



Product Service

## EMC TEST REPORT

Report Number : **68.760.10.172.01** Date of Issue: 18 September 2010

Model : **PC-A1001**

Product Type : Tablet Personal Computer

Applicant : Wanlida Group Co., Ltd.

Address : No. 618 Jiahe Road, Wanlida Industry Zone,  
Xiamen Fujian, China 361006

Production Facility : Wanlida Group Co., Ltd.

Address : Wanlida Industry Zone, Nanjing, Fujian, China 363601

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including  
Appendices : 20

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## 2 Details about the Test Laboratory

### Details about the Test Laboratory

Company name: Jiangsu TÜV Product Service Ltd. – Shenzhen Branch  
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Guangdong,  
China

Telephone: 86 755 2663 9496  
Fax: 86 755 2663 2877

### 3 Description of the Equipment Under Test

#### Description of the Equipment Under Test

Product: Tablet Personal Computer

Model no.: PC-A1001

Brand Name: MALATA

Options and accessories: NIL

Rating: DC 19V, 2.1A  
Test with adaptor:  
Input: AC 100-240V, 50-60Hz, 1A  
Output: DC 19V, 2.1A

Antenna: Integral antenna inside enclosure of EUT, NOT accessible by end user

RF Transmission  
Frequency: 2412-2462MHz

Description of the EUT: NIL

#### Auxiliary Equipment and Cable Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
LCD monitor	DELL	1907FPt	7735430660P0G WD-04
Keyboard	DELL	SK-8115	E145614
Mouse	DELL	OCJ339	G0203WAZ
Headphone	ODDO	---	----
SD card	Kingston	SD4/4GBFE	----
VGA cable	DELL	Unshield	140cm
AC Power cable	DELL	Unshield	180cm



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## 4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B	PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators



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## 5 Summary of Test Results

Technical Requirements				
FCC Part 15 Subpart B				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
15.107 Conducted Emission AC Power Port	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.109 Spurious radiated emissions	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 6 General Remarks

### Remarks

This submittal(s) (test report) is intended for FCC ID: SMFPCA1001 filing to comply with Section 15.107, 15.109 of the FCC Part 15, Subpart B Rules.

### SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2 September 2010

Testing Start Date: 4 September 2010

Testing End Date: 11 September 2010

- Jiangsu TÜV Product Service Ltd. – Shenzhen Branch -

Reviewed by:

Prepared by:



Paul Yu  
Assistant EMC Manager



Ken Li  
Senior EMC Project Engineer

## 7 Technical Requirement

### 7.1 Conducted Emission

#### Test Method

- 1 The EUT was placed on a table, which is 0.8m above ground plane
- 2 The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
- 3 Maximum procedure was performed to ensure EUT compliance
- 4 A EMI test receiver is used to test the emissions from both sides of AC line

#### Test Mode

##### Run Test Program

-The test program BIT.exe exercises all the drive and ports of the EUT, and displaying scrolling H on the screen.

#### Limit

Frequency MHz	QP Limit dB $\mu$ V	AV Limit dB $\mu$ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

