



EMC TEST REPORT For VCCI

Test Report No. : KES-EM-20T0914-R1
Date of Issue : Feb. 24, 2023
Product name : NETWORK CAMERA
Model/Type No. : XNF-9010RS
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 : Sep. 15, 2020
Test date : Oct. 05, 2020 ~ Oct. 06, 2020
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

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Dec. 11, 2020	KES-EM-20T0914	Issued
Feb. 24, 2023	KES-EM-20T0914-R1	Change the Applicant and manufacturer at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video		SDC	None	Smart Codec	Manual(See area), WiseStream II
Imaging Device	1/2.8" 12M CMOS	Electronic Shutter Speed	(180)Minimum / Maximum / Anti-Blicker (2~1/12,000sec)	Video Quality Adjustment	H.264/H.265 Target bitrate level control MPEG: Quality level control
Shutter Pixel	1088(H) x 500(V)	Digital PTZ	Support(Preset, Group)	Noise Control	H.264/H.265 CBR or VBR MPEG: VBR
NETD	None	Video Rotation	Flip, Mirror	Streaming	Unicast/UDN / Multicast Multiple streaming(up to 10 profiles)
Pixel Size	None	Analytics	Defocus detection, Directional detection, Motion detection, Appearance/Disappearance, Entry/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification	Audio Compression	G.711 u-law / G.726 Selectable G.726(ADPCM) 8000, G.711 8000 G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16000Hz
Min. Illumination	Color: 0.30 Lux (F2.2, 1/30sec), IR: 0 Lux @ IR LED on	Business Intelligence	People counting, Queue management, Heatmap	Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTSP, ONVIF, RTMP, RTCP, RTSP, RTSP, NTP, HTTP, HTTPS, SSI/TEL, DHCP, FTP, SMTP, ICMP, ICMP, SNMPv1/v2c/v3MIB-2, J2, ARP, DNS, DNS, QoS, URP, Bonjour
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480iN, 1280x768P, for installation USB: Micro USB Type-B, 1280x720 for installation	Serial Interface	None	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(SAP-TLS, SAP-LSAP) Device Certificate(Meshworks Techno Root CA)
Lens		Alarm I/O	2 configured I/O	Edge Storage	Micro SD/SDHC/SDXC, Zifer ZTR (1TB)
Focal Length (Zoom Ratio)	1.08mm fixed focal	Alarm Triggers	Analytics, Network disconnect File upload via FTP and e-mail	Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API)
Max. Aperture Ratio	F2.2	Alarm Events	NoSsication via e-mail ND50HC/SDHC or NAS recording at event triggers	Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Angular Field of View	48.18° / V: 18° / D: 18°	Audio In	Selectable(mono, stereo) (built-in mic) Supply voltage: 2.5VDC(4mA), Input Impedance: 2k Ohm	Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.12, 10.13, 10.14 Recommended Browser: Google Chrome Supported Browser: MS Explorer(1), MS Edge, Mozilla Firefox(Windows 64bit only), Apple Safari(Mac OS X only)
Min. Object Distance	0.5m(1.64ft)	Audio Out	None	Memory	1TB
Focus Control	Simple focus	BI Recorder (Optional)	None	Environmental	
Lens Type	None	Wiper	None	Operating Temperature / Humidity	(TBD) -40°C ~ +60°C (-40°F ~ +141°F) / Less than 95% RH
Mount Type	None	Coaxial Port/Port	None	Storage Temperature / Humidity	-50°C ~ +50°C (-58°F ~ +140°F) / Less than 95% RH
Optional Lens	None	Video Transmission Distance	None	Certification	IP66, IP67, IP68, NEMA4X, IK10, IK10+(TBD)
Pan / Tilt / Rotate		Radiometry		Electrical	
Pan / Tilt / Rotate Range	None	Temperature detect range	None	Input Voltage	PoE(PoE+, PoE), Class II, 12VDC
Pan Range	None	Temperature accuracy	None	Power Consumption	PoE: Max 12.9W (TBD) 12VDC: Max 12W (TBD)
Pan Speed	None	Temperature detection	None	Mechanical	
Tilt Range	None	Additional	None	Color / Material	Silver / Stainless Steel
Tilt Speed	None	Network		Ball Code	
Rotate Range	None	Ethernet	RJ-45(10/100BASE-T)	Product dimensions / weight	ø147.9 x 72.1mm
Sequence	None	Video Compression	H.265/H.264 Main/Baseline/High, MJPEG	Corrosion	
Preset Accuracy	None	Resolution	Original size(11p: 500x300~480x480 Double panorama(21p: 100x170~640x320 Single panorama(41p: 100x80~640x160 Quad view: 100x200~640x480 OTV(OTV1/OTV2): 170x144~640x480	Hanging mount(Dome)	
Auto Tracking	None	Max. Frame rate	H.265/H.264 Overview-Max. 30fps/25fps@300x300(30Hz/30Hz) Double panorama-Max. 30fps/25fps@100x170(30Hz/30Hz) Single panorama-Max. 30fps/25fps@100x80(30Hz/30Hz) MJPEG: Max. 11fps@640x320(30Hz)	Sun cover(Dome)	
Operational				Weather cap(Dome)	
IE Viewable Length	3m(TBD)			Power residue	
Camera Etc	Maximized up to 85 characters			Backbone	
Day & Night	Auto(ICR)			DOE	
Backlight Compensation	WLC, HLC, WDR, SDR			Detect (20PPM/ 80PP)	
Wide Dynamic Range	125dB			Classify (30PPM/ 100PP)	
Digital Noise Reduction	55NRV			Recognize (125PPM/ 38PP)	
Digital Image Stabilization	None			Identify (250PPM/ 70PP)	
Defog	None				
Motion Detection	Box, Round, polygonal zones				
Privacy Masking	Size: polygonal zones - Color: Grey/Green/Red/Blue/Black/White - Masked				
Gain Control	Low / Middle / High				
White Balance	AWB / AWC / Manual / Indoor / Outdoor				



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	XNF-9010RS	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

**KES Co., Ltd.**

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1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
DC 12 V Adapter	SW48-12003500-W	-	SHENZHEN RIHUIDA ELECTRONICS CO.,LTD.	-
PoE Adapter	PT-PSE109GBRO-AH	-	Dongguan PROCET Network Technology Co.,Ltd	-
Notebook	LG15N54	410NZXE015458	LG Electronics Co., Inc.	-
Notebook Adapter	ADP-90WH B	84ZW19F1747	DELTA ELECTRONICS (JIANGSU) LTD.	-
Speaker	BR1000A Cuve Black 2	-	DONGGUAN EDIFIER TECHNOLOGY Co., Ltd	-
Mic	CMK-303	-	CAMAC	-
SmartPhone	A1429	-	Apple	-
Button Alarm	-	-	-	-
Alarm	-	-	-	-
Alarm Adapter	2ACB022F	-	Channel Well Technology (Guangzhou) Co., Ltd.	-
Micro SD Card	-	-	Sandisk	-

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1.6 External I/O Cabling

■ DC 12 V Adapter MODE

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	3.0	U
	3.5 mm (Speaker)	Speaker	3.5 mm	1.4	U
	3.5 mm (Mic)	Mic	3.5 mm	1.7	U
	2 Pin (Alarm In)	Button Alarm	2 Pin	3.0	U
	2 Pin (Alarm Out)	Alarm	2 Pin	3.0	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
Notebook	3.5 mm	SmartPhone	3.5 mm	1.2	U

* Unshielded=U, Shielded=S

■ PoE Adapter MODE

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45 (PoE)	PoE Adapter	RJ-45 (PoE)	3.0	U
	3.5 mm (Speaker)	Speaker	3.5 mm	1.4	U
	3.5 mm (Mic)	Mic	3.5 mm	1.7	U
	2 Pin (Alarm In)	Button Alarm	2 Pin	3.0	U
	2 Pin (Alarm Out)	Alarm	2 Pin	3.0	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
PoE Adapter	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	1.8	U
Notebook	3.5 mm	SmartPhone	3.5 mm	1.2	U

* Unshielded=U, Shielded=S

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1.7 EUT Operating Mode(s)

Test mode	operating
DC 12 V Adapter	Tested by checking the operation status through the screen transmitted to the web viewer and Notebook and conducting a PING test.
PoE Adapter	

