


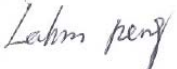

FCC Part 15B Measurement and Test Report

For

Shuttle Inc.

No.30,Lane76,Rei Kuang Rd.,Nei-Hu Dist.,Taipei,Taiwan R.O.C

FCC ID: S8CXO8BE45

Test Rule(s):	<u>FCC Part 15 Subpart B</u>
Product Description:	<u>Tablet</u>
Tested Model:	<u>PTSGOB8W</u>
Report No.:	<u>STR15088237I-3</u>
Tested Date:	<u>2015-08-26 to 2015-09-01</u>
Issued Date:	<u>2015-09-01</u>
Tested By:	<u>Ben Chen / Engineer</u> 
Reviewed By:	<u>Lahm Peng / EMC Manager</u> 
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Prepared By:	

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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 Shenzhen SEM.Test Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Shuttle Inc.
 Address of applicant: No.30,Lane76,Rei Kuang Rd.,Nei-Hu Dist.,
 Taipei,Taiwan R.O.C
 Manufacturer: Shuttle Inc.
 Address of manufacturer: No.30,Lane76,Rei Kuang Rd.,Nei-Hu Dist.,
 Taipei,Taiwan R.O.C

General Description of EUT	
Product Name:	Tablet
Trade Name:	PC Smart S.A.S.
Model No.:	PTSGOB8W
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.7V Battery
Battery capacity:	6000mAh
Rated Power:	/
Power Adapter Model:	TS 5200 I/P: AC 100-240V; O/P: DC 5V/
Lowest Internal Frequency:	32.768kHz
Highest Internal Frequency:	1.83GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Shuttle Inc. 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	/
TM2	Camera on	/
TM3	Downloading	/
TM4		

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
OTG Cable	0.2	Shielded	Without Core
Data Cable	1.2	Shielded	Without Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Display	Dell	/	/
HDMI Cable	0.7	Shielded	With Core

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/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

