

VERIFICATION OF FCC PART 15 COMPLIANCE

*KES hereby verify that the subject product complies with all the
electromagnetic emission specified in the FCC Rule Part 15*

Product Description:	NETWORK CAMERA
Model/Brand Name:	QNV-7030RN
Variant Model:	QNV-7020RN, QNV-7010RN
FCC Rule Part(s):	FCC 47CFR Part 15 Subpart B Class A Part 15.107(b) & Part 15.109(b)
FCC Procedure:	Verification
Applicant Name:	Hanwha Techwin Co., Ltd.
Applicant Address:	1204, Changwon-daero, Seongsan-gu, Chang won-si, Gyeongsangnam-do
Manufacturer Name:	Tianjin Samsung Techwin Opto-Electronic Co., Ltd.
Manufacturer Address:	No.11 Weiliu Rd, Micro-Electronic Industrial Park, TEDA, Tianjin, 300385, People's Republic of China
Test Report Reference No.:	KES-E1-16T0206

NETWORK CAMERA, Model QNV-7030RN has been tested in accordance with the measurement procedures specified in FCC 47CFR Part 15 Subpart B class A and has been shown to be complied with the electromagnetic emission limits specified in FCC Rule Part 15 Subpart B class A. A testing of the sample product has been valid for the sample tested based on the reference test report, KES-E1-16T0206

Date of Issue: 05. 13. 2016

Dong Hun, Jang
Technical Manager
Signature:



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EMC TEST REPORT For FCC

Test Report No. : KES-E1-16T0206
Date of Issue : May. 13, 2016
Product name : NETWORK CAMERA
Model/Type No. : QNV-7030RN
Variant Model : QNV-7020RN, QNV-7010RN
Applicant : Hanwha Techwin Co., Ltd.
Applicant Address : 1204, Changwon-daero, Seongsan-gu, Changwon-si,
Gyeongsangnam-do, Korea
Manufacturer : Tianjin Samsung Techwin Opto-Electronic Co., Ltd.
Manufacturer Address : No.11 Weiliu Rd, Micro-Electronic Industrial Park, TEDA,
Tianjin, 300385, People's Republic of China
Equipment authorization : ☐ Declaration of Conformity
☒ Verification
☐ Certification
Date of Receipt : May. 02, 2016
Test date : May. 09, 2016
Test Results : ☒ In Compliance ☐ Not in Compliance

Tested by

Yeong Suk, Song
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

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Test report No.:
KES-E1-16T0206
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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
May. 13, 2016	KES-E1-16T0206	Issued

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1.0 General Product Description

Main Specifications of EUT are:

		QNV-7030R		Ethernet	RJ-45 (10/100BASE-T)
				Video Compression Format	H.265, H.264, MJPEG
Video				Resolution	2592x1520, 2560x1440(16:9) / 2304x1296 / 1920x1080 / 1280x1024 / 1280x960 / 1280x720 / 1024x768 / 800x600 / 800x450 / 720x576 / 720x480 / 640x480 / 640x360 / 320x240
Imaging Device	1/3" 4M CMOS			Max. Framerate	H.265 : Max 20fps at 4M, Max 30fps at 2M all resolutions H.264 : Max 20fps at 4M, Max 30fps at 2M all resolutions MJPEG : Max 15fps @ all resolution.
Total Pixels	2720x1536			Smart codec	Wise Stream
Effective Pixels	2688x1520			Video Quality Ajustment	H.265 : Target Bitrate Level Control H.264 : Target Bitrate Level Control MJPEG : Quality Level Control
Scanning System	Progressive			Bitrate control method	H.265 : CBR or VBR H.264 : CBR or VBR MJPEG : VBR
Min. Illumination	Color : 0.3Lux, B/W : 0Lux			Streaming Capability	Multiple Streaming(Up to 3 Profiles)
Lens				Audio I/O	Line in
Focal Length (Zoom Ratio)	Fixed 6mm (F2.2)			Audio Compression Format	G.711 u-law /G.726 Selectable G.726(ADPCM) : 8KHz, G.711 : 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps
Max. Aperture Ratio	F2.2			Audio Communication	Uni-directional
Angular Field of View	D 62° / H 53° / V 31°			IP	IPv4, IPv6
Min. Object Distance	-			Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Lens Type	Fixed			Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1X Authentication
Mount Type	Board type			Streaming Method	Unicast / Multicast
Pan / Tilt / Rotate				Max. User Access	6 users at Unicast/SDXC
Pan Range	0~350°			Edge storage	Micro SD/SDHC/SDXC Max 128G, NAS - Motion images recorded in the SD memory card can be downloaded - Manual recording at Local PC
Tilt Range	0~67°			Application Programming Inte	ONVIF Profile S, G SUNAPI(HTTP API)
Rotate Range	0~355°			Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Danish, Portuguese, Turkish, Polish, Czech, Rumanian, Serbian, Dutch, Croatia, Hungary, Greek, Finnish, Norwegian
Operational				Web Viewer	Supported OS: Windows 7, 8, 10, Mac OS X 10.8, 10.9, 10.10, 10.11 [Non-plugin Webviewer] Supported Browser: Google Chrome 47, MS Edge 20 Support Codec : Video-H.264, MJPEG (Max. 1M 15fps), Audio-G.711 [Plug-in Webviewer] Supported Browser : MS Explore 11 , Mozilla Firefox 43, Apple Safari 9 * Mac OS X only
IR Viewable Length	30m			Central Management Software	SmartViewer
Camera Title	Off / On (Displayed up to 20 characters per line) - W/W : English/Numeric/Special Characters - China : English/Numeric/Special/Chinese Characters - Common : Multi-line (Max 5), Color (Grey/Green/Red/Blue/Black/White), Transparency, Auto Scale by Resolution			Pixel Counter	Support (plug-in viewer only)
Day & Night	True Day & Night			Environmental	
Backlight Compensation	Off / BLC			Operating Temperature / Hum	-30°C ~ +55°C / Less than 90% RH * Start up should be done at above -20°C
Highlight Compensation	(미지원)			Storage Temperature / Humid	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
Wide Dynamic Range	120dB			Ingress Protection	IP66
Digital Noise Reduction	SSNR(Off / On)			Vandal Resistance	IK10
Motion Detection	Off / On (4ea polygon zones)			Electrical	
Privacy Masking	Off / On (6ea rectangular zones)			Input Voltage / Current	PoE(IEEE802.3af, Class3), DC 12V
Gain Control	Off / Low / Middle / High			Power Consumption	Max.6.8W(PoE), Max.5.7W(DC12V)
White Balance	ATW / AWC / Manual / Indoor / Outdoor			Mechanical	
LDC(Lens distortion control)	On/Off (5 levels with Min/Max)			Color / Material	Ivory / Metal
Electronic Shutter Speed	Minimum / Maximum / Anti flicker			Dimension (WxHxD)	φ120 x H92
Flip / Mirror	Flip / Mirror / Hallway view			Weight	490g
Intelligent Video Analytics	Motion Detection with metadata, Tampering, Defocus				
Alarm I/O	Input 1 / Output 1				
Alarm Triggers	Motion detection, Tampering Detection, SD card error, NAS error, Alarm input, Defocus detection				
Alarm Events	File upload via FTP and E-Mail Local storage recording at Event Notification via E-Mail External output				
Network					

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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.