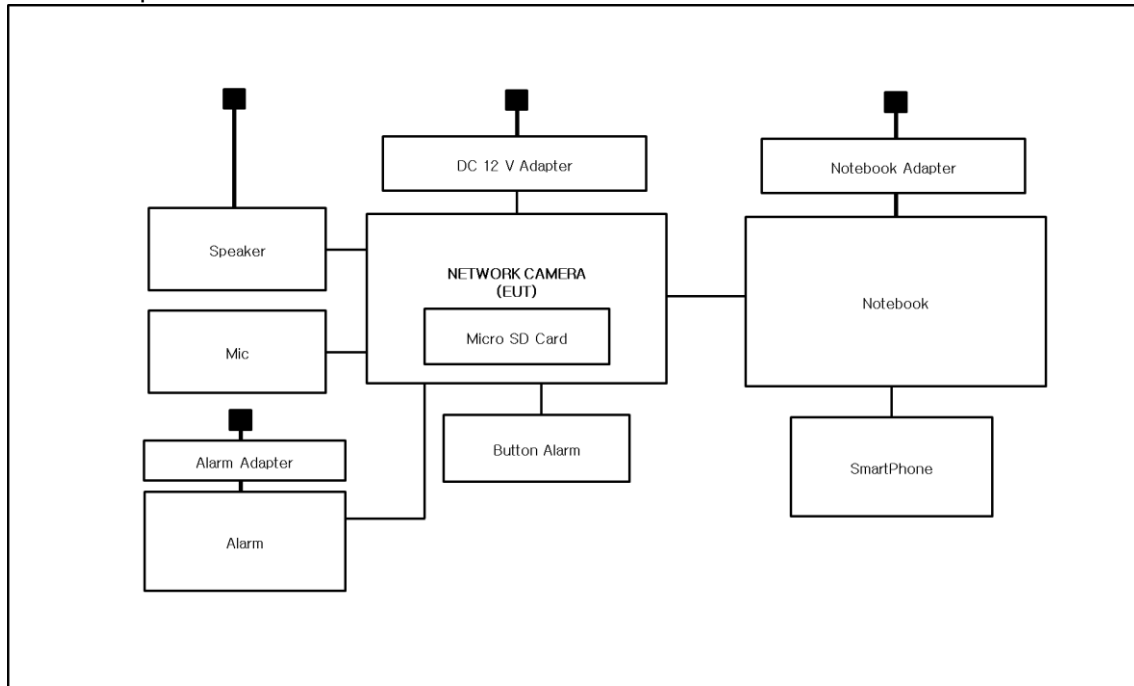
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd

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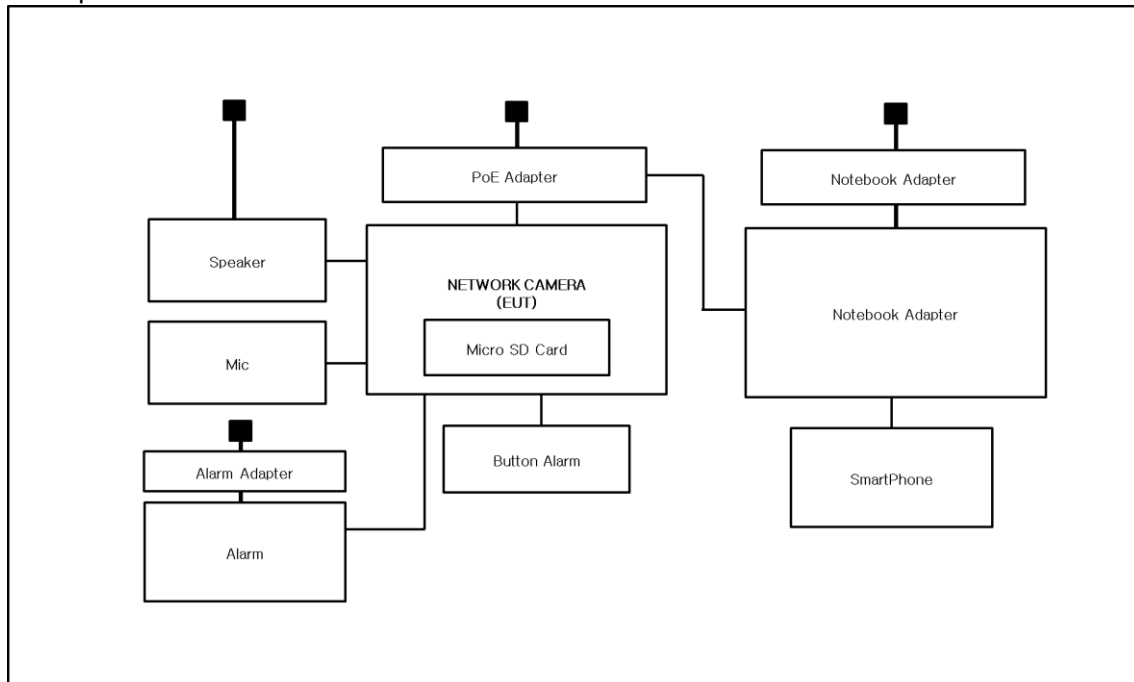
1.8 Configuration

■ AC Main
 □ DC Main

■ DC 12 V Adapter MODE



■ PoE Adapter 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, 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



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



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- | | | |
|---|---|----------------------------------|
| ☒ VCCI-CISPR 32:2016 | ☒ Class A | ☐ Class B |
| ☐ AS/NZS CISPR32:2015 | ☐ 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 | | |

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2.1 Conducted Emissions Mains Power Ports

Test Date

Oct. 06, 2020

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	01, 20, 2021
☒	LISN	ENV216	R & S	101787	01, 02, 2021
☒	LISN	ESH2-Z5	R & S	100450	01, 02, 2021
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	01, 02, 2021

Test Conditions

Temperature: 22,8 °C
Relative Humidity: 43,2 % 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

Oct. 06, 2020

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	01, 20, 2021
☒	LISN	ENV216	R & S	101787	01, 02, 2021
☒	LISN	ESH2-Z5	R & S	100450	01, 02, 2021
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	01, 02, 2021
☒	8-WIRE ISN CAT3,5	ENY81	R & S	100174	01, 07, 2021
☐	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101665	01, 07, 2021
☐	ISN	ISN S8	SCHWARZBECK	ISN-S8-0019	03, 10, 2021
☐	CDN	CDNS502A	TESEQ	40431	01, 02, 2021

Test Conditions

Temperature: 22,8 °C
Relative Humidity: 43,2 % 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.

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2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Oct. 05, 2020

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, 01, 2021
☒	AMPLIFIER	SCU 01	R & S	100603	11, 25, 2021
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 10, 2021

Test Conditions

Temperature: 21,1 °C
Relative Humidity: 53,2 % 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

Oct. 05, 2020

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, 05, 2021
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	04, 20, 2021
☐	ATTENUATOR	8491A	HP	35496	03, 10, 2021
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 11, 2021

Test Conditions

Temperature: 21,8 °C
Relative Humidity: 50,4 % 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

■ DC 12 V Adapter MODE

HOT LINE

Common Information

Test Description:

Model No.:

Phase:

Mode:

