

FCC Part 15B Measurement and Test Report

For

Amelia World Corporation dba LINSAY

16340 West Dixie Highway, North Miami Beach, Florida

FCC ID: 2AAC37HD4CORE

Test Standards:	<u>FCC Part 15 Subpart B</u>	
Product Description:	<u>Tablet PC</u>	
Tested Model:	<u>F-7HD4Core</u>	
Report No.:	<u>STR13058388I-2</u>	
Tested Date:	<u>2013-05-24 to 2013-06-20</u>	
Issued Date:	<u>2013-06-25</u>	
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Reviewed By:	<u>Lahm Peng / EMC Manager</u>	<i>Lahm peng</i>
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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

TABLE OF CONTENTS

1. GENERAL INFORMATION.....3
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....3
1.2 TEST STANDARDS.....4
1.3 TEST METHODOLOGY4
1.4 TEST FACILITY4
1.5 EUT SETUP AND OPERATION MODE5

2. SUMMARY OF TEST RESULTS6

3. CONDUCTED EMISSIONS7
3.1 MEASUREMENT UNCERTAINTY7
3.2 TEST EQUIPMENT LIST AND DETAILS7
3.3 TEST PROCEDURE.....7
3.4 BASIC TEST SETUP BLOCK DIAGRAM.....7
3.5 ENVIRONMENTAL CONDITIONS8
3.6 SUMMARY OF TEST RESULTS/PLOTS8
3.7 CONDUCTED EMISSIONS TEST DATA.....8

4. RADIATED EMISSIONS.....11
4.1 MEASUREMENT UNCERTAINTY11
4.2 TEST EQUIPMENT LIST AND DETAILS11
4.3 TEST PROCEDURE.....11
4.4 TEST RECEIVER SETUP12
4.5 CORRECTED AMPLITUDE & MARGIN CALCULATION.....12
4.6 ENVIRONMENTAL CONDITIONS12
4.7 SUMMARY OF TEST RESULTS/PLOTS12

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Amelia World Corporation dba LINSAY
 Address of applicant: 16340 West Dixie Highway, North Miami Beach,
 Florida
 Manufacturer: Amelia World Corporation dba LINSAY
 Address of manufacturer: 16340 West Dixie Highway, North Miami Beach,
 Florida

General Description of EUT	
Product Name:	Tablet PC
Trade Name:	LINSAY
Model No.:	F-7HD4Core
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
Rated Current:	/
Rated Power:	/
Power Adapter Model:	ZFXPA02000050 Input: AC 100-240V/0.5A; Output: DC 5V/2A
Highest Internal Frequency:	1GHz
Lowest Internal Frequency:	32.768kHz
Classification of ITE:	Class B
Support Interface:	USB 2.0

1.2 Test Standards

The following report is prepared on behalf of the Amelia World Corporation dba LINSAY 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 C63.4-2003, 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.

1.4 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.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service 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 3/F, Jinbao Commerce Building, Xin'an Fanshen 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	Playing + HDMI output	Color Bar with 1kHz Audio (Read TF card)
TM2	Playing + HDMI output	Color Bar with 1kHz Audio (Read Memory)
TM3	Downloading	Test Software: CT3
TM4	/	/

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Power Cable	1.7	Unshielded	Without Core
USB Cable	1.0	Shielded	Without Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Monitor	DELL	U2713H	/
Notebook	IBM	E10	/

Special Cable List and Details

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

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.

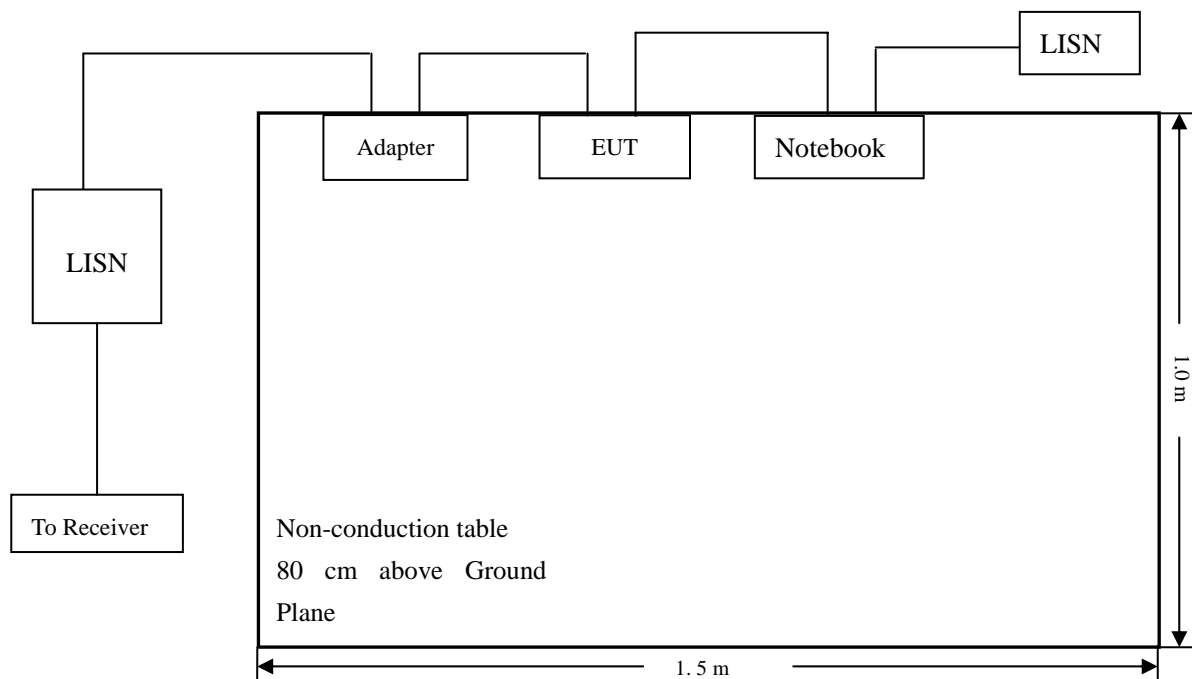
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2013-05-07	2014-05-06
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2013-05-07	2014-05-06
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2013-05-07	2014-05-06

3.3 Test Procedure

Test is conducting under the description of 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.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

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

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

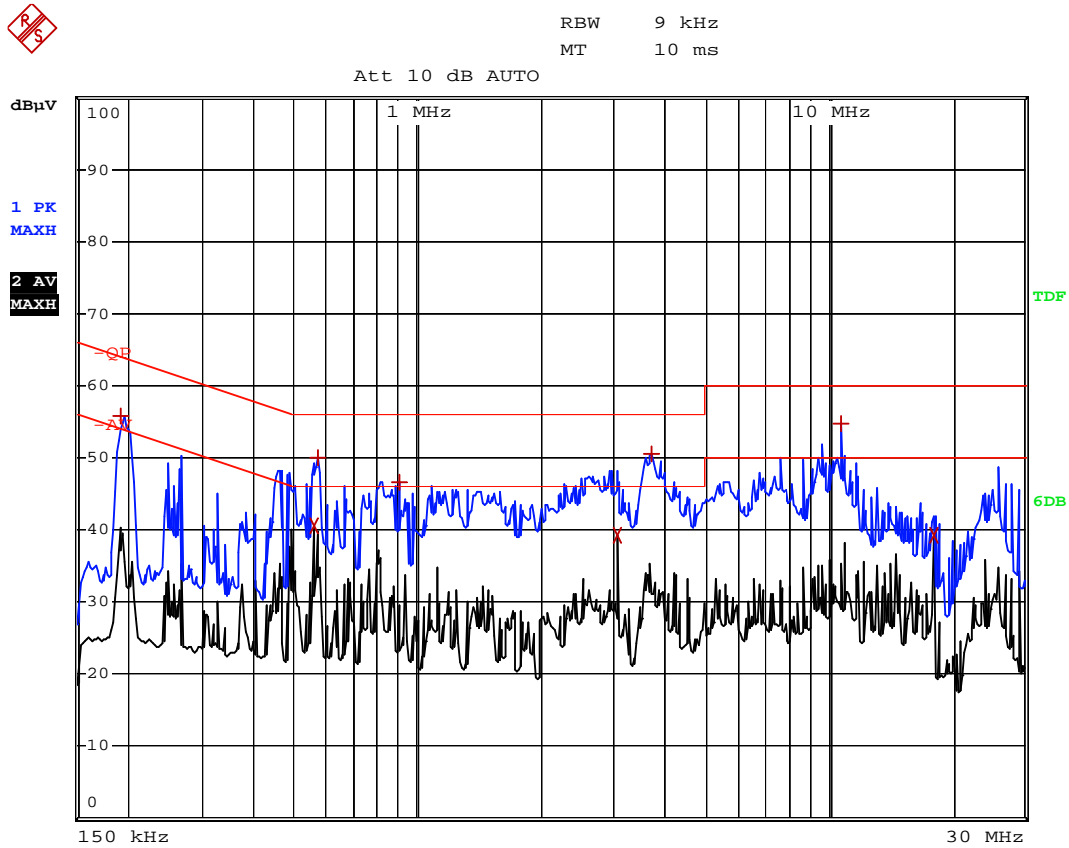
-4.73 dB at 0.198 MHz in the Line, peak detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

