FCC Part 15B
Measurement and Test Report

For

Smartron India Private Limited

1st Floor, Kapil Tower, Gachibowli, Hyderabad, Telangana

FCC ID: 2AGCE-T1211

Test Rule(s):	FCC Part 15 Subpart B
Product Description:	Tablet PC
Tested Model:	T1211
Report No.:	STR15098043I-5
Tested Date:	2015-12-15 to 2016-02-29
Issued Date:	2016-02-29
Tested By:	Leo Lee / Engineer
Reviewed By:	Silin Chen / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

Shenzhen SEM.Test Technology Co., Ltd.
1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,
Bao'an District, Shenzhen, P.R.C.（518101）
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Smartron India Private Limited
Address of applicant:	1st Floor, Kapil Tower, Gachibowli, Hyderabad, Telangana
Manufacturer:	Shenzhen Wisky Technology Co., LTD.
Address of manufacturer:	5th Floor, W2-A Building, Hi-tech Park South 1st Road, Nanshan District, Shenzhen

General Description of EUT	
Product Name:	Tablet PC
Trade Name:	SMARTRON
Model No.:	T1211
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model T1211, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 7.4V battery, Adapter DC 12V charging
Rated Current:	3A
Rated Power:	22.2W
Power Adapter Model:	PSY1203000 I/P: AC 100-240V; O/P: DC 12V/3A
Highest Internal Frequency:	1.2GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Smartron India Private Limited 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, Subpart B, and section 15.205, 15.107, and 15.109 rules.

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

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, 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.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology 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 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & playing & TF Card & HDMI	Worst mode
TM2	Downloading	With two U-disk at the same time

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Adapter Cable	1.45	Unshielded	Without Core

Auxiliary Equipment List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
HDMI cable	1.5	Unshielded	Without Ferrite
Earphone	1.2	Unshielded	Without Ferrite
USB cable	1.0	Unshielded	Without Ferrite

Special Cable List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R
TF card	Kingston	Class 10	/
Display	Dell	U2410f	50642P246601H(B) ZL

1.6 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2015-06-17	2016-06-16
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2015-06-17	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2015-06-17	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2015-06-17	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2015-06-17	2016-06-16
Horn Antenna	ETS	3117	00086197	2015-06-17	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2015-06-17	2016-06-16
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2015-06-17	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2015-06-17	2016-06-16

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

N/A: not applicable

3. Conducted Emissions

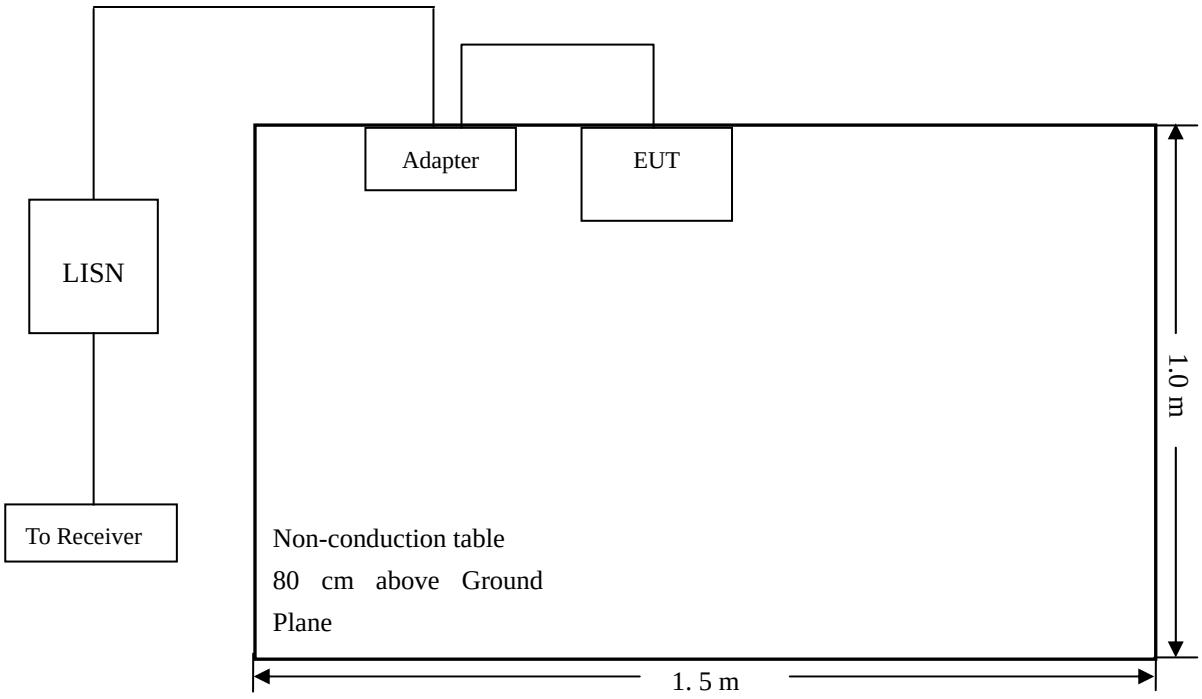
3.1 Measurement Uncertainty

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 Procedure

Test is conducting under the description of ANSI C63.4-2014, 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.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.5 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

