



KES Co., Ltd.

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Report No.:
KES-EM-23T0241
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EMC TEST REPORT For VCCI

Test Report No. : KES-EM-23T0241
Date of Issue : Mar. 16, 2023
Product name : Network Camera
Model/Type No. : XNP-C6403R
Variant Model : -
Applicant : Hanwha Vision Co., Ltd
Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.
Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)
Date of Receipt : Mar. 02, 2023
Test date : Mar. 06, 2023 ~ Mar. 09, 2023
Test Results : ☒ In Compliance ☐ Not in Compliance

Tested by

Jun Soo, Jung
EMC Test Engineer

Reviewed by

Hyo Jin, Kim
EMC Technical Manager

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

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Mar. 16, 2023	KES-EM-23T0241	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/2.8" CMOS
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 60fps/50fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
NETD	None
Pixel Size	None
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)
Video Out	None
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)
Max. Aperture Ratio	F1.6(Wide)~F4.95(Tele)
Angular Field of View	H: 65.66°(Wide)~1.88°(Tele) / V: 39.4°(Wide)~1.09°(Tele)
Min. Object Distance	5m(16.4ft)
Focus Control	Oneshot AF, Focus save
Lens Type	DC auto iris
Mount Type	None
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	None
Pan Range	360° Endless
Pan Speed	Max. 700°/sec, Manual: 0.024°/sec~250°/sec
Tilt Range	110°(-20°~90°)
Tilt Speed	Max. 500°/sec, Manual: 0.024°/sec~250°/sec
Rotate Range	None
Sequence	Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule

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Preset Accuracy	Up to $\pm 0.1^\circ$, Pan/Tilt correction
Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	Support
Day & Night	Auto(ICR)/Color/BW/Schedule
Backlight Compensation	BLC, HLC, WDR, SSDR
Wide Dynamic Range	Extreme WDR(150dB)
Digital Noise Reduction	SSNRV
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, Quadrangle Support - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Manual / Max
White Balance	ATW /Narrow ATW /AWC /Manual /Indoor /Outdoor /Mercury /Sodium
LDC	None
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Digital PTZ	None
Video Rotation	Flip, Mirror
Analytics	Classified object type : Person/Face/Vehicle/License plate Attributes : Vehicle(Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Motion detection, Tampering, Fog detection, Shock detection, Virtual area(Appear/Disappear) * Audio detection, Sound classification(with NW I/O Box)
Business Intelligence	None
Serial Interface	None
Alarm I/O	None

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Alarm Triggers	Analytics, Network disconnect * Alarm input(with NW I/O Box)
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers PTZ Preset Handover * Alarm output(with NW I/O Box)
Audio Streaming	None
Audio In	None
Audio Out	None
IR Viewable Length	200m(656.17ft), Wise IR
IR Illuminator (Optional)	None
IR Radiation angle	None
IR LED	None
IR Wavelength	None
IR Operation	None
Water Removal	Support(Spinning dry)
Auto Tracking	Object auto tracking(Person/Vehicle), Target lock tracking
Coaxial Protocol	None
Color Palettes	None
Radiometry	
Temperature Detect Range	None
Temperature Accuracy	None
Temperature Detection	None
Additional	None
Network	
Ethernet	Metal shielded RJ-45(10/100BASE-T)
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG
Audio Compression	None
Smart Codec	Manual(5ea area), WiseStream II
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control

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Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast (128 user) Multiple streaming(Up to 10 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, SRTP, NTCIP, MQTT
SIP support (VoIP, Peer-to-peer, SIP/PBX integration)	None
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP) Device certificate(Hanwha Techwin Root CA)
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 2slot 1TB
Memory	4GB RAM, 512MB Flash
Environmental & Electrical	
Operating Temperature / Humidity	-40°C~+50°C(-40°F ~ +122°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)
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / 0~90% RH
Certification	IP66, IK10, NEMA4X, NEMA-TS 2(2.2.8, 2.2.9)
Input Voltage	HPoE(IEEE802.3bt, Class6, Type3, Injector included)

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Power Consumption	Typical 24W, Max 40W
Mechanical	
Color / Material	Body : White / Aluminum Head : Black / Polycarbonate Hard-coated dome
RAL Code	White: RAL9003 / Black: RAL9005
Product Dimensions / Weight	ø158x293.3mm(6.22x11.55") / 3.2Kg(7.05lb)
Compatible Conduit hole / Gangbox	None
Hanging Mount (Dome)	None
Skin Cover	None
Skin Cover (Dome)	None
Weather Cap (Dome)	None
Power Module	None
Backbox	None
Certifications & Standards	
Network	None
EMC	None
Safety	None
Environment	None
Video	None
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	Wide: 59.5m(195.3ft) / Tele: 2340.4m(7678.4ft)
Observe (63PPM/ 19PPF)	Wide: 23.8m(78.1ft) / Tele: 936.2m(3071.4ft)
Recognize (125PPM/ 38PPF)	Wide: 11.9m(39.1ft) / Tele: 468.1m(1535.7ft)
Identify (250PPM/ 76PPF)	Wide: 6.0m(19.5ft) / Tele: 234.0m(767.8ft)
LPR/ANPR/MMCR	
Speed Description	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

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Lane Coverage	None
Vehicle Recognition	None
Available Countries	None
Wisenet Road AI LPR/ANPR/MMCR	
Solution	None
Speed Description	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

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Network Camera	XNP-C6403R	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
Fiber PoE Injector	PT-PSE106GBR-AH-S	PT2249210405	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

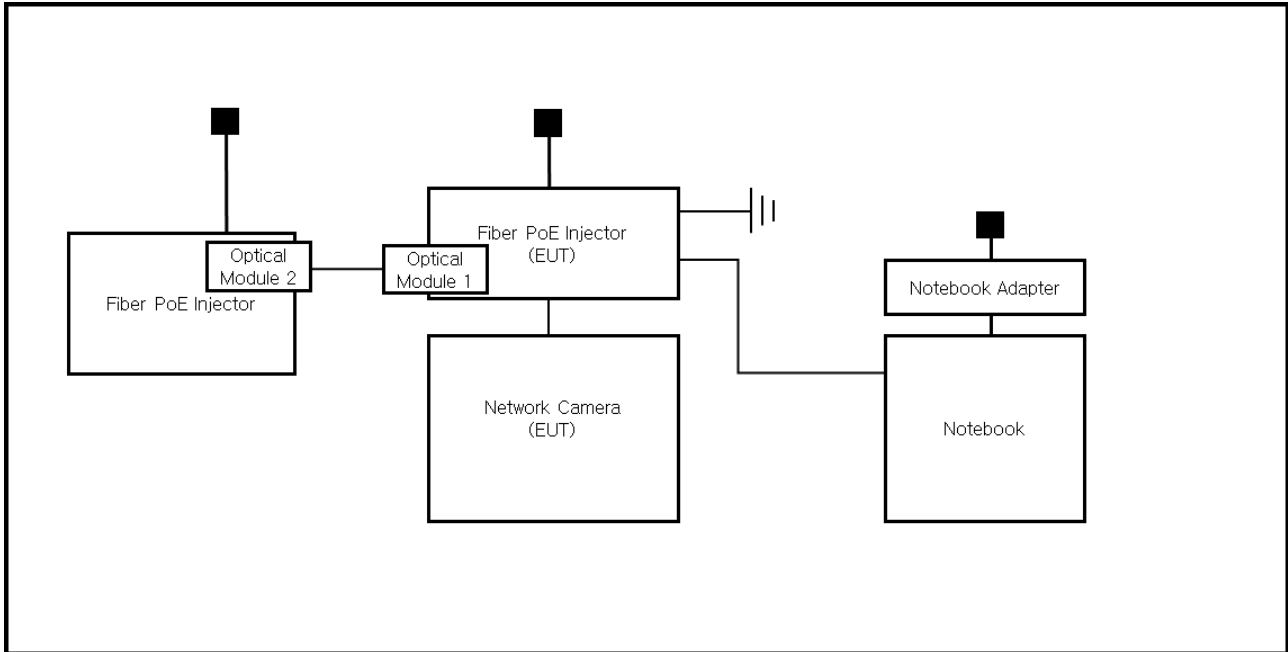
1.7 EUT Operating Mode(s)

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 VIETNAM COMPANY LIMITED

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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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. 07, 2023Test 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: (24,2 ± 0,1) °C
Relative Humidity: (43,2 ± 0,1) % R.H.Frequency Range of Measurement
150 kHz to 30 MHzInstrument Settings
IF Band Width: 9 kHzTest Results
The requirements are:☒ PASS
☐ NOT PASS
☐ NOT APPLICABLERemarks
See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Mar. 07, 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

Test Conditions

Temperature: (24,2 ± 0,1) °C
Relative Humidity: (43,2 ± 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.

