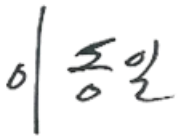
EMC TEST REPORT For VCCI

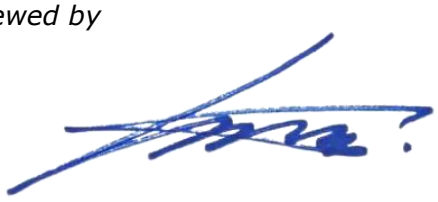
Test Report No.	:	KES-E1-18T0340-R1
Date of Issue	:	Feb. 24, 2023
Product name	:	NETWORK CAMERA
Model/Type No.	:	XNP-6550RH
Variant Model	:	-
Applicant	:	Hanwha Vision Co., Ltd
Applicant Address	:	6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Manufacturer	:	1. HANWHA 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)
Equipment authorization	:	☐ **Declaration of Conformity** ☒ **Verification** ☐ **Certification**
Date of Receipt	:	Jun. 04, 2018
Test date	:	Jun. 13, 2018 ~ Jun. 14, 2018
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by



Dong Il, Lee
EMC Test Engineer

Reviewed by



Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jun. 21, 2018	KES-E1-18T0340	Issued
Feb. 24, 2023	KES-E1-18T0340-R1	- Change the Applicant and Manufacturer at the request of the customer - Factory deletion at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/2.8" 2.16M CMOS
Total Pixels	1945(H) X 1109(V) approx 2.16M pixels
Effective Pixels	1945(H) X 1097(V) approx 2.13M pixels
Scanning System	Progressive Scan
Min. Illumination	Color : 0.03 lux (1/30sec, F1.6) TBD BW : 0.003 lux (1/30sec,F1.6) 0 Lux (IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P), for installation
Lens	
Focal Length (Zoom Ratio)	**4.75mm ~ 261.4mm (55x)**
Max. Aperture Ratio	F1.6 (Wide) ~ F6.5 (Tele) TBD
Angular Field of View	H : 58.6˚(Wide) ~ 1.23˚(Tele) / V : 34.8˚(Wide) ~ 0.71˚(Tele)
Min. Object Distance	5m
Focus Control	AF / One-Shot AF / Manual
Lens Type	DC Auto Iris
Mount Type	Board-in type
Zoom Movement Speed	Approx. 5 sec (wide to tele) TBD
Pan / Tilt / Rotate	
Pan Range	360˚ Endless
Pan Speed	Preset : 400˚/sec , Manual : 0.024˚/sec ~ 250˚/sec
Tilt Range	190˚(-5˚ ~ 185˚)
Tilt Speed	Preset : 300˚/sec , Manual : 0.024˚/sec ~ 250˚/sec
Rotate Range	-
Sequence	Preset (300 ea), Swing, Group (6 ea), Trace, Tour , Auto Run, Schedule
Preset Accuracy	±0.2˚
Azimuth	Yes (E/W/S/N/NE/SE/NW/SW OSD)
Auto Tracking	Off / On
Operational	
Viewable Length	350m(TBD)

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
Backlight Compensation	Off / BLC / HLC / WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR5 (2D+3D Noise Filter) (Off / On)
Defog (Optical)	Auto/Manual/Off
Digital Image Stabilization	Off / On (built-in Gyro)
Motion Detection	Yes(8ea, Polygonal zones)
Privacy Masking	Off / On (24 Zones of Rectangle zone) - Color : Grey/Green/Red/Blue/Black/White - Zoom ratio option for mask mode - Mosaic option
Gain Control	Off / Low / Medium / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor / Mercury / Sodium
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital Zoom	32x , area zoom function support digital zoom 2x
Rotate Image	Flip : On/Off Mirror : On/Off
Intelligent Video Analytics	Tampering, Loitering, Directional Detection,Fog Detection, Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Face Detection, Motion Detection, Sound Classification
Alarm I/O	Input 4ea / Output 2ea (Relay type)
Remote Control Interface	RS-485
RS-485 Protocol	Samsung-T, Pelco-D/P, Panasonic, Honeywell, AD, Vicon, GE, BOSCH
Alarm Triggers	Alarm Input, Motion Detection, Intelligent Video Analytics, Network Disconnect
Alarm events	• File upload via FTP, E-Mail • Notification via E-Mail • local storage(SD/SDHC) or NAS recording at Event Triggers • External output

	• PTZ preset
Audio In	Selectable (Mic IN/Line IN), Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out (3.5mm stereo mini jack), Max output level: 1 Vrms
Pixel Counter	support
Network	
Ethernet	RJ-45 (10/100BASE-T) SFP (*only using SBP-303HF)
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 MJPEG : 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-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	Micro SD/SDHC/SDXC 2slot (up to 512 GB) - Continuous recording(1'st slot to 2'nd slot) - Motion Images recorded in the Micro 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 Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10. 10.11 10.12 Plug-in Free Webviewer Supported Browser : Google Chrome, MS Edge, Mozilla Firefox(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	AC24 : -50°C ~ +55°C (-58°F ~ +131°F) / Less than 90% RH HPoE : -40°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH * Start up should be done at above -30°C (HPoE Mode)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection	IP66
Vandal Resistance	IK10

Electrical	
Input Voltage / Current	AC24V / HPoE
Power Consumption	AC24 : 90W HPoE : TBD
Mechanical	
Color / Material	black(head) + ivory(body) / Aluminum, Plastic
Dimension (WxHxD)	Ø236.9 x 407.7
Weight	TBD

1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage ☐ 230 Vac ☒ 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	XNP-6550RH	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
PoE Adaptor	PT-PSE109GBRO-A	-	I.T.E POWER SUPPLY	-

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	LG15N54	410NZGK015231	LG	-
Notebook AC/DC Adaptor	ADP-90WH B	84ZW19F1663	DELTA ELECTRONICS(JIANGSU) LTD.	-
Smart phone	LG-F400S	-	LG	-
Speaker	BR10000A CUVE	-	BEIJING EDIFIER HI-TECH GROUP.	-
MIC	CMK-303	-	CAMAC	-
Controller	SPC-1010	C50E67WD601003	SamSung Techwin Co.,Ltd.	-
Controller AC/DC Adaptor	RS-AB1000	-	Dongguan Jinhuasheng Power Technology Co.,Ltd.	-
button alarm	-	-	-	-
alarm	SIP-1201DDD0	-	SAMSUNG TECHWIN CO., LTD.	-

1.6 External I/O Cabling

■ AC Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (EUT)	RJ-45	Notebook	RJ-45	3.0	U
NETWORK CAMERA (EUT)	3.5 Ø	Speaker	3.5 Ø	1.6	U
NETWORK CAMERA (EUT)	3.5 Ø	MIC	3.5 Ø	1.7	U
NETWORK CAMERA (EUT)	2 PIN	alarm	2 PIN	3.0	U
NETWORK CAMERA (EUT)	2 PIN	button alarm	2 PIN	3.0	U
NETWORK CAMERA (EUT)	2 PIN	Controller	2 PIN	3.0	U
Notebook	3.5 Ø	Smart phone	3.5 Ø	1.0	U

* Unshielded=U, Shielded=S

■ PoE Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (EUT)	RJ-45	PoE Adaptor	RJ-45	3.0	U
PoE Adaptor	RJ-45	Notebook	RJ-45	3.0	U
NETWORK CAMERA (EUT)	3.5 Ø	Speaker	3.5 Ø	1.6	U
NETWORK CAMERA (EUT)	3.5 Ø	MIC	3.5 Ø	1.7	U
NETWORK CAMERA (EUT)	2 PIN	alarm	2 PIN	3.0	U
NETWORK CAMERA (EUT)	2 PIN	button alarm	2 PIN	3.0	U
NETWORK CAMERA (EUT)	2 PIN	Controller	2 PIN	3.0	U
Notebook	3.5 Ø	Smart phone	3.5 Ø	1.0	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

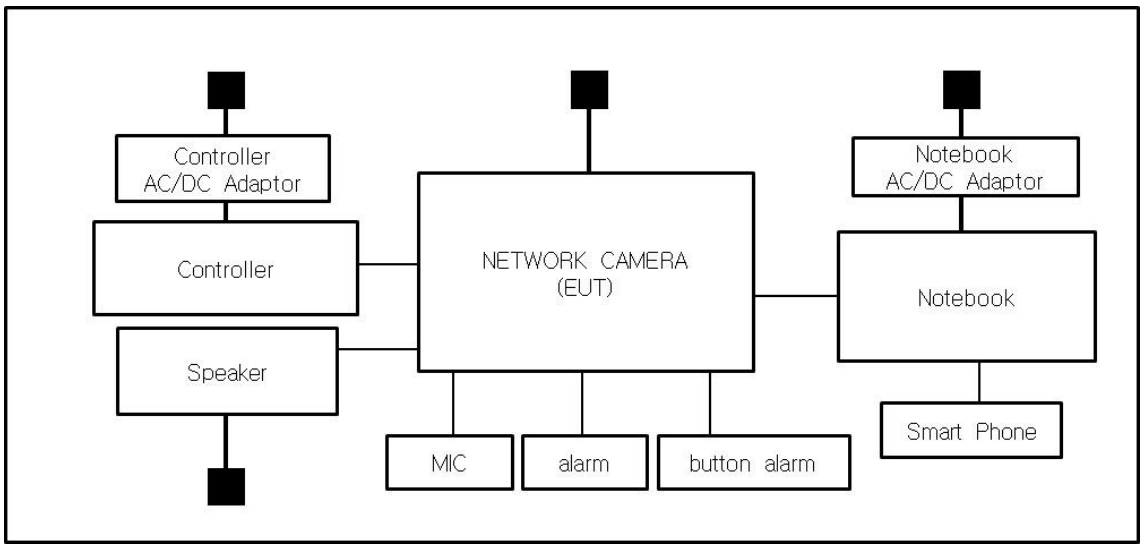
Test mode	operating
AC, POE	E.U.T Monitoring, Ping Test

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

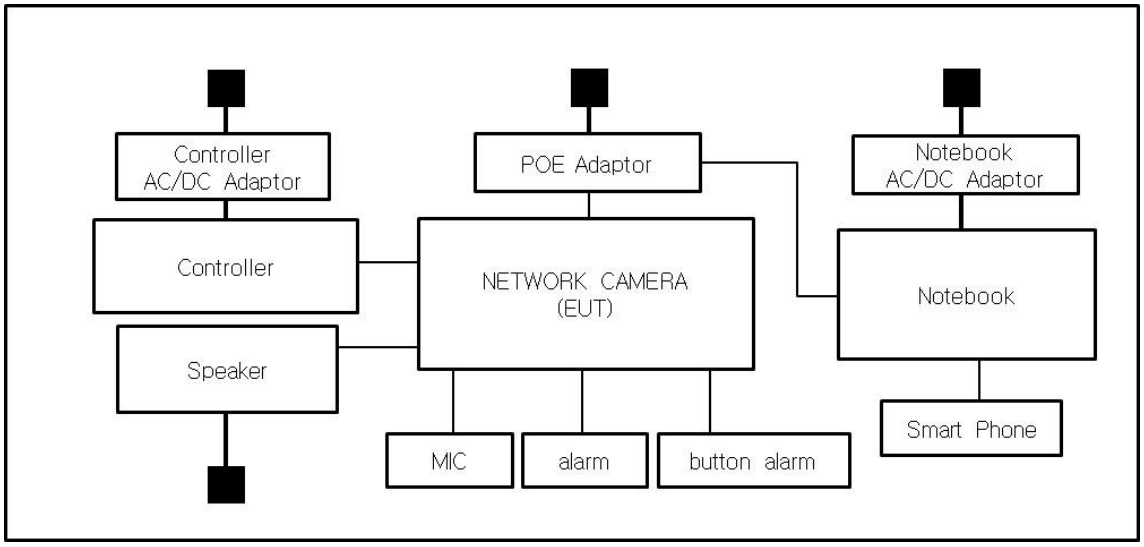
1.8 Configuration

■ AC Main
□ DC Main

■ AC Mode



■ PoE Mode



1.9 Remarks when standards applied

N/A

1.10 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

1.11 Test Facility

The measurement facility is located at 473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	**RRA**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
International	**KOLAS**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KT489
USA	**FCC**	3 m & 10 m Semi-Anechoic Chamber Conducted test site to perform FCC Part 15/18 measurements.	KR0100
Canada	**ISED**	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	23298
JAPAN	**VCCI**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	C-20136, T-20137, R-20181, G-20176
Europe	**TÜV SÜD**	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	CARAT 001633 0004

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☐ **EMC – Directive 2014/30/EU**

☐ EN 61000-6-3:2011		
☐ EN 61000-6-1:2007		
☐ EN 61000-6-4:2007 +A1:2011		
☐ EN 61000-6-2:2005		
☐ EN 55011:2007 +A1:2010	☐ Group 1 ☐ Class A	☐ Group 2 ☐ Class B
☐ EN 55014-1:2006 +A2:2011		
☐ EN 55014-2:1997 +A2:2008		
☐ EN 55015:2013		
☐ EN 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 Mains Power Ports

Test Date
Jun. 13, 2018

Test Location
Electro wave Shieldroom #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	04, 25, 2019
☒	LISN	ENV216	R & S	101137	01, 31, 2019
☒	LISN	ENV216	R & S	101786	04, 25, 2019
☐	PULSE LIMITER	ESH3-Z2	R & S	101914	11, 27, 2018
☐	LISN	NNBM8124	SCHWARZBECK	8124-1002	08, 07, 2018
☐	LISN	NNBM8124	SCHWARZBECK	8124-1003	08, 07, 2018

Test Conditions
Temperature: 23,0 ℃
Relative Humidity: 48,8 % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Jun. 13. 2018

Test Location
Electro wave Shieldroom #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	04, 25, 2019
☒	LISN	ENV216	R & S	101137	01, 31, 2019
☒	LISN	ENV216	R & S	101786	04, 25, 2019
☐	PULSE LIMITER	ESH3-Z2	R & S	101914	11, 27, 2018
☒	8-WIRE ISN CAT3	CAT3 8158	SCHWARZBECK	8158-0019	03, 22, 2019
☒	8-WIRE ISN CAT5	CAT5 8158	SCHWARZBECK	8158-0030	03, 22, 2019
☐	8-WIRE ISN CAT6	NTFM 8158	SCHWARZBECK	8158-0029	08, 10, 2018
☐	ISN	ISN S8	SCHWARZBECK	ISN-S8-0019	05, 09, 2019

Test Conditions
Temperature: 23,0 ℃
Relative Humidity: 48,8 % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.3 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
Jun. 14, 2018

Test Location
☐ OPEN AREA TEST SITE #2 ☒ SEMI ANECHOIC CHAMBER #4(10m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	04, 11, 2019
☒	AMPLIFIER	SCU 01	R & S	100603	11, 27, 2018
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	714	11, 28, 2018

Test Conditions
Temperature: 21,5 ℃
Relative Humidity: 57,4 % R.H.

