



EMC TEST REPORT For VCCI

Test Report No. : KES-EM-22T0497-R2
Date of Issue : Feb. 24, 2023
Product name : NVR
Model/Type No. : XRN-1620SB1
Variant Model : XRN-1620S
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 : Jun. 13, 2022
Test date : Jun. 16, 2022
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Jae Won, Lee
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

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



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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jun. 22, 2022	KES-EM-22T0497	Issued
Jun. 28, 2022	KES-EM-22T0497-R1	Re-issue due to variant model addition
Feb. 24, 2023	KES-EM-22T0497-R2	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:

Display

Network camera	Inputs	Max. 16CH
	Resolution	32MP ~ CIF
	Protocols	SUNAPI, ONVIF
Decoding	Local Display	FHD : HDMI & VGA Dual monitor UHD : HDMI Single monitor
	Multi Screen Display	[Local Monitor] - Dynamic layout, Virtual channel view - Clone mode : Up to 16 Division - Expand mode : Up to 9 Division [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9
	Resolution	[Local Monitor] FHD Clone mode : 32M(15fps, H.265 Only), 12M(30fps, H.265 Only), 8.3M(50fps), 1080p(240fps), D1(480fps) UHD Single mode : 32M(15fps, H.265 Only), 12M(30fps, H.265 Only), 8.3M(50fps), 1080p(240fps), D1(270fps) FHD Expand mode : 32M(12fps, H.265 Only), 12M(25fps, H.265 Only), 8.3M(30fps), 1080p(90fps), D1(200fps) Clone/Single mode : Up to 25fps when displaying more than 10CH

Performance

Operating System	Embedded	Linux
Record	Compression	H.265, H.264, MJPEG
	Recording Bandwidth	Max. 140Mbps
	Resolution	32MP ~ CIF
	Mode	Normal, Dual Stream, Schedule(Continuous/Event), Event(Pre/Post), Bookmark
	Event Trigger	Alarm Input, Video Loss, Camera Event(Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event
	Event Action	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown
Search & Play	Playback Bandwidth	Max. 32Mbps
	User	Max. 4 Users (Local 1, Remote 3)
	Simultaneous playback	Max. 64CH (Local 16CH, Remote 16CH per user)
	Fisheye Dewarping	CMS
	Mode	Date & Time(Calendar), Event list, Text Search, Smart Search
	Resolution	CIF ~ 32MP (Up to H.264 8.3MP, H.265 32MP)
	Playback Control	Fast/Slow Forward / Backward, Move one step Up / Down
Storage	Supported HDD	Up to 6TB
	HDD Slot	SATA 4ea (Max. 24TB)
Backup	File backup	BU/Exe/AVI(GUI), JPG/AVI(Network)
	Function	Multi channel(Up to 16CH) Play, Date-Time/Title display

Network

Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTSP, NTP, HTTP, DHCP (Server, Client), SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, HTTPS, SNMP, ONVIF (Profile-S), SUNAPI (Server, Client)	
DDNS	Hanwha DDNS	
Transmission Bandwidth	Max. 140Mbps	
Audio	Input/Output	16 CH(network)
	Compression	G.711, G.726, AAC(16/48KHz)
	Audio Communication	2-Way
Max Remote Users	Search(3), Live Unicast(10), Multicast(20)	

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Security		IP address filtering, User access Log, 802.1x Encryption Device certificate(Hanwha Techwin Root CA), Signed firmware
Web viewer	Supported OS	Windows 10, macOS 10.13
	Supported browser	Google Chrome, Microsoft Edge, Mac Safari
Viewer Software		WAVE, SSM, Webviewer, Smart Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3rd party VMS

Functions

Camera Setup	Register	Auto, Manual
	Item	IP address, Add profile edit, Bitrate, Compression, GOP, Quality, Camera MD setup (4, 8 point polygon) Camera video setup (Simple focus, Brightness/Contrast, Flip/Mirror, IRIS, WDR, D&N, SSNR, Shutter, SSDR, DIS), Fisheye Dewarping Mode, Hallway View Setup, Camera Webpage
PTZ	Control	Via GUI, Webviewer, SPC-2000
	Preset	300 Presets
Smart phone	Support Model	iOS, Android
	Protocol Support	RTP, RTSP, HTTP, CGI(SUNAPI)
	Control	Live 16CH (Multi-Profile Support), Playback 4CH
	Max. Remote Users	Search(3), Live Unicast(10)
Redundancy	Failover	N+1
	ARB	Support
Easy configuration		P2P(QR code)

Interface

Front	Indicator	HDD, Alarm, Power, Record, Backup, Network
Storage		OK
HDMI		1EA 3840x2160 30Hz
VGA		1EA 1920x1080 60Hz
Audio		Out 1EA (3.5mm Audio Jack)
Ethernet		PoE+ RJ-45 16EA (LAN, 10/100), RJ-45 2ea (LAN/WAN 1Gbps)
Alarm		In 4EA, Out 2EA
USB		3EA(Front 2 x USB 2.0, Rear 1 x USB 3.0)
Power inlet		AC 1EA

System

Log	Log List	Max. 100,000 (System Log, Event Log each)
System Control		Mouse, Keyboard, Web, Controller (SPC-2000)
Language		English, French, German, Italian, Spanish, Russian, Turkish, Polish, Dutch, Czech, Portuguese, Danish, Rumanian, Serbian, Croatian, Hungarian, Greek, Norwegian, Finnish, Korean, Chinese, Japanese, Thai, Vietnamese

Environmental

Operating Temperature	0°C to +40°C (32°F to 104°F)
Operating Humidity	20% ~ 85% RH

Electrical

Power Input	100 ~ 240 VAC ±10%; 50/60 Hz
Power Consumption	Max. 310W
PoE Budget	200W

Mechanical

Color / Material	Black / Metal
Dimension (WxDxD)	440 x 89.8 x 428.4 mm (17.32 x 3.54 x 16.87 inch)
Weight	5.76 Kg (12.70lb)

Intelligent Analysis

AI Search	Object Attribute	Compatible for Wisenet AI Camera
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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

Addition of derivative models for place of sale management

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NVR	XRN-1620SB1	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
Mouse	MOKJUO	-	Primax Electronics Ltd.	-
SWITCHING POWER SUPPLY	DPS-280AB-6 A	-	Delta Electronics Power(Dongguan) Co., Ltd.	-