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

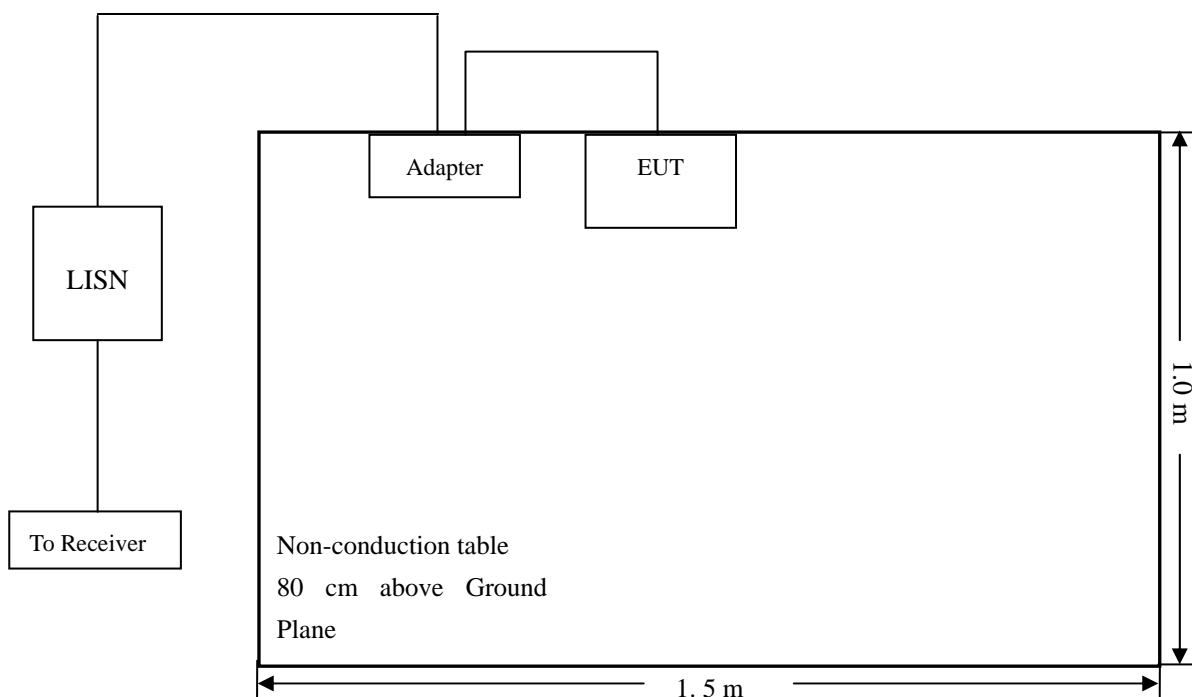
3.1 Measurement Uncertainty

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

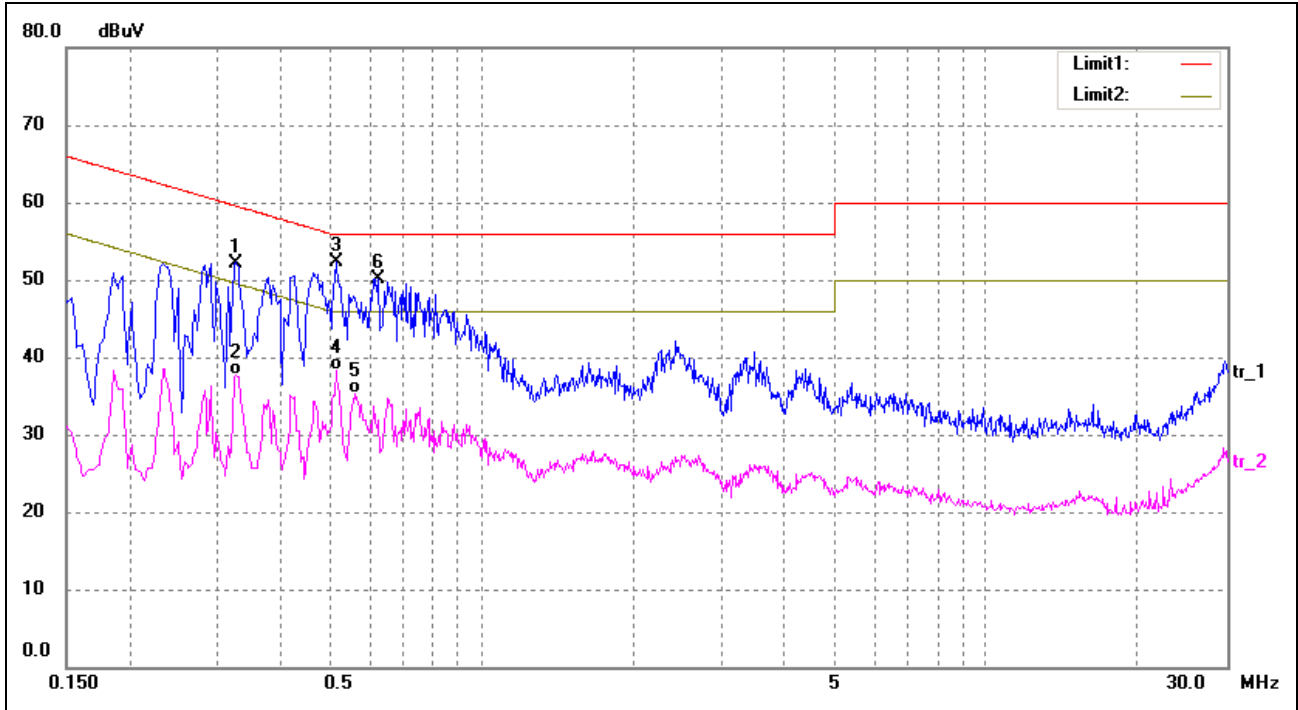
According to the data in section 3.6, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

