

TECHNOLOGY  
CONSULTING  
CO LTD



卓時檢測  
TIMEWAY TESTING LABORATORY



ISO/IEC17025 Accredited Lab.

Report No: FCC 0902016-02

File reference No: 2009-04-08

Applicant: Dongguan Tangxia USmart Electronic Products Limited

Product: Laptop Computer

Model No: LB-1017

Trademark: N/A

Test Standards: FCC Part 15 Subpart B: 2008

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

*Jack Chung*

Jack Chung

Manager

Dated: April 08,2009

**Results appearing herein relate only to the sample tested**

**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**

**SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD**

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996



## **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

### **FCC-Registration No.: 899988**

The 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 No.: 899988.

### **IC- Registration No.: IC5205A-01**

The 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 IC No.: 5205A-01.

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Test Report Conclusion

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## 1.0 General Details

### 1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD  
Address: East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.  
Telephone: (755) 83448688  
Fax: (755) 83442996

### 1.2 Applicant Details

Applicant: Dongguan Tangxia USmart Electronic Products Limited  
Address: No.12,Lu Yi 2 Road, Tang Xia Town,Dongguan City,Guang Dong Prov.,China  
Telephone: +86-769-87911890  
Fax: +86-769-87915263

### 1.3 Description of EUT

Product: Laptop Computer  
Manufacturer: Dongguan Tangxia USmart Electronic Products Limited  
Brand Name: N/A  
Model Number: LB-1017  
Additional Model Number: LB-1017XX,(XXIndicate the different shell colors and with different clients)  
Rating: Input: DC 19V,57W  
The adapter Model No.: ADP193-32, (Made by Huntkey)  
Rating: Input: 100-240V, 1.5A Max, 50/60Hz Output: 19V, 3.42A  
The adapter Model No.: YJS05-1903000D (Made by SWITCHING)  
Rating: Input: 100-240V, 1.5A Max, 47-63Hz Output: 19V, 3A

### 1.4 Submitted Sample: 1 Sample

1.5 Test Duration: 2009-02-23 to 2009-04-08

### 1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB  
Radiated Emissions Uncertainty =4.7dB

### 1.7 Test Engineer

The sample tested by

Print Name: Terry Tong

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## 2.0 List of Measurement Equipment

### 2.1 Conducted Emission Test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2009.2.23	1 Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
LISN	NTFM8132	8132137	SCHWARZBECK	2009.2.24	1 Year
LISN	NTFM8134	8134109	SCHWARZBECK	2009.2.24	1 Year
LISN	NTFM8136	8136102	SCHWARZBECK	2009.2.24	1 Year

### 2.2 Radiated electromagnetic disturbance test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2009.2.23	1 Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer(with Tracking Generator)	MS2661C	MT72089	ANRITSU	2009.2.23	1 Year
Amplifier	MH648A	M20494	ANRITSU	2009.2.24	1 Year
Bilog Antenna	CBL6101C	2576	CHASE	2009.2.23	1 Year

### 2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Cable	FCC ID/DOC
Monitor	6331-4CN	23-DNWX3	IBM	Data cable of 1.5m length unshielded and 1.8m length AC Mains cable	FCC ID
Mouse	OM860XC	HM0509	BIGCOW	Data cable of 1.5m length	FCC DOC
Monitor	FP51G	ET47604175CLO	BENQ	Data cable of 1.5m length unshielded and 1.8m length AC Mains cable	FCC DOC
External hard disk	SHE046	D090300112053	SSK	Data cable of 1.0m length	FCC DOC

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### 3.0 Technical Details

#### 3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

#### 3.2 Test Standards

**FCC Part 15 Subpart B: 2008**

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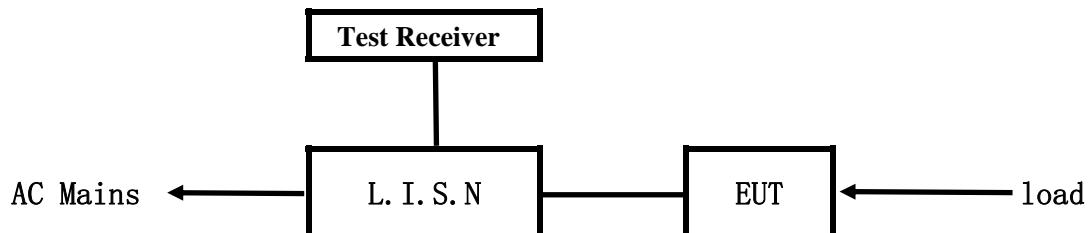
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#### 4.0 Conducted Power line Test

##### 4.1 Schematics of the test



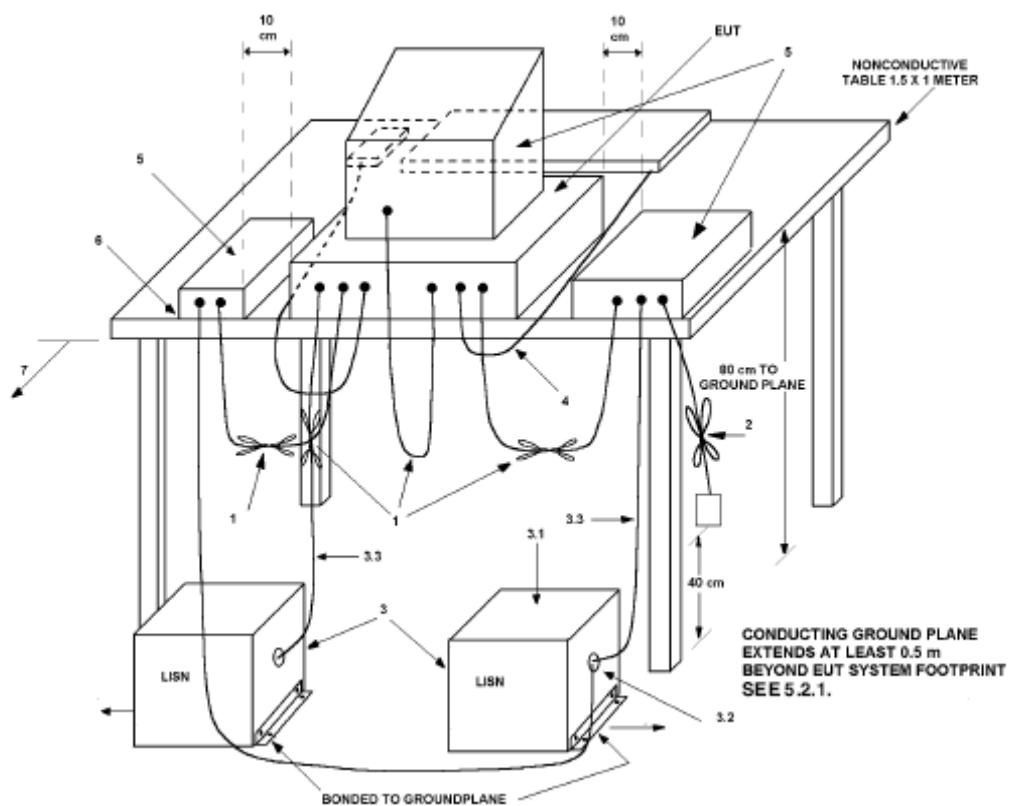
EUT: Equipment Under Test

##### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 -2003. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



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## 4.3 Power line conducted Emission Limit

Frequency(MHz)	Class A Limits dB(μV)		Class B Limits dB(μV)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*
0.50 ~ 5.00	73.00	60.00	56.00	46.00
5.00 ~ 30.00	73.00	60.00	60.00	50.00