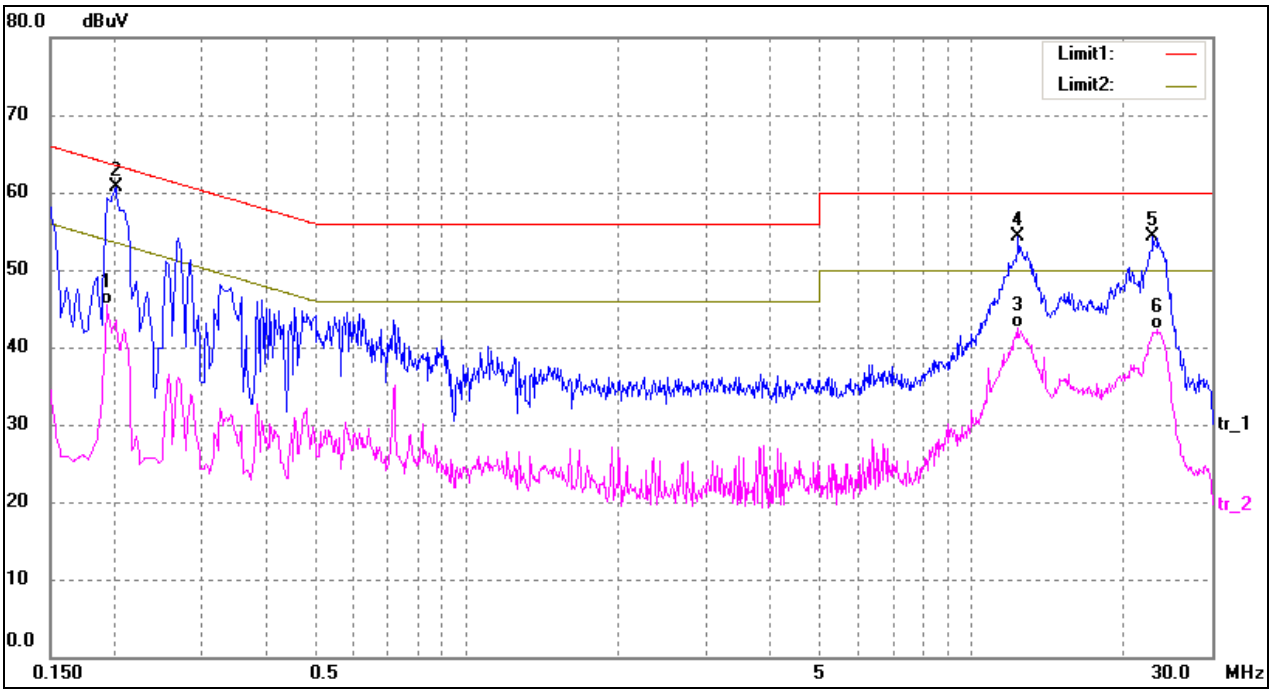
-2.80 dB at 0.2020 MHz in the **Neutral** mode**, peak** detector, **0.15-30MHz**

