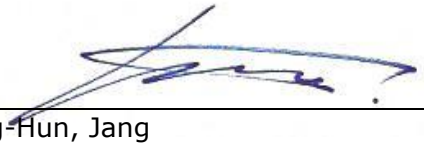
EMC TEST REPORT For FCC

Test Report No.	:	KES-E1-16T0285-R1
Date of Issue	:	Aug. 17, 2021
Product name	:	NETWORK CONTROLLER 7
Model/Type No.	:	SPC-7000
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	:	☐ **Declaration of Conformity** ☒ **Verification** ☐ **Certification**
Date of Receipt	:	Jun. 07, 2016
Test date	:	Jun. 23, 2016 - Jun. 26, 2016
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Young-Jun Jo
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. 29, 2016	KES-E1-16T0285	Issued
Aug. 17, 2021	KES-E1-16T0285-R1	Model name/Applicant Address/Manufacturer change at customer's request

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1.0 General Product Description

Main Specifications of EUT are:

LCD DISPLAY	5 inch TFT LCD
Communication Method	SSM, RJ-45
Operating temperature	0 ~ 40 ℃
Humidity	10 ~ 70 %
dimension	(459.1 x 59.1 x 177.9) ㎜
weight	1.5 ㎏

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 CONTROLLER	SPC-7000	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	E.U.T
AC/DC Adapter	KPL-048F-VI	-	Channel Well Technology(guangzhou)co.,Ltd.	-

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	RV518	HSVX91HC801452M	Samsung Electronics Co., Ltd.	-
Notebook AC/DC Adapter	CPA09-004A	-	Chicony Power Technology Co., Ltd.	-
PTZ Camera	-	-	-	-
PTZ Camera AC/DC Adapter	DRL-241500AC	-	Dream Electronics Co., Ltd.	-

1.6 External I/O Cabling

- USB Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CONTROLLER (E.U.T)	USB	Notebook	USB	1.2	U

- LAN Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CONTROLLER (E.U.T)	RJ45	PTZ Camera	RJ45	3.5	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

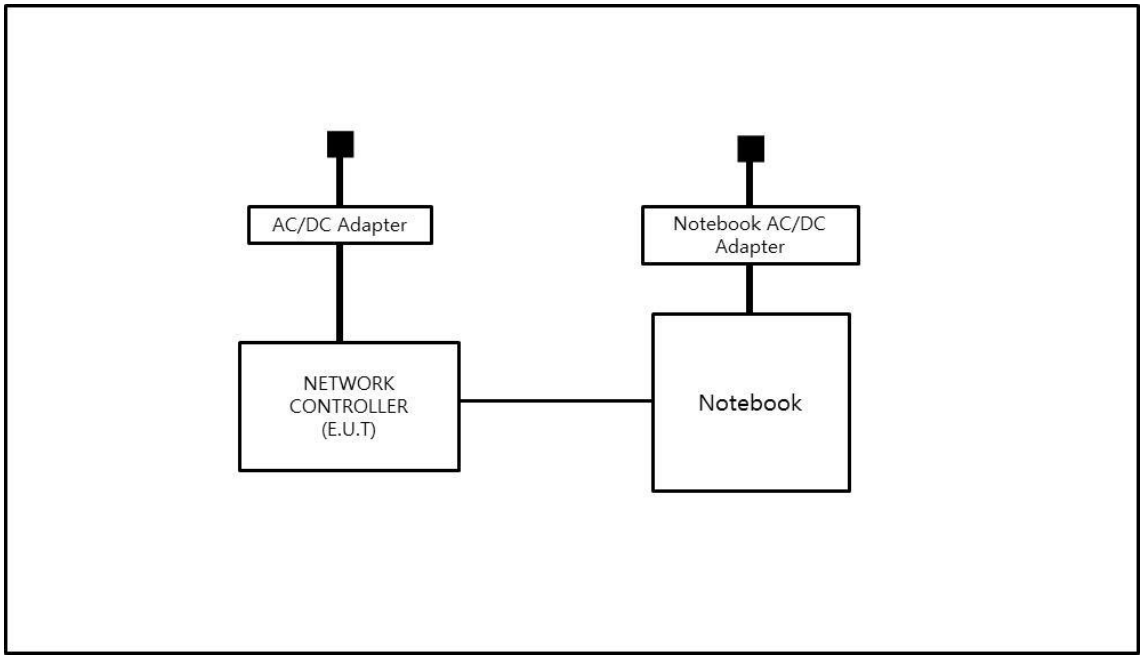
Equipment under test was operated during the measurement under the following conditions:

Test mode	Normal operating
USB	Notebook's game controller setting page check.
LAN	PTZ Camera Controlled

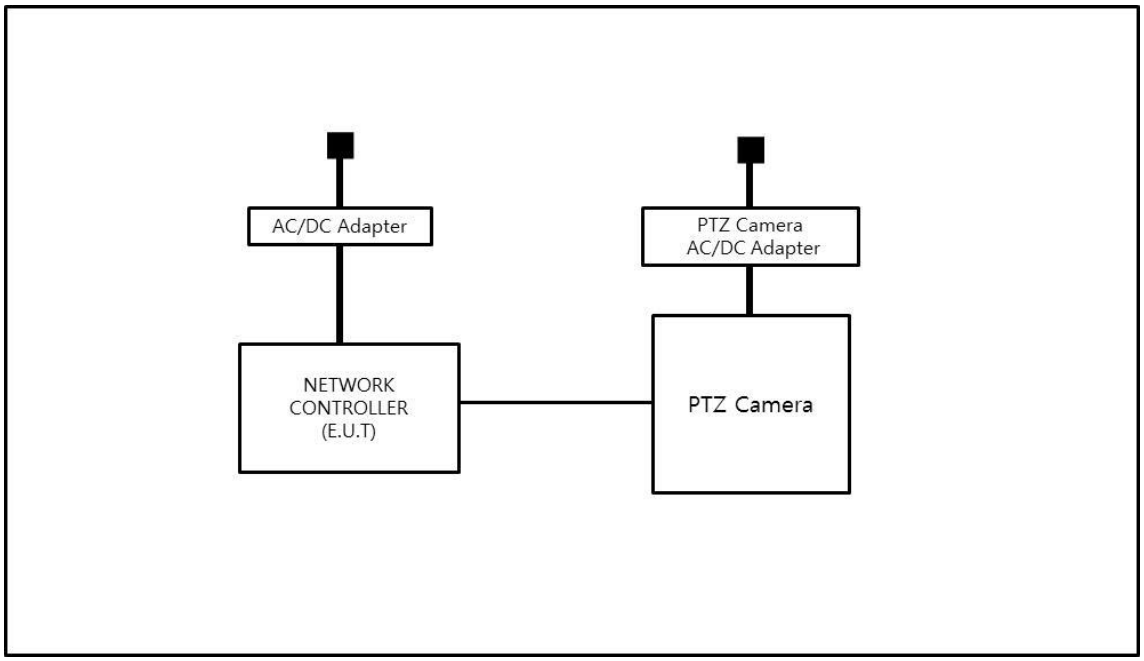
1.8 Configuration

■ AC Main
□ DC Main

- USB Mode



- LAN 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 473-21 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

1.11 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 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 Emissionsat Mains Power Ports

Test Date
Jun. 23, 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
☒	Electro wave Shieldroom	-	SEMITEC	-	-

Test Conditions
Temperature: 23,8 ℃
Relative Humidity: 43,6 %

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

TestResults
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
Jun. 26, 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
☒	OATS	-	KES	-	-
☒	Antenna Mast	1070/1080	EMCO	-	-
☒	Turn Table	-	DAEIL EMC	-	-

Test Conditions
Temperature: 31,2 ℃
Relative Humidity: 50,0 %

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
Jun. 26, 2016

Test Location
Semi Anachoic 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 Anachoic Chamber #2	-	SEMITEC	-	-
☒	Antenna Mast	-	AUDIX	-	-
☒	Turn Table	-	AUDIX	-	-

Test Conditions
Temperature: 23,6 ℃
Relative Humidity: 52,1 %

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

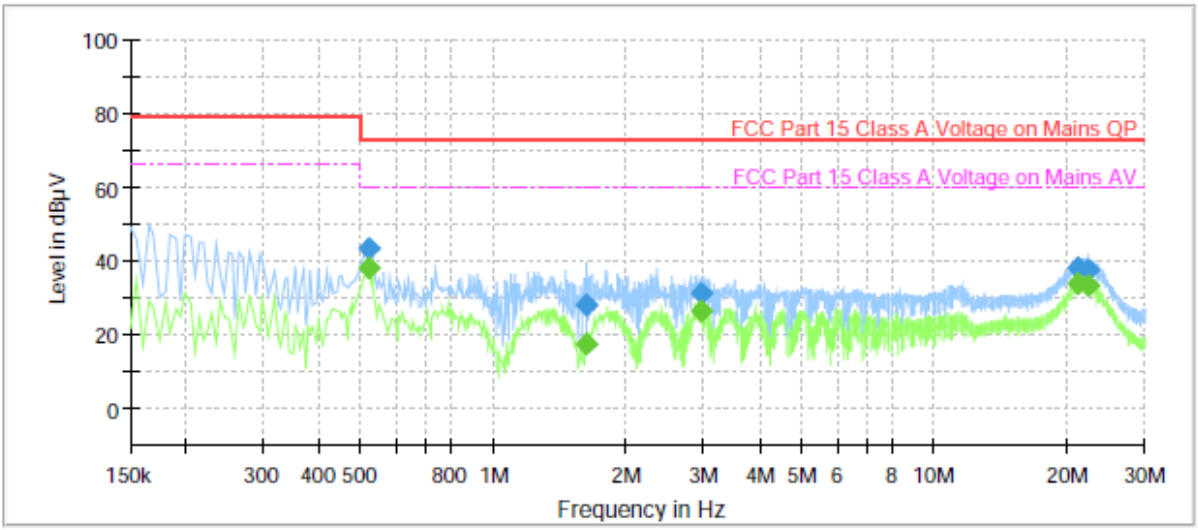
Conducted Emissions at Mains Power Ports

- USB Mode

[HOT]

Common Information

Test Description:	Conducted Emission
Model No.:	SPC-7000N
Mode	USB
Operator Name:	KES



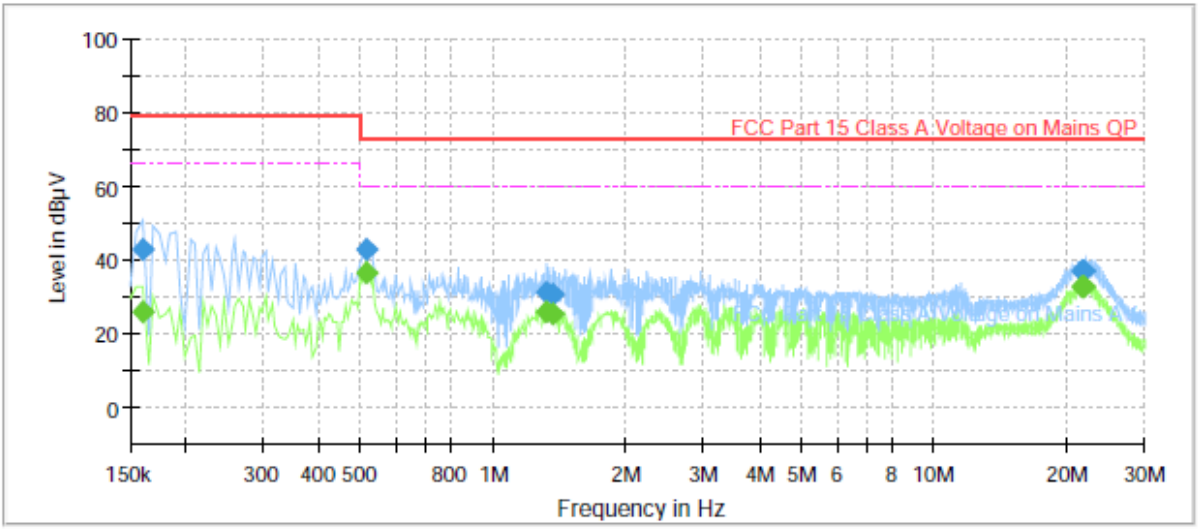
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.520000	---	37.87	60.00	22.13	1000.0	9.000	L1	9.7
0.520000	43.56	---	73.00	29.44	1000.0	9.000	L1	9.7
1.630000	---	17.69	60.00	42.31	1000.0	9.000	L1	9.7
1.630000	27.92	---	73.00	45.08	1000.0	9.000	L1	9.7
2.970000	---	26.68	60.00	33.32	1000.0	9.000	L1	9.7
2.970000	31.16	---	73.00	41.84	1000.0	9.000	L1	9.7
21.190000	---	33.74	60.00	26.26	1000.0	9.000	L1	10.2
21.190000	38.11	---	73.00	34.89	1000.0	9.000	L1	10.2
22.280000	---	33.39	60.00	26.61	1000.0	9.000	L1	10.2
22.280000	37.82	---	73.00	35.18	1000.0	9.000	L1	10.2

[NEUTRAL]

Common Information

Test Description:	Conducted Emission
Model No.:	SPC-7000N
Mode	USB
Operator Name:	KES