2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date
Mar. 06, 2023Test Location
☐ OPEN AREA TEST SITE #2 ☒ SEMI ANECHOIC CHAMBER #4(10m)

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: (23,1 ± 0,1) °C
Relative Humidity: (42,1 ± 0,1) % R.H.Frequency Range of Measurement
30 MHz to 1 GHzInstrument Settings
IF Band Width: 120 kHzTest Results
The requirements are:☒ PASS
☐ NOT PASS
☐ NOT APPLICABLERemarks
See Appendix A for test data.

2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date
Mar. 09, 2023

Test Location
SEMI ANECHOIC CHAMBER #3

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	ESR7	R & S	101190	08, 01, 2023
<input checked="" type="checkbox"/>	PREAMPLIFIER	8449B	AGILENT	3008A01967	03, 06, 2024
<input checked="" type="checkbox"/>	ATTENUATOR	8491A	HP	35496	03, 03, 2024
<input checked="" type="checkbox"/>	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 06, 2024

Test Conditions

Temperature: (24,2 ± 0,1) °C
Relative Humidity: (43,0 ± 0,1) % 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

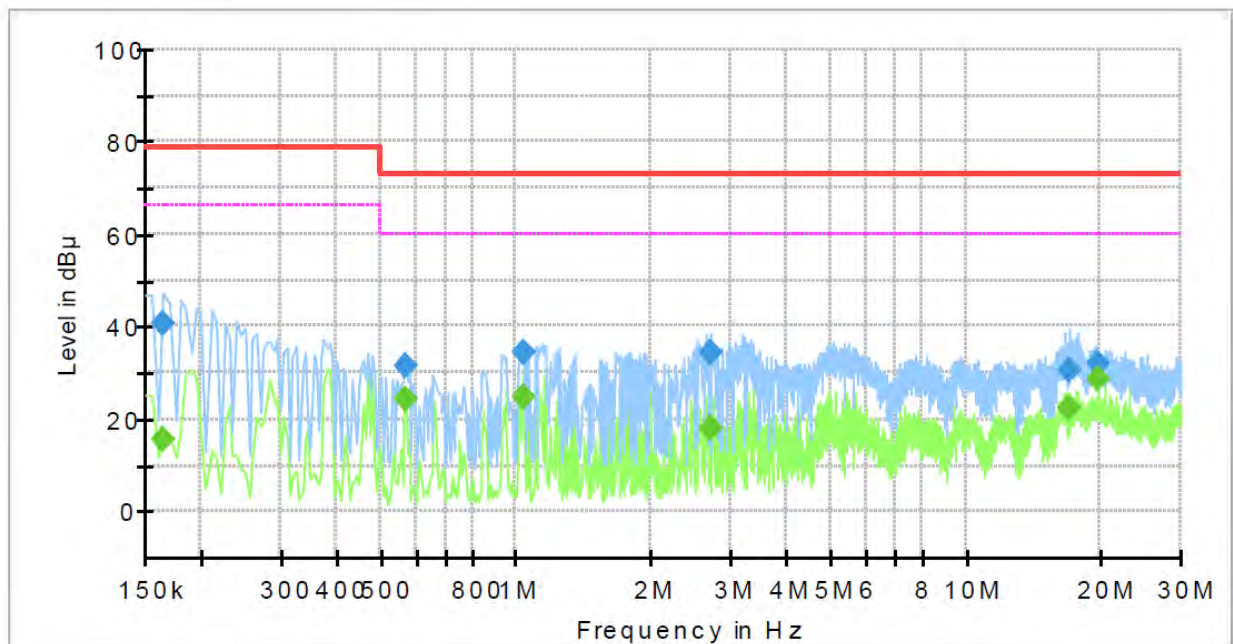
Remarks
See Appendix A for test data.

APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-C6403R
Phase:	L1
Mode:	
Operator Name:	KES



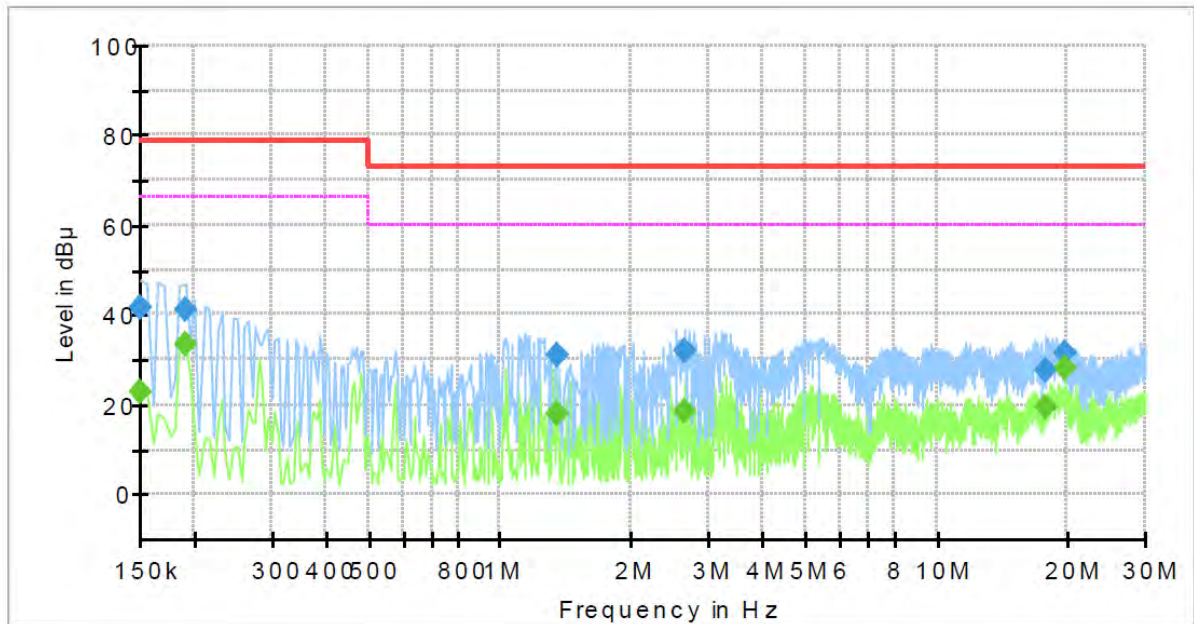
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	15.36	66.00	50.64	1000.0	9.000	L1	19.5
0.165000	40.70	---	79.00	38.30	1000.0	9.000	L1	19.5
0.570000	---	24.19	60.00	35.81	1000.0	9.000	L1	19.8
0.570000	31.49	---	73.00	41.51	1000.0	9.000	L1	19.8
1.040000	---	24.91	60.00	35.09	1000.0	9.000	L1	20.1
1.040000	34.58	---	73.00	38.42	1000.0	9.000	L1	20.1
2.695000	---	18.18	60.00	41.82	1000.0	9.000	L1	20.2
2.695000	34.57	---	73.00	38.43	1000.0	9.000	L1	20.2
17.035000	---	22.17	60.00	37.83	1000.0	9.000	L1	20.0
17.035000	30.52	---	73.00	42.48	1000.0	9.000	L1	20.0
19.710000	---	28.40	60.00	31.60	1000.0	9.000	L1	20.2
19.710000	32.12	---	73.00	40.88	1000.0	9.000	L1	20.2

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNP-C6403R
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)
0.150000	---	22.80	66.00	43.20	1000.0	9.000	N	19.4
0.150000	41.41	---	79.00	37.59	1000.0	9.000	N	19.4
0.190000	---	33.25	66.00	32.75	1000.0	9.000	N	19.5
0.190000	41.10	---	79.00	37.90	1000.0	9.000	N	19.5
1.350000	---	17.99	60.00	42.01	1000.0	9.000	N	20.2
1.350000	31.23	---	73.00	41.77	1000.0	9.000	N	20.2
2.640000	---	18.41	60.00	41.59	1000.0	9.000	N	20.2
2.640000	31.85	---	73.00	41.15	1000.0	9.000	N	20.2
17.760000	---	19.45	60.00	40.55	1000.0	9.000	N	20.1
17.760000	27.67	---	73.00	45.33	1000.0	9.000	N	20.1
19.710000	---	28.08	60.00	31.92	1000.0	9.000	N	20.2
19.710000	31.29	---	73.00	41.71	1000.0	9.000	N	20.2

