

**KES Co., Ltd.**

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Report No.:

KES-EM-22T0346

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EMC TEST REPORT For RCM

Test Report No. : KES-EM-22T0346

Date of Issue : Apr. 12, 2022

Product name : NVR

Model/Type No. : QRN-1630S

Variant Model : -

Applicant : Hanwha Techwin Co., Ltd.

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

Manufacturer : 1. HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)

Date of Receipt : Mar. 24, 2022

Test date : Mar. 28, 2022 ~ Mar. 30, 2022

Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Ki Man, 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.

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Apr. 12, 2022	KES-EM-22T0346	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Display		
Video	Inputs	Max. 16CH
	Resolution	CIF ~ 8MP
	Protocols	sunapi, ONVIF
Live	Local Display	HDMI1, HDMI2 1) HDMI1 : 3840x2160 30Hz HDMI2 : 1920x1080 60Hz
	Multi Screen Display	[Clone Monitor] Dynamic layout [Expand Mode] HDMI1 : Dynamic layout HDMI2 : Max 16 Div
	Resolution	[Local Monitor] 8M(60fps), 1080p(240fps), 720P(480fps), D1(960fps)
Intelligent Analysis		
Search	Object image	N/A
Comparision	Event Trigger	N/A
Attribute (AI)	Person	N/A
	Face	N/A
	Vehicle	N/A
Performance		
System	Operating System	Linux
	Processor	NT98336
Record	Compression	H.265, H.264, MJPEG, WiseStream(H.265, H.264)
	Recording Bandwidth	128Mbps
	Resolution	CIF ~ 8MP

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	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)
	Mode	Time, Event, Text, Export, ARB, Bookmark
	Simultaneous playback	Max 40CH - Set : 16CH - Remote : 8CH Per User
	Resolution	CIF ~ 8MP
	Fisheye Dewarping	No
	Playback Control	Fast/Slow Forward / Backward, Move one step Up / Down
Storage	Built-In	2TB ~ 10TB
	Internal HDD	2ea (Max 20TB)
	External	N/A
	RAID	N/A
Backup	File backup	BU/AVI(GUI), JPG/AVI(Network)
	Function	Multi channel(Upto 8 CH) Play, Date- Time/Title display
Sensor	I/O	4/2 (NO/NC Selectable)
Audio	Input/Output	16CH (network)/output (Set)
	Compression	G.711, G.726, AAC(16/48KHz)
	Audio Communication	2-Way

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Network		
Interface		16 Port PoE, RJ-45(1 Gbps)
Protocol		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), FTP SUNAPI(Server, Client)
DDNS		Hanwha DDNS
Transmission Bandwidth		128Mbps
Max Remote Users		Search (3), Live Unicast (10), Multicast (20)
IP Version		IPv4/v6
Security		IP address filtering, User access Log, 802.1x, Encryption
Language		English, French, German, Italian, Spanish, Russian, Turkish, Polish, Dutch, Swedish , Czech, Portuguese, Danish, Rumanian, Serbian, Croatian, Hungarian, Greek, Norwegian, Finnish, Korean, Chinese, Japanese, Thai, Vietnam
OS		Windows 10, Mac OS 11 Big Sur and later
Web Browser		Chrome v99 or above, Edge v99 or above, Safari v14.0.3 or above
Viewer Software	Type	WAVE(Sunapi peristalsis), SSM, Webviewer, Smart Viewer, Wisenet Viewer, Wisenet Mobile
	CMS Support	Support CGI(SUNAPI) for integration to 3'rd party VMS
Functions		
Camera Setup	Register	Auto, Manual
	Setup Items	IP address, Add profile edit, Bitrate, Camera MD setup (8 point polygon) Camera video setup (Simple focus, Brightness/Contrast, Flip/Mirror, IRIS, WDR, D&N, SSNR, Shutter, SSSDR, DIS), Fisheye

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		Dewarping Mode, Hallway View Setup, Camera Webpage
PTZ	Control	Via GUI, Webviewer
	Preset	300 Presets
Smart phone	Support Model	iOS, Android
	Protocol Support	RTP, RTSP, HTTP, CGI(SUNAPI)
	Control	Live : Multi-Profile Support Multi Channel Playback
	Max. Remote Users	Search (3), Live Unicast (10)
Redundancy	Failover	N+1
	ARB	Yes
Easy configuration		P2P(QR code)
System Control		Mouse, Keyboard, Web
Indicator/Interface		
Front	Indicator	LED(Status indicator) : - Power(1), Record(1), Network(1)
Connectors	HDMI	2 EA
	VGA	N/A
	Audio	Out(1EA) : RCA output
	Ethernet	PoE RJ-45(LAN, 10/100) 16 ea ,RJ-45 1ea (WAN, 1Gbps)
	Alarm	(1) In(4EA, Terminal Block) (2) Out(2EA, Terminal Block) - Relay Out1(NO/NC/COM) - Relay Out2(NO/COM)
	USB	2EA(Front 2, USB 2.0)
	Storage	N/A
	Serial	N/A
	Reset	Switch(1EA, PW clear)
	Power Cord	1EA
	POE Budget	Max. 130W
System		

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Log	Log List	Max. 100,000 (System, Event each log)
Environmental		
Operating Temperature / Humidity		+0°C to +40°C(+32°F to +104°F)
Humidity		20% ~ 85% RH
Noise		47 db
Electrical		
Power		100 ~ 240 VAC ±10%; 50/60 Hz
Power Consumption		Max 200W(2HDD, PoE ON)
Mechanical		
Color / Material		Black
Dimension (WxHxD)		370*50.7*320 (370*44*320 FOOT except)
Weight		2,873g

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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 240 V, 50 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
NVR	QRN-1630S	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	EUT
Mouse	MOKJUO	-	Primax Electronics Ltd.	-
SWITCHING POWER SUPPLY	DPS-200PB-185 C	-	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 TECHWIN SECURITY VIETNAM CO.,LTD.	-
Laptop	P95G001	8KM8HT2	DELL INC.	-
Laptop Adapter	LA65NS2-01	-	LITE-ON TECHNOLOGY(CHANGZ HOU)CO.,LTD.	-
Monitor	SMT-2232	C95V67VF90002 5B	Weihai Daewoo Electronics Co., Ltd.	-
Earphone	-	-	-	-
Alarm	-	-	-	-
Button alarm	-	-	-	-
HDD	810051	-	WESTERN DIGITAL TECHNOLOGIES, INC.	4 TB
MIC	MP1000	-	-	-
USB Memory	-	-	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 Memory	USB	-	-
	HDMI	Monitor	HDMI	1.5	S
	grounding	grounding	grounding	1.2	-
	RCA	Earphone	3.5mm	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	MIC	3.5 mm	1.5	U