Notes: 1. \*decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

## 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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### A Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Read USB,SD card and software, Running EMC test software and Ping wireless network

Adaptor used for test Model No.: ADP193-32

**Results:** Pass

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Line		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.4194	54.69	34.99	--	--	57.46	47.46
0.4761	39.55	24.85	--	--	56.41	46.41
0.5410	45.01	30.31	--	--	56.00	46.00
0.6290	41.61	27.41	--	--	56.00	46.00
0.7495	40.53	23.93	--	--	56.00	46.00
0.9750	40.37	28.27	--	--	56.00	46.00

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## B Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Read USB,SD card and software, Running EMC test software and Ping wireless network

Adaptor used for test Model No.: ADP193-32

**Results:** Pass

Please refer to following diagram for individual

File :LB-1017 Data :#5 Date: 09/02/26/ Time: 15:22:38



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.4790	--	--	40.05	24.35	56.36	46.36
0.5130	--	--	42.88	27.08	56.00	46.00
0.5321	--	--	44.60	28.20	56.00	46.00
0.6163	--	--	41.49	25.99	56.00	46.00
0.7466	--	--	40.33	24.03	56.00	46.00
0.9996	--	--	25.70	23.30	56.00	46.00

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### C Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: ADP193-32

**Results:** Pass

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Line		Neutral		Quasi-peak	Average
	Quasi-peak	Average	Quasi-peak	Average		
0.4780	50.25	24.85	--	--	56.37	46.37
0.5342	44.91	28.61	--	--	56.00	46.00
0.6673	40.25	22.75	--	--	56.00	46.00
0.7696	41.76	28.66	--	--	56.00	46.00
0.8441	41.53	28.33	--	--	56.00	46.00
0.8387	41.33	28.93	--	--	56.00	46.00

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#### D Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: ADP193-32

**Results:** **Pass**

Please refer to following diagram for individual

File :LB-1017

Data :#8

Date: 09/02/26/

Time: 15/52/49

80.0 dB $\mu$ V



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.4874	--	--	40.36	29.06	56.21	46.21
0.5395	--	--	45.11	29.91	56.00	46.00
0.6811	--	--	39.86	23.26	56.00	46.00
0.7564	--	--	40.94	24.44	56.00	46.00
0.8805	--	--	39.47	22.87	56.00	46.00
1.0353	--	--	40.41	26.81	56.00	46.00

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### Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

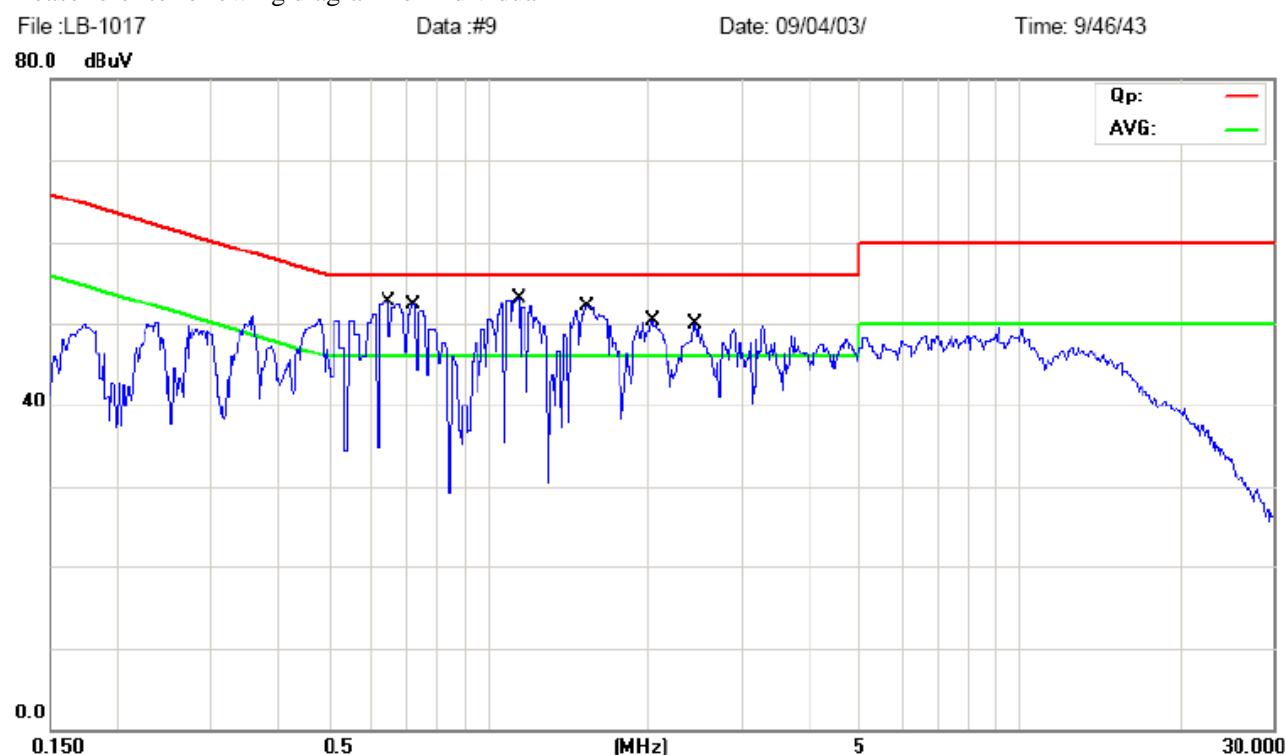
EUT set Condition: Read USB,SD card and software, Running EMC test software and Ping wireless network

Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

**Results:** **Pass**

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.6448	--	--	42.82	37.42	56.00	46.00
0.7200	--	--	48.90	34.60	56.00	46.00
1.1325	--	--	52.35	30.65	56.00	46.00
1.5471	--	--	50.12	33.12	56.00	46.00
2.0232	--	--	48.21	33.51	56.00	46.00
2.4403	--	--	47.18	33.78	56.00	46.00

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### Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

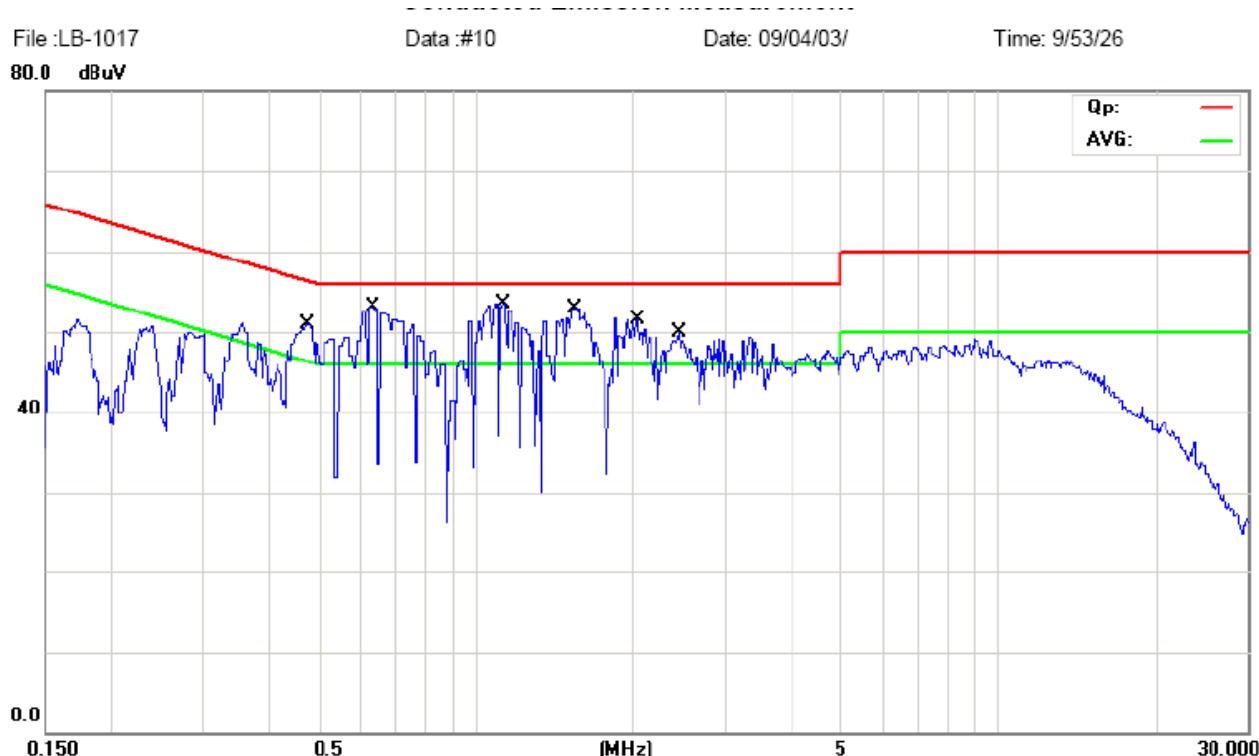
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Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