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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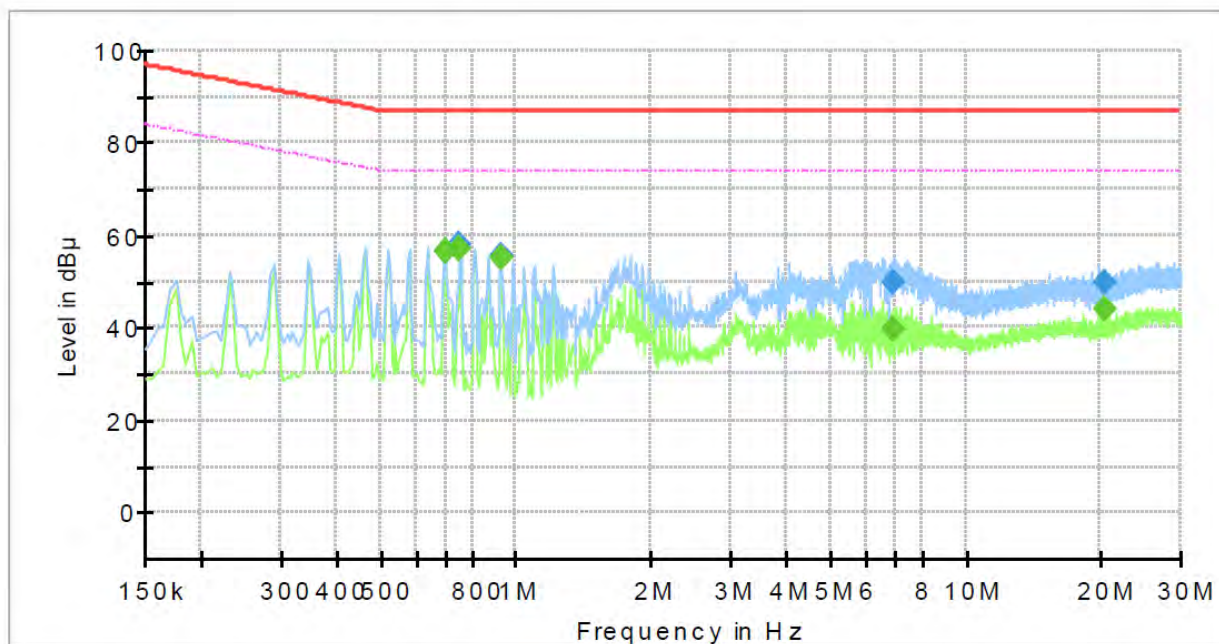
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Conducted Emissions at Telecommunication Ports [100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNP-C6403R
Mode :	LAN(Injector)
Speed :	100 Mbps
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.695000	---	56.41	74.00	17.59	1000.0	9.000	Single Line	19.9
0.695000	56.54	---	87.00	30.46	1000.0	9.000	Single Line	19.9
0.750000	---	57.18	74.00	16.82	1000.0	9.000	Single Line	19.9
0.750000	58.01	---	87.00	28.99	1000.0	9.000	Single Line	19.9
0.925000	---	55.06	74.00	18.94	1000.0	9.000	Single Line	20.0
0.925000	55.63	---	87.00	31.37	1000.0	9.000	Single Line	20.0
6.860000	---	39.89	74.00	34.11	1000.0	9.000	Single Line	19.3
6.860000	49.84	---	87.00	37.16	1000.0	9.000	Single Line	19.3
20.260000	---	44.05	74.00	29.95	1000.0	9.000	Single Line	20.0
20.260000	49.81	---	87.00	37.19	1000.0	9.000	Single Line	20.0

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

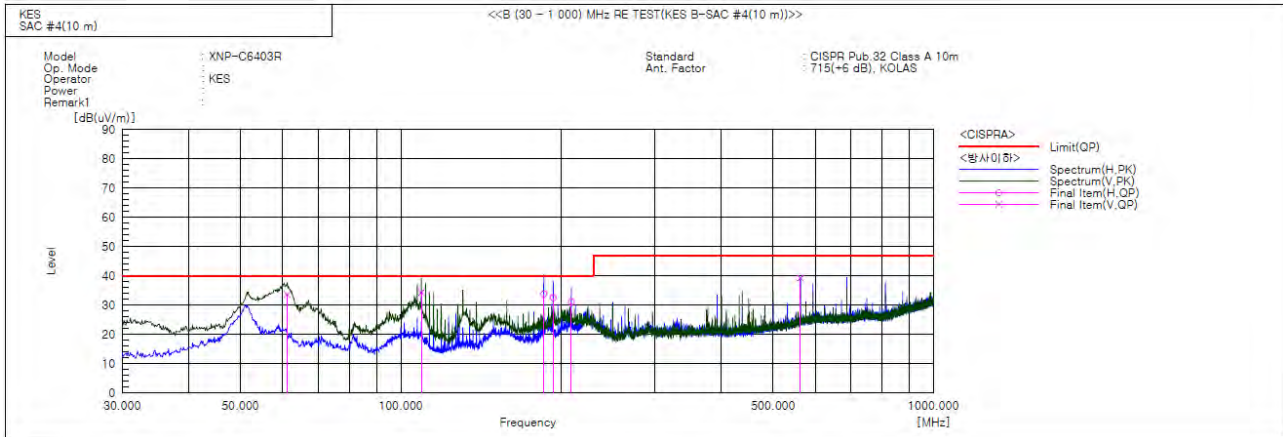
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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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	61.161	V	55.7	-22.1	33.6	40.0	6.4	102.0	288.0	
2	109.298	V	57.1	-22.8	34.3	40.0	5.7	108.0	288.0	
3	185.564	H	56.8	-23.0	33.8	40.0	6.2	400.0	285.0	
4	193.324	H	54.6	-22.1	32.5	40.0	7.5	394.0	53.0	
5	208.965	H	51.7	-20.6	31.1	40.0	8.9	387.0	68.0	
6	562.530	V	48.5	-9.3	39.2	47.0	7.8	102.0	232.0	

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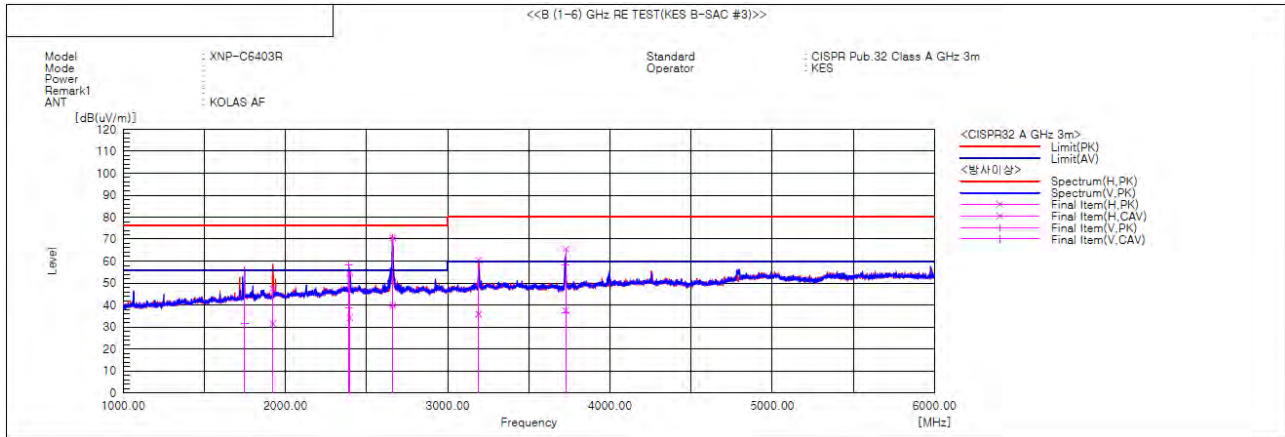
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:

KES-EM-23T0241

Page (23) of (47)

Radiated Electric Field Emissions(Above 1 GHz)



