EMC TEST REPORT

Test Report No.	:	KES-EM-21T0450
Date of Issue	:	Jun. 09, 2021
Product name	:	Network Video Recorder
Model/Type No.	:	QRN-430S
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)
Equipment authorization	:	**Supplier's Declaration of Conformity**
Date of Receipt	:	May. 12, 2021
Test date	:	May. 16, 2021 ~ May. 17, 2021
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.

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jun. 09, 2021	KES-EM-21T0450	Issued

TABLE OF CONTENTS

1.0 General Product Description

Main Specifications of EUT are:

Display		
Video	Inputs	Max. 4CH
	Resolution	CIF ~ 8MP
	Protocols	sunapi, ONVIF
Live	Local Display	HDMI
	Multi Screen Display	[Local Monitor] 1 / 2V/ 2H / 3V / 4 / Sequence [Web] 1 / 2V/ 2H / 3V / 4
	Resolution	[Local Monitor] 8M(30fps), 1080p(120fps), 720P(120fps), D1(120fps)
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
Record	Compression	H.265, H.264, MJPEG, WiseStream(H.265, H.264)
	Recording Bandwidth	50Mbps
	Resolution	CIF ~ 8MP
	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
	Event Action	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out
Search & Play	Playback Bandwidth	Max 32Mbps
	User	Max. 4 Users (Local 1, Remote 3)
	Mode	Time, Event, Text, Export, ARB, Bookmark
	Simultaneous playback	Max 16CH - Set : 4CH - Remote : 4CH Per User
	Resolution	CIF ~ 8MP
	Fisheye Dewarping	N/A
	Playback Control	Fast/Slow Forward / Backward, Move one step Up / Down
Storage	Built-In	2TB ~ 6TB
	Internal HDD	1ea (Max 6TB)
	External	N/A
	RAID	N/A
Backup	File backup	BU/Exe(GUI), JPG/AVI(Web)
	Function	Multi channel(Upto 4 CH) Play, Date-Time/Title display
Sensor	I/O	N/A
Audio	Input/Output	4CH (network)
	Compression	G.711, G.726, AAC(16/48KHz)
	Audio Communication	2-Way

Network		
Interface		4 Port PoE, RJ-45(10/100Mbps)
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), SUNAPI(Server, Client)
DDNS		Hanwha DDNS
Transmission Bandwidth		50Mbps
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		Window 10, Mac OS X(10.13)
Web Browser		Google Chrome, Mac Safari, Firefox, Edge
Viewer Software	Type	WAVE (Sunapi 연동), SSM, Webviewer, Smart Viewer, Wisenet Mobile
	CMS Support	Support SDK/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, SSDR, DIS), Fisheye 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(4ch) : Multi-Profile Support Playback(4ch)
	Max. Remote Users	Search (3), Live Unicast (10)
Redundancy	Failover	N+1
	ARB	Yes
Easy configuration		P2P(QR code)
System Control		Mouse, Web

Indicator/Interface		
Front	Indicator	LED(Status indicator) : - Power(1), Record(1), Network(1)
Connectors	HDMI	3840x2160 30Hz
	VGA	N/A
	Audio	N/A
	Ethernet	PoE RJ-45(LAN, 10/100) 4 ea ,RJ-45 1ea (WAN, 10/100)
	Alarm	N/A
	USB	2EA(Front 1 x USB 2.0, Rear 1 x USB 2.0)
	Storage	N/A
	Serial	N/A
	Reset	Switch(1EA, PW clear)
	Power Cord	DC Adaptor
	POE Budget	Max. 35W
System		
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		최대 56W(1HDDs, PoE on)
Mechanical		
Color / Material		Black
Dimension (WxHxD)		W370.0 x H44.0 x D320mm (1U)

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 120 V, 60 Hz ☐ PoE

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Network Video Recorder	QRN-430S	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	EUT

1.5 System Configuration

Description	Model Number	Serial Number	Manufacturer	Remarks
Mouse	MOKJUO	-	Primax Electronics Ltd.	-
Adaptor	FSP065-DWAN3	-	Zhonghan Electronics (Shenzhen) Co.,Ltd	-
HDD	ST3000VX009	-	SEAGATE	3 TB

1.6 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Camera1	QND-7080RN/EX	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
Camera2	SND-L6013RN	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
Camera3	SND-L6013RP	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
Camera4	SND-L6013P	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
Notebook	ProBook4430s	-	HP	-
Notebook Adaptor	SeriesPPP0009H	-	CHICONY POWER TECHNOLOGY (SUZHOU) CO.,LTD,	-
Monitor	SMT-2233	-	Weihai Daewoo Electronics Co., Ltd.	-
USB Memory	-	-	Sandisk	32 GB

1.7 External I/O Cabling

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
Network Video Recorder (EUT)	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	3.5	U
	USB	USB Memory	USB	-	-
	RJ-45 (PoE)	Camera1	RJ-45 (PoE)	3.0	U
	RJ-45 (PoE)	Camera2	RJ-45 (PoE)	3.0	U
	RJ-45 (PoE)	Camera3	RJ-45 (PoE)	3.0	U
	RJ-45 (PoE)	Camera4	RJ-45 (PoE)	3.0	U
	HDMI	Monitor	HDMI	1.6	S
	USB	Mouse (EUT)	USB	1.8	U
	External Ground	Ground	External Ground	2.0	U

