

FCC TEST REPORT

for

DESAY A&V SCIENCE AND TECHNOLOGY CO.,LTD

BLU-RAY DISC PLAYER

Prepared for : DESAY A&V SCIENCE AND TECHNOLOGY CO.,LTD
Address : Desay 3rd Industry Zone, Chenjiang Town, Huizhou City,
Guangdong, 516229, China

Prepared by : EST Technology Co., Ltd.
Address : San Tun Management Zone, Houjie District, Dongguan,
Guangdong, China

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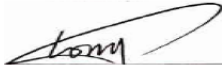
Report No. : ESTE-F1205013
Date of Report : May.24, 2012



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EST Technology Co., Ltd.

Applicant: Address:	DESAY A&V SCIENCE AND TECHNOLOGY CO.,LTD Desay 3rd Industry Zone, Chenjiang Town, Huizhou City, Guangdong, 516229, China		
Manufacturer: Address:	DESAY A&V SCIENCE AND TECHNOLOGY CO.,LTD Desay 3rd Industry Zone, Chenjiang Town, Huizhou City, Guangdong, 516229, China		
Factory: Address:	DESAY A&V SCIENCE AND TECHNOLOGY CO.,LTD Desay 3rd Industry Zone, Chenjiang Town, Huizhou City, Guangdong, 516229, China		
E.U.T:	BLU-RAY DISC PLAYER		
Model Number:	DS-B202-R , HBD316; DS-XXXXX (where X could be any alphanumeric or blank)		
Trade Name:	DESAY; HITACHI	Serial No.:	-----
Date of Receipt:	Apr.20.2012	Date of Test:	May.18~24, 2012
Test Specification:	FCC Part 15 Subpart B Class B: 2011 ANSI C63.4:2003		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		
Issue Date: May.24.2012			
Prepared by:	Tested by:	Approved by:	
			
_____ Ada / Assistant	_____ Tony / Engineer	_____ Iceman Hu / Manager	
Other Aspects: None.			
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.			



1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	: BLU-RAY DISC PLAYER
Model No.	: DS-B202-R
System Input Voltage	: AC 110~240V, 50/60Hz
mainboard crystal frequency	: 27 MHz
AC Line	: Unshielded, Undetachable 1.6m
Ethernet Cable	: Shielded, Detachable 1.6m
Coaxial Cable	: Unshielded, Detachable 1.6m
HDMI Cable	: Shielded, Detachable 1.6m

1.3. Difference between Model Numbers

Note: The products are difference for the model number only. But the PCB board inside are identical.

1.4. Independent Operation Modes

The basic operation modes are:

1.4.1. Network & BD Playing

2. TEST SITES

2.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC Part 15:2011 ANSI C63.4:2003	Class B	PASS
		Minimum passing margin is 8.36 dB at 2.12 MHz	
Radiated Emission Test	FCC Part 15:2011 ANSI C63.4:2003	Class B	PASS
		Minimum passing margin is 3.00 dB at 959.97 MHz	

2.2. Test Facilities

EMC Lab : Certificated by CNAL, CHINA
 Registration No.: L5288
 Date of registration: October 28, 2011

 Certificated by FCC, USA
 Registration No.: 989591
 Date of registration: December 07, 2010

 Certificated by Industry Canada
 Registration No.: 144350
 Date of registration: December 16, 2010

 Certificated by VCCI, Japan
 Registration No.: R-3663 & C-4103
 Date of registration: July 25, 2011

 Certificated by TUV Rheinland, Germany
 Registration No.: UA 50195514 0001
 Date of registration: January 07, 2011

 Certificated by TUV/PS, Shenzhen
 Registration No.: SCN1017
 Date of registration: January 27, 2011

 Certificated by Intertek ETL SEMKO
 Registration No.: 2011-RTL-L1-18
 Date of registration: April 28, 2011

 Certificated by Nemko, Hong Kong
 Registration No.: 175193
 Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : San Tun Management Zone, Houjie District, Dongguan,
 Guangdong, China

2.3. List of Test and Measurement Instruments

2.3.1. For conducted emission at the mains terminals test (844 Room)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde& Schwarz	ESVS30	832354	Mar,17,12	1 Year
Artificial Mains Network	Rohde& Schwarz	ENV216	101260	Mar,17,12	1 Year
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	101100	Aug,25,11	1 Year

2.3.2. For radiated emission test (30MHz-1GHz, 966 Chamber)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde& Schwarz	ESVS10	100004	Mar,17,12	1 Year
Spectrum Analyzer	Agilent	E4411B	MY50140697	Mar,17,12	1 Year
Bilog Antenna	Teseq	CBL 6111D	25872	Nov,08,11	1.5 Year
Signal Amplifier	Agilent	310N	187037	Aug,25,11	1 Year

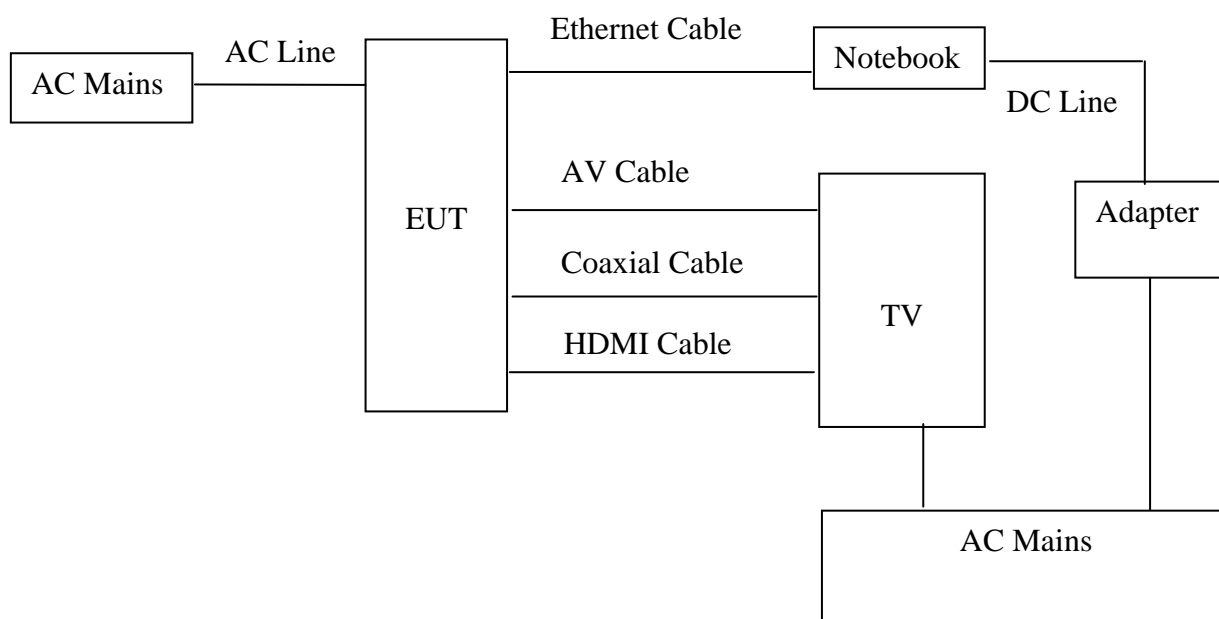
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



(EUT: BLU-RAY DISC PLAYER)

3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4.

3.4.Special Accessories and Auxiliary Equipment

3.4.1. TV

Manufacturer	:	SAMSUNG
M/N	:	LA32S11B
S/N	:	D5323VML802611V

3.4.2. Notebook

Manufacturer	:	DELL
M/N	:	E6420
DPN	:	VVF52A01
Adapter	:	M/N:LA90PM111

3.5. Countermeasures to Achieve EMC Compliance

None.