-1.85 dB at **0.5140 MHz** in the **Line, AVG** detector, 0.15-30MHz

3.6 Conducted Emissions Test Data

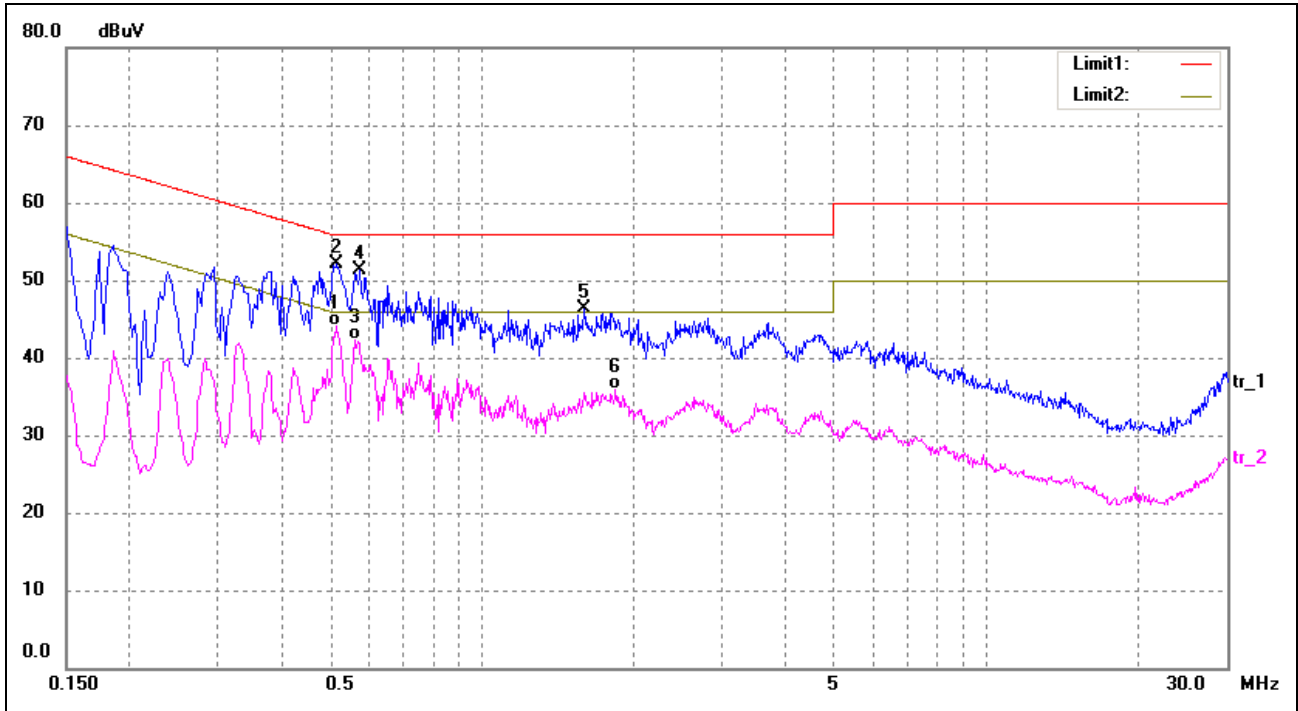
Plot of Conducted Emissions Test Data

EUT: Tablet
 Tested Model: PTSGOB8W
 Operating Condition: TM1
 Comment: AC 120V/60Hz;Adapter DC 5V
 Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3260	39.70	12.50	52.20	59.55	-7.35	peak
2	0.3260	25.12	12.50	37.62	49.55	-11.93	AVG
3*	0.5140	39.76	12.51	52.27	56.00	-3.73	peak
4	0.5140	25.82	12.51	38.33	46.00	-7.67	AVG
5	0.5620	22.65	12.56	35.21	46.00	-10.79	AVG
6	0.6220	37.55	12.62	50.17	56.00	-5.83	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.5140	31.64	12.51	44.15	46.00	-1.85	AVG
2	0.5180	39.65	12.52	52.17	56.00	-3.83	peak
3	0.5620	29.83	12.56	42.39	46.00	-3.61	AVG
4	0.5740	38.73	12.57	51.30	56.00	-4.70	peak
5	1.5980	33.23	13.00	46.23	56.00	-9.77	peak
6	1.8460	22.82	13.00	35.82	46.00	-10.18	AVG

4. Radiated Emissions

4.1 Measurement Uncertainty

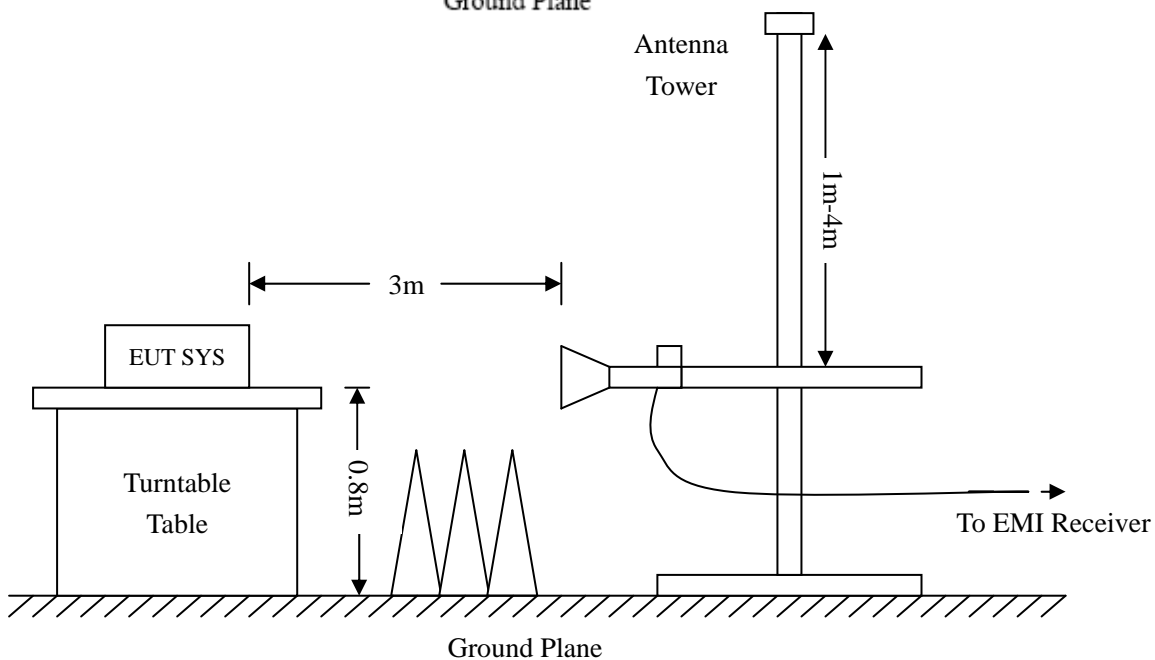
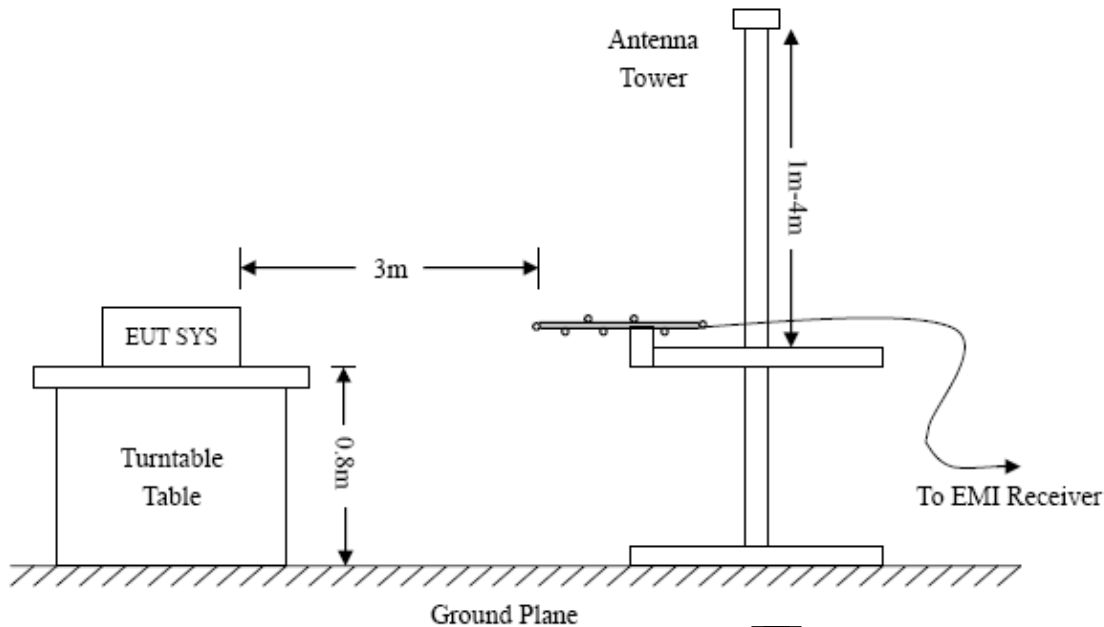
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