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

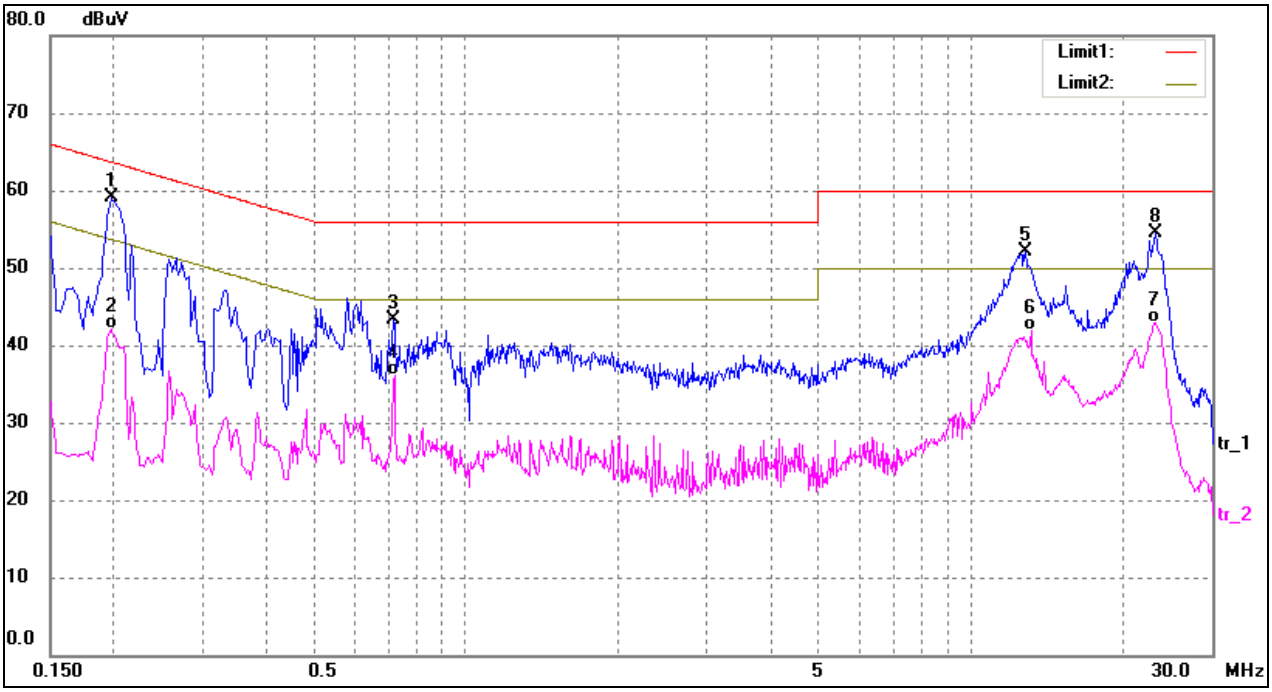
EUT: *Tablet PC*
Tested Model: *T1211*
Operating Condition: *Charging & playing & TF card & HDMI*
Comment: *AC 120V/60Hz; Adapter DC 12V/3A*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1940	32.91	12.50	45.41	53.86	-8.45	AVG
2*	0.2020	48.23	12.50	60.73	63.53	-2.80	peak
3	12.3740	31.58	11.00	42.58	50.00	-7.42	AVG
4	12.3900	43.21	11.00	54.21	60.00	-5.79	peak
5	23.0100	41.92	12.34	54.26	60.00	-5.74	peak
6	23.3900	29.79	12.46	42.25	50.00	-7.75	AVG

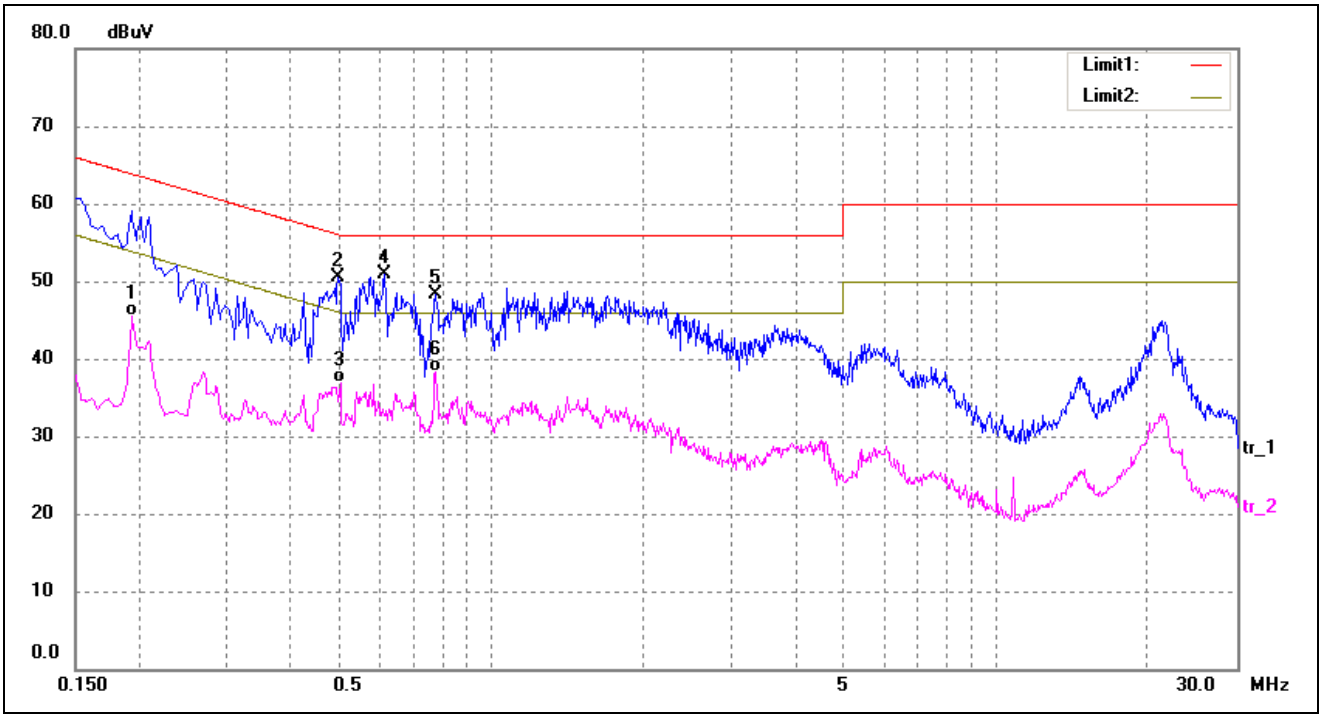
Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1980	46.55	12.50	59.05	63.69	-4.64	peak
2	0.1980	29.68	12.50	42.18	53.69	-11.51	AVG
3	0.7180	30.60	12.72	43.32	56.00	-12.68	peak
4	0.7220	23.42	12.72	36.14	46.00	-9.86	AVG
5	12.7860	41.14	11.00	52.14	60.00	-7.86	peak
6	13.1540	30.97	11.00	41.97	50.00	-8.03	AVG
7	23.0340	30.64	12.34	42.98	50.00	-7.02	AVG
8	23.1700	42.20	12.39	54.59	60.00	-5.41	peak

