FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

Tablet with Bluetooth, DTS/UNII a/b/g/n/ac & ANT+

MODEL NUMBER: SM-T800

FCC ID: A3LSMT800

REPORT NUMBER: 14U16969-4, Revision A

ISSUE DATE: March 11, 2014

Prepared for

SAMSUNG ELECTRONICS CO., LTD.
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA

Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	02/28/14	Initial Issue	P. Kim
A	3/11/14	Updated channel table of 5.5 GHz band	P. Kim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD. 416, MAETAN 3-DONG, YEONGTONG-GU SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA
EUT DESCRIPTION:	Tablet + Bluetooth, DTS/UNII a/b/g/n/ac & ANT+
MODEL:	SM-T800
SERIAL NUMBER:	R32F108LLQD (CONDUCTED); R32F108LL6H (RADIATED)
DATE TESTED:	February 17-28, 2014

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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.

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UL Verification Services Inc.

Tested By:

STEVEN TRAN
WiSE LAB TECHNICIAN
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.4-2009.

3. FACILITIES AND ACCREDITATION

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

UL Verification Services Inc. 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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

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 18000 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 a Tablet + Bluetooth, DTS/UNII a/b/g/n/ac & ANT+.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180-5240	802.11a	13.17	20.75
5180-5240	802.11n HT20	13.18	20.80
5190-5230	802.11n HT40	13.69	23.39
5210	802.11ac HT80	13.06	20.23
5260-5320	802.11a	13.38	21.78
5260-5320	802.11n HT20	13.35	21.63
5270-5310	802.11n HT40	13.6	22.91
5290	802.11ac HT80	13.21	20.94
5500-5700	802.11a	13.1	20.42
5500-5700	802.11n HT20	12.99	19.91
5510-5670	802.11n HT40	13.54	22.59
5530	802.11ac HT80	13.68	23.33

The transmitter has average conducted output power as follows:

Band (GHz)	Mode	Mode	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)	
						Wi-Fi 1	Wi-Fi 2
5.2 (UNII)	1 Tx	802.11a	6 Mbps	36	5180	9.9	
				40	5200	9.9	
				44	5220	10.0	
				48	5240	10.0	
				36	5180		9.9
				40	5200		9.9
				44	5220		10.0
				48	5240		10.0
	2 Tx			36	5180	9.9	9.9
				40	5200	9.9	9.9
				44	5220	10.0	10.0
				48	5240	10.0	10.0
	1 Tx	802.11n (HT20)	MCS0	36	5180	9.8	
				40	5200	9.8	
				48	5240	9.9	
				36	5180		9.9
				40	5200		9.8
				48	5240		9.9
	2 Tx			36	5180	9.9	10.0
				40	5200	9.9	9.9
				48	5240	9.9	10.0
	1 Tx	802.11n (HT40)	MCS0	38	5190	9.8	
				46	5230	9.8	
				38	5190		9.8
				46	5230		9.8
	2 Tx			38	5190	10.0	10.0
				46	5230	9.9	10.0
	1 Tx	802.11ac (20 MHz)	MCS0	36	5180	9.7	
				40	5200	9.7	
				48	5240	9.8	
				36	5180		9.8
				40	5200		9.9
				48	5240		10.0
	2 Tx			36	5180	9.9	10.0
				40	5200	9.8	9.9
				48	5240	9.8	10.0
	1 Tx	802.11ac (40 MHz)	MCS0	38	5190	9.8	
				46	5230	9.8	

				38	5190		10.0
				46	5230		10.0
	2 Tx			38	5190	10.0	10.0
				46	5230	9.9	10.0
	1 Tx	802.11ac (80 MHz)	MCSO	42	5210	9.4	
				42	5210		9.5
	2 Tx			42	5210	9.4	9.5
5.3(UNII)	1 Tx	802.11a	6 Mbps	52	5260	10.2	
				56	5280	10.2	
				60	5300	10.2	
				64	5320	10.2	
	1 Tx	802.11a	6 Mbps	52	5260		10.0
				56	5280		9.9
				60	5300		9.9
				64	5320		10.1
	2 Tx	802.11a	6 Mbps	52	5260	10.2	10.0
				56	5280	10.2	9.9
				60	5300	10.2	9.9
				64	5320	10.2	10.1
	1 Tx	802.11n (HT20)	MCS0	52	5260	10.0	
				60	5300	10.2	
				64	5320	10.1	
				52	5260		9.9
				60	5300		9.8
				64	5320		10.0
	2 Tx			52	5260	10.2	9.9
				60	5300	10.3	9.9
				64	5320	10.3	10.0
	1 Tx	802.11n (HT40)	MCS0	54	5270	10.4	
				62	5310	10.5	
				54	5270		10.2
				62	5310		10.3
	2 Tx			54	5270	10.5	10.2
				62	5310	10.5	10.3
	1 Tx	802.11ac (20 MHz)	MCS0	52	5260	10.2	
				60	5300	10.3	
				64	5320	10.3	
				52	5260		9.9
				60	5300		10.0
				64	5320		9.9
	2 Tx			52	5260	10.2	9.9

				60	5300	10.3	10.0
				64	5320	10.3	10.0
	1 Tx	802.11ac (40 MHz)	MCS0	54	5270	9.8	
				62	5310	9.8	
				54	5270		10.0
				62	5310		9.9
	2 Tx			54	5270	9.8	10.0
				62	5310	9.8	10.0
	1 Tx	802.11ac (80 MHz)	MCS0	58	5290	9.8	
				58	5290		9.7
	2 Tx			58	5290	9.9	9.7
5.5(UNII)	1 Tx	802.11a	6 Mbps	100	5500	9.8	
				140	5700	10.0	
				100	5500		9.9
				140	5700		9.9
	2 Tx			100	5500	9.8	9.9
				140	5700	10.0	9.9
	1 Tx	802.11n (HT20)	MCS0	100	5500	9.7	
				140	5700	9.7	
				100	5500		9.8
				140	5700		9.8
	2 Tx			100	5500	9.8	9.9
				140	5700	9.8	9.9
	1 Tx	802.11n (HT40)	MCS0	102	5510	10.0	
				134	5670	10.0	
				102	5510		10.0
				134	5670		9.9
	2 Tx			102	5510	9.9	10.2
				134	5670	10.0	10.2
	1 Tx	802.11ac (20 MHz)	MCS0	100	5500	9.8	
				140	5700	9.8	
				100	5500		9.9
				140	5700		9.9
	2 Tx			100	5500	9.8	9.9
				140	5700	9.8	9.9
	1 Tx	802.11ac (40 MHz)	MCS0	102	5510	9.9	
				134	5670	9.9	
				102	5510		10.1
				134	5670		10.2
	2 Tx			102	5510	9.9	10.2
				134	5670	10.0	10.2
	1 Tx	802.11ac	MCS0	106	5530	9.9	

		(80 MHz)		106	5530		9.6
	2 Tx			106	5530	9.5	9.7

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two FPCB antennas, with a maximum gain of -3.18dBi and -0.4 dBi for 5.8GHz.

5.4. List of test reduction and modes covering other modes:

5.2GHz BAND Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5180 - 5240	802.11a Legacy 1TX	802.11a CDD 2TX
5180 - 5240	802.11n/ac HT20 1TX	802.11n HT20 CDD 2TX
5180 - 5240	802.11n/ac HT20 STBC 2TX	802.11n HT20 CDD 2TX
5190 - 5230	802.11n/ac HT40 1TX	802.11n HT40 CDD 2TX
5190 - 5230	802.11n/ac HT40 STBC 2TX	802.11n HT40 CDD 2TX
5210	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5210	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

5.3GHz BAND Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5260 - 5320	802.11a Legacy 1TX	802.11a CDD 2TX
5260 - 5320	802.11n/ac HT20 1TX	802.11n HT20 CDD 2TX
5260 - 5320	802.11n/ac HT20 STBC 2TX	802.11n HT20 CDD 2TX
5270 - 5310	802.11n/ac HT40 1TX	802.11n HT40 CDD 2TX
5270 - 5310	802.11n/ac HT40 STBC 2TX	802.11n HT40 CDD 2TX
5290	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5290	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

5.6GHz BAND Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5500 - 5700	802.11a Legacy 1TX	802.11a CDD 2TX
5500 - 5700	802.11n/ac HT20 1TX	802.11n HT20 CDD 2TX
5500 - 5700	802.11n/ac HT20 STBC 2TX	802.11n HT20 CDD 2TX
5510 - 5670	802.11n/ac HT40 1TX	802.11n HT40 CDD 2TX
5510 - 5670	802.11n/ac HT40 STBC 2TX	802.11n HT40 CDD 2TX
5530	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5530	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were 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 the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

Based on the baseline scan, the worst-case data rates were:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0
802.11ac VHT80mode: MCS0

Both one port and two ports transmit configuration were verified. 2x2 CDD mode was the worst case which has equal or higher power than the other configurations.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	Samsung	N/A	N/A
Earphone	Samsung	Samsung	N/A	N/A

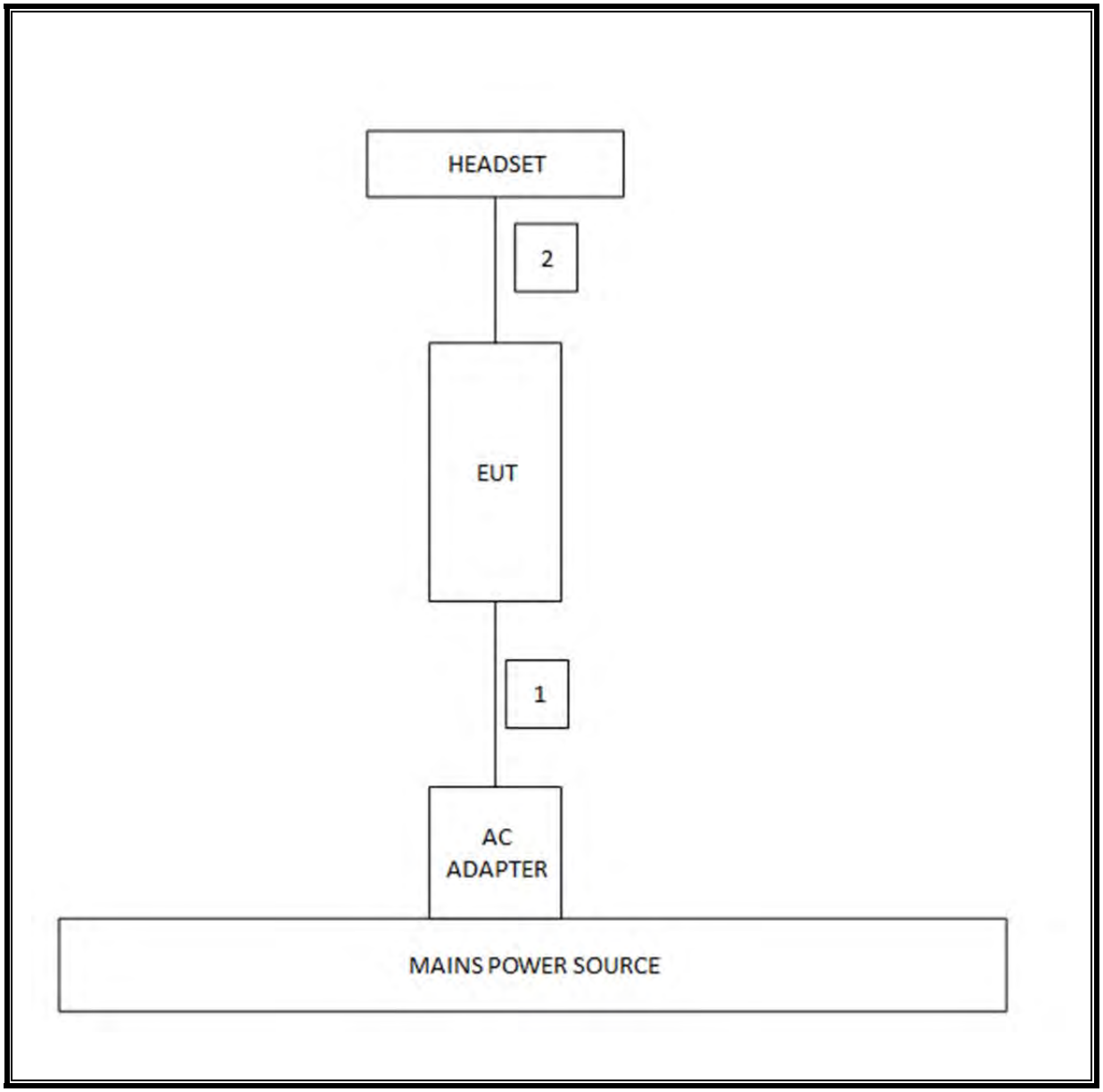
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

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**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/13	12/20/14
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/13	04/01/14
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/13	08/13/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/15/13	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/13	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/13	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/14	02/21/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/13	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/13	06/28/14
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/13	03/06/14
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/13	06/01/14
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/13	03/23/14
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/13	06/27/14
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/13	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/13	05/23/14
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/13	05/22/14
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/13	05/22/14

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	84.8MHz
15.407 (a)(1)	TX Cond. Power 5.15-2.25	<17dBm or 4+10Log(OBW)		Pass	13.69dBm
15.407 (a)(2)	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	13.68dBm
15.407 (a)(5)	PSD	<4dBm for UNII 1 <11dBm for UNII 2&3		Pass	2.14dBm
15.407 (a)(6)	Peak Excursion Ratio	13dB		Pass	9.22 dB
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	45.65dBuV
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	52.13dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

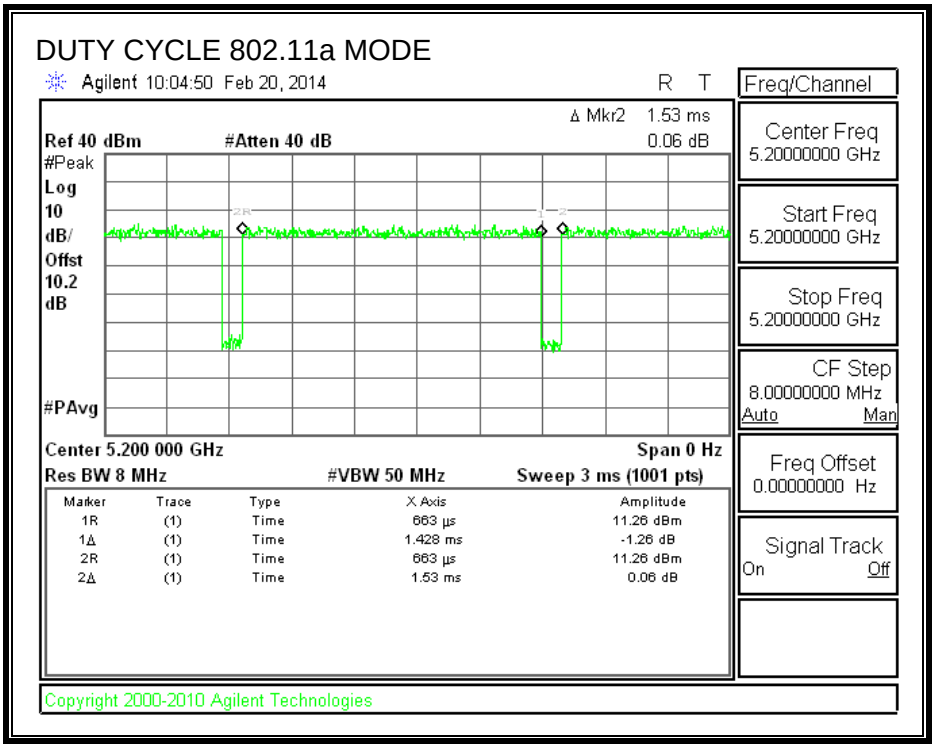
PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

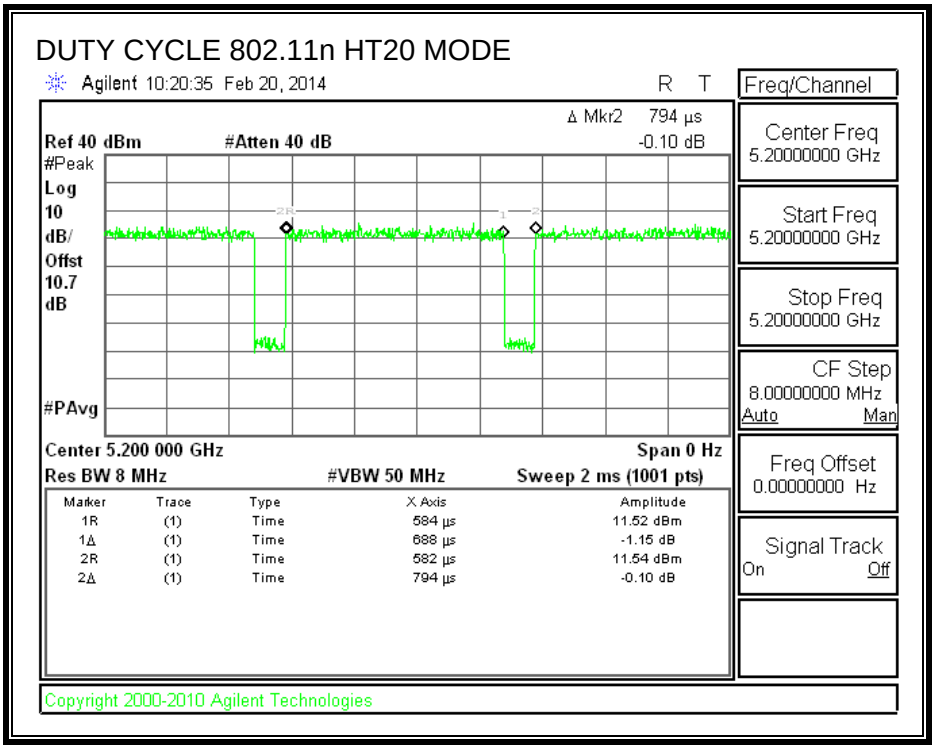
8.1. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	1.428	1.530	0.933	93.3%	0.30	0.700
802.11n HT20	0.688	0.794	0.866	86.6%	0.62	1.453
802.11n HT40	0.356	0.459	0.776	77.6%	1.10	2.809
802.11ac HT80	0.189	0.292	0.647	64.7%	1.89	5.291

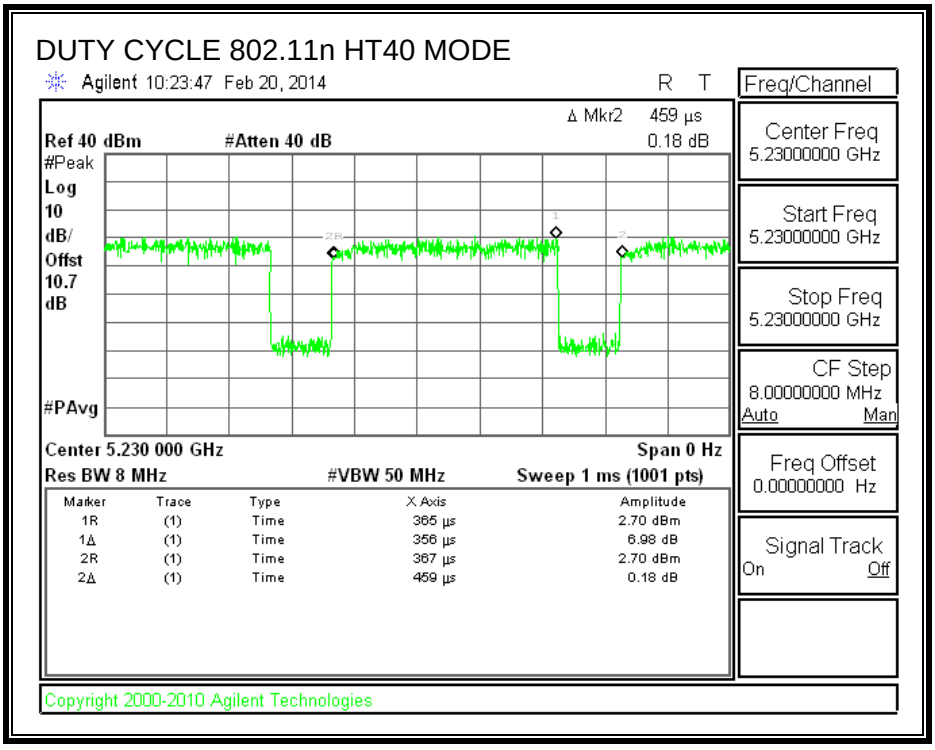
8.2. DUTY CYCLE PLOTS



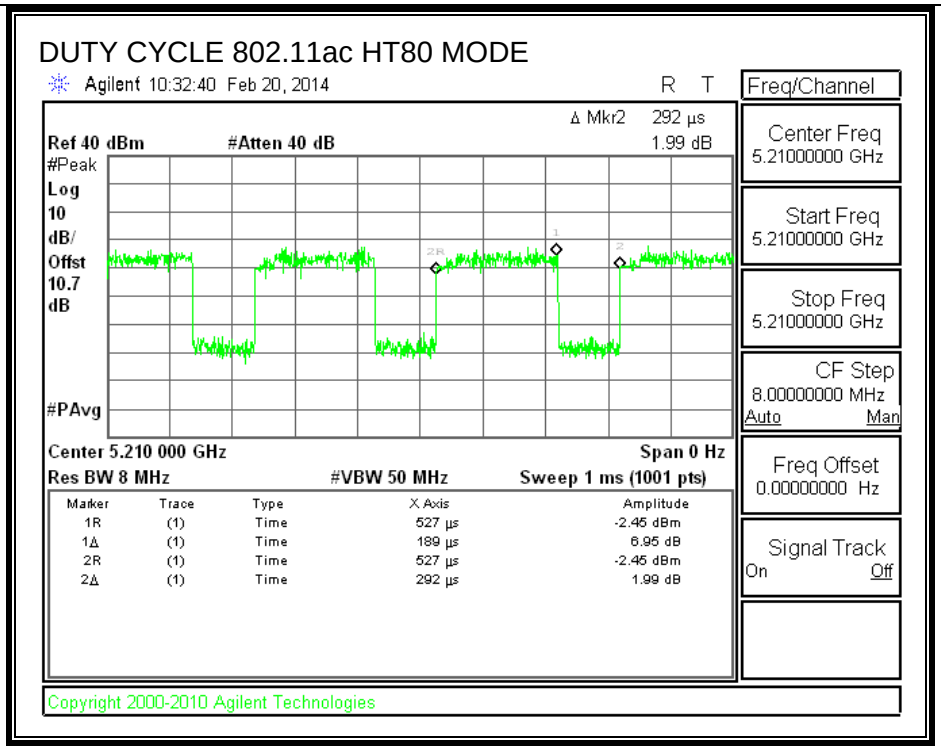
DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



DUTY CYCLE 802.11ac HT80 MODE



9. MEASUREMENT METHOD

The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used for .power and PPSD

The Duty Cycle is less than 98% and consistent, KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used.

For band edge: KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used

For Harmonic: Max RMS average method is used.

10. ANTENNA PORT TEST RESULTS

10.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.1.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	22.7	22.3
Mid	5200	22.7	22.4
High	5240	22.7	22.4

10.1.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	22.7	22.5
Mid	5200	22.8	22.5
High	5240	22.8	22.5

10.1.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	41.9	41.9
Mid	5230	41.9	41.9

10.1.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5210	84.8	84.5

10.1.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	22.7	22.4
Mid	5300	22.7	22.4
High	5320	22.7	22.3

10.1.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	22.9	22.5
Mid	5300	22.9	22.6
High	5320	22.8	22.5

10.1.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	41.8	41.5
Mid	5310	41.9	41.7

10.1.3. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5290	84.7	84.4

10.1.4. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	22.8	22.3
Mid	5580	22.7	22.3
High	5700	22.7	22.4

10.1.5. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	22.7	22.3
Mid	5580	22.7	22.4
High	5700	22.9	22.6

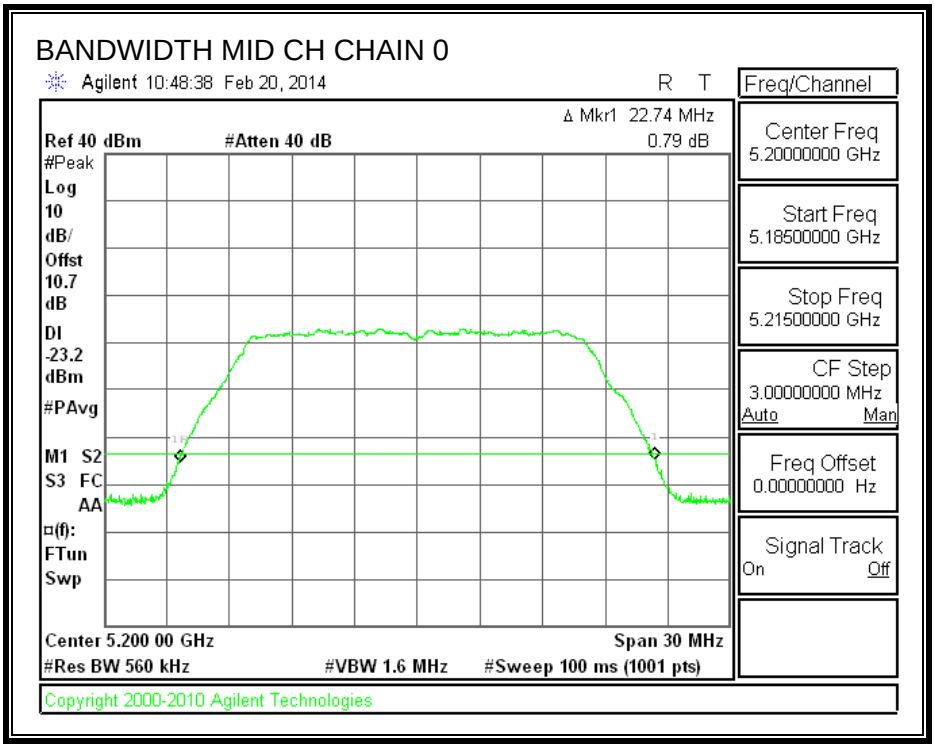
10.1.6. 802.11n HT40 MODE IN THE 5.5 GHz BAND

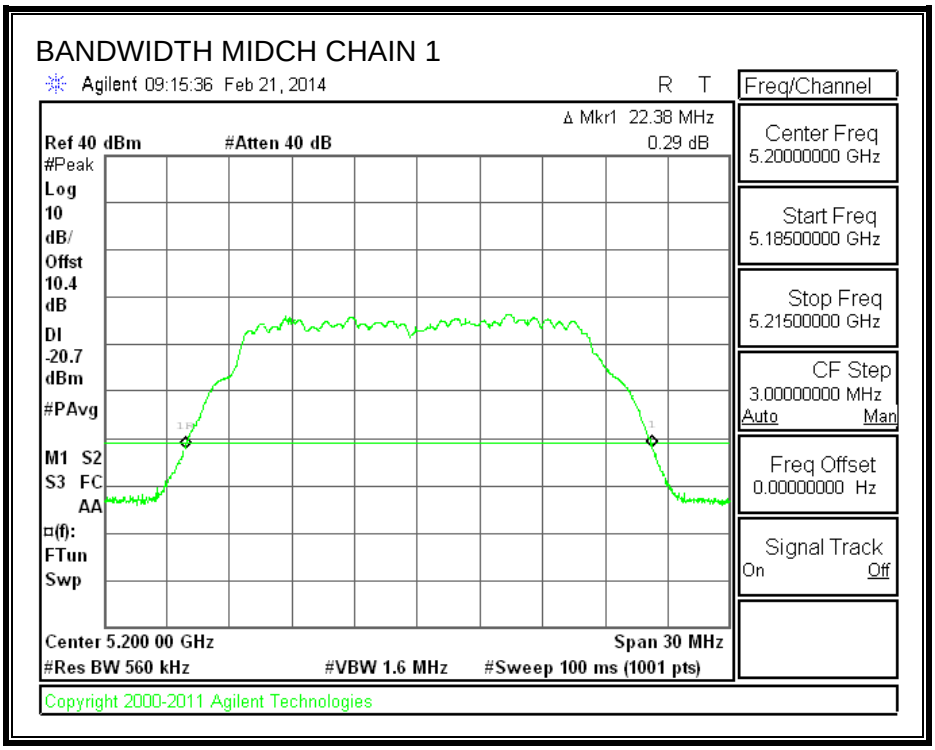
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	41.9	42.0
Mid	5550	42.0	41.7
High	5670	41.9	42.0

10.1.7. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

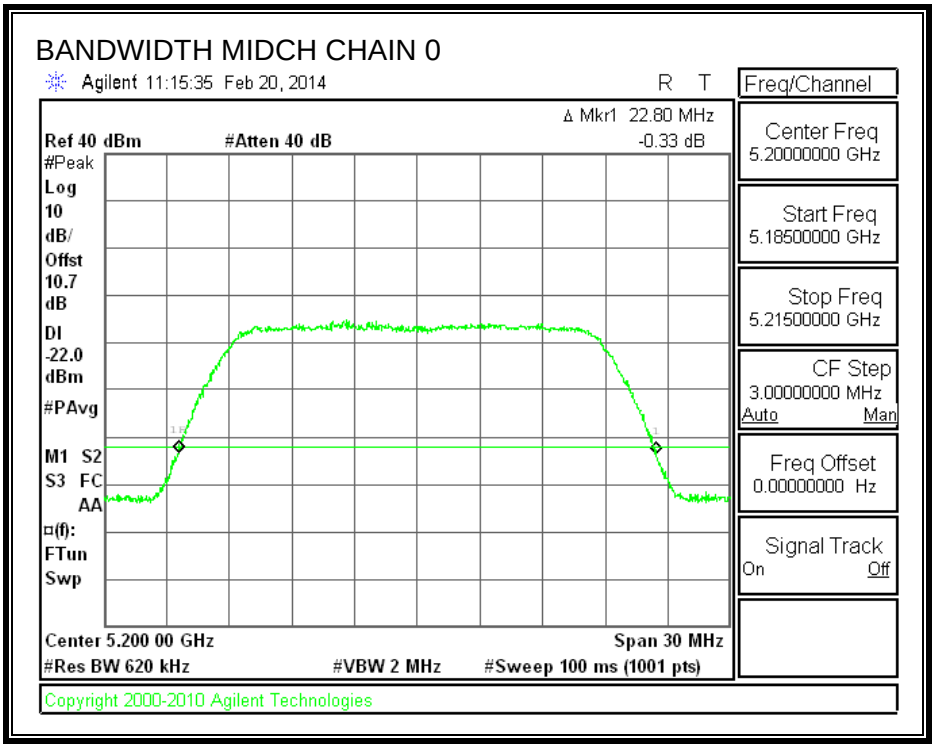
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	84.8	84.4

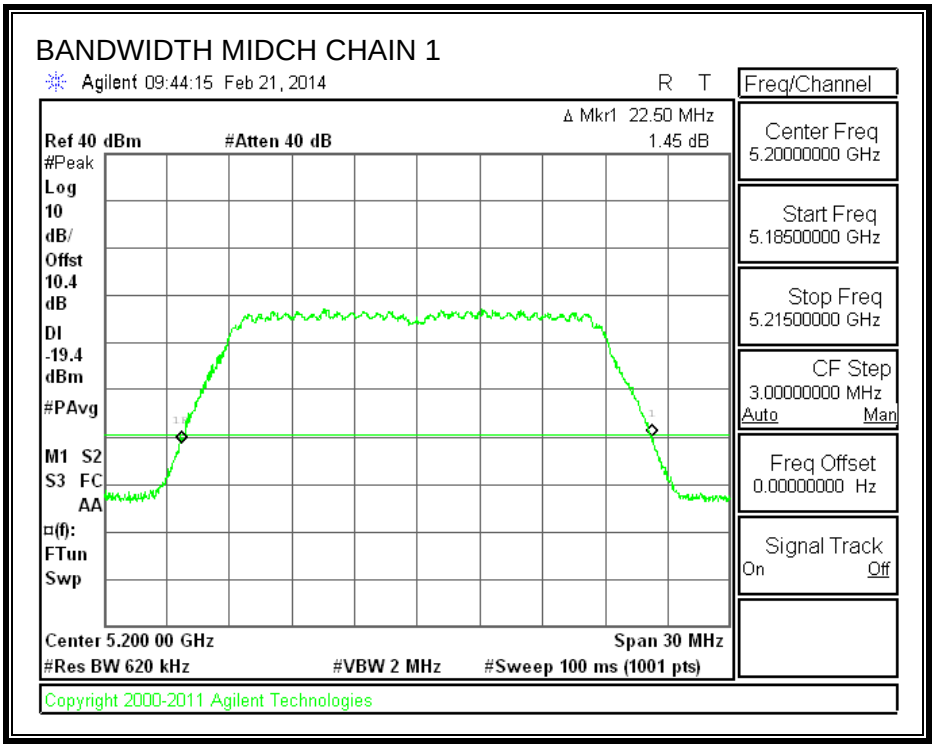
802.11a 5.2G 26 dB BANDWIDTH



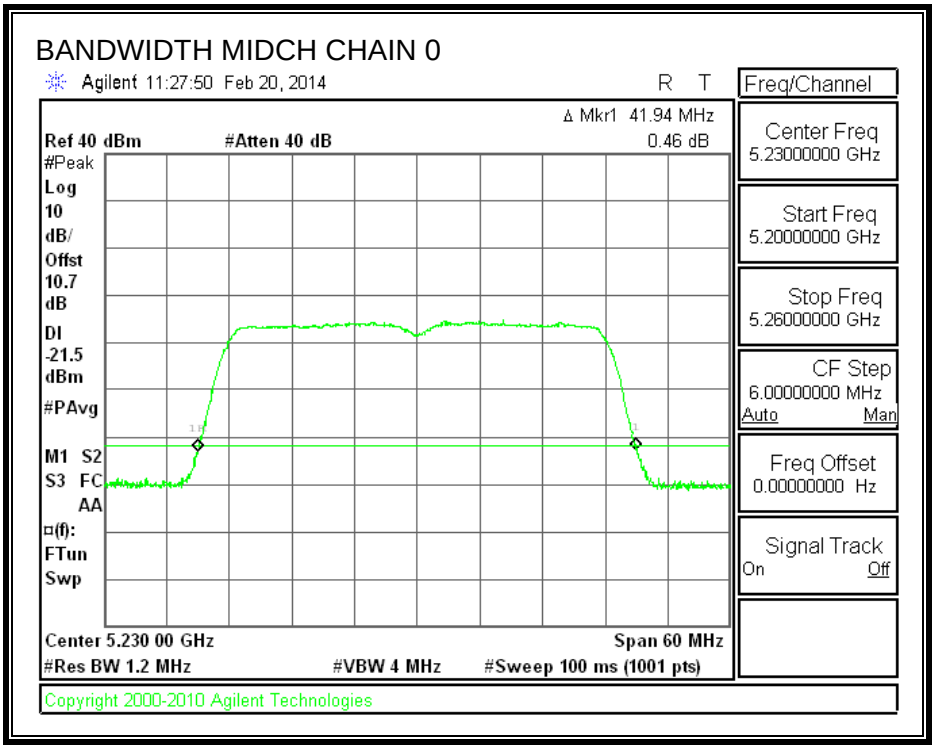


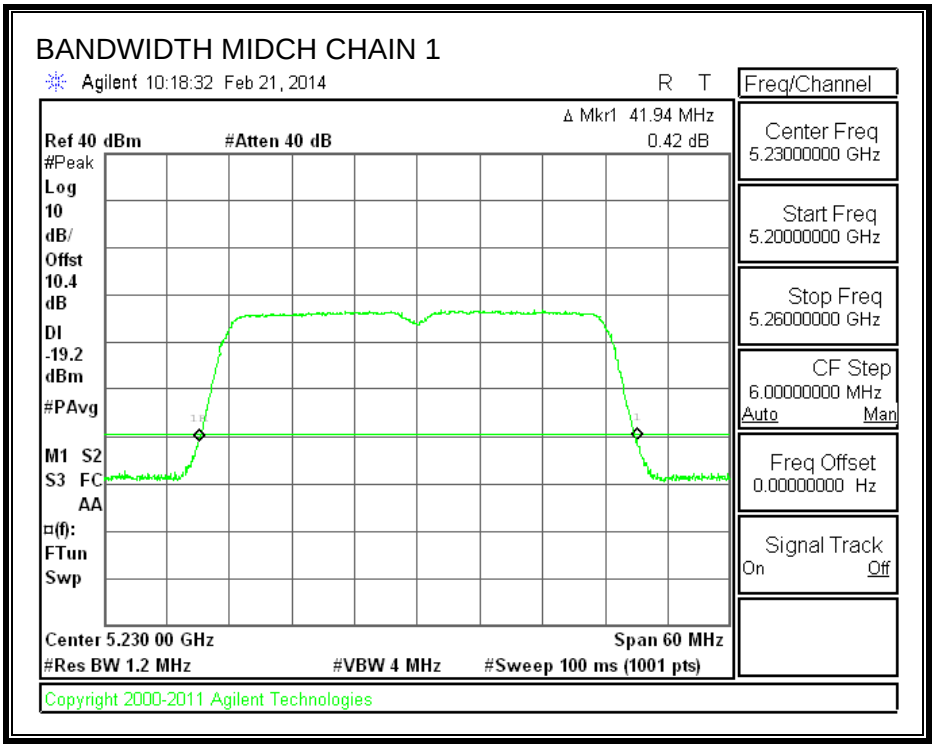
802.11n HT20 5.2G 26 dB BANDWIDTH



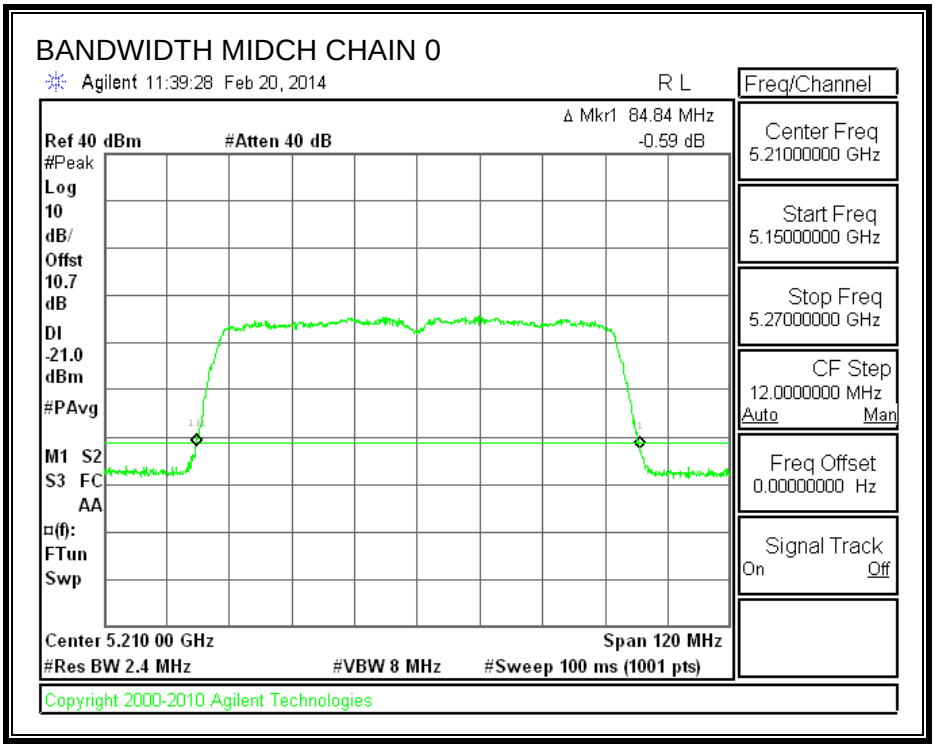


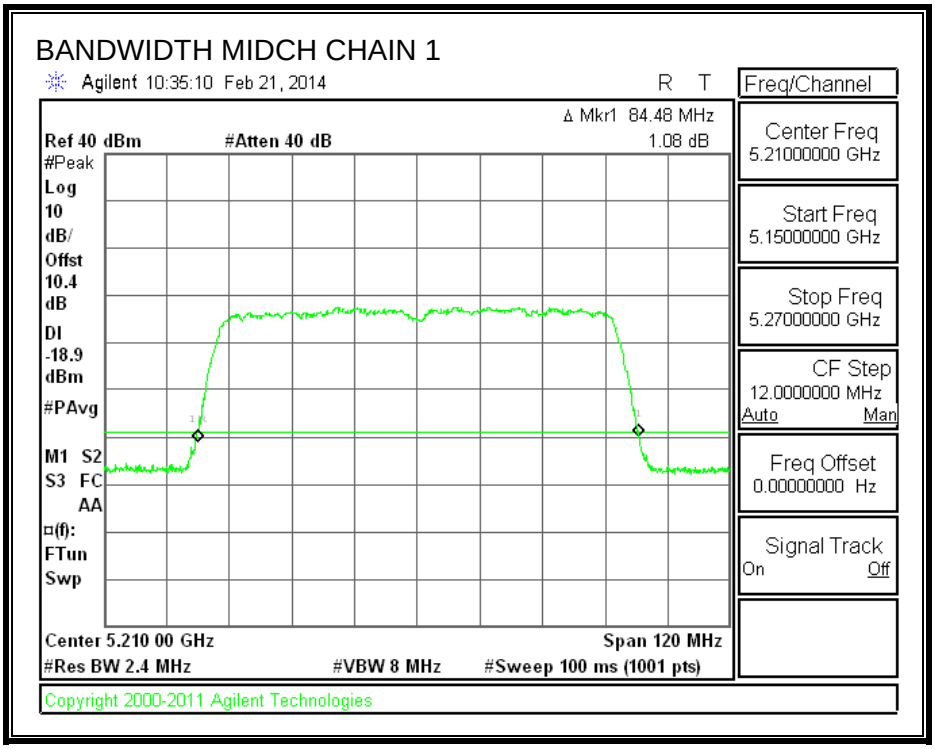
802.11n HT40 5.2G 26 dB BANDWIDTH



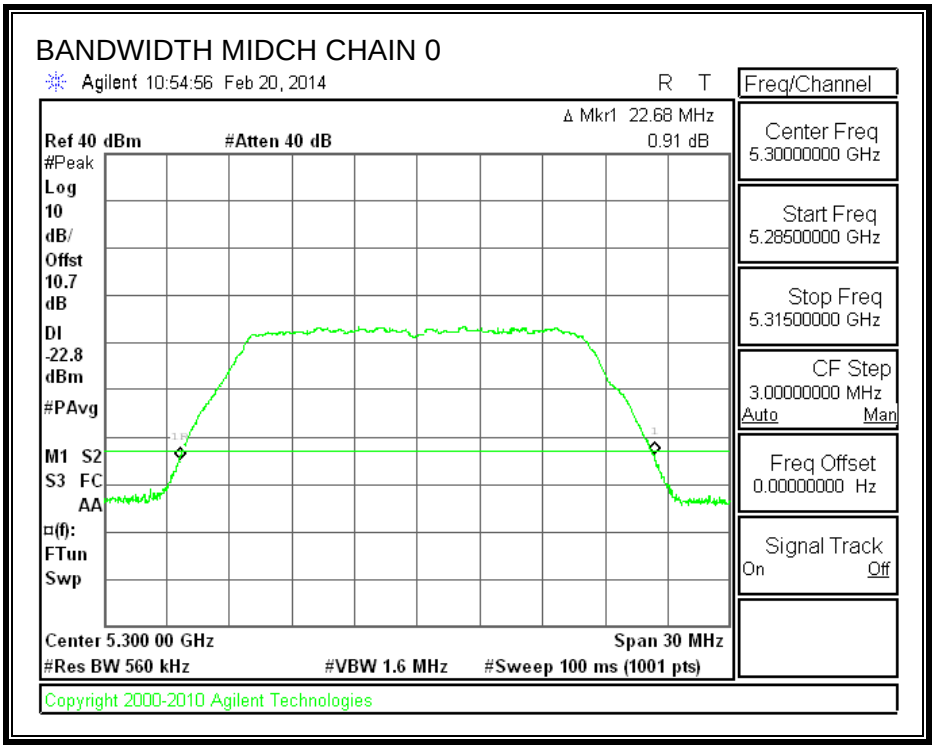


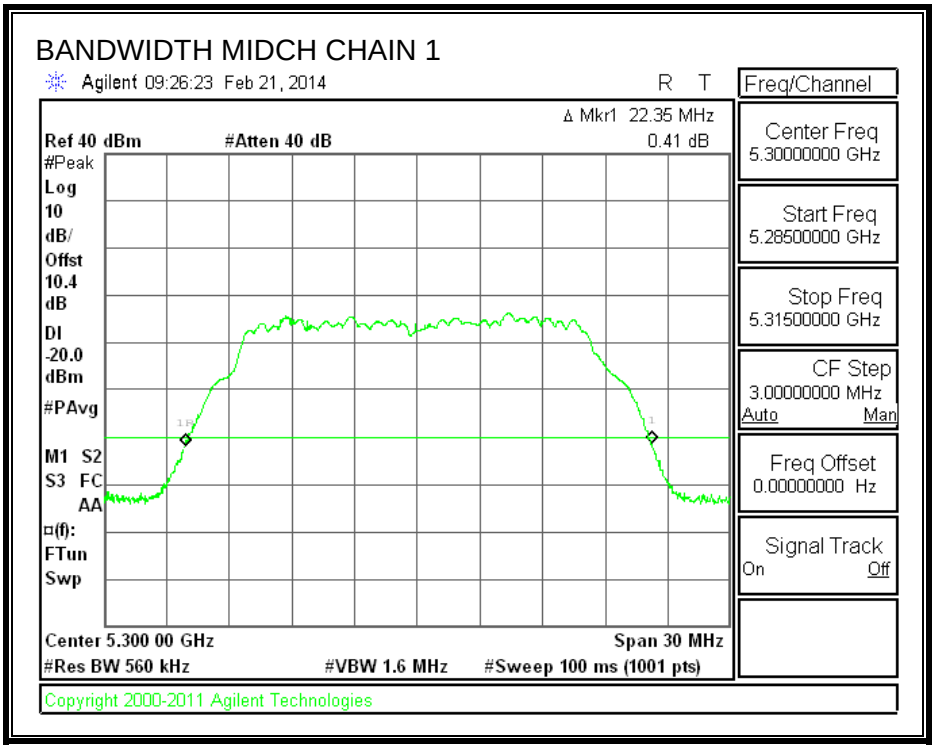
802.11ac HT80 5.2G 26 dB BANDWIDTH



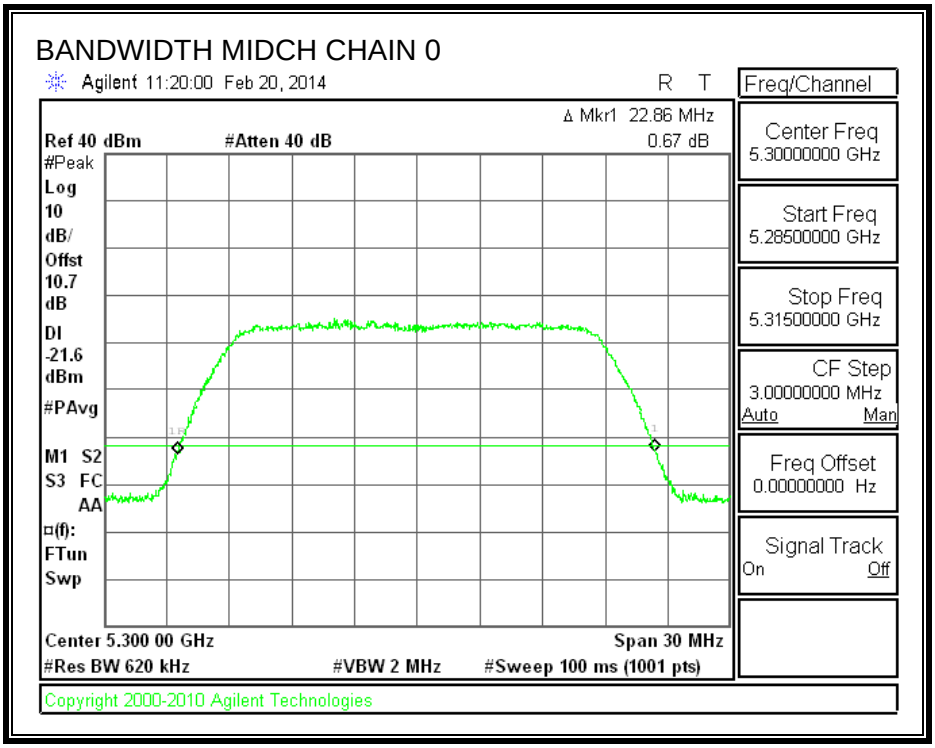


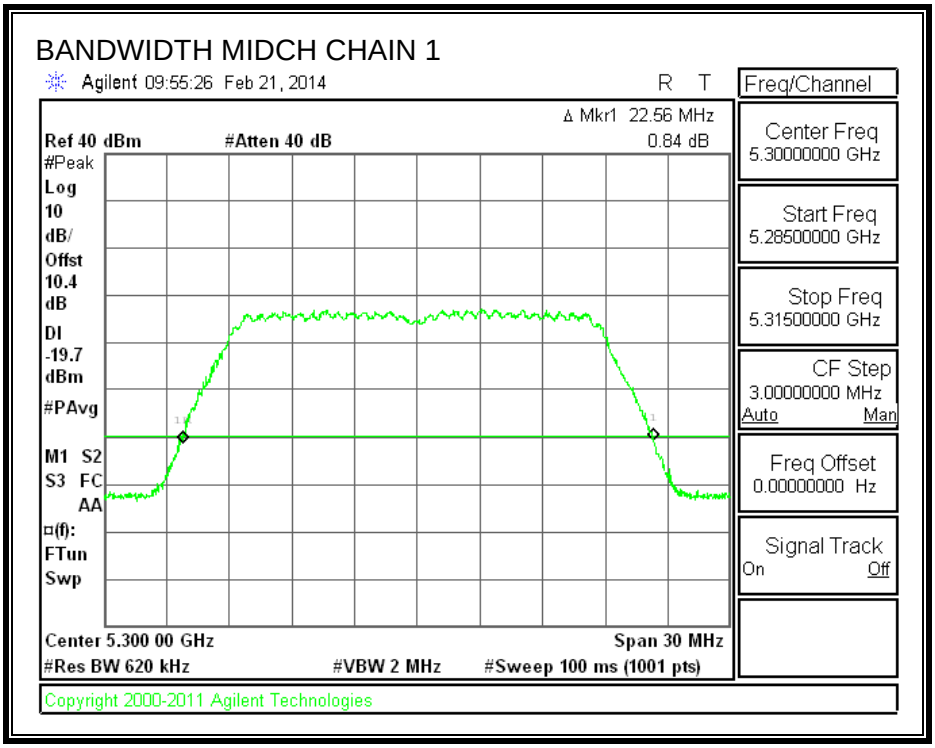
802.11a 5.3G 26 dB BANDWIDTH



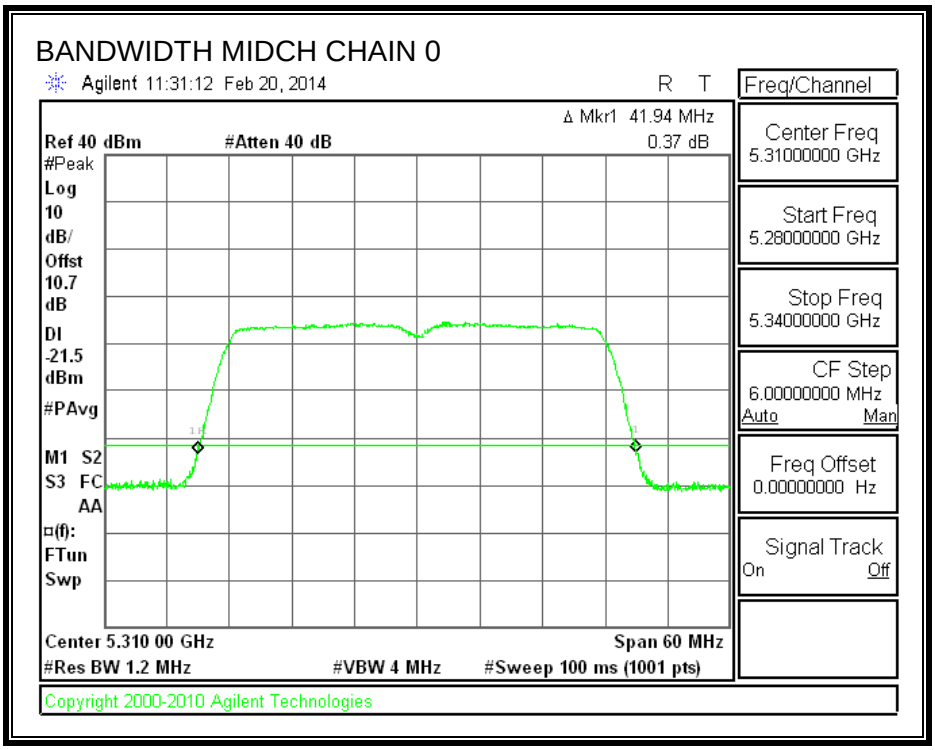


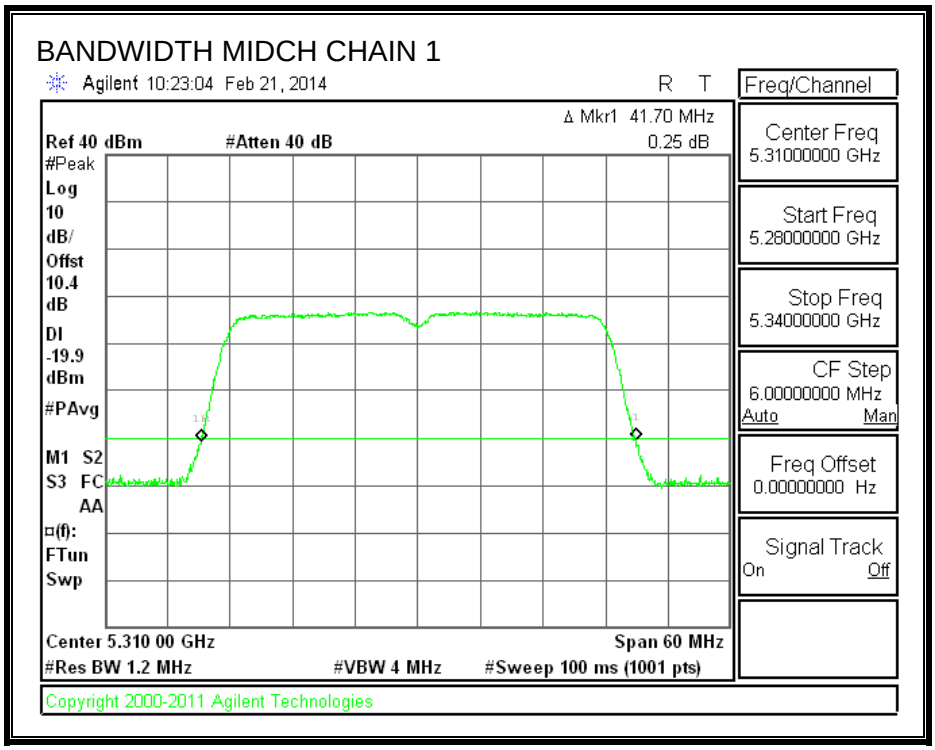
802.11n HT20 5.3G 26 dB BANDWIDTH



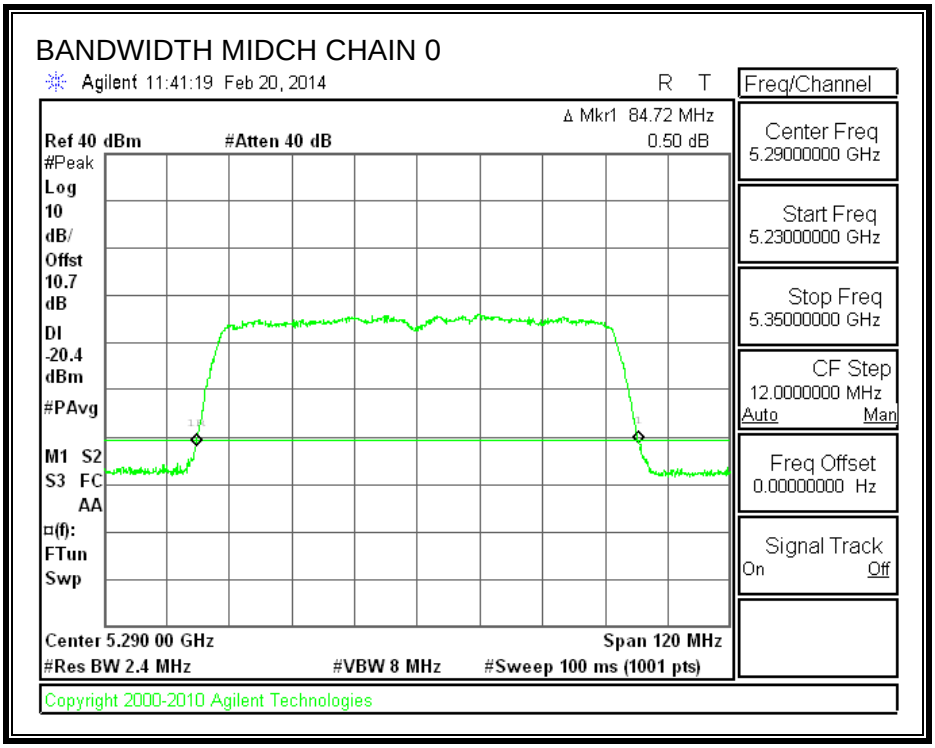


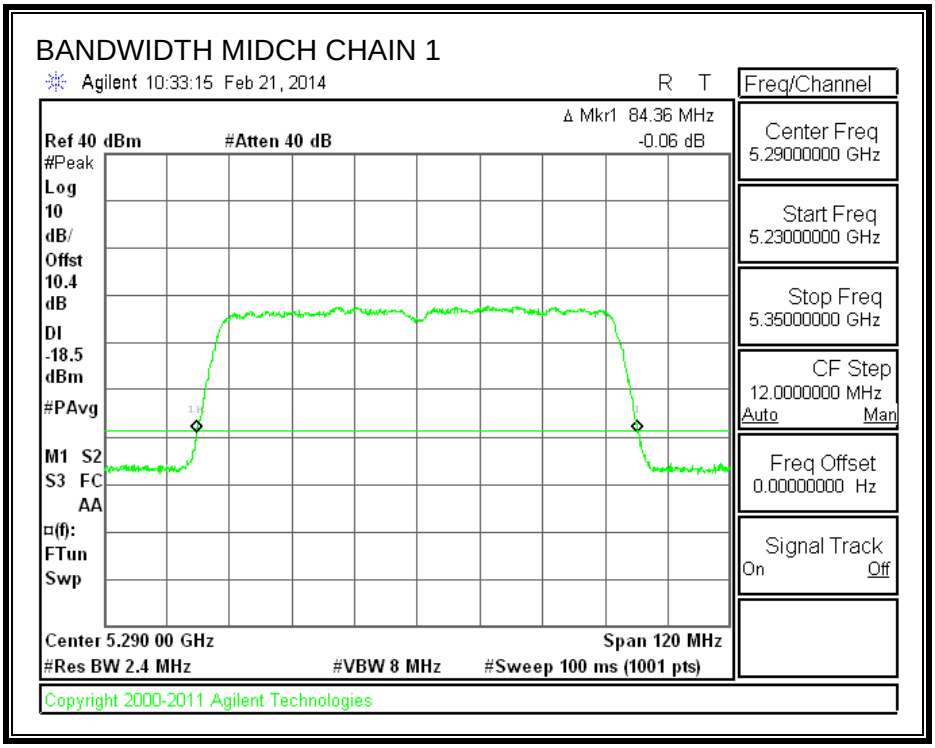
802.11n HT40_5.3G 26 dB BANDWIDTH



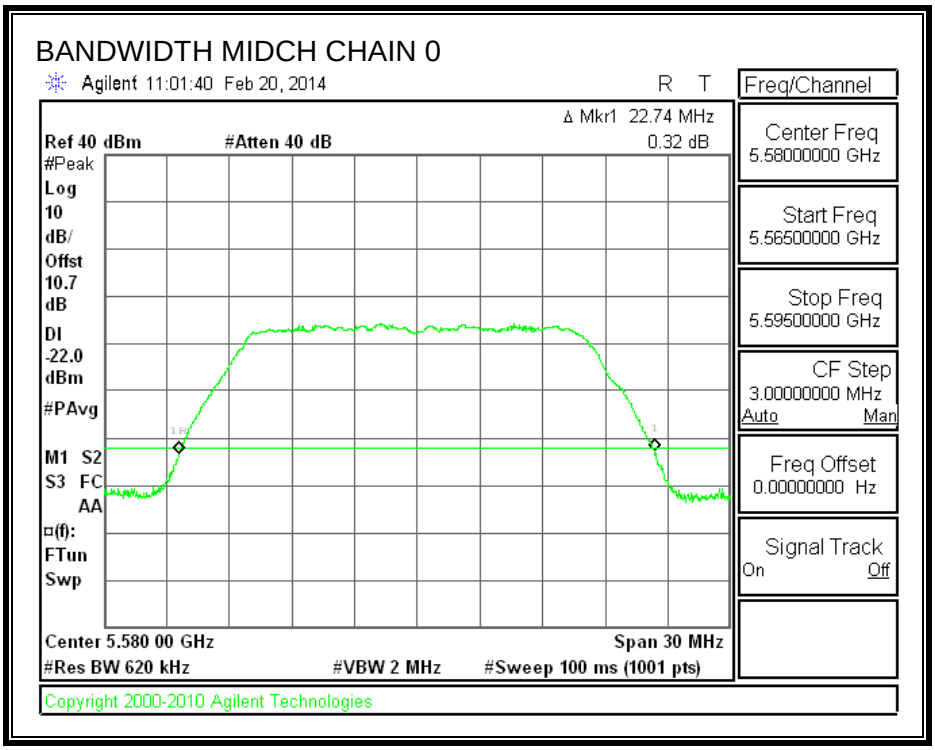


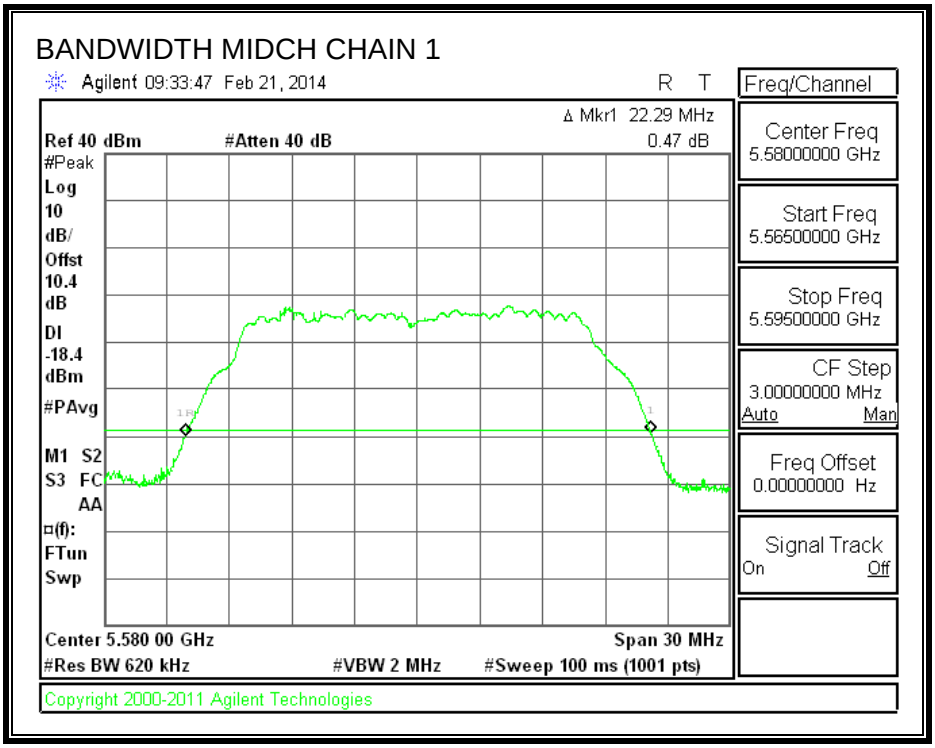
802.11ac HT80 5.3G 26 dB BANDWIDTH



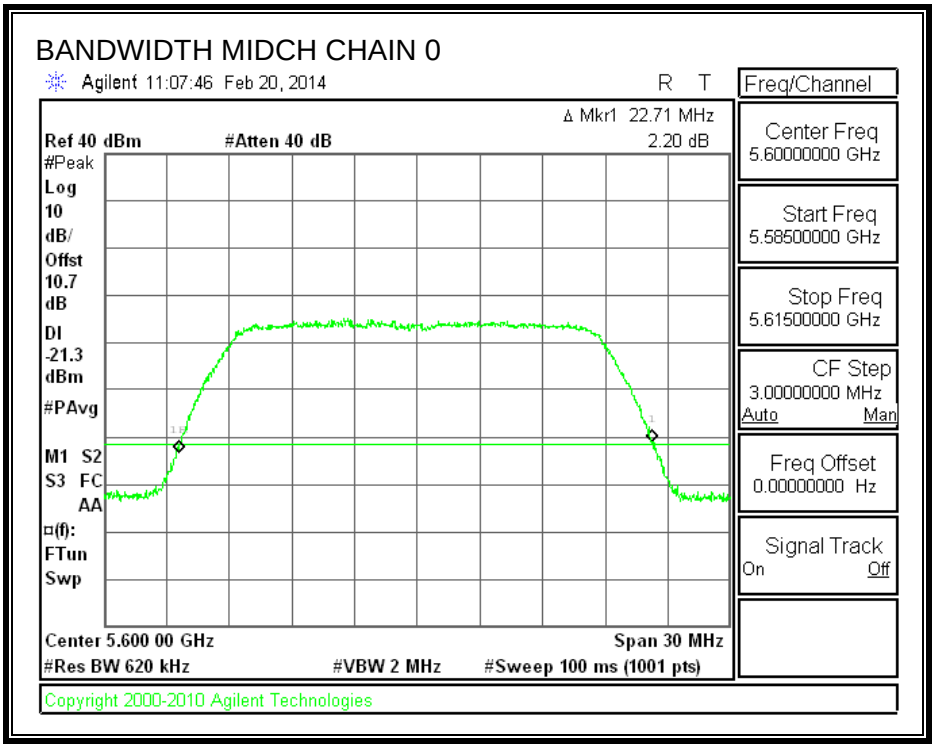


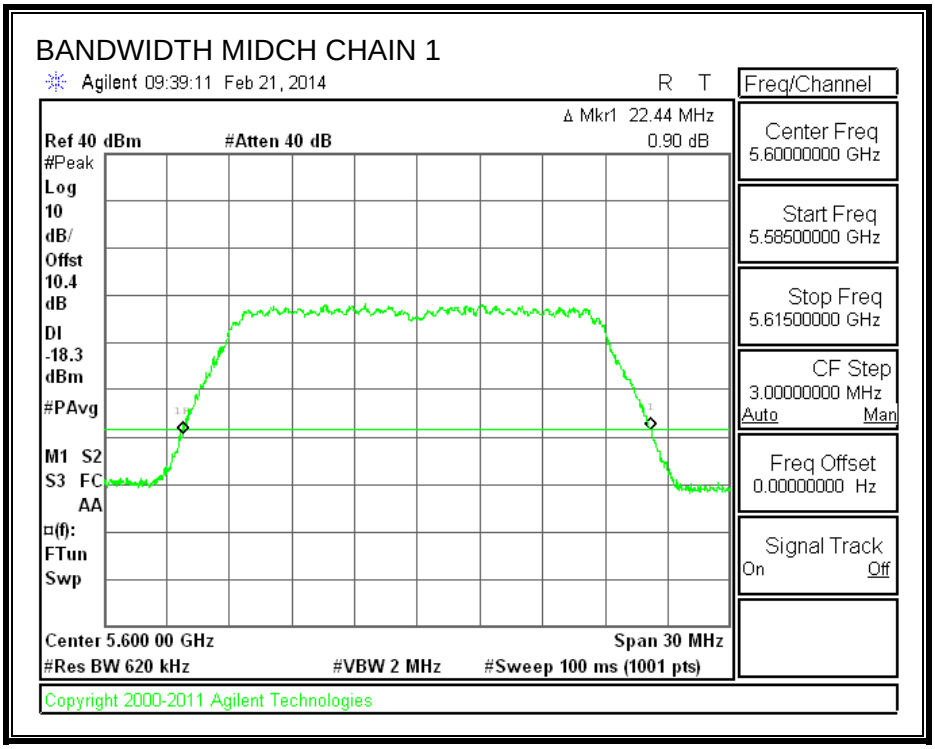
802.11a 5.5G 26 dB BANDWIDTH



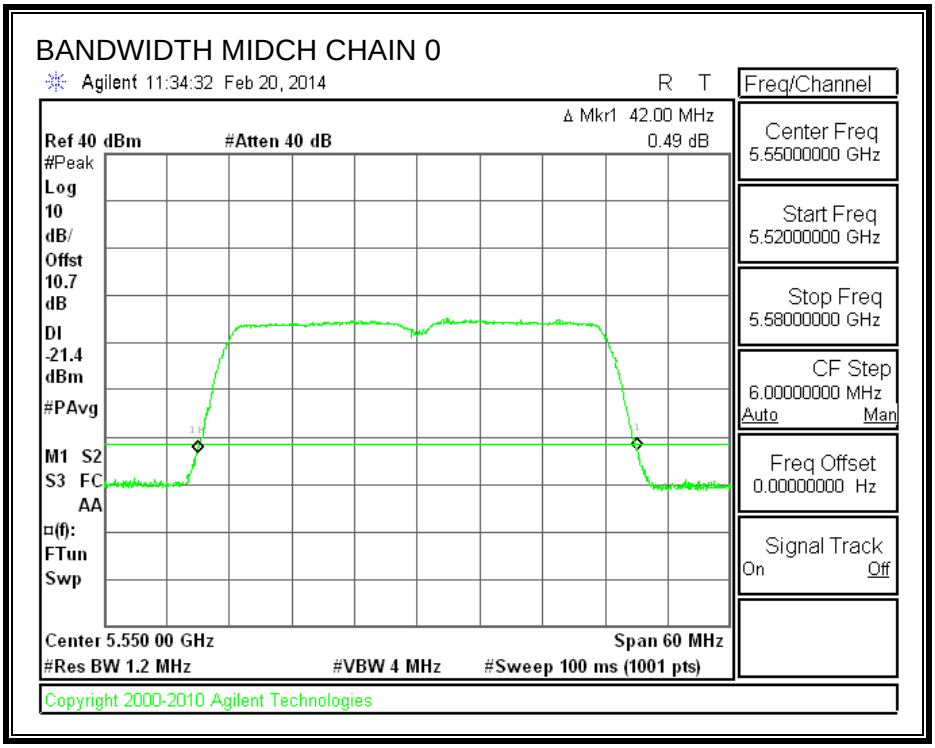


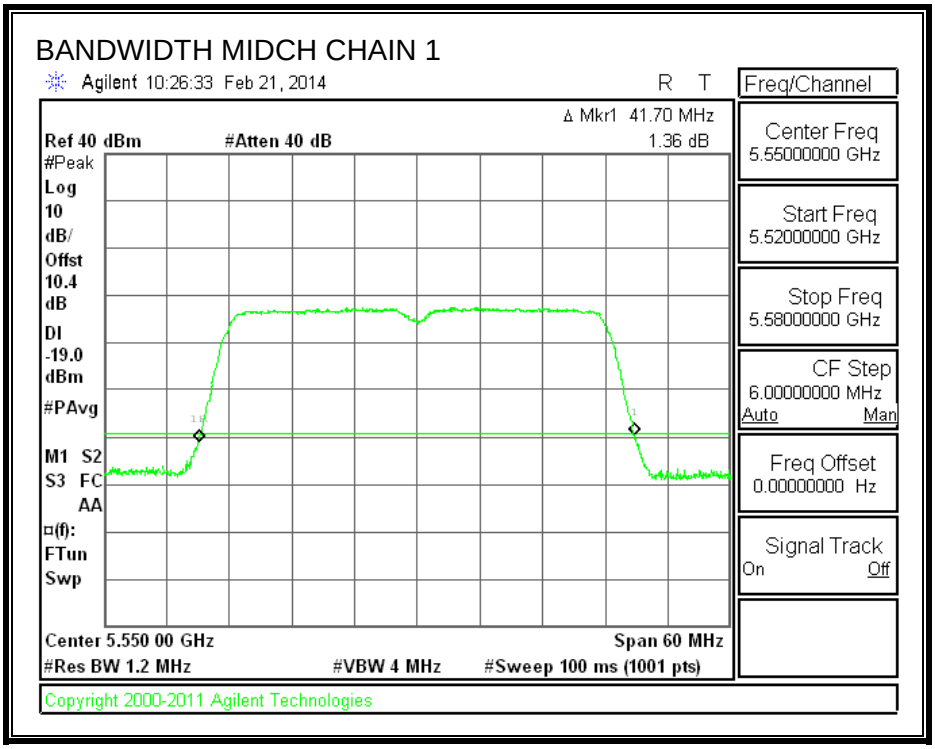
802.11n HT20 5.5G 26 dB BANDWIDTH



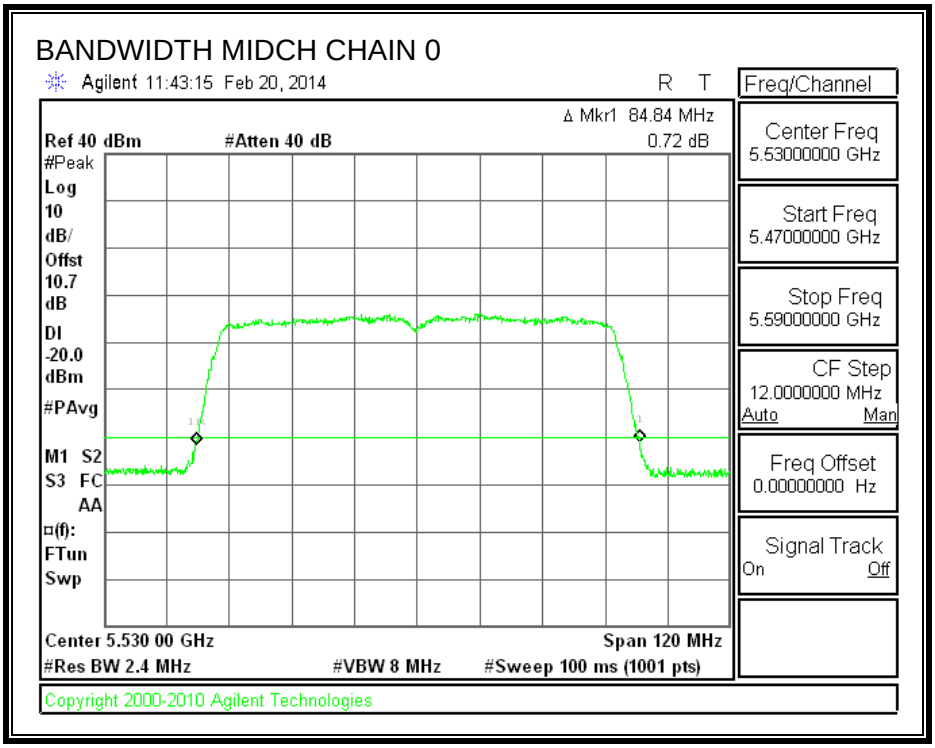


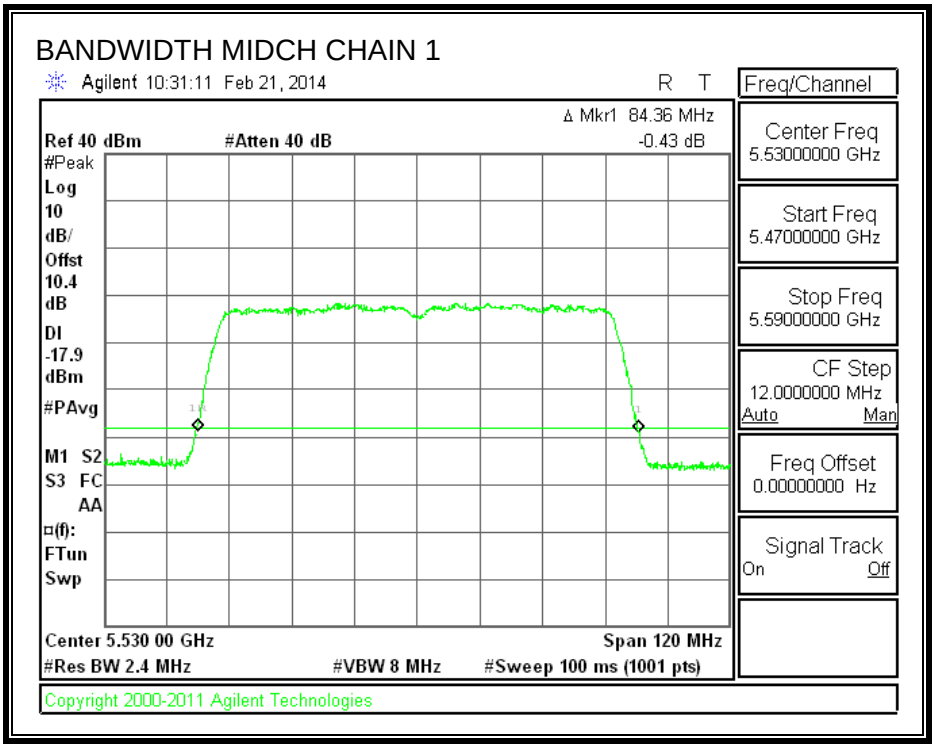
802.11n HT40 5.5G 26 dB BANDWIDTH





802.11ac HT80 5.5G 26 dB BANDWIDTH





10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.7	16.8
Mid	5200	16.7	16.8
High	5240	16.8	16.8

