



EMC TEST REPORT

Test Report No. : KES-EM-20T0916-R1
Date of Issue : Feb. 24, 2023
Product name : NETWORK CAMERA
Model/Type No. : XNF-9010RS
Variant Mode : -
Applicant : Hanwha Vision Co., Ltd
Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.
Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)
Equipment authorization : **Supplier's Declaration of Conformity**
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-20T0916	Issued
Feb. 24, 2023	KES-EM-20T0916-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(Tes ara), WinStream II
Imaging Device	1/2.8" 12M CMOS	Electronic Shutter Speed	1/80 Minimum / Maximum / Anti-Blink (2~1/12,000sec)	Video Quality Adjustment	H.264/H.265 Target bitrate level control MPEG: Quality level control
Electronic Pixels	1688(H) x 5008(V)	Digital PTZ	Supports(Preset, Group)	Bitrate Control	H.264/H.265: CBR or VBR MPEG: VBR
NETD	None	Video Rotation	Fig. Monitor	Steering	Unicast/UDN send / Multicast Multiple steering(up to 10 profiles) G.711 a-law G.726 Selectable G.726(ADPCM) 8000; G.711 8000 G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC (LC, 48Kbps at 100Hz
Pixel Size	None	Analytics	Defocus detection, Directional detection, Motion detection, Approx/Disappears, Entry/Exit, Loitering, Tampering, Virtual line, Audio detection, Second classification	Audio Compression	
Min. Illumination	Color: 0.30 Lux (F2.2, 1/30sec), IR: 0Lux@R LED on	Business Intelligence	People counting, Queue management, Heatmap	Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP/RTCP, RTSP/RTSP, RTMP, RTMPE, HTTP, HTTPS, MJPEG, DMCP, FTP, SMTP, ICMP, SNMP, SNMPv1/v2c/v3MIBS-2, ARP, DNS, DNS, QoS, UPnP, Bonjour
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 720x480/30, 720x576/50, for installation VGA: Micro USB Type-B, 1280x720 for installation	Serial Interface	None	Security	HTTP(S)S: Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(SAP-TLS, RADIUS) Device Certificate/Handshake Technique (Root CA)
Lens		Alarm I/O	2 configured I/O	Edge Storage	None 10/100/1000C/2500C, 2-bay J288 (1800)
Focal Length (Zoom Ratio)	12.8mm fixed focal	Alarm Triggers	Analytics, Network disconnect File upload via FTP and e-mail Notification via e-mail SMS/HTTP/SOBC or NMS recording at event triggers Alarm output Audio playback	Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API)
Max. Aperture Ratio	F2.2	Alarm Events	Analytics, Network disconnect File upload via FTP and e-mail Notification via e-mail SMS/HTTP/SOBC or NMS recording at event triggers Alarm output Audio playback	Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Angular Field of View	H: 18.1° / V: 18.1° / D: 18.1°	Audio In	Selectable(On/Off) (Built-in)	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(11), MS Edge, Mozilla Firefox(Windows 64bit only), Apple Safari(Mac OS X only)
Min. Object Distance	0.5m(1.64ft)	Audio Out	Supply voltage: 2.5VDC(4-wire), Input impedance: 2K Ohm	Memory	1TB
Focus Control	Single focus	IR Illuminator (Optional)	None	Environmental	
Lens Type	None	Wiper	None	Operating Temperature / Humidity	(180) -40°C ~ +60°C (-40°F ~ +141°F) / Less than 95% RH
Mount Type	None	Coastal Protocol	None	Storage Temperature / Humidity	-30°C ~ +60°C (-58°F ~ +140°F) / Less than 95% RH
Optional Lens	None	Video Transmission Distance	None	Certification	IP66, PST, IP68, NEMA4X, IK10, IK10+IP68, Food safety - NSF
Pan / Tilt / Rotate		Radiometry		Electrical	
Pan / Tilt / Rotate Range	None	Temperature detect range	None	Input Voltage	Full(100VAC, 5A, Class), 12VDC
Pan Range	None	Temperature accuracy	None	Power Consumption	Full: Max 12.90W (180) 12VDC: Max 12W (180C)
Tilt Range	None	Temperature detection	None	Mechanical	
Rotate Range	None	Additional	None	Color / Material	Silver / Stainless(S316L)
Sequence	None	Network		BAI Code	-
Preset Accuracy	None	Ethernet	10/40/100/1000BASE-T	Product dimensions / weight	ø167.9 x 72.1mm
Zoom	None	Video Compression	H.265/H.264: Main/Baseline/High; MPEG	Control Hole	
Auto Tracking	None	Resolution	Original view(1): 5008x1008~480x480 Double panorama(2): 3554x1752~640x320 Single panorama(4): 3554x836~640x160 Quad view: 1544x2588~640x320 D1/CV/C1/C2(4-ch): 1792x144~640x320	Hanging mount(Dome)	
Operational		Max. Frame Rate	H.265/H.264: Overview-Max: 30fps/25fps@3008x3008(60Hz/50Hz) Double panorama-Max: 30fps/25fps@1554x1752(60Hz/50Hz) Single panorama-Max: 30fps/25fps@1544x836(60Hz/50Hz) MPEG: Max 11fps@60Hz/50Hz	Weather cap(Dome)	
IE Viewable Length	Min 180			Power module	
Camera Title	Displayed up to 65 characters			Backbone	
Day & Night	Auto(ICR)			DDI	
Backlight Compensation	BLC, HLC, WDR, SDR			Detect (23PPM/8PPF)	
Wide Dynamic Range	126dB			Observe (33PPM/10PPF)	
Digital Noise Reduction	55NRV			Recognize (125PPM/38PPF)	
Digital Image Stabilization	None			Identify (250PPM/70PPF)	
Defog	None				
Motion Detection	Box, Region, polygonal zones				
Privacy Masking	Size: polygonal zones Color: Gray/Green/Red/Blue/Black/White Mosaic				
Gain Control	Low / Middle / High				
White Balance	ATW / 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 ☒ 120 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

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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 (시험기자재)	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	

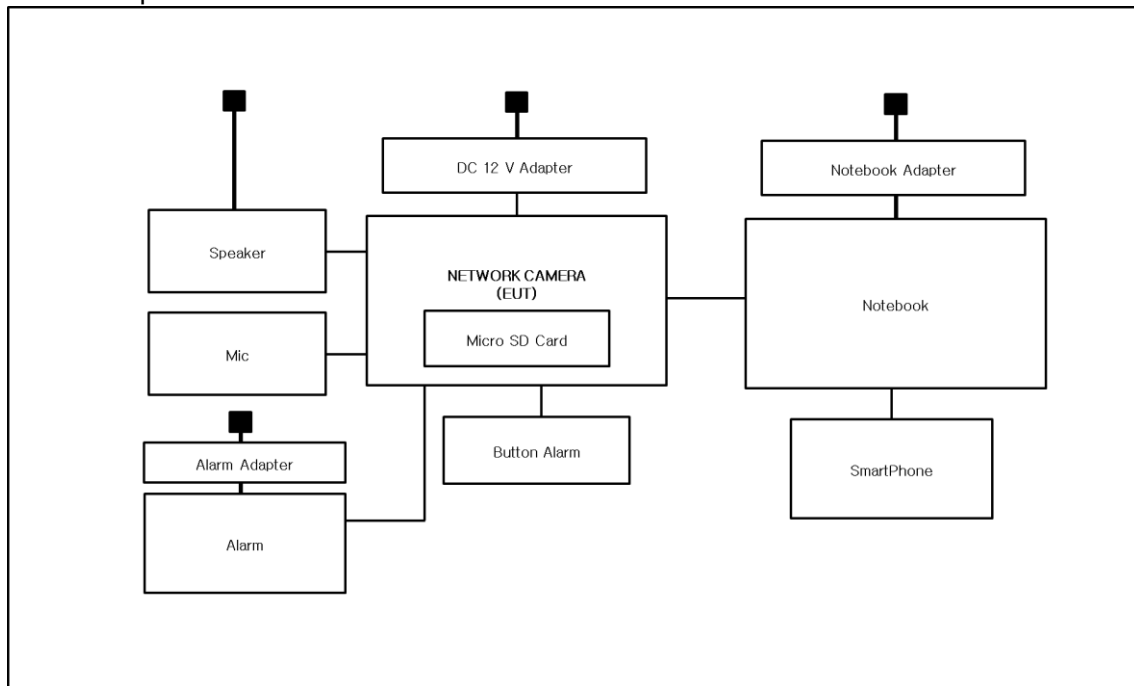
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd