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

RBW=10KHz,

VBW =30KHz

Sweep time= Auto

Trace = max hold

Detector function = peak

Frequency :30MHz-1GHz

RBW=120KHz,

VBW=300KHz

Sweep time= Auto

Trace = max hold

Detector function = peak, QP

Frequency :Above 1GHz

RBW=1MHz,

VBW=3MHz(Peak), 10Hz(AV)

Sweep time= Auto

Trace = max hold

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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.5 Environmental Conditions

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

4.6 Summary of Test Results/Plots

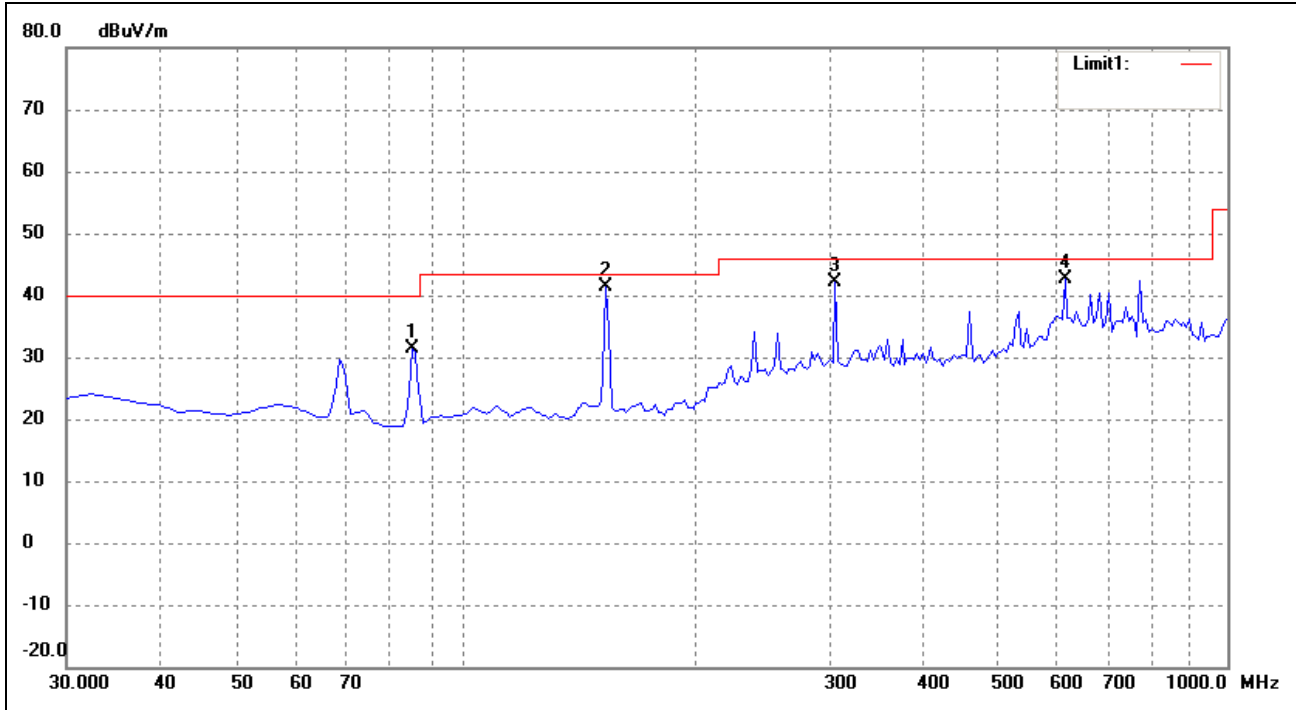
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.11 dB at 660.5000 MHz in the *Vertical* polarization at mode of TM3, **9 kHz to 10 GHz, 3Meters**