* Unshielded=U, Shielded=S

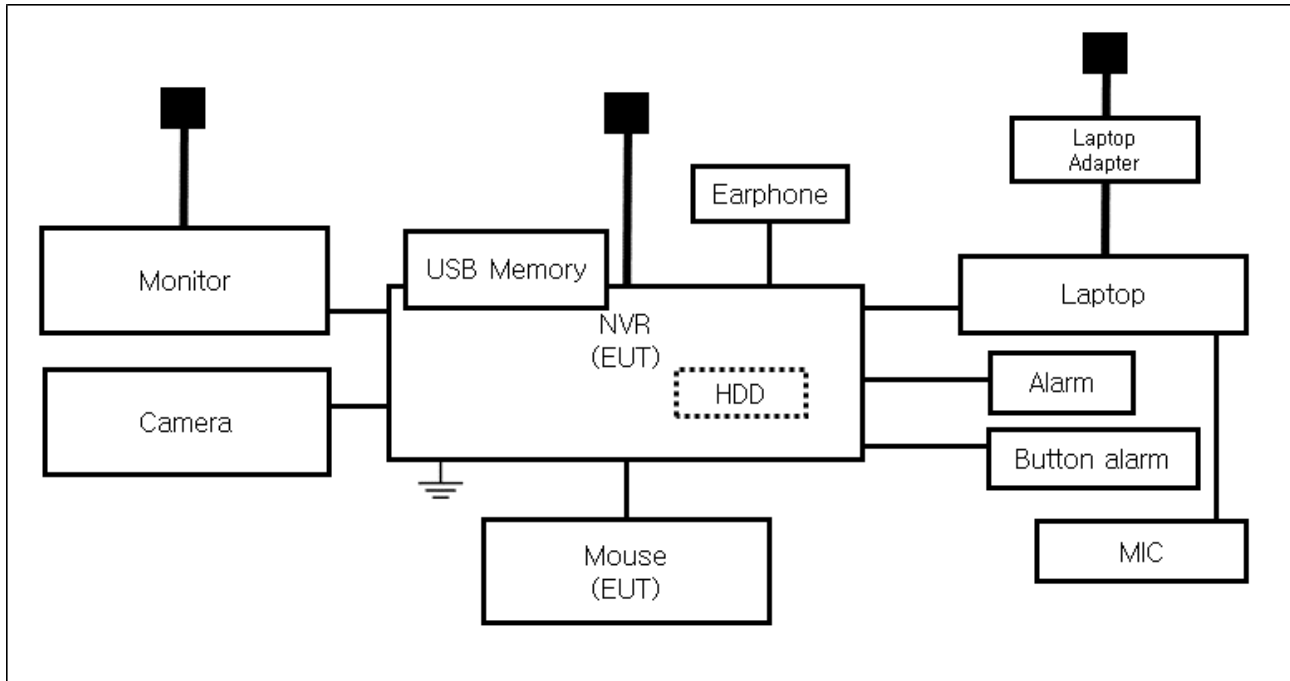
1.7 EUT Operating Mode(s)

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 Techwin 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. 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 , 10 m Open Area 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, 10 m Open Area and Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	 23298-1
JAPAN	VCCI	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	 R-20056, C-20036, T-20040, G-20057
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber , 10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0004



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2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **AS/NZS CISPR32:2015**

☒ Class A

☐ Class B

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Mar. 28, 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: (24,9 ± 0,1) °C

Relative Humidity: (44,8 ± 0,2) % 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

RemarksSee Appendix A for test data.

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2.2 Conducted Emissions at Telecommunication Ports

Test Date

Mar. 28, 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: (24,9 ± 0,2) °C

Relative Humidity: (44,8 ± 0,2) % 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.
- For Ethernet interfaces, measurements are required at the highest data rate supported by the interface.

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2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Mar. 29, 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: (24,9 ± 0,2) °C

Relative Humidity: (44,7 ± 0,3) % 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

RemarksSee Appendix A for test data.

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2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Mar. 30, 2022

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	03, 31, 2023
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 16, 2022
☒	PREAMPLIFIER	8449B	HP	3008A00538	06, 21, 2022

Test Conditions

Temperature: (25,2 ± 0,2) °C

Relative Humidity: (46,5 ± 0,3) % 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

RemarksSee Appendix A for test data.

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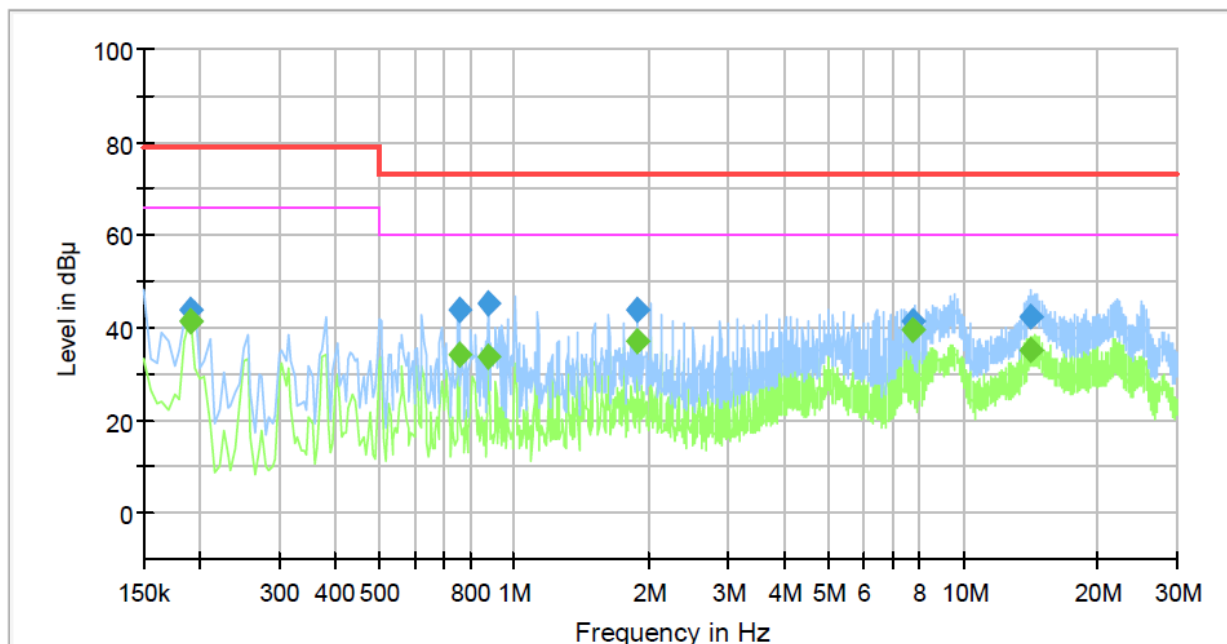
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description: Conducted Emission
Model No.: QRN-1630S
Phase: L1
Mode:
Operator Name: KES