**Results:** **Pass**

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.4698	49.44	36.04	--	--	56.52	46.52
0.6400	50.29	33.32	--	--	56.00	46.00
1.1257	51.85	35.75	--	--	56.00	46.00
1.5496	51.92	32.42	--	--	56.00	46.00
2.0270	49.01	33.21	--	--	56.00	46.00
2.4448	47.78	28.38	--	--	56.00	46.00

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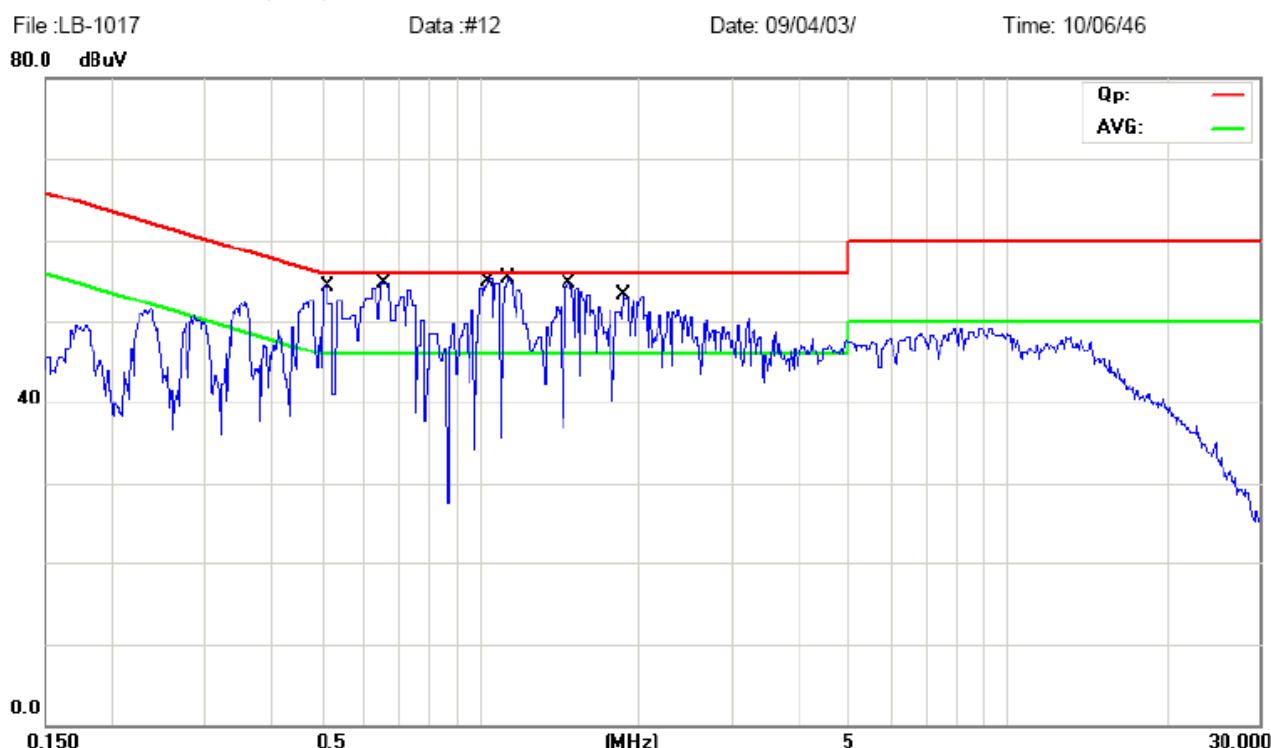
EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

**Results:** **Pass**

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.5160	--	--	50.79	33.59	56.00	46.00
0.6503	--	--	54.23	34.03	56.00	46.00
1.0261	--	--	53.11	40.81	56.00	46.00
1.1278	--	--	53.05	31.95	56.00	46.00
1.4842	--	--	51.19	31.09	56.00	46.00
1.8920	--	--	48.16	28.26	56.00	46.00

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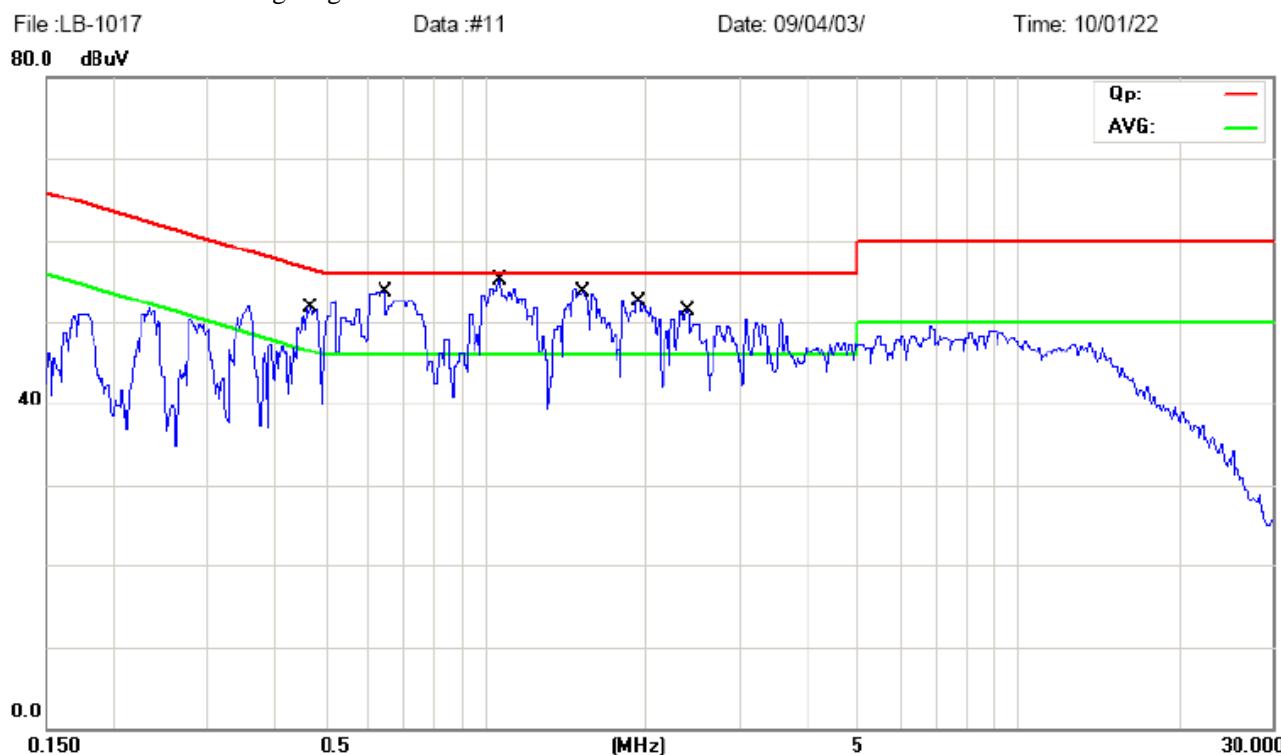
EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

