

FCC TEST REPORT
FOR
Targus Group International, Inc.

DVD/CD WRITER
Model No.: ADW02, ADW02US

Prepared for : Targus Group International, Inc.
Address : 1211 North Miller Street, Anaheim, CA 92806 United States
Tel: 852-2168 5974

Prepared By : Anbotek Compliance Laboratory Limited
Address : 1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan
District, Shenzhen, 518054 China
Tel: (86) 755-26014771
Fax: (86) 755-26014772

Report Number : 201008684F
Date of Test : Aug. 10~16, 2010
Date of Report : Aug. 20, 2010

TABLE OF CONTENTS

Description

Page

Test Report

1. GENERAL INFORMATION	4
1.1. Description of Device (EUT)	4
1.2. Description of Test Facility	5
1.3. Measurement Uncertainty	5
2. POWER LINE CONDUCTED MEASUREMENT	6
2.1. Test Equipment	6
2.2. Block Diagram of Test Setup	6
2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)	6
2.4. Configuration of EUT on Measurement	7
2.5. Operating Condition of EUT	7
2.6. Test Procedure	7
2.7. Power Line Conducted Emission Measurement Results	7
3. RADIATED EMISSION MEASUREMENT	12
3.1. Test Equipment	12
3.2. Block Diagram of Test Setup	12
3.3. Radiated Emission Limit (Subpart B Class B)	13
3.4. EUT Configuration on Measurement	13
3.5. Operating Condition of EUT	13
3.6. Test Procedure	13
3.7. Radiated Emission Measurement Results	14
4. PHOTOGRAPH	19
4.1. Photo of Power Line Conducted Emission Test	19
4.2. Photo of Radiated Emission Test	19

APPENDIX I (Photos of EUT) (3 Pages)

TEST REPORT

Applicant : Targus Group International, Inc.
Manufacturer : Guangzhou Singulargold Electronics Co., Ltd.
EUT : DVD/CD WRITER
Model No. : ADW02, ADW02US
Rating : DC 5V via USB Port
Trade Mark : Targus

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 15.107&15.109-2007 & ANSI C63.4-2003

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

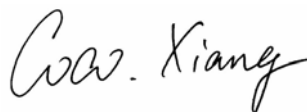
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Aug. 10~16, 2010



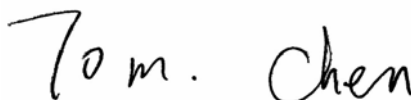
Prepared by :

(Test Engineer / Juice Xu)



Reviewer :

(Project Manager / Coco Xiang)



Approved & Authorized Signer :

(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description : DVD/CD WRITER

Model Number : ADW02, ADW02US
(Note: The above samples are same except the model number & Shape of appliances, so we prepare "ADW02US" for EMC test only.)

Test Power Supply : AC 120V, 60Hz for PC

PC : Manufacturer: DELL
M/N: OPTIPLEX 380
S/N: 1J63X2X
CE , FCC: DOC

MONITOR : Manufacturer: DELL
M/N: E170Sc
S/N: CN-00V539-64180-055-0UPS
CE , FCC: DOC

KEYBOARD : Manufacturer: DELL
M/N: SK-8115
S/N: CN-0DJ313-71616-06C-02XN
CE , FCC: DOC

MOUSE : Manufacturer: DELL
M/N: M-UARDEL7
S/N: N/A
CE , FCC: DOC

Applicant : Targus Group International, Inc.
Address : 1211 North Miller Street, Anaheim, CA 92806
United States

Manufacturer : Guangzhou Singulargold Electronics Co., Ltd.
Address : No.6, Lianhua yan Road, Science City, Guangzhou
Hi-Tech Industrial Development Zone, Guangzhou,
China

Date of Sample received : Aug. 10, 2010

Date of Test : Aug. 10~16, 2010

1.2. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS - LAB Code: L3503

Anbotech Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021

Anbotech Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010.

IC-Registration No.: 8058A

Anbotech Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A, November 12, 2008.

Test Location

All Emissions tests were performed

Anbotech Compliance Laboratory Limited. at 1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054 China

1.3. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3dB

Conduction Uncertainty : Uc = 2.7dB

2. POWER LINE CONDUCTED MEASUREMENT

2.1. Test Equipment

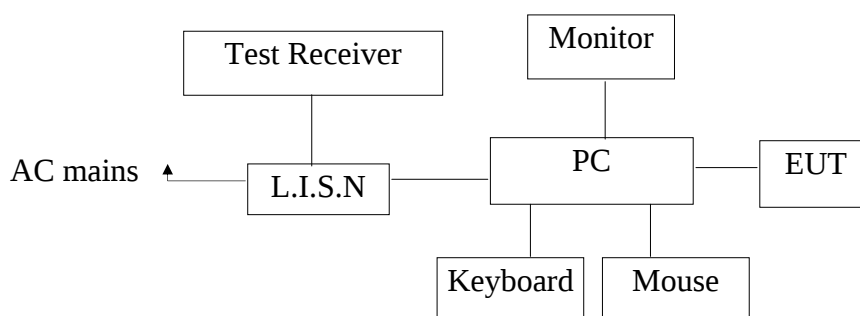
The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2009	1 Year
2.	Artificial Mains	Rohde & Schwarz	ENV216	10055	Nov. 12, 2009	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	N/A	N/A
4.	EMI Test Software	R/S	N/A	N/A	N/A	N/A
5.	Coaxial cable	ANBOTEK	N/A	N/A	Nov. 05, 2009	1 Year

