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Report No.:

KES-EM-23T0222

Page (1) of (41)

EMC TEST REPORT For VCCI

Test Report No. : KES-EM-23T0222

Date of Issue : Mar. 14, 2023

Product name : Network Camera

Model/Type No. : XNP-C9303RW

Variant Model : XNP-C8303RW

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)

Date of Receipt : Feb. 21, 2023

Test date : Feb. 28, 2023 ~ Mar. 02, 2023

Test Results : ☒ In Compliance ☐ Not in Compliance

Tested by

Jun Soo, Jung
EMC Test Engineer

Reviewed by

Dong Hun, Jang
EMC Technical Manager

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

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Report No.:
KES-EM-23T0222
Page (2) of (41)

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Mar. 14, 2023	KES-EM-23T0222	Issued

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TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	4
1.2	Variant Model Differences.....	5
1.3	Device Modifications	5
1.4	Equipment Under Test.....	5
1.5	Support Equipments	6
1.6	External I/O Cabling	7
1.7	EUT Operating Mode(s)	7
1.8	Configuration.....	8
1.9	Remarks when standards applied	9
1.10	Calibration Details of Equipment Used for Measurement.....	9
1.11	Test Facility	9
1.12	Laboratory Accreditations and Listings	9
2.0	Test Regulations.....	10
2.1	Conducted Emissions Mains Power Ports.....	11
2.2	Conducted Emissions at Telecommunication Ports.....	12
2.3	Radiated Electric Field Emissions(Below 1 GHz)	13
2.4	Radiated Electric Field Emissions(Above 1 GHz)	14
APPENDIX A – TEST DATA.....		15
Conducted Emissions at Mains Power Ports.....		15
Conducted Emissions at Telecommunication Ports		17
Radiated Electric Field Emissions(Below 1 GHz)		18
Radiated Electric Field Emissions(Above 1 GHz).....		19
Test Setup Photos and Configuration		20
Conducted Emissions at Mains Power Ports.....		20
Conducted Emissions at Telecommunication Ports		21
Radiated Electric Field Emissions(Below 1 GHz)		22
Radiated Electric Field Emissions(Above 1 GHz).....		23
EUT External Photographs.....		24
EUT Internal Photographs		25



1.0 General Product Description

Main Specifications of EUT are:

Video		Radiometry	
Imaging Device	1/2.8" CMOS	Temperature Detect Range	None
Resolution	3840x2160, 2592x1944, 2592x1464, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x480, 720x576, 720x480, 640x480, 640x360, 320x240	Temperature Accuracy	None
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz) (@8MP Max. 5fps)	Temperature Detection	None
NETD	None	Additional	None
Pixel Size	None	Network	
Min. Illumination	Color: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Ethernet	Metal shielded RJ-45(10/100BASE-T)
Video Out	None	Video Compression	H.265/H.264: Main/Baseline/High, MJPEG
Video Transmission Distance	None	Audio Compression	None
Lens		Smart Codec	Manual(Sea area), WiseStreamII
Focal Length (Zoom Ratio)	5~150mm(30x) zoom (digital 32x, total 960x zoom)	Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control
Max. Aperture Ratio	F1.6(Wide) - F4.5(Tele)	Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Angular Field of View	H: 57.42°(Wide)-2.19°(Tele) / V: 33.54°(Wide)-1.25°(Tele)	Streaming	Unicast(20 users) / Multicast (128 users) Multiple streaming/Up to 10 profiles
Min. Object Distance	3m(9.84ft)	Protocol	P4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTCP(RTSP), NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, SRTP, NTCIP, MQTT
Focus Control	Oneshot AF, Focus save	SIP support (VoIP, Peer-to-peer, SIP)	None
Lens Type	DC auto iris	Security	
Mount Type	None	HTTPS/SSL Login Authentication	
Optional Lens	None	Digest Login Authentication	
Pan / Tilt / Rotate		IP Address Filtering	
Pan / Tilt / Rotate Range	None	User access log	
Pan Range	360° Endless	802.1X Authentication(EAP-TLS, EAP-LEAP)	
Pan Speed	Max. 500°/sec, Manual: 0.024°/sec~250°/sec	Device certificate(Hanwha Techwin Root CA)	
Tilt Range	110°(-20°~90°)	Application Programming Interface	
Tilt Speed	Max. 350°/sec, Manual: 0.024°/sec~250°/sec	ONVIF Profile S/G/T	
Rotate Range	None	SUNAPI(HTTP API)	
Sequence	Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule	Wisenet open platform	
Preset Accuracy	Up to ±0.1°, Pan/Tilt correction	General	
Operational		Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Camera Title	Displayed up to 85 characters	Web Viewer	None
Direction Indicator	Support	Edge Storage	Micro SD/SDHC/SDXC 2slot 1TB
Day & Night	Auto(CR/Color/BW/Schedule)	Memory	4GB RAM, 512MB Flash
Backlight Compensation	BLC, HLC, WDR, SSDR	Environmental & Electrical	
Wide Dynamic Range	Extreme WDR(120dB)	Operating Temperature / Humidity	-40°C ~ +55°C(-40°F ~ +131°F) / +74°C(+165°F) (MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~95% RH(Non-condensing)
Digital Noise Reduction	SSNR V	Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / 0~90% RH
Digital Image Stabilization	Support(built-in gyro sensor)	Certification	IP66, IK10, NEMA4X, NEMA-TS 2(2.2.2.8, 2.2.9)
Defog	Support	Input Voltage	HPoE(IEEE802.3bt, Class6, Type3, Injector included)
Motion Detection	8ea, 8point polygonal zones	Power Consumption	Typical 26W, Max 46W
Privacy Masking	32ea, Quadangle Support - Color: Grey/Green/Red/Blue/Black/White - Mosaic	Mechanical	
Gain Control	Manual / Max	Color / Material	White, Black / Aluminum+Polycarbonate
White Balance	ATW / Narrow ATW /AWC /Manual /Indoor /Outdoor /Mercury /Sodium	RAL Code	White: RAL9003 / Black: RAL9005
LDC	None	Product Dimensions / Weight	ø184.9x318.8mm(7.28x12.55") / 5.6kg (12.34lb)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)	Compatible Conduit hole / Gangbox	None
Digital PTZ	None	Hanging Mount (Dome)	None
Video Rotation	Flip, Mirror	Skin Cover	None
Analytics	Classified object type : Person/Face/Vehicle/License plate	Skin Cover (Dome)	None
	Attributes : Vehicle(Type:car/bus/truck/motorcycle/bicycle)	Weather Cap (Dome)	None
	Support DetectionShot	Power Module	None
	Analytics events based on AI engine	Backbox	None
	- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)	Certifications & Standards	
Business Intelligence	Analytics events	Network	None
	- Defocus detection, Motion detection, Tampering, Fog detection, Shock detection, Virtual area(Appear/Disappear)	EMC	None
	* Audio detection, Sound classification(with NW I/O Box)	Safety	None
	None	Environment	None
	None	Video	None
Serial Interface	None	DORI (EN62676-4 standard)	
Alarm I/O	None	Detect (25PPM/ 8PPF)	Wide: 140.2m(460ft) / Tele: 4018.1m(13182.6ft)
Alarm Triggers	Analytics, Network disconnect * Alarm input(with NW I/O Box)	Observe (63PPM/ 19PPF)	Wide: 56.1m(184ft) / Tele: 1607.2m(5273.1ft)
Alarm Events	File upload via FTP and e-mail	Recognize (125PPM/ 38PPF)	Wide: 28.0m(92ft) / Tele: 803.6m(2636.5ft)
	Notification via e-mail	Identify (250PPM/ 76PPF)	Wide: 14.0m(46ft) / Tele: 401.8m(1318.3ft)
	SD/SDHC/SDXC or NAS recording at event triggers	LPR/ANPR/MMCR	
	PTZ Preset	Speed Description	None
	Handover	Speed limit	None
Audio Streaming	* Alarm output(with NW I/O Box)	Min. Forward Distance	None
Audio In	None	Max. Forward Distance	None
Audio Out	None	Max. Horizontal Angle	None
IR Viewable Length	200m(656.17ft), Wise IR	Max. Vertical Angle	None
IR Illuminator (Optional)	None	Horizontal Offset	None
IR Radiation angle	None	Camera Height	None
IR LED	None	Lane Coverage	None
IR Wavelength	None	Vehicle Recognition	None
IR Operation	None	Available Countries	None
Water Removal	Support(Wiper)	Wisenet Road AI LPR/ANPR/MMCR	
Auto Tracking	Object auto tracking(Person/Vehicle), Target lock tracking	Solution	None
Coaxial Protocol	None	Speed Description	None
Color Palettes	None	Lane Coverage	None
		Speed limit	None
		Min. Forward Distance	None
		Max. Forward Distance	None
		Max. Horizontal Angle	None
		Max. Vertical Angle	None
		Horizontal Offset	None
		Camera Height	None
		Vehicle Recognition	None
		Available Countries	None

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1.1 Test Voltage & Frequency

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

☒ AC 100 V, 60 Hz

1.2 Variant Model Differences

Added Derived model of difference in simple model name.
Basic model and electrical circuitry, structure and performance are the same.