Final_Result

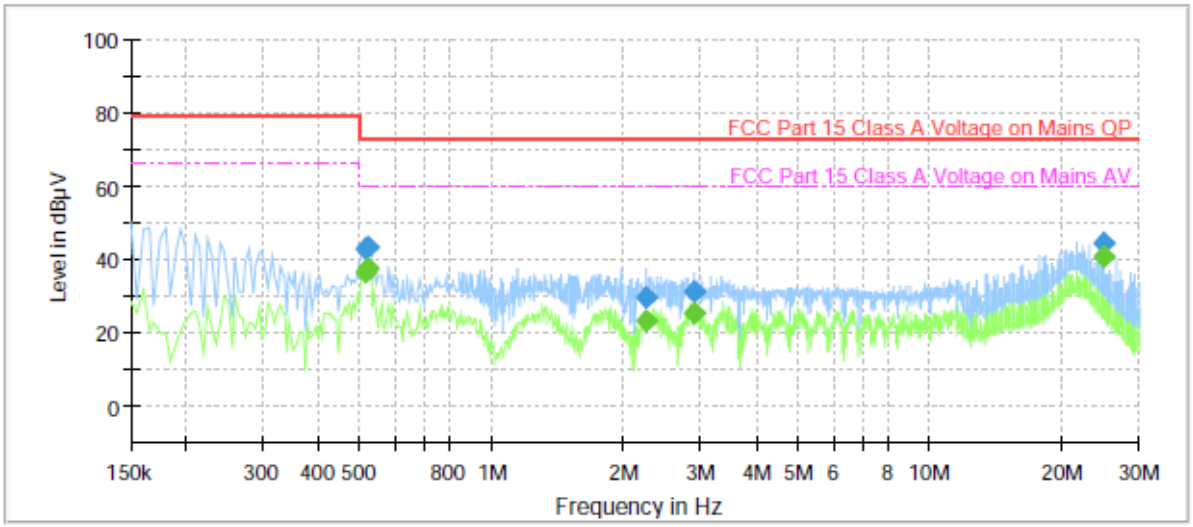
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	26.02	66.00	39.98	1000.0	9.000	N	9.6
0.160000	43.05	---	79.00	35.95	1000.0	9.000	N	9.6
0.515000	---	36.73	60.00	23.27	1000.0	9.000	N	9.7
0.515000	43.07	---	73.00	29.93	1000.0	9.000	N	9.7
1.325000	---	25.90	60.00	34.10	1000.0	9.000	N	9.7
1.325000	31.03	---	73.00	41.97	1000.0	9.000	N	9.7
1.360000	---	25.25	60.00	34.75	1000.0	9.000	N	9.7
1.360000	30.84	---	73.00	42.16	1000.0	9.000	N	9.7
21.660000	---	32.66	60.00	27.34	1000.0	9.000	N	10.2
21.660000	36.99	---	73.00	36.01	1000.0	9.000	N	10.2
21.750000	---	32.73	60.00	27.27	1000.0	9.000	N	10.2
21.750000	37.07	---	73.00	35.93	1000.0	9.000	N	10.2

- LAN Mode

[HOT]

Common Information

Test Description:	Conducted Emission
Model No.:	SPC-7000N
Mode	RJ45
Operator Name:	KES



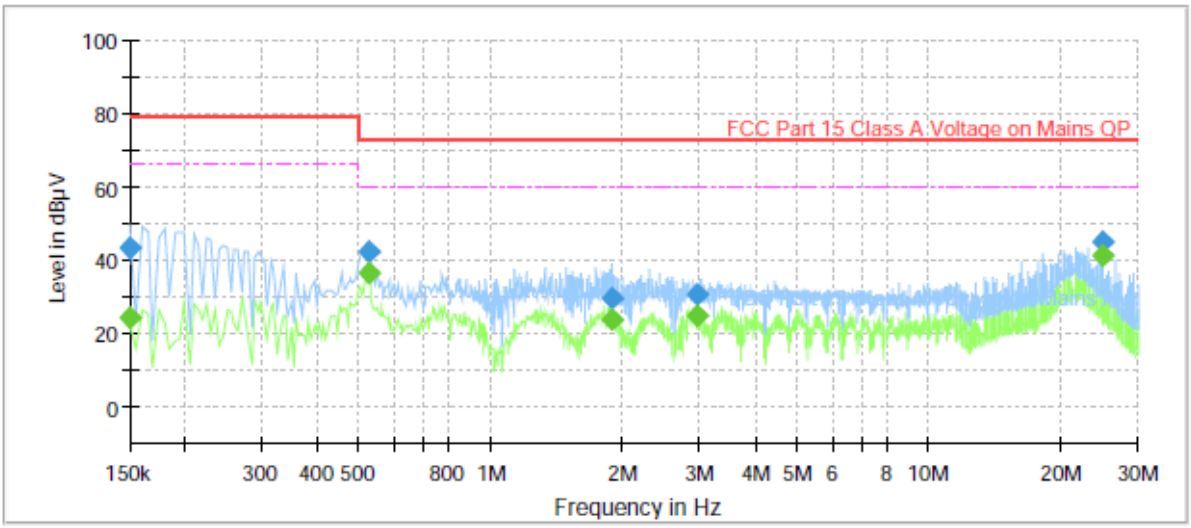
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.515000	---	36.72	60.00	23.28	1000.0	9.000	L1	9.7
0.515000	43.02	---	73.00	29.98	1000.0	9.000	L1	9.7
0.520000	---	37.46	60.00	22.54	1000.0	9.000	L1	9.7
0.520000	43.35	---	73.00	29.65	1000.0	9.000	L1	9.7
2.255000	---	23.34	60.00	36.66	1000.0	9.000	L1	9.7
2.255000	29.75	---	73.00	43.25	1000.0	9.000	L1	9.7
2.905000	---	25.50	60.00	34.50	1000.0	9.000	L1	9.7
2.905000	31.10	---	73.00	41.90	1000.0	9.000	L1	9.7
25.000000	---	40.84	60.00	19.16	1000.0	9.000	L1	10.2
25.000000	44.64	---	73.00	28.36	1000.0	9.000	L1	10.2

[NEUTRAL]

Common Information

Test Description:	Conducted Emission
Model No.:	SPC-7000N
Mode	RJ45
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	24.29	66.00	41.71	1000.0	9.000	N	9.6
0.150000	43.25	---	79.00	35.75	1000.0	9.000	N	9.6
0.525000	---	36.36	60.00	23.64	1000.0	9.000	N	9.7
0.525000	42.43	---	73.00	30.57	1000.0	9.000	N	9.7
1.895000	---	23.67	60.00	36.33	1000.0	9.000	N	9.7
1.895000	29.78	---	73.00	43.22	1000.0	9.000	N	9.7
2.970000	---	24.80	60.00	35.20	1000.0	9.000	N	9.7
2.970000	30.85	---	73.00	42.15	1000.0	9.000	N	9.7
25.000000	---	41.11	60.00	18.89	1000.0	9.000	N	10.3
25.000000	44.87	---	73.00	28.13	1000.0	9.000	N	10.3

Radiated Electric Field Emissions(Below 1 ㎓)

- USB Mode

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[㎒]	[dB㎶]		[m]	ANT. [dB/m]	Cable [dB]	[dB㎶/m]	[dB㎶/m]	
144.16	8.34	V	1.15	8.05	2.42	18.81	43.50	24.69
150.23	11.25	H	3.97	8.22	2.47	21.94	43.50	21.56
250.00	19.57	H	4.00	12.55	3.33	35.45	46.40	10.95
275.17	11.16	V	1.02	12.98	3.52	27.66	46.40	18.74
400.96	14.26	H	4.00	15.59	4.23	34.08	46.40	12.32
494.31	8.42	V	1.22	17.20	4.91	30.53	46.40	15.87

* H : Horizontal, V : Vertical

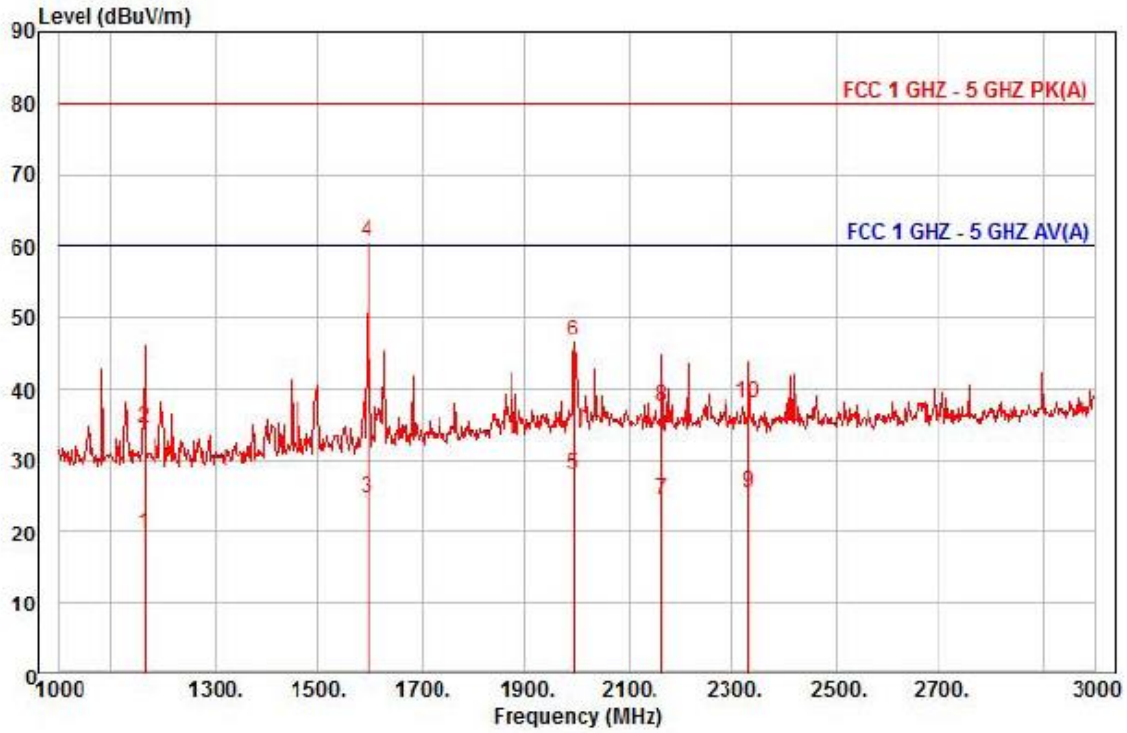
- LAN Mode

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[㎒]	[dB㎶]		[m]	ANT. [dB/m]	Cable [dB]	[dB㎶/m]	[dB㎶/m]	
150.01	25.13	H	3.67	8.21	2.47	35.81	43.50	7.69
225.43	13.84	V	1.41	12.02	3.10	28.96	46.40	17.44
275.57	22.14	H	4.00	12.98	3.52	38.64	46.40	7.76
325.99	10.46	V	1.08	13.96	3.80	28.22	46.40	18.18
496.38	16.43	H	3.76	17.24	4.92	38.59	46.40	7.81
560.48	14.72	V	1.00	18.49	5.32	38.53	46.40	7.87

* H : Horizontal, V : Vertical

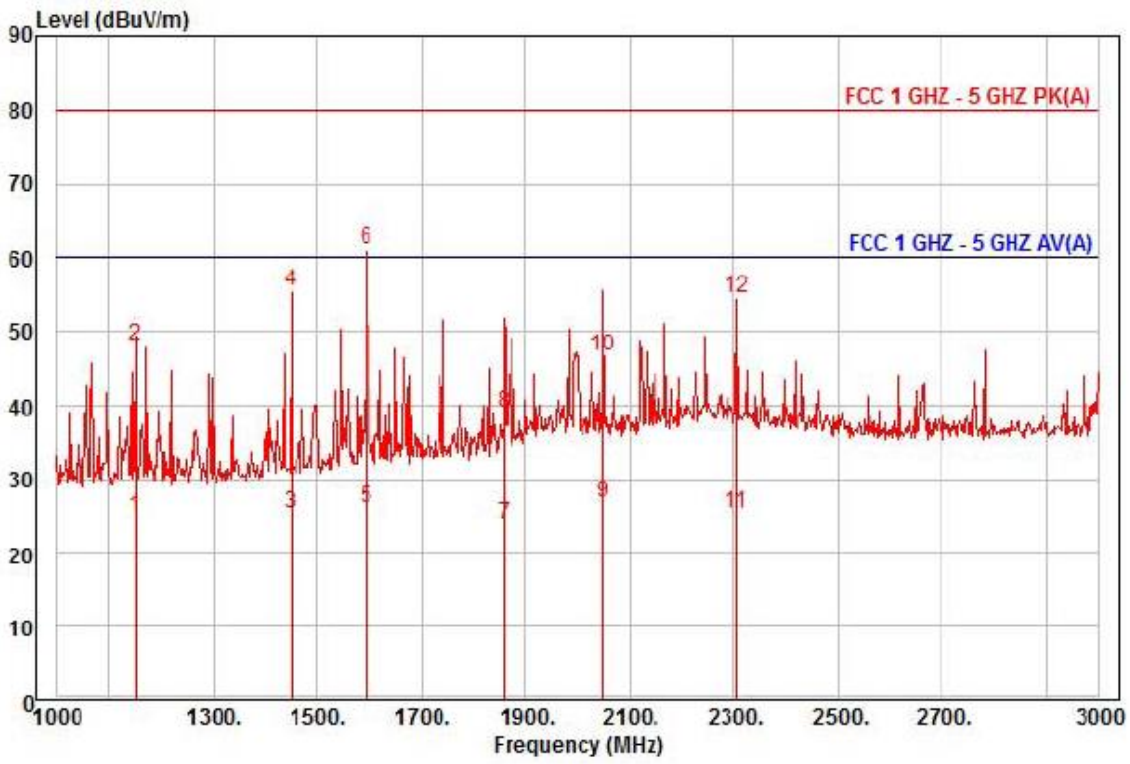
Radiated Electric Field Emissions(Above 1 ㎓)

