



EMC TEST REPORT For VCCI

Test Report No. : KES-EM-22T0728-R1
Date of Issue : Feb. 24, 2023
Product name : NETWORK CAMERA
Model/Type No. : XNV-6083RZ
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 : Jul. 29, 2022
Test date : Aug. 03, 2022 ~ Aug. 04, 2022
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dae Hyun, Kim
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.

**KES Co., Ltd.**

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-22T0728-R1

Page (2) of (36)

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Aug. 25, 2022	KES-EM-22T0728	Issued
Feb. 24, 2023	KES-EM-22T0728-R1	Change the Applicant and manufacturer at the request of the customer

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. This document may be altered or revised by KES Co., Ltd. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KES Co., Ltd. will constitute fraud and shall nullify the document.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	5
1.2	Variant Model Differences	5
1.3	Device Modifications	5
1.4	Equipment Under Test.....	5
1.5	Support Equipments	5
1.6	External I/O Cabling	6
1.7	EUT Operating Mode(s)	6
1.8	Configuration.....	7
1.9	Remarks when standards applied	8
1.10	Calibration Details of Equipment Used for Measurement	8
1.11	Test Facility	8
1.12	Laboratory Accreditations and Listings	8
2.0	Test Regulations.....	9
2.1	Conducted Emissions Mains Power Ports.....	10
2.2	Conducted Emissions at Telecommunication Ports.....	11
2.3	Radiated Electric Field Emissions(Below 1 GHz)	12
2.4	Radiated Electric Field Emissions(Above 1 GHz)	13
APPENDIX A – TEST DATA.....		14
Conducted Emissions at Mains Power Ports.....		14
Conducted Emissions at Telecommunication Ports		16
Radiated Electric Field Emissions(Below 1 GHz)		17
Radiated Electric Field Emissions(Above 1 GHz).....		18
Test Setup Photos and Configuration		19
Conducted Emissions at Mains Power Ports.....		19
Conducted Emissions at Telecommunication Ports		20
Radiated Electric Field Emissions(Below 1 GHz)		21
Radiated Electric Field Emissions(Above 1 GHz).....		22
EUT External Photographs		23
EUT Internal Photographs		24



KES Co., Ltd.
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-22T0728-R1
Page (4) of (36)

1.0 General Product Description

Main Specifications of EUT are:

	XNV-6083RZ		
Video		Radiometry	
Imaging Device	1/2.8" progressive CMOS	Temperature Detect Range	None
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240	Temperature Accuracy	None
Max. Frame rate	H.265/H.264: Max. 120fps/100fps(60Hz/50Hz)(WDR off) Max. 60fps/50fps(60Hz/50Hz)(WDR on) MJPEG: Max. 30fps/25fps(60Hz/50Hz)	Temperature Detection	None
NETD	None	Additional	None
Pixel Size	None	Network	
Min. Illumination	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) B/W: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps Color: 0.01Lux(F1.4, 1/60sec, 30IRE) B/W: 0.002Lux(F1.4, 1/60sec, 30IRE), 0Lux(IR LED on), 60/50fps Color: 0.04Lux(F1.4, 1/120sec, 30IRE) B/W: 0.004Lux(F1.4, 1/120sec, 30IRE), 0Lux(IR LED on), 120/100fps	Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)
Video Out	None	Video Compression	H.265/H.264: Main/High, MJPEG
Video Transmission Distance	None	Audio Compression	None
Lens		Smart Codec	Manual(Sea area), WiseStreamII, WiseStreamIII(Based on AI engine)
Focal Length (Zoom Ratio)	2.8~12mm(4.3x) motorized varifocal	Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)	Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Angular Field of View	H: 120°(Wide) ~ 27°(Tele) V: 63°(Wide) ~ 15°(Tele) D: 143°(Wide) ~ 32°(Tele)	Streaming	Multiple streaming(Up to 10 profiles, 3 virtual channel support) Unicast(20 users) / Multicast
Min. Object Distance	0.5m(1.64ft)	Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTSP(TCP), RTSP/RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTCP, UDP Unicast
Focus Control	Simple focus, Manual		
Lens Type	DC auto iris with hall sensor (IR connected)	Security	TM 2.0 (FIPS 140-2 level 2) HTTP(S) Login Authentication Digest Login Authentication IP Address filtering User access log 802.1X Authentication(EAP-TLS, EAP-PEAP, EAP-MSCHAPv2) Device Certificate(Ianwha Techwin Root CA, pre-installed) Secure by default certificate Secure OS/Boot/Storage, Verify firmware forgery
Mount Type	None	SIP support (VoIP, Peer-to-peer, SIP)	None
Optional Lens	None	Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Wisetnet open platform
Pan / Tilt / Rotate		General	
Pan / Tilt / Rotate Range	Remote adjustment(Max. 200cycles) 0°~350° / 0°~85° / 0°~340°	Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Greek, Hungarian
Pan Range	None	Web Viewer	None
Pan Speed	None	Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)
Tilt Range	None	Memory	2GB RAM, 512MB Flash
Tilt Speed	None	Environmental & Electrical	
Rotate Range	None	Operating Temperature / Humidity	50°C ~ +55°C(122°F ~ +131°F) +74°C(165°F)(Max) based on NEMA TS-2(2.7) * Start up should be done at above -30°C 0~95%RH(non-condensing) Humidity control /w AIR vent
Sequence	None	Storage Temperature / Humidity	-50°C ~ +60°C(58°F ~ +140°F) / Less than 90% RH
Preset Accuracy	None	Certification	IP66/IP67/IP68, NEMA4X, IK10+
Operational		Input Voltage	PoE+ (IEEE802.3at, Class4)
Camera Title	Displayed up to 85 characters	Power Consumption	PoE+ Max. 22.5W, typical 11W
Direction Indicator	None	Mechanical	
Day & Night	Auto(ICR)	Color / Material	White / Aluminum
Backlight Compensation	BLC, HLC, WDR, SDR	Hard-coated dome bubble	
Wide Dynamic Range	extremeWDR (150dB)	RAL Code	RAL9003
Digital Noise Reduction	WiseNRIII(Based on AI engine), SSNRV	Product Dimensions / Weight	Ø180x135mm(7.09x5.31"), 2000g(4.41 lb)
Digital Image Stabilization	Support	Compatible Conduit hole / Gangbox	19.1mm(3/4")M25
Defog	Support	Hanging Mount (Dome)	single, double, 4" octagon, 4" square
Motion Detection	Box, Region Polygon zones 32ms, Apoint Quadangle zones	Skin Cover (Dome)	None
Privacy Masking	Color : Gray, Green, Red, Blue, Black, White - Mosaic	Weather Cap (Dome)	include
Gain Control	Off / Max Gain / Manual	Power Module	None
White Balance	ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor	Backbox	None
LOD	Support (Fill/stretch mode)	Certifications & Standards	
Electronic Shutter Speed	Minimum / Maximum / Prefer / Anti flicker (2~1/12,000sec) Auto Prefer shutter control(Based on AI engine)	Network	None
Digital PTZ	Support(preset/group) Rip, Mirror, Halfway view(90°/270°)	EN 50121-4	
Video Rotation	Classified object type : Person/Face/Vehicle/License plate Attributes : VehicleType(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, Virtual area(Appear/Disappear) * Audio detection, Sound classification(with NW I/O box SPM-4210)	ICC 47 CFR 15 Subpart B Class A (CES-3(A)/NMB-3(A)) CE/UKCA - EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3 VCCI C13PR 32 Class A RCM AC/NZS CISPR 32 Class A KS C 9832 Class A, KS C 9835	
Business Intelligence	None	Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
Serial Interface	None	Environment	EN IEC 60000 IEC 60529 IP66/IP67, ISO 20653 IP68/IK, IEC 62262 IK10+ NEMA 250 type 4X
Alarm I/O	None	Video	None
Alarm Triggers	Analytics, Network disconnect, App event, Time schedule * Alarm input(with NW I/O Box SPM-4210)	DORI (EN62676-4 standard)	
Alarm Events	When alarm trigger occurred - File upload(image) ; e-mail/FTP - Notification : e-mail - Recording : SD/SDHC/SDXC or NAS recording at event triggers - Alarm output(with NW I/O box SPM-4210) - Handover(PTZ preset, Send message by HTTP/HTTPS/TCP)	Detect (25PPM/ 8PPF)	Wide: 22.2m(72.74ft) / Tele: 159.9m(524.76ft)
Audio In	None	Observe (63PPM/ 19PPF)	Wide: 8.9m(29.09ft) / Tele: 64.0m(209.90ft)
Audio Out	None	Recognize (125PPM/ 38PPF)	Wide: 4.4m(14.55ft) / Tele: 32.0m(104.95ft)
IR Viewable Length	15m(49.21ft) 30m(98.43ft) based on scene	Identify (250PPM/ 76PPF)	Wide: 2.2m(7.27ft) / Tele: 16.0m(52.48ft)
IR Illuminator (Optional)	None		
Water Removal	None		
Auto Tracking	None		
Coaxial Protocol	None		
Color Palettes	None		

