



EMC TEST REPORT For VCCI

Test Report No. : KES-E1-16T0210
Date of Issue : May. 16, 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
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

**KES Co., Ltd.**

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Test report No.:
KES-E1-16T0210
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REPORT REVISION HISTORY

Date	Revision	Page No
May. 16, 2016	KES-E1-16T0210	Issued

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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.	-
NotebookK 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:

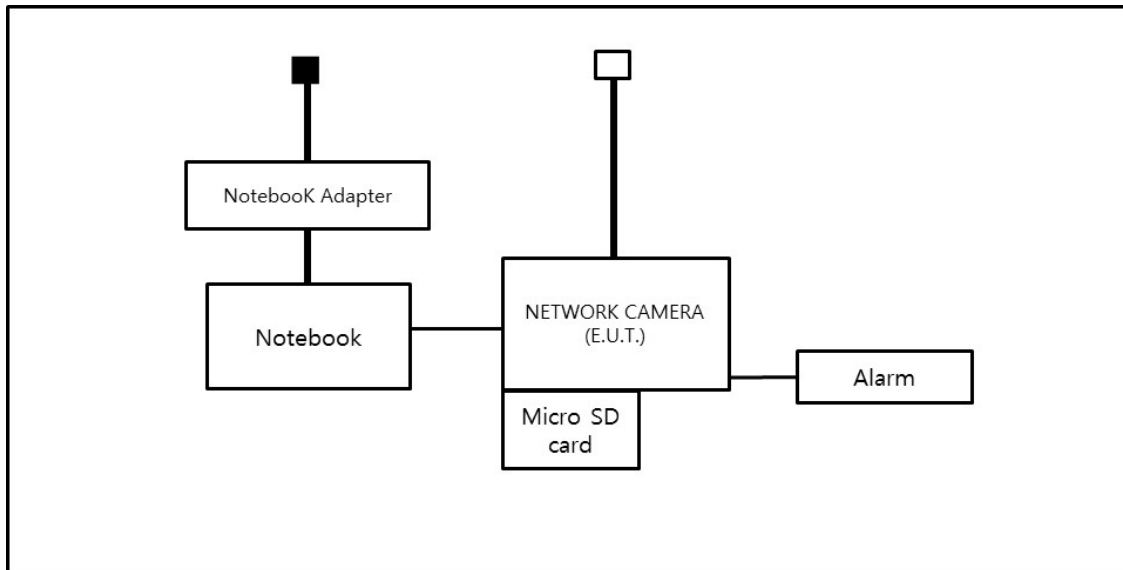
Test mode	Normal operating
OP	MONITORING Network ping test

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

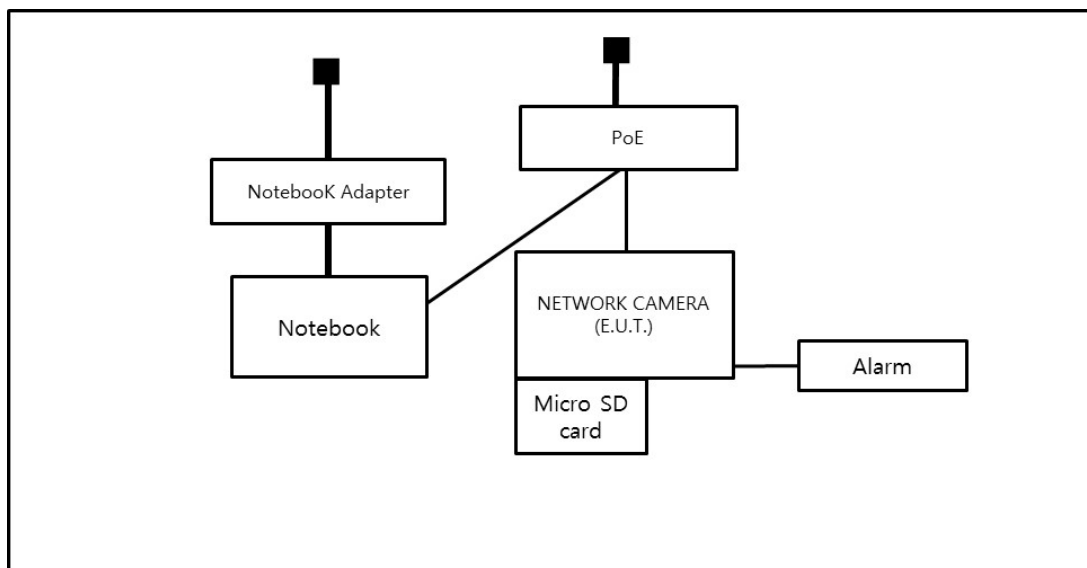
1.8 Configuration

- AC Main
- DC Main
- DC 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

Because the E.U.T power is 12 V (dc) power and PoE, limits are not specified

2.2 Conducted Emissions at Telecommunication Ports

Test Date

May. 09, 2016

Test Location

Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Tesr Receiver	ESR3	R & S	101783	05, 03, 2017
☒	LISN	ENV216	R & S	101137	02, 04, 2017
☒	LISN	ENV216	R & S	101786	05, 02, 2017
☒	8-Wire ISN CAT3	CAT3 8158	Schwarzbeck Mess	8158-0019	04, 01, 2017
☒	8-Wire ISN CAT5	CAT5 8158	Schwarzbeck Mess	8158-0030	04, 01, 2017
☐	8-Wire ISN CAT6	NTFM 8158	Schwarzbeck Mess	8158-0029	08, 14, 2016
☒	Electro wave Shieldroom	-	AONE SHIELD	-	-

Test Conditions

Temperature: 25,7 °C

Relative Humidity: 39,7 %

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

TestResults

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



2.3 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	-	EMCO	-	-
☒	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.



2.4 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, 2017
☒	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 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.



