



**FCC CFR47 PART 15 SUBPART E  
INDUSTRY CANADA RSS-210 ISSUE 8**

**CLASS II PERMISSIVE CHANGE  
TEST REPORT**

**FOR**

**802.11a/b/g/n 2x2 Radio Module inside PANASONIC TABLET PC CF-C1**

**MODEL NUMBER: WL11A**

**FCC ID: ACJ9TGWL11A  
IC: 216A-CFWL11A**

**REPORT NUMBER: 11J13739-1**

**ISSUE DATE: MAY 10, 2011**

*Prepared for*  
**PANASONIC CORPORATION  
1-10-12 YAGUMO-HIGASHI-MACHI  
MORIGUCHI CITY, OSA 570-0021, JAPAN**

*Prepared by*  
**COMPLIANCE CERTIFICATION SERVICES (UL CCS)  
47173 BENICIA STREET  
FREMONT, CA 94538, U.S.A.  
TEL: (510) 771-1000  
FAX: (510) 661-0888**



**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	05/10/11	Initial Issue	F. Ibrahim

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS</b>	<b>4</b>
<b>2. TEST METHODOLOGY</b>	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION</b>	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY</b>	<b>5</b>
4.1. MEASURING INSTRUMENT CALIBRATION	5
4.2. SAMPLE CALCULATION	5
4.3. MEASUREMENT UNCERTAINTY	5
<b>5. EQUIPMENT UNDER TEST</b>	<b>6</b>
5.1. DESCRIPTION OF EUT	6
5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE	6
5.3. MAXIMUM OUTPUT POWER	6
5.4. DESCRIPTION OF AVAILABLE ANTENNAS	6
5.5. SOFTWARE AND FIRMWARE	6
5.6. WORST-CASE CONFIGURATION AND MODE	7
5.7. DESCRIPTION OF TEST SETUP	8
<b>6. TEST AND MEASUREMENT EQUIPMENT</b>	<b>10</b>
<b>7. RADIATED TEST RESULTS</b>	<b>11</b>
7.1. LIMITS AND PROCEDURE	11
7.1. TRANSMITTER ABOVE 1 GHz (worst-case modes)	12
7.1.1. 5.2 GHz BAND	12
7.1.2. 5.3 GHz BAND	14
7.1.3. 5.6 GHz BAND	15
7.2. TRANSMITTER BELOW 1 GHz (worst-case modes)	20
7.2.1. 5.2 GHz BAND	20
7.2.2. 5.3 GHz BAND	24
7.2.3. 5.6 GHz BAND	28
<b>8. SETUP PHOTOS</b>	<b>32</b>

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** PANASONIC CORPORATION  
1-10-12 YAGUMO-HIGASHI-MACHI  
MORIGUCHI CITY, OSA 570-0021, JAPAN

**EUT DESCRIPTION:** 802.11a/b/g/n 2x2 Radio Module inside PANASONIC TABLET PC  
CF-C1

**MODEL:** WL11A

**SERIAL NUMBER:** Serial number 1

**DATE TESTED:** APRIL 4<sup>th</sup> TO APRIL 11, 2011

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 9	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

Compliance Certification Services (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:



FRANK IBRAHIM  
EMC SUPERVISOR  
UL CCS

Tested By:



JOSEPH DANISI  
EMC ENGINEER  
UL CCS

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, RSS-GEN Issue 3, and RSS-210 Issue 8.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

## **5. EQUIPMENT UNDER TEST**

### **5.1. DESCRIPTION OF EUT**

The EUT is an 802.11a/b/g/n is an Intel Corporation Centrino advanced-N 6205 which is a PCIe half mini card form factor IEEE 802.11 a/b/g/n wireless network adaptor that operates in both the 2.4GHz and 5 GHz spectra. The card supports 2x2 MIMO for 802.11n in both the 20MHz and 40MHz channels and in legacy modes 1x2 operation is supported.

The radio module is manufactured by Intel.

### **5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE**

The major change filed under this application is adding Portable Host (Representative model; CF-C1).

### **5.3. MAXIMUM OUTPUT POWER**

Same power values were used from original reports.

### **5.4. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes a PIFA antenna, with a maximum gain of 1.01 dBi for the Main and 1.37 dBi for the Aux.

### **5.5. SOFTWARE AND FIRMWARE**

The test utility software used during testing was DRTU, version. 1.1.3.

Driver software is V14.1.4.115.

### 5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. Radiated Emissions below 1 GHz was performed with EUT set to transmit at the channel with highest output power.

Worst-case data rates used per input from the client are as follows:

- 11a: 6Mbps
- 11n HT20: MCS0
- 11n HT40: MCS0

The EUT (tablet) was investigated in three orthogonal orientations X,Y,Z and it was determined that y-axis orientation is the worst-case orientation; therefore, all testing in this report was conducted with EUT in worst case orientation.

Based on preliminary investigation, vertical orientation was found to be worst-case orientation; therefore, for some of the BE plots only vertical orientation was performed.

Worst-case modes were selected for BE and Harmonics based on an investigation of the original reports, as shown in the summary table below:

Worst-case Modes to test					
2.4 GHz			5.8 GHz		
Low BE	High BE	Harmonics	Low BE	High BE	Harmonics
11n 20M Chain A Channel 2 Pwr AV=16.1 dBm Margin= -0.7 dB	11n 40M Chain A Channel 9 Pwr AV=9.6 dBm Margin= -1.1 dB	11b Chain A Channel 11 Pwr AV=15.8 dBm AV Margin= -6.1 dB Freq= 4924 MHz	No need to test	No need to test	11n 20M Chain A+B Channel 165 (5825MHz) Pwr AV=16.6, 16.8 dBm AV Margin= -6.9 dB Freq= 11649.9 MHz
5.2 GHz			5.3 GHz		
Low BE	High BE	Harmonics	Low BE	High BE	Harmonics
11n 20M Chain A+B Channel 36 (5180MHz) Pwr AV=12.4, 12.5 dBm Margin= -1.1 dB	No need to test	11n 20M Chain A+B Channel 40 (5200MHz) Pwr AV=16.5 dBm AV Margin= -6.3 dB Freq= 11000.3 MHz	No need to test	11n 20M Chain A+B Channel 64 (5320MHz) Pwr AV=13.2, 13.1 dBm Margin= -5.4 dB	No need to test
5.6 GHz					
Low BE	High BE	Harmonics			
11n 40M Chain A+B Channel 102 (5510MHz) Pwr AV=12.6, 12.4 dBm Margin= -4.6 dB	11n 20M Chain A+B Channel 140 (5700MHz) Pwr AV=13.4, 13.6 dBm Margin= -16.5 dB	11a 20M Chain B Channel 100 (5500MHz) Pwr AV=16.1, 16 dBm AV Margin= -9.7 dB Freq= 7500.1 MHz			

## 5.7. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Stand-alone EUT.

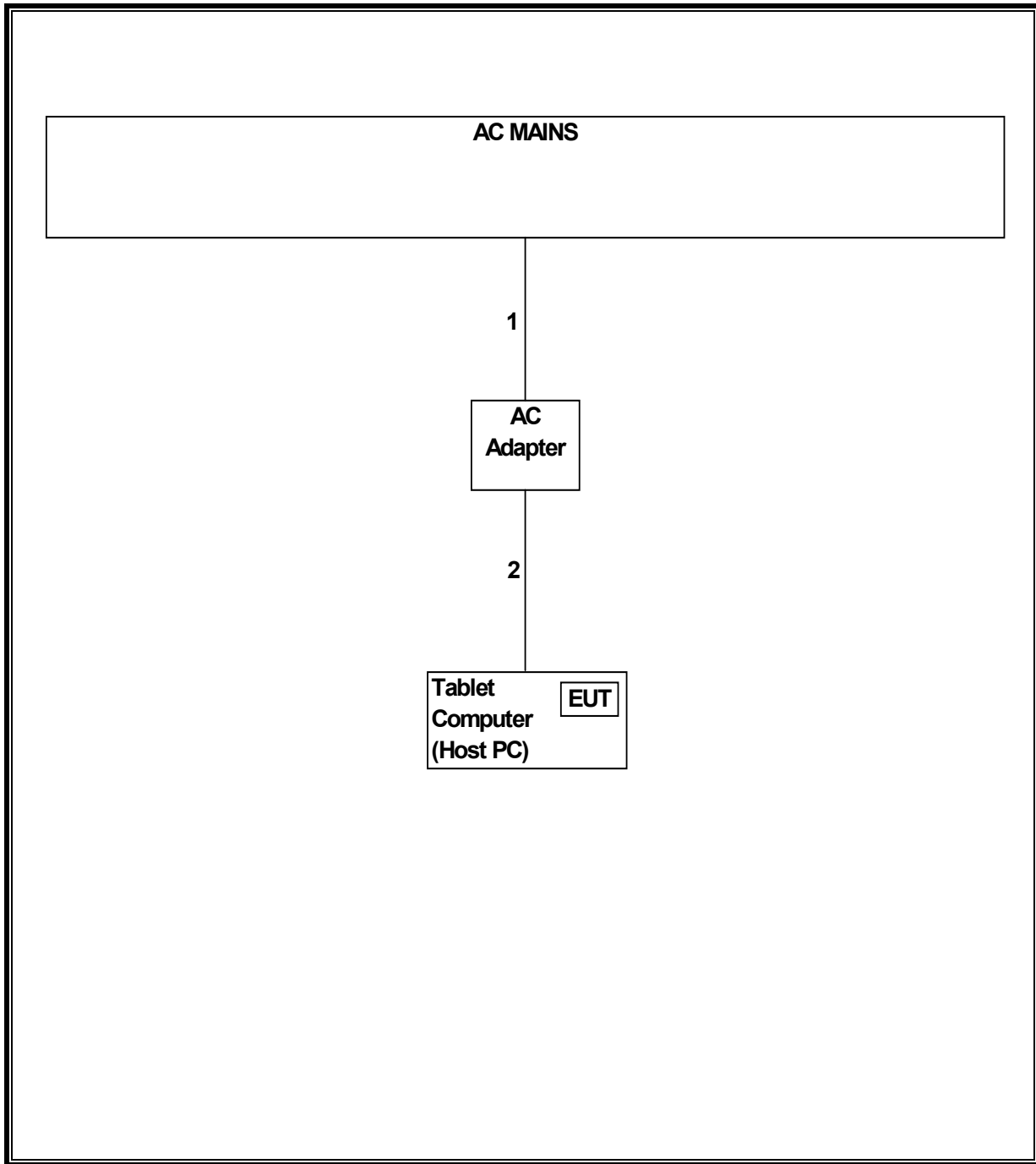
### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	AC	Un-Sheilded	180 cm	N/A
2	DC	1	DC	Un-Sheilded	180 cm	N/A

