

TESTING CERTIFICATE

EMC Compliance Ltd.

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Certificate No.: EMC-CE-4478

Page(1) / (39) Pages



1. Applicant

Name: Samsung Techwin Co., Ltd.
Address: #42 Seongju-Dong, Changwon-Shi,
Kyungsangnam-Do, Korea
Date of Receipt: December 17, 2013

2. Manufacturer

Name#1: Samsung Techwin Co., Ltd.
Name#2: TIANJIN SAMSUNG TECHWIN
OPTO-ELECTRONIC CO., LTD

3. Use of Report:

Completed report

4. Test Sample:

Digital Video Recorder, SRD-1642P

5. Date of Test:

December 20, 2013

6. Test method used:

AS/NZS CISPR 22:2009+A1:2010, Class A

7. Testing Environment:

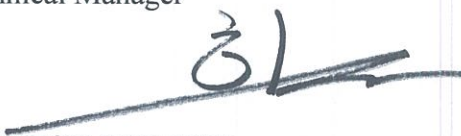
Temperature: $(18.6 \pm 0.7) ^\circ\text{C}$,
Relative Humidity: $(19.55 \pm 1.65) \% \text{ R.H.}$

8. Test Results:

Refer to page 12 ~ page 25
(Measurement uncertainty: Refer to page 6)

This result shown in this report refer only to the sample(s) tested unless otherwise stated.

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EMC Compliance Laboratory.

Affirmation	Tested by  Name: PARK, GUN-SU	Technical Manager  Name: YEOM, HAN-SEOK
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The above test certificate is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2013.12.30

EMC Compliance Ltd.

Accredited by KOLAS, Republic of KOREA



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1. Applicant information

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2. Laboratory information

Address

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Telephone Number: 82 31 336 9919

Facsimile Number: 82 505 299 8311

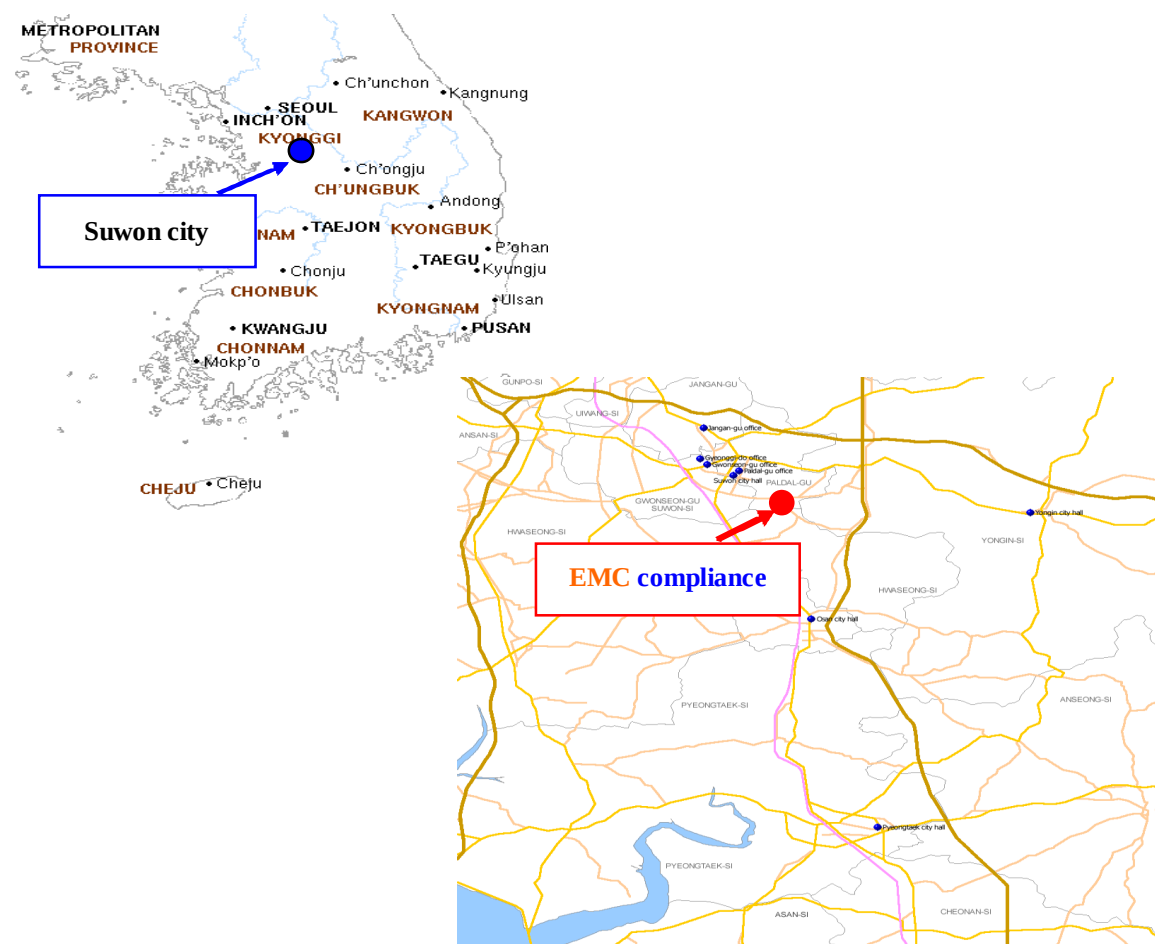
FCC CAB.: KR0040

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)	: 17.9 °C	17.9 % R.H.	-
Shielded room(CE)	: 19.3 °C	21.2 % 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 kHz ~ 150 kHz: ± 3.82 dB	
	150 kHz ~ 30 MHz: ± 3.43 dB	
Shielded Room (CE#2)	9 kHz ~ 150 kHz: ± 3.82 dB	
	150 kHz ~ 30 MHz: ± 3.43 dB	
Shielded Room (CE#3)	9 kHz ~ 150 kHz: ± 4.00 dB	
	150 kHz ~ 30 MHz: ± 3.63 dB	
Radiated Emission measurement (C.L: Approx 95 %, k = 2)		
10 m Chamber (#F4)	30 MHz ~ 300 MHz	3 m: + 4.56 dB, - 4.58 dB 10 m: + 4.56 dB, - 4.56 dB
	300 MHz ~ 1 000 MHz	3 m: + 4.84 dB, - 4.85 dB 10 m: + 4.71 dB, - 4.72 dB
	1 GHz ~ 6 GHz	3 m: + 6.19 dB, - 6.20 dB
10 m Chamber (#F2)	30 MHz ~ 300 MHz	3 m: + 4.86 dB, - 4.88 dB 10 m: + 4.86 dB, - 4.86 dB
	300 MHz ~ 1 000 MHz	3 m: + 4.98 dB, - 4.99 dB 10 m: + 4.85 dB, - 4.87 dB
	1 GHz ~ 6 GHz	3 m: + 6.19 dB, - 6.20 dB

4. Description of E.U.T.

4.1 General information

		SRD-1642
Video	Inputs	16 composite video 0.5~1 Vpp, 75 ohm
	Resolution	960x480 NTSC, 960x576 PAL / 720x480 NTSC, 720x576 PAL
Live	Frame rate	480fps NTSC, 400fps PAL
	Resolution	960x480 NTSC, 960x576 PAL, 704x480 NTSC, 704x576 PAL
	Multi Screen display	1/4/6/8/9/13/16/SEQUENCE/PIP
Performance		
Operating System	Embedded	Linux
Recording	Compression	H.264
	Record Rate	NTSC: Up to 120fps @ 960x480 / PAL: Up to 100fps @ 960x576
		NTSC: Up to 120fps @ 704x480 / PAL: Up to 100fps @ 704x576
		NTSC: Up to 240fps @ 704x240 / PAL: Up to 200fps @ 704x288
		NTSC: Up to 480fps @ 352x240 / PAL: Up to 400fps @ 352x288
	Mode	NTSC: Manual, Schedule (Continuous/Event), Event(Pre/Post) PAL: Manual, Schedule (Continuous/Event), Event(Pre/Post)
	Event	Video Loss, Motion(Level 1~10), Alarm
	Overwrite modes	Continuous, Selectable (Stop/Continuous)
	Pre-alarm	Up to 5 sec.
	Post-Alarm	Up to 6 hour, (5,10,20,30 sec,1,3,5,10,20 min,1,2,3,4,5,6hour)
	Search & Playback	Search mode
Playback function		Fast Forward/Backward (x2,x4,x8,x16,x32,x64) *Backward Play with I-frame Only, Slow Forward/Backward (x1/2,x1/4,x1/8)
Network (IPv4)	Transmission speed	960H/4CIF/2CIF/CIF(480fps NTSC, 400fps PAL)
	Bandwidth	Up to (32)Mbps, Unlimited(8M)/2/1.5/1 Mbps/800/600/500/400/300/200/100/50 kbps
	Bandwidth control	Automatic
	Stream	CIF (H.264)
	Remote users Maximum	4 Persons (Search up to (2), Live Unicast/Live Multicast available)
	Protocol support	TCP/IP,UDP,DHCP,PPPoE,SMTP,NTP,HTTP,DDNS,RTP,RTSP,SNMP
	Monitoring	Webviewer,CMS(Smart viewer,Net-I)
Smart phone	Platform	Android , iOS
	Protocol support	RTP,RTSP,HTTP,CGI
	Remote users Maximum	Live(1)
Storage	Internal HDD	Up to 2 SATA HDDs
	External (e-SATA Interface)	Not Support
	DVD Writer (Back-up)	Not Support
	USB (Back-up)	2 USB Ports
	File Format (Back-up)	BU(DVR Player), EXE(Include Player), AVI
Security	Password Protection	1 Admin, 10 Group , 10 User per 1 Group
	Data Authentication	Watermark
Interface		
Monitors	VGA	1 VGA (1280x720, 1280x1024, 1920x1080)
	HDMI	1 HDMI (1280x720, 1280x1024, 1920x1080)
	Main Composite	1 BNC (1 Vp-p, 75 ohm)
	Spot Composite	Analogo Spot (1 BNC, 1 Vp-p, 75 ohm)
	Loop Outputs	Not Support
Audio	Inputs/Output	4 line in / 1 line out
	Compression	G.711
	Sampling rate	8KHz
Alarm	Inputs/Outputs	Terminal 16 inputs (NO/NC) / Terminal 2 relav outputs (NO), Rating : 24VDC/1A, 125V AC/0.5A
	Remote notification	Notification via e-mail
Connections	Ethernet	1 RJ45 10/100 Base-T
	Serial interface	RS-485(Half) for PTZ, System Keyboard, RS-232 Support for POS Interface (VSI-Pro)
	USB	USB 2.0, 2 ports (Front)
	e-SATA	Not Support
	Application Support	Mouse, Remote Controller
	Protocol support	Samsung-E/ Samsung-T/ Pelco-D/ Pelco-p/Panasonic/ Phillips/ AD/ DIAMOND/ ERNA/ KALATEL/ VCL TP/VICON/ ELMO PTZ Control via Coaxial Cable (Samsung CCVC, Pelco-C (Coaxitron))
General		
Electrical	Input Voltage/Current	DC12V Adaptor 4A,100~250VAC, 50~60Hz, 48watt
	Power consumption	Normal 19 W (with 1x HDD)
Environmental	Operating Temperature/Humidity	+0°C to +40°C (+32°F to +104°F)/ 20%RH to 85%RH
Mechanical	Dimension (W x H x D)	375x52x255mm
	Weight (With hard disks)	Approx.1.7kg
	Rack mount kit	2EA
Lauguage		English, French, German, Spanish, Italian, Russian, Polish, Czech, Turkish, Netherlands Portuguese, Swedish, Danish, Rumania, Serbia, Croatia, Hungary, Greek, Finnish, Norwegian, Korean, Japanese, Chinese(Traditioal), Thailand , Taiwanese(25 Language)

