FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC

MODEL NUMBER: LG-H791, LGH791, H791

FCC ID: ZNFH791

REPORT NUMBER: 15I21237-E5V1

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Prepared for

LG ELECTRONICS MOBILECOMM U.S.A., INC
1000 SYLVAN AVENUE
ENGLEWOOD CLIFFS,
NEW JERSEY, 07632, U.S.A

Prepared by

UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

Revision History

Rev.	Issue Date	Revisions	Revised By
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION:	GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC
MODEL:	LG-H791, LGH791, H791
SERIAL NUMBER:	Conducted: 1ZBRT Radiated: 1ZBRK, 1ZBRL
DATE TESTED:	JULY 8 -23, 2015

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

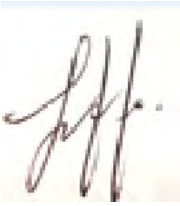
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement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

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

Approved & Released For
UL Verification Services Inc. By:

CHOON SIAN OOI
CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL Verification Services Inc.

Tested By:



JEFFREY WU
CONSUMER TECHNOLOGY DIVISION
LAB ENGINEER
UL Verification Services Inc.

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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 and ANSI C63.10-2009 for FCC.

ANSI C63.10-2009 Deviation

Radiated spurious emission above 1GHz was performed with the EUT elevated at 1.5m instead of 0.8m. 1.5m is the required height in ANSI C63.10:2013 as referenced by RSS GEN issue 4.

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.

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4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 MHz	4.94 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

This EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180 - 5240	802.11n HT20	16.5	44.67
5260 - 5320	802.11n HT20	16.69	46.67
5500 - 5720	802.11n HT20	17.16	52.00
5745 - 5825	802.11n HT20	17.16	52.00
5190 - 5230	802.11n HT40	15.71	37.24
5270 - 5310	802.11n HT40	15.8	38.02
5510 - 5710	802.11n HT40	16.33	42.95
5755 - 5795	802.11n HT40	16.31	42.76
5180 - 5240	802.11a	17.76	59.70
5260 - 5320	802.11a	17.93	62.09
5500 - 5720	802.11a	18.41	69.34
5745 - 5825	802.11a	18.33	68.08
5210 - 5210	802.11ac HT80	14.1	25.70
5290 - 5290	802.11ac HT80	14.37	27.35
5530 - 5690	802.11ac HT80	14.4	27.54
5775 - 5775	802.11ac HT80	14.73	29.72

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5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of Chain 0: 0.18dBi and Chain 1: 0.03dBi.

List of test reduction and modes covering other modes:

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5180 - 5240	802.11a legacy 1TX	802.11a 2TX CDD
5180 - 5240	802.11HT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5190 - 5230	802.11n HT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5210	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5210	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5260 - 5320	802.11a legacy 1TX	802.11a 2TX CDD
5260 - 5320	802.11HT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5270 - 5310	802.11n HT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5290	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5290	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

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Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5500 - 5720	802.11a legacy 1TX	802.11a 2TX CDD
5500 - 5720	802.11HT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11HT20 2TX STBC	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX STBC	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX CDD	802.11n HT20 2TX CDD
5510 - 5710	802.11n HT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11n HT40 2TX STBC	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX STBC	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX CDD	802.11n HT40 2TX CDD
5530-5690	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5530-5690	802.11ac VHT80 2TX STBC	802.11ac VHT80 2TX CDD

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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

802.11ac VHT80mode: MCS0

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG	MCS-N04WS	SA560000030	N/A
Earphone	LG	-	-	-

I/O CABLES

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

TEST SETUP

The EUT is setup as a stand-alone device.

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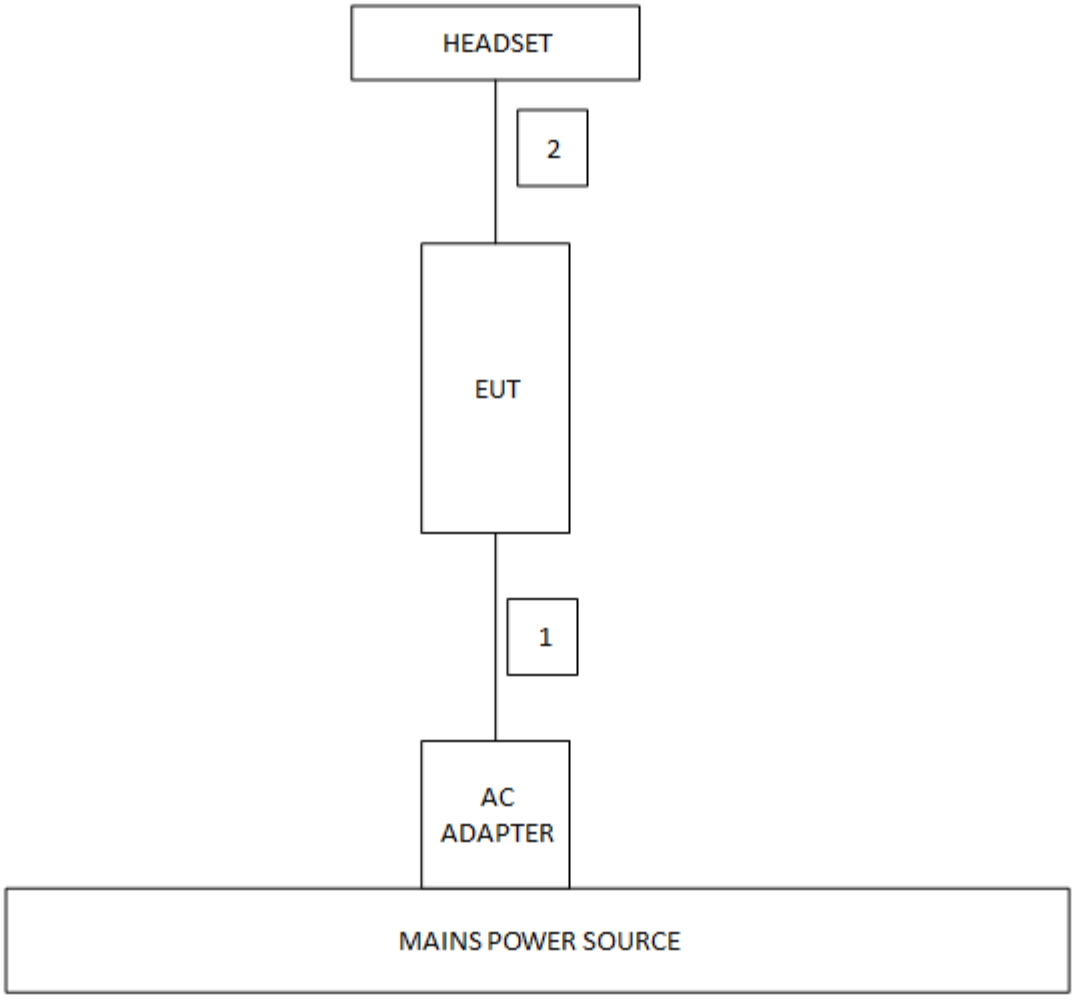
SETUP DIAGRAM FOR TESTS



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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	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
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	08/20/15
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, June 24, 2015	
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	85.12 MHz
15.407	RSS-247 6.2.4	6dB Band width (5.8Ghz)	500KHz		Pass	73.85 MHz
15.407 (a)(1)	RSS-247 6.2	TX Cond. Powe, 5.15-5.25	<24dBm (FCC)/ <23dBm or 10+10Log(OBW) (IC)		Pass	17.76 dBm
15.407 (a)(2)	RSS-247 6.2	TX Cond. Powe, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	18.41 dBm
15.407 (a)(3)	RSS-247 6.2.4	TX Cond. Power 5.725-5.825	< 30dBm		Pass	18.33 dBm
15.407 (a)(1)	RSS-247 6.2	PSD (5.1GHz)	<11dBm (FCC)/ <10dBm(IC)		Pass	6.69 dBm
15.407 (a)(5)	RSS-247 6.2	PSD (5.3,5.5GHz)	<11dBm		Pass	7.3 dBm
15.407 (a)(5)	RSS-247 6.2.4	PSD (5.8GHz)	30dBm per 500kHz		Pass	4.55 dB
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	65.75 dBµV
15.407 (b) & 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	49.28 dBµV/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	14.470	14.510	0.997	99.7%	0.00	0.010
802.11ac HT80	1.170	1.194	0.980	98.0%	0.09	0.855
802.11n HT20	5.100	5.130	0.994	99.4%	0.00	0.010
802.11n HT40	2.484	2.582	0.962	96.2%	0.17	0.403

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8.2. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a CDD MODE

DUTY CYCLE 802.11n HT20 CDD MODE

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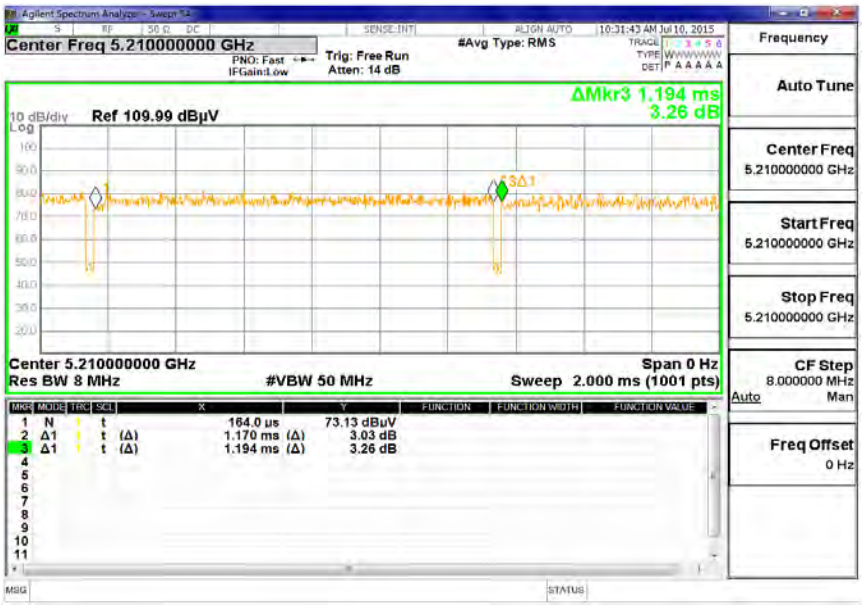
DUTY CYCLE 802.11n HT40 CDD MODE

DUTY CYCLE 802.11ac HT80 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

10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth CHAIN 0(MHz)	6 dB Bandwidth CHAIN 1(MHz)	Minimum Limit (MHz)
Low	5745	16.225	14.520	0.5
Mid	5785	14.973	15.088	0.5
High	5825	14.812	16.050	0.5
Worst		14.812	14.520	

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10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth CHAIN 0(MHz)	6 dB Bandwidth CHAIN 1(MHz)	Minimum Limit (MHz)
Low	5745	17.238	16.848	0.5
Mid	5785	17.238	17.044	0.5
High	5825	16.926	15.272	0.5
Worst		16.926	15.272	

10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth CHAIN 0(MHz)	6 dB Bandwidth CHAIN 1(MHz)	Minimum Limit (MHz)
Low	5755	33.560	35.694	0.5
High	5795	34.821	34.164	0.5
Worst		33.560	34.164	0.5

10.1.4. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth CHAIN 0(MHz)	6 dB Bandwidth CHAIN 1(MHz)	Minimum Limit (MHz)
Low	5775	70.07	73.85	0.5
Worst		70.07	73.85	0.5

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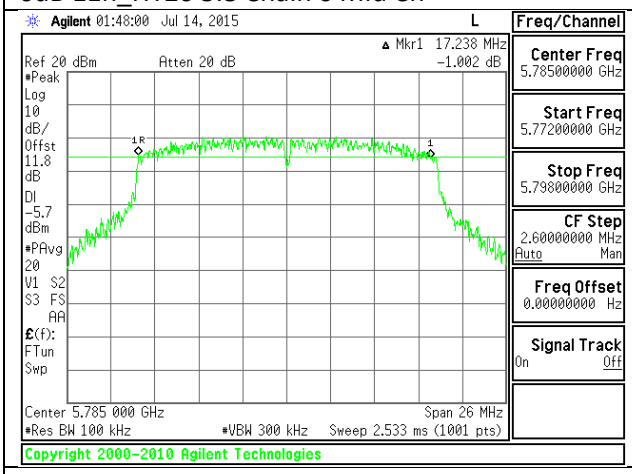
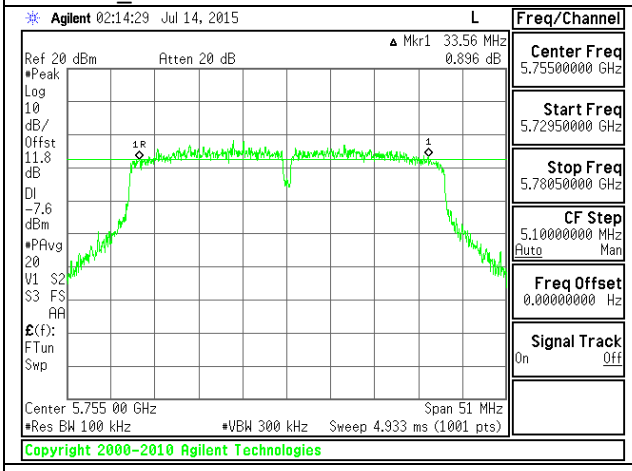
10.1.5. 6 dB BANDWIDTH MID CH PLOTS

CHAIN 0

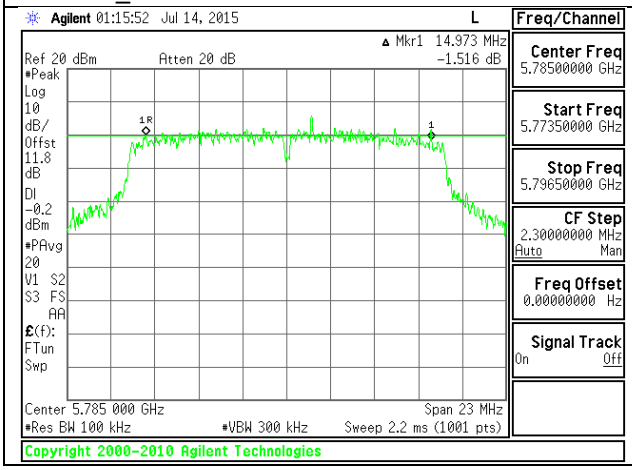
6dB 11n_HT20 5.8 Chain 0 Mid Ch



6dB 11n_HT40 5.8 Chain 0 Low Ch

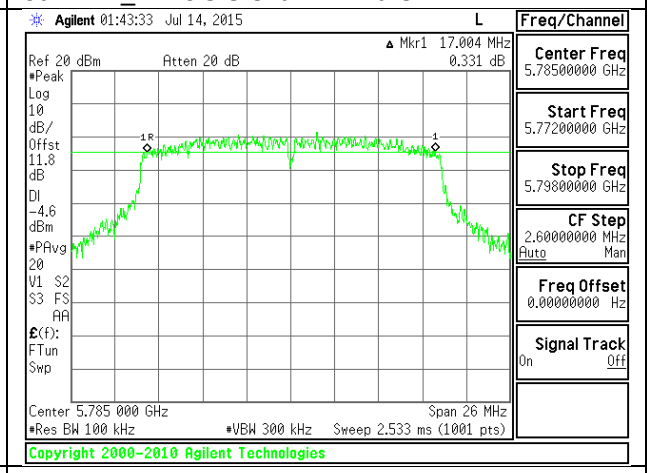


6dB 11a_ 5.8 Chain 0 Mid Ch

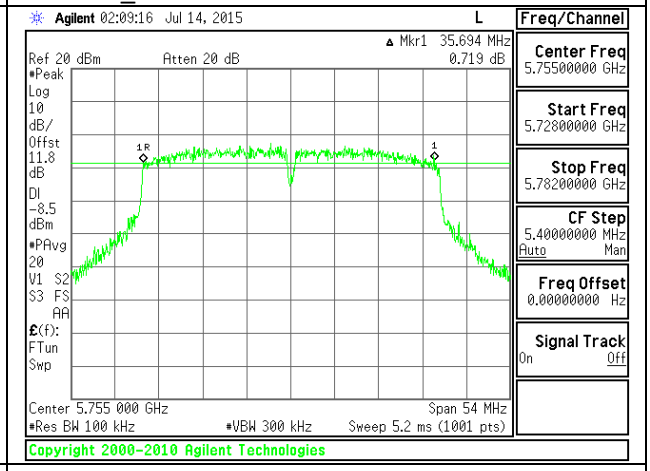


CHAIN 1

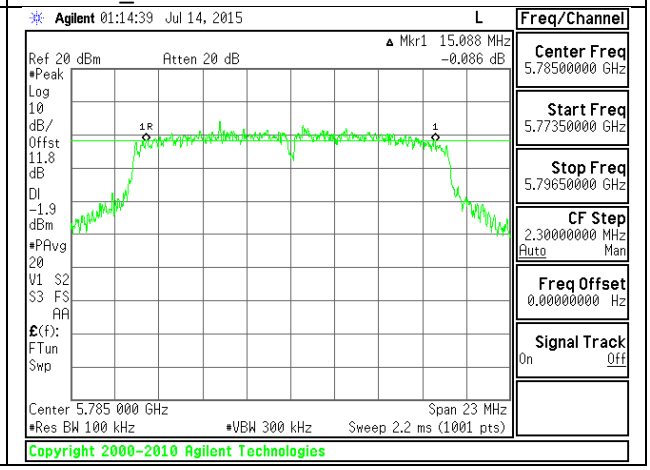
6dB 11n_HT20 5.8 Chain 1 Mid Ch



6dB 11n_HT40 5.8 Chain 1 Low Ch



6dB 11a_ 5.8 Chain 1 Mid Ch



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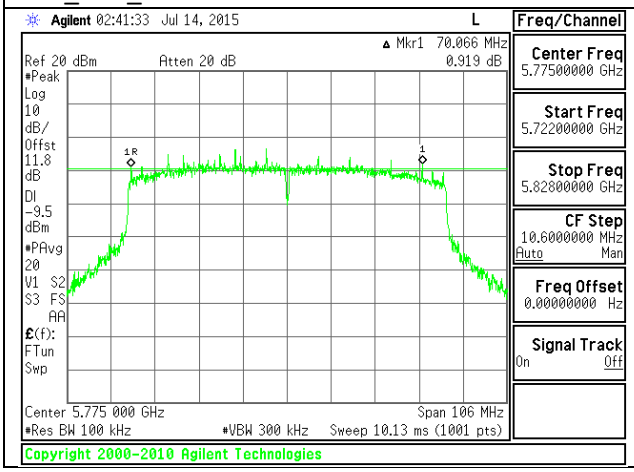
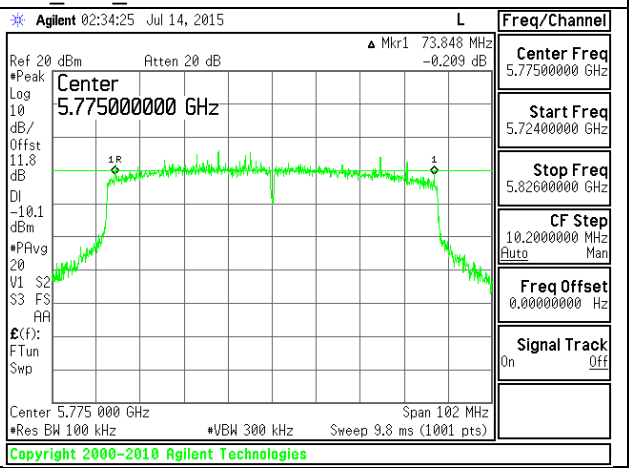
6dB_ 1ac_HT80 5.8 Chain 0 Low Ch



6dB_ 1ac_HT80 5.8 Chain 1 Low Ch



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10.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.248	20.305
Mid	5200	20.584	20.212
High	5240	20.181	20.615

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	20.553	20.522
Mid	5200	20.992	20.896
High	5240	20.367	20.181

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	40.982	40.734
High	5230	41.106	40.734

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5210	83.790	83.250

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10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	20.367	19.440
Mid	5300	19.800	20.243
High	5320	20.398	19.980

10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	20.646	20.491
Mid	5300	20.800	20.864
High	5320	20.057	20.398

10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.443	40.626
High	5310	41.044	40.199

10.2.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5290	81.672	81.672

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10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	20.491	20.212
Mid	5580	19.800	20.584
High	5700	20.615	20.553
144	5720	21.088	20.960

10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	20.305	20.429
Mid	5580	20.367	20.704
High	5700	20.336	20.992
144	5720	20.584	20.928

10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	41.168	41.044
Mid	5550	41.292	41.168
High	5670	41.391	41.391
142	5710	41.292	41.706

10.2.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	83.080	83.790
138	5690	82.460	83.125

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10.2.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	21.088	21.120
Mid	5785	21.152	21.248
High	5825	20.584	21.450

10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	20.992	21.088
Mid	5785	21.120	21.280
High	5825	21.024	21.450

10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5755	40.920	41.517
High	5795	40.920	41.643

10.2.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5775	82.212	85.120

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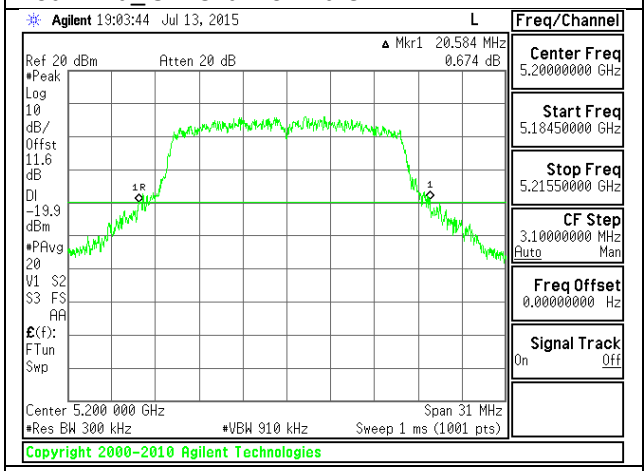
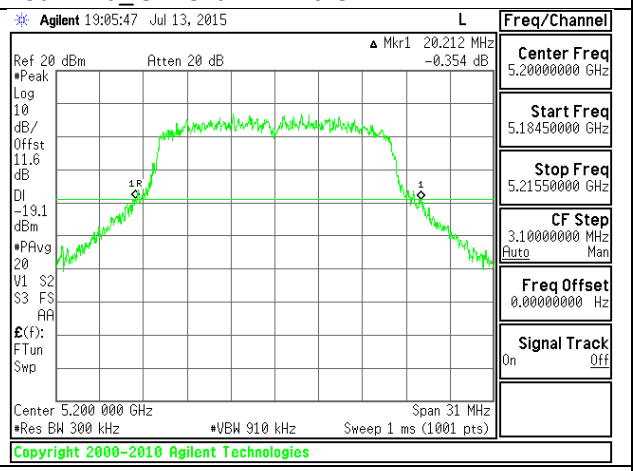
10.2.17. 26 dB BANDWIDTH PLOTS

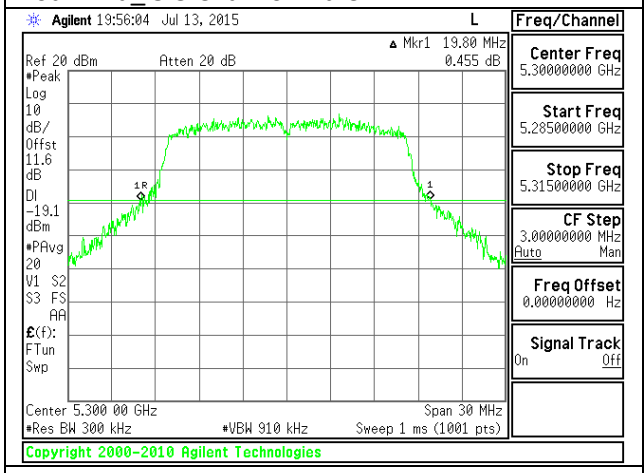
26dB 11a_ 5.2 Chain 0 Mid Ch



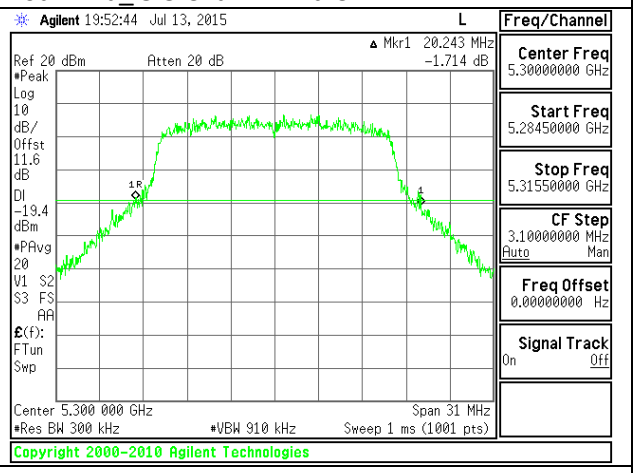
26dB 11a_ 5.2 Chain 1 Mid Ch



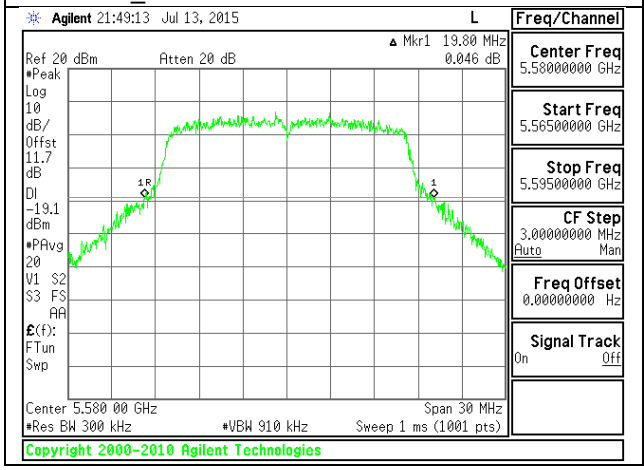
26dB 11a_ 5.3 Chain 0 Mid Ch



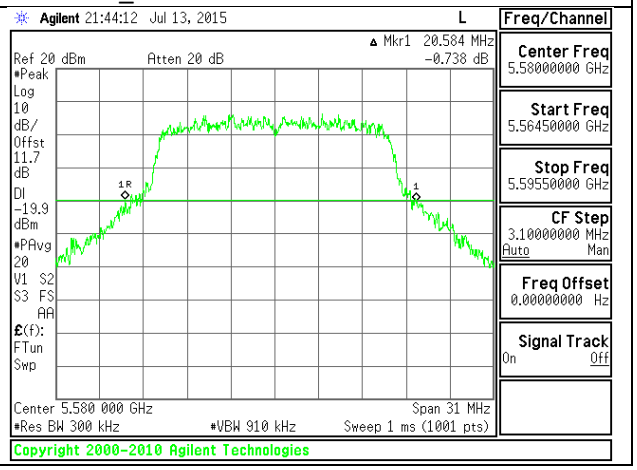
26dB 11a_ 5.3 Chain 1 Mid Ch



26dB 11a_ 5.5 Chain 0 Mid Ch



26dB 11a_ 5.5 Chain 1 Mid Ch



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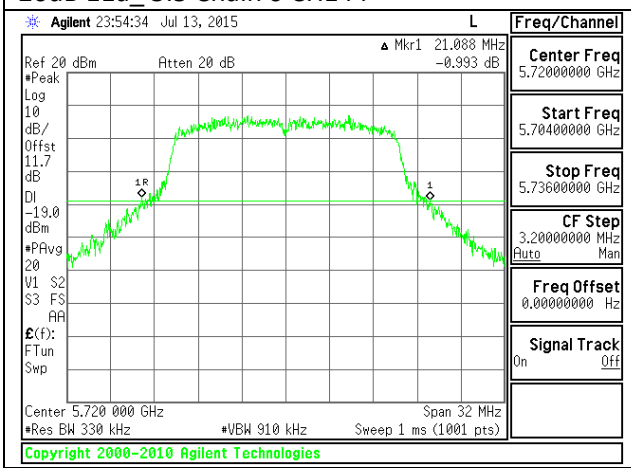
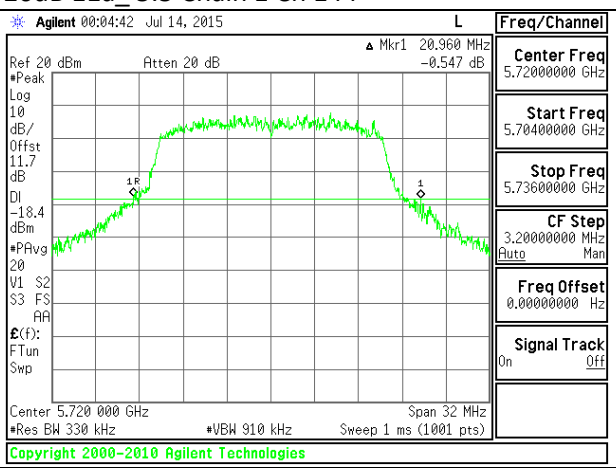
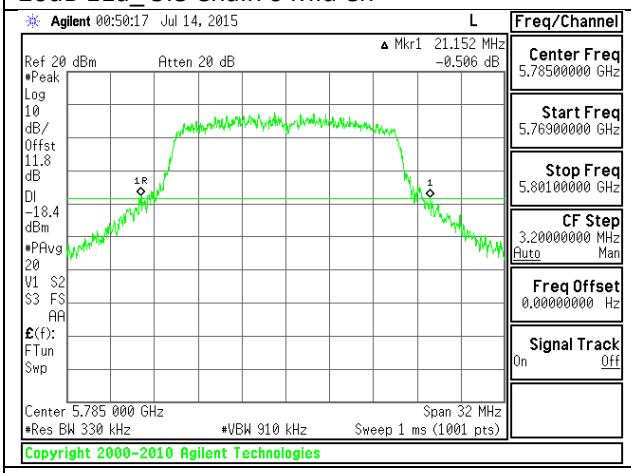
26dB 11a_ 5.5 Chain 0 CH144



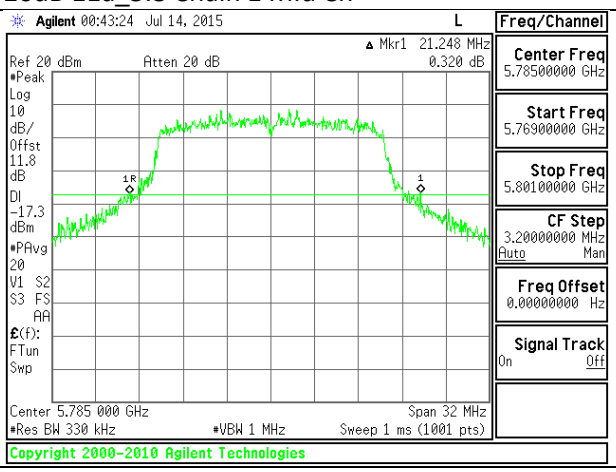
26dB 11a_ 5.5 Chain 1 Ch 144



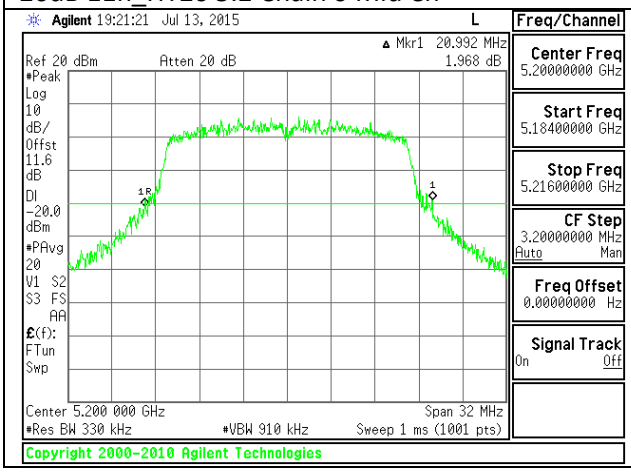
26dB 11a_ 5.8 Chain 0 Mid Ch



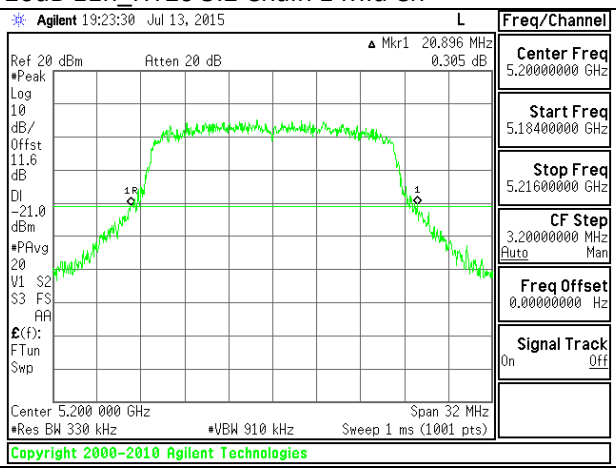
26dB 11a_5.8 Chain 1 Mid Ch



26dB 11n_HT20 5.2 Chain 0 Mid Ch



26dB 11n_HT20 5.2 Chain 1 Mid Ch



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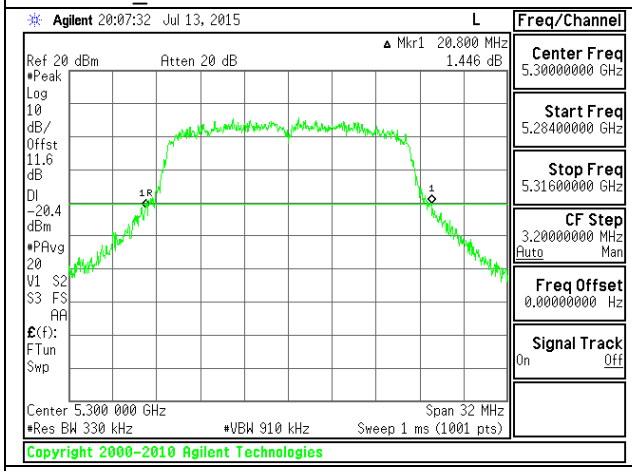
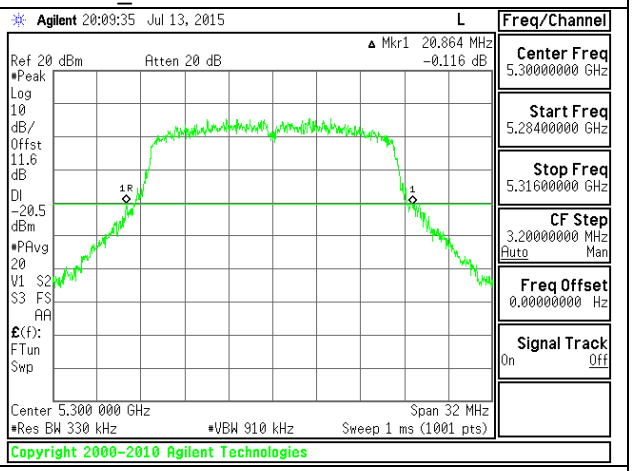
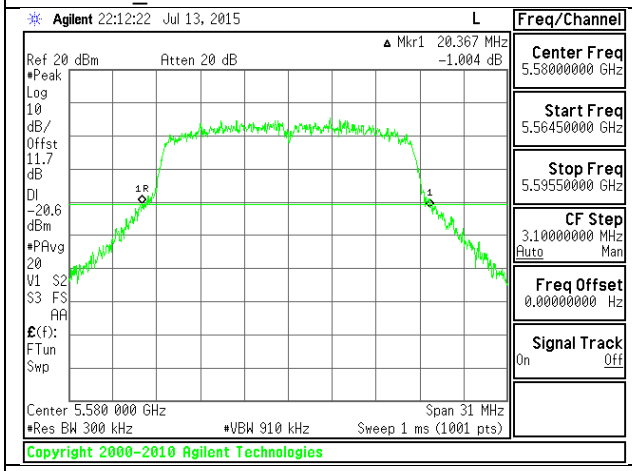
26dB 11n_HT20 5.3 Chain 0 Mid Ch