4. EMISSION TEST RESULTS

4.1. Conducted Emission at the Mains Terminals Test

RESULT : **Pass**
Test Procedure : ANSI C63.4:2003
Frequency Range : 0.15 to 30MHz
Test Site : Shielded Room
Limits : FCC Part 15 :2011

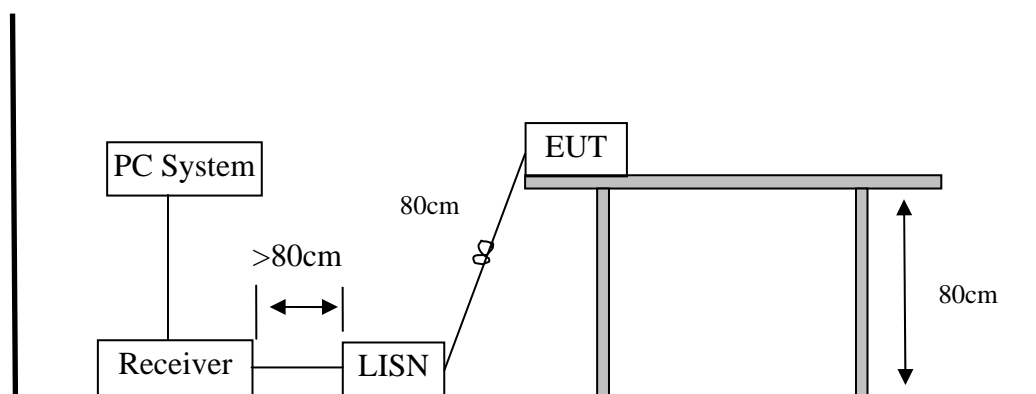
Test Setup

Date of Test : May.18, 2011
M/N : DS-B202-R
Input Voltage : AC 120V/60Hz
Operation Mode : Network + BD Playing

The frequency range from 150 kHz to 30 MHz was investigated.

The bandwidth of the test receiver was set at 9 kHz.

The test data of the worst case condition(s) was reported on the following page.



Note: Measurement Uncertainty: ± 2.54 dB at a level of confidence of 95%.

Test Data

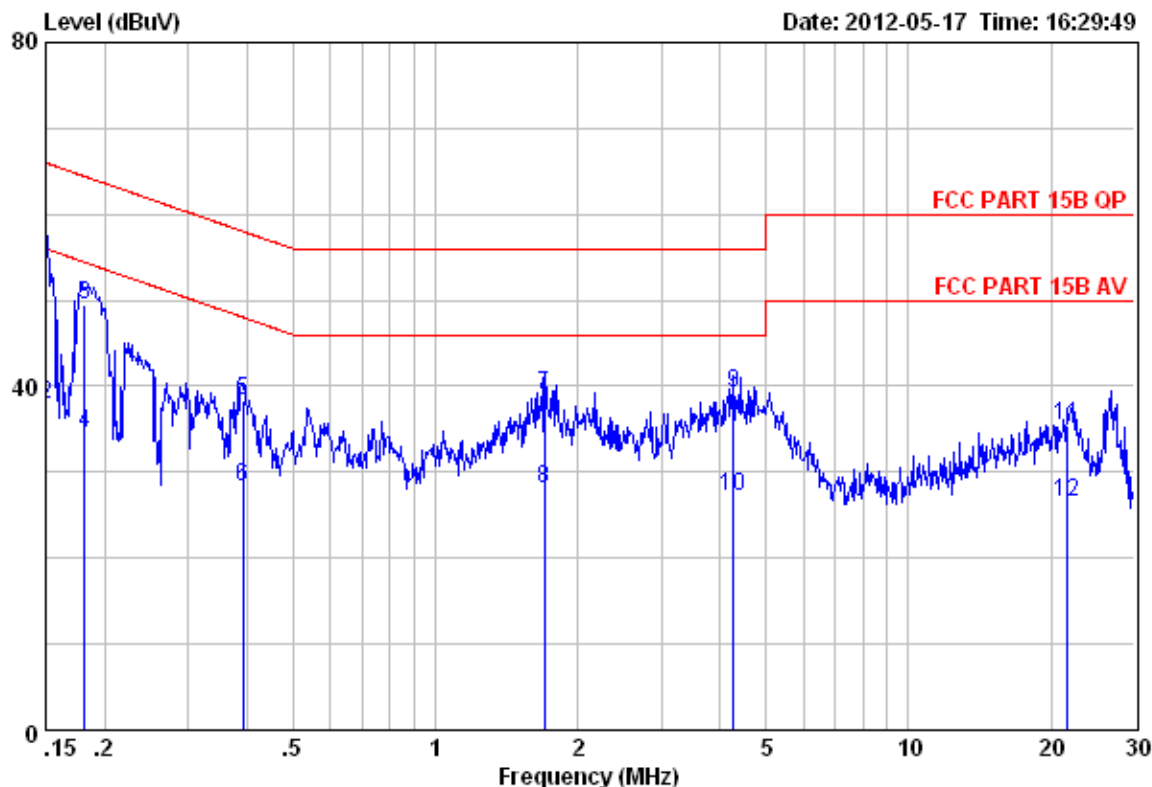
EST Technology

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Dongguan, Guangdong, China
Tel: +86-769-83081888
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Data: 319

File: D:\test data\2012\DESAY.EMI (326)

Date: 2012-05-17 Time: 16:29:49



Site no. : EST 844 Shielded Room Data no. : 319
Limit : FCC PART 15B QP LINE Phase : LINE
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
Engineer : Tony
EUT : BLU-RAY DISC PLAYER
Power : AC 120V/60Hz
M/N : DS-B202-R
Test Mode : Network+BD Playing

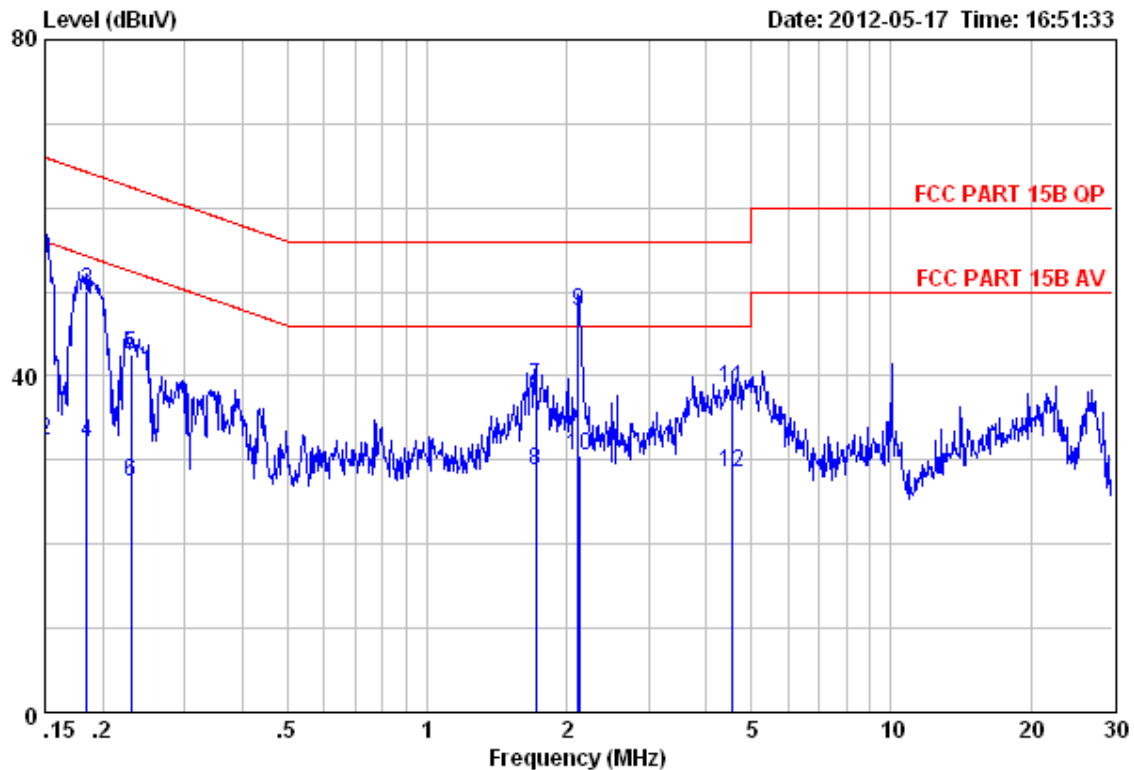
	Freq. (MHz)	LISN Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	0.15	9.61	9.81	36.54	55.96	66.00	10.04	QP
2	0.15	9.61	9.81	18.54	37.96	55.99	18.03	Average
3	0.18	9.61	9.80	30.14	49.55	64.42	14.87	QP
4	0.18	9.61	9.80	15.14	34.55	54.42	19.87	Average
5	0.39	9.61	9.82	18.89	38.32	58.03	19.71	QP
6	0.39	9.61	9.82	8.89	28.32	48.03	19.71	Average
7	1.70	9.62	9.83	19.52	38.97	56.00	17.03	QP
8	1.70	9.62	9.83	8.52	27.97	46.00	18.03	Average
9	4.27	9.64	9.85	19.64	39.13	56.00	16.87	QP
10	4.27	9.64	9.85	7.64	27.13	46.00	18.87	Average
11	21.60	9.68	10.00	15.75	35.43	60.00	24.57	QP
12	21.60	9.68	10.00	6.75	26.43	50.00	23.57	Average



