FCC Part 15B
Measurement and Test Report

For

ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY LIMITED

No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Dong Guan, China

FCC ID: ZL9-360M

FCC Rule(s):	FCC Part 15 Subpart B
Product Description:	Tablet PC
Tested Model:	360M
Report No.:	STR15088130I-1
Tested Date:	2015-08-13 to 2015-08-29
Issued Date:	2015-08-29
Tested By:	Lebron Wang / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY LIMITED
Address of applicant:	No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Dong Guan, China
Manufacturer:	ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY LIMITED
Address of manufacturer:	No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Dong Guan, China

General Description of EUT	
Product Name:	Tablet PC
Trade Name:	/
Model No.:	360M
Adding Model(s):	Flex 360M, 116M
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 360M, 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:	2A
Rated Power:	24W
Power Adapter Model:	SWN024S120200U1 I/P: AC 100-240V; O/P: DC 12V/2A
Lowest Internal Frequency:	32.768kHz
Highest Internal Frequency:	1.0GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the ELECTRONICS TECHNOLOGY(DONG GUAN) COMPANY 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 & HDMI	Connect adapter, Earphone, LCD TV
TM2	Downloading	Connect U-Disk

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Adapter Cable	1.5	Unshielded	With Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
U-Disk	SanDisk	2GB	/
LCD TV	DELL	IN1920C	Q40G18N-700-1B2A

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Earphone	1.2	Unshielded	Without Core

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

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

N/A: not applicable

3. Conducted Emissions

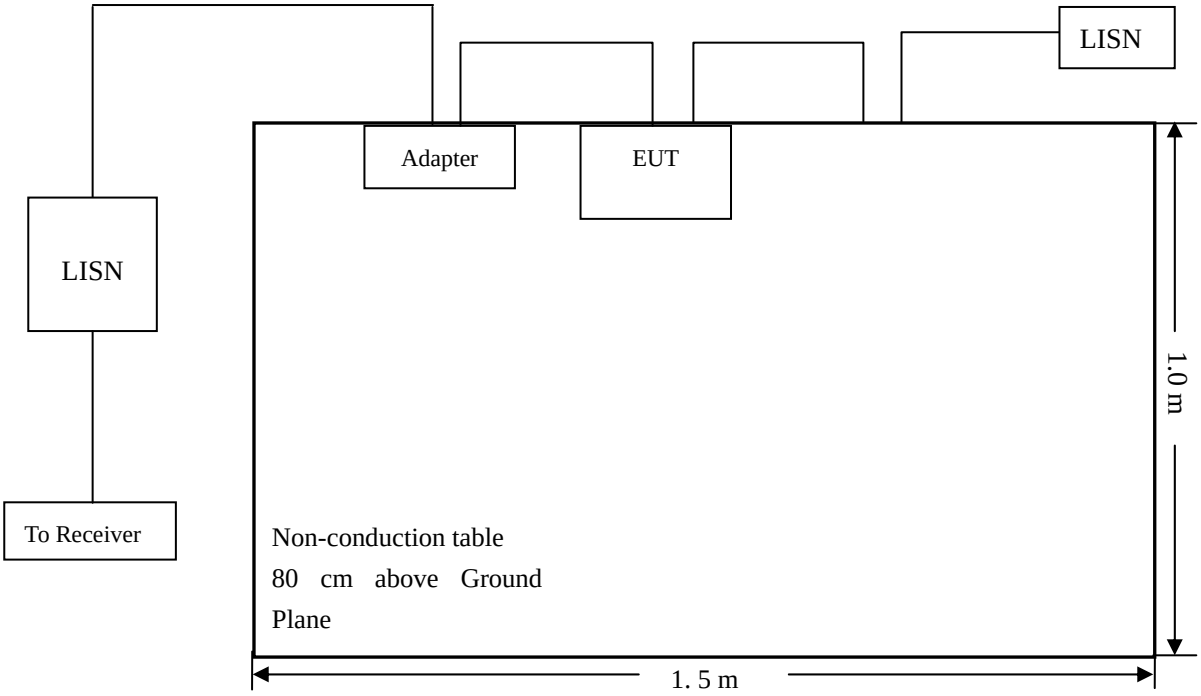
3.1 Measurement Uncertainty

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:

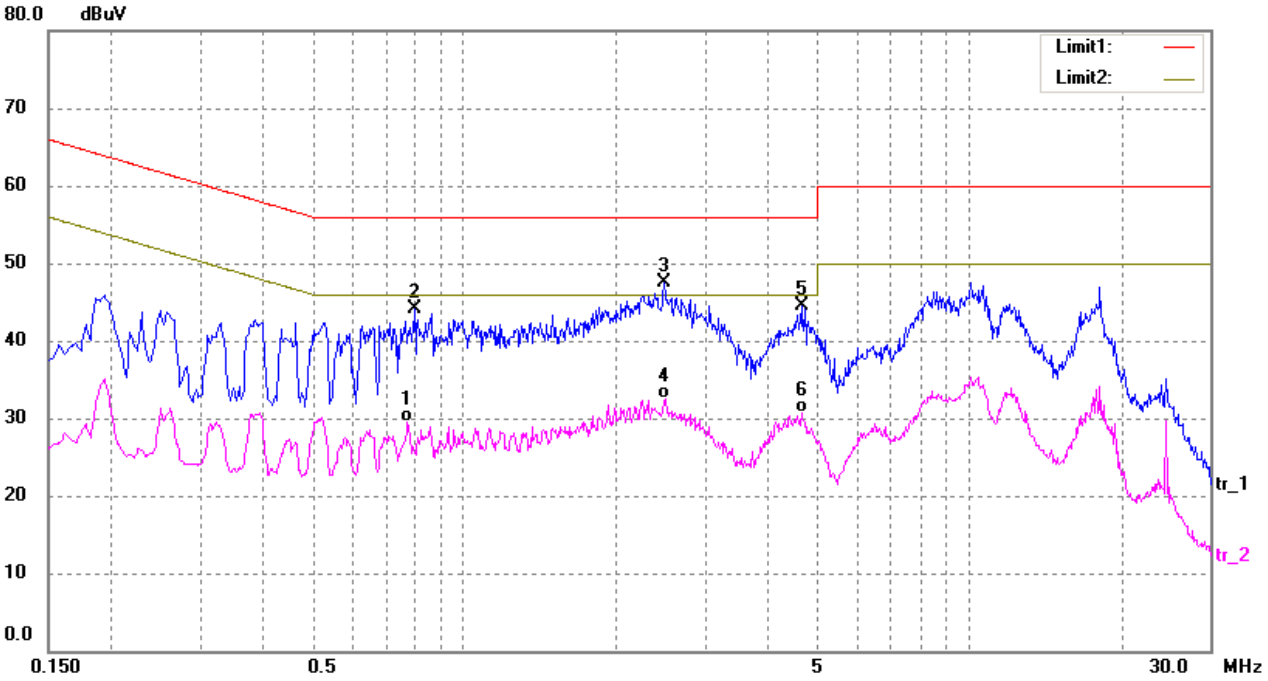
-8.46 dB at **2.4940 MHz** in the **Neutral**, **Peak** detector, **TM1** Mode, 0.15-30MHz

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

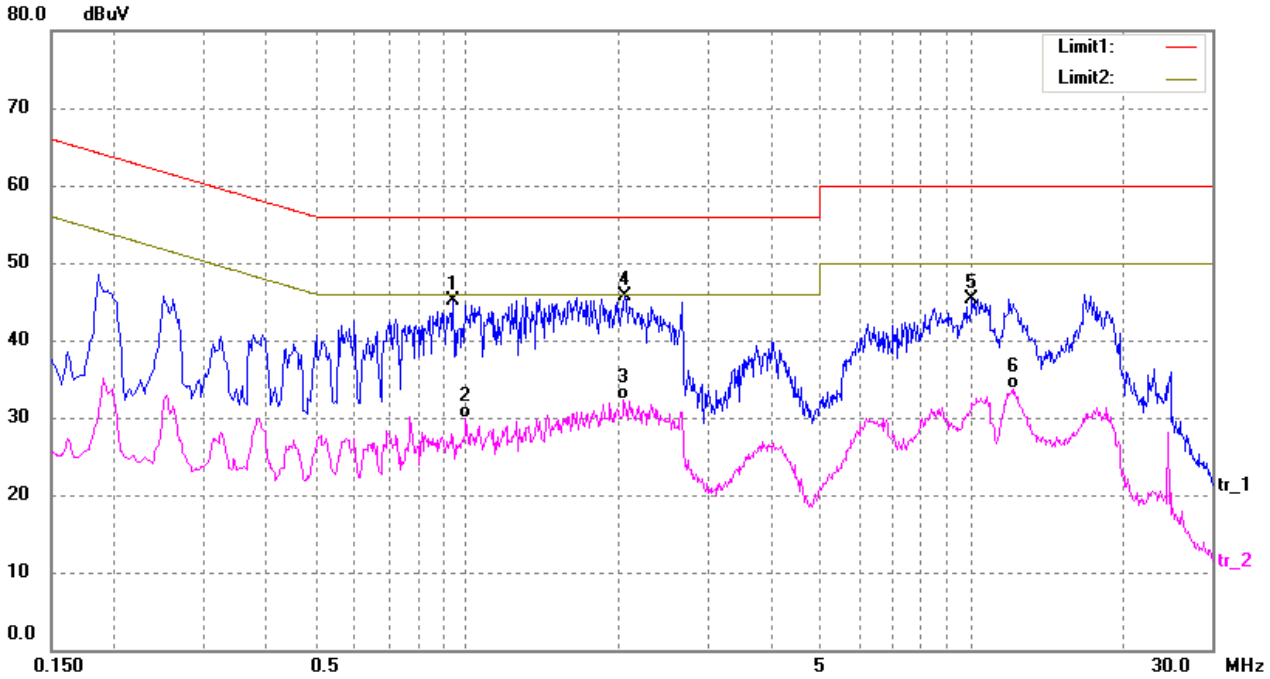
EUT: *Tablet PC*
Tested Model: *360M*
Operating Condition: *TM1*
Comment: *DC 120V/60Hz; DC 12V/2A*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.7740	16.82	12.77	29.59	46.00	-16.41	AVG
2	0.7980	31.22	12.80	44.02	56.00	-11.98	peak
3*	2.4940	34.54	13.00	47.54	56.00	-8.46	peak
4	2.5060	19.46	13.00	32.46	46.00	-13.54	AVG
5	4.6580	31.42	13.00	44.42	56.00	-11.58	peak
6	4.6580	17.73	13.00	30.73	46.00	-15.27	AVG

