FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE + BLUETOOTH + DTS/UNII a/b/g/n/ac + ANT+ and NFC

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.

EUT DESCRIPTION: GSM/WCDMA/LTE + BLUETOOTH, DTS/UNII a/b/g/n/ac + ANT+ and NFC

SERIAL NUMBER: CB5A23Q9M5 (Conducted), CB5A23Q1WM (Radiated)

DATE TESTED: FEBRUARY 20 – MARCH 13, 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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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.4-2009. 789033 D02 General UNII Test Procedures New Rules v01

3. FACILITIES AND ACCREDITATION

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

47173 Benicia Street	47266 Benicia Street
☒ Chamber A	☐ Chamber F
☒ Chamber B	☐ Chamber G
☒ Chamber C	☐ Chamber H

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 40000 MHz	4.94 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE + BLUETOOTH, DTS/UNII a/b/g/n/ac + ANT+ and NFC

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180-5240	802.11a	12.24	16.75
5180-5240	802.11n HT20	12.05	16.03
5190-5230	802.11n HT40	12.25	16.79
5210	802.11ac HT80	12.16	16.44
5260-5320	802.11a	11.91	15.52
5260-5320	802.11n HT20	12.09	16.18
5270-5310	802.11n HT40	12.11	16.26
5290	802.11ac HT80	11.91	15.52
5500-5710	802.11a	12.26	16.83
5500-5710	802.11n HT20	12.25	16.79
5510-5720	802.11n HT40	11.9	15.49
5530-5690	802.11ac HT80	11.66	14.66
5745-5825	802.11a	11.41	13.84
5745-5825	802.11n HT20	11.51	14.16
5755-5795	802.11n HT40	11.29	13.46
5775	802.11ac HT80	11.19	13.15

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The transmitter has average conducted output power (measured by power meter) as follows:

Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Avg Pwr C0 (dBm)	Avg Pwr C1 (dBm)
5.2 (UNII-1)	802.11a	6 Mbps	36	5180	8.9	8.2
			40	5200	8.9	8.4
			44	5220	8.9	8.5
			48	5240	8.9	8.4
	802.11n (HT20)	6.5 Mbps	36	5180	8.9	8.3
			40	5200	9.0	8.3
			44	5220	9.0	8.7
			48	5240	8.8	8.2
	802.11n (HT40)	13.5 Mbps	38	5190	9.0	8.2
			46	5230	9.0	8.3
	802.11ac (VHT20)	6.5 Mbps	36	5180	9.1	8.3
			40	5200	9.2	8.7
			44	5220	9.1	8.4
			48	5240	9.0	8.2
	802.11ac (VHT40)	13.5 Mbps	38	5190	8.9	8.5
			46	5230	8.9	8.5
	802.11ac (VHT80)	29.3 Mbps	42	5210	9.1	8.1
5.3 (UNII-2A)	802.11a	6 Mbps	52	5260	9.1	8.3
			56	5280	8.9	8.3
			60	5300	8.8	8.5
			64	5320	8.7	8.7
	802.11n (HT20)	6.5 Mbps	52	5260	9.2	8.3
			56	5280	8.9	8.2
			60	5300	9.0	8.4
			64	5320	8.8	8.8
	802.11n (HT40)	13.5 Mbps	54	5270	9.1	8.6
			62	5310	9.0	8.7
	802.11ac (VHT20)	6.5 Mbps	52	5260	9.2	8.4
			56	5280	8.9	8.3
			60	5300	9.0	8.3
			64	5320	9.2	8.3
	802.11ac (VHT40)	13.5 Mbps	54	5270	9.1	8.4
			62	5310	9.0	8.3
	802.11ac (VHT80)	29.3 Mbps	58	5290	9.1	8.0

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5.5 (UNII-2C)	802.11a	6 Mbps	100	5500	8.9	8.2
			104	5520	9.0	8.4
			108	5540	8.9	8.3
			112	5560	8.6	8.1
			116	5580	9.0	8.1
			120	5600	8.7	8.0
			124	5620	8.9	8.3
			128	5640	8.8	8.2
	802.11n (HT20)	6.5 Mbps	100	5500	8.8	8.4
			104	5520	8.8	8.3
			108	5540	8.9	8.3
			112	5560	8.8	8.1
			116	5580	8.8	8.4
			120	5600	8.8	8.5
			124	5620	8.9	8.2
			128	5640	8.7	8.2
	802.11n (HT40)	13.5 Mbps	102	5510	8.9	8.3
			110	5550	8.8	8.3
			118	5590	9.0	8.3
			126	5630	8.9	8.2
	802.11ac (VHT20)	6.5 Mbps	100	5500	8.9	8.3
			104	5520	8.9	8.2
			108	5540	9.2	8.2
			112	5560	9.2	8.0
			116	5580	8.8	8.4
			120	5600	9.2	8.4
			124	5620	8.9	8.0
			128	5640	9.0	8.4
	802.11ac (VHT40)	13.5 Mbps	102	5510	9.0	8.4
			110	5550	9.1	8.0
			118	5590	8.6	8.2
			126	5630	9.0	8.3
	802.11ac (VHT80)	29.3 Mbps	106	5530	9.1	8.5
			122	5610	8.9	8.4

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5.8 (UNII-3)	802.11a	6 Mbps	132	5660	8.9	8.2
			136	5680	8.8	8.3
			140	5700	8.8	8.3
			144	5720	9.2	8.2
			149	5745	9.0	8.4
			153	5765	8.7	8.5
			157	5785	8.9	8.5
			161	5805	9.0	8.4
			165	5825	8.8	8.4
	802.11n (HT20)	6.5 Mbps	132	5660	9.1	8.4
			136	5680	8.9	8.0
			140	5700	9.1	8.5
			144	5720	8.8	8.4
			149	5745	8.9	8.1
			153	5765	8.8	7.9
			157	5785	8.8	7.6
			161	5805	9.0	7.2
			165	5825	8.9	8.3
	802.11n (HT40)	13.5 Mbps	134	5670	8.6	8.3
			142	5710	8.7	8.3
			151	5755	8.7	8.2
			159	5795	9.0	8.0
	802.11ac (VHT20)	6.5 Mbps	132	5660	8.7	8.4
			136	5680	8.8	8.2
			140	5700	9.2	8.5
			144	5720	8.9	8.2
			149	5745	8.8	8.3
			153	5765	8.8	8.3
			157	5785	9.0	8.3
			161	5805	9.2	8.3
			165	5825	9.0	8.2
	802.11ac (VHT40)	13.5 Mbps	134	5670	9.3	8.5
			142	5710	8.8	8.1
			151	5755	9.0	8.5
			159	5795	8.8	8.2
	802.11ac (VHT80)	29.3 Mbps	138	5690	9.0	8.0
			155	5775	8.9	7.7

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5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, please refer to section 10.4 for antenna gain information.

5.4. 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/STBC 2TX	802.11a 2TX CDD
5180 - 5240	802.11HT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11HT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5180 - 5240	802.11ac VHT20 2TX CDD/Tx BF	802.11n HT20 2TX CDD
5190 - 5230	802.11n HT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11n HT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5190 - 5230	802.11ac VHT40 2TX CDD/Tx BF	802.11n HT40 2TX CDD
5210	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5210	802.11ac VHT80 2TX STBC/SDM/Tx BF	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5260 - 5320	802.11a legacy 1TX/STBC 2TX	802.11a 2TX CDD
5260 - 5320	802.11HT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11HT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5260 - 5320	802.11ac VHT20 2TX CDD/Tx BF	802.11n HT20 2TX CDD
5270 - 5310	802.11n HT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11n HT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5270 - 5310	802.11ac VHT40 2TX CDD/Tx BF	802.11n HT40 2TX CDD
5290	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5290	802.11ac VHT80 2TX STBC/SDM/Tx BF	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/STBC 2TX	802.11a 2TX CDD
5500 - 5720	802.11HT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11HT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5500 - 5720	802.11ac VHT20 2TX CDD/Tx BF	802.11n HT20 2TX CDD
5510 - 5710	802.11n HT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11n HT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5510 - 5710	802.11ac VHT40 2TX CDD/Tx BF	802.11n HT40 2TX CDD
5530 - 5690	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5530 - 5690	802.11ac VHT80 2TX STBC/SDM/Tx BF	802.11ac VHT80 2TX CDD

Authorized Frequency Band (Antenna port & Radiated Testing)		
Frequency Range (MHz)	**Mode**	**Covered by**
5745 - 5825	802.11a legacy 1TX/STBC 2TX	802.11a 2TX CDD
5745 - 5825	802.11HT20 1TX	802.11n HT20 2TX CDD
5745 - 5825	802.11HT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 1TX	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 2TX STBC/SDM	802.11n HT20 2TX CDD
5745 - 5825	802.11ac VHT20 2TX CDD/Tx BF	802.11n HT20 2TX CDD
5755 - 5795	802.11n HT40 1TX	802.11n HT40 2TX CDD
5755 - 5795	802.11n HT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 1TX	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 2TX STBC/SDM	802.11n HT40 2TX CDD
5755 - 5795	802.11ac VHT40 2TX CDD/Tx BF	802.11n HT40 2TX CDD
5775	802.11ac VHT80 1TX	802.11ac VHT80 2TX CDD
5775	802.11ac VHT80 2TX STBC/SDM/Tx BF	802.11ac VHT80 2TX CDD

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5.5. WORST-CASE CONFIGURATION AND MODE

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

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

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

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

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	SONY	EP880	3514W 01 S08328	N/A
Earphone	Sony	N/A	N/A	N/A
USB cable	Sony	N/A	N/A	N/A

I/O CABLES

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

TEST SETUP

The EUT is setup as a stand-alone device.