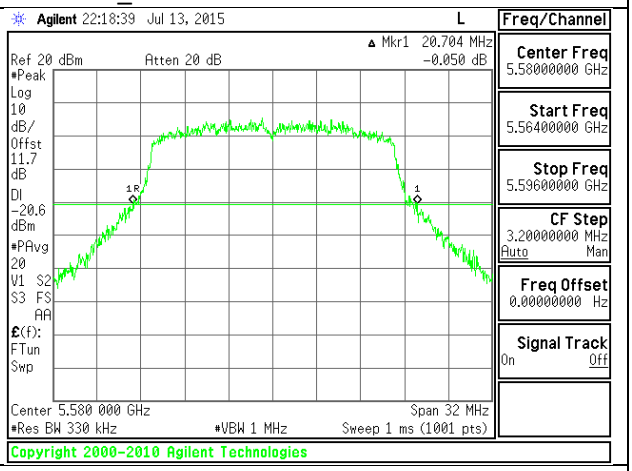
26dB 11n_HT20 5.3 Chain 1 Mid Ch



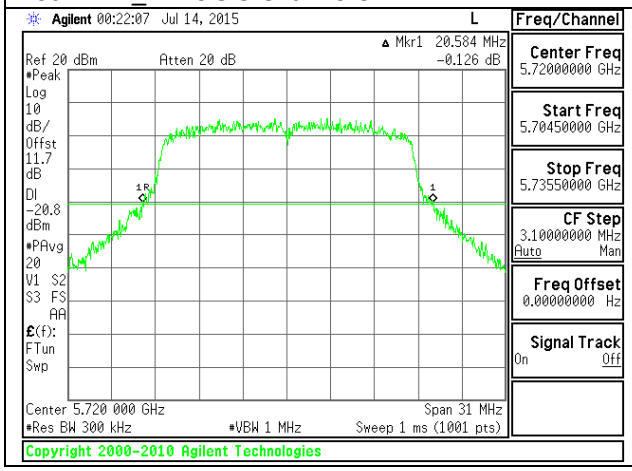
26dB 11n_HT20 5.5 Chain 0 Mid Ch



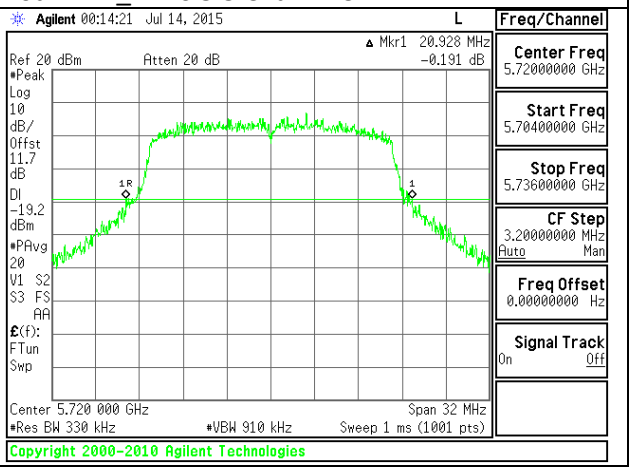
26dB 11n_HT20 5.5 Chain 1 Mid Ch



26dB 11n_HT20 5.5 Chain 0 Ch 144



26dB 11n_HT20 5.5 Chain 1 Ch 144



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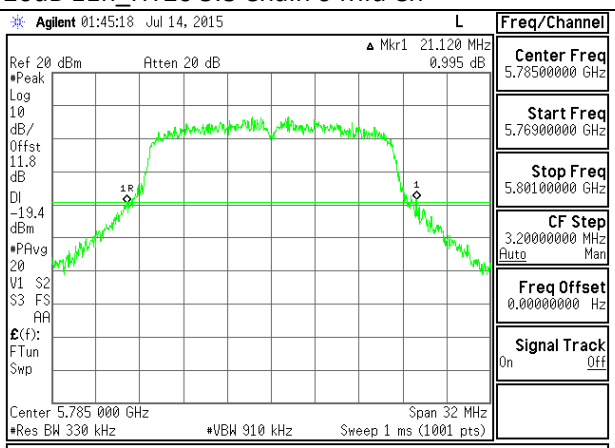
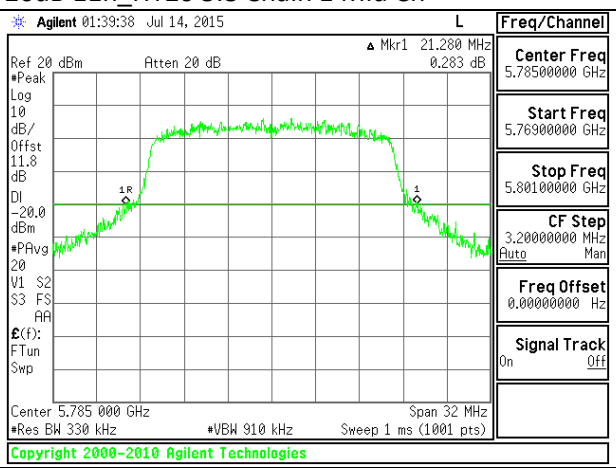
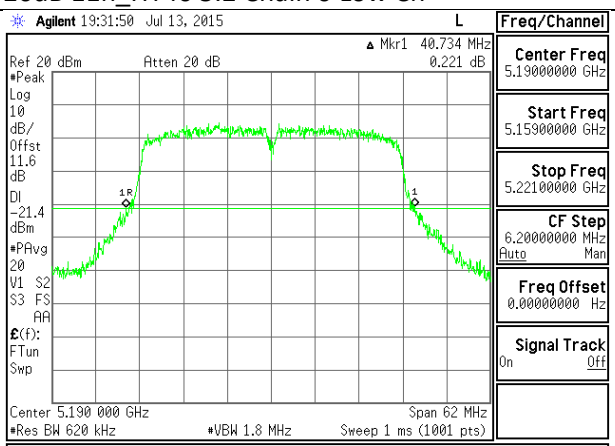
26dB 11n_HT20 5.8 Chain 0 Mid Ch



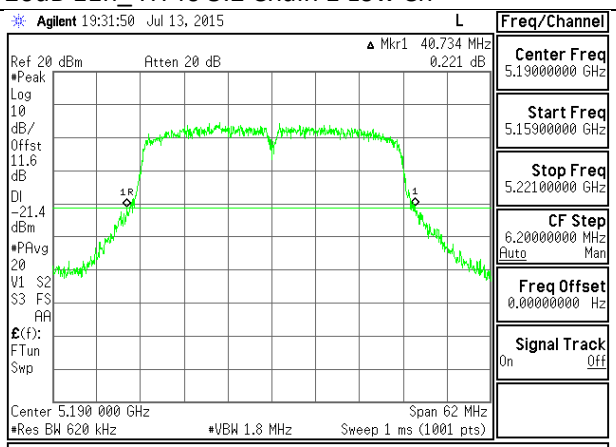
26dB 11n_HT20 5.8 Chain 1 Mid Ch



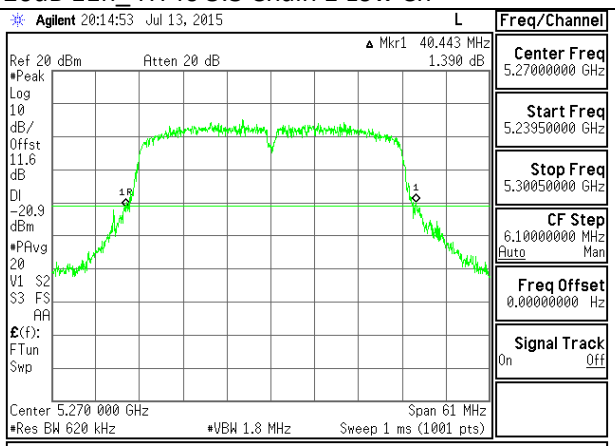
26dB 11n_HT40 5.2 Chain 0 Low Ch



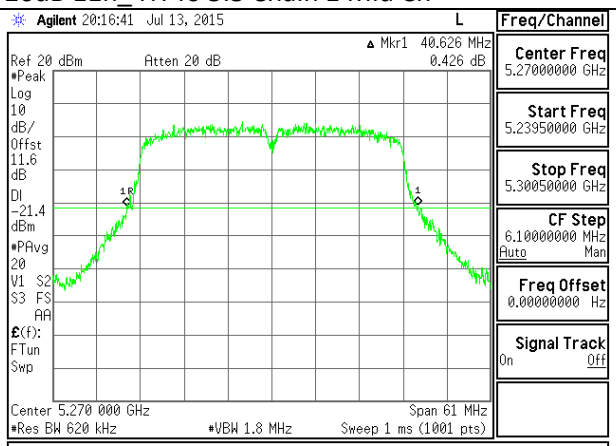
26dB 11n_ HT40 5.2 Chain 1 Low Ch



26dB 11n_ HT40 5.3 Chain 1 Low Ch



26dB 11n_ HT40 5.3 Chain 1 Mid Ch



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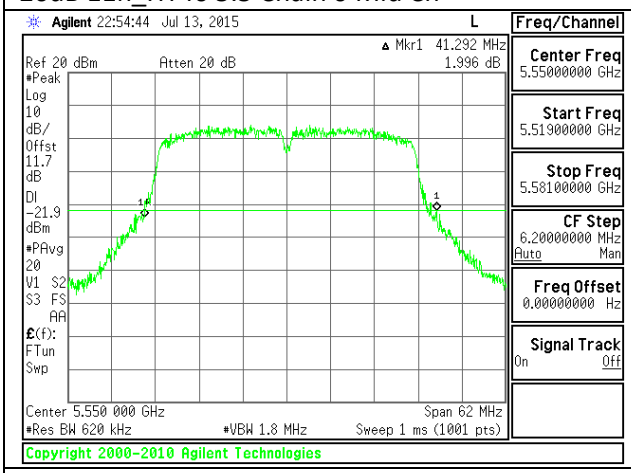
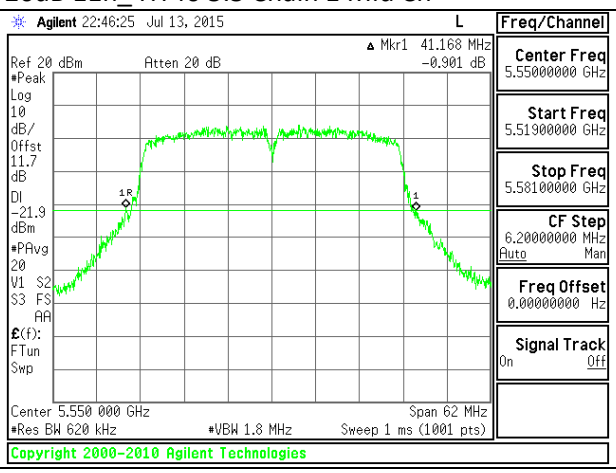
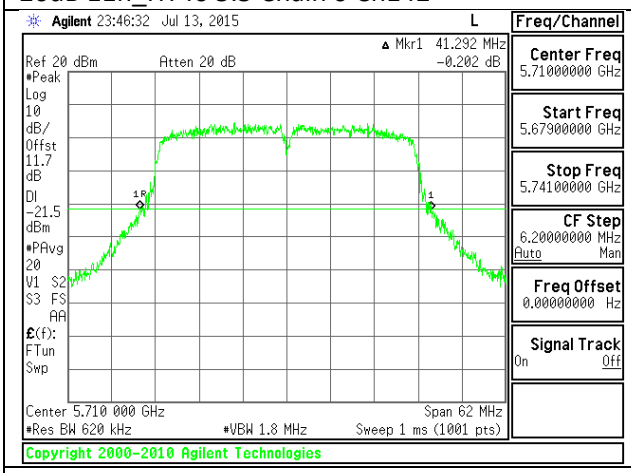
26dB 11n_HT40 5.5 Chain 0 Mid Ch



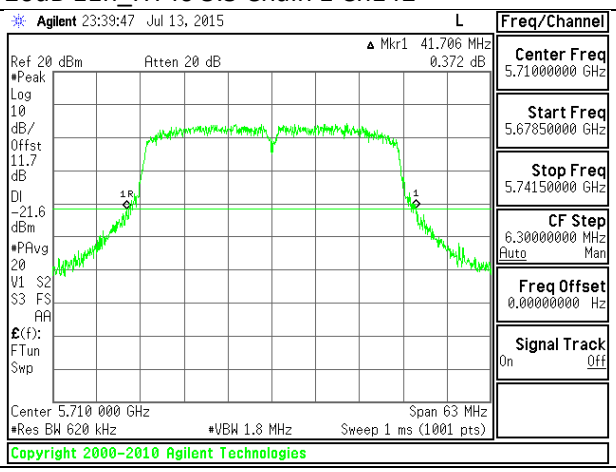
26dB 11n_ HT40 5.5 Chain 1 Mid Ch



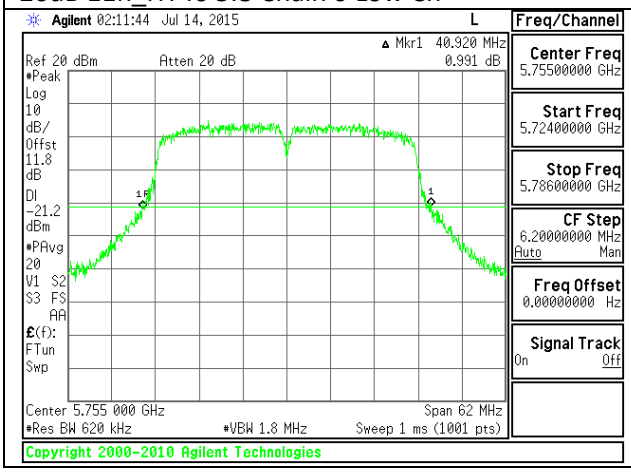
26dB 11n_HT40 5.5 Chain 0 Ch142



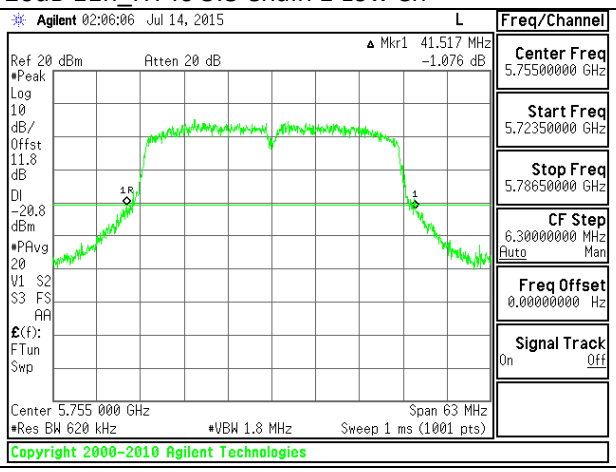
26dB 11n_HT40 5.5 Chain 1 Ch142



26dB 11n_HT40 5.8 Chain 0 Low Ch



26dB 11n_HT40 5.8 Chain 1 Low Ch



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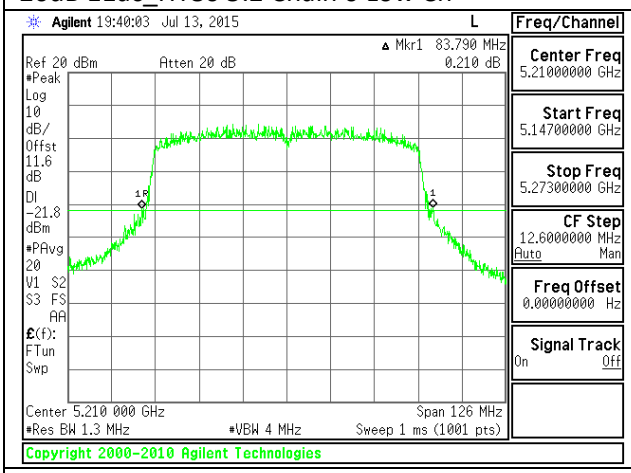
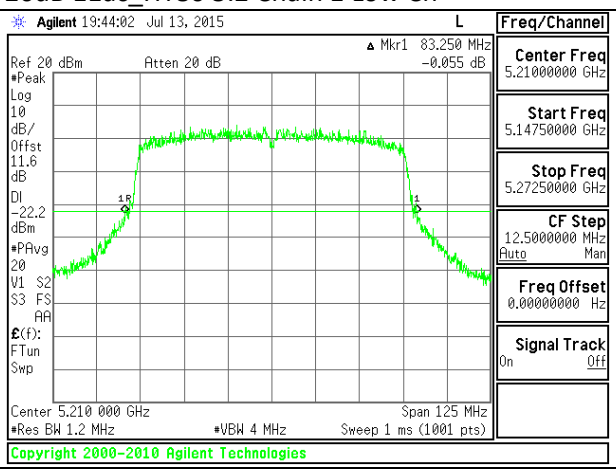
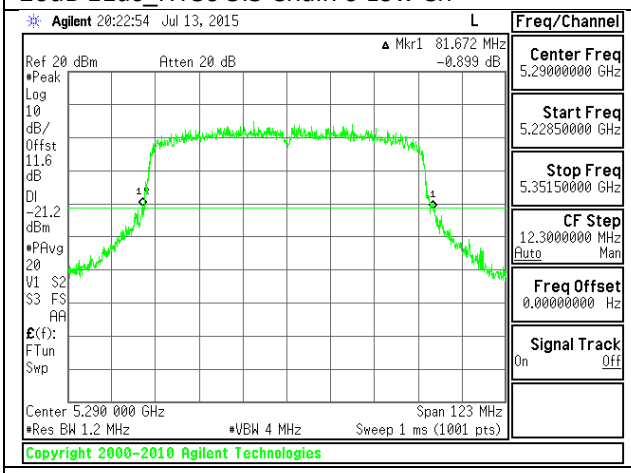
26dB 11ac_HT80 5.2 Chain 0 Low Ch



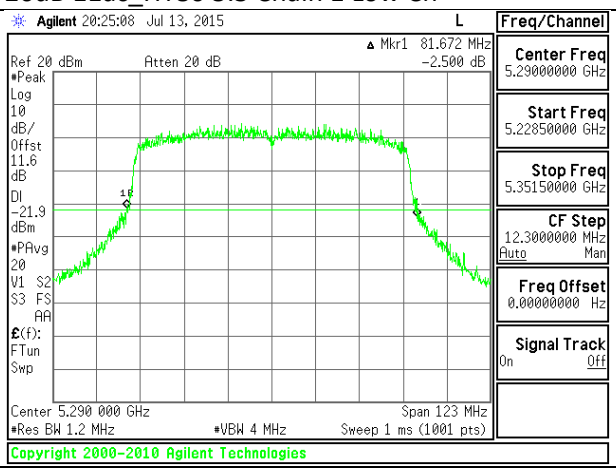
26dB 11ac_HT80 5.2 Chain 1 Low Ch



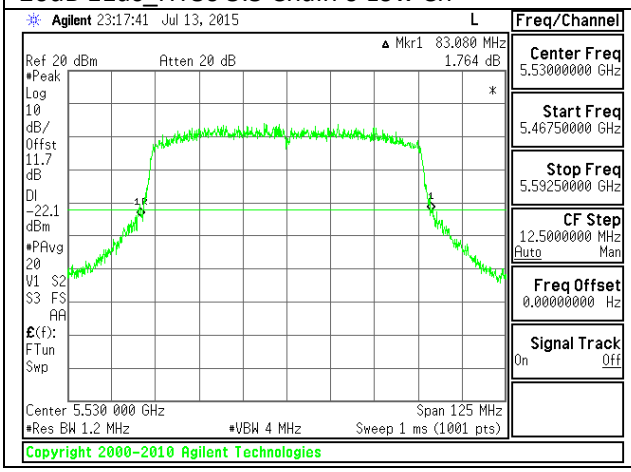
26dB 11ac_HT80 5.3 Chain 0 Low Ch



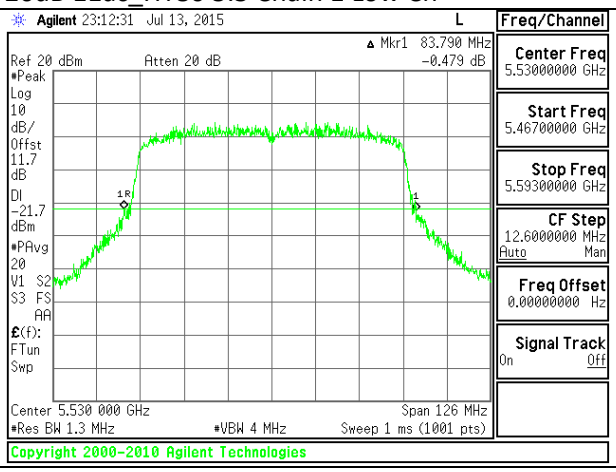
26dB 11ac_HT80 5.3 Chain 1 Low Ch



26dB 11ac_HT80 5.5 Chain 0 Low Ch



26dB 11ac_HT80 5.3 Chain 1 Low Ch



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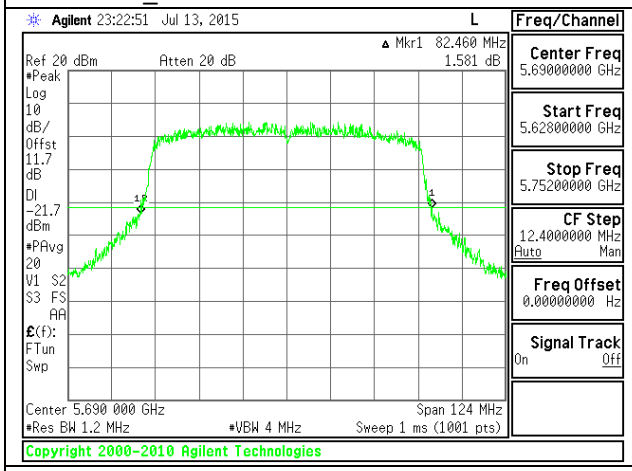
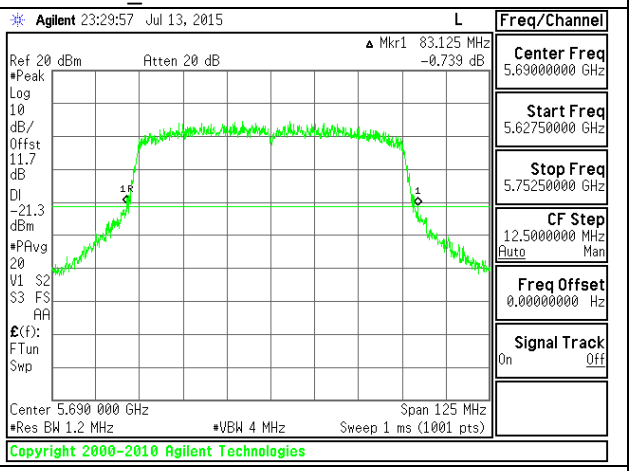
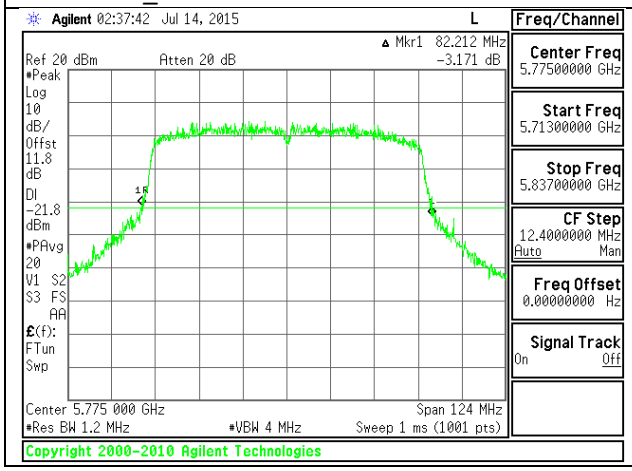
26dB 11ac_HT80 5.3 Chain 0 Ch 138



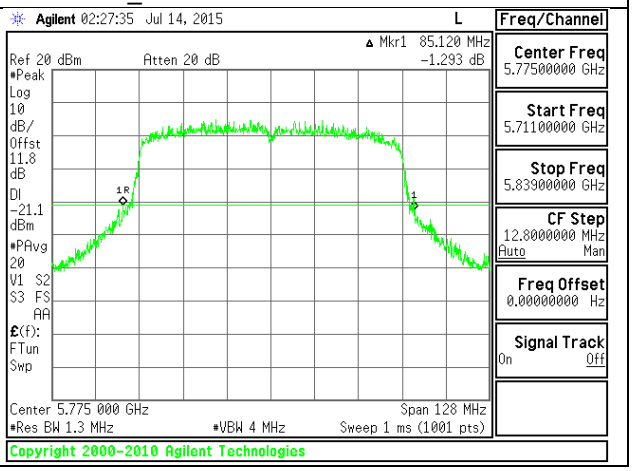
26dB 11ac_HT80 5.3 Chain 1 Ch 138



26dB 11ac_HT80 5.8 Chain 0 Low Ch



26dB 11ac_HT80 5.8 Chain 1 Low Ch



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10.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.3639	16.3606
Mid	5200	16.3450	16.3398
High	5240	16.3204	16.3272

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	17.4840	17.4959
Mid	5200	17.4709	17.4803
High	5240	17.4840	17.9243

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5190	35.8711	35.9118
High	5230	35.8794	35.8512

10.3.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5210	75.0317	74.9798

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10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	16.3199	16.3198
Mid	5300	16.3180	16.3129
High	5320	16.3129	16.3123

10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.5020	17.4422
Mid	5300	17.4862	17.4725
High	5320	17.4849	17.4988

10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	35.8225	35.8835
High	5310	35.9141	35.8468

10.3.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5290	74.9934	74.9366

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10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.3148	16.3329
Mid	5580	16.3444	16.3392
High	5700	16.3392	16.3508
144	5720	16.3514	16.3393

10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.4717	17.4750
Mid	5580	17.5035	17.4620
High	5700	17.4783	17.4805
144	5720	17.5077	17.5141

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	35.8608	35.9142
Mid	5550	35.8700	35.8650
High	5670	35.8882	35.8919
142	5710	35.9184	35.9145

10.3.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	74.9598	74.9138
138	5690	74.8936	74.9820

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10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	16.3398	16.3482
Mid	5785	16.3412	16.3681
High	5825	16.3532	16.3720

10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	17.4842	17.4972
Mid	5785	17.5188	17.4996
High	5825	17.4843	17.4890

10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	35.9012	35.8673
High	5795	35.9290	35.8959

10.3.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5775	74.9294	75.0192

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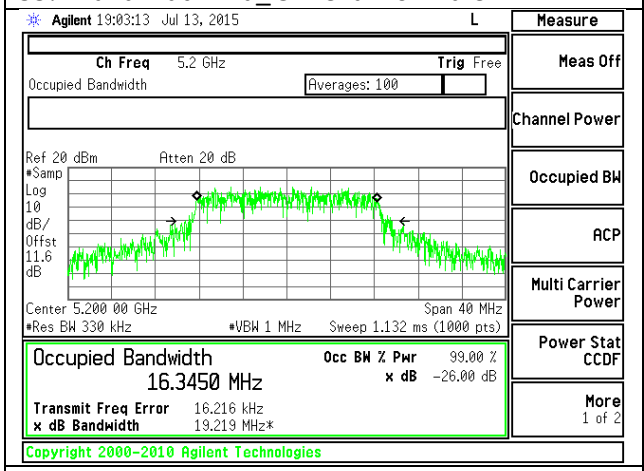
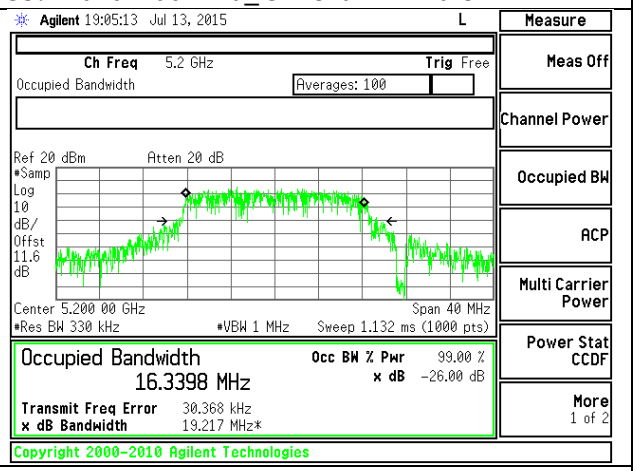
10.3.1. 99% BANDWIDTH PLOTS

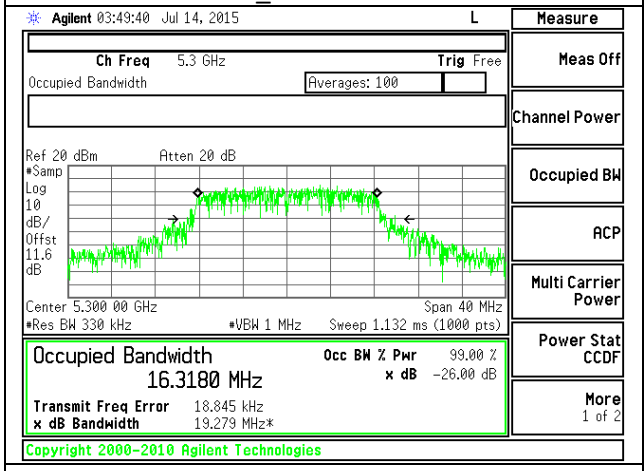
99% Bandwidth 11a_ 5.2 Chain 0 Mid Ch



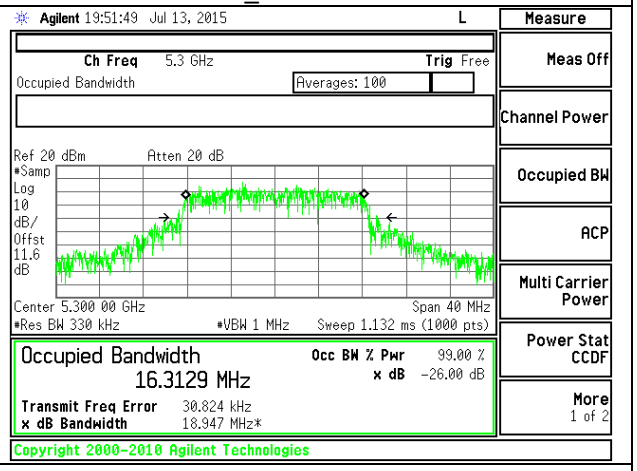
99% Bandwidth 11a_ 5.2 Chain 1 Mid Ch



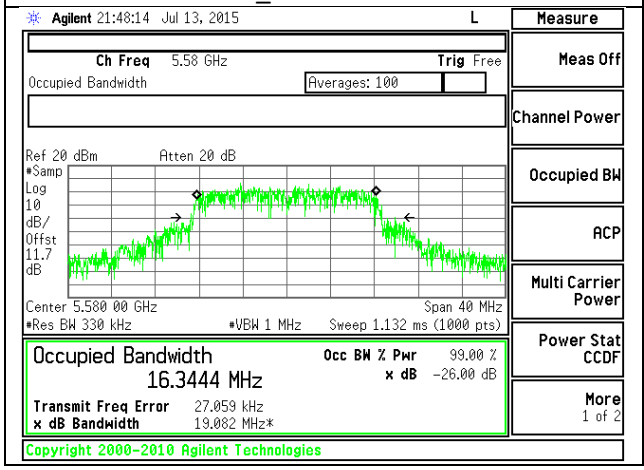
99% Bandwidth 11a_ 5.3 Chain 0 Mid Ch



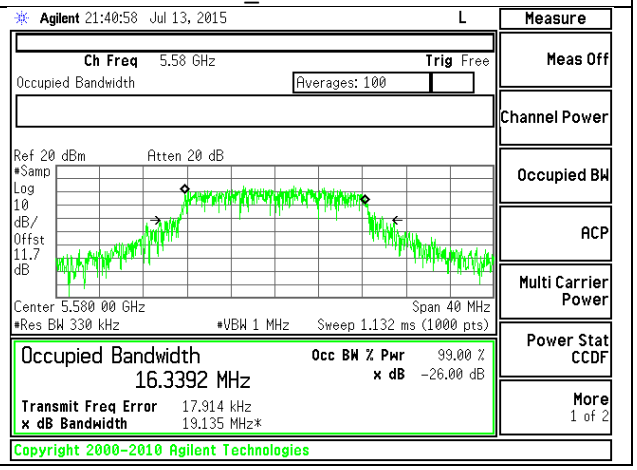
99% Bandwidth 11a_ 5.3 Chain 1 Mid Ch



99% Bandwidth 11a_ 5.5 Chain 0 Mid Ch



99% Bandwidth 11a_ 5.5 Chain 1 Mid Ch



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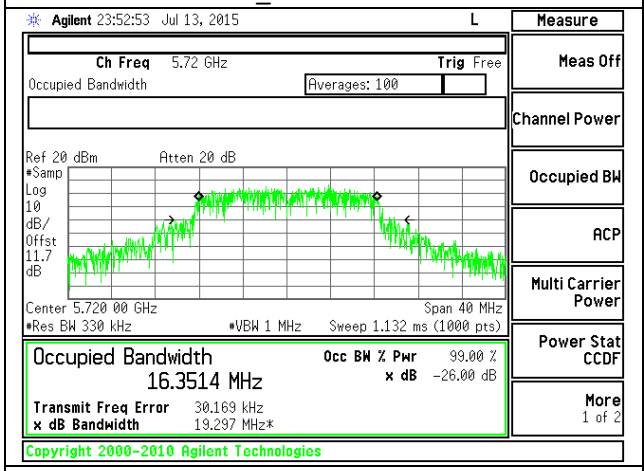
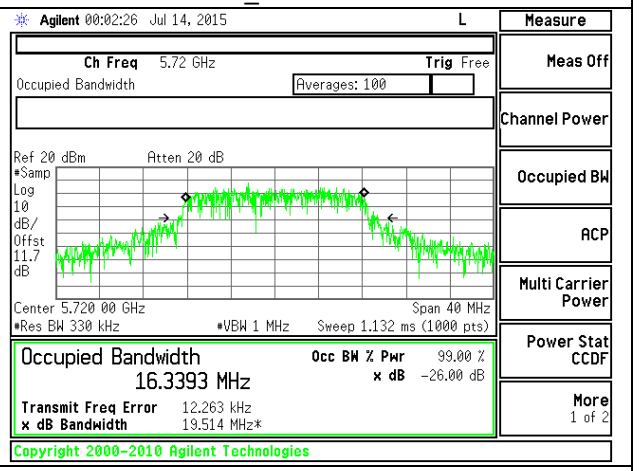
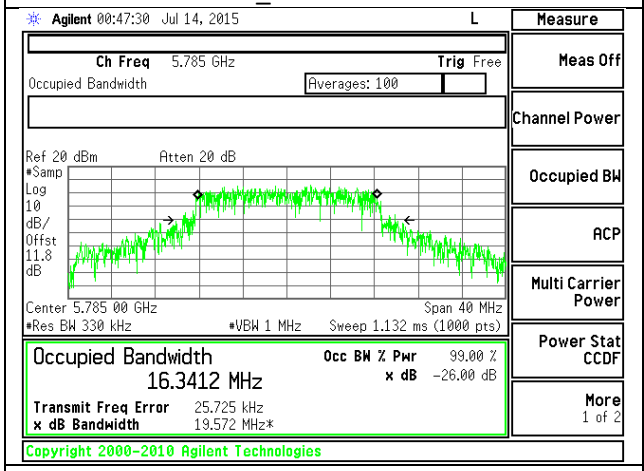
99% Bandwidth 11a_ 5.5 Chain 0 CH144



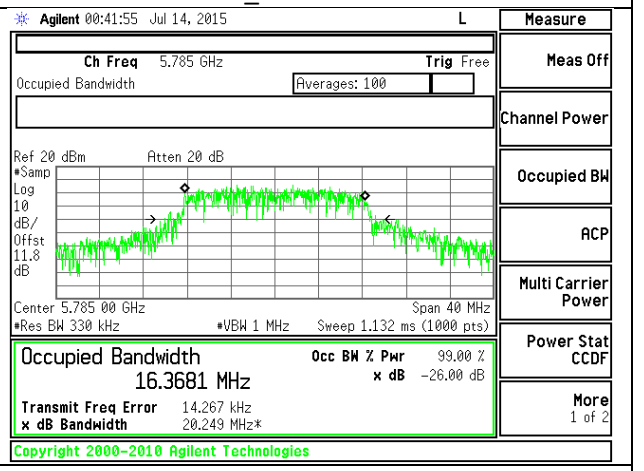
99% Bandwidth 11a_ 5.5 Chain 1 Ch 144



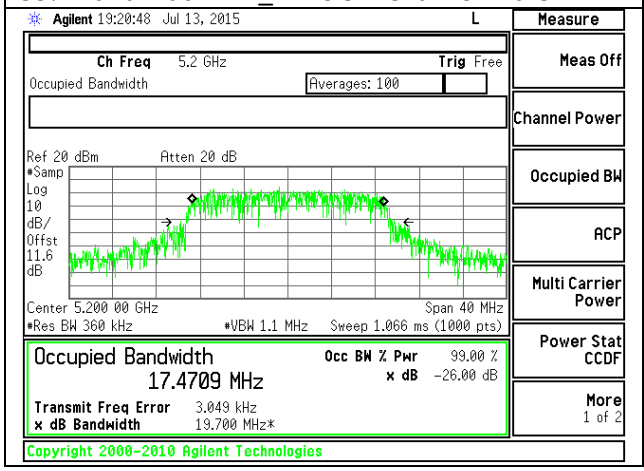
99% Bandwidth 11a_ 5.8 Chain 0 Mid Ch



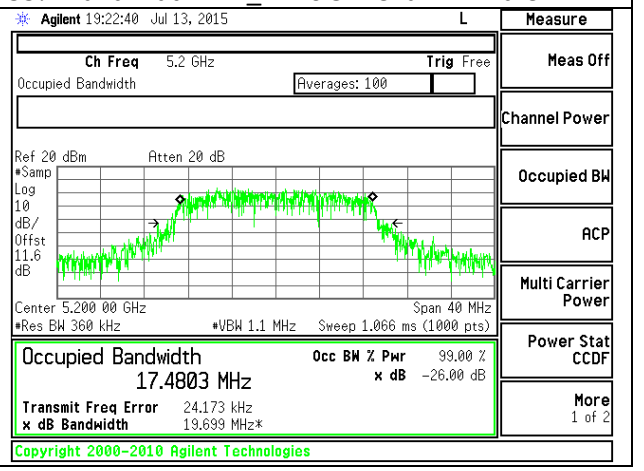
99% Bandwidth 11a_5.8 Chain 1 Mid Ch



99% Bandwidth 11n_HT20 5.2 Chain 0 Mid Ch



99% Bandwidth 11n_HT20 5.2 Chain 1 Mid Ch



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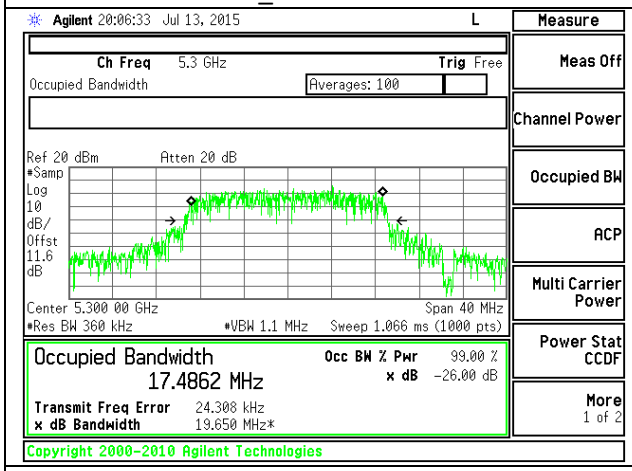
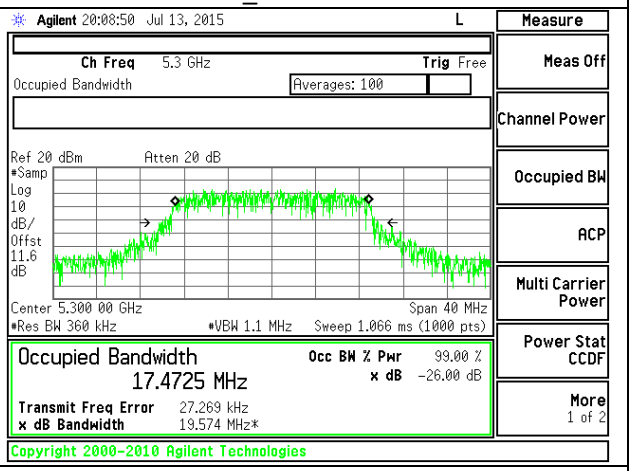
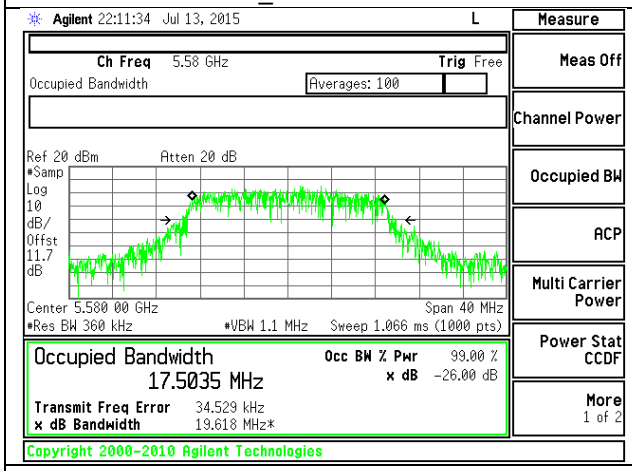
99% Bandwidth 11n_HT20 5.3 Chain 0 Mid Ch



