FCC 47 CFR PART 15 SUBPART E
INDUSTRY CANADA RSS-247 ISSUE 1

CERTIFICATION TEST REPORT

FOR

CODE NODE EXTERNAL, WiFi

MODEL NUMBER: CNEX-277W2N, CNEX-480W2N

FCC ID: SXNWYSBMVGX4I
IC ID: 20569-WYSBMVGX4I

REPORT NUMBER: 15U21052-E2V2

ISSUE DATE: OCTOBER 14, 2015

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	9/30/15	Initial Issue	
V2	10/14/15	Updated Section 5.3, 8, 10.5 & 11	D. Coronia

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SENSITY SYSTEMS, INC.
EUT DESCRIPTION: CORE NODE EXTERNAL, WiFi
MODEL: CNEX-277W2N, CNEX-480W2N
SERIAL NUMBER: N01334064, N0123155F
DATE TESTED: AUGUST 16 - SEPTEMBER 1, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-247 Issue 1	Pass
INDUSTRY CANADA RSS-GEN Issue 4	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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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15 E, and ANSI C63.10-2009 for FCC and ANSI C63.10-2013 for IC, RSS-GEN Issue 4, and RSS-247 Issue 1.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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:

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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%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Sensity Systems Core Node EX is an integral part of the Sensity NetSense platform - an open architecture-based light sensory network that can be deployed along with LED luminaires. Sensity's NetSense Core Node EX has been designed to instantly convert any lighting manufacturer's LED fixtures into IP-enabled sensory node in a light sensory network that provide both the lighting control and cloud-based IoT services via a standard NEMA socket.

Main Features

- Multi-sensor wireless communication and control
- Directly mounts to the luminaire via existing NEMA photocell socket (Complies with ANSI C136.41)
- Onboard GPS
- Controls power and light output of LED luminaire via LED driver and 0-10V dimming standard
- Measurement and reporting on electrical and sensor data
- Provides auxiliary power to additional devices
- Monitors status of LED luminaire and network
- Embedded antenna
- Measurement and Control

The Core Node EX is connected to incoming AC mains and the LED driver. This direct connection provides on/off control and performance monitoring of the luminaire. Luminaire dimming control follows 0-10VDC dimming standard. Power monitoring and measurement is achieved by an onboard Energy Management IC.

Onboard microcontroller manages data communication, sensor control, fault management and status reporting.

Communication and Security
Communication to the device is achieved by using standard 802.11 a/b/g/n (WiFi version) wireless communication protocols. Highly secure, certification based authentication for every device, TLS 128-bit encryption.

Sensors
Onboard sensors include power and accelerometer sensors. Sensor module includes ambient light, PIR motion, and temperature sensors.

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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	802.11n HT20	16.81	47.97
5260 - 5320	802.11n HT20	17.51	56.36
5500 - 5700	802.11n HT20	17.41	55.08
5745 - 5825	802.11n HT20	13.05	20.18
5190 - 5230	802.11n HT40	16.95	49.55
5270 - 5310	802.11n HT40	20.55	113.50
5510 - 5670	802.11n HT40	20.95	124.45
5755 - 5795	802.11n HT40	20.45	110.92
5180 - 5240	802.11a	16.36	43.25
5260 - 5320	802.11a	18.06	63.97
5500 - 5700	802.11a	17.76	59.70
5745 - 5825	802.11a	17.76	59.70

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an embedded antenna, with a maximum gain of 5.5dBi.

5.4. 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

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC line source	N/A	N/A	N/A	N/A
Laptop	Lenovo	N/A	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No	Port	# of ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC Power	1	NEMA plug (7-pin ANSI C136.41): 3 plugs for AC power Connects to a NEMA receptacle (support equipment)	Non-shielded	1.0	N/A

TEST SETUP

The EUT is setup as a stand-alone device.

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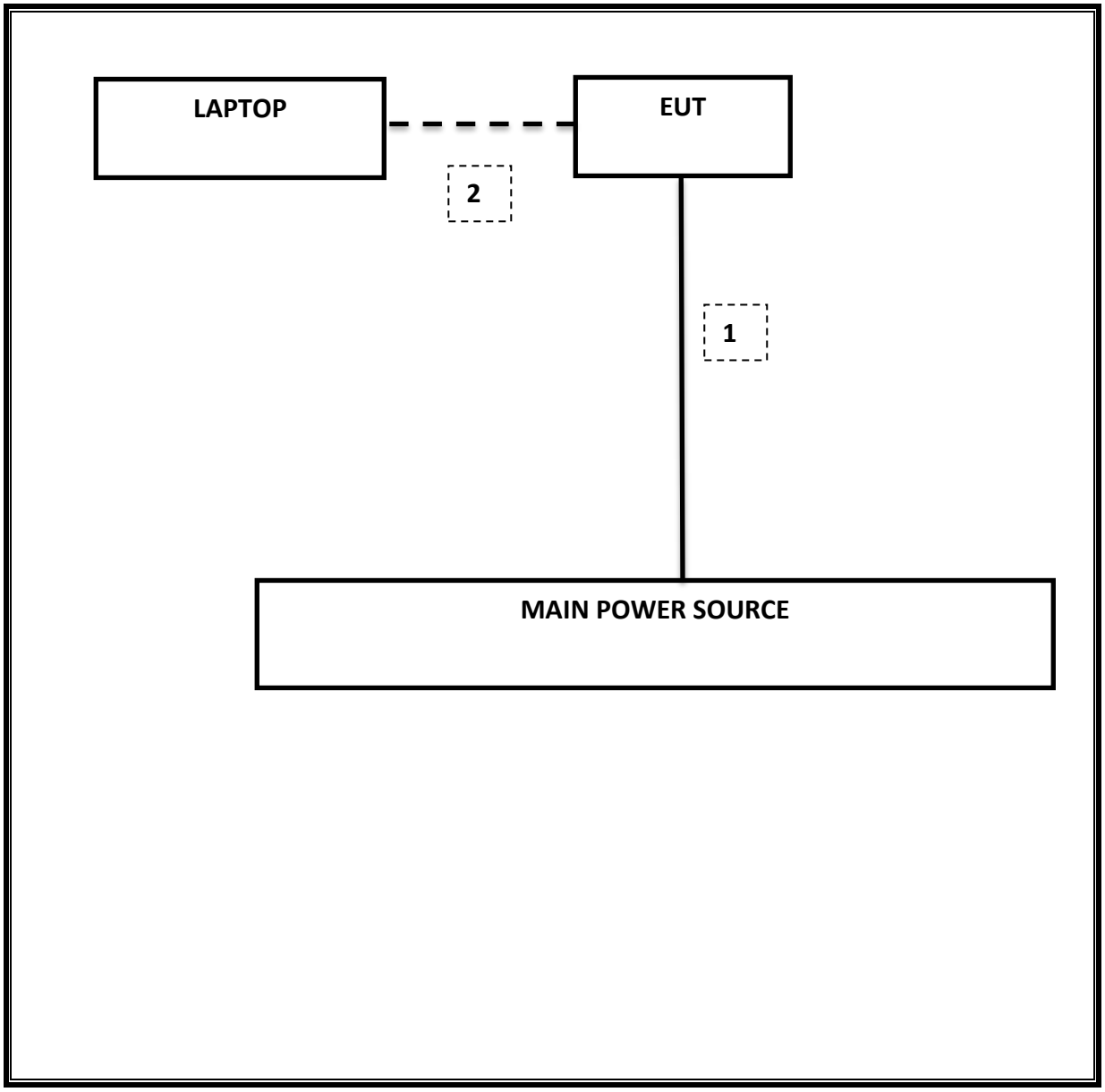
SETUP DIAGRAM FOR TESTS



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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 Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/16
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/16
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/16
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/16
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/16
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	04/07/16
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/16
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/16
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/16

Radiated Software	UL	UL EMC	Ver 9.5, Jul 22, 2014
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012
CLT Software	UL	UL RF	Ver 1.0, Feb 2 2015
Antenna Port Software	UL	UL RF	Ver 2.1.1.1, Jan 20 2015

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7. SUMMARY TABLE

FCC Part Section	RSS Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.407 (a)	RSS-247	Occupied Band width (26dB)	N/A	Conducted	Pass	41.230 MHz
15.407	RSS-247 6.2.4	6dB Band width (5.8Ghz)	500KHz		Pass	36.355 MHz
15.407 (a)(2)	RSS-247 6.2	TX Cond. Power5.15-2.25, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	14.3 dBm
15.407 (a)(3)	RSS-247 6.2.4	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	14.2 dBm
15.407 (a)(5)	RSS-247 6.2	PSD (5.2,5.3,5.5GHz)	<11dBm		Pass	4.53 dBm
15.407 (a)(5)	RSS-247 6.2.4	PSD (5.8GHz)	30dBm per 500kHz			2.26 dBm
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	30.87 dBuV
15.407 (b) & 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	53.36 dBuV/m
15.407 (h)(2)	RSS-247 6.3	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

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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	2.11	5.02	0.420	42.0%	3.76	0.473
802.11n HT20	1.97	5.30	0.371	37.1%	4.31	0.509
802.11n HT40	0.98	5.42	0.180	18.0%	7.45	1.025

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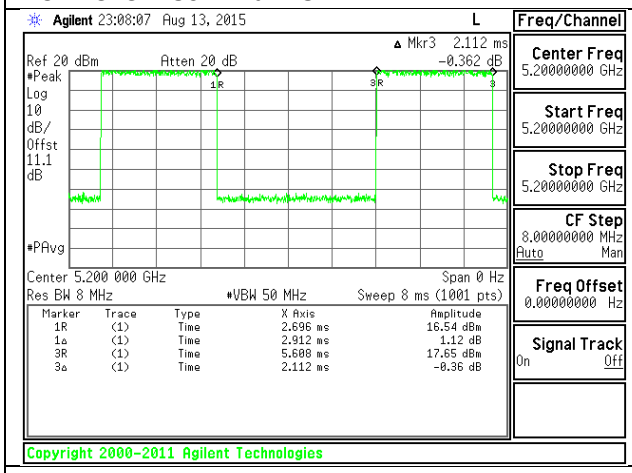
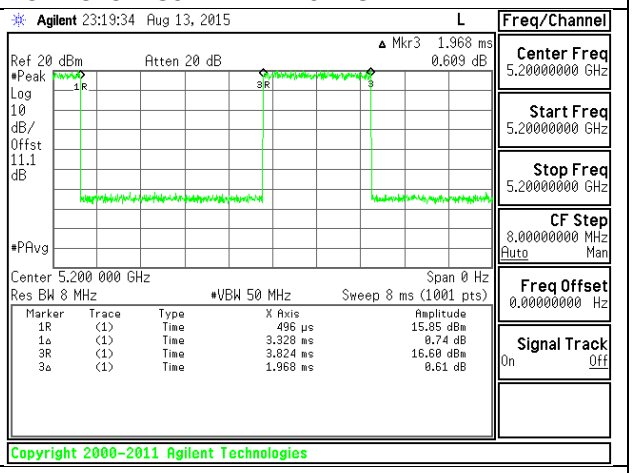
8.2. DUTY CYCLE PLOTS

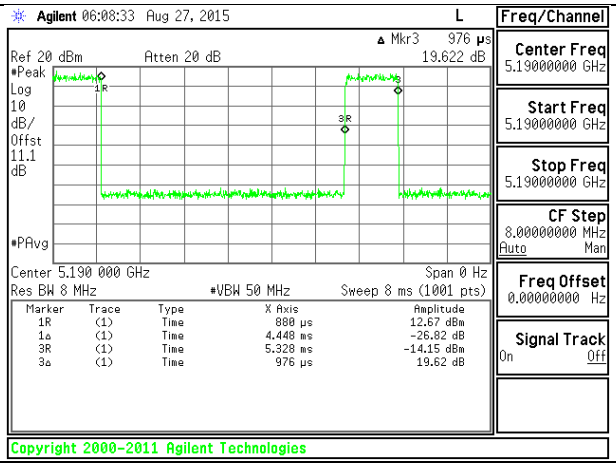
DUTY CYCLE 802.11a MODE



DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



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9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

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.

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10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407
RSS-247 6.2.4

The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

RESULTS

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10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	16.500	0.5
Mid	5785	16.375	0.5
High	5825	16.550	0.5
Worst		16.550	

10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.604	0.5
Mid	5785	17.604	0.5
High	5825	17.685	0.5
Worst		17.685	

10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.135	0.5
High	5795	36.355	0.5
Worst		36.355	

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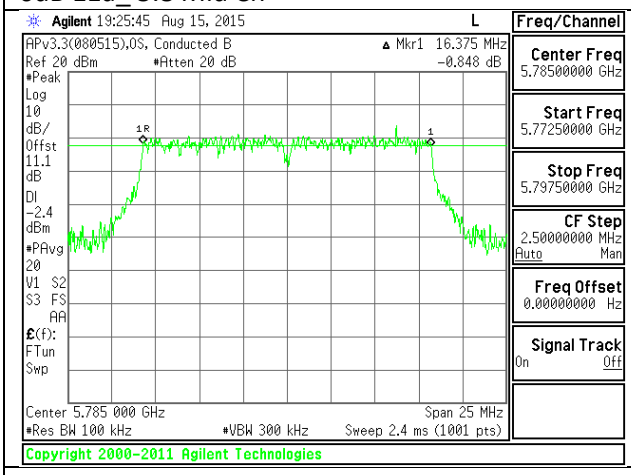
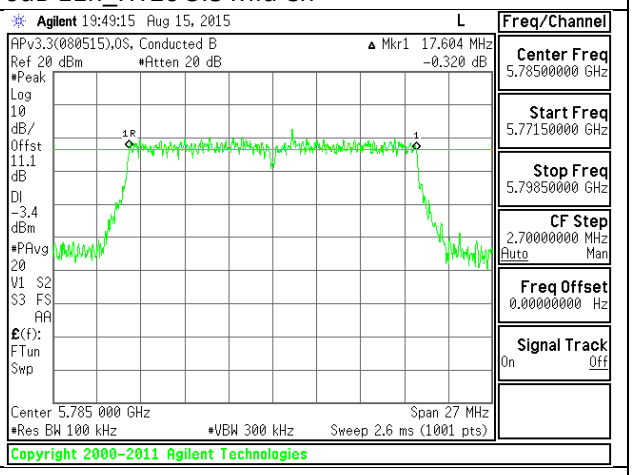
10.1.4. 6 dB BANDWIDTH MID CH PLOTS

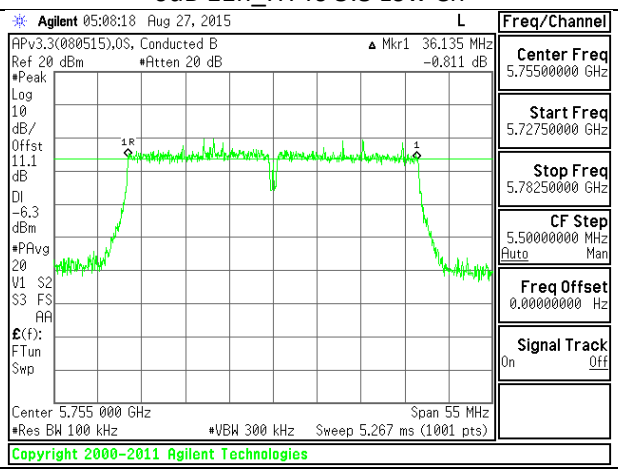
6dB 11a_ 5.8 Mid Ch



6dB 11n_HT20 5.8 Mid Ch



6dB 11n_HT40 5.8 Low Ch



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10.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	19.77
Mid	5200	19.77
High	5240	19.77
Worst		19.77

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5180	20.40
Mid	5200	20.34
High	5240	20.24
Worst		20.40

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
Low	5190	40.32
Mid	5230	40.50
Worst		40.50

10.2.1. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	19.95
Mid	5300	19.80
High	5320	19.71
Worst		19.95

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10.2.1. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5260	20.12
Mid	5300	19.95
High	5320	20.12
Worst		20.12

10.2.2. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.67
High	5310	40.38
Worst		40.67

10.2.3. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	19.83
Mid	5580	19.89
High	5700	19.98
Worst		19.98

10.2.4. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	20.15
Mid	5580	20.15
High	5700	19.98
Worst		20.15

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10.2.5. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	40.86
Mid	5550	40.67
High	5670	40.57
Worst		40.86

10.2.6. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	19.65
Mid	5785	20.06
High	5825	20.09
Worst		20.09

10.2.7. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	20.24
Mid	5785	19.89
High	5825	20.18
Worst		20.24

10.2.8. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	41.23
High	5795	40.50
Worst		41.23

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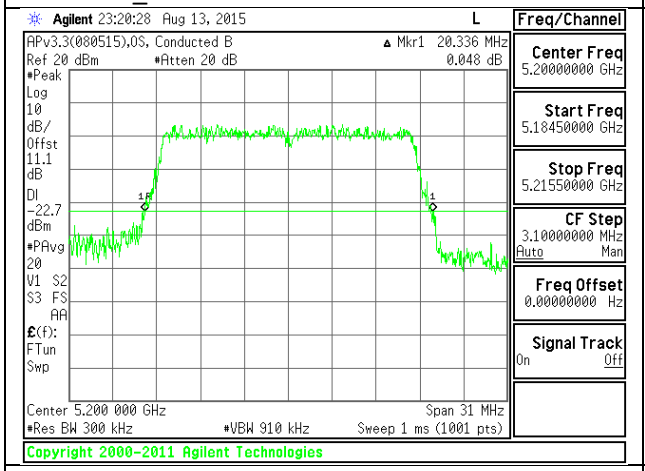
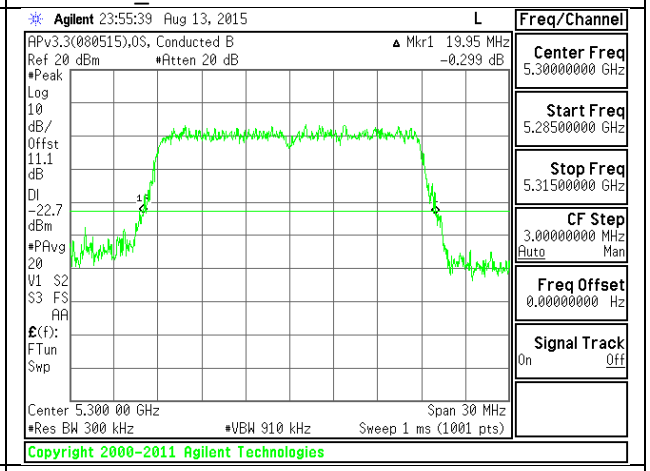
10.2.1. 26 dB BANDWIDTH PLOTS

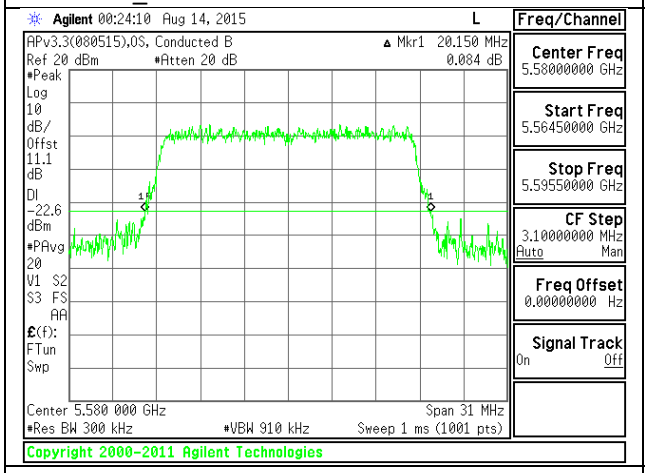
26dB 11n_HT20 5.2 Mid Ch



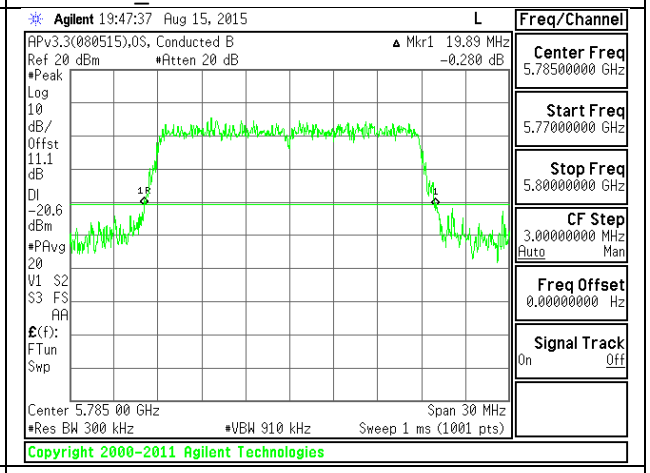
26dB 11n_HT20 5.3 Mid Ch



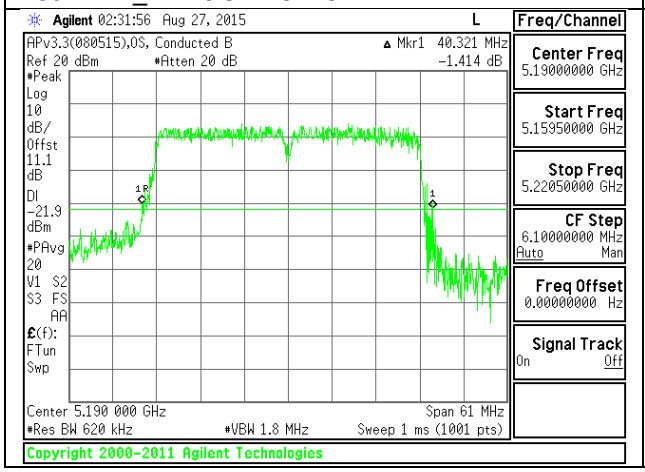
26dB 11n_HT20 5.5 Mid Ch



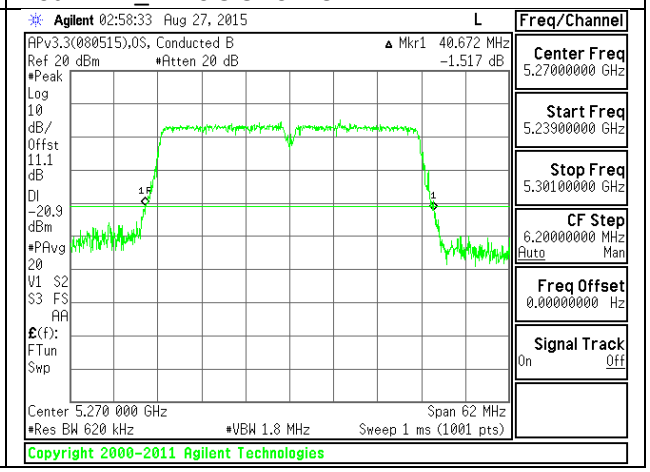
26dB 11n_ HT20 5.8 Mid Ch



26dB 11n_ HT40 5.2 Low Ch



26dB 11n_HT40 5.3 Low Ch



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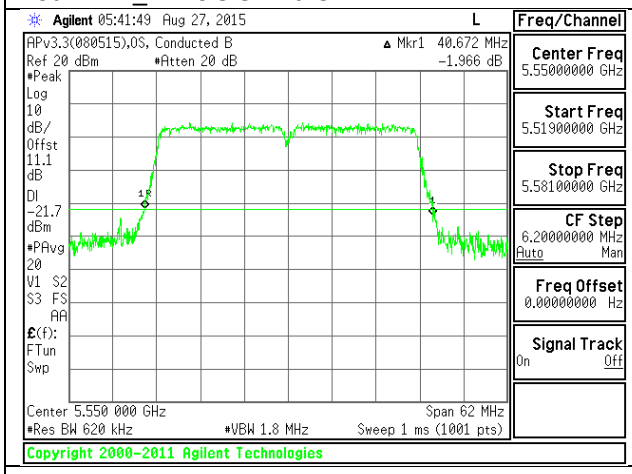
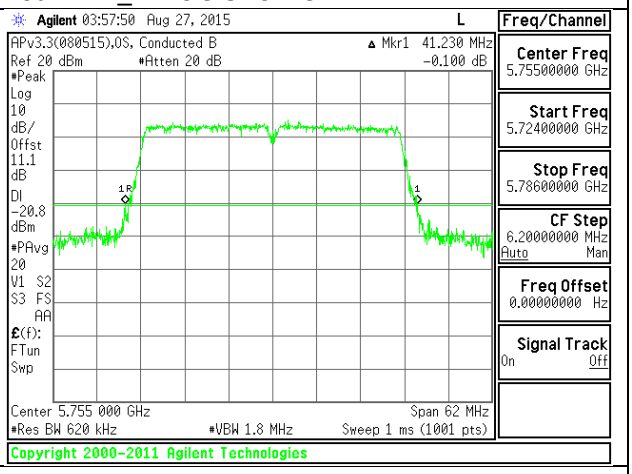
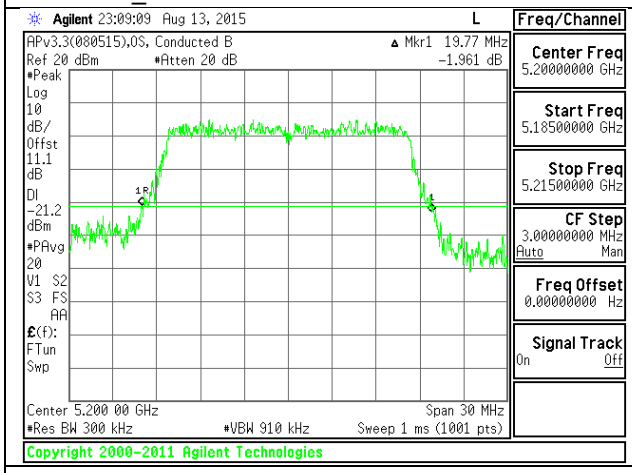
26dB 11n_HT40 5.5 Mid Ch



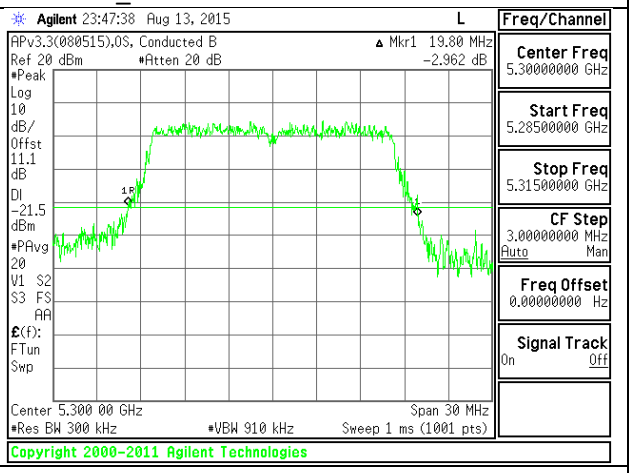
26dB 11n_HT40 5.8 Low Ch



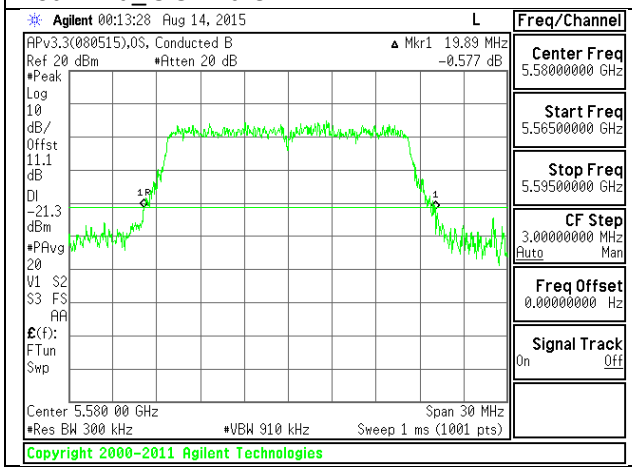
26dB 11a_ 5.2 Mid Ch



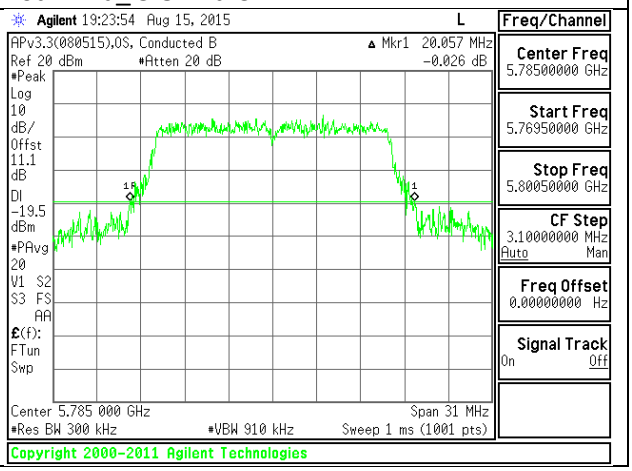
26dB 11a_ 5.3 Mid Ch



26dB 11a_ 5.5 Mid Ch



26dB 11a_ 5.8 Mid Ch



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10.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	17.24
Mid	5200	16.95
High	5240	16.96
Worst		17.24

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5180	18.10
Mid	5200	18.15
High	5240	18.09
Worst		18.15

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5190	36.71
Mid	5230	37.45
Worst		37.45

10.3.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	16.77
Mid	5300	16.66
High	5320	16.76
Worst		16.77

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10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5260	17.78
Mid	5300	17.75
High	5320	17.89
Worst		17.89

10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	37.57
High	5310	37.32
Worst		37.57

10.3.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.77
Mid	5580	16.74
High	5700	16.73
Worst		16.77

10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	17.60
Mid	5580	18.05
High	5700	18.33
Worst		18.33

