



EMC TEST REPORT For VCCI

Test Report No. : KES-E1-16T0322
Date of Issue : Jul. 06, 2016
Product name : NETWORK CAMERA
Model/Type No. : QNO-6070RN
Variant Model : -
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 : Jun. 16, 2016
Test date : Jun. 30, 2016 - Jul. 04, 2016
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

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EMC Test Engineer

Reviewed by

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Test report No.:
KES-E1-16T0322
Page (2) of (43)

REPORT REVISION HISTORY

Date	Revision	Page No
Jul. 06, 2016	KES-E1-16T0322	Issued

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TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	5
1.2	Variant Model Differences.....	5
1.3	Device Modifications	5
1.4	Equipment Under Test.....	5
1.5	Support Equipments	5
1.6	External I/O Cabling	6
1.7	EUT Operating Mode(s)	6
1.8	Configuration.....	7
1.9	Calibration Details of Equipment Used for Measurement	8
1.10	Test Facility	8
1.11	Laboratory Accreditations and Listings	8
2.0	Test Regulations.....	9
2.1	Conducted Emissions at Mains Power Ports.....	11
2.2	Conducted Emissions at Telecommunication Ports.....	12
2.3	Radiated Electric Field Emissions(Below 1 GHz)	13
2.4	Radiated Electric Field Emissions(Above 1 GHz)	14
APPENDIX A – TEST DATA.....		15
Conducted Emissions at Mains Power Ports.....		15
Conducted Emissions at Telecommunication Ports		17
Radiated Electric Field Emissions(Below 1 GHz)		21
Radiated Electric Field Emissions(Above 1 GHz)		22
Test Setup Photos and Configuration		30
Conducted Voltage Emissions		30
Conducted Telecommunication Emissions		31
Radiated Electric Field Emissions(Below 1 GHz)		33
Radiated Electric Field Emissions(Above 1 GHz)		35
EUT External Photographs.....		37
EUT Internal Photographs		38



1.0 General Product Description

Main Specifications of EUT are:

Video		Video	
Imaging Device	1/2.9" 2.19M CMOS	Imaging Device	1/2.9" 2.19M CMOS
Total Pixels	2,000(H) x 1,121(V)	Total Pixels	2,000(H) x 1,121(V)
Effective Pixels	1,984(H) x 1,105(V)	Effective Pixels	1,984(H) x 1,105(V)
Scanning System	Progressive	Scanning System	Progressive
Min. Illumination	Color : 0.095Lux, B/W : 0Lux	Min. Illumination	Color : 0.095Lux, B/W : 0Lux
Lens		Lens	
Focal Length (Zoom Ratio)	Manual 2.8~12mm	Focal Length (Zoom Ratio)	Manual 2.8~12mm
Max. Aperture Ratio	F1.4	Max. Aperture Ratio	F1.4
Angular Field of View	H 103.8~32.4° / V 53.7~18.4° / D 121.9~37.1°	Angular Field of View	H 103.8~32.4° / V 53.7~18.4° / D 121.9~37.1°
Min. Object Distance	-	Min. Object Distance	-
Lens Type	Manual	Lens Type	Manual
Focus control	DC auto iris	Focus control	DC auto iris
Mount Type	Board type	Mount Type	Board type
Pan / Tilt / Rotate		Pan / Tilt / Rotate	
Pan Range	0	Pan Range	0
Tilt Range	0	Tilt Range	0
Rotate Range	0	Rotate Range	0
Operational		Operational	
IR Viewable Length	30m	IR Viewable Length	30m
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	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
Day & Night	True Day & Night	Day & Night	True Day & Night
Backlight Compensation	Off / BLC	Backlight Compensation	Off / BLC
Wide Dynamic Range	120dB	Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR(Off / On)	Digital Noise Reduction	SSNR(Off / On)
Motion Detection	Off / On (4ea polygon zones)	Motion Detection	Off / On (4ea polygon zones)
Privacy Masking	Off / On (6ea rectangular zones)	Privacy Masking	Off / On (6ea rectangular zones)
Gain Control	Off / Low / Middle / High	Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor	White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC(Lens distortion control)	On/Off (5 levels with Min/Max)	LDC(Lens distortion control)	On/Off (5 levels with Min/Max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker	Electronic Shutter Speed	Minimum / Maximum / Anti flicker
Flip / Mirror	Flip / Mirror / Hallway view	Flip / Mirror	Flip / Mirror / Hallway view
Intelligent Video Analytics	Motion Detection with metadata, Tampering, Defocus	Intelligent Video Analytics	Motion Detection with metadata, Tampering, Defocus
Alarm I/O	Input 1 / Output 1	Alarm I/O	Input 1 / Output 1
Alarm Triggers	Motion detection, Tampering Detection, SD card error, NAS error, Alarm input, Defocus detection	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	Alarm Events	File upload via FTP and E-Mail Local storage recording at Event Notification via E-Mail External output
Pixel Counter	Support (plug-in viewer only)	Pixel Counter	Support (plug-in viewer only)

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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

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	QNO-6070RN	-	Hanwha Techwin Co., Ltd.	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	RT3290LE	5CD242B043	HP	-
Notebook Adapter	Series PPP009L-E	WCNWVOA3U3G31S	LITE-ON TECHNOLOGY (CHANGZHOU) Co., Ltd.	-
Alarm Jig	-	-	-	-
PoE Adapter	PD3001GC/AC	RD9356082016964200	Power Dsine	-
MIC	CMK-303	-	CAMAC	-
Micro SD Card	-	-	SanDisk	-

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)	RJ-45	Notebook	RJ-45	3.0	U
	Audio IN	MIC	Audio IN	1.7	U
	Alarm	Alarm Jig	Alarm	3.0	U
	Micro SD Card slot	Micro SD Card	-	-	-

- PoE Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45	PoE Adapter	RJ-45	3.0	U
	Audio In	MIC	Audio Out	1.7	U
	Alarm	Alarm Jig	-	3.0	U
	Micro SD Card slot	Micro SD Card	-	-	-
PoE Adapter	RJ-45	Notebook	RJ45	3.0	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

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

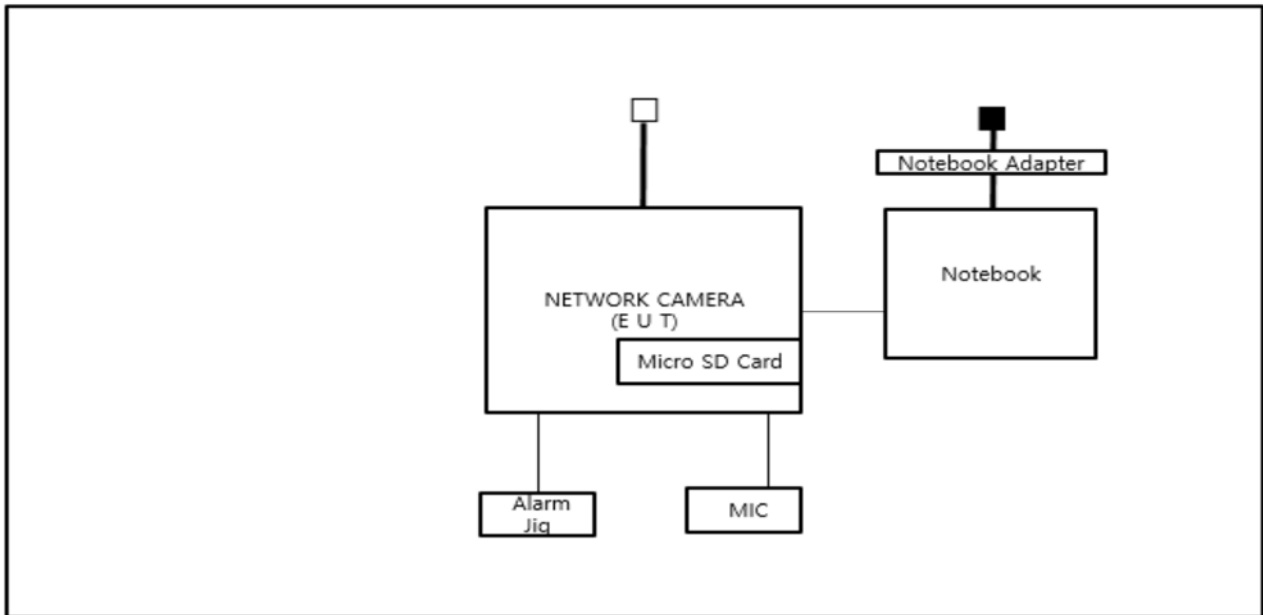
Test mode	Normal operating
OP	MONITORING Network ping test

