

APPLICATION FOR CERTIFICATION  
On Behalf of  
Shenzhen Tongfang Multimedia Technology Co., Ltd.

LimeBook  
Model No.: Z7,Z9

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Report Number : 200810663F  
Date of Test : Oct. 07~12, 2008  
Date of Report : Oct. 13, 2008

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APPENDIX I (Photos of EUT) (8 Pages)

## TEST REPORT CERTIFICATION

Applicant : Shenzhen Tongfang Multimedia Technology Co., Ltd.  
Manufacturer : Shenzhen Tongfang Multimedia Technology Co., Ltd.  
EUT : LimeBook  
Model No. : Z7,Z9  
Serial No. : N/A  
Trade Mark : N/A  
Rating : DC 9V (via AC adapter)

## Measurement Procedure Used:

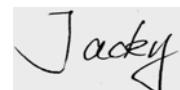
FCC Rules and Regulations Part 15 Subpart B 2007 (15.107&15.109) & FCC / ANSI C63.4-2003

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 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 : Oct. 07~12, 2008

Prepared by :



(Engineer)

Reviewer :



(Project Manager)

Approved & Authorized Signer :



(Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Description : LimeBook

Model Number : Z7,Z9  
(Note: The above samples are same except the model number & shape of appliances, so we prepare "Z9" for test only.)

Test Power Supply : DC 9V (via AC adapter)

Applicant : Shenzhen Tongfang Multimedia Technology Co., Ltd.  
Address : 9F, Sector D of Tongfang Information Harbor, Hi-tech Industrial Park(north), Nanshan District, Shenzhen, China

Manufacturer : Shenzhen Tongfang Multimedia Technology Co., Ltd.  
Address : 9F, Sector D of Tongfang Information Harbor, Hi-tech Industrial Park(north), Nanshan District, Shenzhen, China

Date of Sample received : Oct. 06, 2008

Date of Test : Oct. 07~12, 2008

## 1.2. Description of Test Facility

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

### **VCCI-Registration No.: R-2197 and C-2383**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (VCCI) Voluntary Control Council for Interference by Information Technology Equipment. The acceptance letter from the VCCI is maintained in our files. Registration R-2197 and C-2383, September 29, 2005.

### **FCC-Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., 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 556682, August 04, 2005.

### **IC-Registration No.: 6002**

SGS-CSTC Standards Technical Services Co., Ltd., 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 6002, August 25, 2005.

### **Test Location**

All Emissions tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. at No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China

## 1.3. Measurement Uncertainty

Radiation Uncertainty :  $Ur = \pm 4.26\text{dB}$

Conduction Uncertainty :  $Uc = \pm 2.66\text{dB}$

## 2. Conducted Power Line Test

### 2.1. Test Equipment

Please refer to Section 1 of this report

### 2.2. Test Procedure

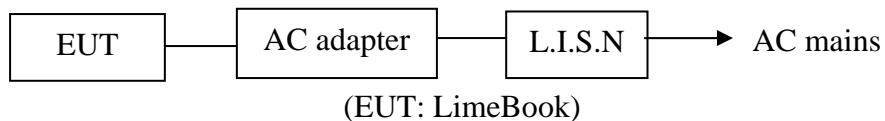
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm/50 $\mu$ H coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50 $\mu$ H coupling impedance with 50ohm termination.

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2003 on conducted measurement. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

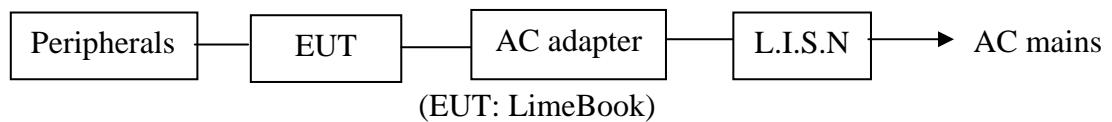
### 2.3. Block Diagram of Test Setup

Block diagram of connection between the EUT and simulators

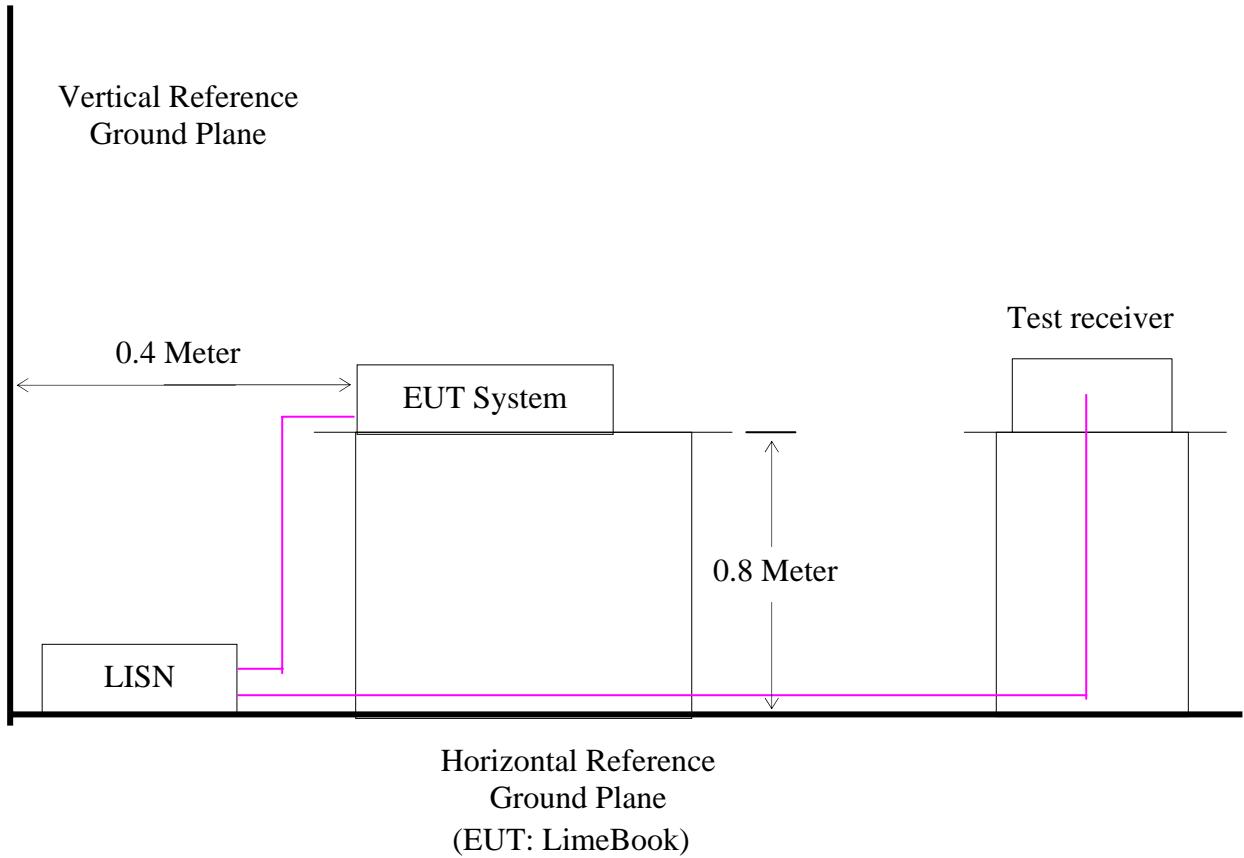
2.3.1 Only AC adapter was connected



2.3.2 All peripherals were connected



## 2.4. Test Setup



For the actual test configuration, Please refer to the related items – Photos of Testing.

## 2.5. Configuration of the EUT

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	:	LimeBook
Model Number	:	Z9
Applicant	:	Shenzhen Tongfang Multimedia Technology Co., Ltd.

