FCC 47 CFR PART 15 SUBPART E

C2PC CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: LG-H791, LGH791, H791, LG-H791F, LGH791F, H791F

FCC ID: ZNFH791

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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, LG-H791F, LGH791F, H791F
SERIAL NUMBER:	Radiated (21YG3); Conducted (21YFX)
DATE TESTED:	AUGUST 22 – SEPTEMBER 11, 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.

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1. 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.

2. 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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3. CALIBRATION AND UNCERTAINTY

3.1. 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.

3.2. 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

3.3. 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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4. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

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

4.2. 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	16.71	46.88
5260 - 5320	802.11n HT20	16.82	48.08
5500 - 5720	802.11n HT20	17.44	55.46
5745 - 5825	802.11n HT20	17.59	57.41
5190 - 5230	802.11n HT40	15.91	38.99
5270 - 5310	802.11n HT40	14.99	31.55
5510 - 5710	802.11n HT40	15.12	32.51
5755 - 5795	802.11n HT40	15.27	33.65
5180 - 5240	802.11a	17.57	57.15
5260 - 5320	802.11a	17.72	59.16
5500 - 5700	802.11a	17.79	60.12
5745 - 5825	802.11a	17.8	60.26
5210	802.11ac HT80	14.35	27.23
5290	802.11ac HT80	14.55	28.51
5530	802.11ac HT80	15.02	31.77
5775	802.11ac HT80	14.96	31.33

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4.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna. Please refer to directional antenna gain on section 10.5.

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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4.4. 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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4.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG	MCS-N04WP	XIYMXXXXXXX	DoC
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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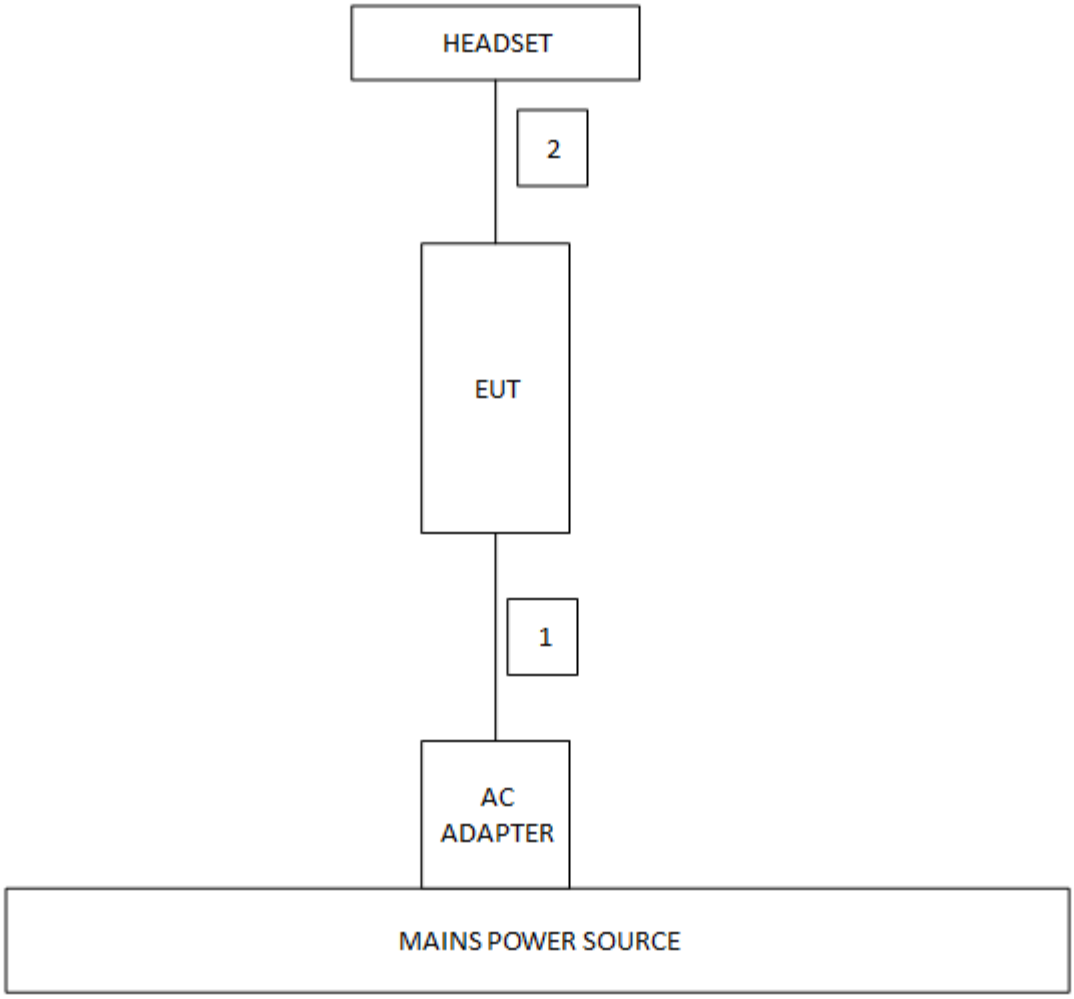
SETUP DIAGRAM FOR TESTS



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5. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/16
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/16
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/16
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/16
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/16
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/16
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/16
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/16
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/16
Radiated Software	UL	UL EMC	Ver 9.5, 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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6. 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	83.790MHz
15.407	RSS-247 6.2.4	6dB Band width (5.8Ghz)	500KHz		Pass	71.34MHz
15.407 (a)(1)	RSS-247 6.2	TX Cond. Powe, 5.15-5.25	<24dBm (FCC)/ <23dBm or 10+10Log(OBW) (IC)		Pass	17.57dBm
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	17.79dBm
15.407 (a)(3)	RSS-247 6.2.4	TX Cond. Power 5.725-5.825	< 30dBm		Pass	17.8dBm
15.407 (a)(1)	RSS-247 6.2	PSD (5.1GHz)	<11dBm (FCC)/ <10dBm(IC)		Pass	6.47dBm
15.407 (a)(5)	RSS-247 6.2	PSD (5.3,5.5GHz)	<11dBm		Pass	7.06dBm
15.407 (a)(5)	RSS-247 6.2.4	PSD (5.8GHz)	30dBm per 500kHz		Pass	4.01dBm
15.407 (b) & 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	45.3dBuV/m
15.407 (h)(2)	RSS-247 6.3	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

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7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.1. 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	16.540	16.590	0.997	99.7%	0.00	0.010
802.11ac HT80	1.171	1.196	0.979	97.9%	0.09	0.854
802.11n HT20	5.101	5.145	0.991	99.1%	0.00	0.010
802.11n HT40	4.965	5.019	0.989	98.9%	0.00	0.010

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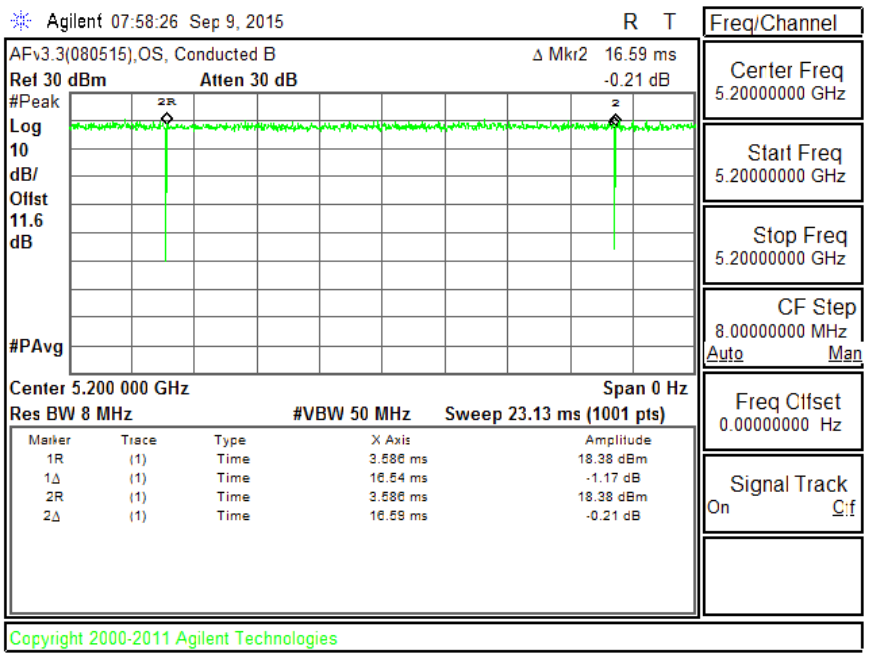
7.2. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a CDD MODE



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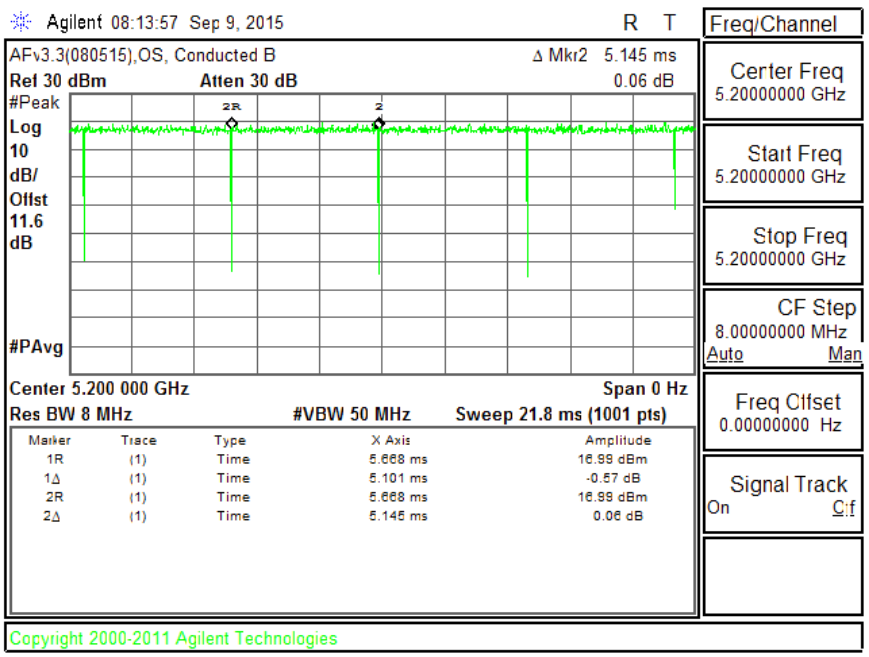
DUTY CYCLE 802.11n HT20 CDD MODE



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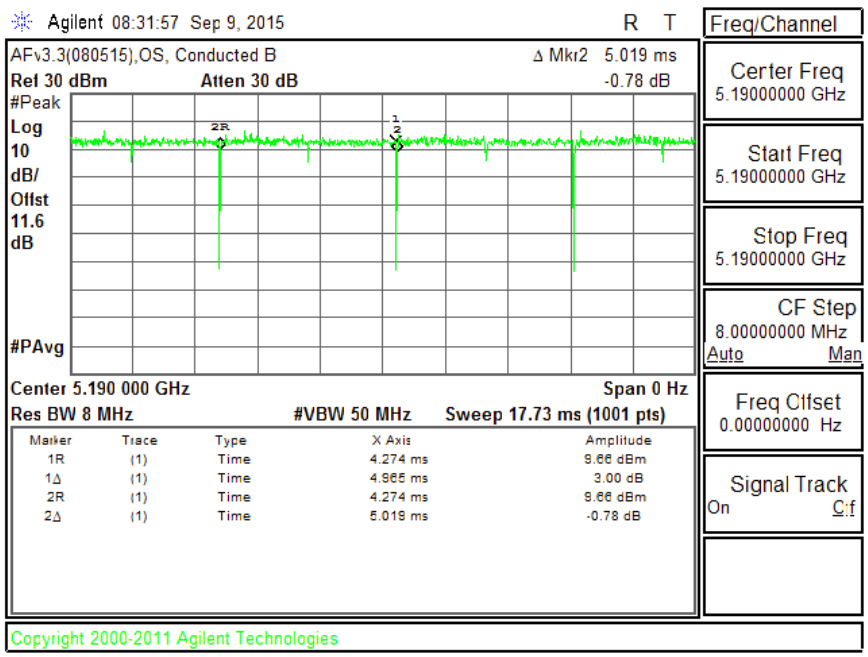
DUTY CYCLE 802.11n HT40 CDD MODE



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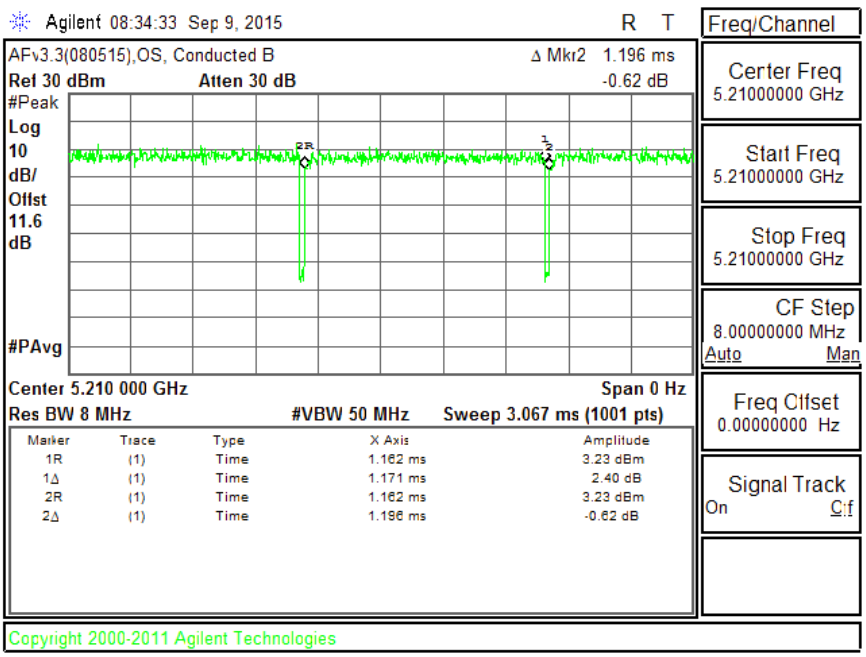
DUTY CYCLE 802.11ac HT80 MODE



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8. 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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9. ANTENNA PORT TEST RESULTS

9.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407

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

9.1.1. 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	14.036	13.882	0.5
Mid	5785	15.072	12.624	0.5
High	5825	14.950	14.444	0.5
Worst		14.036	12.624	

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9.1.2. **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	16.978	16.275	0.5
Mid	5785	17.576	15.400	0.5
High	5825	14.425	16.848	0.5
Worst		14.425	15.400	

9.1.3. **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	35.192	35.424	0.5
High	5795	32.650	35.640	0.5
Worst		32.650	35.424	0.5

9.1.4. **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	71.34	71.28	0.5
Worst		71.34	71.28	0.5

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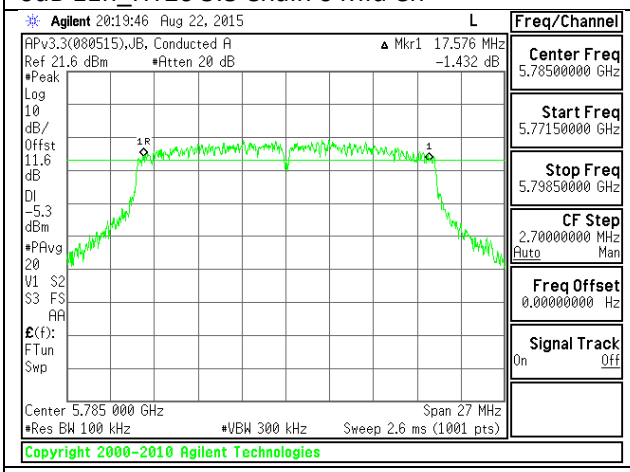
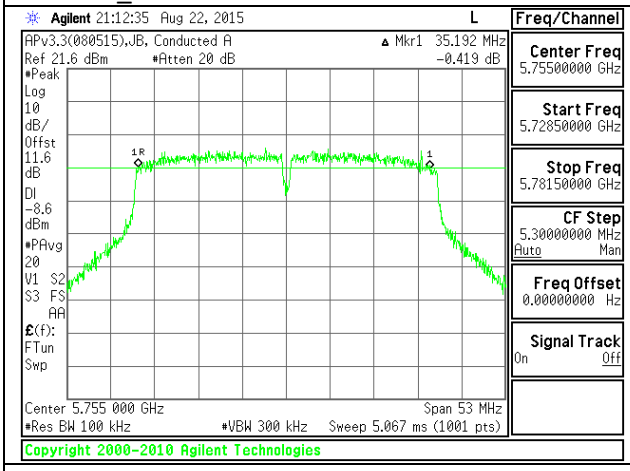
9.1.5. **6 dB BANDWIDTH MID CH PLOTS**

CHAIN 0

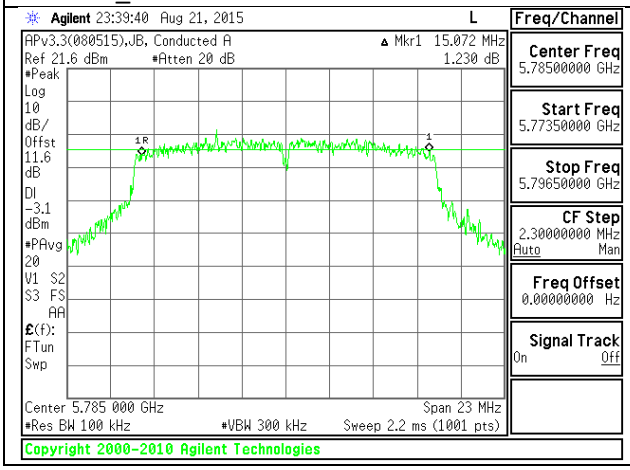
6dB 11n_HT20 5.8 Chain 0 Mid Ch



6dB 11n_HT40 5.8 Chain 0 Low Ch

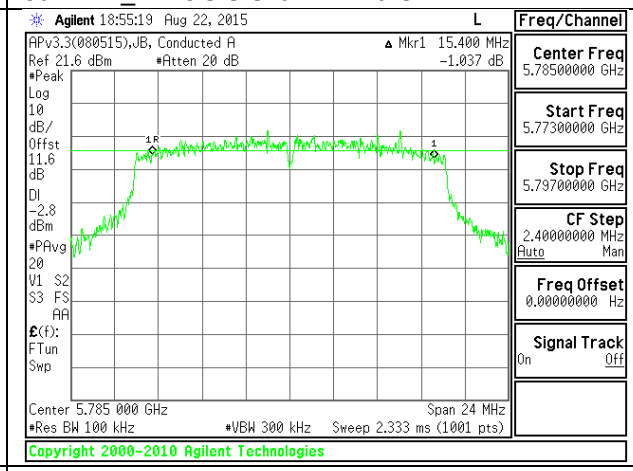


6dB 11a_ 5.8 Chain 0 Mid Ch

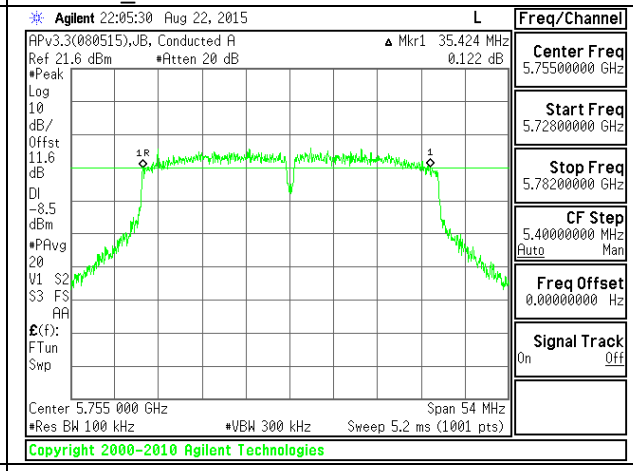


CHAIN 1

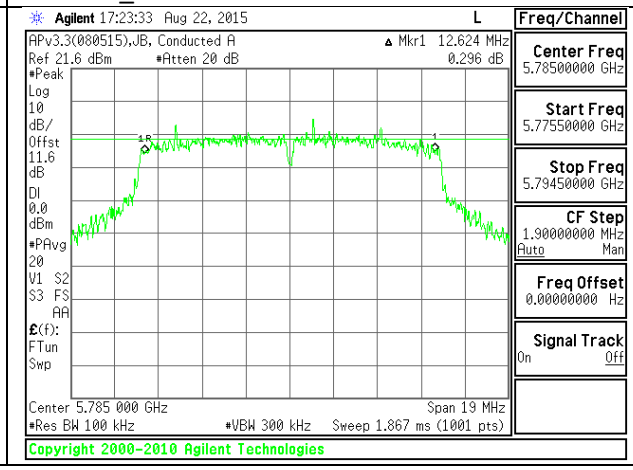
6dB 11n_HT20 5.8 Chain 1 Mid Ch



6dB 11n_HT40 5.8 Chain 1 Low Ch



6dB 11a_ 5.8 Chain 1 Mid Ch



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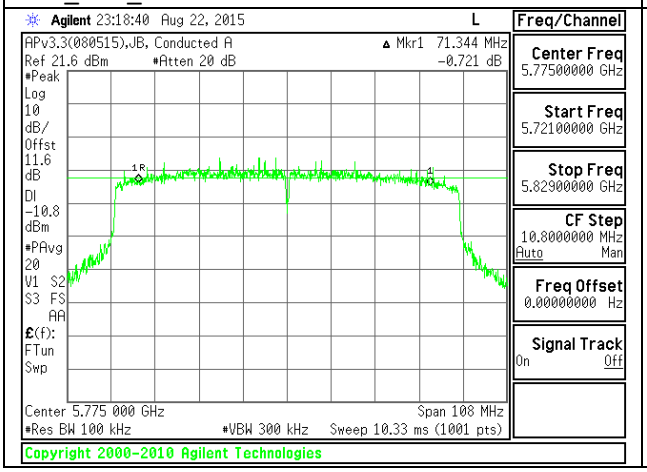
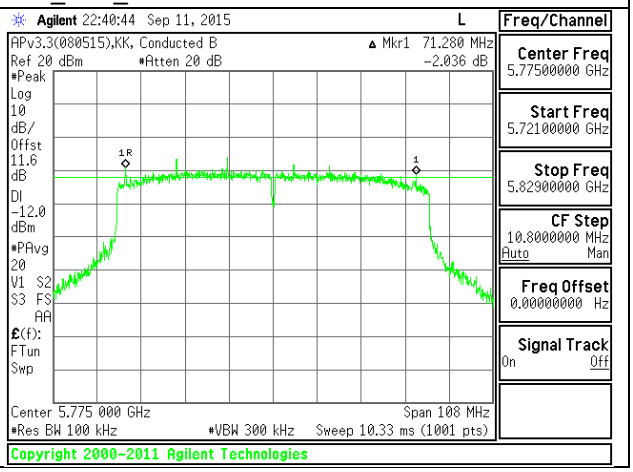
6dB_ 1ac_HT80 5.8 Chain 0 Low Ch



6dB_ 1ac_HT80 5.8 Chain 1 Low Ch



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9.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.2.1. 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	20.336	20.367
Mid	5200	20.460	19.800
High	5240	19.380	19.900

9.2.2. 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	20.119	20.429
Mid	5200	20.336	20.553
High	5240	20.336	20.150

9.2.3. 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	40.672	40.734
High	5230	40.982	40.443

9.2.4. 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	82.404	82.750

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9.2.5. **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	20.584	20.150
Mid	5300	20.584	19.620
High	5320	20.243	20.646

9.2.6. **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	20.491	20.491
Mid	5300	20.150	20.305
High	5320	20.800	20.491

9.2.7. **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	40.796	40.672
High	5310	40.858	40.446

9.2.8. **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	82.750	82.875

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9.2.9. **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	19.830	20.552
Mid	5580	20.305	19.169
High	5700	20.367	20.274
144	5720	20.026	20.672

9.2.10. **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	20.119	21.024
Mid	5580	20.800	20.553
High	5700	21.216	21.056
144	5720	19.870	21.248

9.2.11. **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	40.565	41.168
Mid	5550	41.106	40.796
High	5670	40.858	40.672
142	5710	40.796	41.416

9.2.12. **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	82.152	82.212
138	5690	82.460	82.750

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9.2.13. 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	20.491	20.864
Mid	5785	20.522	21.648
High	5825	20.960	21.024

9.2.14. 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	20.928	21.120
Mid	5785	20.429	21.184
High	5825	21.024	21.417

9.2.15. 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

9.2.16. 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	83.517	83.790

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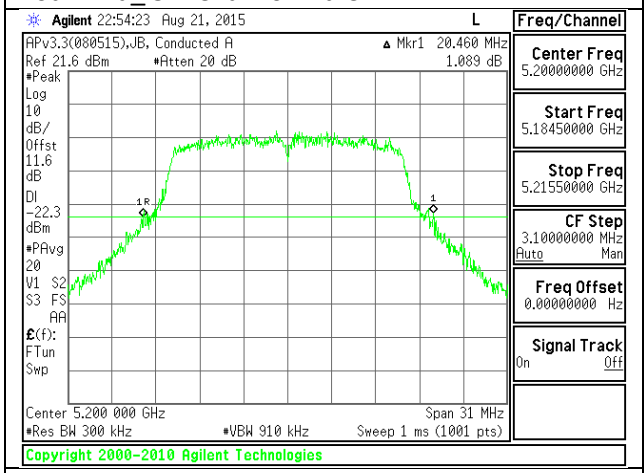
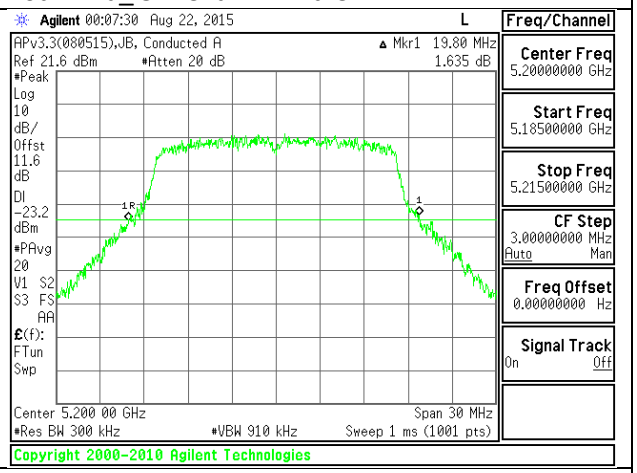
9.2.17. 26 dB BANDWIDTH PLOTS

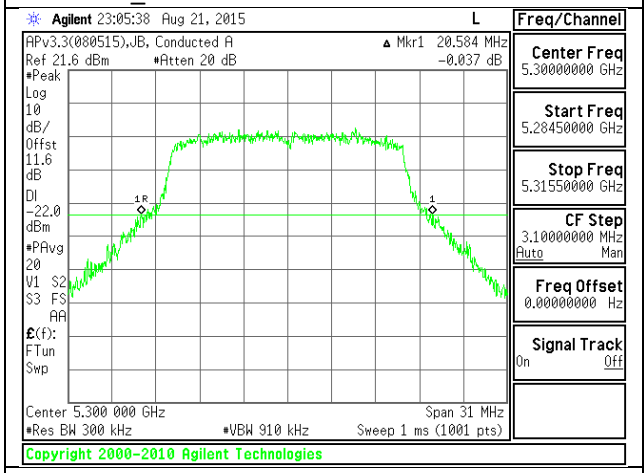
26dB 11a_ 5.2 Chain 0 Mid Ch



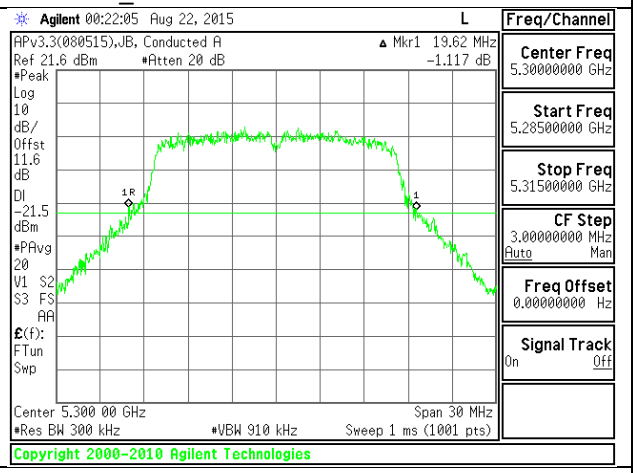
26dB 11a_ 5.2 Chain 1 Mid Ch



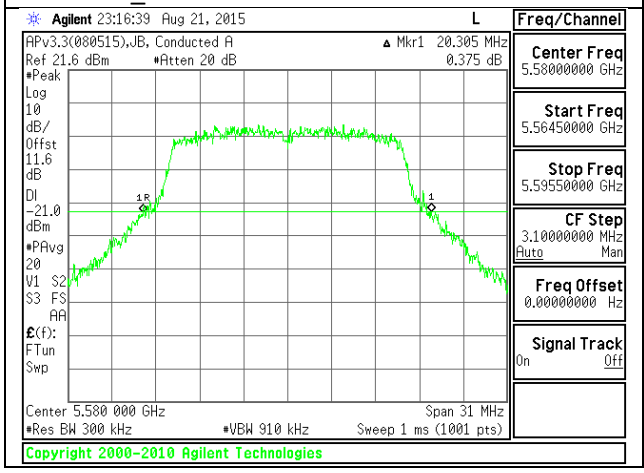
26dB 11a_ 5.3 Chain 0 Mid Ch



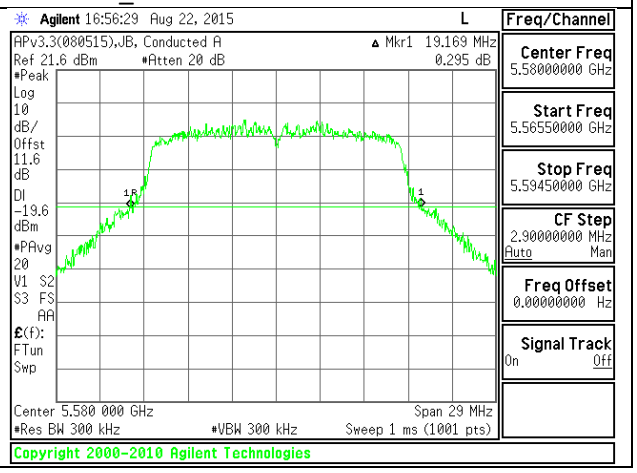
26dB 11a_ 5.3 Chain 1 Mid Ch



26dB 11a_ 5.5 Chain 0 Mid Ch



26dB 11a_ 5.5 Chain 1 Mid Ch



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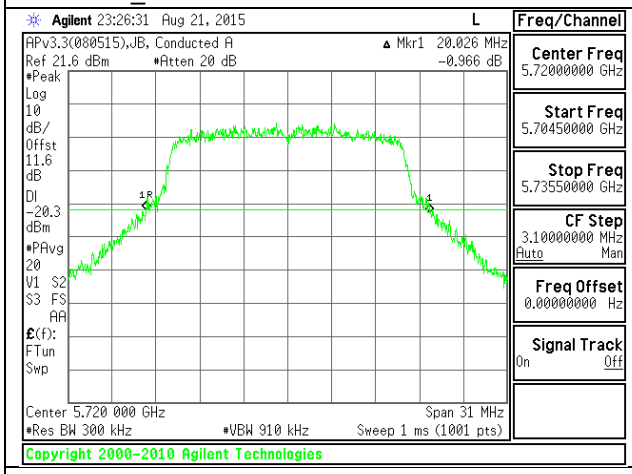
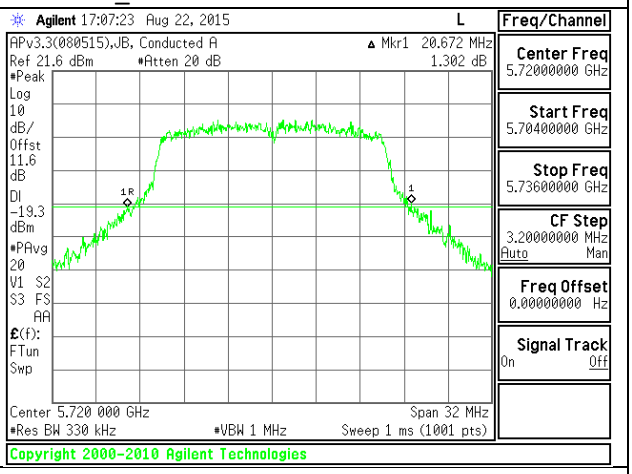
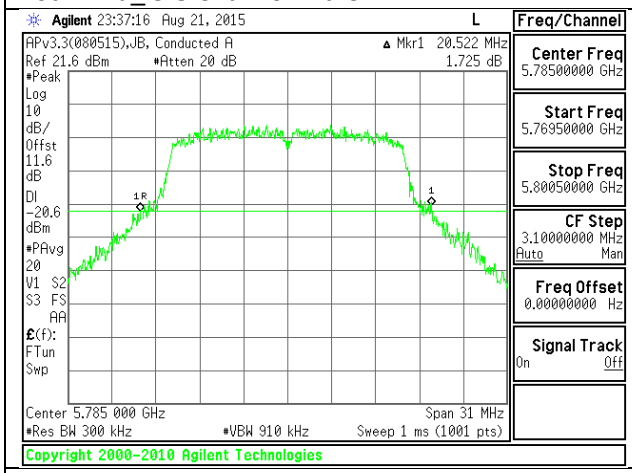
26dB 11a_ 5.5 Chain 0 CH144



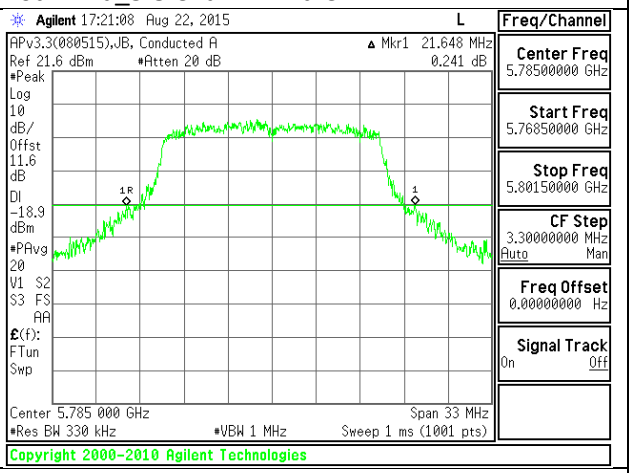
26dB 11a_ 5.5 Chain 1 Ch 144



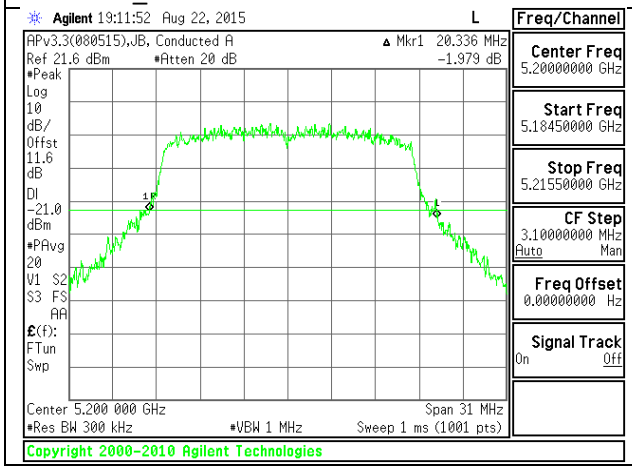
26dB 11a_ 5.8 Chain 0 Mid Ch



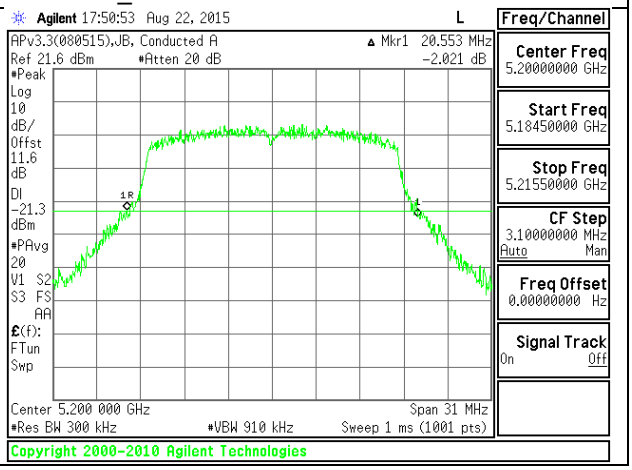
26dB 11a_5.8 Chain 1 Mid Ch



26dB 11n_HT20 5.2 Chain 0 Mid Ch



26dB 11n_HT20 5.2 Chain 1 Mid Ch



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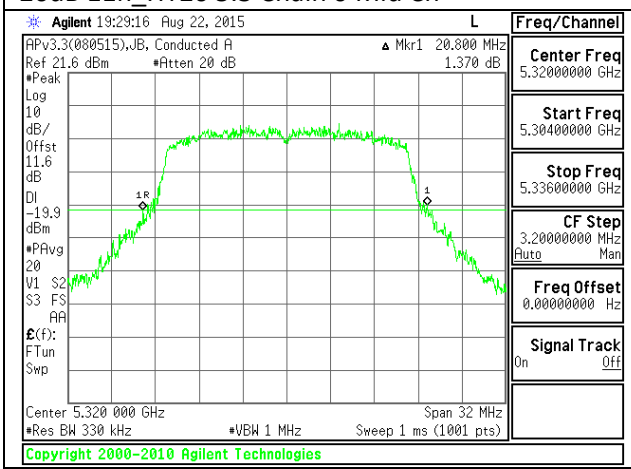
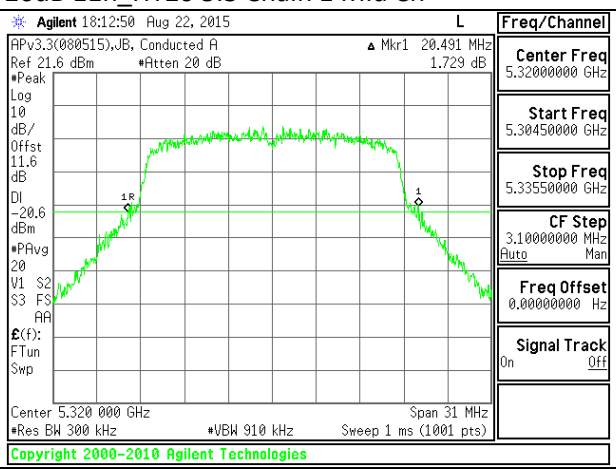
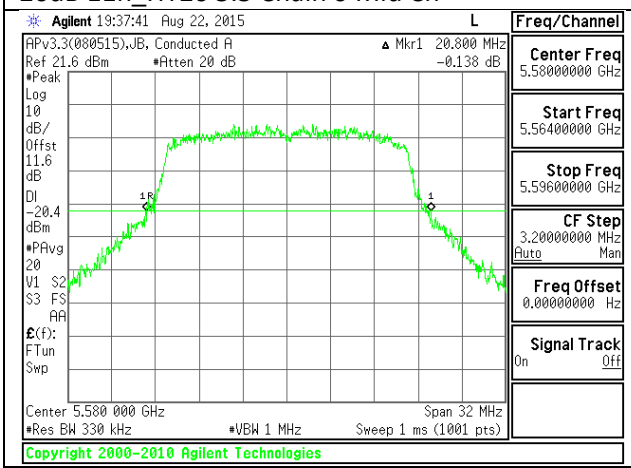
26dB 11n_HT20 5.3 Chain 0 Mid Ch