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

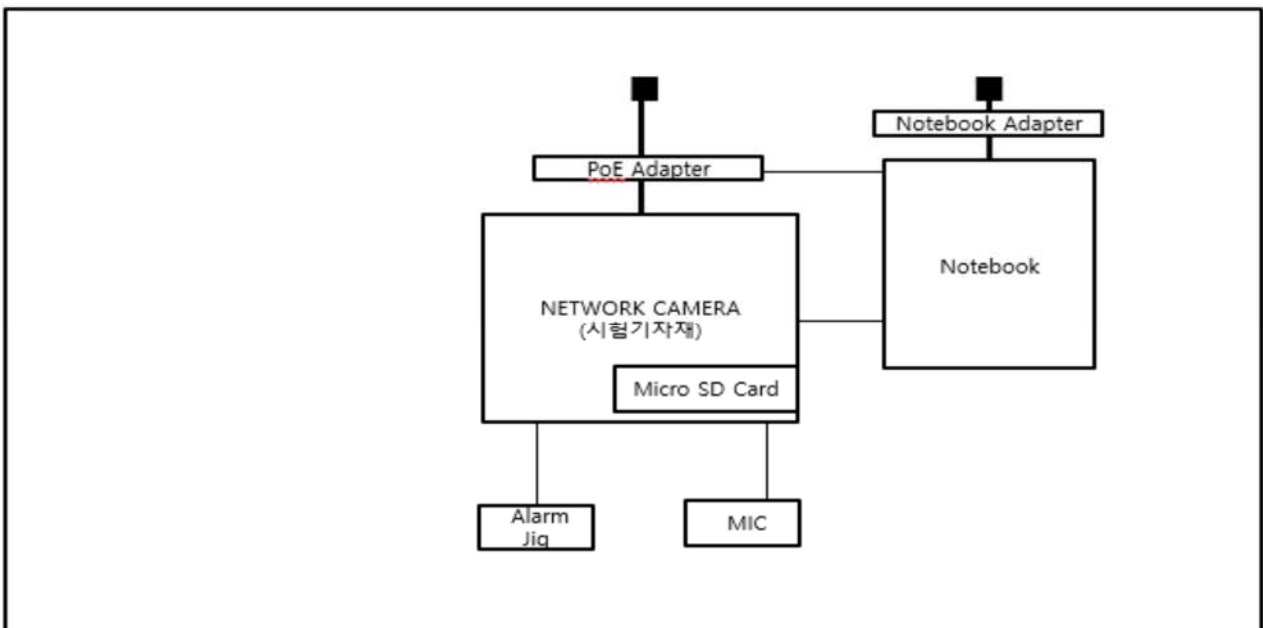
1.8 Configuration

■ 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 / 2015.04**

☒ Class A

☐ Class B

☐ **AS/NZS CISPR22:2009 +A1:2010**

☐ Class A

☐ Class B

☐ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☐ ANSI C63.4-2009

☐ **IC Regulation ICES-003 : 2016**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☐ ANSI C63.4-2014

☐ **RE- Directive 2014/53/EU**

☐ 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



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	-	AONE 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

Jul. 04, 2016

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
☒	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: 23,3 °C

Relative Humidity: 58,2 %

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jun. 30, 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	ESU26	R&S	100551	04, 18, 2017
☒	Trilog-Broadband ANT	VULB 9163	Schwarzbeck	9163-715	04, 14, 2018
☒	Open Area Test Site	-	KES	-	-
☒	Antenna Mast	1070/1080	EMCO	-	-
☒	Turn Table	-	DAEIL EMC	-	-

Test Conditions

Temperature: 21,3 °C

Relative Humidity: 67,0 %

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

Jul. 01, 2016

Test Location

Semi Anchoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESU26	R&S	100552	04, 24, 2017
☒	Broadband Coaxial Preamplifier	BBV 9718	Schwarzbeck Mess - Elektronik	9718-246	10, 23, 2016
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	05, 07, 2017
☒	Semi Anchoic Chamber #2	-	SEMITEC	-	-
☒	Antenna Mast	-	AUDIX	-	-
☒	Turn Table	-	AUDIX	-	-

Test Conditions

Temperature: 21,3 °C
Relative Humidity: 54,8 %

Frequency Range of Measurement

1 GHz to 6 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

[HOT]

N/A



KES Co., Ltd.

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Test report No.:
KES-E1-16T0322
Page (16) of (43)

[NEUTRAL]

N/A

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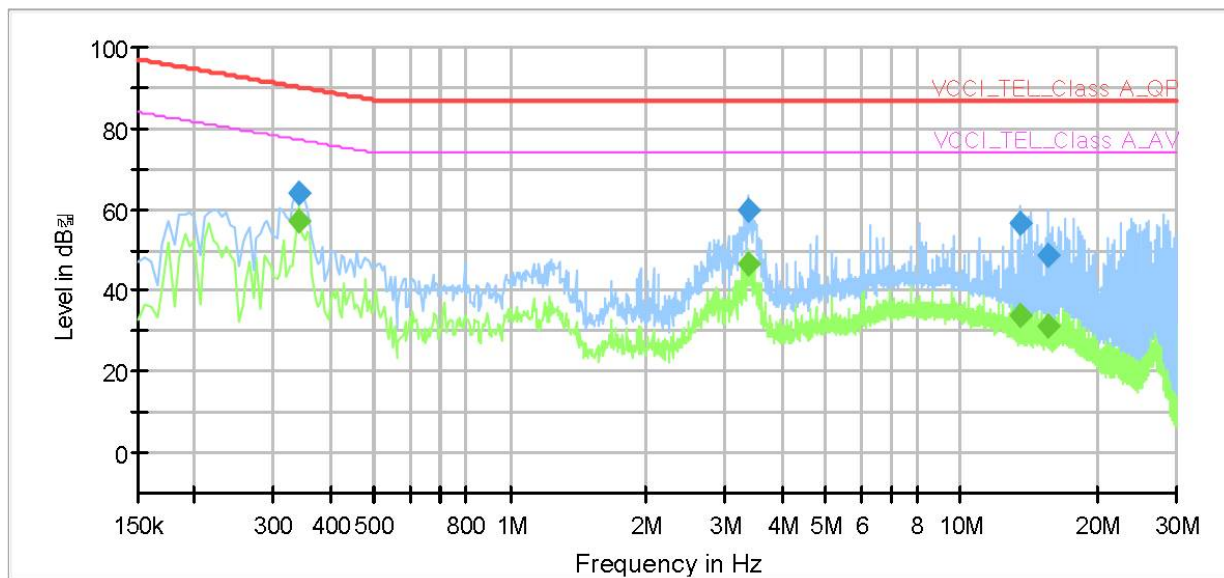
Conducted Emissions at Telecommunication Ports

- DC 12 V Mode

[10 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QNO-6070RN
Mode: DC12V_LAN_10M
Operator Name: KES



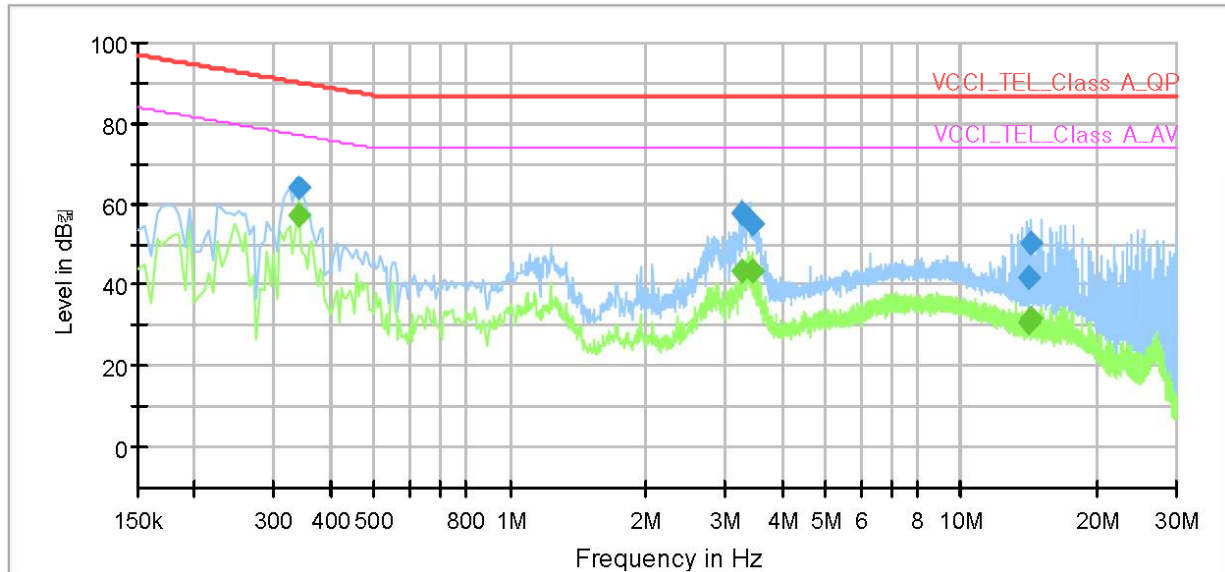
Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.340000	---	57.30	77.20	19.90	1000.0	9.000	Single Line	10.0
0.340000	64.16	---	90.20	26.04	1000.0	9.000	Single Line	10.0
3.360000	---	46.60	74.00	27.40	1000.0	9.000	Single Line	9.8
3.360000	59.74	---	87.00	27.26	1000.0	9.000	Single Line	9.8
13.555000	---	33.99	74.00	40.01	1000.0	9.000	Single Line	10.1
13.555000	56.79	---	87.00	30.21	1000.0	9.000	Single Line	10.1
15.620000	---	31.42	74.00	42.58	1000.0	9.000	Single Line	10.1
15.620000	48.96	---	87.00	38.04	1000.0	9.000	Single Line	10.1

[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: QNO-6070RN
Mode: DC12V_LAN_100M
Operator Name: KES