### TEST SETUP

The EUT is installed in a host laptop computer during the tests. Test software exercised the radio card. A laptop computer was used to configure the EUT to continuously transmit at a specified output power or continuously receive on the channel specified in the test data. For transmit modes the worst case was evaluated.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	Asset	Cal Date	Cal Due
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/12/10	07/12/11
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/14/10	07/14/11
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/30/10	08/30/11
Antenna, Horn, 18 GHz	EMCO	3115	C00783	06/29/10	06/29/11
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	01/27/11	01/27/12
Power Meter	Agilent / HP	438A	C01068	12/16/09	06/16/11
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	01/05/10	04/05/11
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	06/25/10	06/25/11
Antenna, Horn, 18 GHz	EMCO	3115	C00783	06/29/10	06/29/11
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/14/10	07/14/11
Antenna, Horn, 18 GHz	ETS	3117	C01022	01/00/00	CNR
Reject Filter, 5.15-5.35 GHz	Micro-Tronics	BRC13190	N02679	01/00/00	CNR
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	01/27/11	01/27/12
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/12/10	07/12/11

## 7. RADIATED TEST RESULTS

### 7.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

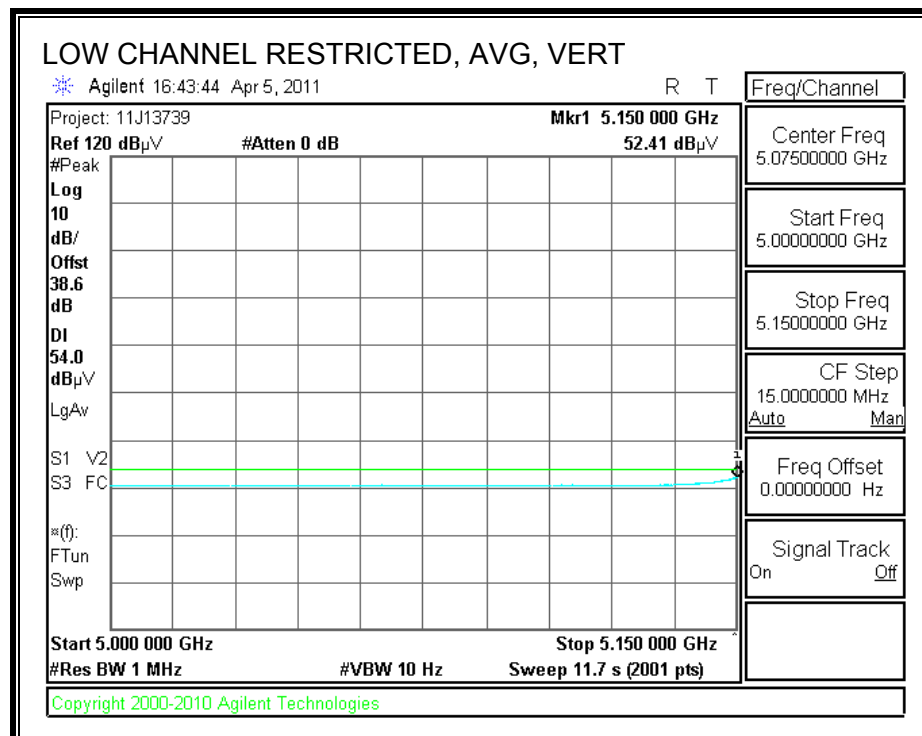
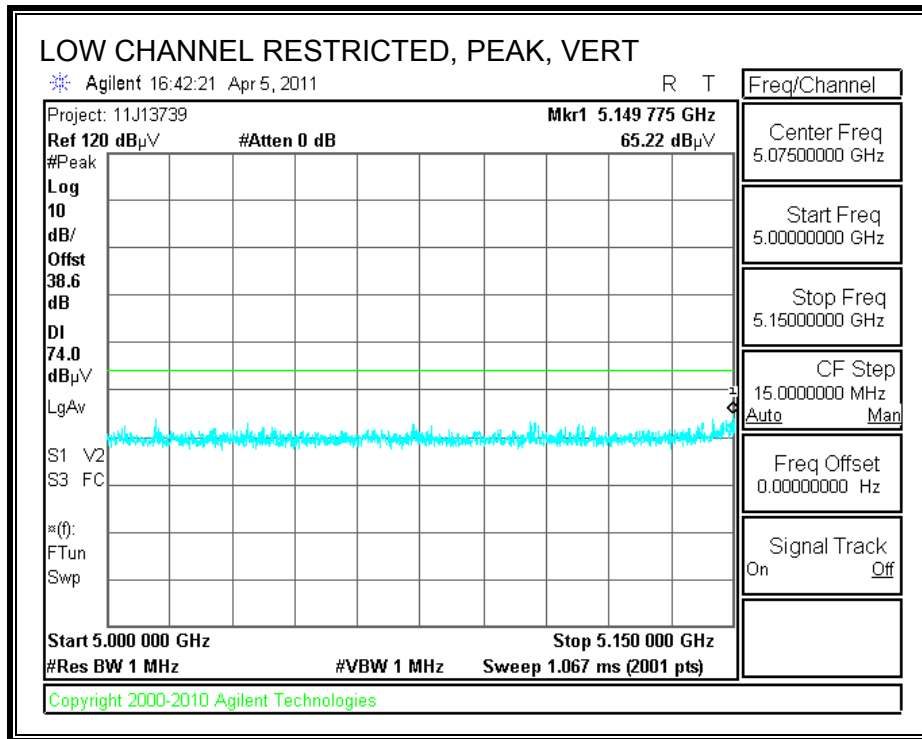
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

## 7.1. TRANSMITTER ABOVE 1 GHz (worst-case modes)

### 7.1.1. 5.2 GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



**HARMONICS AND SPURIOUS EMISSIONS**

**High Frequency Measurement**  
 Compliance Certification Services, Fremont 5m Chamber

**Company:** PANASONIC CORP.  
**Project #:** 11J13739  
**Date:** 5-Apr-11  
**Test Engineer:** Joe Danisi  
**Configuration:** 5.15to 5.25 GHz UNII  
**Mode:** 11n 20M

**Test Equipment:**

<b>Horn 1-18GHz</b> T59; S/N: 3245 @3m	<b>Pre-amplifer 1-26GHz</b> T145 Agilent 3008A0056	<b>Pre-amplifer 26-40GHz</b>	<b>Horn &gt; 18GHz</b> T125; ARA 18-26GHz; S/N:1007	<b>Limit</b> FCC 15.209
<b>Hi Frequency Cables</b>			<b>HPF</b>	<b>Reject Filter</b> R_001
<b>3' cable 22807700</b> 3' cable 22807700	<b>12' cable 22807600</b> 12' cable 22807600	<b>20' cable 22807500</b> 20' cable 22807500		<b>Peak Measurements</b> RBW=VBW=1MHz <b>Average Measurements</b> RBW=1MHz ; VBW=10Hz