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



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.

☒ PoE

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	XNV-6083RZ	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE Adapter	PT-PSE109GBRO-AH	-	Dongguan PROCET Network Technology Co.,Ltd	-
Notebook	P95G001	8KM8HT2	DELL INC.	-
Notebook Adapter	HA65NM130	-	Chicony Power Technology(Suzhou) Co.,Ltd.	-
Micro SD Card	-	-	Sandisck	-



1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
	RJ-45 (PoE)	PoE Adapter	RJ-45 (PoE)	3.0	S
PoE Adapter	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	1.5	U
Notebook	DC Jack	Notebook Adapter	DC Jack	1.8	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

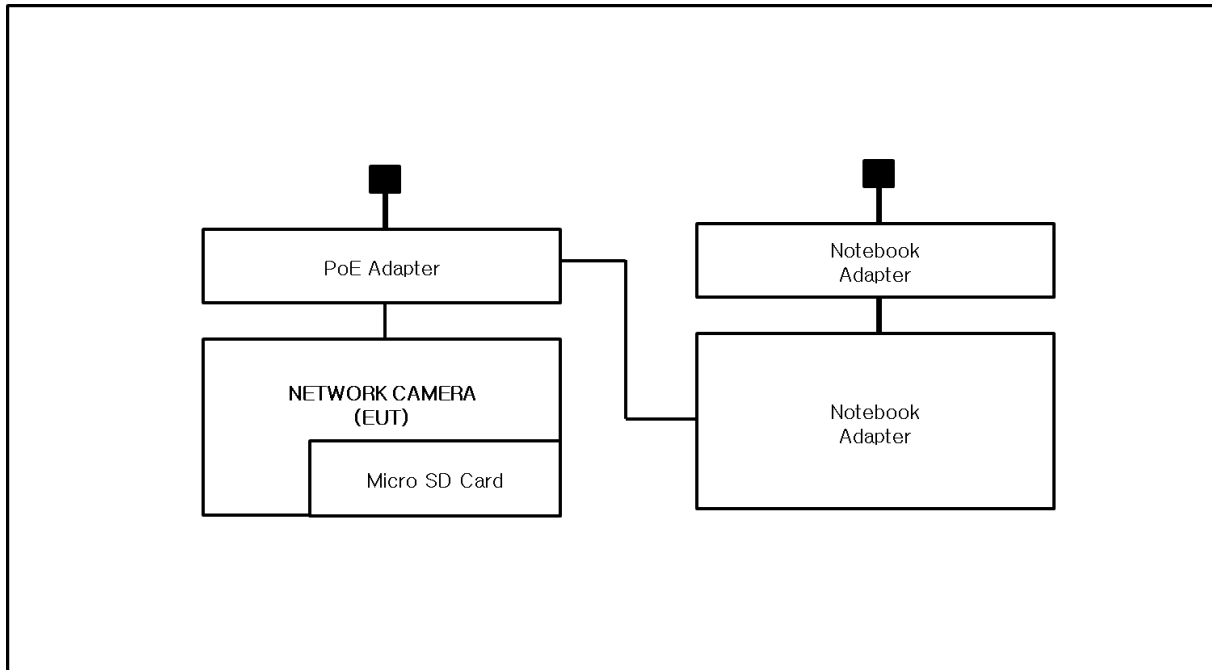
Test Mode	operating
Operating	Check the Normal Operation status. after testing, check if the recording is normally done on the Micro SD Card

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



KES Co., Ltd.

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-22T0728-R1
Page (9) of (36)

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **VCCI-CISPR 32:2016**

☒ Class A

☐ Class B

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



2.1 Conducted Emissions Mains Power Ports

Test Date

N/A

Test Location

Electro wave Shieldroom #6

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	12, 28, 2022
☐	LISN	ENV216	R & S	101787	12, 27, 2022
☐	LISN	ESH2-Z5	R & S	100450	12, 27, 2022
☐	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022

Test Conditions

Temperature: °C
Relative Humidity: % 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

It is not tested apply because it is powered by PoE.

2.2 Conducted Emissions at Telecommunication Ports

Test Date

Aug. 04, 2022

Test Location

Electro wave Shieldroom #6

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	12, 28, 2022
☒	LISN	ENV216	R & S	101787	12, 27, 2022
☒	LISN	ESH2-Z5	R & S	100450	12, 27, 2022
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022
☒	ISN	ISN S8	SCHWARZBECK	ISN-S8-0019	03, 07, 2023
☐	CDN	CDNS502A	TESEQ	40431	12, 27, 2022

Test Conditions

Temperature: (24,6 ± 0,1) °C

Relative Humidity: (45,9 ± 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

Aug. 03, 2022

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	03, 31, 2023
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 08, 2023

Test Conditions

Temperature: (24,5 ± 0,2) °C
Relative Humidity: (46,3 ± 0,2) % 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

Aug. 03, 2022

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, 01, 2023
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	04, 01, 2023
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 03, 2023

Test Conditions

Temperature: (24,6 ± 0,1) °C

Relative Humidity: (45,9 ± 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.



KES Co., Ltd.

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-22T0728-R1
Page (14) of (36)

APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

N/A

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

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-22T0728-R1
Page (15) of (36)

NEUTRAL LINE

N/A

◆ 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))

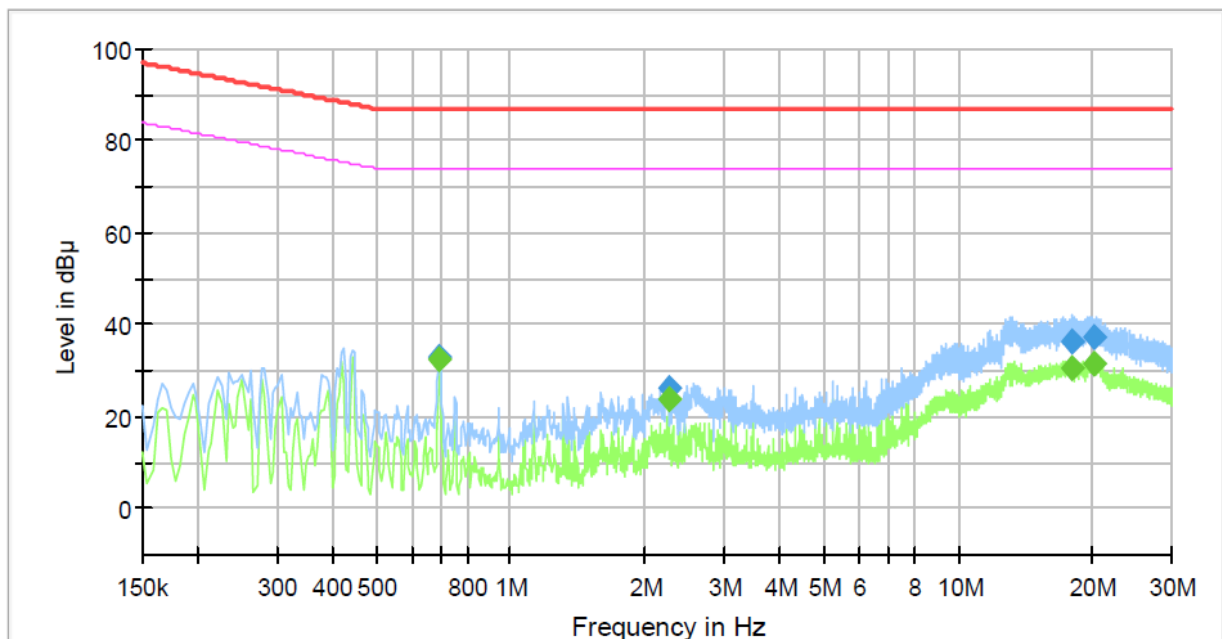
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Conducted Emissions at Telecommunication Ports