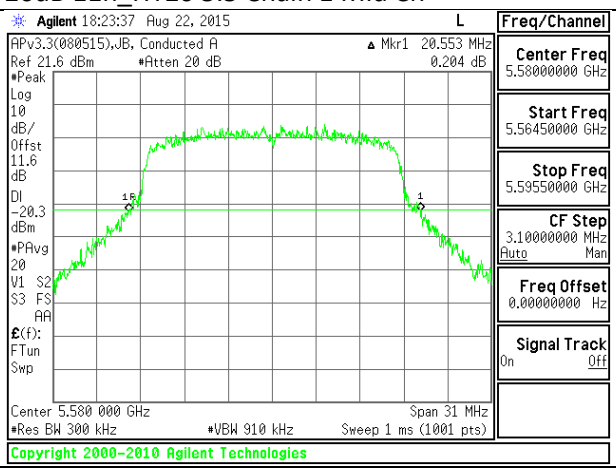
26dB 11n_HT20 5.3 Chain 1 Mid Ch



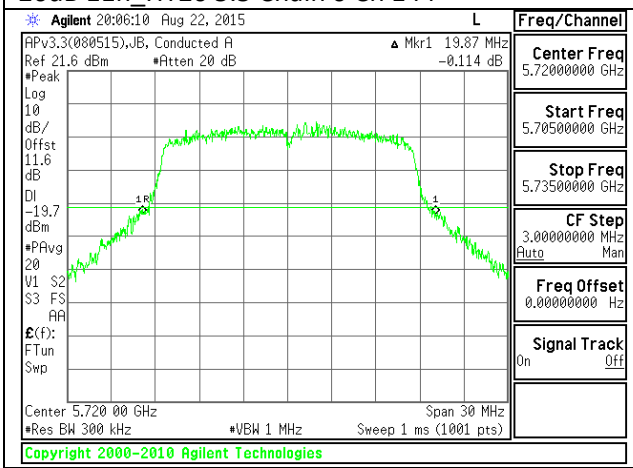
26dB 11n_HT20 5.5 Chain 0 Mid Ch



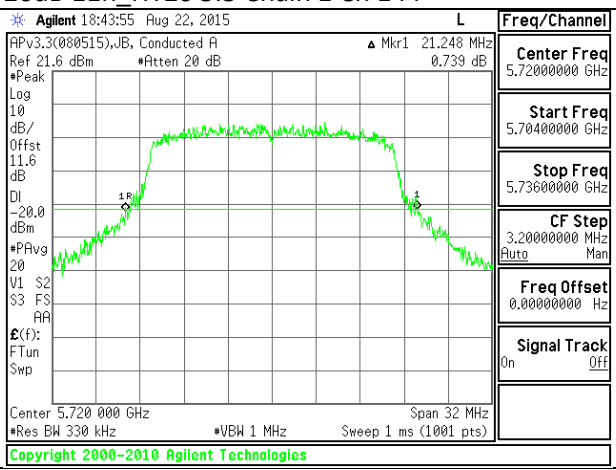
26dB 11n_HT20 5.5 Chain 1 Mid Ch



26dB 11n_HT20 5.5 Chain 0 Ch 144



26dB 11n_HT20 5.5 Chain 1 Ch 144



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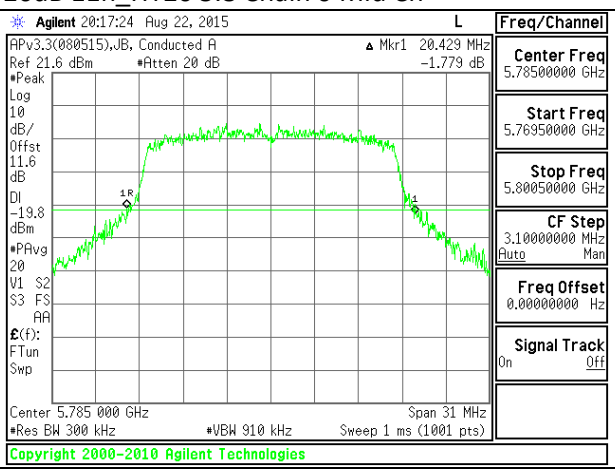
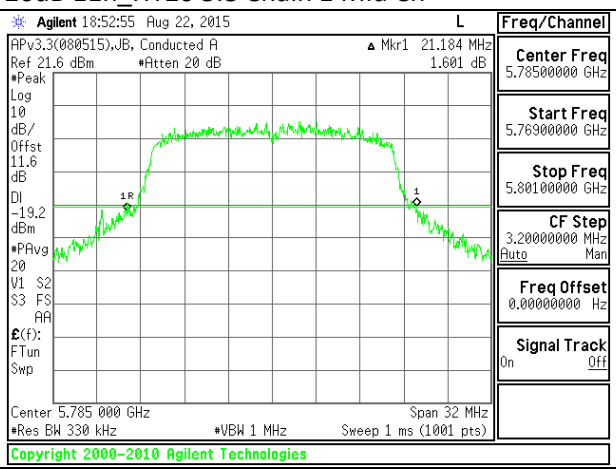
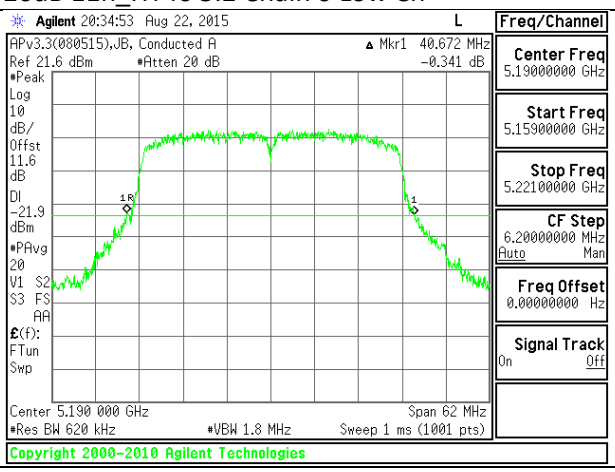
26dB 11n_HT20 5.8 Chain 0 Mid Ch



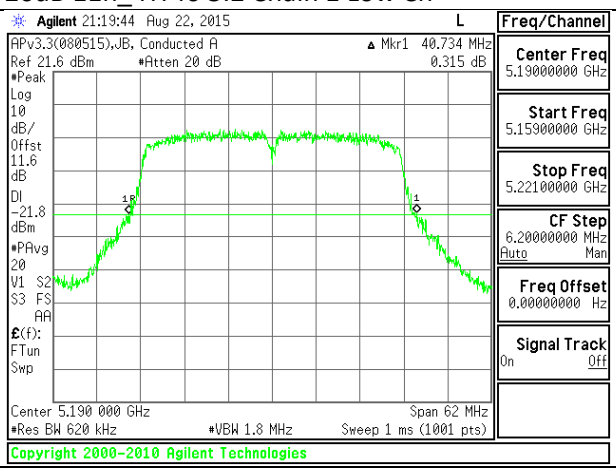
26dB 11n_HT20 5.8 Chain 1 Mid Ch



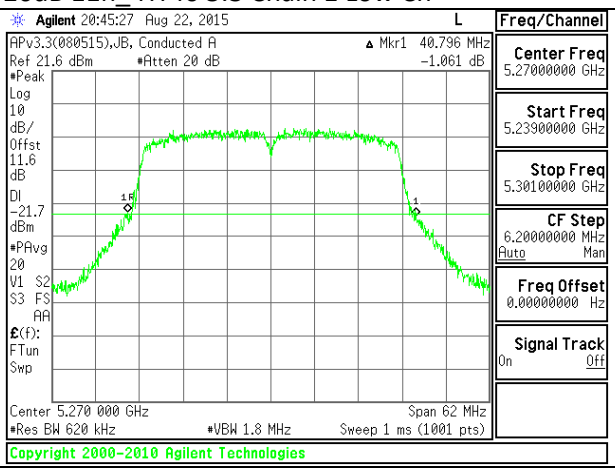
26dB 11n_HT40 5.2 Chain 0 Low Ch



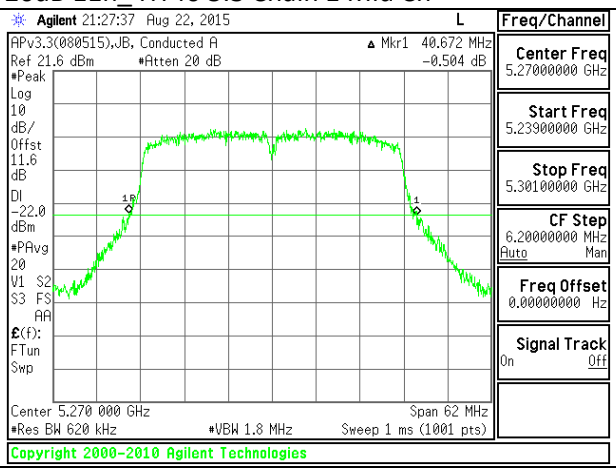
26dB 11n_ HT40 5.2 Chain 1 Low Ch



26dB 11n_ HT40 5.3 Chain 1 Low Ch



26dB 11n_ HT40 5.3 Chain 1 Mid Ch



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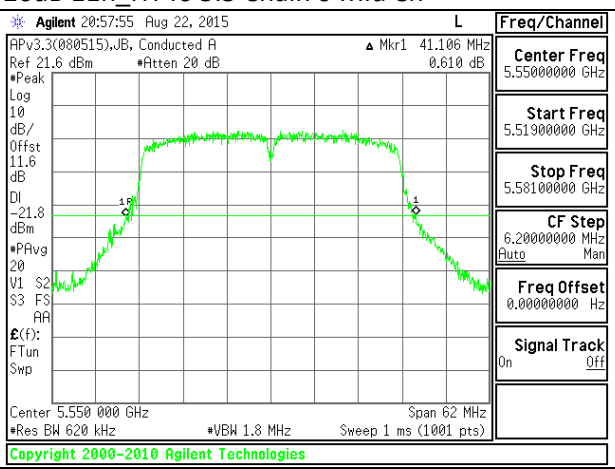
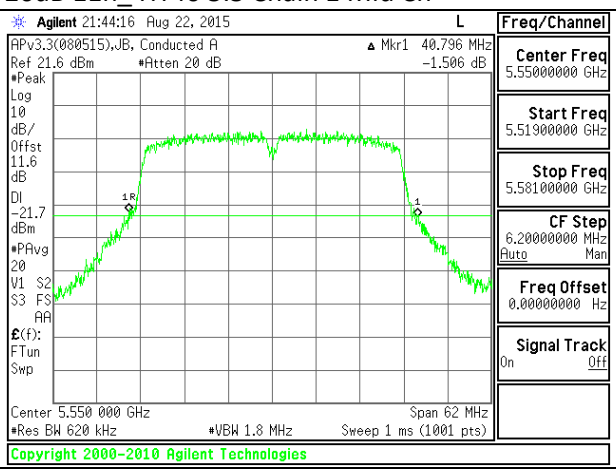
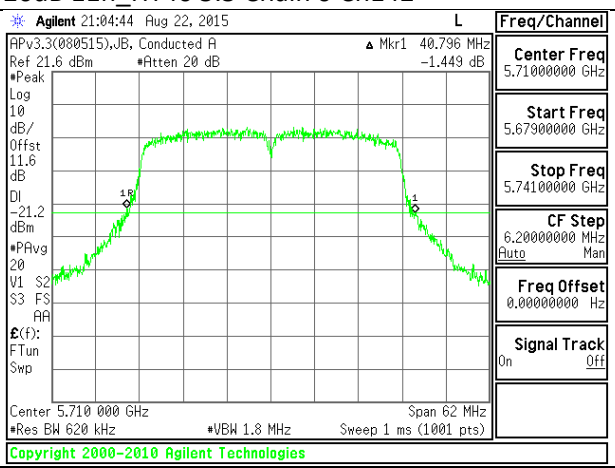
26dB 11n_HT40 5.5 Chain 0 Mid Ch



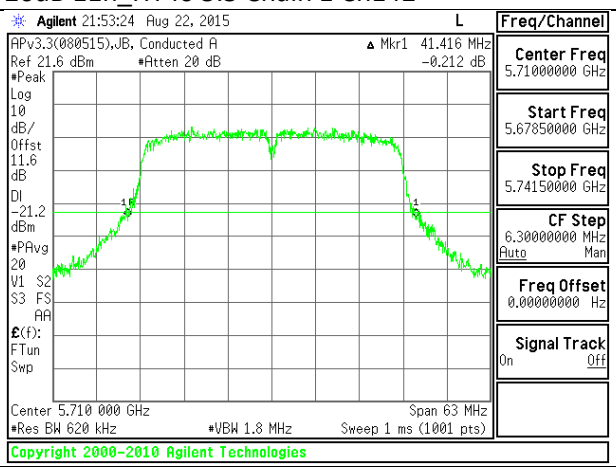
26dB 11n_ HT40 5.5 Chain 1 Mid Ch



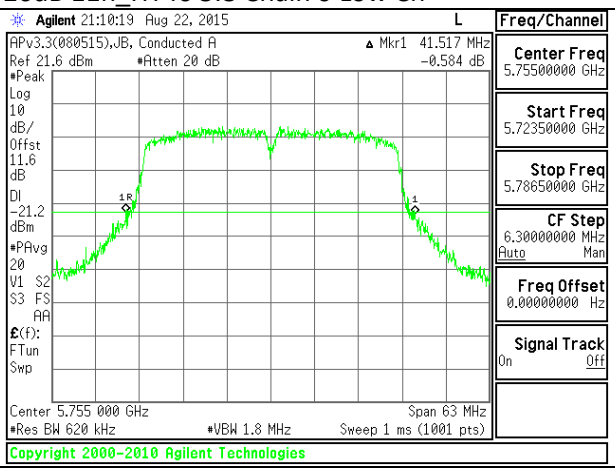
26dB 11n_HT40 5.5 Chain 0 Ch142



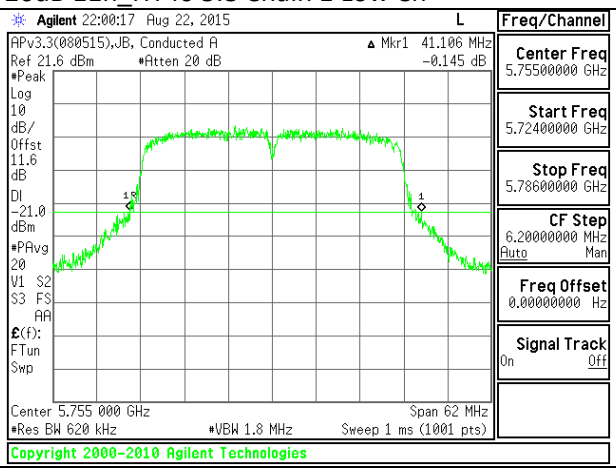
26dB 11n_HT40 5.5 Chain 1 Ch142



26dB 11n_HT40 5.8 Chain 0 Low Ch



26dB 11n_HT40 5.8 Chain 1 Low Ch



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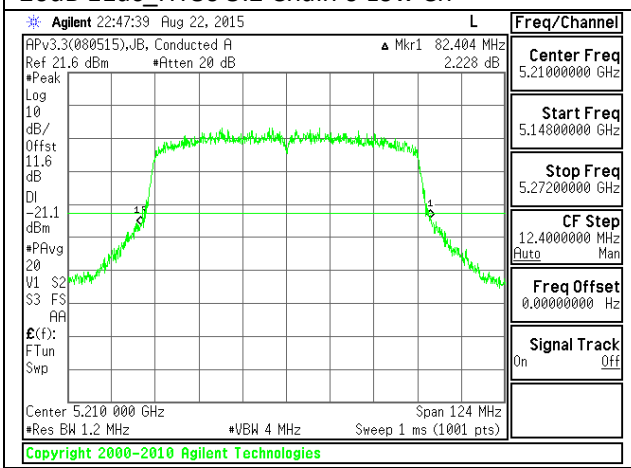
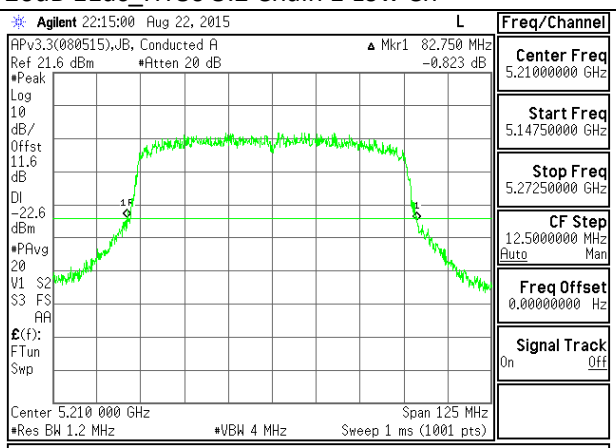
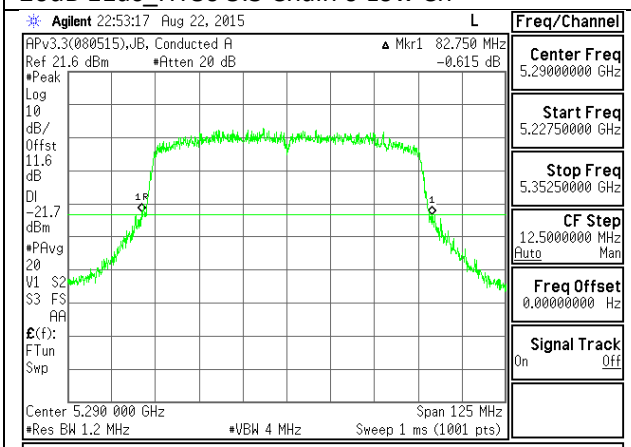
26dB 11ac_HT80 5.2 Chain 0 Low Ch



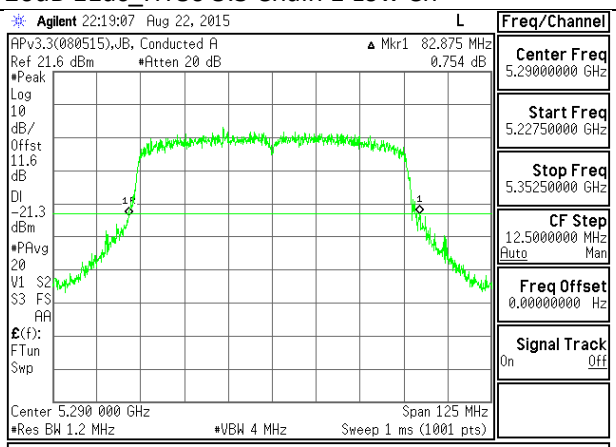
26dB 11ac_HT80 5.2 Chain 1 Low Ch



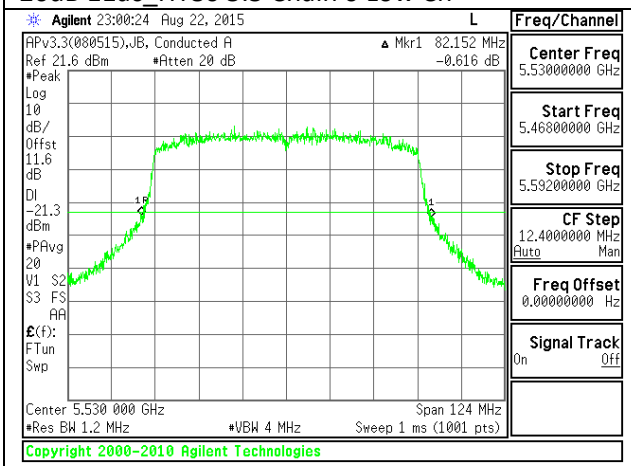
26dB 11ac_HT80 5.3 Chain 0 Low Ch



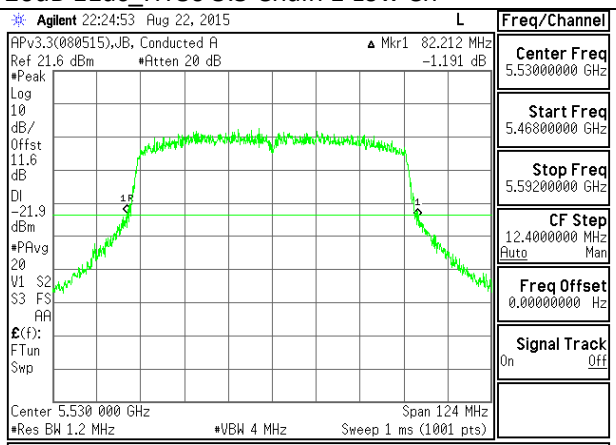
26dB 11ac_HT80 5.3 Chain 1 Low Ch



26dB 11ac_HT80 5.5 Chain 0 Low Ch



26dB 11ac_HT80 5.5 Chain 1 Low Ch



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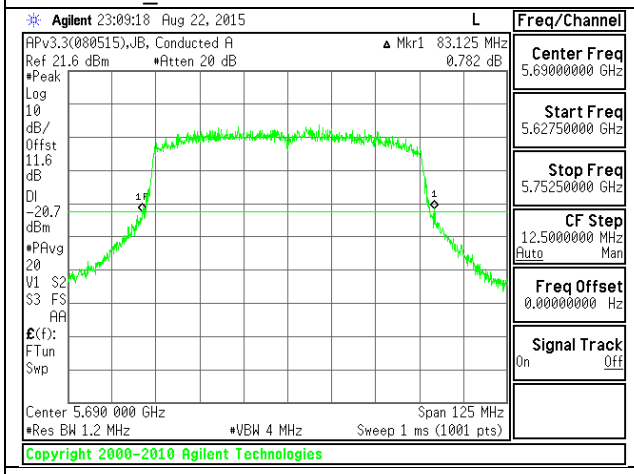
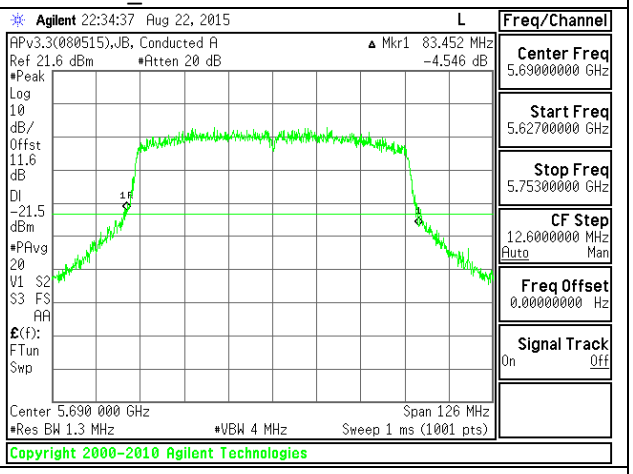
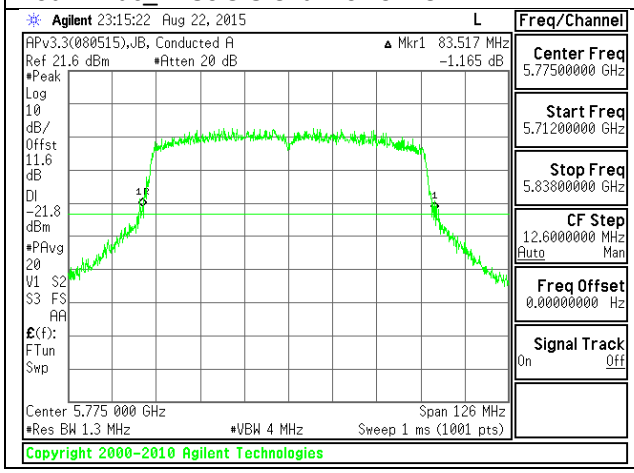
26dB 11ac_HT80 5.3 Chain 0 Ch 138



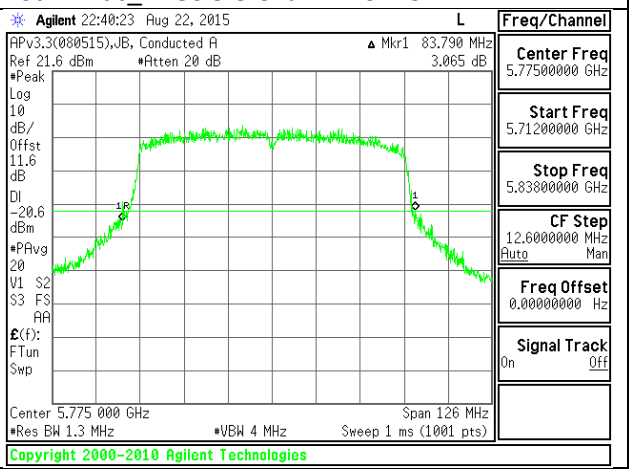
26dB 11ac_HT80 5.3 Chain 1 Ch 138



26dB 11ac_HT80 5.8 Chain 0 Low Ch



26dB 11ac_HT80 5.8 Chain 1 Low Ch



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9.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.3252	16.3222
Mid	5200	16.3319	16.3158
High	5240	16.3223	16.3015

9.3.2. 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	17.4799	17.4758
Mid	5200	17.4955	17.4910
High	5240	17.4749	17.4935

9.3.3. 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	35.9011	35.8533
High	5230	35.8641	35.8817

9.3.4. 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	75.0509	74.6794

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9.3.5. **802.11a MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	16.3270	16.3257
Mid	5300	16.3363	16.2855
High	5320	16.3434	16.3248

9.3.6. **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	17.4962	17.4621
Mid	5300	17.4831	17.4724
High	5320	17.4898	17.4522

9.3.7. **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	35.8686	35.8623
High	5310	35.8964	35.8710

9.3.8. **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	74.9095	74.9950

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9.3.9. **802.11a MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.3408	16.3203
Mid	5580	16.3245	16.3392
High	5700	16.3351	16.3417
144	5720	16.3273	16.3452

9.3.10. **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	17.4941	17.4787
Mid	5580	17.4953	17.4924
High	5700	17.4917	17.4801
144	5720	17.5051	17.4908

9.3.11. **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	35.8790	35.9171
Mid	5550	35.8760	35.9163
High	5670	35.8505	35.9228
142	5710	35.9165	35.8870

9.3.12. **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	74.9398	75.0343
138	5690	74.8659	75.0214

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9.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	16.3278	16.3296
Mid	5785	16.3141	16.3536
High	5825	16.3293	16.3671

9.3.14. 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	17.5190	17.5058
Mid	5785	17.5194	17.5173
High	5825	17.5098	17.5412

9.3.15. 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	35.8656	35.8991
High	5795	35.9160	35.9293

9.3.16. 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	74.9037	75.0055

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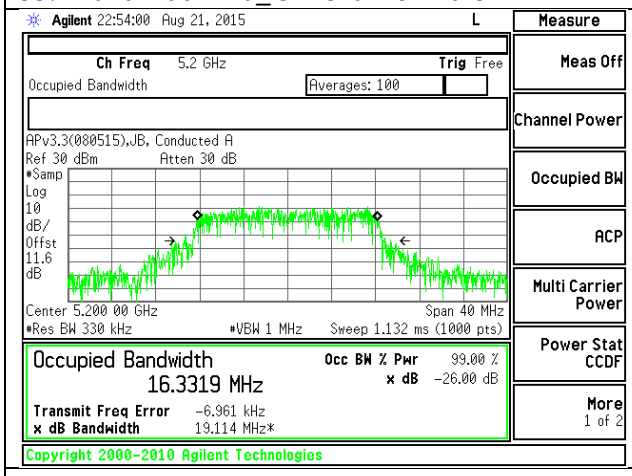
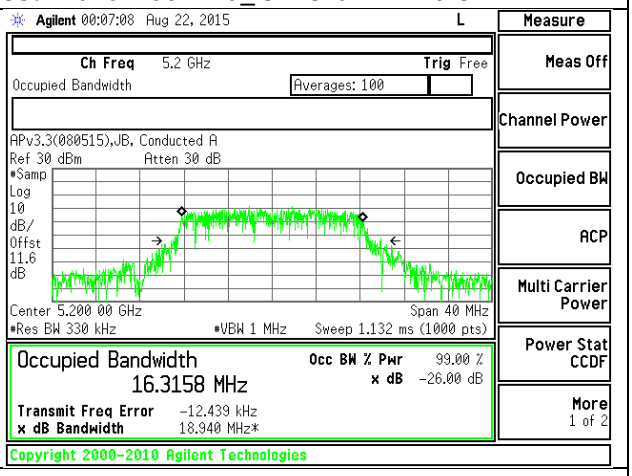
9.3.17. 99% BANDWIDTH PLOTS

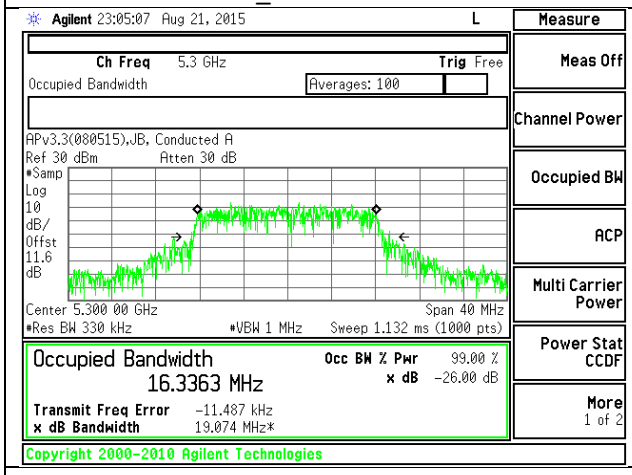
99% Bandwidth 11a_ 5.2 Chain 0 Mid Ch



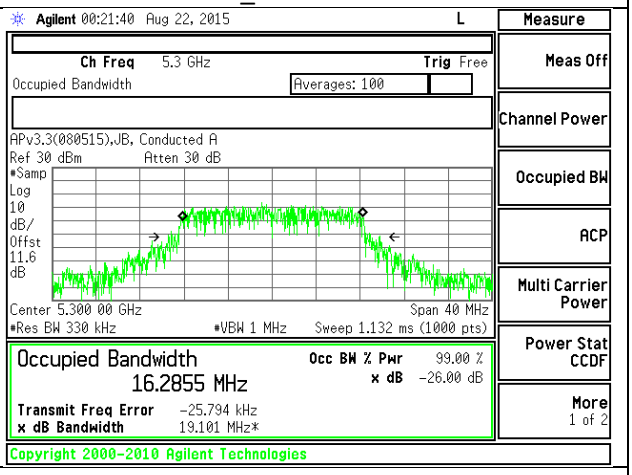
99% Bandwidth 11a_ 5.2 Chain 1 Mid Ch



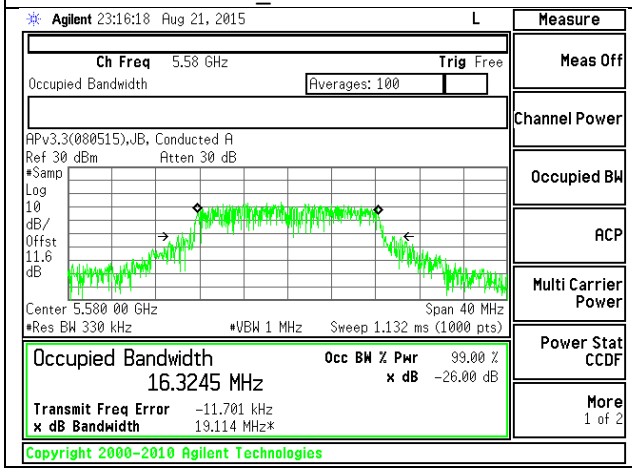
99% Bandwidth 11a_ 5.3 Chain 0 Mid Ch



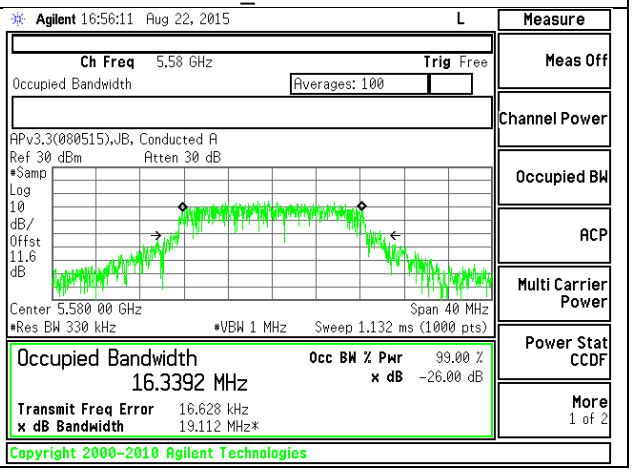
99% Bandwidth 11a_ 5.3 Chain 1 Mid Ch



99% Bandwidth 11a_ 5.5 Chain 0 Mid Ch



99% Bandwidth 11a_ 5.5 Chain 1 Mid Ch



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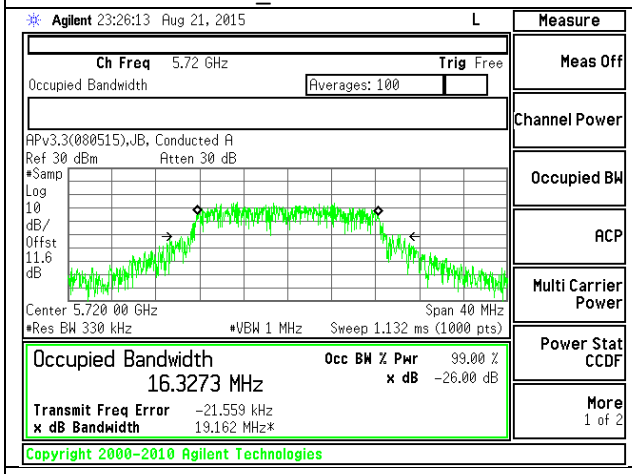
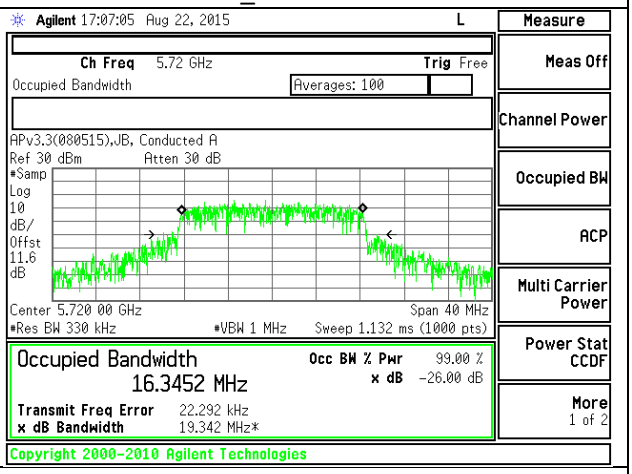
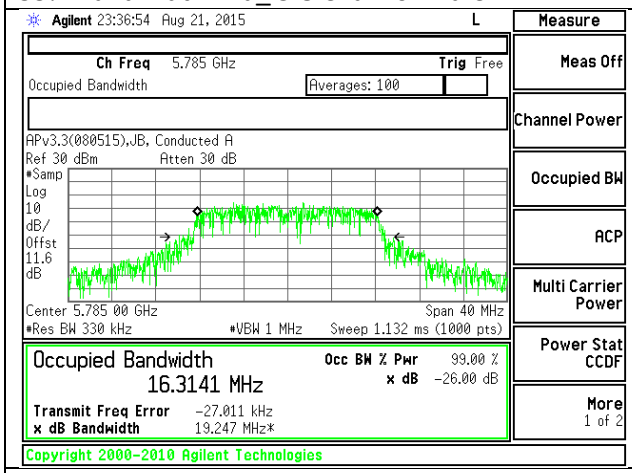
99% Bandwidth 11a_ 5.5 Chain 0 CH144