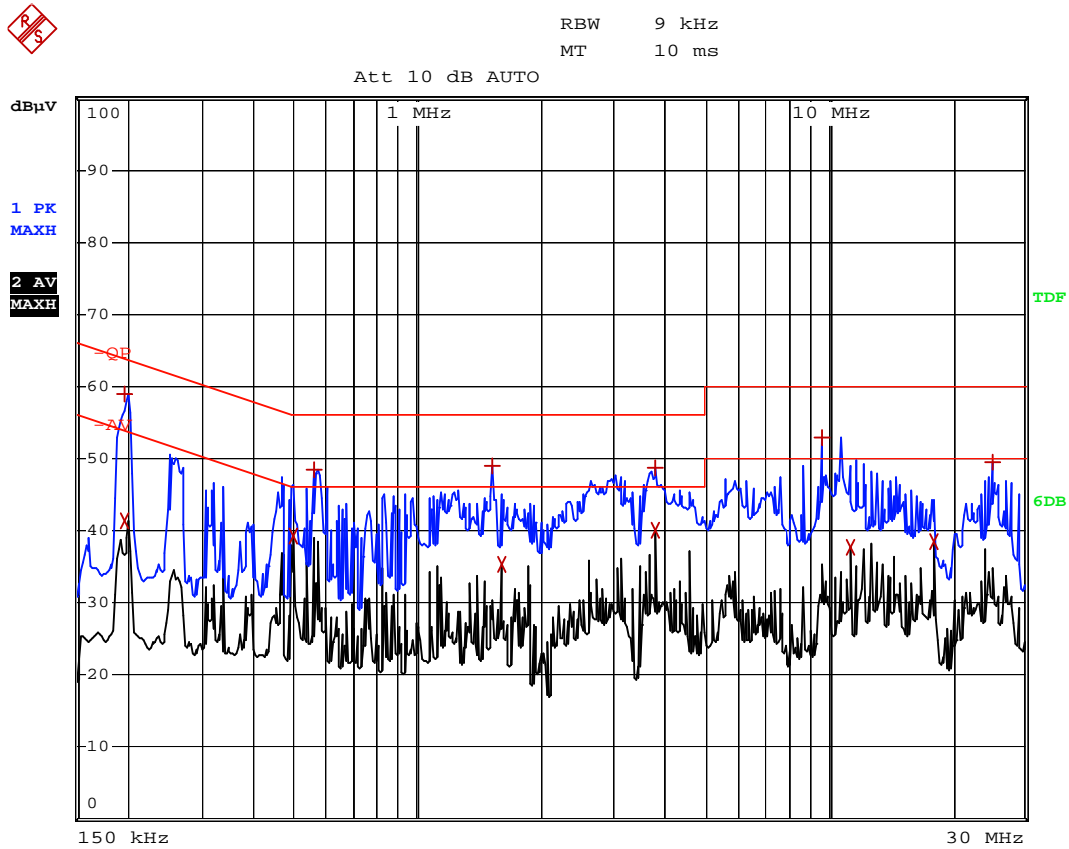
EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TMI
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Neutral



EDIT PEAK LIST (Prescan Results)				
Trace1:		-QP		
Trace2:		-AV		
Trace3:		---		
TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	194 kHz	55.71	-8.14
2	Average	562 kHz	40.66	-5.33
1	Max Peak	570 kHz	49.87	-6.12
1	Max Peak	906 kHz	46.52	-9.47
2	Average	3.074 MHz	39.36	-6.63
1	Max Peak	3.71 MHz	50.60	-5.39
1	Max Peak	10.686 MHz	54.81	-5.18
2	Average	17.982 MHz	39.16	-10.83

Test Specification: Line



EDIT PEAK LIST (Prescan Results)				
Trace1:		-QP		
Trace2:		-AV		
Trace3:		---		
TRACE		FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1	Max Peak	198 kHz	58.96	-4.73
2	Average	198 kHz	41.37	-12.32
2	Average	498 kHz	39.35	-6.67
1	Max Peak	562 kHz	48.50	-7.49
1	Max Peak	1.526 MHz	48.89	-7.10
2	Average	1.602 MHz	35.42	-10.57
1	Max Peak	3.778 MHz	48.81	-7.18
2	Average	3.81 MHz	40.12	-5.87
1	Max Peak	9.67 MHz	52.77	-7.22
2	Average	11.286 MHz	37.76	-12.23
2	Average	17.982 MHz	38.55	-11.44
1	Max Peak	24.942 MHz	49.43	-10.56

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 Equipment List and Details

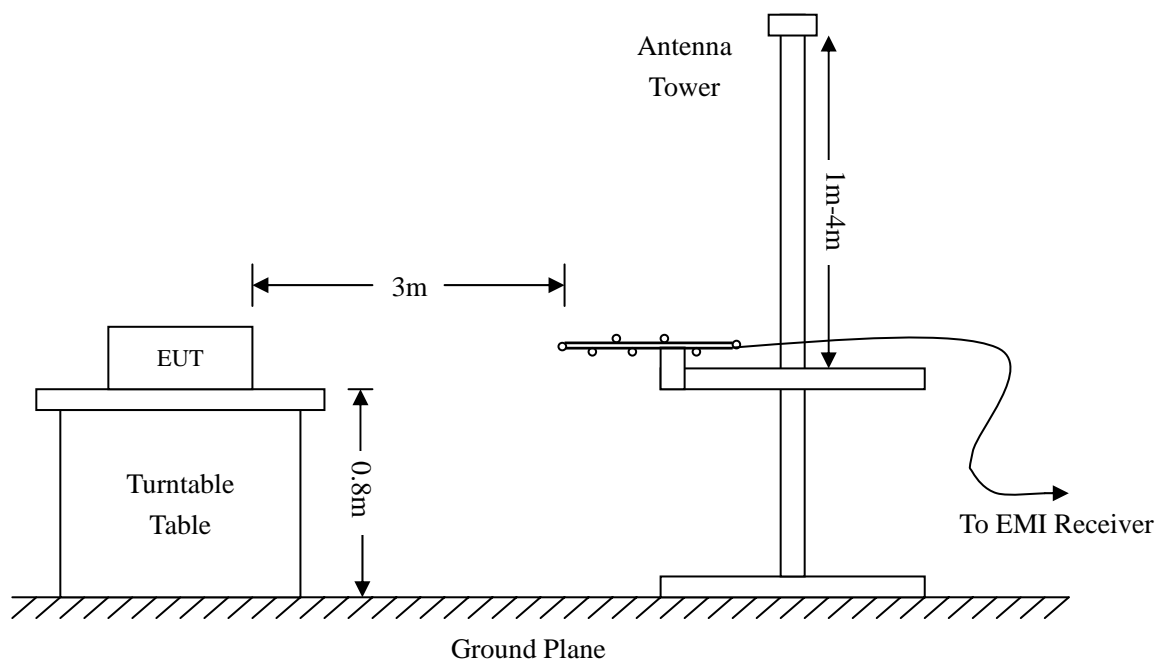
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2013-04-20	2014-04-19

