FCC Part 15B
Measurement and Test Report

For

Ava Electronica LLC.

800 Parkview Dr. Suite 108 Hallandale Florida USA

FCC ID: 2AGMVGC135414

Test Rule(s):	FCC Part 15 Subpart B
Product Description:	Tablet PC
Tested Model:	Ava Tab III
Report No.:	STR15118238I-4
Tested Date:	2015-11-19 to 2015-11-27
Issued Date:	2015-11-27
Tested By:	Jong Wang/ Engineer
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Ava Electronica LLC.
Address of applicant:	800 Parkview Dr. Suite 108 Hallandale Florida USA
Manufacturer:	Guangzhou Shangke Informaion Technology Limited.
Address of manufacturer:	R&F To-Win Building, 12th Floor, No.30 Huaxia Road, Tianhe District, Guangzhou, Guangdong Province, China

General Description of EUT	
Product Name:	Tablet PC
Trade Name:	Teclast USA
Model No.:	Ava Tab III
	Ava Tab Plus, X98Air III, X98 Plus
Adapter Model:	FLD0710-5.0V2.50A
	INPUT:100-240V,50/60Hz,0.3A; OUTPUT:5V,2.5A
Hardware version:	4G021F-201509080
Software version:	V1.04_20150827
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 Ava Tab III, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.8V Li-ion Battery
Battery Capacity:	8000mAh
Rated Power:	/
Lowest Internal Frequency:	32.768kHz
Highest Internal Frequency:	1.3GHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the Ava Electronica LLC. 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	With Earphone&HDMI
TM2	Downloading	Connected to PC
TM3	Camera on	/
TM4	USB Playing	/

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	0.7	Unshielded	Without Ferrite
USB Cable	0.1	Unshielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R

Special Cable List and Details

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

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

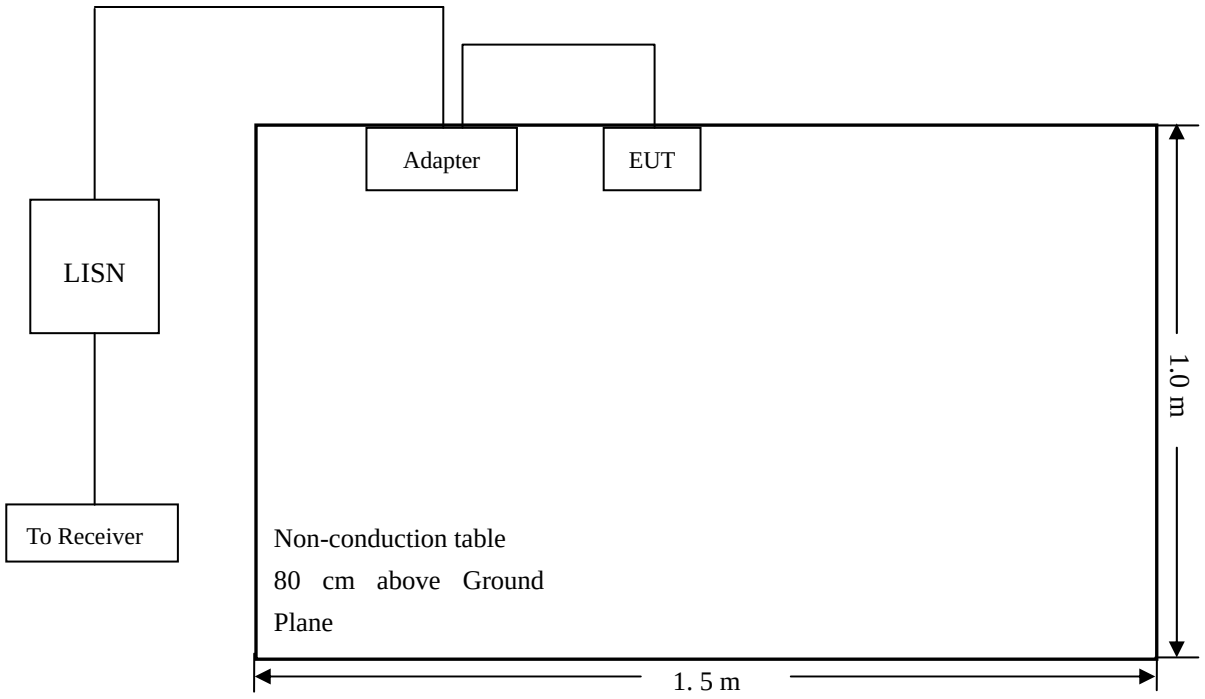
3.1 Measurement Uncertainty

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:

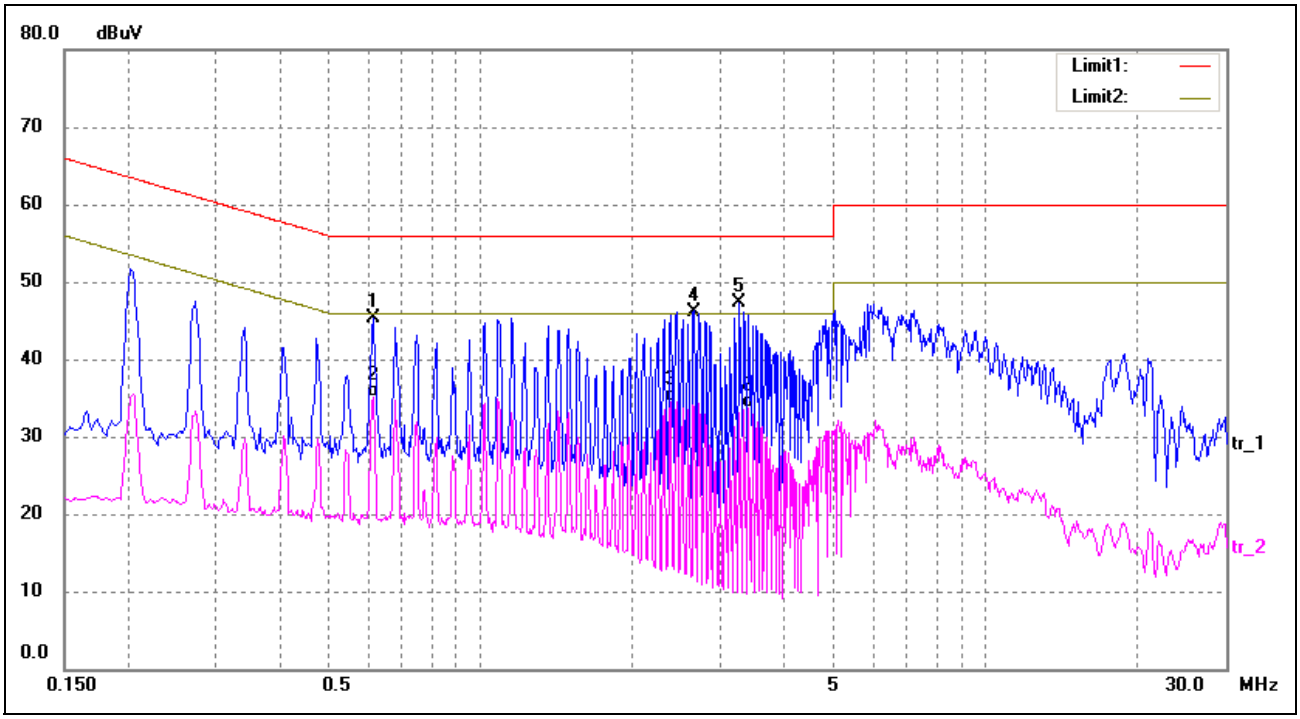
-3.85 dB at 0.6060 MHz in the **Line** mode**, Average** detector, **0.15-30MHz**

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

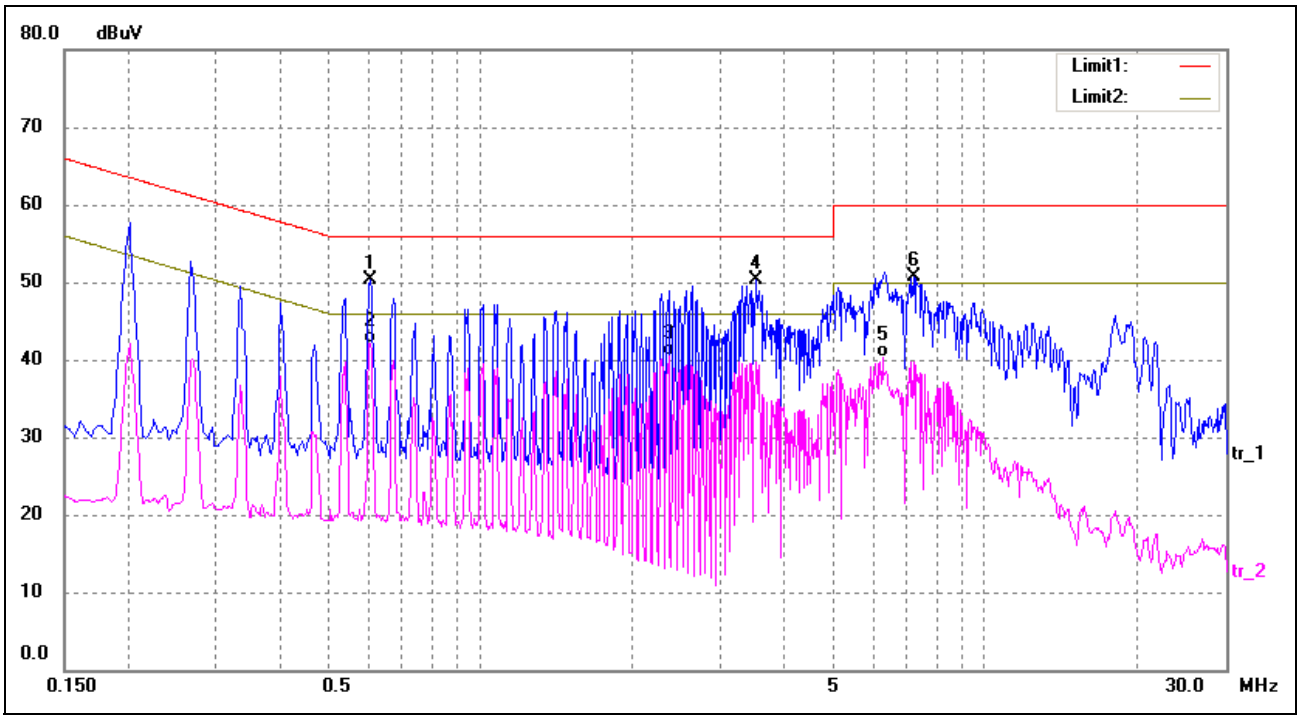
EUT: *Tablet PC*
Tested Model: *Ava Tab III*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.6140	35.61	9.61	45.22	56.00	-10.78	peak
2	0.6140	25.52	9.61	35.13	46.00	-10.87	AVG
3	2.3860	24.58	10.00	34.58	46.00	-11.42	AVG
4	2.6580	36.20	10.00	46.20	56.00	-9.80	peak
5*	3.2700	37.34	10.00	47.34	56.00	-8.66	peak
6	3.3940	23.70	10.00	33.70	46.00	-12.30	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.6060	40.74	9.61	50.35	56.00	-5.65	peak
2*	0.6060	32.54	9.61	42.15	46.00	-3.85	AVG
3	2.3620	30.59	10.00	40.59	46.00	-5.41	AVG
4	3.5100	40.33	10.00	50.33	56.00	-5.67	peak
5	6.2820	30.35	10.00	40.35	50.00	-9.65	AVG
6	7.2300	40.77	10.00	50.77	60.00	-9.23	peak