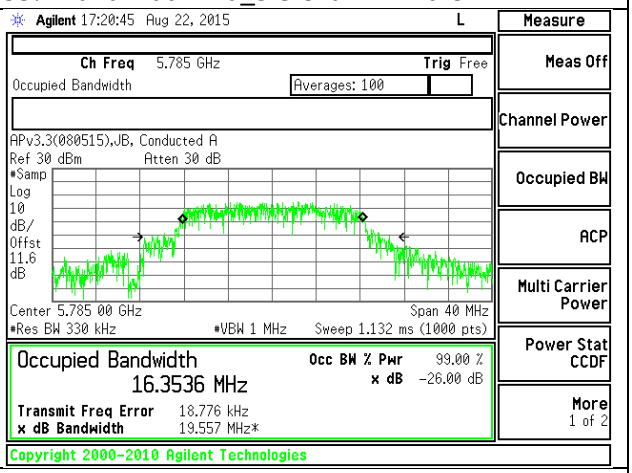
99% Bandwidth 11a_ 5.5 Chain 1 Ch 144



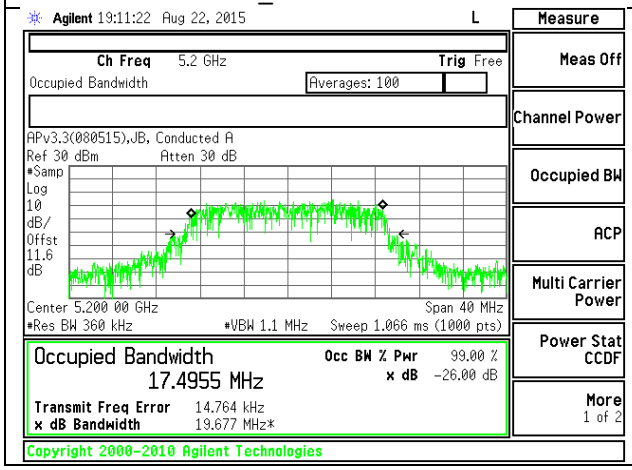
99% Bandwidth 11a_ 5.8 Chain 0 Mid Ch



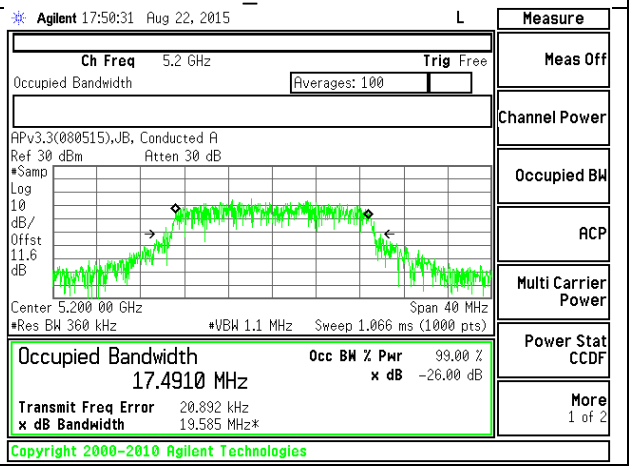
99% Bandwidth 11a_5.8 Chain 1 Mid Ch



99% Bandwidth 11n_HT20 5.2 Chain 0 Mid Ch



99% Bandwidth 11n_HT20 5.2 Chain 1 Mid Ch



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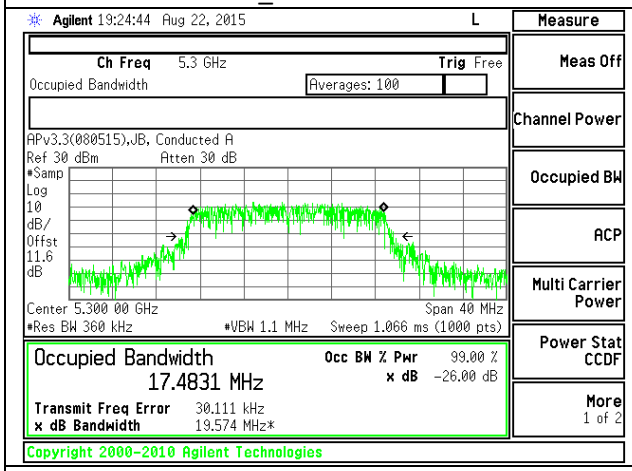
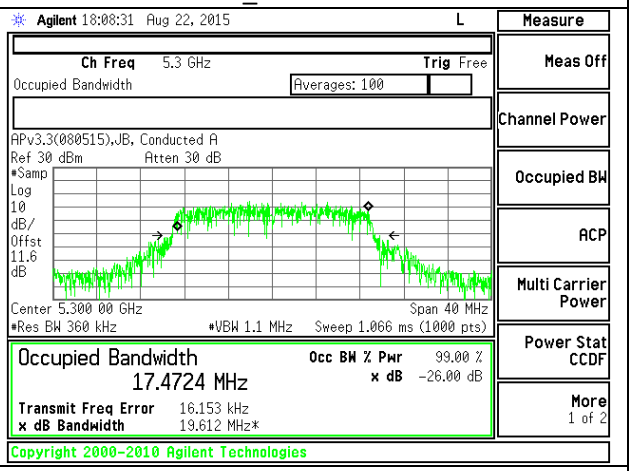
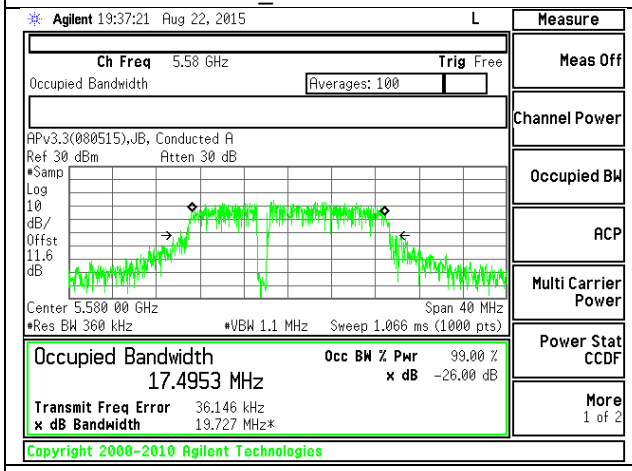
99% Bandwidth 11n_HT20 5.3 Chain 0 Mid Ch



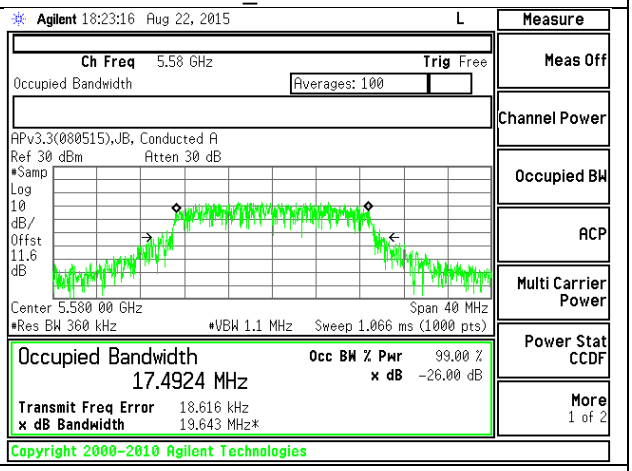
99% Bandwidth 11n_HT20 5.3 Chain 1 Mid Ch



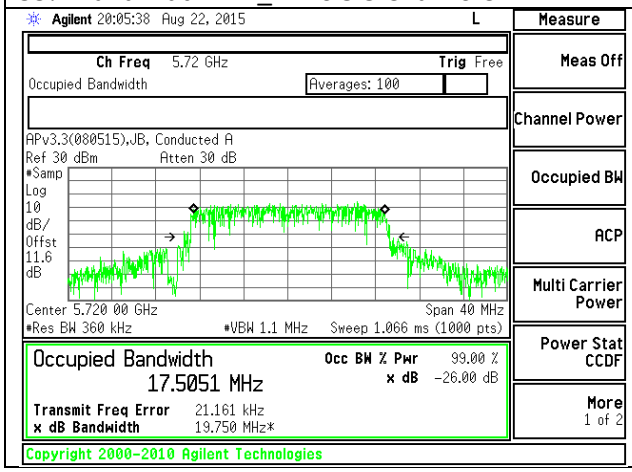
99% Bandwidth 11n_HT20 5.5 Chain 0 Mid Ch



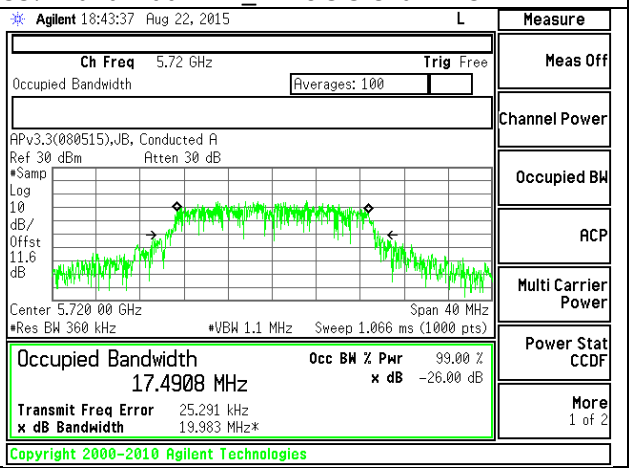
99% Bandwidth 11n_HT20 5.5 Chain 1 Mid Ch



99% Bandwidth 11n_HT20 5.5 Chain 0 Ch 144



99% Bandwidth 11n_HT20 5.5 Chain 1 Ch 144



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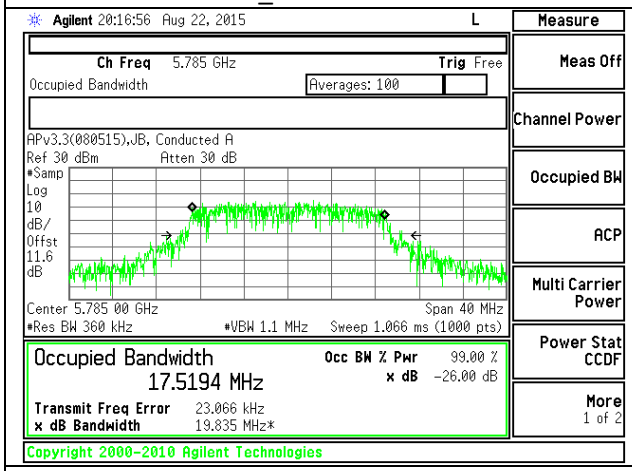
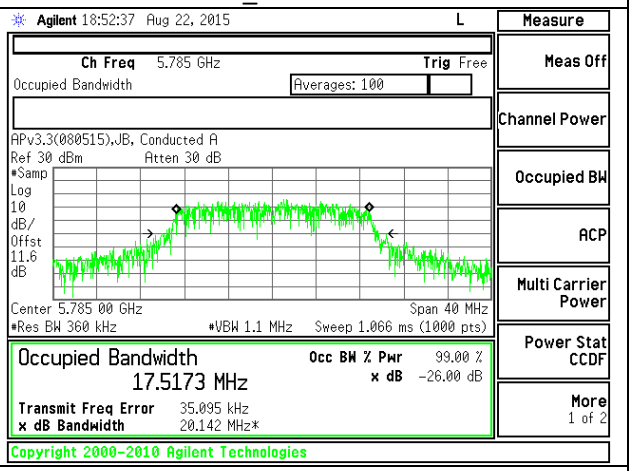
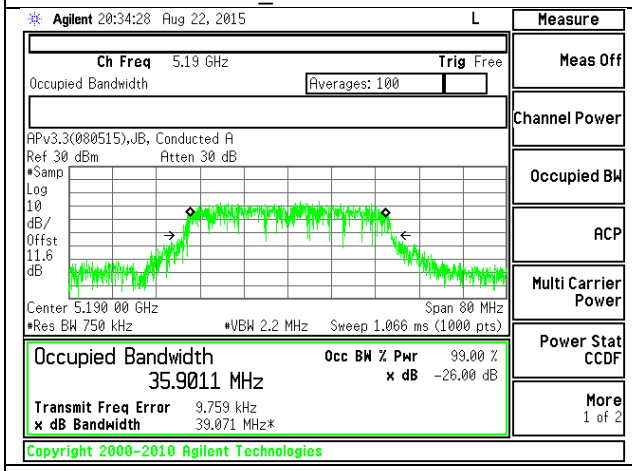
99% Bandwidth 11n_HT20 5.8 Chain 0 Mid Ch



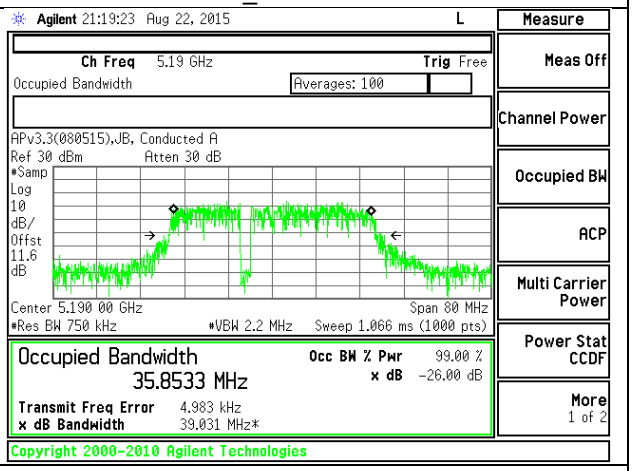
99% Bandwidth 11n_HT20 5.8 Chain 1 Mid Ch



99% Bandwidth 11n_HT40 5.2 Chain 0 Low Ch



99% Bandwidth 11n_ HT40 5.2 Chain 1 Low Ch



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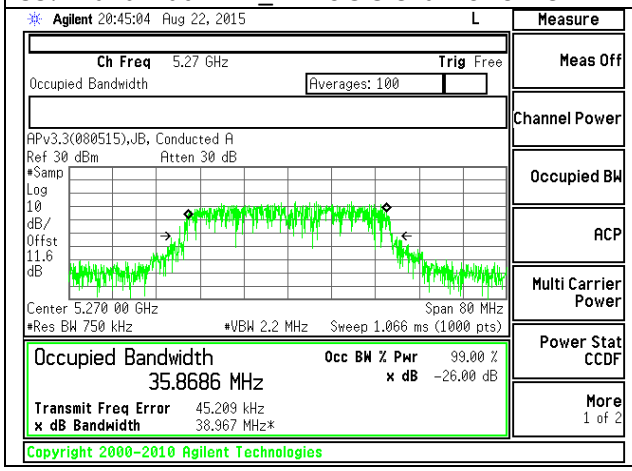

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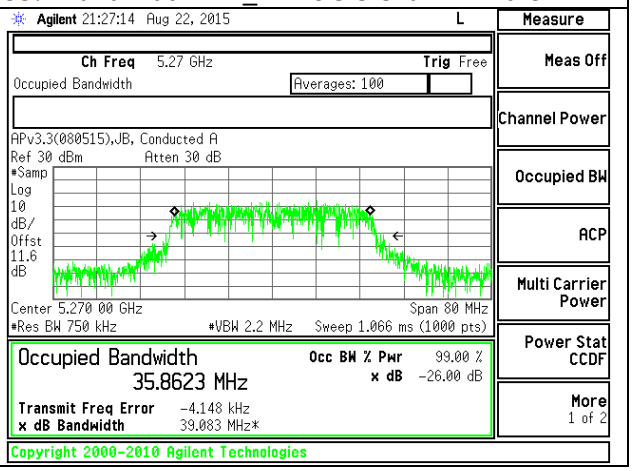

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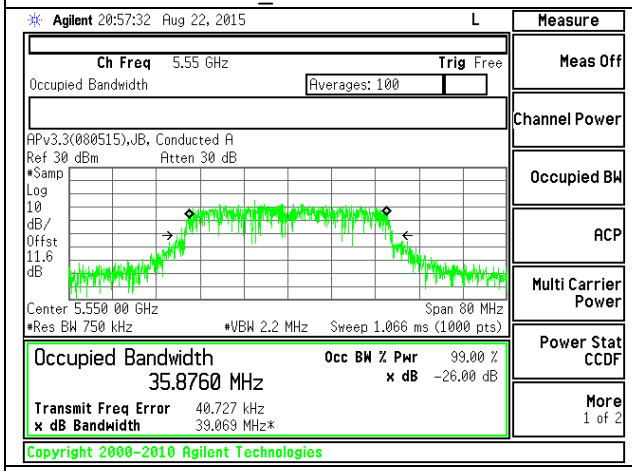
99% Bandwidth 11n_HT40 5.5 Chain 0 Mid Ch



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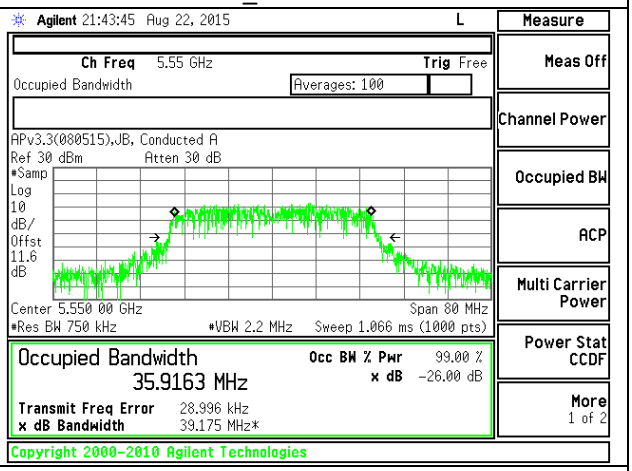

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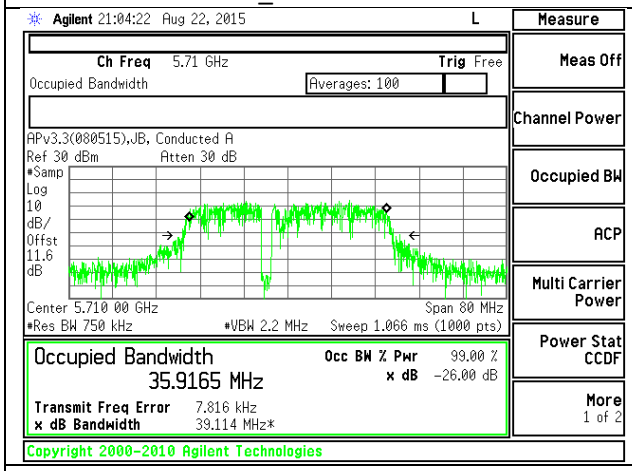

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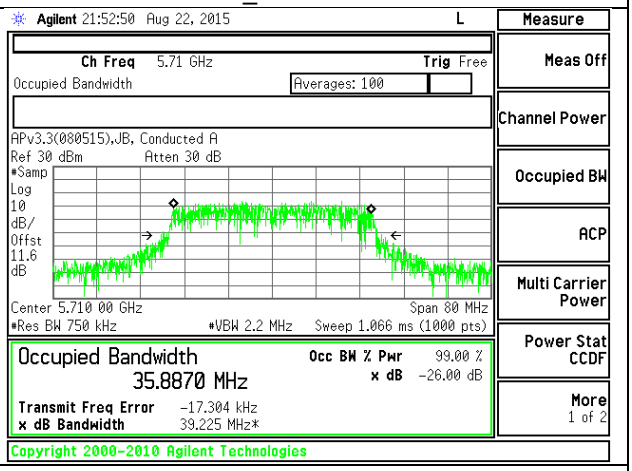
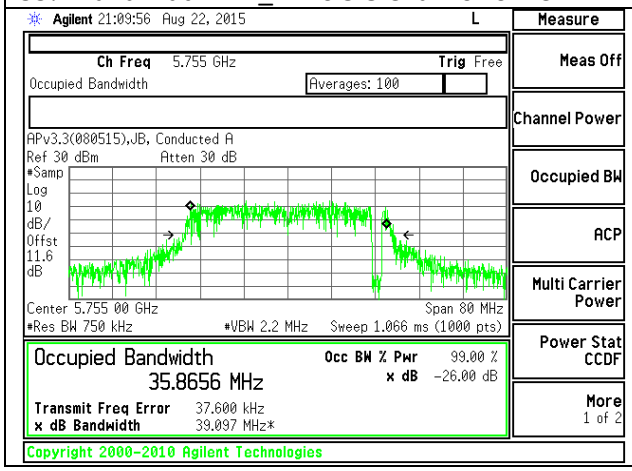
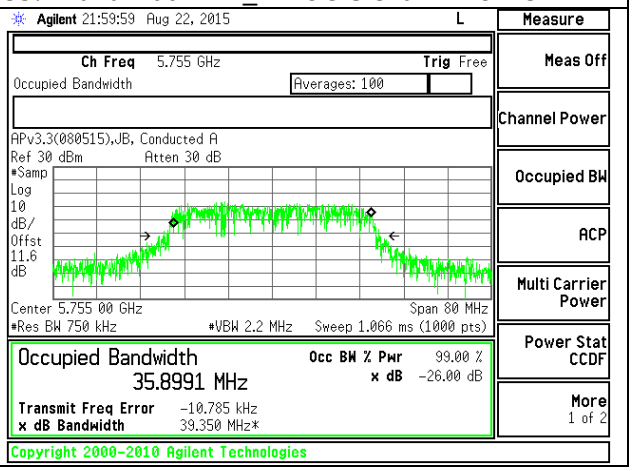


99% Bandwidth 11n_HT40 5.8 Chain 0 Low Ch



99% Bandwidth 11n_HT40 5.8 Chain 1 Low Ch



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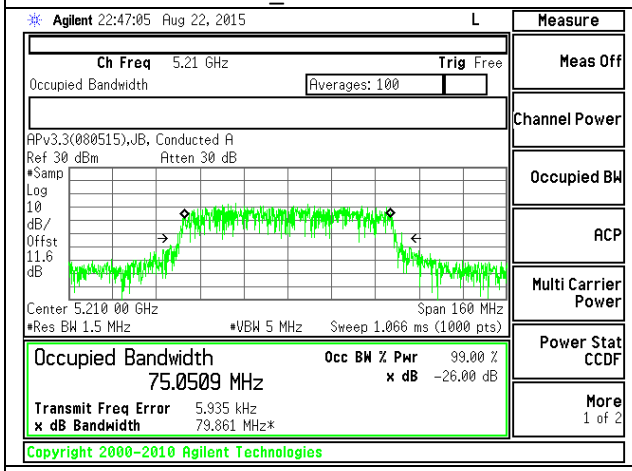
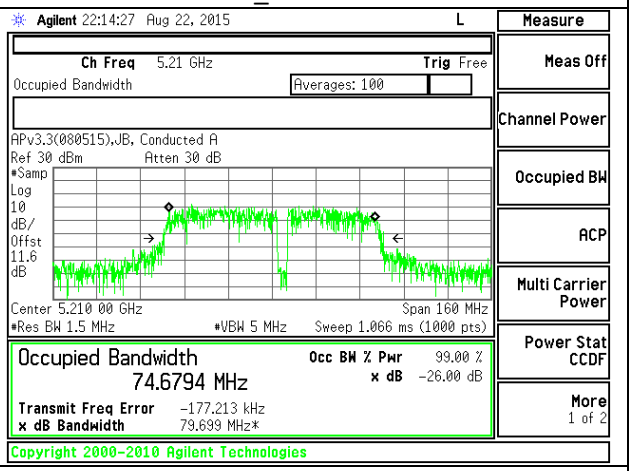
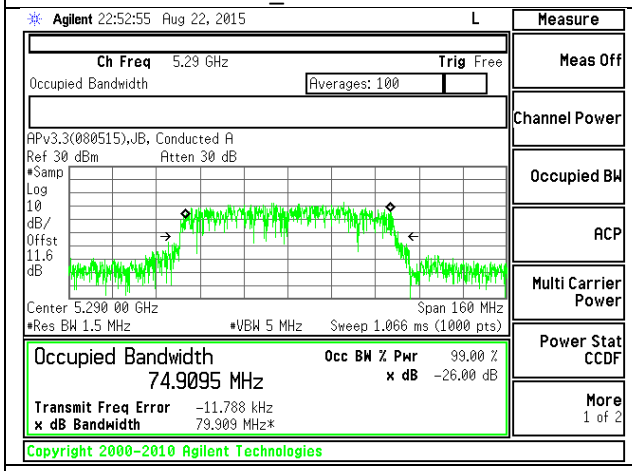
99% Bandwidth 11ac_HT80 5.2 Chain 0 Low Ch



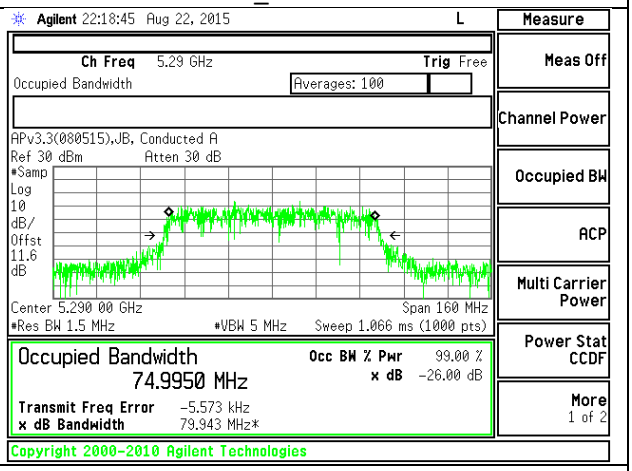
99% Bandwidth 11ac_HT80 5.2 Chain 1 Low Ch



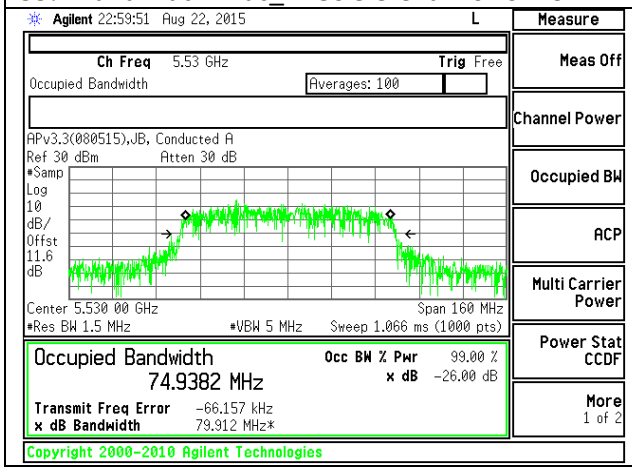
99% Bandwidth 11ac_HT80 5.3 Chain 0 Low Ch



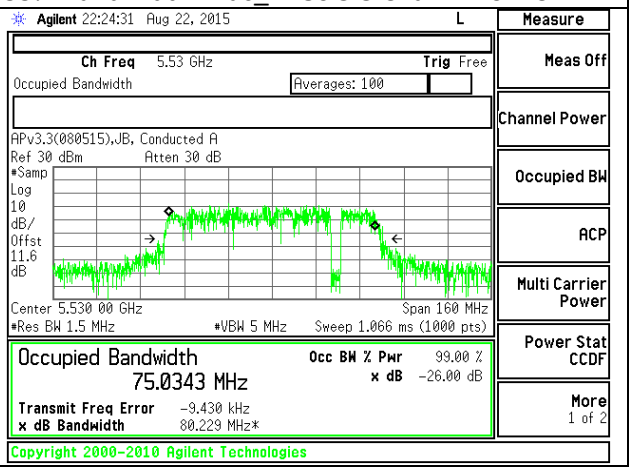
99% Bandwidth 11ac_HT80 5.3 Chain 1 Low Ch



99% Bandwidth 11ac_HT80 5.5 Chain 0 Low Ch



99% Bandwidth 11ac_HT80 5.5 Chain 1 Low Ch



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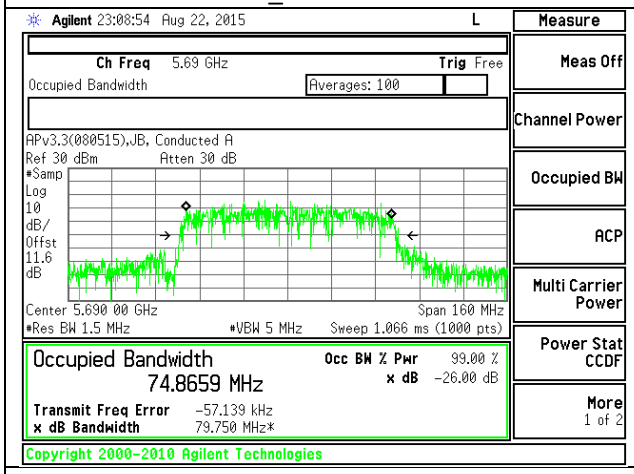
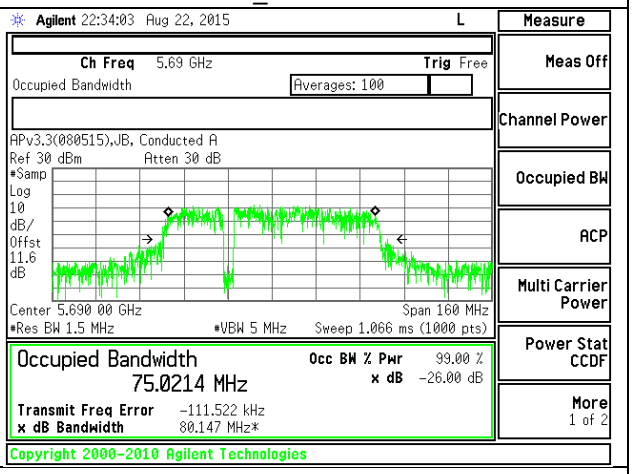
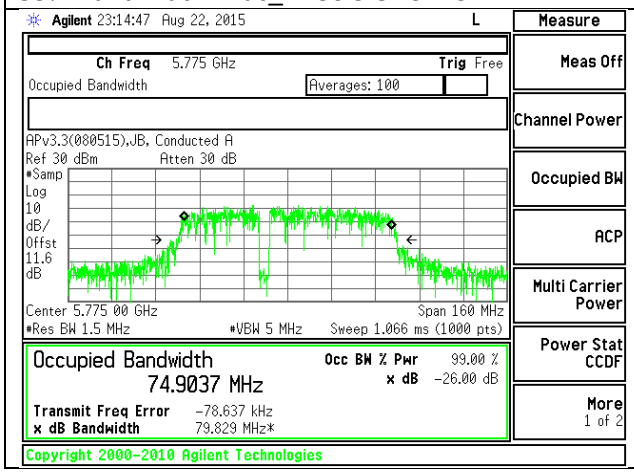
99% Bandwidth 11ac_HT80 5.5 Chain 0 Ch 138



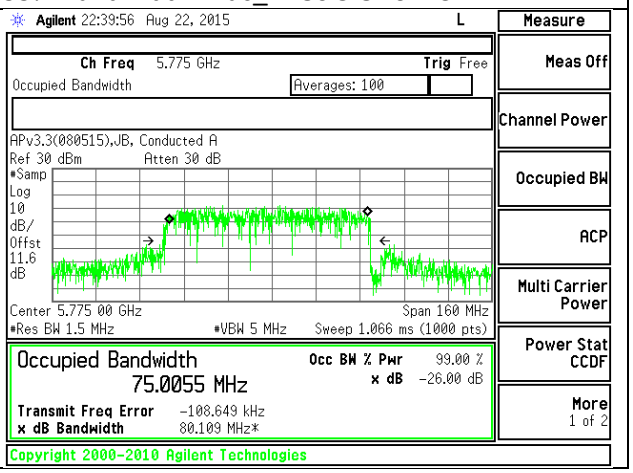
99% Bandwidth 11ac_HT80 5.5 Chain 1 Ch 138



99% Bandwidth 11ac_HT80 5.8 Low Ch



99% Bandwidth 11ac_HT80 5.8 Low Ch



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9.4. 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

9.4.1. **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	14.54	14.55	17.56
Mid	5200	14.60	14.10	17.37
High	5240	14.70	14.50	17.61

9.4.2. **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	13.86	13.89	16.89
Mid	5200	13.85	13.85	16.86
High	5240	14.05	13.75	16.91

9.4.3. **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	12.50	12.50	15.51
High	5230	12.50	12.32	15.42

9.4.4. **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	11.21	10.86	14.05

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9.4.5. **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	14.54	14.26	17.41
Mid	5300	14.55	14.70	17.64
High	5320	14.53	14.62	17.59

9.4.6. **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	13.80	13.41	16.62
Mid	5300	13.85	13.88	16.88
High	5320	13.87	13.85	16.87

9.4.7. **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	11.21	10.93	14.08
High	5310	11.19	11.10	14.16

9.4.8. **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	11.25	11.40	14.34

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9.4.9. **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	14.87	14.80	17.85
Mid	5580	14.89	14.75	17.83
High	5700	15.00	14.71	17.87
144	5720	14.99	14.71	17.86

9.4.10. **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	14.20	14.10	17.16
Mid	5580	14.00	14.06	17.04
High	5700	14.32	14.25	17.30
144	5720	14.21	14.25	17.24

9.4.11. **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	11.22	10.83	14.04
Mid	5550	11.30	11.10	14.21
High	5670	11.50	11.10	14.31
142	5710	11.40	11.10	14.26

9.4.12. **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	10.49	10.15	13.33
138	5690	10.58	10.27	13.44

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9.4.13. 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	14.71	14.90	17.82
Mid	5785	14.71	13.97	17.37
High	5825	14.73	13.85	17.32

9.4.14. 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	13.96	14.08	17.03
Mid	5785	13.91	13.23	16.59
High	5825	13.97	14.50	17.25

9.4.15. 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	11.30	11.42	14.37
High	5795	11.23	11.43	14.34

9.4.16. 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	11.50	11.50	14.51

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9.5. 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

9.5.1. **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	20.3400	16.3200	0.11	3.12
Mid	5200	19.8000	16.3200	0.11	3.12
High	5240	19.3800	16.3000	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	22.13	22.02	22.02	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	22.12	22.01	22.01	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	14.63	14.49	17.57	22.02	-4.45
Mid	5200	14.50	14.45	17.49	22.02	-4.53
High	5240	14.64	14.36	17.51	22.01	-4.50

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	3.491	3.436	6.47	6.88	-0.41
Mid	5200	3.287	3.241	6.27	6.88	-0.61
High	5240	3.457	3.206	6.34	6.88	-0.54

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9.5.2. **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	20.1200	17.4800	0.11	3.12
Mid	5200	20.3400	17.4800	0.11	3.12
High	5240	20.1500	17.4900	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	22.43	22.32	22.32	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	13.72	13.68	16.71	22.32	-5.61
Mid	5200	13.69	13.61	16.66	22.32	-5.65
High	5240	13.81	13.46	16.65	22.32	-5.67

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	5180	2.490	2.422	5.47	6.88	-1.41
Mid	5200	2.401	2.386	5.40	6.88	-1.48
High	5240	2.519	2.211	5.38	6.88	-1.50

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9.5.3. **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	40.7000	35.9000	0.11	3.12
High	5230	40.4000	35.9000	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	12.95	12.85	15.91	22.89	-6.98
High	5230	12.95	12.67	15.82	22.89	-7.07

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	-1.605	-1.651	1.38	6.88	-5.50
High	5230	-1.629	-1.916	1.24	6.88	-5.64

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9.5.4. **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	82.4000	74.7000	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	11.45	11.05	14.35	22.89	-8.54

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	-6.200	-6.476	-3.24	6.88	-10.12

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9.5.5. **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	20.1500	16.3300	0.11	3.12
Mid	5300	19.6200	16.2800	0.11	3.12
High	5320	20.2400	16.3200	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	23.13	29.13	23.13	11.00	11.00	11.00
Mid	5300	23.93	23.12	29.12	23.12	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	14.70	14.39	17.56	23.13	-5.57
Mid	5300	14.67	14.60	17.65	23.12	-5.47
High	5320	14.77	14.64	17.72	23.13	-5.41

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	3.522	3.218	6.38	11.00	-4.62
Mid	5300	3.410	3.405	6.42	11.00	-4.58
High	5320	3.585	4.467	7.06	11.00	-3.94

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9.5.6. **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	20.4900	17.4600	0.11	3.12
Mid	5300	20.1500	17.4700	0.11	3.12
High	5320	20.4900	17.4500	4.00	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	23.42	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	5260	13.89	13.53	16.72	23.42	-6.70
Mid	5300	13.97	13.61	16.80	23.42	-6.62
High	5320	14.01	13.59	16.82	23.42	-6.60

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	5260	2.663	2.251	5.47	11.00	-5.53
Mid	5300	2.743	2.334	5.55	11.00	-5.45
High	5320	2.754	2.364	5.57	11.00	-5.43

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9.5.7. **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	40.7000	35.9000	0.11	3.12
High	5310	40.4000	35.9000	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	12.01	11.82	14.93	24.00	-9.07
High	5310	12.08	11.88	14.99	24.00	-9.01

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	-2.580	-2.671	0.39	11.00	-10.61
High	5310	-2.670	-2.797	0.28	11.00	-10.72

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9.5.8. **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	82.8000	74.9000	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	11.72	11.16	14.55	24.00	-9.45

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	-5.836	-6.344	-2.98	11.00	-13.98

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9.5.9. **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	19.8300	16.3200	0.11	3.12
Mid	5580	19.1700	16.3200	0.11	3.12
High	5700	20.2700	16.3400	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	23.97	23.13	29.13	23.13	11.00	11.00	11.00
Mid	5580	23.83	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	14.93	14.37	17.67	23.13	-5.46
Mid	5580	14.85	14.69	17.78	23.13	-5.35
High	5700	14.39	15.13	17.79	23.13	-5.35

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	3.801	3.322	6.58	11.00	-4.42
Mid	5580	3.732	3.580	6.67	11.00	-4.33
High	5700	3.345	4.074	6.74	11.00	-4.26

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9.5.10. 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	20.1200	17.4800	0.11	3.12
Mid	5580	20.5500	17.4900	0.11	3.12
High	5700	20.5500	17.4800	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	23.43	29.43	23.43	11.00	11.00	11.00
Mid	5580	24.00	23.43	29.43	23.43	11.00	11.00	11.00
High	5700	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	5500	13.67	13.45	16.57	23.43	-6.85
Mid	5580	13.89	13.90	16.91	23.43	-6.52
High	5700	14.46	14.39	17.44	23.43	-5.99

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	5500	2.339	2.176	5.27	11.00	-5.73
Mid	5580	2.620	2.697	5.67	11.00	-5.33
High	5700	3.205	3.132	6.18	11.00	-4.82

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9.5.11. 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	40.6000	35.9000	0.11	3.12
Mid	5550	40.8000	35.9000	0.11	3.12
High	5670	40.7000	35.9000	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	12.17	12.04	15.12	24.00	-8.88
Mid	5550	12.28	11.77	15.04	24.00	-8.96
High	5670	12.27	11.94	15.12	24.00	-8.88

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	-2.390	-2.660	0.49	11.00	-10.51
Mid	5550	-2.458	-3.054	0.26	11.00	-10.74
High	5670	-2.279	-2.611	0.57	11.00	-10.43

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9.5.12. 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	82.2000	74.9000	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	11.32	11.04	14.28	24.00	-9.72

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	-6.205	-6.658	-3.33	11.00	-14.33

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9.5.13. 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	14.15	15.08	17.65	30.00	-12.35
Mid	5785	14.05	15.40	17.79	30.00	-12.21
High	5825	14.03	15.43	17.80	30.00	-12.20

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	5745	0.370	1.314	3.88	30.00	-26.12
Mid	5785	0.306	1.593	4.01	30.00	-25.99
High	5825	0.200	1.662	4.00	30.00	-26.00

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9.5.14. 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	14.28	14.33	17.32	30.00	-12.68
Mid	5785	14.35	14.80	17.59	30.00	-12.41
High	5825	14.32	14.78	17.57	30.00	-12.43

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	0.245	0.329	3.30	30.00	-26.70
Mid	5785	0.313	0.693	3.52	30.00	-26.48
High	5825	0.254	0.778	3.53	30.00	-26.47

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9.5.15. 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	12.22	12.30	15.27	30.00	-14.73
High	5795	12.12	12.20	15.17	30.00	-14.83

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	-2.285	-2.178	0.78	30.00	-29.22
High	5795	-2.466	-2.449	0.55	30.00	-29.45

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9.5.16. 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	11.88	11.83	14.96	30.00	-15.04

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	-8.287	-8.421	-5.25	30.00	-35.25