* Unshielded=U, Shielded=S

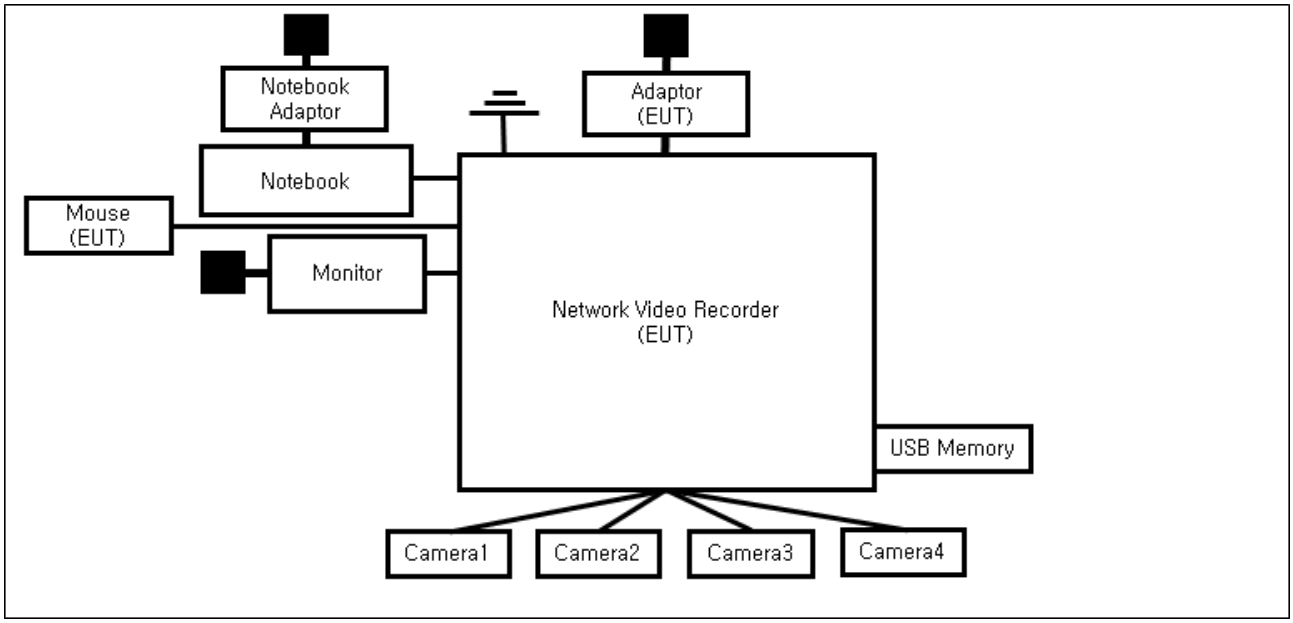
1.8 EUT Operating Mode(s)

Test Mode	operating
Operation	the test was conducted while checking the camera video output from the laptop and making sure that they operate normally while performing a ping test.

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

1.9 Configuration

■ AC Main
□ DC Main



1.10 Remarks when standards applied

N/A

1.11 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.

1.12 Test Facility

The measurement facility is located at 473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4:2014 and CISPR 16-1-4:2019

1.13 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

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		

☐ **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 C63.4-2017	☒ Class A	☐ Class B
☒ **IC Regulation ICES-003 Issue 7**		
☒ CAN/CSA CISPR 32:17	☒ Class A	☐ Class B
☐ ANSI C63.4-2017	☐ Class A	☐ Class B
☐ **RE– Directive 2014/53/EU**		
☐ EN 301 489-1 V2.2.3		
☐ 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		

2.1 Conducted Emissions at Mains Power Ports

Test Date
May. 16, 2021

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, 15, 2022
☒	LISN	ENV216	R & S	101787	12, 29, 2021
☒	LISN	ESH2-Z5	R & S	100450	12, 29, 2021
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 29, 2021

Test Conditions
Temperature: (23.6 ± 0,1) ℃
Relative Humidity: (43,7 ± 0,2) % R.H.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

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 ㎓)

Test Date
May. 16, 2021

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

Test Conditions
Temperature: (23,7 ± 0,1) ℃
Relative Humidity: (44,0 ± 0,2) % R.H.

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

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 ㎓)

Test Date
May. 17, 2021

Test Location
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, 2022
☒	PREAMPLIFIER	8449B	AGILENT	3008A01742	12, 29, 2021
☐	ATTENUATOR	8491A	HP	35496	03, 10, 2022
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 14, 2021

Test Conditions
Temperature: (23,4 ± 0,2) ℃
Relative Humidity: (45,1 ± 0,3) % R.H.

Frequency Range of Measurement
1 ㎓ to 5 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:
☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