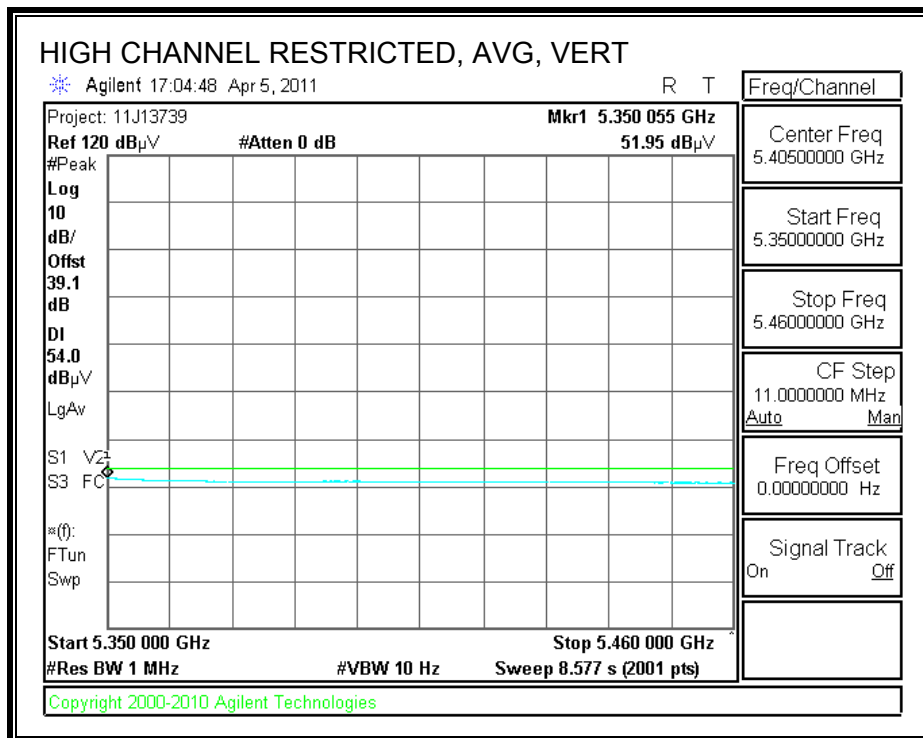
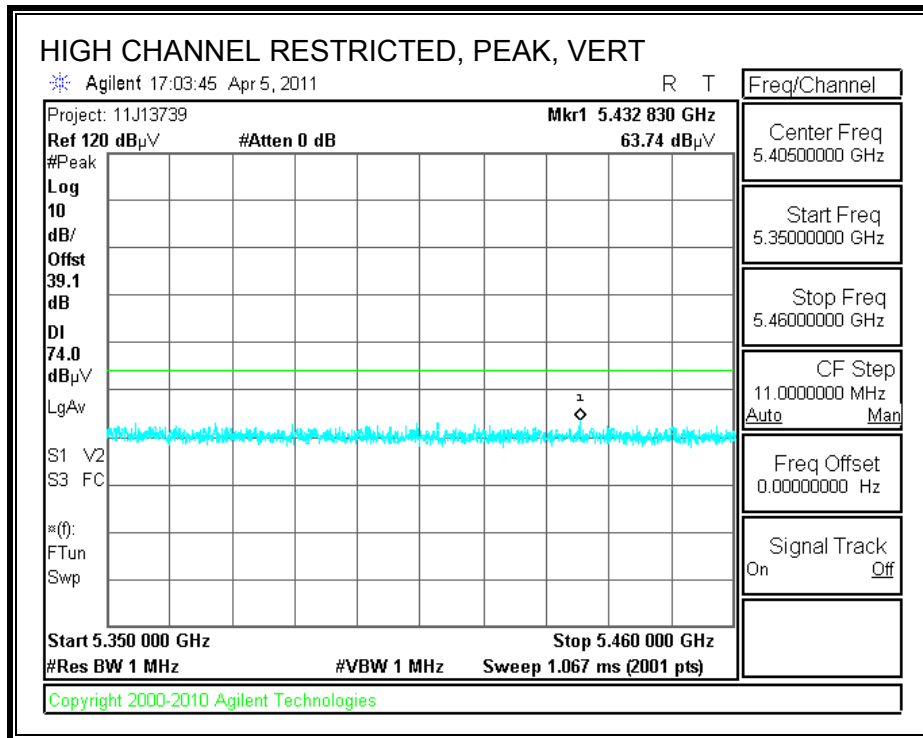
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
15.600	3.0	36.1	24.0	38.7	11.4	-32.3	0.0	0.0	53.9	41.8	74	54	-20.1	-12.2	V
31.200	3.0	28.8	16.8	39.0	10.4	-35.3	0.0	0.0	42.9	30.9	74	54	-31.1	-23.1	V
15.600	3.0	35.8	21.6	38.7	11.4	-32.3	0.0	0.0	53.6	39.4	74	54	-20.4	-14.6	H
31.200	3.0	30.7	16.9	39.0	10.4	-35.3	0.0	0.0	44.7	30.9	74	54	-29.3	-23.1	H

Rev. 07.22.09  
 note : 31.2 noise floor

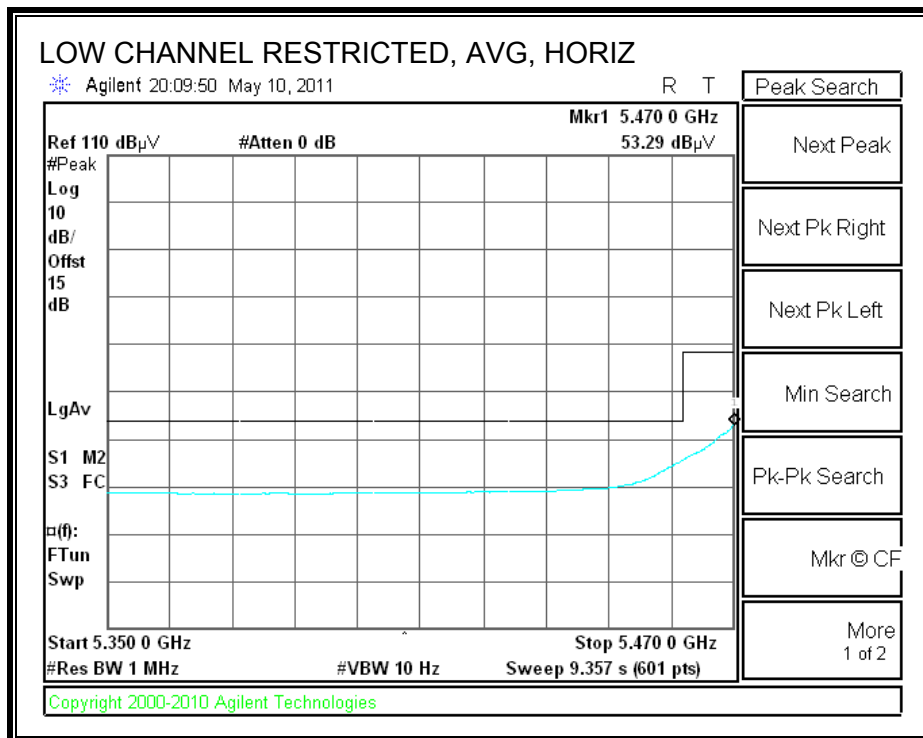
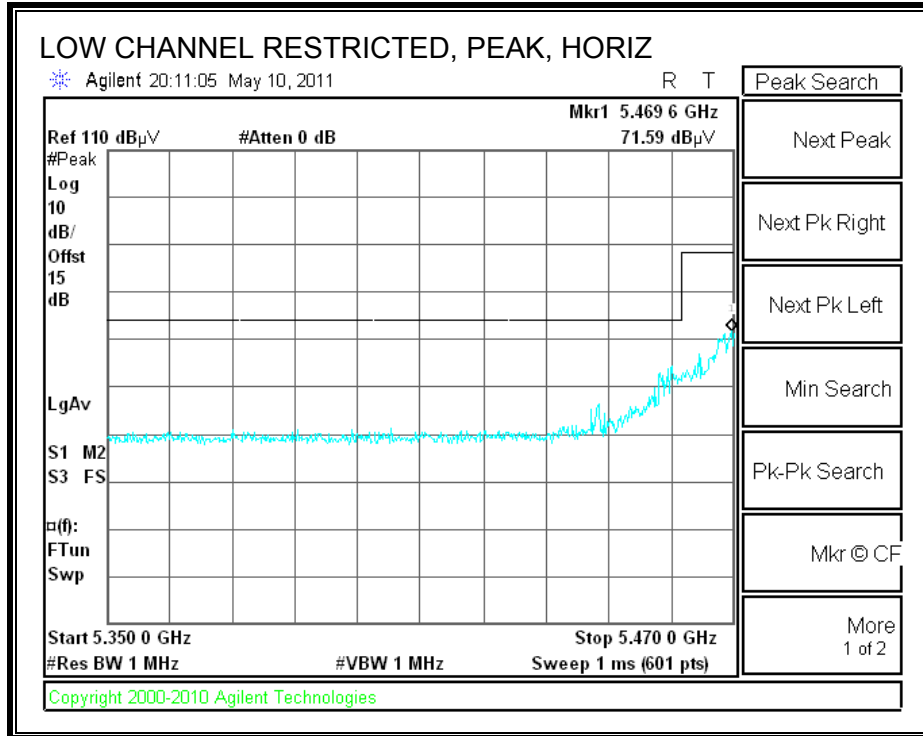
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