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	1748.383	V	53.5	29.2	2.3	55.8	31.5	76.0	56.0	20.2	24.5	100.0	11.0	
2	1922.229	H	43.9	28.0	3.6	47.5	31.6	76.0	56.0	28.5	24.4	100.0	355.5	
3	2392.446	V	52.5	32.6	6.0	58.5	38.6	76.0	56.0	17.5	17.4	100.0	309.7	
4	2396.871	H	48.7	28.2	6.1	54.8	34.3	76.0	56.0	21.2	21.7	100.0	317.3	
5	2659.046	V	64.2	33.2	6.5	70.7	39.7	76.0	56.0	5.3	16.3	100.0	11.0	
6	2661.372	H	64.1	33.4	6.5	70.6	39.9	76.0	56.0	5.4	16.1	100.0	322.4	
7	3190.992	H	52.4	27.9	8.0	60.4	35.9	80.0	60.0	19.6	24.1	100.0	130.7	
8	3726.144	V	48.6	26.9	9.8	58.4	36.7	80.0	60.0	21.6	23.3	100.0	206.1	
9	3726.573	H	55.7	27.7	9.8	65.5	37.5	80.0	60.0	14.5	22.5	100.0	16.1	

◆ 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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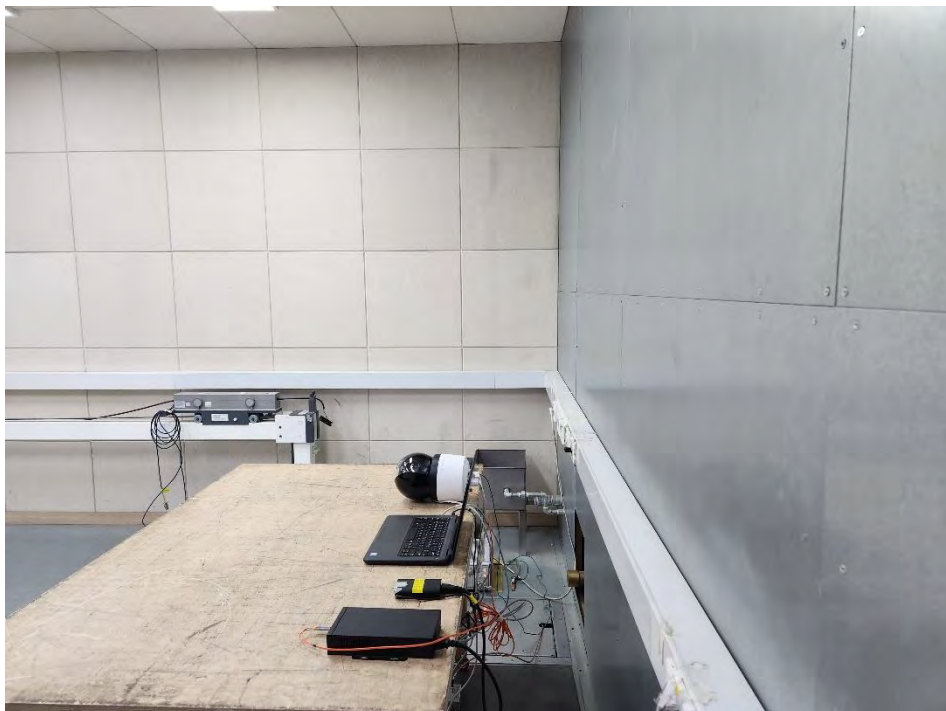
Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



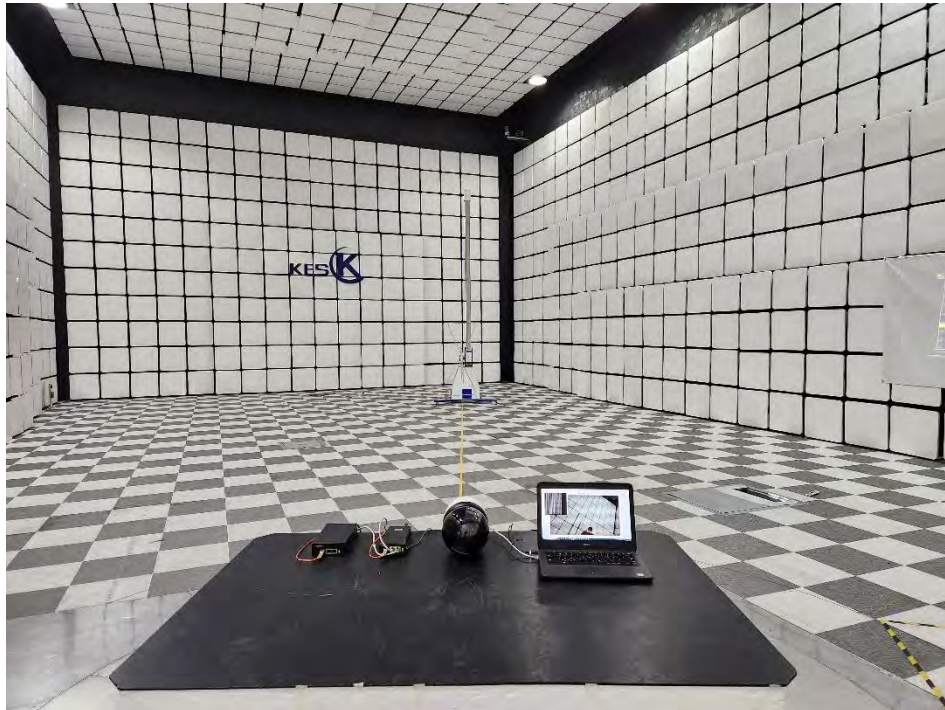
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Conducted Emissions at Telecommunication Ports



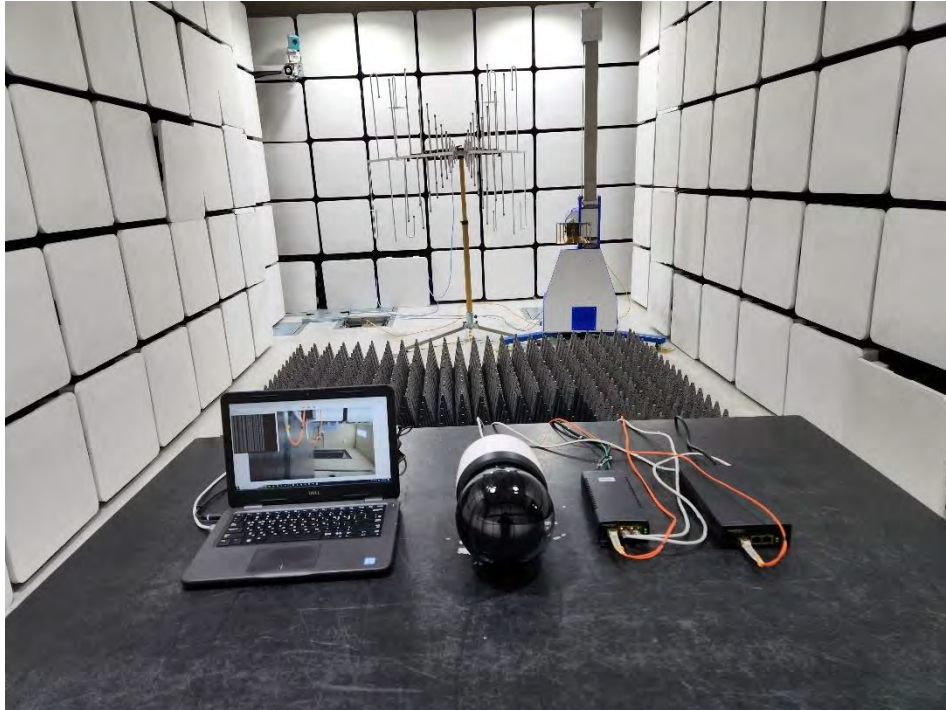
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

(Internal View)