Test Specification: *Line*

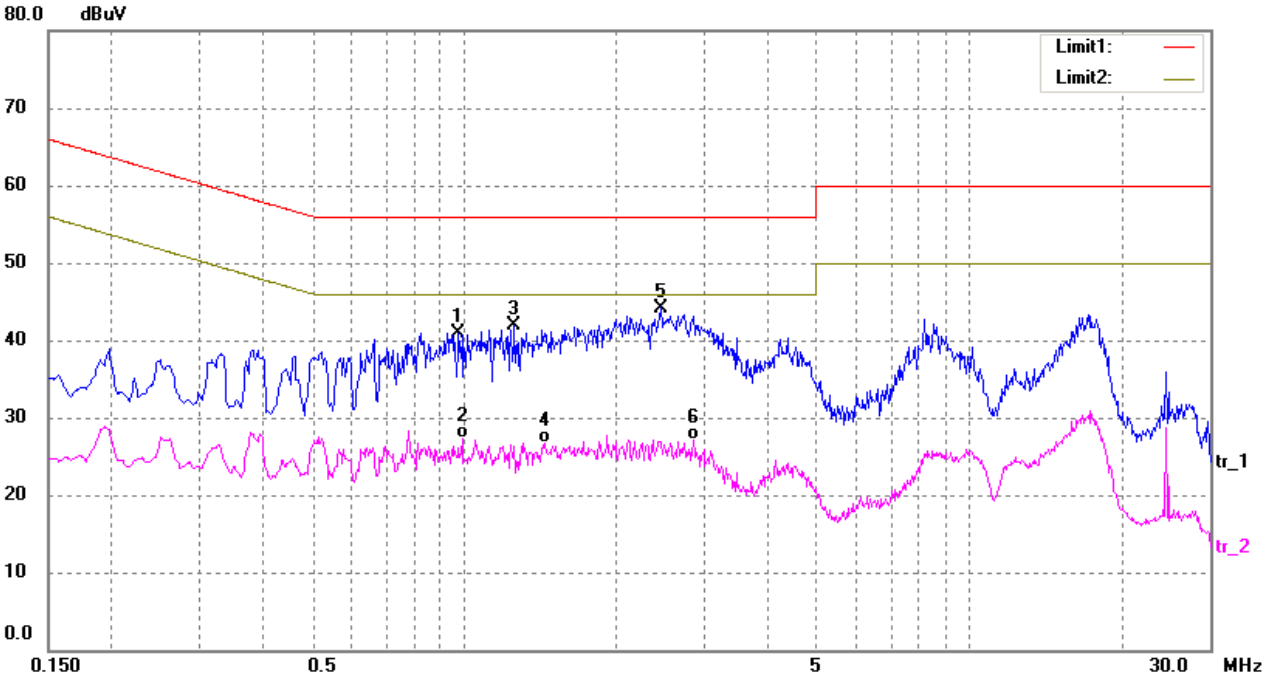


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.9420	32.07	12.94	45.01	56.00	-10.99	peak
2	0.9980	16.87	13.00	29.87	46.00	-16.13	AVG
3	2.0500	19.21	13.00	32.21	46.00	-13.79	AVG
4*	2.0580	32.68	13.00	45.68	56.00	-10.32	peak
5	10.0660	34.23	11.00	45.23	60.00	-14.77	peak
6	12.0980	22.61	11.00	33.61	50.00	-16.39	AVG

