



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

CERTIFICATION TEST REPORT

FOR

10.1 INCH TABLET WITH 802.11abgn 1X1 + BT 4.0

MODEL NUMBER: TP00043A/TP00043AFX

FCC ID: PU5-TP00043AFX
IC ID: 4182A-TP00043AFX

REPORT NUMBER: 12U14464

ISSUE DATE: 2012-08-29

Prepared for
WISTRON CORPORATION
21F, 88, SEC. 1, HSIN TAI WU RD., HSICHIH
TAIPEI HSIEN 221,
TAIWAN
R.O.C

Prepared by
UL LLC
1285 WALT WHITMAN RD
MELVILLE, NY 11747, U.S.A.
TEL: (631) 271-6200

NVLAP[®]
NVLAP LAB CODE 100255-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	8/29/12	Initial Issue	M. Antola

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	5
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	5
4.2. <i>SAMPLE CALCULATION</i>	5
4.3. <i>MEASUREMENT UNCERTAINTY</i>	5
5. EQUIPMENT UNDER TEST	6
5.1. <i>DESCRIPTION OF EUT</i>	6
5.2. <i>MAXIMUM OUTPUT POWER</i>	6
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	6
5.4. <i>SOFTWARE AND FIRMWARE</i>	6
5.5. <i>WORST-CASE CONFIGURATION AND MODE</i>	7
5.6. <i>DESCRIPTION OF TEST SETUP</i>	8
6. TEST AND MEASUREMENT EQUIPMENT	10
7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS	12
7.1.1. <i>ON TIME AND DUTY CYCLE RESULTS</i>	12
7.1.2. <i>MEASUREMENT METHOD FOR AVERAGE SPURIOUS EMISSIONS ABOVE 1 GHz</i>	12
7.1.3. <i>DUTY CYCLE PLOTS</i>	13
8. RADIATED TEST RESULTS	16
8.1. <i>LIMITS AND PROCEDURE</i>	16
8.2. <i>TRANSMITTER ABOVE 1 GHz</i>	17
8.3. <i>TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND</i>	17
8.4. <i>TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND</i>	20
8.5. <i>TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND</i>	23
8.6. <i>TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND</i>	26
8.7. <i>TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND</i>	29
8.8. <i>TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND</i>	33
8.9. <i>WORST-CASE BELOW 1 GHz</i>	37
9. SETUP PHOTOS	39

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: WISTRON CORPORATION
21F, 88, SEC. 1, HSIN TAI WU RD., HSICHIH
TAIPEI HSIEN 221, TAIWAN R.O.C

EUT DESCRIPTION: 10.1 INCH TABLET WITH 802.11abgn 1X1 + BT 4.0

MODEL: TP00043A/TP00043AFX

SERIAL NUMBER: BCM4330

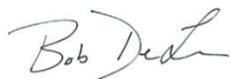
DATE TESTED: 2012-08-20 to 2012-08-28

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

UL LLC 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 LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 LLC By:



Bob DeLisi
WiSE Principal Engineer
UL LLC

Tested By:



Mike Antola
WiSE Project Lead
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, FCC KDB 789033, ANSI C63.4-2003, 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 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/1002550.htm>.

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	$\pm 3.3 \text{ dB}$
Radiated Disturbance, 30 to 1000 MHz	$\pm 4.00 \text{ dB}$

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a transceiver which utilizes 802.11abgn 1x1 + BT4.0.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5180 - 5240	802.11a	13.27	21.23
5180 - 5240	802.11n HT20	11.49	14.09
5260 - 5320	802.11a	13.32	21.48
5260 - 5320	802.11n HT20	11.65	14.62
5500 - 5700	802.11a	12.78	18.97
5500 - 5700	802.11n HT20	12.64	18.37

Note: Output power measurements are average power measurements and used to confirm the device was operating within expected tolerances (+/- 0.5dB) of the power during original tests

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of 1.88 dBi in the 2.4GHz band and 0.17 dBi in the 5GHz band.

WHAYU Industrial Co.,Ltd.

Main Antenna : 25.90AG6.001 PIFA Antenna Gain: 0.04
Aux Antenna : 25.90AG7.001 PIFA Antenna Gain: -2.23

Wistron NeWeb Corporation

Main Antenna : 25.90ADN.001 PIFA Antenna Gain: 1.88
Aux Antenna : 25.90ADP.001 PIFA Antenna Gain: 0.17

5.4. SOFTWARE AND FIRMWARE

The EUT driver software installed during testing was Broadcom version 5.93.97.48.

The test utility software used during testing was Broadcom "wl command" utility.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission was performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

Worst-case data rates as provided by the client were:

802.11a mode: 54 Mbps
802.11n HT20 mode: MCS7

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Headphone	---	---	---	---
Mouse	Dell	M-UK	---	---

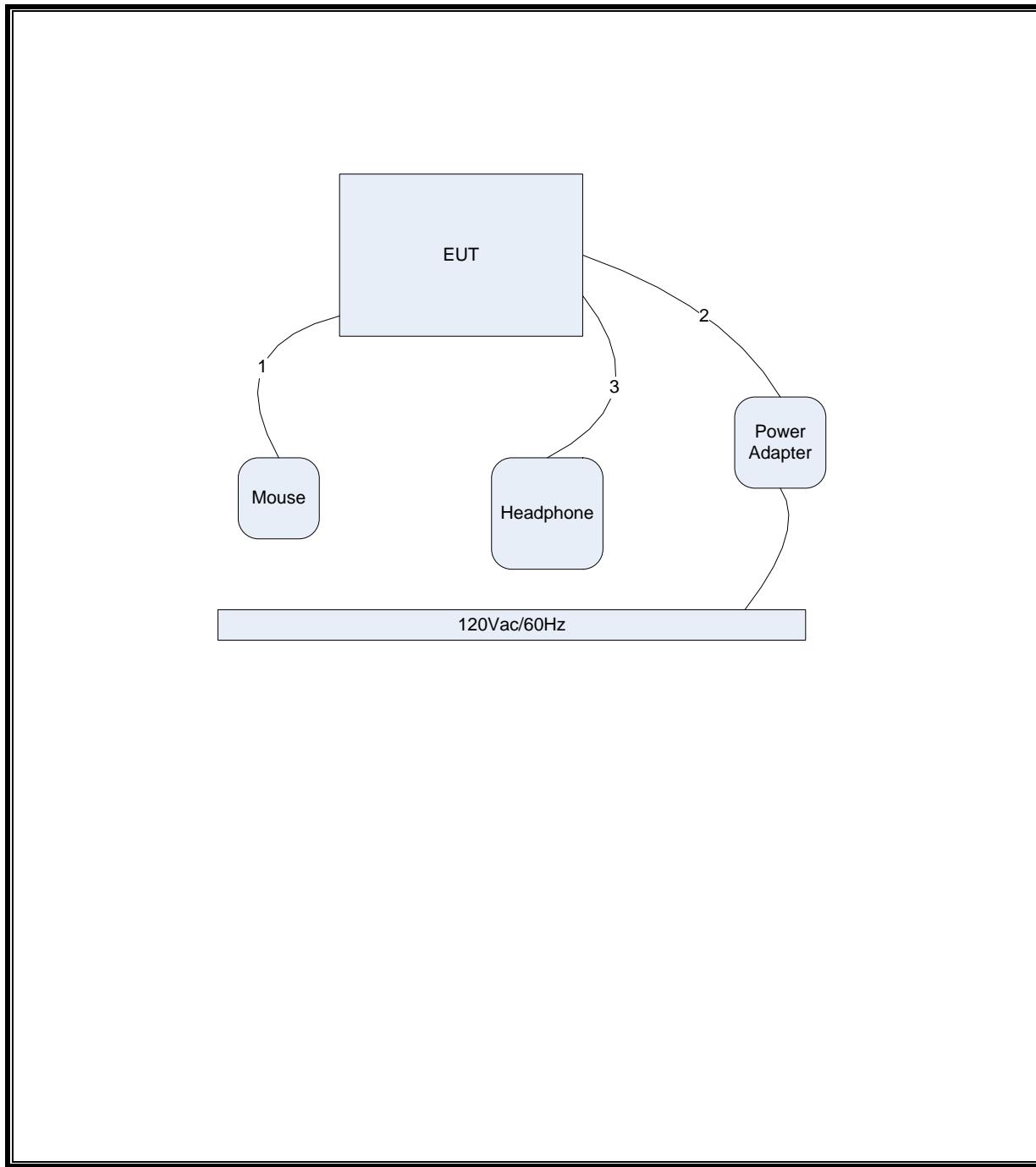
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB	USB	<3M	
2	Micro-USB	1	USB	USB	<3M	
3	Headphone	1	Phono	Phono	<3M	

TEST SETUP

The EUT is a stand-alone device. Test software exercised the radio module.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Radiated Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2012-01-30	2013-01-30
Bicon Antenna	Schaffner	VBA6106A	54	2012-04-10	2013-04-10
Log-P Antenna	Schaffner	UPA6109	44067	2012-05-16	2013-05-16
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28
Above 1GHz (Band Optimized System)					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2012-03-06	2013-03-06
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3161-03	48106	2007-09-27	See * below
Horn Antenna (8-12 GHz)	ETS	3160-07	8933	2008-11-24	See * below
Horn Antenna (12-18 GHz)	ETS	3160-08	8932	2007-09-27	See * below
Horn Antenna (18-26.5 GHz)	ETS	3160-09	8947	2007-09-26	See * below
Horn Antenna (26.5-40 GHz)	ETS	3160-10	73004	2007-09-26	See * below
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration.

* Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.

Conducted Antenna Port Tests					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E4446A	72822	2012-01-31	2013-02-28
Power Sensor	Rohde & Schwarz	NRP-Z81	73137	2011-09-27	2012-09-27
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43733	2012-03-13	2014-03-13
Multimeter	Fluke	83III	ME5B-305	2012-02-01	2013-02-28