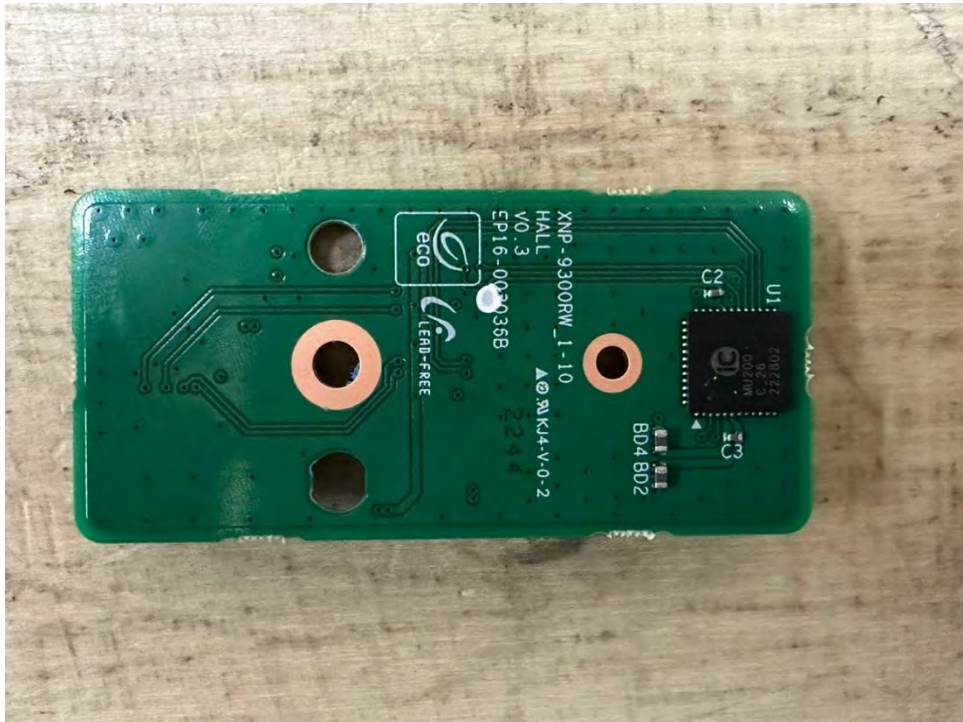


EUT Internal View – Board 1

(Top)



(Bottom)



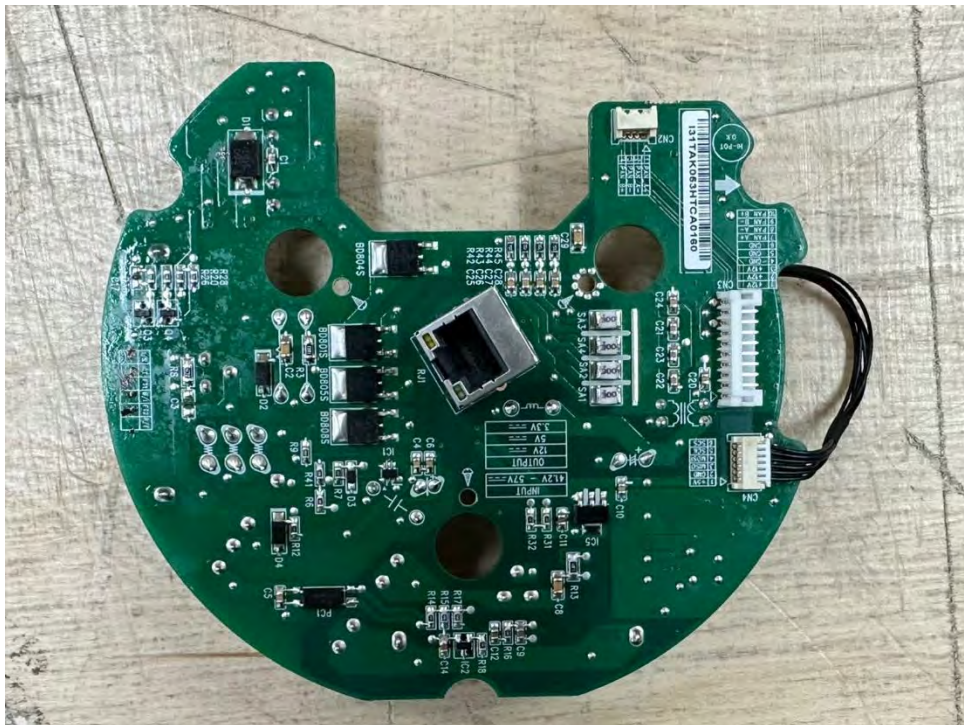
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EUT Internal View – Board 2

(Top)



(Bottom)



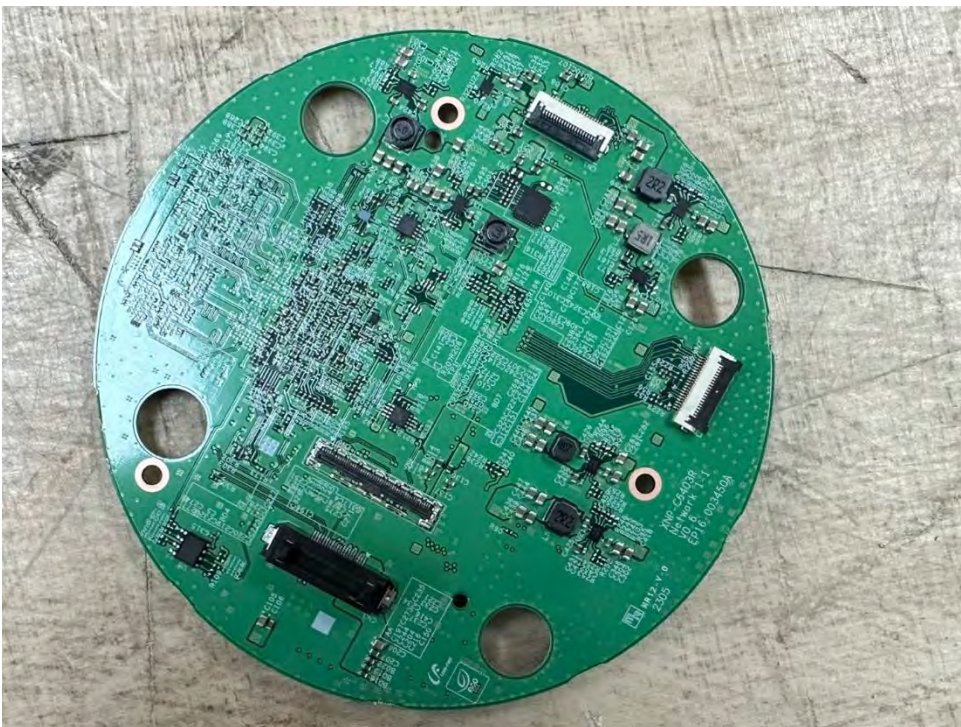
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EUT Internal View – Board 3

(Top)



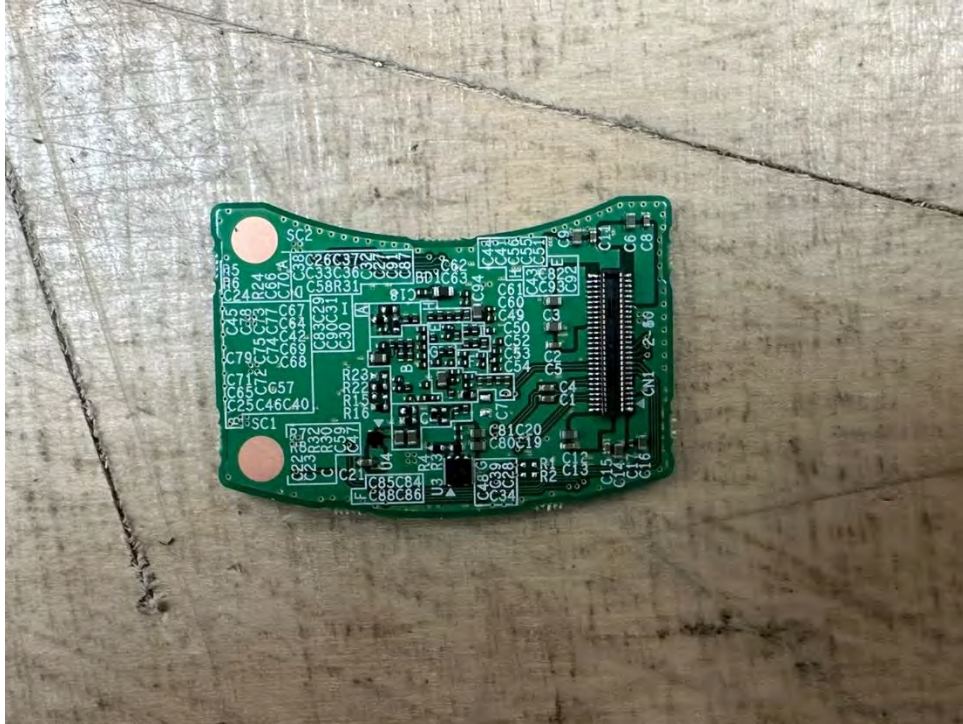
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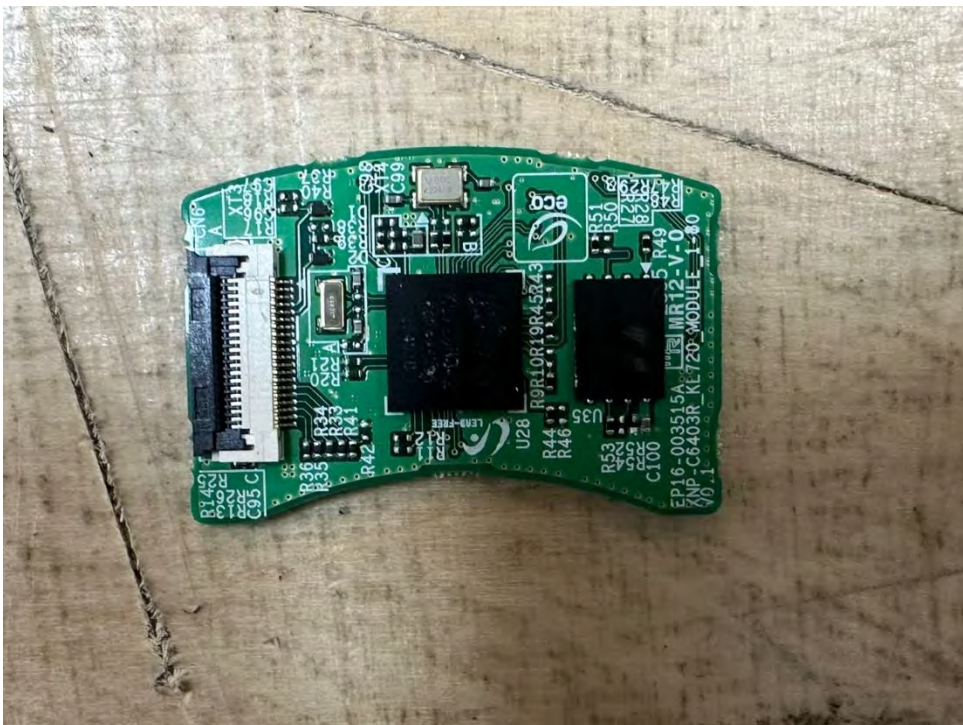
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EUT Internal View – Board 4

