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Report No.:

KES-E1-17T0010-R2

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EMC TEST REPORT For IC

Test Report No. : KES-E1-17T0010-R2

Date of Issue : Feb. 24, 2023

Product name : NETWORK CAMERA

Model/Type No. : XNV-8080R

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 : Nov, 23, 2016

Test date : Dec, 23, 2016

Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Sung Keun, Park
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

Tested by Young Suk, Song
(Retired person)
Proxy signature : Sung Keun, Park

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. 05, 2017	KES-E1-17T0010	Issued
Dec. 06, 2021	KES-E1-17T0010-R1	- Applicant Address/Manufacturer change at customer's request - Deletion of model name "N" - 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-E1-17T0010-R2	Change the Applicant and manufacturer at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3096(H) x 2094(V)
Effective Pixels	2616(H) x 1976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.1 lux(F1.3, 1/30sec) B/W : 0 Lux (F1.3, IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vp-p / 75 Ω composite, 720x480(N), 720x576(P), for installation USB : Micro USB type B, 1920 x 1080, for installation
Lens	
Focal Length (Zoom Ratio)	3.9~9.4mm(2.4x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	TBD
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus(Motorized V/F) / Manual, Remote control via network(Manual, Simple focus)
Lens Type	DC Auto Iris, P-iris
Mount Type	Board-in type
Pan / Tilt / Rotate	
Pan / Tilt / Rotate range	0° ~ 354° / 0° ~ 85°(TBD) / 0° ~ 355°
Operational	
Viewable Length	(TBD)50m(164.04ft)
Camera Title	Off / On (Displayed 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), Transparency, Auto Scale by Resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC(Masking/Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR5 (2D+3D Noise Filter) (Off / On)
Digital Image Stabilization	Off / On (Built-in Gyro sensor)
Defog	Auto(input from fog detection) / Manual / Off
Motion Detection	Off/ On(8ea, 8point Polygonal zones), Hand over
Privacy Masking	Off / On (32ea, polygonal zones) - Color : Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Off / Low / Medle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor((included Mercury & Sodium)
Contrast	level adjustment
LDC	On/Off (5 levels with Min/Max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24X, 'Digital PTZ(Preset, Group)
Flip / Mirror	Flip : On/Off Mirror : On/Off Hallway view : 90°/270°
Intelligent Video & Audio A	Tampering, Loitering, Directional Detection, Defocus Detection, Fog Detection, Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Motion Detection, Digital Auto Tracking, Sound Classification

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Alarm I/O	Input 1ea / Output 1ea
Remote Control Interface	-
RS-485 Protocol	-
Alarm Triggers	Alarm Input, Motion Detection, Video & Audio Analytics, Network Disconnect
Alarm events	File upload via FTP, E-Mail Notification via E-Mail local storage(SD/SDHC/SDXC) or NAS recording at Event Triggers External output DPTZ preset
Audio In	Selectable (Mic IN/Line IN), Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out, Max output level: 1 Vrms
Pixel Counter	Support
Network	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Form	H.265/H.264 (MPEG-4 Part 10/AVC) : Main/Baseline/High , Motion JPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960 1280 x 720, 1024 x 768, 800 x 600, 720 x 576, 720 x 480, 640 x 480, 320 x 240
Max. Framerate	H.265/H.264 : Max. 30fps at all resolutions Motion JPEG : Max. 30fps
Smart Codec	Manual Mode (area-based : 5EA)
WiseStream	Support
Video Quality Adjustment	H.264/H.265 : Target Bitrate Level Control MJPEG : Target Bitrate Level Control
Bitrate Control Method	H.264/H.265 : CBR or VBR, with WiseStream MJPEG : VBR
Streaming Capability	Multiple Streaming (Up to 10 Profiles)
Audio Compression Form	G.711 u-law /G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-Way)
IP	IPv4, IPv6
Protocol	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
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1X Authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at Unicast Mode
Edge Storage	SD/SDHC/SDXC 2slot (up to 512 GB) - Continuous recording(1'st slot to 2'nd slot) - Motion Images recorded in the SD/SDHC/SDXC memory card can be downloaded. NAS(Network Attached Storage) Local PC for Instant Recording

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Application Programming	ONVIF Profile S/G SUNAPI(HTTP API) Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Danish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatia, Hungary, Greek, Norsk, Finnish
Web Viewer	Supported OS: Windows 7, 8, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer Supported Browser: Google Chrome 54, MS Edge 38, Mozilla Firefox 49, Apple Safari 9 (Mac OS X only) Plug-in Webviewer Supported Browser : MS Explore 11, Apple Safari 9 (Mac OS X only)
Central Management Soft	SmartViewer, SSM
Environmental	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
Ingress Protection	IP67, IP68, NEMA 4X
Vandal Resistance	IK10
Electrical	
Input Voltage / Current	24VAC ± 10%, 12VDC ± 10%, PoE(IEEE802.3af)
Power Consumption	TBD
Mechanical	
Color / Material	Ivory / Aluminum
Dimension (WxHxD)	TBD
Weight	TBD
스펙시트 미표기 요구사항	
Cable Connection	Plug-in
SD카드	듀얼슬롯
Bottom cover	Conduit Hole 1개소

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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 ☐ 100 Vac ☐ 110 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	XNV-8080R	-	HANWHA VISION VIETNAM COMPANY LIMITED	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
POE Adapter	PD-3001GC/AC	RD9356082016964200	Power Dsine	-
Notebook	X56K	HN11N5151FJ0045W	HANSUNG	RE
Notebook Adapter	A12-120P1A	F180271552011758	CHICONY POWER TECHNOLOGY CO.,LTD.	RE
Notebook	LG15N54	506NZGK000615	LG	CE
Notebook Adapter	PA-1650- 43(65W)	OF58U63849302Y609	LG	CE
Phone	A1530	-	APPLE	-
MIC	CMK-303	-	CAMAC	1.7 m
Speaker	BR10000A CUVE	-	BEIJING EDIFIER HI- TECH GROUP.	1.6 m
Alarm	-	-	-	-



1.6 External I/O Cabling

- AC 24 V Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45	Notebook	RJ-45	3.0	U
	7 Pin	MIC	3.5 mm	1.7	U
		Speaker	3.5 mm	1.6	U
		Alarm	3 pin	3.0	U
Notebook	Audio in	Phone	Audio out	1.7	U

- DC 12 V Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45	Notebook	RJ-45	3.0	U
	7 Pin	MIC	3.5 mm	1.7	U
		Speaker	3.5 mm	1.6	U
		Alarm	3 pin	3.0	U
Notebook	Audio in	Phone	Audio out	1.7	U

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- PoE Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45 (POE)	POE Adapter	RJ-45 (POE)	3.0	U
	7 Pin	MIC	3.5 mm	1.7	U
		Speaker	3.5 mm	1.6	U
		Alarm	3 pin	3.0	U
Notebook	Audio in	Phone	Audio out	1.7	U
	RJ-45 (DATA)	POE Adapter	RJ-45 (DATA)	3.0	U

* Unshielded = U, Shielded = S

1.7 EUT Operating Mode(s)

operating
E.U.T Monitoring , Ping test, 1 kHz

E.U.T Test operating S/W		
Name	Version	Manufacture Company
SmartViewer	-	Hanwha Vision Co., Ltd

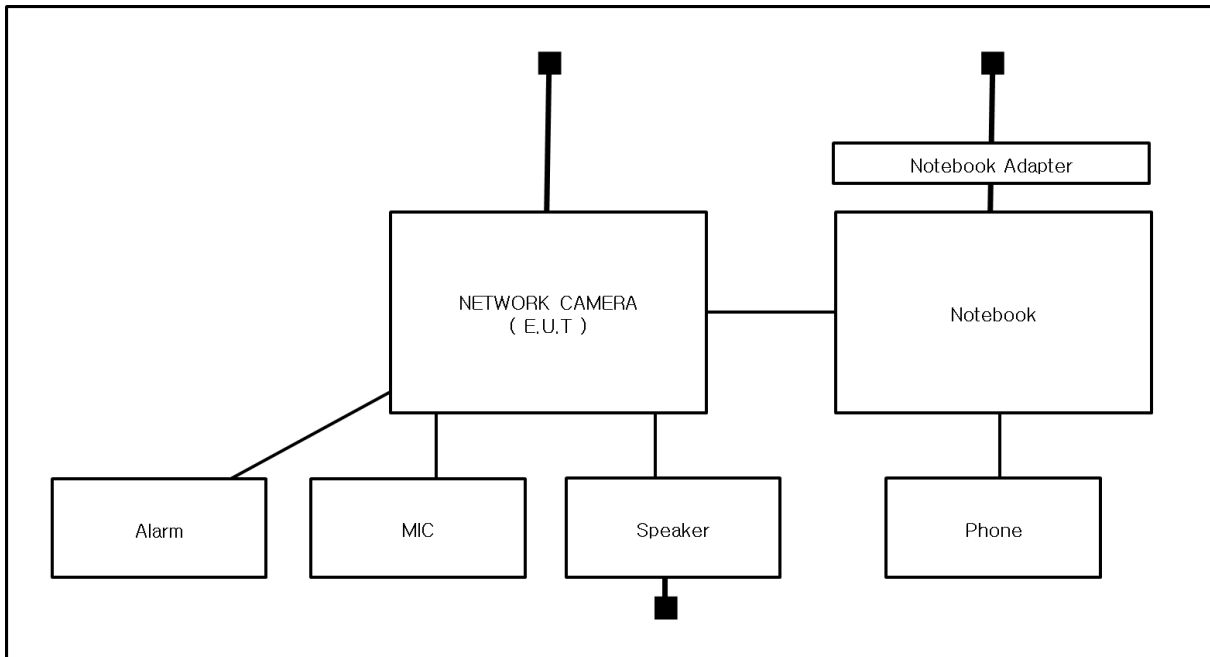
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1.8 Configuration