Plot of Radiated Emissions Test Data

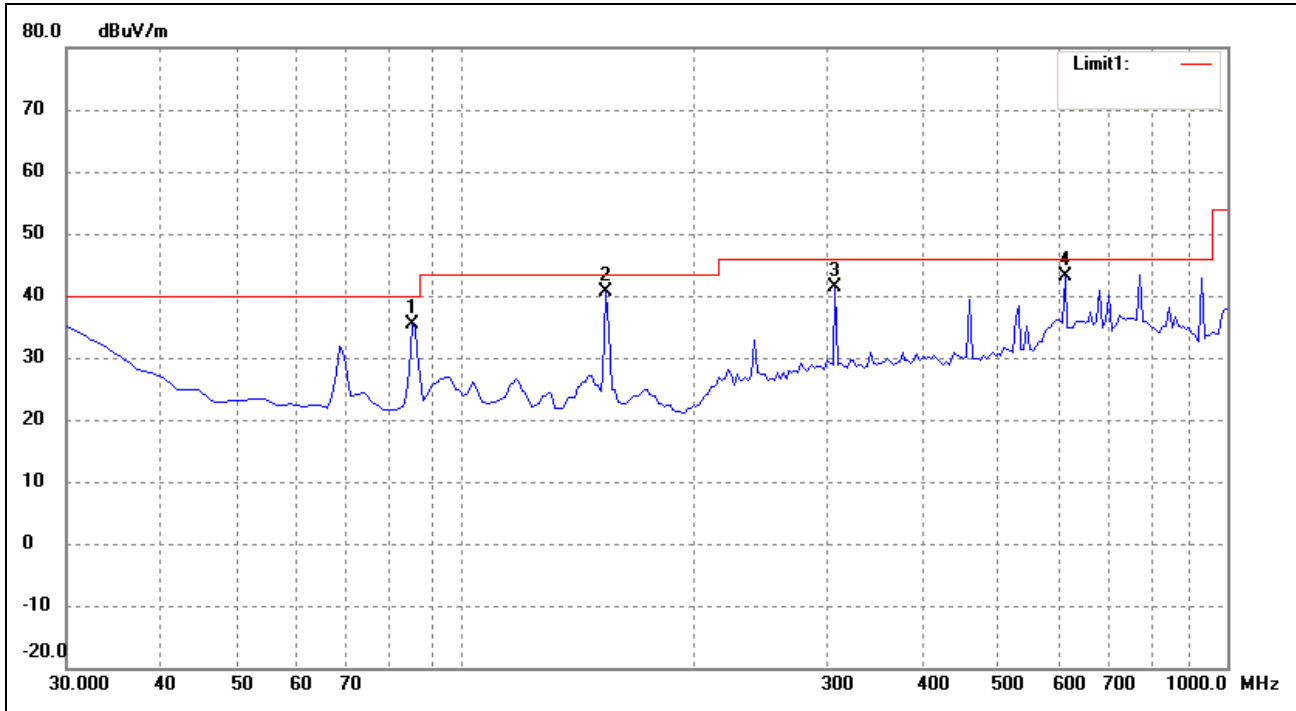
EUT: Tablet
 Tested Model: PTSGOB8W
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	85.7750	28.48	2.93	31.41	40.00	-8.59	125	100	peak
2	153.6750	38.51	2.85	41.36	43.50	-2.14	25	100	peak
3	308.8750	29.82	12.22	42.04	46.00	-3.96	126	100	peak
4	616.8500	24.59	18.14	42.73	46.00	-3.27	15	100	peak