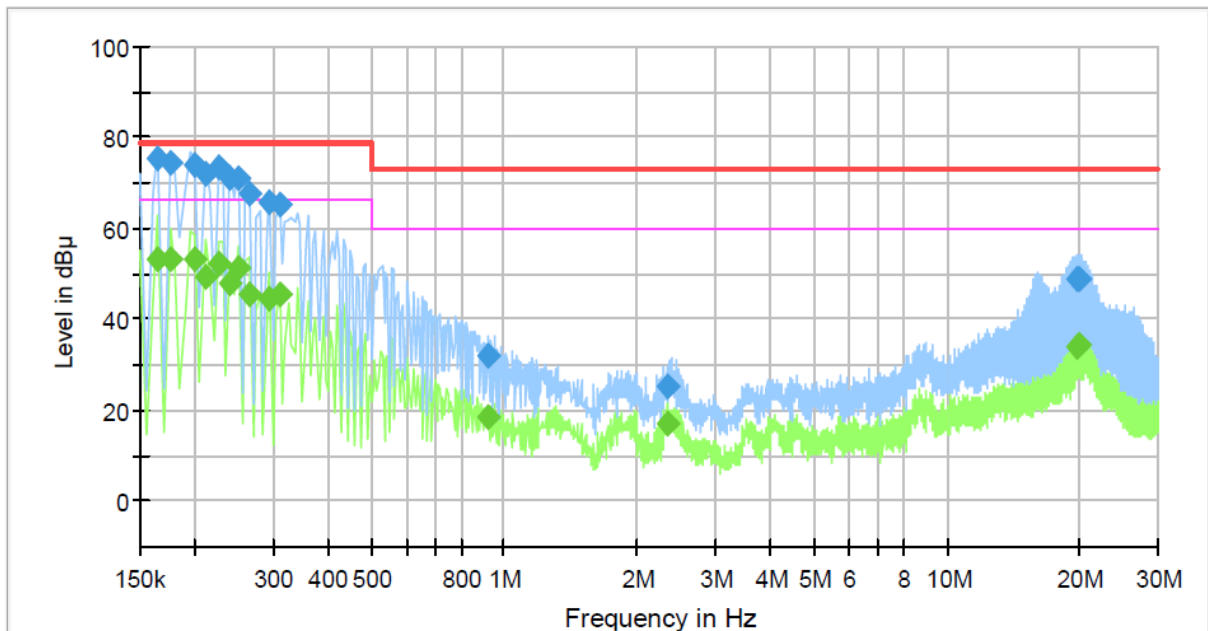
Operator Name:

Conducted Emission

XNF-9010RS

DC 12 V Adapter

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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
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Final_Result

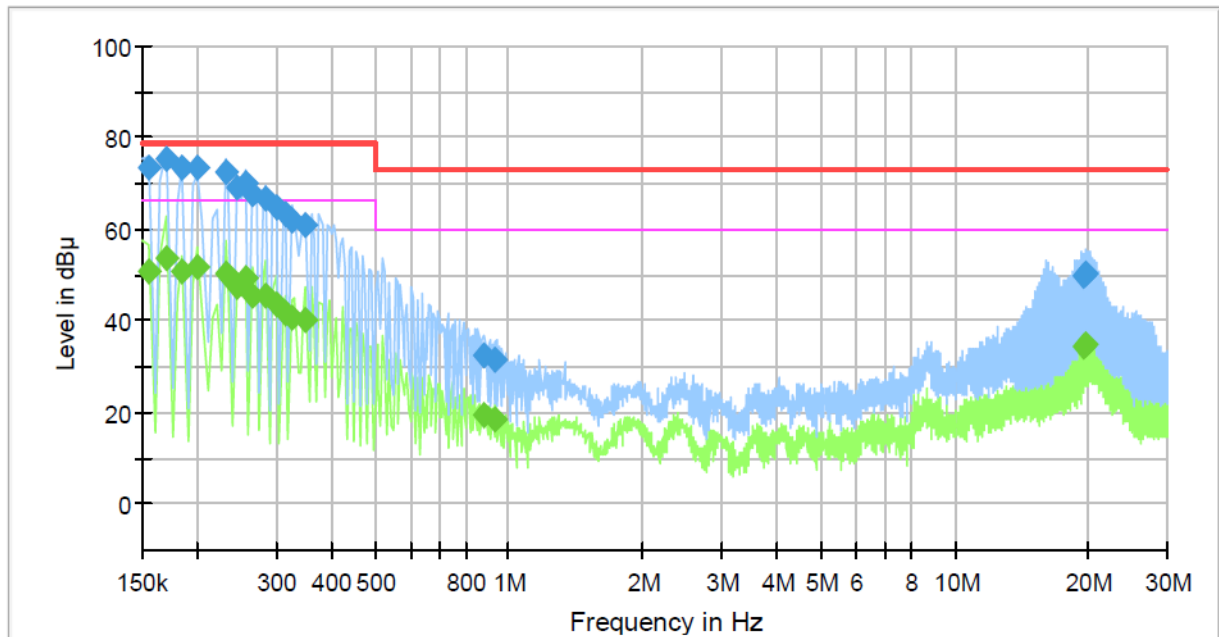
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	75.35	---	79.00	3.65	1000.0	9.000	L1	19.5
0.165000	---	53.22	66.00	12.78	1000.0	9.000	L1	19.5
0.175000	---	53.28	66.00	12.72	1000.0	9.000	L1	19.5
0.175000	74.24	---	79.00	4.76	1000.0	9.000	L1	19.5
0.200000	---	53.02	66.00	12.98	1000.0	9.000	L1	19.5
0.200000	73.88	---	79.00	5.12	1000.0	9.000	L1	19.5
0.210000	---	49.41	66.00	16.59	1000.0	9.000	L1	19.5
0.210000	71.92	---	79.00	7.08	1000.0	9.000	L1	19.5
0.225000	---	52.07	66.00	13.93	1000.0	9.000	L1	19.5
0.225000	73.23	---	79.00	5.77	1000.0	9.000	L1	19.5
0.240000	71.08	---	79.00	7.92	1000.0	9.000	L1	19.5
0.240000	---	47.99	66.00	18.01	1000.0	9.000	L1	19.5
0.250000	71.22	---	79.00	7.78	1000.0	9.000	L1	19.5
0.250000	---	51.06	66.00	14.94	1000.0	9.000	L1	19.5
0.265000	---	45.43	66.00	20.57	1000.0	9.000	L1	19.5
0.265000	67.62	---	79.00	11.38	1000.0	9.000	L1	19.5
0.295000	65.73	---	79.00	13.27	1000.0	9.000	L1	19.6
0.295000	---	44.38	66.00	21.62	1000.0	9.000	L1	19.6
0.310000	---	45.25	66.00	20.75	1000.0	9.000	L1	19.6
0.310000	65.39	---	79.00	13.61	1000.0	9.000	L1	19.6
0.920000	31.76	---	73.00	41.24	1000.0	9.000	L1	20.1
0.920000	---	18.35	60.00	41.65	1000.0	9.000	L1	20.1
2.325000	---	17.01	60.00	42.99	1000.0	9.000	L1	20.2
2.325000	25.25	---	73.00	47.75	1000.0	9.000	L1	20.2
19.695000	49.01	---	73.00	23.99	1000.0	9.000	L1	20.2
19.695000	---	34.04	60.00	25.96	1000.0	9.000	L1	20.2
19.915000	48.79	---	73.00	24.21	1000.0	9.000	L1	20.2
19.915000	---	34.16	60.00	25.84	1000.0	9.000	L1	20.2

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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XNF-9010RS
Phase:	
Mode:	DC 12 V Adapter
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	73.44	---	79.00	5.56	1000.0	9.000	N	19.4
0.155000	---	50.61	66.00	15.39	1000.0	9.000	N	19.4
0.170000	---	53.49	66.00	12.51	1000.0	9.000	N	19.5
0.170000	75.38	---	79.00	3.62	1000.0	9.000	N	19.5
0.185000	---	50.55	66.00	15.45	1000.0	9.000	N	19.5
0.185000	73.33	---	79.00	5.67	1000.0	9.000	N	19.5
0.200000	---	51.77	66.00	14.23	1000.0	9.000	N	19.5
0.200000	73.58	---	79.00	5.42	1000.0	9.000	N	19.5
0.230000	---	50.49	66.00	15.51	1000.0	9.000	N	19.5
0.230000	72.29	---	79.00	6.71	1000.0	9.000	N	19.5
0.245000	---	47.29	66.00	18.71	1000.0	9.000	N	19.5
0.245000	69.33	---	79.00	9.67	1000.0	9.000	N	19.5
0.255000	---	49.30	66.00	16.70	1000.0	9.000	N	19.5
0.255000	70.15	---	79.00	8.85	1000.0	9.000	N	19.5
0.265000	67.58	---	79.00	11.42	1000.0	9.000	N	19.5
0.265000	---	45.26	66.00	20.74	1000.0	9.000	N	19.5
0.285000	66.74	---	79.00	12.26	1000.0	9.000	N	19.5
0.285000	---	45.42	66.00	20.58	1000.0	9.000	N	19.5
0.300000	---	43.58	66.00	22.42	1000.0	9.000	N	19.6
0.300000	64.95	---	79.00	14.05	1000.0	9.000	N	19.6
0.315000	---	41.59	66.00	24.41	1000.0	9.000	N	19.6
0.315000	63.11	---	79.00	15.89	1000.0	9.000	N	19.6
0.325000	---	40.47	66.00	25.53	1000.0	9.000	N	19.6
0.325000	61.78	---	79.00	17.22	1000.0	9.000	N	19.6
0.350000	---	40.10	66.00	25.90	1000.0	9.000	N	19.6
0.350000	61.04	---	79.00	17.96	1000.0	9.000	N	19.6
0.880000	---	19.28	60.00	40.72	1000.0	9.000	N	20.1
0.880000	32.58	---	73.00	40.42	1000.0	9.000	N	20.1
0.930000	---	18.66	60.00	41.34	1000.0	9.000	N	20.1
0.930000	31.51	---	73.00	41.49	1000.0	9.000	N	20.1
19.515000	50.01	---	73.00	22.99	1000.0	9.000	N	20.3
19.515000	---	34.54	60.00	25.46	1000.0	9.000	N	20.3
19.675000	50.25	---	73.00	22.75	1000.0	9.000	N	20.3
19.675000	---	34.80	60.00	25.20	1000.0	9.000	N	20.3