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators

2.3.1.1. For DVD Playing / DVD Writing Mode.



(EUT: DVD/CD WRITER)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15

Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	DVD/CD WRITER
Model Number	:	ADW02US
Applicant	:	Targus Group International, Inc.

2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work in test mode (DVD Playing / DVD Writing) and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150KHz to 30 MHz is investigated.

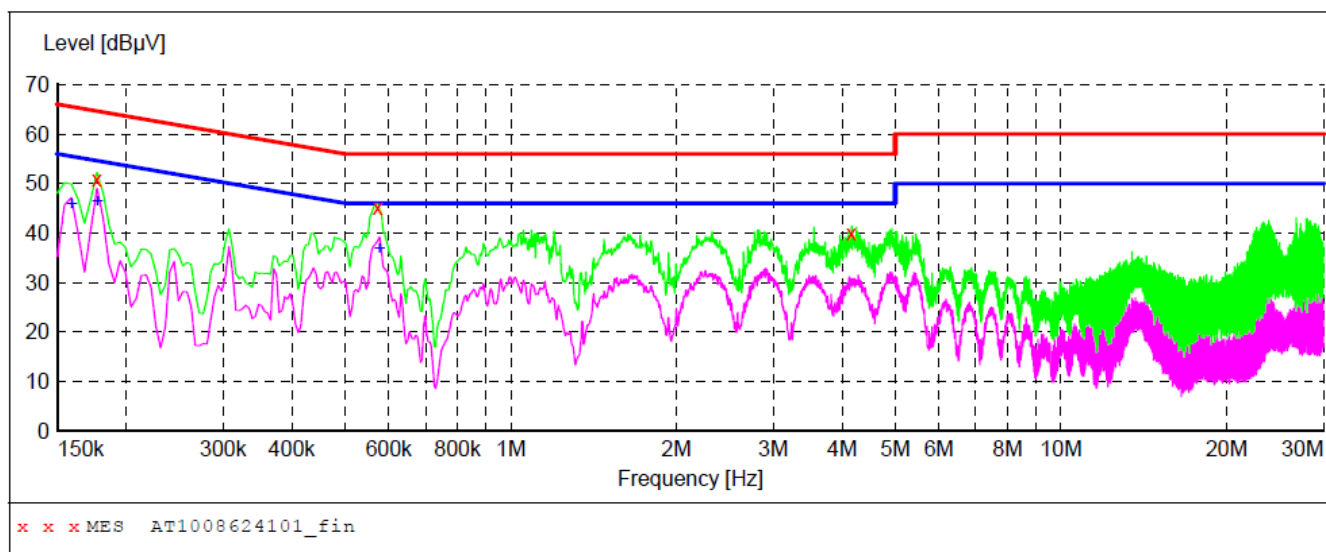
The test curves Please refer the following pages.

CONDUCTED EMISSION TEST DATA

EUT: DVD/CD WRITER M/N: ADW02US
 Operating Condition: DVD Playing
 Test Site: 1# Shielded Room
 Operator: Juice.Xu
 Test Specification: AC 120V/60Hz for PC
 Comment: Live Line
 Tem:25°C Hum:50%

SCAN TABLE: "Voltage (9K-30M) FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "AT1008624101_fin"**

8/10/2010 5:48PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.177000	51.00	10.8	65	14.0	QP	L1	GND
0.573000	45.00	9.9	56	11.0	QP	L1	GND
4.164000	40.00	9.8	56	16.0	QP	L1	GND

MEASUREMENT RESULT: "AT1008624101_fin2"