- USB Mode



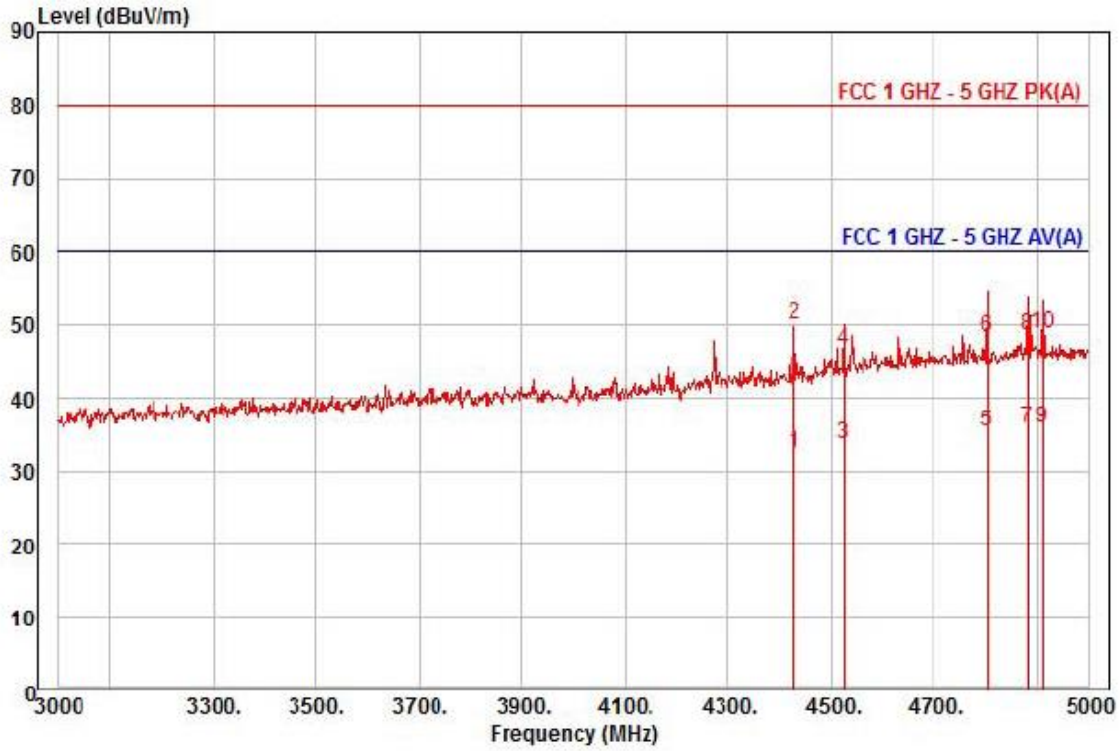

```
Site      : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) horizontal
         : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project   :
Model     : SPC-7000N
Mode      : USB
Memo      : 1 - 3 GHz
```

	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	1164.00	28.17	24.56	6.99	40.04	81	60.00	-40.32	horizontal	Average
2	1164.00	42.90	24.56	6.99	40.04	81	80.00	-45.59	horizontal	Peak
3	1596.00	29.95	26.28	8.24	39.83	113	60.00	-35.36	horizontal	Average
4 pp	1596.00	66.00	26.28	8.24	39.83	113	80.00	-19.31	horizontal	Peak
5 av	1992.00	30.38	27.85	9.33	39.63	211	60.00	-32.07	horizontal	Average
6	1992.00	49.16	27.85	9.33	39.63	211	80.00	-33.29	horizontal	Peak
7	2164.00	26.21	28.28	9.60	39.73	293	60.00	-35.64	horizontal	Average
8	2164.00	39.28	28.28	9.60	39.73	293	80.00	-42.57	horizontal	Peak
9	2332.00	26.48	28.69	9.86	39.82	296	60.00	-34.79	horizontal	Average
10	2332.00	39.40	28.69	9.86	39.82	296	80.00	-41.87	horizontal	Peak



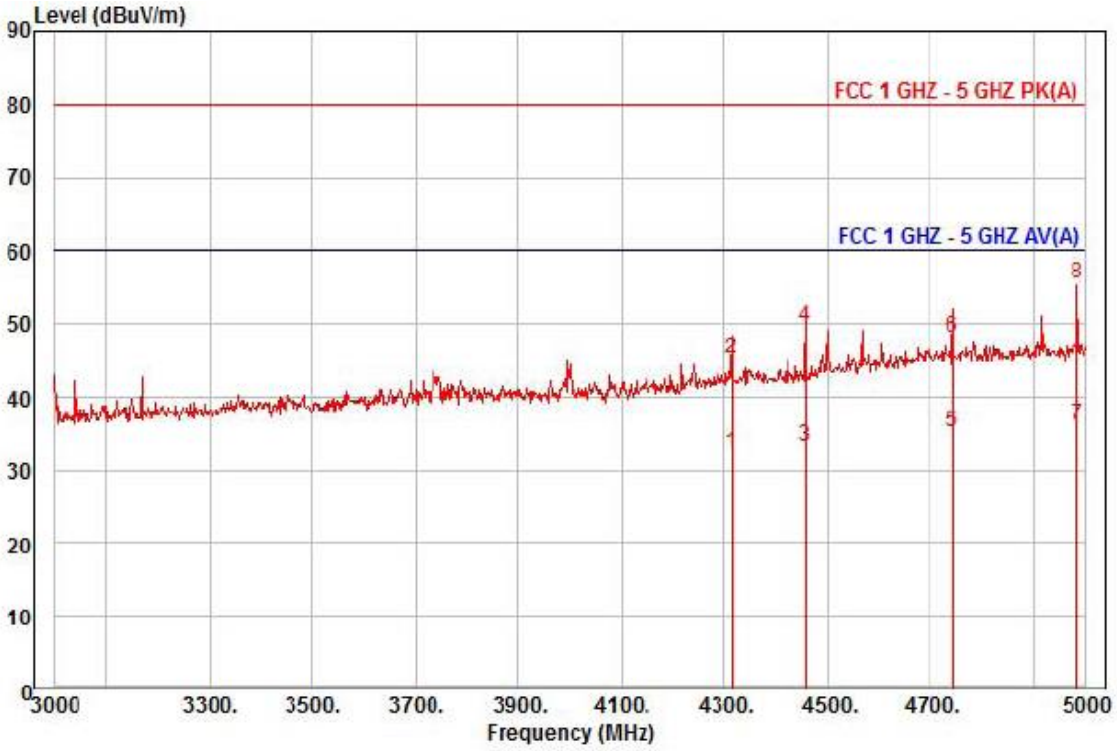
Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SPC-7000N
Mode : USB
Memo : 1 - 3 GHz

	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	1150.00	33.45	24.51	6.95	40.05	184	60.00	-35.14	vertical	Average
2	1150.00	56.74	24.51	6.95	40.05	184	80.00	-31.85	vertical	Peak
3	1450.00	31.71	25.70	7.82	39.90	282	60.00	-34.67	vertical	Average
4	1450.00	61.74	25.70	7.82	39.90	282	80.00	-24.64	vertical	Peak
5	1594.00	31.45	26.27	8.23	39.83	204	60.00	-33.88	vertical	Average
6 pp	1594.00	66.47	26.27	8.23	39.83	204	80.00	-18.86	vertical	Peak
7	1858.00	27.19	27.32	8.96	39.70	302	60.00	-36.23	vertical	Average
8	1858.00	42.51	27.32	8.96	39.70	302	80.00	-40.91	vertical	Peak
9 av	2050.00	28.94	28.00	9.43	39.66	294	60.00	-33.29	vertical	Average
10	2050.00	48.84	28.00	9.43	39.66	294	80.00	-33.39	vertical	Peak
11	2306.00	26.65	28.63	9.82	39.81	296	60.00	-34.71	vertical	Average
12	2306.00	55.79	28.63	9.82	39.81	296	80.00	-25.57	vertical	Peak



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 : SPC-7000N
Mode : USB
Memo : 3 - 5 GHz

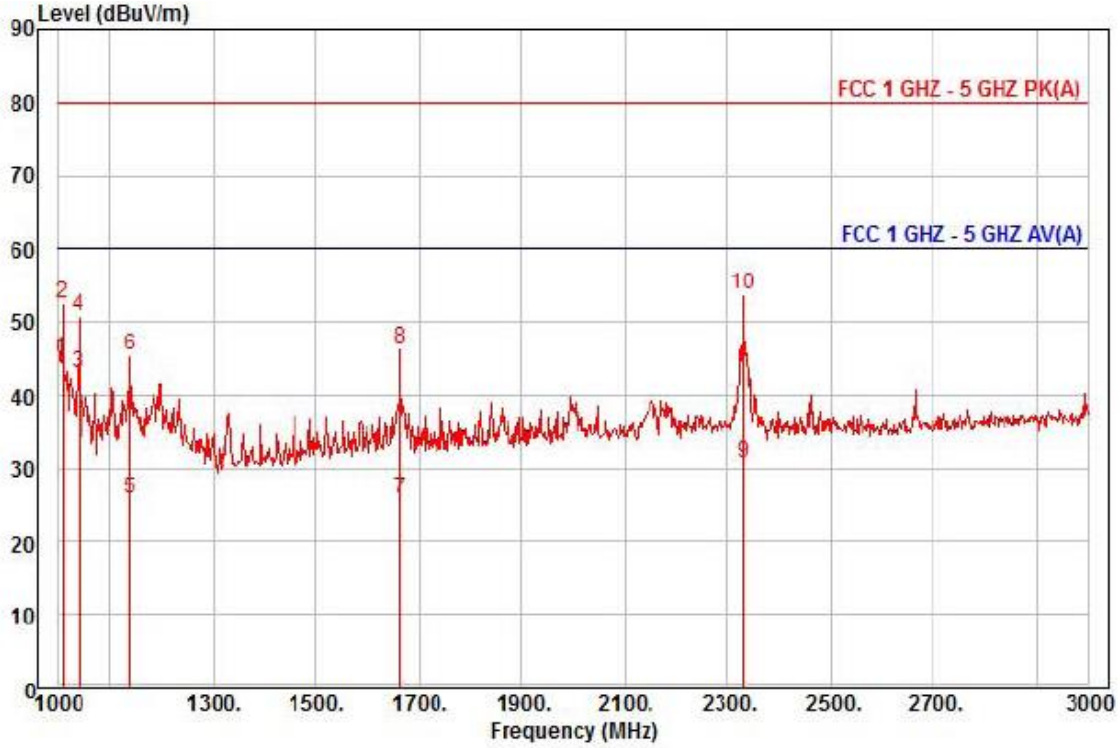
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	4428.00	23.96	34.45	14.30	40.41	29	60.00	-27.70	horizontal	Average
2 pk	4428.00	41.73	34.45	14.30	40.41	29	80.00	-29.93	horizontal	Peak
3	4524.00	24.64	35.00	14.47	40.41	156	60.00	-26.30	horizontal	Average
4	4524.00	37.61	35.00	14.47	40.41	156	80.00	-33.33	horizontal	Peak
5	4802.00	24.11	36.59	14.97	40.41	258	60.00	-24.74	horizontal	Average
6	4802.00	37.09	36.59	14.97	40.41	258	80.00	-31.76	horizontal	Peak
7 pp	4882.00	24.00	37.05	15.12	40.41	261	60.00	-24.24	horizontal	Average
8	4882.00	36.81	37.05	15.12	40.41	261	80.00	-31.43	horizontal	Peak
9	4910.00	23.74	37.21	15.17	40.41	264	60.00	-24.29	horizontal	Average
10	4910.00	36.88	37.21	15.17	40.41	264	80.00	-31.15	horizontal	Peak



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 : SPC-7000N
Mode : USB
Memo : 3 - 5 GHz

