EU Declaration of Conformity

SAMSUNG

CE

We hereby declare that the product

Type of equipment	:	*NETWORK CAMERA*
Brand Name / Trade Mark	:	*SAMSUNG*
Model number	:	*XNO-6120RP*
Variant Model	:	-

satisfies all the technical regulations applicable to the product within the scope of Council Directives 2014/30/EU

EN 55032:2010	:	*Limits and methods of measurement of radio disturbance characteristics of information technology equipment*
EN 50581:2012		*Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances*
EN 50130-4:2011+A1:2014		*Product family standard: Immunity requirements for components of fire,intruder and social alarm systems*
EN 61000-3-2:2014		*Limits – Limits for harmonic current emissions (equipment imput current <= 16 A per phase)*
EN 61000-3-3:2013		*Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection*
EN 61000-4-2:2009	:	*Electrostatic discharge immunity test*
EN 61000-4-3:2006+A2:2010	:	*Radiated, radio-frequency, electromagnetic field immunity test*
EN 61000-4-4:2012	:	*Electrical fast transient/burst immunity test*
EN 61000-4-5:2014	:	*Surge immunity test*
EN 61000-4-6:2014	:	*Immunity to conducted disturbances, induced by radio-frequency fields*
EN 61000-4-11:2004		*Voltage dips, short interruptions and voltage variations immunity tests*

All essential testing suites have been carrier out.

Manufacturer	:	*Tianjin Samsung Techwin Opto-Electronic Co., Ltd.*
Manufacturer address	:	*No.11 Weiliu Rd,Micro-Electronic Industrial Park, TEDA, Tianjin, 300385, People's Republic of China*
Telephone / Fax	:	*82-02-729-2900 /82-02-729-2904 (www.hanwhatechwin.com)*
Applicant	:	*Hanwha Techwin Co., Ltd.*
Applicant address	:	*1204, Changwon-daero, Seongsan-gu, Chang-won-si, Gyeongsangnam-do, korea*

This declaration is issued under the sole responsibility of the manufacturer and his authorised representative.

Authorized signatory

Name / Title	:	*Jei Soon, Kang / Principal Research Engineer*
Date of issue	:	*May. 03, 2017*

EMC TEST REPORT For CE

Test Report No.	:	KES-E1-17T0313
Date of Issue	:	May. 03, 2017
Product name	:	NETWORK CAMERA
Model/Type No.	:	XNO-6120RP
Variant Model	:	-
Applicant	:	Hanwha Techwin Co., Ltd.
Applicant Address	:	1204, Changwon-daero, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea
Manufacturer	:	Hanwha Techwin (Tianjin) Co.,Ltd.
Manufacturer Address	:	No.11 Weiliu Rd,Micro-Electronic Industrial Park,TEDA,Tianjin,300385,People's Republic of China.
Date of Receipt	:	Apr. 14, 2017
Test date	:	Apr. 27, 2017 – Apr. 29, 2017
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Young Suk, Song
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
May. 03, 2017	KES-E1-17T0313	Issued

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1.0 General Product Description

Main Specifications of E.U.T are:

Video	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1945(H) x 1109(V) 2.16M
Effective Pixels	1945(H) x 1097(V) 2.13M
Scanning System	Progressive
Min. Illumination	Color : 0.03 Lux (1/30sec, F1.6) B/W : 0 Lux (IR LED On)
S / N Ratio	50dB
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)	**5.2~62.4mm(Optical 12X)**
Max. Aperture Ratio	F1.6 (Wide) ~ F3.0(Tele)
Angular Field of View	W : 54.58(H) X 32.19(V) X 61.40(D) T : 5.30(H) X 3.00(V) X 6.06(D)
Min. Object Distance	1.5m
Focus Control	Auto / Manual / One Push
Lens Type	DC Auto Iris
Mount Type	Board-in type
Operational	
Viewable Length	70m
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	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR5 (2D+3D Noise Filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Auto / Manual / Off
Motion Detection	Off/ On(8ea, 8point Polygonal zones)
Privacy Masking	Off / On (32ea, Rectangle zones) - Color : Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Off / Low / Middle / High
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
Preset	300ea
Rotate Image	Flip : On/Off Mirror : On/Off Hallway : 90° /270°
Video&Audio Analytics	Tampering, Loitering, Directional Detection, Defocus Detection, Fog Detection, Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Face Detection, Motion Detection, Sound Classification
Alarm I/O	Input 1ea / Output 1ea
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 preset
Audio In	Selectable (Mic IN/Line IN), Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out (3.5mm mono jack), Max output level: 1 Vrms
Pixel Counter	support
Network	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265/H.264 (MPEG-4 Part 10/AVC) : Main/Baseline/High Motion JPEG
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.264/H.265 : Max 60fps at all resolutions Motion JPEG : Max. 30fps at all resolutions
Smart Codec	Manual Mode (area-based : 5EA)
WiseStream II	support
Video Quality Adjustment	H.264/H.265/MJPEG : Target Bitrate Level Control
Bitrate Control Method	H.264/H.265 : CBR or VBR Motion JPEG : VBR
Streaming Capability	Multiple Streaming (Up to 10 Profiles)
Audio Compression Format	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
Audio Communication	Bi-dierctional (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
Application Programming Interface	ONVIF Profile S/G SUNAPI 2.0(HTTP API) Wisenet Open Plarform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish,, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.10. 10.11 10.12 Non-plugin Webviewer Supported Browser: Google Chrome 56, MS Edge 39, Mozilla Firefox 49(Window 64bit only) , Apple Safari 10 (Mac OS X only) Plug-in Webviewer Supported Browser : MS Explore 11, Apple Safari 10 (Mac OS X only)

Central Management Software	SmartViewer
Environmental	
Operating Temperature / Humidity	-40°C ~ +55°C(-40°F ~ +131°F) / Less than 90% RH * Start up should be done at above -35°C
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection	IP67, IP66, NEMA 4X
Vandal Resistance	IK10
Electrical	
Input Voltage / Current	AC24V, DC12V,PoE(IEEE802.3af,Class3)
Power Consumption	24V AC : Max 14.5W 12V DC : Max 12.5W PoE : Max 12.95W
Mechanical	
Color / Material	DARK GRAY / ALUMINIUM
Dimension (WxHxD)	147.5mm x 368.6mm
Weight	2,175g

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 ☐ 230Vac ☐ 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	XNO-6120RP	-	Hanwha Techwin (Tianjin) Co.,Ltd.	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	RV518	HTK991NC600187E	Samsung Electronics Co., Ltd	-
Notebook Adaptor	ADP-60ZH	AD-6019R	DELTA ELECTRONICS, INC.	-
Speaker	BR10000A CUVE	-	BEIJING EDIFIER HI-TECH GROUP.	-
MIC	CMK-303	-	CAMAC	-
Alarm	SIP-1201DD D0	-	SAMSUNG TECHWIN CO., LTD.	-
PoE Adaptor	PoE36U-1AT-R	-	PHIHONG	

1.6 External I/O Cabling

- AC 24 V Mode, 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
	3.5 ㎜	Speaker	3.5 ㎜	1.6	U
	3.5 ㎜	MIC	3.5 ㎜	1.7	U
	3 Pin	Alarm	3 Pin	1.7	U

- 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 Adaptor	RJ-45(POE)	3.0	U
	RJ-45	Notebook	RJ-45	3.0	U
	3.5 ㎜	Speaker	3.5 ㎜	1.6	U
	3.5 ㎜	MIC	3.5 ㎜	1.7	U
	3 Pin	Alarm	3 Pin	1.7	U
Notebook	RJ-45(DATA)	POE Adaptor	RJ-45(DATA)	3.0	U

* Unshielded=U, Shielded=S

1.7 E.U.T Operating Mode(s)

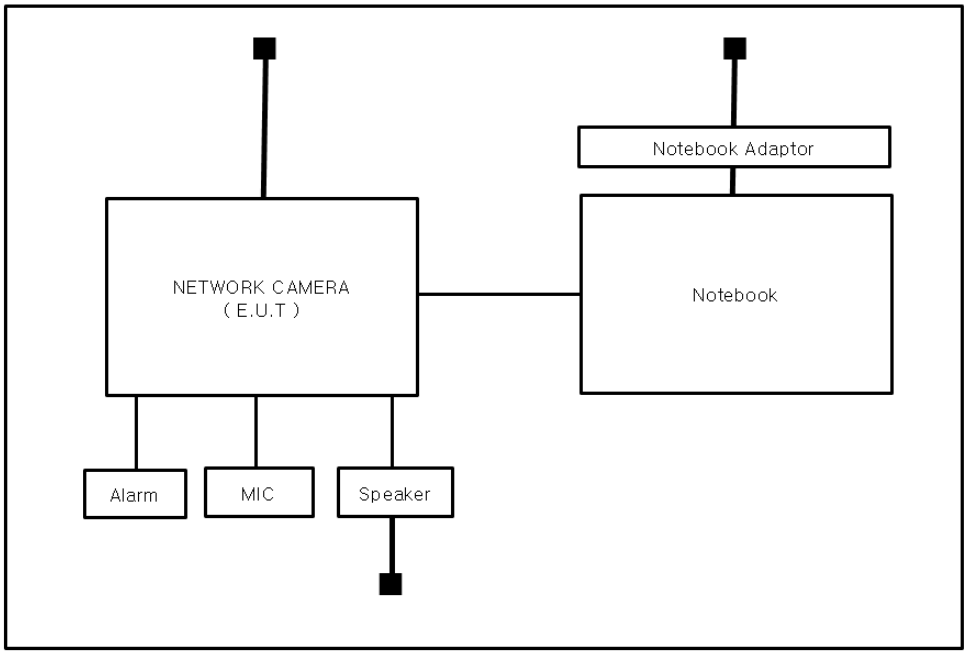
Test mode	operating
AC 24 V Mode	E.U.T Monitoring, Ping test, 1 ㎑
DC 12 V Mode	E.U.T Monitoring, Ping test
POE Mode	E.U.T Monitoring, Ping test

E.U.T Test operating S/W		
Name	Version	Manufacture Company
-	-	-

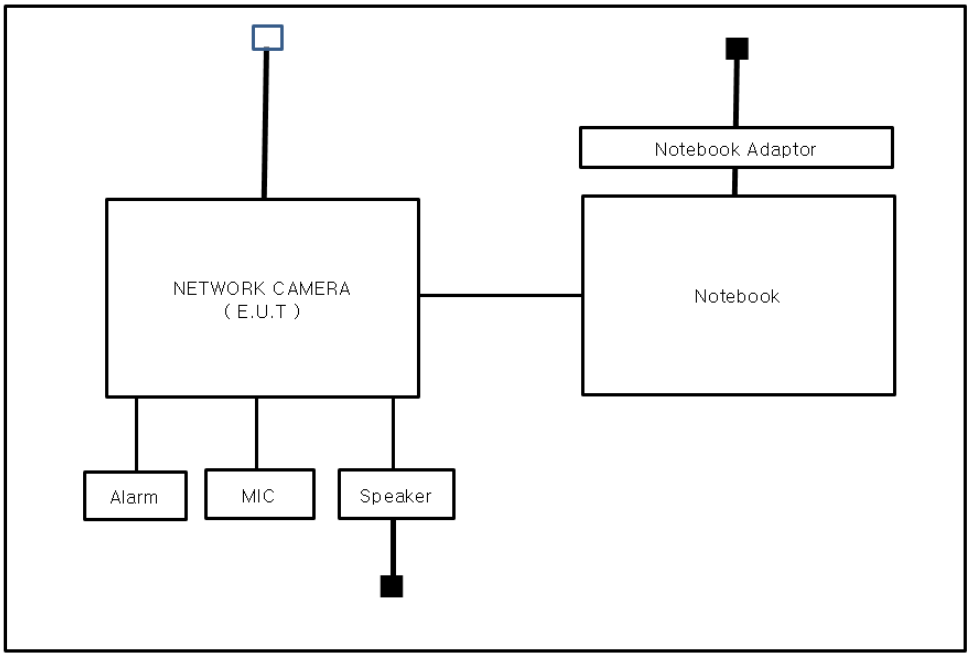
1.8 Configuration

■ AC Main
□ DC Main

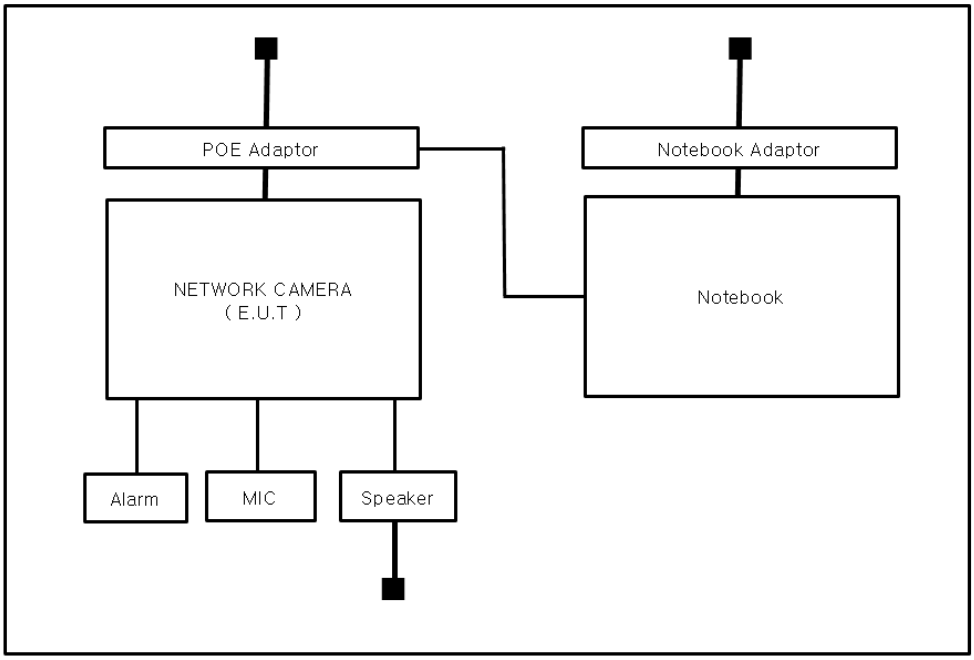
- AC 24 V Mode



- DC 12 V Mode



- 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, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22.

1.11 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements.	
JAPAN	**VCCI**	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	R-4308, C-4798, T-2311, G-914
KOREA	**MSIP**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
Canada	**IC**	3 & 10 meter Open Area Test Sites and one conducted site	4769B-1
Europe	**CE**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	
International	**KOLAS**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KOREA LABORATORY ACCREDITATION SCHEME KOLAS TESTING NO. 489

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 55032:2015 ☒ 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

☐ **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 C63.4-2009

☐ **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

2.1 Conducted Emissions at Mains Power Ports

Test Date
Apr. 29, 2017

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #6	-	DYMSTEC	-	-
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101781	04, 27, 2018
☒	LISN	ENV216	R & S	101787	01, 11, 2018
☒	LISN	ESH2-Z5	R & S	100450	04, 27, 2018
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 13, 2017

Test Conditions
Temperature: 21,2 ℃
Relative Humidity: 36,3 %

.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Apr. 29, 2017

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #6	-	DYMSTEC	-	-
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101781	04, 27, 2018
☒	LISN	ENV216	R & S	101787	01, 11, 2018
☒	LISN	ESH2-Z5	R & S	100450	04, 27, 2018
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 13, 2017
☒	8-WIRE ISN CAT3,5	ENY81	Rohde & Schwarz	100174	01, 11, 2018
☐	8-WIRE ISN CAT6	ENY81-CAT6	Rohde & Schwarz	101665	01, 11, 2018

Test Conditions
Temperature: 21,2 ℃
Relative Humidity: 36,3 %

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.3 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
Apr. 29, 2017

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

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	OPEN AREA TEST SITE (OATS) #2	-	KES	-	-
☒	EMI Test S/W	-	-	-	-
☒	EMI TEST RECEIVER	ESVS10	Rohde & Schwarz	826008/014	04, 18, 2018
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	714	11, 28, 2018

Test Conditions
Temperature: 23,0 ℃
Relative Humidity: 29,0 %

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 ㎓)

Test Date
Apr. 29, 2017

Test Location
Semi Anechoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SEMI ANECHOIC CHAMBER #2	-	SEMITEC	-	-
☒	EMI Test S/W	e3	AUDIX	8.083b	-
☒	EMI TEST RECEIVER	ESU26	R & S	100552	04, 19, 2018
☒	BROADBAND PREAMPLIFIER	BBV 9718	Schwarzbeck Mess - Elektronik	9718-246	10, 14, 2017
☒	LOG-PERIODIC ANTENNA	STLP 9149	SCHWARZBECK	9149-255	05, 17, 2018

Test Conditions
Temperature: 19,2 ℃
Relative Humidity: 38,2 %

Frequency Range of Measurement
1 ㎓ to 6 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.5 Harmonic Current Emissions

Test Date
Apr. 29, 2017

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMI Test S/W	dpa.control	EM TEST	5.4.8.0	-
☒	DIGITAL POWER ANALYZER	DPA 500N	EM TEST	V1024106759	08, 08, 2017
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	08, 08, 2017

Test Conditions
Temperature: 19,2 ℃
Relative Humidity: 38,2 %

Classification of Equipment for Harmonic Current Emissions
☒ Class A
☐ Class B
☐ Class C(Below 25 W)
☐ Class C(Above 25 W)
☐ Class D

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.6 Voltage Fluctuations and Flicker

Test Date
Apr. 29, 2017

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMI Test S/W	dpa.control	EM TEST	5.4.8.0	-
☒	DIGITAL POWER ANALYZER	DPA 500N	EM TEST	V1024106759	08, 08, 2017
☒	POWER SOURCE	ACS 500N6	EM TEST	V1024106760	08, 08, 2017

Test Conditions
Temperature: 19,2 ℃
Relative Humidity: 38,2 %

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

3.0 Criteria for compliance

Criteria for compliance was based on the following guidelines:
EN 50130-4:2011 +A1:2014 Alarm systems-Part 4: Electromagnetic compatibility Product family standard: Immunity requirements for components of fire, intruder and social alarm systems

The variety and the diversity of the apparatus within the scope of this document makes it difficult to define precise criteria for the evaluation of the immunity test results.