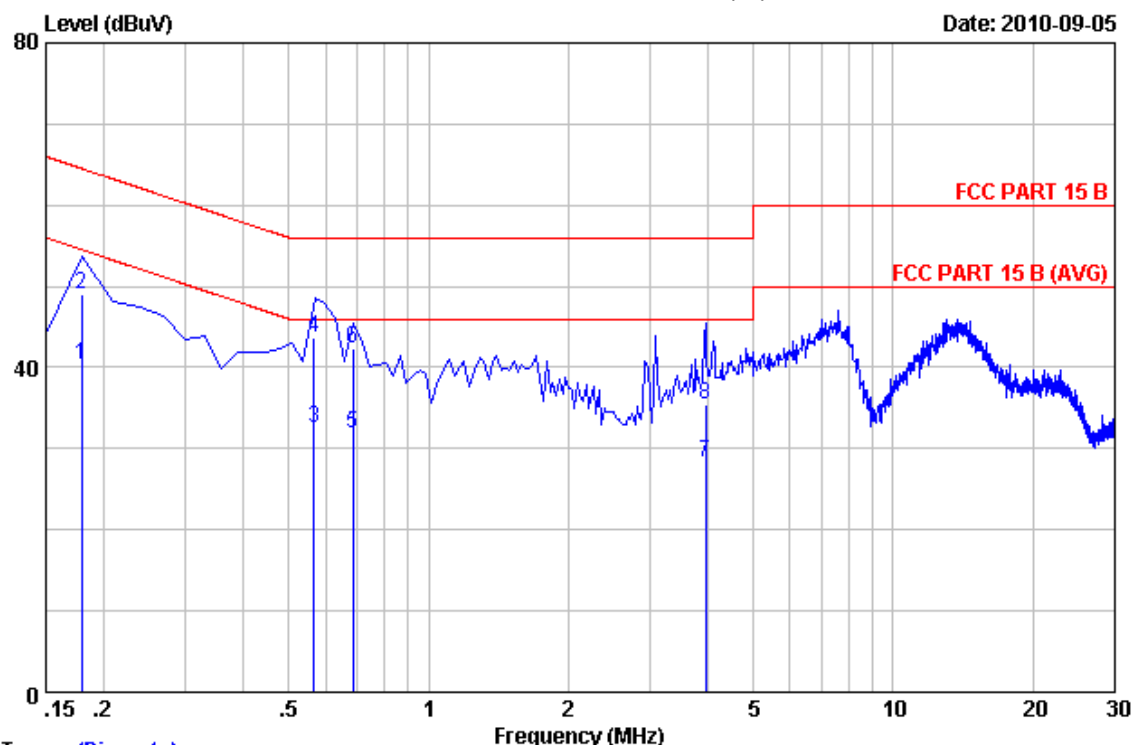


## Conducted Emission

Data: 3

File: D:\DATA\2010 test data\T\TUV\20100905.EM6 (12)

Date: 2010-09-05



Trace: (Discrete)

Site no : 1#conduction Data No : 3  
 Dis./Ant. : \*\* 2010 ESH2-25 LINE  
 Limit : FCC PART 15 B  
 Env./Ins. : 29.5°C/55% Engineer : Paul Tian  
 EUT : PC-A1001  
 Power Rating : AC 120V/60Hz  
 Test Mode : Run test program  
 Memo :  
 :

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17900	0.22	9.88	30.30	40.40	54.53	14.13	Average
2	0.17900	0.22	9.88	38.90	49.00	64.53	15.53	QP
3	0.56700	0.24	9.88	22.51	32.63	46.00	13.37	Average
4	0.56700	0.24	9.88	33.61	43.73	56.00	12.27	QP
5	0.68700	0.25	9.89	21.80	31.94	46.00	14.06	Average
6	0.68700	0.25	9.89	32.30	42.44	56.00	13.56	QP
7	3.940	0.27	9.94	18.09	28.30	46.00	17.70	Average
8	3.940	0.27	9.94	25.19	35.40	56.00	20.60	QP