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9.5.17. 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	15.01	13.1600	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	22.76	22.19	28.19	22.19	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	13.45	14.40	16.96	22.19	-5.23

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	3.101	4.037	6.60	11.00	-4.40

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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	5.84	6.87	9.40	30.00	-20.60

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)
144	5720	2.350	3.270	5.84	30.00	-24.16

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9.5.18. 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	14.94	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	22.74	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	13.48	13.57	16.54	22.38	-5.85

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	3.029	3.123	6.09	11.00	-4.91

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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	6.37	6.46	9.43	30.00	-20.57

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	2.220	2.330	5.29	30.00	-24.71

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9.5.19. 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	35.40	32.94	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	13.35	13.14	16.26	24.00	-7.74

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)
144	5710	-0.943	-1.103	1.99	11.00	-9.01

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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	0.59	0.37	3.49	30.00	-26.51

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	-2.860	-3.140	0.01	30.00	-29.99

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9.5.20. 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	76.60	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	12.00	11.84	15.02	24.00	-8.98

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	-5.362	-5.515	-2.34	11.00	-13.34

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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	-5.99	-5.93	-2.86	30.00	-32.86

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	-9.160	-9.230	-6.09	30.00	-36.09

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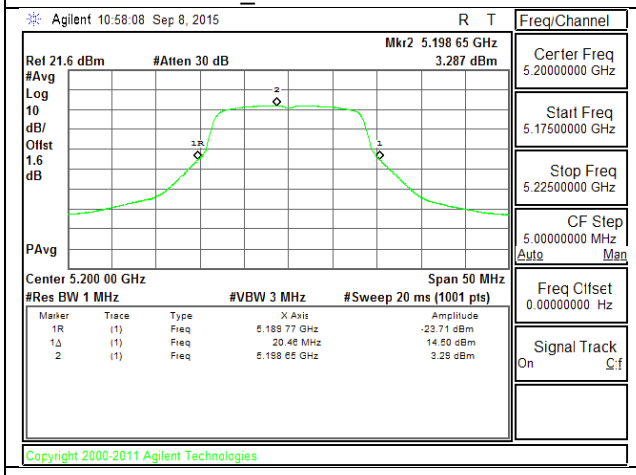
9.5.21. OUTPUT POWER AND PPSD PLOTS

POWER & PSD 11a_5.2 Chain 0 Mid Ch



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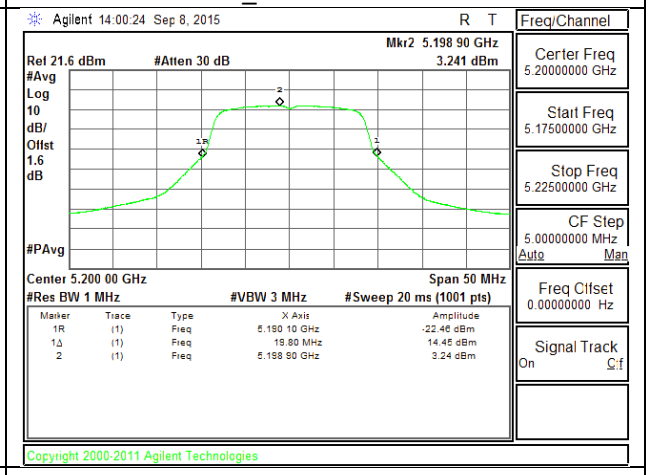

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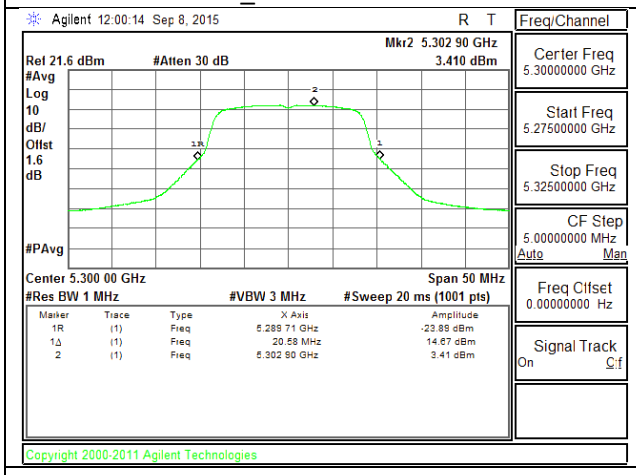

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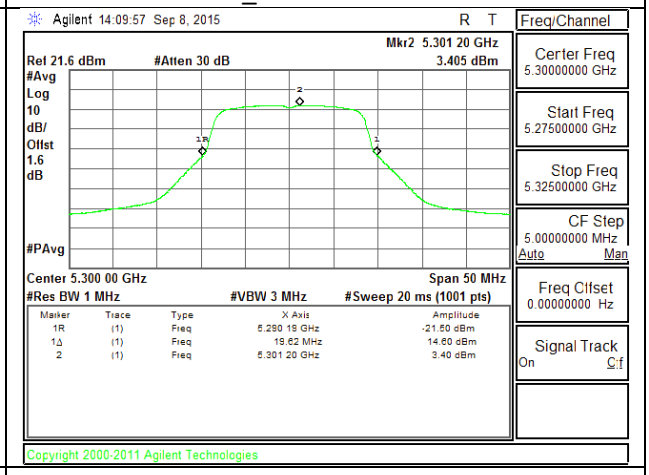

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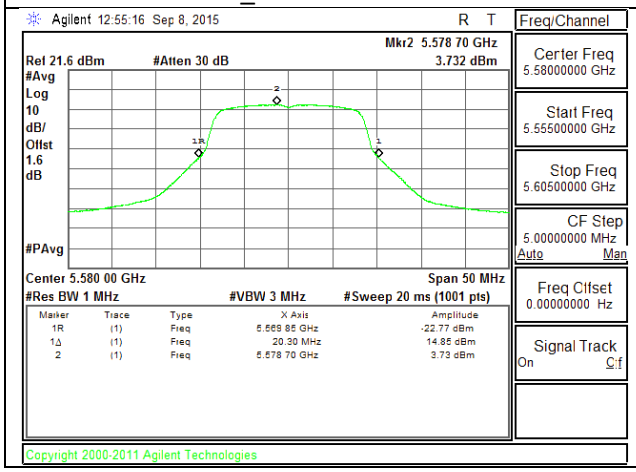

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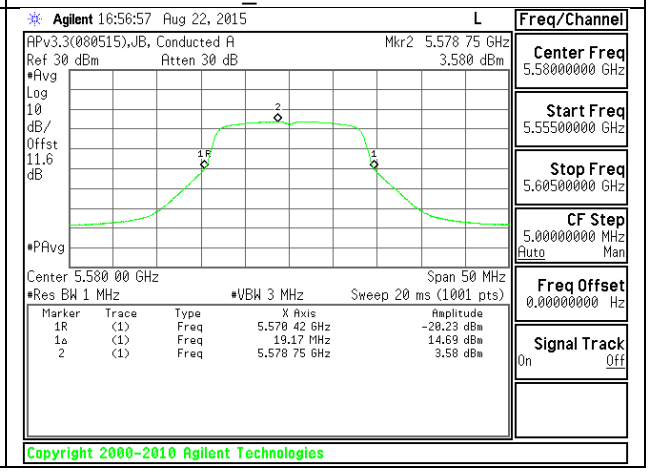

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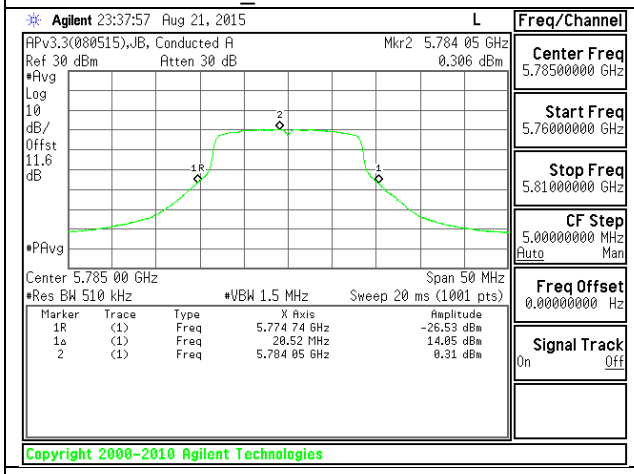

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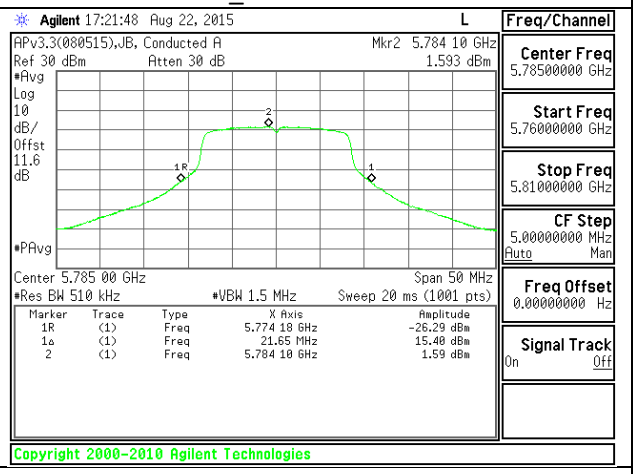
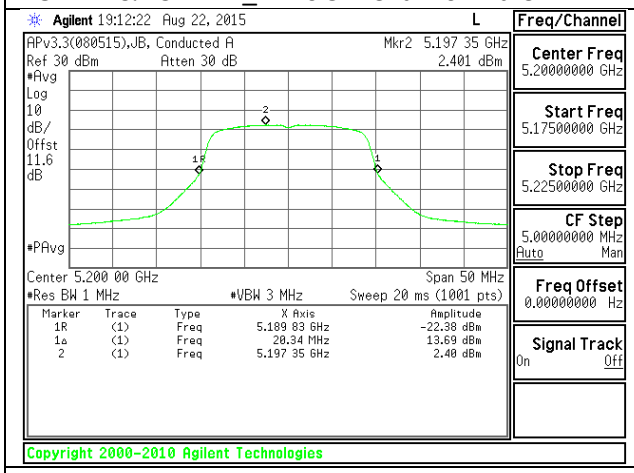


POWER & PSD 11n_HT20 5.2 Chain 0 Mid Ch



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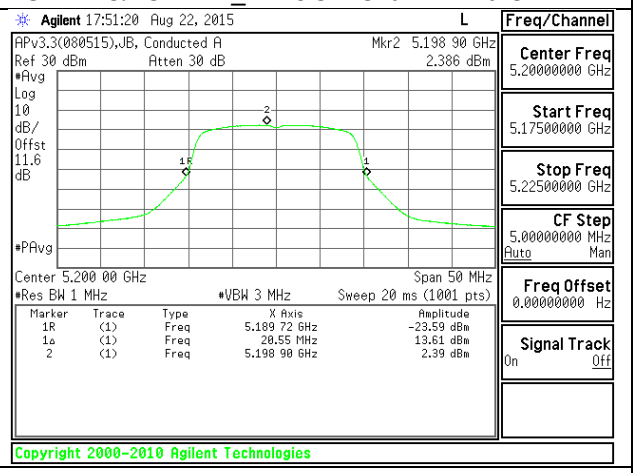

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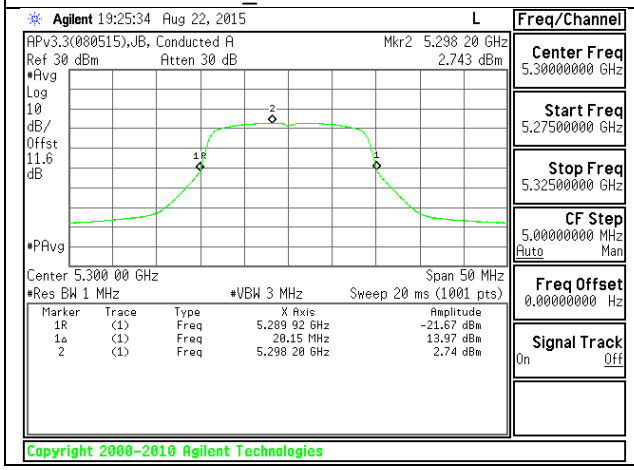
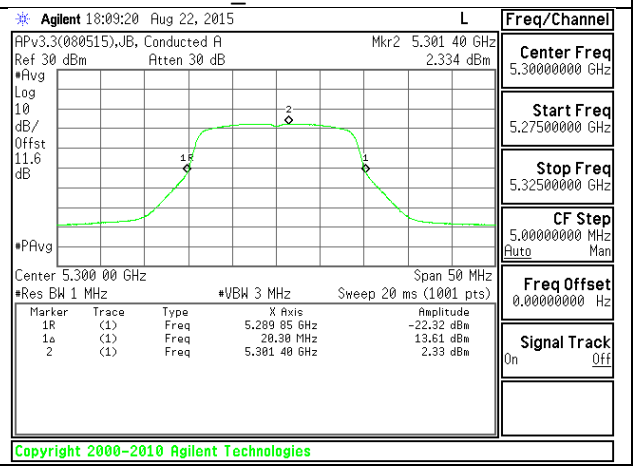


POWER & PSD 11n_HT20 5.3 Chain 1 Mid Ch



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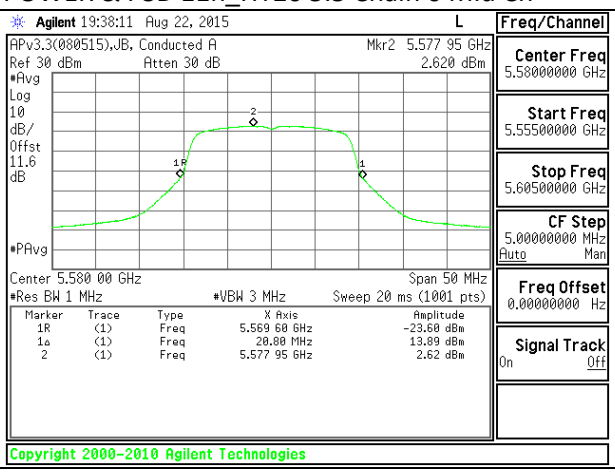
POWER & PSD 11n_HT20 5.5 Chain 0 Mid Ch



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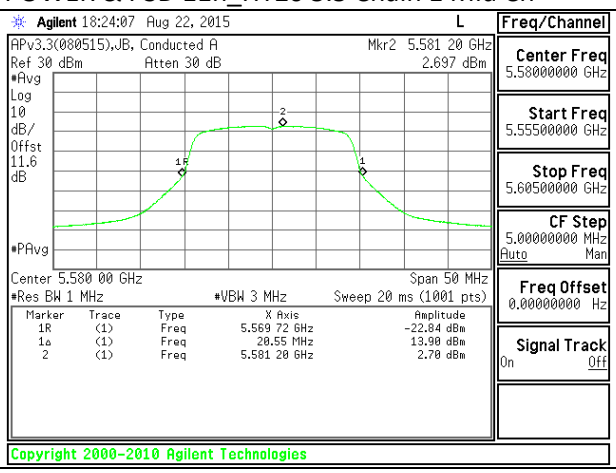

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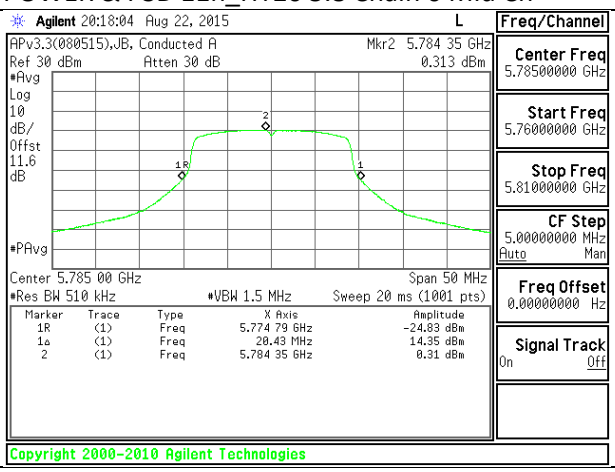

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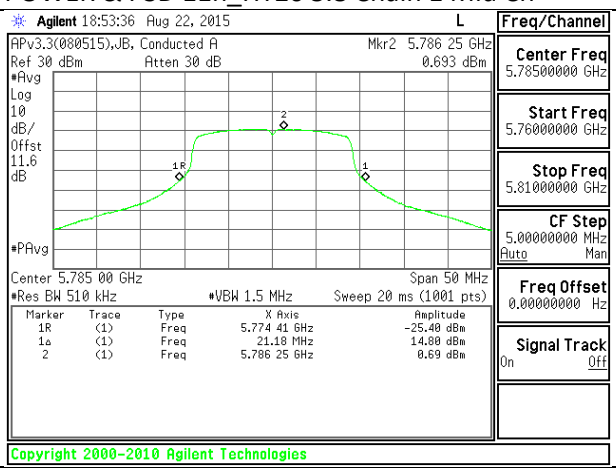

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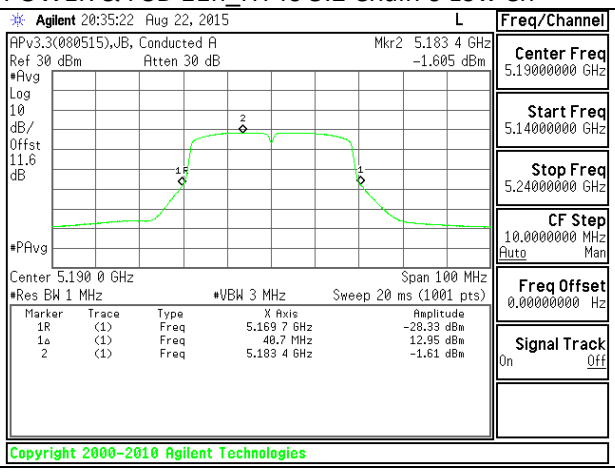

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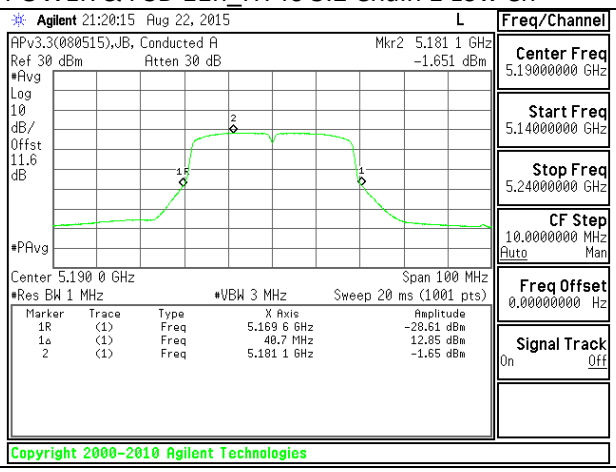

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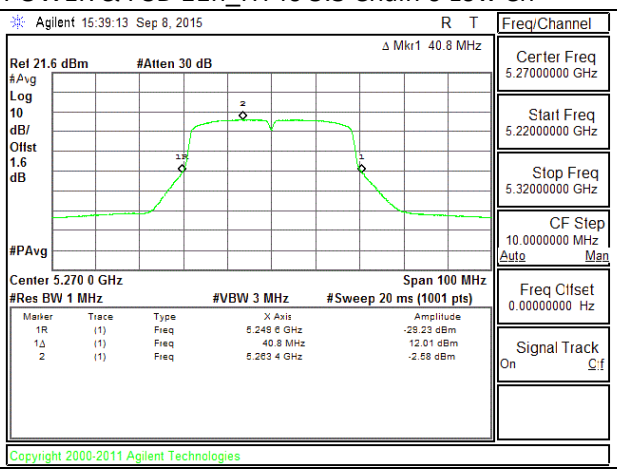
POWER & PSD 11n_HT40 5.3 Chain 0 Low Ch



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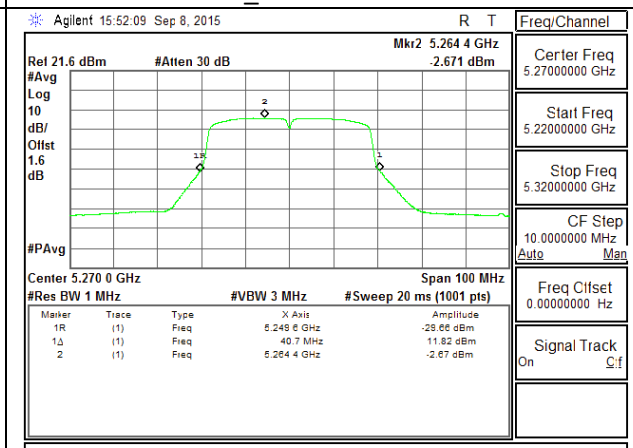

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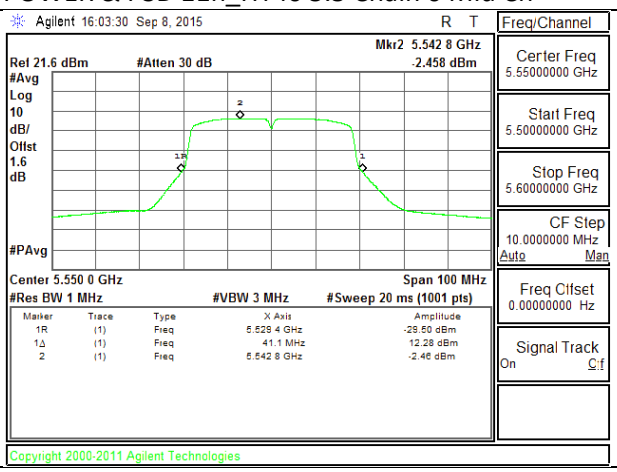

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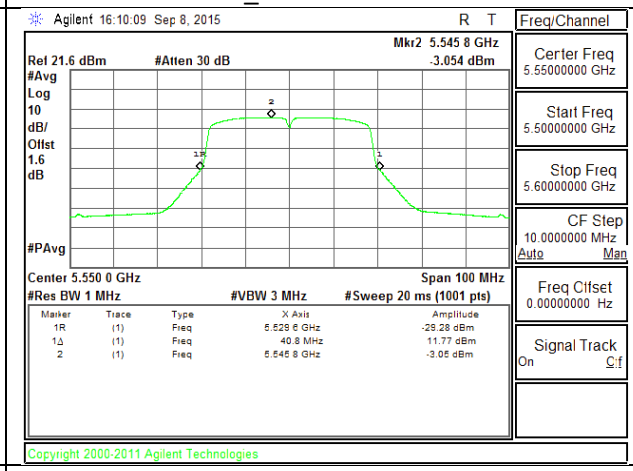

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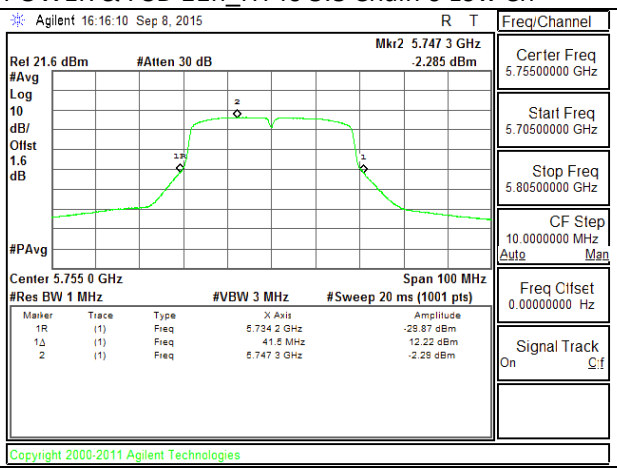

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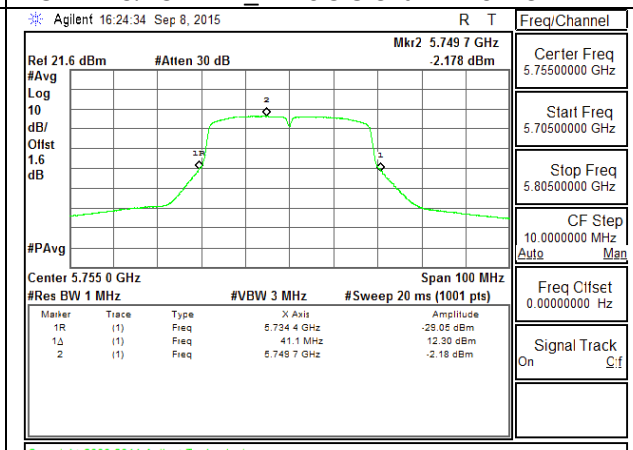

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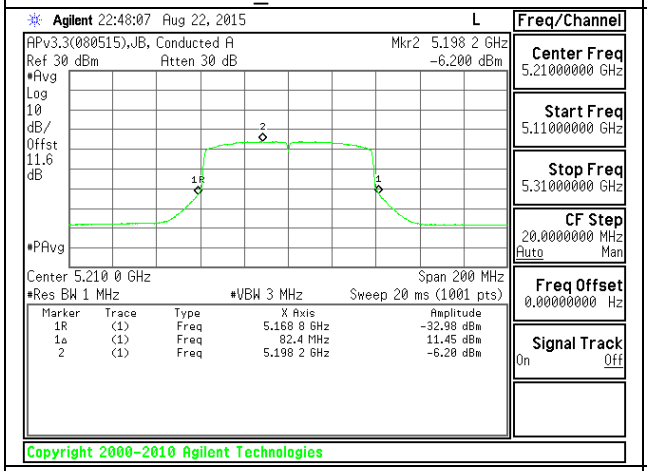
POWER & PSD 11ac_HT80 5.2 Chain 0 Low Ch



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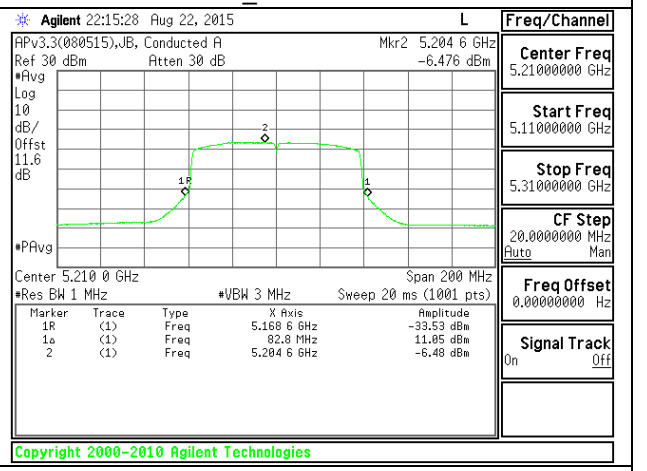
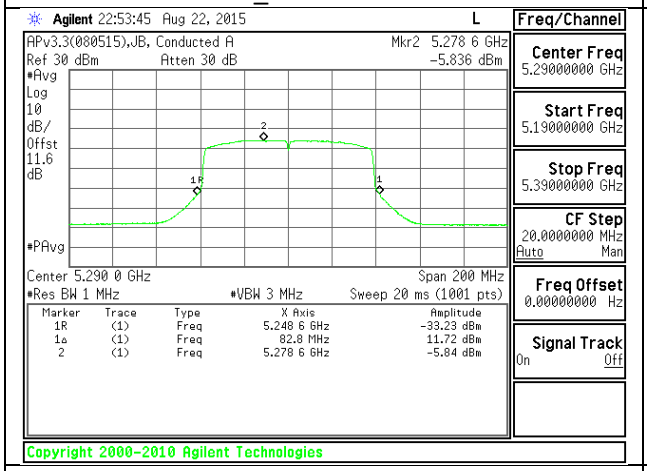


POWER & PSD 11ac_HT80 5.3 Chain 0 Low Ch



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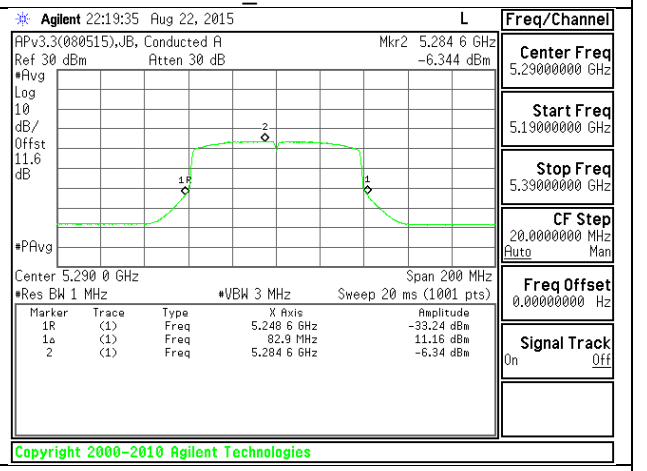
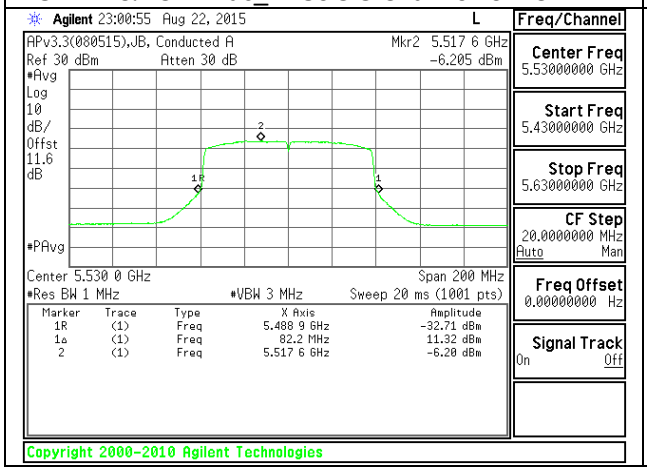
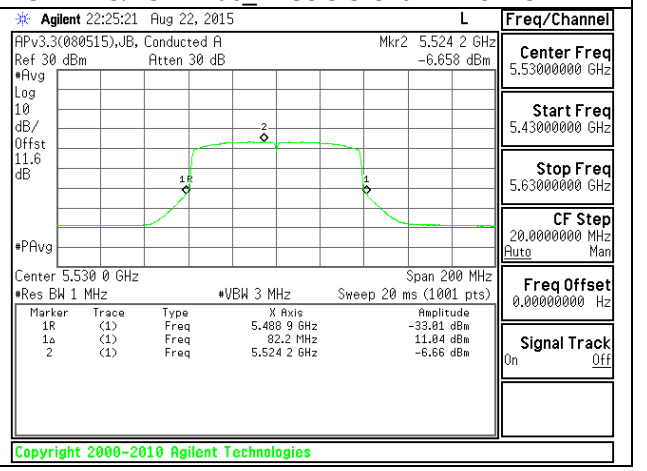


POWER & PSD 11ac_HT80 5.5 Chain 0 Low Ch



POWER & PSD 11ac_HT80 5.5 Chain 1 Low Ch



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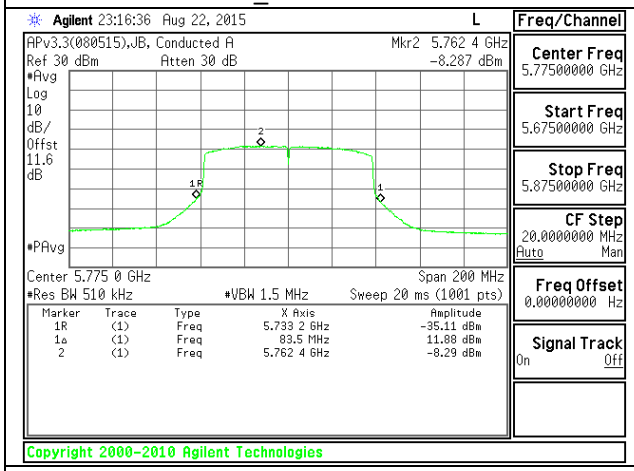
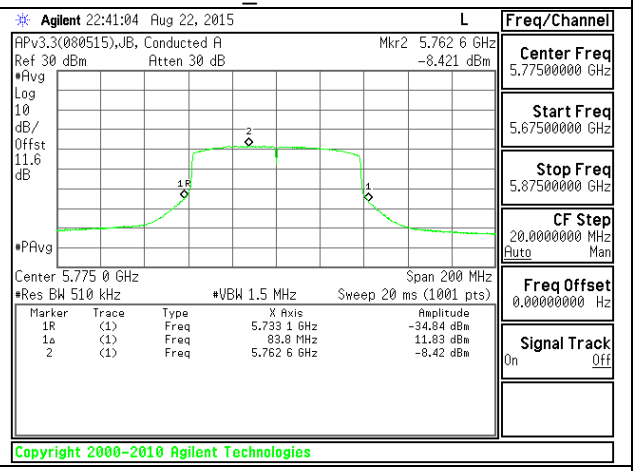
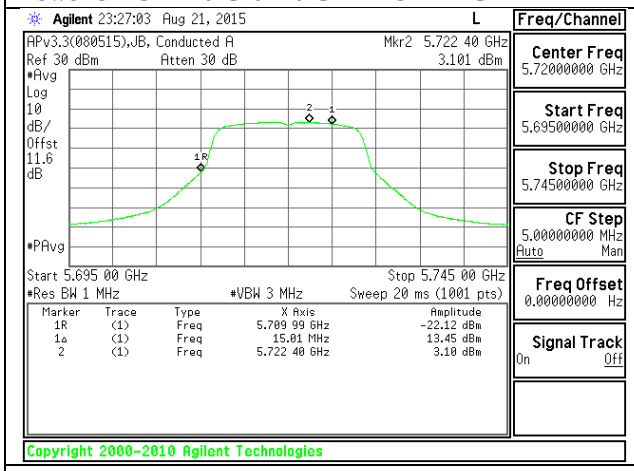
POWER & PSD 11ac_HT80 5.8 Chain 0 Low Ch



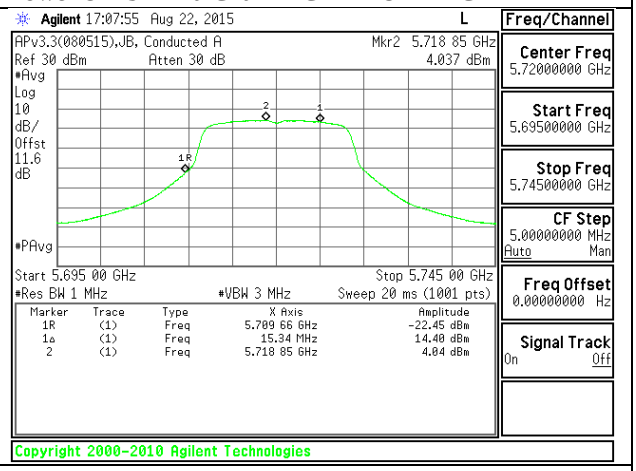
POWER & PSD 11ac_HT80 5.8 Chain 1 Low Ch



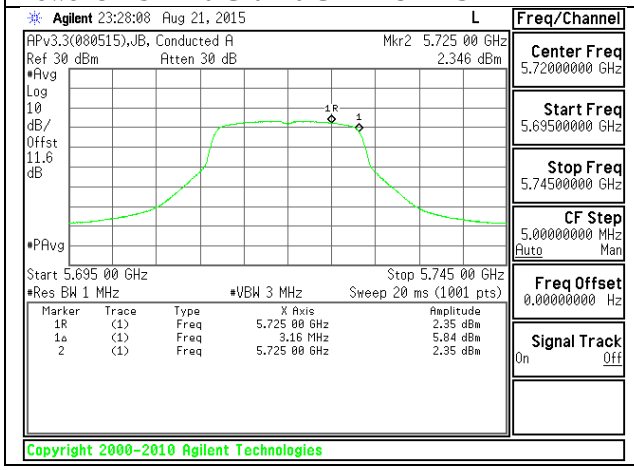
Power & PSD 11a Chain 0 Ch144 UNII-2C



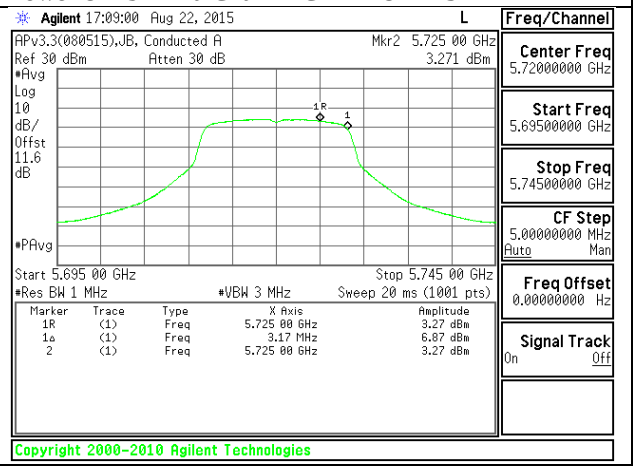
Power & PSD 11a Chain 1 Ch144 UNII-2C



Power & PSD 11a Chain 0 Ch144 UNII-3



Power & PSD 11a Chain 1 Ch144 UNII-3



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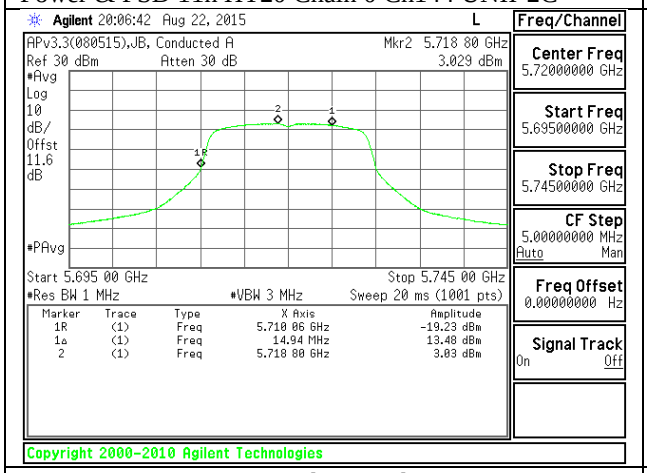
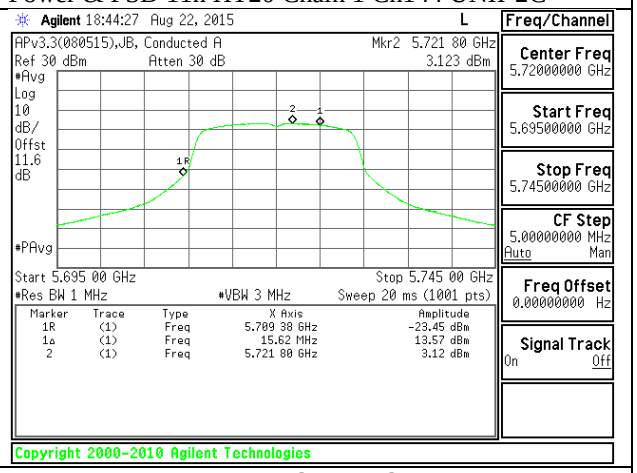
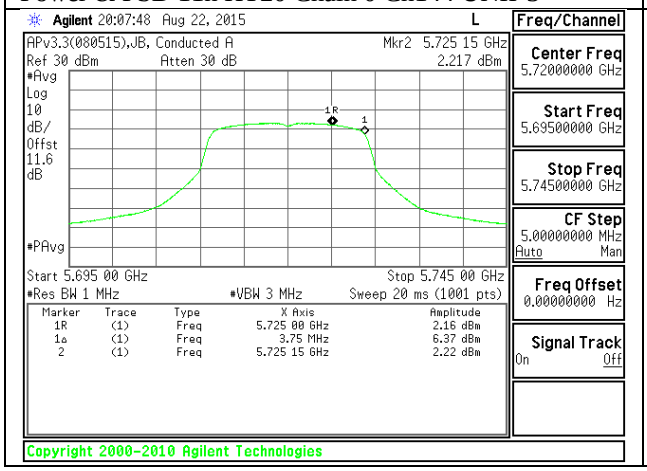
Power & PSD 11n HT20 Chain 0 Ch144 UNII-2C