◆ 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))

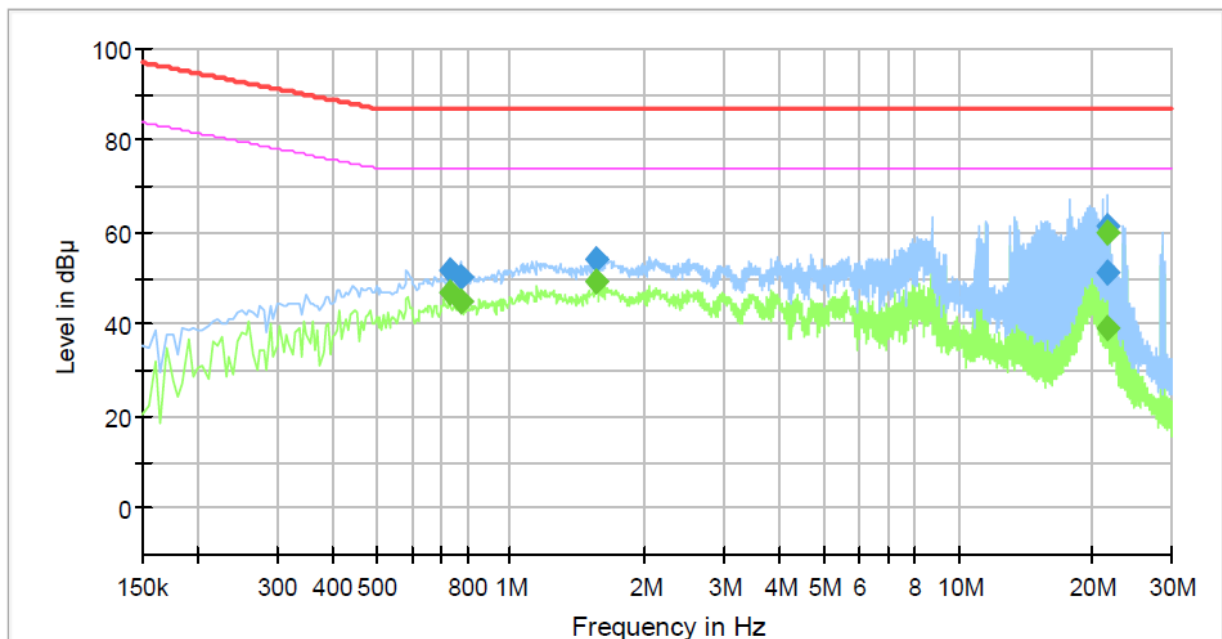
Conducted Emissions at Telecommunication Ports

■ DC 12 V Adapter MODE

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNF-9010RS
Mode :	DC 12 V Adapter
Speed :	100 Mbps
Operator Name:	KES



Final Result

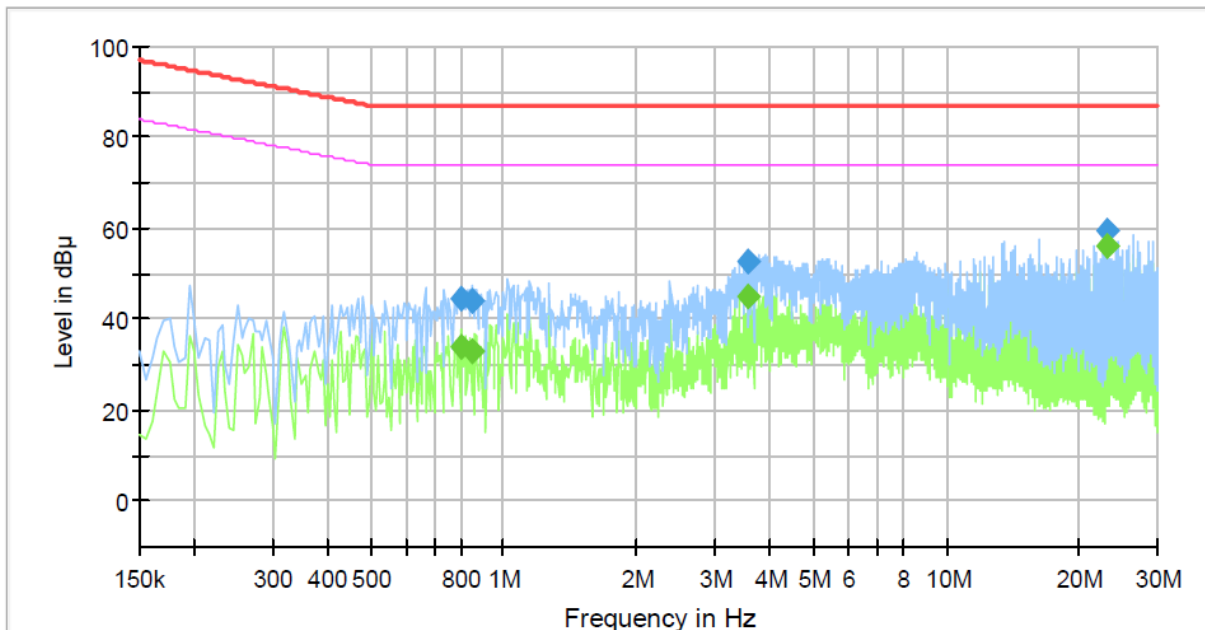
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.730000	---	47.02	74.00	26.98	1000.0	9.000	Single Line	19.9
0.730000	51.57	---	87.00	35.43	1000.0	9.000	Single Line	19.9
0.770000	---	45.13	74.00	28.87	1000.0	9.000	Single Line	19.9
0.770000	50.32	---	87.00	36.68	1000.0	9.000	Single Line	19.9
1.545000	---	49.35	74.00	24.65	1000.0	9.000	Single Line	20.0
1.545000	54.07	---	87.00	32.93	1000.0	9.000	Single Line	20.0
21.660000	---	39.38	74.00	34.62	1000.0	9.000	Single Line	20.1
21.660000	51.07	---	87.00	35.93	1000.0	9.000	Single Line	20.1
21.665000	---	60.00	74.00	14.00	1000.0	9.000	Single Line	20.1
21.665000	61.23	---	87.00	25.77	1000.0	9.000	Single Line	20.1

■ PoE Adapter MODE

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	XNF-9010RS
Mode :	PoE
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)
0.805000	---	33.76	74.00	40.24	1000.0	9.000	Single Line	20.0
0.805000	44.72	---	87.00	42.28	1000.0	9.000	Single Line	20.0
0.850000	---	32.80	74.00	41.20	1000.0	9.000	Single Line	20.0
0.850000	44.06	---	87.00	42.94	1000.0	9.000	Single Line	20.0
3.560000	---	44.80	74.00	29.20	1000.0	9.000	Single Line	19.7
3.560000	52.87	---	87.00	34.13	1000.0	9.000	Single Line	19.7
23.130000	---	55.99	74.00	18.01	1000.0	9.000	Single Line	20.1
23.130000	59.63	---	87.00	27.37	1000.0	9.000	Single Line	20.1