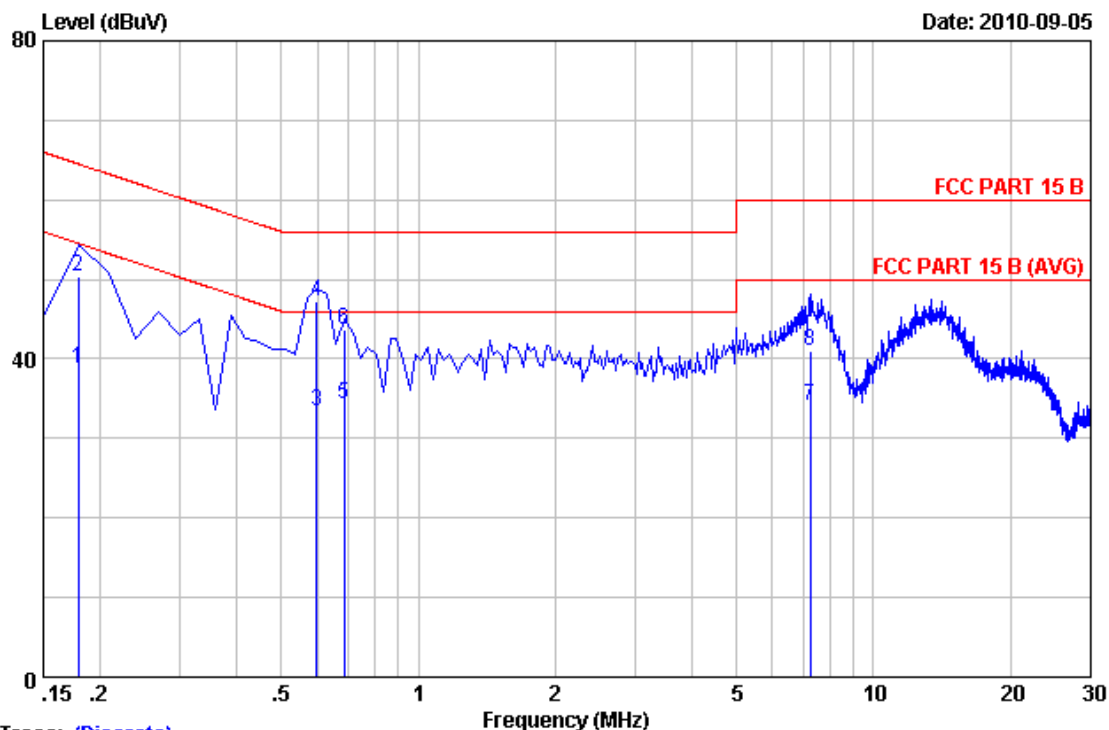
Remarks: 1. Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

## Conducted Emission

Data: 4

File: D:\DATA\2010 test data\T\TUV\20100905.EM6 (12)

Date: 2010-09-05



Trace: (Discrete)

Site no : 1#conduction  
 Dis./Ant. : \*\* 2010 ESH2-Z5 NEUTRAL  
 Limit : FCC PART 15 B  
 Env./Ins. : 29.5°C/55%  
 EUT : PC-A1001  
 Power Rating : AC 120V/60Hz  
 Test Mode : Run test program  
 Memo :  
 :  
 :

Data No : 4  
 Engineer : Paul Tian

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17900	0.21	9.88	28.60	38.69	54.53	15.84	Average
2	0.17900	0.21	9.88	40.30	50.39	64.53	14.14	QP
3	0.59700	0.23	9.88	23.30	33.41	46.00	12.59	Average
4	0.59700	0.23	9.88	37.10	47.21	56.00	8.79	QP
5	0.68700	0.24	9.89	24.10	34.23	46.00	11.77	Average
6	0.68700	0.24	9.89	33.60	43.73	56.00	12.27	QP
7	7.254	0.31	9.97	23.90	34.18	50.00	15.82	Average
8	7.254	0.31	9.97	30.80	41.08	60.00	18.92	QP

Remarks: 1. Emission Level=LISN Factor+Cable Loss (Include 10dB pulse limit) +Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

**Test Equipment List****Conducted Emission Test**

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Dec.18, 10
L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	Mar.30, 11
L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 11
Terminator	Hubersuhner	50Ω	No. 1	May.08, 11
Terminator	Hubersuhner	50Ω	No. 2	May.08, 11
RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 11
Coaxial Switch	Anritsu	MP59B	M55367	May.08, 11
Passive Probe	Rohde & Schwarz	ESH2-Z3	299.7810.52	May.08, 11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 11