Final Result

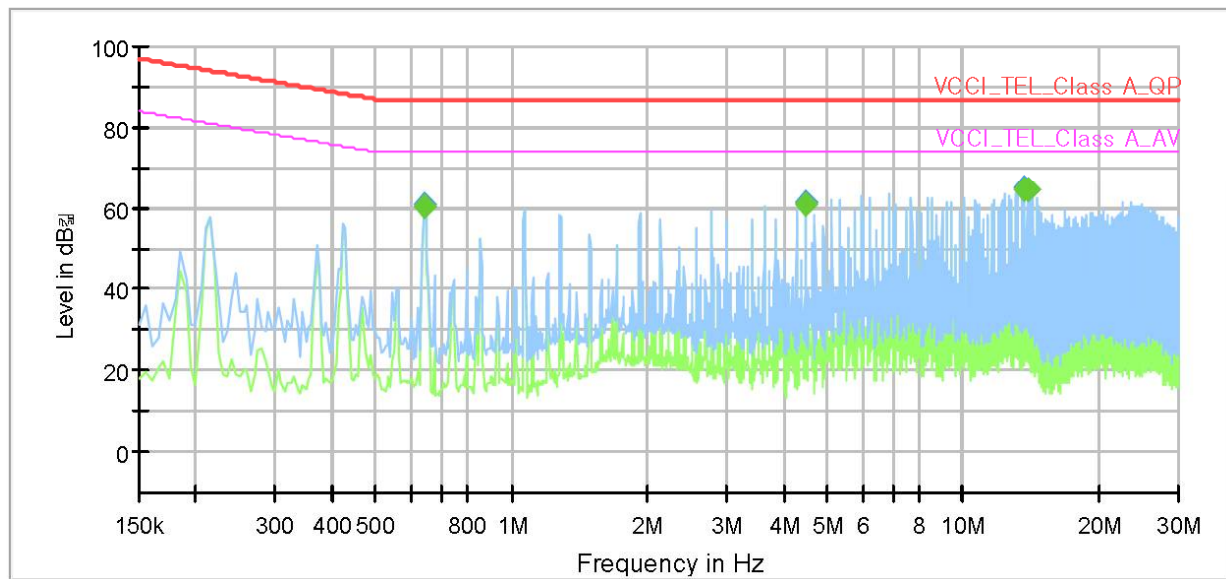
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.340000	--	57.34	77.20	19.86	1000.0	9.000	Single Line	9.5
0.340000	64.02	--	90.20	26.18	1000.0	9.000	Single Line	9.5
3.260000	--	43.45	74.00	30.55	1000.0	9.000	Single Line	9.3
3.260000	57.51	--	87.00	29.49	1000.0	9.000	Single Line	9.3
3.465000	--	43.19	74.00	30.81	1000.0	9.000	Single Line	9.3
3.465000	54.94	--	87.00	32.06	1000.0	9.000	Single Line	9.3
14.095000	--	30.53	74.00	43.47	1000.0	9.000	Single Line	9.6
14.095000	41.82	--	87.00	45.18	1000.0	9.000	Single Line	9.6
14.350000	--	31.94	74.00	42.06	1000.0	9.000	Single Line	9.6
14.350000	50.26	--	87.00	36.74	1000.0	9.000	Single Line	9.6

- PoE Mode

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	QNO-6070RN
Mode	PoE_LAN_10M
Operator Name:	KES



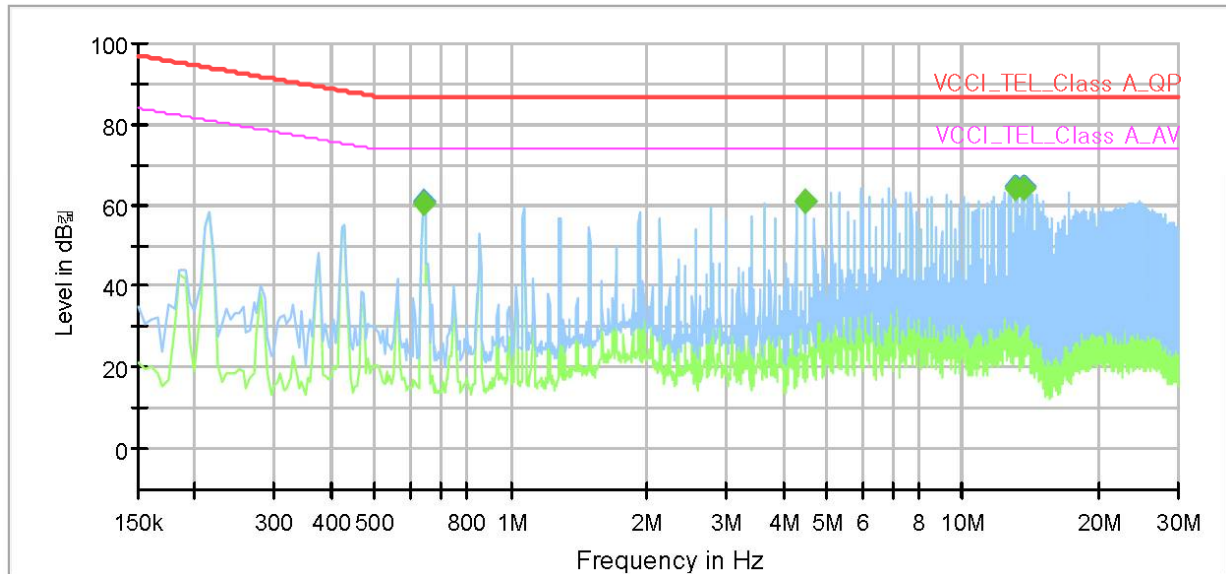
Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.640000	---	60.28	74.00	13.72	1000.0	9.000	Single Line	9.9
0.640000	60.91	---	87.00	26.09	1000.0	9.000	Single Line	9.9
4.490000	---	61.07	74.00	12.93	1000.0	9.000	Single Line	9.8
4.490000	61.13	---	87.00	25.87	1000.0	9.000	Single Line	9.8
13.680000	---	64.48	74.00	9.52	1000.0	9.000	Single Line	10.1
13.680000	64.93	---	87.00	22.07	1000.0	9.000	Single Line	10.1
13.895000	---	64.36	74.00	9.64	1000.0	9.000	Single Line	10.1
13.895000	64.69	---	87.00	22.31	1000.0	9.000	Single Line	10.1

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	QNO-6070RN
Mode	PoE_LAN_100M
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.640000	--	60.21	74.00	13.79	1000.0	9.000	Single Line	9.4
0.640000	60.81	--	87.00	26.19	1000.0	9.000	Single Line	9.4
4.490000	--	60.73	74.00	13.27	1000.0	9.000	Single Line	9.3
4.490000	61.03	--	87.00	25.97	1000.0	9.000	Single Line	9.3
13.040000	--	63.82	74.00	10.18	1000.0	9.000	Single Line	9.6
13.040000	64.35	--	87.00	22.65	1000.0	9.000	Single Line	9.6
13.680000	--	64.03	74.00	9.97	1000.0	9.000	Single Line	9.6
13.680000	64.80	--	87.00	22.20	1000.0	9.000	Single Line	9.6

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

- DC 12 V 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]
222.74	20.65	V	1.00	11.96	3.08	35.69	40.00	4.31
297.03	20.46	H	3.96	13.35	3.69	37.50	47.00	9.50
371.25	19.96	V	1.12	14.95	4.03	38.94	47.00	8.06
408.34	11.67	H	3.19	15.71	4.28	31.66	47.00	15.34
445.51	10.83	H	2.44	16.36	4.55	31.74	47.00	15.26
482.63	15.82	V	1.00	17.00	4.82	37.64	47.00	9.36