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 15.109 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 for above 1GHz, the test receiver was set with the following configurations:

For peak detector:

RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:

RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

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:

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

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:

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

4.6 Environmental Conditions

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

4.7 Summary of Test Results/Plots

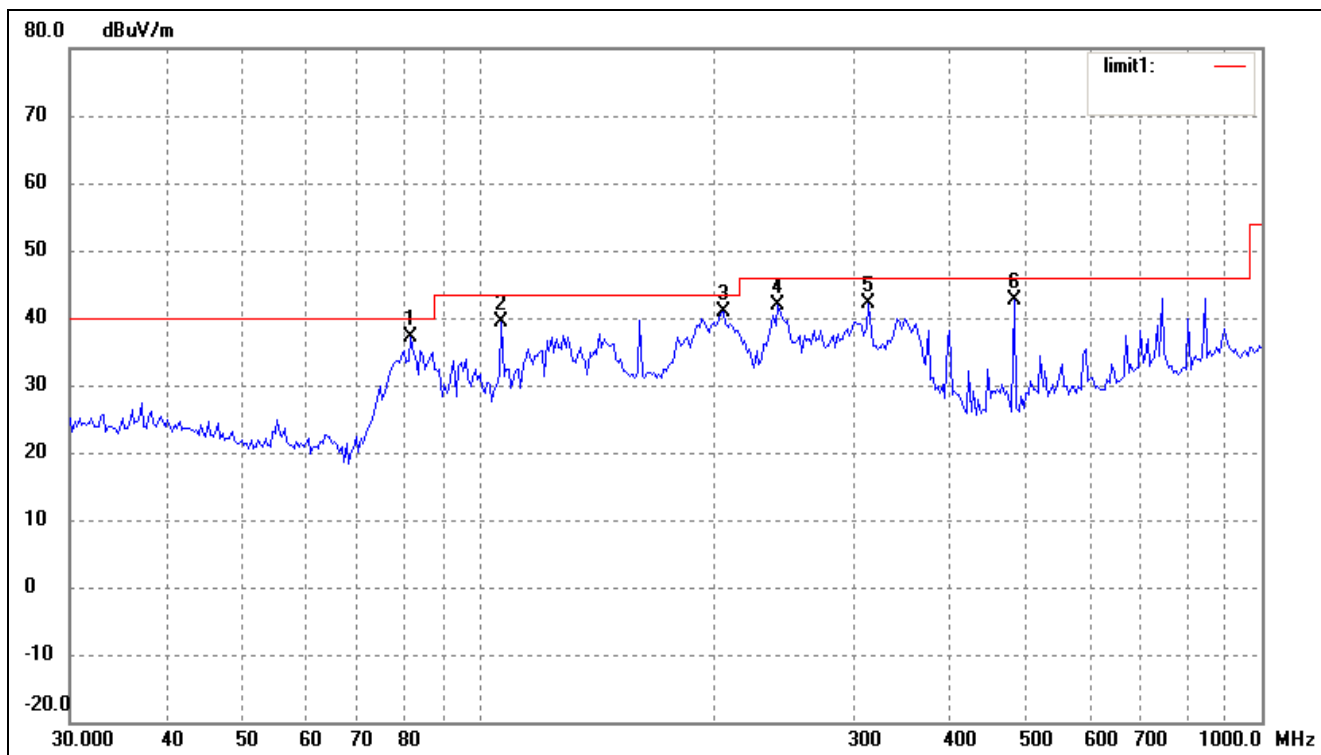
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-2.55 dB at 160.3456 MHz in the Vertical polarization, TM1, 9 kHz to 5 GHz, 3Meters

Plot of Radiated Emissions Test Data (Below 1GHz)

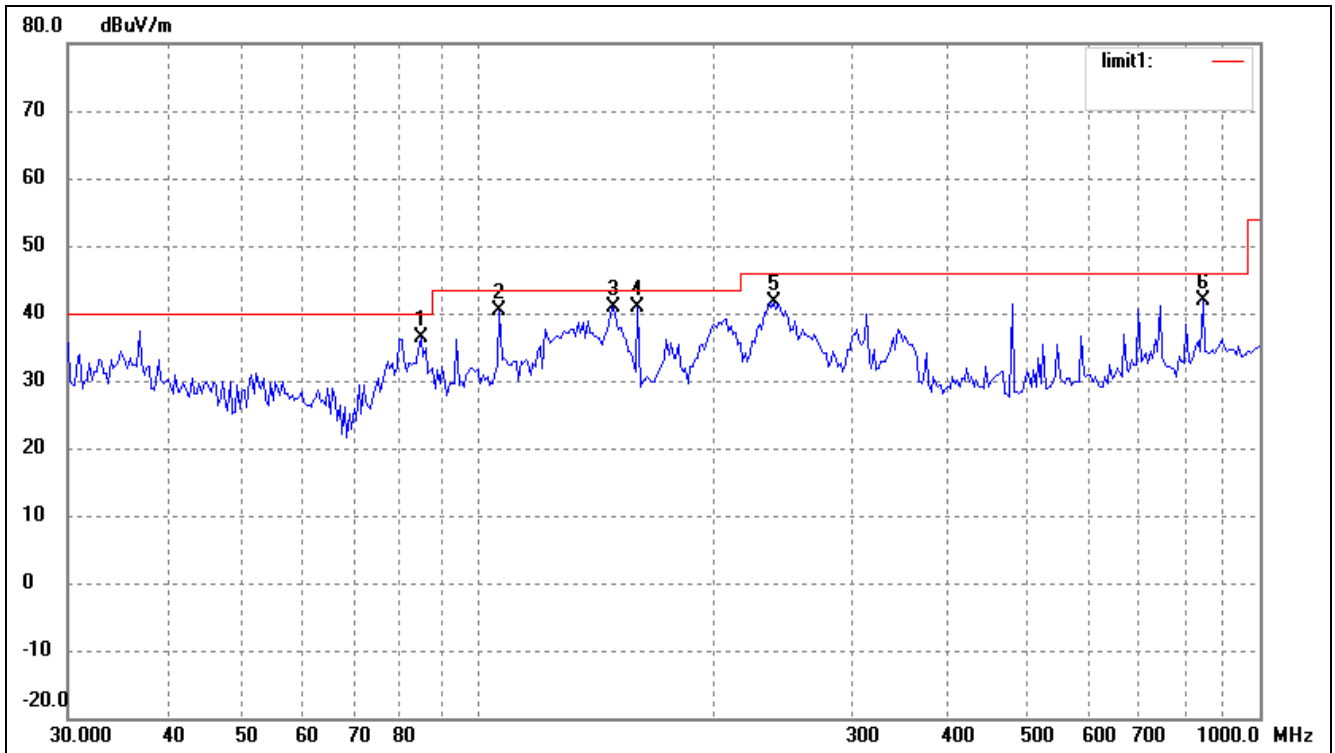
EUT: *Tablet PC*
 Tested Model: *F-7HD4Core*
 Operating Condition: *TM1*
 Comment: *AC 120V/60Hz; Adapter DC 5V*