Data: 321

File: D:\test data\2012\DESAY.EMI (326)

Date: 2012-05-17 Time: 16:51:33



Site no. : EST 844 Shielded Room Data no. : 321
 Limit : FCC PART 15B QP LINE Phase : NEUTRAL
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
 Engineer : Tony
 EUT : BLU-RAY DISC PLAYER
 Power : AC 120V/60Hz
 M/N : DS-B202-R
 Test Mode : Network+BD Playing

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.15	9.46	9.81	35.97	55.24	66.00	10.76	QP
2	0.15	9.46	9.81	12.97	32.24	55.98	23.74	Average
3	0.18	9.56	9.80	30.69	50.05	64.28	14.23	QP
4	0.18	9.56	9.80	12.69	32.05	54.28	22.23	Average
5	0.23	9.60	9.80	23.11	42.51	62.44	19.93	QP
6	0.23	9.60	9.80	8.11	27.51	52.44	24.93	Average
7	1.72	9.62	9.83	19.38	38.83	56.00	17.17	QP
8	1.72	9.62	9.83	9.38	28.83	46.00	17.17	Average
9	2.12	9.62	9.84	28.18	47.64	56.00	8.36	QP
10	2.12	9.62	9.84	11.18	30.64	46.00	15.36	Average
11	4.55	9.65	9.85	19.06	38.56	56.00	17.44	QP
12	4.55	9.65	9.85	9.06	28.56	46.00	17.44	Average

4.2. Radiated Emission Test

RESULT : **Pass**
Test Procedure : ANSI C63.4:2003
Frequency Range : 30 to 1000 MHz
Test Site : 966 Chamber
Limits : FCC Part 15 :2011

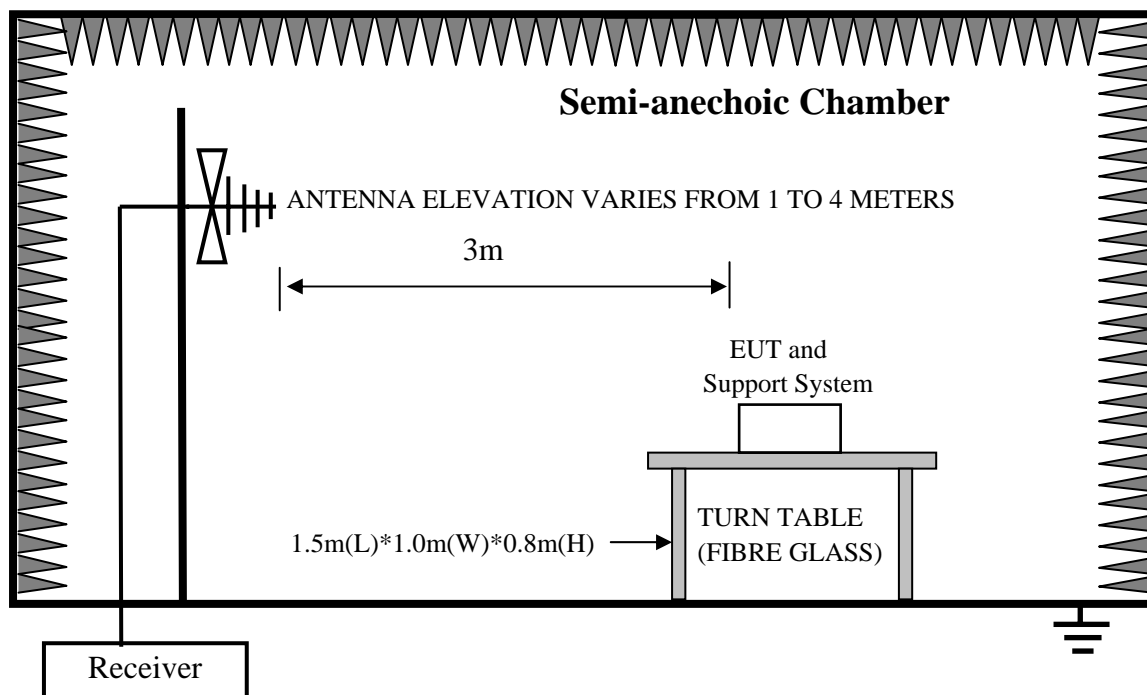
Test Setup

Date of Test : May.18, 2011
M/N : DS-B202-R
Input Voltage : AC 120V/60Hz
Operation Mode : Network + BD Playing

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth setting on the test receiver was 120 kHz.



Note: Measurement Uncertainty: ± 3.62 dB at a level of confidence of 95%.

Test Data

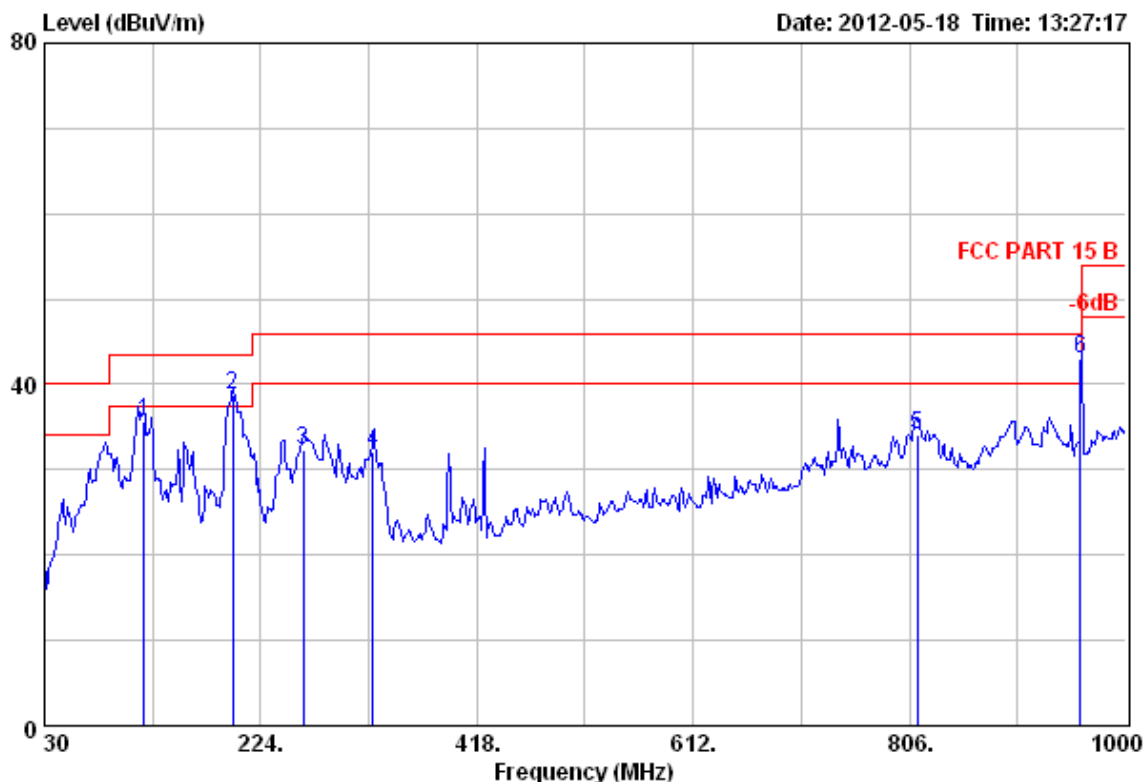
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Data: 362