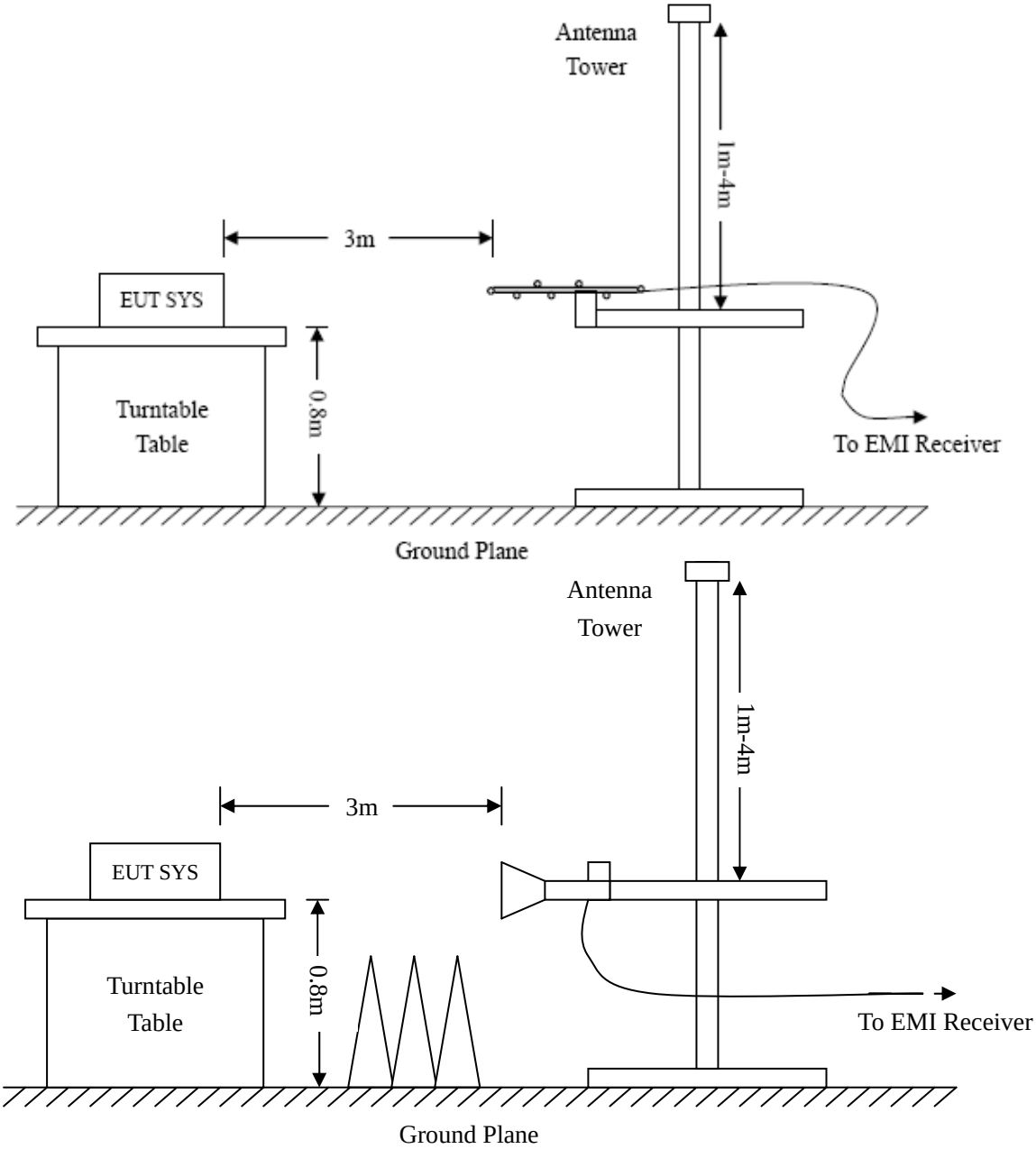
4. Radiated Emissions

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

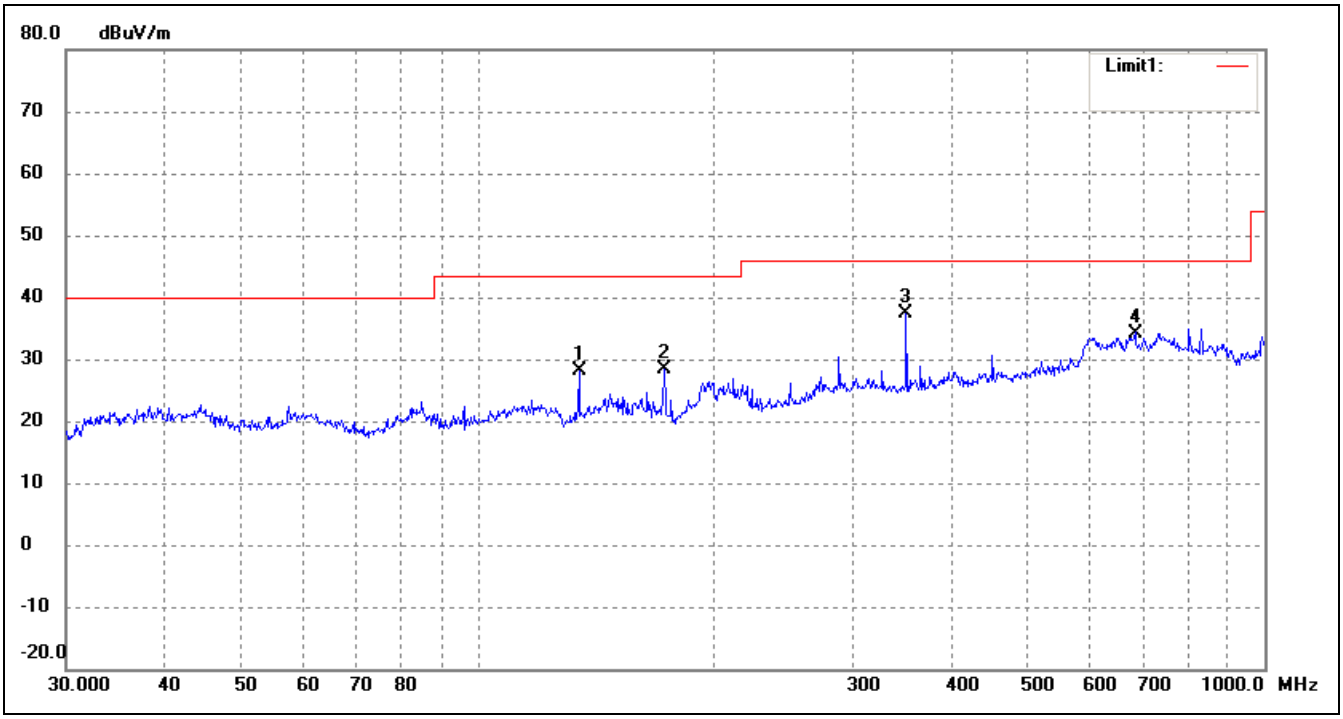
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-2.62 dB at **239.9874 MHz** in the **Horizontal** polarization, **TM4 Mode 9 kHz** to **6.5 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