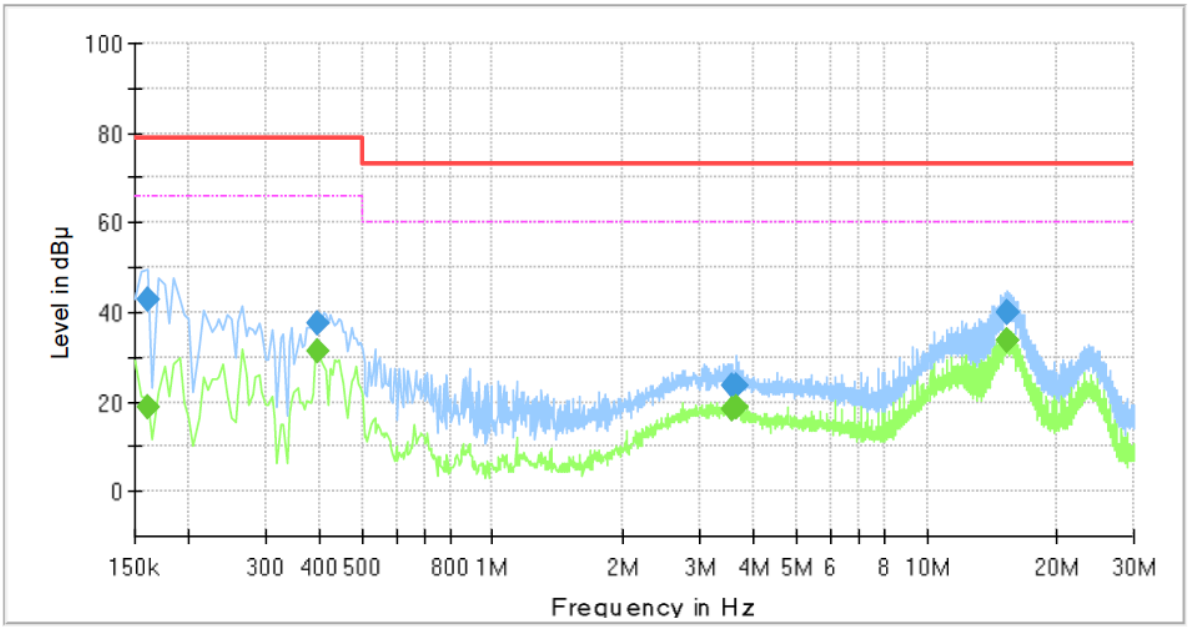
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	QRN-430S
Phase:	L1
Mode:	
Operator Name:	KES



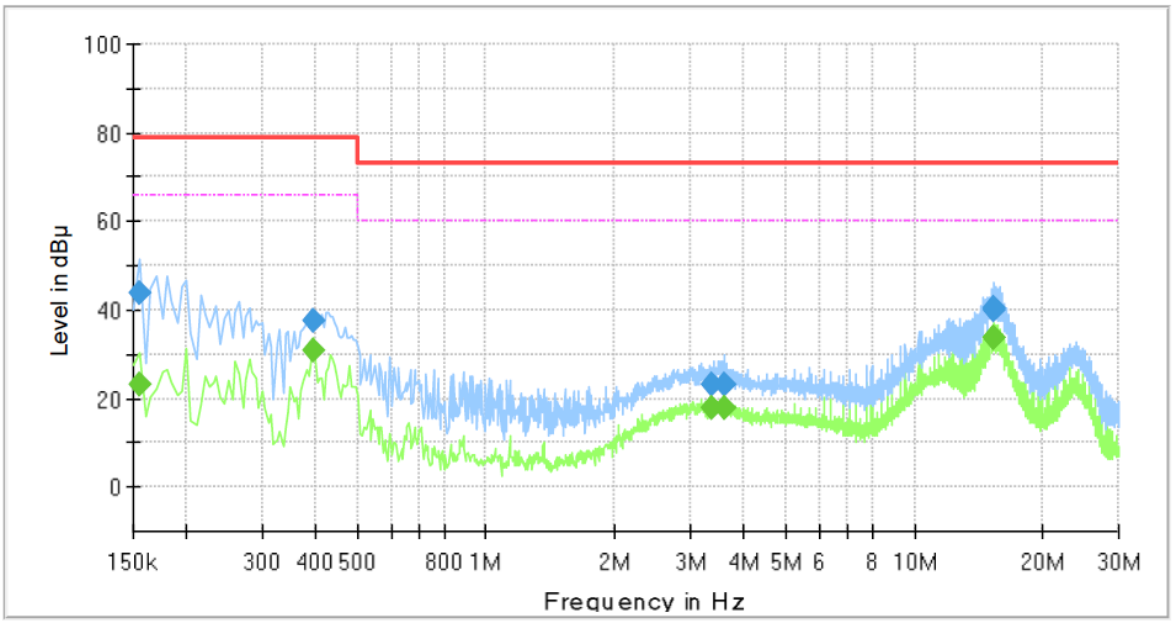
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	18.76	66.00	47.24	1000.0	9.000	L1	19.4
0.160000	42.89	---	79.00	36.11	1000.0	9.000	L1	19.4
0.395000	---	31.12	66.00	34.88	1000.0	9.000	L1	19.6
0.395000	37.62	---	79.00	41.38	1000.0	9.000	L1	19.6
3.545000	---	18.22	60.00	41.78	1000.0	9.000	L1	20.0
3.545000	23.62	---	73.00	49.38	1000.0	9.000	L1	20.0
3.635000	---	18.69	60.00	41.31	1000.0	9.000	L1	20.0
3.635000	23.84	---	73.00	49.16	1000.0	9.000	L1	20.0
15.245000	---	33.63	60.00	26.37	1000.0	9.000	L1	19.9
15.245000	40.11	---	73.00	32.89	1000.0	9.000	L1	19.9
15.260000	---	33.59	60.00	26.41	1000.0	9.000	L1	19.9
15.260000	40.04	---	73.00	32.96	1000.0	9.000	L1	19.9

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	QRN-430S
Phase:	N
Mode:	
Operator Name:	KES