File: D:\test data\2012\D\Desay.EMI (453)

Date: 2012-05-18 Time: 13:27:17



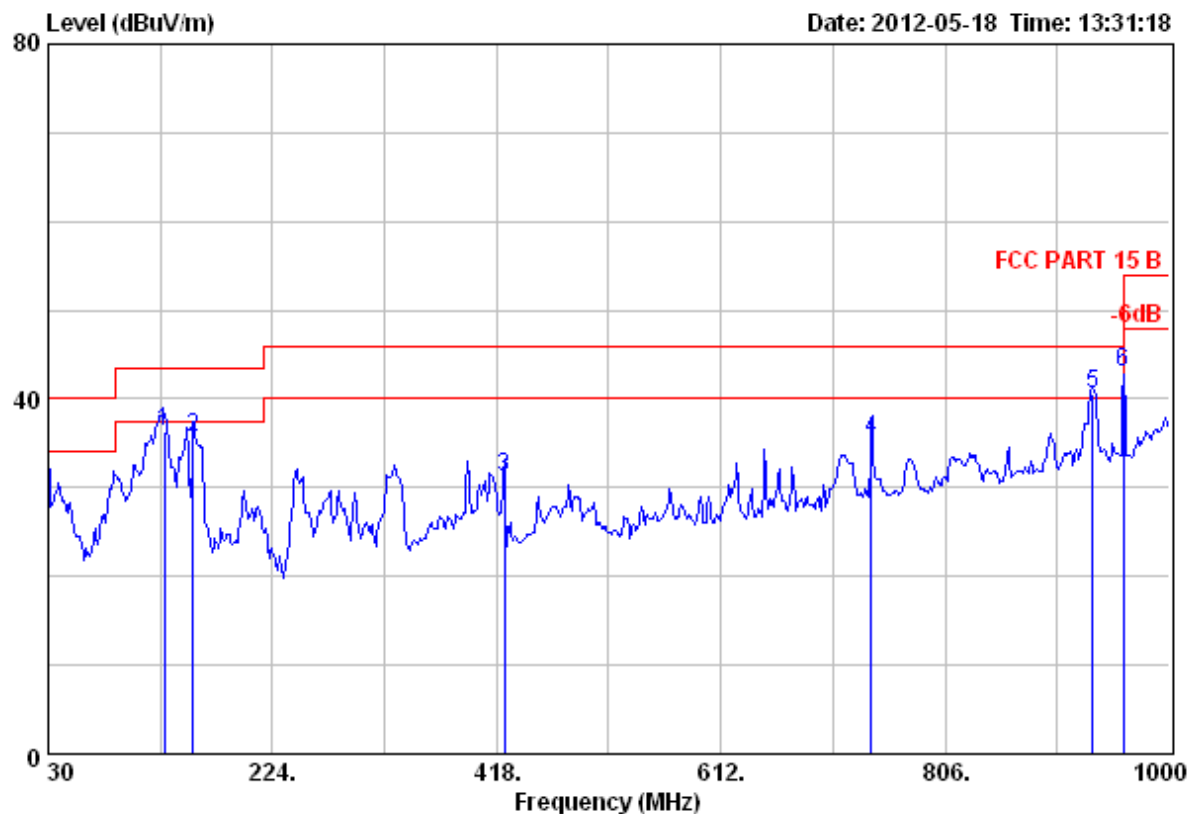
Site no. : 3m Chamber Data no. : 362
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B
Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
Engineer : Tony
EUT : BLU-RAY DISC PLAYER
Power : AC 120V/60Hz
M/N : DS-B202-R
Test Mode : Network+BD Playing

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reamark (dB)
1	119.24	11.11	3.34	21.11	35.56	43.50	7.94	QP
2	198.78	7.71	4.24	26.72	38.67	43.50	4.83	QP
3	261.83	12.96	4.95	14.32	32.23	46.00	13.77	QP
4	324.88	13.71	5.43	12.93	32.07	46.00	13.93	QP
5	812.79	22.37	8.45	3.33	34.15	46.00	11.85	QP
6	959.78	24.48	9.00	9.50	42.98	46.00	3.02	QP

Data: 363

File: D:\test data\2012\D\Desay.EMI (453)

Date: 2012-05-18 Time: 13:31:18

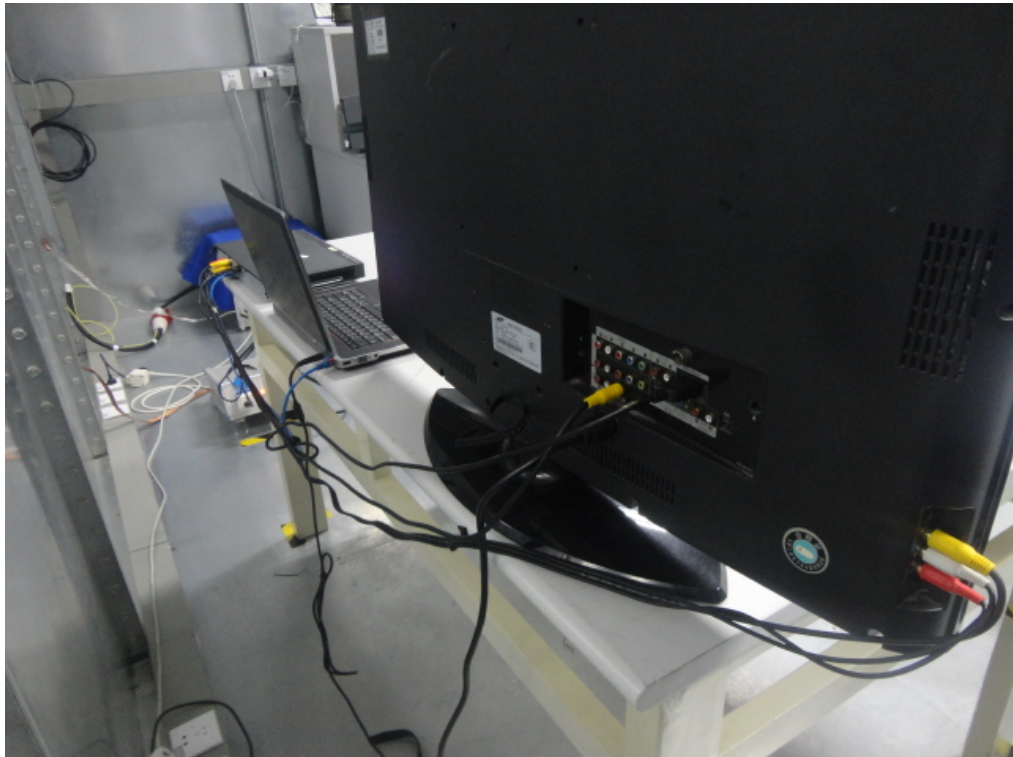


Site no. : 3m Chamber Data no. : 363
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B
 Env. / Ins. : Temp:25.6'; Humi:56%; Press:101.52kPa
 Engineer : Tony
 EUT : BLU-RAY DISC PLAYER
 Power : AC 120V/60Hz
 M/N : DS-B202-R
 Test Mode : Network+BD Playing