Final Result

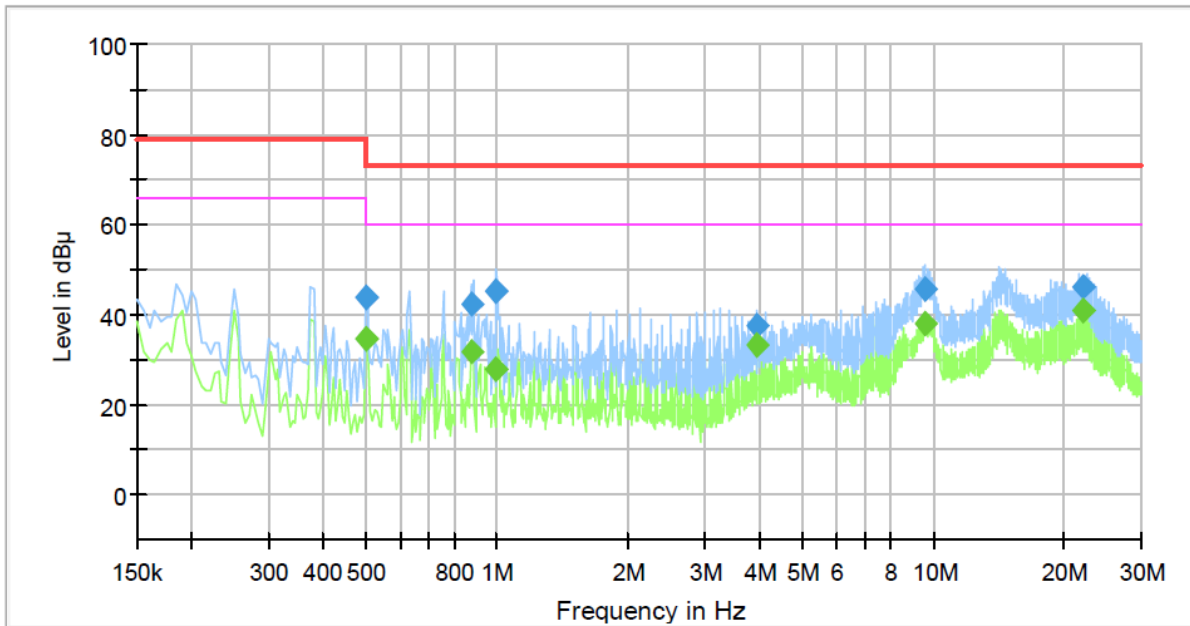
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.190000	---	41.25	66.00	24.75	1000.0	9.000	L1	19.4
0.190000	43.83	---	79.00	35.17	1000.0	9.000	L1	19.4
0.755000	---	34.15	60.00	25.85	1000.0	9.000	L1	20.0
0.755000	43.87	---	73.00	29.13	1000.0	9.000	L1	20.0
0.880000	---	33.76	60.00	26.24	1000.0	9.000	L1	20.1
0.880000	45.34	---	73.00	27.66	1000.0	9.000	L1	20.1
1.885000	---	37.22	60.00	22.78	1000.0	9.000	L1	20.3
1.885000	43.95	---	73.00	29.05	1000.0	9.000	L1	20.3
7.700000	---	39.39	60.00	20.61	1000.0	9.000	L1	19.6
7.700000	41.36	---	73.00	31.64	1000.0	9.000	L1	19.6
14.150000	---	34.96	60.00	25.04	1000.0	9.000	L1	19.9
14.150000	42.45	---	73.00	30.55	1000.0	9.000	L1	19.9

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NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	QRN-1630S
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)
0.500000	---	34.70	60.00	25.30	1000.0	9.000	N	19.7
0.500000	43.79	---	79.00	29.21	1000.0	9.000	N	19.7
0.875000	---	31.94	60.00	28.06	1000.0	9.000	N	20.0
0.875000	42.36	---	73.00	30.64	1000.0	9.000	N	20.0
1.000000	---	28.05	60.00	31.95	1000.0	9.000	N	20.0
1.000000	45.35	---	73.00	27.65	1000.0	9.000	N	20.0
3.955000	---	33.41	60.00	26.59	1000.0	9.000	N	19.9
3.955000	37.68	---	73.00	35.32	1000.0	9.000	N	19.9
9.565000	---	38.23	60.00	21.77	1000.0	9.000	N	19.8
9.565000	45.63	---	73.00	27.37	1000.0	9.000	N	19.8
22.015000	---	41.06	60.00	18.94	1000.0	9.000	N	20.2
22.015000	46.28	---	73.00	26.72	1000.0	9.000	N	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 (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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KES-EM-22T0346
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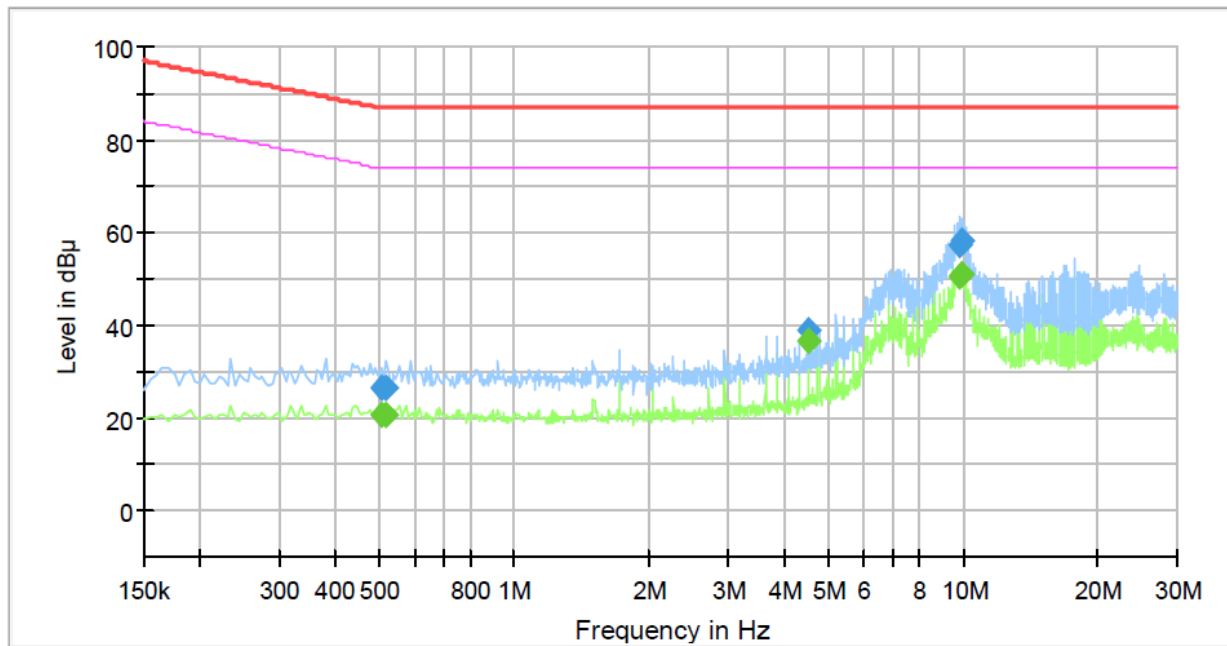
Conducted Emissions at Telecommunication Ports

■ LAN

[1 000 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QRN-1630S
Mode: LAN
Speed: 1 000 Mbps
Operator Name: KES