* H : Horizontal, V : Vertical

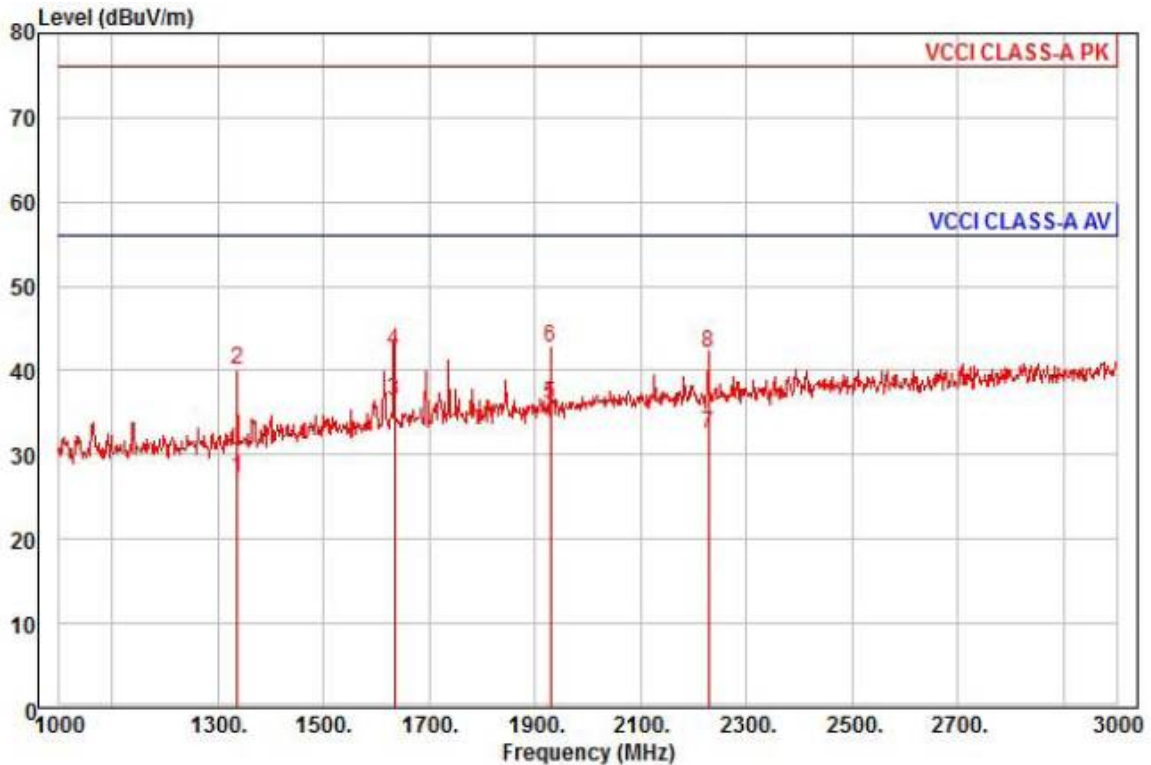
- PoE Mode

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]
222.73	21.78	V	1.06	11.96	3.08	36.82	40.00	3.18
296.99	16.22	H	4.00	13.35	3.69	33.26	47.00	13.74
371.25	19.66	H	3.29	14.95	4.03	38.64	47.00	8.36
445.74	17.56	H	3.52	16.36	4.55	38.47	47.00	8.53
446.32	17.53	V	1.00	16.37	4.56	38.46	47.00	8.54
482.81	17.90	V	1.17	17.00	4.82	39.72	47.00	7.28

* H : Horizontal, V : Vertical

Radiated Electric Field Emissions(Above 1 GHz)

- DC 12 V Mode



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : DC12V
Memo : 1 ~ 3 GHz

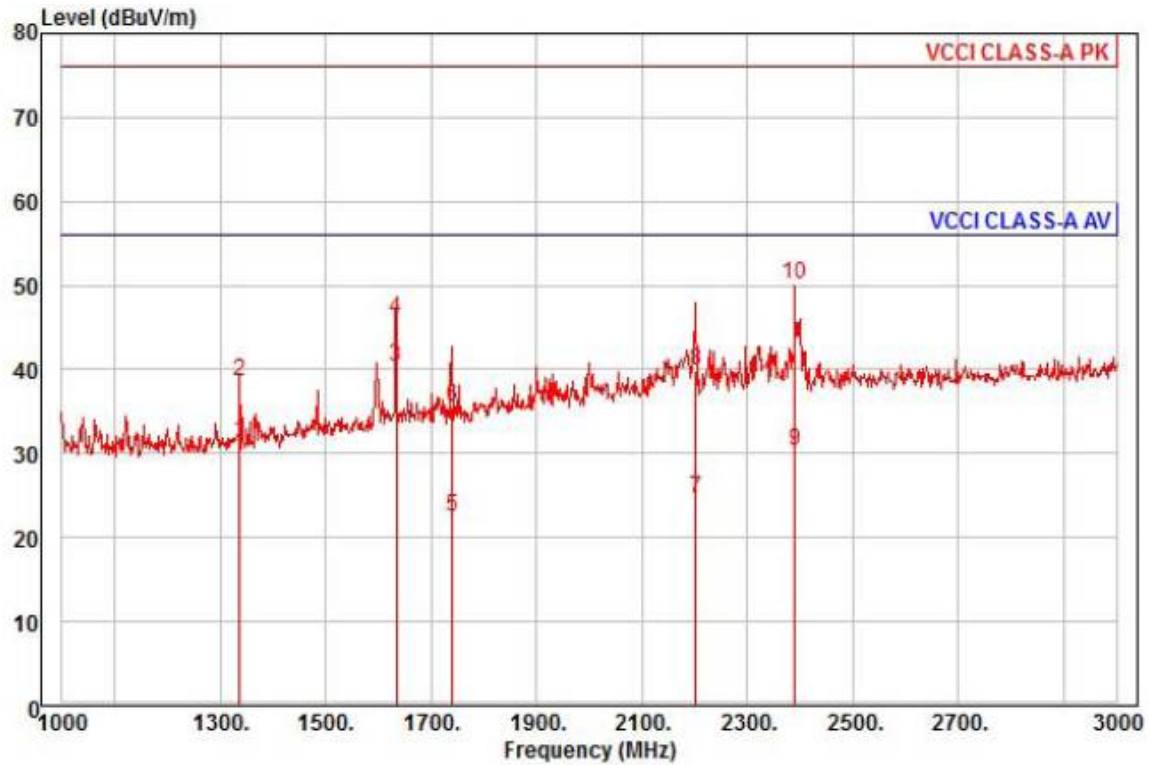
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1336.00	34.52	25.24	7.48	39.96	101	56.00	-28.72	horizontal	Average
2	1336.00	47.43	25.24	7.48	39.96	101	76.00	-35.81	horizontal	Peak
3 pp	1634.00	41.50	26.43	8.34	39.81	282	56.00	-19.54	horizontal	Average
4	1634.00	47.35	26.43	8.34	39.81	282	76.00	-33.69	horizontal	Peak
5	1930.00	38.92	27.60	9.16	39.66	123	56.00	-19.98	horizontal	Average
6 pk	1930.00	45.53	27.60	9.16	39.66	123	76.00	-33.37	horizontal	Peak
7	2228.00	34.10	28.44	9.70	39.76	46	56.00	-23.52	horizontal	Average
8	2228.00	43.68	28.44	9.70	39.76	46	76.00	-33.94	horizontal	Peak



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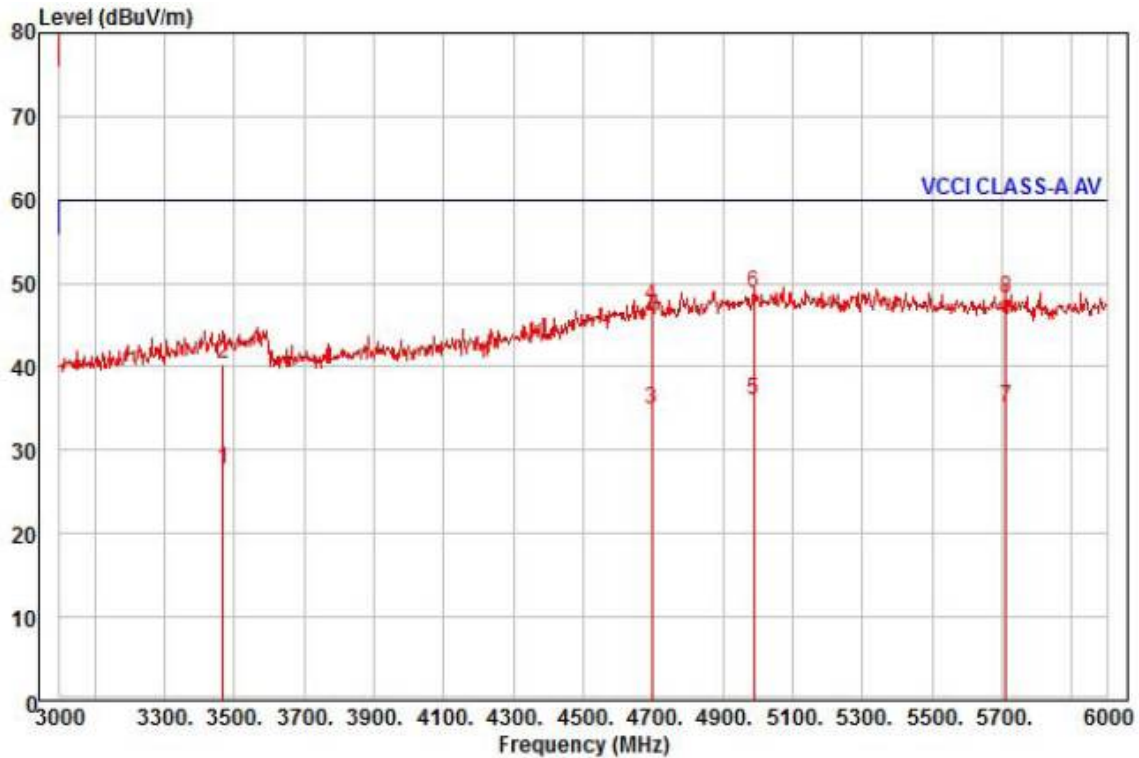
Test report No.:
KES-E1-16T0322
Page (23) of (43)