7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

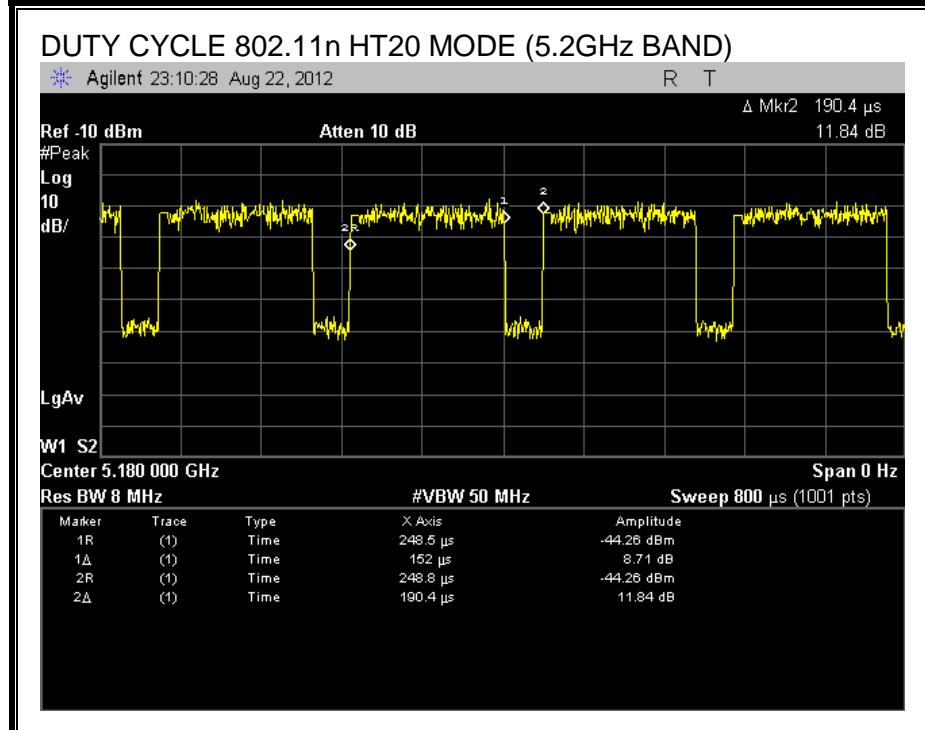
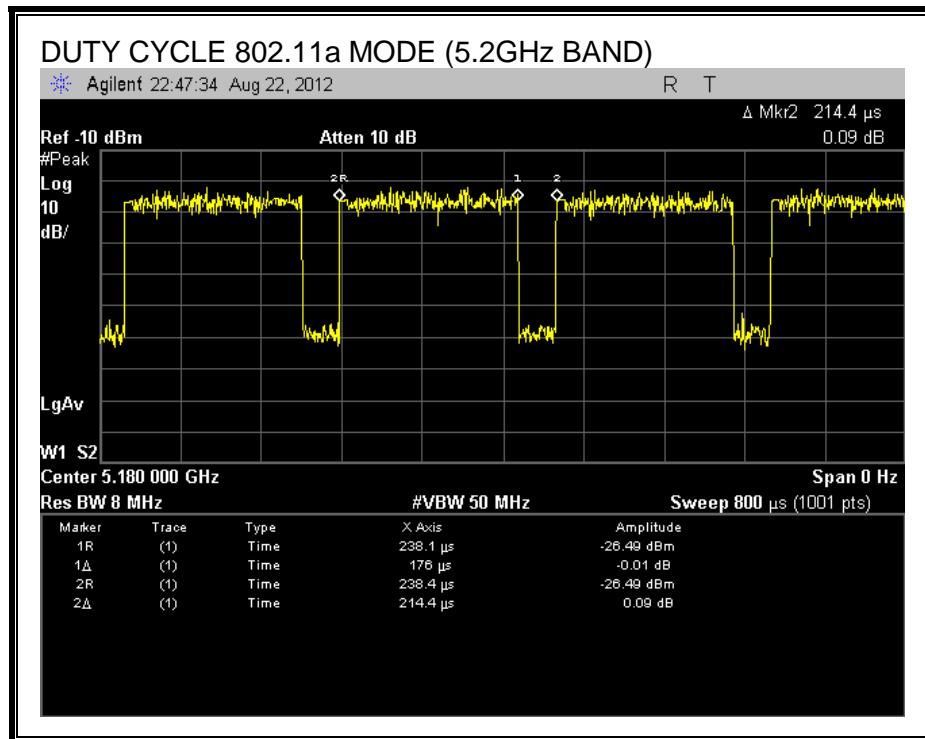
7.1.1. ON TIME AND DUTY CYCLE RESULTS

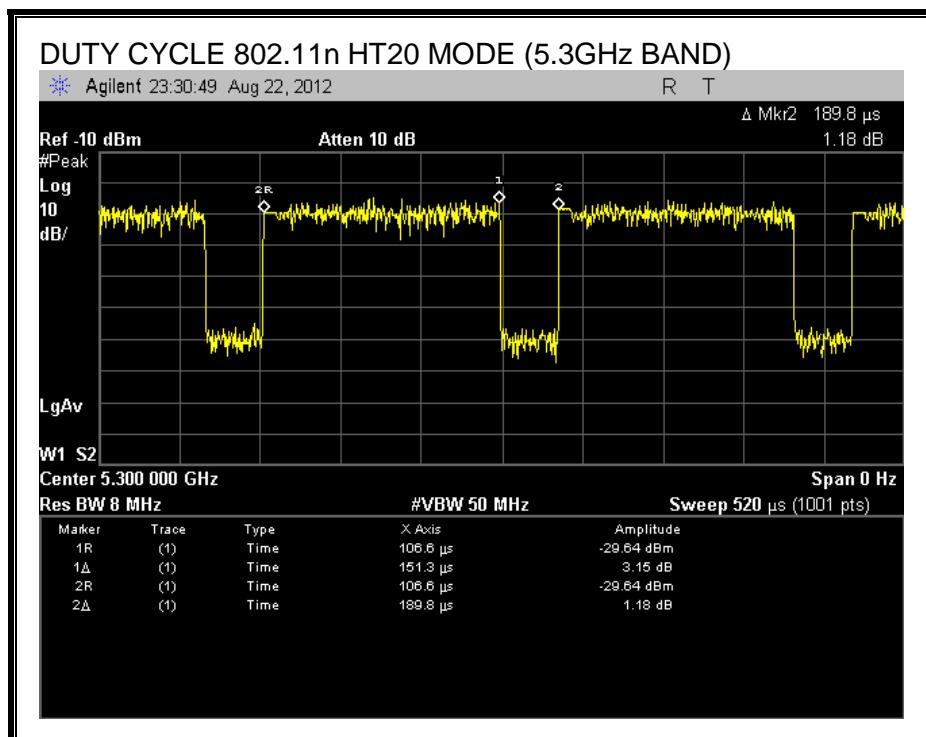
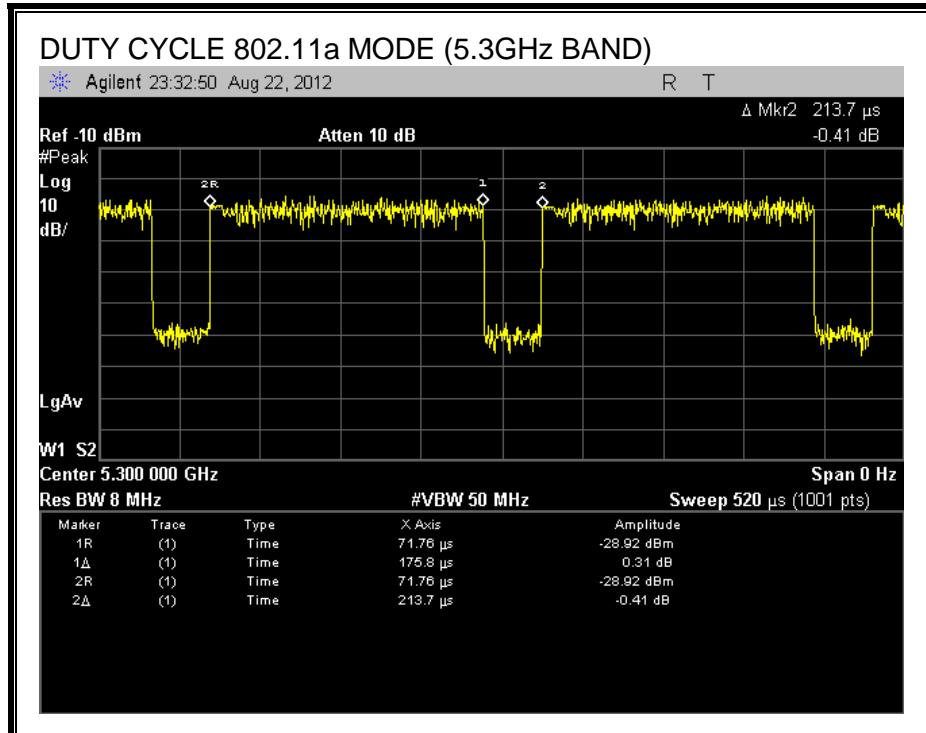
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a 20 MHz (5.2GHz Band)	0.176	0.214	0.821	82.1%	0.86	5.682
802.11n HT20 (5.2GHz Band)	0.152	0.190	0.800	80.0%	0.97	6.579
802.11a 20 MHz (5.3GHz Band)	0.176	0.214	0.822	82.2%	0.85	5.682
802.11n HT20 (5.3GHz Band)	0.151	0.190	0.795	79.5%	1.00	6.623
802.11a 20 MHz (5.5GHz Band)	0.176	0.214	0.822	82.2%	0.85	5.682
802.11n HT20 (5.5GHz Band)	0.152	0.190	0.800	80.0%	0.97	6.579

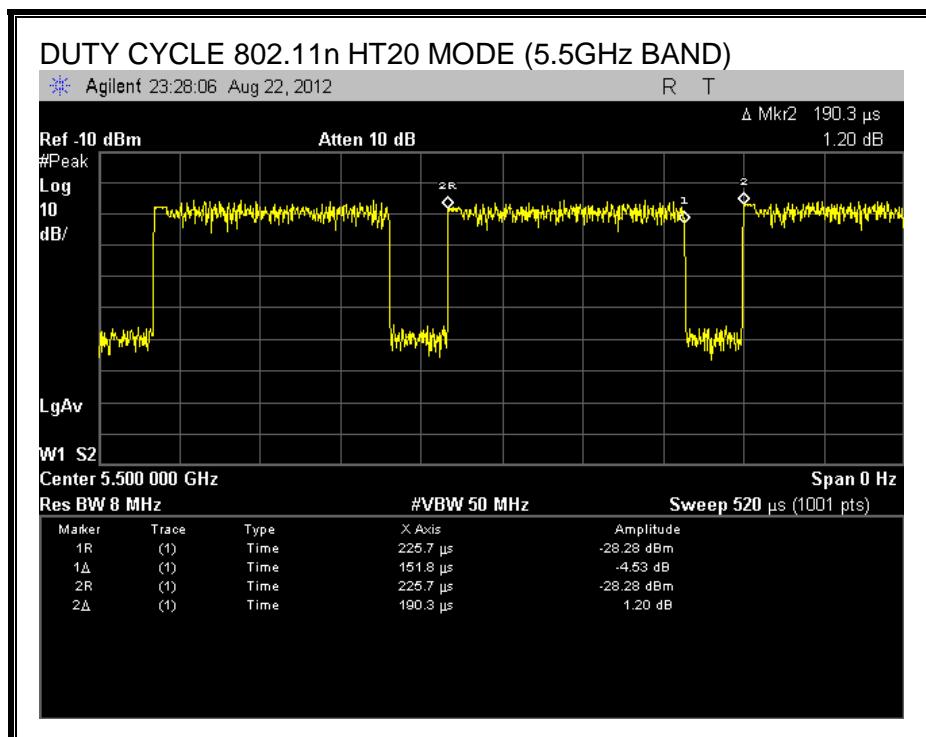
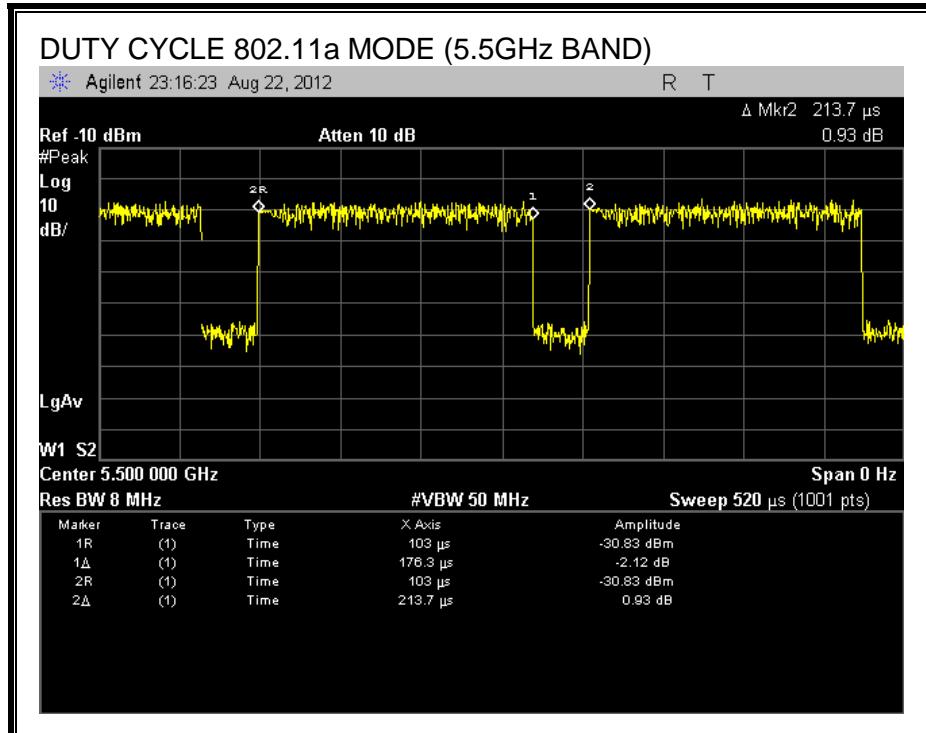
7.1.2. MEASUREMENT METHOD FOR AVERAGE SPURIOUS EMISSIONS ABOVE 1 GHz

The Duty Cycle is less than 98% and consistent, KDB 789033 Method VB with linear detector mode is used.

