CERTIFICATE of EMC Compliance

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Report No	:	**EMC-FCC-2027**
Type of equipment	:	**Network Video Recorder**
Model Name	:	**SRN-4000N**
Applicant	:	**Samsung Techwin Co., Ltd.** **#42 Seongju-Dong, Changwon-Shi,** **Kyungsangnam-Do, Korea**
Manufacturer#1	:	**Samsung Techwin Co., Ltd.** **#42 Seongju-Dong, Changwon-Shi,** **Kyungsangnam-Do, Korea**
Manufacturer#2	:	**TIANJIN SAMSUNG TECHWIN** **OPTO-ELECTRONIC CO., LTD** **No.11 Weiliu Road. Micro-Electronic Industrial** **Park Jingang Road Tianjin 300385, China**
Test standards	:	**FCC part 15 subpart B, Class A**
Classification	:	**Verification**

The above equipment was tested by EMC compliance Testing Laboratory for with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product / system which was tested only.
These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

Yeom, Han-Seok/ Manager

Laboratory

EMC compliance Ltd.
480-5 Sin-dong, Yeongtong-gu,
Suwon-city, Gyeonggi-do, 443-390, Korea

Tel: 82 31 336 9919
Fax: 82 505 299 8311

EMI TEST REPORT

Test report No	:	**EMC-FCC-2027**
Type of Equipment	:	**Network Video Recorder**
Model Name	:	**SRN-4000N**
Applicant	:	**Samsung Techwin Co., Ltd.** **#42 Seongju-Dong, Changwon-Shi,** **Kyungsangnam-Do, Korea**
Manufacturer #1	:	**Samsung Techwin Co., Ltd.** **#42 Seongju-Dong, Changwon-Shi,** **Kyungsangnam-Do, Korea**
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Test standards	:	**FCC part 15 subpart B, Class A**
Classification	:	**Verification**

Test Procedure and Items

- AC Power Line Conducted Emissions Measurement: ANSI C63.4-2009

- Radiated Emissions Measurement : ANSI C63.4-2009

Testing Laboratory	:	**EMC Compliance Ltd.**
Test result	:	**Complied**

The above equipment was tested by EMC compliance Testing Laboratory for compliance with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.
These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

Date of receipt: 2013. 08. 16

Date of testing: 2013. 08. 16

Issued date: 2013. 08. 27

Tested by: JUNG, YOUNG-JUN

Approved by: YEOM, HAN-SEOK

Contents

1. Applicant information

Applicant:	Samsung Techwin Co., Ltd.
Address:	#42 Seongju-Dong, Changwon-Shi,
	Kyungsangnam-Do, Korea
Telephone:	+82-70-7147-8361
Fax:	+82-31-277-2784
E-mail:	js2002.kang@samsung.com
Contact name:	**Kang Jei Soon**

Manufacturer#1:	Samsung Techwin Co., Ltd.
Address:	#42 Seongju-Dong, Changwon-Shi,
	Kyungsangnam-Do, Korea
Telephone:	+82-70-7147-8361
Fax:	+82-31-277-2784
E-mail:	js2002.kang@samsung.com
Contact name:	**Kang Jei Soon**

Manufacturer#2:	TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC CO., LTD
Address:	No.11 Weiliu Road. Micro-Electronic Industrial Park
	Jingang Road Tianjin 300385, China

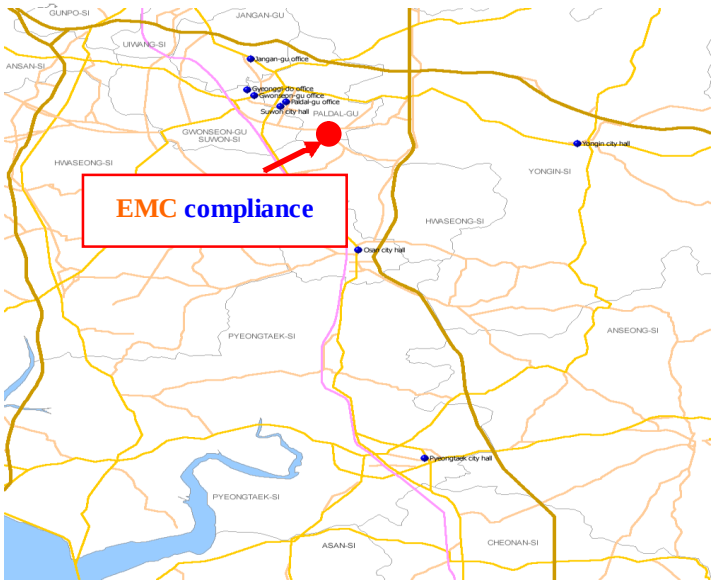
2. Laboratory information

Address

EMC compliance Ltd.
480-5 Sin-dong, Yeongtong-gu, Suwon-city, Gyeonggi-do, 443-390, Korea
Telephone Number: 82 31 336 9919
Facsimile Number: 82 505 299 8311

FCC CAB.: KR0040
VCCI Registration No. : R-3327, G-198, C-3706, T-1849
Industry Canada Registration No.: 8035A
KOLAS NO.: 231

SITE MAP



3. Test system configuration

3.1 Operation environment

		Temperature	Humidity	Pressure
Chamber(10 m)	:	24 °C	38 % R.H.	-
Shielded room(CE)	:	25 °C	46 % R.H.	-

Test site

These testing items were performed following locations;

Test item	Test site
Conducted Emission	Shielded Room
Radiated Emission	10 m Chamber

3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.
The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

Conducted emission measurement (C.L: Approx 95 %, k = 2)		
Shielded Room (CE#1)	9 ㎑ ~ 150 ㎑: ± 3.82 dB 150 ㎑ ~ 30 ㎒: ± 3.43 dB	
Shielded Room (CE#2)	9 ㎑ ~ 150 ㎑: ± 3.82 dB 150 ㎑ ~ 30 ㎒: ± 3.43 dB	
Shielded Room (CE#3)	9 ㎑ ~ 150 ㎑: ± 4.00 dB 150 ㎑ ~ 30 ㎒: ± 3.63 dB	
Radiated Emission measurement (C.L: Approx 95 %, k = 2)		
10 m Chamber (#F4)	30 ㎒ ~ 300 ㎒	3 m: + 4.56 dB, - 4.58 dB 10 m: + 4.56 dB, - 4.56 dB
	300 ㎒ ~ 1 000 ㎒	3 m: + 4.84 dB, - 4.85 dB 10 m: + 4.71 dB, - 4.72 dB
	1 ㎓ ~ 6 ㎓	3 m: + 6.19 dB, - 6.20 dB
	6 ㎓ ~ 18 ㎓	3 m: + 6.41 dB, - 6.53 dB
10 m Chamber (#F2)	30 ㎒ ~ 300 ㎒	3 m: + 4.86 dB, - 4.88 dB 10 m: + 4.86 dB, - 4.86 dB
	300 ㎒ ~ 1 000 ㎒	3 m: + 4.98 dB, - 4.99 dB 10 m: + 4.85 dB, - 4.87 dB
	1 ㎓ ~ 6 ㎓	3 m: + 6.19 dB, - 6.20 dB
	6 ㎓ ~ 18 ㎓	3 m: + 6.41 dB, - 6.53 dB

4. Description of E.U.T.

4.1 General information

Display		
Network Camera	Inputs	Max. 64CH
	Resolution	CIF ~ 5MP
	Protocols	Onvif(Samsung, Axis, Sony, Panasonic, Vivotek), Samsung(SVNP)
Live	Local Display	HDMI/VGA
	Multi-Channel Display	[Local Monitor] 1 / 4 / 9 / 16 / Auto Seauence (4 page view) [Web] 1 / 4 / 9 / 16 / 32 / 64 / Auto Sequence
Performance		
Operating System	Embedded	Linux
Record	Compression	H.264, MPEG-4, MJPEG
	Recording Bandwidth	400Mbps(2MP 64camera real-time recording)
	Resolution	CIF ~ 5MP
	Type	Normal, Scheduled, Event (Pre/Post)
	Event Trigger	- Alarm Input(8) - Video Loss - Camera Event(Sensor, MD, Video Analytics) - Internal VA(upto 16ch selectable, Advanced MD, Object Classfication(People, Car, Anything, Color(TBD))
	Event Action	e-Mail, PTZ Preset, Alarm Out, Buzzer, Monitor Out
Search & Play	Playback Bandwidth	100Mbps(16ch simultaneously)
	Mode	Date & Time(Calendar)/Event Log list
	Simultaneous playback	16 channels(Local Monitor) 64 ch(Web, CMS)
	Resolution	CIF ~ 5MP
	Playback Control	Fast Forward/Fast Backward, Move one step up/Move one step down
Storage	Built-In	N/A
	Extended	12 (Hot Swap)
	External(DAS)	N/A
	External(NAS)	NAS(iSCSI) : vessRaid 1840i
	RAID	RAID-5/6
Backup	File backup(Via Web)	BU/Exe(GUI), JPG, AVI(Network)
	Function	Singlei channel Play, Date-Time/Title display
Sensor	I/O	8/4 (NO/NC Selectable)
Audio	Input	64 channels (network)
	Compression	G.711, G.726
	Audio Communication	2-Way
Network		
Interface		RJ-45, Gigabit Ethernet x4
Protocol		TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, DHCP, PPPoE, SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, ONVIF, HTTPS, SNMP, ONVIF
DDNS		Samsung iPolis DDNS
Transmission Bandwidth		MAX 400Mbps, Unlimited/2/1.5/1 Mbps,800/600/500/400/300/ 200/100/50kbps
Max Remote Users		Search(3) / Live unicast(10) / Live multicast(20)
IP Version		IPv4/v6
Security		User access Log IP Filtering 802.1x Encryption
Web Viewer	Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Denish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek, Finnish, Norwegian
	OS	Supported OS : Window XP(service pack 2 or above), Vista, 7, 8, Mac OS X(10.4.8 or above) , 64bit
	Web Browser	MS IE 7.x, 8.x, 9.x, Google Chrome, Safari, Firefox 2.x, 3.x
Viewer Software	Type	SSM., Webviewer, Smart Viewer
	CMS Support	Support SDK/CGI