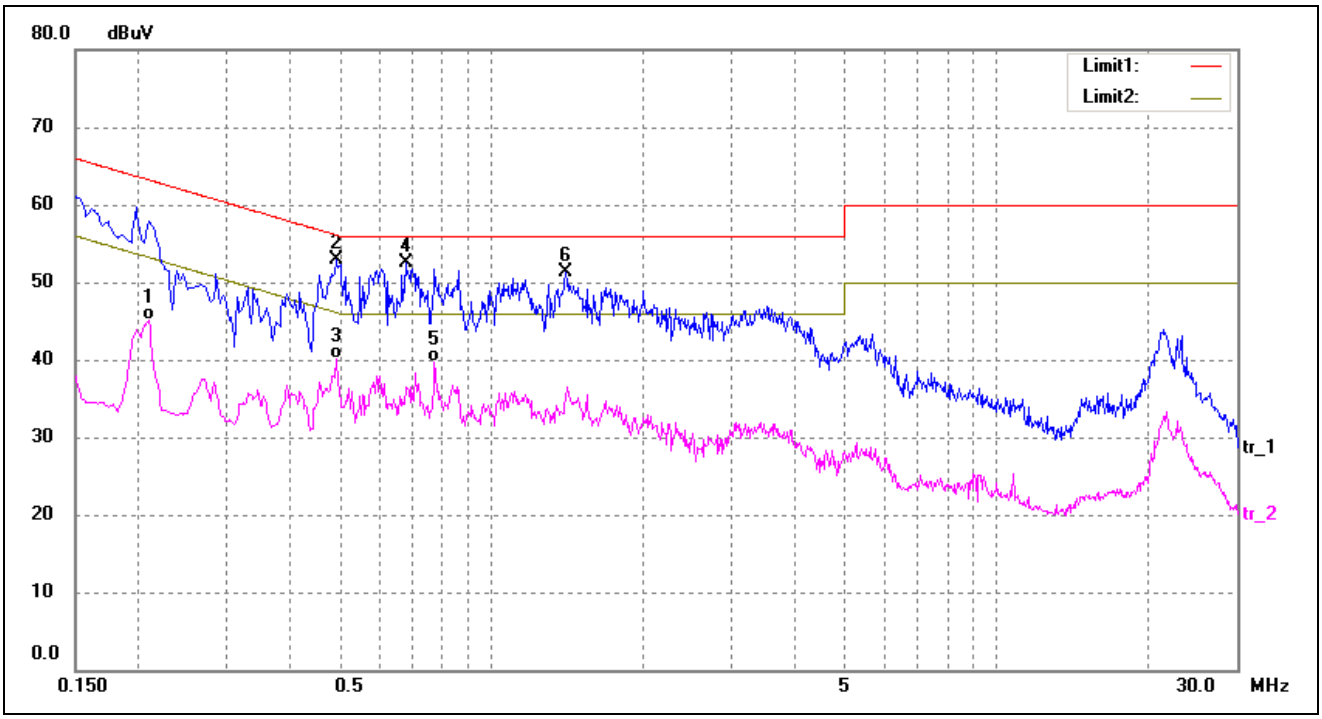
EUT: *Tablet PC*
Tested Model: *T1211*
Operating Condition: *Downloading*
Comment: *AC 120V/60Hz; Adapter DC 12V/3A*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1940	33.06	12.50	45.56	53.86	-8.30	AVG
2	0.4980	37.97	12.50	50.47	56.03	-5.56	peak
3	0.5020	24.35	12.50	36.85	46.00	-9.15	AVG
4*	0.6140	38.30	12.61	50.91	56.00	-5.09	peak
5	0.7780	35.60	12.78	48.38	56.00	-7.62	peak
6	0.7780	25.43	12.78	38.21	46.00	-7.79	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.2100	32.61	12.50	45.11	53.21	-8.10	AVG
2*	0.4940	40.34	12.50	52.84	56.10	-3.26	peak
3	0.4940	27.69	12.50	40.19	46.10	-5.91	AVG
4	0.6780	39.82	12.68	52.50	56.00	-3.50	peak
5	0.7740	26.95	12.77	39.72	46.00	-6.28	AVG
6	1.4100	38.30	13.00	51.30	56.00	-4.70	peak