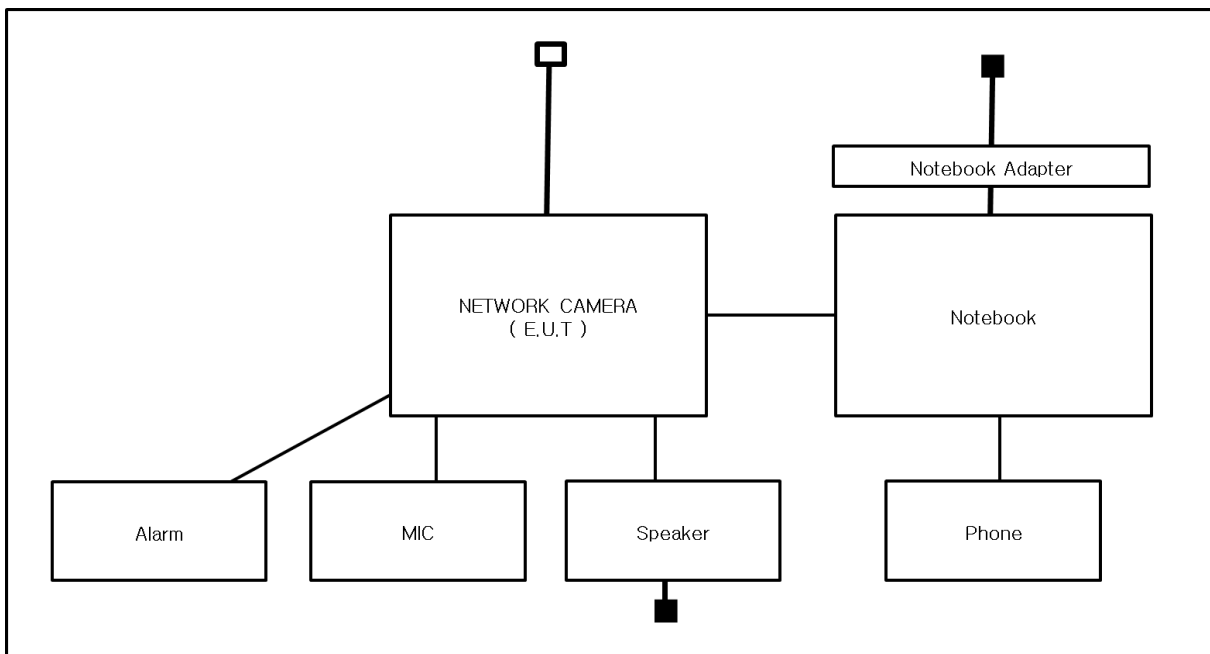
■ AC 24 V Main

☐ DC 12 V Main

- AC 24V Mode

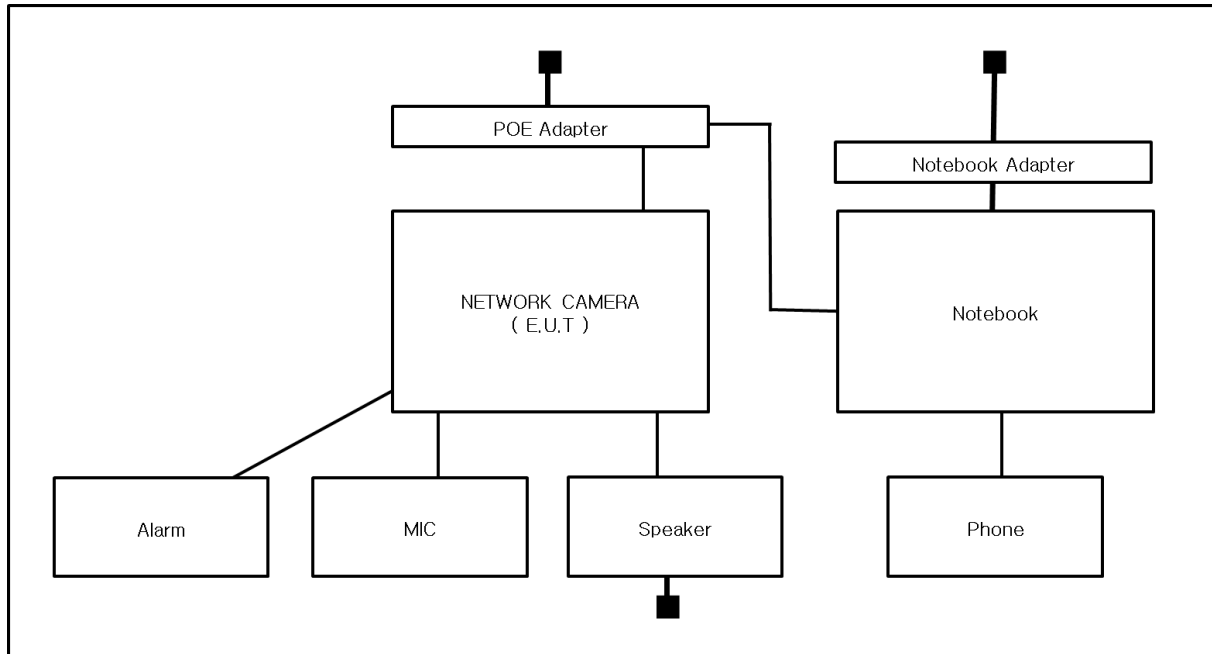


- DC 12V Mode



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- PoE Mode



1.9 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.

1.10 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

1.11 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 61547 :2009

☐ EN 55022:2010

☐ Class A

☐ Class B

☐ EN 55024:2010 +A1:2015

☐ 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 V-3 / 2015.04 | ☐ Class A | ☐ Class B |
| ☐ AS/NZS CISPR22:2009 +A1:2010 | ☐ 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 32:27 | ☒ 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 Mains Power Ports

Test Date

Dec, 23, 2016

Test Location

Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESR3	R & S	101783	05, 03, 2017
☒	LISN	ENV216	R & S	101137	02, 04, 2017
☒	LISN	ENV216	R & S	101786	05, 02, 2017
☒	Electro wave Shieldroom	-	SEMITEC	-	-
☒	EMI Test S/W	EMC32	R & S	9.12.00	-

Test Conditions

Temperature: 17,9 °C

Relative Humidity: 49,7 %

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

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2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Dec, 23, 2016

Test Location☐ Open Area Test Site #1☒ Open Area Test Site #2**Test Equipment**

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESR3	R&S	101781	05, 03, 2017
☒	Trilog-Broadband Antenna	VULB 9163	SCHWARZBECK	9168-713	05, 15, 2017
☒	Open Area Test Site	-	KES	-	-
☒	Antenna Mast	-	DAEIL EMC	-	-
☒	Turn Table	-	DAEIL EMC	-	-
☒	EMI Test S/W	-	-	-	-

Test Conditions

Temperature: -0,4 °C

Relative Humidity: 66,0 %

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

Dec, 23, 2016

Test Location

Semi Anechoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESU26	R&S	100552	04, 24, 2017
☒	Broadband Coaxial Preamplifier	BBV 9718	Schwarzbeck Mess - Elektronik	9718-246	10, 14, 2017
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	05, 07, 2017
☒	Semi Anechoic Chamber #2	-	SEMITEC	-	-
☒	Antenna Mast	-	AUDIX	-	-
☒	Turn Table	-	AUDIX	-	-
☒	EMI Test S/W	e3	AUDIX	8.083b	-

Test Conditions

Temperature: 17,9 °C

Relative Humidity: 49,7 %

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

RemarksSee Appendix A for test data.

APPENDIX A – TEST DATA

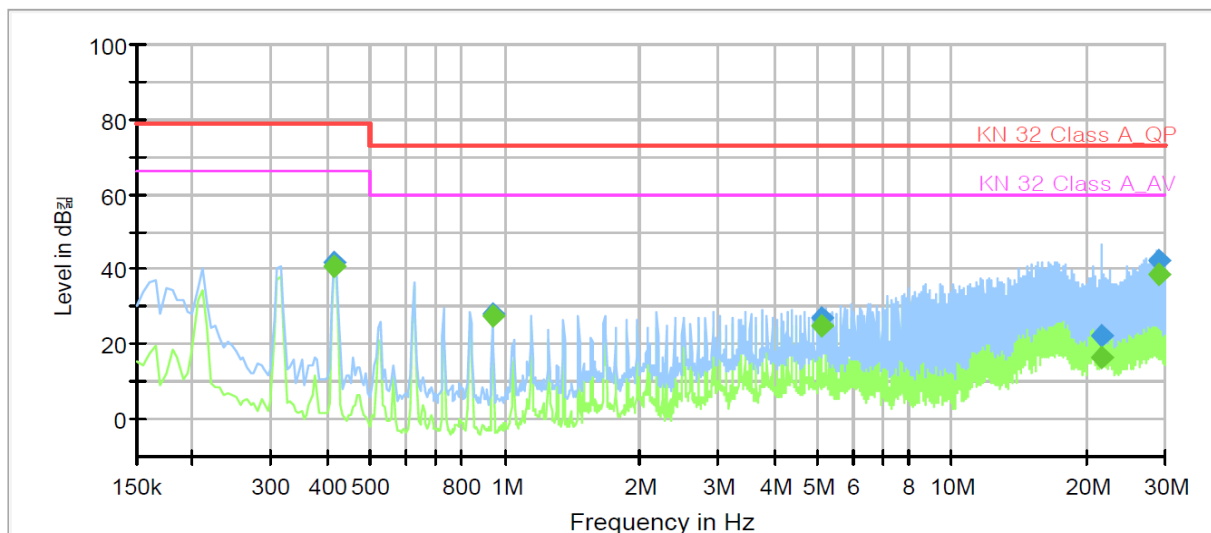
Conducted Emissions at Mains Power Ports

- AC 24V Mode

[HOT]

Common Information

Test Description:	Conducted Emission
Model No.:	XNV-8080RN
Mode	AC 24V
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.415000	---	40.94	66.00	25.06	1000.0	9.000	L1	9.8
0.415000	41.61	---	79.00	37.39	1000.0	9.000	L1	9.8
0.940000	---	27.48	60.00	32.52	1000.0	9.000	L1	10.0
0.940000	28.19	---	73.00	44.81	1000.0	9.000	L1	10.0
5.110000	---	24.83	60.00	35.17	1000.0	9.000	L1	10.0
5.110000	27.13	---	73.00	45.87	1000.0	9.000	L1	10.0
21.715000	---	16.35	60.00	43.65	1000.0	9.000	L1	10.3
21.715000	22.31	---	73.00	50.69	1000.0	9.000	L1	10.3
28.885000	---	38.50	60.00	21.50	1000.0	9.000	L1	10.4
28.885000	42.52	---	73.00	30.48	1000.0	9.000	L1	10.4

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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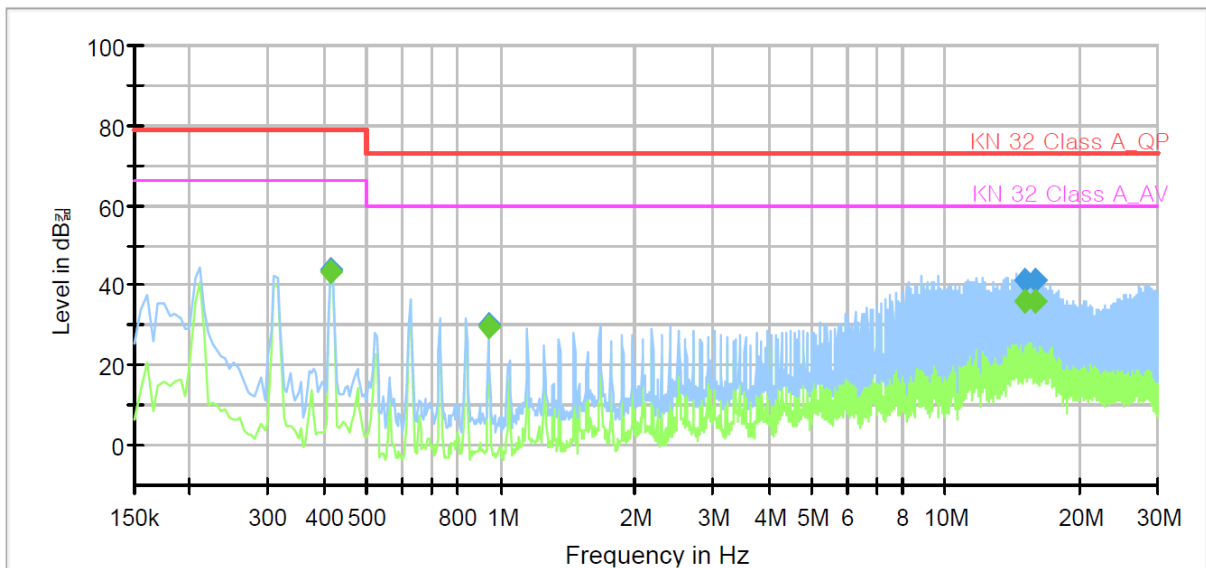
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

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[NEUTRAL]

Common Information

Test Description:	Conducted Emission
Model No.:	XNV-8080RN
Mode	AC 24V
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.415000	---	43.37	66.00	22.63	1000.0	9.000	N	9.8
0.415000	43.97	---	79.00	35.03	1000.0	9.000	N	9.8
0.940000	---	29.76	60.00	30.24	1000.0	9.000	N	10.0
0.940000	30.40	---	73.00	42.60	1000.0	9.000	N	10.0
15.125000	---	36.03	60.00	23.97	1000.0	9.000	N	10.1
15.125000	41.22	---	73.00	31.78	1000.0	9.000	N	10.1
15.855000	---	36.04	60.00	23.96	1000.0	9.000	N	10.2
15.855000	41.41	---	73.00	31.59	1000.0	9.000	N	10.2

◆ 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)

- DC 12V Mode

[HOT]

Common Information

Test Description:

Model No.:

Mode

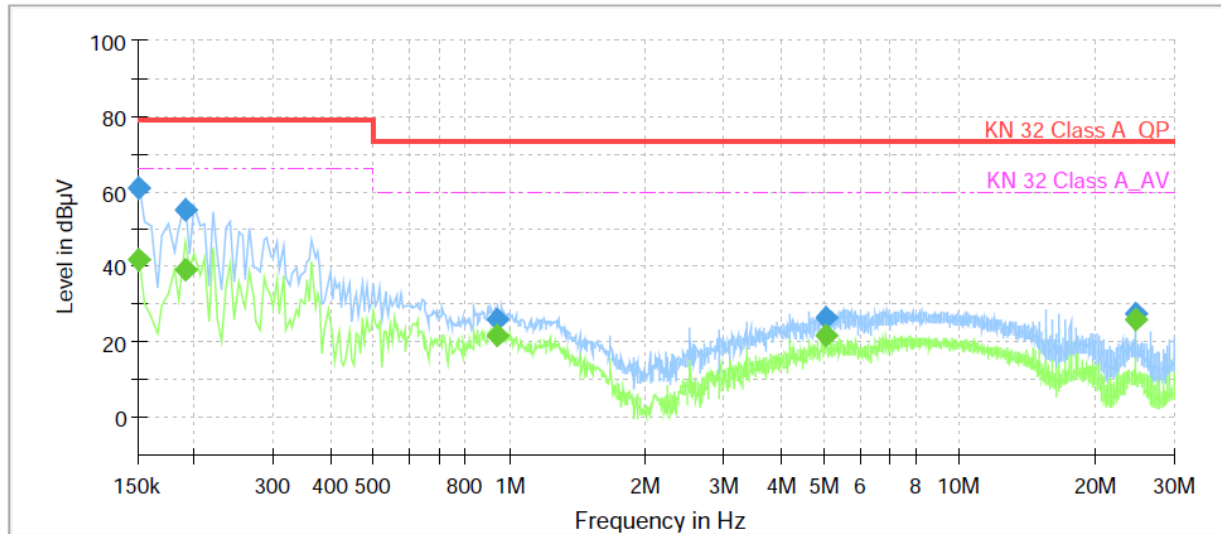
Operator Name:

Conducted Emission

XNV-8080R

DC 12V

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	41.83	66.00	24.17	1000.0	9.000	L1	9.7
0.150000	60.63	---	79.00	18.37	1000.0	9.000	L1	9.7
0.190000	---	38.98	66.00	27.02	1000.0	9.000	L1	9.7
0.190000	54.81	---	79.00	24.19	1000.0	9.000	L1	9.7
0.945000	---	21.47	60.00	38.53	1000.0	9.000	L1	10.0
0.945000	25.99	---	73.00	47.01	1000.0	9.000	L1	10.0
5.040000	---	21.58	60.00	38.42	1000.0	9.000	L1	10.1
5.040000	26.45	---	73.00	46.55	1000.0	9.000	L1	10.1
24.575000	---	26.14	60.00	33.86	1000.0	9.000	L1	10.3
24.575000	27.44	---	73.00	45.56	1000.0	9.000	L1	10.3

◆ Calculation

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

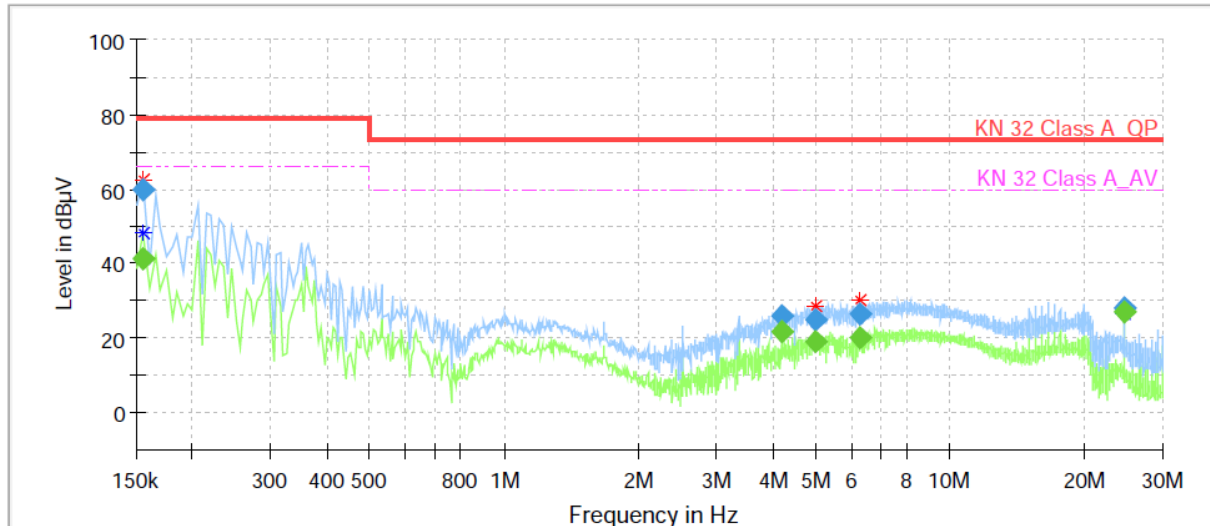
QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

[NEUTRAL]
Common Information

Test Description:	Conducted Emission
Model No.:	XNV-8080R
Mode	DC 12V
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	---	41.05	66.00	24.95	1000.0	9.000	N	9.6
0.155000	59.72	---	79.00	19.28	1000.0	9.000	N	9.6
4.200000	---	21.53	60.00	38.47	1000.0	9.000	N	10.1
4.200000	26.06	---	73.00	46.94	1000.0	9.000	N	10.1
4.990000	---	18.89	60.00	41.11	1000.0	9.000	N	10.0
4.990000	24.79	---	73.00	48.21	1000.0	9.000	N	10.0
6.295000	---	20.07	60.00	39.93	1000.0	9.000	N	10.0
6.295000	26.24	---	73.00	46.76	1000.0	9.000	N	10.0
24.575000	---	26.82	60.00	33.18	1000.0	9.000	N	10.3
24.575000	27.98	---	73.00	45.02	1000.0	9.000	N	10.3

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

- PoE Mode

[HOT]

Common Information

Test Description:

Conducted Emission

Model No.:

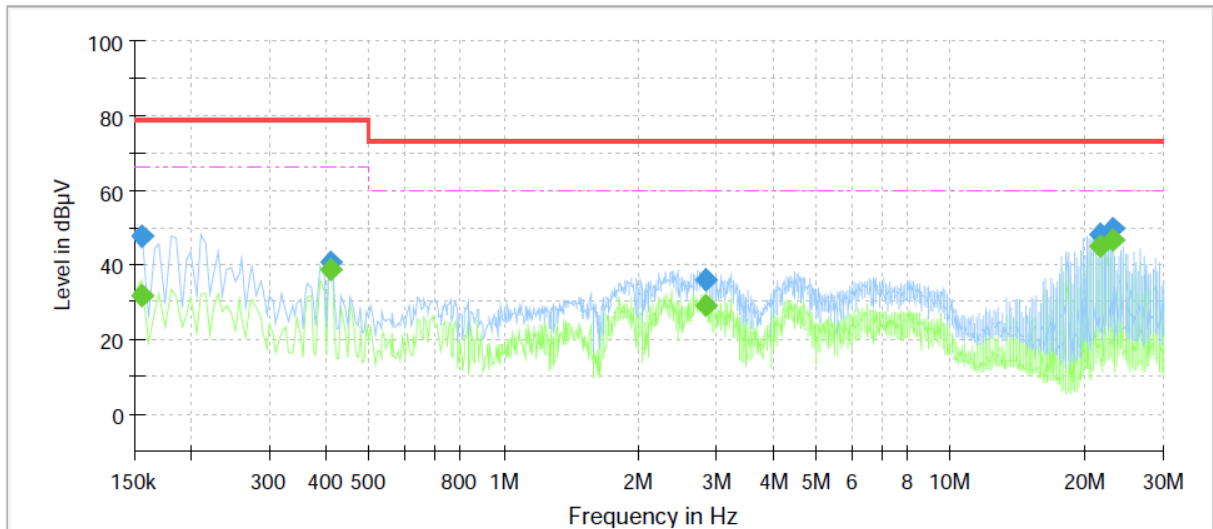
XNV-8080RN

Mode

PoE L1

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	---	32.01	66.00	33.99	1000.0	9.000	L1	21.0
0.155000	47.78	---	79.00	31.22	1000.0	9.000	L1	21.0
0.410000	---	38.74	66.00	27.26	1000.0	9.000	L1	20.6
0.410000	40.79	---	79.00	38.21	1000.0	9.000	L1	20.6
2.830000	---	28.95	60.00	31.05	1000.0	9.000	L1	19.8
2.830000	35.87	---	73.00	37.13	1000.0	9.000	L1	19.8
21.665000	---	45.11	60.00	14.89	1000.0	9.000	L1	20.4
21.665000	48.27	---	73.00	24.73	1000.0	9.000	L1	20.4
23.130000	---	46.43	60.00	13.57	1000.0	9.000	L1	20.4
23.130000	49.65	---	73.00	23.35	1000.0	9.000	L1	20.4

◆ Calculation

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

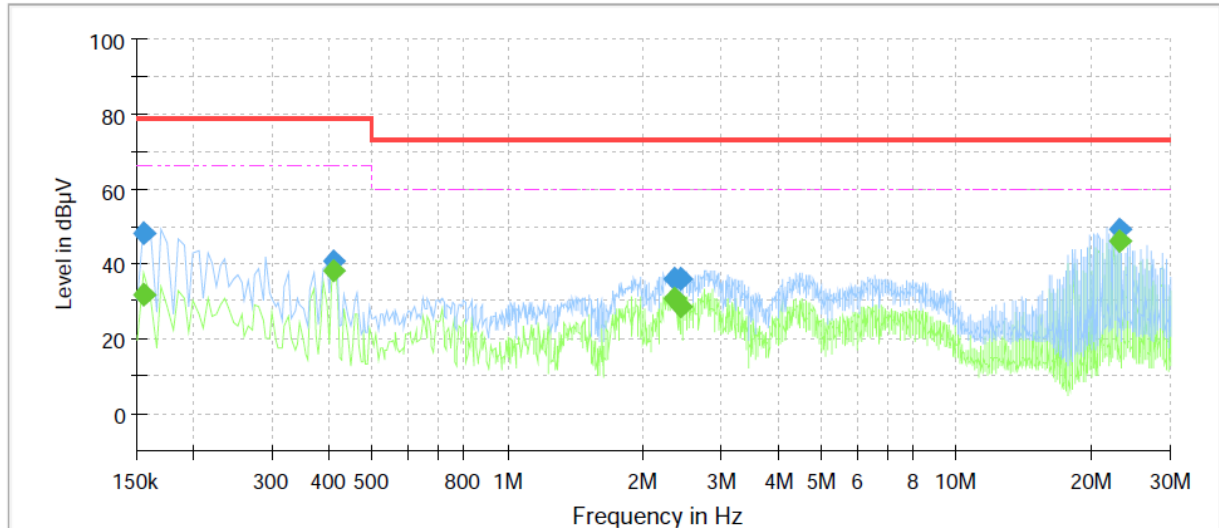
QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

[NEUTRAL] Common Information

Test Description:	Conducted Emission
Model No.:	XNV-8080RN
Mode	PoE N
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	31.59	66.00	34.41	1000.0	9.000	N	21.0
0.155000	47.98	---	79.00	31.02	1000.0	9.000	N	21.0
0.410000	---	38.10	66.00	27.90	1000.0	9.000	N	20.6
0.410000	40.58	---	79.00	38.42	1000.0	9.000	N	20.6
2.345000	---	30.68	60.00	29.32	1000.0	9.000	N	19.8
2.345000	35.90	---	73.00	37.10	1000.0	9.000	N	19.8
2.445000	---	28.65	60.00	31.35	1000.0	9.000	N	19.8
2.445000	36.16	---	73.00	36.84	1000.0	9.000	N	19.8
23.130000	---	46.19	60.00	13.81	1000.0	9.000	N	20.2
23.130000	49.45	---	73.00	23.55	1000.0	9.000	N	20.2

◆ 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)



Radiated Electric Field Emissions(Below 1 GHz)

- AC 24V Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[MHz]	[dB μ V]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dB μ V/m]	[dB μ V/m]	
122.87	14.87	H	1.02	9.41	3.20	27.48	40.00	12.52
148.26	11.25	V	1.33	8.14	3.55	22.94	40.00	17.06
172.49	13.25	H	3.02	9.09	3.83	26.17	40.00	13.83
196.80	10.90	V	1.54	11.00	4.08	25.98	40.00	14.02
230.73	14.55	H	2.96	11.98	4.49	31.02	47.00	15.98
230.76	11.31	V	3.01	11.98	4.49	27.78	47.00	19.22
350.96	10.69	H	1.28	14.56	5.65	30.90	47.00	16.10
350.97	12.25	V	2.00	14.56	5.65	32.46	47.00	14.54

* H : Horizontal, V : Vertical

◆ Calculation

Corrected Amplitude [dB μ V] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

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Report No.:
KES-E1-17T0010-R2
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- DC 12V Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[MHz]	[dBμV]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	
122.90	14.44	H	1.63	9.40	3.20	27.04	40.00	12.96
172.43	12.33	H	3.01	9.09	3.83	25.25	40.00	14.75
172.53	10.23	V	2.22	9.09	3.83	23.15	40.00	16.85
243.35	12.93	V	1.58	12.26	4.64	29.83	47.00	17.17
270.49	12.08	H	2.31	12.81	4.90	29.79	47.00	17.21
297.67	11.21	V	1.26	13.33	5.13	29.67	47.00	17.33
324.77	10.39	V	3.01	13.95	5.39	29.73	47.00	17.27
351.04	11.90	H	1.99	14.56	5.65	32.11	47.00	14.89

* H : Horizontal, V : Vertical

◆ Calculation

Corrected Amplitude [dBμV] = Amplitude[dBμV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

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Report No.:
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- PoE Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[MHz]	[dBμV]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	
122.88	15.06	V	1.09	9.41	3.20	27.67	40.00	12.33
172.53	11.36	V	2.97	9.09	3.83	24.28	40.00	15.72
172.53	10.97	H	2.01	9.09	3.83	23.89	40.00	16.11
221.93	10.31	V	1.90	11.79	4.38	26.48	40.00	13.52
270.47	10.33	H	3.00	12.81	4.90	28.04	47.00	18.96
320.02	11.96	H	2.35	13.84	5.35	31.15	47.00	15.85
350.94	10.06	V	3.01	14.56	5.65	30.27	47.00	16.73
400.47	12.36	H	1.28	15.71	6.18	34.25	47.00	12.75