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Network Camera	XNP-C9303RW	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
Fiber PoE Injector	PT-PSE109GBRO- AH-S	PT2250220748	Dongguan PROCET Network Technology Co.,Ltd	-

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Fiber PoE Injector	PT-PSE109GBRO-AH-S	PT2023220053	Dongguan PROCET Network Technology Co.,Ltd	-
Notebook	9JM8HT2	8KM8HT2	DELL INC.	-
Notebook Adapter	HA65NM130	-	Chicony Power Technology(Suzhou)Co.,Ltd.	-
Optical Module 1	NEXT-SFP10G-SR	-	Shenzhen yichen technology development Co., Ltd.	-
Optical Module 2	NEXT-SFP10G-SR	-	Shenzhen yichen technology development Co., Ltd.	-
Micro SD card 1	-	-	SanDisk	-
Micro SD card 2	-	-	SanDisk	-

1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I / O Port	Description	I / O Port	Length	Shield
Network Camera (EUT)	LAN	Fiber PoE Injector (EUT)	PoE	2.5	U
	Micro SD card slot	Micro SD card 1	Micro SD card slot	-	-
	Micro SD card slot	Micro SD card 2	Micro SD card slot	-	-
Fiber PoE Injector (EUT)	Optical slot	Optical Module 1	Optical slot	-	-
	LAN	Notebook	LAN	3.1	U
	Ground	Ground	Ground	-	-
Optical Module 1	Optical	Optical Module 2	Optical	5.0	U
Optical Module 2	Optical slot	Fiber PoE Injector	Optical slot	-	-
Notebook	DC jack	Notebook Adapter	Line	1.5	U

* Unshielded = U, Shielded = S

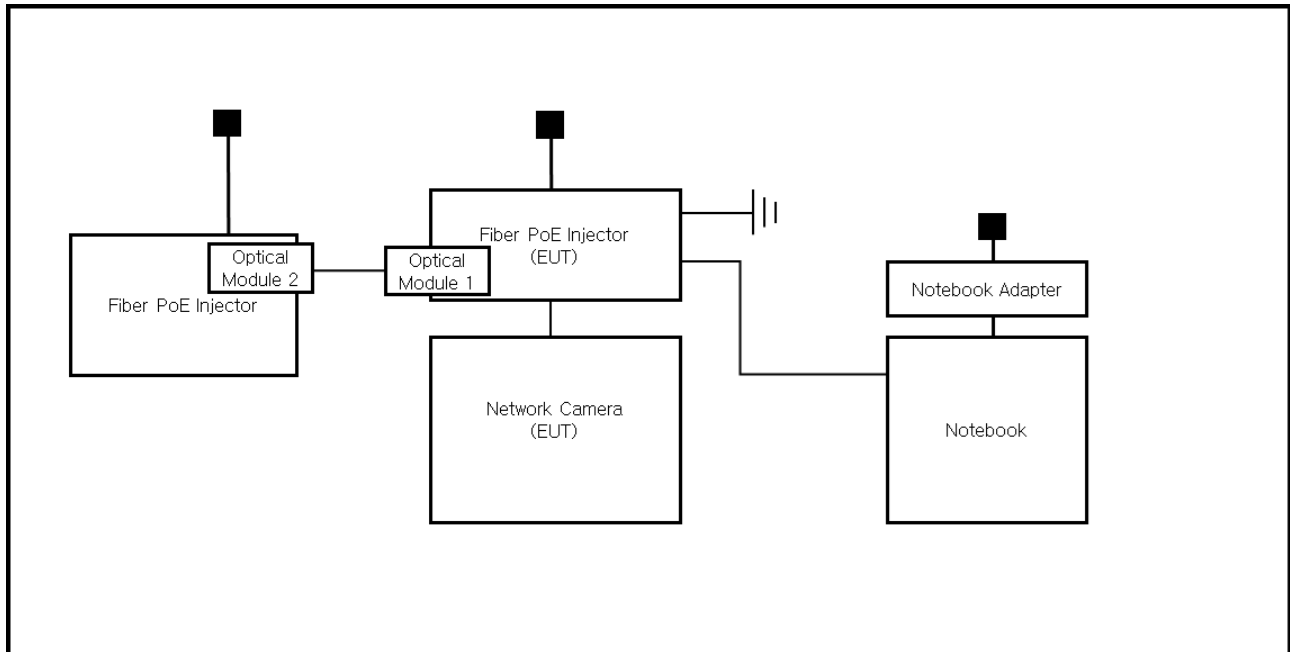
1.7 EUT Operating Mode(s)

Test mode	operating
Operation	1. Check if the EUT image is output to the laptop normally. 2. Check if the network is operating normally through a ping test. 3. After the test, check if the EUT video has been recorded normally.

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

1.8 Configuration

■ AC Main
□ DC Main



1.9 Remarks when standards applied

N/A

1.10 Calibration Details of Equipment Used for Measurement

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

1.11 Test Facility

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

1.12 Laboratory Accreditations and Listings

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



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Report No.:
KES-EM-23T0222
Page (10) of (41)

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ VCCI - C I SPR 32:2016

☒ Class A

☐ Class B

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2.1 Conducted Emissions Mains Power Ports

Test Date
Mar. 02, 2023

Test Location
Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EMC32	R & S	9.12.00	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101783	11, 11, 2023
<input checked="" type="checkbox"/>	LISN	ENV216	R & S	101787	11, 10, 2023
<input checked="" type="checkbox"/>	LISN	ESH2-Z5	R & S	100450	11, 10, 2023
<input checked="" type="checkbox"/>	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 10, 2023

Test Conditions

Temperature: (23,4 ± 0,1) °C
Relative Humidity: (42,5 ± 0,1) % R.H.

Frequency Range of Measurement
150 kHz to 30 MHz

Instrument Settings
IF Band Width: 9 kHz

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Mar. 02, 2023

Test Location
Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EMC32	R & S	9.12.00	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101783	11, 11, 2023
<input checked="" type="checkbox"/>	LISN	ENV216	R & S	101787	11, 10, 2023
<input checked="" type="checkbox"/>	LISN	ESH2-Z5	R & S	100450	11, 10, 2023
<input checked="" type="checkbox"/>	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 10, 2023
<input checked="" type="checkbox"/>	8-WIRE ISN CAT3,5	ENY81	R & S	100174	11, 22, 2023
<input type="checkbox"/>	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101665	11, 22, 2023
<input type="checkbox"/>	CDN	CDNS502A	TESEQ	40431	11, 10, 2023

Test Conditions

Temperature: (23,4 ± 0,1) °C
Relative Humidity: (42,5 ± 0,1) % R.H.

Frequency Range of Measurement
150 kHz to 30 MHz

Instrument Settings
IF Band Width: 9 kHz

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
- See Appendix A for test data.
- For Ethernet interfaces, measurements are required at the highest data rate supported by the interface.

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2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date
Feb. 28, 2023

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

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	R & S	100551	03, 31, 2023
<input checked="" type="checkbox"/>	AMPLIFIER	SCU 01	R & S	100603	11, 10, 2023
<input checked="" type="checkbox"/>	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	11, 17, 2024
<input checked="" type="checkbox"/>	ATTENUATOR	8491A	HP	32173	03, 03, 2024

Test Conditions

Temperature: (23,8 ± 0,1) °C
Relative Humidity: (45,8 ± 0,1) % R.H.

Frequency Range of Measurement
30 MHz to 1 GHz

Instrument Settings
IF Band Width: 120 kHz

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date
N/A

Test Location
SEMI ANECHOIC CHAMBER #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input type="checkbox"/>	EMI TEST RECEIVER	ESR7	R & S	101190	08, 01, 2023
<input type="checkbox"/>	PREAMPLIFIER	8449B	AGILENT	3008A01967	03, 06, 2024
<input type="checkbox"/>	ATTENUATOR	8491A	HP	35496	03, 03, 2024
<input type="checkbox"/>	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 06, 2024

Test Conditions

Temperature: °C
Relative Humidity: % R.H.