**Results:** Pass

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB $\mu$ V)				Limit (dB $\mu$ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.6385	52.52	41.02	--	--	56.00	46.00
1.0616	53.02	41.22	--	--	56.00	46.00
1.5251	53.31	35.01	--	--	56.00	46.00
1.9421	51.58	38.58	--	--	56.00	46.00
2.3706	49.55	39.84	--	--	56.00	46.00
0.4733	51.84	33.34	--	--	56.00	46.00

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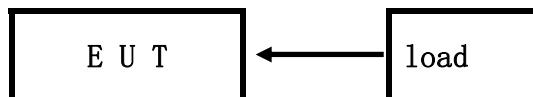
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## 5.0 Radiated Disturbance Test

### 5.1 Schematics of the test

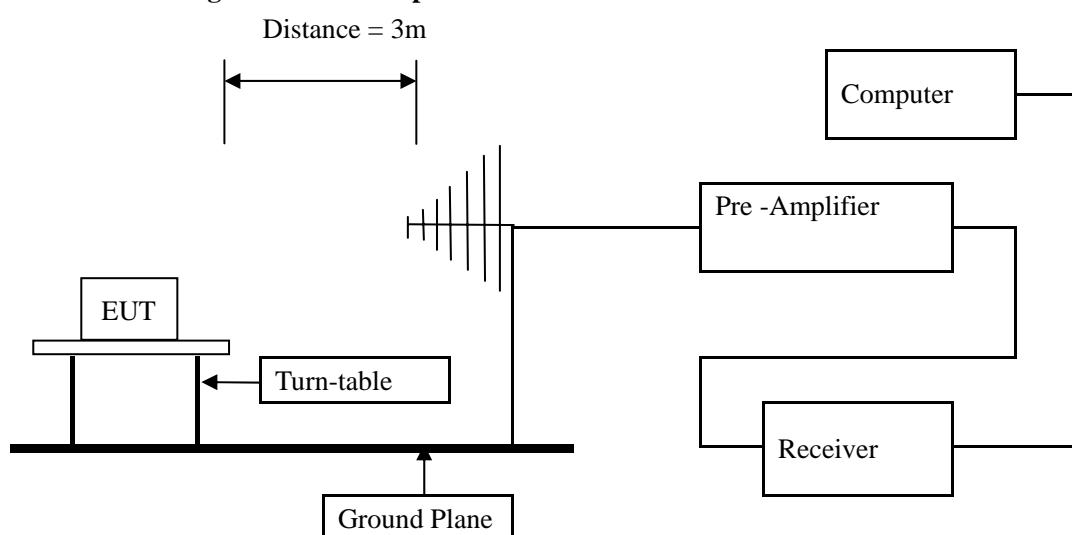


#### 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003, The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK

Actual Working Voltage and Frequency: 120V~, 60Hz

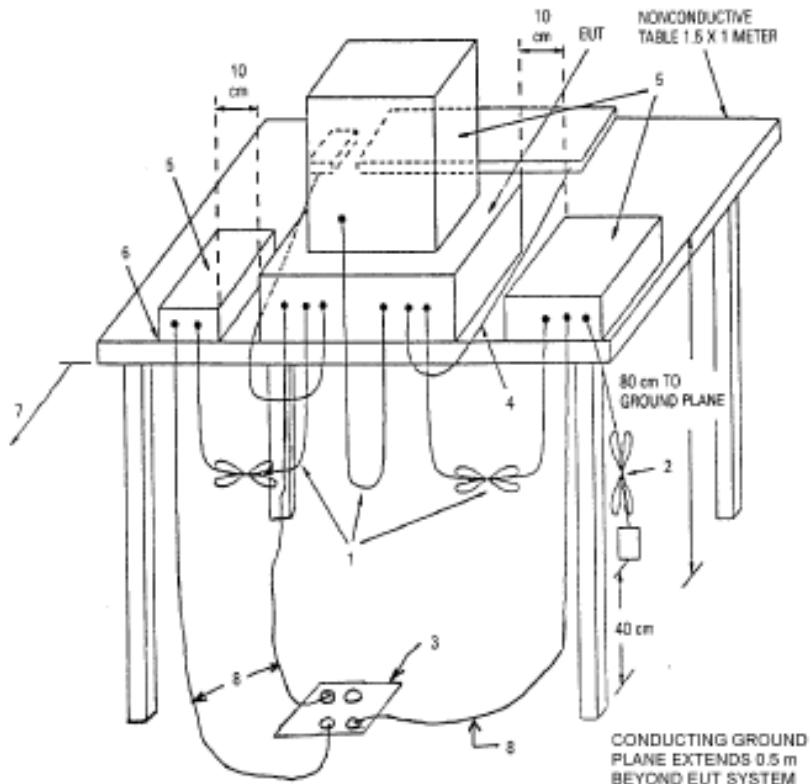
#### Block diagram of Test setup



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### 5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

### 5.4 Test result

The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120KHz. For measurement above 1GHz, peak values with  $RBW=VBW=1MHz$  and PK detector. AV value with  $RBW=1MHz$ ,  $VBW=10Hz$  and PK. Measurements were made at 3 meters. For the test data and plots above 1G, please refer to page 30-35 and page 40-45 of test report 0902016.

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**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Read USB,SD card and software, Running EMC test software and Ping wireless network