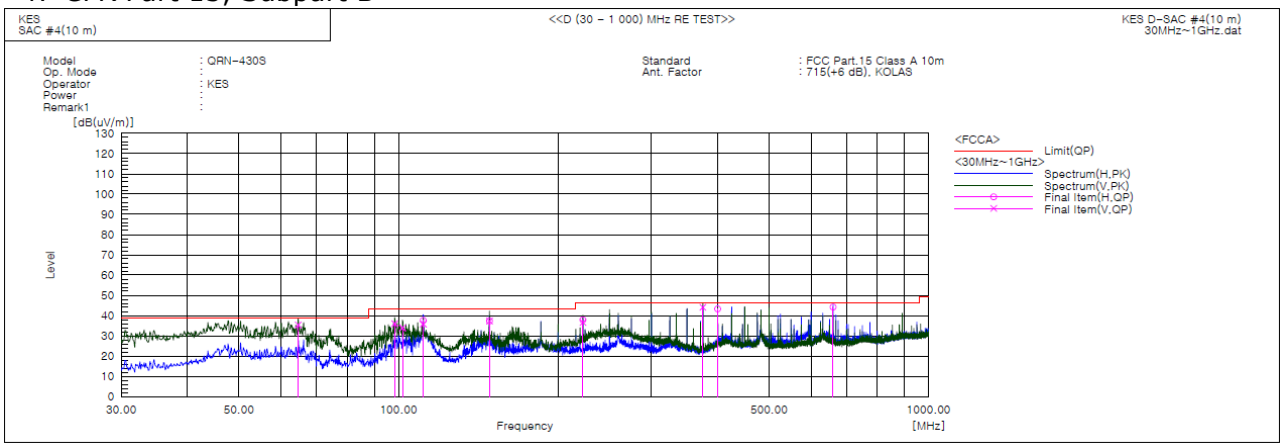
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	22.95	66.00	43.05	1000.0	9.000	N	19.4
0.155000	43.61	---	79.00	35.39	1000.0	9.000	N	19.4
0.395000	---	31.02	66.00	34.98	1000.0	9.000	N	19.6
0.395000	37.58	---	79.00	41.42	1000.0	9.000	N	19.6
3.370000	---	18.09	60.00	41.91	1000.0	9.000	N	20.0
3.370000	23.13	---	73.00	49.87	1000.0	9.000	N	20.0
3.590000	---	18.07	60.00	41.93	1000.0	9.000	N	20.0
3.590000	23.37	---	73.00	49.63	1000.0	9.000	N	20.0
15.335000	---	33.76	60.00	26.24	1000.0	9.000	N	19.9
15.335000	40.21	---	73.00	32.79	1000.0	9.000	N	19.9
15.375000	---	33.80	60.00	26.20	1000.0	9.000	N	19.9
15.375000	40.12	---	73.00	32.88	1000.0	9.000	N	19.9

◆ 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))

Radiated Electric Field Emissions(Below 1 ㎓)

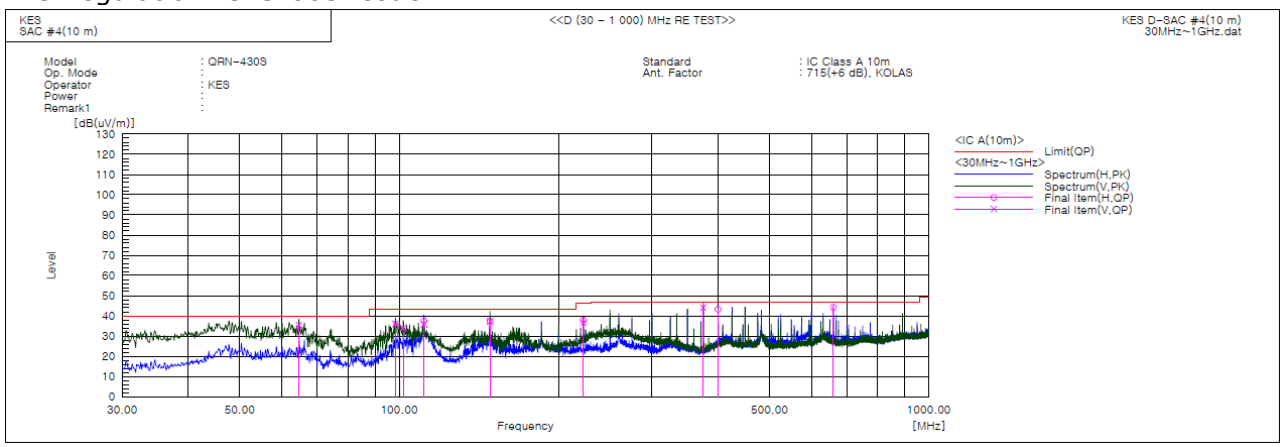
- 47 CFR Part 15, Subpart B



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	64.678	V	58.6	-23.2	35.4	39.0	3.6	100.0	132.0	
2	98.385	V	58.7	-22.7	36.0	43.5	7.5	177.0	183.0	
3	101.780	V	56.4	-22.5	33.9	43.5	9.6	100.0	176.0	
4	111.359	H	60.0	-22.4	37.6	43.5	5.9	361.0	27.0	
5	111.359	V	58.3	-22.4	35.9	43.5	7.6	132.0	160.0	
6	148.461	H	62.4	-25.1	37.3	43.5	6.2	224.0	71.0	
7	148.461	V	62.4	-25.1	37.3	43.5	6.2	114.0	220.0	
8	222.666	V	56.8	-20.1	36.7	46.5	9.8	108.0	183.0	
9	222.666	H	58.0	-20.1	37.9	46.5	8.6	336.0	206.0	
10	374.956	V	58.9	-14.8	44.1	46.5	2.4	100.0	213.0	
11	400.055	H	57.6	-14.3	43.3	46.5	3.2	351.0	7.0	
12	660.015	H	52.0	-7.8	44.2	46.5	2.3	226.0	207.0	