Frequency Range of Measurement
1 GHz to 6 GHz

Instrument Settings
IF Band Width: 1 MHz

Test Results
The requirements are:

☐ PASS
☐ NOT PASS
☒ NOT APPLICABLE

Remarks

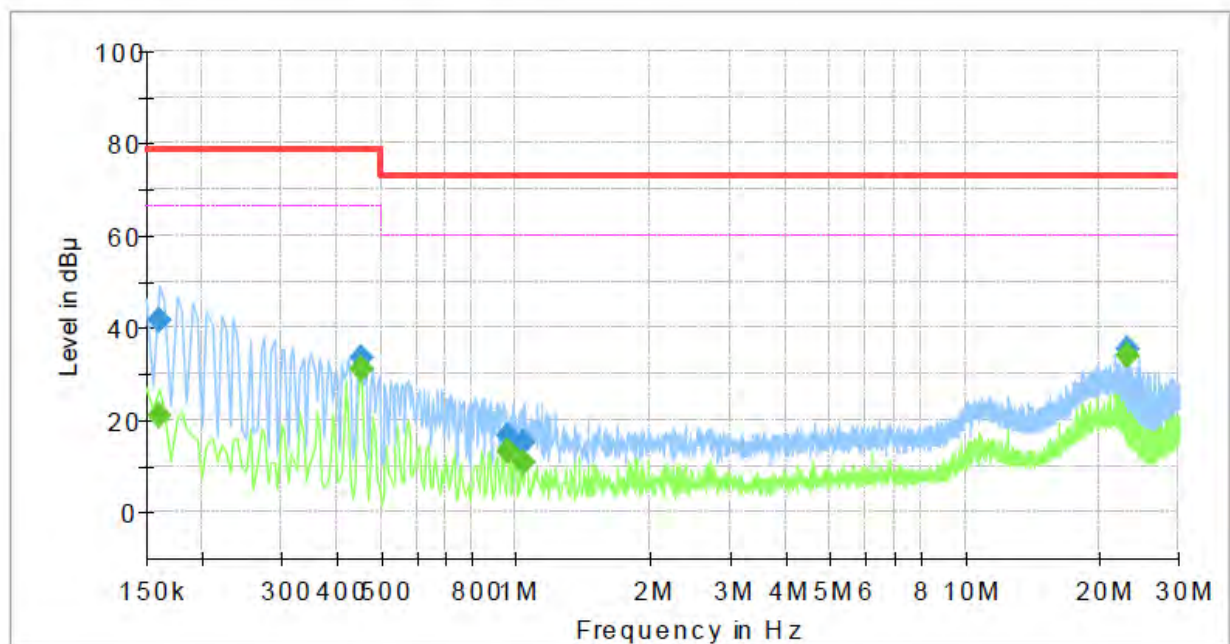
Not applicable, the EUT of the maximum clock frequency is 48 Mhz.
(If the maximum clock frequency is 108 Mhz or less, measurement up to 1 GHz)

APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-C9303RW
Phase:	L1
Mode:	
Operator Name:	KES



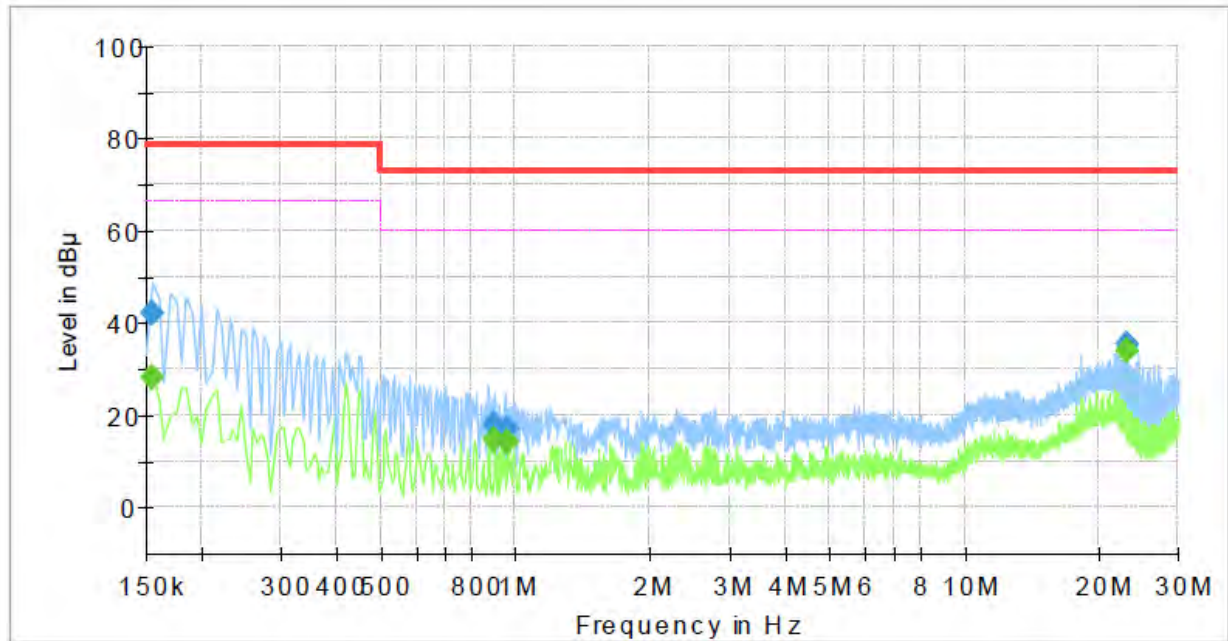
Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	20.73	66.00	45.27	1000.0	9.000	L1	19.5
0.160000	41.73	---	79.00	37.27	1000.0	9.000	L1	19.5
0.455000	---	30.83	66.00	35.17	1000.0	9.000	L1	19.7
0.455000	33.28	---	79.00	45.72	1000.0	9.000	L1	19.7
0.965000	---	13.24	60.00	46.76	1000.0	9.000	L1	20.1
0.965000	16.62	---	73.00	56.38	1000.0	9.000	L1	20.1
1.045000	---	10.85	60.00	49.15	1000.0	9.000	L1	20.1
1.045000	14.98	---	73.00	58.02	1000.0	9.000	L1	20.1
23.130000	---	33.77	60.00	26.23	1000.0	9.000	L1	20.2
23.130000	35.34	---	73.00	37.66	1000.0	9.000	L1	20.2

NEUTRAL LINE

Common Information

Test Description: Conducted Emission
 Model No.: XNP-C9303RW
 Phase: N
 Mode:
 Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	28.35	66.00	37.65	1000.0	9.000	N	19.4
0.155000	42.17	---	79.00	36.83	1000.0	9.000	N	19.4
0.900000	---	14.52	60.00	45.48	1000.0	9.000	N	20.0
0.900000	18.22	---	73.00	54.78	1000.0	9.000	N	20.0
0.965000	---	13.89	60.00	46.11	1000.0	9.000	N	20.1
0.965000	16.86	---	73.00	56.14	1000.0	9.000	N	20.1
23.130000	---	33.73	60.00	26.27	1000.0	9.000	N	20.2
23.130000	35.37	---	73.00	37.63	1000.0	9.000	N	20.2

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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Conducted Emissions at Telecommunication Ports

■ LAN(Injector)

[100 Mbps]

Common Information

Test Description:

Model No.:

Mode :

Speed :

Operator Name:

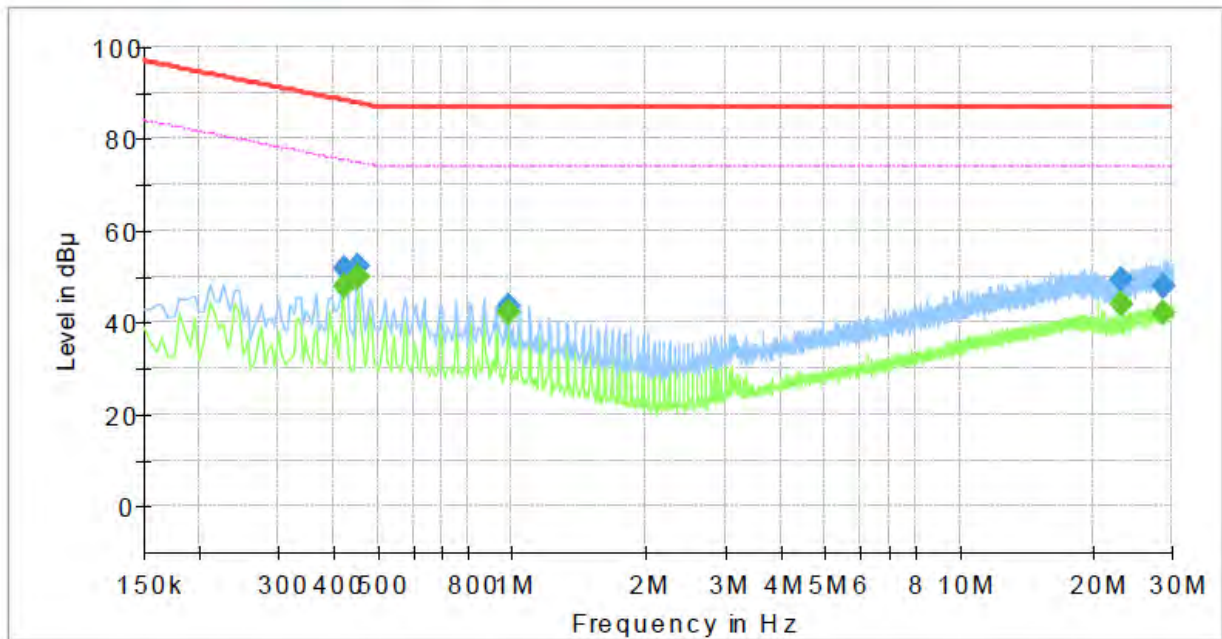
Telecommunication Emission

XNP-C9303RW

LAN(Injector)