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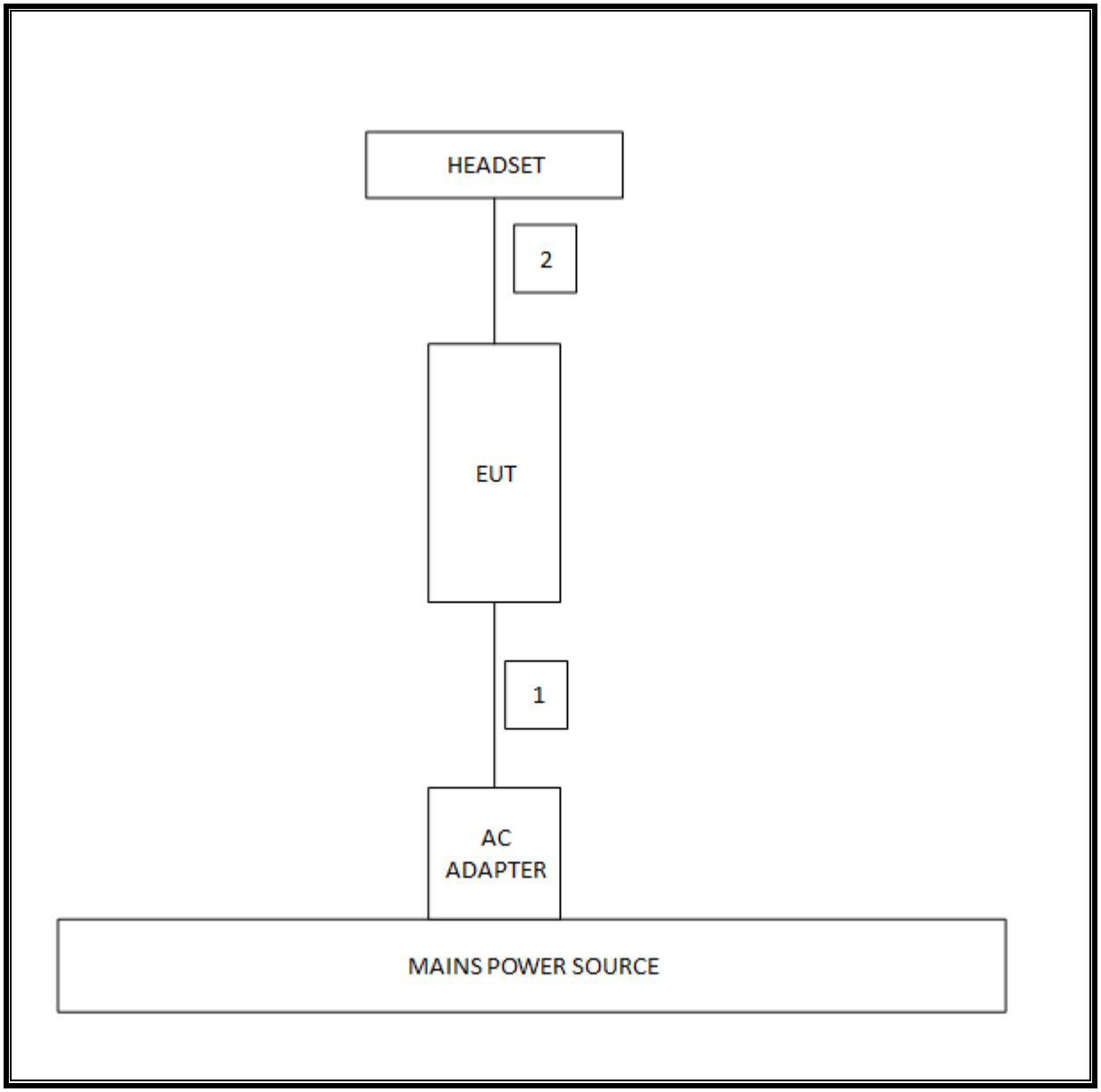
SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	100773	08/15/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	12/08/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 18GHz	Miteq	AFS42-00101800-25-S-42	1818466	05/09/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

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7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.407 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	82.3MHz
14.407	6dB Band width	>500KHz		Pass	16.36MHz
15.407 (a)(2)	TX Cond. Power5.15-2.25, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	12.25dBm
15.407 (a)(3)	TX Cond. Power 5.725-5.850	< 30dBm or 17+10Log(OBW)		Pass	11.51dBm
15.407 (a)(5)	PSD (5.2,5.3,5.5GHz)	<11dBm		Pass	0.64dBm
15.407 (a)(5)	PSD	30dBm per 500kHz		Pass	-3.08dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	47.19dBuV(AV)
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	50.31dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	N/A

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8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

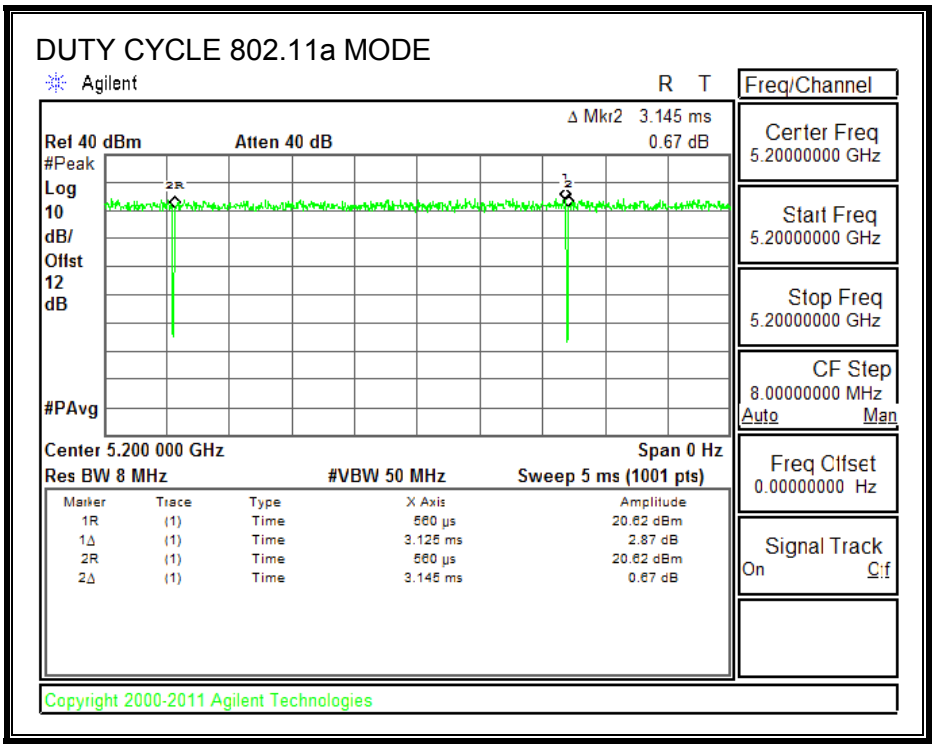
KDB 789033 Zero-Span Spectrum Analyzer Method.

8.1. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	3.13	3.15	0.994	99.4%	0.00	0.010
802.11n HT20	1.48	1.496	0.987	98.7%	0.00	0.010
802.11n HT40	0.73	0.752	0.972	97.2%	0.12	1.368
802.11ac HT80	0.36	0.383	0.945	94.5%	0.24	2.762

8.2. DUTY CYCLE PLOTS

DUTY CYCLE 802.11a MODE



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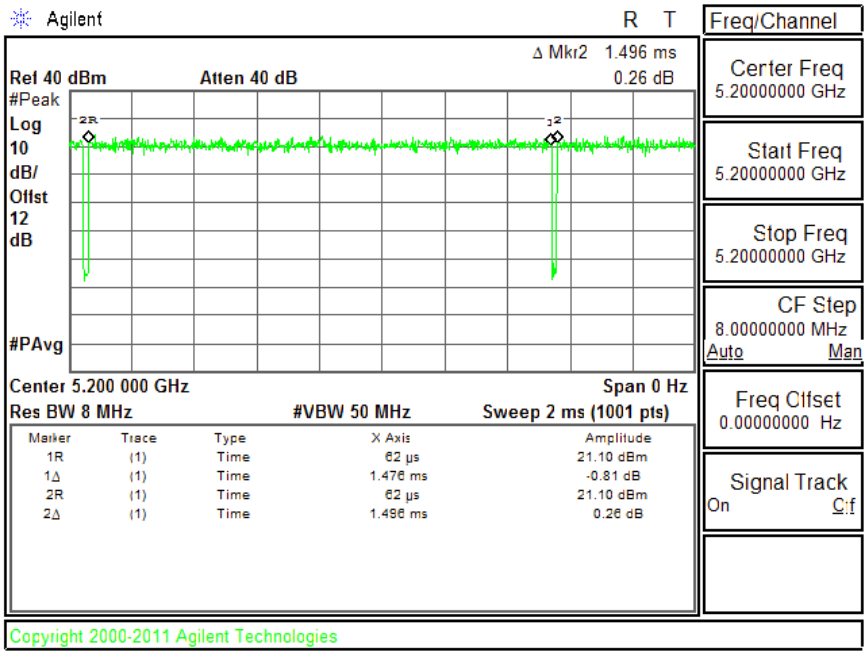
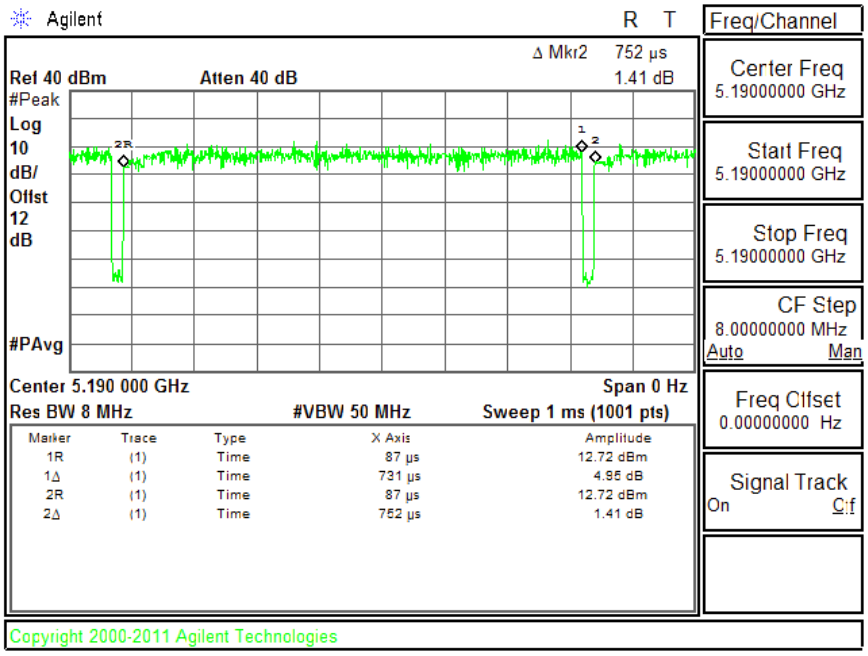
DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



