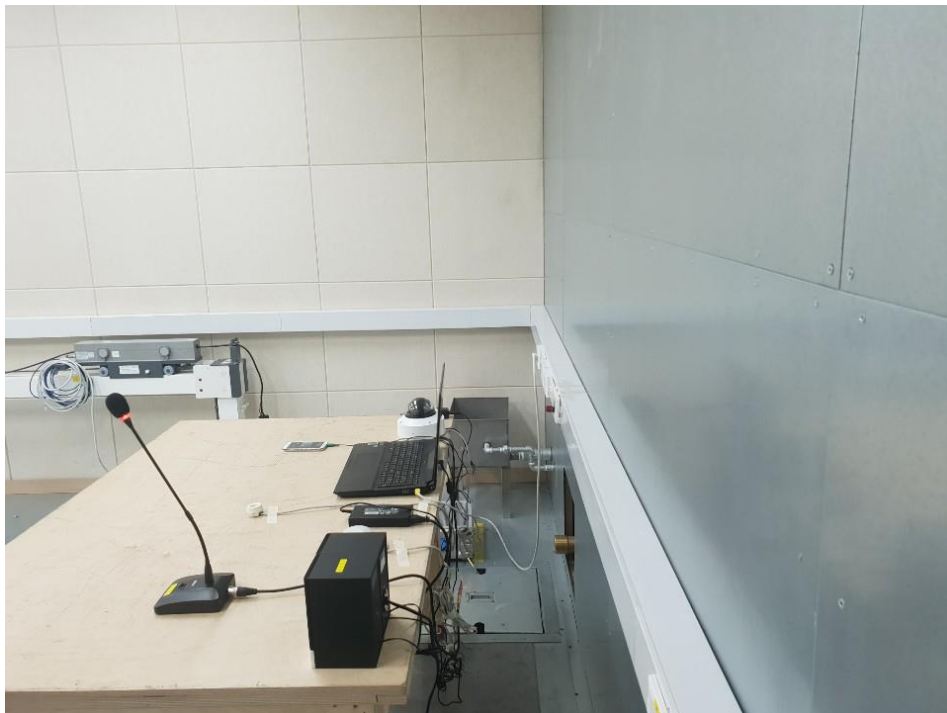
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

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



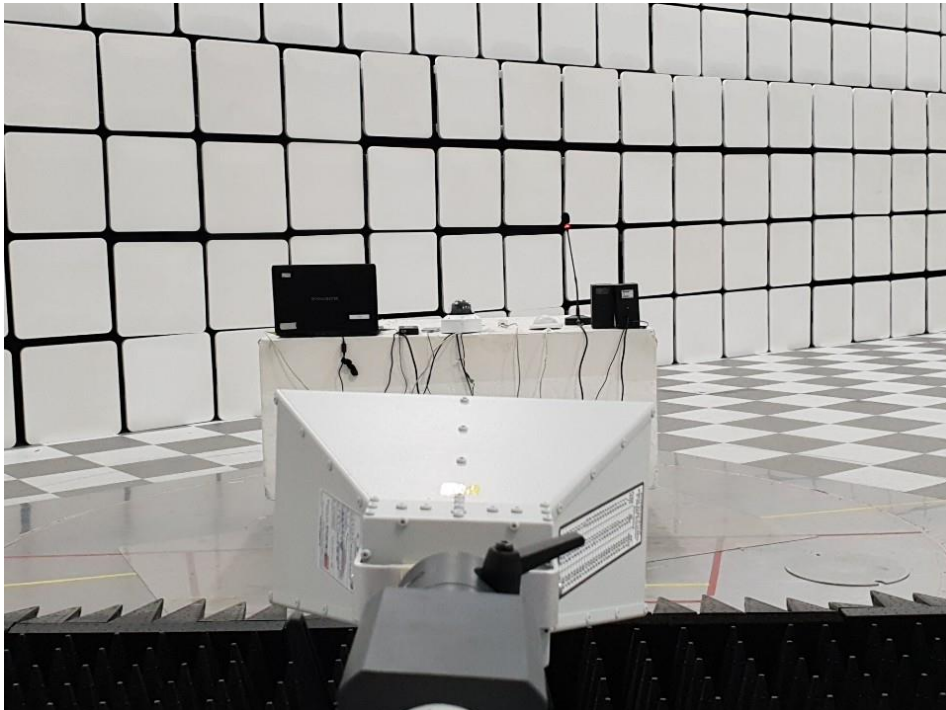
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