Functions		
Camera Setup	Register	Auto, Manual
	Setup Items	- IP Address, Add Profile Edit, Bitrate, Compression, GOP, Quality - Video Setup(MD, VA, ABF, Brightness/Contrast, Flip/Mirror, IRIS, WDR, D&N, SSNR, Shutter)
PTZ	Control	Via Webviewer
	Preset	256 Presets
Smart phone	Support Model	I-Phone, Android
	Control	Live(4ch) / Playback(1ch)
Indicator/Interface		
Front	Indicator	HDD Action LED 12EA, RAID Status LED 3EA
	Switch	PWR Switch 1EA Key-Lock 1EA
Connectors	VGA	1 EA
	HDMI	1 EA
	Audio	Out(1EA, RCA, Line)
	DVD	N/A
	Serial	N/A
	Ethernet	RJ-45(4EA, GbE) w/ LINK/ACT LED
	Alarm	In(8EA, Terminal Block) Out(4EA, Terminal Block)
	USB	2EA
	Reset	Switch(1EA)
	Power Cord	2x AC Inlet
System		
Log	Log List	Max. 20000 (System Log, Event Log each)
Environmental		
Operating Temperature / Humidity		+0°C to +40°C
Humidity		20% ~ 85%
Electrical		
Power		100 to 240 VAC ±10%; 50/60 Hz, 4~1.5A(Dual SMPS)
Power Consumption		TBD
Mechanical		
Color / Material		Black / Metal
Dimension (WxHxD)		W440.0 x H132.0 x D426.8 mm (3U)
Weight		TBD
Standards		
Regulation		R82(France), EN-50132
Approvals	Safety	UL,KC
	EMC	CE, FCC, KCC, CCC, Gost-R

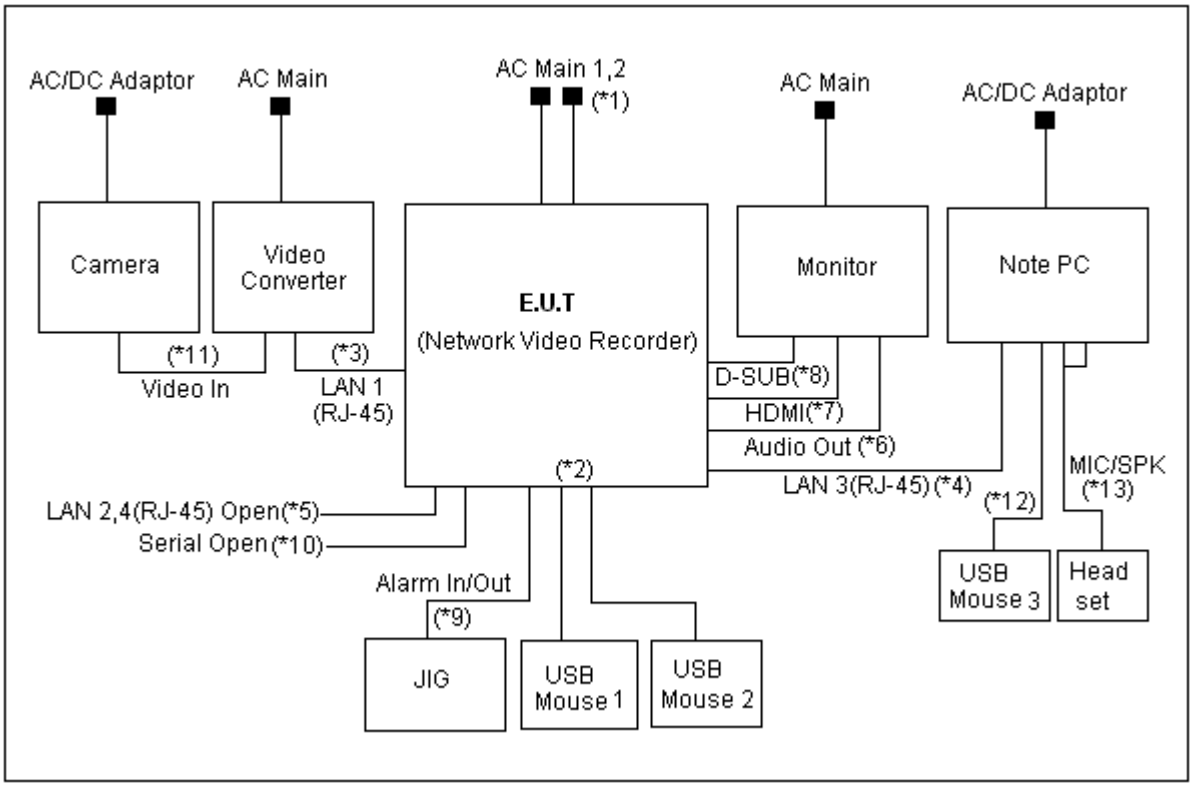
4.2 Product description

Type of product	Network Video Recorder
Model name (Basic)	SRN-4000N
Model name (Variant)	-
Difference	-
Trade name	-
Serial no	Engineering Sample
Testing voltage	120 V, 60 Hz
Product rating	AC 100 - 240 V, 50 / 60 Hz
Internal clock frequency	Above 108 ㎒
Note	-

4.3 Auxiliary equipments

Type	Model / Part #	Serial number	Manufacturer
Note PC	Xnote	-	LG
Monitor	CF23MS	NC07H1KZ602039A	SAMSUNG
USB Mouse 1	1088	8165900106545	Microsoft
USB Mouse 2	1088	8165906051226	Microsoft
USB Mouse 3	1088	8165906050941	Microsoft
Headset	SHS-250V	-	SAMSUNG
JIG	-	-	-
Camera	SCO-2370	-	Samsung Techwin
Video Converter	IPE-1600R	-	Samsung Techwin

4.4 Test configuration



Note	Start		End		Cable	
*	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	**EUT** (Network Video Recorder)	Power 1,2	AC Main 1,2	Power 1,2	1.4	Non-Shield
2		USB 1,2	USB Mouse 1,2	USB 1,2	1.8	Shield
3		LAN 1(RJ-45)	Video Converter	LAN(RJ-45)	3.0	Non-Shield
4		LAN 3(RJ-45)	Note PC	LAN(RJ-45)	3.0	Non-Shield
5		LAN 2,4(RJ-45)	Open	-	3.0	Non-Shield
6		Audio Out	Monitor	Audio In	3.0	Shield
7		HDMI	Monitor	HDMI	1.6	Shield
8		D-SUB	Monitor	D-SUB	1.4	Shield
9		Alarm In/Out	JIG	Alarm In/Out	3.0	Non-Shield
10		Serial	Open	-	1.4	Non-Shield
11	Video Converter	Video In	Camera	Video Out	2.0	Shield
12	Note PC	USB	USB Mouse 3	USB	1.8	Shield
13		MIC/SPK	Headset	MIC/SPK	2.0	Non-Shield

4.5 Operating conditions

The EUT was configured as normal intended use.

Test mode	Normal operating
HDMI Mode, D-SUB Mode	Web viewer camera monitoring test.
	Ping test.
	Alarm test. (Used JIG)

5. Summary of test results

In the above configuration tested, The EUT complied with the requirement of the specification

5.1 Summary of EMI emission test results

FCC Part 15 Subpart B (Class A)

ANSI C63.4 – 2009

Applied	Test items	Test method	Result
☒	Conducted Emission	ANSI C63.4 – 2009	Complied
☒	Radiated Emission	ANSI C63.4 – 2009	Complied

6. Test results

6.1 Conducted Emission

Test specification	FCC Part 15, Section 15.107(b), Class A		
Testing voltage	120 V, 60 Hz		
Test facility	Shielded room (CE#1)		
Date	2013. 08. 16		
Temperature (°C)	25 °C	Humidity (% R.H.)	46 % R.H.
Remarks	Complied		

6.1.1 Limits of conducted emission measurement

Frequency [㎒]	Class A (dB(㎶))		Class B (dB(㎶))	
	Quasi-peak	Average	Quasi-peak	Average
0.15 ~ 0.5	79	66	66 ~ 56 *	56 ~ 46*
0.5 ~ 5	73	60	56	46
5 ~ 30	73	60	60	50

*The limit decreases linearly with the logarithm of frequency.