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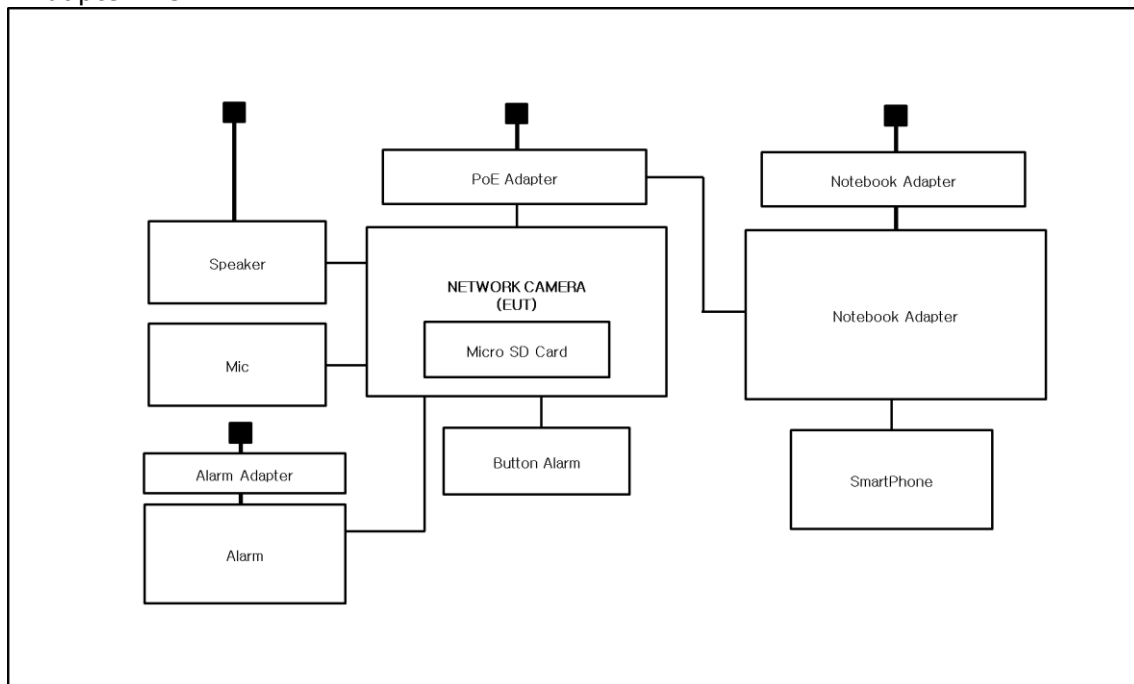
1.8 Configuration

■ 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 55032:2015

☐ Class A

☐ Class B

☐ EN 55024:2010

☐ 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 C63.4-2014☒ Class A☐ Class B☒ **IC Regulation ICES-003 : 2016**☐ CAN/CSA CISPR 22-10☐ Class A☐ Class B☒ ANSI C63.4-2014☒ Class A☐ Class B☐ **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 at 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 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Oct. 05, 2020

Test Location

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

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.



2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Oct. 05, 2020

Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.120	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	04, 01, 2021
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 13, 2020
☒	PREAMPLIFIER	8449B	AGILENT	8008A01640	04, 01, 2021

Test Conditions

Temperature: 23,2 °C
Relative Humidity: 52,6 % R.H.

Frequency Range of Measurement

1 GHz to 5 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:

Conducted Emission

Model No.:

XNF-9010RS

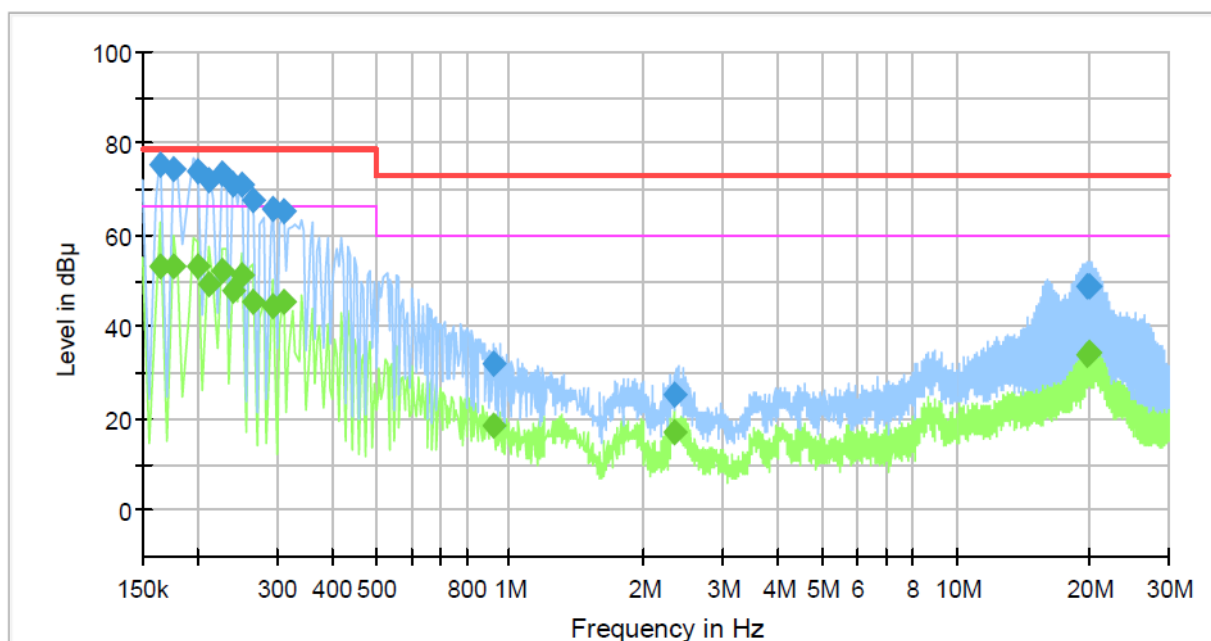
Phase:

Mode:

DC 12 V Adapter

Operator Name:

KES



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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:

Model No.:

Phase:

Mode:

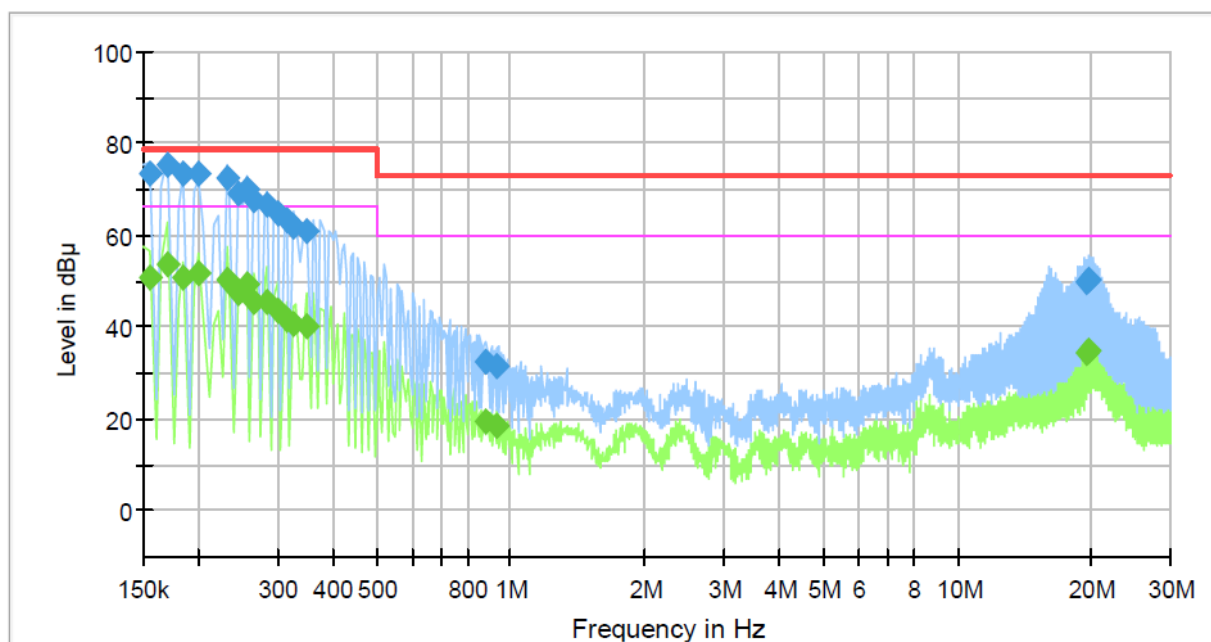
Operator Name:

Conducted Emission

XNF-9010RS

DC 12 V Adapter

KES



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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

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Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	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))

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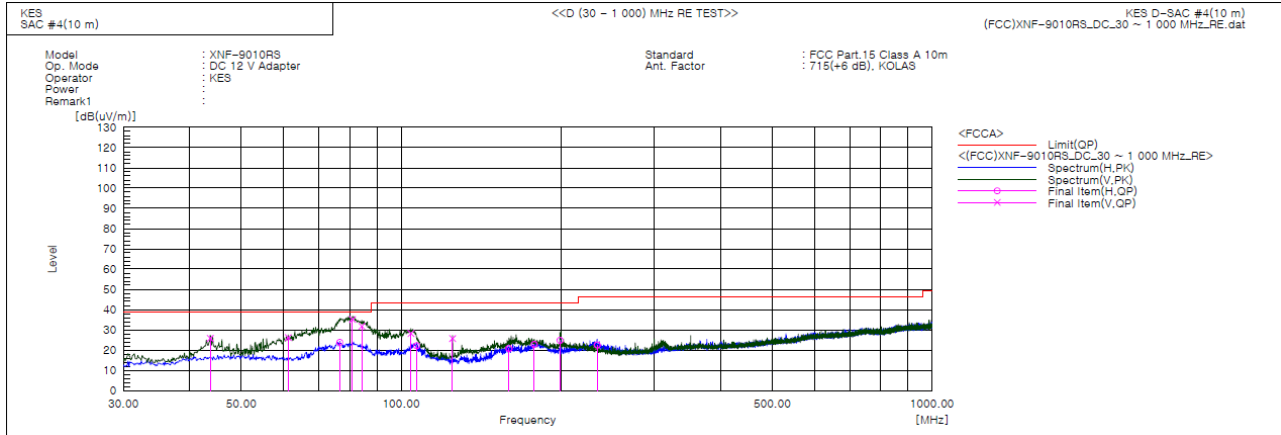
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Radiated Electric Field Emissions(Below 1 GHz)

■ 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	39.0	13.2	100.0	231.0	
2	61.283	V	48.9	-22.7	26.2	39.0	12.8	127.0	221.0	
3	76.698	H	51.0	-27.2	23.8	39.0	15.2	400.0	345.0	
4	81.022	V	62.6	-27.5	35.1	39.0	3.9	108.0	180.0	
5	84.313	V	58.3	-26.5	31.8	39.0	7.2	127.0	203.0	
6	104.322	V	50.7	-22.5	28.2	43.5	15.3	114.0	79.0	
7	106.999	H	44.8	-22.6	22.2	43.5	21.3	379.0	215.0	
8	124.945	V	50.5	-24.8	25.7	43.5	17.8	130.0	292.0	
9	159.610	H	46.0	-25.2	20.8	43.5	22.7	369.0	341.0	
10	178.169	H	46.8	-24.0	22.8	43.5	20.7	400.0	241.0	
11	199.126	H	46.7	-21.9	24.8	43.5	18.7	370.0	226.0	
12	234.066	H	42.7	-20.2	22.5	46.5	24.0	400.0	210.0	



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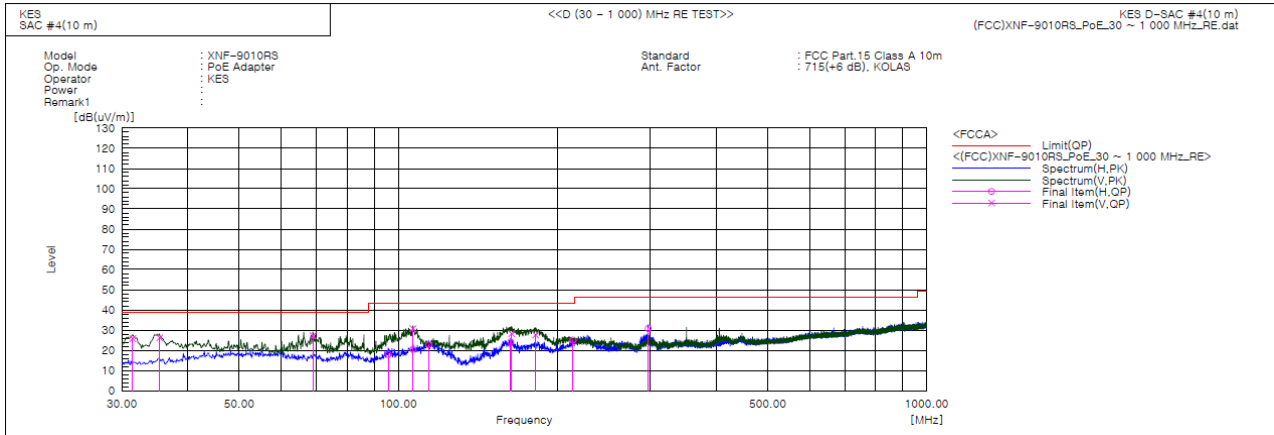
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■ PoE Adapter MODE