If as a result of the application of the tests defined in this standard, the apparatus becomes dangerous or unsafe then the apparatus shall be deemed to have failed the test.

A functional description and a definition of performance by the manufacture and noted in the test report, based on the following criteria:

Electrostatic discharge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing that is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Radiated electromagnetic fields

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing which could be interpreted by associated equipment as a change, and no such Flickering of indicators occurs at a field strength of 3 V/m.

For components of CCTV systems, where the picture is allowed at 10 V/m, providing.

(a) there is no permanent damage or change to EUT

(e.g. no corruption of memory or changes to programmable setting etc.)

(b) at 3 V/m, any deterioration of the picture is so minor that the system could still be used; and

(c) there is no observable deterioration of the picture at 1 V/m.

Fast transient burst / slow high energy voltage surge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Conducted RF immunity

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change,

and no such flickering of indicators oeuvres at U = 130 dBμV.

For component of CCTV systems, where the status is monitored by observing the TV picture,

then deterioration of the picture is allowed at U = 140 dBμV, providing:

(a) there is no permanent damage or change to the EUT

(e.g. no corruption of memory or changes to programmable settings etc.)

(b) at U = 130 dBμV, any deterioration of the picture is so minor that the system could

still be used; and

(c) there in no observable deterioration of the picture at U = 120 dBμV.

Voltage dip/interruption / Voltage variation

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the conditioning is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change. The EUT shall meet the acceptance criteria for the functional test, after the conditioning.

3.1 Electrostatic Discharge

Reference Standard
EN 61000-4-2:2009

Test Date
Apr. 27, 2017

Test Location
EMS-ESD: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMS Test S/W	-	-	-	-
☒	ESD SIMULATOR	ESS-2000	Noise Ken	ESS05X4620	02, 24, 2018
☒	HCP	-	Noise Ken	-	-
☒	VCP	-	Noise Ken	-	-

Test Conditions
Temperature: 23,2 ℃
Relative Humidity: 36,8 %
Atmospheric Pressure: 100,1 kPa

Test Specifications

Discharge Factor: ≥ 1 s

Discharge Impedance: 330 ohm / 150 pF

Kind of Discharge: Air, Contact (direct and indirect)

Polarity: Positive and Negative

Number of Discharge: 10 at all locations for Air discharge
10 at all locations for Contact discharge

Discharge Voltage:

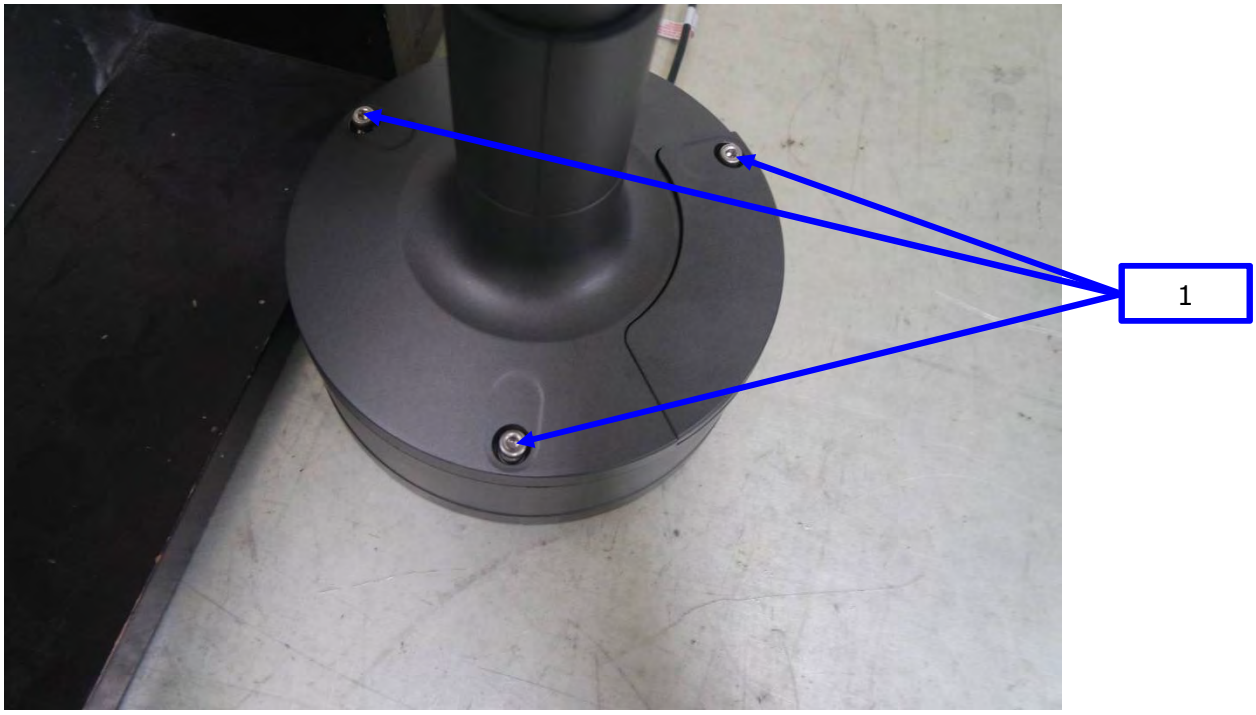
Contact	Air	HCP	VCP
☐ 2 kV	☒ 2 kV	☐ 2 kV	☐ 2 kV
☐ 4 kV	☒ 4 kV	☐ 4 kV	☐ 4 kV
☒ 6 kV	☐ 6 kV	☒ 6 kV	☒ 6 kV
☐ 8 kV	☒ 8 kV	☐ 8 kV	☐ 8 kV
☐ 15 kV	☐ 15 kV	☐ 15 kV	☐ 15 kV

Notes: HCP: Horizontal coupling plane
VCP: Vertical coupling plane

Required Performance Criteria: ☒ Complied

Location of Discharge:

Air	→
Contact	→



Test Data

- AC 24 V Mode

Indirect Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Screw	Contact Discharge	Complied	-
2	Surface	Contact Discharge	Complied	-

- DC 12 V Mode

Indirect Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Screw	Contact Discharge	Complied	-
2	Surface	Contact Discharge	Complied	-

- PoE Mode

Indirect Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Screw	Contact Discharge	Complied	-
2	Surface	Contact Discharge	Complied	-

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results
☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks
PASS Required Performance Criteria.

3.2 Radiated Electric Field Immunity

Reference Standard
EN 61000-4-3:2006 +A2:2010

Test Date
Apr. 27, 2017

Test Location
EMS-RS: ☐ Semi Anechoic Chamber #1 ☒ Semi Anechoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SEMI ANECHOIC CHAMBER #2	-	SEMITEC	-	-
☒	EMS Test S/W	KTI_RS2012	KOREA TECHNOLOGY INSTITUDE CO., LTD	2.1.1	-
☒	SIGNAL GENERATOR	ESG-3000A	HP	US37040210	11, 01, 2017
☒	AMPLIFIER	ITA0300-200	Infinitech	-	11, 01, 2017
☒	AMPLIFIER	ITA0750-200	Infinitech	-	11, 01, 2017
☒	AMPLIFIER	ITA1500-100	Infinitech	-	11, 01, 2017
☒	AMPLIFIER	ITA2500-100	Infinitech	-	11, 01, 2017
☒	POWER METER	E4419B	Agilent	MY45101506	06, 27, 2017
☒	AVERAGE POWER SENSOR	E9301A	Agilent	-	06, 27, 2017
☒	AVERAGE POWER SENSOR	E9301A	Agilent	MY41495698	11, 17, 2017
☒	STACKED DOUBLE LOG-PER- ANTENNA	STPL9128 D	SCHWARZBECK	9128D038	-

Test Conditions

Temperature: 23,2 ℃
Relative Humidity: 36,8 %
Atmospheric Pressure: 100,1 kPa

Test Specifications

Antenna Polarization: Horizontal & vertical unless indicated otherwise

Antenna Distance: ☒ 3 m

Field Strength: ☐ 1 V/m ☐ 3 V/m
☒ 10 V/m

Frequency Range: ☐ 80 MHz to 1 GHz ☐ 1,4 GHz to 2,7 GHz
☒ 80 MHz to 2,7 GHz

Modulation: ☒ AM, 80 %, 1 kHz sine wave
☒ PM, 1 Hz (0,5 s ON : 0,5 s OFF)

Frequency step: ☒ 1 % step

Dwell Time: ☐ 1 s ☒ 3 s

# of Sides Radiated: ☒ 4

Required Performance Criteria: ☒ Complied

Test Data

- AC 24 V Mode

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

- DC 12 V Mode

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

- PoE Mode

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria.

3.3 Electrical Fast Transients/Bursts

Reference Standard
EN 61000-4-4:2012

Test Date
Apr. 28, 2017

Test Location
EMS-EFT: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMS Test S/W	iec.control	EM TEST	5.0.9.0	-
☒	ULTRA COMPACT SIMULATOR	UCS 500 N5	EM TEST	V0936105120	06, 27, 2017
☒	MOTOR VARIAC	MV2616	EM TEST	V0936105123	06, 27, 2017
☒	CAPACITIVE COUPLING CLAMP	HFK	EM TEST	070925	06, 27, 2017
☒	CDN	CNV 508T5	EM TEST	P1549168422	04, 27, 2017

Test Conditions
Temperature: 22,4 ℃
Relative Humidity: 37,5 %
Atmospheric Pressure: 100,2 kPa

Test Specifications

Pulse Amplitude & Polarity: (AC Power Lines)
☐ ± 1.0 kV ☒ ± 2.0 kV
☐ ± 4.0 kV

Pulse Amplitude & Polarity: (Other supply / Signal Lines)
☐ ± 0.5 kV ☒ ± 1.0 kV
☐ ± 2.0 kV

Burst Period: ☒ 300 ms ☐ 2 s

Repetition Rate: ☐ 5 kHz ☒ 100 kHz

Duration of Test Voltage: ☒ ≥ 1 min

Required Performance Criteria: ☒ Complied

Test Data

- AC 24 V Mode

☒ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
L – N	Complied	Complied

☐ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
-	-	-

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
RJ – 45	Complied	Complied

- DC 12 V Mode

☐ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
-	-	-

☒ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
L1 – L2	Complied	Complied

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
RJ – 45	Complied	Complied

- PoE Mode

☐ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
-	-	-

☐ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
-	-	-

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	Observations	
	(+) Burst (kV)	(-) Burst (kV)
RJ – 45	Complied	Complied

Note: "Blank" = Not performed
Observations:
Complied – No degradation of function

Test Results
☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks
PASS Required Performance Criteria.

3.4 Surge Transients

Reference Standard
EN 61000-4-5:2014

Test Date
Apr. 28, 2017

Test Location
EMS-Surge: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMS Test S/W	iec.control	EM TEST	5.0.9.0	-
☒	ULTRA COMPACT SIMULATOR	UCS 500 N5	EM TEST	V0936105120	06, 27, 2017
☒	MOTOR VARIAC	MV2616	EM TEST	V0936105123	06, 27, 2017
☐	CDN	CNV 508N1	EM TEST	P1551168979	04, 27, 2017
☒	CDN	CNV 508T5	EM TEST	P1549168422	04, 27, 2017

Test Conditions
Temperature: 22,4 ℃
Relative Humidity: 37,5 %
Atmospheric Pressure: 100,2 ㎪

Test Specifications

AC Power Lines

Source Impedance:	12 ohm for common mode and 2 ohm for differential mode
Surge Amplitude :	Common Mode ☐ (0,5 / 1,0 / 2,0) kV Differential Mode ☒ (0,5 / 1,0) kV
Number of Surges:	☒ 5 surges per angle
Angle:	☒ 0°, 90°, 180°, 270° (input a.c. power port)
Polarity:	☒ Positive & Negative
Repetition Rate:	☒ 1 surge per min ☐ 1 surge per 30 sec.
Required Performance Criteria:	☒ Complied

Other supply / Signal Lines

Source Impedance:	42 ohm for common mode
Surge Amplitude:	Common Mode ☒ (0,5 / 1,0) kV
Number of Surges:	☒ 5 Surges
Polarity:	☒ Positive & Negative
Repetition Rate:	☒ 1 surge per min ☐ 1 surge per 30 sec.
Required Performance Criteria:	☒ Complied

Test Data

- AC 24 V Mode

☒ Line to Line – Differential Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
L – N	Complied	Complied
L – PE	-	-
N - PE	-	-

☐ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
RJ – 45	Complied	Complied

- DC 12 V Mode

☐ Line to Line – Differential Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
L – N	-	-
L – PE	-	-
N - PE	-	-

☐ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
RJ – 45	Complied	Complied

- PoE Mode

☐ Line to Line – Differential Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
L – N	-	-
L – PE	-	-
N - PE	-	-

☐ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	Observations	
	(+) Surge (kV)	(-) Surge (kV)
RJ – 45	Complied	Complied

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results
☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks
PASS Required Performance Criteria.

3.5 Conducted Disturbance

Reference Standard
EN 61000-4-6:2014

Test Date
Apr. 28, 2017

Test Location
EMS-CS: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #6	-	DYMSTEC	-	-
☒	EMS Test S/W	icd.control	EM TEST	5.3.11	-
☒	CONTINUOUS WAVE SIMULATOR	CWS 500N1.4	EM TEST	P1602169880	11, 28, 2017
☒	ATTENUATOR	ATT 6/80	EM TEST	P1614178148	11, 28, 2017
☒	CDN	CDN M016	TESEQ	43694	11, 28, 2017
☐	CDN	CDN M016	TESEQ	43697	11, 28, 2017
☒	CDN	CDN T800	TESEQ	42800	11, 28, 2017
☐	EM CLAMP	KEMZ 801A	TESEQ	44099	11, 30, 2017

Test Conditions
Temperature: 22,4 ℃
Relative Humidity: 37,5 %
Atmospheric Pressure: 100,2 kPa

Test Specifications

Frequency range:	☒ 150 ㎑ to 100 ㎒	☐ 150 ㎑ to 80 ㎒
Voltage Level:	☐ 1 Vrms ☒ 10 Vrms	☐ 3 Vrms
Modulation:	☒ AM, 80 %, 1 ㎑ sine wave ☒ PM, 1 ㎐ (0,5 s ON : 0,5 s OFF)	
Frequency step:	☒ 1 % step	
Dwell Time:	☒ 1 s	☐ 3 s
Required Performance Criteria:	☒ Complied	

Test Data

- AC 24 V Mode

☒ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
L – N	CDN (☒M2, ☐M3)	Complied

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	CDN (☐M2, ☐M3)	-

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ – 45	CDN T800	Complied

- DC 12 V Mode

☐ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	CDN (☐M2, ☐M3)	-

☒ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
L1 – L2	CDN (☒M2, ☐M3)	Complied

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ – 45	CDN T800	Complied

- PoE Mode

☐ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	CDN (☐M2, ☐M3)	-

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
-	CDN (☐M2, ☐M3)	-

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ – 45	CDN T800	Complied

Notes: CDN = Coupling Decoupling Network
"blank" = Not performed

Observations:
Complied – No degradation of function

Test Results
☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks
PASS Required Performance Criteria.

3.6 Voltage Dips and Short Interruptions

Reference Standard
EN 61000-4-11:2004

Test Date
Apr. 28, 2017

Test Location
EMS-Voltage dip: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	SHIELD ROOM #3	-	SEMITEC	-	-
☒	EMS Test S/W	iec.control	EM TEST	5.0.9.0	-
☒	ULTRA COMPACT SIMULATOR	UCS 500 N5	EM TEST	V0936105120	06, 27, 2017
☒	MOTOR VARIAC	MV2616	EM TEST	V0936105123	06, 27, 2017
☐	CDN	CNV 508N1	EM TEST	P1551168979	04, 27, 2017
☒	CDN	CNV 508T5	EM TEST	P1549168422	04, 27, 2017

Test Conditions
Temperature: 22,4 ℃
Relative Humidity: 37,5 %
Atmospheric Pressure: 100,2 kPa

Test Specifications & Observations/Remarks

- AC 24 V Mode

(Test Voltage : 50 ㎐)

Test Level	Duration [in period/ms (50 ㎐)]	Results
☒ 20 % dip	☒ 250 / 5000	Complied
☒ 30 % dip	☒ 25 / 500	Complied
☒ 60 % dip	☒ 10 / 200	Complied
☒ 100 % dip	☒ 250 / 5000	Complied

- Voltage cariations

☒ Unom + 10 %	☒ 253 V (ac)	Complied
☒ Unom - 15 %	☒ 195.5 V (ac)	Complied

Observations:
Complied – No degradation of function

Test Results
☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria
☐ NOT APPLICABLE

Remarks
PASS Required Performance Criteria.