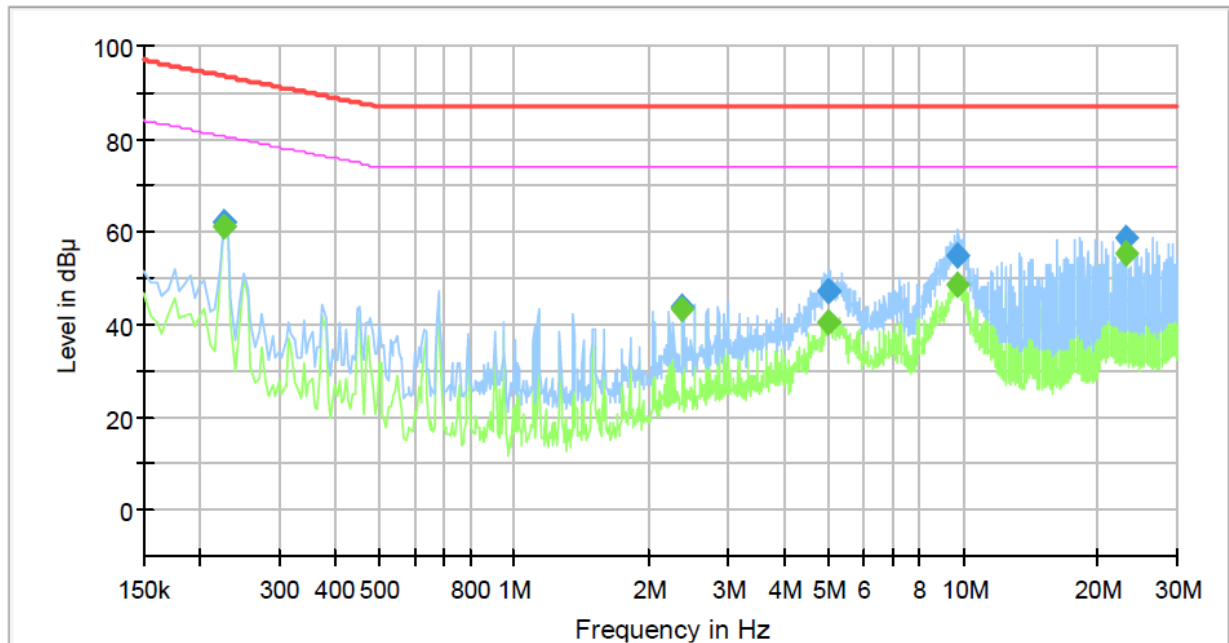
Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.510000	---	20.91	74.00	53.09	1000.0	9.000	Single Line	19.7
0.510000	26.39	---	87.00	60.61	1000.0	9.000	Single Line	19.7
0.520000	---	20.85	74.00	53.15	1000.0	9.000	Single Line	19.7
0.520000	26.42	---	87.00	60.58	1000.0	9.000	Single Line	19.7
4.535000	---	36.81	74.00	37.19	1000.0	9.000	Single Line	19.5
4.535000	39.07	---	87.00	47.93	1000.0	9.000	Single Line	19.5
9.845000	---	50.56	74.00	23.44	1000.0	9.000	Single Line	19.6
9.845000	57.45	---	87.00	29.55	1000.0	9.000	Single Line	19.6
9.965000	---	51.03	74.00	22.97	1000.0	9.000	Single Line	19.6
9.965000	57.97	---	87.00	29.03	1000.0	9.000	Single Line	19.6

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PoE
[100 Mbps]
Common Information

Test Description:	Telecommunication Emission
Model No.:	QRN-1630S
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)
0.225000	---	61.01	80.63	19.62	1000.0	9.000	Single Line	19.7
0.225000	62.05	---	93.63	31.58	1000.0	9.000	Single Line	19.7
2.375000	---	43.39	74.00	30.61	1000.0	9.000	Single Line	20.1
2.375000	43.94	---	87.00	43.06	1000.0	9.000	Single Line	20.1
5.000000	---	40.51	74.00	33.49	1000.0	9.000	Single Line	19.4
5.000000	47.24	---	87.00	39.76	1000.0	9.000	Single Line	19.4
9.765000	---	48.52	74.00	25.48	1000.0	9.000	Single Line	19.6
9.765000	54.82	---	87.00	32.18	1000.0	9.000	Single Line	19.6
23.130000	---	55.32	74.00	18.68	1000.0	9.000	Single Line	20.1
23.130000	58.50	---	87.00	28.50	1000.0	9.000	Single Line	20.1

◆ 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 (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))



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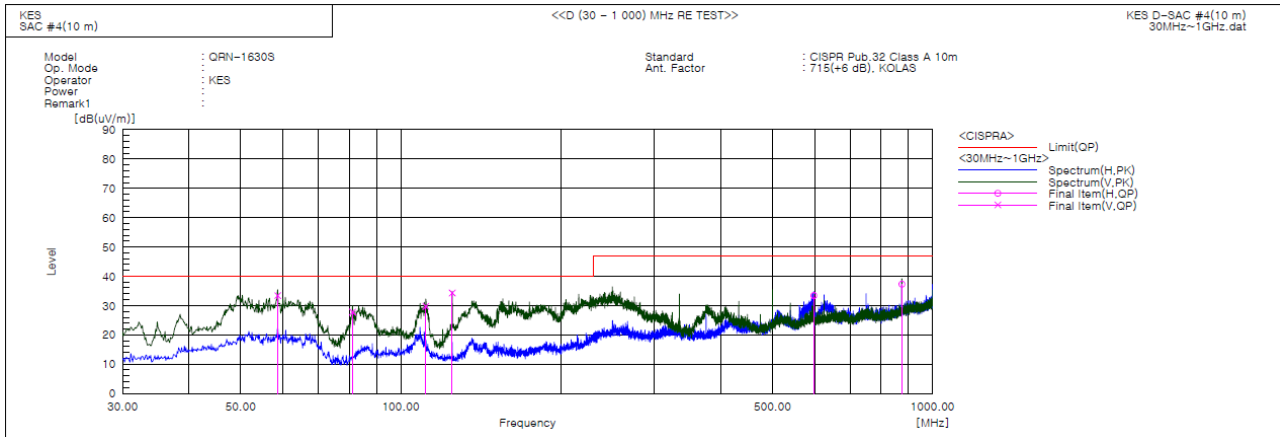
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Radiated Electric Field Emissions(Below 1 GHz)



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	58.736	V	55.2	-21.8	33.4	40.0	6.6	144.0	284.0	
2	81.168	V	55.4	-27.6	27.8	40.0	12.2	366.0	132.0	
3	111.480	V	52.1	-22.4	29.7	40.0	10.3	168.0	162.0	
4	124.939	V	59.2	-24.9	34.3	40.0	5.7	146.0	110.0	
5	597.693	H	41.9	-8.5	33.4	47.0	13.6	100.0	29.0	
6	875.113	H	41.9	-4.6	37.3	47.0	9.7	100.0	194.0	