Test Specification: *Horizontal*



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	81.7833	34.85	2.18	37.03	40.00	-2.97	248	100	peak
2	106.7587	33.10	6.18	39.28	43.50	-4.22	21	100	peak
3	204.9551	35.95	4.96	40.91	43.50	-2.59	311	100	peak
4	240.8304	34.96	7.02	41.98	46.00	-4.02	25	100	peak
5	314.3765	31.71	10.40	42.11	46.00	-3.89	102	100	peak
6	482.2156	31.23	11.49	42.72	46.00	-3.28	23	100	peak

Test Specification: Vertical

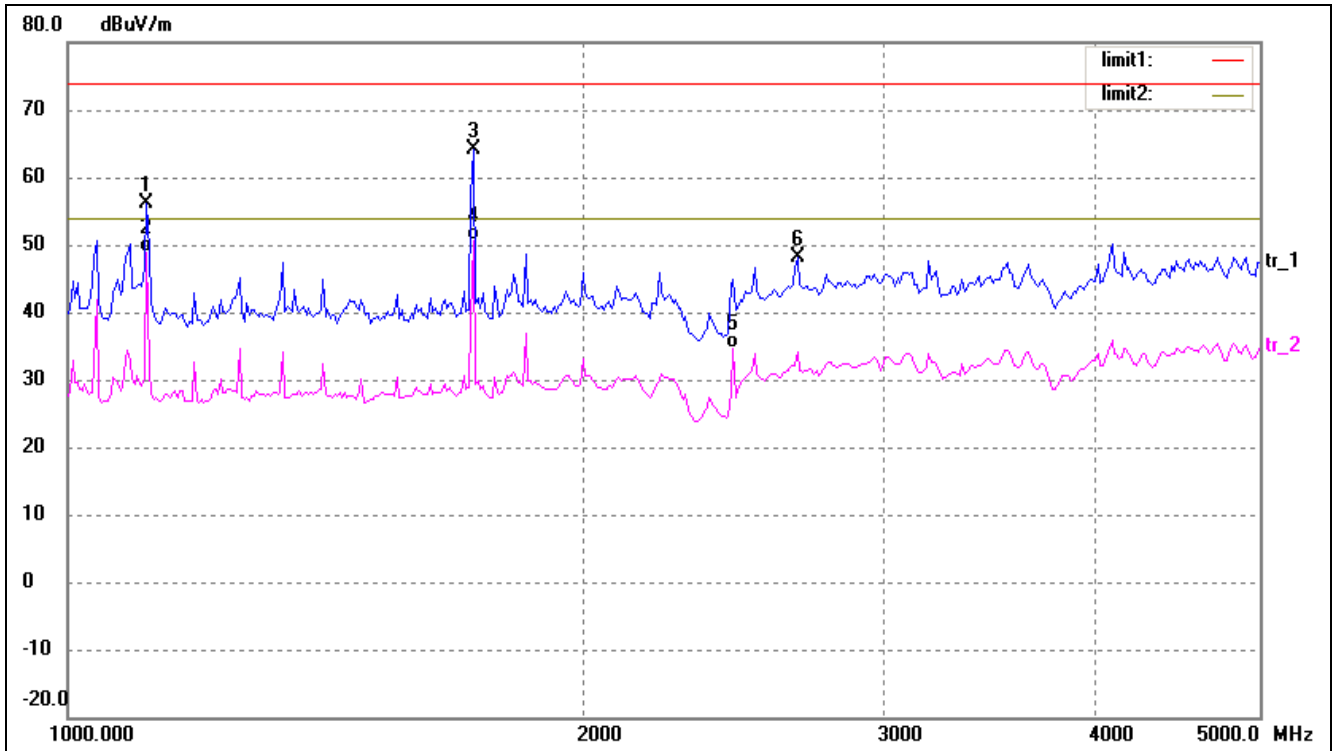


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	84.7019	33.47	3.00	36.47	40.00	-3.53	255	100	peak
2	106.7587	34.19	6.18	40.37	43.50	-3.13	36	100	peak
3	149.4857	37.25	3.55	40.80	43.50	-2.70	114	100	peak
4	160.3456	37.30	3.65	40.95	43.50	-2.55	25	100	peak
5	239.1473	34.59	6.95	41.54	46.00	-4.46	216	100	peak
6	845.0878	24.47	17.45	41.92	46.00	-4.08	25	100	peak

Plot of Radiated Emissions Test Data (Above 1GHz)

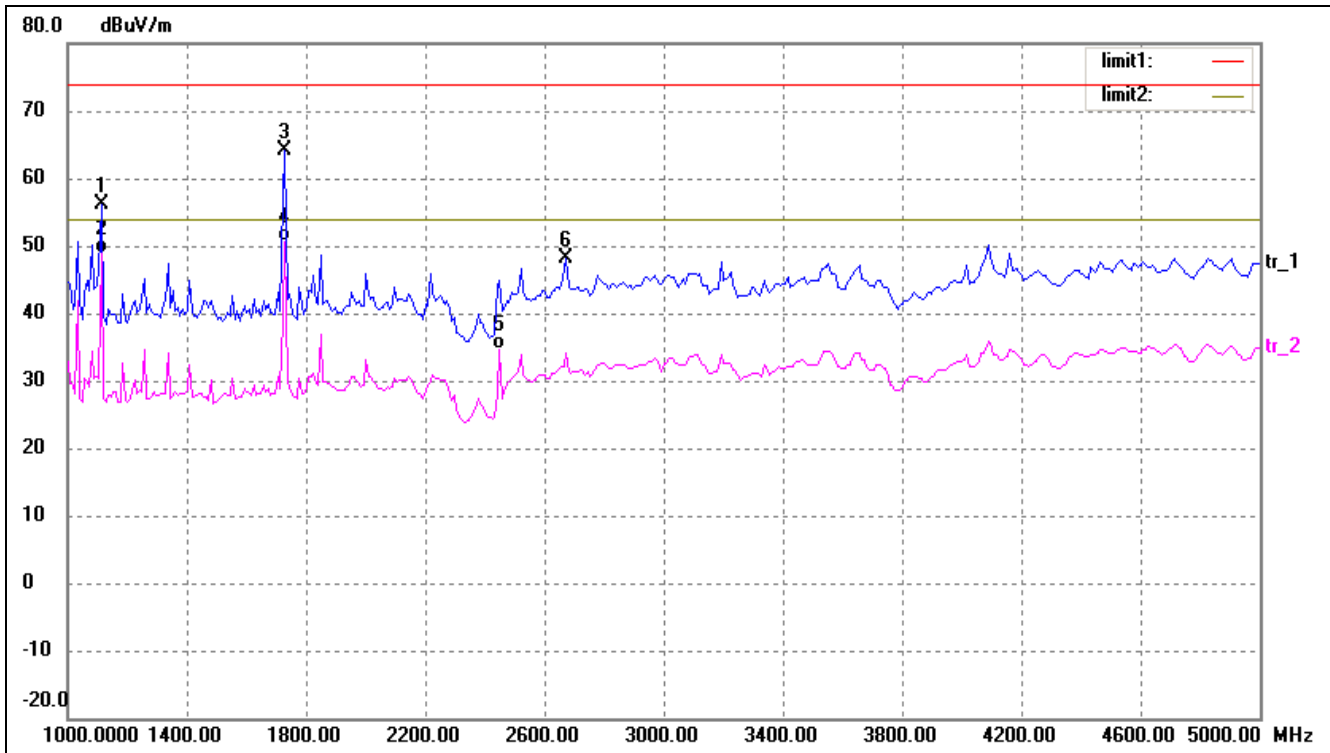
EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TM1
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1112.070	64.88	-8.76	56.12	74.00	-17.88	359	100	peak
2	1112.070	57.60	-8.76	48.84	54.00	-5.16	359	100	AVG
3	1728.422	70.37	-6.30	64.07	74.00	-9.93	359	100	peak
4	1728.422	56.86	-6.30	50.56	54.00	-3.44	359	100	AVG
5	2454.852	38.04	-3.38	34.66	54.00	-19.34	359	100	AVG
6	2677.748	51.20	-3.02	48.18	74.00	-25.82	359	100	peak