100 Mbps

KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.425000	---	47.87	75.35	27.48	1000.0	9.000	Single Line	19.7
0.425000	51.78	---	88.35	36.57	1000.0	9.000	Single Line	19.7
0.455000	---	49.95	74.78	24.83	1000.0	9.000	Single Line	19.7
0.455000	52.14	---	87.78	35.64	1000.0	9.000	Single Line	19.7
0.980000	---	42.30	74.00	31.70	1000.0	9.000	Single Line	20.0
0.980000	43.68	---	87.00	43.32	1000.0	9.000	Single Line	20.0
23.130000	---	43.89	74.00	30.11	1000.0	9.000	Single Line	20.1
23.130000	49.28	---	87.00	37.72	1000.0	9.000	Single Line	20.1
28.625000	---	42.14	74.00	31.86	1000.0	9.000	Single Line	20.4
28.625000	47.93	---	87.00	39.07	1000.0	9.000	Single Line	20.4

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

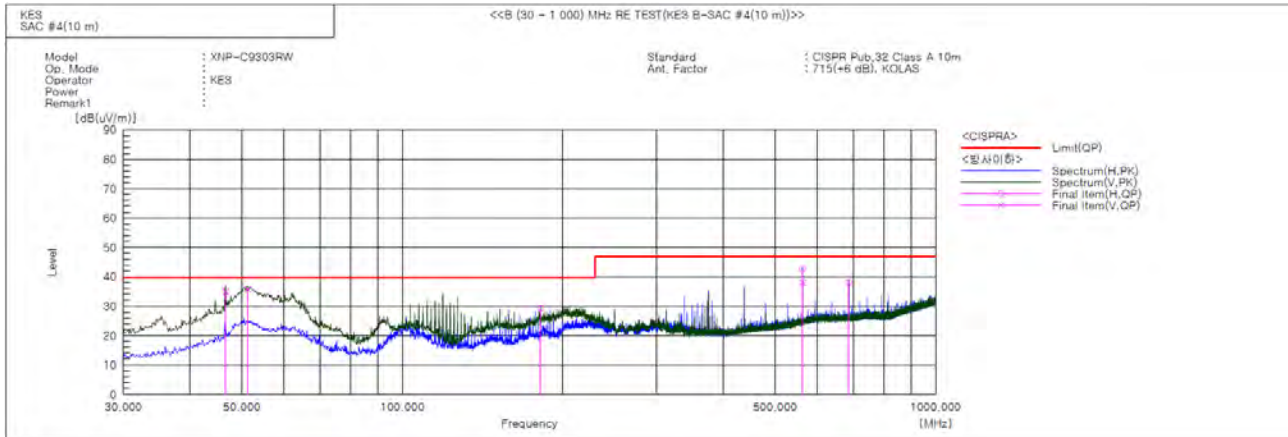
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Radiated Electric Field Emissions(Below 1 GHz)



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	46.611	V	55.6	-20.8	34.8	40.0	5.2	100.0	314.0	
2	51.219	V	56.4	-20.6	35.8	40.0	4.2	108.0	266.0	
3	181.563	H	52.7	-23.4	29.3	40.0	10.7	387.0	70.0	
4	562.530	H	51.8	-9.3	42.5	47.0	4.5	366.0	45.0	
5	562.651	V	47.3	-9.3	38.0	47.0	9.0	115.0	51.0	
6	687.660	H	45.8	-7.6	38.2	47.0	8.8	400.0	190.0	

◆ Calculation

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

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

Correction Factor : ANT FACTOR + Cable loss



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Report No.:
KES-EM-23T0222
Page (19) of (41)

Radiated Electric Field Emissions(Above 1 GHz)

N/A

◆ Calculation

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

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

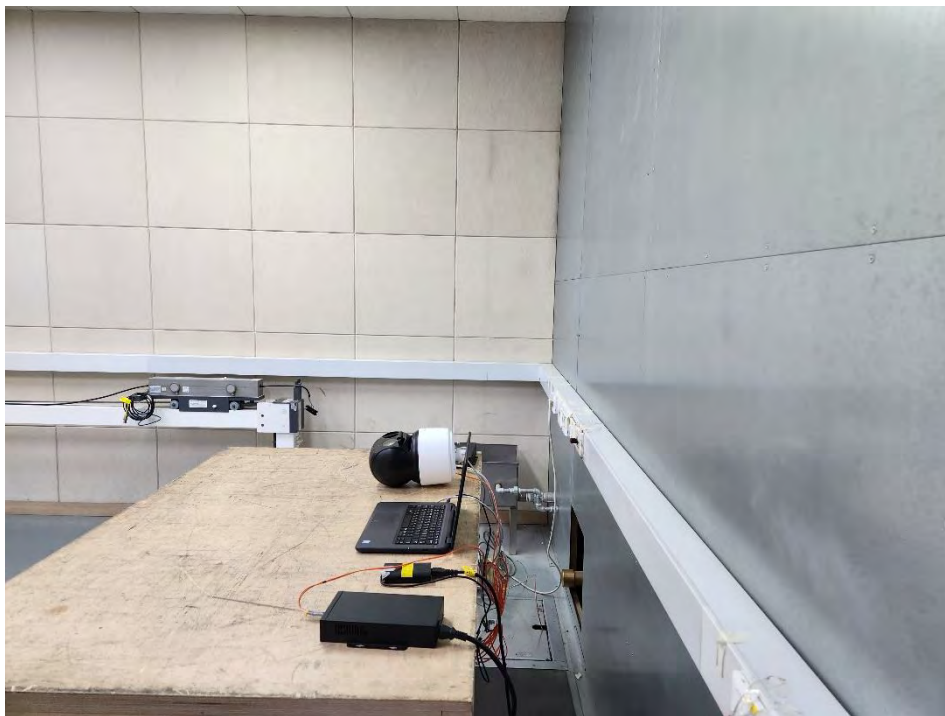
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

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

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Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



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Conducted Emissions at Telecommunication Ports



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Radiated Electric Field Emissions(Below 1 GHz)



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Page (23) of (41)

Radiated Electric Field Emissions(Above 1 **GHz**)

N/A

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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

(Internal View)



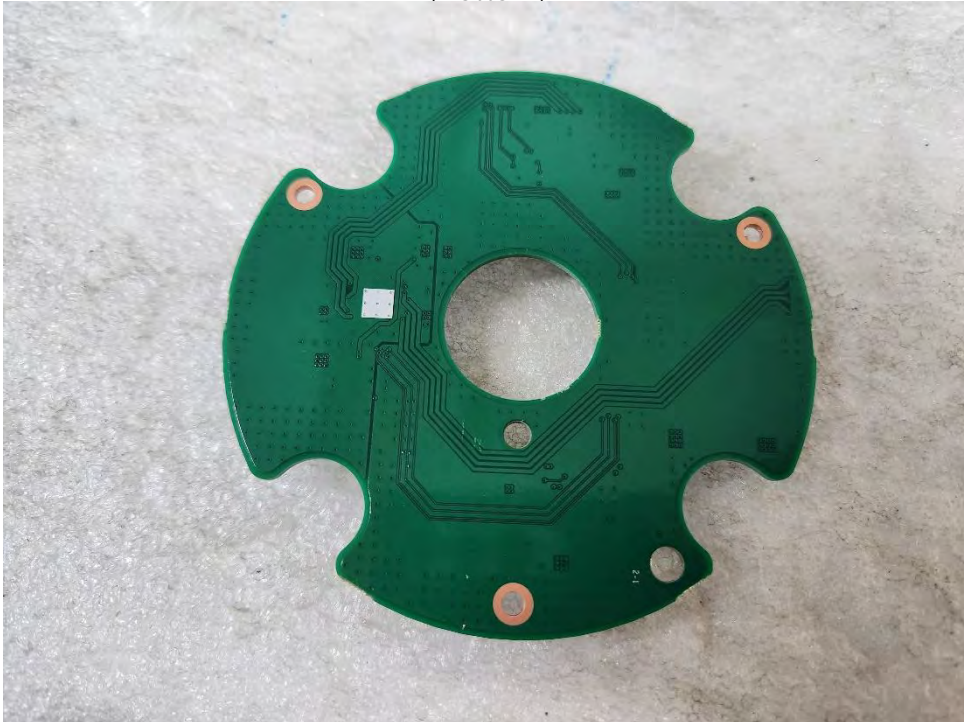
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EUT Internal View – Board 1