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

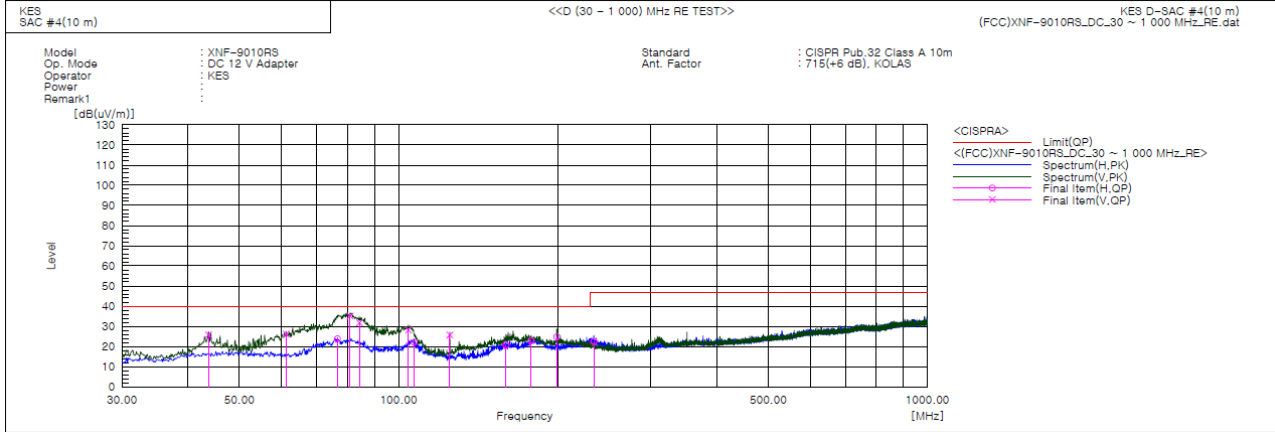
Reading Value : Not shown in the table.

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



Radiated Electric Field Emissions(Below 1 GHz)

■ DC 12 V Adapter 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	43.721	V	47.8	-22.0	25.8	40.0	14.2	100.0	231.0	
2	61.283	V	48.9	-22.7	26.2	40.0	13.8	127.0	221.0	
3	76.698	H	51.0	-27.2	23.8	40.0	16.2	400.0	345.0	
4	81.022	V	62.6	-27.5	35.1	40.0	4.9	108.0	180.0	
5	84.313	V	58.3	-26.5	31.8	40.0	8.2	127.0	203.0	
6	104.322	V	50.7	-22.5	28.2	40.0	11.8	114.0	79.0	
7	106.999	H	44.8	-22.6	22.2	40.0	17.8	379.0	215.0	
8	124.945	V	50.5	-24.8	25.7	40.0	14.3	130.0	292.0	
9	159.610	H	46.0	-25.2	20.8	40.0	19.2	369.0	341.0	
10	178.169	H	46.8	-24.0	22.8	40.0	17.2	400.0	241.0	
11	199.126	H	46.7	-21.9	24.8	40.0	15.2	370.0	226.0	
12	234.066	H	42.7	-20.2	22.5	47.0	24.5	400.0	210.0	



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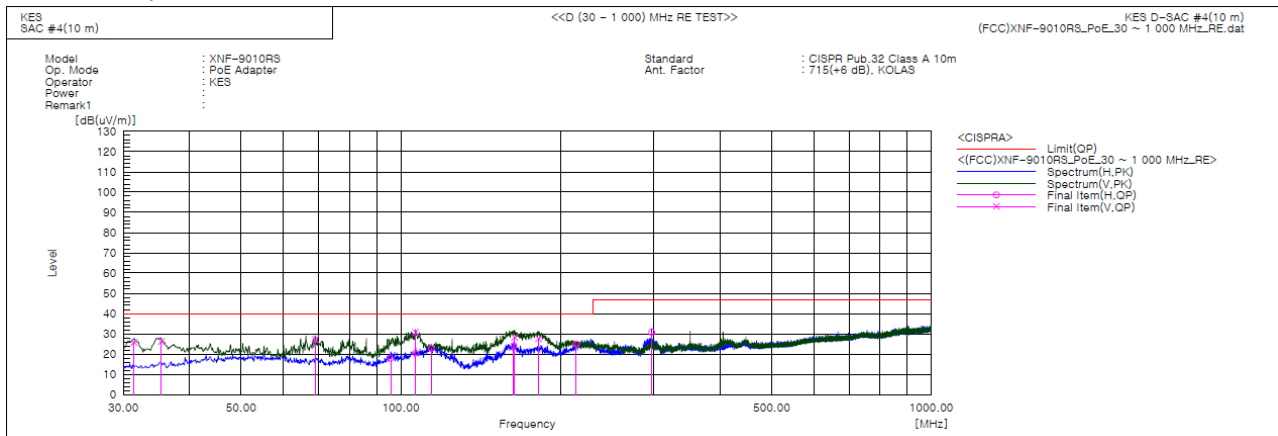
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
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Report No.:

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■ PoE Adapter 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	31.431	V	50.8	-25.0	25.8	40.0	14.2	126.0	197.0	
2	35.351	V	51.0	-24.8	26.2	40.0	13.8	100.0	42.0	
3	68.935	V	52.1	-24.8	27.3	40.0	12.7	105.0	311.0	
4	95.726	H	41.2	-23.3	17.9	40.0	22.1	400.0	10.0	
5	106.629	V	53.4	-22.6	30.8	40.0	9.2	116.0	124.0	
6	106.631	H	43.1	-22.6	20.5	40.0	19.5	375.0	358.0	
7	114.156	H	46.0	-23.2	22.8	40.0	17.2	400.0	187.0	
8	163.151	H	49.1	-24.9	24.2	40.0	15.8	339.0	49.0	
9	163.867	V	53.0	-24.8	28.2	40.0	11.8	127.0	293.0	
10	181.822	V	51.3	-23.7	27.6	40.0	12.4	136.0	2.0	
11	214.180	H	46.0	-20.9	25.1	40.0	14.9	389.0	322.0	
12	296.969	H	49.6	-18.8	30.8	47.0	16.2	400.0	18.0	

◆ 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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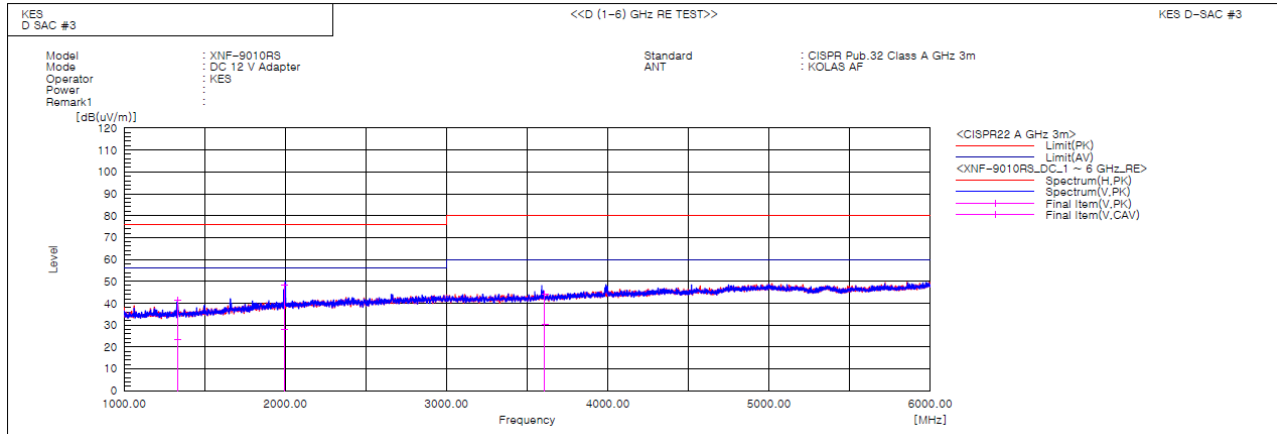
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Radiated Electric Field Emissions(Above 1 GHz)