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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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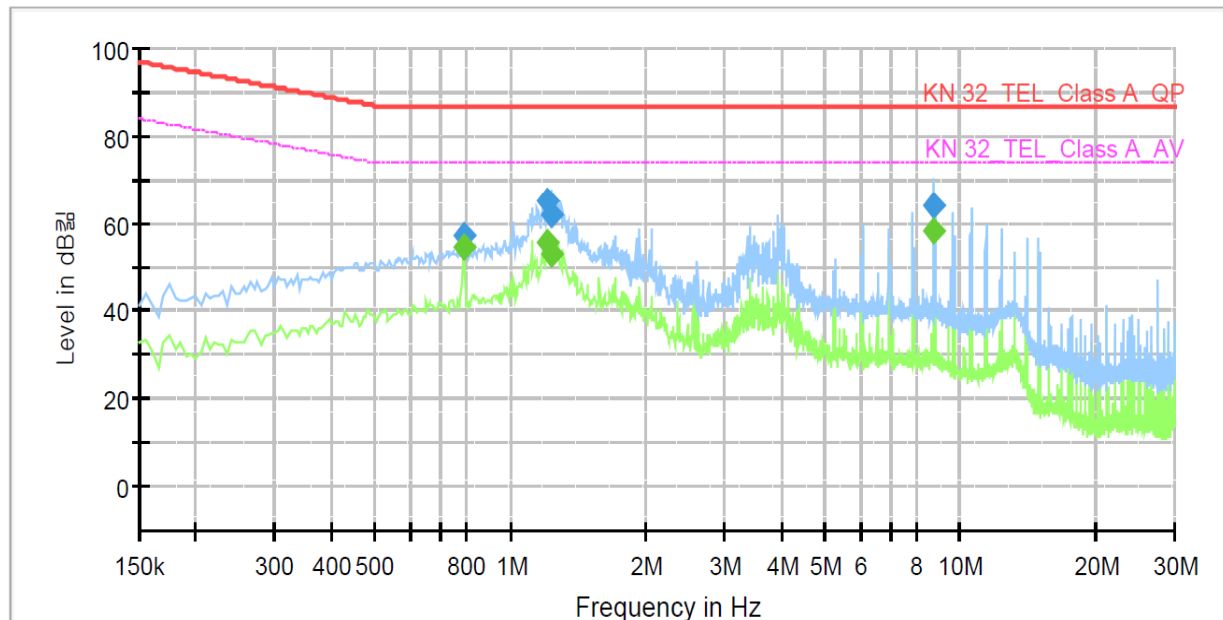
Conducted Emissions at Telecommunication Ports

- DC 12V Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	QNV-7030RN
Mode	10 Mbps
Operator Name:	KES



Final Result

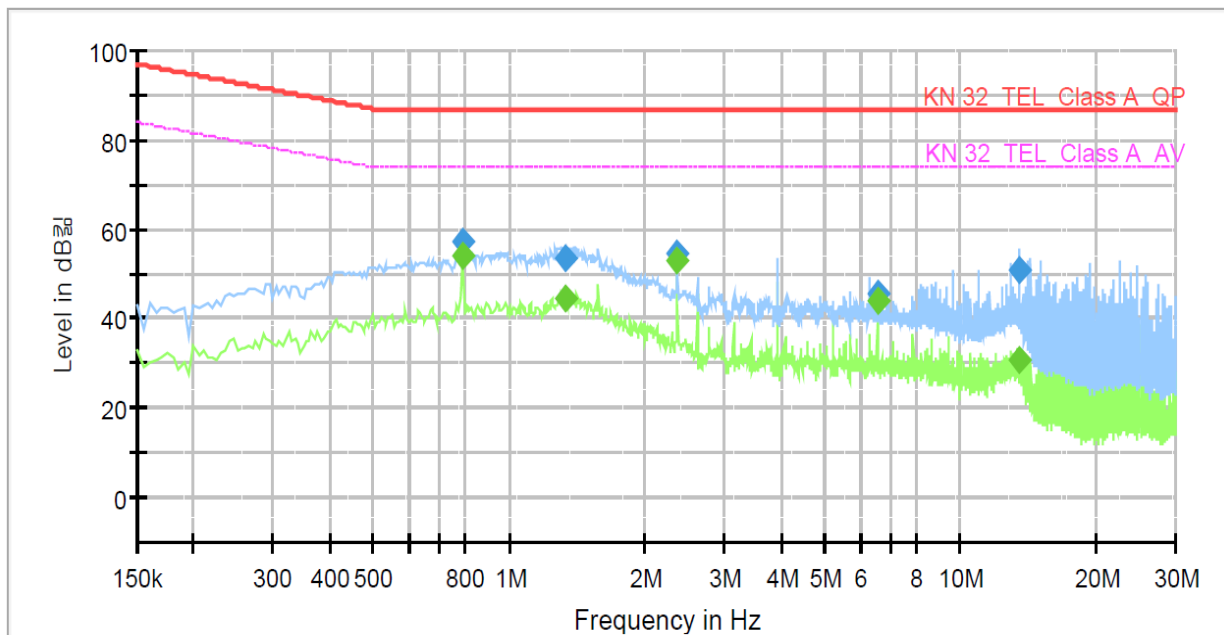
Frequency (MHz)	QuasiPeak (dB μ)	CAverage (dB μ)	Limit (dB μ)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.785000	---	54.69	74.00	19.31	1000.0	9.000	Single Line	9.9
0.785000	57.37	---	87.00	29.63	1000.0	9.000	Single Line	9.9
1.215000	---	55.47	74.00	18.53	1000.0	9.000	Single Line	9.8
1.215000	65.17	---	87.00	21.83	1000.0	9.000	Single Line	9.8
1.230000	---	52.68	74.00	21.32	1000.0	9.000	Single Line	9.8
1.230000	61.71	---	87.00	25.29	1000.0	9.000	Single Line	9.8
8.750000	---	58.02	74.00	15.98	1000.0	9.000	Single Line	10.0
8.750000	64.18	---	87.00	22.82	1000.0	9.000	Single Line	10.0



[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QNV-7030RN
Mode: 100 Mbps
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBm)	CAverage (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.785000	---	54.18	74.00	19.82	1000.0	9.000	Single Line	9.4
0.785000	57.12	---	87.00	29.88	1000.0	9.000	Single Line	9.4
1.330000	---	44.29	74.00	29.71	1000.0	9.000	Single Line	9.3
1.330000	53.61	---	87.00	33.39	1000.0	9.000	Single Line	9.3
2.360000	---	53.16	74.00	20.84	1000.0	9.000	Single Line	9.3
2.360000	54.36	---	87.00	32.64	1000.0	9.000	Single Line	9.3
6.545000	---	43.80	74.00	30.20	1000.0	9.000	Single Line	9.5
6.545000	45.73	---	87.00	41.27	1000.0	9.000	Single Line	9.5
13.555000	---	30.56	74.00	43.44	1000.0	9.000	Single Line	9.6
13.555000	50.80	---	87.00	36.20	1000.0	9.000	Single Line	9.6