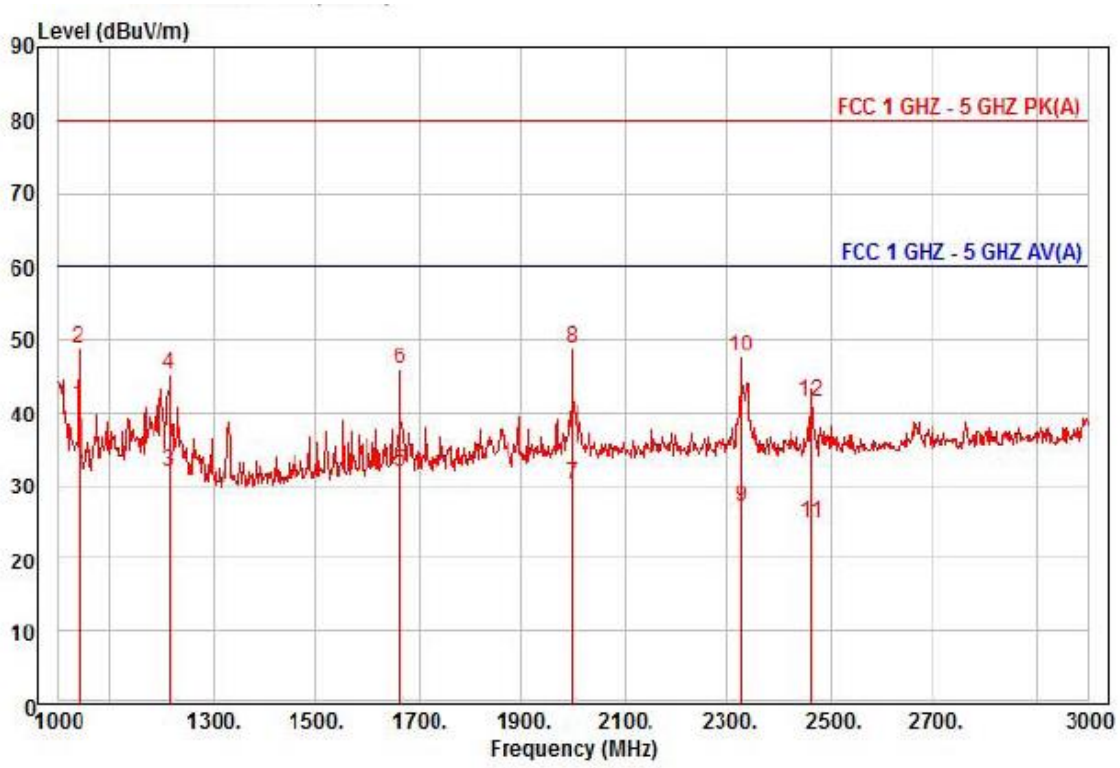
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	4316.00	24.62	33.81	14.09	40.41	208	60.00	-27.89	vertical	Average
2	4316.00	37.68	33.81	14.09	40.41	208	80.00	-34.83	vertical	Peak
3	4458.00	24.57	34.63	14.35	40.41	179	60.00	-26.86	vertical	Average
4	4458.00	40.96	34.63	14.35	40.41	179	80.00	-30.47	vertical	Peak
5	4744.00	24.45	36.26	14.87	40.41	219	60.00	-24.83	vertical	Average
6	4744.00	37.40	36.26	14.87	40.41	219	80.00	-31.88	vertical	Peak
7 pp	4986.00	23.49	37.64	15.30	40.41	202	60.00	-23.98	vertical	Average
8 pk	4986.00	42.81	37.64	15.30	40.41	202	80.00	-24.66	vertical	Peak

- LAN Mode



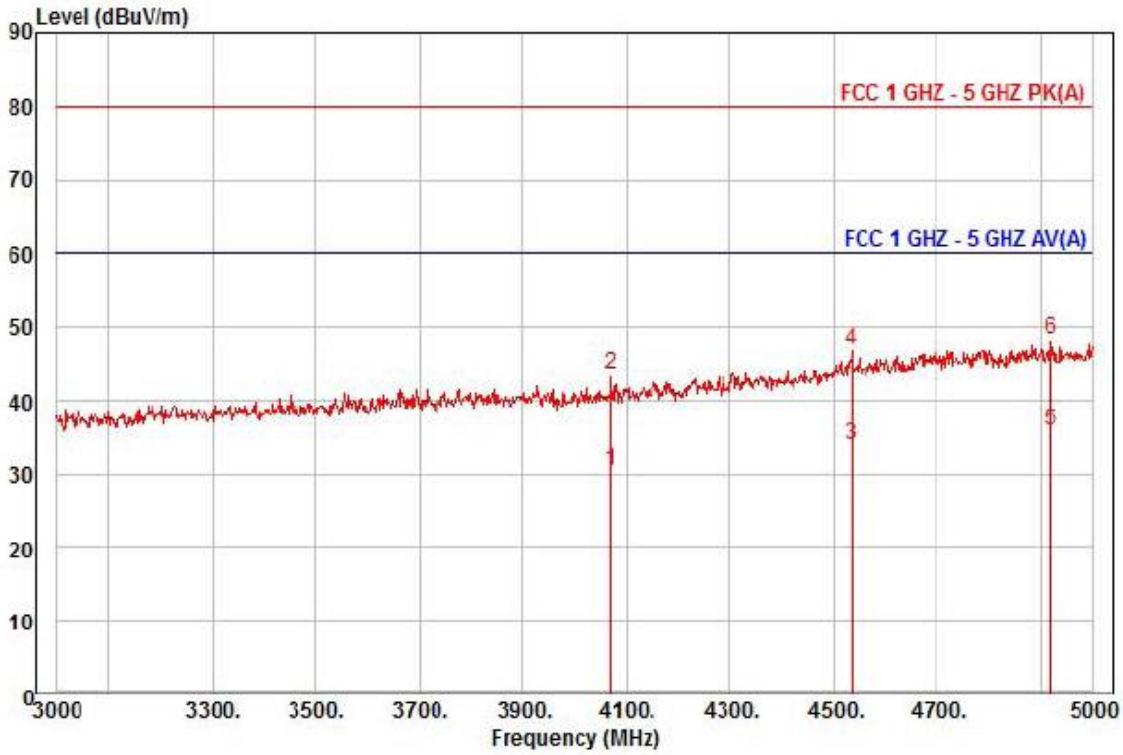
Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SPC-7000N
Mode : LAN
Memo : 1 - 3 GHz

	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 pp	1008.00	54.73	23.94	6.53	40.12	288	60.00	-14.92	horizontal	Average
2	1008.00	62.23	23.94	6.53	40.12	288	80.00	-27.42	horizontal	Peak
3	1040.00	52.26	24.07	6.63	40.10	302	60.00	-17.14	horizontal	Average
4	1040.00	60.24	24.07	6.63	40.10	302	80.00	-29.16	horizontal	Peak
5	1138.00	34.48	24.46	6.91	40.05	308	60.00	-34.20	horizontal	Average
6	1138.00	54.00	24.46	6.91	40.05	308	80.00	-34.68	horizontal	Peak
7	1664.00	30.62	26.55	8.43	39.79	339	60.00	-34.19	horizontal	Average
8	1664.00	51.25	26.55	8.43	39.79	339	80.00	-33.56	horizontal	Peak
9	2332.00	31.80	28.69	9.86	39.82	278	60.00	-29.47	horizontal	Average
10 pk	2332.00	54.99	28.69	9.86	39.82	278	80.00	-26.28	horizontal	Peak



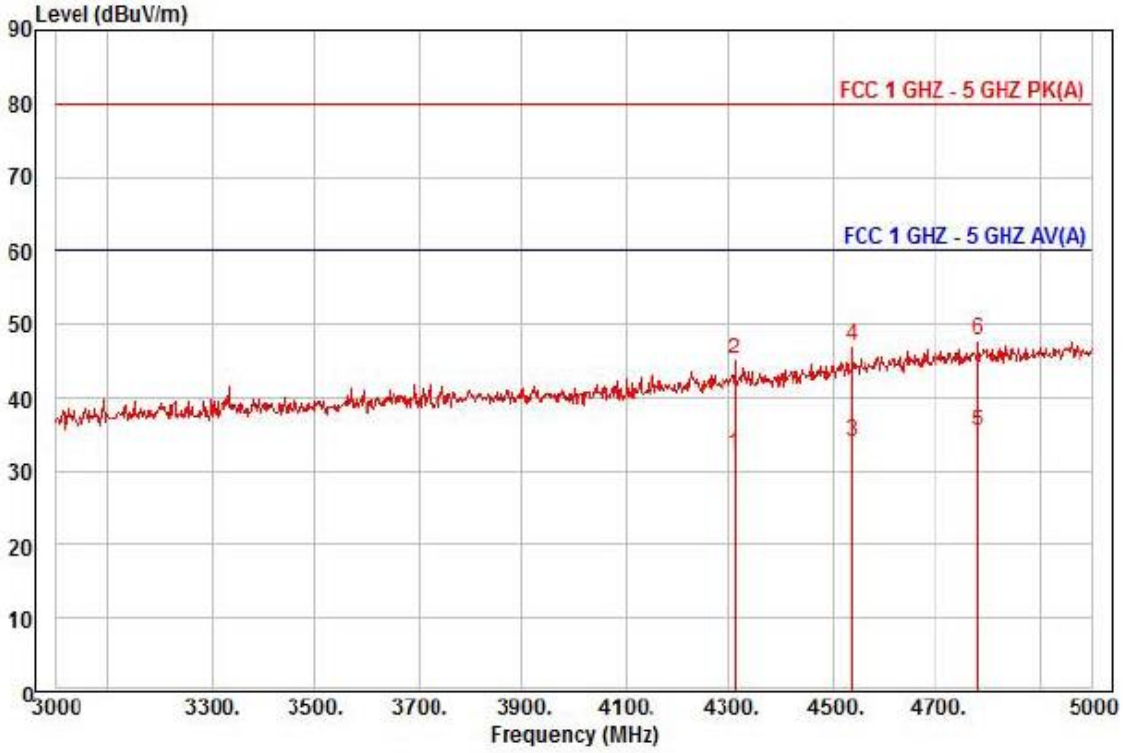
Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SPC-7000N
Mode : LAN
Memo : 1 - 3 GHz

	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 pp	1040.00	50.32	24.07	6.63	40.10	343	60.00	-19.08	vertical	Average
2	1040.00	58.25	24.07	6.63	40.10	343	80.00	-31.15	vertical	Peak
3	1216.00	40.07	24.77	7.14	40.01	349	60.00	-28.03	vertical	Average
4	1216.00	53.12	24.77	7.14	40.01	349	80.00	-34.98	vertical	Peak
5	1664.00	36.58	26.55	8.43	39.79	329	60.00	-28.23	vertical	Average
6	1664.00	50.70	26.55	8.43	39.79	329	80.00	-34.11	vertical	Peak
7	1998.00	32.69	27.87	9.34	39.63	15	60.00	-29.73	vertical	Average
8 pk	1998.00	51.33	27.87	9.34	39.63	15	80.00	-31.09	vertical	Peak
9	2328.00	28.16	28.68	9.85	39.82	170	60.00	-33.13	vertical	Average
10	2328.00	48.92	28.68	9.85	39.82	170	80.00	-32.37	vertical	Peak
11	2464.00	25.58	29.02	10.06	39.90	87	60.00	-35.24	vertical	Average
12	2464.00	42.34	29.02	10.06	39.90	87	80.00	-38.48	vertical	Peak



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 : SPC-7000N
Mode : LAN
Memo : 3 - 5 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	4070.00	24.69	32.41	13.64	40.41	326	60.00	-29.67	horizontal	Average
2	4070.00	37.65	32.41	13.64	40.41	326	80.00	-36.71	horizontal	Peak
3	4534.00	24.71	35.06	14.49	40.41	171	60.00	-26.15	horizontal	Average
4	4534.00	37.82	35.06	14.49	40.41	171	80.00	-33.04	horizontal	Peak
5 pp	4920.00	23.70	37.26	15.19	40.41	357	60.00	-24.26	horizontal	Average
6 pk	4920.00	36.29	37.26	15.19	40.41	357	80.00	-31.67	horizontal	Peak



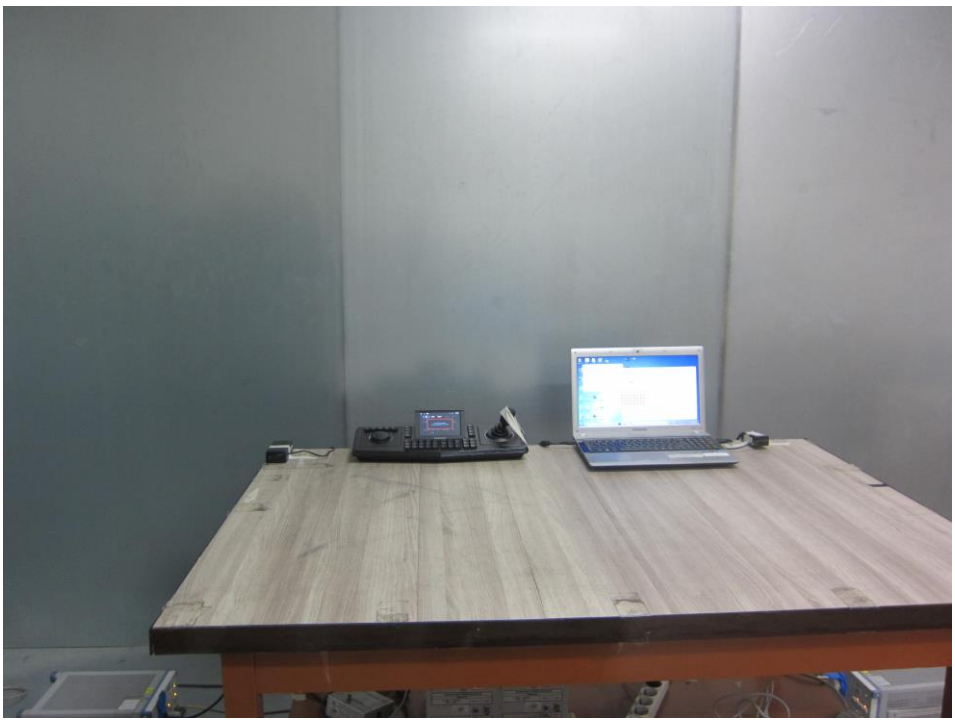
Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SPC-7000N
Mode : LAN
Memo : 3 - 5 GHz