6.1.2 Measurement procedure

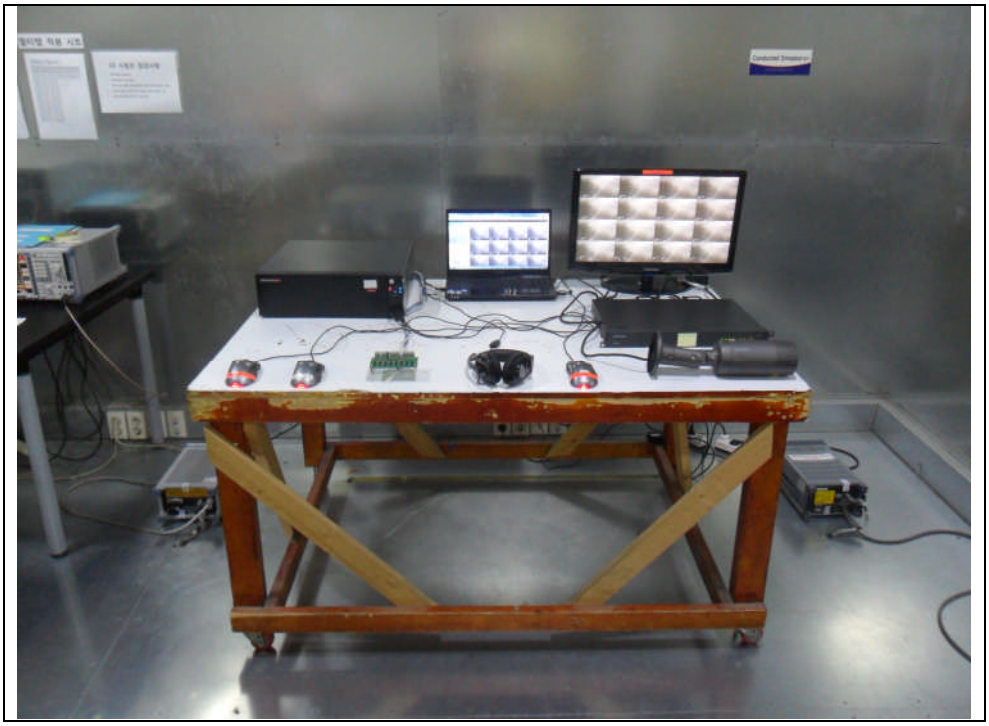
The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground plane. The LISN power was filtered. Each EUT power lead, except ground (safety) lead was individually connected through a LISN to input power source. EUT signal cables that hung closer than 0.4 m to the Horizontal metal ground 0.3 m ~ 0.4 m long. The power cord was bundles in the center. All peripheral equipment was powered from a sub LISN. The LISN and ISN were positioned 0.8 m from the EUT. Peak and Average detection were used in preliminary testing and Quasi-peak and Average detections were used at final measurement.

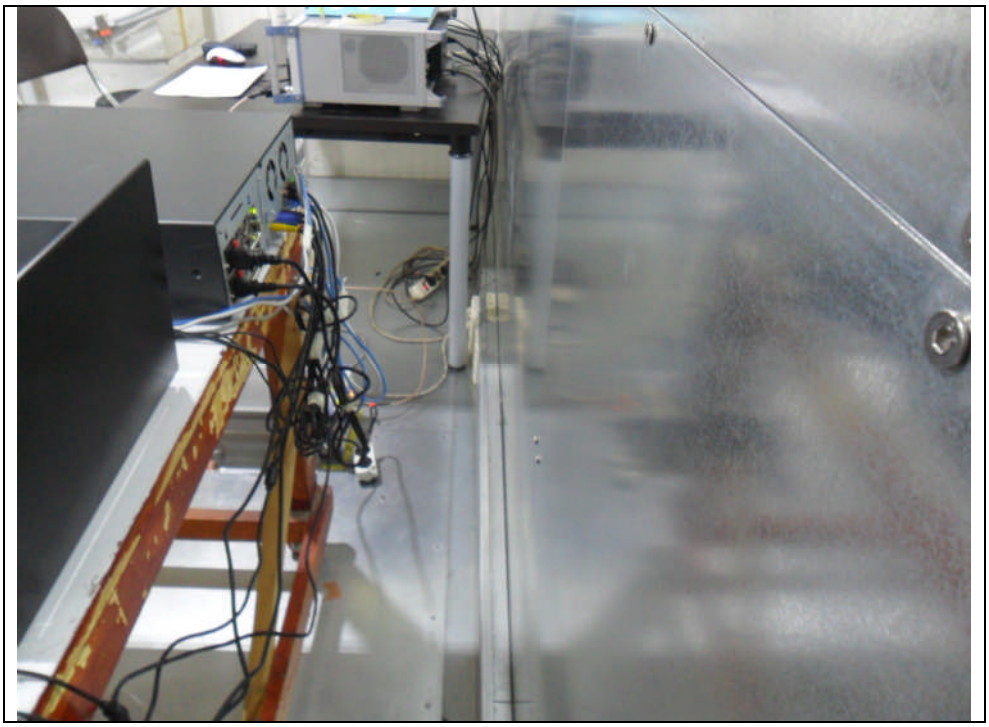
6.1.3 Used equipments

Equipment	Model	Serial No.	Makers	Next Cal. Date	Used
Test Receiver	ESHS30	828765/009	R&S	2013.10.22	☐
Test Receiver	ESCI7	100732	R&S	2014.02.18	☐
Test Receiver	ESCI	100001	R&S	2014.07.25	☐
Test Receiver	ESCI	100710	R&S	2013.11.06	☒
LISN	ENV216	101358	R&S	2013.10.22	☒
LISN	ESH3-Z5	100267	R&S	2014.07.08	☒

6.1.4 Photographs of test setup

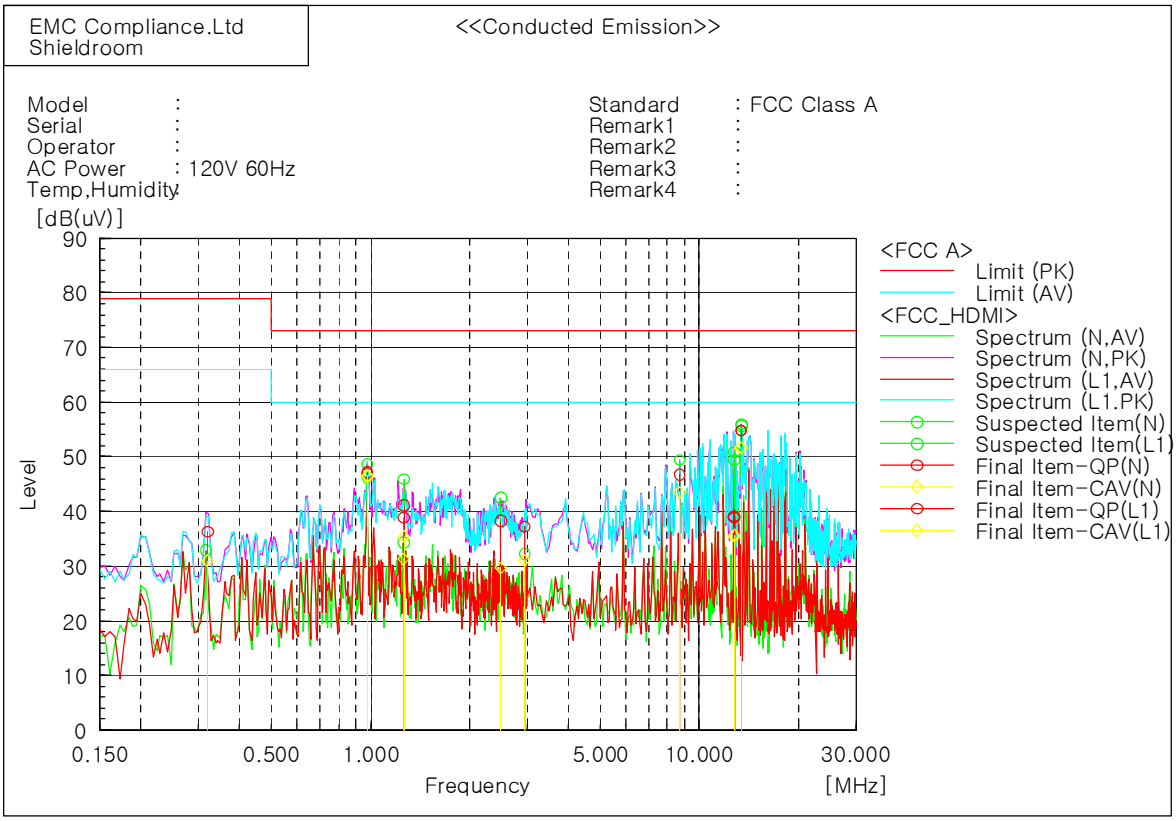
* AC Main





6.1.5 Conducted emission measurement result

* AC Main _ HDMI Mode (SRN-4000N)