Adaptor used for test Model No.: ADP193-32

Working Voltage: 120V~ 60Hz

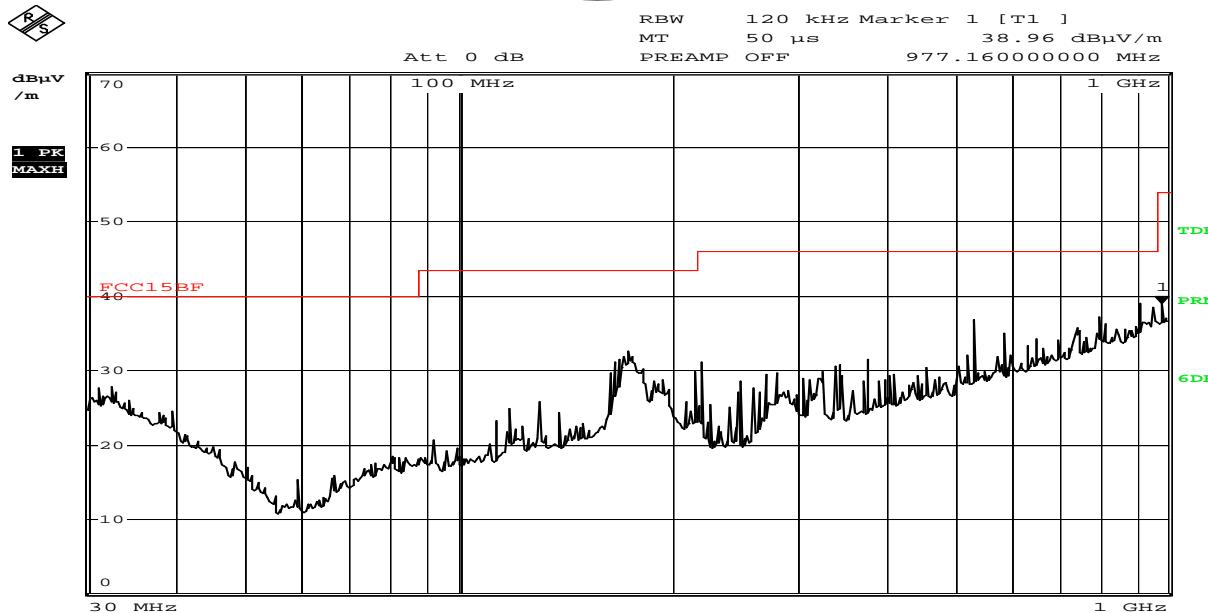
**Results:** **PASS**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
172.88	32.41	H	43.50
912.00	39.03	H	46.00
977.16	39.10	H	46.00
130.00	30.78	V	43.50
651.23	40.02	V	46.00
977.15	40.60	V	46.00

The report refers only to the sample tested and does not apply to the bulk.

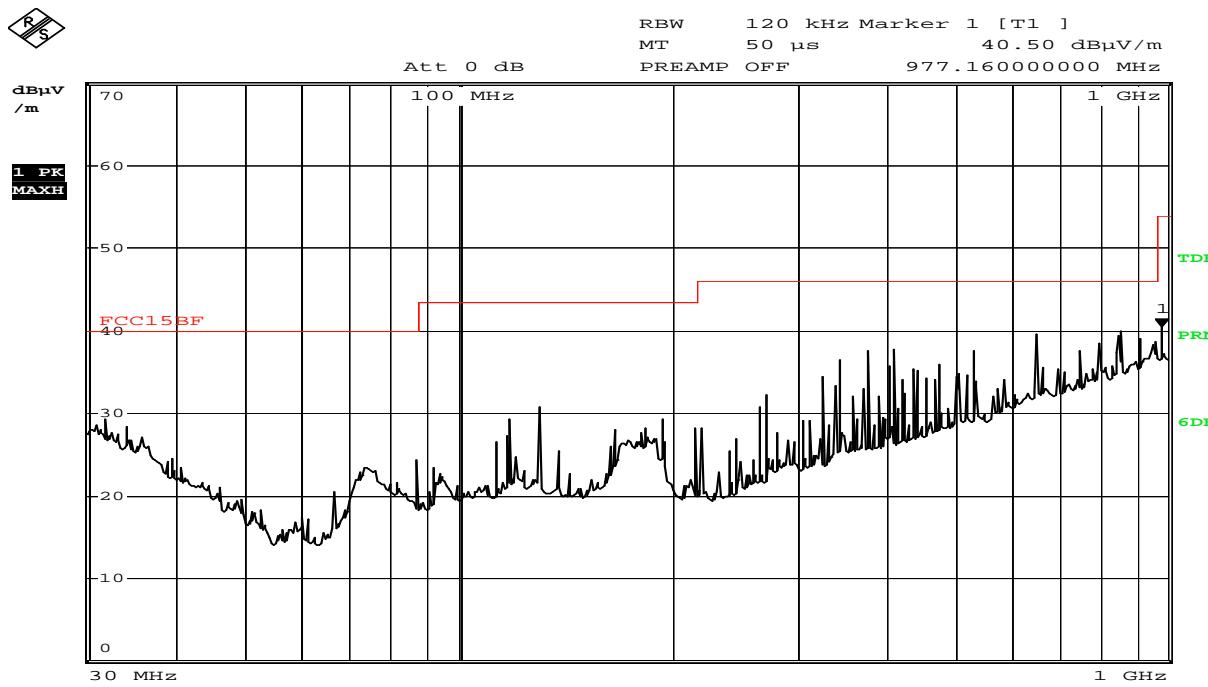
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Comment: 12v 7AH -V charging  
Date: 26.FEB.2009 10:26:42

### Vertical



Comment: 12v 7AH -V charging  
Date: 26.FEB.2009 10:25:45

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**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: ADP193-32

Working Voltage: 120V~ 60Hz

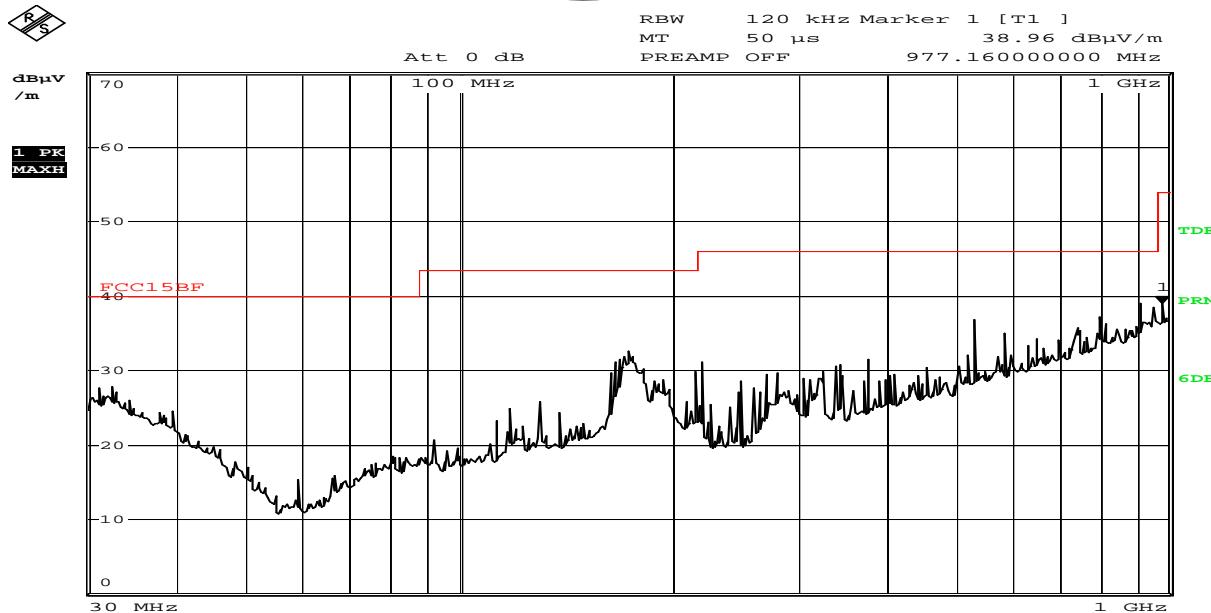
**Results:** **PASS**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
173.10	33.74	H	43.50
531.88	37.67	H	46.00
798.04	39.51	H	46.00
117.62	31.43	V	43.50
532.02	38.76	V	43.50
173.10	42.12	V	46.00