## 2.6. EUT Operating Condition

Operating condition is according to ANSI C63.4 - 2003

2.6.1 Setup the EUT and simulator as shown as Section 2.4.

2.6.2 Turn on the power of all equipment.

2.6.3 Let the EUT work in test mode (On) and measure it.

## 2.7. Conducted Power Line Emission Limits

FCC Part 15 Paragraph 15.107		
Frequency Range	Limits (dB $\mu$ V)	
	Class A QP/AV	Class B QP/AV
0.15 ~ 0.50	79/66	66 ~ 56 / 56 ~ 46*
0.50 ~ 5.00	73/60	56/46
5.00 ~ 30.00	73/60	60/50

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

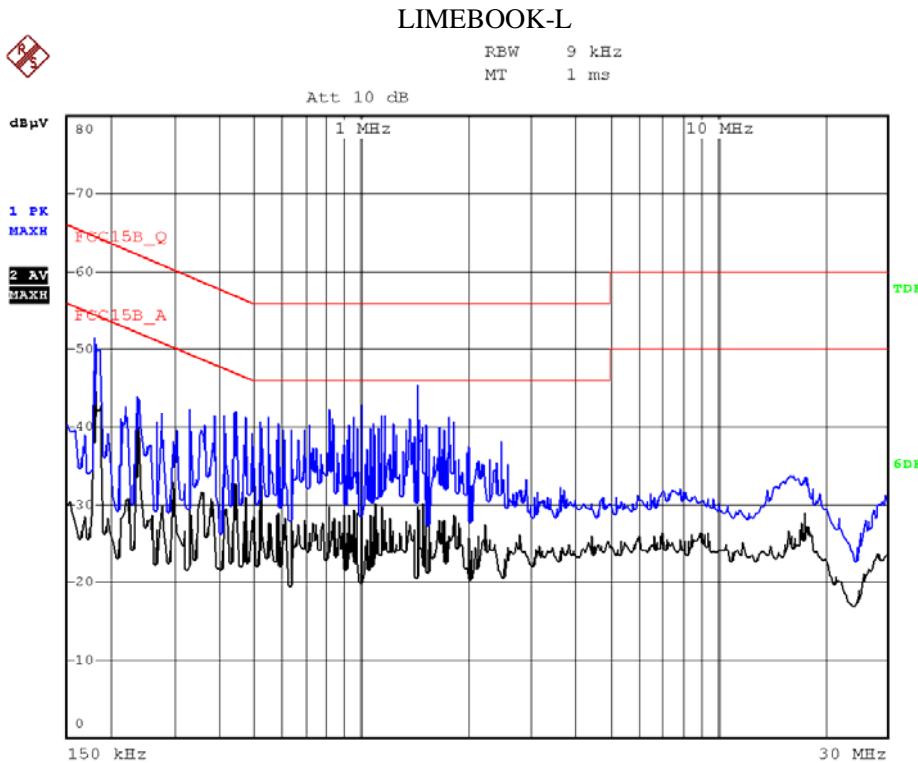
2. In the above table, the tighter limit applies at the band edges.

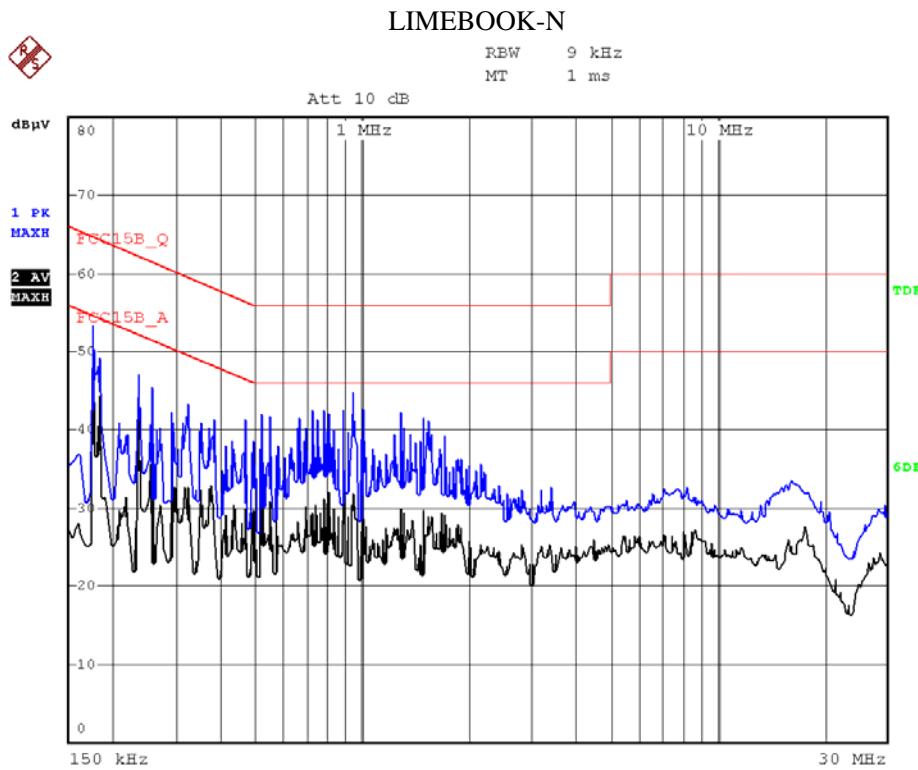
## 2.8. Conducted Power Line Test Result

Pass

## 2.9. Test Plot

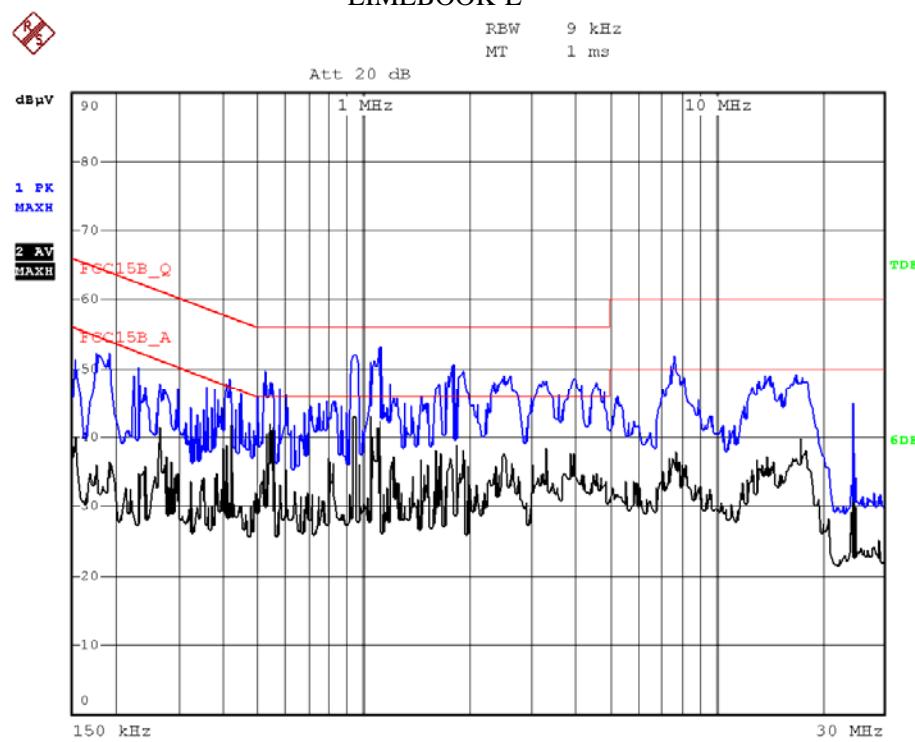
### 2.9.1. Only AC adapter was connected