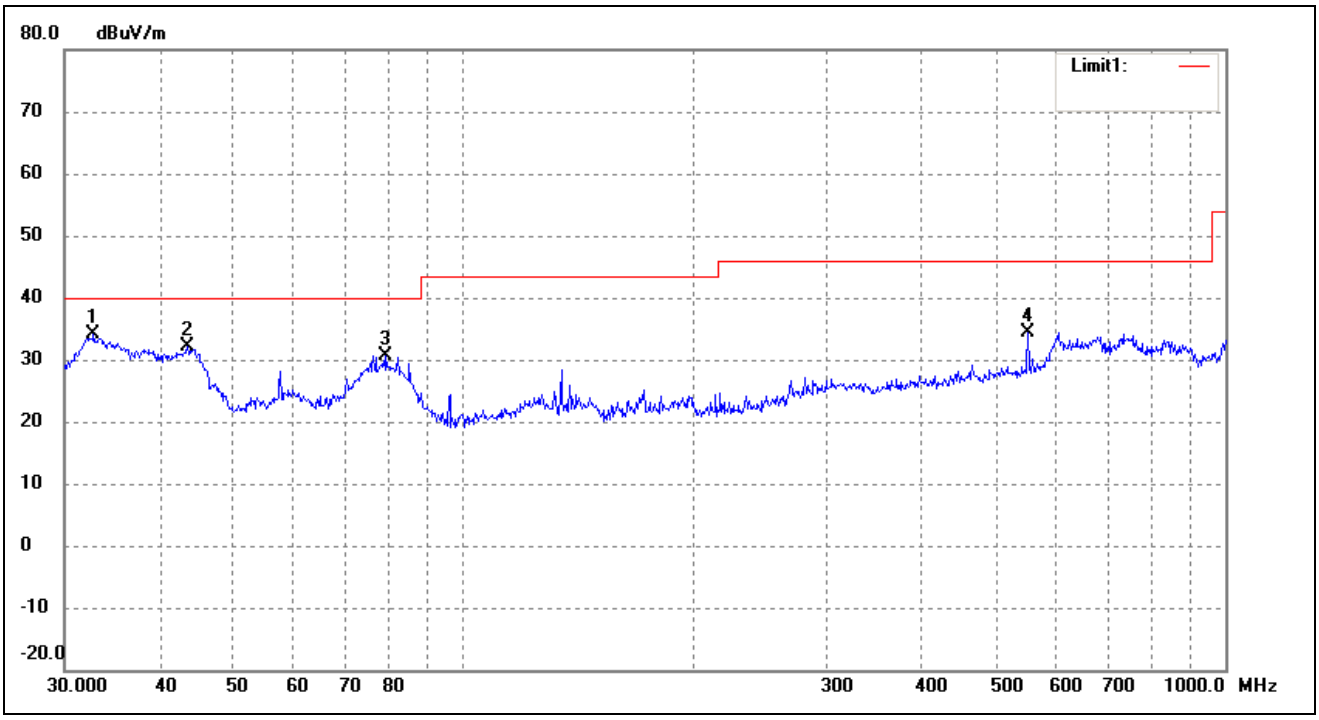
EUT: *Tablet PC*
Tested Model: *Ava Tab III*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	134.5592	24.25	3.84	28.09	43.50	-15.41	42 100		QP
2	172.5988	25.77	2.70	28.47	43.50	-15.03	132 100		QP
3	350.4768	25.31	11.99	37.30	46.00	-8.70	168 100		QP
4	684.7454	15.34	18.91	34.25	46.00	-11.75	0 100		QP