7.1.3. DUTY CYCLE PLOTS







8. RADIATED TEST RESULTS

8.1. 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.

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; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

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.

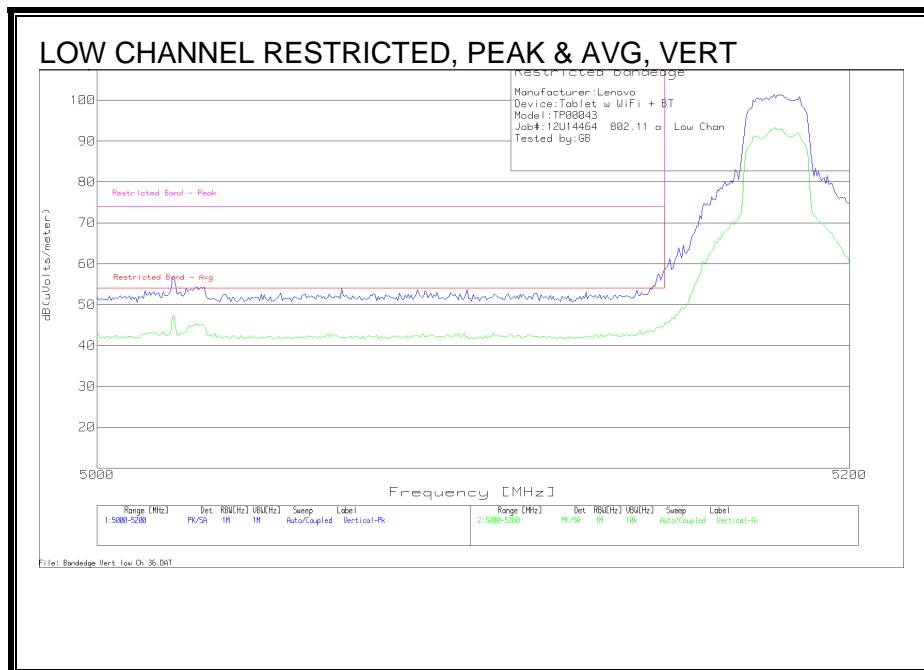
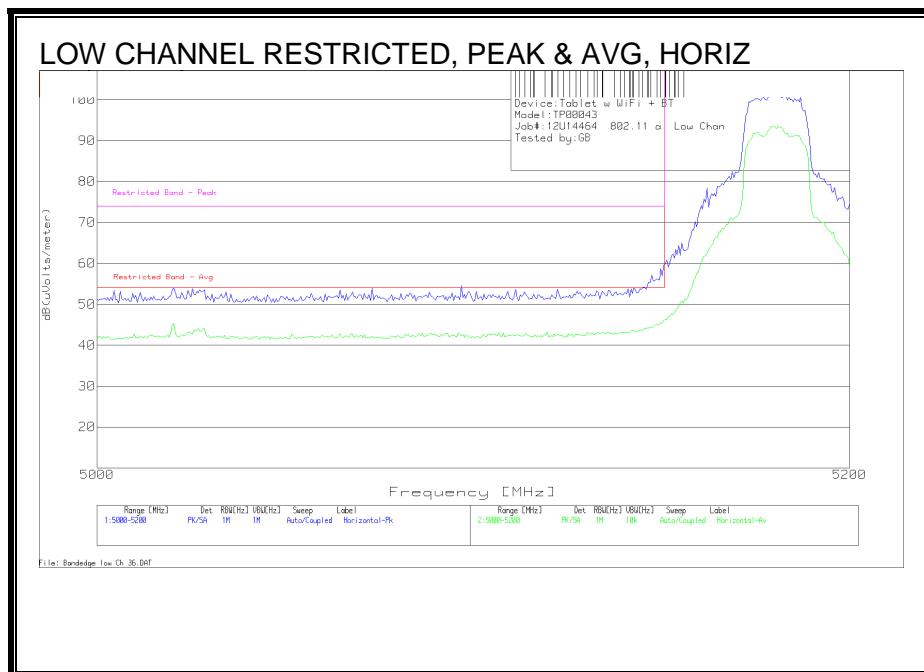
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

Note: Duty cycle correction factor was applied to all radiated measurements.

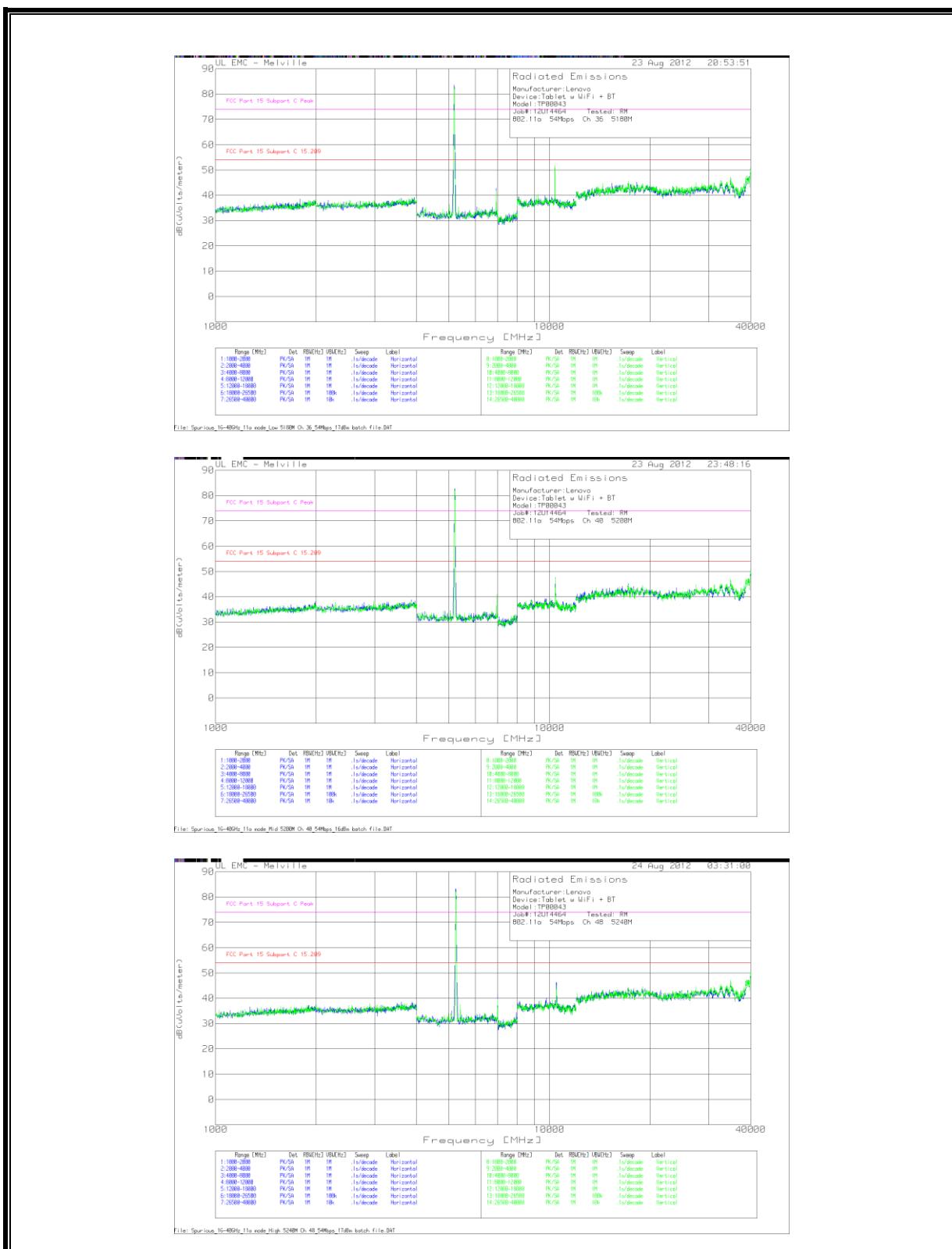
8.2. TRANSMITTER ABOVE 1 GHz

8.3. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEdge (LOW CHANNEL)



SPURIOUS EMISSIONS PLOTS

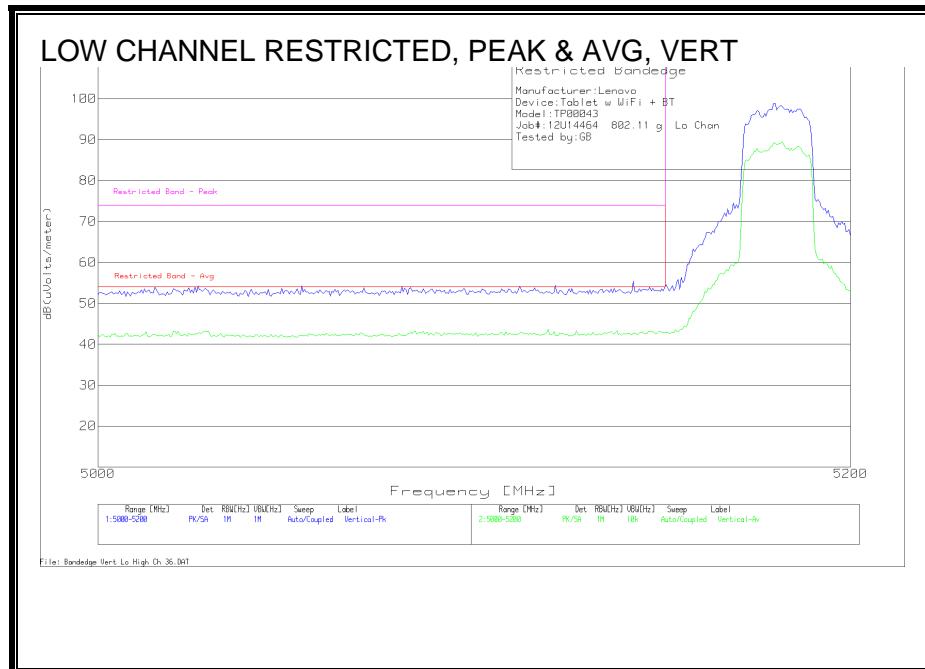
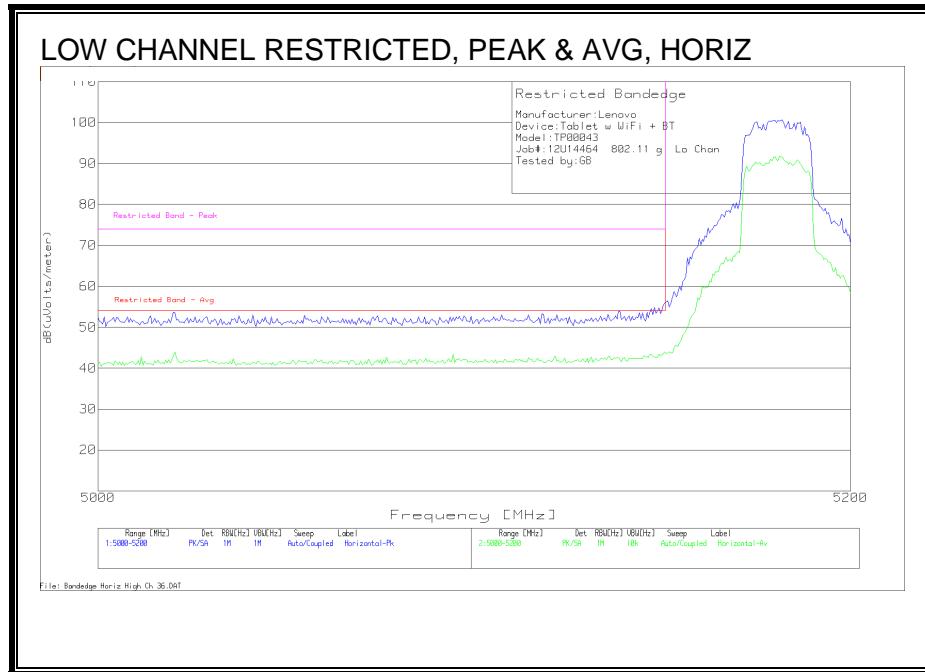