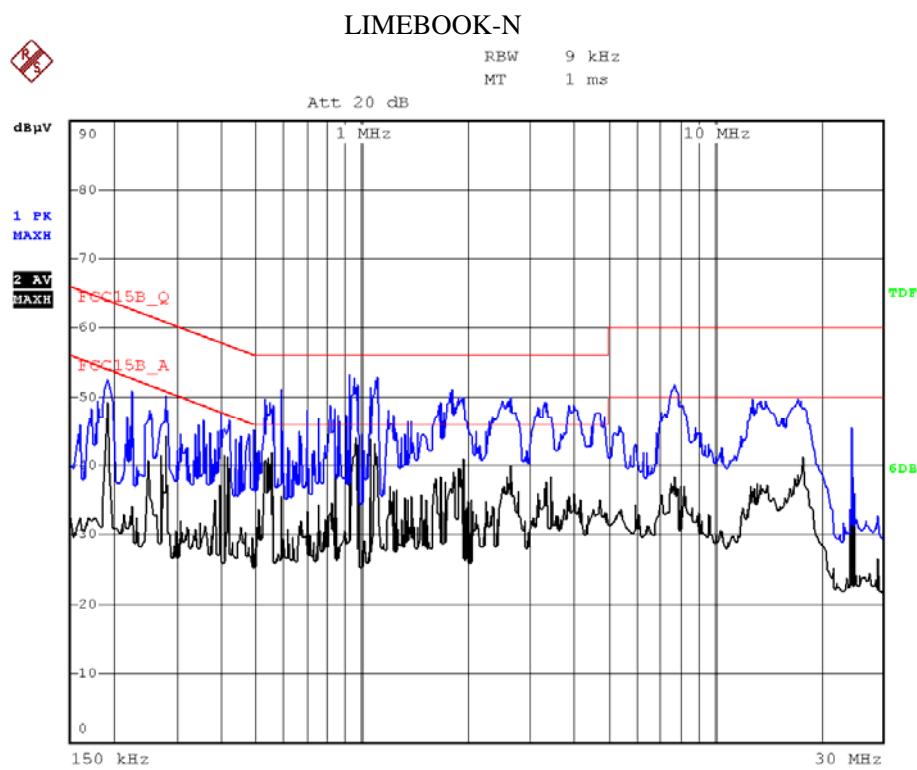




### 2.9.2. All peripherals were connected

LIMEBOOK-L





### 3. RADIATED EMISSION MEASUREMENT

#### 3.1. Test Equipment

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

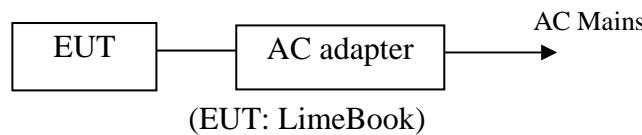
##### 3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Ultra-Broadband Antenna	Rohde & Schwarz	HL562	100015	Nov.12, 2007	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESI26	100009	Nov.12, 2007	1 Year
3.	EMI Test Software	Rohde & Schwarz	ESK1	N/A	N/A	N/A
4.	Bilog Antenna	Schwarzbeck	CBL6143	N/A	Nov.05, 2007	1 Year
5.	Coaxial cable	SGS	N/A	N/A	N/A	N/A
6.	PC	N/A	486DX2	N/A	N/A	N/A

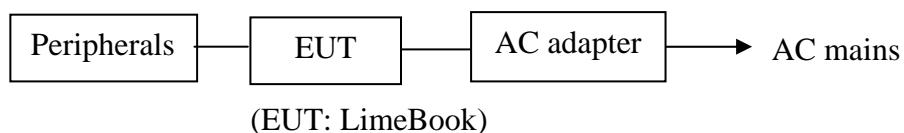
#### 3.2. Block Diagram of Test Setup

##### 3.2.1. Block diagram of connection between the EUT and simulators

###### 3.2.1.1 Only AC adapter was connected



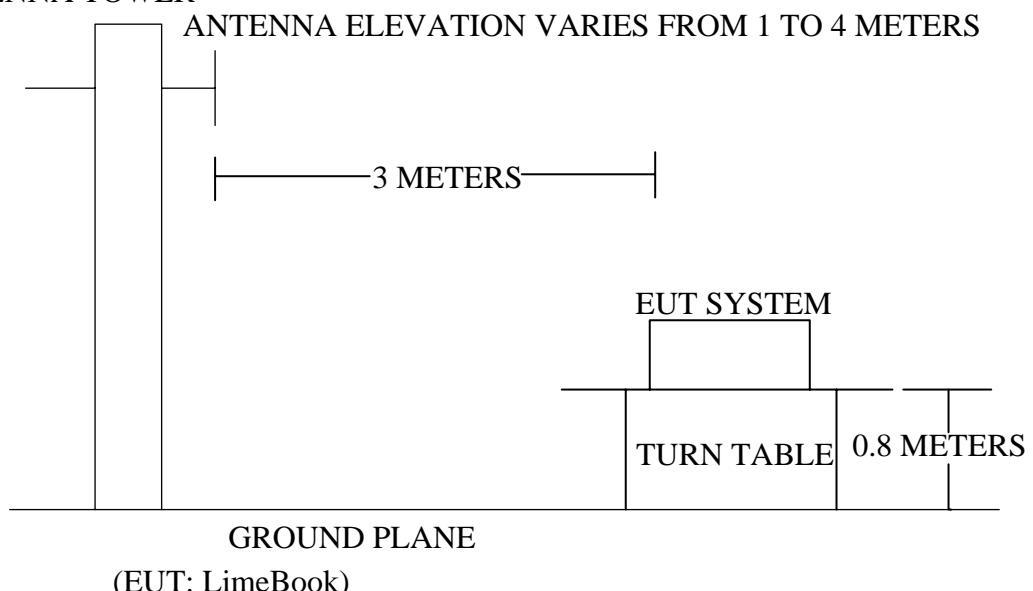
###### 3.2.1.2 All peripherals were connected



###### 3.2.1.3 Powered with battery

##### 3.2.2. Anechoic Chamber Test Setup Diagram

###### ANTENNA TOWER



### 3.3. Radiated Emission Limit (FCC Part 15 Paragraph 15.109)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		µV/m	dB(µV)/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 (dB) $\mu$ V = 20 log Emission level  $\mu$ 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 : LimeBook  
 Model Number : Z9  
 Applicant : Shenzhen Tongfang Multimedia Technology Co., Ltd.

### 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 (ON) 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 an 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 (calibrated bilog 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 (R&S ESI26) is set at 120KHz.

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

The test mode (ON) is tested in chamber and all the test results are listed in Section 3.7.

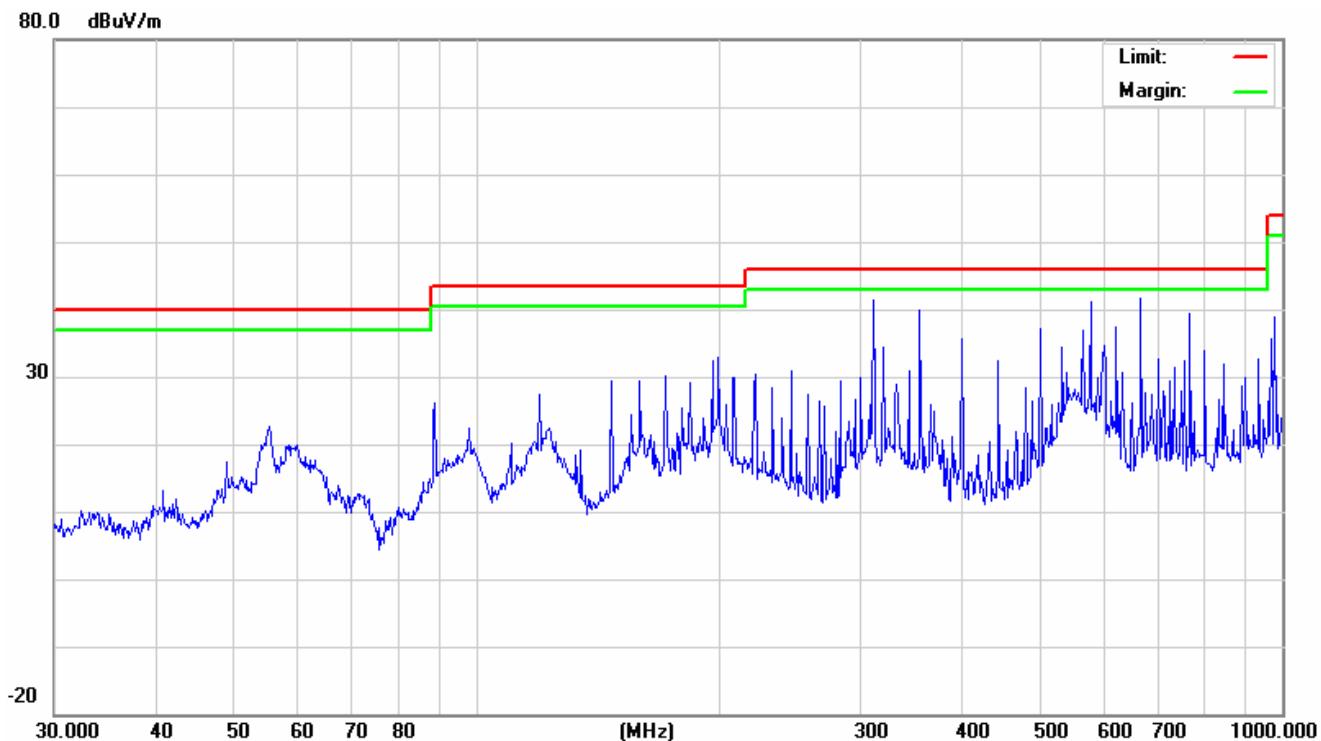
### 3.7. Radiated Emission Measurement Results

**PASS.**

The test curves are shown in the follow pages.