(Top)



(Bottom)



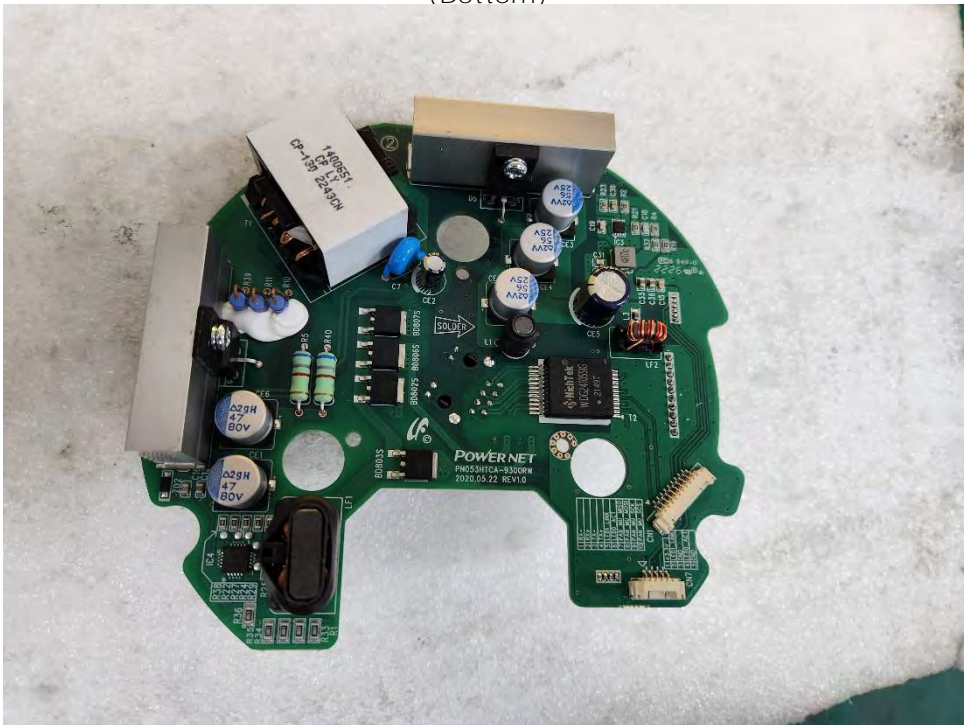
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EUT Internal View – Board 2

(Top)



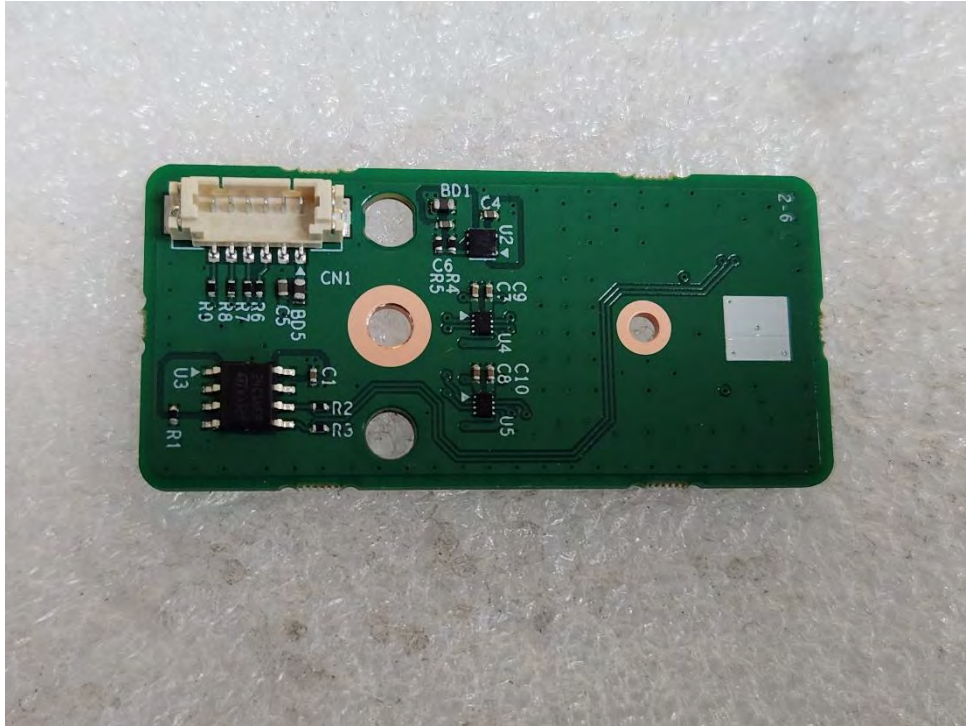
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EUT Internal View – Board 3

(Top)



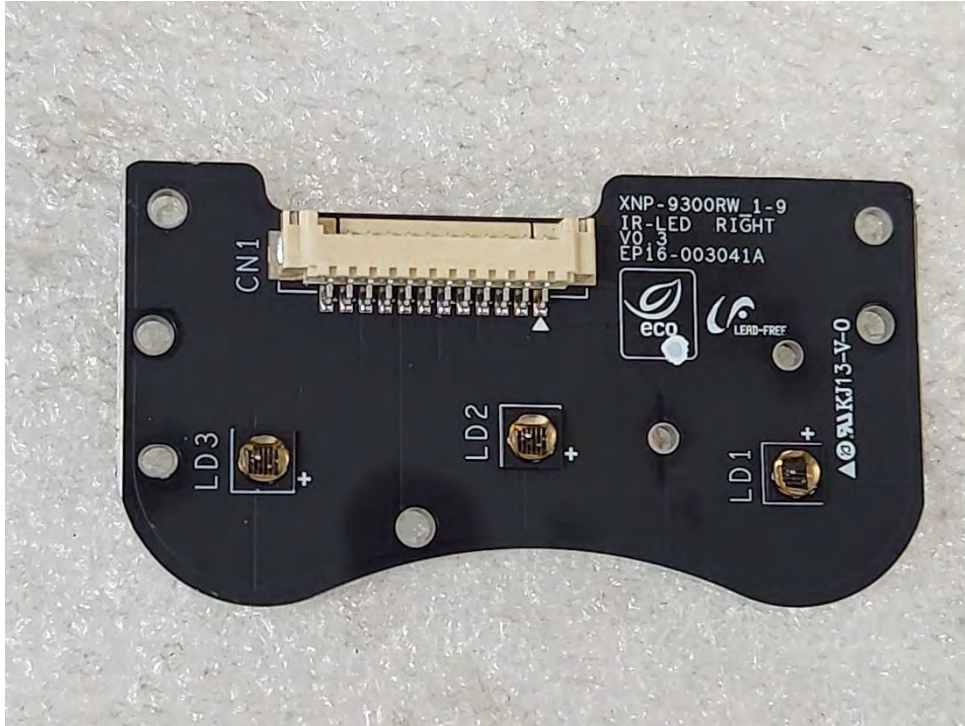
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EUT Internal View – Board 4

(Top)



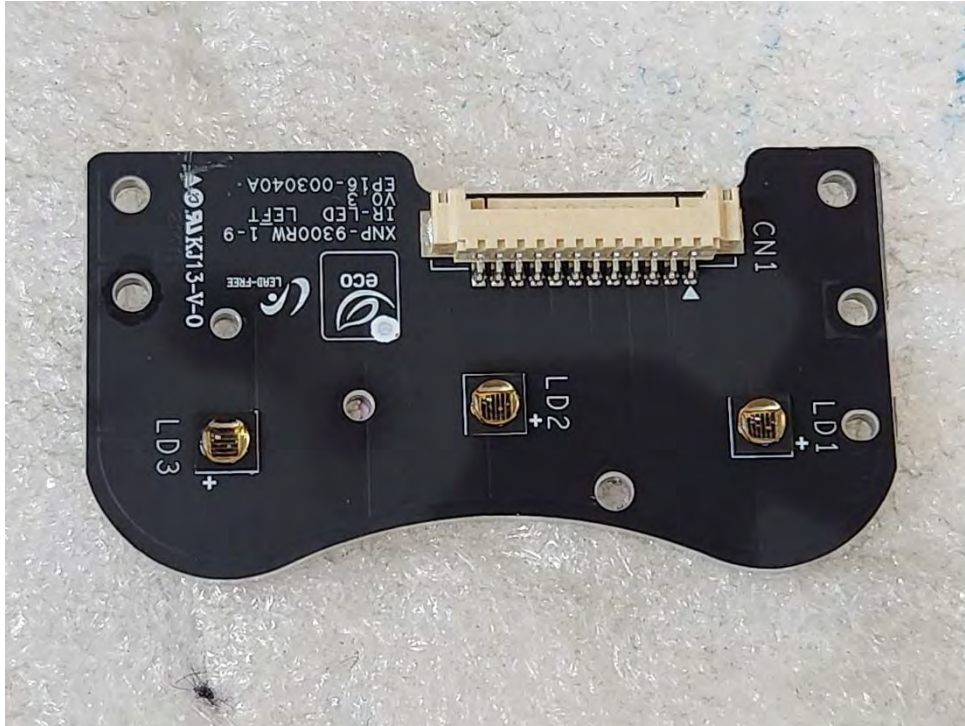
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EUT Internal View – Board 5