## 7.2 Radiated emissions

### Test Method

- 1 The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2 The turntable shall be rotated for 360 degrees to determine the position of maximum emission level
- 3 EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4 Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5 Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

### Test Mode

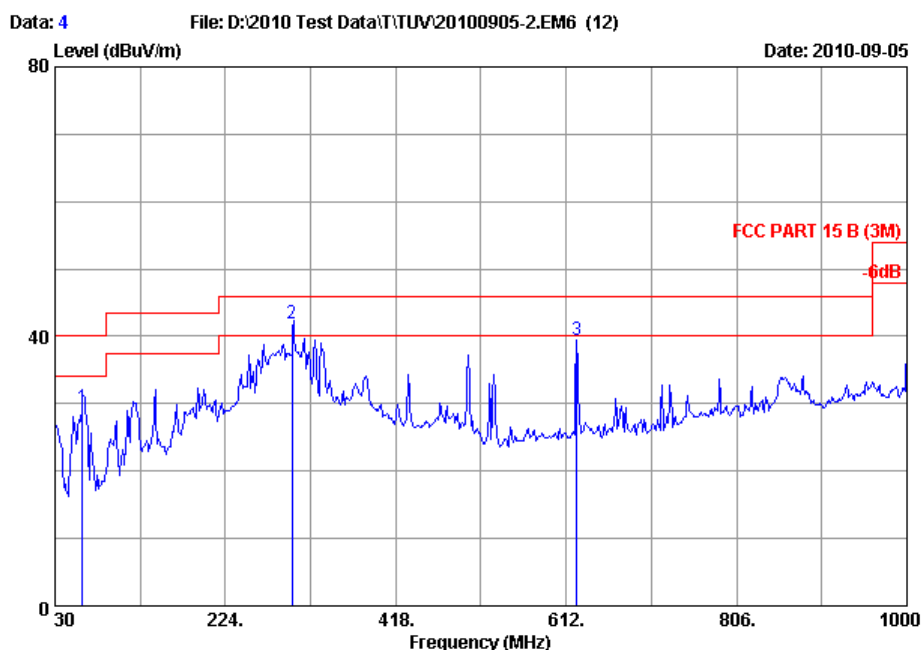
#### Run Test Program

-The test program BIT.exe exercises all the drive and ports of the EUT, and displaying scrolling H on the screen.

### Limit

Frequency MHz	Field Strength uV/m	Field Strength dBμV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

## Radiated Emission



Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 2010 CBL6111C Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B (3M)  
 Env. / Ins. : 24°C/56% Engineer : Victory  
 EUT : PC-A1001  
 Power rating : AC120V/60Hz  
 Test Mode : Run test program  
 M/N: :

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission				Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	61.040	6.00	0.86	22.59	29.45	40.00	10.55	QP
2	300.000	13.70	2.48	25.80	41.98	46.00	4.02	QP
3	623.640	20.07	4.21	15.07	39.35	46.00	6.65	QP

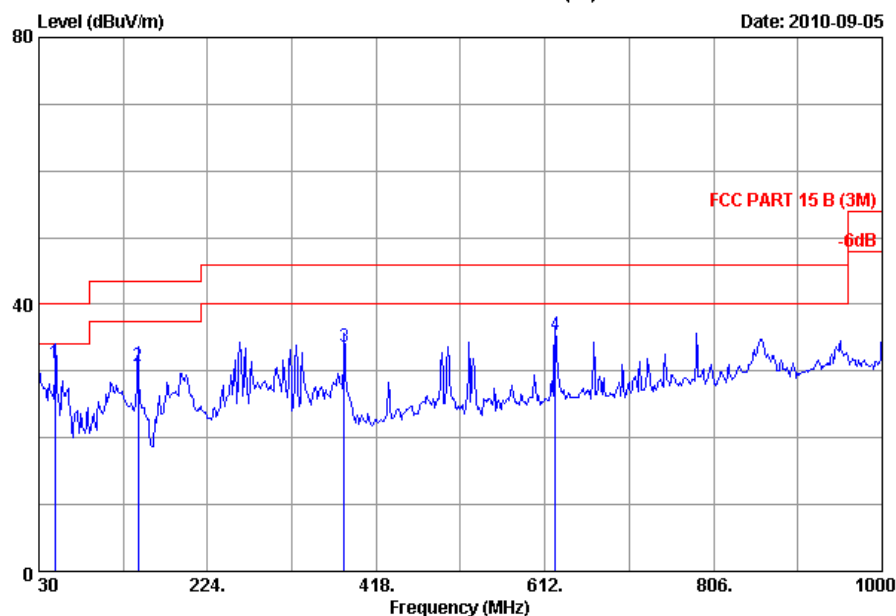
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## Radiated Emission