Test Specification: Vertical

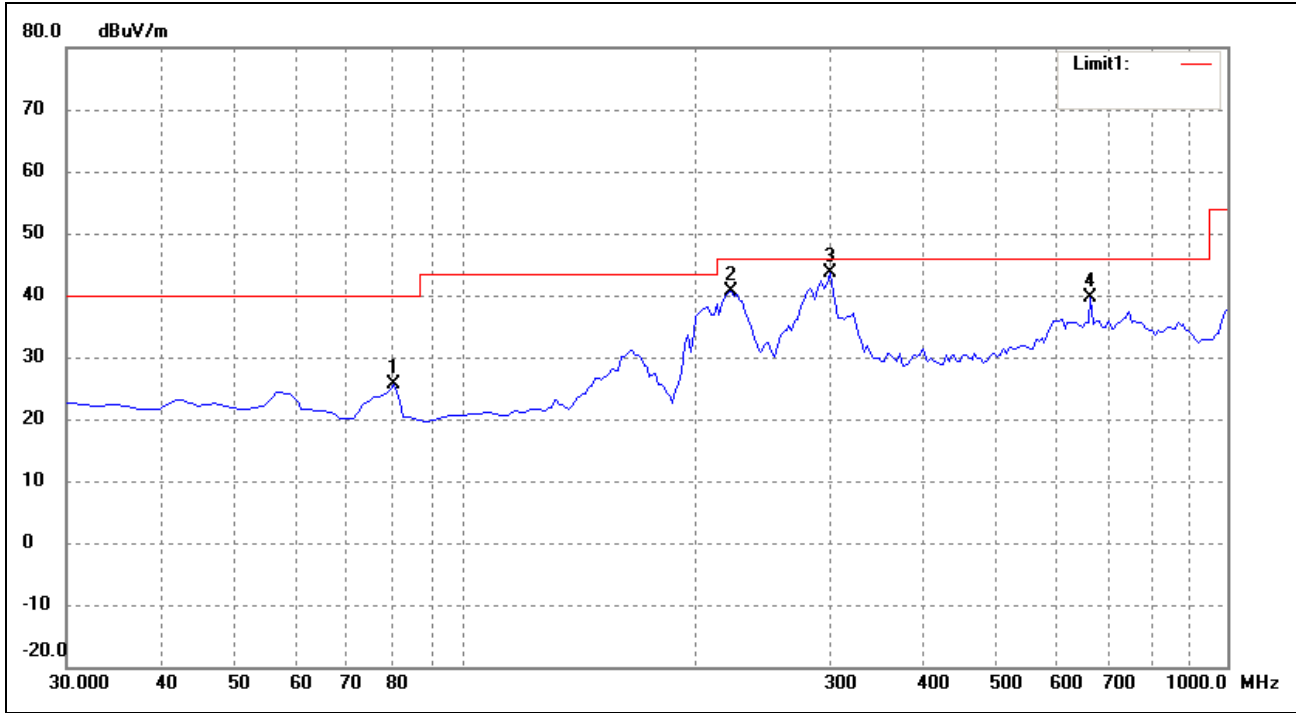


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	85.7750	32.55	2.93	35.48	40.00	-4.52	352	100	peak
2	153.6750	37.86	2.85	40.71	43.50	-2.79	15	100	peak
3	308.8750	29.12	12.22	41.34	46.00	-4.66	79	100	peak
4	616.8500	24.88	18.14	43.02	46.00	-2.98	16	100	peak