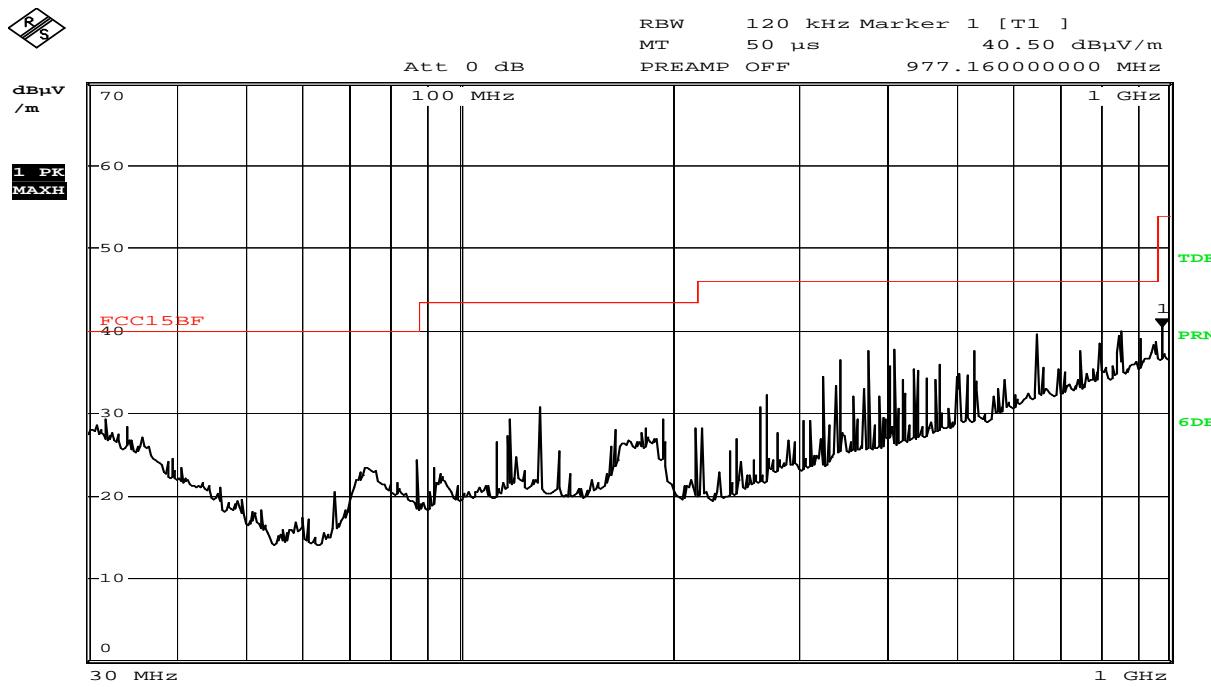
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### Vertical



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**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Read USB,SD card and software, Running EMC test software and Ping wireless network

Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

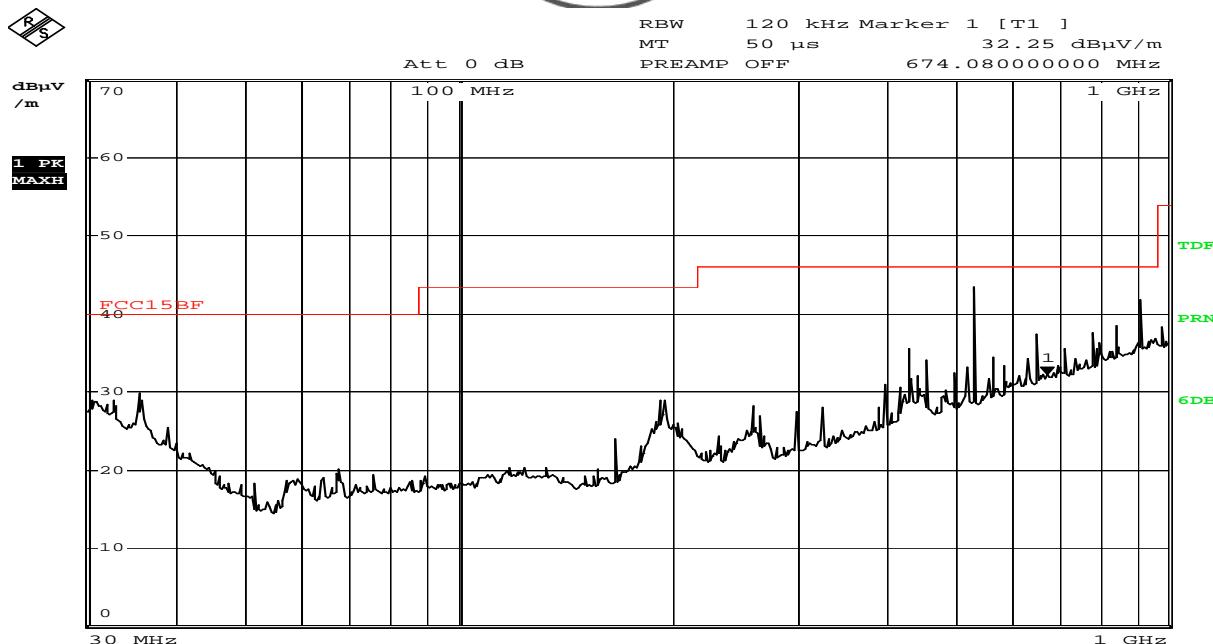
**Results:** **PASS**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
531.96	44.4	H	46.00
912.04	42.8	H	46.00
36.08	36.8	V	40.00
432.24	39.8	V	46.00
532.00	41.3	V	46.00

The report refers only to the sample tested and does not apply to the bulk.

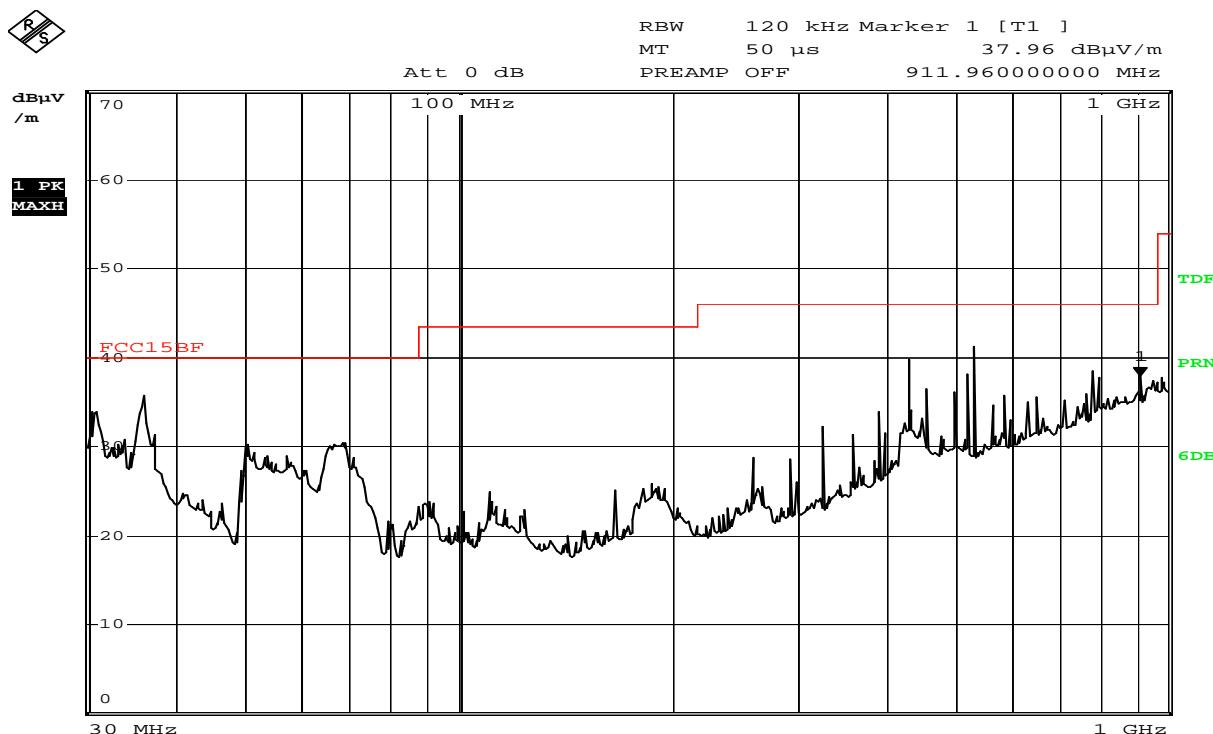
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Date: 3.APR.2009 10:43:40