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10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	37.81
Mid	5550	36.90
High	5670	36.83
Worst		37.81

10.3.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.76
Mid	5785	16.99
High	5825	16.79
Worst		16.99

10.3.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	18.34
Mid	5785	18.76
High	5825	18.42
Worst		18.76

10.3.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.83
High	5795	38.90
Worst		38.90

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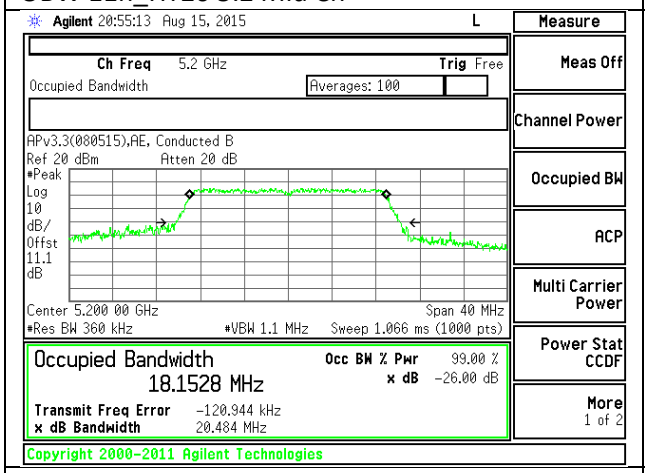
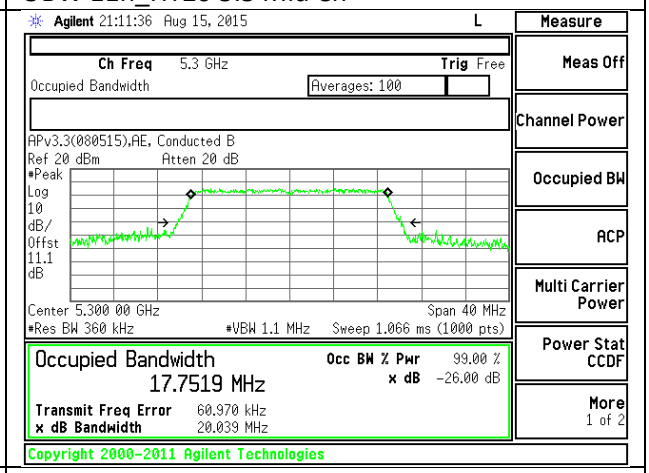
10.3.1. 99% BANDWIDTH PLOTS

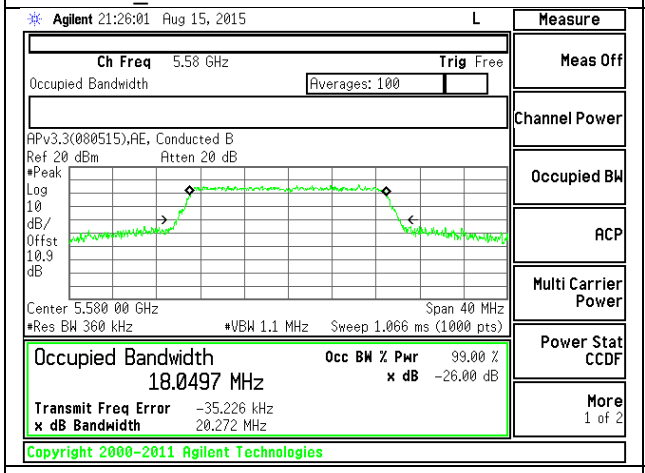
OBW 11n_HT20 5.2 Mid Ch



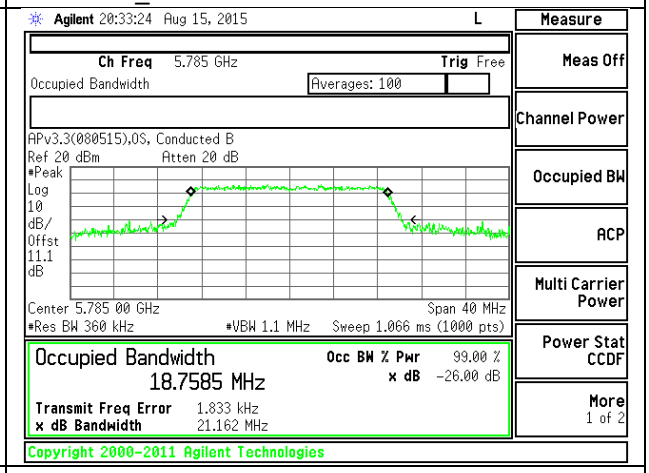
OBW 11n_HT20 5.3 Mid Ch



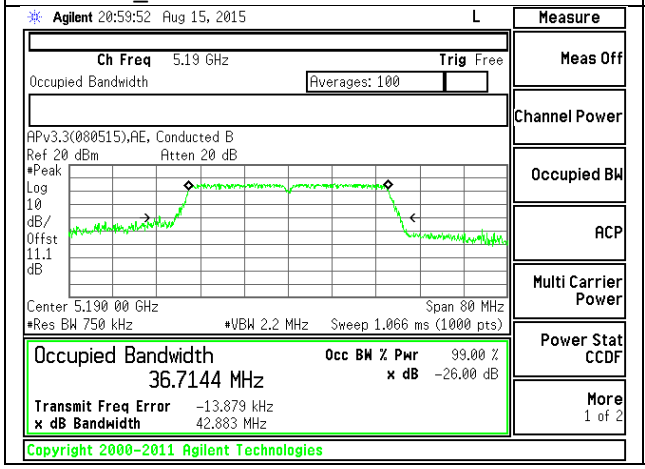
OBW 11n_HT20 5.5 Mid Ch



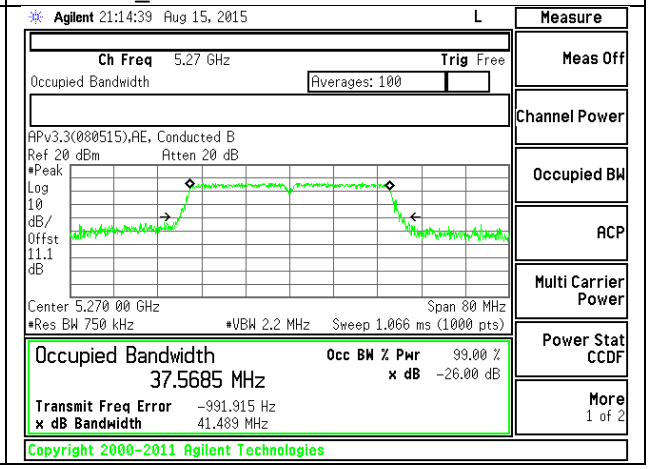
OBW 11n_HT20 5.8 Mid Ch



OBW 11n_HT40 5.2 Low Ch



OBW 11n_HT40 5.3 Low Ch



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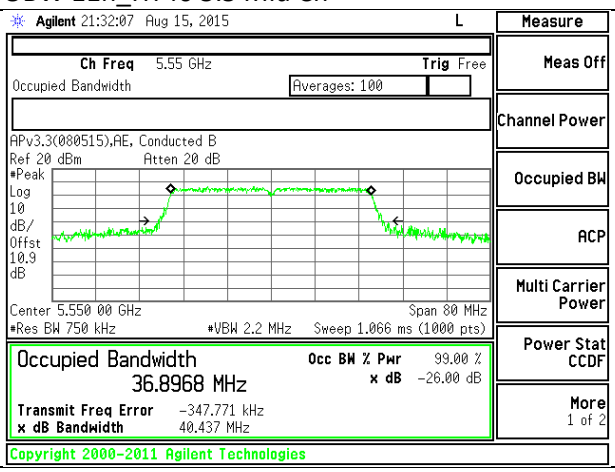
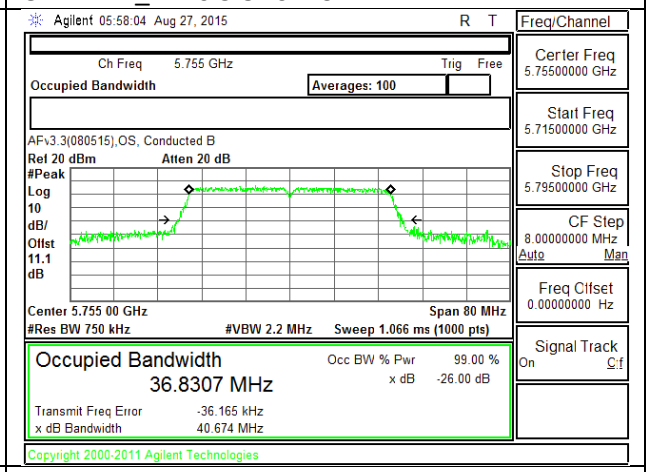
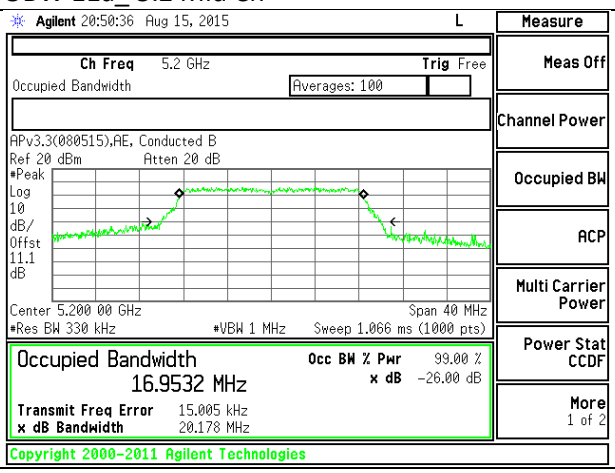
OBW 11n_HT40 5.5 Mid Ch



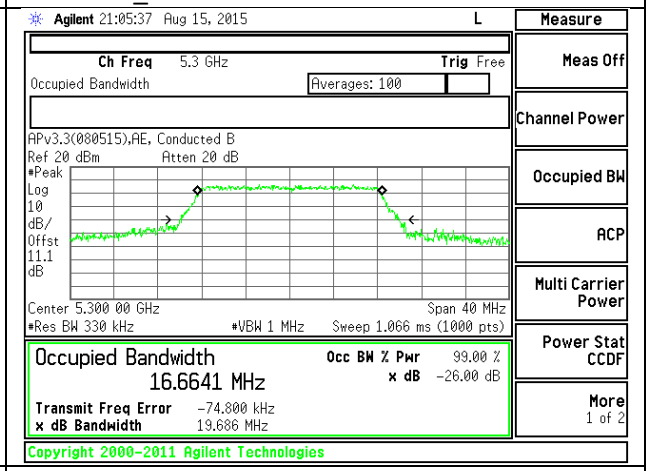
OBW 11n_HT40 5.8 Low Ch



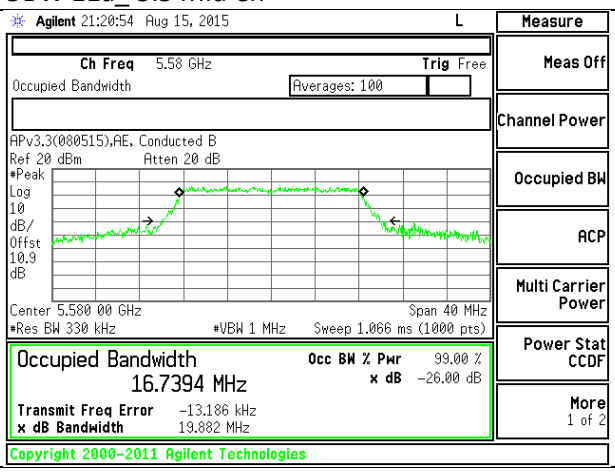
OBW 11a_ 5.2 Mid Ch



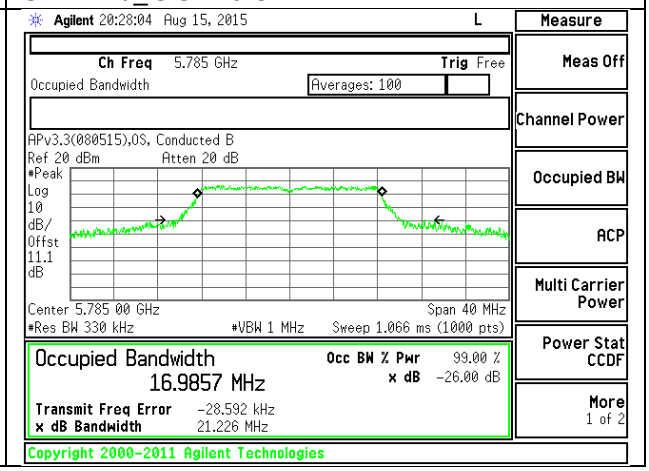
OBW 11a_ 5.3 Mid Ch



OBW 11a_ 5.5 Mid Ch



OBW 11a_ 5.8 Mid Ch



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10.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

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10.4.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	13.86
Mid	5200	14.02
High	5240	14.24
Worst		14.24

10.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5180	12.79
Mid	5200	12.95
High	5240	13.15
Worst		13.15

10.4.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5190	13.30
Mid	5230	13.47
Worst		13.47

10.4.4. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	14.34
Mid	5300	13.87
High	5320	13.70
Worst		14.34

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10.4.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5260	13.17
Mid	5300	12.67
High	5320	12.53
Worst		13.17

10.4.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5270	12.63
High	5310	13.10
Worst		13.10

10.4.7. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	13.89
Mid	5580	13.72
High	5700	14.04
Worst		14.04

10.4.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5500	12.96
Mid	5580	12.76
High	5700	13.08
Worst		13.08

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10.4.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5510	13.50
Mid	5550	13.50
High	5670	13.45
Worst		13.50

10.4.10. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	13.88
Mid	5785	13.96
High	5825	14.01
Worst		14.01

10.4.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	13.02
Mid	5785	13.10
High	5825	13.07
Worst		13.10

10.4.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5755	12.82
High	5795	12.96
Worst		12.96

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10.5. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247

Band 5150-5250 MHz:

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Band 5250-5350 MHz:

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Bands 5470-5600 MHz and 5650-5725 MHz:

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

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Band 5725-5850 MHz:

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipointFootnote3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

DIRECTIONAL ANTENNA GAIN

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

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

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10.5.1. 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	19.77	17.24	5.50	5.50
Mid	5200	19.77	16.95	5.50	5.50
High	5240	19.77	16.96	5.50	5.50

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	24.00	22.37	16.87	16.87	11.00	10.00	4.50
Mid	5200	24.00	22.29	16.79	16.79	11.00	10.00	4.50
High	5240	24.00	22.29	16.79	16.79	11.00	10.00	4.50

Duty Cycle CF (dB)	3.76	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.08	15.84	16.87	-1.03
Mid	5200	12.50	16.26	16.79	-0.53
High	5240	12.60	16.36	16.79	-0.43

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-3.059	0.70	4.50	-3.80
Mid	5200	-2.895	0.87	4.50	-3.64
High	5240	-2.756	1.00	4.50	-3.50

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10.5.2. 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	20.40	18.10	5.50	5.50
Mid	5200	20.34	18.15	5.50	5.50
High	5240	20.24	18.09	5.50	5.50

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	24.00	22.58	17.08	17.08	11.00	10.00	4.50
Mid	5200	24.00	22.59	17.09	17.09	11.00	10.00	4.50
High	5240	24.00	22.57	17.07	17.07	11.00	10.00	4.50

Duty Cycle CF (dB)	4.31	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	12.09	16.40	17.08	-0.68
Mid	5200	12.40	16.71	17.09	-0.38
High	5240	12.50	16.81	17.07	-0.26

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	-1.352	2.96	4.50	-1.54
Mid	5200	-1.715	2.60	4.50	-1.91
High	5240	-0.343	3.97	4.50	-0.53

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10.5.3. 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	40.32	36.71	5.50	5.50
Mid	5230	40.50	37.45	5.50	5.50

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	24.00	23.00	17.50	17.50	11.00	10.00	4.50
Mid	5230	24.00	23.00	17.50	17.50	11.00	10.00	4.50
Duty Cycle CF (dB)		7.45	Included in Calculations of Corr'd Power & PPSD					

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	9.10	16.55	17.50	-0.95
Mid	5230	9.50	16.95	17.50	-0.55

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-12.954	-5.50	4.50	-10.00
Mid	5230	-13.014	-5.56	4.50	-10.06

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10.5.4. 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)	Directiona Gain for PPSD (dBi)
Low	5260	19.95	16.772	5.50	5.50
Mid	5300	19.80	16.664	5.50	5.50
High	5320	19.71	16.757	5.50	5.50

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	23.25	29.25	23.25	11.00	11.00	11.00
Mid	5300	23.97	23.22	29.22	23.22	11.00	11.00	11.00
High	5320	23.95	23.24	29.24	23.24	11.00	11.00	11.00

Duty Cycle CF (dB)	3.76	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	14.30	18.06	23.25	-5.19
Mid	5300	13.90	17.66	23.22	-5.56
High	5320	13.70	17.46	23.24	-5.78

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	0.307	4.07	11.00	-6.93
Mid	5300	0.655	4.42	11.00	-6.59
High	5320	-0.295	3.47	11.00	-7.54

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10.5.5. 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	20.12	17.779	5.50	5.50
Mid	5300	19.95	17.752	5.50	5.50
High	5320	20.12	17.890	5.50	5.50

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	23.50	29.50	23.50	11.00	11.00	11.00
Mid	5300	24.00	23.49	29.49	23.49	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)	4.31	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.20	17.51	23.50	-5.99
Mid	5300	12.70	17.01	23.49	-6.48
High	5320	12.50	16.81	23.53	-6.72

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-1.023	3.29	11.00	-7.71
Mid	5300	-1.523	2.79	11.00	-8.21
High	5320	-2.053	2.26	11.00	-8.74

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10.5.6. 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	40.7	37.6	4.50	4.50
High	5310	40.4	37.3	4.50	4.50

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
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	7.45	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.60	20.05	24.00	-3.95
High	5310	13.10	20.55	24.00	-3.45

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-7.117	0.33	11.00	-10.67
High	5310	-7.373	0.08	11.00	-10.92

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10.5.7. 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)	Directiona Gain for PPSD (dBi)
Low	5500	19.83	16.774	5.50	5.50
Mid	5580	19.89	16.739	5.50	5.50
High	5700	19.98	16.730	5.50	5.50

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	23.97	23.25	29.25	23.25	11.00	11.00	11.00
Mid	5580	23.99	23.24	29.24	23.24	11.00	11.00	11.00
High	5700	24.00	23.23	29.23	23.23	11.00	11.00	11.00

Duty Cycle CF (dB)	3.76	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.90	17.66	23.25	-5.59
Mid	5580	13.70	17.46	23.24	-5.78
High	5700	14.00	17.76	23.23	-5.47

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-0.240	3.52	11.00	-7.48
Mid	5580	-0.376	3.38	11.00	-7.62
High	5700	0.281	4.04	11.00	-6.96

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10.5.8. 802.11n HT20 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)	Directiona Gain for PPSD (dBi)
Low	5500	20.15	17.597	5.50	5.50
Mid	5580	20.15	18.050	5.50	5.50
High	5700	19.98	18.327	5.50	5.50

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	23.45	29.45	23.45	11.00	11.00	11.00
Mid	5580	24.00	23.56	29.56	23.56	11.00	11.00	11.00
High	5700	24.00	23.63	29.63	23.63	11.00	11.00	11.00

Duty Cycle CF (dB)	4.31	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.00	17.31	23.45	-6.14
Mid	5580	12.80	17.11	23.56	-6.45
High	5700	13.10	17.41	23.63	-6.22

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-1.545	2.77	11.00	-8.24
Mid	5580	-1.576	2.73	11.00	-8.27
High	5700	-1.304	3.01	11.00	-7.99

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10.5.9. 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)	Directiona Gain for PPSD (dBi)
Low	5510	40.9	37.813	5.50	5.50
Mid	5550	40.7	36.897	5.50	5.50
High	5670	40.6	36.826	5.50	5.50

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)	7.45	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	13.50	20.95	24.00	-3.05
Mid	5550	13.50	20.95	24.00	-3.05
High	5670	13.50	20.95	24.00	-3.05

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-6.945	0.51	11.00	-10.50
Mid	5550	-6.943	0.51	11.00	-10.49
High	5670	-6.970	0.48	11.00	-10.52

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10.5.10. 802.11a MODE IN THE 5.8 GHz BAND

Mid	5785	30.00	30.00	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	3.76	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	13.90	17.66	30.00	-12.34
Mid	5785	14.00	17.76	30.00	-12.24
High	5825	14.00	17.76	30.00	-12.24

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-1.610	2.15	30.00	-27.85
Mid	5785	-1.928	1.83	30.00	-28.17
High	5825	-1.666	2.09	30.00	-27.91

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10.5.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Antenna Gain

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5745	5.50	5.50
Mid	5785	5.50	5.50
High	5825	5.50	5.50

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5745	30.00	30.00	30.00	30.00	30.00	30.00
Mid	5785	30.00	30.00	30.00	30.00	30.00	30.00
High	5825	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	4.31	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	13.00	12.97	30.00	-17.03
Mid	5785	13.10	12.62	30.00	-17.38
High	5825	13.10	13.05	30.00	-16.95

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-3.009	1.30	30.00	-28.70
Mid	5785	-3.313	1.00	30.00	-29.00
High	5825	-3.112	1.20	30.00	-28.80

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10.5.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Antenna Gain

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5755	5.50	5.50
High	5795	5.50	5.50

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5755	30.00	30.00	30.00	30.00	30.00	30.00
High	5795	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	7.45	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	12.80	20.25	30.00	-9.75
High	5795	13.00	20.45	30.00	-9.55

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-9.513	-2.06	30.00	-32.06
High	5795	-10.269	-2.82	30.00	-32.82

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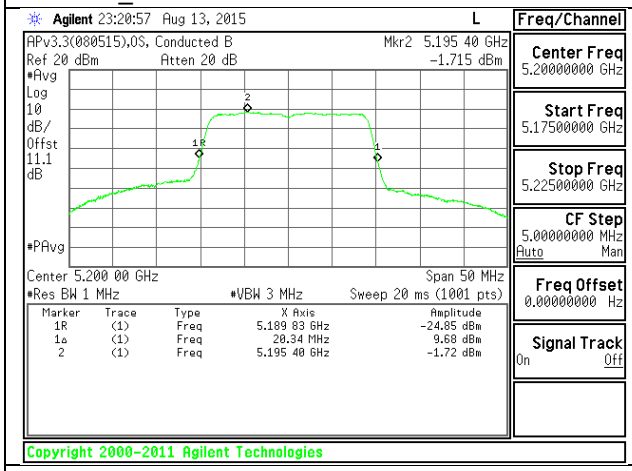
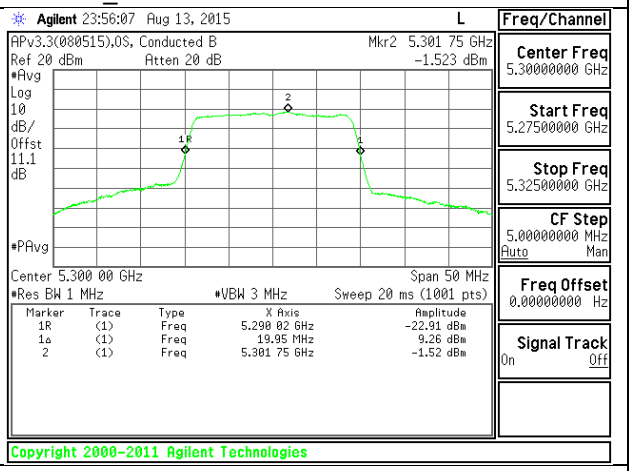
10.5.1. OUTPUT POWER AND PPSD PLOTS, Chain 0

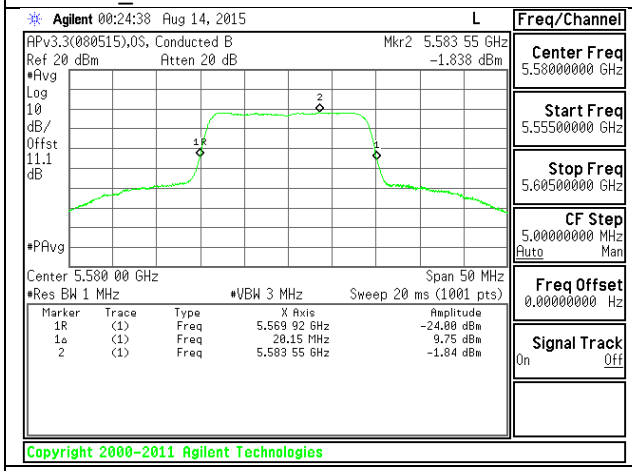
PSD 11n_HT20 5.2 Mid Ch



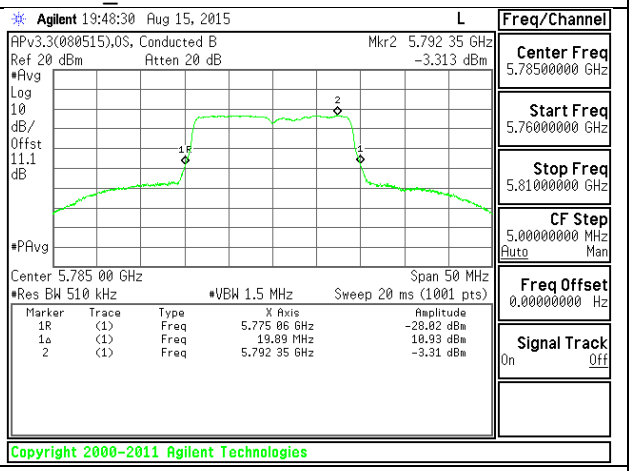
PSD 11n_HT20 5.3 Mid Ch



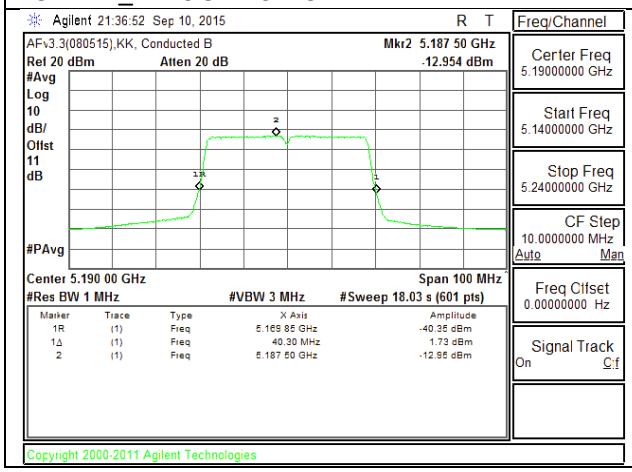
PSD 11n_HT20 5.5 Mid Ch



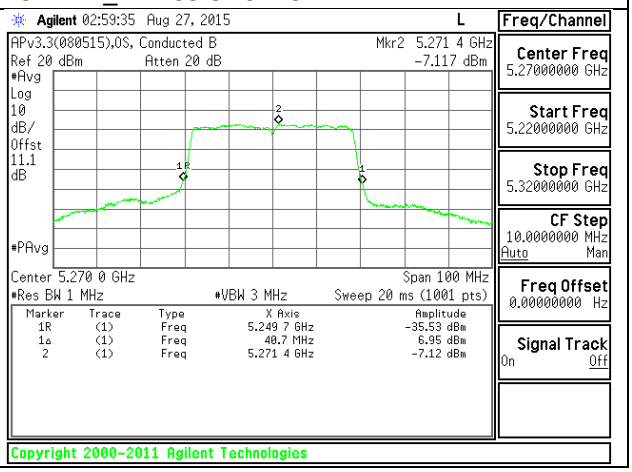
PSD 11n_HT20 5.8 Mid Ch



PSD 11n_HT40 5.2 Low Ch



PSD 11n_ HT405.3 Low Ch



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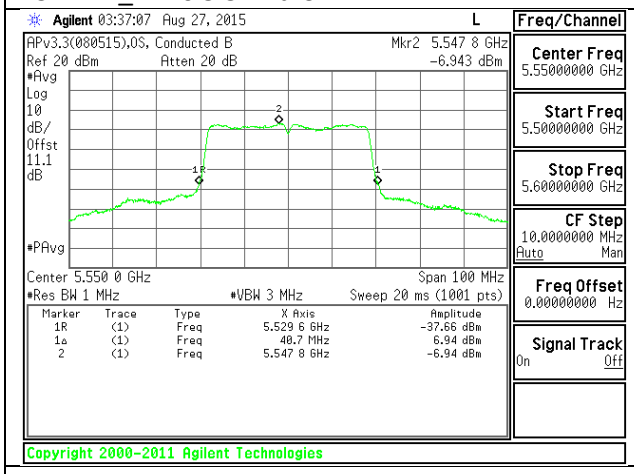
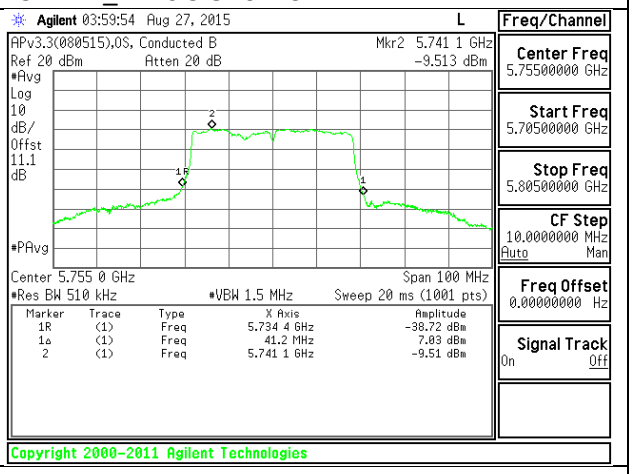
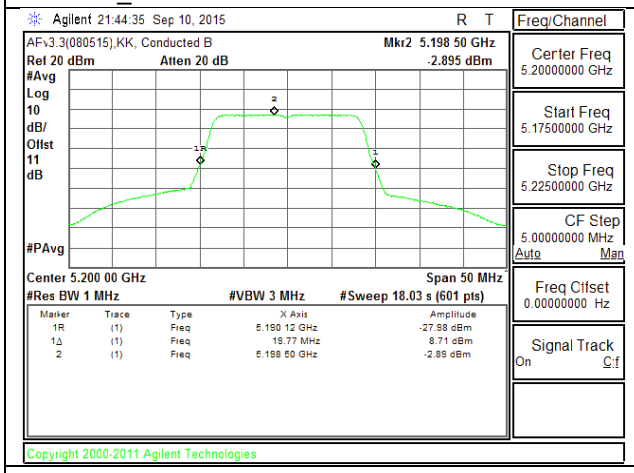
PSD 11n_HT40 5.5 Mid Ch



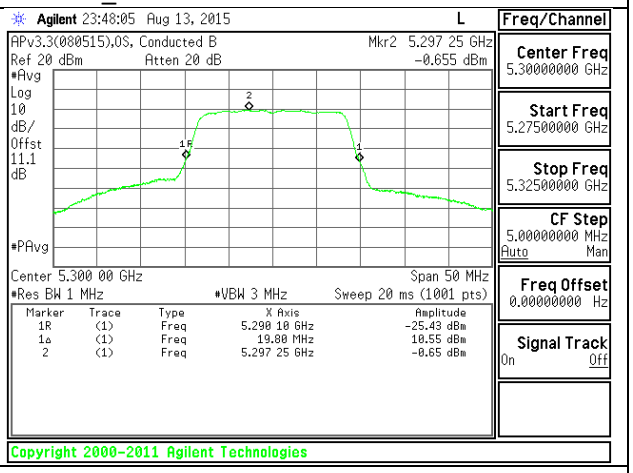
PSD 11n_HT40 5.8 Low Ch



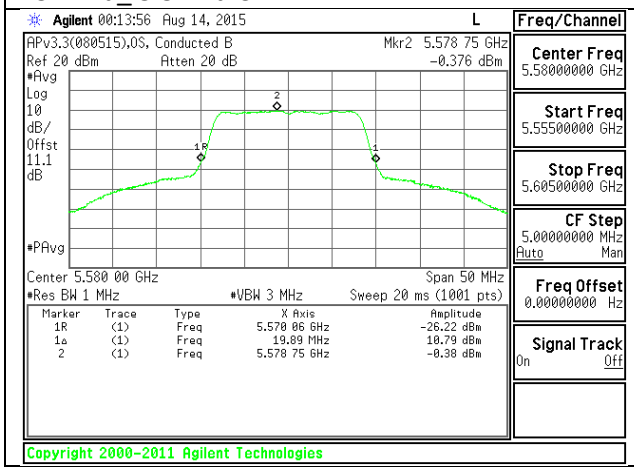
PSD 11a_ 5.2 Mid Ch



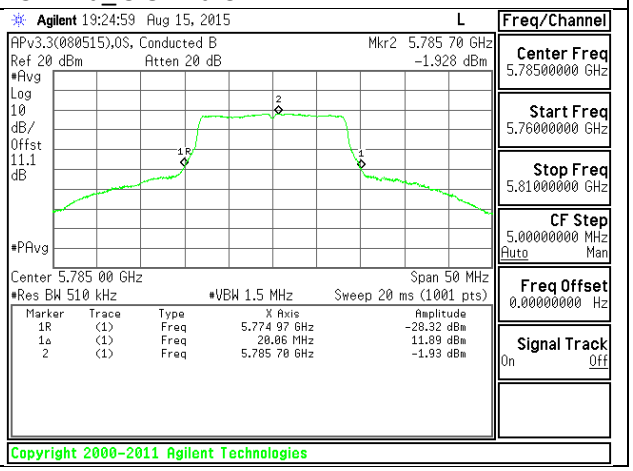
PSD 11a_ 5.3 Mid Ch



PSD 11a_ 5.5 Mid Ch



PSD 11a_ 5.8 Mid Ch



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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 for below 1GHz and 150cm for above 1GHz. 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 G) 6) d) Method AD:
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.