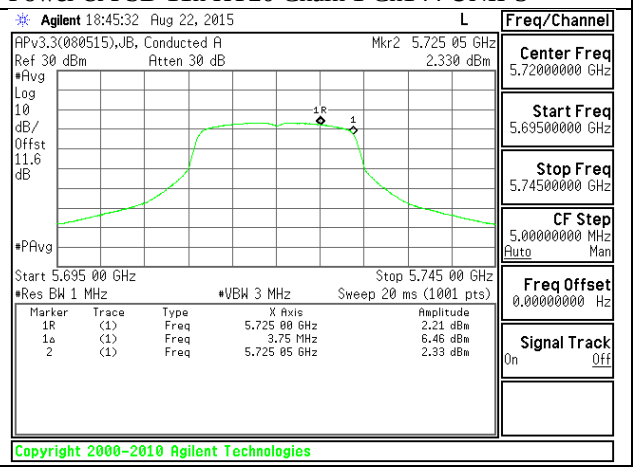
Power & PSD 11n HT20 Chain 1 Ch144 UNII-2C



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



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



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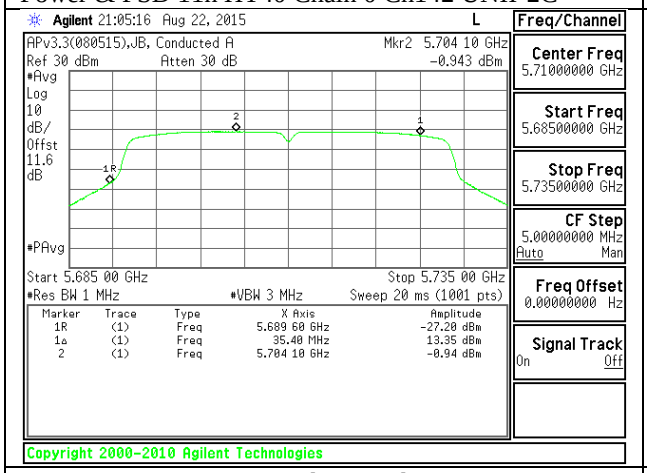
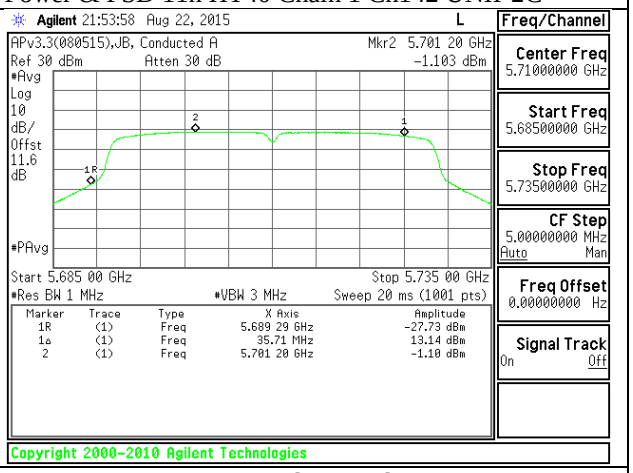
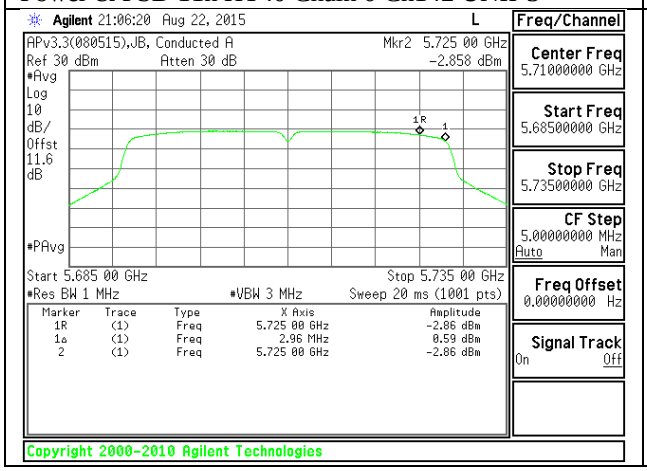
Power & PSD 11n HT40 Chain 0 Ch142 UNII-2C



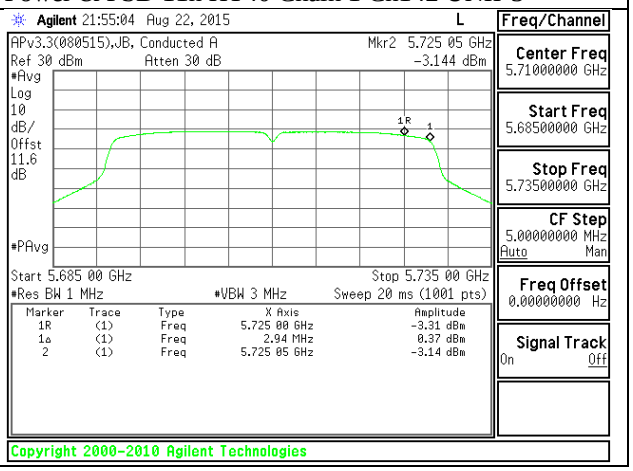
Power & PSD 11n HT40 Chain 1 Ch142 UNII-2C



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



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



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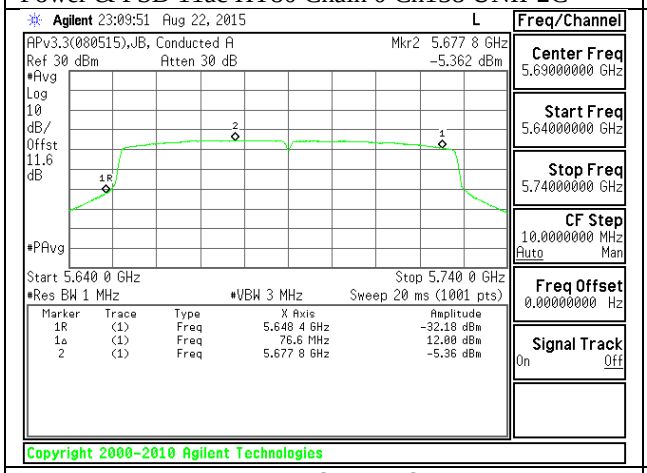
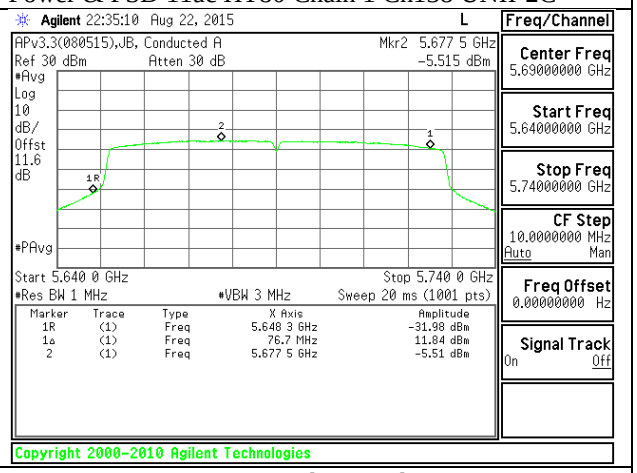
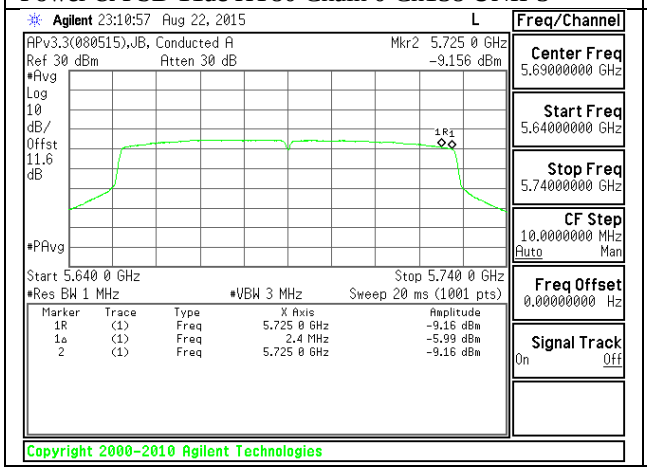
Power & PSD 11ac HT80 Chain 0 Ch138 UNII-2C



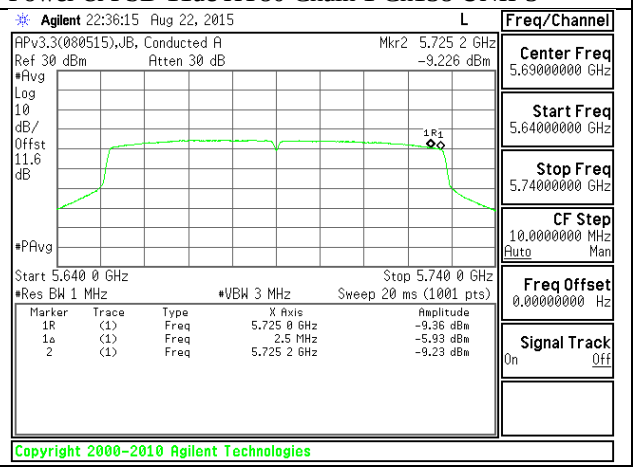
Power & PSD 11ac HT80 Chain 1 Ch138 UNII-2C



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



Power & PSD 11ac HT80 Chain 1 Ch138 UNII-3



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10. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters.

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

Reference to KDB 789033 UNII part 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.

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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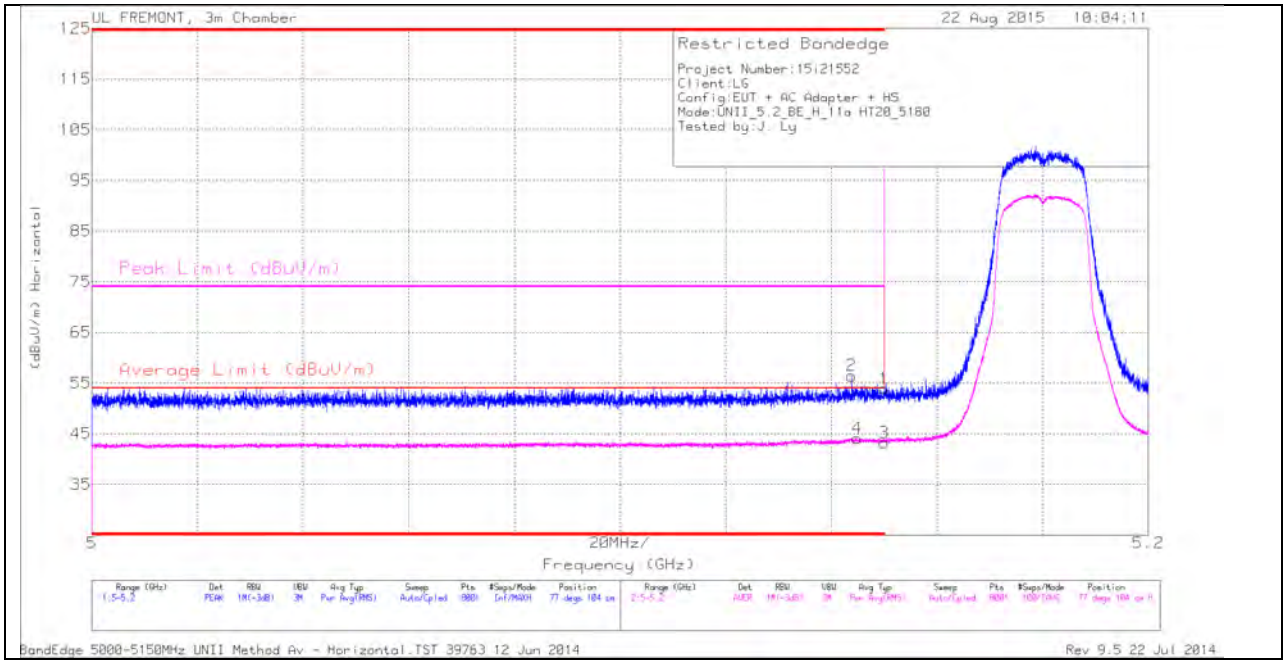
10.1. 5.2 GHz

10.1.1. 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 T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.45	PK	34.2	-20.8	53.85	-	-	74	-20.15	77	104	H
2	* 5.144	42.84	PK	34.2	-20.6	56.44	-	-	74	-17.56	77	104	H
3	* 5.15	29.86	RMS	34.2	-20.8	43.26	54	-10.74	-	-	77	104	H
4	* 5.145	30.63	RMS	34.2	-20.7	44.13	54	-9.87	-	-	77	104	H

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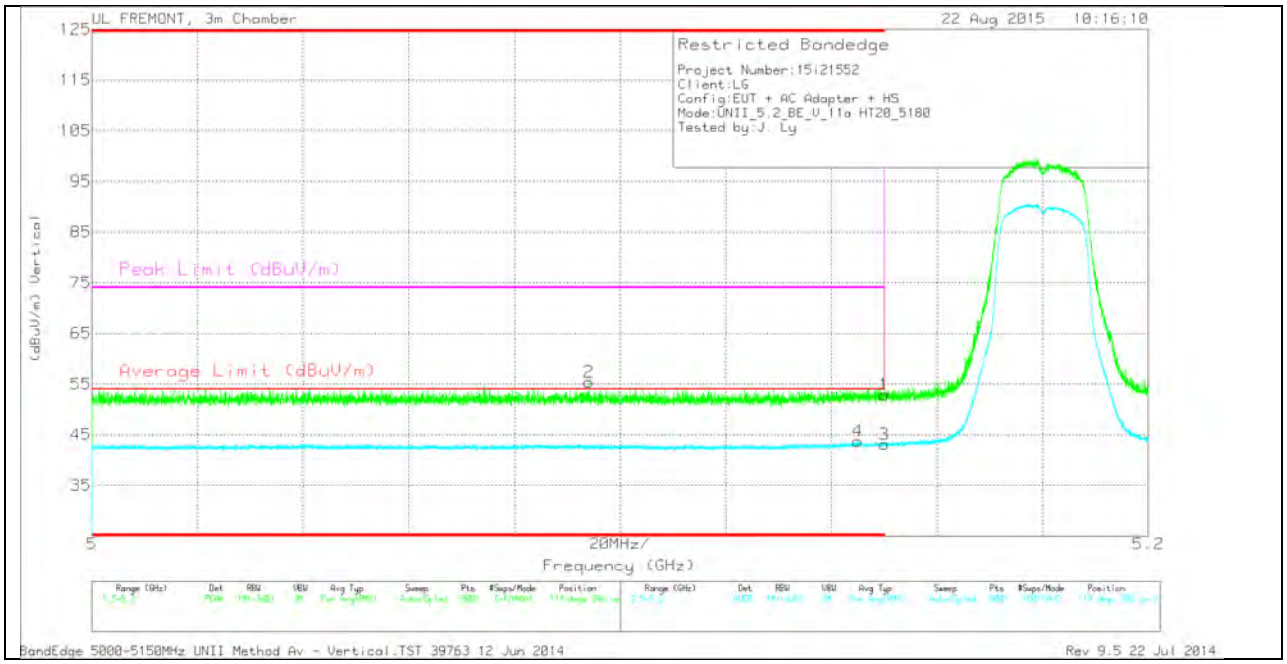
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.094	41.95	PK	34.1	-20.7	55.35	-	-	74	-18.65	114	396	V
4	* 5.145	30.16	RMS	34.2	-20.7	43.66	54	-10.34	-	-	114	396	V
1	* 5.15	39.5	PK	34.2	-20.8	52.9	-	-	74	-21.1	114	396	V
3	* 5.15	29.65	RMS	34.2	-20.8	43.05	54	-10.95	-	-	114	396	V

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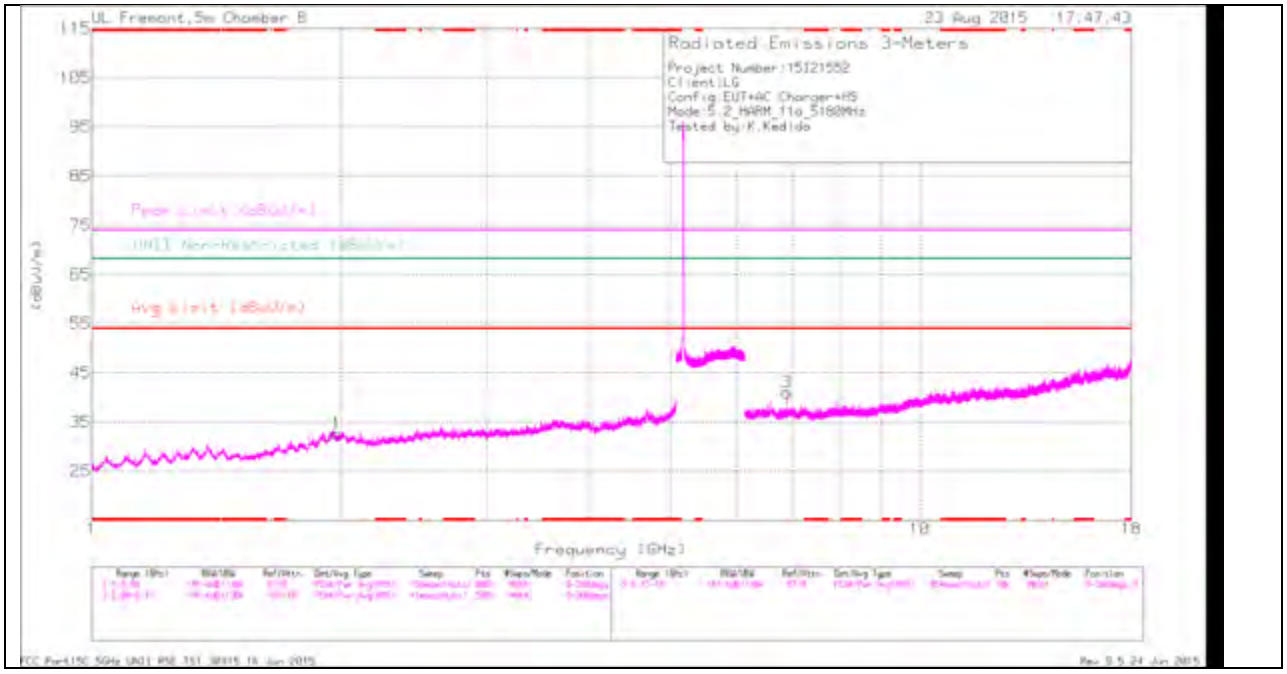
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

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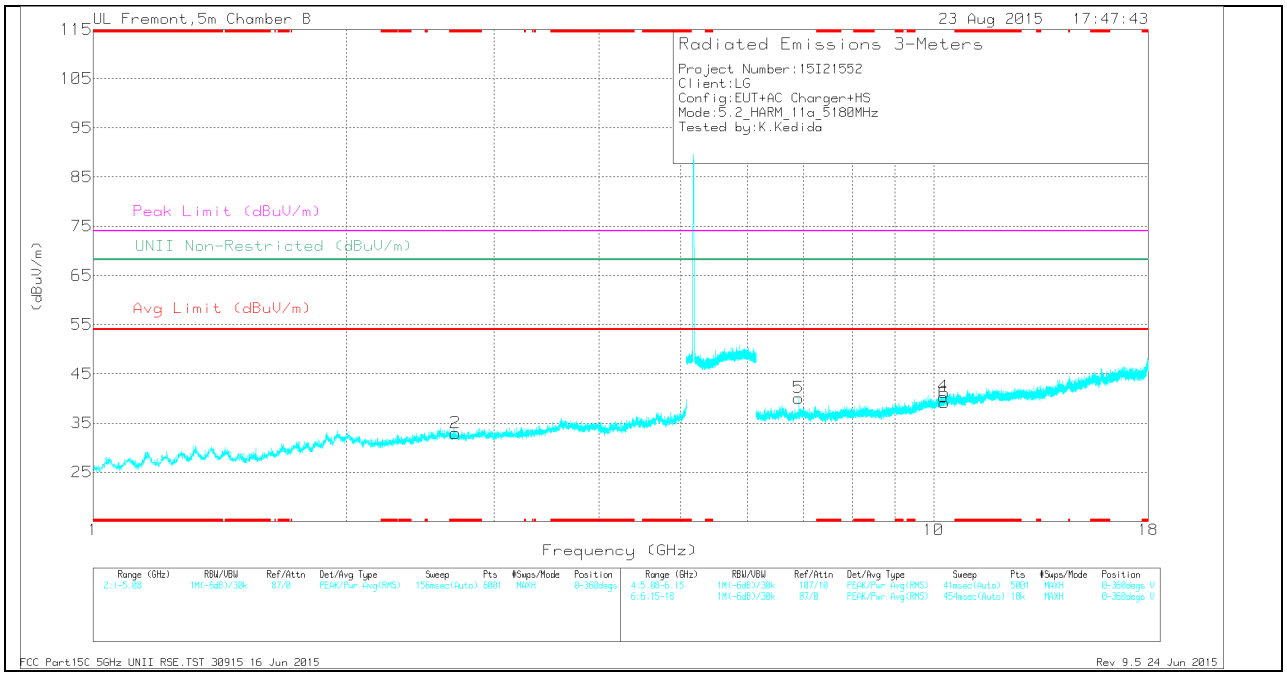
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.698	34.26	Pk	32.6	-33.9	0	32.96	-	-	74	-41.04	-	-	0-360	200	V
1	1.975	33.97	Pk	32.2	-33.6	0	32.57	-	-	-	-	68.2	-35.63	0-360	100	H
3	6.906	35.71	Pk	36.1	-30.8	0	41.01	-	-	-	-	68.2	-27.19	0-360	101	H
5	6.906	34.8	Pk	36.1	-30.8	0	40.1	-	-	-	-	68.2	-28.1	0-360	200	V
4	10.274	29.16	Pk	37.4	-26.2	0	40.36	-	-	-	-	68.2	-27.84	0-360	101	V
6	10.294	28.05	Pk	37.4	-26.3	0	39.15	-	-	-	-	68.2	-29.05	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.697	42.68	PK-U	32.6	-33.9	0	41.38	-	-	74	-32.62	-	-	1	200	V
* 2.698	31.26	ADR	32.6	-33.9	0	29.96	54	-24.04	-	-	-	-	1	200	V
1.974	42.26	PK-U	32.2	-33.6	0	40.86	-	-	-	-	68.2	-27.34	1	101	H
6.906	42.11	PK-U	36.1	-30.8	0	47.41	-	-	-	-	68.2	-20.79	1	102	H
6.907	40.23	PK-U	36.1	-30.8	0	45.53	-	-	-	-	68.2	-22.67	1	200	V
10.272	36.67	PK-U	37.4	-26.2	0	47.87	-	-	-	-	68.2	-20.33	1	102	V
10.295	36.4	PK-U	37.4	-26.2	0	47.6	-	-	-	-	68.2	-20.6	1	102	V

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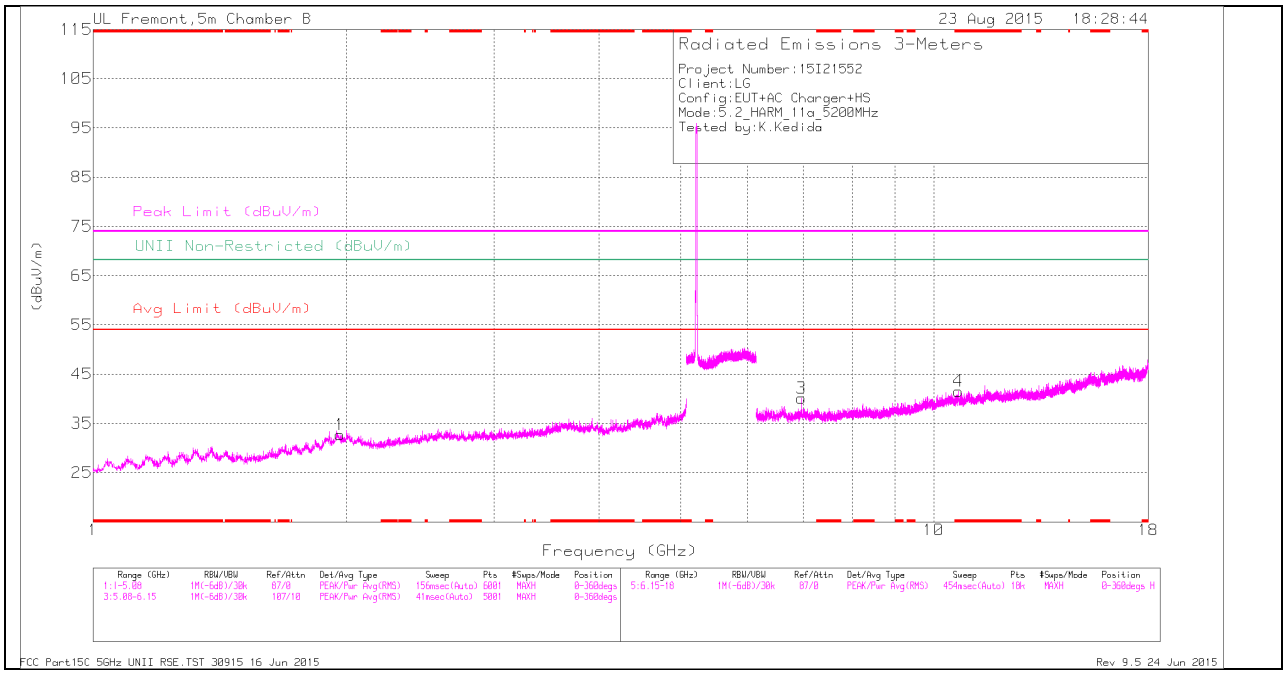
MID CHANNEL HORIZONTAL



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

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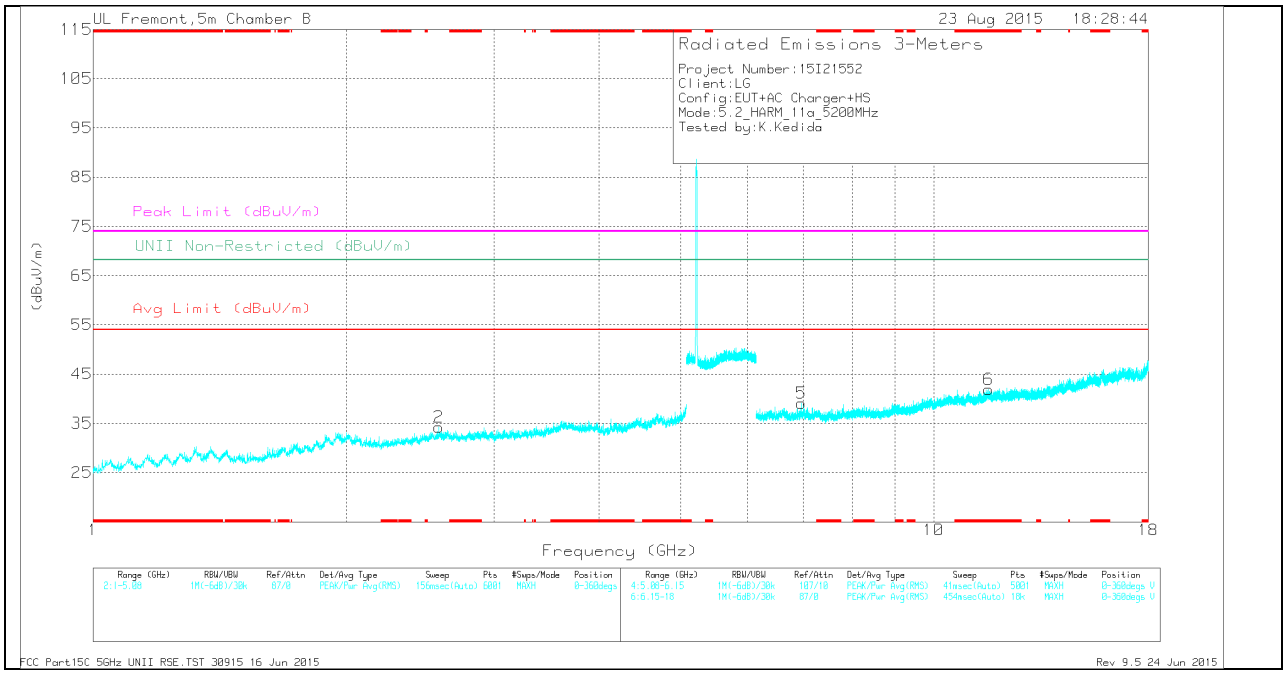
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 10.707	28.85	Pk	37.7	-25	0	41.55	-	-	74	-32.45	-	-	0-360	101	H
6	* 11.618	27.98	Pk	38.4	-24.5	0	41.88	-	-	74	-32.12	-	-	0-360	101	V
1	1.966	34.09	Pk	32.2	-33.6	0	32.69	-	-	-	-	68.2	-35.51	0-360	102	H
2	2.576	35.2	Pk	32.7	-33.7	0	34.2	-	-	-	-	68.2	-34	0-360	200	V
3	6.96	34.07	Pk	36.1	-30.1	0	40.07	-	-	-	-	68.2	-28.13	0-360	101	H
5	6.96	33.09	Pk	36.1	-30.1	0	39.09	-	-	-	-	68.2	-29.11	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.706	35.77	PK-U	37.7	-25	0	48.47	-	-	74	-25.53	-	-	1	102	H
* 10.707	24.79	ADR	37.7	-25	0	37.49	54	-16.51	-	-	-	-	1	102	H
* 11.617	35.44	PK-U	38.4	-24.5	0	49.34	-	-	74	-24.66	-	-	1	102	V
* 11.617	24.38	ADR	38.4	-24.5	0	38.28	54	-15.72	-	-	-	-	1	102	V
1.967	42.69	PK-U	32.2	-33.6	0	41.29	-	-	-	-	68.2	-26.91	1	101	H
2.575	42.51	PK-U	32.7	-33.7	0	41.51	-	-	-	-	68.2	-26.69	1	199	V
6.959	39.95	PK-U	36.1	-30.1	0	45.95	-	-	-	-	68.2	-22.25	1	198	V
6.96	41.36	PK-U	36.1	-30.1	0	47.36	-	-	-	-	68.2	-20.84	1	102	H

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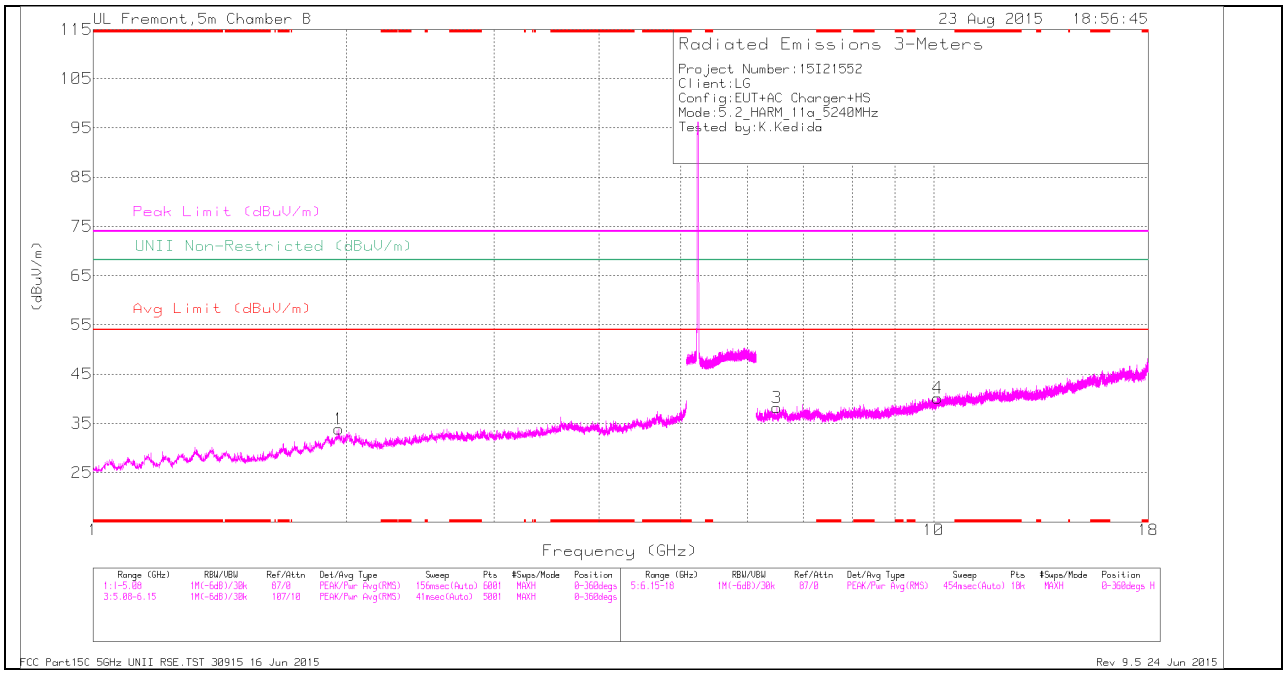
HIGH CHANNEL HORIZONTAL



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

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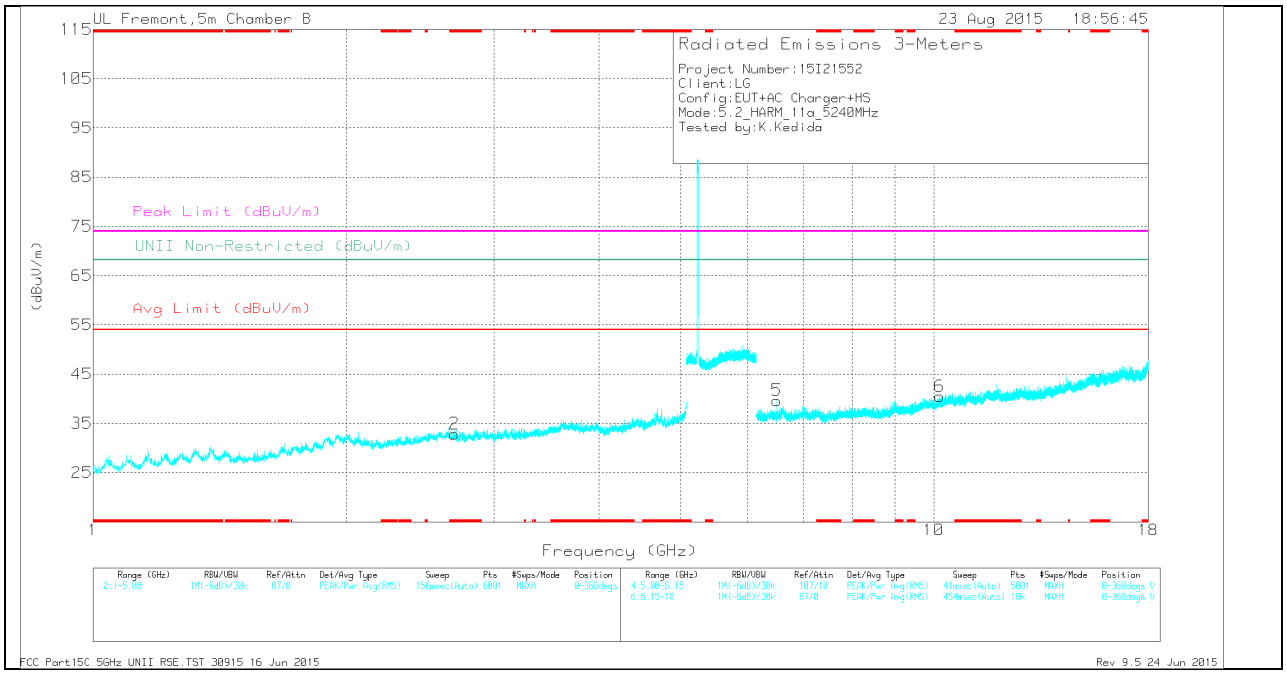
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.693	34.16	Pk	32.6	-33.9	0	32.86	-	-	74	-41.14	-	-	0-360	199	V
1	1.959	35.42	Pk	32.1	-33.7	0	33.82	-	-	-	-	68.2	-34.38	0-360	199	H
5	6.506	35.24	Pk	35.8	-31.4	0	39.64	-	-	-	-	68.2	-28.56	0-360	101	V
3	6.507	33.78	Pk	35.8	-31.4	0	38.18	-	-	-	-	68.2	-30.02	0-360	199	H
4	10.112	28.72	Pk	37.2	-25.8	0	40.12	-	-	-	-	68.2	-28.08	0-360	199	H
6	10.169	28.99	Pk	37.3	-25.8	0	40.49	-	-	-	-	68.2	-27.71	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.692	42.85	PK-U	32.6	-33.9	0	41.55	-	-	74	-32.45	-	-	1	198	V
* 2.693	31.08	ADR	32.6	-33.9	0	29.78	54	-24.22	-	-	-	-	1	198	V
1.961	42.65	PK-U	32.1	-33.6	0	41.15	-	-	-	-	68.2	-27.05	1	198	H
6.505	41.37	PK-U	35.8	-31.4	0	45.77	-	-	-	-	68.2	-22.43	1	102	V
6.506	42.35	PK-U	35.8	-31.4	0	46.75	-	-	-	-	68.2	-21.45	1	198	H
10.113	36.29	PK-U	37.2	-25.9	0	47.59	-	-	-	-	68.2	-20.61	1	198	H
10.17	36.2	PK-U	37.3	-25.9	0	47.6	-	-	-	-	68.2	-20.6	1	102	V