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 ㎓)

Test Date
Jun. 14, 2018

Test Location
SEMI ANECHOIC CHAMBER #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESR7	R & S	101190	08, 07, 2018
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	05, 31, 2019
☐	ATTENUATOR	8491A	HP	35496	03, 21, 2019
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	05, 02, 2019

Test Conditions
Temperature: 22,1 ℃
Relative Humidity: 58,1 % R.H.

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.

APPENDIX A – TEST DATA

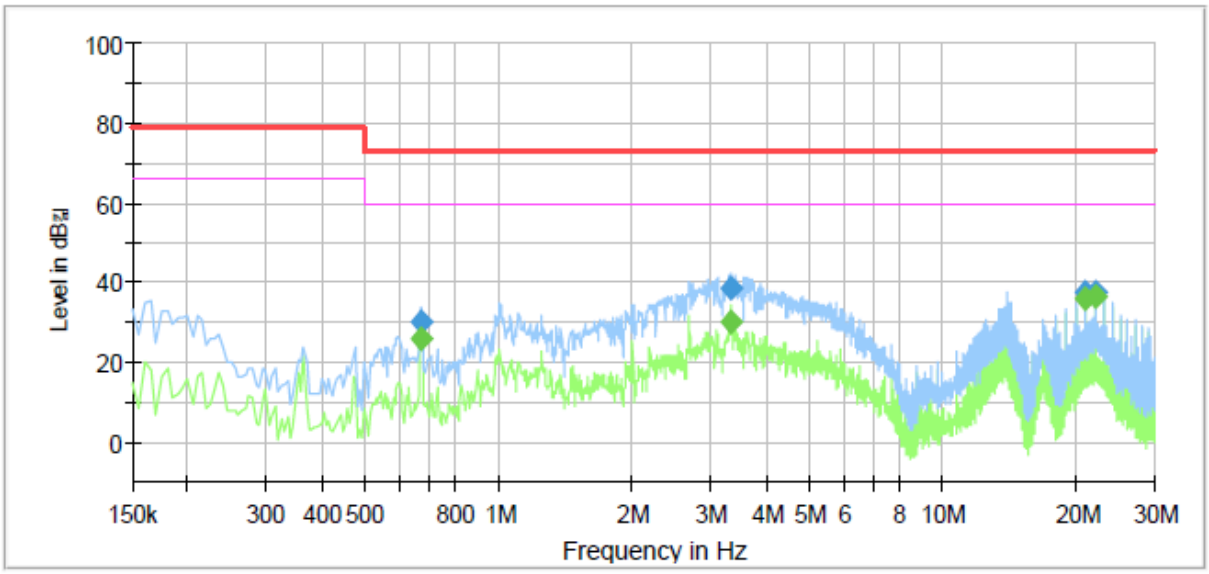
Conducted Emissions at Mains Power Ports

■ AC Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-6550RH
Mode	VCCI AC
Operator Name:	KES



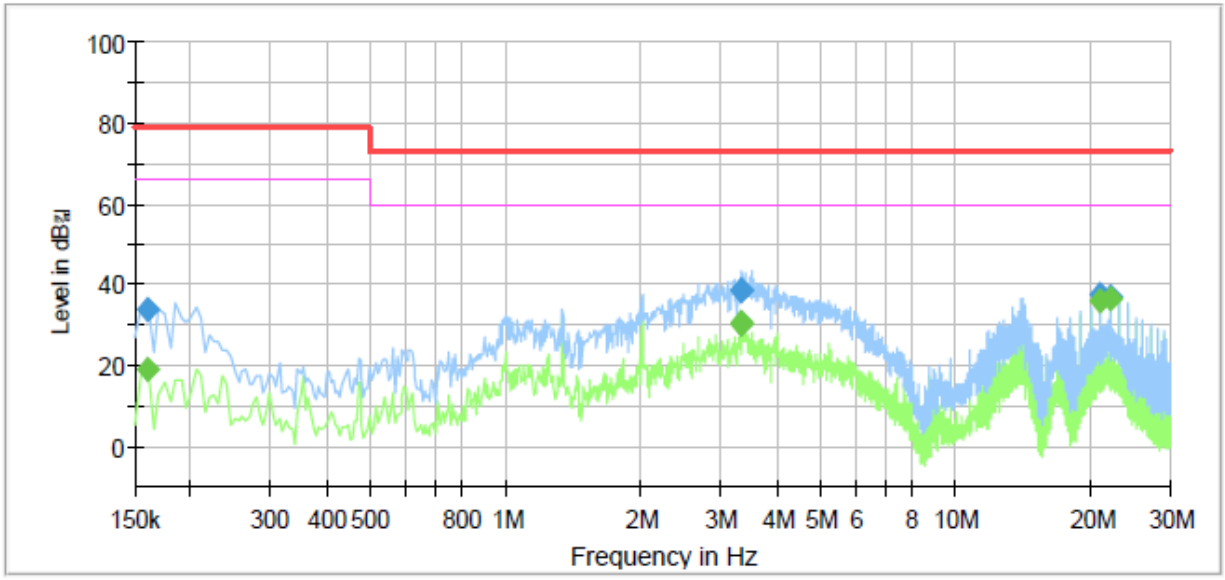
Final_Result

Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.670000	---	26.10	60.00	33.90	1000.0	9.000	L1	9.8
0.670000	30.41	---	73.00	42.59	1000.0	9.000	L1	9.8
3.350000	---	30.45	60.00	29.55	1000.0	9.000	L1	10.1
3.350000	38.74	---	73.00	34.26	1000.0	9.000	L1	10.1
20.990000	---	36.18	60.00	23.82	1000.0	9.000	L1	10.4
20.990000	37.67	---	73.00	35.33	1000.0	9.000	L1	10.4
22.015000	---	36.54	60.00	23.46	1000.0	9.000	L1	10.4
22.015000	37.40	---	73.00	35.60	1000.0	9.000	L1	10.4

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-6550RH
Mode	VCCI AC
Operator Name:	KES



Final_Result

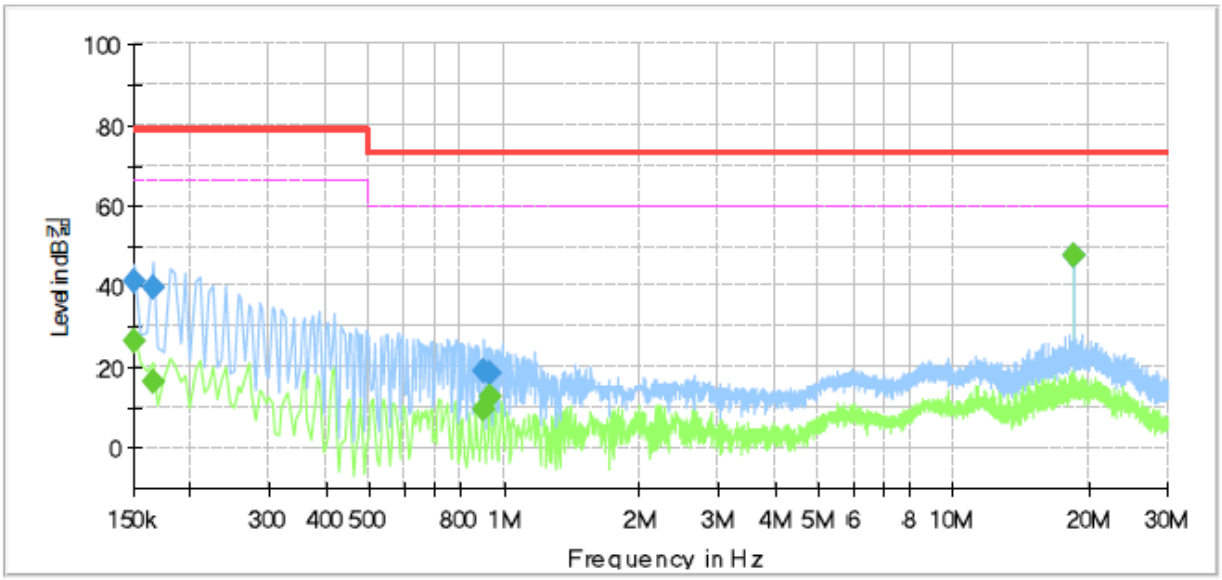
Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	18.88	66.00	47.12	1000.0	9.000	N	9.6
0.160000	33.78	---	79.00	45.22	1000.0	9.000	N	9.6
3.350000	---	30.81	60.00	29.19	1000.0	9.000	N	10.2
3.350000	38.56	---	73.00	34.44	1000.0	9.000	N	10.2
3.355000	---	30.01	60.00	29.99	1000.0	9.000	N	10.2
3.355000	38.44	---	73.00	34.56	1000.0	9.000	N	10.2
20.990000	---	35.99	60.00	24.01	1000.0	9.000	N	10.2
20.990000	37.38	---	73.00	35.62	1000.0	9.000	N	10.2
22.015000	---	36.40	60.00	23.60	1000.0	9.000	N	10.2
22.015000	37.20	---	73.00	35.80	1000.0	9.000	N	10.2

■ PoE Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-6550RH
Mode	VCCI POE
Operator Name:	KES



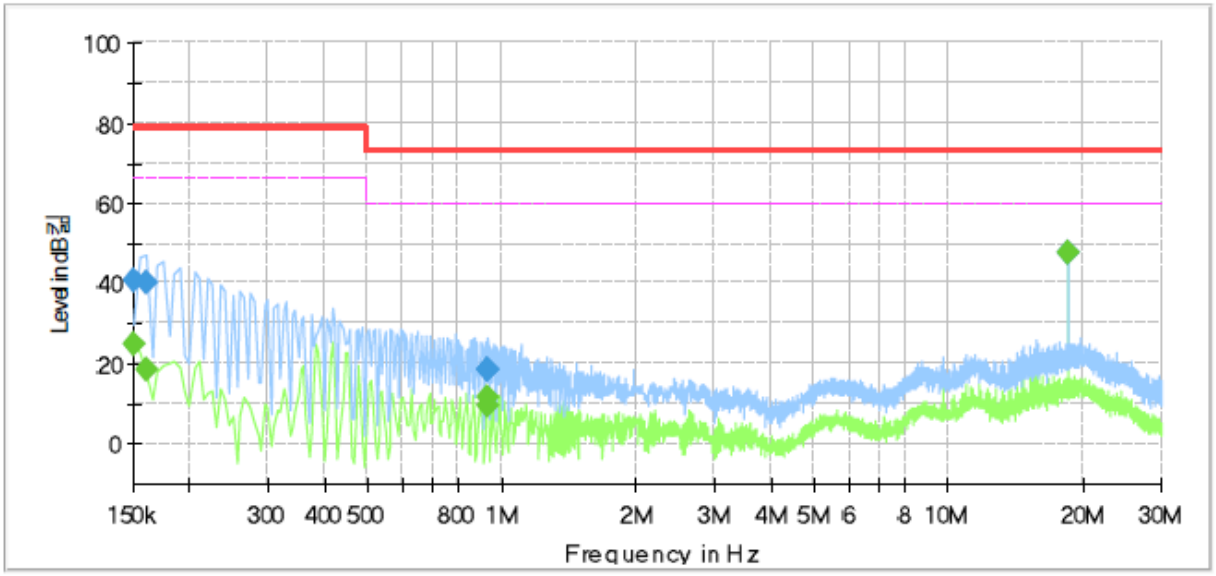
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	26.47	66.00	39.53	1000.0	9.000	L1	9.6
0.150000	41.19	---	79.00	37.81	1000.0	9.000	L1	9.6
0.165000	---	16.61	66.00	49.39	1000.0	9.000	L1	9.6
0.165000	39.85	---	79.00	39.15	1000.0	9.000	L1	9.6
0.900000	---	9.35	60.00	50.65	1000.0	9.000	L1	10.1
0.900000	19.06	---	73.00	53.94	1000.0	9.000	L1	10.1
0.925000	---	12.69	60.00	47.31	1000.0	9.000	L1	10.0
0.925000	18.36	---	73.00	54.64	1000.0	9.000	L1	10.0
18.500000	---	47.73	60.00	12.27	1000.0	9.000	L1	10.4
18.500000	47.76	---	73.00	25.24	1000.0	9.000	L1	10.4

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-6550RH
Mode	VCCI POE
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	25.11	66.00	40.89	1000.0	9.000	N	9.6
0.150000	40.98	---	79.00	38.02	1000.0	9.000	N	9.6
0.160000	---	18.64	66.00	47.36	1000.0	9.000	N	9.6
0.160000	40.38	---	79.00	38.62	1000.0	9.000	N	9.6
0.925000	---	11.89	60.00	48.11	1000.0	9.000	N	10.0
0.925000	18.43	---	73.00	54.57	1000.0	9.000	N	10.0
0.930000	---	9.47	60.00	50.53	1000.0	9.000	N	10.0
0.930000	18.80	---	73.00	54.20	1000.0	9.000	N	10.0
18.500000	---	47.44	60.00	12.56	1000.0	9.000	N	10.2
18.500000	47.46	---	73.00	25.54	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 + Pulse Limiter FACTOR))