8/10/2010 5:43PM

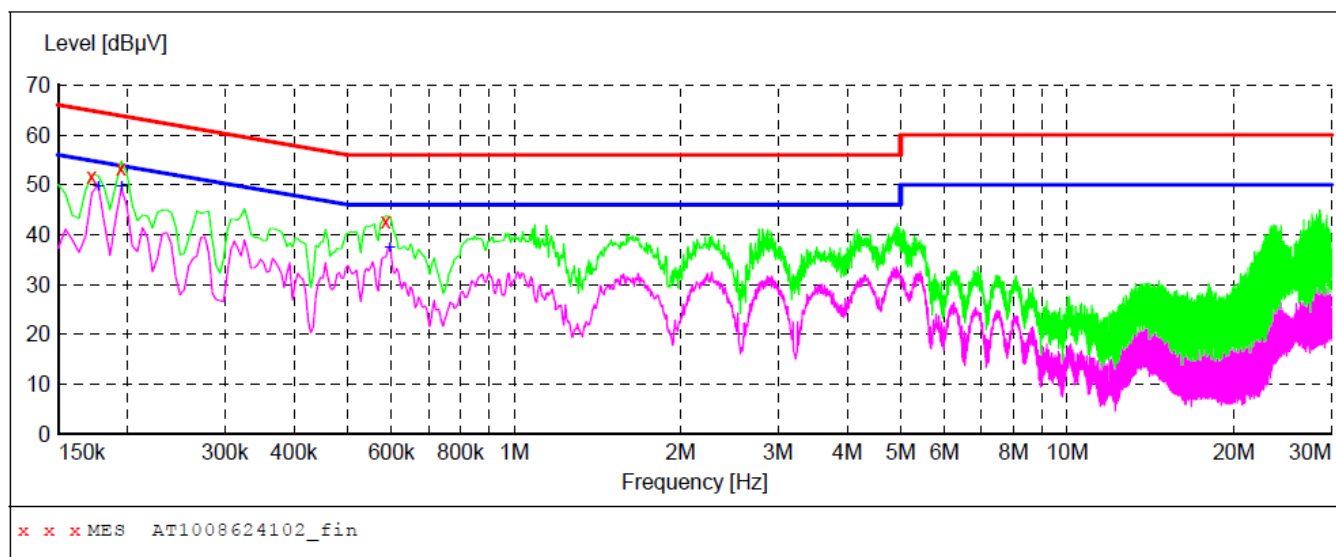
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.159000	45.90	11.0	56	10.1	AV	L1	GND
0.177000	46.60	10.8	55	8.0	AV	L1	GND
0.577500	37.00	9.9	46	9.0	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT: DVD/CD WRITER M/N: ADW02US
 Operating Condition: DVD Playing
 Test Site: 1# Shielded Room
 Operator: Juice.Xu
 Test Specification: AC 120V/60Hz for PC
 Comment: Neutral Line
 Tem:25°C Hum:50%

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "AT1008624102_fin"**

8/10/2010 5:46PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.172500	51.60	10.9	65	13.2	QP	N	GND
0.195000	53.20	10.7	64	10.6	QP	N	GND
0.586500	42.80	9.9	56	13.2	QP	N	GND

MEASUREMENT RESULT: "AT1008624102_fin2"

8/10/2010 5:46PM

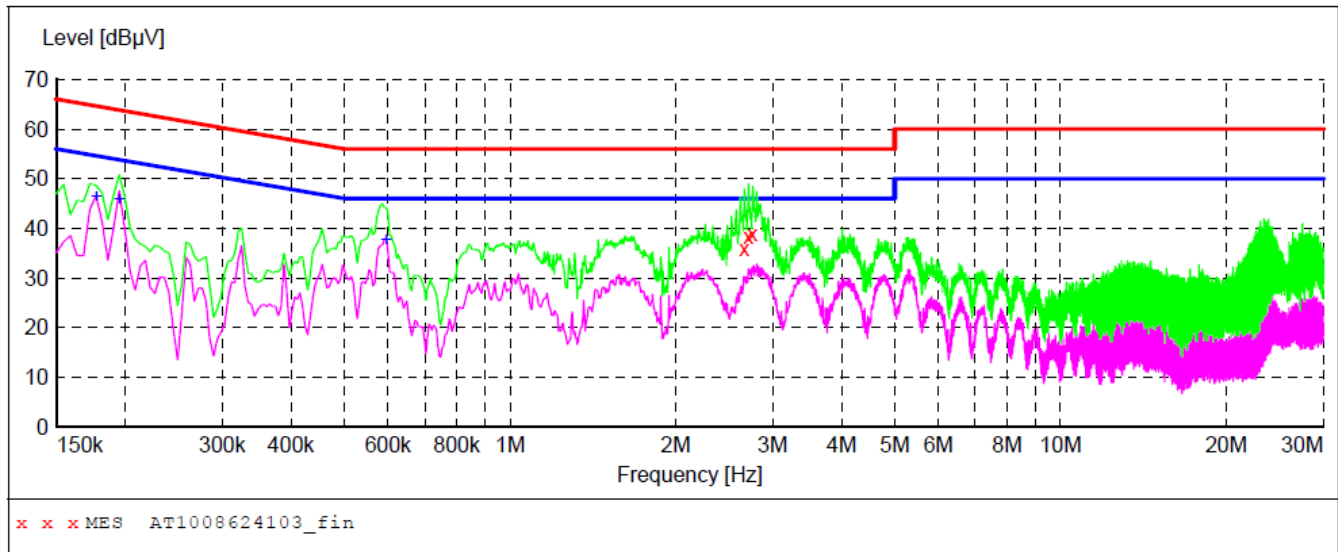
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.177000	49.70	10.8	55	4.9	AV	N	GND
0.195000	49.80	10.7	54	4.0	AV	N	GND
0.595500	37.50	9.9	46	8.5	AV	N	GND