HARMONICS AND SPURIOUS EMISSIONS

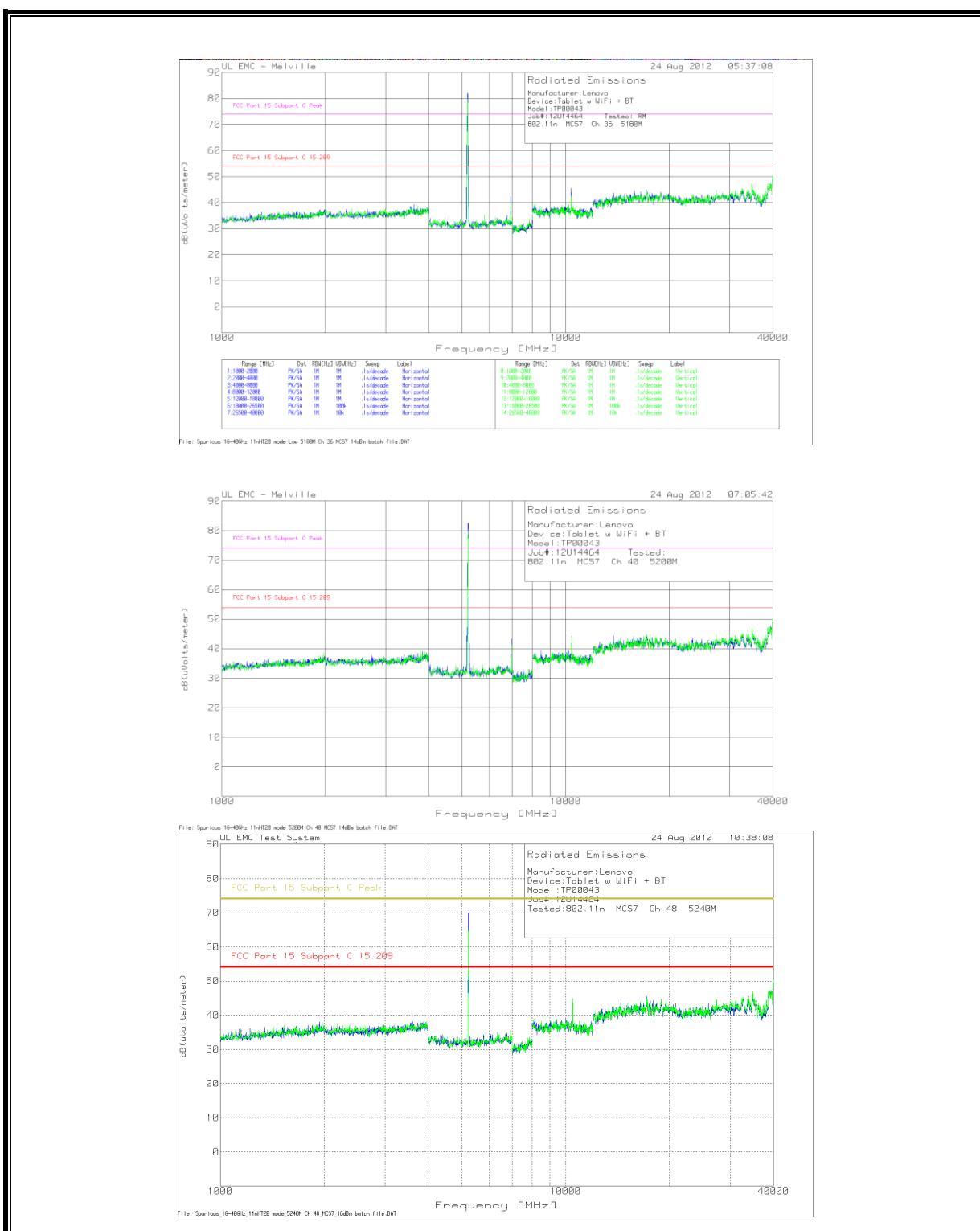
Manufacturer:Lenovo Device:Tablet w WiFi + BT Model:TP00043 Job#:12U14464 Tested: RM 802.11a 54Mbps											
Low Channel - 5180MHz											
Test Frequency	Meter Reading	Detector	AF-8932 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
15538.958	57.3	PK	37.3	-48.63	0.86	46.83	54	-7.17	74	-27.17	325
15538.958	48.1	LnAv	37.3	-48.63	0.86	37.63	54	-16.37	74	-36.37	325
15538.958	57.18	PK	37.3	-48.63	0.86	46.71	54	-7.29	74	-27.29	286
15538.958	47.68	LnAv	37.3	-48.63	0.86	37.21	54	-16.79	74	-36.79	286
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
20720.026	64.53	PK	40.8	-54.37	0.86	51.82	54	-2.18	74	-22.18	109
20720.026	54.7	LnAv	40.8	-54.37	0.86	41.99	54	-12.01	74	-32.01	109
20720.026	62.9	PK	40.8	-54.37	0.86	50.19	54	-3.81	74	-23.81	21
20720.026	53.06	LnAv	40.8	-54.37	0.86	40.35	54	-13.65	74	-33.65	21
Mid Channel - 5200MHz											
Test Frequency	Meter Reading	Detector	AF-8932 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
15601.884	58.56	PK	37.3	-49.22	0.86	47.5	54	-6.5	74	-26.5	180
15601.884	48.1	LnAv	37.3	-49.22	0.86	37.04	54	-16.96	74	-36.96	180
15601.884	58.6	PK	37.3	-49.22	0.86	47.54	54	-6.46	74	-26.46	286
15601.884	48.33	LnAv	37.3	-49.22	0.86	37.27	54	-16.73	74	-36.73	286
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
20800.02	64.14	PK	40.8	-53.95	0.86	51.85	54	-2.15	74	-22.15	48
20800.02	56.28	LnAv	40.8	-53.95	0.86	43.99	54	-10.01	74	-30.01	48
20800.02	63.06	PK	40.8	-53.95	0.86	50.77	54	-3.23	74	-23.23	253
20800.02	52.89	LnAv	40.8	-53.95	0.86	40.6	54	-13.4	74	-33.4	253
High Channel - 5240MHz											
Test Frequency	Meter Reading	Detector	AF-8932 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
15720.902	59.94	PK	37.4	-49.24	0.86	48.96	54	-5.04	74	-25.04	39
15720.902	50.19	LnAv	37.4	-49.24	0.86	39.21	54	-14.79	74	-34.79	386
15720.902	60.9	PK	37.4	-49.24	0.86	49.92	54	-4.08	74	-24.08	44
15720.902	49.9	LnAv	37.4	-49.24	0.86	38.92	54	-15.08	74	-35.08	341
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	FCC Part 15 Subpart C Peak	Azimuth Margin [Degs]	Height [cm]
20959.984	62.46	PK	40.8	-53.8	0.86	50.32	54	-3.68	74	-23.68	222
20959.984	53.75	LnAv	40.8	-53.8	0.86	41.61	54	-12.39	74	-32.39	222
20959.984	63.53	PK	40.8	-53.8	0.86	51.39	54	-2.61	74	-22.61	82
20959.984	53.25	LnAv	40.8	-53.8	0.86	41.11	54	-12.89	74	-32.89	133
PK - Peak detector											
LnAv - Linear Average detector											
Note: No other emissions were detected above the system noise floor											
A 10kHz VBW was used during Average detection measurements											

8.4. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



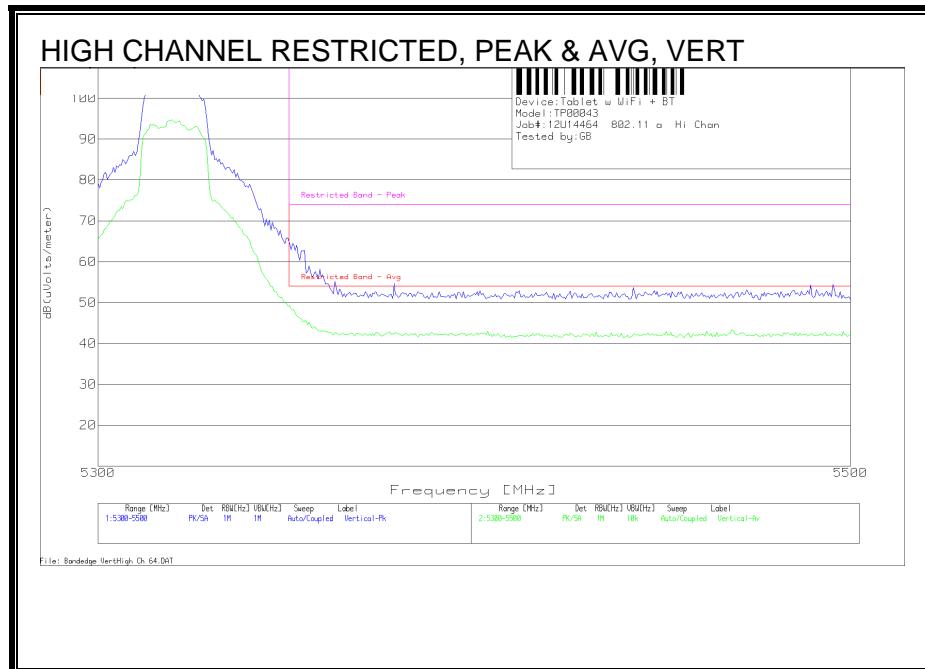
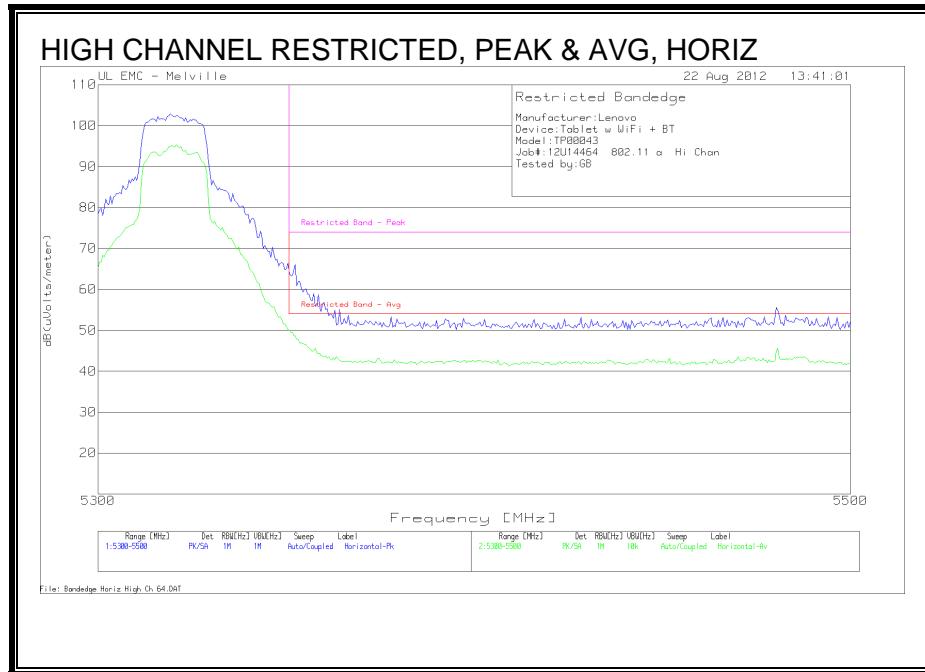
SPURIOUS EMISSIONS PLOTS