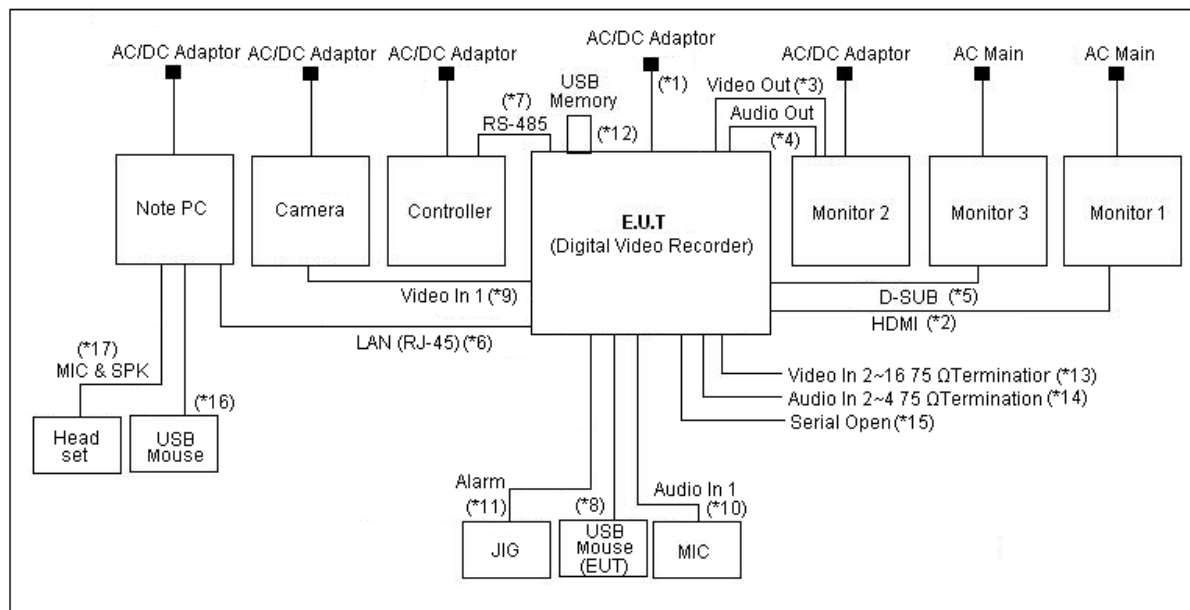
4.2 Product description

Type of product	Digital Video Recorder
Model name (Basic)	SRD-1642P
Model name (Variant)	-
Difference	-
Trade name	-
Serial no	Engineering Sample
Testing voltage	240 V, 50 Hz
Product rating	* AC/DC Adaptor (ADS-65LSI-12-1 12048G) Input: 100 - 240 V, 50/60 Hz, 1.5 A Output: DC 12 V, 4.0A
Internal clock frequency	Above 108 MHz
Note	* AC/DC Adaptor was provided by the manufacturer.

4.3 Auxiliary equipments

Type	Model / Part #	Serial number	Manufacturer
Monitor 1	2693HM	N935H1KQ700971L	SAMSUNG
Monitor 2	PM24KO	YER8HVDBA00057E	SAMSUNG
Monitor 3	LML15MP	N077H4VR301393	SAMSUNG
Note PC	Satellite L730	3B134626W	TOSHIBA
Controller	SCC-1000	EW089028913	SAMSUNG
Camera	KCC-D27	C05071800091	KOCOM
USB Mouse	SMH-210UB	M2UBTAKQ335306R	SAMSUNG
Headset	SHS-250V	-	SAMSUNG
MIC	-	-	-
JIG	-	-	-
USB Memory	-	-	-

4.4 Test configuration



Note	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (Digital Video Recorder)	Power	AC/DC Adaptor	Power	1.5	Non-Shield
2		HDMI	Monitor 1	HDMI	1.5	Shield
3		Video Out	Monitor 2	Video In	3.0	Shield
4		Audio Out	Monitor 2	Audio In	3.0	Shield
5		D-SUB	Monitor 3	D-SUB	1.5	Shield
6		LAN(RJ-45)	Note PC	LAN(RJ-45)	3.0	Non-Shield
7		RS-485	Controller	RS-485	3.0	Non-Shield
8		USB	USB Mouse (EUT)	USB	1.5	Shield
9		Video In 1	Camera	Video Out	3.0	Shield
10		Audio In 1	MIC	Audio Out	3.0	Shield
11		Alarm	JIG	Alarm	3.0	Non-Shield
12		USB	USB Memory	USB	Direct	-
13		Video In 2~16	75 Ω Termination	-	3.0	Shield
14		Audio In 2~4	75 Ω Termination	-	3.0	Shield
15		Serial	Open	-	2.0	Shield
16	Note PC	USB	USB Mouse	USB	1.5	Shield
17		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
1	Monitoring test.
	Ping test.
	Alarm test.
	Audio In/Out test.
	RS-485 test.

5. Summary of test results

5.1 Summary of EMI emission test results

Applied	Test items	Test method	Result
☒	Conducted Emission	AS/NZS CISPR 22:2009+A1:2010, Class A	12 Page ~ 19 Page
☒	Radiated Emission	AS/NZS CISPR 22:2009+A1:2010, Class A	20 Page ~ 25 Page

6. Test results

6.1 Conducted Emission

Test specification	AS/NZS CISPR 22:2009+A1:2010, Class A		
Testing voltage	240 V, 50 Hz		
Test facility	Shielded room (CE#1)		
Date	2013. 12. 20		
Temperature (°C)	19.3 °C	Humidity (% R.H.)	21.2 % R.H.
Remarks	Complied		

6.1.1 Limits of conducted emission measurement

☒ AC main

Frequency MHz	Class A $\text{dB}\mu\text{V}$		Class B $\text{dB}\mu\text{V}$	
	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.

☒ Telecommunication

Frequency MHz	Class A Voltage Limits $\text{dB}\mu\text{V}$		Current Limits $\text{dB}\mu\text{A}$	
	Quasi-Peak	Average	Quasi-Peak	Average
0.15 ~ 0.5	97 to 87	84 to 74	53 to 43	40 to 30
0.5 ~ 30	87	74	43	30
Frequency MHz	Class B Limits $\text{dB}\mu\text{V}$		Current Limits $\text{dB}\mu\text{A}$	
	Quasi-Peak	Average	Quasi-Peak	Average
0.15 ~ 0.5	84 to 74	74 to 64	40 to 30	30 to 20
0.5 ~ 30	74	64	30	20

* The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz

* The current and voltage disturbance limits are derived for use with an impedance stabilization Network (ISN) which presents a common mode (asymmetric mode) impedance of 150 Ω to the telecommunication port under test (conversion factor is $20 \log_{10} 150/I = 44 \text{ dB}$).