◆ Calculation

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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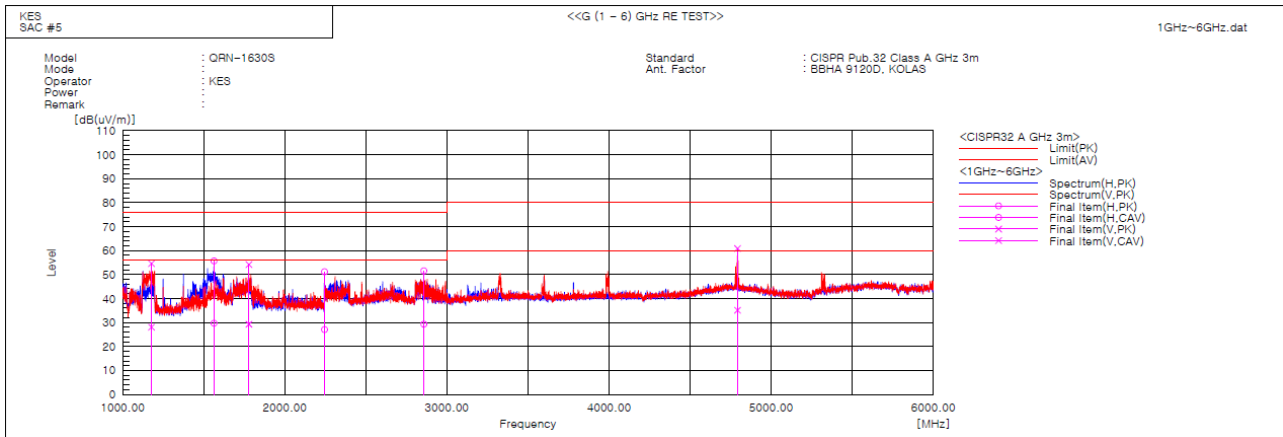
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Radiated Electric Field Emissions(Above 1 GHz)



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	1177.500	V	61.3	34.8	-6.7	54.6	28.1	76.0	56.0	21.4	27.9	100.0	343.3	
2	1563.125	H	60.4	34.4	-4.7	55.7	29.7	76.0	56.0	20.3	26.3	100.0	320.0	
3	1778.125	V	58.0	33.1	-3.8	54.2	29.3	76.0	56.0	21.8	26.7	100.0	2.8	
4	2244.375	H	53.4	29.3	-2.2	51.2	27.1	76.0	56.0	24.8	28.9	100.0	54.0	
5	2857.500	H	51.0	28.7	0.6	51.6	29.3	76.0	56.0	24.4	26.7	100.0	54.0	
6	4791.875	V	54.3	28.6	6.6	60.9	35.2	80.0	60.0	19.1	24.8	100.0	155.3	

◆ Calculation

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

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

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

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

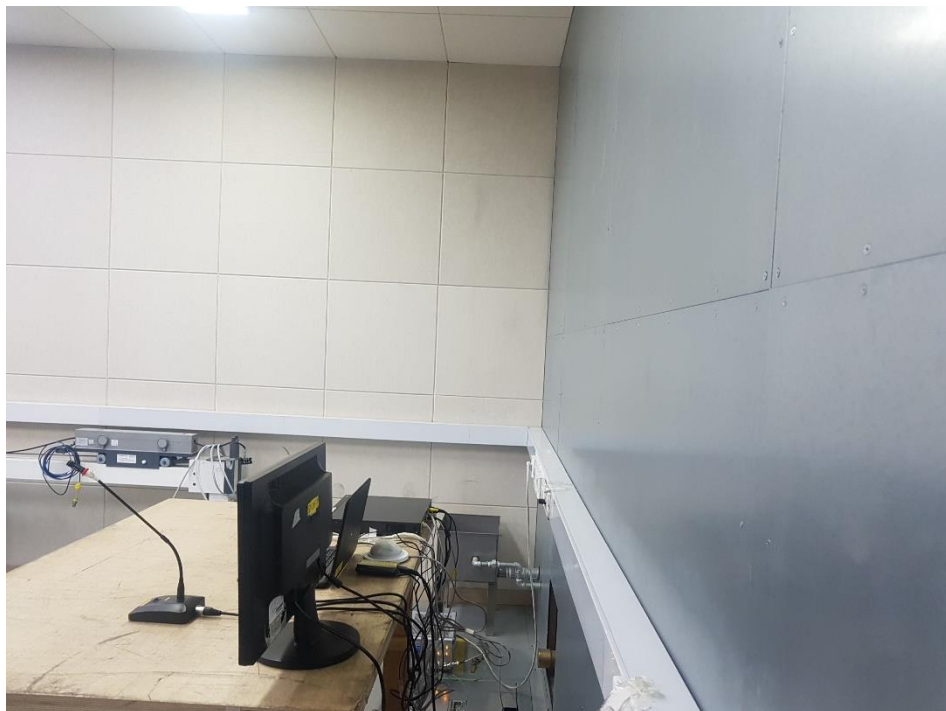
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Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



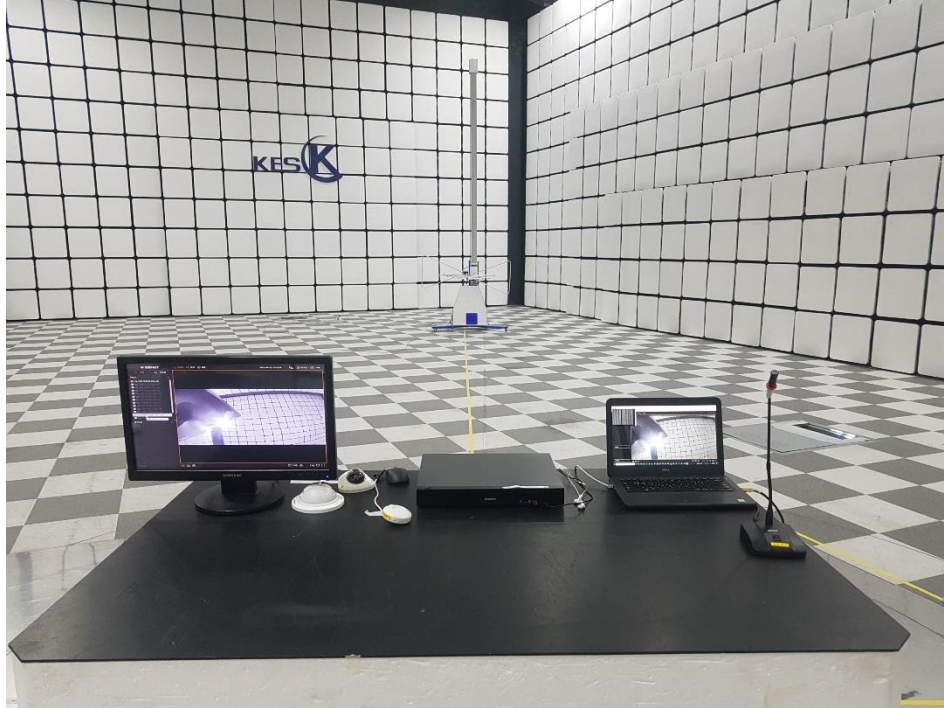
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Conducted Emissions at Telecommunication Ports