Voltage ☐ 100 Vac ☐ 110 Vac ☐ 120 Vac ☒ PoE ☒ 12 Vdc
Frequency ☐ 50 Hz ☐ 60 Hz ☐ Hz

1.2 Variant Model Differences

Variant Model	Remarks
QNV-7020RN	Focus Length differences
QNV-7010RN	

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	QNV-7030RN	-	Tianjin Samsung Techwin Opto-Electronic Co., Ltd.	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE	HICC-P-2100XIRV	15030100002	Honeywell	-
Notebook	NT630Z5J/	JK9091EF400142M	Samsung Electronics Suzhou Computer Co., Ltd.	-
Notebook Adapter	A13-040N2A	CN60BA4400313ADON 843K0200	Chicony Power Technology (suzhou)Co., Ltd.	-
Alarm	SIE-0001 DO	C54167JB601268 F	SAMSUNG TECHWIN CO., LTD.	-
Micro SD card	-	-	Transcend	4 GB

1.6 External I / O Cabling

- DC 12 V Mode

Start		END		Cable Spec.	
Description	I / O Port	Description	I / O Port	Length	Shield
NETWORK CAMERA (E.U.T)	Alarm IN	Alarm	Alarm IN	3.0	U
	RJ-45	Notebook	RJ-45	4.0	U
	Micro SD card SLOT	Micro SD card	Micro SD card SLOT	-	-

- PoE Mode

Start		END		Cable Spec.	
Description	I / O Port	Description	I / O Port	Length	Shield
NETWORK CAMERA (E.U.T)	Alarm IN	Alarm	Alarm IN	3.0	U
	RJ-45	PoE	RJ-45	4.0	U
	Micro SD card SLOT	Micro SD card	Micro SD card SLOT	-	-
PoE	RJ-45	Notebook	RJ-45	4.0	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

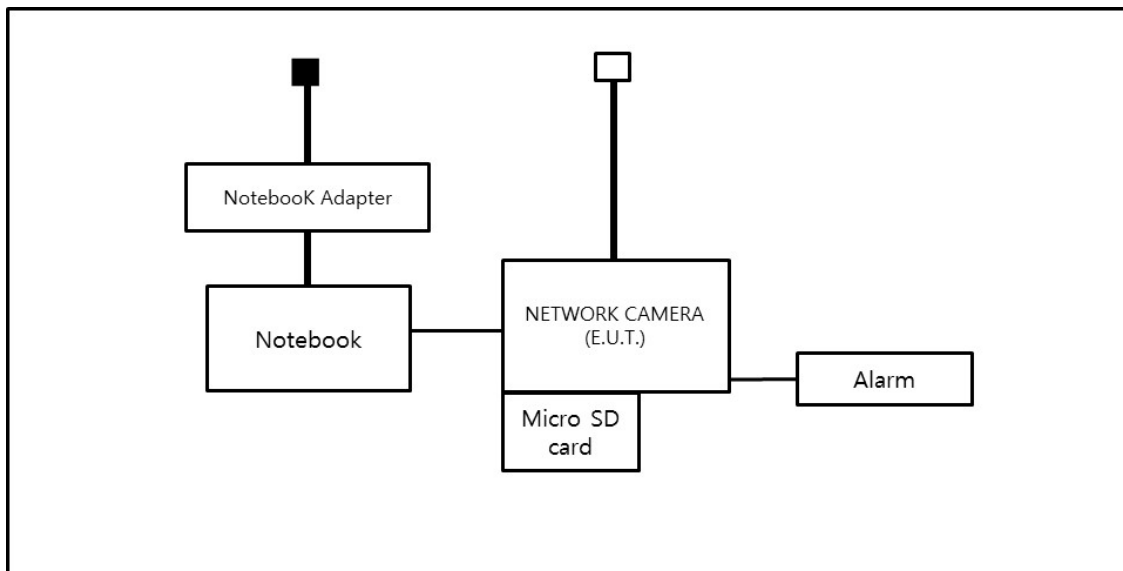
Test mode	Normal operating
OP	MONITORING Network ping test

- Input power condition during the measurements was 12 V (dc) , PoE

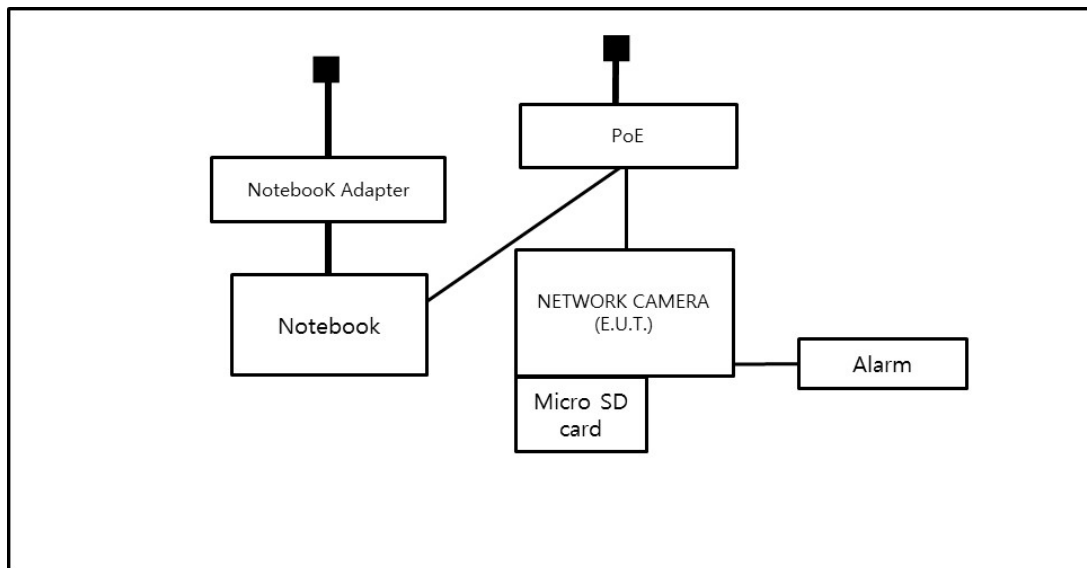
1.8 Configuration

■ AC Main
 □ DC Main

- DC 12 V Mode



- PoE Mode



1.9 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.

1.10 Test Facility

The measurement facility is located at 473-29 Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22.