Plot of Conducted Emissions Test Data

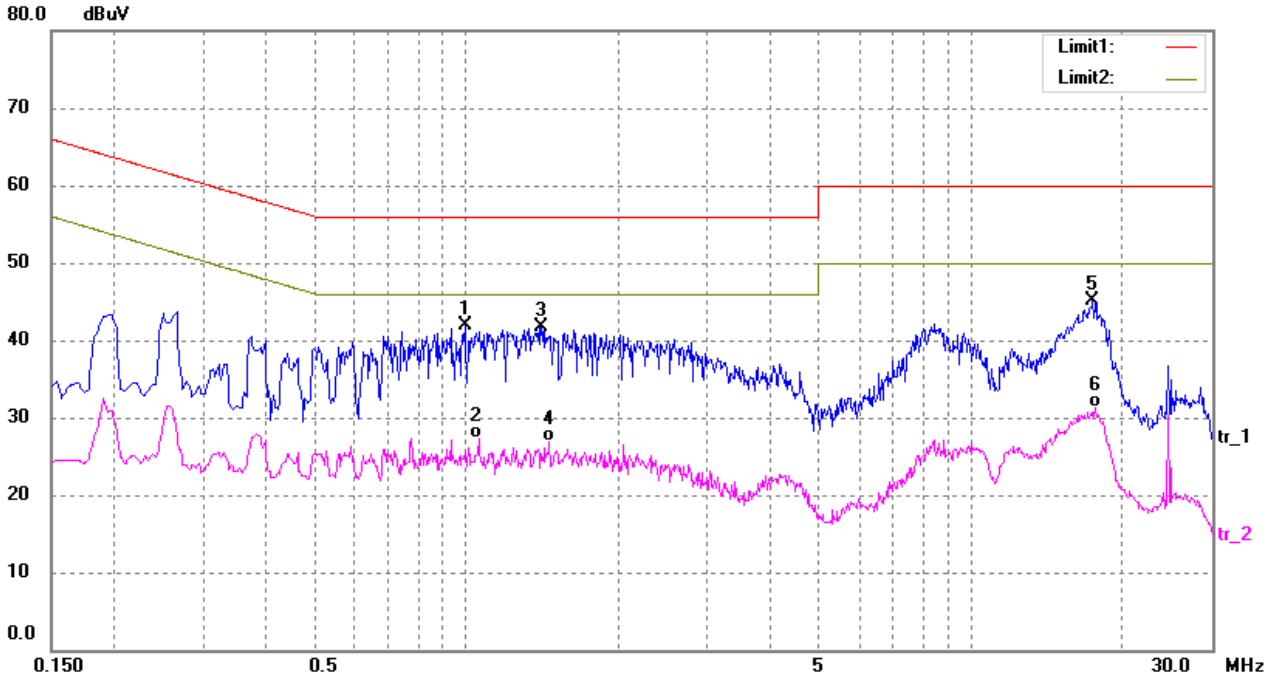
EUT: *Tablet PC*
Tested Model: *360M*
Operating Condition: *TM2*
Comment: *DC 120V/60Hz; DC 12V/2A*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.9780	28.01	12.98	40.99	56.00	-15.01	peak
2	0.9940	14.23	12.99	27.22	46.00	-18.78	AVG
3	1.2620	28.84	13.00	41.84	56.00	-14.16	peak
4	1.4460	13.75	13.00	26.75	46.00	-19.25	AVG
5*	2.4540	31.20	13.00	44.20	56.00	-11.80	peak
6	2.8540	14.04	13.00	27.04	46.00	-18.96	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.9900	28.98	12.99	41.97	56.00	-14.03	peak
2	1.0580	14.21	13.00	27.21	46.00	-18.79	AVG
3	1.4100	28.72	13.00	41.72	56.00	-14.28	peak
4	1.4580	13.95	13.00	26.95	46.00	-19.05	AVG
5	17.3980	33.72	11.48	45.20	60.00	-14.80	peak
6	17.6500	19.72	11.53	31.25	50.00	-18.75	AVG