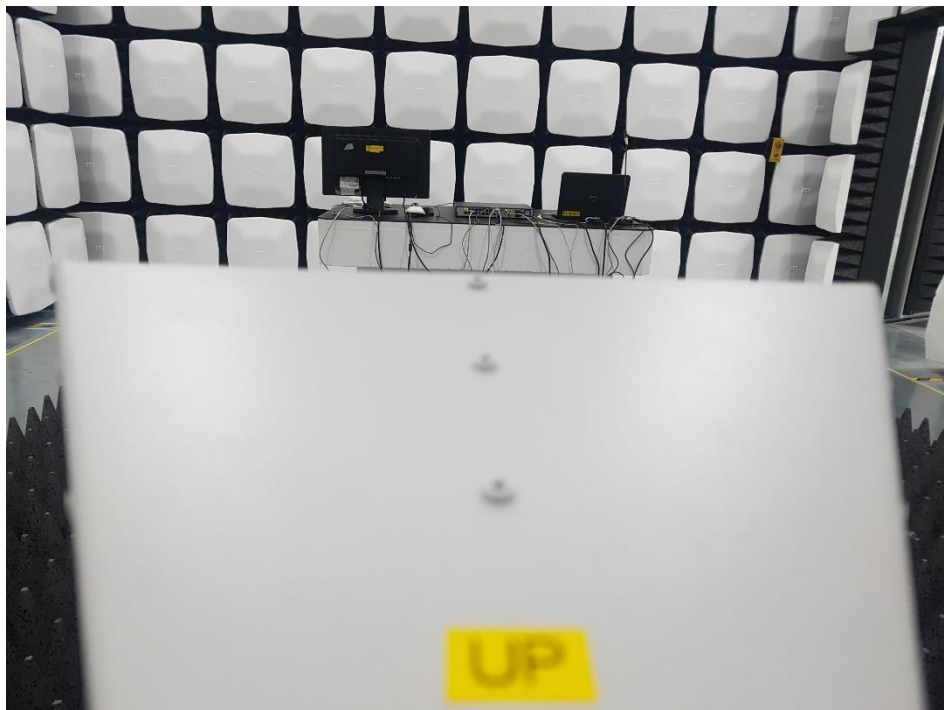
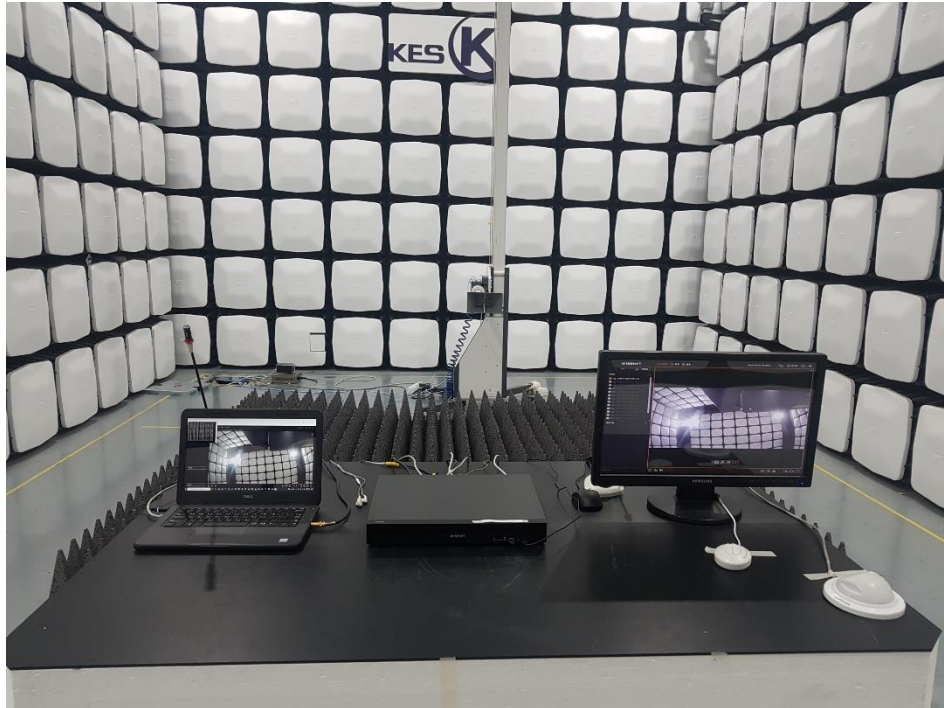
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Radiated Electric Field Emissions(Below 1 GHz)



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Radiated Electric Field Emissions(Above 1 GHz)



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EUT External Photographs

(Top)



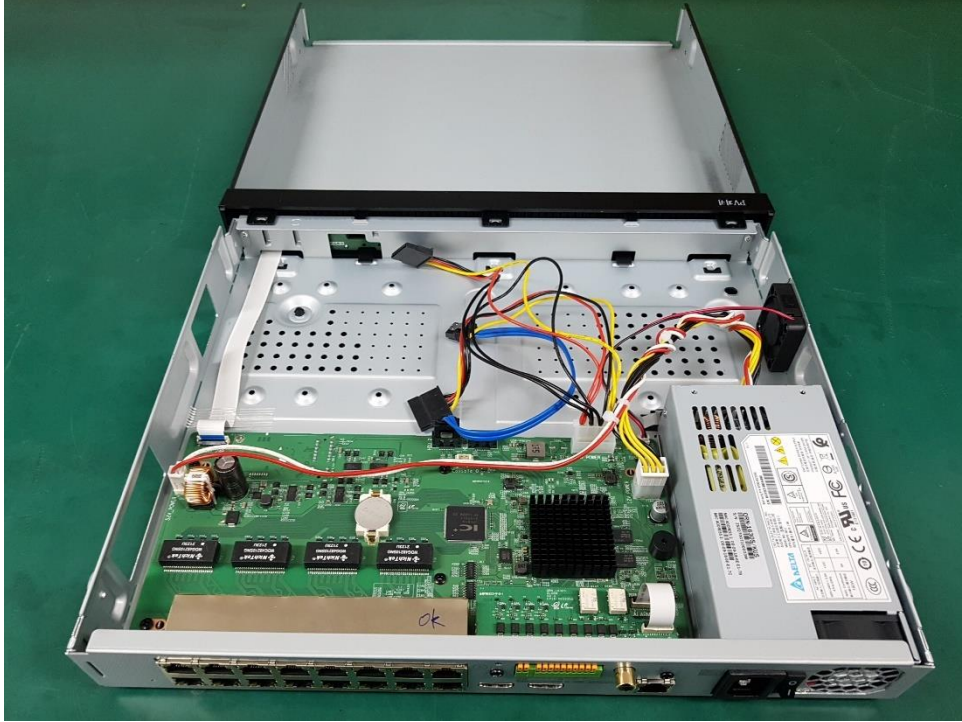
(Bottom)