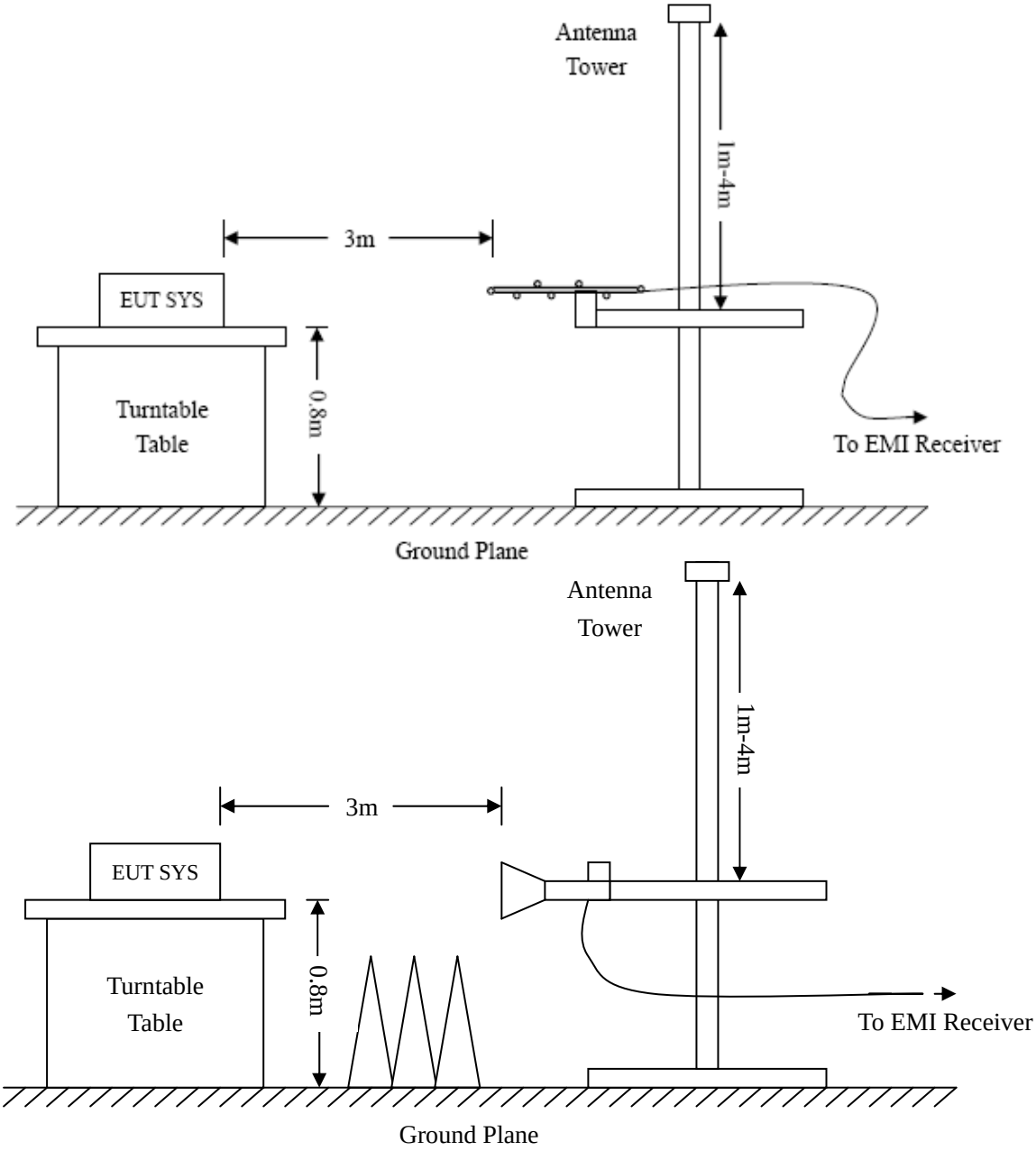
4. Radiated Emissions

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 Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the 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.



4.3 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.4 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 a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.6 Summary of Test Results/Plots