(Top)

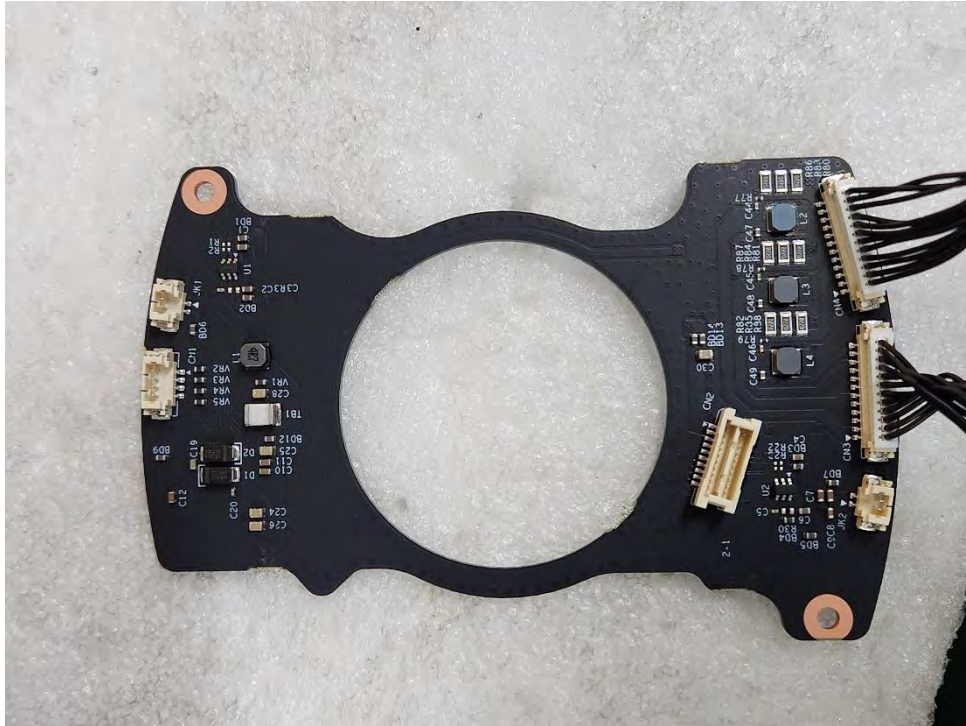


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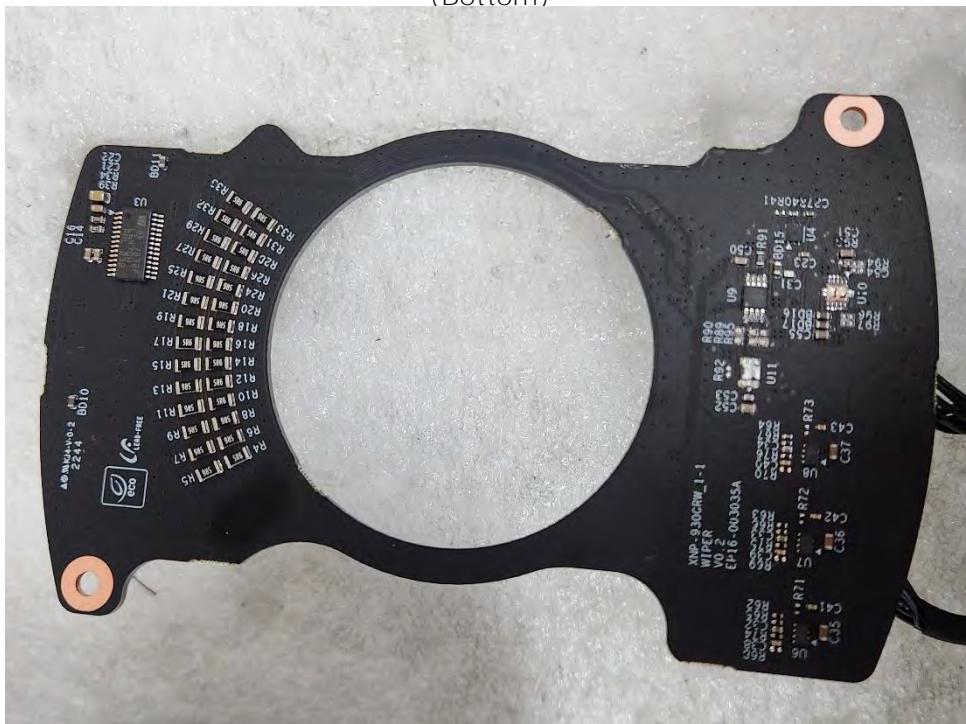


EUT Internal View – Board 6

(Top)



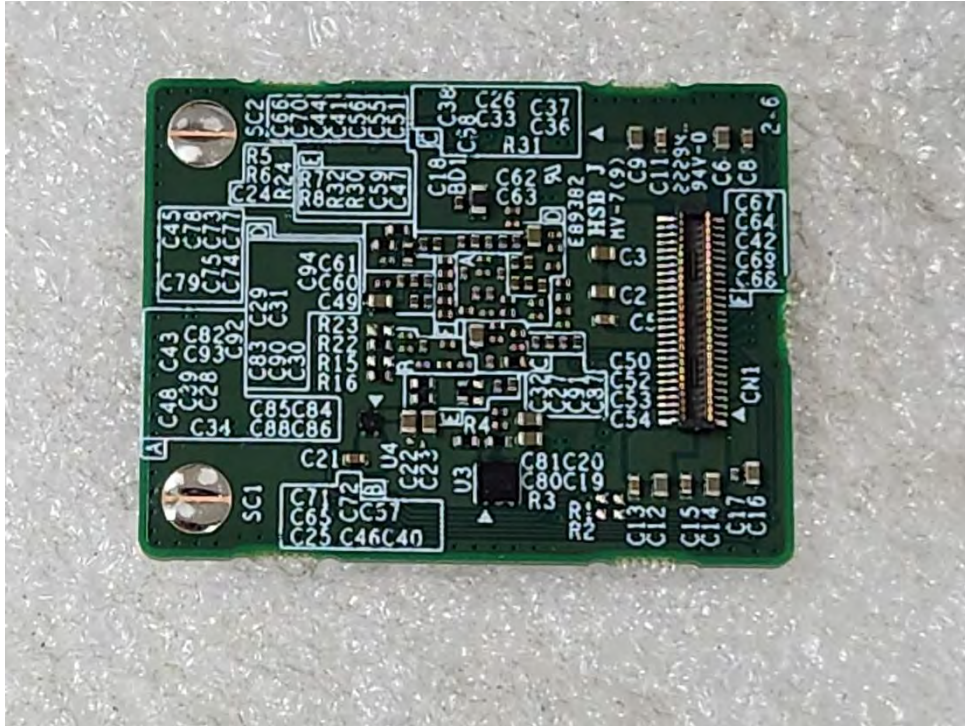
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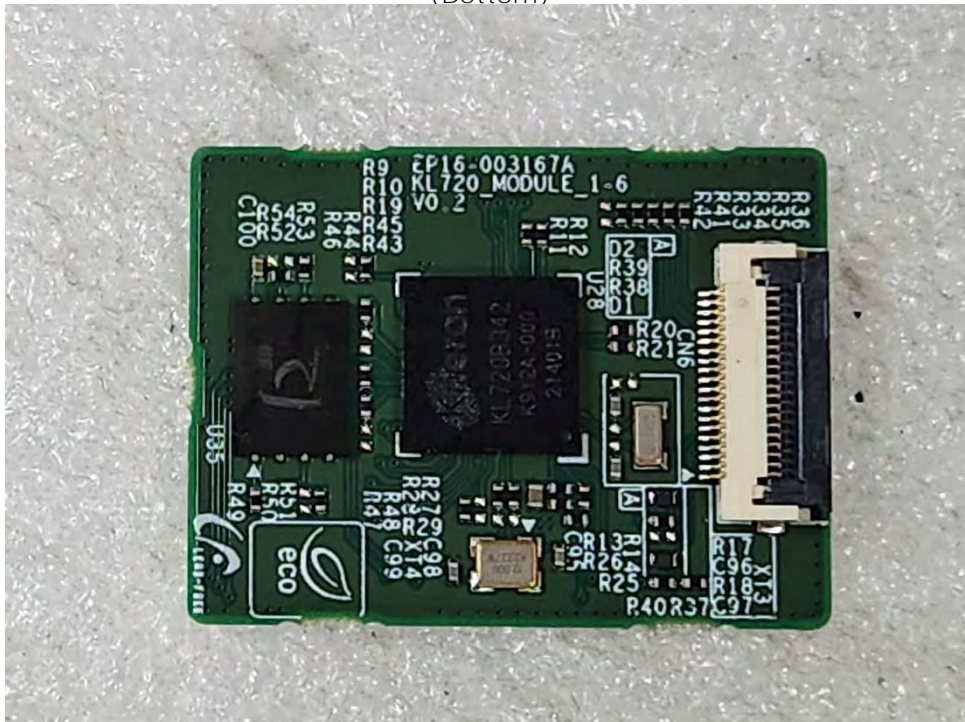
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EUT Internal View – Board 7

