FCC PART 15B

MEASUREMENT AND TEST REPORT

FOR

Vigorhood Photoelectric Shenzhen Co., Ltd

F Building, Hongfa Tech Industrial Park, Songbai Rd. Shiyan Town, Baoan District, Shenzhen, China

FCC ID: XWBEB60

Report Concerns: Original Report	**Equipment Type:** MID Ebook Reader
Model:	EB 60
Report No.:	STR10108173I
Test Date:	2010-10-23 to 2010-11-06
Issue Date:	2010-11-22
Tested By:	Silin Chen / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Vigorhood Photoelectric Shenzhen Co., Ltd

Address of applicant: F Building, Hongfa Tech Industrial Park, Songbai Rd. Shiyan Town, Baoan District, Shenzhen, China

Manufacturer: Vigorhood Photoelectric Shenzhen Co., Ltd

Address of manufacturer: F Building, Hongfa Tech Industrial Park, Songbai Rd. Shiyan Town, Baoan District, Shenzhen, China

General Description of E.U.T

Items	Description
EUT Description:	MID Ebook Reader
Trade Name:	ATiger
Model No.:	EB 60
Rated Voltage:	5V DC
Rated Current:	500mAh
Rated Power:	2.5W
Size:	21.0x13.5x2.0 cm
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the Vigorhood Photoelectric Shenzhen Co., Ltd in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

1.3 Related Submittal(s)/Grant(s)

No Related Submittal(s).

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

1.5 Test Facility

FCC – Registration No.: **994117**
SEM.Test Compliance 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 and the Registration is 994117.

Industry Canada (IC) Registration No.: **7673A**
The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

1.6 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

1.7 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
ASUS	Notebook	X50R	74N0AS297138

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.5	Shielded	With Core
Earplug Cable	0.8	Unshielded	Without Core

1.8 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Power Cable	1.0	Shielded	Without Core

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

3. §15.107 (a)- CONDUCTED EMISSION

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

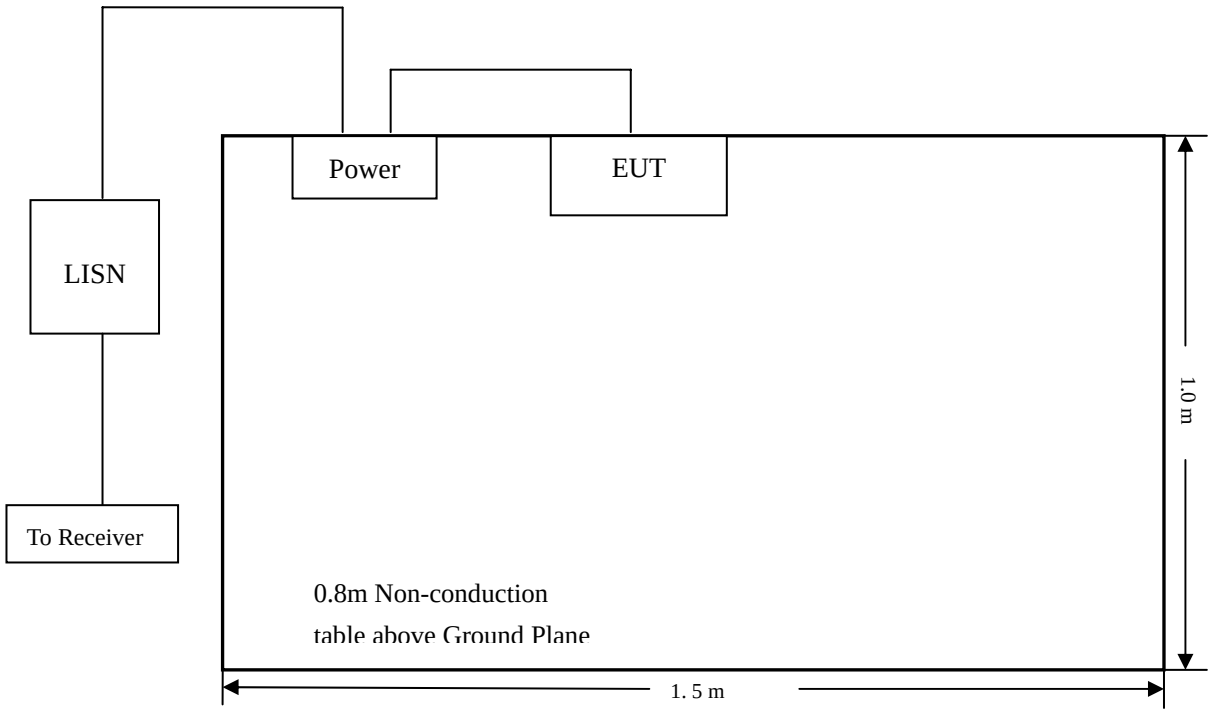
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-08-12	2011-08-11
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-08-12	2011-08-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-08-12	2011-08-11