Final Result

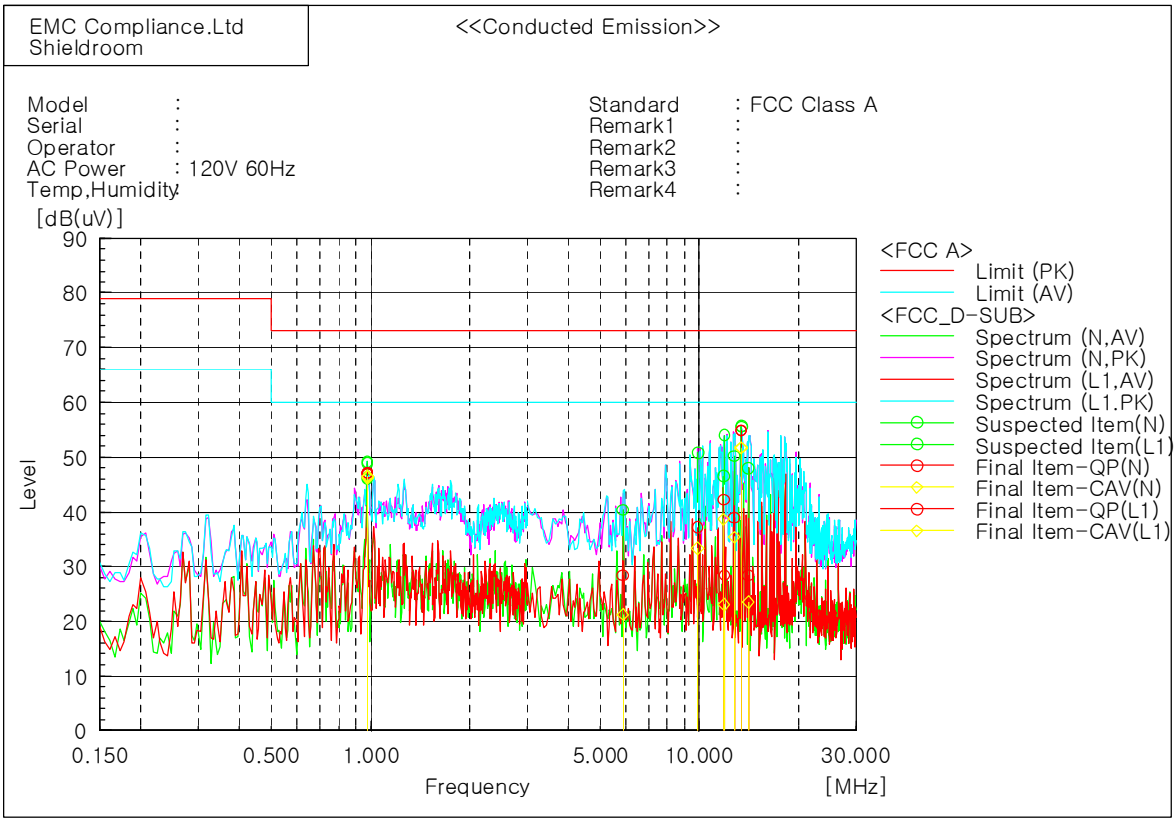
--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.98068	37.4	36.9	9.7	47.1	46.6	73.0	60.0	25.9	13.4
2	0.98188	37.2	36.6	9.7	46.9	46.3	73.0	60.0	26.1	13.7
3	2.4901	28.6	20.1	9.6	38.2	29.7	73.0	60.0	34.8	30.3
4	2.9462	27.6	21.5	9.6	37.2	31.1	73.0	60.0	35.8	28.9
5	12.77734	29.1	25.6	9.8	38.9	35.4	73.0	60.0	34.1	24.6
6	13.41972	45.0	41.8	9.8	54.8	51.6	73.0	60.0	18.2	8.4

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.31976	26.3	21.1	9.9	36.2	31.0	79.0	66.0	42.8	35.0
2	1.26266	29.3	21.8	9.6	38.9	31.4	73.0	60.0	34.1	28.6
3	1.26716	31.5	25.8	9.6	41.1	35.4	73.0	60.0	31.9	24.6
4	8.71928	37.0	33.8	9.7	46.7	43.5	73.0	60.0	26.3	16.5
5	12.77806	29.3	25.8	9.8	39.1	35.6	73.0	60.0	33.9	24.4
6	13.41876	45.0	41.8	9.8	54.8	51.6	73.0	60.0	18.2	8.4

* AC Main _ D-SUB Mode (SRN-4000N)



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.98004	37.4	36.8	9.7	47.1	46.5	73.0	60.0	25.9	13.5
2	0.98216	37.1	36.5	9.7	46.8	46.2	73.0	60.0	26.2	13.8
3	5.8615	18.5	11.4	9.8	28.3	21.2	73.0	60.0	44.7	38.8
4	11.90588	18.8	13.3	9.7	28.5	23.0	73.0	60.0	44.5	37.0
5	12.77716	29.0	25.6	9.8	38.8	35.4	73.0	60.0	34.2	24.6
6	13.41926	45.1	41.9	9.8	54.9	51.7	73.0	60.0	18.1	8.3

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.9801	37.4	36.8	9.7	47.1	46.5	73.0	60.0	25.9	13.5
2	0.9801	37.3	36.7	9.7	47.0	46.4	73.0	60.0	26.0	13.6
3	9.9075	27.6	23.7	9.6	37.2	33.3	73.0	60.0	35.8	26.7
4	11.86088	32.5	28.9	9.7	42.2	38.6	73.0	60.0	30.8	21.4
5	13.41918	45.0	41.8	9.8	54.8	51.6	73.0	60.0	18.2	8.4
6	14.12148	18.6	13.7	9.8	28.4	23.5	73.0	60.0	44.6	36.5

6.2 Radiated Emission

Test specification	FCC Part 15, Section 15.109(g), Class A		
Testing voltage	120 V, 60 Hz		
Test facility	10 m Chamber (#F2)		
Test distance	10 m, 3 m		
Date	2013. 08. 16		
Temperature (°C)	24 °C	Humidity (% R.H.)	38 % R.H.
Remarks	Complied		

6.2.1 Limits of radiated emission measurement

Frequency [㎒]	Class A (dB(㎶/m)) @ 10 m	Class B (dB(㎶/m)) @ 3 m
30-88	39	40
88-216	43.5	43.5
216-960	46.4	46
Above 960	49.5	54

*** Note- Alternative standard: CISPR, Pub. 22 ***

6.2.2 Measurement procedure

The test was done at a 10 m chamber with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane.
Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

6.2.3 Used equipments

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
Test Receiver	ESCI7	100732	R&S	2014.02.18	☐
Test Receiver	ESCI	100001	R&S	2014.07.25	☐
Test Receiver	ESCI	100710	R&S	2013.11.06	☒
Bi-Log Antenna	VULB 9168	440	SCHWARZBECK	2013.10.04	☒
Amplifier	310N	293004	SONOMA INSTRUMENT	2013.11.06	☒
3 dB Attenuator	8491B	22981	HP	2014.03.19	☒
Antenna Mast	MA4000-EP	303	Innco Systems	-	☒
Turn Table	DT2000S-1t	079	Innco Systems	-	☒
Amplifier	8449B	3008A02343	AGILENT	2013.11.06	☒
Horn ANT	3115	00155772	ETS	2015.03.20	☒
Spectrum Analyzer	FSP7	100289	R&S	2013.12.14	☒

6.2.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

Result = M.R + C.F(A.F + C.L +3 dB Att – A.G)

M.R = Meter Reading

C.F = Correction Factor

A.F = Antenna Factor

C.L = Cable Loss

A.G= Amplifier Gain

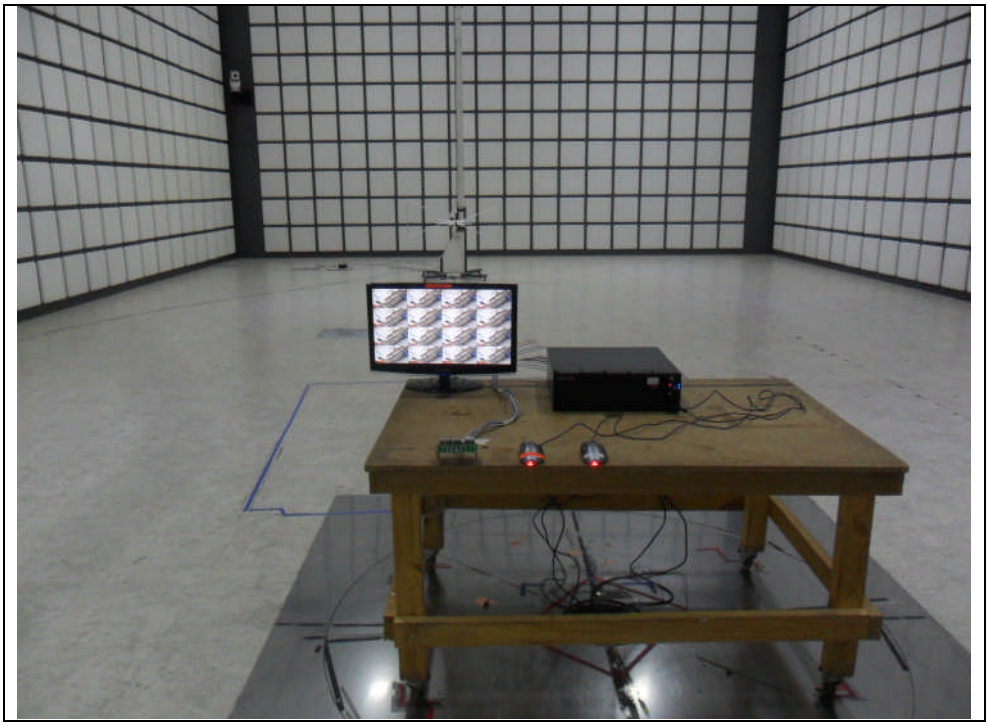
3 dB Att = 3 dB Attenuator

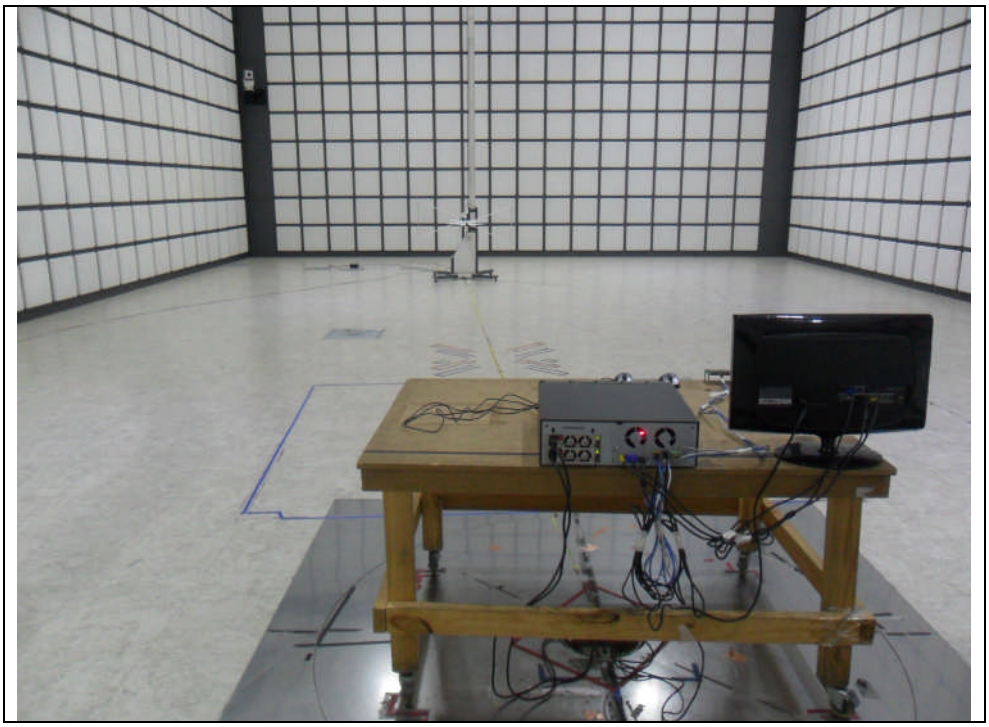
If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 3 dB, A.G 35 dB