### 7.1.2. 5.3 GHz BAND

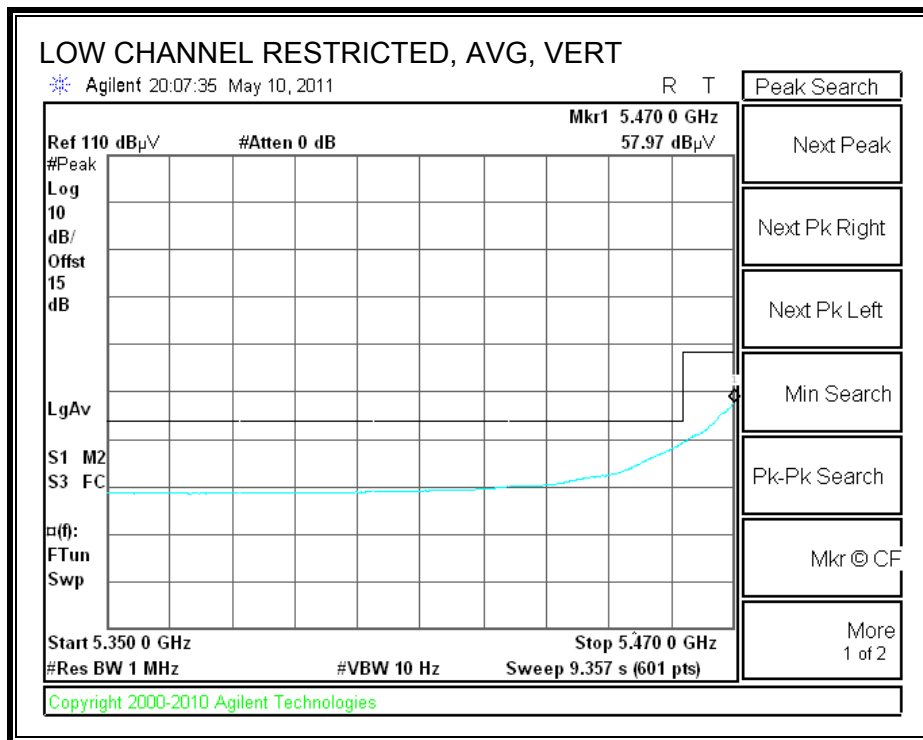
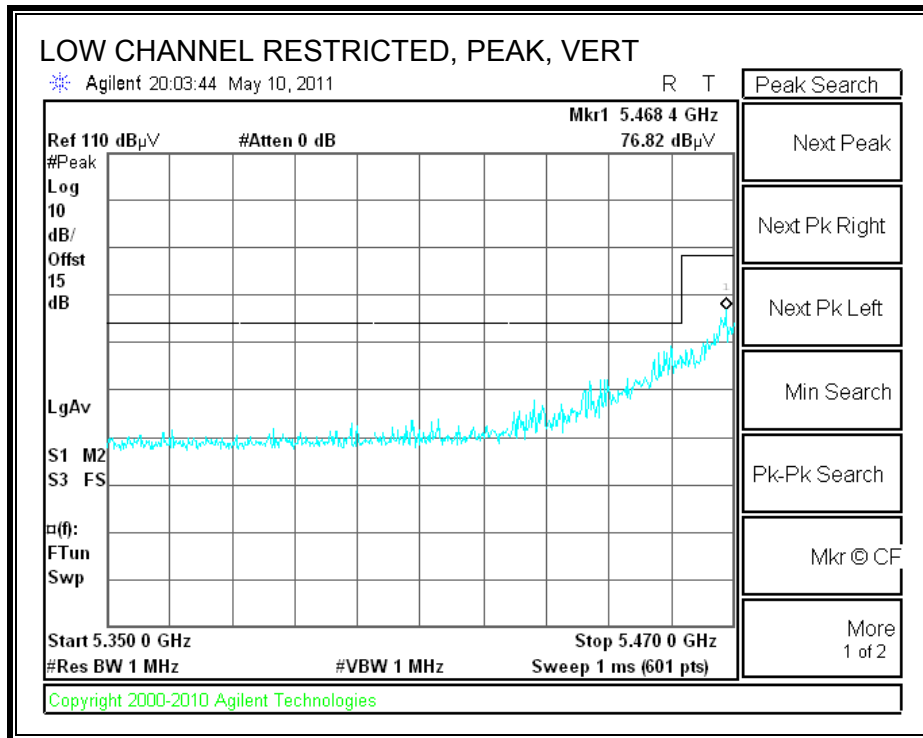
#### RESTRICTED BANEDGE (HIGH CHANNEL, VERTICAL)



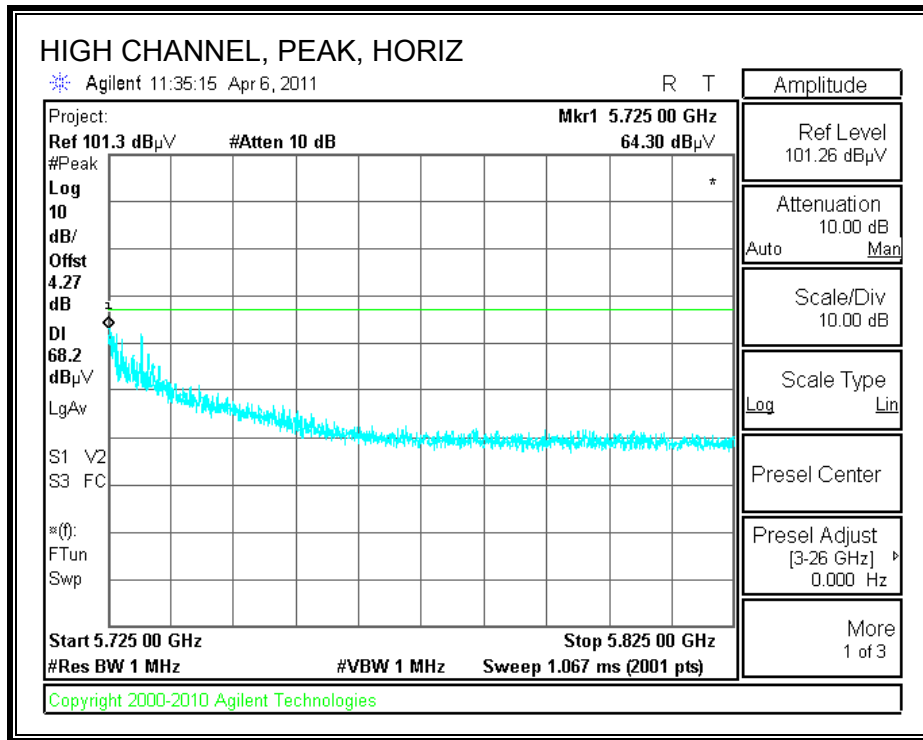
### 7.1.3. 5.6 GHz BAND



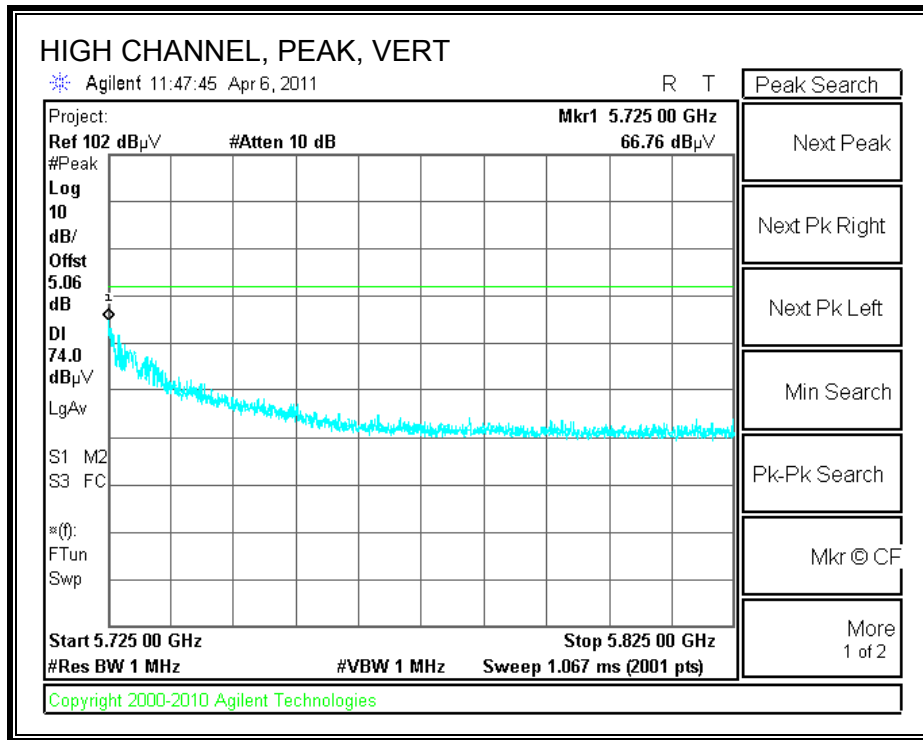
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**AUTHORIZED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**AUTHORIZED BANDEDGE (HIGH CHANNEL, VERTICAL)**