3.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.107 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

3.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

3.7 Summary of Test Results/Plots

According to the data in section 3.8, the EUT complied with the FCC 15B Conducted margin for a Class B device, with the *worst* margin reading of:

-12.59 dBμV at 23.99 MHz in the **Neutral** mode**, Average** detector, **0.15-30MHz**

Plot of Conducted Emissions Test Data

Conducted Disturbance

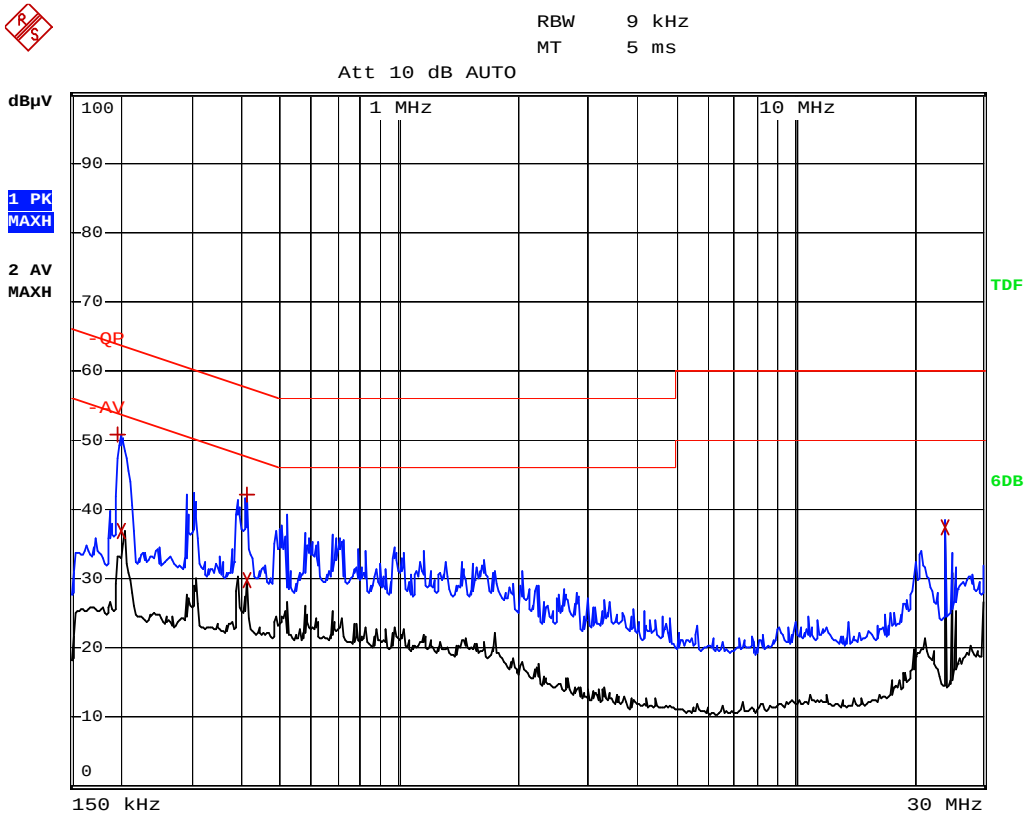
EUT: MID Ebook Reader

M/N: EB 60

Operating Condition: Operating

Test Specification: N

Comment:



EDIT PEAK LIST (Prescan Results)

Trace1:	-QP
Trace2:	-AV
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	198 kHz	50.74	-12.95
2 Average	202 kHz	36.92	-16.60
1 Max Peak	410 kHz	42.20	-15.44
2 Average	410 kHz	29.89	-17.75
2 Average	23.99 MHz	37.40	-12.59

Plot of Conducted Emissions Test Data

Conducted Disturbance

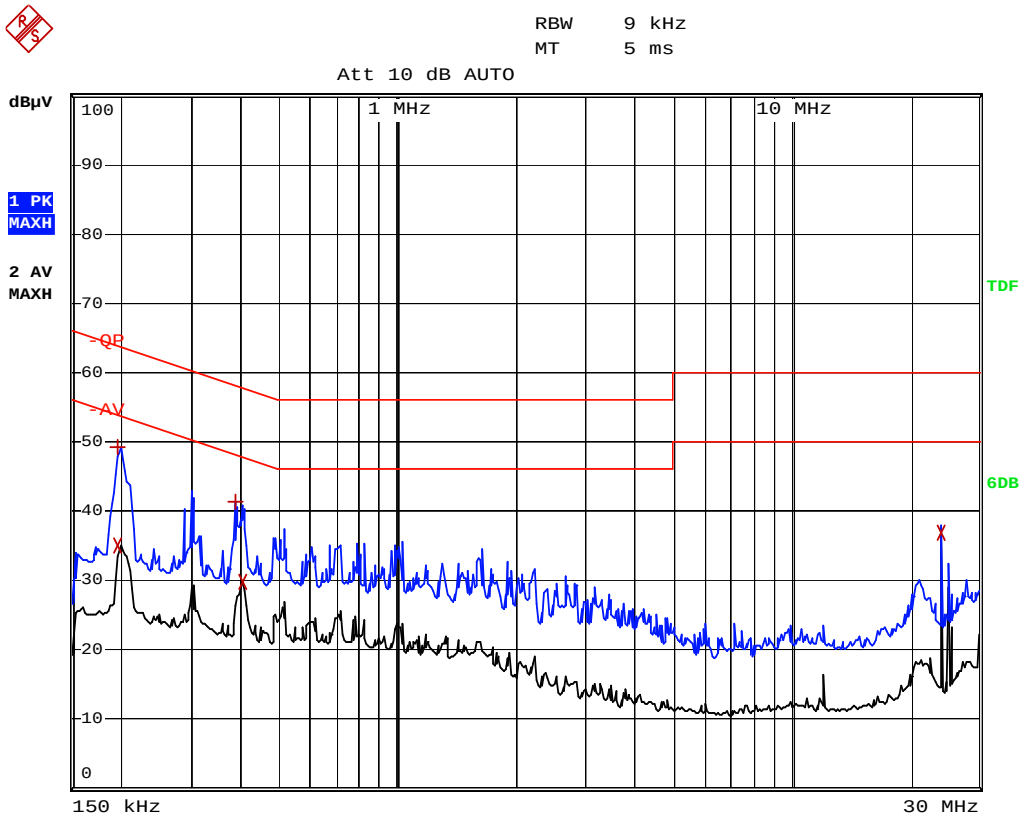
EUT: MID Ebook Reader

M/N: EB 60

Operating Condition: Operating

Test Specification: L

Comment:



EDIT PEAK LIST (Prescan Results)

Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	198 kHz	49.21	-14.48
2 Average	198 kHz	34.97	-18.72
1 Max Peak	386 kHz	41.26	-16.88
2 Average	402 kHz	29.77	-18.03
2 Average	23.99 MHz	36.92	-13.07

4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

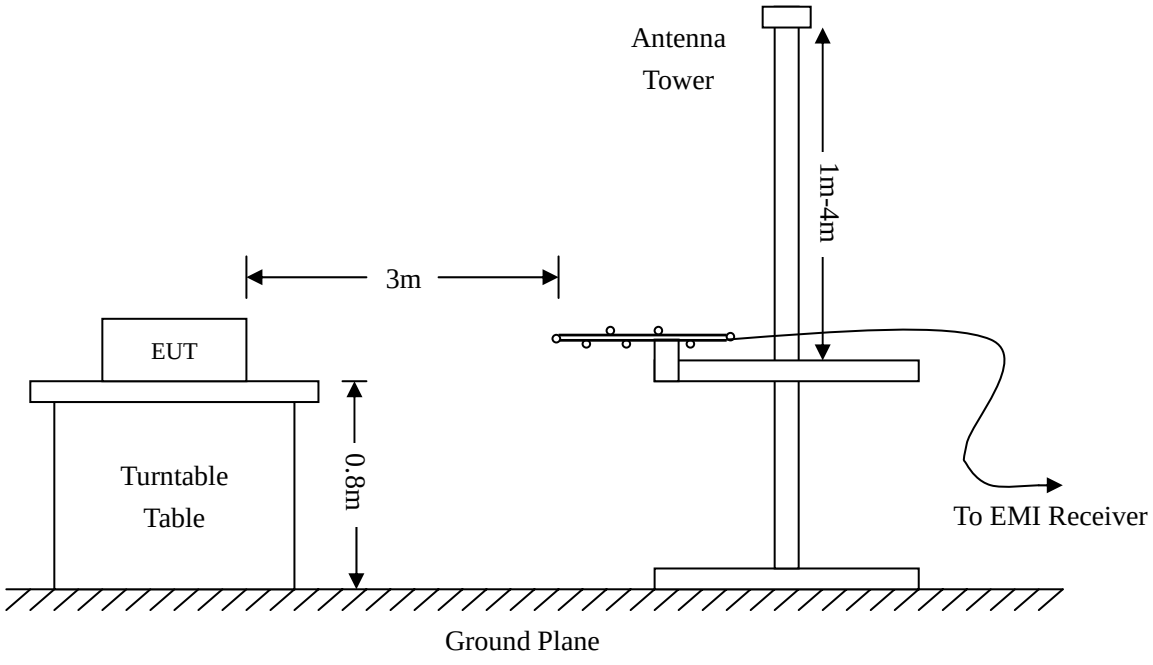
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-04-16	2011-04-15
EMI Test Receiver	R&S	ESVB	825471/005	2010-08-12	2011-08-11
Positioning Controller	C&C	CC-C-1F	N/A	2010-08-12	2011-08-11
RF Switch	EM	EMSW18	SW060023	2010-08-12	2011-08-11
Pre-amplifier	Agilent	8447F	3113A06717	2010-08-12	2011-08-11
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-08-12	2011-08-11
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2010-07-21	2011-07-20
Horn Antenna	ETS	3117	00086197	2010-07-21	2011-07-20

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 and FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.



4.4 Test Receiver Setup

During the radiated emission test, the test receiver was set with the following configurations:

Start Frequency ..... 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 100 kHz
Quasi-Peak Adapter Bandwidth ..... 120 kHz
Quasi-Peak Adapter Mode ..... Normal

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading – Corr. Factor

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15B Limit

4.6 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC 15B Class B standards, and had the worst margin of:

-3.08 dBμV at **869.1302 MHz** in the **Horizontal** polarization, Connect to PC **Mode,**
30 MHz to 1 GHz, 3Meters