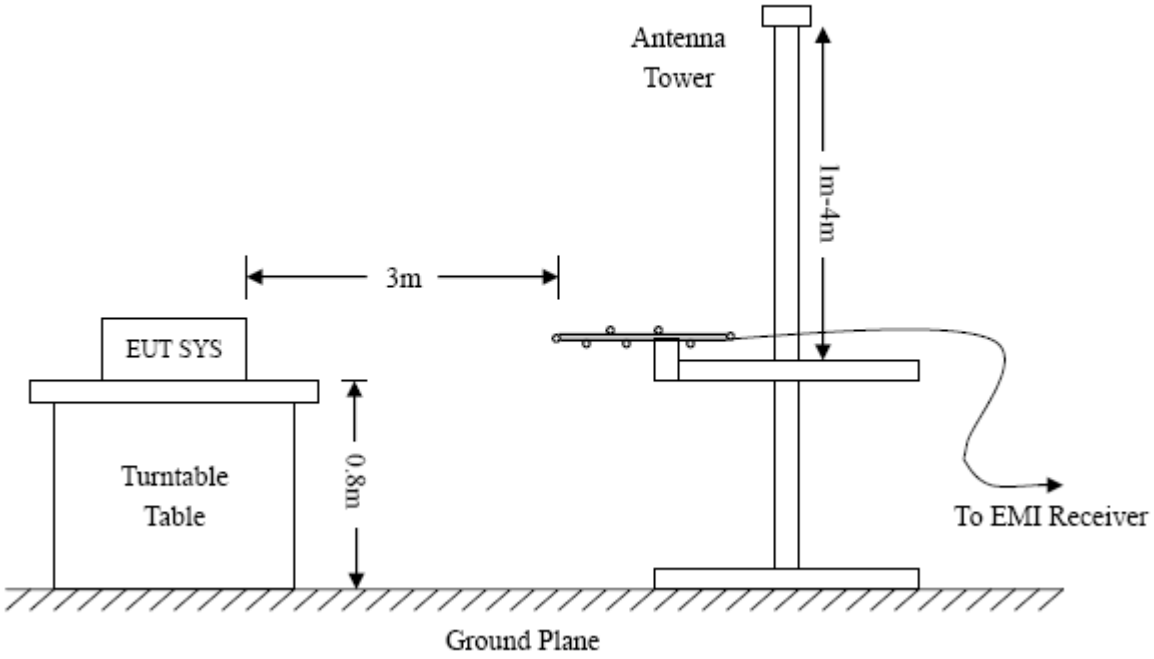
4. RADIATED EMISSION

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 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

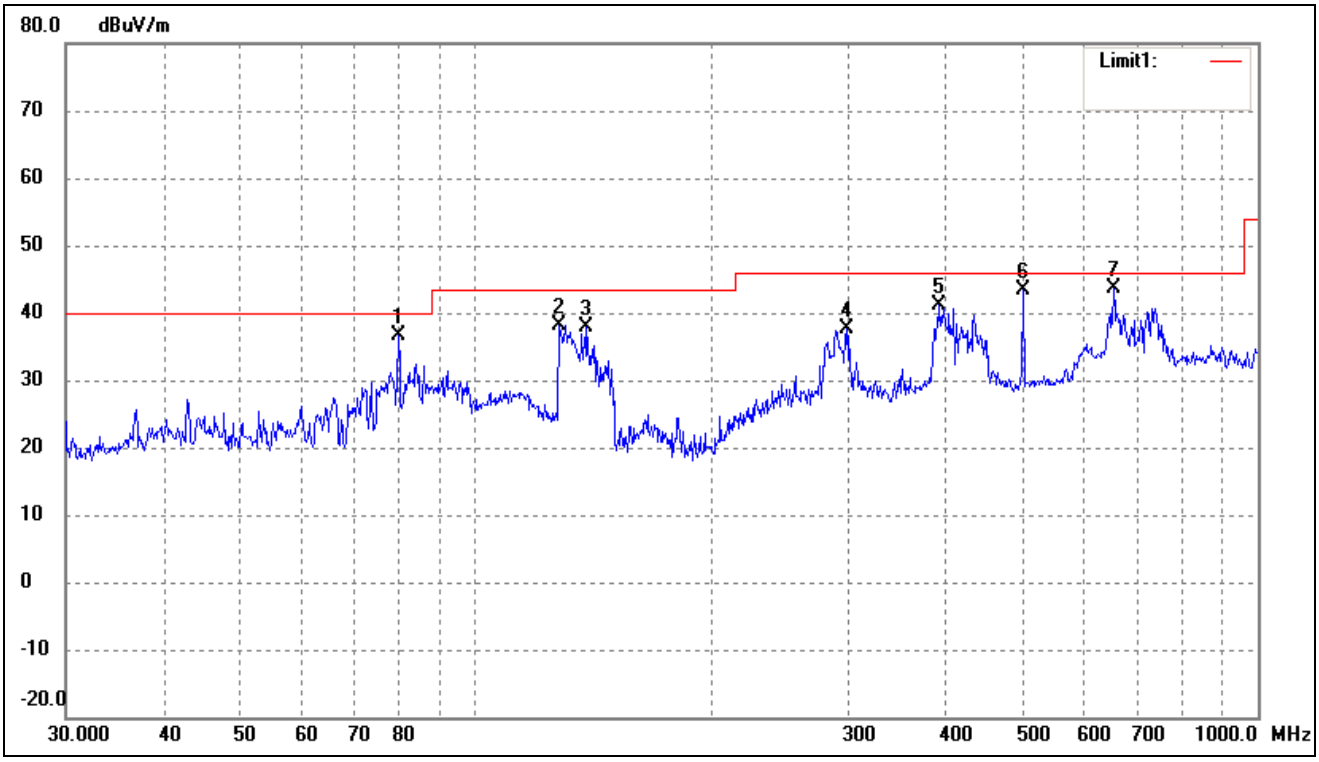
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.66 dB at **391.3249 MHz** in the **Horizontal** polarization, **TM2** mode, **9kHz** to **5 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