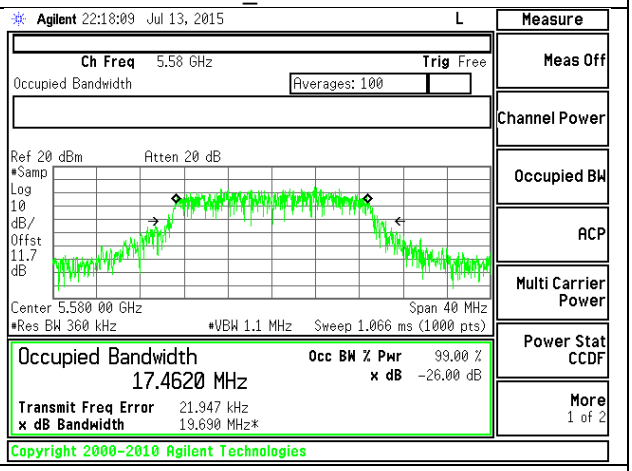
99% Bandwidth 11n_HT20 5.3 Chain 1 Mid Ch



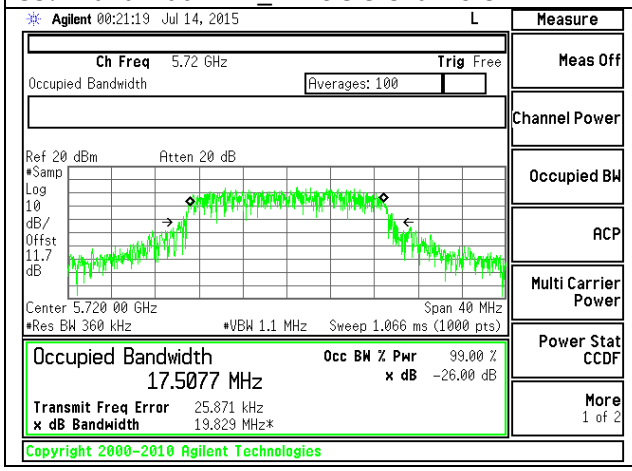
99% Bandwidth 11n_HT20 5.5 Chain 0 Mid Ch



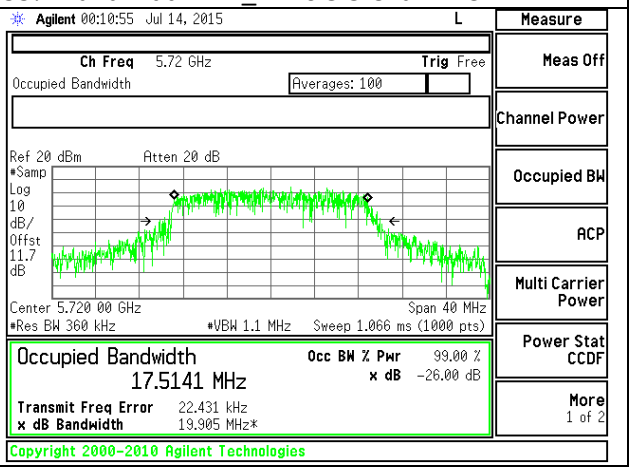
99% Bandwidth 11n_HT20 5.5 Chain 1 Mid Ch



99% Bandwidth 11n_HT20 5.5 Chain 0 Ch 144



99% Bandwidth 11n_HT20 5.5 Chain 1 Ch 144



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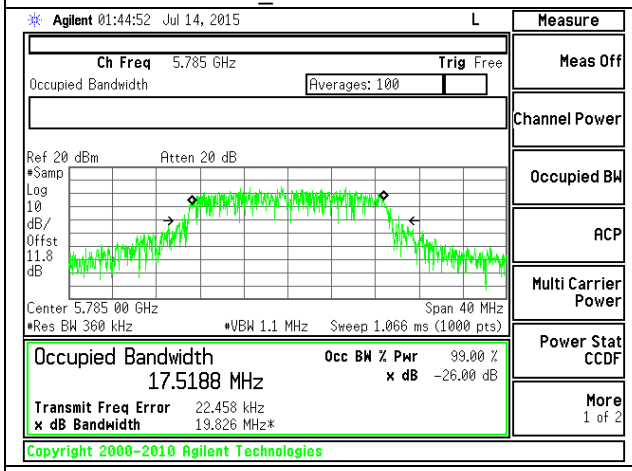
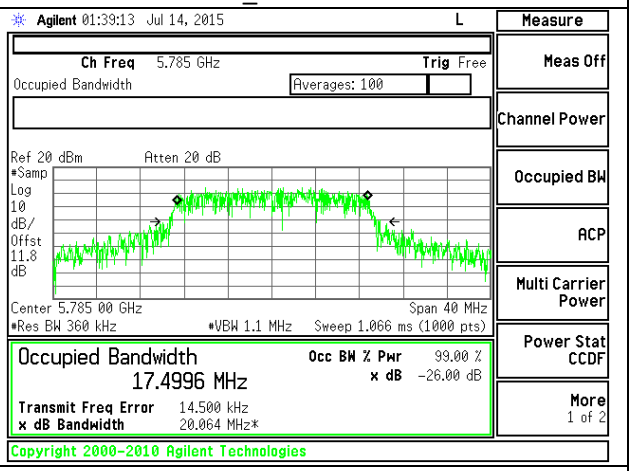
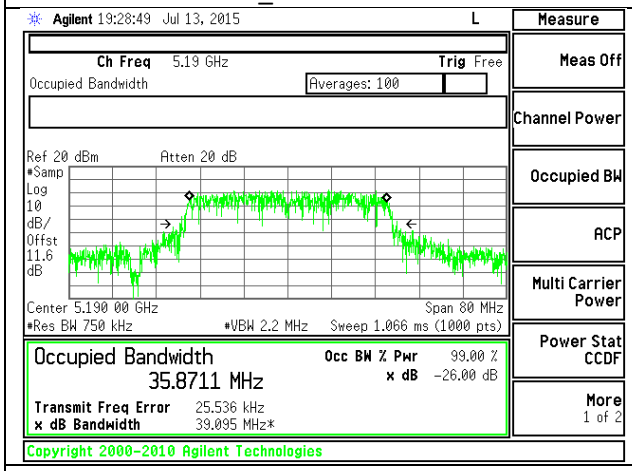
99% Bandwidth 11n_HT20 5.8 Chain 0 Mid Ch



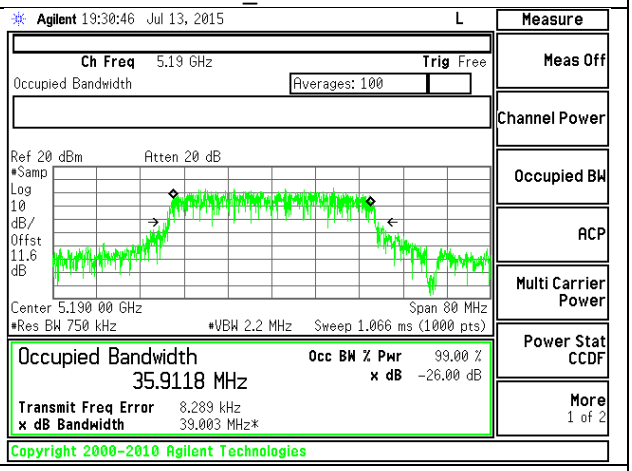
99% Bandwidth 11n_HT20 5.8 Chain 1 Mid Ch



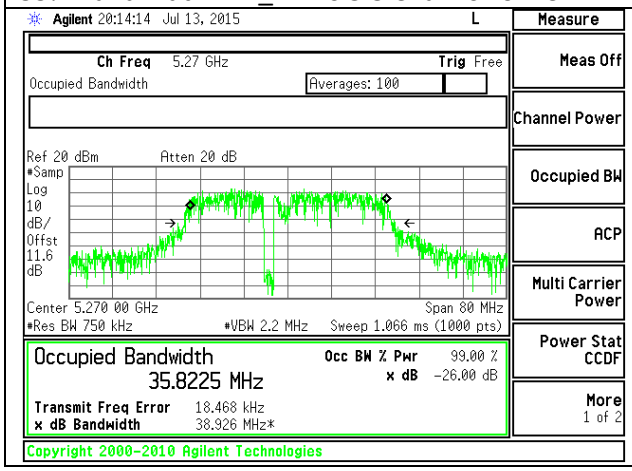
99% Bandwidth 11n_HT40 5.2 Chain 0 Low Ch



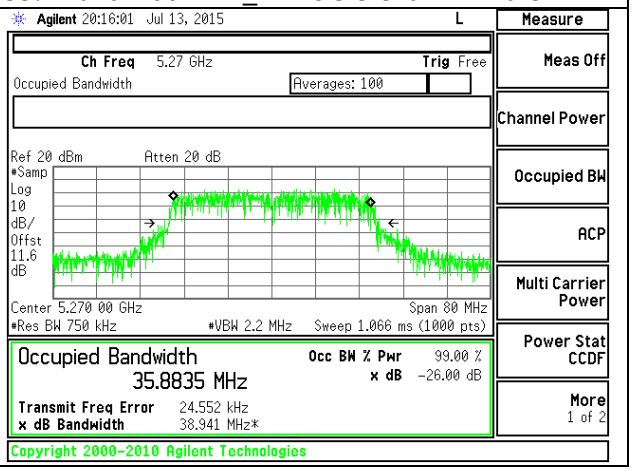
99% Bandwidth 11n_ HT40 5.2 Chain 1 Low Ch



99% Bandwidth 11n_ HT40 5.3 Chain 0 Low Ch



99% Bandwidth 11n_ HT40 5.3 Chain 1 Mid Ch



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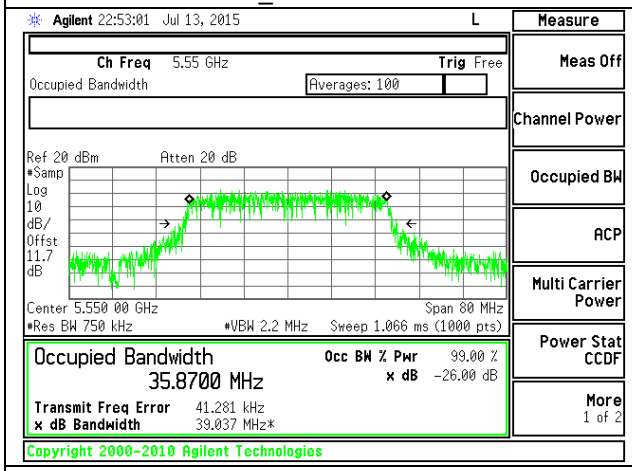
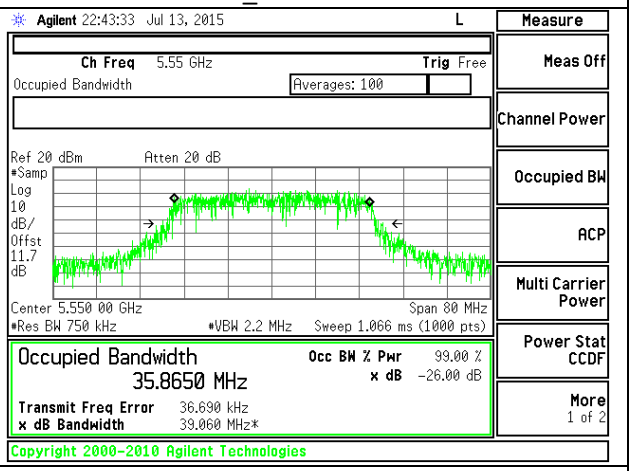
99% Bandwidth 11n_HT40 5.5 Chain 0 Mid Ch



99% Bandwidth 11n_ HT40 5.5 Chain 1 Mid Ch



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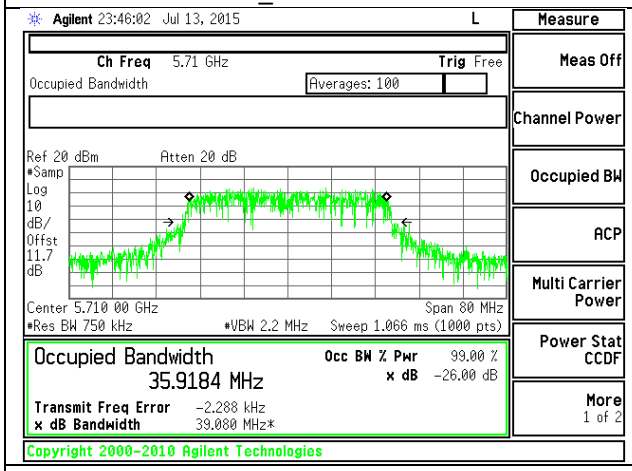

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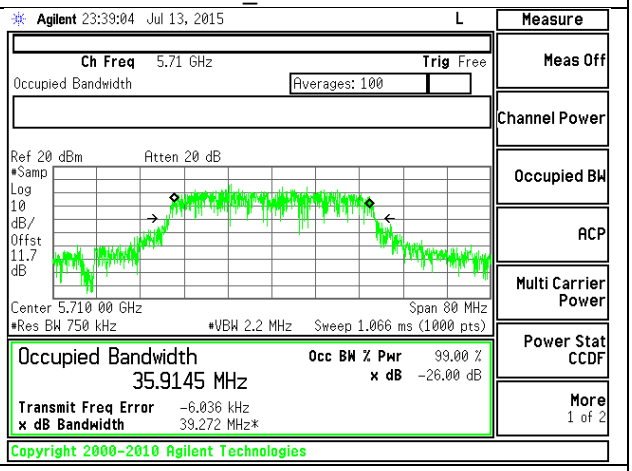
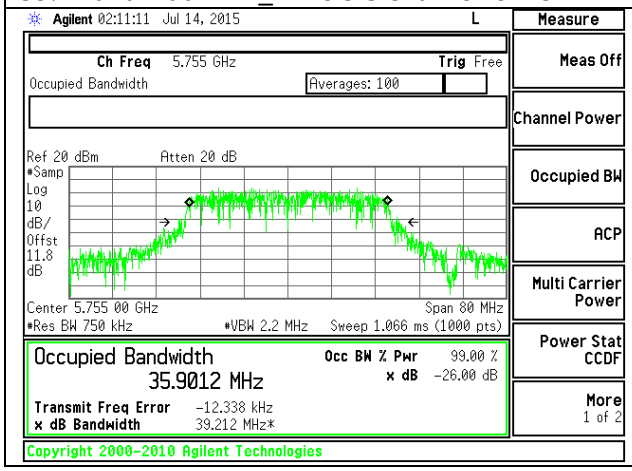
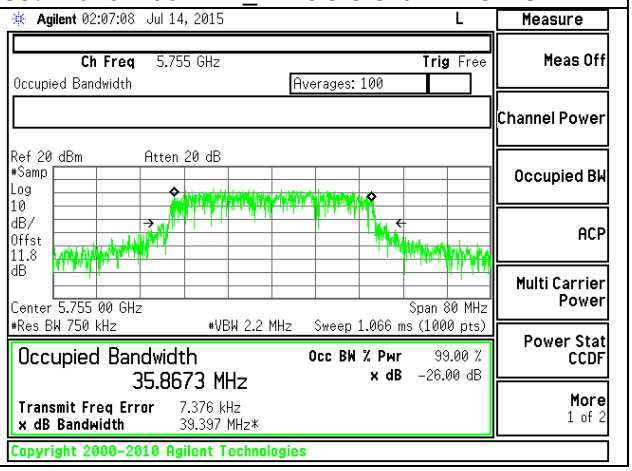


99% Bandwidth 11n_HT40 5.8 Chain 0 Low Ch



99% Bandwidth 11n_HT40 5.8 Chain 1 Low Ch



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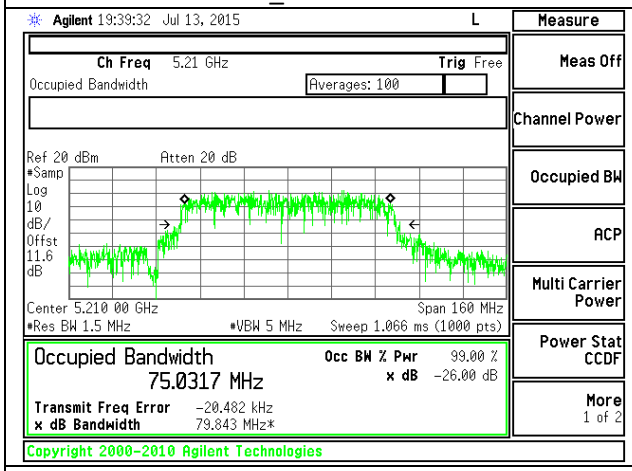
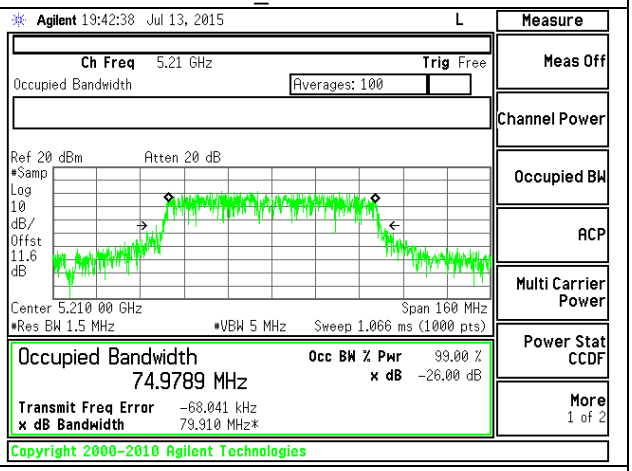
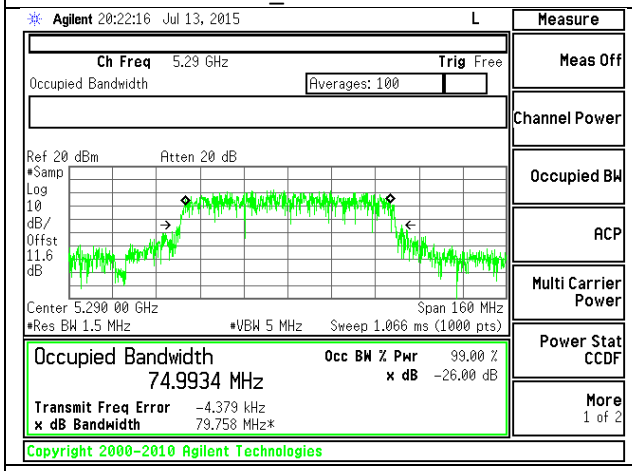
99% Bandwidth 11ac_HT80 5.2 Chain 0 Low Ch



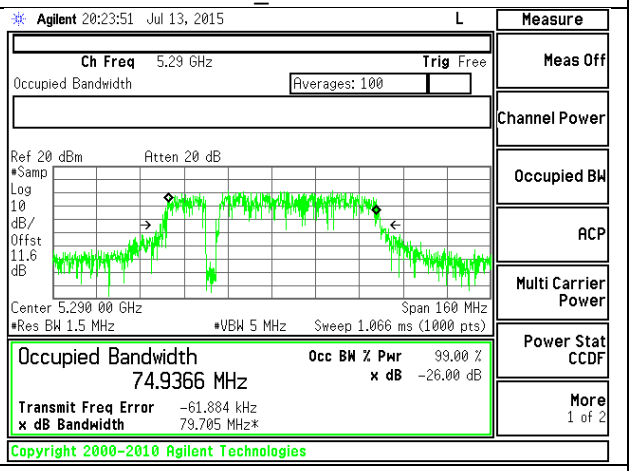
99% Bandwidth 11ac_HT80 5.2 Chain 1 Low Ch



99% Bandwidth 11ac_HT80 5.3 Chain 0 Low Ch

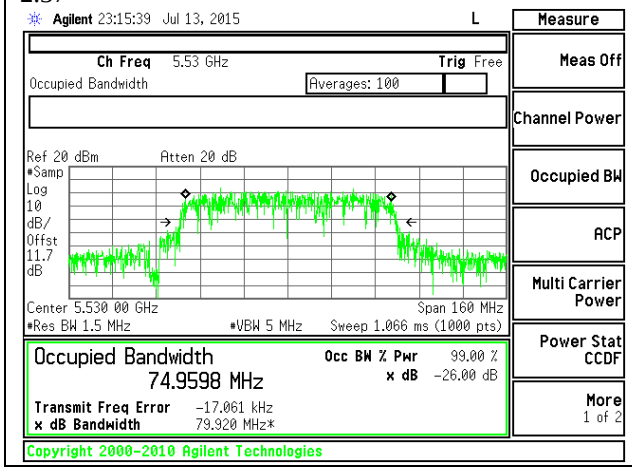


99% Bandwidth 11ac_HT80 5.3 Chain 1 Low Ch

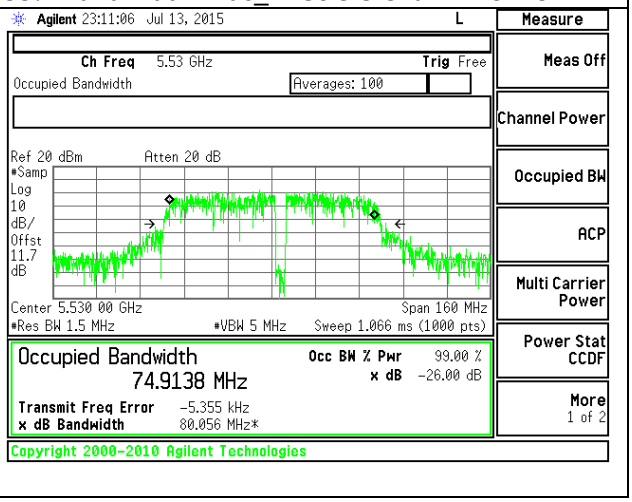


99% Bandwidth 11ac_HT80 5.5 Chain 0 Low Ch

2.37



99% Bandwidth 11ac_HT80 5.5 Chain 1 Low Ch



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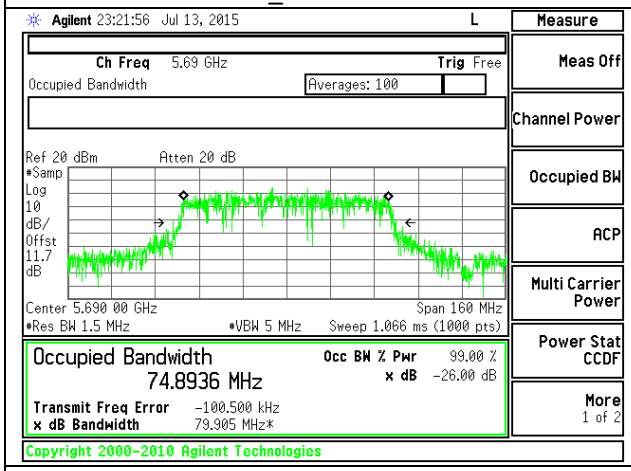
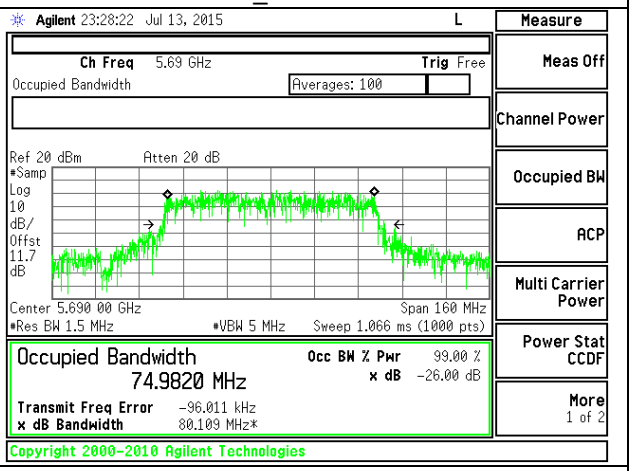
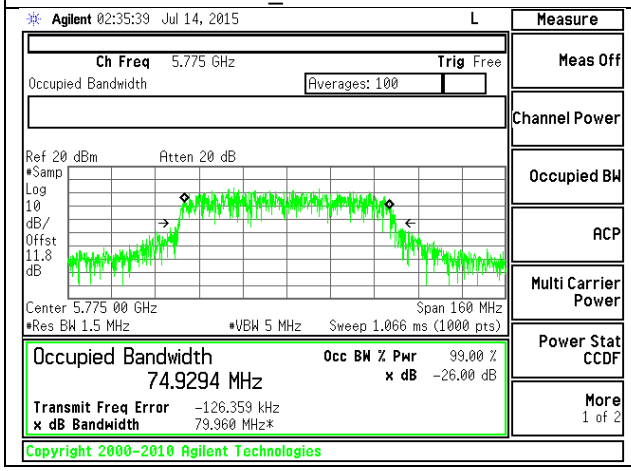
99% Bandwidth 11ac_HT80 5.5 Chain 0 Ch 138



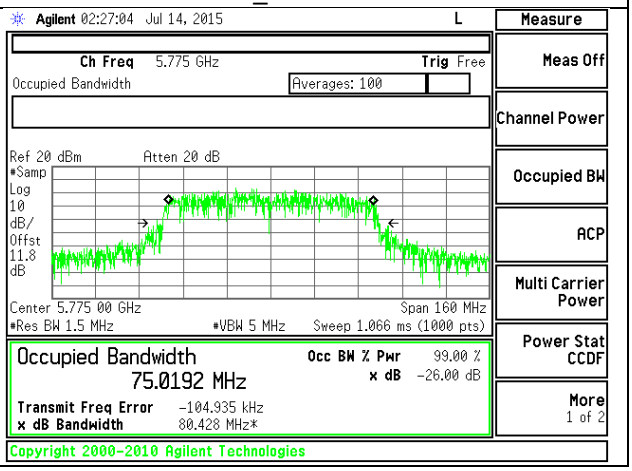
99% Bandwidth 11ac_HT80 5.5 Chain 1 Ch 138



99% Bandwidth 11ac_HT80 5.8 Low Ch



99% Bandwidth 11ac_HT80 5.8 Low 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.

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RESULTS

10.4.1. 802.11a MODE IN THE 5.2 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5180	14.40	14.60	17.51
Mid	5200	14.40	14.50	17.46
High	5240	14.20	14.20	17.21

10.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5180	13.82	13.84	16.84
Mid	5200	14.00	14.00	17.01
High	5240	13.85	13.62	16.75

10.4.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5190	11.52	11.69	14.62
High	5230	11.48	11.54	14.52

10.4.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5210	10.70	10.62	13.67

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10.4.5. 802.11a MODE IN THE 5.3 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5260	13.90	13.80	16.86
Mid	5300	14.00	14.00	17.01
High	5320	14.00	14.00	17.01

10.4.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5260	13.62	13.42	16.53
Mid	5300	13.68	13.74	16.72
High	5320	13.67	13.62	16.66

10.4.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5270	11.42	11.50	14.47
High	5310	11.60	11.64	14.63

10.4.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5290	10.50	10.65	13.59

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10.4.9. 802.11a MODE IN THE 5.5 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5500	14.86	14.91	17.90
Mid	5580	14.59	14.70	17.66
High	5700	14.73	14.81	17.78
144	5720	14.68	14.73	17.72

10.4.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5500	13.95	14.04	17.01
Mid	5580	13.84	13.65	16.76
High	5700	13.72	13.75	16.75
144	5720	13.75	13.62	16.70

10.4.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5510	11.72	12.00	14.87
Mid	5550	11.48	11.54	14.52
High	5670	11.62	11.79	14.72
142	5710	11.50	11.58	14.55

10.4.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5530	10.63	10.78	13.72
138	5690	10.55	10.69	13.63

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10.4.13. 802.11a MODE IN THE 5.8 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5745	14.74	14.78	17.77
Mid	5785	14.87	15.00	17.95
High	5825	14.60	14.79	17.71

10.4.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5745	13.93	13.72	16.84
Mid	5785	13.94	14.00	16.98
High	5825	13.72	13.84	16.79

10.4.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5755	11.52	11.57	14.56
High	5795	11.60	11.75	14.69

10.4.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5775	10.56	10.72	13.65

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10.5. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

For the band 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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum 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 maximum 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 U-NII 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-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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Band 5150-5250 MHz:

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, 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.

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 dBiare 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-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

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DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
0.18	0.03	0.11

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
0.18	0.03	3.12

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RESULTS

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	20.3050	16.3606	0.11	3.12
Mid	5200	20.2120	16.3398	0.11	3.12
High	5240	20.1810	16.3204	0.11	3.12

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	22.14	22.03	22.03	11.00	10.00	6.88
Mid	5200	24.00	22.13	22.02	22.02	11.00	10.00	6.88
High	5240	24.00	22.13	22.02	22.02	11.00	10.00	6.88

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	14.72	14.78	17.76	22.03	-4.27
Mid	5200	14.66	14.72	17.70	22.02	-4.32
High	5240	14.65	14.53	17.60	22.02	-4.42

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	3.666	3.700	6.69	6.88	-0.19
Mid	5200	3.680	3.592	6.65	6.88	-0.23
High	5240	3.565	3.484	6.53	6.88	-0.35

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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	20.5220	17.4840	0.11	3.12
Mid	5200	20.8960	17.4709	0.11	3.12
High	5240	20.1810	17.4840	0.11	3.12

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	22.43	22.32	22.32	11.00	10.00	6.88
Mid	5200	24.00	22.42	22.31	22.31	11.00	10.00	6.88
High	5240	24.00	22.43	22.32	22.32	11.00	10.00	6.88

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	13.52	13.46	16.50	22.32	-5.82
Mid	5200	13.49	13.44	16.48	22.31	-5.84
High	5240	13.43	13.25	16.35	22.32	-5.97

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5180	2.259	2.228	5.25	6.88	-1.63
Mid	5200	2.223	2.199	5.22	6.88	-1.66
High	5240	2.206	2.028	5.13	6.88	-1.75

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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	40.7340	35.8711	0.11	3.12
High	5230	40.7340	35.8512	0.11	3.12

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	22.89	22.89	11.00	10.00	6.88
High	5230	24.00	23.00	22.89	22.89	11.00	10.00	6.88

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	12.67	12.73	15.71	22.89	-7.18
High	5230	12.51	12.40	15.47	22.89	-7.42

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-1.855	-1.835	1.17	6.88	-5.71
High	5230	-2.048	-2.185	0.89	6.88	-5.99

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10.5.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5210	83.2500	74.9798	0.11	3.12

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	5210	24.00	23.00	22.89	22.89	11.00	10.00	6.88

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5210	11.05	10.95	14.10	22.89	-8.79

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5210	-6.555	-6.550	-3.45	6.88	-10.33

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10.5.5. 802.11a MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	19.4400	16.3198	0.11	3.12
Mid	5300	19.8000	16.3129	0.11	3.12
High	5320	19.9800	16.3123	0.11	3.12

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	23.89	23.13	29.13	23.13	11.00	11.00	11.00
Mid	5300	23.97	23.13	29.13	23.13	11.00	11.00	11.00
High	5320	24.00	23.13	29.13	23.13	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	14.73	14.67	17.71	23.13	-5.42
Mid	5300	14.92	14.76	17.85	23.13	-5.27
High	5320	14.90	14.93	17.93	23.13	-5.20

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	3.663	3.604	6.64	11.00	-4.36
Mid	5300	3.834	3.711	6.78	11.00	-4.22
High	5320	3.879	3.877	6.89	11.00	-4.11

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10.5.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5260	20.4910	17.4422	0.11	3.12
Mid	5300	20.8000	17.4725	0.11	3.12
High	5320	20.0570	17.4849	0.11	3.12

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	23.42	29.42	23.42	11.00	11.00	11.00
Mid	5300	24.00	23.42	29.42	23.42	11.00	11.00	11.00
High	5320	24.00	23.43	29.43	23.43	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	13.50	13.32	16.42	23.42	-6.99
Mid	5300	13.74	13.55	16.66	23.42	-6.77
High	5320	13.73	13.62	16.69	23.43	-6.74

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	2.297	2.062	5.19	11.00	-5.81
Mid	5300	2.430	2.317	5.38	11.00	-5.62
High	5320	2.480	2.322	5.41	11.00	-5.59

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10.5.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5270	40.4430	35.8225	0.11	3.12
High	5310	40.1990	35.8468	0.11	3.12

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)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.74	12.58	15.67	24.00	-8.33
High	5310	12.90	12.68	15.80	24.00	-8.20

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-1.830	-1.988	1.10	11.00	-9.90
High	5310	-1.644	-1.893	1.24	11.00	-9.76

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10.5.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5290	81.6720	74.9366	0.11	3.12

Limits

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

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5290	11.25	11.29	14.37	24.00	-9.63

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-6.271	-6.270	-3.17	11.00	-14.17

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10.5.9. 802.11a MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5500	20.2120	16.3148	0.11	3.12
Mid	5580	19.8000	16.3392	0.11	3.12
High	5700	20.5530	16.3392	0.11	3.12

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	23.13	29.13	23.13	11.00	11.00	11.00
Mid	5580	23.97	23.13	29.13	23.13	11.00	11.00	11.00
High	5700	24.00	23.13	29.13	23.13	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.87	14.86	17.88	23.13	-5.25
Mid	5580	14.85	14.59	17.73	23.13	-5.40
High	5700	15.38	15.41	18.41	23.13	-4.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	3.829	3.755	6.80	11.00	-4.20
Mid	5580	3.777	3.524	6.66	11.00	-4.34
High	5700	4.298	4.276	7.30	11.00	-3.70

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10.5.10. 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)	Directional Gain for PPSD (dBi)
Low	5500	20.3050	17.4717	0.11	3.12
Mid	5580	20.3670	17.4620	0.11	3.12
High	5700	20.3360	17.4783	0.11	3.12

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	23.42	29.42	23.42	11.00	11.00	11.00
Mid	5580	24.00	23.42	29.42	23.42	11.00	11.00	11.00
High	5700	24.00	23.42	29.42	23.42	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	13.57	13.51	16.55	23.42	-6.87
Mid	5580	13.67	13.32	16.51	23.42	-6.91
High	5700	14.12	14.17	17.16	23.42	-6.27

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	2.354	2.217	5.30	11.00	-5.70
Mid	5580	2.443	2.070	5.27	11.00	-5.73
High	5700	2.830	2.910	5.88	11.00	-5.12

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10.5.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5510	41.0440	35.8608	0.11	3.12
Mid	5550	41.1680	35.8650	0.11	3.12
High	5670	41.3910	35.8882	0.11	3.12

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)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.72	12.78	15.76	24.00	-8.24
Mid	5550	12.71	12.47	15.60	24.00	-8.40
High	5670	13.26	13.38	16.33	24.00	-7.67