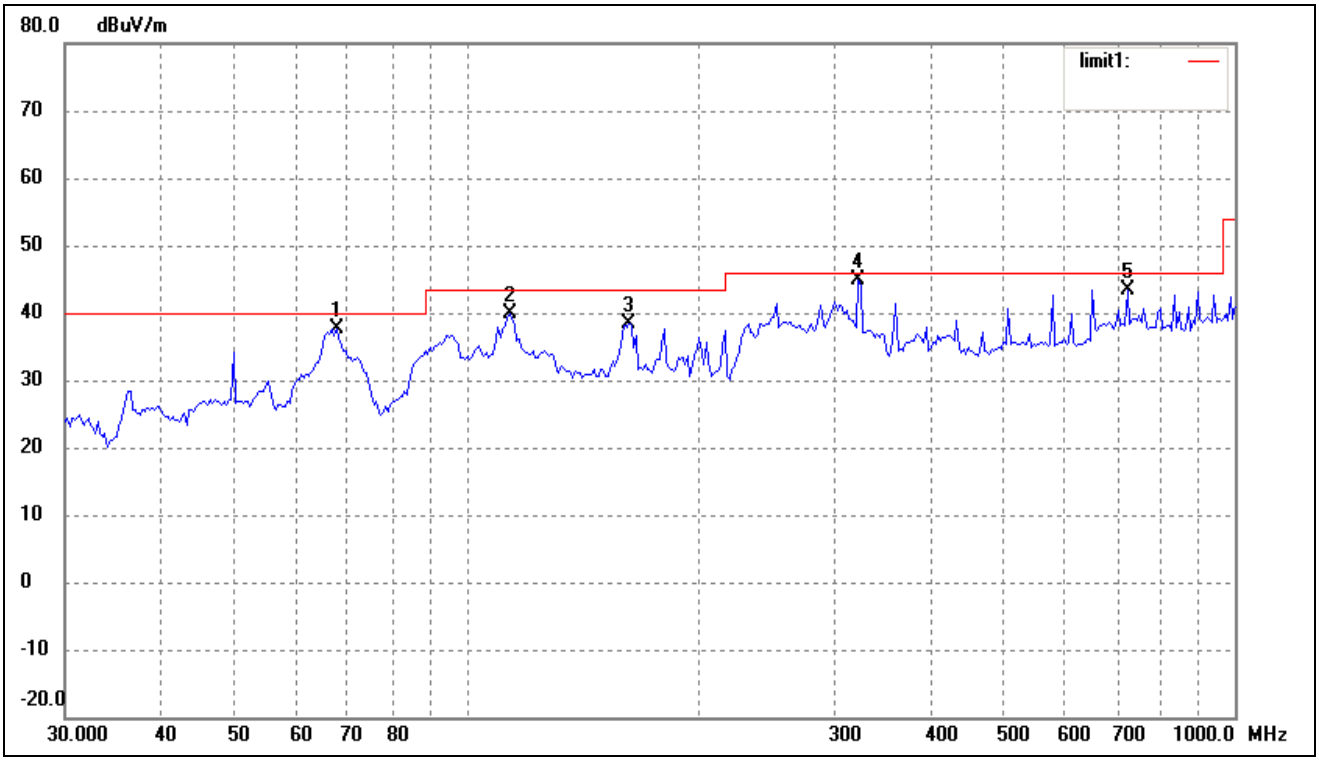
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.08 dB at **323.3204 MHz** in the **Horizontal** polarization, **9 kHz** to **1 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

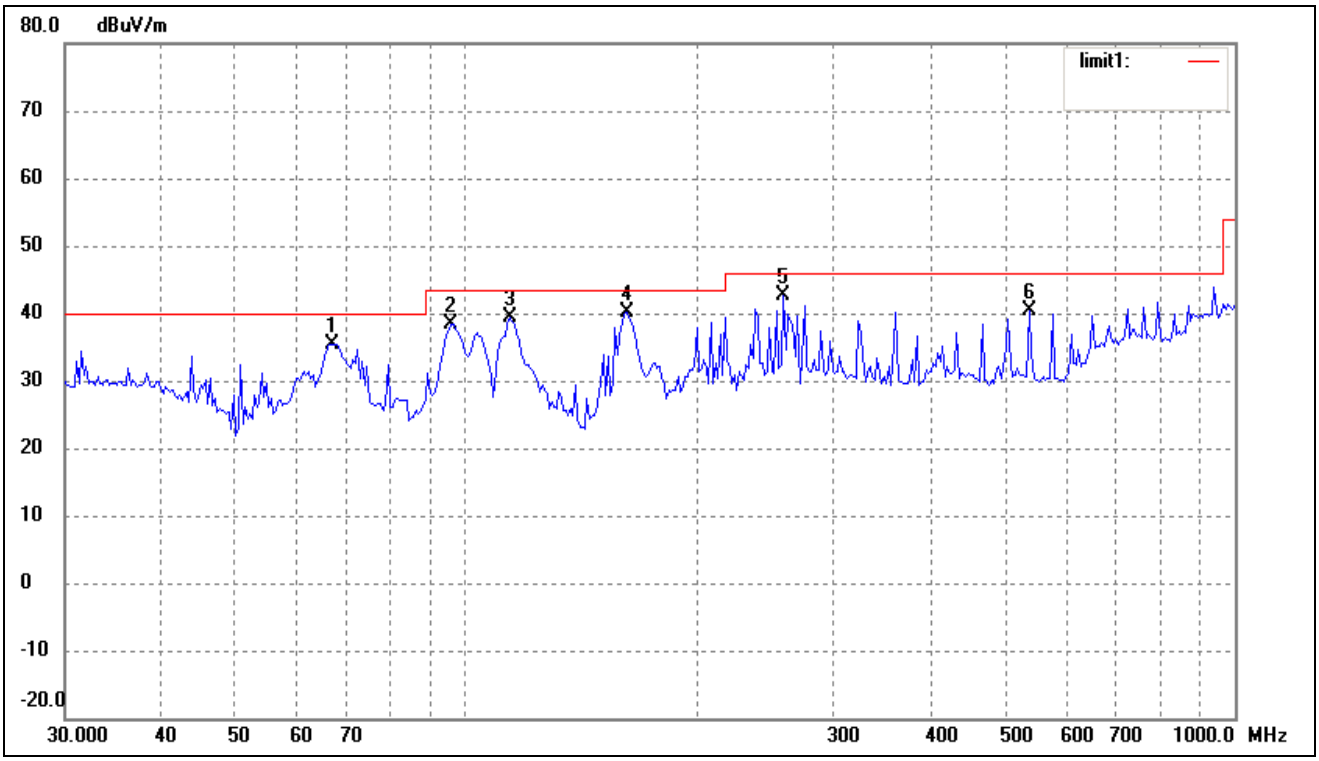
EUT: *Tablet PC*
Tested Model: *T1211*
Operating Condition: *Charging & playing & TF card & HDMI*
Comment: *AC 120V/60Hz; Adapter DC 12V/3A*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	67.6751	33.13	4.53	37.66	40.00	-2.34	58	150	QP
2	113.7142	32.80	6.98	39.78	43.50	-3.72	326	100	QP
3	162.6106	33.86	4.63	38.49	43.50	-5.01	29	120	QP
4	323.3204	34.86	10.06	44.92	46.00	-1.08	209	100	peak
5	724.2611	25.61	17.86	43.47	46.00	-2.53	359	200	peak