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	17.9	17.9
Mid	5200	17.9	17.9
High	5240	17.9	17.9

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5190	36.4	36.5
High	5230	36.4	36.5

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5210	76.0	76.3

10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	16.7	16.8
Mid	5300	16.7	16.7
High	5320	16.8	16.8

10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.9	17.9
Mid	5300	17.9	17.9
High	5320	17.9	17.9

10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.4	36.4
Mid	5310	36.4	36.4

10.2.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5290	75.9	76.0

10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.7	16.9
Mid	5580	16.7	16.8
High	5700	16.8	16.8

10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.9	17.9
Mid	5580	17.9	17.9
High	5700	17.9	17.9

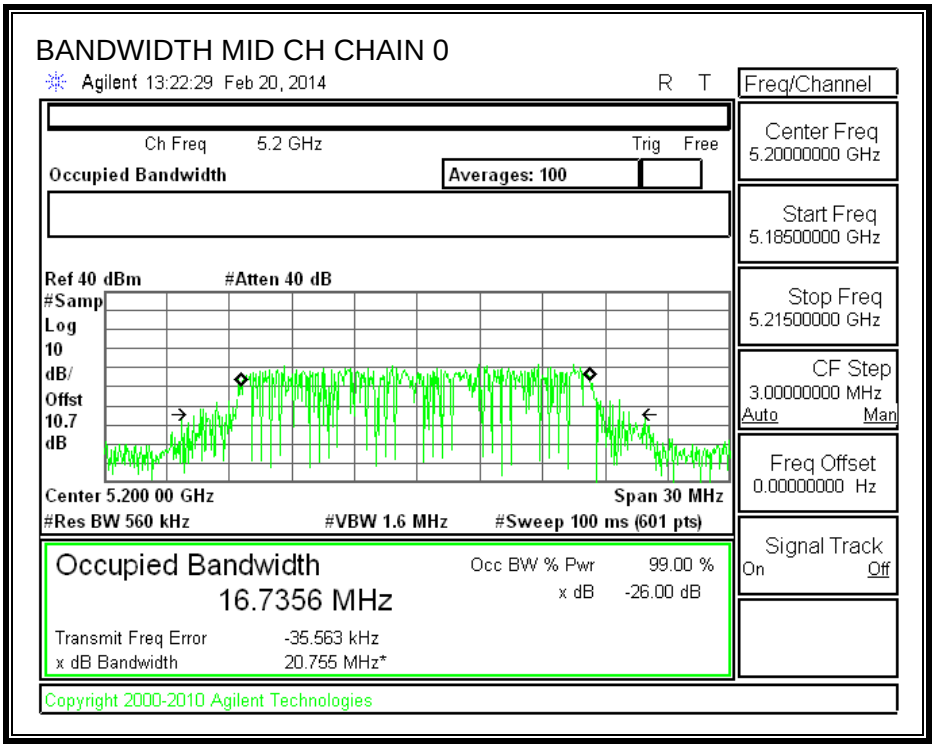
10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

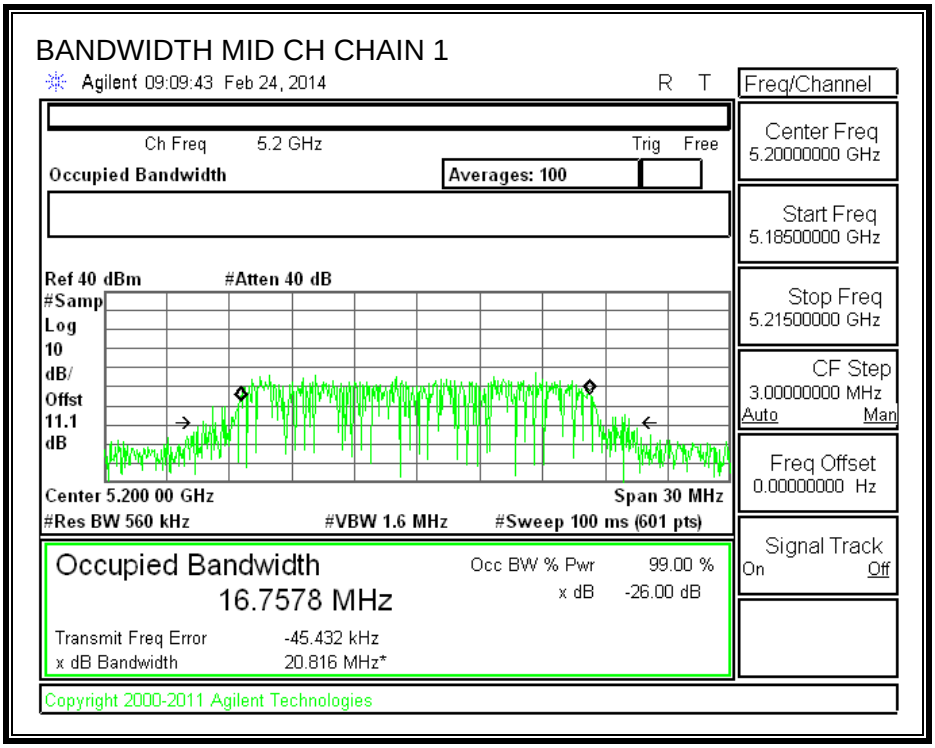
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	36.4	36.4
Mid	5550	36.4	36.4
High	5670	36.4	36.4

10.2.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

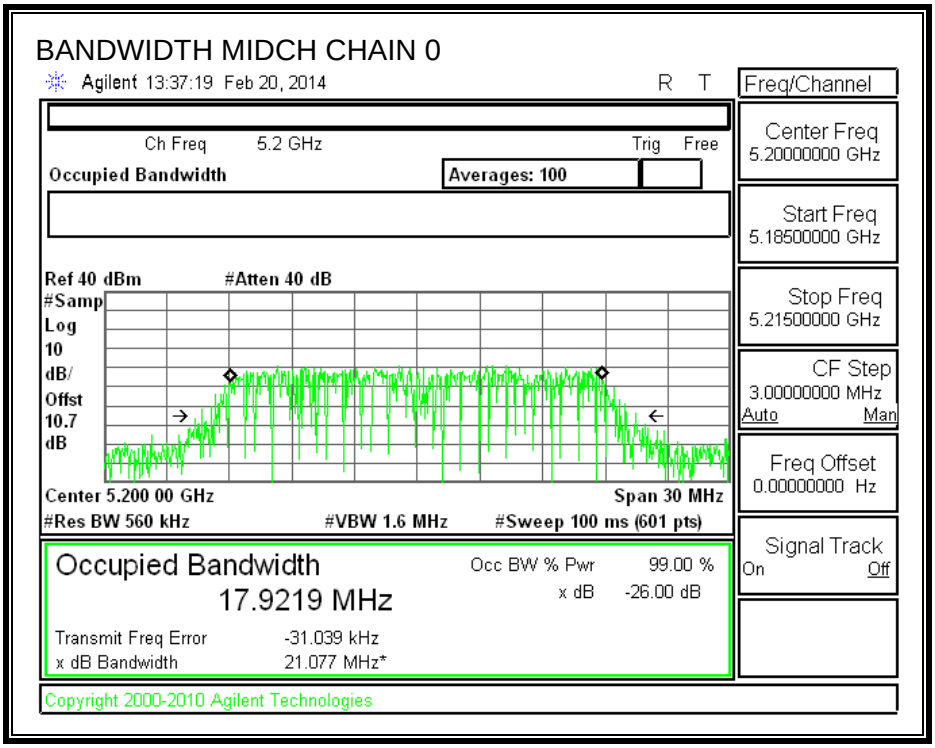
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	75.9	76.2

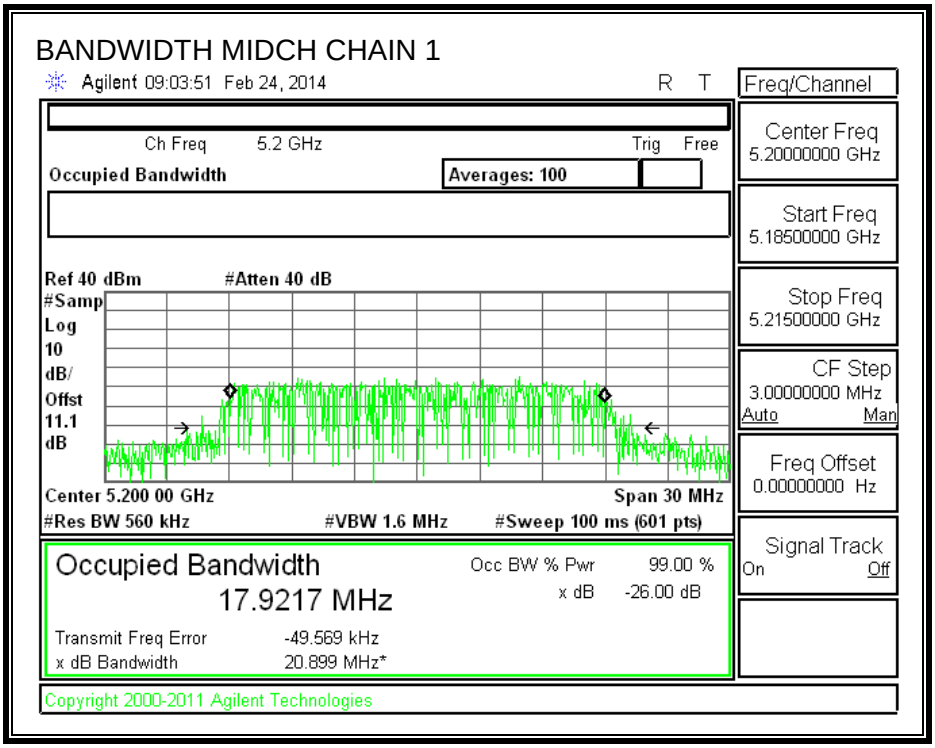
802.11a 5.2G 99% BANDWIDTH



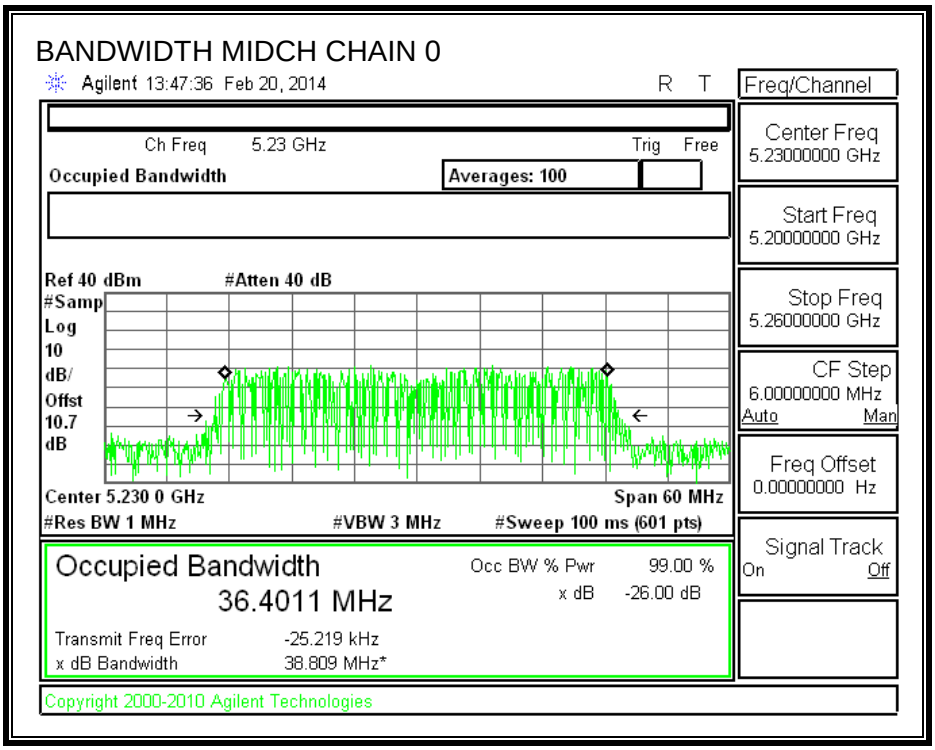


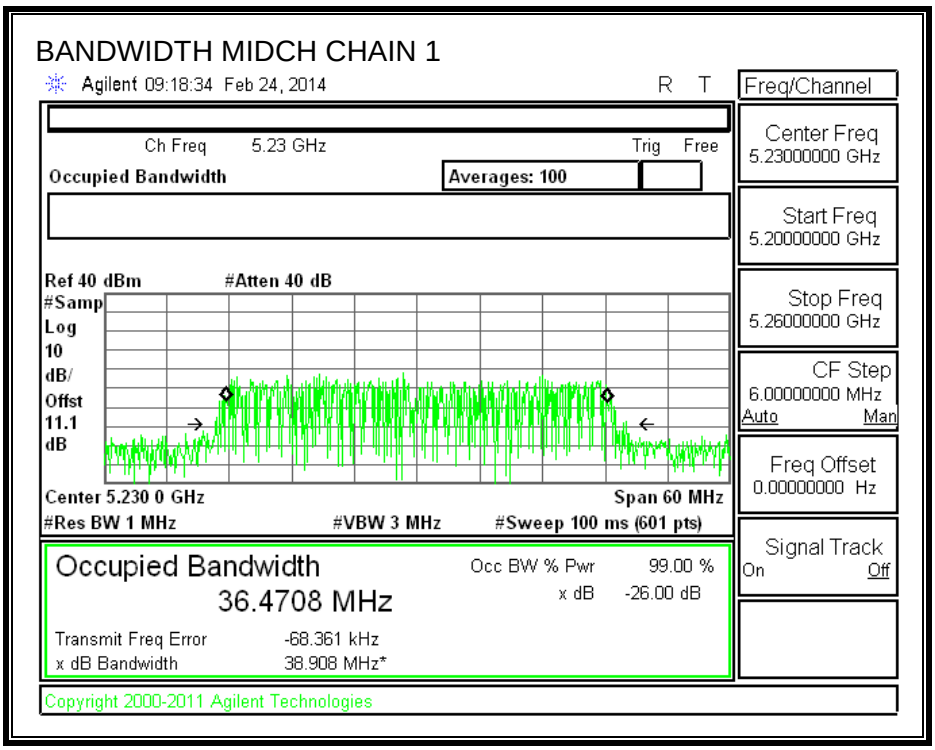
802.11n HT20 5.2G 99% BANDWIDTH



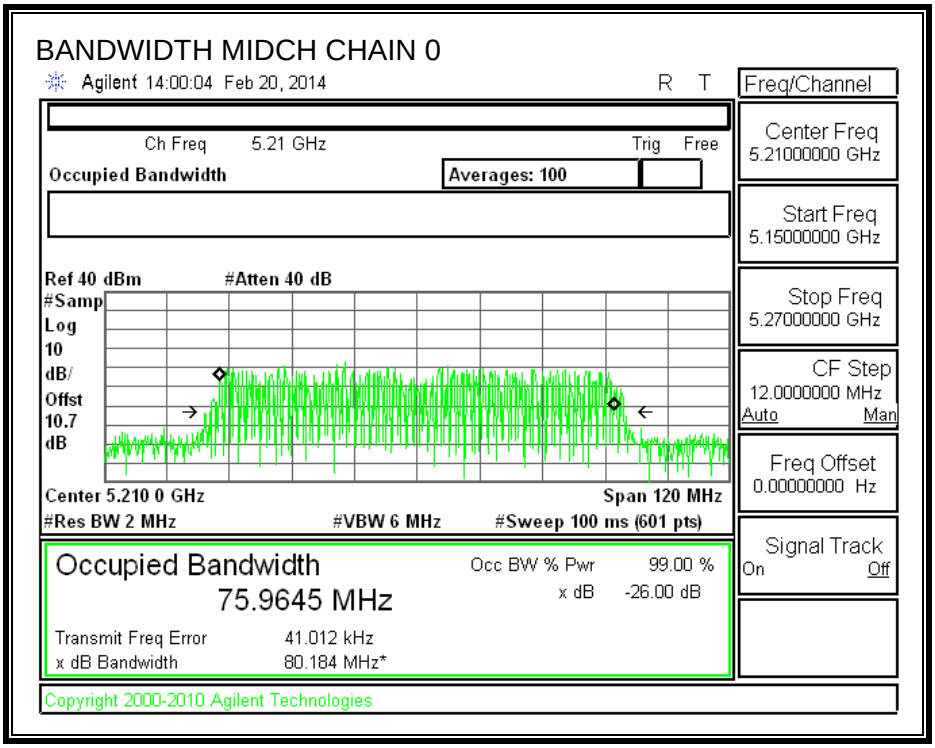


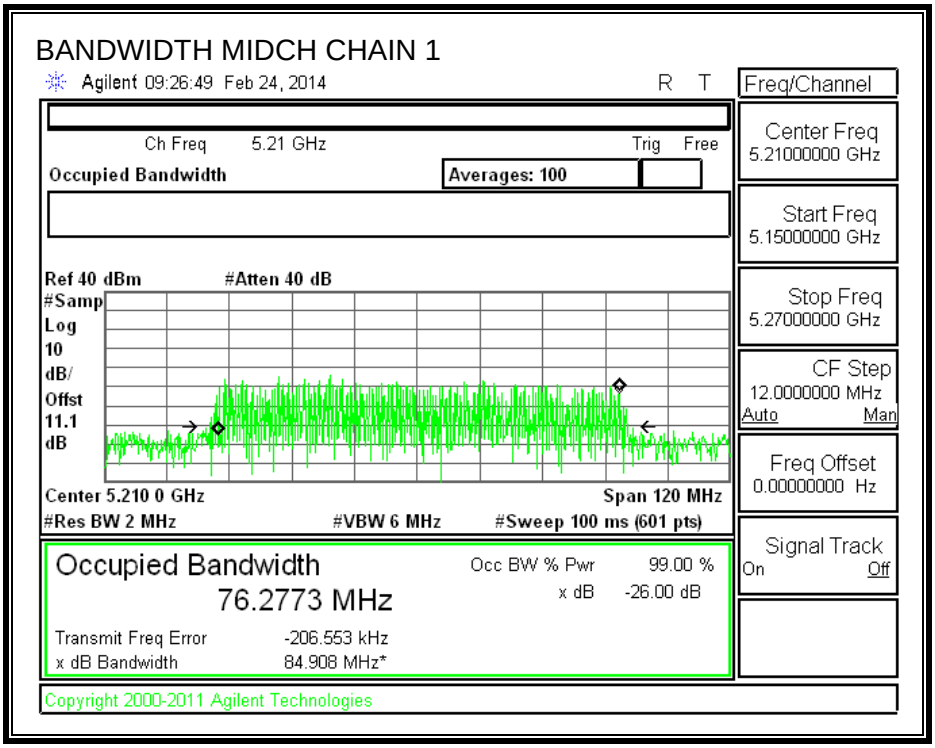
802.11n HT40 5.2G 99% BANDWIDTH



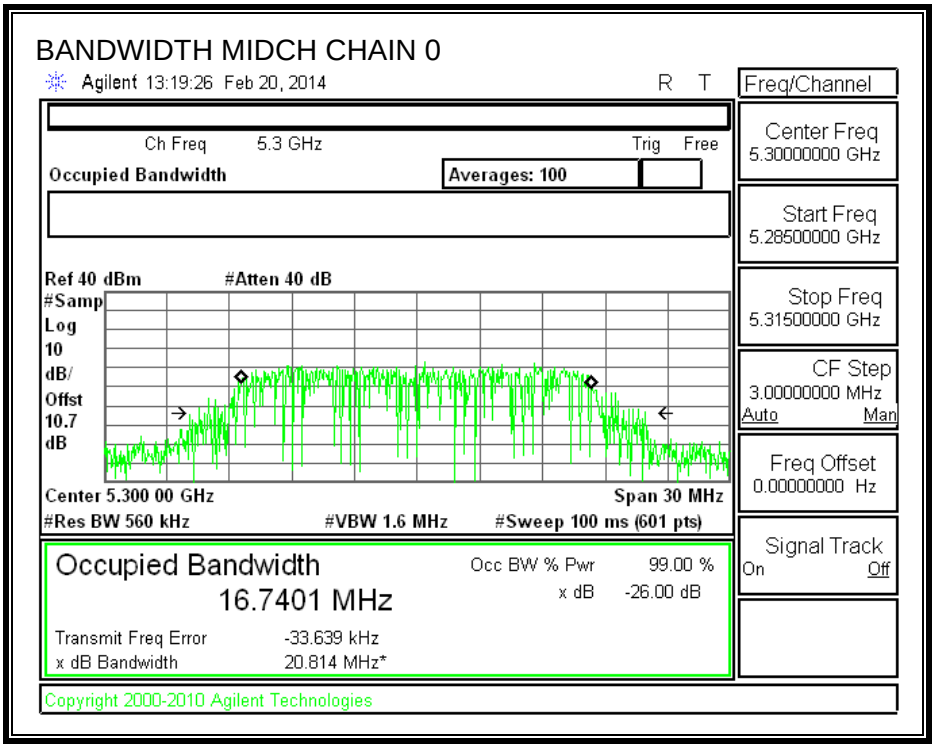


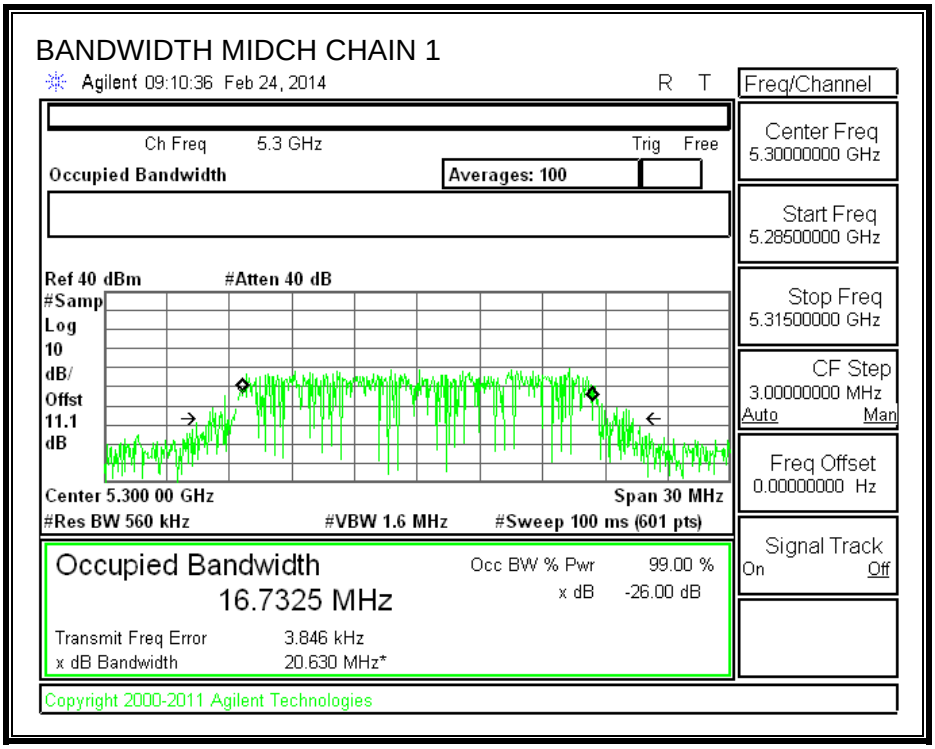
802.11ac HT80 5.2G 99% BANDWIDTH



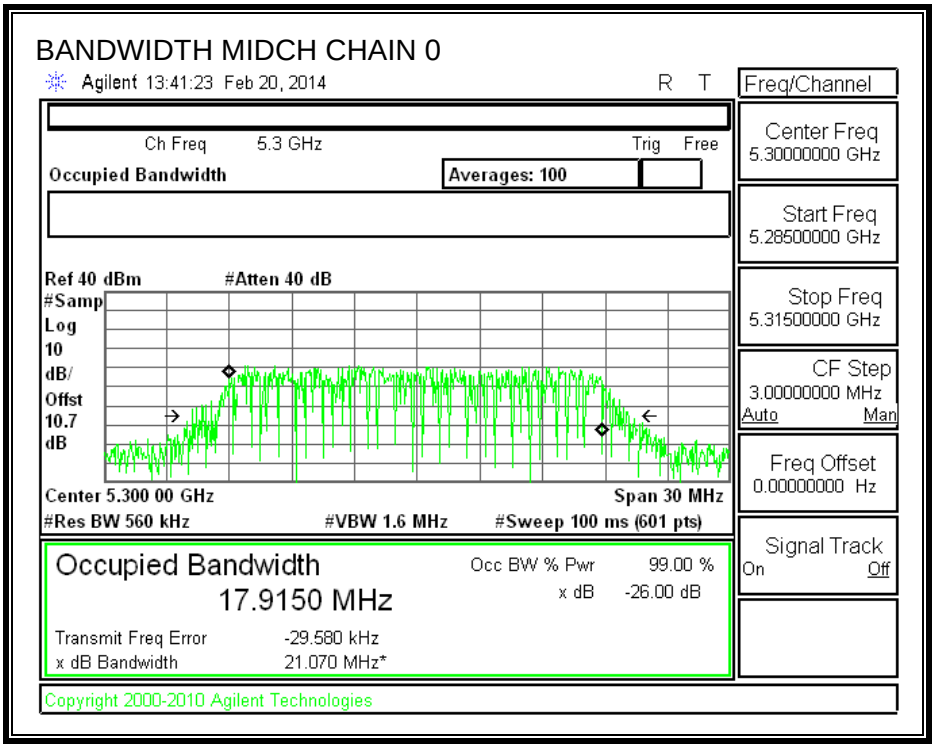


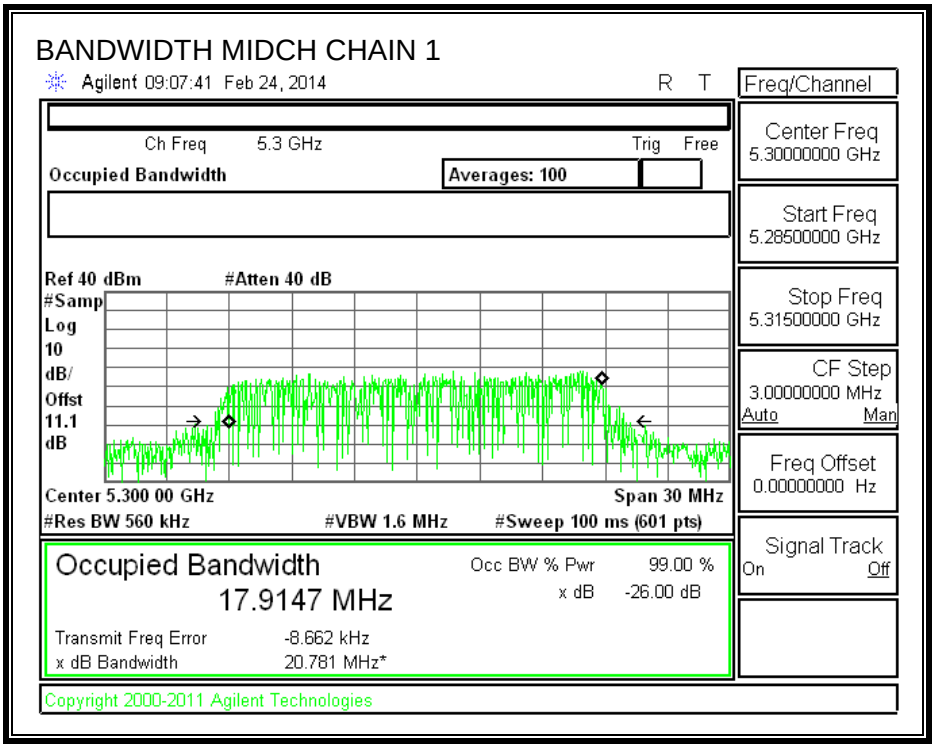
802.11a 5.3G 99% BANDWIDTH



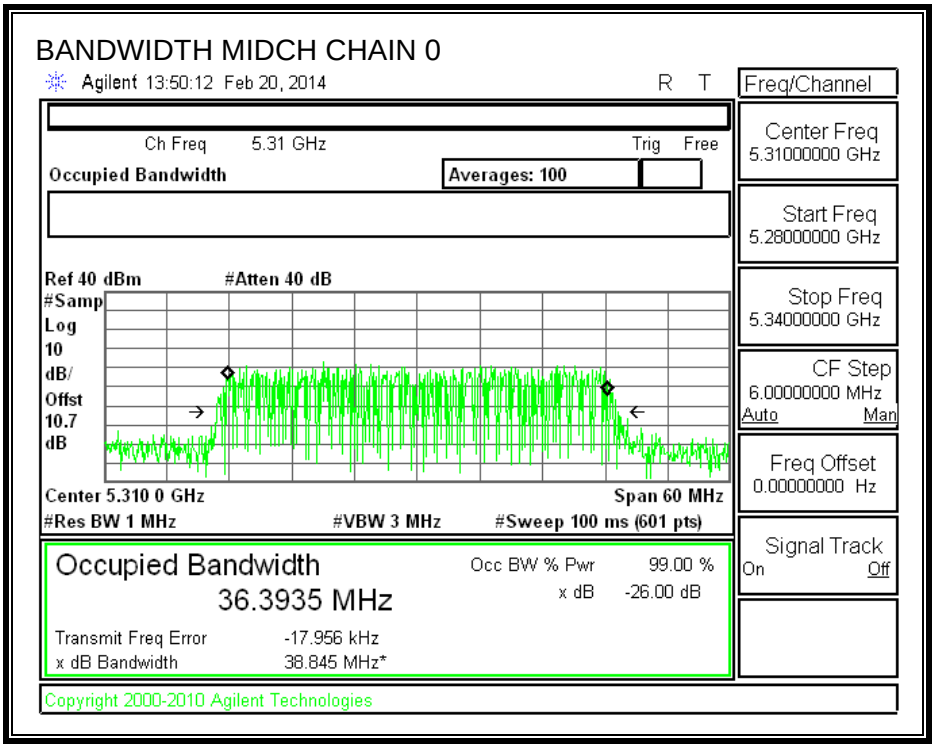


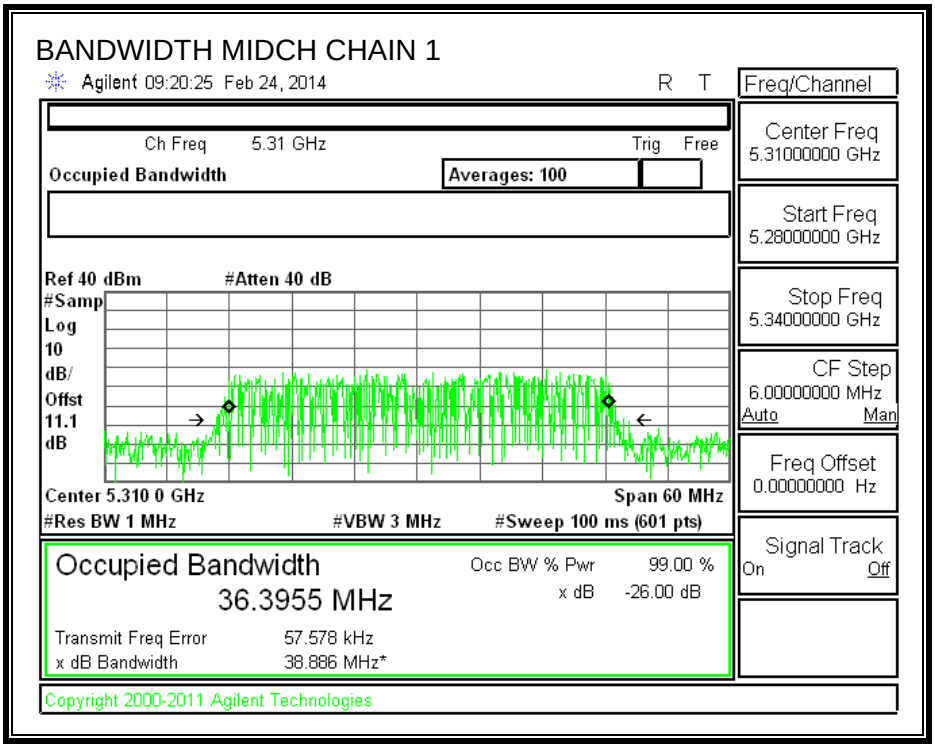
802.11n HT20 5.3G 99% BANDWIDTH



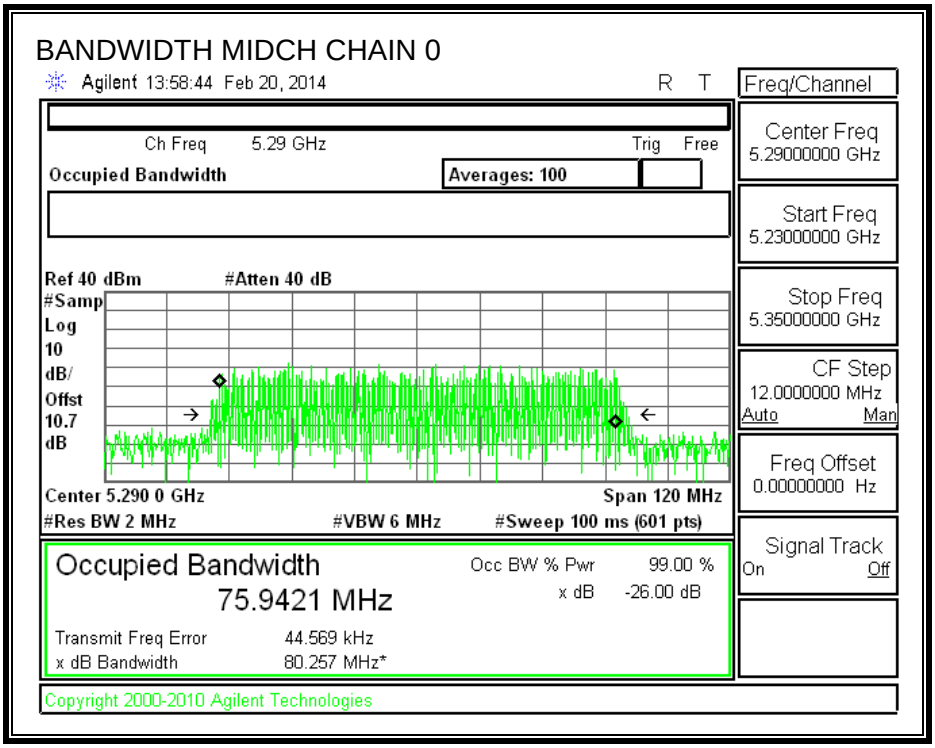


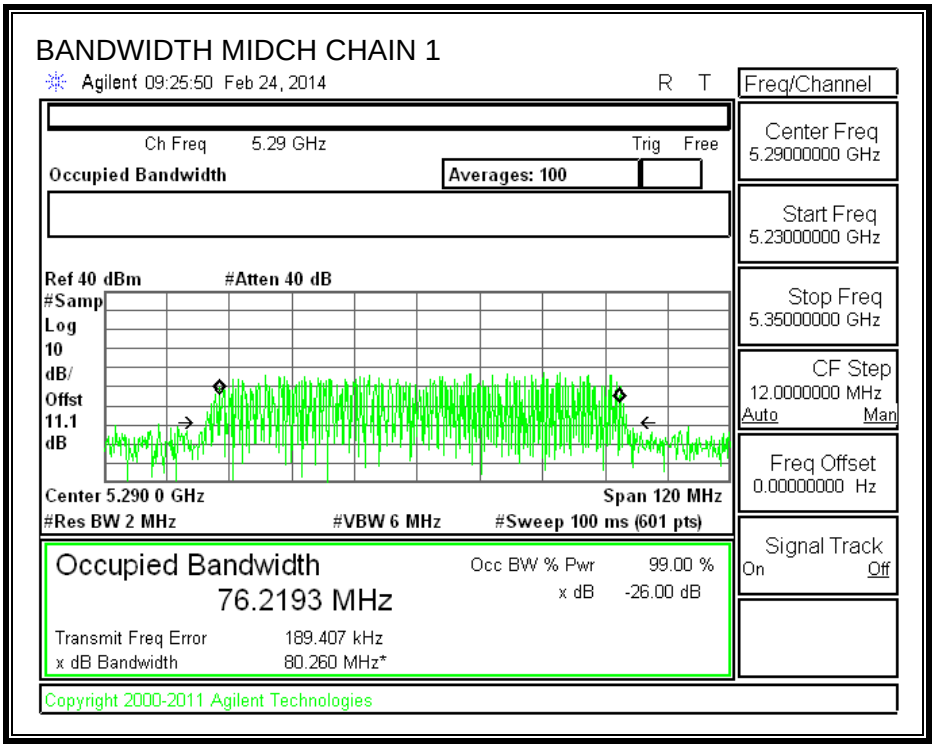
802.11n HT40 5.3G 99% BANDWIDTH



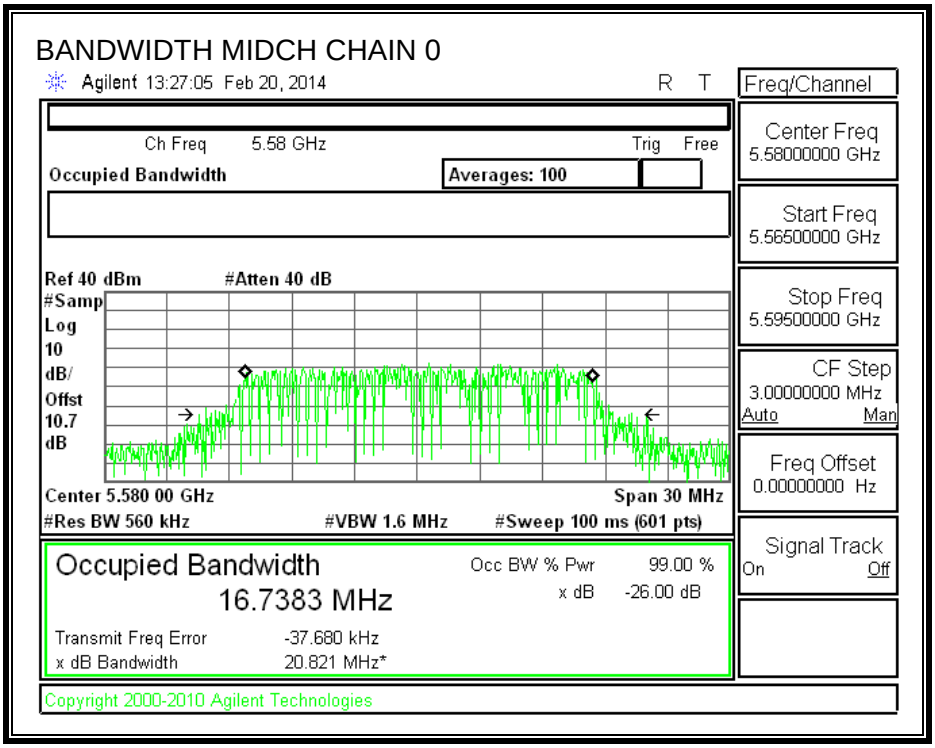


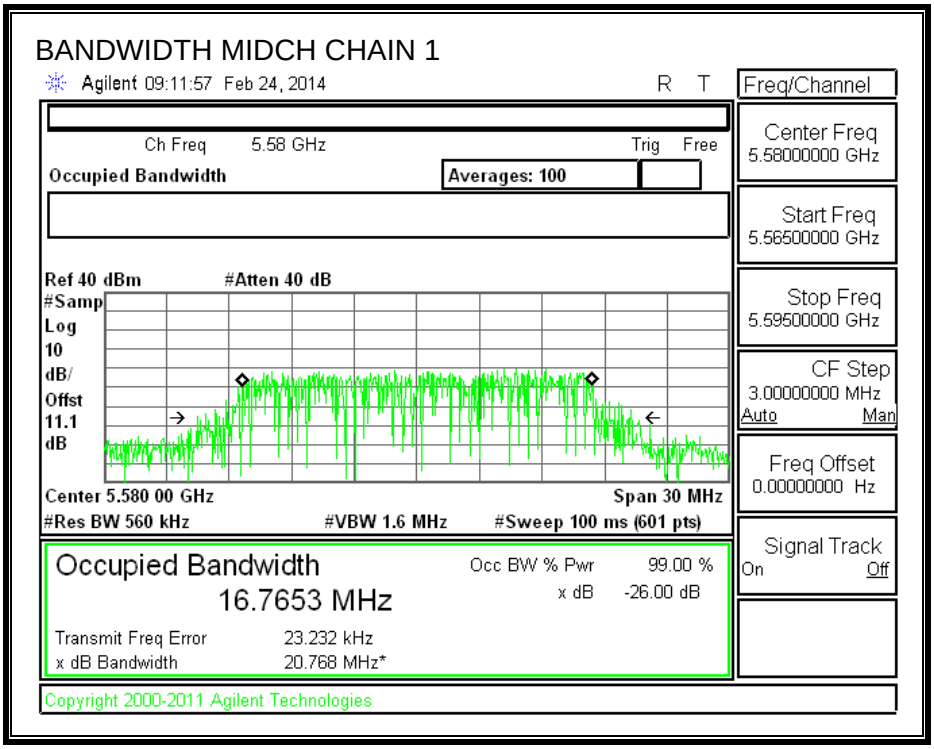
802.11ac HT80 5.3G 99% BANDWIDTH



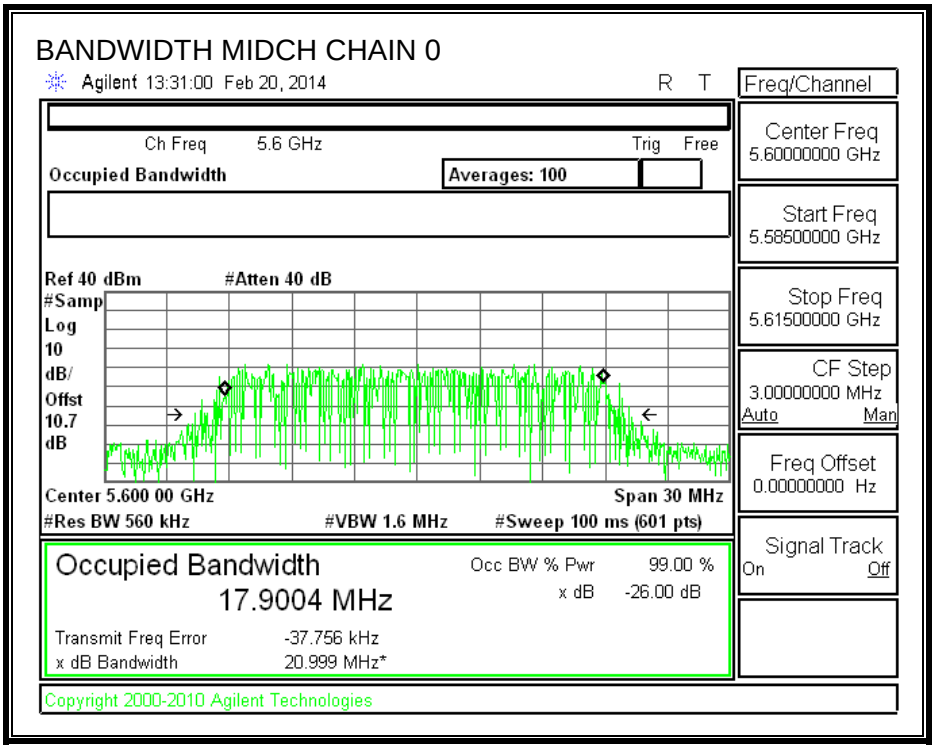


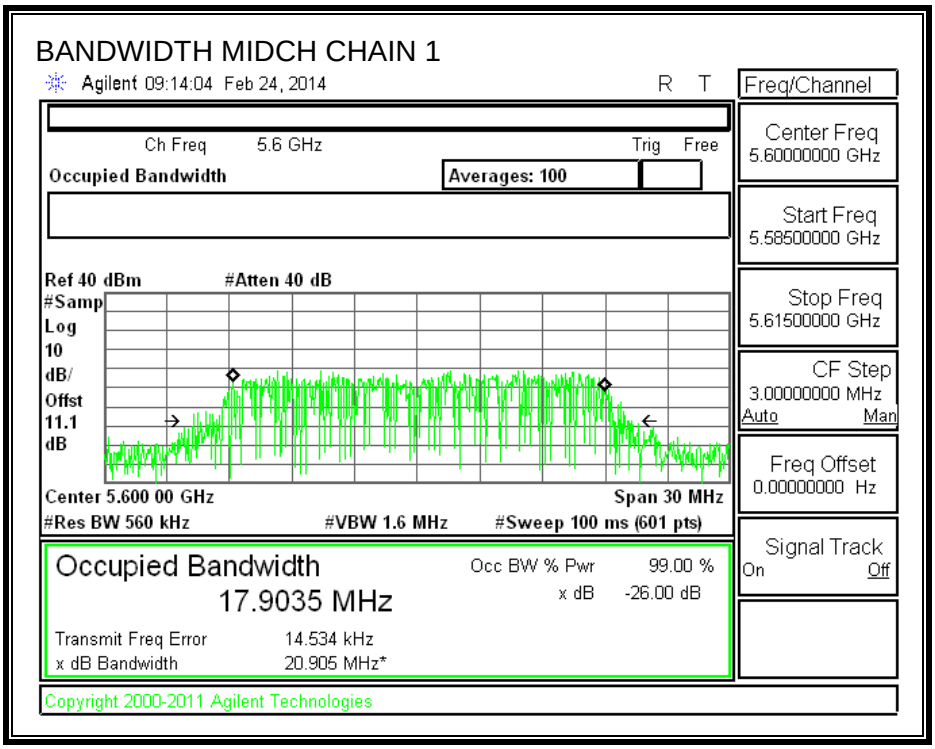
802.11a 5.5G 99% BANDWIDTH



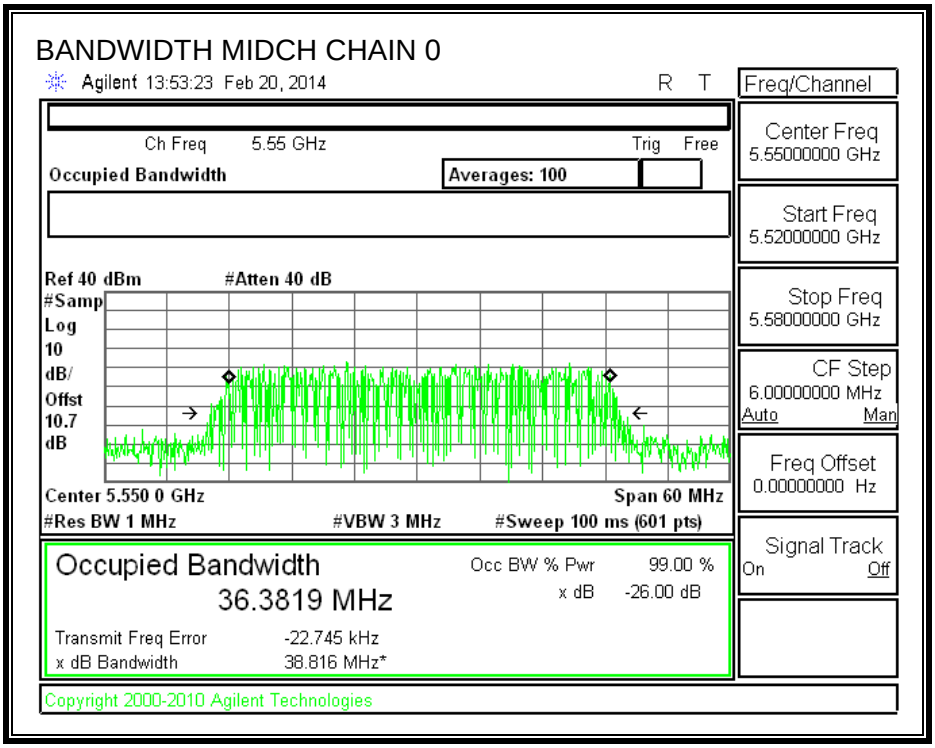


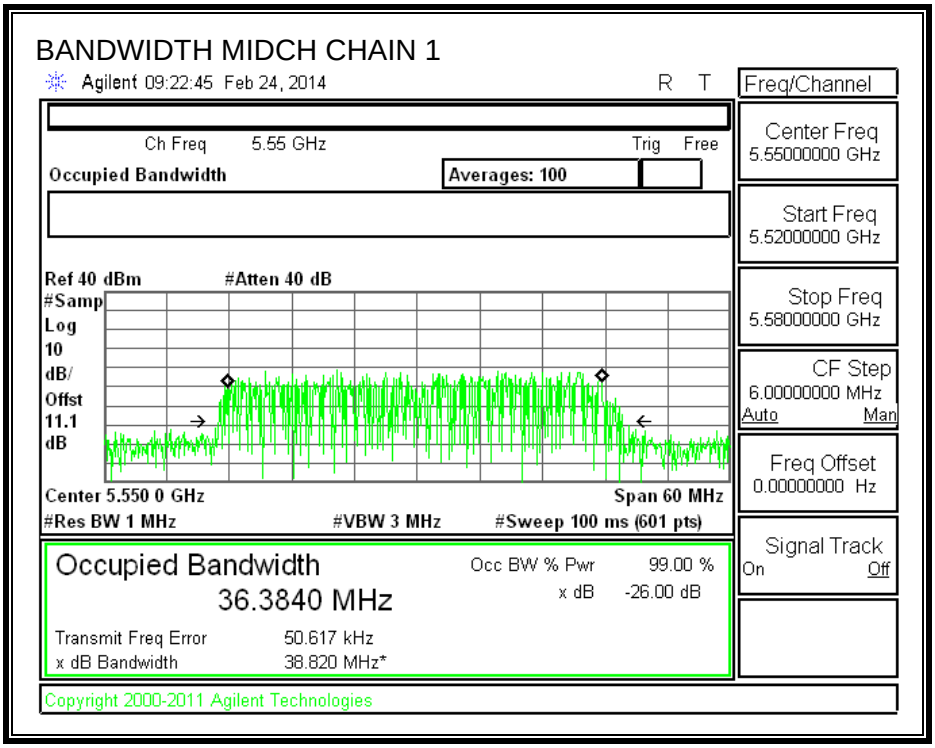
802.11n HT20 5.5G 99% BANDWIDTH



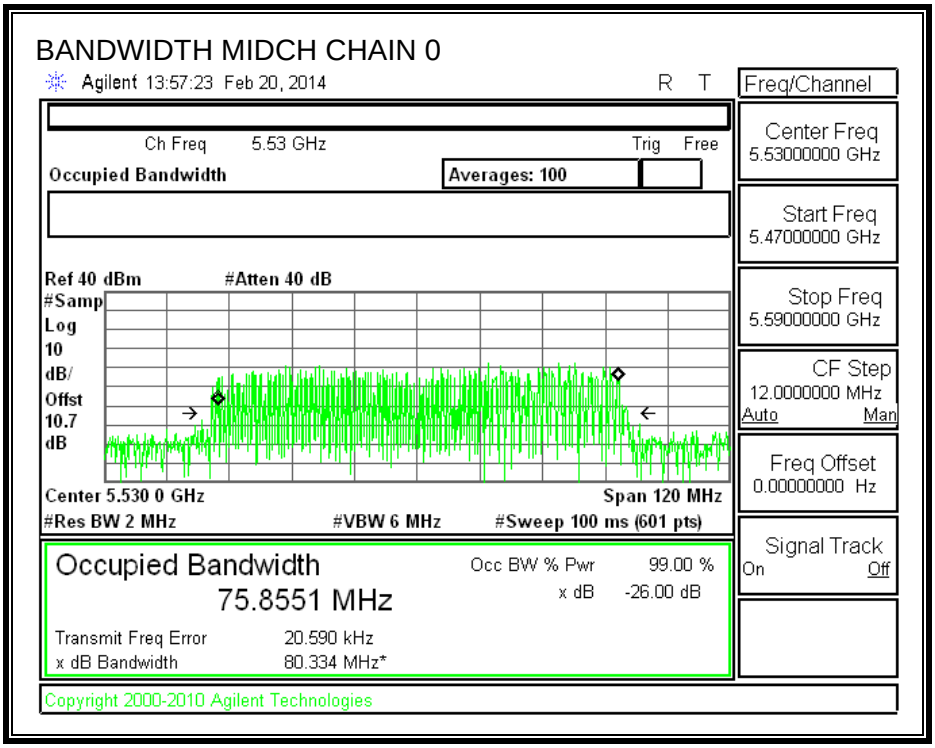


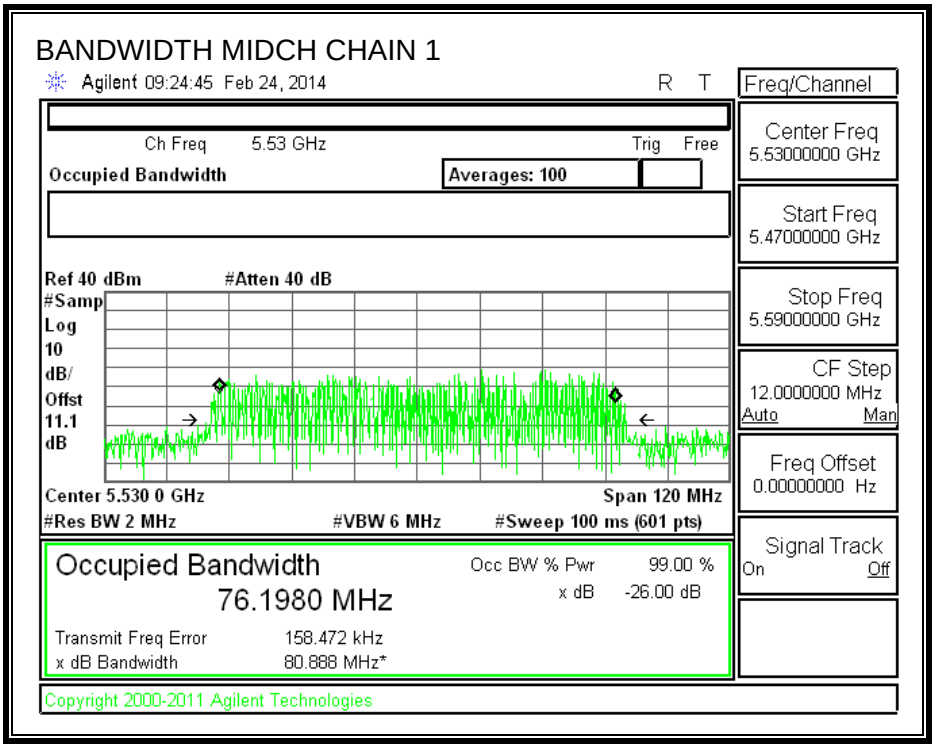
802.11n HT40 5.5G 99% BANDWIDTH





802.11ac HT80 5.5G 99% BANDWIDTH





10.3. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.18	-0.40	-1.57

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-3.18	-0.40	1.33

Test Methodology

RESULTS

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	22.30	16.7000	-1.57	1.33
Mid	5200	22.40	16.7000	-1.57	1.33
High	5240	22.40	16.8000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.23	23.80	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.23	23.80	17.00	4.00	10.00	4.00
High	5240	17.00	22.25	23.82	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	9.84	9.81	13.13	17.00	-3.87
Mid	5200	9.86	9.87	13.17	17.00	-3.83
High	5240	9.86	9.74	13.11	17.00	-3.89

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-1.43	-1.60	1.80	4.00	-2.20
Mid	5200	-1.53	-1.47	1.81	4.00	-2.19
High	5240	-1.78	-1.94	1.45	4.00	-2.55

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5180	22.50	17.9000	-1.57	1.33
Mid	5200	22.50	17.9000	-1.57	1.33
High	5240	22.50	17.9000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5180	17.00	22.53	24.10	17.00	4.00	10.00	4.00
Mid	5200	17.00	22.53	24.10	17.00	4.00	10.00	4.00
High	5240	17.00	22.53	24.10	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	0.62	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	9.44	9.59	13.15	17.00	-3.85
Mid	5200	9.45	9.52	13.11	17.00	-3.89
High	5240	9.57	9.53	13.18	17.00	-3.82

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-2.08	-1.91	1.64	4.00	-2.36
Mid	5200	-2.42	-2.31	1.27	4.00	-2.73
High	5240	-2.30	-2.34	1.31	4.00	-2.69

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5190	41.90	36.4000	-1.57	1.33
Mid	5230	41.90	36.4000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Low	5190	17.00	23.00	24.57	17.00	4.00	10.00	4.00
Mid	5230	17.00	23.00	24.57	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	1.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	9.53	9.64	13.69	17.00	-3.31
Mid	5230	9.49	9.08	13.40	17.00	-3.60

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-5.21	-4.42	-0.69	4.00	-4.69
Mid	5230	-4.88	-5.85	-1.23	4.00	-5.23

10.3.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Mid	5210	84.50	76.0000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC EIRP Limit (dBm)	Max IC Power (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC eirp PSD Limit (dBm)	PPSD Limit (dBm)
Mid	5210	17.00	23.00	24.57	17.00	4.00	10.00	4.00

Duty Cycle CF (dB)	1.89	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	8.35	7.97	13.06	17.00	-3.94

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Mid	5210	-9.47	-9.69	-4.68	4.00	-8.68

10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	22.40	16.7000	-1.57	1.33
Mid	5300	22.40	16.7000	-1.57	1.33
High	5320	22.30	16.8000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.23	29.23	23.23	11.00	11.00	11.00
Mid	5300	24.00	23.23	29.23	23.23	11.00	11.00	11.00
High	5320	24.00	23.25	29.25	23.25	11.00	11.00	11.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	10.16	9.98	13.38	23.23	-9.85
Mid	5300	10.11	9.93	13.33	23.23	-9.90
High	5320	10.10	10.00	13.36	23.25	-9.89

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-1.27	-1.51	1.92	11.00	-9.08
Mid	5300	-1.23	-1.35	2.02	11.00	-8.98
High	5320	-1.10	-1.25	2.14	11.00	-8.86

10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	22.50	17.9000	-1.57	1.33
Mid	5300	22.60	17.9000	-1.57	1.33
High	5320	22.50	17.9000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5260	24.00	23.53	29.53	23.53	11.00	11.00	11.00
Mid	5300	24.00	23.53	29.53	23.53	11.00	11.00	11.00
High	5320	24.00	23.53	29.53	23.53	11.00	11.00	11.00

Duty Cycle CF (dB)	0.62	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	9.87	9.57	13.35	23.53	-10.18
Mid	5300	9.79	9.49	13.27	23.53	-10.26
High	5320	9.81	9.55	13.31	23.53	-10.22

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-2.07	-1.98	1.61	11.00	-9.39
Mid	5300	-1.86	-2.47	1.48	11.00	-9.52
High	5320	-2.00	-2.43	1.42	11.00	-9.58

10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5270	41.50	36.4000	-1.57	1.33
Mid	5310	41.70	36.4000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	1.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	9.95	9.12	13.67	24.00	-10.33
Mid	5310	9.87	9.08	13.60	24.00	-10.40

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-4.78	-5.94	-1.21	11.00	-12.21
Mid	5310	-4.36	-5.51	-0.79	11.00	-11.79

10.3.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5290	84.40	75.9000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	1.89	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	8.69	7.89	13.21	24.00	-10.79

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-8.78	-9.63	-4.28	11.00	-15.28

10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	22.30	16.7000	-1.57	1.33
Mid	5580	22.30	16.7000	-1.57	1.33
High	5700	22.40	16.8000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5500	24.00	23.23	29.23	23.23	11.00	11.00	11.00
Mid	5580	24.00	23.23	29.23	23.23	11.00	11.00	11.00
High	5700	24.00	23.25	29.25	23.25	11.00	11.00	11.00

Duty Cycle CF (dB)	0.30	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	9.64	9.71	12.98	23.23	-10.24
Mid	5580	9.64	9.94	13.10	23.23	-10.13
High	5700	9.43	9.71	12.88	23.25	-10.37

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-1.87	-1.69	1.53	11.00	-9.47
Mid	5580	-1.92	-1.84	1.43	11.00	-9.57
High	5700	-2.26	-1.59	1.40	11.00	-9.60

10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
Low	5500	22.30	17.9000	-1.57	1.33
Mid	5580	22.40	17.9000	-1.57	1.33
High	5700	22.60	17.9000	-1.57	1.33

Limits

Channel	Frequency	FCC Power Limit	IC Power Limit	IC EIRP Limit	Power Limit	FCC PPSD Limit	IC PSD Limit	PPSD Limit
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
Low	5500	24.00	23.53	29.53	23.53	11.00	11.00	11.00
Mid	5580	24.00	23.53	29.53	23.53	11.00	11.00	11.00
High	5700	24.00	23.53	29.53	23.53	11.00	11.00	11.00

Duty Cycle CF (dB)	0.62	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency	Chain 0 Meas Power	Chain 1 Meas Power	Total Corr'd Power	Power Limit	Power Margin
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	9.31	9.41	12.99	23.53	-10.54
Mid	5580	8.97	9.61	12.93	23.53	-10.60
High	5700	9.19	9.01	12.73	23.53	-10.79

PPSD Results

Channel	Frequency	Chain 0 Meas PPSD	Chain 1 Meas PPSD	Total Corr'd PPSD	PPSD Limit	PPSD Margin
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	-2.31	-2.51	1.22	11.00	-9.78
Mid	5580	-2.61	-2.41	1.12	11.00	-9.88
High	5700	-2.87	-2.68	0.86	11.00	-10.14

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5510	41.90	36.4000	-1.57	1.33
Mid	5550	42.00	36.4000	-1.57	1.33
High	5670	41.90	36.4000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	1.10	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	9.33	9.52	13.54	24.00	-10.46
Mid	5550	9.12	9.41	13.38	24.00	-10.62
High	5670	9.25	9.43	13.45	24.00	-10.55

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-5.43	-4.97	-1.08	11.00	-12.08
Mid	5550	-5.33	-5.36	-1.23	11.00	-12.23
High	5670	-5.41	-5.14	-1.16	11.00	-12.16

10.3.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5530	84.40	75.9000	-1.57	1.33

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	1.89	Included in Calculations of Corr'd Power & PPSD

Output Power Results

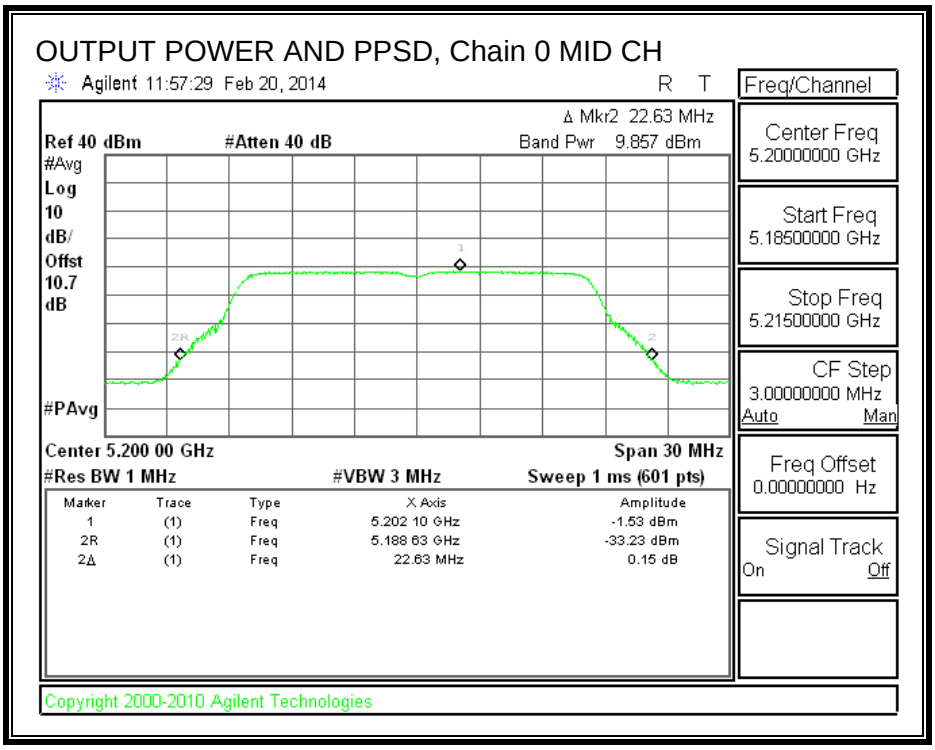
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.02	8.53	13.68	24.00	-10.32

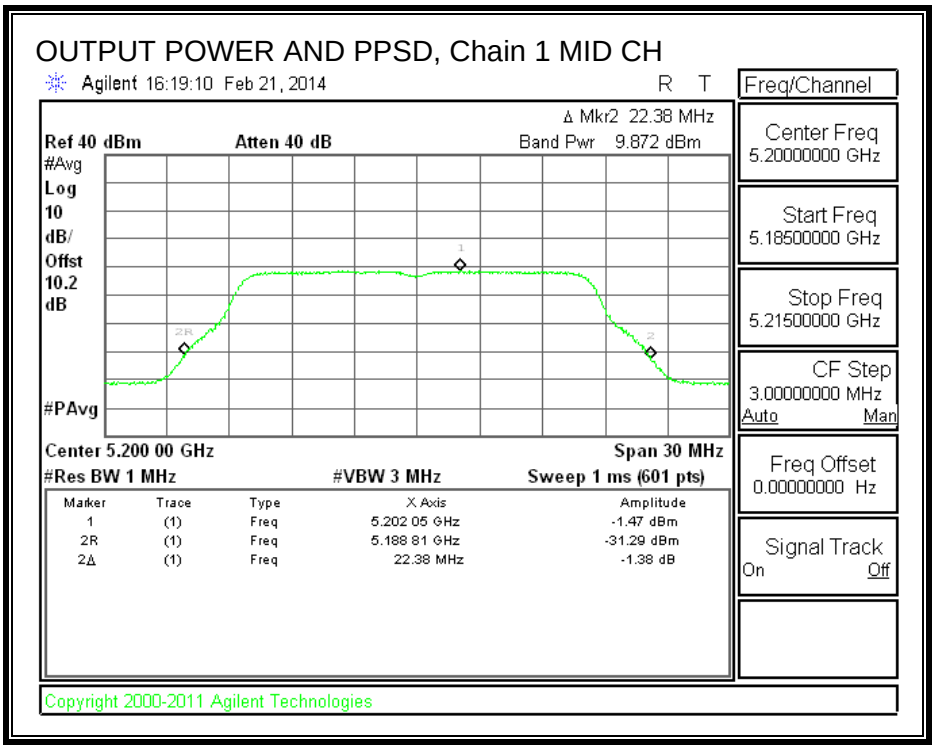
PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5530	-7.71	-9.10	-3.45	11.00	-14.45

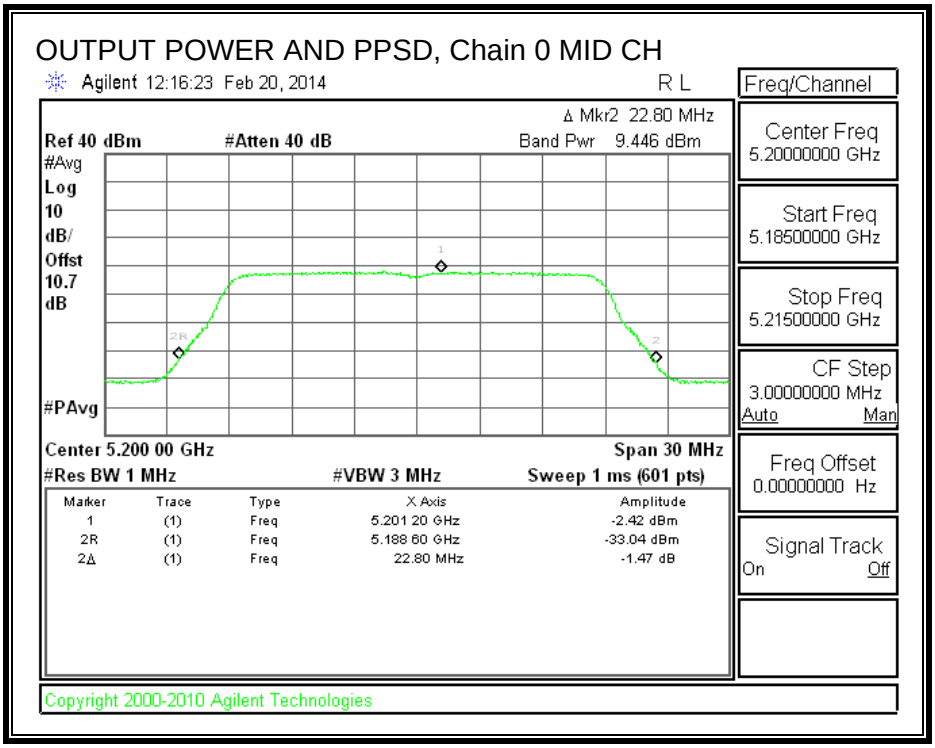
10.3.13. Plots

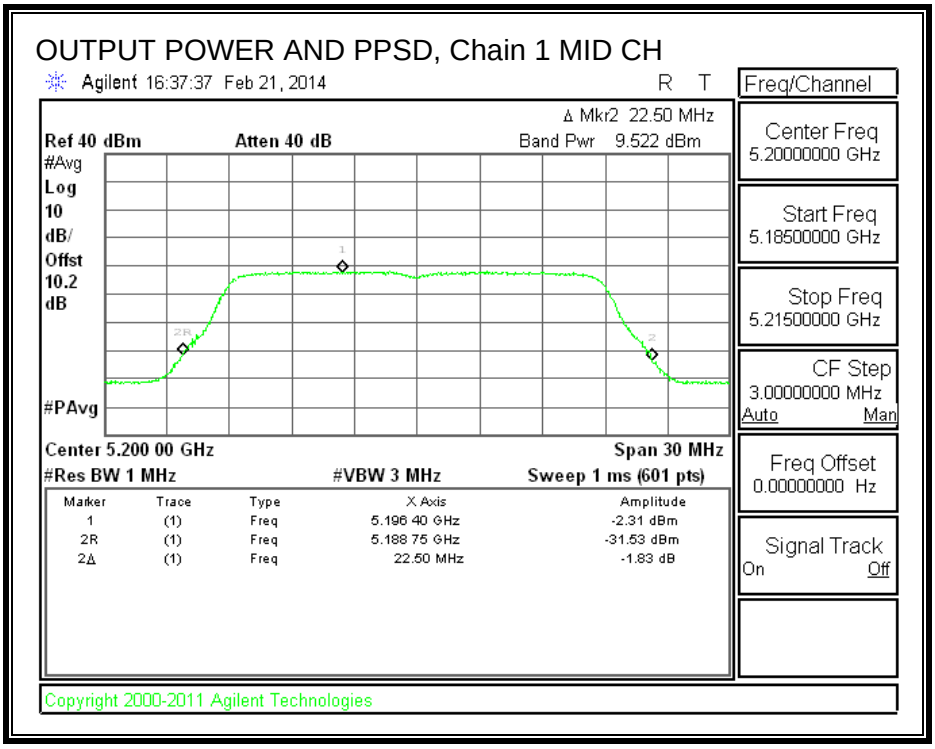
802.11a 5.2G OUTPUT POWER AND PPSD, Chain 0



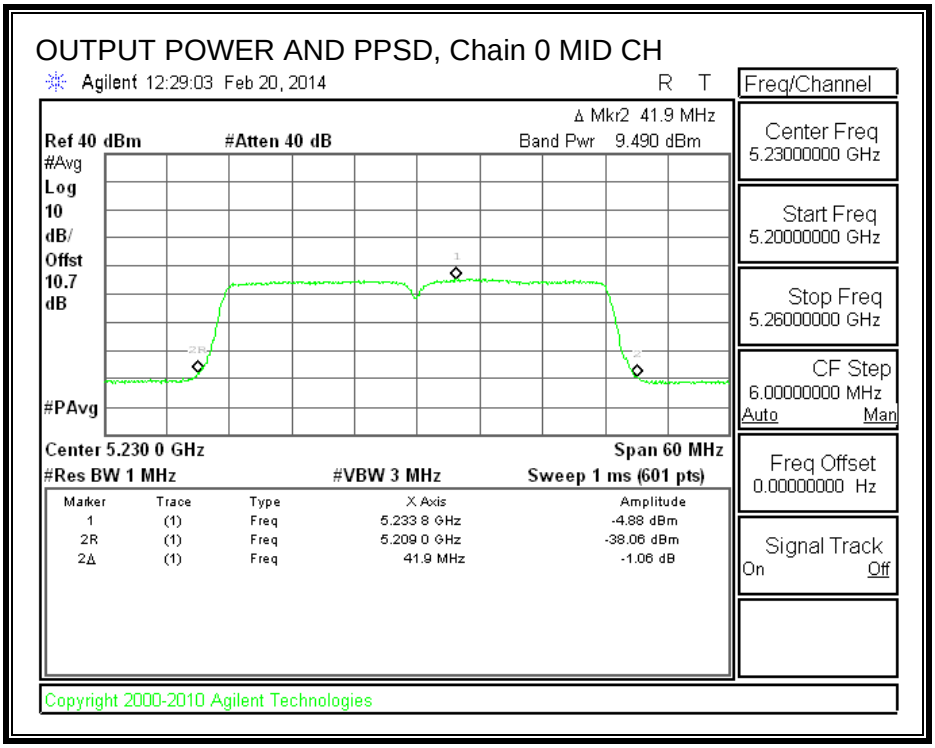


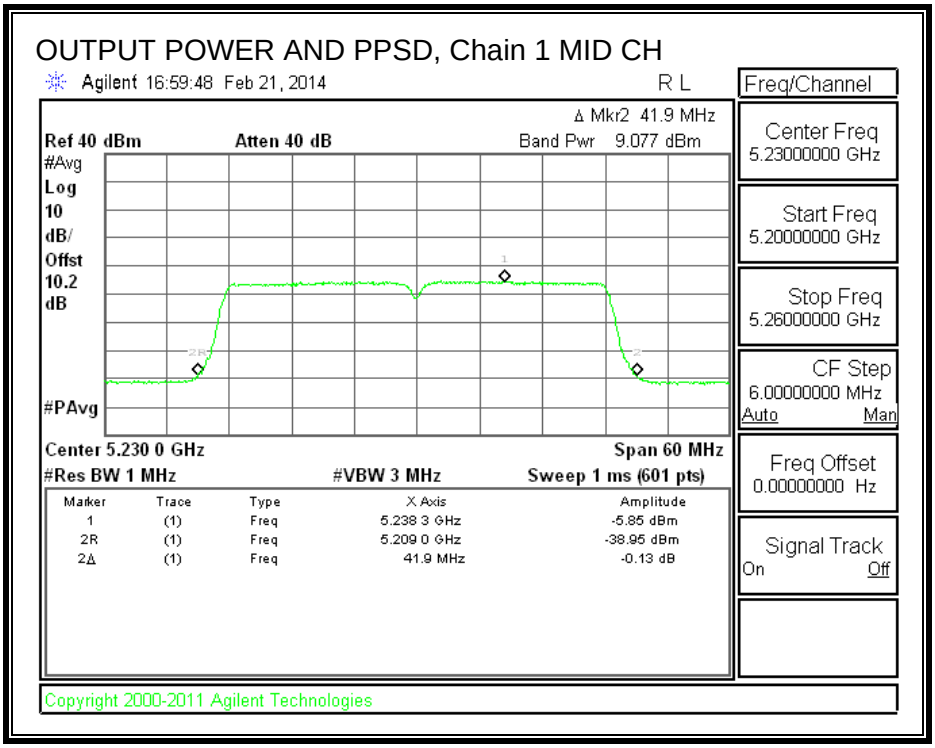
802.11n HT20 5.2G OUTPUT POWER AND PPSD, Chain 0