(Top)



(Bottom)



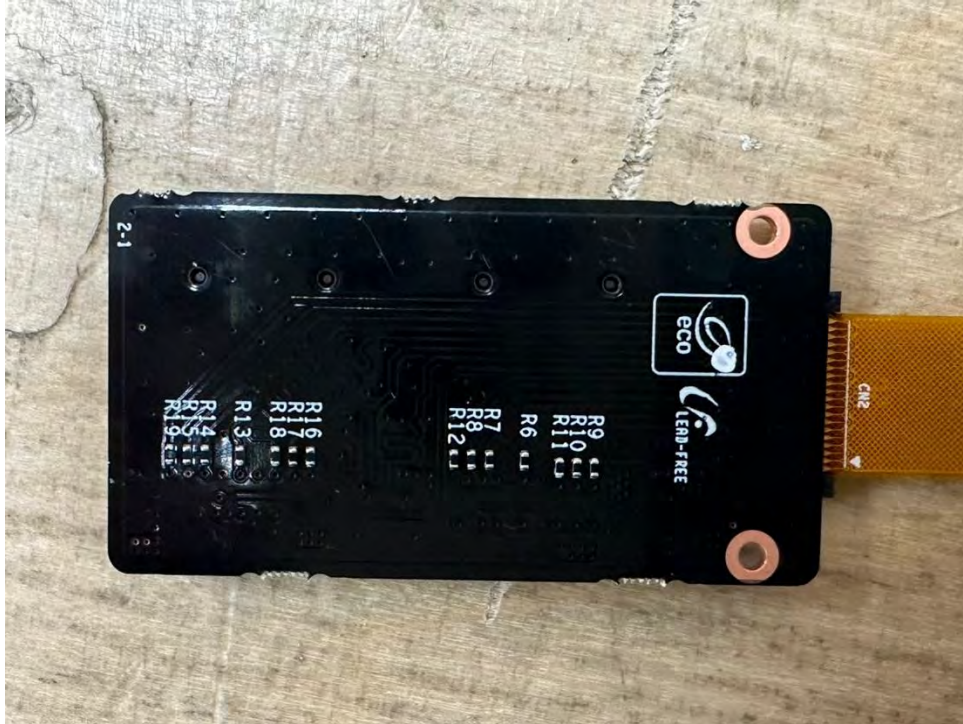
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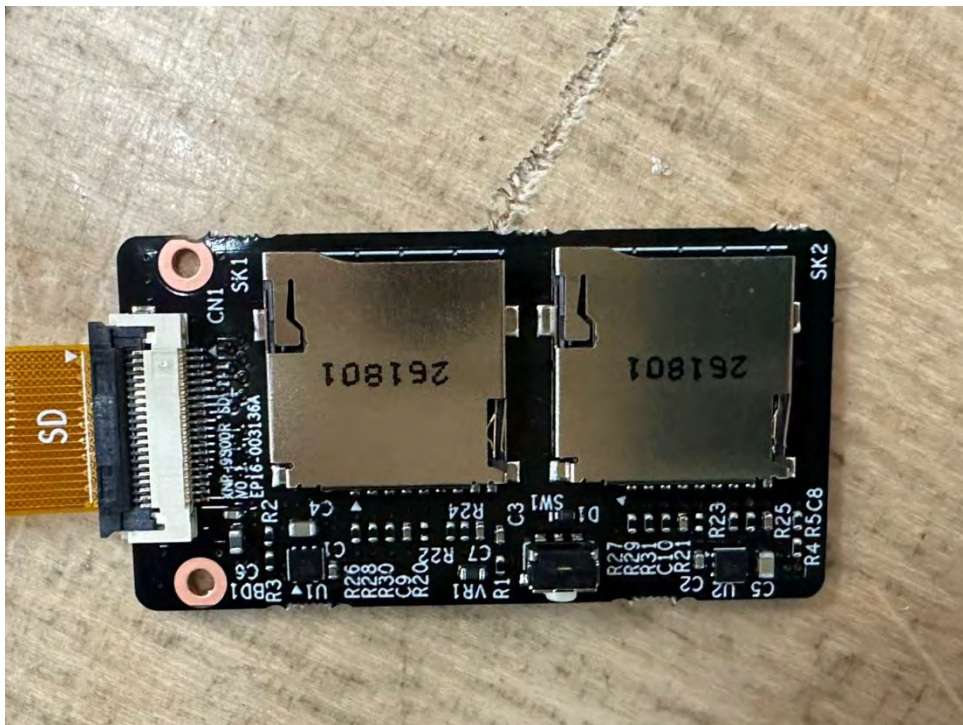
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EUT Internal View – Board 5

(Top)



(Bottom)



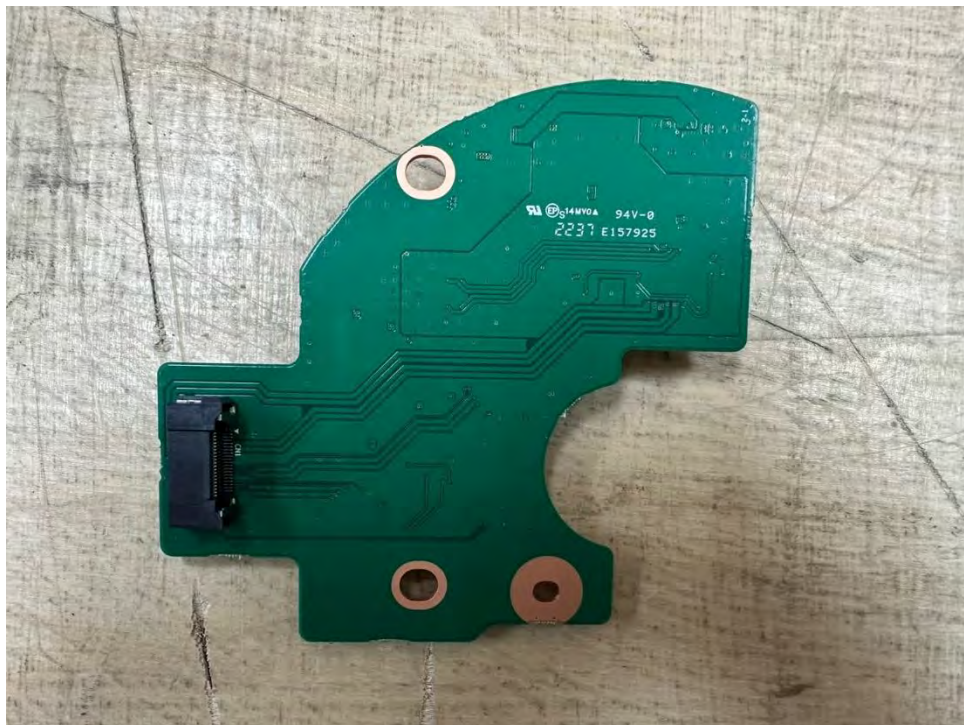
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EUT Internal View – Board 6