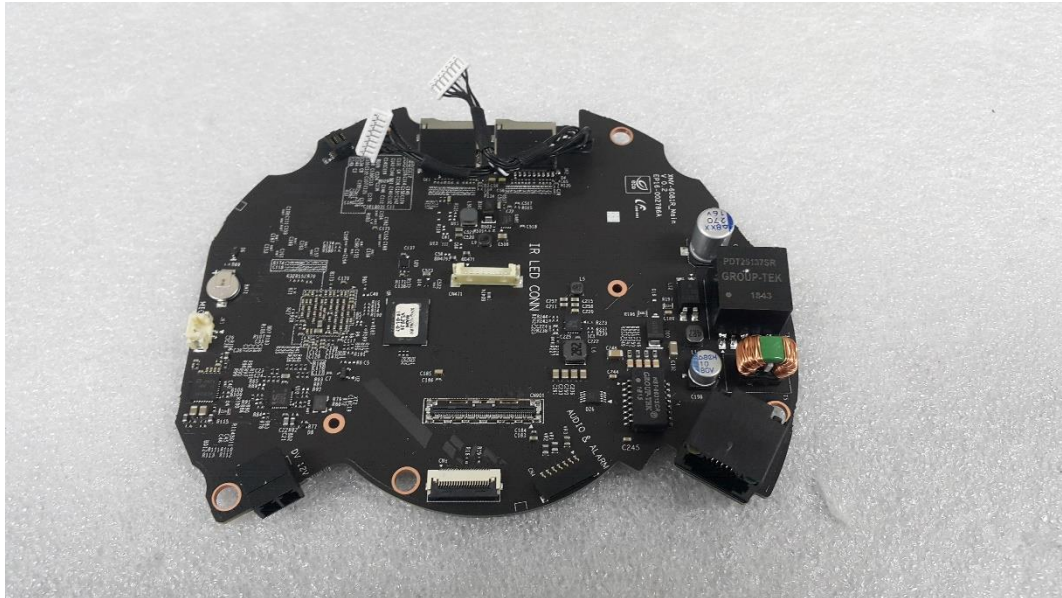
(Internal View)



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EUT Internal View – Board

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)



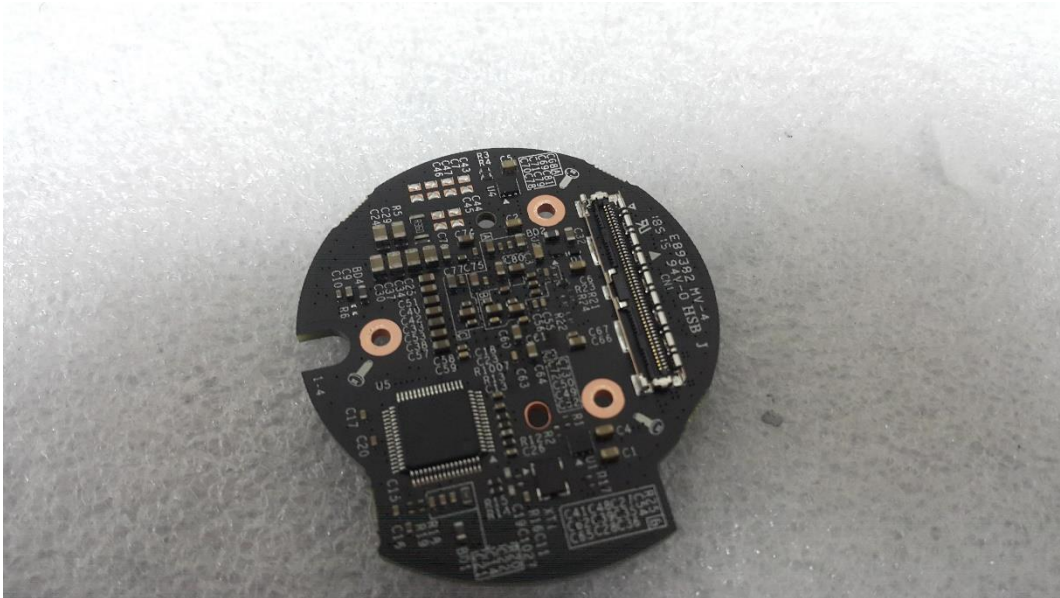
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EUT Internal View – Lens Board

(Top)



(Bottom)



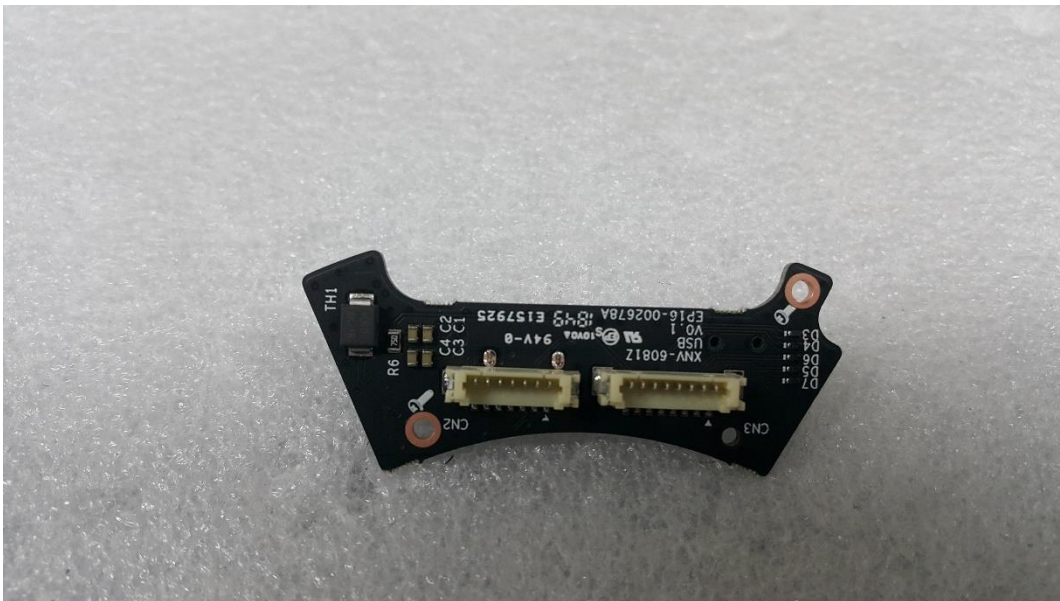
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EUT Internal View – Switch Board

(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.