**HARMONICS AND SPURIOUS EMISSIONS**

**High Frequency Measurement**  
 Compliance Certification Services, Fremont 5m Chamber

**Company:** PANASONIC CORP.  
**Project #:** 11J13739  
**Date:** April 4th to April 8th 2011  
**Test Engineer:** Joe Danisi/Vahan Philbosian  
**Configuration:** Chain B  
**Mode:** 11a 20M

**Test Equipment:**

<b>Horn 1-18GHz</b>	<b>Pre-amplifier 1-26GHz</b>	<b>Pre-amplifier 26-40GHz</b>	<b>Horn &gt; 18GHz</b>	<b>Limit</b>
T59; S/N: 3245 @3m	T145 Agilent 3008A0056			FCC 15.209

Hi Frequency Cables

<b>3' cable 22807700</b>	<b>12' cable 22807600</b>	<b>20' cable 22807500</b>	<b>HPF</b>	<b>Reject Filter</b>	<b>Peak Measurements</b> RBW=VBW=1MHz
3' cable 22807700	12' cable 22807600	20' cable 22807500		R_001	<b>Average Measurements</b> RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
11.000	3.0	51.7	37.3	37.7	9.2	-33.8	0.0	0.0	64.9	50.4	74	54	-9.1	-3.6	V
11.000	3.0	38.8	34.5	37.7	9.2	-33.8	0.0	0.0	51.9	47.7	74	54	-22.1	-6.3	H

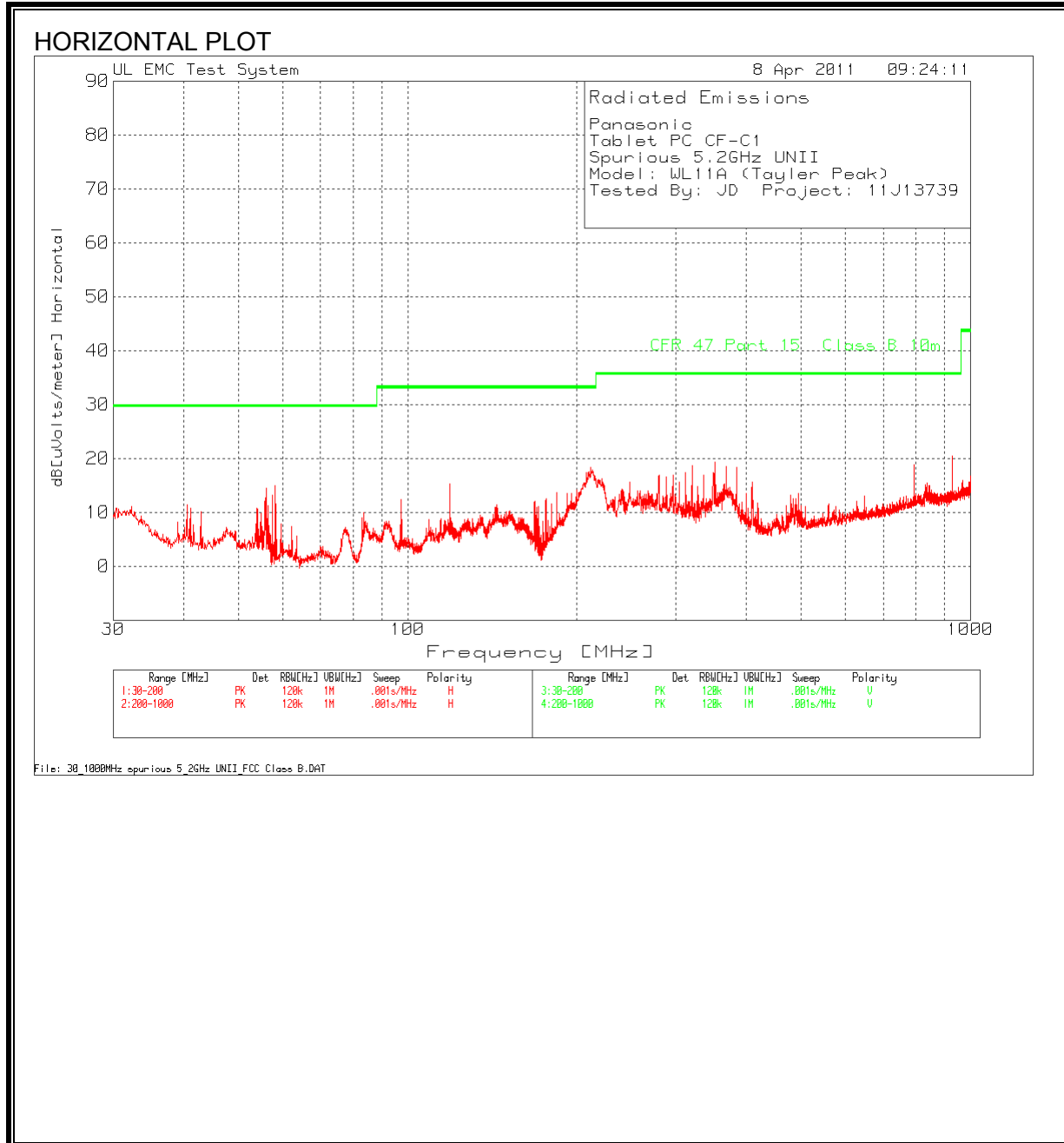
Rev. 07.22.09

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

## 7.2. TRANSMITTER BELOW 1 GHz (worst-case modes)

### 7.2.1. 5.2 GHz BAND

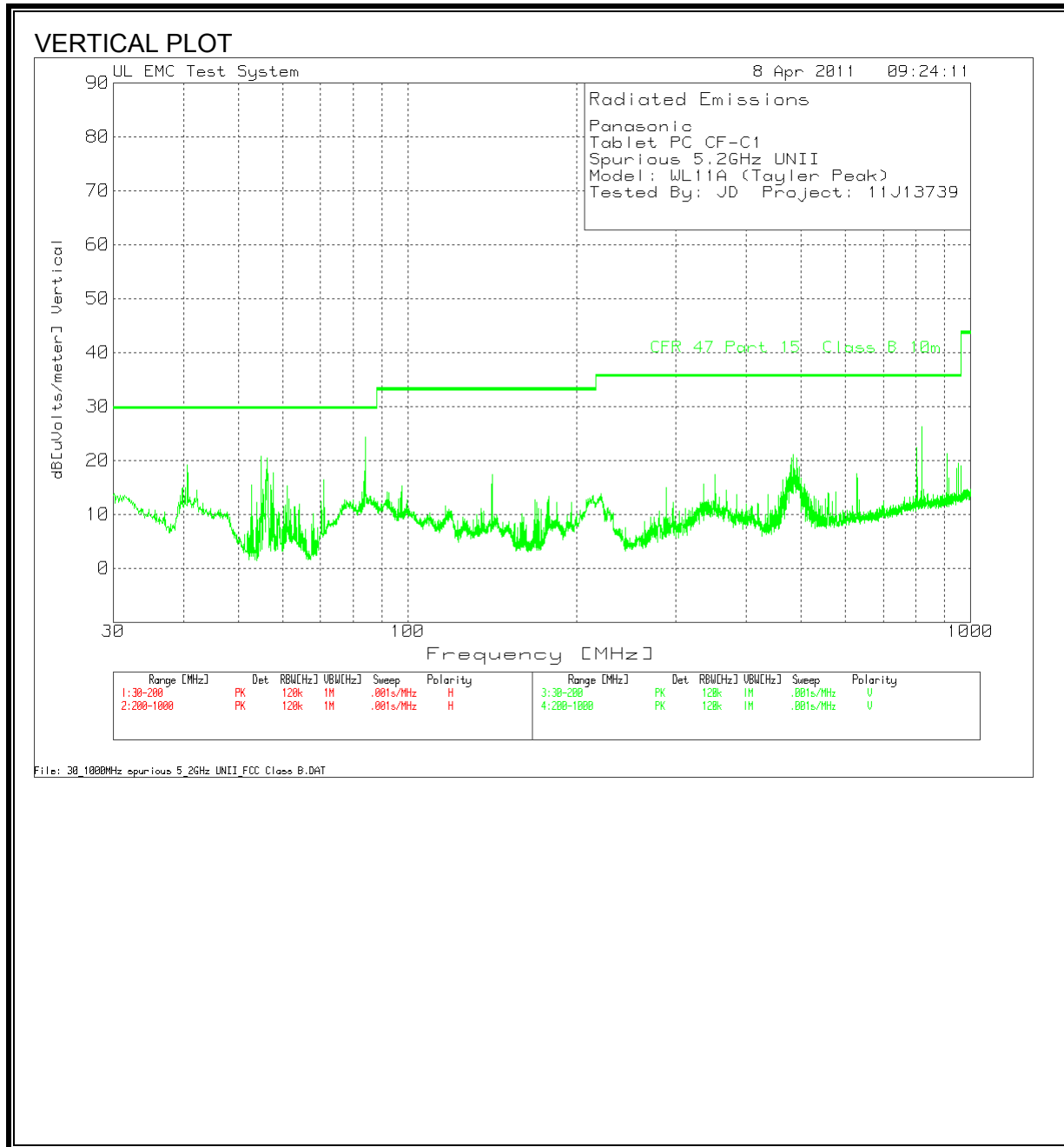
#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