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	31.431	V	50.8	-25.0	25.8	39.0	13.2	126.0	197.0	
2	35.351	V	51.0	-24.8	26.2	39.0	12.8	100.0	42.0	
3	68.935	V	52.1	-24.8	27.3	39.0	11.7	105.0	311.0	
4	95.726	H	41.2	-23.3	17.9	43.5	25.6	400.0	10.0	
5	106.629	V	53.4	-22.6	30.8	43.5	12.7	116.0	124.0	
6	106.631	H	43.1	-22.6	20.5	43.5	23.0	375.0	358.0	
7	114.156	H	46.0	-23.2	22.8	43.5	20.7	400.0	187.0	
8	163.151	H	49.1	-24.9	24.2	43.5	19.3	339.0	49.0	
9	163.867	V	53.0	-24.8	28.2	43.5	15.3	127.0	293.0	
10	181.822	V	51.3	-23.7	27.6	43.5	15.9	136.0	2.0	
11	214.180	H	46.0	-20.9	25.1	43.5	18.4	389.0	322.0	
12	296.969	H	49.6	-18.8	30.8	46.5	15.7	400.0	18.0	

◆ Calculation - SAC #4(10 m)

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

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

Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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

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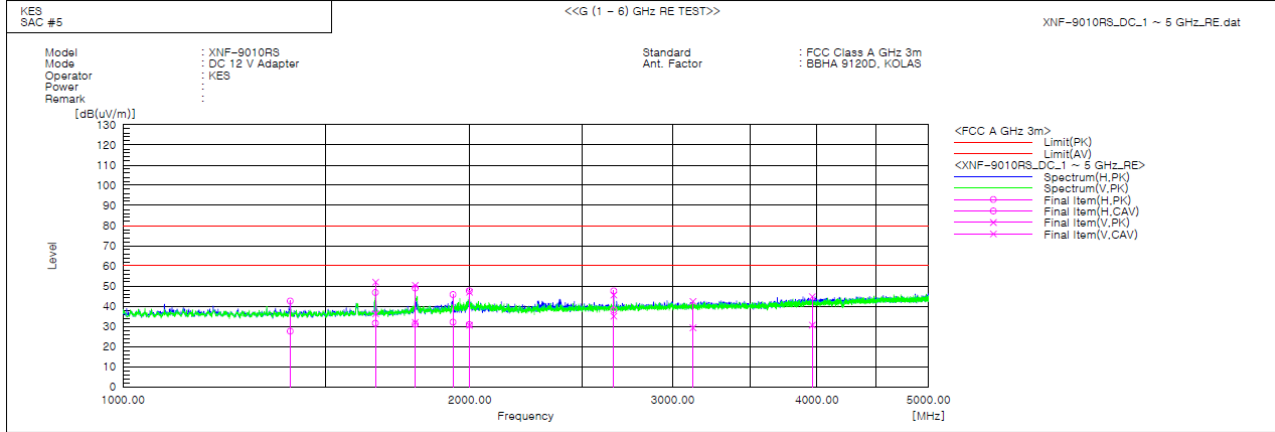
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Radiated Electric Field Emissions(Above 1 GHz)

■ DC 12 V Adapter MODE



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1396.875	H	50.7	35.7	-8.1	42.6	27.6	80.0	60.0	37.4	32.4	241.0	41.9	
2	1655.625	H	53.9	38.6	-7.1	46.8	31.5	80.0	60.0	33.2	28.5	325.0	146.6	
3	1656.250	V	59.0	43.3	-7.1	51.9	36.2	80.0	60.0	28.1	23.8	166.0	47.3	
4	1793.125	H	55.7	37.8	-6.7	49.0	31.1	80.0	60.0	31.0	28.9	345.0	163.6	
5	1793.125	V	57.1	38.7	-6.7	50.4	32.0	80.0	60.0	29.6	28.0	111.0	40.3	
6	1933.750	H	52.0	38.3	-6.2	45.8	32.1	80.0	60.0	34.2	27.9	275.0	166.2	
7	1997.500	H	53.6	36.9	-6.0	47.6	30.9	80.0	60.0	32.4	29.1	360.0	158.7	
8	1998.125	V	53.0	36.5	-6.0	47.0	30.5	80.0	60.0	33.0	29.5	118.0	112.8	
9	2665.625	H	51.3	41.8	-3.7	47.6	38.1	80.0	60.0	32.4	21.9	256.0	151.3	
10	2665.625	V	49.2	38.7	-3.7	45.5	35.0	80.0	60.0	34.5	25.0	184.0	35.4	
11	3122.500	V	44.6	31.5	-2.2	42.4	29.3	80.0	60.0	37.6	30.7	120.0	259.6	
12	3963.750	V	44.7	30.5	0.1	44.8	30.6	80.0	60.0	35.2	29.4	135.0	4.8	



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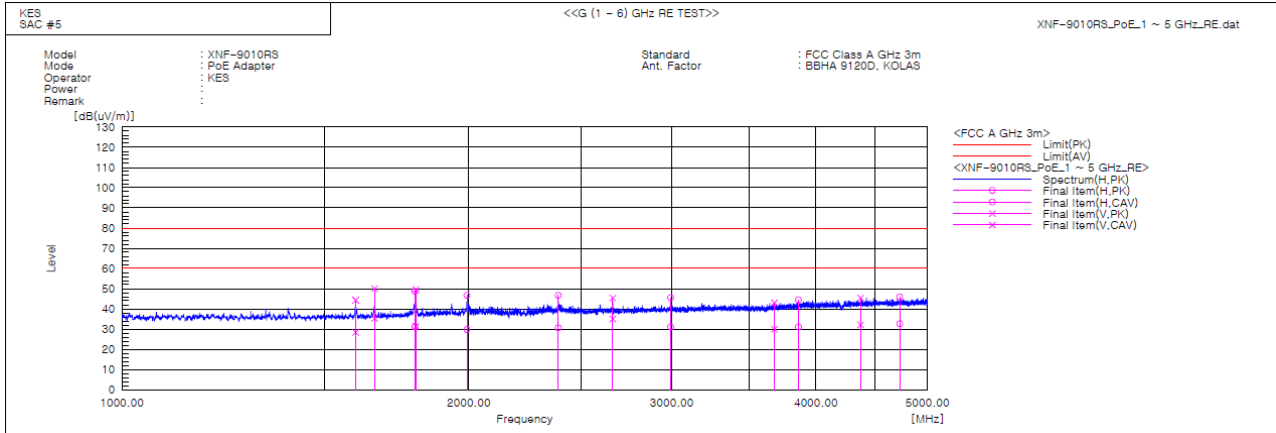
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PoE Adapter MODE



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1595.000	V	51.6	35.7	-7.3	44.3	28.4	80.0	60.0	35.7	31.6	124.0	243.1	
2	1656.250	V	57.1	42.4	-7.1	50.0	35.3	80.0	60.0	30.0	24.7	156.0	49.4	
3	1795.625	H	55.4	37.9	-6.7	48.7	31.2	80.0	60.0	31.3	28.8	345.0	162.4	
4	1798.750	V	56.3	38.1	-6.7	49.6	31.4	80.0	60.0	30.4	28.6	122.0	42.4	
5	1992.500	H	52.8	35.9	-6.1	46.7	29.8	80.0	60.0	33.3	30.2	129.0	155.6	
6	2390.625	H	51.5	35.4	-4.8	46.7	30.6	80.0	60.0	33.3	29.4	189.0	56.8	
7	2665.625	V	49.1	38.7	-3.7	45.4	35.0	80.0	60.0	34.6	25.0	110.0	47.8	
8	2992.500	H	48.0	33.6	-2.5	45.5	31.1	80.0	60.0	34.5	28.9	289.0	134.6	
9	3682.500	V	44.2	31.2	-1.2	43.0	30.0	80.0	60.0	37.0	30.0	112.0	102.5	
10	3863.125	H	44.7	31.3	-0.2	44.5	31.1	80.0	60.0	35.5	28.9	349.0	151.2	
11	4372.500	V	44.0	30.8	1.4	45.4	32.2	80.0	60.0	34.6	27.8	189.0	85.7	
12	4730.000	H	43.9	30.6	2.1	46.0	32.7	80.0	60.0	34.0	27.3	312.0	342.7	