(Top)



(Bottom)



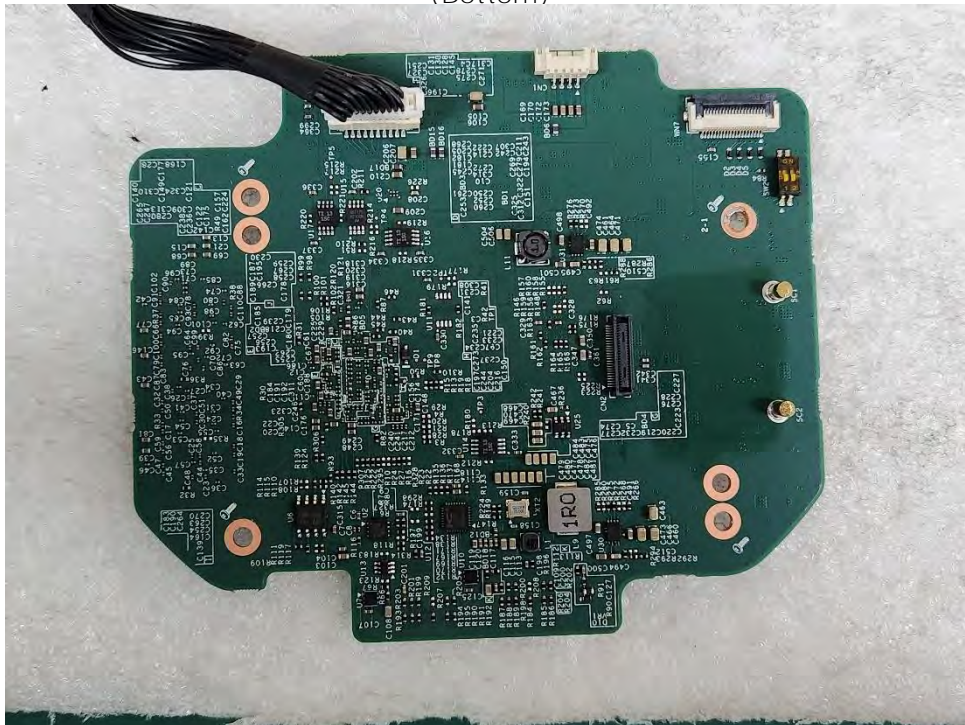
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EUT Internal View – Board 8

(Top)



(Bottom)



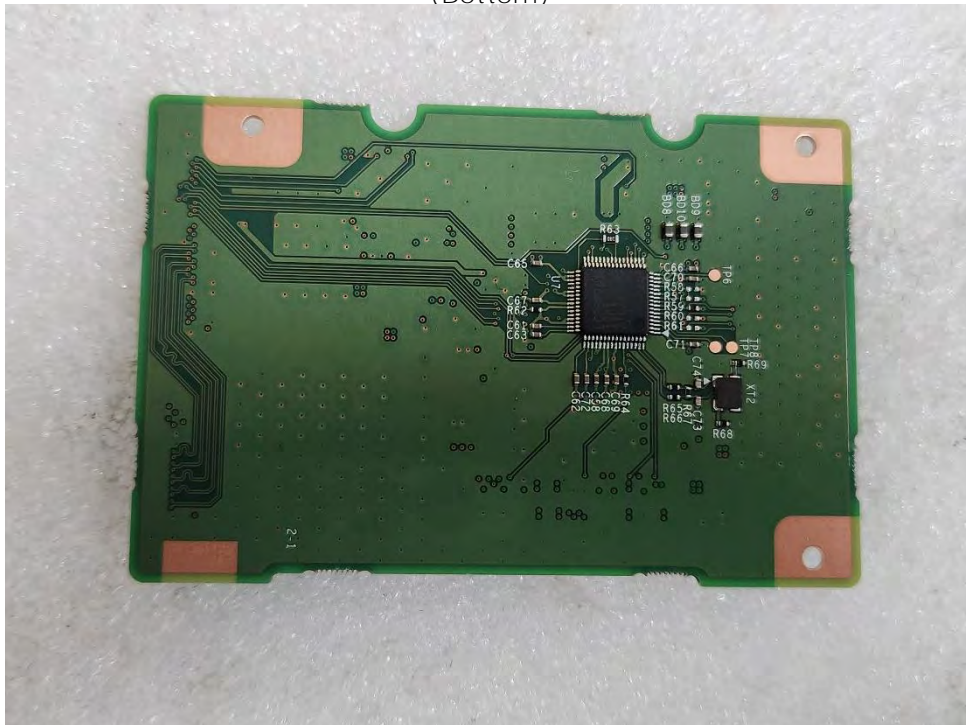
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EUT Internal View – Board 9

(Top)



(Bottom)

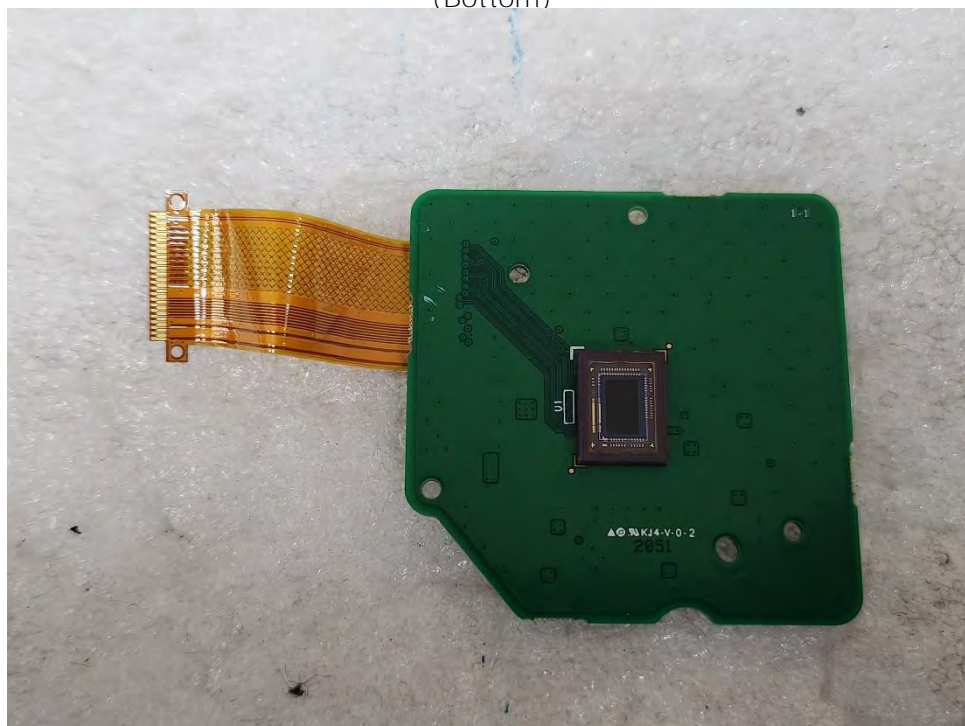


EUT Internal View – Board 10

(Top)