Test Specification: *Vertical*

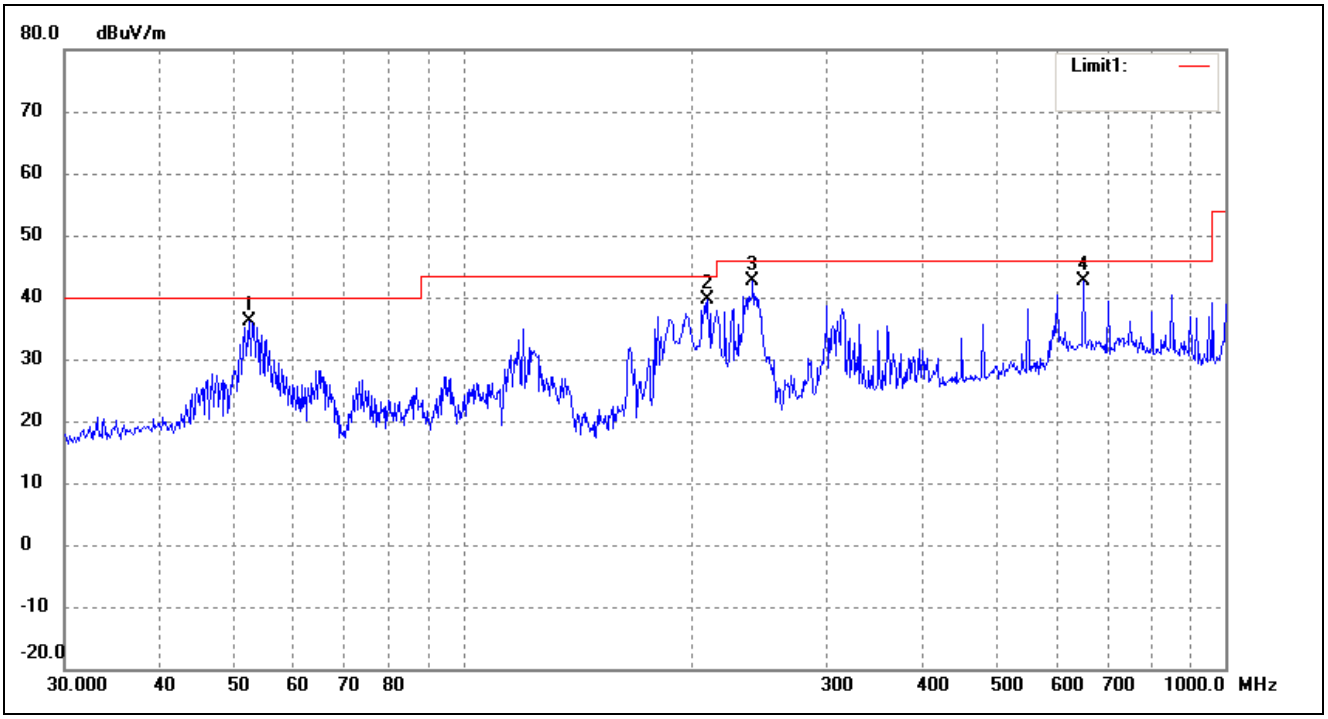


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	32.7486	30.17	4.05	34.22	40.00	-5.78	59 100		QP
2	43.5057	26.77	5.25	32.02	40.00	-7.98	147 100		QP
3	79.2426	28.59	2.09	30.68	40.00	-9.32	236 100		QP
4	550.9480	20.03	14.42	34.45	46.00	-11.55	158 100		QP

Plot of Radiated Emissions Test Data

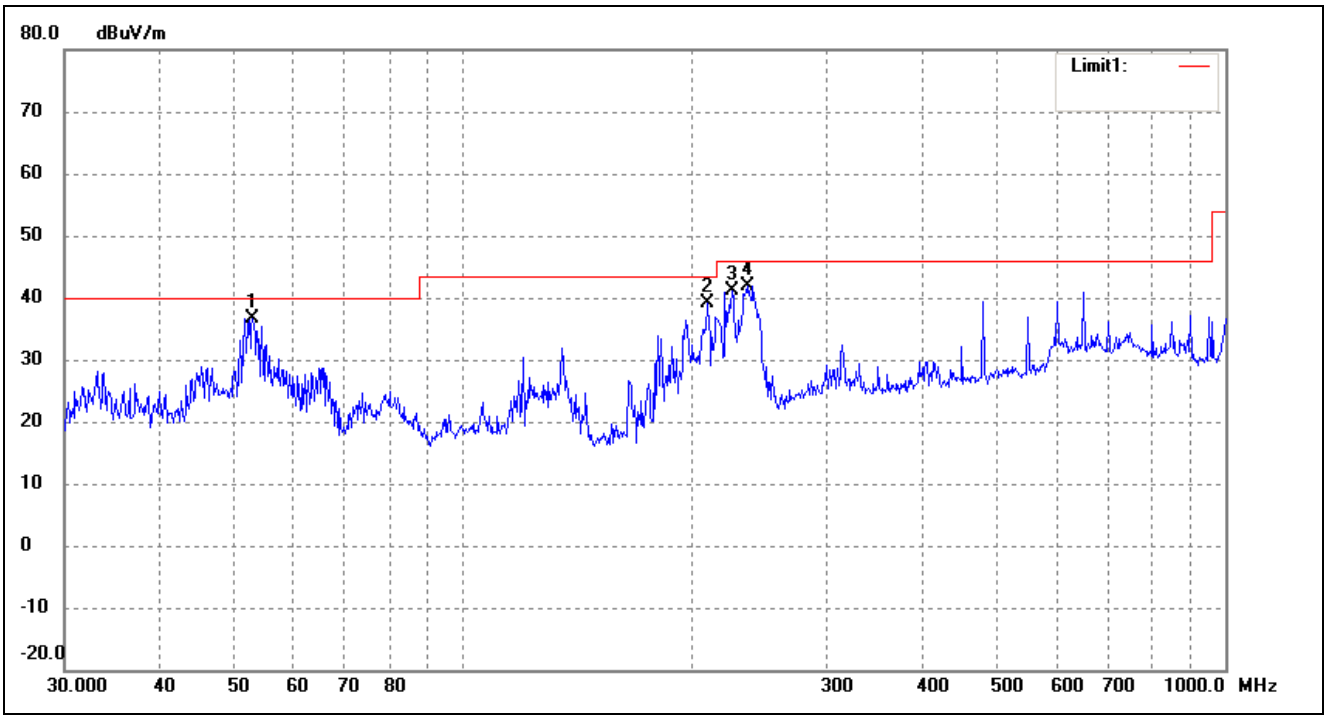
EUT: *Tablet PC*
Tested Model: *Ava Tab III*
Operating Condition: *TM2*
Comment: *USB: DC5V*