◆ 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

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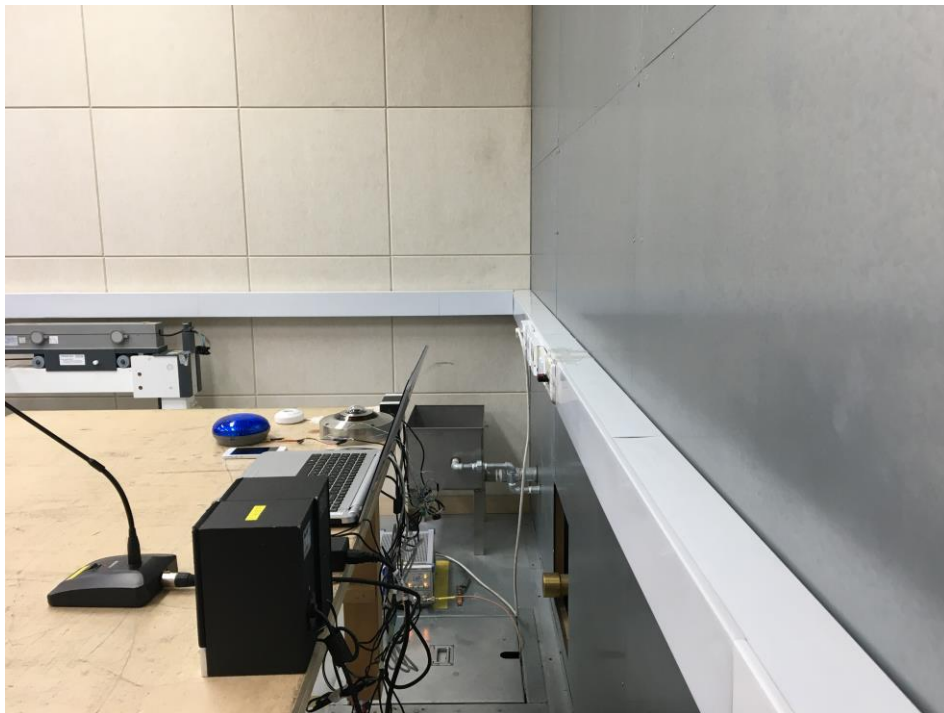
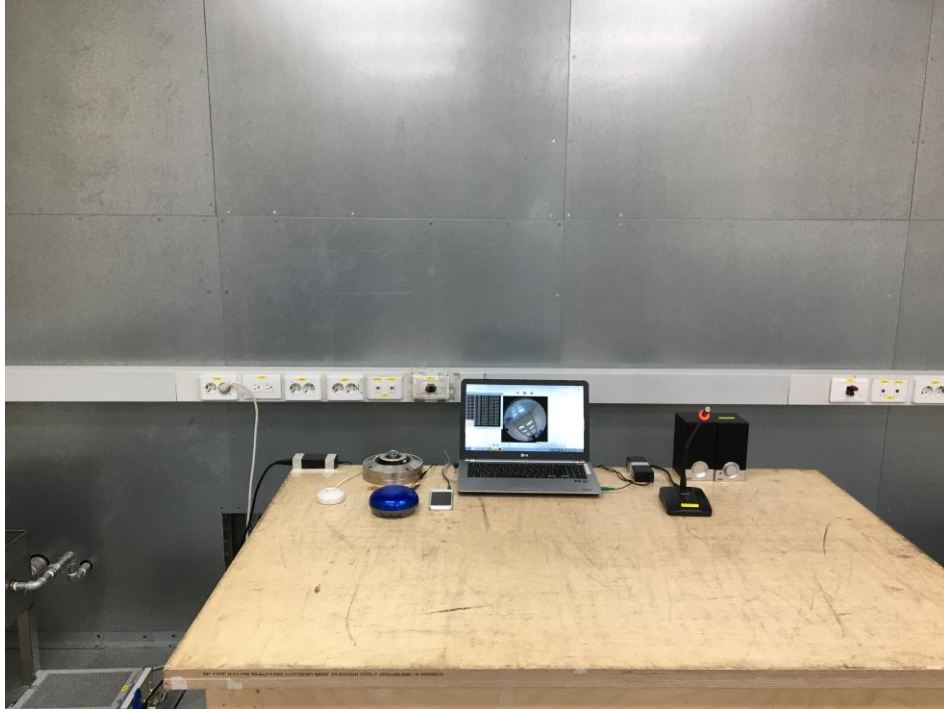
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Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