1.11 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements.	
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-4308, C-4798, T-2311, G-914
KOREA	MSIP	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KR0100
Canada	IC	3 & 10 meter Open Area Test Sites and one conducted site	 4769B-1
Europe	CE	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	
International	KOLAS	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	

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 55022:2010

☐ 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 V-3 / 2013.04

☐ Class A

☐ Class B

☐ AS/NZS CISPR22:2009 +A1:2010

☐ Class A

☐ Class B

☒ 47 CFR Part 15, Subpart B / ANSI C63.4-2009 ☒ Class A

☐ Class B

☐ IC Regulation ICES-003 : 2012
/ ANSI C63.4-2014

☐ Class A

☐ Class B

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B



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☐ **R&TTE- Directive 1999 / 5 / EC**

☐ 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

N/A

Test Location

Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMI Test Receiver	ESR3	R&S	101783	05, 03, 2017
☐	LISN	ENV216	R&S	101137	02, 04, 2017
☐	LISN	ENV216	R&S	101786	05, 02, 2017
☐	Electro wave Shieldroom	-	SEMITEC	-	-

Test Conditions

Temperature: °C
Relative Humidity: %

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

Input power Condition during the measurements was 12 V (dc), PoE



2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

May. 09, 2016

Test Location

☐ Open Area Test Site #1 ☒ Open Area Test Site #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESR3	R&S	101781	05, 03, 2017
☒	Trilog-Broadband Antenna	VULB 9163	SCHWARZBECK	9168-713	02, 04, 2017
☒	Open Area Test Site	-	KES	-	05, 02, 2017
☒	Antenna Mast	-	DAEIL EMC	-	-
☒	Turn Table	-	DAEIL EMC	-	-

Test Conditions

Temperature: 27,4 °C

Relative Humidity: 28,0 %

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

May. 09, 2016

Test Location

Semi Anechoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	05, 07, 2017
☒	EMI Test Receiver	ESU26	R&S	100551	04, 18, 2018
☒	Broadband Coaxial Preamplifier	BBV 9718	Schwarzbeck Mess - Elektronik	9718-246	10, 23, 2016
☒	Semi Anechoic Chamber #2	-	SEMITEC	-	-
☒	Antenna Mast	-	AUDIX	-	-
☒	Turn Table	-	AUDIX	-	-

Test Conditions

Temperature: 25,7 °C

Relative Humidity: 39,7 %

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.



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APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

[HOT]

N/A

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[NEUTRAL]

N/A

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**Radiated Electric Field Emissions(Below 1 GHz)**

- DC 12V Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[MHz]	[dB μ V]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dB μ V/m]	[dB μ V/m]	[dB]
68.24	7.13	V	1.00	10.21	1.73	19.07	39.00	19.93
168.33	7.86	H	4.00	8.91	2.93	19.70	43.50	23.80
264.19	12.47	V	1.00	12.69	3.92	29.08	46.40	17.32
311.99	14.57	H	3.50	13.66	4.32	32.55	46.40	13.85
408.75	11.04	V	1.00	15.82	5.10	31.96	46.40	14.44
455.99	15.74	H	3.25	16.48	5.44	37.66	46.40	8.74

* H : Horizontal, V : Vertical

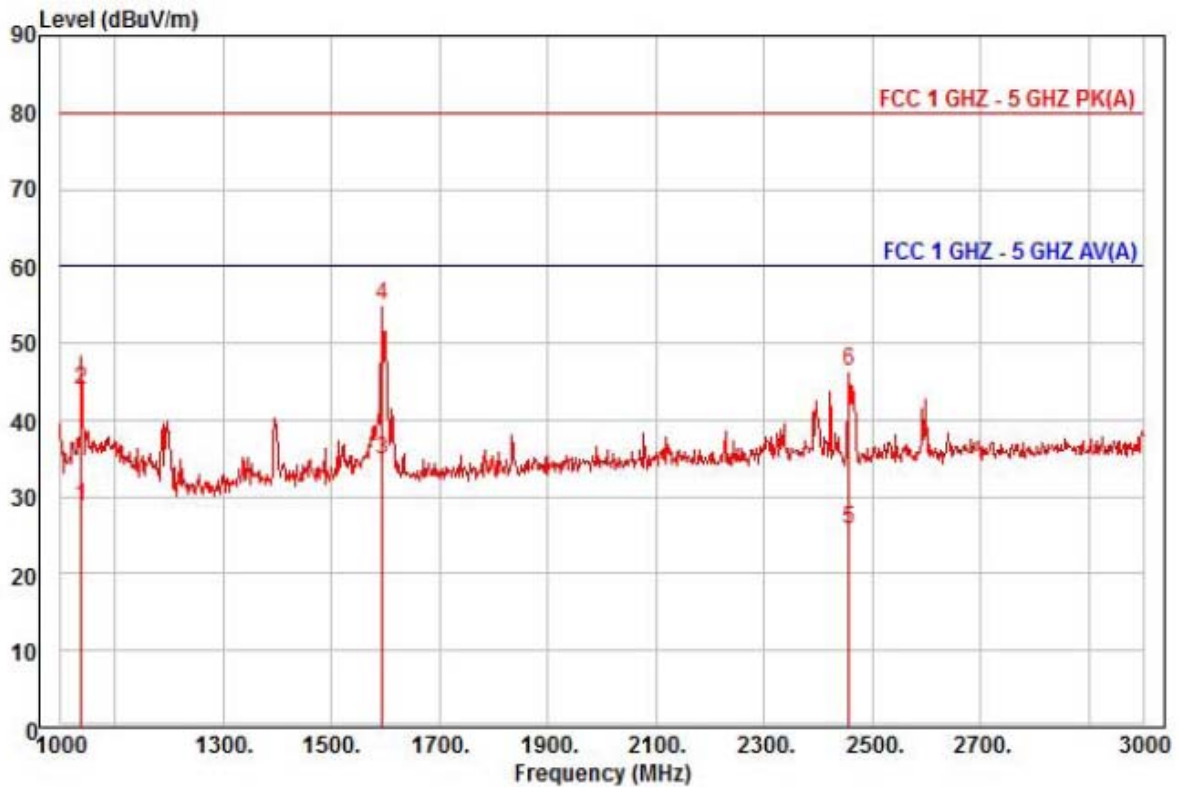
- PoE Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[MHz]	[dB μ V]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dB μ V/m]	[dB μ V/m]	[dB]
49.71	9.67	V	1.00	13.94	1.45	25.06	39.00	13.94
360.18	10.30	H	4.00	14.78	4.74	29.82	46.40	16.58
408.22	7.14	V	1.00	15.82	5.10	28.06	46.40	18.34
455.96	12.77	H	3.40	16.48	5.44	34.69	46.40	11.71
480.85	6.56	V	1.00	16.83	5.61	29.00	46.40	17.40
594.74	7.05	H	4.00	19.18	6.29	32.52	46.40	13.88

* H : Horizontal, V : Vertical

Radiated Electric Field Emissions(Above 1 GHz)