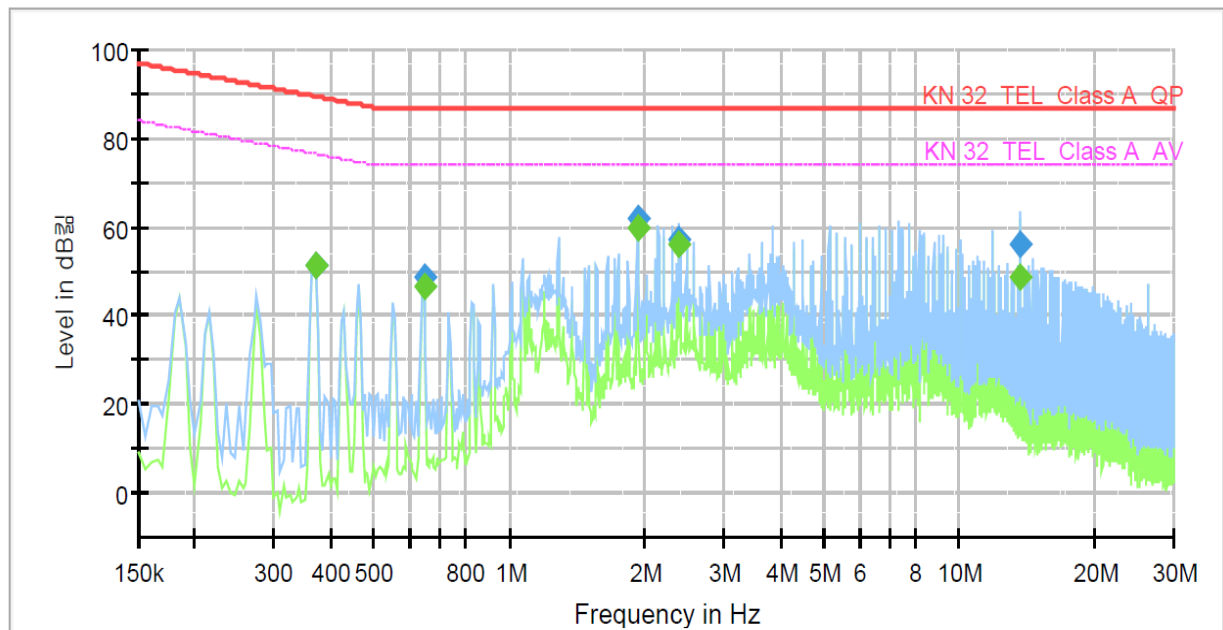


- PoE Mode

[10 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QNV-7030RN
Mode: 10 Mbps
Operator Name: KES



Final Result

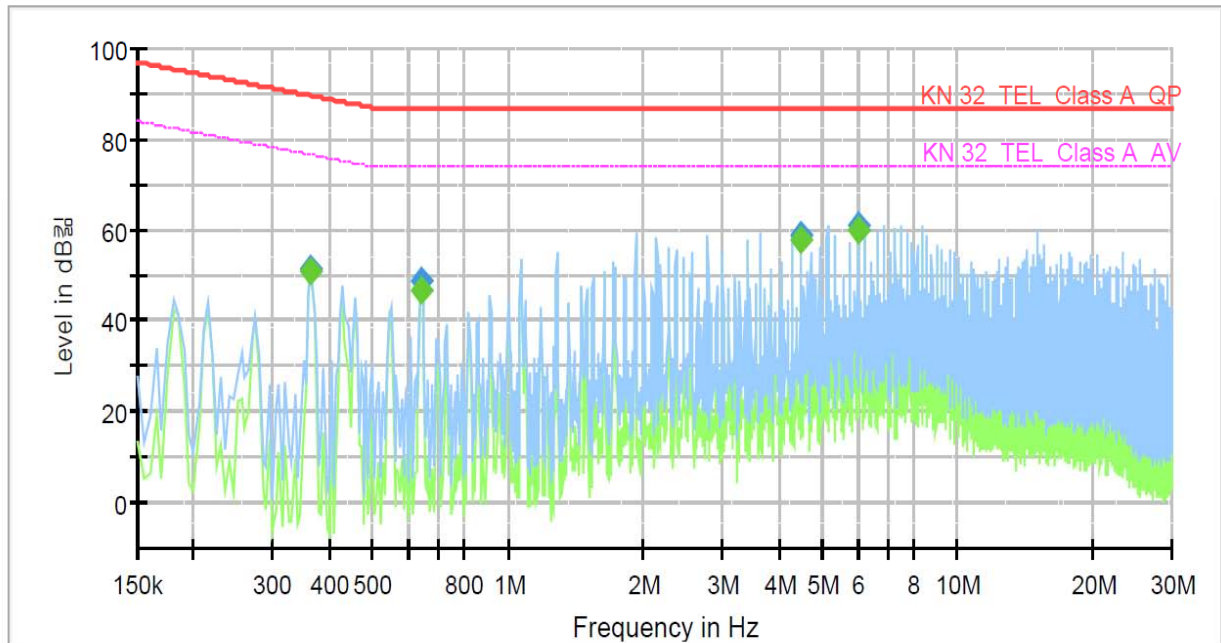
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.370000	---	51.15	76.50	25.35	1000.0	9.000	Single Line	10.0
0.370000	51.19	---	89.50	38.31	1000.0	9.000	Single Line	10.0
0.645000	---	46.39	74.00	27.61	1000.0	9.000	Single Line	9.9
0.645000	48.47	---	87.00	38.53	1000.0	9.000	Single Line	9.9
1.930000	---	60.07	74.00	13.93	1000.0	9.000	Single Line	9.8
1.930000	61.73	---	87.00	25.27	1000.0	9.000	Single Line	9.8
2.390000	---	56.13	74.00	17.87	1000.0	9.000	Single Line	9.8
2.390000	57.21	---	87.00	29.79	1000.0	9.000	Single Line	9.8
13.695000	---	48.86	74.00	25.14	1000.0	9.000	Single Line	10.1
13.695000	56.08	---	87.00	30.92	1000.0	9.000	Single Line	10.1



[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QNV-7030RN
Mode: 100 Mbps
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.365000	---	51.03	76.61	25.58	1000.0	9.000	Single Line	9.5
0.365000	51.15	---	89.61	38.46	1000.0	9.000	Single Line	9.5
0.640000	---	46.68	74.00	27.32	1000.0	9.000	Single Line	9.4
0.640000	48.89	---	87.00	38.11	1000.0	9.000	Single Line	9.4
4.495000	---	57.75	74.00	16.25	1000.0	9.000	Single Line	9.3
4.495000	58.64	---	87.00	28.36	1000.0	9.000	Single Line	9.3
5.995000	---	60.00	74.00	14.00	1000.0	9.000	Single Line	9.4
5.995000	60.76	---	87.00	26.24	1000.0	9.000	Single Line	9.4

**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]
68.87	7.44	V	1.00	10.02	1.67	19.13	40.00	20.87
168.09	7.80	H	4.00	8.90	2.67	19.37	40.00	20.63
264.12	12.64	V	1.00	12.68	3.44	28.76	47.00	18.24
311.18	14.12	H	4.00	13.64	3.75	31.51	47.00	15.49
408.90	10.98	V	1.00	15.82	4.28	31.08	47.00	15.92
455.85	15.09	H	4.00	16.48	4.63	36.20	47.00	10.80