### Vertical



Date: 3.APR.2009 10:46:42

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**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Running notebook test program and Ping network

Adaptor used for test Model No.: YJS05-1903000D

Working Voltage: 120V~ 60Hz

**Results:** **PASS**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
532.00	45.1	H	46.00
651.44	42.2	H	46.00
912.00	40.6	H	46.00
35.52	37.64	V	40.00
432.20	42.8	V	46.00
532.00	44.6	V	46.00
781.72	41.4	V	46.00

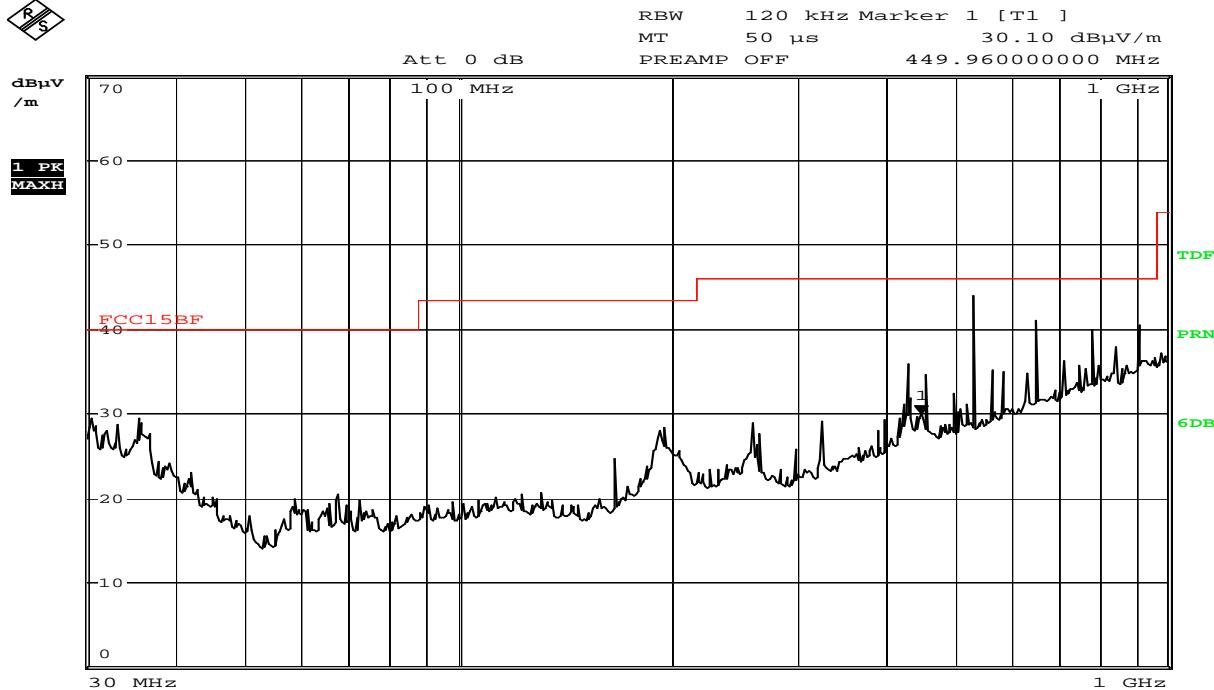
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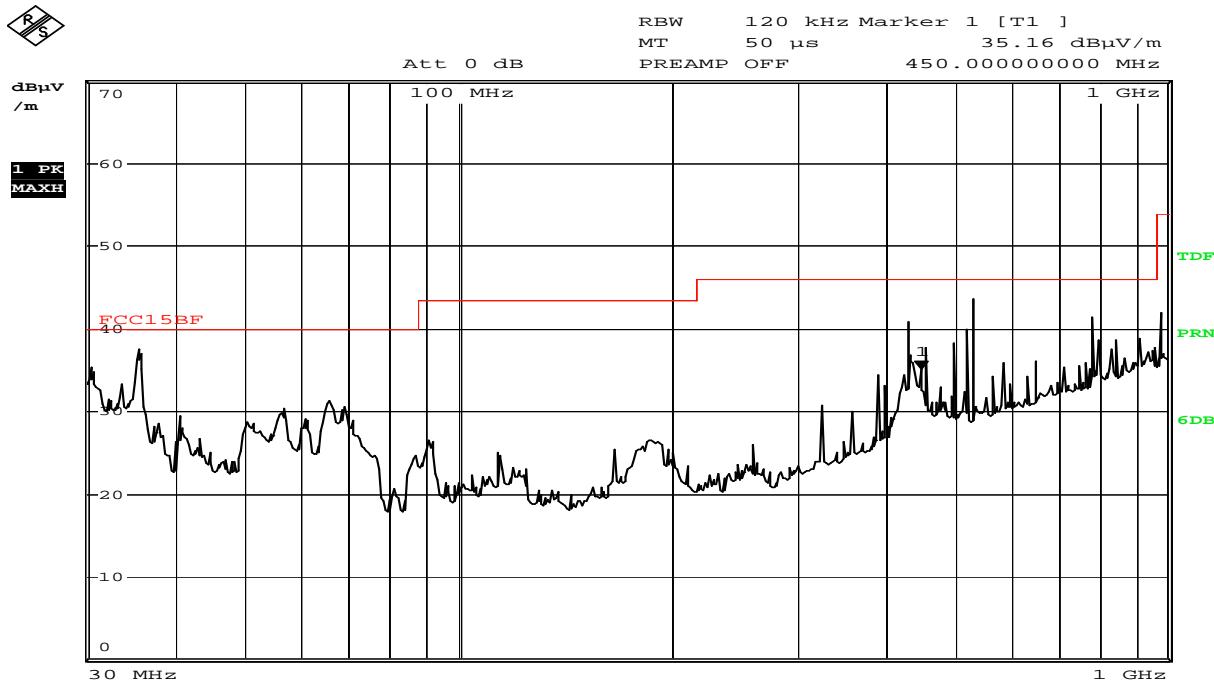
R  
S



Date: 3.APR.2009 10:40:46

### Vertical

R  
S



Date: 3.APR.2009 10:38:49

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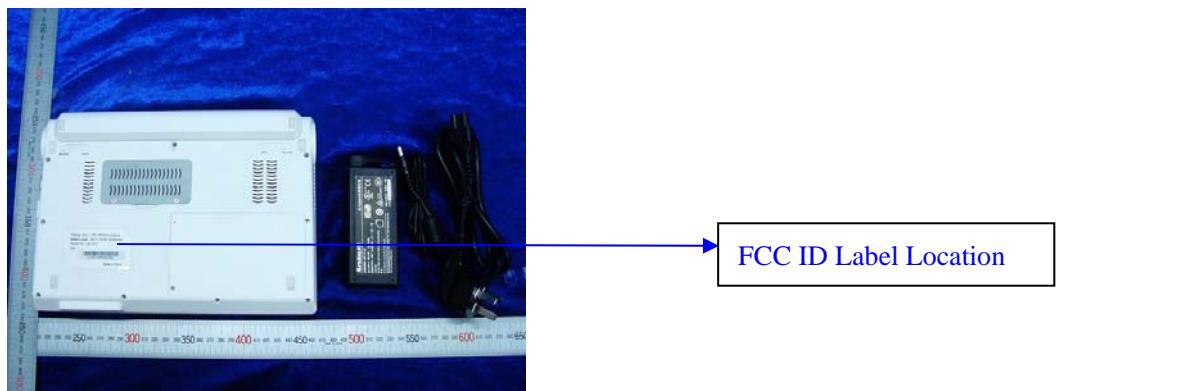
## 6.0 FCC ID Label