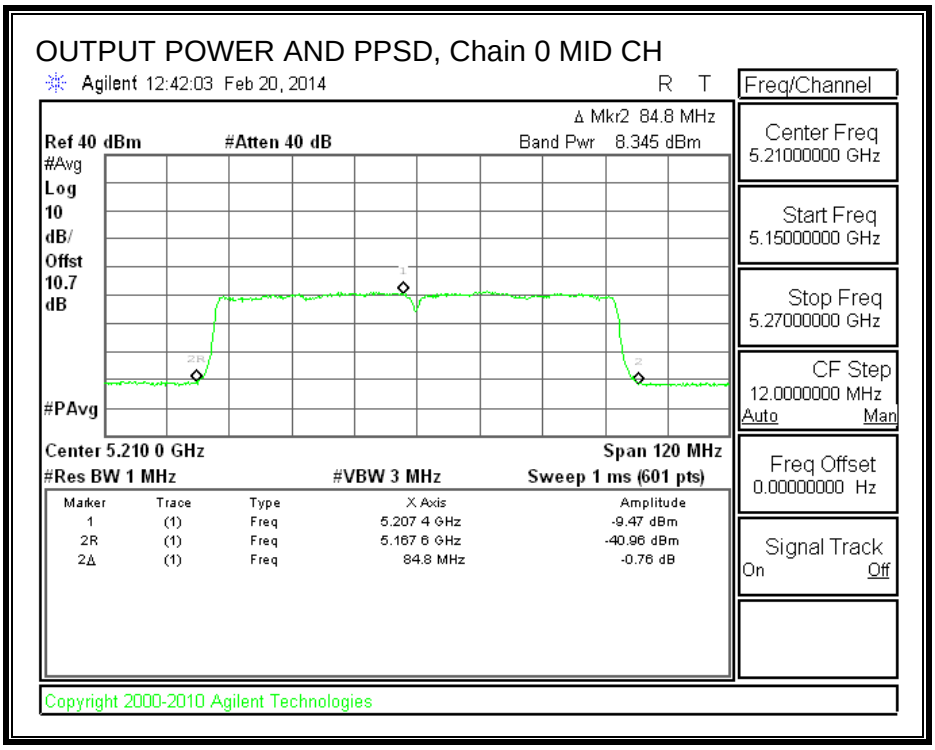


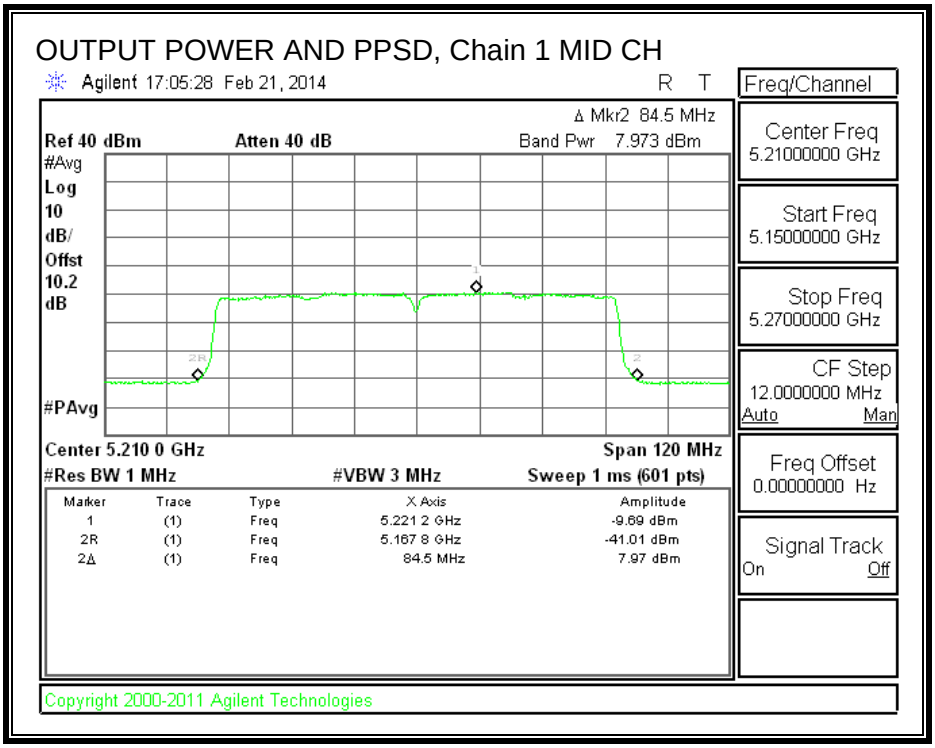
802.11n HT40 5.2G OUTPUT POWER AND PPSD, Chain 0



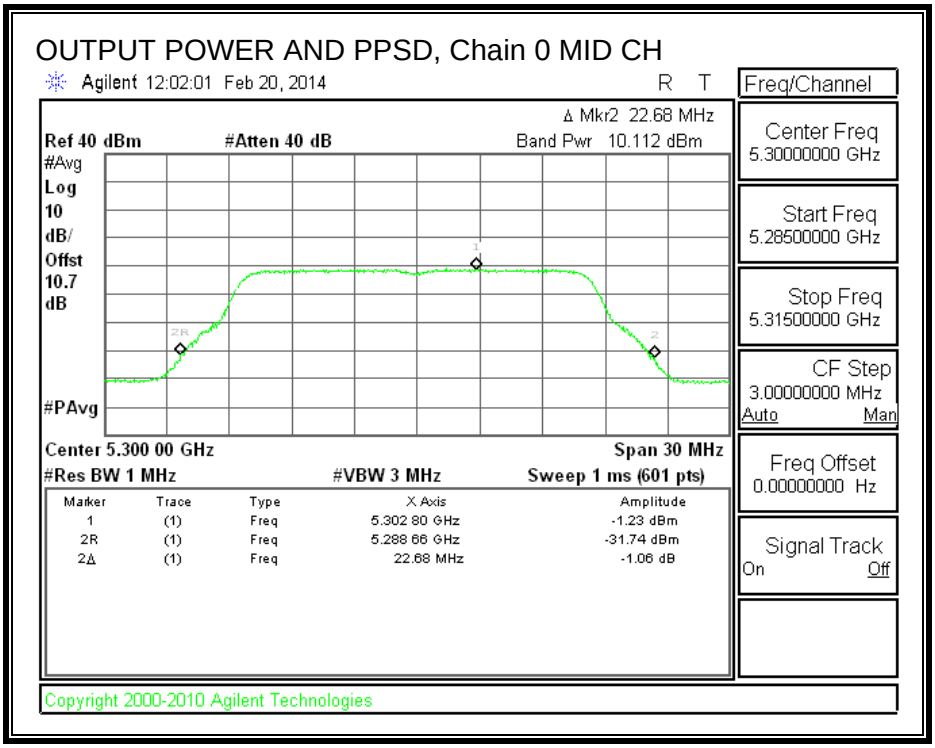


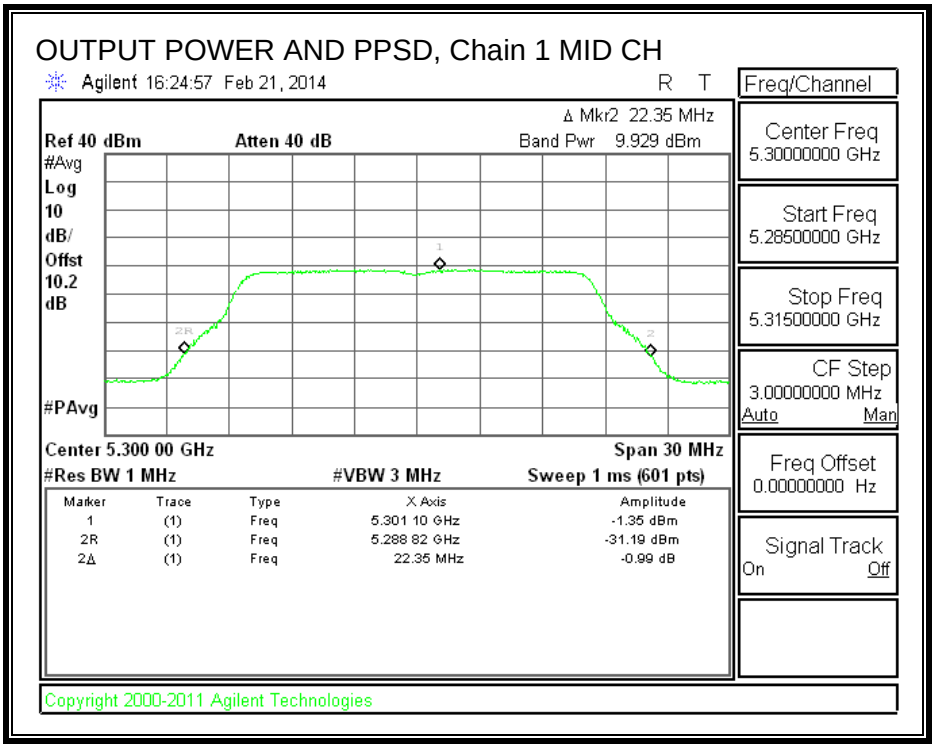
802.11ac HT80 5.2G OUTPUT POWER AND PPSD, Chain 0





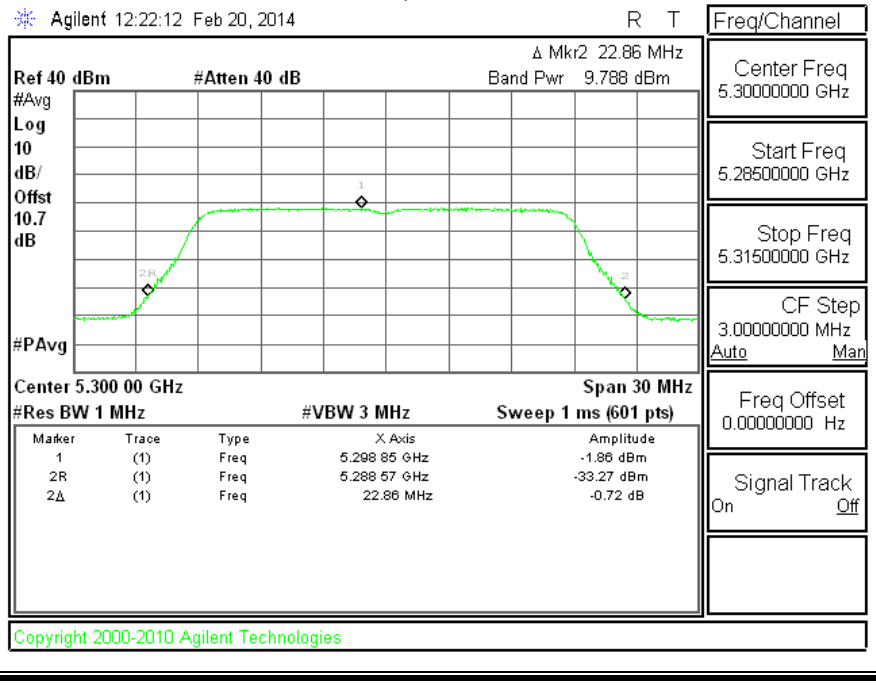
802.11a 5.3G OUTPUT POWER AND PPSD, Chain 0



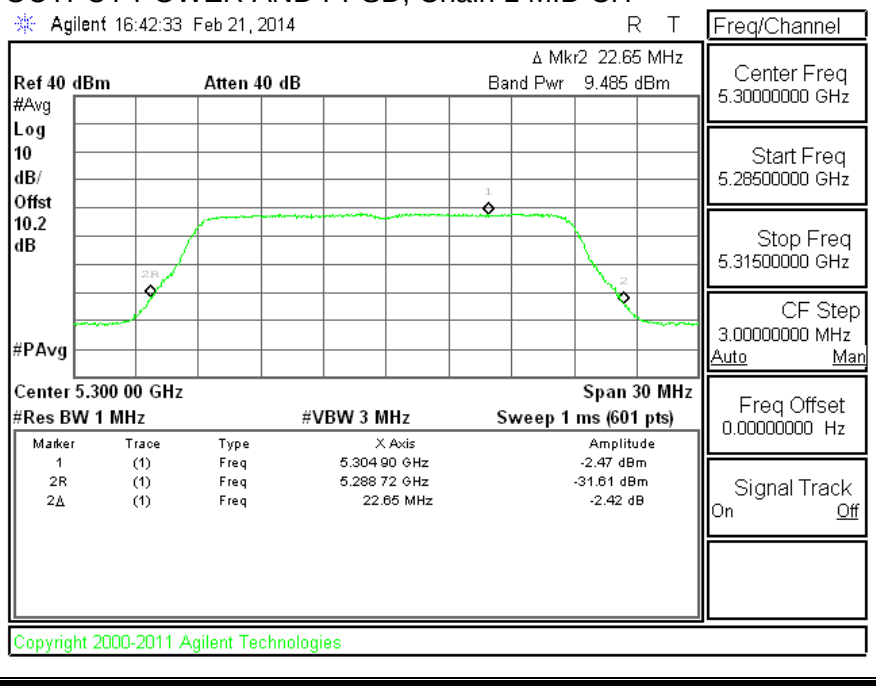


802.11n HT20 5.3G OUTPUT POWER AND PPSD, Chain 0

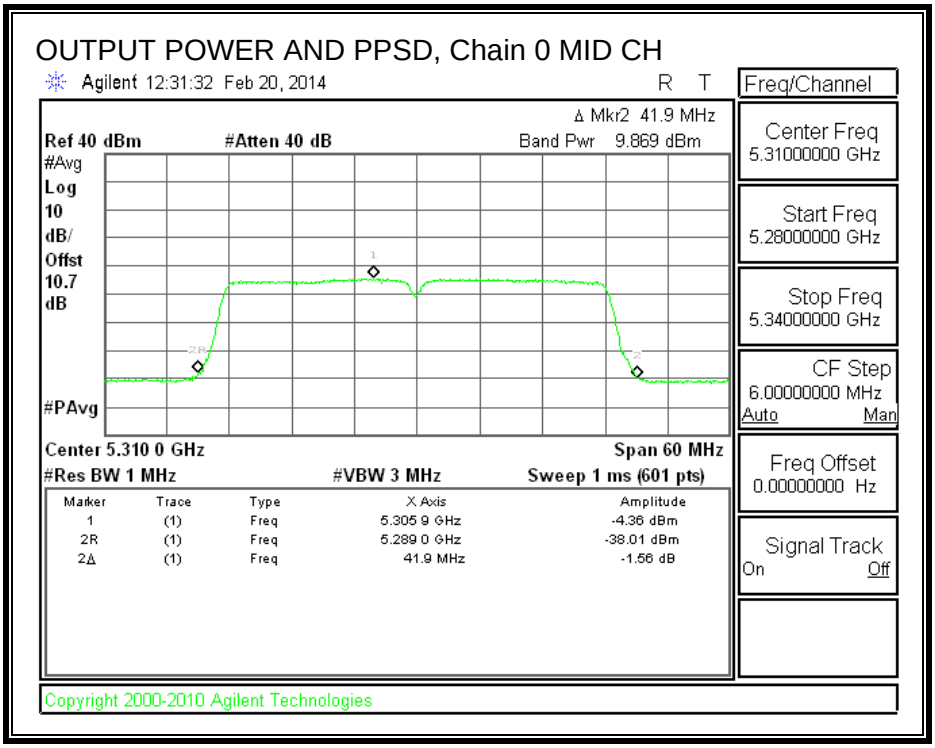
OUTPUT POWER AND PPSD, Chain 0 MID CH

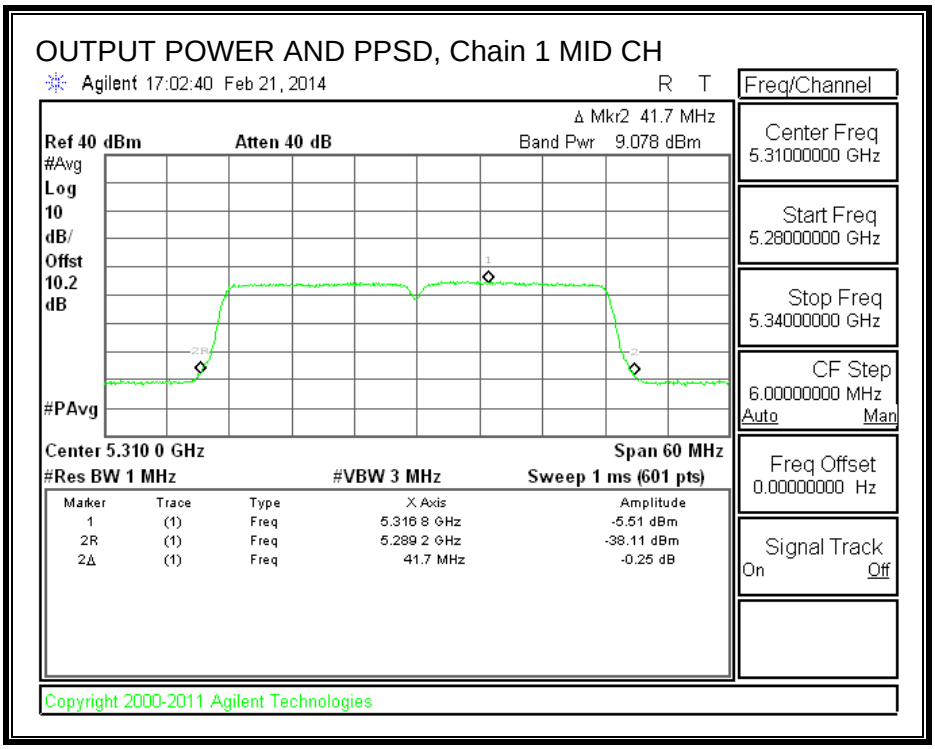


OUTPUT POWER AND PPSD, Chain 1 MID CH

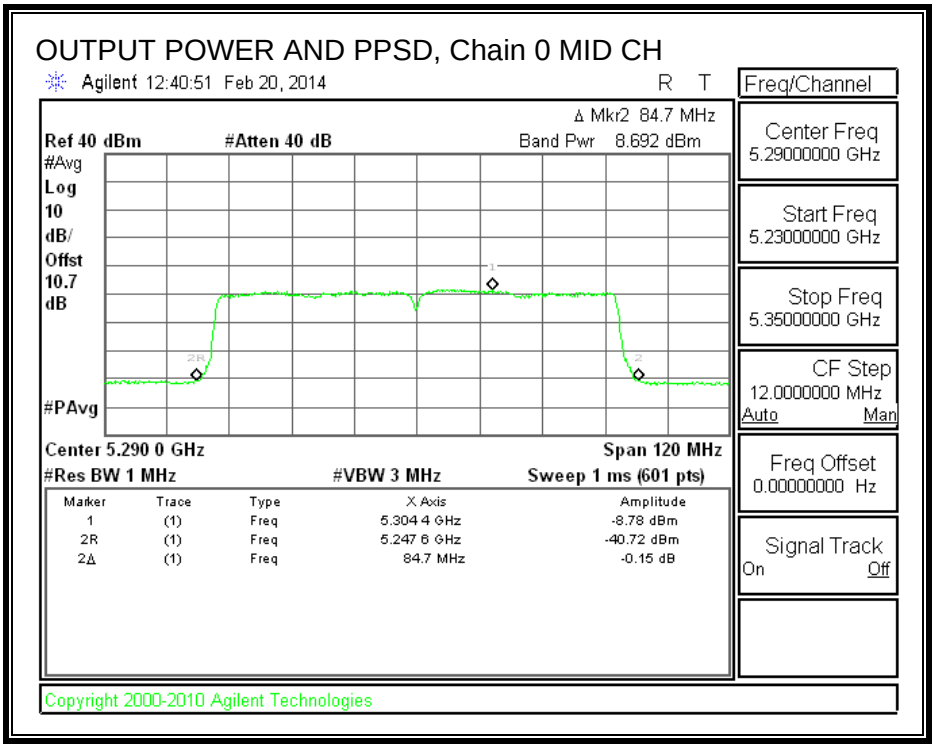


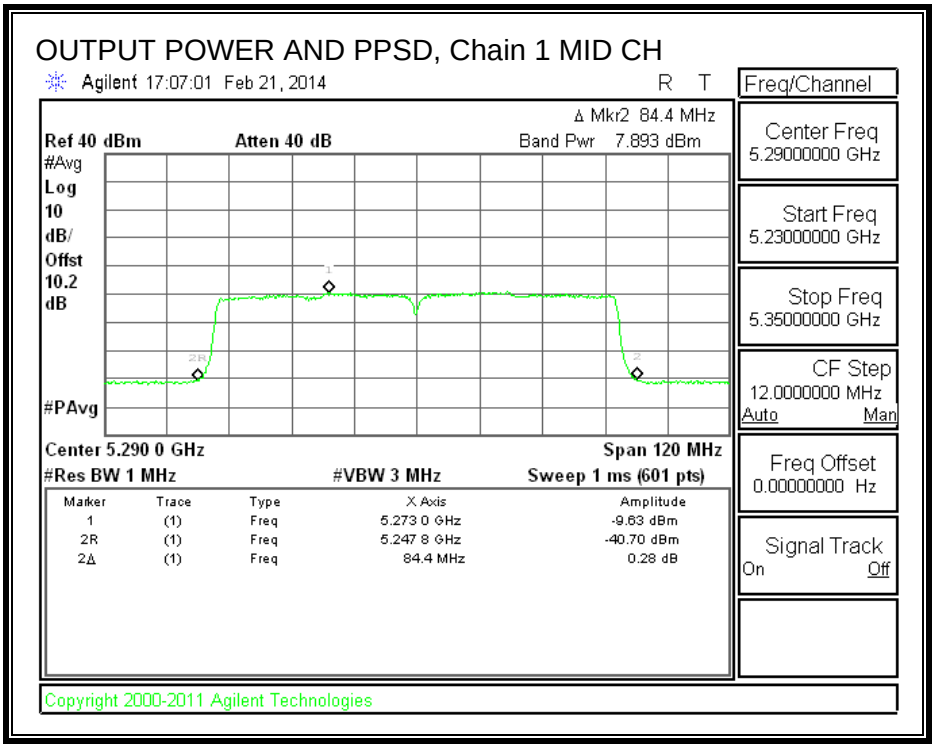
802.11n HT40 5.3G OUTPUT POWER AND PPSD, Chain 0



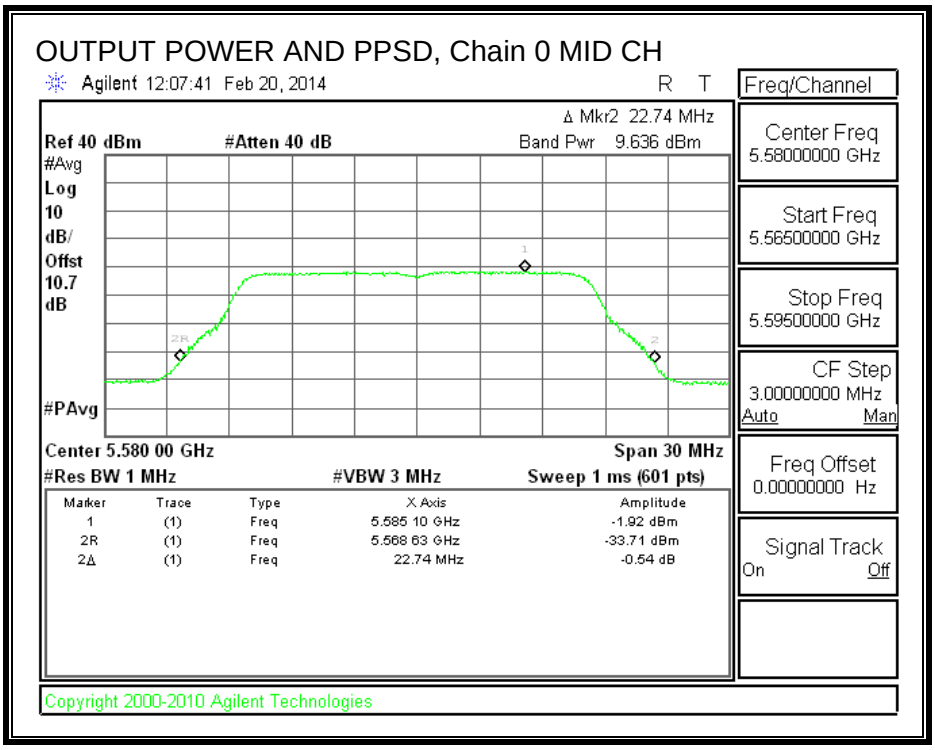


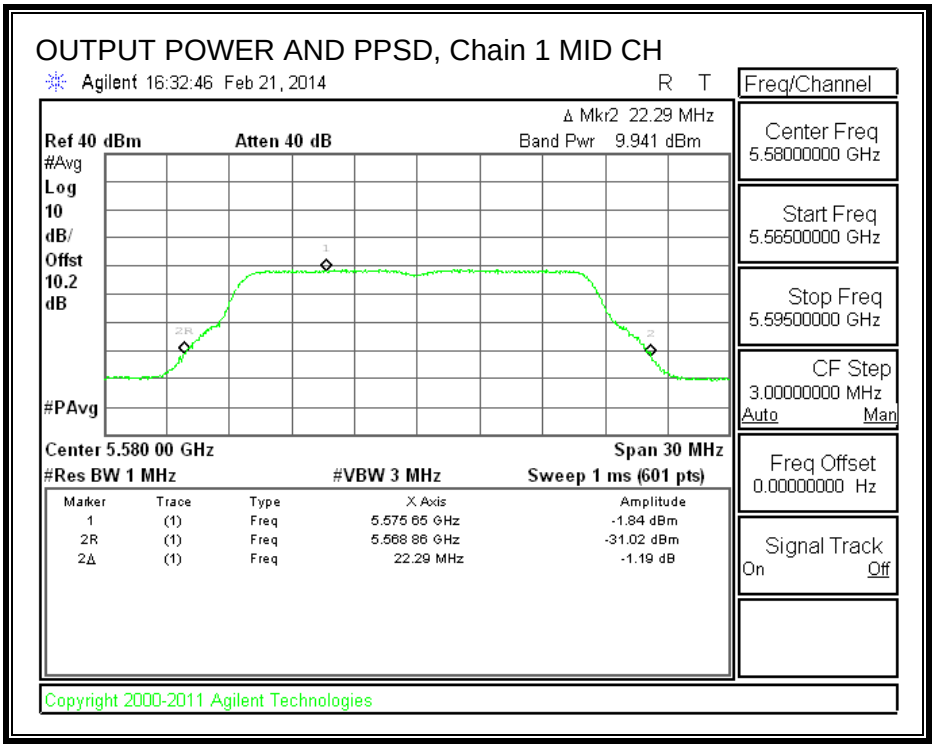
802.11ac HT80 5.3G OUTPUT POWER AND PPSD, Chain 0





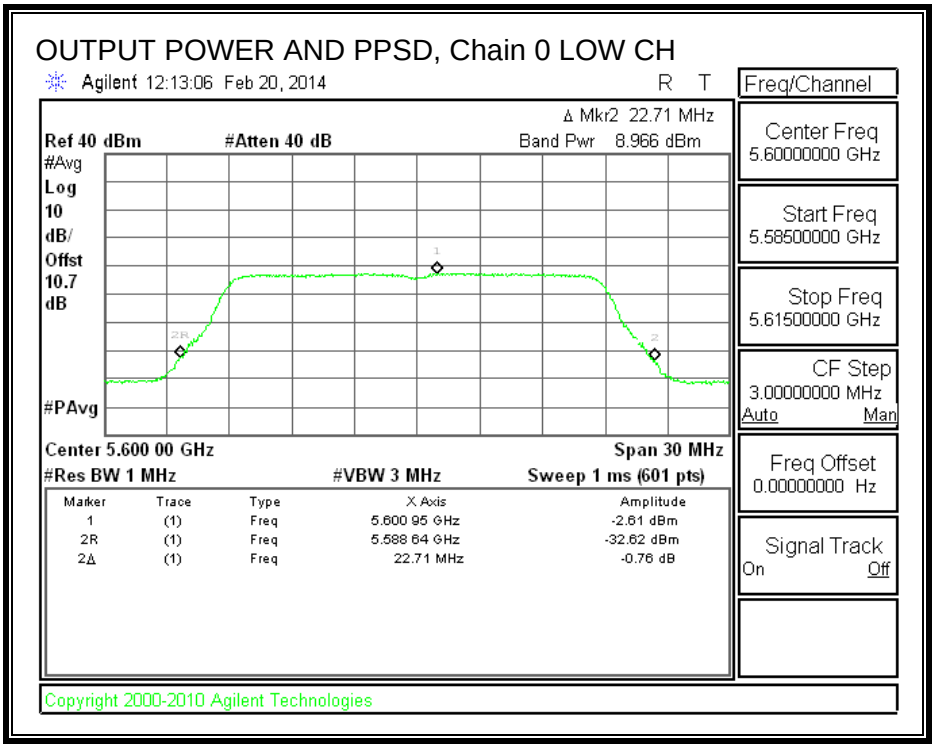
802.11a 5.5G OUTPUT POWER AND PPSD, Chain 0



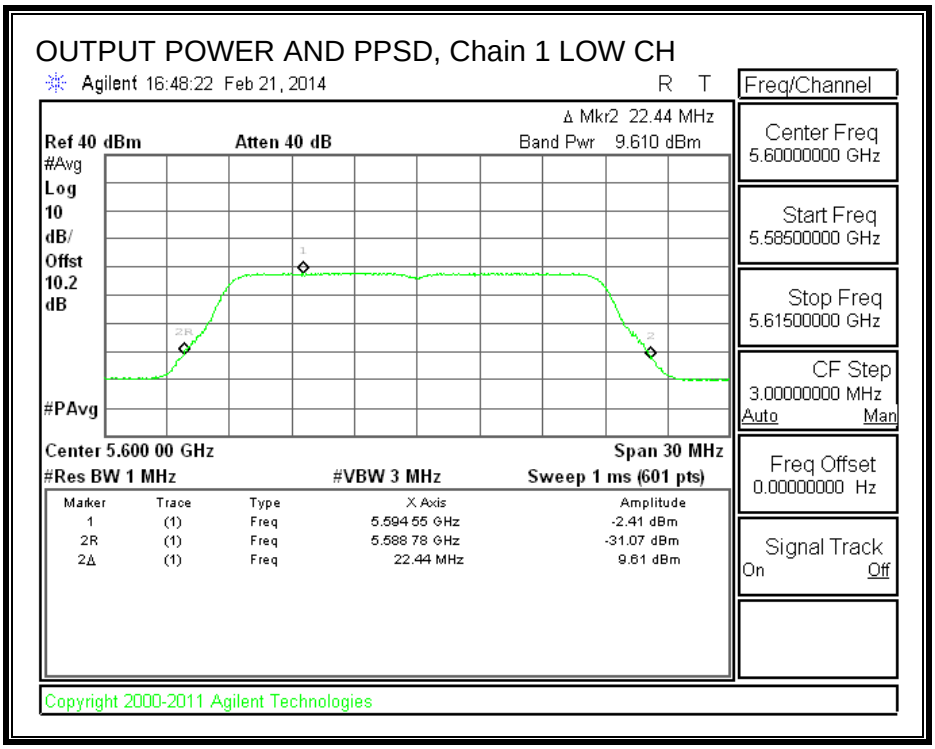


802.11n HT20 5.5G OUTPUT POWER AND PPSD, Chain 0

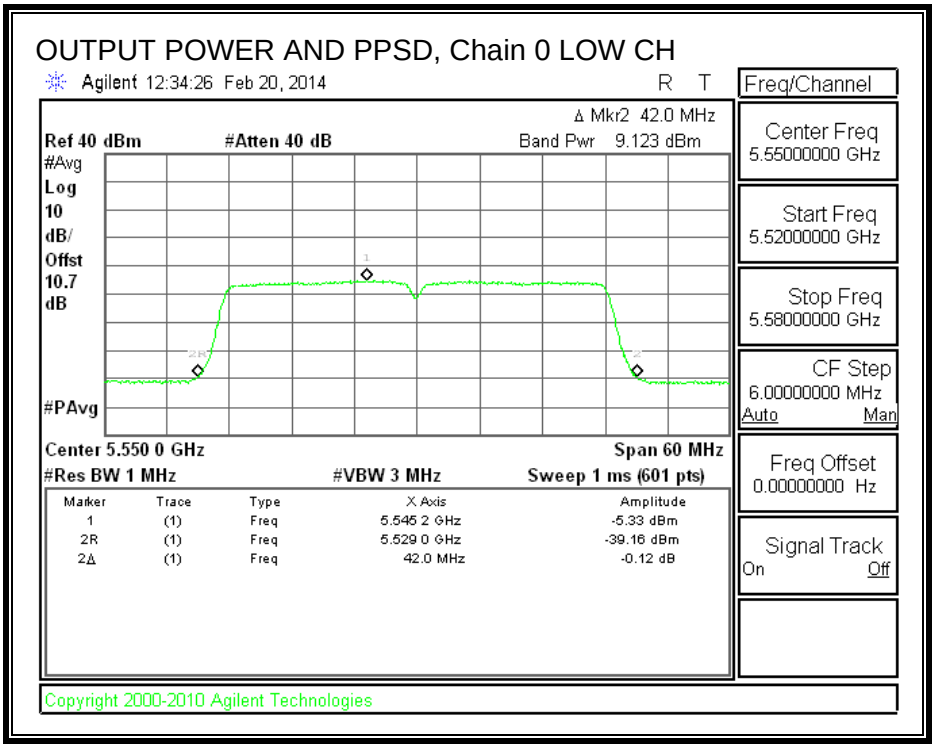
OUTPUT POWER AND PPSD, Chain 0 LOW CH

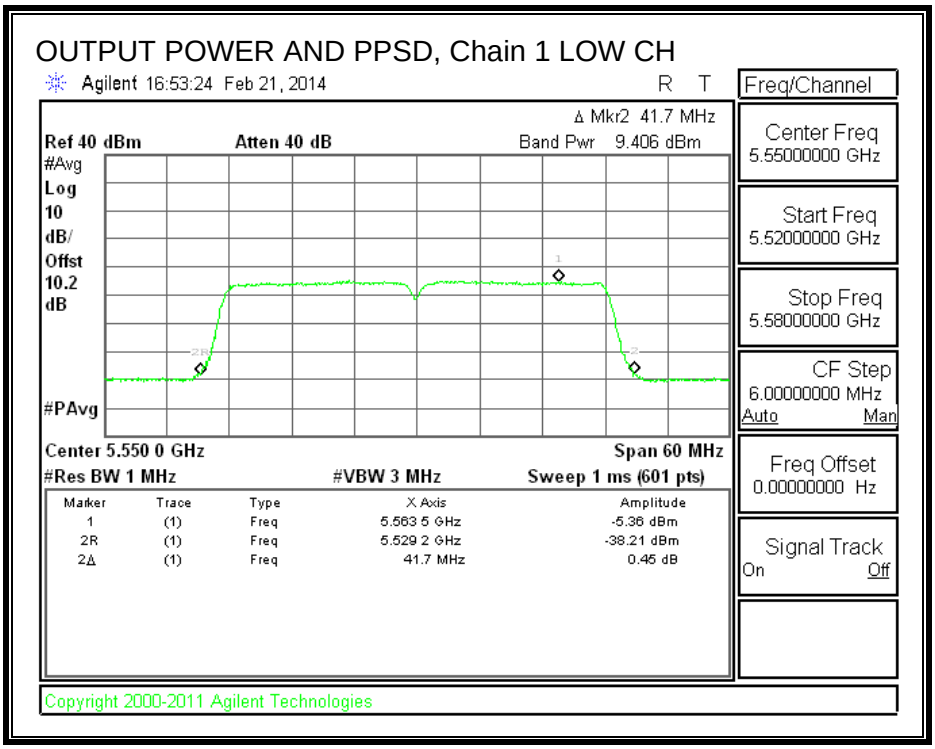


OUTPUT POWER AND PPSD, Chain 1 LOW CH

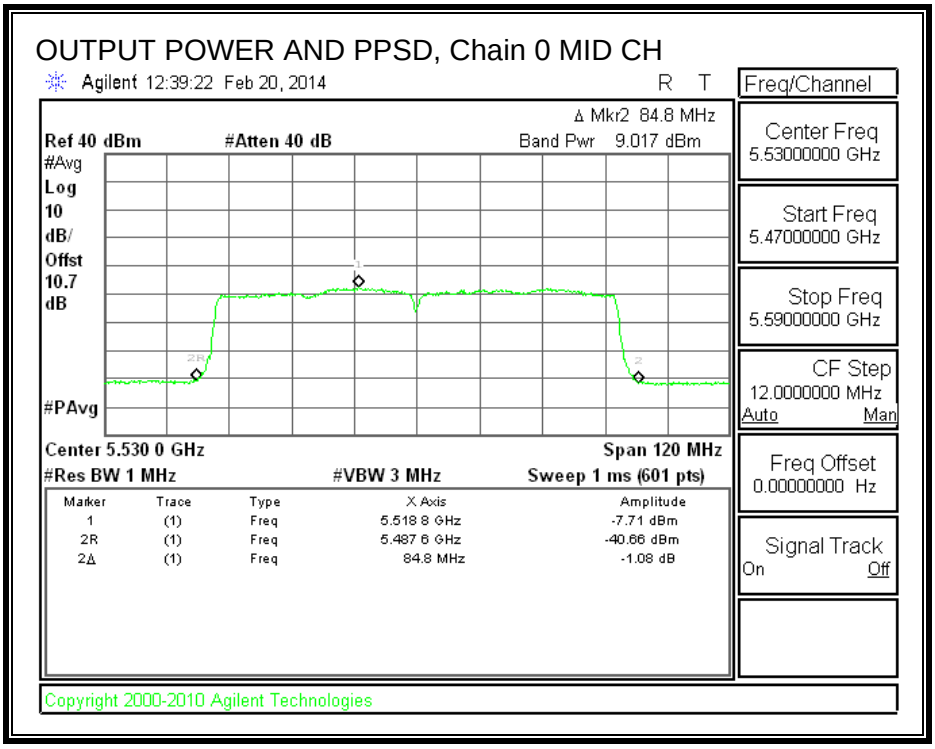


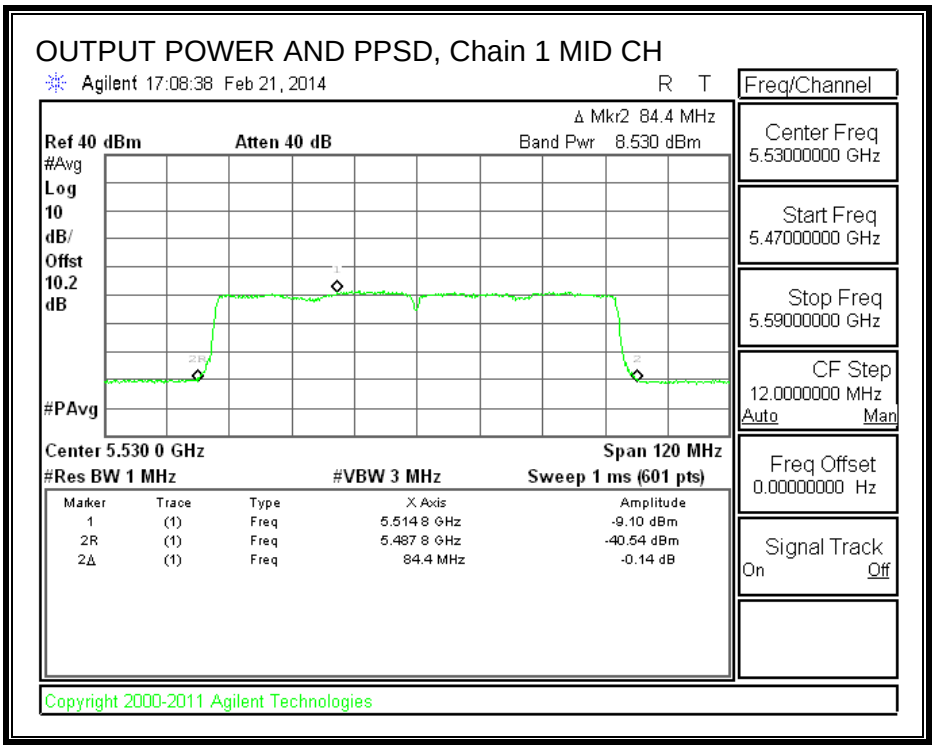
802.11n HT40 5.5G OUTPUT POWER AND PPSD, Chain 0





802.11ac HT80 5.5G OUTPUT POWER AND PPSD, Chain 0





10.4. PEAK EXCURSION

LIMITS

FCC §15.407 (a) (6)

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

10.4.1. 802.11a MODE IN THE 5.2 GHz BAND

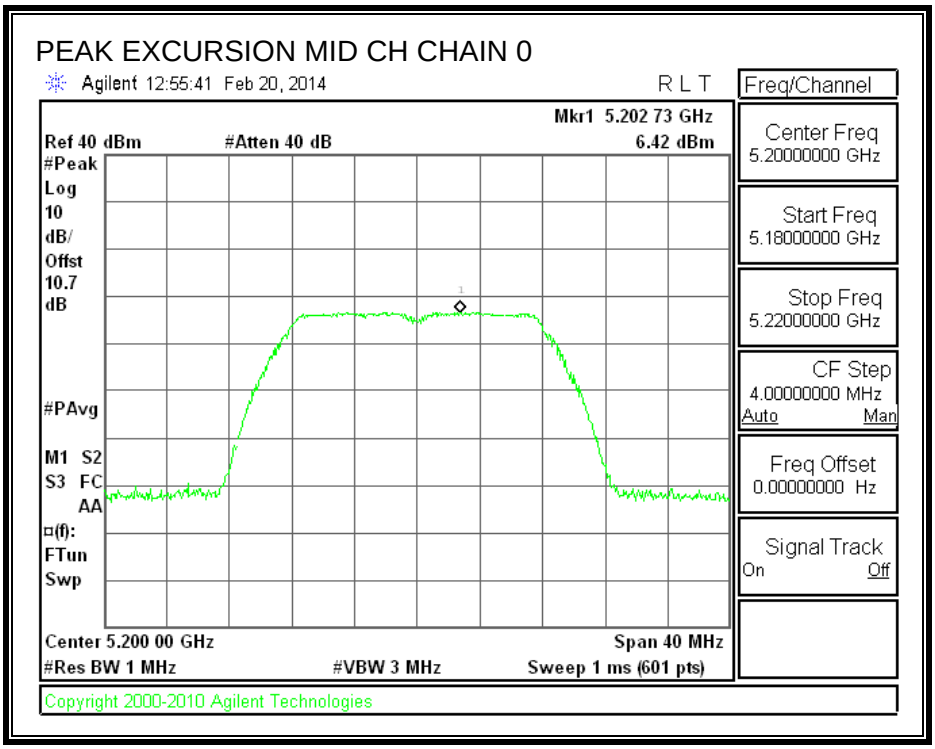
Chain 0

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	6.42	-1.53	0.30	7.65	13	-5.35

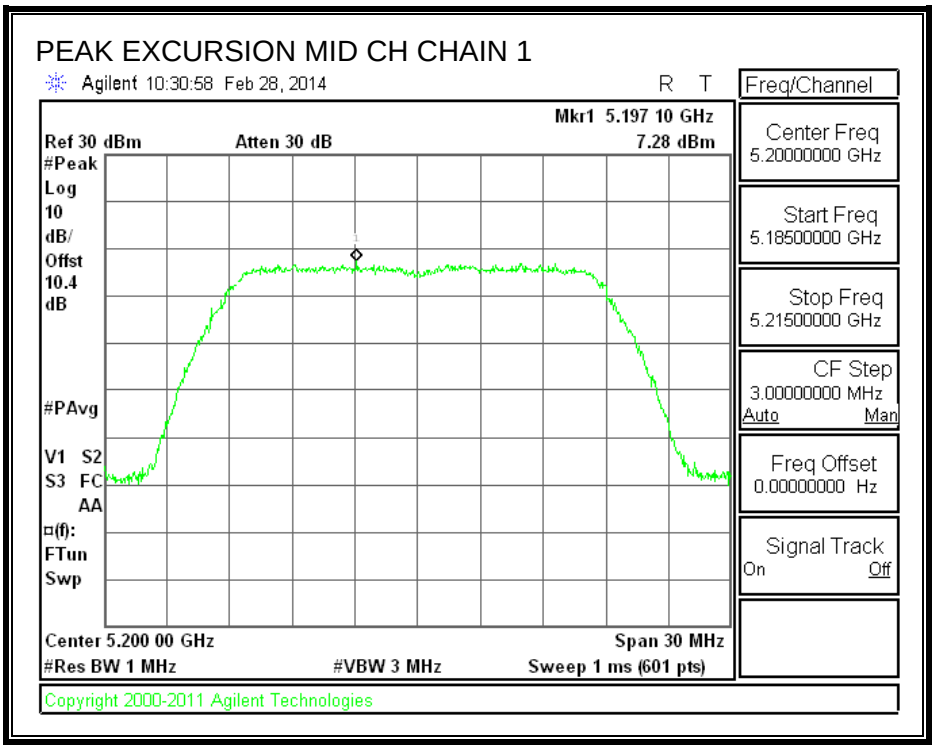
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	7.28	-1.47	0.30	8.45	13	-4.55

PEAK EXCURSION



PEAK EXCURSION MID CH CHAIN 1



10.4.1. 802.11n HT20 MODE IN THE 5.2 GHz BAND

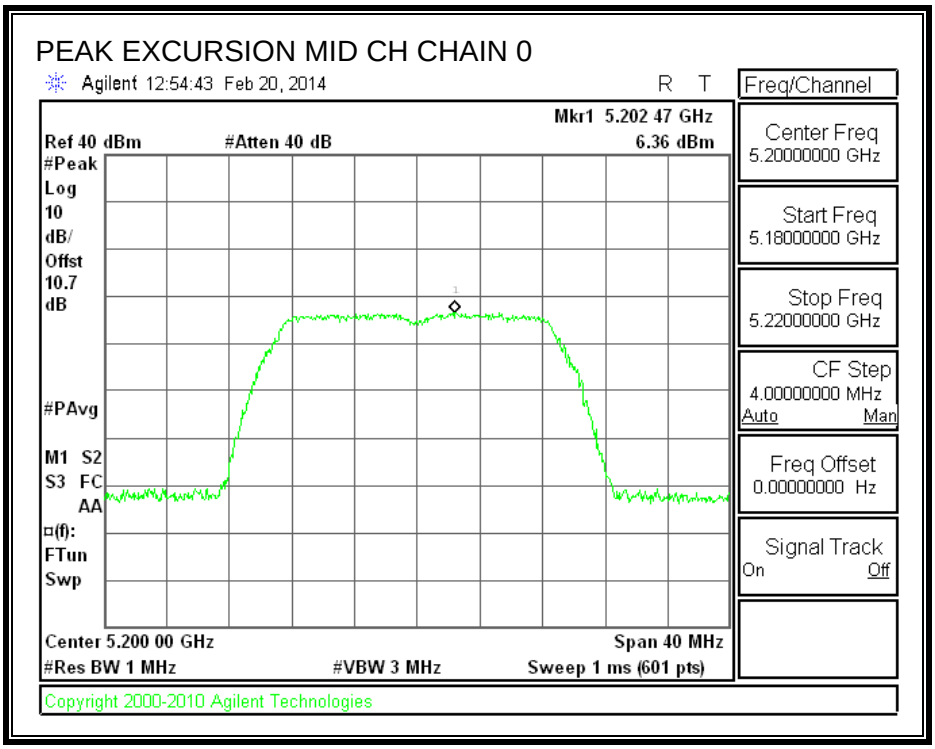
Chain 0

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	6.36	-2.42	0.62	8.16	13	-4.84

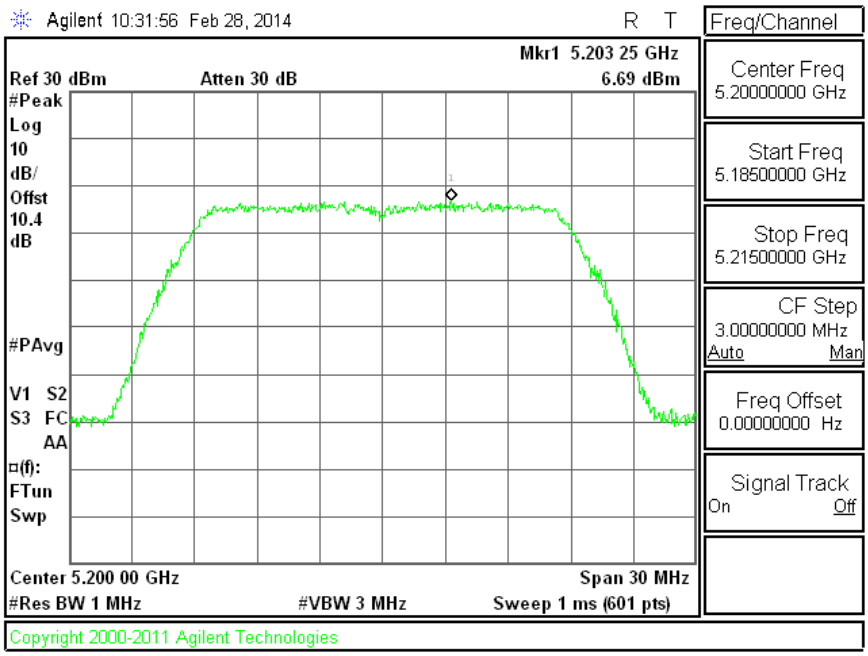
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	6.69	-2.31	0.62	8.38	13	-4.62

PEAK EXCURSION



PEAK EXCURSION MID CH CHAIN 1



10.4.1. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Chain 0

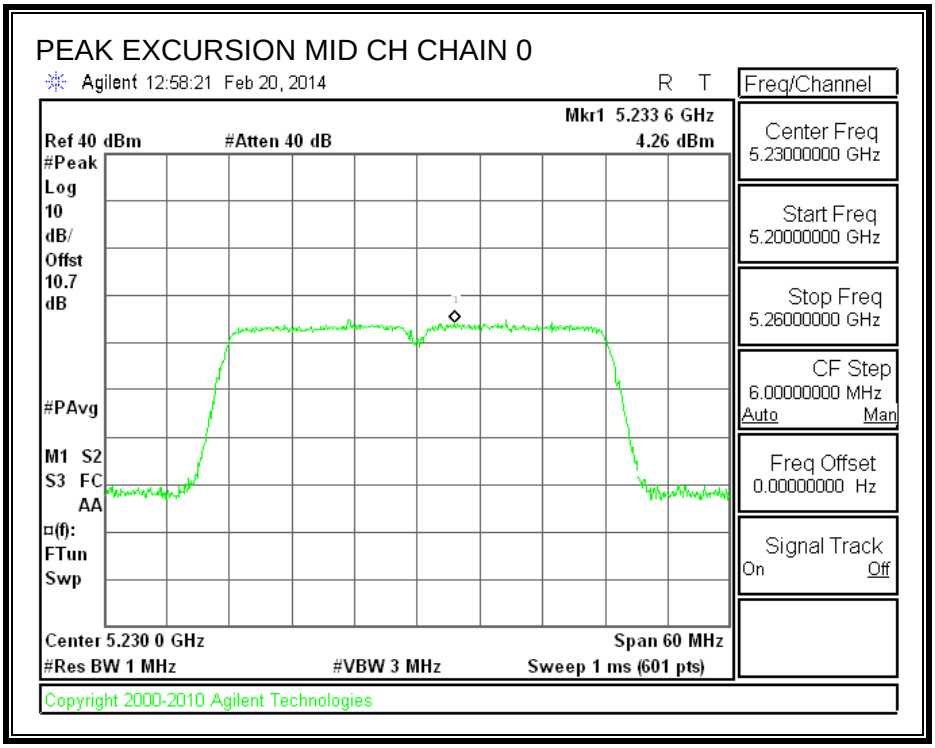
Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	4.260	-4.88	1.10	8.04	13	-4.96

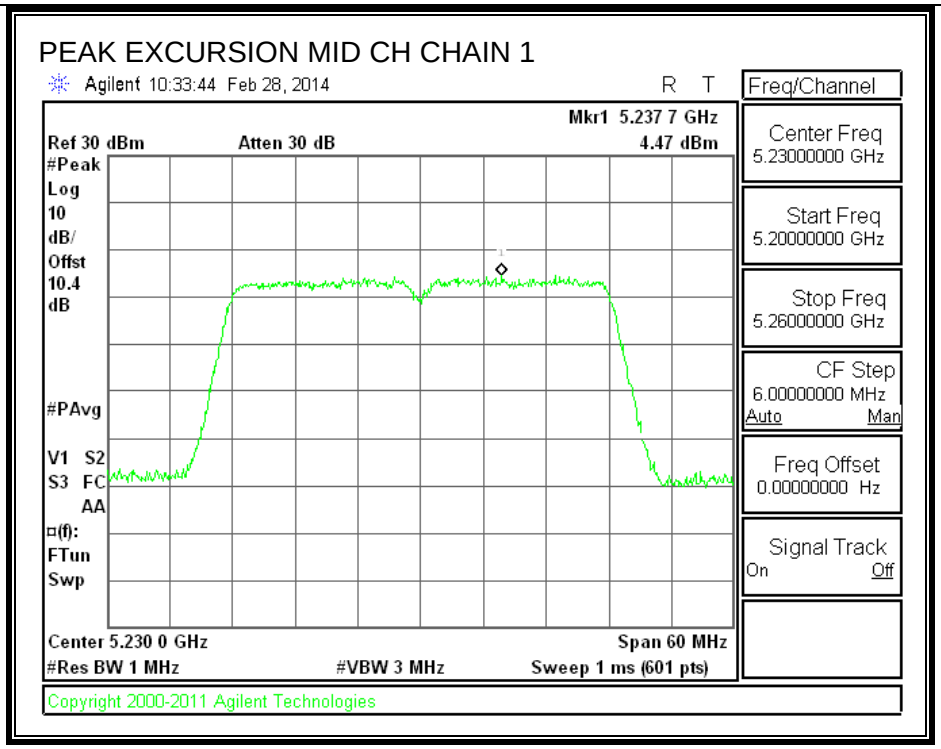
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5230	4.470	-5.85	1.10	9.22	13	-3.78

PEAK EXCURSION

PEAK EXCURSION MID CH CHAIN 0





10.4.1. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

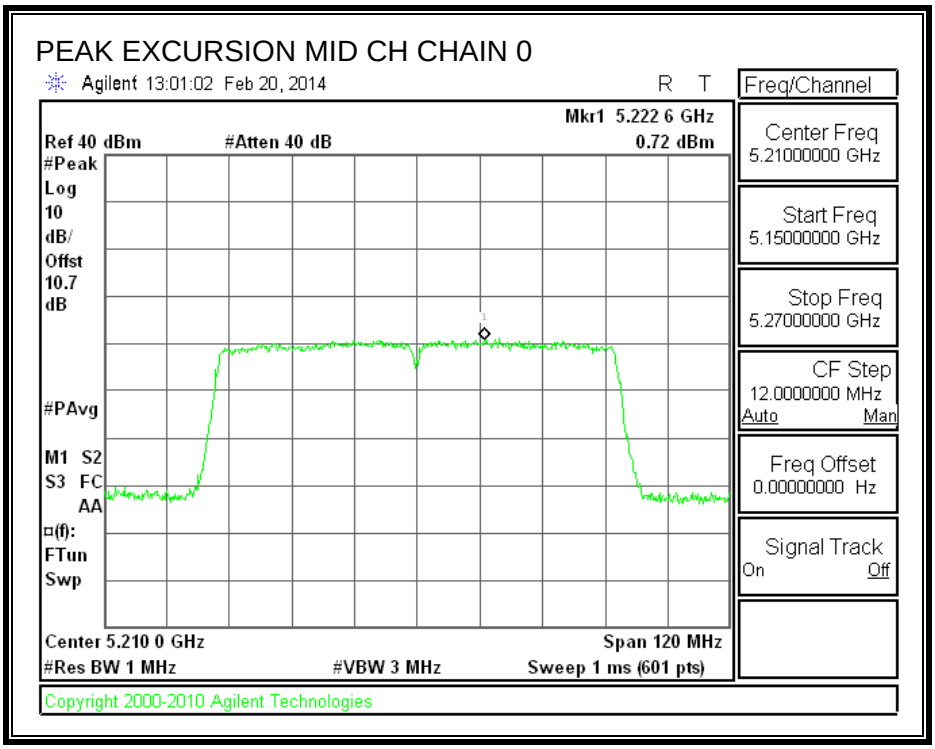
Chain 0

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5210	0.720	-9.47	1.89	8.30	13	-4.70

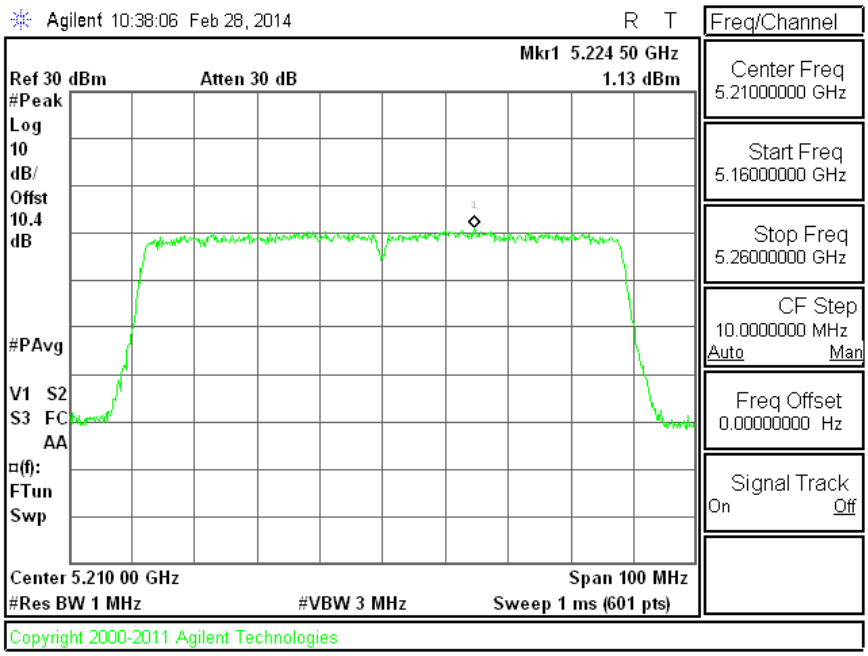
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5210	1.130	-9.69	1.89	8.93	13	-4.07

PEAK EXCURSION



PEAK EXCURSION MID CH CHAIN 1



10.4.2. 802.11a MODE IN THE 5.3 GHz BAND

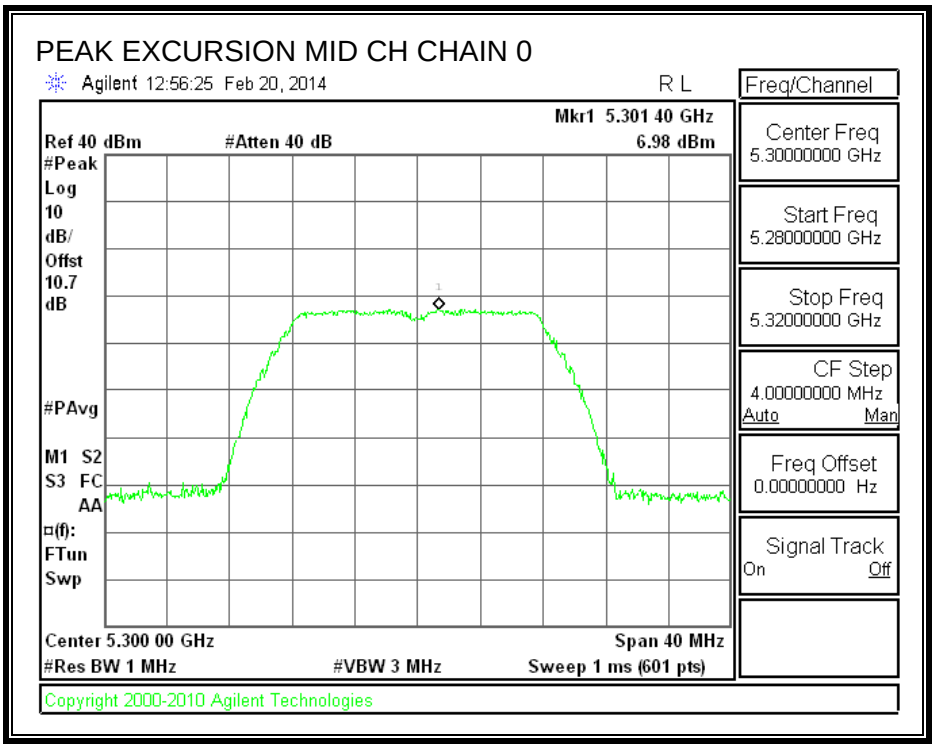
Chain 0

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	6.98	-1.53	0.30	8.21	13	-4.79

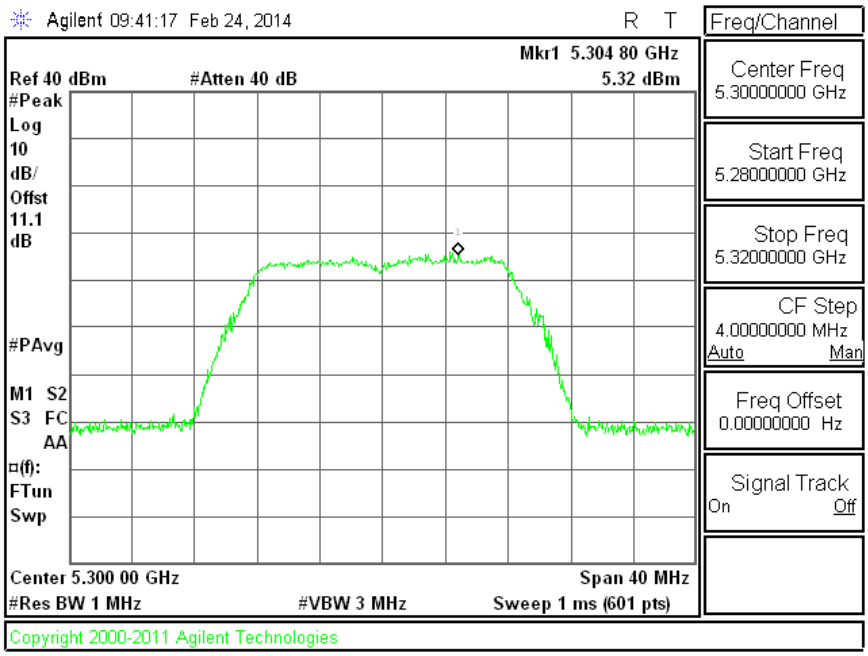
Chain 1

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5200	5.32	-1.47	0.30	6.49	13	-6.51

PEAK EXCURSION



PEAK EXCURSION MID CH CHAIN 1



11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

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.

Reference to KDB 789033 UNII part H) 6) d) Method VB:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

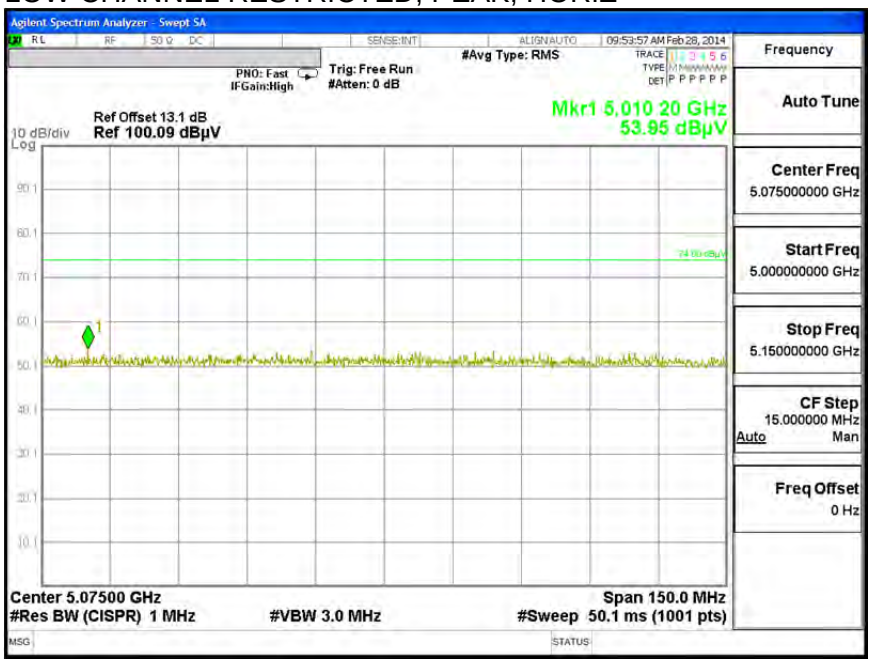
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.1. 5.2 GHz

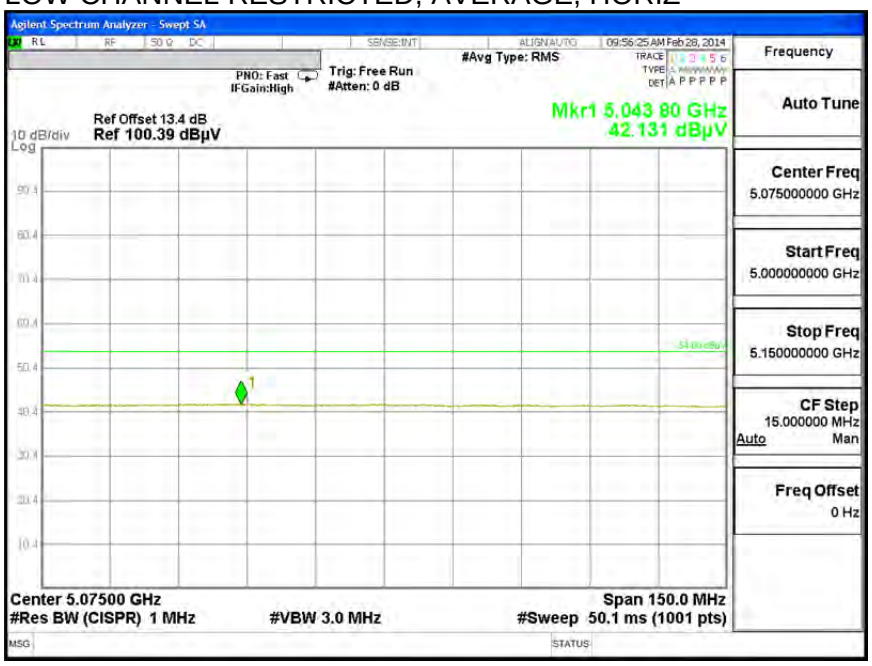
11.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

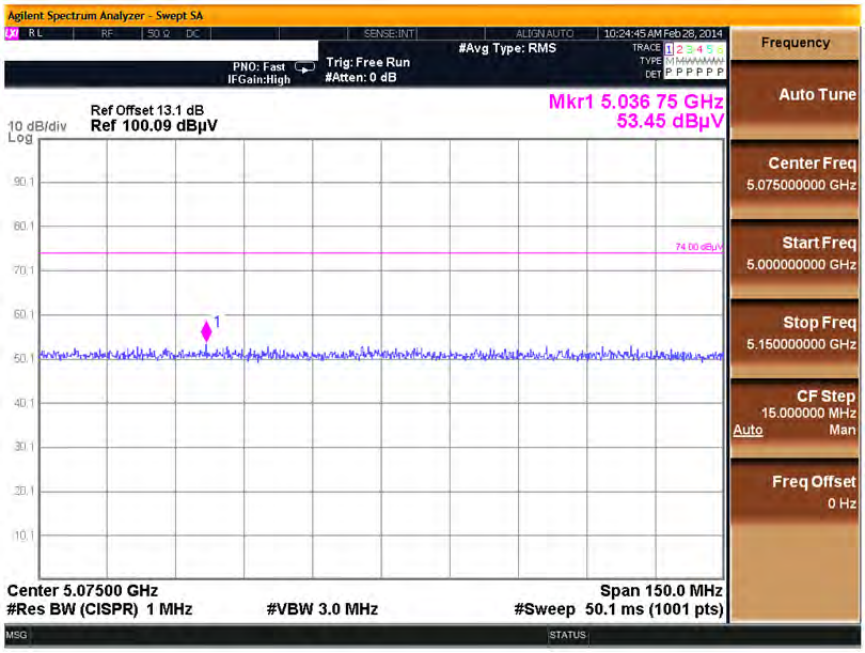
LOW CHANNEL RESTRICTED, PEAK, HORIZ



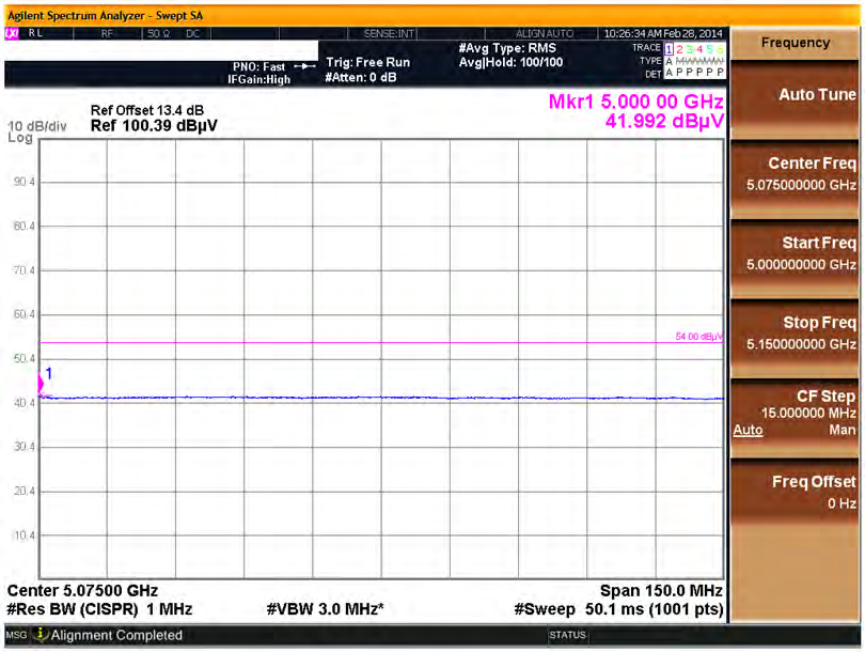
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

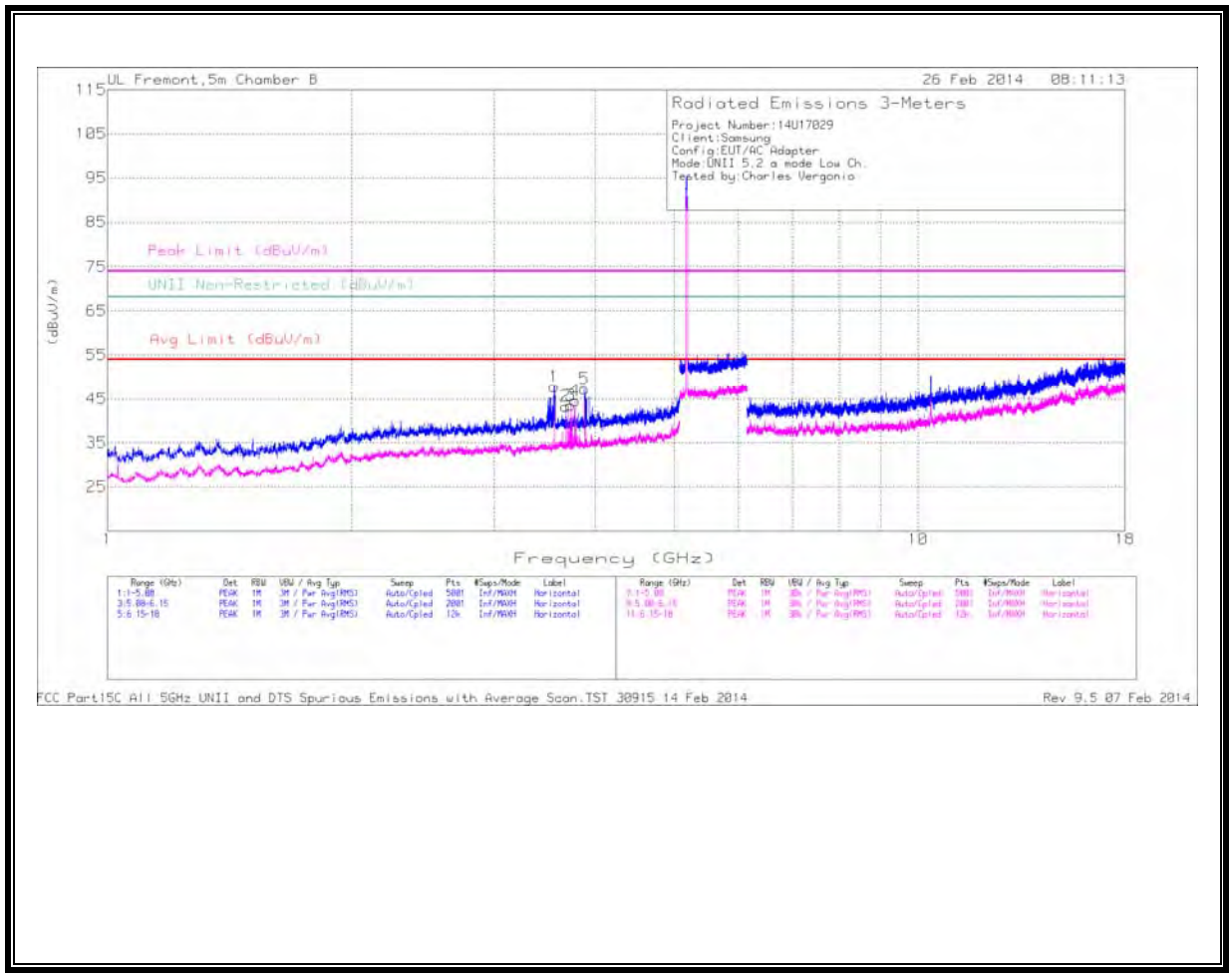


LOW CHANNEL RESTRICTED, AVERAGE, VERT



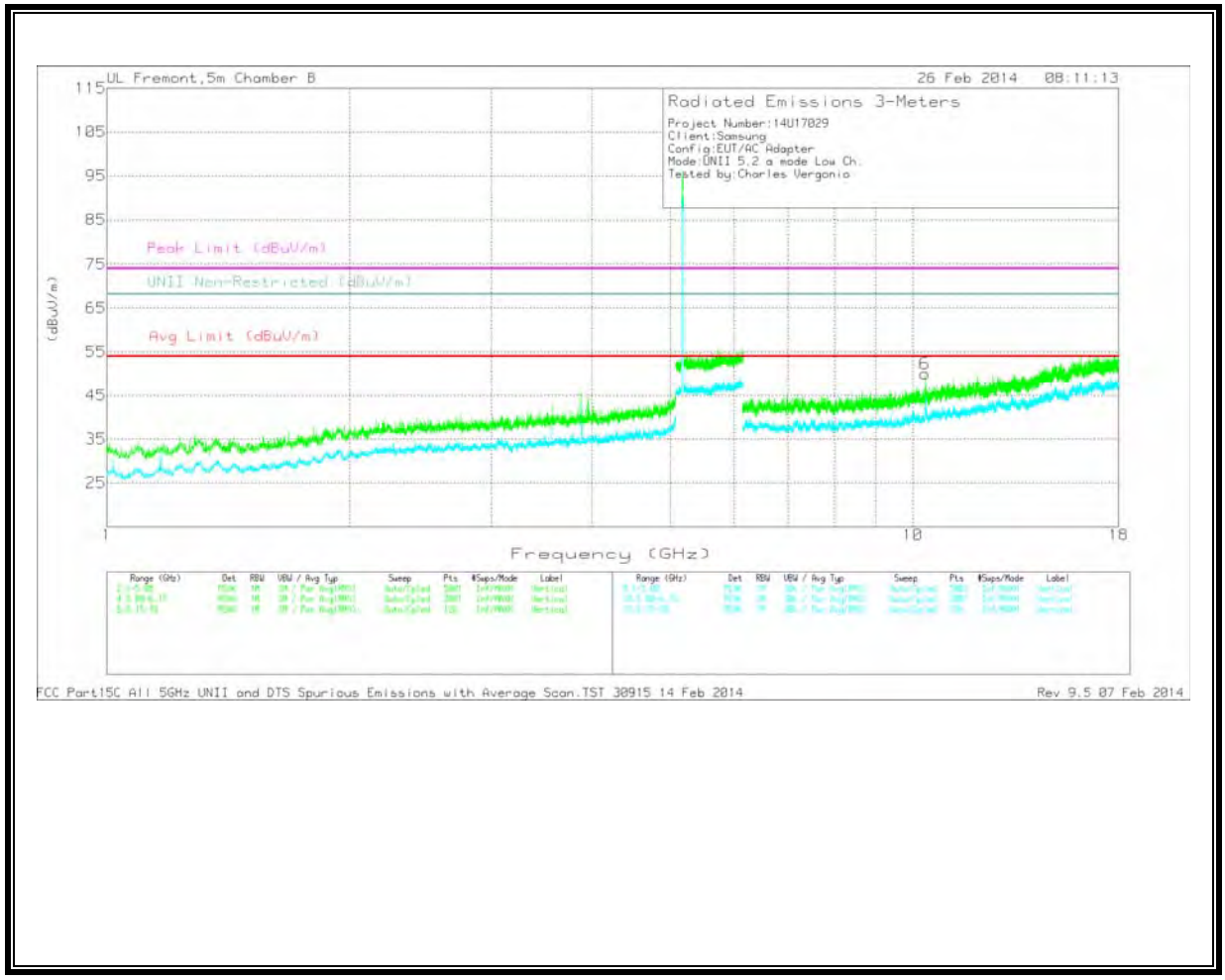
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.559	46.21	PK	33.3	-31.7	47.81	54	-6.19	74	-26.19	68.2	-20.39	0-360	202	H
5	* 3.876	45.38	PK	33.5	-31.6	47.28	54	-6.72	74	-26.72	68.2	-20.92	0-360	99	H
2	* 3.675	41.29	Avg	33.3	-31.3	43.29	54	-10.71	-	-	-	-	0-360	201	H
3	* 3.73	41.81	Avg	33.3	-31.6	43.51	54	-10.49	-	-	-	-	0-360	201	H
4	* 3.774	42.27	Avg	33.4	-31.1	44.57	54	-9.43	-	-	-	-	0-360	201	H
6	10.354	35.82	PK	37.4	-23.2	50.02	54	-3.98	74	-23.98	68.2	-18.18	0-360	99	V