6.1.2 Measurement procedure

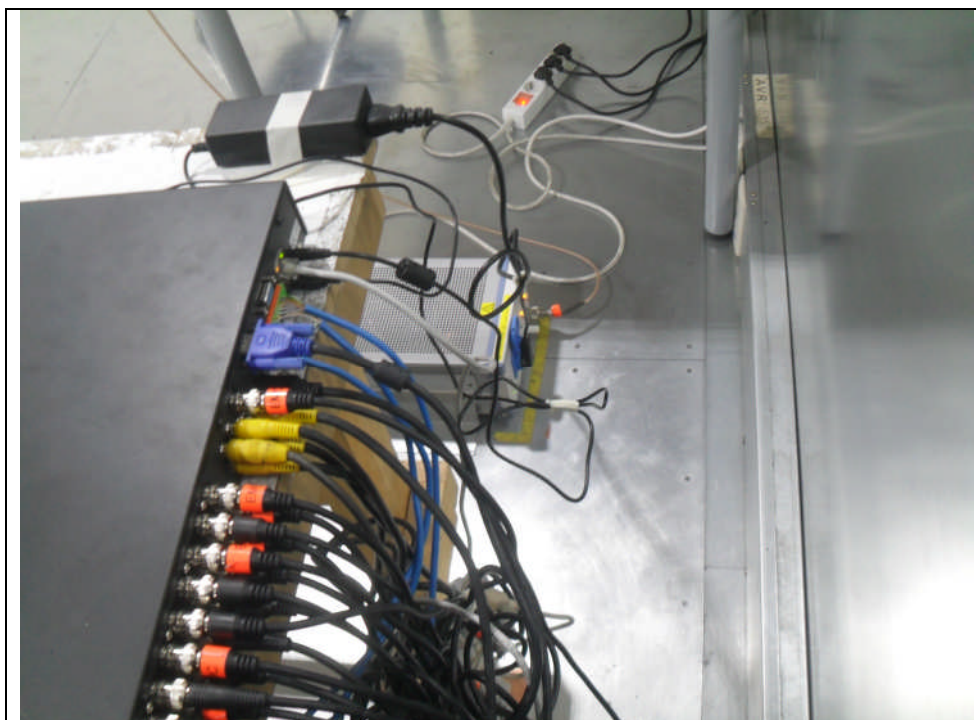
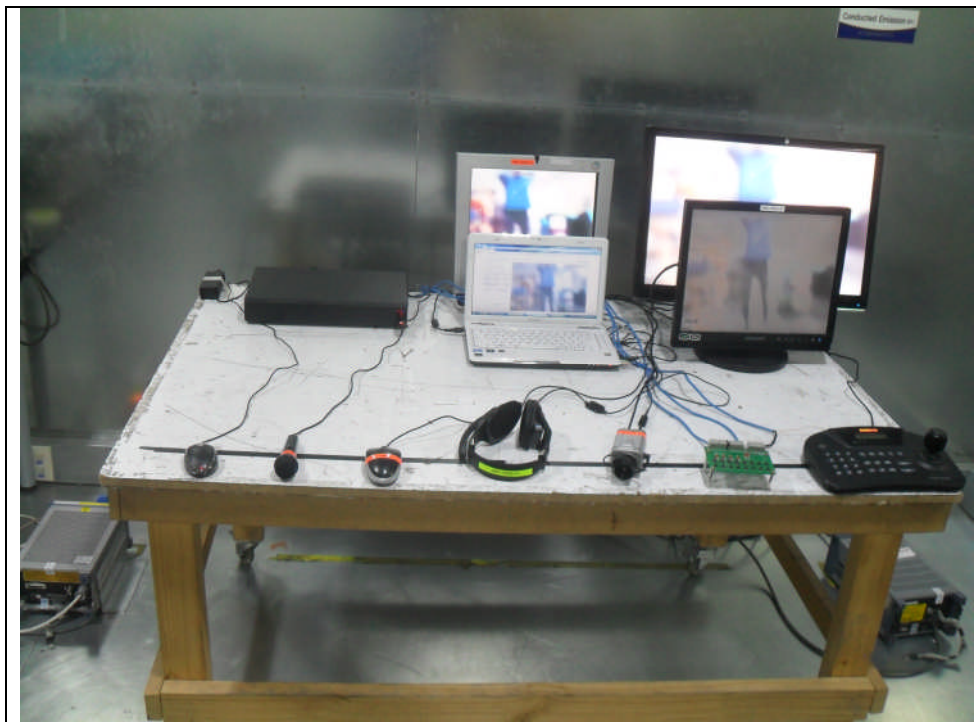
The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground 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. Both lines of power cord, hot and neutral, were measured.

6.1.3 Used equipments

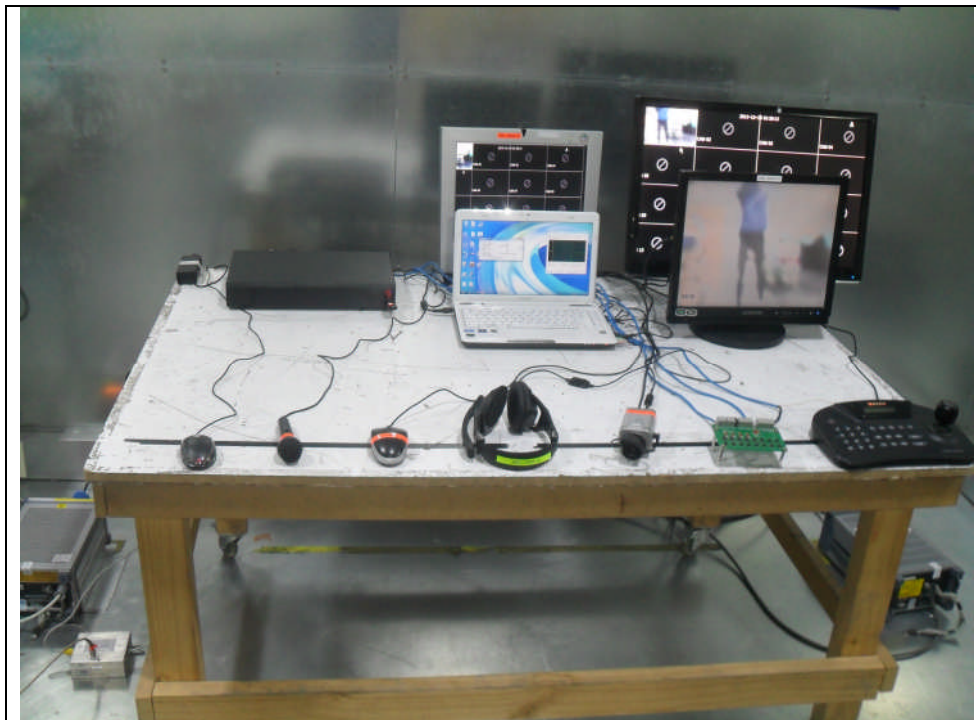
Equipment	Model	Serial No.	Makers	Next Cal. Date	Used
Test Receiver	ESHS30	828765/009	R&S	2014.08.08	☐
Test Receiver	ESCI7	100732	R&S	2014.02.18	☐
Test Receiver	ESCI	100001	R&S	2014.07.25	☒
Test Receiver	ESCI	100710	R&S	2014.10.28	☐
LISN	ENV216	101358	R&S	2014.10.04	☒
LISN	ESH3-Z5	100267	R&S	2014.07.08	☒
8-WIRE ISN	NTFM 8158 CAT5	CAT5-8158-0048	SCHWARZBECK	2014.10.28	☒
8-WIRE ISN	NTFM 8158 CAT3	CAT3-8158-0033	SCHWARZBECK	2014.10.28	☒
ISN	ST08	24342	TESEQ	2014.06.21	☐
ISN	ENY81	101545	R&S	2014.08.29	☒

6.1.4 Photographs of test setup

* AC Main

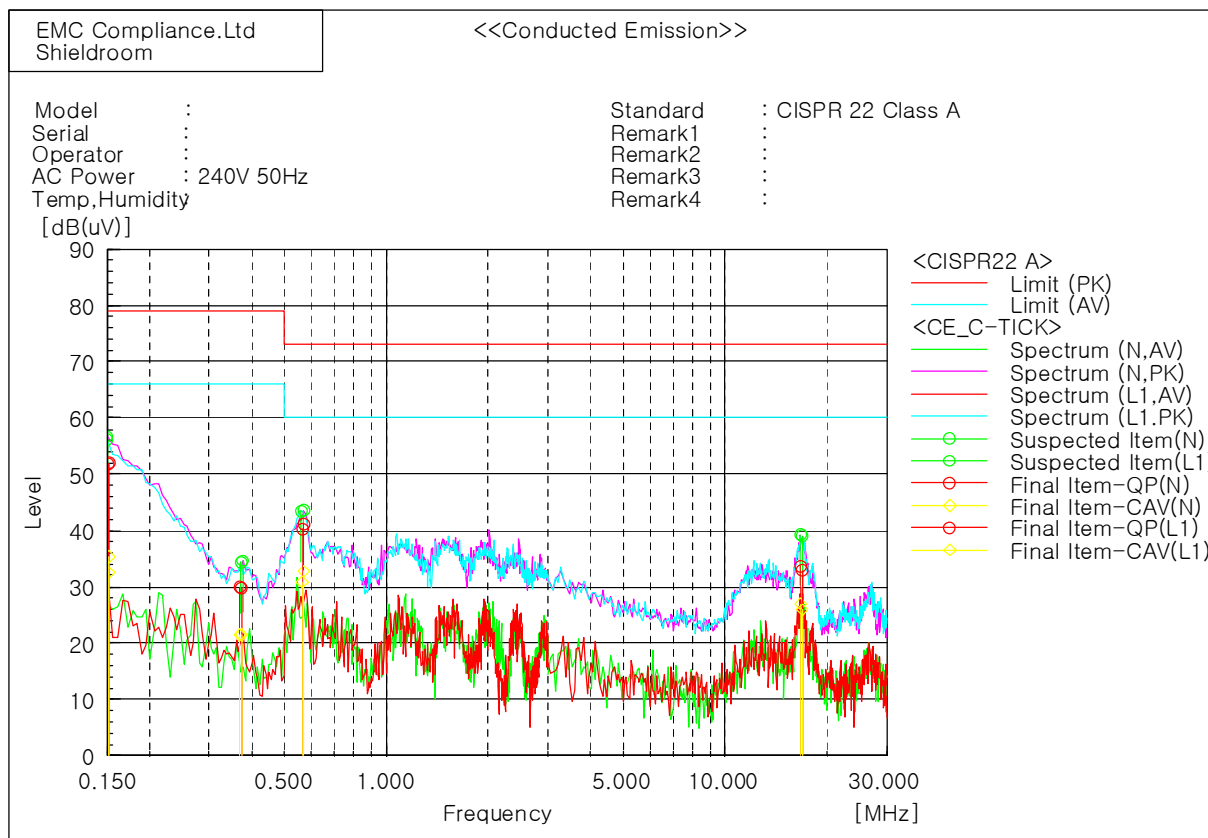


* Telecommunication



6.1.5 Conducted emission measurement result

* AC Main (SRD-1642P)