Plot of Radiation Emissions Test Data

Radiated Emission

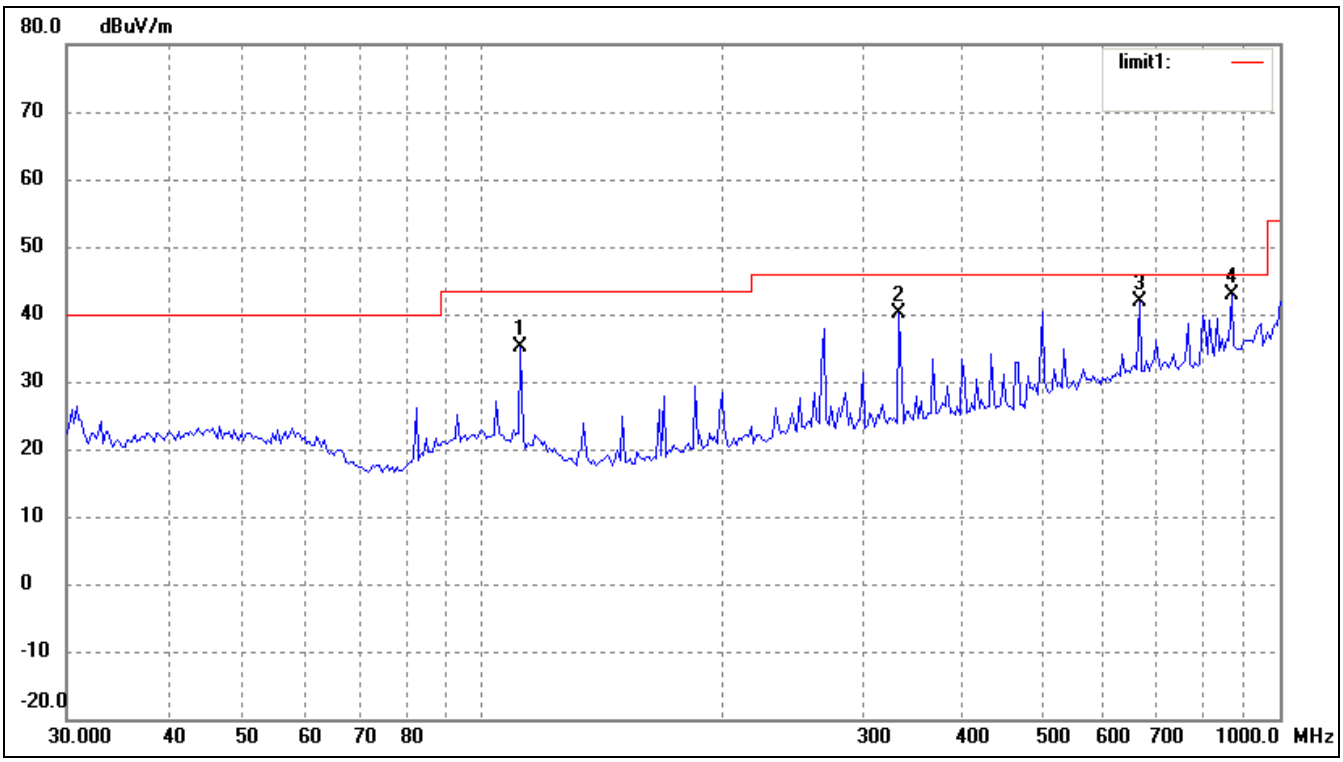
EUT: MID Ebook Reader

M/N: EB 60

Operating Condition: Connect to PC

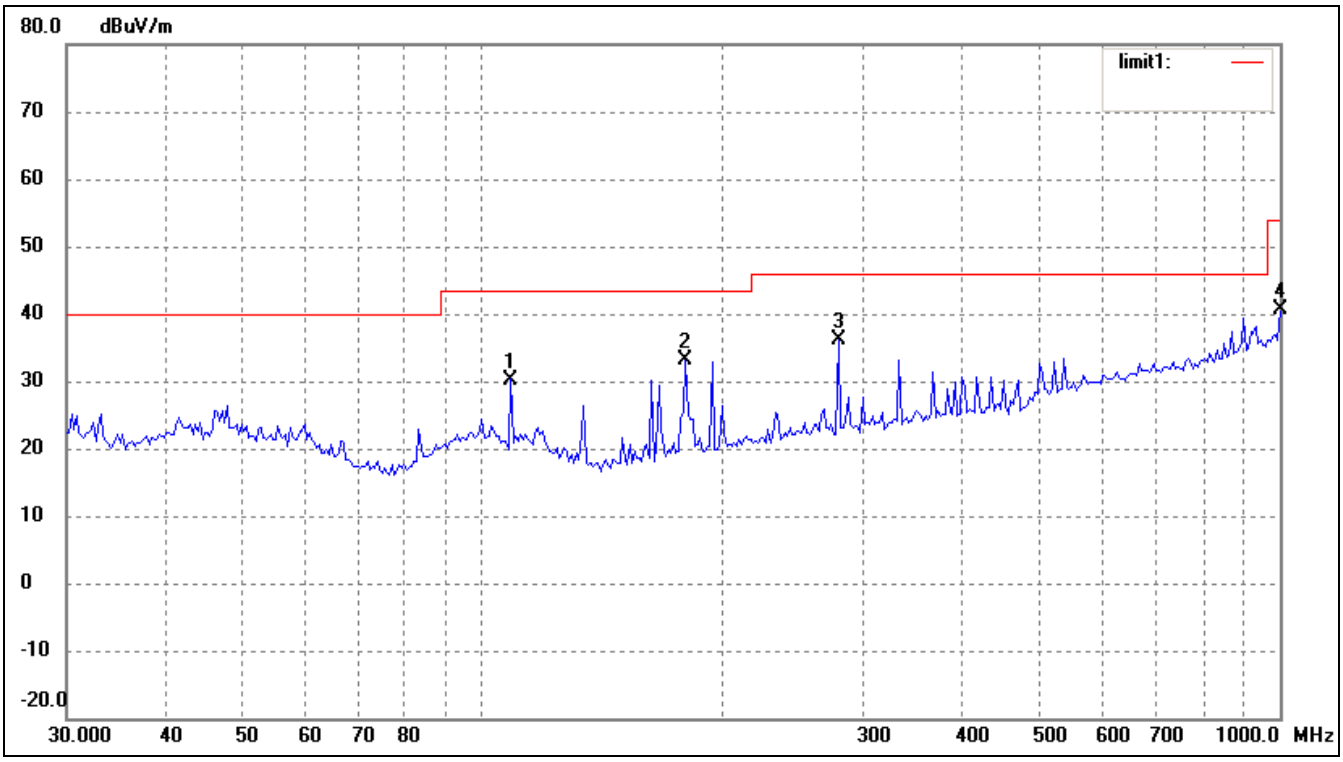
Test Specification: Horizontal & Vertical

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	111.3468	28.51	6.71	35.22	43.50	-8.28	360	100	peak
2	332.5187	31.08	9.08	40.16	46.00	-5.84	360	100	peak
3	665.8035	26.37	15.47	41.84	46.00	-4.16	360	100	peak
4	869.1302	24.66	18.26	42.92	46.00	-3.08	360	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	108.2667	23.16	7.09	30.25	43.50	-13.25	360	100	peak
2	179.3864	28.32	4.74	33.06	43.50	-10.44	360	100	peak
3	279.0436	27.72	8.42	36.14	46.00	-9.86	360	100	peak
4	1000.0000	20.09	20.50	40.59	54.00	-13.41	360	100	peak