[1 000 Mbps]

Common Information

Test Description: Telecommunication Emission
 Model No.: XNV-6083RZ
 Mode :
 Speed : 1 000 Mbps
 Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.694000	---	32.38	74.00	41.62	1000.0	9.000	Single Line	19.8
0.694000	32.94	---	87.00	54.06	1000.0	9.000	Single Line	19.8
2.250000	---	23.89	74.00	50.11	1000.0	9.000	Single Line	20.2
2.250000	26.24	---	87.00	60.76	1000.0	9.000	Single Line	20.2
17.970000	---	30.62	74.00	43.38	1000.0	9.000	Single Line	20.0
17.970000	36.26	---	87.00	50.74	1000.0	9.000	Single Line	20.0
20.118000	---	31.49	74.00	42.51	1000.0	9.000	Single Line	20.2
20.118000	37.07	---	87.00	49.93	1000.0	9.000	Single Line	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 (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))



KES Co., Ltd.

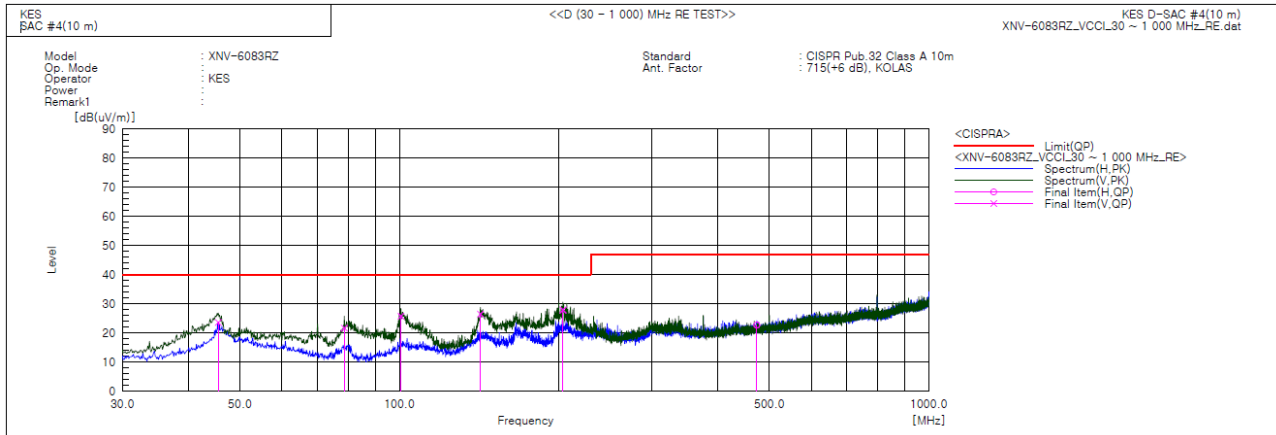
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:

KES-EM-22T0728-R1

Page (17) of (36)

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	45.519	V	45.0	-21.4	23.6	40.0	16.4	103.0	72.0	
2	78.757	V	49.4	-27.7	21.7	40.0	18.3	116.0	143.0	
3	100.673	V	48.3	-22.5	25.8	40.0	14.2	153.0	161.0	
4	142.278	V	52.0	-25.5	26.5	40.0	13.5	100.0	162.0	
5	203.610	V	48.8	-20.9	27.9	40.0	12.1	100.0	90.0	
6	473.169	H	35.0	-12.3	22.7	47.0	24.3	400.0	94.0	

◆ Calculation

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

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

Correction Factor : ANT FACTOR + Cable loss

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

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

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



KES Co., Ltd.

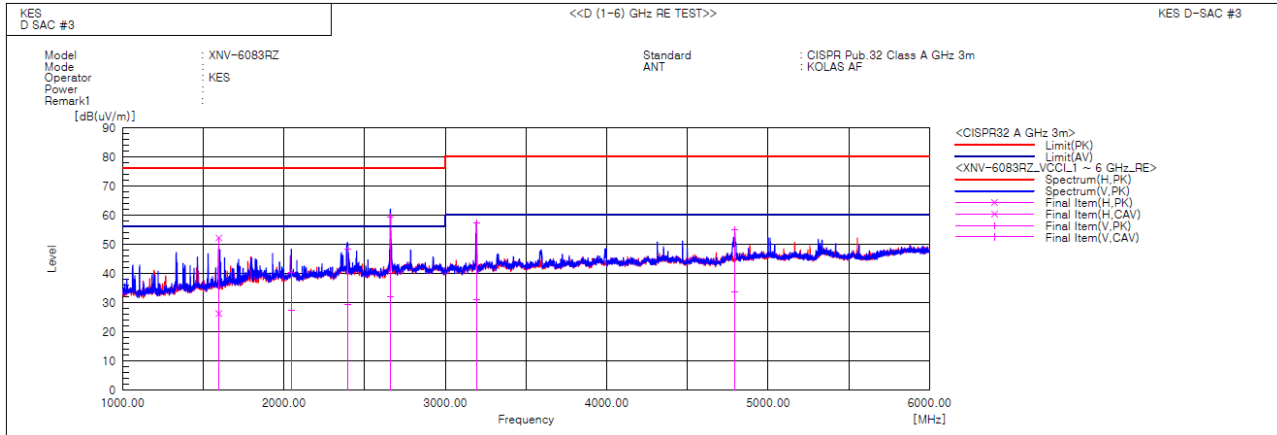
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:

KES-EM-22T0728-R1

Page (18) of (36)

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	1596.220	H	57.2	31.3	-5.0	52.2	26.3	76.0	56.0	23.8	29.7	100.0	266.0	
2	2045.854	V	41.0	28.1	-0.8	40.2	27.3	76.0	56.0	35.8	28.7	100.0	98.5	
3	2393.965	V	47.1	28.2	1.2	48.3	29.4	76.0	56.0	27.7	26.6	100.0	330.1	
4	2660.696	V	58.1	30.8	1.3	59.4	32.1	76.0	56.0	16.6	23.9	100.0	353.7	
5	3193.003	V	54.1	28.1	3.1	57.2	31.2	80.0	60.0	22.8	28.8	100.0	0.9	
6	4794.103	V	47.4	26.0	7.6	55.0	33.6	80.0	60.0	25.0	26.4	100.0	6.6	

◆ Calculation

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

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

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

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

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



KES Co., Ltd.