* H : Horizontal, V : Vertical

◆ Calculation

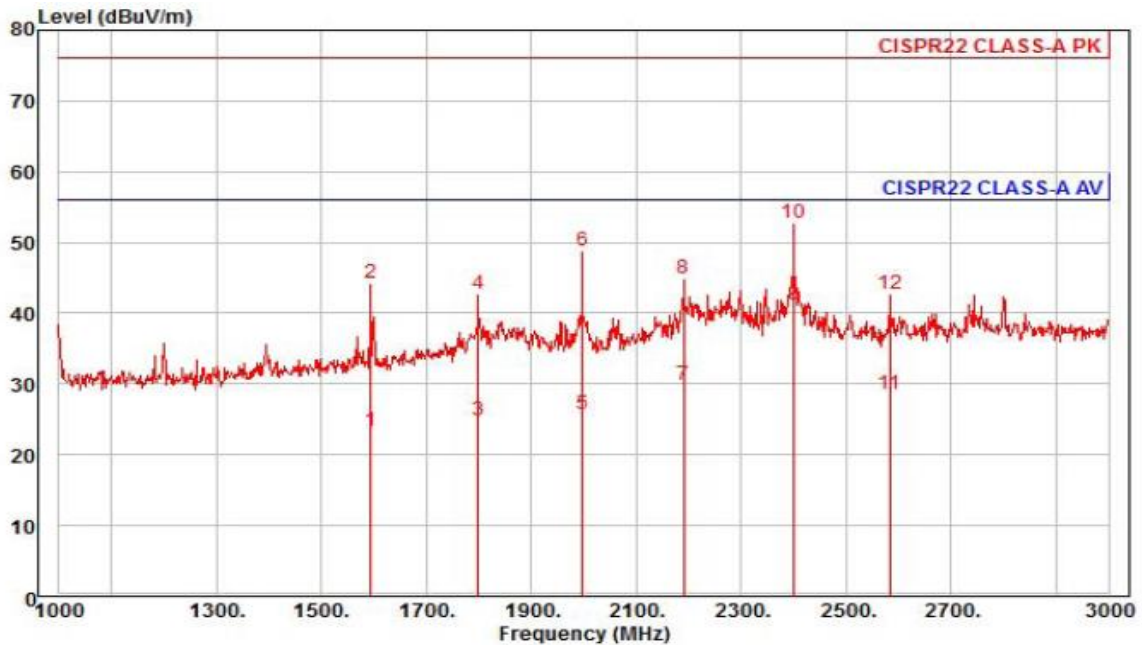
Corrected Amplitude [dBμV] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

Radiated Electric Field Emissions(Above 1 GHz)

- AC 24V Mode



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : AC 24 V
Memo : 1 ~ 3 GHz

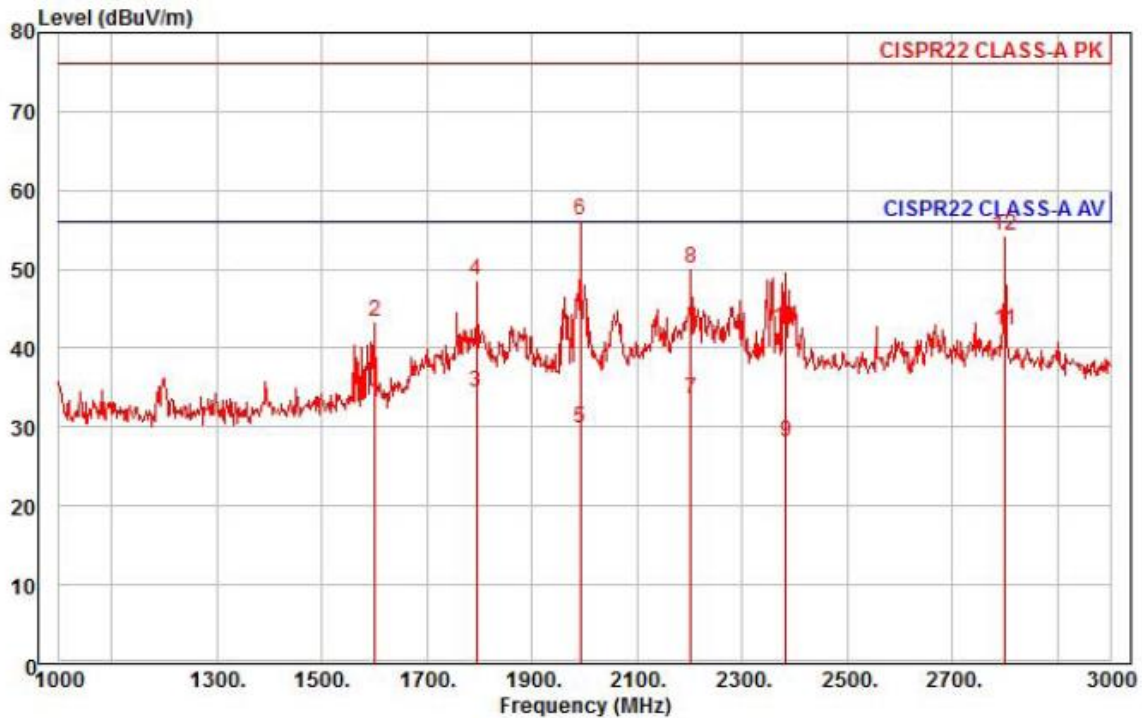
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1594.00	27.95	26.27	8.29	39.22	337	56.00	-32.71	horizontal	Average
2	1594.00	48.84	26.27	8.29	39.22	337	76.00	-31.82	horizontal	Peak
3	1800.00	28.21	27.09	8.83	39.32	242	56.00	-31.19	horizontal	Average
4	1800.00	46.23	27.09	8.83	39.32	242	76.00	-33.17	horizontal	Peak
5	1998.00	27.91	27.87	9.33	39.41	271	56.00	-30.30	horizontal	Average
6	1998.00	51.10	27.87	9.33	39.41	271	76.00	-27.11	horizontal	Peak
7	2190.00	31.08	28.35	9.78	39.41	29	56.00	-26.20	horizontal	Average
8	2190.00	46.19	28.35	9.78	39.41	29	76.00	-31.09	horizontal	Peak
9 pp	2400.00	41.51	28.86	10.32	39.42	49	56.00	-14.73	horizontal	Average
10 pk	2400.00	52.92	28.86	10.32	39.42	49	76.00	-23.32	horizontal	Peak
11	2584.00	28.16	29.31	10.71	39.63	308	56.00	-27.45	horizontal	Average
12	2584.00	42.35	29.31	10.71	39.63	308	76.00	-33.26	horizontal	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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The authenticity of the test report, contact kes@kes.co.kr



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : AC 24 V
Memo : 1 ~ 3 GHz

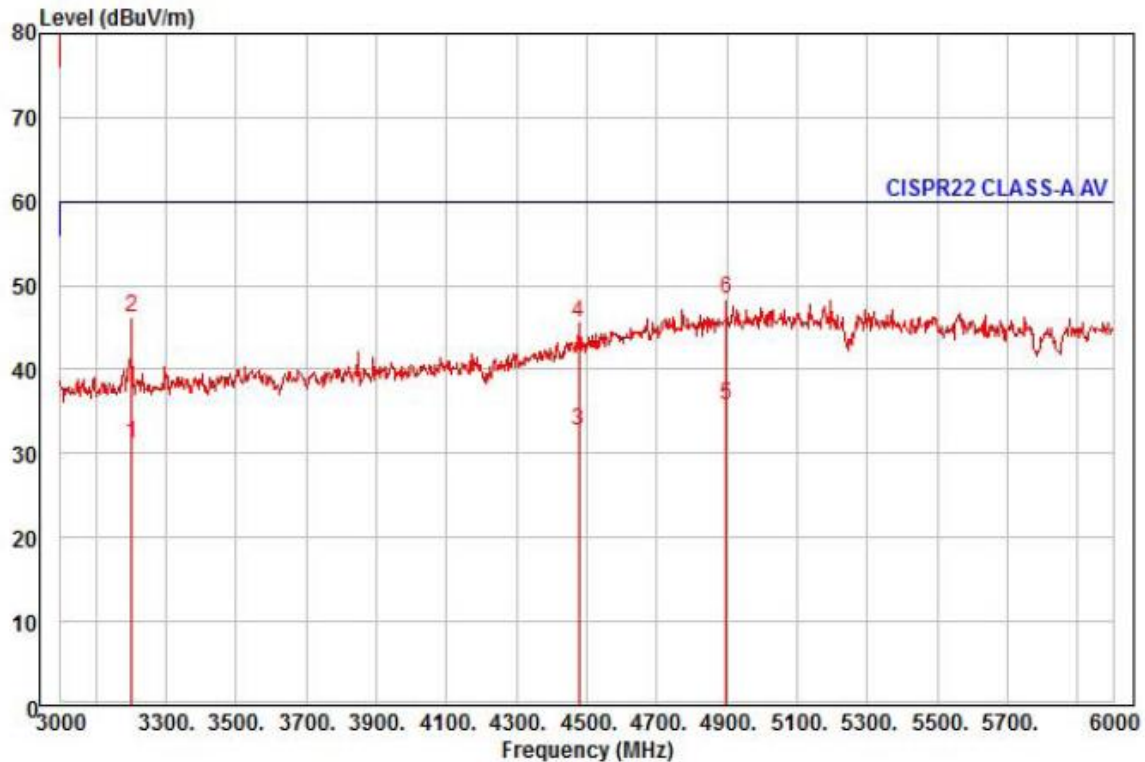
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1600.00	37.84	26.29	8.31	39.22	265	56.00	-22.78	vertical	Average
2	1600.00	48.09	26.29	8.31	39.22	265	76.00	-32.53	vertical	Peak
3	1794.00	37.95	27.06	8.81	39.31	122	56.00	-21.49	vertical	Average
4	1794.00	52.07	27.06	8.81	39.31	122	76.00	-27.37	vertical	Peak
5	1992.00	32.02	27.85	9.32	39.41	336	56.00	-26.22	vertical	Average
6 pk	1992.00	58.55	27.85	9.32	39.41	336	76.00	-19.69	vertical	Peak
7	2202.00	34.72	28.37	9.81	39.42	13	56.00	-22.52	vertical	Average
8	2202.00	51.40	28.37	9.81	39.42	13	76.00	-25.84	vertical	Peak
9	2384.00	28.40	28.82	10.28	39.42	102	56.00	-27.92	vertical	Average
10	2384.00	42.78	28.82	10.28	39.42	102	76.00	-33.54	vertical	Peak
11 pp	2800.00	41.17	29.84	11.23	39.88	311	56.00	-13.64	vertical	Average
12	2800.00	53.14	29.84	11.23	39.88	311	76.00	-21.67	vertical	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : AC 24 V
Memo : 3 ~ 6 GHz