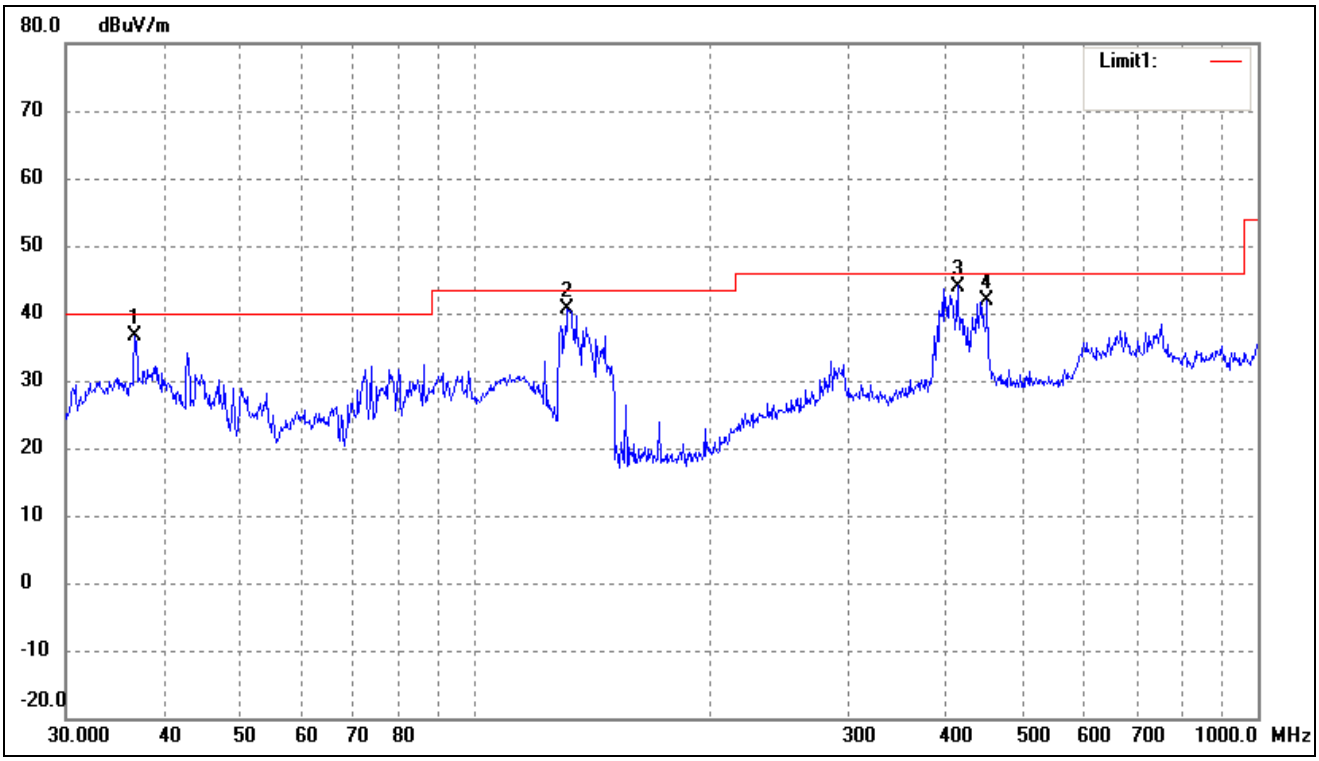
EUT: *Tablet PC*
Tested Model: *360M*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; DC 12V/2A*