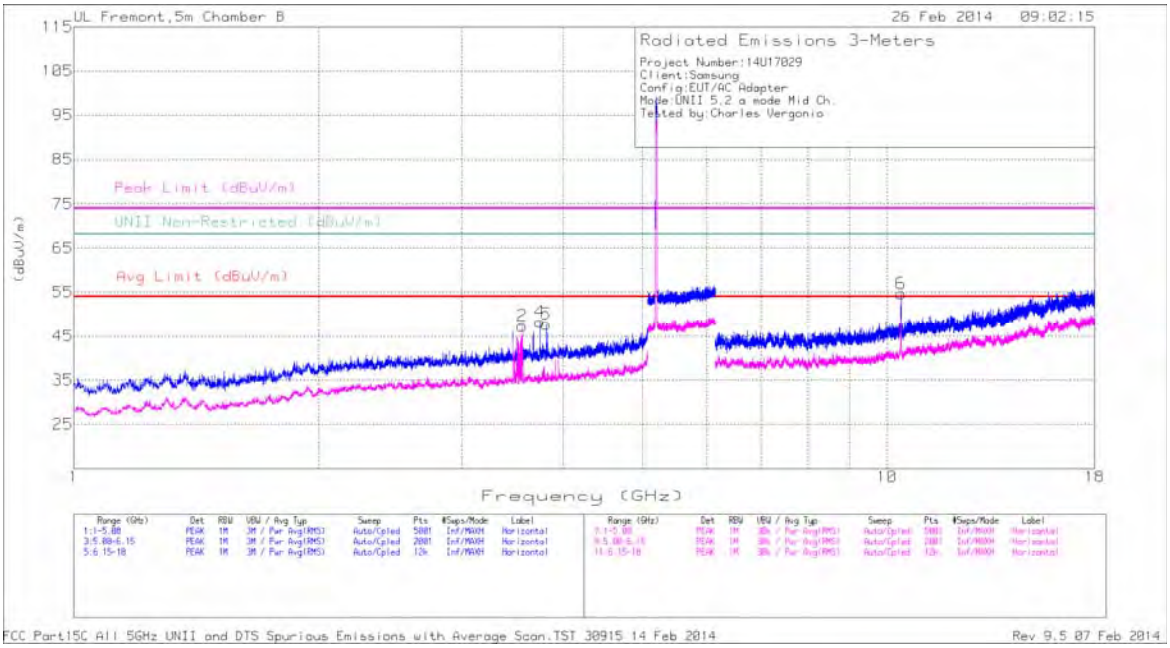
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.681	29.92	AD1	33.3	-31.3	31.92	54	-22.08	74	-42.08	-	-	181	314	H
* 3.727	29.95	AD1	33.3	-31.6	31.65	54	-22.35	74	-42.35	-	-	140	357	H
* 3.775	30.16	AD1	33.4	-31.1	32.46	54	-21.54	74	-41.54	-	-	11	142	H
10.36	28.23	AD1	37.4	-23.2	42.43	54	-11.57	74	-31.57	-	-	293	152	V

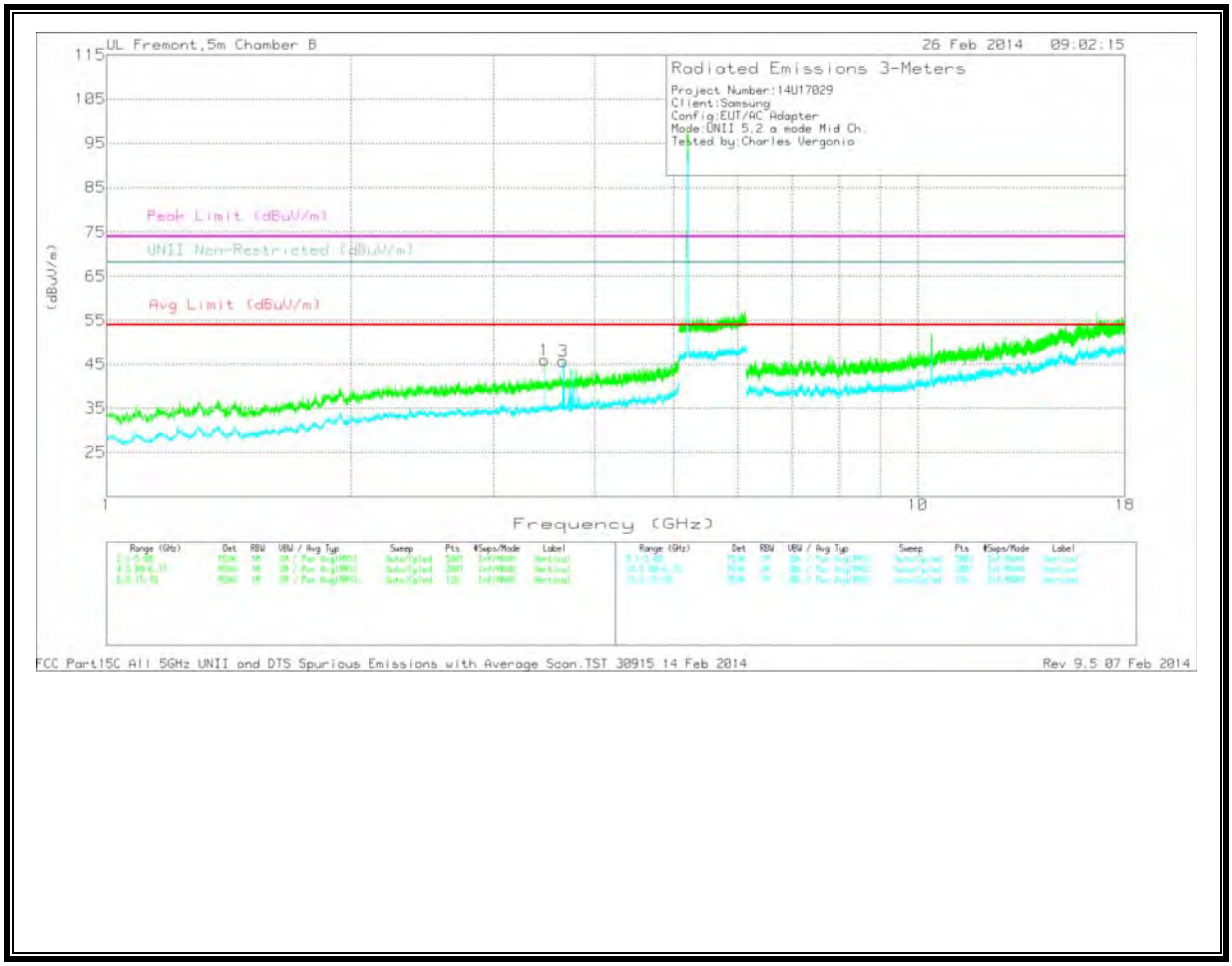
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.744	46.32	PK	33.3	-31.4	0	48.22	54	-5.78	74	-25.78	68.2	-19.98	0-360	202	H
5	* 3.811	45.39	PK	33.4	-31.1	0	47.69	54	-6.31	74	-26.31	68.2	-20.51	0-360	202	H
2	* 3.56	45.61	Avg	33.3	-31.6	0	47.31	54	-6.69	-	-	-	-	0-360	201	H
3	* 3.654	43.35	Avg	33.4	-31.1	0	45.65	54	-8.35	-	-	-	-	0-360	99	V
1	3.467	44.54	PK	32.9	-31.5	0	45.94	54	-8.06	74	-28.06	68.2	-22.26	0-360	202	V
6	10.409	40.49	PK	37.5	-23.3	0	54.69			74	-19.31	68.2	-13.51	0-360	99	H

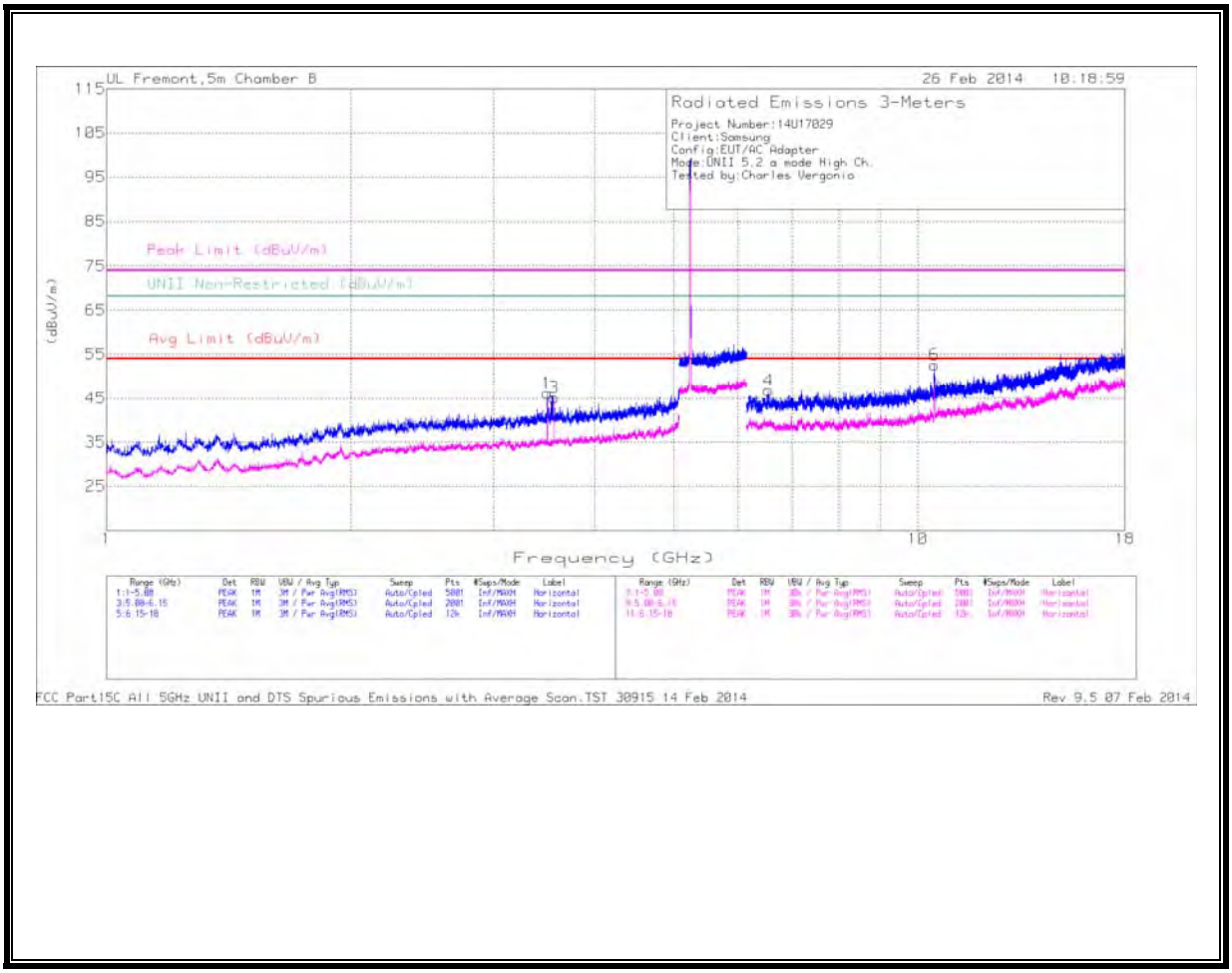
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.743	30.02	AD1	33.3	-31.4	.3	32.22	54	-21.78	74	-41.78	-	-	332	113	H
* 3.563	30.88	AD1	33.3	-31.7	.3	32.78	54	-21.22	74	-41.22	-	-	39	138	H
10.401	32.03	AD1	37.5	-23.2	.3	46.63	54	-7.37	74	-27.37	-	-	222	101	H

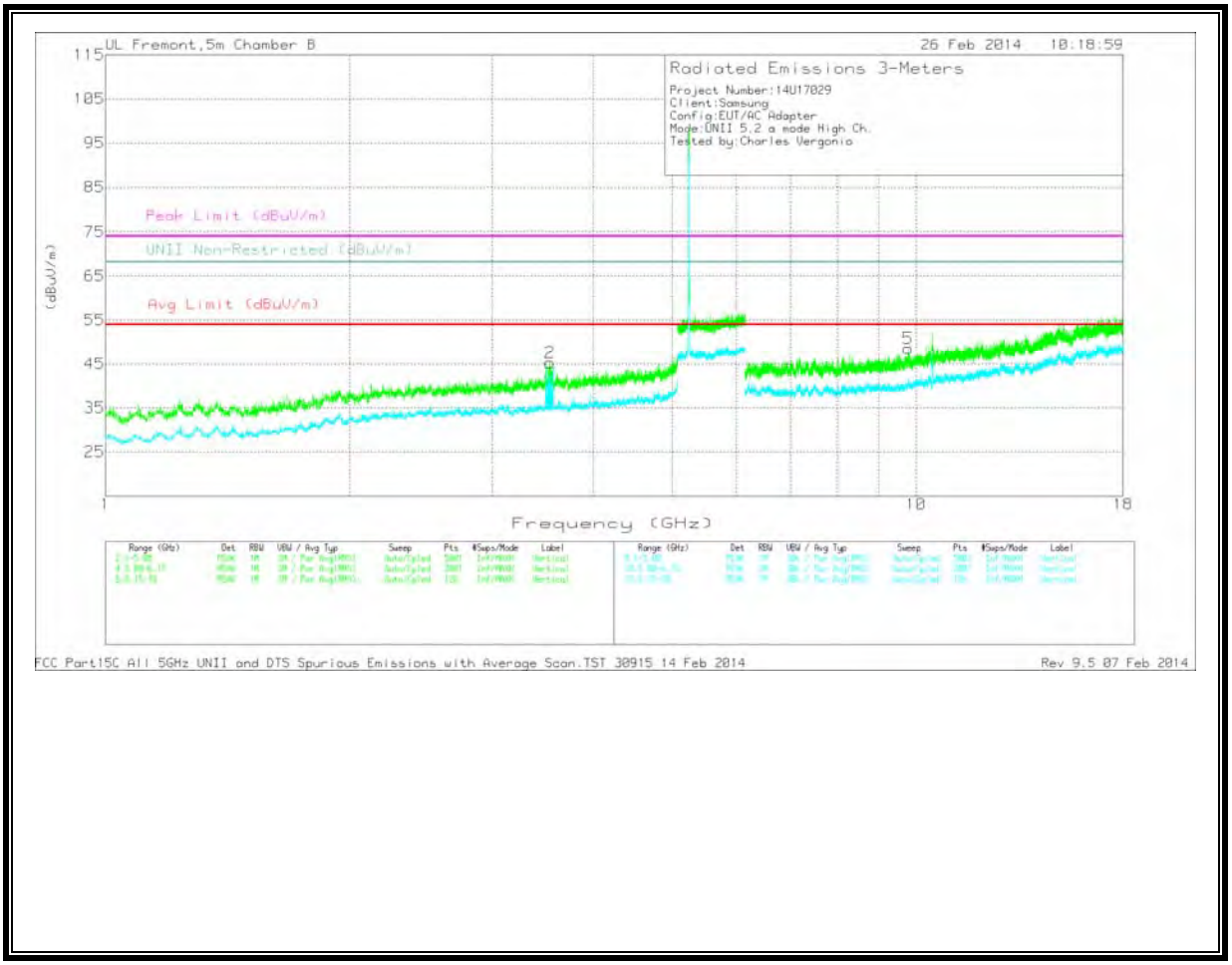
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.537	44.14	PK	33.1	-32	0	45.24	54	-8.76	74	-28.76	68.2	-22.96	0-360	202	V
3	* 3.563	43.48	Avg	33.3	-31.7	0	45.08	54	-8.92	-	-	-	-	0-360	99	H
1	3.493	45.13	PK	32.9	-31.9	0	46.13	54	-7.87	74	-27.87	68.2	-22.07	0-360	99	H
4	6.547	38.53	PK	35.6	-27.4	0	46.73	54	-7.27	74	-27.27	68.2	-21.47	0-360	99	H
5	9.777	34.91	PK	37	-23.4	0	48.51	54	-5.49	74	-25.49	68.2	-19.69	0-360	99	V
6	10.483	38.82	PK	37.6	-23.8	0	52.62			74	-21.38	68.2	-15.58	0-360	99	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

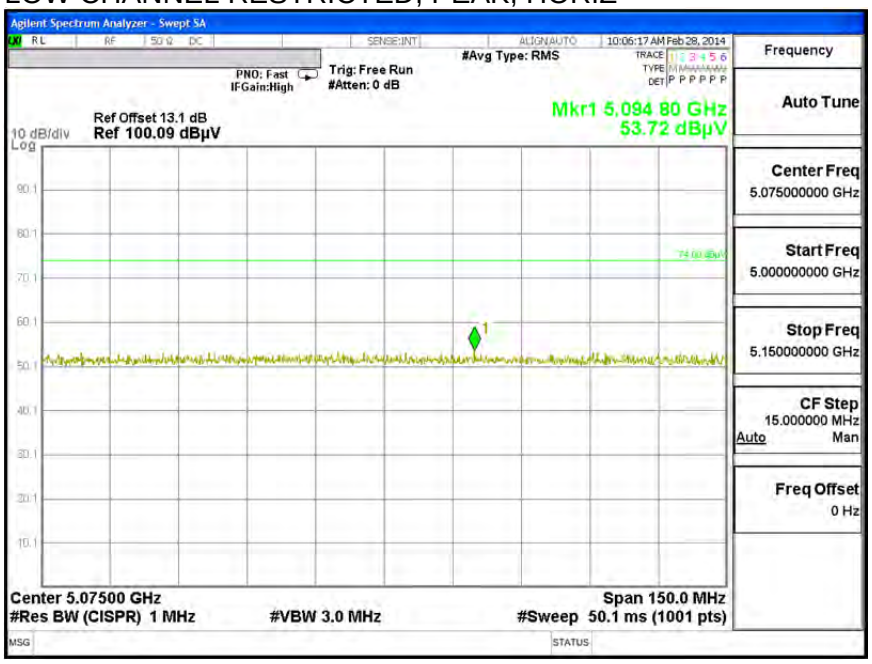
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.481	31.39	AD1	37.6	-23.8	.3	45.49	54	-8.51	74	-28.51	-	-	228	121	H

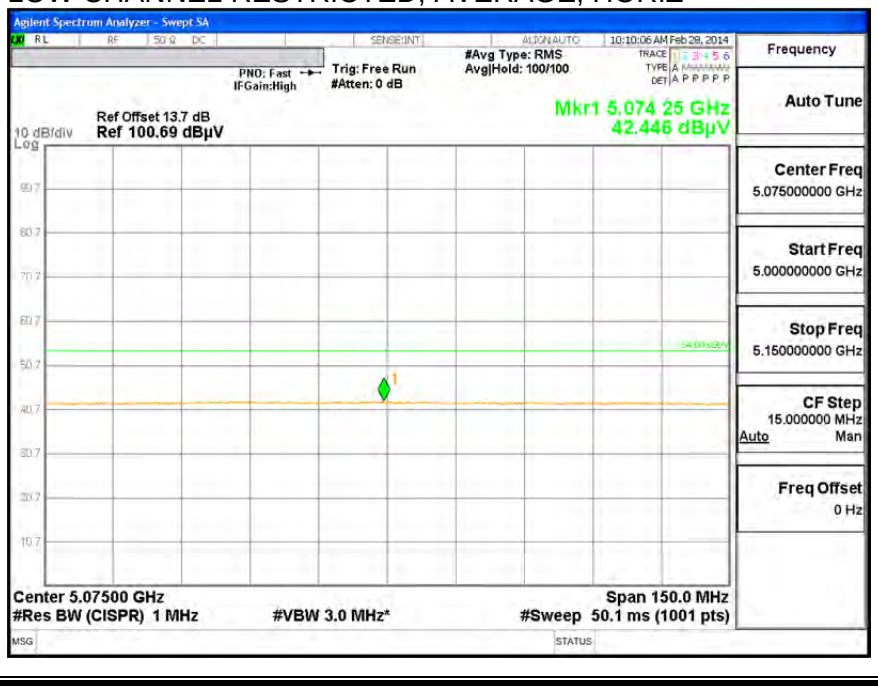
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

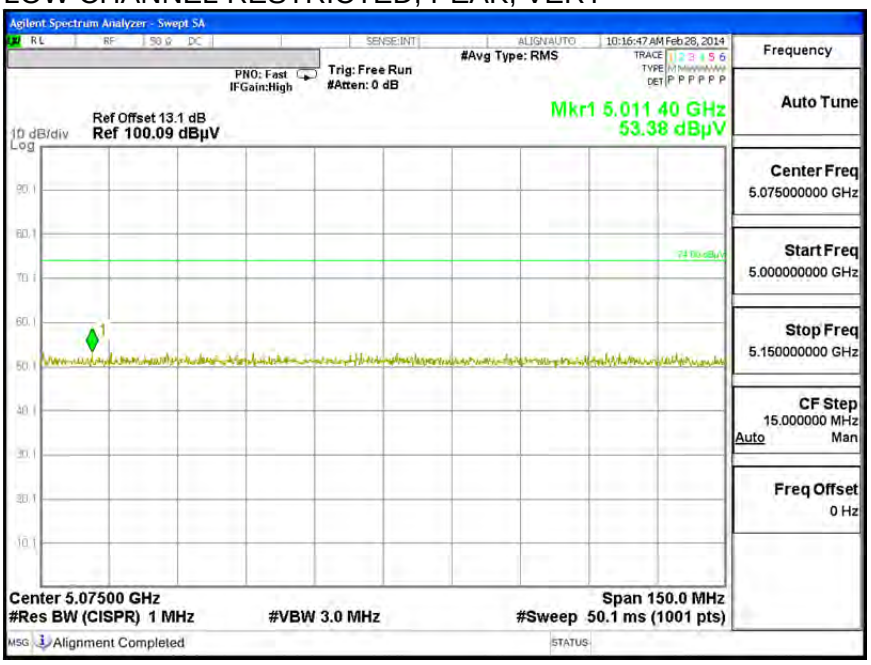
LOW CHANNEL RESTRICTED, PEAK, HORIZ



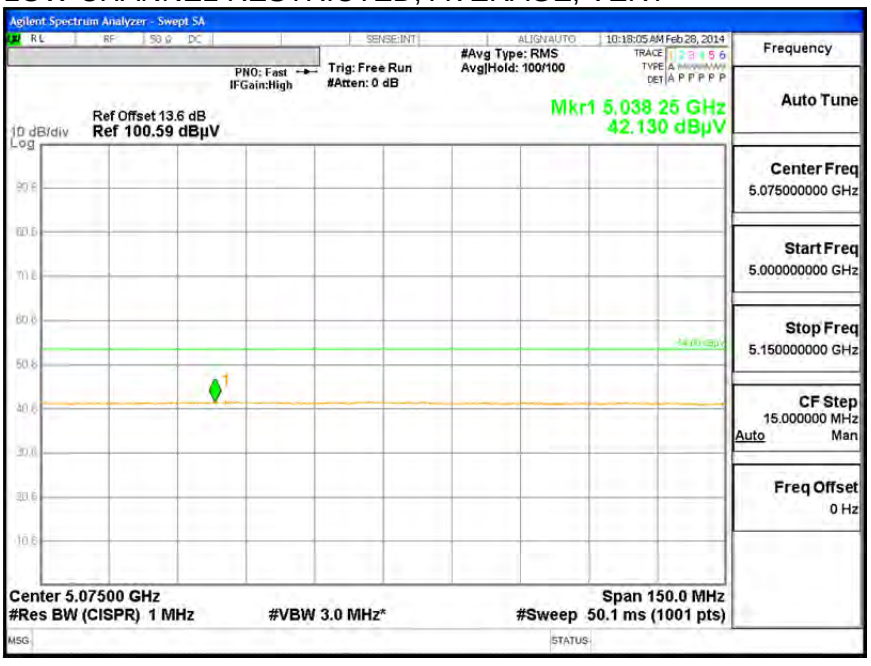
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

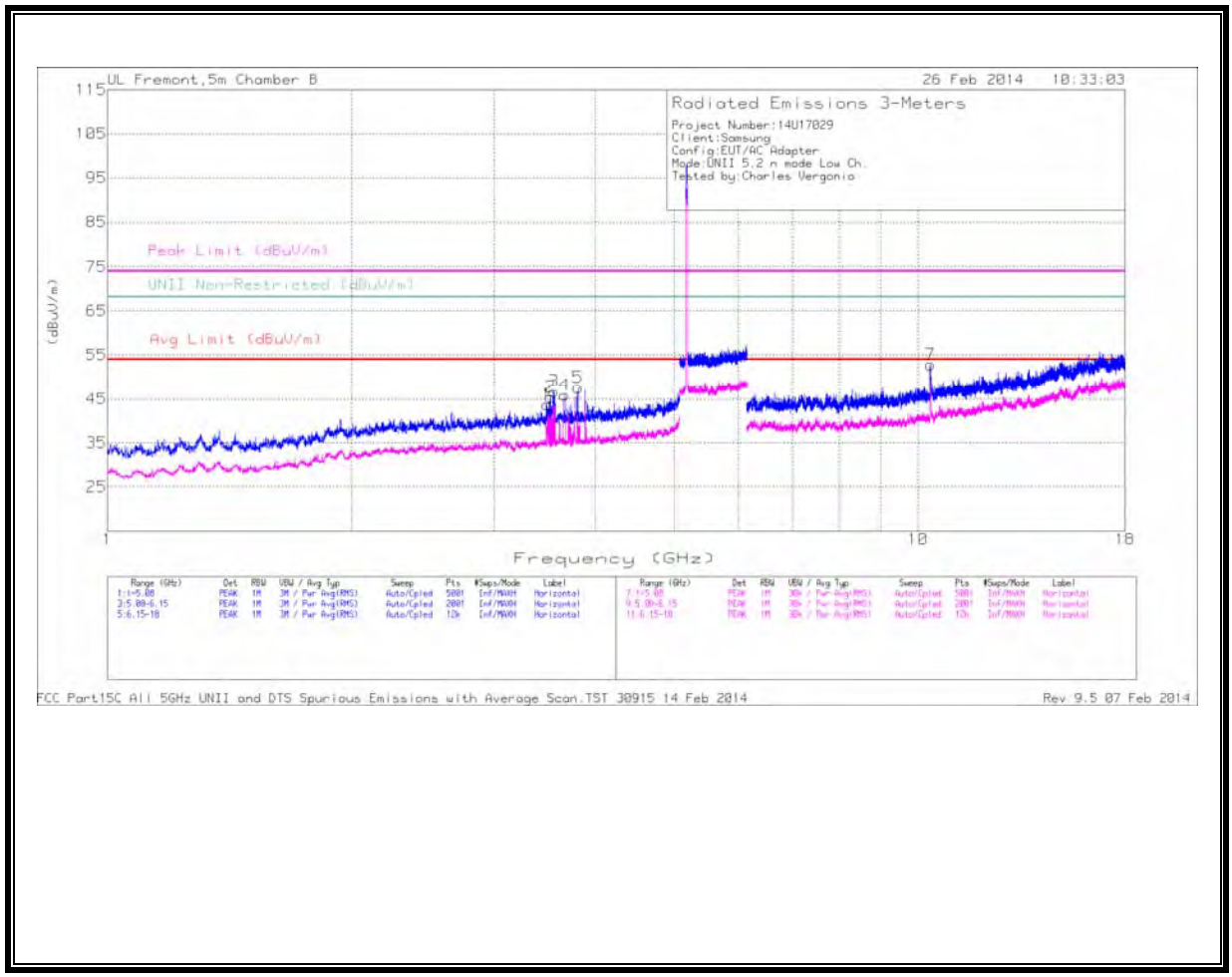


LOW CHANNEL RESTRICTED, AVERAGE, VERT



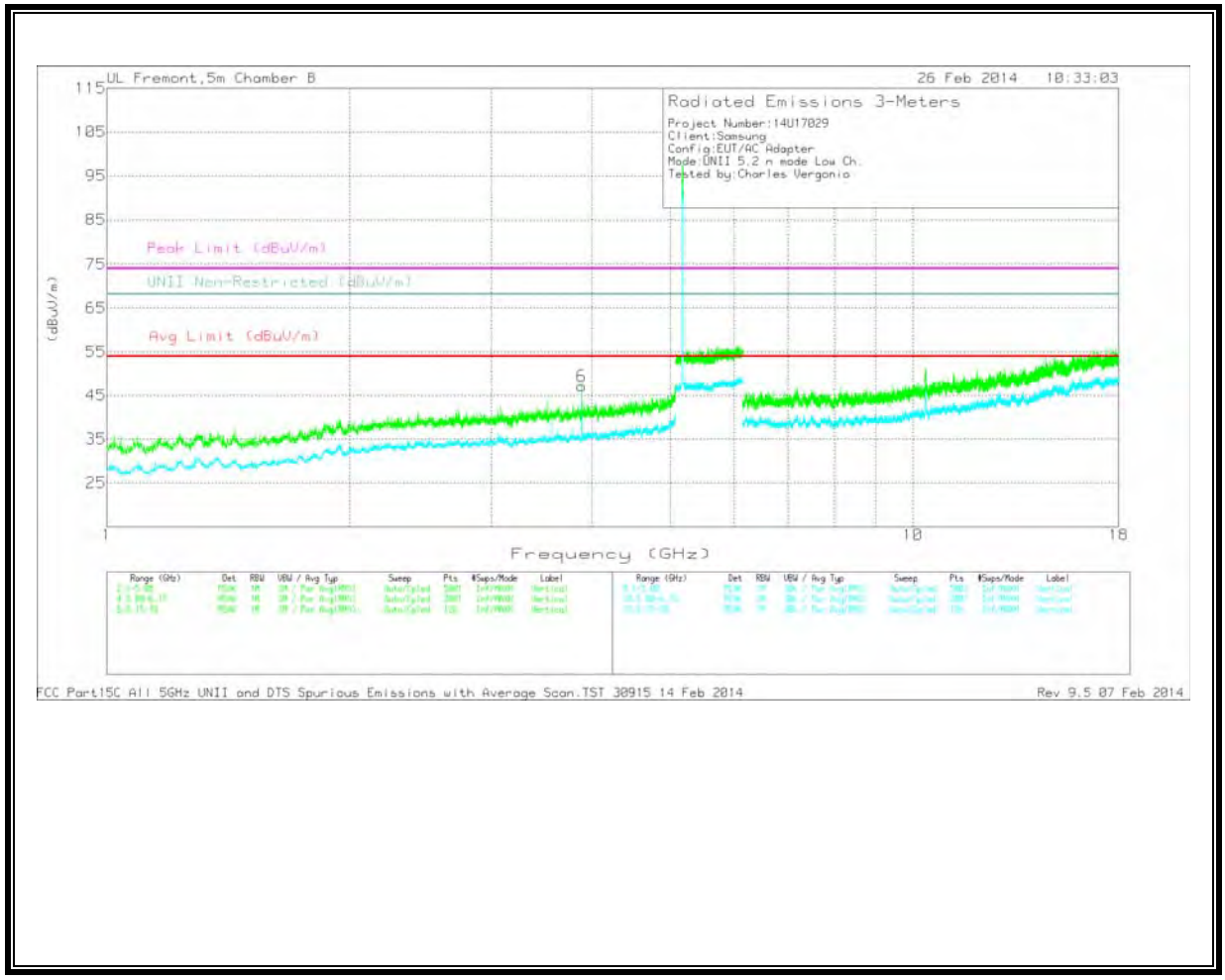
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.52	44.28	PK	33	-31.9	0	45.38	54	-8.62	74	-28.62	68.2	-22.82	0-360	99	H
3	* 3.553	45.2	PK	33.2	-31.7	0	46.7	54	-7.3	74	-27.3	68.2	-21.5	0-360	99	H
4	* 3.667	43.66	PK	33.3	-31.1	0	45.86	54	-8.14	74	-28.14	68.2	-22.34	0-360	202	H
5	* 3.808	45.26	PK	33.4	-31.1	0	47.56	54	-6.44	74	-26.44	68.2	-20.64	0-360	202	H
6	* 3.885	45.3	PK	33.5	-31.7	0	47.1	54	-6.9	74	-26.9	68.2	-21.1	0-360	202	V
1	3.486	42.57	PK	32.9	-31.8	0	43.67	54	-10.33	74	-30.33	68.2	-24.53	0-360	99	H
7	10.361	38.62	PK	37.4	-23.2	0	52.82	54	-1.18	74	-21.18	68.2	-15.38	0-360	99	H

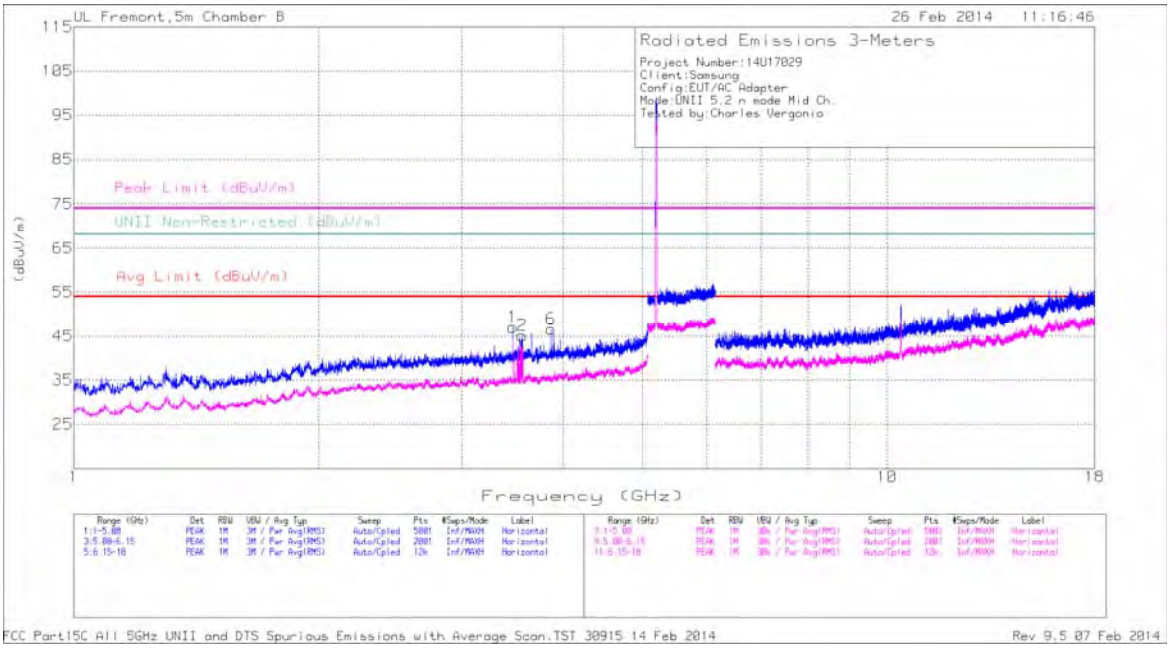
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.775	29.99	AD1	33.4	-31.1	.6	32.89	54	-21.11	74	-41.11	-	-	319	288	H
10.361	31.21	AD1	37.4	-23.2	.6	46.01	54	-7.99	74	-27.99	-	-	217	116	H

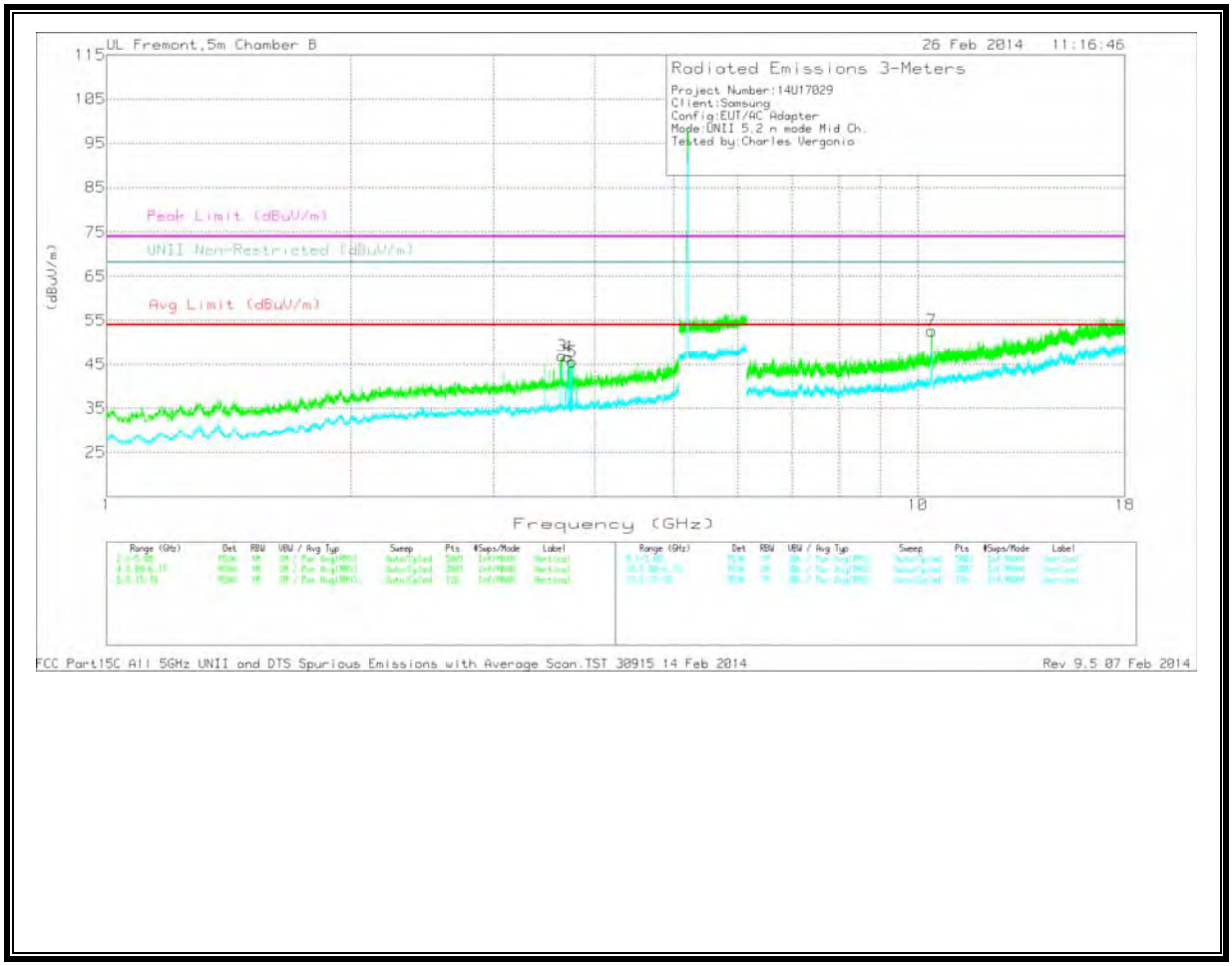
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.558	43.49	PK	33.3	-31.7	0	45.09	54	-8.91	74	-28.91	68.2	-23.11	0-360	202	H
6	* 3.864	44.6	PK	33.5	-31.5	0	46.6	54	-7.4	74	-27.4	68.2	-21.6	0-360	202	H
3	* 3.643	44.56	PK	33.4	-31.1	0	46.86	54	-7.14	74	-27.14	68.2	-21.34	0-360	202	V
4	* 3.707	44.57	PK	33.2	-31.1	0	46.67	54	-7.33	74	-27.33	68.2	-21.53	0-360	202	V
5	* 3.752	43.55	PK	33.3	-31.3	0	45.55	54	-8.45	74	-28.45	68.2	-22.65	0-360	202	V
1	3.467	45.64	PK	32.9	-31.5	0	47.04	54	-6.96	74	-26.96	68.2	-21.16	0-360	99	H
7	10.401	38.39	PK	37.5	-23.2	0	52.69			74	-21.31	68.2	-15.51	0-360	99	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

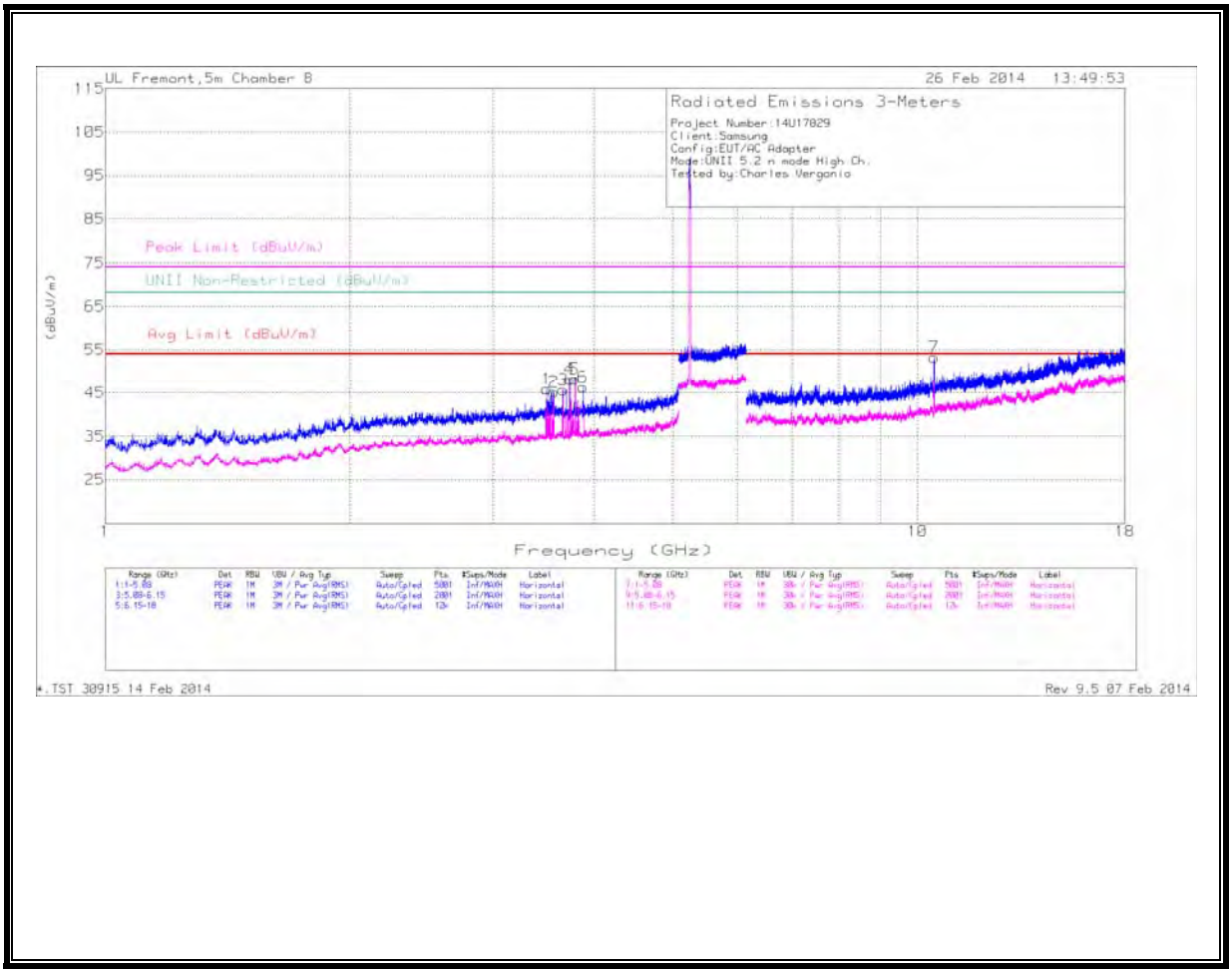
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10.392	34.01	PK	37.4	-23	0	48.41	54	-5.59	74	-25.59	68.2	-19.79	288	151	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

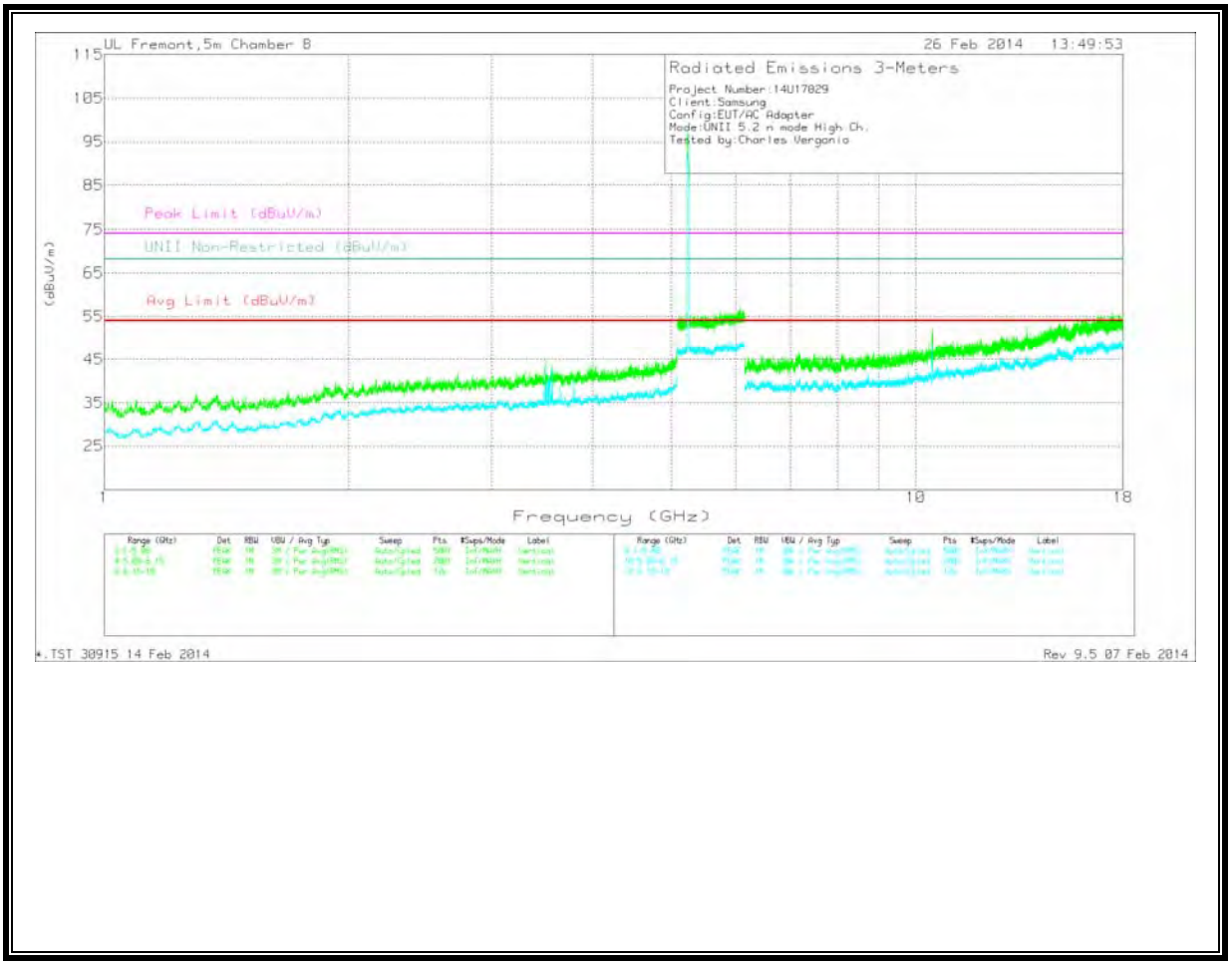
PK - Peak detector

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.565	43.62	PK	33.3	-31.7	0	45.22	54	-8.78	74	-28.78	68.2	-22.98	0-360	99	H
4	* 3.73	46.48	PK	33.3	-31.6	0	48.18	54	-5.82	74	-25.82	68.2	-20.02	0-360	202	H
5	* 3.782	45.8	PK	33.4	-31	0	48.2	54	-5.8	74	-25.8	68.2	-20	0-360	202	H
6	* 3.873	44.43	PK	33.5	-31.6	0	46.33	54	-7.67	74	-27.67	68.2	-21.87	0-360	99	H
3	* 3.66	43.52	Avg	33.3	-31.1	0	45.72	54	-8.28	-	-	-	-	0-360	99	H
1	3.494	44.94	PK	32.9	-31.9	0	45.94	54	-8.06	74	-28.06	68.2	-22.26	0-360	202	H
7	10.48	39.49	PK	37.6	-23.8	0	53.29	54	-.71	74	-20.71	68.2	-14.91	0-360	99	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

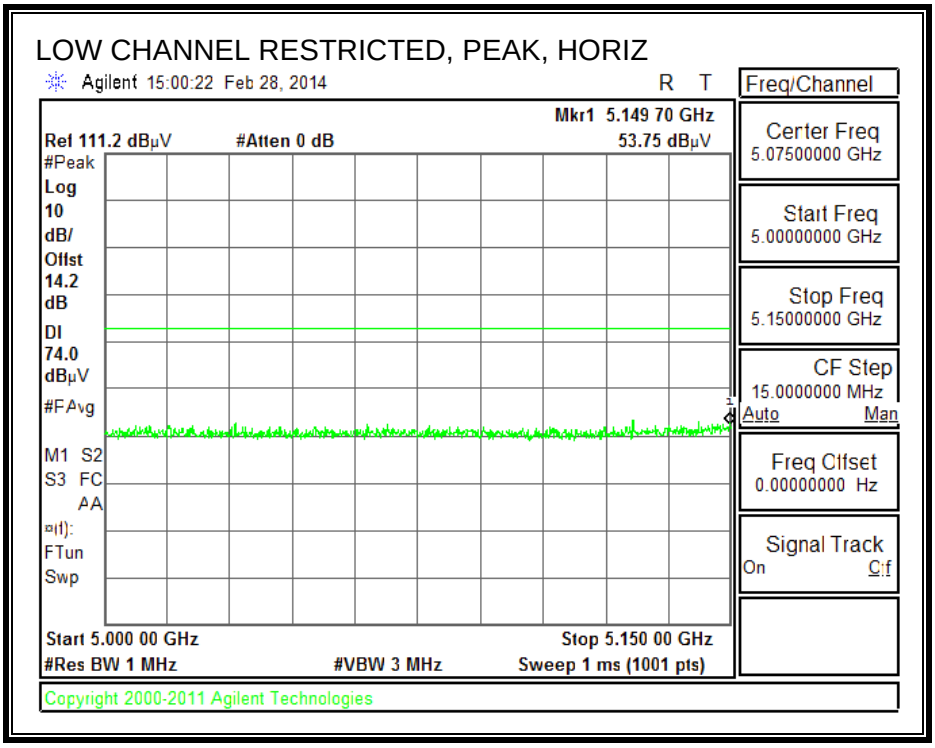
PK - Peak detector

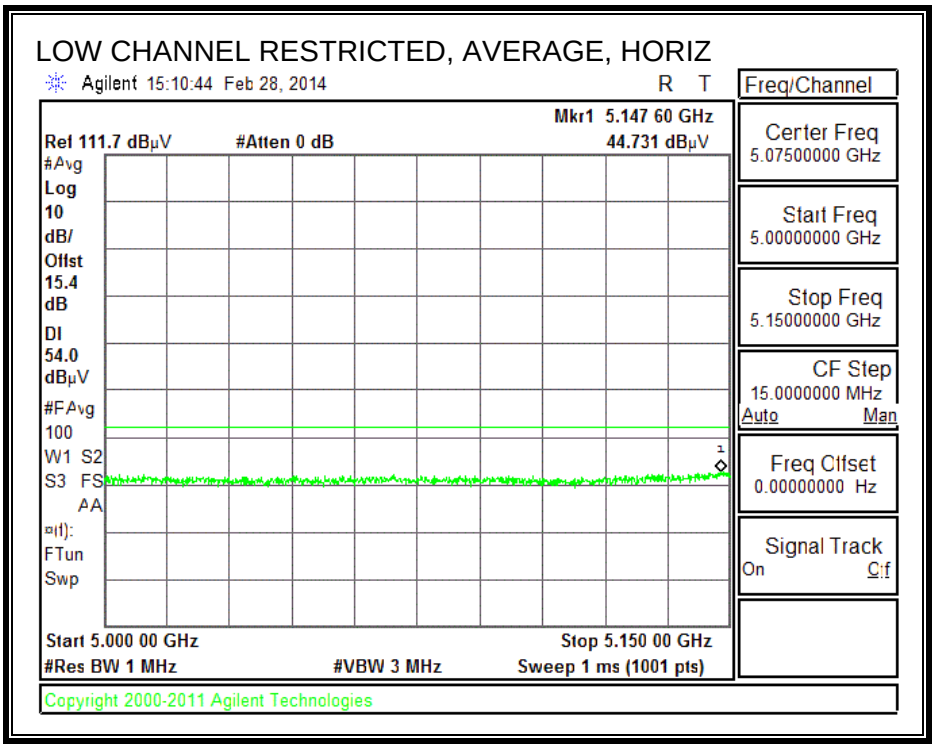
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.733	30.39	AD1	33.3	-31.6	.6	32.69	54	-21.31	74	-41.31	-	-	49	220	H
* 3.778	30.15	AD1	33.4	-31.1	.6	33.05	54	-20.95	74	-40.95	-	-	323	358	H
10.48	30.62	AD1	37.6	-23.8	.6	45.02	54	-8.98	74	-28.98	-	-	228	115	H

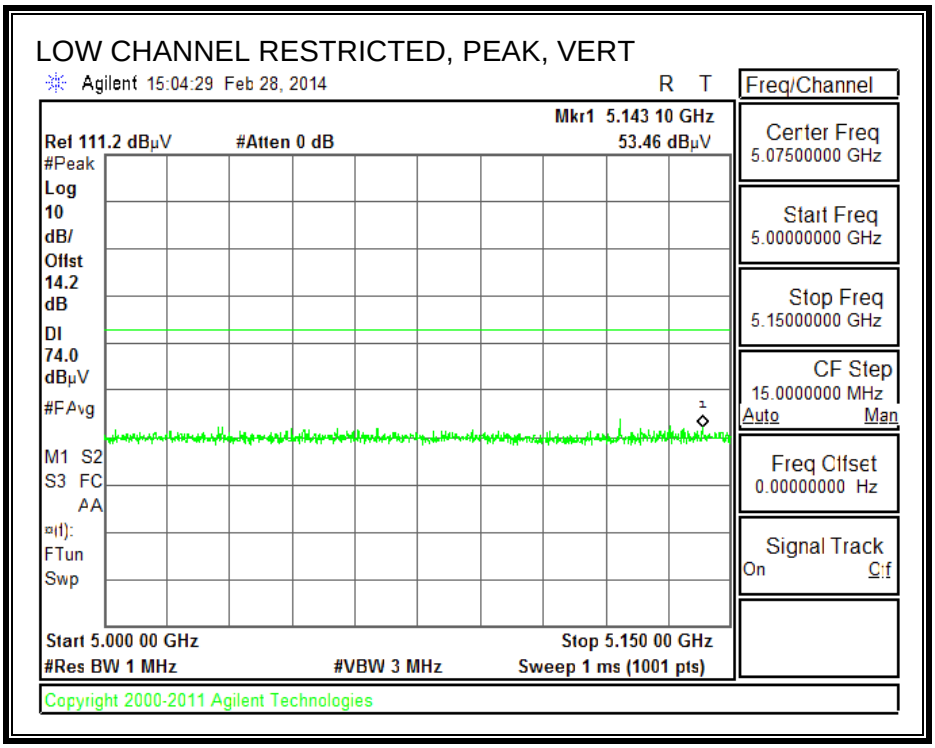
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

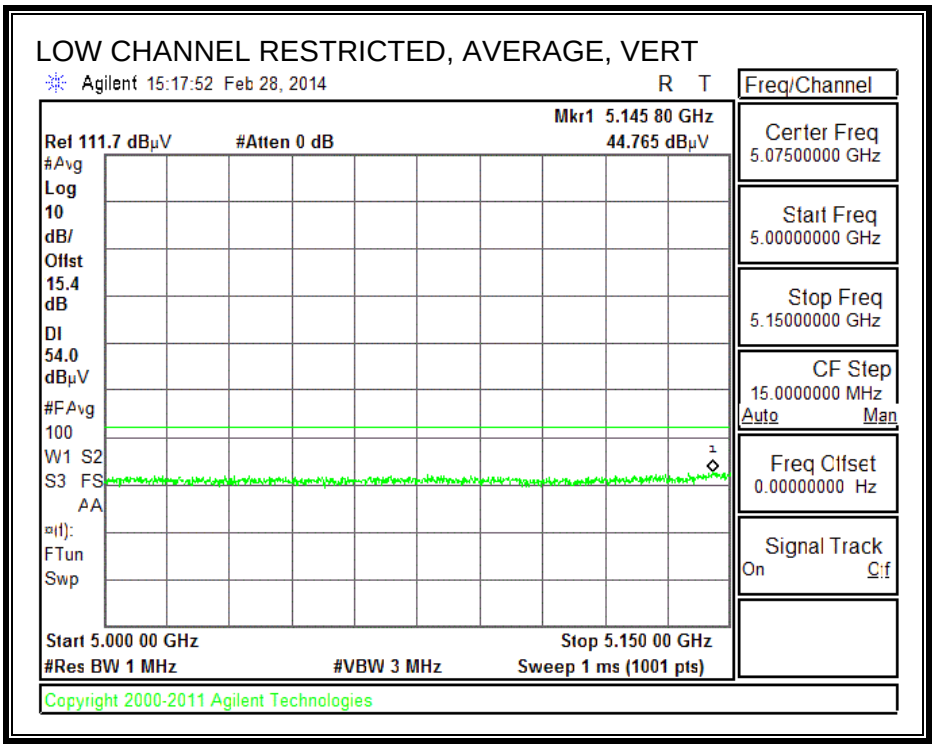
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



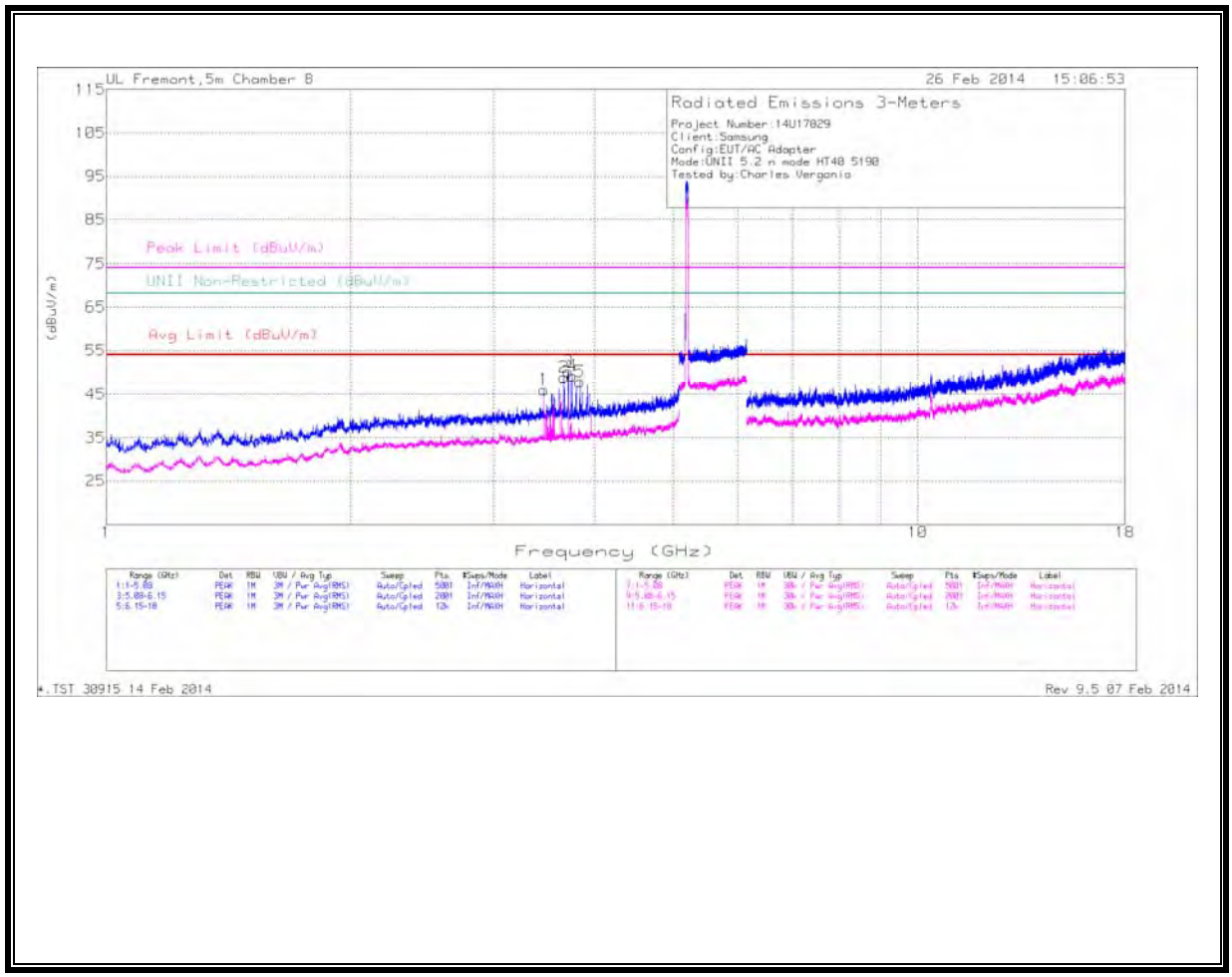






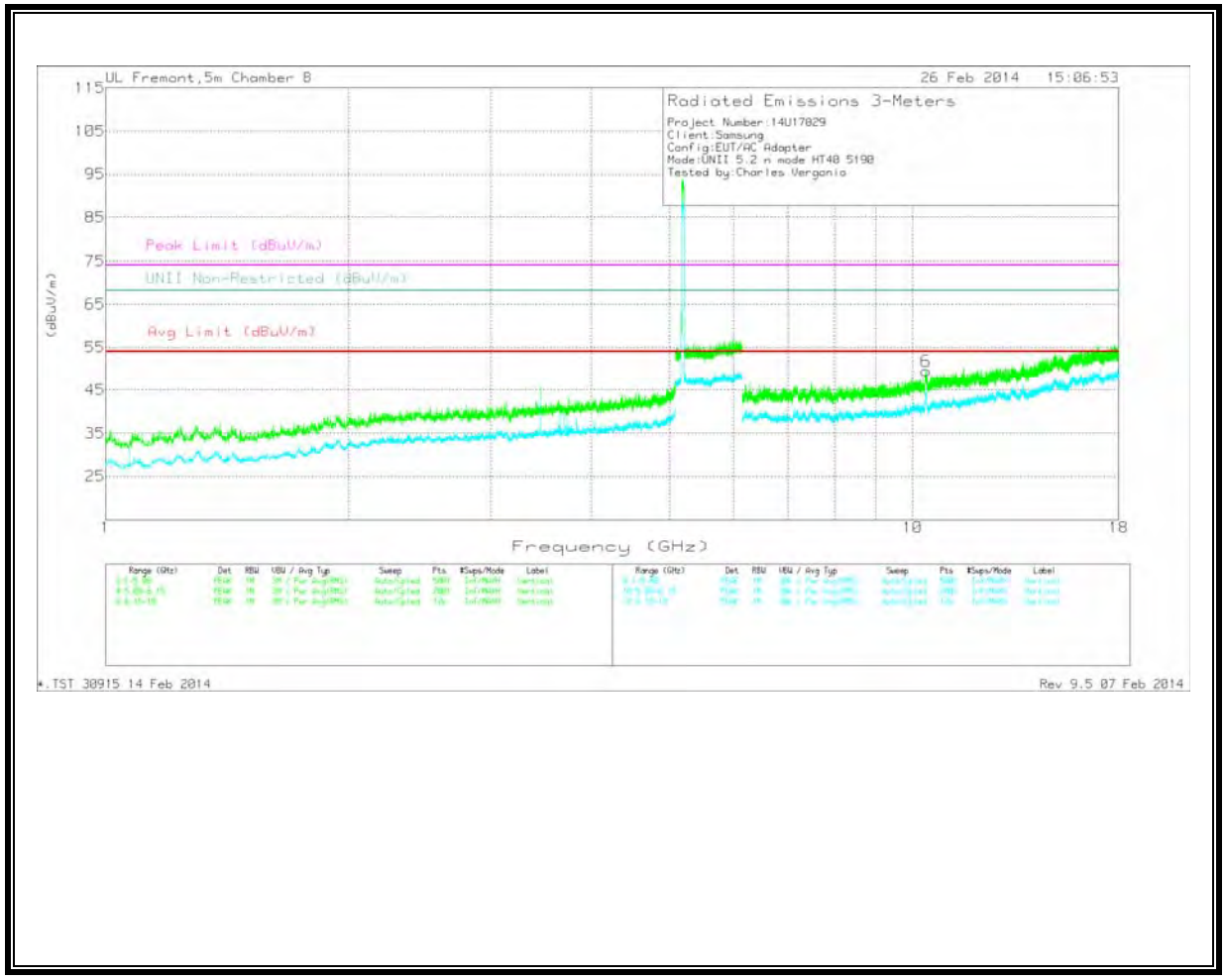
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.664	46.66	PK	33.3	-31.1	0	48.86	54	-5.14	74	-25.14	68.2	-19.34	0-360	99	H
3	* 3.71	48.15	PK	33.2	-31.2	0	50.15	54	-3.85	74	-23.85	68.2	-18.05	0-360	99	H
4	* 3.752	47.2	PK	33.3	-31.3	0	49.2	54	-4.8	74	-24.8	68.2	-19	0-360	99	H
5	* 3.834	45.46	PK	33.4	-31	0	47.86	54	-6.14	74	-26.14	68.2	-20.34	0-360	99	H
1	3.46	44.53	PK	32.9	-31.4	0	46.03	54	-7.97	74	-27.97	68.2	-22.17	0-360	99	H
6	10.391	35.09	PK	37.4	-23	0	49.49	54	-4.51	74	-24.51	68.2	-18.71	0-360	99	V

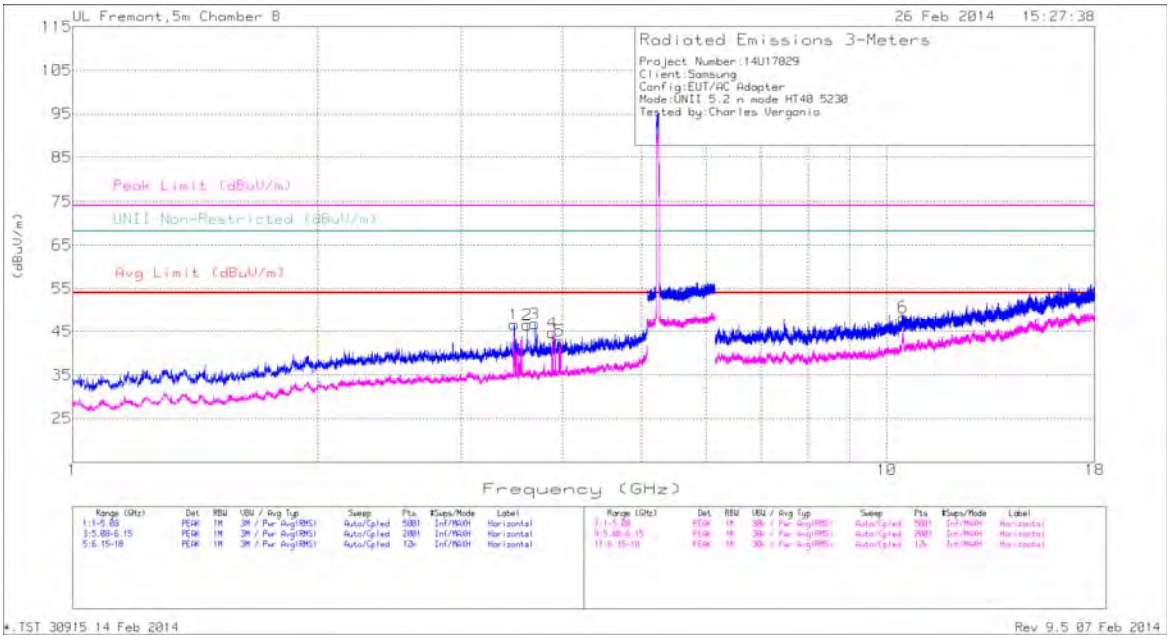
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.691	29.85	AD1	33.2	-31.2	1.1	32.95	54	-21.05	74	-41.05	-	-	101	277	H
* 3.744	30.12	AD1	33.3	-31.4	1.1	33.12	54	-20.88	74	-40.88	-	-	147	246	H
* 3.718	30.1	AD1	33.2	-31.4	1.1	33	54	-21	74	-41	-	-	52	264	H

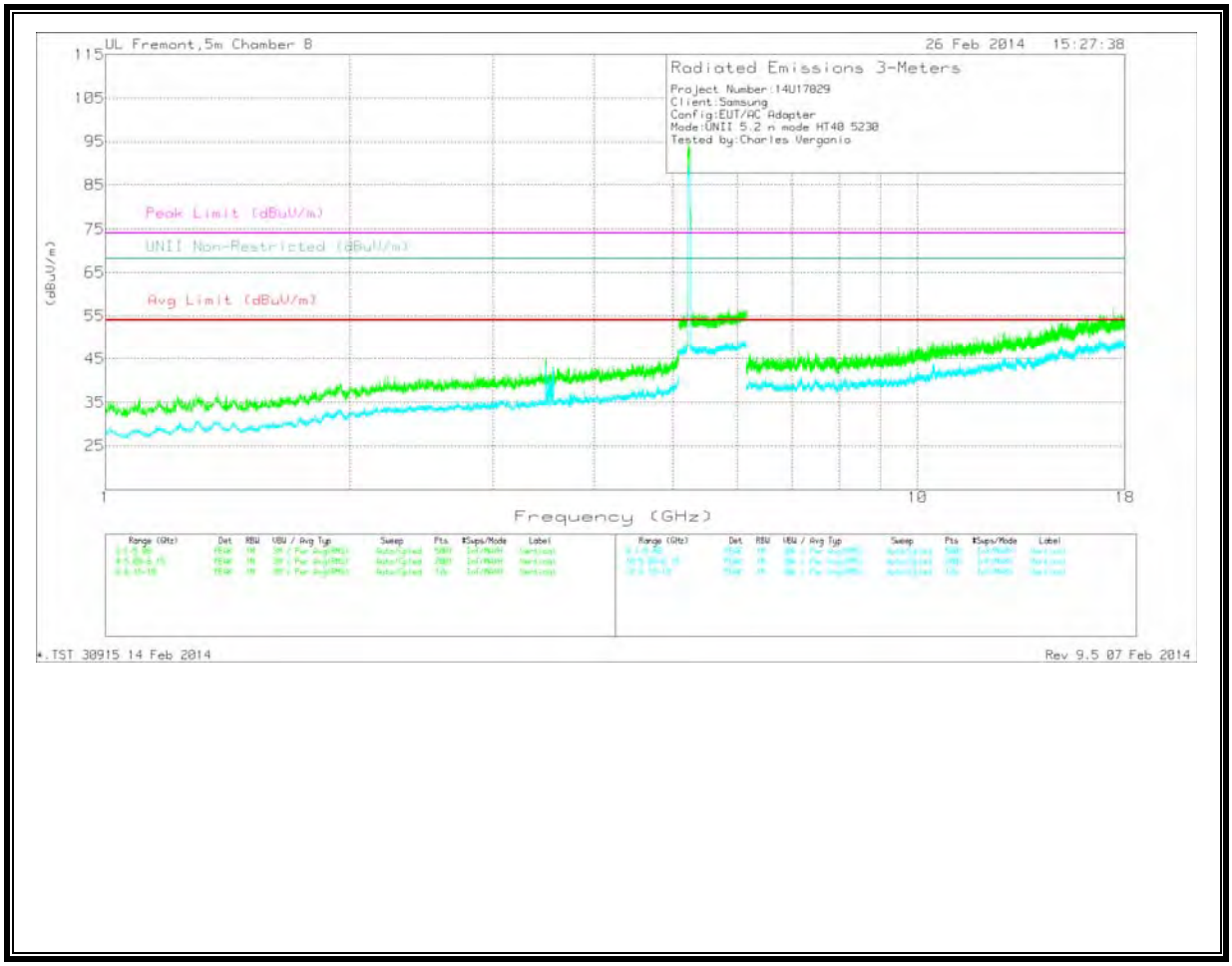
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.616	44.46	PK	33.5	-31.4	0	46.56	54	-7.44	74	-27.44	68.2	-21.64	0-360	99	H
3	* 3.694	44.8	PK	33.2	-31.2	0	46.8	54	-7.2	74	-27.2	68.2	-21.4	0-360	99	H
4	* 3.883	42.91	Avg	33.5	-31.7	0	44.71	54	-9.29	-	-	-	-	0-360	99	H
5	* 3.966	39.39	Avg	33.4	-30	0	42.79	54	-11.21	-	-	-	-	0-360	99	H
1	3.486	45.52	PK	32.9	-31.8	0	46.62	54	-7.38	74	-27.38	68.2	-21.58	0-360	99	H
6	10.468	34.7	PK	37.6	-23.9	0	48.4	54	-5.6	74	-25.6	68.2	-19.8	0-360	99	H

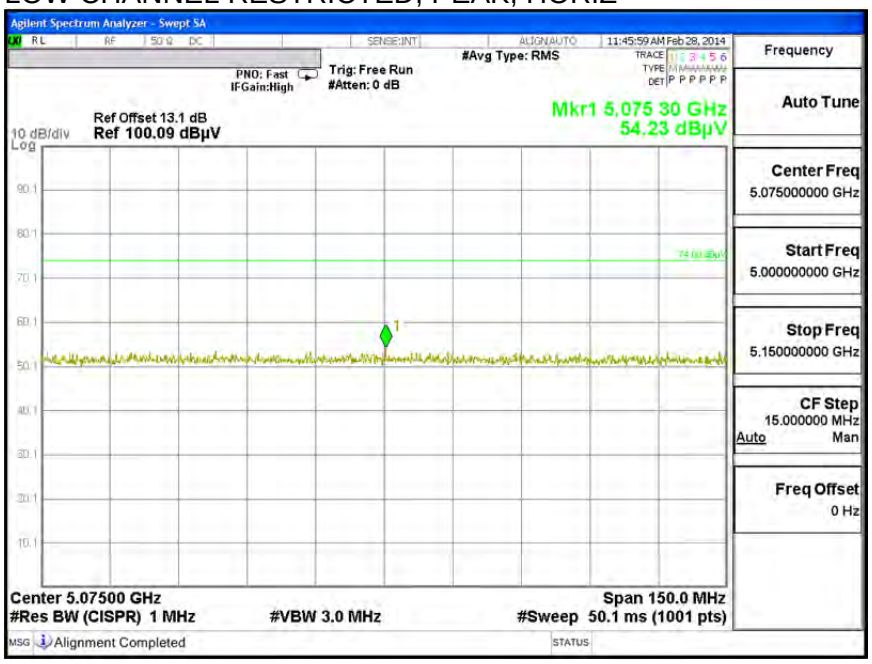
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

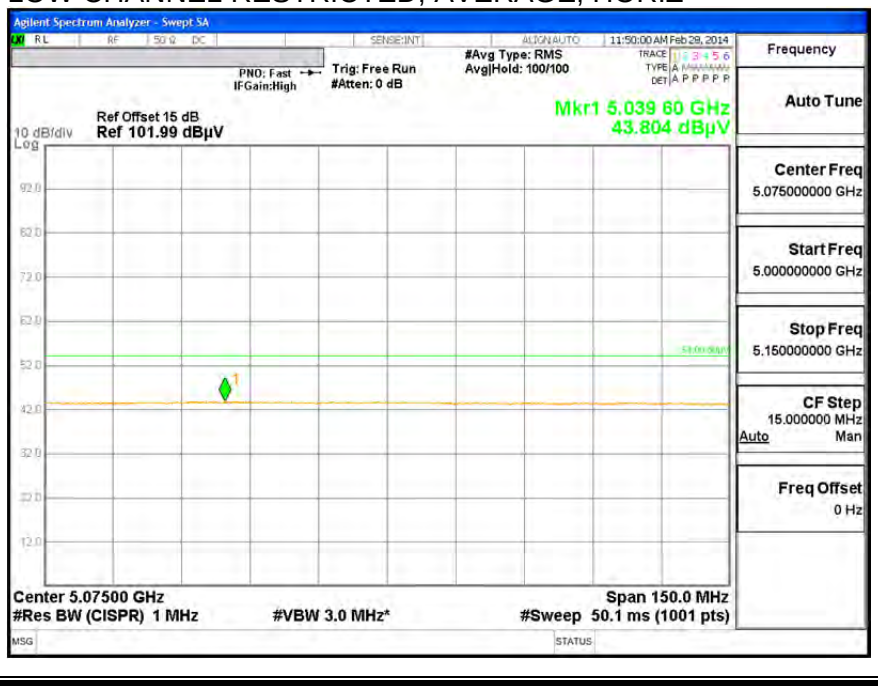
11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