- IC Regulation ICES-003 Issue 7

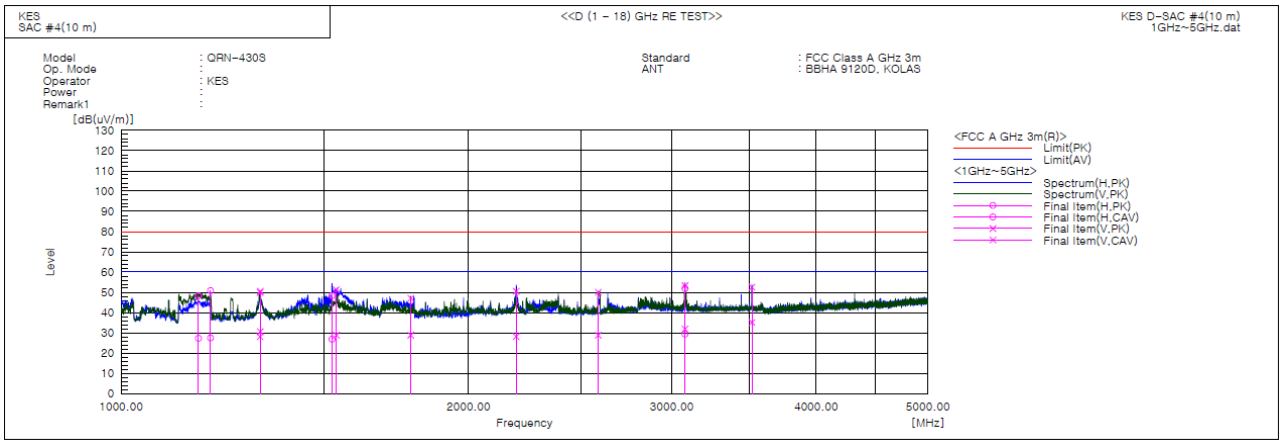


Final Result

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	64.678	V	58.6	-23.2	35.4	40.0	4.6	100.0	132.0	
2	98.385	V	58.7	-22.7	36.0	43.5	7.5	177.0	183.0	
3	101.780	V	56.4	-22.5	33.9	43.5	9.6	100.0	176.0	
4	111.359	H	60.0	-22.4	37.6	43.5	5.9	361.0	27.0	
5	111.359	V	58.3	-22.4	35.9	43.5	7.6	132.0	160.0	
6	148.461	H	62.4	-25.1	37.3	43.5	6.2	224.0	71.0	
7	148.461	V	62.4	-25.1	37.3	43.5	6.2	114.0	220.0	
8	222.666	V	56.8	-20.1	36.7	46.4	9.7	108.0	183.0	
9	222.666	H	58.0	-20.1	37.9	46.4	8.5	336.0	206.0	
10	374.956	V	58.9	-14.8	44.1	47.0	2.9	100.0	213.0	
11	400.055	H	57.6	-14.3	43.3	47.0	3.7	351.0	7.0	
12	660.015	H	52.0	-7.8	44.2	47.0	2.8	226.0	207.0	

♦ Calculation – SAC #4(10 m)
Result(QP) [dB(㎶/m)] = (Reading(QP)[dB(㎶)] + c.f[dB(1/m)]
Margin(QP)[dB] = Limit[dB(㎶/m)] - Result(QP) [dB(㎶/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

Radiated Electric Field Emissions(Above 1 ㎓)



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	1166.975	H	52.7	31.7	-4.4	48.3	27.3	80.0	60.0	31.7	32.7	142.0	154.0	
2	1195.420	H	55.0	31.7	-4.2	50.8	27.5	80.0	60.0	29.2	32.5	112.0	147.0	
3	1319.500	V	53.4	31.6	-3.5	49.9	28.1	80.0	60.0	30.1	31.9	267.0	205.0	
4	1320.000	V	54.1	34.1	-3.5	50.6	30.6	80.0	60.0	29.4	29.4	312.0	130.0	
5	1523.000	H	50.8	29.2	-2.4	48.4	26.8	80.0	60.0	31.6	33.2	227.0	169.0	
6	1536.000	V	53.6	31.2	-2.3	51.3	28.9	80.0	60.0	28.7	31.1	367.0	145.0	
7	1781.500	V	48.3	30.1	-1.2	47.1	28.9	80.0	60.0	32.9	31.1	312.0	137.0	
8	2199.500	V	49.9	27.4	0.7	50.6	28.1	80.0	60.0	29.4	31.9	232.0	130.0	
9	2589.500	V	47.4	26.2	2.7	50.1	28.9	80.0	60.0	29.9	31.1	184.0	48.0	
10	3079.500	H	47.1	24.5	4.8	51.9	29.3	80.0	60.0	28.1	30.7	100.0	221.0	
11	3080.000	V	48.5	27.1	4.8	53.3	31.9	80.0	60.0	26.7	28.1	109.0	10.0	
12	3519.500	V	46.7	29.2	5.9	52.6	35.1	80.0	60.0	27.4	24.9	100.0	242.0	