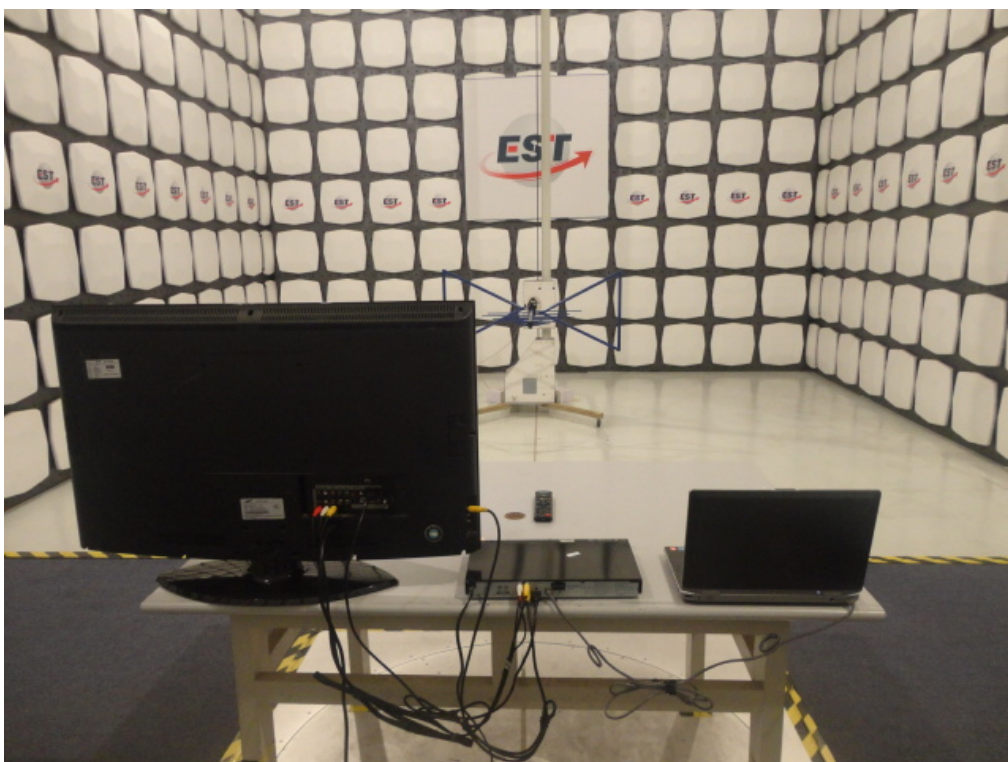
	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)
1	130.88	11.33	3.52	21.52	36.37	43.50	7.13	QP
2	155.13	10.67	3.82	21.06	35.55	43.50	7.95	QP
3	424.79	16.18	6.24	8.69	31.11	46.00	14.89	QP
4	741.98	22.33	7.96	5.20	35.49	46.00	10.51	QP
5	934.04	24.53	9.36	6.59	40.48	46.00	5.52	QP
6	959.97	24.48	9.00	9.52	43.00	46.00	3.00	QP

5. PHOTOGRAPHS OF TEST SETUP

Conducted Emission Test



Radiated Emission Test

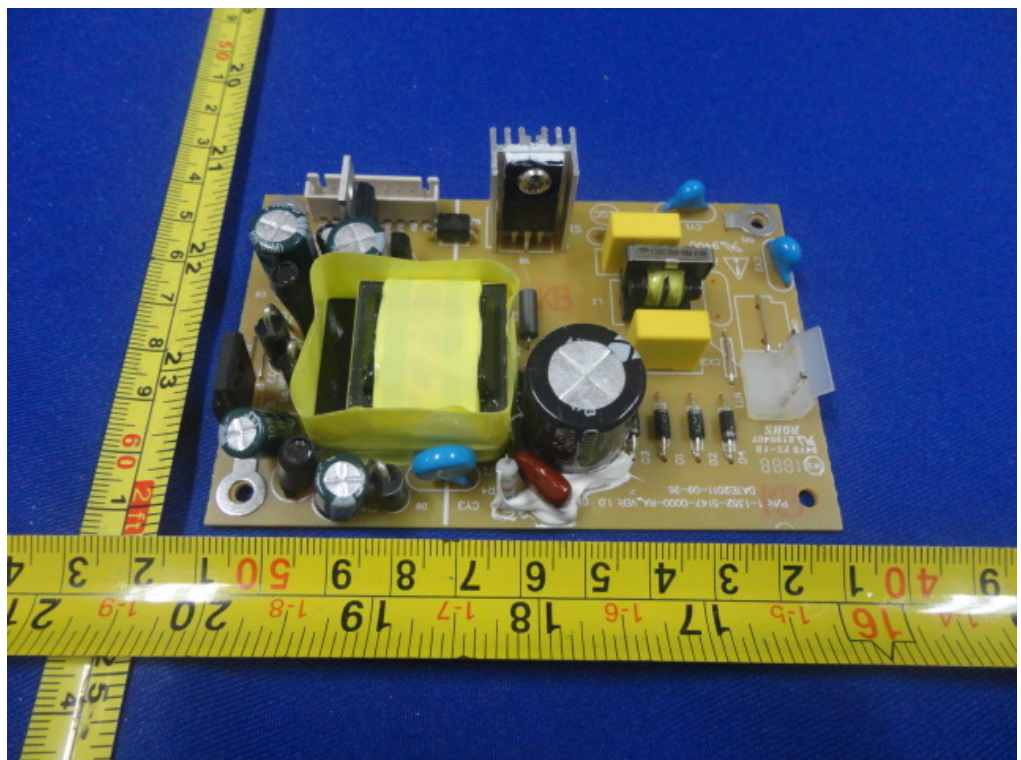
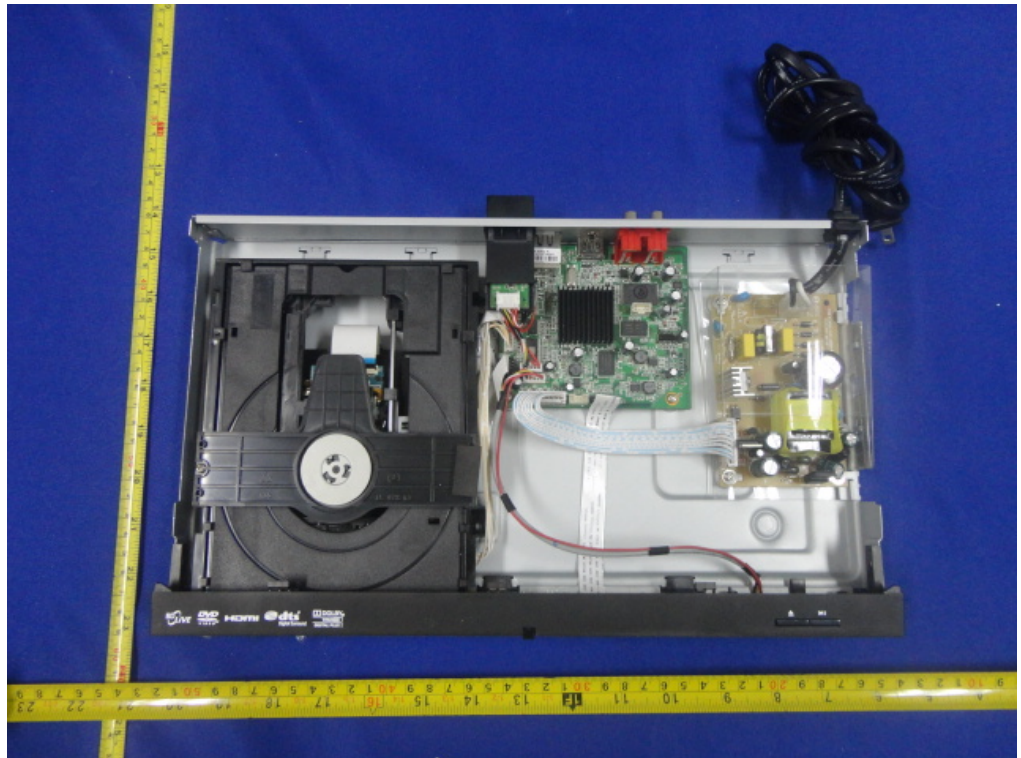