- DC 12V Mode



Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

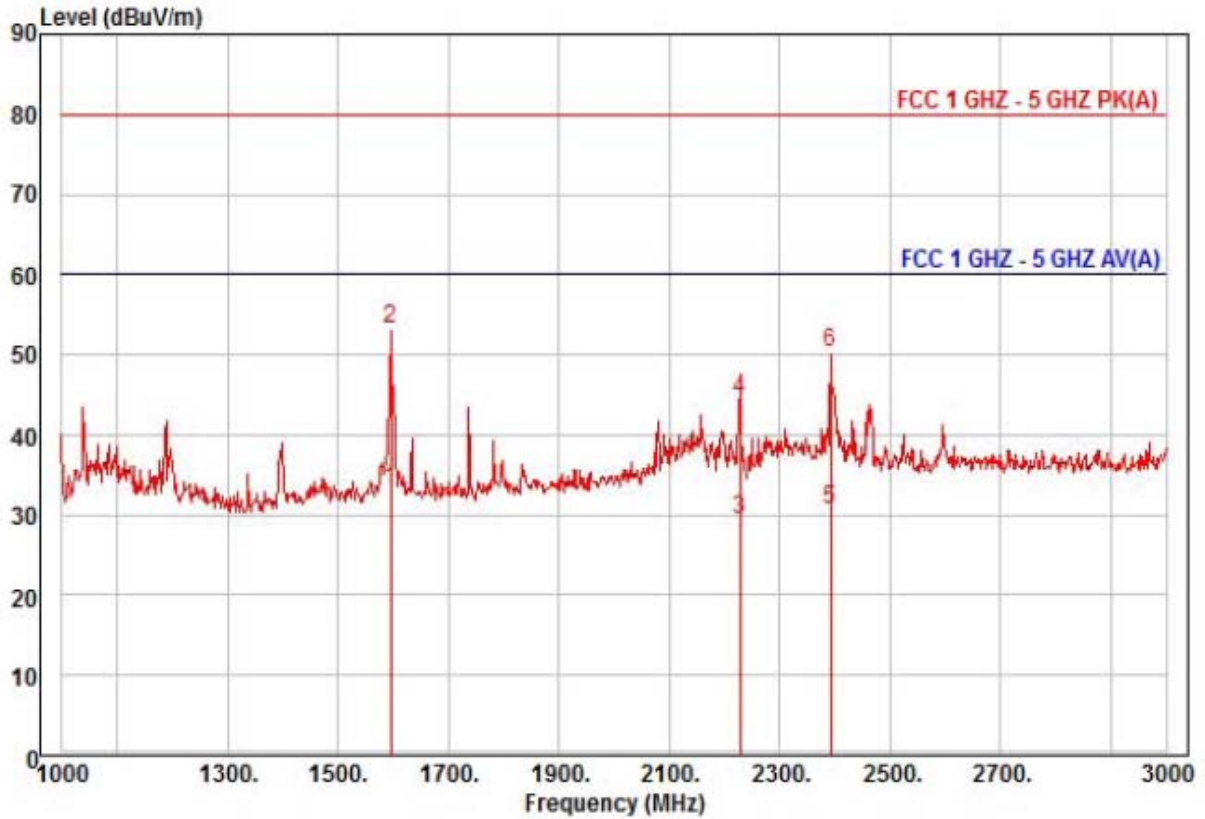
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1038.00	38.01	24.06	6.62	40.10	216	60.00	-31.41	horizontal	Average
2	1038.00	53.31	24.06	6.62	40.10	216	80.00	-36.11	horizontal	Peak
3 av	1594.00	40.07	26.27	8.23	39.83	88	60.00	-25.26	horizontal	Average
4 pp	1594.00	60.15	26.27	8.23	39.83	88	80.00	-25.18	horizontal	Peak
5	2456.00	26.58	29.00	10.05	39.89	88	60.00	-34.26	horizontal	Average
6	2456.00	47.20	29.00	10.05	39.89	88	80.00	-33.64	horizontal	Peak



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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

		Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
		MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	av	1596.00	38.51	26.28	8.24	39.83	41	60.00	-26.80	vertical	Average
2	pp	1596.00	58.52	26.28	8.24	39.83	41	80.00	-26.79	vertical	Peak
3		2228.00	31.16	28.44	9.70	39.76	238	60.00	-30.46	vertical	Average
4		2228.00	45.99	28.44	9.70	39.76	238	80.00	-35.63	vertical	Peak
5		2392.00	31.71	28.84	9.95	39.86	215	60.00	-29.36	vertical	Average
6		2392.00	51.35	28.84	9.95	39.86	215	80.00	-29.72	vertical	Peak

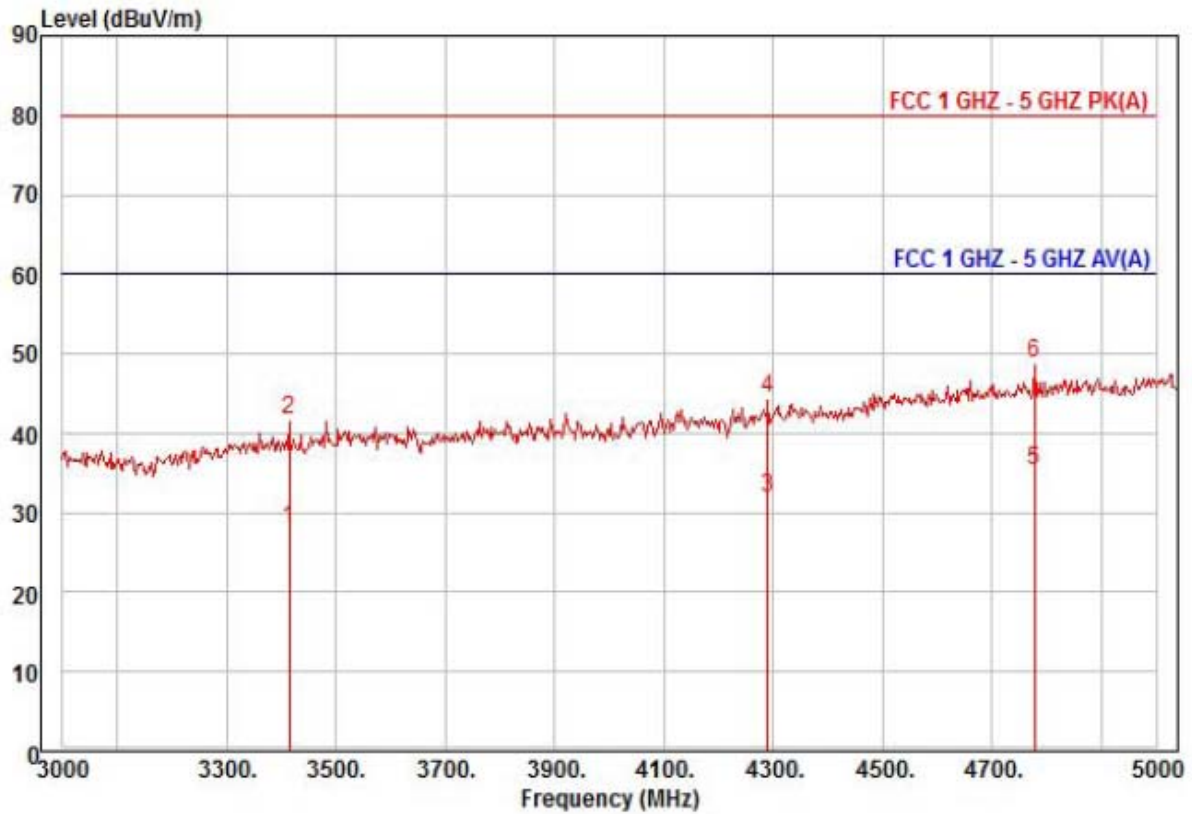
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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3414.00	24.94	31.03	12.29	40.29	194	60.00	-32.03	horizontal	Average
2	3414.00	38.57	31.03	12.29	40.29	194	80.00	-38.40	horizontal	Peak
3	4290.00	24.47	33.67	14.04	40.41	78	60.00	-28.23	horizontal	Average
4	4290.00	37.12	33.67	14.04	40.41	78	80.00	-35.58	horizontal	Peak
5 pp	4779.00	24.29	36.46	14.93	40.41	191	60.00	-24.73	horizontal	Average
6 pk	4779.00	37.77	36.46	14.93	40.41	191	80.00	-31.25	horizontal	Peak