(Top)



(Bottom)



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EUT Internal View – Board 7

(Top)



(Bottom)



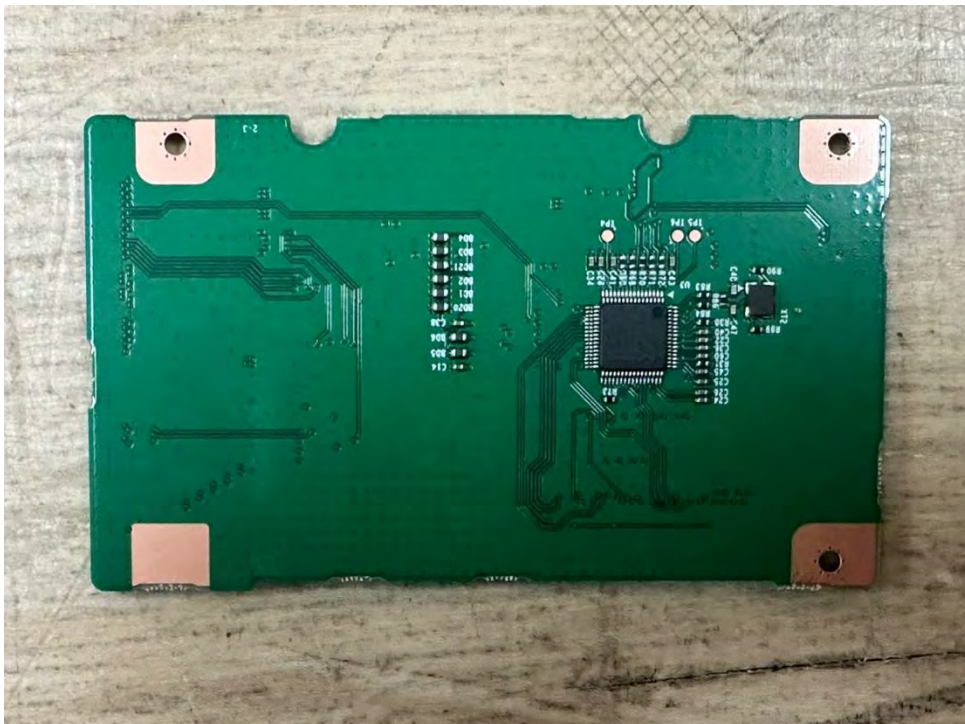
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EUT Internal View – Board 8

(Top)



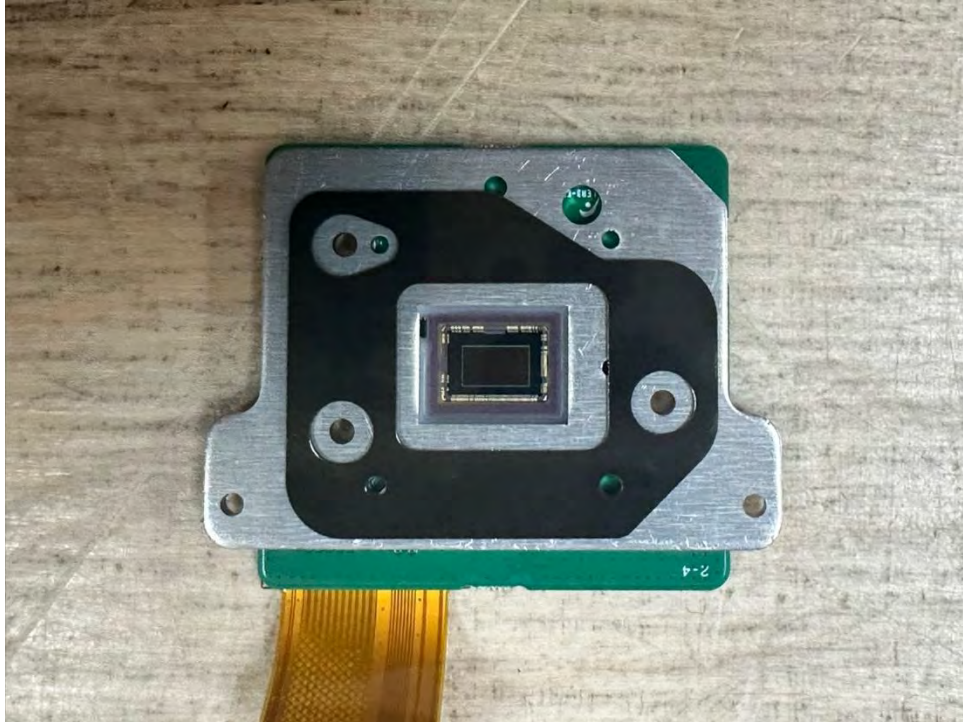
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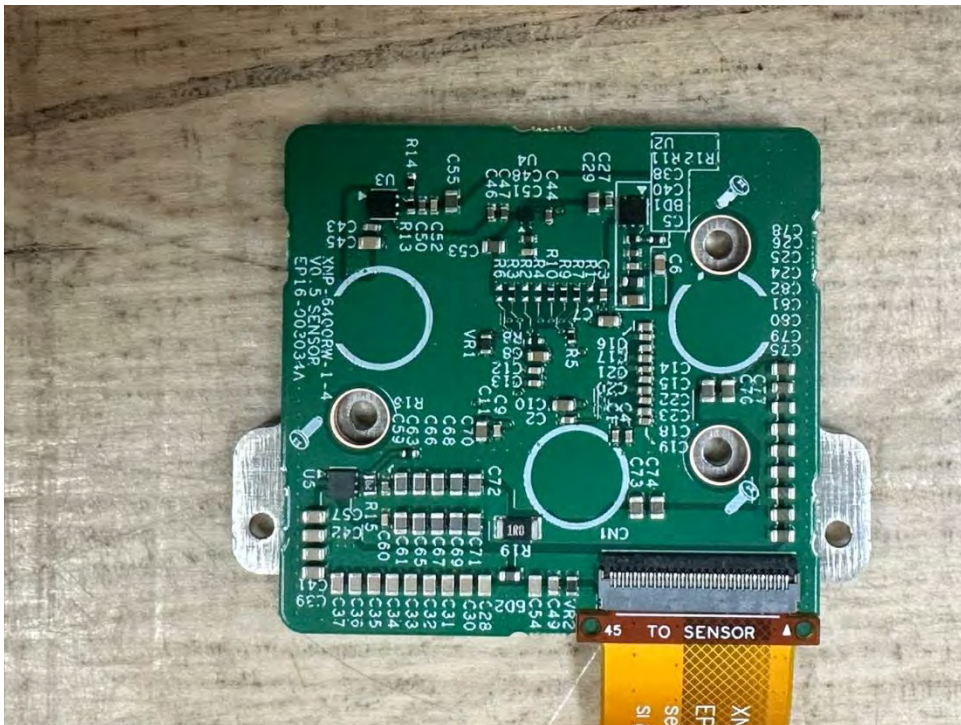
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EUT Internal View – Board 9

(Top)



(Bottom)



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EUT Internal View – Board 10

(Top)