6. PHOTOGRAPHS OF THE EUT

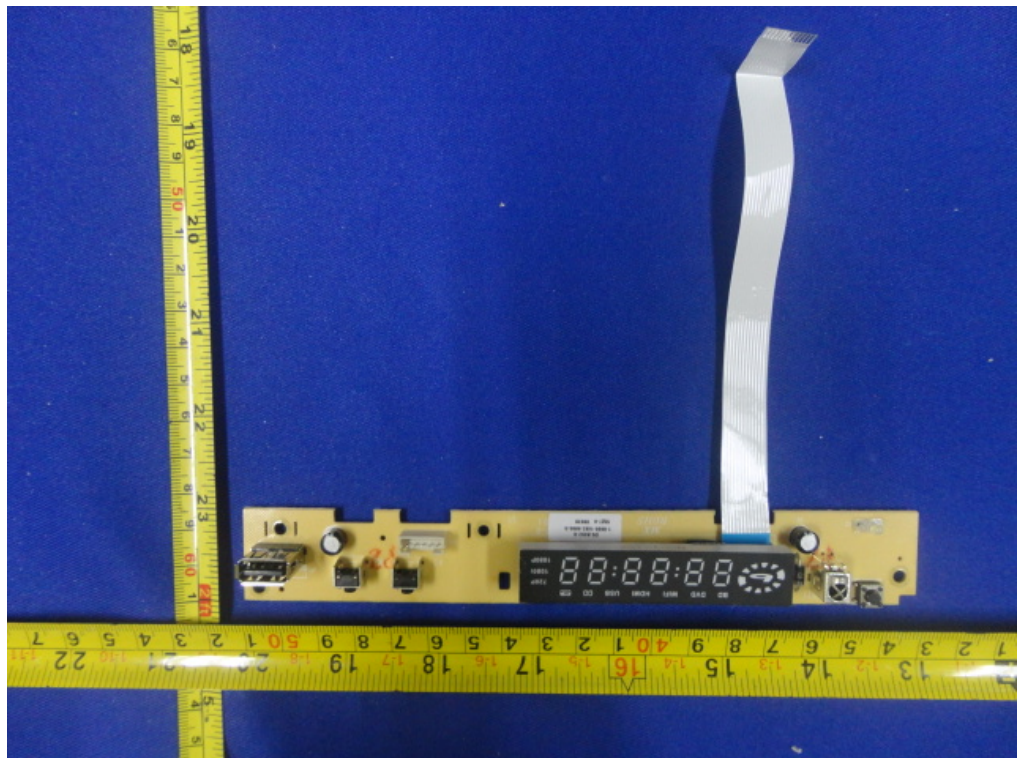
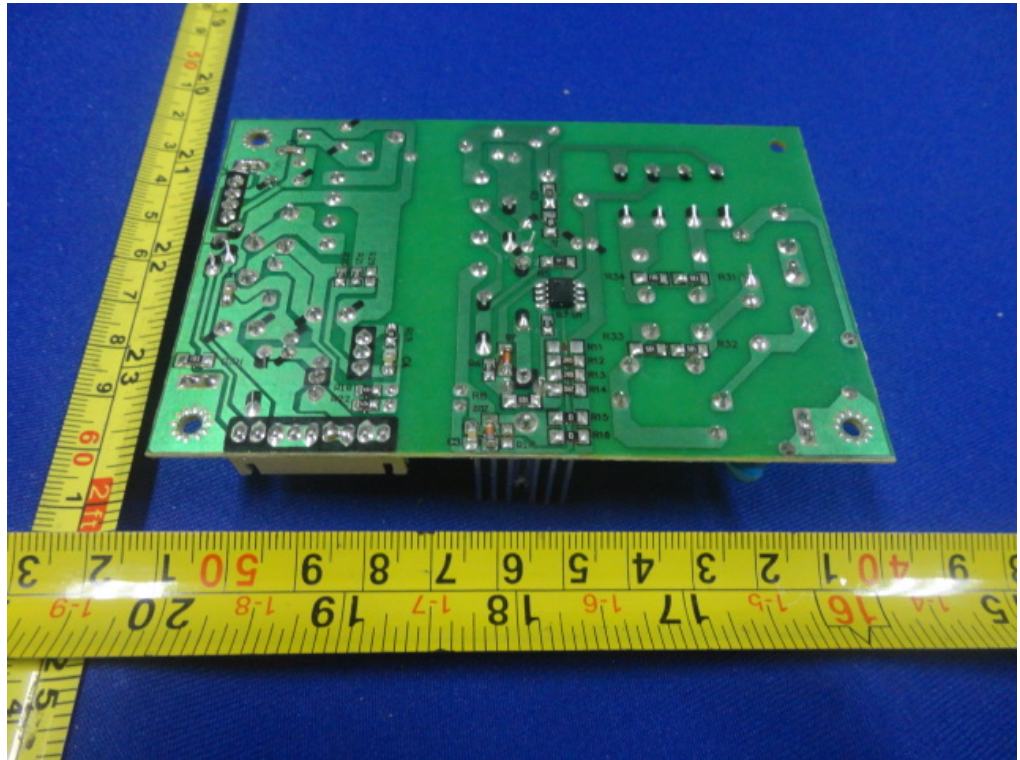
External Photos