Data: 3

File: D:\2010 Test Data\TUV\20100905-2.EM6 (12)

Date: 2010-09-05



Site no. : 3m Chamber  
 Dis. / Ant. : 3m 2010 CBL6111C  
 Limit : FCC PART 15 B (3M)  
 Env. / Ins. : 24°C/56%  
 EUT : PC-A1001  
 Power rating : AC120V/60Hz  
 Test Mode : Run test program  
 M/N: :  
 Data no. : 3  
 Ant. pol. : VERTICAL  
 Engineer : Victory

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	48.000	10.13	0.76	20.41	31.30	40.00	8.70	QP
2	144.460	11.92	1.14	17.67	30.73	43.50	12.77	QP
3	381.140	15.76	2.83	15.02	33.61	46.00	12.39	QP
4	623.640	20.07	4.21	11.20	35.48	46.00	10.52	QP

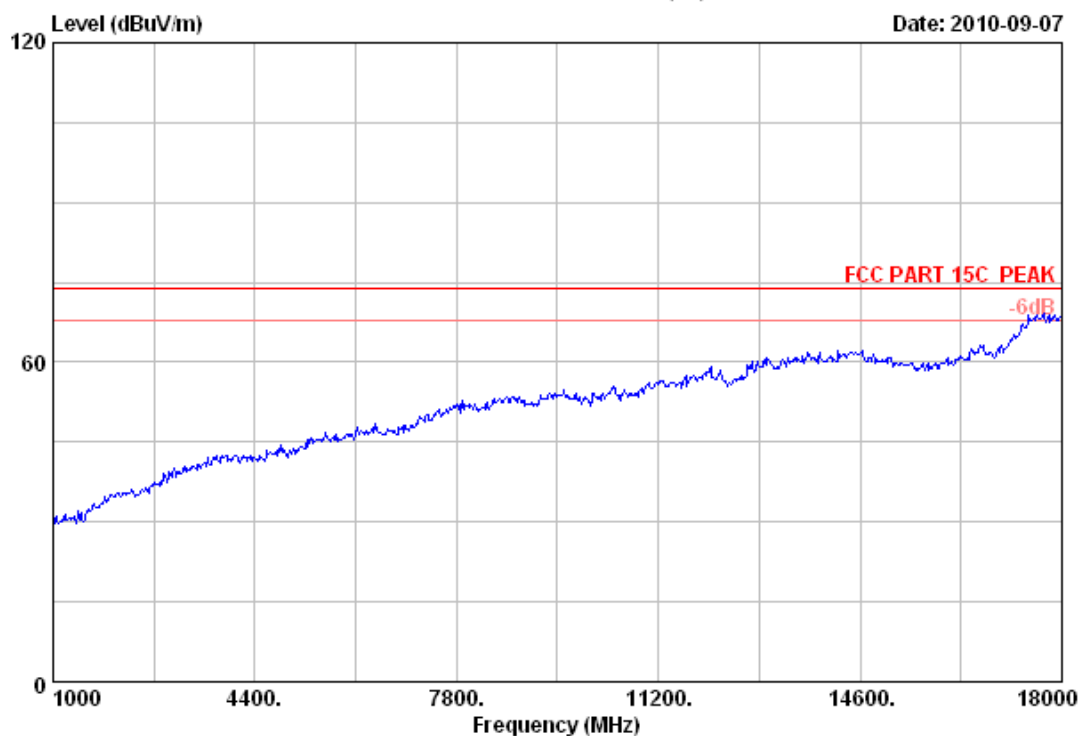
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## Radiated Emission