RESULTS

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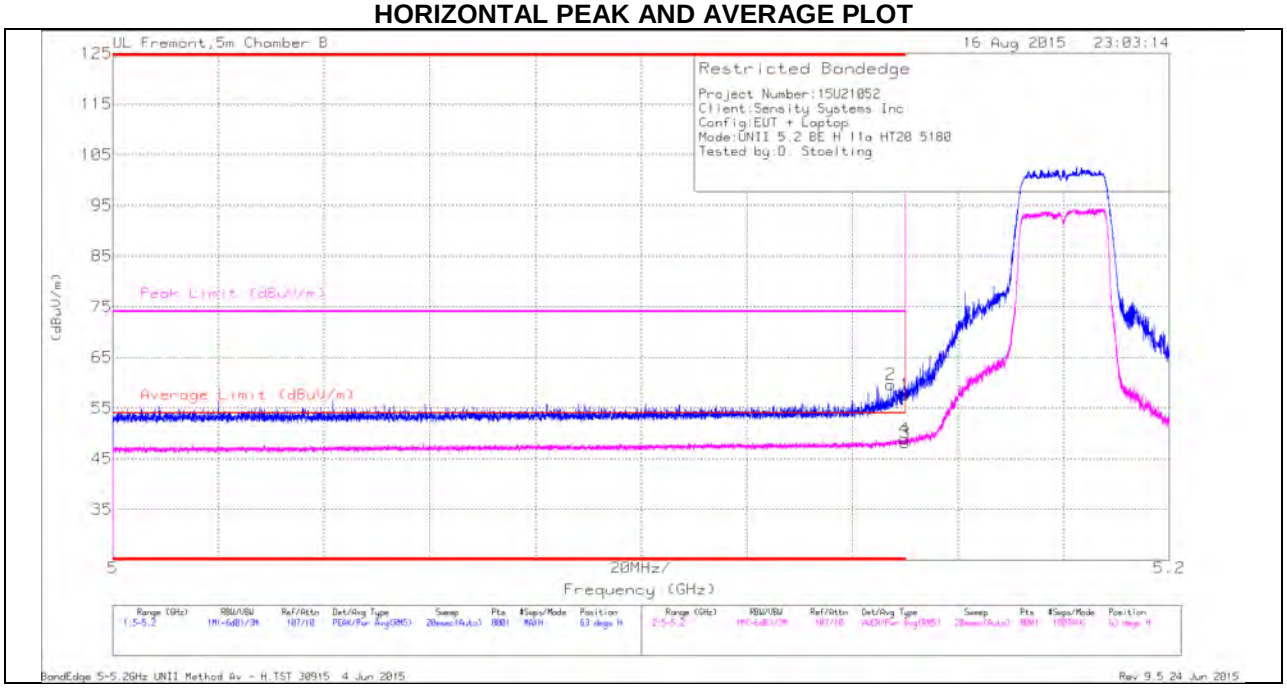
11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	45.48	Pk	34.1	-22	0	57.58	-	-	74	-16.42	63	117	H
2	* 5.147	47.49	Pk	34.1	-22	0	59.59	-	-	74	-14.41	63	117	H
3	* 5.15	32.33	RMS	34.1	-22	3.76	48.19	54	-5.81	-	-	63	117	H
4	* 5.15	33.07	RMS	34.1	-22	3.76	48.93	54	-5.07	-	-	63	117	H

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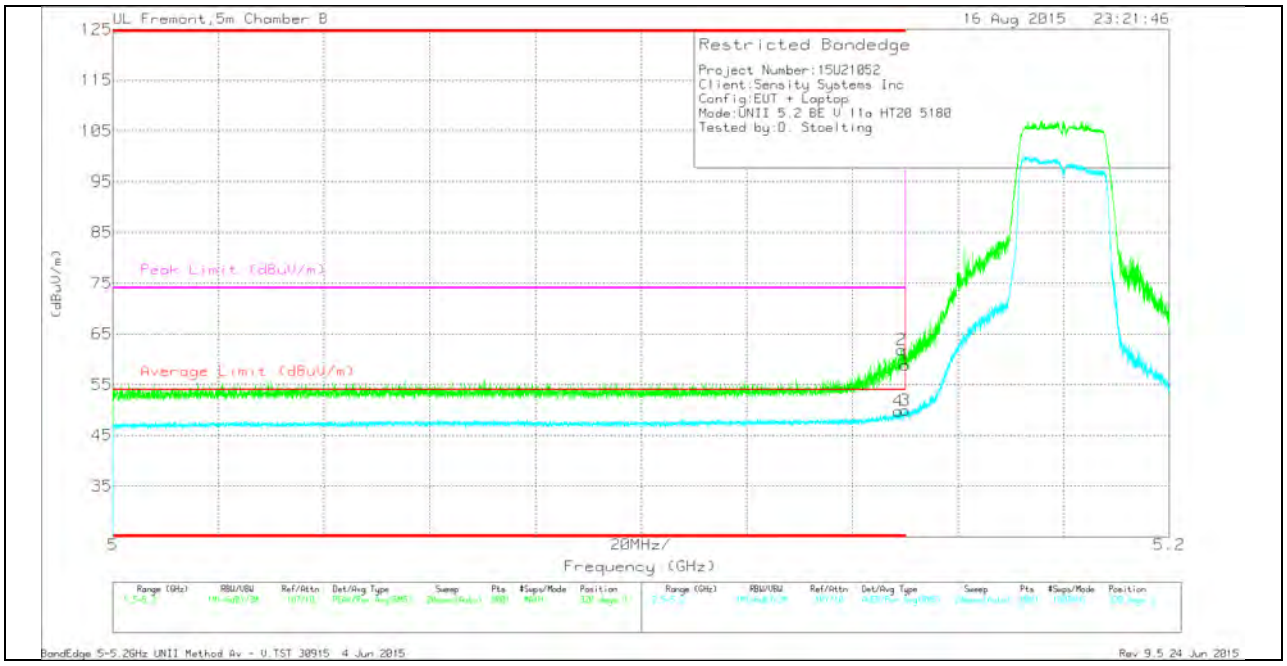
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	46.75	Pk	34.1	-22	0	58.85	-	-	74	-15.15	320	400	V
2	* 5.149	49.7	Pk	34.1	-22	0	61.8	-	-	74	-12.2	320	400	V
3	* 5.15	34.06	RMS	34.1	-22	3.76	49.92	54	-4.08	-	-	320	400	V
4	* 5.149	33.92	RMS	34.1	-22	3.76	49.78	54	-4.22	-	-	320	400	V

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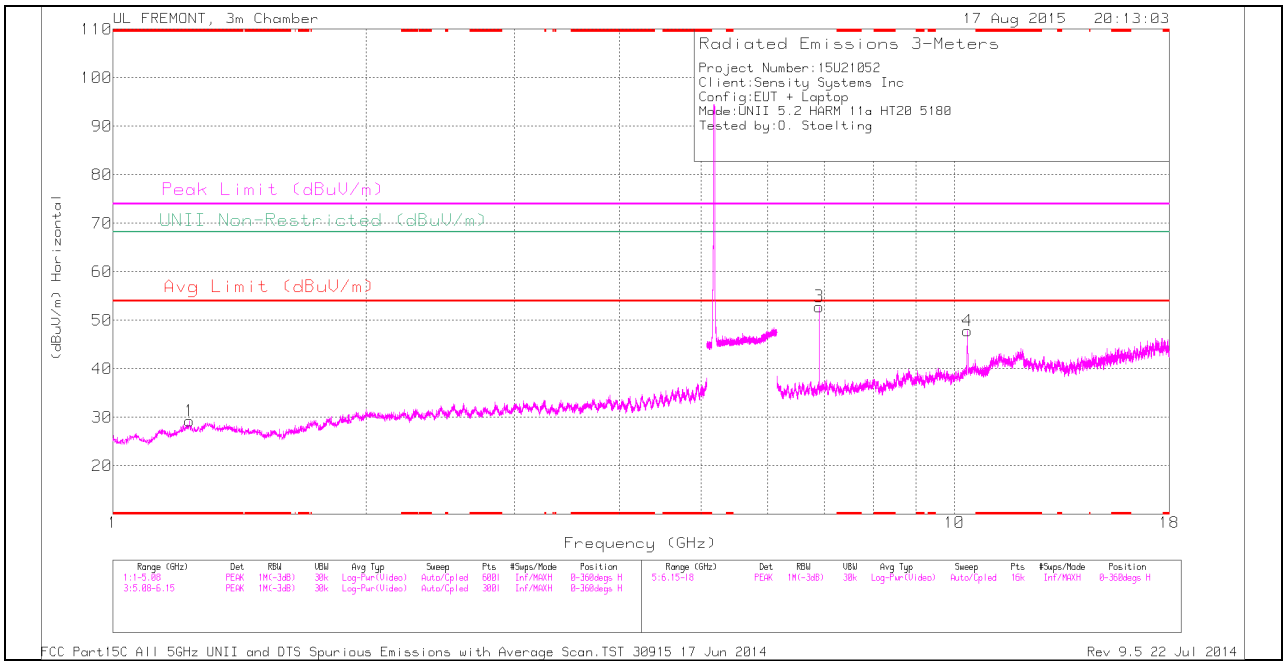
HARMONICS AND SPURIOUS EMISSIONS

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.

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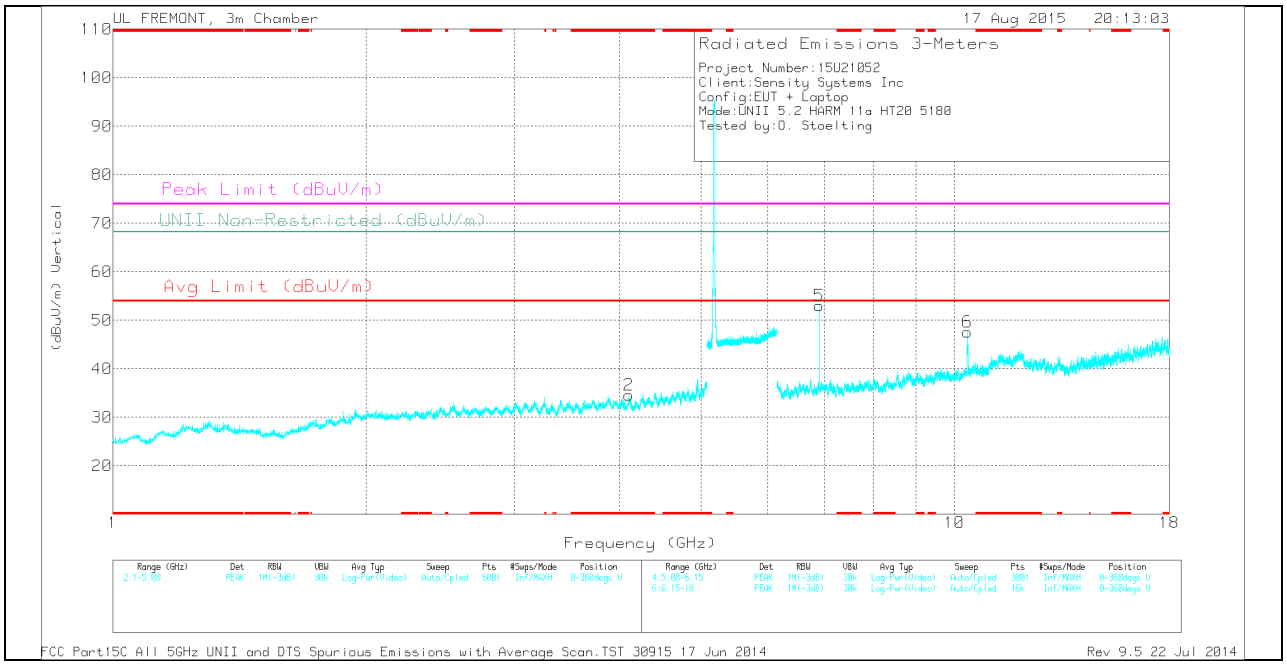
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.233	32.73	PK	29.3	-32.7	0	29.33	-	-	74	-44.67	-	-	0-360	100	H
2	* 4.102	31.44	PK	33.3	-30.2	0	34.54	-	-	74	-39.46	-	-	0-360	200	V
3	6.907	45.64	PK	35.6	-28.4	0	52.84	-	-	-	-	68.2	-15.36	0-360	100	H
5	6.907	45.88	PK	35.6	-28.4	0	53.08	-	-	-	-	68.2	-15.12	0-360	200	V
4	10.359	34.67	PK	37.2	-24	0	47.87	-	-	-	-	68.2	-20.33	0-360	200	H
6	10.363	34.23	PK	37.2	-23.9	0	47.53	-	-	-	-	68.2	-20.67	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.232	42	PK1	29.2	-32.7	0	38.5	-	-	74	-35.5	-	-	339	267	H
* 1.232	29.6	AD1	29.2	-32.7	3.76	29.86	54	-24.14	-	-	-	-	339	267	H
* 4.101	40.4	PK1	33.3	-30.2	0	43.5	-	-	74	-30.5	-	-	178	152	V
* 4.102	28.53	AD1	33.3	-30.2	3.76	35.39	54	-18.61	-	-	-	-	178	152	V
6.907	48.3	PK1	35.6	-28.4	0	55.5	-	-	-	-	68.2	-12.7	249	101	H
6.907	42.02	AD1	35.6	-28.4	3.76	52.98	-	-	-	-	-	-	249	101	H
6.907	48.33	PK1	35.6	-28.4	0	55.53	-	-	-	-	68.2	-12.67	249	220	V
6.907	42.65	AD1	35.6	-28.4	3.76	53.61	-	-	-	-	-	-	249	220	V
10.36	45.46	PK1	37.2	-24	0	58.66	-	-	-	-	68.2	-9.54	243	243	H
10.361	30.08	AD1	37.2	-24	3.76	47.04	-	-	-	-	-	-	243	243	H
10.362	45.73	PK1	37.2	-23.9	0	59.03	-	-	-	-	68.2	-9.17	341	211	V
10.362	30.67	AD1	37.2	-23.9	3.76	47.73	-	-	-	-	-	-	341	211	V

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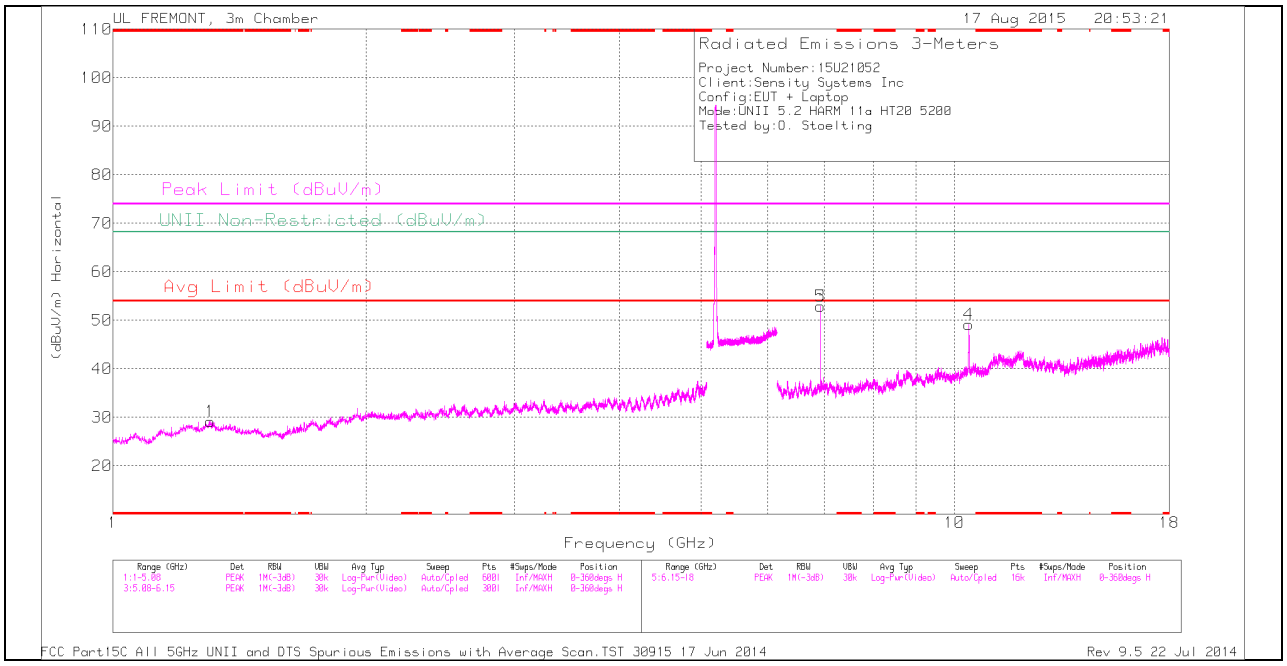
MID CHANNEL HORIZONTAL



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

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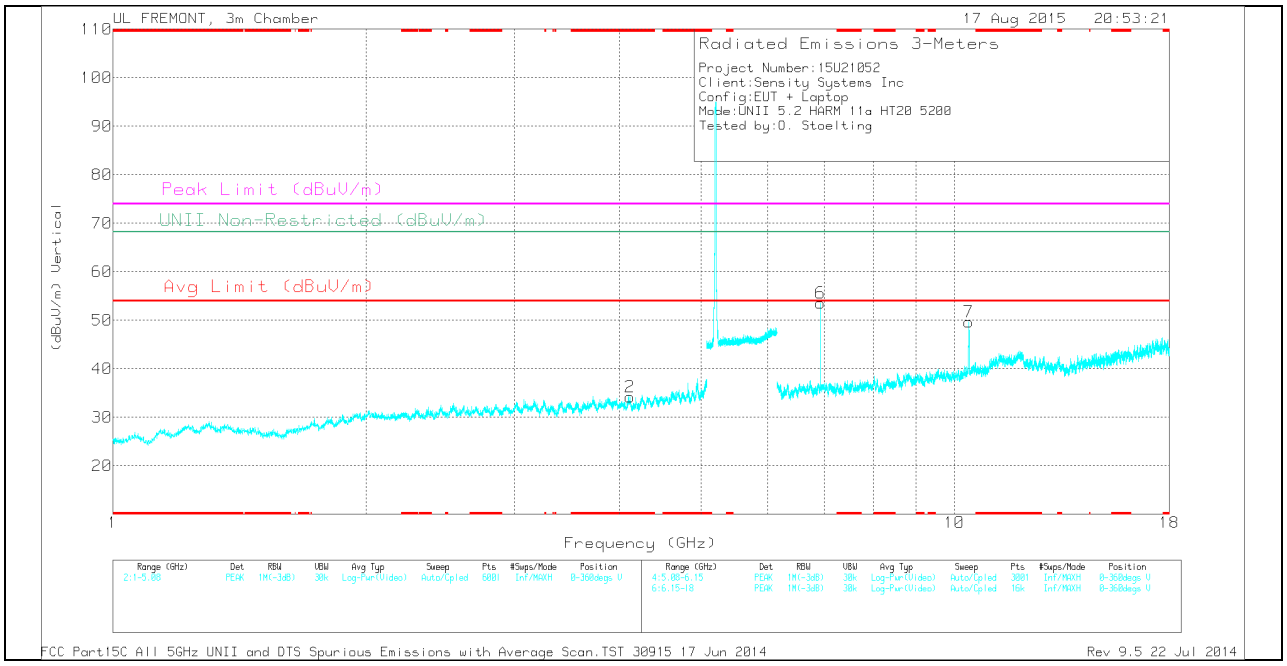
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.306	32.4	PK	29.8	-33	0	29.2	-	-	74	-44.8	-	-	0-360	100	H
2	* 4.114	31.16	PK	33.3	-30.3	0	34.16	-	-	74	-39.84	-	-	0-360	100	V
3	6.934	44.76	PK	35.6	-27.5	0	52.86	-	-	-	-	68.2	-15.34	0-360	100	H
5	6.934	44.76	PK	35.6	-27.5	0	52.86	-	-	-	-	68.2	-15.34	0-360	100	H
6	6.934	45.41	PK	35.6	-27.5	0	53.51	-	-	-	-	68.2	-14.69	0-360	200	V
4	10.4	36.11	PK	37.3	-24.3	0	49.11	-	-	-	-	68.2	-19.09	0-360	200	H
7	10.4	36.65	PK	37.3	-24.3	0	49.65	-	-	-	-	68.2	-18.55	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (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
* 1.307	42.01	PK1	29.8	-33	0	38.81	-	-	74	-35.19	-	-	317	339	H
* 1.308	29.58	AD1	29.8	-33	3.76	30.14	54	-23.86	-	-	-	-	317	339	H
* 4.115	41.12	PK1	33.3	-30.3	0	44.12	-	-	74	-29.88	-	-	243	306	V
* 4.112	28.65	AD1	33.3	-30.3	3.76	35.41	54	-18.59	-	-	-	-	243	306	V
6.933	47.61	PK1	35.6	-27.5	0	55.71	-	-	-	-	68.2	-12.49	253	231	V
6.933	41.76	AD1	35.6	-27.5	3.76	53.62	-	-	-	-	-	-	253	231	V
10.4	46.72	PK1	37.3	-24.3	0	59.72	-	-	-	-	68.2	-8.48	257	363	H
10.4	46.94	PK1	37.3	-24.3	0	59.94	-	-	-	-	68.2	-8.26	343	220	V
10.4	31.81	AD1	37.3	-24.3	3.76	48.57	-	-	-	-	-	-	343	220	V
10.401	31.3	AD1	37.3	-24.3	3.76	48.06	-	-	-	-	-	-	257	363	H

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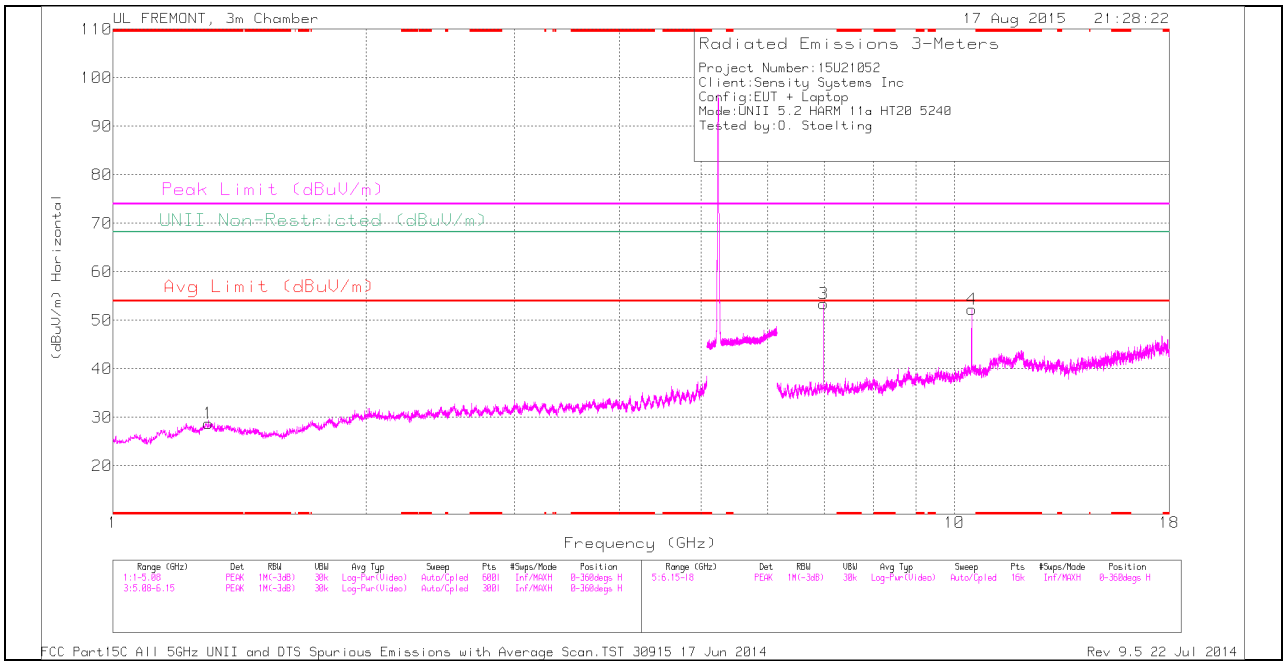
HIGH CHANNEL HORIZONTAL