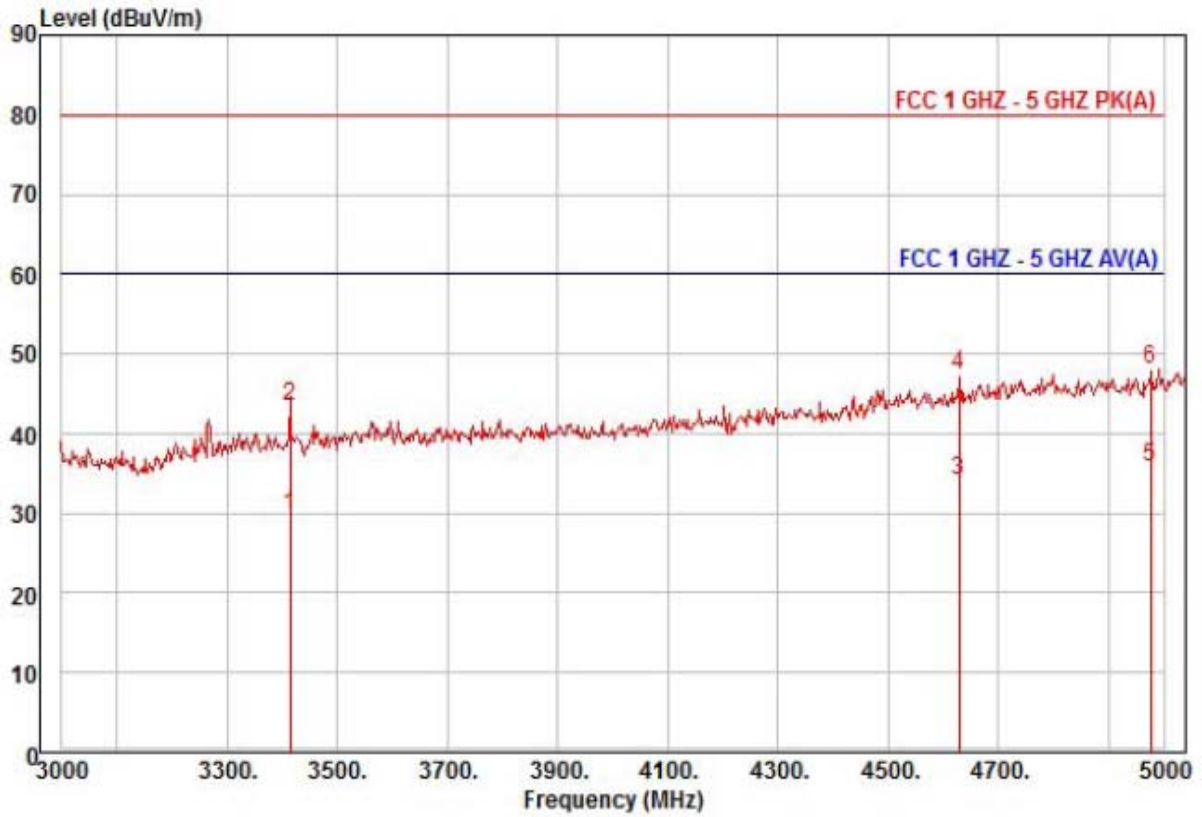
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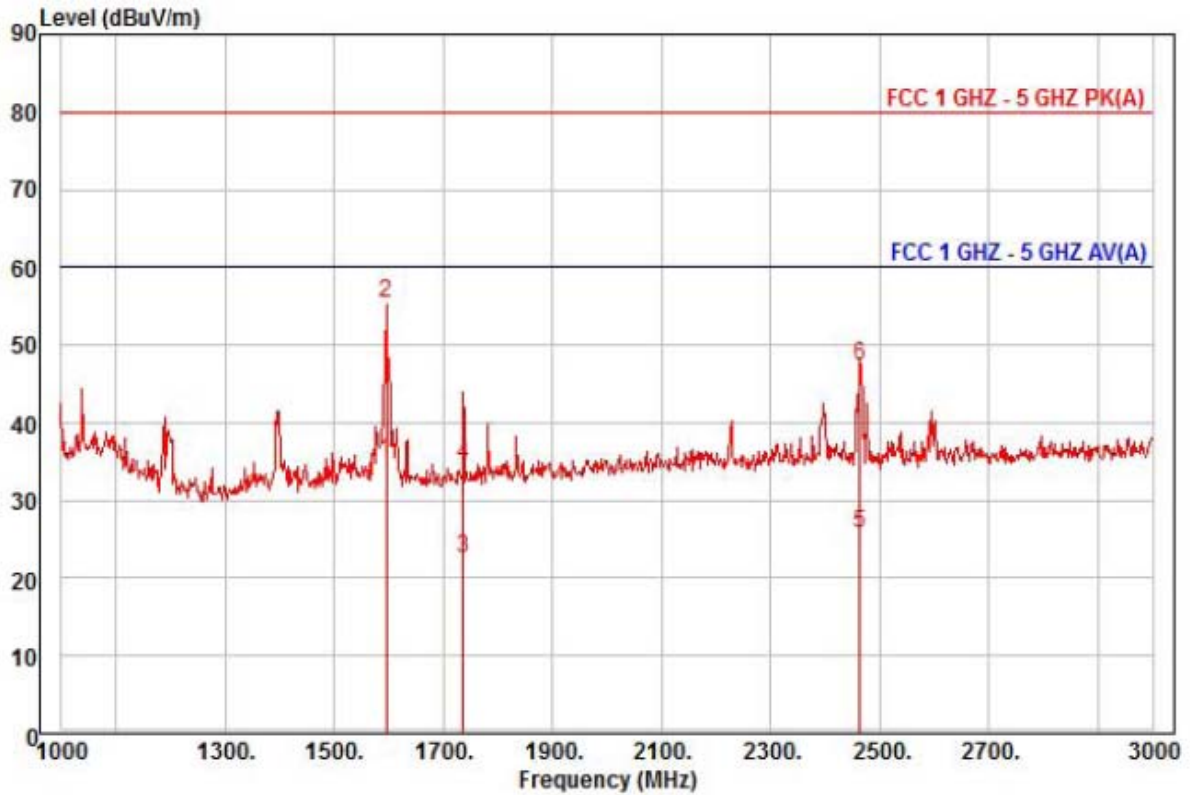