Data: 61

File: E:\2010 test data\TUV\2010-09-07.EM6 (64)

Date: 2010-09-07



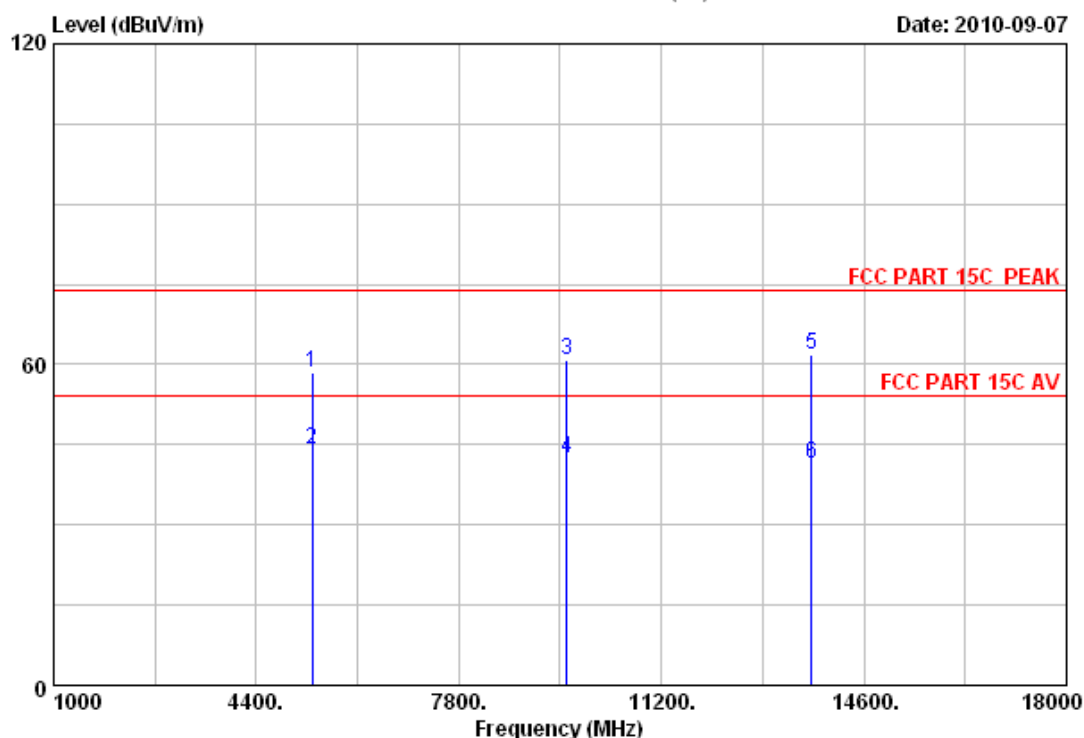
Site no.	: 3m Chamber	Data no.	: 61
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK	Engineer	: Paul Tian
Env. / Ins.	: 23°C/54%		
EUT	: PC-A1001		
Power	: AC 120V/60Hz		
Test mode	: Run test program		
M/N	:		

## Radiated Emission

Data: 62

File: E:\2010 test data\T\TUV\2010-09-07.EM6 (64)

Date: 2010-09-07



Site no.	: 3m Chamber	Data no.	: 62
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Paul Tian
EUT	: PC-A1001		
Power	: AC 120V/60Hz		
Test mode	: Run test program		
M/N	:		