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	52.3913	30.74	5.29	36.03	40.00	-3.97	51 100		QP
2	209.3129	33.80	5.74	39.54	43.50	-3.96	124 100		QP
3	239.9874	33.20	9.33	42.53	46.00	-3.47	203 100		QP
4	651.9415	24.33	18.32	42.65	46.00	-3.35	86 100		QP

Test Specification: *Vertical*

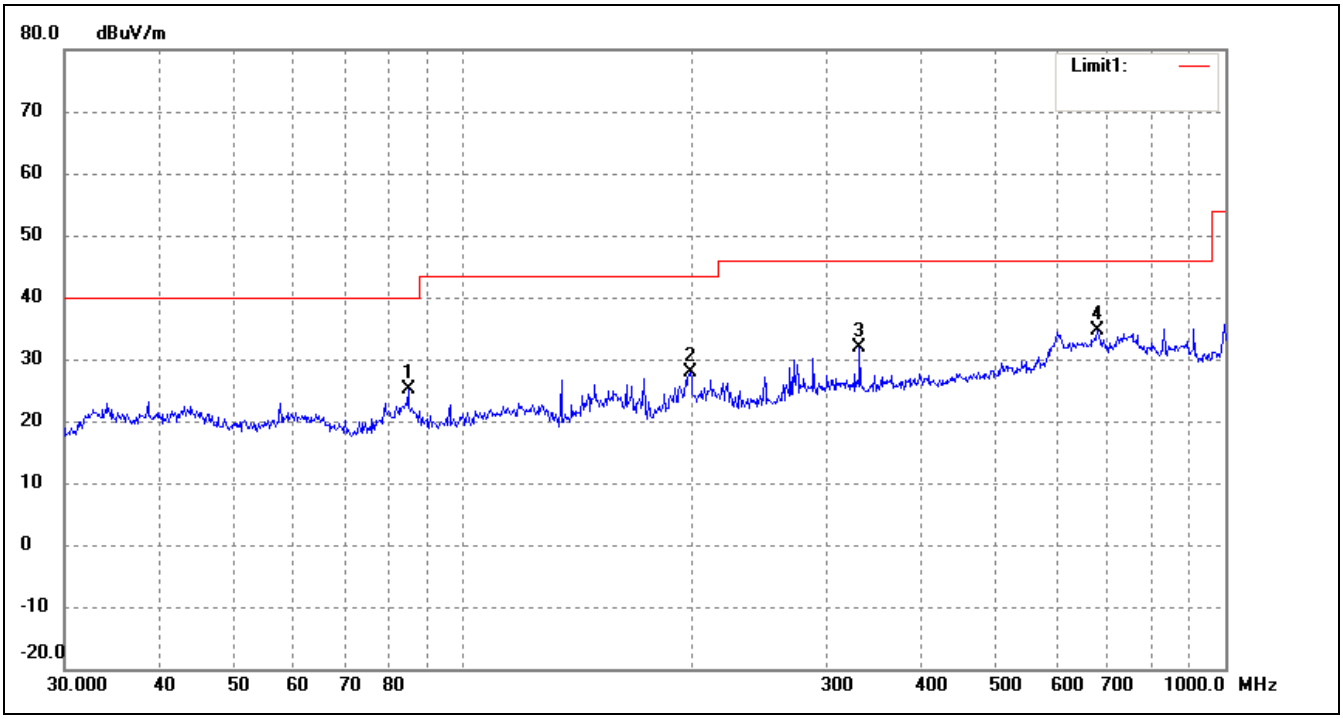


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	52.9453	31.27	5.30	36.57	40.00	-3.43	22 100		QP
2	209.3129	33.45	5.74	39.19	43.50	-4.31	146 100		QP
3	225.3077	32.65	8.43	41.08	46.00	-4.92	197 100		QP
4	235.8163	32.84	9.07	41.91	46.00	-4.09	375 100		QP