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EUT Internal Photographs

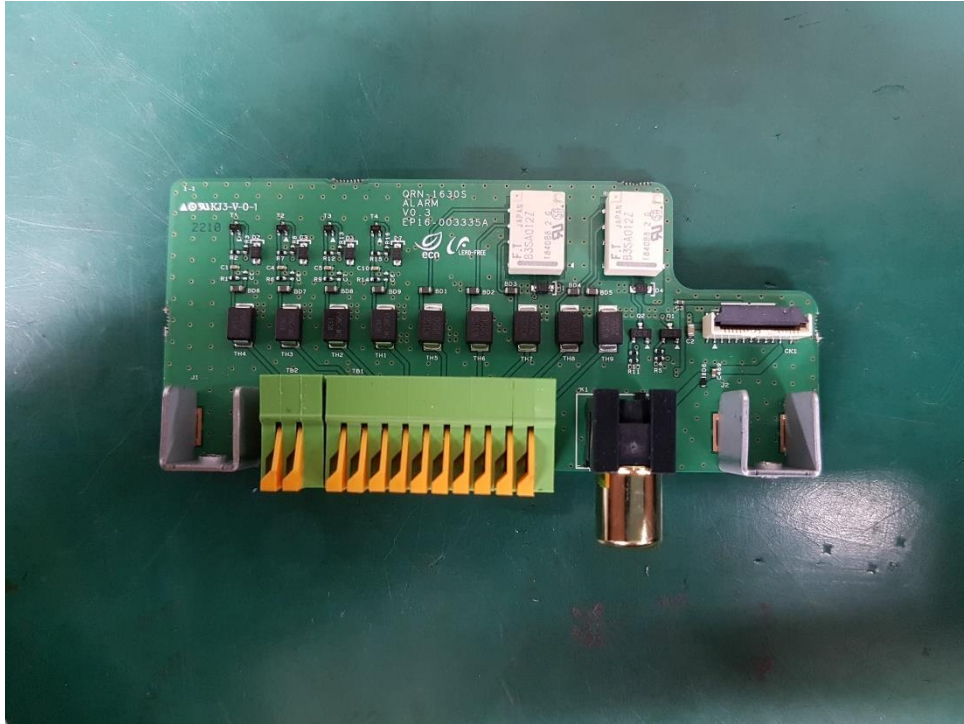
(Internal View)



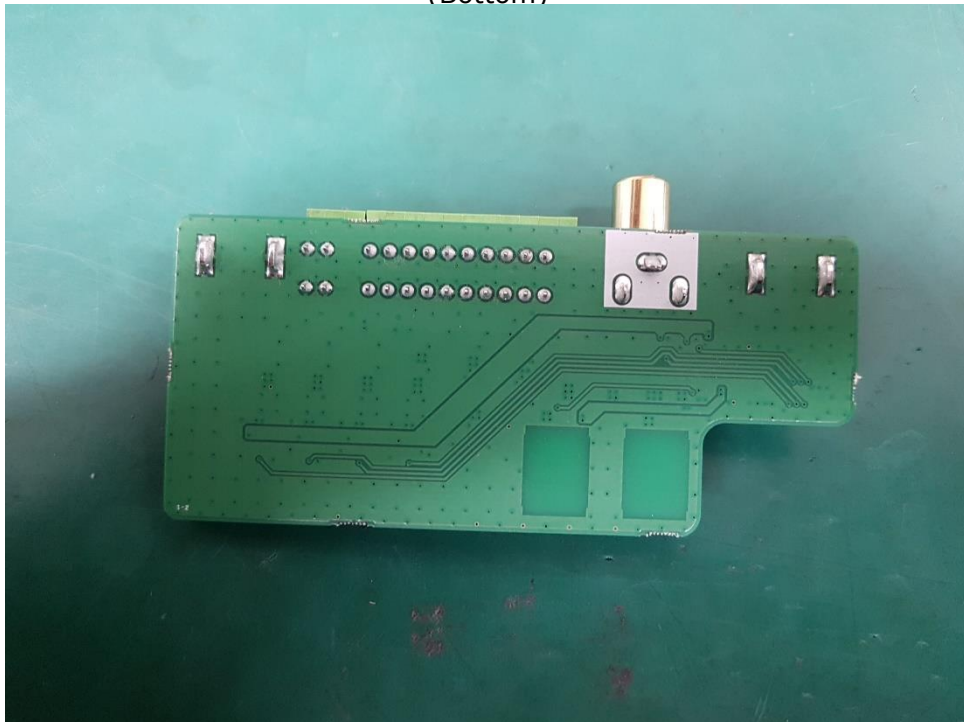
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EUT Internal View – Board 1

(Top)



(Bottom)



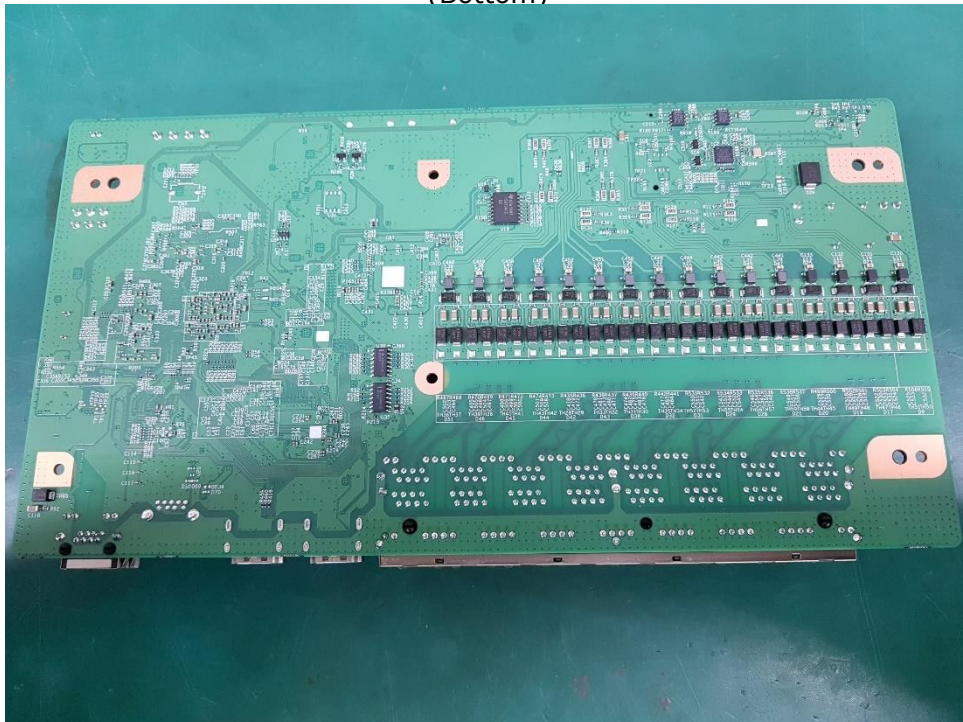
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EUT Internal View – Board 2

(Top)