	Ant.	Cable	Amp.		Emission				
Freq.	Factor	loss	Factor	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 5335.000	35.53	11.22	34.69	46.59	58.65	74.00	15.35	Peak	
2 5335.000	35.53	11.22	34.69	32.03	44.09	54.00	9.91	Average	
3 9619.000	39.53	15.43	35.22	41.20	60.94	74.00	13.06	Peak	
4 9619.000	39.53	15.43	35.22	22.56	42.30	54.00	11.70	Average	
5 13716.000	42.43	18.78	33.19	33.66	61.68	74.00	12.32	Peak	
6 13716.000	42.43	18.78	33.19	13.38	41.40	54.00	12.60	Average	

### Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

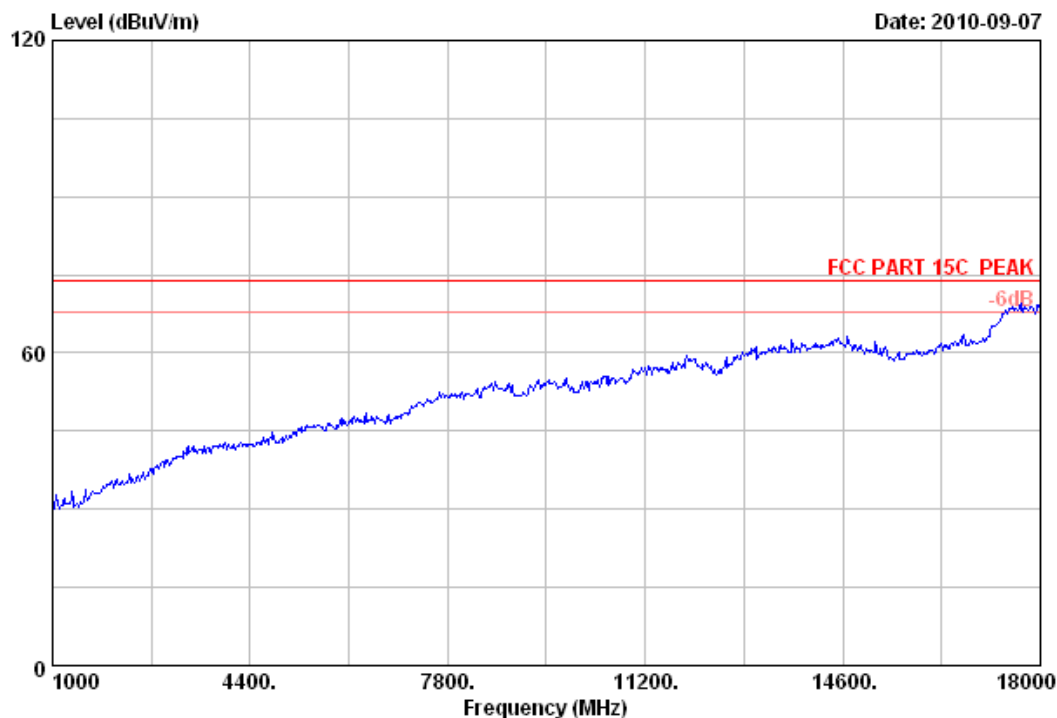


## Radiated Emission

Data: 63

File: E:\2010 test data\TUV\2010-09-07.EM6 (64)