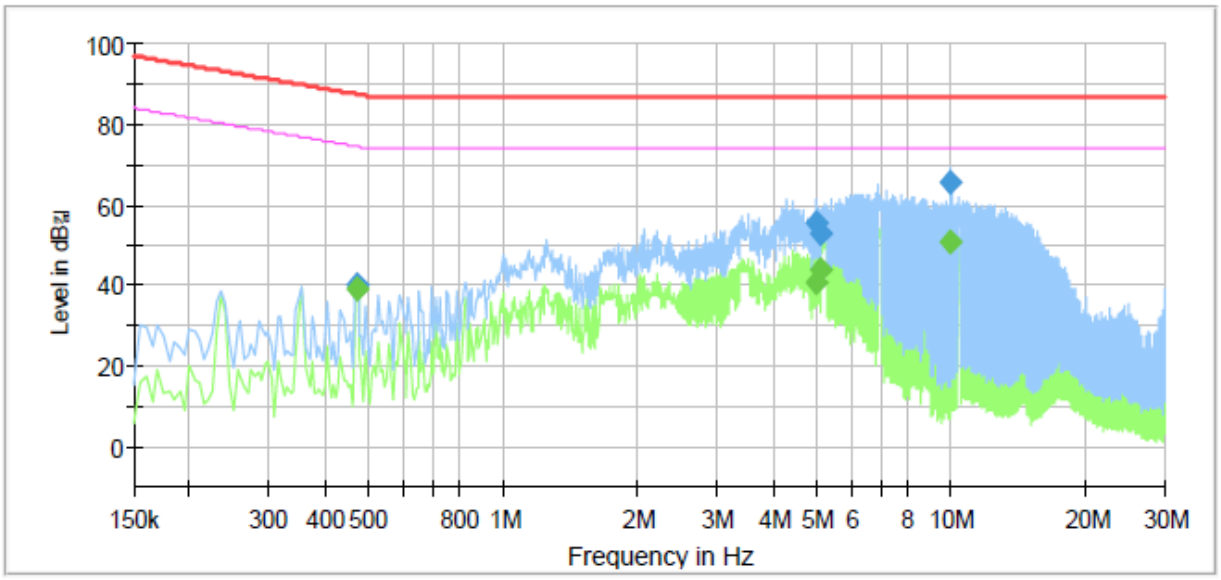
Conducted Emissions at Telecommunication Ports

■ AC Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNP-6550RH
Mode	VCCI AC 10
Operator Name:	KES



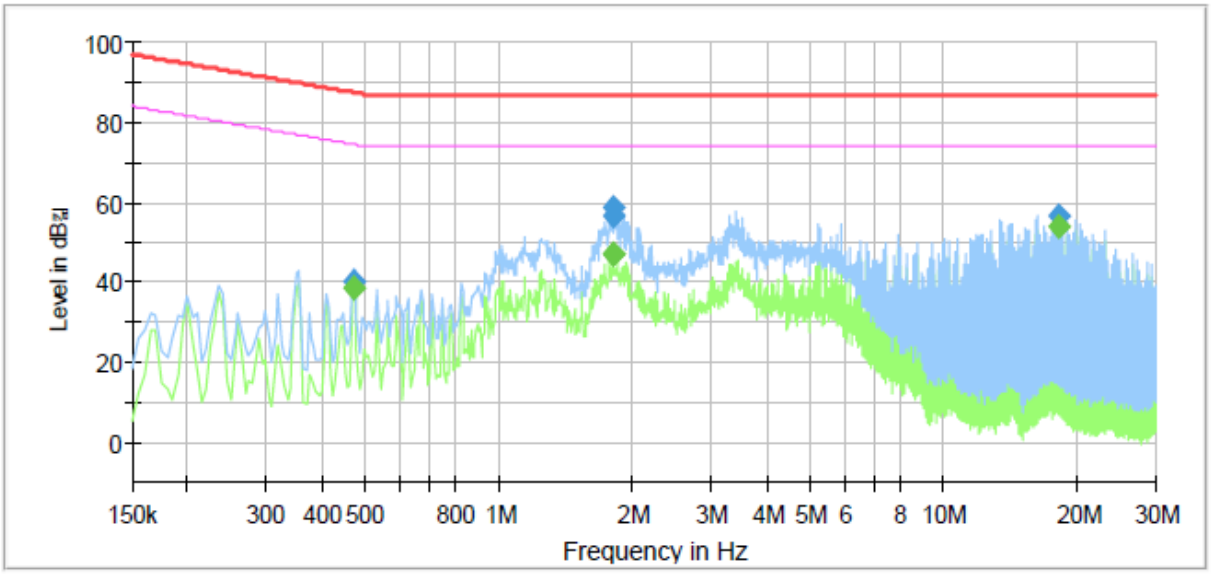
Final_Result

Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.470000	---	38.99	74.51	35.52	1000.0	9.000	Single Line	10.1
0.470000	40.27	---	87.51	47.24	1000.0	9.000	Single Line	10.1
5.000000	---	40.89	74.00	33.11	1000.0	9.000	Single Line	10.2
5.000000	55.34	---	87.00	31.66	1000.0	9.000	Single Line	10.2
5.090000	---	44.17	74.00	29.83	1000.0	9.000	Single Line	10.2
5.090000	52.81	---	87.00	34.19	1000.0	9.000	Single Line	10.2
10.000000	---	50.86	74.00	23.14	1000.0	9.000	Single Line	9.9
10.000000	65.78	---	87.00	21.22	1000.0	9.000	Single Line	9.9

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNP-6550RH
Mode	VCCI AC 100
Operator Name:	KES



Final_Result

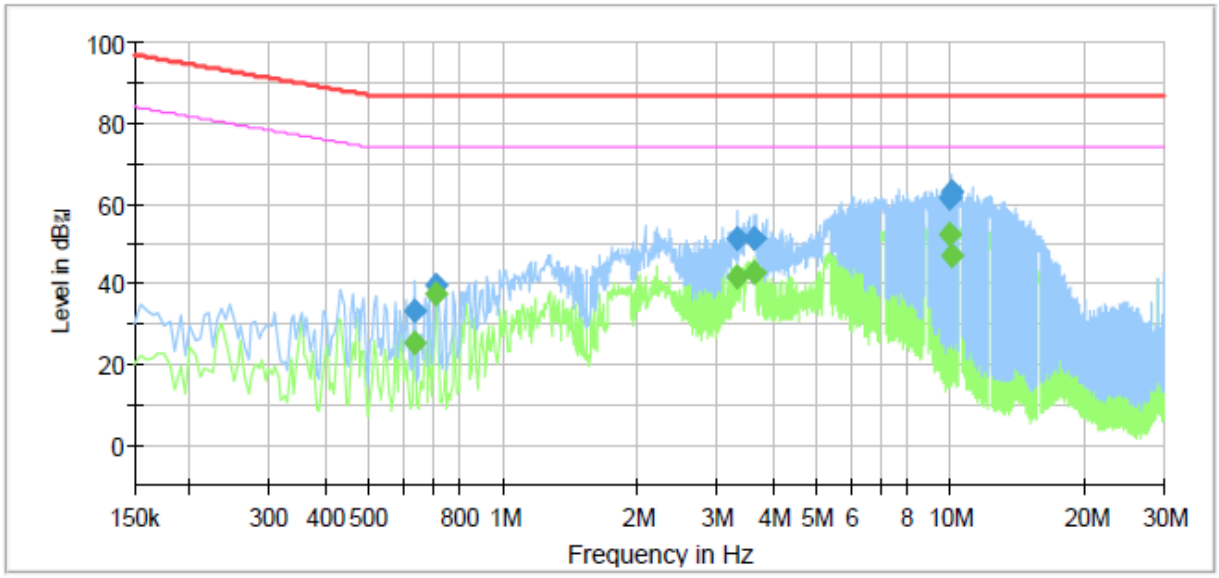
Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.470000	---	38.76	74.51	35.75	1000.0	9.000	Single Line	9.6
0.470000	40.43	---	87.51	47.08	1000.0	9.000	Single Line	9.6
1.805000	---	47.29	74.00	26.71	1000.0	9.000	Single Line	9.8
1.805000	56.55	---	87.00	30.45	1000.0	9.000	Single Line	9.8
1.810000	---	47.03	74.00	26.97	1000.0	9.000	Single Line	9.8
1.810000	58.54	---	87.00	28.46	1000.0	9.000	Single Line	9.8
18.245000	---	53.97	74.00	20.03	1000.0	9.000	Single Line	9.6
18.245000	56.70	---	87.00	30.30	1000.0	9.000	Single Line	9.6

■ POE Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNP-6550RH
Mode	VCCI POE 10
Operator Name:	KES



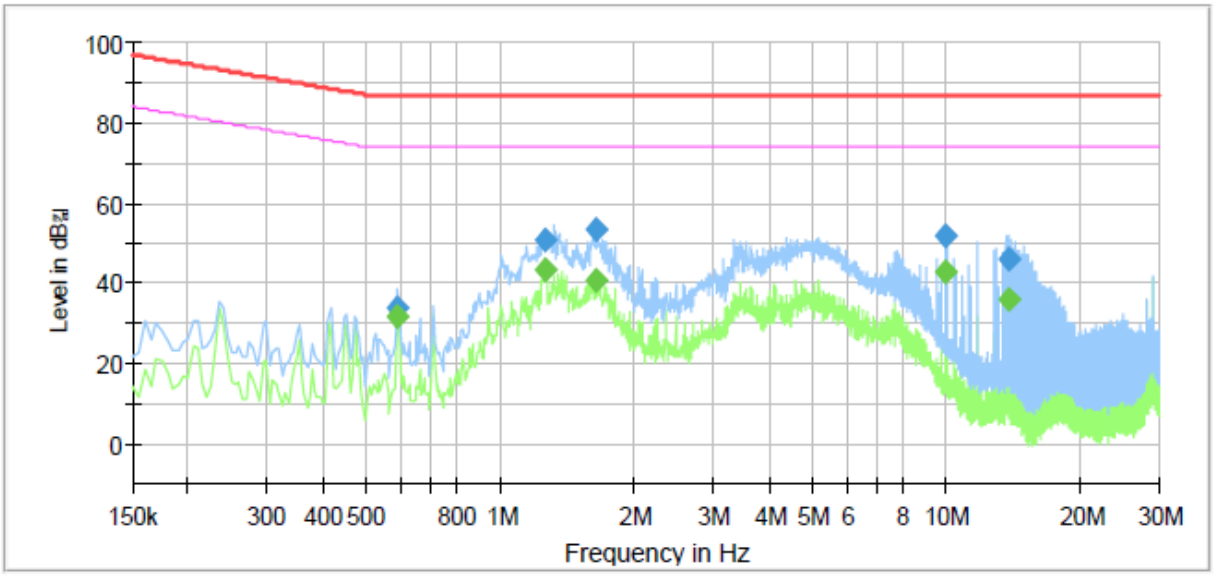
Final_Result

Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.635000	---	25.43	74.00	48.57	1000.0	9.000	Single Line	10.1
0.635000	33.36	---	87.00	53.64	1000.0	9.000	Single Line	10.1
0.710000	---	37.59	74.00	36.41	1000.0	9.000	Single Line	10.2
0.710000	39.49	---	87.00	47.51	1000.0	9.000	Single Line	10.2
3.345000	---	41.71	74.00	32.29	1000.0	9.000	Single Line	10.3
3.345000	51.11	---	87.00	35.89	1000.0	9.000	Single Line	10.3
3.650000	---	43.10	74.00	30.90	1000.0	9.000	Single Line	10.2
3.650000	51.58	---	87.00	35.42	1000.0	9.000	Single Line	10.2
9.985000	---	52.31	74.00	21.69	1000.0	9.000	Single Line	9.9
9.985000	61.14	---	87.00	25.86	1000.0	9.000	Single Line	9.9
10.010000	---	47.34	74.00	26.66	1000.0	9.000	Single Line	9.9
10.010000	62.88	---	87.00	24.12	1000.0	9.000	Single Line	9.9

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNP-6550RH
Mode	VCCI POE 100
Operator Name:	KES



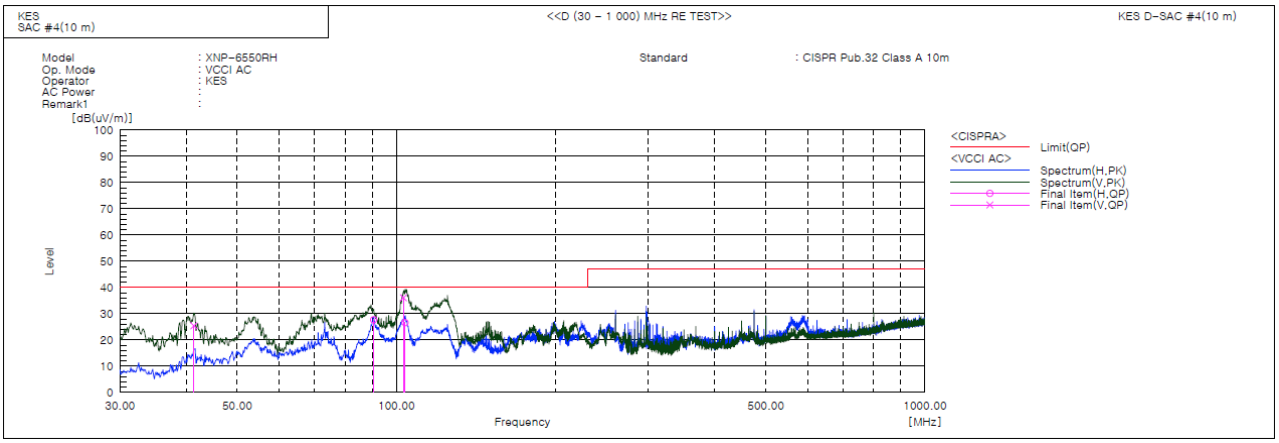
Final_Result

Frequency (MHz)	QuasiPeak (dBµ)	CAverage (dBµ)	Limit (dBµ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.590000	---	31.90	74.00	42.10	1000.0	9.000	Single Line	10.1
0.590000	33.99	---	87.00	53.01	1000.0	9.000	Single Line	10.1
1.260000	---	43.54	74.00	30.46	1000.0	9.000	Single Line	10.3
1.260000	50.85	---	87.00	36.15	1000.0	9.000	Single Line	10.3
1.640000	---	41.03	74.00	32.97	1000.0	9.000	Single Line	10.3
1.640000	53.51	---	87.00	33.49	1000.0	9.000	Single Line	10.3
9.940000	---	42.68	74.00	31.32	1000.0	9.000	Single Line	9.9
9.940000	51.87	---	87.00	35.13	1000.0	9.000	Single Line	9.9
13.740000	---	36.20	74.00	37.80	1000.0	9.000	Single Line	10.0
13.740000	46.16	---	87.00	40.84	1000.0	9.000	Single Line	10.0

♦ 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 (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Radiated Electric Field Emissions(Below 1 ㎓)