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1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Camera	QNV-6023R	-	HANWHA VISION VIETNAM COMPANY LIMITED	-
Laptop	P95G001	8KM8HT2	DELL INC.	-
Laptop Adapter	LA65NS2-01	-	LITE-ON TECHNOLOGY(CHANGZ HOU)CO.,LTD.	-
Monitor1	DELL E2222H DVT	8221TCM10D001 03X	DELL INC.	-
Monitor2	SMT-2232	C95V67VF90003 8B	Weihai Daewoo Electronics Co., Ltd.	-
Earphone	-	-	-	-
Alarm	-	-	-	-
Button alarm	-	-	-	-
HDD	ST2000VX016	-	SEAGATE	2 TB
Smart phone	-	-	SAMSUNG	-
USB Memory1	-	-	Sandisk	32 GB
USB Memory2	-	-	Sandisk	32 GB

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1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NVR (EUT)	RJ-45 (PoE)	Camera	RJ-45 (PoE)	3.0	U
	RJ-45 (LAN)	Laptop	RJ-45 (LAN)	3.0	U
	USB	Mouse (EUT)	USB	1.4	U
	USB	USB Memory1	USB	-	-
	USB	USB Memory2	USB	-	-
	HDMI	Monitor1	HDMI	1.5	S
	D-SUB	Monitor2	D-SUB	1.7	S
	grounding	grounding	grounding	1.2	-
	3.5 mm	Earphone	3.5 mm	1.5	U
	Alarm out	Alarm	Alarm in	3.0	U
	Alarm in	Button alarm	Alarm out	3.0	U
	SATA	HDD	SATA	0.2	U
Laptop	DC Jack	Laptop Adapter	DC Jack	1.6	U
	3.5 mm	Smart phone	3.5 mm	1.5	U

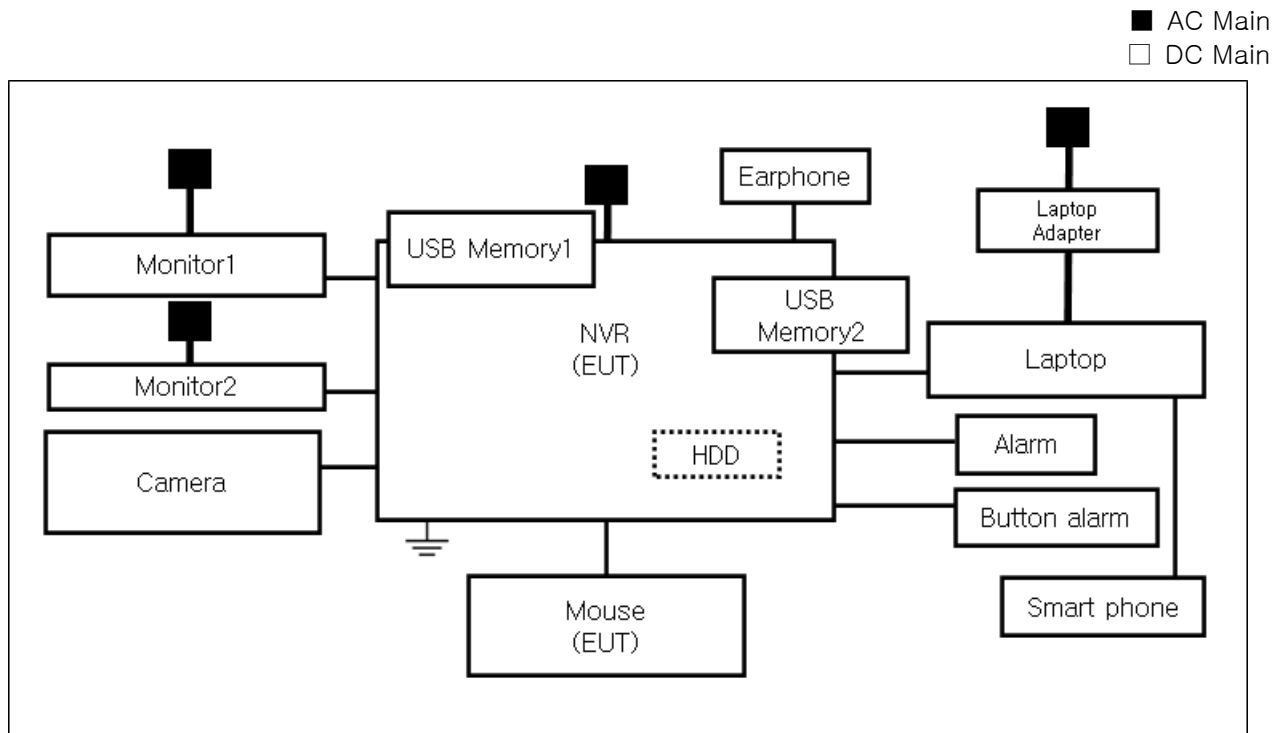
* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

Test Mode	operating
Operation Mode	EUT Monitoring, Ping Test after testing, check if the recording is normally done on the HDD and USB Memory

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

1.8 Configuration



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:

☒ **VCCI-CISPR 32:2016**

☒ Class A

☐ Class B



2.1 Conducted Emissions Mains Power Ports

Test Date

Jun. 16, 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

Test Conditions

Temperature: (24,1 ± 0,1) °C

Relative Humidity: (44,3 ± 0,1) % R.H.

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

2.2 Conducted Emissions at Telecommunication Ports

Test Date

Jun. 16, 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
☒	8-WIRE ISN CAT3,5	ENY81	R & S	100174	12, 28, 2022
☒	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101665	12, 28, 2022

Test Conditions

Temperature: (24,1 ± 0,1) °C

Relative Humidity: (44,3 ± 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

Jun. 16, 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: (24,4 ± 0,1) °C
Relative Humidity: (44,6 ± 0,1) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jun. 16, 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, 03, 2022
☒	PREAMPLIFIER	8449B	AGILENT	3008A01967	04, 01, 2023
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	03, 03, 2023

Test Conditions

Temperature: (24,5 ± 0,1) °C

Relative Humidity: (44,5 ± 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.