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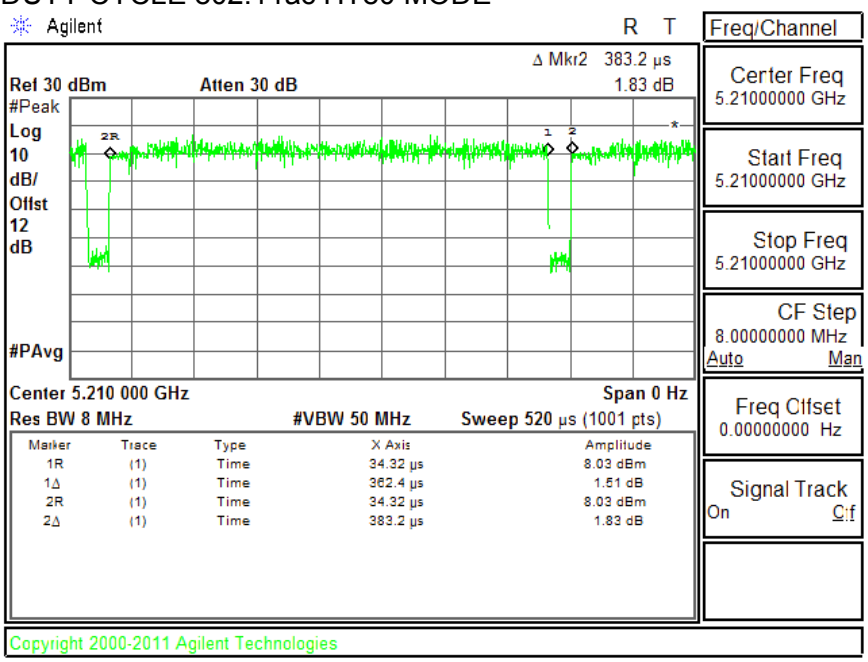
DUTY CYCLE 802.11ac HT80 MODE



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9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

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

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

Straddle Channels: KDB 644545 D01 v01r02

MIMO Device: KDB 662911 v02r01

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10. ANTENNA PORT TEST RESULTS

10.1. 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

10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5745	16.38	16.43	0.5
Mid	5785	16.41	16.41	0.5
High	5825	16.36	16.43	0.5
Worst		16.36	16.41	

10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5745	17.61	17.66	0.5
Mid	5785	17.58	17.61	0.5
High	5825	17.64	17.61	0.5
Worst		17.58	17.61	

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10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5755	36.37	36.36	0.5
High	5795	36.31	36.42	0.5
Worst		36.31	36.36	0.5

10.1.4. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5775	75.50	76.00	0.5
Worst				0.5

10.1.5. 802.11a MODE THE CHANNEL 144

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
144	5720	3.26	3.25	0.5

Note: the 6dB minimum bandwidth for the portion falling in the UNII-3 band.

10.1.6. 802.11n HT20 MODE THE CHANNEL 144

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
144	5720	3.90	3.90	0.5

Note: the 6dB minimum bandwidth for the portion falling in the UNII-3 band.

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10.1.7. 802.11n HT40 MODE THE CHANNEL 142

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
142	5710	3.24	3.24	0.5

Note: the 6dB minimum bandwidth for the portion falling in the UNII-3 band.

10.1.8. 802.11ac HT80 MODE THE CHANNEL 138

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
138	5690	3.16	3.16	0.5

Note: the 6dB minimum bandwidth for the portion falling in the UNII-3 band.

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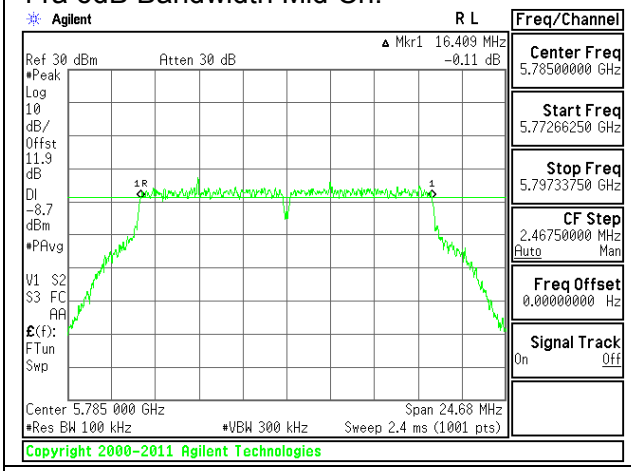
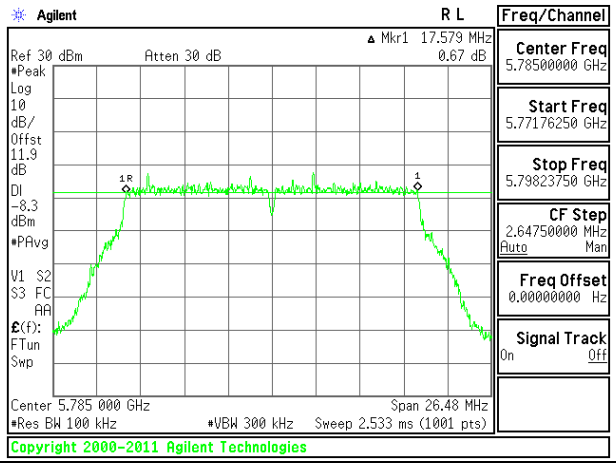
10.1.9. 6 dB BANDWIDTH MID CH PLOTS

6 dB BANDWIDTH Chain 0

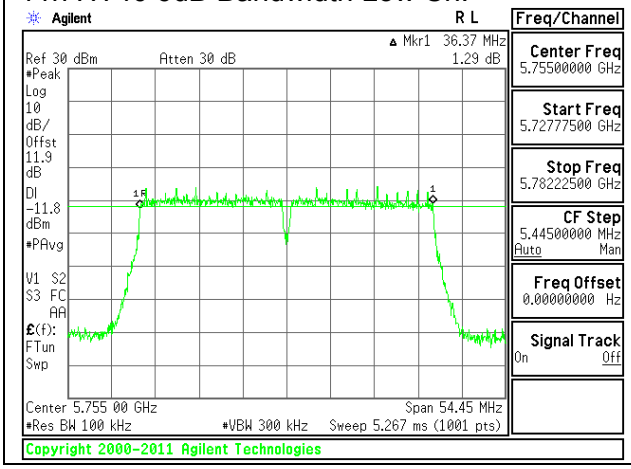
11a 6dB Bandwidth Mid Ch.



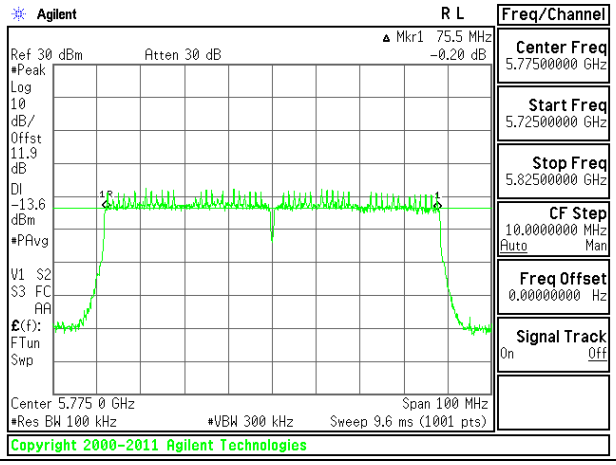
11n HT20 6dB Bandwidth Mid Ch.



11n HT40 6dB Bandwidth Low Ch.



11ac HT80 6dB Bandwidth Mid Ch.



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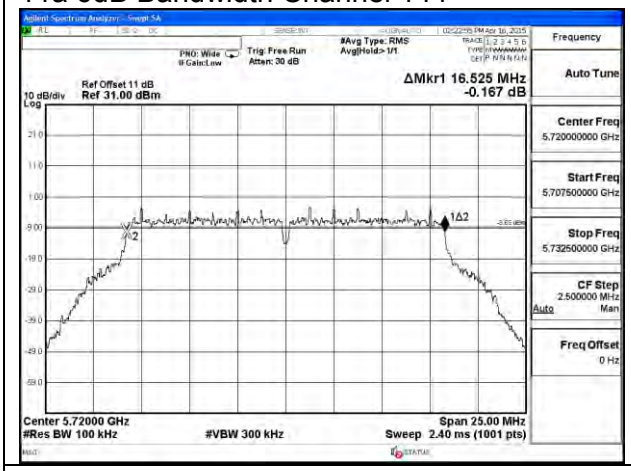
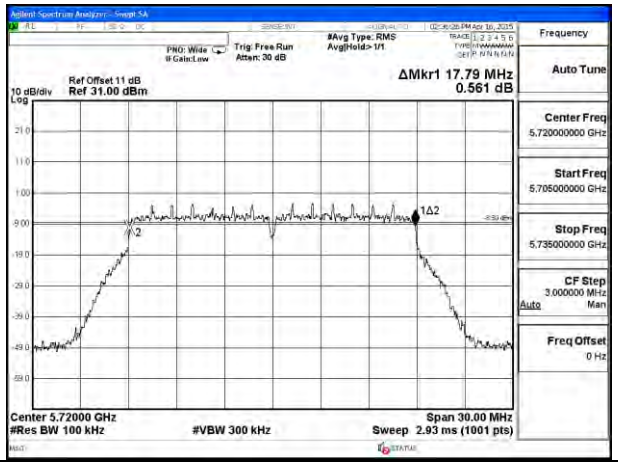
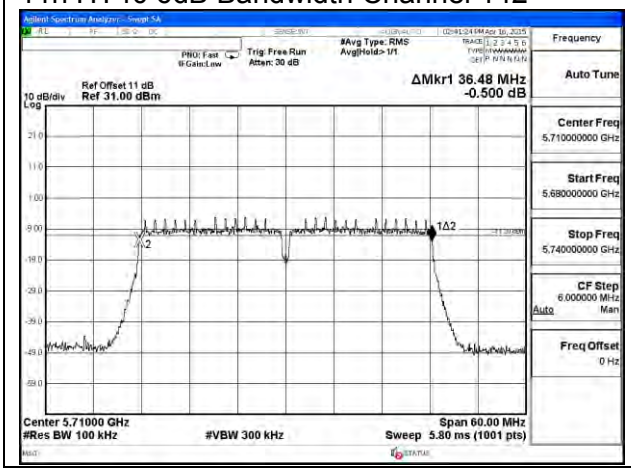
11a 6dB Bandwidth Channel 144