APPENDIX A – TEST DATA

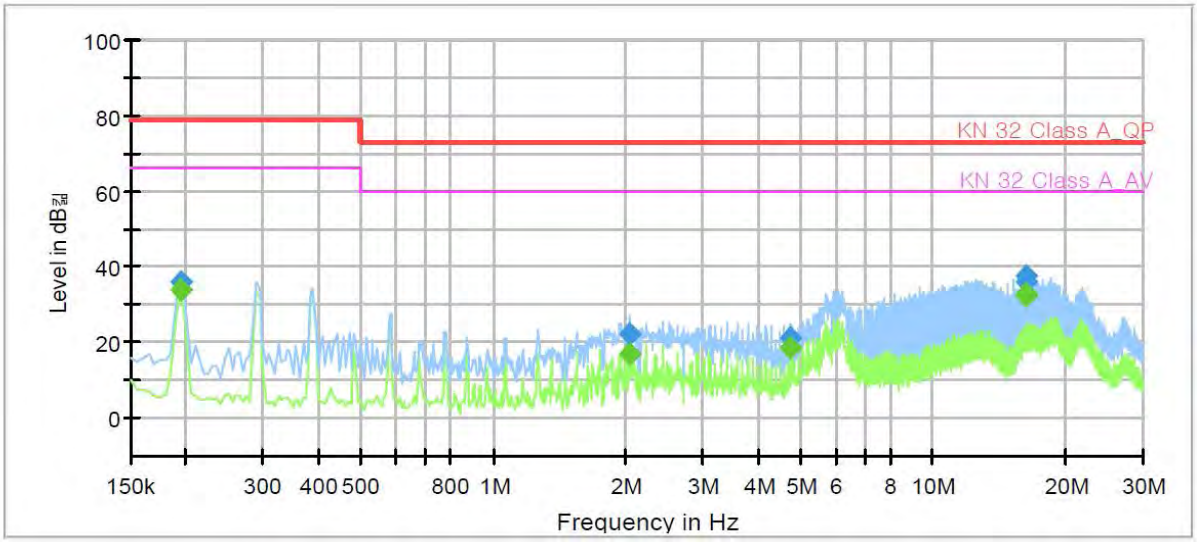
Conducted Emissions at Mains Power Ports

- AC 24 V Mode

[HOT]

Common Information

Test Description:	Conducted Emission
Model No.:	XNO-6120RP
Mode	AC 24 V_H
Operator Name:	KES



Final_Result

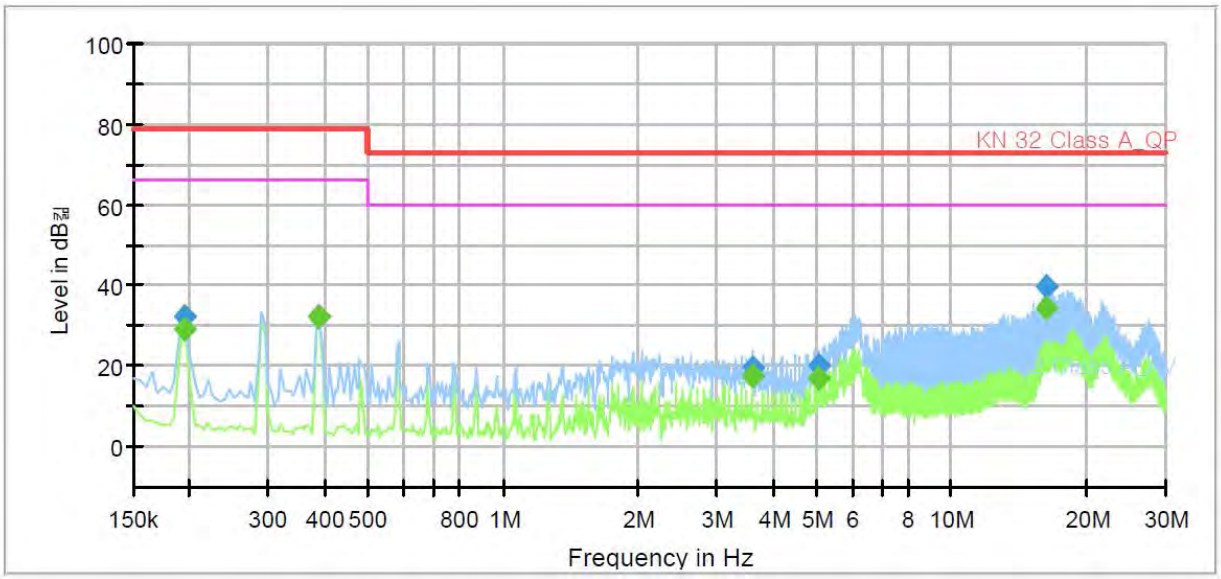
Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	33.76	66.00	32.24	1000.0	9.000	L1	20.7
0.195000	36.14	---	79.00	42.86	1000.0	9.000	L1	20.7
2.040000	---	17.07	60.00	42.93	1000.0	9.000	L1	19.8
2.040000	22.18	---	73.00	50.82	1000.0	9.000	L1	19.8
4.760000	---	18.59	60.00	41.41	1000.0	9.000	L1	19.7
4.760000	21.31	---	73.00	51.69	1000.0	9.000	L1	19.7
16.225000	---	32.76	60.00	27.24	1000.0	9.000	L1	20.2
16.225000	37.51	---	73.00	35.49	1000.0	9.000	L1	20.2
16.230000	---	32.33	60.00	27.67	1000.0	9.000	L1	20.2
16.230000	36.06	---	73.00	36.94	1000.0	9.000	L1	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 + Pulse Limiter FACTOR))

[NEUTRAL]

Common Information

Test Description:	Conducted Emission
Model No.:	XNO-6120RP
Mode	AC 24 V_N
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	29.04	66.00	36.96	1000.0	9.000	N	20.7
0.195000	32.46	---	79.00	46.54	1000.0	9.000	N	20.7
0.390000	---	32.26	66.00	33.74	1000.0	9.000	N	20.6
0.390000	32.38	---	79.00	46.62	1000.0	9.000	N	20.6
3.595000	---	17.34	60.00	42.66	1000.0	9.000	N	19.7
3.595000	19.80	---	73.00	53.20	1000.0	9.000	N	19.7
5.050000	---	17.03	60.00	42.97	1000.0	9.000	N	19.7
5.050000	20.20	---	73.00	52.80	1000.0	9.000	N	19.7
16.225000	---	34.65	60.00	25.35	1000.0	9.000	N	20.2
16.225000	39.46	---	73.00	33.54	1000.0	9.000	N	20.2

♦ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

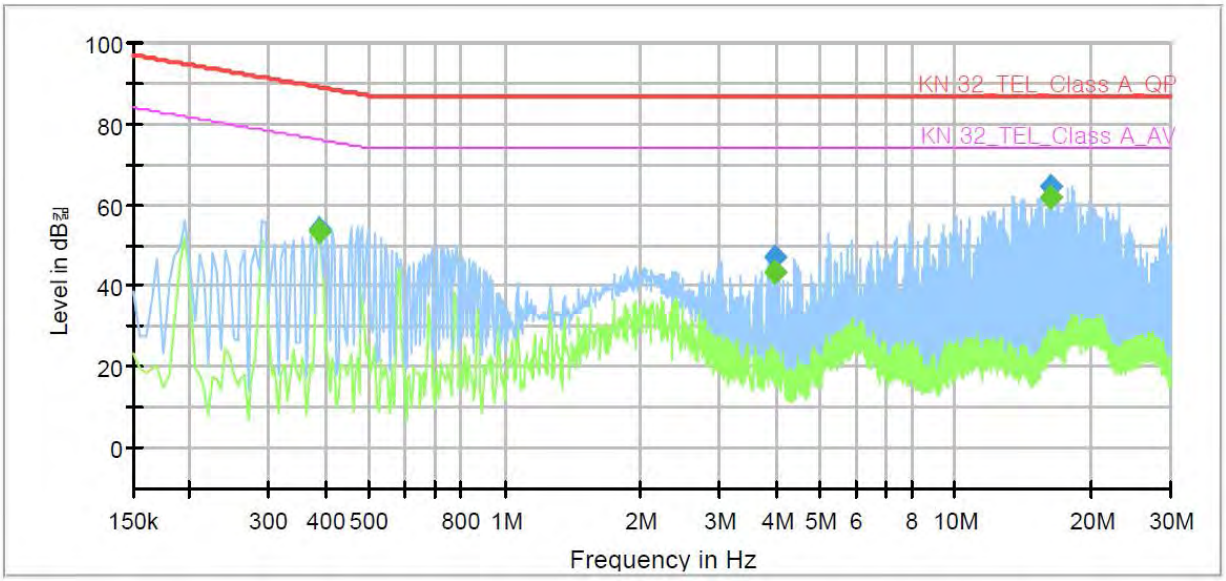
Conducted Emissions at Telecommunication Ports

- AC 24 V Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	AC 24 V_10 Mbps
Operator Name:	KES



Final_Result

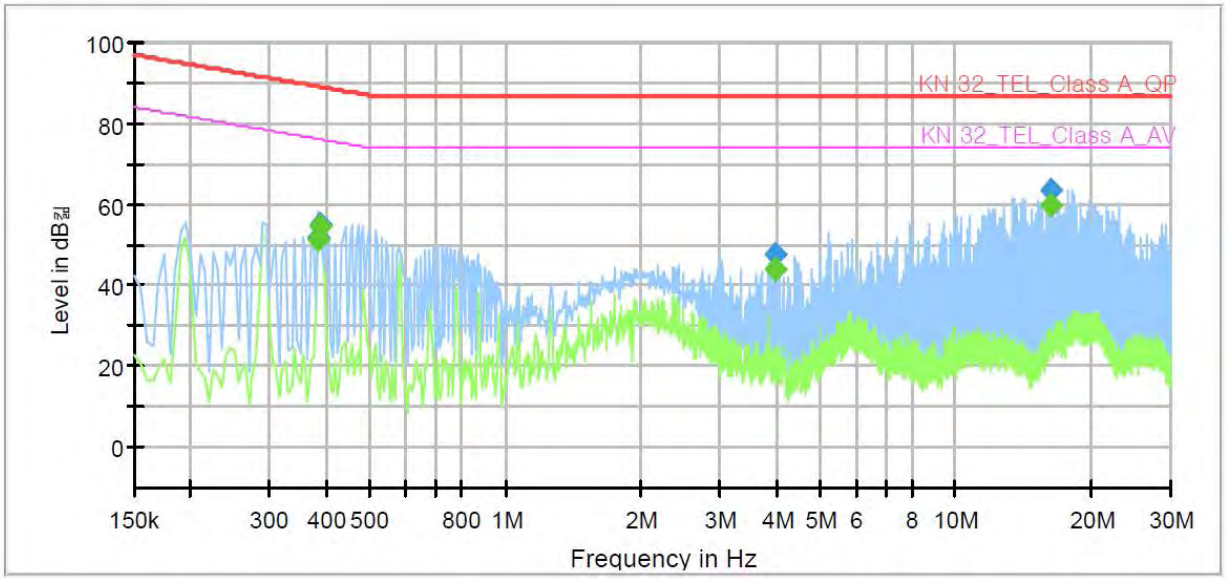
Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.390000	---	53.47	76.06	22.59	1000.0	9.000	Single Line	20.6
0.390000	53.99	---	89.06	35.07	1000.0	9.000	Single Line	20.6
3.955000	---	43.67	74.00	30.33	1000.0	9.000	Single Line	19.4
3.955000	47.16	---	87.00	39.84	1000.0	9.000	Single Line	19.4
16.225000	---	61.74	74.00	12.26	1000.0	9.000	Single Line	20.0
16.225000	64.55	---	87.00	22.45	1000.0	9.000	Single Line	20.0

♦ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	AC 24 V_100 Mbps
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.385000	---	51.21	76.17	24.96	1000.0	9.000	Single Line	20.9
0.385000	51.94	---	89.17	37.23	1000.0	9.000	Single Line	20.9
0.390000	---	54.67	76.06	21.39	1000.0	9.000	Single Line	20.9
0.390000	55.28	---	89.06	33.78	1000.0	9.000	Single Line	20.9
3.955000	---	43.83	74.00	30.17	1000.0	9.000	Single Line	19.7
3.955000	47.51	---	87.00	39.49	1000.0	9.000	Single Line	19.7
16.225000	---	59.90	74.00	14.10	1000.0	9.000	Single Line	20.2
16.225000	63.38	---	87.00	23.62	1000.0	9.000	Single Line	20.2

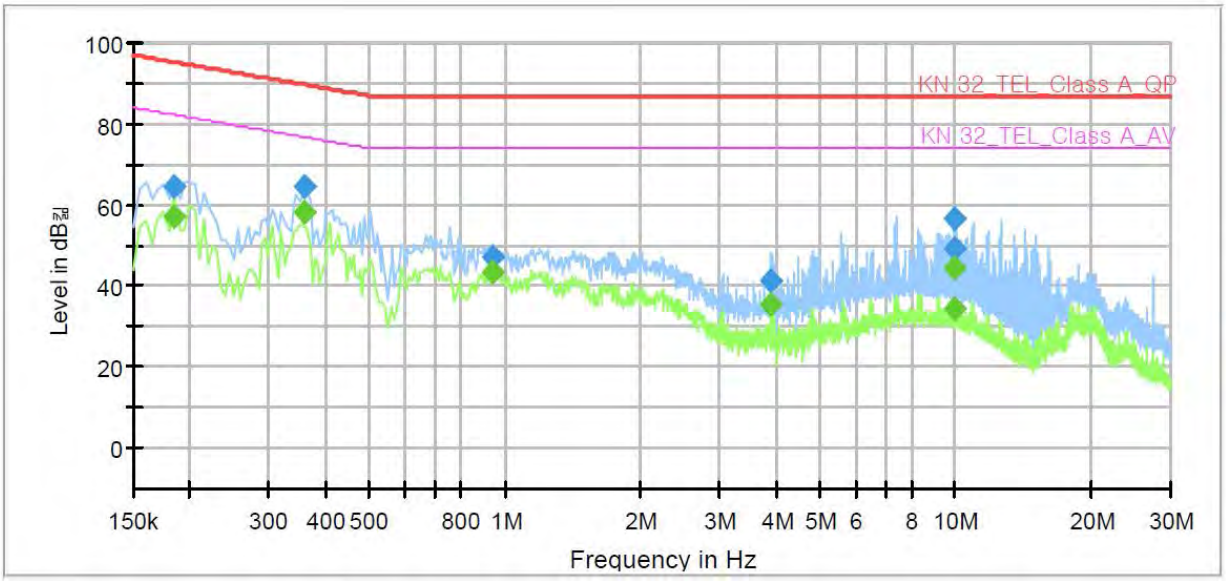
♦ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

- DC 12 V Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	DC 12 V_10 Mbps
Operator Name:	KES



Final_Result

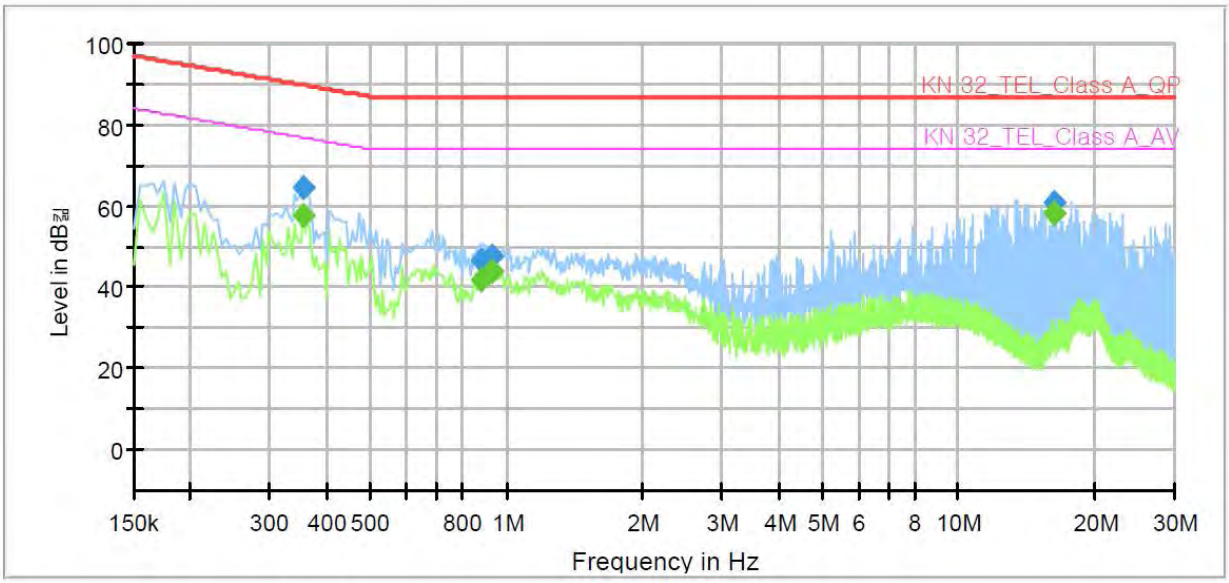
Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.185000	---	56.98	82.26	25.28	1000.0	9.000	Single Line	21.0
0.185000	64.38	---	95.26	30.88	1000.0	9.000	Single Line	21.0
0.360000	---	58.18	76.73	18.55	1000.0	9.000	Single Line	20.6
0.360000	64.69	---	89.73	25.04	1000.0	9.000	Single Line	20.6
0.945000	---	43.45	74.00	30.55	1000.0	9.000	Single Line	20.0
0.945000	47.37	---	87.00	39.63	1000.0	9.000	Single Line	20.0
3.910000	---	35.70	74.00	38.30	1000.0	9.000	Single Line	19.4
3.910000	41.44	---	87.00	45.56	1000.0	9.000	Single Line	19.4
9.985000	---	34.43	74.00	39.57	1000.0	9.000	Single Line	19.7
9.985000	49.40	---	87.00	37.60	1000.0	9.000	Single Line	19.7
10.000000	---	44.56	74.00	29.44	1000.0	9.000	Single Line	19.7
10.000000	56.51	---	87.00	30.49	1000.0	9.000	Single Line	19.7

♦ Calculation
QuasiPeak[㎶uV] / CAverage [㎶uV] = Reading Value[㎶uV] + Corr. [㎶]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	DC 12 V_100 Mbps
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.355000	---	57.84	76.84	19.00	1000.0	9.000	Single Line	20.9
0.355000	64.78	---	89.84	25.06	1000.0	9.000	Single Line	20.9
0.885000	---	41.71	74.00	32.29	1000.0	9.000	Single Line	20.3
0.885000	46.52	---	87.00	40.48	1000.0	9.000	Single Line	20.3
0.925000	---	43.72	74.00	30.28	1000.0	9.000	Single Line	20.3
0.925000	47.75	---	87.00	39.25	1000.0	9.000	Single Line	20.3
16.230000	---	58.32	74.00	15.68	1000.0	9.000	Single Line	20.2
16.230000	61.06	---	87.00	25.94	1000.0	9.000	Single Line	20.2