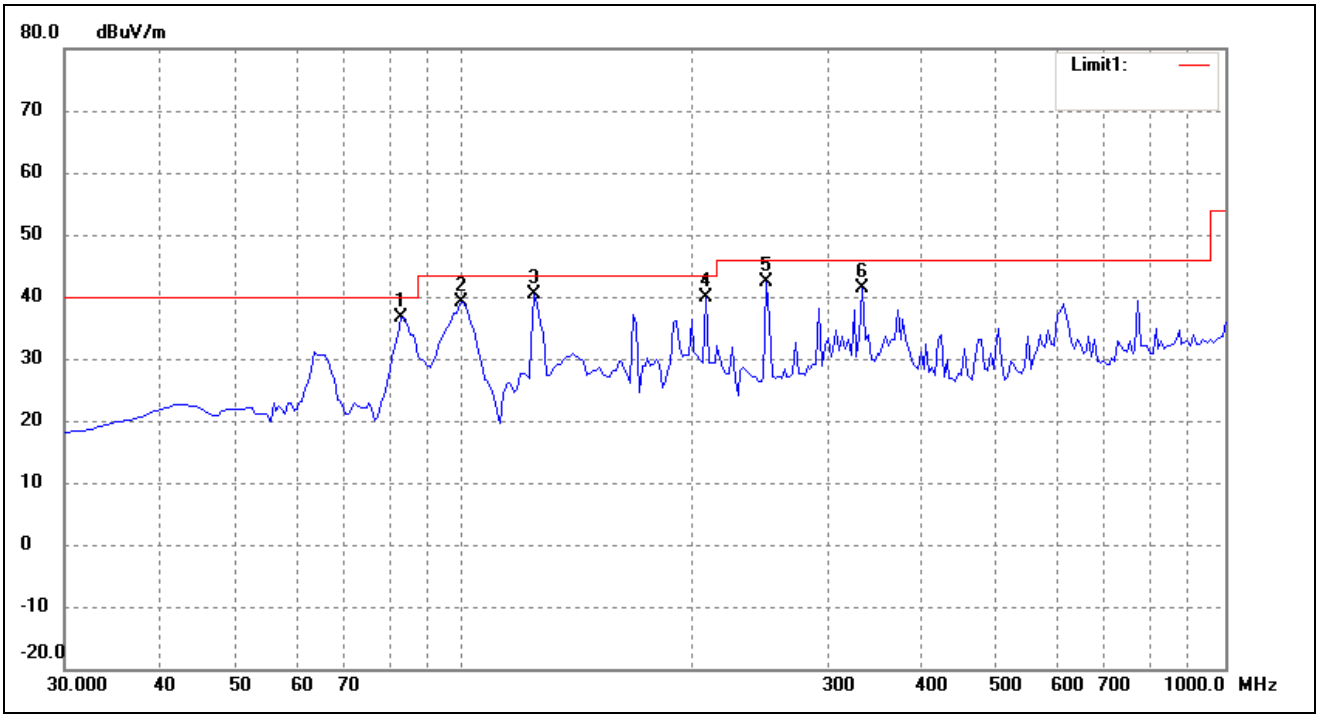
Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	66.7325	30.53	4.90	35.43	40.00	-4.57	51	100	peak
2	95.4270	30.39	8.09	38.48	43.50	-5.02	308	100	peak
3	113.7142	32.35	6.98	39.33	43.50	-4.17	120	100	peak
4	161.4741	35.45	4.59	40.04	43.50	-3.46	359	100	peak
5	258.3263	33.77	8.91	42.68	46.00	-3.32	359	100	peak