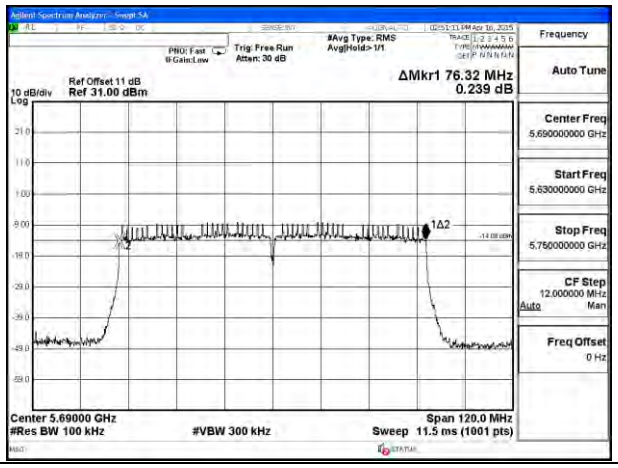
11n HT20 6dB Bandwidth Channel 144



11n HT40 6dB Bandwidth Channel 142



11ac HT80 6dB Bandwidth Channel 138



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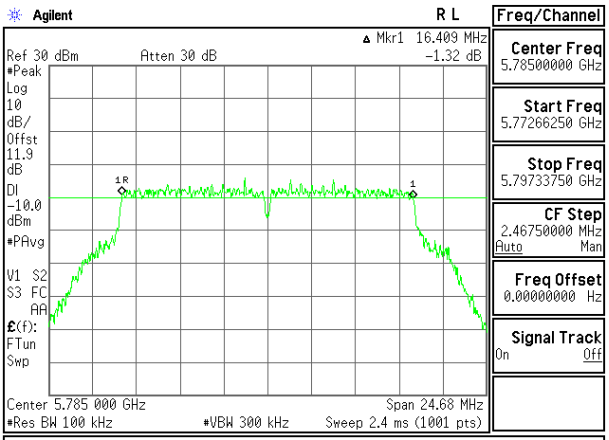
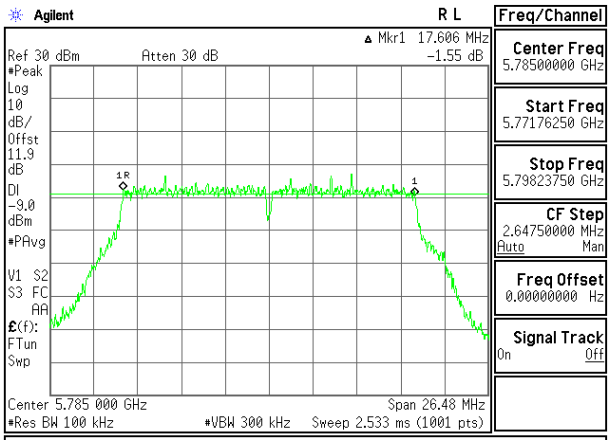
6 dB BANDWIDTH Chain 1

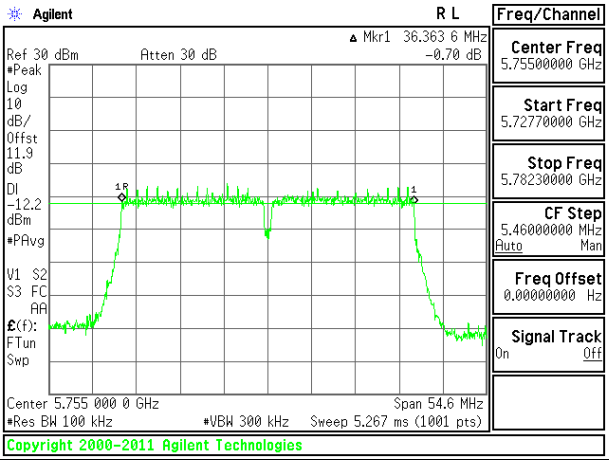
11a 6dB Bandwidth Mid Ch.



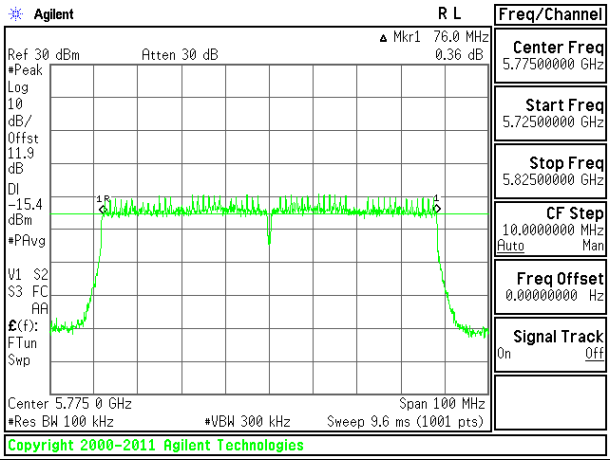
11n HT20 6dB Bandwidth Mid Ch.



11n HT40 6dB Bandwidth Low Ch.



11ac HT80 6dB Bandwidth Mid Ch.



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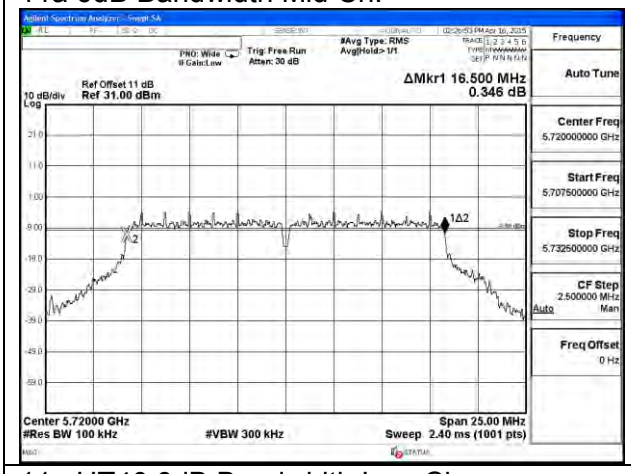
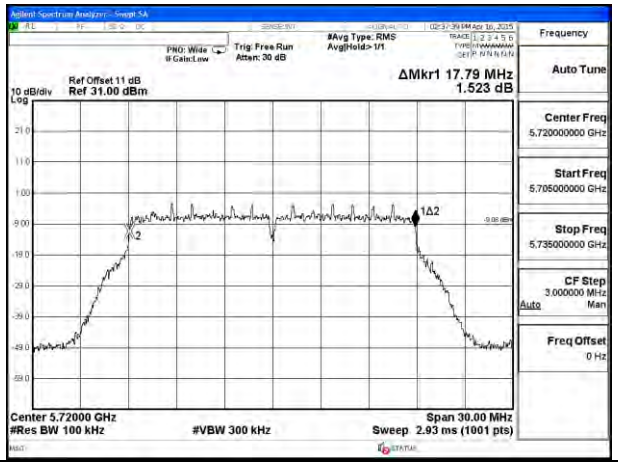
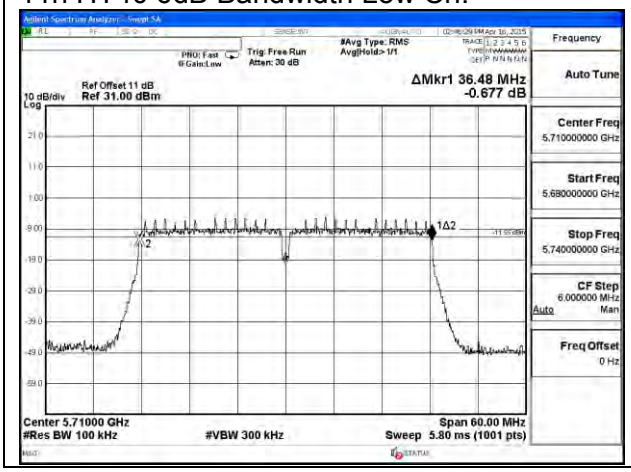
11a 6dB Bandwidth Mid Ch.



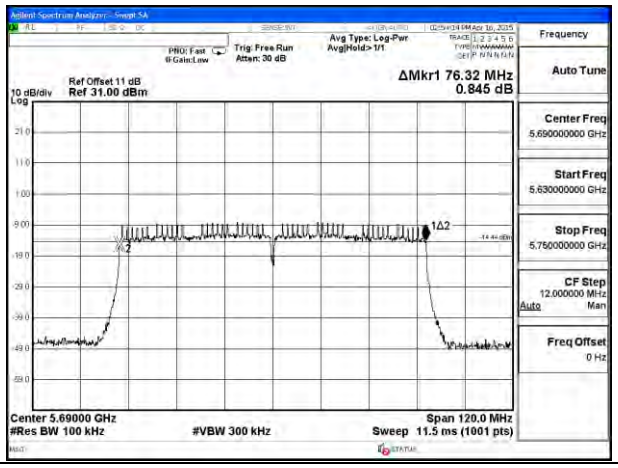
11n HT20 6dB Bandwidth Mid Ch.



11n HT40 6dB Bandwidth Low Ch.



11ac HT80 6dB Bandwidth Mid Ch.



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10.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.2	21.7
Mid	5200	21.6	21.4
High	5240	18.6	18.7

10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.8	21.6
Mid	5200	21.8	21.8
High	5240	18.8	22.1

10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	40.2	43.6
High	5230	40.0	46.7

10.2.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5210	82.0	81.1

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10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	18.6	18.6
Mid	5300	21.6	21.6
High	5320	21.6	21.8

10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	19.1	19.0
Mid	5300	21.9	21.9
High	5320	21.8	22.0

10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.4	39.8
High	5310	40.3	39.8

10.2.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5290	82.3	81.6

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10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.6	21.8
Mid	5580	18.6	18.7
High	5700	21.7	21.8
144	5720	21.7	21.66

10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.8	22.0
Mid	5580	19.1	19.0
High	5700	21.8	21.9
144	5720	21.92	21.79

10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	40.4	39.7
Mid	5550	40.1	39.8
High	5670	40.2	39.8
142	5710	40.31	39.55

10.2.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	82.3	82.1
138	5690	82	81.5

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10.2.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	21.7	21.7
Mid	5785	21.7	21.8
High	5825	21.7	21.8

10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	21.8	21.9
Mid	5785	21.9	22.1
High	5825	21.9	21.9

10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5755	40.1	39.9
High	5795	40.4	39.9

10.2.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5775	82.1	82.3

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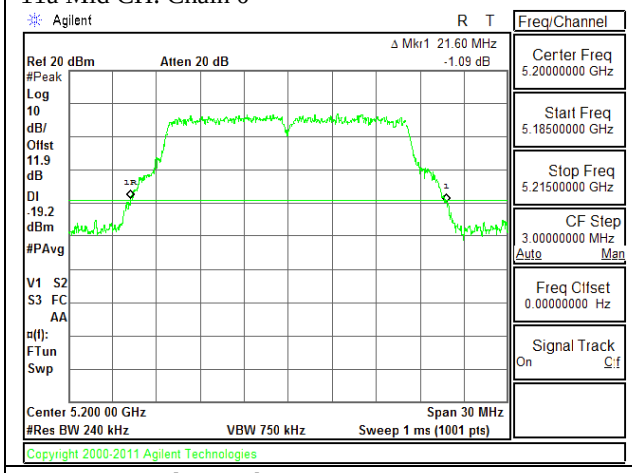
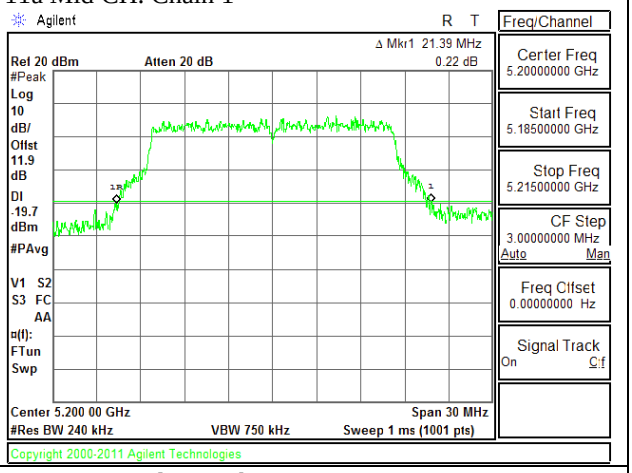
10.2.17. 26 dB BANDWIDTH PLOTS