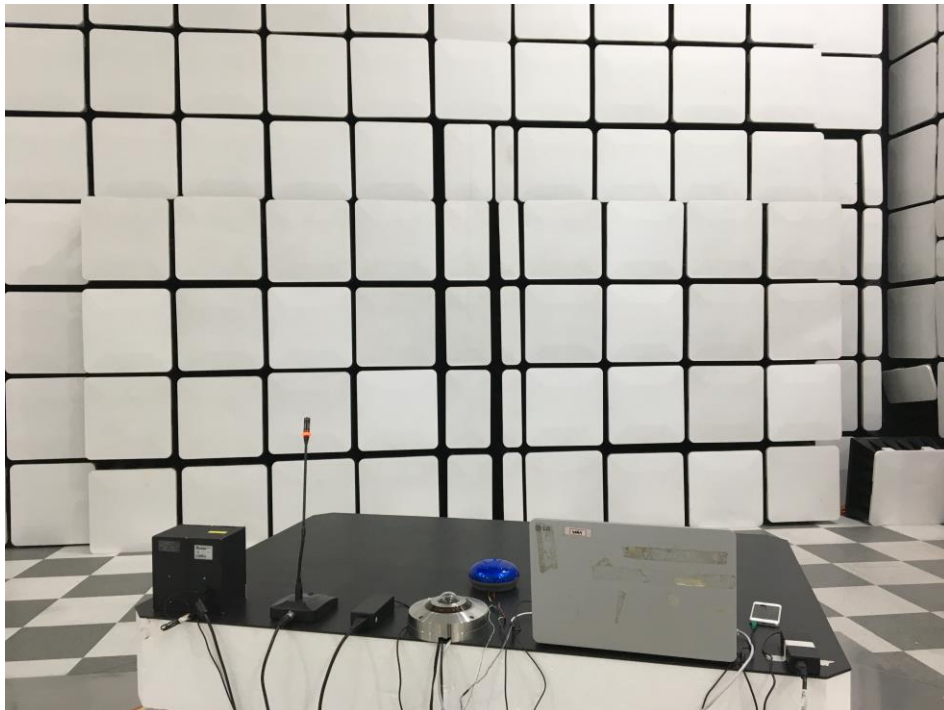
■ DC 12 V Adapter MODE



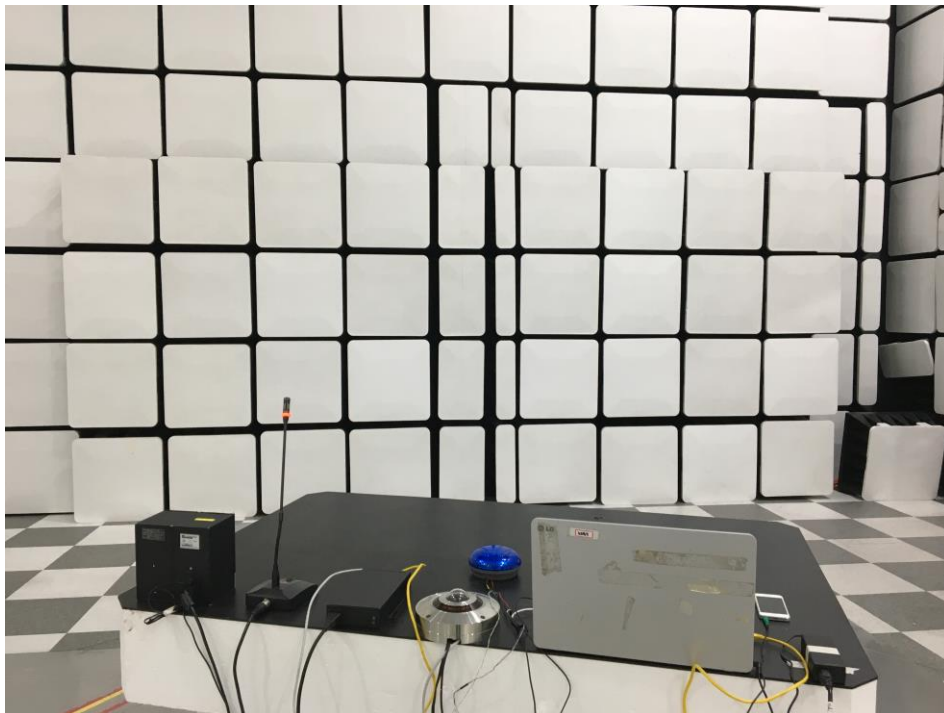
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Radiated Electric Field Emissions(Below 1 GHz)

■ DC 12 V Adapter MODE



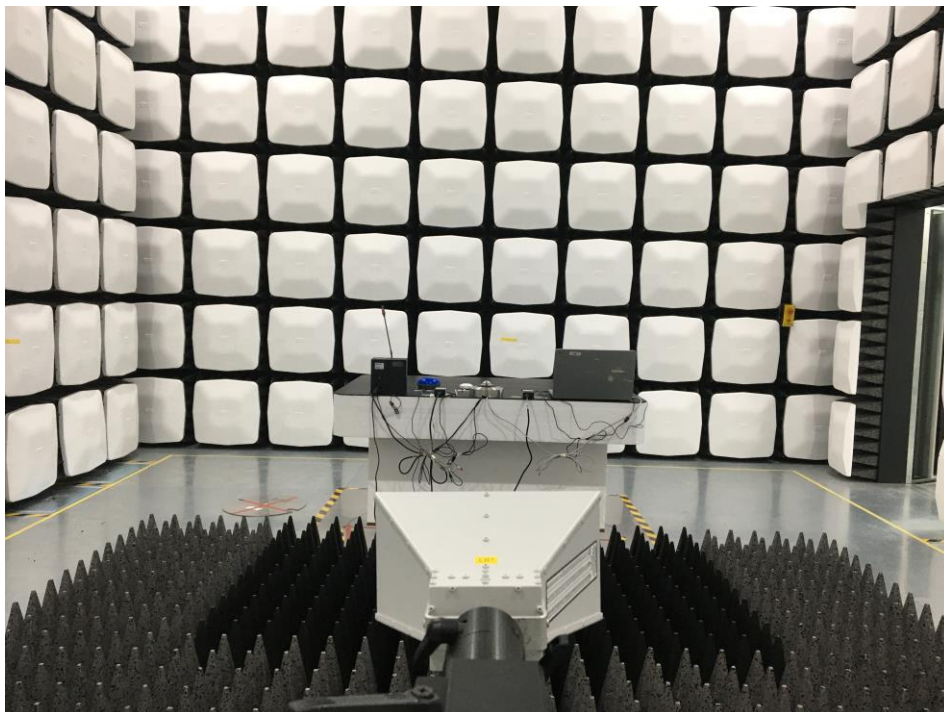
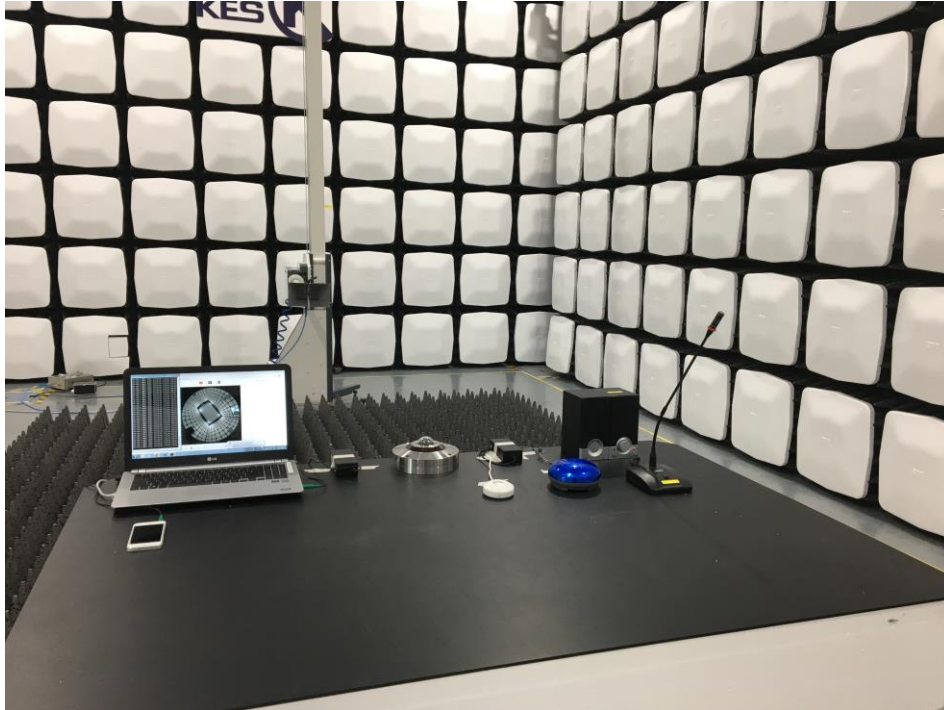
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■ PoE Adapter MODE