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-22T0728-R1
Page (19) of (36)

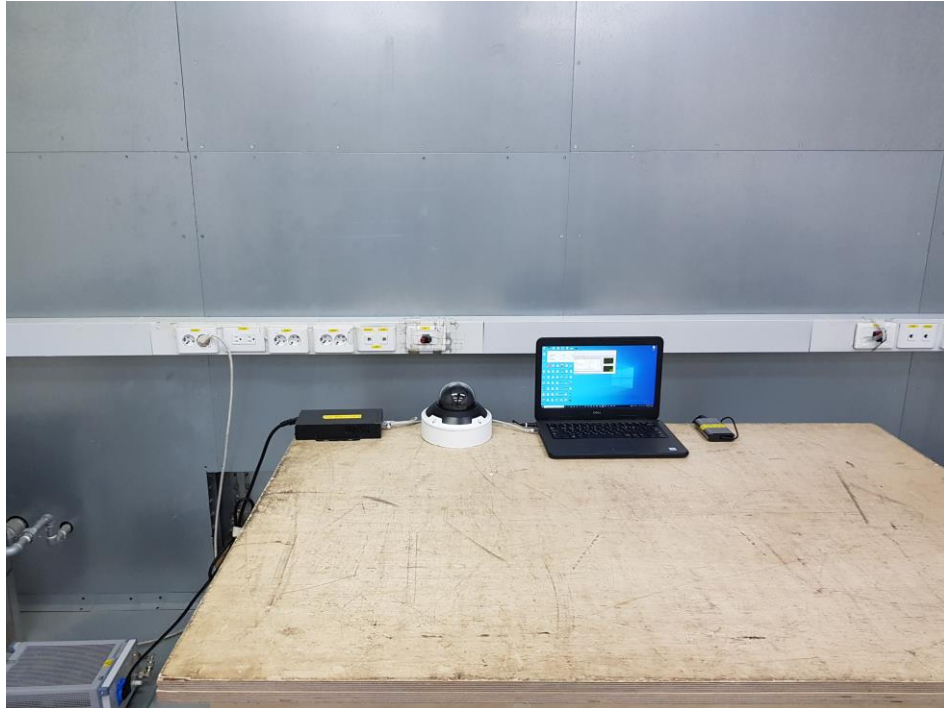
Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

N/A

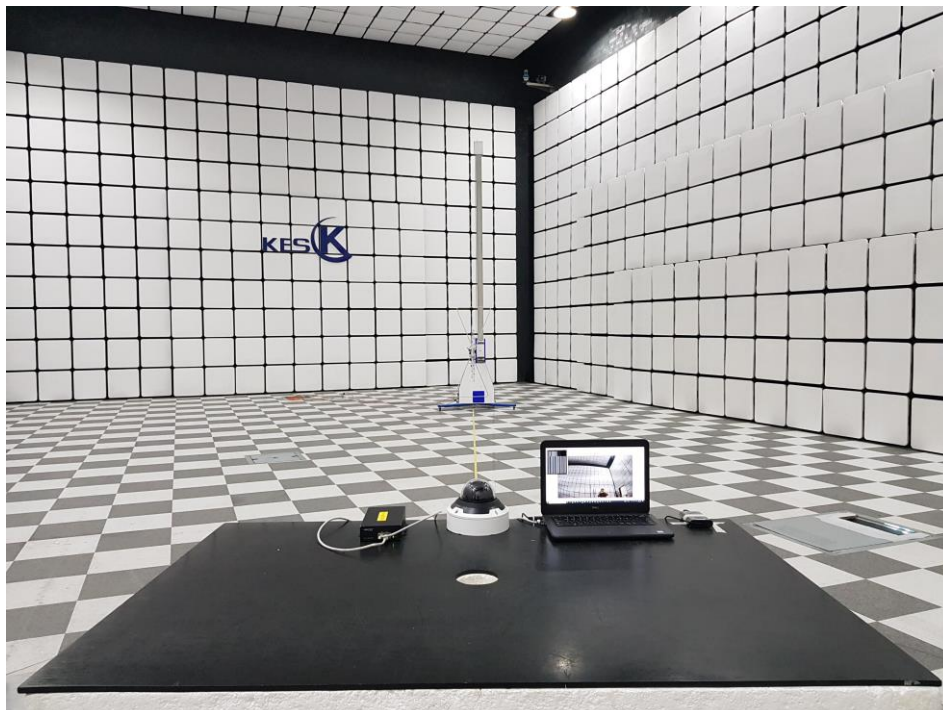
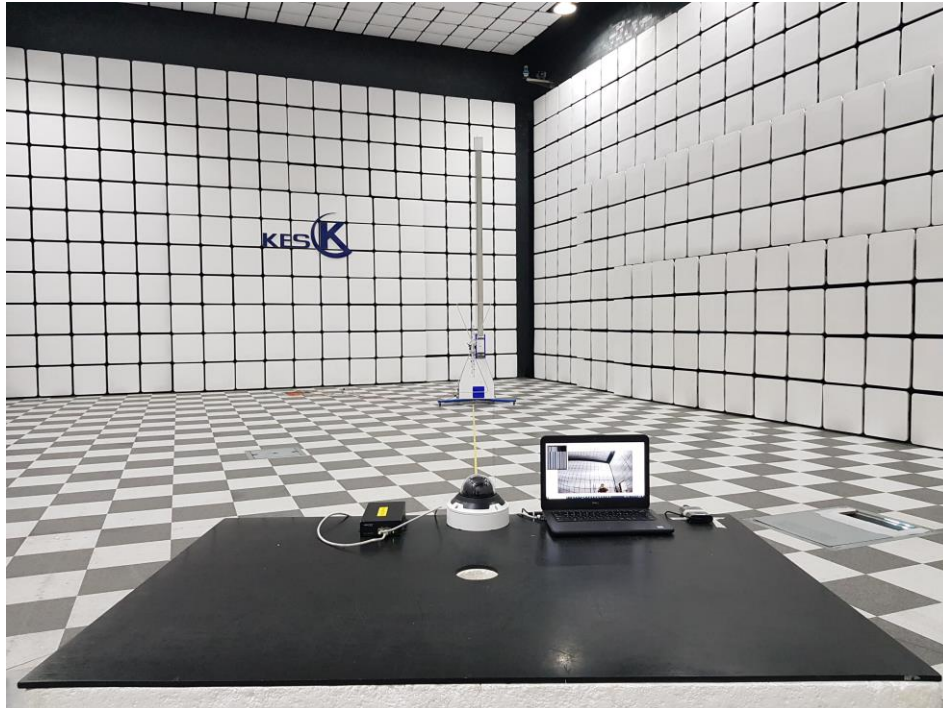
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Conducted Emissions at Telecommunication Ports



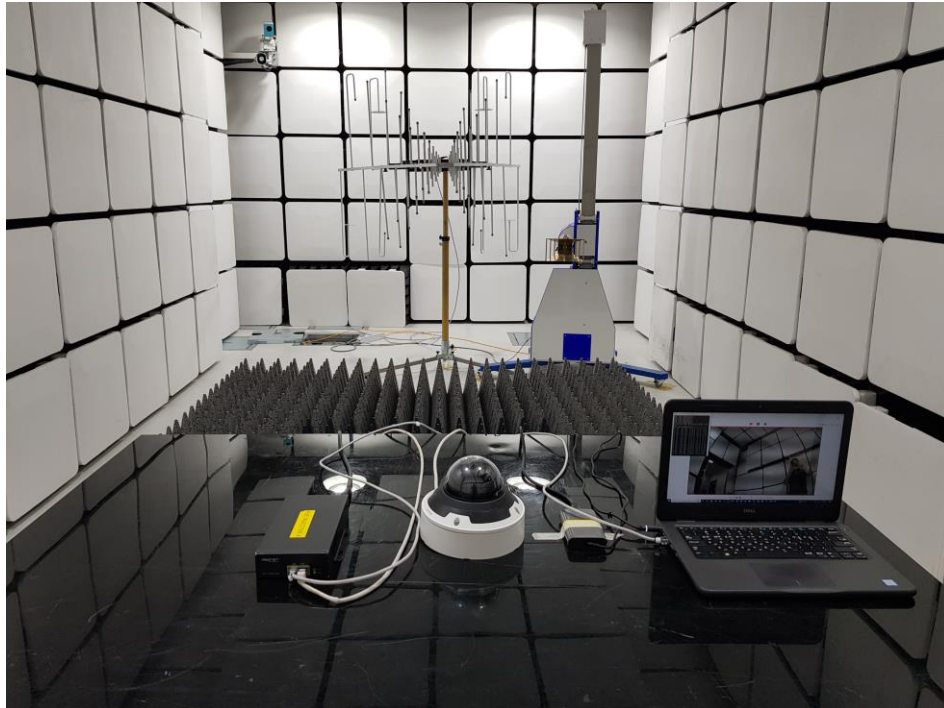
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Radiated Electric Field Emissions(Below 1 GHz)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Radiated Electric Field Emissions(Above 1 GHz)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT External Photographs