CONDUCTED EMISSION TEST DATA

EUT: DVD/CD WRITER M/N: ADW02US
Operating Condition: DVD Writing
Test Site: 1# Shielded Room
Operator: Juice.Xu
Test Specification: AC 120V/60Hz for PC
Comment: Live Line
Tem:25°C Hum:50%

SCAN TABLE: "Voltage (150K-30M) FIN"

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1008624103_fin"**

8/16/2010 8:36AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
2.665500	35.90	9.8	56	20.1	QP	L1	GND
2.710500	38.30	9.8	56	17.7	QP	L1	GND
2.760000	38.90	9.8	56	17.1	QP	L1	GND

MEASUREMENT RESULT: "AT1008624103_fin2"

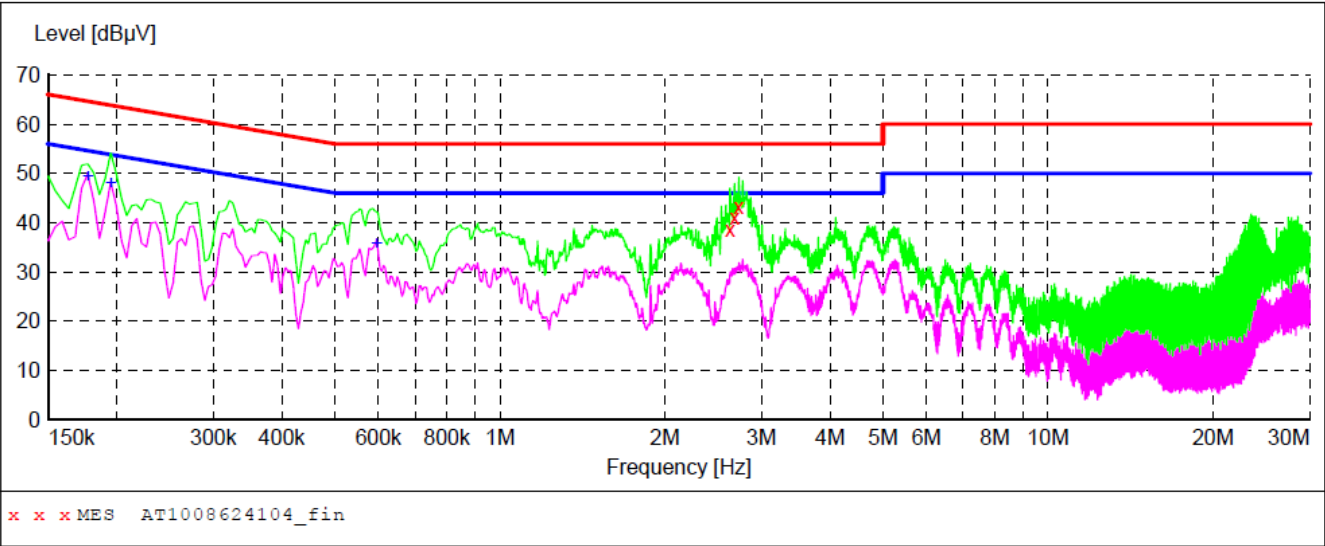
8/16/2010 8:36AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.177000	46.50	10.8	55	8.1	AV	L1	GND
0.195000	46.00	10.7	54	7.8	AV	L1	GND
0.595500	37.70	9.9	46	8.3	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT: DVD/CD WRITER M/N: ADW02US
Operating Condition: DVD Playing
Test Site: 1# Shielded Room
Operator: Juice.Xu
Test Specification: AC 120V/60Hz for PC
Comment: Neutral Line
Tem:25°C Hum:50%

SCAN TABLE: "Voltage (150K-30M) FIN"
Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1008624104_fin"

8/16/2010 8:39AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
2.629500	38.50	9.8	56	17.5	QP	N	GND
2.679000	41.20	9.8	56	14.8	QP	N	GND
2.728500	43.10	9.8	56	12.9	QP	N	GND

MEASUREMENT RESULT: "AT1008624104_fin2"

8/16/2010 8:39AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.177000	49.60	10.8	55	5.0	AV	N	GND
0.195000	48.10	10.7	54	5.7	AV	N	GND
0.595500	35.90	9.9	46	10.1	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