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

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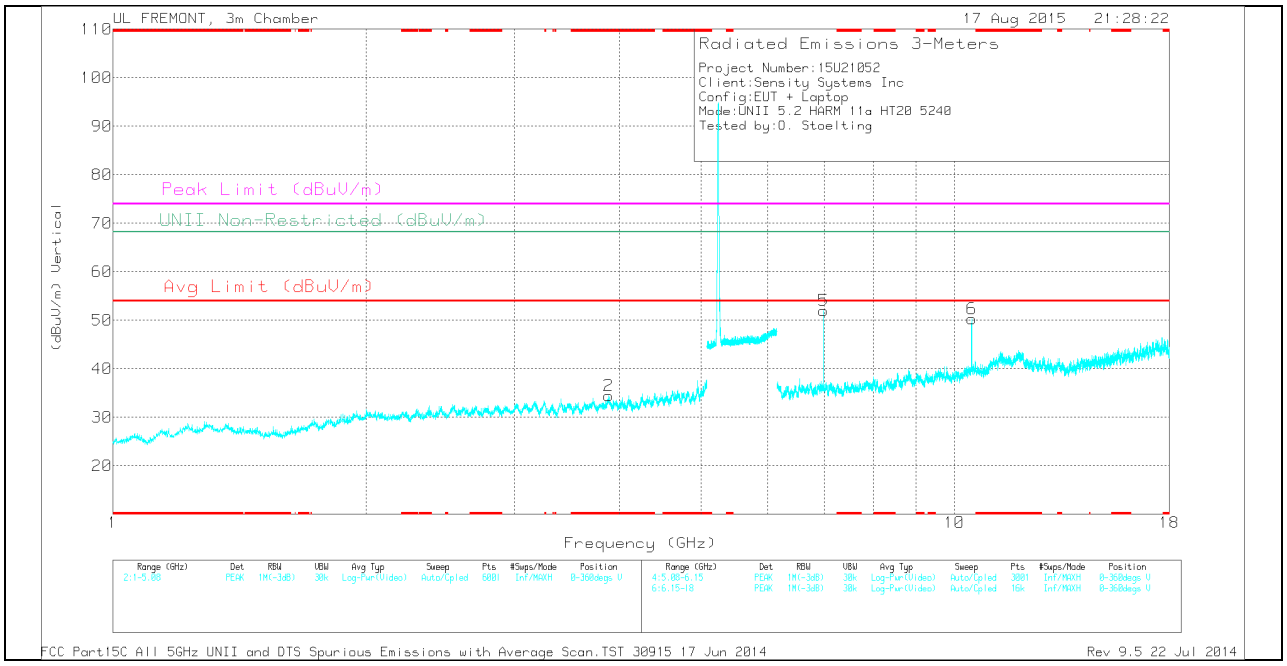
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.299	31.84	PK	29.9	-33	0	28.74	-	-	74	-45.26	-	-	0-360	200	H
2	* 3.883	31.18	PK	33.2	-29.9	0	34.48	-	-	74	-39.52	-	-	0-360	200	V
3	6.987	45.47	PK	35.6	-27.7	0	53.37	-	-	-	-	68.2	-14.83	0-360	200	H
5	6.987	44.09	PK	35.6	-27.7	0	51.99	-	-	-	-	68.2	-16.21	0-360	200	V
4	10.479	39.02	PK	37.4	-24.2	0	52.22	-	-	-	-	68.2	-15.98	0-360	200	H
6	10.48	37.15	PK	37.4	-24.2	0	50.35	-	-	-	-	68.2	-17.85	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.3	41.62	PK1	29.9	-33	0	38.52	-	-	74	-35.48	-	-	322	221	H
* 1.3	29.72	AD1	29.9	-33	3.76	30.38	54	-23.62	-	-	-	-	322	221	H
* 3.883	40.38	PK1	33.2	-29.9	0	43.68	-	-	74	-30.32	-	-	159	103	V
* 3.885	28.2	AD1	33.2	-29.8	3.76	35.36	54	-18.64	-	-	-	-	159	103	V
6.986	40.71	AD1	35.6	-27.7	3.76	52.37	-	-	-	-	-	-	248	185	V
6.987	48.31	PK1	35.6	-27.7	0	56.21	-	-	-	-	68.2	-11.99	238	219	H
6.987	41.87	AD1	35.6	-27.7	3.76	53.53	-	-	-	-	-	-	238	219	H
6.987	47.48	PK1	35.6	-27.7	0	55.38	-	-	-	-	68.2	-12.82	248	185	V
6.987	47.76	PK1	35.6	-27.7	0	55.66	-	-	-	-	68.2	-12.54	248	185	V
6.987	41.15	AD1	35.6	-27.7	3.76	52.81	-	-	-	-	-	-	248	185	V
10.48	47.46	PK1	37.4	-24.2	0	60.66	-	-	-	-	68.2	-7.54	252	244	H
10.48	32.17	AD1	37.4	-24.2	3.76	49.13	-	-	-	-	-	-	252	244	H
10.48	46.84	PK1	37.4	-24.2	0	60.04	-	-	-	-	68.2	-8.16	333	236	V
10.48	31.4	AD1	37.4	-24.2	3.76	48.36	-	-	-	-	-	-	333	236	V

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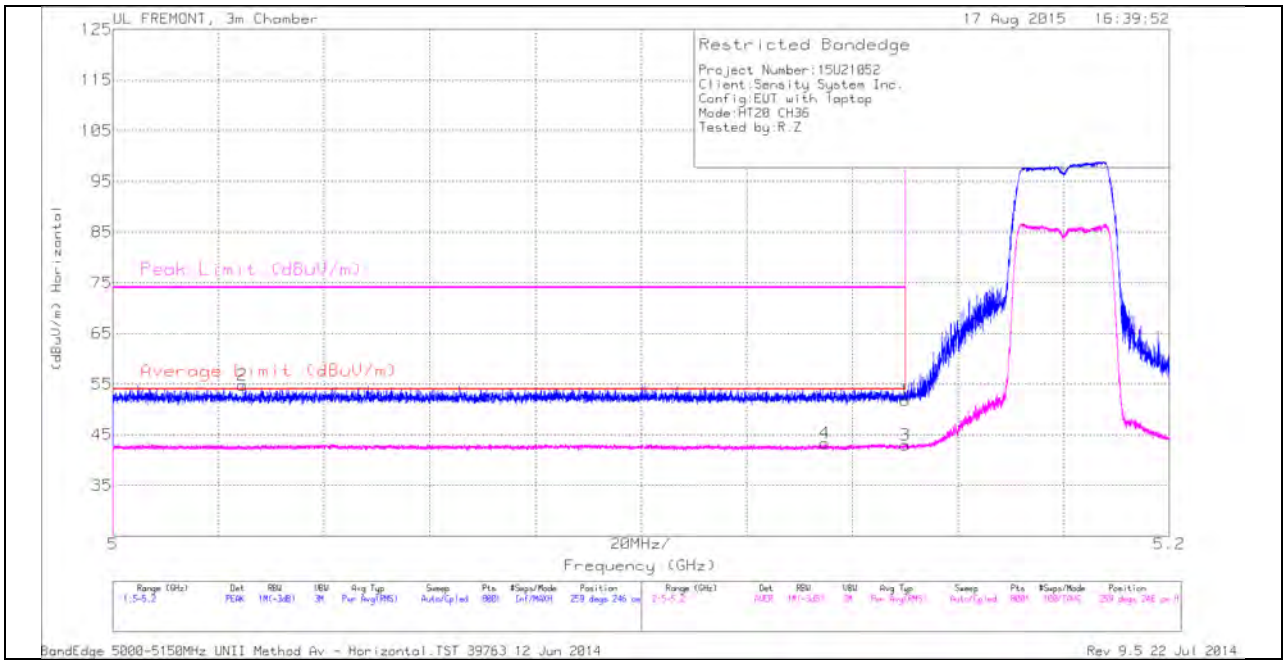
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.024	41.44	PK	34	-20.7	54.74	-	-	74	-19.26	259	246	H
4	5.135	29.9	RMS	34.2	-20.8	43.3	54	-10.7	-	-	259	246	H
1	5.15	38.39	PK	34.2	-20.8	51.79	-	-	74	-22.21	259	246	H
3	5.15	29.54	RMS	34.2	-20.8	42.94	54	-11.06	-	-	259	246	H

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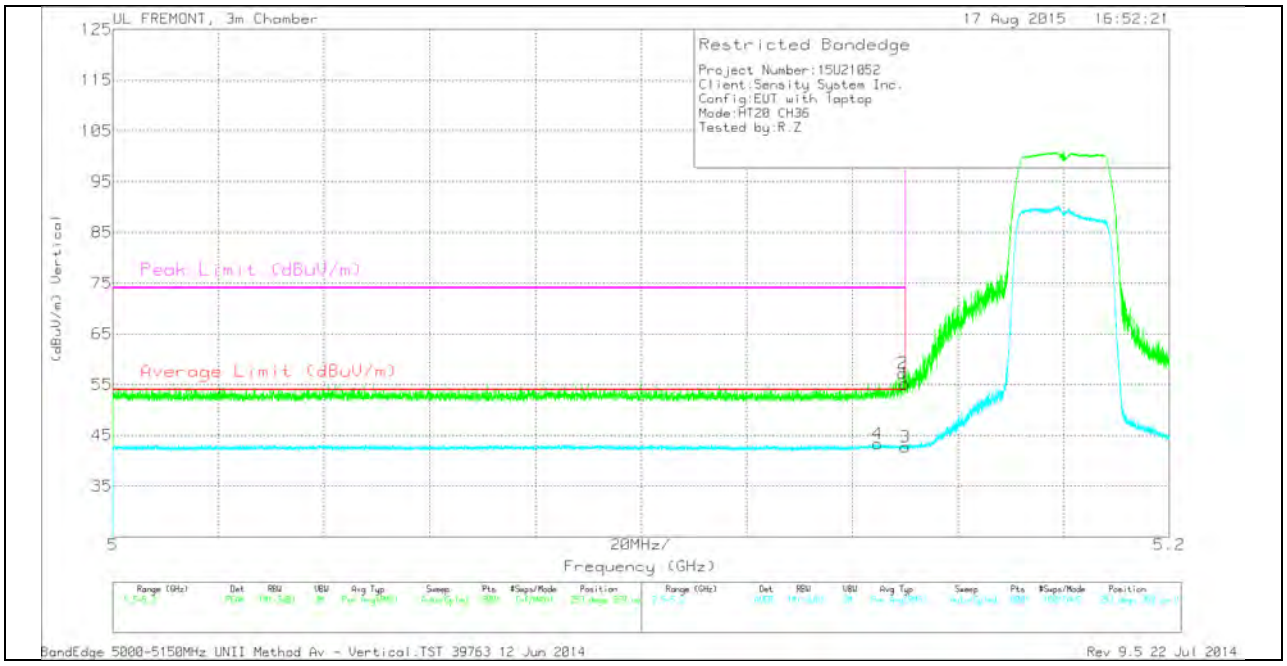
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	5.145	29.88	RMS	34.2	-20.7	43.38	54	-10.62	-	-	253	359	V
1	5.15	41.8	PK	34.2	-20.8	55.2	-	-	74	-18.8	253	359	V
2	5.15	43.84	PK	34.2	-20.8	57.24	-	-	74	-16.76	253	359	V
3	5.15	29.34	RMS	34.2	-20.8	42.74	54	-11.26	-	-	253	359	V

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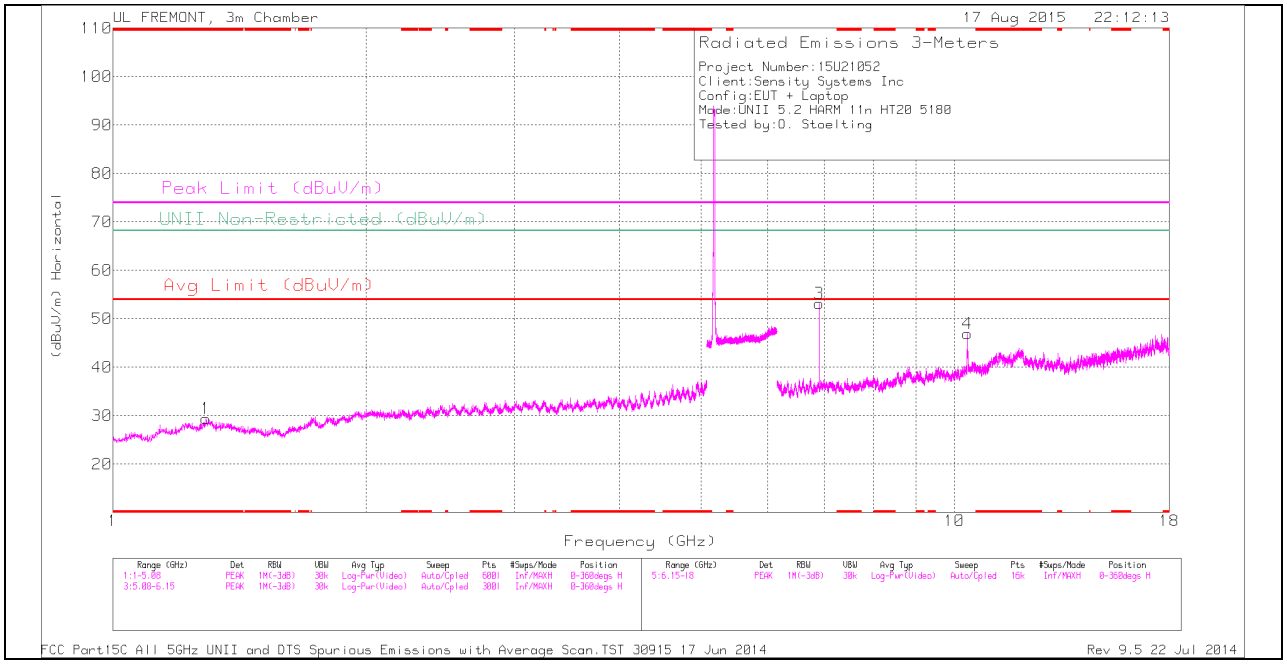
HARMONICS AND SPURIOUS EMISSIONS

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.

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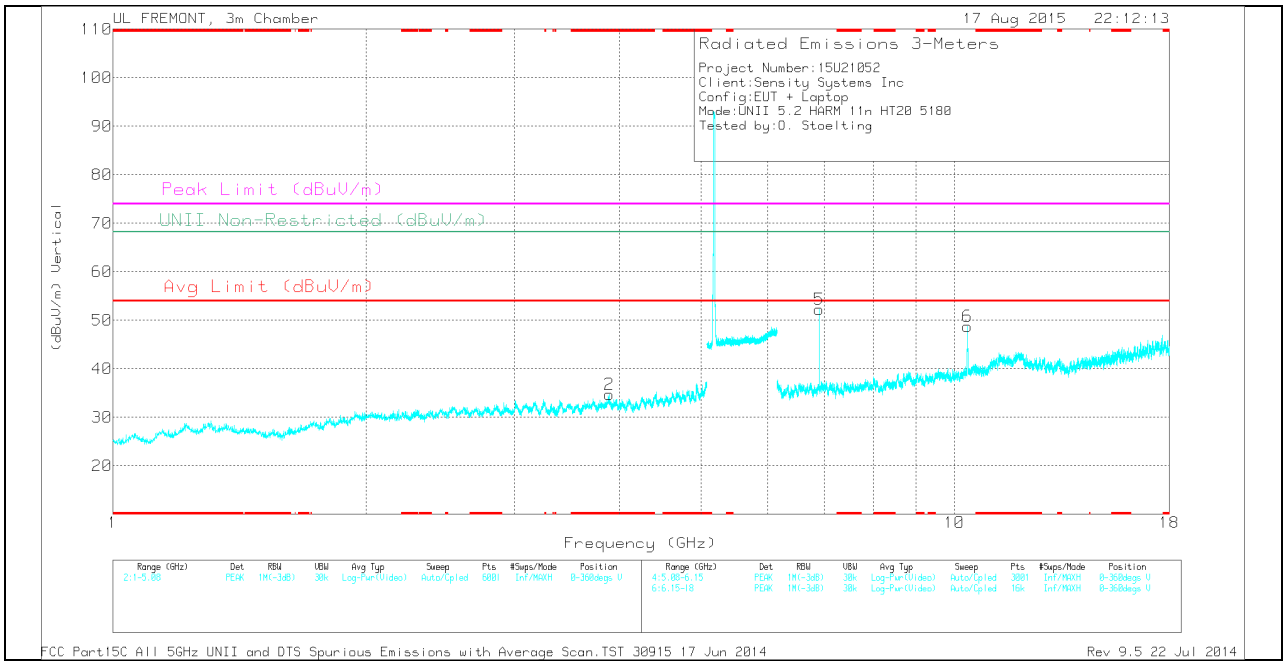
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.29	32.62	PK	29.8	-33	0	29.42	-	-	74	-44.58	-	-	0-360	100	H
2	* 3.887	31.41	PK	33.2	-29.9	0	34.71	-	-	74	-39.29	-	-	0-360	200	V
3	6.907	45.93	PK	35.6	-28.4	0	53.13	-	-	-	-	68.2	-15.07	0-360	200	H
5	6.907	45.08	PK	35.6	-28.4	0	52.28	-	-	-	-	68.2	-15.92	0-360	200	V
4	10.36	33.76	PK	37.2	-24	0	46.96	-	-	-	-	68.2	-21.24	0-360	100	H
6	10.361	35.47	PK	37.2	-23.9	0	48.77	-	-	-	-	68.2	-19.43	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.29	41.92	PK1	29.8	-33	0	38.72	-	-	74	-35.28	-	-	137	261	H
* 1.291	29.69	AD1	29.8	-33	4.3	30.79	54	-23.21	-	-	-	-	137	261	H
* 3.886	40.26	PK1	33.2	-29.9	0	43.56	-	-	74	-30.44	-	-	0	173	V
* 3.885	28.2	AD1	33.2	-29.9	4.3	35.8	54	-18.2	-	-	-	-	0	173	V
6.907	49.7	PK1	35.6	-28.4	0	56.9	-	-	-	-	68.2	-11.3	224	245	H
6.907	43.25	AD1	35.6	-28.4	4.3	54.75	-	-	-	-	-	-	224	245	H
6.907	48.69	PK1	35.6	-28.4	0	55.89	-	-	-	-	68.2	-12.31	249	190	V
6.907	41.67	AD1	35.6	-28.4	4.3	53.17	-	-	-	-	-	-	249	190	V
10.359	46.05	PK1	37.2	-24	0	59.25	-	-	-	-	68.2	-8.95	254	368	H
10.36	29.66	AD1	37.2	-24	4.3	47.16	-	-	-	-	-	-	254	368	H
10.36	45.22	PK1	37.2	-24	0	58.42	-	-	-	-	68.2	-9.78	334	342	V
10.361	29.19	AD1	37.2	-23.9	4.3	46.79	-	-	-	-	-	-	334	342	V

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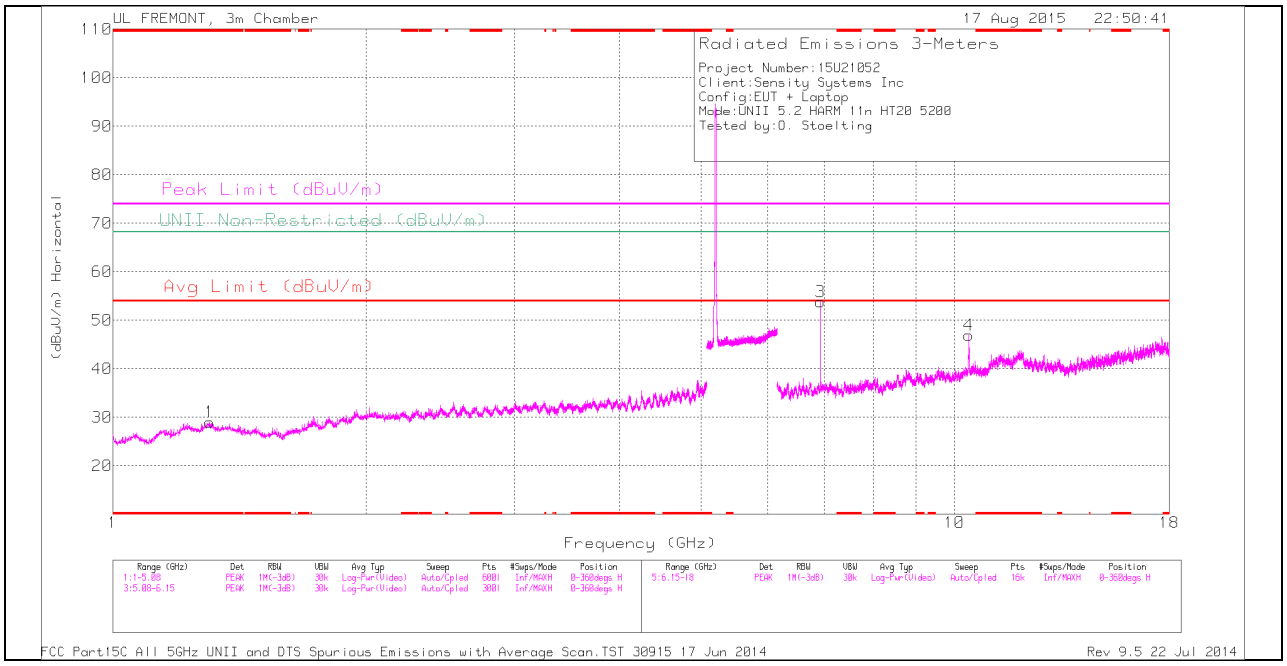
MID CHANNEL HORIZONTAL



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

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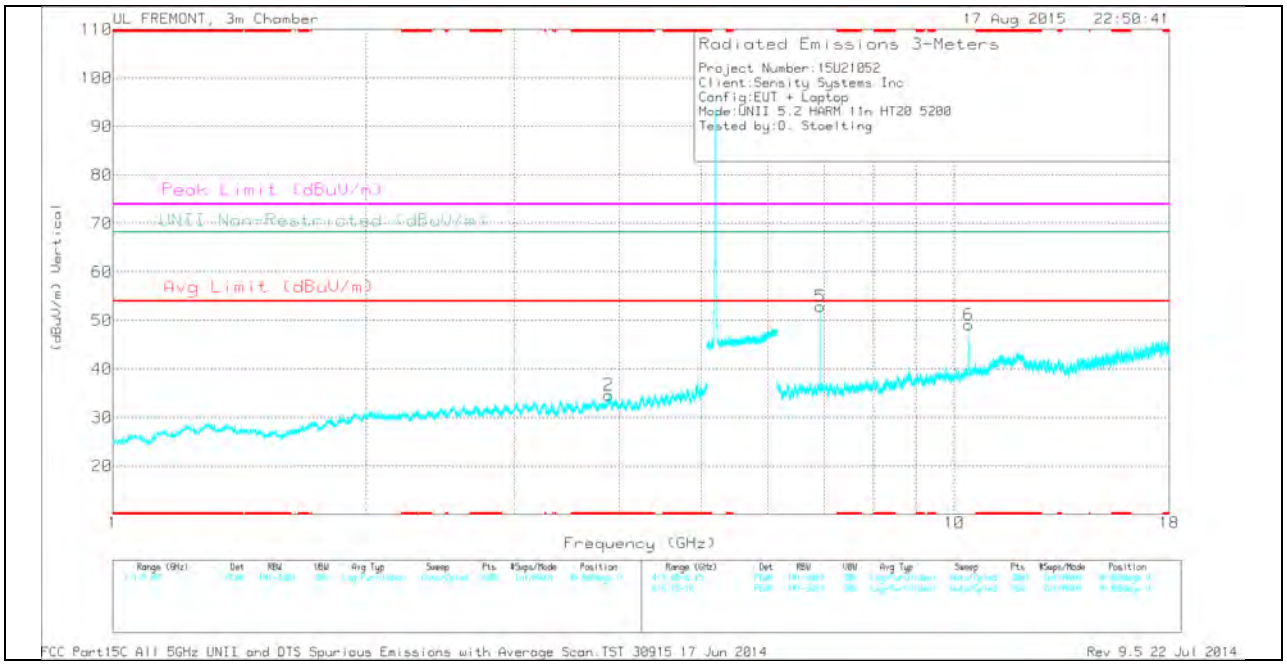
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.304	32.17	PK	29.8	-33	0	28.97	-	-	74	-45.03	-	-	0-360	100	H
2	* 3.885	31.36	PK	33.2	-29.9	0	34.66	-	-	74	-39.34	-	-	0-360	100	V
3	6.934	45.77	PK	35.6	-27.5	0	53.87	-	-	-	-	68.2	-14.33	0-360	200	H
5	6.934	44.8	PK	35.6	-27.5	0	52.9	-	-	-	-	68.2	-15.3	0-360	100	V
4	10.394	33.85	PK	37.3	-24.2	0	46.95	-	-	-	-	68.2	-21.25	0-360	200	H
6	10.399	36.17	PK	37.3	-24.3	0	49.17	-	-	-	-	68.2	-19.03	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (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
* 1.303	41.4	PK1	29.9	-33	0	38.3	-	-	74	-35.7	-	-	140	102	H
* 1.303	29.63	AD1	29.9	-33	4.3	30.83	54	-23.17	-	-	-	-	140	102	H
* 3.886	40.32	PK1	33.2	-29.9	0	43.62	-	-	74	-30.38	-	-	326	182	V
* 3.885	28.17	AD1	33.2	-29.9	4.3	35.77	54	-18.23	-	-	-	-	326	182	V
6.933	49.46	PK1	35.6	-27.5	0	57.56	-	-	-	-	68.2	-10.64	223	205	H
6.933	43.65	AD1	35.6	-27.5	4.3	56.05	-	-	-	-	-	-	223	205	H
6.933	47.25	PK1	35.6	-27.5	0	55.35	-	-	-	-	68.2	-12.85	46	100	V
6.933	40.84	AD1	35.6	-27.5	4.3	53.24	-	-	-	-	-	-	46	100	V
10.396	46.13	PK1	37.3	-24.2	0	59.23	-	-	-	-	68.2	-8.97	254	383	H
10.396	29.54	AD1	37.3	-24.3	4.3	46.84	-	-	-	-	-	-	254	383	H
10.399	29.08	AD1	37.3	-24.3	4.3	46.38	-	-	-	-	-	-	321	348	V
10.4	45.21	PK1	37.3	-24.3	0	58.21	-	-	-	-	68.2	-9.99	321	348	V

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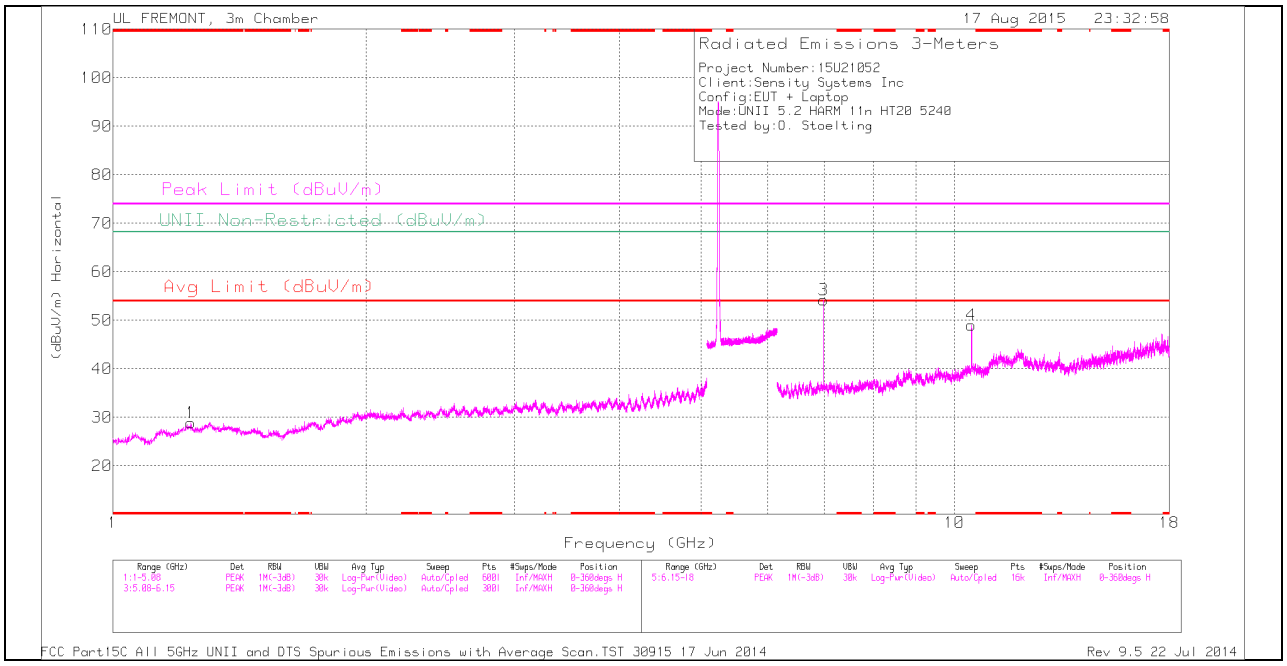
HIGH CHANNEL HORIZONTAL