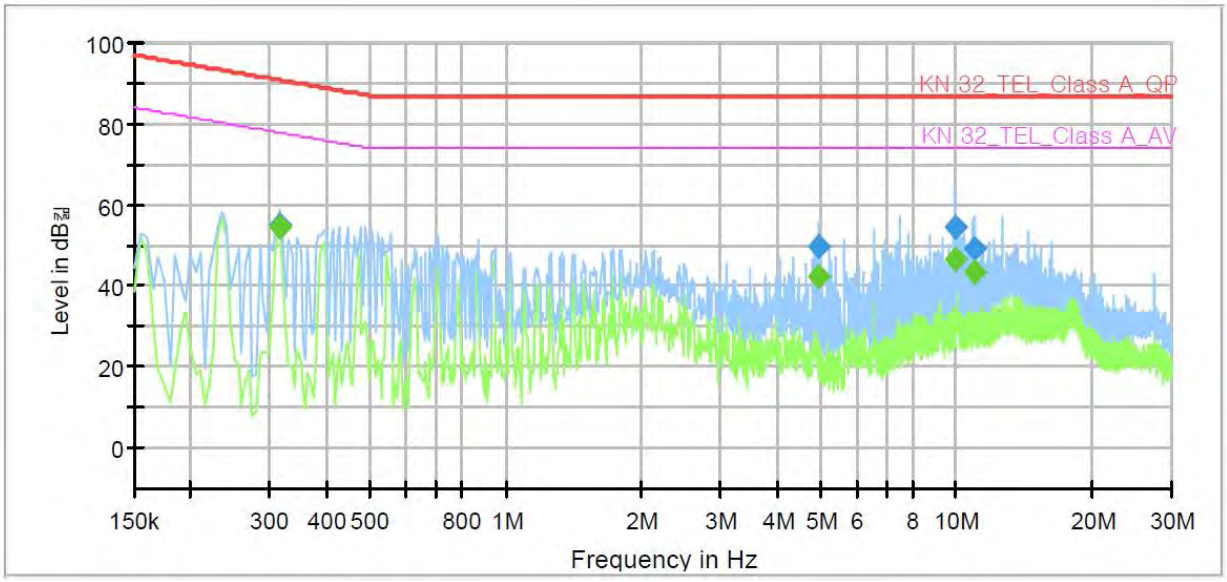
♦ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

- PoE Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	POE_10 Mbps
Operator Name:	KES



Final_Result

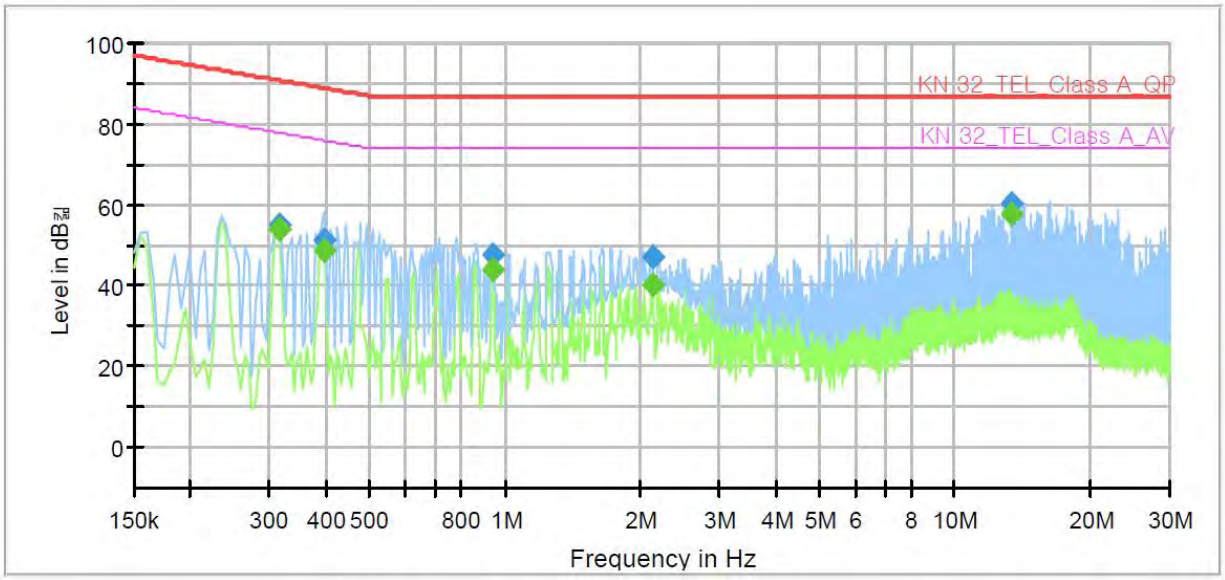
Frequency (MHz)	QuasiPeak (dB㎶)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.315000	---	54.29	77.84	23.55	1000.0	9.000	Single Line	20.7
0.315000	54.97	---	90.84	35.87	1000.0	9.000	Single Line	20.7
4.945000	---	42.31	74.00	31.69	1000.0	9.000	Single Line	19.5
4.945000	49.62	---	87.00	37.38	1000.0	9.000	Single Line	19.5
10.000000	---	46.61	74.00	27.39	1000.0	9.000	Single Line	19.7
10.000000	54.42	---	87.00	32.58	1000.0	9.000	Single Line	19.7
10.925000	---	43.66	74.00	30.34	1000.0	9.000	Single Line	19.8
10.925000	49.09	---	87.00	37.91	1000.0	9.000	Single Line	19.8

♦ Calculation
QuasiPeak[㏈uV] / CAverage [㏈uV] = Reading Value[㏈uV] + Corr. [㏈]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNO-6120RP
Mode	POE_100 Mbps
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dB㎲)	CAverage (dB㎲)	Limit (dB㎲)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.315000	---	54.16	77.84	23.68	1000.0	9.000	Single Line	21.0
0.315000	55.15	---	90.84	35.69	1000.0	9.000	Single Line	21.0
0.395000	---	48.92	75.96	27.04	1000.0	9.000	Single Line	20.9
0.395000	51.50	---	88.96	37.46	1000.0	9.000	Single Line	20.9
0.940000	---	44.18	74.00	29.82	1000.0	9.000	Single Line	20.3
0.940000	47.70	---	87.00	39.30	1000.0	9.000	Single Line	20.3
2.125000	---	40.15	74.00	33.85	1000.0	9.000	Single Line	19.8
2.125000	47.03	---	87.00	39.97	1000.0	9.000	Single Line	19.8
13.420000	---	57.72	74.00	16.28	1000.0	9.000	Single Line	20.1
13.420000	60.28	---	87.00	26.72	1000.0	9.000	Single Line	20.1

♦ Calculation
QuasiPeak[㎲uV] / CAverage [㎲uV] = Reading Value[㎲uV] + Corr. [㎲]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Radiated Electric Field Emissions(Below 1 ㎓)

- AC 24 V Mode

Frequency	Amplitude	ANT Polar.	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[㎒]	[dBμV]	(H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
224.95	7.10	H	2.30	12.15	3.42	22.67	40.00	17.33
250.01	13.50	H	1.25	12.49	3.69	29.68	47.00	17.32
274.39	12.20	V	2.33	12.94	3.89	29.03	47.00	17.97
335.59	10.30	H	1.96	14.20	4.20	28.70	47.00	18.30
350.08	9.50	V	2.10	14.52	4.24	28.26	47.00	18.74
500.47	10.20	V	1.03	17.36	5.20	32.76	47.00	14.24

* H : Horizontal, V : Vertical

♦ Calculation
Corrected Amplitude [㏈uV] = Amplitude[㏈uV] + Correction Factor [㏈]
Corrected Amplitude : The Final Value, Amplitude : Reading Value,
Correction Factor : ANT FACTOR + Cable loss

- DC 12 V Mode

Frequency	Amplitude	ANT Polar.	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[㎒]	[dBμV]	(H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
250.02	12.20	H	1.25	12.49	3.69	28.38	47.00	18.62
274.49	10.20	H	2.31	12.95	3.89	27.04	47.00	19.96
299.61	8.30	V	1.95	13.41	4.10	25.81	47.00	21.19
399.50	7.10	H	1.02	15.60	4.60	27.30	47.00	19.70
475.52	6.20	V	1.00	16.92	5.16	28.28	47.00	18.72

* H : Horizontal, V : Vertical

♦ Calculation
Corrected Amplitude [㏈uV] = Amplitude[㏈uV] + Correction Factor [㏈]
Corrected Amplitude : The Final Value, Amplitude : Reading Value,
Correction Factor : ANT FACTOR + Cable loss

- PoE Mode

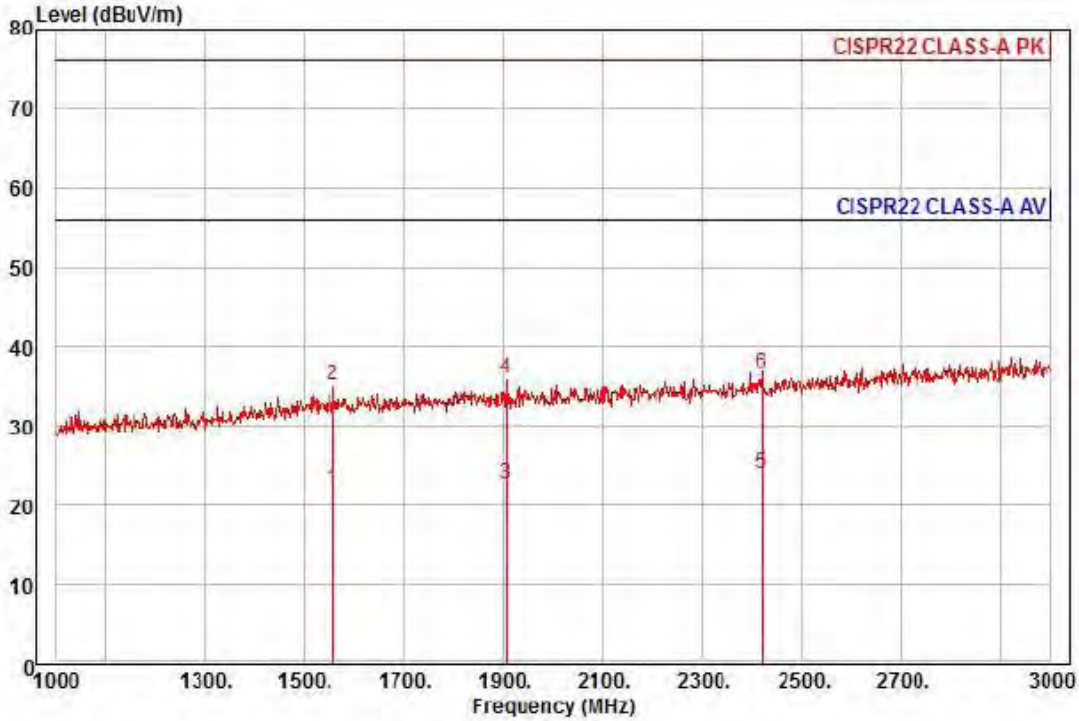
Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[㎒]	[dBμV]		[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
199.71	6.50	V	2.13	11.77	3.15	21.42	40.00	18.58
250.01	13.20	H	2.22	12.49	3.69	29.38	47.00	17.62
274.36	8.90	V	1.96	12.94	3.89	25.73	47.00	21.27
299.59	10.30	H	3.02	13.41	4.10	27.81	47.00	19.19
399.48	7.10	V	1.20	15.60	4.60	27.30	47.00	19.70
424.67	7.30	H	1.00	16.04	4.86	28.20	47.00	18.80

* H : Horizontal, V : Vertical

♦ Calculation
Corrected Amplitude [㏈uV] = Amplitude[㏈uV] + Correction Factor [㏈]
Corrected Amplitude : The Final Value, Amplitude : Reading Value,
Correction Factor : ANT FACTOR + Cable loss

Radiated Electric Field Emissions(Above 1 ㎓)

- AC 24 V Mode



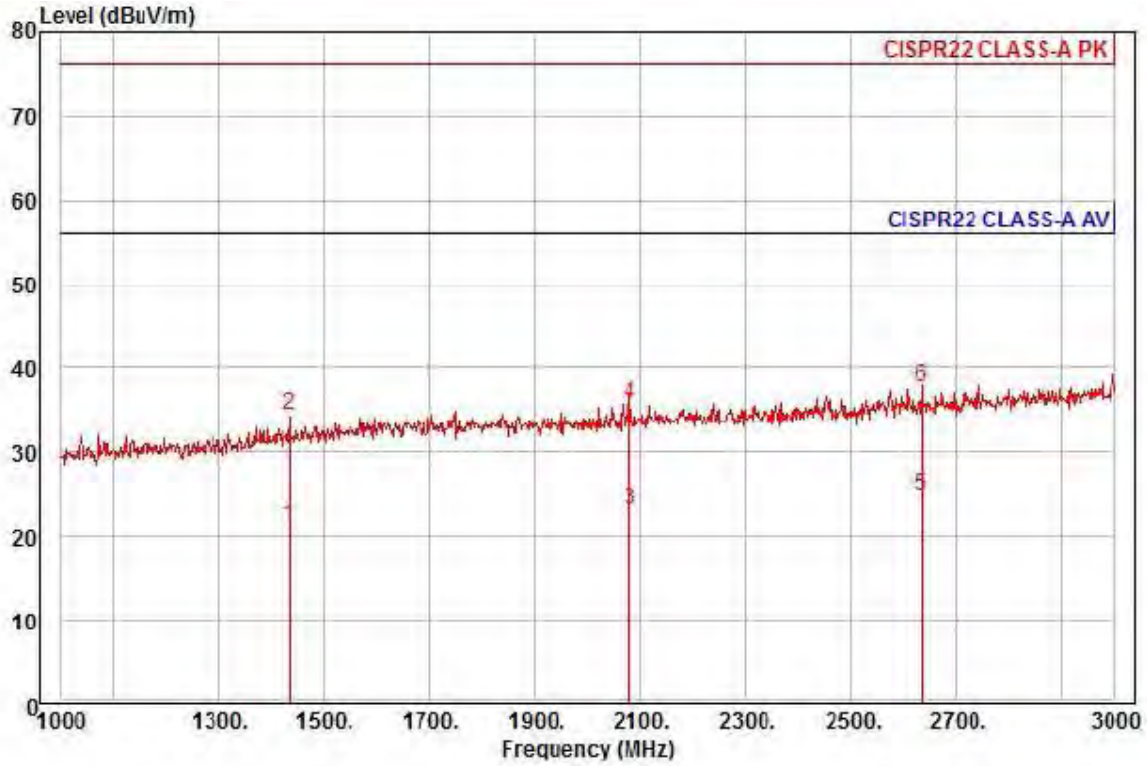
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : AC 24 V
Memo : 1 ~ 3 GHz

	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	1558.00	29.05	24.02	8.19	39.20	138	56.00	-33.94	horizontal	Average
2	1558.00	42.10	24.02	8.19	39.20	138	76.00	-40.89	horizontal	Peak
3	1906.00	27.67	25.26	9.10	39.37	126	56.00	-33.34	horizontal	Average
4	1906.00	40.87	25.26	9.10	39.37	126	76.00	-40.14	horizontal	Peak
5 pp	2420.00	25.70	27.25	10.36	39.44	308	56.00	-32.13	horizontal	Average
6 pk	2420.00	38.45	27.25	10.36	39.44	308	76.00	-39.38	horizontal	Peak

♦ Calculation

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

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



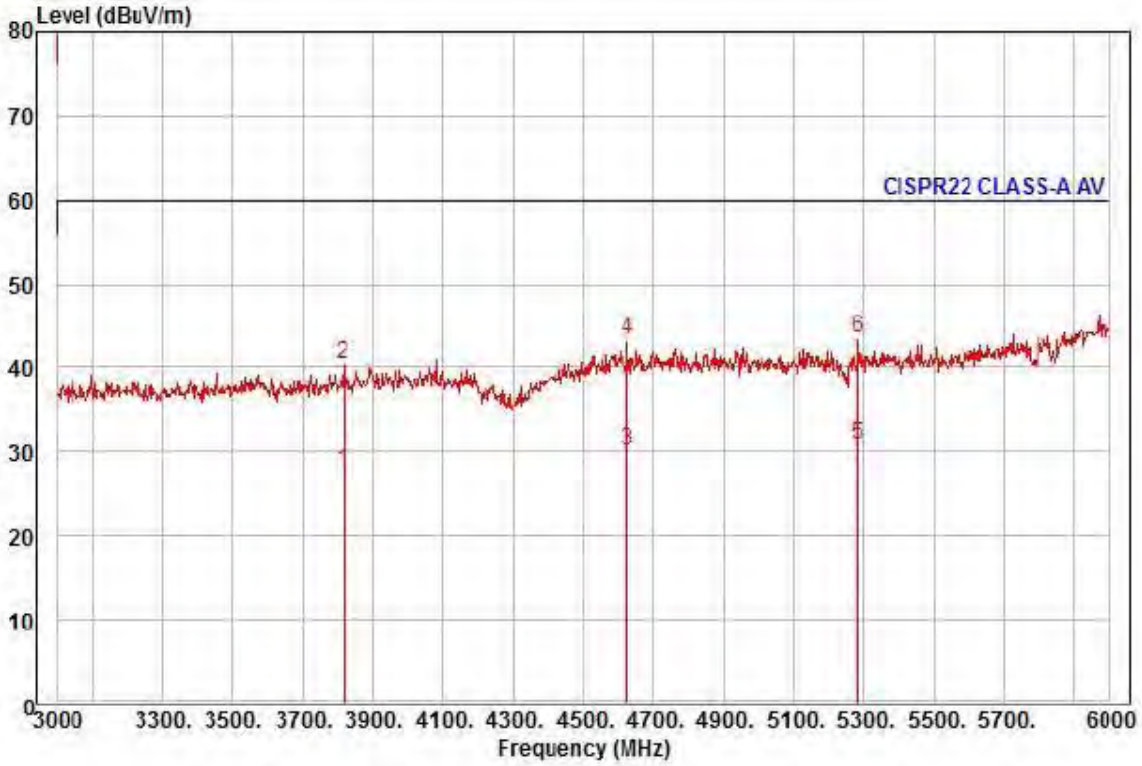

```
Site      : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
          : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project   :
Model     : XNO-6120RP
Mode      : AC 24 V
Memo      : 1 ~ 3 GHz
```