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-1.791	-1.767	1.23	11.00	-9.77
Mid	5550	-1.843	-2.094	1.04	11.00	-9.96
High	5670	-1.300	-1.232	1.74	11.00	-9.26

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10.5.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5530	83.7900	74.9138	0.11	3.12

Limits

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

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	11.33	11.26	14.40	24.00	-9.60

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5530	-6.276	-6.334	-3.20	11.00	-14.20

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10.5.13. 802.11a MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5745	0.11	3.12
Mid	5785	0.11	3.12
High	5825	0.11	3.12

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)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.37	15.10	18.25	30.00	-11.75
Mid	5785	15.26	15.37	18.33	30.00	-11.67
High	5825	15.20	15.31	18.27	30.00	-11.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	1.605	1.306	4.47	30.00	-25.53
Mid	5785	1.540	1.547	4.55	30.00	-25.45
High	5825	1.485	1.572	4.54	30.00	-25.46

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10.5.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
Low	5745	0.11	3.12
Mid	5785	0.11	3.12
High	5825	0.11	3.12

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)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.22	13.88	17.06	30.00	-12.94
Mid	5785	14.12	14.17	17.16	30.00	-12.84
High	5825	13.98	14.02	17.01	30.00	-12.99

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	0.193	-0.135	3.04	30.00	-26.96
Mid	5785	0.070	0.190	3.14	30.00	-26.86
High	5825	-0.088	0.028	2.98	30.00	-27.02

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10.5.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directio Gain for Power (dBi)	Directio Gain for PPSD (dBi)
Low	5755	0.11	3.12
High	5795	0.11	3.12

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)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	13.20	13.13	16.18	30.00	-13.82
High	5795	13.18	13.42	16.31	30.00	-13.69

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5755	-4.066	-4.150	-1.10	30.00	-31.10
High	5795	-4.141	-3.843	-0.98	30.00	-30.98

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10.5.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directio Gain for Power (dBi)	Directio Gain for PPSD (dBi)
Low	5775	0.11	3.12

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	5775	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5775	11.77	11.49	14.73	30.00	-15.27

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5775	-8.351	-8.655	-5.40	30.00	-35.40

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10.5.17. 802.11a MODE STRADDLE CHANNEL 144 RESULTS

UNII-2C 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)
144	5720	15.48	13.1700	0.11	3.12

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)
144	5720	22.90	22.20	28.20	22.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	14.54	14.37	17.47	22.20	-4.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	4.196	4.026	7.12	11.00	-3.88

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UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directio Gain for Power (dBi)	Directio Gain for PPSD (dBi)
144	5720	0.11	3.12

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)
144	5720	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	7.05	6.88	9.98	30.00	-20.02

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	3.514	3.296	6.42	30.00	-23.58

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10.5.18. 802.11n HT20 MODE STRADDLE CHANNEL 144 RESULTS

UNII-2C 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)
144	5720	15.29	13.75	0.11	3.12

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)
144	5720	22.84	22.38	28.38	22.38	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.30	13.00	16.16	22.38	-6.22

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	2.840	2.544	5.70	11.00	-5.30

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UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directio Gain for Power (dBi)	Directio Gain for PPSD (dBi)
144	5720	0.11	3.12

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)
144	5720	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	6.22	5.92	9.08	30.00	-20.92

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	2.126	1.791	4.97	30.00	-25.03

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10.5.19. 802.11n HT40 MODE STRADDLE CHANNEL 142 RESULTS

UNII-2C 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)
144	5710	35.65	32.96	0.11	3.12

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)
144	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5710	12.92	12.85	15.90	24.00	-8.10

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5710	-1.296	-1.417	1.65	11.00	-9.35

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UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
142	5710	0.11	3.12

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)
142	5710	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	0.14	0.10	3.13	30.00	-26.87

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
142	5710	-3.323	-3.339	-0.32	30.00	-30.32

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10.5.20. 802.11ac HT80 MODE STRADDLE CHANNEL 138 RESULTS

UNII-2C 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)
138	5690	76.20	72.40	0.11	3.12

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)
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.70	11.68	14.79	24.00	-9.21

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-5.652	-5.729	-2.59	11.00	-13.59

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UNII-3 BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Directio Gain for Power (dBi)	Directio Gain for PPSD (dBi)
138	5690	0.11	3.12

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)
138	5690	30.00	30.00	30.00	30.00	30.00	30.00

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-6.17	-6.10	-3.03	30.00	-33.03

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-9.366	-9.288	-6.23	30.00	-36.23

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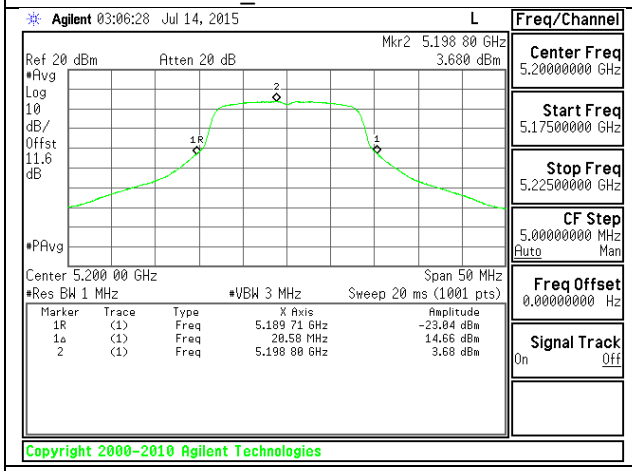
10.5.21. OUTPUT POWER AND PPSD PLOTS

POWER & PSD 11a_5.2 Chain 0 Mid Ch



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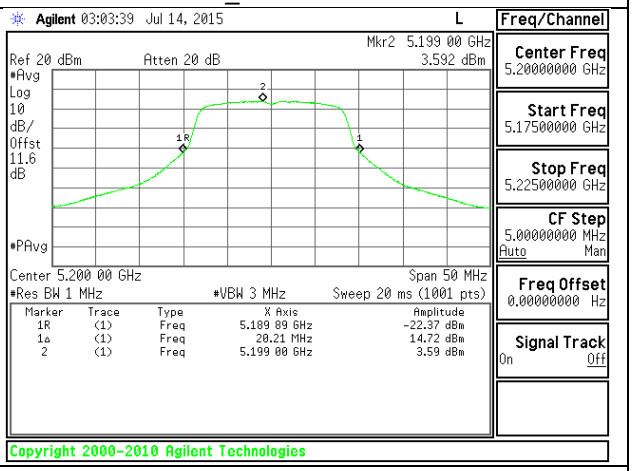

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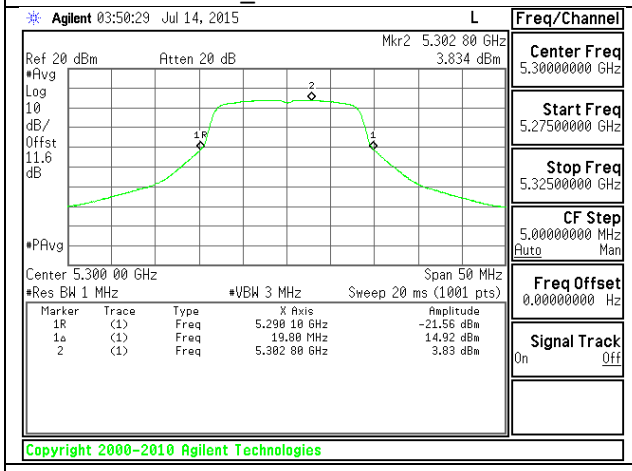

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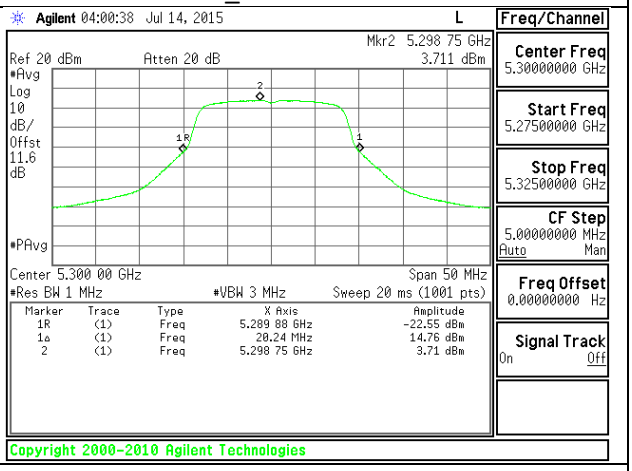

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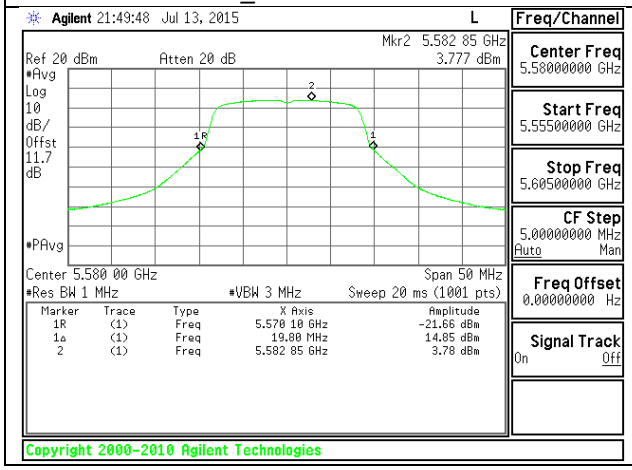

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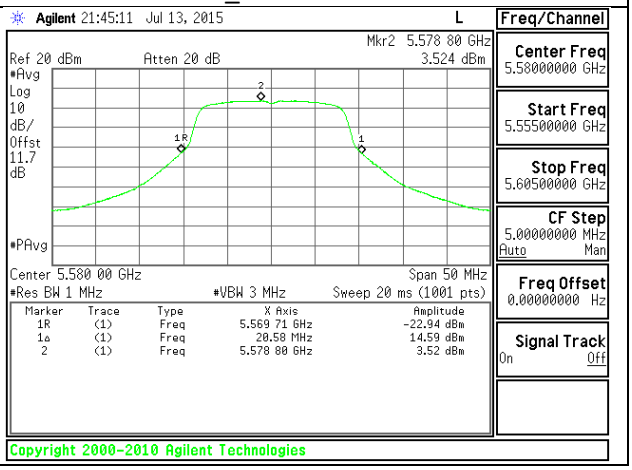

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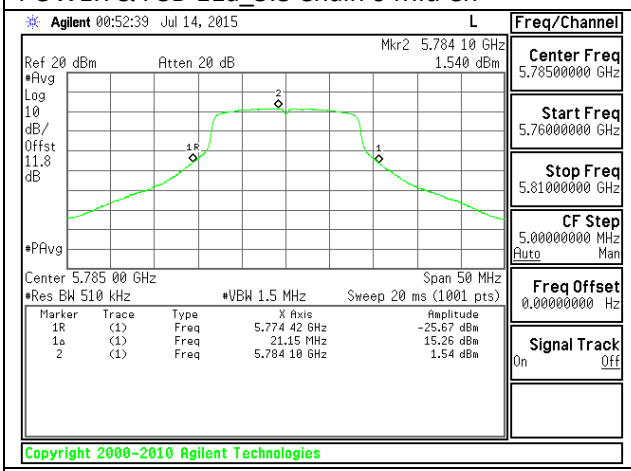

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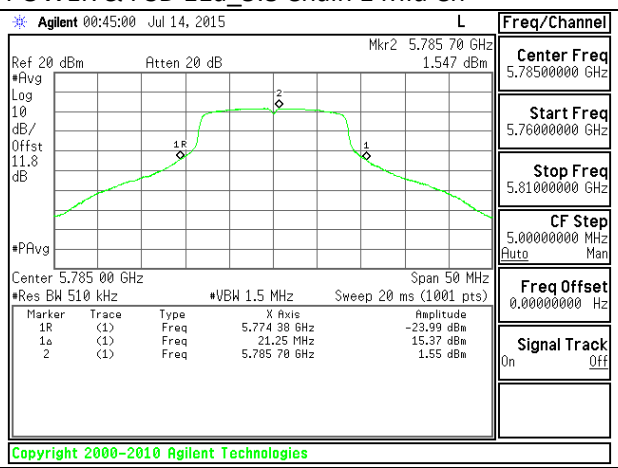
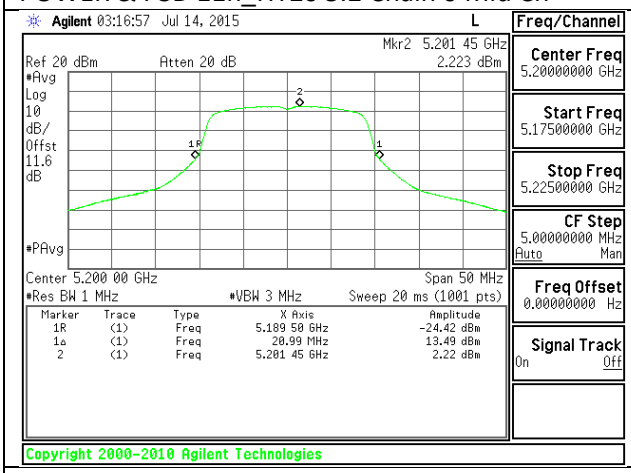
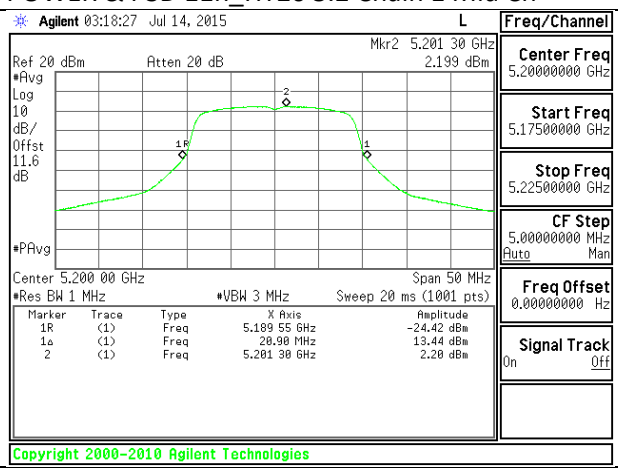


POWER & PSD 11n_HT20 5.2 Chain 0 Mid Ch



POWER & PSD 11n_HT20 5.2 Chain 1 Mid Ch



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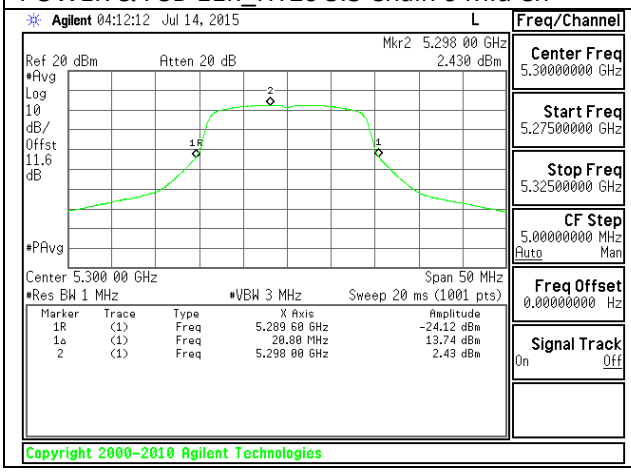
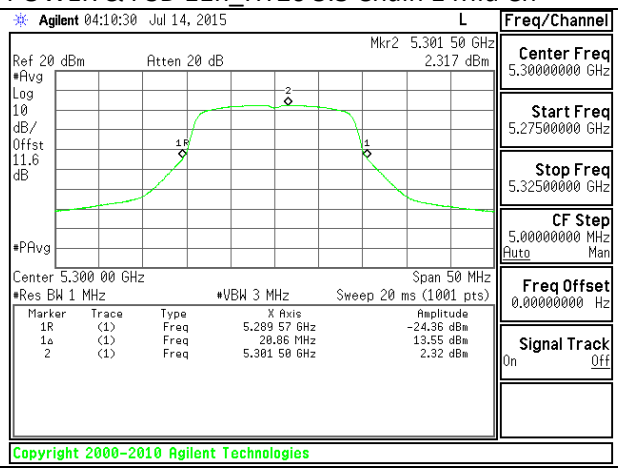


POWER & PSD 11n_HT20 5.3 Chain 1 Mid Ch



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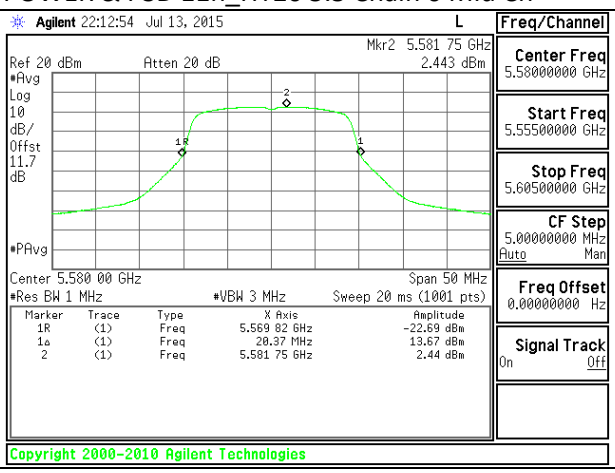
POWER & PSD 11n_HT20 5.5 Chain 0 Mid Ch



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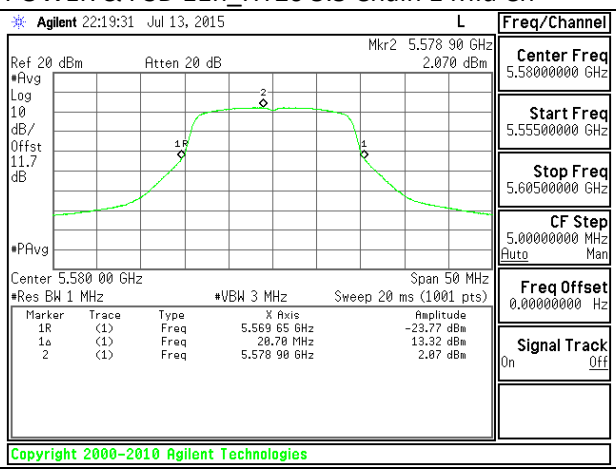

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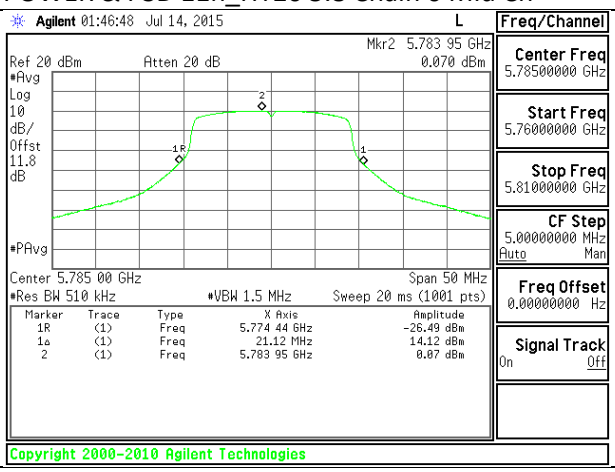

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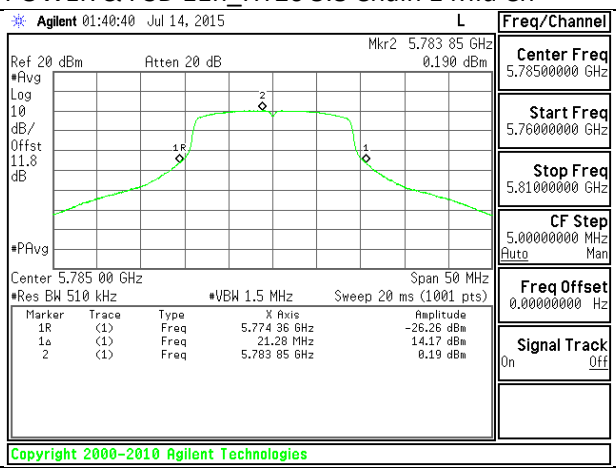
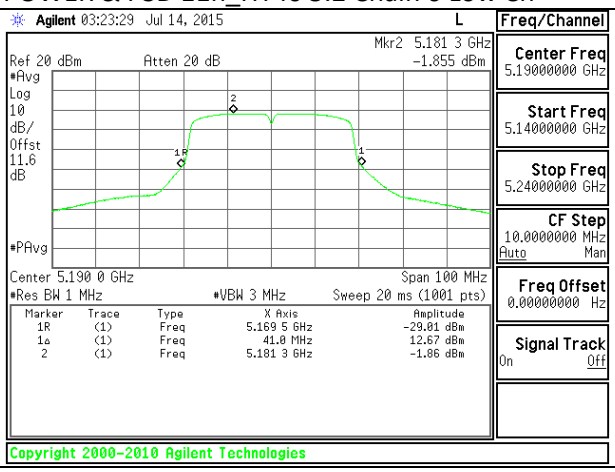
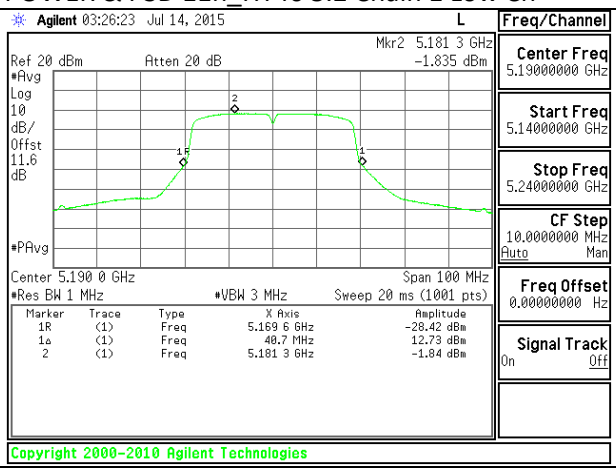


POWER & PSD 11n_HT40 5.2 Chain 0 Low Ch



POWER & PSD 11n_HT40 5.2 Chain 1 Low Ch



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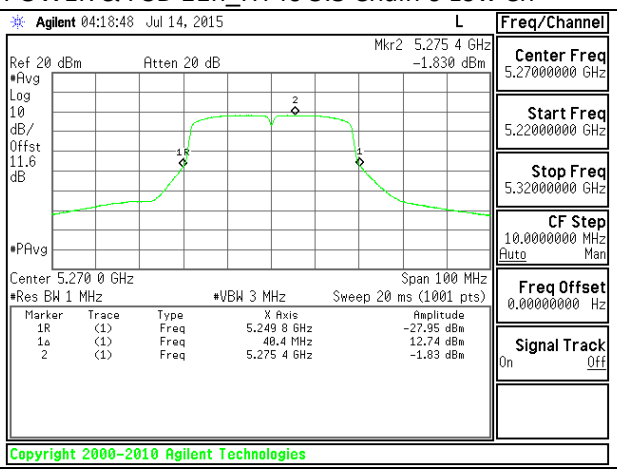
POWER & PSD 11n_HT40 5.3 Chain 0 Low Ch



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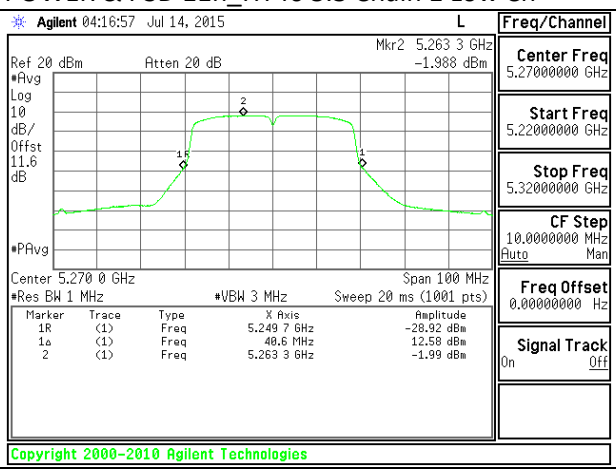
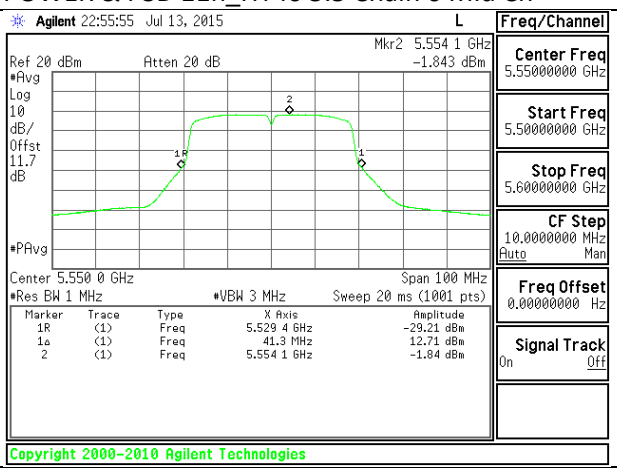


POWER & PSD 11n_HT40 5.5 Chain 0 Mid Ch



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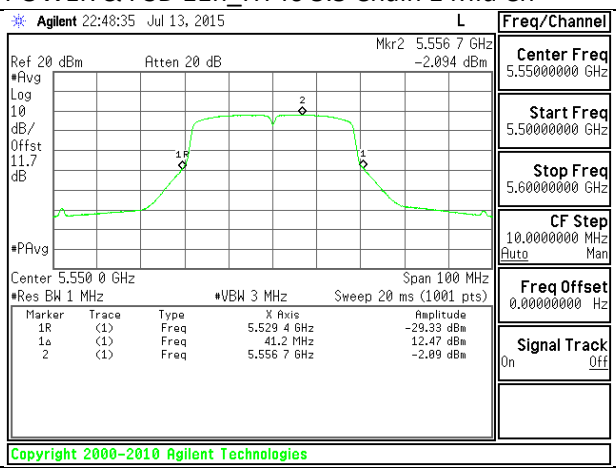

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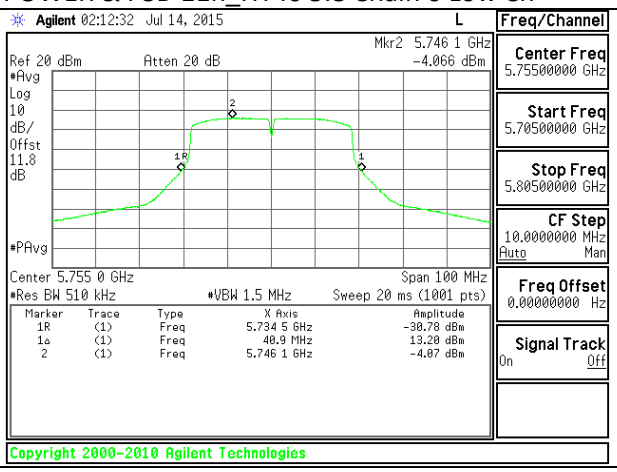

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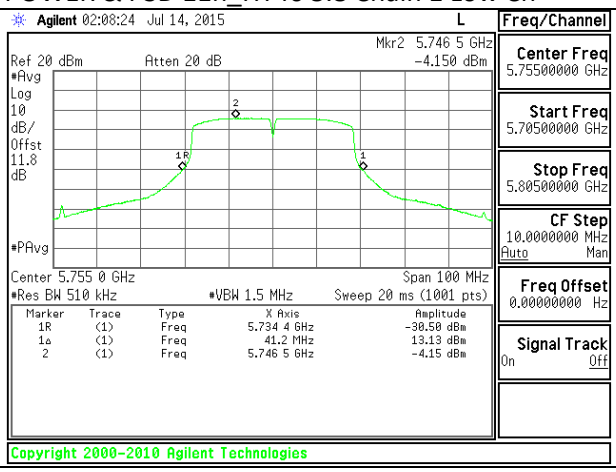

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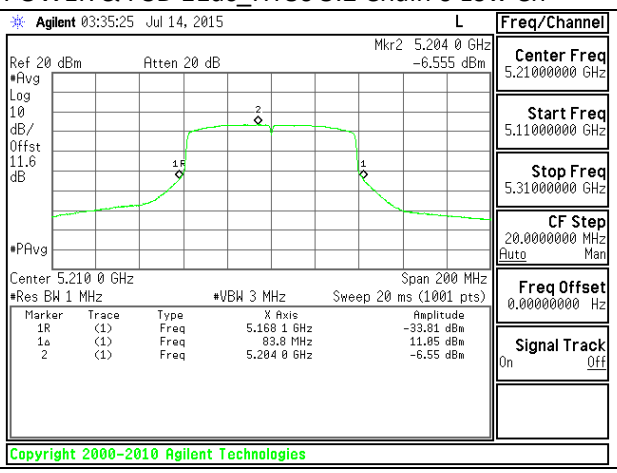
POWER & PSD 11ac_HT80 5.2 Chain 0 Low Ch



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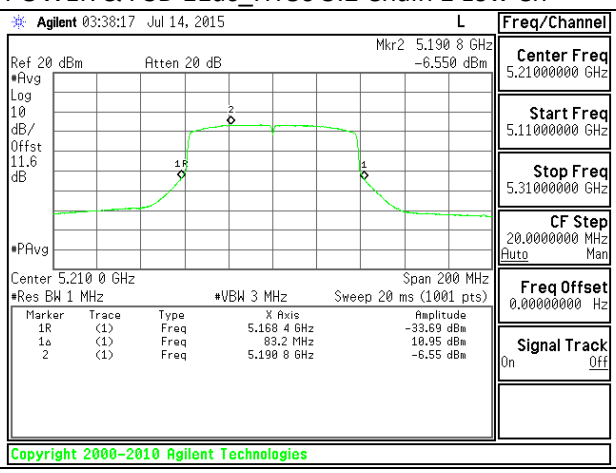
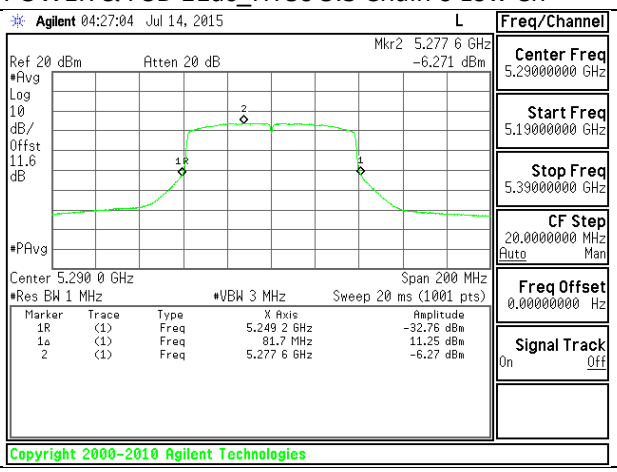
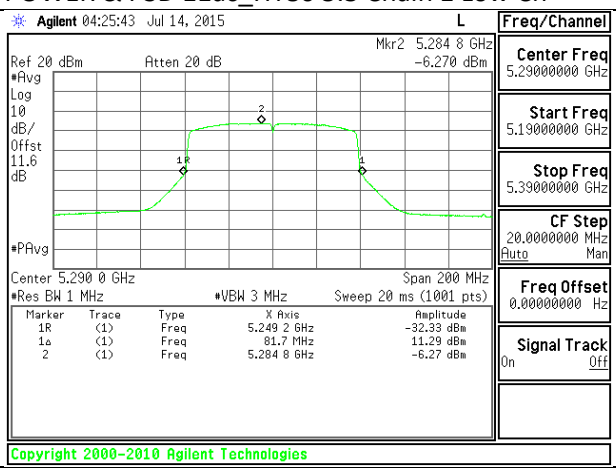


POWER & PSD 11ac_HT80 5.3 Chain 0 Low Ch



POWER & PSD 11ac_HT80 5.3 Chain 1 Low Ch



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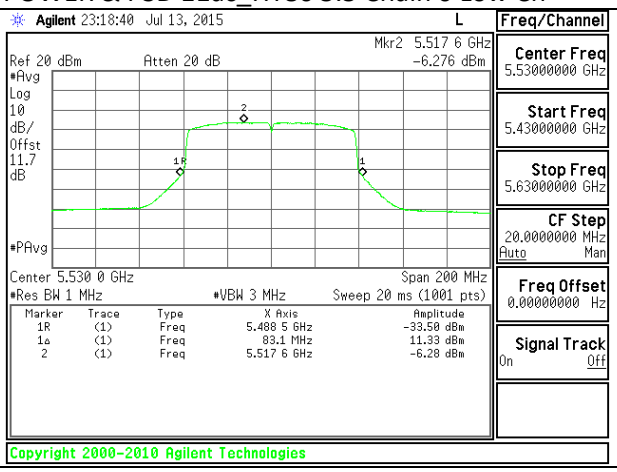
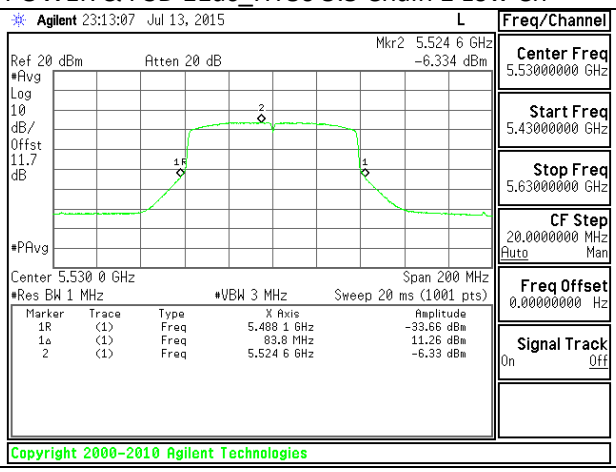


POWER & PSD 11ac_HT80 5.5 Chain 1 Low Ch



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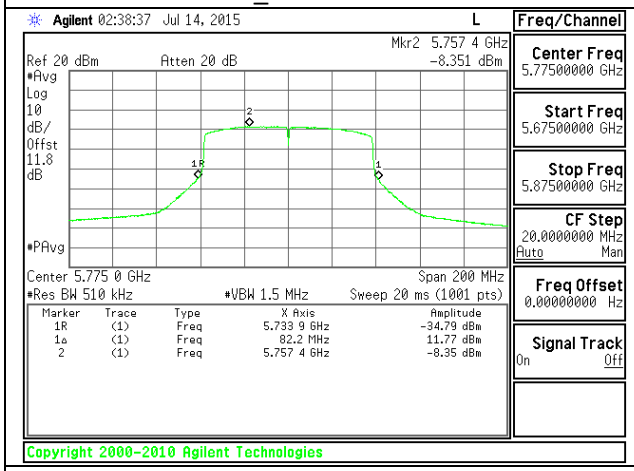
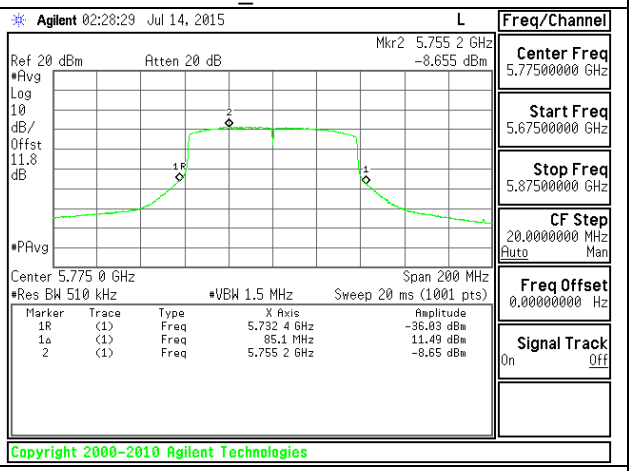
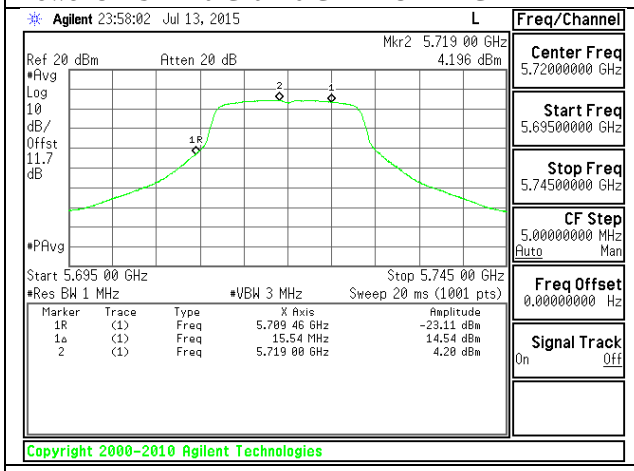
POWER & PSD 11ac_HT80 5.8 Chain 0 Low Ch



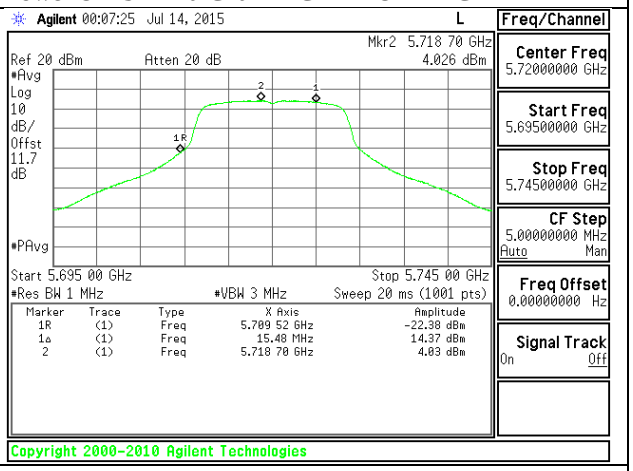
POWER & PSD 11ac_HT80 5.8 Chain 1 Low Ch