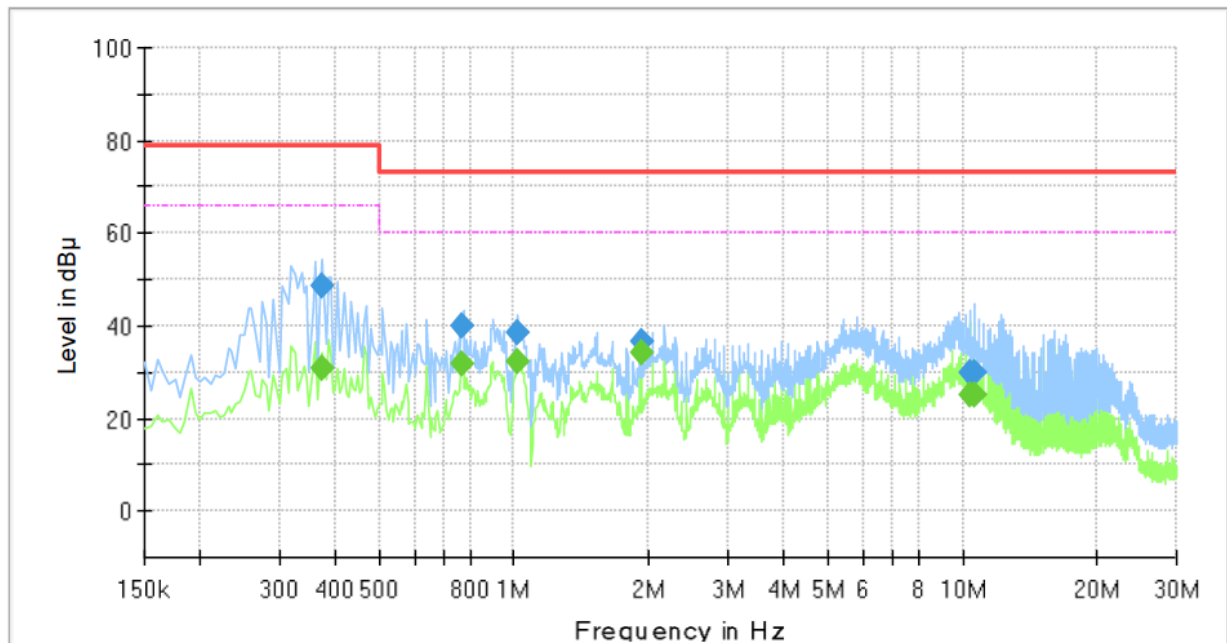
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description: Conducted Emission
 Model No.: XRN-1620SB1
 Phase: L1
 Mode:
 Operator Name: KES



Final Result

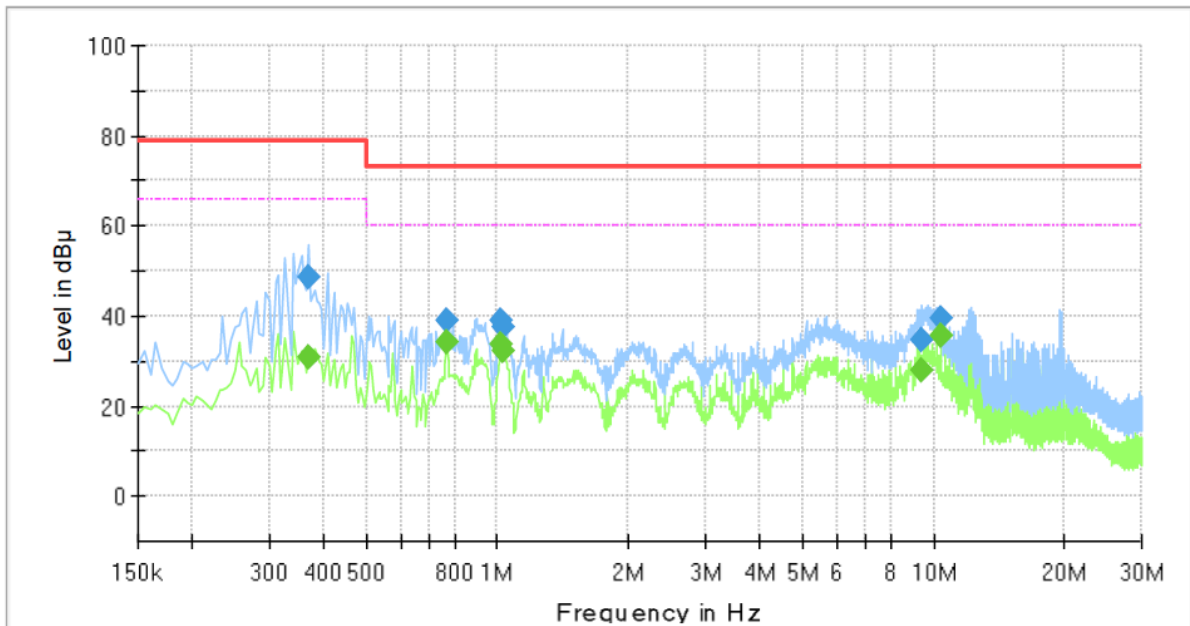
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.375000	---	30.81	66.00	35.19	1000.0	9.000	L1	19.6
0.375000	48.47	---	79.00	30.53	1000.0	9.000	L1	19.6
0.765000	---	32.02	60.00	27.98	1000.0	9.000	L1	20.0
0.765000	40.15	---	73.00	32.85	1000.0	9.000	L1	20.0
1.020000	---	32.29	60.00	27.71	1000.0	9.000	L1	20.0
1.020000	38.49	---	73.00	34.51	1000.0	9.000	L1	20.0
1.915000	---	34.12	60.00	25.88	1000.0	9.000	L1	20.3
1.915000	36.76	---	73.00	36.24	1000.0	9.000	L1	20.3
10.430000	---	25.22	60.00	34.78	1000.0	9.000	L1	19.9
10.430000	29.81	---	73.00	43.19	1000.0	9.000	L1	19.9
10.655000	---	25.12	60.00	34.88	1000.0	9.000	L1	19.9
10.655000	30.10	---	73.00	42.90	1000.0	9.000	L1	19.9