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	79.8003	34.71	2.02	36.73	40.00	-3.27	58	100	peak
2	128.1130	33.75	4.37	38.12	43.50	-5.38	326	100	peak
3	138.8735	34.45	3.51	37.96	43.50	-5.54	29	100	peak
4	298.2681	25.44	12.11	37.55	46.00	-8.45	209	100	peak
5	392.0951	28.29	12.76	41.05	46.00	-4.95	145	100	peak
6	501.1790	29.39	13.88	43.27	46.00	-2.73	125	100	peak
7	654.2318	25.31	18.27	43.58	46.00	-2.42	178	100	peak

Test Specification: *Vertical*

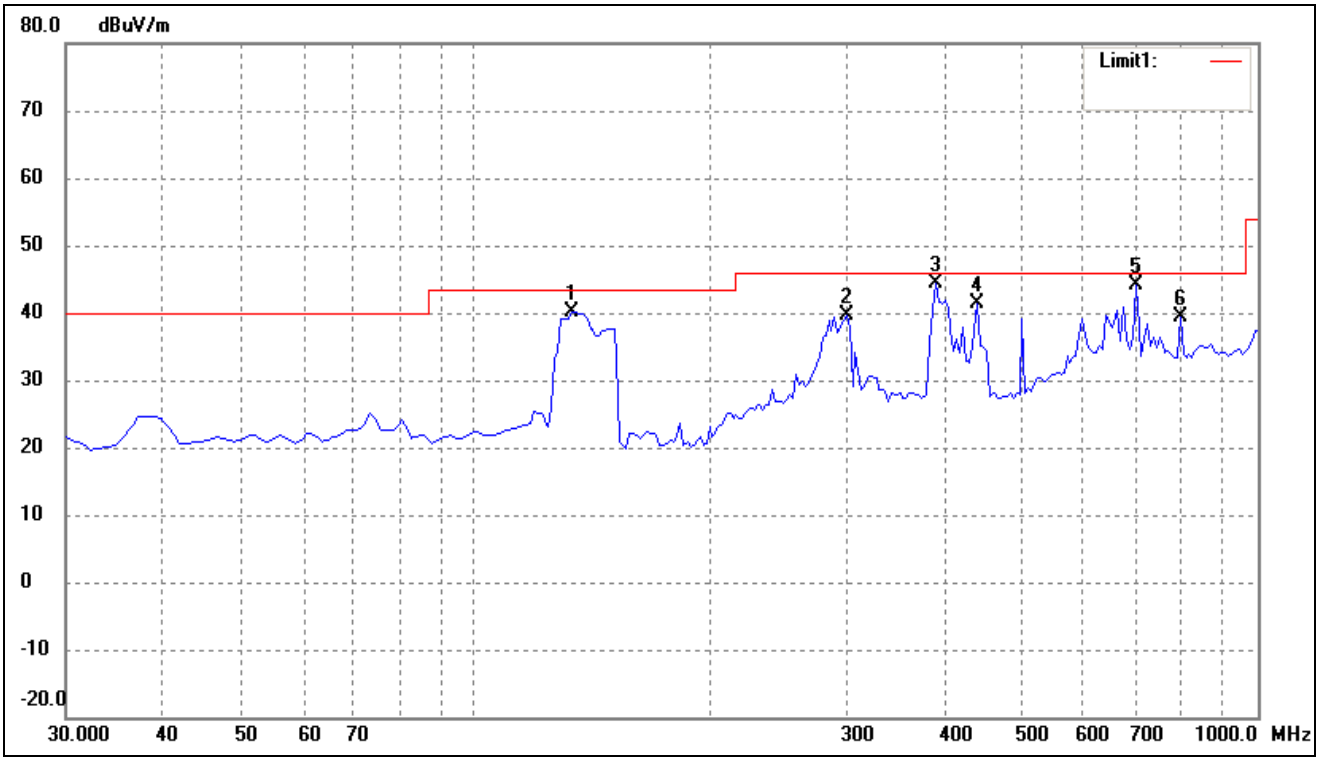


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	36.7662	31.91	4.70	36.61	40.00	-3.39	51	100	peak
2	131.2965	36.47	4.11	40.58	43.50	-2.92	308	100	peak
3	413.2706	31.37	12.63	44.00	46.00	-2.00	120	100	peak
4	451.1350	28.47	13.32	41.79	46.00	-4.21	359	100	peak