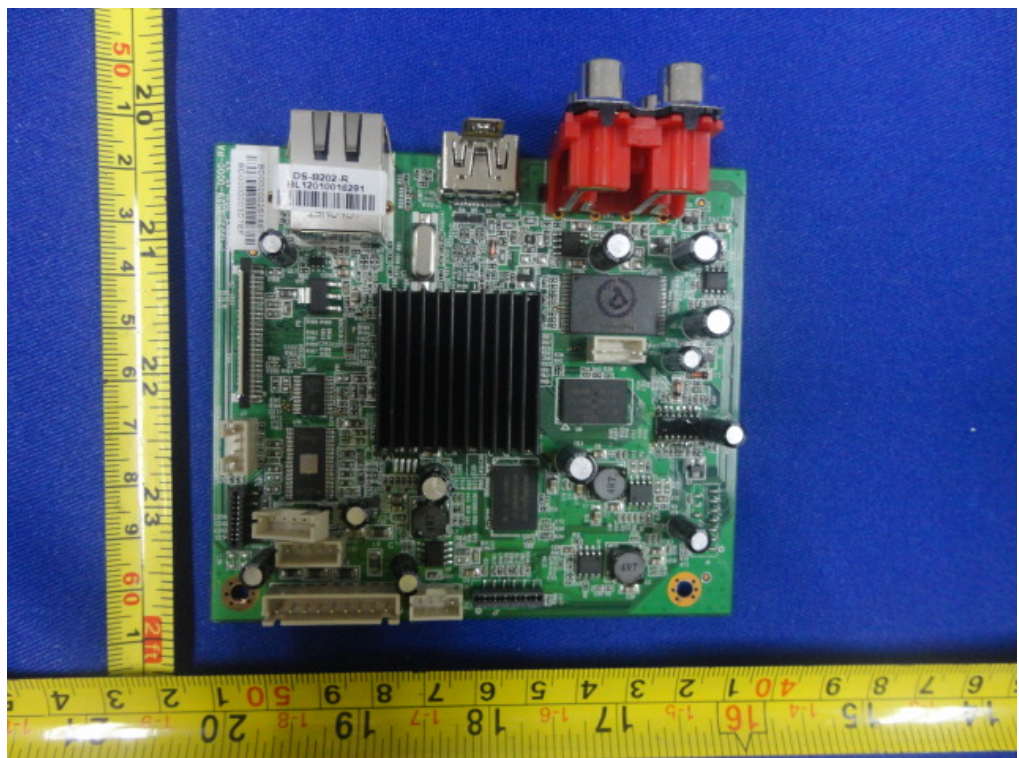
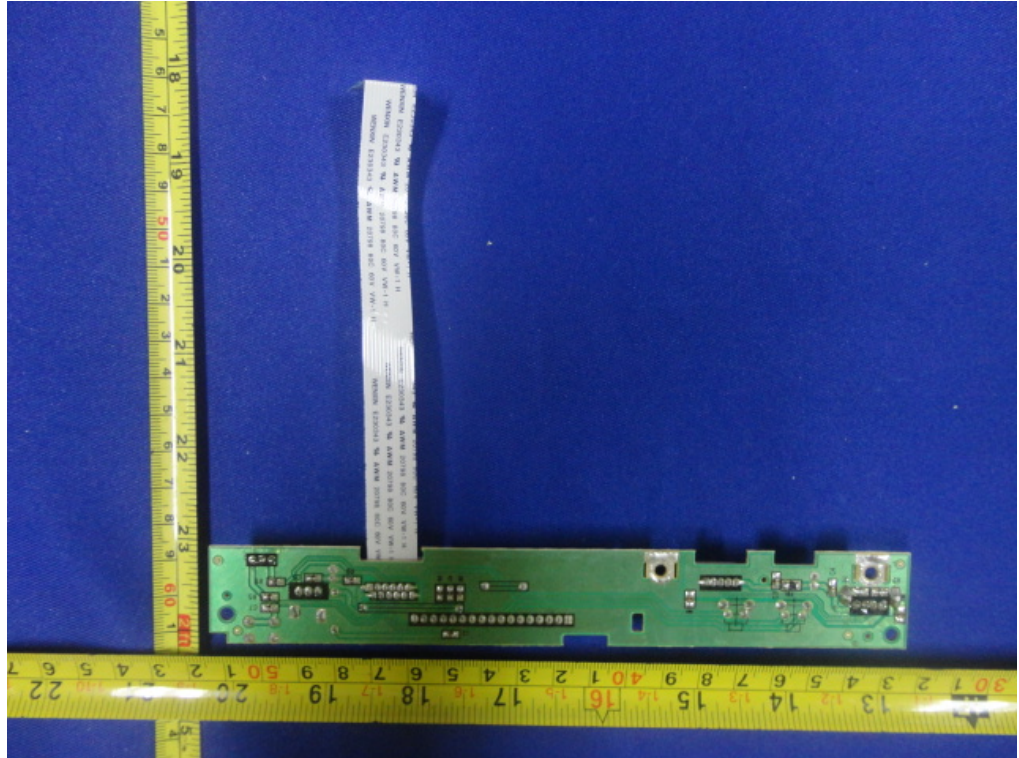
Internal Photos