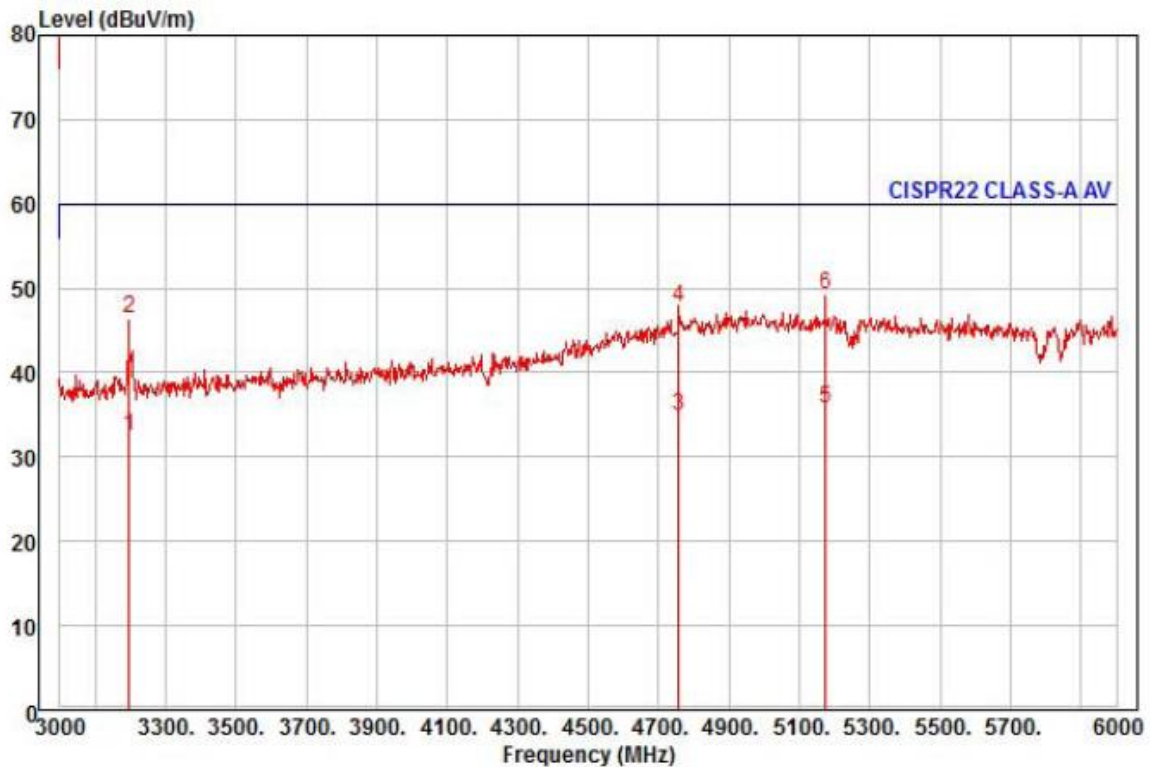
	Read	Ant	Cable	Preamp	TPos	Limit	Over		
Freq	Level	Factor	Loss	Factor		Line	Limit	Pol/Phase	Remark
MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3201.00	28.89	30.67	12.06	40.42	285	60.00	-28.80	horizontal Average
2	3201.00	43.85	30.67	12.06	40.42	285	80.00	-33.84	horizontal Peak
3	4479.00	24.20	34.75	14.42	40.77	190	60.00	-27.40	horizontal Average
4	4479.00	37.21	34.75	14.42	40.77	190	80.00	-34.39	horizontal Peak
5 pp	4899.00	23.68	37.14	15.21	40.37	33	60.00	-24.34	horizontal Average
6 pk	4899.00	36.48	37.14	15.21	40.37	33	80.00	-31.54	horizontal Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : AC 24 V
Memo : 3 ~ 6 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3198.00	30.10	30.66	12.05	40.41	9	60.00	-27.60	vertical	Average
2	3198.00	44.10	30.66	12.05	40.41	9	80.00	-33.60	vertical	Peak
3	4758.00	24.07	36.34	15.01	40.51	302	60.00	-25.09	vertical	Average
4	4758.00	36.82	36.34	15.01	40.51	302	80.00	-32.34	vertical	Peak
5 pp	5175.00	23.29	37.37	15.66	40.56	173	60.00	-24.24	vertical	Average
6 pk	5175.00	36.84	37.37	15.66	40.56	173	80.00	-30.69	vertical	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] – Preamp Factor [dB]) – Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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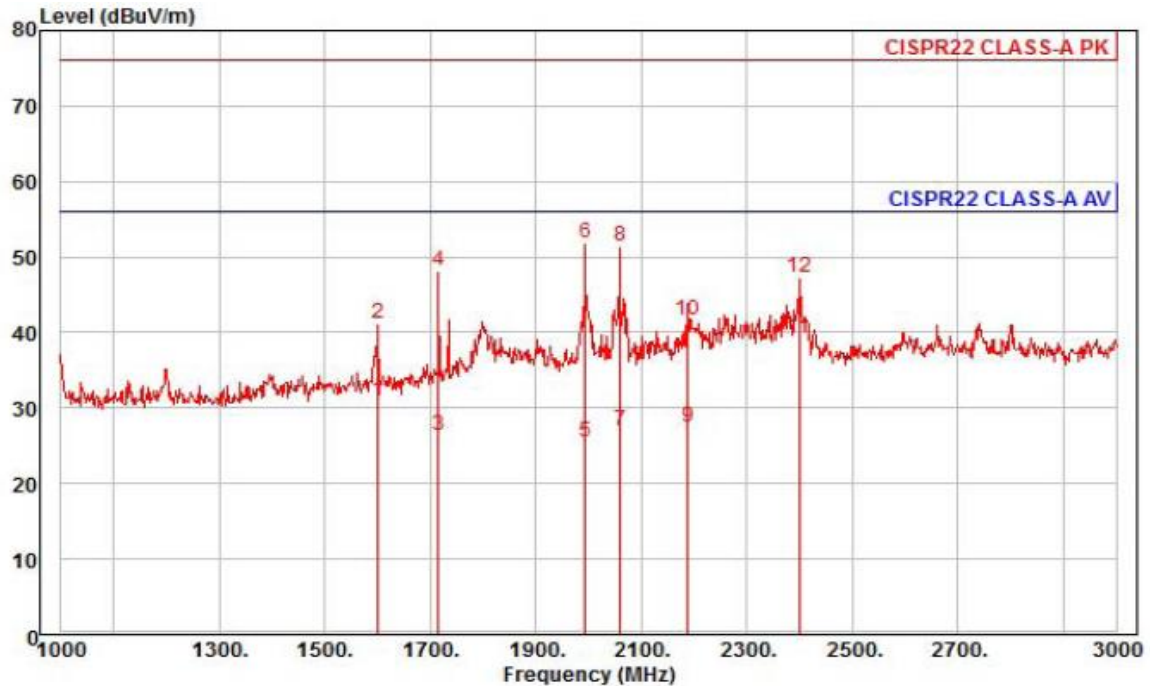


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Report No.:
KES-E1-17T0010-R2
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- DC 12V Mode



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : DC 12V
Memo : 1 ~ 3 GHz

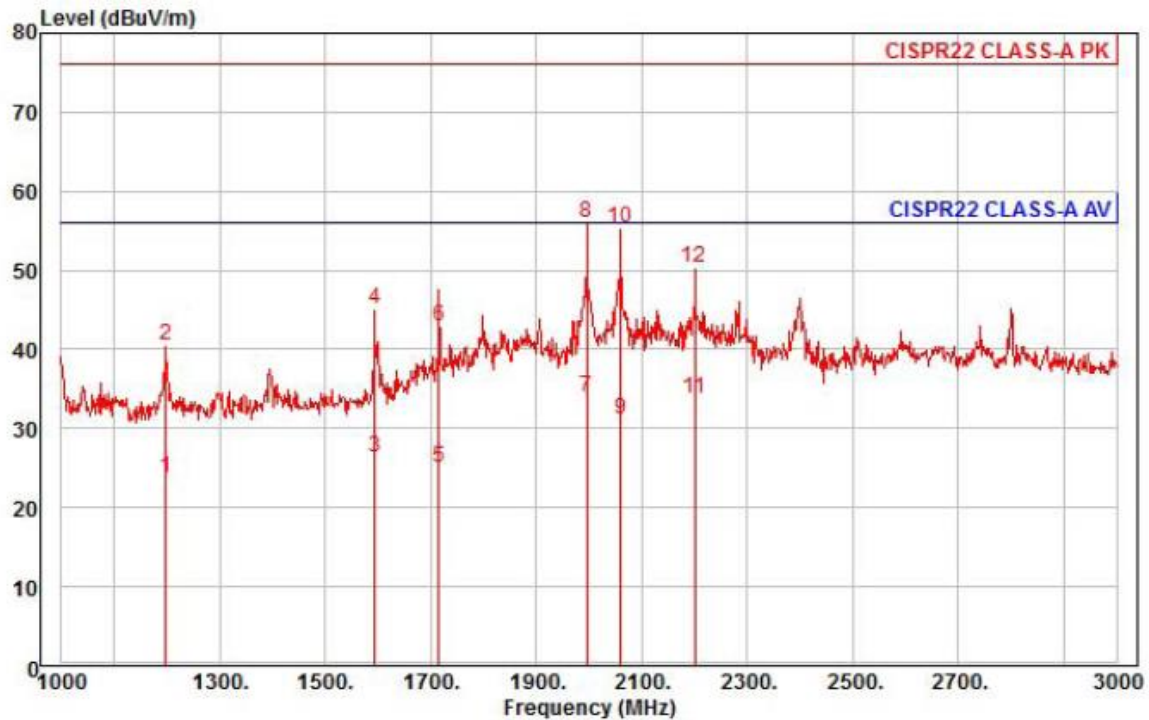
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1600.00	35.58	26.29	8.31	39.22	15	56.00	-25.04	horizontal	Average
2	1600.00	45.91	26.29	8.31	39.22	15	76.00	-34.71	horizontal	Peak
3	1716.00	30.30	26.75	8.61	39.28	265	56.00	-29.62	horizontal	Average
4	1716.00	52.11	26.75	8.61	39.28	265	76.00	-27.81	horizontal	Peak
5	1994.00	27.76	27.86	9.32	39.41	176	56.00	-30.47	horizontal	Average
6 pk	1994.00	54.01	27.86	9.32	39.41	176	76.00	-24.22	horizontal	Peak
7	2060.00	28.89	28.03	9.48	39.41	329	56.00	-29.01	horizontal	Average
8	2060.00	53.42	28.03	9.48	39.41	329	76.00	-24.48	horizontal	Peak
9	2188.00	28.75	28.34	9.77	39.41	37	56.00	-28.55	horizontal	Average
10	2188.00	42.92	28.34	9.77	39.41	37	76.00	-34.38	horizontal	Peak
11 pp	2400.00	39.40	28.86	10.32	39.42	37	56.00	-16.84	horizontal	Average
12	2400.00	47.49	28.86	10.32	39.42	37	76.00	-28.75	horizontal	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : DC 12V
Memo : 1 ~ 3 GHz

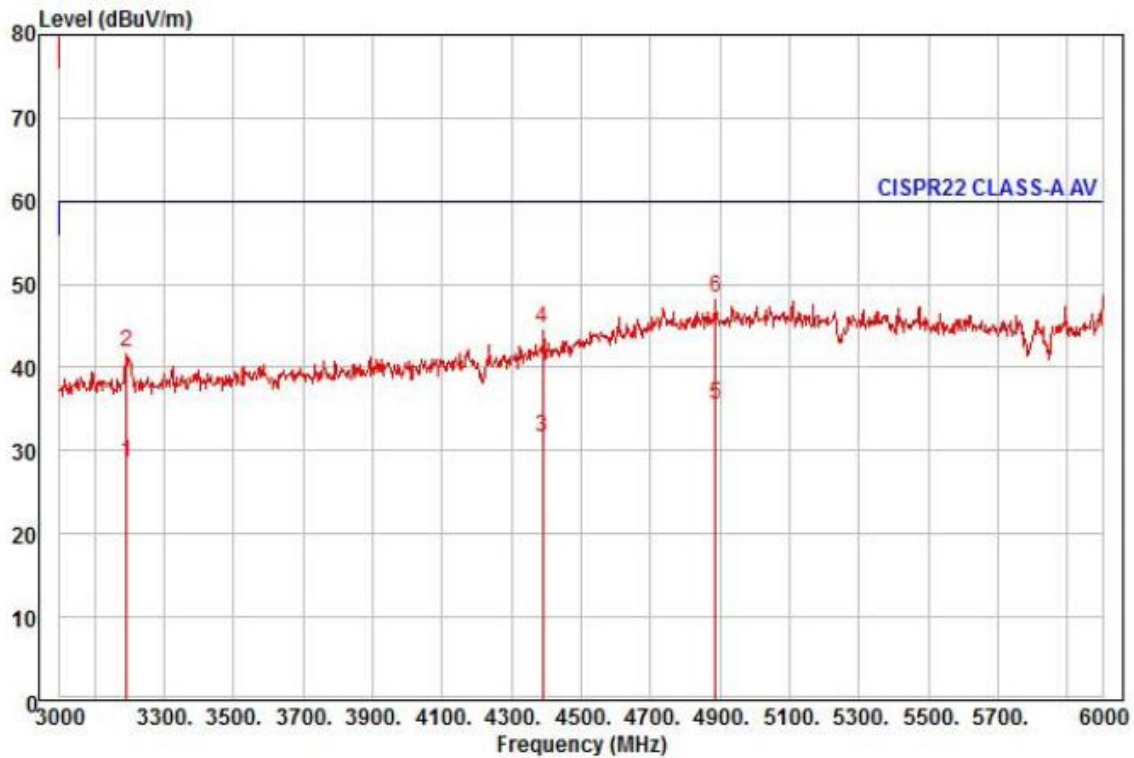
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1198.00	31.51	24.70	7.13	39.61	130	56.00	-32.27	vertical	Average
2	1198.00	48.43	24.70	7.13	39.61	130	76.00	-35.35	vertical	Peak
3	1594.00	31.14	26.27	8.29	39.22	328	56.00	-29.52	vertical	Average
4	1594.00	49.69	26.27	8.29	39.22	328	76.00	-30.97	vertical	Peak
5	1716.00	28.99	26.75	8.61	39.28	234	56.00	-30.93	vertical	Average
6	1716.00	46.92	26.75	8.61	39.28	234	76.00	-33.00	vertical	Peak
7 av	1996.00	36.17	27.86	9.33	39.41	2	56.00	-22.05	vertical	Average
8 pp	1996.00	58.29	27.86	9.33	39.41	2	76.00	-19.93	vertical	Peak
9	2060.00	33.06	28.03	9.48	39.41	328	56.00	-24.84	vertical	Average
10	2060.00	57.30	28.03	9.48	39.41	328	76.00	-20.60	vertical	Peak
11	2200.00	35.14	28.37	9.80	39.42	165	56.00	-22.11	vertical	Average
12	2200.00	51.62	28.37	9.80	39.42	165	76.00	-25.63	vertical	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Site : chamber
 Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
 : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
 Project :
 Model : XNV-8080RN
 Mode : DC 12V
 Memo : 3 ~ 6 GHz