Plot of Radiation Emissions Test Data

Radiated Emission

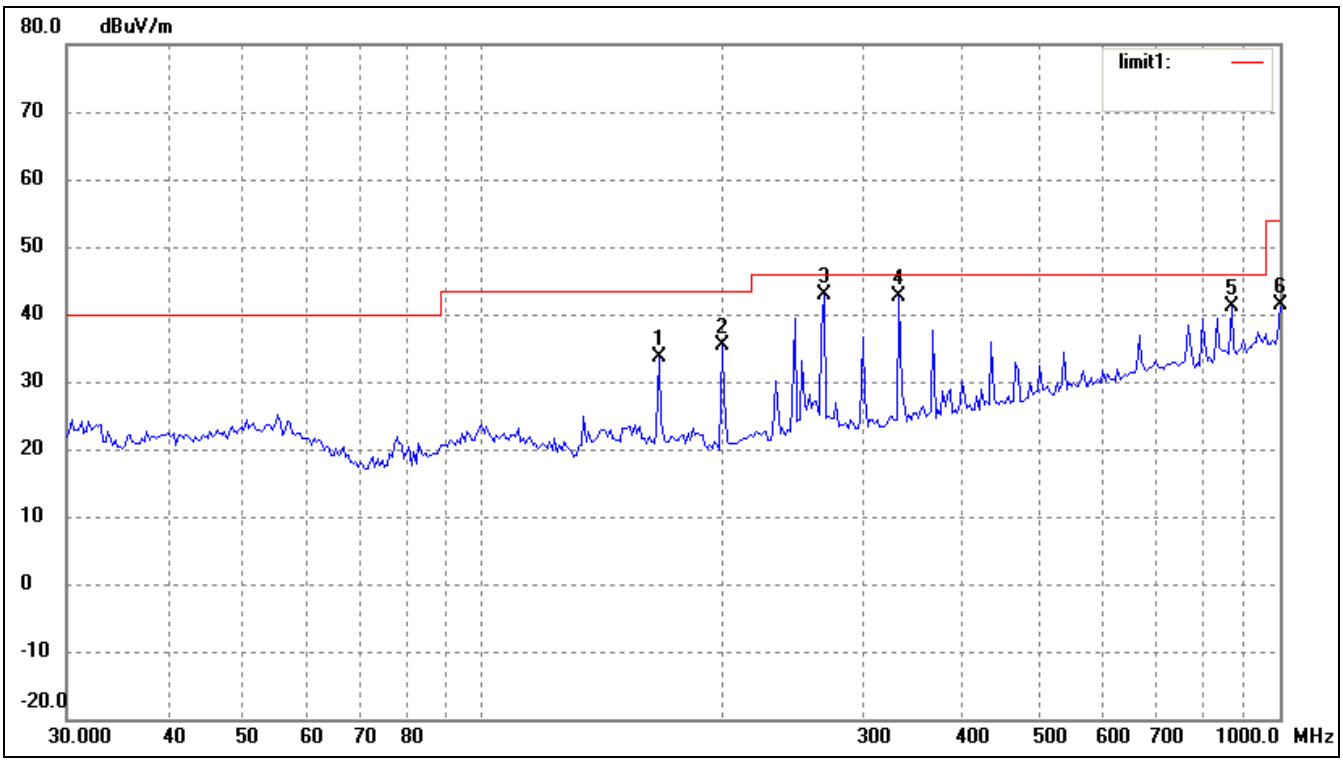
EUT: MID Ebook Reader

M/N: EB 60

Operating Condition: Charging and Playing

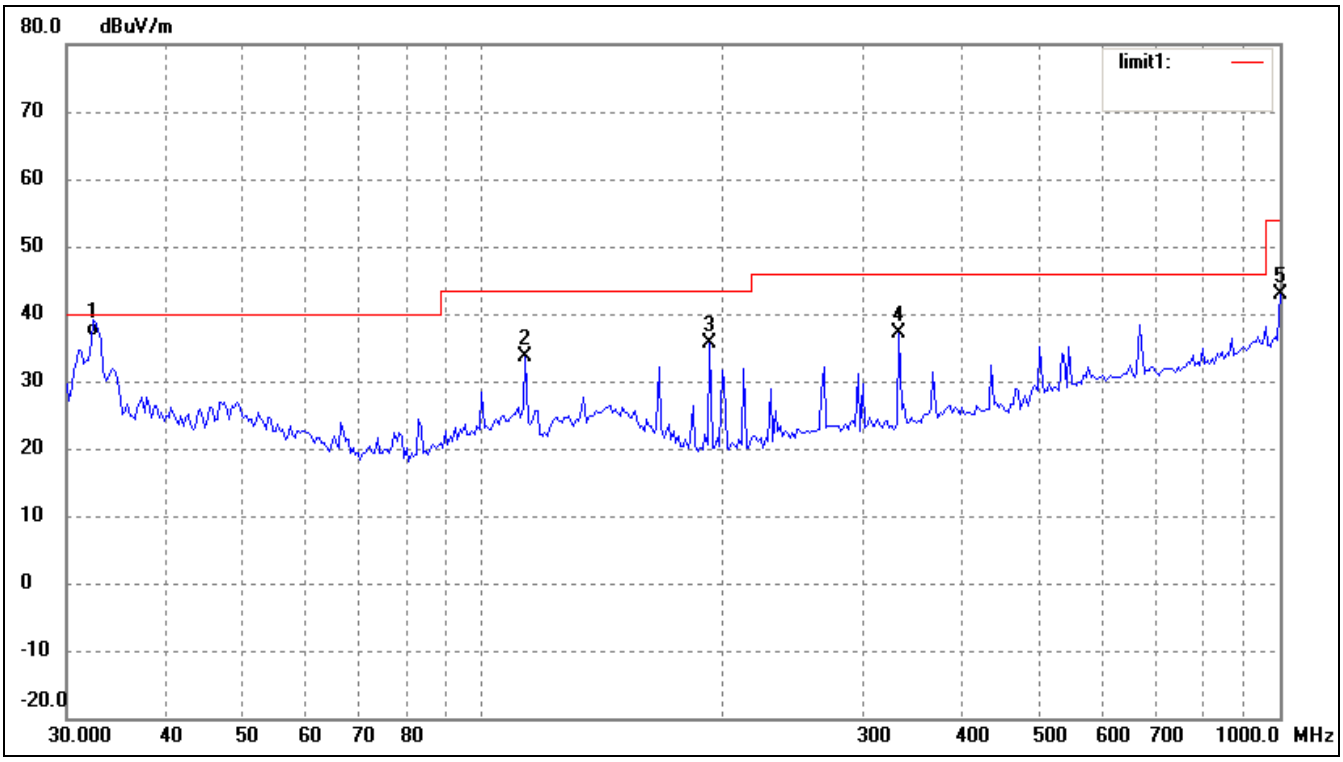
Test Specification: Horizontal & Vertical

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	166.0680	29.74	3.93	33.67	43.50	-9.83	360	100	peak
2	199.2855	29.70	5.68	35.38	43.50	-8.12	360	100	peak
3	267.5455	34.74	8.12	42.86	46.00	-3.14	360	100	peak
4	332.5187	33.60	9.08	42.68	46.00	-3.32	360	100	peak
5	869.1302	22.87	18.26	41.13	46.00	-4.87	360	100	peak
6	1000.0000	20.87	20.50	41.37	54.00	-12.63	360	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	32.5800	29.99	6.61	36.60	40.00	-3.40	0	100	QP
2	112.9196	27.06	6.45	33.51	43.50	-9.99	360	100	peak
3	192.4186	29.94	5.66	35.60	43.50	-7.90	360	100	peak
4	332.5187	28.10	9.08	37.18	46.00	-8.82	360	100	peak
5	1000.0000	22.50	20.50	43.00	54.00	-11.00	360	100	peak

******* END OF REPORT *******