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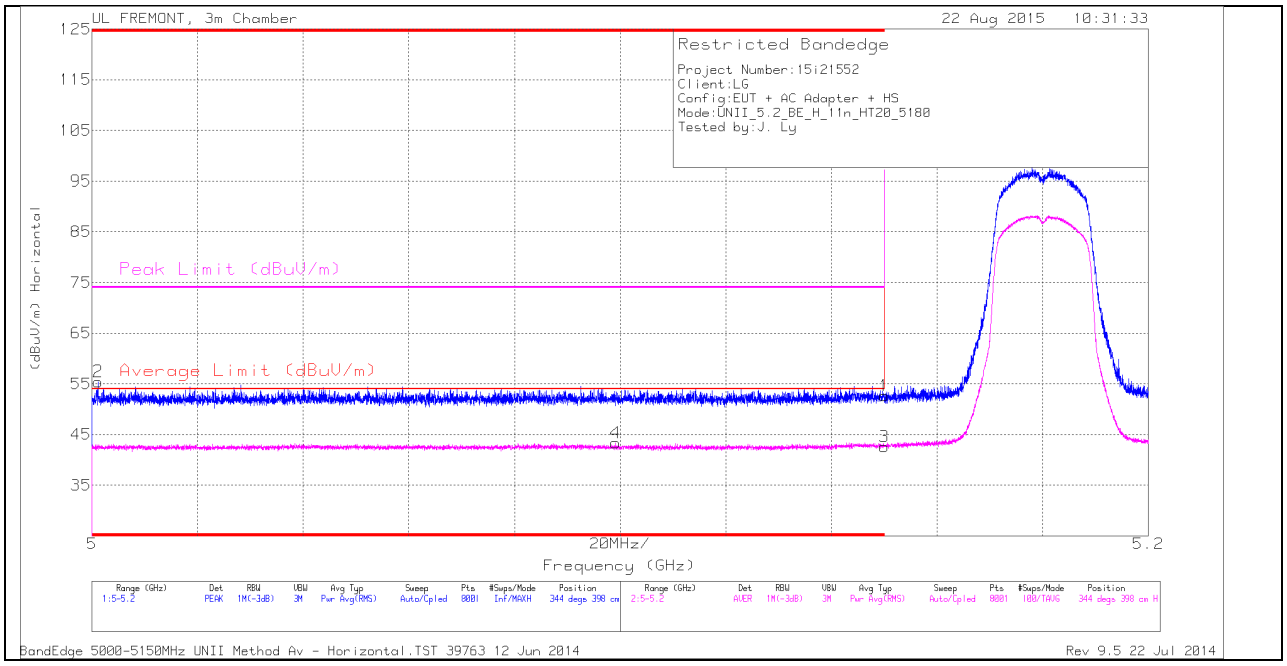
10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.001	42.14	PK	34	-20.7	55.44	-	-	74	-18.56	344	398	H
4	* 5.099	29.94	RMS	34.1	-20.7	43.34	54	-10.66	-	-	344	398	H
1	* 5.15	39.25	PK	34.2	-20.8	52.65	-	-	74	-21.35	344	398	H
3	* 5.15	29.23	RMS	34.2	-20.8	42.63	54	-11.37	-	-	344	398	H

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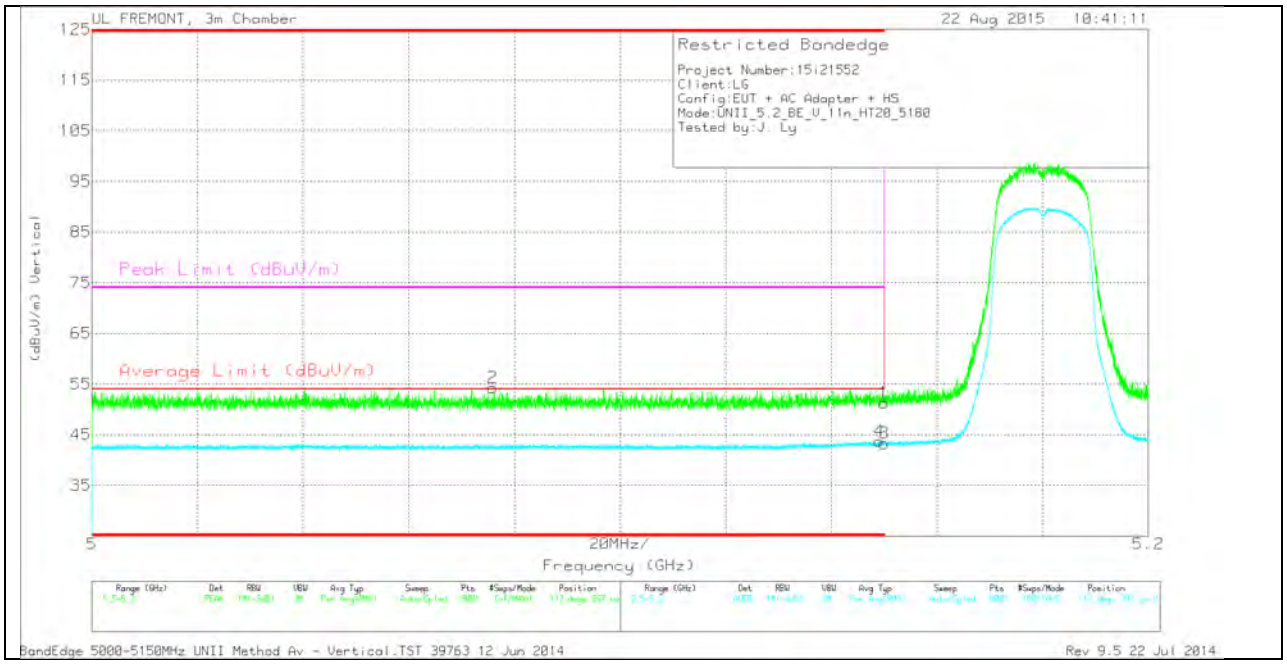
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.076	40.89	PK	34.1	-20.7	54.29	-	-	74	-19.71	112	397	V
4	* 5.149	30.26	RMS	34.2	-20.8	43.66	54	-10.34	-	-	112	397	V
1	* 5.15	37.88	PK	34.2	-20.8	51.28	-	-	74	-22.72	112	397	V
3	* 5.15	29.88	RMS	34.2	-20.8	43.28	54	-10.72	-	-	112	397	V

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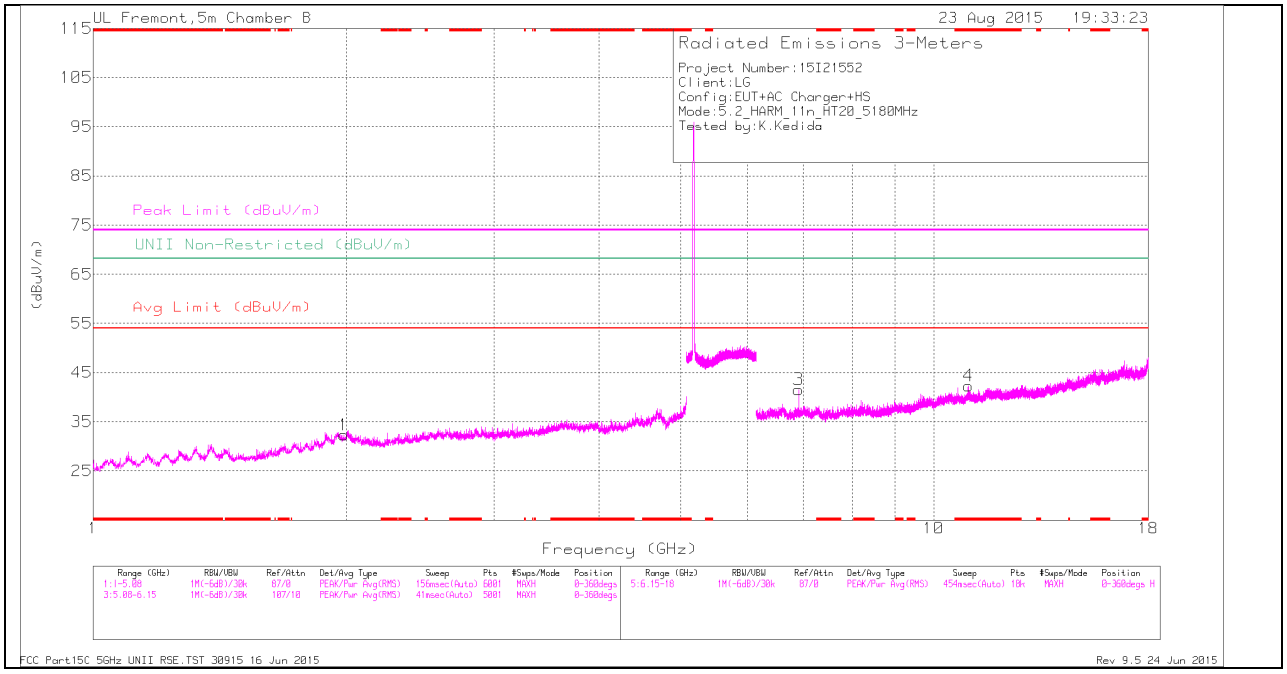
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

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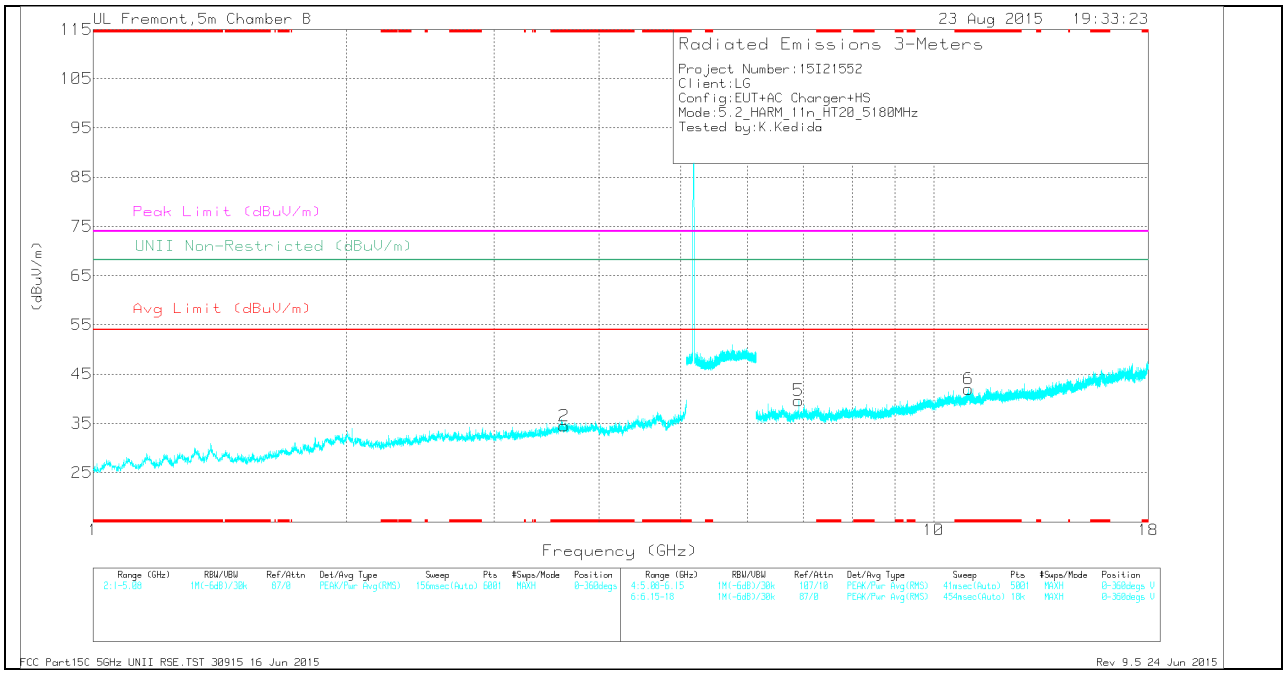
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.634	33.95	Pk	33.8	-33.3	0	34.45	-	-	74	-39.55	-	-	0-360	200	V
4	* 10.994	29.21	Pk	37.7	-24.6	0	42.31	-	-	74	-31.69	-	-	0-360	199	H
6	* 10.994	28.87	Pk	37.7	-24.6	0	41.97	-	-	74	-32.03	-	-	0-360	101	V
1	1.987	33.82	Pk	32.3	-33.8	0	32.32	-	-	-	-	68.2	-35.88	0-360	102	H
3	6.906	36.25	Pk	36.1	-30.8	0	41.55	-	-	-	-	68.2	-26.65	0-360	101	H
5	6.906	34.32	Pk	36.1	-30.8	0	39.62	-	-	-	-	68.2	-28.58	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.633	42.83	PK-U	33.8	-33.3	0	43.33	-	-	74	-30.67	-	-	1	200	V
* 3.635	30.91	ADR	33.8	-33.3	0	31.41	54	-22.59	-	-	-	-	1	200	V
* 10.992	36.52	PK-U	37.7	-24.6	0	49.62	-	-	74	-24.38	-	-	1	198	H
* 10.995	25.17	ADR	37.7	-24.6	0	38.27	54	-15.73	-	-	-	-	1	198	H
* 10.994	36.03	PK-U	37.7	-24.6	0	49.13	-	-	74	-24.87	-	-	1	102	V
* 10.993	25	ADR	37.7	-24.6	0	38.1	54	-15.9	-	-	-	-	1	102	V
1.989	43.12	PK-U	32.3	-33.8	0	41.62	-	-	-	-	68.2	-26.58	1	101	H
6.906	40.18	PK-U	36.1	-30.8	0	45.48	-	-	-	-	68.2	-22.72	1	198	V

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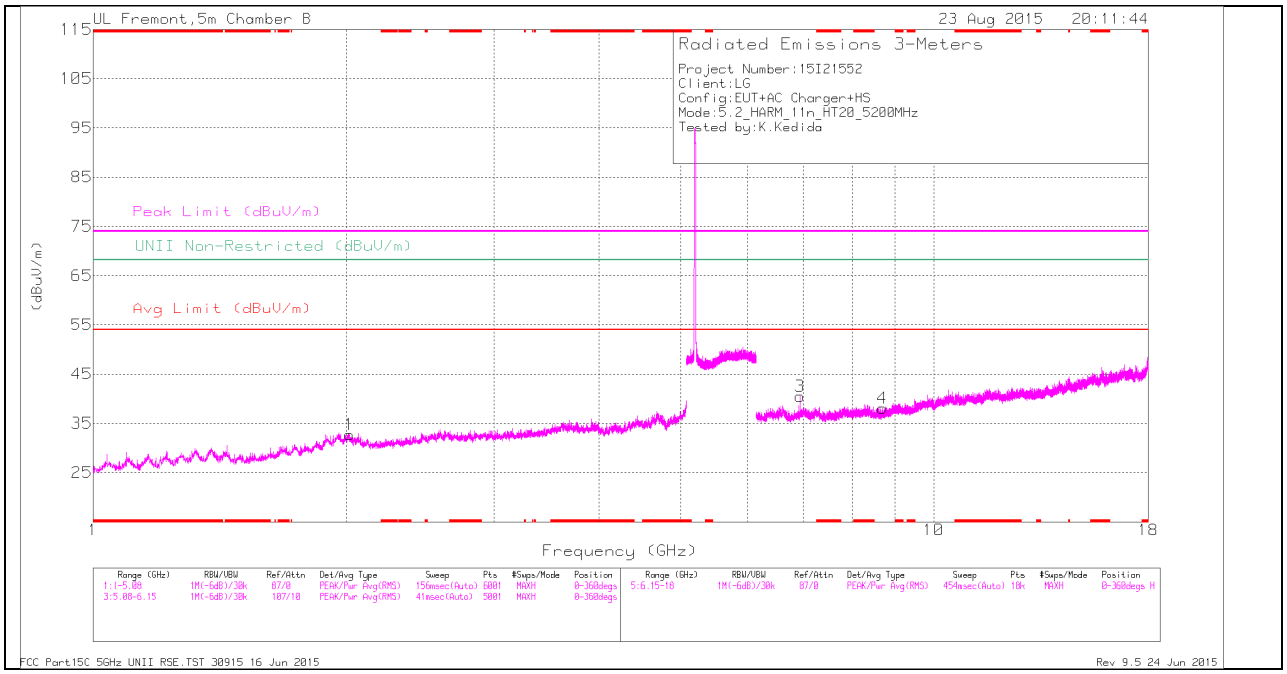
MID CHANNEL HORIZONTAL



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

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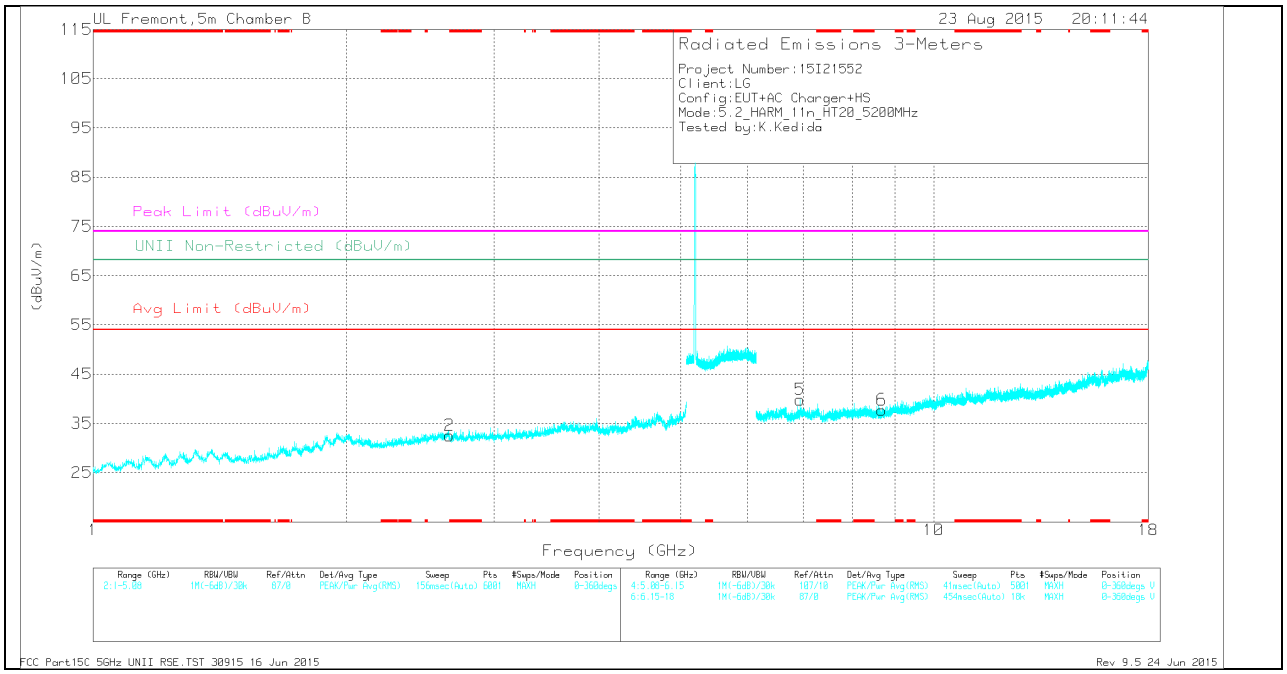
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.019	34.47	Pk	32.2	-34	0	32.67	-	-	-	-	68.2	-35.53	0-360	102	H
2	2.653	33.33	Pk	32.7	-33.5	0	32.53	-	-	-	-	68.2	-35.67	0-360	101	V
3	6.933	35.06	Pk	36.1	-30.7	0	40.46	-	-	-	-	68.2	-27.74	0-360	101	H
5	6.933	34.41	Pk	36.1	-30.7	0	39.81	-	-	-	-	68.2	-28.39	0-360	199	V
6	8.676	30.11	Pk	35.8	-28.2	0	37.71	-	-	-	-	68.2	-30.49	0-360	199	V
4	8.687	30.33	Pk	35.8	-28.1	0	38.03	-	-	-	-	68.2	-30.17	0-360	199	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
2.02	42.26	PK-U	32.2	-34	0	40.46	-	-	-	-	68.2	-27.74	1	101	H
2.652	42.24	PK-U	32.7	-33.5	0	41.44	-	-	-	-	68.2	-26.76	1	101	V
6.933	41.68	PK-U	36.1	-30.7	0	47.08	-	-	-	-	68.2	-21.12	1	101	H
6.933	41.14	PK-U	36.1	-30.7	0	46.54	-	-	-	-	68.2	-21.66	1	198	V
8.675	38.12	PK-U	35.8	-28.3	0	45.62	-	-	-	-	68.2	-22.58	1	198	V
8.686	38.01	PK-U	35.8	-28.1	0	45.71	-	-	-	-	68.2	-22.49	1	198	H

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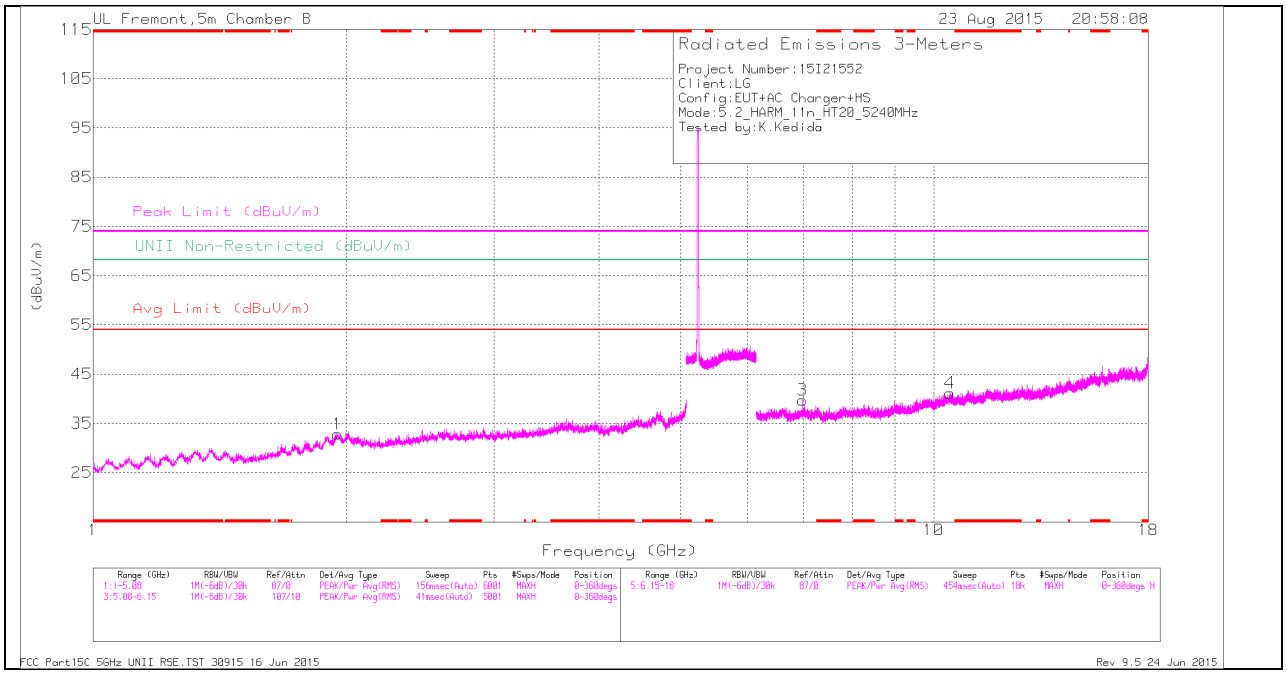
HIGH CHANNEL HORIZONTAL



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

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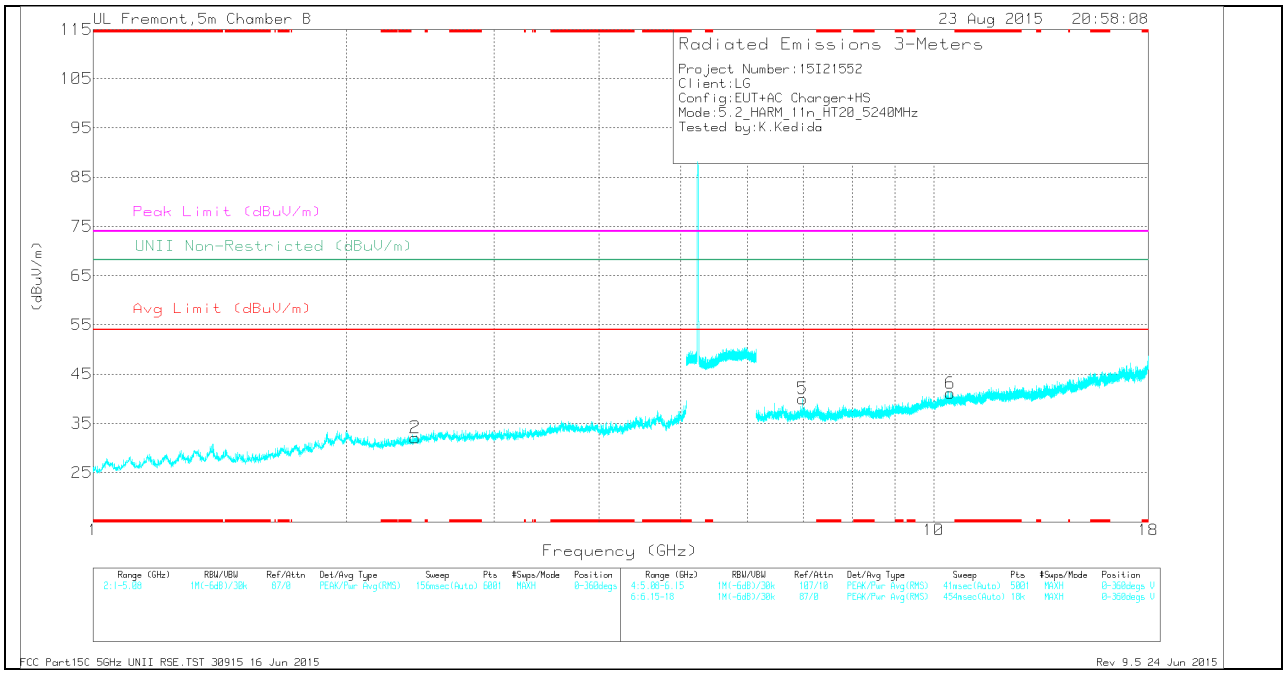
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.955	34.39	Pk	32.1	-33.7	0	32.79	-	-	-	-	68.2	-35.41	0-360	199	H
2	2.416	34.5	Pk	32.1	-34.5	0	32.1	-	-	-	-	68.2	-36.1	0-360	199	V
3	6.987	33.89	Pk	36	-30.2	0	39.69	-	-	-	-	68.2	-28.51	0-360	101	H
5	6.987	34.23	Pk	36	-30.2	0	40.03	-	-	-	-	68.2	-28.17	0-360	101	V
4	10.455	28.96	Pk	37.4	-25.2	0	41.16	-	-	-	-	68.2	-27.04	0-360	200	H
6	10.461	28.81	Pk	37.4	-25.1	0	41.11	-	-	-	-	68.2	-27.09	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.954	43.32	PK-U	32.1	-33.8	0	41.62	-	-	-	-	68.2	-26.58	1	199	H
2.416	43.4	PK-U	32.1	-34.5	0	41	-	-	-	-	68.2	-27.2	1	199	V
6.986	40.47	PK-U	36	-30.2	0	46.27	-	-	-	-	68.2	-21.93	1	102	V
6.987	41.5	PK-U	36	-30.2	0	47.3	-	-	-	-	68.2	-20.9	1	102	H
10.455	36.65	PK-U	37.4	-25.2	0	48.85	-	-	-	-	68.2	-19.35	1	200	H
10.463	36.12	PK-U	37.4	-25.1	0	48.42	-	-	-	-	68.2	-19.78	1	102	V

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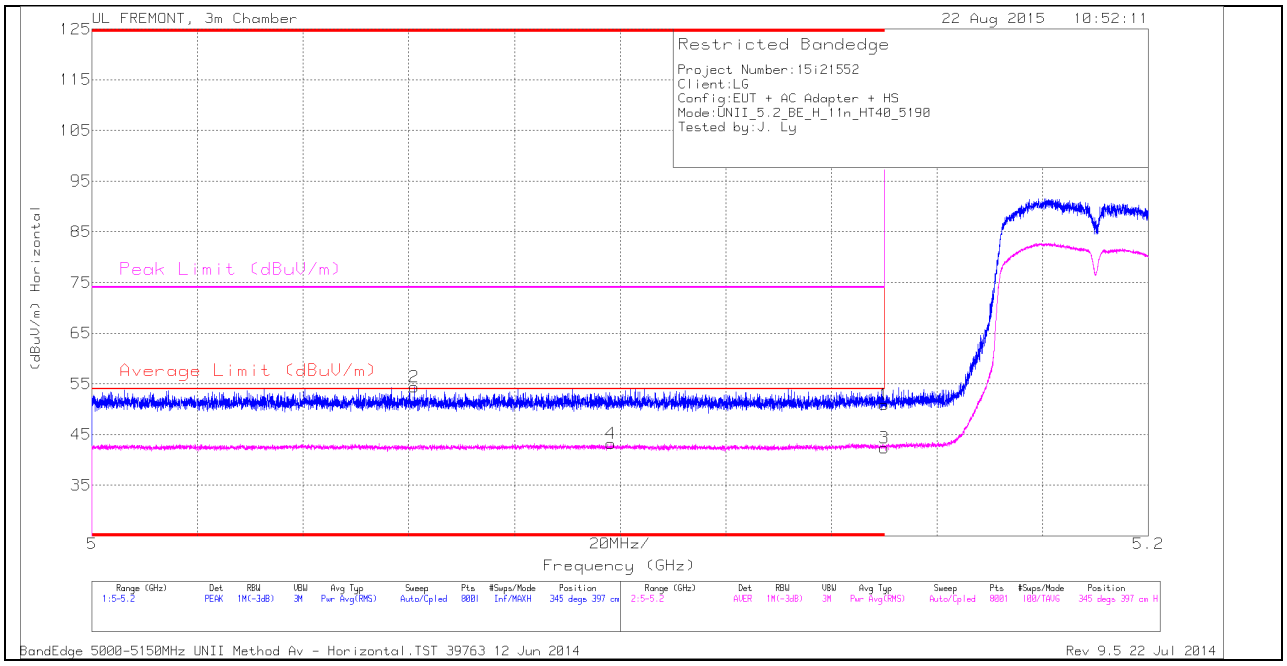
10.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.061	40.94	PK	34.1	-20.7	54.34	-	-	74	-19.66	345	397	H
4	* 5.098	29.85	RMS	34.1	-20.7	43.25	54	-10.75	-	-	345	397	H
1	* 5.15	37.51	PK	34.2	-20.8	50.91	-	-	74	-23.09	345	397	H
3	* 5.15	28.92	RMS	34.2	-20.8	42.32	54	-11.68	-	-	345	397	H

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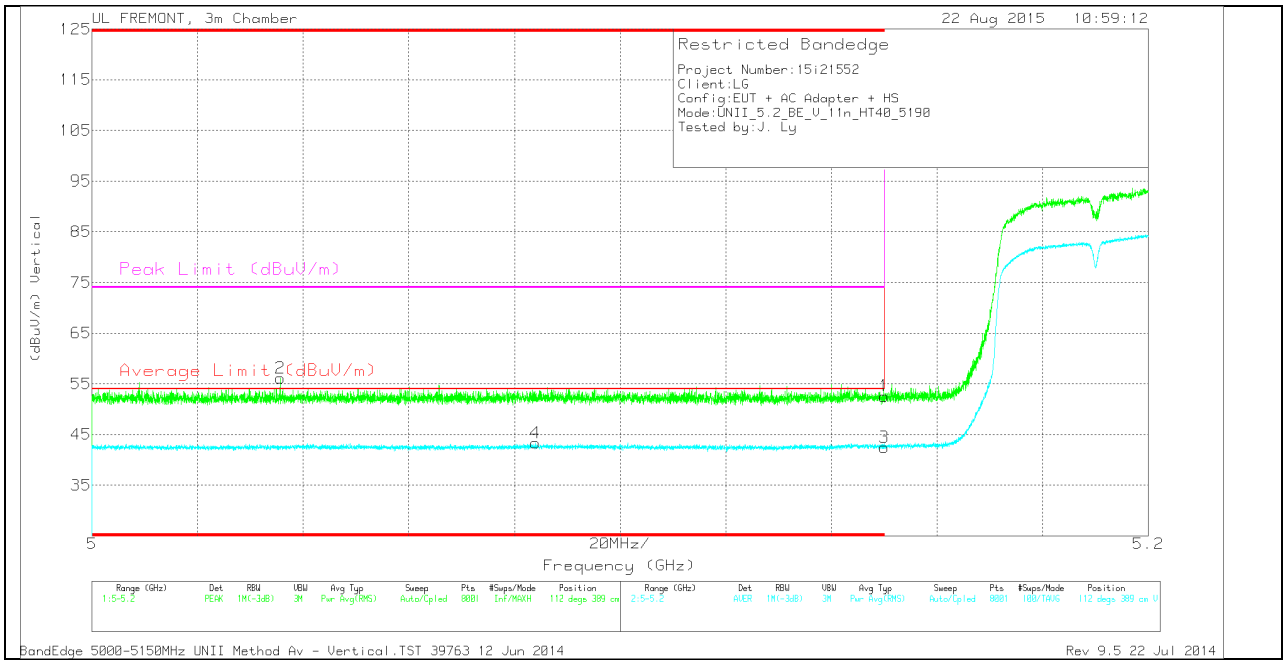
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.036	42.69	PK	34.1	-20.7	56.09	-	-	74	-17.91	112	389	V
4	* 5.084	29.94	RMS	34.1	-20.7	43.34	54	-10.66	-	-	112	389	V
1	* 5.15	39.19	PK	34.2	-20.8	52.59	-	-	74	-21.41	112	389	V
3	* 5.15	29.07	RMS	34.2	-20.8	42.47	54	-11.53	-	-	112	389	V

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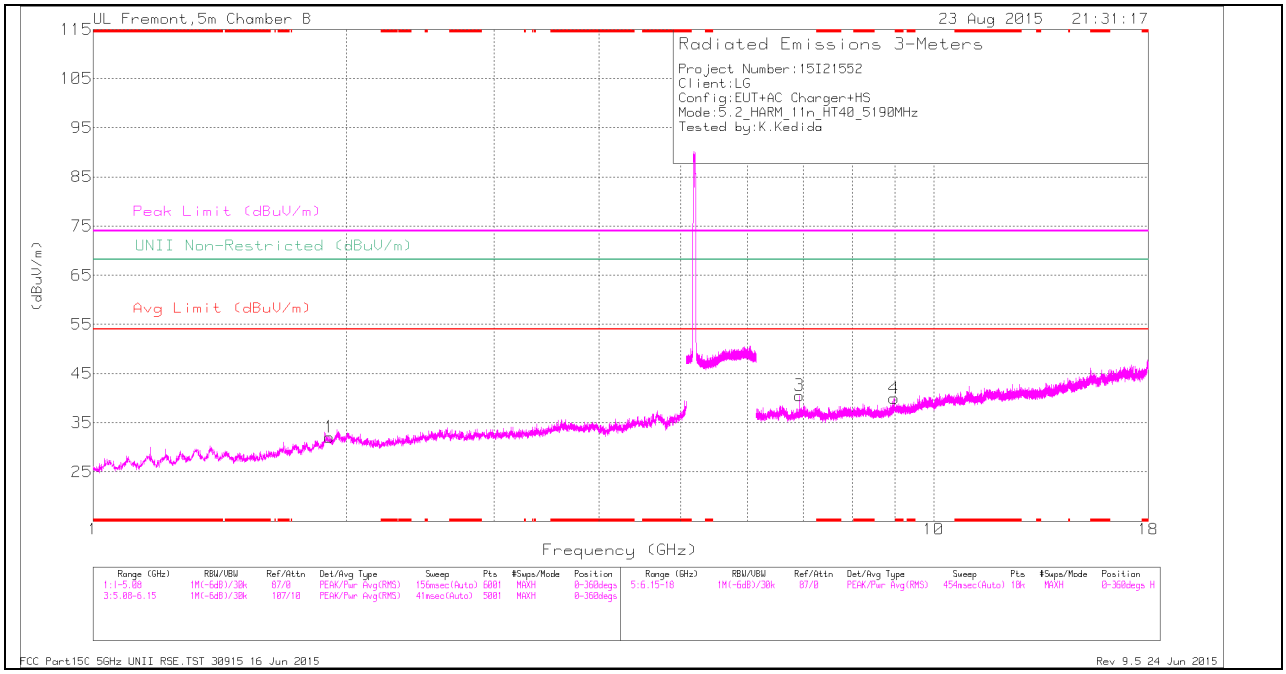
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