**HORIZONTAL DATA**

Panasonic											
Tablet PC CF-C1											
Spurious 5.2GHz UNII											
Model: WL11A (Tayler Peak)											
Tested By: JD Project: 11J13739											
Horizontal 30 - 200MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 Pz	Margin	Height [cm	Polarity
56.082	45.3	PK	1.1	-29.4	7.9	-10.5	14.4	29.6	-15.2	300	Horz
57.5262	44.02	PK	1.1	-29.4	7.9	-10.5	13.12	29.6	-16.48	300	Horz
58.2059	45.83	PK	1.1	-29.4	7.9	-10.5	14.93	29.6	-14.67	400	Horz
118.7806	39.99	PK	1.5	-29.2	13.5	-10.5	15.29	33.1	-17.81	300	Horz
Horizontal 200 - 1000MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 Pz	Margin	Height [cm	Polarity
211.459	43.78	PK	2	-28.9	12	-10.5	18.38	33.1	-14.72	100	Horz
319.9201	41.64	PK	2.5	-28.6	13.6	-10.5	18.64	35.6	-16.96	100	Horz
351.8987	41.77	PK	2.6	-28.8	14.2	-10.5	19.27	35.6	-16.33	100	Horz
367.8881	40.6	PK	2.7	-28.8	14.5	-10.5	18.5	35.6	-17.1	100	Horz
383.8774	40.34	PK	2.7	-28.9	14.7	-10.5	18.34	35.6	-17.26	100	Horz
794.2705	33.44	PK	3.9	-28.9	20.9	-10.5	18.84	35.6	-16.76	300	Horz
927.7815	33.44	PK	4.2	-28.5	21.8	-10.5	20.44	35.6	-15.16	200	Horz

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

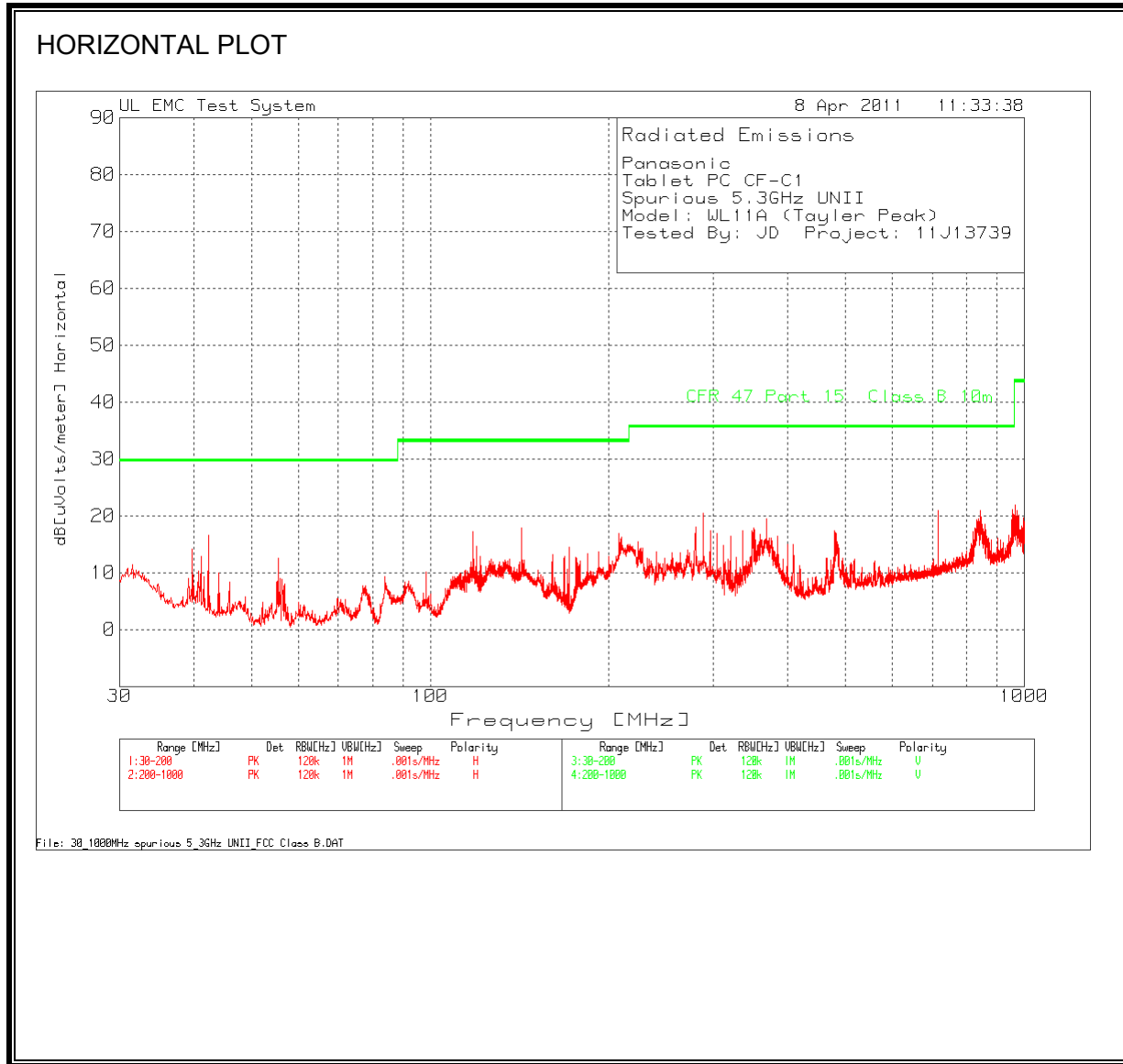


VERTICAL DATA

Panasonic		
Tablet PC CF-C1		
Spurious 5.2GHz UNII		
Model: WL11A (Tayler Peak)		
Tested By: JD Project: 11J13739		

Vertical 30 - 200MHz													
Test Freq	Meter Rea	Detector	Chamber	ET10	Below	T130	Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
40.6197	44.46	PK	0.9	-29.4	13.7	-10.5	19.16	29.6	-10.44	109	Vert		
52.8536	46.41	PK	1	-29.4	7.9	-10.5	15.41	29.6	-14.19	109	Vert		
54.9775	51.59	PK	1.1	-29.4	7.9	-10.5	20.69	29.6	-8.91	109	Vert		
56.3368	51.38	PK	1.1	-29.4	7.9	-10.5	20.48	29.6	-9.12	109	Vert		
57.1864	46.32	PK	1.1	-29.4	7.9	-10.5	15.42	29.6	-14.18	109	Vert		
57.7811	48.6	PK	1.1	-29.4	7.9	-10.5	17.7	29.6	-11.9	109	Vert		
61.0095	46.06	PK	1.2	-29.4	7.9	-10.5	15.26	29.6	-14.34	109	Vert		
71.0345	46.89	PK	1.2	-29.4	8.2	-10.5	16.39	29.6	-13.21	109	Vert		
84.033	55.48	PK	1.3	-29.4	7.5	-10.5	24.38	29.6	-5.22	109	Vert		
141.2094	42.24	PK	1.7	-29.2	13.1	-10.5	17.34	33.1	-15.76	109	Vert		
Vertical 200 - 1000MHz													
Test Freq	Meter Rea	Detector	Chamber	ET10	Below	T130	Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
480.3464	40.76	PK	3	-29.4	16.5	-10.5	20.36	35.6	-15.24	100	Vert		
627.1819	35.37	PK	3.5	-29.3	18.5	-10.5	17.57	35.6	-18.03	100	Vert		
803.3311	36.71	PK	4	-28.9	21	-10.5	22.31	35.6	-13.29	100	Vert		
818.521	40.53	PK	4	-28.9	21.1	-10.5	26.23	35.6	-9.37	100	Vert		
909.3937	34.48	PK	4.2	-28.5	21.6	-10.5	21.28	35.6	-14.32	200	Vert		
960.5596	31.32	PK	4.3	-28.3	22.2	-10.5	19.02	43.5	-24.48	200	Vert		