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

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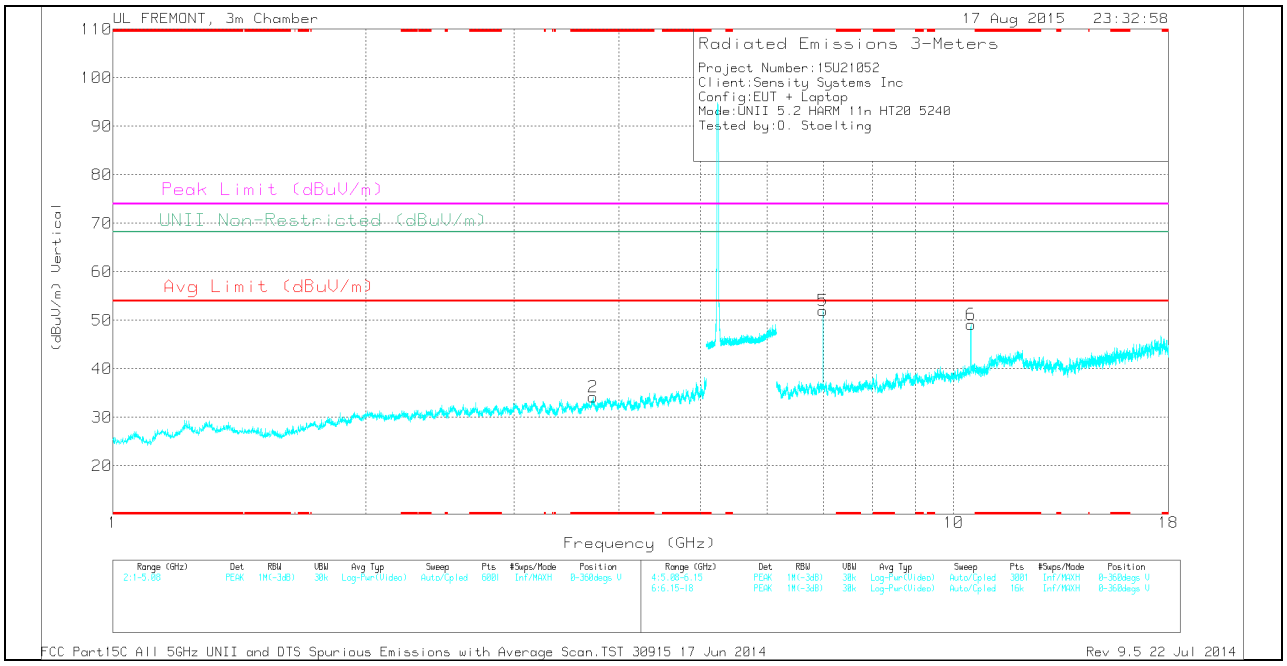
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.237	32.23	PK	29.3	-32.7	0	28.83	-	-	74	-45.17	-	-	0-360	200	H
2	* 3.723	31.39	PK	33	-30.2	0	34.19	-	-	74	-39.81	-	-	0-360	100	V
3	6.987	46.29	PK	35.6	-27.7	0	54.19	-	-	-	-	68.2	-14.01	0-360	100	H
5	6.987	44.13	PK	35.6	-27.7	0	52.03	-	-	-	-	68.2	-16.17	0-360	200	V
4	10.474	35.8	PK	37.4	-24.2	0	49	-	-	-	-	68.2	-19.2	0-360	200	H
6	10.479	35.9	PK	37.4	-24.2	0	49.1	-	-	-	-	68.2	-19.1	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.239	41.59	PK1	29.3	-32.7	0	38.19	-	-	74	-35.81	-	-	124	152	H
* 1.239	29.17	AD1	29.3	-32.7	4.3	30.07	54	-23.93	-	-	-	-	124	152	H
* 3.721	40.41	PK1	33	-30.2	0	43.21	-	-	74	-30.79	-	-	180	262	V
* 3.721	28.21	AD1	33	-30.2	4.3	35.31	54	-18.69	-	-	-	-	180	262	V
6.986	40.46	AD1	35.6	-27.7	4.3	52.66	-	-	-	-	-	-	241	213	V
6.987	49.41	PK1	35.6	-27.7	0	57.31	-	-	-	-	68.2	-10.89	220	278	H
6.987	43.83	AD1	35.6	-27.7	4.3	56.03	-	-	-	-	-	-	220	278	H
6.987	47.33	PK1	35.6	-27.7	0	55.23	-	-	-	-	68.2	-12.97	241	213	V
10.475	46.1	PK1	37.4	-24.2	0	59.3	-	-	-	-	68.2	-8.9	251	308	H
10.475	30.4	AD1	37.4	-24.2	4.3	47.9	-	-	-	-	-	-	251	308	H
10.479	46.58	PK1	37.4	-24.2	0	59.78	-	-	-	-	68.2	-8.42	327	215	V
10.481	30.29	AD1	37.4	-24.2	4.3	47.79	-	-	-	-	-	-	327	215	V

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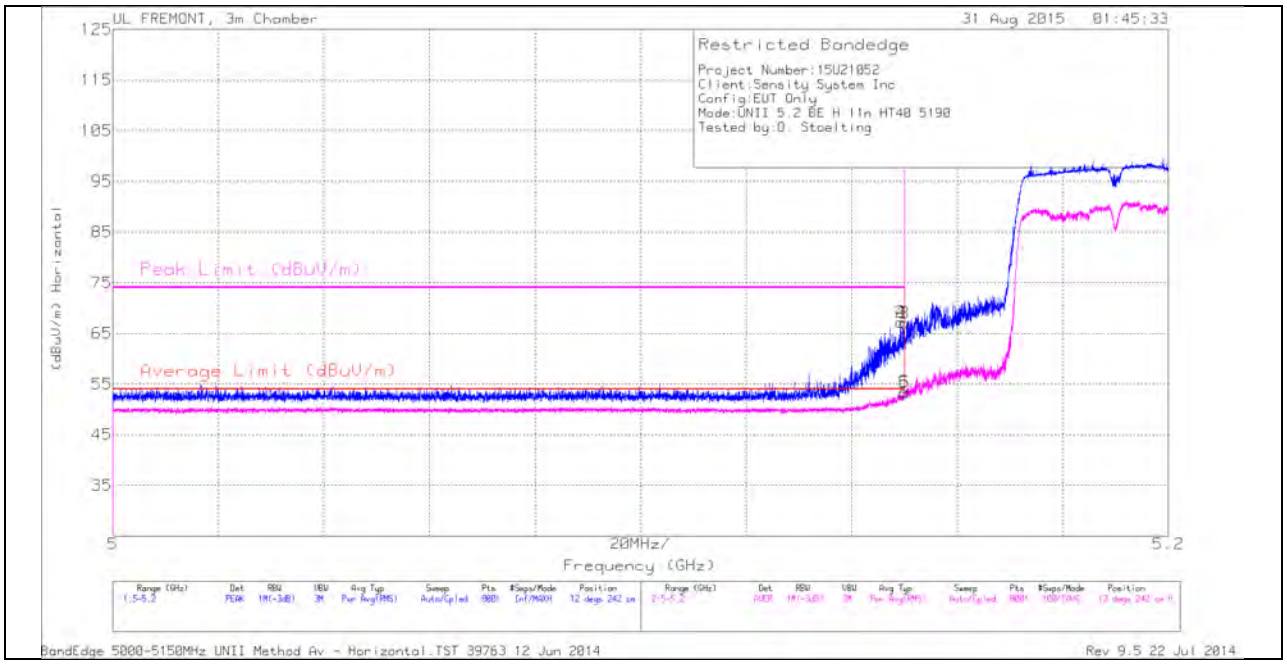
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.149	53.72	PK	34.2	-20.8	0	67.12	-	-	74	-6.88	12	242	H
4	5.149	53.72	PK	34.2	-20.8	0	67.12	-	-	74	-6.88	12	242	H
1	5.15	53.66	PK	34.2	-20.8	0	67.06	-	-	74	-6.94	12	242	H
3	5.15	53.66	PK	34.2	-20.8	0	67.06	-	-	74	-6.94	12	242	H
5	5.15	32.36	RMS	34.2	-20.8	7.45	53.21	54	-.79	-	-	12	242	H
6	5.15	32.64	RMS	34.2	-20.8	7.45	53.49	54	-.51	-	-	12	242	H

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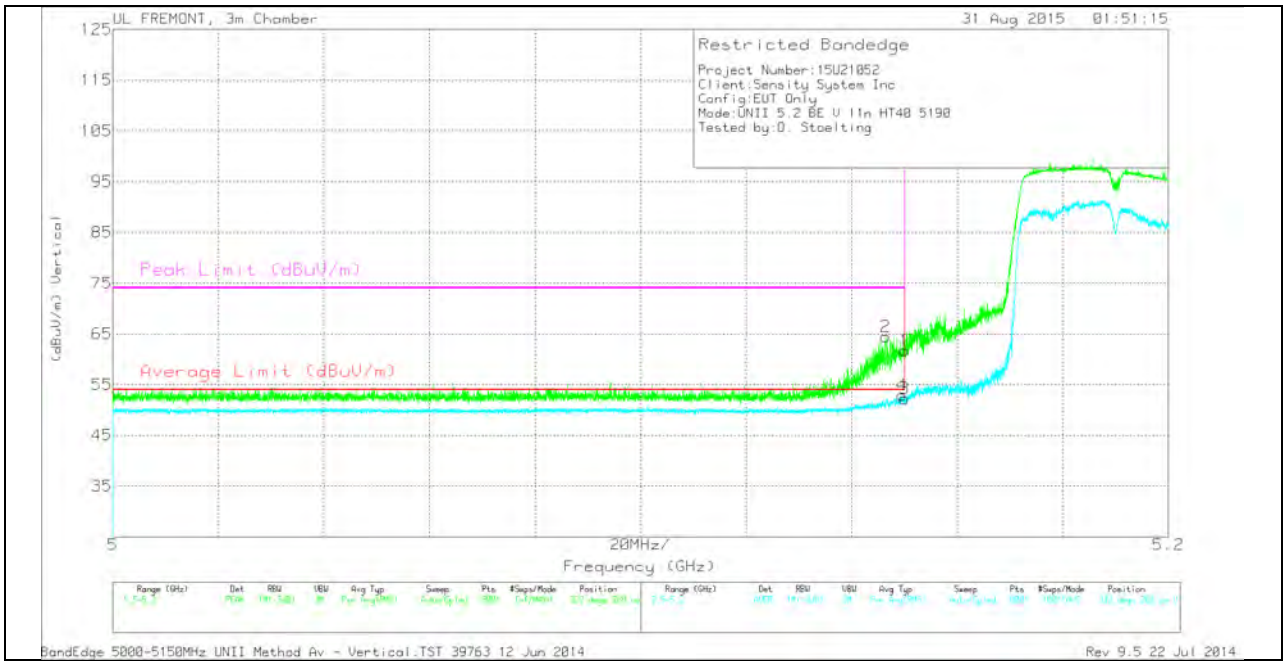
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.146	50.96	PK	34.2	-20.7	0	64.46	-	-	74	-9.54	332	268	V
1	5.15	48.35	PK	34.2	-20.8	0	61.75	-	-	74	-12.25	332	268	V
3	5.15	31.37	RMS	34.2	-20.8	7.45	52.22	54	-1.78	-	-	332	268	V
4	5.15	32.1	RMS	34.2	-20.8	7.45	52.95	54	-1.05	-	-	332	268	V

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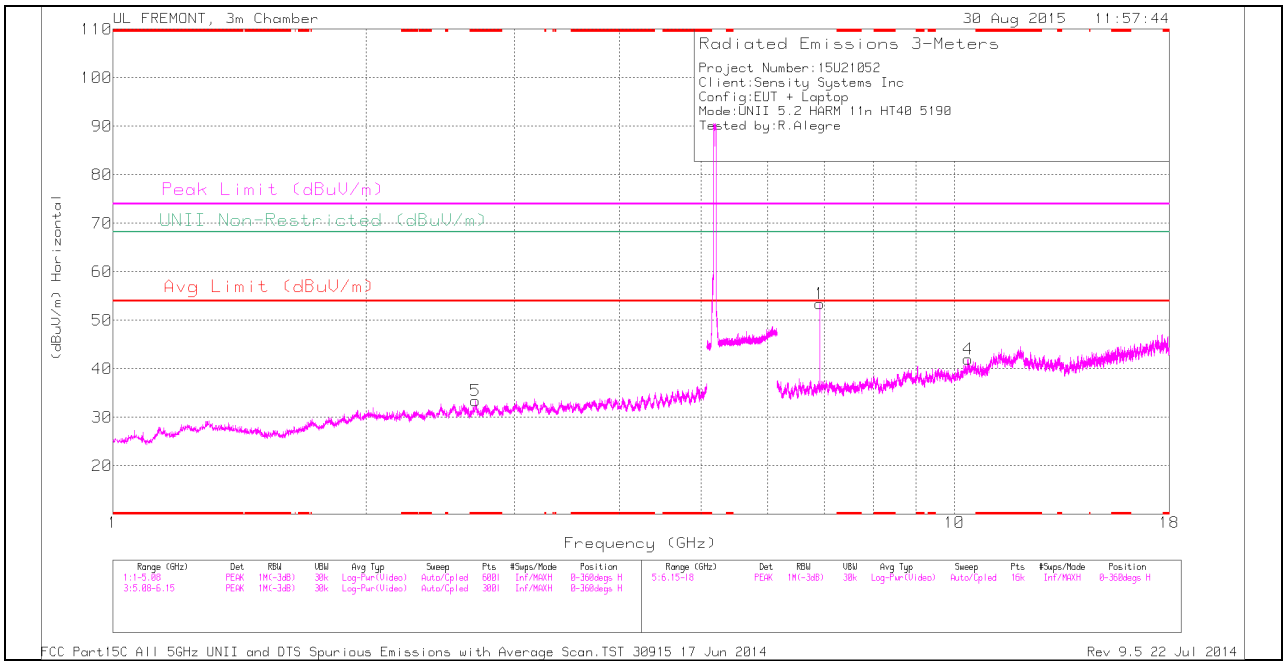
HARMONICS AND SPURIOUS EMISSIONS

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.

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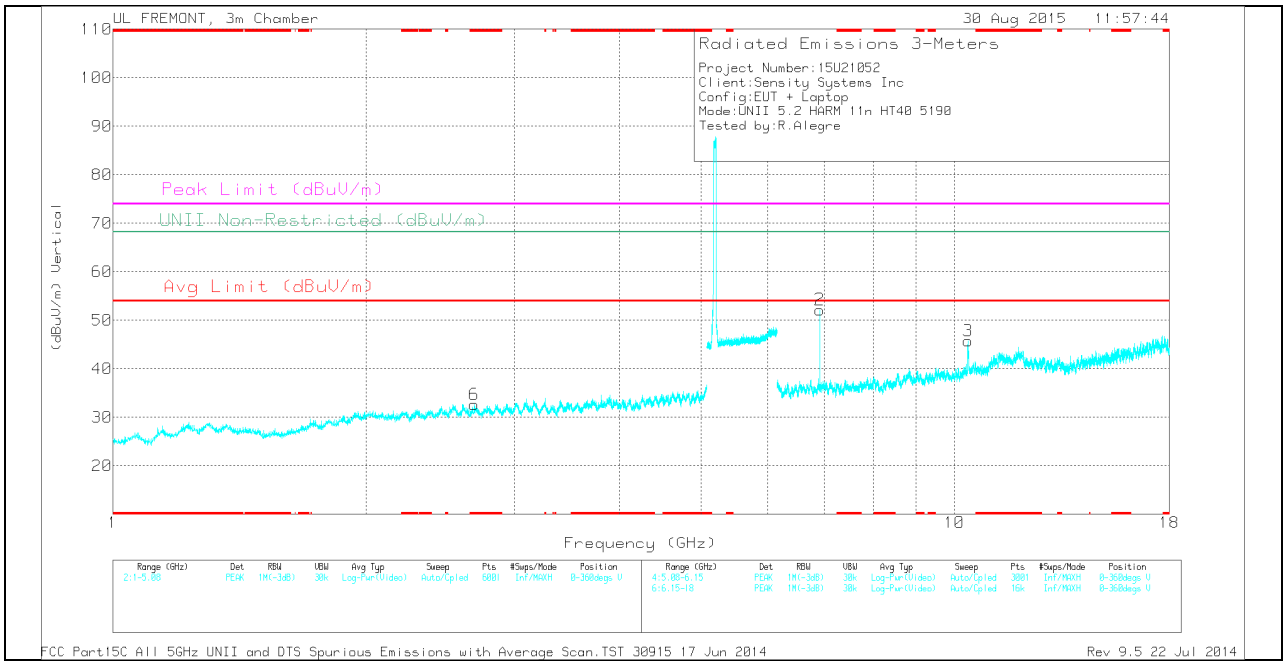
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 2.697	32.59	PK	32.3	-31.5	0	33.39	-	-	74	-40.61	-	-	0-360	200	H
6	* 2.687	32	PK	32.3	-31.6	0	32.7	-	-	74	-41.3	-	-	0-360	100	V
1	6.92	45.96	PK	35.6	-28.1	0	53.46	-	-	-	-	68.2	-14.74	0-360	200	H
2	6.92	44.69	PK	35.6	-28.1	0	52.19	-	-	-	-	68.2	-16.01	0-360	100	V
4	10.376	28.59	PK	37.2	-23.8	0	41.99	-	-	-	-	68.2	-26.21	0-360	200	H
3	10.384	32.43	PK	37.2	-23.9	0	45.73	-	-	-	-	68.2	-22.47	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (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
* 2.696	41.2	PK1	32.3	-31.5	0	42	-	-	74	-32	-	-	360	200	H
* 2.696	29.68	AD1	32.3	-31.5	6.24	36.72	54	-17.28	-	-	-	-	360	200	H
* 2.689	41.7	PK1	32.3	-31.5	0	42.5	-	-	74	-31.5	-	-	360	100	V
* 2.686	29.36	AD1	32.3	-31.6	6.24	36.3	54	-17.7	-	-	-	-	360	100	V
6.92	48.31	PK1	35.6	-28.2	0	55.71	-	-	-	-	68.2	-12.49	43	193	H
6.92	48.21	PK1	35.6	-28.2	0	55.61	-	-	-	-	68.2	-12.59	55	125	V
10.378	37.35	PK1	37.2	-23.8	0	50.75	-	-	-	-	68.2	-17.45	55	200	H
10.385	36.57	PK1	37.2	-24	0	49.77	-	-	-	-	68.2	-18.43	98	160	V

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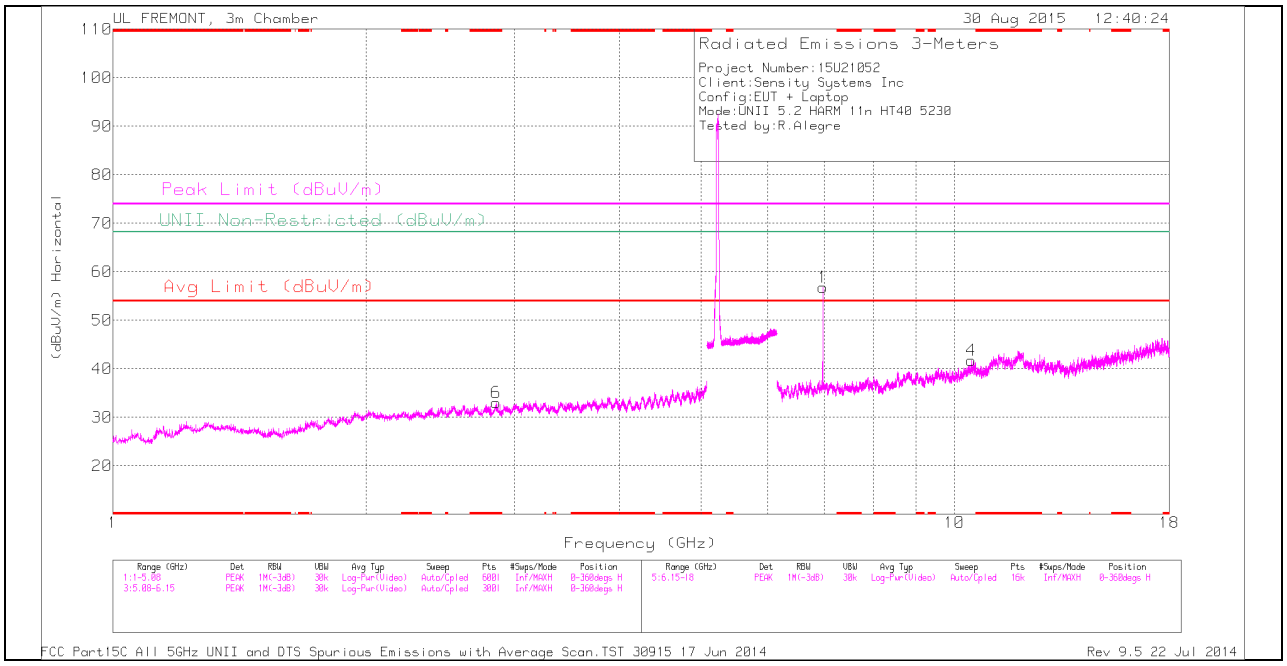
MID CHANNEL HORIZONTAL



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

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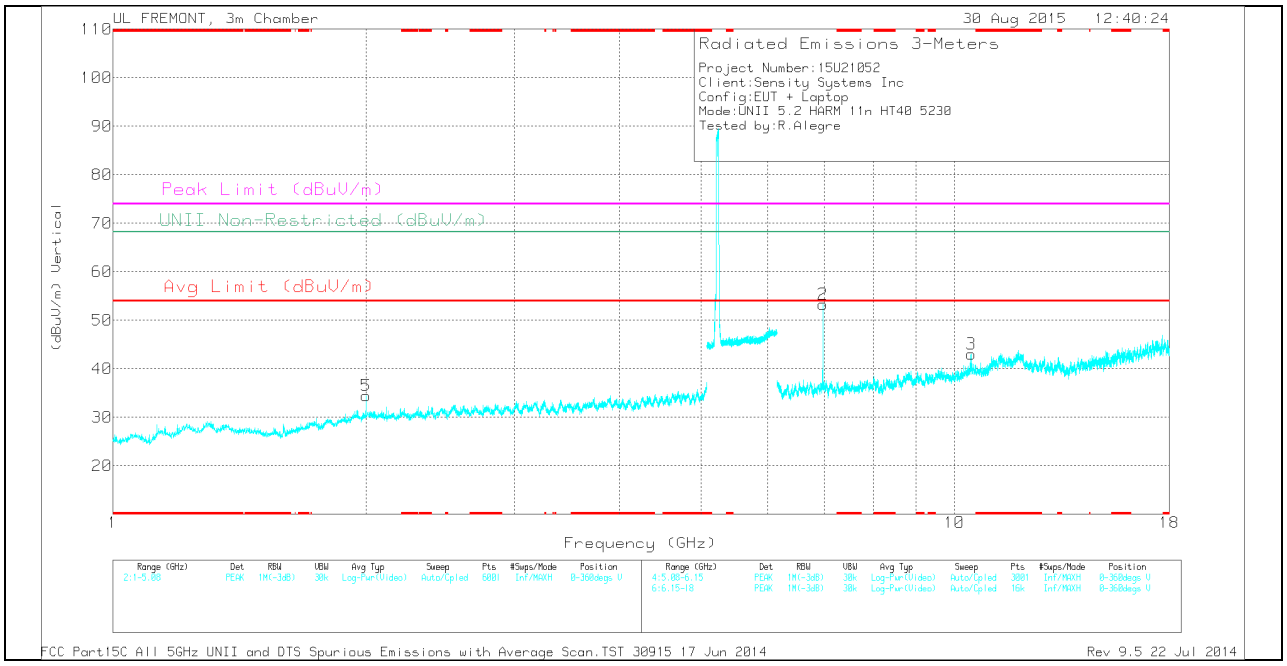
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 2.853	32.12	PK	32.6	-31.7	0	33.02	-	-	74	-40.98	-	-	0-360	100	H
5	1.999	34.29	PK	31.5	-31.3	0	34.49	-	-	-	-	68.2	-33.71	0-360	100	V
1	6.974	49.31	PK	35.6	-28.1	0	56.81	-	-	-	-	68.2	-11.39	0-360	200	H
2	6.974	45.79	PK	35.6	-28.1	0	53.29	-	-	-	-	68.2	-14.91	0-360	200	V
3	10.462	29.85	PK	37.4	-24.2	0	43.05	-	-	-	-	68.2	-25.15	0-360	200	V
4	10.474	28.51	PK	37.4	-24.2	0	41.71	-	-	-	-	68.2	-26.49	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (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
* 2.854	41.48	PK1	32.6	-31.7	0	42.38	-	-	74	-31.62	-	-	20	200	H
* 2.855	29.73	AD1	32.6	-31.6	7.07	37.8	54	-16.2	-	-	-	-	20	200	H
1.997	41	PK1	31.5	-31.3	0	41.2	-	-	-	-	68.2	-27	20	200	V
6.973	52.33	PK1	35.6	-28.1	0	59.83	-	-	-	-	68.2	-8.37	71	218	H
6.973	49.98	PK1	35.6	-28.1	0	57.48	-	-	-	-	68.2	-10.72	58	107	V
10.463	41.64	PK1	37.4	-24.2	0	54.84	-	-	-	-	68.2	-13.36	360	221	V
10.476	40.8	PK1	37.4	-24.2	0	54	-	-	-	-	68.2	-14.2	40	277	H

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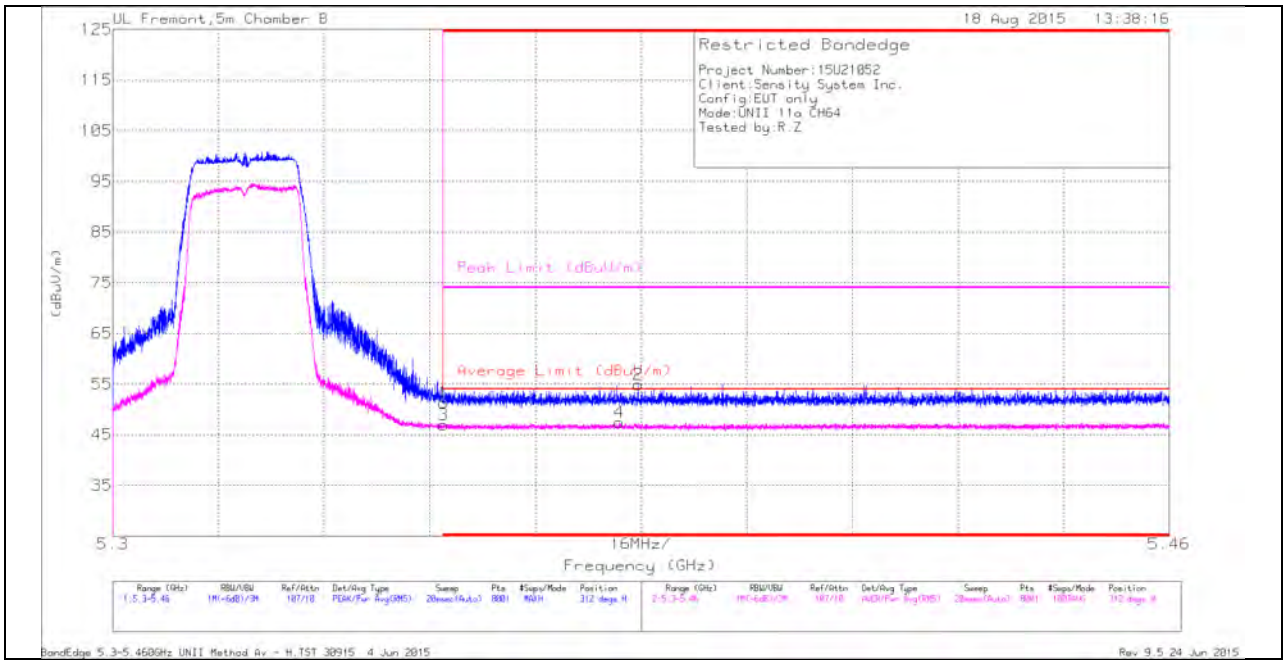
11.2. 5.3 GHz

11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.97	Pk	34.4	-22.1	0	51.27	-	-	74	-22.73	312	180	H
2	* 5.38	42.52	Pk	34.4	-22	0	54.92	-	-	74	-19.08	312	180	H
3	* 5.35	30.49	RMS	34.4	-22.1	4.19	46.98	54	-7.02	-	-	312	180	H
4	* 5.377	30.86	RMS	34.4	-22	4.19	47.45	54	-6.55	-	-	312	180	H

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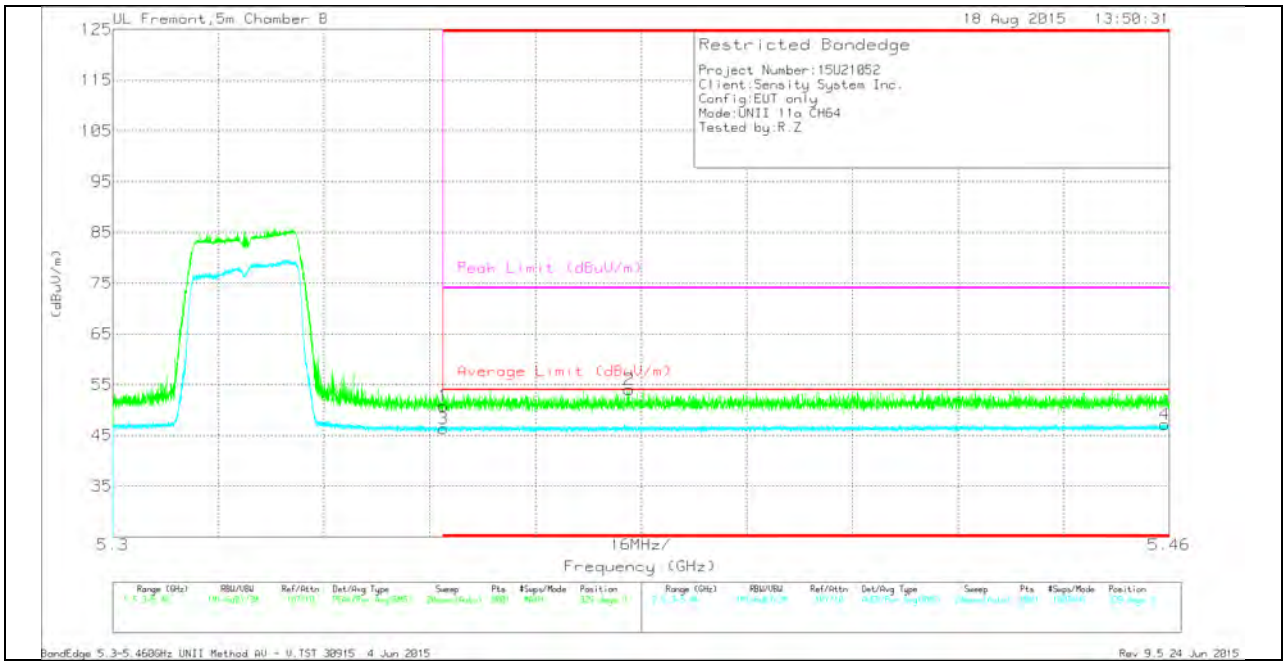
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.5	Pk	34.4	-22.1	0	50.8	-	-	74	-23.2	329	252	V
2	* 5.378	41.64	Pk	34.4	-22	0	54.04	-	-	74	-19.96	329	252	V
3	* 5.35	29.85	RMS	34.4	-22.1	4.19	46.34	54	-7.66	-	-	329	252	V
4	* 5.459	30.51	RMS	34.5	-22	4.19	47.2	54	-6.8	-	-	329	252	V

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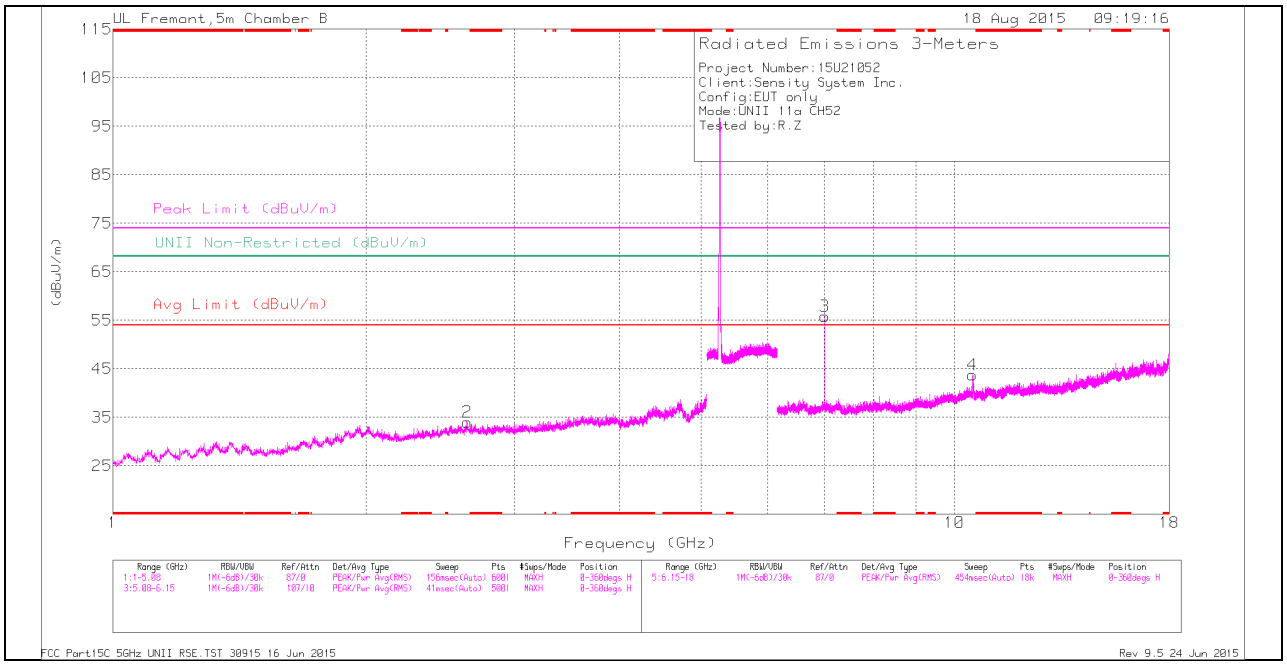
HARMONICS AND SPURIOUS EMISSIONS

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.