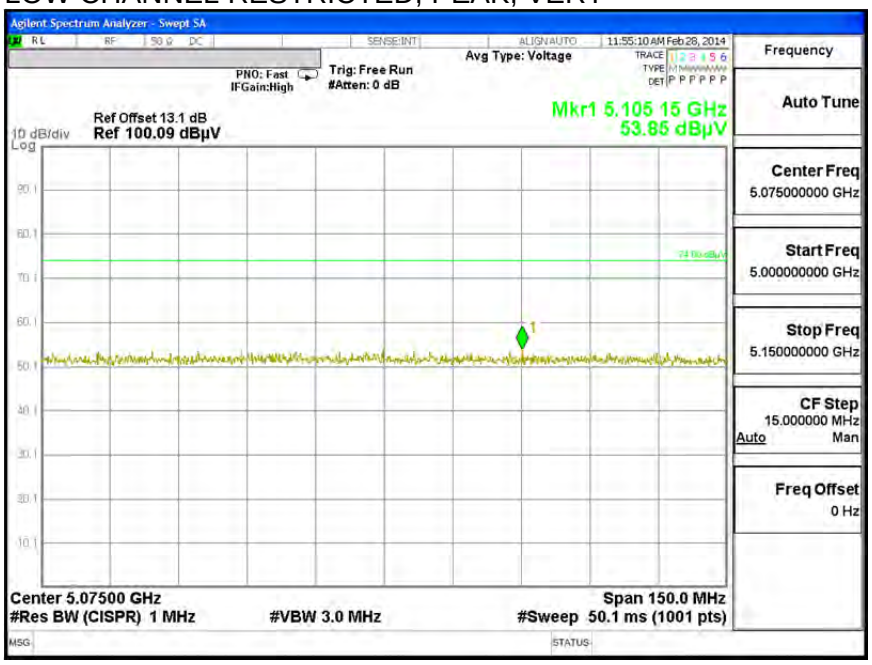
LOW CHANNEL RESTRICTED, PEAK, HORIZ



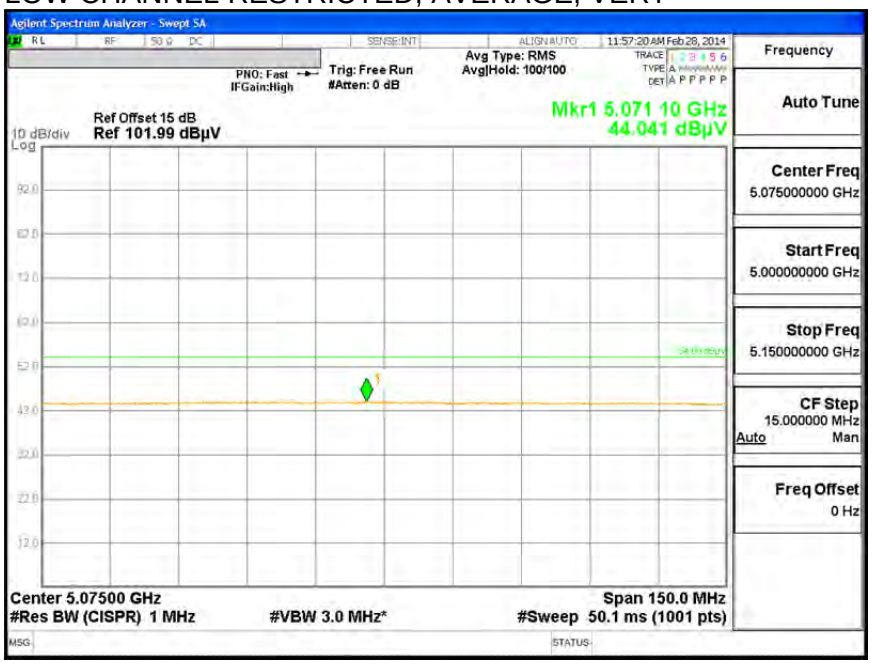
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

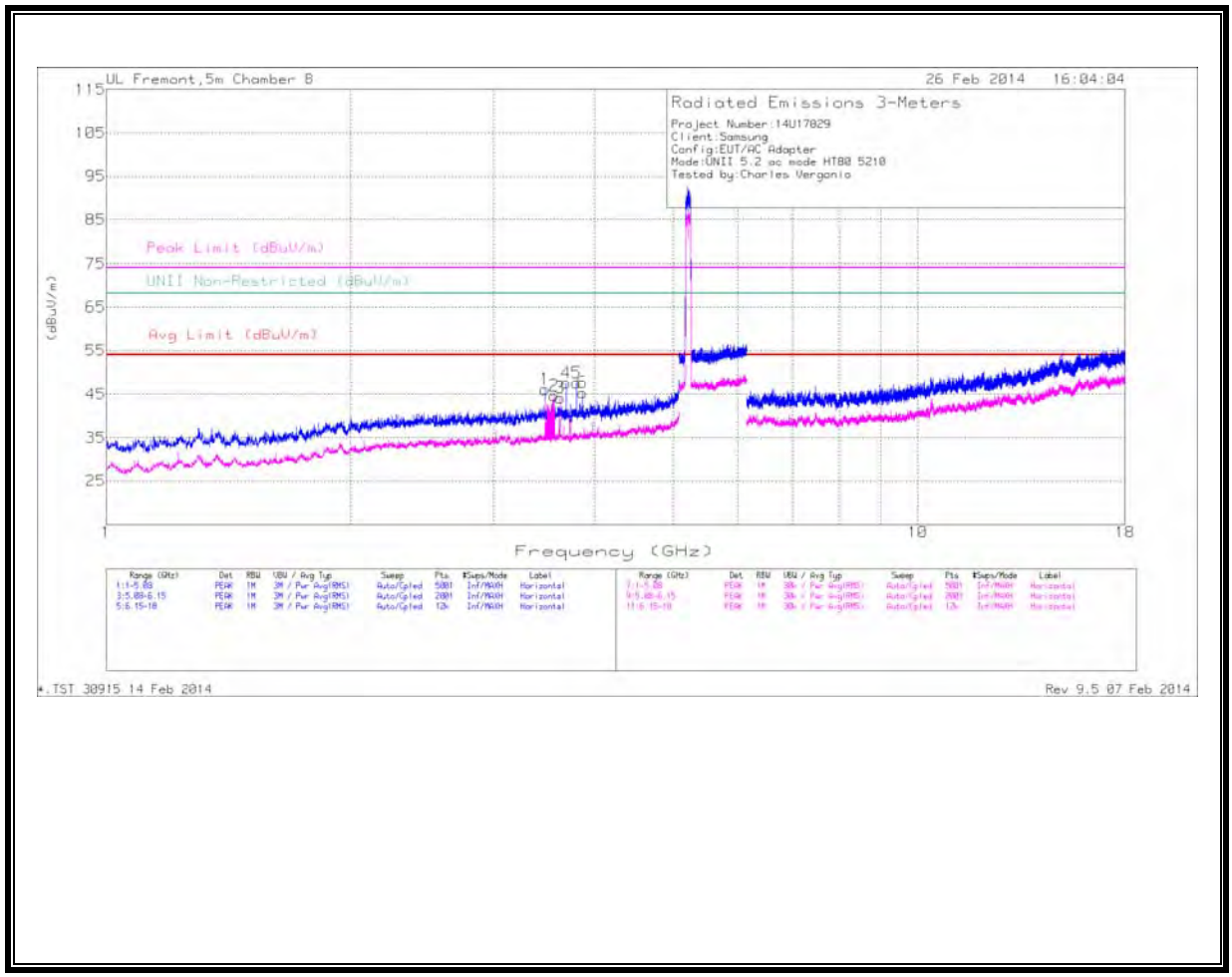


LOW CHANNEL RESTRICTED, AVERAGE, VERT



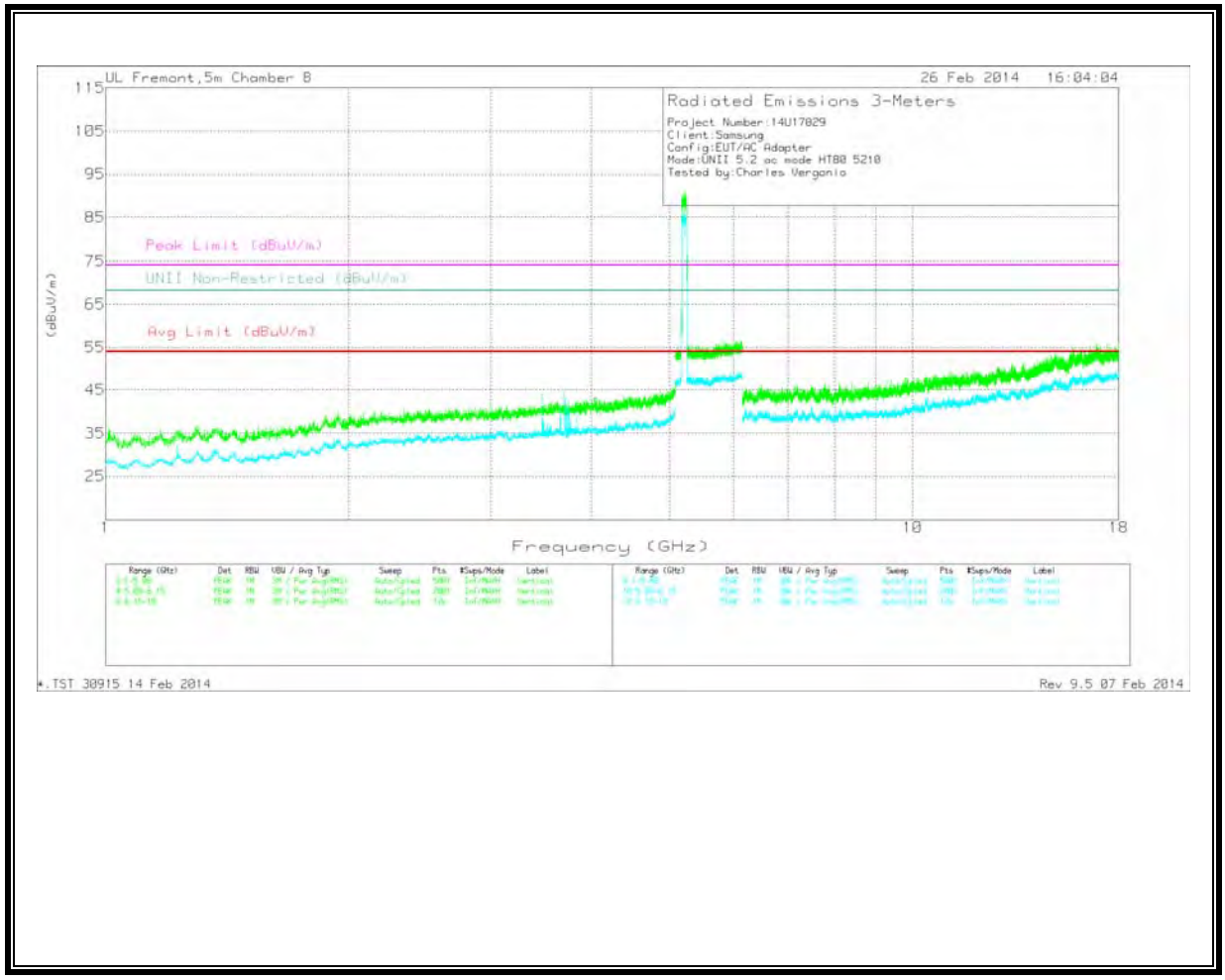
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.686	45.64	PK	33.2	-31.3	0	47.54	54	-6.46	74	-26.46	68.2	-20.66	0-360	99	H
5	* 3.797	45.08	PK	33.4	-30.9	0	47.58	54	-6.42	74	-26.42	68.2	-20.62	0-360	99	H
6	* 3.863	43.39	PK	33.5	-31.5	0	45.39	54	-8.61	74	-28.61	68.2	-22.81	0-360	99	H
2	* 3.561	42.92	Avg	33.3	-31.6	0	44.62	54	-9.38	-	-	-	-	0-360	99	H
3	* 3.625	41.97	Avg	33.5	-31.3	0	44.17	54	-9.83	-	-	-	-	0-360	99	H
1	3.473	44.84	PK	32.9	-31.6	0	46.14	54	-7.86	74	-27.86	68.2	-22.06	0-360	99	H

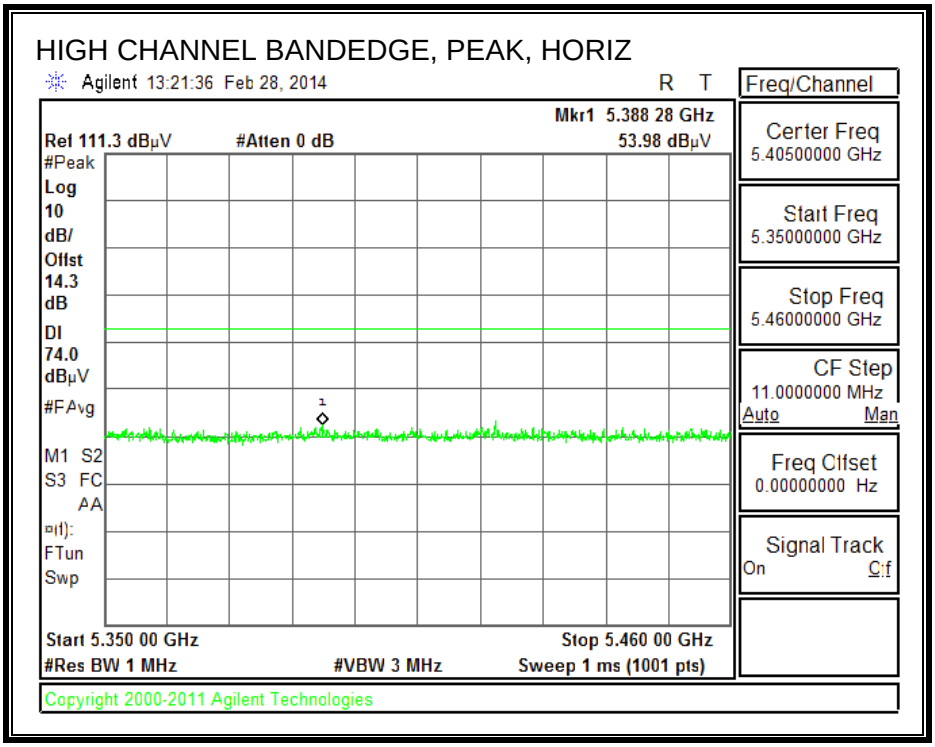
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

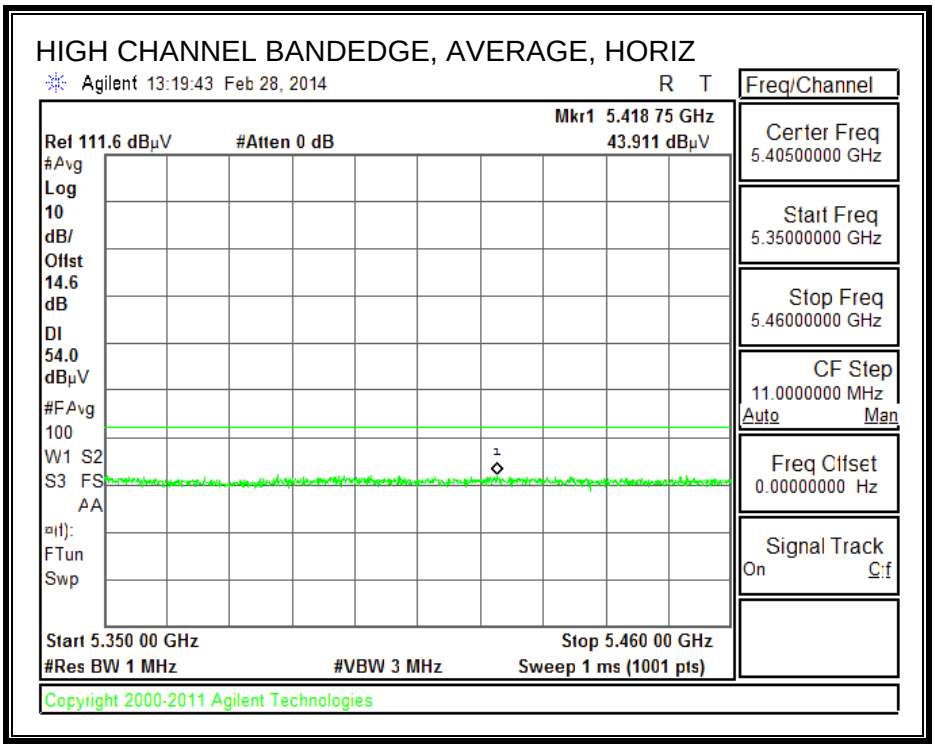
PK - Peak detector

11.2. 5.3 GHz

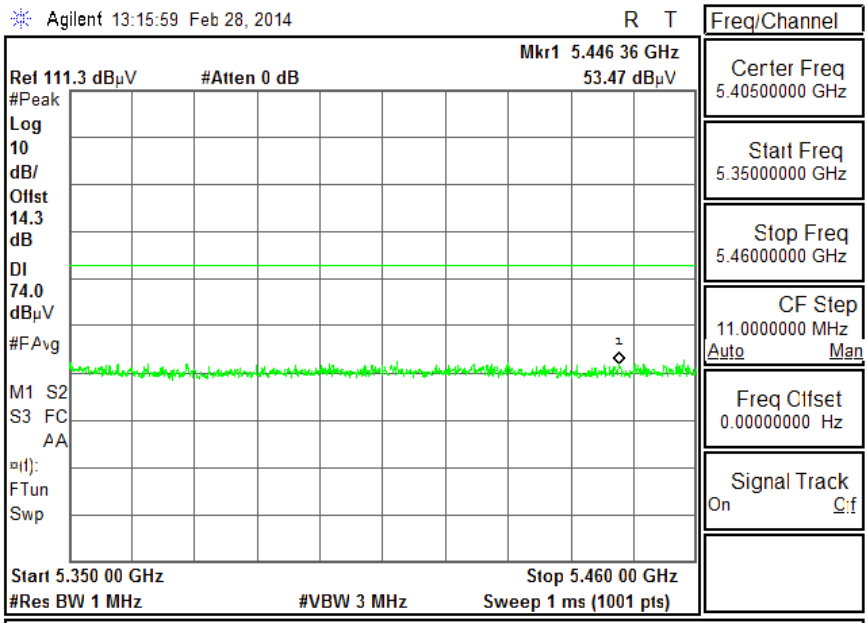
11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

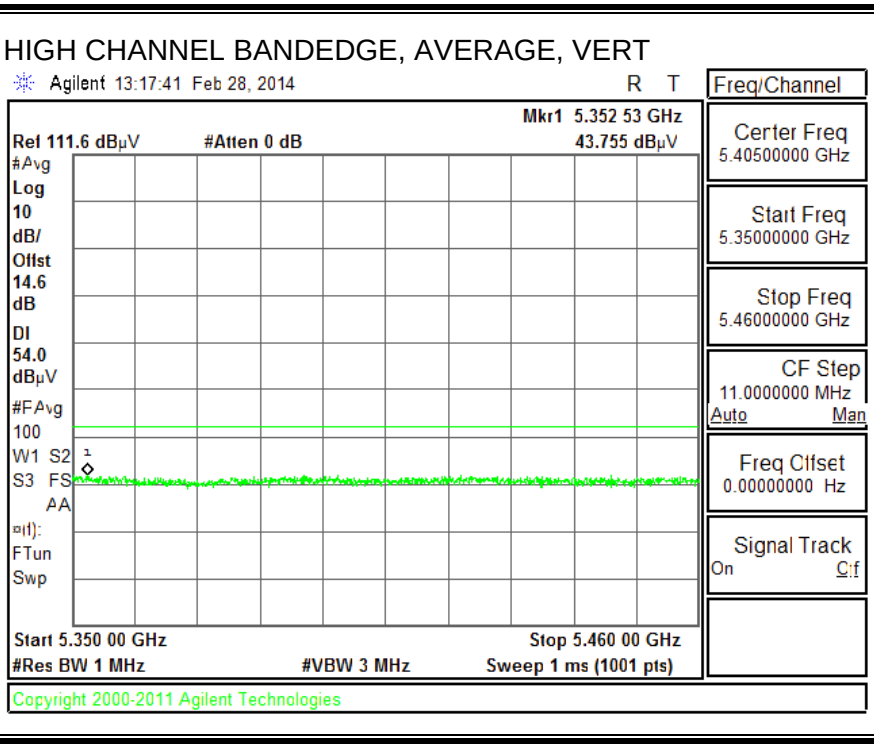




HIGH CHANNEL BANDEDGE, PEAK, VERT

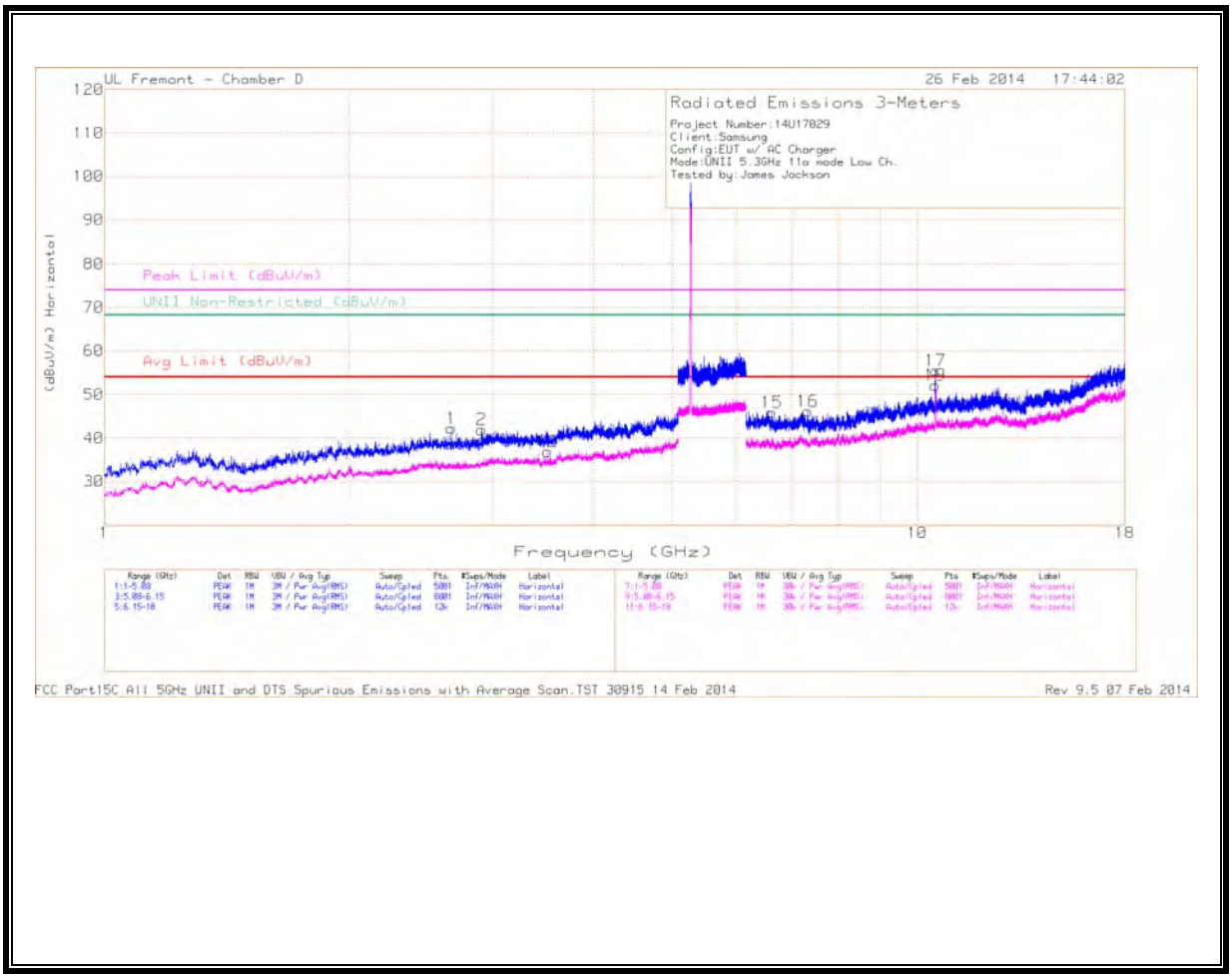


HIGH CHANNEL BANDEDGE, AVERAGE, VERT



HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL

Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

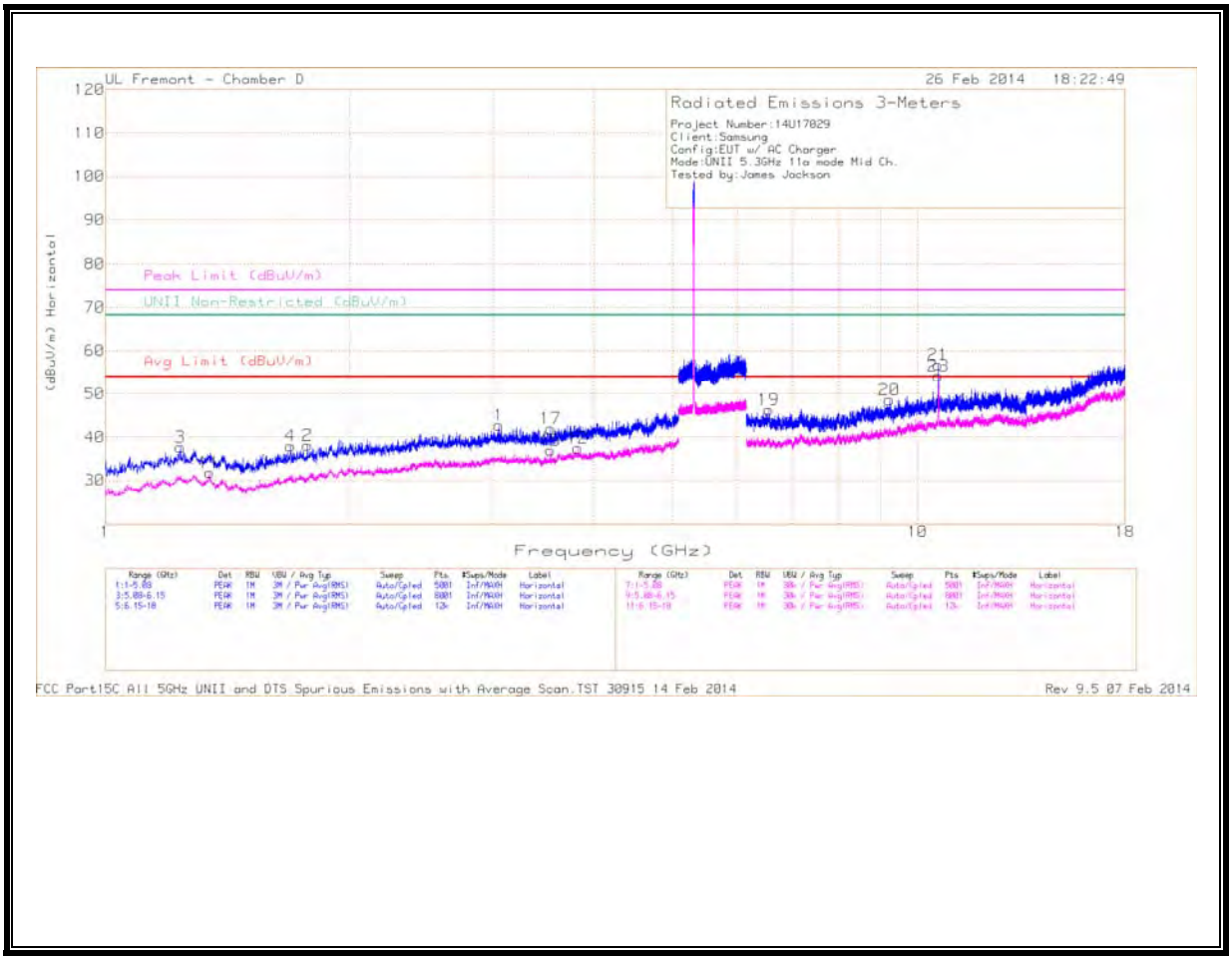
LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.672	40.35	PK	31.7	-29.8	42.25	54	-11.75	74	-31.75	-	-	0-360	100	H
5	* 3.508	41.13	PK	32.3	-29	44.43	54	-9.57	74	-29.57	-	-	0-360	201	V
7	* 3.532	39.55	PK	32.4	-29	42.95	54	-11.05	74	-31.05	-	-	0-360	100	V
8	* 3.552	40.52	PK	32.4	-28.7	44.22	54	-9.78	74	-29.78	-	-	0-360	100	V
9	* 3.57	41.49	PK	32.4	-29	44.89	54	-9.11	74	-29.11	-	-	0-360	100	V
11	* 3.878	42.86	PK	32.8	-28.5	47.16	54	-6.84	74	-26.84	-	-	0-360	100	V
16	* 7.329	36.87	PK	35.1	-25.8	46.17	54	-7.83	74	-27.83	-	-	0-360	100	H
12	* 3.507	33.58	Avg	32.3	-29	36.88	54	-17.12	-	-	-	-	0-360	100	H
13	* 3.507	38.07	Avg	32.3	-29	41.37	54	-12.63	-	-	-	-	0-360	201	V
14	* 3.809	35.53	Avg	32.7	-28.9	39.33	54	-14.67	-	-	-	-	0-360	201	V
4	1.738	39.73	PK	29.3	-31.1	37.93	-	-	-	-	68.2	-30.27	0-360	201	V
3	1.798	40.47	PK	29.6	-31.3	38.77	-	-	-	-	68.2	-29.43	0-360	201	V
2	2.91	39.63	PK	32.1	-29.8	41.93	-	-	-	-	68.2	-26.27	0-360	100	H
10	3.479	38.84	PK	32.3	-29.2	41.94	-	-	-	-	68.2	-26.26	0-360	100	V
6	3.487	40.35	PK	32.3	-29.2	43.45	-	-	-	-	68.2	-24.75	0-360	100	V
15	6.621	36.66	PK	35	-25.8	45.86	-	-	-	-	68.2	-22.34	0-360	201	H
17	10.525	39.98	PK	37.2	-21.7	55.48	-	-	-	-	68.2	-12.72	0-360	100	H
18	10.53	37.68	PK	37.2	-21.7	53.18	-	-	-	-	68.2	-15.02	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

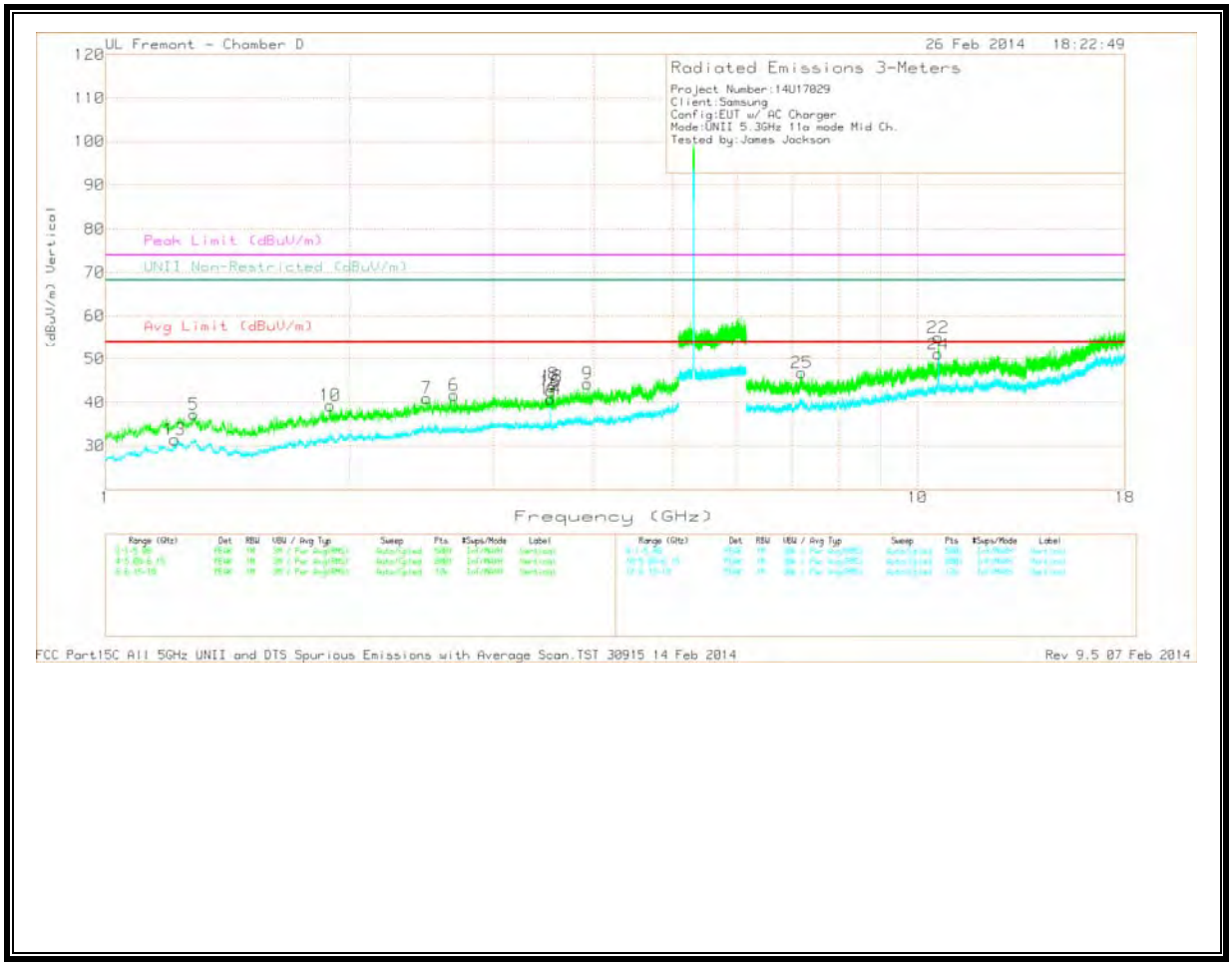
PK - Peak detector

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 1.237	40.06	PK	29.4	-31.8	37.66	54	-16.34	74	-36.34	-	-	0-360	201	H
4	* 1.69	39.88	PK	28.8	-30.7	37.98	54	-16.02	74	-36.02	-	-	0-360	100	H
17	* 3.533	38.53	PK	32.4	-29	41.93	54	-12.07	74	-32.07	-	-	0-360	201	H
5	* 1.285	39.31	PK	29.2	-31.3	37.21	54	-16.79	74	-36.79	-	-	0-360	201	V
6	* 2.687	39.23	PK	31.7	-29.3	41.63	54	-12.37	74	-32.37	-	-	0-360	100	V
7	* 2.488	38.85	PK	32.1	-30	40.95	54	-13.05	74	-33.05	-	-	0-360	100	V
8	* 3.562	40.79	PK	32.4	-29	44.19	54	-9.81	74	-29.81	-	-	0-360	201	V
9	* 3.921	39.9	PK	32.8	-28.4	44.3	54	-9.7	74	-29.7	-	-	0-360	201	V
16	* 3.534	39.22	PK	32.4	-29	42.62	54	-11.38	74	-31.38	-	-	0-360	100	V
18	* 3.546	39.91	PK	32.4	-28.7	43.61	54	-10.39	74	-30.39	-	-	0-360	201	V
11	* 1.344	34.38	Avg	28.6	-31.2	31.78	54	-22.22	-	-	-	-	0-360	100	H
12	* 3.816	33.46	Avg	32.8	-28.8	37.46	54	-16.54	-	-	-	-	0-360	201	H
15	* 3.534	33.53	Avg	32.4	-29	36.93	54	-17.07	-	-	-	-	0-360	100	H
13	* 1.218	34.15	Avg	29.2	-31.9	31.45	54	-22.55	-	-	-	-	0-360	100	V
14	* 3.534	37.32	Avg	32.4	-29	40.72	54	-13.28	-	-	-	-	0-360	201	V
24	* 10.6	35.1	Avg	37.2	-21.2	51.1	54	-2.9	-	-	-	-	0-360	100	V
2	1.774	39.88	PK	29.5	-31.3	38.08	-	-	-	-	68.2	-30.12	0-360	201	H
10	1.892	39.46	PK	30.1	-30.3	39.26	-	-	-	-	68.2	-28.94	0-360	100	V
1	3.051	39.03	PK	32.5	-28.8	42.73	-	-	-	-	68.2	-25.47	0-360	100	H
19	6.557	36.5	PK	35	-25.2	46.3	-	-	-	-	68.2	-21.9	0-360	201	H
25	7.199	35.48	PK	35.1	-23.8	46.78	-	-	-	-	68.2	-21.42	0-360	201	V
20	9.23	34.89	PK	35.9	-22.2	48.59	-	-	-	-	68.2	-19.61	0-360	100	H
22	10.597	39.02	PK	37.2	-21.2	55.02	-	-	-	-	68.2	-13.18	0-360	100	V
21	10.599	40.77	PK	37.2	-21.2	56.77	-	-	-	-	68.2	-11.43	0-360	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

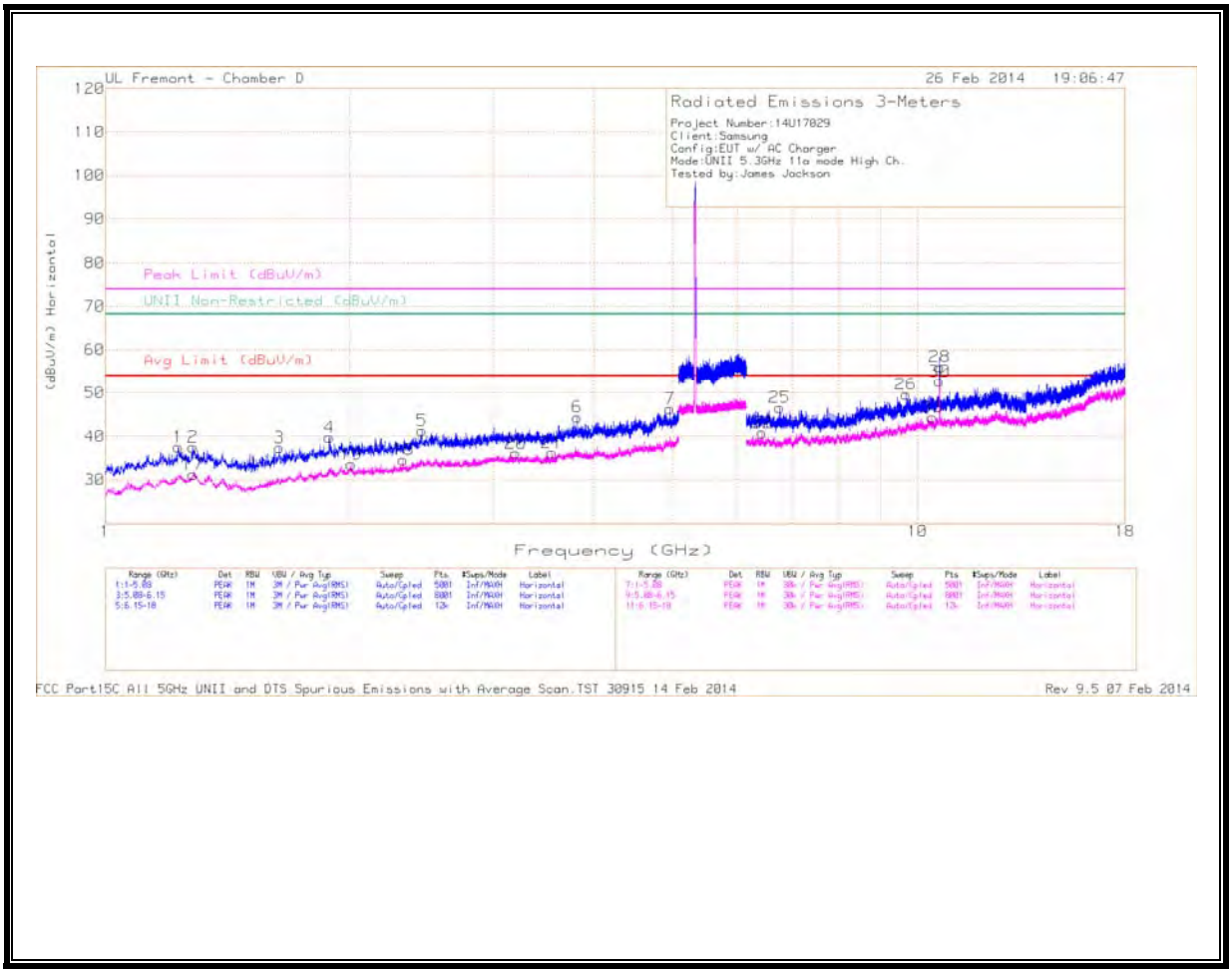
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.601	32.29	MAv1	37.2	-21.3	48.19	54	-5.81	74	-25.81	-	-	37	113	V
10.596	43.04	PK2	37.2	-21.2	59.04	54	5.04	74	-14.96	68.2	-9.16	37	113	V
10.599	46.34	PK2	37.2	-21.2	62.34	54	8.34	74	-11.66	68.2	-5.86	143	112	H
10.6	34.43	MAv1	37.2	-21.2	50.43	54	-3.57	74	-23.57	-	-	143	112	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

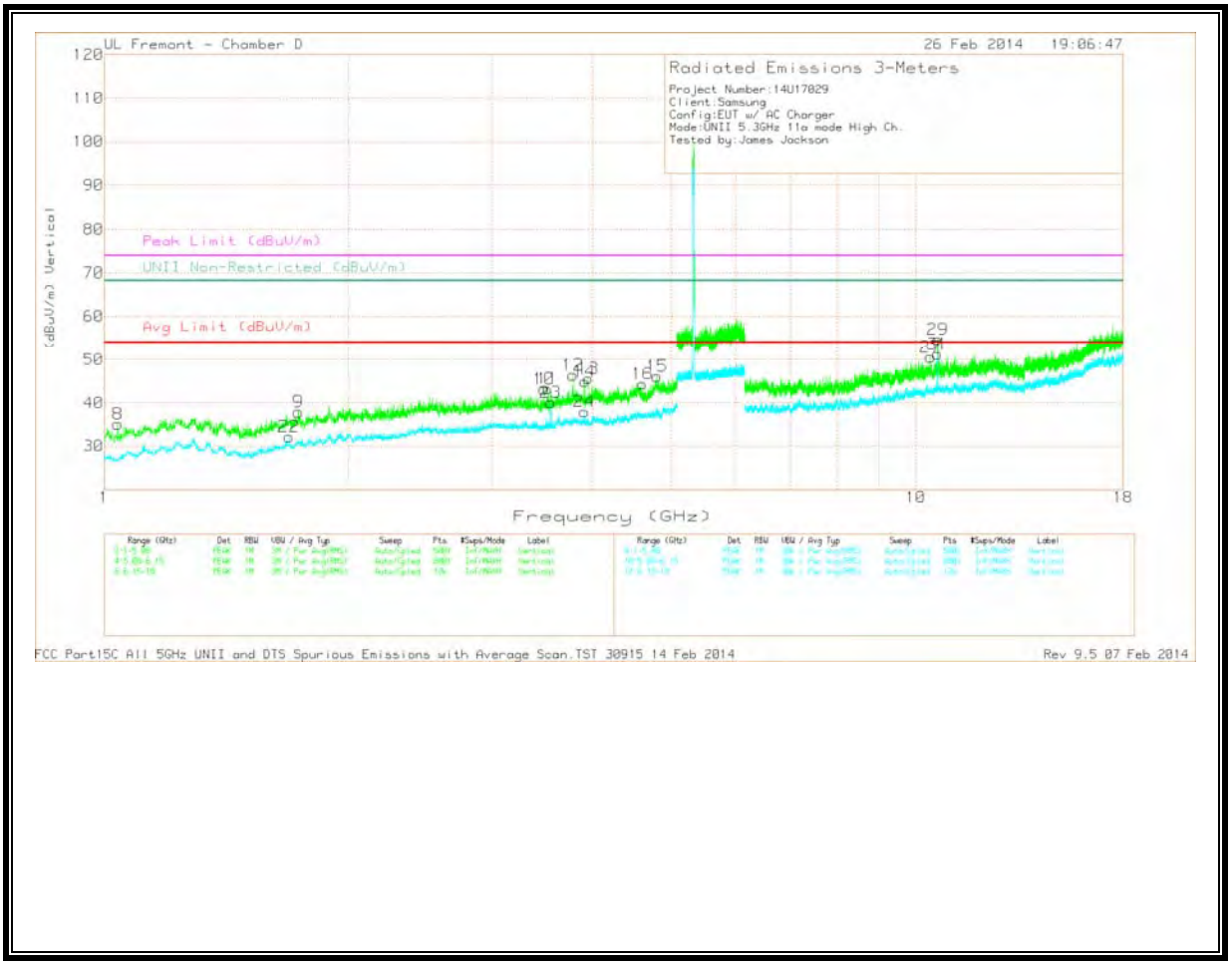
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.23	40.01	PK	29.3	-31.8	37.51	54	-16.49	74	-36.49	-	-	0-360	100	H
2	* 1.282	39.63	PK	29.3	-31.4	37.53	54	-16.47	74	-36.47	-	-	0-360	100	H
6	* 3.809	40.59	PK	32.7	-28.9	44.39	54	-9.61	74	-29.61	-	-	0-360	100	H
7	* 4.954	38.9	PK	33.5	-26.1	46.3	54	-7.7	74	-27.7	-	-	0-360	201	H
8	* 1.039	40.4	PK	26.6	-31.9	35.1	54	-18.9	74	-38.9	-	-	0-360	201	V
11	* 3.521	39.86	PK	32.3	-28.9	43.26	54	-10.74	74	-30.74	-	-	0-360	100	V
12	* 3.78	42.48	PK	32.7	-28.8	46.38	54	-7.62	74	-27.62	-	-	0-360	100	V
13	* 3.949	41.21	PK	32.9	-28.5	45.61	54	-8.39	74	-28.39	-	-	0-360	100	V
14	* 3.908	40.92	PK	32.8	-28.8	44.92	54	-9.08	74	-29.08	-	-	0-360	100	V
15	* 4.798	39.6	PK	33.5	-27	46.1	54	-7.9	74	-27.9	-	-	0-360	201	V
16	* 4.604	38.47	PK	33.5	-27.6	44.37	54	-9.63	74	-29.63	-	-	0-360	100	V
28	* 10.646	40.28	PK	37.3	-21.5	56.08			74	-17.92	-	-	0-360	100	H
29	* 10.637	38.92	PK	37.3	-21.5	54.72			74	-19.28	-	-	0-360	100	V
17	* 1.282	33.31	Avg	29.3	-31.4	31.21	54	-22.79	-	-	-	-	0-360	100	H
18	* 2.327	34.01	Avg	31.1	-30.5	34.61	54	-19.39	-	-	-	-	0-360	100	H
21	* 3.547	32.52	Avg	32.4	-28.7	36.22	54	-17.78	-	-	-	-	0-360	100	H
22	* 1.689	34.07	Avg	28.8	-30.7	32.17	54	-21.83	-	-	-	-	0-360	201	V
23	* 3.547	36.38	Avg	32.4	-28.7	40.08	54	-13.92	-	-	-	-	0-360	201	V
24	* 3.905	33.86	Avg	32.8	-28.7	37.96	54	-16.04	-	-	-	-	0-360	100	V
30	* 10.639	36.9	Avg	37.3	-21.5	52.7	54	-1.3	-	-	-	-	0-360	100	H
31	* 10.637	35.47	Avg	37.3	-21.5	51.27	54	-2.73	-	-	-	-	0-360	100	V
3	1.637	39.86	PK	28.3	-30.8	37.36	-	-	-	-	68.2	-30.84	0-360	201	H
9	1.735	39.67	PK	29.3	-31.1	37.87	-	-	-	-	68.2	-30.33	0-360	100	V
4	1.888	40.02	PK	30.1	-30.4	39.72	-	-	-	-	68.2	-28.48	0-360	201	H
19	2.009	33.24	Avg	30.7	-30.4	33.54	-	-	-	-	-	-	0-360	100	H
5	2.453	39.16	PK	31.9	-29.8	41.26	-	-	-	-	68.2	-26.94	0-360	201	H
20	3.201	33.24	Avg	32.5	-29.6	36.14	-	-	-	-	-	-	0-360	100	H
10	3.481	40.08	PK	32.3	-29.2	43.18	-	-	-	-	68.2	-25.02	0-360	100	V
32	6.434	32.12	Avg	35	-26.3	40.82	-	-	-	-	-	-	0-360	201	H
25	6.764	38.02	PK	35	-26.4	46.62	-	-	-	-	68.2	-21.58	0-360	201	H
26	9.673	35.18	PK	36.3	-21.8	49.68	-	-	-	-	68.2	-18.52	0-360	100	H
27	10.423	34.85	PK	37.1	-21.4	50.55	-	-	-	-	68.2	-17.65	0-360	201	V
33	10.425	28.67	Avg	37.1	-21.4	44.37	-	-	-	-	-	-	0-360	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

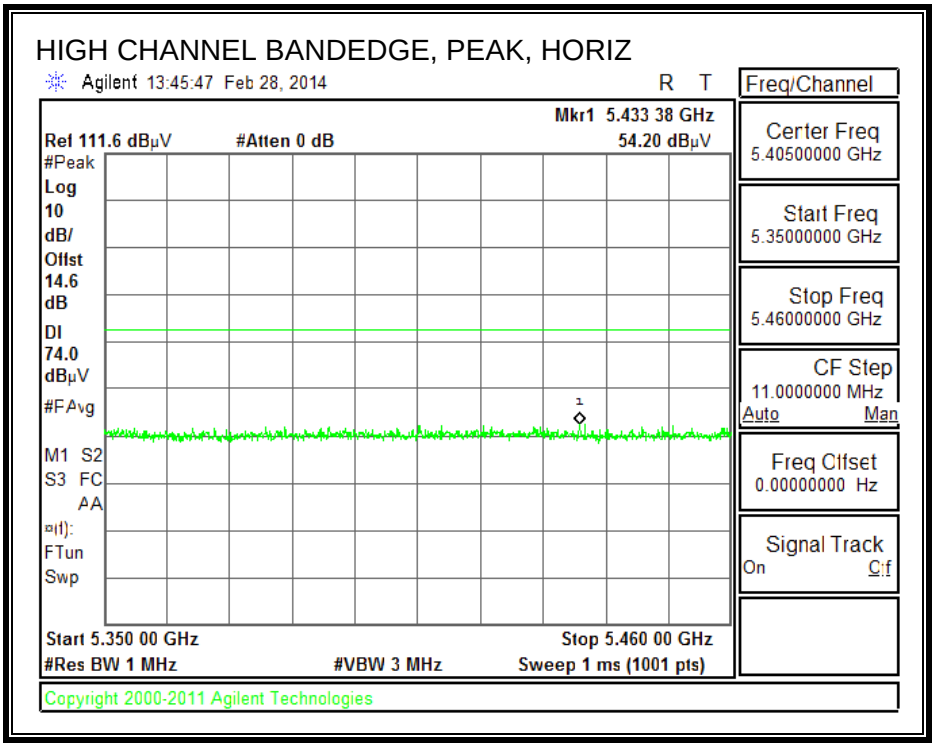
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.646	47.72	PK2	37.3	-21.5	63.52			74	-10.48	-	-	131	120	H
* 10.641	36.33	MAv1	37.3	-21.5	52.13	54	-1.87	-	-	-	-	131	120	H
* 10.646	43.45	PK2	37.3	-21.5	59.25			74	-14.75	-	-	41	287	V
* 10.641	31.86	MAv1	37.3	-21.5	47.66	54	-6.34	-	-	-	-	41	287	V

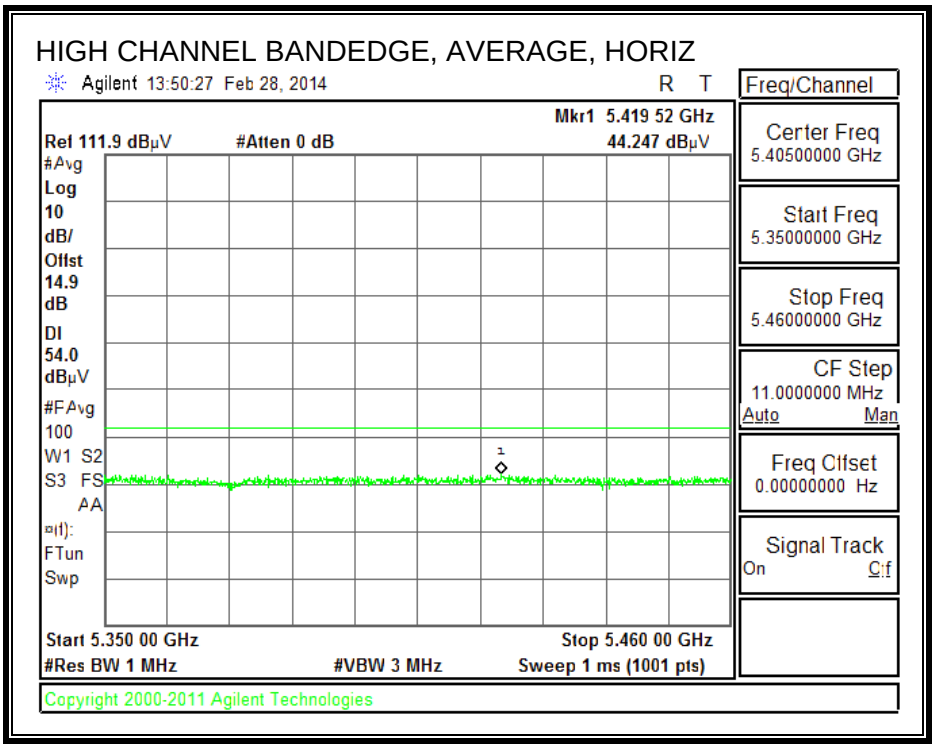
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

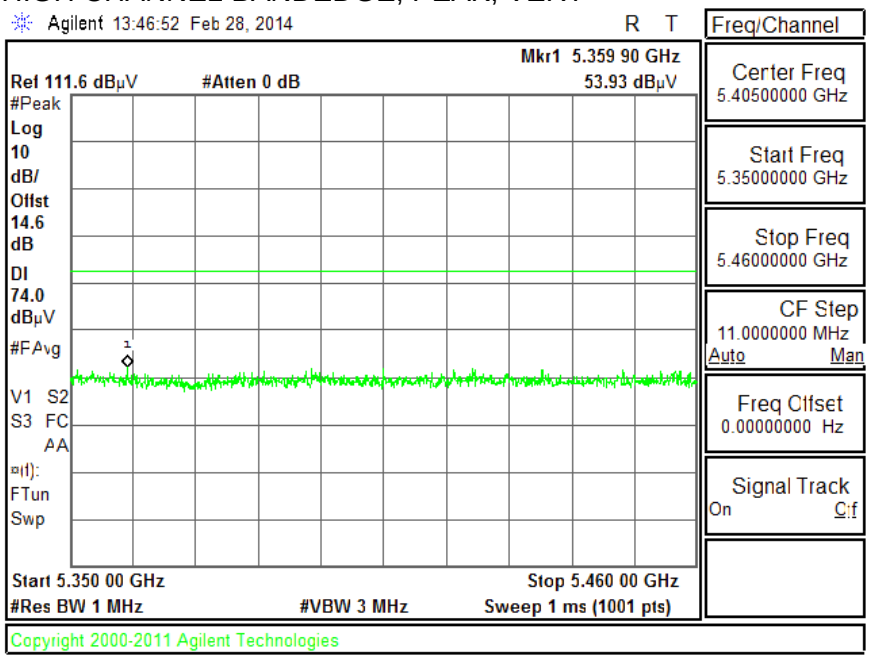
MAv1 - KDB558074 Option 1 Maximum RMS Average

11.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

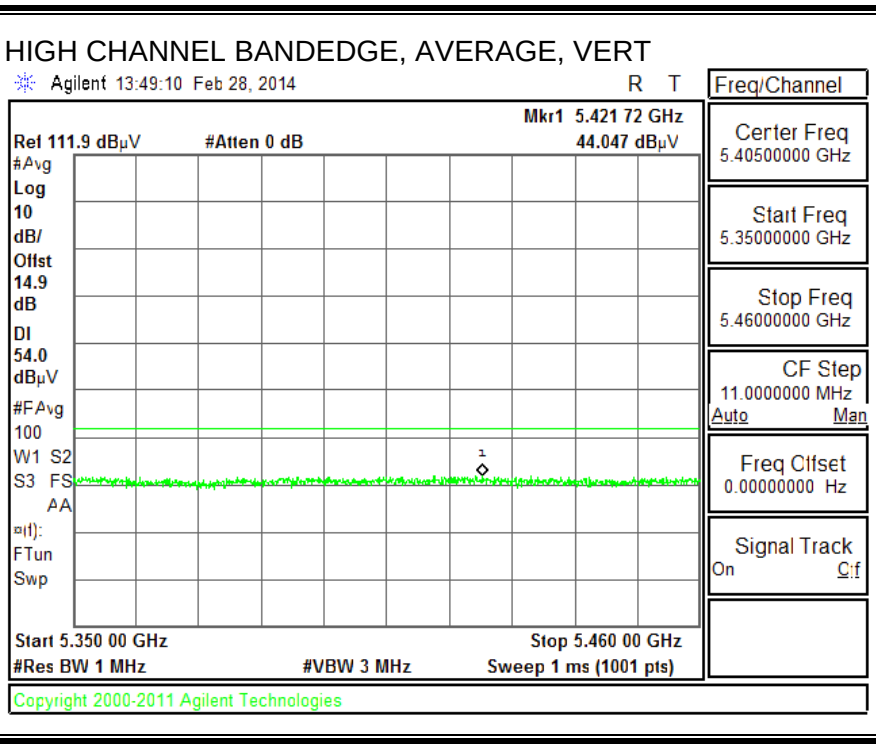




HIGH CHANNEL BANDEDGE, PEAK, VERT

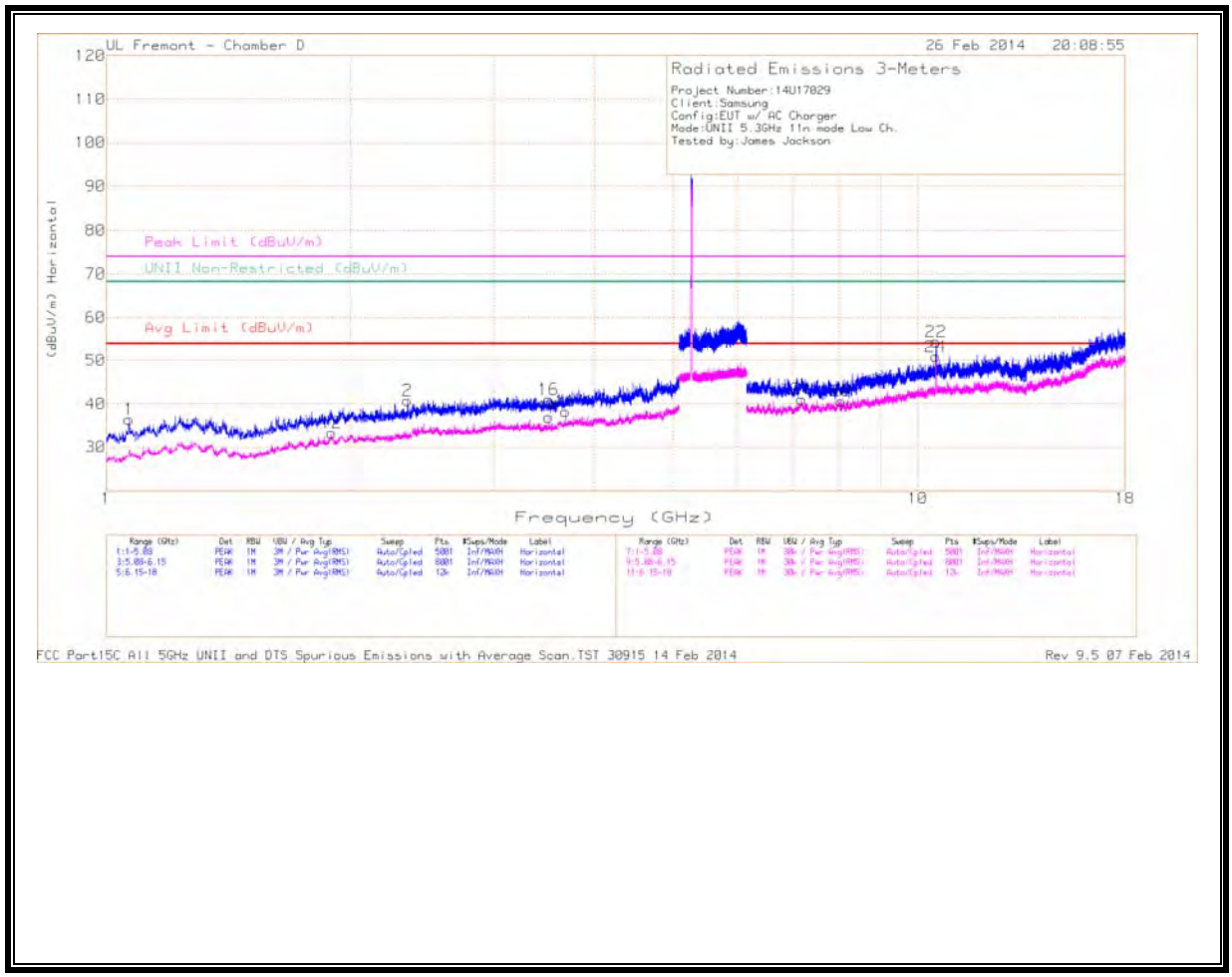


HIGH CHANNEL BANDEDGE, AVERAGE, VERT



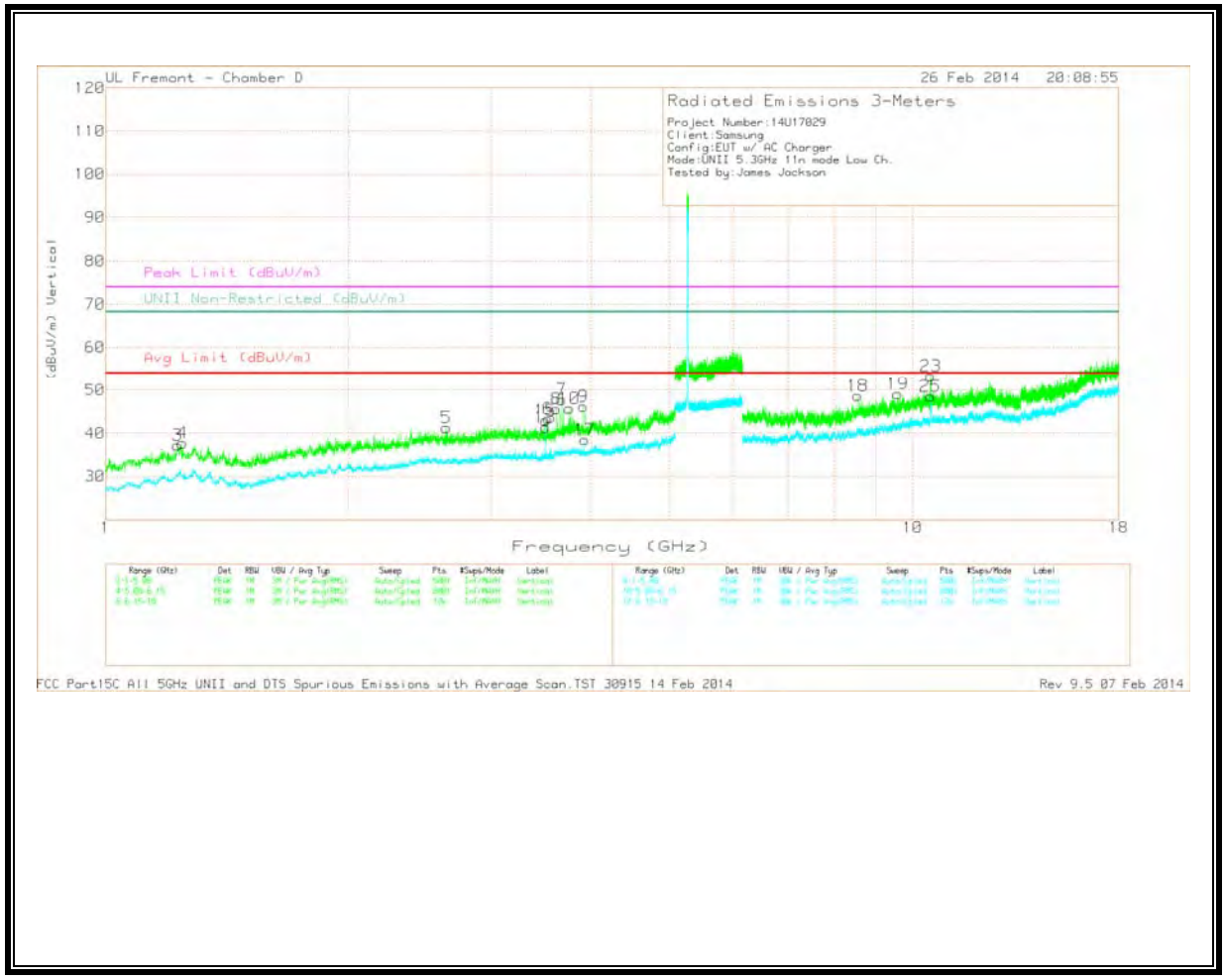
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



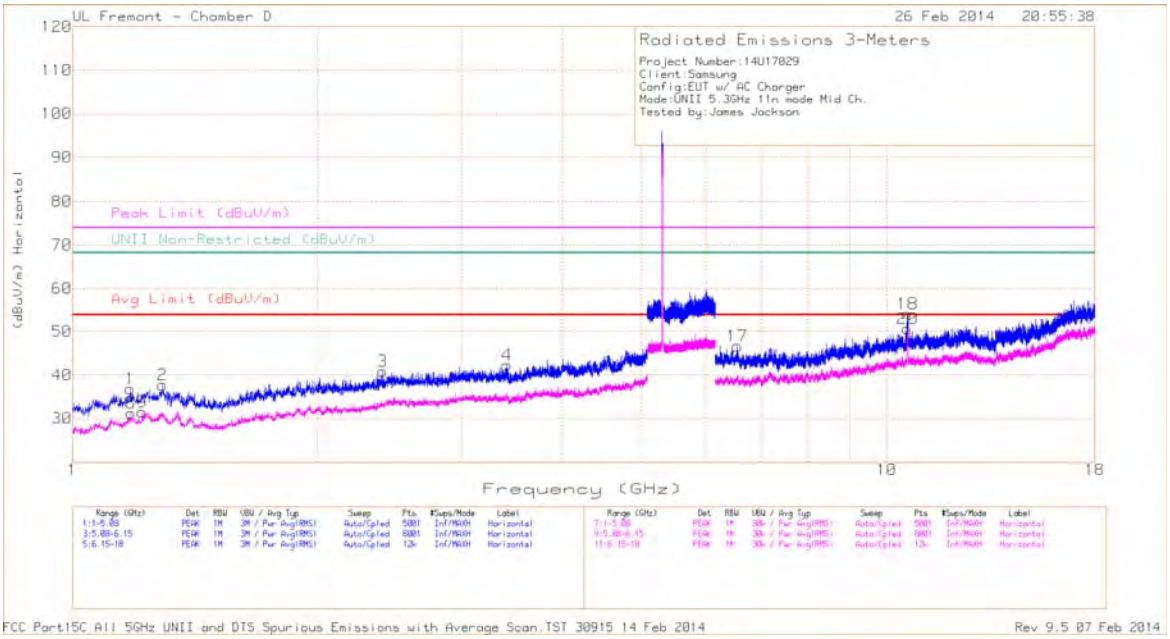
Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.067	41.27	PK	27	-31.9	36.37	54	-17.63	74	-37.63	-	-	0-360	100	H
2	* 2.35	39.9	PK	31.2	-30.4	40.7	54	-13.3	74	-33.3	-	-	0-360	201	H
16	* 3.508	37.64	PK	32.3	-29	40.94	54	-13.06	74	-33.06	-	-	0-360	201	H
3	* 1.228	39.75	PK	29.3	-31.8	37.25	54	-16.75	74	-36.75	-	-	0-360	201	V
4	* 1.245	40.05	PK	29.5	-31.8	37.75	54	-16.25	74	-36.25	-	-	0-360	201	V
6	* 3.534	39.95	PK	32.4	-29	43.35	54	-10.65	74	-30.65	-	-	0-360	100	V
7	* 3.673	43.68	PK	32.6	-28.5	47.78	54	-6.22	74	-26.22	-	-	0-360	201	V
8	* 3.617	42.03	PK	32.5	-28.9	45.63	54	-8.37	74	-28.37	-	-	0-360	201	V
9	* 3.911	42.18	PK	32.8	-28.8	46.18	54	-7.82	74	-27.82	-	-	0-360	100	V
10	* 3.755	41.73	PK	32.7	-28.7	45.73	54	-8.27	74	-28.27	-	-	0-360	201	V
15	* 3.507	39.64	PK	32.3	-29	42.94	54	-11.06	74	-31.06	-	-	0-360	201	V
11	* 3.68	34.11	Avg	32.6	-28.5	38.21	54	-15.79	-	-	-	-	0-360	201	H
14	* 3.507	33.62	Avg	32.3	-29	36.92	54	-17.08	-	-	-	-	0-360	100	H
13	* 3.507	38.08	Avg	32.3	-29	41.38	54	-12.62	-	-	-	-	0-360	100	V
17	* 3.924	34.09	Avg	32.8	-28.4	38.49	54	-15.51	-	-	-	-	0-360	201	V
20	* 8.045	30.13	Avg	35.3	-24.8	40.63	54	-13.37	-	-	-	-	0-360	201	H
5	2.643	39.55	PK	31.8	-30.1	41.25	-	-	-	-	68.2	-26.95	0-360	100	V
18	8.547	36.26	PK	35.4	-23	48.66	-	-	-	-	68.2	-19.54	0-360	201	V
19	9.587	35.43	PK	36.3	-22.6	49.13	-	-	-	-	68.2	-19.07	0-360	201	V
22	10.526	38.94	PK	37.2	-21.7	54.44	-	-	-	-	68.2	-13.76	0-360	100	H
23	10.526	37.84	PK	37.2	-21.7	53.34	-	-	-	-	68.2	-14.86	0-360	201	V

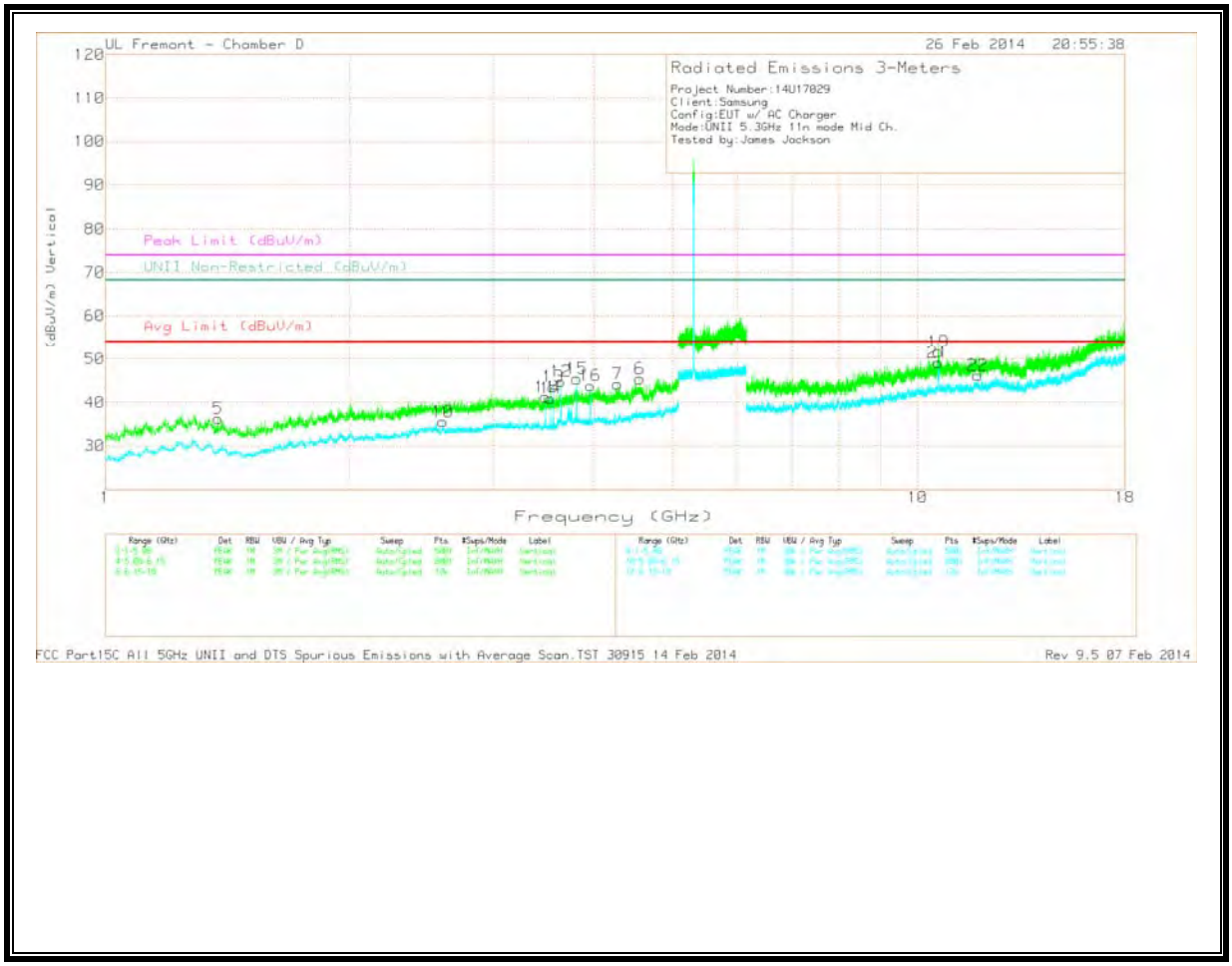
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