UNII 5.2 GHz

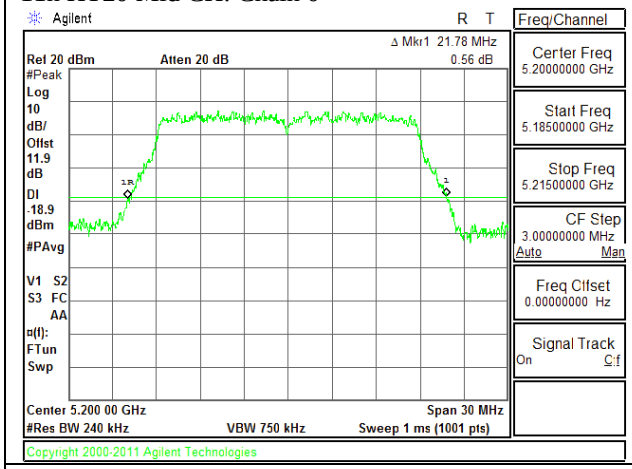
11a Mid CH. Chain 0



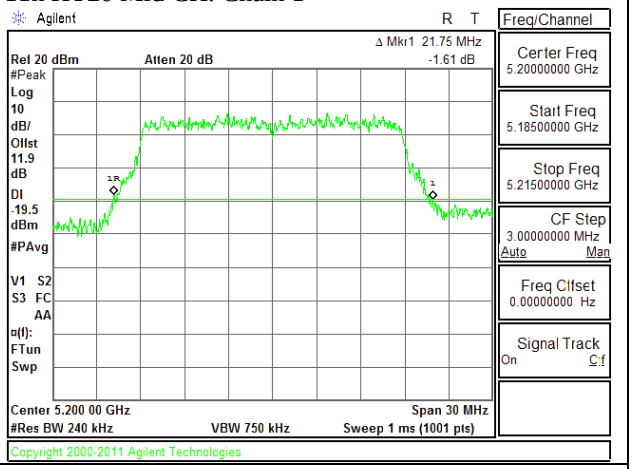
11a Mid CH. Chain 1



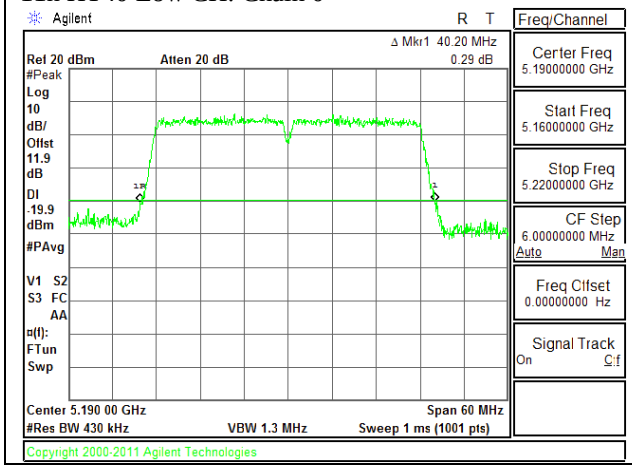
11n HT20 Mid CH. Chain 0



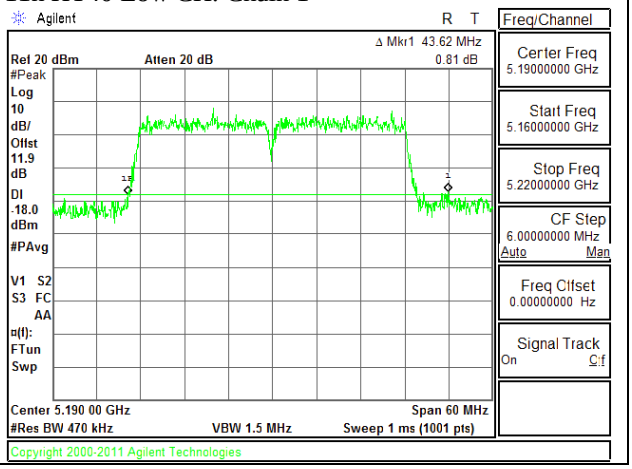
11n HT20 Mid CH. Chain 1



11n HT40 Low CH. Chain 0



11n HT40 Low CH. Chain 1



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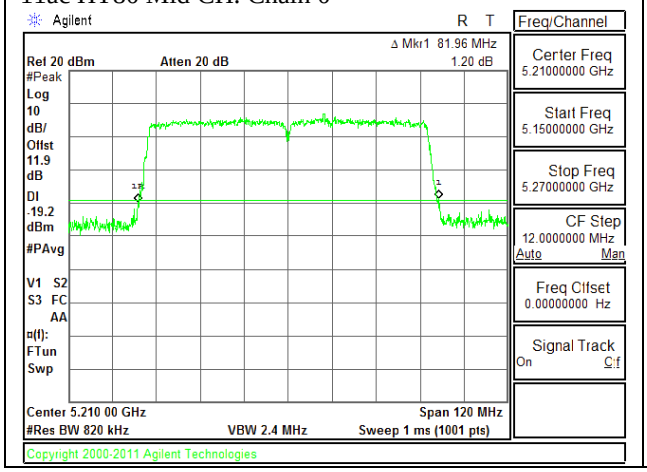
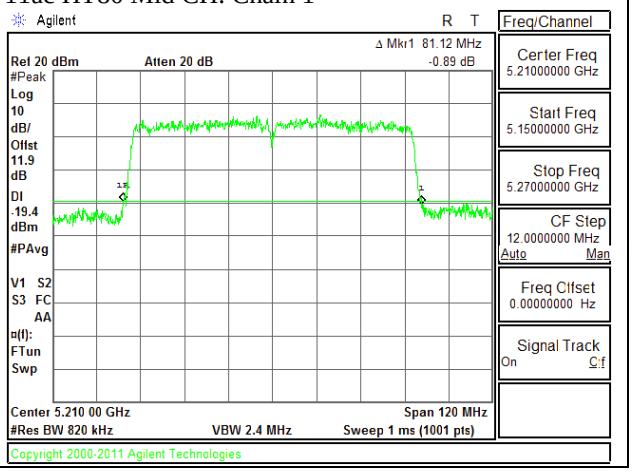
11ac HT80 Mid CH. Chain 0