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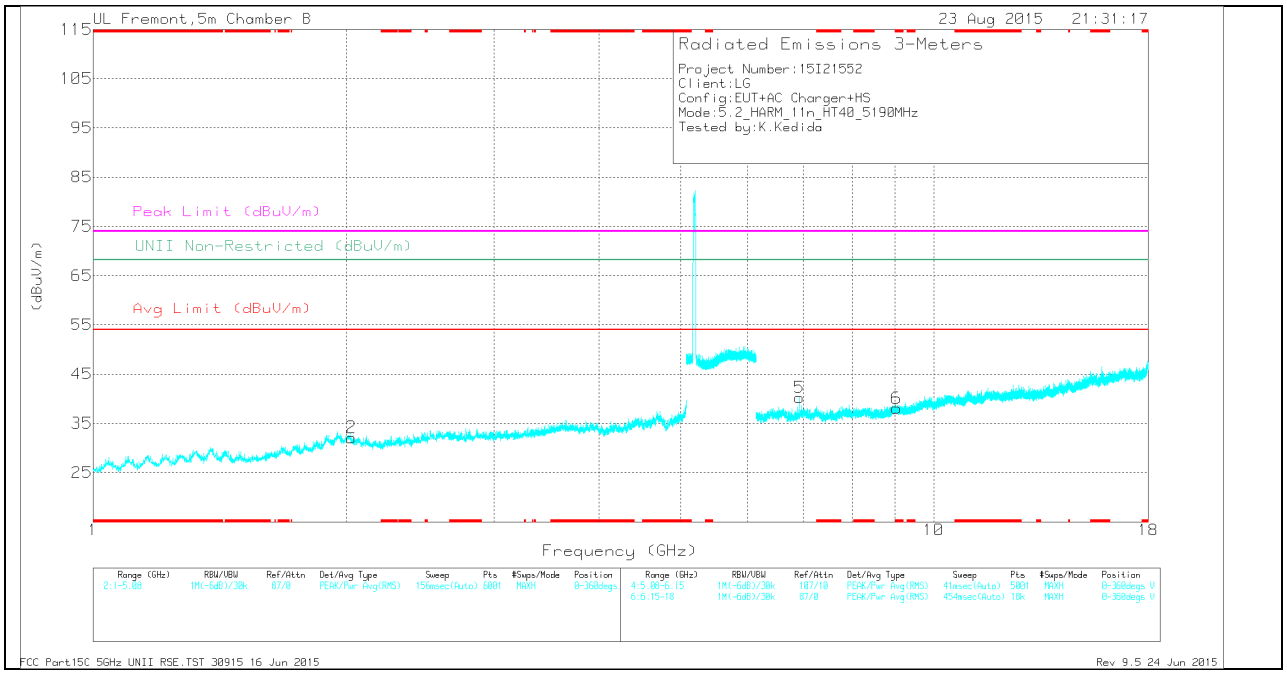
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 9.031	29.43	Pk	36.1	-27.5	38.03	-	-	74	-35.97	-	-	0-360	101	V
1	1.911	34.17	Pk	31.9	-34	32.07	-	-	-	-	68.2	-36.13	0-360	199	H
2	2.028	33.89	Pk	32.2	-34	32.09	-	-	-	-	68.2	-36.11	0-360	101	V
3	6.92	35.14	Pk	36.1	-30.7	40.54	-	-	-	-	68.2	-27.66	0-360	101	H
5	6.92	34.81	Pk	36.1	-30.7	40.21	-	-	-	-	68.2	-27.99	0-360	200	V
4	8.97	31.38	Pk	36	-27.4	39.98	-	-	-	-	68.2	-28.22	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 9.029	38.17	PK-U	36.1	-27.5	46.77	-	-	74	-27.23	-	-	1	102	V
* 9.03	27.09	ADR	36.1	-27.5	35.83	54	-18.17	-	-	-	-	1	102	V
1.912	42.28	PK-U	31.9	-33.9	40.28	-	-	-	-	68.2	-27.92	1	199	H
2.028	42.67	PK-U	32.2	-34	40.87	-	-	-	-	68.2	-27.33	1	102	V
6.92	41.96	PK-U	36.1	-30.7	47.36	-	-	-	-	68.2	-20.84	1	102	H
6.921	40.51	PK-U	36.1	-30.7	45.91	-	-	-	-	68.2	-22.29	1	200	V
8.971	38.16	PK-U	36	-27.4	46.76	-	-	-	-	68.2	-21.44	1	200	H

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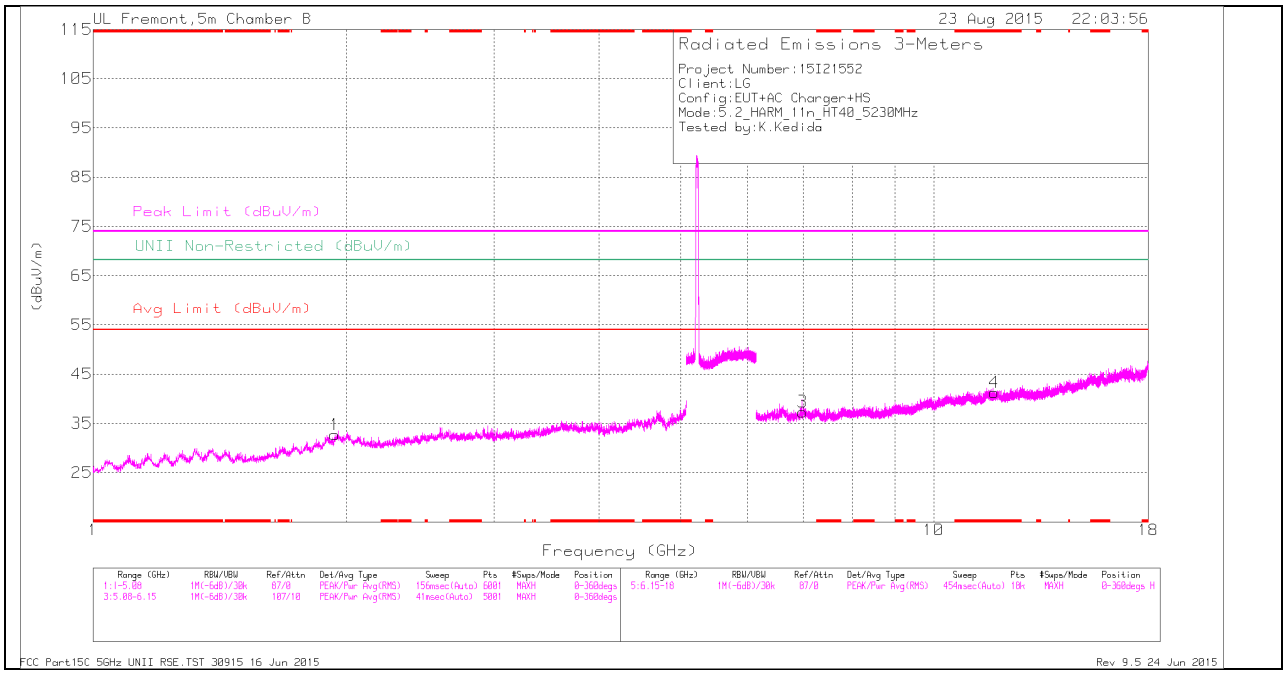
MID CHANNEL HORIZONTAL



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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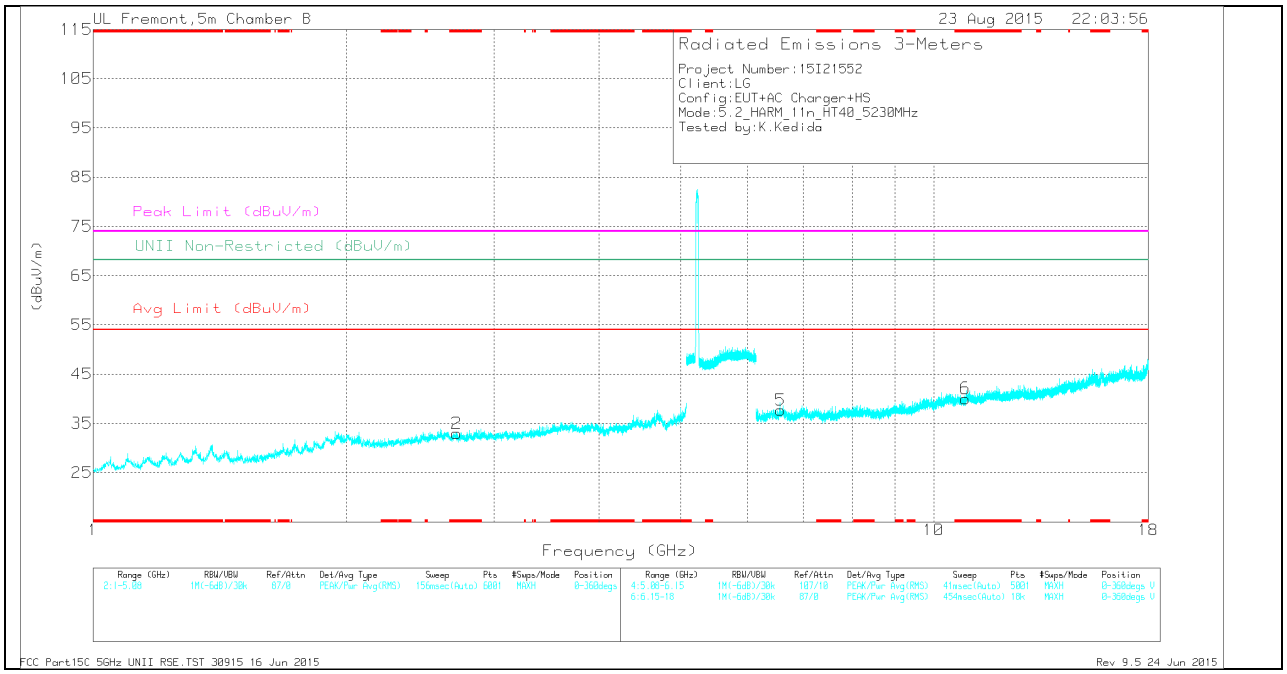
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.707	34.24	Pk	32.6	-33.9	32.94	-	-	74	-41.06	-	-	0-360	101	V
4	* 11.807	27.83	Pk	38.6	-25.2	41.23	-	-	74	-32.77	-	-	0-360	199	H
6	* 10.902	28.13	Pk	37.6	-25.7	40.03	-	-	74	-33.97	-	-	0-360	199	V
1	1.939	34.66	Pk	32	-34	32.66	-	-	-	-	68.2	-35.54	0-360	102	H
5	6.573	32.55	Pk	35.9	-30.8	37.65	-	-	-	-	68.2	-30.55	0-360	101	V
3	6.983	31.52	Pk	36	-30.2	37.32	-	-	-	-	68.2	-30.88	0-360	199	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.707	42.65	PK-U	32.6	-33.9	41.35	-	-	74	-32.65	-	-	1	101	V
* 2.707	31.03	ADR	32.6	-33.9	29.87	54	-24.13	-	-	-	-	1	101	V
* 11.806	36.24	PK-U	38.6	-25.2	49.64	-	-	74	-24.36	-	-	1	199	H
* 11.807	25.24	ADR	38.6	-25.2	38.78	54	-15.22	-	-	-	-	1	199	H
* 10.9	36.21	PK-U	37.6	-25.7	48.11	-	-	74	-25.89	-	-	1	199	V
* 10.901	25.37	ADR	37.6	-25.7	37.41	54	-16.59	-	-	-	-	1	199	V
1.941	42.48	PK-U	32	-33.9	40.58	-	-	-	-	68.2	-27.62	1	101	H
6.571	41.16	PK-U	35.9	-30.8	46.26	-	-	-	-	68.2	-21.94	1	102	V
6.984	39.86	PK-U	36	-30.2	45.66	-	-	-	-	68.2	-22.54	1	199	H

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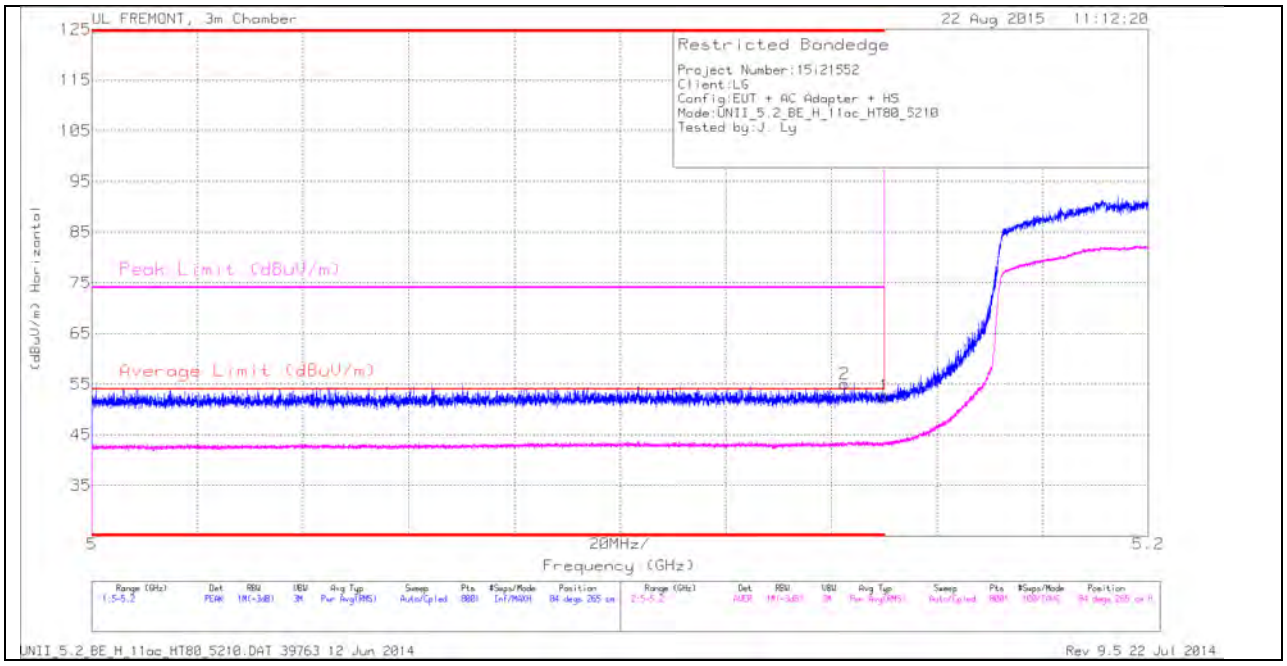
10.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.142	41.47	PK	34.2	-20.7	54.97	-	-	74	-19.03	84	265	H
4	* 5.147	30.37	RMS	34.2	-20.8	43.77	54	-10.23	-	-	84	265	H
1	* 5.15	39.24	PK	34.2	-20.8	52.64	-	-	74	-21.36	84	265	H
3	* 5.15	29.43	RMS	34.2	-20.8	42.83	54	-11.17	-	-	84	265	H

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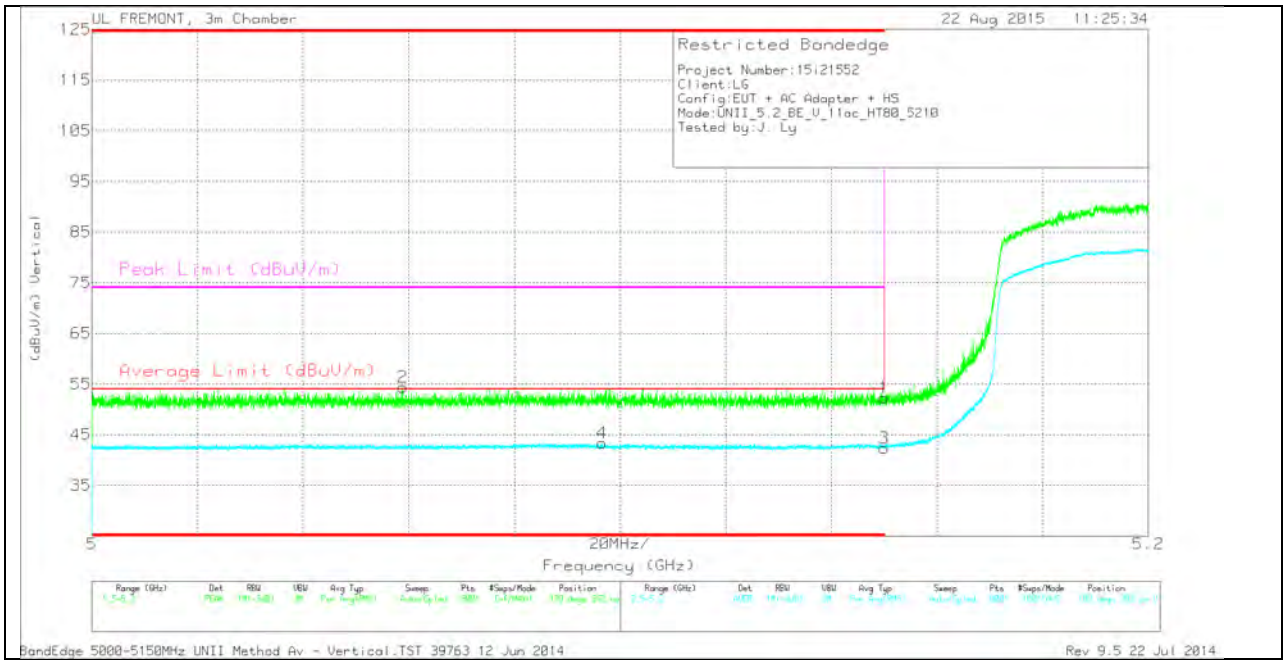
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.059	41.1	PK	34.1	-20.8	54.4	-	-	74	-19.6	109	392	V
4	* 5.097	29.92	RMS	34.1	-20.7	43.32	54	-10.68	-	-	109	392	V
1	* 5.15	38.88	PK	34.2	-20.8	52.28	-	-	74	-21.72	109	392	V
3	* 5.15	29	RMS	34.2	-20.8	42.4	54	-11.6	-	-	109	392	V

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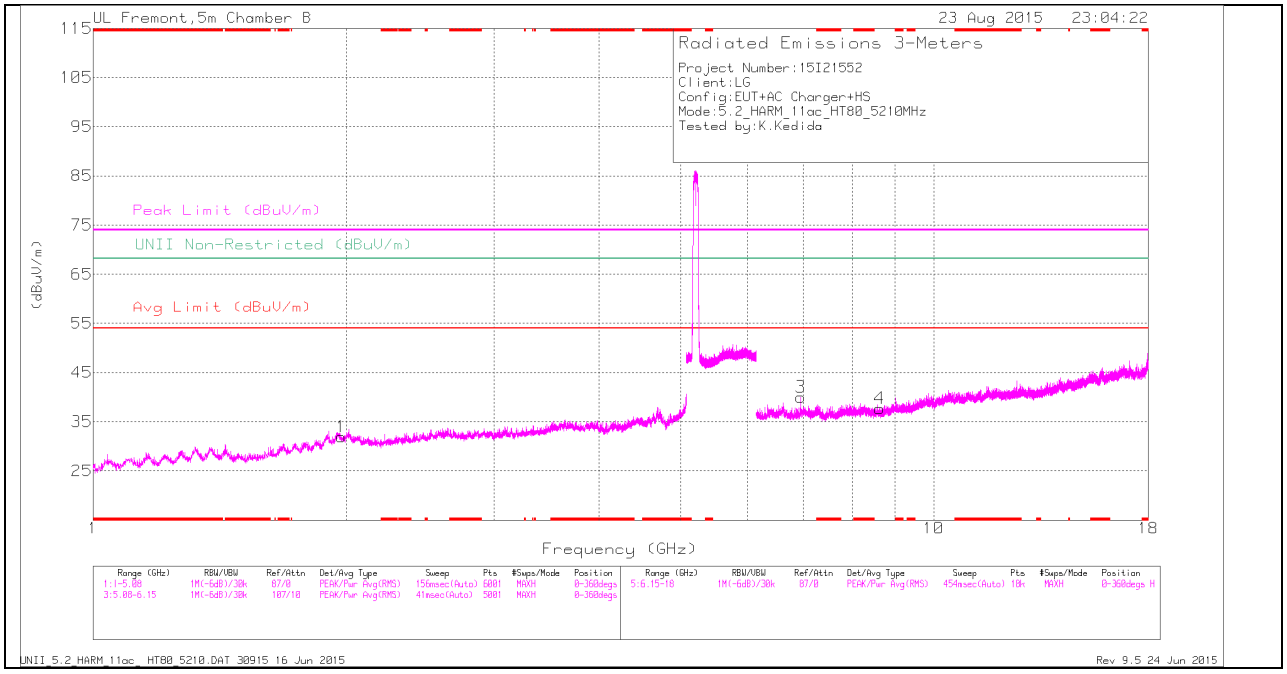
HARMONICS AND SPURIOUS EMISSIONS

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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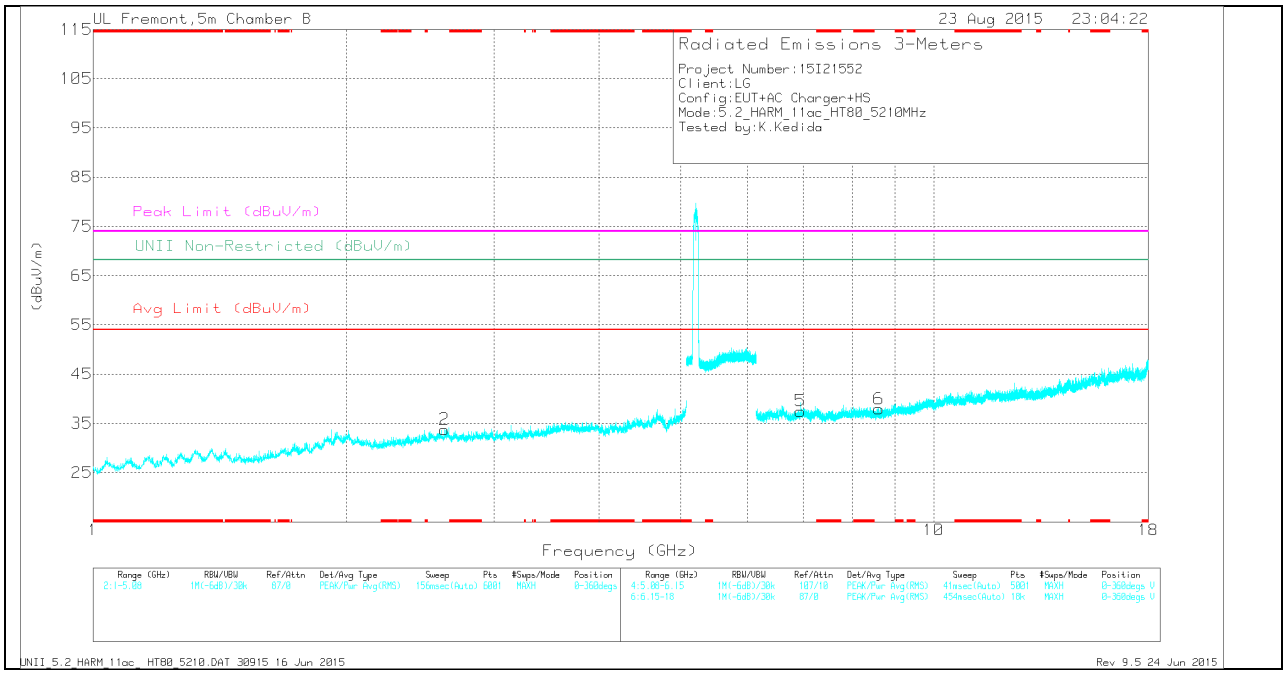
LOW CHANNEL VERTICAL



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	1.975	33.3	Pk	32.2	-33.6	0	31.9	-	-	-	-	68.2	-36.3	0-360	101	H
2	2.618	34.64	Pk	32.7	-33.6	0	33.74	-	-	-	-	68.2	-34.46	0-360	101	V
5	6.942	31.89	Pk	36.1	-30.5	0	37.49	-	-	-	-	68.2	-30.71	0-360	199	V
3	6.947	34.31	Pk	36.1	-30.4	0	40.01	-	-	-	-	68.2	-28.19	0-360	101	H
6	8.606	30.63	Pk	35.7	-28.4	0	37.93	-	-	-	-	68.2	-30.27	0-360	101	V
4	8.623	30.21	Pk	35.8	-28.3	0	37.71	-	-	-	-	68.2	-30.49	0-360	199	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
1.974	42.18	PK-U	32.2	-33.6	0	40.78	-	-	-	-	68.2	-27.42	360	101	H
2.618	42.74	PK-U	32.7	-33.6	0	41.84	-	-	-	-	68.2	-26.36	360	101	V
6.943	41.08	PK-U	36.1	-30.5	0	46.68	-	-	-	-	68.2	-21.52	360	198	V
6.946	42.46	PK-U	36.1	-30.4	0	48.16	-	-	-	-	68.2	-20.04	360	101	H
8.605	38.13	PK-U	35.7	-28.4	0	45.43	-	-	-	-	68.2	-22.77	360	102	V
8.623	38	PK-U	35.8	-28.3	0	45.5	-	-	-	-	68.2	-22.7	360	198	H

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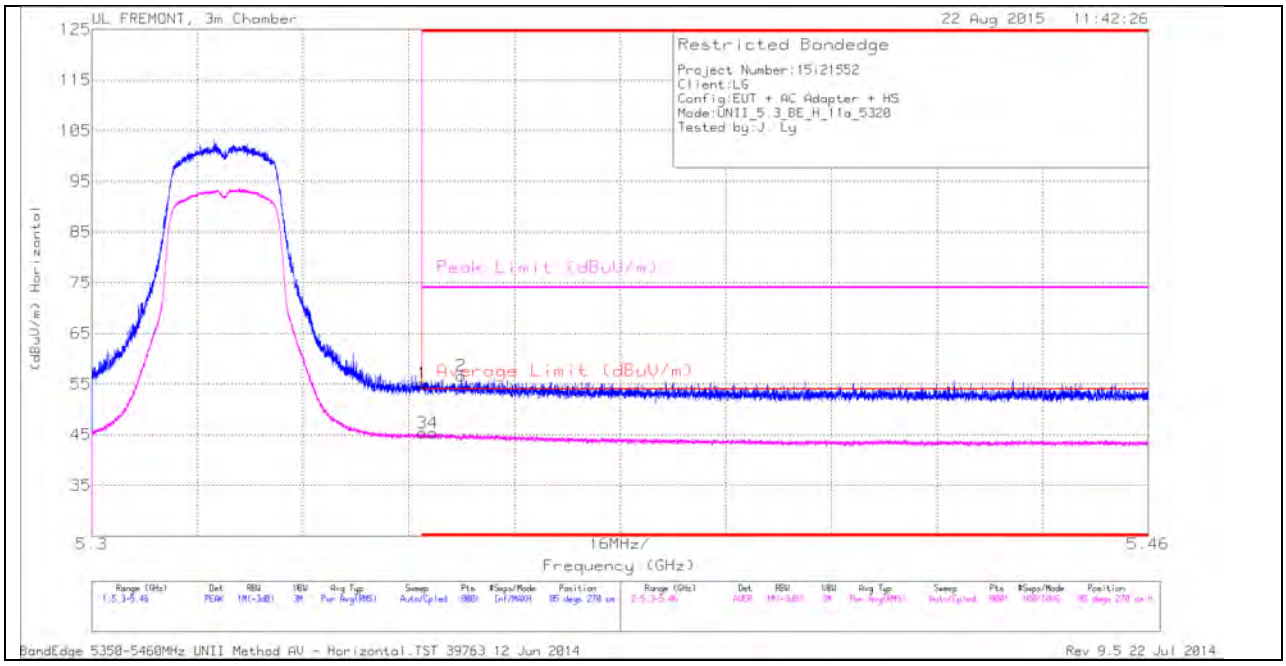
10.1. 5.3 GHz

10.1.1. 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 T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	41.12	PK	34.5	-20.5	55.12	-	-	74	-18.88	85	270	H
3	* 5.35	31.27	RMS	34.5	-20.5	45.27	54	-8.73	-	-	85	270	H
4	* 5.352	31.3	RMS	34.5	-20.5	45.3	54	-8.7	-	-	85	270	H
2	* 5.356	42.82	PK	34.5	-20.7	56.62	-	-	74	-17.38	85	270	H

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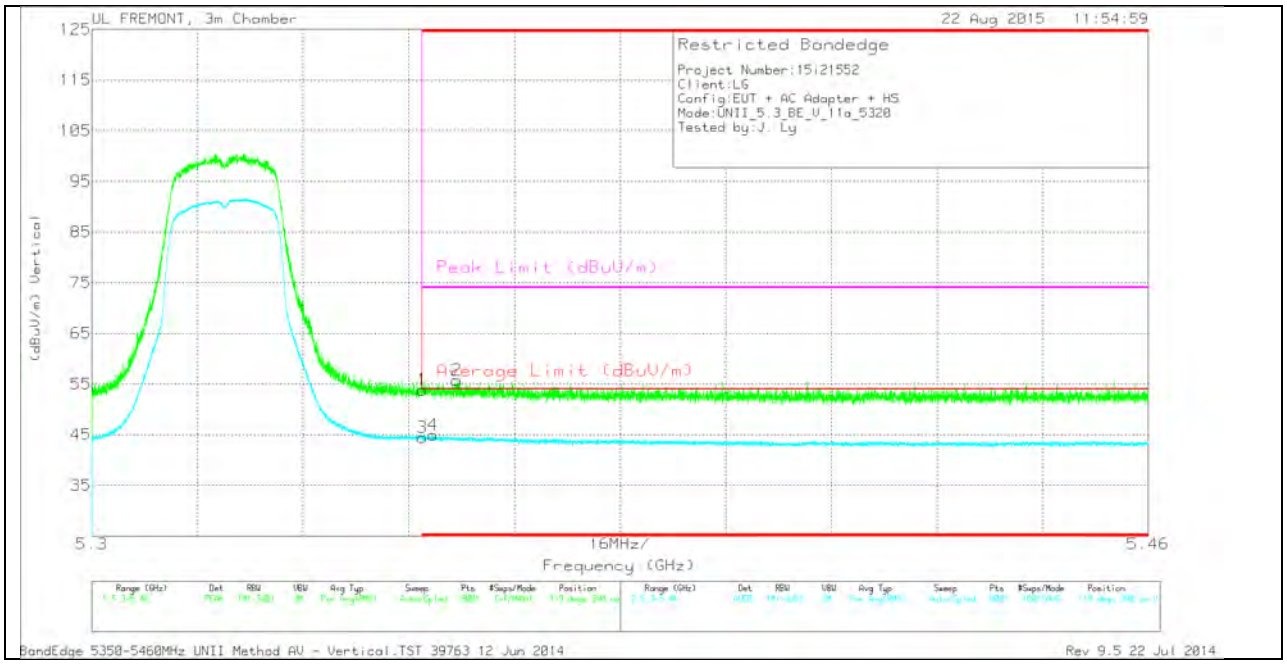
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.83	PK	34.5	-20.5	53.83	-	-	74	-20.17	119	390	V
2	* 5.355	41.88	PK	34.5	-20.6	55.78	-	-	74	-18.22	119	390	V
3	* 5.35	30.48	RMS	34.5	-20.5	44.48	54	-9.52	-	-	119	390	V
4	* 5.352	30.92	RMS	34.5	-20.5	44.92	54	-9.08	-	-	119	390	V

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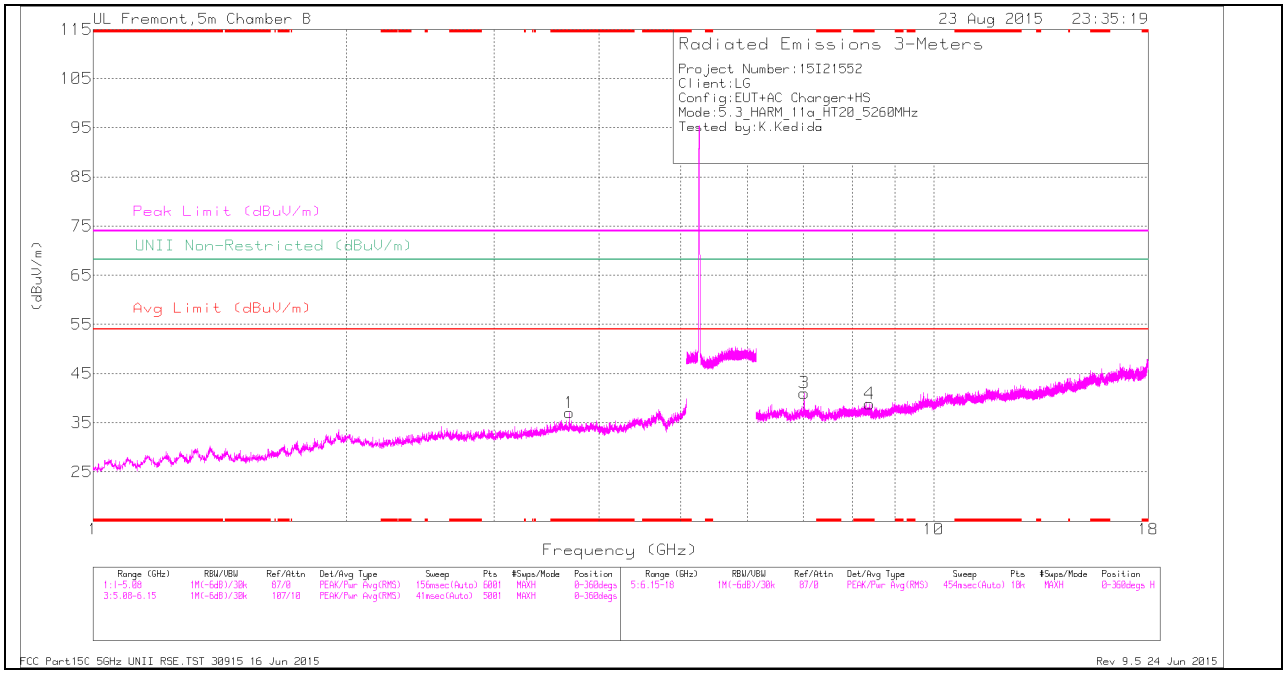
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

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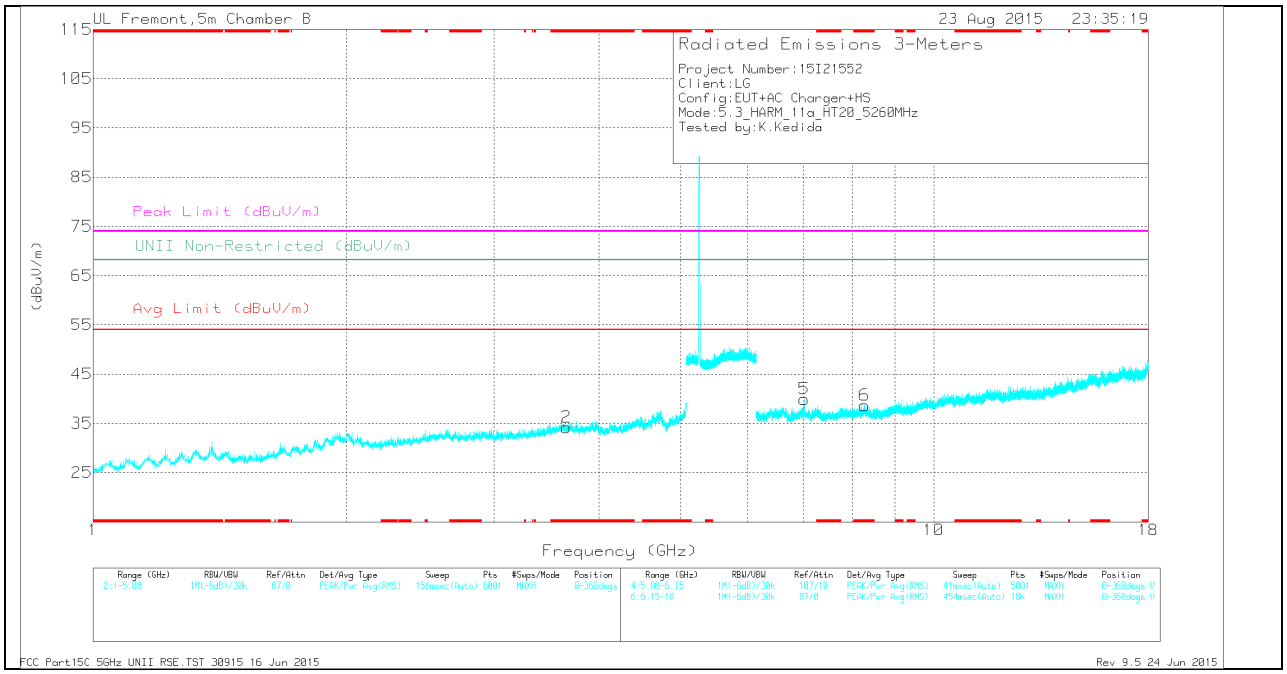
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.688	36.43	Pk	33.6	-33	37.03	-	-	74	-36.97	-	-	0-360	102	H
2	* 3.656	33.67	Pk	33.7	-33.2	34.17	-	-	74	-39.83	-	-	0-360	199	V
4	* 8.388	31.46	Pk	35.7	-28.3	38.86	-	-	74	-35.14	-	-	0-360	101	H
6	* 8.275	31.05	Pk	35.7	-28.1	38.65	-	-	74	-35.35	-	-	0-360	101	V
3	7.013	34.76	Pk	36	-29.7	41.06	-	-	-	-	68.2	-27.14	0-360	101	H
5	7.013	33.62	Pk	36	-29.7	39.92	-	-	-	-	68.2	-28.28	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

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
* 3.687	42.42	PK-U	33.6	-33.1	0	42.92	-	-	74	-31.08	-	-	360	101	H
* 3.687	31.29	ADR	33.6	-33.1	0	31.79	54	-22.21	-	-	-	-	360	101	H
* 3.658	43.14	PK-U	33.7	-33.1	0	43.74	-	-	74	-30.26	-	-	360	198	V
* 3.656	30.86	ADR	33.7	-33.2	0	31.36	54	-22.64	-	-	-	-	360	198	V
* 8.389	38.62	PK-U	35.7	-28.3	0	46.02	-	-	74	-27.98	-	-	360	102	H
* 8.389	27.89	ADR	35.7	-28.3	0	35.29	54	-18.71	-	-	-	-	360	102	H
* 8.275	38.63	PK-U	35.7	-28.1	0	46.23	-	-	74	-27.77	-	-	360	102	V
* 8.275	27.84	ADR	35.7	-28.1	0	35.44	54	-18.56	-	-	-	-	360	102	V
7.012	40.3	PK-U	36	-29.7	0	46.6	-	-	-	-	68.2	-21.6	360	102	V
7.013	41.98	PK-U	36	-29.7	0	48.28	-	-	-	-	68.2	-19.92	360	102	H