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : DC12V
Memo : 1 ~ 3 GHz

	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	1336.00	38.66	25.24	7.48	39.96	19	56.00	-24.58	vertical	Average
2	1336.00	45.80	25.24	7.48	39.96	19	76.00	-37.44	vertical	Peak
3 pp	1634.00	45.37	26.43	8.34	39.81	129	56.00	-15.67	vertical	Average
4	1634.00	51.13	26.43	8.34	39.81	129	76.00	-29.91	vertical	Peak
5	1740.00	26.78	26.85	8.64	39.76	246	56.00	-33.49	vertical	Average
6	1740.00	39.72	26.85	8.64	39.76	246	76.00	-40.55	vertical	Peak
7	2202.00	26.37	28.37	9.66	39.75	221	56.00	-31.35	vertical	Average
8	2202.00	41.53	28.37	9.66	39.75	221	76.00	-36.19	vertical	Peak
9	2390.00	31.33	28.84	9.95	39.86	177	56.00	-25.74	vertical	Average
10 pk	2390.00	51.14	28.84	9.95	39.86	177	76.00	-25.93	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 : NETWORK CAMERA
Model : QNO-6070RN
Mode : DC12V
Memo : 3 ~ 6 GHz

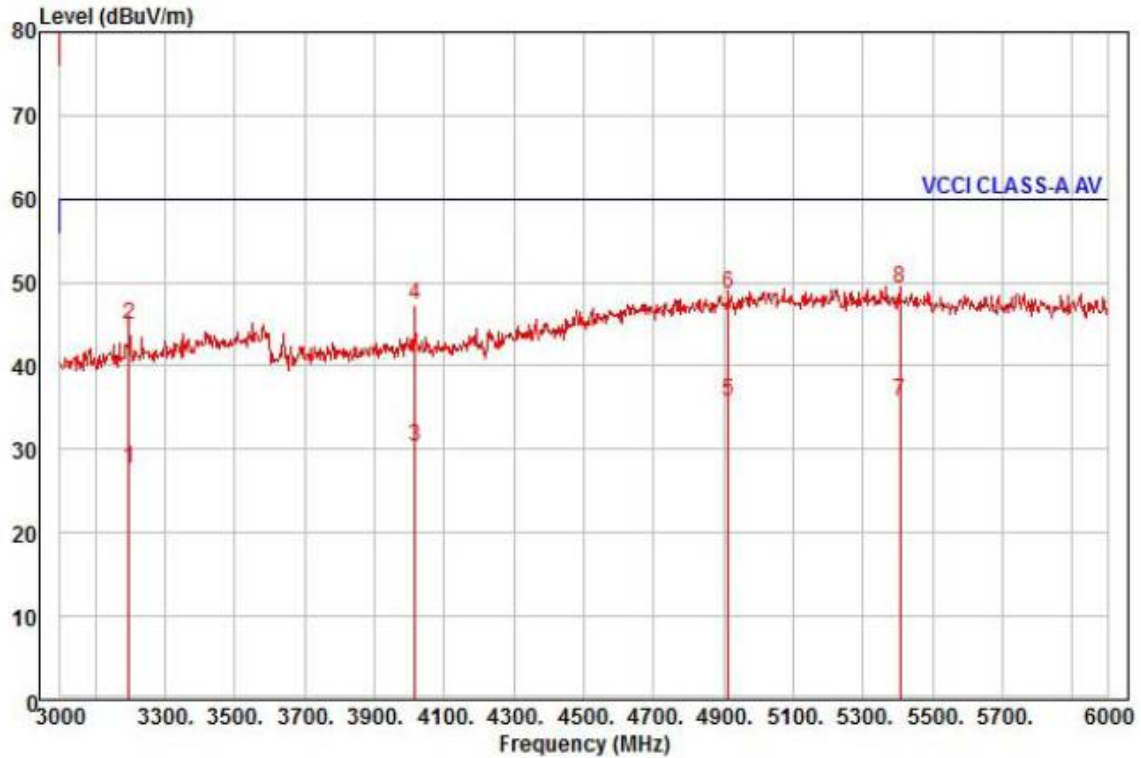
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3468.00	24.44	31.12	12.43	40.30	108	60.00	-32.31	horizontal	Average
2	3468.00	37.17	31.12	12.43	40.30	108	80.00	-39.58	horizontal	Peak
3	4698.00	24.57	36.00	14.79	40.41	303	60.00	-25.05	horizontal	Average
4	4698.00	36.97	36.00	14.79	40.41	303	80.00	-32.65	horizontal	Peak
5 pp	4989.00	23.42	37.66	15.31	40.41	82	60.00	-24.02	horizontal	Average
6 pk	4989.00	36.26	37.66	15.31	40.41	82	80.00	-31.18	horizontal	Peak
7	5712.00	22.89	36.28	16.32	40.31	134	60.00	-24.82	horizontal	Average
8	5712.00	35.91	36.28	16.32	40.31	134	80.00	-31.80	horizontal	Peak



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Test report No.:
KES-E1-16T0322
Page (25) of (43)



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : DC12V
Memo : 3 ~ 6 GHz

	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	3198.00	25.52	30.66	11.73	40.25	156	60.00	-32.34	vertical	Average
2	3198.00	42.78	30.66	11.73	40.25	156	80.00	-35.08	vertical	Peak
3	4017.00	25.01	32.11	13.54	40.41	44	60.00	-29.75	vertical	Average
4	4017.00	42.15	32.11	13.54	40.41	44	80.00	-32.61	vertical	Peak
5	4914.00	23.67	37.23	15.18	40.41	7	60.00	-24.33	vertical	Average
6	4914.00	36.53	37.23	15.18	40.41	7	80.00	-31.47	vertical	Peak
7 pp	5406.00	23.35	36.90	15.81	40.35	230	60.00	-24.29	vertical	Average
8 pk	5406.00	36.97	36.90	15.81	40.35	230	80.00	-30.67	vertical	Peak

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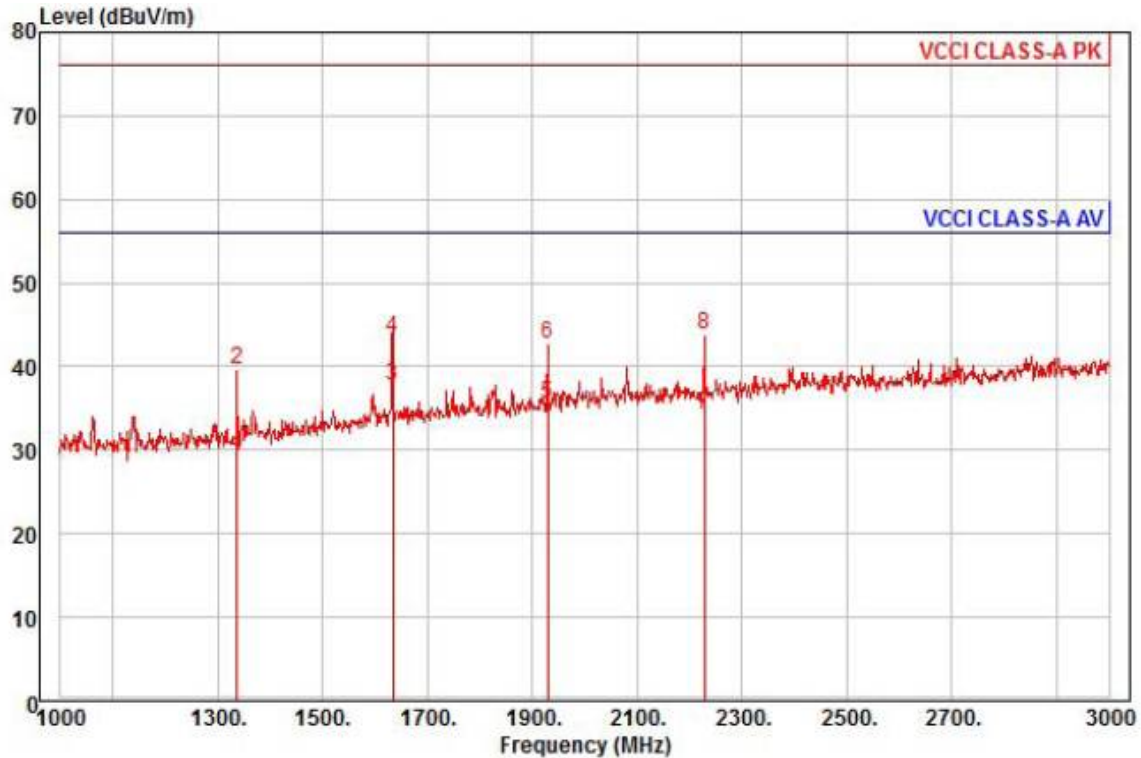


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Test report No.:
KES-E1-16T0322
Page (26) of (43)