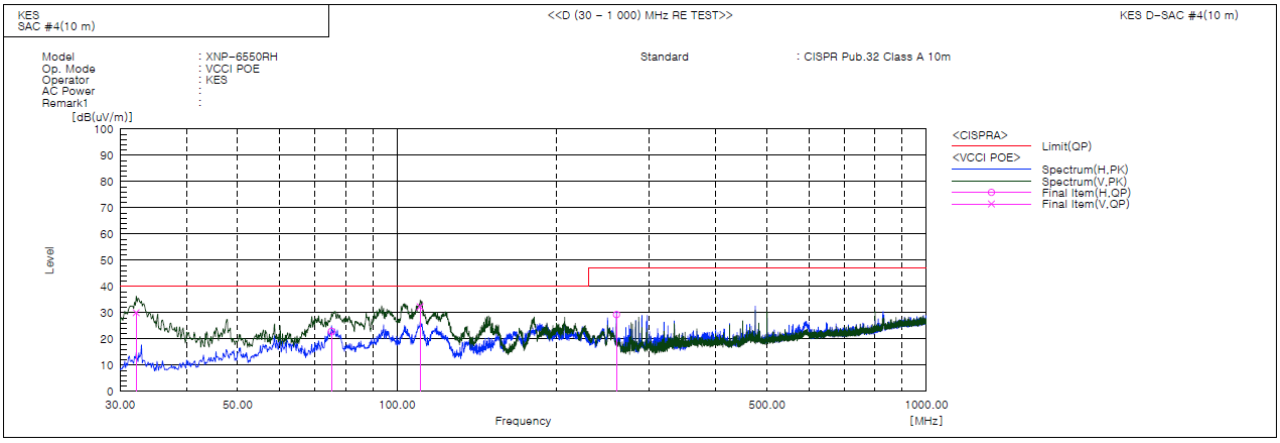
■ AC Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	41.375	V	54.8	-29.4	25.4	40.0	14.6	114.0	229.0	
2	90.583	H	58.6	-30.9	27.7	40.0	12.3	357.0	149.0	
3	103.131	V	65.2	-29.1	36.1	40.0	3.9	100.0	229.0	
4	103.869	H	55.8	-29.2	26.6	40.0	13.4	394.0	314.0	

■ POE Mode



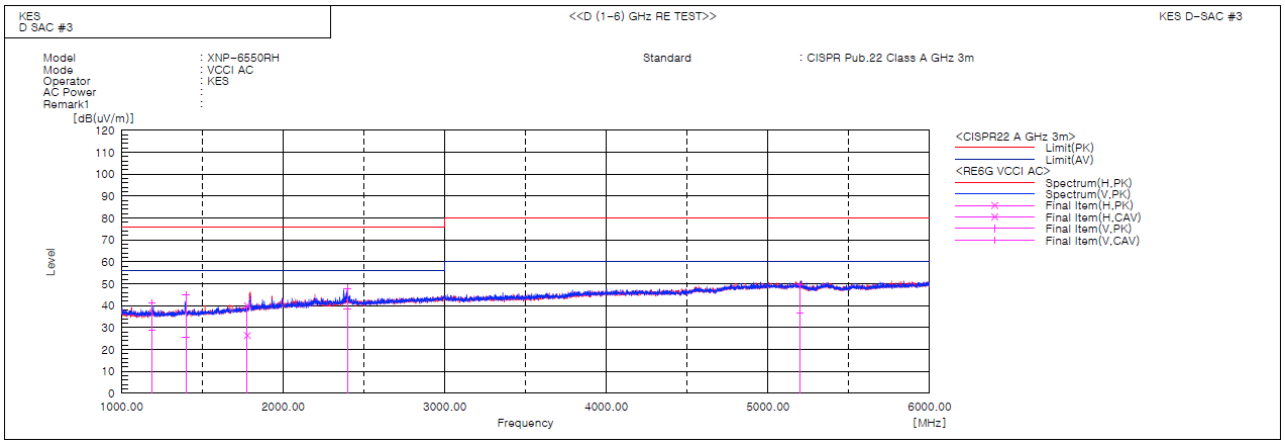
Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	32.162	V	62.8	-32.8	30.0	40.0	10.0	106.0	121.0	
2	75.197	H	56.8	-33.9	22.9	40.0	17.1	344.0	196.0	
3	110.569	V	62.3	-30.0	32.3	40.0	7.7	132.0	129.0	
4	259.849	H	55.4	-26.1	29.3	47.0	17.7	400.0	80.0	

♦ 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 ㎓)

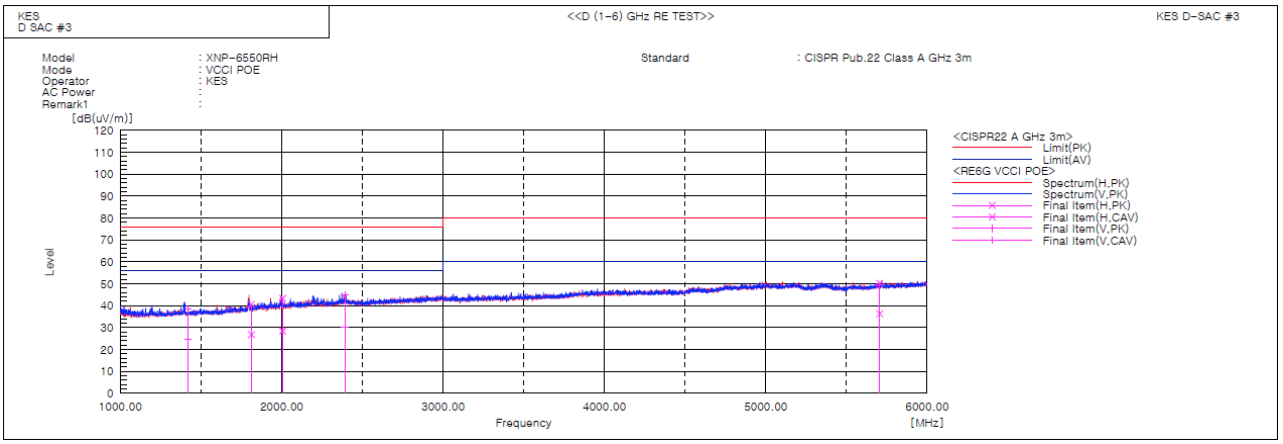
■ AC Mode



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1187.552	V	47.2	35.0	-6.1	41.1	28.9	76.0	56.0	34.9	27.1	100.0	204.4	
2	1398.339	V	49.8	30.3	-4.9	44.9	25.4	76.0	56.0	31.1	30.6	100.0	244.5	
3	1778.704	H	42.2	28.6	-2.2	40.0	26.4	76.0	56.0	36.0	29.6	100.0	150.0	
4	2397.650	V	46.7	37.3	1.3	48.0	38.6	76.0	56.0	28.0	17.4	100.0	228.1	
5	5199.041	V	37.9	25.0	11.5	49.4	36.5	80.0	60.0	30.6	23.5	100.0	2.4	

■ POE Mode



Final Result

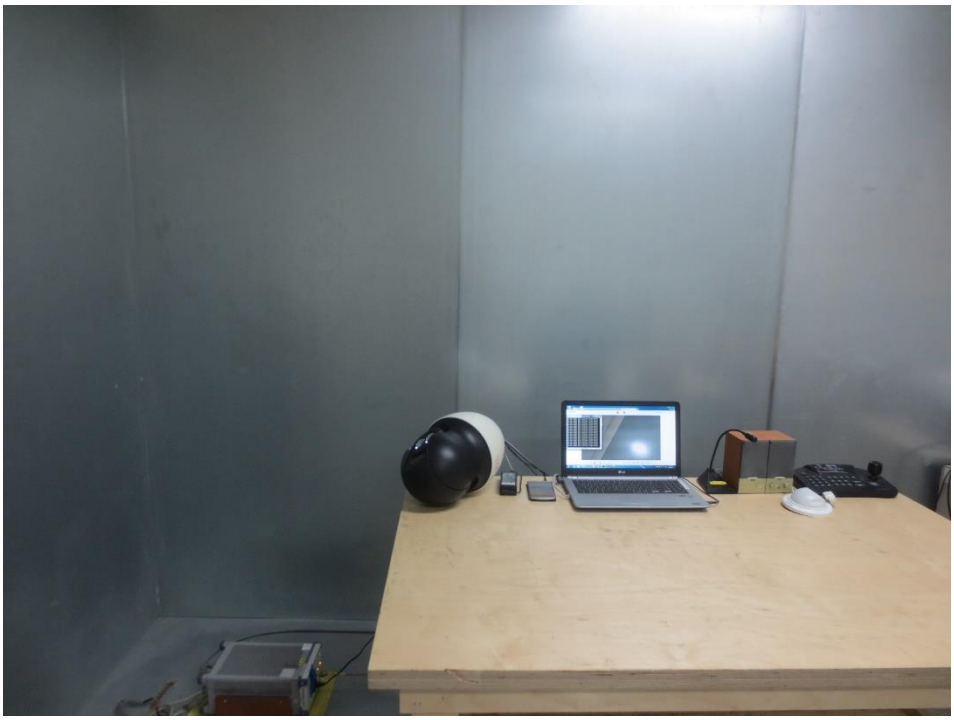
No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1419.246	V	43.1	29.4	-4.8	38.3	24.6	76.0	56.0	37.7	31.4	100.0	306.4	
2	1812.997	H	42.6	28.7	-1.9	40.7	26.8	76.0	56.0	35.3	29.2	100.0	162.6	
3	2006.478	H	43.9	29.1	-0.6	43.3	28.5	76.0	56.0	32.7	27.5	100.0	276.3	
4	2391.206	V	43.5	28.9	1.3	44.8	30.2	76.0	56.0	31.2	25.8	100.0	276.5	
5	5706.463	H	38.7	24.7	11.6	50.3	36.3	80.0	60.0	29.7	23.7	100.0	245.0	

♦ Calculation

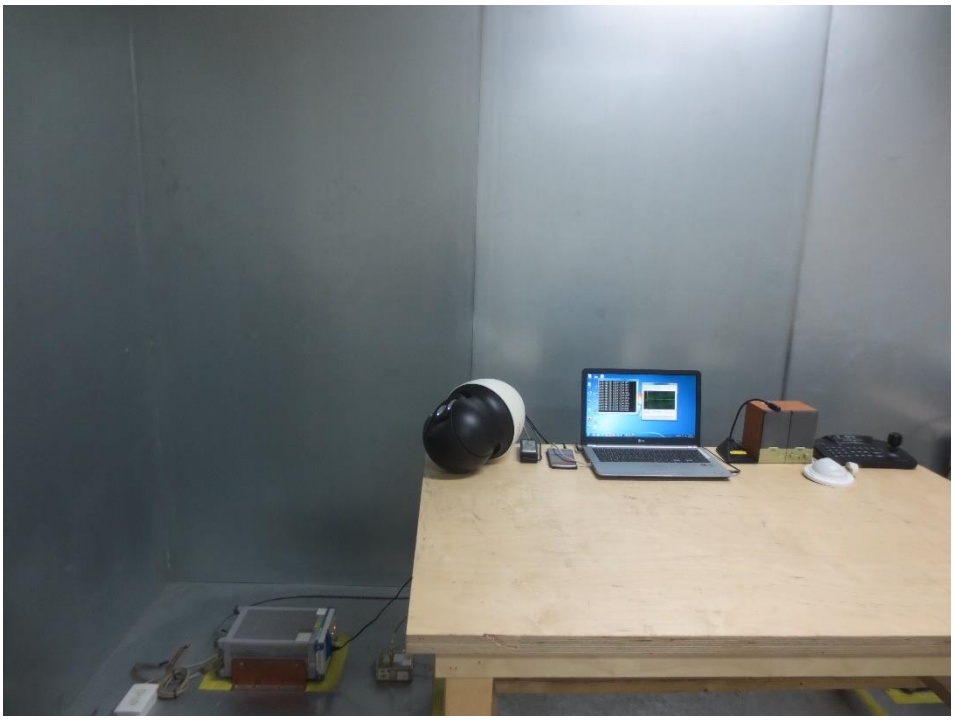
Result(PK/CAV) [㏈(㎶/m)] = (Reading(PK/CAV)[㏈(㎶)] + c.f[㏈(1/m)]
Margin(PK/CAV)[㏈] = Limit[㏈(㎶/m)] - Result(PK/CAV) [㏈(㎶/m)]
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