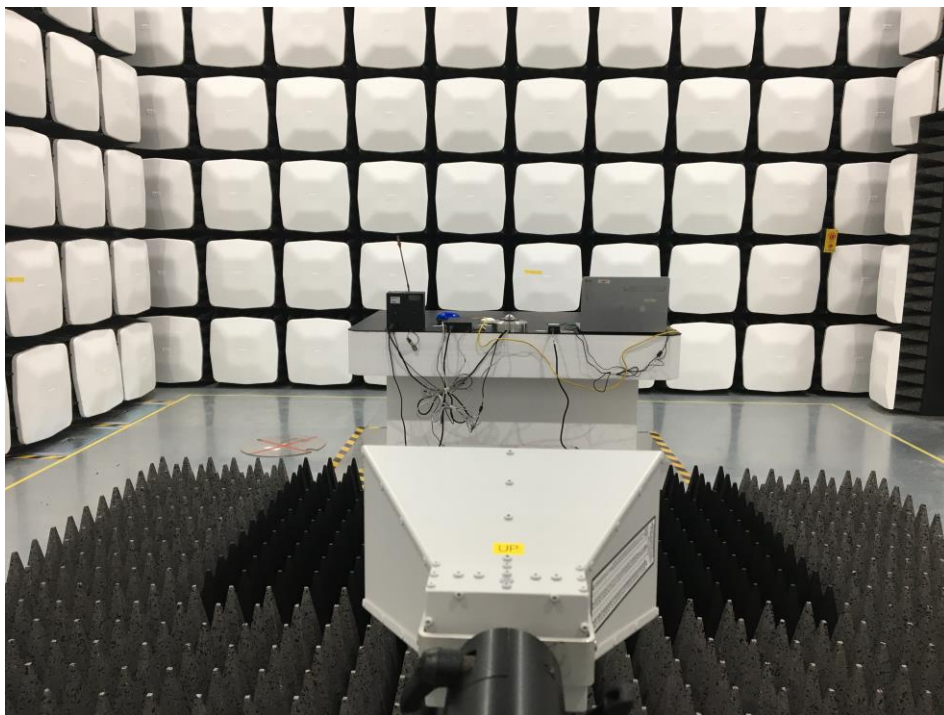
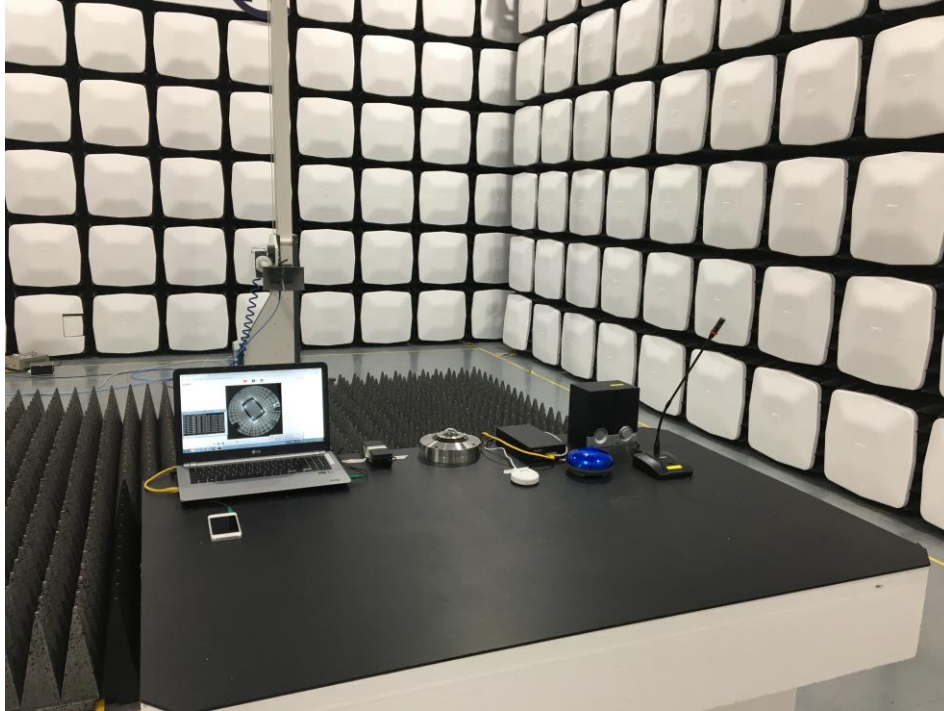
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Radiated Electric Field Emissions(Above 1 GHz)

■ DC 12 V Adapter MODE



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EUT External Photographs

(Top)



(Bottom)



EUT Internal Photographs

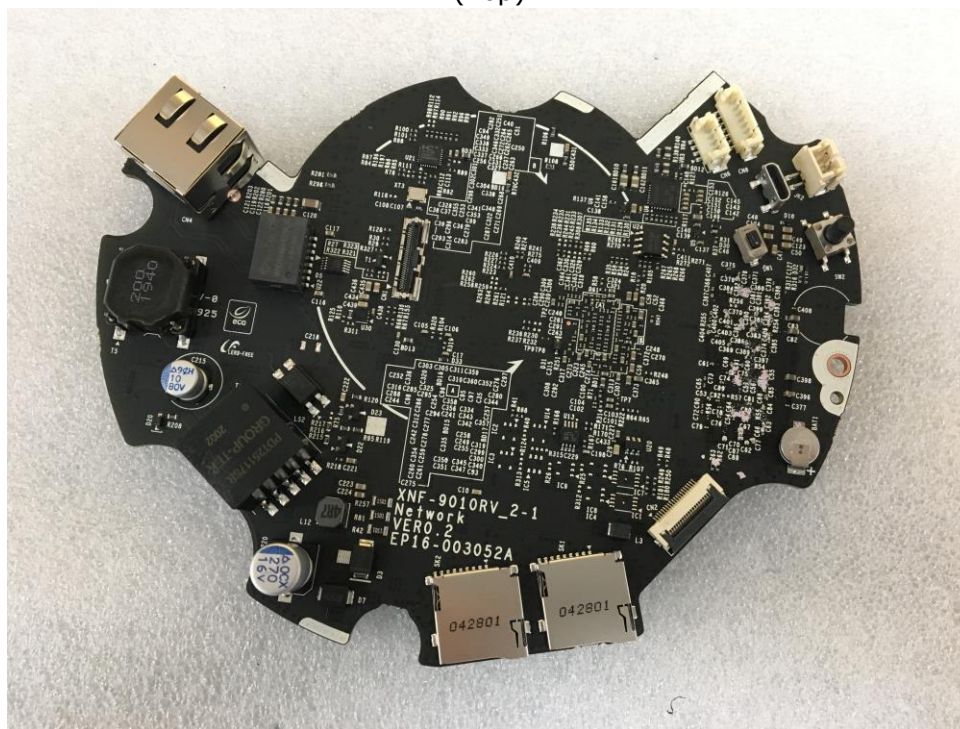
(Internal View)



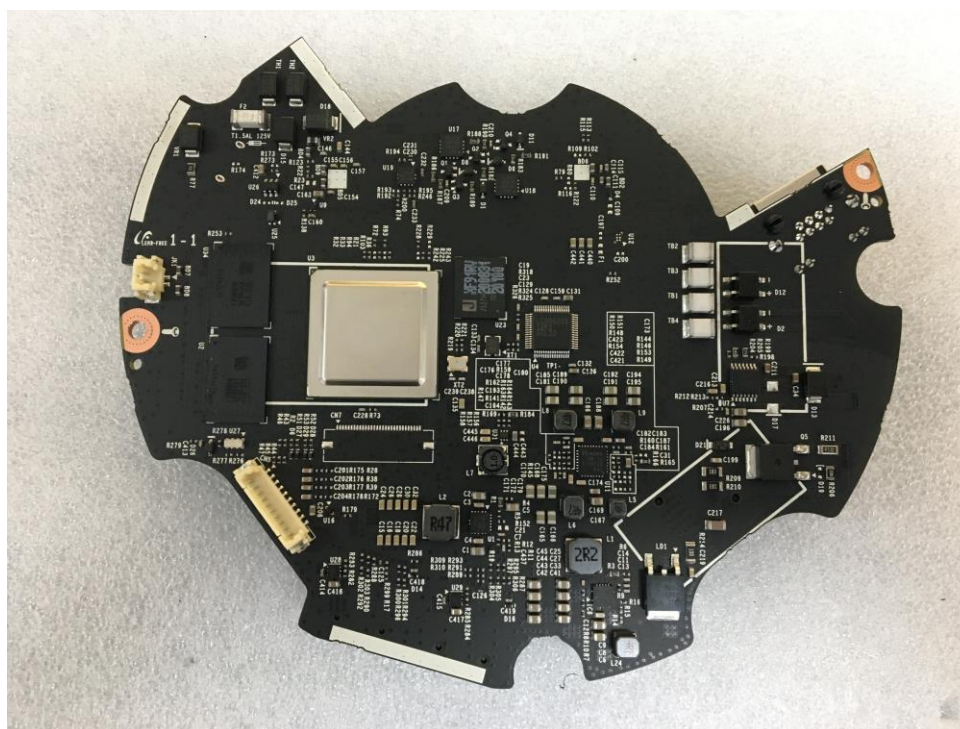
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EUT Internal View – Main Board