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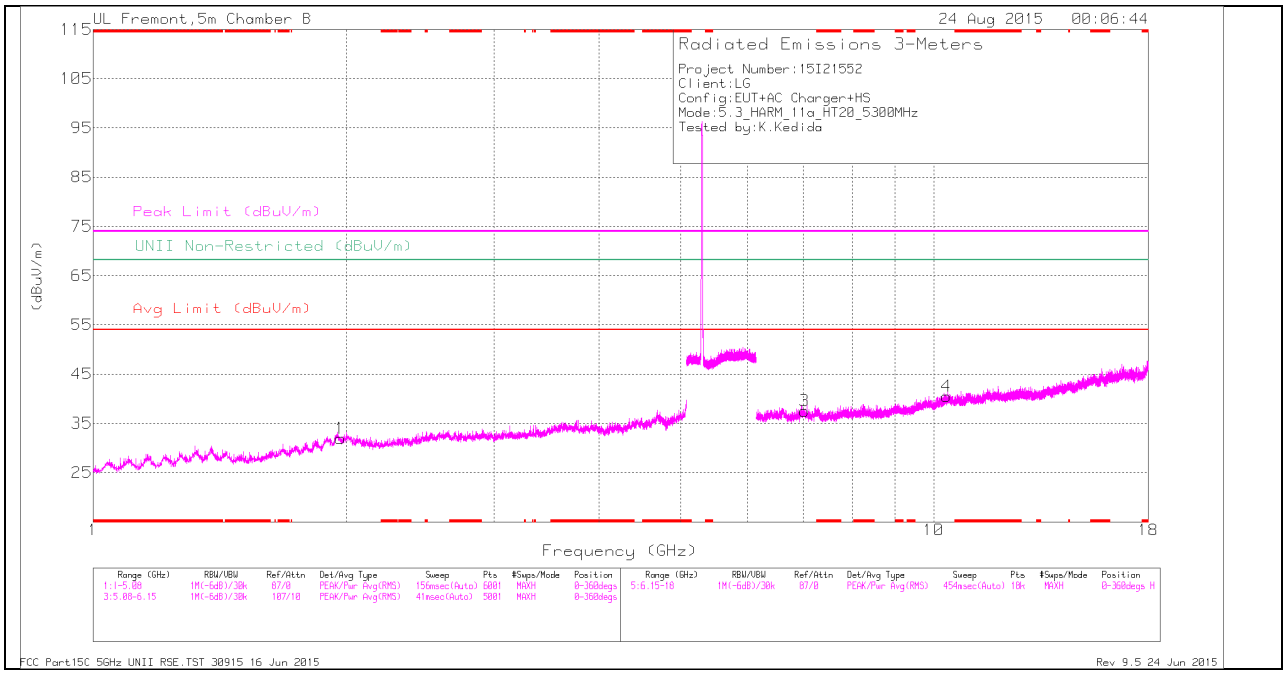
MID CHANNEL HORIZONTAL



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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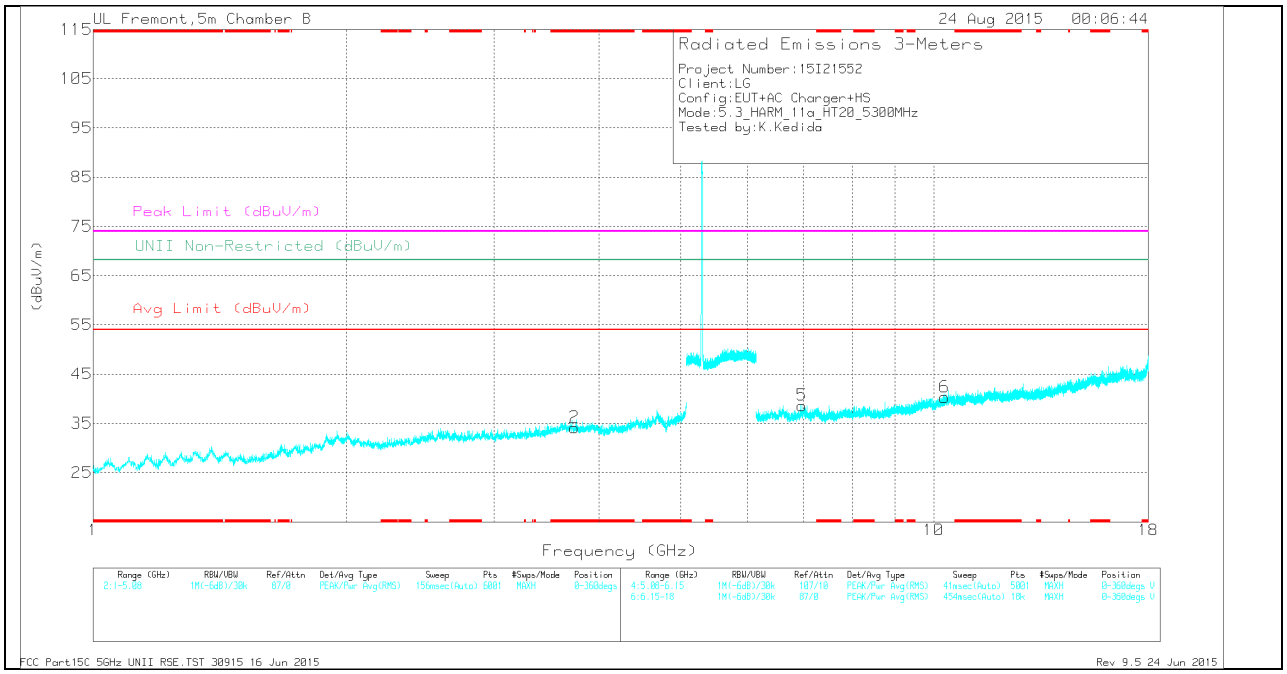
MID CHANNEL VERTICAL



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 T345 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.736	33.35	Pk	33.5	-32.7	34.15	-	-	74	-39.85	-	-	0-360	200	V
1	1.969	33.34	Pk	32.2	-33.6	31.94	-	-	-	-	68.2	-36.26	0-360	102	H
5	6.971	32.63	Pk	36	-30	38.63	-	-	-	-	68.2	-29.57	0-360	101	V
3	7.021	31.21	Pk	35.9	-29.6	37.51	-	-	-	-	68.2	-30.69	0-360	199	H
6	10.301	29.11	Pk	37.4	-26.2	40.31	-	-	-	-	68.2	-27.89	0-360	199	V
4	10.354	28.66	Pk	37.4	-25.6	40.46	-	-	-	-	68.2	-27.74	0-360	199	H

PK - Peak detector

RADIATED EMISSIONS

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
* 3.734	42.32	PK-U	33.5	-32.7	0	43.12	-	-	74	-30.88	-	-	359	199	V
* 3.736	30.38	ADR	33.5	-32.7	0	31.18	54	-22.82	-	-	-	-	359	199	V
1.97	42.16	PK-U	32.2	-33.6	0	40.76	-	-	-	-	68.2	-27.44	359	101	H
6.971	39.51	PK-U	36	-30	0	45.51	-	-	-	-	68.2	-22.69	359	102	V
7.019	39.36	PK-U	36	-29.5	0	45.86	-	-	-	-	68.2	-22.34	359	199	H
10.302	37.13	PK-U	37.4	-26.2	0	48.33	-	-	-	-	68.2	-19.87	359	199	V
10.352	37.24	PK-U	37.4	-25.6	0	49.04	-	-	-	-	68.2	-19.16	359	199	H

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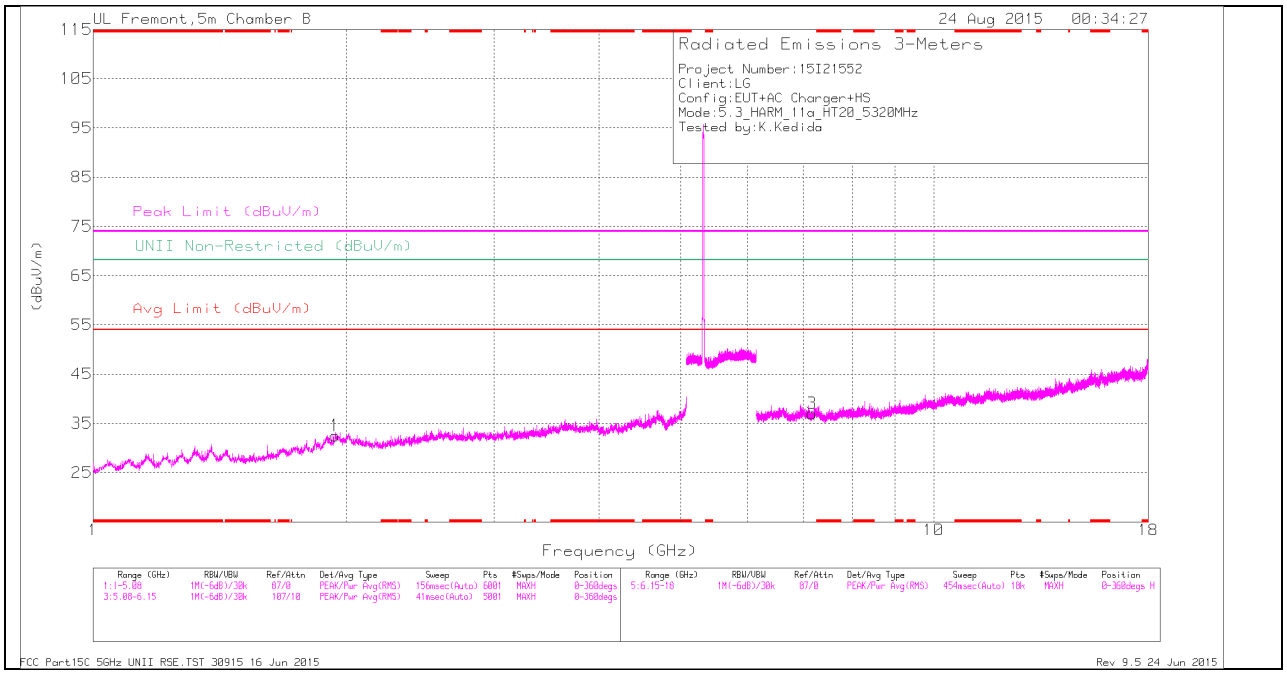
HIGH CHANNEL HORIZONTAL



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

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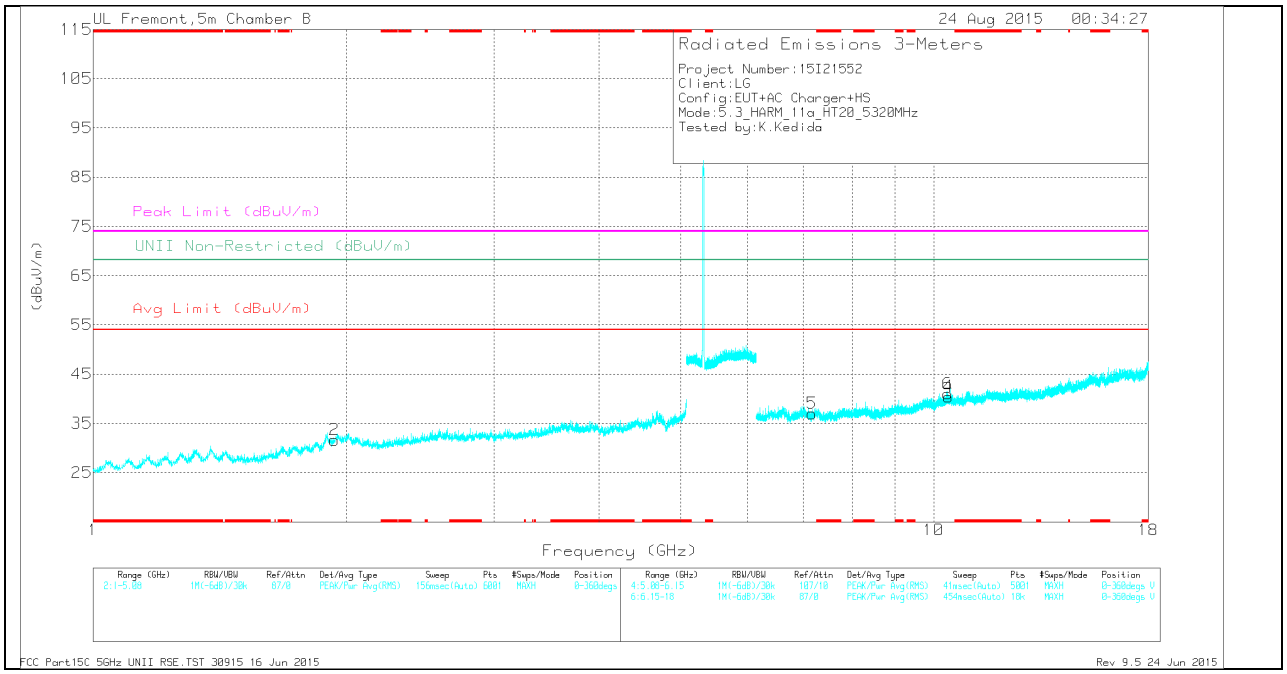
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	1.938	33.63	Pk	32	-34	0	31.63	-	-	-	-	68.2	-36.57	0-360	101	V
1	1.94	34.48	Pk	32	-34	0	32.48	-	-	-	-	68.2	-35.72	0-360	199	H
5	7.166	31.98	Pk	35.4	-30.4	0	36.98	-	-	-	-	68.2	-31.22	0-360	101	V
3	7.169	31.89	Pk	35.4	-30.3	0	36.99	-	-	-	-	68.2	-31.21	0-360	101	H
6	10.393	28.81	Pk	37.4	-25.2	0	41.01	-	-	-	-	68.2	-27.19	0-360	199	V
4	10.407	28.19	Pk	37.4	-25.2	0	40.39	-	-	-	-	68.2	-27.81	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fl tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarit y
1.937	42.38	PK-U	32	-34	0	40.38	-	-	-	-	68.2	-27.82	360	102	V
1.942	42.85	PK-U	32	-33.9	0	40.95	-	-	-	-	68.2	-27.25	360	199	H
7.168	40.38	PK-U	35.4	-30.4	0	45.38	-	-	-	-	68.2	-22.82	360	102	V
7.169	40.35	PK-U	35.4	-30.3	0	45.45	-	-	-	-	68.2	-22.75	360	102	H
10.394	36.9	PK-U	37.4	-25.2	0	49.1	-	-	-	-	68.2	-19.1	360	199	V
10.406	37.45	PK-U	37.4	-25.2	0	49.65	-	-	-	-	68.2	-18.55	360	199	V

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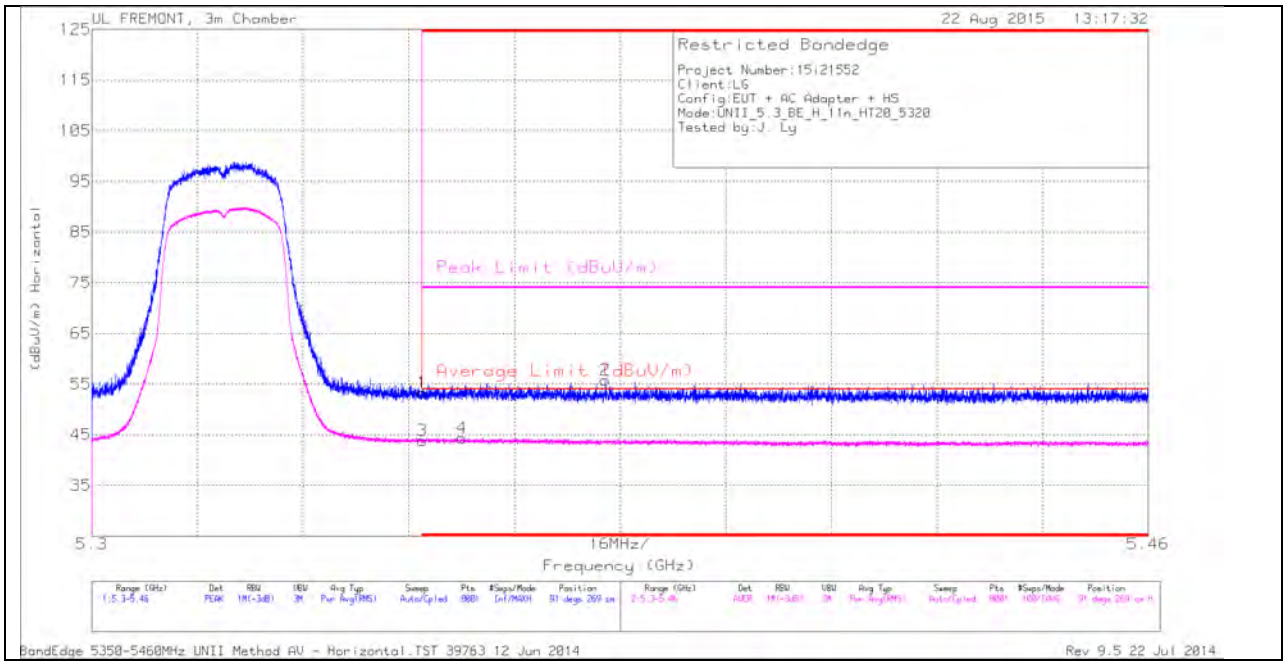
10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	39.26	PK	34.5	-20.5	53.26	-	-	74	-20.74	91	269	H
2	* 5.378	41.7	PK	34.6	-20.6	55.7	-	-	74	-18.3	91	269	H
3	* 5.35	29.88	RMS	34.5	-20.5	43.88	54	-10.12	-	-	91	269	H
4	* 5.356	30.57	RMS	34.5	-20.7	44.37	54	-9.63	-	-	91	269	H

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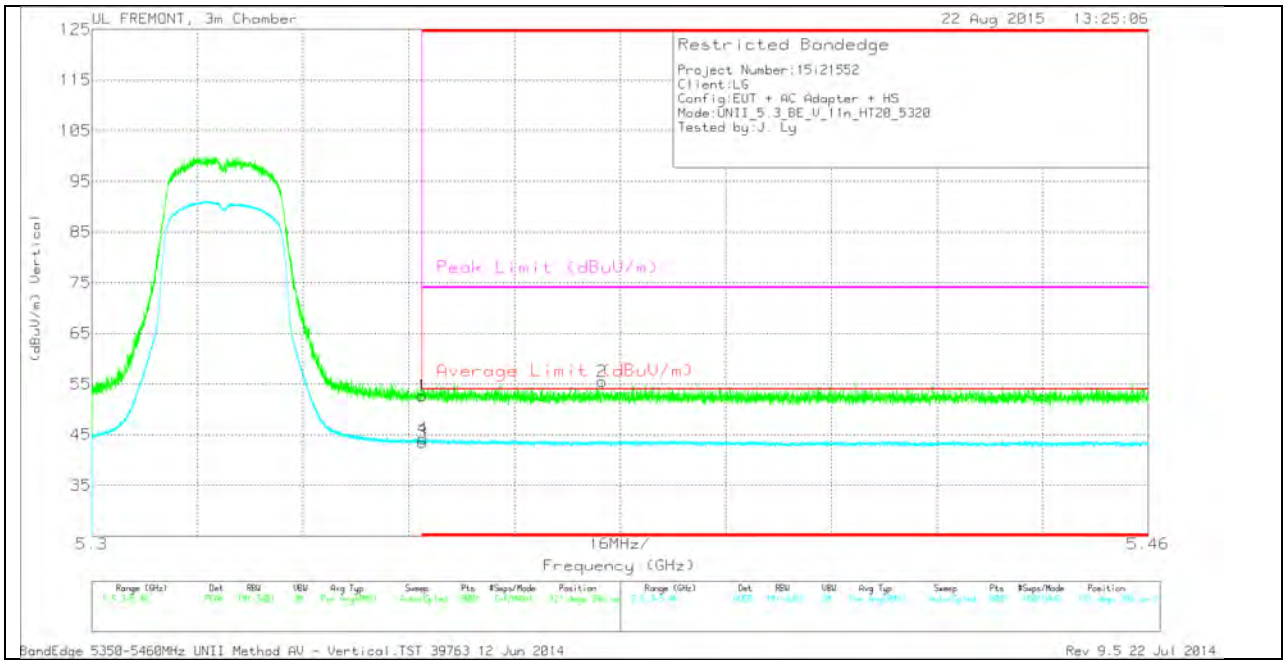
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	38.61	PK	34.5	-20.5	52.61	-	-	74	-21.39	121	396	V
2	* 5.377	41.53	PK	34.6	-20.6	55.53	-	-	74	-18.47	121	396	V
3	* 5.35	29.52	RMS	34.5	-20.5	43.52	54	-10.48	-	-	121	396	V
4	* 5.35	30.24	RMS	34.5	-20.5	44.24	54	-9.76	-	-	121	396	V

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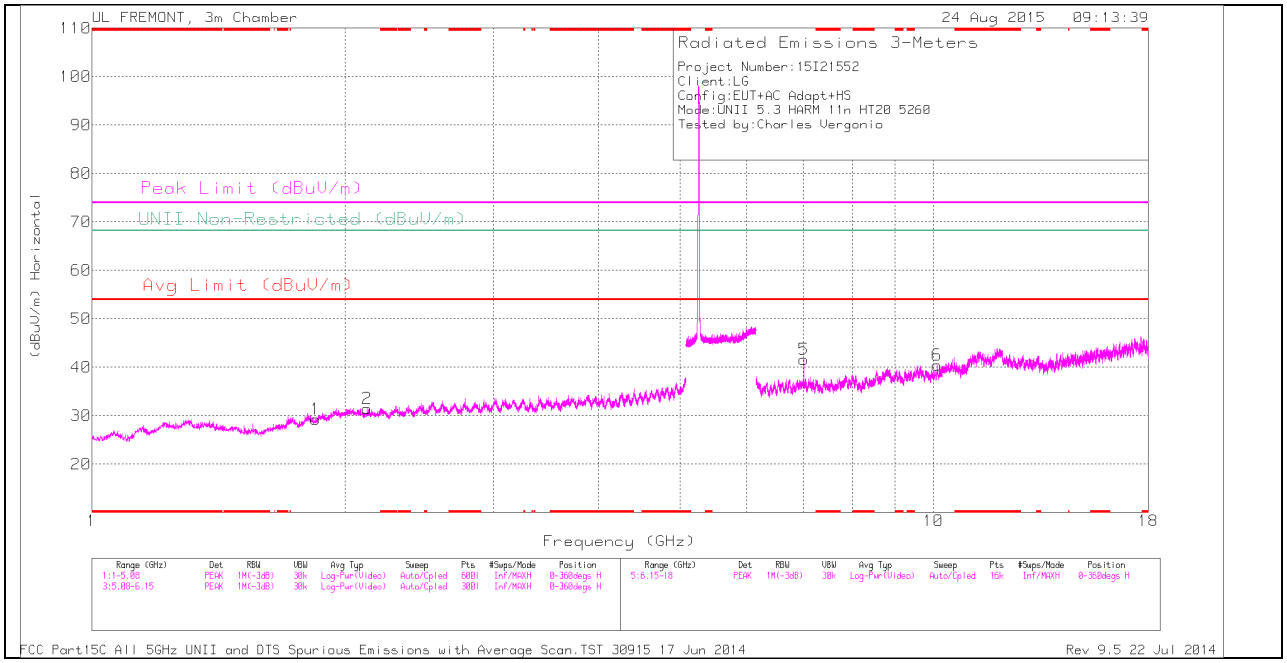
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

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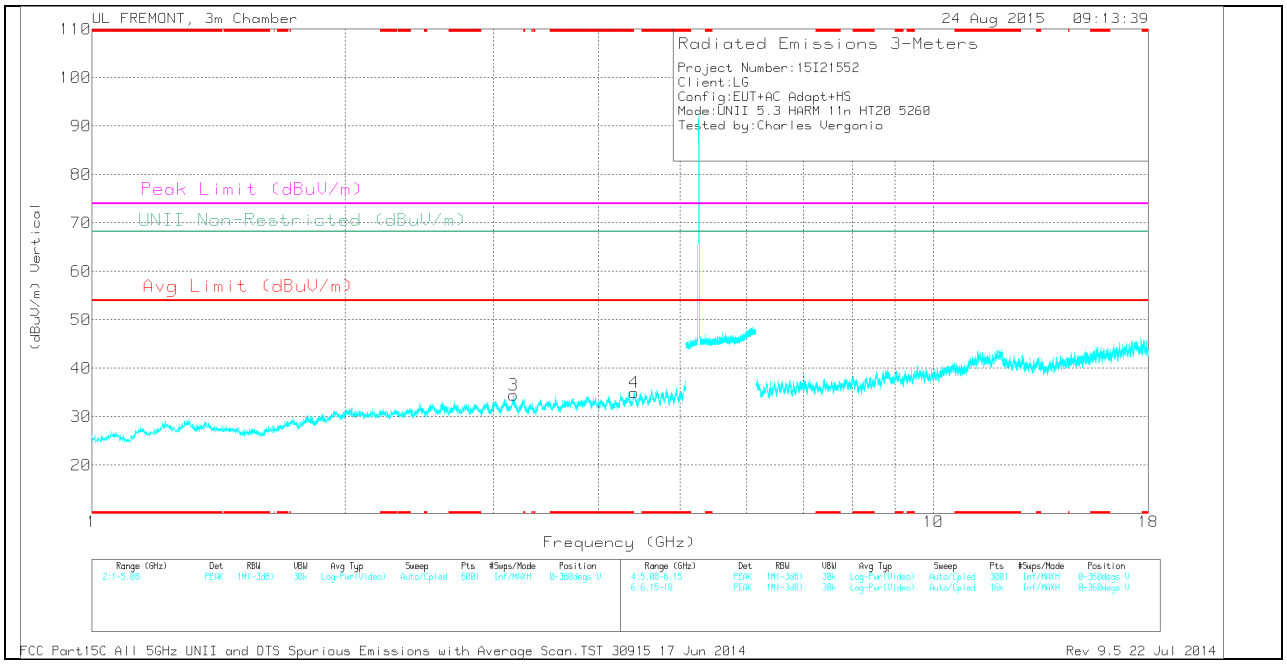
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.844	31.26	PK	30.6	-32.6	29.26	-	-	-	-	68.2	-38.94	0-360	100	H
2	2.123	32.13	PK	31.5	-32.2	31.43	-	-	-	-	68.2	-36.77	0-360	200	H
3	3.169	32.61	PK	32.7	-30.8	34.51	-	-	-	-	68.2	-33.69	0-360	200	V
4	4.412	31.22	PK	33.7	-29.9	35.02	-	-	-	-	68.2	-33.18	0-360	200	V
5	7.014	34.05	PK	35.6	-28.1	41.55	-	-	-	-	68.2	-26.65	0-360	100	H
6	10.096	26.9	PK	37	-23.4	40.5	-	-	-	-	68.2	-27.7	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	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
1.844	41.58	PK1	30.6	-32.6	39.58	-	-	-	-	68.2	-28.62	360	100	H
2.123	40.9	PK1	31.5	-32.2	40.2	-	-	-	-	68.2	-28	360	200	H
3.17	41.57	PK1	32.7	-30.8	43.47	-	-	-	-	68.2	-24.73	360	200	V
4.413	40.65	PK1	33.7	-29.9	44.45	-	-	-	-	68.2	-23.75	360	200	V
7.013	40.72	PK1	35.6	-28.1	48.22	-	-	-	-	68.2	-19.98	80	325	H
10.096	36.43	PK1	37	-23.4	50.03	-	-	-	-	68.2	-18.17	80	200	H

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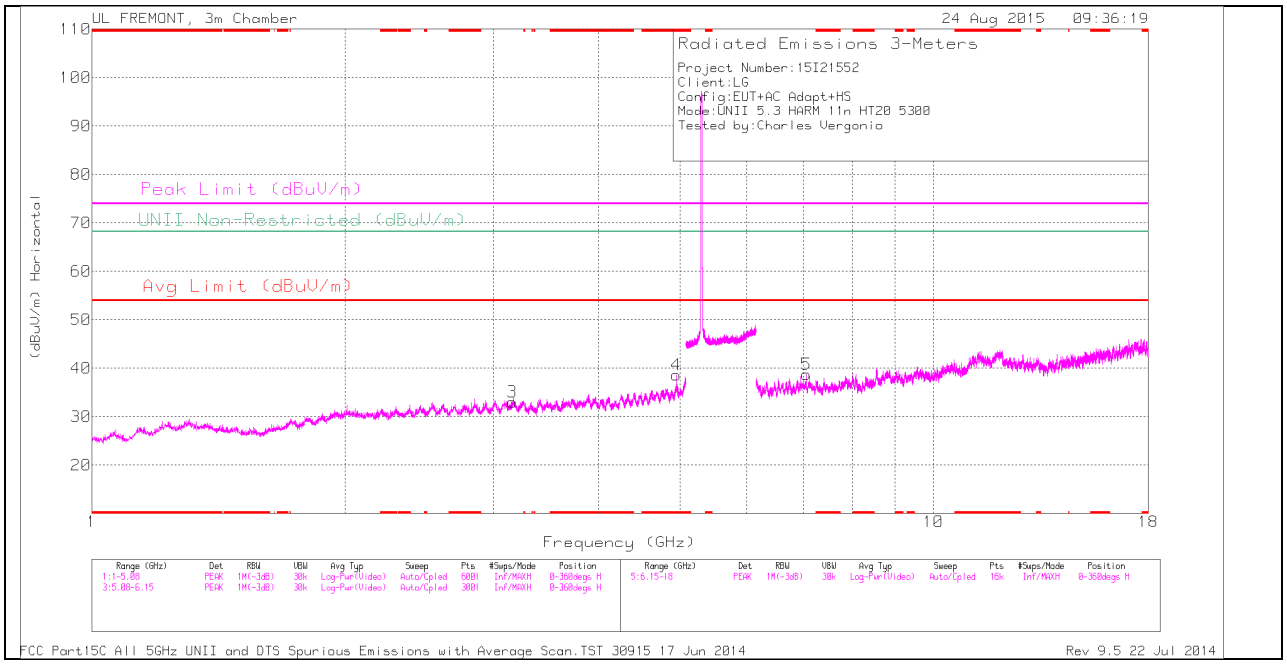
MID CHANNEL HORIZONTAL



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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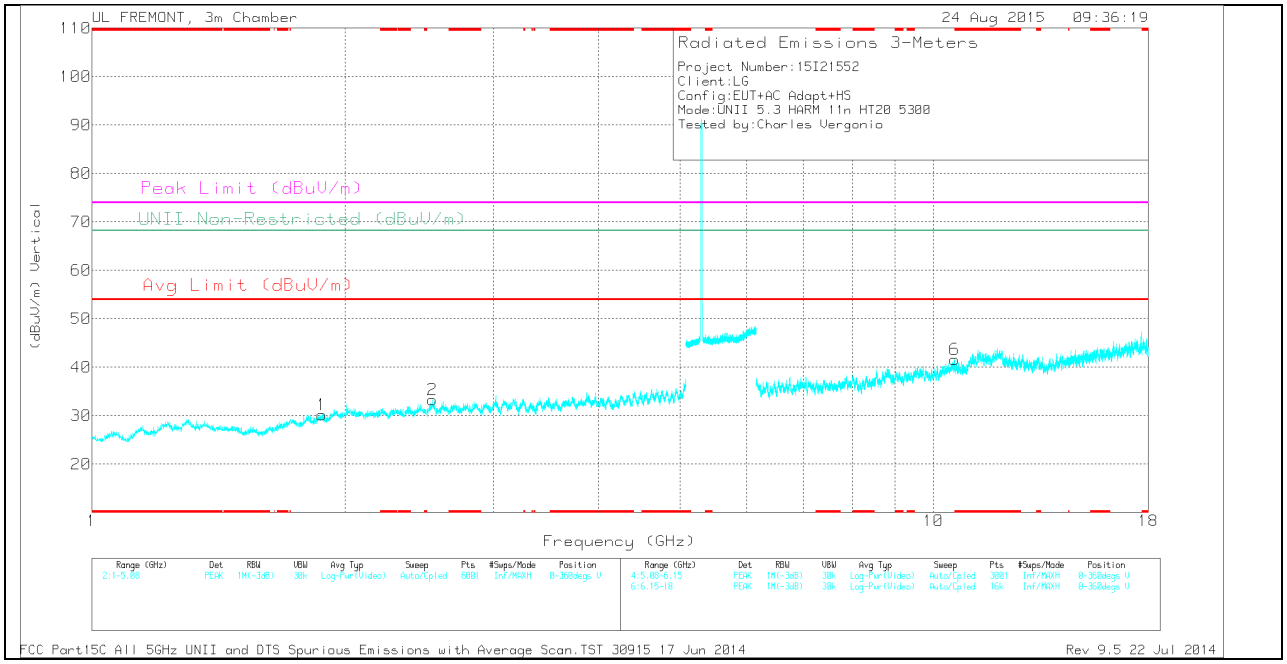
MID CHANNEL VERTICAL



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 T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4.948	33.33	PK	34	-28.7	38.63	-	-	74	-35.37	-	-	0-360	200	H
1	1.874	31.82	PK	30.9	-32.5	30.22	-	-	-	-	68.2	-37.98	0-360	200	V
2	2.539	32.24	PK	32.4	-31.3	33.34	-	-	-	-	68.2	-34.86	0-360	200	V
3	3.161	31.29	PK	32.7	-30.9	33.09	-	-	-	-	68.2	-35.11	0-360	100	H
5	7.067	31.59	PK	35.6	-28.4	38.79	-	-	-	-	68.2	-29.41	0-360	100	H
6	10.591	26.95	PK	37.6	-22.9	41.65	-	-	-	-	68.2	-26.55	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.949	42.23	PK1	34	-28.7	47.53	-	-	74	-26.47	-	-	175	255	H
* 4.948	30.68	AD1	34	-28.7	35.98	54	-18.02	-	-	-	-	175	255	H
1.873	41.64	PK1	30.9	-32.5	40.04	-	-	-	-	68.2	-28.16	0	200	V
2.538	41.38	PK1	32.4	-31.4	42.38	-	-	-	-	68.2	-25.82	0	200	V
3.161	40.71	PK1	32.7	-30.9	42.51	-	-	-	-	68.2	-25.69	0	100	H
7.066	38.25	PK1	35.6	-28.3	45.55	-	-	-	-	68.2	-22.65	0	100	H
10.592	35.43	PK1	37.6	-22.9	50.13	-	-	-	-	68.2	-18.07	0	200	V

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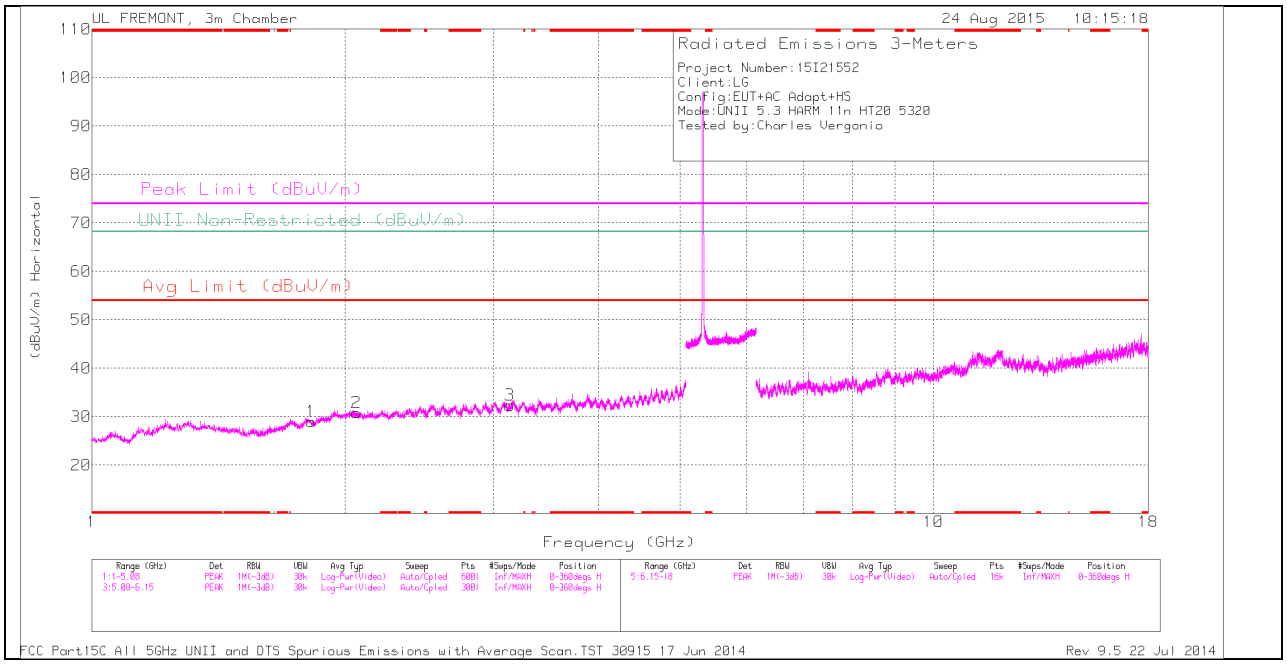
HIGH CHANNEL HORIZONTAL



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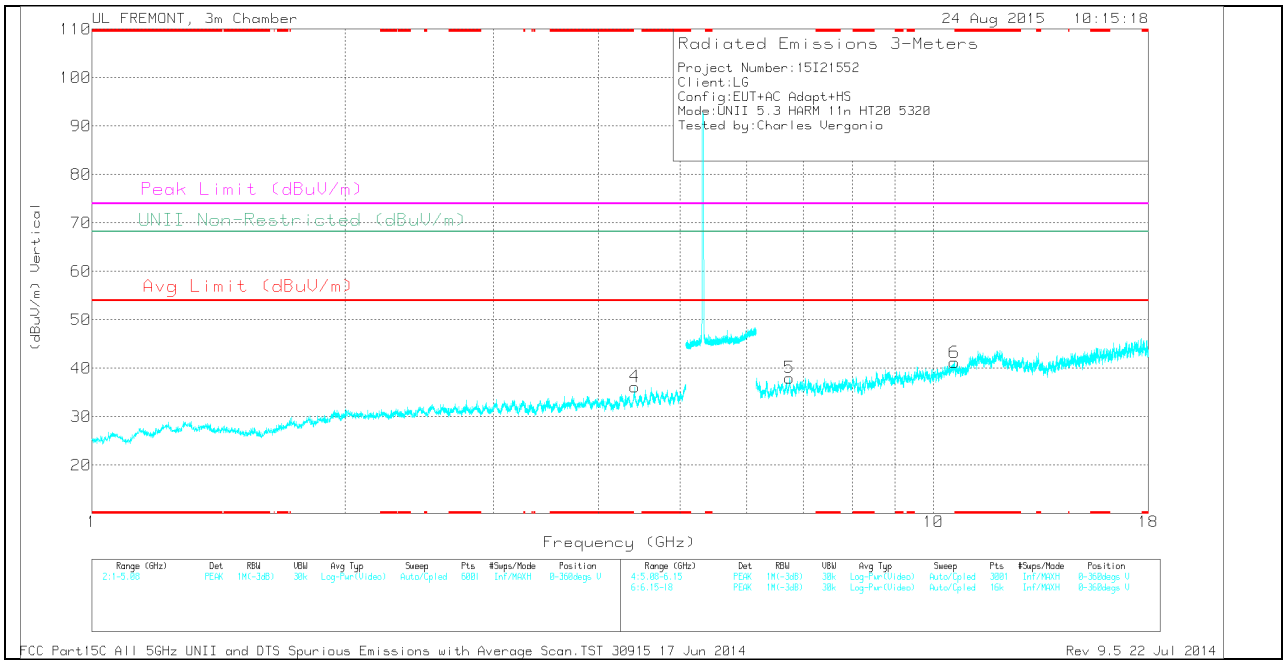
HIGH CHANNEL VERTICAL



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