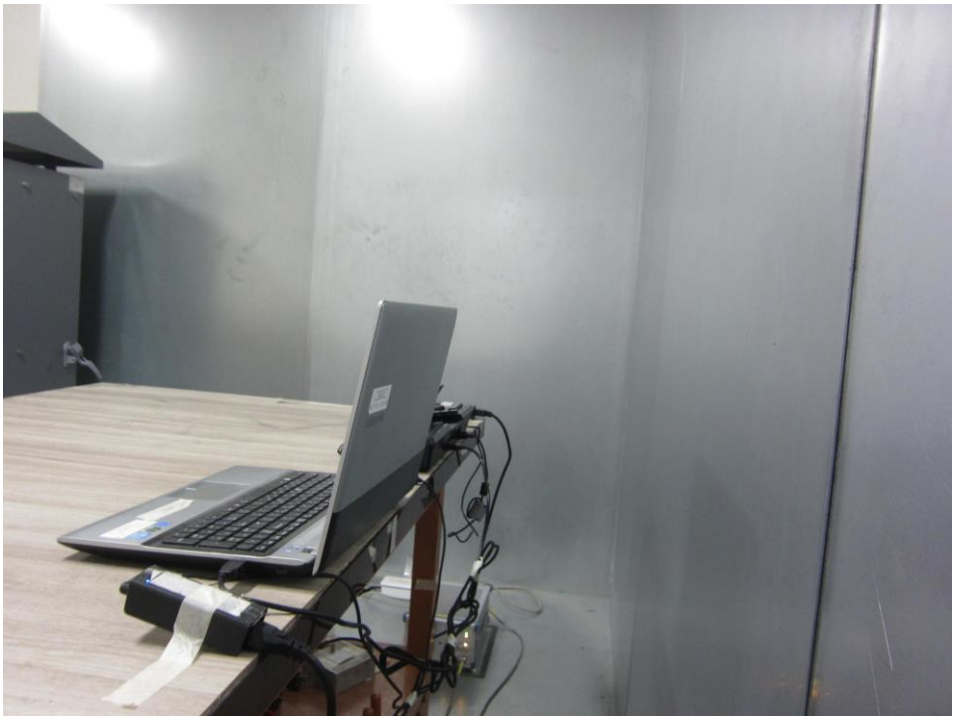
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	4312.00	24.73	33.79	14.08	40.41	66	60.00	-27.81	vertical	Average
2	4312.00	37.78	33.79	14.08	40.41	66	80.00	-34.76	vertical	Peak
3	4536.00	24.75	35.07	14.49	40.41	186	60.00	-26.10	vertical	Average
4	4536.00	37.83	35.07	14.49	40.41	186	80.00	-33.02	vertical	Peak
5 pp	4780.00	24.27	36.46	14.93	40.41	58	60.00	-24.75	vertical	Average
6 pk	4780.00	36.73	36.46	14.93	40.41	58	80.00	-32.29	vertical	Peak

Test Setup Photos and Configuration

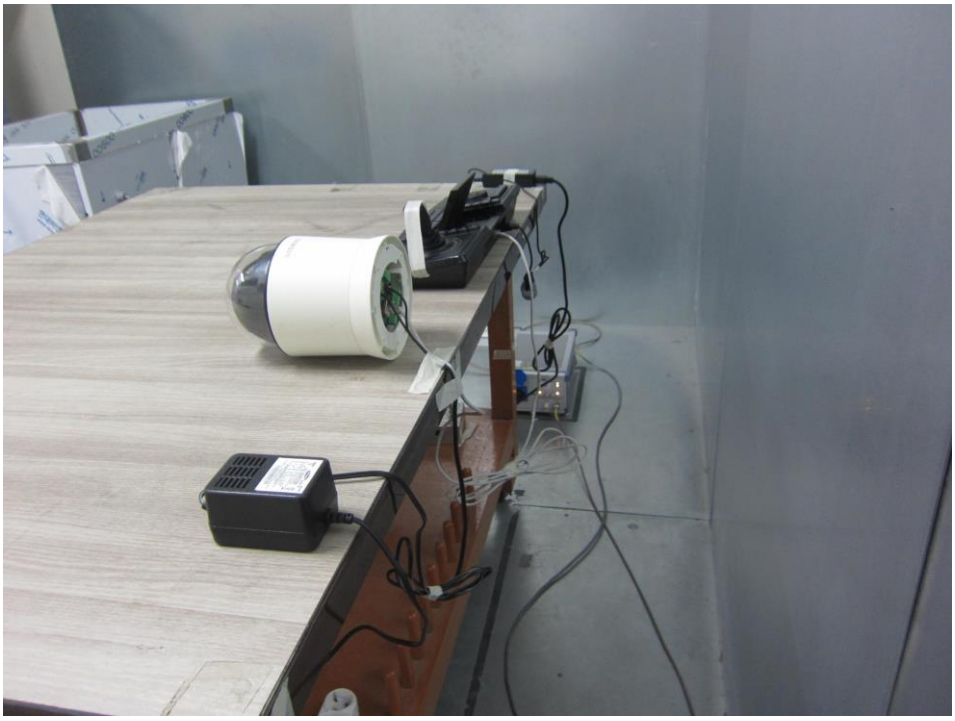
Conducted Voltage Emissions

- USB Mode





- LAN Mode



Radiated Electric Field Emissions(Below 1 ㎓)

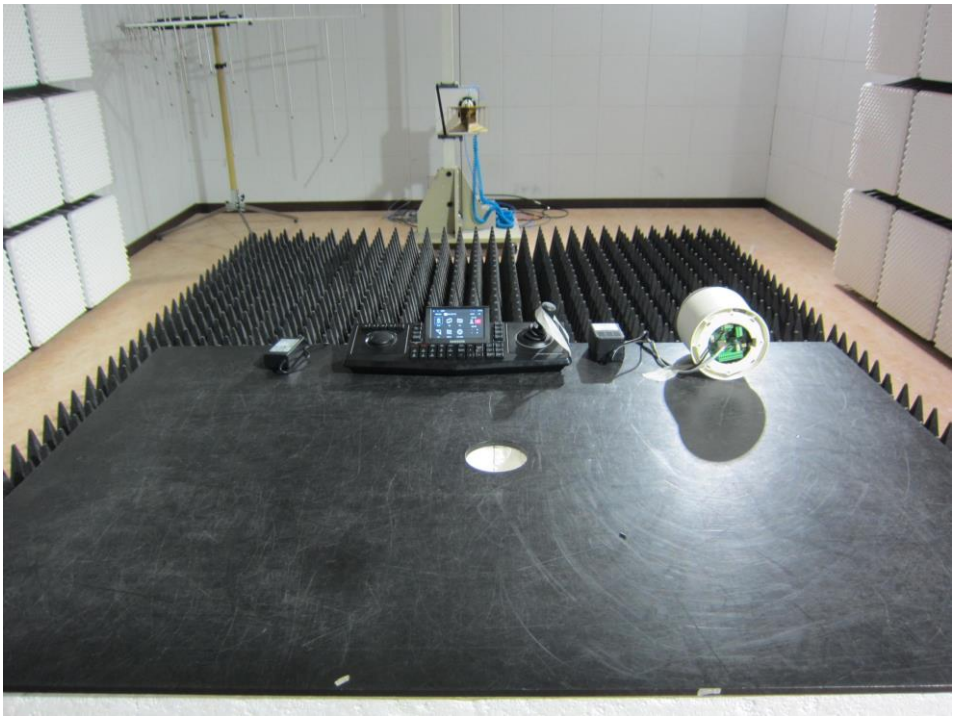
- USB Mode

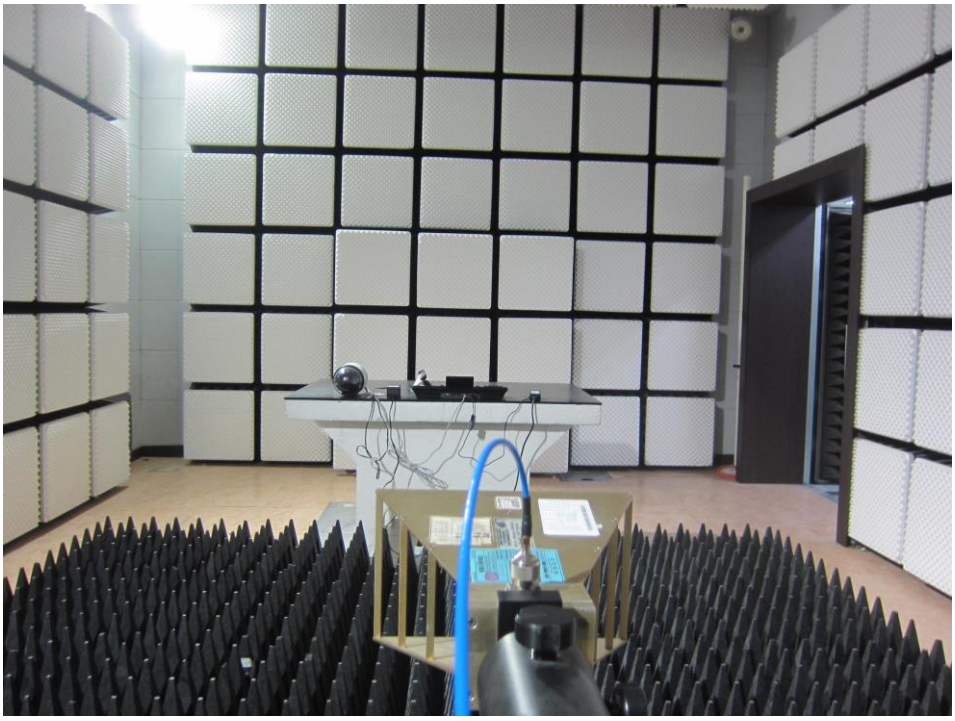
- LAN Mode

Radiated Electric Field Emissions(Above 1 ㎓)

- USB Mode

- LAN Mode





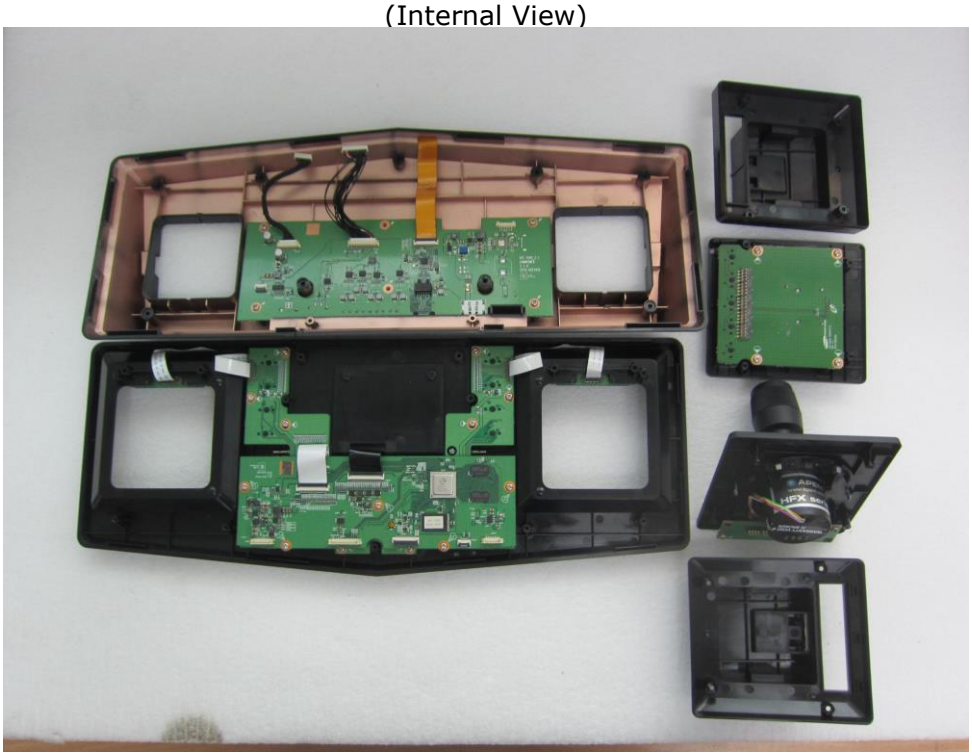
EUT External Photographs

(Top)

(Bottom)