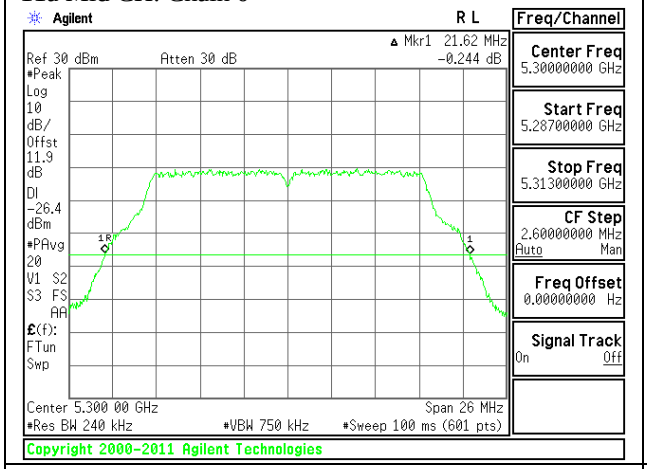


11ac HT80 Mid CH. Chain 1

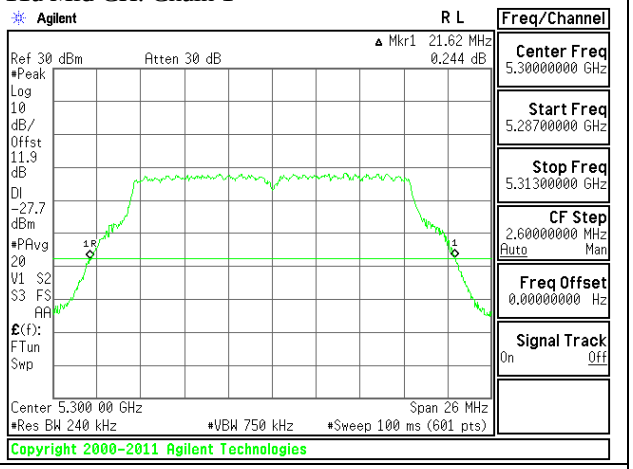


UNII 5.3GHz

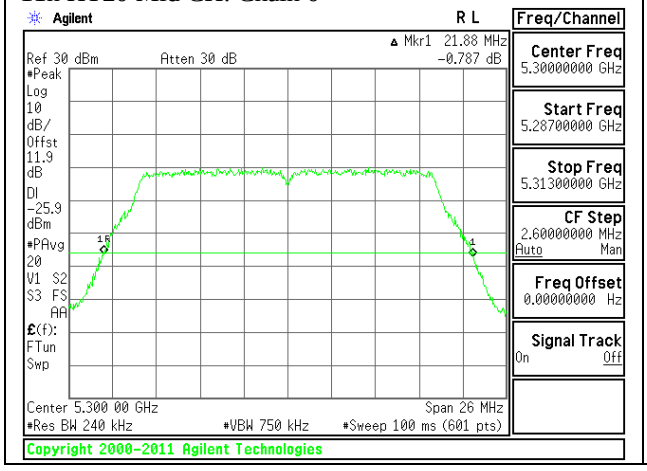
11a Mid CH. Chain 0



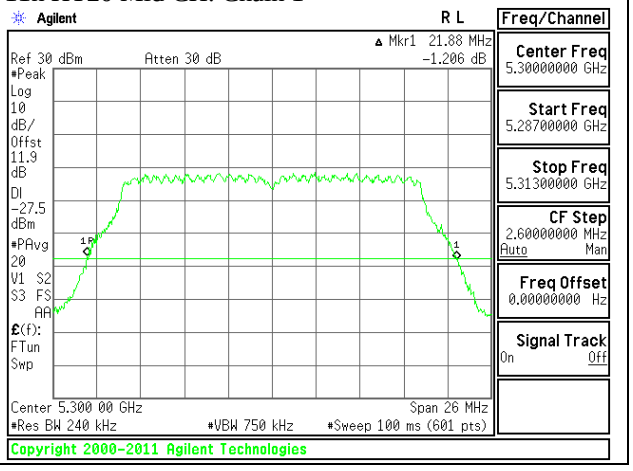
11a Mid CH. Chain 1



11n HT20 Mid CH. Chain 0



11n HT20 Mid CH. Chain 1



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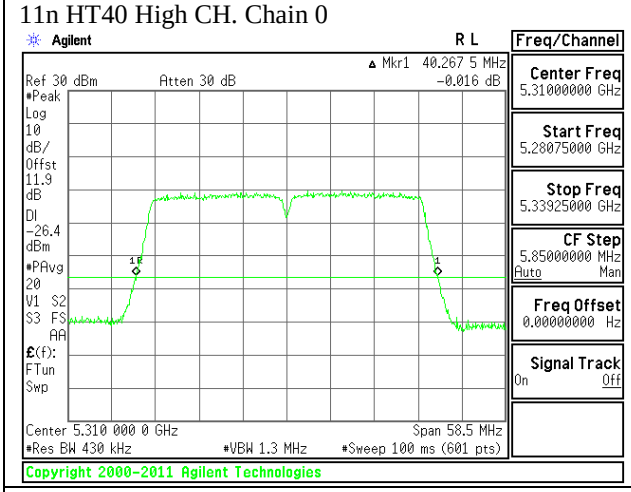
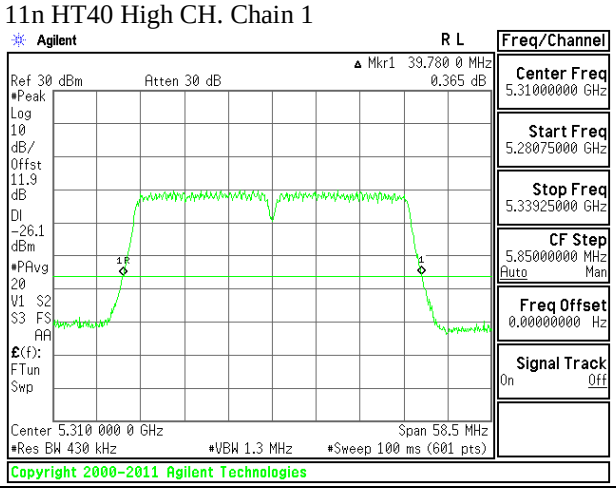
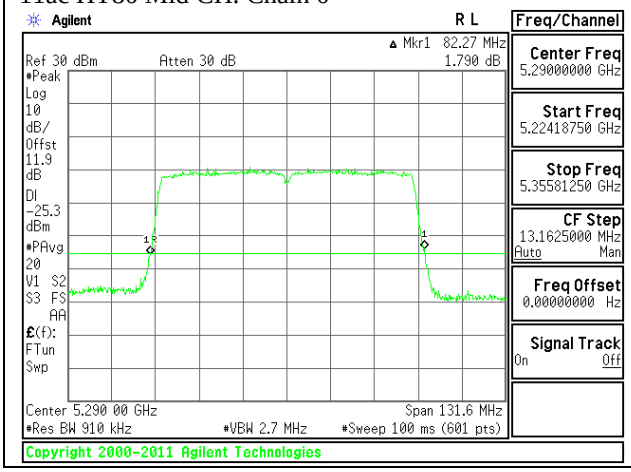
11n HT40 High CH. Chain 0



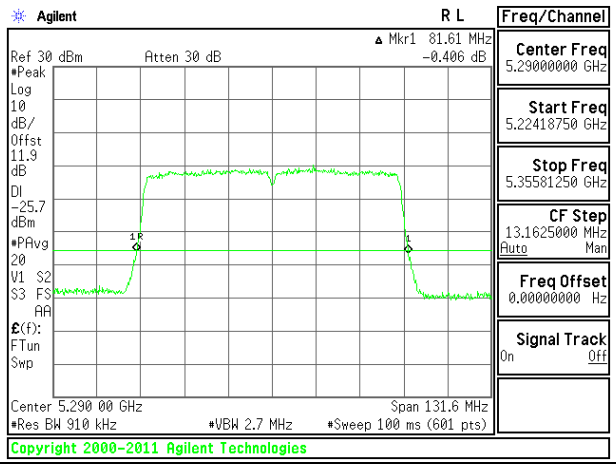
11n HT40 High CH. Chain 1



11ac HT80 Mid CH. Chain 0

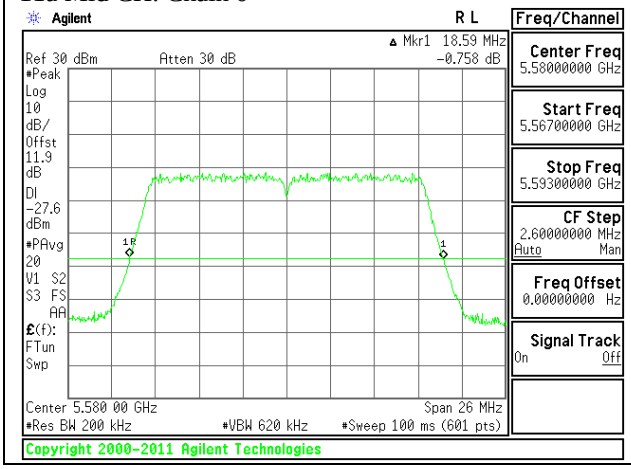


11ac HT80 Mid CH. Chain 1

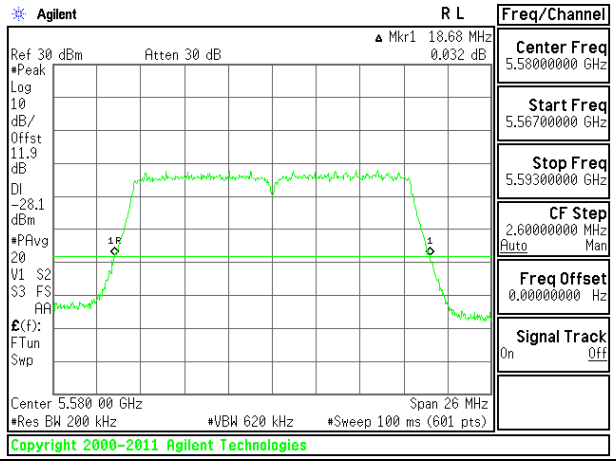


UNII 5.5GHz

11a Mid CH. Chain 0



11a Mid CH. Chain 1



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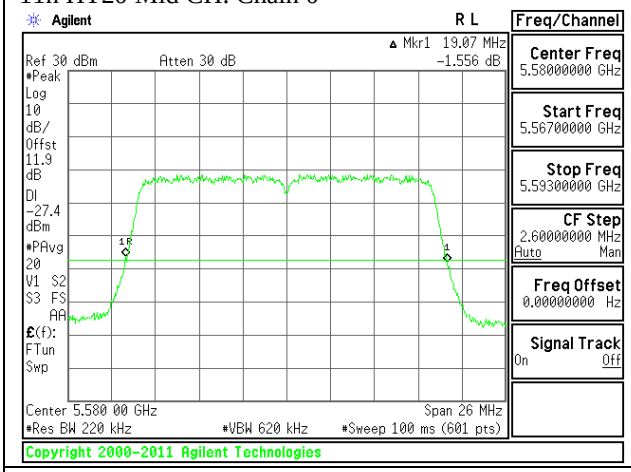
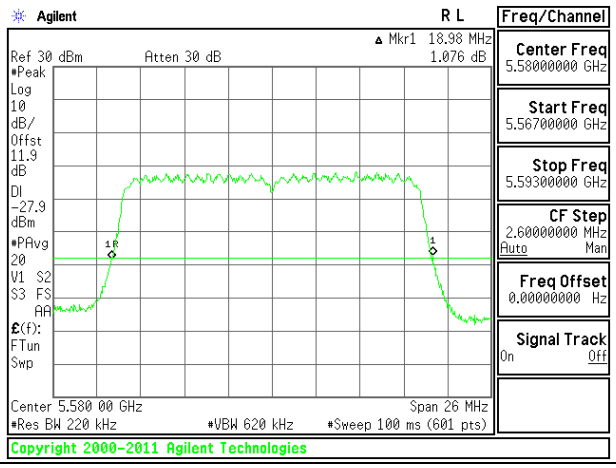
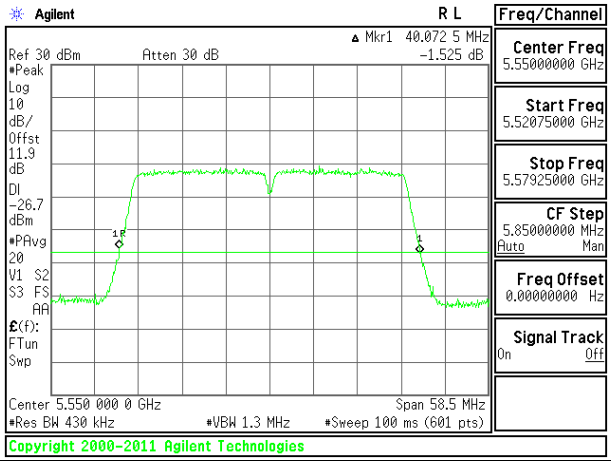
11n HT20 Mid CH. Chain 0