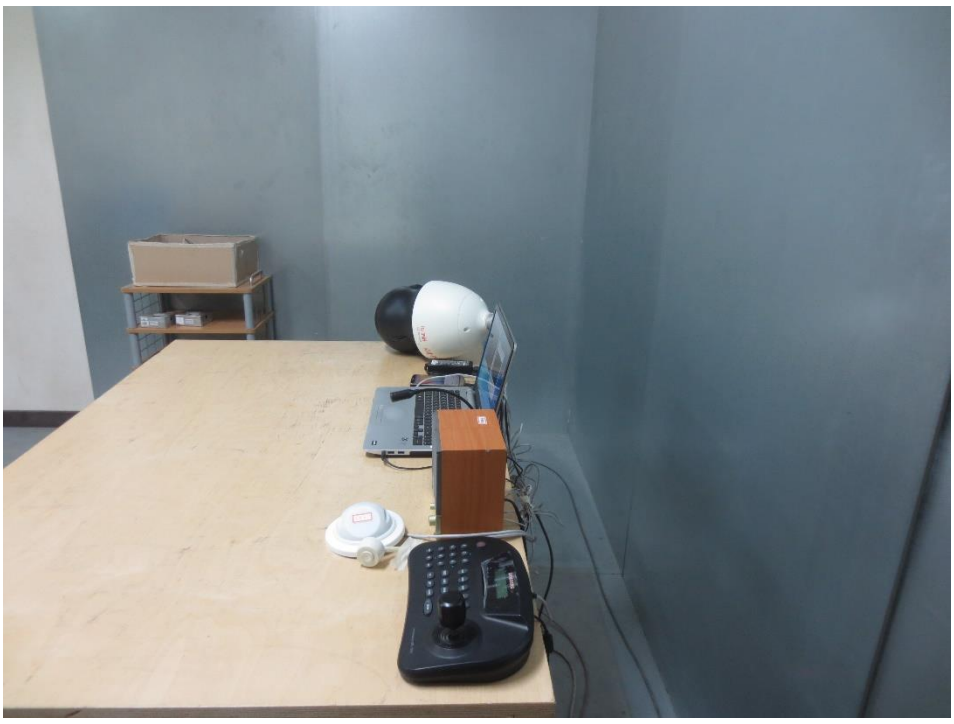
Test Setup Photos and Configuration

Conducted Voltage Emissions

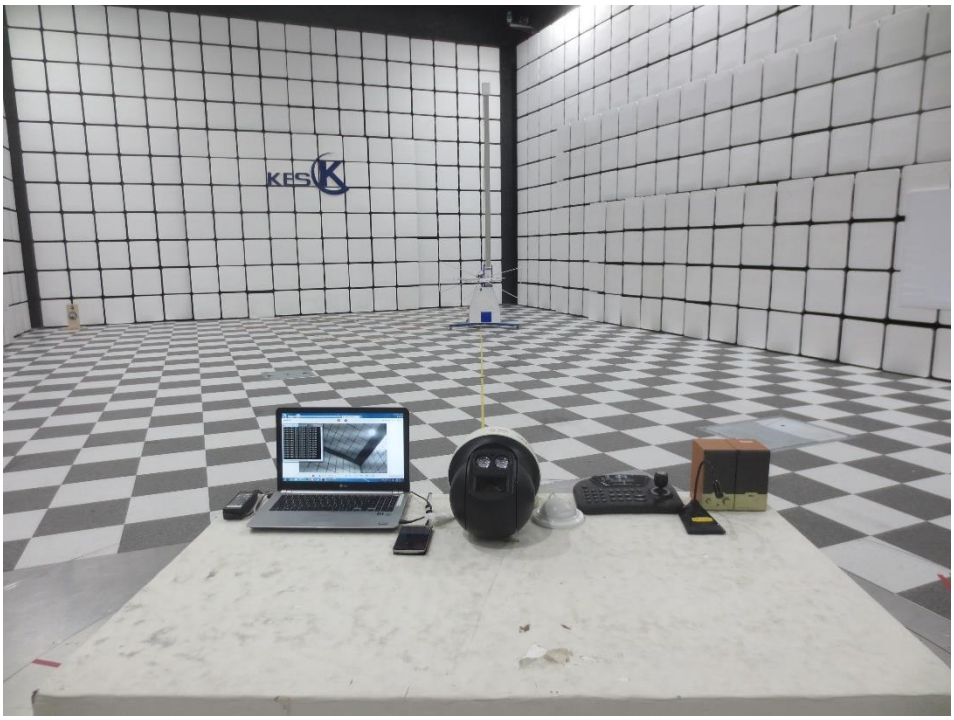


Conducted Telecommunication Emissions

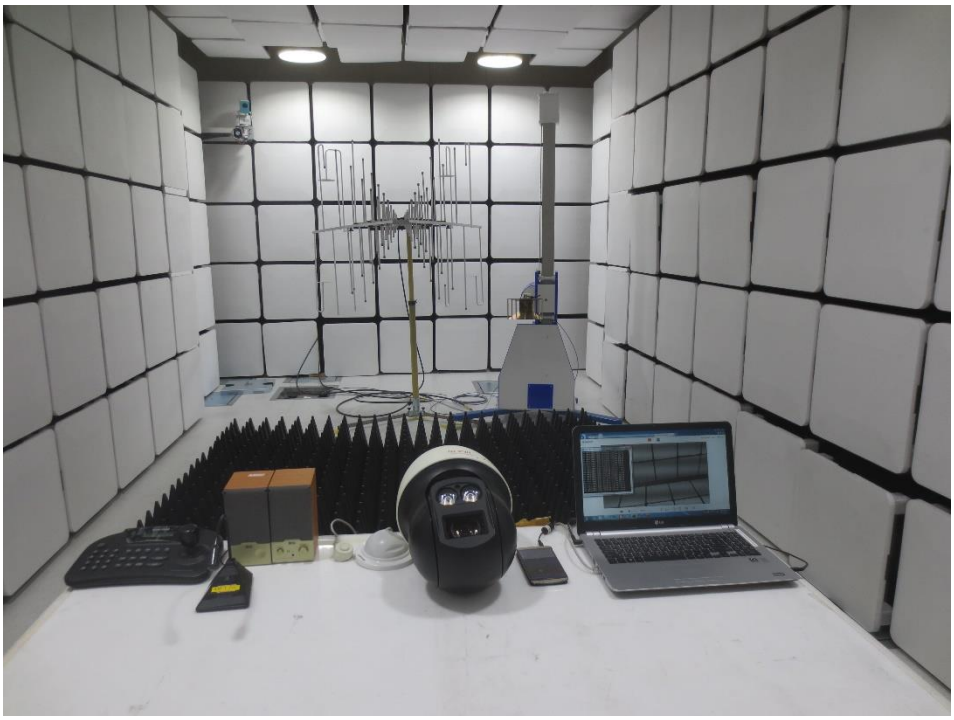




Radiated Electric Field Emissions(Below 1 ㎓)



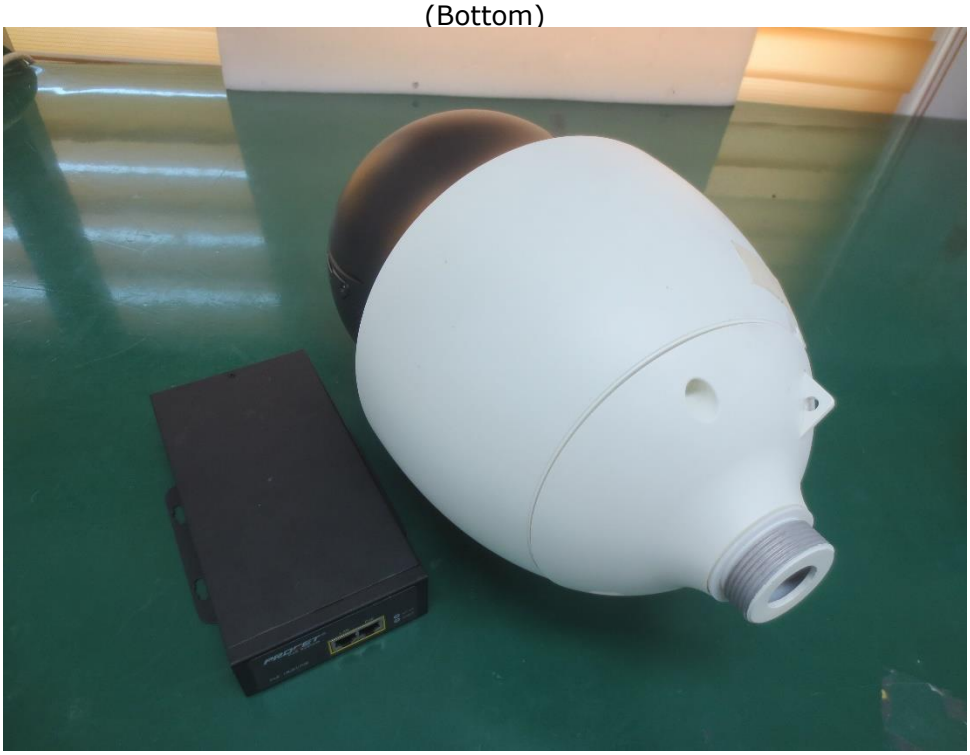
Radiated Electric Field Emissions(Above 1 ㎓)



EUT External Photographs

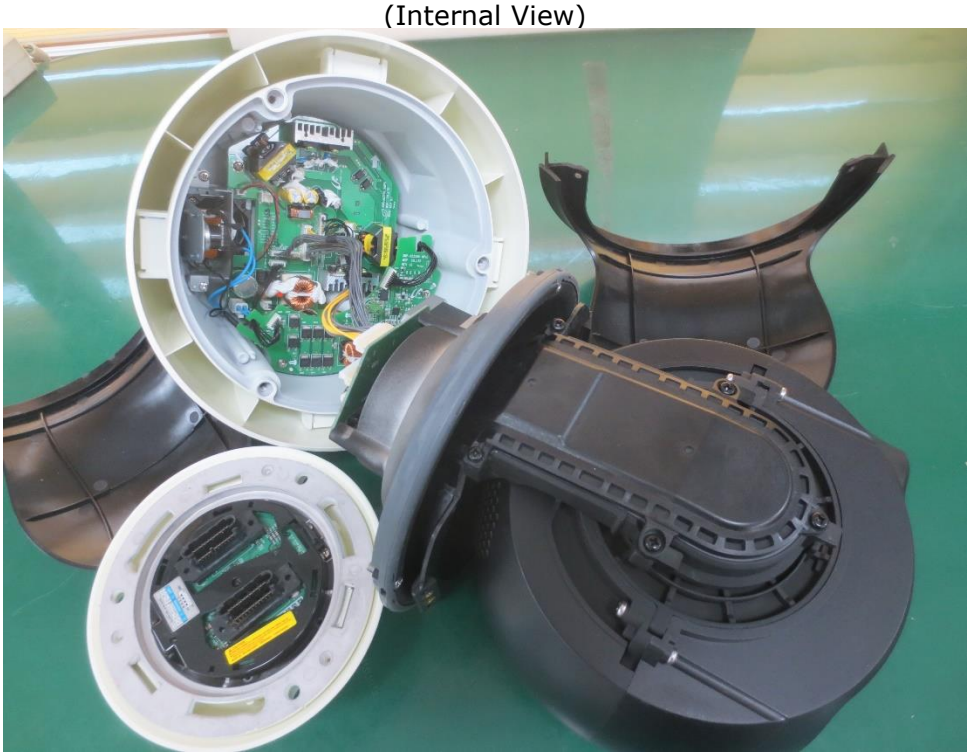
(Top)

(Bottom)



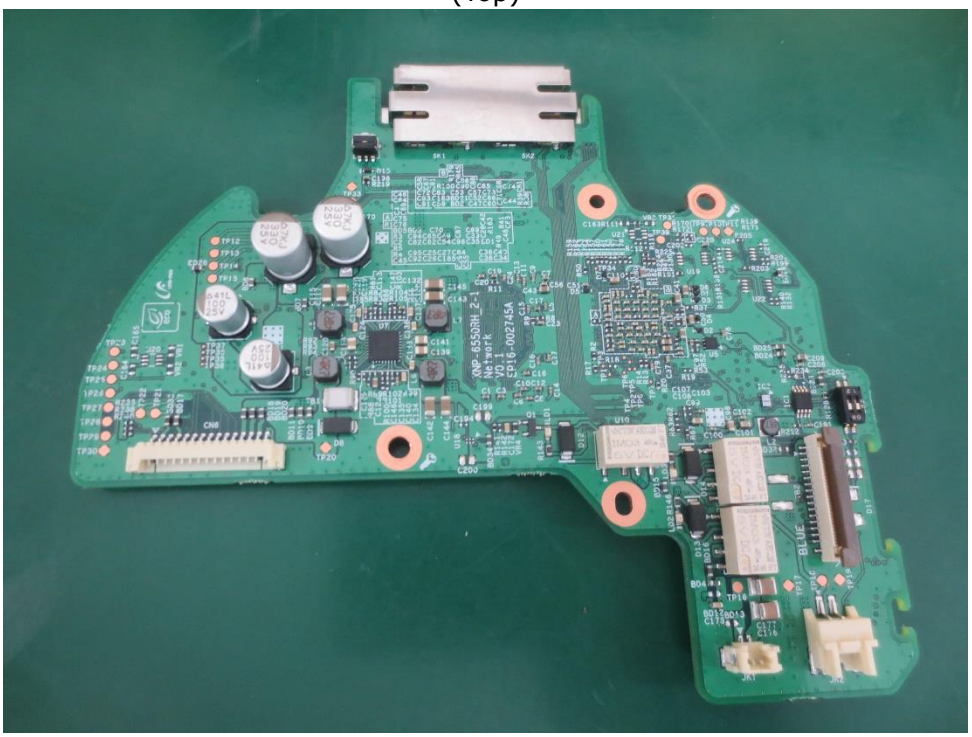
EUT Internal Photographs

(Internal View)

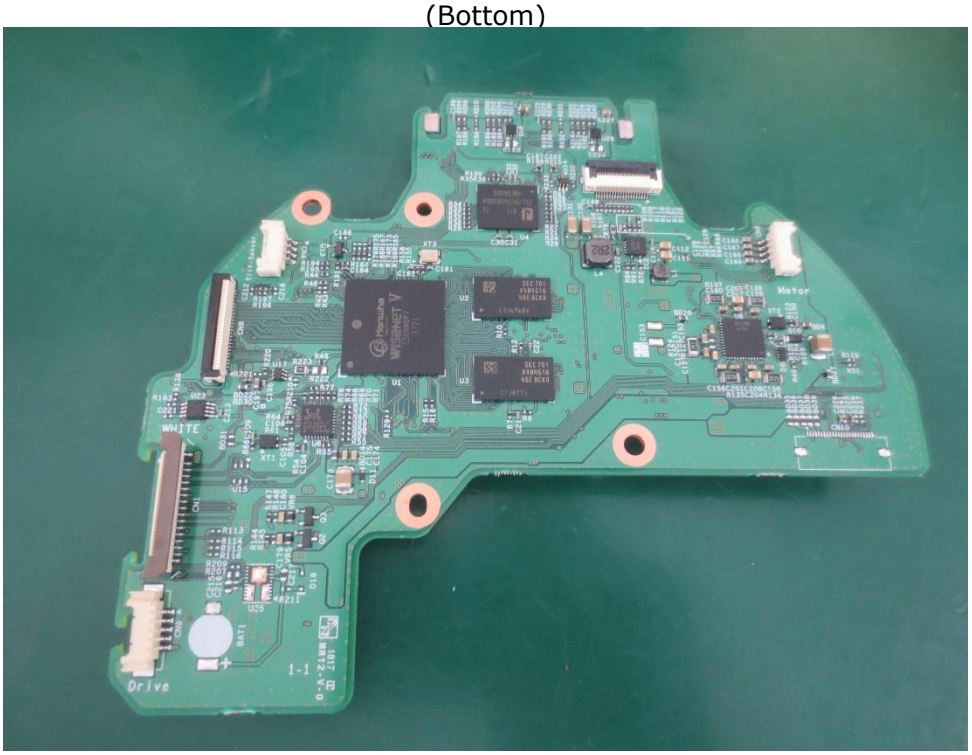


EUT Internal View – Main Board

(Top)