FCC ID: WLVLIMEBOOK2008

Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	09:01:26
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b> Only AC adapter was connected			



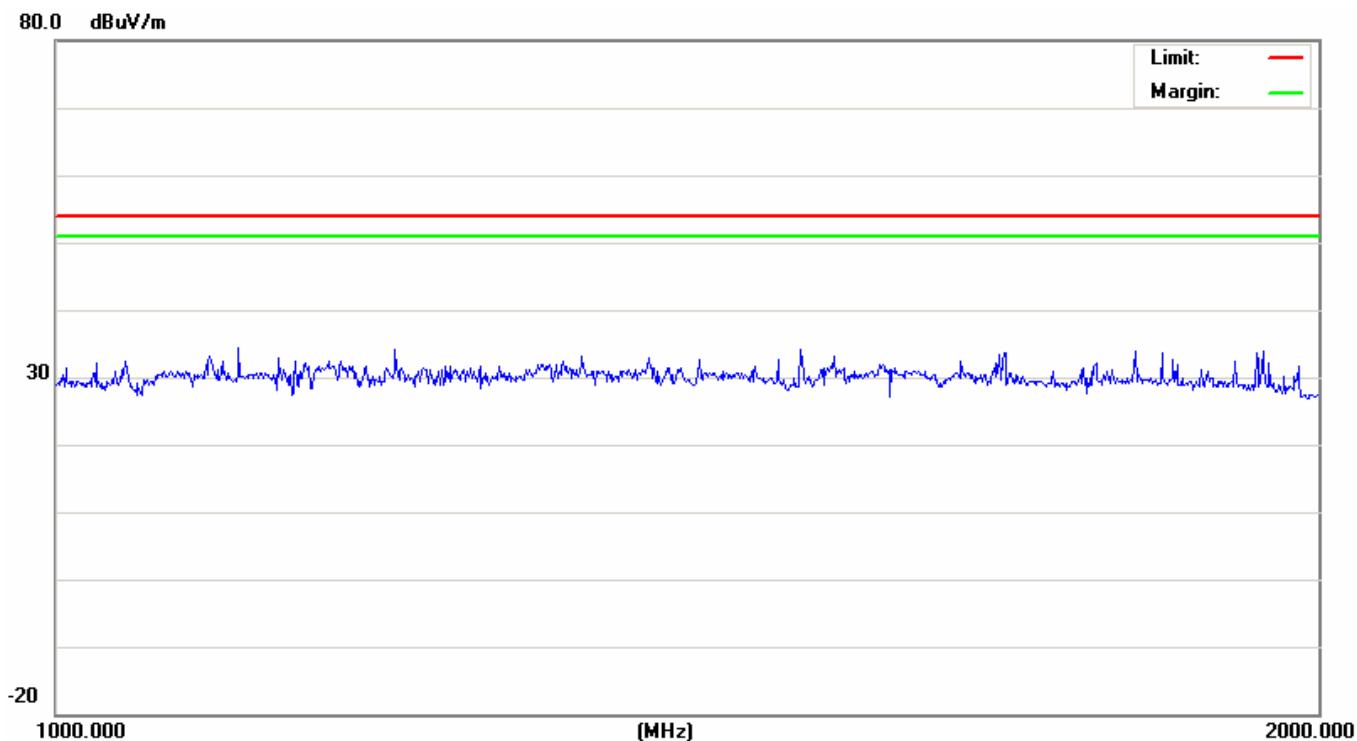
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	9:22:08
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M

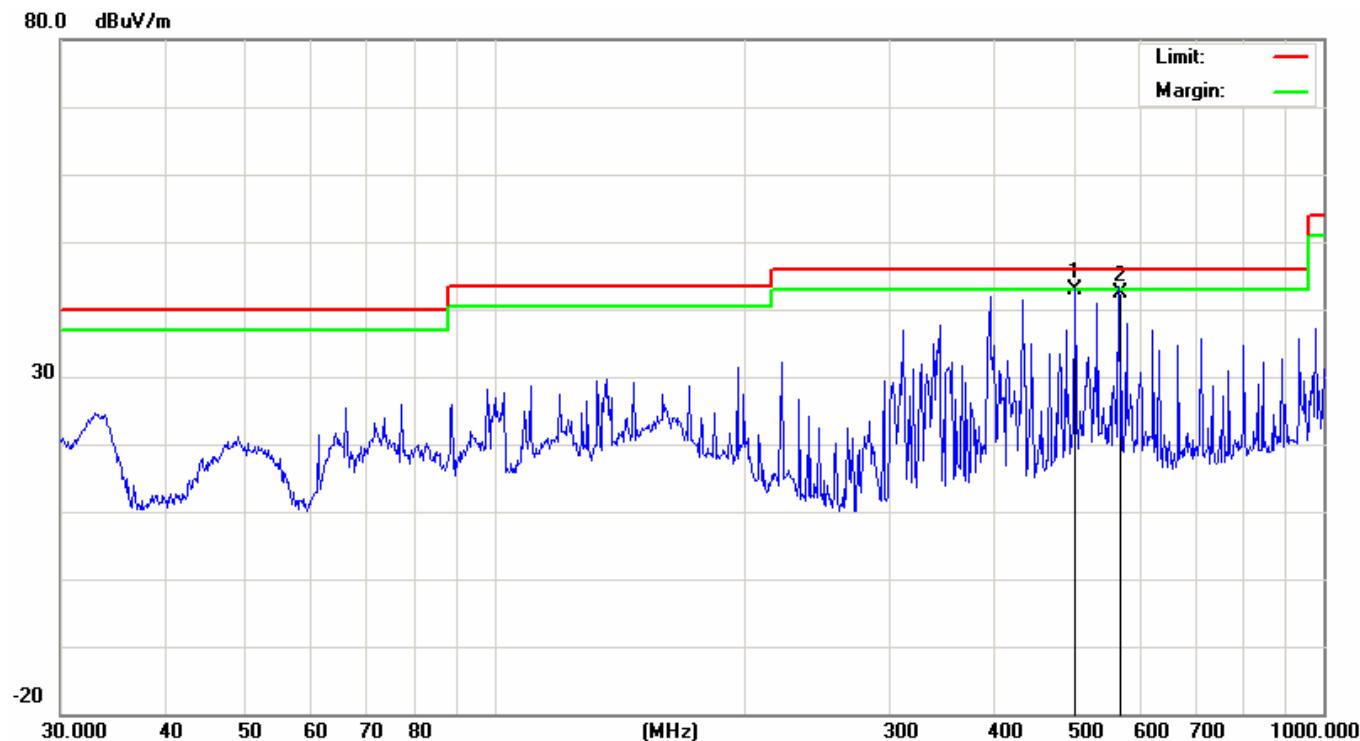
Note:	Only AC Adapter was Connected
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