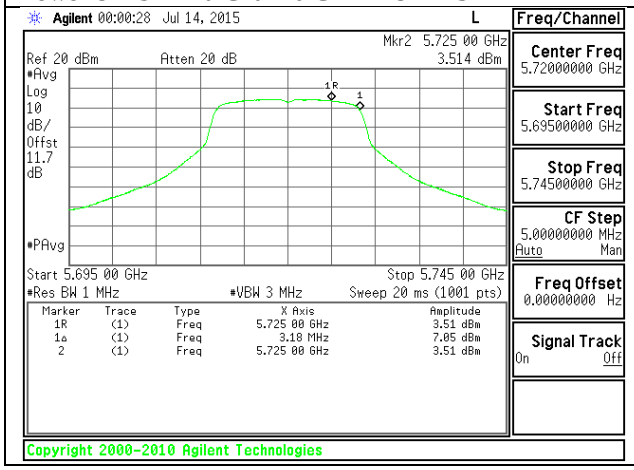
Power & PSD 11a Chain 0 Ch144 UNII-2C



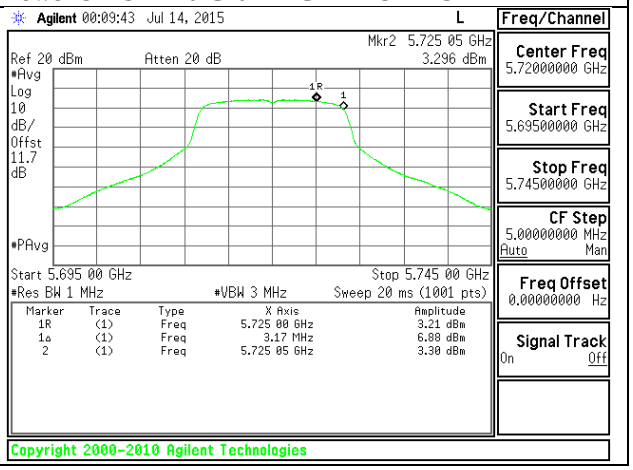
Power & PSD 11a Chain 1 Ch144 UNII-2C



Power & PSD 11a Chain 0 Ch144 UNII-3



Power & PSD 11a Chain 1 Ch144 UNII-3



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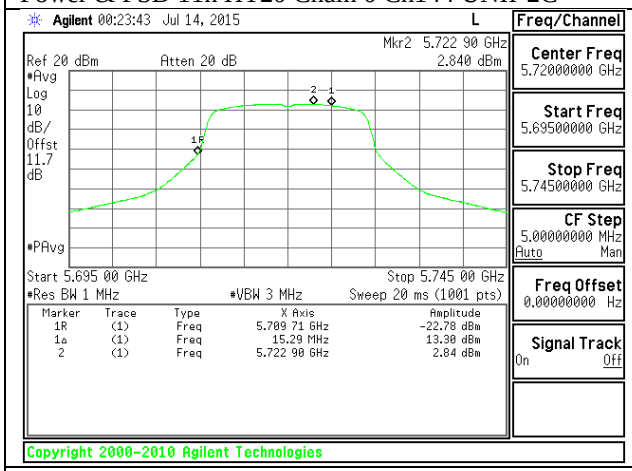
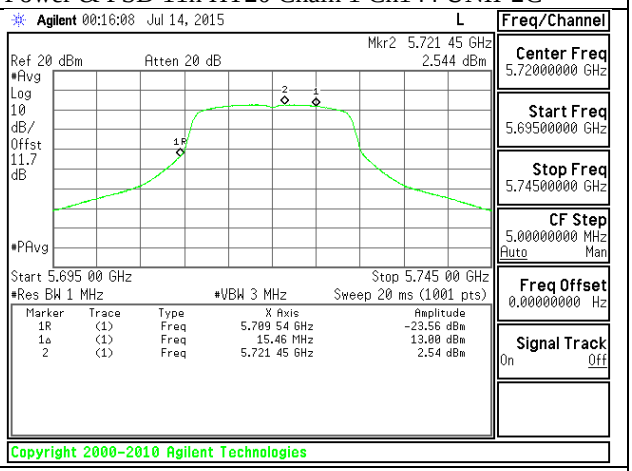
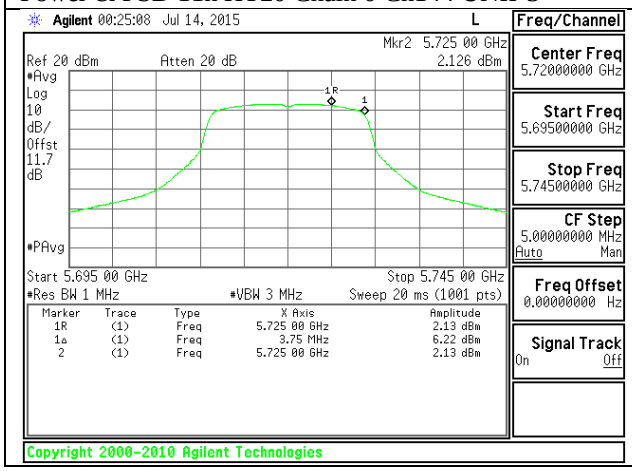
Power & PSD 11n HT20 Chain 0 Ch144 UNII-2C



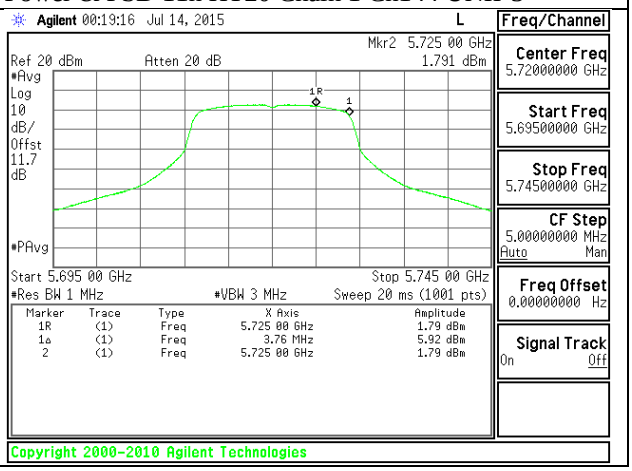
Power & PSD 11n HT20 Chain 1 Ch144 UNII-2C



Power & PSD 11n HT20 Chain 0 Ch144 UNII-3



Power & PSD 11n HT20 Chain 1 Ch144 UNII-3



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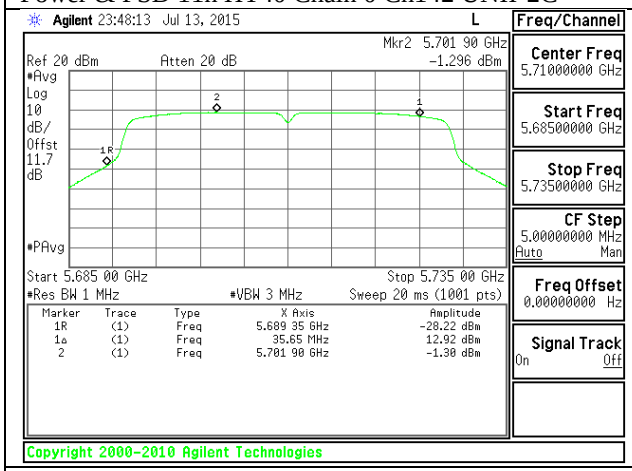
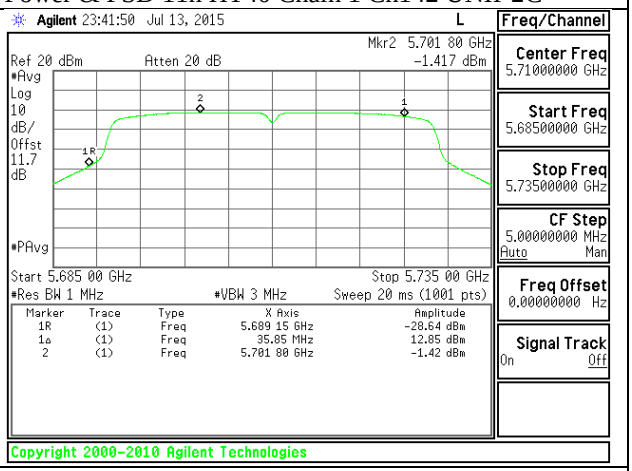
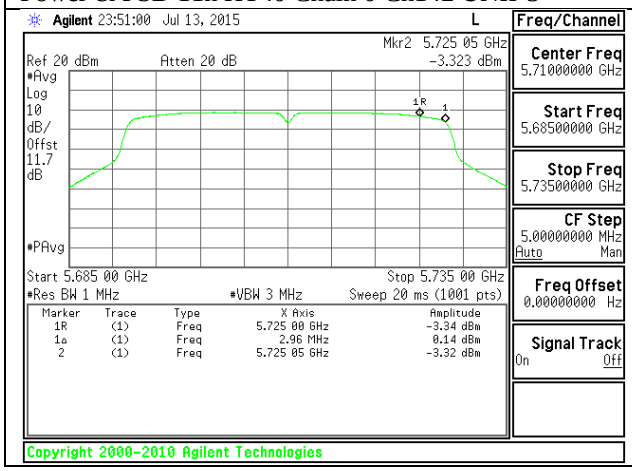
Power & PSD 11n HT40 Chain 0 Ch142 UNII-2C



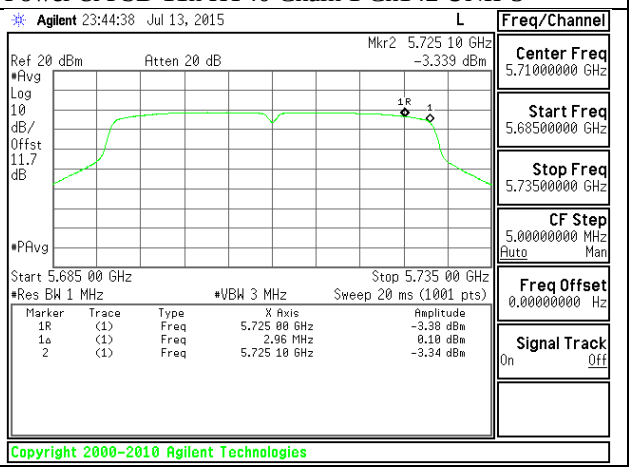
Power & PSD 11n HT40 Chain 1 Ch142 UNII-2C



Power & PSD 11n HT40 Chain 0 Ch142 UNII-3



Power & PSD 11n HT40 Chain 1 Ch142 UNII-3



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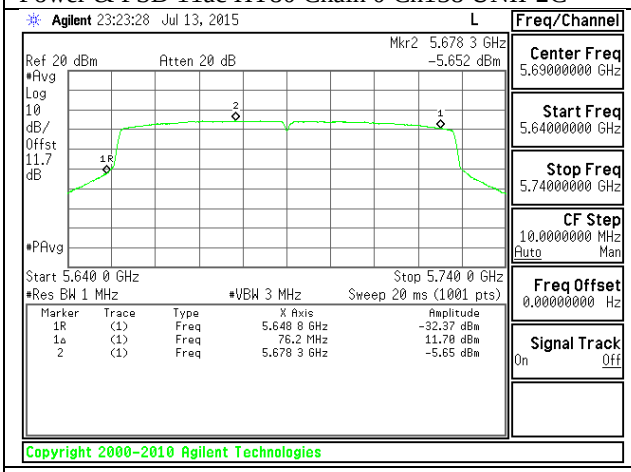
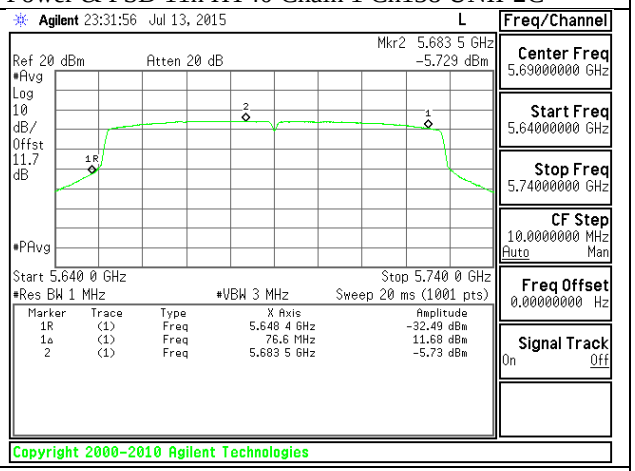
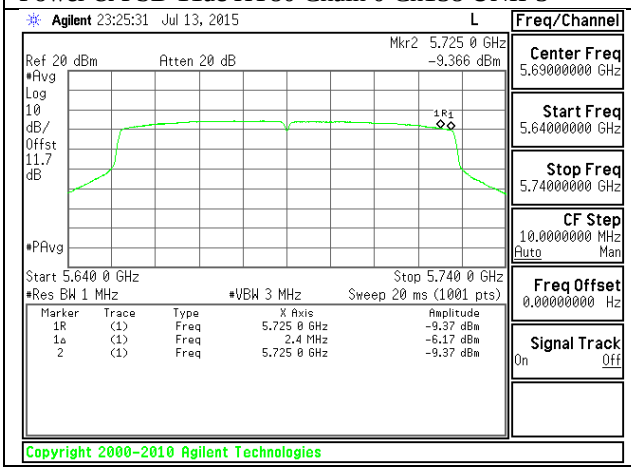
Power & PSD 11ac HT80 Chain 0 Ch138 UNII-2C



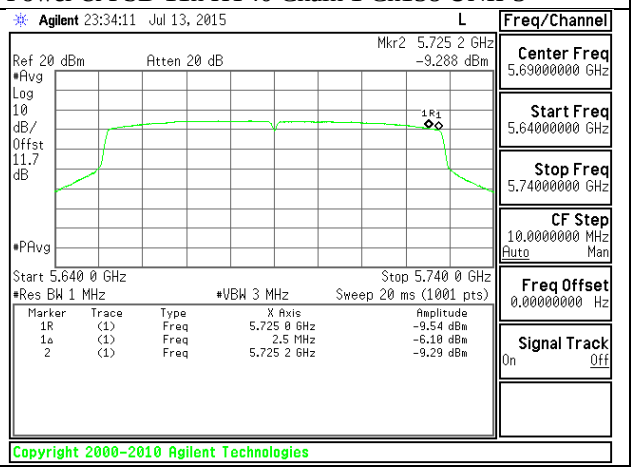
Power & PSD 11n HT40 Chain 1 Ch138 UNII-2C



Power & PSD 11ac HT80 Chain 0 Ch138 UNII-3



Power & PSD 11n HT40 Chain 1 Ch138 UNII-3



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11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

RSS-GEN 8.9

RSS-247 6

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 H) 6) d) Method VB:

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

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

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

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

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

Note: Band edge and radiated spurious emission test data are from MIMO mode.

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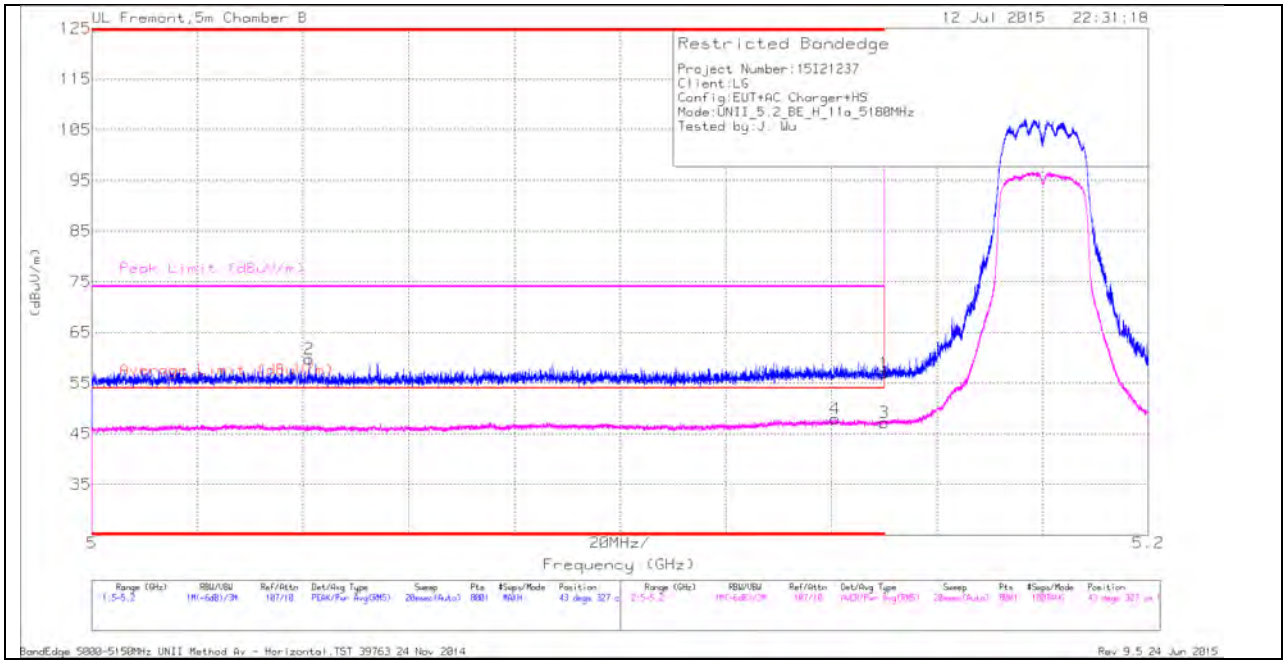
11.1. 5.2 GHz

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	39.46	Pk	34.1	-16.6	0	56.96	-	-	74	-17.04	43	327	H
2	* 5.041	42.4	Pk	34	-16.7	0	59.7	-	-	74	-14.3	43	327	H
3	* 5.15	29.71	RMS	34.1	-16.6	0	47.21	54	-6.79	-	-	43	327	H
4	* 5.141	30.06	RMS	34.1	-16.2	0	47.96	54	-6.04	-	-	43	327	H

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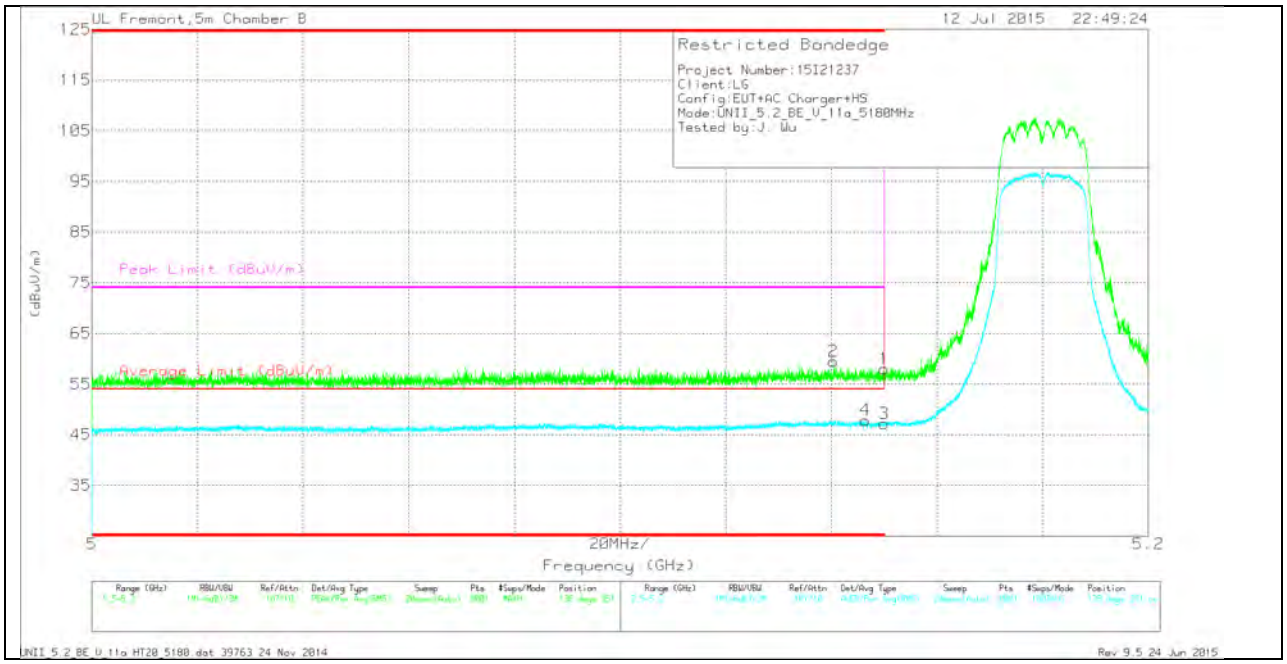
VERTICAL PEAK AND AVERAGE PLOT



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	40.44	Pk	34.1	-16.6	0	57.94	-	-	74	-16.06	138	351	V
2	* 5.14	41.55	Pk	34.1	-16.2	0	59.45	-	-	74	-14.55	138	351	V
3	* 5.15	29.71	RMS	34.1	-16.6	0	47.21	54	-6.79	-	-	138	351	V
4	* 5.146	30.27	RMS	34.1	-16.5	0	47.87	54	-6.13	-	-	138	351	V

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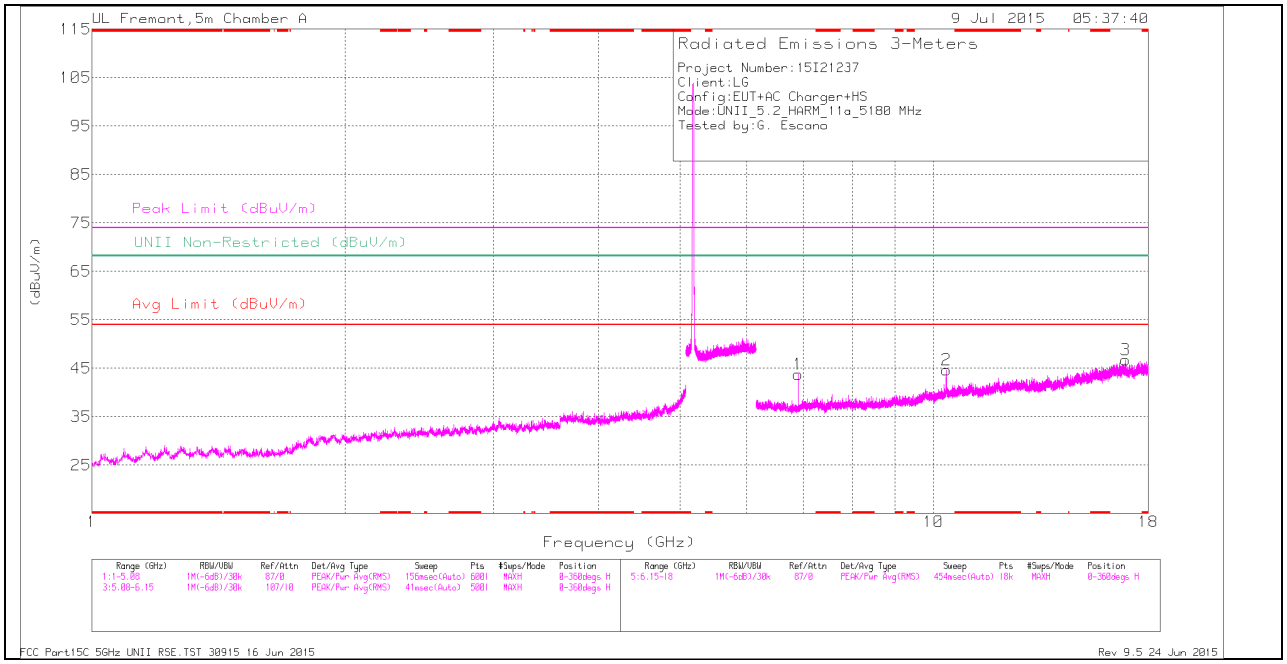
HARMONICS AND SPURIOUS EMISSIONS

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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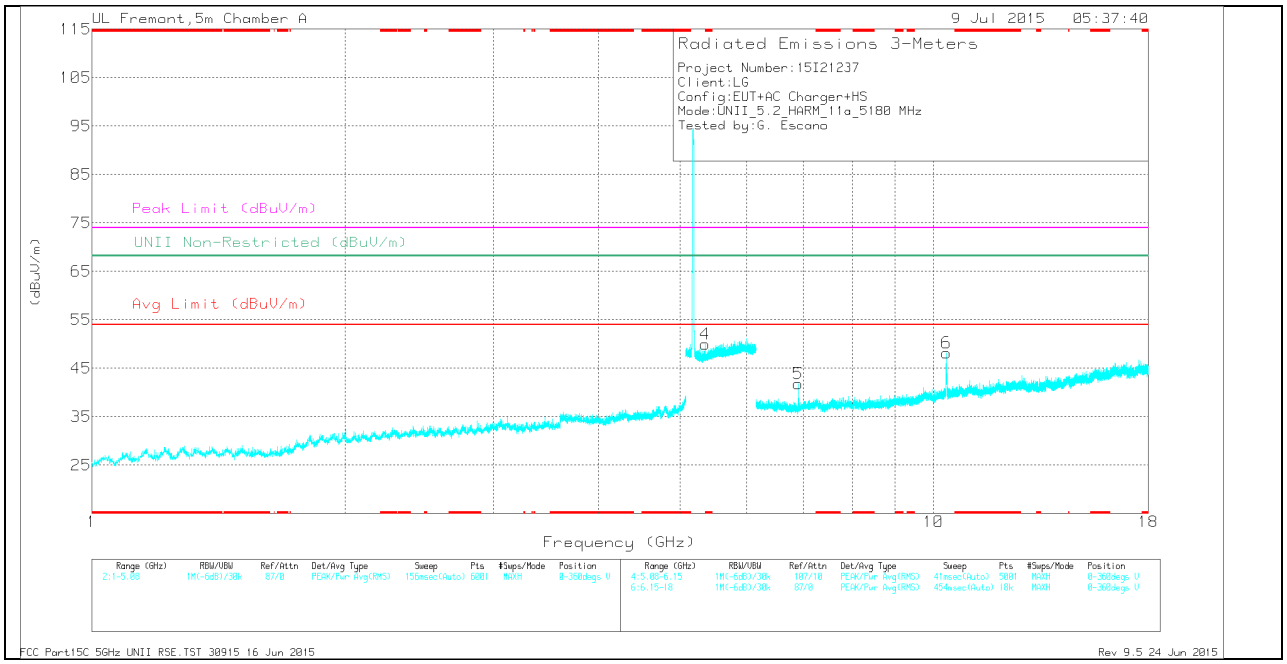
LOW CHANNEL VERTICAL



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 T136 (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	* 5.357	36.36	Pk	34.6	-21	0	49.96	-	-	74	-24.04	-	-	0-360	100	V
6	10.357	34.4	Pk	37.4	-23.6	0	48.2	-	-	-	-	68.2	-20	0-360	100	V
2	10.358	30.81	Pk	37.4	-23.6	0	44.61	-	-	-	-	68.2	-23.59	0-360	100	H
3	16.91	28.44	Pk	41.4	-23.1	0	46.74	-	-	-	-	68.2	-21.46	0-360	201	H
1	6.906	35.95	Pk	35.6	-27.8	0	43.75	-	-	-	-	68.2	-24.45	0-360	100	H
5	6.907	33.96	Pk	35.6	-27.8	0	41.76	-	-	-	-	68.2	-26.44	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 5.359	42.5	PK-U	34.6	-21	0	56.1	-	-	74	-17.9	-	-	57	136	V
* 5.356	30.99	ADR	34.6	-21	0	44.59	54	-9.41	-	-	-	-	57	136	V
6.907	41.88	PK-U	35.6	-27.8	0	49.68	-	-	-	-	68.2	-18.52	203	106	H
6.907	41.24	PK-U	35.6	-27.8	0	49.04	-	-	-	-	68.2	-19.16	49	254	V
10.357	38.79	PK-U	37.4	-23.6	0	52.59	-	-	-	-	68.2	-15.61	284	117	H
10.359	43.96	PK-U	37.4	-23.6	0	57.76	-	-	-	-	68.2	-10.44	183	104	V
16.918	34.72	PK-U	41.4	-22.9	0	53.22	-	-	-	-	68.2	-14.98	129	189	H

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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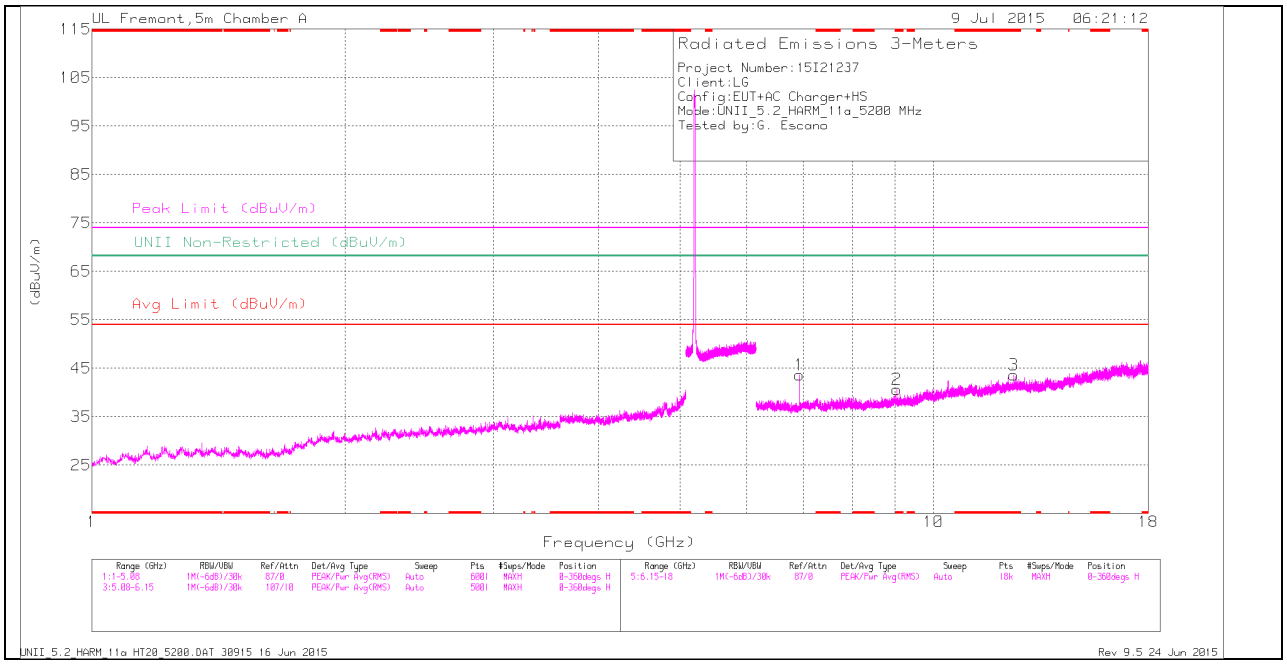
MID CHANNEL HORIZONTAL



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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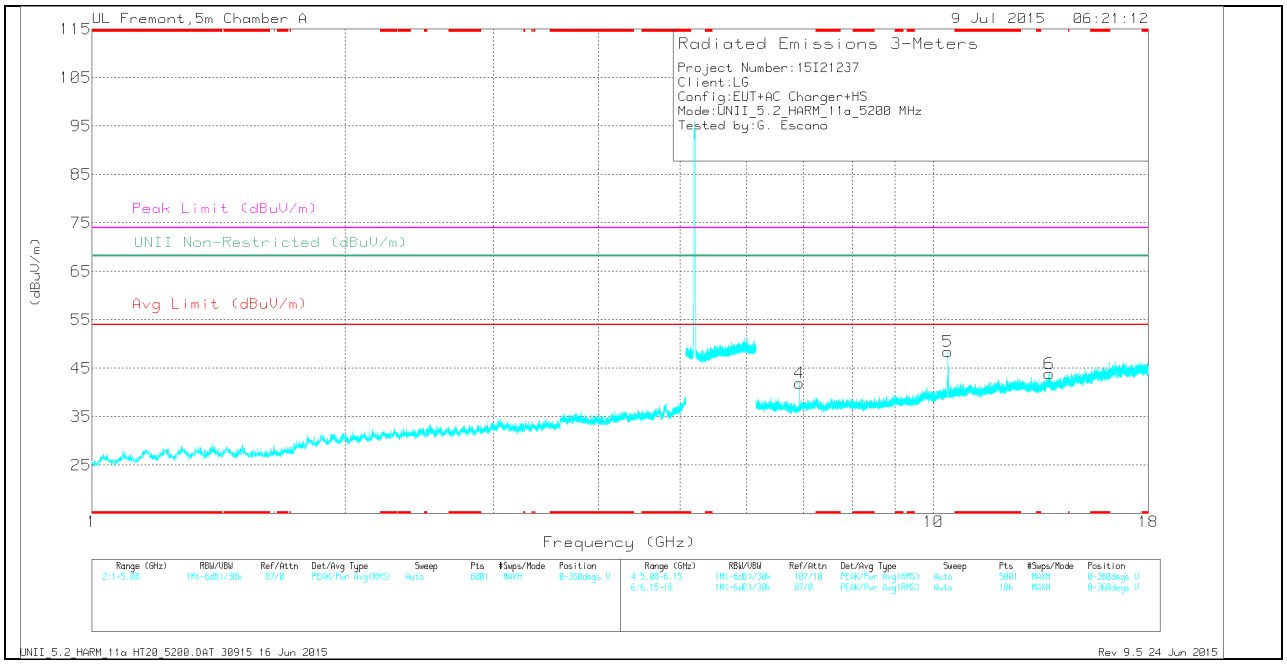
MID CHANNEL VERTICAL



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 T136 (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	* 9.045	29.85	Pk	36.2	-25.4	0	40.65	-	-	74	-33.35	-	-	0-360	100	H
3	* 12.447	27.76	Pk	39	-23.1	0	43.66	-	-	74	-30.34	-	-	0-360	100	H
1	6.933	35.49	Pk	35.6	-27.5	0	43.59	-	-	-	-	68.2	-24.61	0-360	100	H
4	6.933	33.83	Pk	35.6	-27.5	0	41.93	-	-	-	-	68.2	-26.27	0-360	100	V
5	10.403	34.68	Pk	37.4	-23.6	0	48.48	-	-	-	-	68.2	-19.72	0-360	100	V
6	13.726	28.77	Pk	38.7	-23.6	0	43.87	-	-	-	-	68.2	-24.33	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 9.043	35.99	PK-U	36.2	-25.4	0	46.79	-	-	74	-27.21	-	-	137	280	H
* 9.046	24.47	ADR	36.2	-25.4	0	35.27	54	-18.73	-	-	-	-	137	280	H
* 12.449	34.1	PK-U	39	-23.1	0	50	-	-	74	-24	-	-	31	120	H
* 12.448	22.5	ADR	39	-23.1	0	38.4	54	-15.6	-	-	-	-	31	120	H
6.933	41.69	PK-U	35.6	-27.5	0	49.79	-	-	-	-	68.2	-18.41	136	278	H
6.934	40.73	PK-U	35.6	-27.5	0	48.83	-	-	-	-	68.2	-19.37	142	104	V
10.403	44.9	PK-U	37.4	-23.6	0	58.7	-	-	-	-	68.2	-9.5	26	101	V
13.727	35.54	PK-U	38.7	-23.6	0	50.64	-	-	-	-	68.2	-17.56	46	193	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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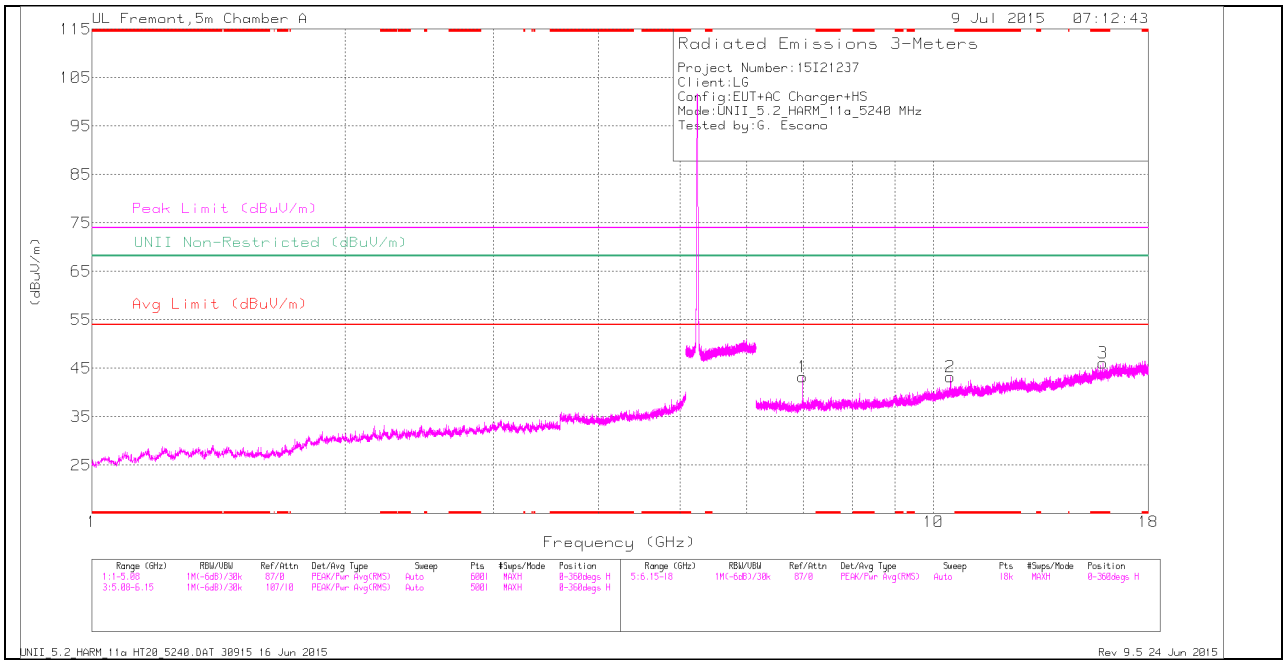
HIGH CHANNEL HORIZONTAL