Test Specification: Vertical

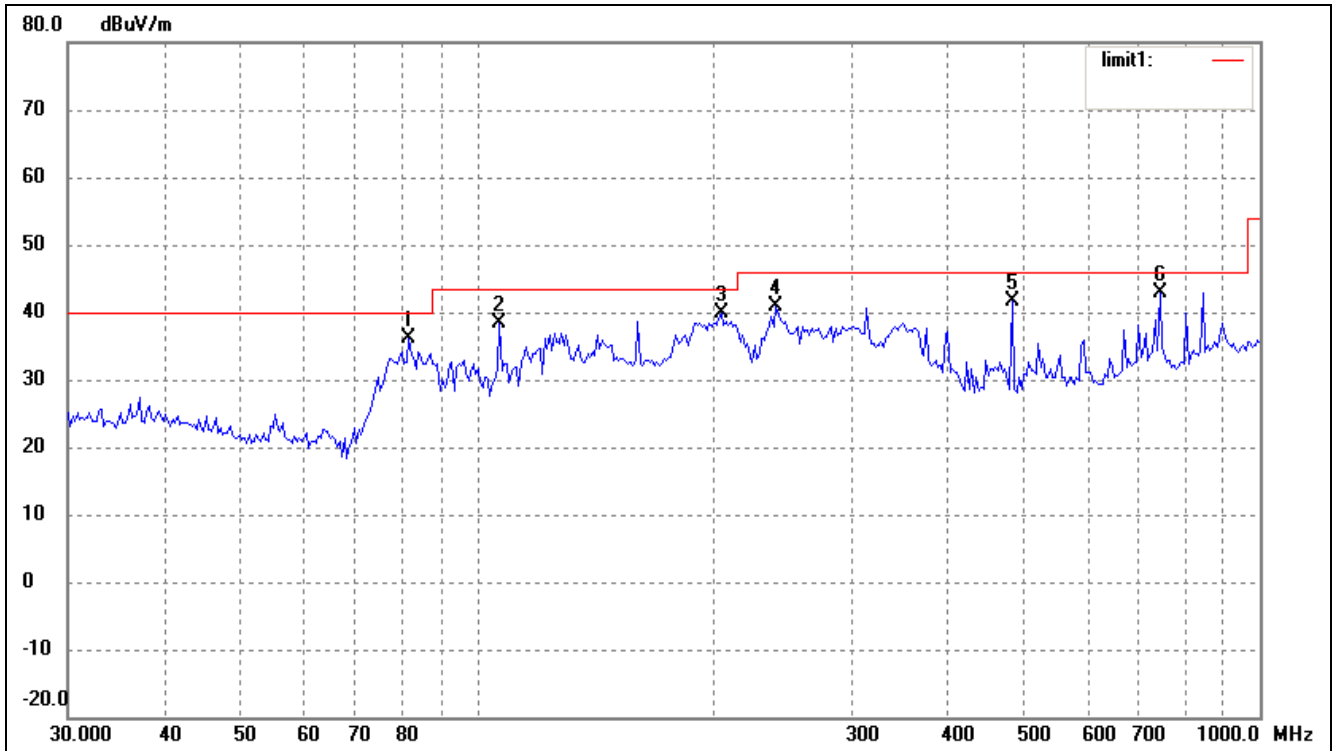


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1112.070	64.88	-8.76	56.12	74.00	-17.88	359	100	peak
2	1112.070	57.60	-8.76	48.84	54.00	-5.16	359	100	AVG
3	1728.422	70.37	-6.30	64.07	74.00	-9.93	359	100	peak
4	1728.422	56.86	-6.30	50.56	54.00	-3.44	359	100	AVG
5	2454.852	38.04	-3.38	34.66	54.00	-19.34	359	100	AVG
6	2677.748	51.20	-3.02	48.18	74.00	-25.82	359	100	peak

Plot of Radiated Emissions Test Data (Below 1GHz)

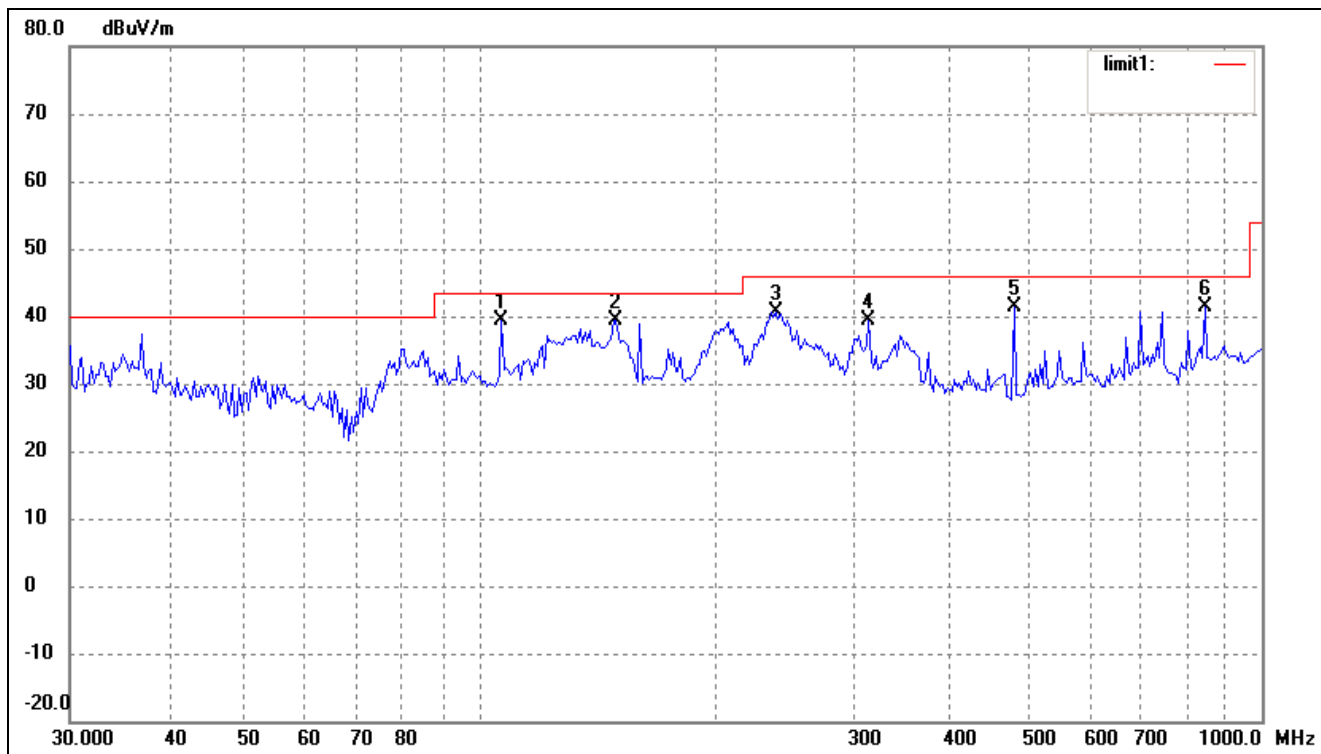
EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TM2
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	81.7832	33.85	2.18	36.03	40.00	-3.97	123	100	peak
2	106.7587	32.10	6.18	38.28	43.50	-5.22	24	100	peak
3	204.9550	34.95	4.96	39.91	43.50	-3.59	64	100	peak
4	240.8303	33.96	7.02	40.98	46.00	-5.02	68	100	peak
5	482.2155	30.23	11.49	41.72	46.00	-4.28	91	100	peak
6	744.8660	24.90	17.94	42.84	46.00	-3.16	45	100	peak