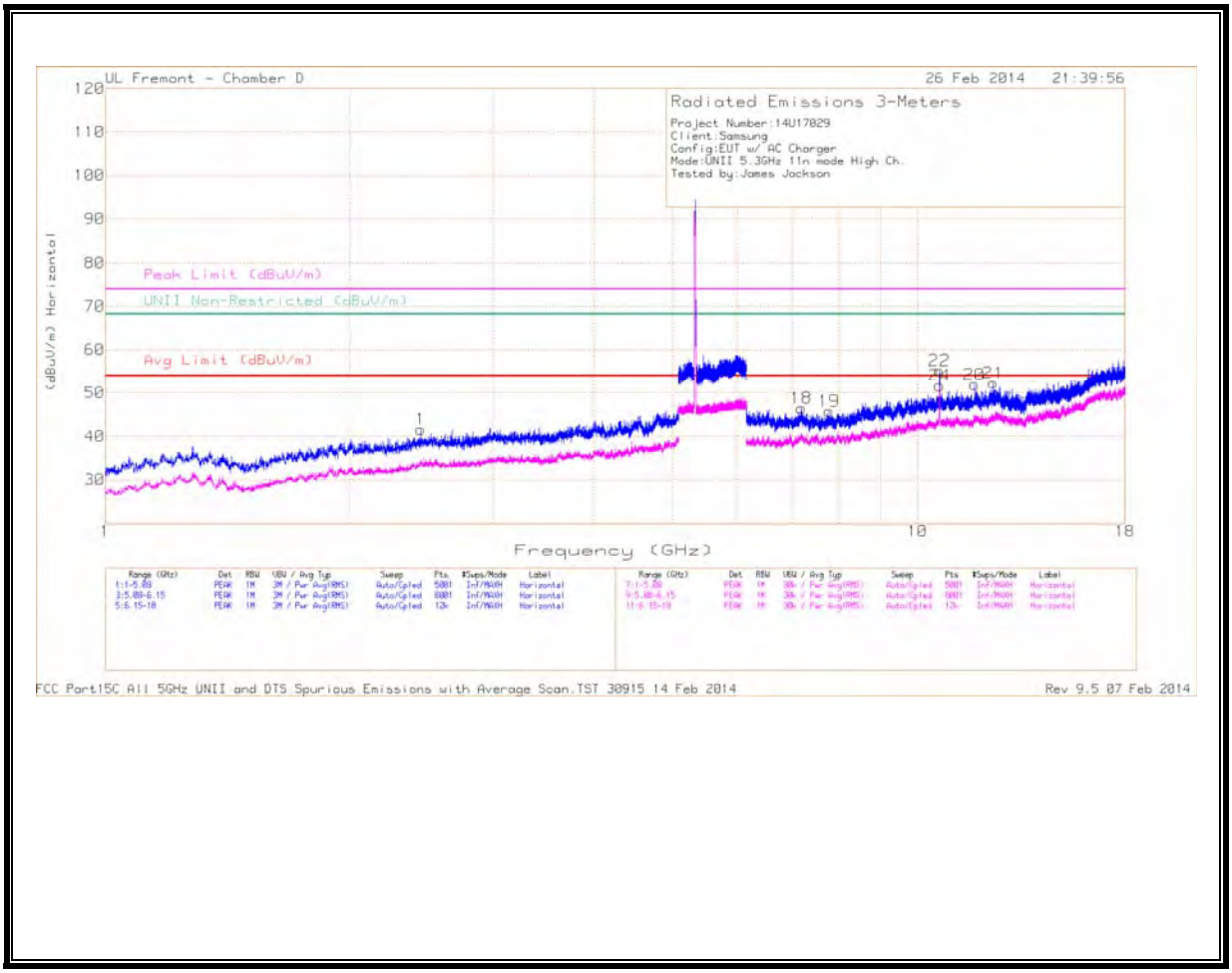
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.177	40.24	PK	28.6	-32	36.84	54	-17.16	74	-37.16	-	-	0-360	100	H
2	* 1.29	39.72	PK	29.2	-31.2	37.72	54	-16.28	74	-36.28	-	-	0-360	100	H
5	* 1.376	39.47	PK	28.2	-31.4	36.27	54	-17.73	74	-37.73	-	-	0-360	100	V
6	* 4.55	39.72	PK	33.5	-27.8	45.42	54	-8.58	74	-28.58	-	-	0-360	201	V
7	* 4.273	39.32	PK	33	-28.1	44.22	54	-9.78	74	-29.78	-	-	0-360	100	V
18	* 10.6	38.18	PK	37.2	-21.2	54.18			74	-19.82	-	-	0-360	100	H
19	* 10.609	35.87	PK	37.2	-21.4	51.67			74	-22.33	-	-	0-360	100	V
8	* 1.18	34.62	Avg	28.6	-32	31.22	54	-22.78	-	-	-	-	0-360	201	H
9	* 1.218	34.19	Avg	29.2	-31.9	31.49	54	-22.51	-	-	-	-	0-360	201	H
12	* 3.638	41.09	Avg	32.5	-28.8	44.79	54	-9.21	-	-	-	-	0-360	100	V
13	* 3.561	40.19	Avg	32.4	-29	43.59	54	-10.41	-	-	-	-	0-360	100	V
14	* 3.534	37.51	Avg	32.4	-29	40.91	54	-13.09	-	-	-	-	0-360	201	V
15	* 3.806	41.6	Avg	32.7	-28.9	45.4	54	-8.6	-	-	-	-	0-360	100	V
16	* 3.956	39.54	Avg	32.9	-28.6	43.84	54	-10.16	-	-	-	-	0-360	100	V
20	* 10.601	34.76	Avg	37.2	-21.3	50.66	54	-3.34	-	-	-	-	0-360	100	H
22	* 11.864	29.47	Avg	38	-21.3	46.17	54	-7.83	-	-	-	-	0-360	100	V
3	2.404	39.41	PK	31.6	-30.2	40.81	-	-	-	-	68.2	-27.39	0-360	100	H
10	2.604	33.98	Avg	31.9	-30.3	35.58	-	-	-	-	-	-	0-360	100	V
4	3.415	38.82	PK	32.4	-29	42.22	-	-	-	-	68.2	-25.98	0-360	100	H
11	3.481	38.1	Avg	32.3	-29.2	41.2	-	-	-	-	-	-	0-360	100	V
17	6.552	36.93	PK	35	-25.3	46.63	-	-	-	-	68.2	-21.57	0-360	100	H
21	10.597	33.11	Avg	37.2	-21.2	49.11	-	-	-	-	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.603	43.81	PK2	37.2	-21.3	59.71			74	-14.29	-	-	141	106	H
* 10.602	33.72	PK2	37.2	-21.3	49.62	54	-4.38	74	-24.38	-	-	25	101	V
* 10.601	29.93	MAv1	37.2	-21.3	45.83	54	-8.17	-	-	-	-	25	101	V

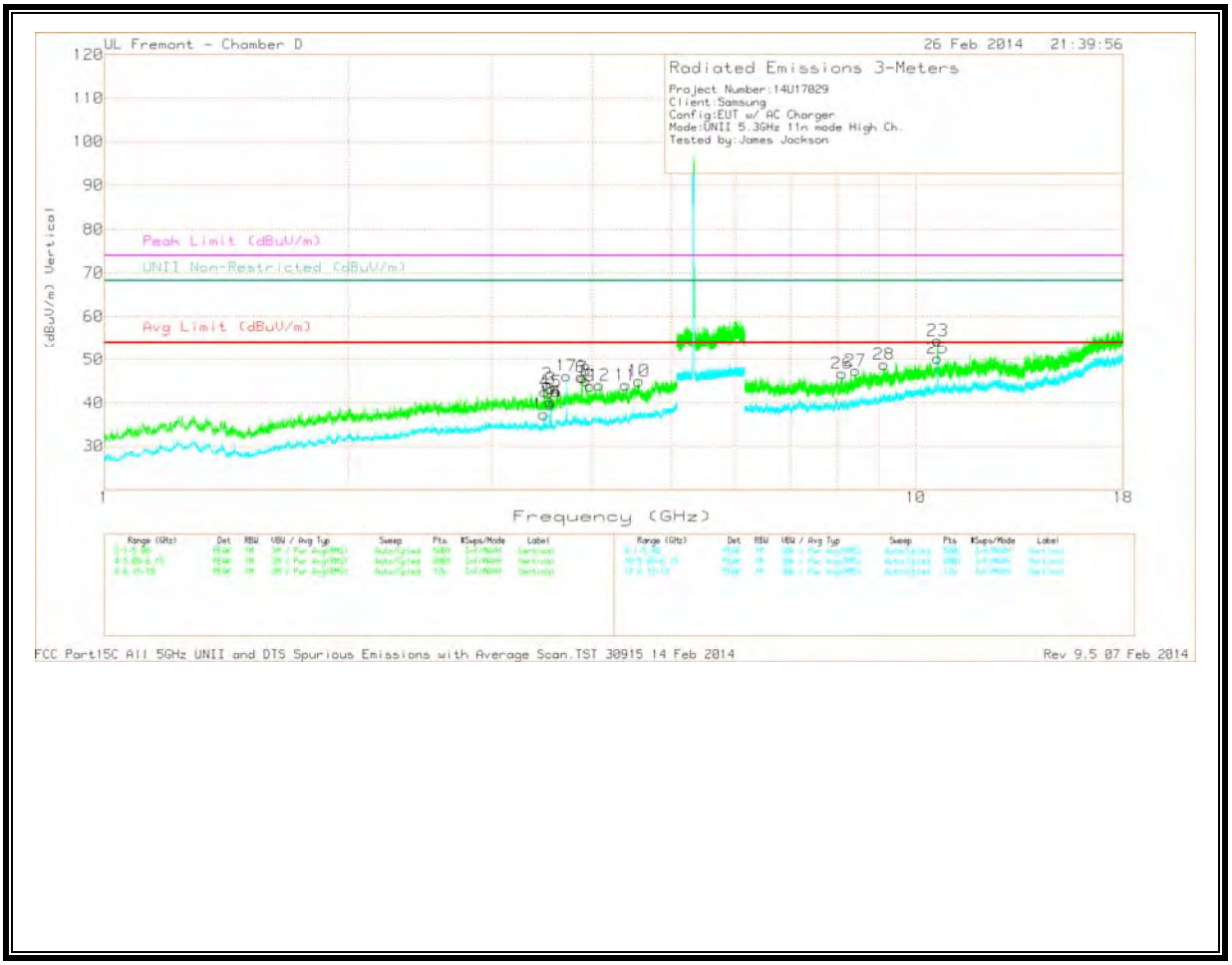
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.515	41	PK	32.3	-29	44.3	54	-9.7	74	-29.7	-	-	0-360	100	V
3	* 3.548	39.51	PK	32.4	-28.7	43.21	54	-10.79	74	-30.79	-	-	0-360	201	V
5	* 3.611	39.03	PK	32.5	-29	42.53	54	-11.47	74	-31.47	-	-	0-360	201	V
6	* 3.872	41.67	PK	32.8	-28.5	45.97	54	-8.03	74	-28.03	-	-	0-360	100	V
7	* 3.89	41.77	PK	32.8	-28.8	45.77	54	-8.23	74	-28.23	-	-	0-360	100	V
8	* 3.922	40.7	PK	32.8	-28.4	45.1	54	-8.9	74	-28.9	-	-	0-360	100	V
9	* 3.971	39.66	PK	32.9	-28.7	43.86	54	-10.14	74	-30.14	-	-	0-360	100	V
10	* 4.559	39.4	PK	33.5	-27.9	45	54	-9	74	-29	-	-	0-360	201	V
11	* 4.391	38.75	PK	33.2	-27.9	44.05	54	-9.95	74	-29.95	-	-	0-360	201	V
12	* 4.073	39.24	PK	32.9	-28.1	44.04	54	-9.96	74	-29.96	-	-	0-360	100	V
20	* 11.745	35.93	PK	37.9	-21.9	51.93			74	-22.07	-	-	0-360	100	H
21	* 12.397	35.43	PK	38.5	-21.6	52.33			74	-21.67	-	-	0-360	201	H
22	* 10.639	39.37	PK	37.3	-21.5	55.17			74	-18.83	-	-	0-360	100	H
23	* 10.637	38.68	PK	37.3	-21.5	54.48			74	-19.52	-	-	0-360	100	V
26	* 8.11	36.46	PK	35.3	-25	46.76	54	-7.24	74	-27.24	-	-	0-360	201	V
27	* 8.43	36	PK	35.4	-24	47.4	54	-6.6	74	-26.6	-	-	0-360	201	V
28	* 9.139	35.65	PK	35.9	-22.7	48.85	54	-5.15	74	-25.15	-	-	0-360	201	V
14	* 3.547	36.5	Avg	32.4	-28.7	40.2	54	-13.8	-	-	-	-	0-360	201	V
15	* 3.547	36.5	Avg	32.4	-28.7	40.2	54	-13.8	-	-	-	-	0-360	201	V
16	* 3.547	36.5	Avg	32.4	-28.7	40.2	54	-13.8	-	-	-	-	0-360	201	V
17	* 3.712	42.09	Avg	32.6	-28.5	46.19	54	-7.81	-	-	-	-	0-360	100	V
24	* 10.641	35.88	Avg	37.3	-21.5	51.68	54	-2.32	-	-	-	-	0-360	100	H
25	* 10.639	34.43	Avg	37.3	-21.5	50.23	54	-3.77	-	-	-	-	0-360	100	V
1	2.444	39.71	PK	31.8	-29.9	41.61	-	-	-	-	68.2	-26.59	0-360	201	H
13	3.482	34.24	Avg	32.3	-29.2	37.34	-	-	-	-	-	-	0-360	100	V
4	3.492	39.3	PK	32.3	-29.1	42.5	-	-	-	-	68.2	-25.7	0-360	100	V
18	7.191	35.25	PK	35.1	-23.9	46.45	-	-	-	-	68.2	-21.75	0-360	100	H
19	7.78	35.04	PK	35.1	-24.4	45.74	-	-	-	-	68.2	-22.46	0-360	201	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

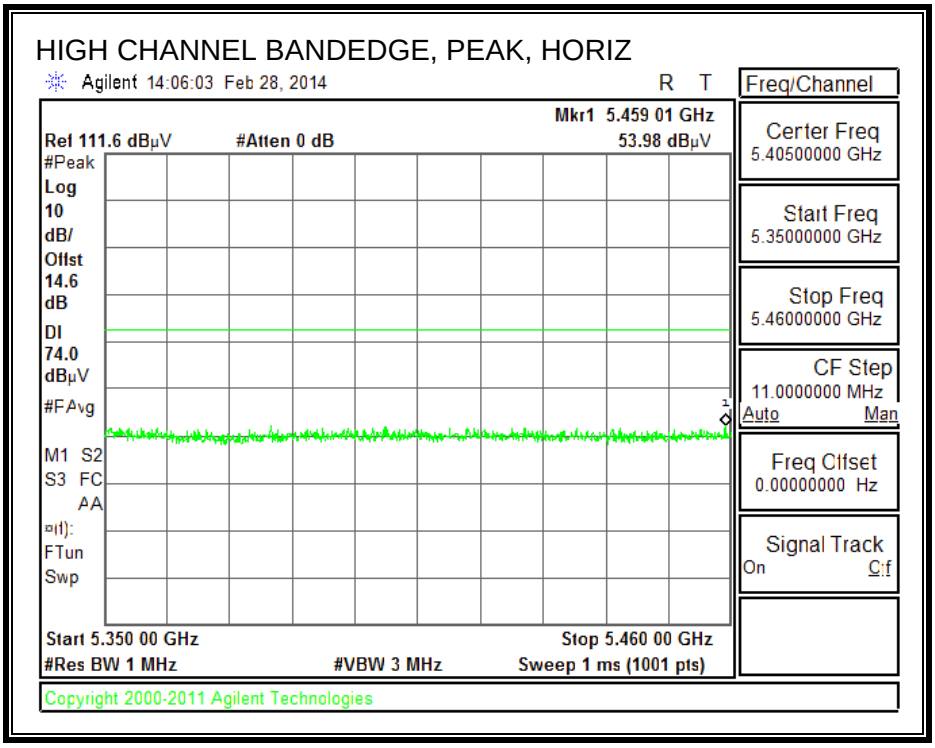
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.741	34.62	PK2	37.9	-21.9	50.62	54	-3.38	74	-23.38	-	-	309	345	H
* 11.74	24.17	MAv1	37.9	-21.9	40.17	54	-13.83	-	-	-	-	309	345	H
* 12.396	34.25	PK2	38.5	-21.6	51.15	54	-2.85	74	-22.85	-	-	110	376	H
* 12.399	23.64	MAv1	38.5	-21.6	40.54	54	-13.46	-	-	-	-	110	376	H
* 10.642	45.78	PK2	37.3	-21.5	61.58			74	-12.42	-	-	135	131	H
* 10.64	34.54	MAv1	37.3	-21.5	50.34	54	-3.66	-	-	-	-	135	131	H
* 10.643	42.53	PK2	37.3	-21.5	58.33			74	-15.67	-	-	26	102	V
* 10.642	30.83	MAv1	37.3	-21.5	46.63	54	-7.37	-	-	-	-	26	102	V
* 9.141	34.71	PK2	35.9	-22.7	47.91	54	-6.09	74	-26.09	-	-	87	320	V
* 9.143	24.18	MAv1	35.9	-22.8	37.28	54	-16.72	-	-	-	-	87	320	V

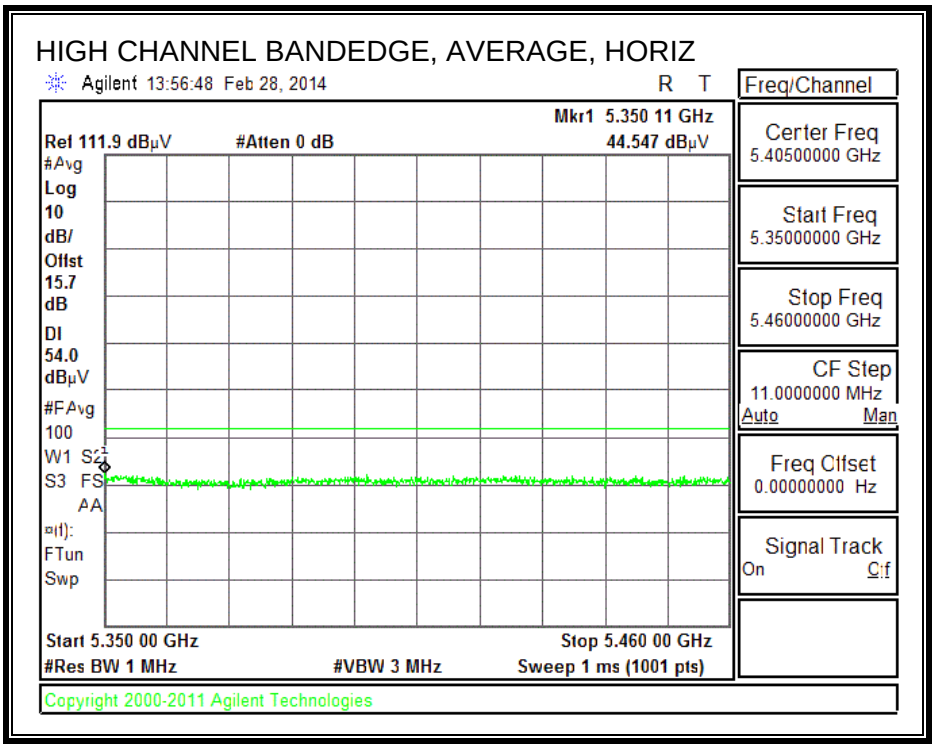
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

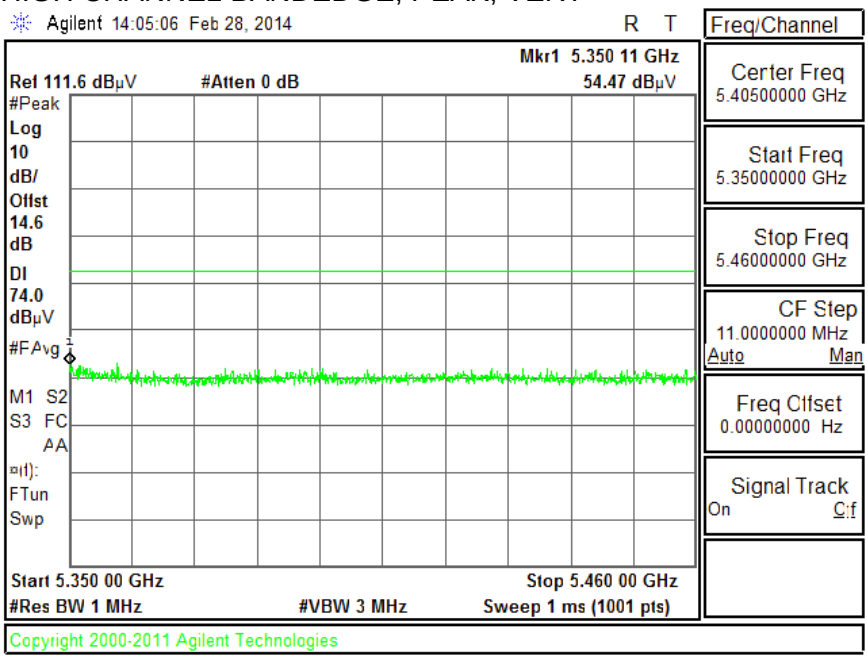
MAv1 - KDB558074 Option 1 Maximum RMS Average

11.2.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

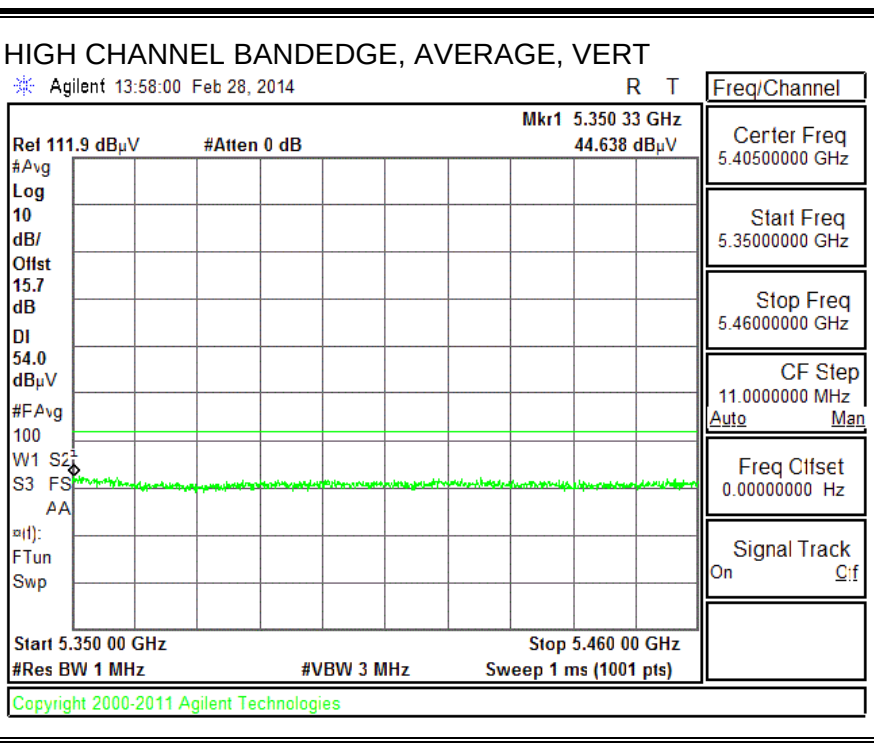




HIGH CHANNEL BANDEDGE, PEAK, VERT

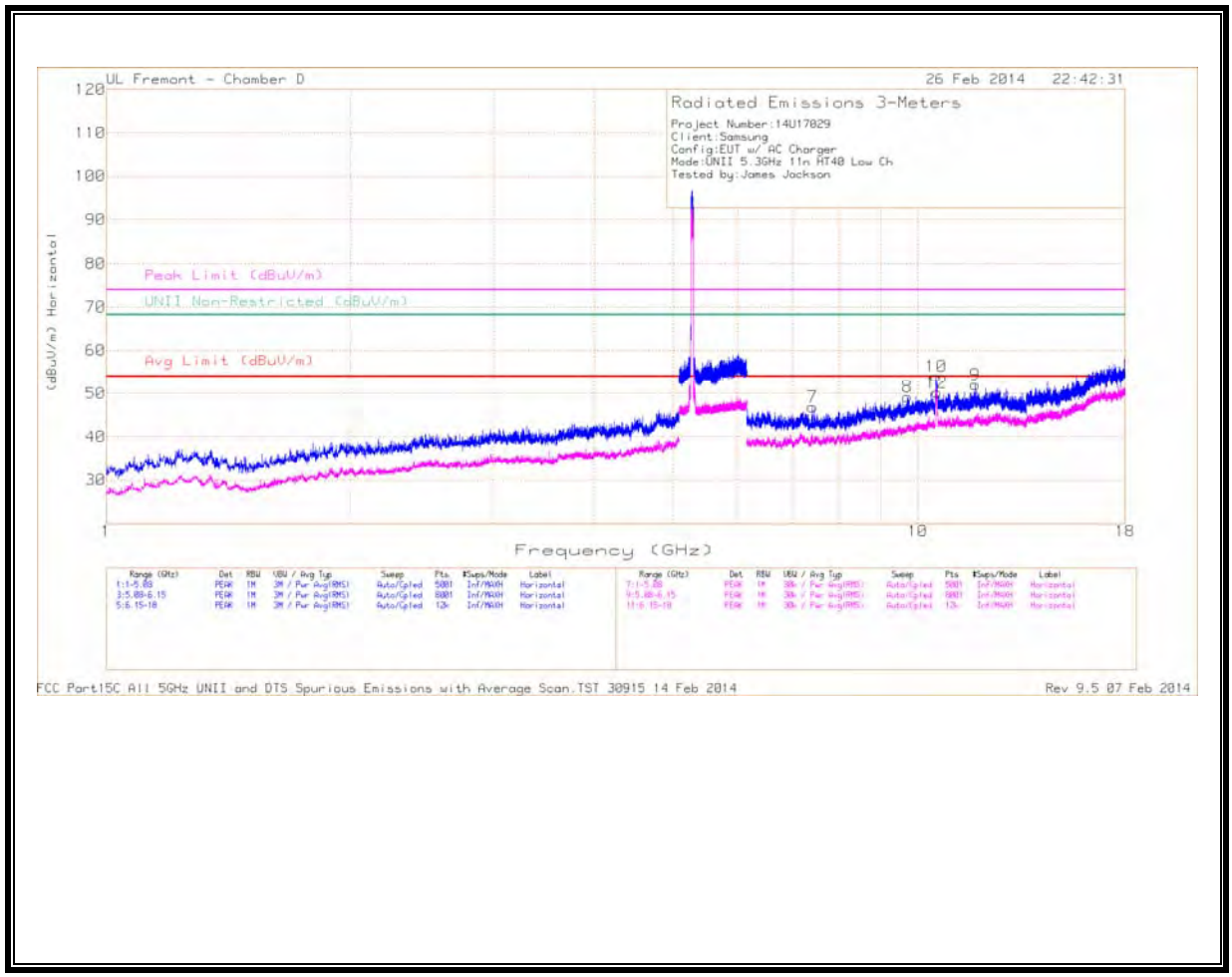


HIGH CHANNEL BANDEDGE, AVERAGE, VERT



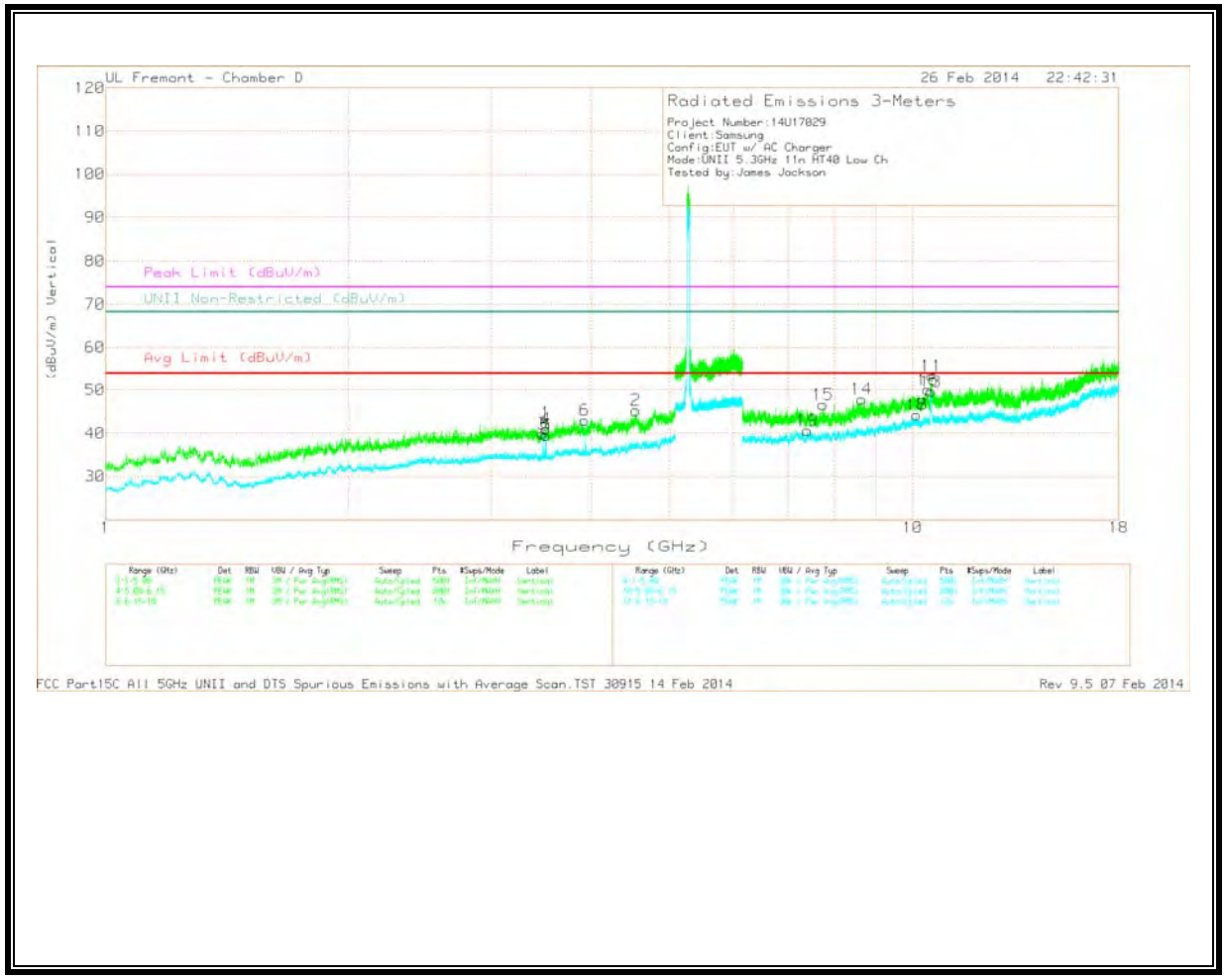
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

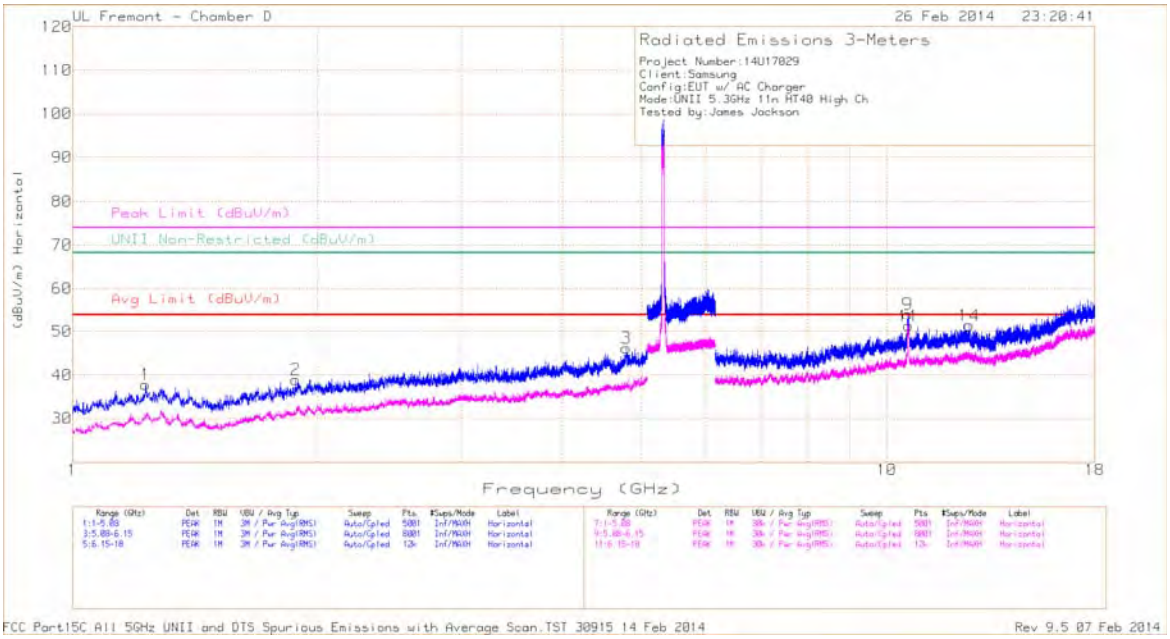
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.513	39.12	PK	32.3	-29	42.42	54	-11.58	74	-31.58	-	-	0-360	201	V
2	* 4.541	38.97	PK	33.5	-27.2	45.27	54	-8.73	74	-28.73	-	-	0-360	100	V
7	* 7.415	36.64	PK	35.2	-25	46.84	54	-7.16	74	-27.16	-	-	0-360	100	H
9	* 11.772	35.35	PK	37.9	-21.2	52.05	54	-1.95	74	-21.95	-	-	0-360	201	H
15	* 7.746	35.48	PK	35.1	-24	46.58	54	-7.42	74	-27.42	-	-	0-360	201	V
4	* 3.513	37.7	Avg	32.3	-29	41	54	-13	-	-	-	-	0-360	201	V
5	* 3.51	36.15	Avg	32.3	-29	39.45	54	-14.55	-	-	-	-	0-360	100	V
6	* 3.925	38.69	Avg	32.8	-28.5	42.99	54	-11.01	-	-	-	-	0-360	201	V
19	* 7.404	30.48	Avg	35.2	-25.1	40.58	54	-13.42	-	-	-	-	0-360	201	V
14	8.649	35.78	PK	35.5	-23.4	47.88	-	-	-	-	68.2	-20.32	0-360	201	V
8	9.713	34.3	PK	36.4	-21.5	49.2	-	-	-	-	68.2	-19	0-360	100	H
16	10.442	34.47	PK	37.1	-21.5	50.07	-	-	-	-	68.2	-18.13	0-360	201	V
10	10.532	38.41	PK	37.2	-21.6	54.01	-	-	-	-	68.2	-14.19	0-360	100	H
11	10.548	37.79	PK	37.2	-21.6	53.39	-	-	-	-	68.2	-14.81	0-360	201	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.78	34.54	PK2	37.9	-21.2	51.24	54	-2.76	74	-22.76	-	-	225	199	H
* 11.775	23.56	MAv1	37.9	-21.2	40.26	54	-13.74	-	-	-	-	225	199	H

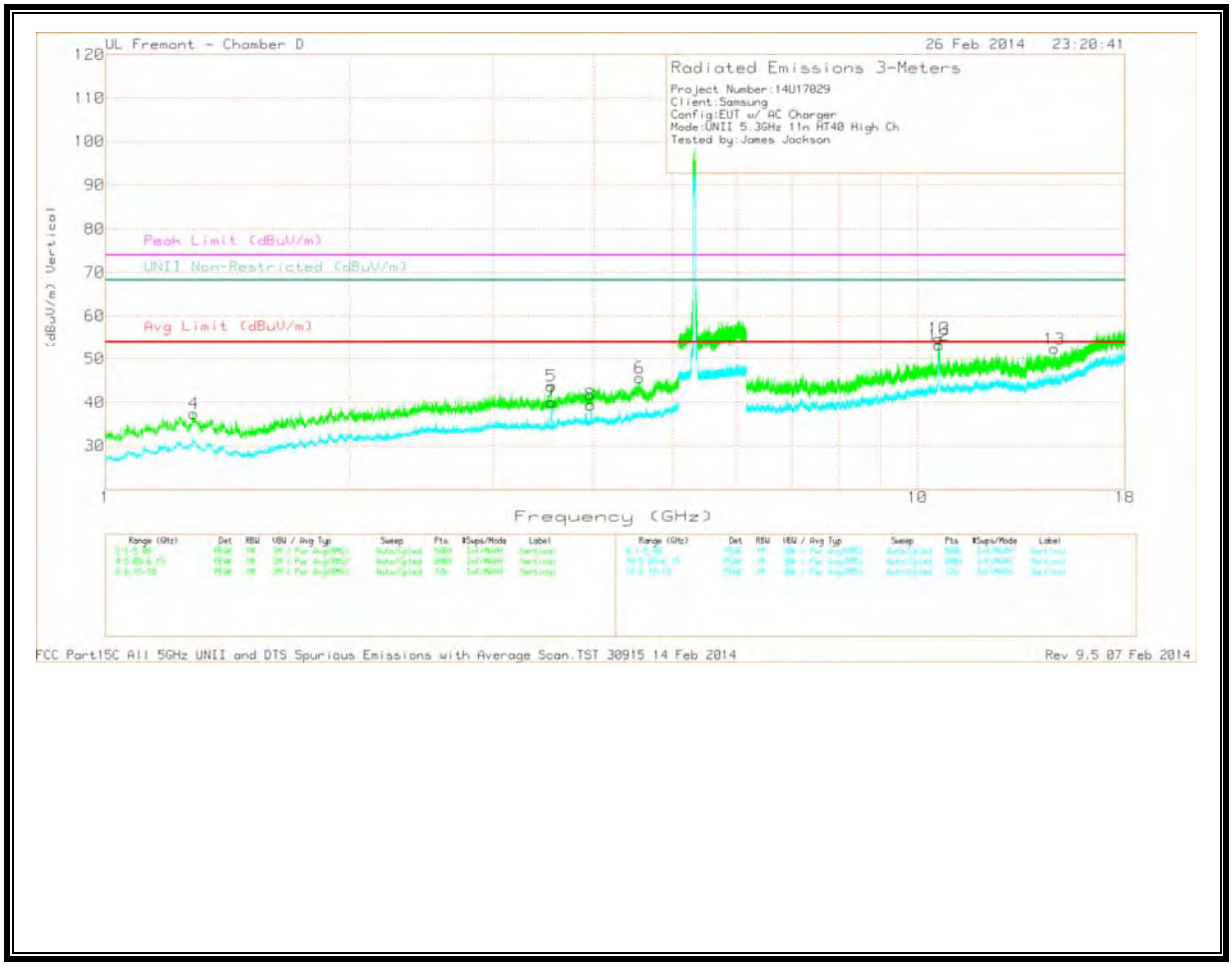
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

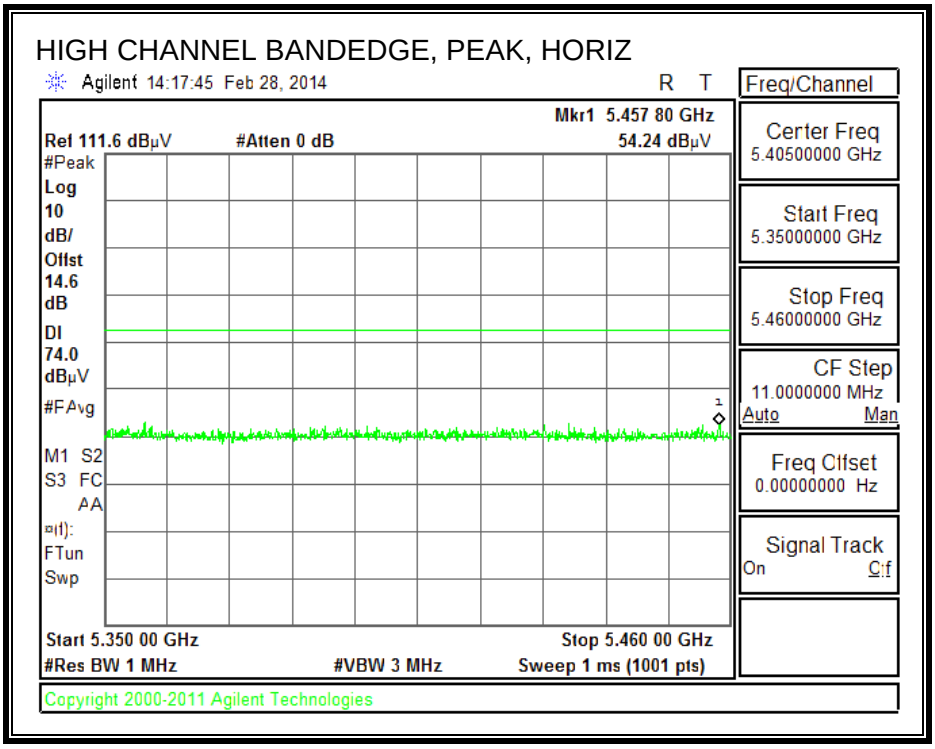
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.229	40.28	PK	29.3	-31.8	37.78	54	-16.22	74	-36.22	-	-	0-360	201	H
3	* 4.786	39.64	PK	33.5	-27	46.14	54	-7.86	74	-27.86	-	-	0-360	100	H
4	* 1.285	39.47	PK	29.2	-31.3	37.37	54	-16.63	74	-36.63	-	-	0-360	201	V
5	* 3.541	40.11	PK	32.4	-28.8	43.71	54	-10.29	74	-30.29	-	-	0-360	100	V
6	* 4.549	39.87	PK	33.5	-27.8	45.57	54	-8.43	74	-28.43	-	-	0-360	100	V
9	* 10.61	38.26	PK	37.2	-21.4	54.06			74	-19.94	-	-	0-360	100	H
14	* 12.621	34.62	PK	38.6	-21.8	51.42			74	-22.58	-	-	0-360	100	H
10	* 10.623	39	PK	37.2	-21.4	54.8			74	-19.2	-	-	0-360	100	V
7	* 3.54	36.51	Avg	32.4	-28.9	40.01	54	-13.99	-	-	-	-	0-360	201	V
8	* 3.956	35.13	Avg	32.9	-28.6	39.43	54	-14.57	-	-	-	-	0-360	201	V
11	* 10.635	35.53	Avg	37.3	-21.5	51.33	54	-2.67	-	-	-	-	0-360	100	H
2	1.88	39.38	PK	30.1	-30.6	38.88	-	-	-	-	68.2	-29.32	0-360	100	H
13	14.741	36.34	PK	38.8	-22.8	52.34	-	-	-	-	68.2	-15.86	0-360	100	V

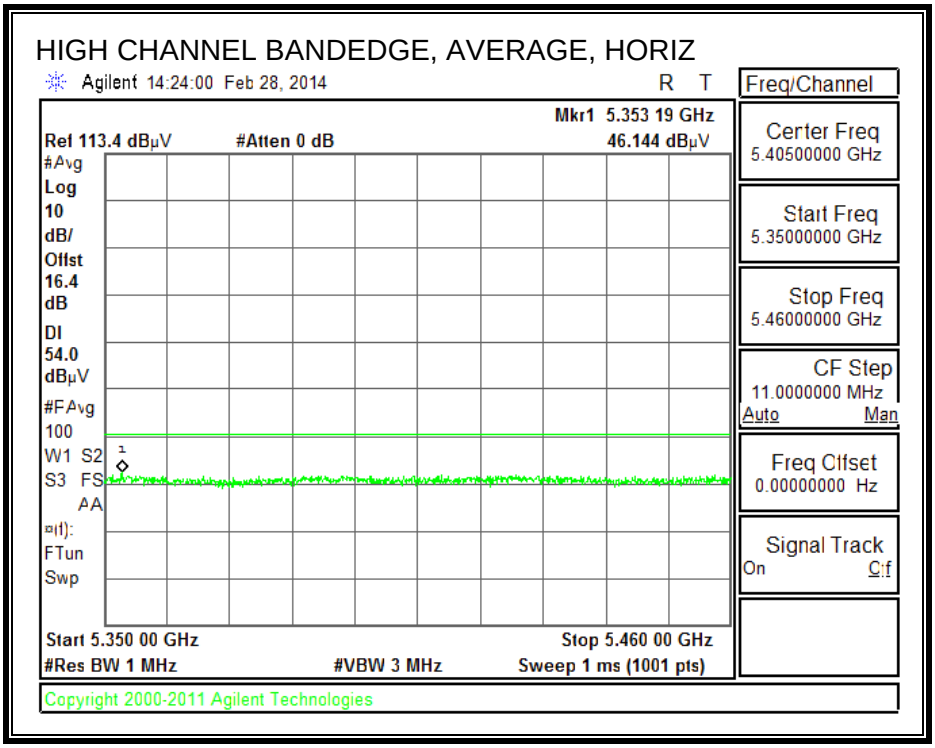
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.619	40.23	PK2	37.2	-21.5	55.93			74	-18.07	-	-	122	162	H
* 10.621	30	MAv1	37.2	-21.4	45.8	54	-8.2	-	-	-	-	122	162	H
* 12.617	35.14	PK2	38.6	-21.9	51.84			74	-22.16	-	-	208	137	H
* 12.613	24.32	MAv1	38.6	-21.9	41.02	54	-12.98	-	-	-	-	208	137	H
* 10.627	40.69	PK2	37.3	-21.4	56.59			74	-17.41	-	-	26	107	V
* 10.624	30.29	MAv1	37.2	-21.4	46.09	54	-7.91	-	-	-	-	26	107	V

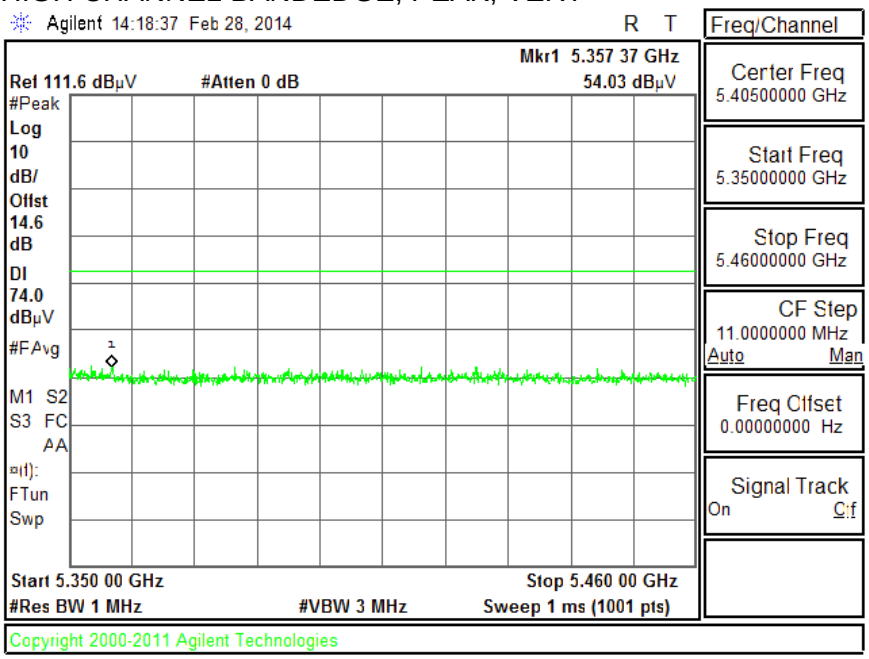
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

11.2.7. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

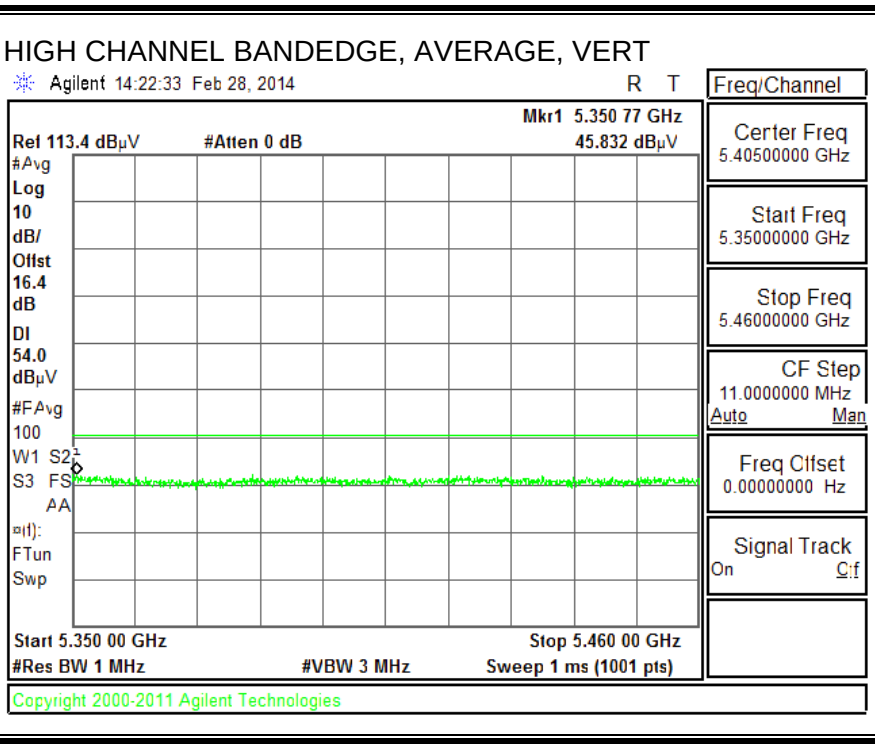




HIGH CHANNEL BANDEDGE, PEAK, VERT

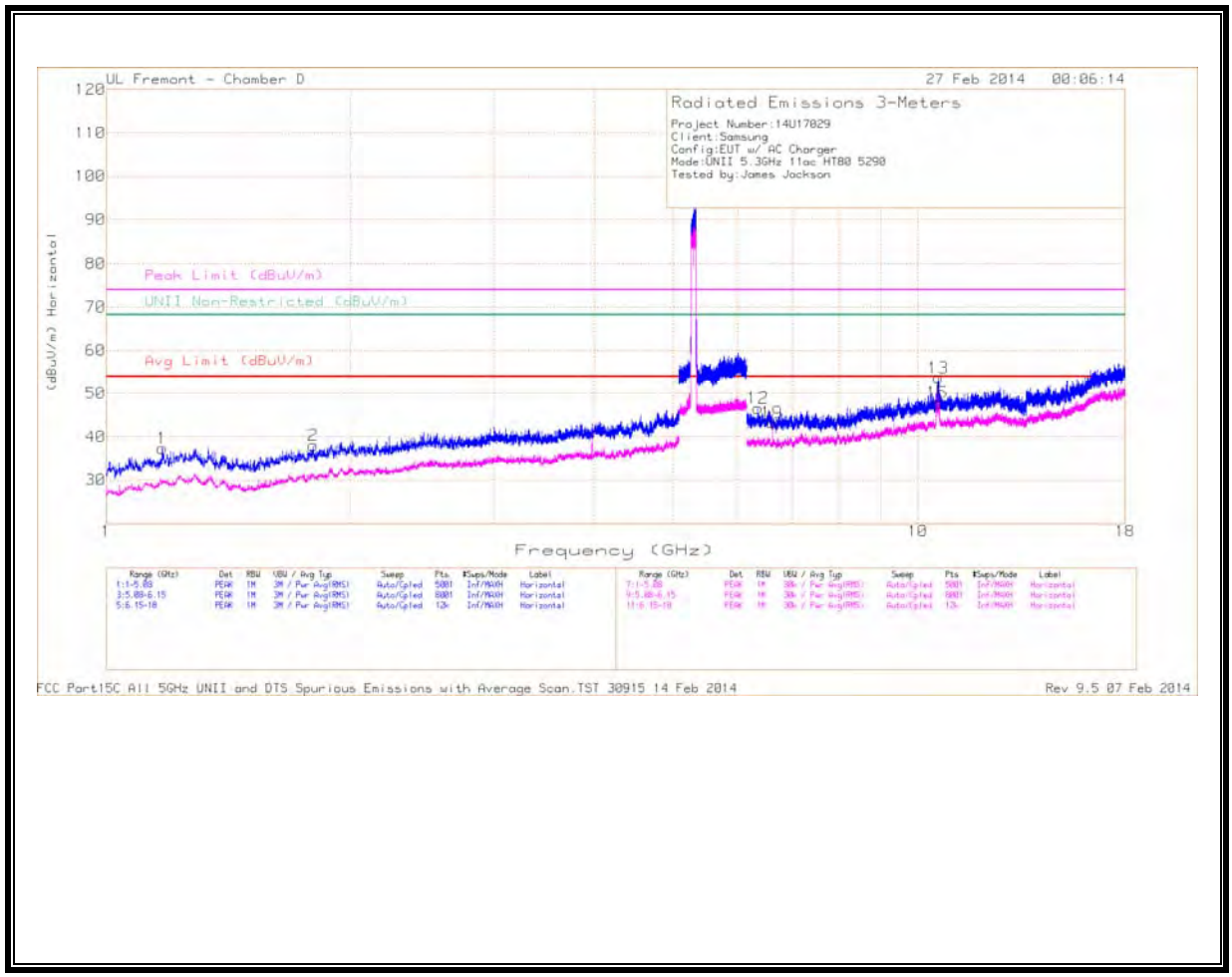


HIGH CHANNEL BANDEDGE, AVERAGE, VERT



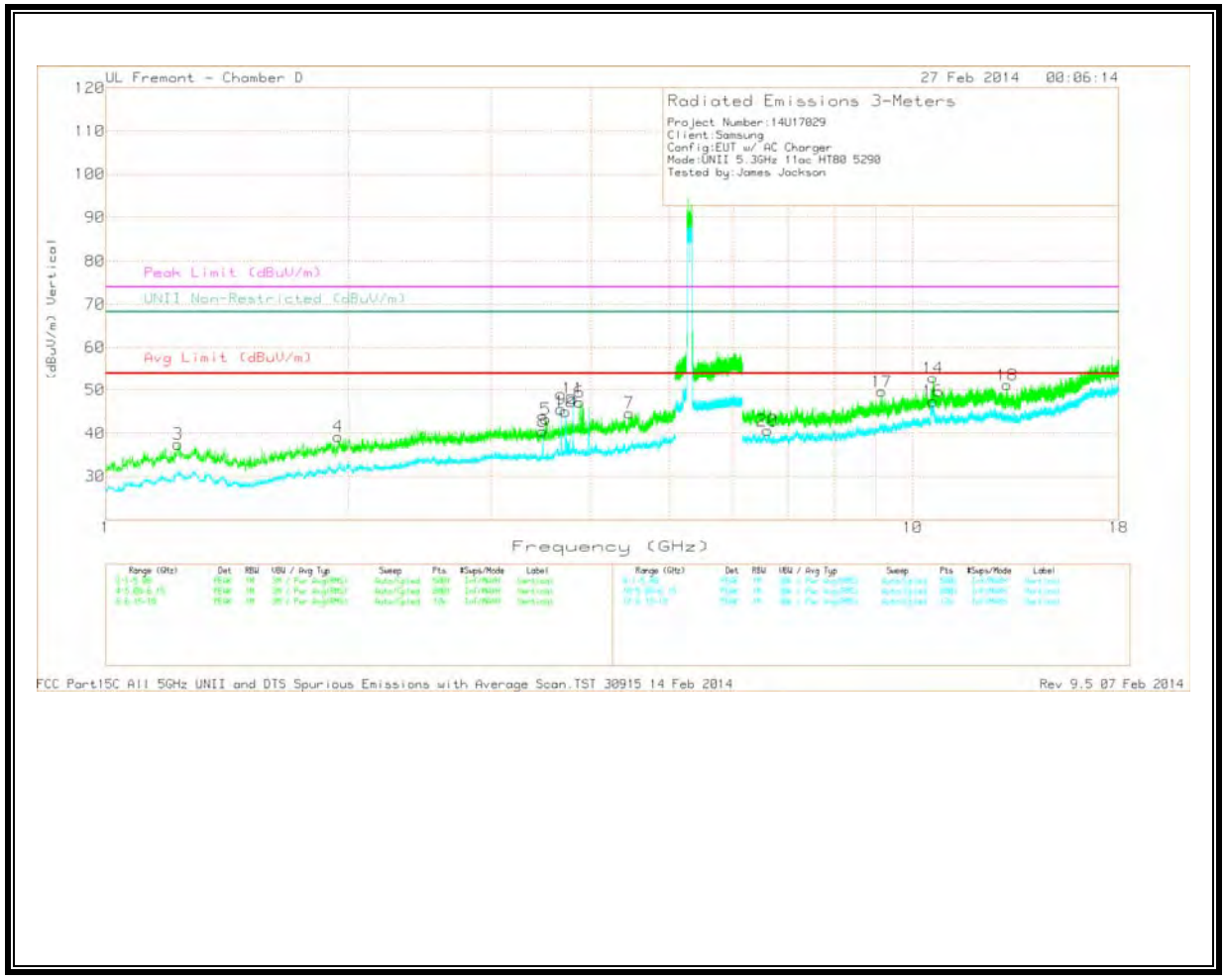
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.172	40.81	PK	28.5	-32	37.31	54	-16.69	74	-36.69	-	-	0-360	100	H
3	* 1.229	39.97	PK	29.3	-31.8	37.47	54	-16.53	74	-36.53	-	-	0-360	201	V
5	* 3.511	39.9	PK	32.3	-29	43.2	54	-10.8	74	-30.8	-	-	0-360	201	V
6	* 3.867	42.87	PK	32.8	-28.5	47.17	54	-6.83	74	-26.83	-	-	0-360	201	V
17	* 9.156	36.46	PK	35.9	-22.7	49.66	54	-4.34	74	-24.34	-	-	0-360	201	V
9	* 3.667	41.34	Avg	32.6	-28.4	45.54	54	-8.46	-	-	-	-	0-360	100	V
10	* 3.715	40.88	Avg	32.6	-28.5	44.98	54	-9.02	-	-	-	-	0-360	100	V
11	* 3.794	44.2	Avg	32.7	-28.9	48	54	-6	-	-	-	-	0-360	100	V
2	1.799	39.59	PK	29.7	-31.3	37.99	-	-	-	-	68.2	-30.21	0-360	201	H
4	1.942	39.3	PK	30.4	-30.5	39.2	-	-	-	-	68.2	-29	0-360	201	V
7	4.456	38.82	PK	33.4	-27.6	44.62	-	-	-	-	68.2	-23.58	0-360	100	V
12	6.352	37.24	PK	34.9	-25.6	46.54	-	-	-	-	68.2	-21.66	0-360	201	H
13	10.595	37.53	PK	37.2	-21.1	53.63	-	-	-	-	68.2	-14.57	0-360	100	H
14	10.596	36.86	PK	37.2	-21.2	52.86	-	-	-	-	68.2	-15.34	0-360	100	V
18	13.097	35.09	PK	38.2	-22.1	51.19	-	-	-	-	68.2	-17.01	0-360	201	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 9.155	35.05	PK2	35.9	-22.7	48.25	54	-5.75	74	-25.75	-	-	224	353	V
* 9.15	23.98	MAv1	35.9	-22.9	36.98	54	-17.02	-	-	-	-	224	353	V

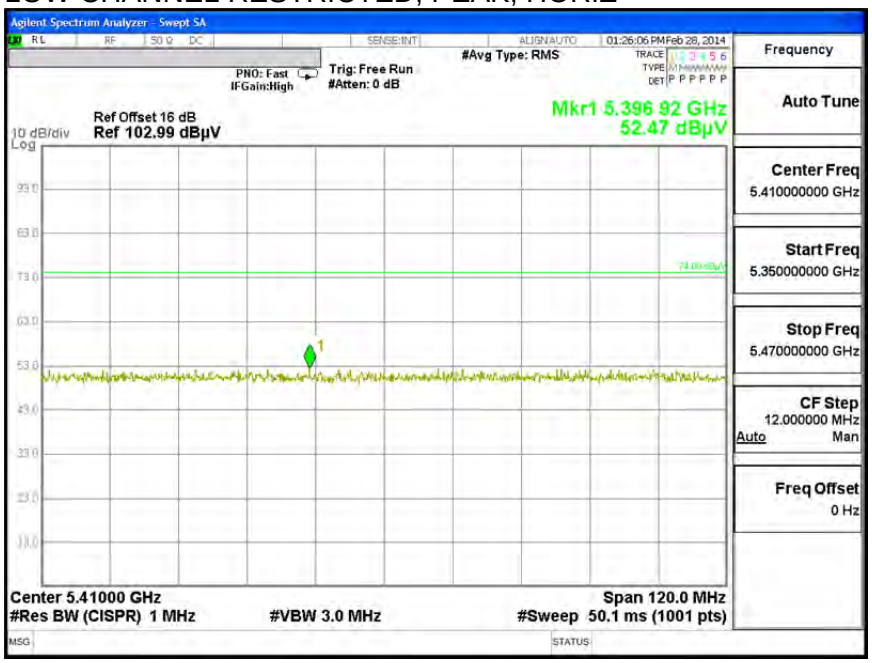
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

11.3. 5.5-5.6 GHz

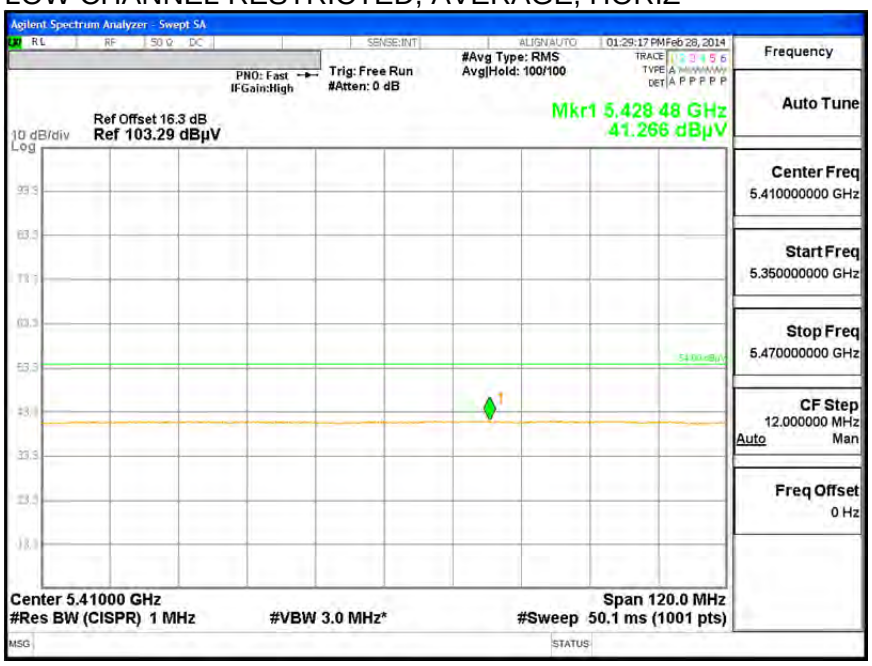
11.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

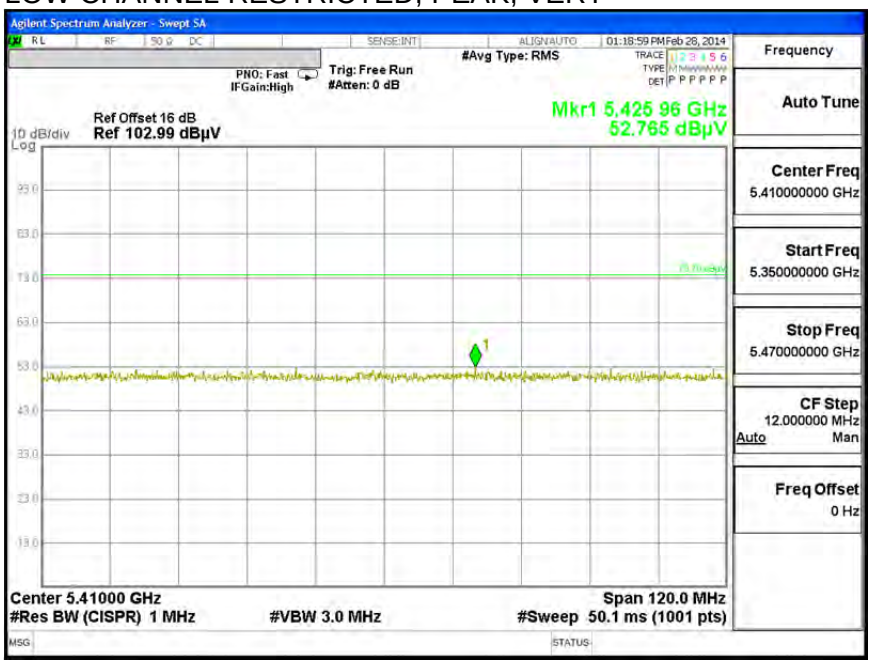
LOW CHANNEL RESTRICTED, PEAK, HORIZ



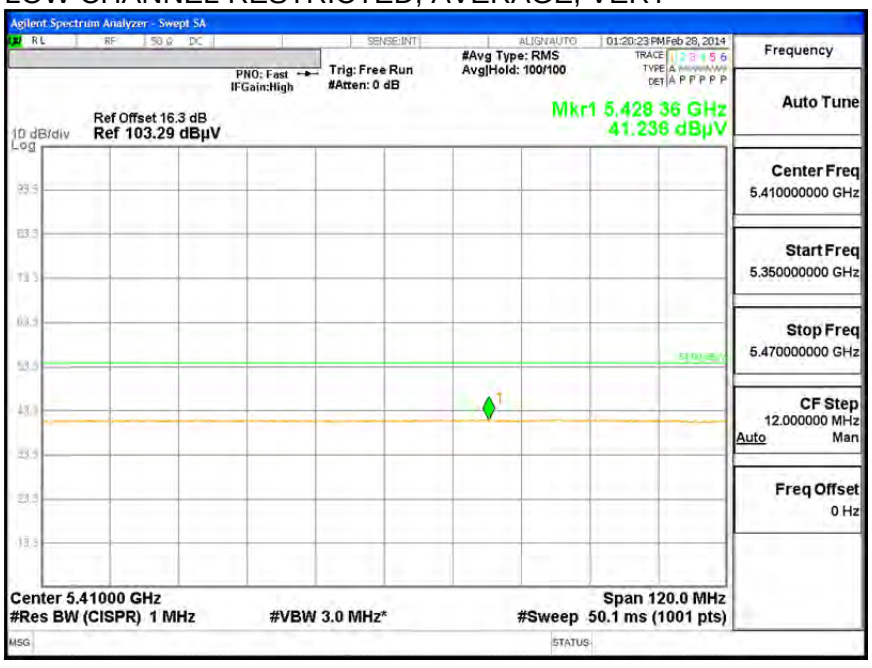
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

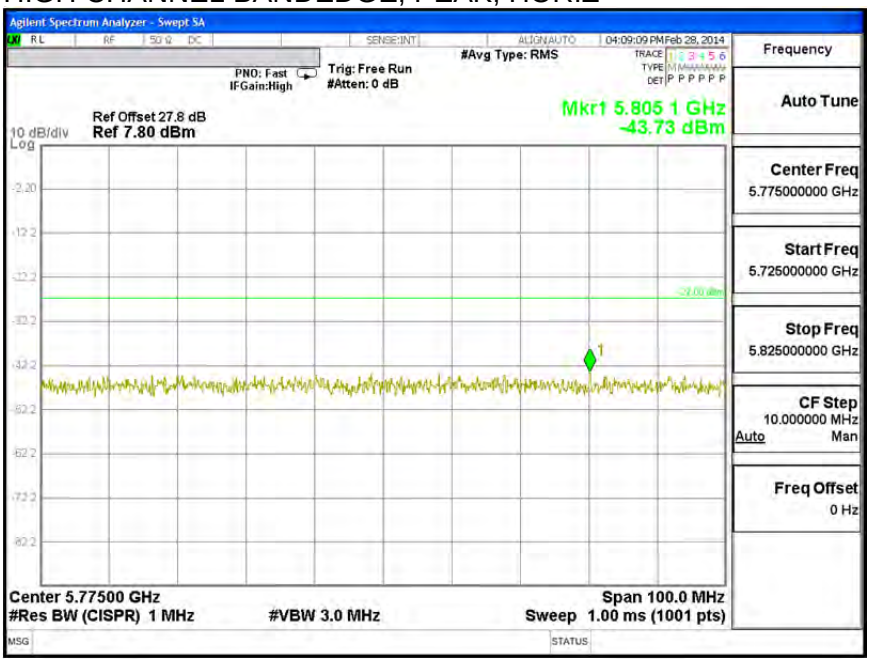


LOW CHANNEL RESTRICTED, AVERAGE, VERT

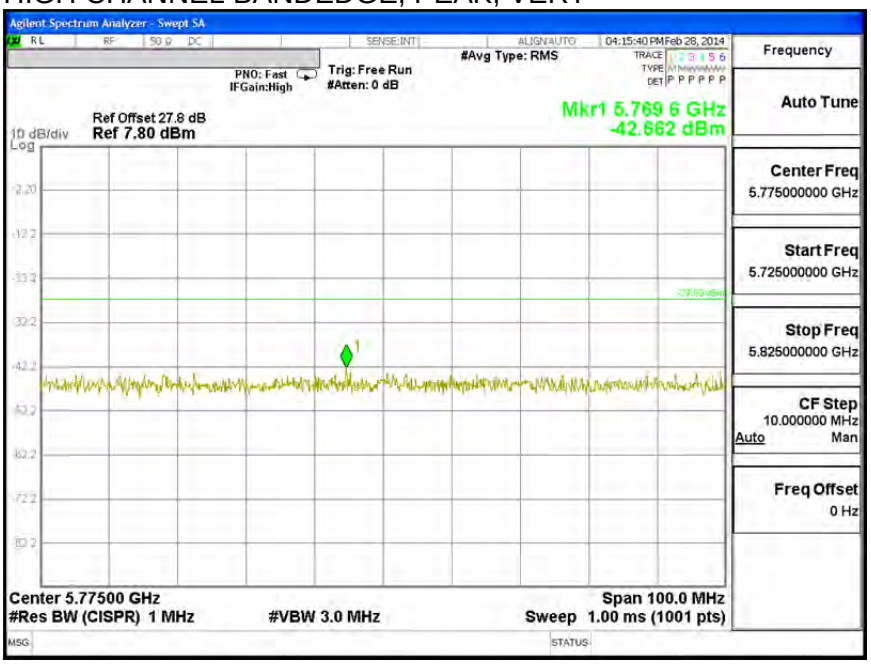


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

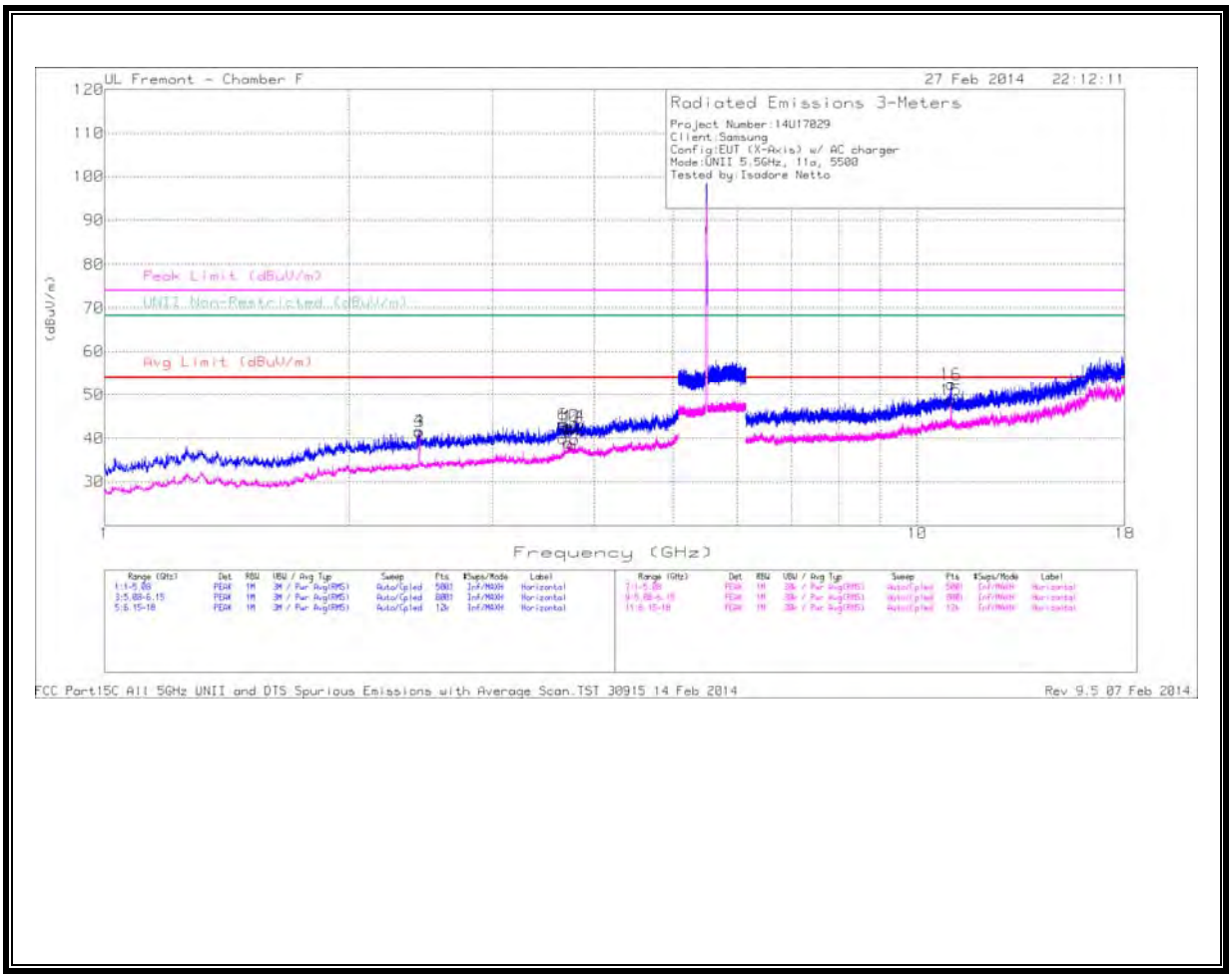


HIGH CHANNEL BANDEDGE, PEAK, VERT



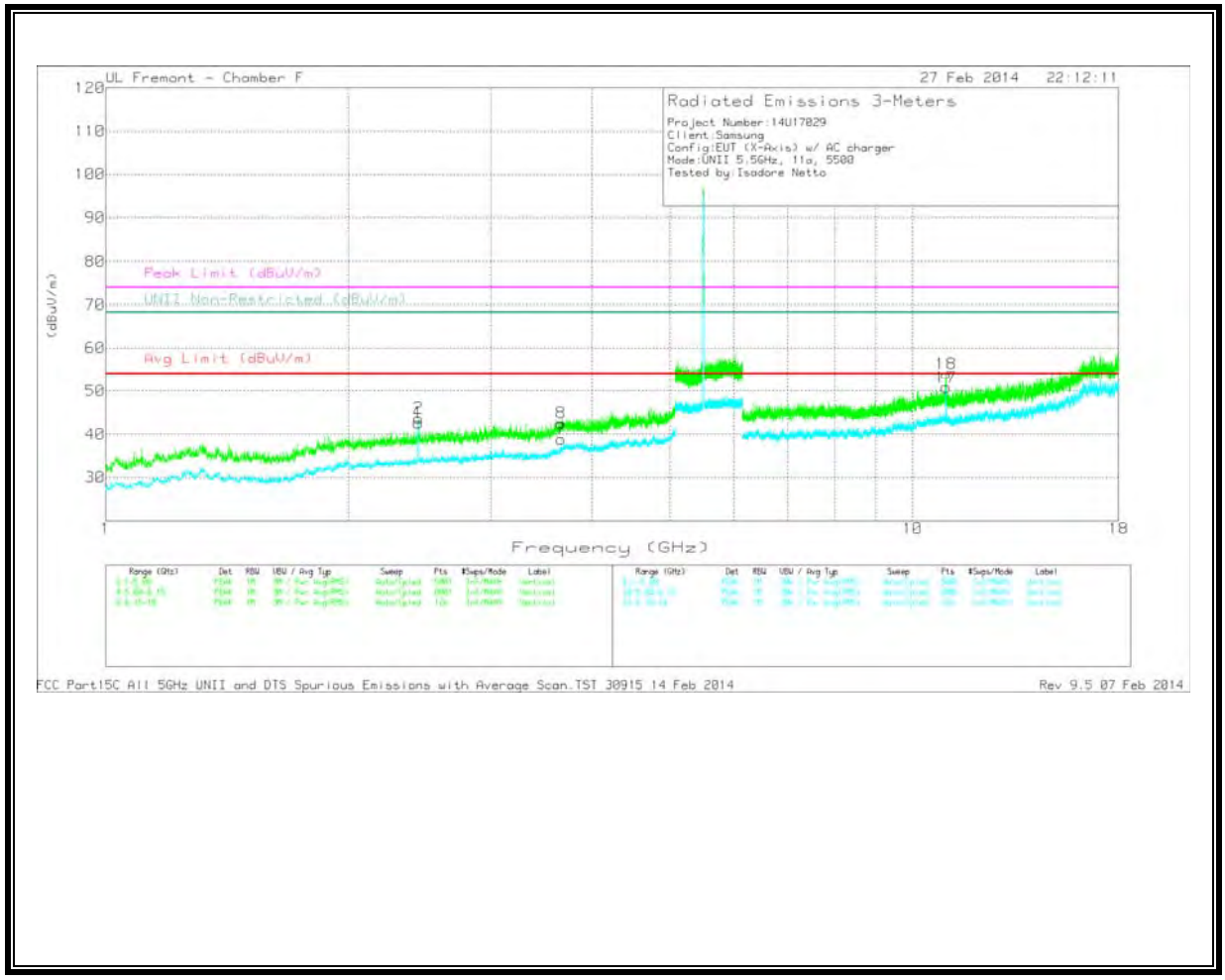
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

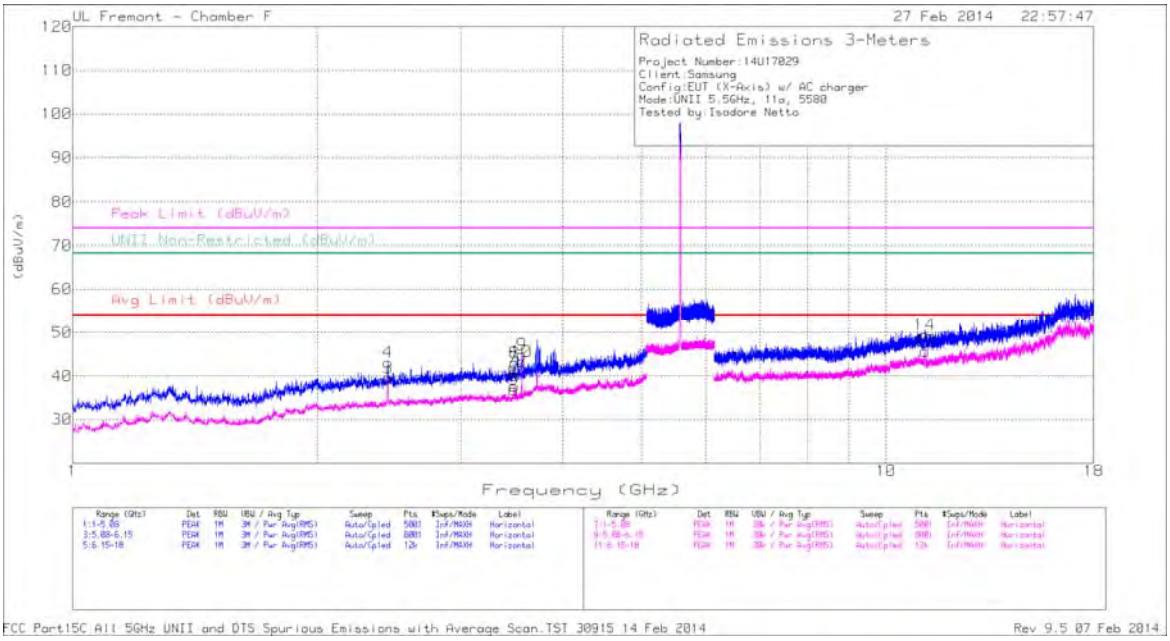
LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.436	40.33	PK	32.3	-30.9	41.73	-	-	-	-	68.2	-26.47	0-360	200	H
6	* 3.668	39.14	PK	33.6	-29.6	43.14	54	-10.86	74	-30.86	-	-	0-360	99	H
10	* 3.725	38.55	PK	33.5	-29.3	42.75	54	-11.25	74	-31.25	-	-	0-360	200	H
12	* 3.765	38.57	PK	33.6	-29.8	42.37	54	-11.63	74	-31.63	-	-	0-360	99	H
14	* 3.787	38.86	PK	33.6	-29.7	42.76	54	-11.24	74	-31.24	-	-	0-360	200	H
2	2.44	42.25	PK	32.3	-30.9	43.65	-	-	-	-	68.2	-24.55	0-360	202	V
8	* 3.665	38.67	PK	33.6	-29.7	42.57	54	-11.43	74	-31.43	-	-	0-360	100	V
16	* 11.004	36.39	PK	38.7	-22.7	52.39			74	-21.61	-	-	0-360	200	H
18	* 11.004	38.01	PK	38.7	-22.7	54.01			74	-19.99	-	-	0-360	202	V
5	* 3.667	36.03	Avg	33.6	-29.7	39.93	54	-14.07	-	-	-	-	0-360	99	H
9	* 3.724	34.81	Avg	33.5	-29.3	39.01	54	-14.99	-	-	-	-	0-360	200	H
11	* 3.763	34.67	Avg	33.6	-29.8	38.47	54	-15.53	-	-	-	-	0-360	200	H
13	* 3.787	35.79	Avg	33.6	-29.7	39.69	54	-14.31	-	-	-	-	0-360	200	H
7	* 3.667	34.93	Avg	33.6	-29.7	38.83	54	-15.17	-	-	-	-	0-360	202	V
15	* 10.998	32.62	Avg	38.7	-22.6	48.72	54	-5.28	-	-	-	-	0-360	200	H
17	* 10.998	34.72	Avg	38.7	-22.6	50.82	54	-3.18	-	-	-	-	0-360	202	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