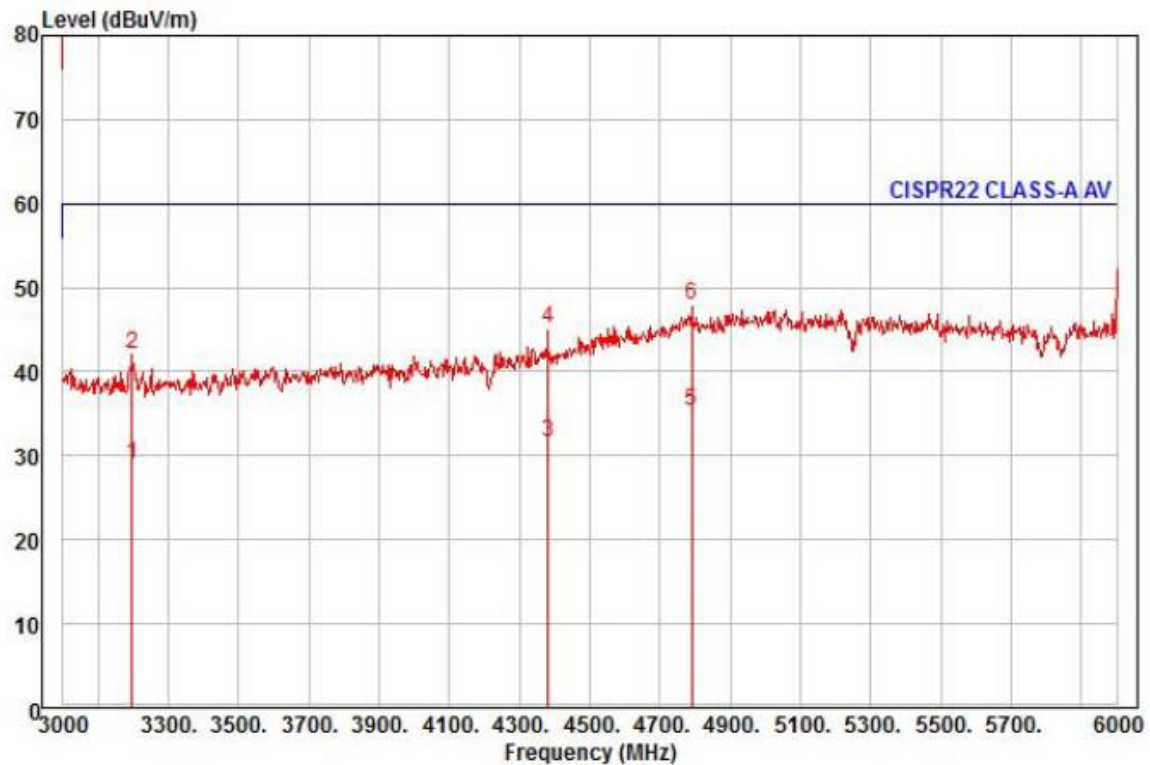
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3192.00	26.26	30.65	12.04	40.41	149	60.00	-31.46	horizontal	Average
2	3192.00	39.64	30.65	12.04	40.41	149	80.00	-38.08	horizontal	Peak
3	4389.00	23.83	34.23	14.25	40.75	200	60.00	-28.44	horizontal	Average
4	4389.00	36.98	34.23	14.25	40.75	200	80.00	-35.29	horizontal	Peak
5 pp	4887.00	23.68	37.07	15.19	40.38	175	60.00	-24.44	horizontal	Average
6 pk	4887.00	36.62	37.07	15.19	40.38	175	80.00	-31.50	horizontal	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
 Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : DC 12V
Memo : 3 ~ 6 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3198.00	26.72	30.66	12.05	40.41	300	60.00	-30.98	vertical	Average
2	3198.00	39.74	30.66	12.05	40.41	300	80.00	-37.96	vertical	Peak
3	4380.00	23.95	34.18	14.24	40.75	81	60.00	-28.38	vertical	Average
4	4380.00	37.43	34.18	14.24	40.75	81	80.00	-34.90	vertical	Peak
5 pp	4791.00	24.16	36.53	15.08	40.48	334	60.00	-24.71	vertical	Average
6 pk	4791.00	36.90	36.53	15.08	40.48	334	80.00	-31.97	vertical	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

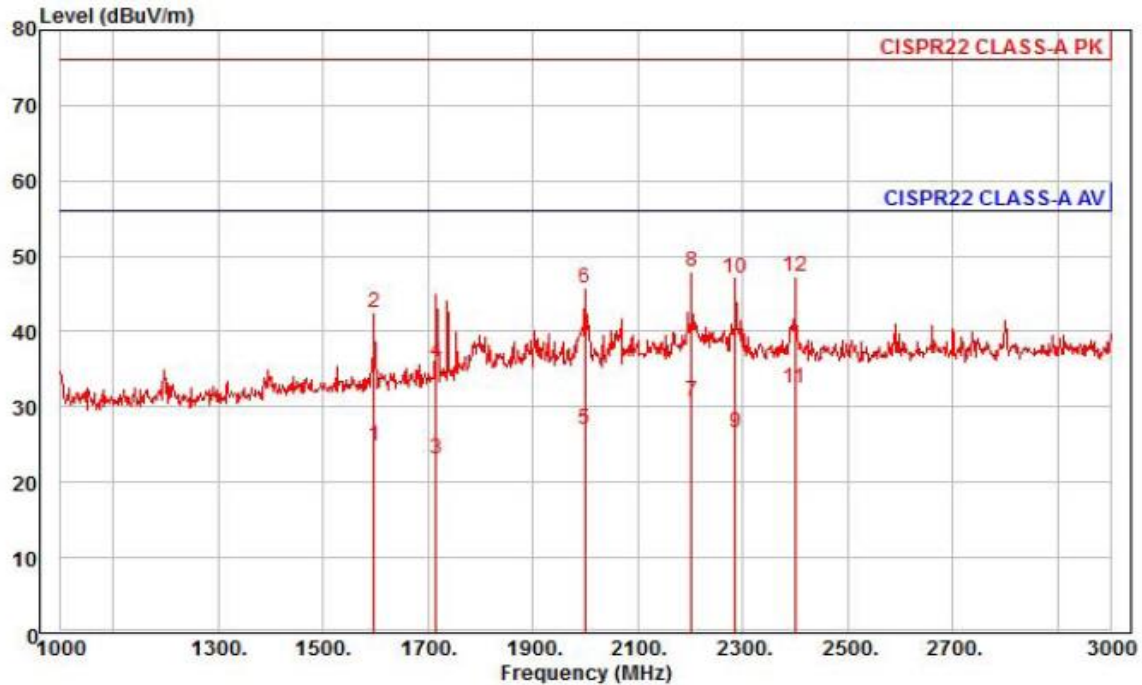
Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,

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Cable Loss : Cable loss, Preamp Factor : Preamp Factor
- PoE Mode



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : POE
Memo : 1 ~ 3 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1598.00	29.54	26.28	8.31	39.22	353	56.00	-31.09	horizontal	Average
2	1598.00	47.21	26.28	8.31	39.22	353	76.00	-33.42	horizontal	Peak
3	1716.00	27.13	26.75	8.61	39.28	228	56.00	-32.79	horizontal	Average
4	1716.00	39.90	26.75	8.61	39.28	228	76.00	-40.02	horizontal	Peak
5	2000.00	29.12	27.88	9.34	39.41	123	56.00	-29.07	horizontal	Average
6	2000.00	48.06	27.88	9.34	39.41	123	76.00	-30.13	horizontal	Peak
7	2202.00	32.05	28.37	9.81	39.42	40	56.00	-25.19	horizontal	Average
8 pk	2202.00	49.12	28.37	9.81	39.42	40	76.00	-28.12	horizontal	Peak
9	2286.00	27.49	28.58	10.03	39.42	347	56.00	-29.32	horizontal	Average
10	2286.00	47.99	28.58	10.03	39.42	347	76.00	-28.82	horizontal	Peak
11 pp	2400.00	32.78	28.86	10.32	39.42	299	56.00	-23.46	horizontal	Average
12	2400.00	47.49	28.86	10.32	39.42	299	76.00	-28.75	horizontal	Peak

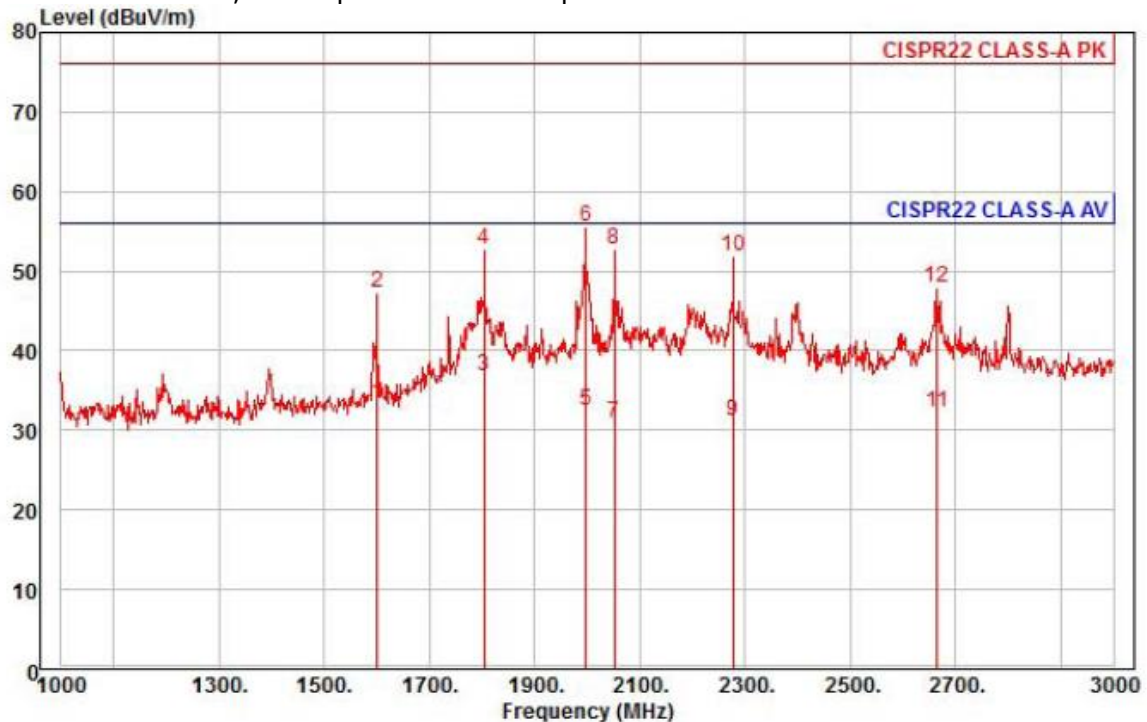
◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,

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Cable Loss : Cable loss, Preamp Factor : Preamp Factor



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : POE
Memo : 1 ~ 3 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1600.00	37.96	26.29	8.31	39.22	337	56.00	-22.66	vertical	Average
2	1600.00	51.91	26.29	8.31	39.22	337	76.00	-28.71	vertical	Peak
3 pp	1804.00	40.21	27.10	8.84	39.32	123	56.00	-19.17	vertical	Average
4	1804.00	56.09	27.10	8.84	39.32	123	76.00	-23.29	vertical	Peak
5	1998.00	34.66	27.87	9.33	39.41	9	56.00	-23.55	vertical	Average
6 pk	1998.00	57.88	27.87	9.33	39.41	9	76.00	-20.33	vertical	Peak
7	2052.00	33.00	28.01	9.46	39.41	146	56.00	-24.94	vertical	Average
8	2052.00	54.60	28.01	9.46	39.41	146	76.00	-23.34	vertical	Peak
9	2278.00	31.96	28.56	10.00	39.42	359	56.00	-24.90	vertical	Average
10	2278.00	52.71	28.56	10.00	39.42	359	76.00	-24.15	vertical	Peak
11	2666.00	31.69	29.51	10.90	39.73	320	56.00	-23.63	vertical	Average
12	2666.00	47.29	29.51	10.90	39.73	320	76.00	-28.03	vertical	Peak