* H : Horizontal, V : Vertical

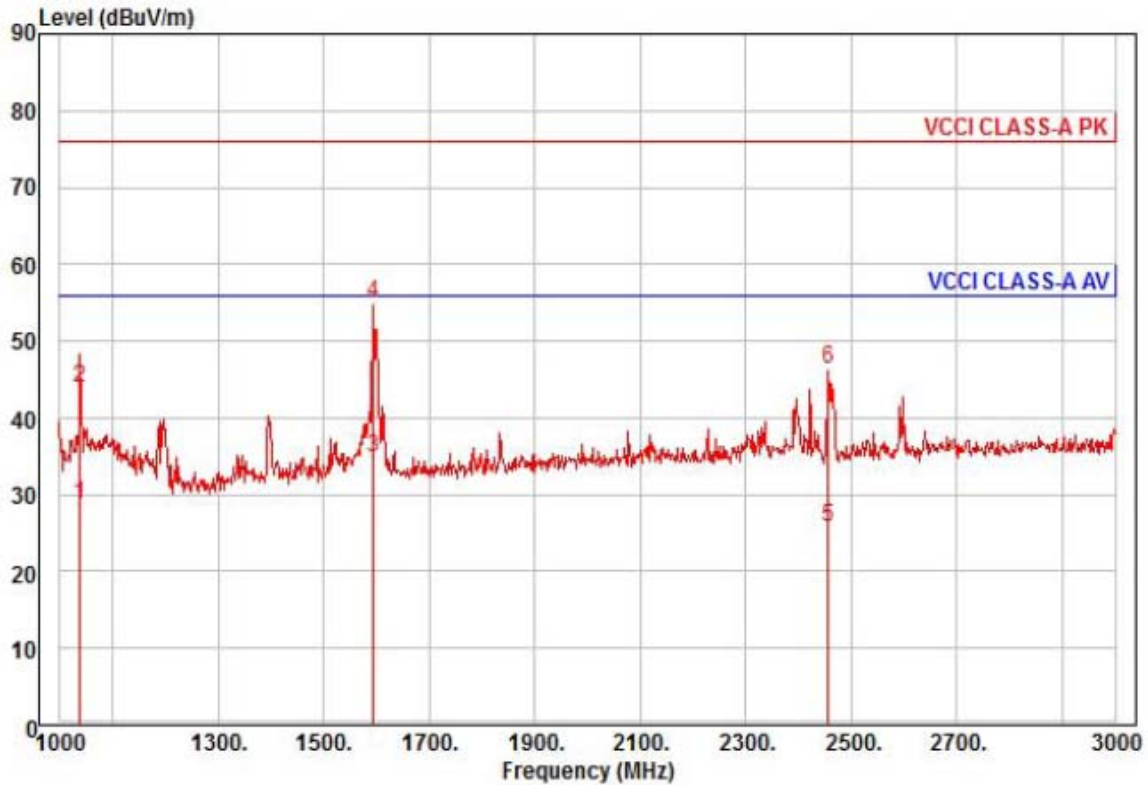
- PoE Mode

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]
49.65	9.44	V	1.00	13.93	1.33	24.70	40.00	15.30
360.04	10.56	H	4.00	14.77	3.96	29.29	47.00	17.71
408.22	7.28	V	1.00	15.82	4.28	27.38	47.00	19.62
455.69	13.03	H	3.60	16.48	4.63	34.14	47.00	12.86
480.13	6.90	V	1.00	16.82	4.80	28.52	47.00	18.48
594.54	7.28	H	4.00	19.18	5.54	32.00	47.00	15.00

* H : Horizontal, V : Vertical

Radiated Electric Field Emissions(Above 1 GHz)

- DC 12V Mode



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

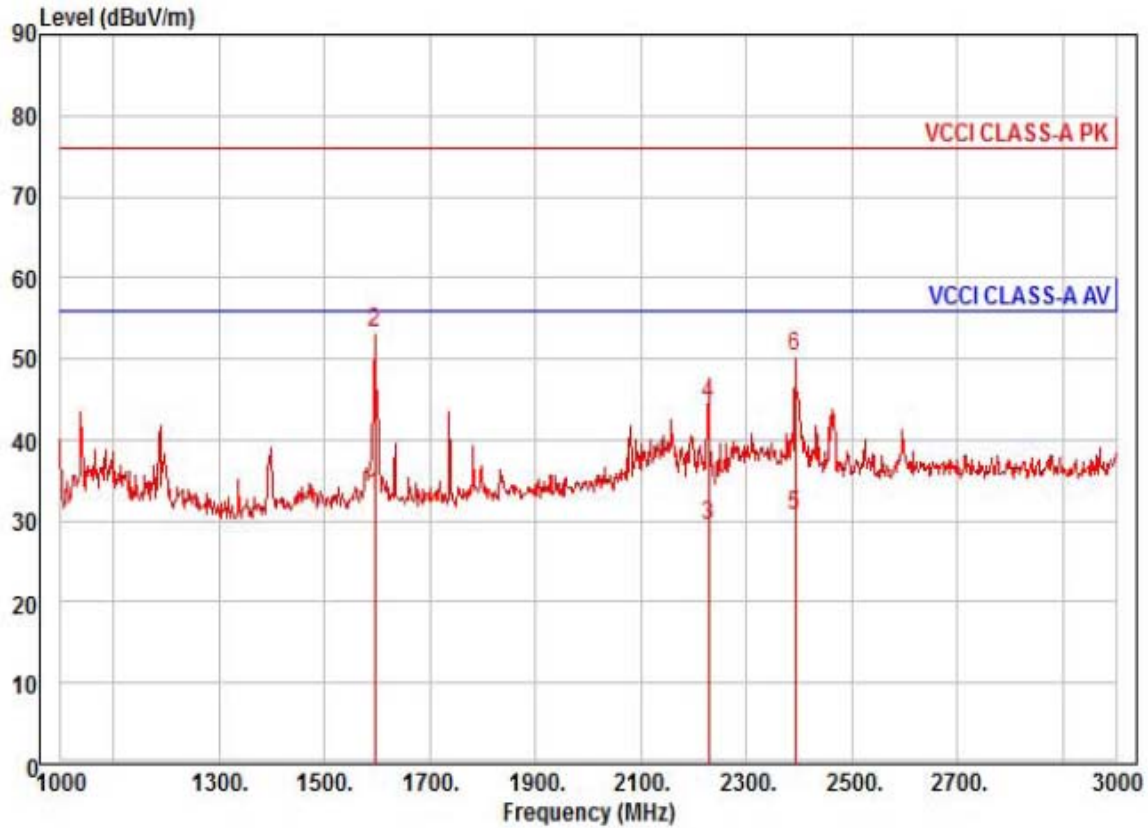
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1038.00	38.01	24.06	6.62	40.10	216	56.00	-27.41	horizontal	Average
2	1038.00	53.31	24.06	6.62	40.10	216	76.00	-32.11	horizontal	Peak
3 av	1594.00	40.07	26.27	8.23	39.83	88	56.00	-21.26	horizontal	Average
4 pp	1594.00	60.15	26.27	8.23	39.83	88	76.00	-21.18	horizontal	Peak
5	2456.00	26.58	29.00	10.05	39.89	88	56.00	-30.26	horizontal	Average
6	2456.00	47.20	29.00	10.05	39.89	88	76.00	-29.64	horizontal	Peak