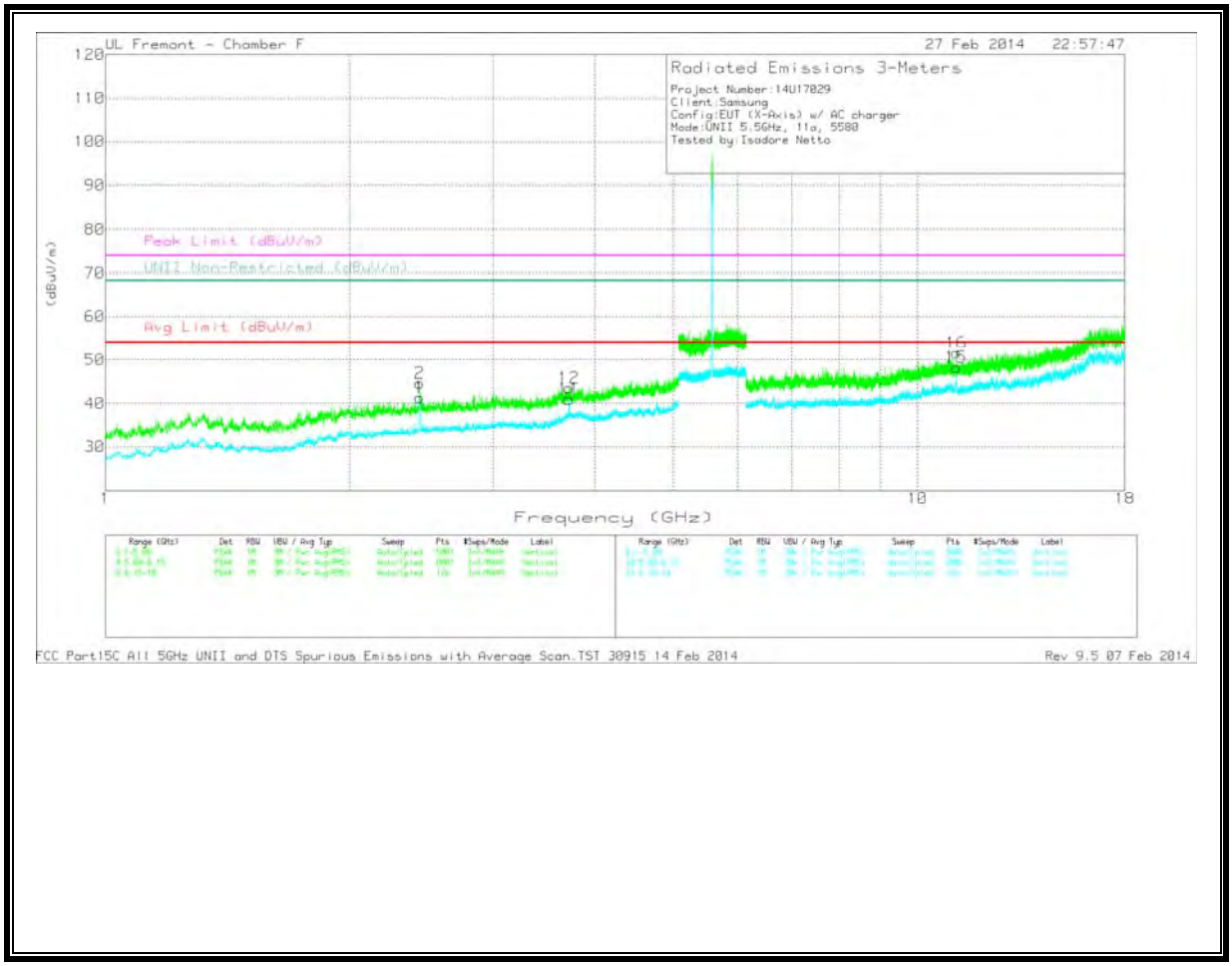
PK - Peak detector

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

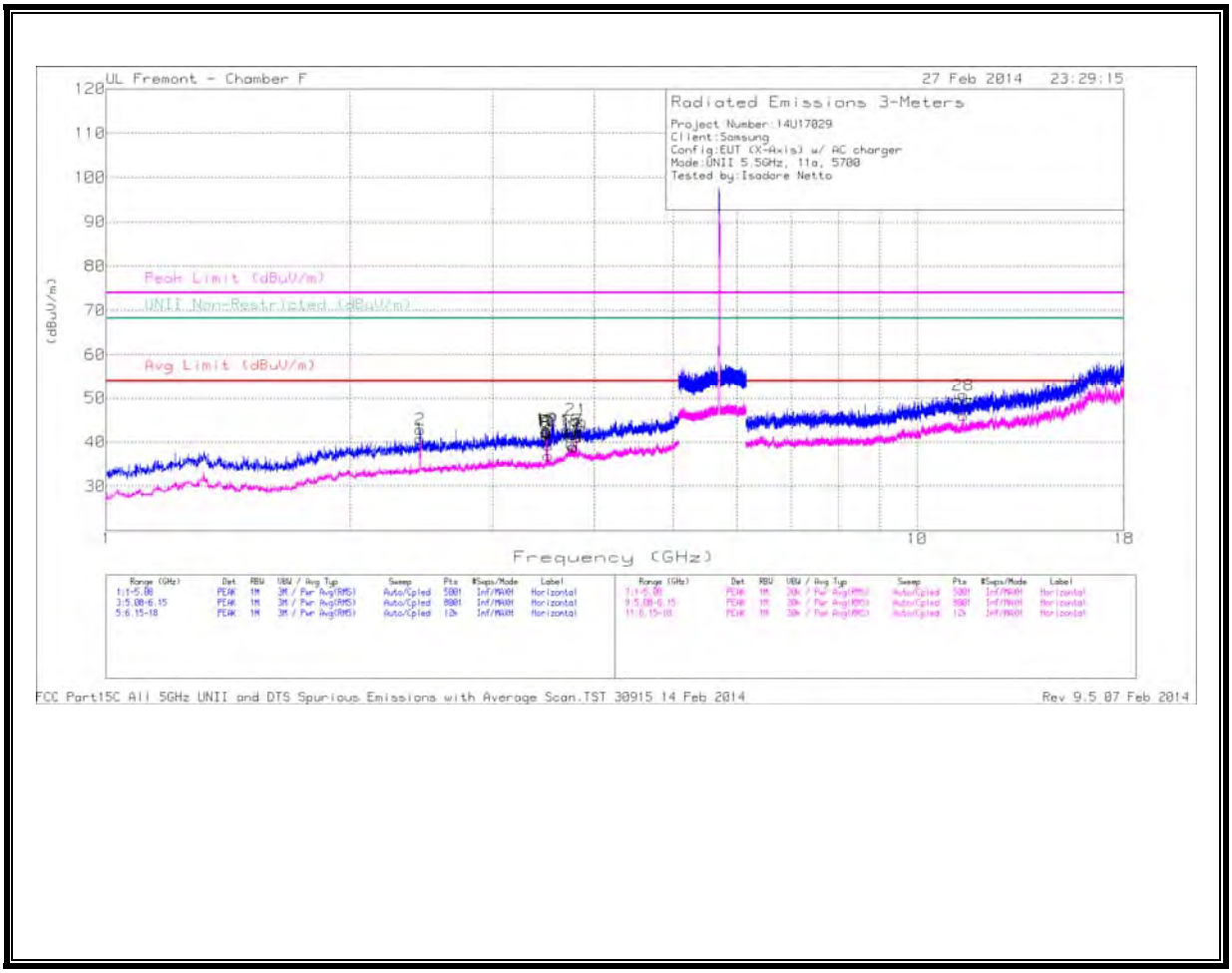
MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.44	41.73	PK	32.3	-30.9	43.13	-	-	-	-	68.2	-25.07	0-360	200	H
7	3.482	38.29	PK	33.1	-29.5	41.89	-	-	-	-	68.2	-26.31	0-360	200	H
8	3.495	39.51	PK	33.2	-29.7	43.01	-	-	-	-	68.2	-25.19	0-360	99	H
10	* 3.562	39.39	PK	33.5	-29.6	43.29	54	-10.71	74	-30.71	-	-	0-360	200	H
2	2.438	43.23	PK	32.3	-30.9	44.63	-	-	-	-	68.2	-23.57	0-360	100	V
12	* 3.721	39.22	PK	33.5	-29.2	43.52	54	-10.48	74	-30.48	-	-	0-360	202	V
14	* 11.155	33.47	PK	38.6	-22.6	49.47	54	-4.53	74	-24.53	-	-	0-360	200	H
16	* 11.16	35.62	PK	38.6	-22.6	51.62	54	-2.38	74	-22.38	-	-	0-360	100	V
9	* 3.566	40.95	Avg	33.5	-29.6	44.85	54	-9.15	-	-	-	-	0-360	200	H
11	* 3.72	36.66	Avg	33.5	-29.2	40.96	54	-13.04	-	-	-	-	0-360	202	V
13	* 11.165	29.57	Avg	38.6	-22.5	45.67	54	-8.33	-	-	-	-	0-360	200	H
15	* 11.157	32.24	Avg	38.6	-22.6	48.24	54	-5.76	-	-	-	-	0-360	202	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

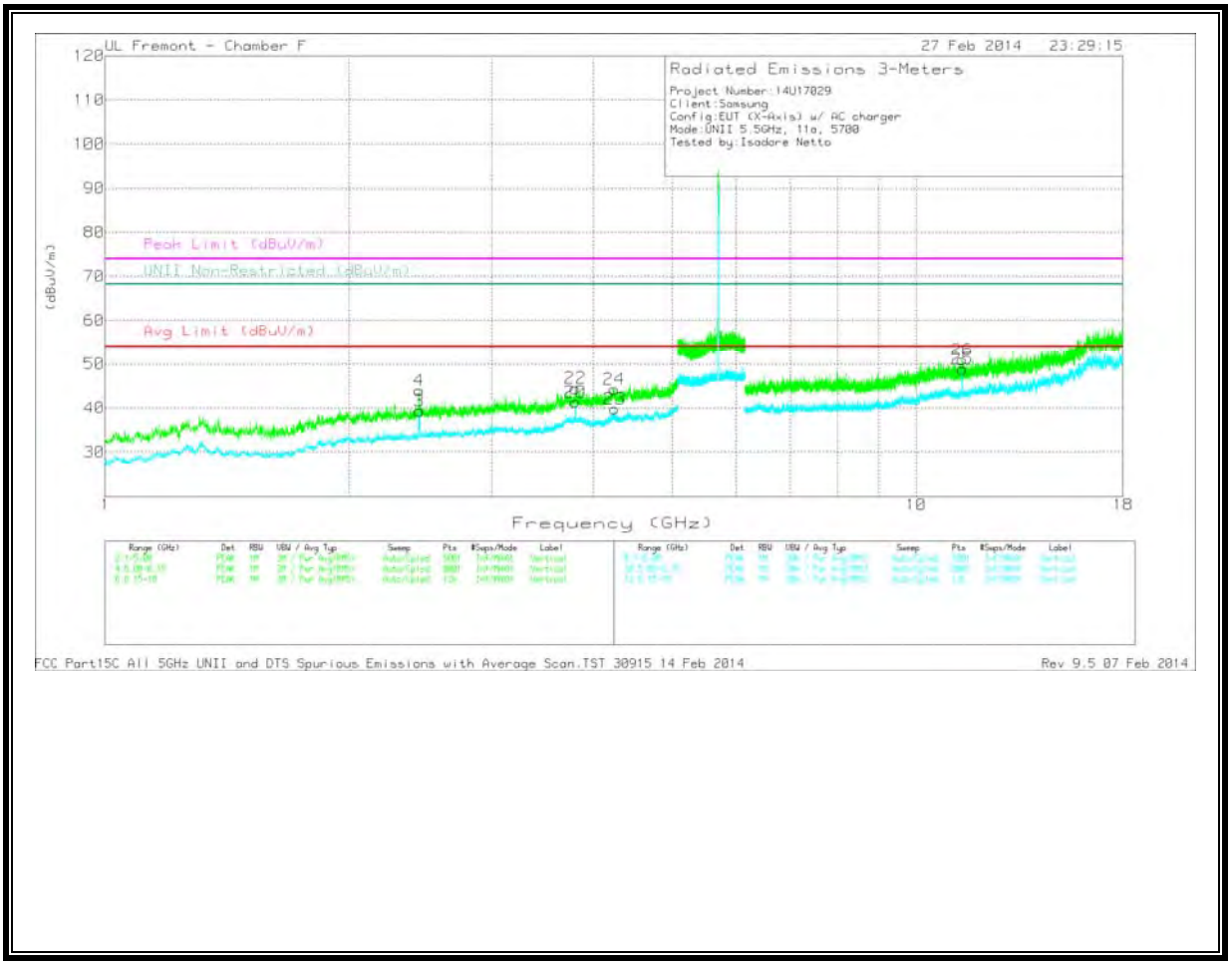
PK - Peak detector

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

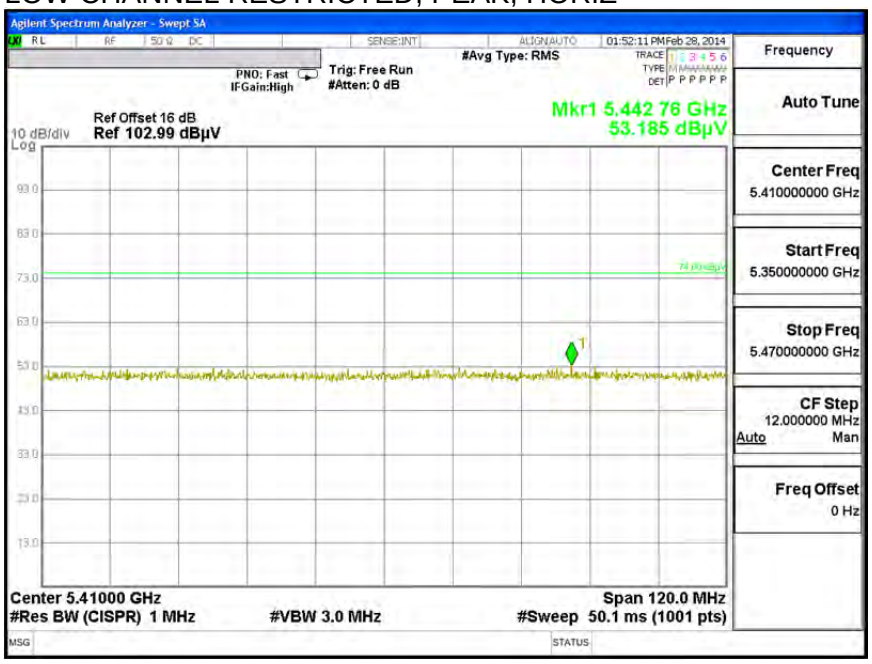
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.439	41.42	PK	32.3	-30.9	42.82	-	-	-	-	68.2	-25.38	0-360	200	H
9	3.486	38.79	PK	33.1	-29.5	42.39	-	-	-	-	68.2	-25.81	0-360	200	H
10	3.491	39.27	PK	33.1	-29.6	42.77	-	-	-	-	68.2	-25.43	0-360	200	H
11	3.495	38.65	PK	33.2	-29.7	42.15	-	-	-	-	68.2	-26.05	0-360	99	H
12	* 3.503	38.99	PK	33.2	-29.7	42.49	54	-11.51	74	-31.51	-	-	0-360	200	H
16	* 3.737	38.58	PK	33.5	-29.6	42.48	54	-11.52	74	-31.52	-	-	0-360	99	H
17	* 3.753	38.7	PK	33.5	-29.7	42.5	54	-11.5	74	-31.5	-	-	0-360	200	H
18	* 3.765	37.88	PK	33.6	-29.8	41.68	54	-12.32	74	-32.32	-	-	0-360	200	H
21	* 3.801	40.79	PK	33.6	-29.4	44.99	54	-9.01	74	-29.01	-	-	0-360	200	H
4	2.439	42.56	PK	32.3	-30.9	43.96	-	-	-	-	68.2	-24.24	0-360	202	V
22	* 3.801	40.25	PK	33.6	-29.4	44.45	54	-9.55	74	-29.55	-	-	0-360	202	V
24	* 4.243	38.02	PK	33.4	-27.2	44.22	54	-9.78	74	-29.78	-	-	0-360	202	V
28	* 11.402	34.84	PK	38.7	-22.9	50.64	54	-3.36	74	-23.36	-	-	0-360	200	H
26	* 11.396	35.19	PK	38.7	-22.9	50.99	54	-3.01	74	-23.01	-	-	0-360	100	V
7	* 3.501	38.68	Avg	33.2	-29.7	42.18	54	-11.82	-	-	-	-	0-360	200	H
8	* 3.51	33.45	Avg	33.2	-29.7	36.95	54	-17.05	-	-	-	-	0-360	200	H
13	* 3.746	35.8	Avg	33.5	-29.7	39.6	54	-14.4	-	-	-	-	0-360	200	H
14	* 3.76	35.1	Avg	33.6	-29.7	39	54	-15	-	-	-	-	0-360	200	H
15	* 3.771	35.23	Avg	33.6	-29.9	38.93	54	-15.07	-	-	-	-	0-360	200	H
19	* 3.801	36.96	Avg	33.6	-29.4	41.16	54	-12.84	-	-	-	-	0-360	200	H
20	* 3.8	37.23	Avg	33.6	-29.5	41.33	54	-12.67	-	-	-	-	0-360	202	V
23	* 4.248	33.8	Avg	33.4	-27.4	39.8	54	-14.2	-	-	-	-	0-360	100	V
27	* 11.404	30.24	Avg	38.7	-22.9	46.04	54	-7.96	-	-	-	-	0-360	200	H
25	* 11.403	33.07	Avg	38.7	-22.9	48.87	54	-5.13	-	-	-	-	0-360	202	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

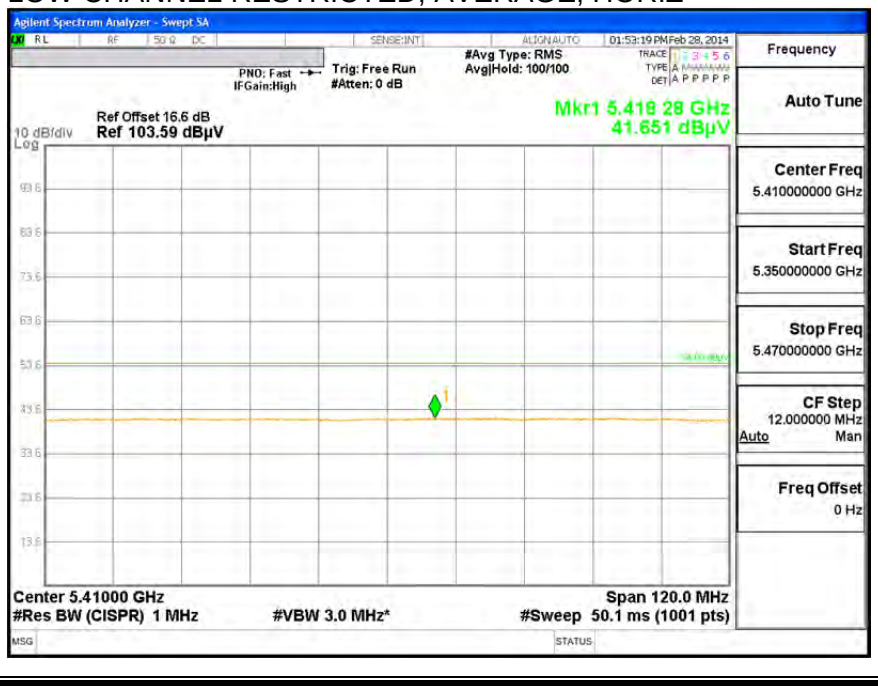
PK - Peak detector

11.3.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

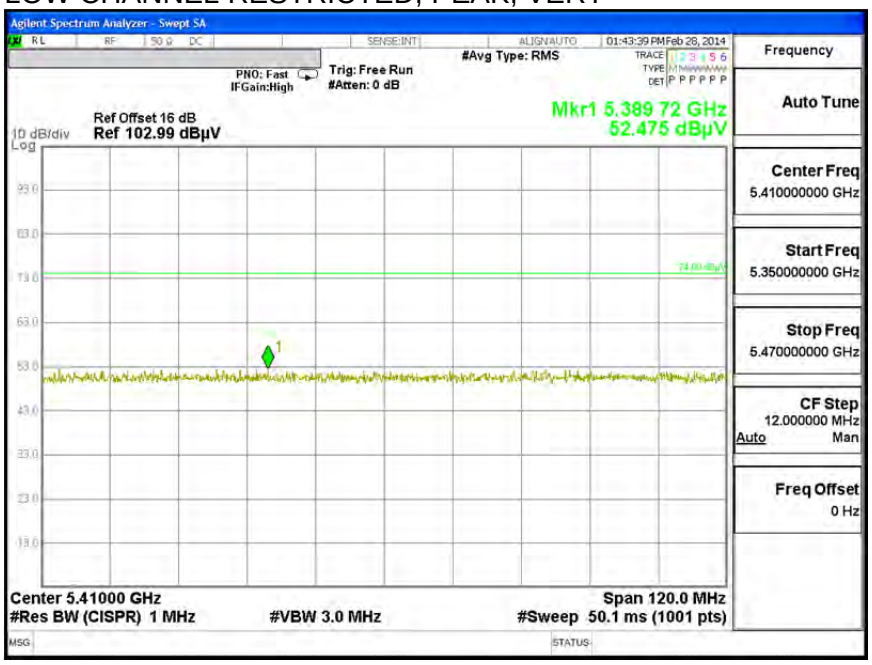
LOW CHANNEL RESTRICTED, PEAK, HORIZ



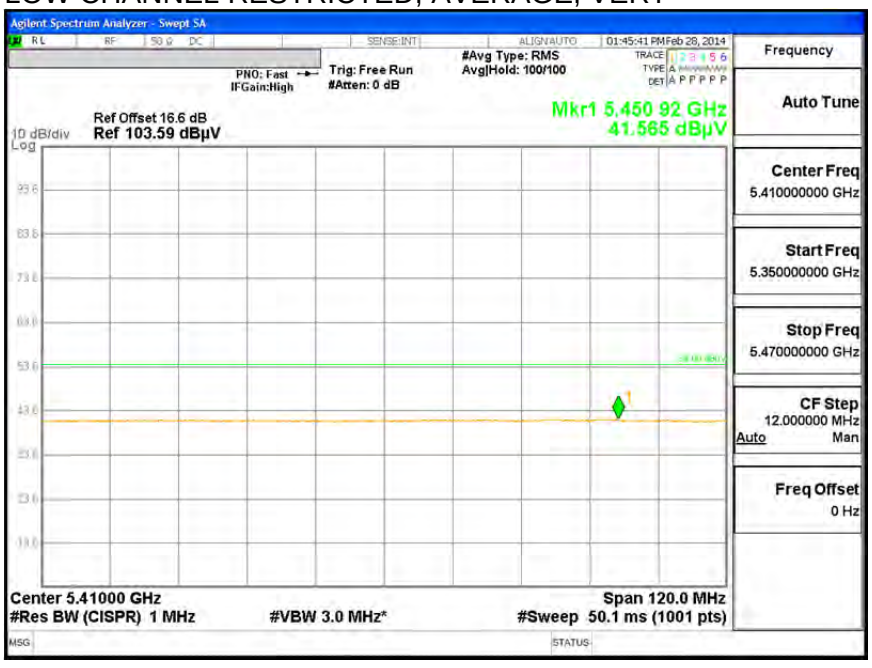
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

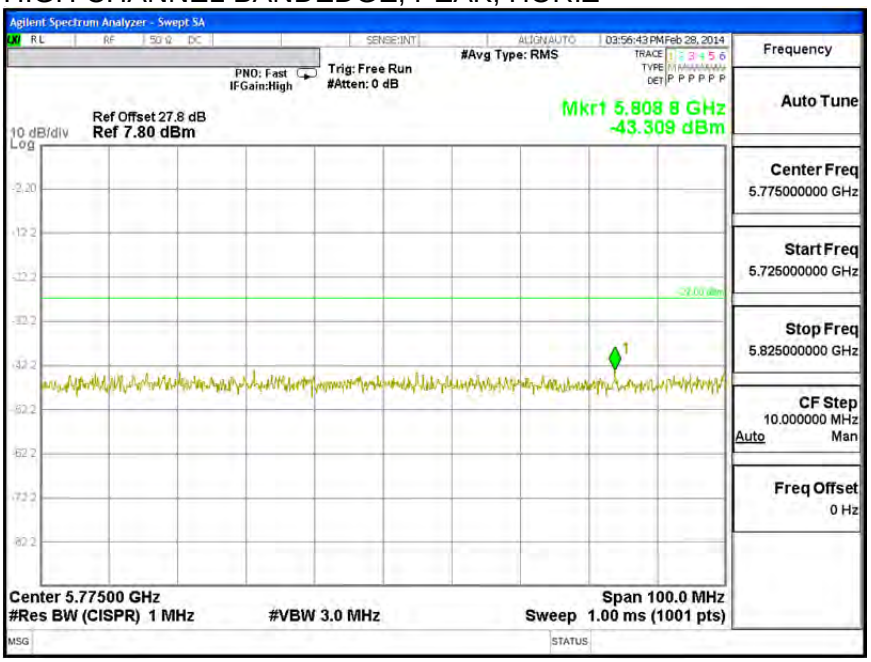


LOW CHANNEL RESTRICTED, AVERAGE, VERT

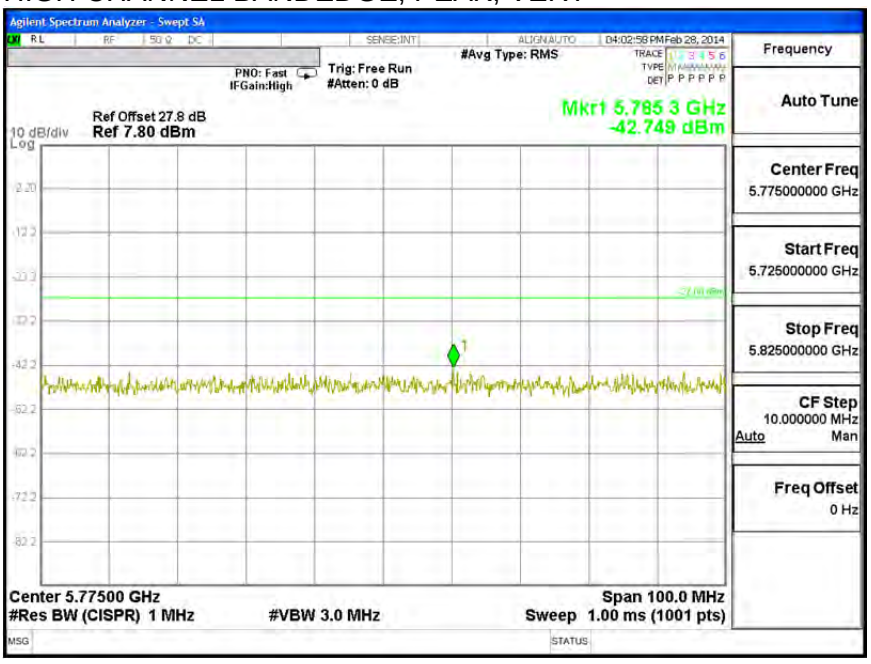


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

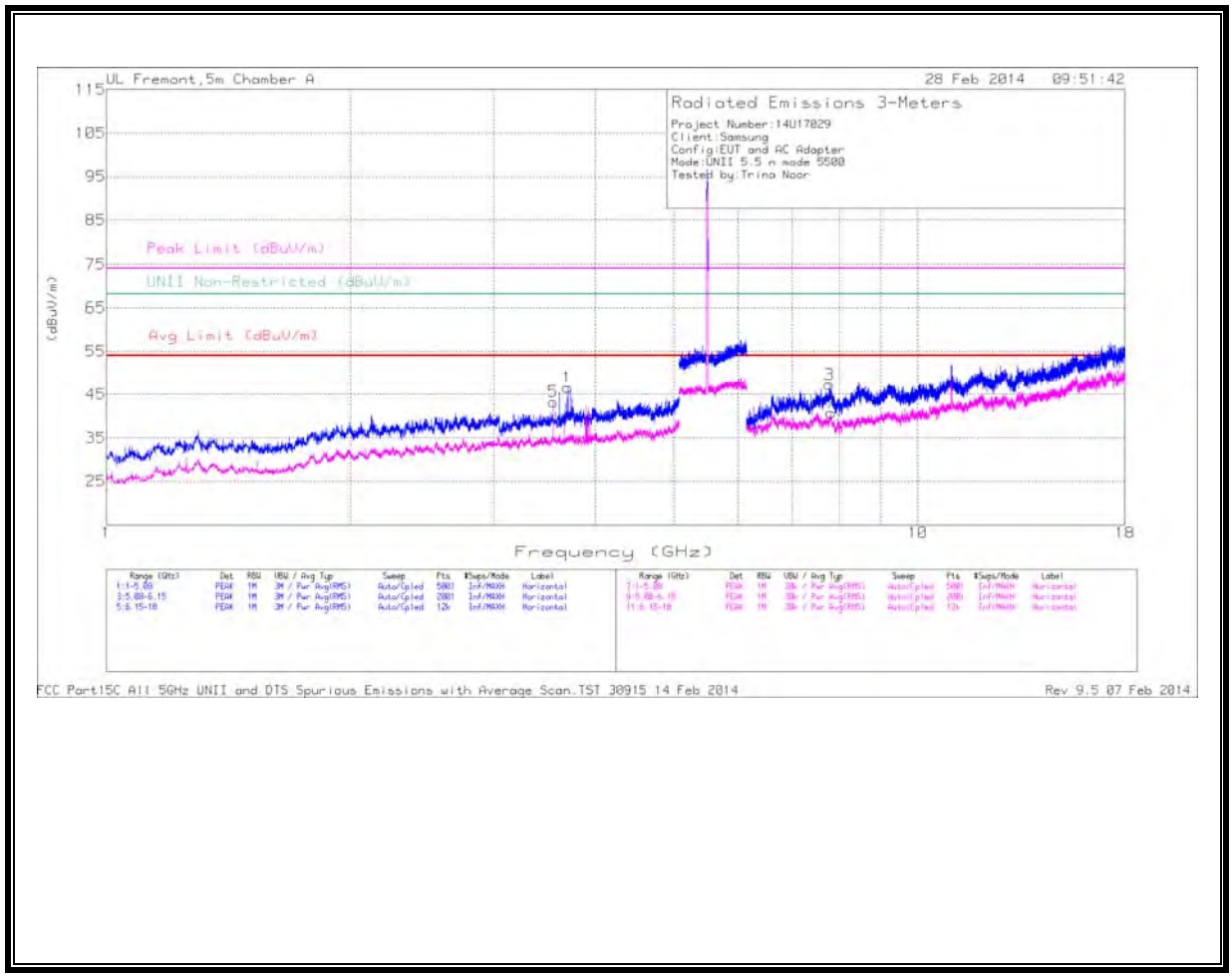


HIGH CHANNEL BANDEDGE, PEAK, VERT



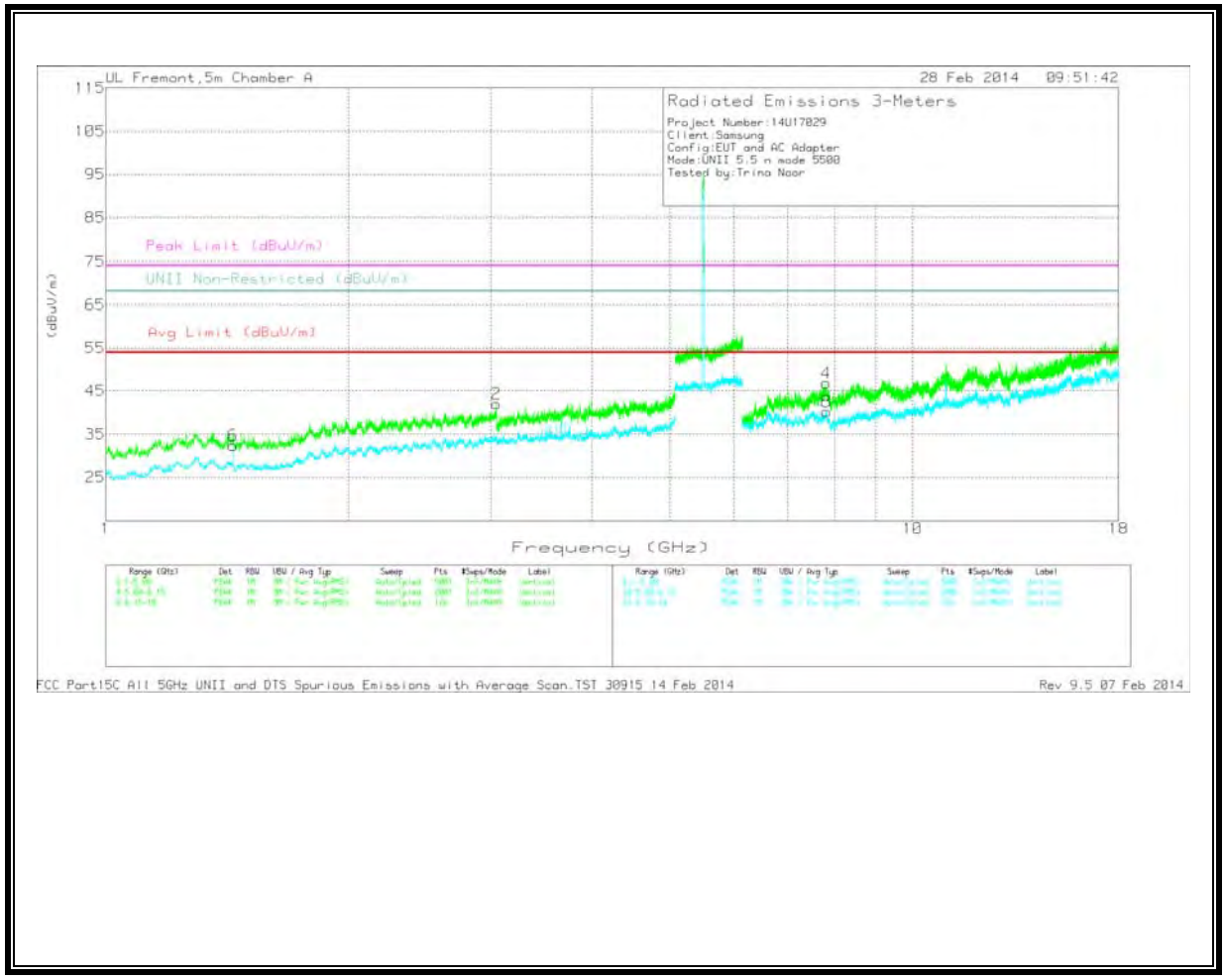
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

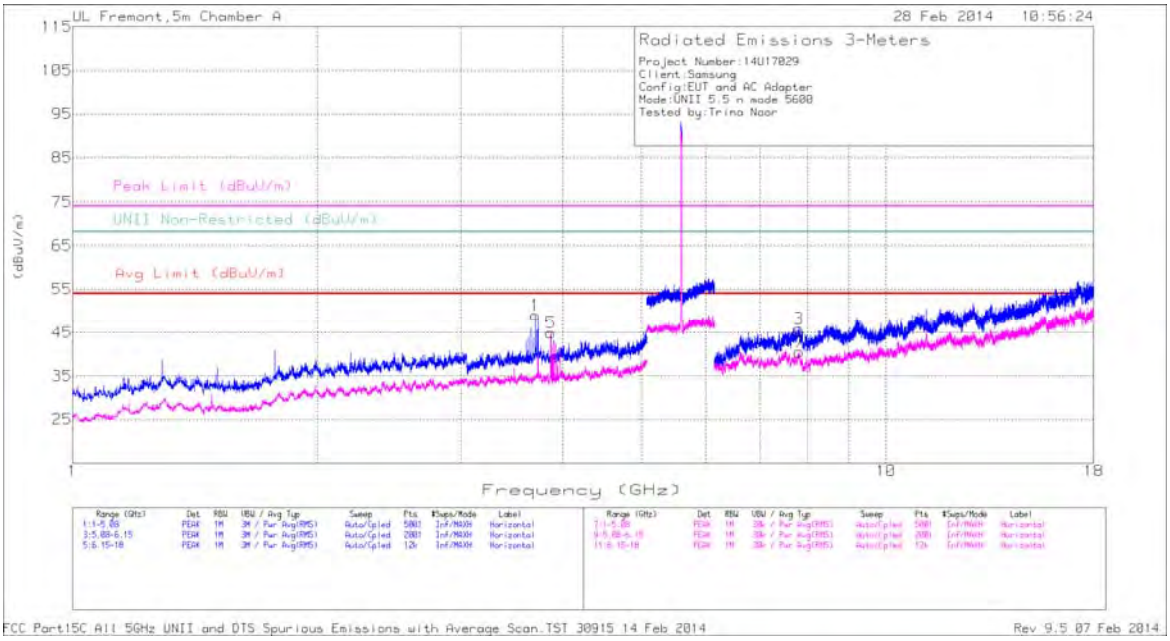
LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.701	43.84	PK	33.2	-30.4	0	46.64	54	-7.36	74	-27.36	68.2	-21.56	0-360	101	H
5	* 3.556	41.5	Avg	33	-31.2	0	43.3	54	-10.7	-	-	-	-	0-360	101	H
6	* 1.438	39.45	Avg	28.9	-36	0	32.35	54	-21.65	-	-	-	-	0-360	101	V
2	3.048	40.79	PK	33	-31.8	0	41.99	54	-12.01	74	-32.01	68.2	-26.21	0-360	201	V
3	7.778	37.13	PK	35.8	-25.6	0	47.33	54	-6.67	74	-26.67	68.2	-20.87	0-360	200	H
4	7.816	35.41	PK	35.8	-24.4	0	46.81	54	-7.19	74	-27.19	68.2	-21.39	0-360	201	V
7	7.817	29.31	Avg	35.8	-24.4	0	40.71	54	-13.29	-	-	-	-	0-360	200	H
8	7.82	28.68	Avg	35.8	-24.3	0	40.18	54	-13.82	-	-	-	-	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

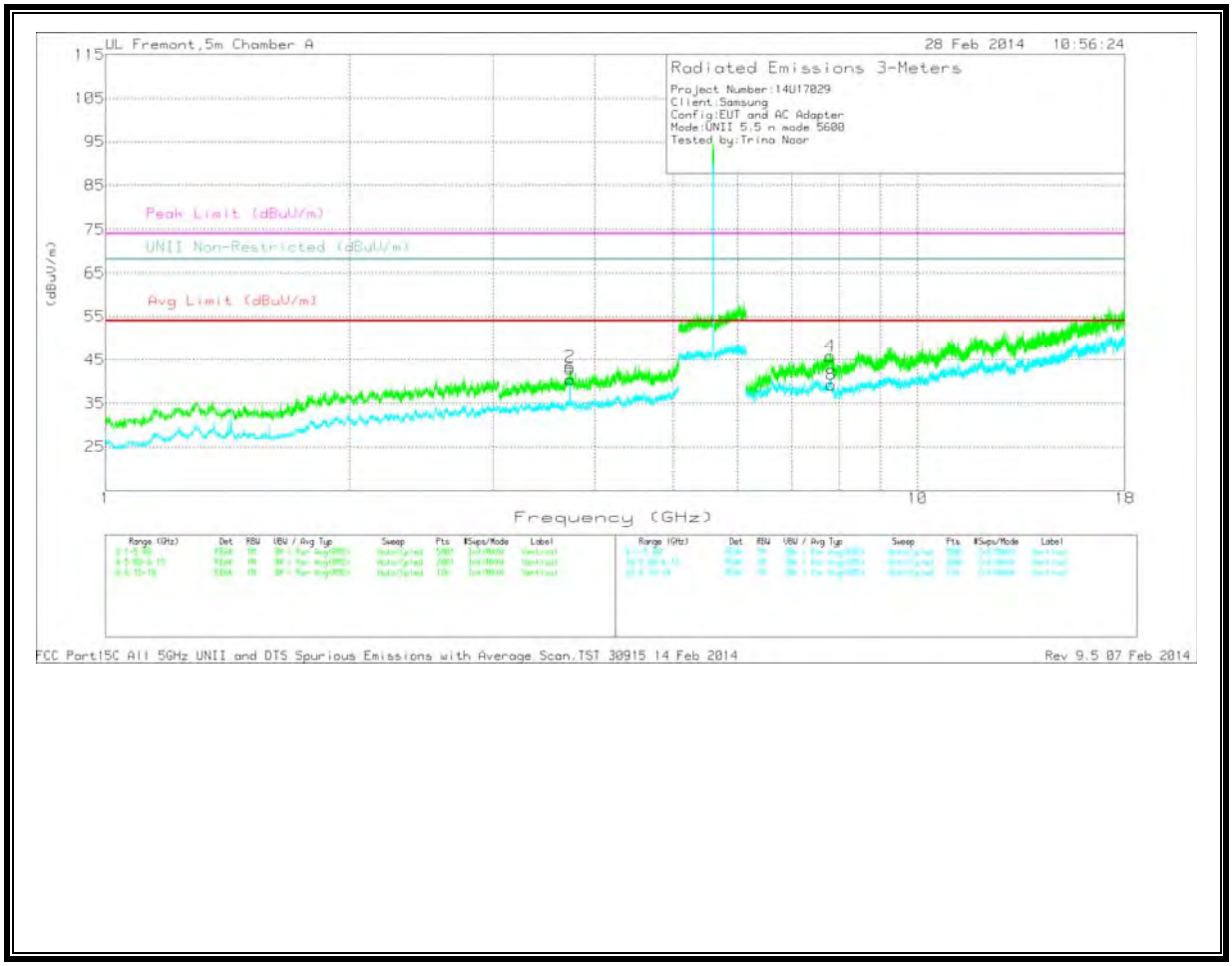
PK - Peak detector

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

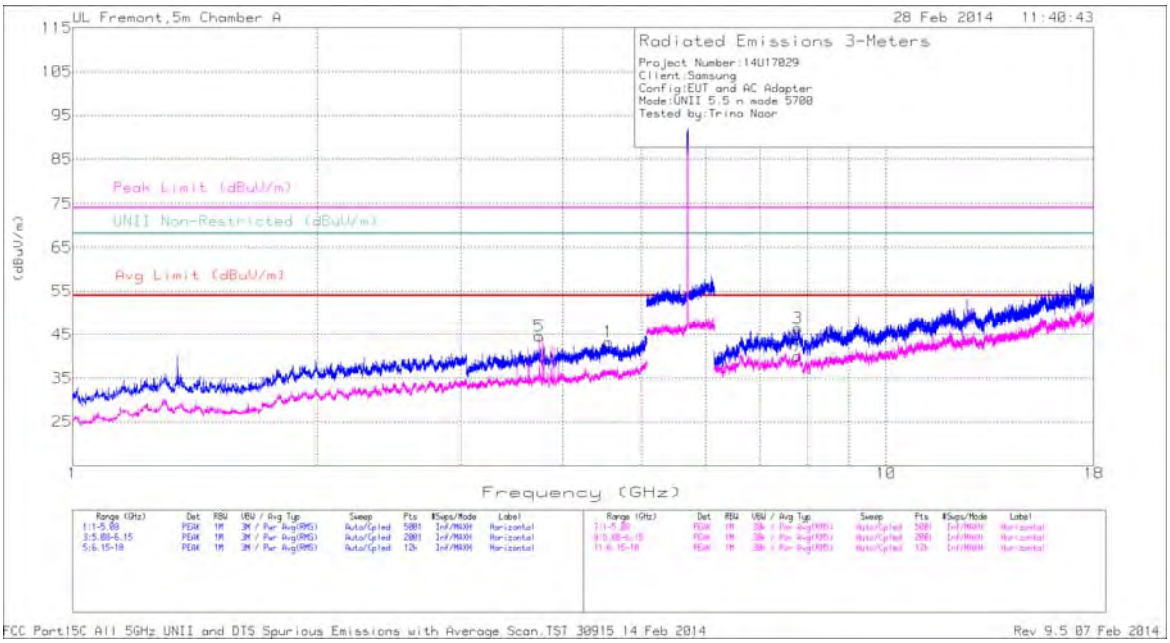
MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.704	46.05	PK	33.2	-30.3	0	48.95	54	-5.05	74	-25.05	68.2	-19.25	0-360	200	H
6	* 3.733	37.3	Avg	33.2	-30	0	40.5	54	-13.5	-	-	-	-	0-360	201	V
2	* 3.734	40.09	PK	33.2	-29.9	0	43.39	54	-10.61	74	-30.61	68.2	-24.81	0-360	201	V
5	* 3.871	42.56	Avg	33.2	-30.8	0	44.96	54	-9.04	-	-	-	-	0-360	101	H
4	7.806	34.83	PK	35.8	-24.8	0	45.83	54	-8.17	74	-28.17	68.2	-22.37	0-360	200	V
3	7.815	34.47	PK	35.8	-24.4	0	45.87	54	-8.13	74	-28.13	68.2	-22.33	0-360	200	H
7	7.821	29.02	Avg	35.8	-24.3	0	40.52	54	-13.48	-	-	-	-	0-360	200	H
8	7.829	28.57	Avg	35.8	-25.1	0	39.27	54	-14.73	-	-	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

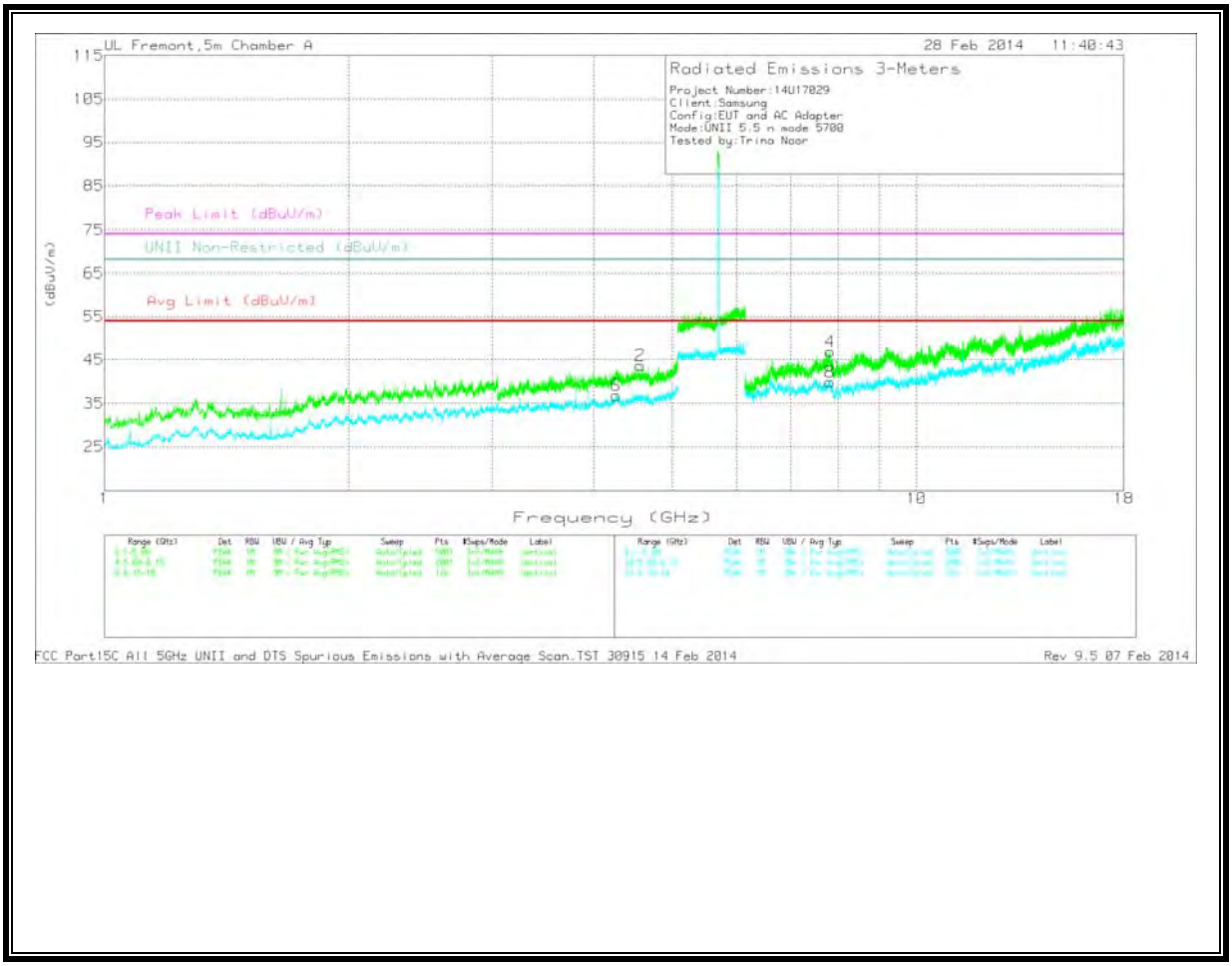
PK - Peak detector

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

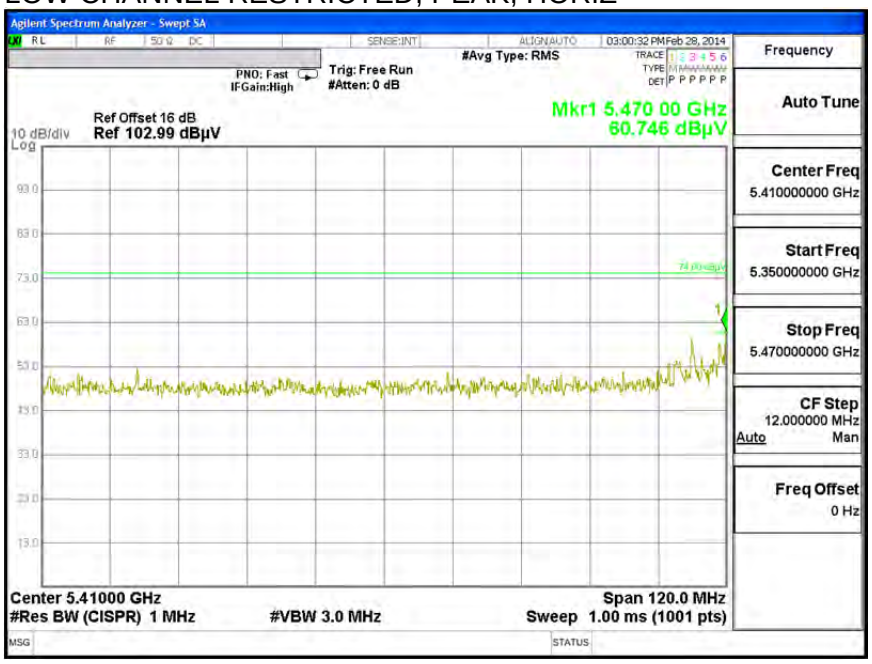
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 3.745	41.42	Avg	33.2	-30	0	44.62	54	-9.38	-	-	-	-	0-360	101	H
6	* 4.269	31.8	Avg	33.5	-28.5	0	36.8	54	-17.2	-	-	-	-	0-360	101	V
1	* 4.554	39.55	PK	34	-30.3	0	43.25	54	-10.75	74	-30.75	68.2	-24.95	0-360	101	H
2	* 4.568	39.95	PK	34	-30.3	0	43.65	54	-10.35	74	-30.35	68.2	-24.55	0-360	101	V
3	7.783	36.15	PK	35.8	-25.5	0	46.45	54	-7.55	74	-27.55	68.2	-21.75	0-360	200	H
7	7.787	29.61	Avg	35.8	-25.4	0	40.01	54	-13.99	-	-	-	-	0-360	200	H
8	7.822	28.37	Avg	35.8	-24.3	0	39.87	54	-14.13	-	-	-	-	0-360	101	V
4	7.825	35.79	PK	35.8	-24.7	0	46.89	54	-7.11	74	-27.11	68.2	-21.31	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

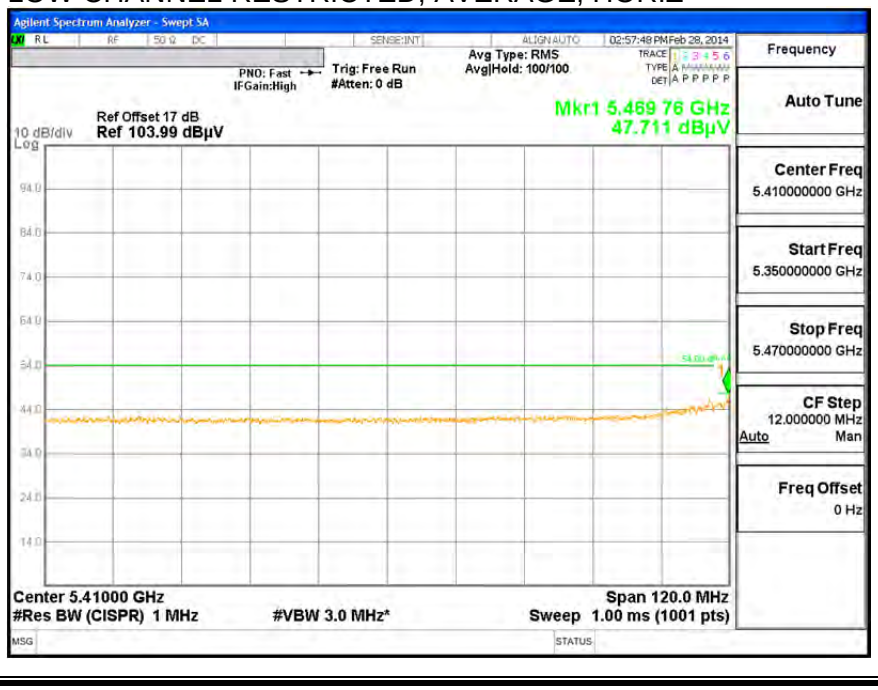
PK - Peak detector

11.3.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

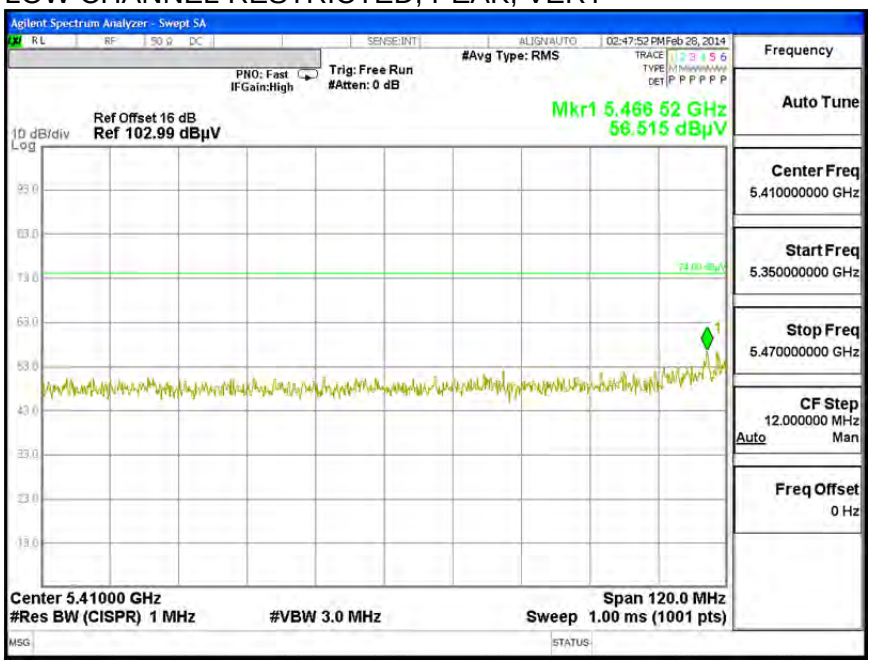
LOW CHANNEL RESTRICTED, PEAK, HORIZ



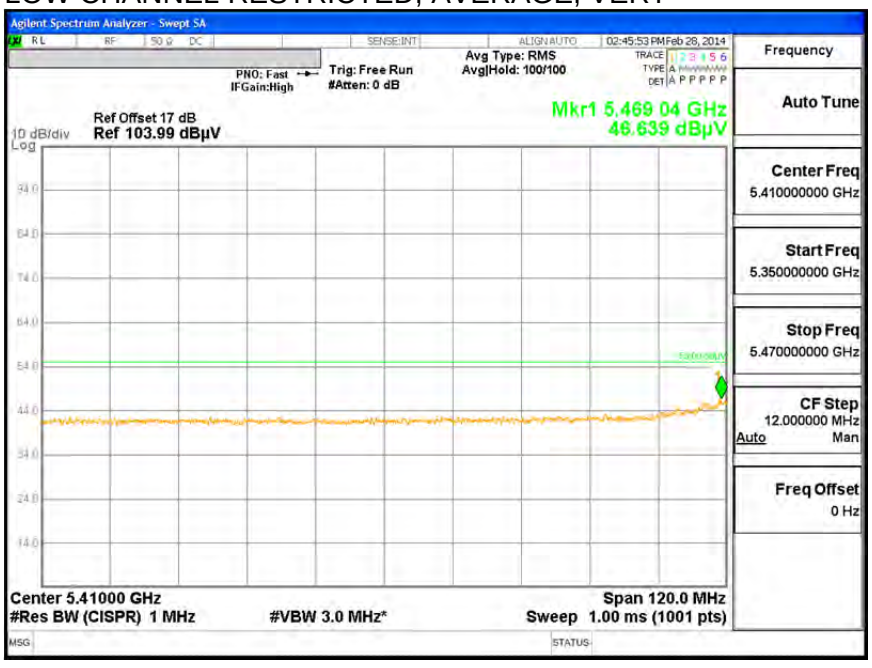
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

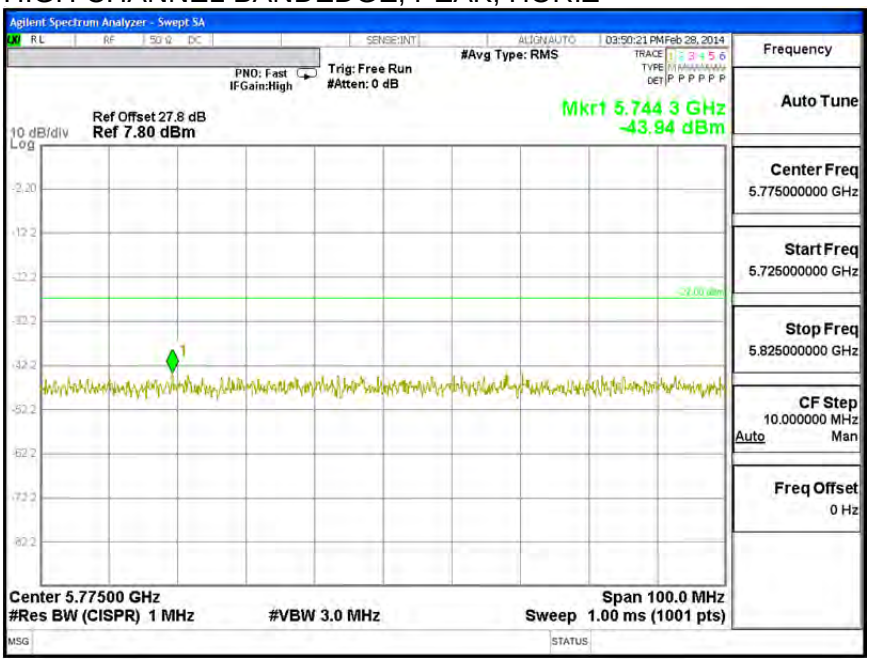


LOW CHANNEL RESTRICTED, AVERAGE, VERT

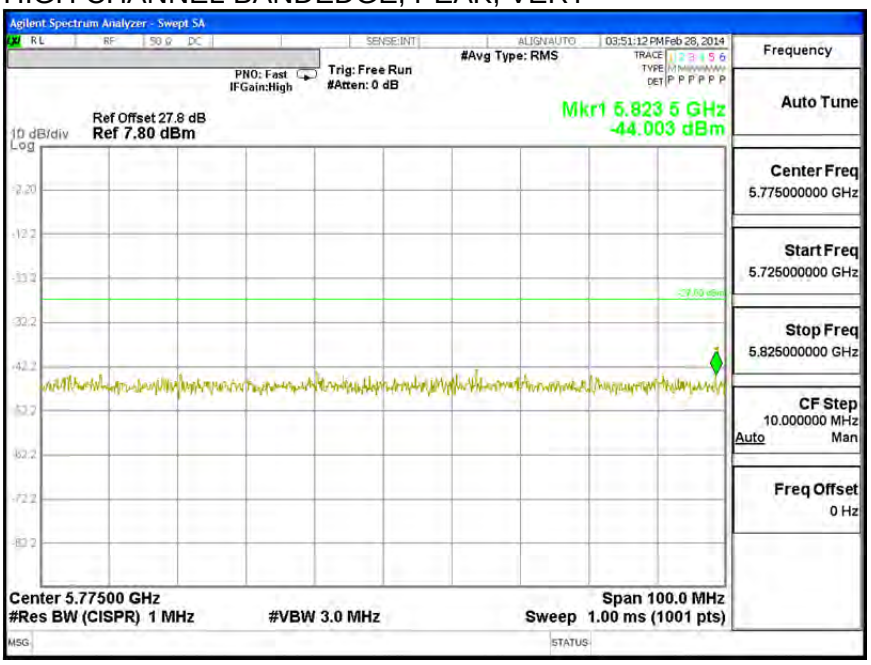


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

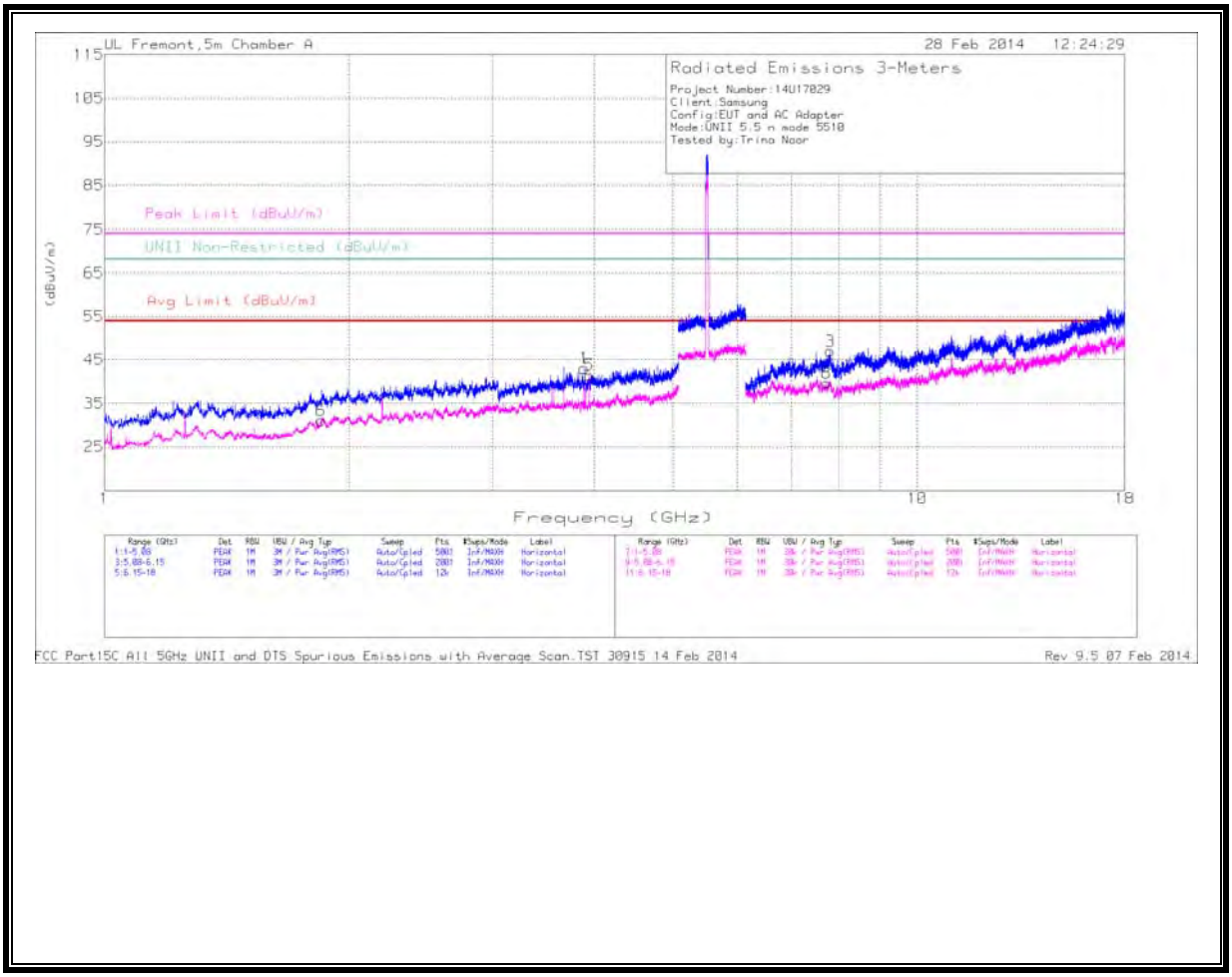


HIGH CHANNEL BANDEDGE, PEAK, VERT



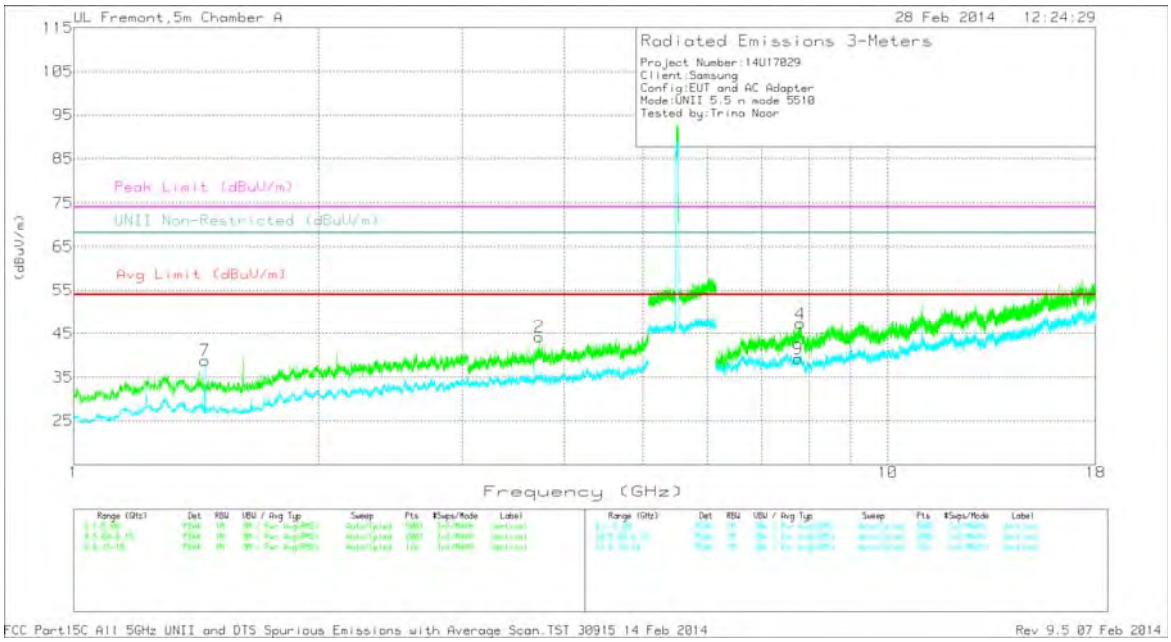
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

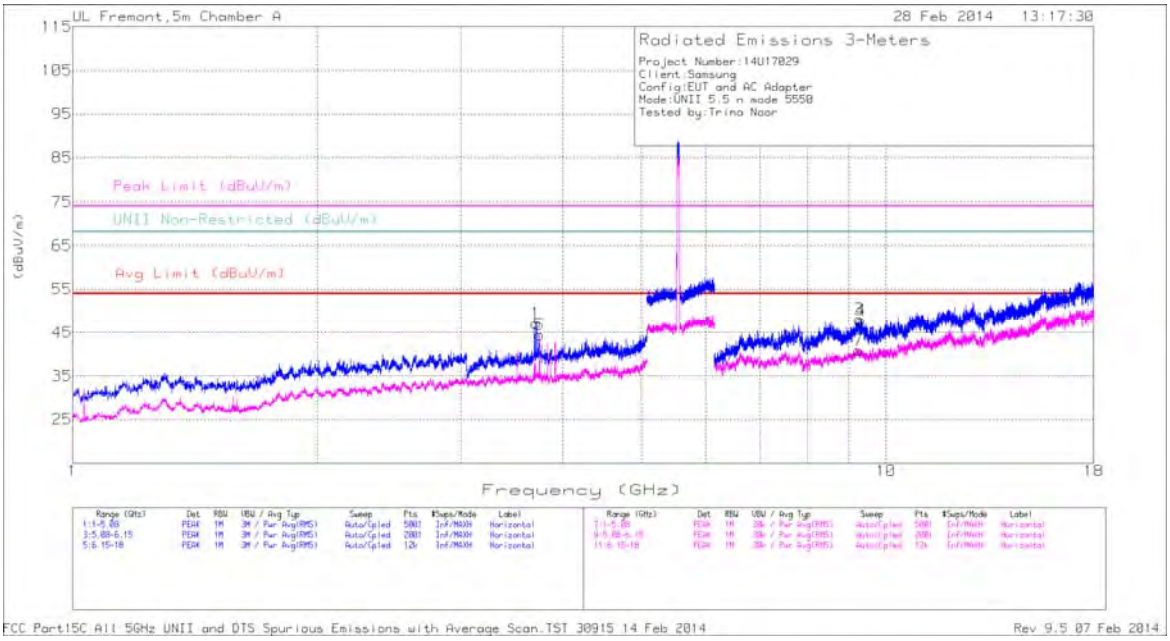
LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.892	41.13	PK	33.2	-31.3	0	43.03	54	-10.97	74	-30.97	68.2	-25.17	0-360	101	H
2	* 3.73	41.1	PK	33.2	-30.1	0	44.2	54	-9.8	74	-29.8	68.2	-24	0-360	101	V
5	* 3.949	39.54	Avg	33.3	-31.4	0	41.44	54	-12.56	-	-	-	-	0-360	101	H
7	* 1.45	46.11	Avg	28.8	-36.1	0	38.81	54	-15.19	-	-	-	-	0-360	200	V
8	* 7.736	30.62	Avg	35.8	-26.8	0	39.62	54	-14.38	-	-	-	-	0-360	200	H
6	1.847	35.15	Avg	30.7	-34.8	0	31.05	54	-22.95	-	-	-	-	0-360	200	H
9	7.761	30.2	Avg	35.8	-26.8	0	39.2	54	-14.8	-	-	-	-	0-360	201	V
4	7.806	36.26	PK	35.8	-24.8	0	47.26	54	-6.74	74	-26.74	68.2	-20.94	0-360	201	V
3	7.81	35.81	PK	35.8	-24.6	0	47.01	54	-6.99	74	-26.99	68.2	-21.19	0-360	200	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

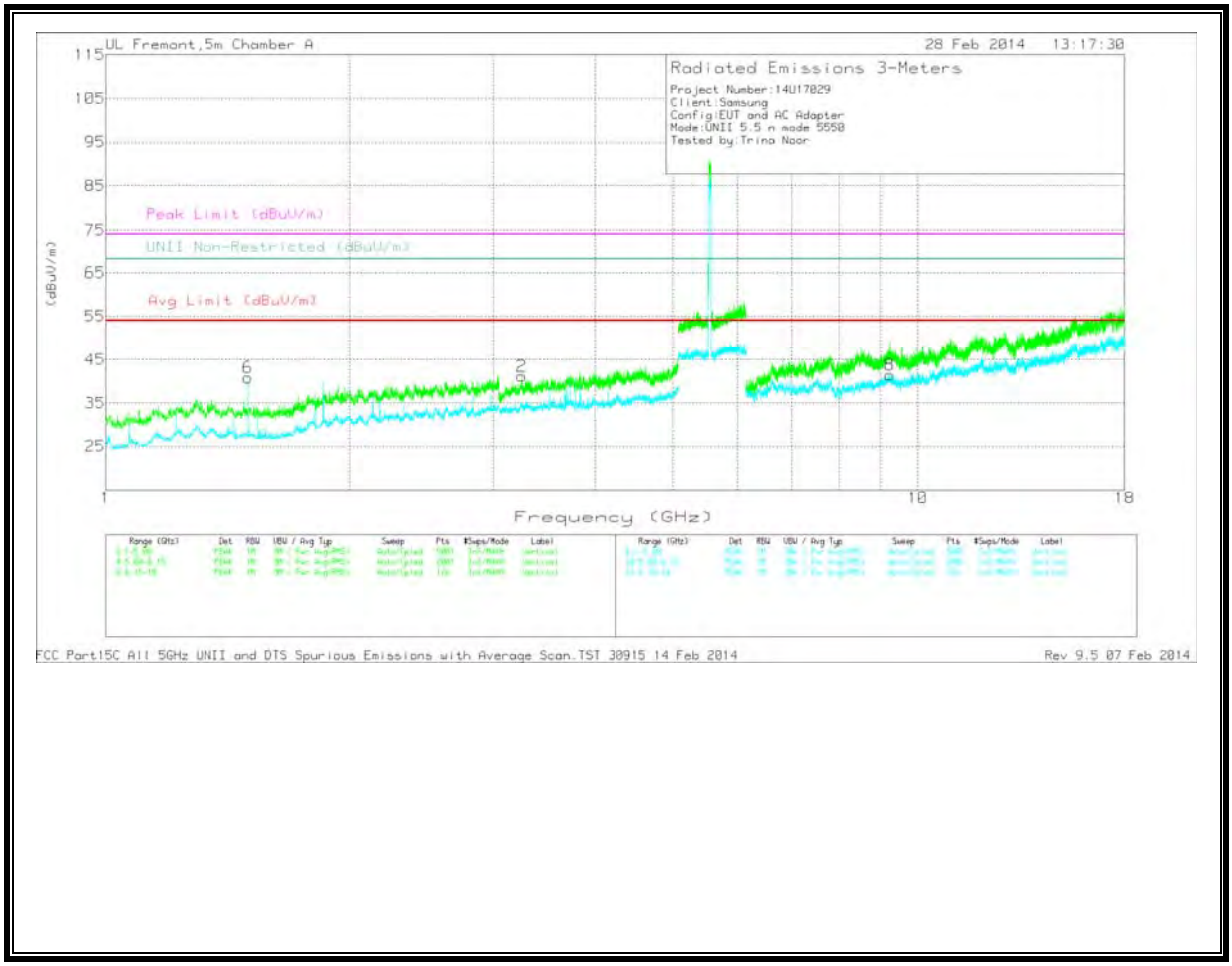
PK - Peak detector

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

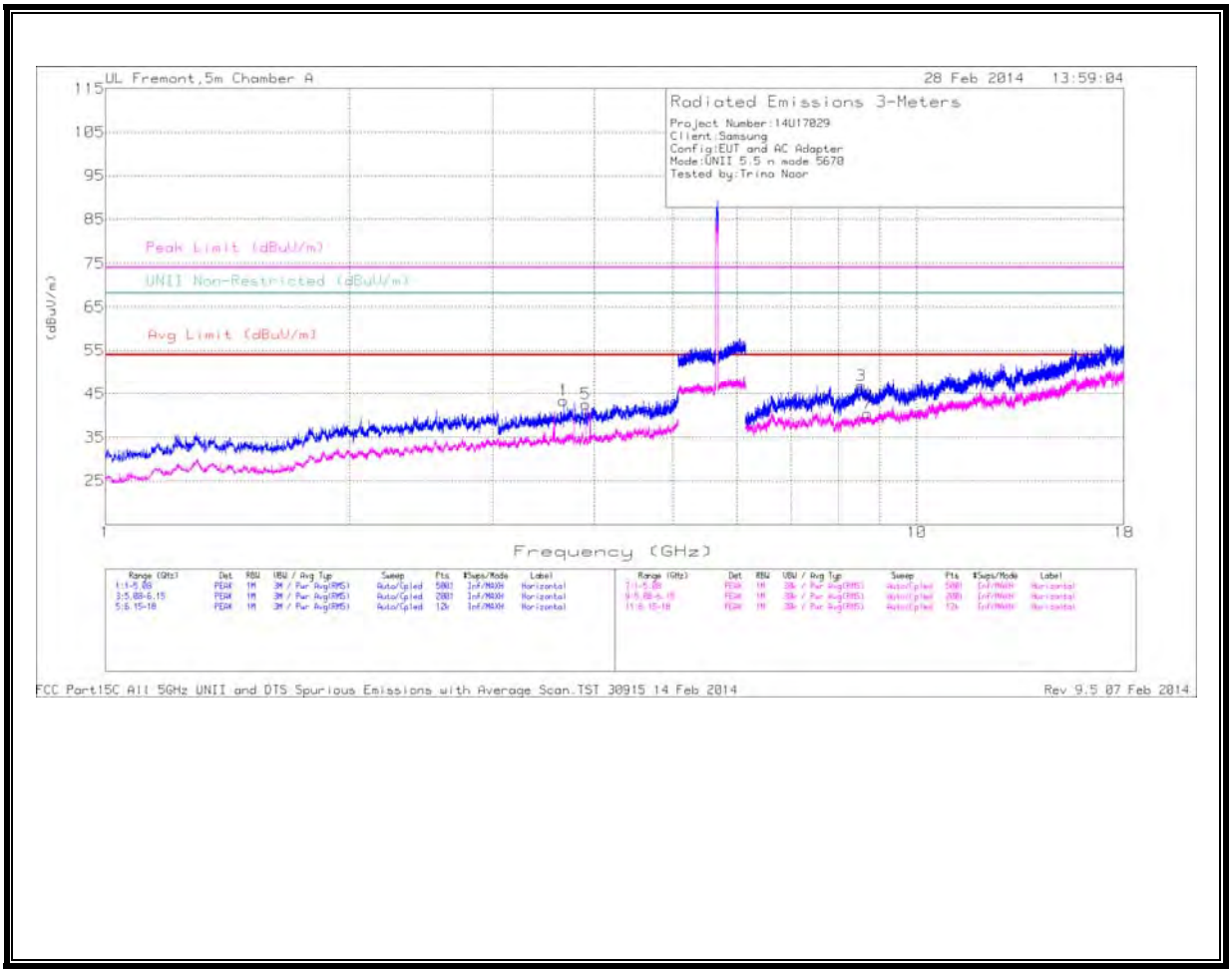
MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 1.499	48.92	Avg	28.5	-36.6	0	40.82	54	-13.18	-	-	-	-	0-360	201	V
1	* 3.714	44.16	PK	33.2	-30.2	0	47.16	54	-6.84	74	-26.84	68.2	-21.04	0-360	200	H
5	* 3.749	41.54	Avg	33.2	-30.3	0	44.44	54	-9.56	-	-	-	-	0-360	101	H
4	* 9.313	36.41	PK	36.3	-24.9	0	47.81	54	-6.19	74	-26.19	68.2	-20.39	0-360	101	H
2	3.253	40.16	PK	32.9	-31.9	0	41.16	54	-12.84	74	-32.84	68.2	-27.04	0-360	101	V
8	9.235	29.93	Avg	36.3	-24.8	0	41.43	54	-12.57	-	-	-	-	0-360	101	V
7	9.25	29.46	Avg	36.3	-24.9	0	40.86	54	-13.14	-	-	-	-	0-360	200	H
3	9.27	36.49	PK	36.3	-24.7	0	48.09	54	-5.91	74	-25.91	68.2	-20.11	0-360	101	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