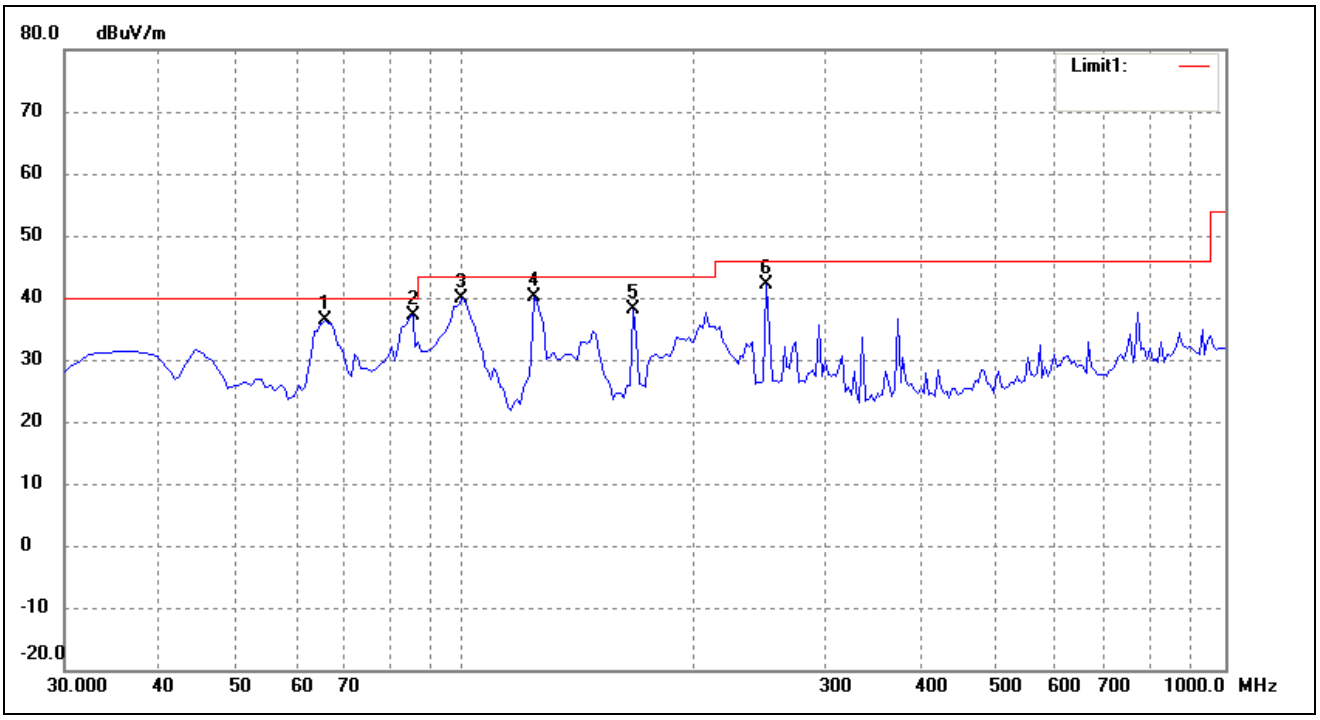
EUT: *Tablet PC*
Tested Model: *T1211*
Operating Condition: *Downloading*
Comment: *AC 120V/60Hz; Adapter DC 12V/3A*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	83.3499	49.01	-12.31	36.70	40.00	-3.30	360	100	peak
2	100.3250	50.01	-10.91	39.10	43.50	-4.40	360	100	peak
3	124.5750	52.16	-11.69	40.47	43.50	-3.03	360	100	peak
4	209.4499	48.66	-8.74	39.92	43.50	-3.58	360	100	peak
5	250.6750	49.87	-7.58	42.29	46.00	-3.71	360	100	peak
6	335.5500	46.19	-4.91	41.28	46.00	-4.72	360	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	66.3750	47.93	-11.65	36.28	40.00	-3.72	360	100	peak
2	85.8983	49.69	-12.55	37.14	40.00	-2.86	360	100	peak
3	100.3250	50.78	-10.91	39.87	43.50	-3.63	360	100	peak
4	124.5750	51.70	-11.69	40.01	43.50	-3.49	360	100	peak
5	168.2248	50.04	-11.90	38.14	43.50	-5.36	360	100	peak
6	250.6750	49.59	-7.58	42.01	46.00	-3.99	360	100	peak

Note: Testing is carried out with frequency rang 30MHz to the 1GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

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