Plot of Radiated Emissions Test Data

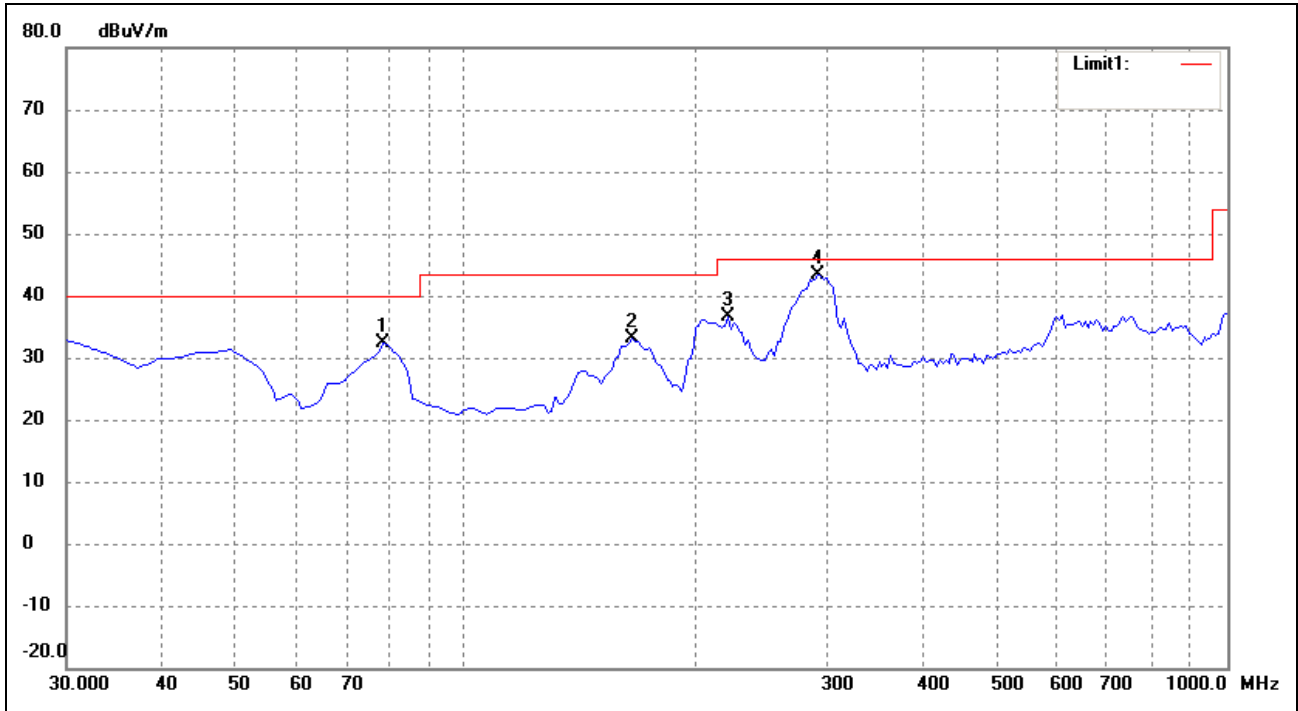
EUT: Tablet
 Tested Model: PTSGOB8W
 Operating Condition: TM2
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	80.9249	23.44	2.15	25.59	40.00	-14.41	35	100	peak
2	224.0000	32.24	8.35	40.59	46.00	-5.41	48	100	peak
3	301.6000	31.36	12.17	43.53	46.00	-2.47	55	100	peak
4	667.7749	20.95	18.58	39.53	46.00	-6.47	199	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	78.5000	30.17	2.18	32.35	40.00	-7.65	148	100	peak
2	165.8000	30.58	2.65	33.23	43.50	-10.27	51	100	peak
3	221.5749	28.35	8.21	36.56	46.00	-9.44	195	100	peak
4	291.8999	31.48	11.86	43.34	46.00	-2.66	55	100	peak