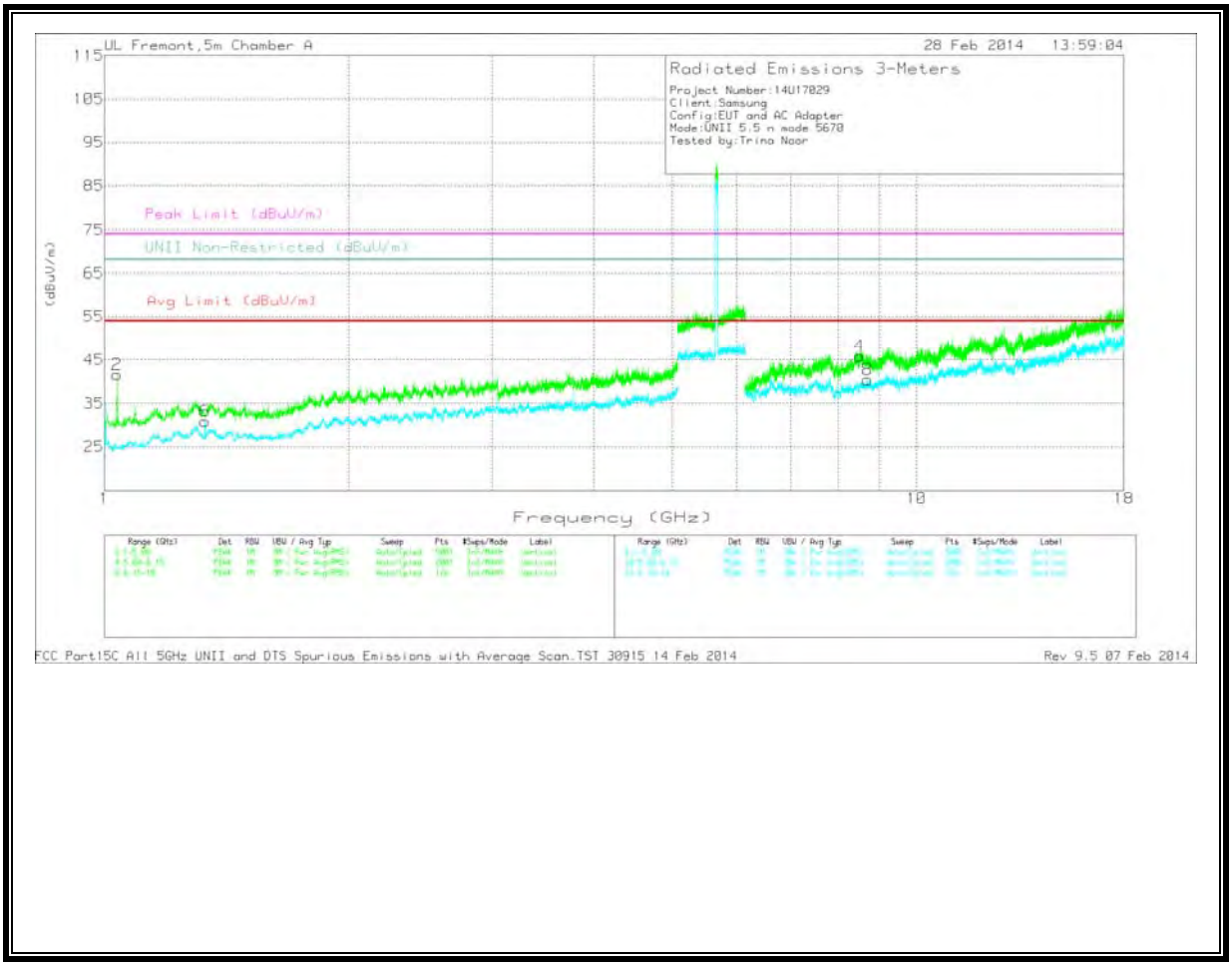
PK - Peak detector

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

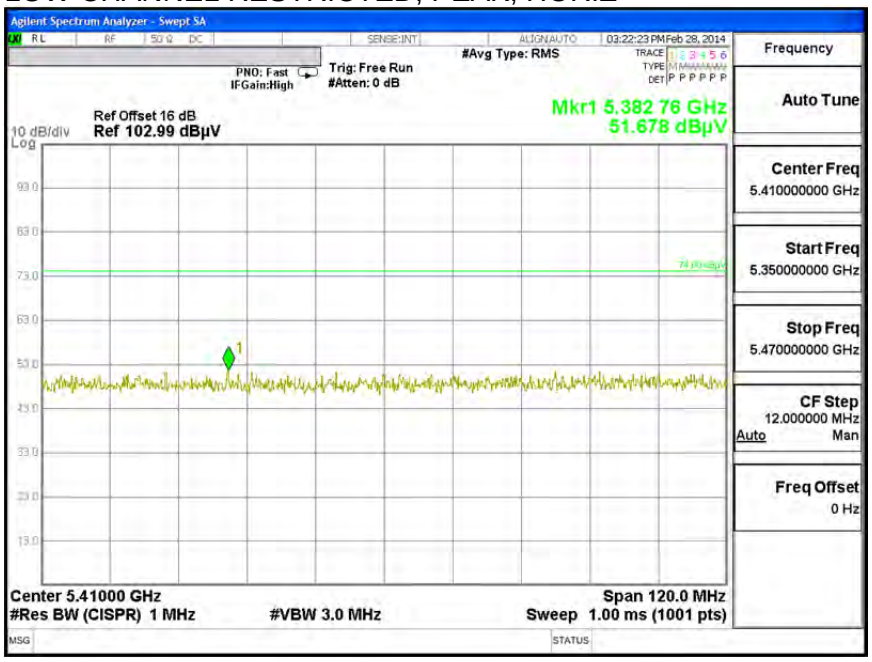
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.671	42.19	PK	33.2	-32	0	43.39	54	-10.61	74	-30.61	68.2	-24.81	0-360	101	H
2	* 1.036	52.07	PK	27.2	-37.7	0	41.57	54	-12.43	74	-32.43	68.2	-26.63	0-360	100	V
5	* 3.907	40.6	Avg	33.3	-31.3	0	42.6	54	-11.4	-	-	-	-	0-360	200	H
6	* 1.33	38.39	Avg	29.9	-37.4	0	30.89	54	-23.11	-	-	-	-	0-360	101	V
4	8.501	36.55	PK	35.8	-26.5	0	45.85	54	-8.15	74	-28.15	68.2	-22.35	0-360	101	V
3	8.535	37.6	PK	35.8	-26.5	0	46.9	54	-7.1	74	-27.1	68.2	-21.3	0-360	101	H
7	8.698	30.05	Avg	35.9	-25.5	0	40.45	54	-13.55	-	-	-	-	0-360	200	H
8	8.702	29.92	Avg	35.9	-25.4	0	40.42	54	-13.58	-	-	-	-	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

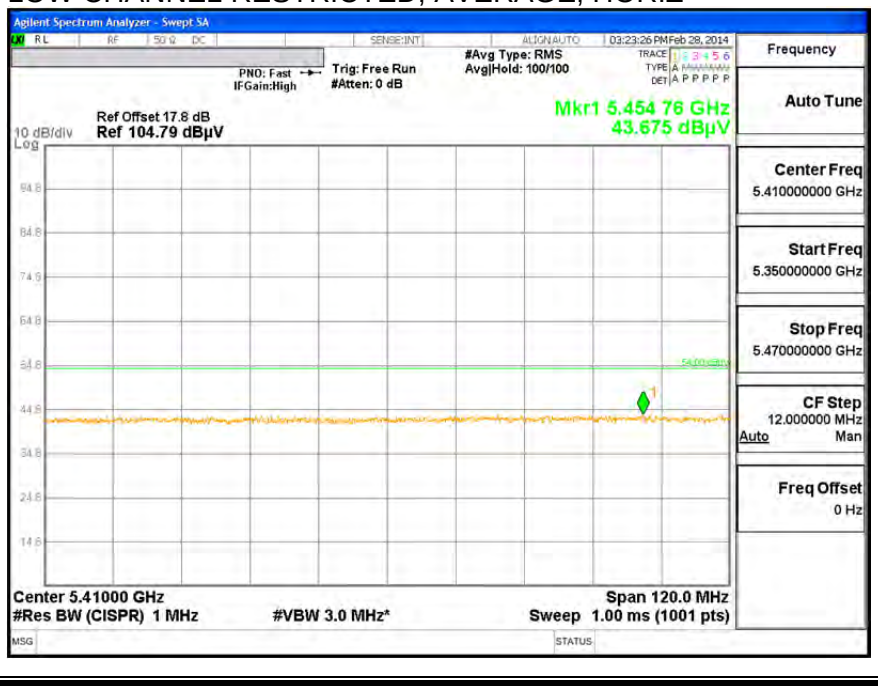
PK - Peak detector

11.3.7. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

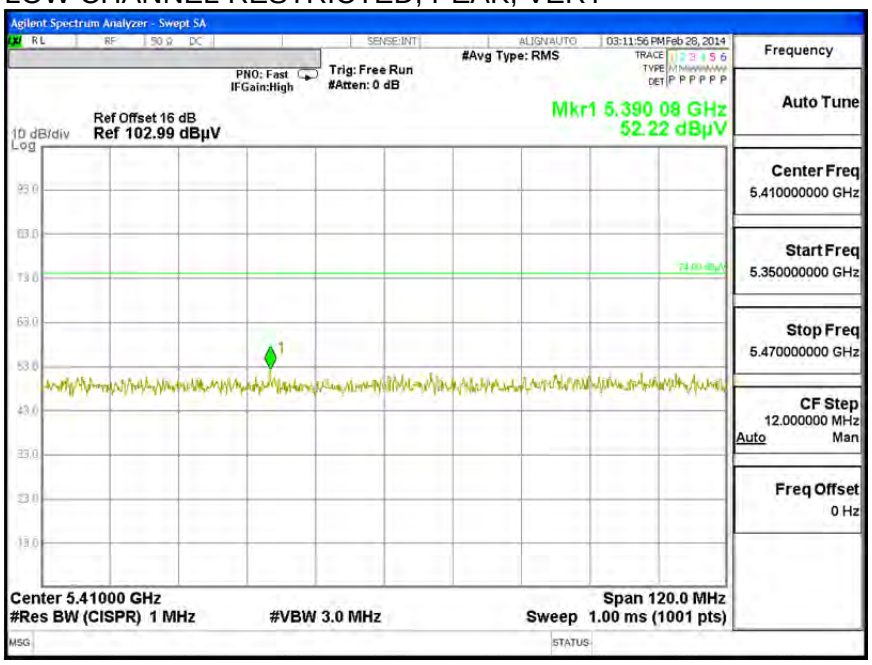
LOW CHANNEL RESTRICTED, PEAK, HORIZ



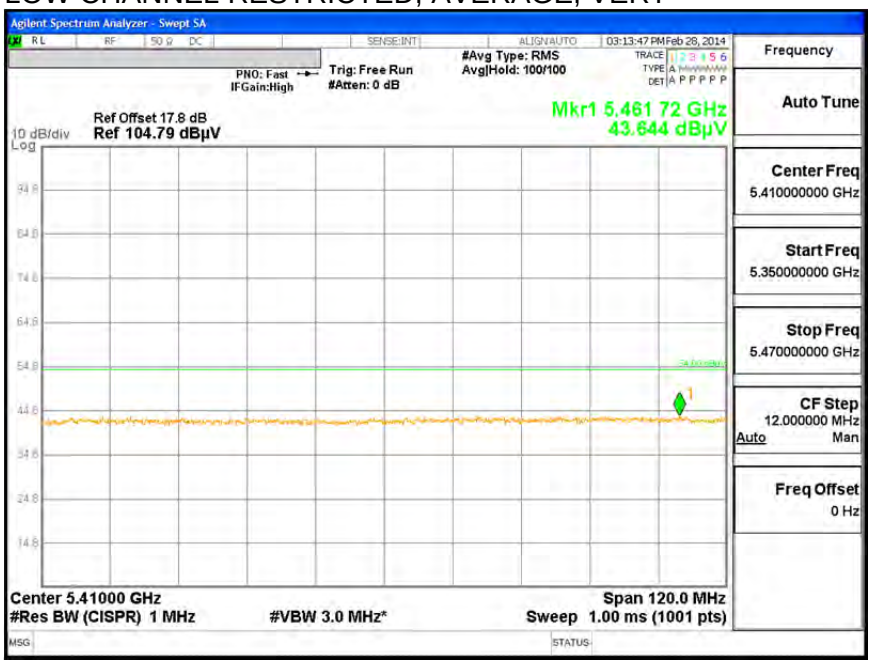
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



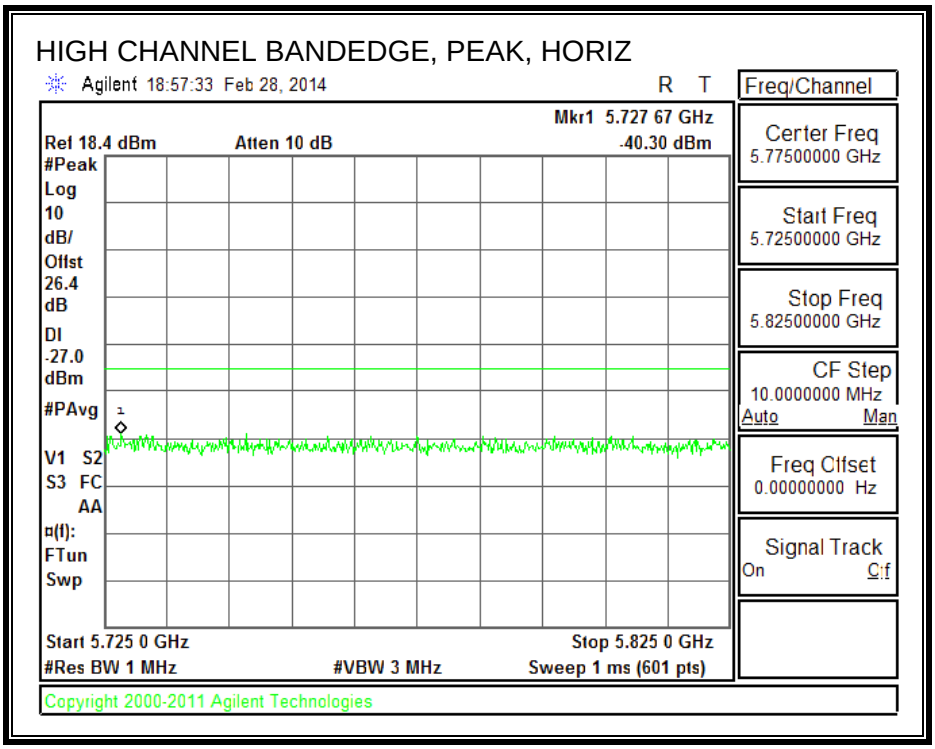
LOW CHANNEL RESTRICTED, PEAK, VERT

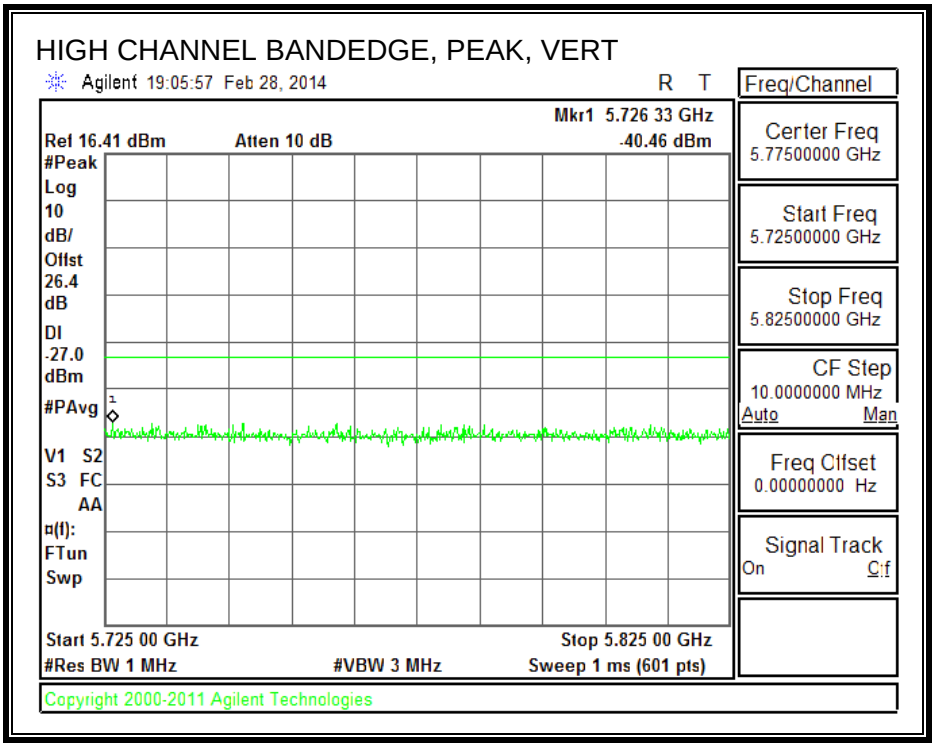


LOW CHANNEL RESTRICTED, AVERAGE, VERT



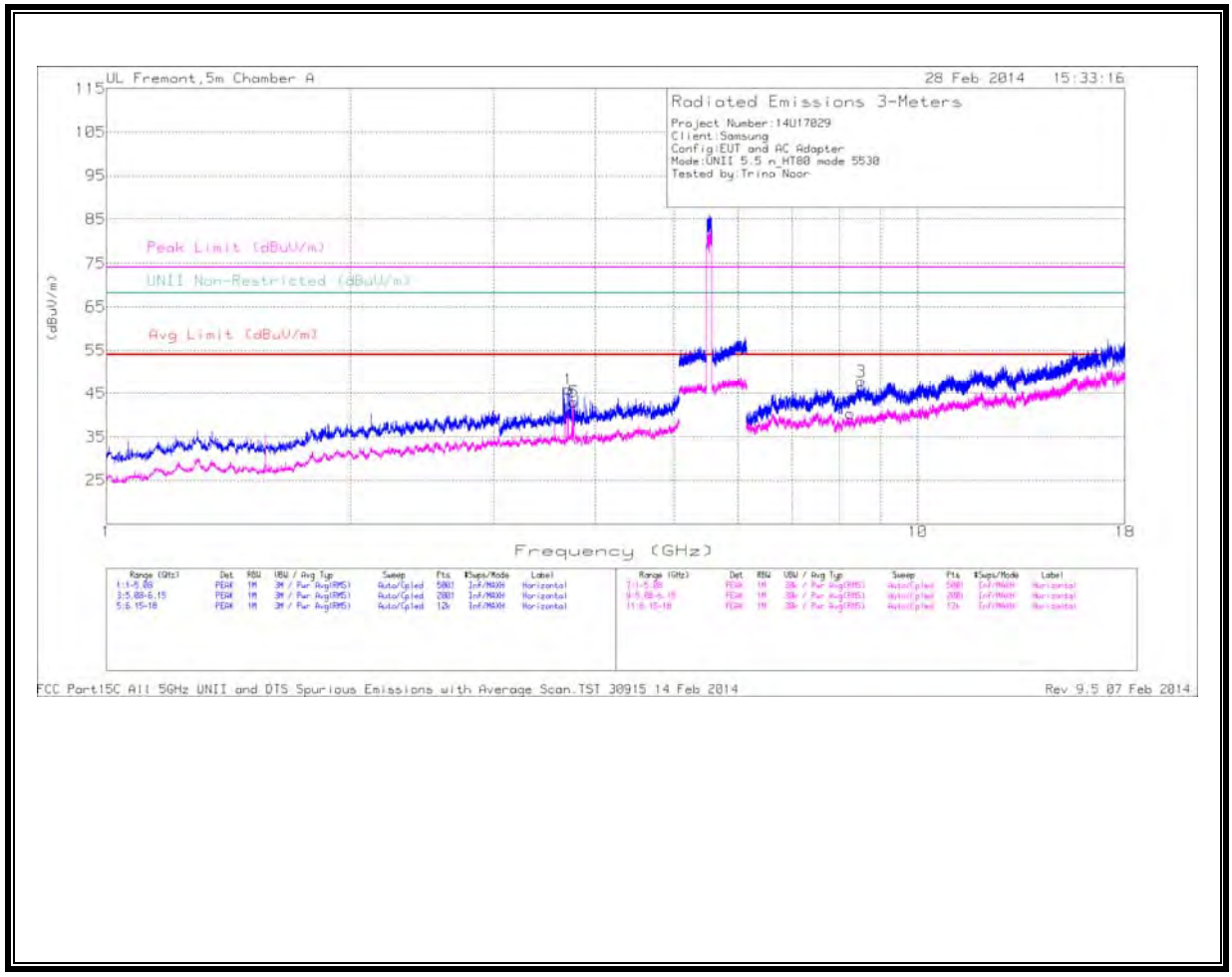
AUTHORIZED BANDEDGE (HIGH CHANNEL)





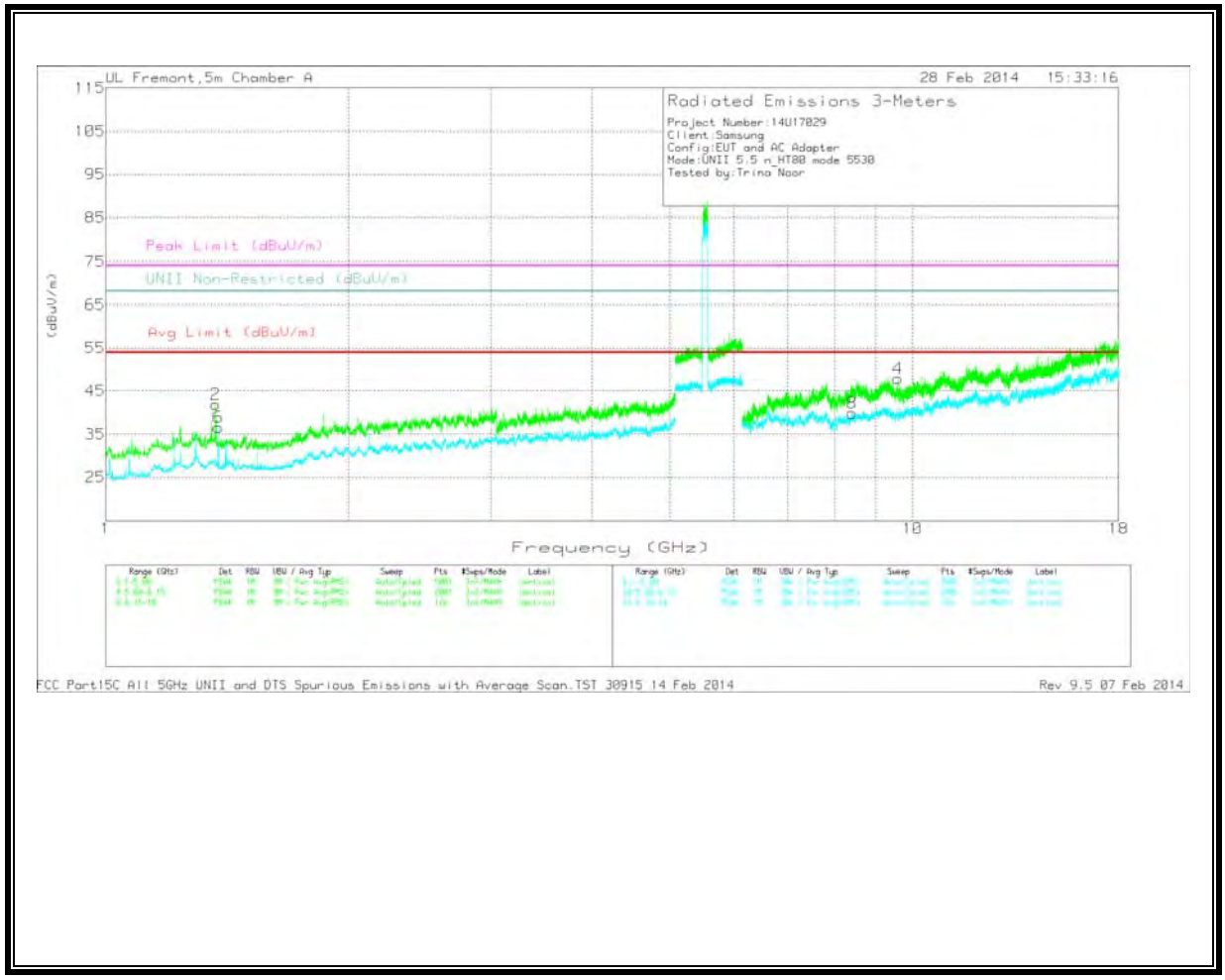
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.712	42.94	PK	33.2	-30.2	0	45.94	54	-8.06	74	-28.06	68.2	-22.26	0-360	200	H
2	* 1.369	49.25	PK	29.5	-36.9	0	41.85	54	-12.15	74	-32.15	68.2	-26.35	0-360	200	V
5	* 3.769	40.22	Avg	33.2	-30.4	0	43.02	54	-10.98	-	-	-	-	0-360	200	H
6	* 1.379	44	Avg	29.3	-36.7	0	36.6	54	-17.4	-	-	-	-	0-360	200	V
7	* 8.257	30.19	Avg	35.8	-25.7	0	40.29	54	-13.71	-	-	-	-	0-360	200	H
8	* 8.411	29.66	Avg	35.8	-25.6	0	39.86	54	-14.14	-	-	-	-	0-360	101	V
3	8.518	38.25	PK	35.8	-26.2	0	47.85	54	-6.15	74	-26.15	68.2	-20.35	0-360	200	H
4	9.584	35.62	PK	36.7	-24.4	0	47.92	54	-6.08	74	-26.08	68.2	-20.28	0-360	200	V

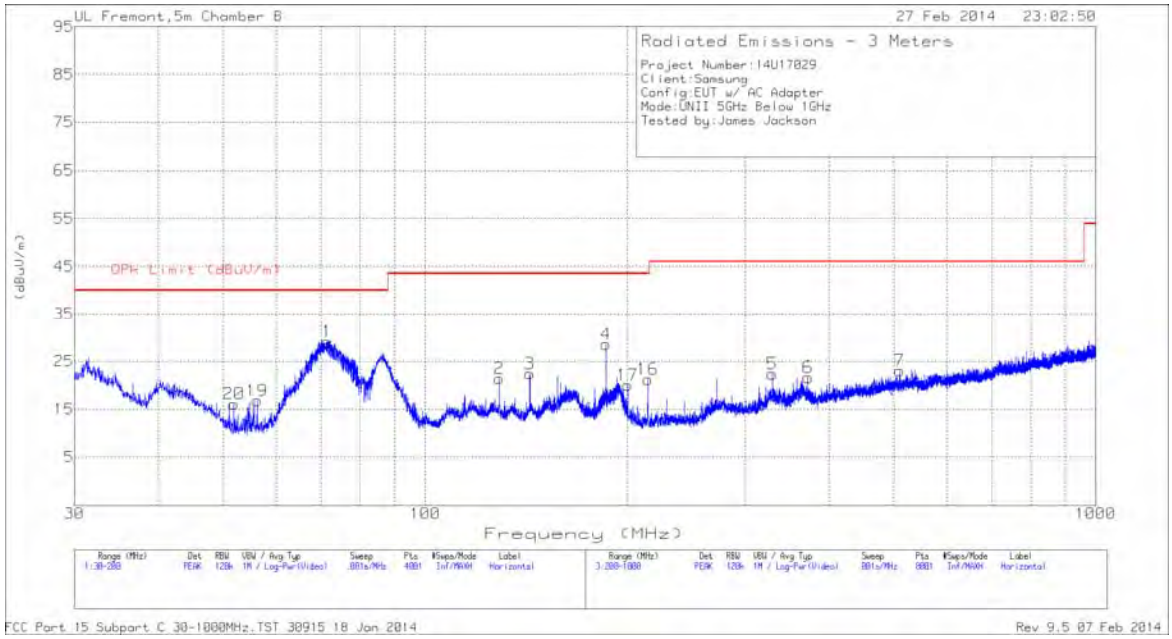
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band)

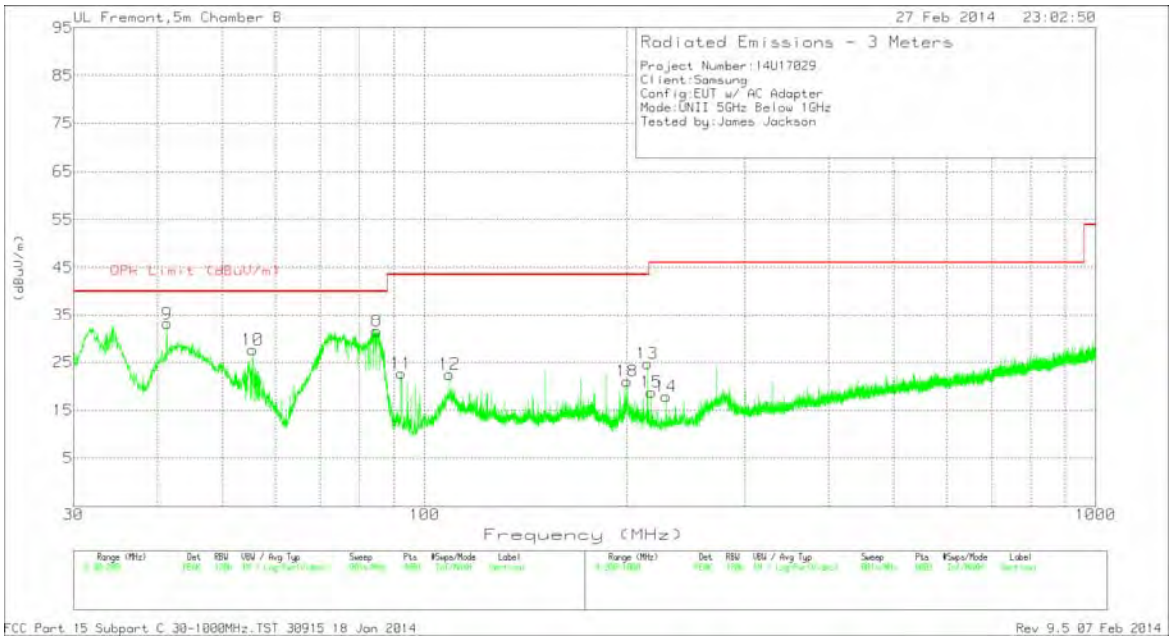
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



Worst Case Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	41.3475	49.29	PK	12.6	-28.7	33.19	40	-6.81	0-360	101	V
20	51.845	37.61	PK	7.2	-28.7	16.11	40	-23.89	0-360	300	H
10	55.4575	49.26	PK	7	-28.6	27.66	40	-12.34	0-360	101	V
19	56.1375	38.38	PK	7	-28.6	16.78	40	-23.22	0-360	200	H
1	71.48	49.32	PK	8.2	-28.4	29.12	40	-10.88	0-360	400	H
8	84.8675	52.39	PK	7.4	-28.2	31.59	40	-8.41	0-360	101	V
11	92.305	42.57	PK	8.2	-28.1	22.67	43.52	-20.85	0-360	101	V
12	108.9225	38.11	PK	12.4	-28	22.51	43.52	-21.01	0-360	101	V
2	128.855	35.63	PK	13.6	-27.8	21.43	43.52	-22.09	0-360	200	H
3	143.1775	37.43	PK	12.6	-27.6	22.43	43.52	-21.09	0-360	200	H
4	186.145	44.38	PK	11.3	-27.1	28.58	43.52	-14.94	0-360	101	H
18	200.4	35.87	PK	12.2	-27	21.07	43.52	-22.45	0-360	200	V
17	200.45	34.8	PK	12.2	-27	20	43.52	-23.52	0-360	101	H
16	214.8	37.65	PK	10.4	-26.8	21.25	43.52	-22.27	0-360	101	H
13	214.8	41.16	PK	10.4	-26.8	24.76	43.52	-18.76	0-360	200	V
15	217.8	35.1	PK	10.5	-26.8	18.8	46.02	-27.22	0-360	101	V
14	229.1	33.65	PK	10.9	-26.7	17.85	46.02	-28.17	0-360	200	V
5	329.3	34.48	PK	13.8	-25.9	22.38	46.02	-23.64	0-360	200	H
6	372.3	32.53	PK	15	-25.9	21.63	46.02	-24.39	0-360	300	H
7	510.3	31.1	PK	17.8	-25.8	23.1	46.02	-22.92	0-360	200	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

13. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dB(uVolts)	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
1	.2895	42.23	PK	.6	0	42.83	60.5	-17.67	-	-
2	.2895	20.98	Av	.6	0	21.58	-	-	50.5	-28.92
3	.429	39.16	PK	.4	0	39.56	57.3	-17.74	-	-
4	.429	19.77	Av	.4	0	20.17	-	-	47.3	-27.13
5	.672	35.22	PK	.3	0	35.52	56	-20.48	-	-
6	.672	12.41	Av	.3	0	12.71	-	-	46	-33.29
7	1.2975	34.89	PK	.2	.1	35.19	56	-20.81	-	-
8	1.2975	13.41	Av	.2	.1	13.71	-	-	46	-32.29
9	5.64	40.34	PK	.2	.1	40.64	60	-19.36	-	-
10	5.64	19.23	Av	.2	.1	19.53	-	-	50	-30.47
11	18.951	28.27	PK	.3	.2	28.77	60	-31.23	-	-
12	18.951	15.09	Av	.3	.2	15.59	-	-	50	-34.41

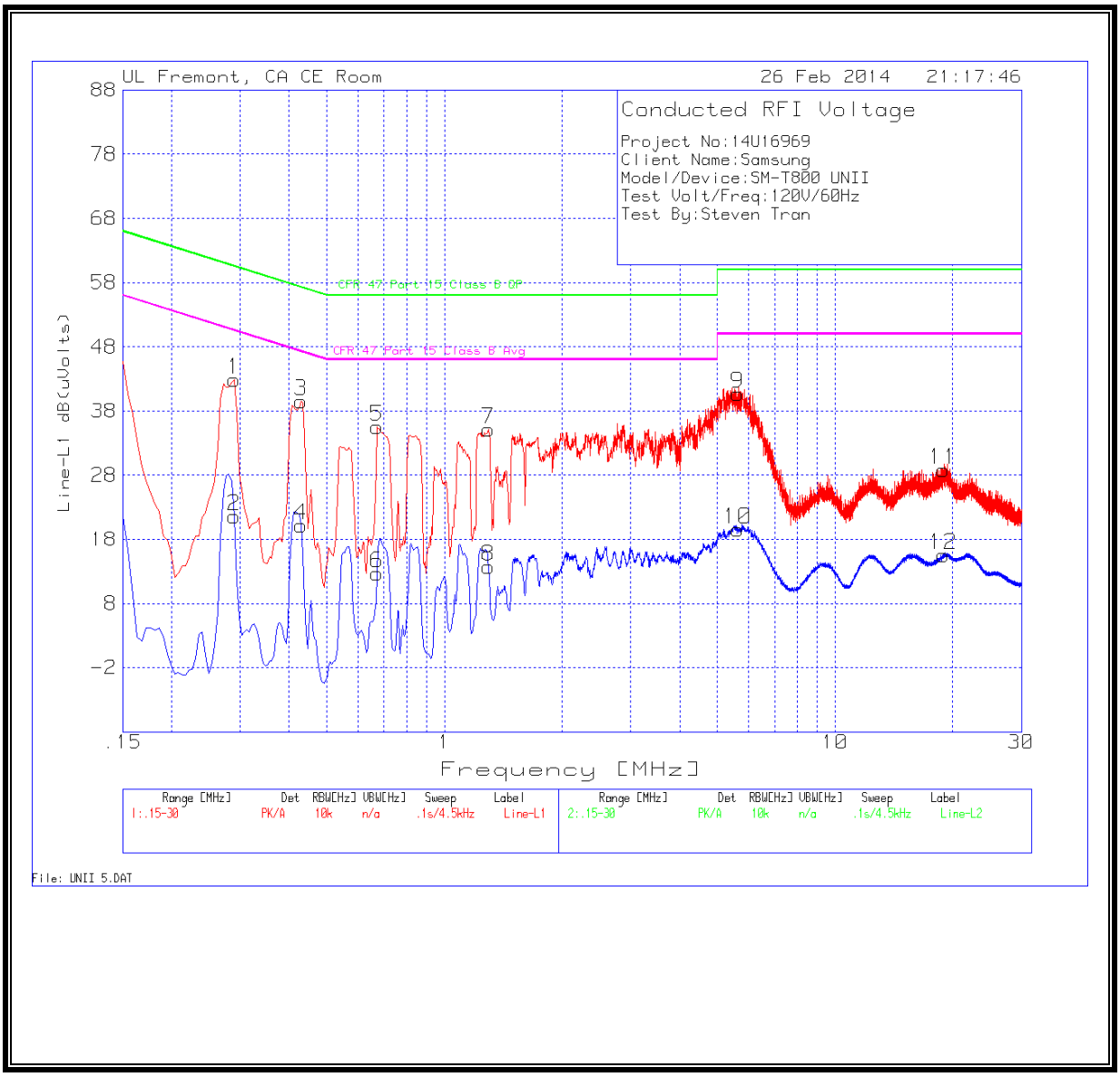
Line-L2 .15 - 30MHz

Trace Markers

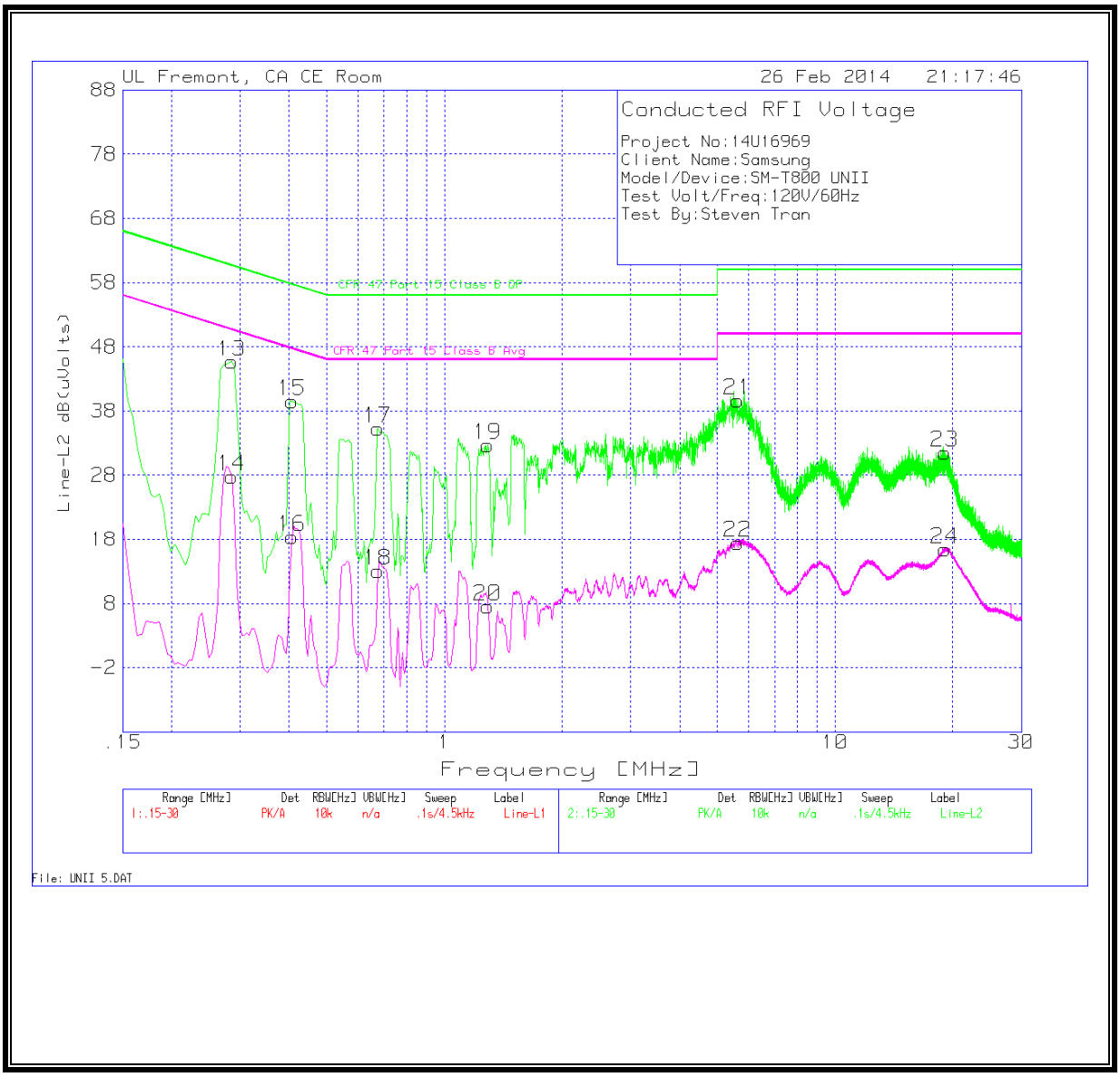
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dB(uVolts)	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
13	.285	45.05	PK	.6	0	45.65	60.7	-15.05	-	-
14	.285	27.14	Av	.6	0	27.74	-	-	50.7	-22.96
15	.4065	39.16	PK	.4	0	39.56	57.7	-18.14	-	-
16	.4065	18.02	Av	.4	0	18.42	-	-	47.7	-29.28
17	.6765	34.93	PK	.3	0	35.23	56	-20.77	-	-
18	.6765	12.83	Av	.3	0	13.13	-	-	46	-32.87
19	1.293	32.44	PK	.2	.1	32.74	56	-23.26	-	-
20	1.293	7.28	Av	.2	.1	7.58	-	-	46	-38.42
21	5.6265	39.35	PK	.2	.1	39.65	60	-20.35	-	-
22	5.6265	17.15	Av	.2	.1	17.45	-	-	50	-32.55
23	19.122	30.99	PK	.3	.2	31.49	60	-28.51	-	-
24	19.122	16	Av	.3	.2	16.5	-	-	50	-33.5

PK - Peak detector
Av - average detection

LINE 1 RESULTS



LINE 2 RESULTS



14. DYNAMIC FREQUENCY SELECTION

14.1. OVERVIEW

14.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 7 A9.4 (b) (ii) **Channel Availability Check Time:** …

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

FCC

§15.407 (h) and FCC 06-96 APPENDIX “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION”.

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client (with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client **(without DFS)**	Client **(with DFS)**
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: For the Short pulse radar Test Signals this instant is the end of the *Burst*. For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated. For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (Microseconds)	PRI (Microseconds)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Signal

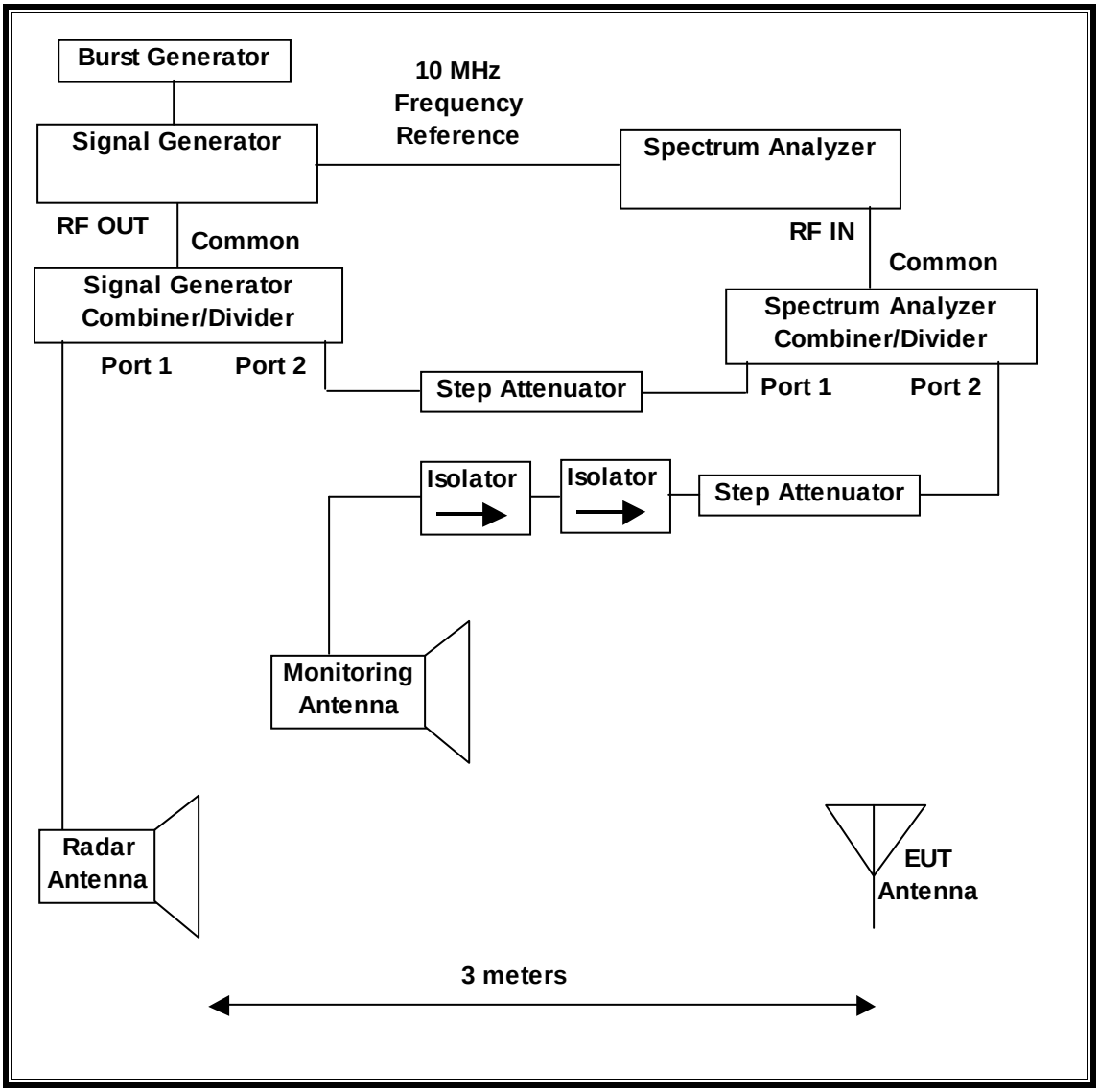
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform	Pulse Width (µsec)	PRI (µsec)	Burst Length (ms)	Pulses per Hop	Hopping Rate (kHz)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	300	9	.333	70%	30

14.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Freqeuncy Hopping Radar Waveform Generating Subsystem of FCC 06-96 APPENDIX. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

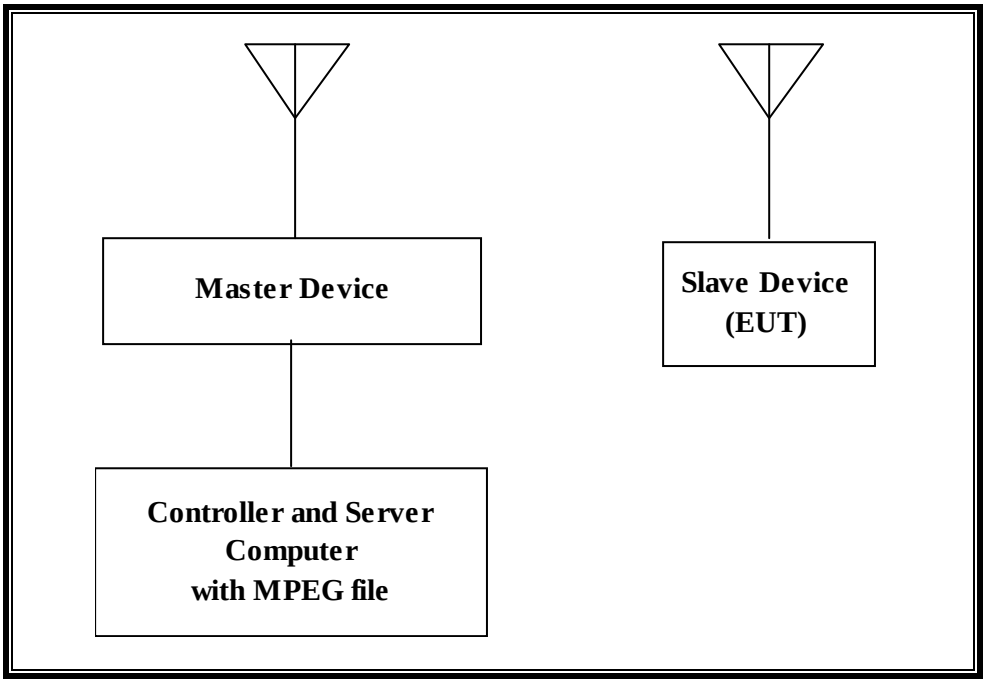
TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset Number**	**Cal Due**
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/10/14
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	09/12/14

14.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Wireless Access Point	Cisco	AIR-AP1252AG-A-K9	FTX120690N2	LDK102061
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH112490BD	DoC
Notebook PC (Controller/Server)	Dell	PP18L	10657517725	DoC
AC Adapter (Controller/Server PC)	Dell	LA65SN0-00	CN-ODF263-71615-6AU-1019	DoC

14.1.4. DESCRIPTION OF EUT

The EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges excluding the 5600-5650 MHz range.

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 13.6dBm EIRP in the 5250-5350 MHz band and 13.68 dBm EIRP in the 5470-5725 MHz band.

The two antennas assembly utilized with the EUT has a gain of -3.18dBi & -0.4 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides margin to the limit.

The EUT uses one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using MX Player version 1.7.22 media play.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11ac architecture. Three nominal channel bandwidths are implemented: 20 MHz, 40 MHz and 80 MHz. However, pursuant to FCC KDB Publication 848637, “Client devices with 80 MHz BW mode can be tested with an approved master operating in 40 MHz BW mode”. Therefore, 80MHz BW DFS testing was not performed and has been excluded from this report.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102061. The minimum antenna gain for the Master Device is 3.5 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides margin to the limit.

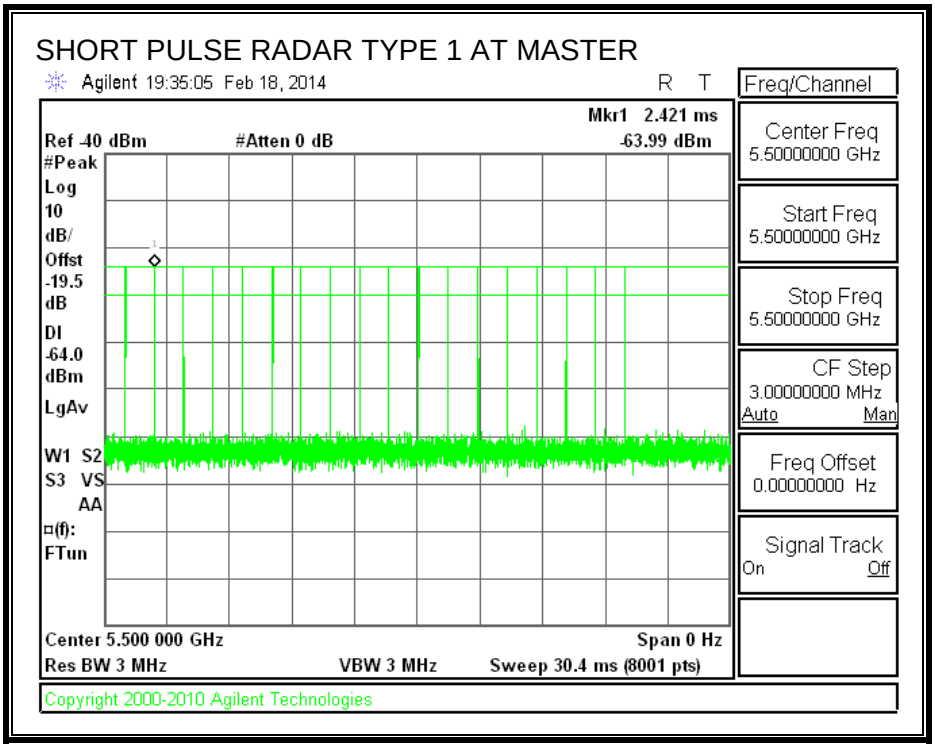
14.2. RESULTS FOR 20 MHz BANDWIDTH

14.2.1. TEST CHANNEL

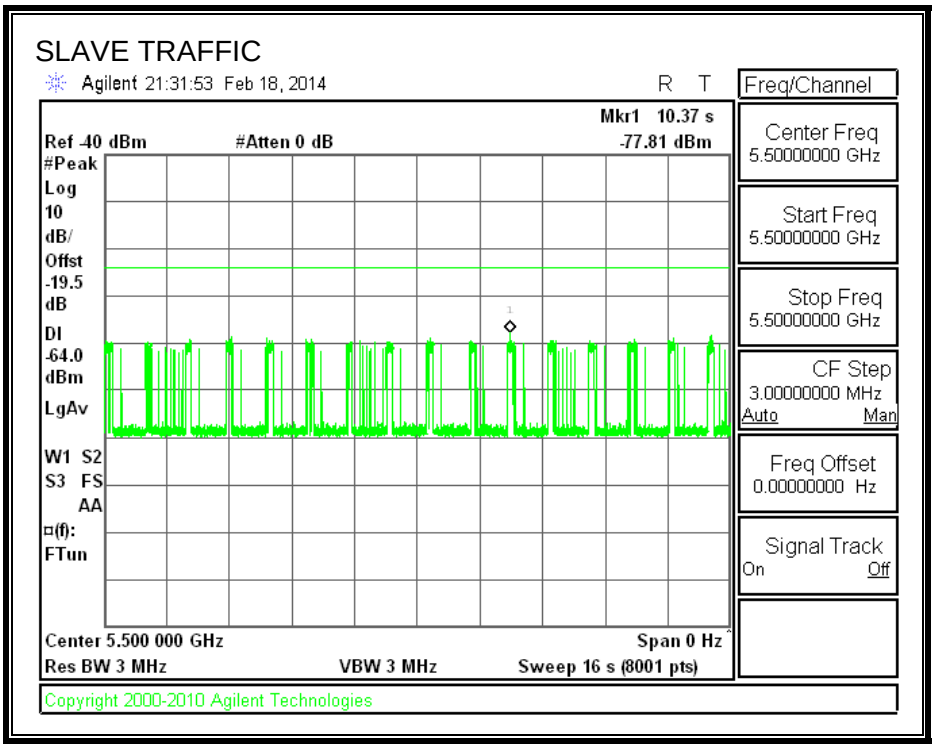
All tests were performed at a channel center frequency of 5500 MHz.

14.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

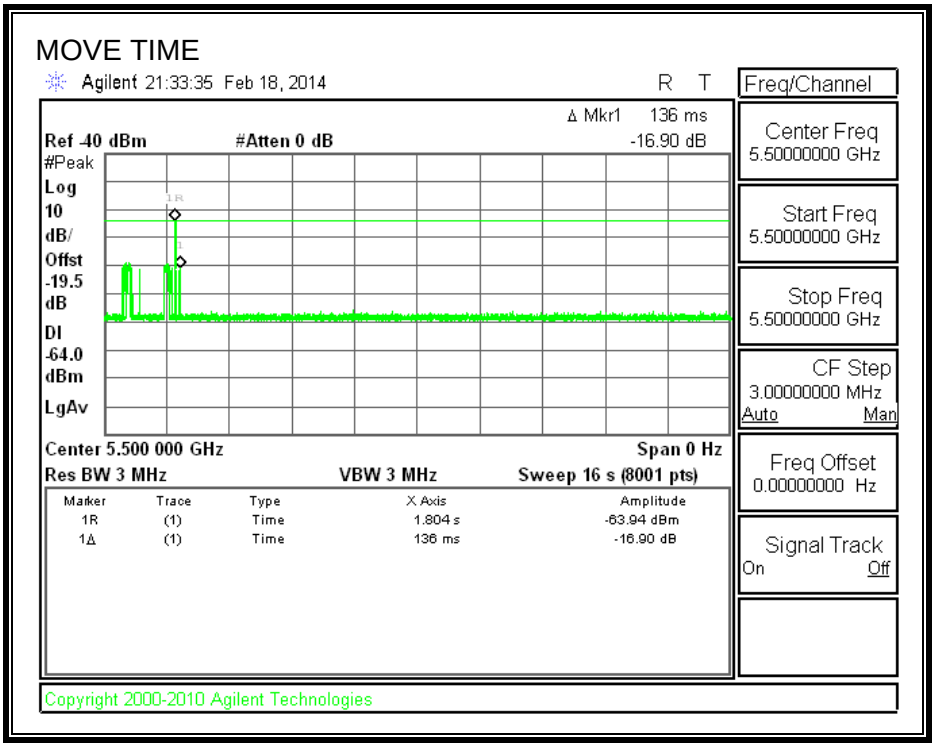
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

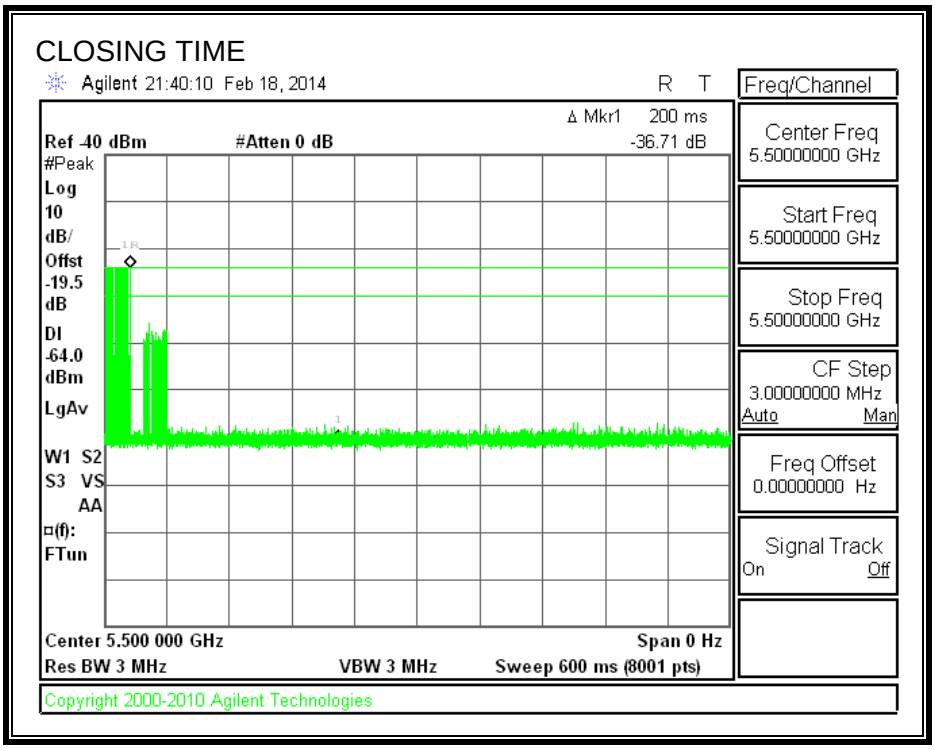
Channel Move Time (sec)	Limit (sec)
0.136	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



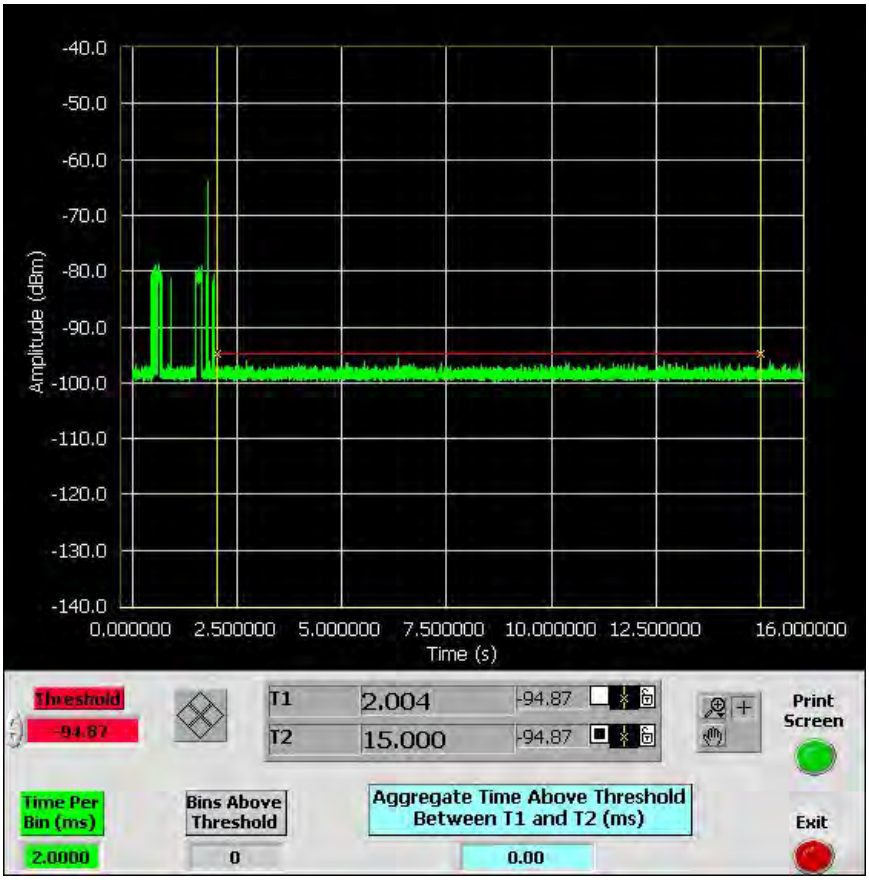
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

Only intermittent transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



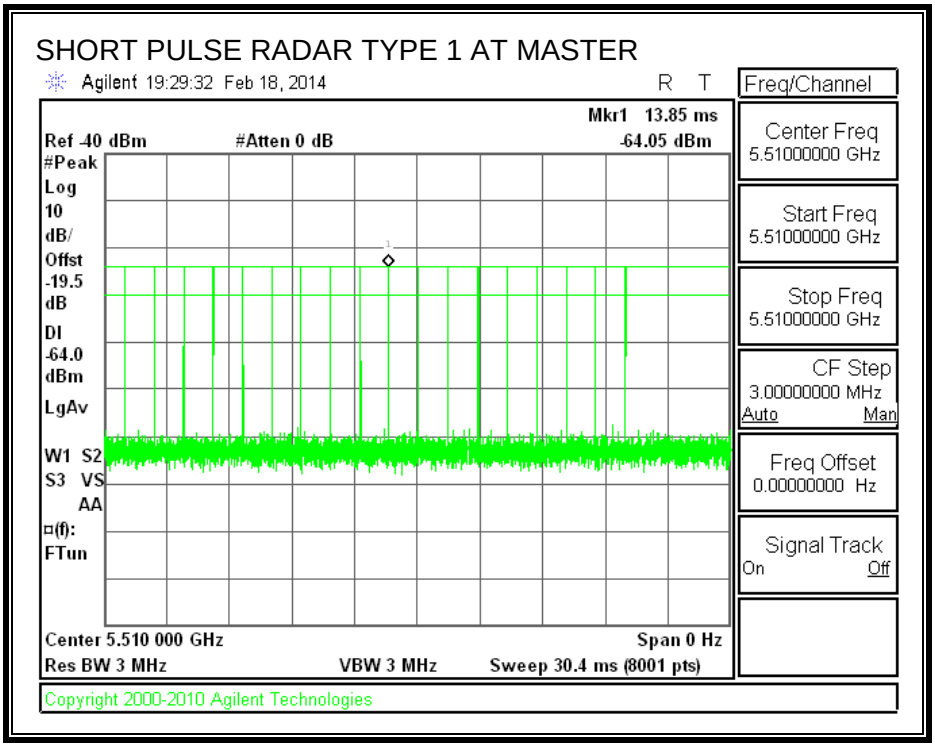
14.3. RESULTS FOR 40 MHz BANDWIDTH

14.3.1. TEST CHANNEL

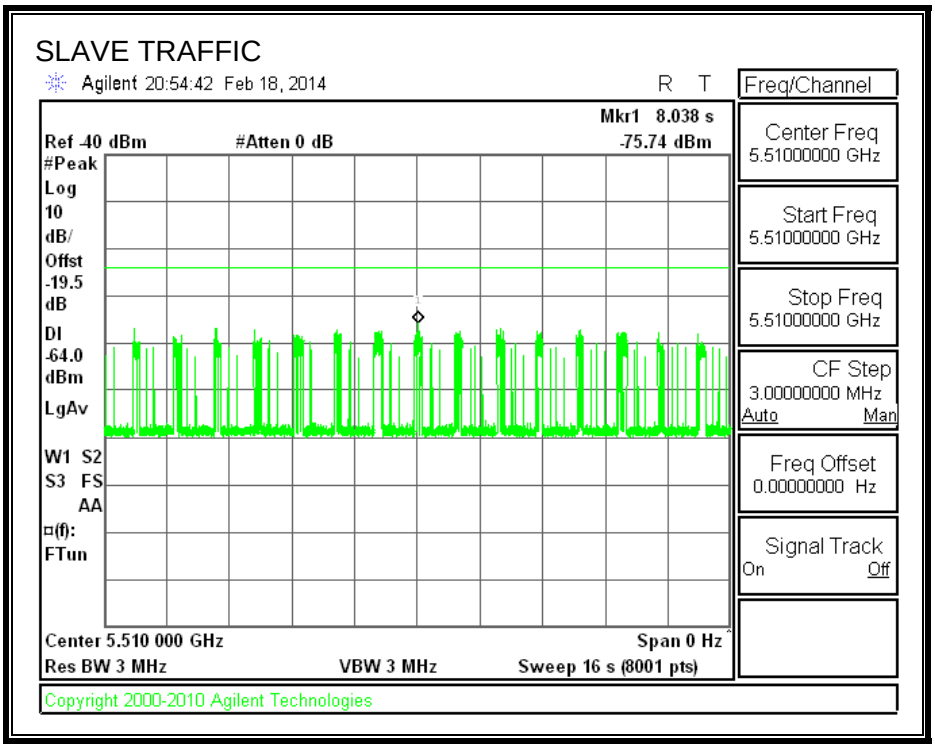
All tests were performed at a channel center frequency of 5510 MHz.

14.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



14.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

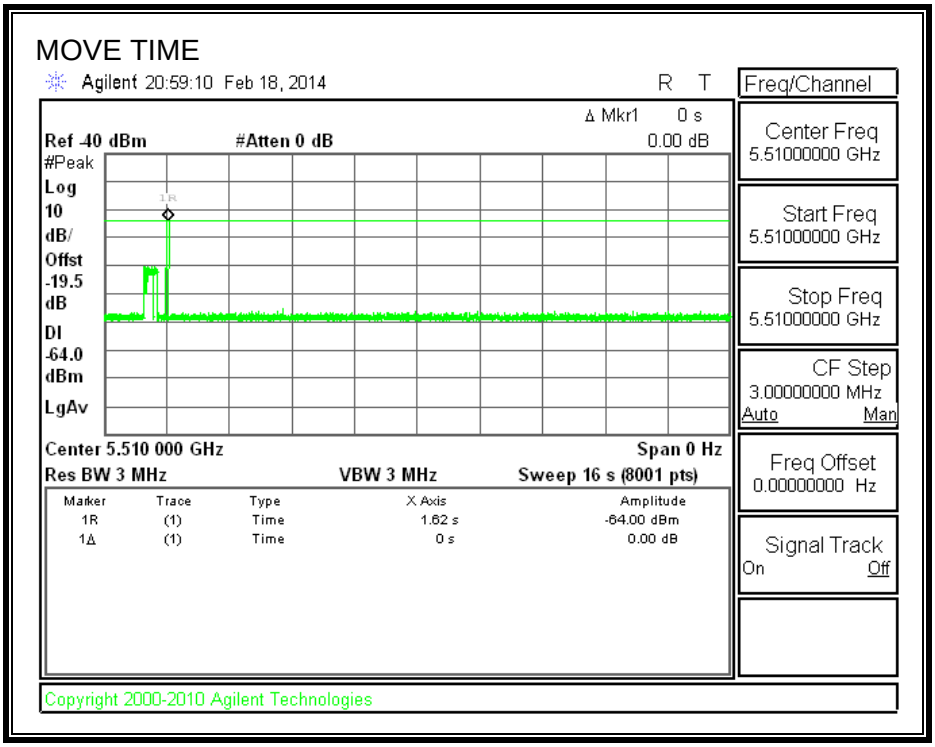
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

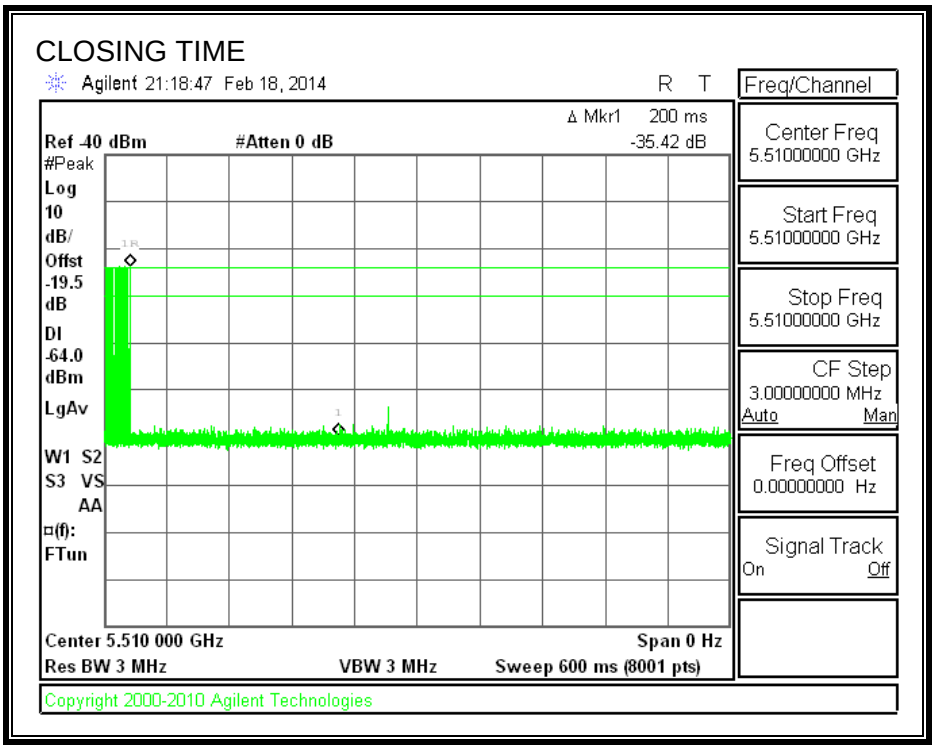
Channel Move Time (sec)	Limit (sec)
0.0	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



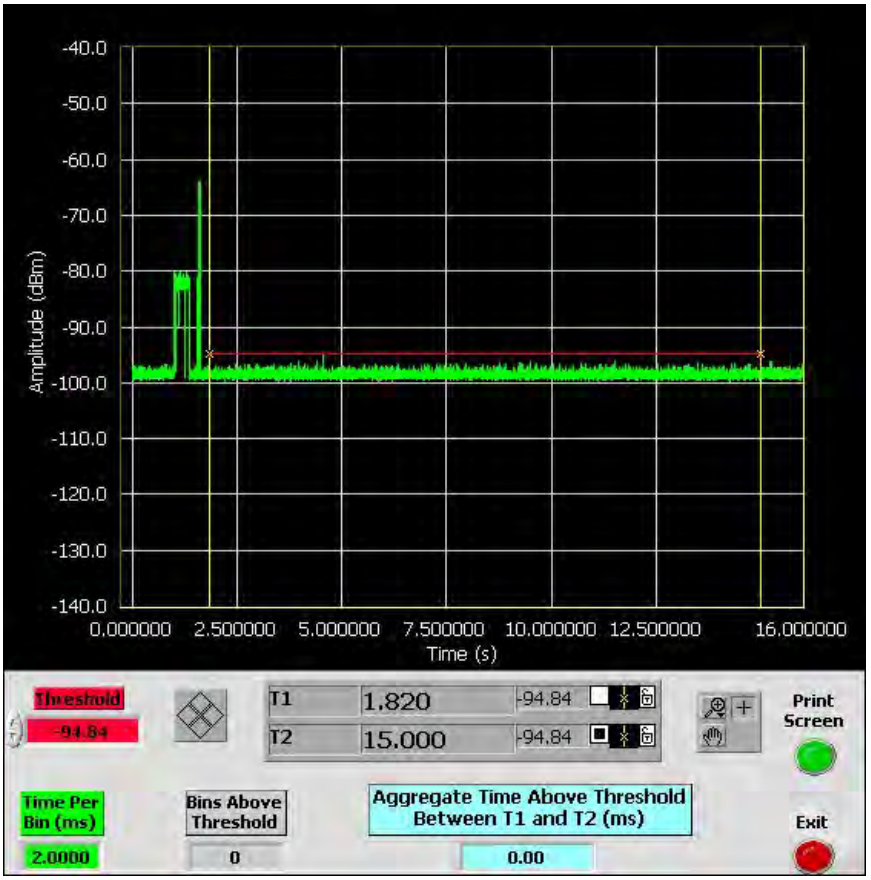
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



14.3.5. NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.