	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	1436.00	29.17	23.39	7.83	39.15	216	56.00	-34.76	vertical	Average
2	1436.00	42.29	23.39	7.83	39.15	216	76.00	-41.64	vertical	Peak
3	2080.00	27.00	25.92	9.52	39.41	266	56.00	-32.97	vertical	Average
4	2080.00	39.63	25.92	9.52	39.41	266	76.00	-40.34	vertical	Peak
5 pp	2636.00	25.49	28.17	10.83	39.69	33	56.00	-31.20	vertical	Average
6 pk	2636.00	38.45	28.17	10.83	39.69	33	76.00	-38.24	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



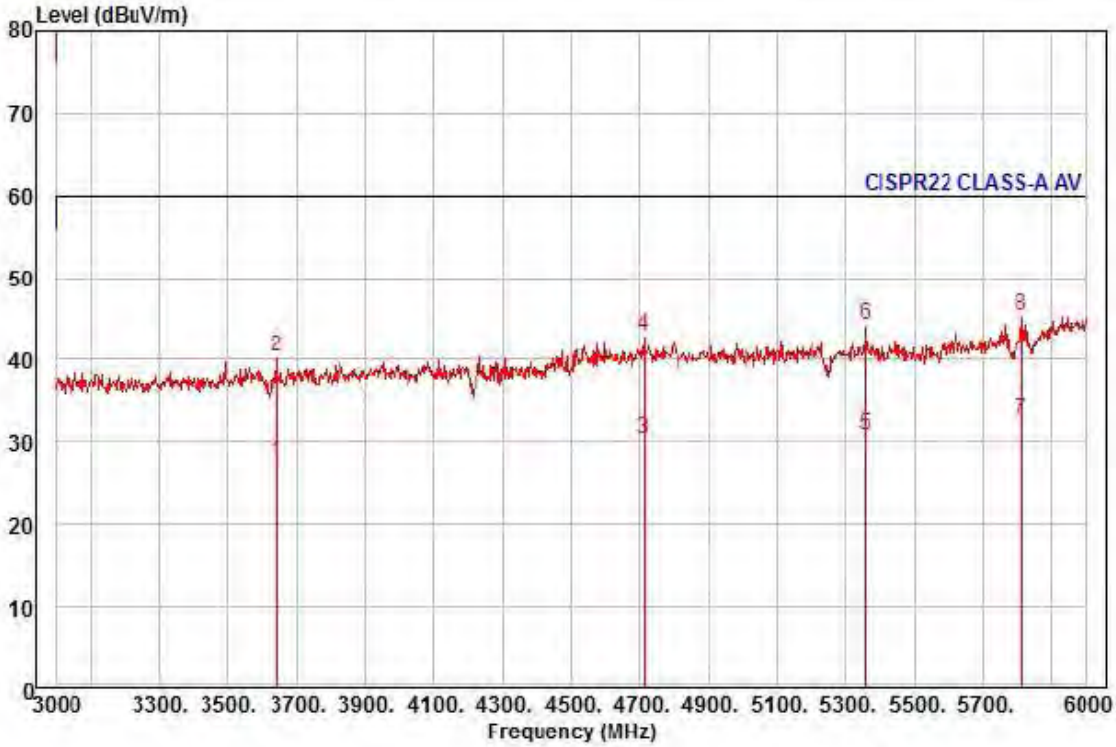
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : AC 24 V
Memo : 3 ~ 6 GHz

	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	3816.00	24.35	30.99	13.21	40.77	288	60.00	-32.22	horizontal	Average
2	3816.00	36.88	30.99	13.21	40.77	288	80.00	-39.69	horizontal	Peak
3	4626.00	23.06	32.91	14.72	40.64	348	60.00	-29.95	horizontal	Average
4	4626.00	36.12	32.91	14.72	40.64	348	80.00	-36.89	horizontal	Peak
5 pp	5283.00	22.21	33.41	15.84	40.74	1	60.00	-29.28	horizontal	Average
6 pk	5283.00	34.97	33.41	15.84	40.74	1	80.00	-36.52	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



Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : AC 24 V
Memo : 3 ~ 6 GHz

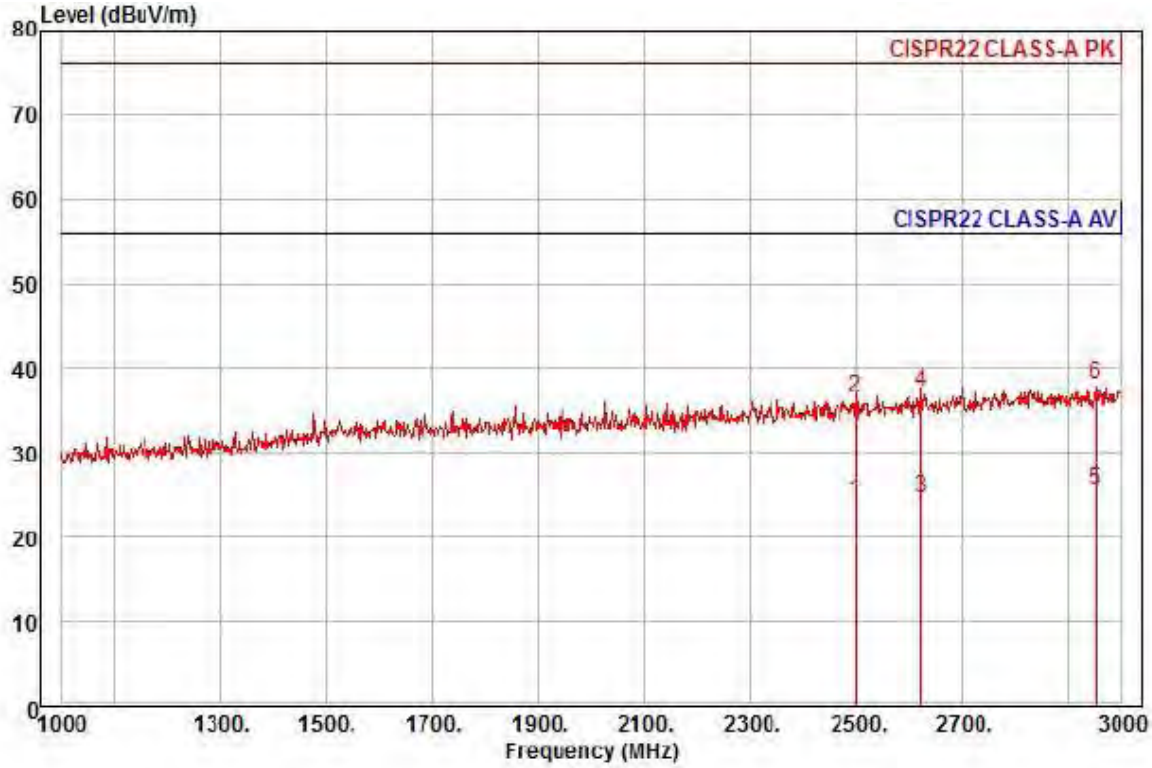
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3642.00	24.77	30.60	12.88	40.83	74	60.00	-32.58	vertical	Average
2	3642.00	37.72	30.60	12.88	40.83	74	80.00	-39.63	vertical	Peak
3	4713.00	23.05	32.98	14.91	40.56	150	60.00	-29.62	vertical	Average
4	4713.00	35.54	32.98	14.91	40.56	150	80.00	-37.13	vertical	Peak
5	5358.00	22.18	33.45	15.97	40.86	16	60.00	-29.26	vertical	Average
6	5358.00	35.72	33.45	15.97	40.86	16	80.00	-35.72	vertical	Peak
7 pp	5814.00	21.32	35.43	16.73	40.68	133	60.00	-27.20	vertical	Average
8 pk	5814.00	33.88	35.43	16.73	40.68	133	80.00	-34.64	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

- DC 12 V Mode



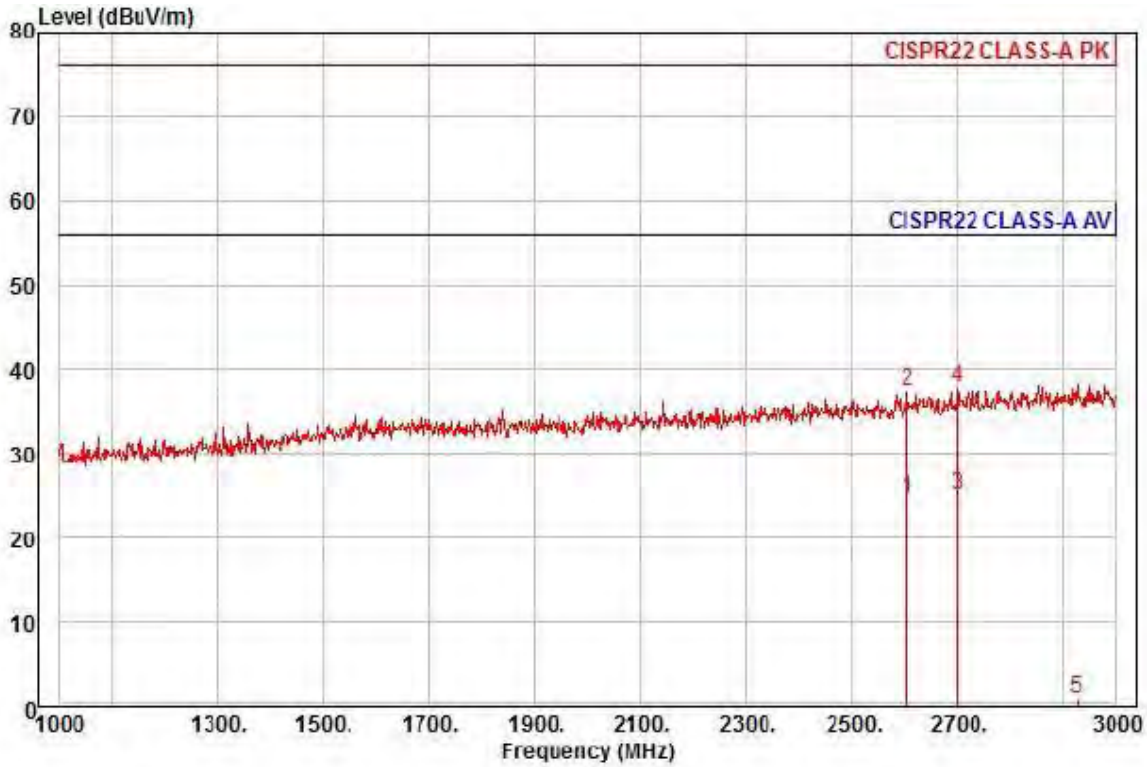
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : DC 12 V
Memo : 1 ~ 3 GHz

	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	2500.00	25.59	27.57	10.53	39.53	111	56.00	-31.84	horizontal	Average
2	2500.00	38.03	27.57	10.53	39.53	111	76.00	-39.40	horizontal	Peak
3	2624.00	25.39	28.12	10.80	39.68	19	56.00	-31.37	horizontal	Average
4	2624.00	37.93	28.12	10.80	39.68	19	76.00	-38.83	horizontal	Peak
5 pp	2952.00	24.41	29.58	11.59	40.05	5	56.00	-30.47	horizontal	Average
6 pk	2952.00	37.10	29.58	11.59	40.05	5	76.00	-37.78	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



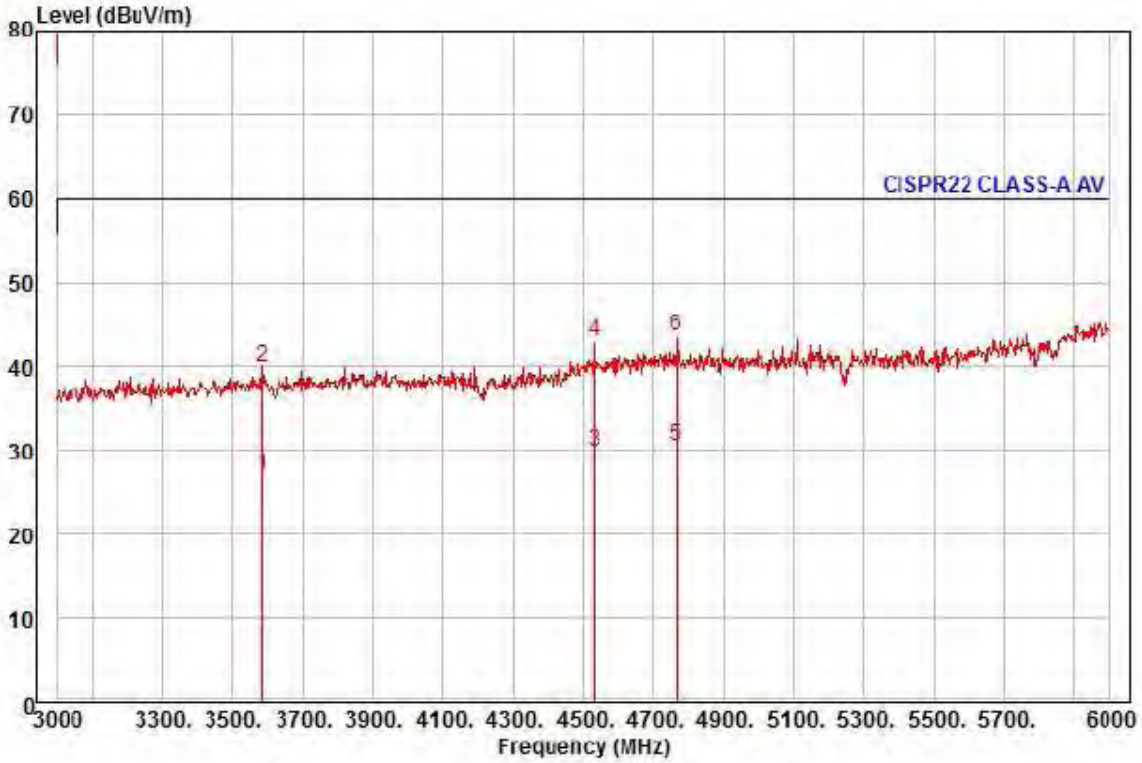
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : DC 12 V
Memo : 1 ~ 3 GHz

	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	2606.00	25.48	28.04	10.76	39.66	27	56.00	-31.38	vertical	Average
2	2606.00	38.40	28.04	10.76	39.66	27	76.00	-38.46	vertical	Peak
3 pp	2700.00	25.27	28.46	10.99	39.76	227	56.00	-31.04	vertical	Average
4 pk	2700.00	38.25	28.46	10.99	39.76	227	76.00	-38.06	vertical	Peak
5	2928.00	0.00	29.47	11.53	40.03	339	76.00	-75.03	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, Cable Loss : Cable loss, Preamp Factor : Preamp Factor



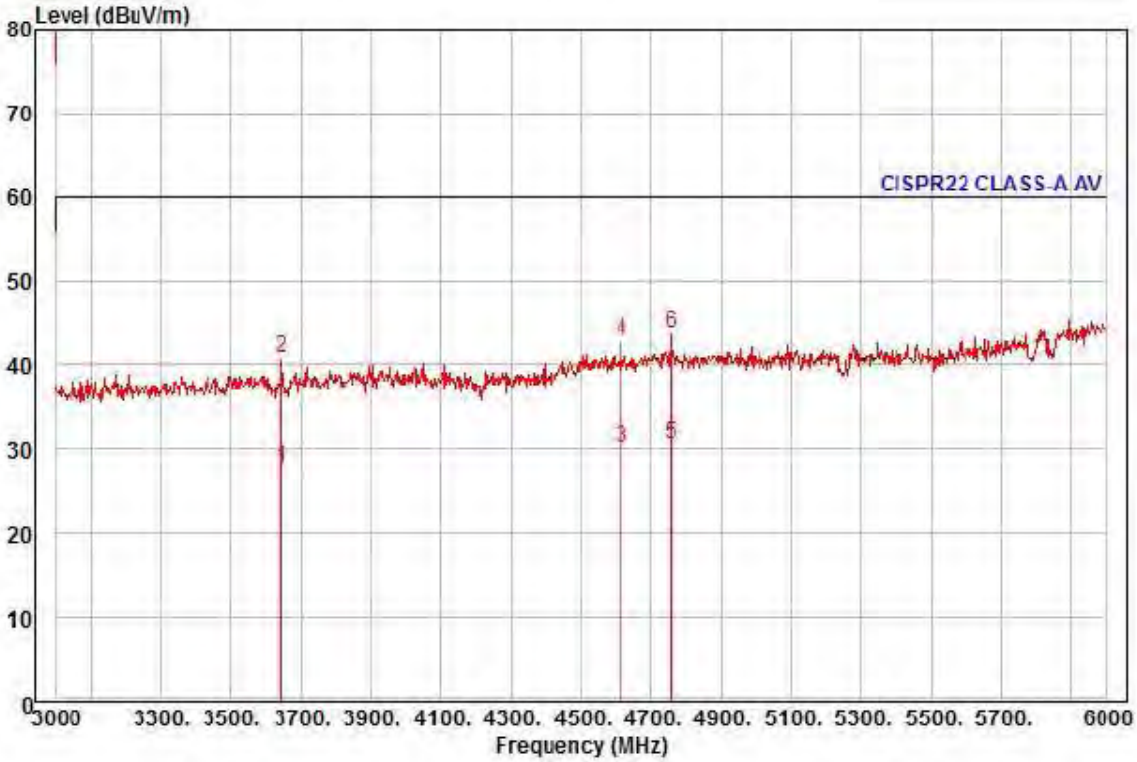
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : DC 12 V
Memo : 3 ~ 6 GHz

	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	3582.00	24.54	30.47	12.77	40.85	343	60.00	-33.07	horizontal	Average
2	3582.00	37.60	30.47	12.77	40.85	343	80.00	-40.01	horizontal	Peak
3	4533.00	23.24	32.83	14.53	40.74	299	60.00	-30.14	horizontal	Average
4	4533.00	36.34	32.83	14.53	40.74	299	80.00	-37.04	horizontal	Peak
5 pp	4764.00	23.03	33.03	15.02	40.51	231	60.00	-29.43	horizontal	Average
6 pk	4764.00	36.11	33.03	15.02	40.51	231	80.00	-36.35	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




```
Site      : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
          : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project   :
Model     : XNO-6120RP
Mode      : DC 12 V
Memo      : 3 ~ 6 GHz
```