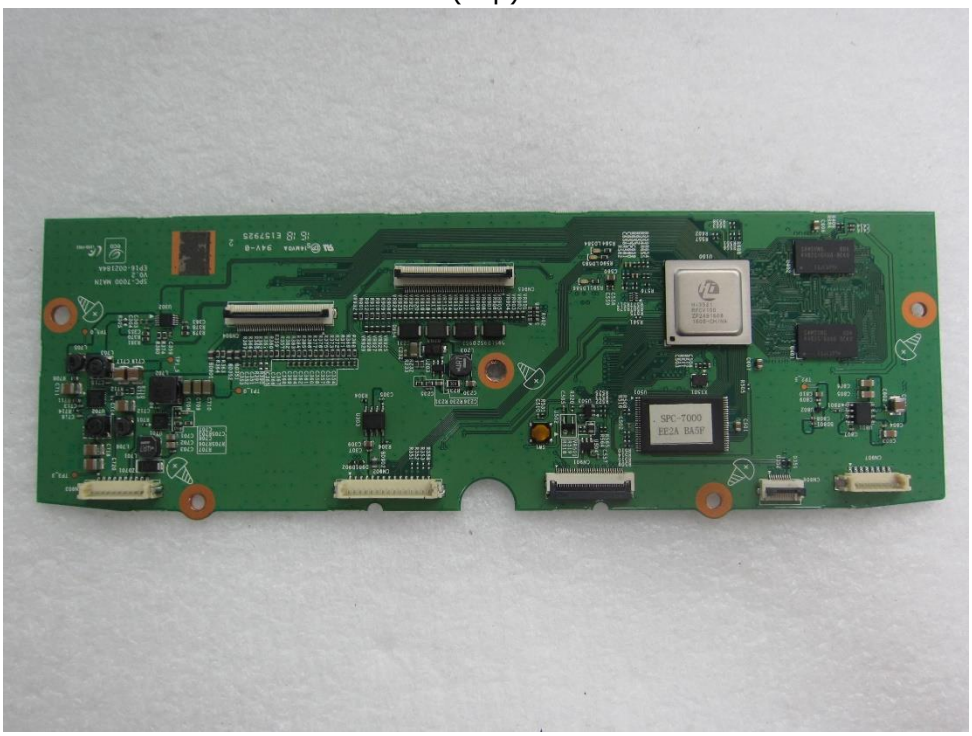
EUT Internal Photographs

(Internal View)

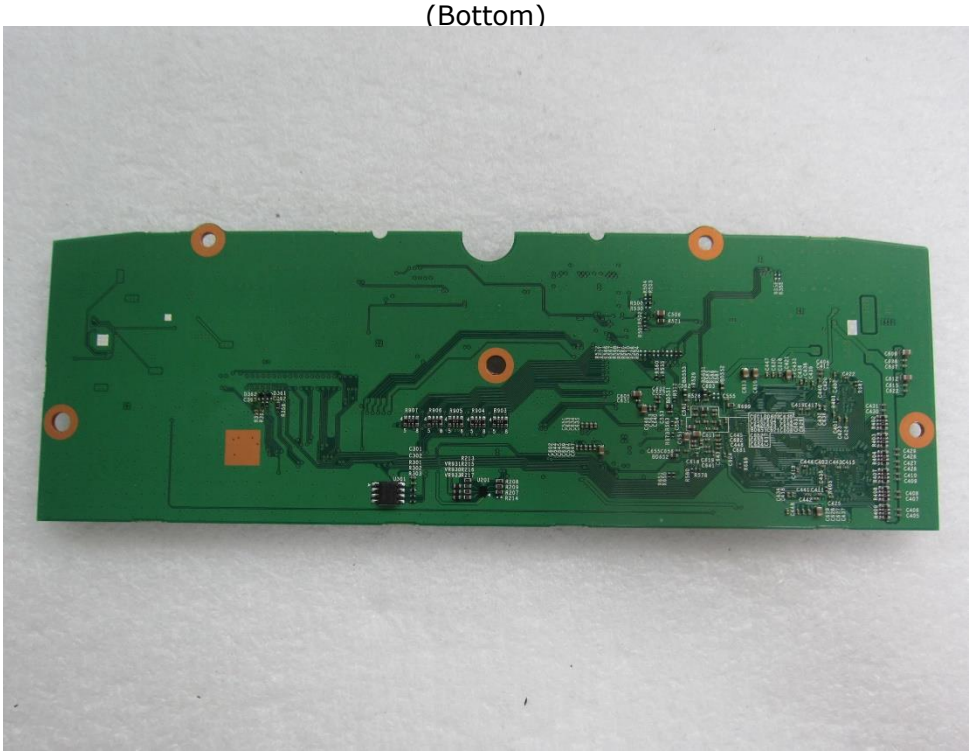


EUT Internal View – Main Board

(Top)

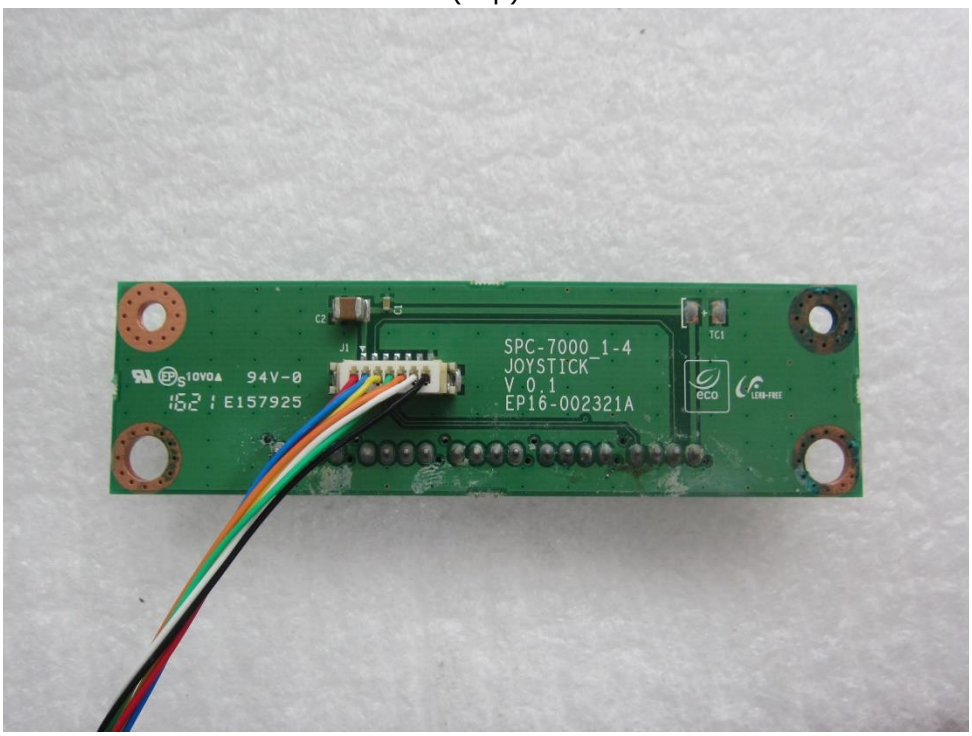


(Bottom)



EUT Internal View – Sub Board 1

(Top)



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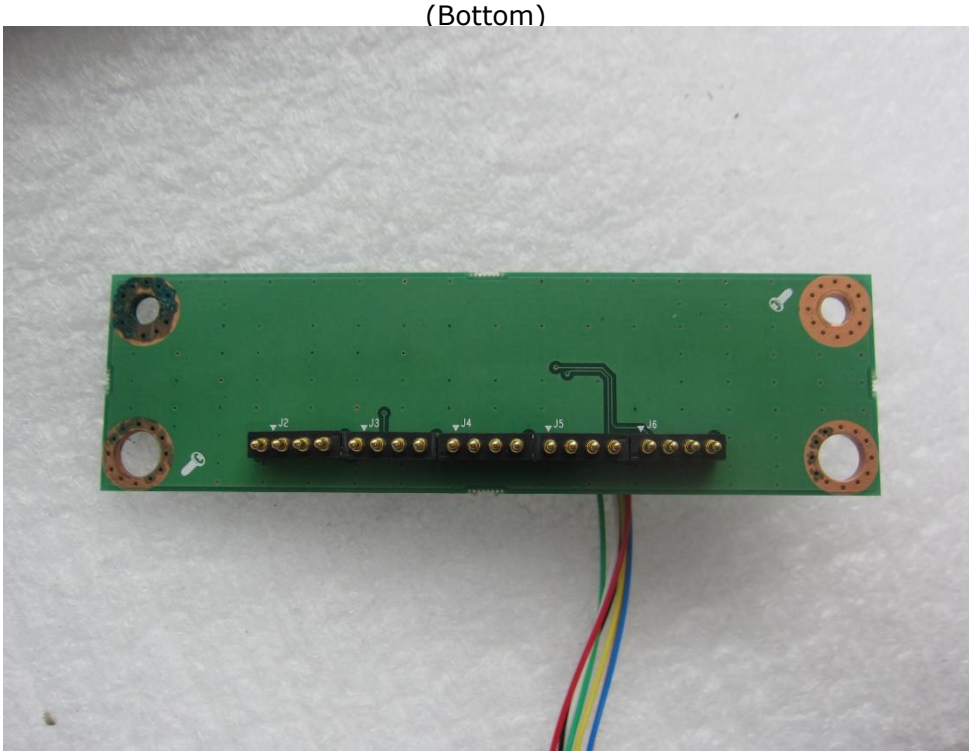
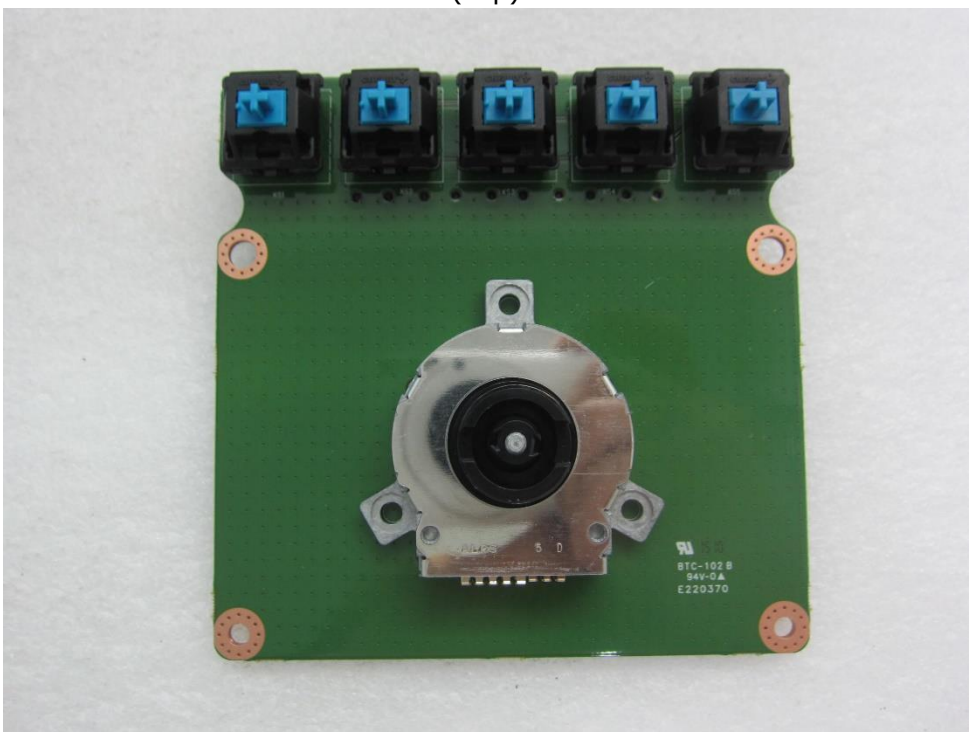
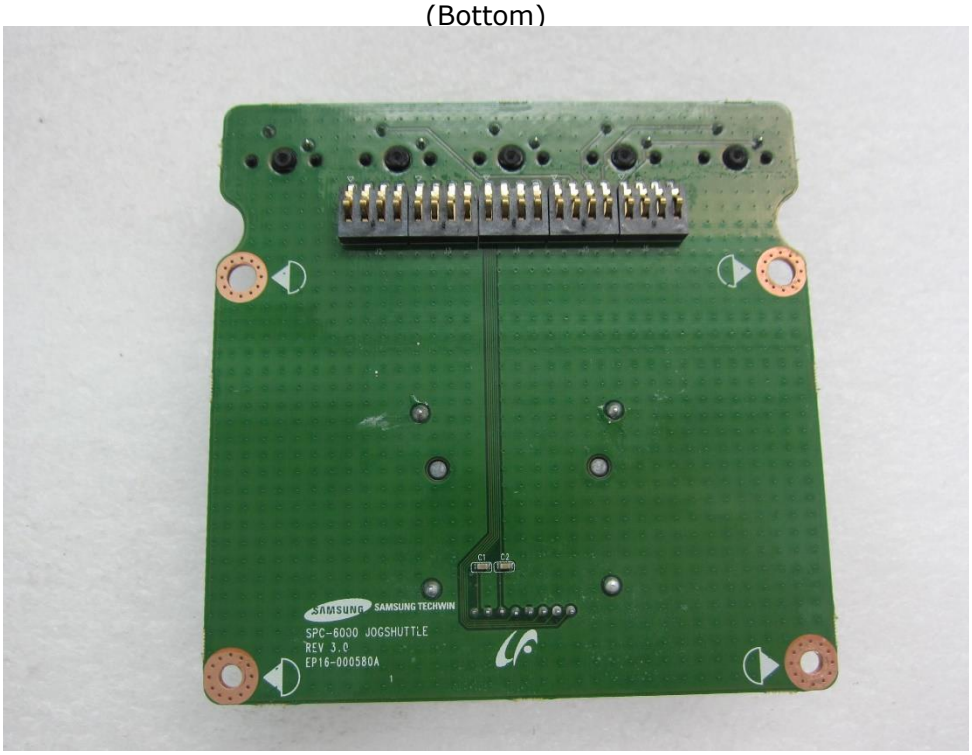