Site : chamber
Condition: FCC 1 GHz - 5 GHz PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3414.00	26.71	31.03	12.29	40.29	328	60.00	-30.26	vertical	Average
2	3414.00	40.42	31.03	12.29	40.29	328	80.00	-36.55	vertical	Peak
3	4629.00	24.28	35.60	14.66	40.41	14	60.00	-25.87	vertical	Average
4	4629.00	37.41	35.60	14.66	40.41	14	80.00	-32.74	vertical	Peak
5 pp	4977.00	23.35	37.59	15.29	40.41	325	60.00	-24.18	vertical	Average
6 pk	4977.00	35.64	37.59	15.29	40.41	325	80.00	-31.89	vertical	Peak

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- PoE Mode



Site : chamber
Condition: FCC 1 GHz - 5 GHz PK(A) 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

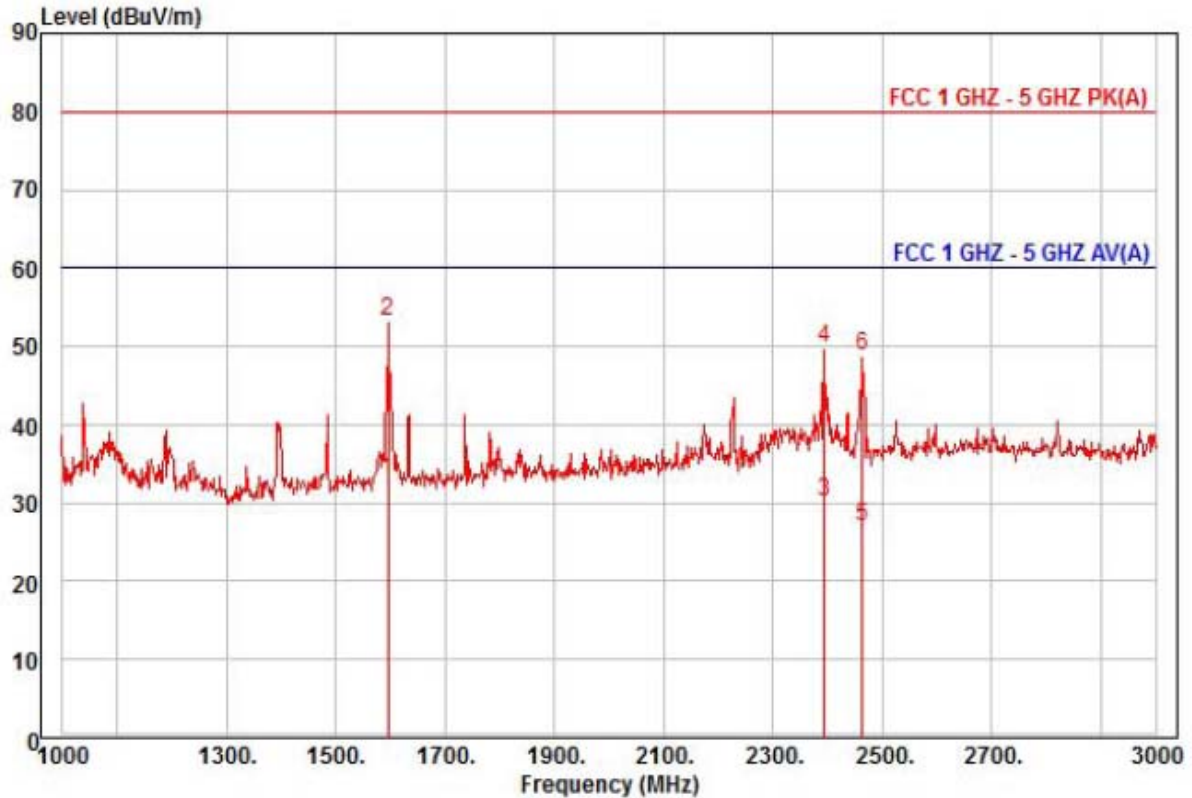
		Read	Ant	Cable	Preamp	TPos	Limit	Over		
	Freq	Level	Factor	Loss	Factor		Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	av	1596.00	40.44	26.28	8.24	39.83	93	60.00	-24.87	horizontal Average
2	pp	1596.00	60.65	26.28	8.24	39.83	93	80.00	-24.66	horizontal Peak
3		1736.00	26.82	26.83	8.62	39.76	325	60.00	-37.49	horizontal Average
4		1736.00	38.91	26.83	8.62	39.76	325	80.00	-45.40	horizontal Peak
5		2464.00	26.52	29.02	10.06	39.90	192	60.00	-34.30	horizontal Average
6		2464.00	48.27	29.02	10.06	39.90	192	80.00	-32.55	horizontal Peak



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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

		Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
		MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	av	1596.00	38.11	26.28	8.24	39.83	50	60.00	-27.20	vertical	Average
2	pp	1596.00	58.43	26.28	8.24	39.83	50	80.00	-26.88	vertical	Peak
3		2394.00	31.16	28.85	9.95	39.86	229	60.00	-29.90	vertical	Average
4		2394.00	50.75	28.85	9.95	39.86	229	80.00	-30.31	vertical	Peak
5		2464.00	27.73	29.02	10.06	39.90	200	60.00	-33.09	vertical	Average
6		2464.00	49.56	29.02	10.06	39.90	200	80.00	-31.26	vertical	Peak