Plot of Radiated Emissions Test Data

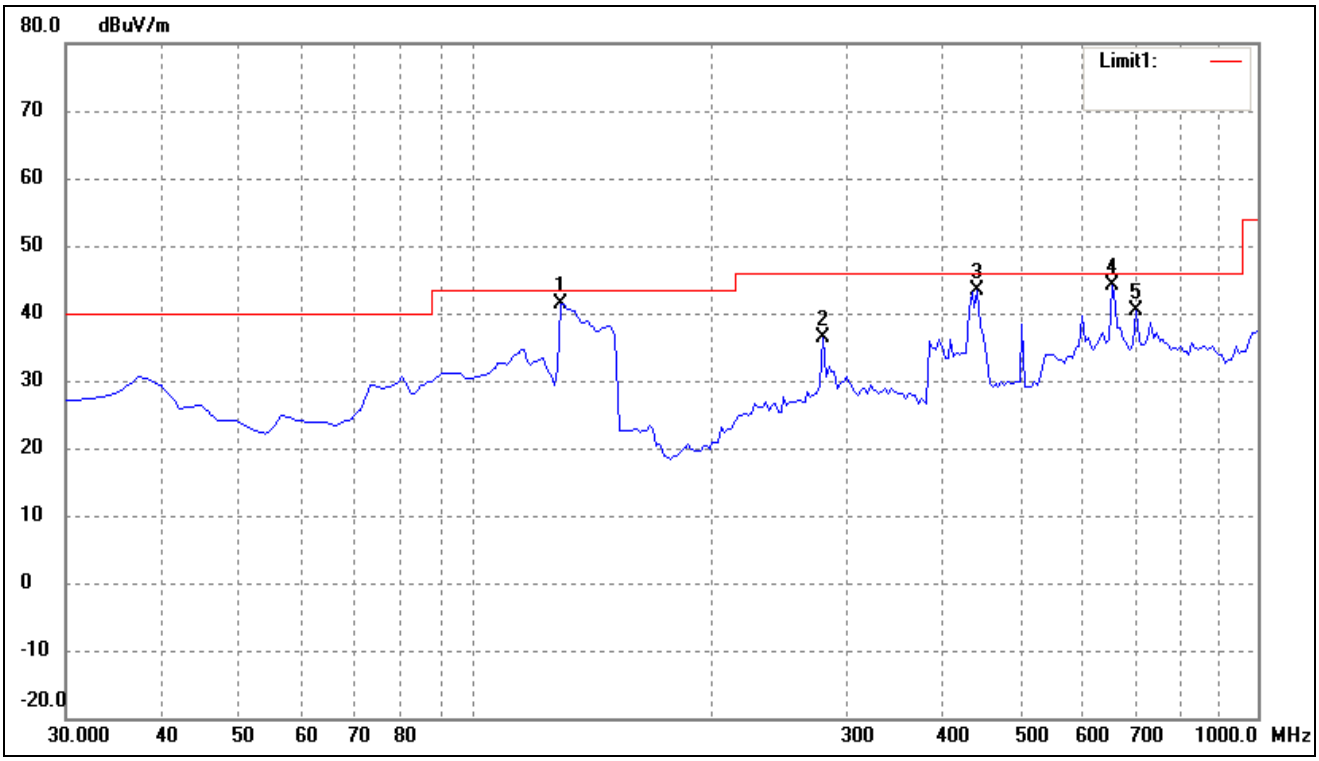
EUT: *Tablet PC*
Tested Model: *360M*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz; DC 12V/2A*

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	134.2750	36.14	3.87	40.01	43.50	-3.49	58	100	peak
2	299.1750	27.45	12.14	39.59	46.00	-6.41	326	100	peak
3	391.3249	31.62	12.72	44.34	46.00	-1.66	29	100	peak
4	442.2500	28.34	13.08	41.42	46.00	-4.58	209	100	peak
5	699.2999	26.41	17.83	44.24	46.00	-1.76	145	100	peak
6	801.1499	22.05	17.28	39.33	46.00	-6.67	125	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	129.4250	37.15	4.26	41.41	43.50	-2.09	51	100	peak
2	279.7749	24.89	11.39	36.28	46.00	-9.72	308	100	peak
3	439.8249	30.30	13.01	43.31	46.00	-2.69	120	100	peak
4	650.7999	25.68	18.35	44.03	46.00	-1.97	359	100	peak
5	699.2999	22.59	17.83	40.42	46.00	-5.58	145	100	peak

Note: Testing is carried out with frequency rang 9kHz to the 5GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.
The measurements greater than 20dB below the limit from 9kHz to 30MHz and test data are not provided.

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