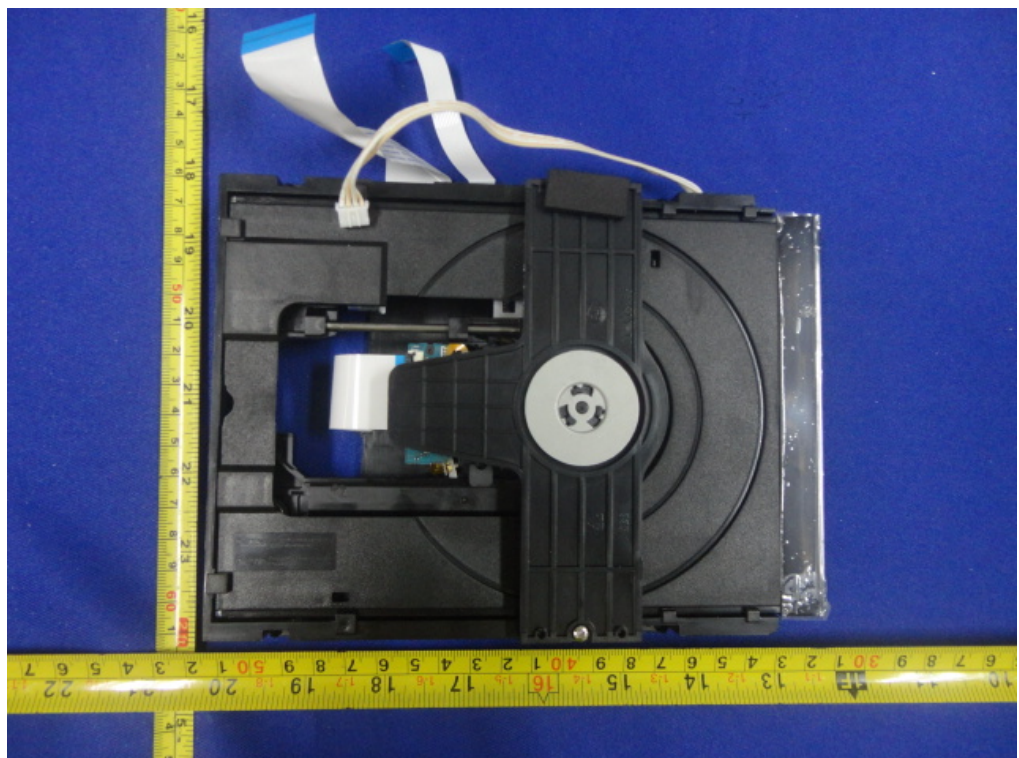
Internal Photos



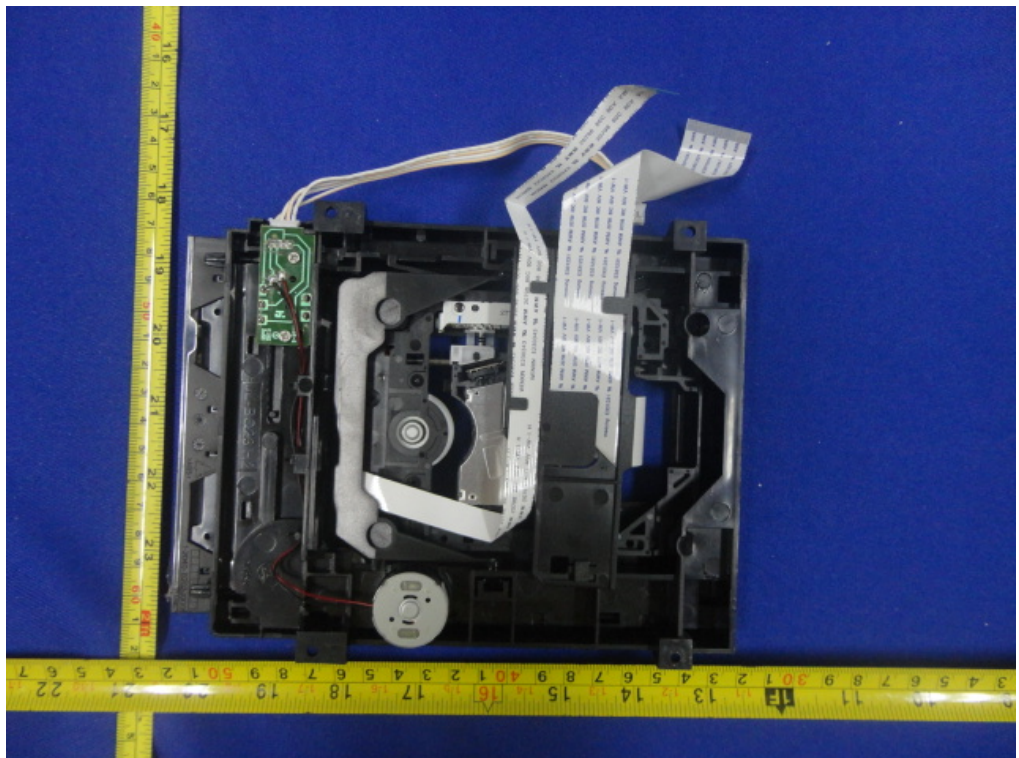
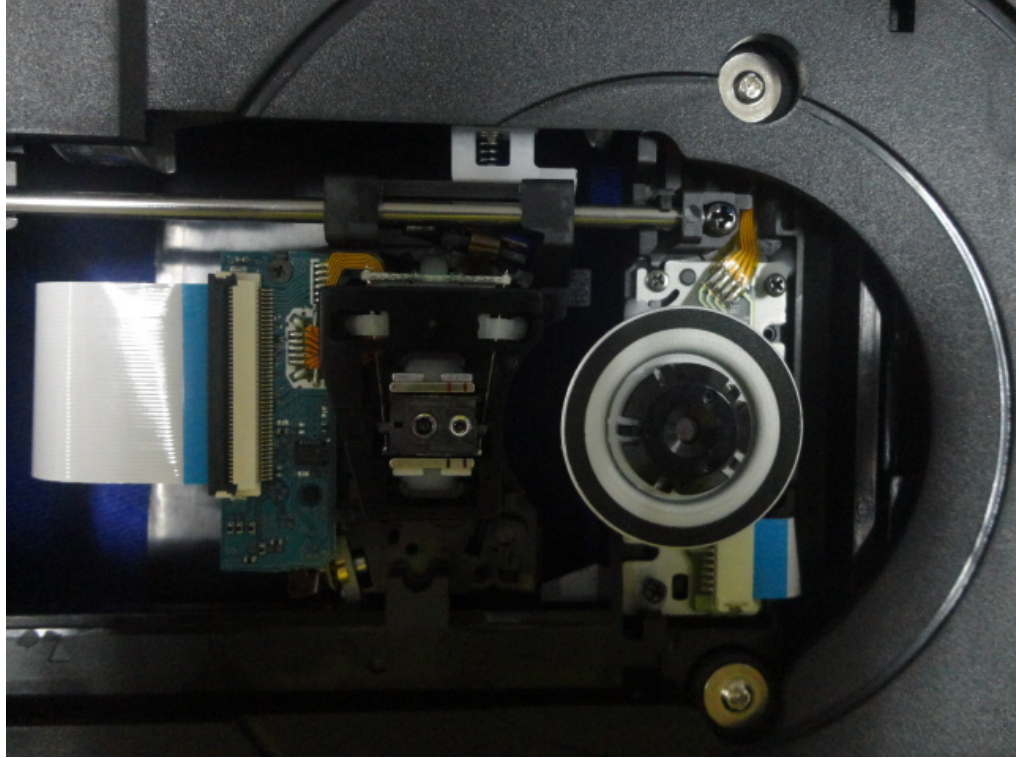
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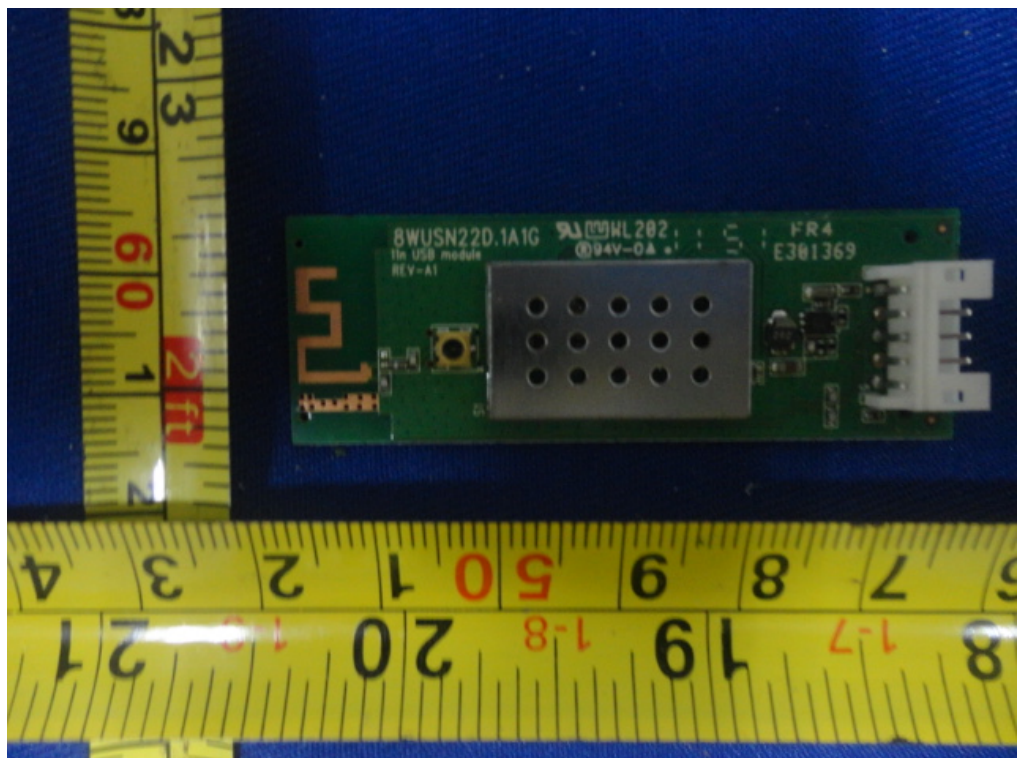
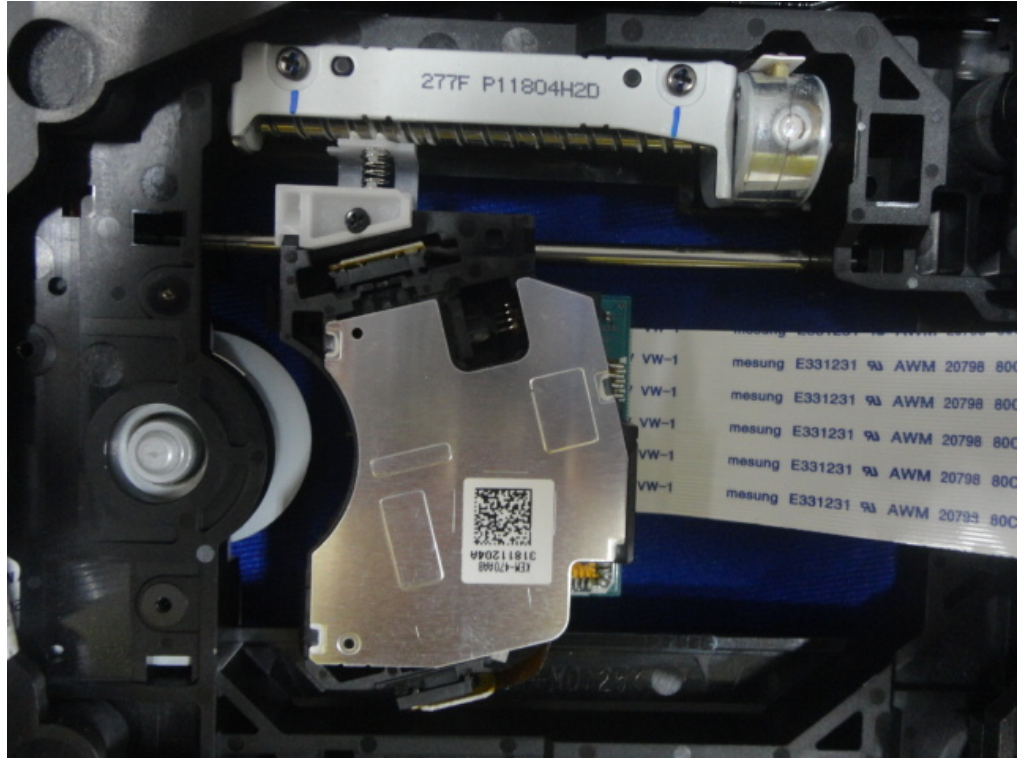
Internal Photos



Internal Photos



Internal Photos



Internal Photos