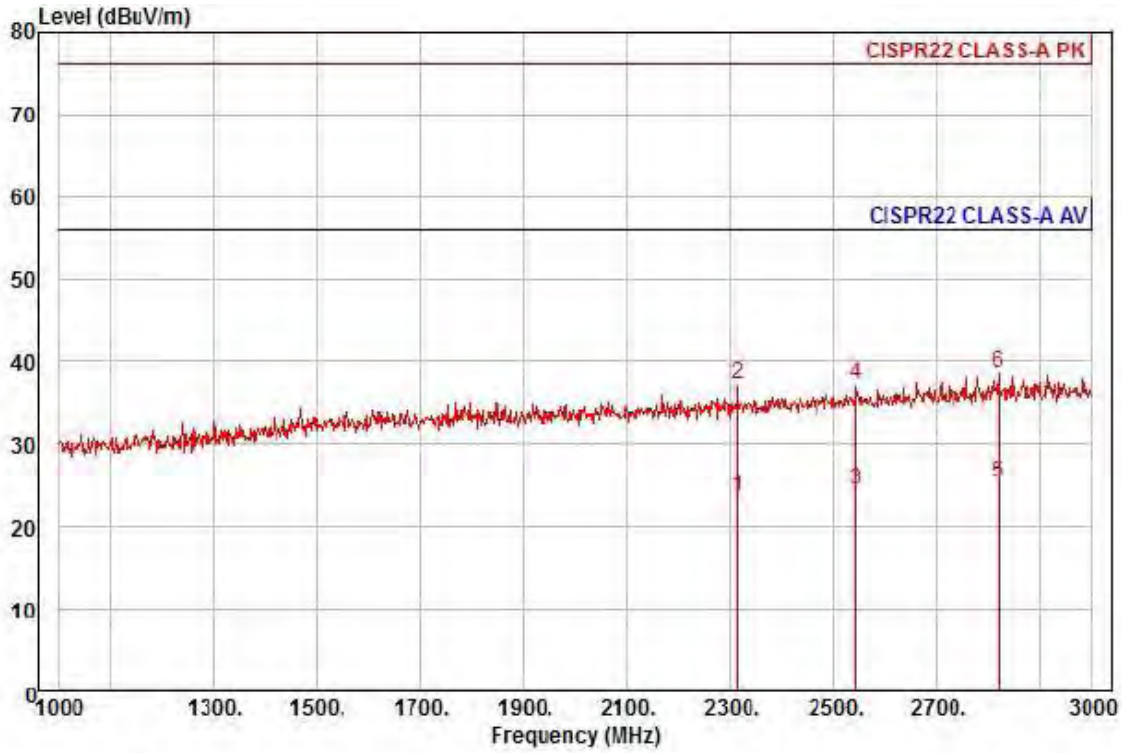
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3645.00	24.92	30.61	12.89	40.83	128	60.00	-32.41	vertical	Average
2	3645.00	38.03	30.61	12.89	40.83	128	80.00	-39.30	vertical	Peak
3	4617.00	23.15	32.90	14.70	40.65	70	60.00	-29.90	vertical	Average
4	4617.00	35.89	32.90	14.70	40.65	70	80.00	-37.16	vertical	Peak
5 pp	4758.00	23.03	33.02	15.01	40.51	277	60.00	-29.45	vertical	Average
6 pk	4758.00	36.19	33.02	15.01	40.51	277	80.00	-36.29	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, Cable Loss : Cable loss, Preamp Factor : Preamp Factor

- PoE Mode



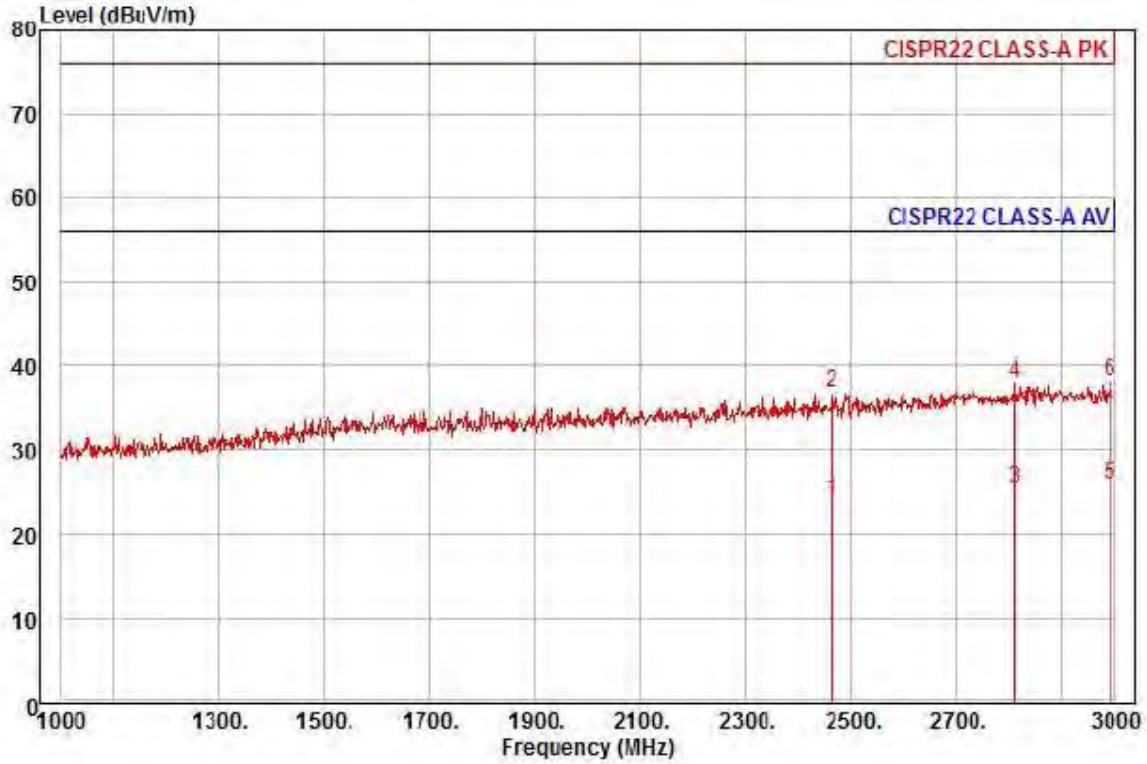

```
Site      : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
          : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project   :
Model     : XNO-6120RP
Mode      : POE
Memo      : 1 ~ 3 GHz
```

	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	2314.00	26.12	26.84	10.10	39.42	271	56.00	-32.36	horizontal	Average
2	2314.00	39.78	26.84	10.10	39.42	271	76.00	-38.70	horizontal	Peak
3	2544.00	25.51	27.77	10.62	39.59	167	56.00	-31.69	horizontal	Average
4	2544.00	38.45	27.77	10.62	39.59	167	76.00	-38.75	horizontal	Peak
5 pp	2820.00	25.01	28.99	11.28	39.90	165	56.00	-30.62	horizontal	Average
6 pk	2820.00	38.28	28.99	11.28	39.90	165	76.00	-37.35	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



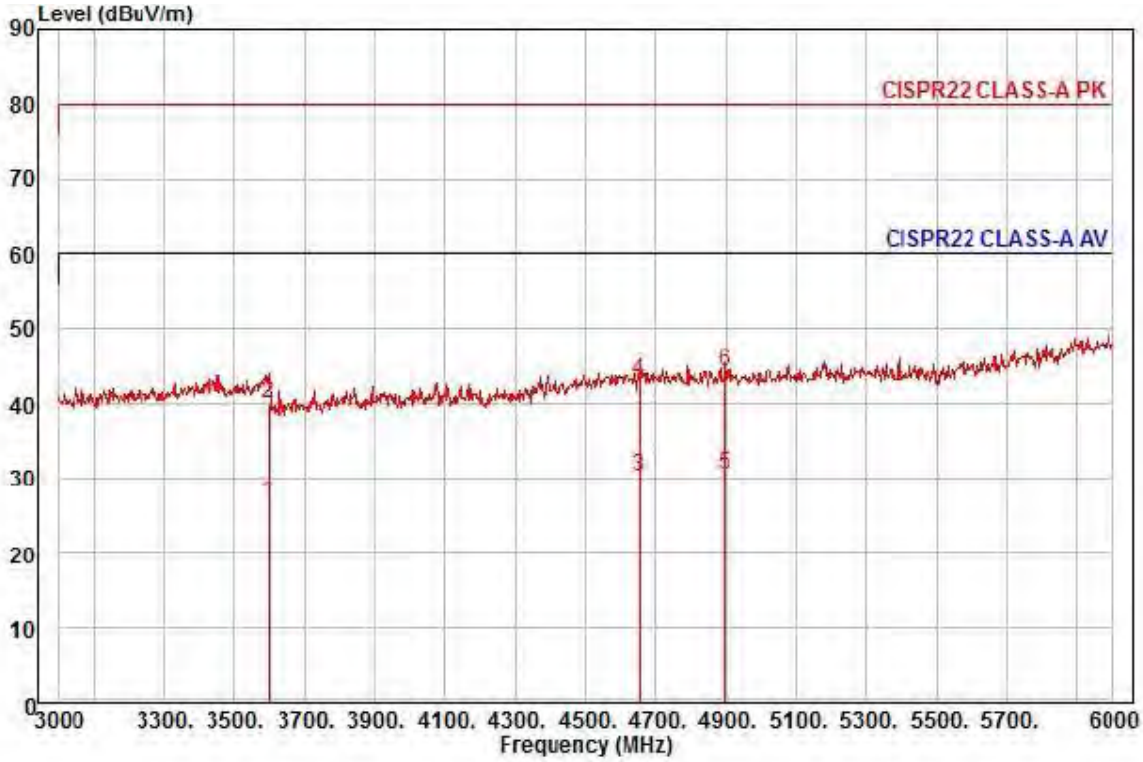
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : POE
Memo : 1 ~ 3 GHz

	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	2464.00	25.64	27.43	10.46	39.49	280	56.00	-31.96	vertical	Average
2	2464.00	38.34	27.43	10.46	39.49	280	76.00	-39.26	vertical	Peak
3	2812.00	25.00	28.96	11.26	39.89	328	56.00	-30.67	vertical	Average
4	2812.00	37.59	28.96	11.26	39.89	328	76.00	-38.08	vertical	Peak
5 pp	2992.00	24.32	29.75	11.68	40.10	156	56.00	-30.35	vertical	Average
6 pk	2992.00	36.83	29.75	11.68	40.10	156	76.00	-37.84	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



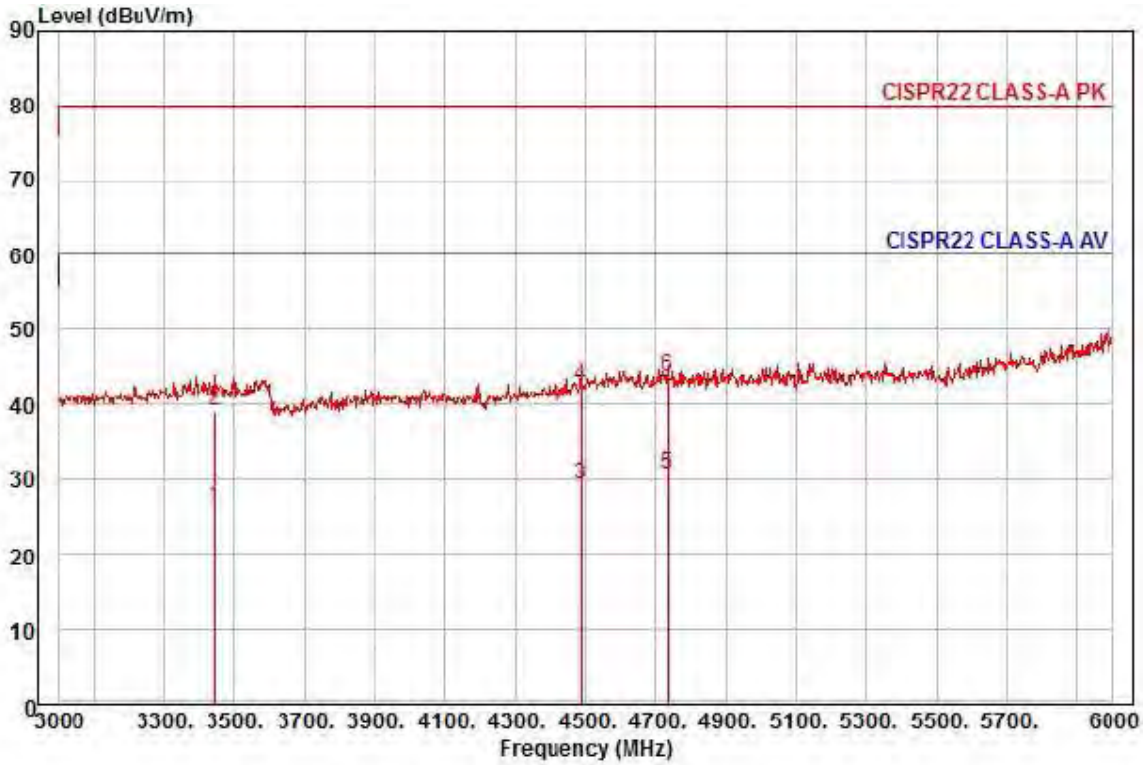
Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
Mode : POE
Memo : 3 ~ 6 GHz

	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	3597.00	24.37	30.50	12.80	40.85	311	60.00	-33.18	horizontal	Average
2	3597.00	37.47	30.50	12.80	40.85	311	80.00	-40.08	horizontal	Peak
3	4656.00	23.03	32.93	14.78	40.61	95	60.00	-29.87	horizontal	Average
4	4656.00	35.86	32.93	14.78	40.61	95	80.00	-37.04	horizontal	Peak
5 pp	4899.00	22.53	33.14	15.21	40.37	336	60.00	-29.49	horizontal	Average
6 pk	4899.00	36.19	33.14	15.21	40.37	336	80.00	-35.83	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



Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(9149-255,2016-05-17) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNO-6120RP
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	3444.00	24.06	30.23	12.53	40.79	277	60.00	-33.97	vertical	Average
2	3444.00	36.97	30.23	12.53	40.79	277	80.00	-41.06	vertical	Peak
3	4488.00	22.84	32.77	14.44	40.77	241	60.00	-30.72	vertical	Average
4	4488.00	36.04	32.77	14.44	40.77	241	80.00	-37.52	vertical	Peak
5 pp	4734.00	23.17	33.00	14.95	40.54	277	60.00	-29.42	vertical	Average
6 pk	4734.00	36.16	33.00	14.95	40.54	277	80.00	-36.43	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

Harmonic Current Emissions and Voltage Fluctuations and Flicker

Average harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1				
2				PASS
3				PASS
4				PASS
5				PASS
6				PASS
7				PASS
8				PASS
9				PASS
10				PASS
11				PASS
12				PASS
13				PASS
14				PASS
15				PASS
16				PASS
17				PASS
18				PASS
19				PASS
20				PASS
21				PASS
22				PASS
23				PASS
24				PASS
25				PASS
26				PASS
27				PASS
28				PASS
29				PASS
30				PASS
31				PASS
32				PASS
33				PASS
34				PASS
35				PASS
36				PASS
37				PASS
38				PASS
39				PASS
40				PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Test Data - Harmonics (continued)

Maximum harmonic current results

Hn	Ieff [A]	% of Limit	Limit [A]	Result
1				
2				PASS
3				PASS
4				PASS
5				PASS
6				PASS
7				PASS
8				PASS
9				PASS
10				PASS
11				PASS
12				PASS
13				PASS
14				PASS
15				PASS
16				PASS
17				PASS
18				PASS
19				PASS
20				PASS
21				PASS
22				PASS
23				PASS
24				PASS
25				PASS
26				PASS
27				PASS
28				PASS
29				PASS
30				PASS
31				PASS
32				PASS
33				PASS
34				PASS
35				PASS
36				PASS
37				PASS
38				PASS
39				PASS
40				PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Test Data - Voltage Fluctuations

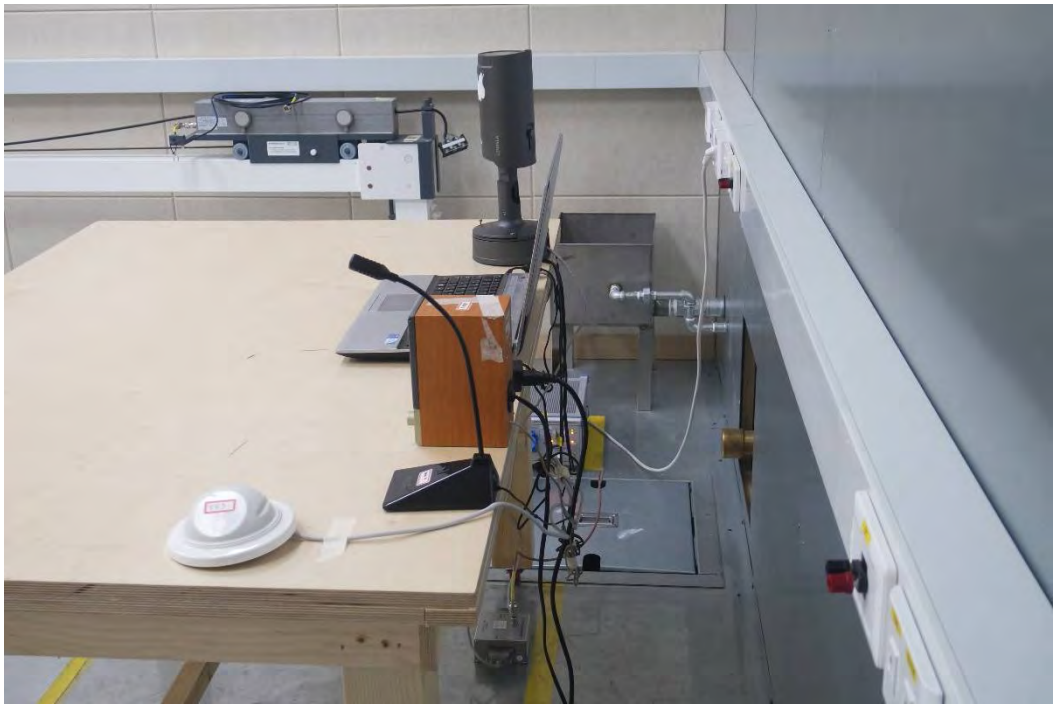
Maximum Flicker results

	EUT values	Limit	Result
Pst			PASS
Plt			PASS
dc [%]			PASS
dmax [%]			PASS
Tmax [s]			PASS