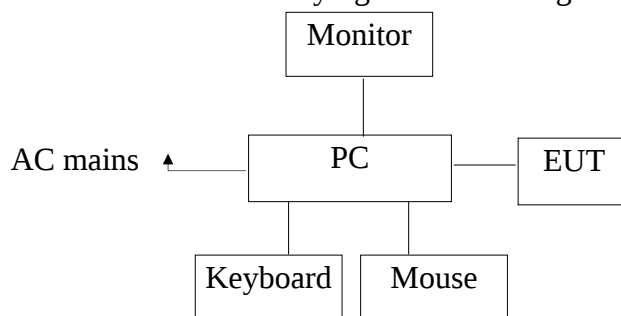
3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	SHURPLE	ESPI	101604	Nov. 12, 2009	1 Year
2.	Bilog Antenna	Schwarzbeck	VULB9163	100015	Nov. 12, 2009	1 Year
3.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Nov. 12, 2009	1 Year
4.	EMI Test Software	SHURPLE	N/A	N/A	N/A	N/A
5.	Coaxial cable	ANBOTEK	N/A	N/A	N/A	N/A

3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators

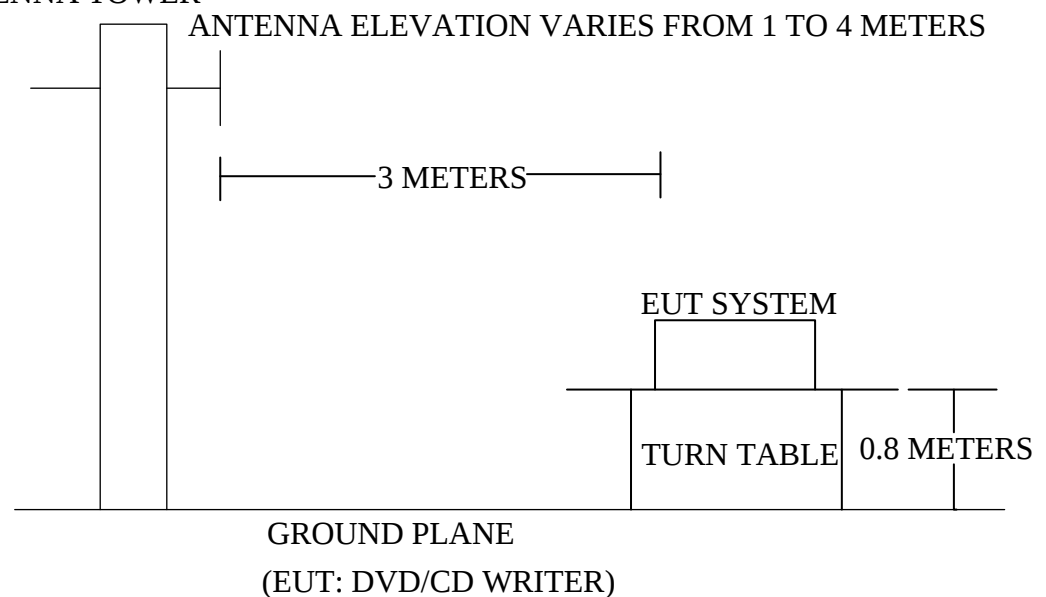
3.2.1.1. For DVD Playing / DVD Writing Mode.



(EUT: DVD/CD WRITER)

3.2.2. Anechoic Chamber Test Setup Diagram

ANTENNA TOWER



3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

- Remark :
- (1) Emission level $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

EUT : DVD/CD WRITER
 Model Number : ADW02US
 Applicant : Targus Group International, Inc.

3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT as shown in Section 3.2.
- 3.5.2. Let the EUT work in test mode (DVD Playing / DVD Writing) and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESPI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

The test mode (DVD Playing / DVD Writing) is tested in chamber and all the test results are listed in Section 3.7.

3.7. Radiated Emission Measurement Results

PASS.

The test curves Please refer the following pages.

Remarks: All measurements were carried out in peak mode. As long as the values stay under the limit line 6dB, No QP measurement are carried out.