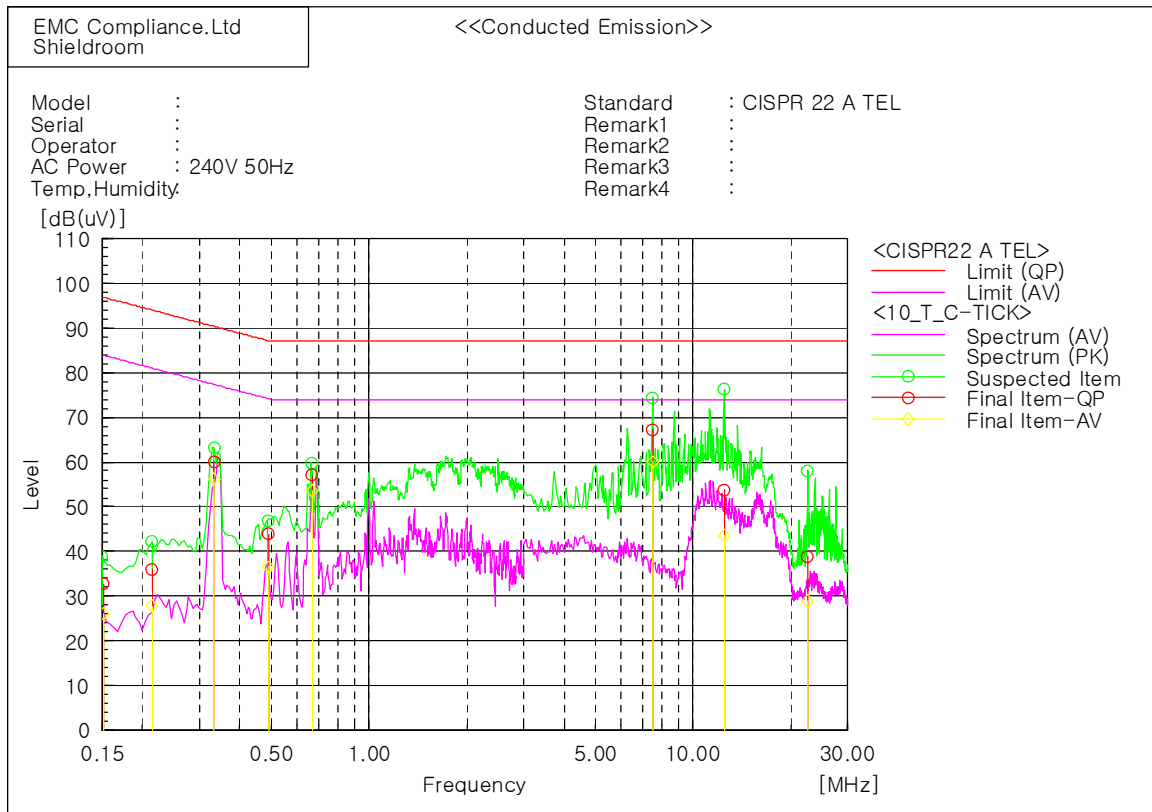
Final Result

— 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	0.15197	42.0	22.5	10.0	52.0	32.5	79.0	66.0	27.0	33.5
2	0.37328	19.8	11.5	10.0	29.8	21.5	79.0	66.0	49.2	44.5
3	0.57108	31.1	22.8	10.0	41.1	32.8	73.0	60.0	31.9	27.2
4	16.71962	23.8	17.1	9.9	33.7	27.0	73.0	60.0	39.3	33.0

— 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	0.15145	41.8	25.4	10.0	51.8	35.4	79.0	66.0	27.2	30.6
2	0.37022	19.9	11.3	10.1	30.0	21.4	79.0	66.0	49.0	44.6
3	0.5654	30.2	20.8	10.1	40.3	30.9	73.0	60.0	32.7	29.1
4	16.87354	23.2	16.2	9.8	33.0	26.0	73.0	60.0	40.0	34.0

* Telecommunication port (SRD-1642P)

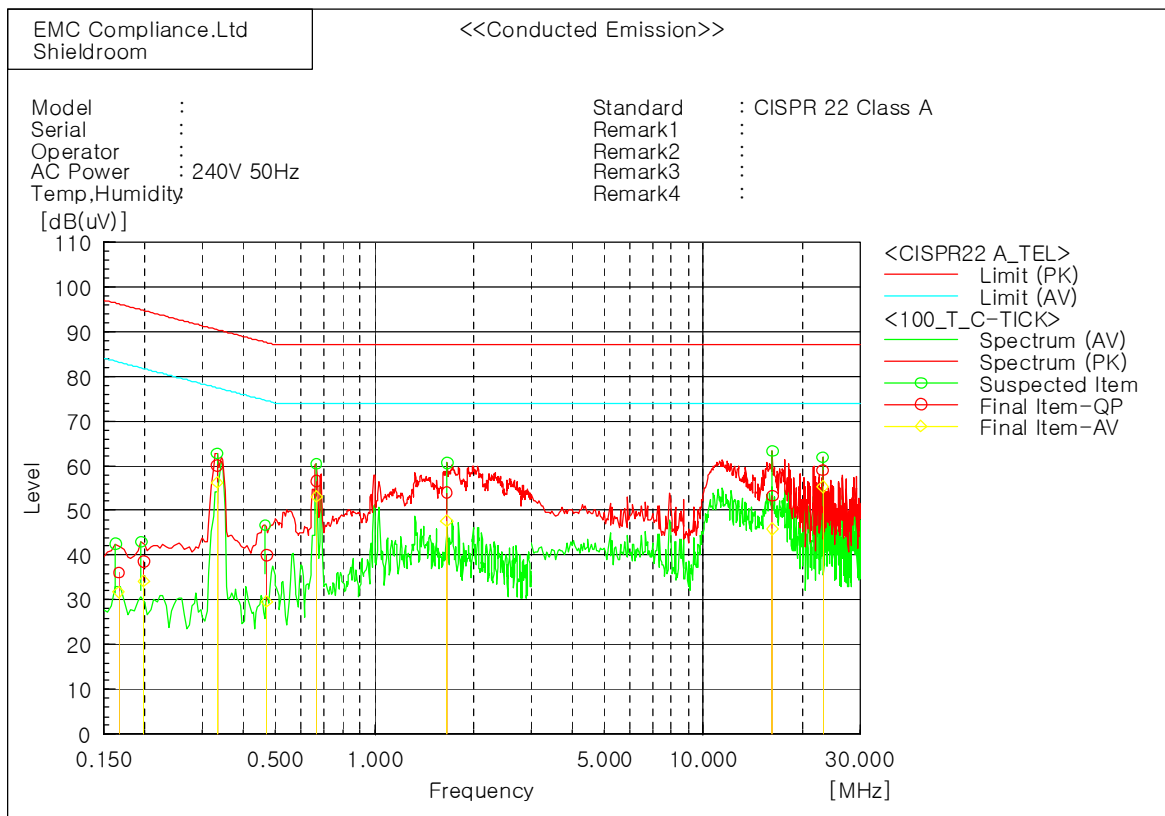
* LCL 55 dB (RJ-45 Port)_10 Mbps



Final Result

--- CAT3 Phase ---										
No.	Frequency	Reading QP	Reading CAV	c.f	Result QP	Result CAV	Limit QP	Limit AV	Margin QP	Margin CAV
	[MHz]	[dB(uV)]	[dB(uV)]	[dB]	[dB(uV)]	[dB(uV)]	[dB(uV)]	[dB(uV)]	[dB]	[dB]
1	0.1514	22.1	15.4	10.6	32.7	26.0	96.9	83.9	64.2	57.9
2	0.21388	25.5	17.3	10.4	35.9	27.7	94.1	81.1	58.2	53.4
3	0.33338	49.8	46.0	10.3	60.1	56.3	90.4	77.4	30.3	21.1
4	0.48982	33.6	26.4	10.2	43.8	36.6	87.2	74.2	43.4	37.6
5	0.66638	46.9	43.4	10.2	57.1	53.6	87.0	74.0	29.9	20.4
6	7.49994	57.7	50.5	9.5	67.2	60.0	87.0	74.0	19.8	14.0
7	12.47097	44.2	34.1	9.5	53.7	43.6	87.0	74.0	33.3	30.4
8	22.50943	29.5	19.5	9.4	38.9	28.9	87.0	74.0	48.1	45.1