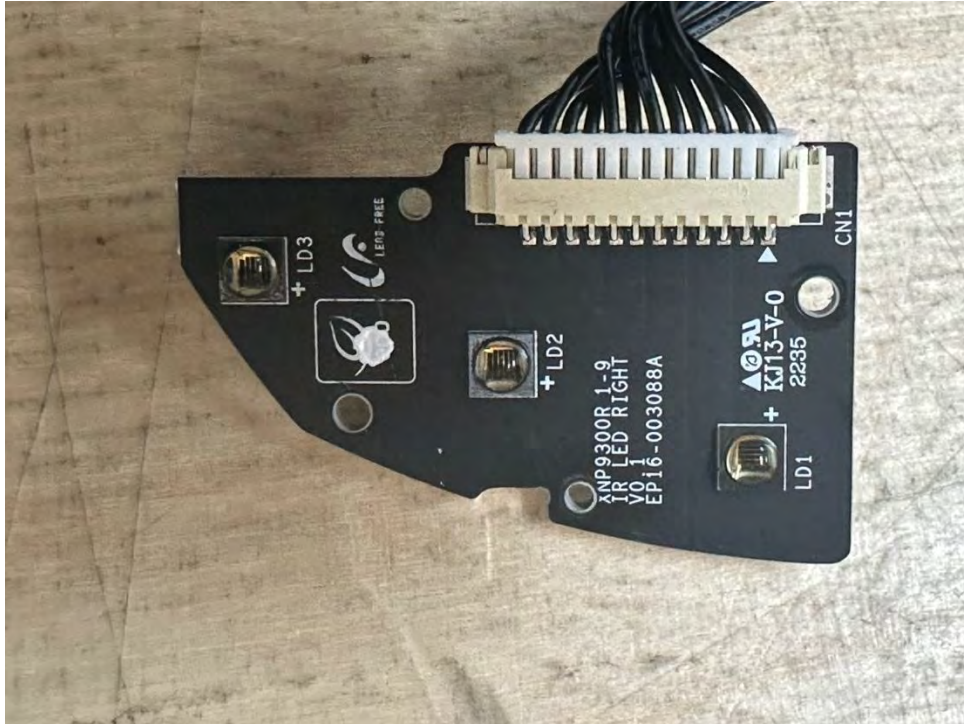
(Bottom)



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EUT Internal View – Board 11

(Top)



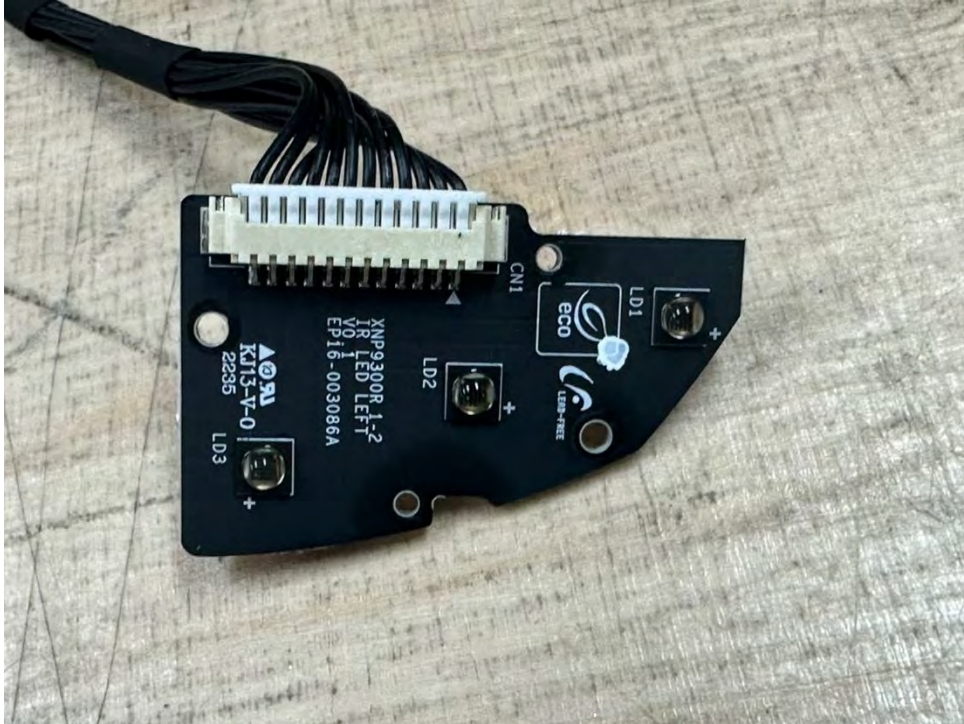
(Bottom)



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EUT Internal View – Board 12

(Top)



(Bottom)



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EUT Internal View – Board 13

(Top)



(Bottom)



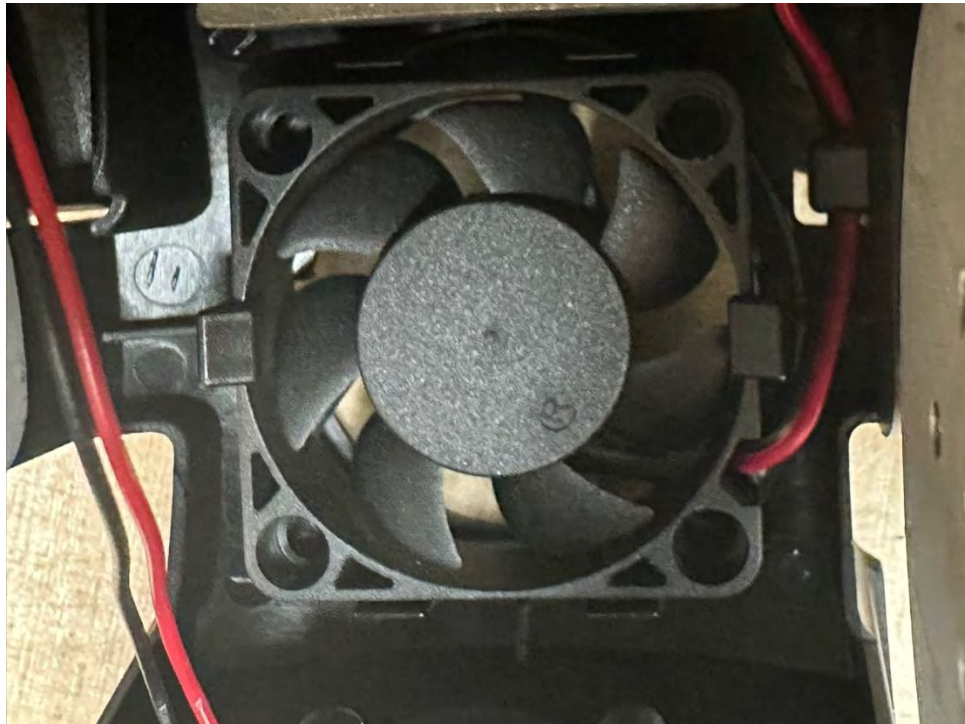
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EUT Internal View – Fan 1

(Top)



(Bottom)



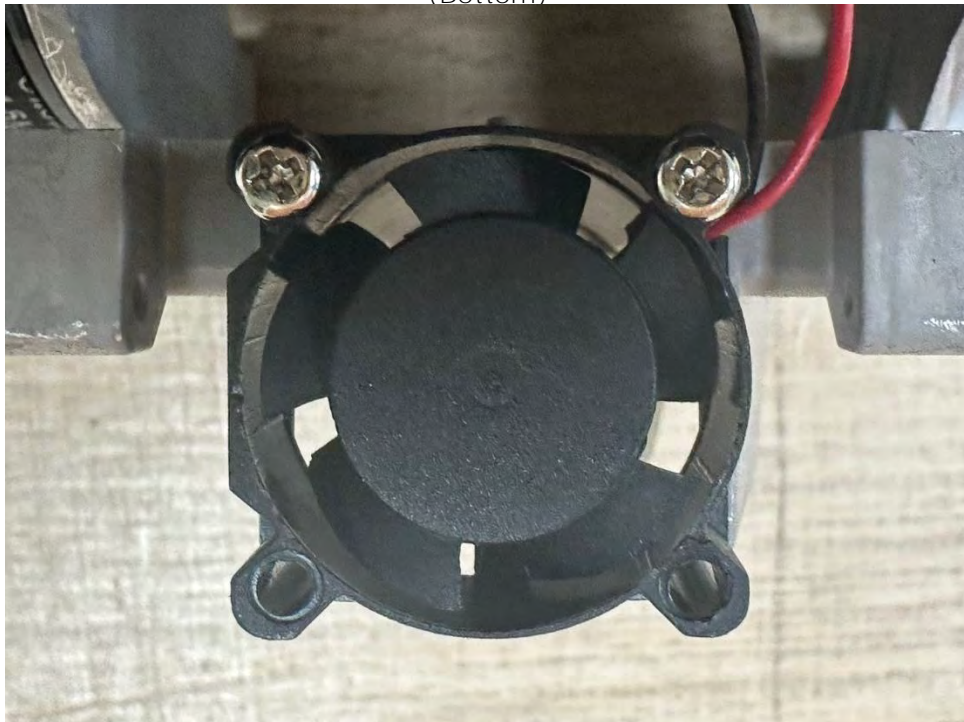
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EUT Internal View – Fan 2

(Top)



(Bottom)



EUT Internal View – Injector

(Top)



(Bottom)



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EUT Internal View – Camera

(Top)



(Bottom)



Label Photographs



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