The result is 30 + 12 + 5 + 3 – 35 = 15 dB(μV/m)

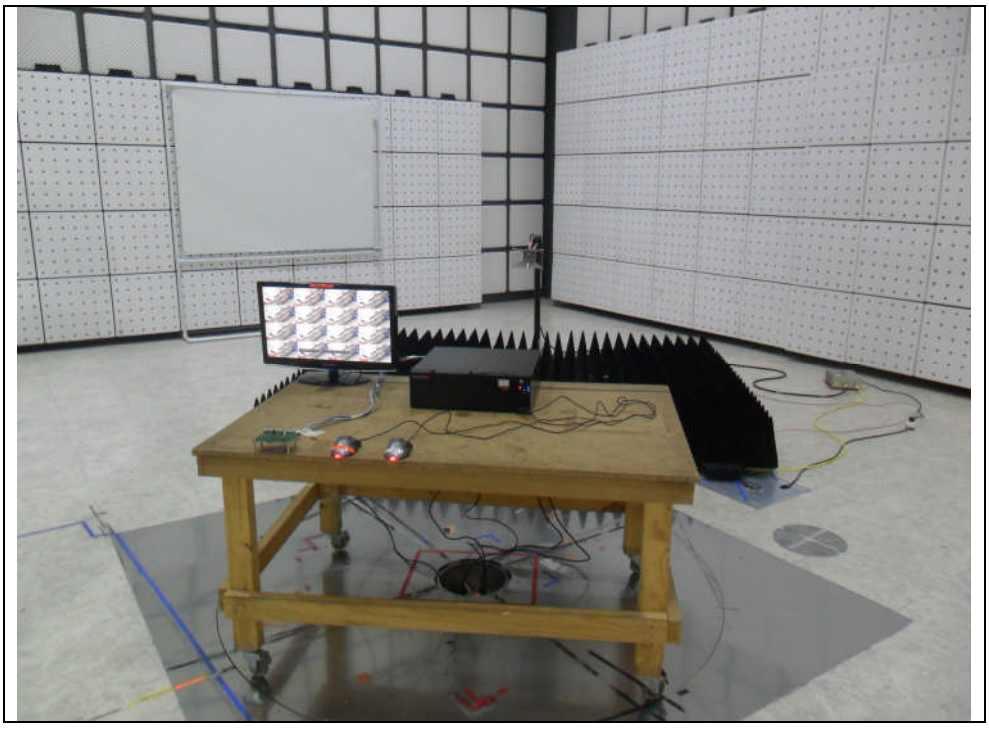
6.2.5 Photographs of test setup

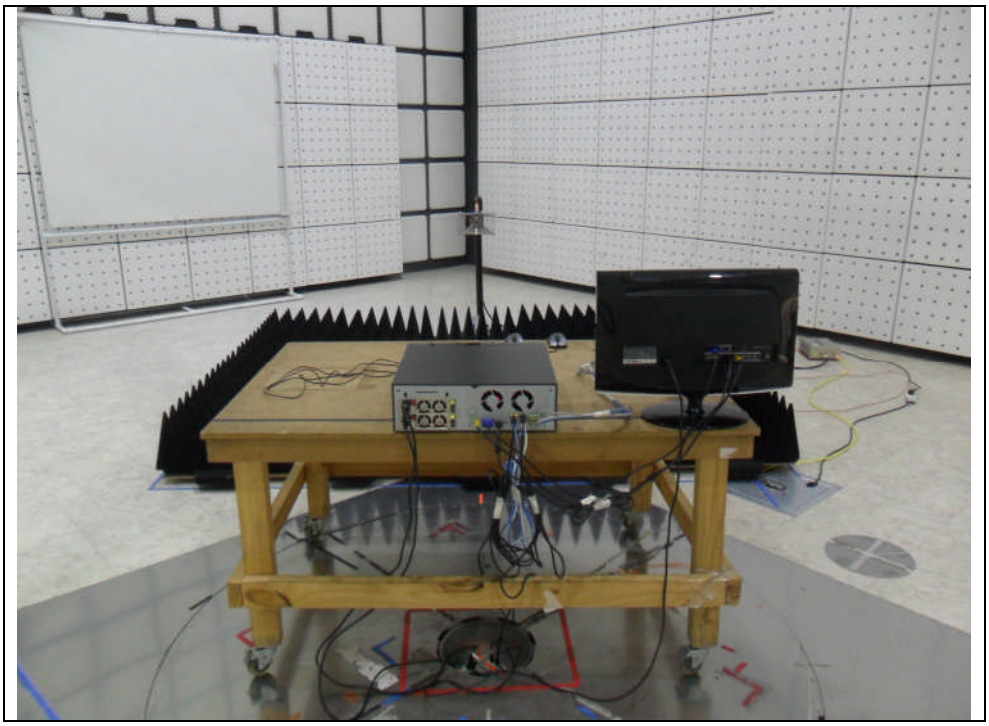
* 30 ㎒ ~ 1 ㎓





* 1 ㎓ ~ 5 ㎓

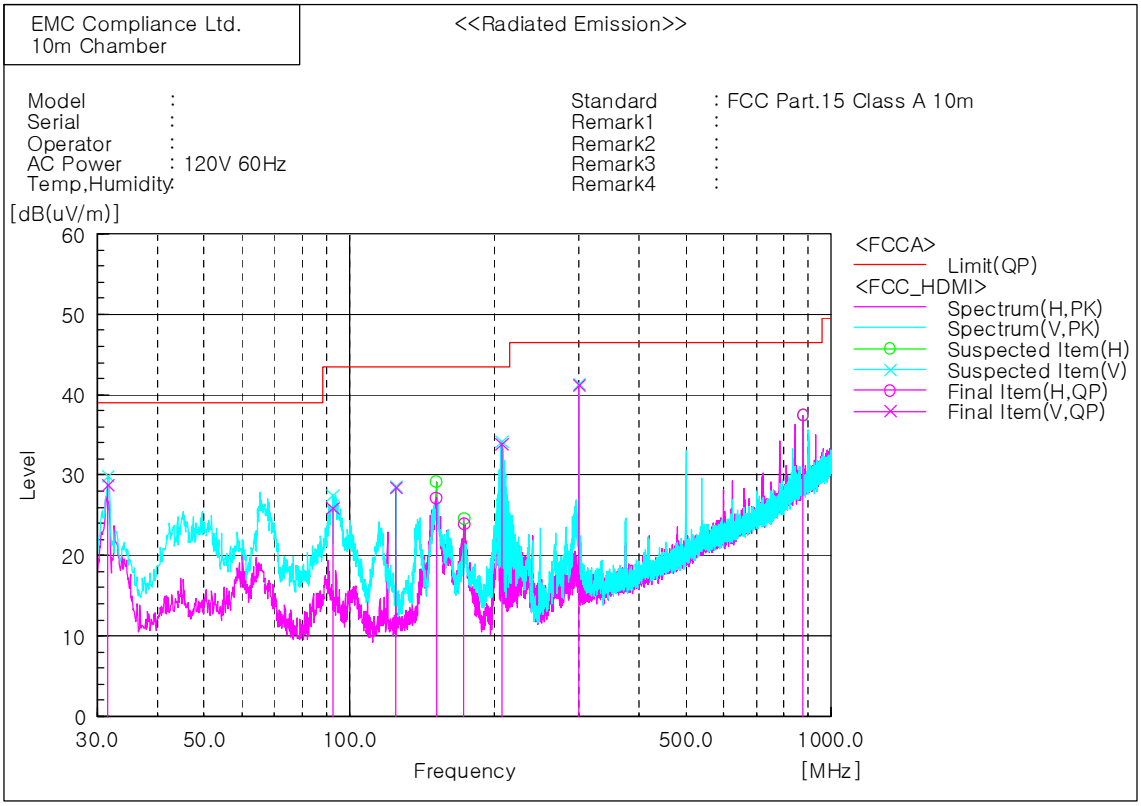




6.2.6 Radiated emission measurement result

*** Graph and Data**

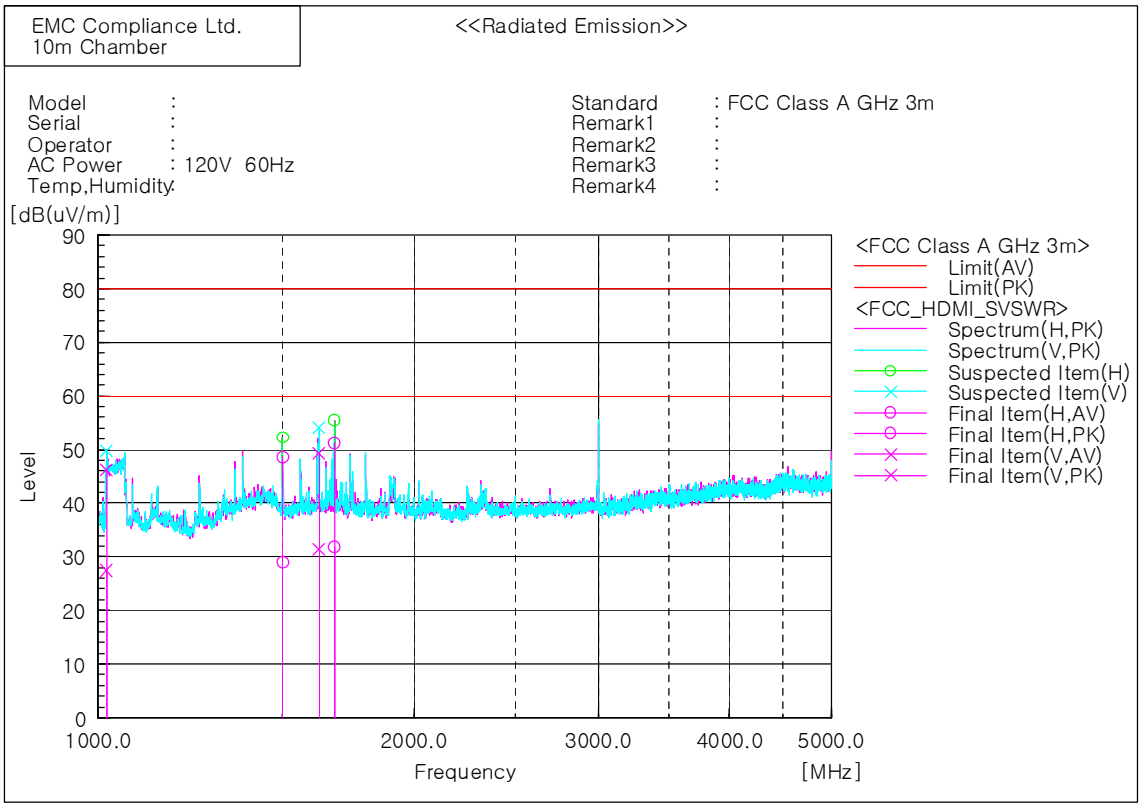
* 30 ㎒ ~ 1 ㎓_ HDMI Mode (SRN-4000N)



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	31.576	V	43.9	-15.1	28.8	39.0	10.2	400.0	312.4	
2	92.565	V	44.2	-18.3	25.9	43.5	17.6	100.0	280.3	
3	124.939	V	42.6	-14.2	28.4	43.5	15.1	100.0	251.8	
4	151.614	H	39.6	-12.4	27.2	43.5	16.3	400.0	205.1	
5	173.318	H	36.6	-12.7	23.9	43.5	19.6	400.0	139.2	