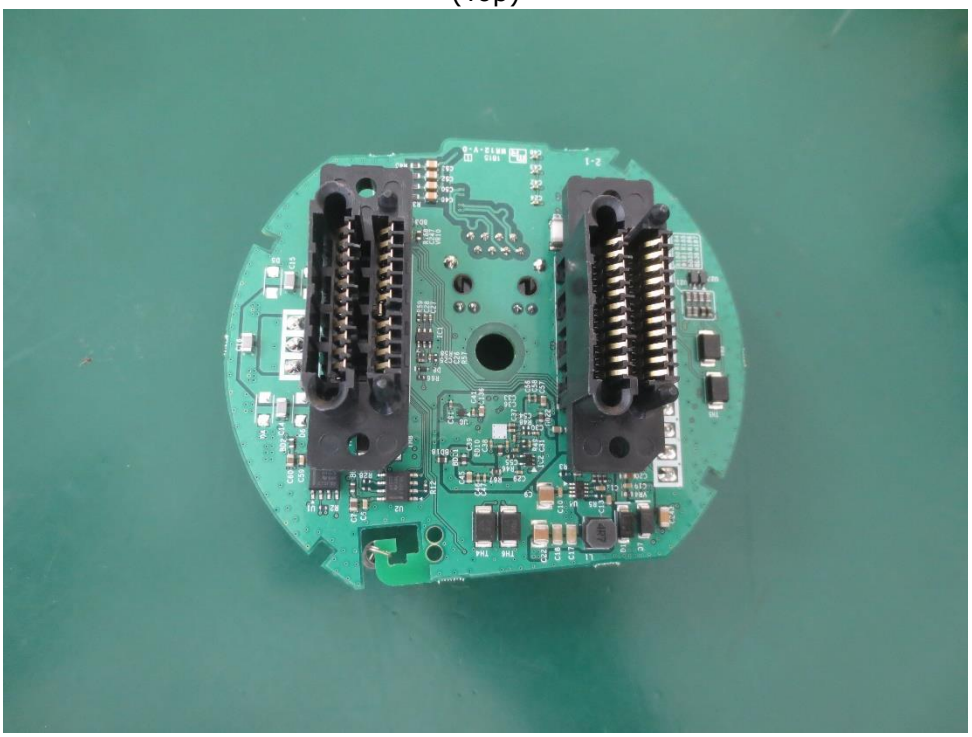


(Bottom)

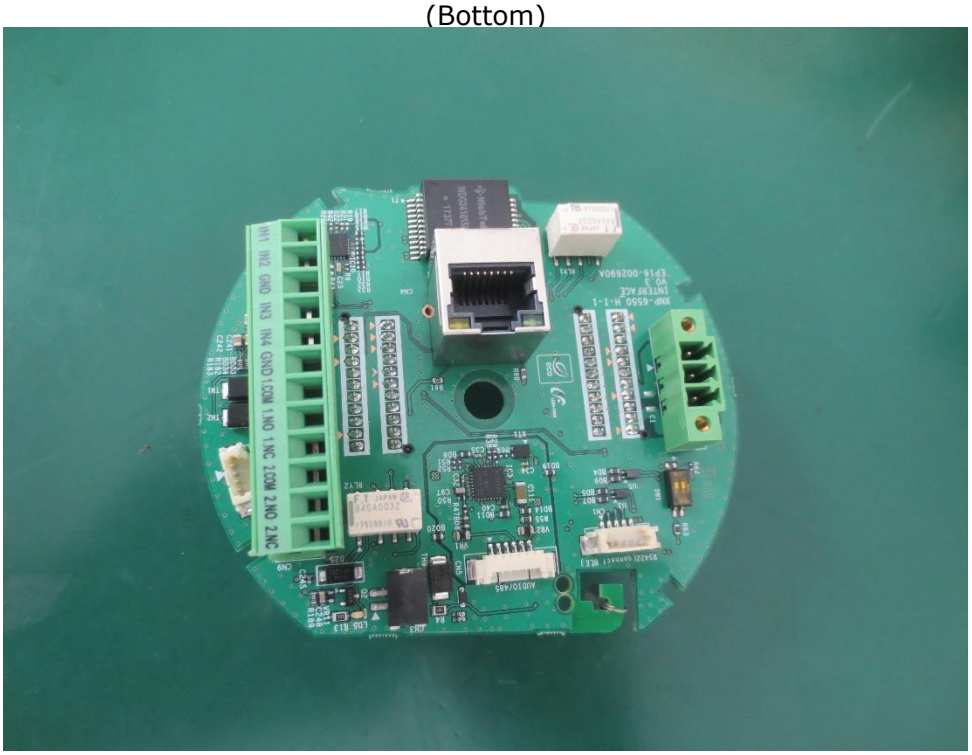


EUT Internal View – Serve Board 1

(Top)

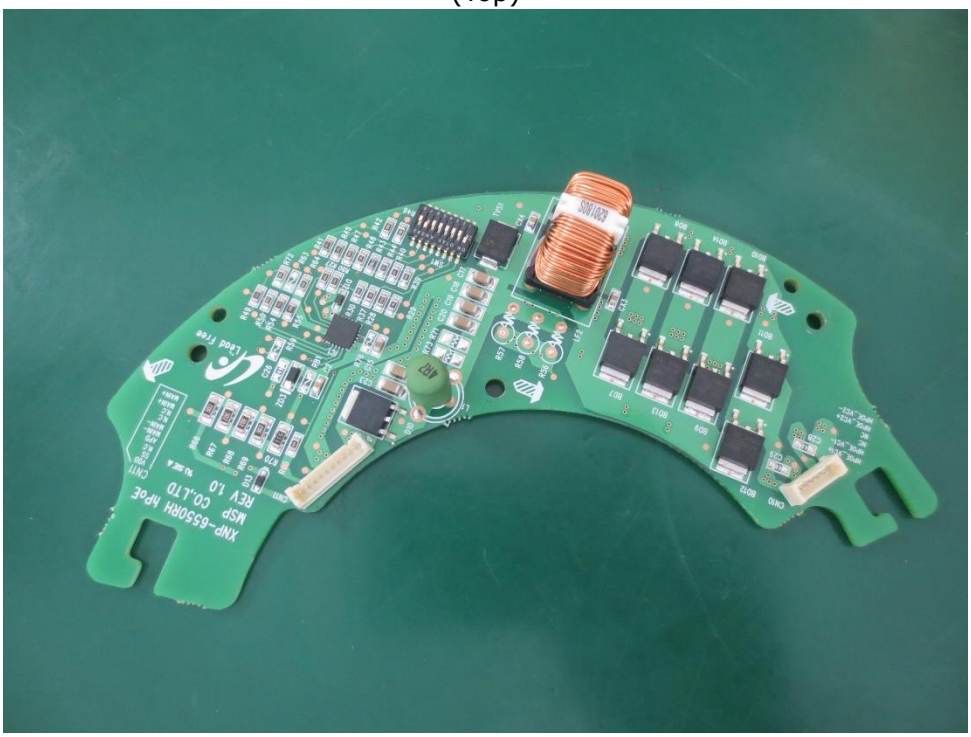


(Bottom)

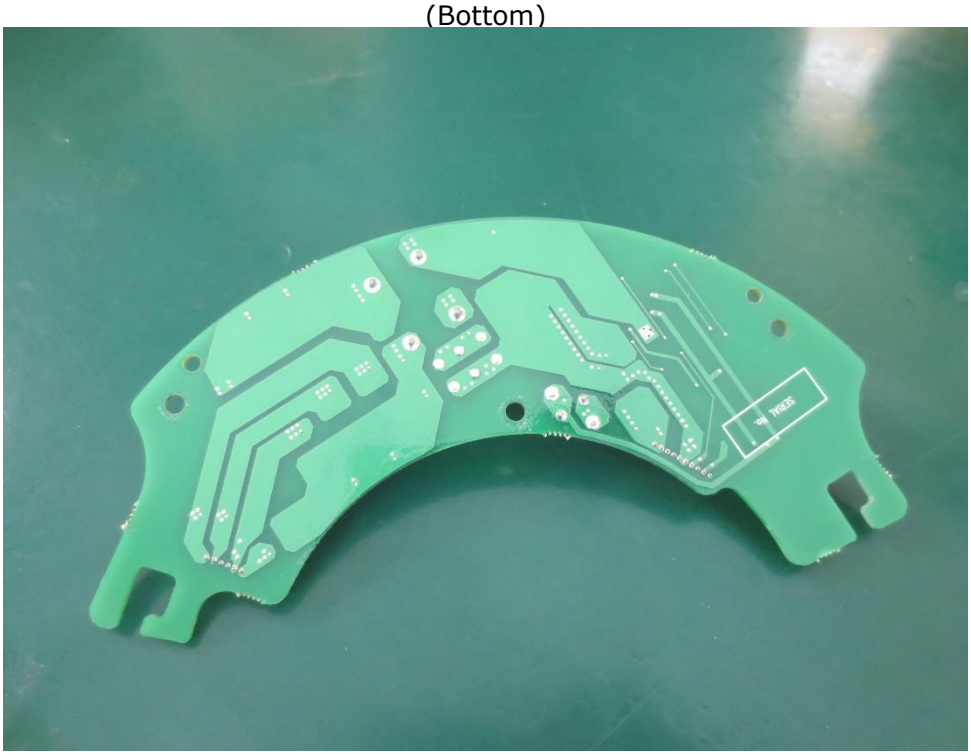


EUT Internal View – Serve Board 2

(Top)

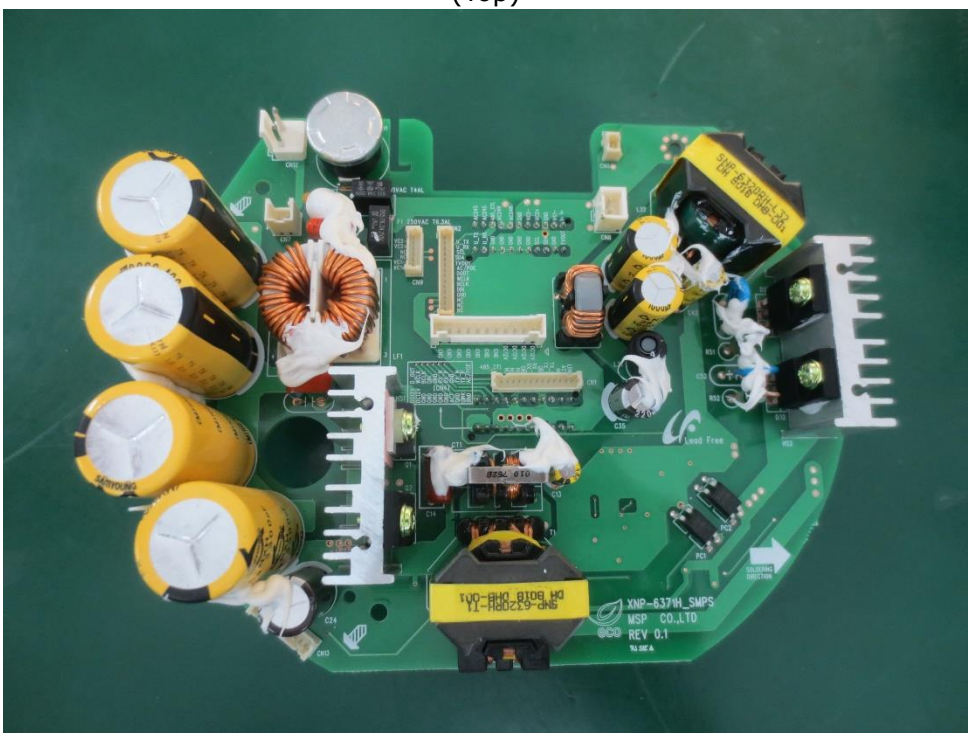


(Bottom)

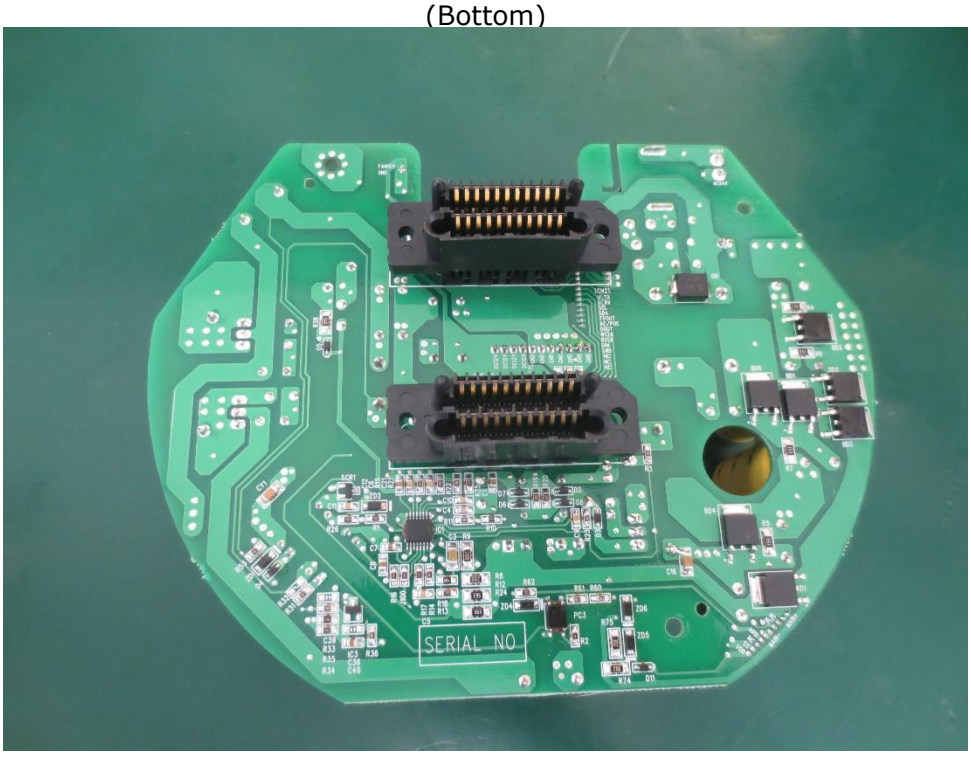


EUT Internal View – Serve Board 3

(Top)