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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	XRN-1620SB1
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)
0.370000	---	30.85	66.00	35.15	1000.0	9.000	N	19.6
0.370000	48.45	---	79.00	30.55	1000.0	9.000	N	19.6
0.765000	---	34.13	60.00	25.87	1000.0	9.000	N	20.0
0.765000	38.76	---	73.00	34.24	1000.0	9.000	N	20.0
1.020000	---	33.66	60.00	26.34	1000.0	9.000	N	20.0
1.020000	38.82	---	73.00	34.18	1000.0	9.000	N	20.0
1.025000	---	32.33	60.00	27.67	1000.0	9.000	N	20.1
1.025000	37.37	---	73.00	35.63	1000.0	9.000	N	20.1
9.415000	---	28.10	60.00	31.90	1000.0	9.000	N	19.8
9.415000	34.67	---	73.00	38.33	1000.0	9.000	N	19.8
10.430000	---	35.84	60.00	24.16	1000.0	9.000	N	19.9
10.430000	39.34	---	73.00	33.66	1000.0	9.000	N	19.9

◆ 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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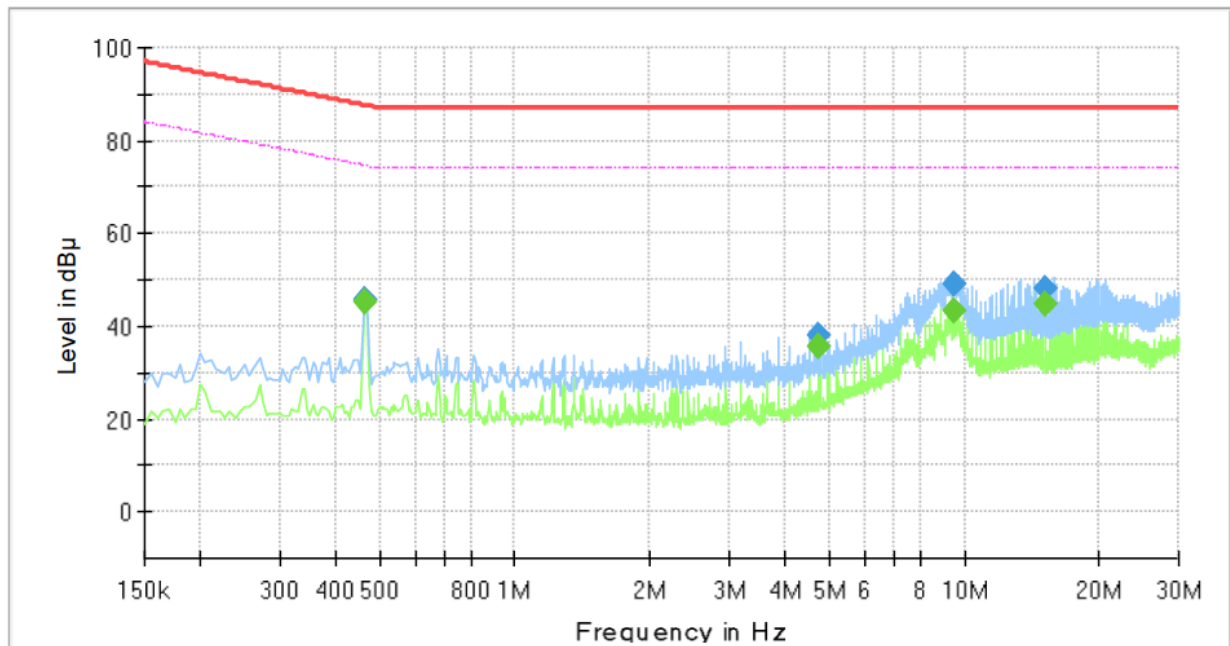
Conducted Emissions at Telecommunication Ports

■ LAN

[1 000 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: XRN-1620SB1
Mode : LAN_TEL 1 000 Mbps
Speed :
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.465000	---	45.11	74.60	29.49	1000.0	9.000	Single Line	19.7
0.465000	45.66	---	87.60	41.94	1000.0	9.000	Single Line	19.7
4.760000	---	35.48	74.00	38.52	1000.0	9.000	Single Line	19.5
4.760000	37.88	---	87.00	49.12	1000.0	9.000	Single Line	19.5
9.520000	---	43.47	74.00	30.53	1000.0	9.000	Single Line	19.5
9.520000	48.94	---	87.00	38.06	1000.0	9.000	Single Line	19.5
15.190000	---	44.86	74.00	29.14	1000.0	9.000	Single Line	19.6
15.190000	48.02	---	87.00	38.98	1000.0	9.000	Single Line	19.6

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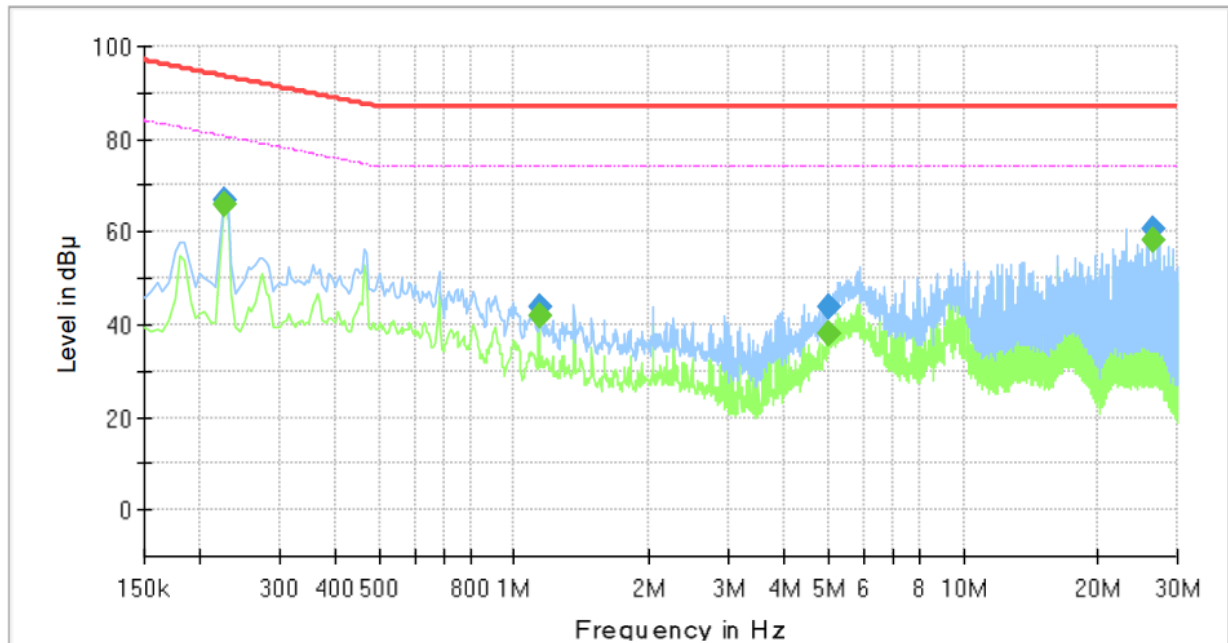
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■ PoE