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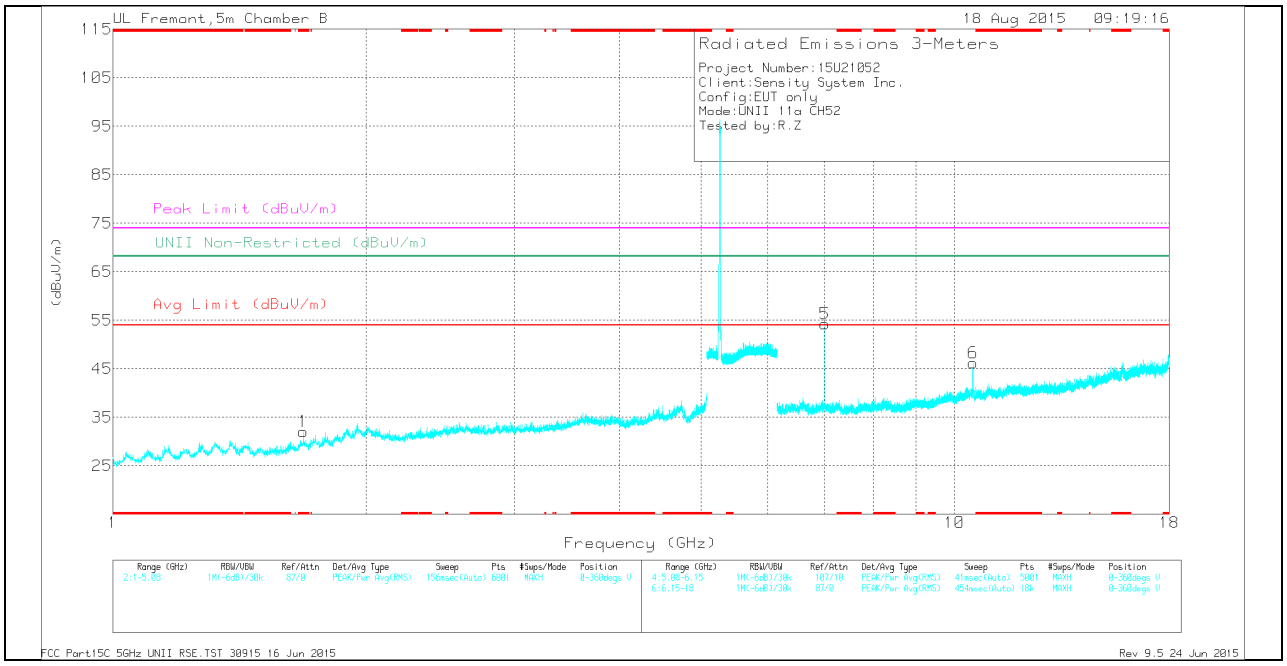
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	* 1.683	36.65	Pk	29.6	-34.2	32.05	-	-	74	-41.95	-	-	0-360	200	V
2	2.636	34.92	Pk	32.7	-33.6	34.02	-	-	-	-	68.2	-34.18	0-360	101	H
3	7.013	49.54	Pk	36	-29.7	55.84	-	-	-	-	68.2	-12.36	0-360	199	H
5	7.013	47.94	Pk	36	-29.7	54.24	-	-	-	-	68.2	-13.96	0-360	199	V
4	10.513	31.63	Pk	37.5	-25.4	43.73	-	-	-	-	68.2	-24.47	0-360	199	H
6	10.518	34.12	Pk	37.5	-25.4	46.22	-	-	-	-	68.2	-21.98	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.681	43.4	PK-U	29.6	-34.2	38.8	-	-	74	-35.2	-	-	204	233	V
* 1.683	31.27	ADR	29.6	-34.2	26.67	54	-27.33	-	-	-	-	204	233	V
2.637	42.48	PK-U	32.7	-33.6	41.58	-	-	-	-	68.2	-26.62	0	101	H
7.013	51.7	PK-U	36	-29.7	58	-	-	-	-	68.2	-10.2	123	226	H
7.013	50.19	PK-U	36	-29.7	56.49	-	-	-	-	68.2	-11.71	312	203	V
10.513	40.65	PK-U	37.5	-25.4	52.75	-	-	-	-	68.2	-15.45	83	192	H
10.52	47.33	PK-U	37.5	-25.4	59.43	-	-	-	-	68.2	-8.77	246	268	V

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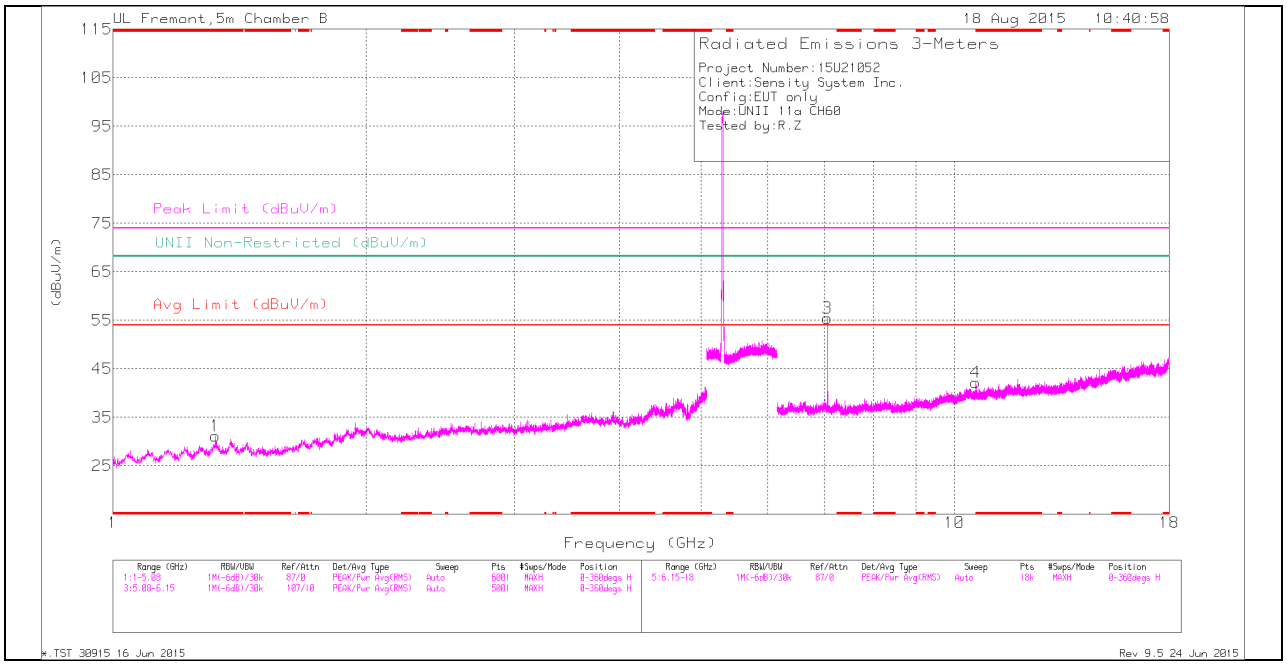
MID CHANNEL HORIZONTAL



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

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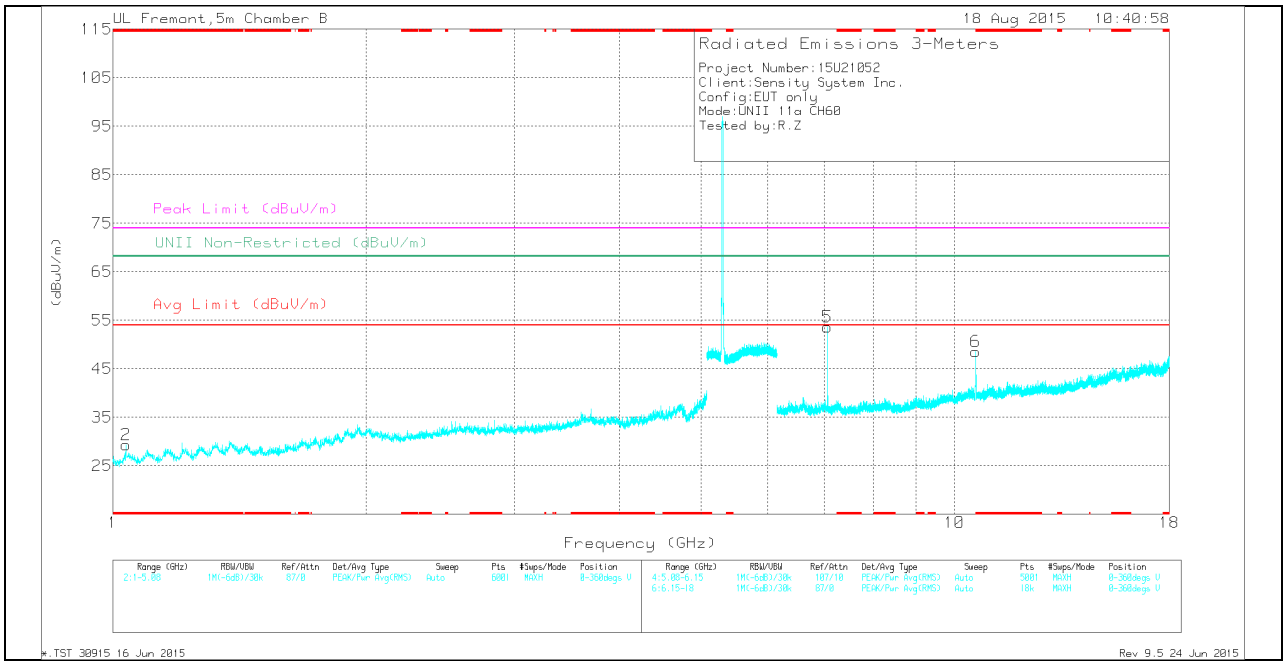
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (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	* 1.324	37.05	Pk	29.4	-35.3	0	31.15	-	-	74	-42.85	-	-	0-360	199	H
2	* 1.036	37.85	Pk	27.4	-35.9	0	29.35	-	-	74	-44.65	-	-	0-360	101	V
3	7.066	49.5	Pk	35.8	-29.9	0	55.4	-	-	-	-	68.2	-12.8	0-360	199	H
5	7.066	47.74	Pk	35.8	-29.9	0	53.64	-	-	-	-	68.2	-14.56	0-360	199	V
4	10.594	30.58	Pk	37.6	-26	0	42.18	-	-	-	-	68.2	-26.02	0-360	199	H
6	10.598	36.96	Pk	37.6	-26	0	48.56	-	-	-	-	68.2	-19.64	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (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
* 1.325	44.15	PK-U	29.4	-35.3	0	38.25	-	-	74	-35.75	-	-	158	266	H
* 1.323	32	ADR	29.4	-35.3	4.19	30.29	54	-23.71	-	-	-	-	158	266	H
* 1.035	44.61	PK-U	27.4	-35.9	0	36.11	-	-	74	-37.89	-	-	311	127	V
* 1.036	32.48	ADR	27.4	-35.9	4.19	28.17	54	-25.83	-	-	-	-	311	127	V
7.067	51.36	PK-U	35.8	-29.9	0	57.26	-	-	-	-	68.2	-10.94	128	213	H
7.067	49.89	PK-U	35.8	-29.9	0	55.79	-	-	-	-	68.2	-12.41	66	246	V
10.592	39.97	PK-U	37.6	-26	0	51.57	-	-	-	-	68.2	-16.63	128	398	H
10.598	44.36	PK-U	37.6	-26	0	55.96	-	-	-	-	68.2	-12.24	246	240	V

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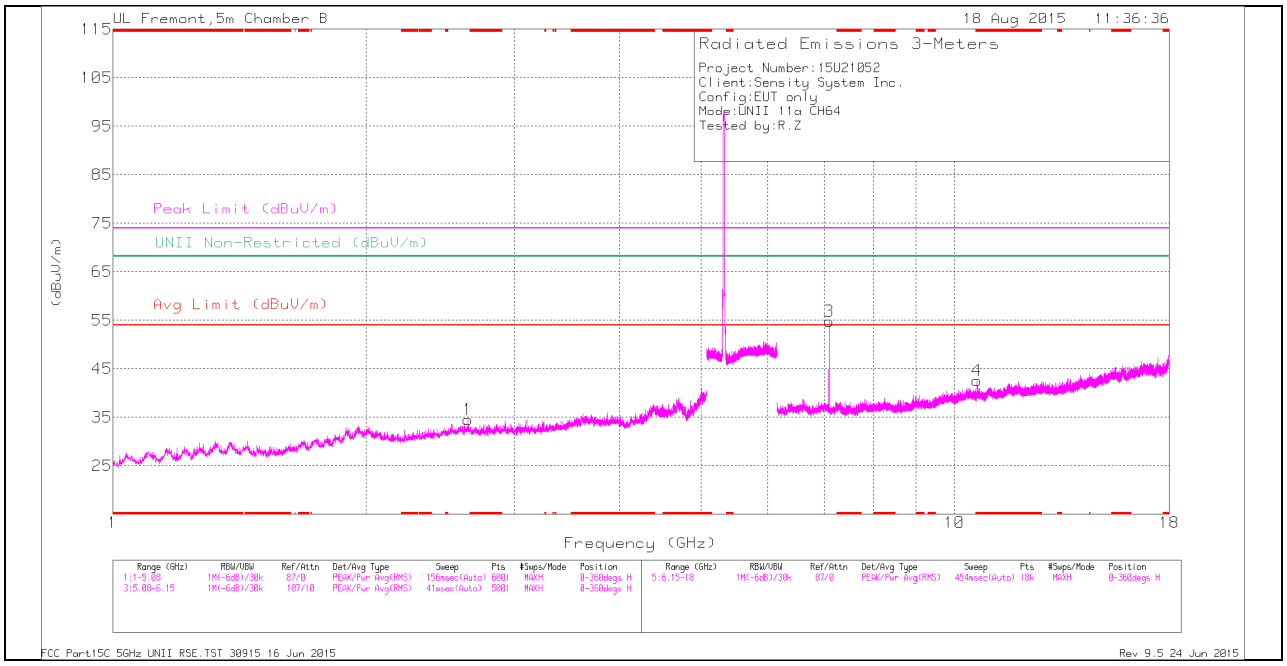
HIGH CHANNEL HORIZONTAL



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

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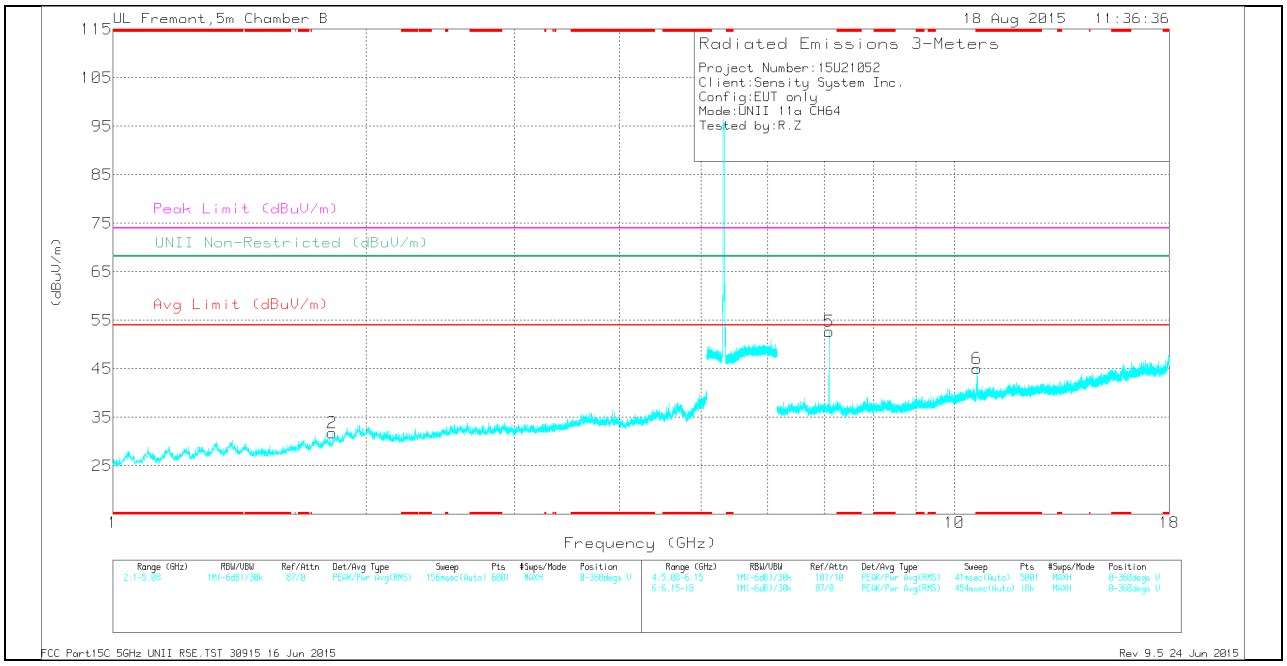
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (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	* 10.638	30.33	Pk	37.6	-25.4	0	42.53	-	-	74	-31.47	-	-	0-360	200	H
6	* 10.636	32.89	Pk	37.6	-25.4	0	45.09	-	-	74	-28.91	-	-	0-360	200	V
2	1.821	36.05	Pk	31	-35.3	0	31.75	-	-	-	-	68.2	-36.45	0-360	101	V
1	2.643	35.35	Pk	32.7	-33.5	0	34.55	-	-	-	-	68.2	-33.65	0-360	101	H
3	7.093	49.54	Pk	35.6	-30.3	0	54.84	-	-	-	-	68.2	-13.36	0-360	200	H
5	7.093	47.42	Pk	35.6	-30.3	0	52.72	-	-	-	-	68.2	-15.48	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (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
* 10.64	40.69	PK-U	37.6	-25.4	0	52.89	-	-	74	-21.11	-	-	77	200	H
* 10.64	26.6	ADR	37.6	-25.4	4.19	42.99	54	-11.01	-	-	-	-	77	200	H
* 10.636	37.31	PK-U	37.6	-25.4	0	49.51	-	-	74	-24.49	-	-	77	200	V
* 10.635	24.72	ADR	37.6	-25.4	4.19	41.11	54	-12.89	-	-	-	-	77	200	V
1.822	43.43	PK-U	31	-35.3	0	39.13	-	-	-	-	68.2	-29.07	40	102	V
2.642	42.57	PK-U	32.7	-33.5	0	41.77	-	-	-	-	68.2	-26.43	40	377	H
7.093	51.65	PK-U	35.6	-30.3	0	56.95	-	-	-	-	68.2	-11.25	135	192	H
7.093	49.51	PK-U	35.6	-30.3	0	54.81	-	-	-	-	68.2	-13.39	77	200	V

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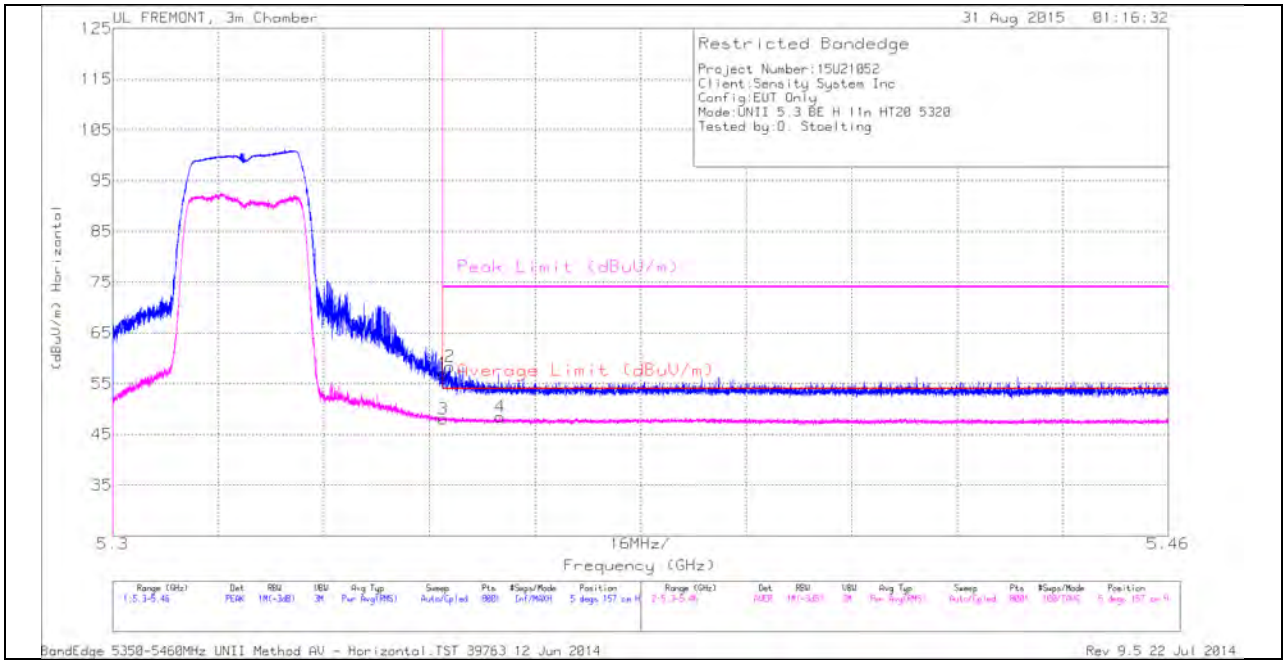
11.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	42.96	PK	34.5	-20.5	0	56.96	-	-	74	-17.04	5	157	H
3	5.35	29.78	RMS	34.5	-20.5	4.3	48.08	54	-5.92	-	-	5	157	H
2	5.351	44.32	PK	34.5	-20.5	0	58.32	-	-	74	-15.68	5	157	H
4	5.359	30.18	RMS	34.5	-20.6	4.3	48.38	54	-5.62	-	-	5	157	H

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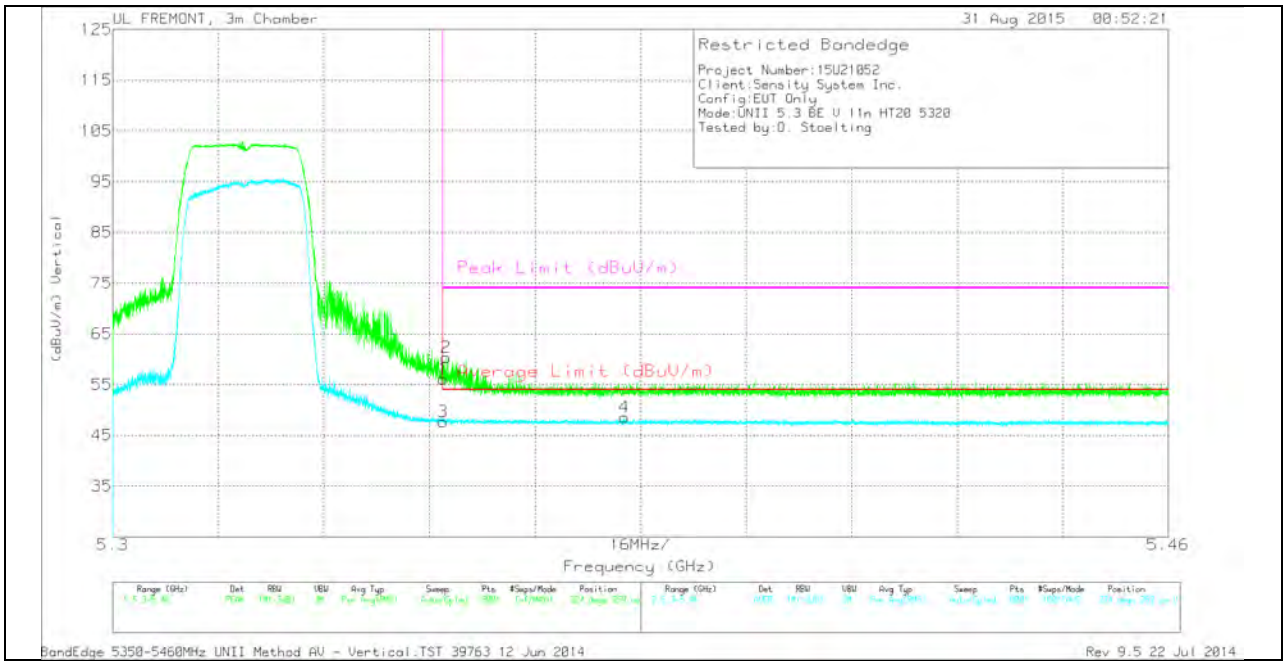
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	42.18	PK	34.5	-20.5	0	56.18	-	-	74	-17.82	324	259	V
3	5.35	29.39	RMS	34.5	-20.5	4.3	47.69	54	-6.31	-	-	324	259	V
2	5.351	46.38	PK	34.5	-20.5	0	60.38	-	-	74	-13.62	324	259	V
4	5.378	30.23	RMS	34.6	-20.6	4.3	48.53	54	-5.47	-	-	324	259	V

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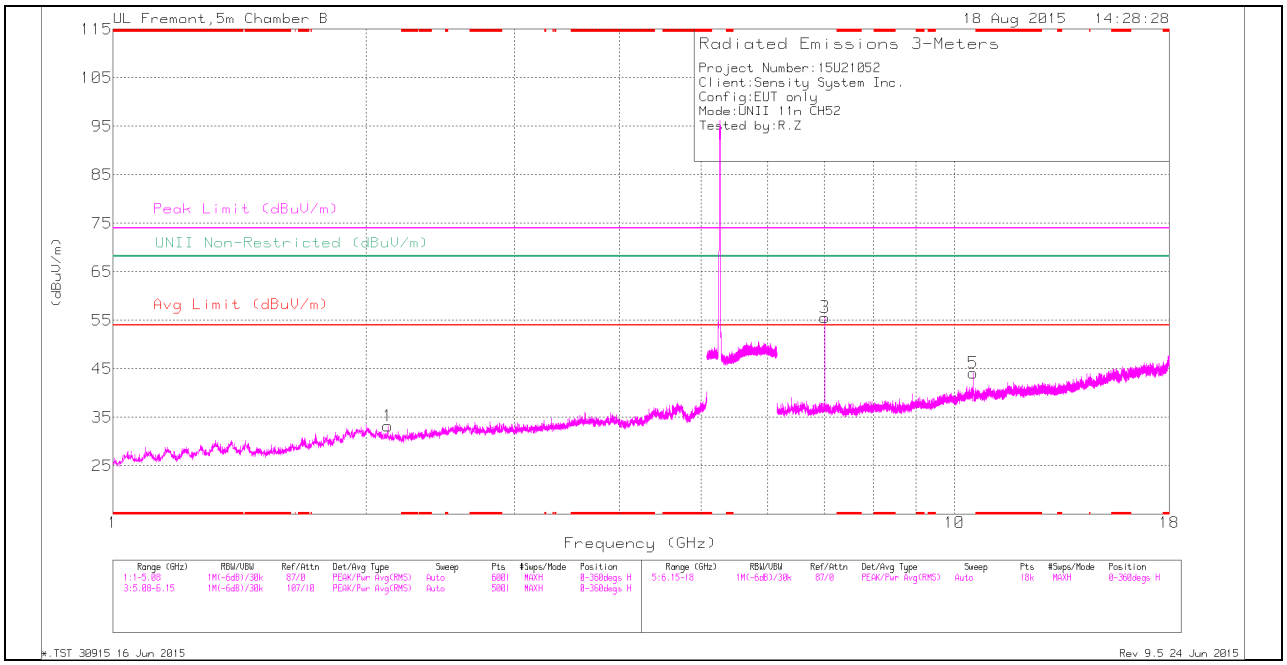
HARMONICS AND SPURIOUS EMISSIONS

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.