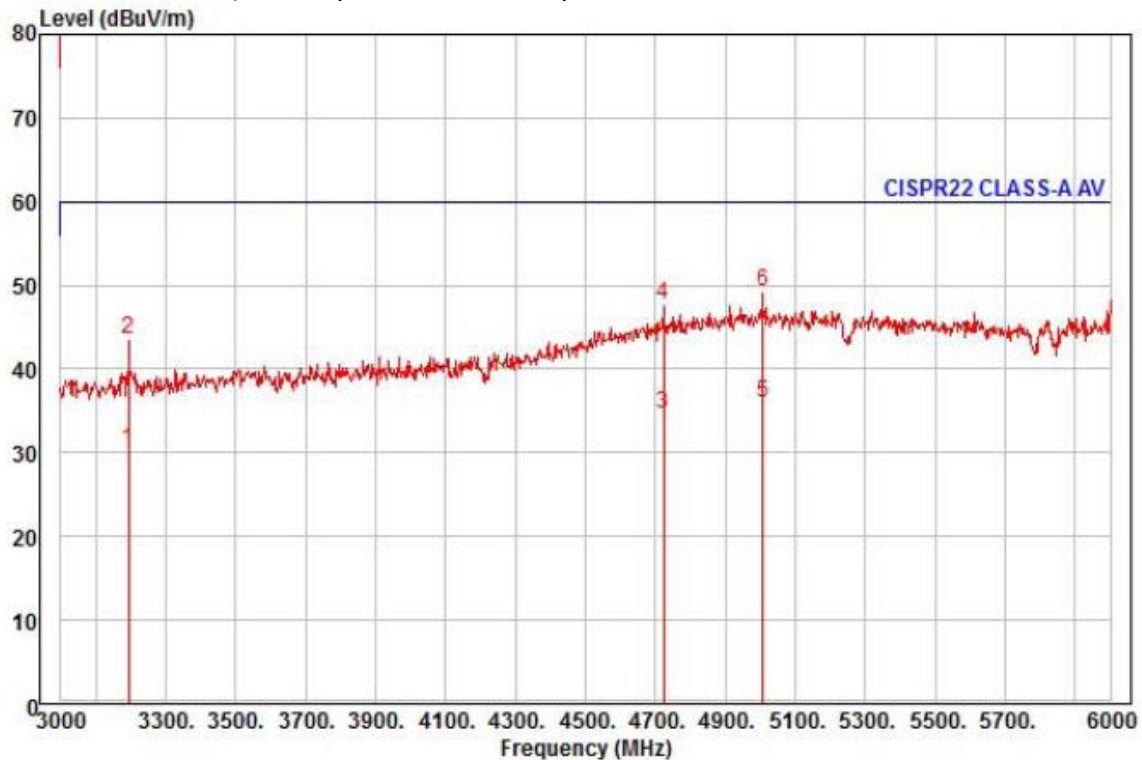
◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,

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Cable Loss : Cable loss, Preamp Factor : Preamp Factor



Site : chamber

Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal

: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto

Project :

Model : XNV-8080RN

Mode : POE

Memo : 3 ~ 6 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3195.00	28.07	30.66	12.05	40.41	0	60.00	-29.63	horizontal	Average
2	3195.00	41.30	30.66	12.05	40.41	0	80.00	-36.40	horizontal	Peak
3	4722.00	24.18	36.13	14.93	40.55	157	60.00	-25.31	horizontal	Average
4	4722.00	37.31	36.13	14.93	40.55	157	80.00	-32.18	horizontal	Peak
5 pp	5007.00	23.16	37.71	15.33	40.28	309	60.00	-24.08	horizontal	Average
6 pk	5007.00	36.52	37.71	15.33	40.28	309	80.00	-30.72	horizontal	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

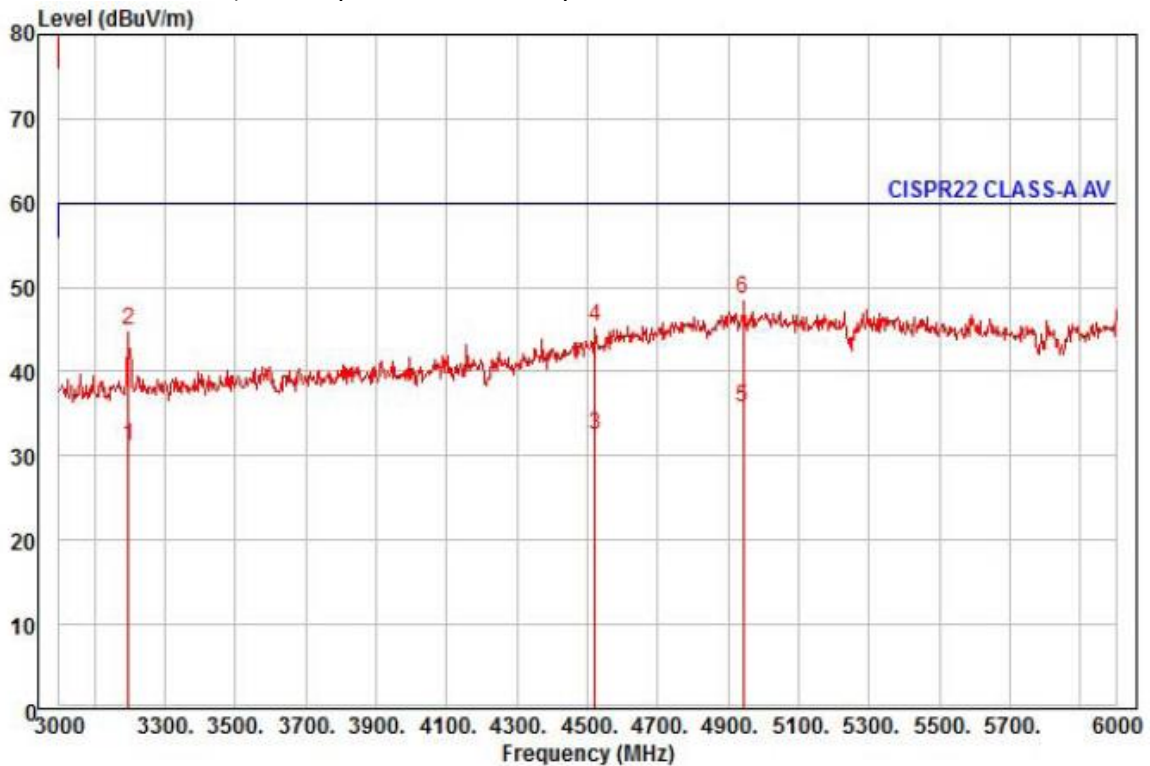
Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,

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Cable Loss : Cable loss, Preamp Factor : Preamp Factor



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNV-8080RN
Mode : POE
Memo : 3 ~ 6 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3198.00	28.81	30.66	12.05	40.41	53	60.00	-28.89	vertical	Average
2	3198.00	42.61	30.66	12.05	40.41	53	80.00	-35.09	vertical	Peak
3	4521.00	23.82	34.98	14.50	40.75	292	60.00	-27.45	vertical	Average
4	4521.00	36.50	34.98	14.50	40.75	292	80.00	-34.77	vertical	Peak
5 pp	4941.00	23.36	37.38	15.25	40.33	139	60.00	-24.34	vertical	Average
6 pk	4941.00	36.41	37.38	15.25	40.33	139	80.00	-31.29	vertical	Peak

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor [dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,

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Cable Loss : Cable loss, Preamp Factor : Preamp Factor

Test Setup Photos and Configuration

Conducted Voltage Emissions

- AC 24V Mode



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- DC 12V Mode



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- PoE Mode



Radiated Electric Field Emissions(Below 1 GHz)

- AC 24V Mode



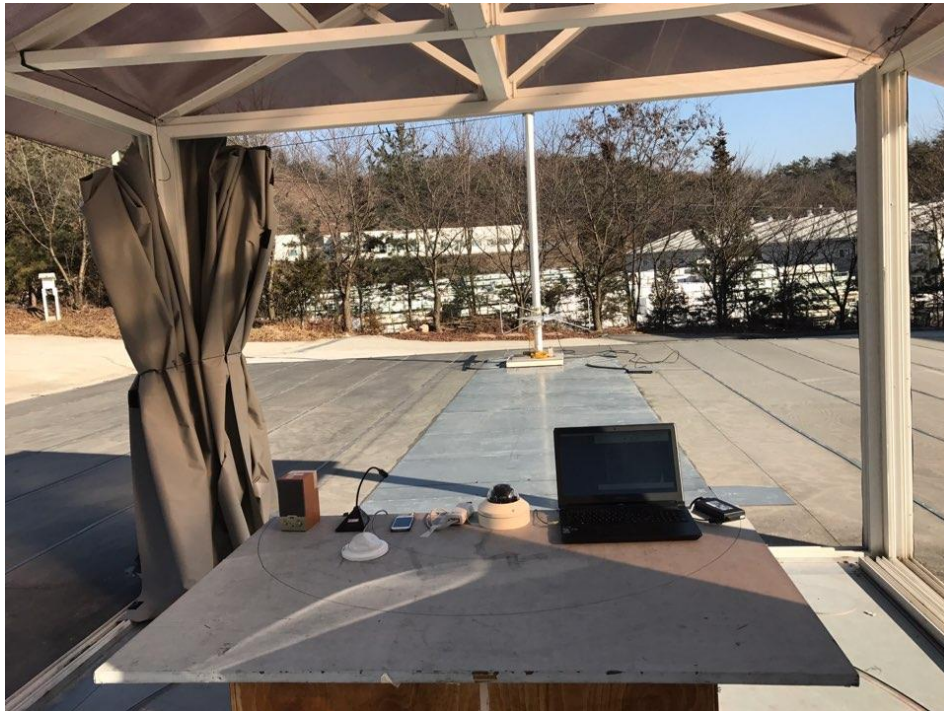
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- DC 12V Mode



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- PoE Mode



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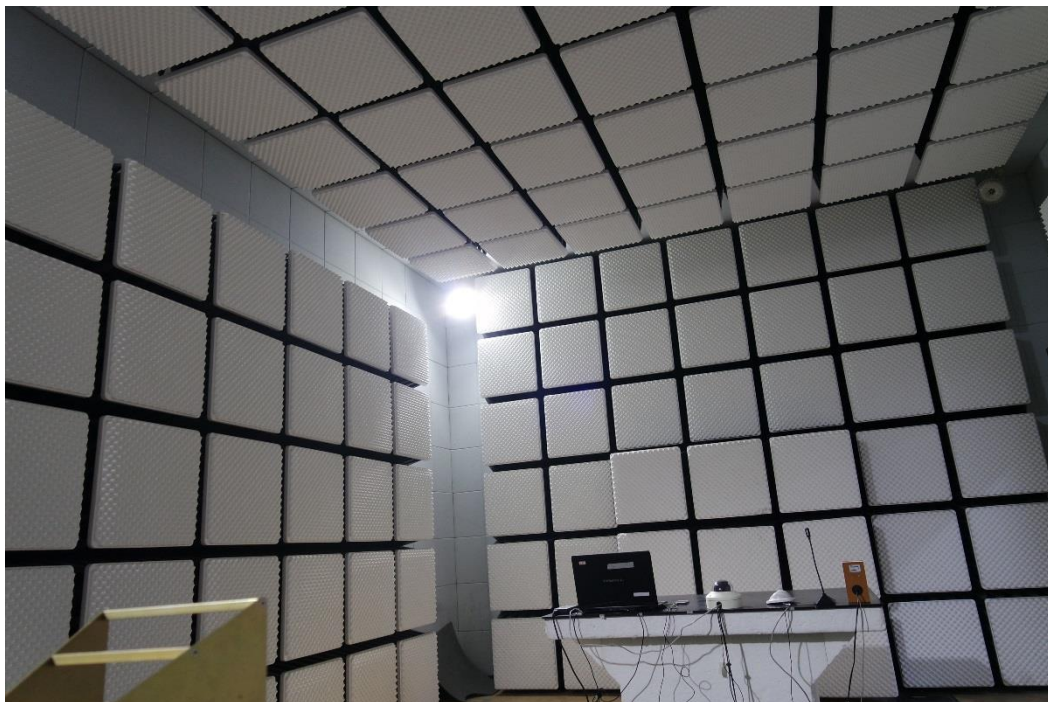
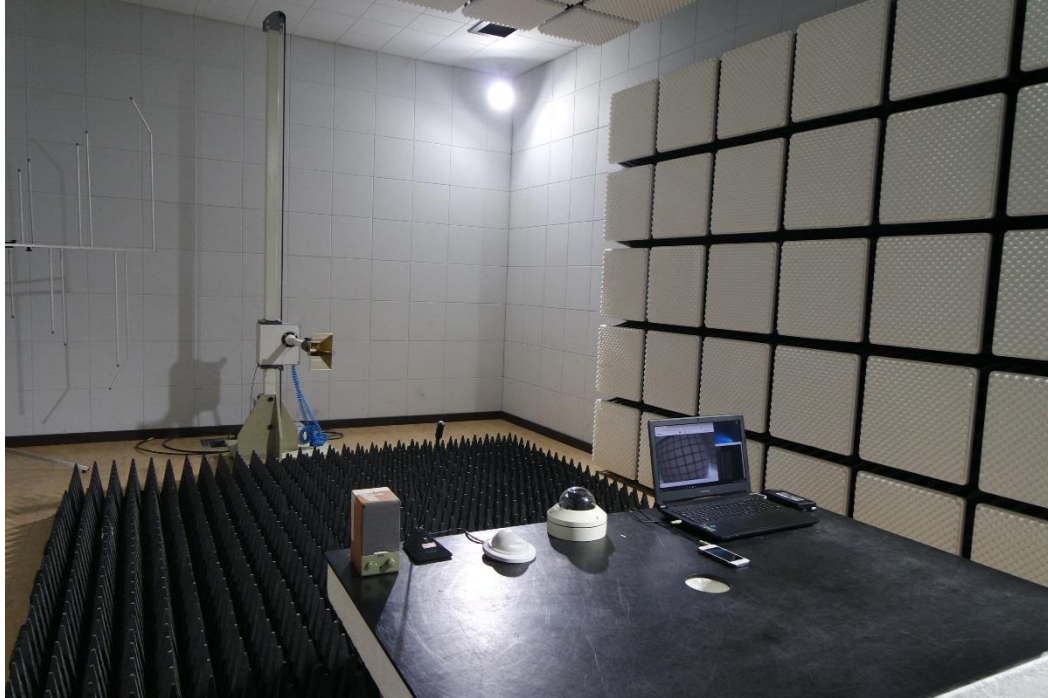
Radiated Electric Field Emissions(Above 1 GHz)