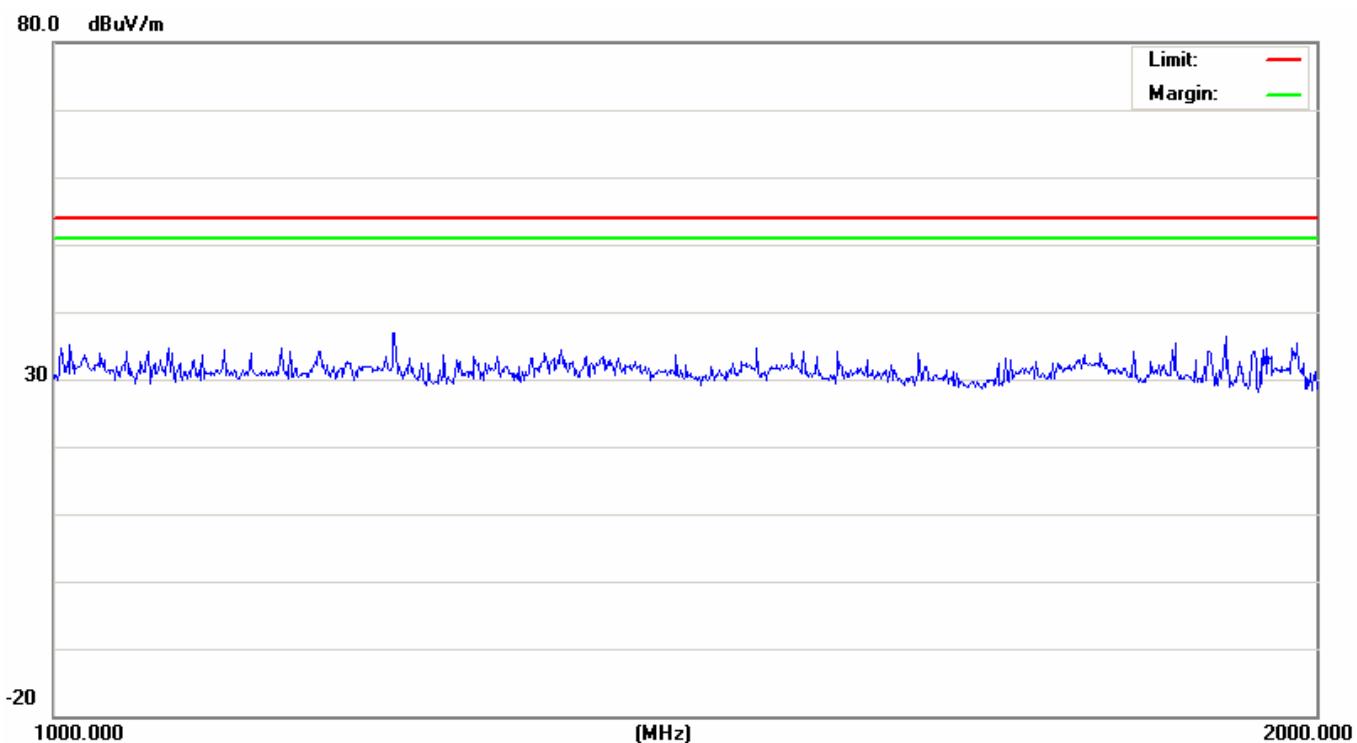
Job No.:	AT0810603SF	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	9:54:56
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b> Only AC adapter was connected			



No.	Frequency (MHz)	Reading (dB <sub>UV</sub> /m)	Correct Factor(dB)	Result (dB <sub>UV</sub> /m)	Limit (dB <sub>UV</sub> /m)	Margin (dB)	Remark
1	499.9990	65.02	-22.20	42.82	46.00	-3.18	QP
2	566.6643	62.63	-20.33	42.30	46.00	-3.70	QP

FCC ID: WLVLIMEBOOK2008

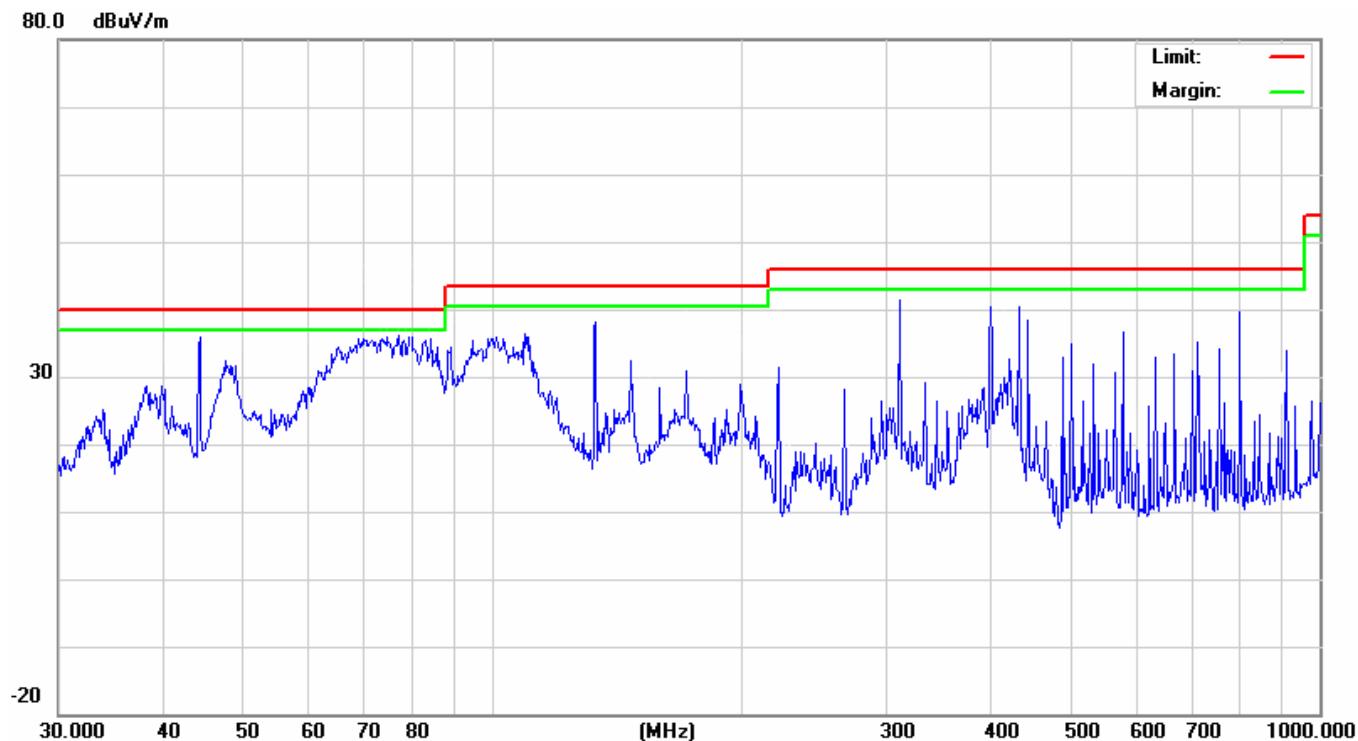
Job No.:	AT0810603F	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	10:15:49
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>Only AC Adapter was Connected</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