Plot of Radiated Emissions Test Data

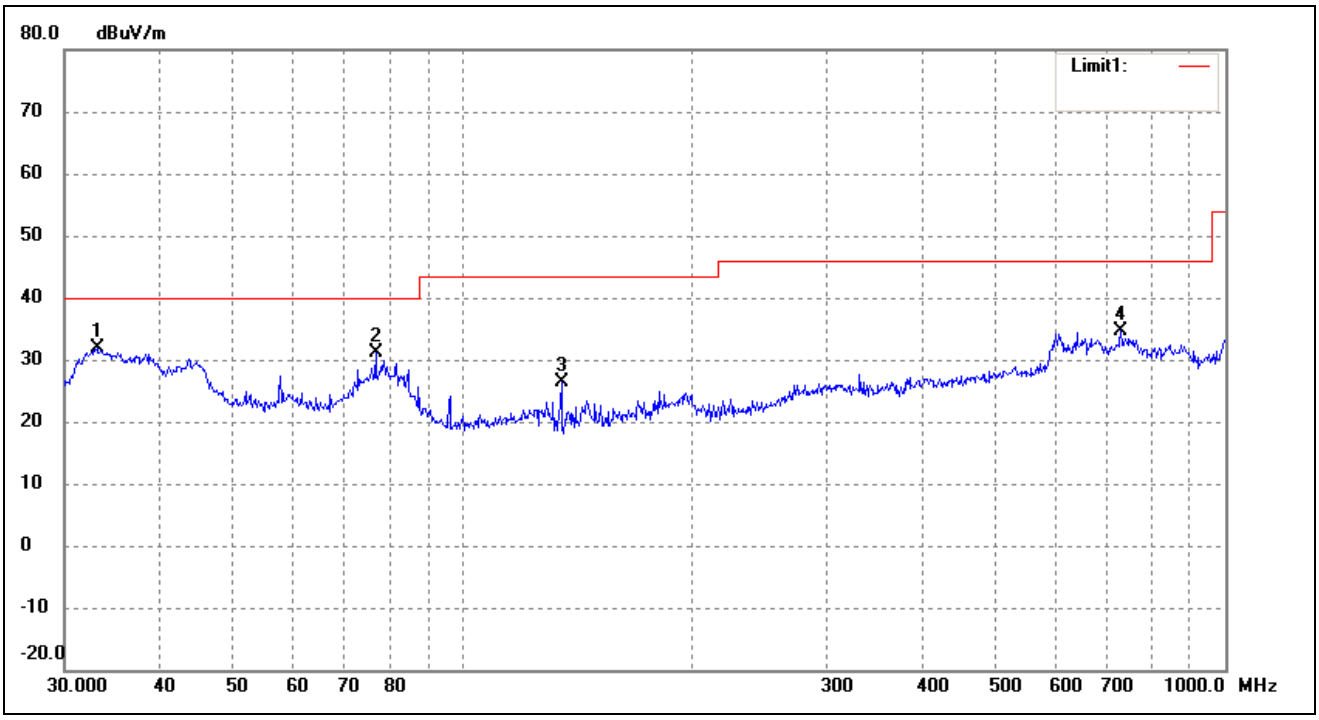
EUT: *Tablet PC*
Tested Model: *Ava Tab III*
Operating Condition: *TM3*
Comment: *DC 3.8V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	84.7019	22.45	2.76	25.21	40.00	-14.79	158 100		QP
2	198.5880	24.32	3.60	27.92	43.50	-15.58	0 100		QP
3	331.3546	20.04	11.96	32.00	46.00	-14.00	147 100		QP
4	679.9600	15.30	19.26	34.56	46.00	-11.44	352 100		QP