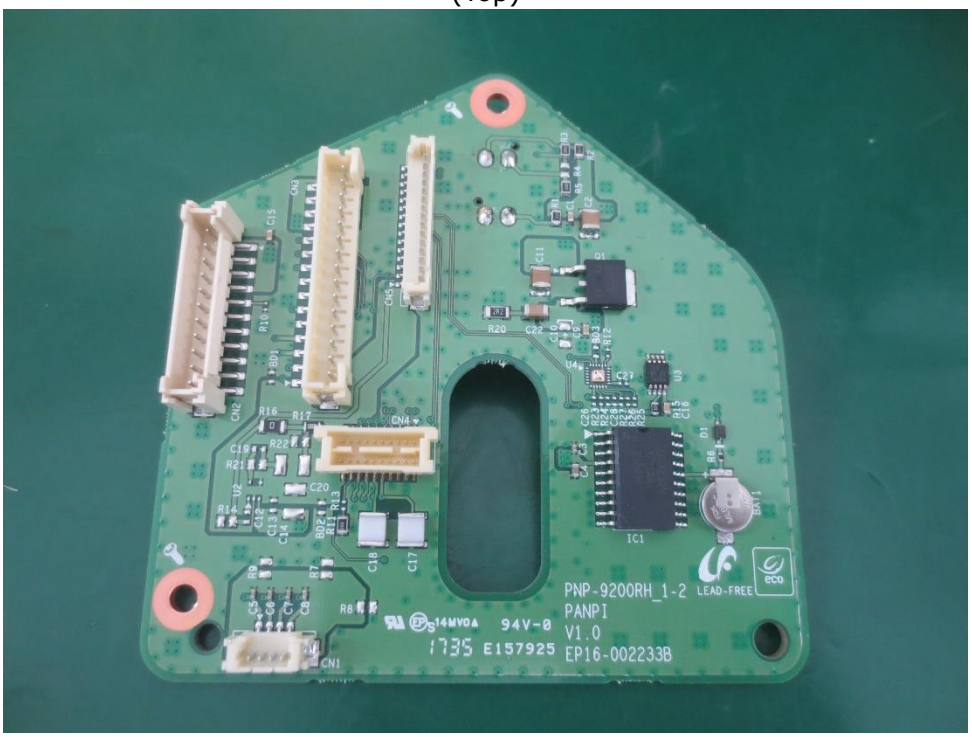


(Bottom)

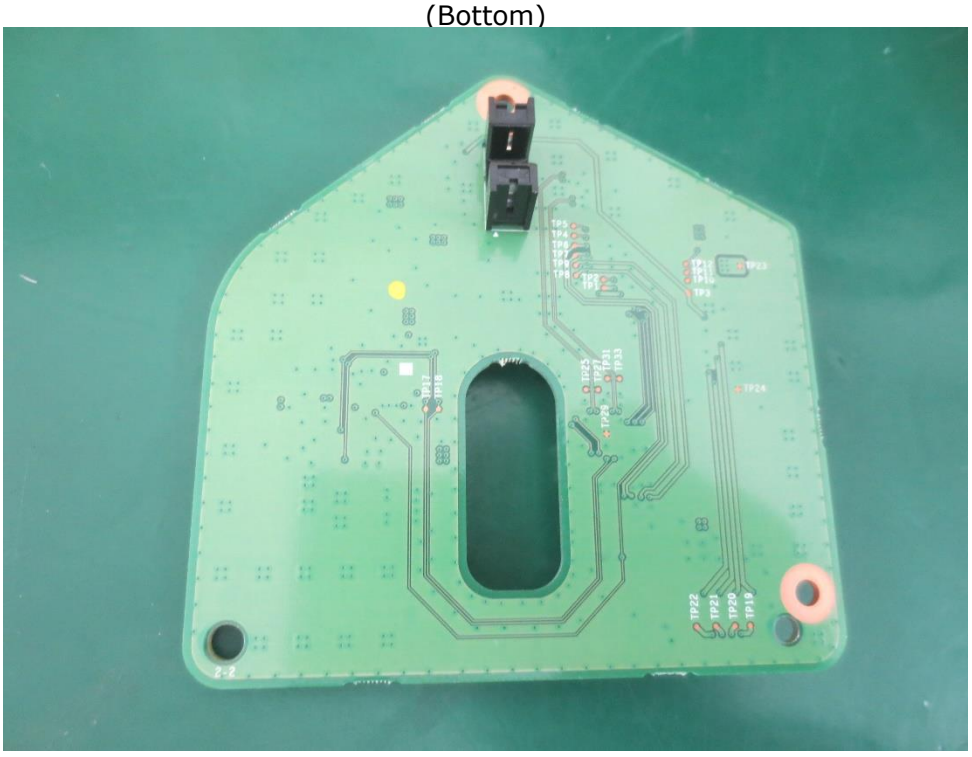


EUT Internal View – Serve Board 4

(Top)

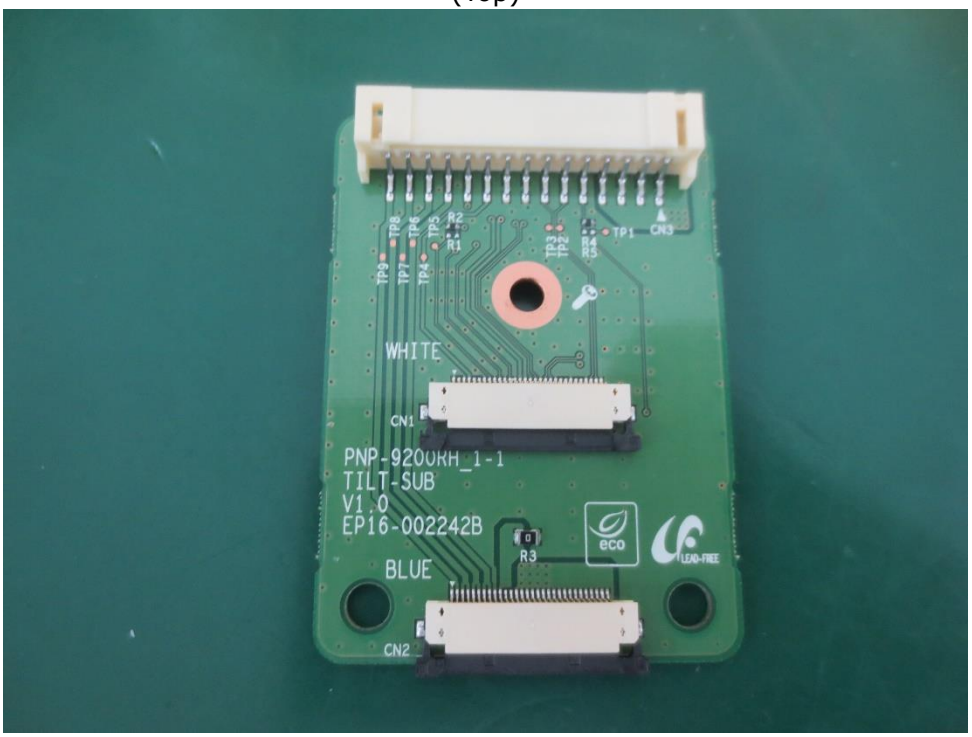


(Bottom)

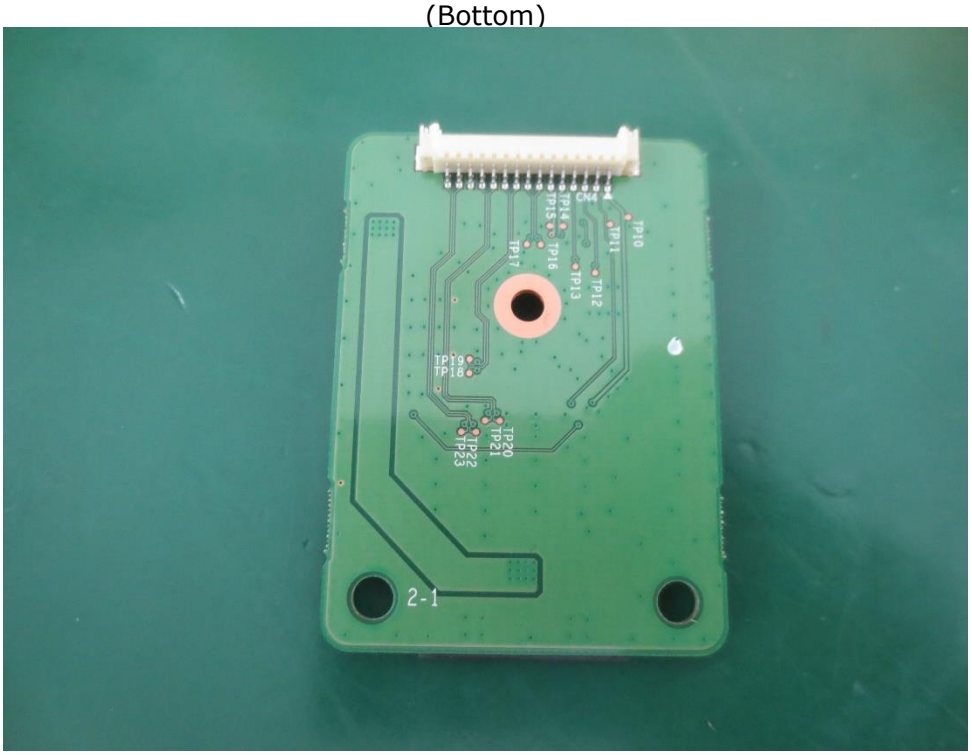


EUT Internal View – Serve Board 5

(Top)

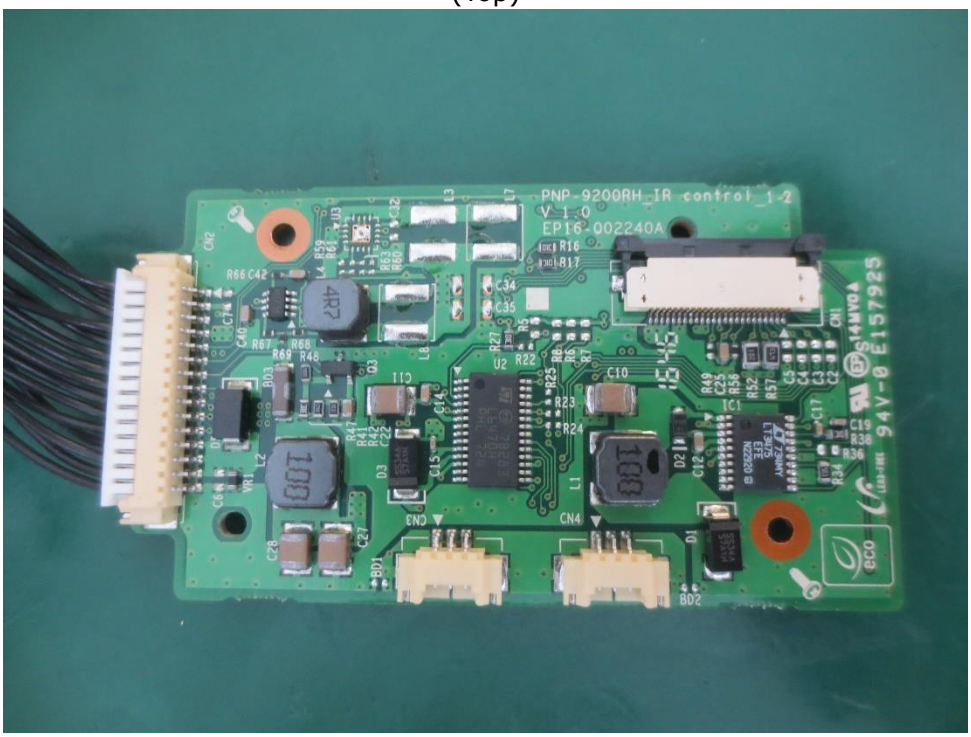


(Bottom)

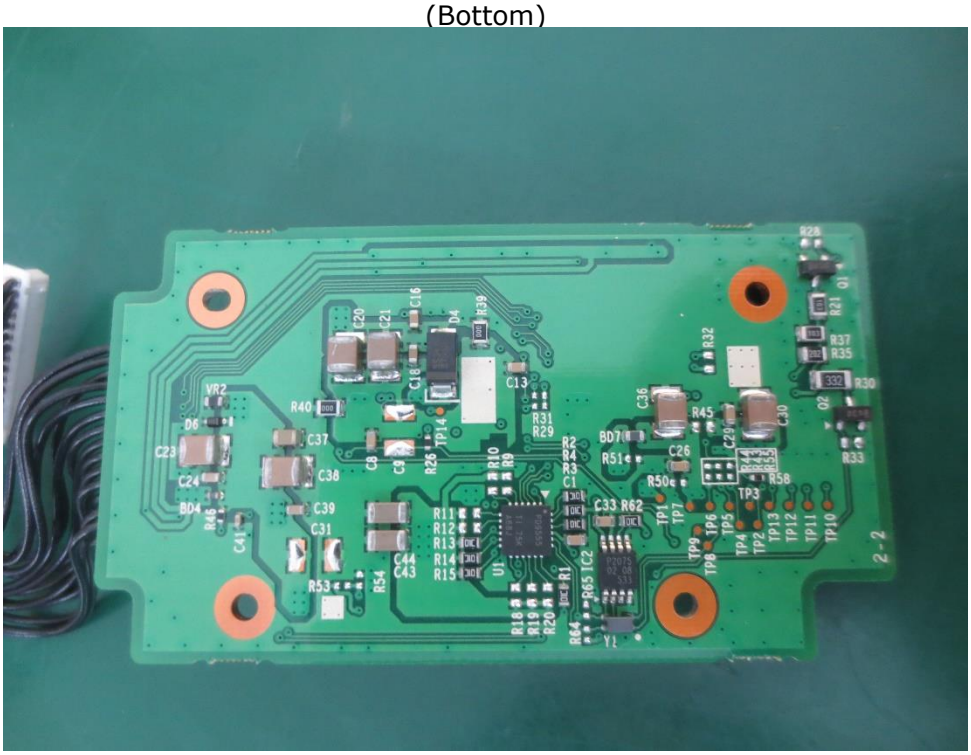


EUT Internal View – Serve Board 6

(Top)