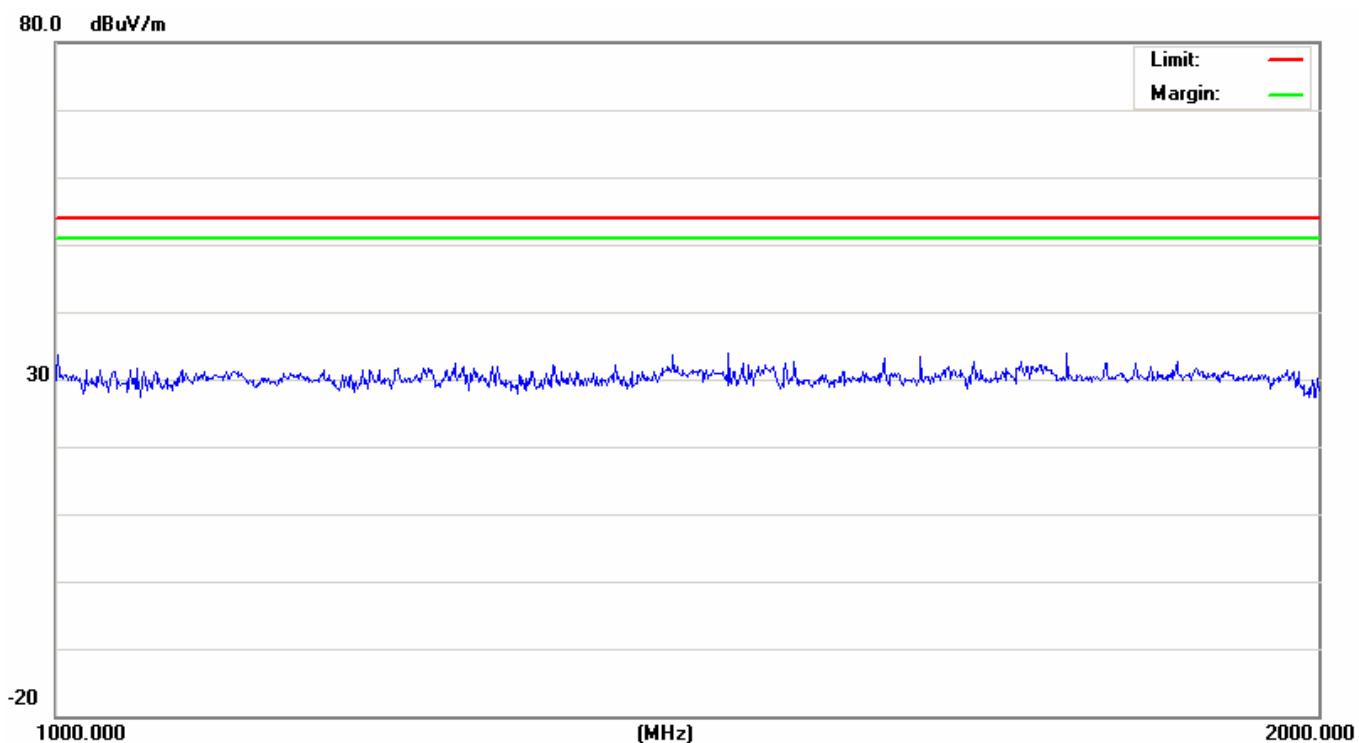
Job No.:	AT0810603F	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	10:31:13
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b> All peripherals were connected			



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dB <sub>UV</sub> /m)	Factor(dB)	(dB <sub>UV</sub> /m)	(dB <sub>UV</sub> /m)	(dB)	

FCC ID: WLVLIMEBOOK2008

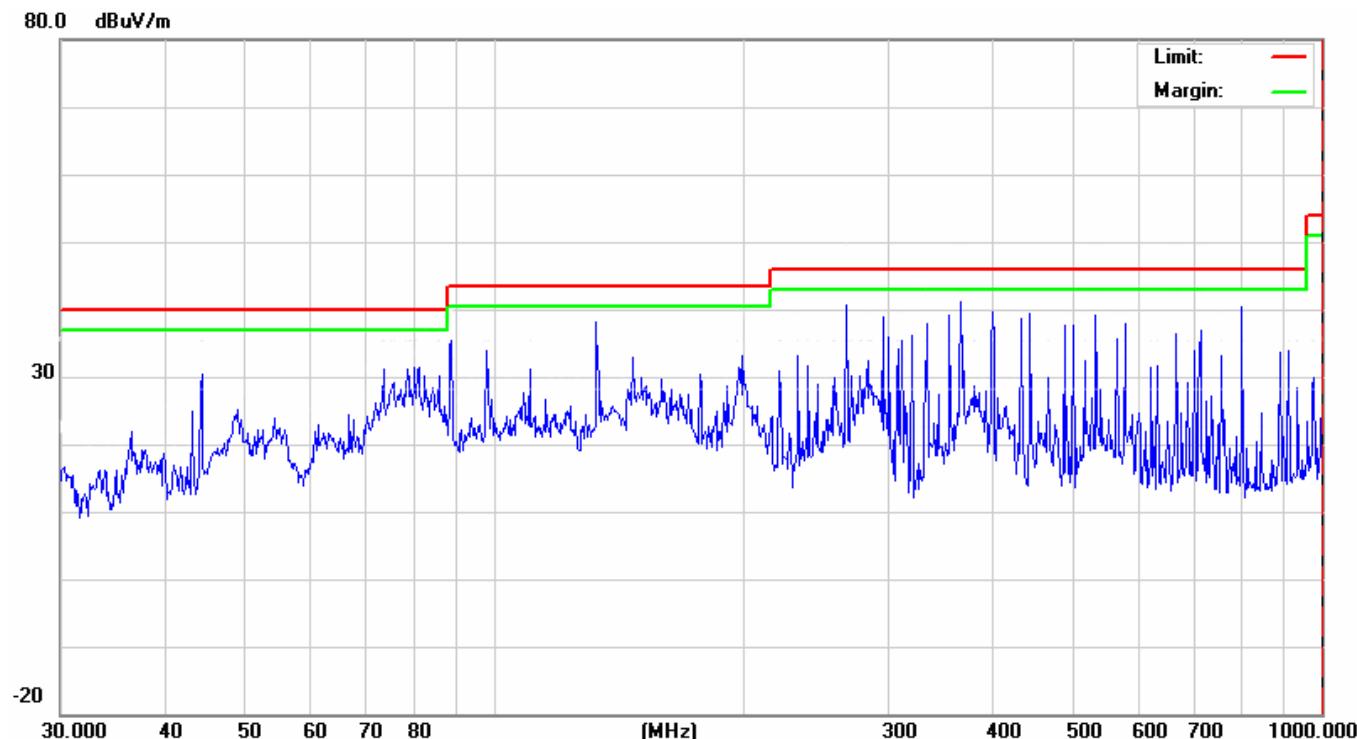
Job No.:	AT0810603F	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26( C)/60%RH	Time:	10:52:02
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>All peripherals were connected</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via AC adapter )
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	11:14:20
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>All peripherals were connected</b>		



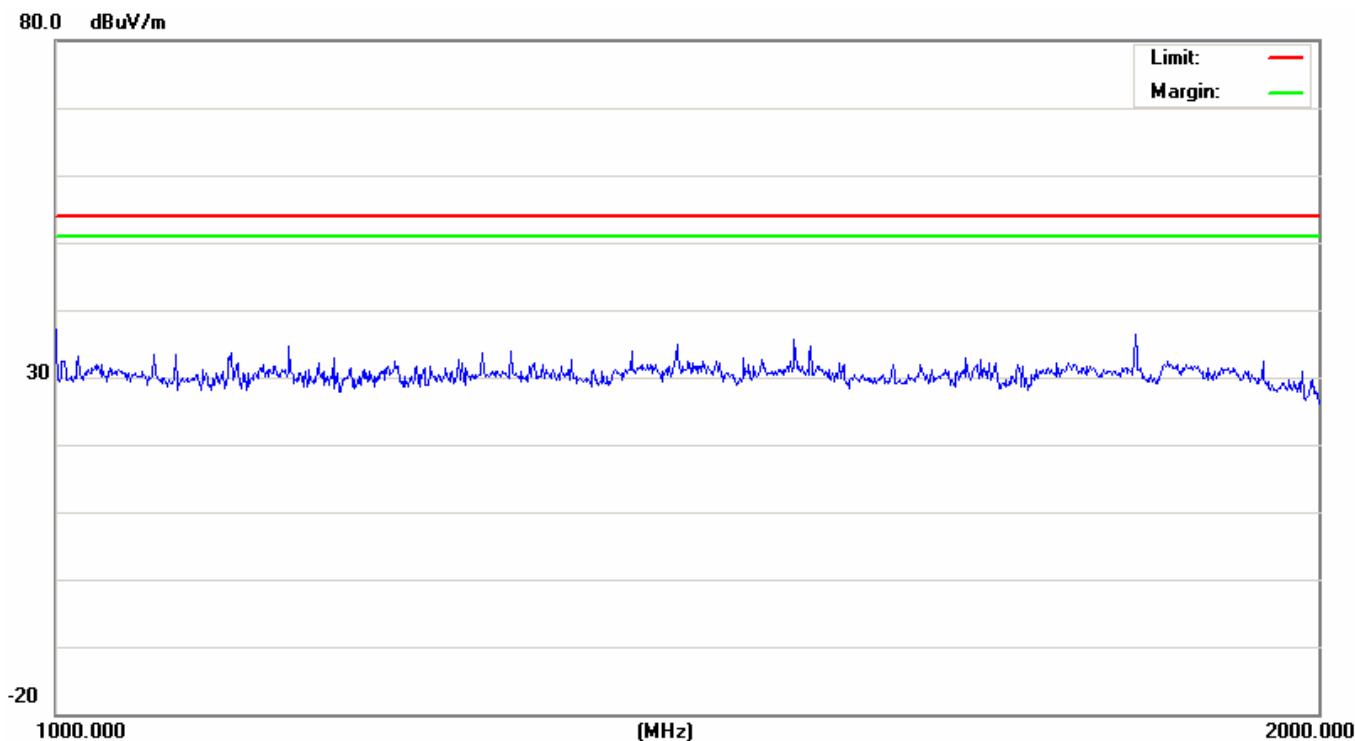
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dB <sub>UV</sub> /m)	Factor(dB)	(dB <sub>UV</sub> /m)	(dB <sub>UV</sub> /m)	(dB)	