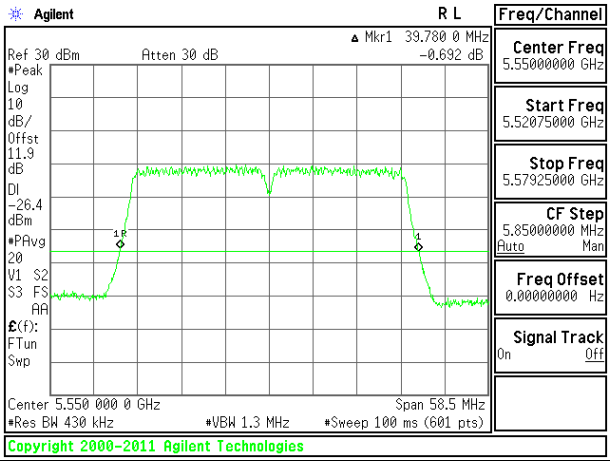
11n HT20 Mid CH. Chain 1



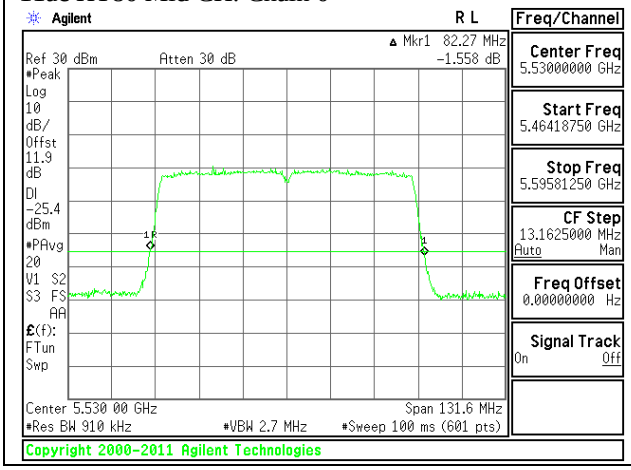
11n HT40 Mid CH. Chain 0



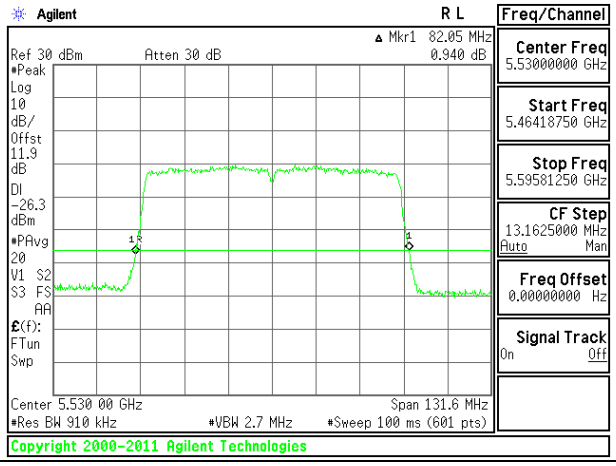
11n HT40 Mid CH. Chain 1



11ac HT80 Mid CH. Chain 0



11ac HT80 Mid CH. Chain 1



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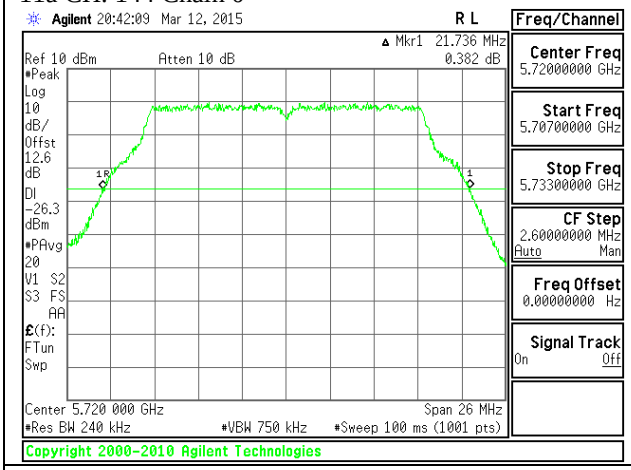
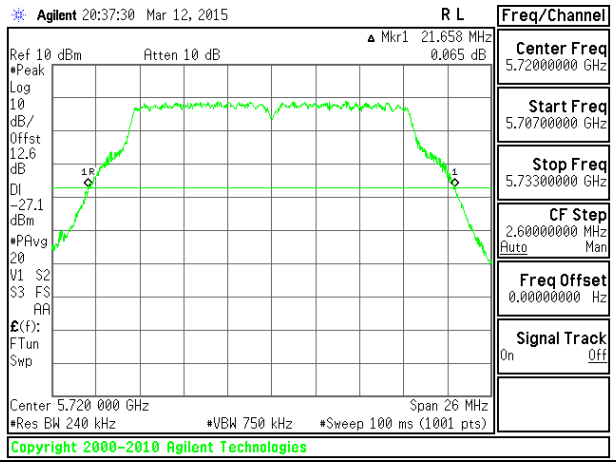
UNII Straddling Channels

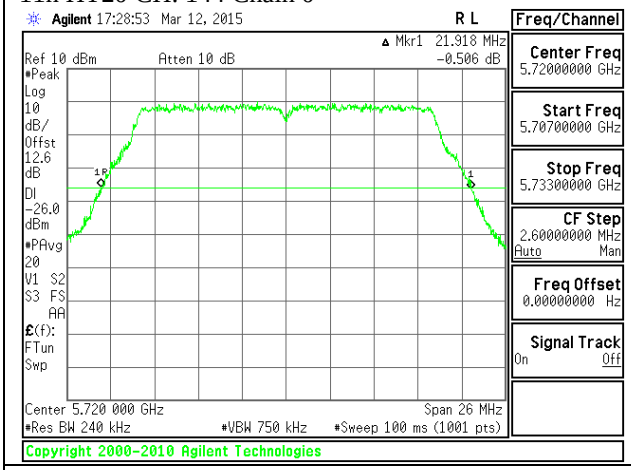
11a CH. 144 Chain 0



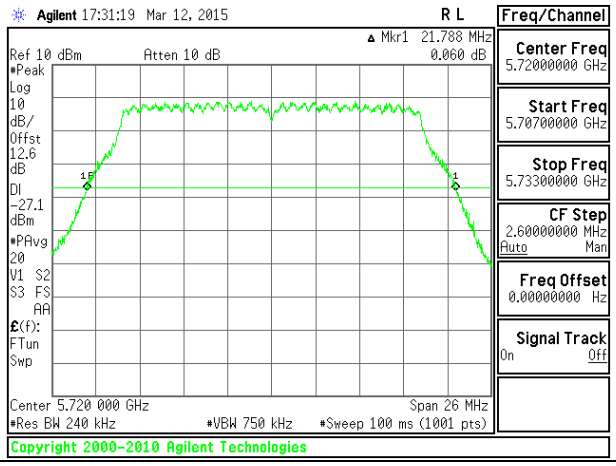
11a CH. 144 Chain 1



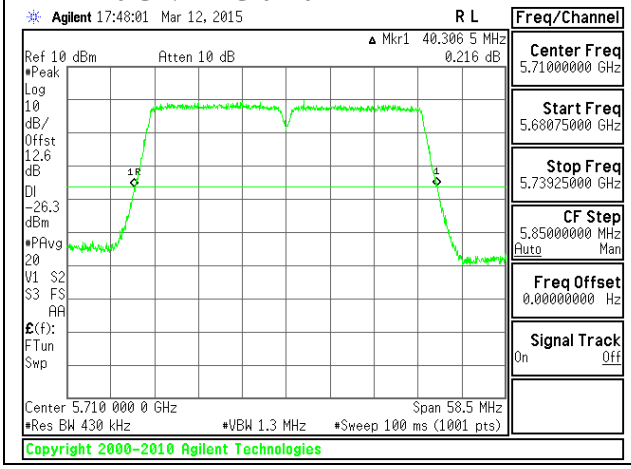
11n HT20 CH. 144 Chain 0



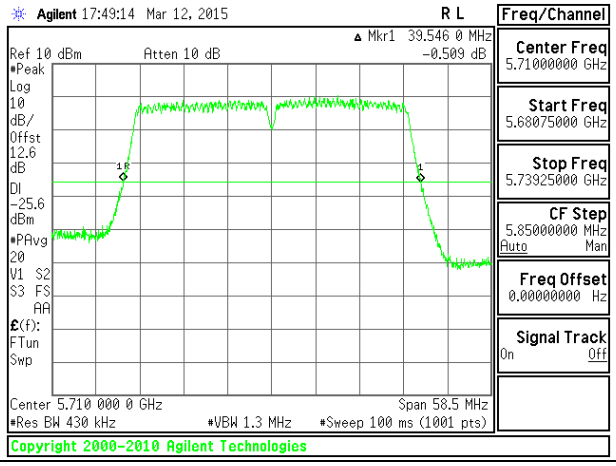
11n HT20 CH. 144 Chain 1



11n HT40 CH. 142 Chain 0



11n HT40 CH. 142 Chain 1



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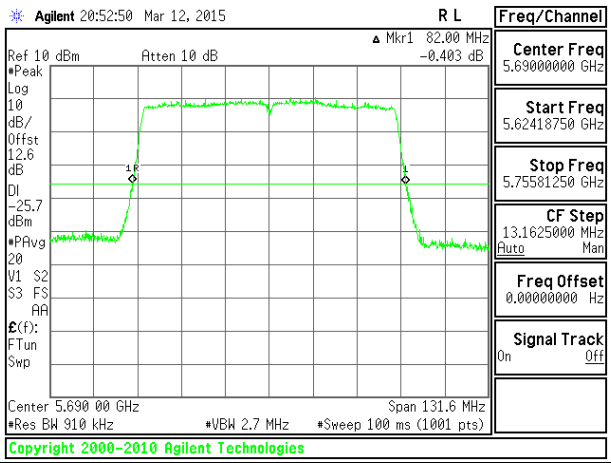
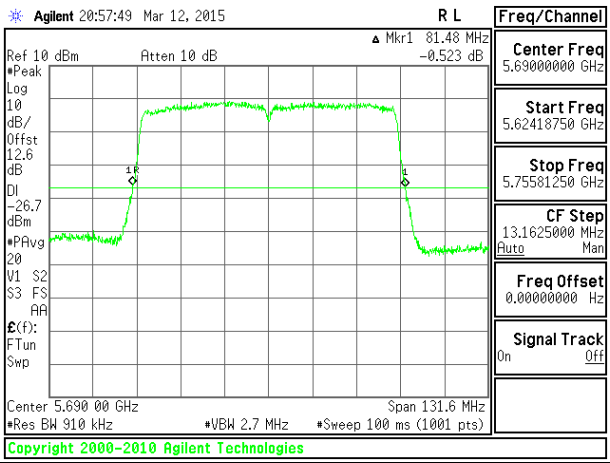
11ac HT80 CH. 138 Chain 0