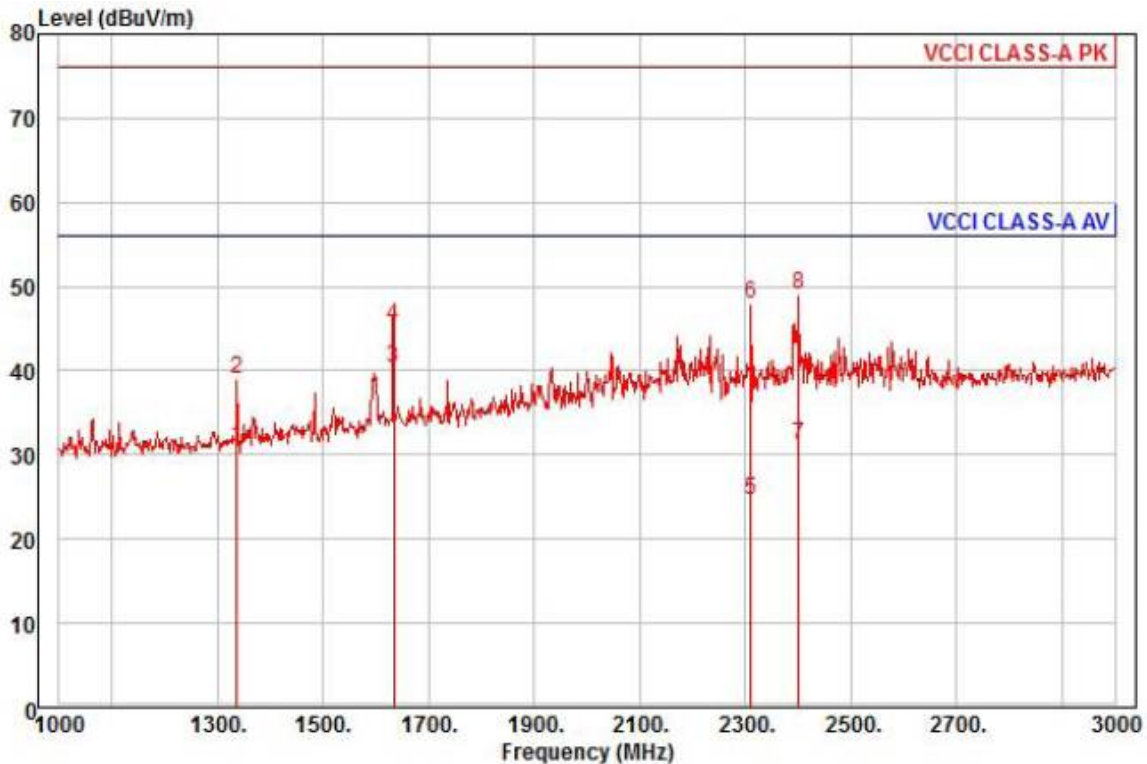
- PoE Mode



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : PoE
Memo : 1 ~ 3 GHz

	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	1336.00	36.40	25.24	7.48	39.96	125	56.00	-26.84	horizontal	Average
2	1336.00	46.95	25.24	7.48	39.96	125	76.00	-36.29	horizontal	Peak
3 pp	1634.00	42.76	26.43	8.34	39.81	158	56.00	-18.28	horizontal	Average
4	1634.00	48.41	26.43	8.34	39.81	158	76.00	-32.63	horizontal	Peak
5	1930.00	38.40	27.60	9.16	39.66	122	56.00	-20.50	horizontal	Average
6	1930.00	45.54	27.60	9.16	39.66	122	76.00	-33.36	horizontal	Peak
7	2228.00	35.86	28.44	9.70	39.76	128	56.00	-21.76	horizontal	Average
8 pk	2228.00	45.42	28.44	9.70	39.76	128	76.00	-32.20	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 : NETWORK CAMERA
Model : QNO-6070RN
Mode : PoE
Memo : 1 ~ 3 GHz

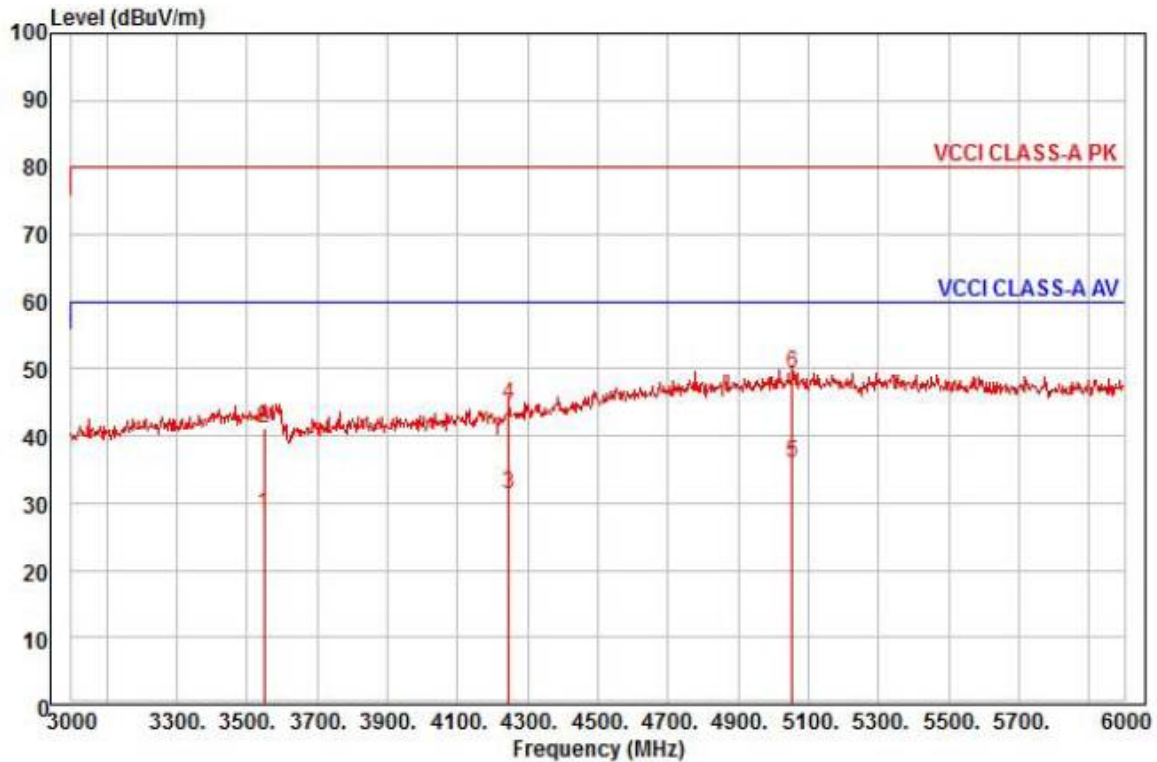
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1336.00	38.20	25.24	7.48	39.96	24	56.00	-25.04	vertical	Average
2	1336.00	46.25	25.24	7.48	39.96	24	76.00	-36.99	vertical	Peak
3 pp	1634.00	45.39	26.43	8.34	39.81	130	56.00	-15.65	vertical	Average
4	1634.00	50.34	26.43	8.34	39.81	130	76.00	-30.70	vertical	Peak
5	2310.00	26.02	28.64	9.83	39.81	15	56.00	-31.32	vertical	Average
6	2310.00	49.36	28.64	9.83	39.81	15	76.00	-27.98	vertical	Peak
7	2400.00	32.10	28.86	9.96	39.86	156	56.00	-24.94	vertical	Average
8 pk	2400.00	50.07	28.86	9.96	39.86	156	76.00	-26.97	vertical	Peak



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Test report No.:
KES-E1-16T0322
Page (28) of (43)



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : PoE
Memo : 3 ~ 6 GHz

	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	3549.00	24.68	31.25	12.61	40.32	273	60.00	-31.78	horizontal	Average
2	3549.00	37.49	31.25	12.61	40.32	273	80.00	-38.97	horizontal	Peak
3	4245.00	24.50	33.41	13.96	40.41	248	60.00	-28.54	horizontal	Average
4	4245.00	37.72	33.41	13.96	40.41	248	80.00	-35.32	horizontal	Peak
5 pp	5055.00	23.40	37.61	15.39	40.40	72	60.00	-24.00	horizontal	Average
6 pk	5055.00	36.69	37.61	15.39	40.40	72	80.00	-30.71	horizontal	Peak

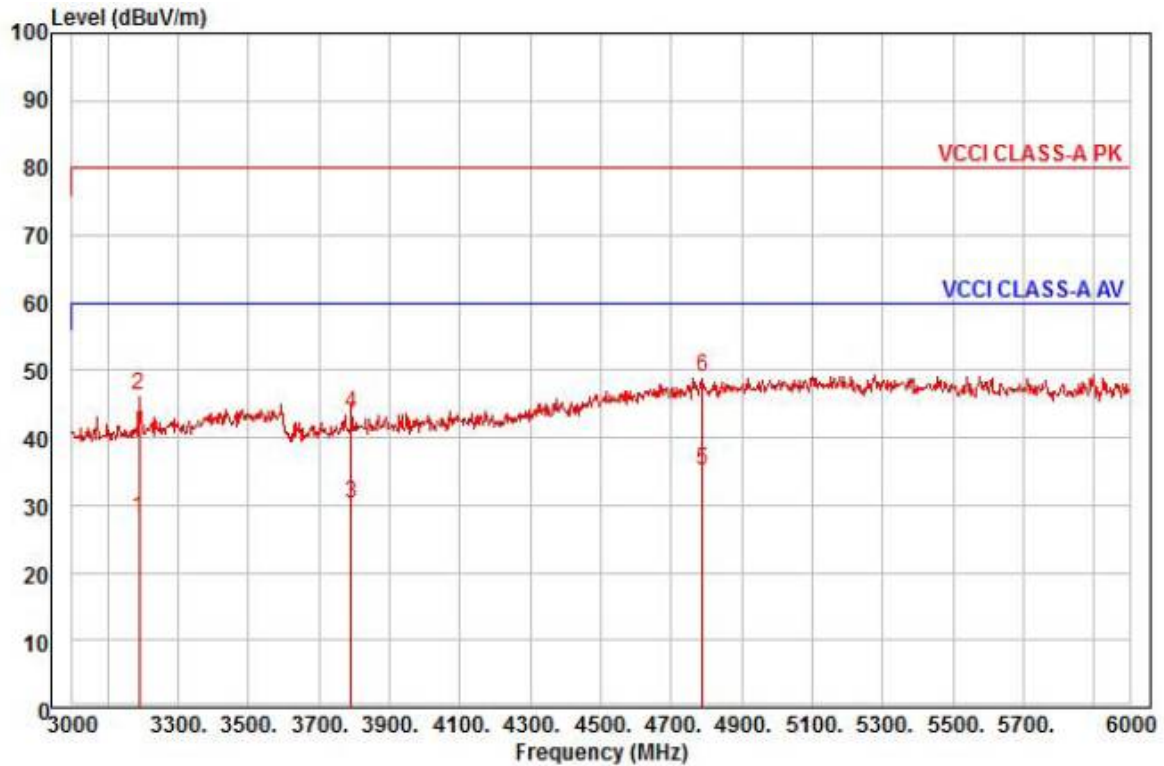
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Test report No.:
KES-EI-16T0322
Page (29) of (43)