* LCL 65 dB (RJ-45 Port)_100 Mbps

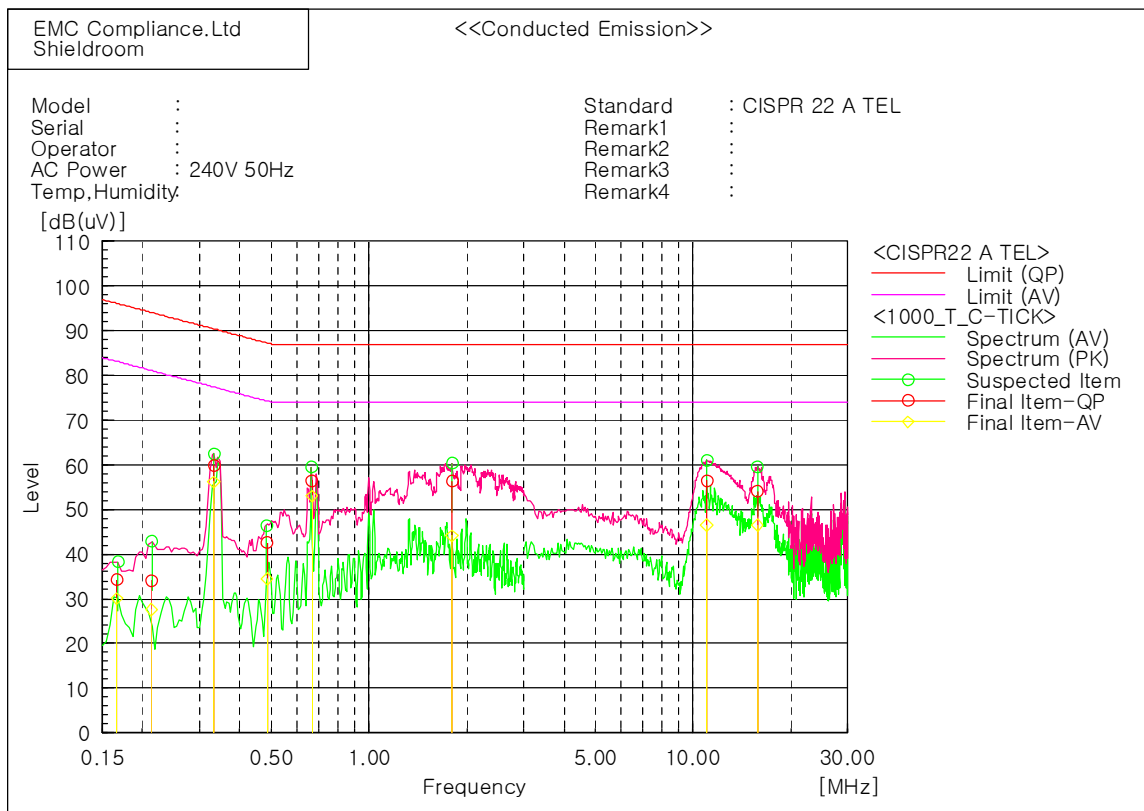


Final Result

--- ISN-CAT5 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result CAV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin CAV [dB]
1	0.16665	25.7	21.4	10.4	36.1	31.8	96.1	83.1	60.0	51.3
2	0.19867	28.3	23.9	10.3	38.6	34.2	94.7	81.7	56.1	47.5
3	0.33284	49.9	46.0	10.2	60.1	56.2	90.4	77.4	30.3	21.2
4	0.47014	30.0	19.7	10.1	40.1	29.8	87.5	74.5	47.4	44.7
5	0.66695	46.5	43.1	10.1	56.6	53.2	87.0	74.0	30.4	20.8
6	1.66307	43.5	37.1	10.5	54.0	47.6	87.0	74.0	33.0	26.4
7	16.23539	43.8	36.4	9.5	53.3	45.9	87.0	74.0	33.7	28.1
8	23.12518	49.6	46.0	9.4	59.0	55.4	87.0	74.0	28.0	18.6

* LCL 75 dB (RJ-45 Port)_1000 Mbps



Final Result

--- ENY81-CAT6 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result CAV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin CAV [dB]
1	0.16718	24.0	19.9	10.1	34.1	30.0	96.1	83.1	62.0	53.1
2	0.21316	24.0	17.5	10.0	34.0	27.5	94.1	81.1	60.1	53.6
3	0.33279	49.9	46.2	9.9	59.8	56.1	90.4	77.4	30.6	21.3
4	0.48551	32.6	24.6	9.8	42.4	34.4	87.2	74.2	44.8	39.8
5	0.66673	46.7	43.3	9.7	56.4	53.0	87.0	74.0	30.6	21.0
6	1.80197	46.7	34.5	9.6	56.3	44.1	87.0	74.0	30.7	29.9
7	11.0098	46.9	36.9	9.6	56.5	46.5	87.0	74.0	30.5	27.5
8	15.80278	44.5	36.8	9.6	54.1	46.4	87.0	74.0	32.9	27.6

6.2 Radiated Emission

Test specification	AS/NZS CISPR 22:2009+A1:2010, Class A		
Testing voltage	240 V, 50 Hz		
Test facility	10 m Chamber (#F2)		
Test distance	10 m, 3 m		
Date	2013. 12. 20		
Temperature (°C)	17.9 °C	Humidity (% R.H.)	17.9 % R.H.
Remarks	Complied		

6.2.1 Limits of radiated emission measurement

☒ Limits below 1 GHz

Frequency MHz	Class A dB μ V/m @ 10 m	Class B dB μ V/m @ 10 m
30 ~ 230	40	30
230 ~ 1 000	47	37

☒ Limits above 1 GHz

Frequency MHz	Class A @ 3 m		Class B @ 3 m	
	Average limit dB μ V/m	Peak limit dB μ V/m	Average limit dB μ V/m	Peak limit dB μ V/m
1 ~ 3	56	76	50	70
3 ~ 6	60	80	54	74

Note - The lower limit applies at the transition frequency.

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	2014.10.28	☐
Test Receiver	ESR	101078	R&S	2014.10.17	☐
Bi-Log Antenna	VULB 9168	440	SCHWARZBECK	2015.10.16	☒
Amplifier	310N	293004	SONOMA INSTRUMENT	2014.10.31	☒
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	2014.10.31	☒
Horn ANT	3115	00155772	ETS	2014.03.20	☒

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:

$$\text{Result} = \text{M.R} + \text{C.F}(\text{A.F} + \text{C.L} + 3 \text{ dB Att} - \text{A.G})$$

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

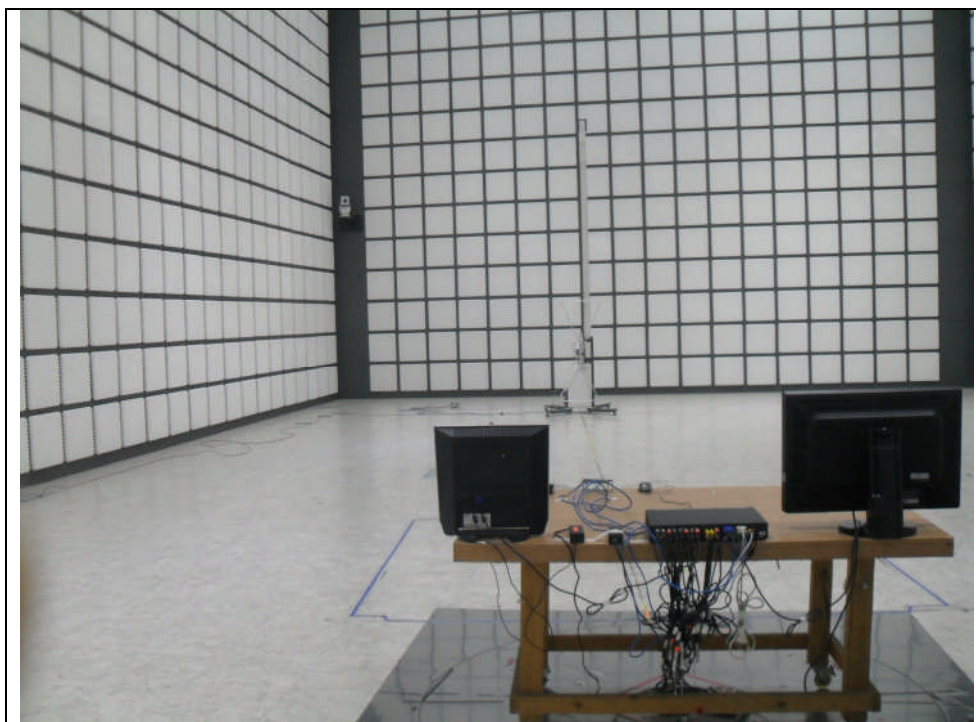
If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 3 dB, A.G 35 dB

The result is

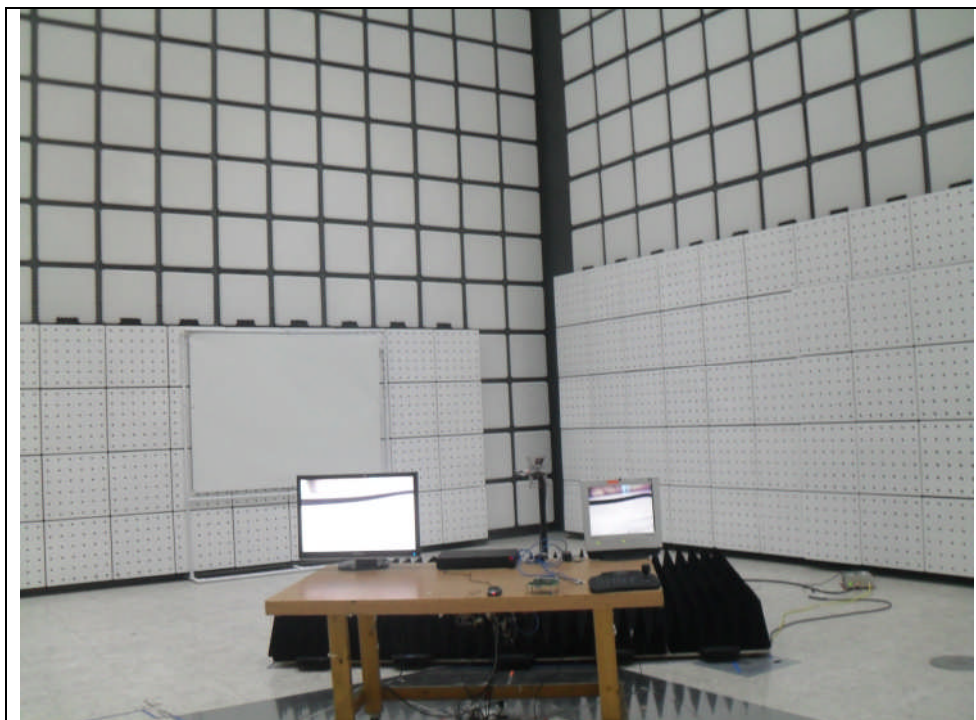
$$30 + 12 + 5 + 3 - 35 = 15 \text{ dB}\mu\text{V/m}$$