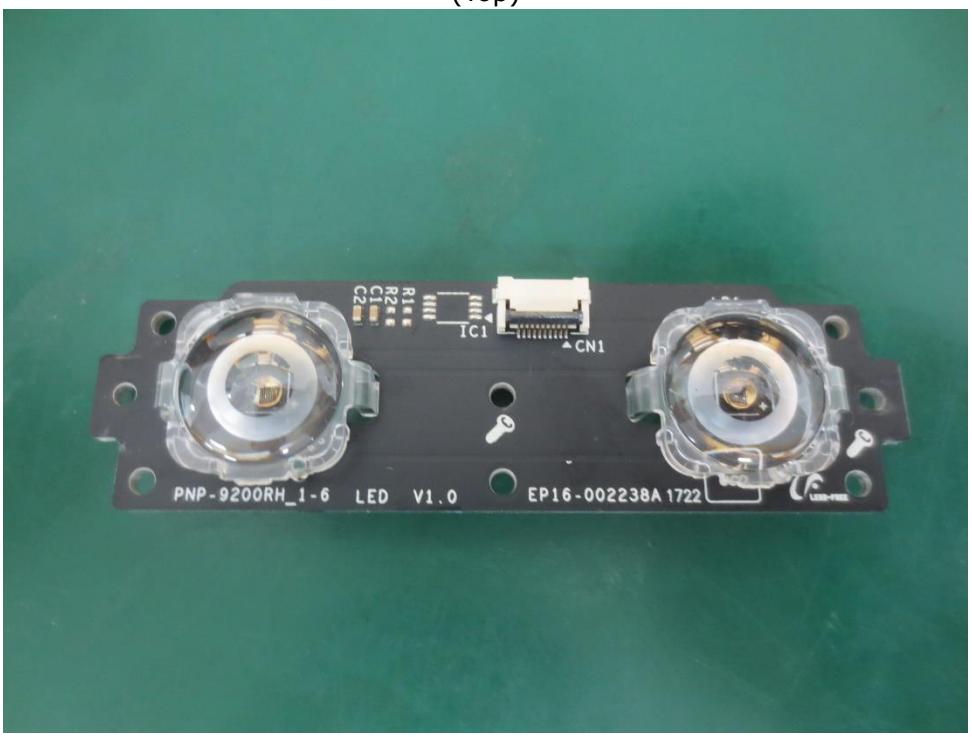


(Bottom)



EUT Internal View – Serve Board 7

(Top)



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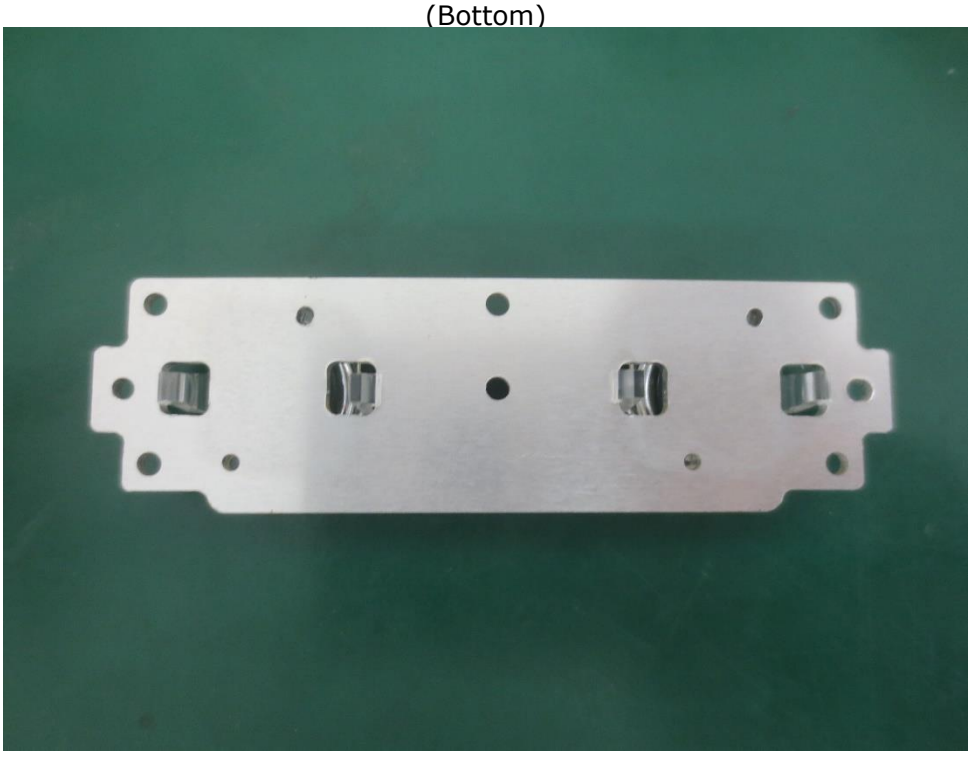
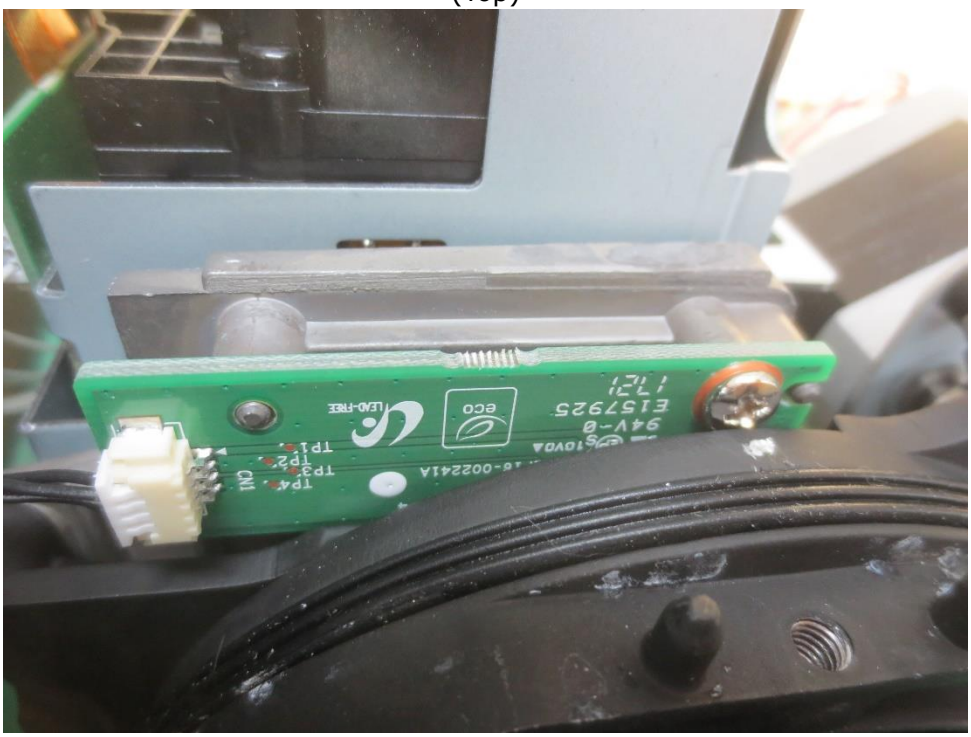


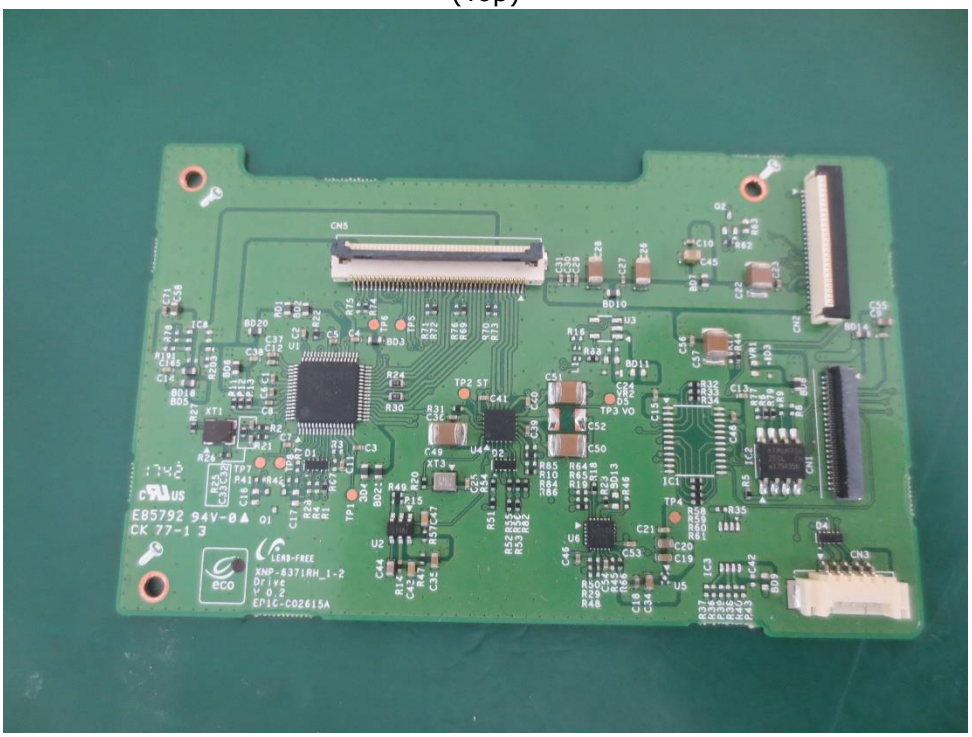
EUT Internal View – Serve Board 8

(Top)



EUT Internal View – Serve Board 9

(Top)



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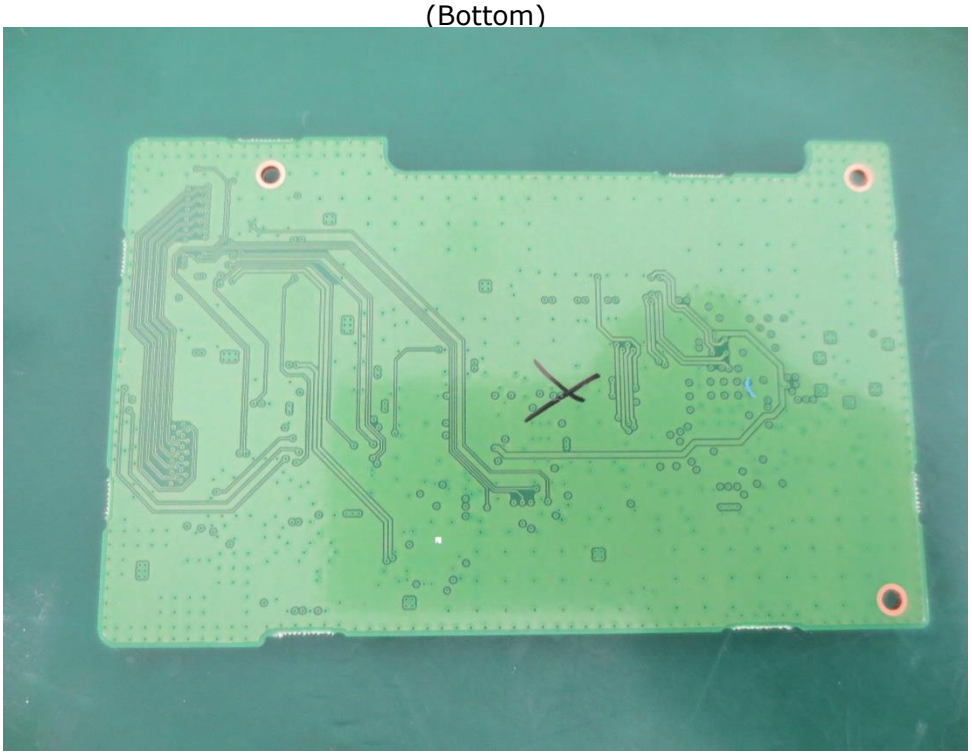
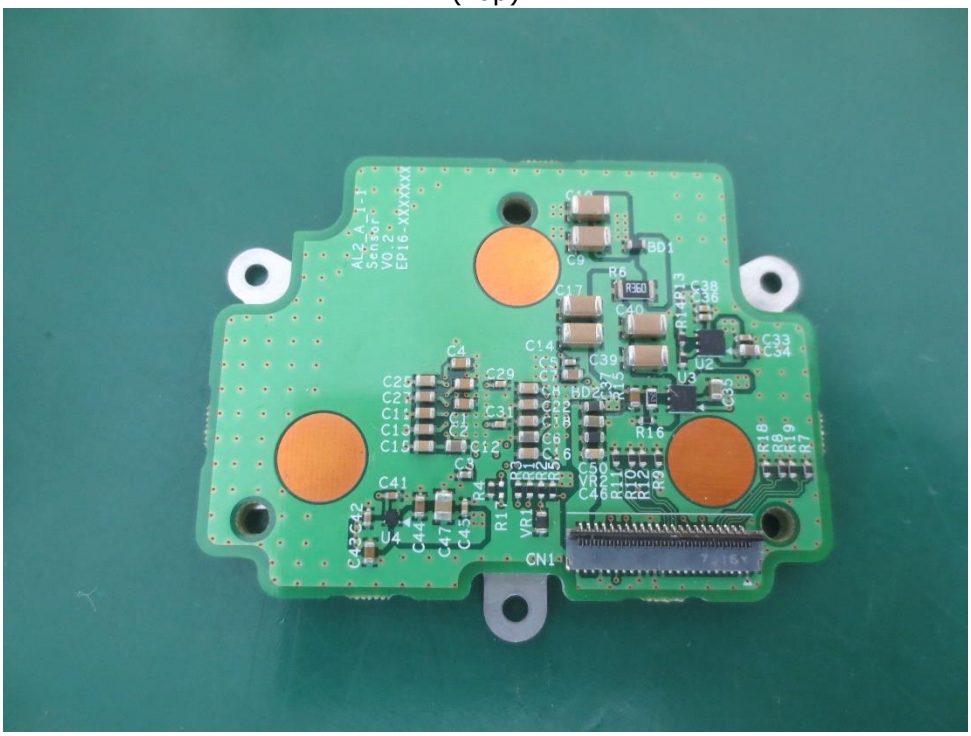


EUT Internal View – Serve Board 10

(Top)



(Bottom)