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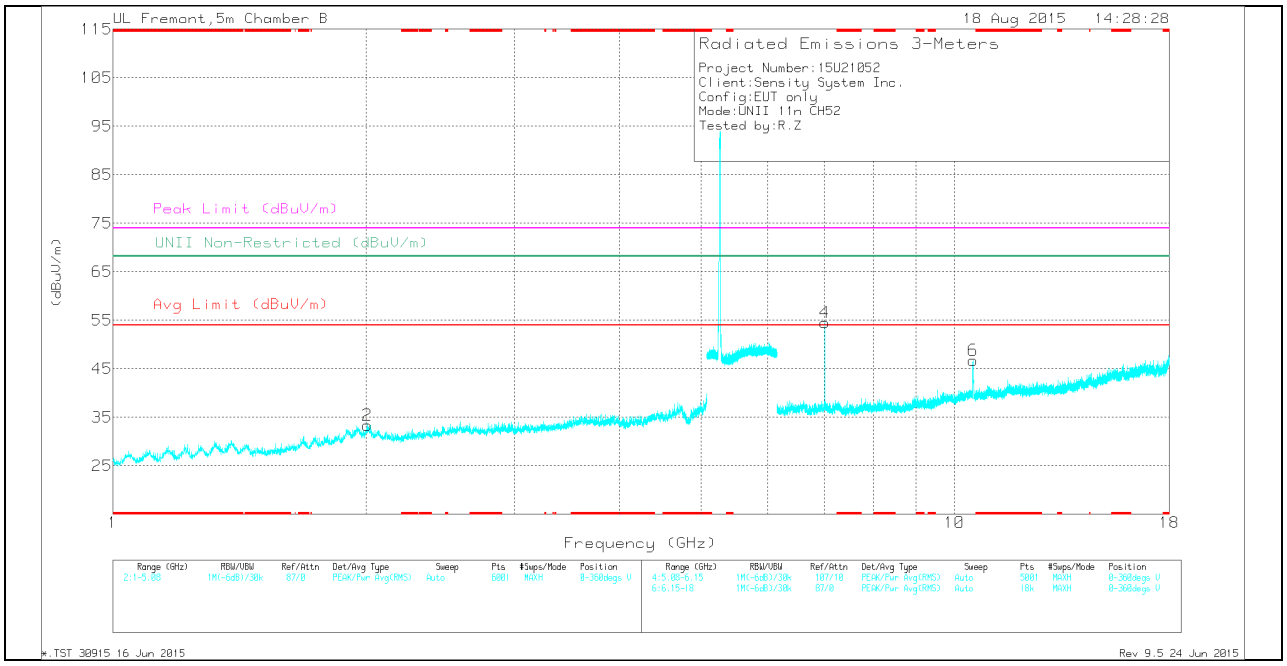
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (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	2.007	35.19	Pk	32.3	-34.1	0	33.39	-	-	-	-	68.2	-34.81	0-360	199	V
1	2.121	36.6	Pk	31.6	-35	0	33.2	-	-	-	-	68.2	-35	0-360	101	H
3	7.013	49.33	Pk	36	-29.7	0	55.63	-	-	-	-	68.2	-12.57	0-360	200	H
4	7.013	48.23	Pk	36	-29.7	0	54.53	-	-	-	-	68.2	-13.67	0-360	200	V
5	10.518	32.06	Pk	37.5	-25.4	0	44.16	-	-	-	-	68.2	-24.04	0-360	200	H
6	10.521	34.63	Pk	37.5	-25.4	0	46.73	-	-	-	-	68.2	-21.47	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (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
2.007	43	PK-U	32.3	-34.1	0	41.2	-	-	-	-	68.2	-27	7	193	V
2.122	43.64	PK-U	31.6	-35	0	40.24	-	-	-	-	68.2	-27.96	281	264	H
7.013	52.27	PK-U	36	-29.7	0	58.57	-	-	-	-	68.2	-9.63	136	213	H
7.013	50.74	PK-U	36	-29.7	0	57.04	-	-	-	-	68.2	-11.16	315	222	V
10.517	41.88	PK-U	37.5	-25.4	0	53.98	-	-	-	-	68.2	-14.22	82	203	H
10.522	38.02	PK-U	37.5	-25.4	0	50.12	-	-	-	-	68.2	-18.08	315	201	V

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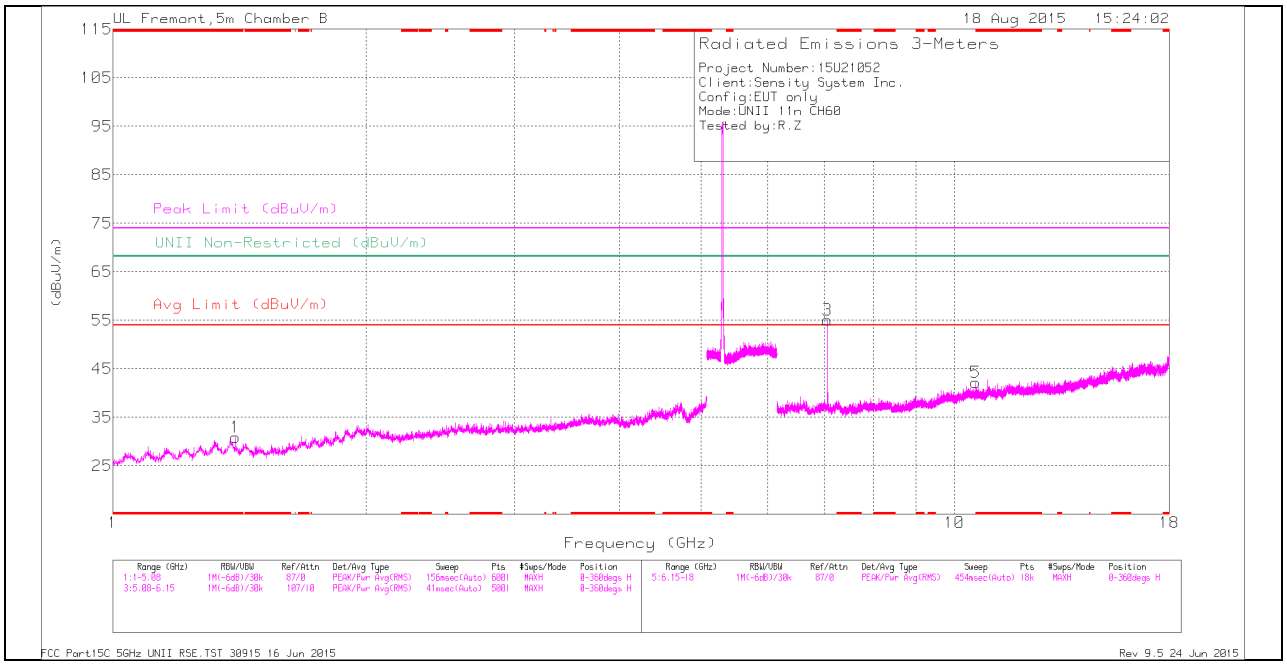
MID CHANNEL HORIZONTAL



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

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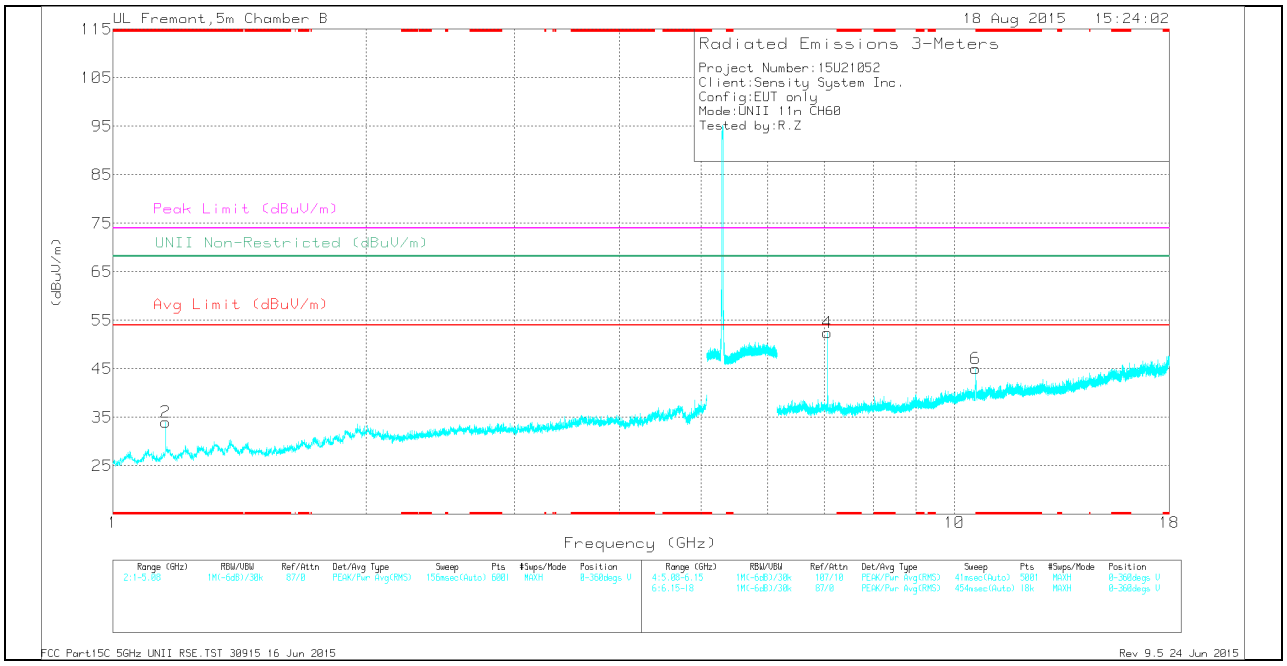
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (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	* 1.398	36.14	Pk	29.4	-34.7	0	30.84	-	-	74	-43.16	-	-	0-360	199	H
2	* 1.155	41.38	Pk	28.1	-35.5	0	33.98	-	-	74	-40.02	-	-	0-360	199	V
3	7.066	49.17	Pk	35.8	-29.9	0	55.07	-	-	-	-	68.2	-13.13	0-360	199	H
4	7.066	46.53	Pk	35.8	-29.9	0	52.43	-	-	-	-	68.2	-15.77	0-360	199	V
5	10.596	30.61	Pk	37.6	-26	0	42.21	-	-	-	-	68.2	-25.99	0-360	199	H
6	10.599	33.47	Pk	37.6	-26	0	45.07	-	-	-	-	68.2	-23.13	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (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
* 1.399	43.33	PK-U	29.4	-34.7	0	38.03	-	-	74	-35.97	-	-	220	177	H
* 1.397	30.64	ADR	29.4	-34.7	4.02	29.36	54	-24.64	-	-	-	-	220	177	H
* 1.154	44.85	PK-U	28.1	-35.5	0	37.45	-	-	74	-36.55	-	-	194	276	V
* 1.154	32.09	ADR	28.1	-35.5	4.02	28.71	54	-25.29	-	-	-	-	194	276	V
7.067	51.81	PK-U	35.8	-29.9	0	57.71	-	-	-	-	68.2	-10.49	131	202	H
7.067	49.97	PK-U	35.8	-29.9	0	55.87	-	-	-	-	68.2	-12.33	68	200	V
10.595	37.82	PK-U	37.6	-26	0	49.42	-	-	-	-	68.2	-18.78	131	200	H
10.599	37.01	PK-U	37.6	-26	0	48.61	-	-	-	-	68.2	-19.59	68	200	V

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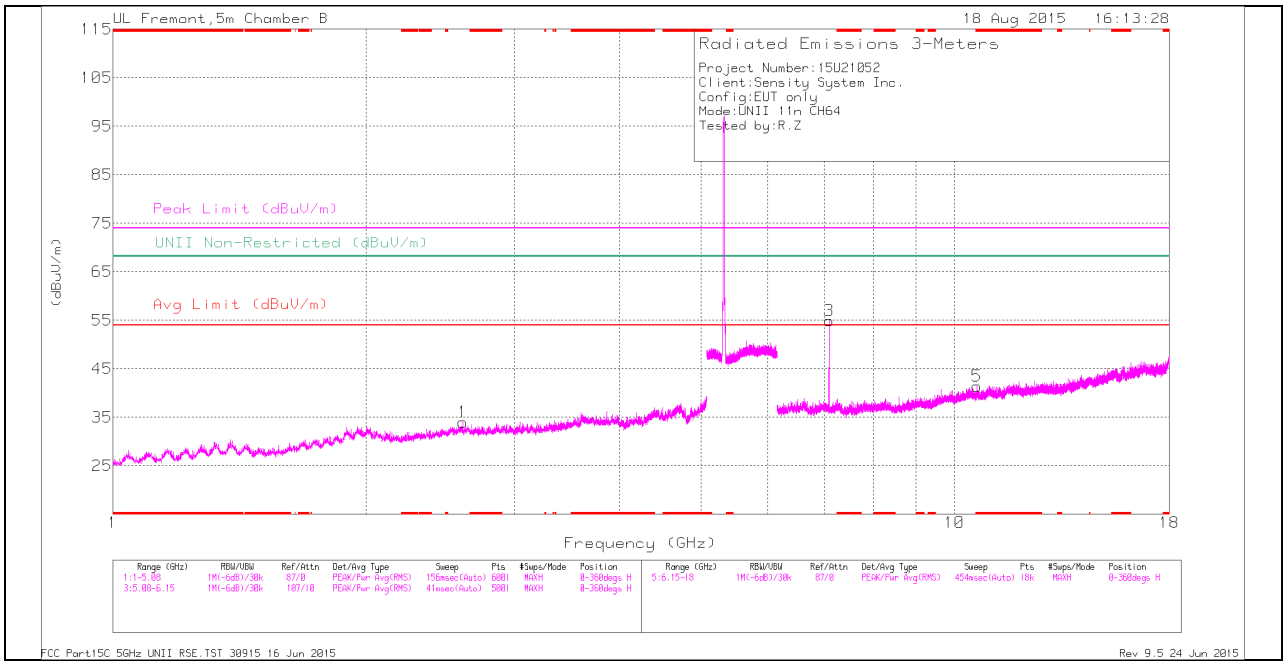
HIGH CHANNEL HORIZONTAL



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

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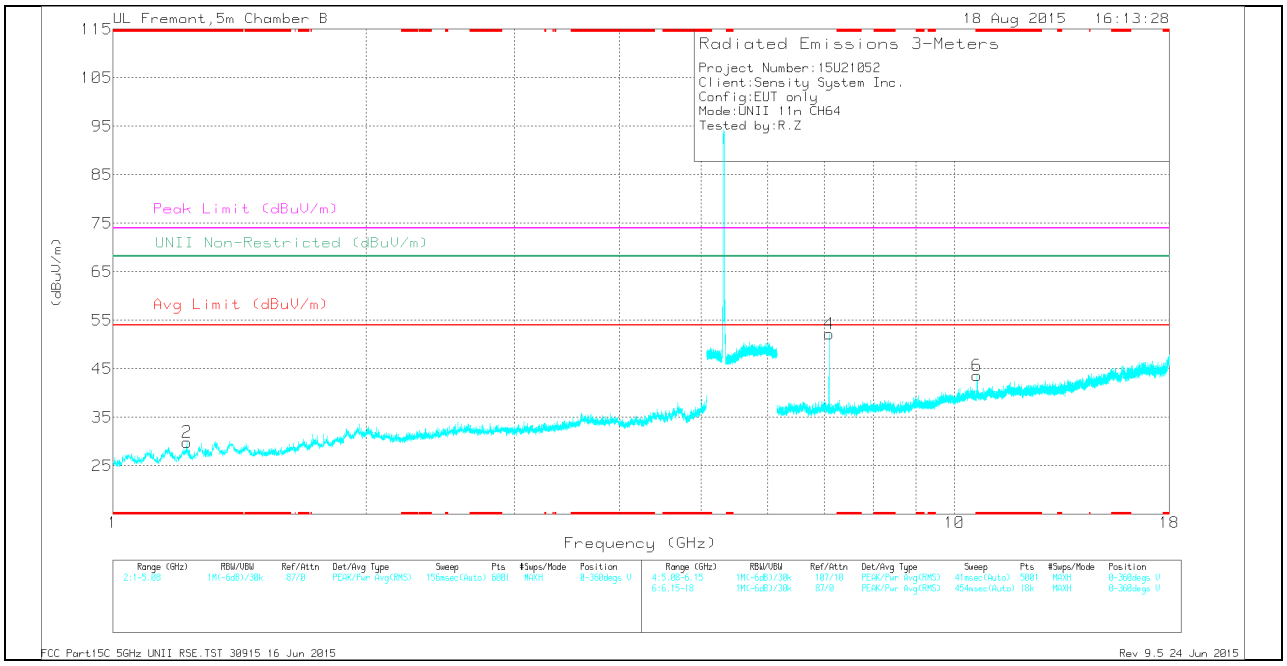
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (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	* 1.224	36.92	Pk	28.7	-35.7	0	29.92	-	-	74	-44.08	-	-	0-360	199	V
5	* 10.632	29.3	Pk	37.6	-25.5	0	41.4	-	-	74	-32.6	-	-	0-360	200	H
6	* 10.638	31.38	Pk	37.6	-25.4	0	43.58	-	-	74	-30.42	-	-	0-360	200	V
1	2.604	34.74	Pk	32.8	-33.5	0	34.04	-	-	-	-	68.2	-34.16	0-360	101	H
3	7.093	49.57	Pk	35.6	-30.3	0	54.87	-	-	-	-	68.2	-13.33	0-360	200	H
4	7.093	46.95	Pk	35.6	-30.3	0	52.25	-	-	-	-	68.2	-15.95	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (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
* 1.224	44.29	PK-U	28.7	-35.7	0	37.29	-	-	74	-36.71	-	-	79	198	V
* 1.224	32.27	ADR	28.7	-35.8	4.02	29.19	54	-24.81	-	-	-	-	79	198	V
* 10.633	36.99	PK-U	37.6	-25.4	0	49.19	-	-	74	-24.81	-	-	135	198	H
* 10.637	35.56	PK-U	37.6	-25.4	0	47.76	-	-	74	-26.24	-	-	135	198	V
* 10.636	24.64	ADR	37.6	-25.4	4.02	40.86	54	-13.14	-	-	-	-	135	198	V
2.603	42.4	PK-U	32.8	-33.5	0	41.7	-	-	-	-	68.2	-26.5	79	105	H
7.093	51.58	PK-U	35.6	-30.3	0	56.88	-	-	-	-	68.2	-11.32	135	198	H
7.093	45.99	PK-U	35.6	-30.3	0	51.29	-	-	-	-	68.2	-16.91	135	198	V

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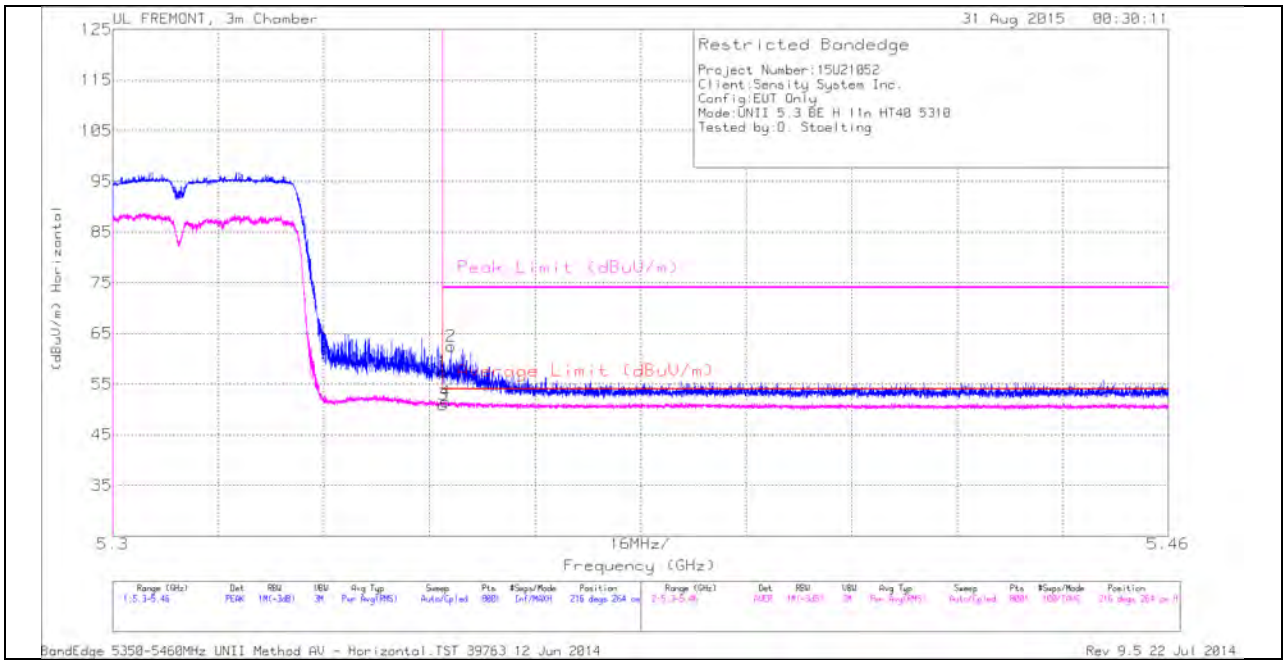
11.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	43.4	PK	34.5	-20.5	0	57.4	-	-	74	-16.6	216	264	H
3	5.35	29.43	RMS	34.5	-20.5	7.45	50.88	54	-3.12	-	-	216	264	H
4	5.35	30.13	RMS	34.5	-20.5	7.45	51.58	54	-2.42	-	-	216	264	H
2	5.351	48.42	PK	34.5	-20.5	0	62.42	-	-	74	-11.58	216	264	H

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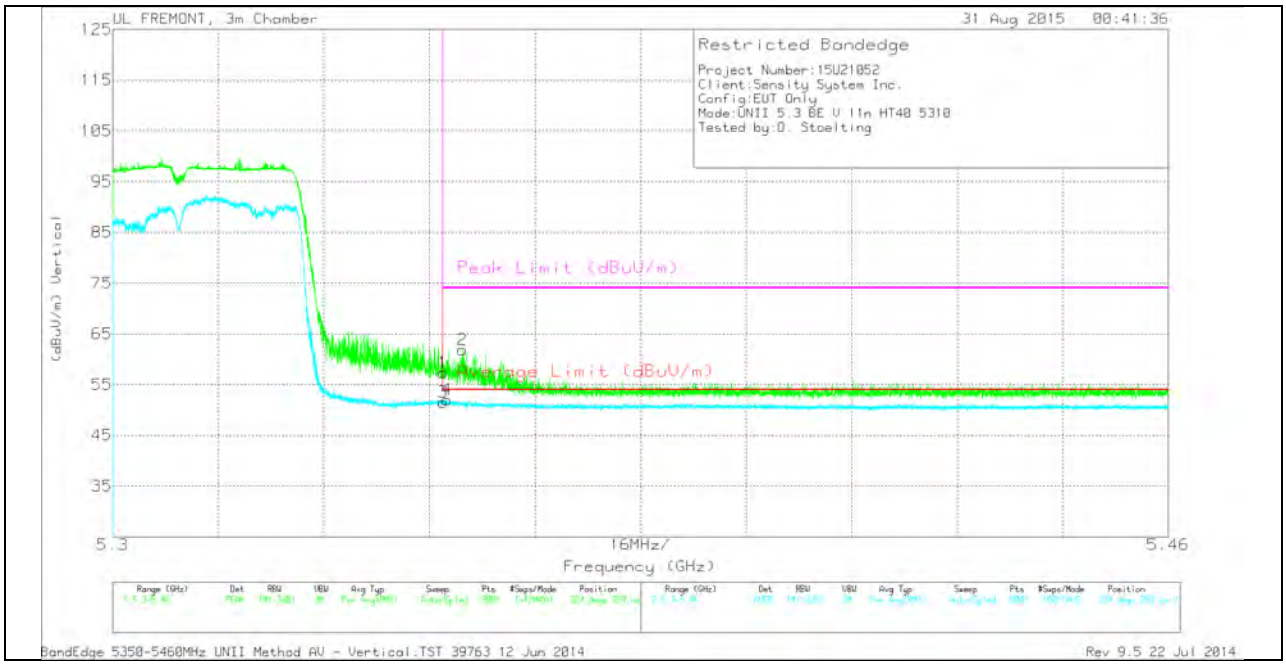
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.35	43.32	PK	34.5	-20.5	0	57.32	-	-	74	-16.68	324	259	V
3	5.35	30.1	RMS	34.5	-20.5	7.45	51.55	54	-2.45	-	-	324	259	V
4	5.351	30.56	RMS	34.5	-20.5	7.45	52.01	54	-1.99	-	-	324	259	V
2	5.353	47.92	PK	34.5	-20.6	0	61.82	-	-	74	-12.18	324	259	V

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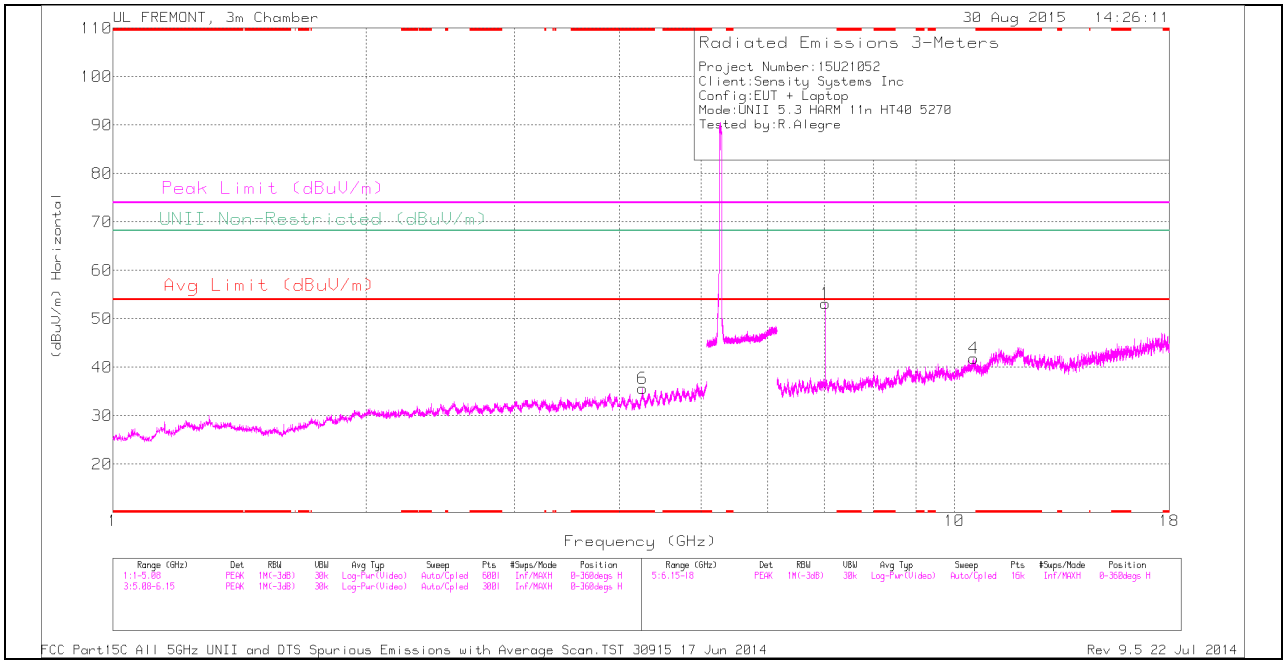
HARMONICS AND SPURIOUS EMISSIONS

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.