(Top)



(Bottom)



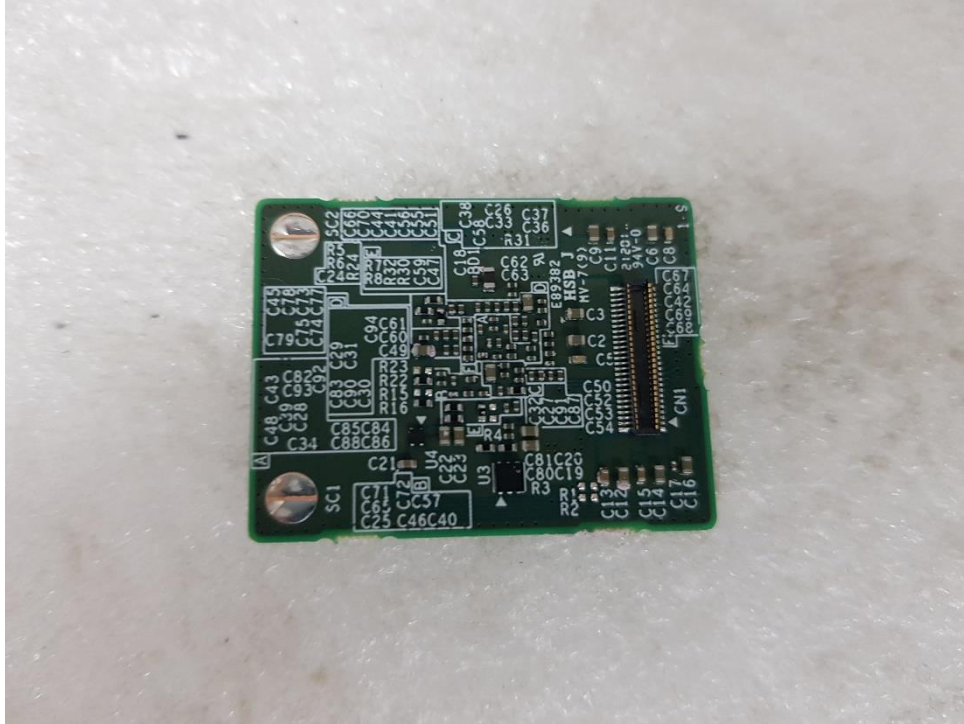
EUT Internal Photographs

(Internal View)



EUT Internal View – Board 1

(Top)



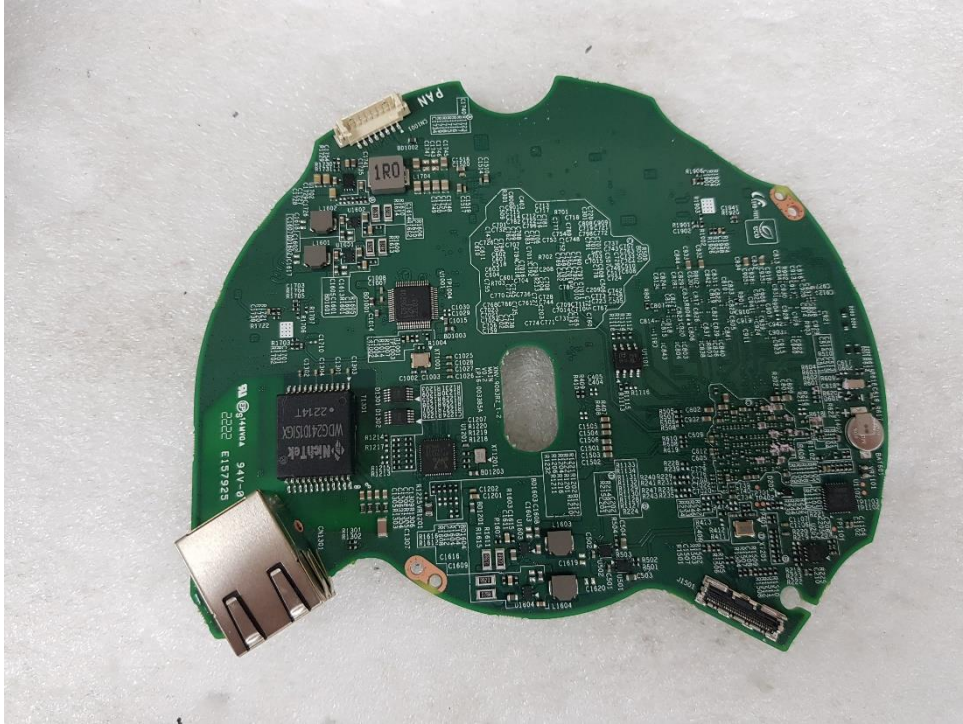
(Bottom)



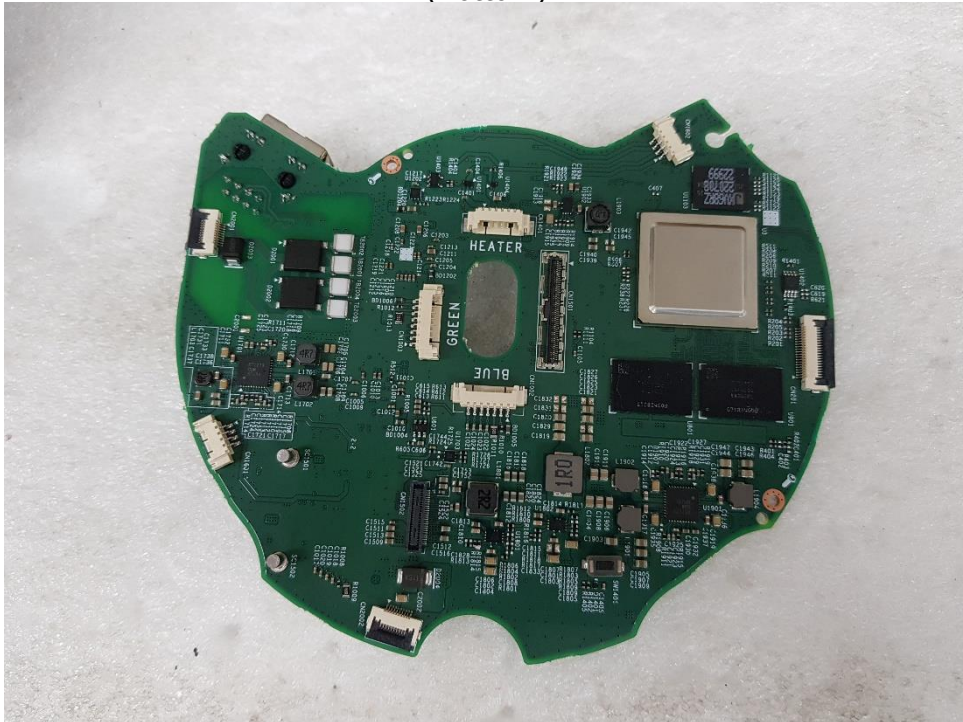
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 2