Test Specification: Vertical

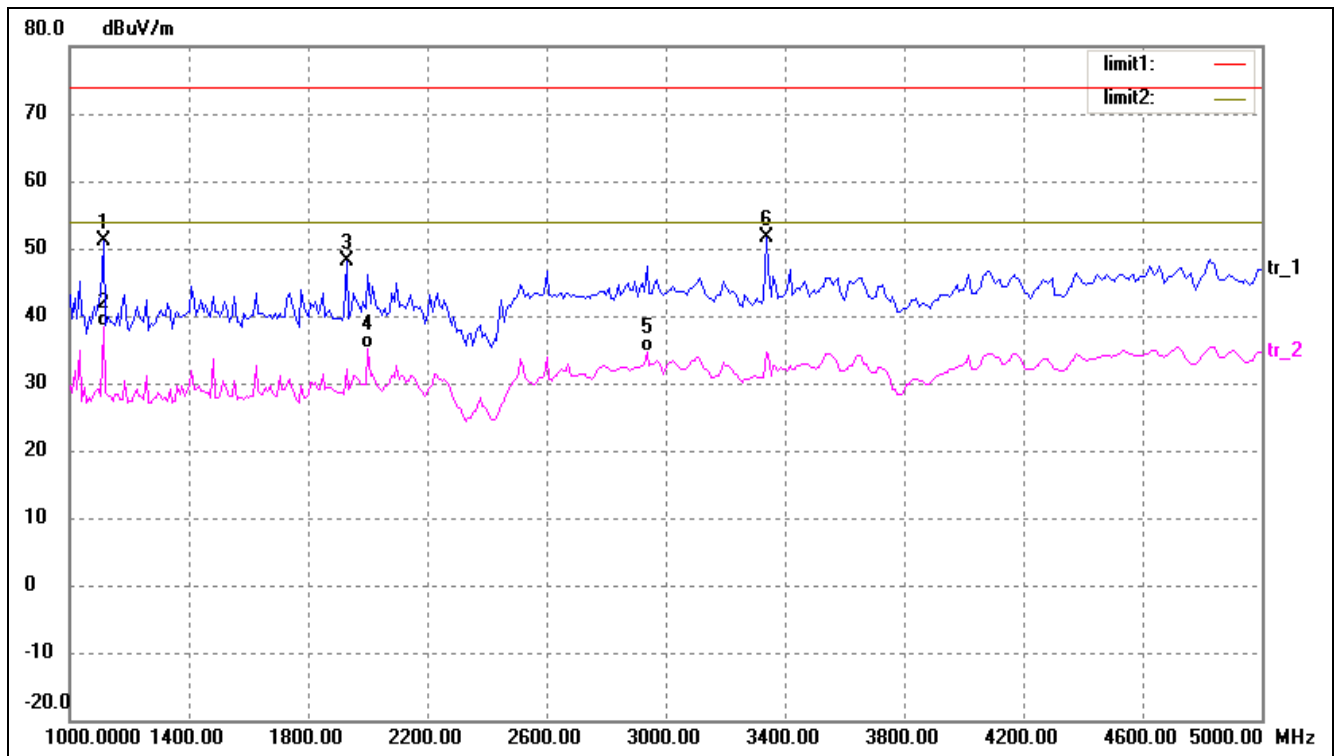


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	106.7587	33.19	6.18	39.37	43.50	-4.13	360	100	peak
2	149.4857	35.75	3.55	39.30	43.50	-4.20	24	100	peak
3	239.1473	33.59	6.95	40.54	46.00	-5.46	87	100	peak
4	314.3765	28.93	10.40	39.33	46.00	-6.67	66	100	peak
5	482.2155	29.85	11.49	41.34	46.00	-4.66	158	100	peak
6	845.0878	23.97	17.45	41.42	46.00	-4.58	95	100	peak

Plot of Radiated Emissions Test Data (Above 1GHz)

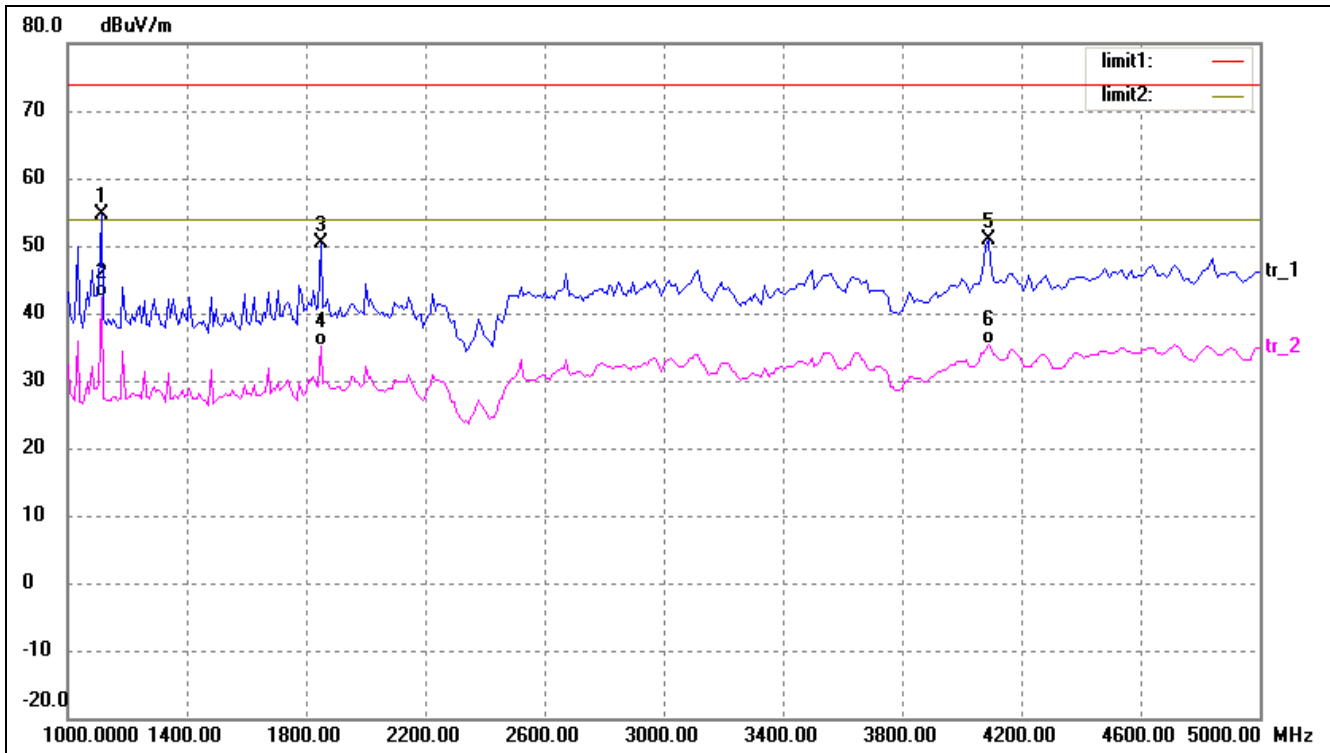
EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TM2
 Comment: AC 120V/60Hz; Adapter DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1112.070	59.99	-8.76	51.23	74.00	-22.77	359	100	peak
2	1112.070	47.04	-8.76	38.28	54.00	-15.72	359	100	AVG
3	1928.323	52.93	-4.92	48.01	74.00	-25.99	359	100	peak
4	2004.265	39.56	-4.41	35.15	54.00	-18.85	359	100	AVG
5	2939.747	37.27	-2.63	34.64	54.00	-19.36	359	100	AVG
6	3343.702	53.49	-1.89	51.60	74.00	-22.40	359	100	peak