FCC ID: **W7TUS**

**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.**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

### Mark Location:



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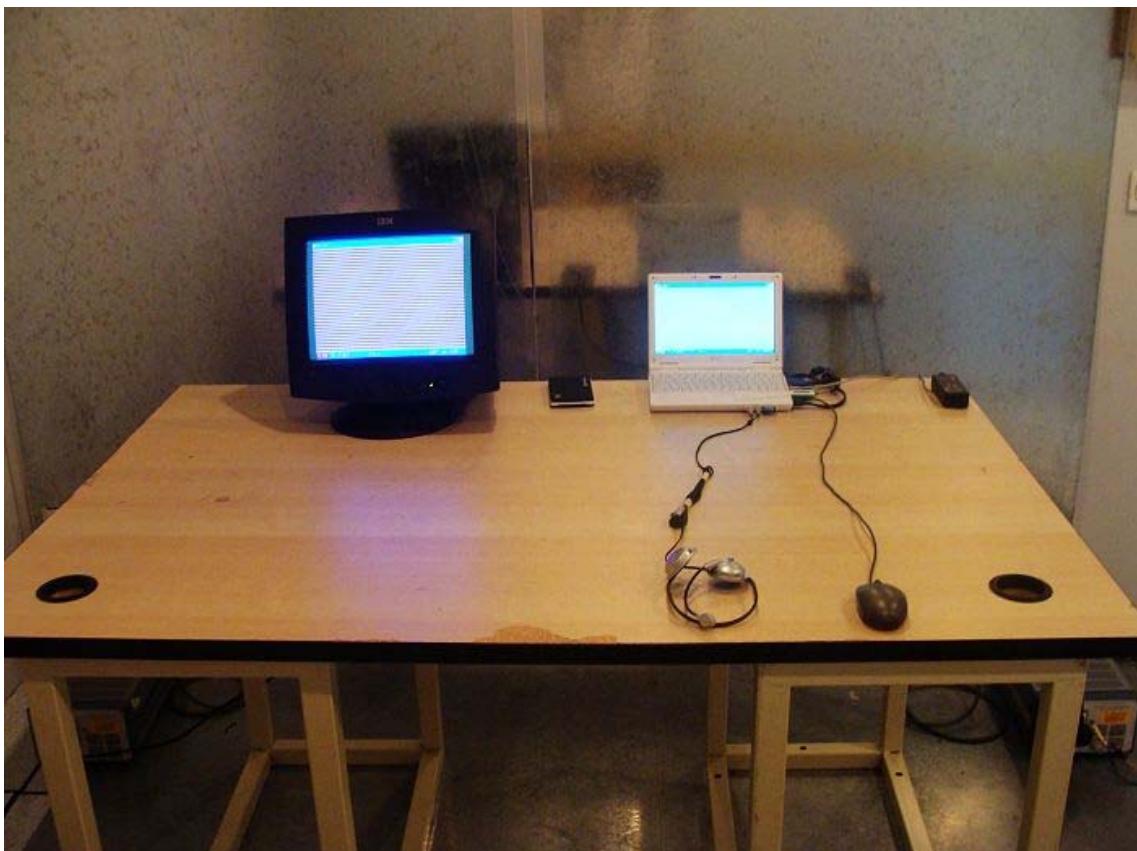
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7.0 Photo of testing

7.1 Conducted test View--

AC Mains



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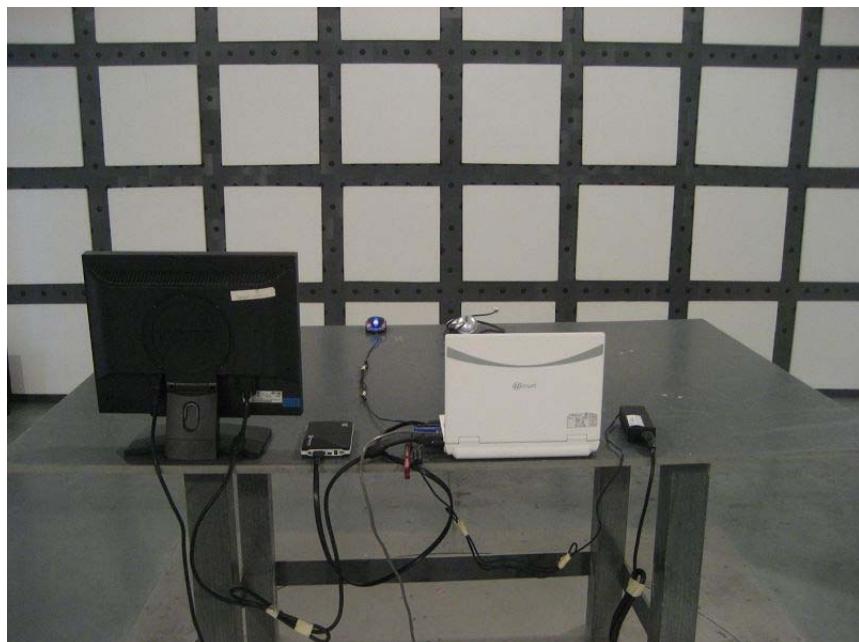
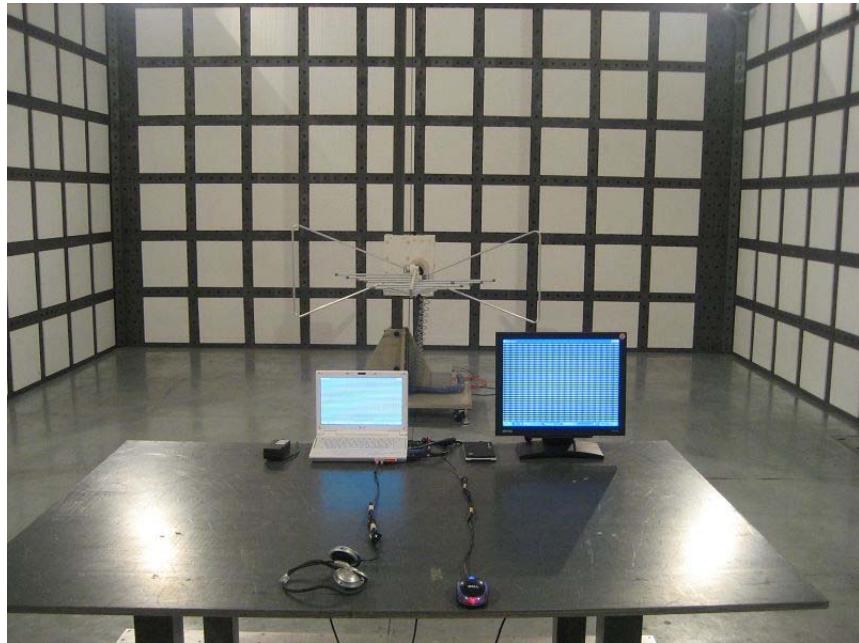
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7.2 Radiated emission test view--

Playing



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