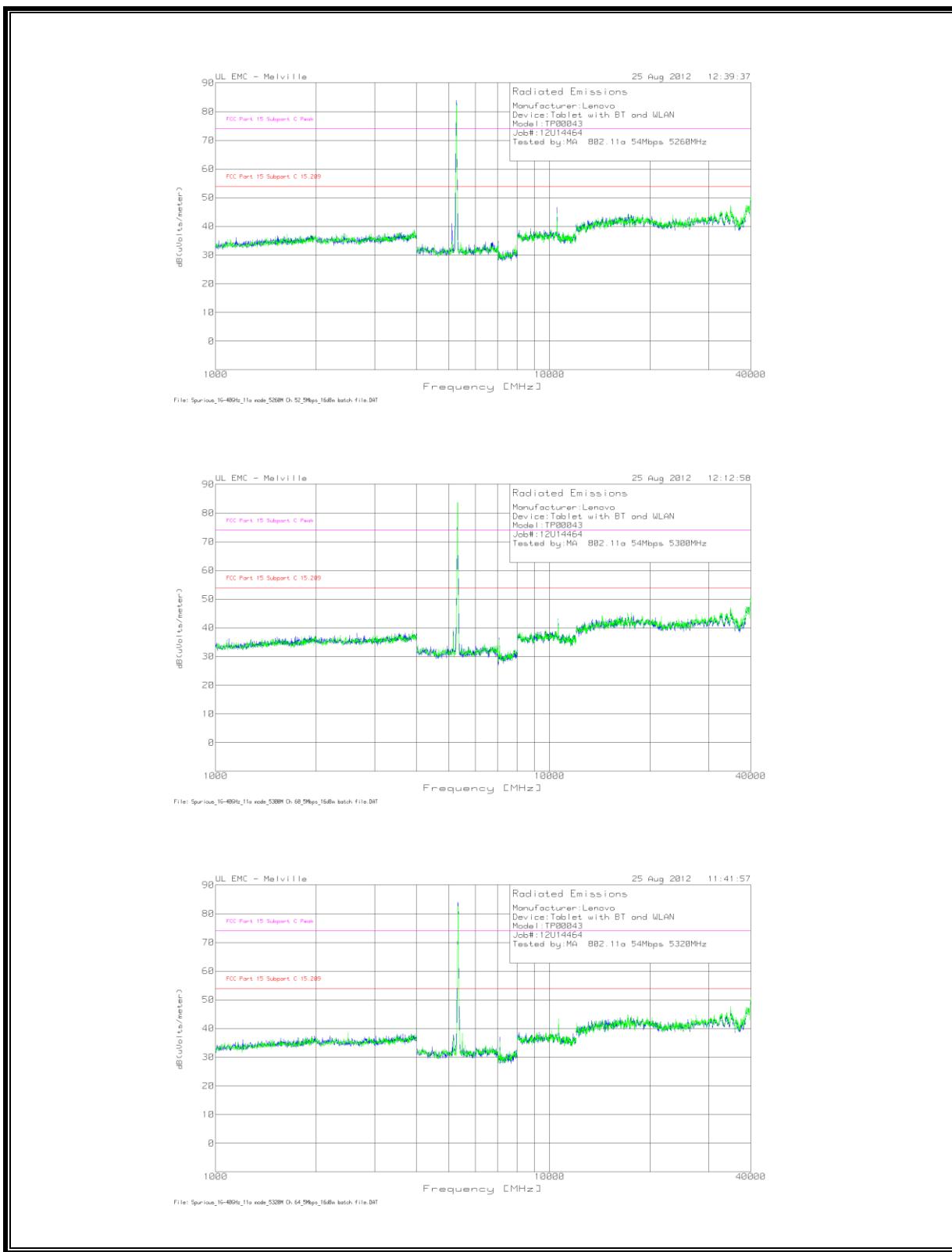
HARMONICS AND SPURIOUS EMISSIONS

8.5. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

RESTRICTED BANDEDGE (HIGH CHANNEL)



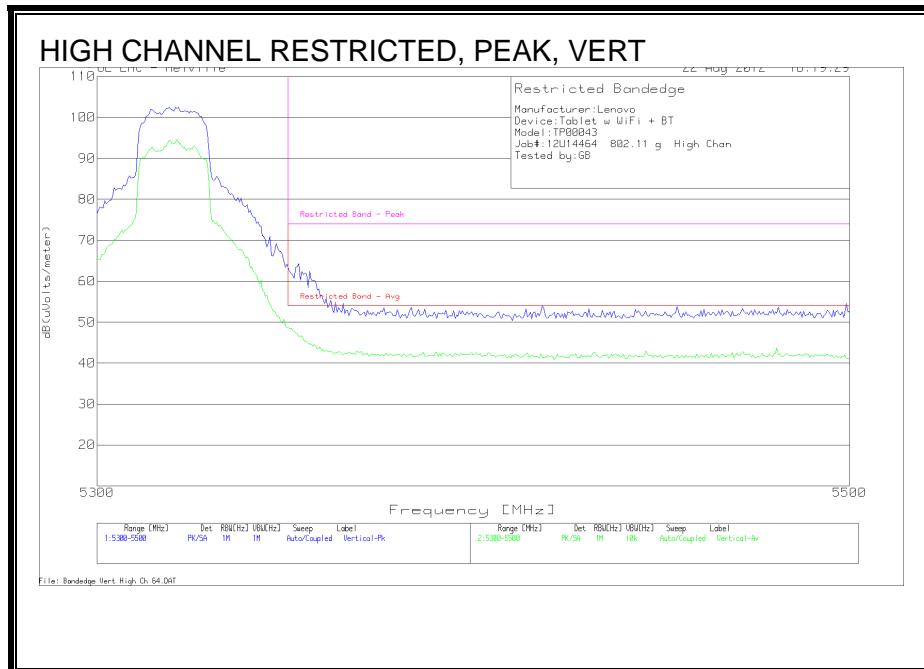
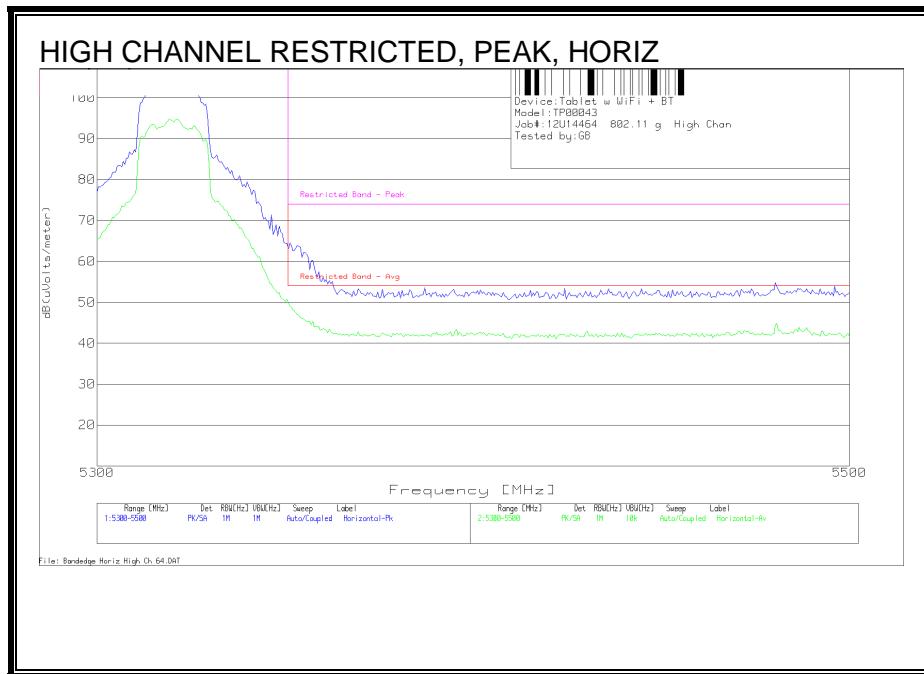
SPURIOUS EMISSIONS PLOTS