**7.2.2. 5.3 GHz BAND**

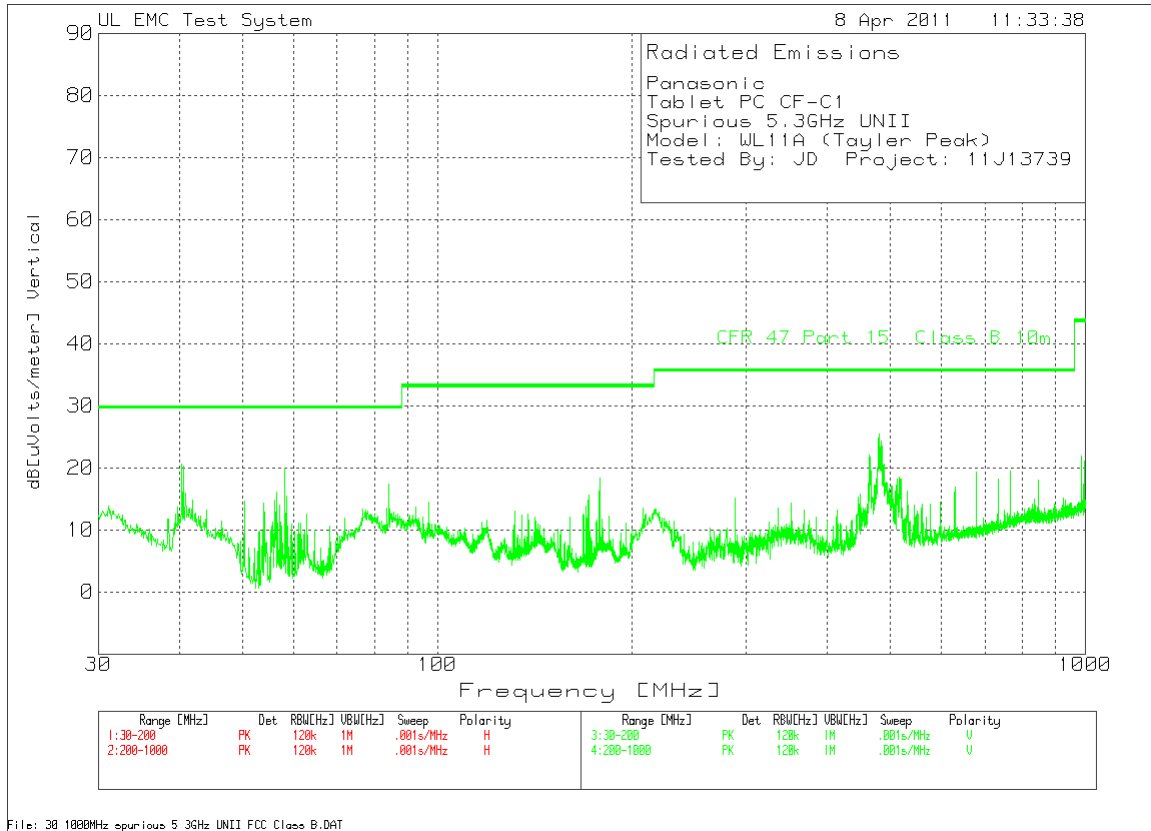


HORIZONTAL PLOT

**HORIZONTAL DATA**

Panasonic											
Tablet PC CF-C1											
Spurious 5.3GHz UNII											
Model: WL11A (Tayler Peak)											
Tested By: JD Project: 11J13739											
Horizontal 30 - 200MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P <sub>e</sub>	Margin	Height [cm	Polarit
39.7701	38.86	PK	0.9	-29.4	14.3	-10.5	14.16	29.6	-15.44	400	Horz
42.3188	42.73	PK	1	-29.4	12.7	-10.5	16.53	29.6	-13.07	400	Horz
55.4873	43.39	PK	1.1	-29.4	7.9	-10.5	12.49	29.6	-17.11	300	Horz
117.8461	42.18	PK	1.5	-29.2	13.3	-10.5	17.28	33.1	-15.82	300	Horz
142.3988	42.72	PK	1.7	-29.2	13.1	-10.5	17.82	33.1	-15.28	200	Horz
160.5797	39.7	PK	1.8	-29.1	10.8	-10.5	12.7	33.1	-20.4	300	Horz
168.056	40.34	PK	1.8	-29.1	10.3	-10.5	12.84	33.1	-20.26	200	Horz
171.1994	41.99	PK	1.8	-29	10.1	-10.5	14.39	33.1	-18.71	300	Horz
Horizontal 200 - 1000MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P <sub>e</sub>	Margin	Height [cm	Polarit
207.9947	42.34	PK	2	-28.9	12	-10.5	16.94	33.1	-16.16	200	Horz
279.6802	42.12	PK	2.3	-28.6	12.7	-10.5	18.02	35.6	-17.58	100	Horz
287.9414	44.16	PK	2.4	-28.6	12.9	-10.5	20.36	35.6	-15.24	100	Horz
295.936	40.71	PK	2.4	-28.5	13.2	-10.5	17.31	35.6	-18.29	100	Horz
303.9307	40.16	PK	2.4	-28.5	13.3	-10.5	16.86	35.6	-18.74	100	Horz
319.9201	39.37	PK	2.5	-28.6	13.6	-10.5	16.37	35.6	-19.23	100	Horz
335.9094	40.21	PK	2.5	-28.7	13.9	-10.5	17.41	35.6	-18.19	100	Horz
349.7668	40.33	PK	2.6	-28.8	14.2	-10.5	17.83	35.6	-17.77	100	Horz
367.8881	41.63	PK	2.7	-28.8	14.5	-10.5	19.53	35.6	-16.07	100	Horz
479.8135	37.78	PK	3	-29.3	16.4	-10.5	17.38	35.6	-18.22	300	Horz
715.3897	37.47	PK	3.7	-29.2	19.5	-10.5	20.97	35.6	-14.63	400	Horz
846.5023	33.95	PK	4	-28.8	21.2	-10.5	19.85	35.6	-15.75	100	Horz
965.3564	34.07	PK	4.4	-28.3	22.2	-10.5	21.87	43.5	-21.63	100	Horz

VERTICAL PLOT



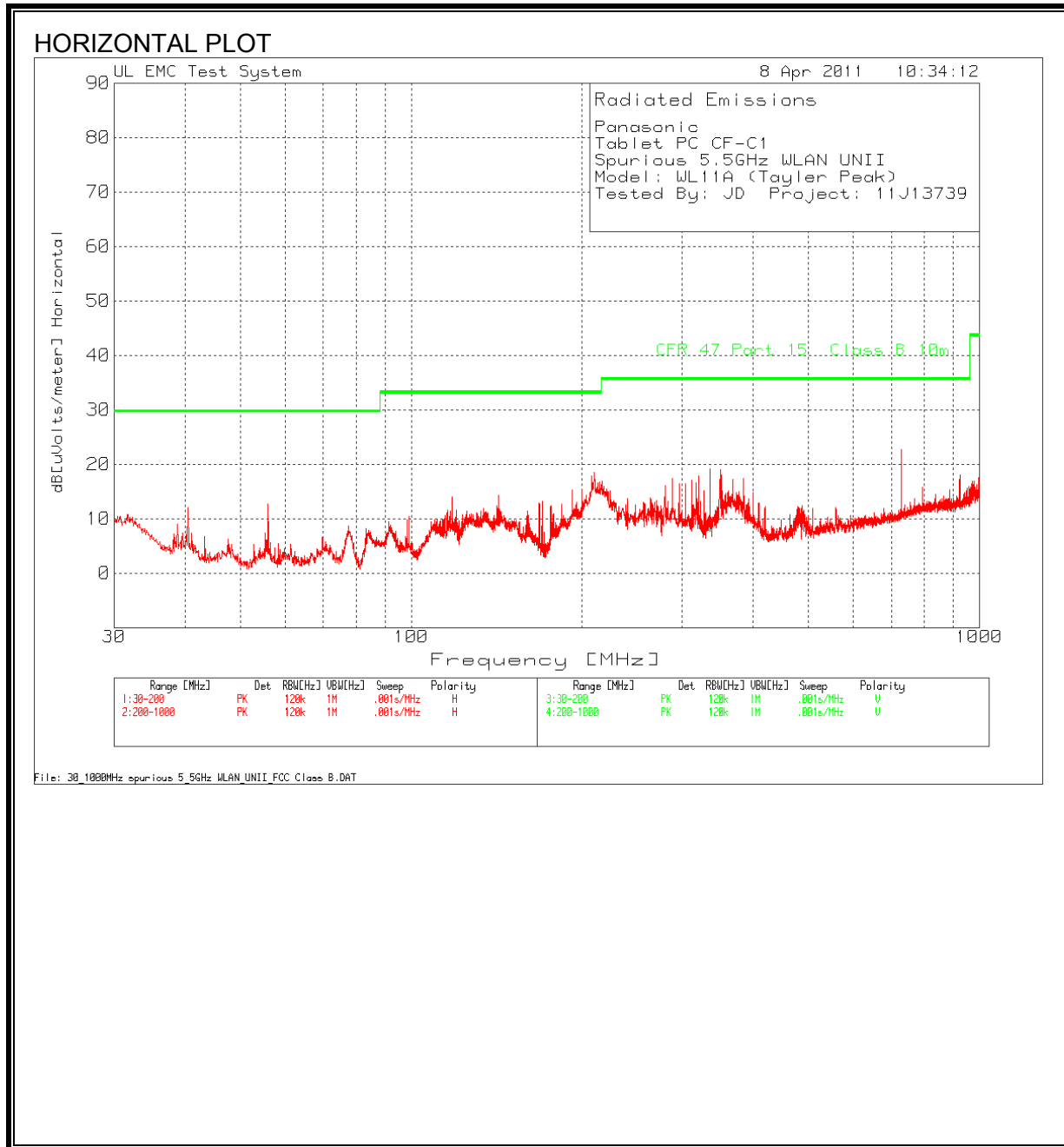
VERTICAL DATA

Panasonic		
Tablet PC CF-C1		
Spurious 5.3GHz UNII		
Model: WL11A (Tayler Peak)		
Tested By: JD Project: 11J13739		