Test Specification: *Vertical*

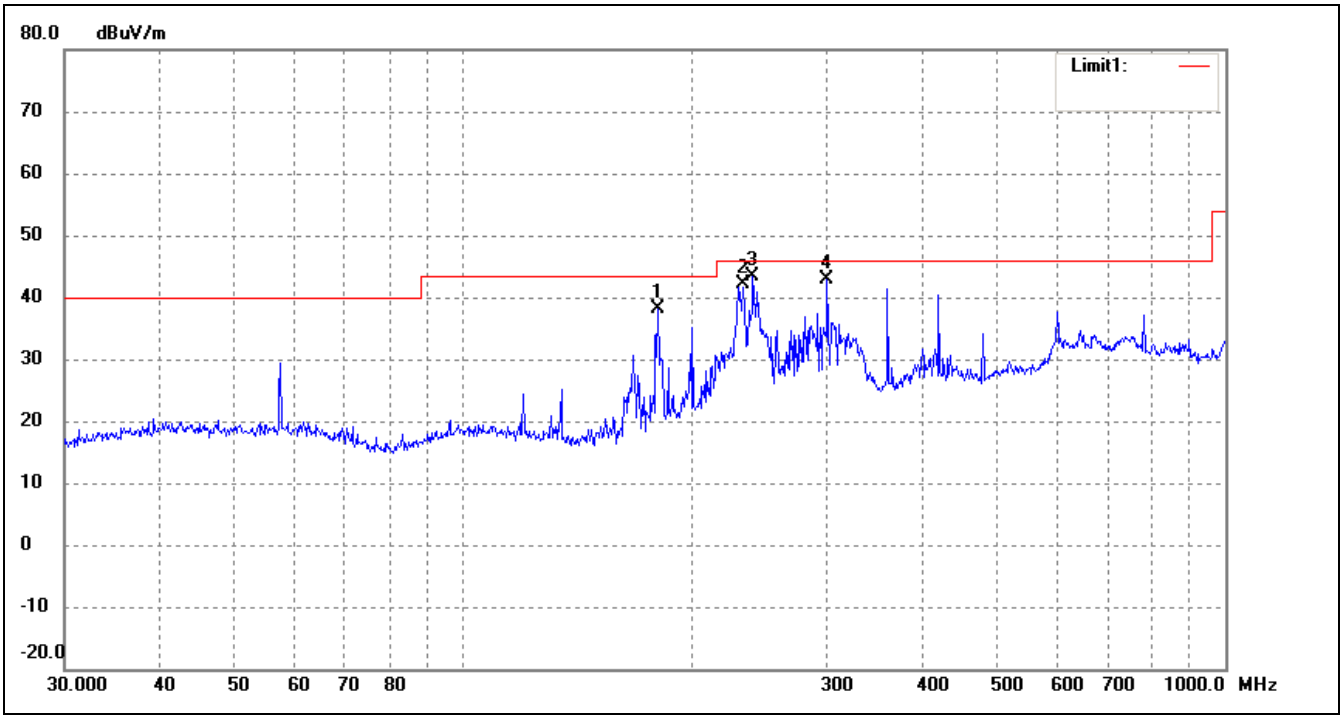


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	33.0950	27.73	4.10	31.83	40.00	-8.17	76 100		QP
2	76.7808	28.68	2.39	31.07	40.00	-8.93	288 100		QP
3	134.5592	22.53	3.84	26.37	43.50	-17.13	10 100		QP
4	729.3583	15.59	18.92	34.51	46.00	-11.49	11 100		QP

Plot of Radiated Emissions Test Data

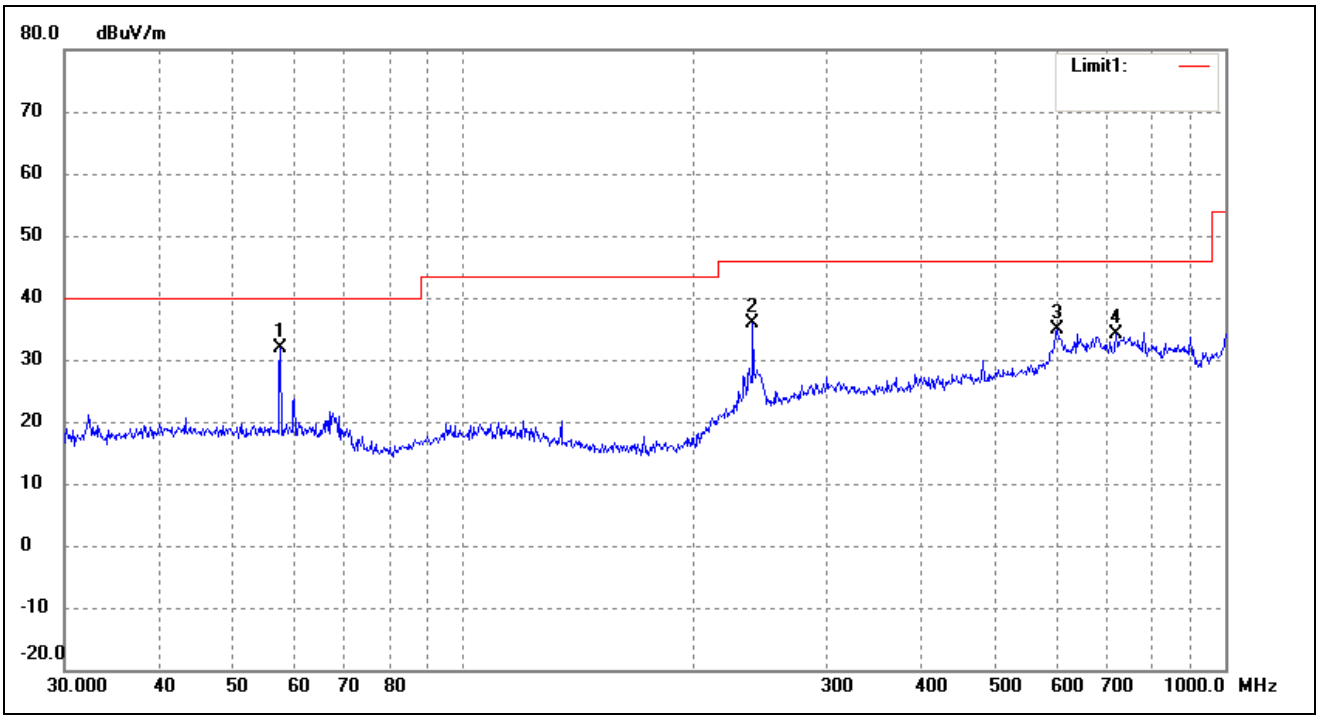
EUT: *Tablet PC*
Tested Model: *Ava Tab III*
Operating Condition: *TM4*
Comment: *DC 3.8V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	180.0165	35.50	2.75	38.25	43.50	-5.25	88 100		QP
2	232.5318	33.25	8.87	42.12	46.00	-3.88	134 100		QP
3	239.9874	34.05	9.33	43.38	46.00	-2.62	169 100		QP
4	300.3673	30.67	12.18	42.85	46.00	-3.15	28 100		QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	57.5939	26.59	5.35	31.94	40.00	-8.06	67 100		QP
2	239.9874	26.63	9.33	35.96	46.00	-10.04	154 100		QP
3	601.4265	15.61	19.22	34.83	46.00	-11.17	35 100		QP
4	719.1995	15.76	18.35	34.11	46.00	-11.89	122 100		QP

Note: Testing is carried out with frequency rang 9kHz to the 6.5GHz, 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 *******