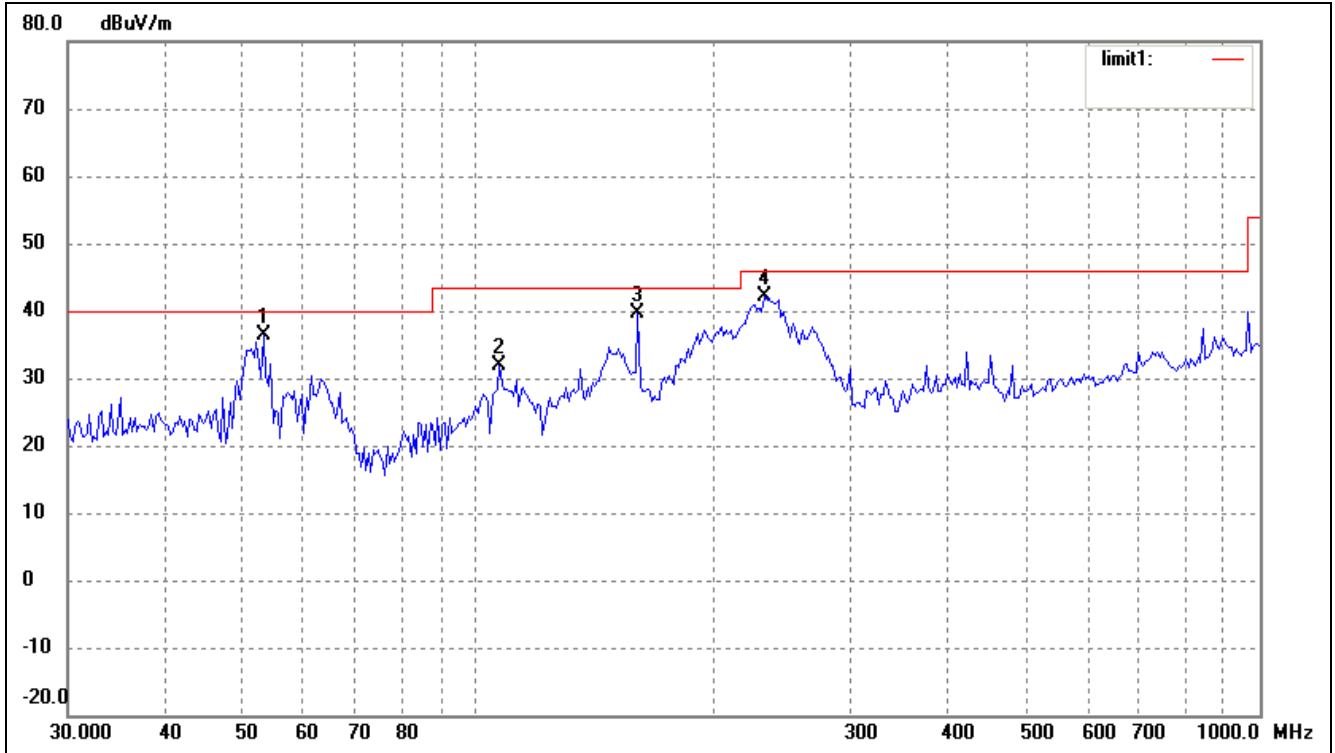
Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1112.070	63.34	-8.76	54.58	74.00	-19.42	359	100	peak
2	1112.070	51.06	-8.76	42.30	54.00	-11.70	359	100	AVG
3	1855.259	55.87	-5.42	50.45	74.00	-23.55	359	100	peak
4	1855.259	40.61	-5.42	35.19	54.00	-18.81	359	100	AVG
5	4095.413	51.36	-0.59	50.77	74.00	-23.23	359	100	peak
6	4095.413	35.88	-0.59	35.29	54.00	-18.71	359	100	AVG

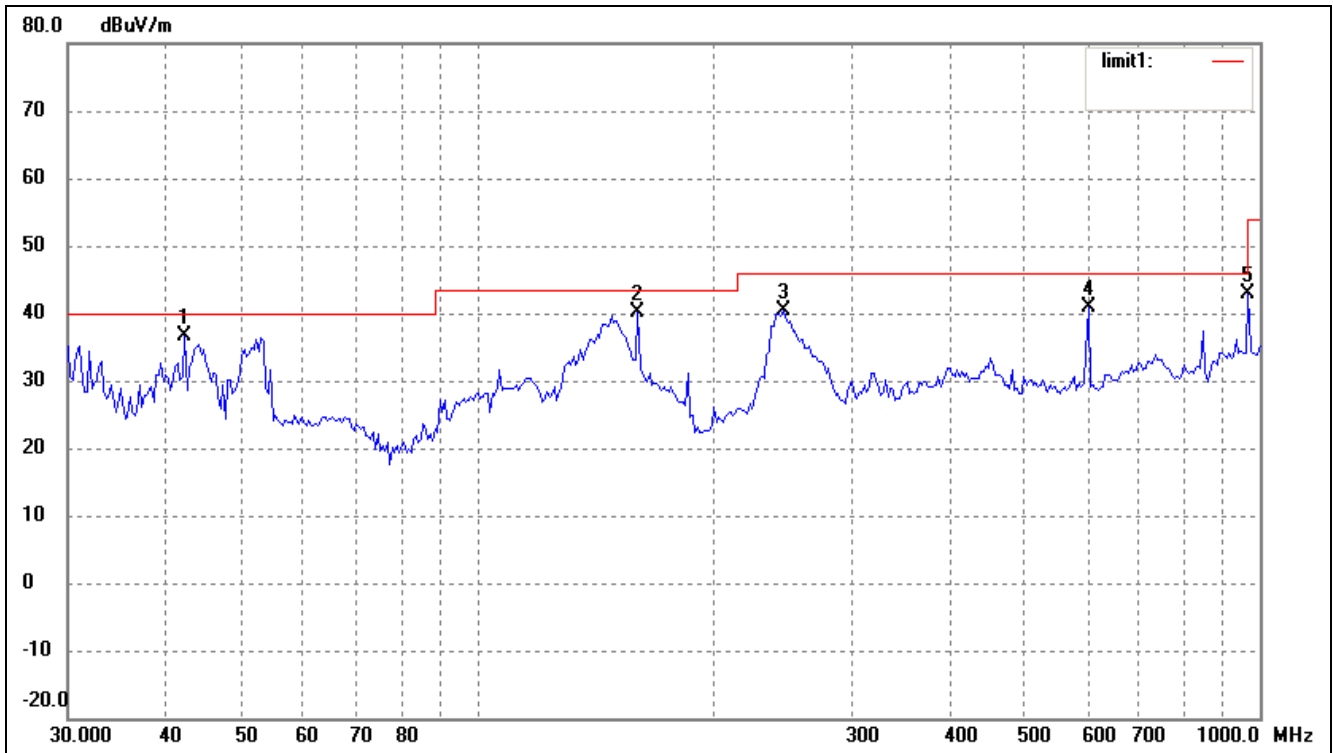
Plot of Radiated Emissions Test Data (Below 1GHz)

EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TM3
 Comment: AC 120V/60Hz; USB 5V
 Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	53.3179	30.00	6.31	36.31	40.00	-3.69	247	100	peak
2	106.7587	25.73	6.18	31.91	43.50	-11.59	21	100	peak
3	160.3457	35.87	3.65	39.52	43.50	-3.98	35	100	peak
4	232.5318	35.48	6.59	42.07	46.00	-3.93	215	100	peak