Plot of Radiated Emissions Test Data

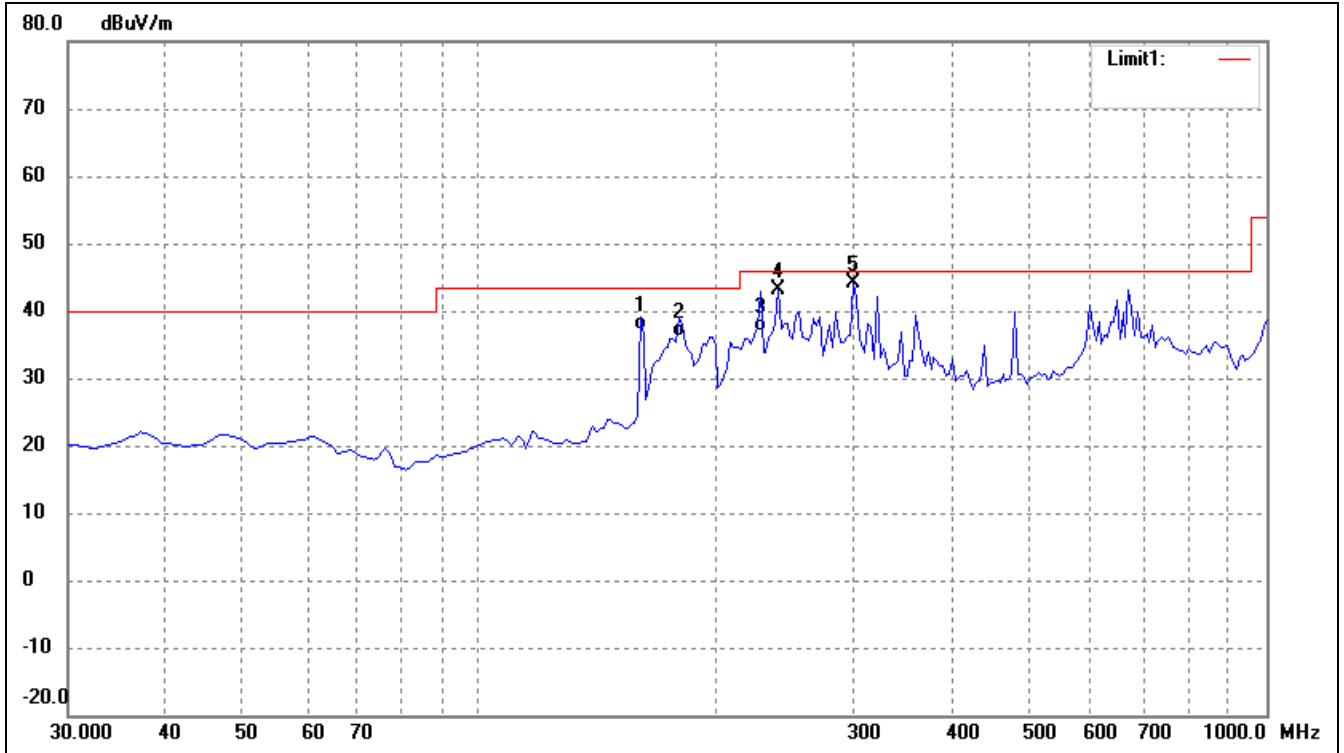
EUT: *Tablet*

Tested Model: *PTSGOB8W*

Operating Condition: *TM3*

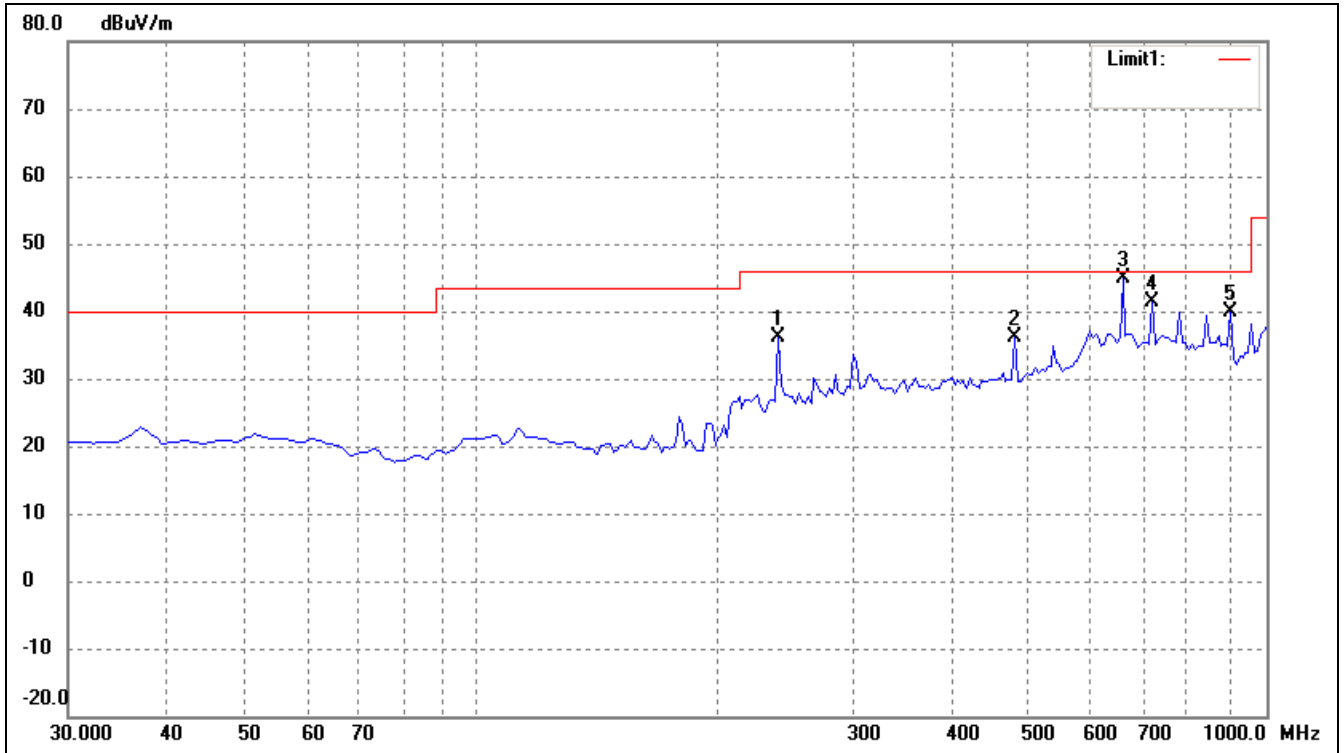
Comment: *DC 3.7V*

Test Specification: *Horizontal*



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	160.9500	34.50	2.62	37.12	43.50	-6.38	24	100	QP
2	180.3500	33.30	2.76	36.06	43.50	-7.44	42	100	QP
3	228.8500	28.12	8.66	36.78	46.00	-9.22	245	100	QP
4	240.9750	33.81	9.37	43.18	46.00	-2.82	155	100	peak
5	299.1750	32.06	12.14	44.20	46.00	-1.80	77	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	240.9750	26.82	9.37	36.19	46.00	-9.81	45	100	peak
2	481.0500	23.08	13.15	36.23	46.00	-9.77	17	100	peak
3	660.5000	26.72	18.17	44.89	46.00	-1.11	180	100	peak
4	721.1250	22.97	18.44	41.41	46.00	-4.59	108	100	peak
5	900.5750	23.01	16.81	39.82	46.00	-6.18	57	100	peak

Note: Testing is carried out with frequency rang 9kHz to the 10GHz, 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 *****