■ DC 12 V Adapter MODE



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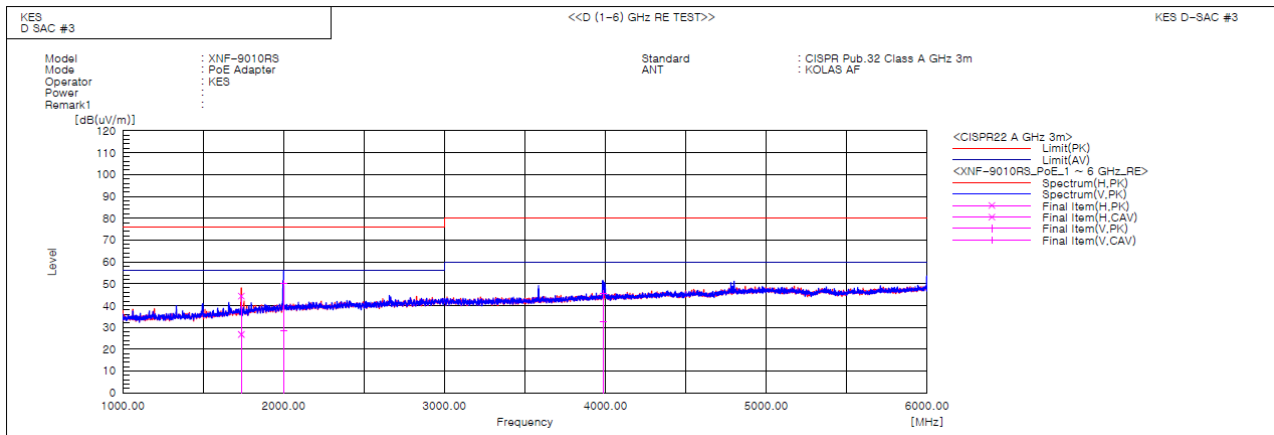


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■ PoE Adapter MODE



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	1737.234	H	48.7	31.1	-4.4	44.3	26.7	76.0	56.0	31.7	29.3	100.0	247.1	
2	2000.024	V	52.4	30.9	-2.3	50.1	28.6	76.0	56.0	25.9	27.4	100.0	179.9	
3	3984.562	V	41.1	27.8	4.6	45.7	32.4	80.0	60.0	34.3	27.6	100.0	149.9	

◆ 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)]

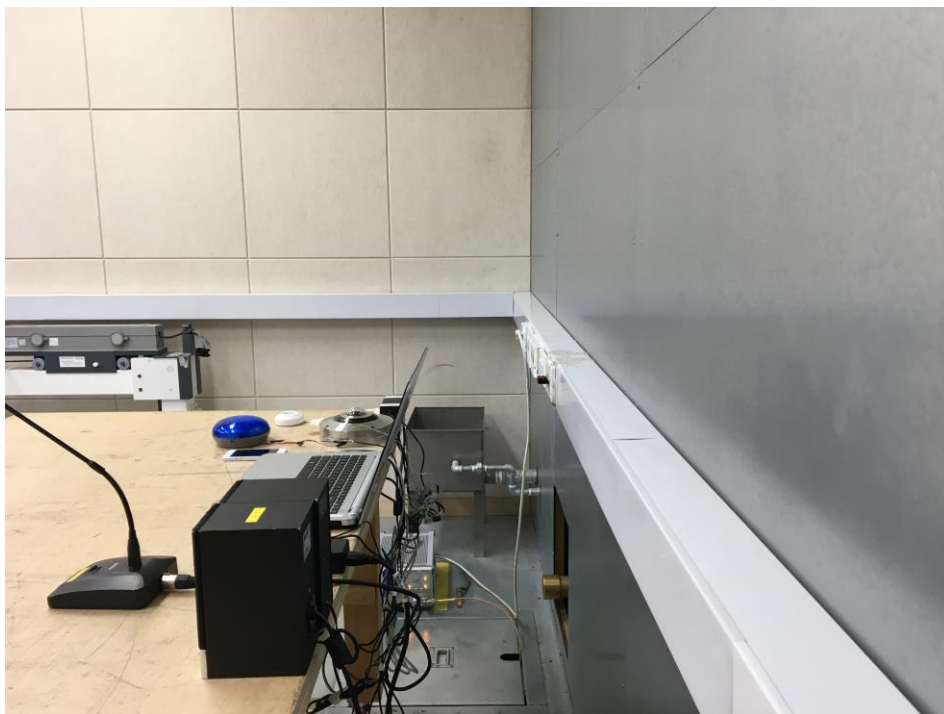
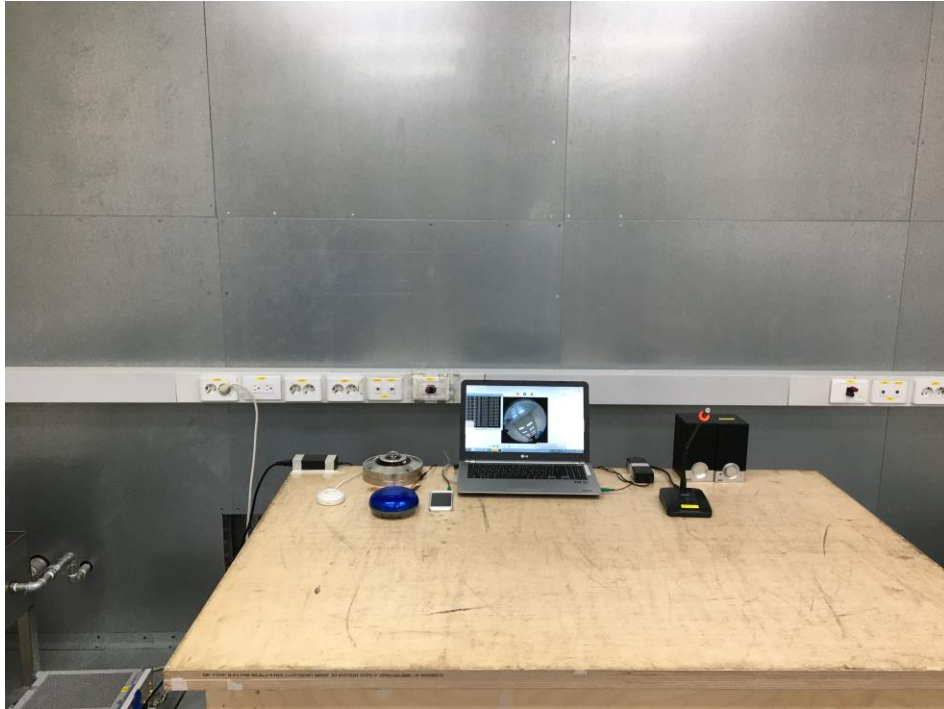
Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

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

Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

■ DC 12 V Adapter MODE



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Conducted Emissions at Telecommunication Ports