Test Setup Photos and Configuration

Conducted Voltage Emissions

Conducted Telecommunication Emissions



Radiated Electric Field Emissions(Below 1 ㎓)

Radiated Electric Field Emissions(Above 1 ㎓)

Harmonic Current Emissions and Voltage Fluctuations and Flicker

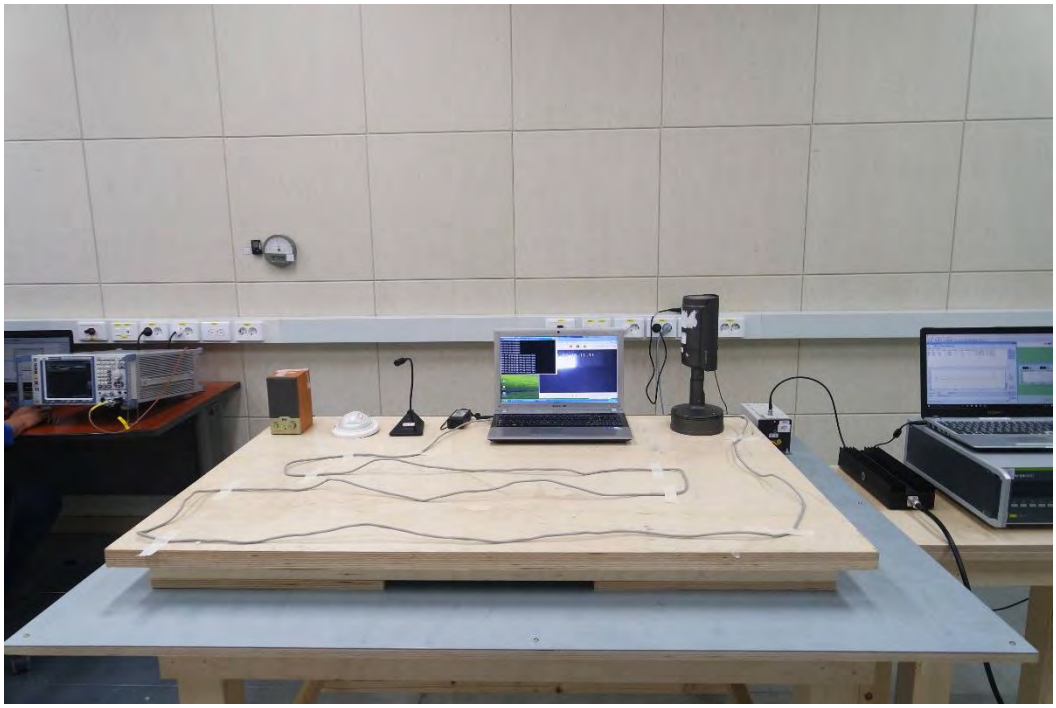
Electrostatic Discharge

Radiated Electric Field Immunity

Electrical Fast Transients/Bursts

Surge Transients

Conducted Disturbance



Voltage Dips and Short Interruptions

EUT External Photographs

(Top)

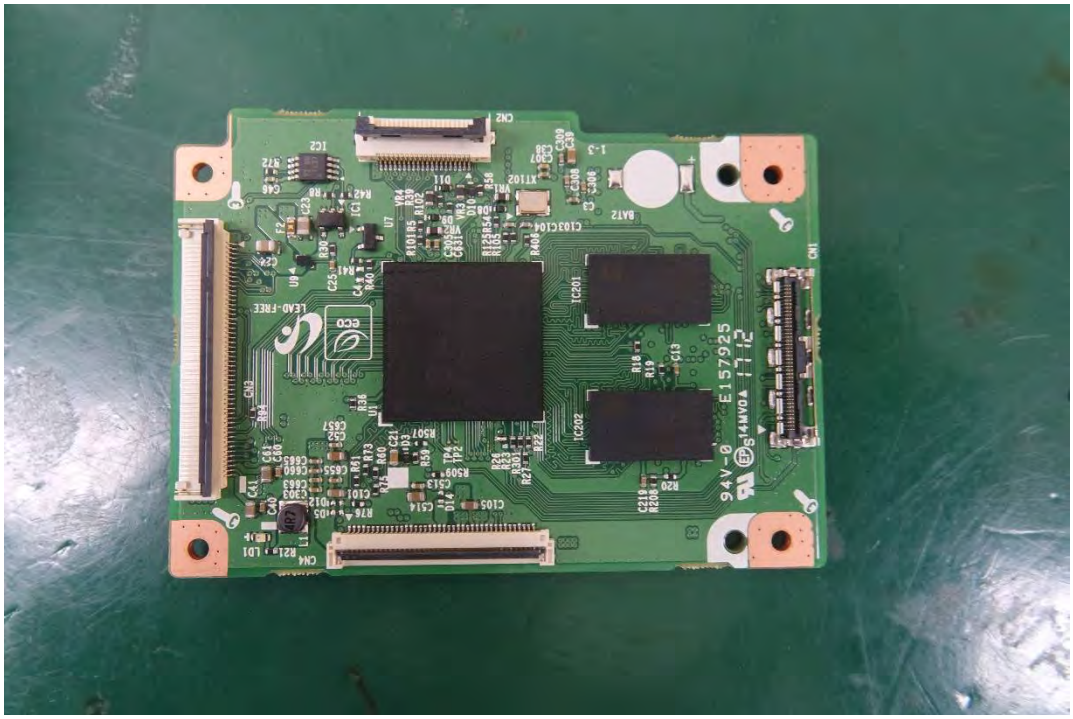
(Bottom)

EUT Internal Photographs

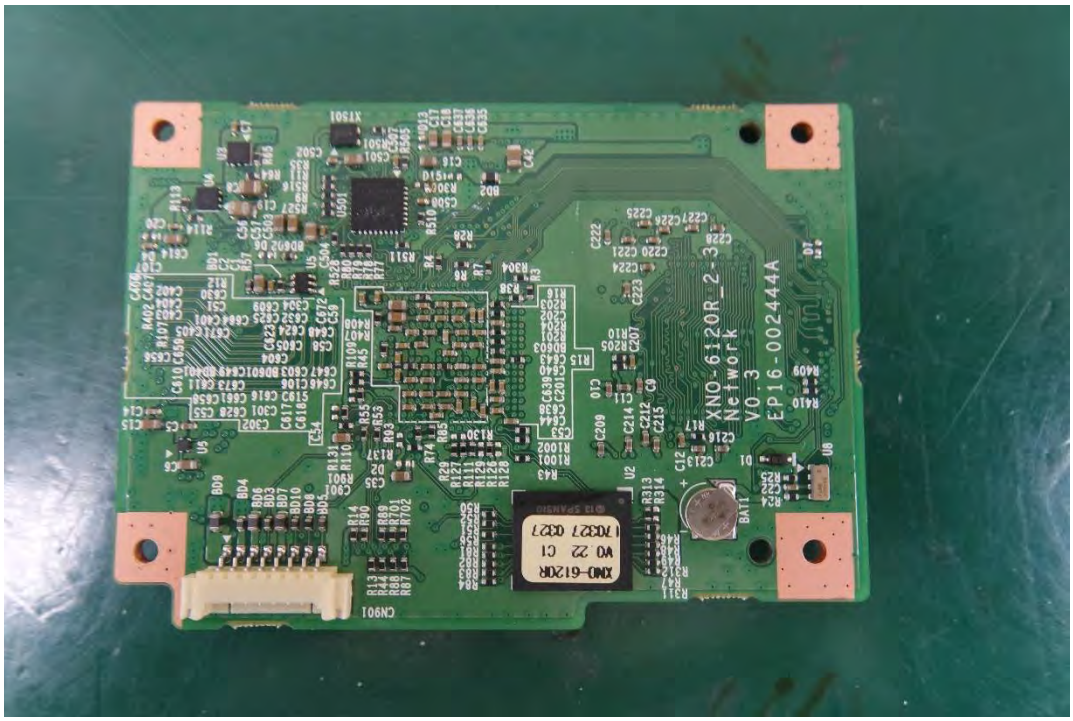
(Internal View)

EUT Internal View – Main Board

(Top)

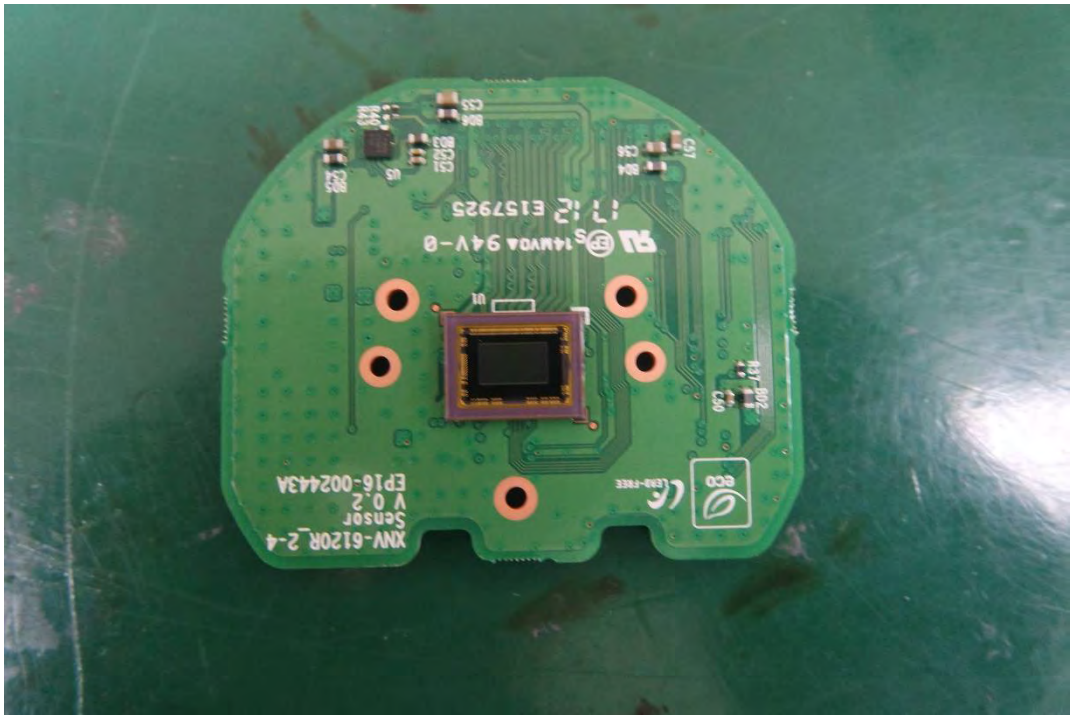


(Bottom)



EUT Internal View – Lens Board

(Top)



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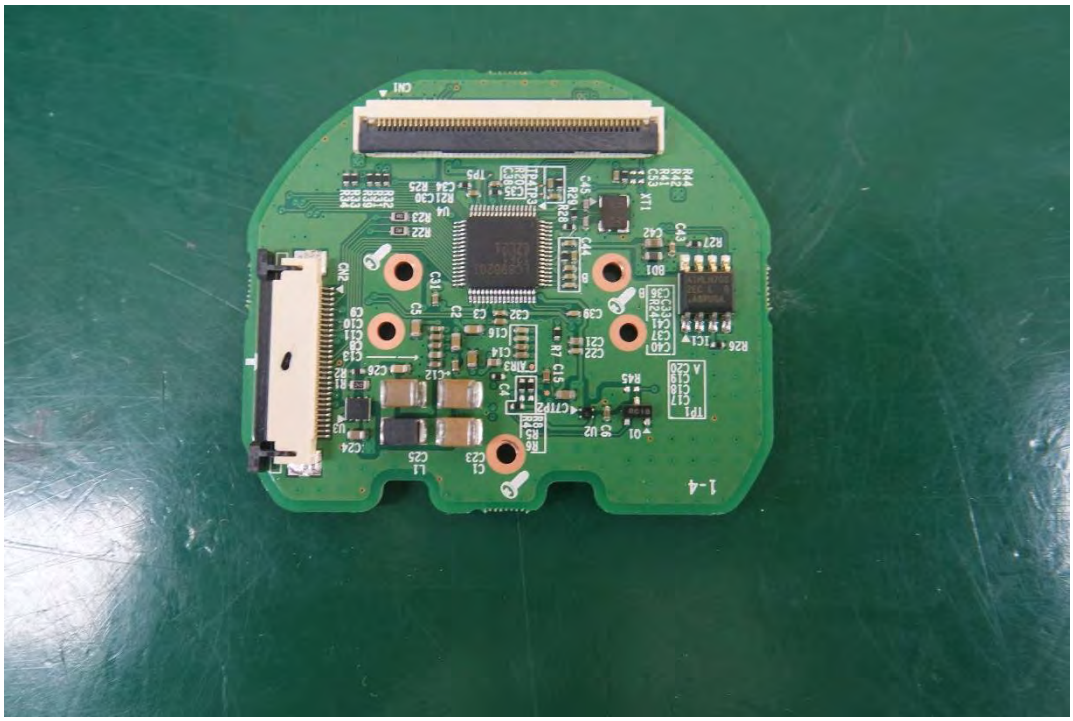
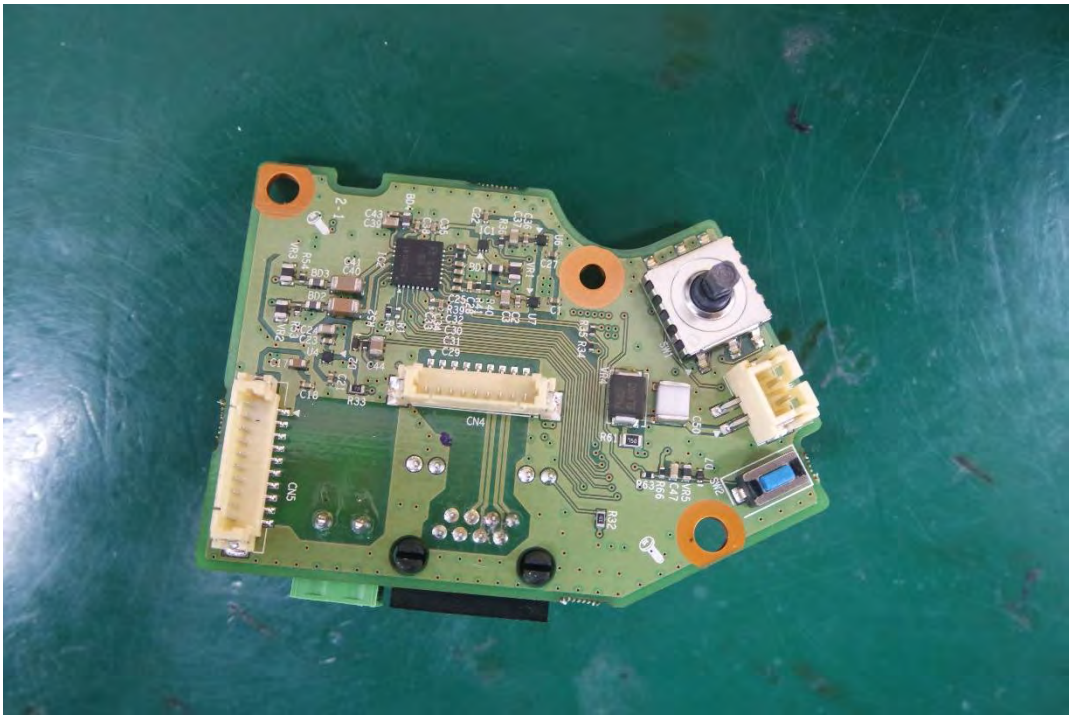


EUT Internal View – Sub Board 1

(Top)