6	207.510	V	48.4	-14.6	33.8	43.5	9.7	100.0	357.3	
7	300.024	V	51.5	-10.4	41.1	46.5	5.4	100.0	20.9	
8	875.112	H	33.7	3.7	37.4	46.5	9.1	100.0	175.1	

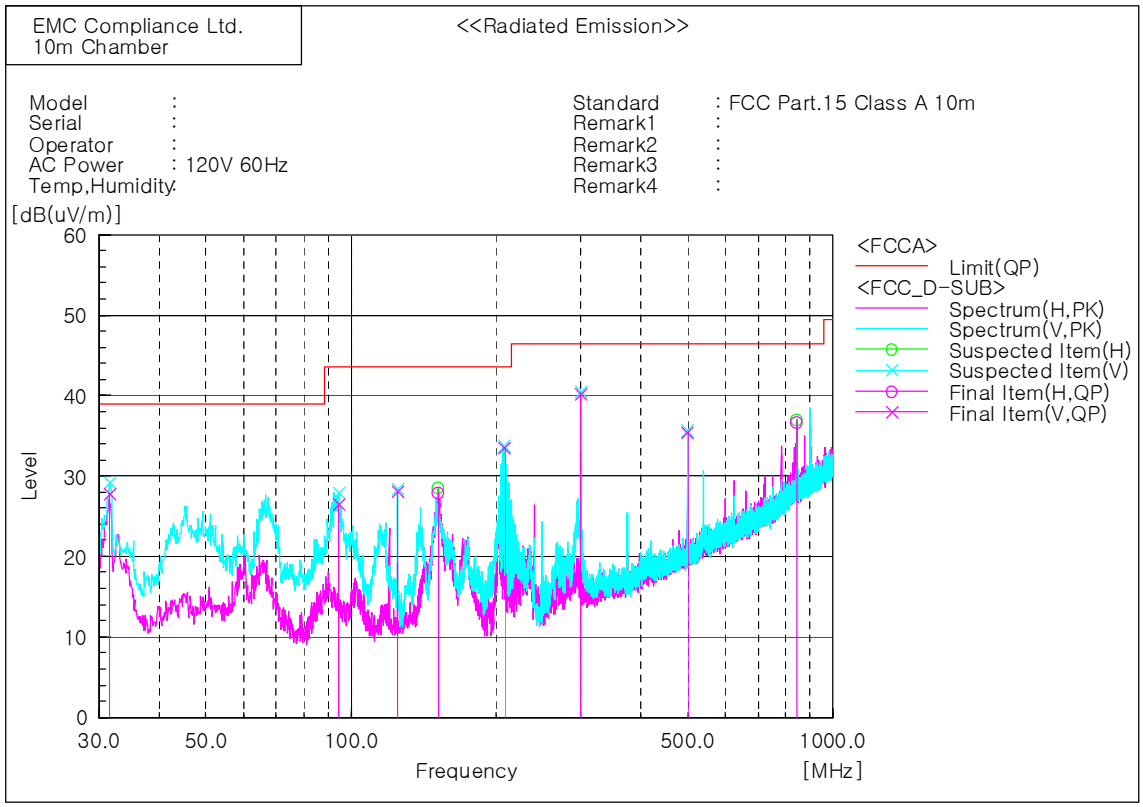
* 1 ㎓ ~ 5 ㎓_ HDMI Mode (SRN-4000N)



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1019.375	V	36.4	55.2	-8.9	27.5	46.3	60.0	80.0	32.5	33.7	100.0	359.3	
2	1500.000	H	33.5	53.1	-4.5	29.0	48.6	60.0	80.0	31.0	31.4	100.0	38.6	
3	1625.000	V	34.8	52.7	-3.3	31.5	49.4	60.0	80.0	28.5	30.6	100.0	12.0	
4	1680.000	H	35.1	54.6	-3.3	31.8	51.3	60.0	80.0	28.2	28.7	100.0	146.7	

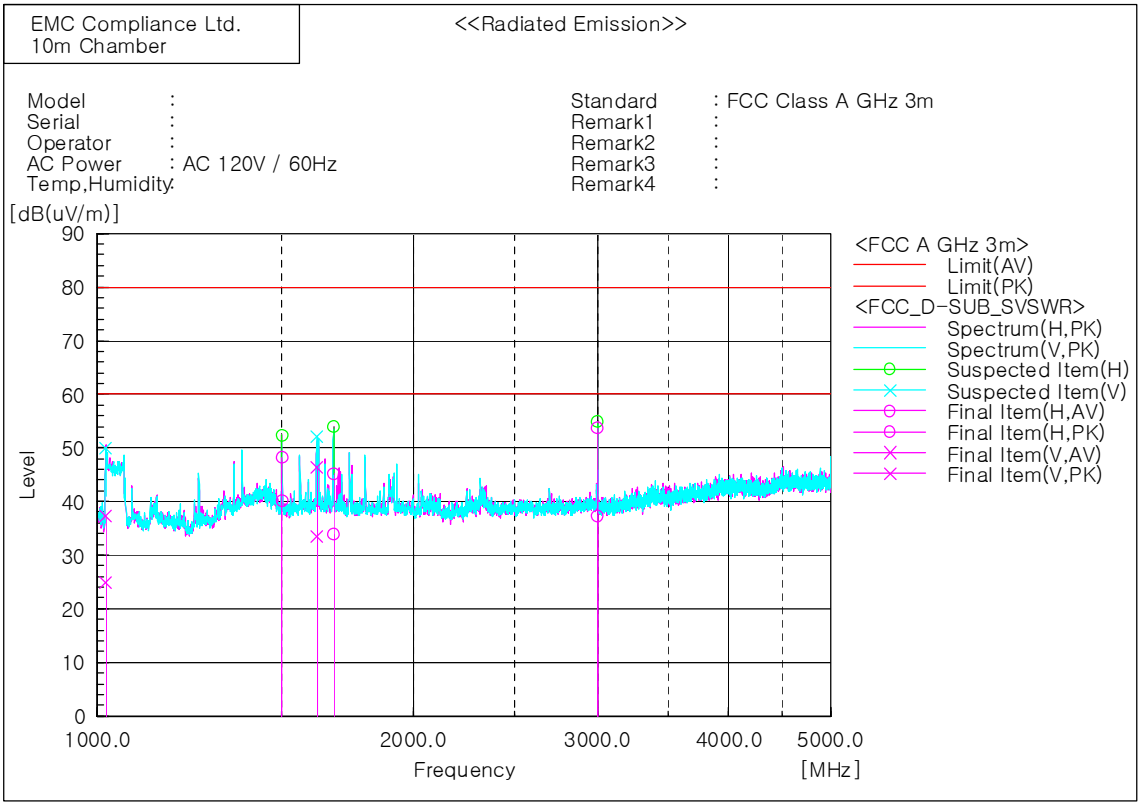
* 30 ㎒ ~ 1 ㎓_ D-SUB Mode (SRN-4000N)