♦ Calculation

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

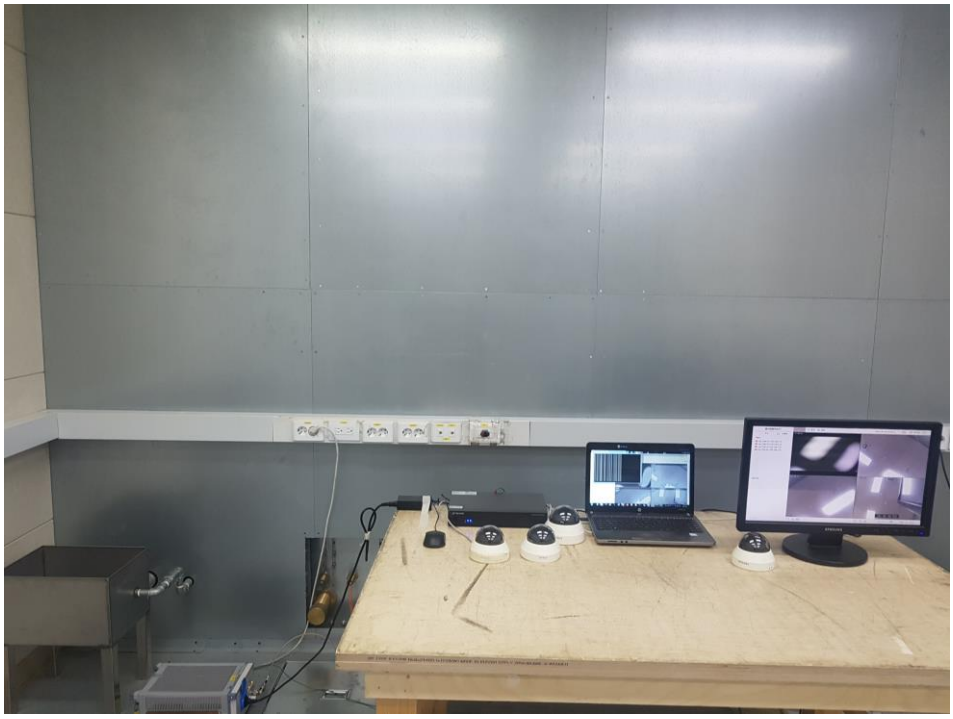
Margin(PK/CAV)[dB] = Limit[dB(μV/m)] - Result(PK/CAV) [dB(μV/m)]

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

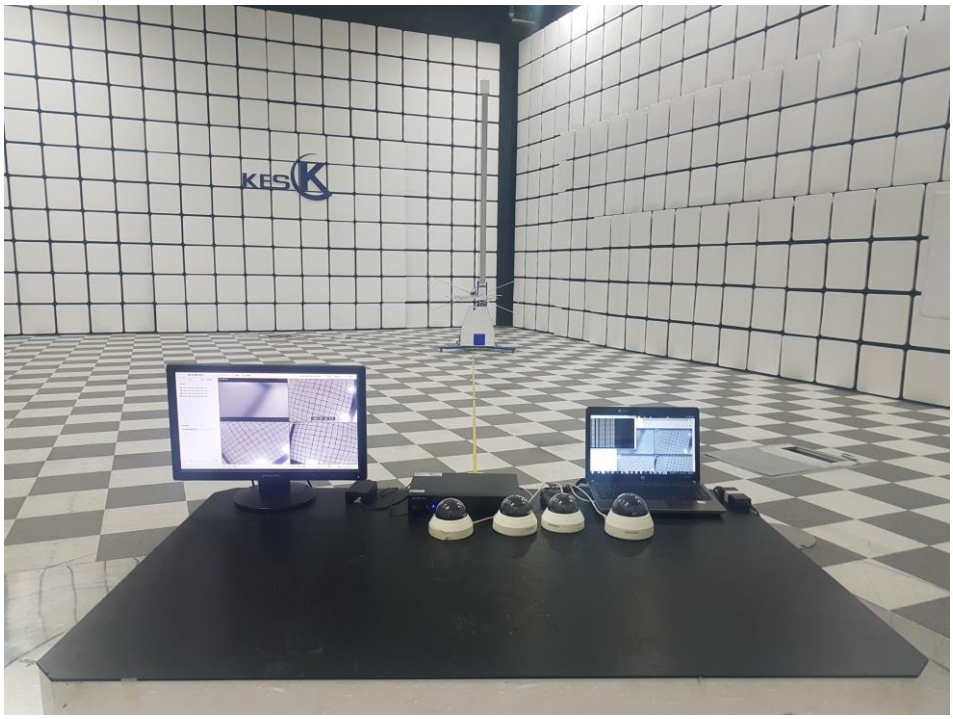
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Test Setup Photos and Configuration