[100 Mbps]

Common Information

Test Description: Telecommunication Emission
 Model No.: XRN-1620SB1
 Mode : PoE_TEL 100 Mbps
 Speed :
 Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.225000	---	65.94	80.63	14.69	1000.0	9.000	Single Line	19.7
0.225000	66.93	---	93.63	26.70	1000.0	9.000	Single Line	19.7
1.135000	---	41.83	74.00	32.17	1000.0	9.000	Single Line	20.0
1.135000	43.77	---	87.00	43.23	1000.0	9.000	Single Line	20.0
4.990000	---	38.19	74.00	35.81	1000.0	9.000	Single Line	19.4
4.990000	43.76	---	87.00	43.24	1000.0	9.000	Single Line	19.4
26.610000	---	58.37	74.00	15.63	1000.0	9.000	Single Line	20.2
26.610000	60.58	---	87.00	26.42	1000.0	9.000	Single Line	20.2

◆ Calculation

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

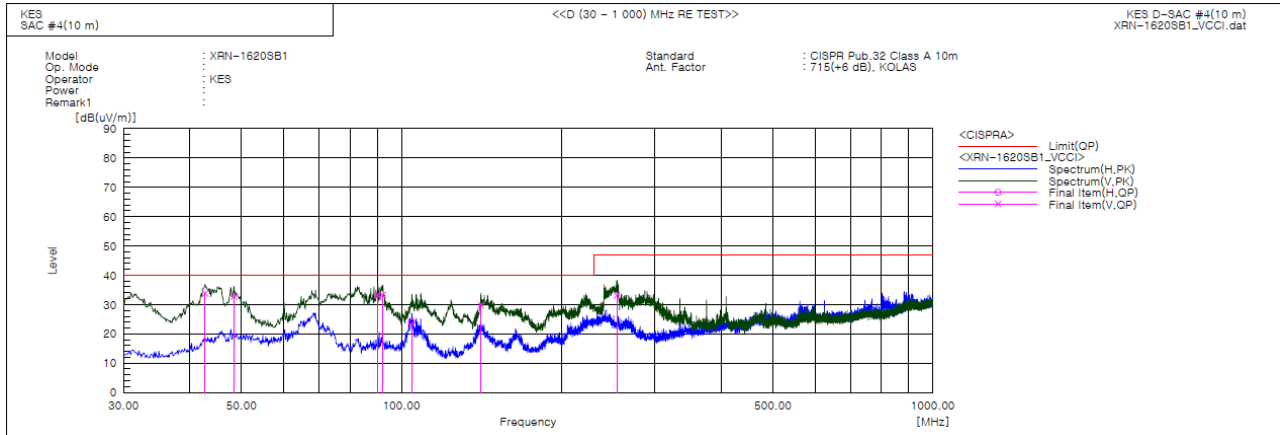
QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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



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	42.731	V	55.5	-21.7	33.8	40.0	6.2	142.0	117.0	
2	48.430	V	53.9	-21.1	32.8	40.0	7.2	111.0	102.0	
3	90.261	V	57.3	-24.1	33.2	40.0	6.8	112.0	248.0	
4	92.201	V	57.1	-23.8	33.3	40.0	6.7	106.0	259.0	
5	104.690	H	46.5	-22.4	24.1	40.0	15.9	195.0	221.0	
6	141.186	V	55.3	-25.5	29.8	40.0	10.2	142.0	267.0	
7	254.191	V	52.2	-19.1	33.1	47.0	13.9	148.0	12.0	

◆ Calculation

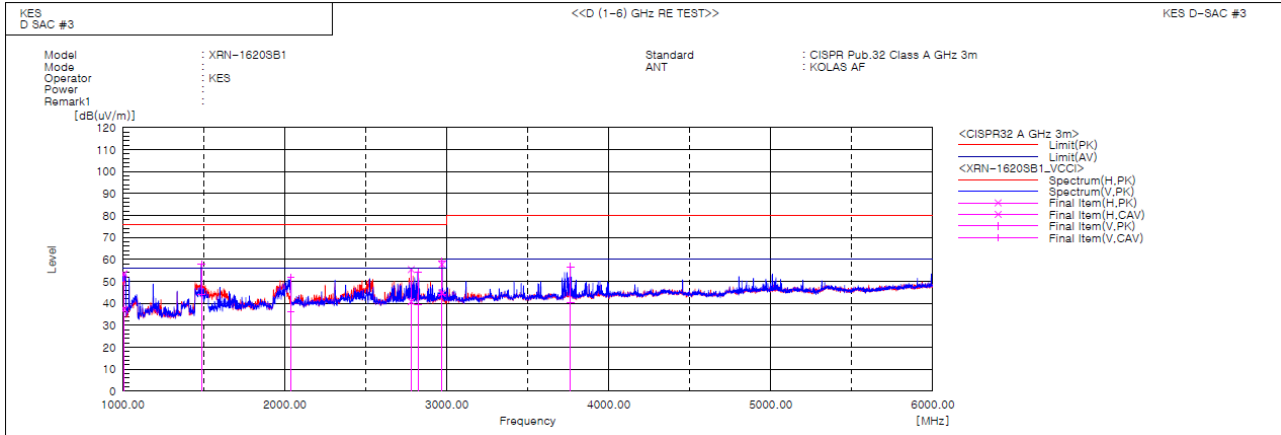
Corrected Amplitude [dBuV] = Amplitude[dBuV] + Correction Factor [dB]

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

Correction Factor : ANT FACTOR + Cable loss



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	1008.531	H	62.8	46.6	-9.3	53.5	37.3	76.0	56.0	22.5	18.7	100.0	311.8	
2	1485.653	V	63.7	49.9	-5.9	57.8	44.0	76.0	56.0	18.2	12.0	100.0	2.1	
3	2037.864	V	52.6	36.8	-0.8	51.8	36.0	76.0	56.0	24.2	20.0	100.0	300.0	
4	2780.643	H	52.8	38.2	2.6	55.4	40.8	76.0	56.0	20.6	15.2	100.0	319.8	
5	2822.863	V	51.7	36.6	2.7	54.4	39.3	76.0	56.0	21.6	16.7	100.0	21.2	
6	2970.075	V	57.0	41.8	2.2	59.2	44.0	76.0	56.0	16.8	12.0	100.0	6.8	
7	2970.350	H	55.5	42.5	2.2	57.7	44.7	76.0	56.0	18.3	11.3	100.0	44.7	
8	3763.752	V	51.8	35.3	4.9	56.7	40.2	80.0	60.0	23.3	19.8	100.0	13.2	