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	31.576	V	42.8	-15.1	27.7	39.0	11.3	400.0	144.3	
2	94.384	V	44.7	-18.2	26.5	43.5	17.0	100.0	247.8	
3	124.939	V	42.3	-14.2	28.1	43.5	15.4	100.0	229.8	
4	151.978	H	40.2	-12.3	27.9	43.5	15.6	400.0	212.4	
5	208.238	V	48.0	-14.5	33.5	43.5	10.0	100.0	14.1	
6	300.024	V	50.6	-10.4	40.2	46.5	6.3	100.0	34.4	
7	499.965	V	39.9	-4.5	35.4	46.5	11.1	100.0	142.6	
8	841.648	H	33.7	3.0	36.7	46.5	9.8	100.0	260.1	

* 1 ㎓ ~ 5 ㎓_ D-SUB Mode (SRN-4000N)



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1019.375	V	33.9	46.1	-8.9	25.0	37.2	60.0	80.0	35.0	42.8	100.0	50.2	
2	1500.000	H	44.7	52.7	-4.5	40.2	48.2	60.0	80.0	19.8	31.8	100.0	37.8	
3	1619.375	V	36.8	49.8	-3.3	33.5	46.5	60.0	80.0	26.5	33.5	100.0	191.4	
4	1680.625	H	37.2	48.5	-3.3	33.9	45.2	60.0	80.0	26.1	34.8	100.0	158.0	
5	2999.375	H	36.3	52.7	1.0	37.3	53.7	60.0	80.0	22.7	26.3	100.0	158.0	