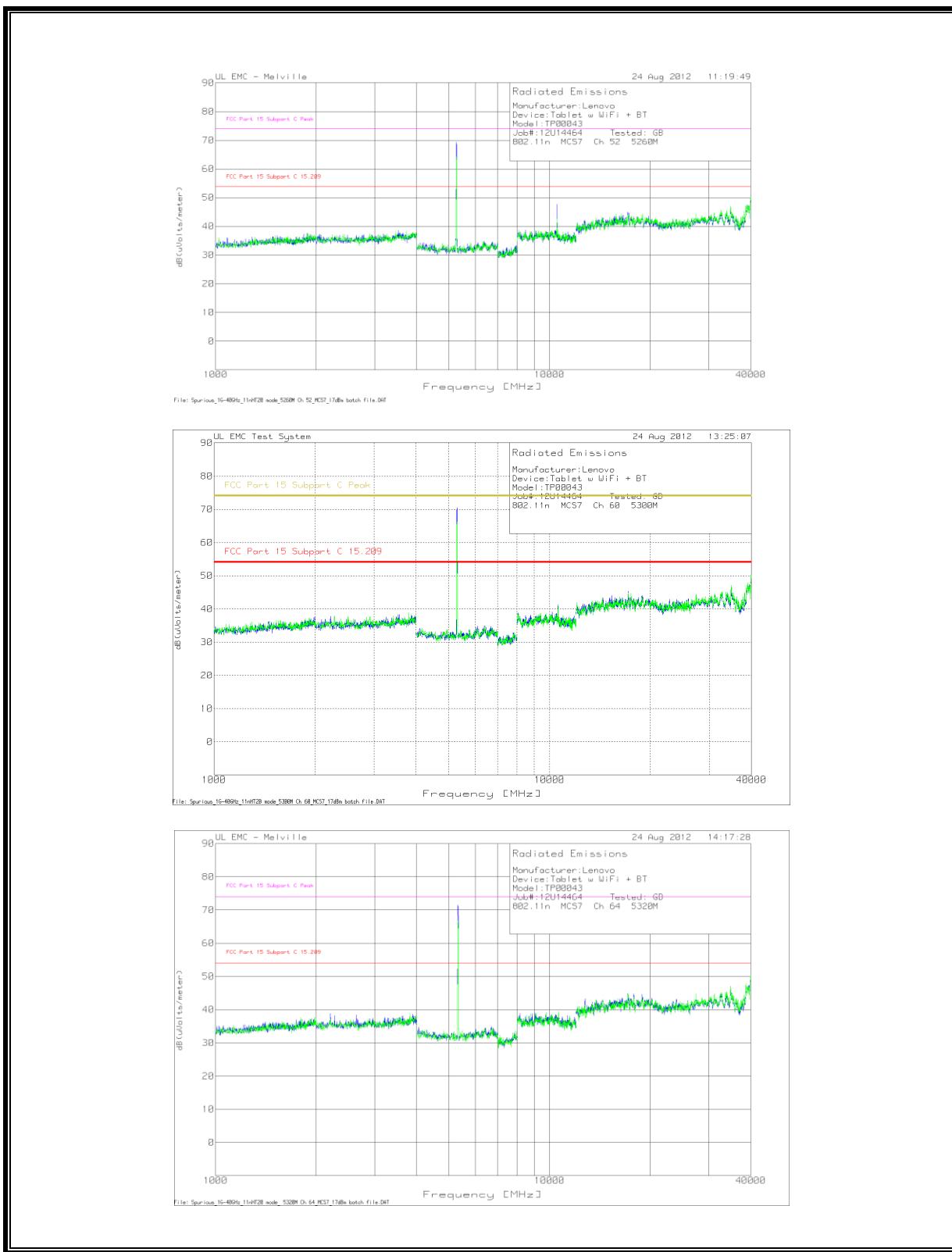
HARMONICS AND SPURIOUS EMISSIONS

8.6. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

RESTRICTED BANDEDGE (HIGH CHANNEL)



SPURIOUS EMISSIONS PLOTS

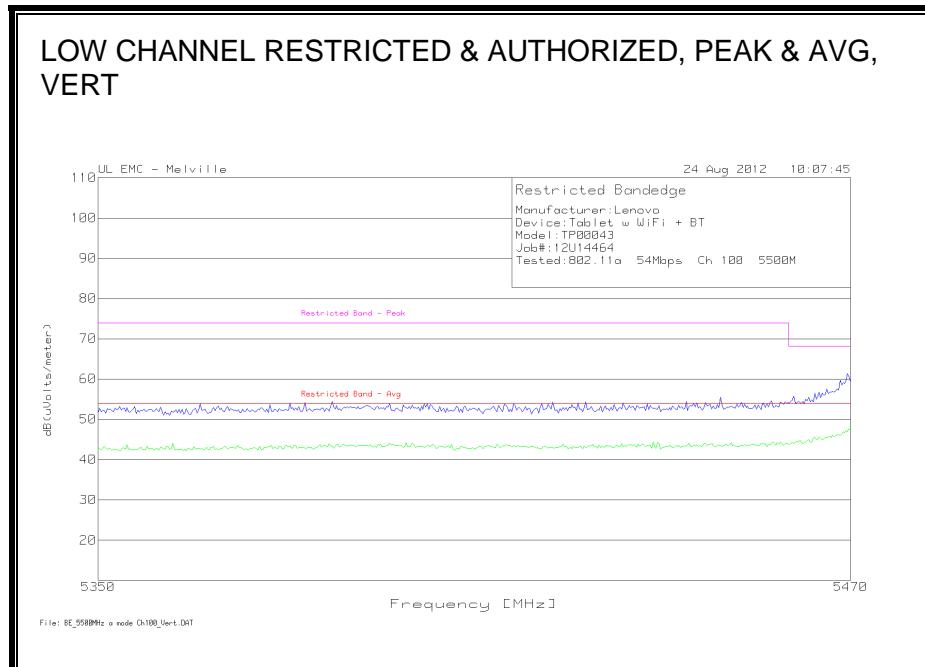
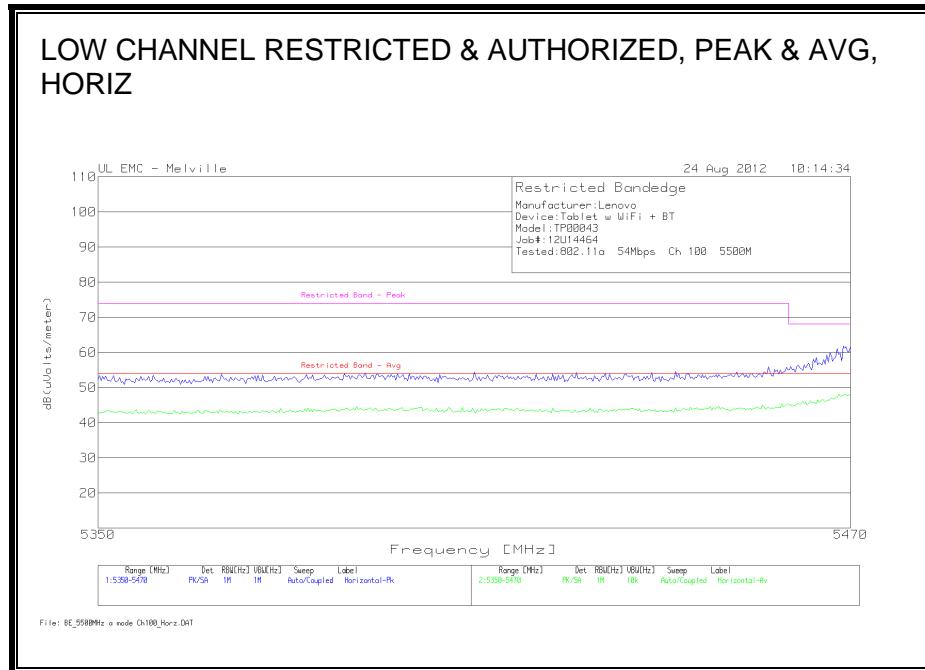


HARMONICS AND SPURIOUS EMISSIONS

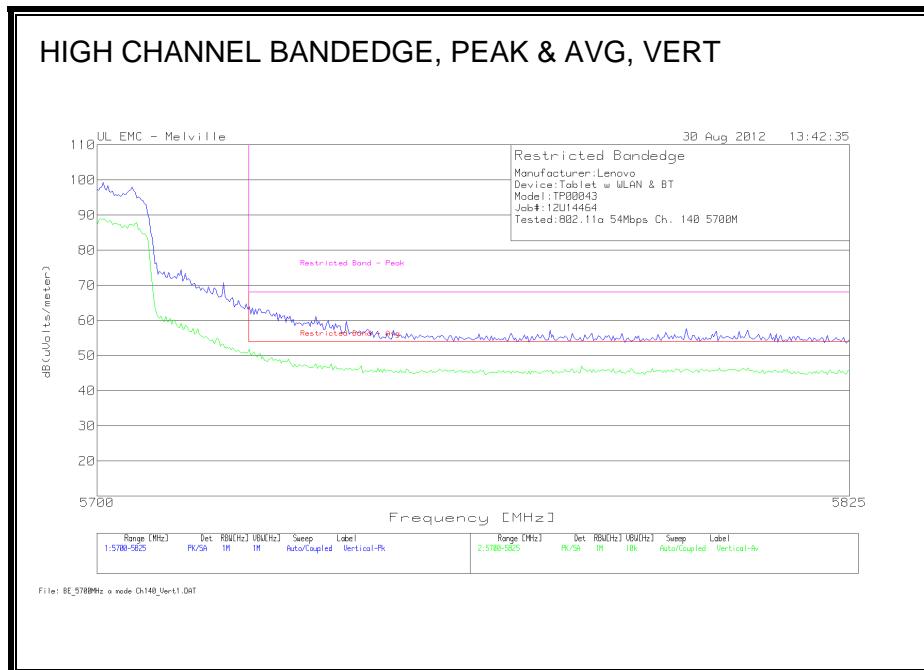
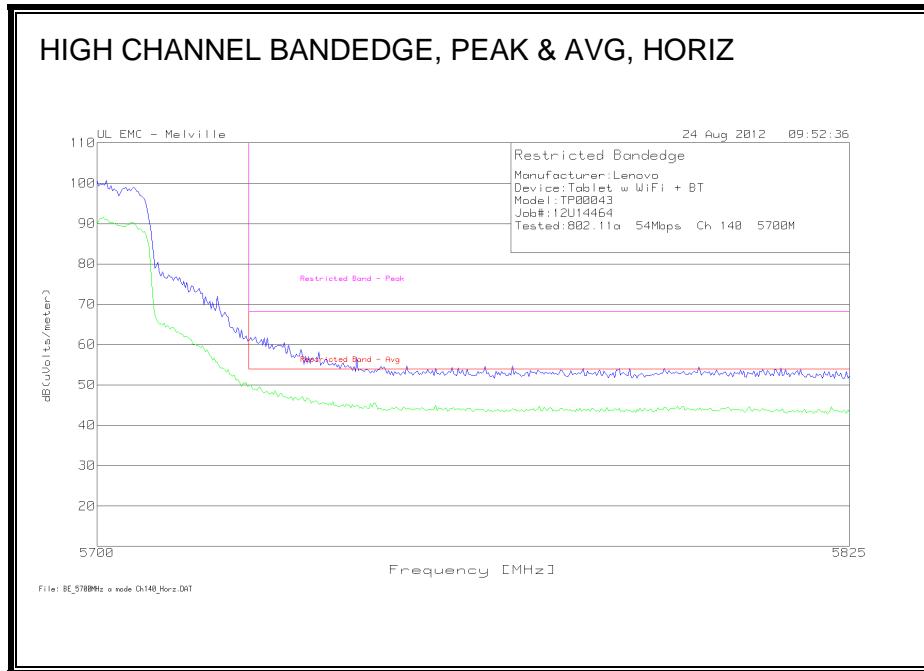
Manufacturer:Lenovo Device:Tablet w WiFi + BT Model:TP00043 Job#:12U14464 Tested: RM 802.11n MCS7											
Low Channel - 5260MHz											
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs] Height [cm] Polarity
21040	61.78	PK	40.8	-54.45	1	49.13	54	-4.87	74	-24.87	333 228 Horz
21040	51.7	LnAv	40.8	-54.45	1	39.05	54	-14.95	74	-34.95	333 228 Horz
21036.723	60.02	PK	40.8	-54.53	1	47.29	54	-6.71	74	-26.71	198 105 Vert
21035.02	51.08	LnAv	40.8	-54.55	1	38.33	54	-15.67	74	-35.67	198 105 Vert
Mid Channel - 5300MHz											
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs] Height [cm] Polarity
20959.945	60.89	PK	40.8	-54.72	1	47.97	54	-6.03	74	-26.03	239 121 Horz
20959.724	50.89	LnAv	40.8	-54.73	1	37.96	54	-16.04	74	-36.04	239 121 Horz
20960	61.35	PK	40.8	-54.72	1	48.43	54	-5.57	74	-25.57	59 280 Vert
20960	55.52	LnAv	40.8	-54.72	1	42.6	54	-11.4	74	-31.4	59 280 Vert
High Channel - 5320MHz											
Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs] Height [cm] Polarity
10640	63.72	PK	33.2	-49.47	1	48.45	54	-5.55	74	-25.55	252 225 Horz
10640	53.77	LnAv	33.2	-49.47	1	38.5	54	-15.5	74	-35.5	252 225 Horz
10640	54.23	LnAv	33.2	-49.47	1	38.96	54	-15.04	74	-35.04	187 368 Vert
10640	64.81	PK	33.2	-49.47	1	49.54	54	-4.46	74	-24.46	187 368 Vert
Test Frequency	Meter Reading	Detector	AF-8947 [dB]	BOMS [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs] Height [cm] Polarity
21261.613	57.76	PK	40.7	-53.53	1	45.93	54	-8.07	74	-28.07	109 299 Horz
21284.359	48.74	LnAv	40.7	-53.4	1	37.04	54	-16.96	74	-36.96	109 299 Horz
21259.509	58.02	PK	40.7	-53.54	1	46.18	54	-7.82	74	-27.82	269 354 Vert
21255.401	49.15	LnAv	40.7	-53.56	1	37.29	54	-16.71	74	-36.71	269 354 Vert
PK - Peak detector LnAv - Linear Average detector											
Note: No other emissions were detected above the system noise floor A 10kHz VBW was used during Average detection measurements											