6.2.5 Photographs of test setup

* 30 MHz ~ 1 GHz



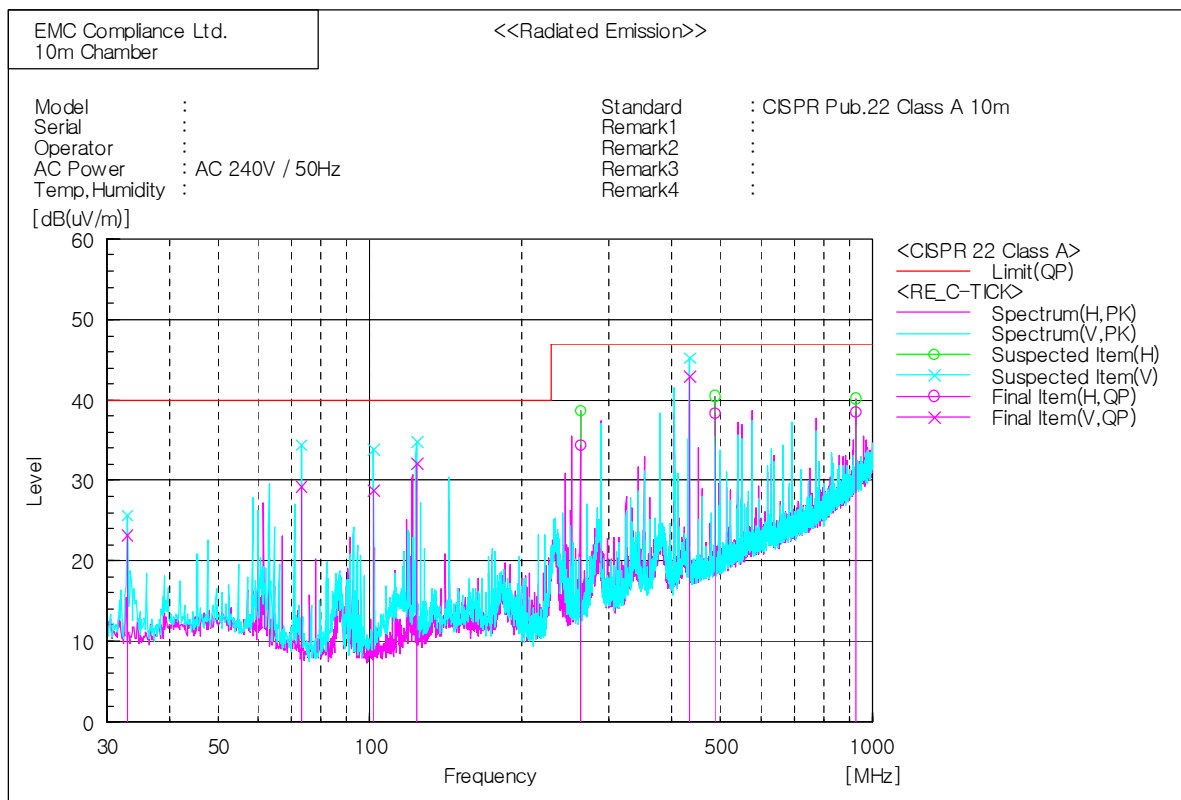
* 1 GHz ~ 6 GHz



6.2.6 Radiated emission measurement result

* Graph and Data

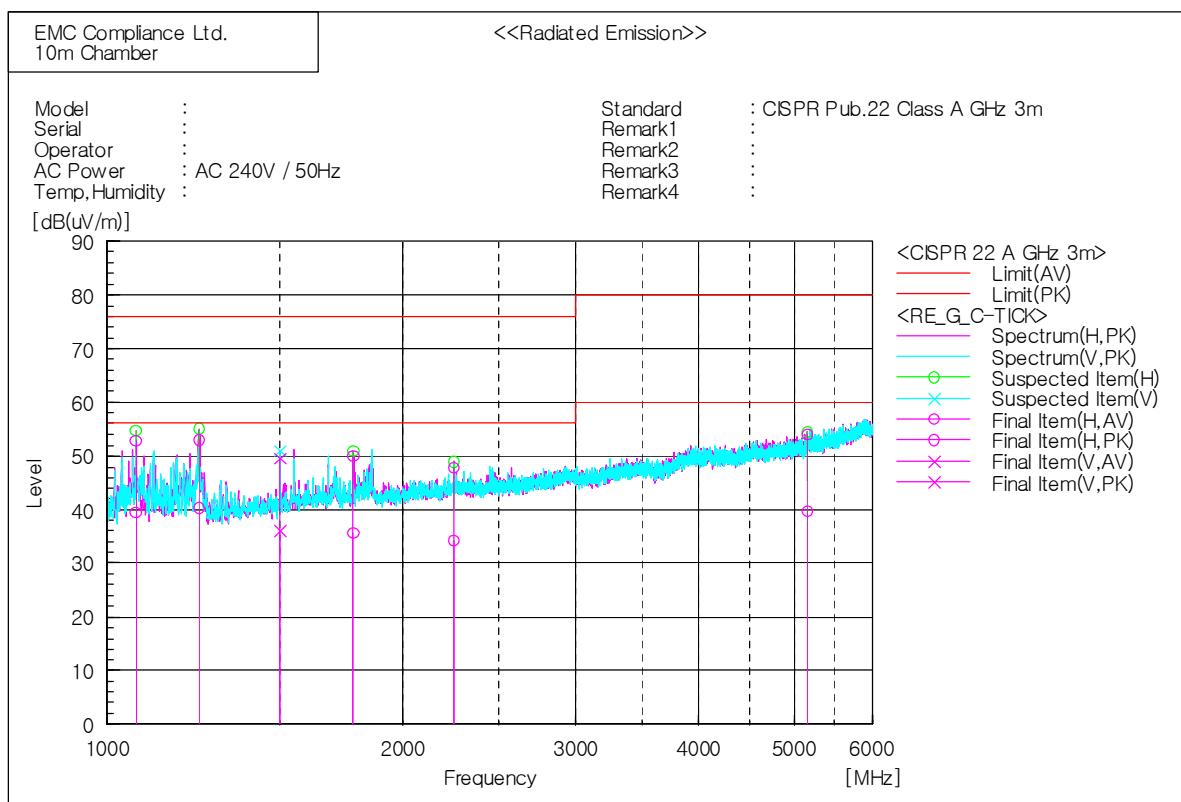
* 30 MHz ~ 1 GHz (SRD-1642P)



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	32.910	V	38.1	-14.9	23.2	40.0	16.8	401.0	166.6
2	73.165	V	45.5	-16.3	29.2	40.0	10.8	100.0	288.3
3	101.780	V	46.0	-17.2	28.8	40.0	11.2	301.0	53.1
4	123.969	V	47.1	-15.0	32.1	40.0	7.9	301.0	91.2
5	262.436	H	45.9	-11.5	34.4	47.0	12.6	201.0	61.4
6	431.944	V	49.3	-6.3	43.0	47.0	4.0	100.0	348.0
7	486.021	H	43.2	-4.9	38.3	47.0	8.7	201.0	248.0
8	927.129	H	33.6	5.0	38.6	47.0	8.4	100.0	263.0

* 1 GHz ~ 6 GHz (SRD-1642P)



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result AV [dB(μV/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]
1	1070.625	H	45.7	59.0	-6.2	39.5	52.8	56.0	76.0	16.5	23.2	100.0	169.5
2	1240.000	H	44.7	57.3	-4.4	40.3	52.9	56.0	76.0	15.7	23.1	100.0	11.8
3	1500.000	V	38.1	51.6	-2.0	36.1	49.6	56.0	76.0	19.9	26.4	100.0	182.3
4	1781.875	H	35.4	50.0	0.1	35.5	50.1	56.0	76.0	20.5	25.9	100.0	38.4
5	2250.625	H	31.9	45.5	2.3	34.2	47.8	56.0	76.0	21.8	28.2	100.0	30.8
6	5164.375	H	27.1	41.4	12.6	39.7	54.0	60.0	80.0	20.3	26.0	100.0	332.1