EUT Internal View – Sub Board 2

(Top)

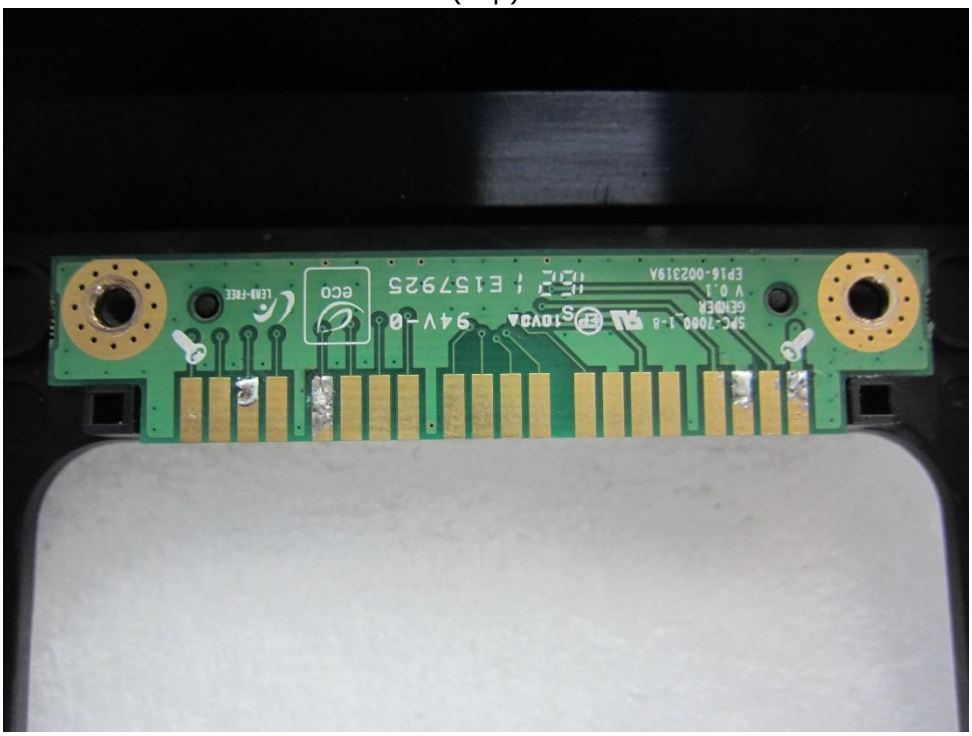


(Bottom)

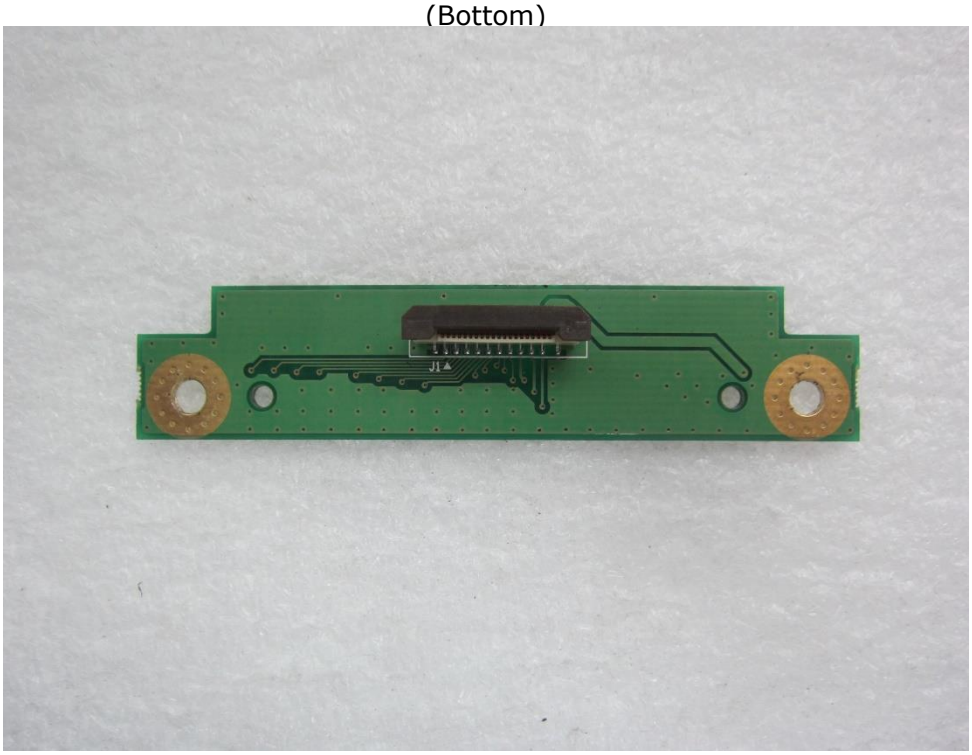


EUT Internal View – Sub Board 3

(Top)

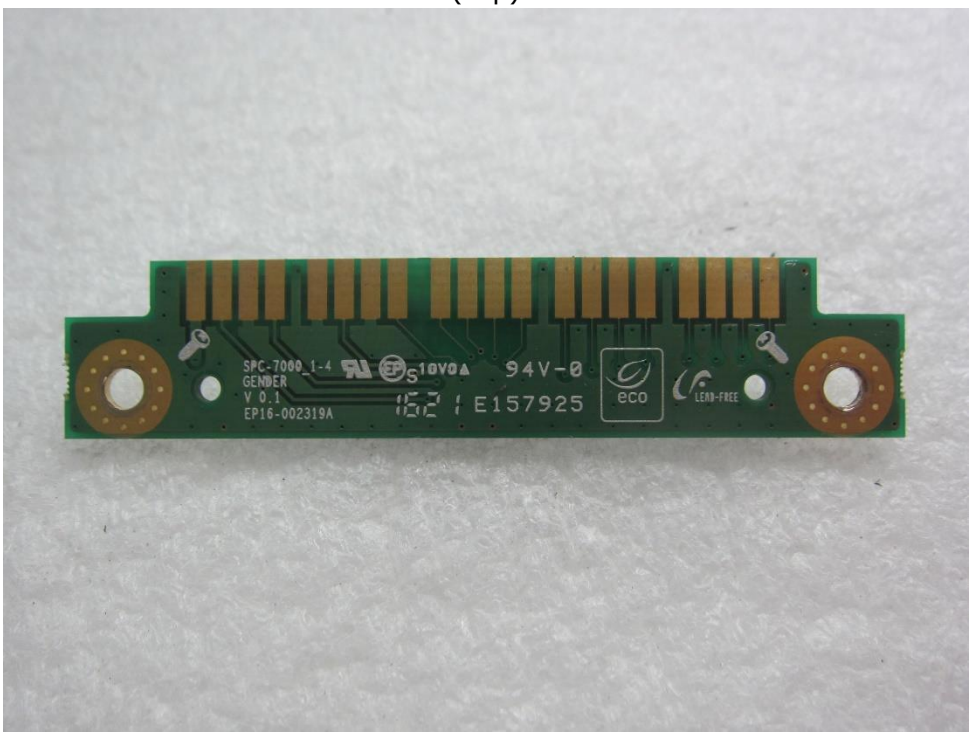


(Bottom)

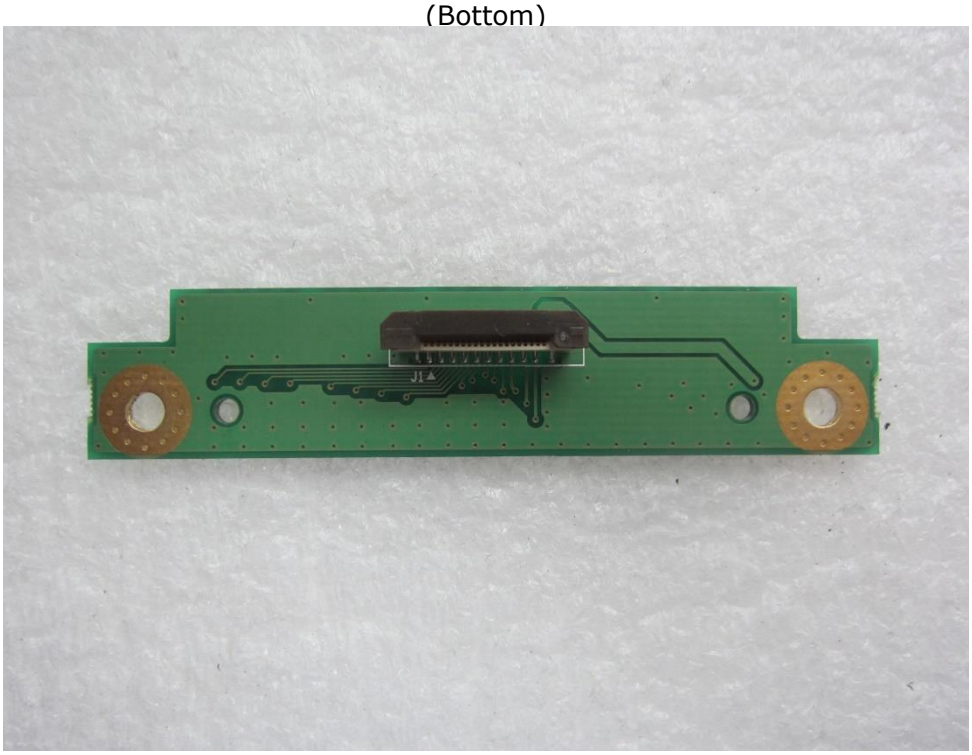


EUT Internal View – Sub Board 4

(Top)

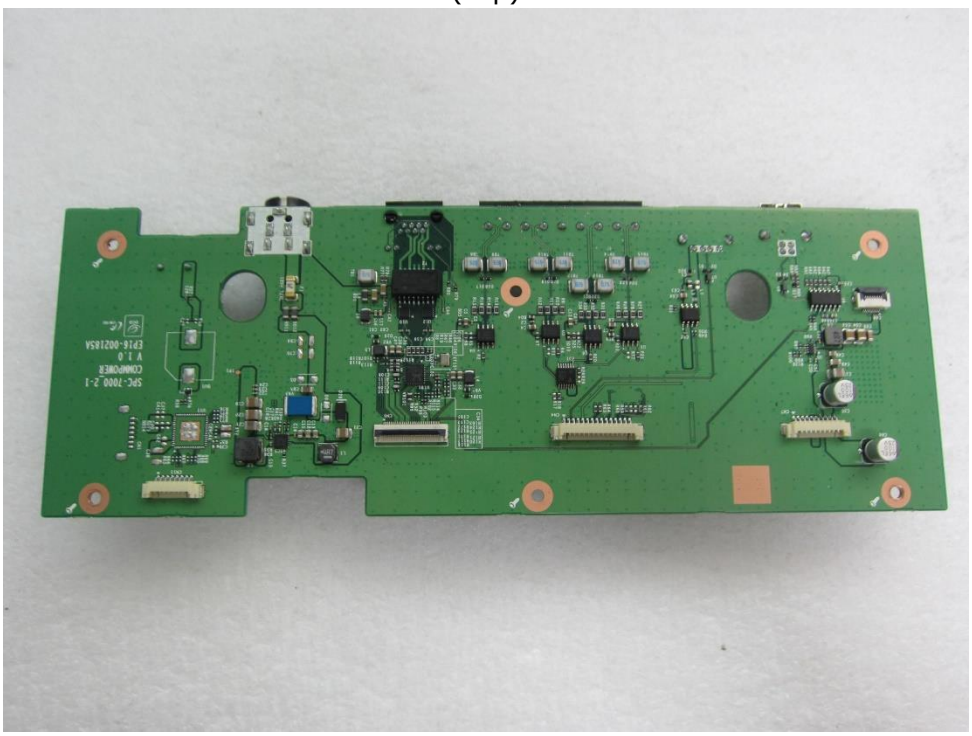


(Bottom)

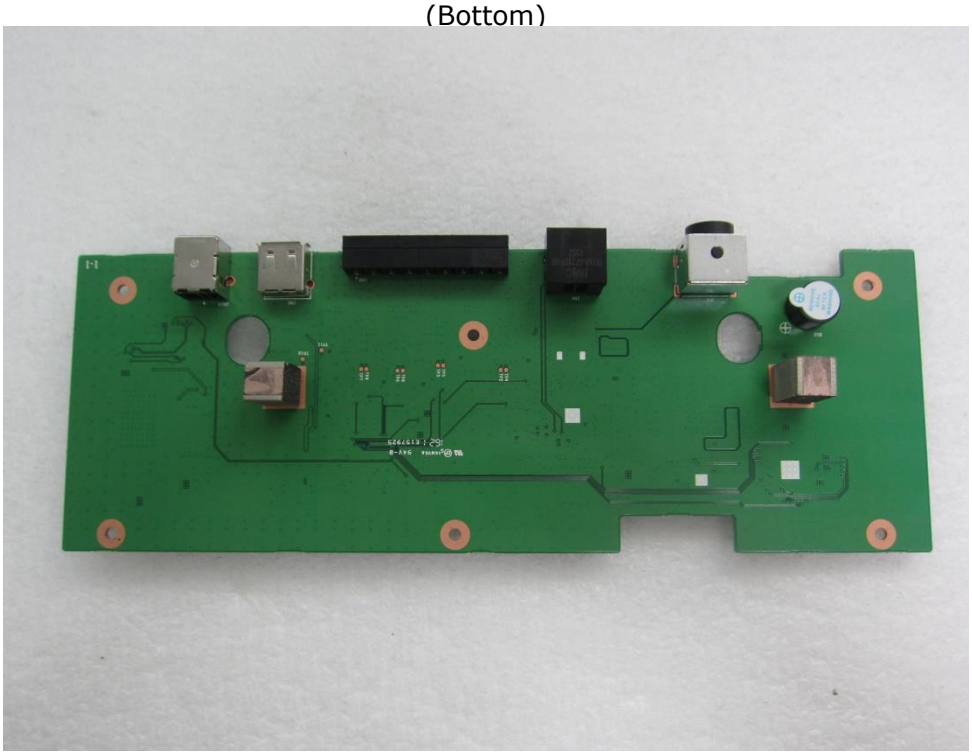


EUT Internal View – Sub Board 5

(Top)