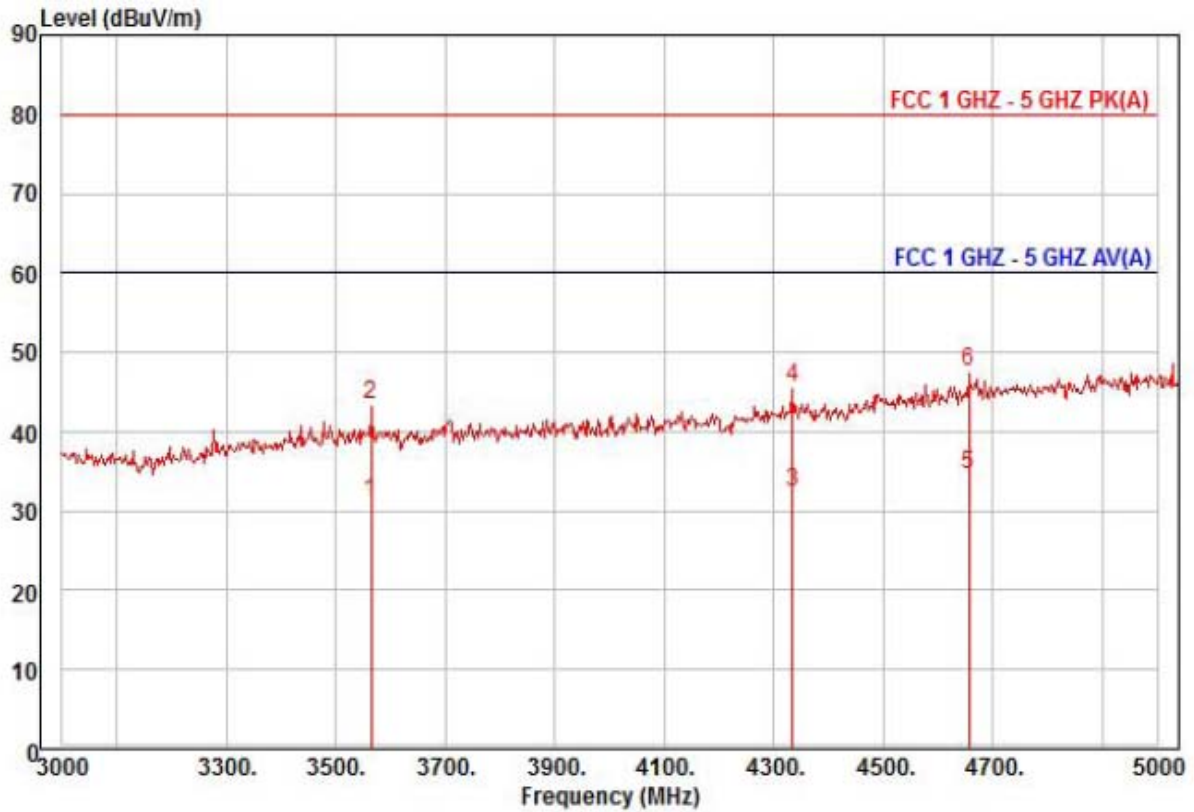
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Site : chamber
Condition: FCC 1 GHz - 5 GHz PK(A) 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3564.00	27.61	31.28	12.64	40.32	36	60.00	-28.79	horizontal	Average
2	3564.00	39.87	31.28	12.64	40.32	36	80.00	-36.53	horizontal	Peak
3	4335.00	24.73	33.92	14.13	40.41	316	60.00	-27.63	horizontal	Average
4	4335.00	37.91	33.92	14.13	40.41	316	80.00	-34.45	horizontal	Peak
5 pp	4656.00	24.44	35.76	14.71	40.41	354	60.00	-25.50	horizontal	Average
6 pk	4656.00	37.59	35.76	14.71	40.41	354	80.00	-32.35	horizontal	Peak

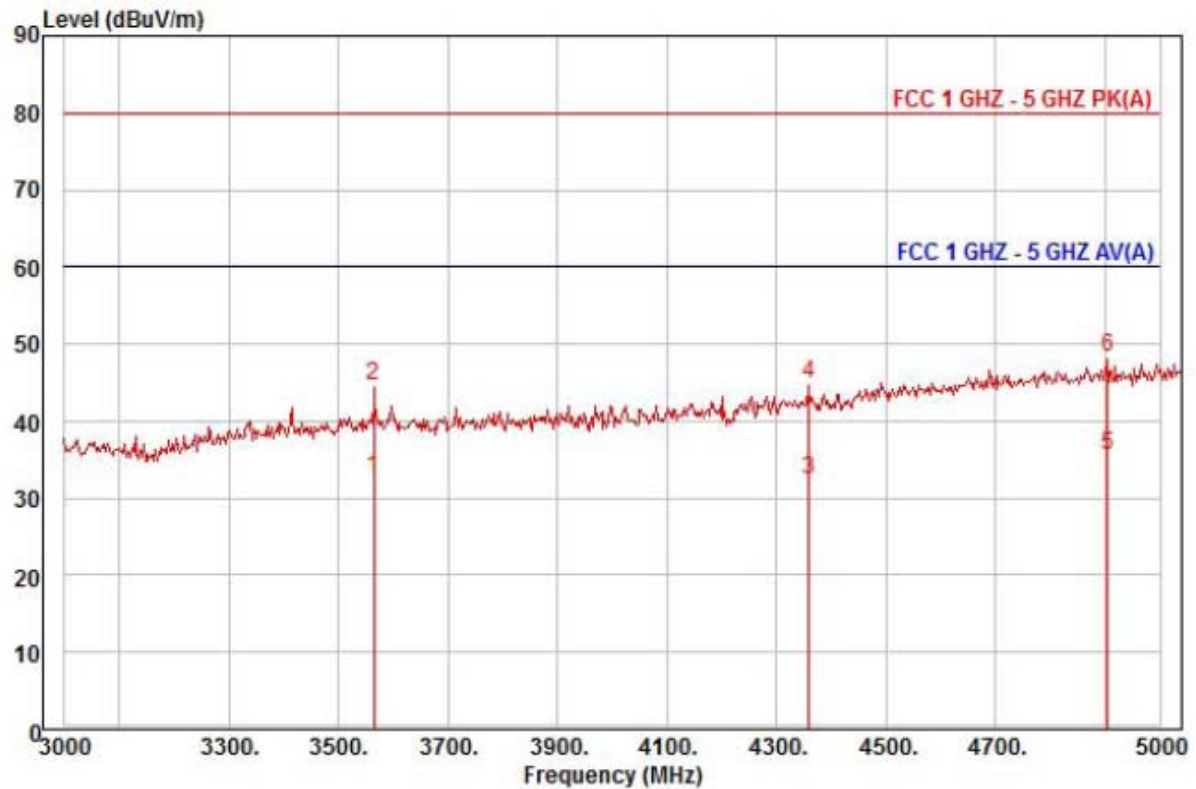
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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3564.00	28.96	31.28	12.64	40.32	201	60.00	-27.44	vertical	Average
2	3564.00	40.93	31.28	12.64	40.32	201	80.00	-35.47	vertical	Peak
3	4359.00	24.56	34.06	14.17	40.41	184	60.00	-27.62	vertical	Average
4	4359.00	37.16	34.06	14.17	40.41	184	80.00	-35.02	vertical	Peak
5 pp	4905.00	23.74	37.18	15.16	40.41	251	60.00	-24.33	vertical	Average
6 pk	4905.00	36.32	37.18	15.16	40.41	251	80.00	-31.75	vertical	Peak

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Test Setup Photos and Configuration

Conducted Voltage Emissions

N/A

N/A

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Radiated Electric Field Emissions(Below 1 GHz)