FCC ID: WLVLIMEBOOK2008

Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via AC adapter)
Test item:	Radiation Test	Date:	2008/10/11
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EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M

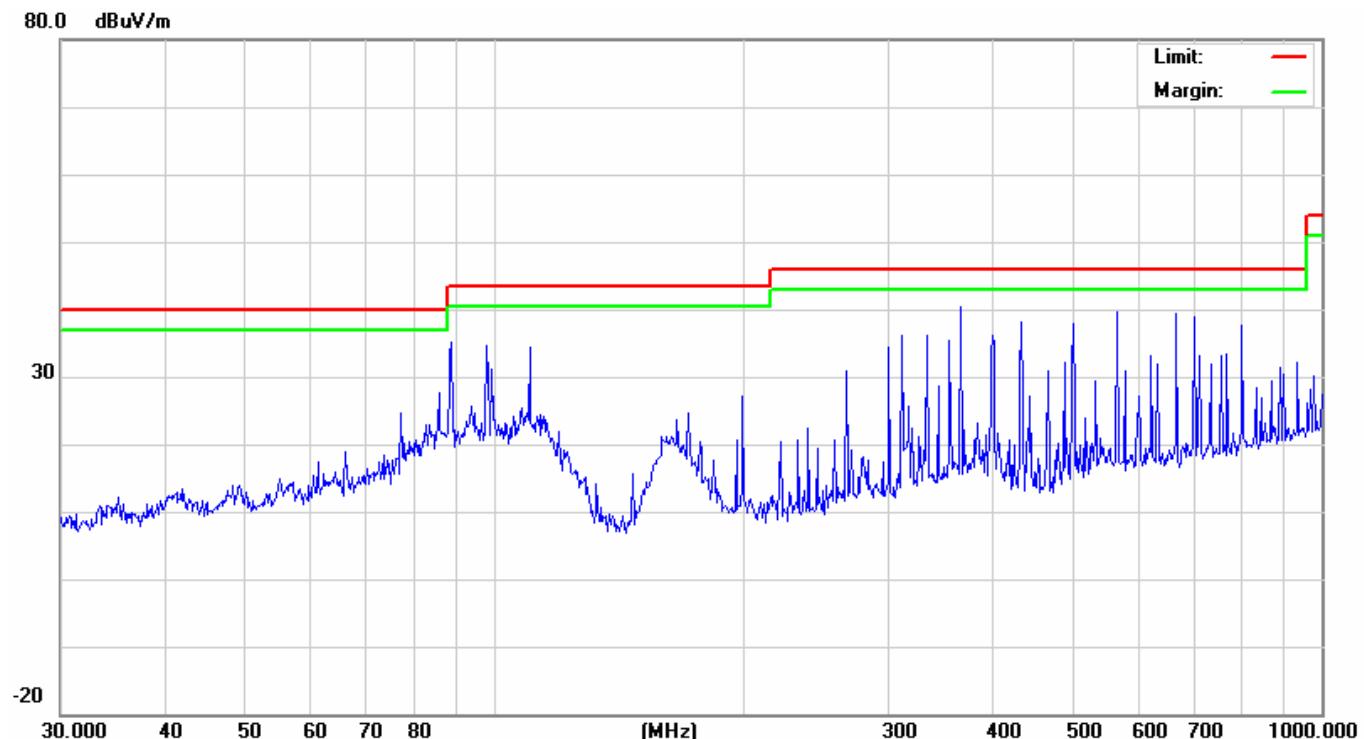
Note:	All peripherals were connected
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

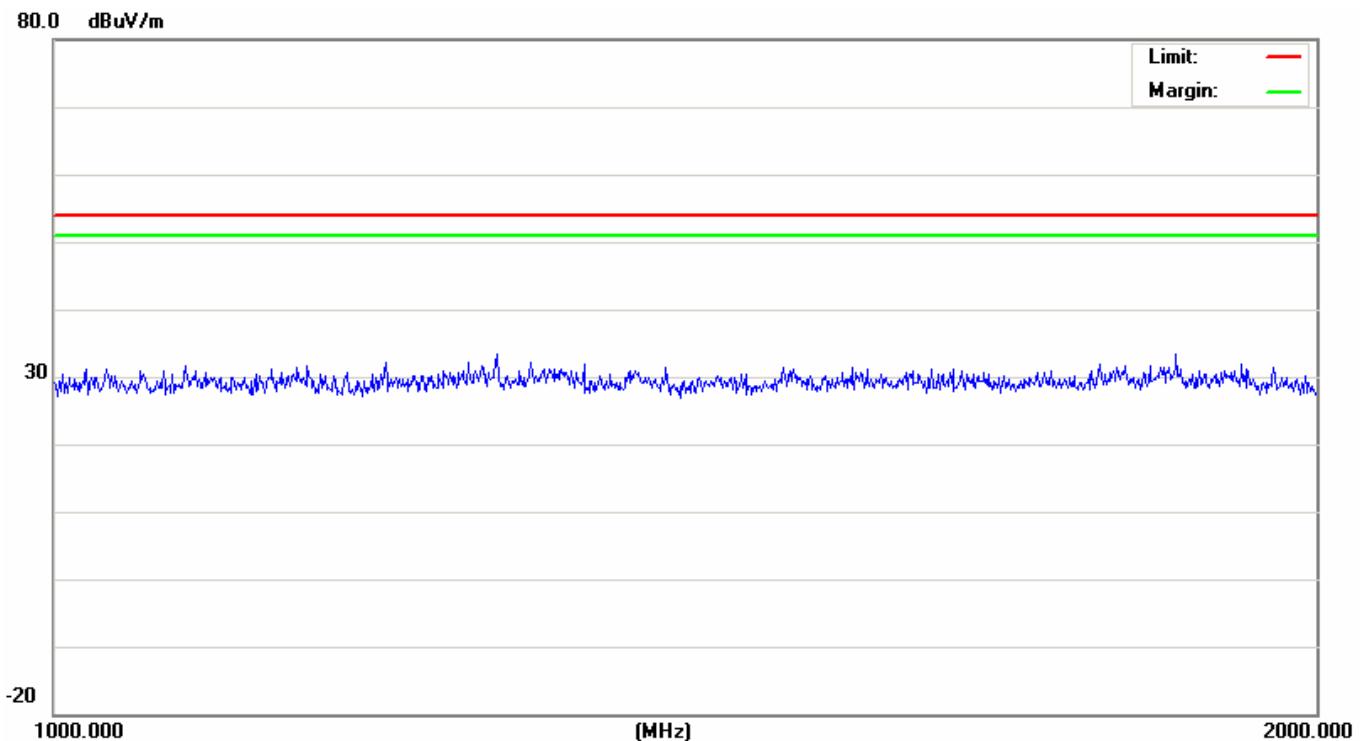
Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via battery)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	12:01:33
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	
<b>Note:</b>	<b>Powered via battery</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dB <sub>UV</sub> /m)	Factor(dB)	(dB <sub>UV</sub> /m)	(dB <sub>UV</sub> /m)	(dB)	