Date: 2010-09-07



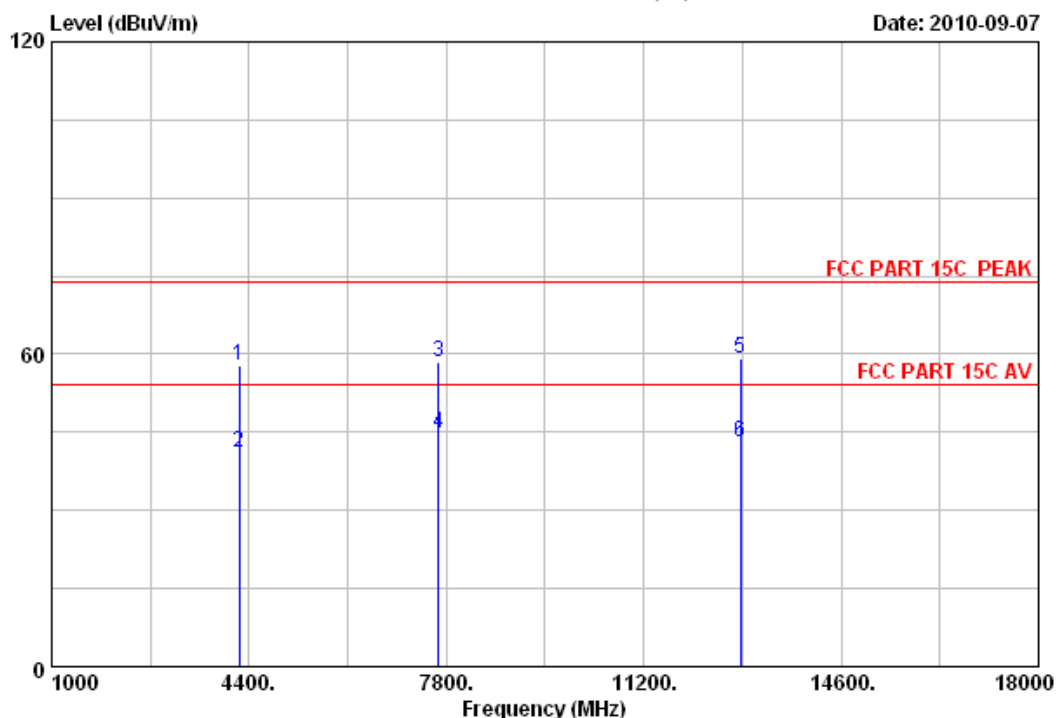
Site no.	: 3m Chamber	Data no.	: 63
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Paul Tian
EUT	: PC-A1001		
Power	: AC 120V/60Hz		
Test mode	: Run test program		
M/N	:		

## Radiated Emission

Data: 64

File: E:\2010 test data\T\TUV\2010-09-07.EM6 (64)

Date: 2010-09-07



Site no.	: 3m Chamber	Data no.	: 64
Dis. / Ant.	: 3m 3115(0911)	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 23°C/54%	Engineer	: Paul Tian
EUT	: PC-A1001		
Power	: AC 120V/60Hz		
Test mode	: Run test program		
M/N	:		

	Freq. (MHz)	Ant.	Cable	Amp.	Emission				Remark
		Factor (dB/m)	loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	4230.000	33.91	9.96	35.51	49.55	57.91	74.00	16.09	Peak
2	4230.000	33.91	9.96	35.51	32.86	41.22	54.00	12.78	Average
3	7664.000	38.50	13.72	34.17	40.42	58.47	74.00	15.53	Peak
4	7664.000	38.50	13.72	34.17	26.87	44.92	54.00	9.08	Average
5	12866.000	39.77	18.08	31.93	33.19	59.11	74.00	14.89	Peak
6	12866.000	39.77	18.08	31.93	17.13	43.05	54.00	10.95	Average

### Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

## Test Equipment List

### Radiated Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 11
Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 11
Amplifier	HP	8447D	2648A04738	May.08, 11
Bilog Antenna	Schaffner	CBL6111C	2598	Dec.14, 10
Horn Antenna	EMCO	3115	9607-4877	Nov.25, 10
Amplifier	Agilent	8449B	3008A00863	May.08, 11
RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 11
RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May.08, 11
RF Cable	Hubersuhner	SUCOFLEX 102	29091/2	May.08, 11
Coaxial Switch	Anritsu	MP59B	M73989	May.08, 11

## 8 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

**System Measurement Uncertainty**

Items		Extended Uncertainty
RE	Field strength (dB $\mu$ V/m)	U=4.32dB (30MHz-25GHz)
CE	Disturbance Voltage (dB $\mu$ V)	U=2.4dB