- AC 24V Mode

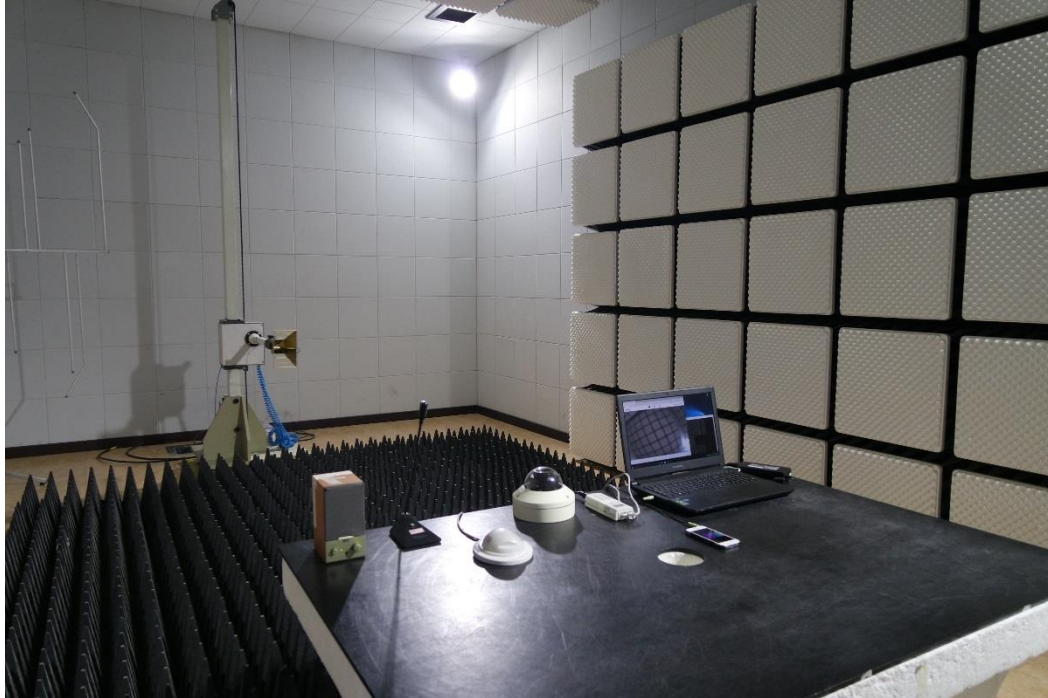


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- DC 12V Mode



- PoE Mode



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EUT External Photographs

(Top)



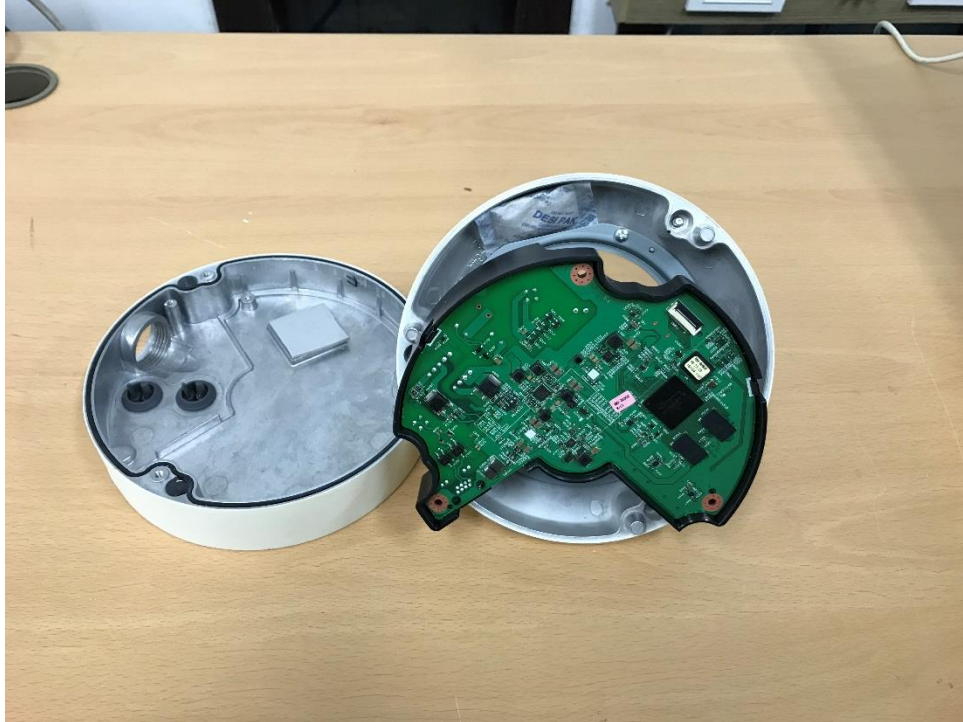
(Bottom)



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EUT Internal Photographs

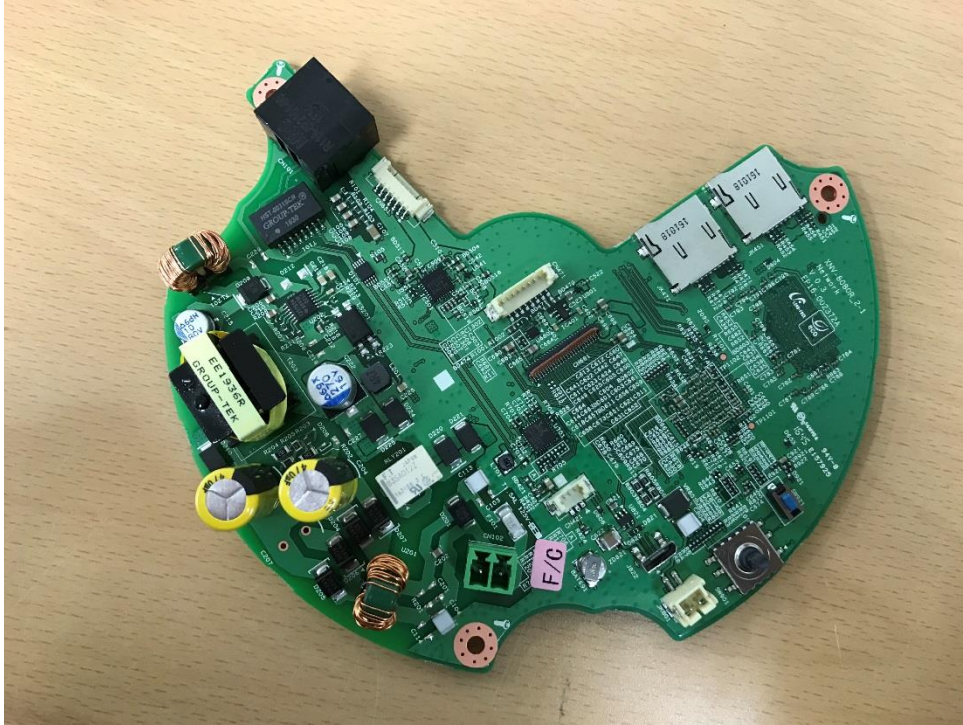
(Internal View)



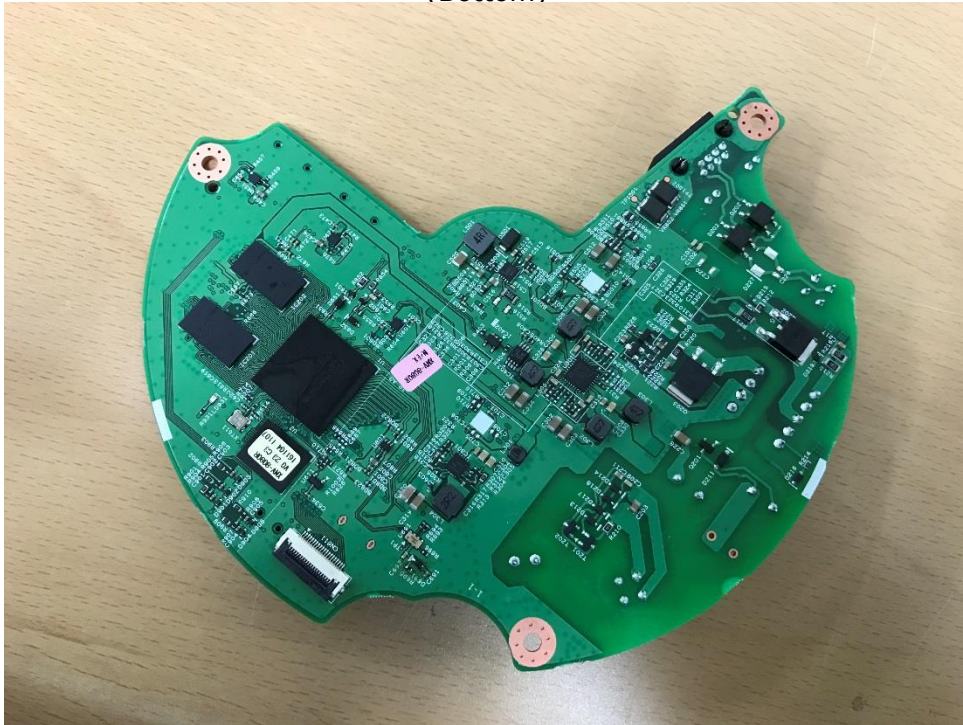
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EUT Internal View – Main Board

(Top)



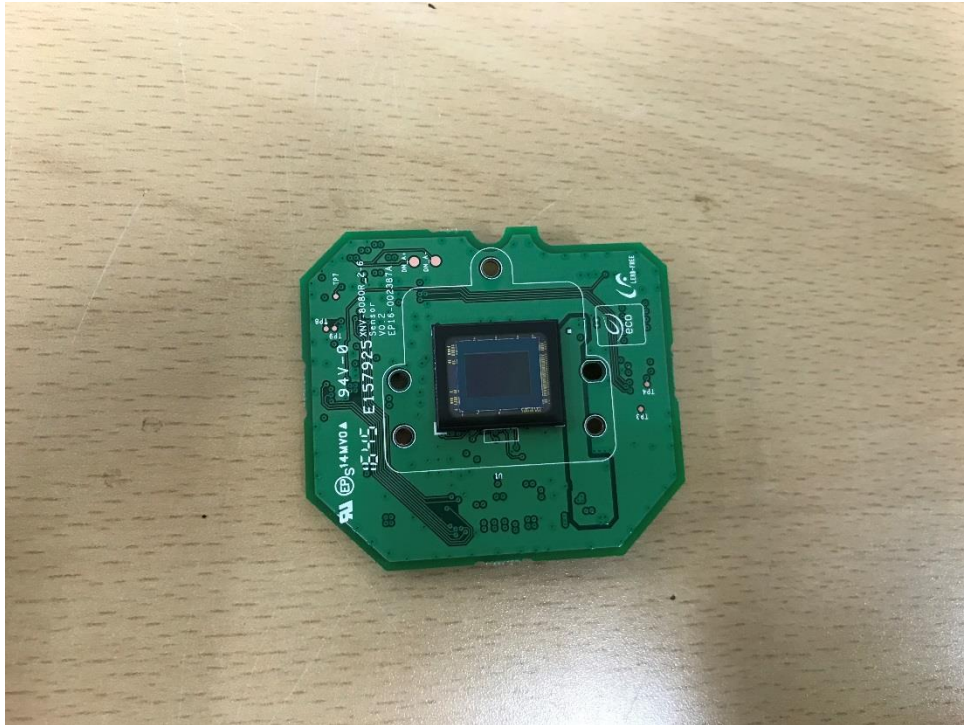
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EUT Internal View – Lens Board

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)



(Bottom)



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EUT Internal View – LED

(Top)



(Bottom)



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Label Photographs



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

[LABEL VIEW]