Anbotek Compliance Laboratory Limited

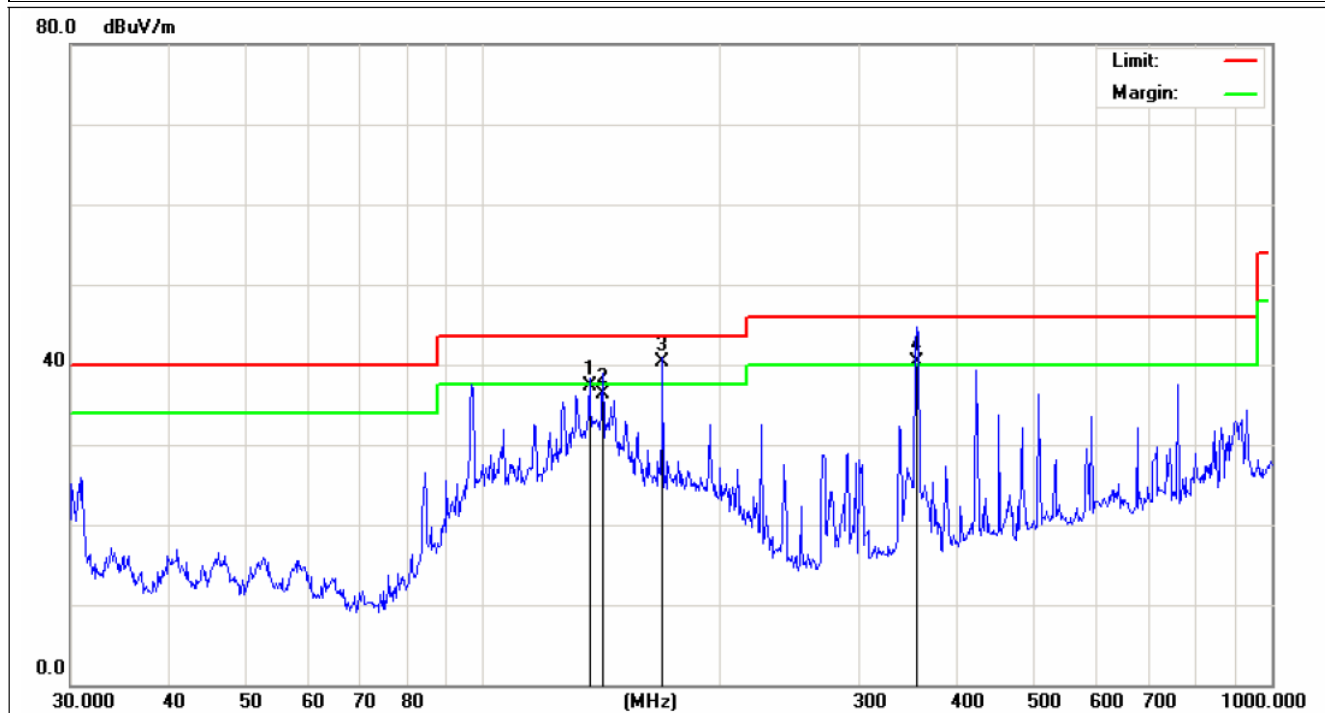
1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066365

Fax: (86)755-26014772

Http://www.anbotek.com

Job No.:	AT1008624F	Polarization:	Horizontal
Standard:	(RE)FCC Part 15_class B_3m	Power Source:	DC 5V via USB Port
Test item:	Radiation Test	Date:	2010/08/11
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	12:33:34
EUT:	DVD/CD WRITER	Test By:	Juice.Xu
Model:	ADW02US	Distance:	3m
Note:	DVD Playing		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	136.4598	64.23	-26.92	37.31	43.50	-6.19	QP
2	141.5762	63.41	-27.12	36.29	43.50	-7.21	QP
3	168.7754	66.42	-26.20	40.22	43.50	-3.28	QP
4	356.4973	59.59	-19.31	40.28	46.00	-5.72	QP


Anbotek Compliance Laboratory Limited

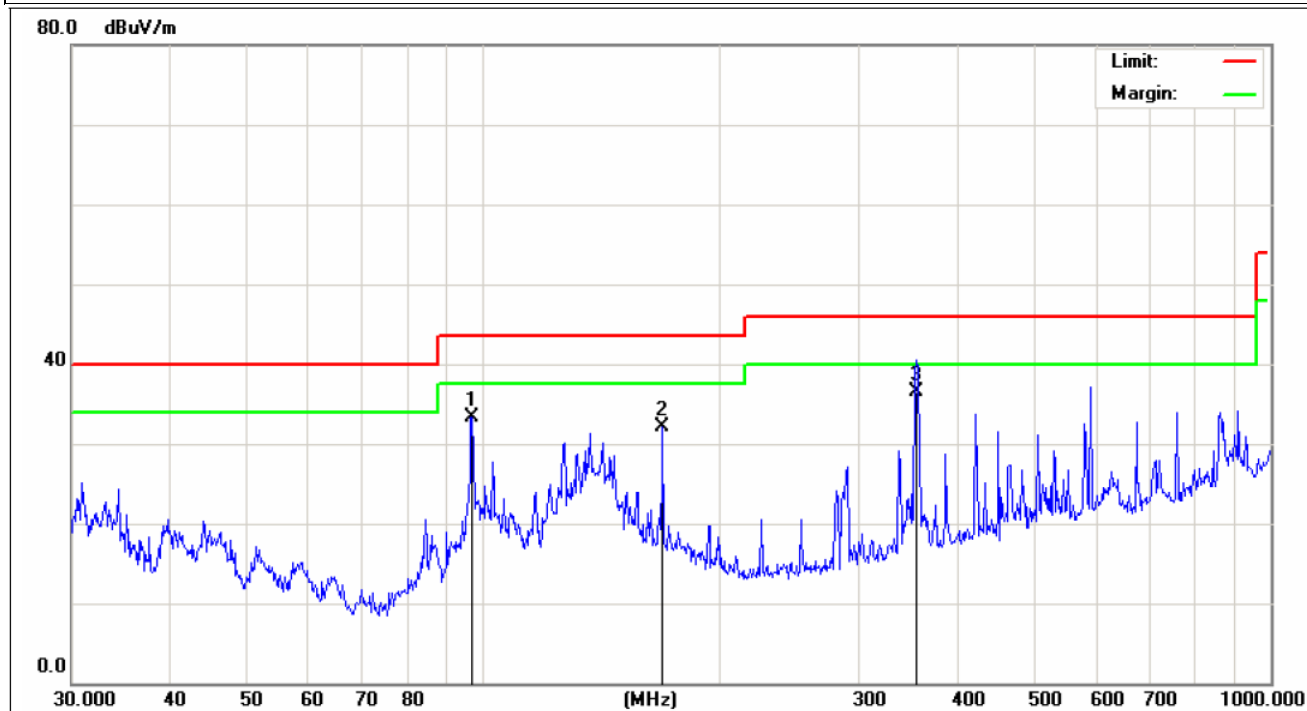
1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066365