(Top)



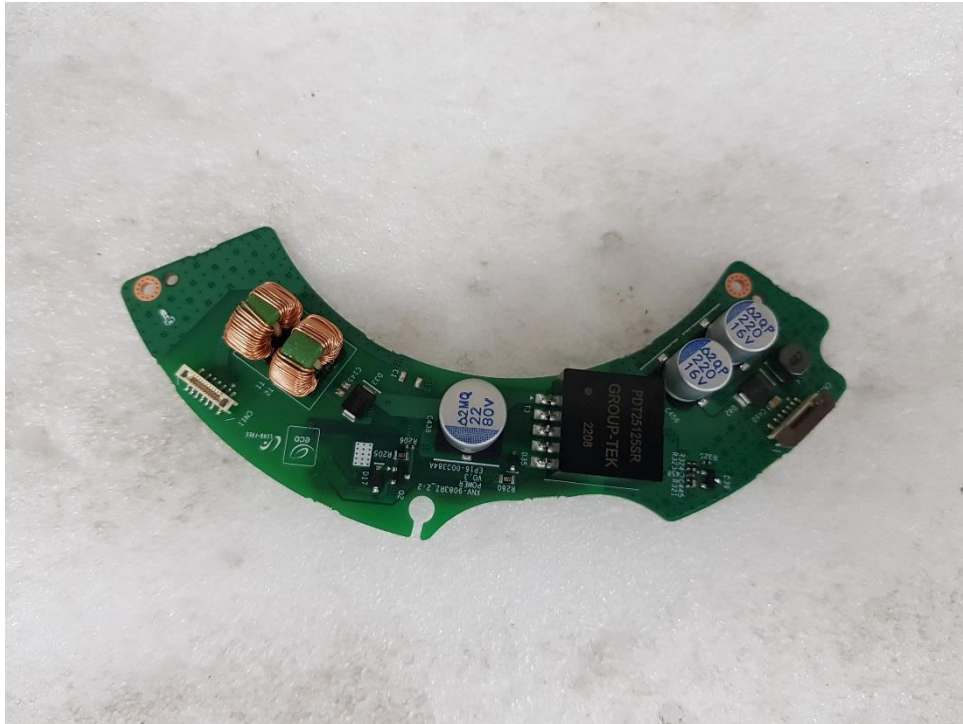
(Bottom)



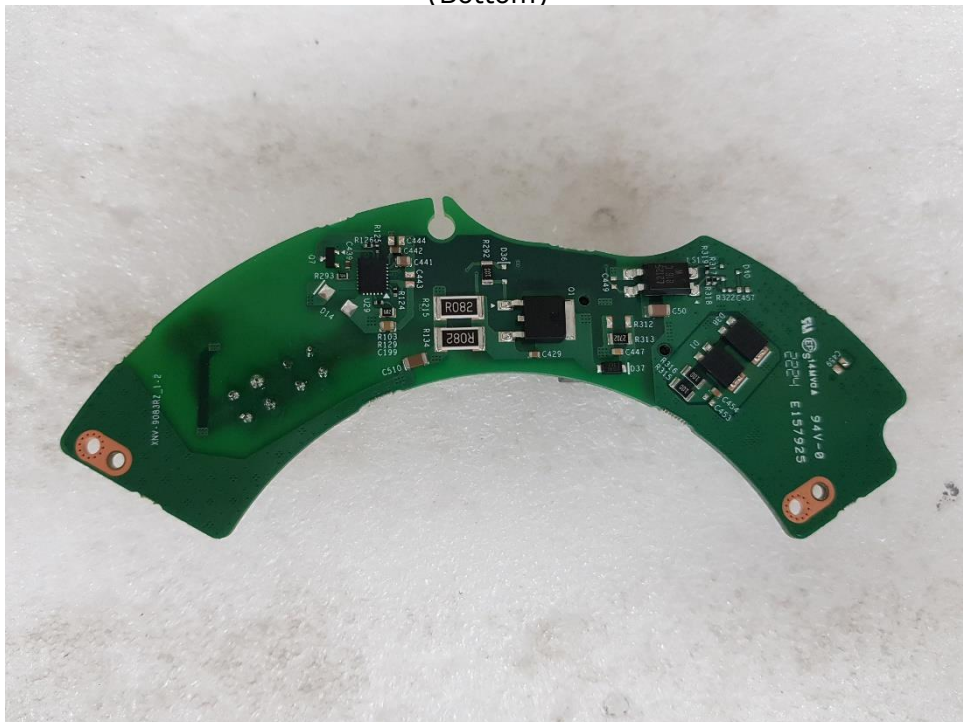
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 3

(Top)



(Bottom)



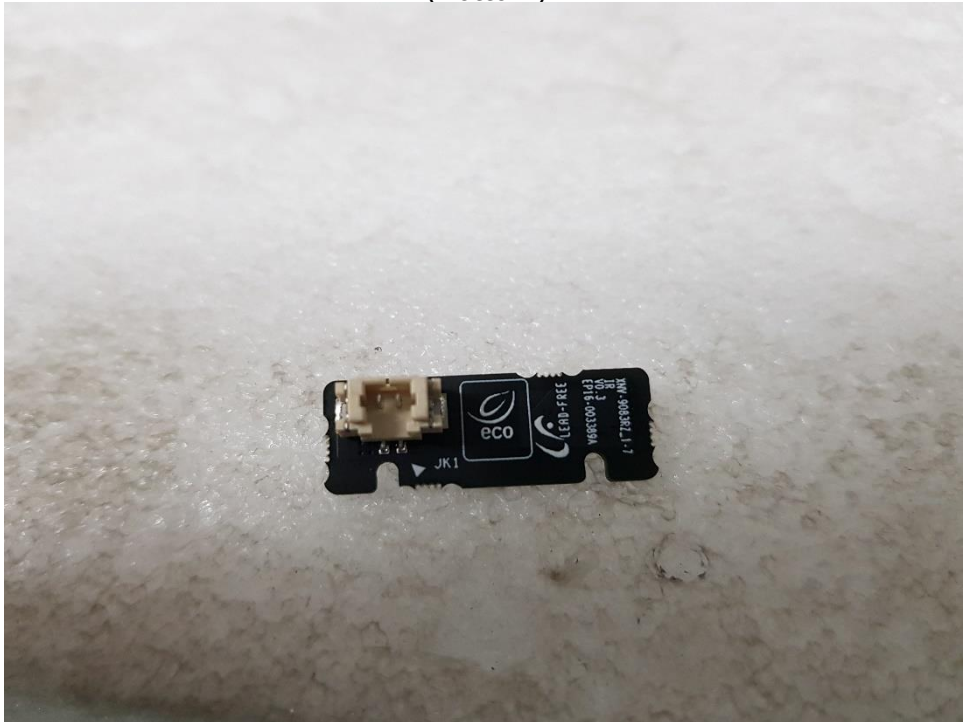
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 4

(Top)