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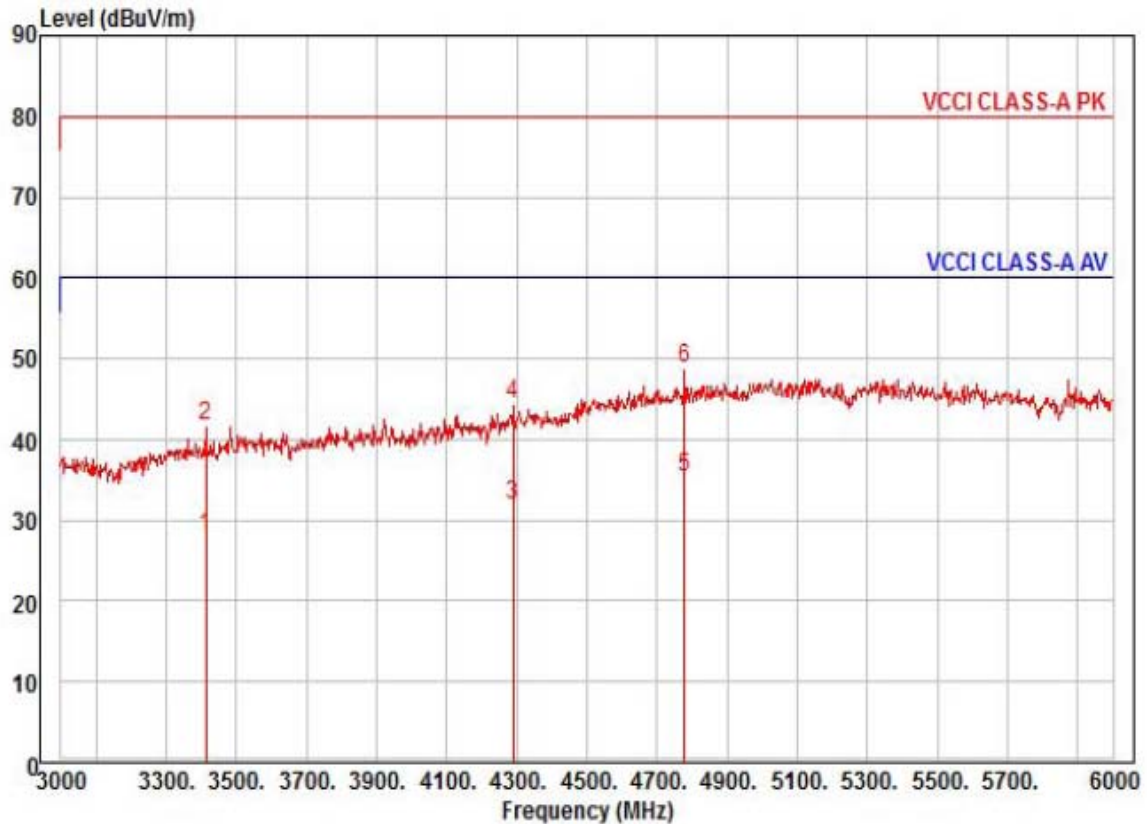
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Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

		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	56.00	-22.80	vertical	Average
2	pp	1596.00	58.52	26.28	8.24	39.83	41	76.00	-22.79	vertical	Peak
3		2228.00	31.16	28.44	9.70	39.76	238	56.00	-26.46	vertical	Average
4		2228.00	45.99	28.44	9.70	39.76	238	76.00	-31.63	vertical	Peak
5		2392.00	31.71	28.84	9.95	39.86	215	56.00	-25.36	vertical	Average
6		2392.00	51.35	28.84	9.95	39.86	215	76.00	-25.72	vertical	Peak

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Site : chamber

Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal

: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto

Project :

Model : QNV-7030RN

Mode : DC 12V

Memo :

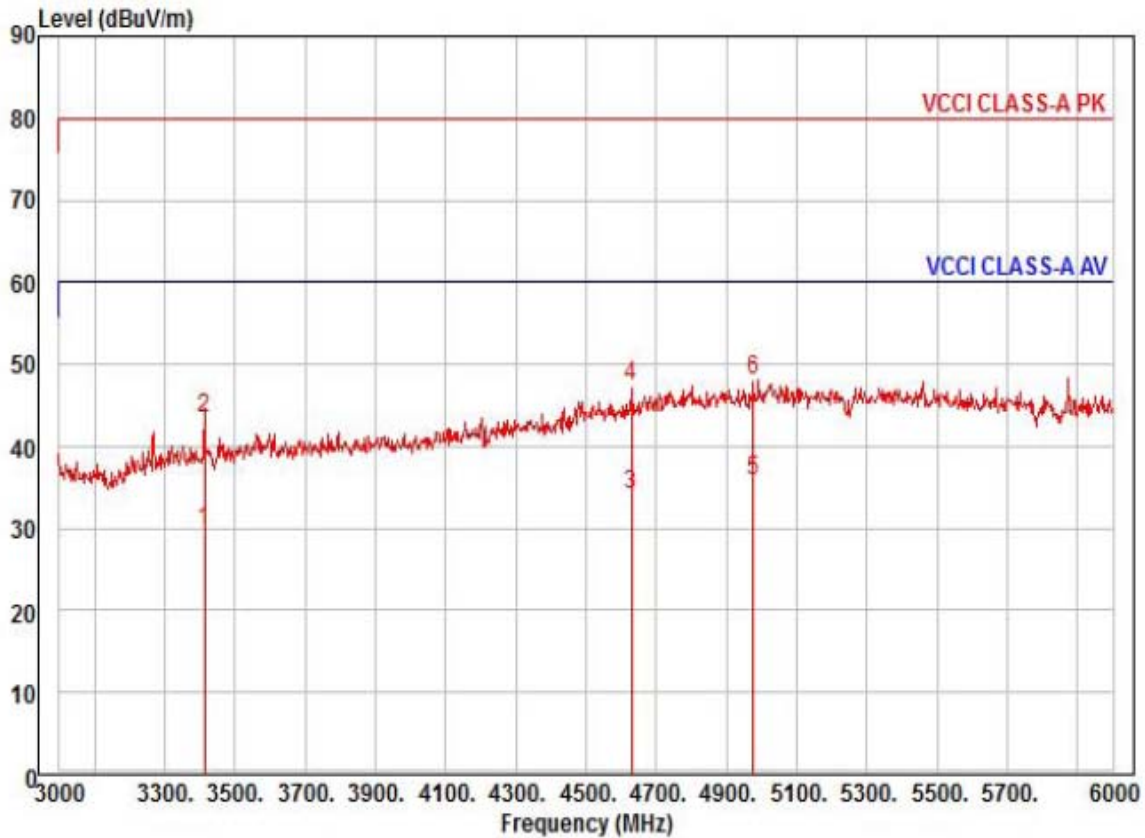
	Freq	Read Level	Ant Factor	Cable Loss	Preamplifier Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3414.00	24.94	31.03	12.29	40.29	194	60.00	-32.03	horizontal	Average
2	3414.00	38.57	31.03	12.29	40.29	194	80.00	-38.40	horizontal	Peak
3	4290.00	24.47	33.67	14.04	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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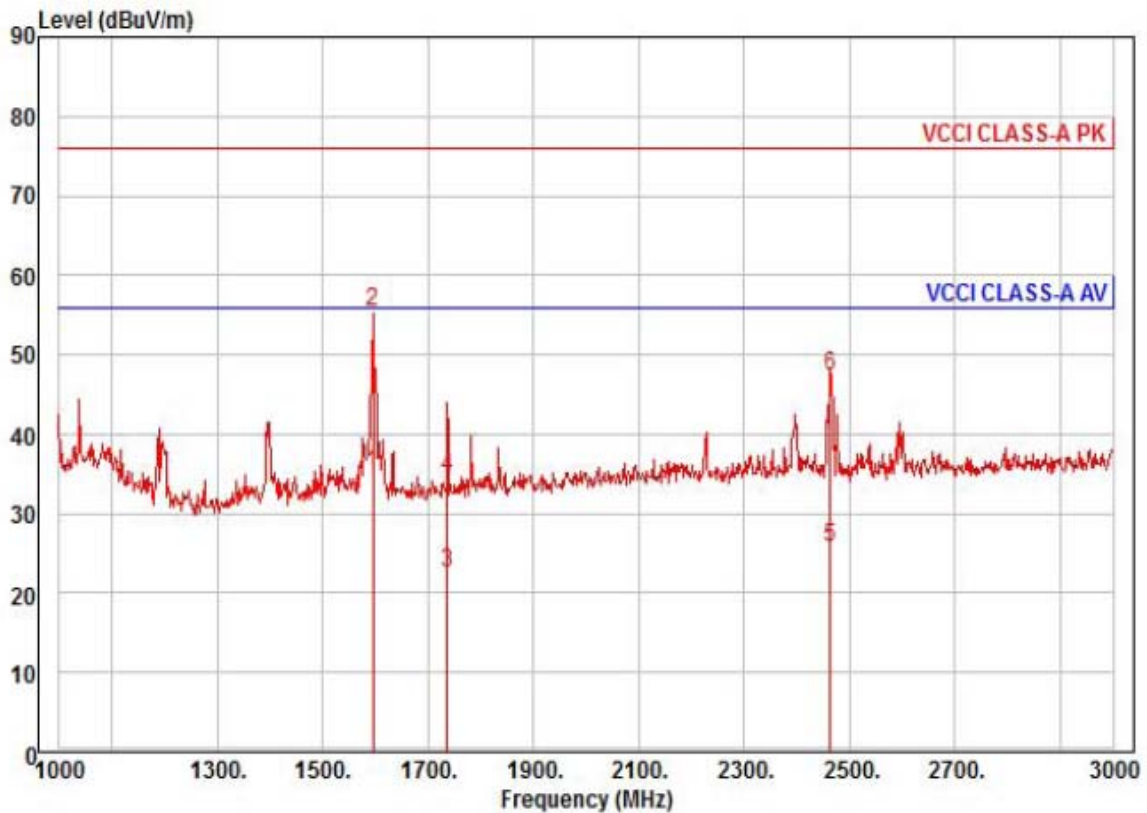
Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : DC 12V
Memo :