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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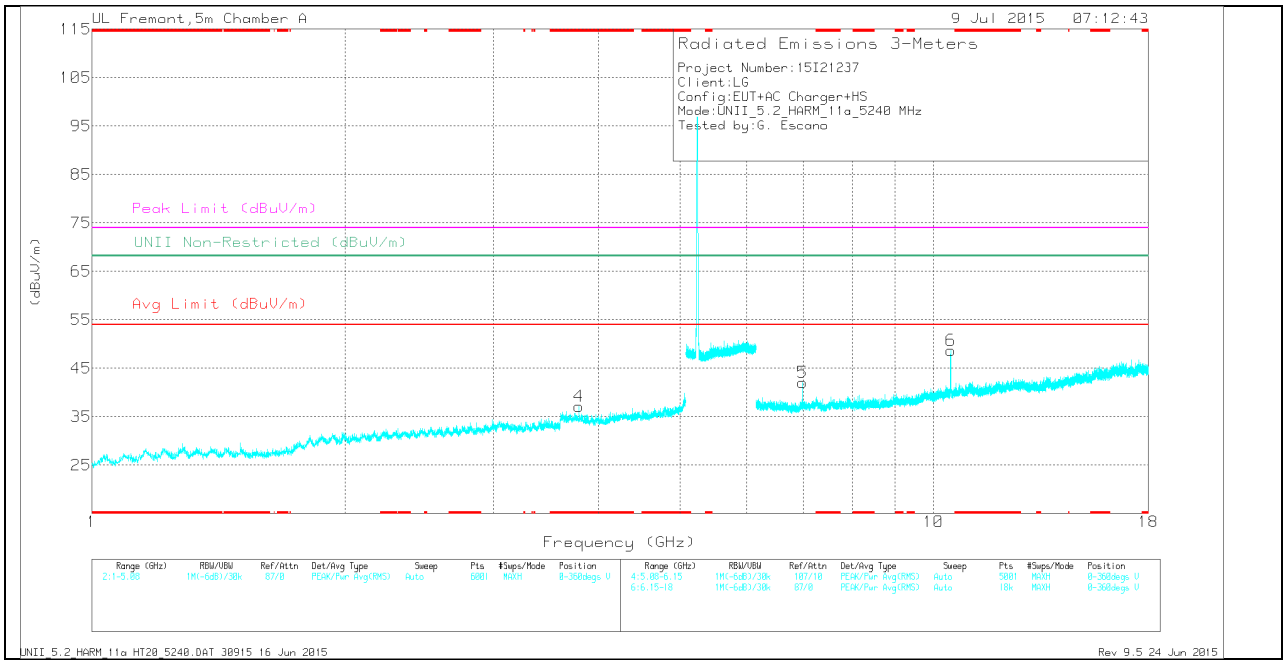
HIGH CHANNEL VERTICAL



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 T136 (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	* 3.789	35.83	Pk	33.4	-32.1	0	37.13	-	-	74	-36.87	-	-	0-360	200	V
3	* 15.905	28.8	Pk	40.8	-23.5	0	46.1	-	-	74	-27.9	-	-	0-360	100	H
1	6.987	34.58	Pk	35.6	-27	0	43.18	-	-	-	-	68.2	-25.02	0-360	100	H
5	6.987	33.43	Pk	35.6	-27	0	42.03	-	-	-	-	68.2	-26.17	0-360	100	V
2	10.478	29.34	Pk	37.5	-23.6	0	43.24	-	-	-	-	68.2	-24.96	0-360	100	H
6	10.483	34.79	Pk	37.5	-23.6	0	48.69	-	-	-	-	68.2	-19.51	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 3.79	41.92	PK-U	33.4	-32.1	0	43.22	-	-	74	-30.78	-	-	140	125	V
* 3.791	30.22	ADR	33.4	-32.2	0	31.42	54	-22.58	-	-	-	-	140	125	V
* 15.905	36.74	PK-U	40.8	-23.5	0	54.04	-	-	74	-19.96	-	-	315	120	H
* 15.905	24.28	ADR	40.8	-23.5	0	41.58	54	-12.42	-	-	-	-	315	120	H
6.986	40.82	PK-U	35.6	-27	0	49.42	-	-	-	-	68.2	-18.78	146	100	V
6.987	41.09	PK-U	35.6	-27	0	49.69	-	-	-	-	68.2	-18.51	198	111	H
10.477	36.69	PK-U	37.5	-23.6	0	50.59	-	-	-	-	68.2	-17.61	278	105	H
10.483	45.49	PK-U	37.5	-23.6	0	59.39	-	-	-	-	68.2	-8.81	27	100	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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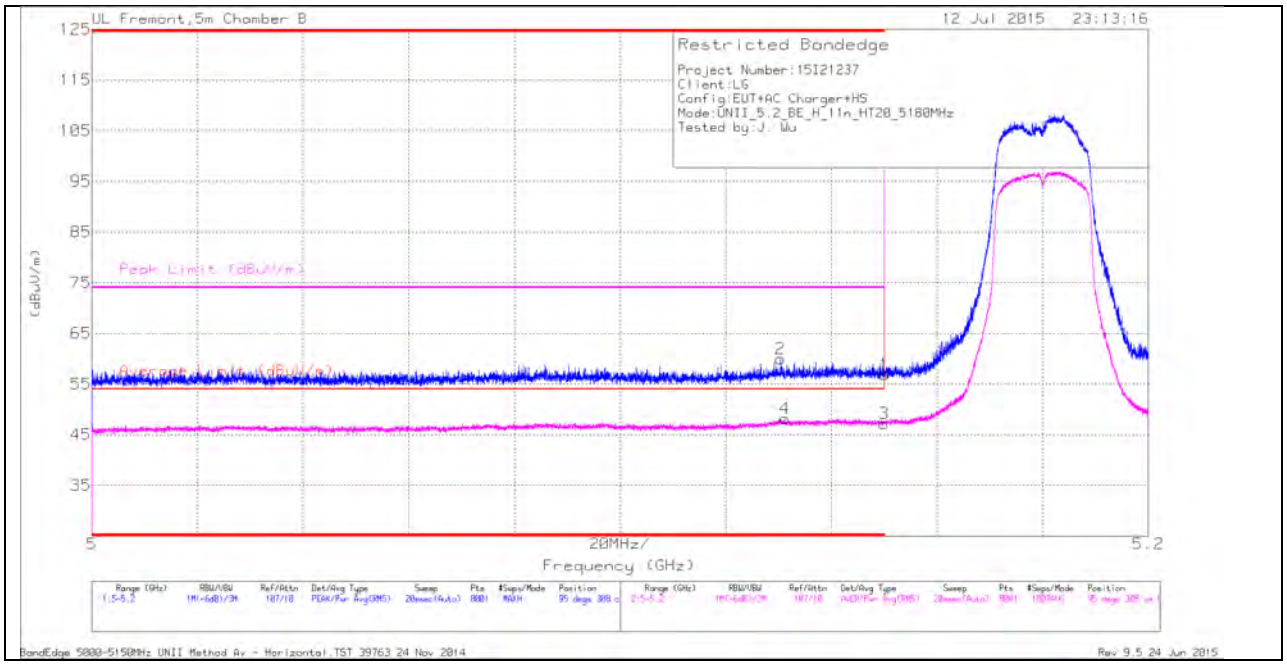
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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
2	* 5.13	42.06	Pk	34.1	-16.2	0	59.96	-	-	74	-14.04	95	308	H
4	* 5.131	30.4	RMS	34.1	-16.3	0	48.2	54	-5.8	-	-	95	308	H
1	* 5.15	39.39	Pk	34.1	-16.6	0	56.89	-	-	74	-17.11	95	308	H
3	* 5.15	29.74	RMS	34.1	-16.6	0	47.24	54	-6.76	-	-	95	308	H

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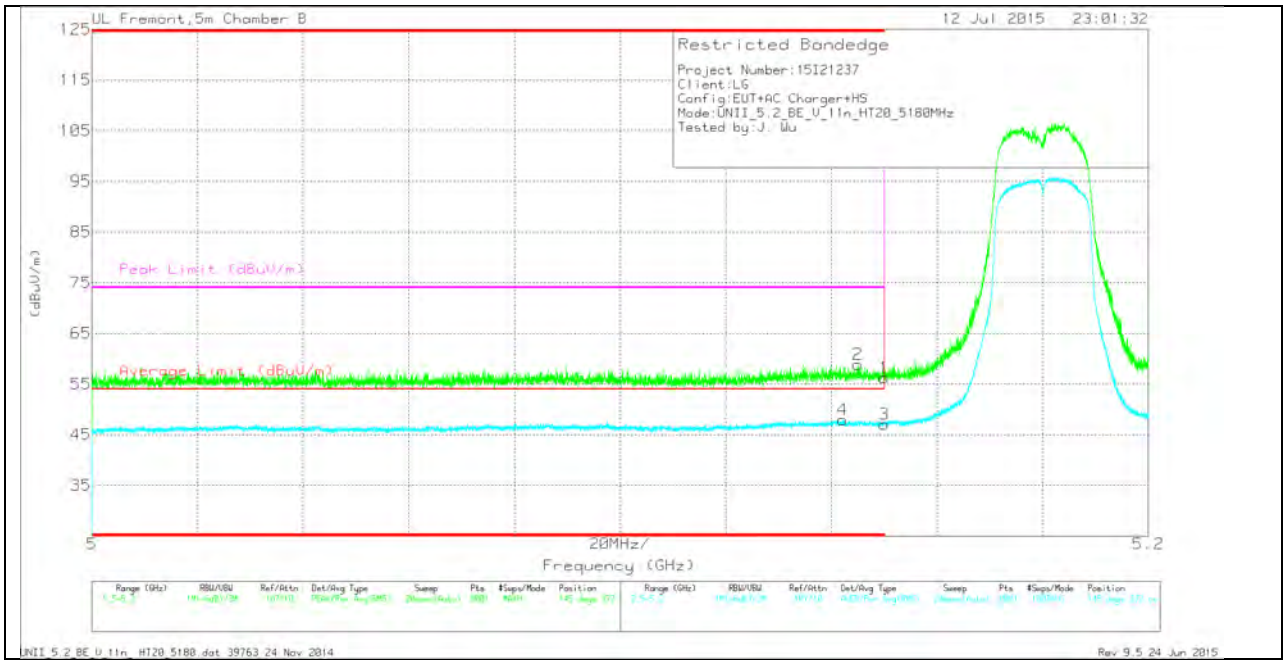
VERTICAL PEAK AND AVERAGE PLOT



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	38.75	Pk	34.1	-16.6	0	56.25	-	-	74	-17.75	145	372	V
2	* 5.145	41.17	Pk	34.1	-16.4	0	58.87	-	-	74	-15.13	145	372	V
3	* 5.15	29.6	RMS	34.1	-16.6	0	47.1	54	-6.9	-	-	145	372	V
4	* 5.142	30.08	RMS	34.1	-16.3	0	47.88	54	-6.12	-	-	145	372	V

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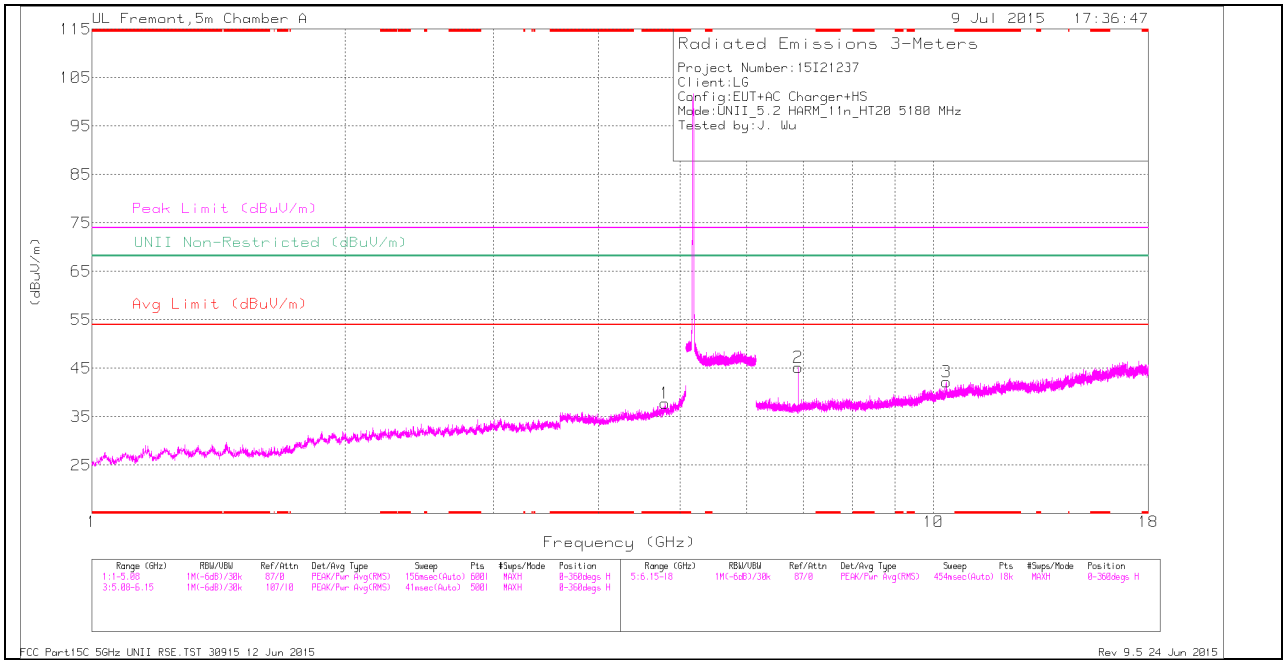
HARMONICS AND SPURIOUS EMISSIONS

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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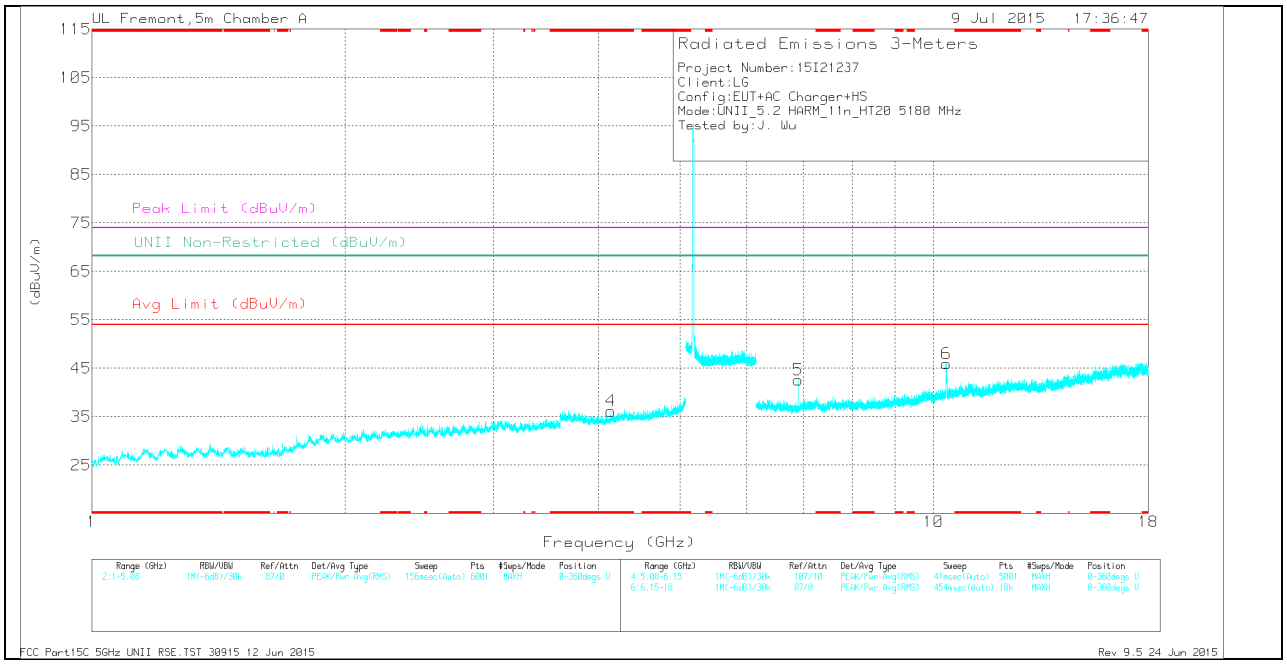
LOW CHANNEL VERTICAL



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 T136 (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	* 4.796	34.22	Pk	34	-30.4	0	37.82	-	-	74	-36.18	68.2	-30.38	0-360	100	H
4	* 4.134	34.96	Pk	33.3	-32.1	0	36.16	-	-	74	-37.84	68.2	-32.04	0-360	200	V
5	6.906	34.76	Pk	35.6	-27.8	0	42.56	-	-	74	-31.44	68.2	-25.64	0-360	100	V
2	6.907	37.33	Pk	35.6	-27.8	0	45.13	-	-	74	-28.87	68.2	-23.07	0-360	100	H
3	10.354	28.34	Pk	37.4	-23.6	0	42.14	-	-	74	-31.86	68.2	-26.06	0-360	100	H
6	10.355	32.19	Pk	37.4	-23.6	0	45.99	-	-	74	-28.01	68.2	-22.21	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.796	41.94	PK-U	34	-30.4	0	45.54	-	-	74	-28.46	68.2	-22.66	1	183	H
* 4.794	30.48	ADR	34	-30.5	0	33.98	54	-20.02	-	-	-	-	1	183	H
* 4.133	42.15	PK-U	33.3	-32.1	0	43.35	-	-	74	-30.65	68.2	-24.85	1	201	V
* 4.136	30.62	ADR	33.3	-32.1	0	31.82	54	-22.18	-	-	-	-	1	201	V
6.907	41.8	PK-U	35.6	-27.8	0	49.6	-	-	-	-	68.2	-18.6	309	100	H
6.907	41.25	PK-U	35.6	-27.8	0	49.05	-	-	-	-	68.2	-19.15	324	102	V
10.353	37.95	PK-U	37.4	-23.6	0	51.75	-	-	-	-	68.2	-16.45	25	111	H
10.354	37.69	PK-U	37.4	-23.6	0	51.49	-	-	-	-	68.2	-16.71	342	153	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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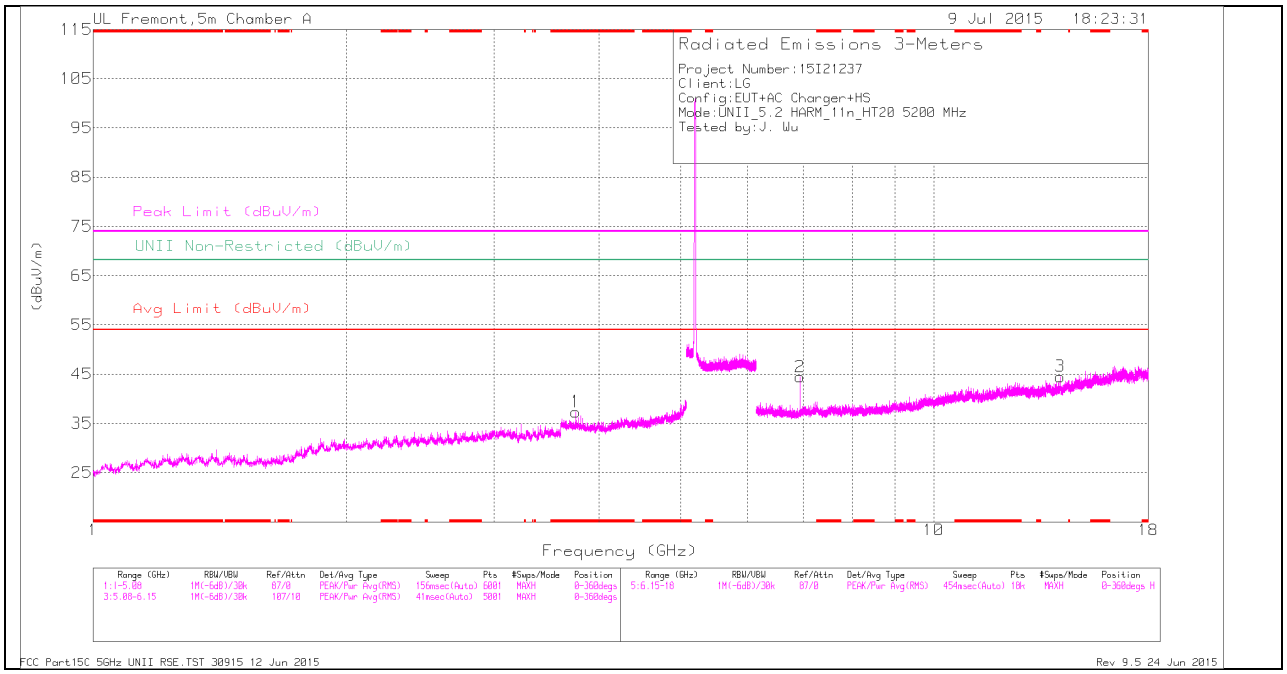
MID CHANNEL HORIZONTAL



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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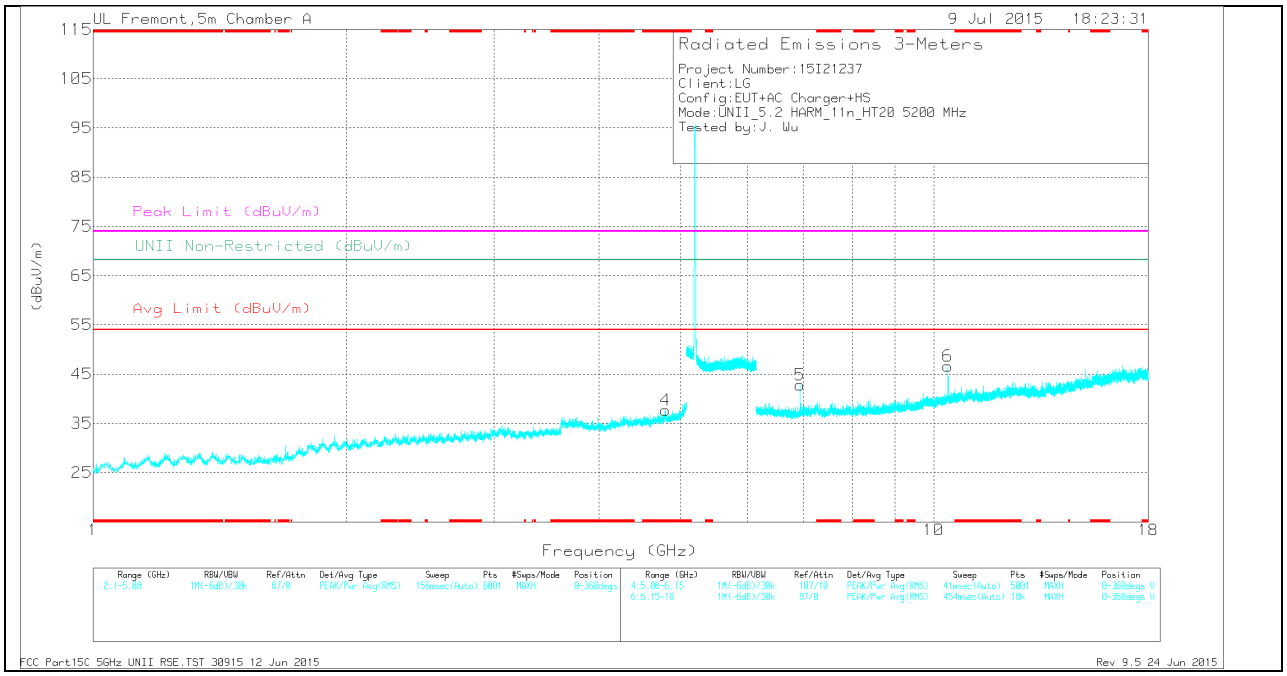
MID CHANNEL VERTICAL



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 T136 (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	* 3.753	36.32	Pk	33.3	-32.3	0	37.32	-	-	74	-36.68	68.2	-30.88	0-360	201	H
4	* 4.798	34.07	Pk	34	-30.4	0	37.67	-	-	74	-36.33	68.2	-30.53	0-360	100	V
2	6.933	36.34	Pk	35.6	-27.5	0	44.44	-	-	74	-29.56	68.2	-23.76	0-360	100	H
5	6.933	34.67	Pk	35.6	-27.5	0	42.77	-	-	74	-31.23	68.2	-25.43	0-360	100	V
6	10.392	32.69	Pk	37.4	-23.5	0	46.59	-	-	74	-27.41	68.2	-21.61	0-360	100	V
3	14.136	29.21	Pk	38.8	-23.5	0	44.51	-	-	74	-29.49	68.2	-23.69	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 3.752	42.25	PK-U	33.3	-32.3	0	43.25	-	-	74	-30.75	68.2	-24.95	19	244	H
* 3.752	30.96	ADR	33.3	-32.3	0	31.96	54	-22.04	-	-	-	-	18	244	H
* 4.8	41.85	PK-U	34	-30.4	0	45.45	-	-	74	-28.55	68.2	-22.75	19	281	V
* 4.799	30.84	ADR	34	-30.4	0	34.44	54	-19.56	-	-	-	-	19	281	V
6.933	41.68	PK-U	35.6	-27.5	0	49.78	-	-	-	-	68.2	-18.42	322	102	H
6.933	40.32	PK-U	35.6	-27.5	0	48.42	-	-	-	-	68.2	-19.78	330	104	V
14.137	35.74	PK-U	38.8	-23.5	0	51.04	-	-	-	-	68.2	-17.16	322	118	H

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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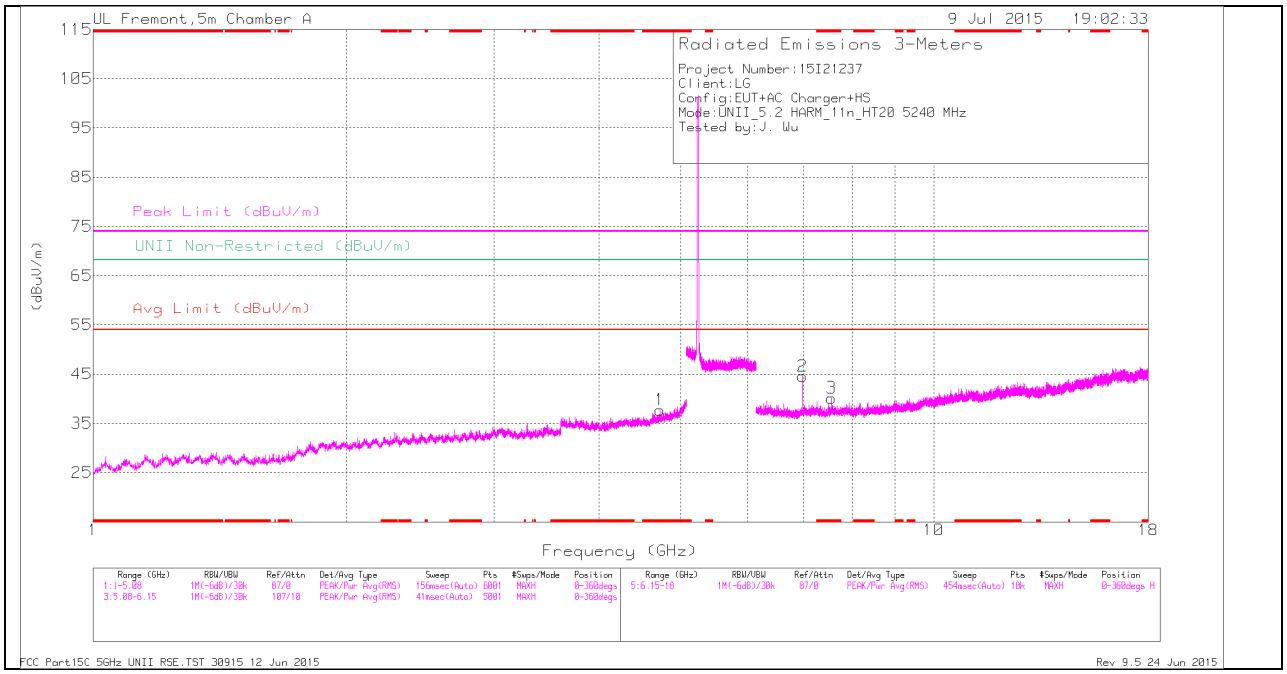
HIGH CHANNEL HORIZONTAL



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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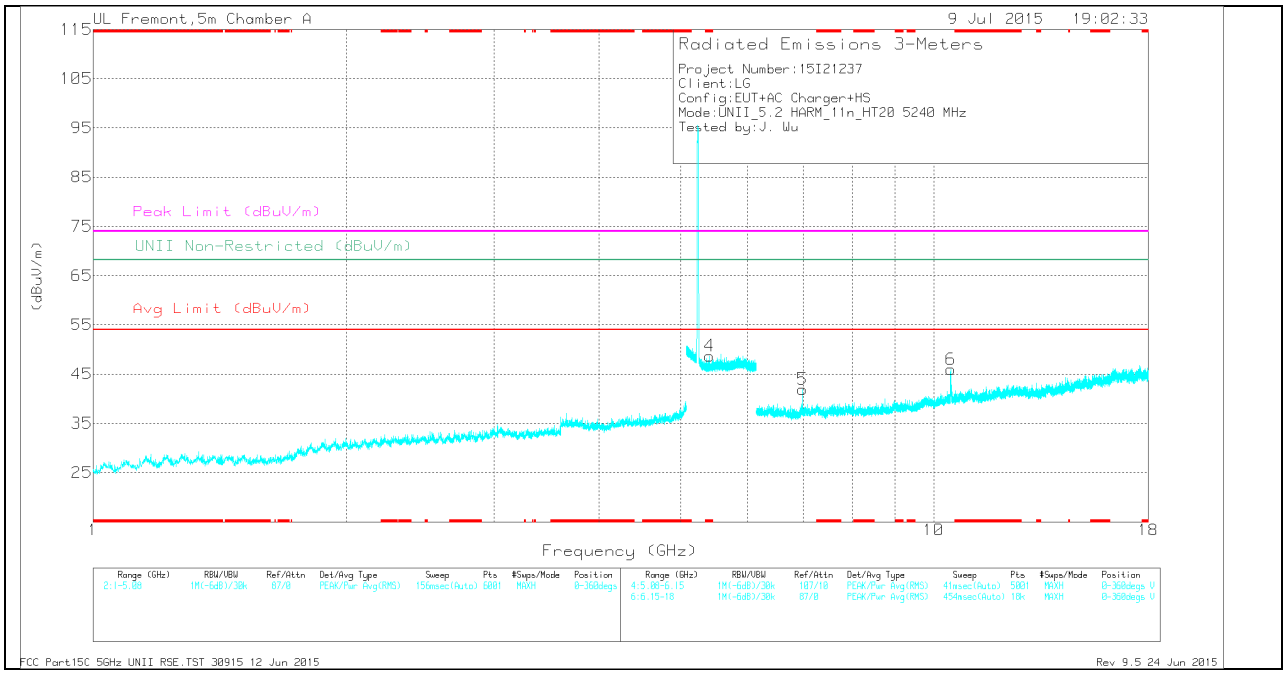
HIGH CHANNEL VERTICAL



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 T136 (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	* 4.726	34.64	Pk	34.1	-31	0	37.74	-	-	74	-36.26	68.2	-30.46	0-360	101	H
4	* 5.411	33.68	Pk	34.6	-19.6	0	48.68	-	-	74	-25.32	68.2	-19.52	0-360	200	V
3	* 7.563	29.95	Pk	35.5	-25.3	0	40.15	-	-	74	-33.85	68.2	-28.05	0-360	201	H
2	6.987	35.98	Pk	35.6	-27	0	44.58	-	-	74	-29.42	68.2	-23.62	0-360	100	H
5	6.987	33.32	Pk	35.6	-27	0	41.92	-	-	74	-32.08	68.2	-26.28	0-360	100	V
6	10.486	32.06	Pk	37.5	-23.6	0	45.96	-	-	74	-28.04	68.2	-22.24	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.727	42.23	PK-U	34.1	-31	0	45.33	-	-	74	-28.67	68.2	-22.87	157	100	H
* 4.724	30.82	ADR	34.1	-31	0	33.92	54	-20.08	-	-	-	-	157	100	H
* 5.411	40.83	PK-U	34.6	-19.6	0	55.83	-	-	74	-18.17	68.2	-12.37	173	201	V
* 5.413	28.91	ADR	34.6	-19.6	0	43.91	54	-10.09	-	-	-	-	173	201	V
* 7.563	36.13	PK-U	35.5	-25.3	0	46.33	-	-	74	-27.67	68.2	-21.87	26	219	H
* 7.562	25.17	ADR	35.5	-25.3	0	35.37	54	-18.63	-	-	-	-	26	219	H
6.987	41	PK-U	35.6	-27	0	49.6	-	-	-	-	68.2	-18.6	26	100	H
6.987	40.37	PK-U	35.6	-27	0	48.97	-	-	-	-	68.2	-19.23	331	100	V
10.488	40.51	PK-U	37.5	-23.6	0	54.41	-	-	-	-	68.2	-13.79	200	101	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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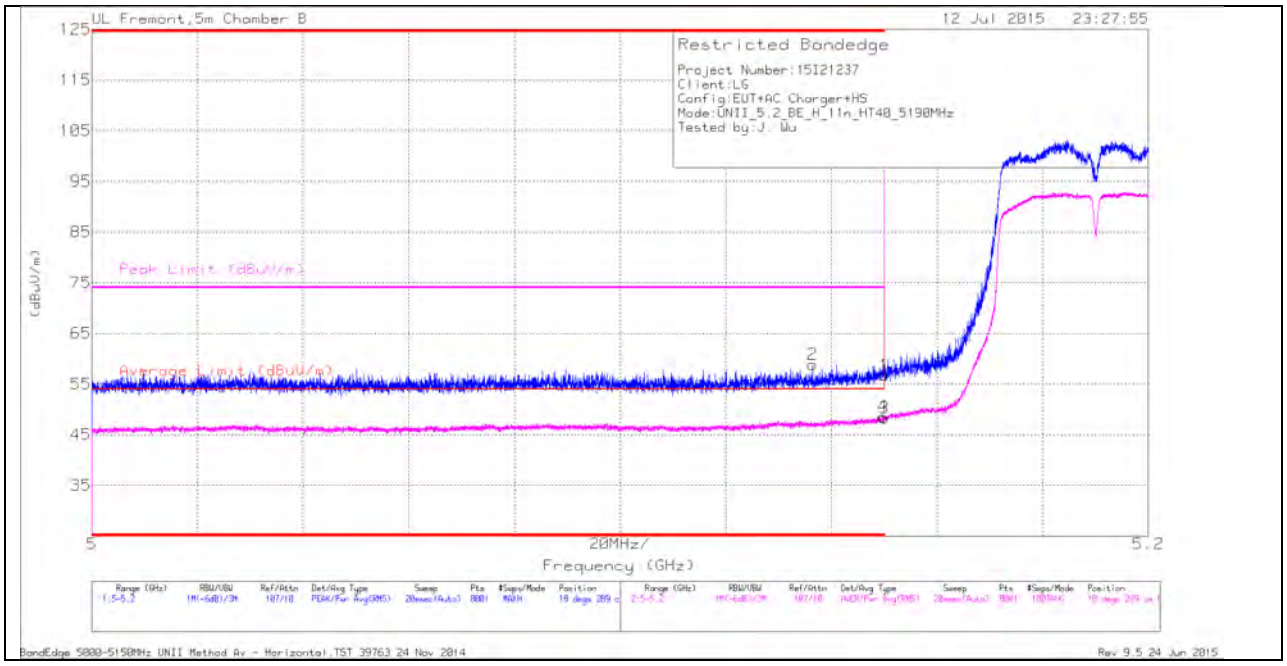
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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
2	* 5.136	41.19	Pk	34.1	-16.4	0	58.89	-	-	74	-15.11	18	289	H
1	* 5.15	39.2	Pk	34.1	-16.6	0	56.7	-	-	74	-17.3	18	289	H
3	* 5.15	30.86	RMS	34.1	-16.6	0.17	48.53	54	-5.47	-	-	18	289	H
4	* 5.15	31.03	RMS	34.1	-16.6	0.17	48.7	54	-5.3	-	-	18	289	H