Vertical 30 - 200MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
40.3648	45.87	PK	0.9	-29.4	13.8	-10.5	20.67	29.6	-8.93	109	Vert
50.3898	45.51	PK	1	-29.4	8	-10.5	14.61	29.6	-14.99	109	Vert
56.5067	47.05	PK	1.1	-29.4	7.9	-10.5	16.15	29.6	-13.45	109	Vert
58.2059	50.91	PK	1.1	-29.4	7.9	-10.5	20.01	29.6	-9.59	109	Vert
84.2029	48.5	PK	1.3	-29.4	7.5	-10.5	17.4	29.6	-12.2	109	Vert
169.6702	41.37	PK	1.8	-29	10.2	-10.5	13.87	33.1	-19.23	109	Vert
178.1659	45.53	PK	1.8	-29	10.5	-10.5	18.33	33.1	-14.77	109	Vert

Vertical 200 - 1000MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
463.5576	42.69	PK	3	-29.3	16.2	-10.5	22.09	35.6	-13.51	100	Vert
480.3464	45.88	PK	3	-29.4	16.5	-10.5	25.48	35.6	-10.12	100	Vert
678.6143	36.41	PK	3.7	-29.3	19	-10.5	19.31	35.6	-16.29	100	Vert
765.2232	34.59	PK	3.9	-29	20.4	-10.5	19.39	35.6	-16.21	100	Vert
986.1426	33.71	PK	4.4	-28.2	22.4	-10.5	21.81	43.5	-21.69	200	Vert

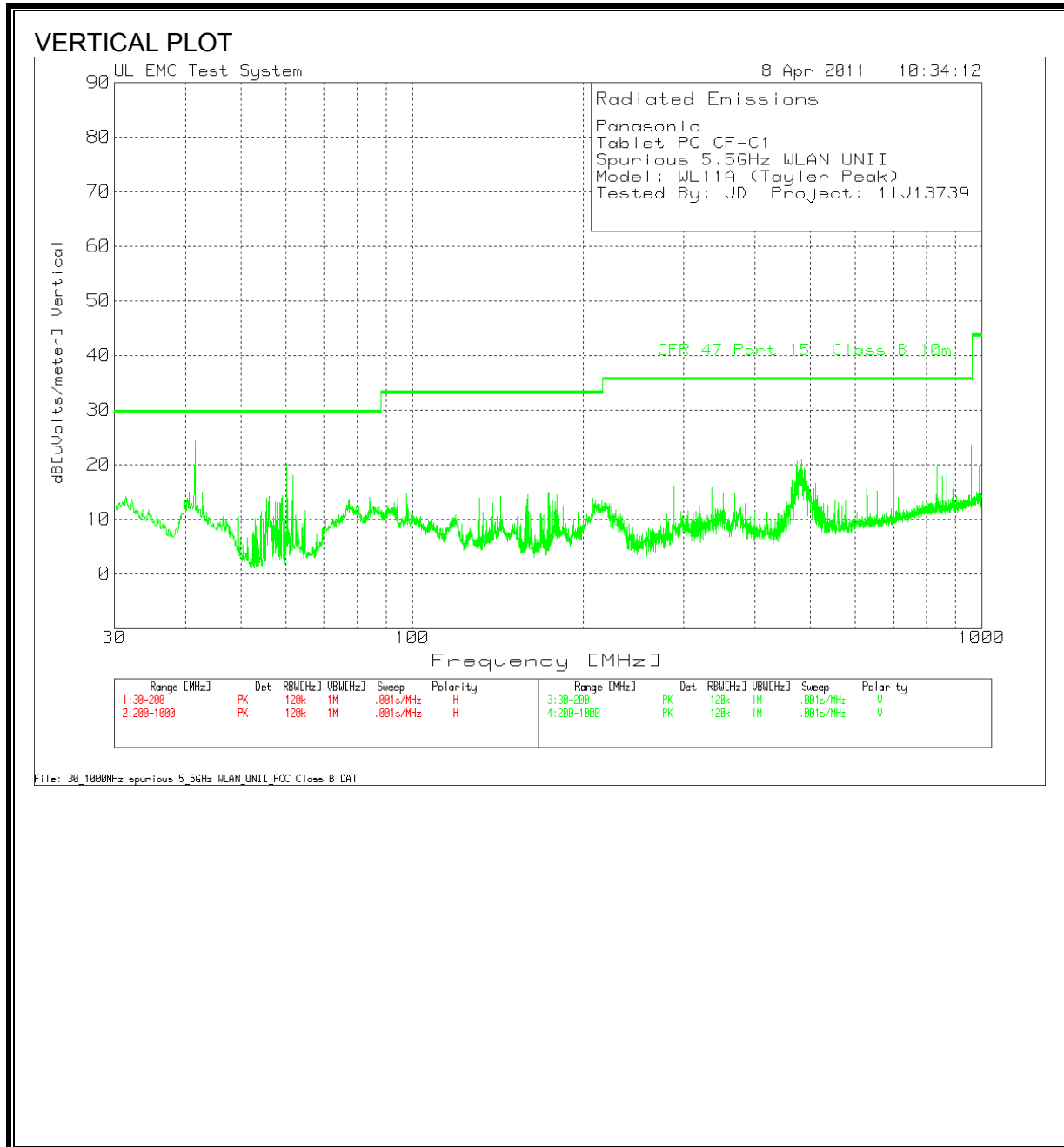
**7.2.3. 5.6 GHz BAND**



**HORIZONTAL DATA**

Panasonic											
Tablet PC CF-C1											
Spurious 5.5GHz WLAN UNII											
Model: WL11A (Tayler Peak)											
Tested By: JD Project: 11J13739											
Horizontal 30 - 200MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
55.997	43.61	PK	1.1	-29.4	7.9	-10.5	12.71	29.6	-16.89	400	Horz
99.0705	38.99	PK	1.4	-29.3	9.8	-10.5	10.39	33.1	-22.71	400	Horz
117.931	38.86	PK	1.5	-29.2	13.3	-10.5	13.96	33.1	-19.14	300	Horz
142.3138	39.26	PK	1.7	-29.2	13.1	-10.5	14.36	33.1	-18.74	300	Horz
192.014	41.39	PK	1.9	-29	11.4	-10.5	15.19	33.1	-17.91	200	Horz
Horizontal 200 - 1000MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm	Polarity
210.1266	43.9	PK	2	-28.9	12	-10.5	18.5	33.1	-14.6	200	Horz
287.9414	41.13	PK	2.4	-28.6	12.9	-10.5	17.33	35.6	-18.27	100	Horz
319.9201	40.79	PK	2.5	-28.6	13.6	-10.5	17.79	35.6	-17.81	100	Horz
335.9094	41.92	PK	2.5	-28.7	13.9	-10.5	19.12	35.6	-16.48	100	Horz
349.7668	41.46	PK	2.6	-28.8	14.2	-10.5	18.96	35.6	-16.64	100	Horz
383.8774	39.44	PK	2.7	-28.9	14.7	-10.5	17.44	35.6	-18.16	100	Horz
727.9147	38.82	PK	3.8	-29.2	19.7	-10.5	22.62	35.6	-12.98	400	Horz

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**



VERTICAL DATA

Panasonic		
Tablet PC CF-C1		
Spurious 5.5GHz WLAN UNII		
Model: WL11A (Tayler Peak)		
Tested By: JD	Project: 11J13739	

Vertical 30 - 200MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm]	Polarity
41.5542	50.2	PK	0.9	-29.4	13.1	-10.5	24.3	29.6	-5.3	109	Vert
56.082	44.97	PK	1.1	-29.4	7.9	-10.5	14.07	29.6	-15.53	109	Vert
59.1404	45.21	PK	1.1	-29.4	7.9	-10.5	14.31	29.6	-15.29	109	Vert
60.2449	50.87	PK	1.2	-29.4	7.9	-10.5	20.07	29.6	-9.53	109	Vert
61.7741	48.74	PK	1.2	-29.4	7.9	-10.5	17.94	29.6	-11.66	109	Vert
131.2694	38.37	PK	1.6	-29.2	13.6	-10.5	13.87	33.1	-19.23	109	Vert
159.8151	41.6	PK	1.7	-29.1	10.8	-10.5	14.5	33.1	-18.6	109	Vert
173.7481	42.69	PK	1.8	-29	9.9	-10.5	14.89	33.1	-18.21	109	Vert
Vertical 200 - 1000MHz											
Test Freq	Meter Rea	Detector	Chamber E	T10 Below	T130 Bilog	10m to 3m	dB[uVolts/	CFR 47 P	Margin	Height [cm]	Polarity
287.9414	39.94	PK	2.4	-28.6	12.9	-10.5	16.14	35.6	-19.46	200	Vert
474.4837	41.1	PK	3	-29.3	16.3	-10.5	20.6	35.6	-15	100	Vert
700.4664	37.4	PK	3.7	-29.3	19.2	-10.5	20.5	35.6	-15.1	100	Vert
834.2438	33.92	PK	4	-28.8	21.2	-10.5	19.82	35.6	-15.78	100	Vert
958.6942	35.87	PK	4.3	-28.3	22.1	-10.5	23.47	35.6	-12.13	100	Vert