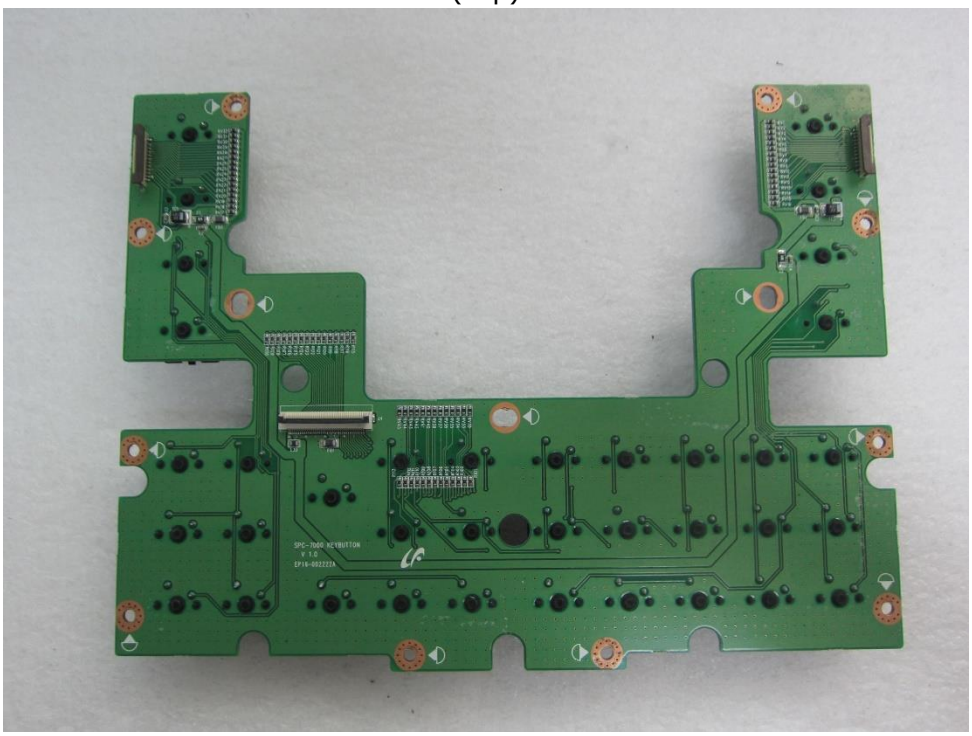


(Bottom)



EUT Internal View – Sub Board 6

(Top)



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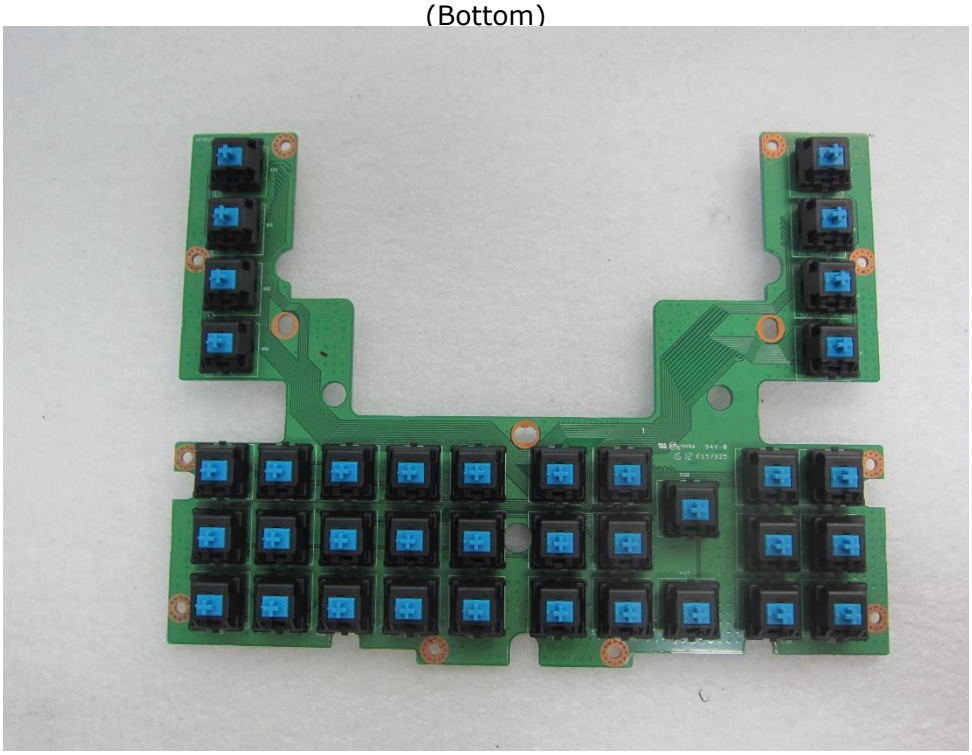
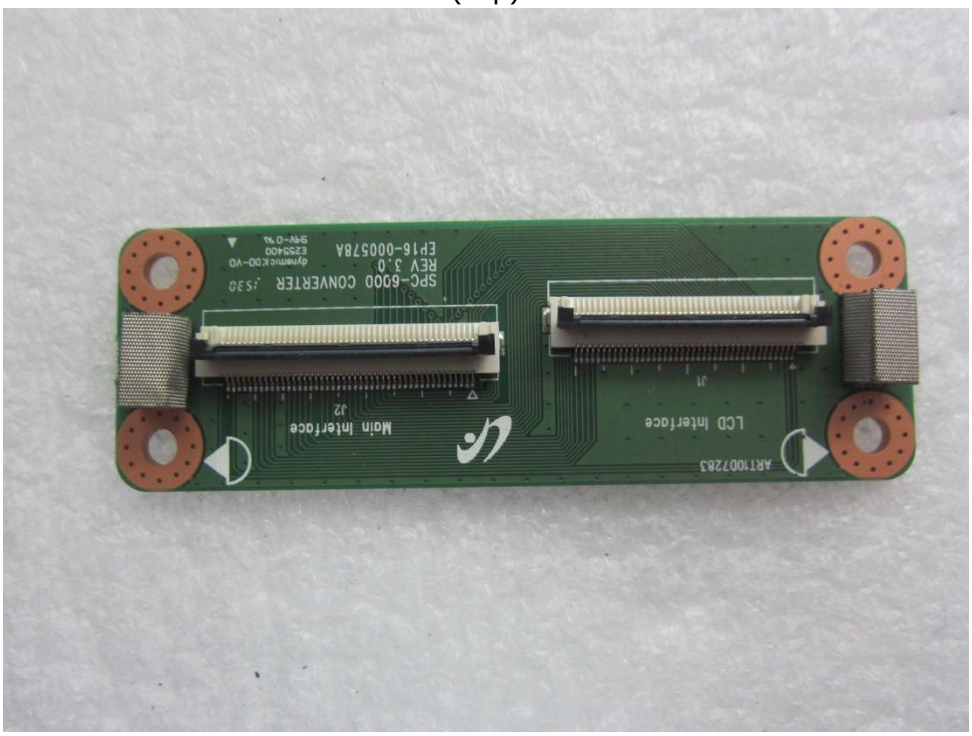


EUT Internal View – Sub Board 7

(Top)



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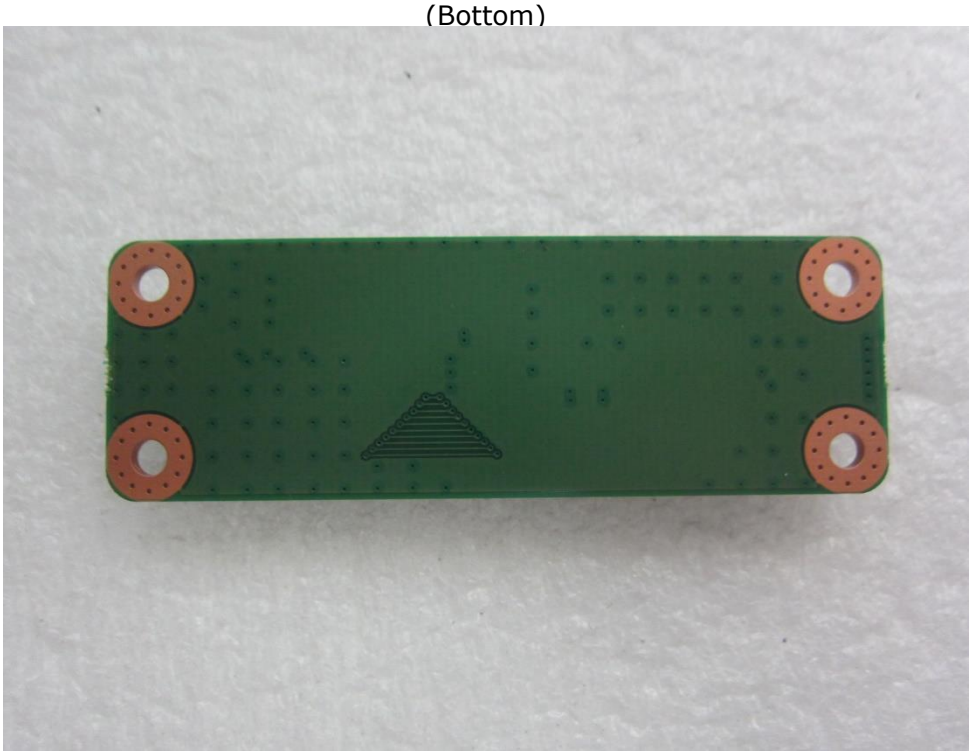
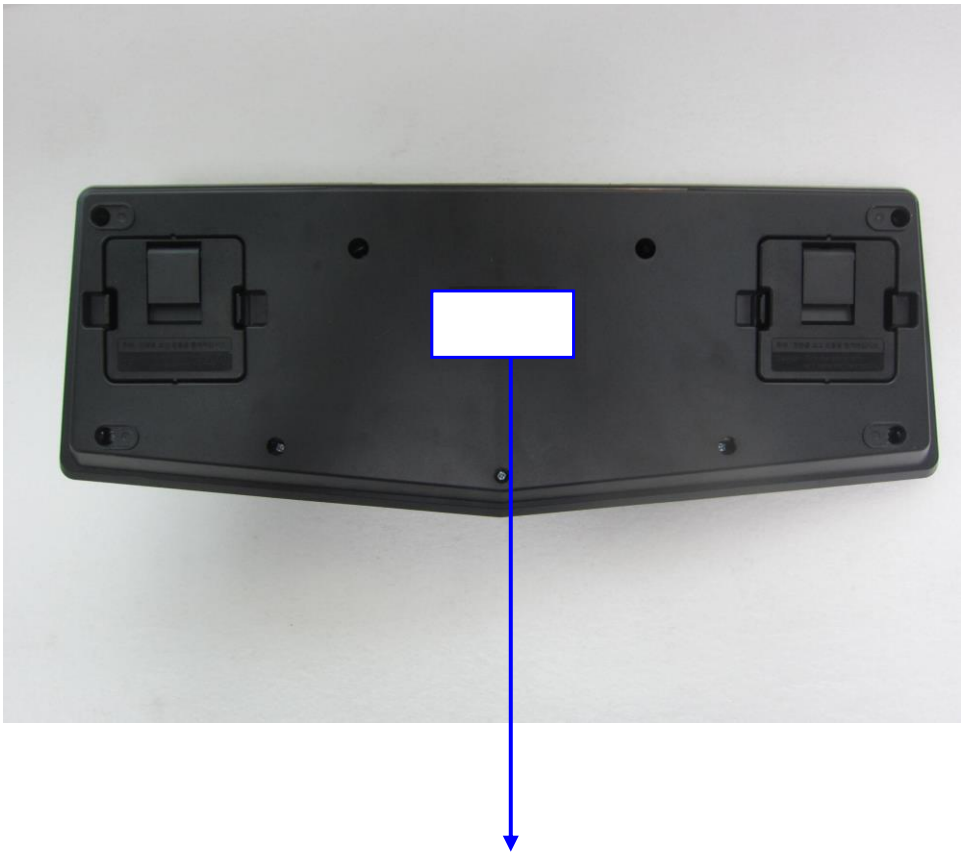


EUT Internal View – Adaptor

(Top)

(Bottom)

Label Photographs



This device complies with part 15 of the FCC Rules. Operation in 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.