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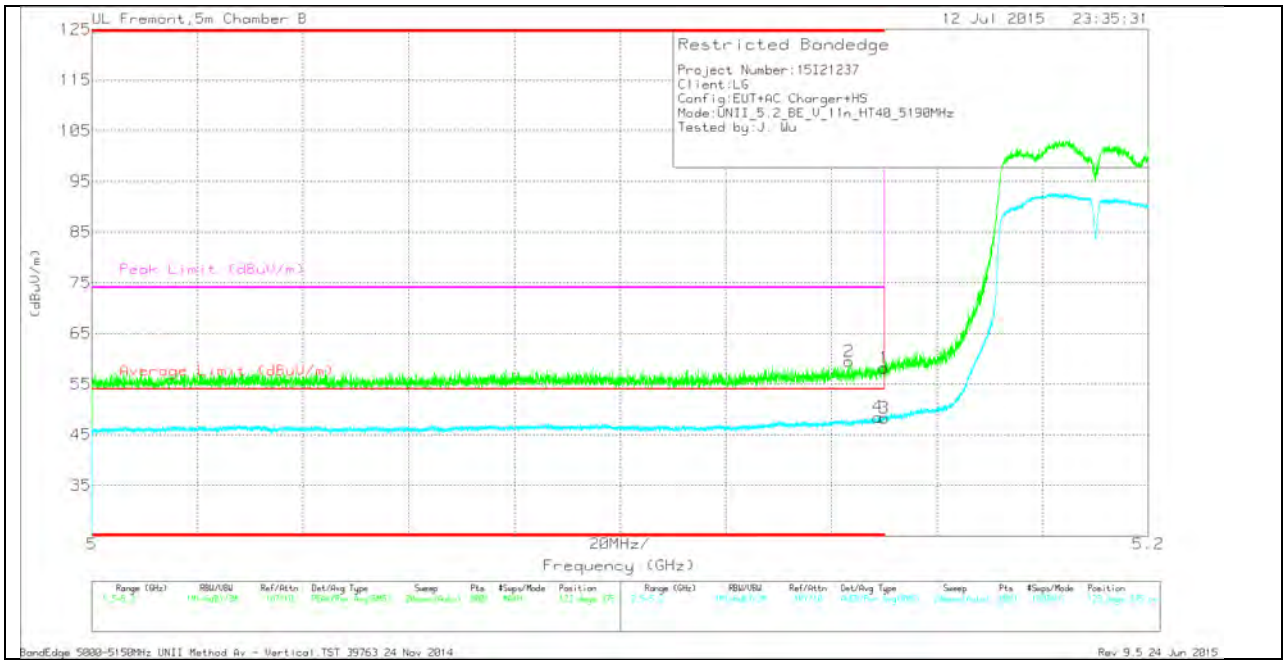
VERTICAL PEAK AND AVERAGE PLOT



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
2	* 5.143	41.89	Pk	34.1	-16.5	0	59.49	-	-	74	-14.51	123	375	V
4	* 5.149	30.99	RMS	34.1	-16.6	0.17	48.66	54	-5.34	-	-	123	375	V
1	* 5.15	40.68	Pk	34.1	-16.6	0	58.18	-	-	74	-15.82	123	375	V
3	* 5.15	30.82	RMS	34.1	-16.6	0.17	48.49	54	-5.51	-	-	123	375	V

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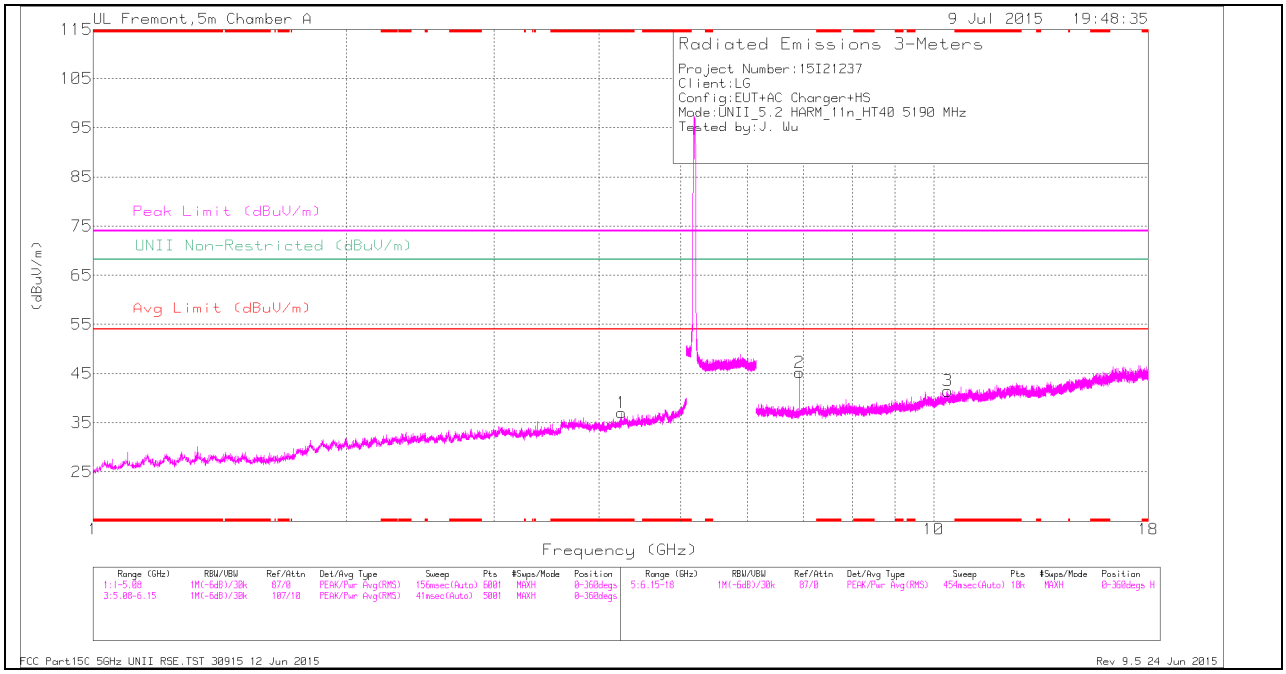
HARMONICS AND SPURIOUS EMISSIONS

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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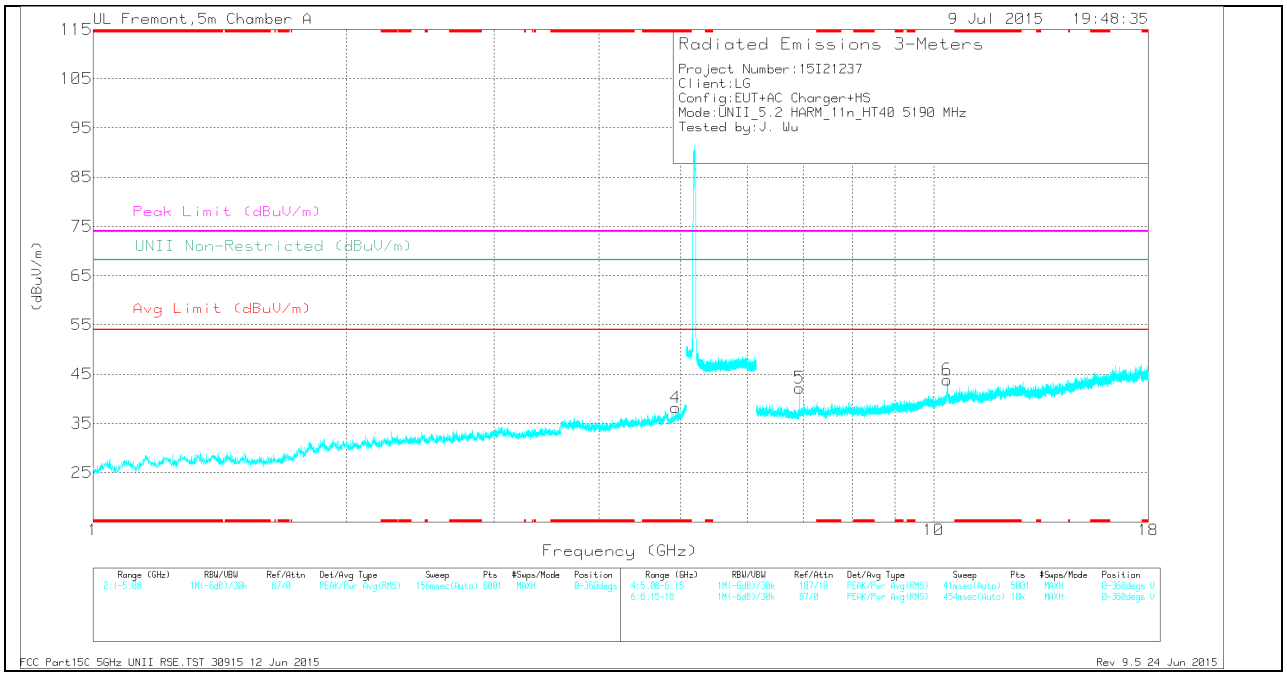
LOW CHANNEL VERTICAL



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 T136 (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	* 4.252	34.55	Pk	33.4	-30.9	0	37.05	-	-	74	-36.95	68.2	-31.15	0-360	101	H
4	* 4.935	34.17	Pk	33.9	-29.9	0	38.17	-	-	74	-35.83	68.2	-30.03	0-360	200	V
2	6.92	37.32	Pk	35.6	-27.7	0	45.22	-	-	74	-28.78	68.2	-22.98	0-360	100	H
5	6.92	34.29	Pk	35.6	-27.7	0	42.19	-	-	74	-31.81	68.2	-26.01	0-360	100	V
6	10.372	29.94	Pk	37.4	-23.5	0	43.84	-	-	74	-30.16	68.2	-24.36	0-360	100	V
3	10.391	27.57	Pk	37.4	-23.5	0	41.47	-	-	74	-32.53	68.2	-26.73	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.254	41.74	PK-U	33.4	-30.9	0	44.24	-	-	74	-29.76	68.2	-23.96	282	100	H
* 4.254	30.12	ADR	33.4	-30.9	0.17	32.79	54	-21.21	-	-	-	-	282	100	H
* 4.933	41.14	PK-U	33.9	-29.9	0	45.14	-	-	74	-28.86	68.2	-23.06	282	201	V
* 4.935	29.57	ADR	33.9	-29.9	0.17	33.74	54	-20.26	-	-	-	-	282	201	V
6.92	42.32	PK-U	35.6	-27.7	0	50.22	-	-	-	-	68.2	-17.98	320	100	H
6.92	40.52	PK-U	35.6	-27.7	0	48.42	-	-	-	-	68.2	-19.78	307	102	V
10.372	36.36	PK-U	37.4	-23.5	0	50.26	-	-	-	-	68.2	-17.94	320	102	V
10.392	34.25	PK-U	37.4	-23.5	0	48.15	-	-	-	-	68.2	-20.05	320	120	H

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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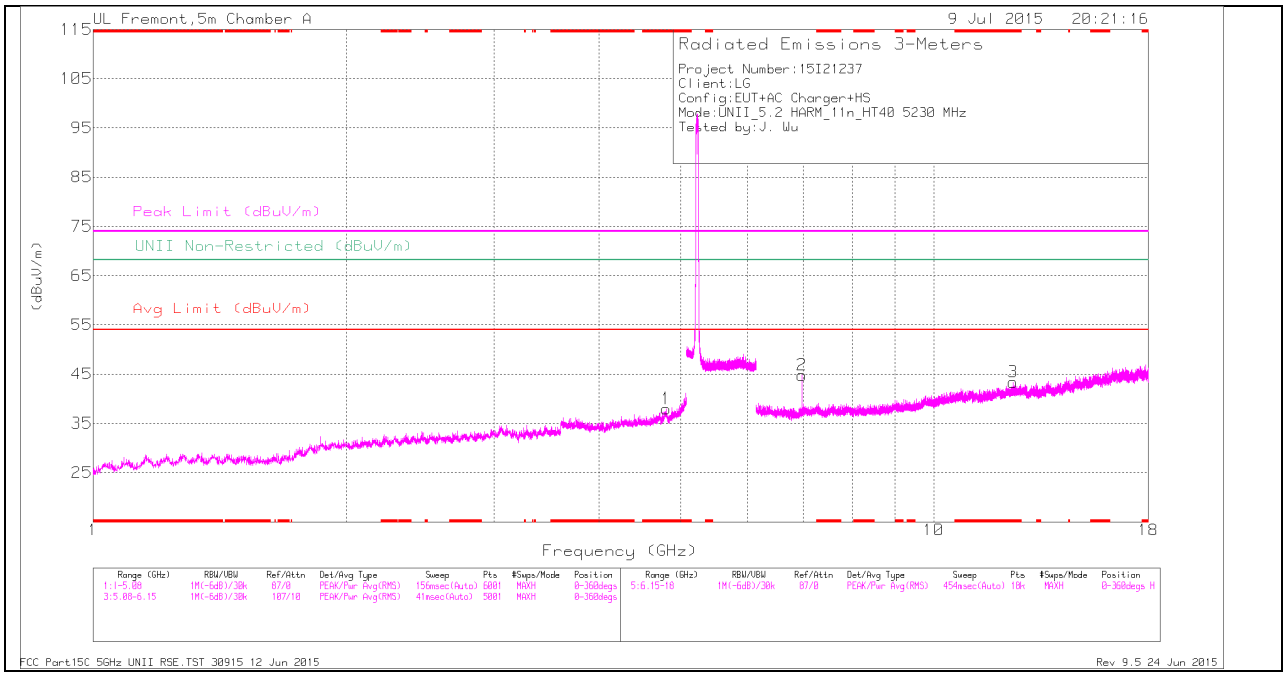
MID CHANNEL HORIZONTAL



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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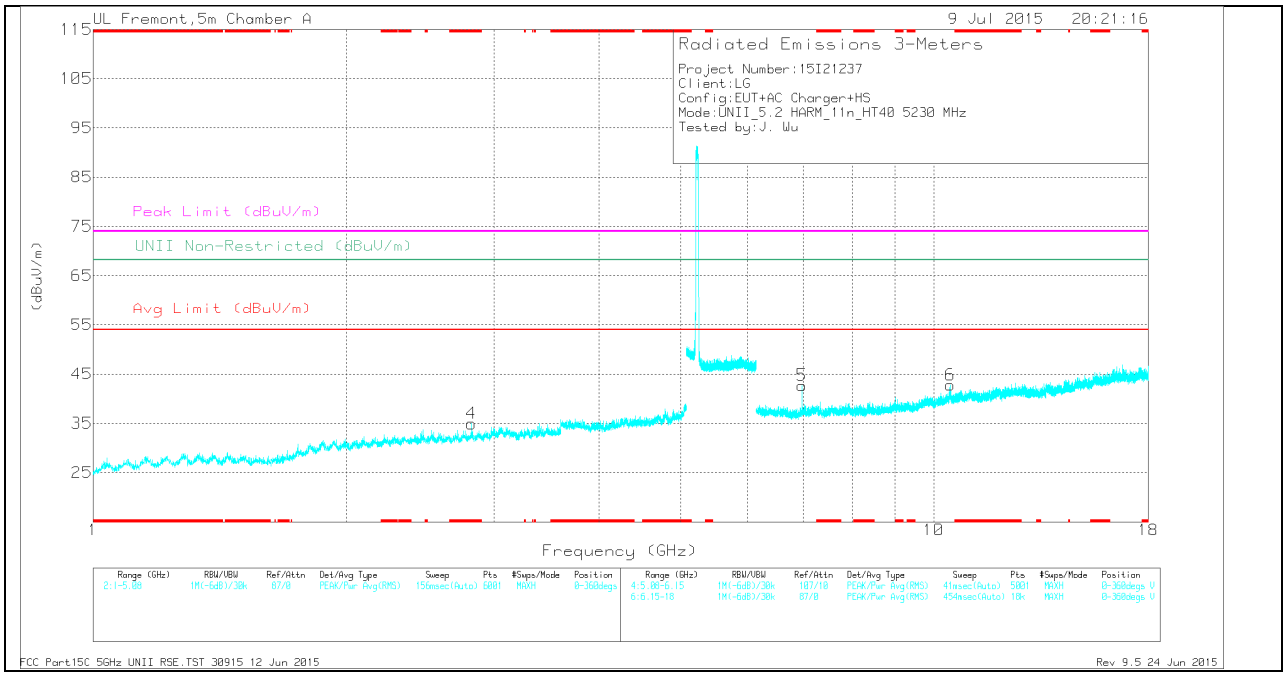
HIGH CHANNEL VERTICAL



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 T136 (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	* 4.805	34.35	Pk	34	-30.4	0	37.95	-	-	74	-36.05	68.2	-30.25	0-360	201	H
4	* 2.82	36.45	Pk	32.5	-34	0	34.95	-	-	74	-39.05	68.2	-33.25	0-360	100	V
3	* 12.428	27.57	Pk	39	-23.2	0	43.37	-	-	74	-30.63	68.2	-24.83	0-360	100	H
2	6.974	36.19	Pk	35.6	-27	0	44.79	-	-	74	-29.21	68.2	-23.41	0-360	100	H
5	6.974	34.08	Pk	35.6	-27	0	42.68	-	-	74	-31.32	68.2	-25.52	0-360	100	V
6	10.459	28.66	Pk	37.5	-23.4	0	42.76	-	-	74	-31.24	68.2	-25.44	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.806	42	PK-U	34	-30.4	0	45.6	-	-	74	-28.4	68.2	-22.6	308	220	H
* 4.803	30.5	ADR	34	-30.4	0.17	34.27	54	-19.73	-	-	-	-	308	220	H
* 2.819	43.05	PK-U	32.5	-34	0	41.55	-	-	74	-32.45	68.2	-26.65	308	100	V
* 2.818	31.49	ADR	32.5	-34	0.17	30.16	54	-23.84	-	-	-	-	308	100	V
* 12.426	34.32	PK-U	39	-23.3	0	50.02	-	-	74	-23.98	68.2	-18.18	30	100	H
* 12.427	22.59	ADR	39	-23.3	0.17	38.46	54	-15.54	-	-	-	-	30	100	H
6.973	41.61	PK-U	35.6	-27	0	50.21	-	-	-	-	68.2	-17.99	27	110	H
6.974	40.32	PK-U	35.6	-27	0	48.92	-	-	-	-	68.2	-19.28	332	100	V
10.459	35.67	PK-U	37.5	-23.4	0	49.77	-	-	-	-	68.2	-18.43	341	100	V

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
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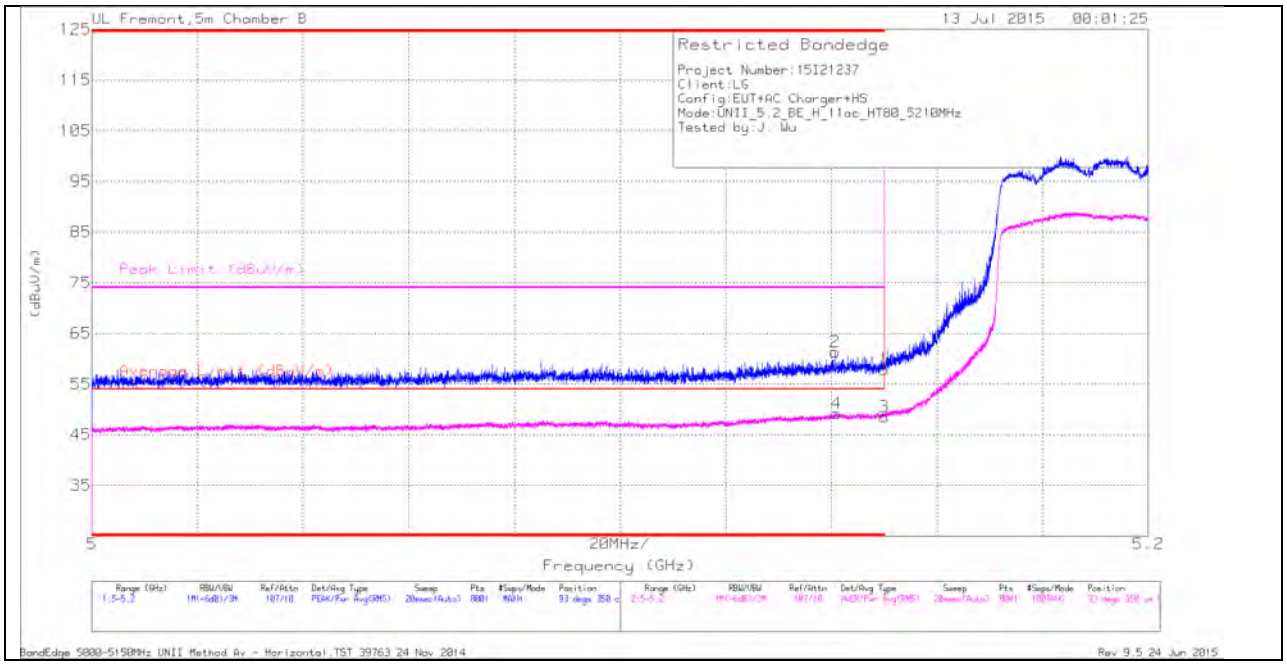
11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

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
2	* 5.141	43.4	Pk	34.1	-16.2	0	61.3	-	-	74	-12.7	93	350	H
4	* 5.141	31.19	RMS	34.1	-16.1	.09	49.28	54	-4.72	-	-	93	350	H
1	* 5.15	40.31	Pk	34.1	-16.6	0	57.81	-	-	74	-16.19	93	350	H
3	* 5.15	31.08	RMS	34.1	-16.6	.09	48.67	54	-5.33	-	-	93	350	H

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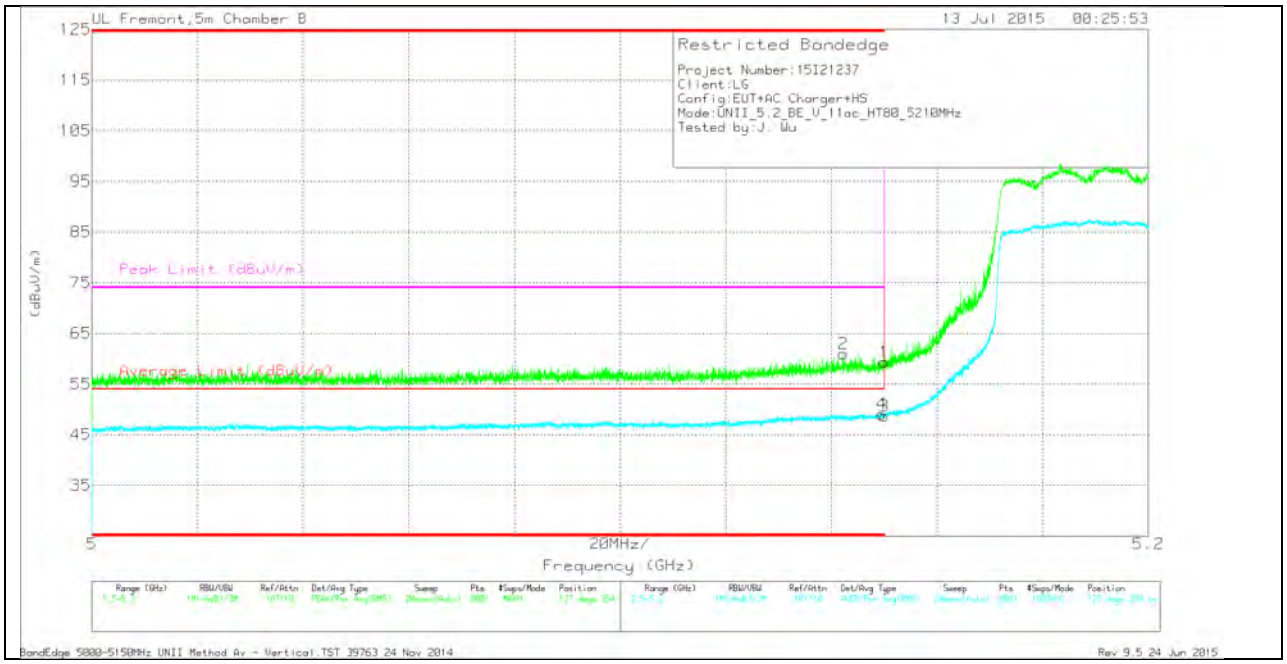
VERTICAL PEAK AND AVERAGE PLOT



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
2	* 5.142	43.23	Pk	34.1	-16.4	0	60.93	-	-	74	-13.07	127	354	V
1	* 5.15	41.88	Pk	34.1	-16.6	0	59.38	-	-	74	-14.62	127	354	V
3	* 5.15	31.15	RMS	34.1	-16.6	.09	48.74	54	-5.26	-	-	127	354	V
4	* 5.15	31.57	RMS	34.1	-16.6	.09	49.16	54	-4.84	-	-	127	354	V

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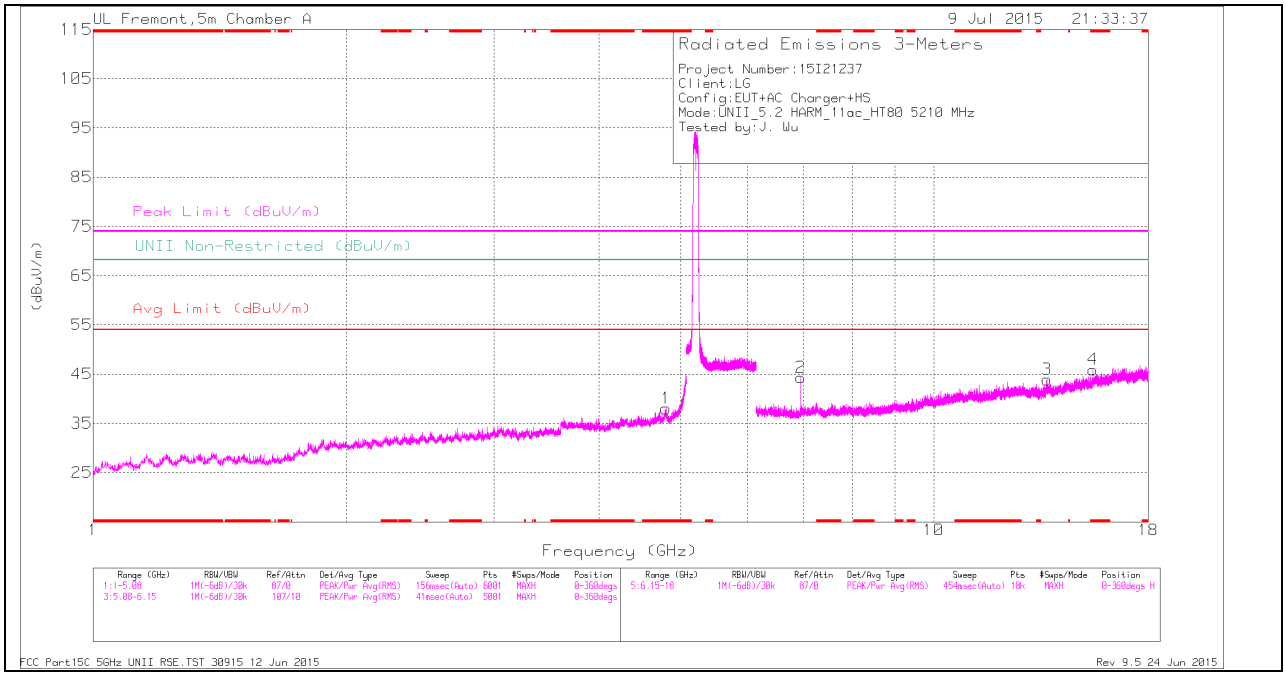
HARMONICS AND SPURIOUS EMISSIONS

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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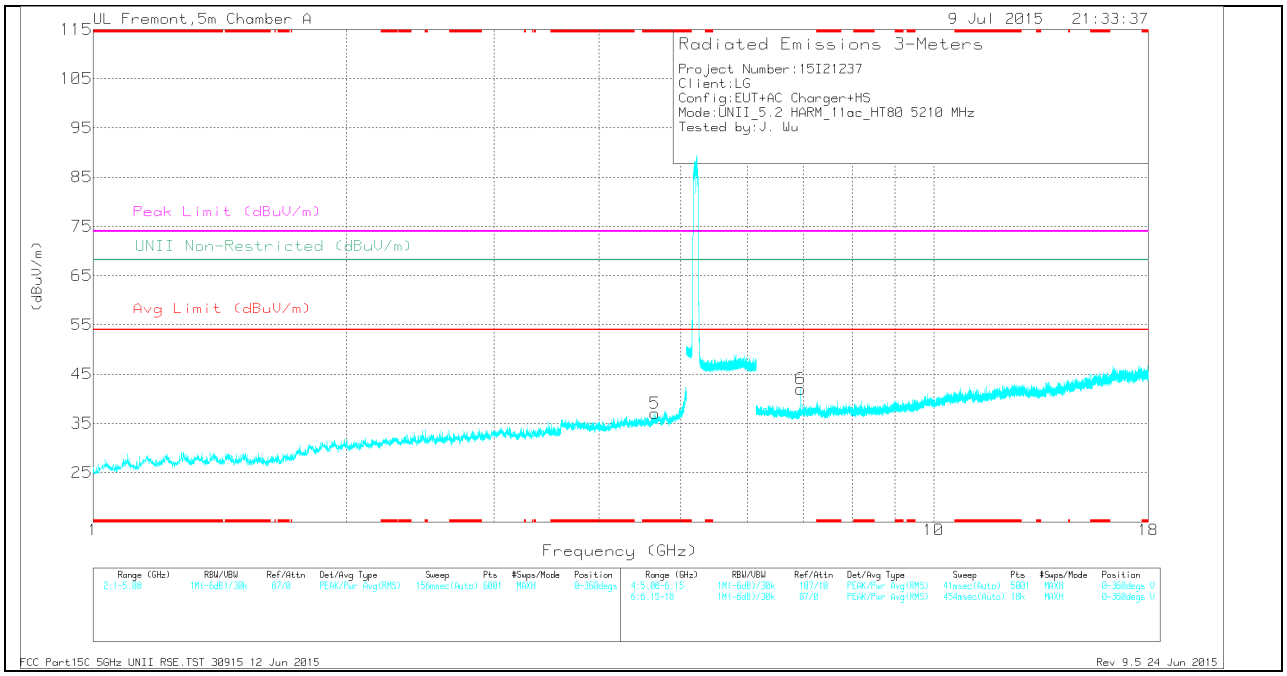
LOW CHANNEL VERTICAL



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 T136 (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	* 4.803	34.42	Pk	34	-30.4	0	38.02	-	-	74	-35.98	68.2	-30.18	0-360	100	H
5	* 4.663	33.42	Pk	34.1	-30.5	0	37.02	-	-	74	-36.98	68.2	-31.18	0-360	200	V
4	* 15.463	28.91	Pk	40.2	-23.2	0	45.91	-	-	74	-28.09	68.2	-22.29	0-360	100	H
2	6.947	35.92	Pk	35.6	-27.2	0	44.32	-	-	74	-29.68	68.2	-23.88	0-360	100	H
6	6.947	33.57	Pk	35.6	-27.2	0	41.97	-	-	74	-32.03	68.2	-26.23	0-360	100	V
3	13.639	28.6	Pk	38.8	-23.5	0	43.9	-	-	74	-30.1	68.2	-24.3	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.803	42.45	PK-U	34	-30.4	0	46.05	-	-	74	-27.95	68.2	-22.15	200	100	H
* 4.805	30.89	ADR	34	-30.4	.09	34.58	54	-19.42	-	-	-	-	200	100	H
* 4.662	40.17	PK-U	34.1	-30.5	0	43.77	-	-	74	-30.23	68.2	-24.43	220	201	V
* 4.661	29.34	ADR	34.1	-30.5	.09	33.03	54	-20.97	-	-	-	-	220	201	V
* 15.463	34.89	PK-U	40.2	-23.2	0	51.89	-	-	74	-22.11	68.2	-16.31	90	100	H
* 15.465	24.15	ADR	40.2	-23.2	.09	41.24	54	-12.76	-	-	-	-	90	100	H
6.947	41.61	PK-U	35.6	-27.2	0	50.01	-	-	-	-	68.2	-18.19	28	102	H
6.947	40.08	PK-U	35.6	-27.2	0	48.48	-	-	-	-	68.2	-19.72	325	102	V
13.639	35.45	PK-U	38.8	-23.5	0	50.75	-	-	-	-	68.2	-17.45	46	202	H

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 24 Jun 2015

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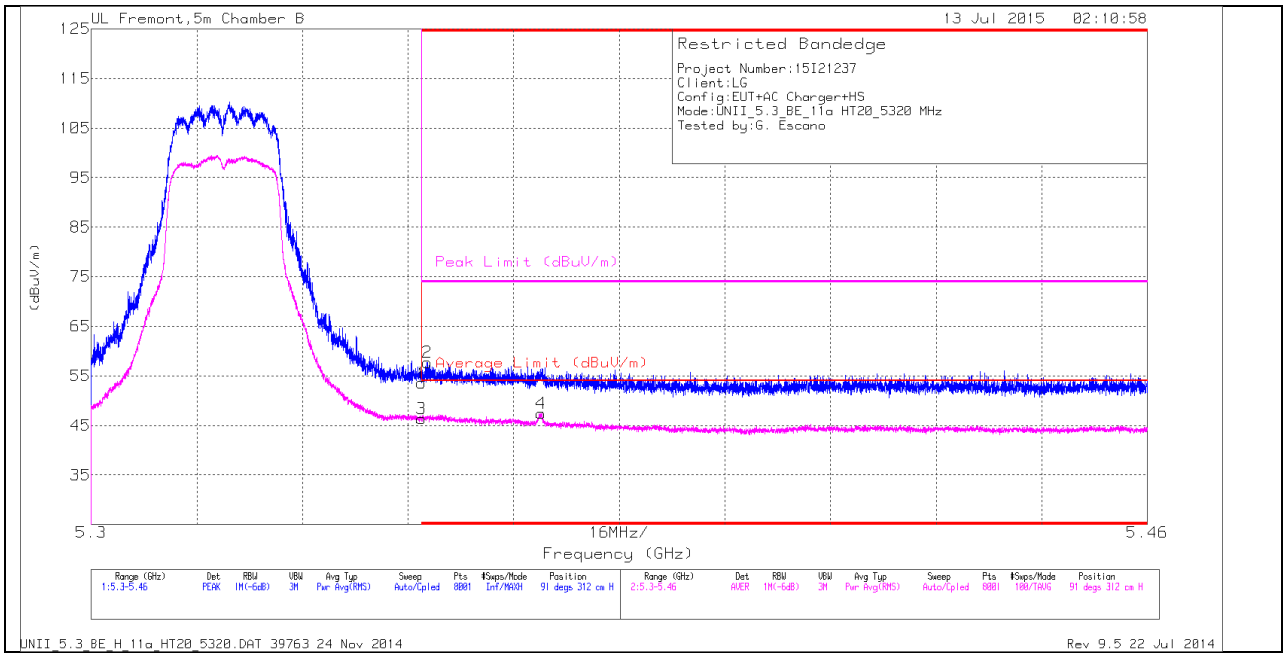
11.1. 5.3 GHz

11.1.1. 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	35.88	PK	34.4	-16.7	0	53.58	-	-	74	-20.42	91	312	H
2	* 5.351	39.91	PK	34.4	-16.6	0	57.71	-	-	74	-16.29	91	312	H
3	* 5.35	28.64	RMS	34.4	-16.7	0	46.34	54	-7.66	-	-	91	312	H
4	* 5.368	29.93	RMS	34.4	-16.9	0	47.43	54	-6.57	-	-	91	312	H

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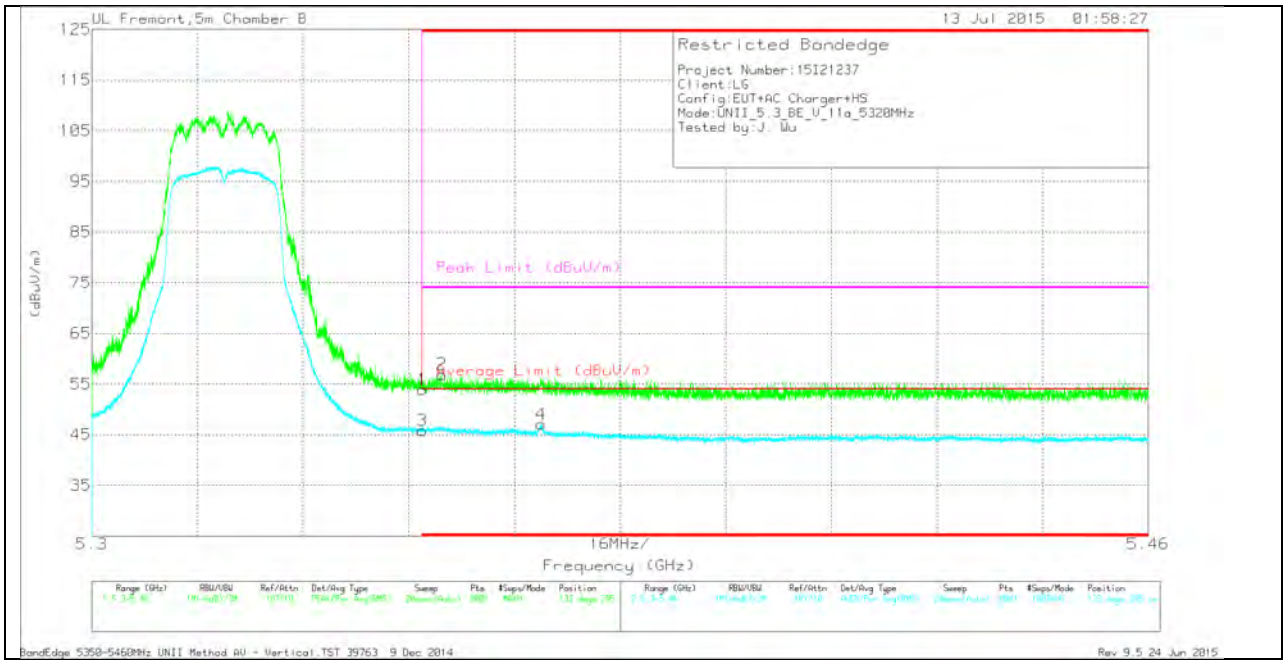
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ 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	36.24	Pk	34.4	-16.7	0	53.94	-	-	74	-20.06	133	295	V
3	* 5.35	28.1	RMS	34.4	-16.7	0	45.8	54	-8.2	-	-	133	295	V
2	* 5.353	38.93	Pk	34.4	-16.4	0	56.93	-	-	74	-17.07	133	295	V
4	* 5.368	29.58	RMS	34.4	-16.9	0	47.08	54	-6.92	-	-	133	295	V