	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: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

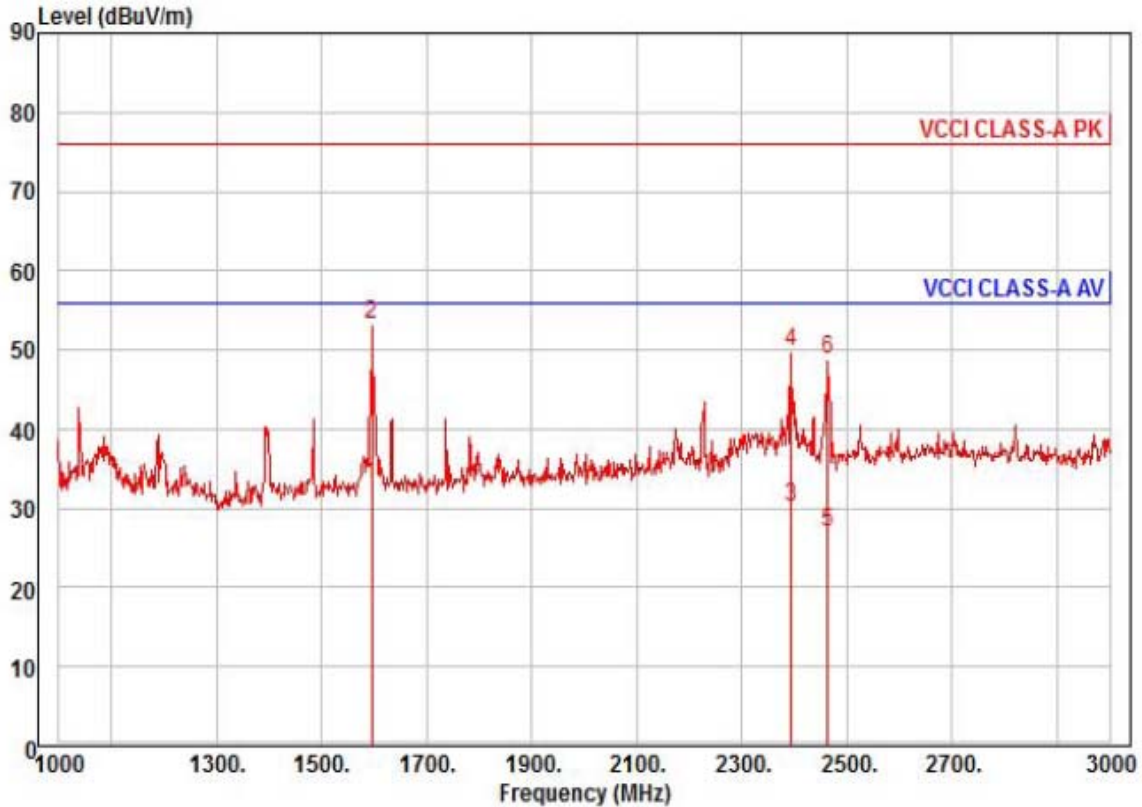
		Read	Ant	Cable	Preamp	TPos	Limit	Over		
	Freq	Level	Factor	Loss	Factor		Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	av	1596.00	40.44	26.28	8.24	39.83	93	56.00	-20.87	horizontal Average
2	pp	1596.00	60.65	26.28	8.24	39.83	93	76.00	-20.66	horizontal Peak
3		1736.00	26.82	26.83	8.62	39.76	325	56.00	-33.49	horizontal Average
4		1736.00	38.91	26.83	8.62	39.76	325	76.00	-41.40	horizontal Peak
5		2464.00	26.52	29.02	10.06	39.90	192	56.00	-30.30	horizontal Average
6		2464.00	48.27	29.02	10.06	39.90	192	76.00	-28.55	horizontal Peak