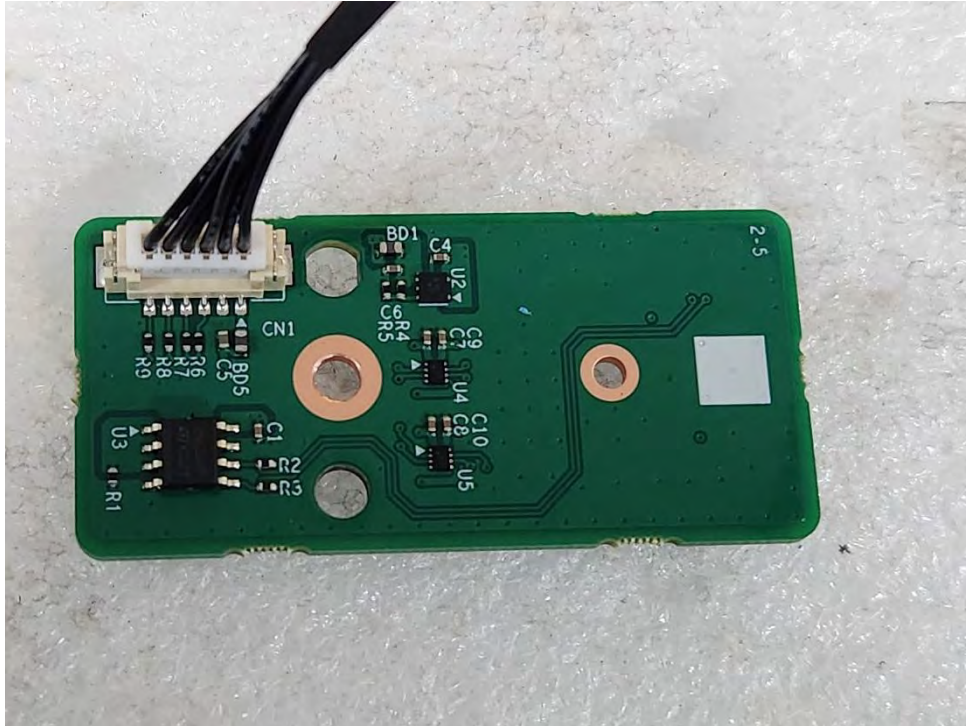
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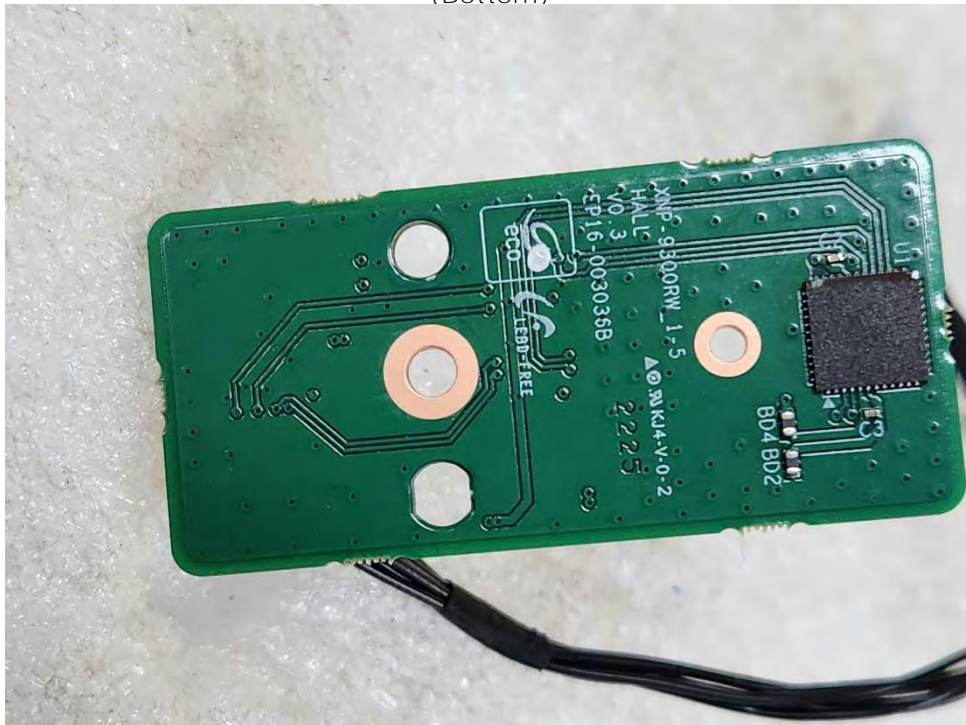
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EUT Internal View - Board 11

(Top)



(Bottom)



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EUT Internal View – Camera

(Top)



(Bottom)



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EUT Internal View – Injector

(Top)



(Bottom)



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EUT Internal View – Fan 1

(Top)



(Bottom)



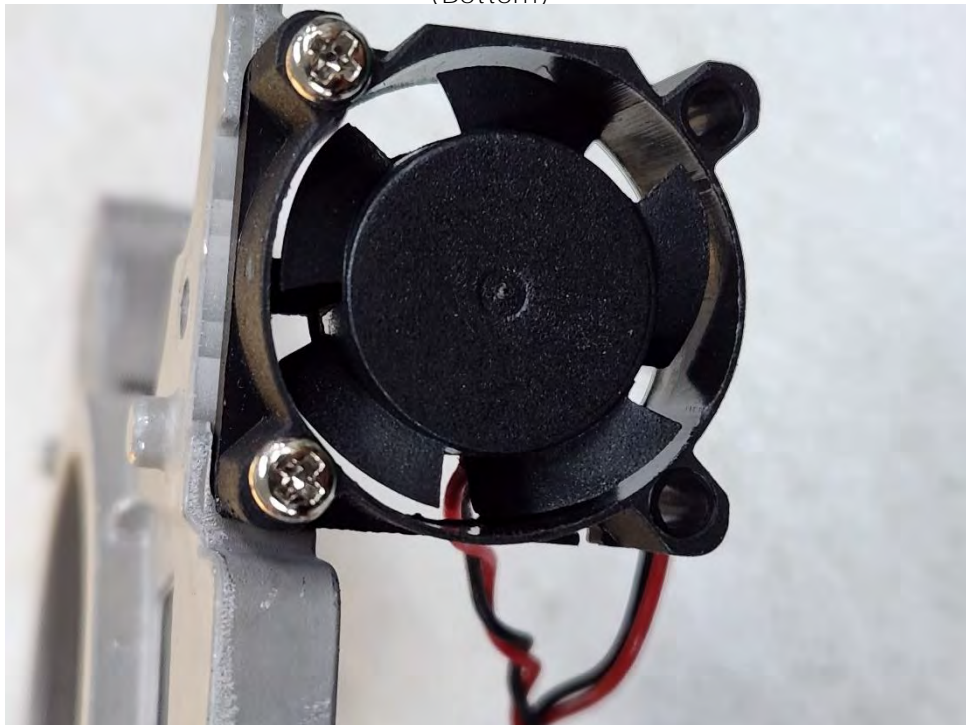
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EUT Internal View – Fan 2

(Top)

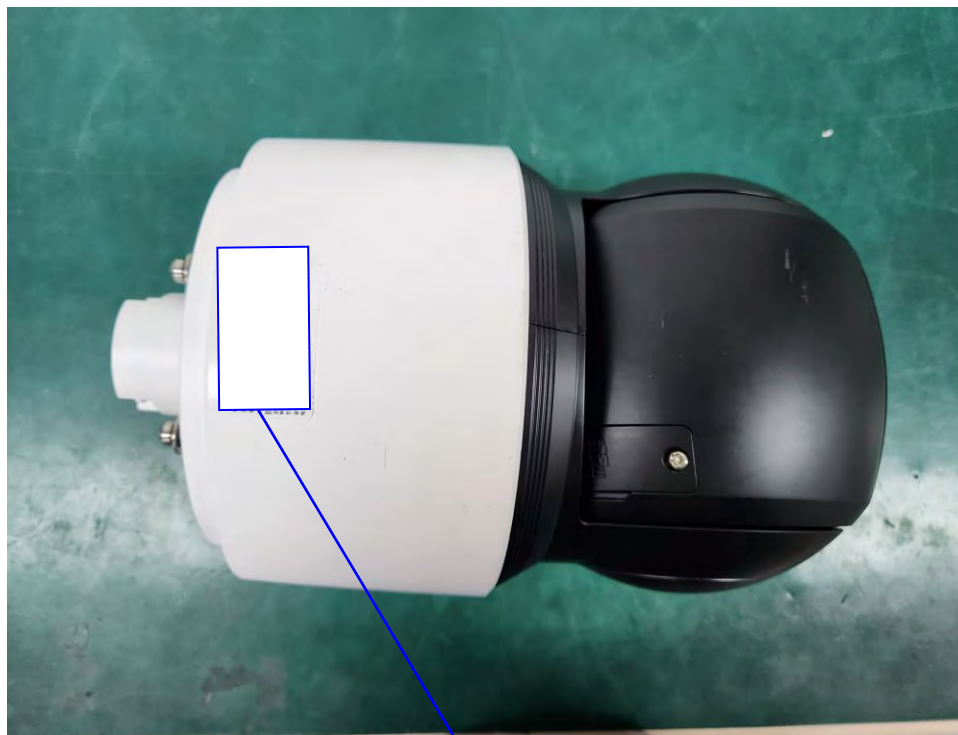


(Bottom)



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