7. E.U.T. photographs

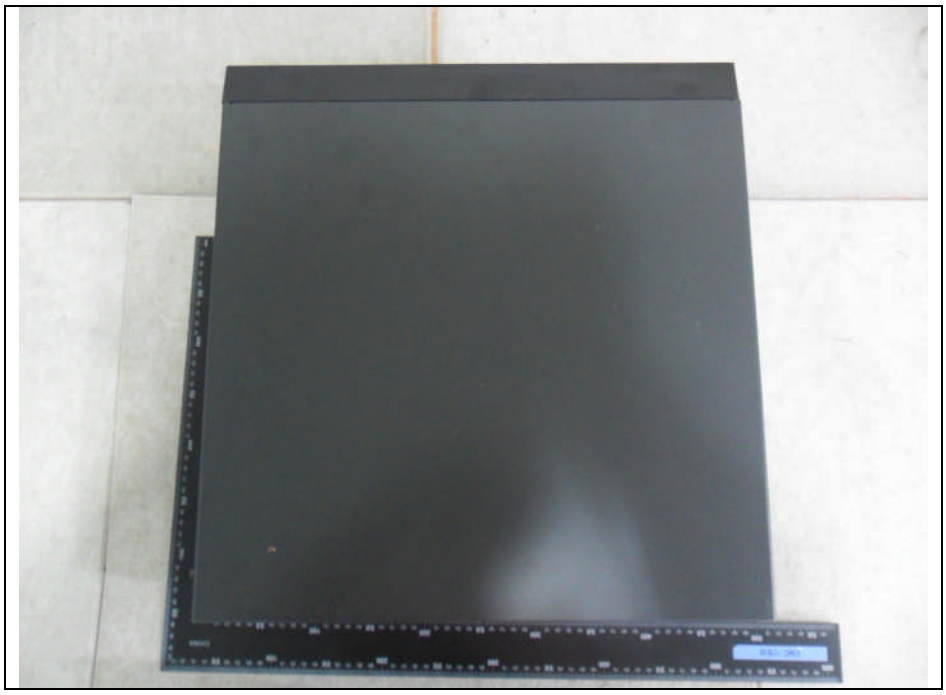
Front View

Rear View

Left View

Right View

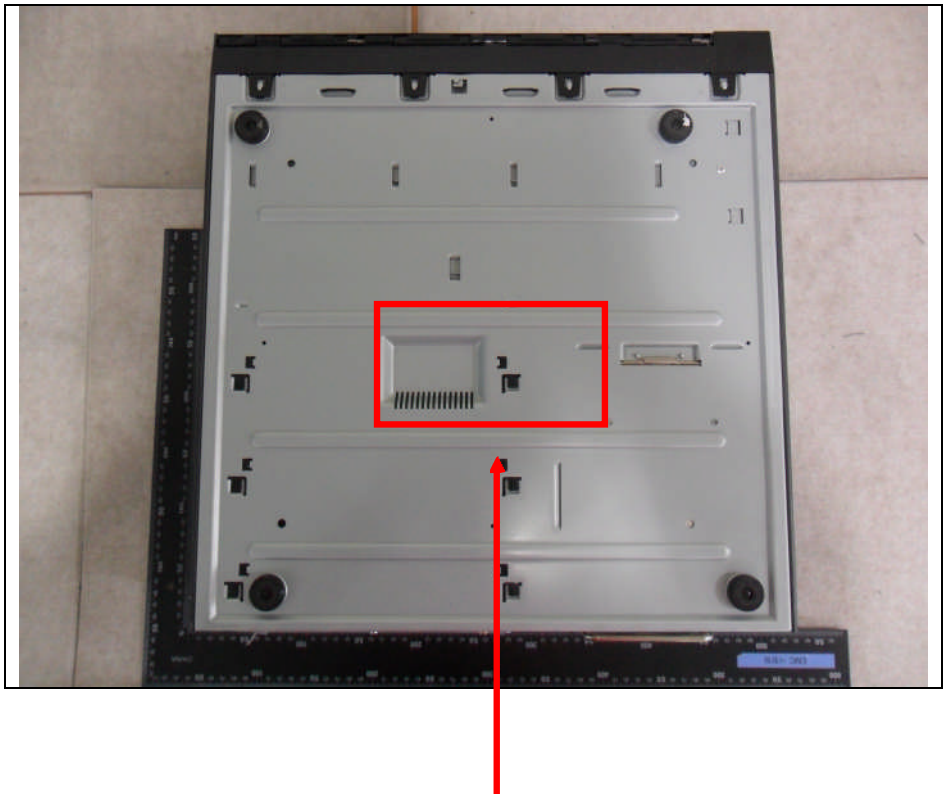
Top View



Bottom View

Port

Label

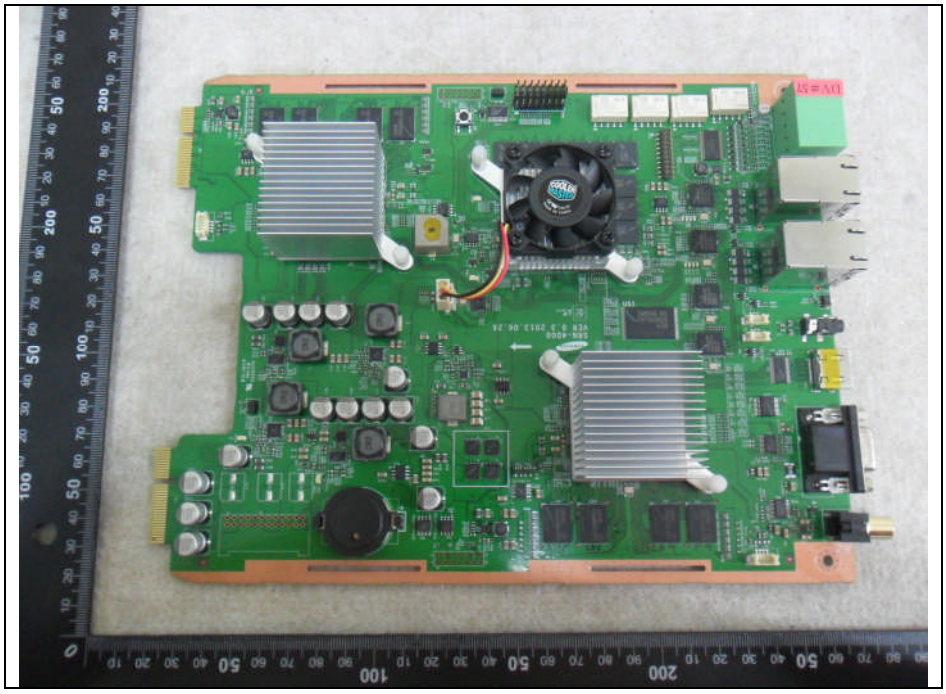


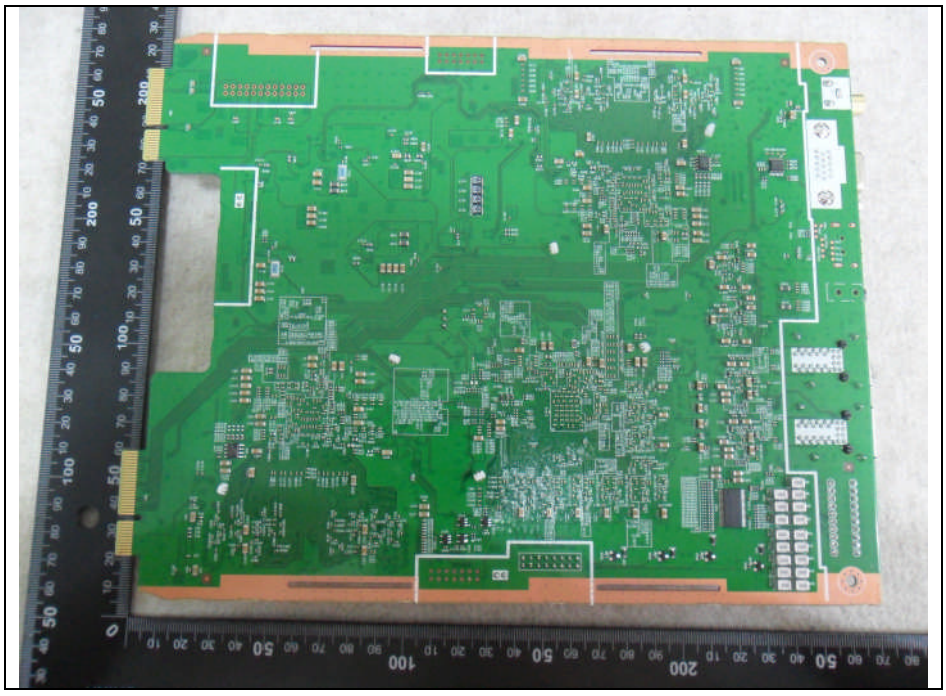
FCC Label Location

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

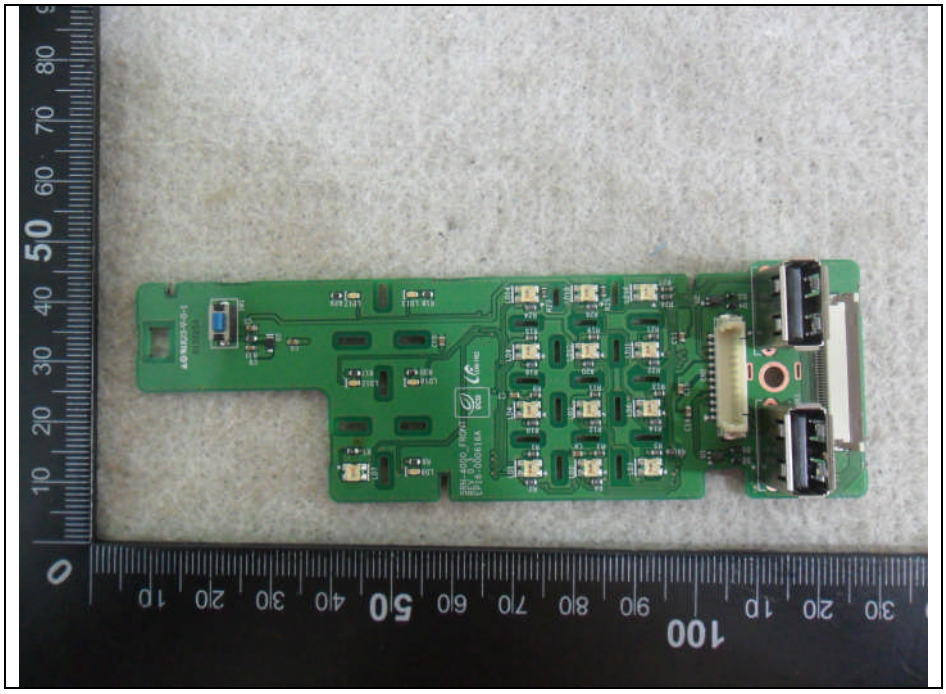
Inside

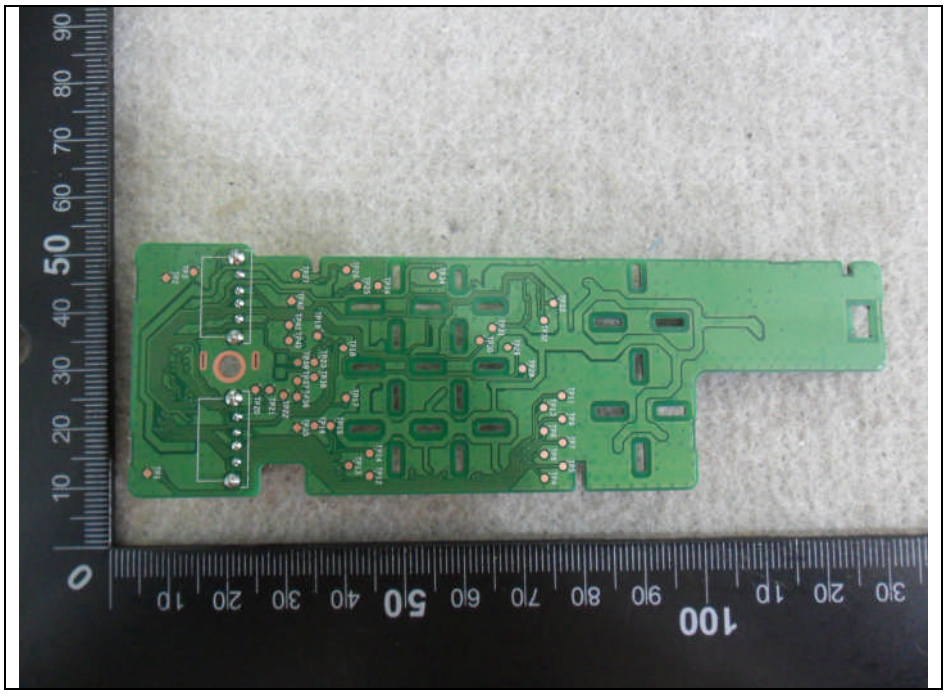
Main Board





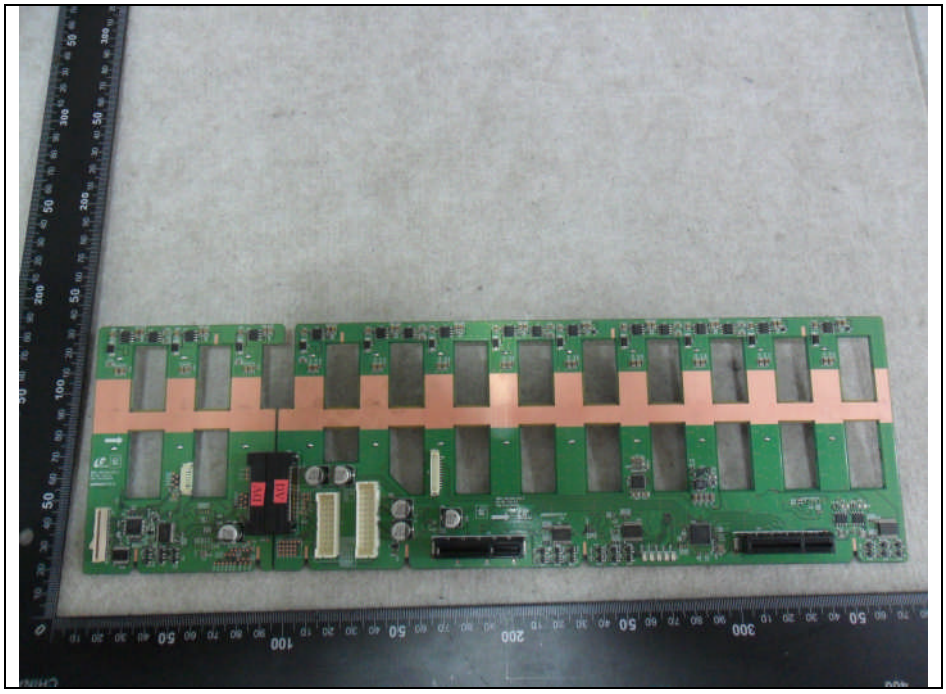
Front Board

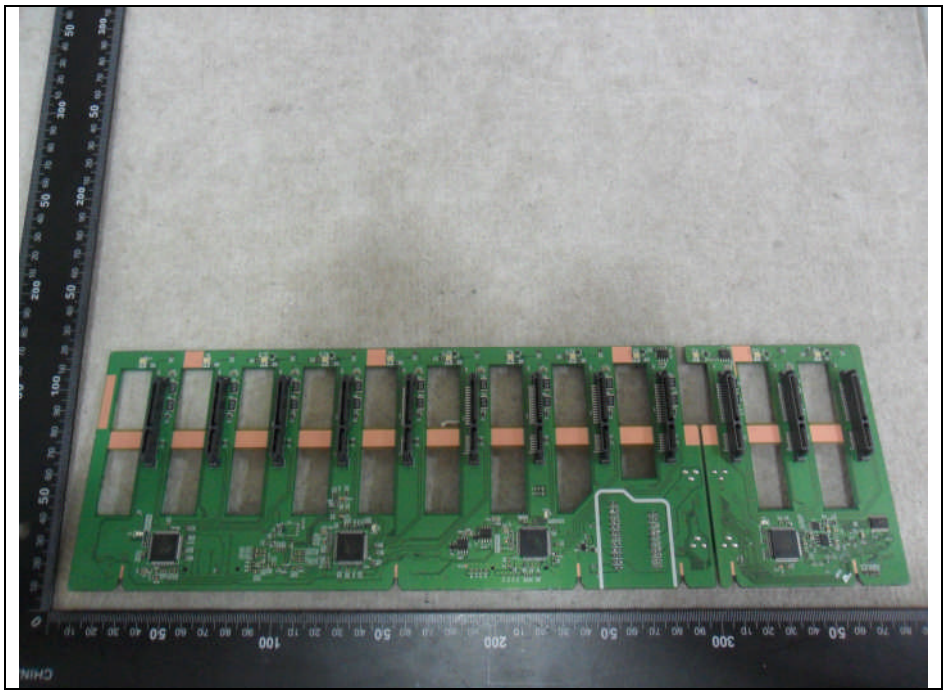




HDD (1000 GB*12EA)

Terminal Board





Power*2EA