Site : chamber
Condition: VCCI CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
Model : QNO-6070RN
Mode : PoE
Memo : 3 ~ 6 GHz

	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	3189.00	26.06	30.65	11.71	40.25	161	60.00	-31.83	vertical	Average
2	3189.00	44.09	30.65	11.71	40.25	161	80.00	-33.80	vertical	Peak
3	3792.00	25.78	31.66	13.09	40.37	40	60.00	-29.84	vertical	Average
4	3792.00	39.32	31.66	13.09	40.37	40	80.00	-36.30	vertical	Peak
5 pp	4788.00	24.23	36.51	14.95	40.41	150	60.00	-24.72	vertical	Average
6 pk	4788.00	37.98	36.51	14.95	40.41	150	80.00	-30.97	vertical	Peak

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Test report No.:
KES-E1-16T0322
Page (30) of (43)

Test Setup Photos and Configuration

Conducted Voltage Emissions

N/A

N/A

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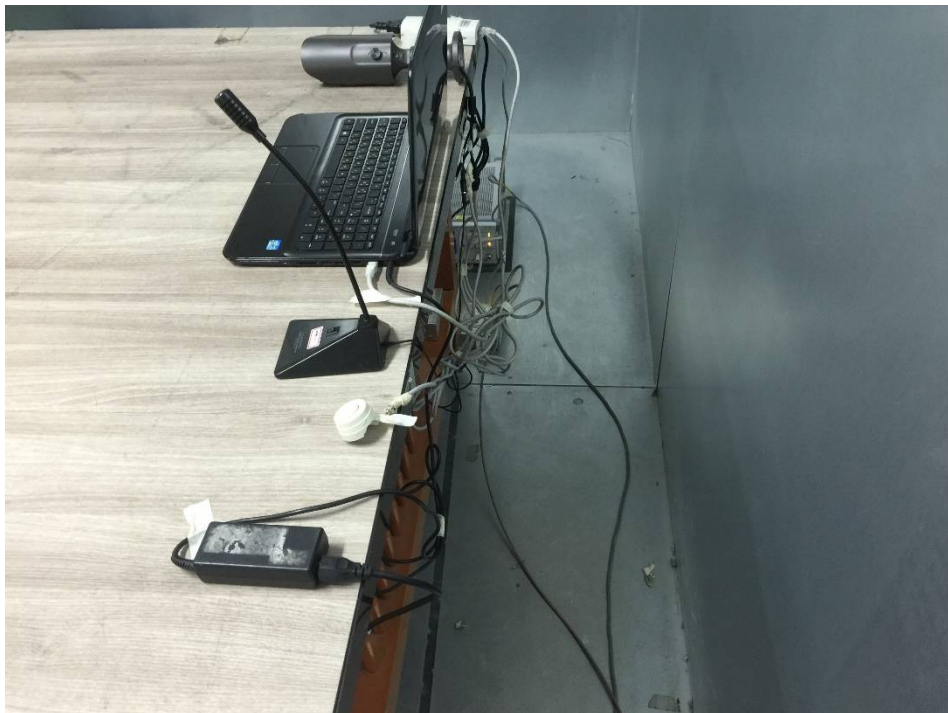
Conducted Telecommunication Emissions

- DC 12 V Mode



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- PoE Mode



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Radiated Electric Field Emissions(Below 1 GHz)

- DC 12 V Mode



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- PoE Mode



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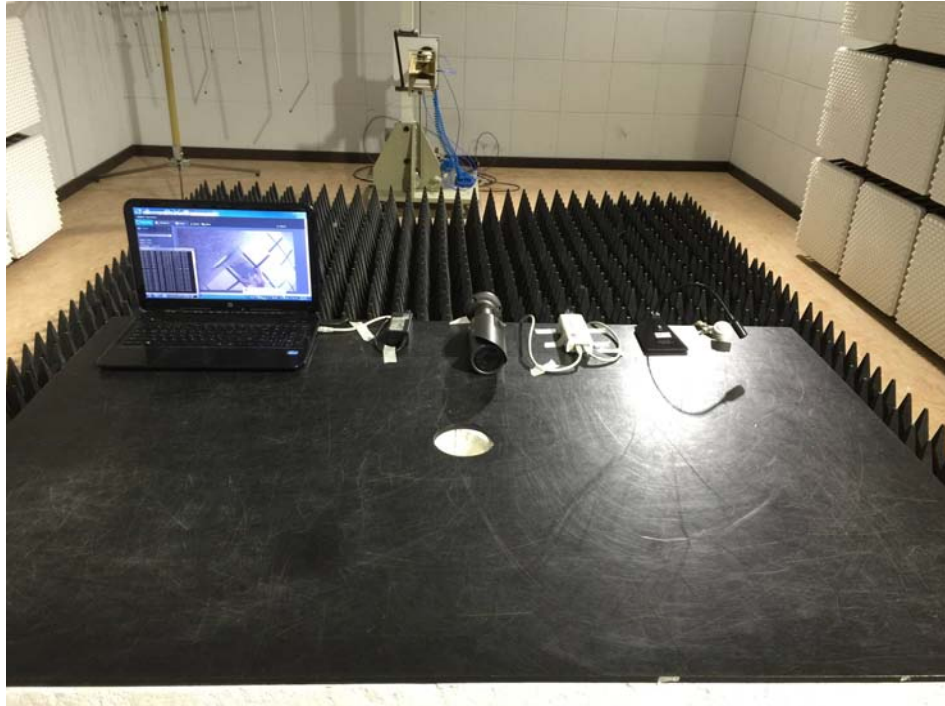
Radiated Electric Field Emissions(Above 1 GHz)

- DC 12 V Mode



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- PoE Mode



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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

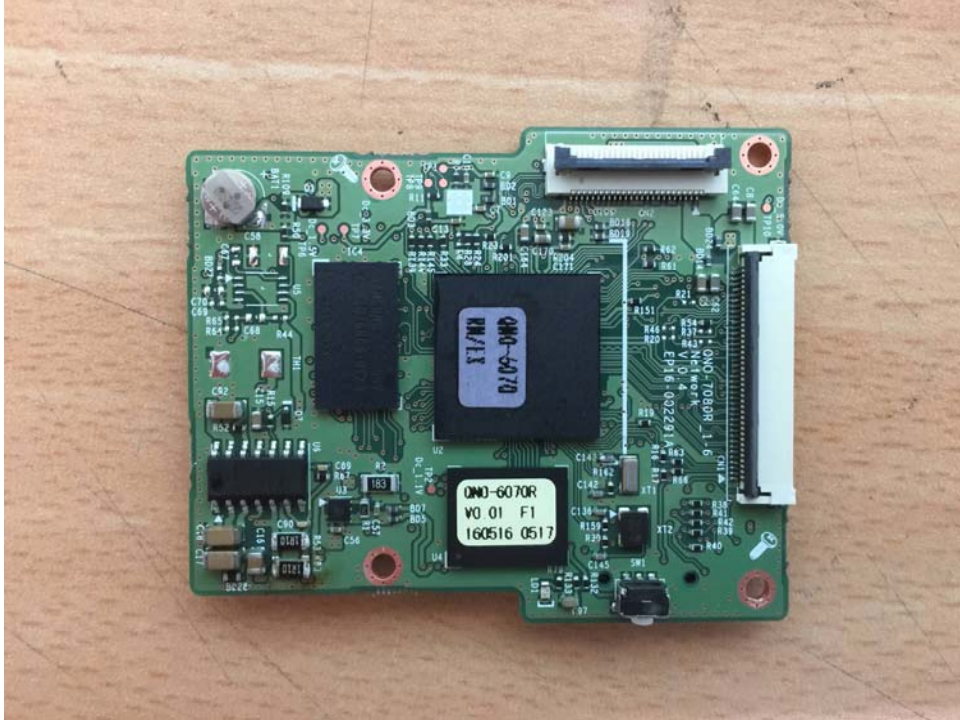
(Internal View)