◆ Calculation

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

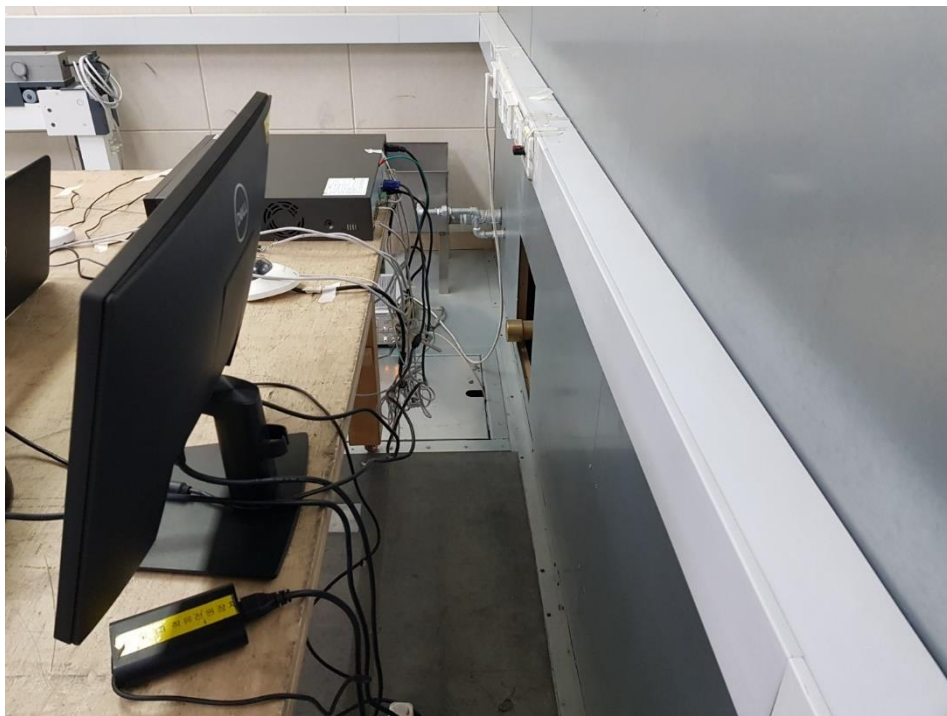
Margin(PK/CAV)[dB] = Limit[dB(μV/m)] - Result(PK/CAV) [dB(μV/m)]

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

Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



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Conducted Emissions at Telecommunication Ports



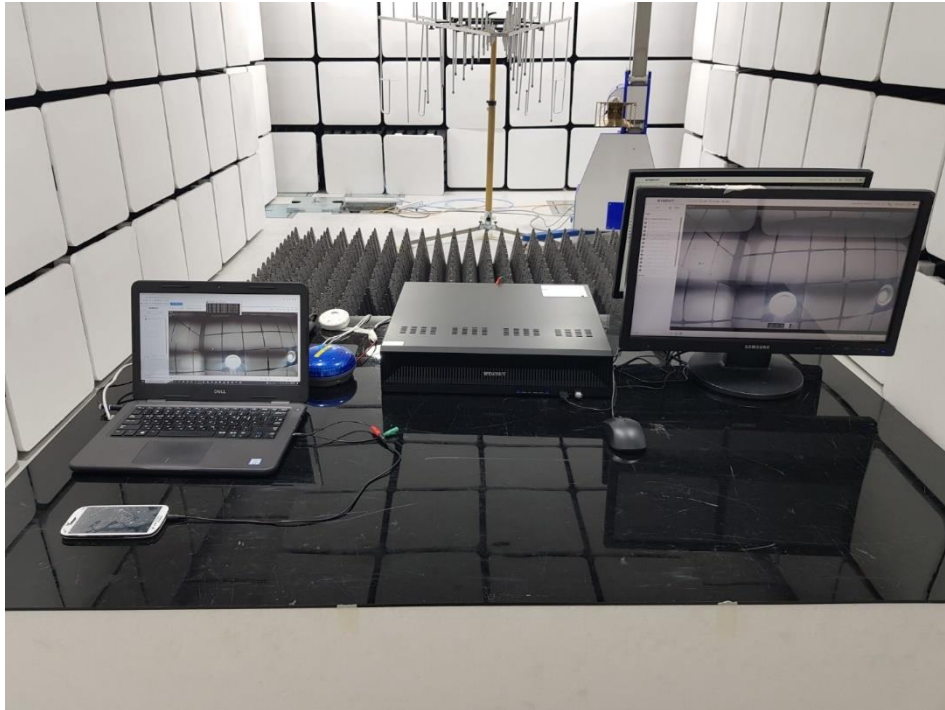
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



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EUT External Photographs

(Top)