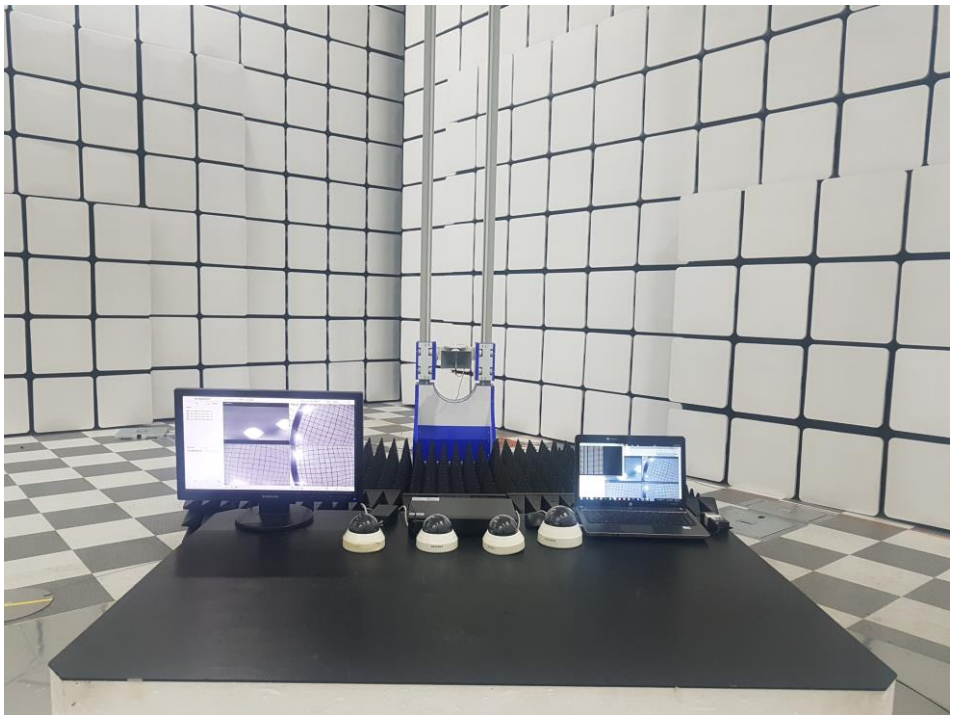
Conducted Emissions at Mains Power Ports

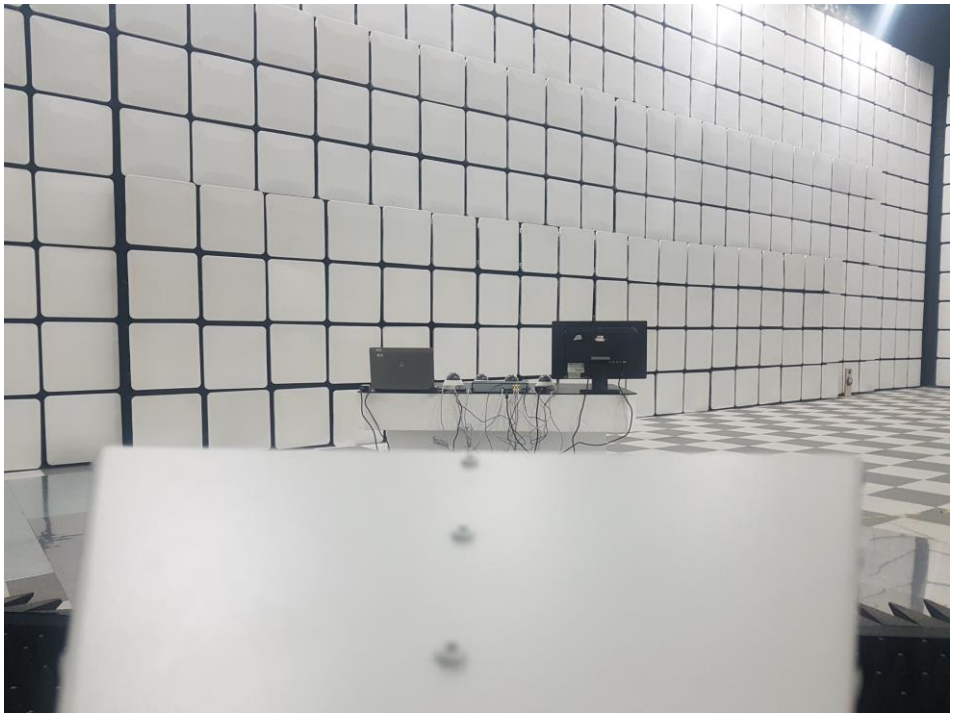


Radiated Electric Field Emissions(Below 1 ㎓)



Radiated Electric Field Emissions(Above 1 ㎓)





EUT External Photographs

(Top)

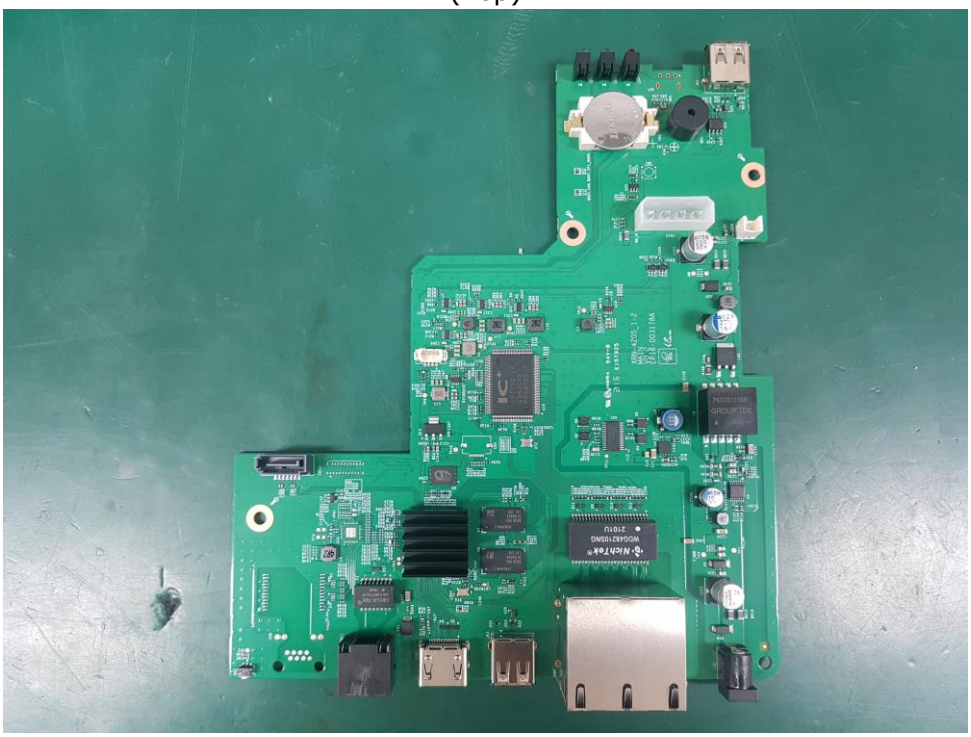
(Bottom)