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Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: 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	38.11	26.28	8.24	39.83	50	56.00	-23.20	vertical	Average
2 pp	1596.00	58.43	26.28	8.24	39.83	50	76.00	-22.88	vertical	Peak
3	2394.00	31.16	28.85	9.95	39.86	229	56.00	-25.90	vertical	Average
4	2394.00	50.75	28.85	9.95	39.86	229	76.00	-26.31	vertical	Peak
5	2464.00	27.73	29.02	10.06	39.90	200	56.00	-29.09	vertical	Average
6	2464.00	49.56	29.02	10.06	39.90	200	76.00	-27.26	vertical	Peak

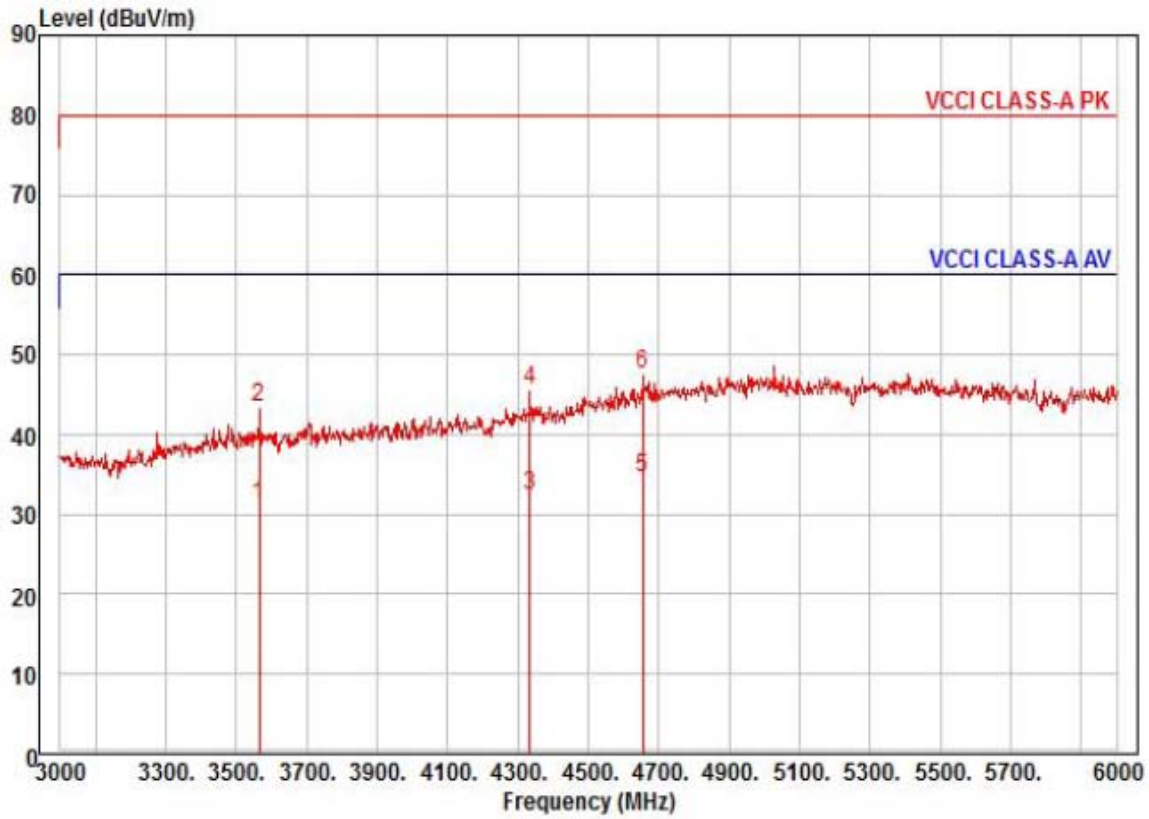
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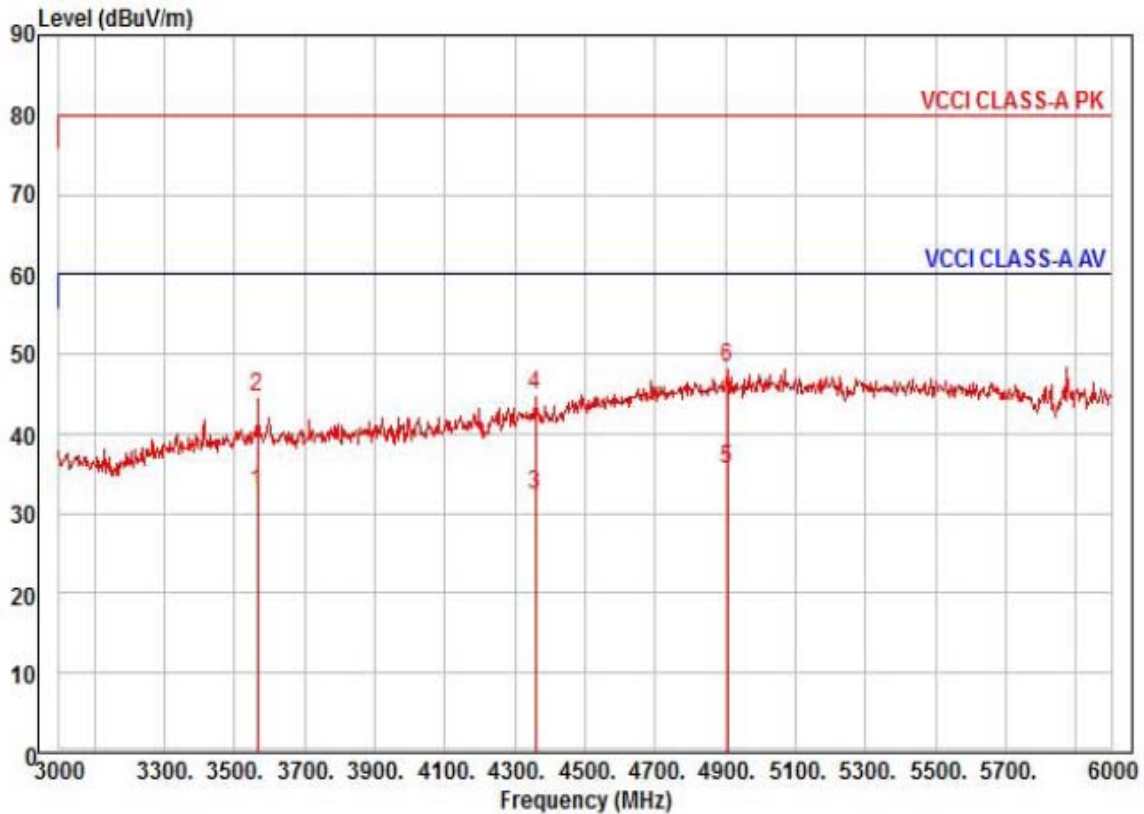
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Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : QNV-7030RN
Mode : PoE
Memo :

	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: VCCI CLASS-A PK 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	Preamplifier 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