Test Specification: Vertical

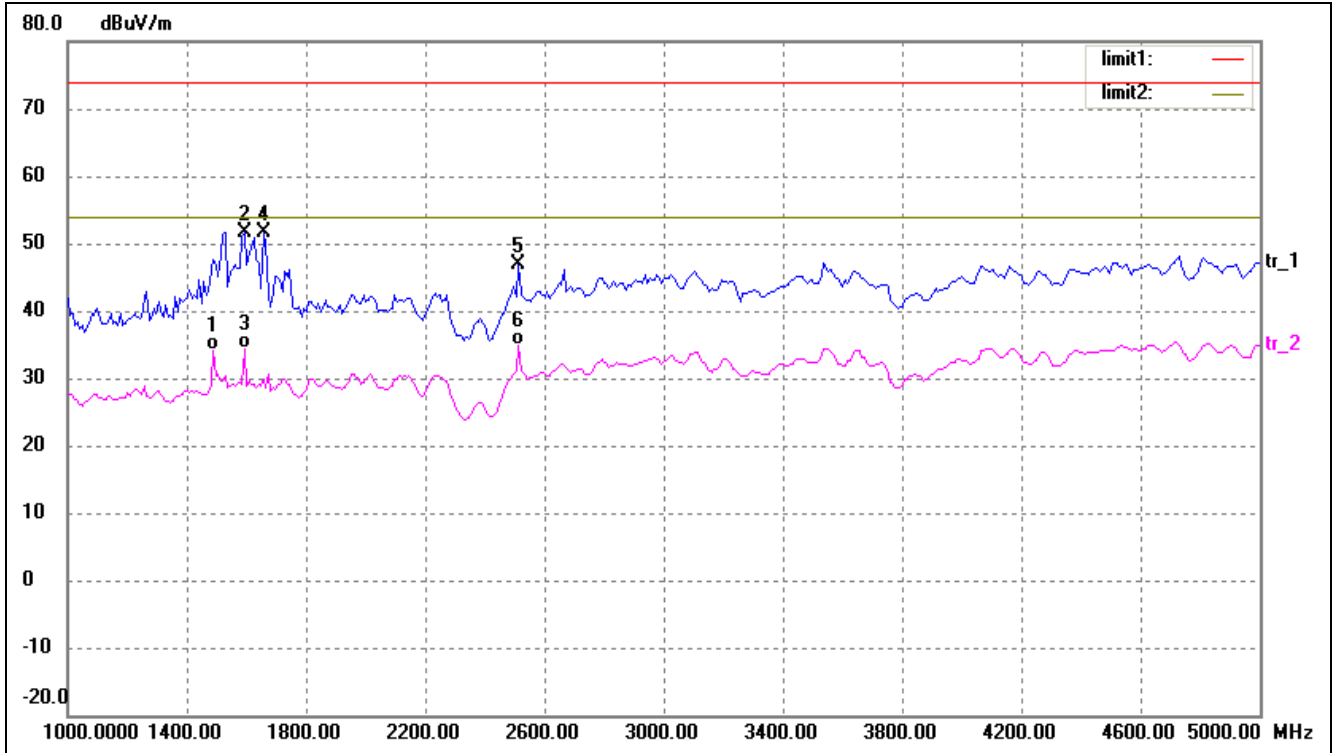


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	42.3022	27.55	8.98	36.53	40.00	-3.47	214	100	peak
2	160.3457	36.58	3.65	40.23	43.50	-3.27	72	100	peak
3	245.9509	33.10	7.17	40.27	46.00	-5.73	31	100	peak
4	603.5392	26.28	14.62	40.90	46.00	-5.10	216	100	peak
5	965.5421	24.45	18.37	42.82	54.00	-11.18	26	100	peak

Plot of Radiated Emissions Test Data (Above 1GHz)

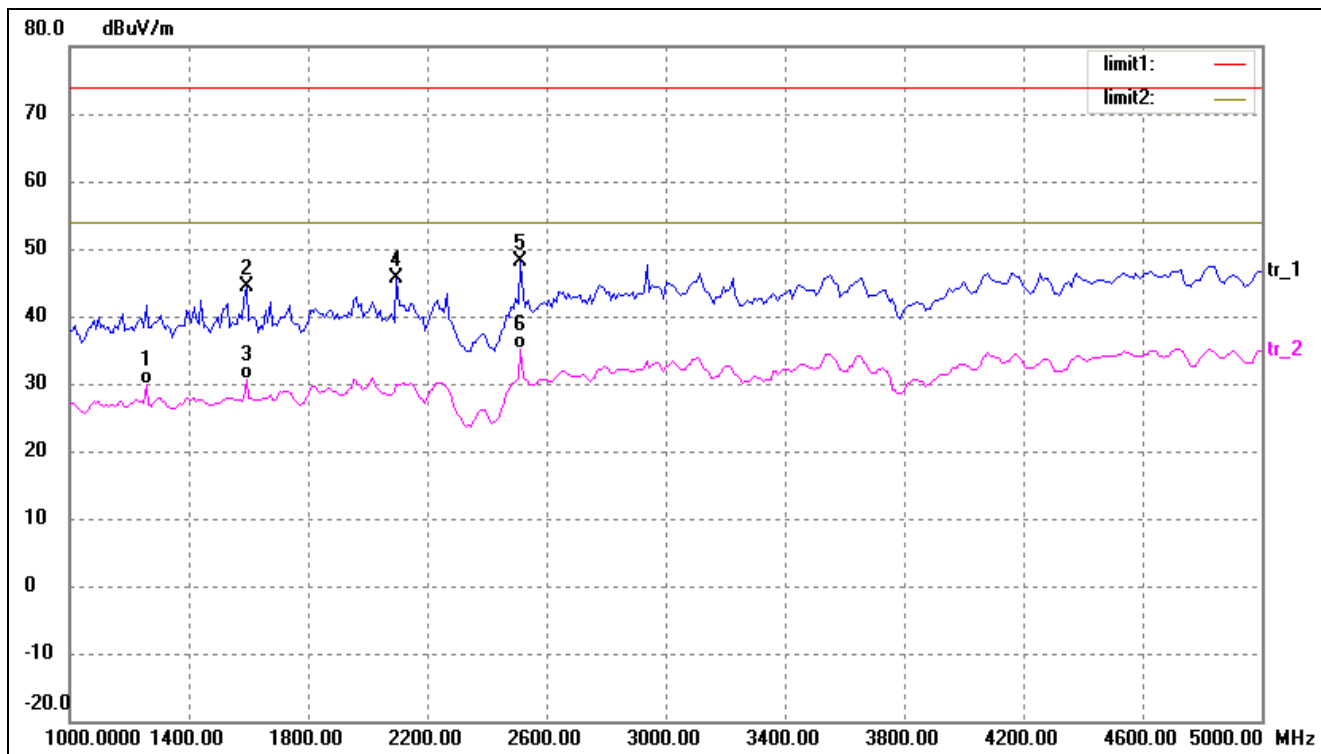
EUT: Tablet PC
 Tested Model: F-7HD4Core
 Operating Condition: TM3
 Comment: AC 120V/60Hz; USB 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1495.349	42.13	-7.90	34.23	54.00	-19.77	359	100	AVG
2	1594.782	58.95	-7.24	51.71	74.00	-22.29	359	100	peak
3	1594.782	41.53	-7.24	34.29	54.00	-19.71	359	100	AVG
4	1662.932	58.50	-6.76	51.74	74.00	-22.26	359	100	peak
5	2518.888	50.26	-3.26	47.00	74.00	-27.00	359	100	peak
6	2518.888	38.17	-3.26	34.91	54.00	-19.09	359	100	AVG

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	1256.764	38.21	-8.43	29.78	54.00	-24.22	359	100	AVG
2	1594.782	51.57	-7.24	44.33	74.00	-29.67	359	100	peak
3	1594.782	37.80	-7.24	30.56	54.00	-23.44	359	100	AVG
4	2103.411	49.73	-4.18	45.55	74.00	-28.45	359	100	peak
5	2518.888	51.32	-3.26	48.06	74.00	-25.94	359	100	peak
6	2518.888	38.32	-3.26	35.06	54.00	-18.94	359	100	AVG

Note: Testing is carried out with frequency rang 9kHz to 5GHz, The measurements greater than 20dB below the limit from 9kHz to 30MHz..