Fax: (86)755-26014772

Http://www.anbotek.com

Job No.:	AT1008624F	Polarziation:	Vertical
Standard:	(RE)FCC Part 15_class B_3m	Power Source:	DC 5V via USB Port
Test item:	Radiation Test	Date:	2010/08/11
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	12:30:53
EUT:	DVD/CD WRITER	Test By:	Juice.Xu
Model:	ADW02US	Distance:	3m
Note:	DVD Playing		



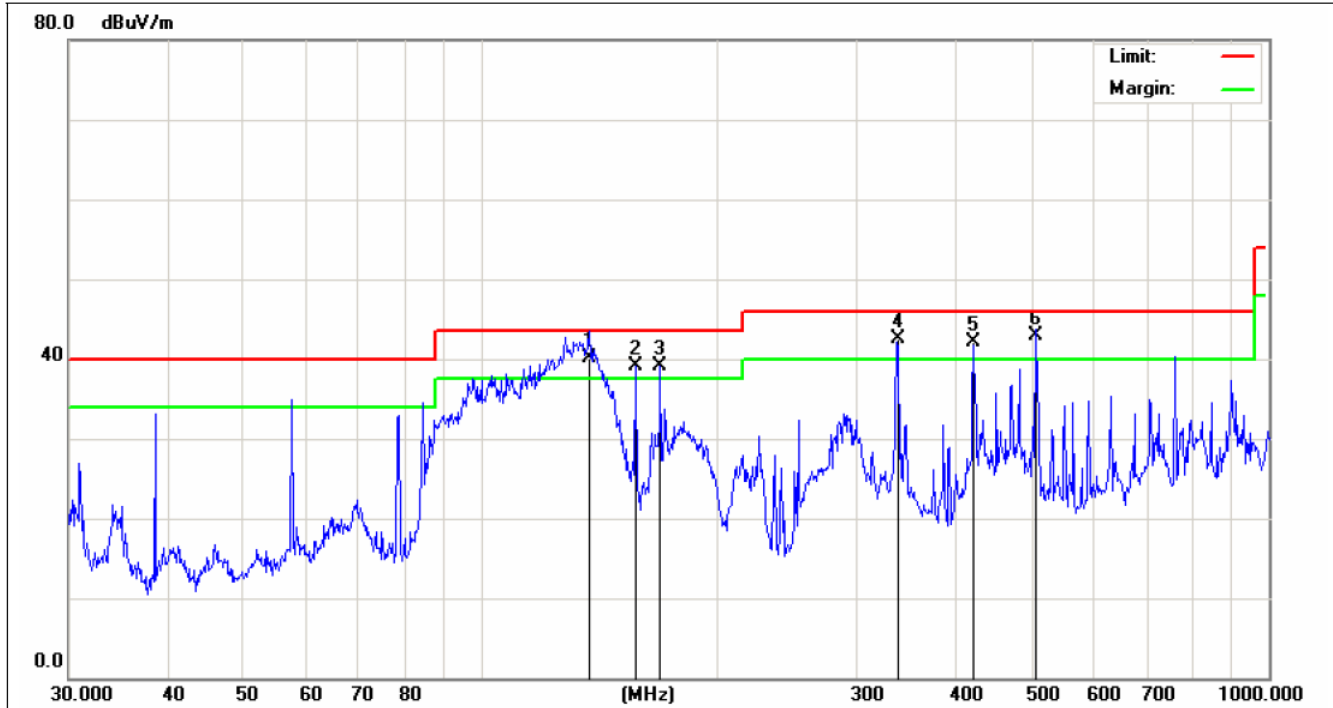
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Remark
1	96.7749	56.04	-22.78	33.26	43.50	-10.24	peak
2	169.0054	58.22	-26.19	32.03	43.50	-11.47	peak
3	354.1831	55.91	-19.39	36.52	46.00	-9.48	QP