- DC 12V Mode



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- PoE Mode



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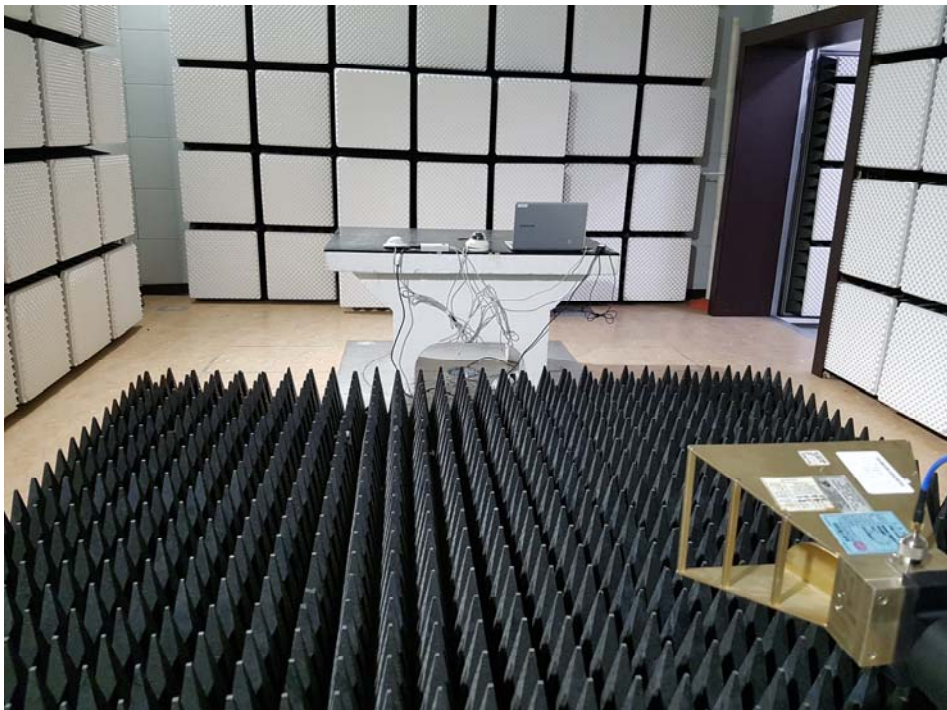
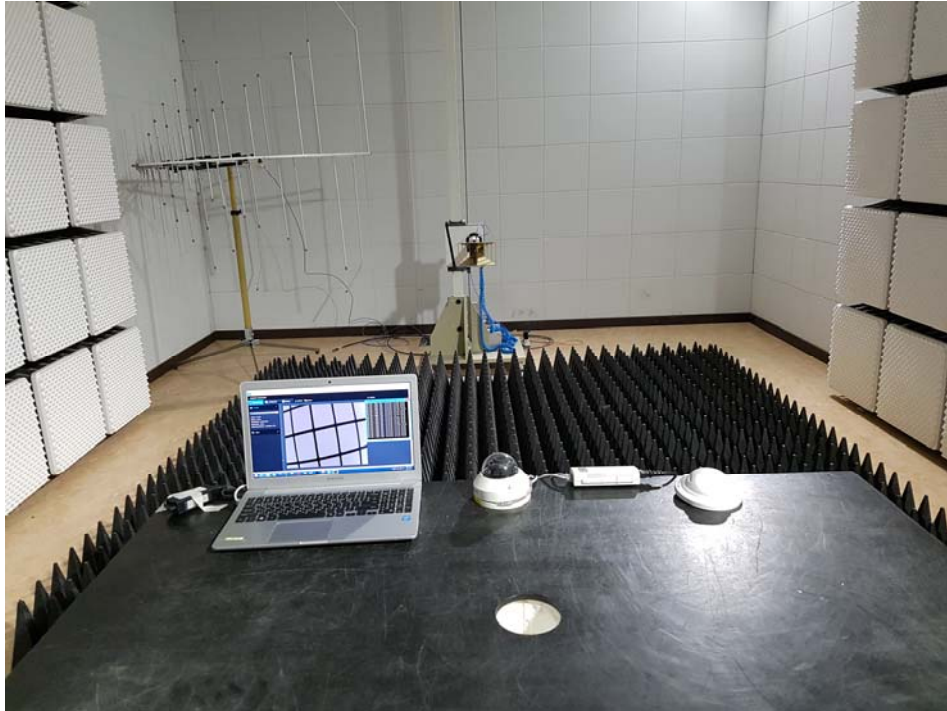
Radiated Electric Field Emissions(Above 1 GHz)

- DC 12V Mode



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- PoE Mode



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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

(Internal View)



Main Board EUT Internal View – Board1

(Top)



(Bottom)



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Main Board EUT Internal View – Board2

(Top)



(Bottom)



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Main Board EUT Internal View – Board3

(Top)



(Bottom)



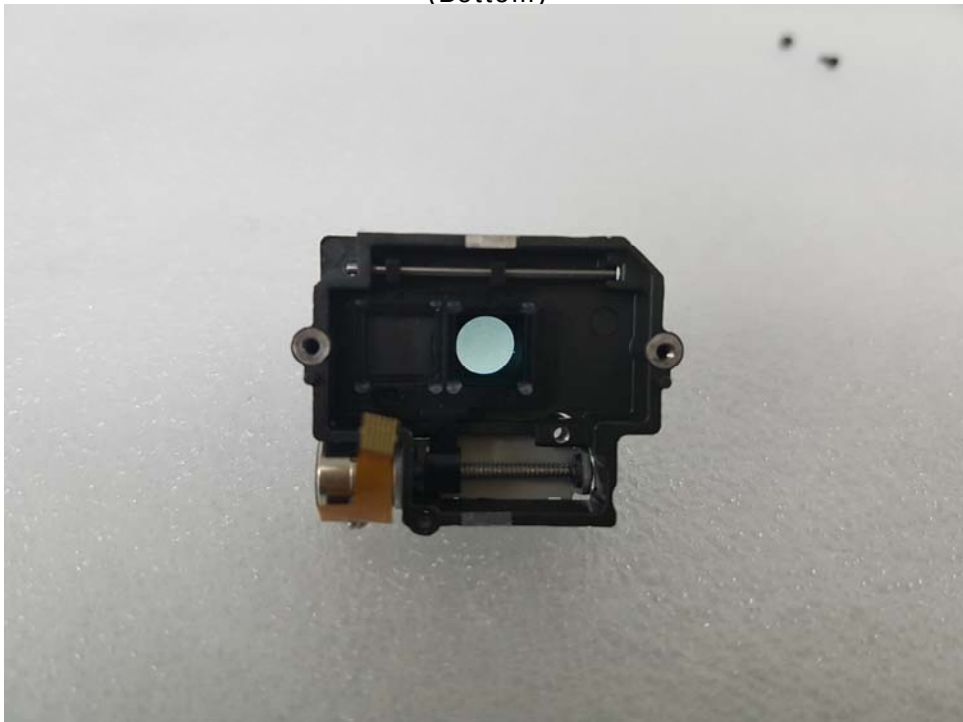
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Main Board EUT Internal View – CAMERA

(Top)



(Bottom)



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Label Photographs



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