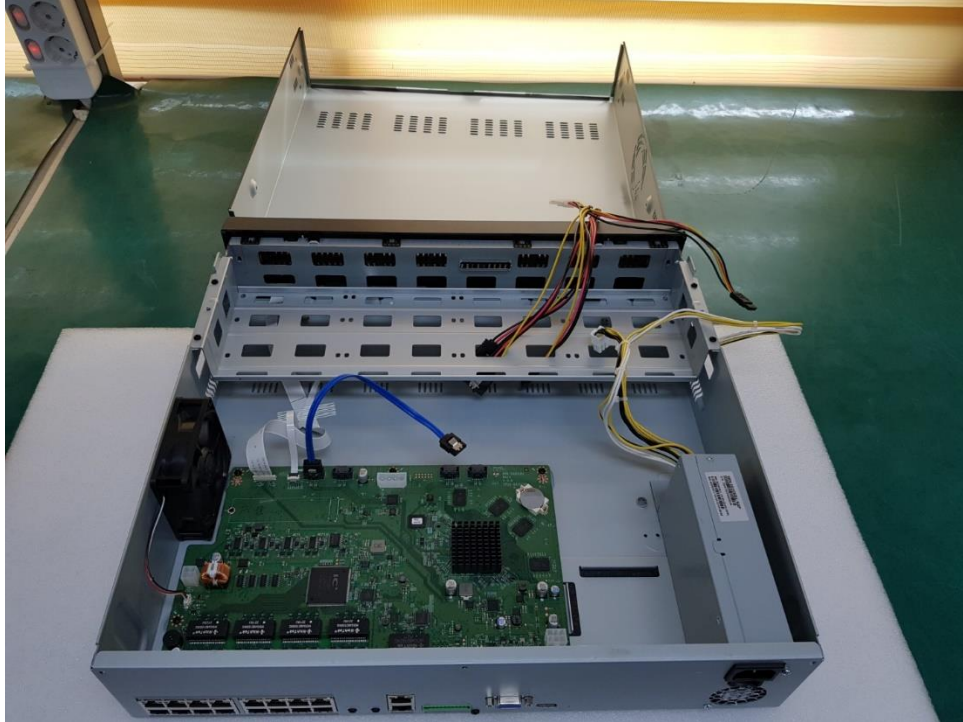
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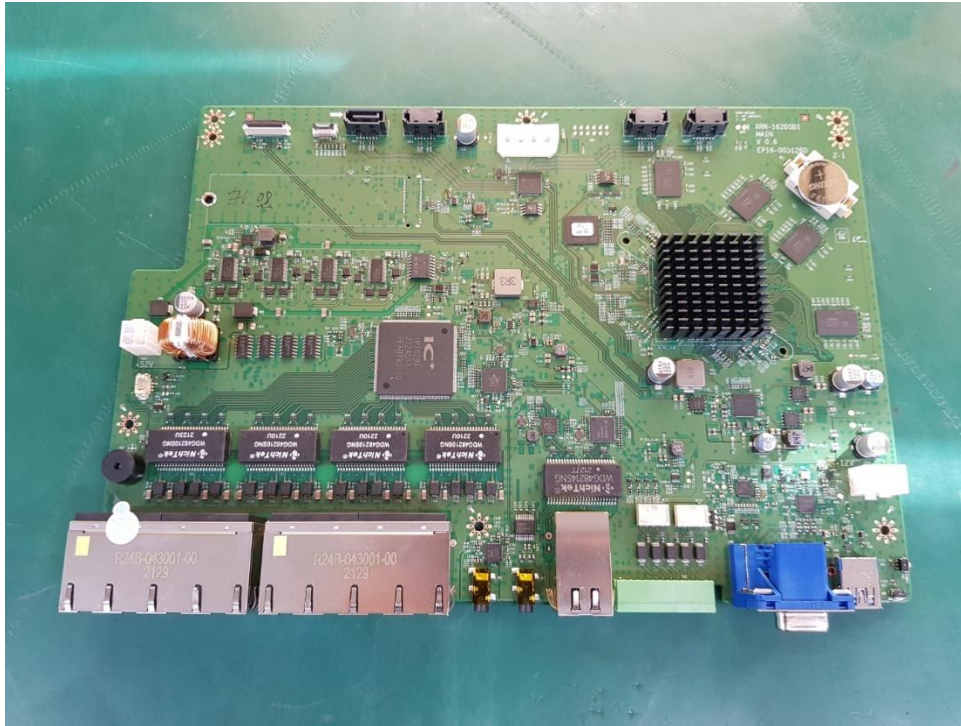
(Internal View)



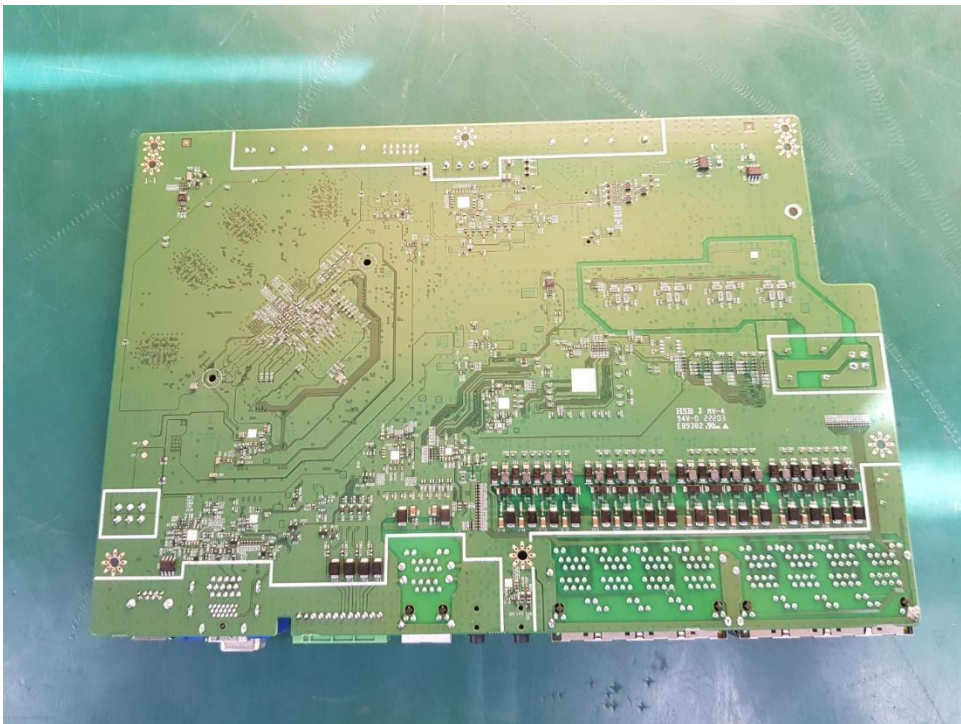
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EUT Internal View – Main Board

(Top)