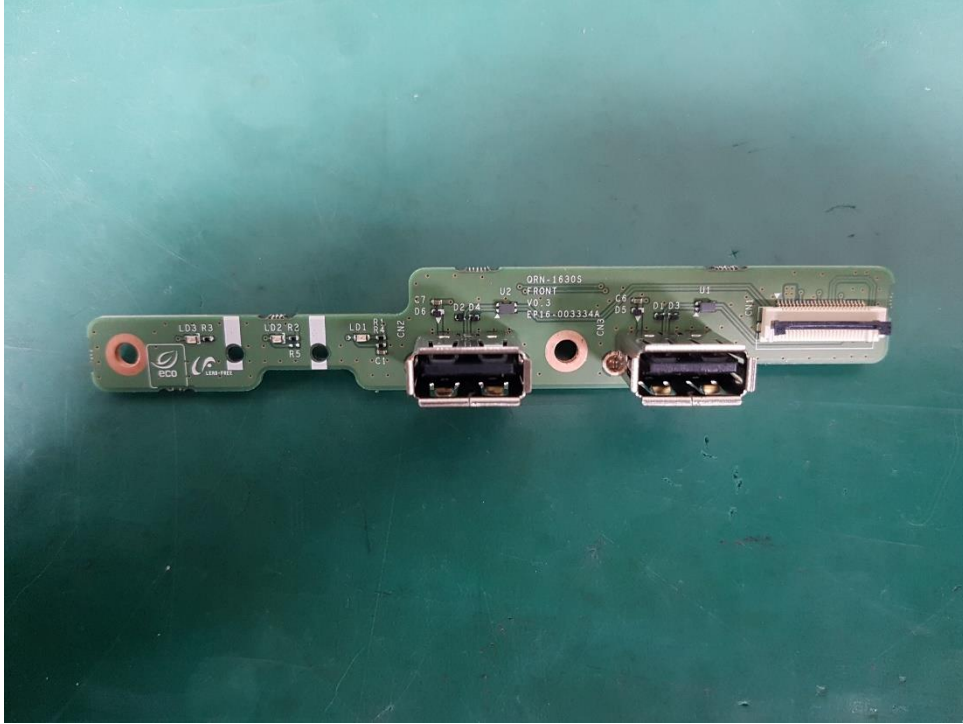
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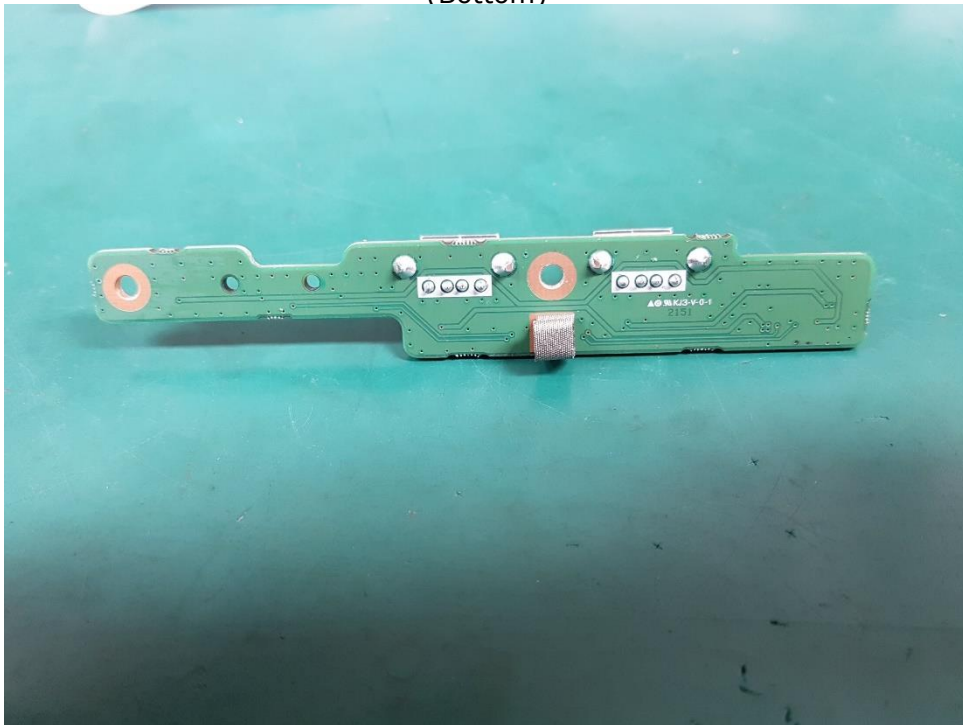
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EUT Internal View – Board 3

(Top)



(Bottom)



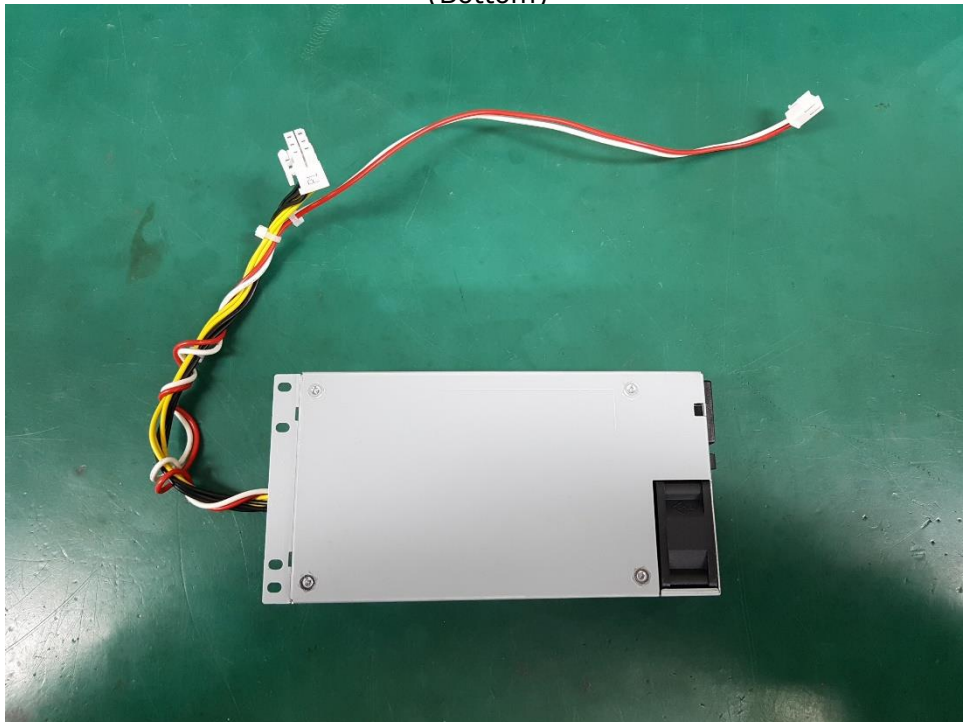
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EUT Internal View – SWITCHING POWER SUPPLY

(Top)



(Bottom)



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EUT Internal View – Mouse

(Top)



(Bottom)



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