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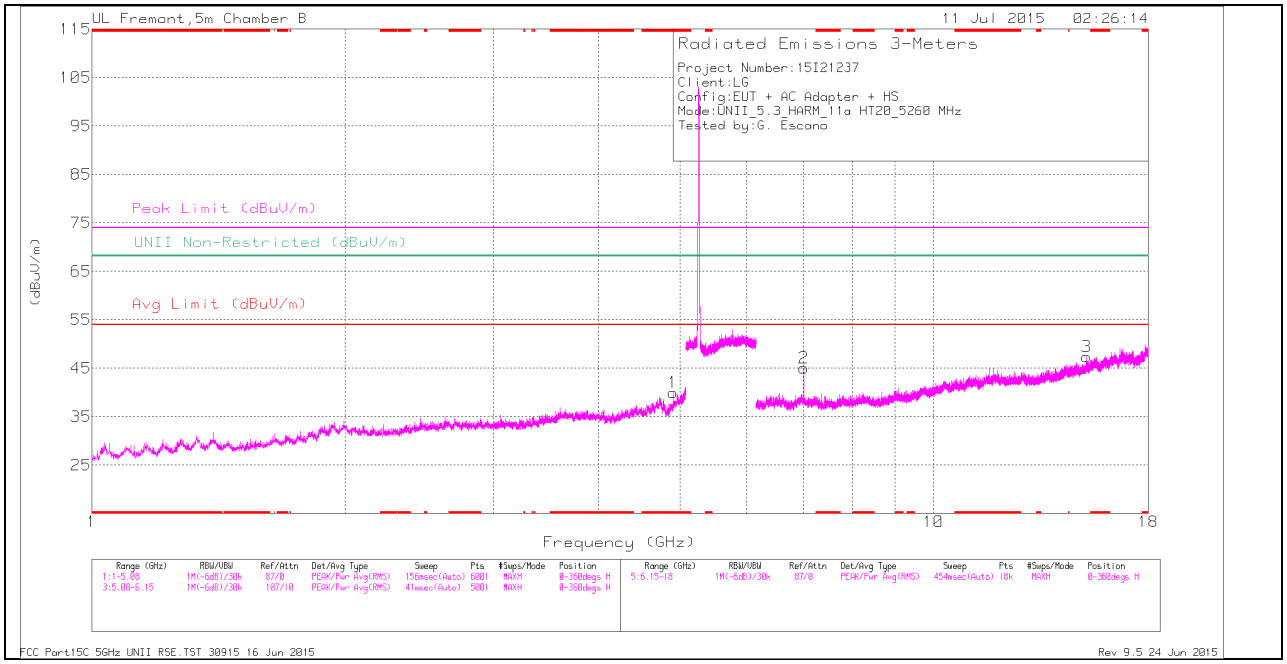
HARMONICS AND SPURIOUS EMISSIONS

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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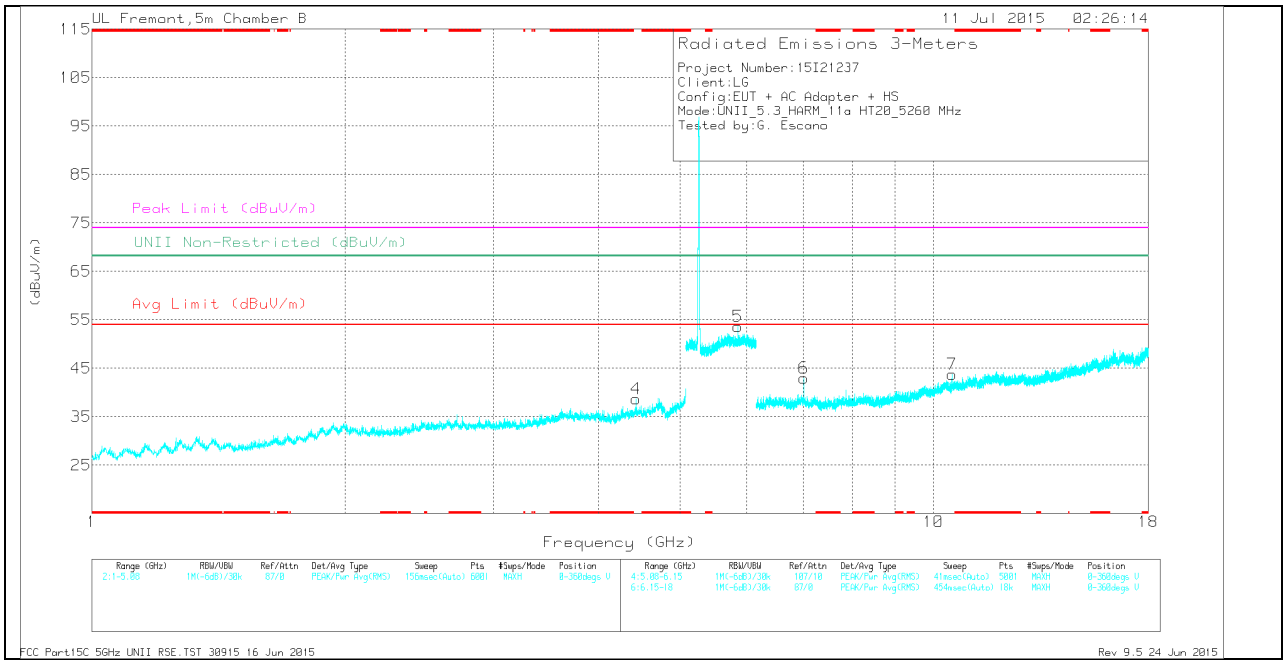
LOW CHANNEL VERTICAL



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
1	* 4.908	34.04	Pk	34.1	-28.1	0	40.04	-	-	74	-33.96	-	-	0-360	101	H
4	4.43	33.47	Pk	33.9	-28.7	0	38.67	-	-	-	-	68.2	-29.53	0-360	199	V
5	5.86	37.18	Pk	35.4	-18.9	0	53.68	-	-	-	-	68.2	-14.52	0-360	199	V
6	7.013	33.82	Pk	36	-26.8	0	43.02	-	-	-	-	68.2	-25.18	0-360	101	V
2	7.014	35.94	Pk	36	-26.9	0	45.04	-	-	-	-	68.2	-23.16	0-360	101	H
7	10.521	28.89	Pk	37.5	-22.6	0	43.79	-	-	-	-	68.2	-24.41	0-360	101	V
3	15.2	26.62	Pk	40.5	-19.7	0	47.42	-	-	-	-	68.2	-20.78	0-360	101	H

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
* 4.908	42.52	PK-U	34.1	-28.1	0	48.52	-	-	74	-25.48	-	-	170	288	H
* 4.908	30.35	ADR	34.1	-28.1	0	36.35	54	-17.65	-	-	-	-	170	288	H
4.43	40.07	PK-U	33.9	-28.7	0	45.27	-	-	-	-	68.2	-22.93	84	179	V
5.862	43.58	PK-U	35.4	-18.9	0	60.08	-	-	-	-	68.2	-8.12	17	168	V
7.013	41.21	PK-U	36	-26.8	0	50.41	-	-	-	-	68.2	-17.79	326	101	H
7.013	40.34	PK-U	36	-26.8	0	49.54	-	-	-	-	68.2	-18.66	326	108	V
10.521	39.1	PK-U	37.5	-22.6	0	54	-	-	-	-	68.2	-14.2	12	101	V
15.201	33.54	PK-U	40.5	-19.6	0	54.44	-	-	-	-	68.2	-13.76	352	118	H

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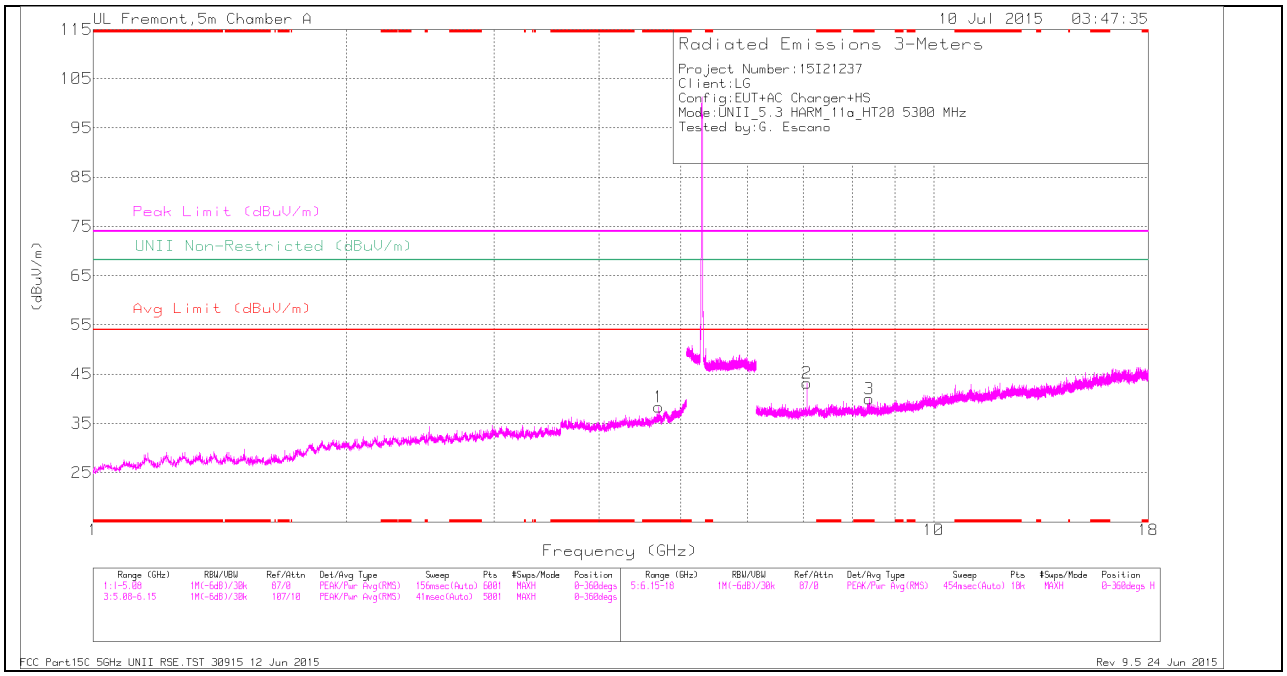
MID CHANNEL HORIZONTAL



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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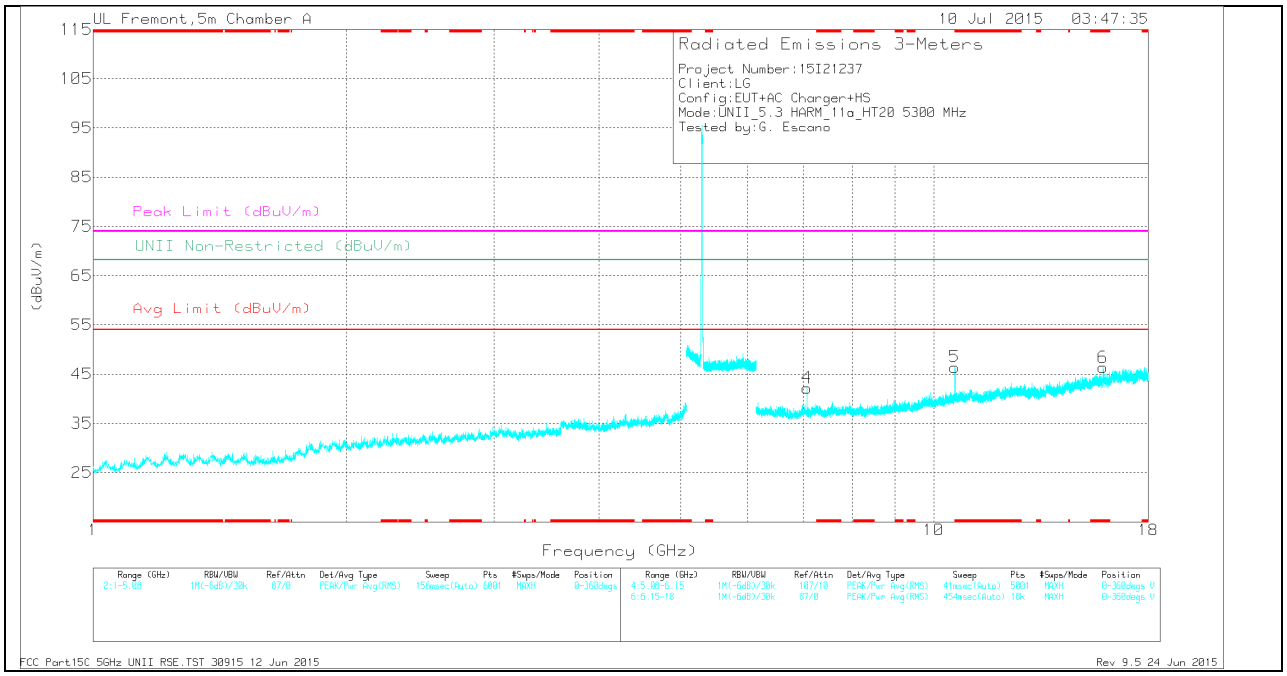
MID CHANNEL VERTICAL



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 T136 (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	* 4.706	35	Pk	34.1	-30.8	0	38.3	-	-	74	-35.7	68.2	-29.9	0-360	201	H
3	* 8.382	30.28	Pk	35.7	-26	0	39.98	-	-	74	-34.02	68.2	-28.22	0-360	201	H
6	* 15.894	29.13	Pk	40.8	-23.6	0	46.33	-	-	74	-27.67	68.2	-21.87	0-360	100	V
2	7.066	34.85	Pk	35.6	-27.3	0	43.15	-	-	-	-	68.2	-25.05	0-360	100	H
4	7.067	33.9	Pk	35.6	-27.3	0	42.2	-	-	-	-	68.2	-26	0-360	100	V
5	10.597	32.23	Pk	37.7	-23.5	0	46.43	-	-	-	-	68.2	-21.77	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.705	42.25	PK-U	34.1	-30.8	0	45.55	-	-	74	-28.45	68.2	-22.65	141	280	H
* 4.707	29.94	ADR	34.1	-30.8	0	33.24	54	-20.76	-	-	-	-	141	280	H
* 8.381	36.18	PK-U	35.7	-26	0	45.88	-	-	74	-28.12	68.2	-22.32	95	131	H
* 8.381	25.23	ADR	35.7	-26	0	34.93	54	-19.07	-	-	-	-	95	131	H
* 15.893	35.35	PK-U	40.7	-23.7	0	52.35	-	-	74	-21.65	68.2	-15.85	319	109	V
* 15.893	24.46	ADR	40.7	-23.7	0	41.46	54	-12.54	-	-	-	-	319	109	V
7.067	40.78	PK-U	35.6	-27.3	0	49.08	-	-	-	-	68.2	-19.12	35	112	H
7.067	40.89	PK-U	35.6	-27.3	0	49.19	-	-	-	-	68.2	-19.01	328	100	V
10.598	39.6	PK-U	37.7	-23.5	0	53.8	-	-	-	-	68.2	-14.4	206	144	V

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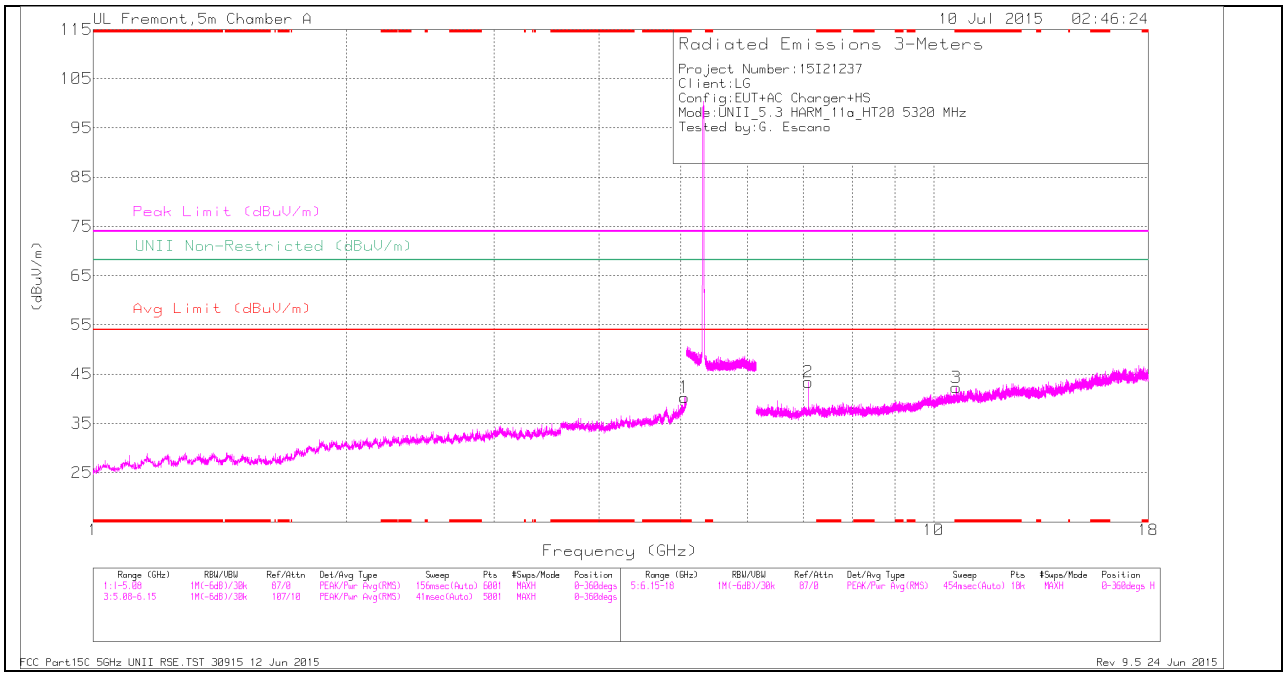
HIGH CHANNEL HORIZONTAL



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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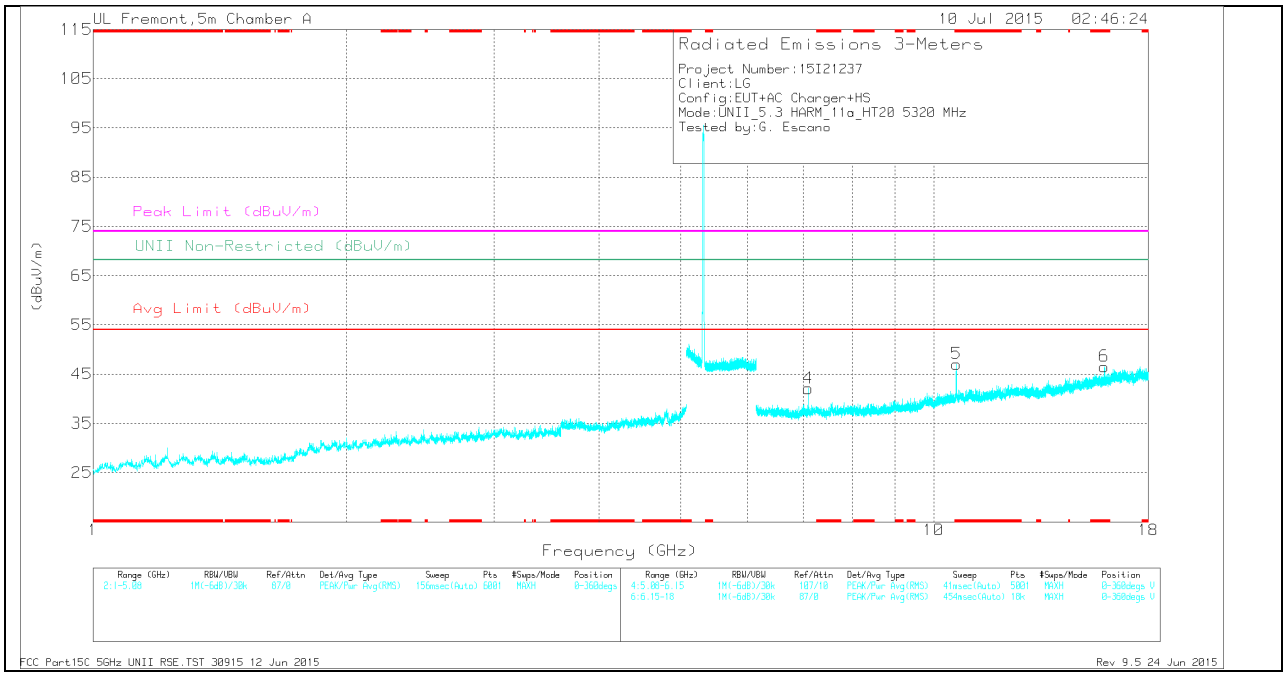
HIGH CHANNEL VERTICAL



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 T136 (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	* 5.051	34.86	Pk	34	-28.6	0	40.26	-	-	74	-33.74	68.2	-27.94	0-360	101	H
3	* 10.637	28.09	Pk	37.7	-23.5	0	42.29	-	-	74	-31.71	68.2	-25.91	0-360	100	H
5	* 10.643	32.87	Pk	37.7	-23.5	0	47.07	-	-	74	-26.93	68.2	-21.13	0-360	100	V
6	* 15.951	29.06	Pk	40.9	-23.4	0	46.56	-	-	74	-27.44	68.2	-21.64	0-360	100	V
2	7.093	35.19	Pk	35.6	-27.4	0	43.39	-	-	-	-	68.2	-24.81	0-360	100	H
4	7.093	33.9	Pk	35.6	-27.4	0	42.1	-	-	-	-	68.2	-26.1	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 5.05	42.53	PK-U	34	-28.6	0	47.93	-	-	74	-26.07	68.2	-20.27	106	100	H
* 5.051	29.88	ADR	34	-28.5	0	35.38	54	-18.62	-	-	-	-	106	100	H
* 10.637	37.76	PK-U	37.7	-23.5	0	51.96	-	-	74	-22.04	68.2	-16.24	192	100	H
* 10.638	26.38	ADR	37.7	-23.5	0	40.58	54	-13.42	-	-	-	-	192	100	H
* 10.643	41.56	PK-U	37.7	-23.5	0	55.76	-	-	74	-18.24	68.2	-12.44	208	100	V
* 10.643	29.31	ADR	37.7	-23.5	0	43.51	54	-10.49	-	-	-	-	208	100	V
* 15.953	35.23	PK-U	40.9	-23.5	0	52.63	-	-	74	-21.37	68.2	-15.57	303	139	V
* 15.949	23.92	ADR	40.9	-23.4	0	41.42	54	-12.58	-	-	-	-	303	139	V
7.093	41.4	PK-U	35.6	-27.4	0	49.6	-	-	-	-	68.2	-18.6	38	375	H
7.093	40.38	PK-U	35.6	-27.4	0	48.58	-	-	-	-	68.2	-19.62	331	107	V

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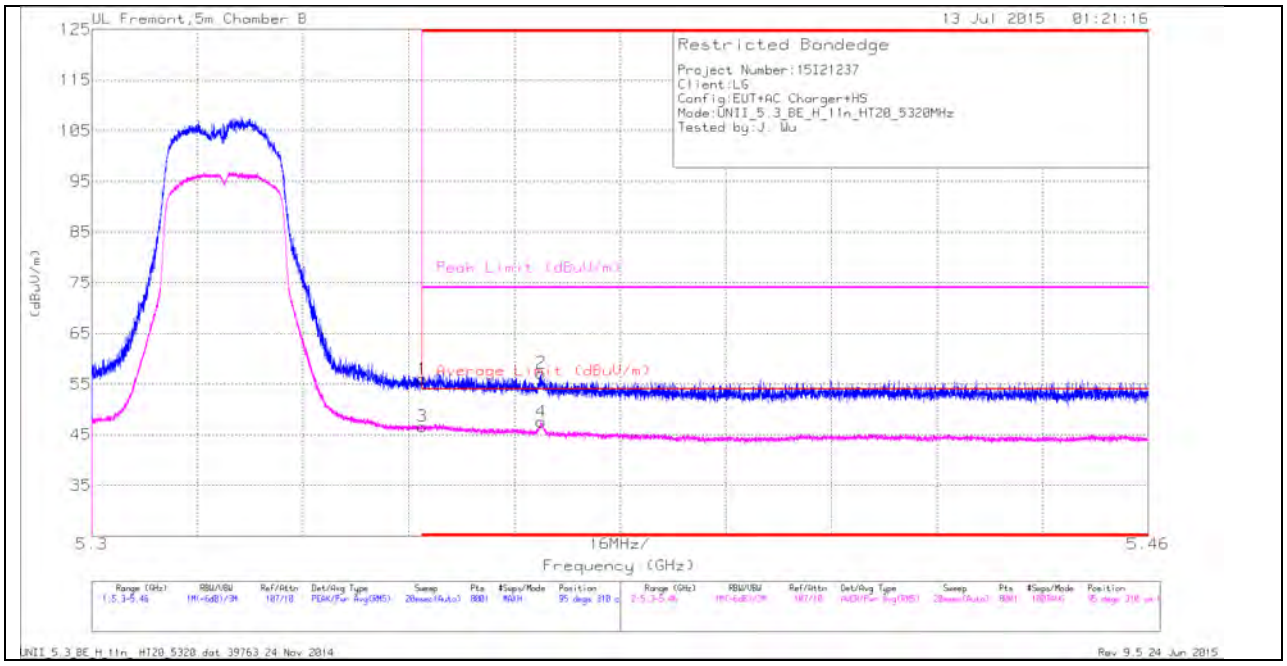
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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	38.32	Pk	34.4	-16.7	0	56.02	-	-	74	-17.98	95	310	H
3	* 5.35	28.93	RMS	34.4	-16.7	0	46.63	54	-7.37	-	-	95	310	H
2	* 5.368	39.68	Pk	34.4	-16.9	0	57.18	-	-	74	-16.82	95	310	H
4	* 5.368	30.04	RMS	34.4	-16.9	0	47.54	54	-6.46	-	-	95	310	H

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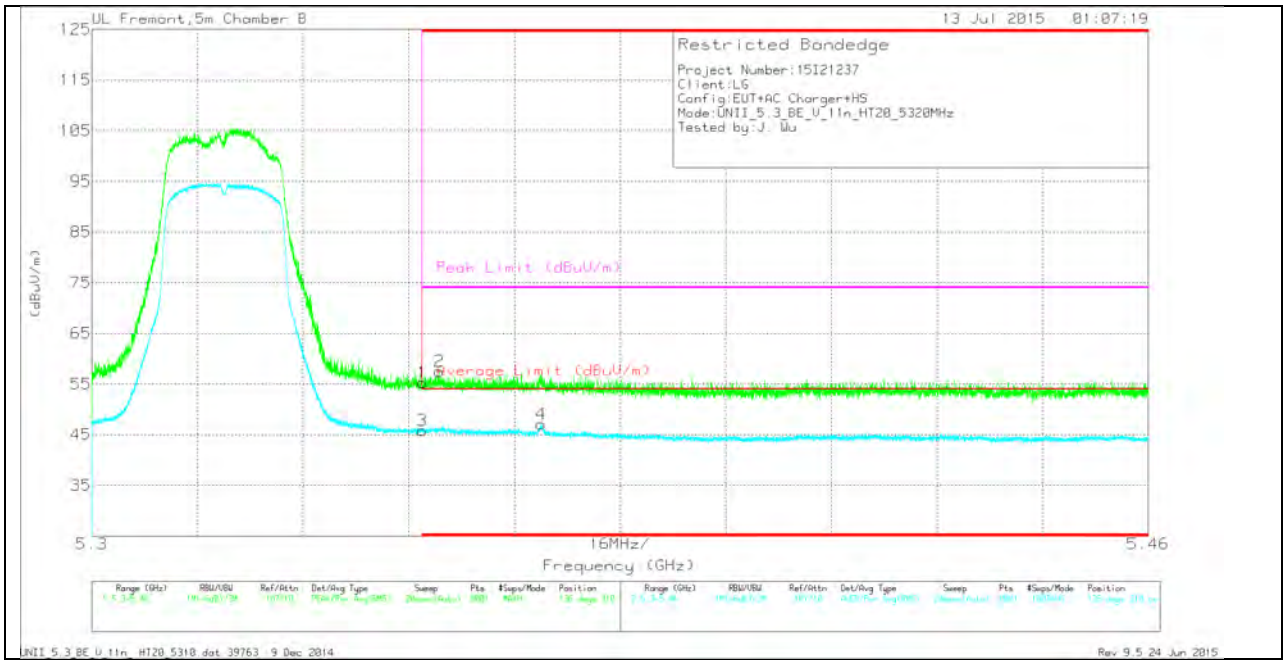
VERTICAL PEAK AND AVERAGE PLOT



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	37.52	Pk	34.4	-16.7	0	55.22	-	-	74	-18.78	136	310	V
2	* 5.353	39.45	Pk	34.4	-16.4	0	57.45	-	-	74	-16.55	136	310	V
3	* 5.35	28.05	RMS	34.4	-16.7	0	45.75	54	-8.25	-	-	136	310	V
4	* 5.368	29.51	RMS	34.4	-16.9	0	47.01	54	-6.99	-	-	136	310	V

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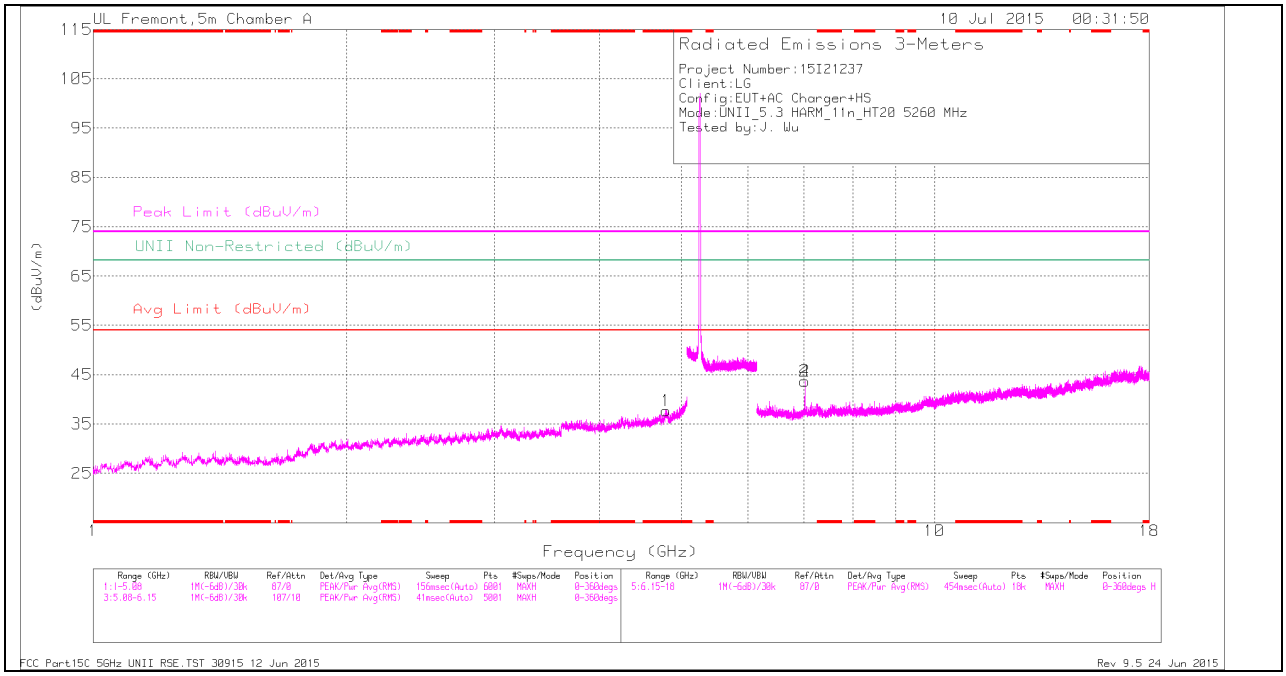
HARMONICS AND SPURIOUS EMISSIONS

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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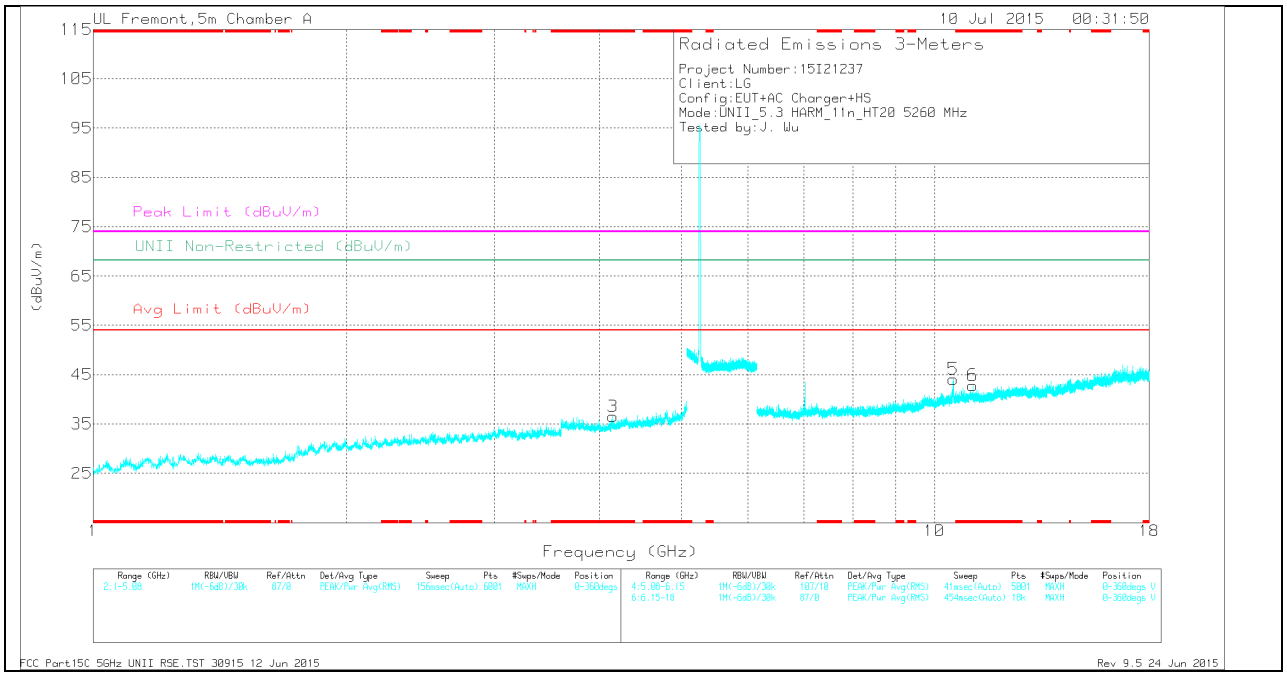
LOW CHANNEL VERTICAL



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 T136 (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	* 4.796	34.09	Pk	34	-30.4	0	37.69	-	-	74	-36.31	68.2	-30.51	0-360	201	H
3	* 4.148	35.33	Pk	33.3	-32.1	0	36.53	-	-	74	-37.47	68.2	-31.67	0-360	100	V
6	* 11.104	28.12	Pk	37.9	-23.2	0	42.82	-	-	74	-31.18	68.2	-25.38	0-360	200	V
2	7.013	34.66	Pk	35.6	-26.6	0	43.66	-	-	74	-30.34	68.2	-24.54	0-360	100	H
4	7.013	34.66	Pk	35.6	-26.6	0	43.66	-	-	74	-30.34	68.2	-24.54	0-360	100	H
5	10.528	30.19	Pk	37.6	-23.7	0	44.09	-	-	74	-29.91	68.2	-24.11	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.797	41.96	PK-U	34	-30.4	0	45.56	-	-	74	-28.44	68.2	-22.64	191	202	H
* 4.795	30.43	ADR	34	-30.4	0	34.03	54	-19.97	-	-	-	-	191	202	H
* 4.148	42.2	PK-U	33.3	-32.1	0	43.4	-	-	74	-30.6	68.2	-24.8	202	100	V
* 4.148	31.04	ADR	33.3	-32.1	0	32.24	54	-21.76	-	-	-	-	202	100	V
* 11.104	34.13	PK-U	37.9	-23.2	0	48.83	-	-	74	-25.17	68.2	-19.37	52	201	V
* 11.103	23.58	ADR	37.9	-23.1	0	38.38	54	-15.62	-	-	-	-	52	201	V
7.013	40.63	PK-U	35.6	-26.6	0	49.63	-	-	-	-	68.2	-18.57	23	102	H
7.014	40.81	PK-U	35.6	-26.6	0	49.81	-	-	-	-	68.2	-18.39	27	107	H
10.526	36.22	PK-U	37.6	-23.7	0	50.12	-	-	-	-	68.2	-18.08	36	101	V

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