8.7. TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND

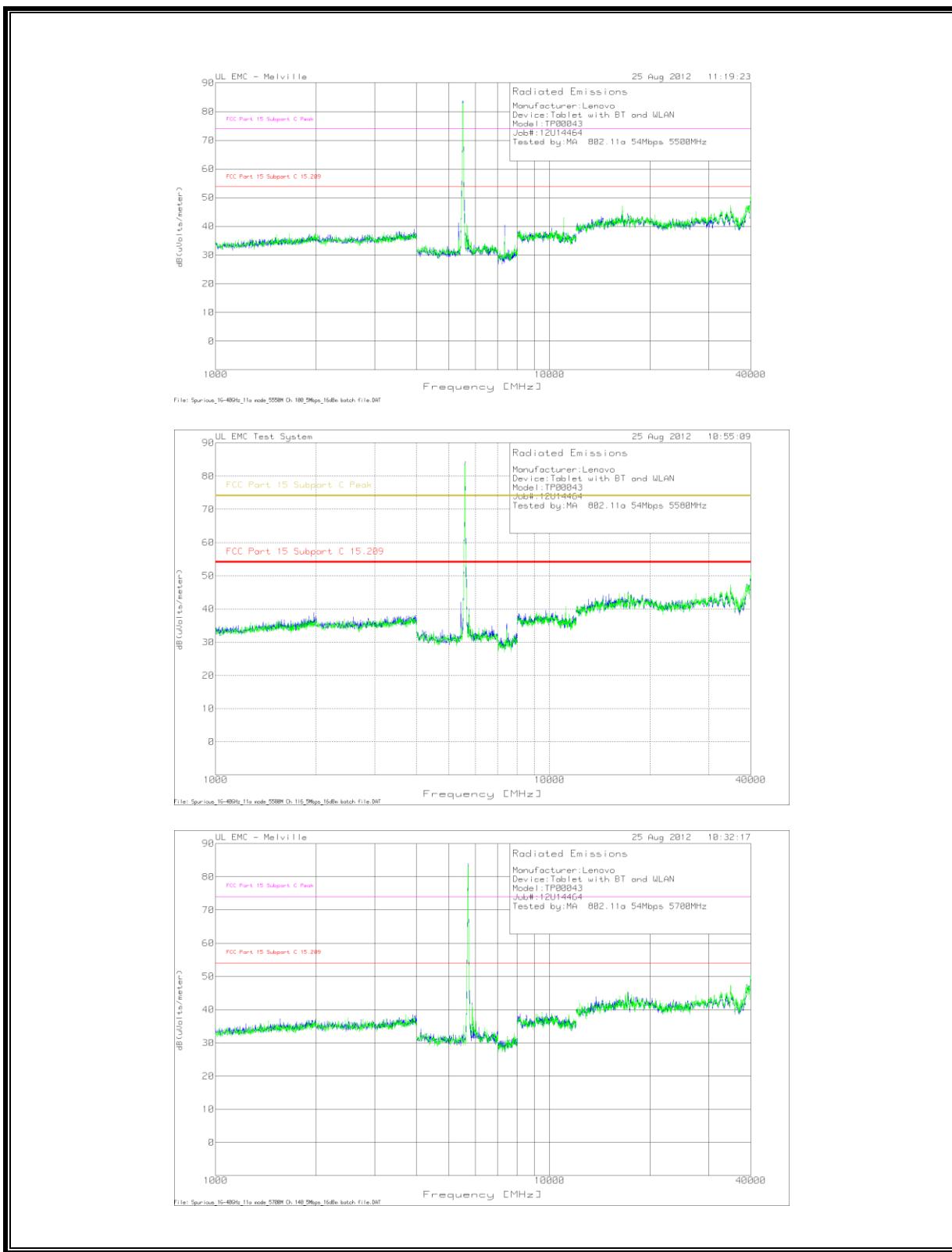
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)



AUTHORIZED BANDEDGE (HIGH CHANNEL)



SPURIOUS EMISSIONS PLOTS

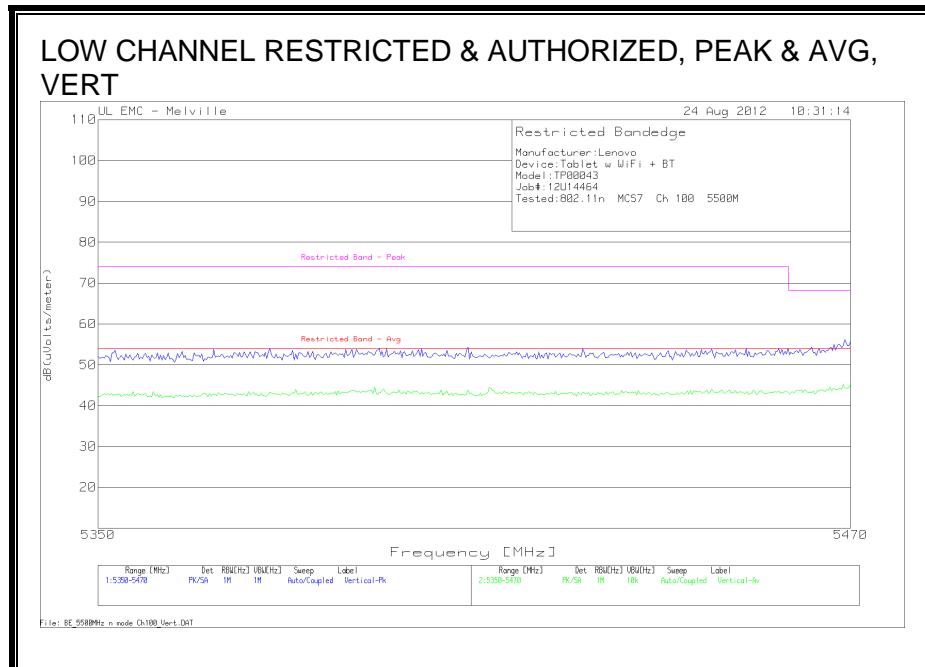
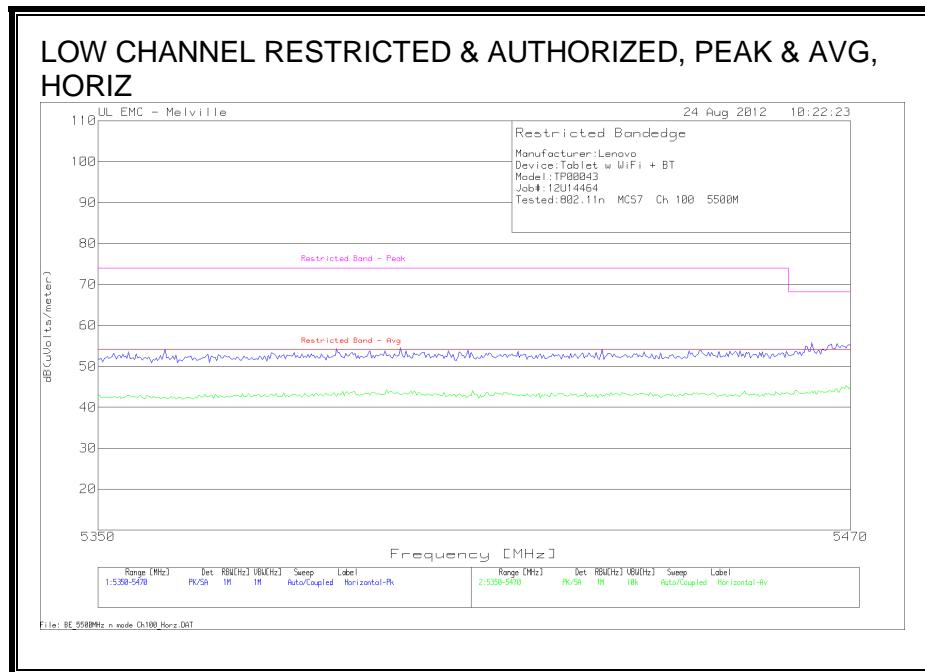