(Top)



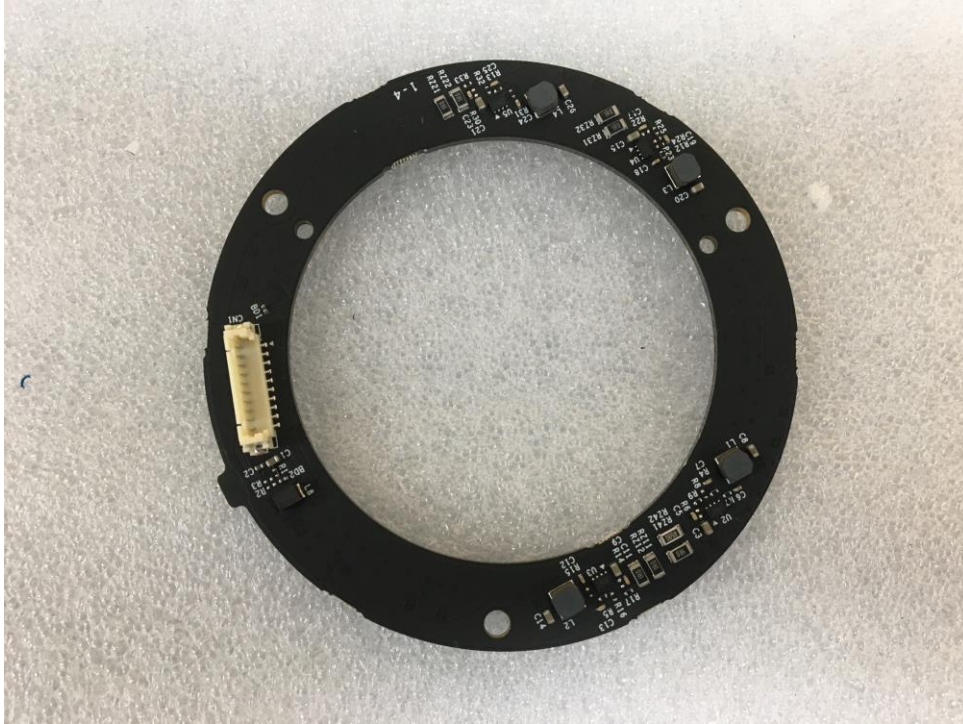
(Bottom)



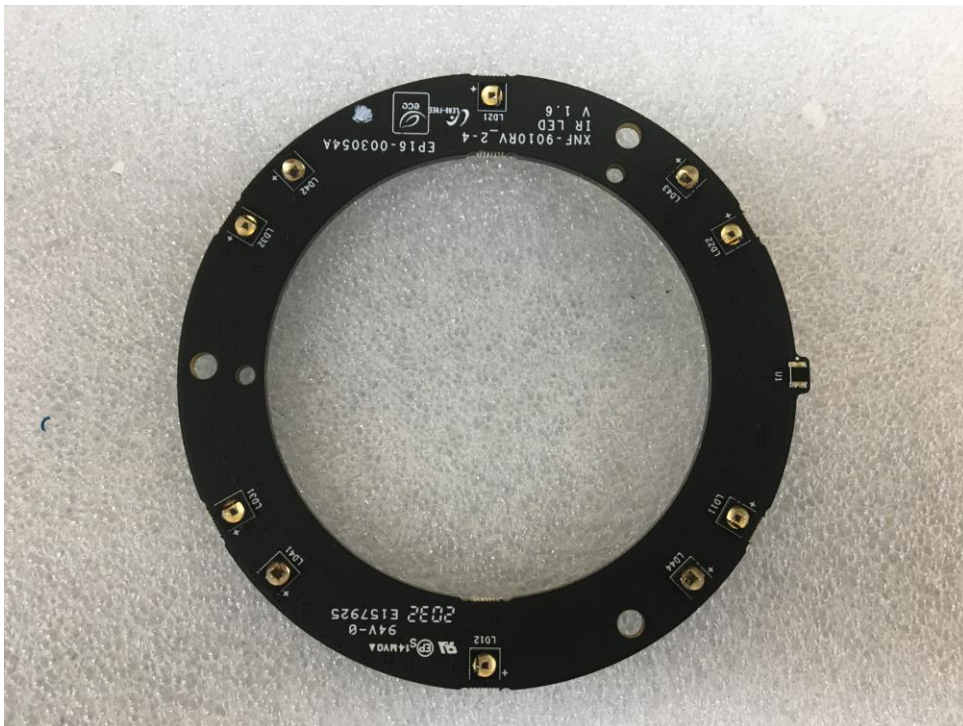
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EUT Internal View – IR Board

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)

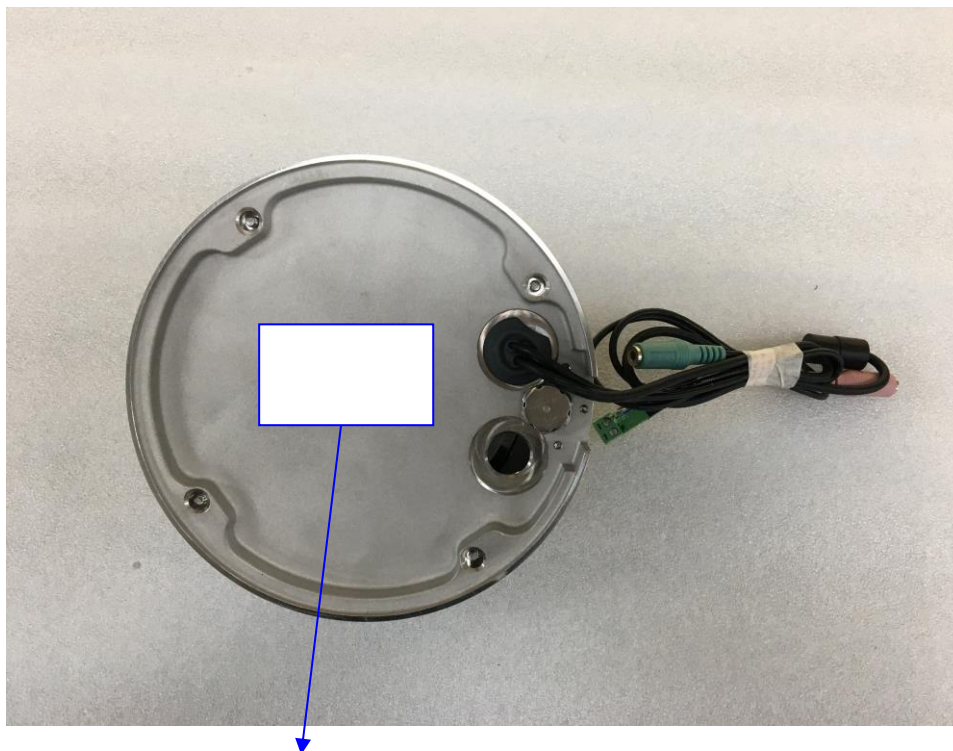


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Label Photographs



CAN ICES-3(A) / NMB-3(A)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.