FCC ID: WLVLIMEBOOK2008

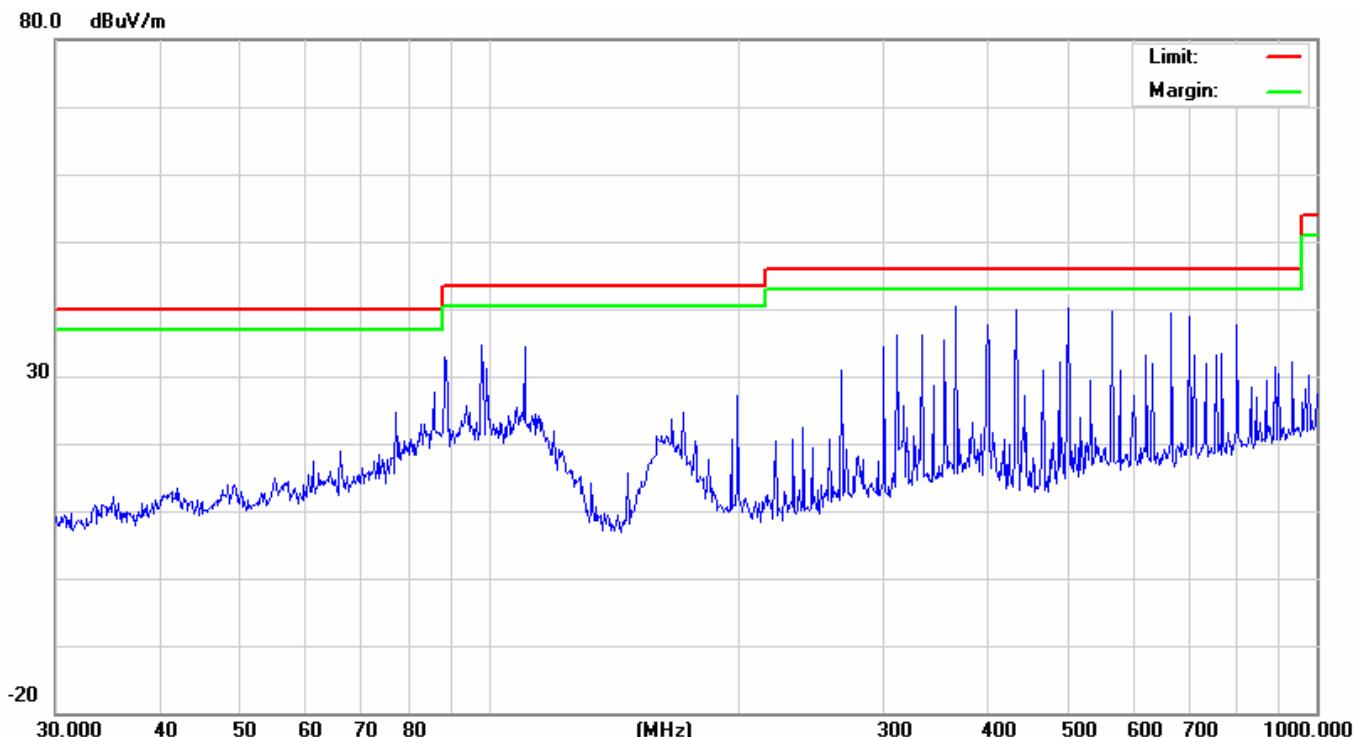
Job No.:	AT0810603F	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via battery)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	13:33:32
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>Powered via battery</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	

FCC ID: WLVLIMEBOOK2008

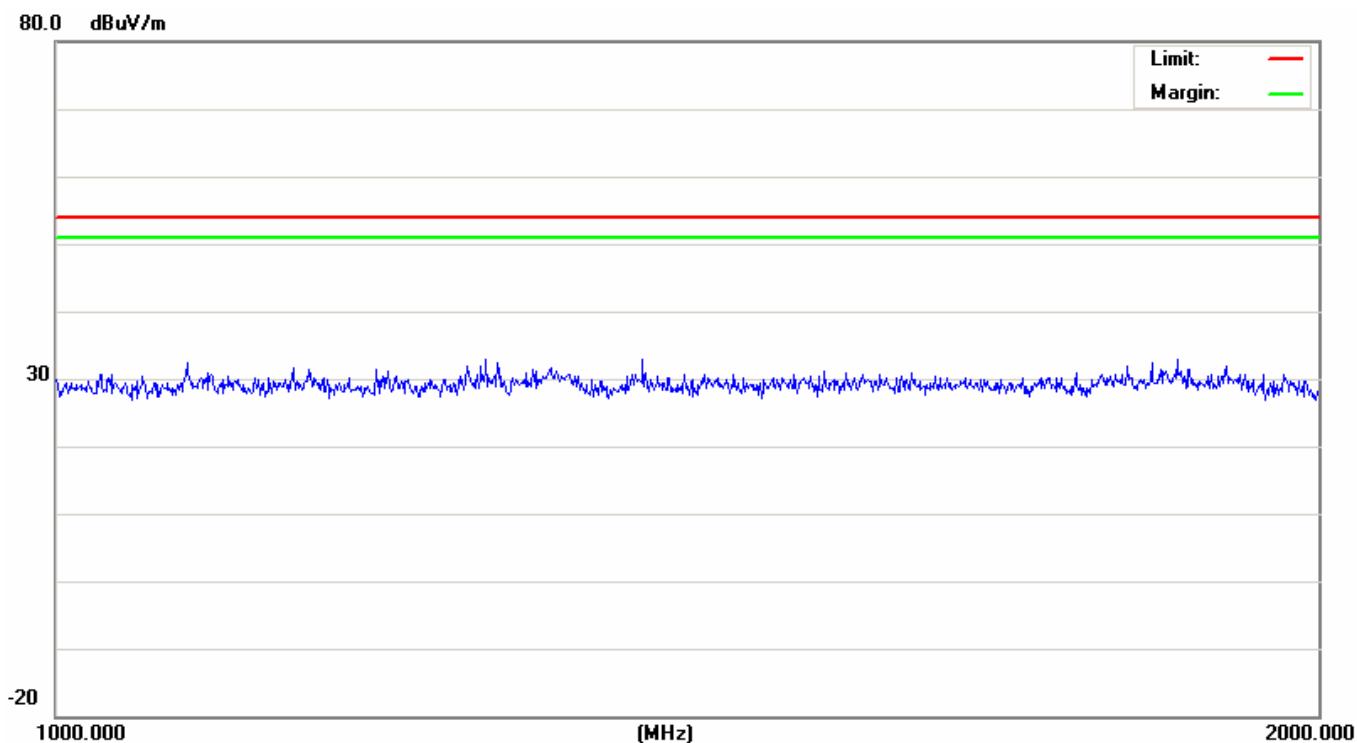
Job No.:	AT0810603F	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation	Power Source:	9V(via battery)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	13:57:33
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>Powered via battery</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dB <sub>UV</sub> /m)	Factor(dB)	(dB <sub>UV</sub> /m)	(dB <sub>UV</sub> /m)	(dB)	

FCC ID: WLVLIMEBOOK2008

Job No.:	AT0810603F	Polarization:	Vertical
Standard:	FCC Class B 3M Radiation(above 1GHz)	Power Source:	9V(via battery)
Test item:	Radiation Test	Date:	2008/10/11
Temp.(C)/Hum.(%RH):	26(C)/60%RH	Time:	14:27:50
EUT:	LimeBook	Test By:	JIM
Model:	Z9	Distance:	3M
<b>Note:</b>	<b>Powered via battery</b>		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	