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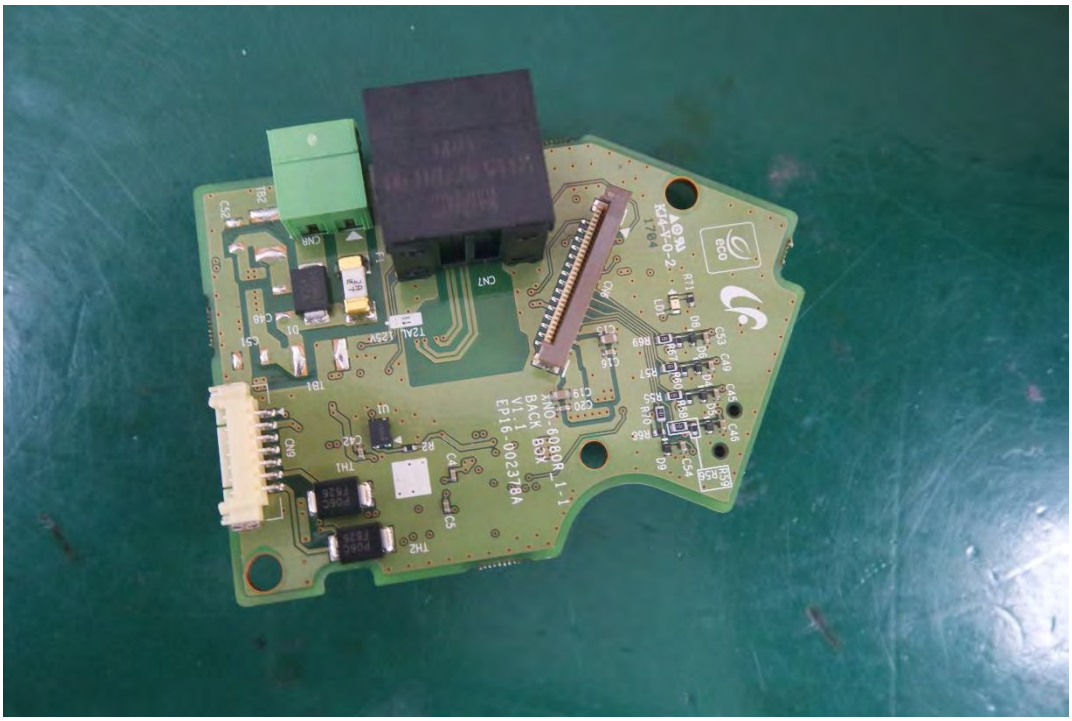
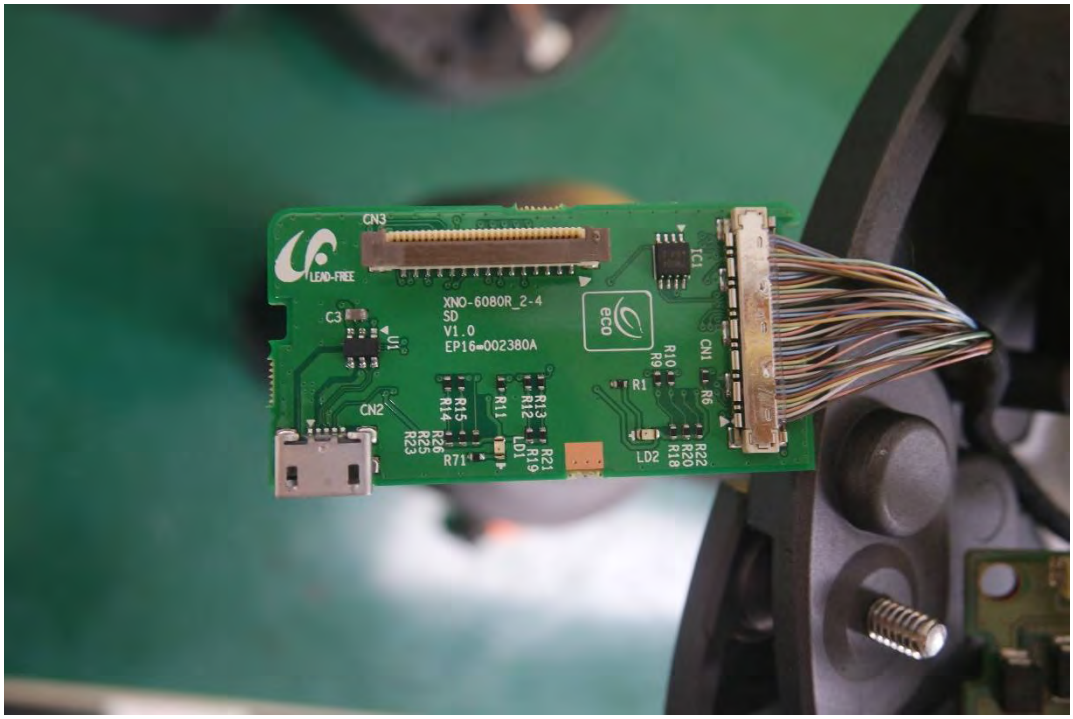


EUT Internal View – Sub Board 2

(Top)



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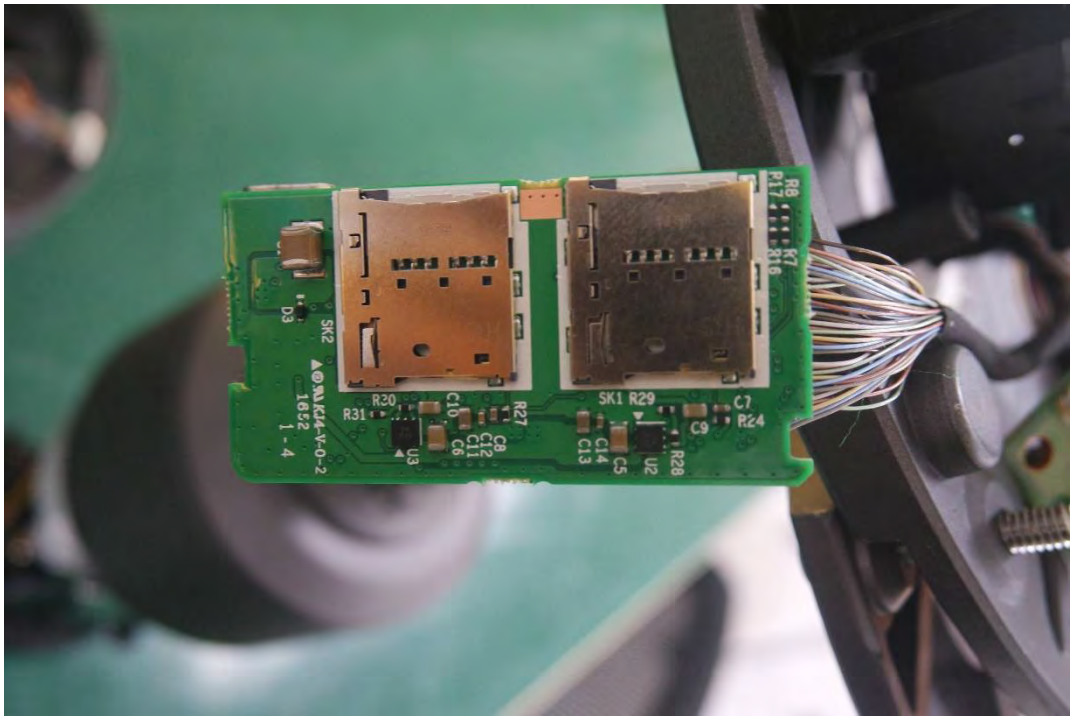
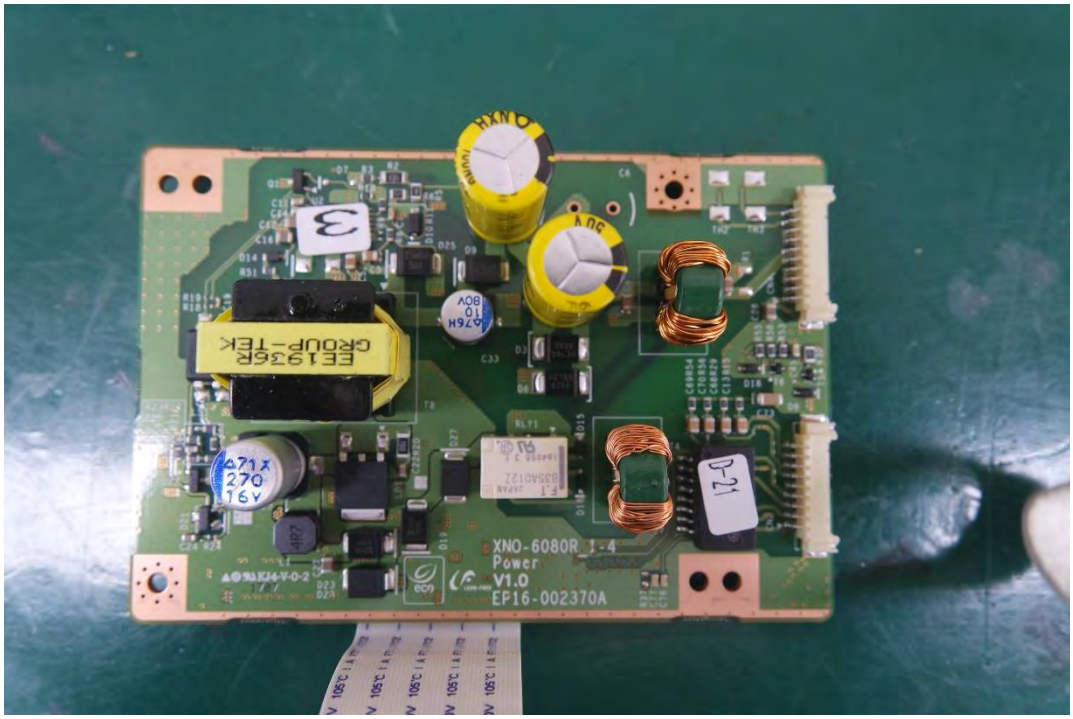
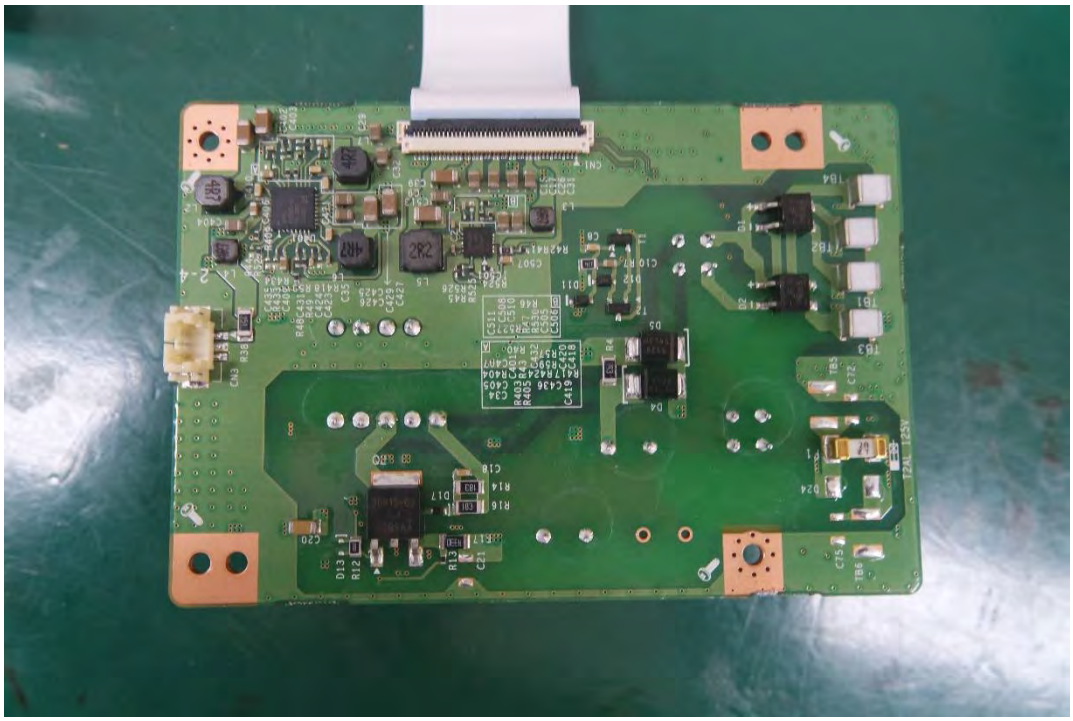


EUT Internal View – Sub Board 3

(Top)

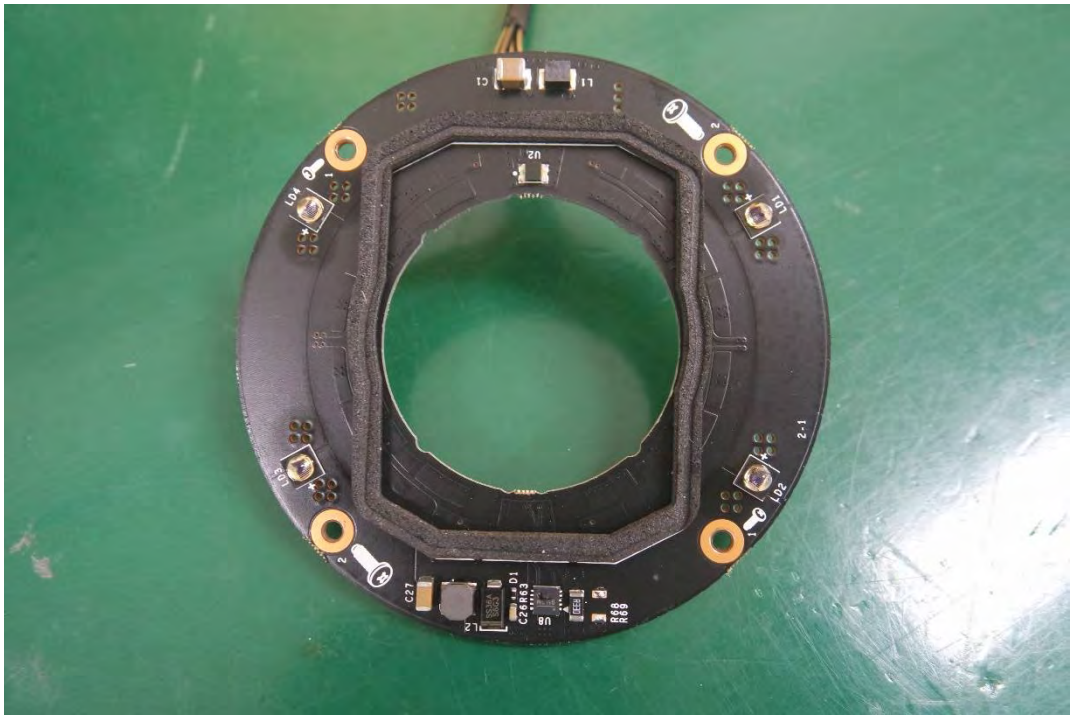


(Bottom)



EUT Internal View – Sub Board 4

(Top)



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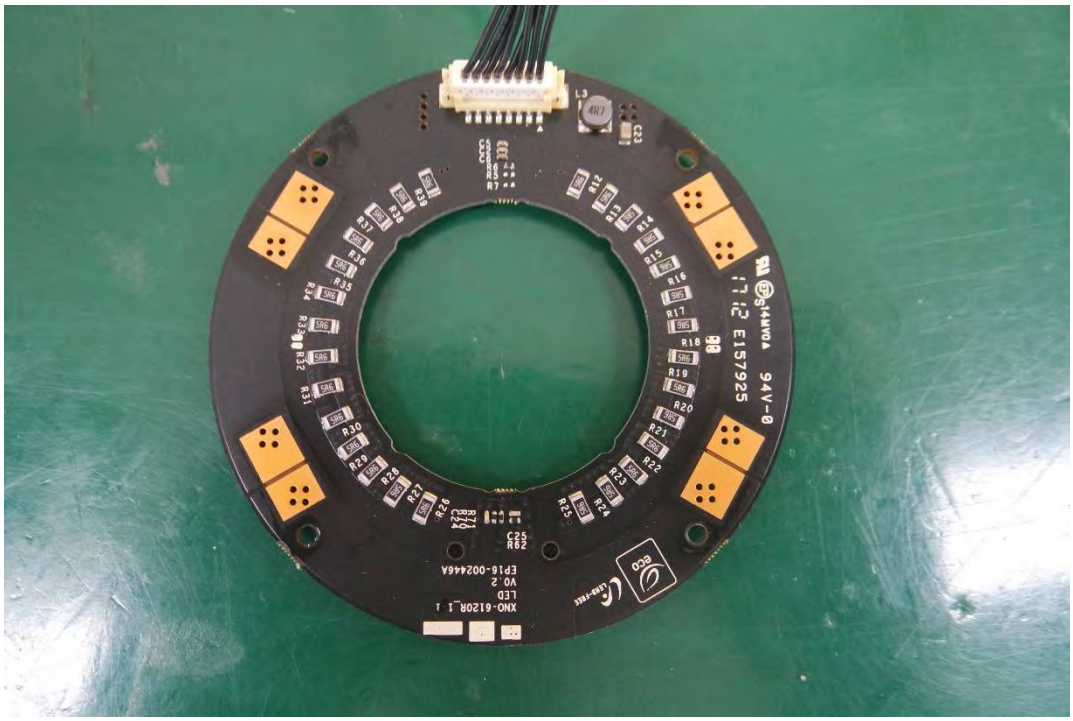
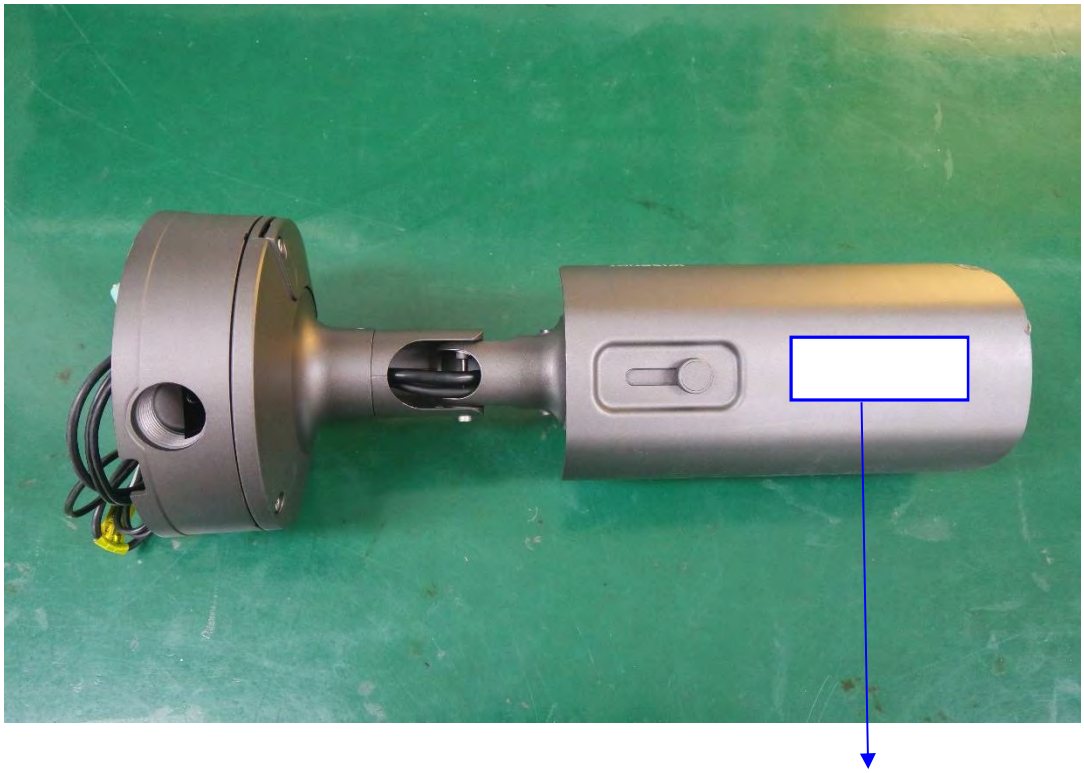


Label and Location



NETWORK CAMERA

Model No : XNO-6120RP

Manufacturer : Hanwha Techwin (Tianjin) Co.,Ltd.

Made in of China