■ DC 12 V Adapter MODE

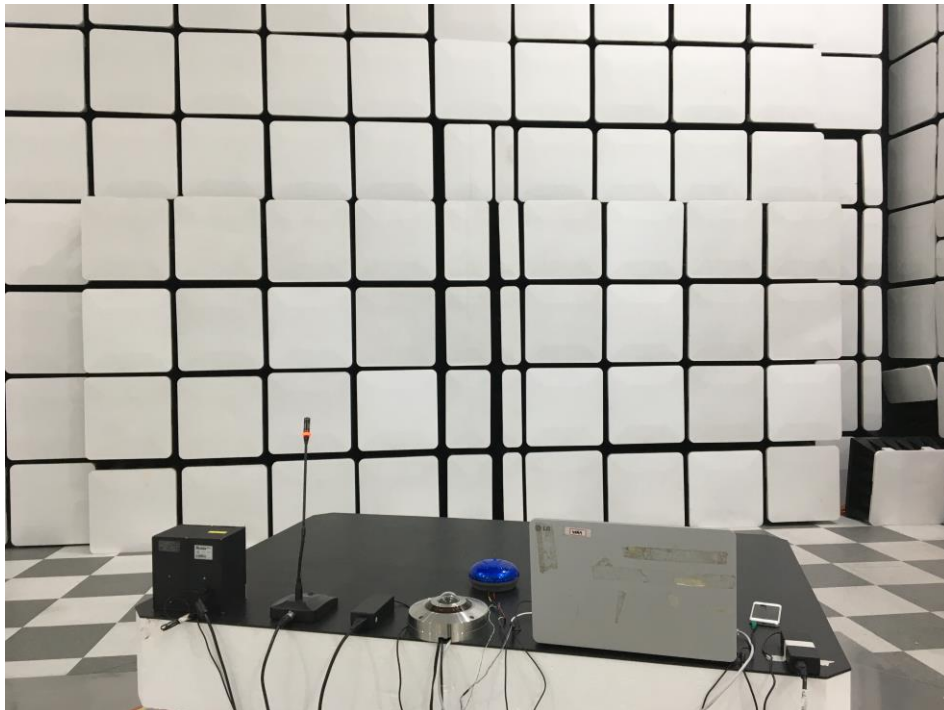


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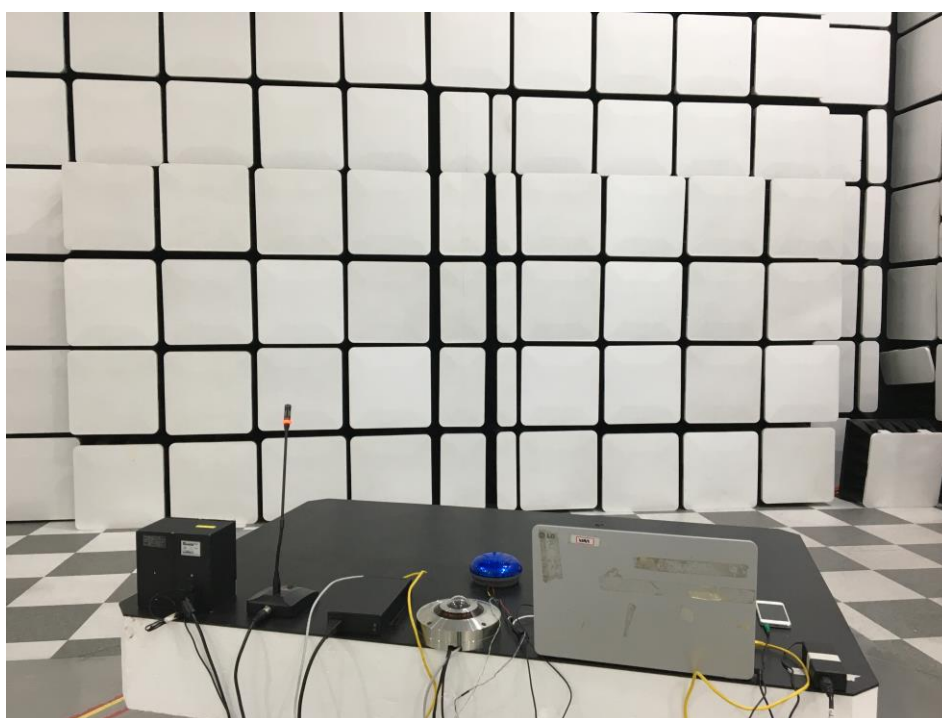
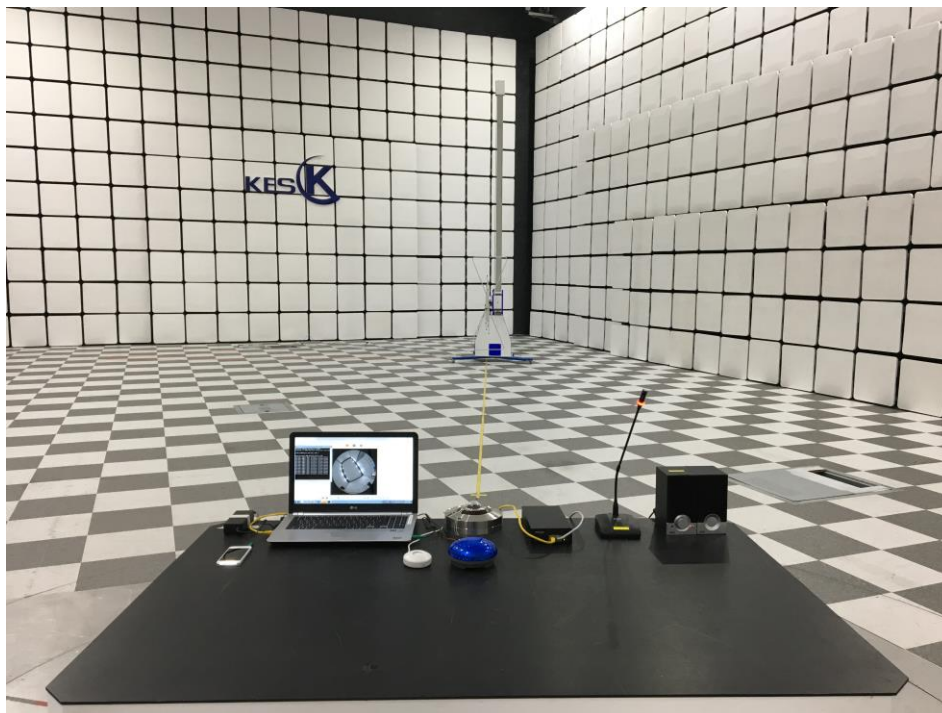
■ PoE Adapter MODE

Radiated Electric Field Emissions(Below 1 GHz)

■ DC 12 V Adapter MODE



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■ PoE Adapter MODE

Radiated Electric Field Emissions(Above 1 GHz)

■ DC 12 V Adapter MODE



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■ PoE Adapter MODE

EUT External Photographs

(Top)



(Bottom)



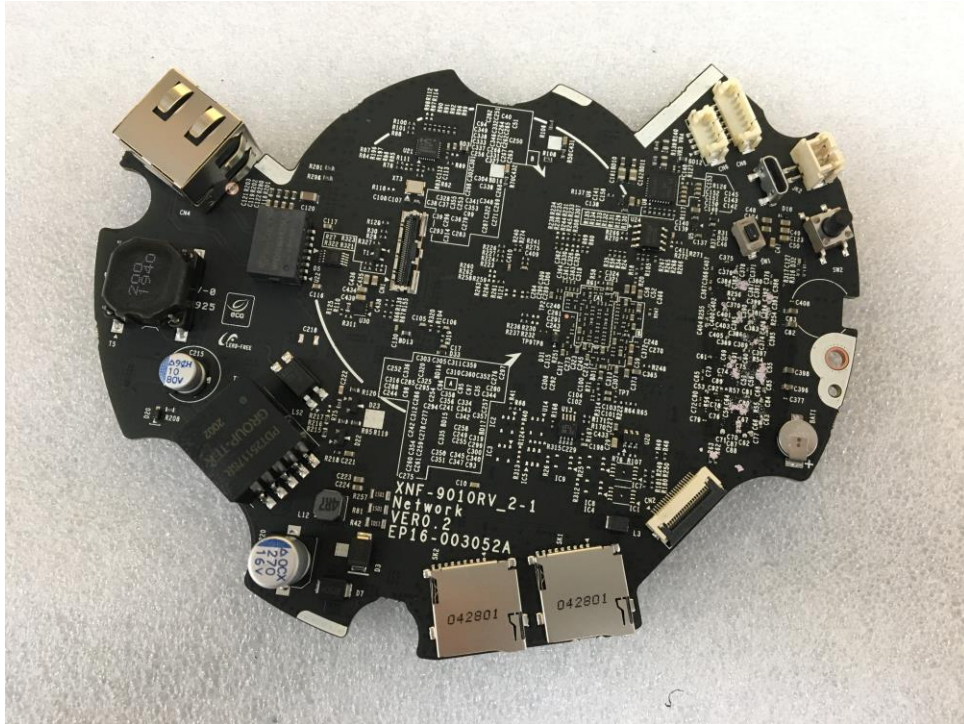
EUT Internal Photographs

(Internal View)