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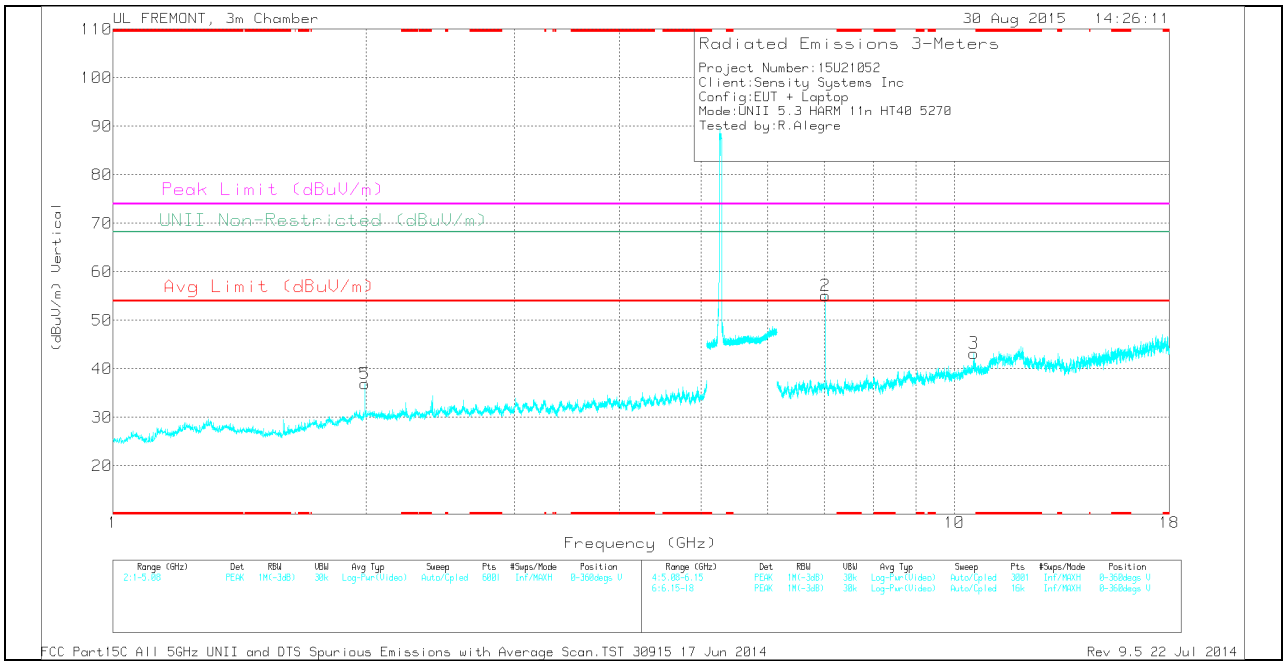
LOW CHANNEL VERTICAL



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LOW CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 4.26	32.21	PK	33.4	-30	0	35.61	-	-	74	-38.39	-	-	0-360	200	H
5	1.993	36.8	PK	31.5	-31.4	0	36.9	-	-	-	-	68.2	-31.3	0-360	100	V
1	7.027	45.65	PK	35.6	-28.1	0	53.15	-	-	-	-	68.2	-15.05	0-360	200	H
2	7.027	47.62	PK	35.6	-28.1	0	55.12	-	-	-	-	68.2	-13.08	0-360	100	V
4	10.536	27.78	PK	37.5	-23.4	0	41.88	-	-	-	-	68.2	-26.32	0-360	200	H
3	10.536	29.13	PK	37.5	-23.4	0	43.23	-	-	-	-	68.2	-24.97	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.258	40.98	PK1	33.4	-29.9	0	44.48	-	-	74	-29.52	-	-	360	200	H
* 4.258	29.18	AD1	33.4	-29.9	7.07	39.75	54	-14.25	-	-	-	-	360	200	H
7.027	51.95	PK1	35.6	-28.1	0	59.45	-	-	-	-	68.2	-8.75	73	249	H
7.027	49.33	PK1	35.6	-28.1	0	56.83	-	-	-	-	68.2	-11.37	56	103	V
10.537	35.93	PK1	37.5	-23.4	0	50.03	-	-	-	-	68.2	-18.17	73	200	H
10.537	36.16	PK1	37.5	-23.4	0	50.26	-	-	-	-	68.2	-17.94	65	200	V

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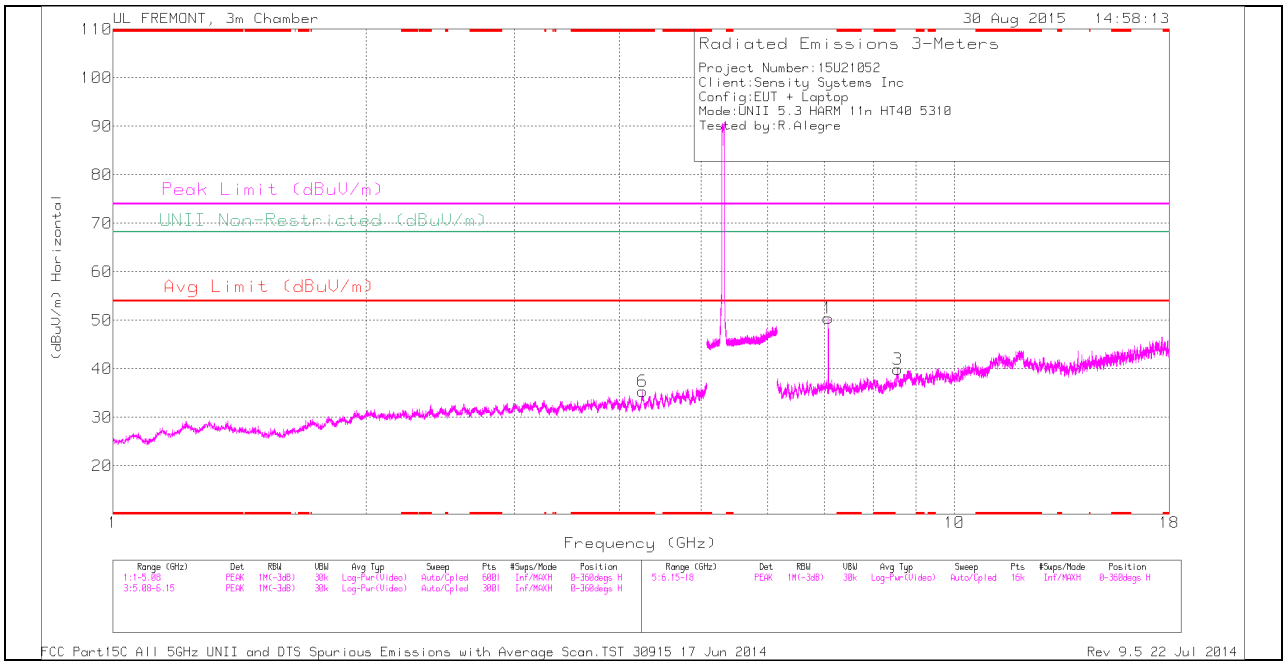
HIGH CHANNEL HORIZONTAL



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

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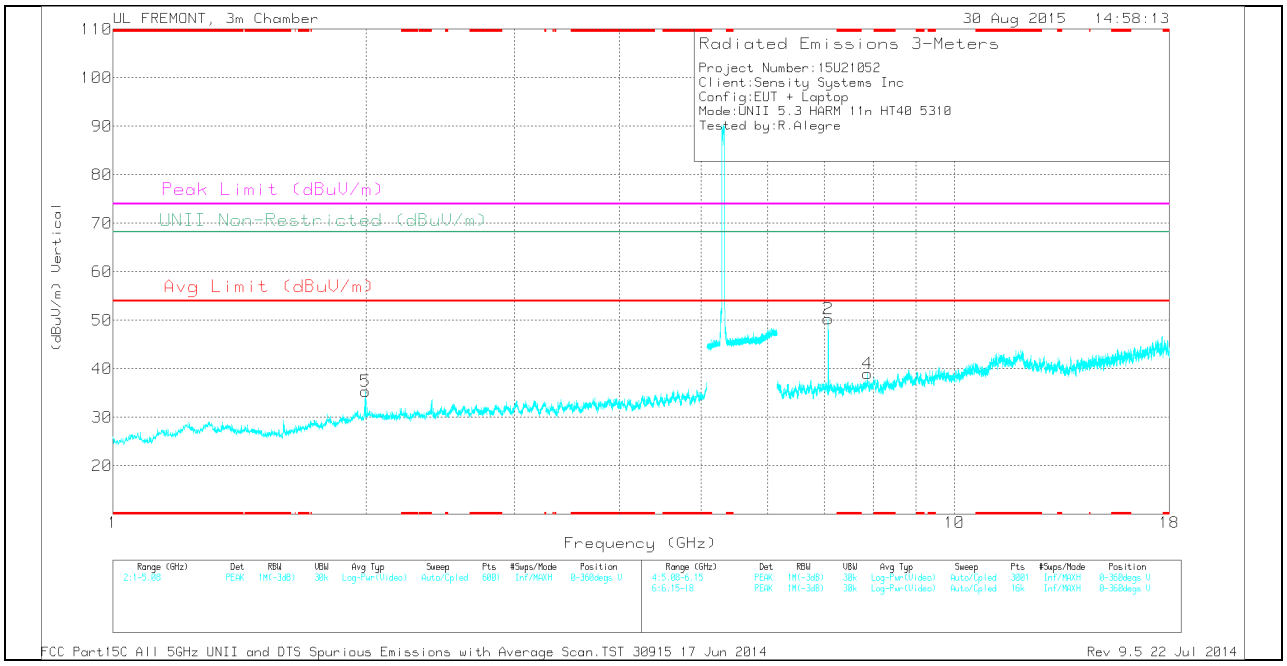
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

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)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 4.258	31.83	PK	33.4	-29.9	0	35.33	-	-	74	-38.67	-	-	0-360	200	H
5	1.996	35.12	PK	31.5	-31.3	0	35.32	-	-	-	-	68.2	-32.88	0-360	200	V
1	7.08	43.22	PK	35.6	-28.4	0	50.42	-	-	-	-	68.2	-17.78	0-360	200	H
2	7.08	43.13	PK	35.6	-28.4	0	50.33	-	-	-	-	68.2	-17.87	0-360	200	V
4	7.881	29.77	PK	35.8	-26.5	0	39.07	-	-	-	-	68.2	-29.13	0-360	200	V
3	8.558	28.86	PK	35.8	-24.7	0	39.96	-	-	-	-	68.2	-28.24	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (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
* 4.258	40.65	PK1	33.4	-29.9	0	44.15	-	-	74	-29.85	-	-	13	200	H
* 4.259	29.05	AD1	33.4	-30	7.07	39.52	54	-14.48	-	-	-	-	13	200	H
1.994	42.19	PK1	31.5	-31.4	0	42.29	-	-	-	-	68.2	-25.91	21	199	V
7.08	48.71	PK1	35.6	-28.4	0	55.91	-	-	-	-	68.2	-12.29	70	191	H
7.08	46.99	PK1	35.6	-28.4	0	54.19	-	-	-	-	68.2	-14.01	62	193	V
7.881	39.01	PK1	35.8	-26.5	0	48.31	-	-	-	-	68.2	-19.89	127	167	V
8.556	36.72	PK1	35.8	-24.8	0	47.72	-	-	-	-	68.2	-20.48	70	202	H

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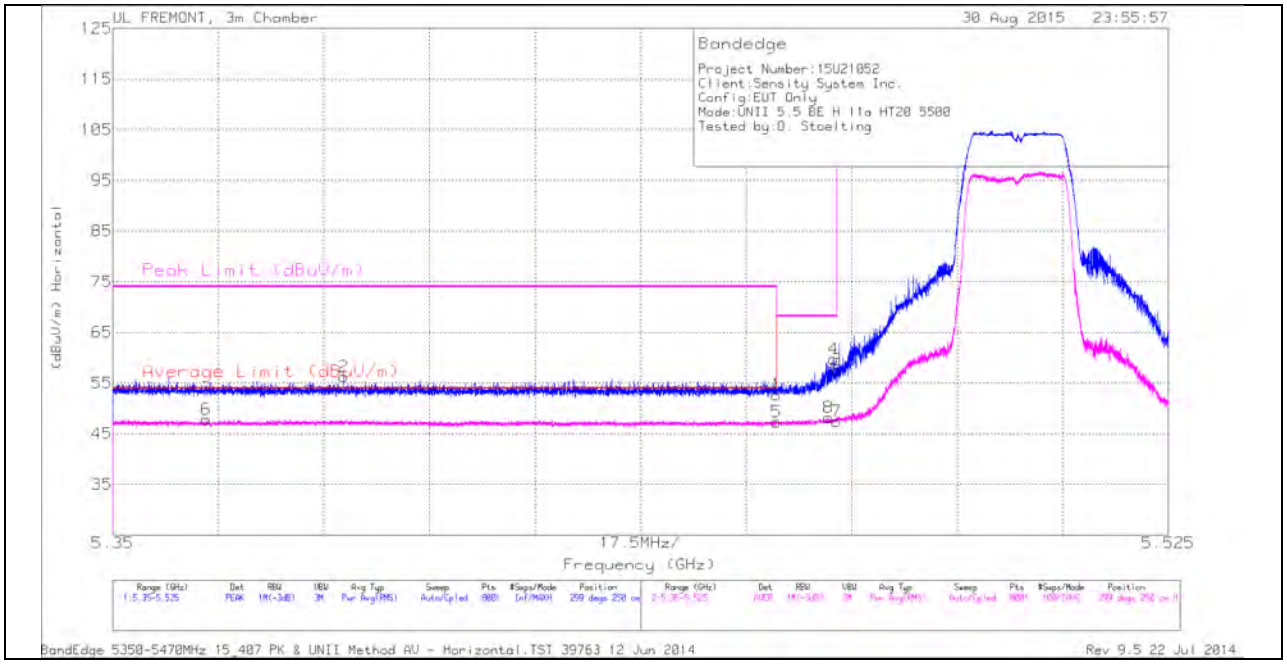
11.3. 5.5-5.6 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	5.365	30.14	RMS	34.5	-20.6	3.76	47.8	54	-6.2	-	-	299	250	H
2	5.388	42.22	PK	34.6	-20.6	0	56.22	-	-	74	-17.78	299	250	H
1	5.46	38.81	PK	34.6	-20.7	0	52.71	-	-	74	-21.29	299	250	H
5	5.46	29.7	RMS	34.6	-20.7	3.76	47.36	54	-6.64	-	-	299	250	H
4	5.469	45.76	PK	34.6	-20.6	0	59.76	-	-	68.2	-8.44	299	250	H
8	5.469	30.34	RMS	34.6	-20.5	3.76	48.2	-	-	-	-	299	250	H
3	5.47	43.67	PK	34.6	-20.6	0	57.67	-	-	68.2	-10.53	299	250	H
7	5.47	29.66	RMS	34.6	-20.6	3.76	47.42	-	-	-	-	299	250	H

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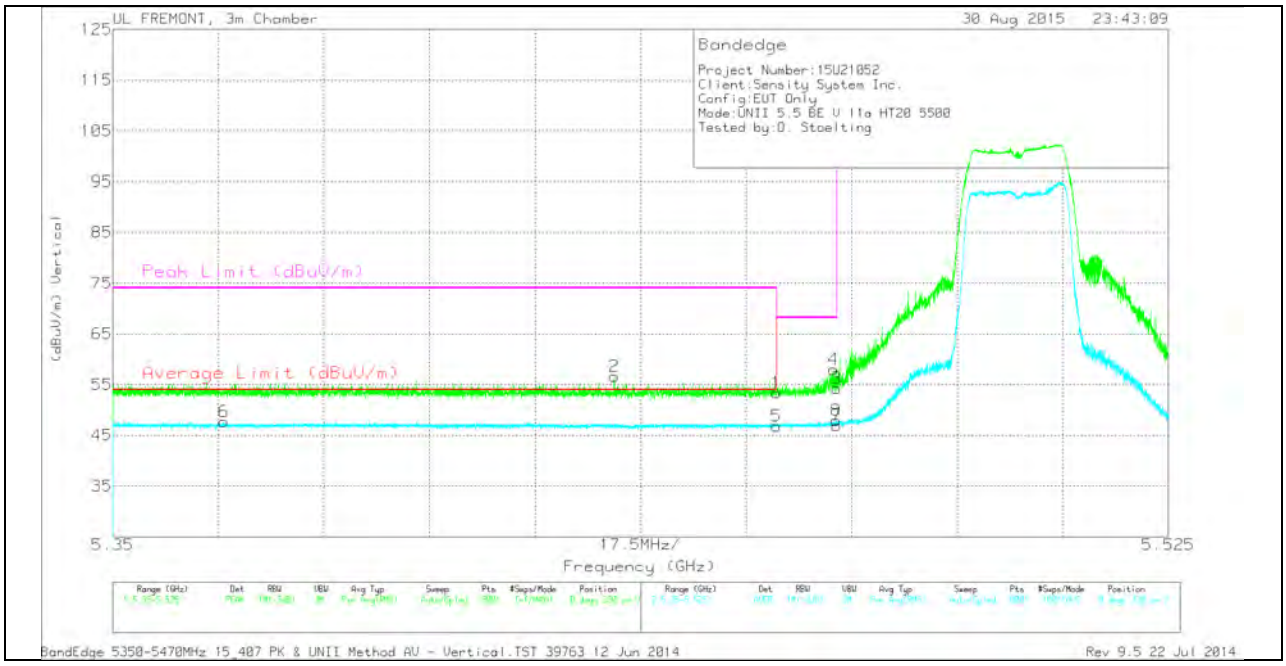
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	5.368	30.15	RMS	34.5	-20.7	3.76	47.71	54	-6.29	-	-	0	330	V
2	5.433	42.64	PK	34.6	-20.6	0	56.64	-	-	74	-17.36	0	330	V
1	5.46	39.54	PK	34.6	-20.7	0	53.44	-	-	74	-20.56	0	330	V
5	5.46	29.14	RMS	34.6	-20.7	3.76	46.8	54	-7.2	-	-	0	330	V
3	5.47	40.3	PK	34.6	-20.6	0	54.3	-	-	68.2	-13.9	0	330	V
4	5.47	43.96	PK	34.6	-20.6	0	57.96	-	-	68.2	-10.24	0	330	V
7	5.47	29.24	RMS	34.6	-20.6	3.76	47	-	-	-	-	0	330	V
8	5.47	30.18	RMS	34.6	-20.6	3.76	47.94	-	-	-	-	0	330	V

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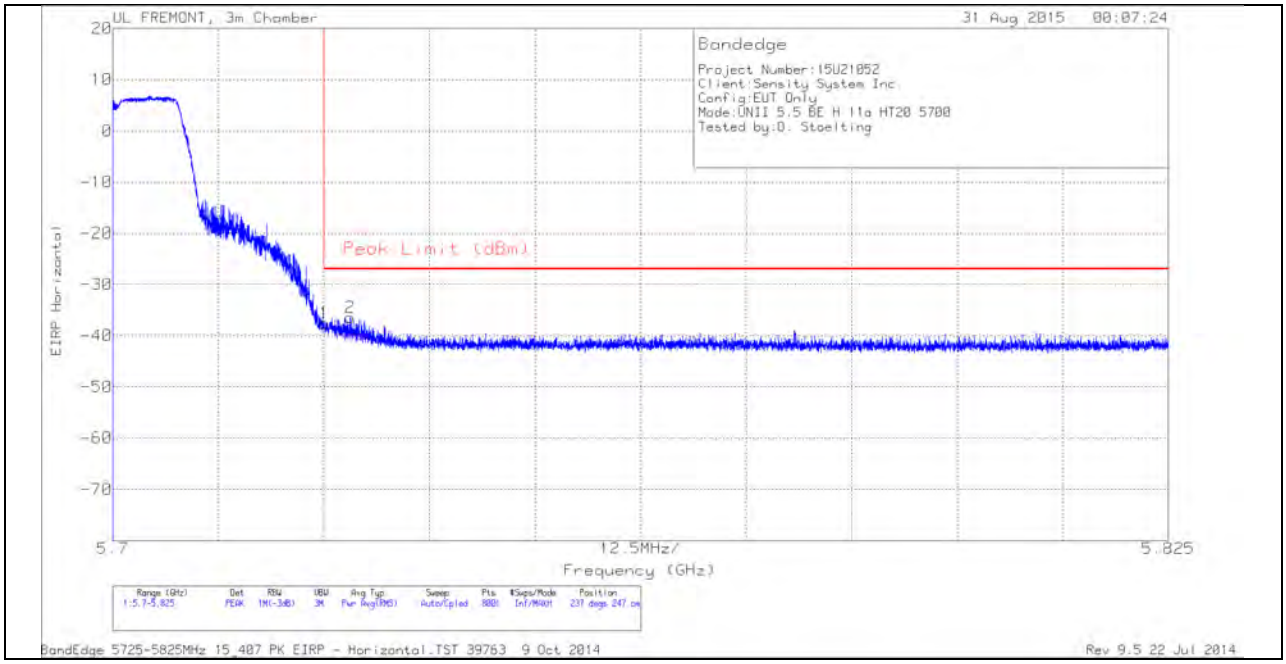
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-63.86	PK	34.8	-20.3	11.8	0	-37.56	-27	-10.56	237	247	H
2	5.728	-62.75	PK	34.8	-20.3	11.8	0	-36.45	-27	-9.45	237	247	H

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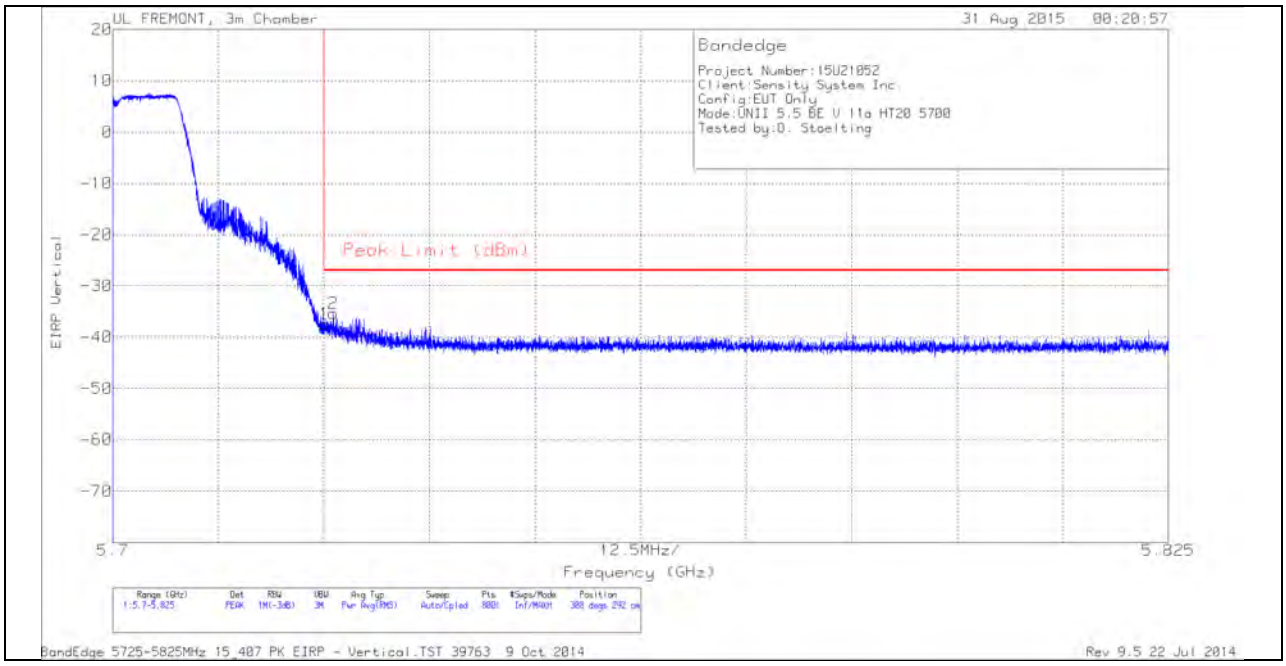
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-63.71	PK	34.8	-20.3	11.8	0	-37.41	-27	-10.41	308	292	V
2	5.726	-61.68	PK	34.8	-20.3	11.8	0	-35.38	-27	-8.38	308	292	V

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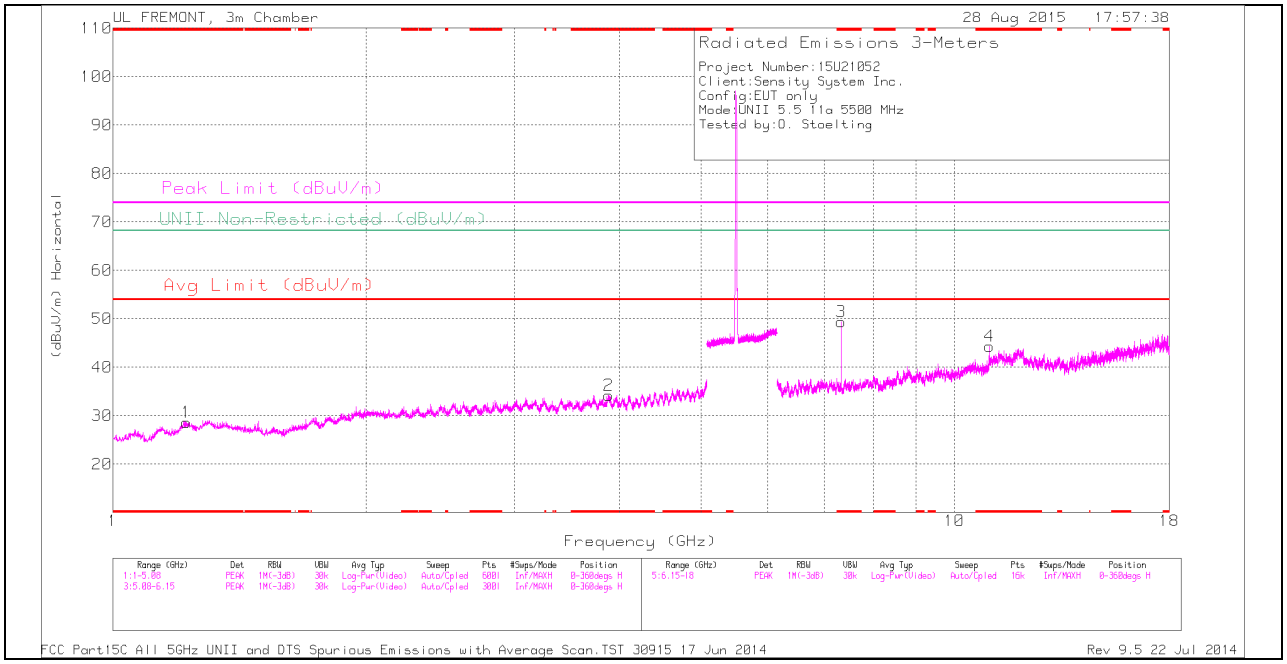
HARMONICS AND SPURIOUS EMISSIONS

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.

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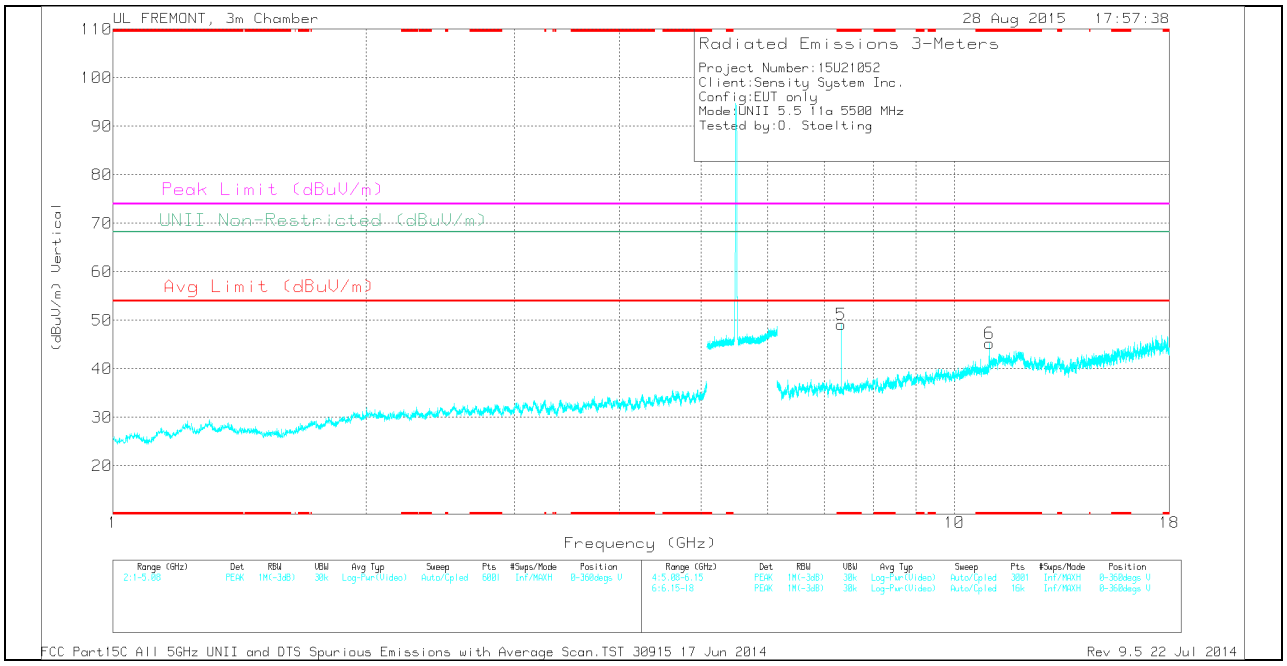
LOW CHANNEL VERTICAL



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