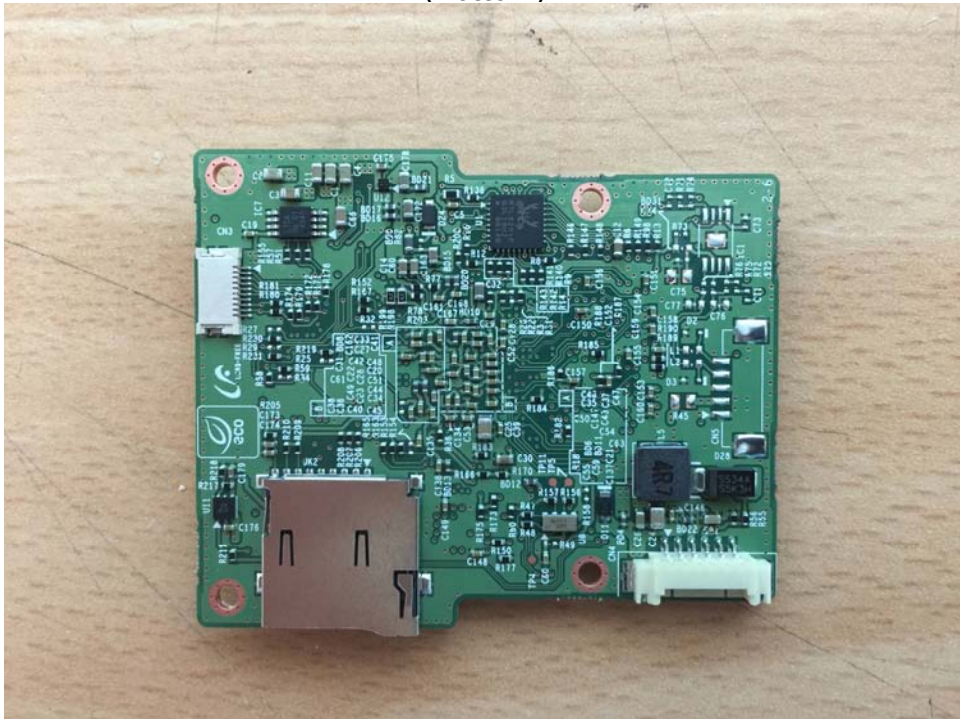
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EUT Internal View – Main Board

(Top)



(Bottom)



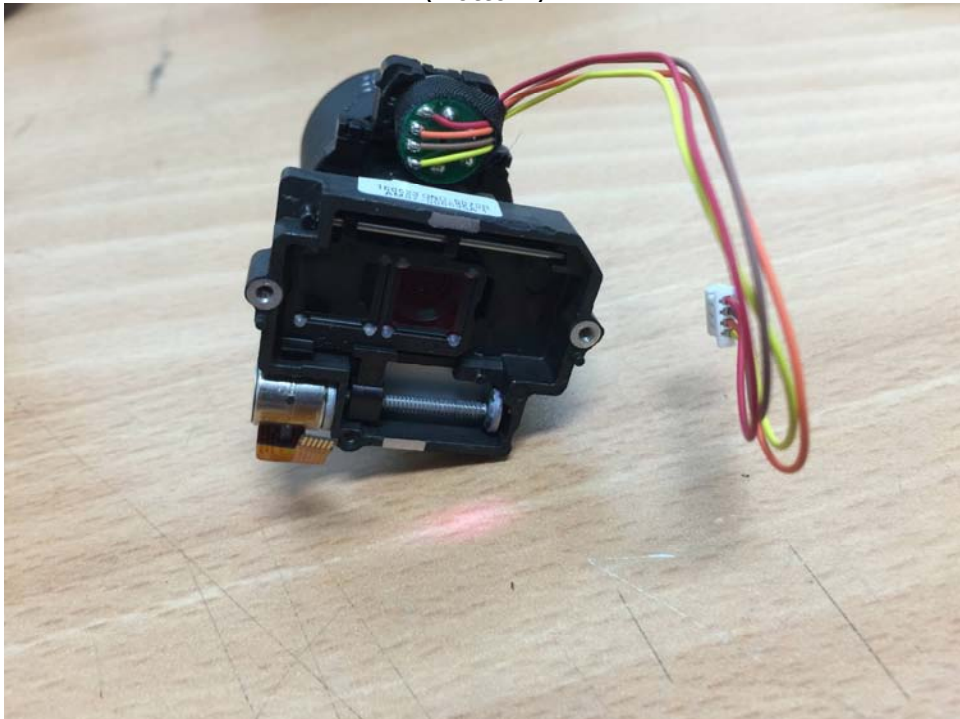
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EUT Internal View – lens

(Top)



(Bottom)



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EUT Internal View – LED Board

(Top)



(Bottom)



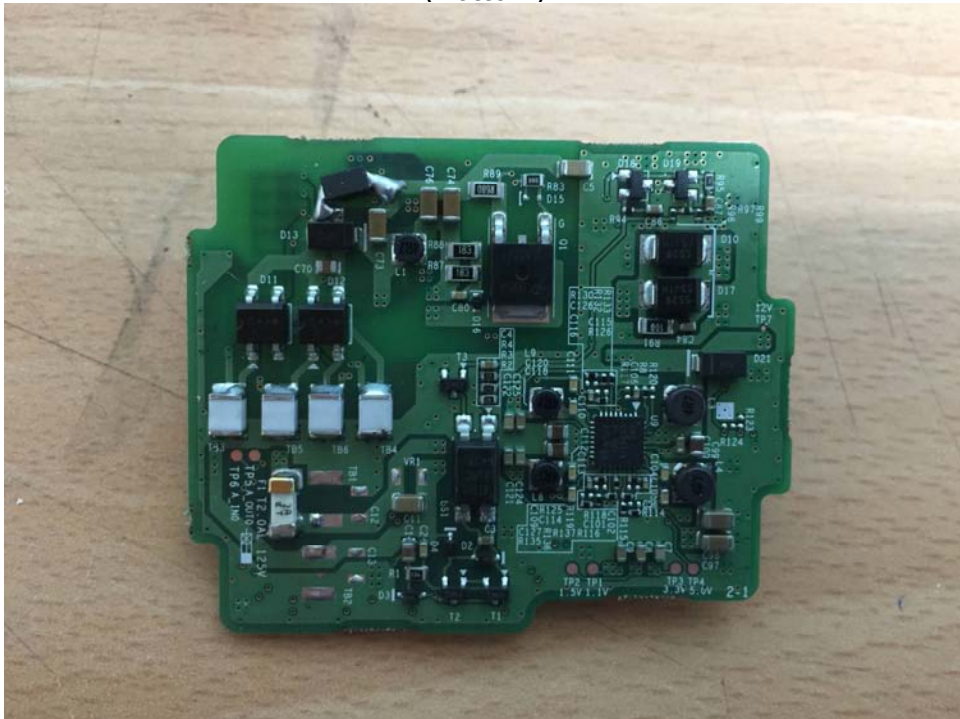
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EUT Internal View – Power Board

(Top)



(Bottom)



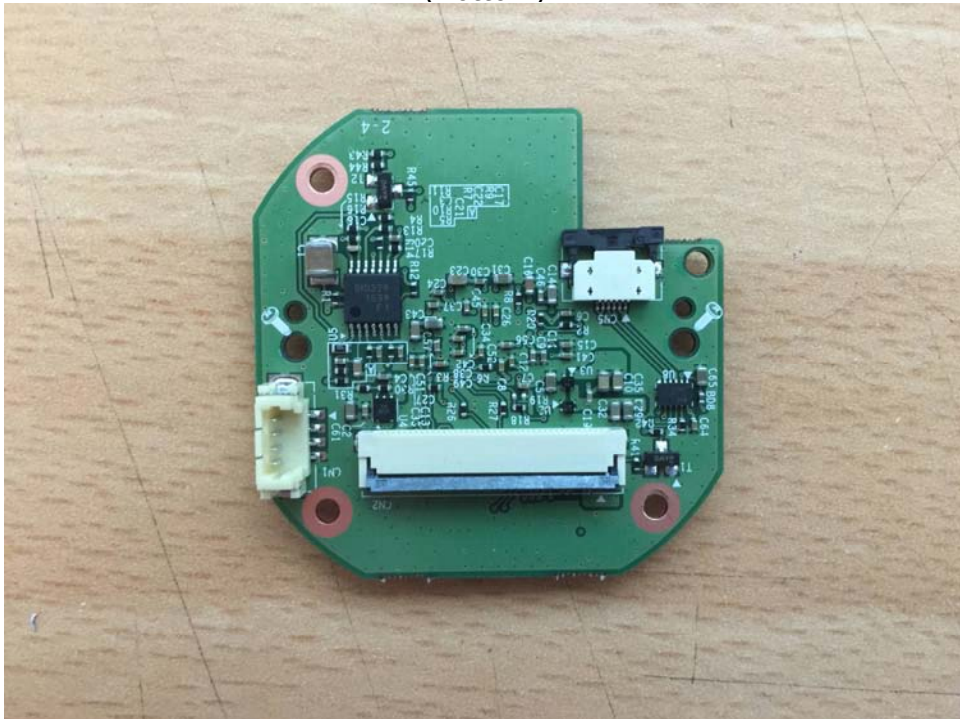
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EUT Internal View – Sensor Board

(Top)



(Bottom)



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