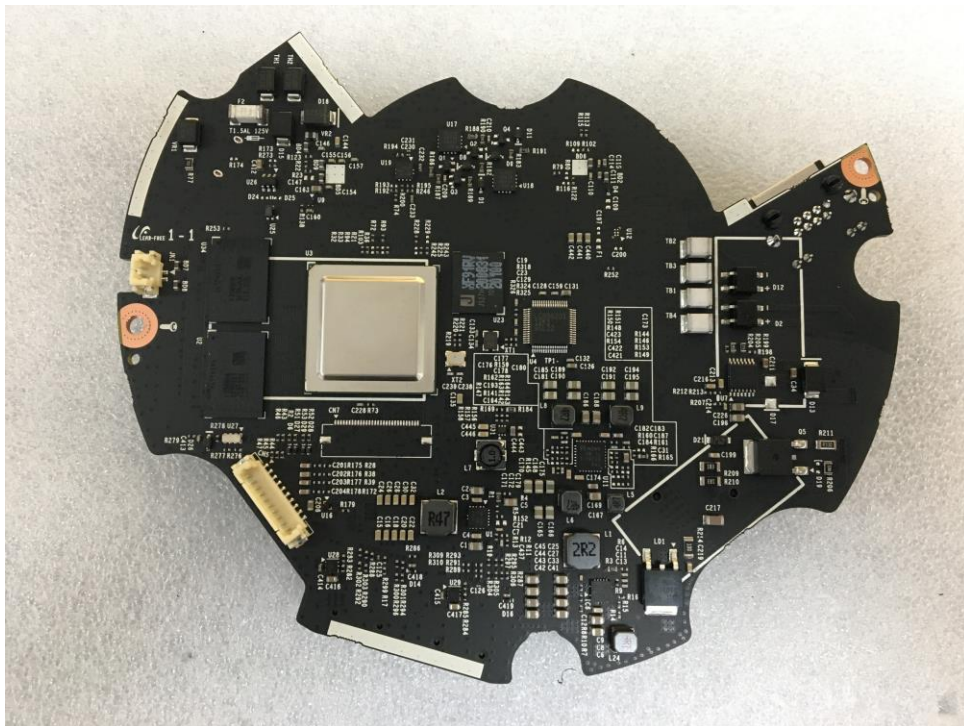


EUT Internal View – Main Board

(Top)



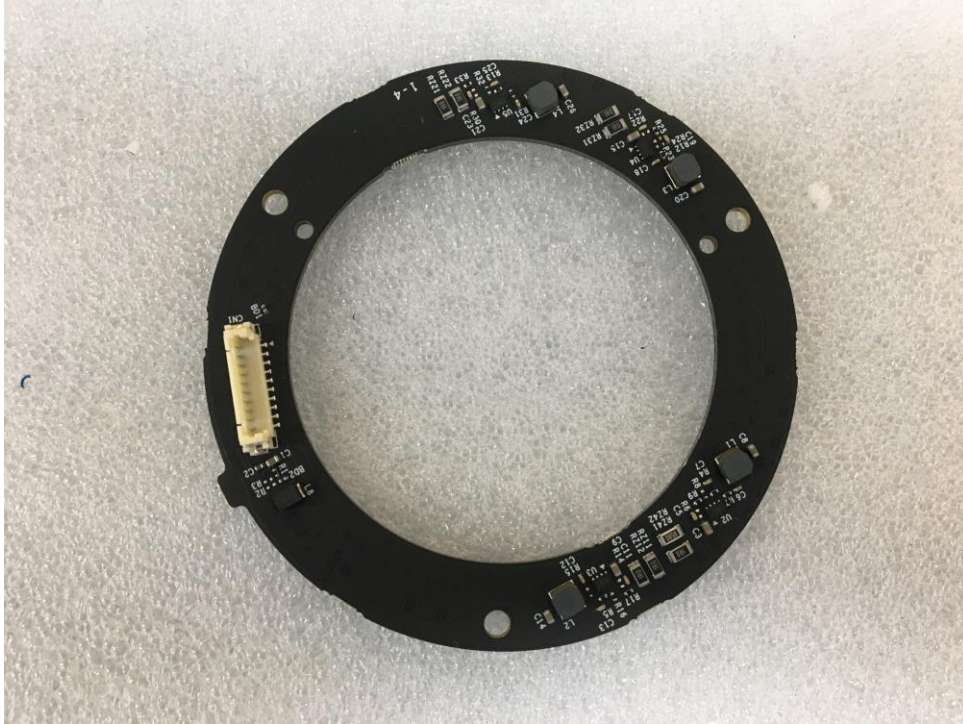
(Bottom)



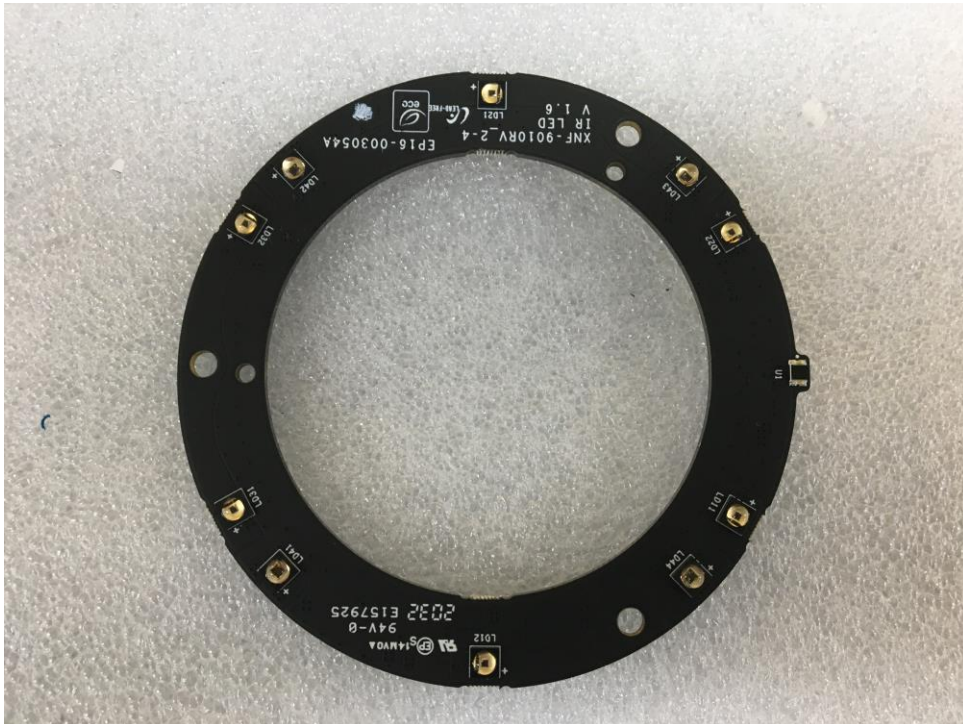
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EUT Internal View – IR Board

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)

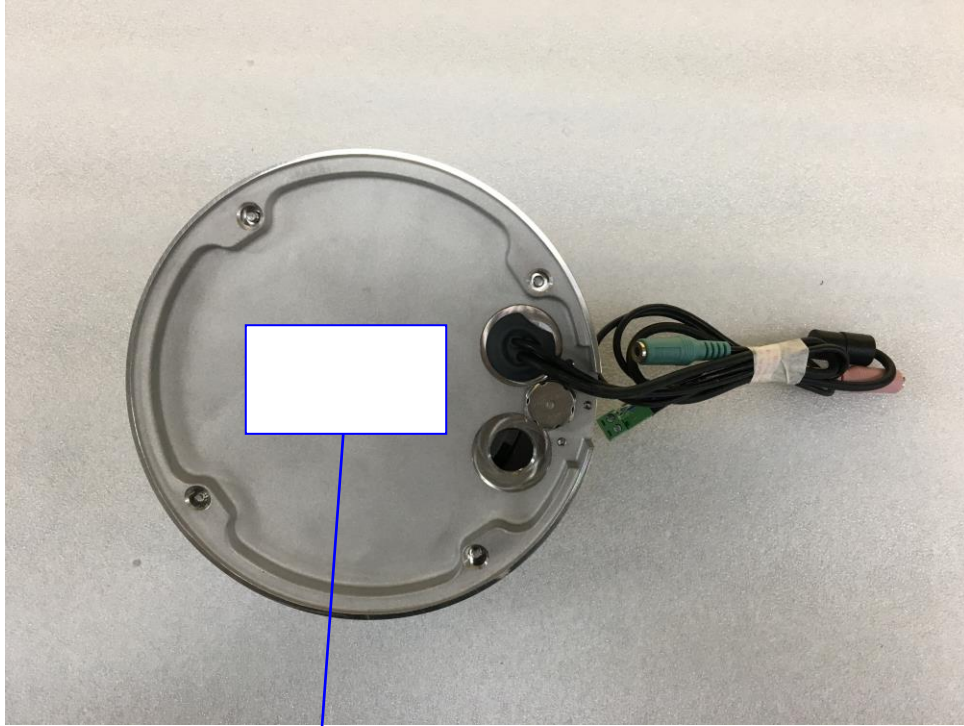


(Bottom)



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Label Photographs



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