7. E.U.T. photographs

Front View



Rear View



Left View



Right View



Top View



Bottom View

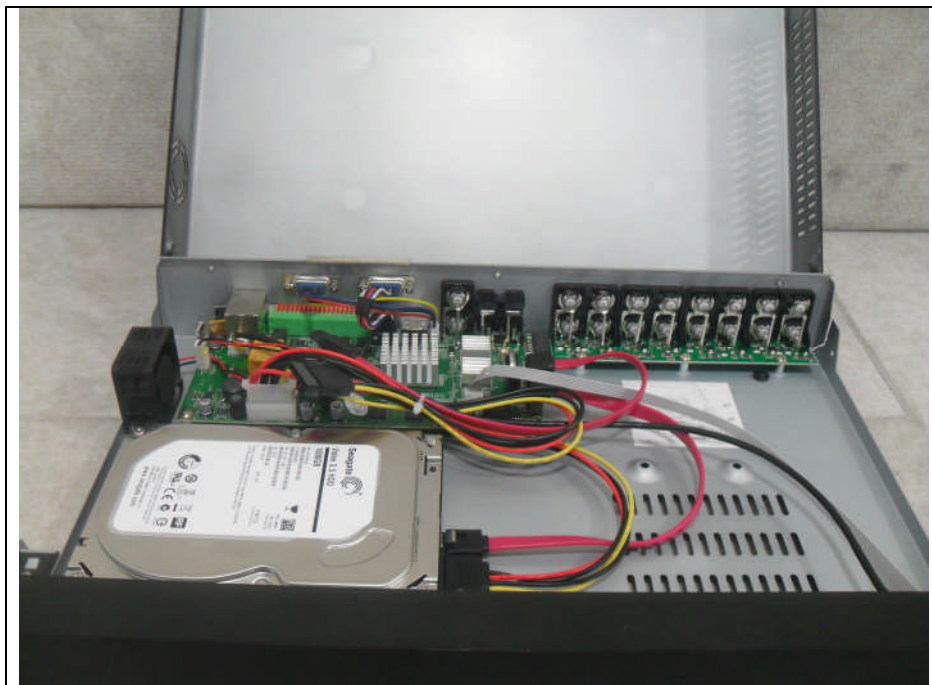


Port

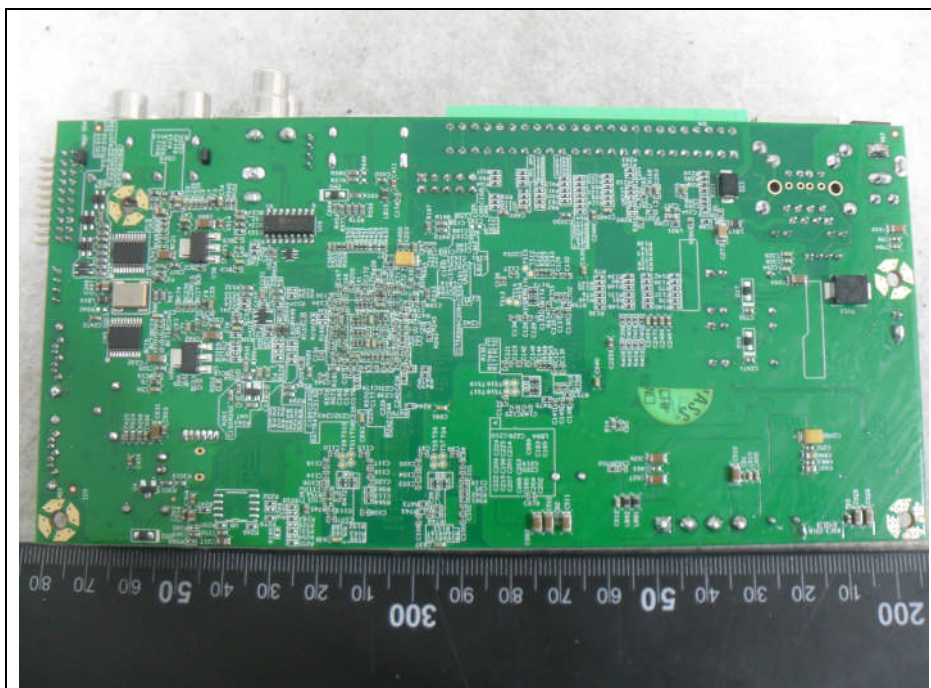
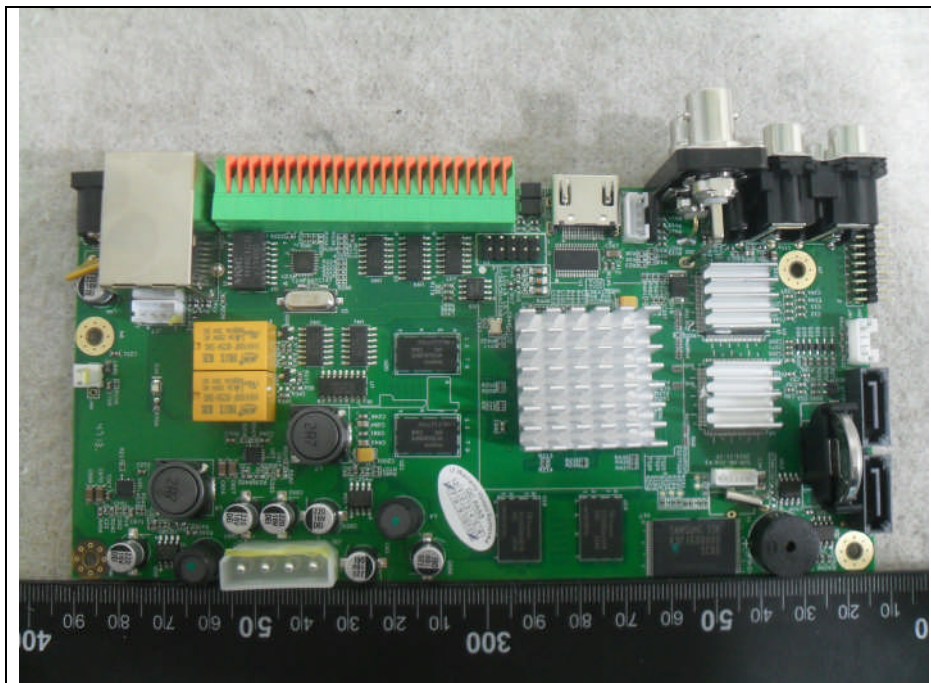




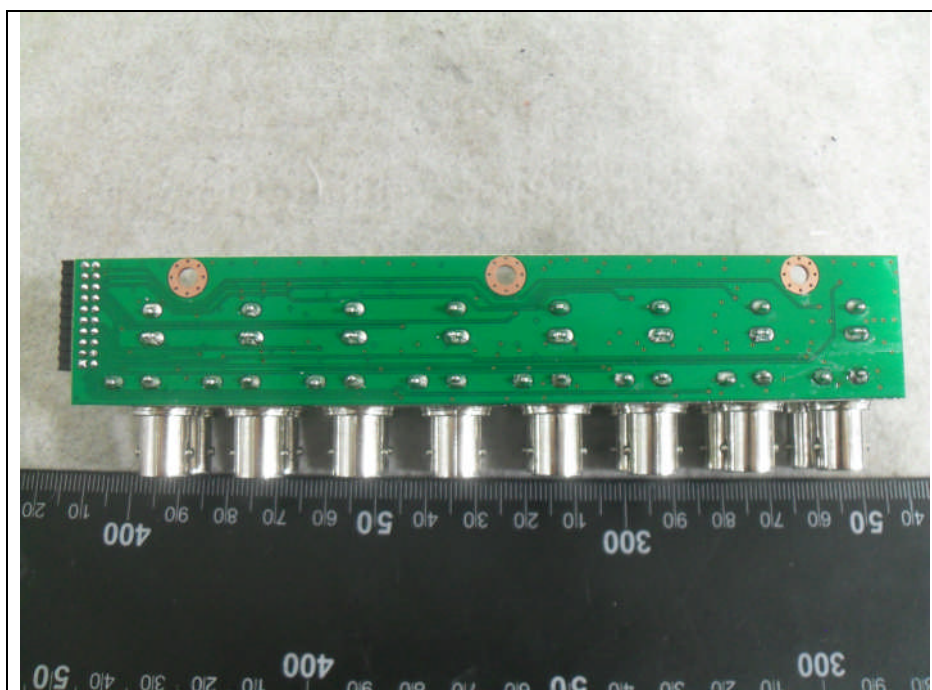
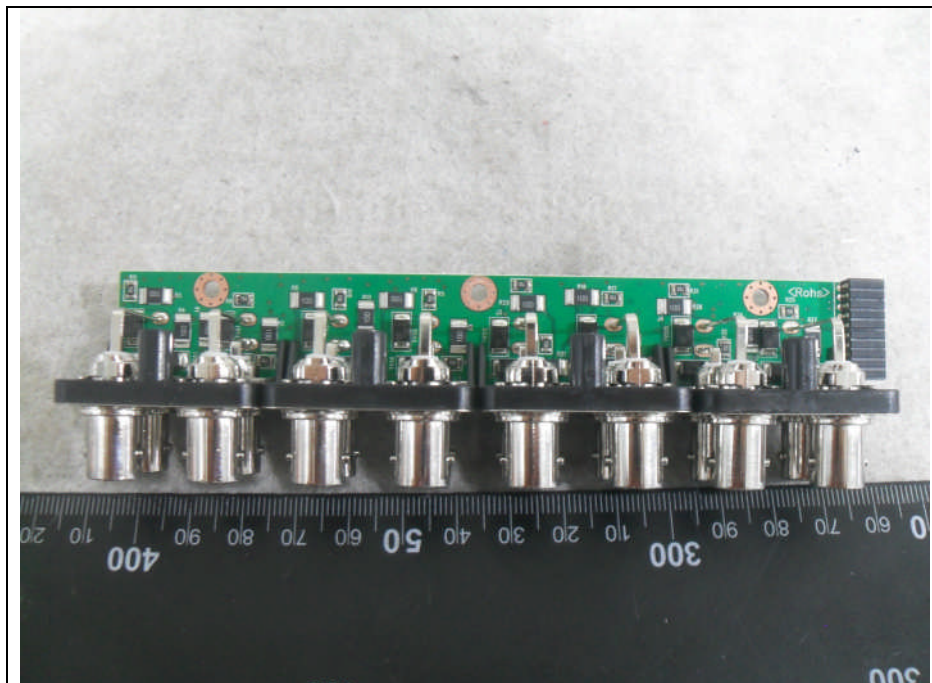
Inside



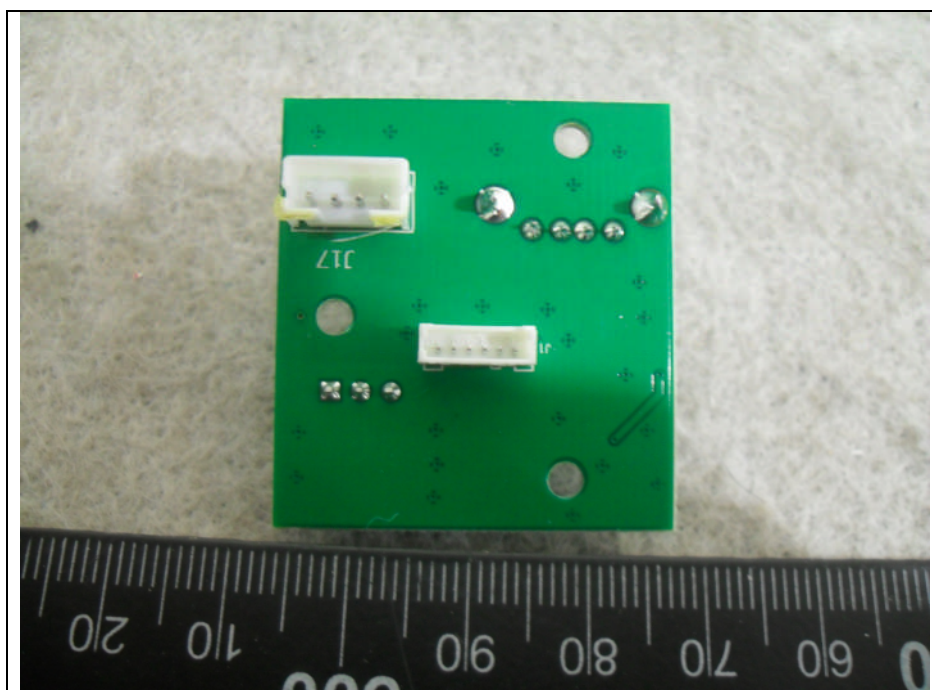
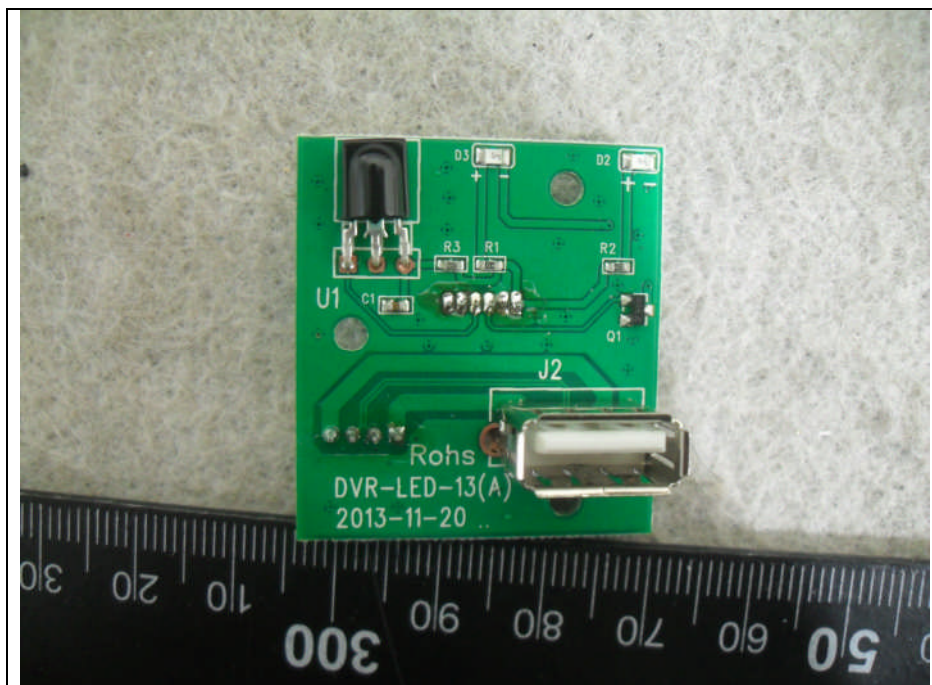
Main Board