**Anbotek Compliance Laboratory Limited**

1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066365
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	AT1008624F	Polarization:	Horizontal
Standard:	(RE)FCC Part 15_class B_3m	Power Source:	DC 5V via USB Port
Test item:	Radiation Test	Date:	2010/08/11
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	10:54:07
EUT:	DVD/CD WRITER	Test By:	Juice.Xu
Model:	ADW02US	Distance:	3m
Note:	DVD Writing		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	137.4202	67.00	-26.98	40.02	43.50	-3.48	QP
2	157.0074	65.82	-26.62	39.20	43.50	-4.30	QP
3	169.0054	65.34	-26.19	39.15	43.50	-4.35	QP
4	338.4001	62.48	-19.89	42.59	46.00	-3.41	QP
5	422.0577	60.01	-17.87	42.14	46.00	-3.86	QP
6	506.3191	59.00	-16.11	42.89	46.00	-3.11	QP


Anbotek Compliance Laboratory Limited

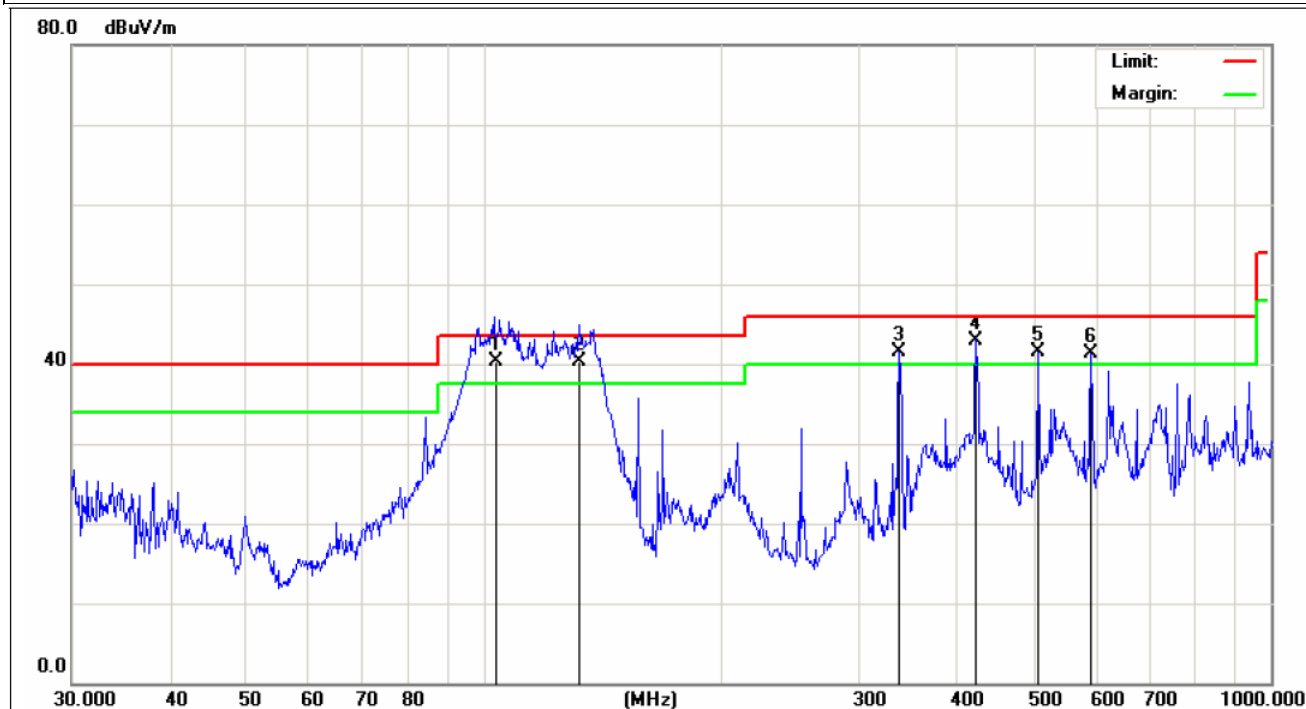
1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066365

Fax: (86)755-26014772

Http://www.anbotek.com

Job No.:	AT1008624F	Polarization:	Vertical
Standard:	(RE)FCC Part 15_class B_3m	Power Source:	DC 5V via USB Port
Test item:	Radiation Test	Date:	2010/08/11
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	10:59:25
EUT:	DVD/CD WRITER	Test By:	Juice.Xu
Model:	ADW02US	Distance:	3m
Note:	DVD Writing		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	103.6200	63.10	-22.82	40.28	43.50	-3.22	QP
2	132.2206	66.87	-26.63	40.24	43.50	-3.26	QP
3	337.2155	61.53	-19.96	41.57	46.00	-4.43	QP
4	422.0577	60.68	-17.87	42.81	46.00	-3.19	QP
5	506.4791	57.56	-16.11	41.45	46.00	-4.55	QP
6	590.9737	55.29	-13.90	41.39	46.00	-4.61	QP