HARMONICS AND SPURIOUS EMISSIONS

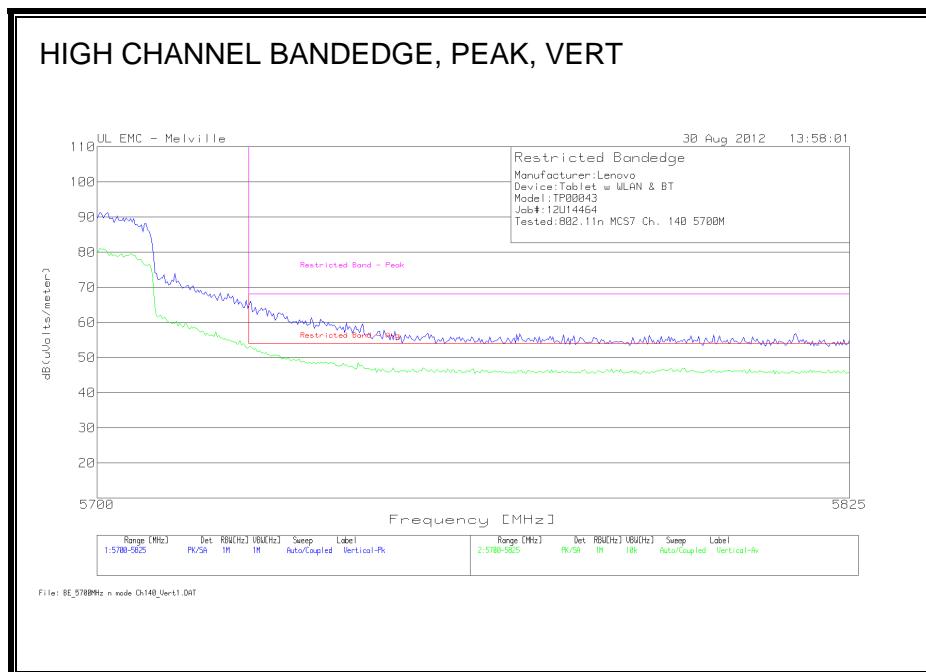
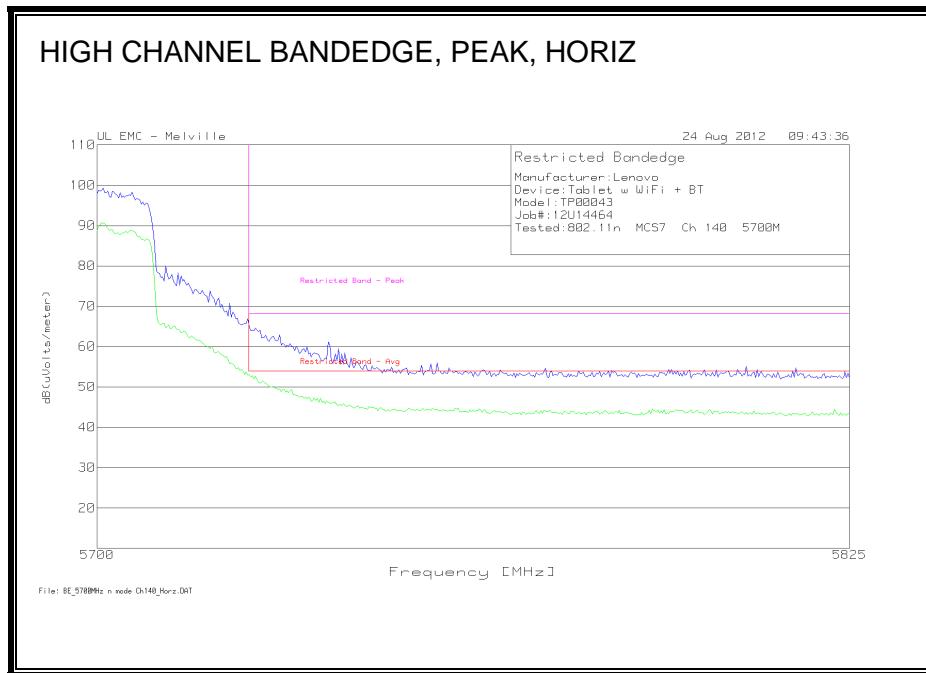
Manufacturer:Lenovo Device:Tablet w WiFi + BT Model:TP00043 Job#:12U14464 Tested: RM 802.11a 54Mbps												
Low Channel - 5500MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	Peak	Azimuth [Degs]	Height [cm]	Polarity
11002.365	63.37	PK	33.4	-49.72	0.86	47.91	54	-6.09	74	-26.09	278	306 Horz
11002.365	53.16	LnAv	33.4	-49.72	0.86	37.7	54	-16.3	74	-36.3	278	306 Horz
10992.826	64.48	PK	33.4	-49.67	0.86	49.07	54	-4.93	74	-24.93	208	307 Vert
10992.826	53.19	LnAv	33.4	-49.67	0.86	37.78	54	-16.22	74	-36.22	208	307 Vert
Mid Channel - 5580MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	Peak	Azimuth [Degs]	Height [cm]	Polarity
11158.763	48.68	LnAv	33.2	-49.46	0.86	33.28	54	-20.72	74	-40.72	293	229 Horz
11158.412	58.49	PK	33.2	-49.48	0.86	43.07	54	-10.93	74	-30.93	293	229 Horz
11158.312	60.44	PK	33.2	-49.49	0.86	45.01	54	-8.99	74	-28.99	71	263 Vert
11158.672	51.12	LnAv	33.2	-49.47	0.86	35.71	54	-18.29	74	-38.29	71	263 Vert
High Channel - 5700MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB]	BOMS Factor [dB]	DCF [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	FCC Part 15 Subpart C Margin	Peak	Azimuth [Degs]	Height [cm]	Polarity
11401.723	62.95	PK	33.3	-49.77	0.86	47.34	54	-6.66	74	-26.66	302	339 Horz
11401.723	52.59	LnAv	33.3	-49.77	0.86	36.98	54	-17.02	74	-37.02	302	339 Horz
11401.082	58.42	PK	33.3	-49.71	0.86	42.87	54	-11.13	74	-31.13	197	394 Vert
11401.082	51.22	LnAv	33.3	-49.71	0.86	35.67	54	-18.33	74	-38.33	197	394 Vert
PK - Peak detector												
LnAv - Linear Average detector												
Note: No other emissions were detected above the system noise floor A 10kHz VBW was used during Average detection measurements												

8.8. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND

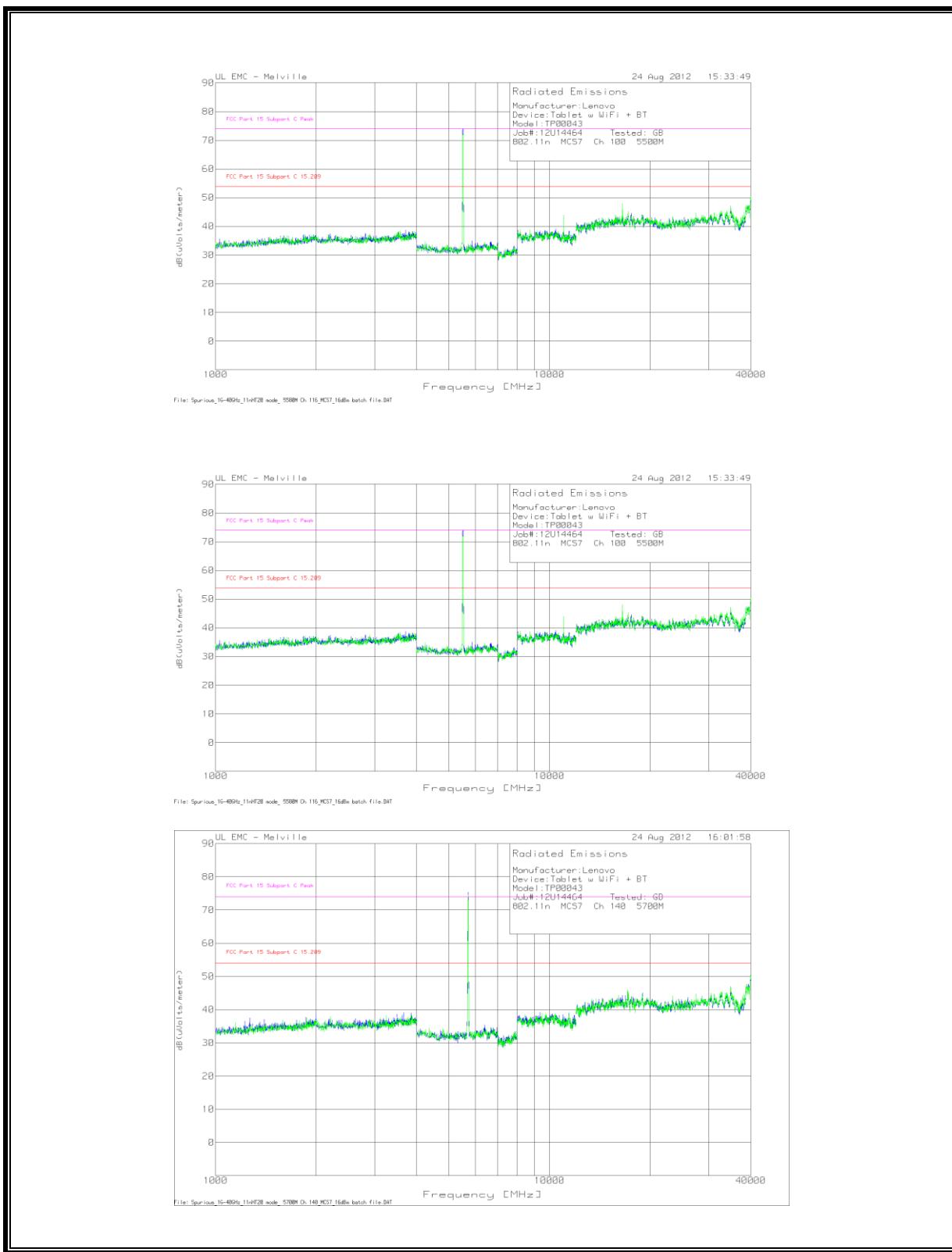
RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)



AUTHORIZED BANDEDGE (HIGH CHANNEL)



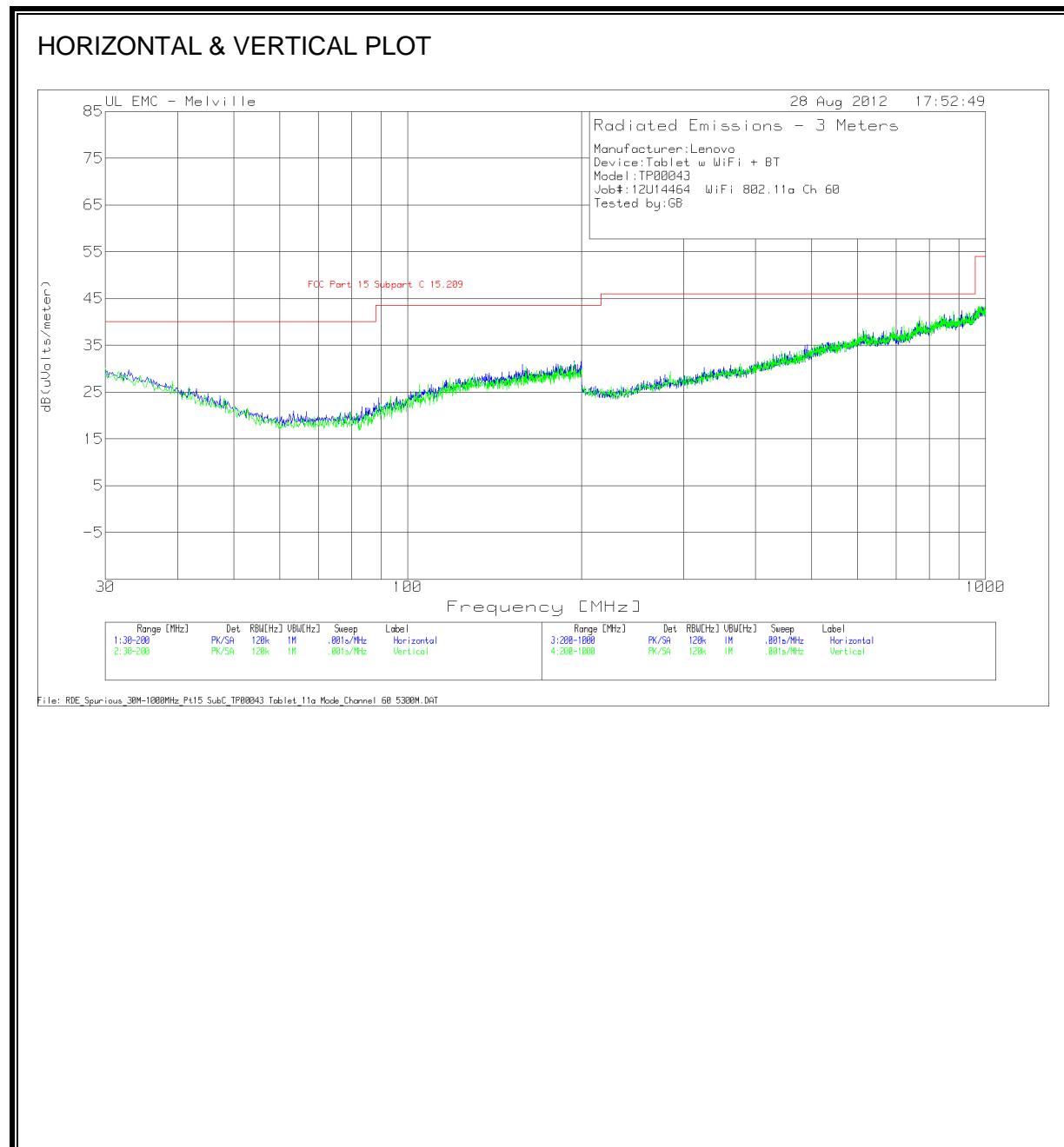
SPURIOUS EMISSIONS PLOTS



HARMONICS AND SPURIOUS EMISSIONS

8.9. WORST-CASE BELOW 1 GHz

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



HORIZONTAL & VERTICAL DATA