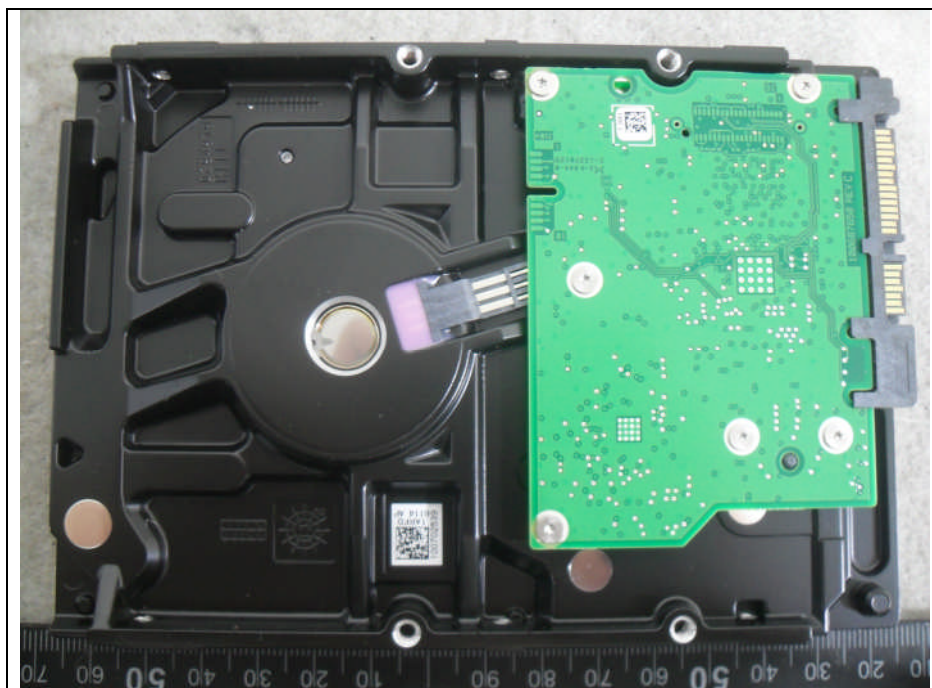
SUB Board#1



SUB Board#2



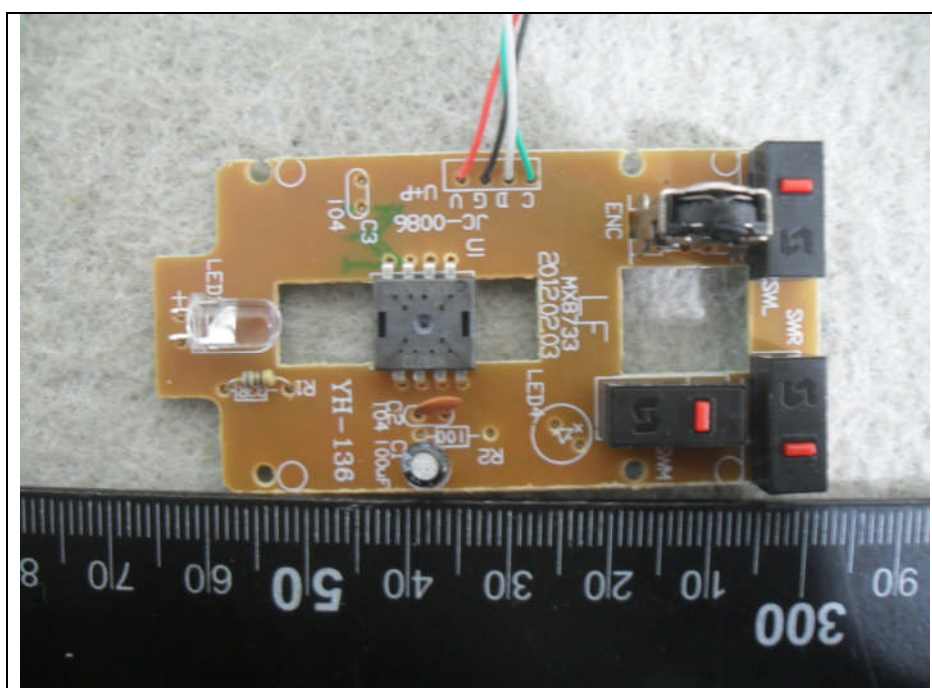
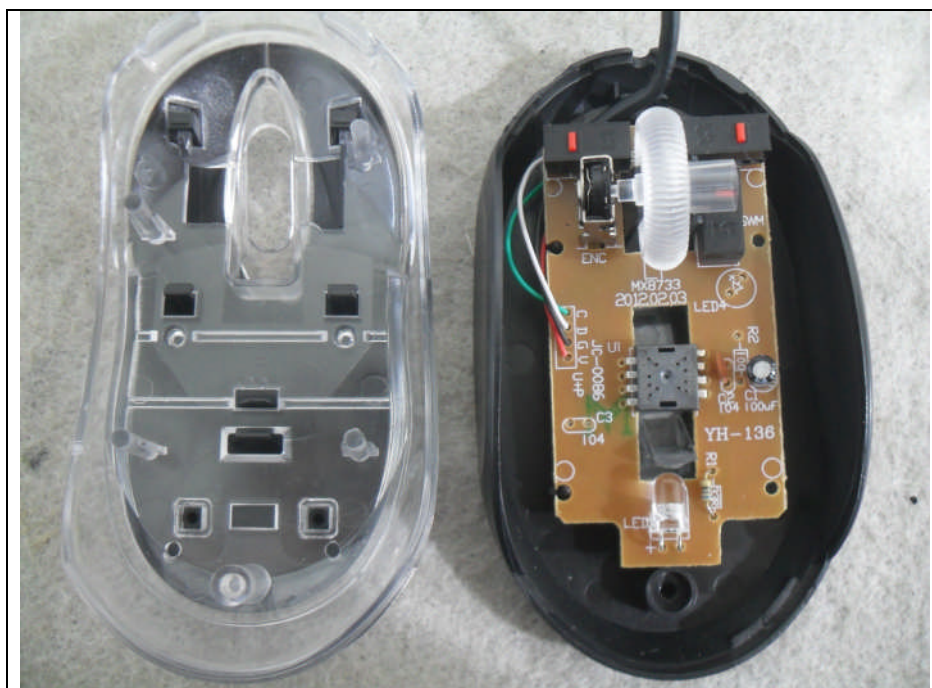
HDD(1000GB)

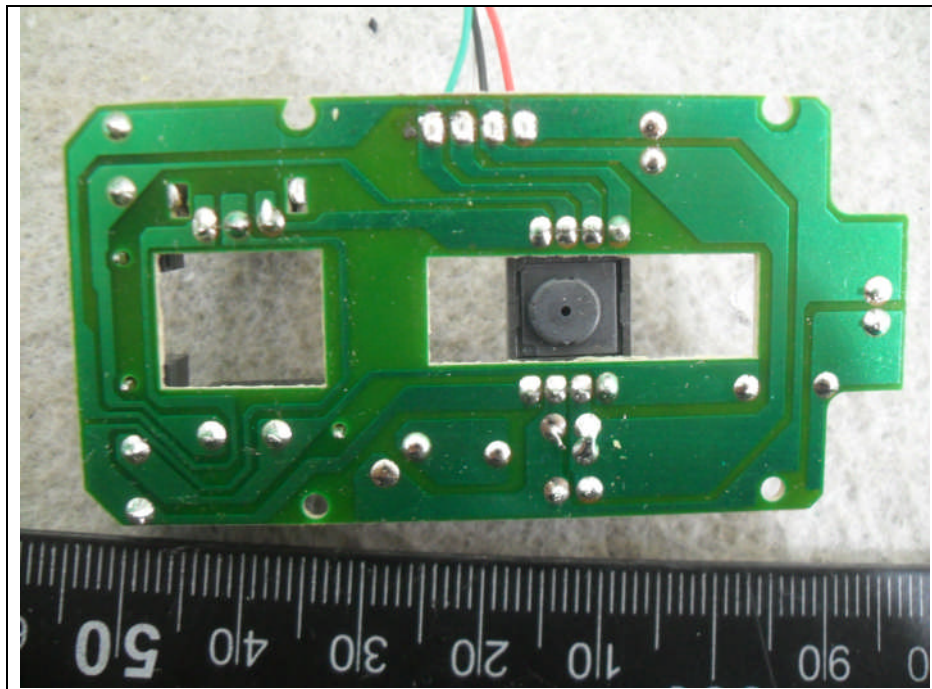




USB Mouse







AC/DC Adaptor