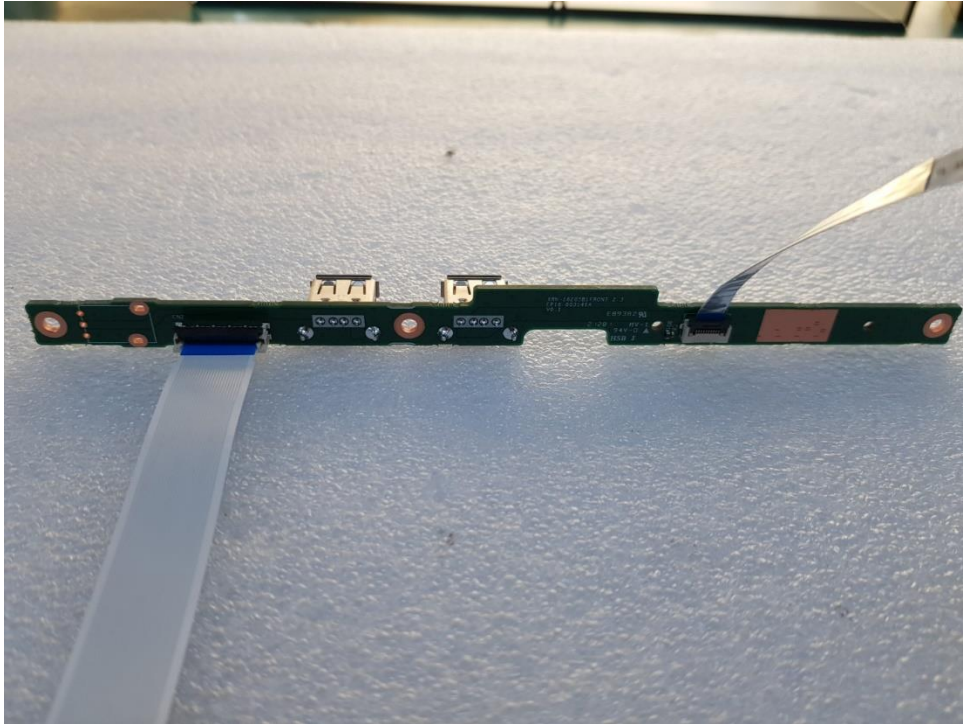
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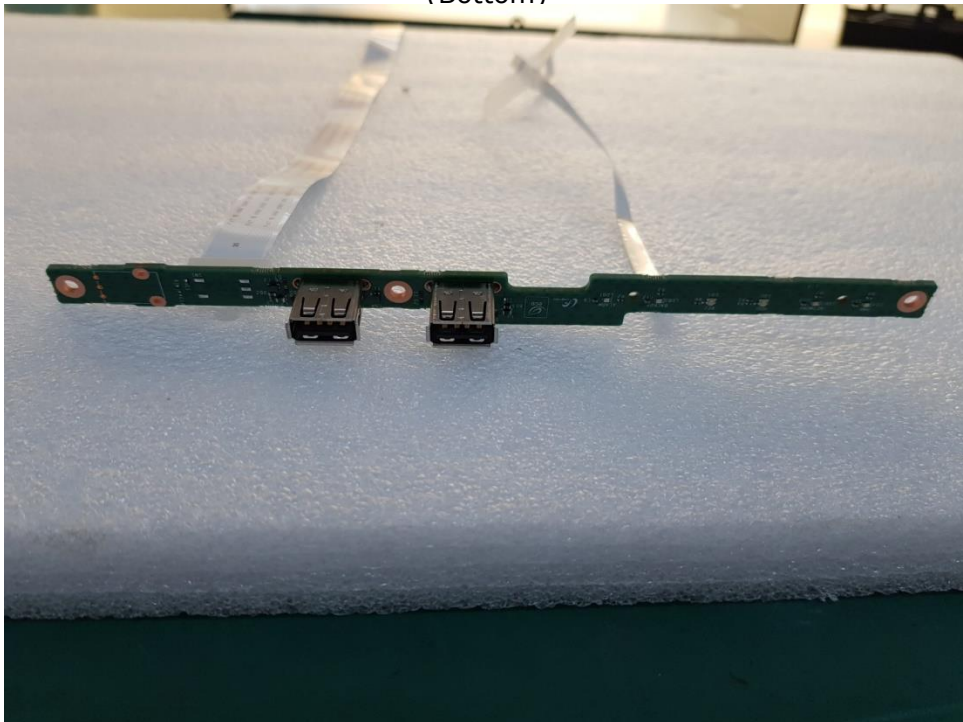
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EUT Internal View – Sub Board

(Top)



(Bottom)



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EUT Internal View – Power

(Top)



(Bottom)



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EUT Internal View – Mouse

(Top)



(Bottom)

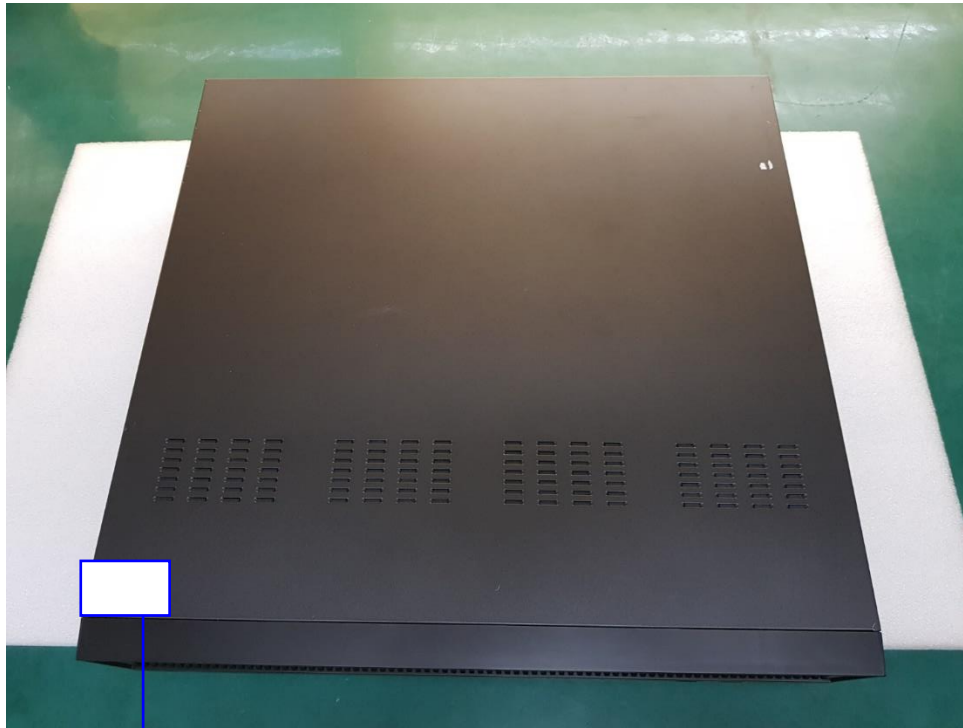


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Label Photographs



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