EUT Internal Photographs

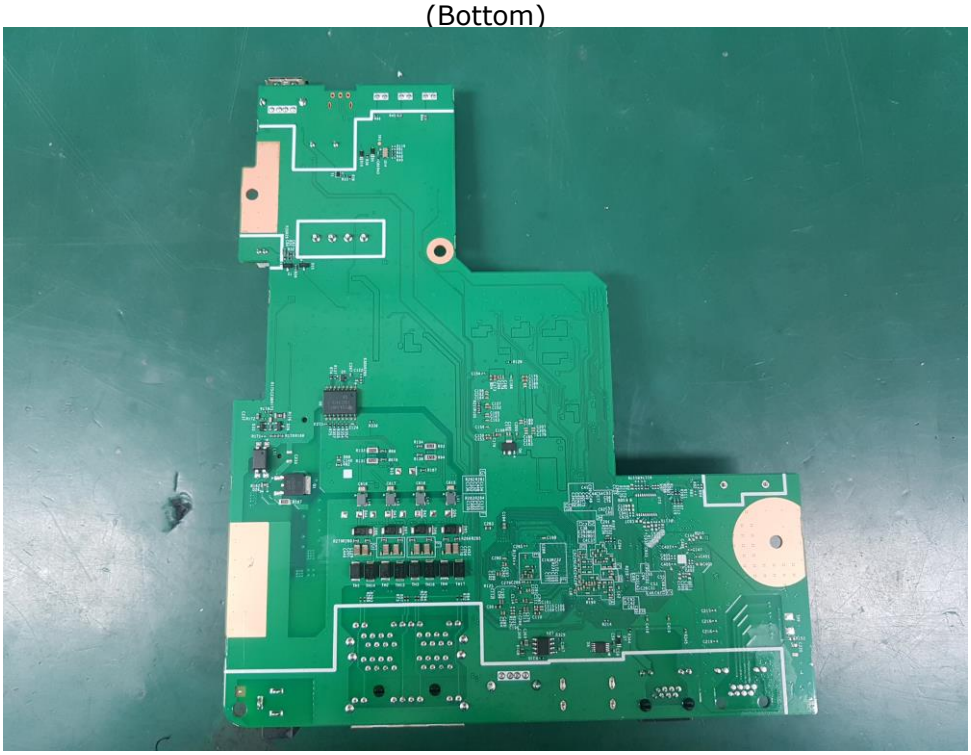
(Internal View)

EUT Internal View – Board

(Top)



(Bottom)

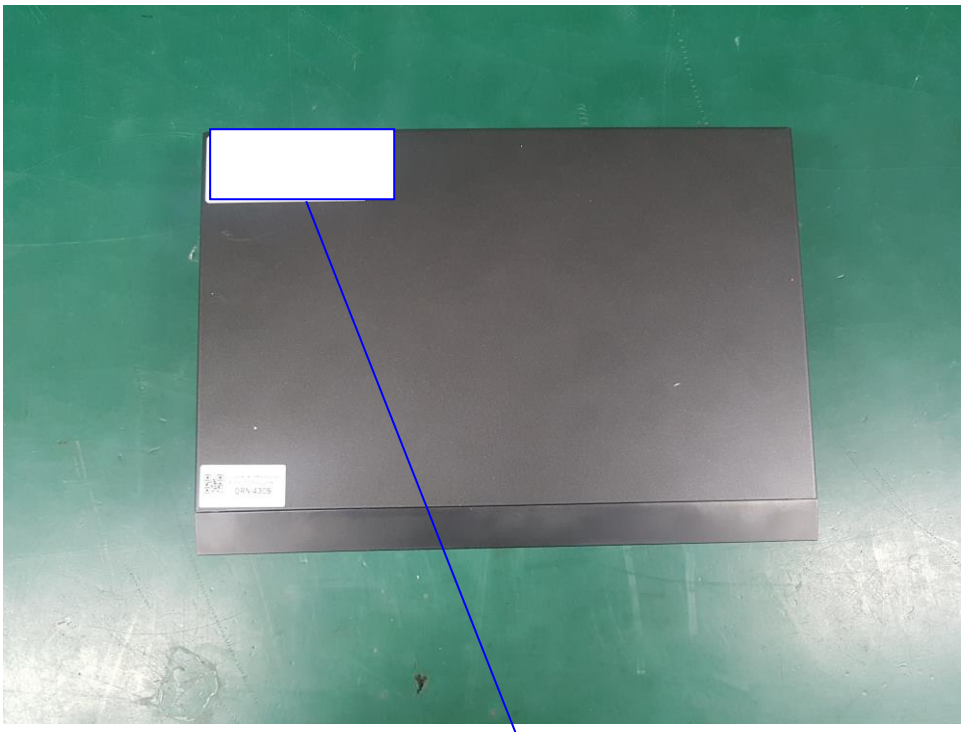


EUT Internal View – HDD

(Top)

(Bottom)

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.