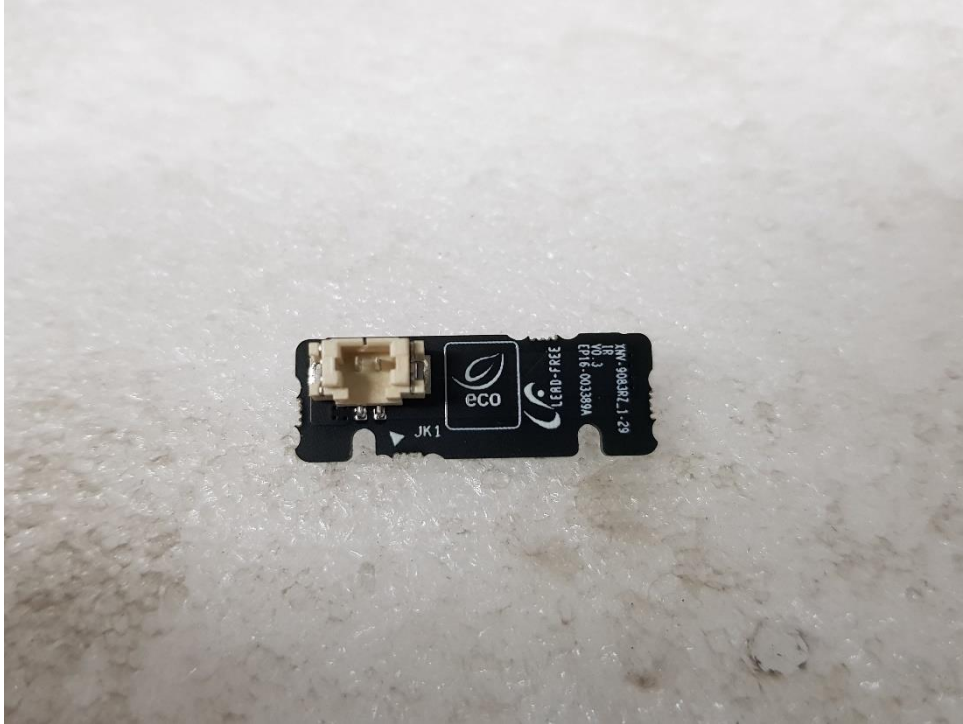
(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 5

(Top)



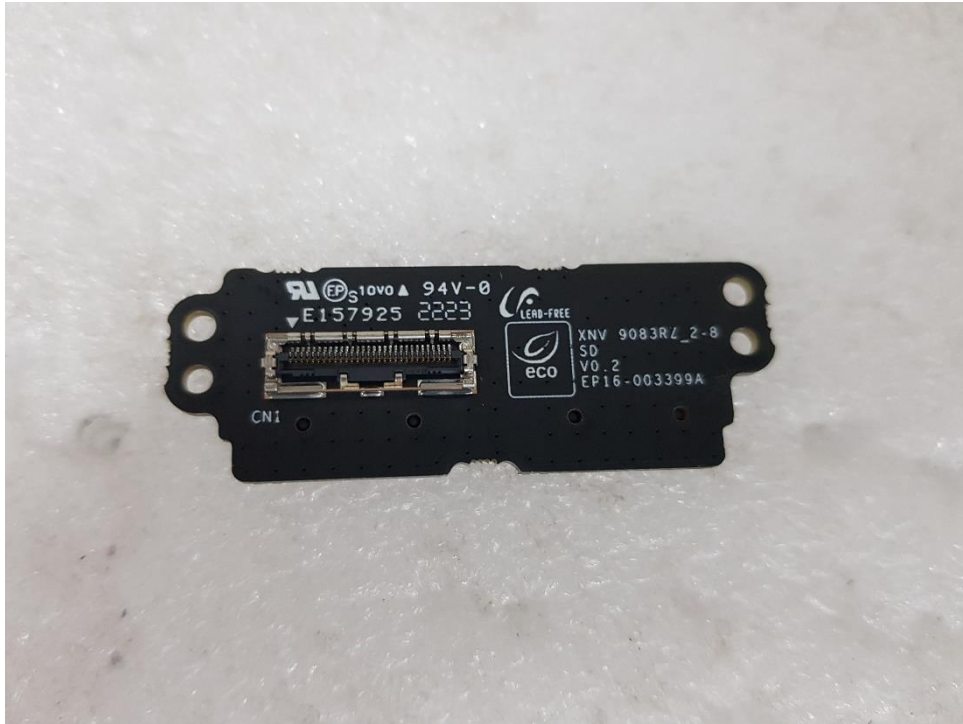
(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 6

(Top)



(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 7

(Top)



(Bottom)



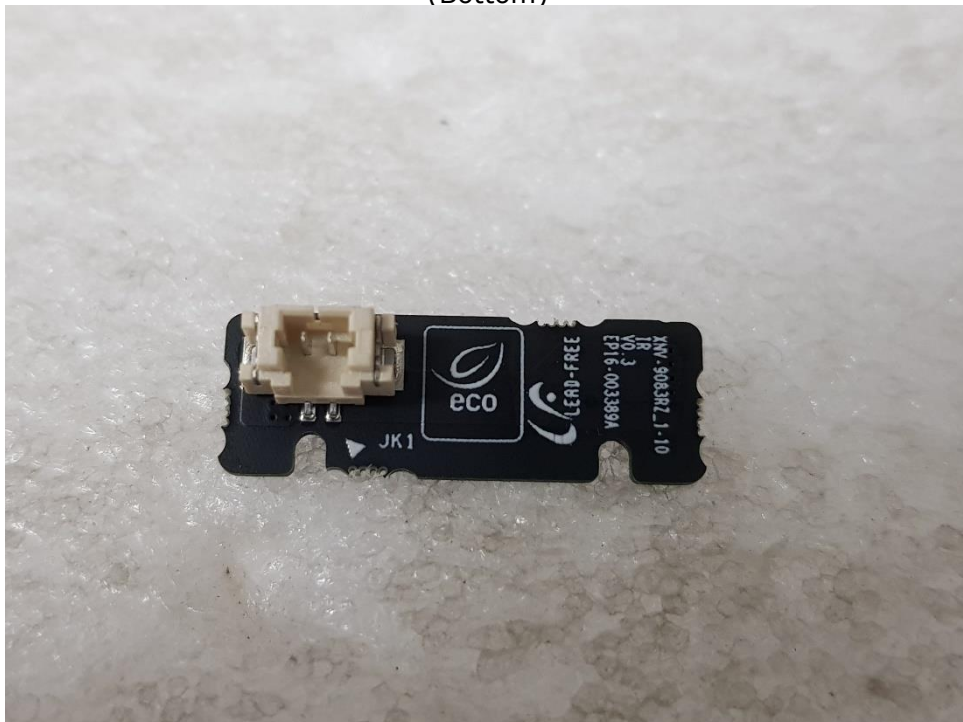
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 8

(Top)



(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 9

(Top)



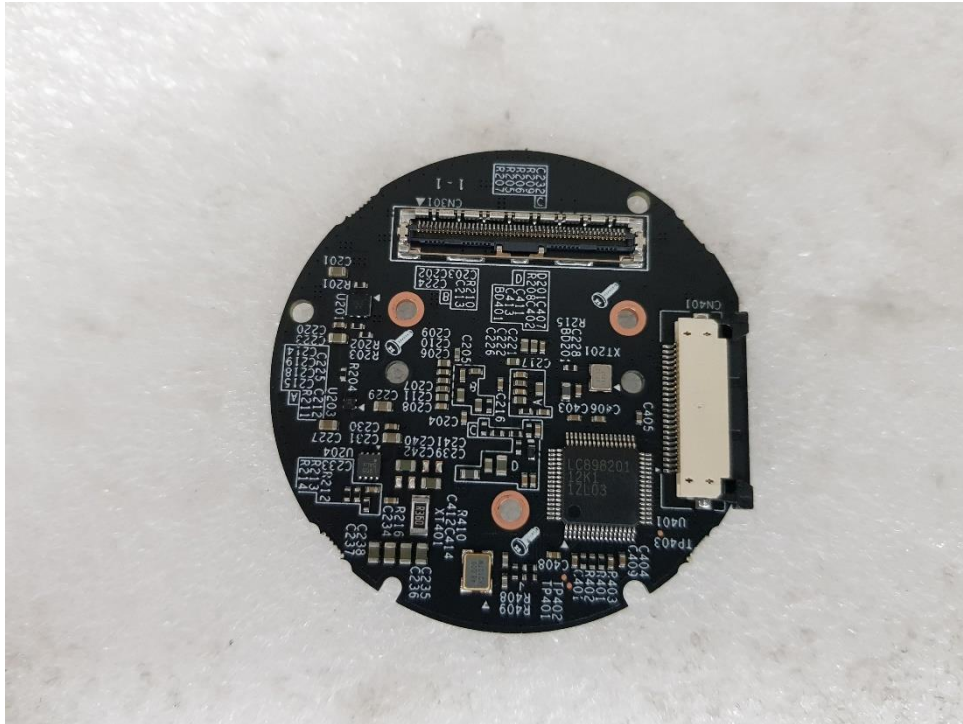
(Bottom)