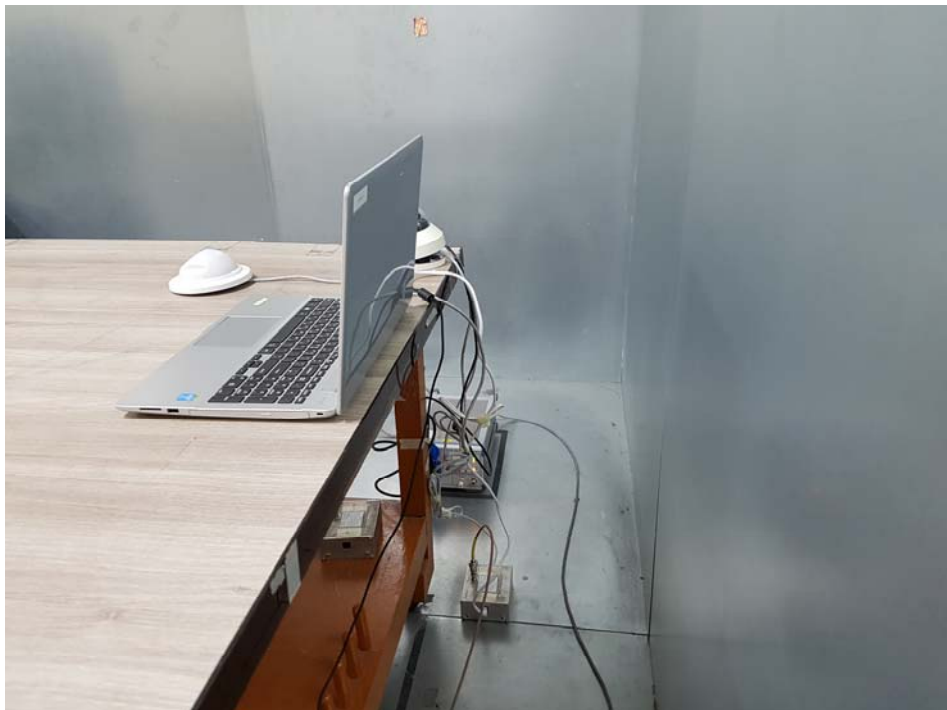
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Conducted Telecommunication Emissions

- DC 12V Mode



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- PoE Mode



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Radiated Electric Field Emissions(Below 1 GHz)

- DC 12V Mode



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- PoE Mode



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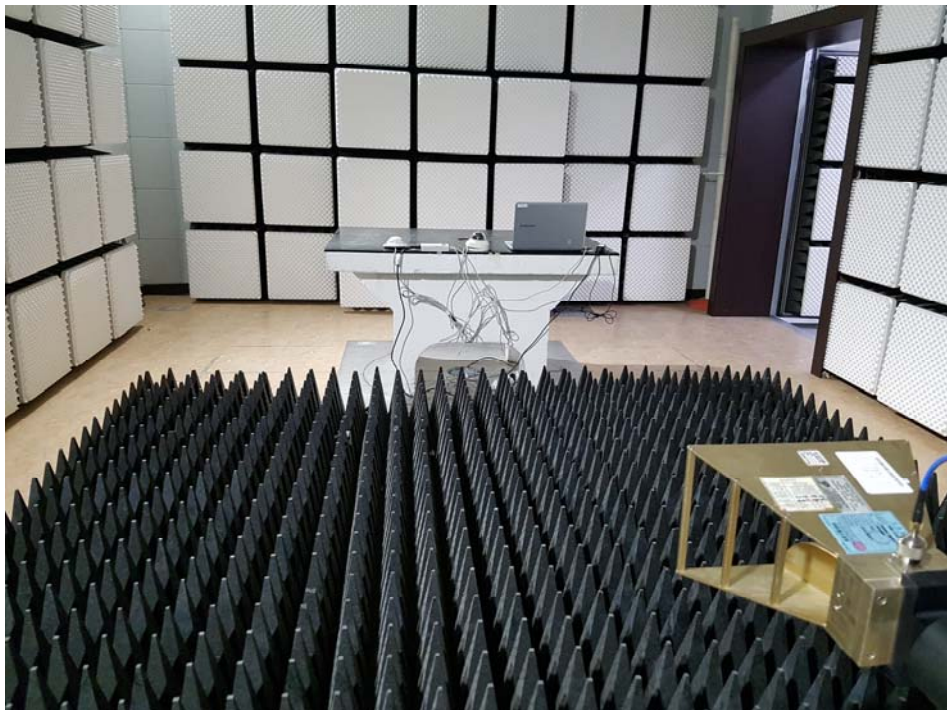
Radiated Electric Field Emissions(Above 1 GHz)

- 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)



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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)



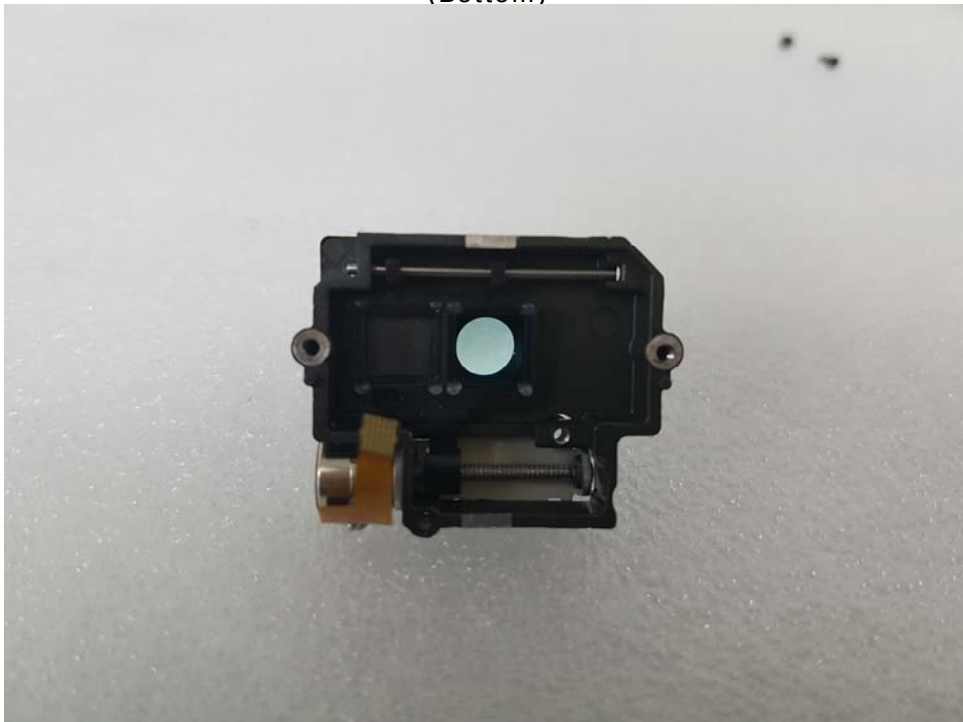
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Main Board EUT Internal View – Camera

(Top)



(Bottom)



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