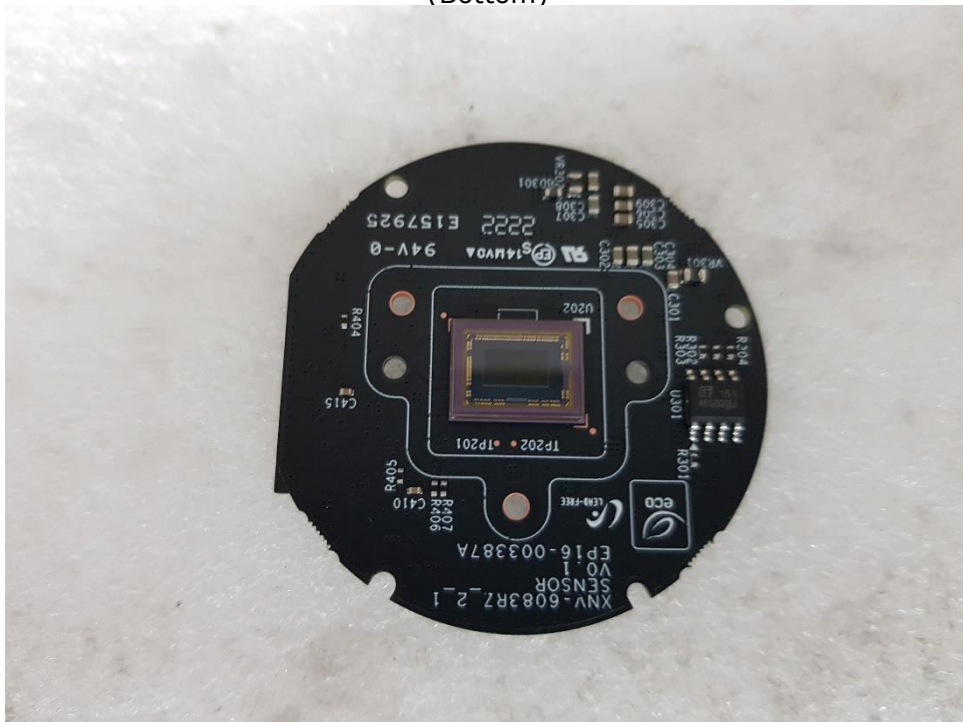
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 10

(Top)



(Bottom)



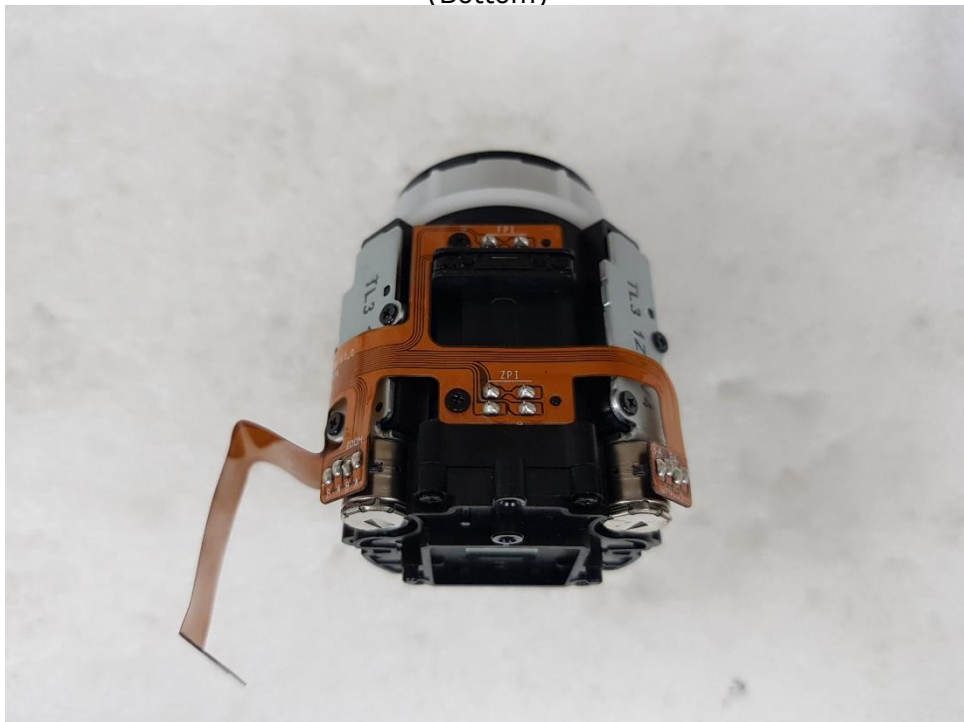
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Lens

(Top)

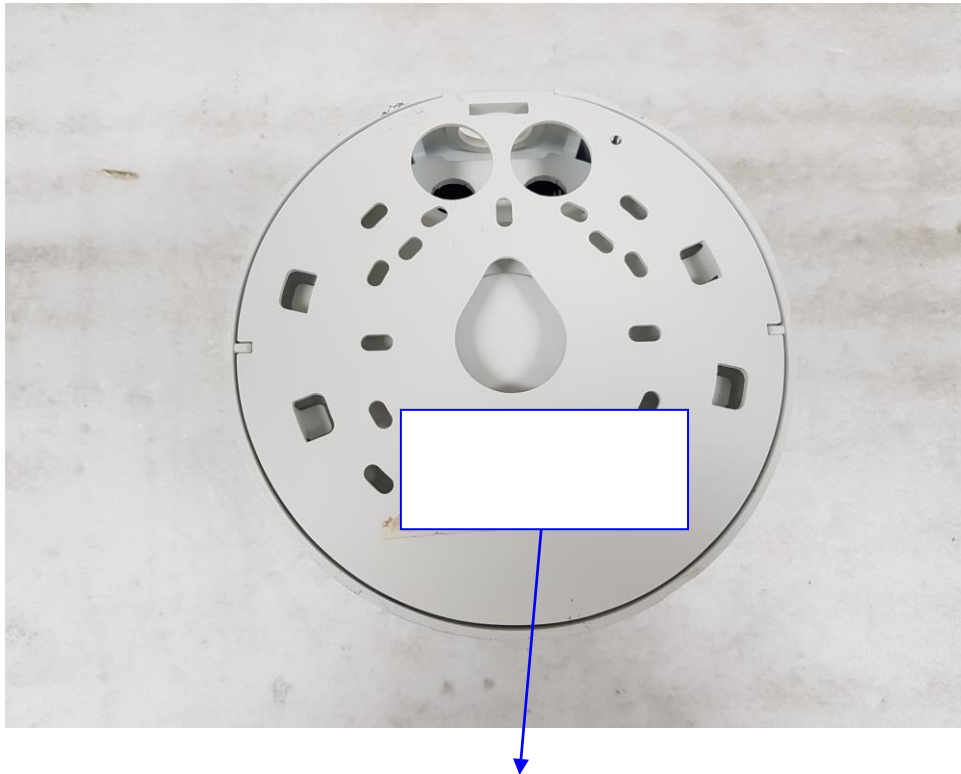


(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Label Photographs



この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A