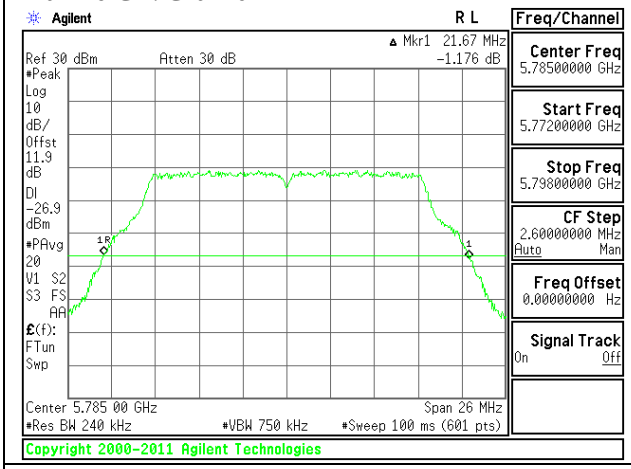


11ac HT80 CH. 138 Chain 1

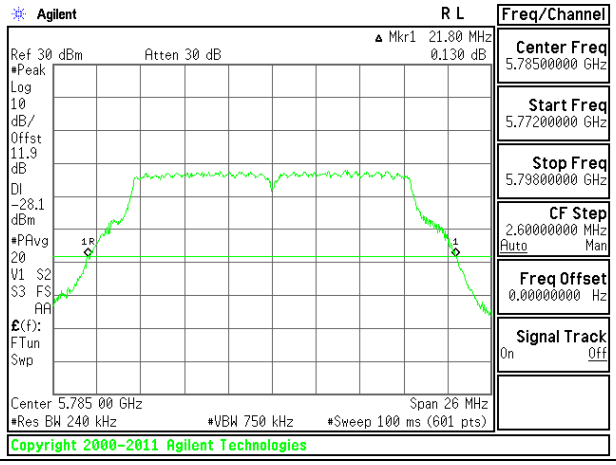


UNII 5.8GHz

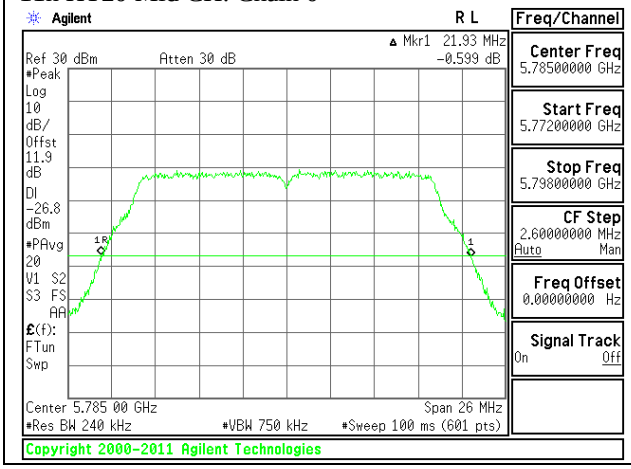
11a Mid CH. Chain 0



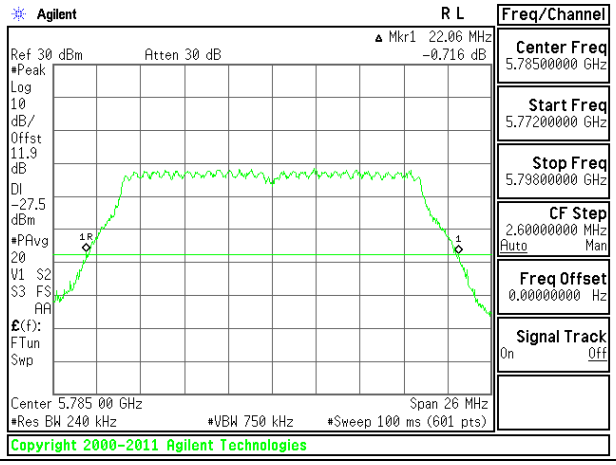
11a Mid CH. Chain 1



11n HT20 Mid CH. Chain 0



11n HT20 Mid CH. Chain 1



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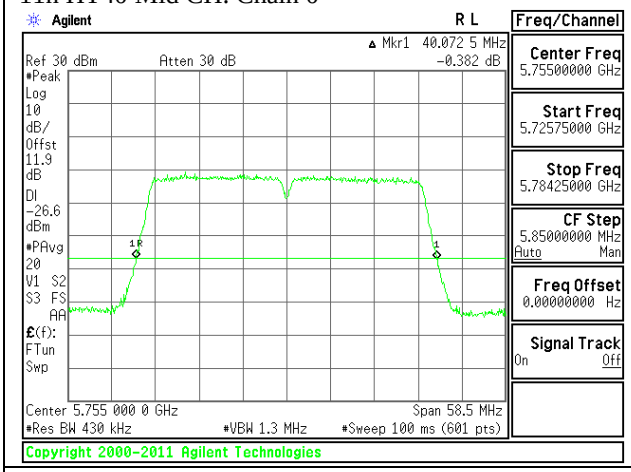
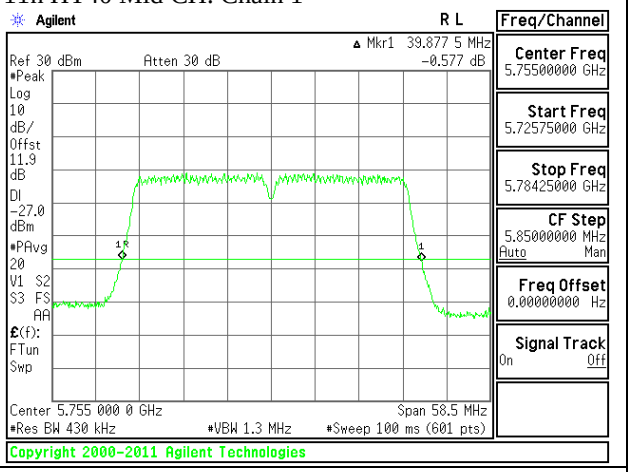
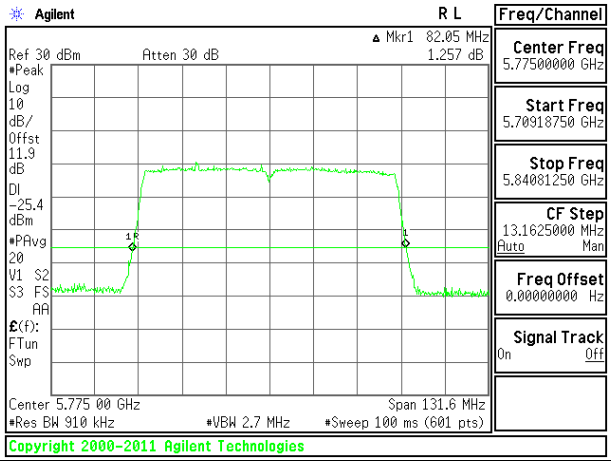
11n HT40 Mid CH. Chain 0



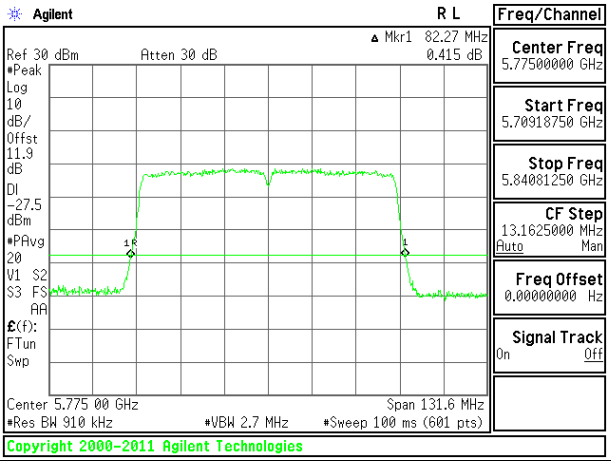
11n HT40 Mid CH. Chain 1



11ac HT80 Mid CH. Chain 0



11ac HT80 Mid CH. Chain 1



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10.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.3.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.6	16.6
Mid	5200	16.6	16.6
High	5240	16.5	16.5

10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	17.8	17.8
Mid	5200	17.8	17.8
High	5240	17.5	17.5

10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5190	36.3	36.3
High	5230	36.3	36.3

10.3.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5210	75.9	75.8

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10.3.5. 802.11a MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	16.5	16.5
Mid	5300	16.6	16.6
High	5320	16.6	16.6

10.3.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.5	17.5
Mid	5300	17.8	17.8
High	5320	17.8	17.8

10.3.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.3	36.3
High	5310	36.3	36.3

10.3.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5290	75.9	75.8

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10.3.9. 802.11a MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.6	16.6
Mid	5580	16.5	16.5
High	5700	16.6	16.6
144	5720	17.2	17

10.3.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.8	17.8
Mid	5580	17.5	17.5
High	5700	17.8	17.8
144	5720	18.4	18

10.3.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	36.3	36.3
Mid	5550	36.3	36.3
High	5670	36.3	36.3
142	5710	36.6	36.4

10.3.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	75.8	75.7
138	5690	75.9	75.6

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10.3.13. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	16.6	16.6
Mid	5785	16.6	16.6
High	5825	16.6	16.6

10.3.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	17.8	17.8
Mid	5785	17.8	17.8
High	5825	17.8	17.8

10.3.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.3	36.3
High	5795	36.3	36.3

10.3.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5775	75.9	75.8

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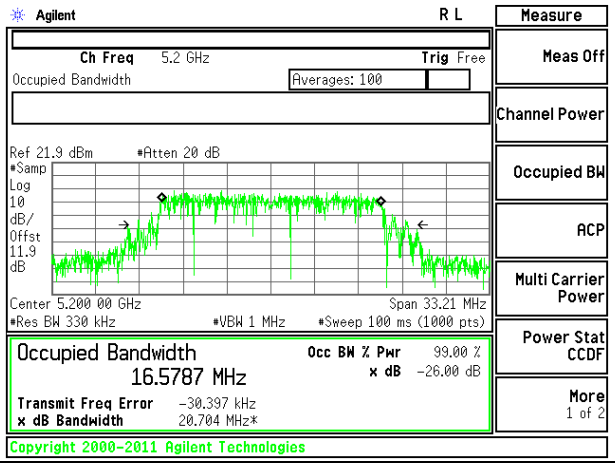
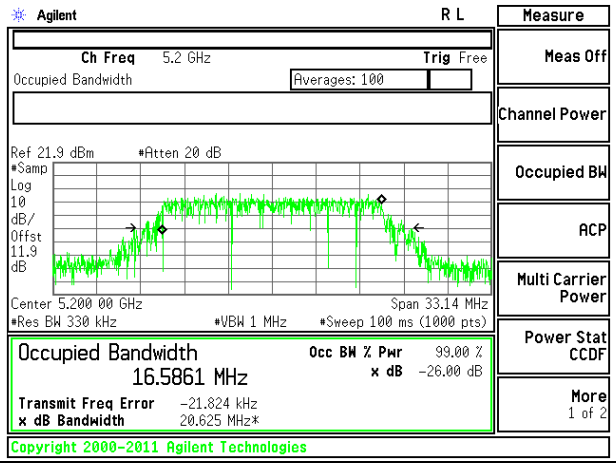
10.3.1. 99% BANDWIDTH PLOTS

UNII 5.2GHz

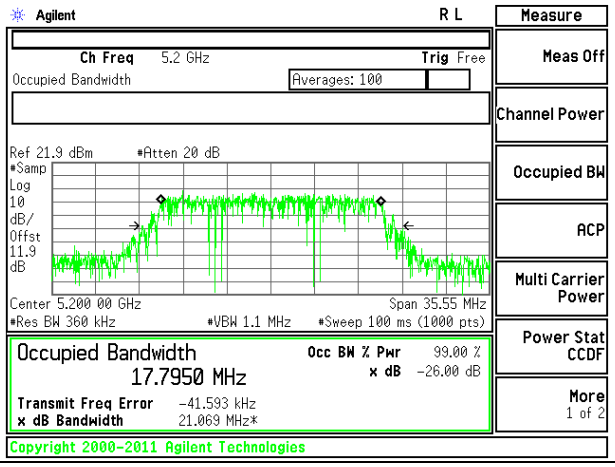
11a Mid CH. Chain 0



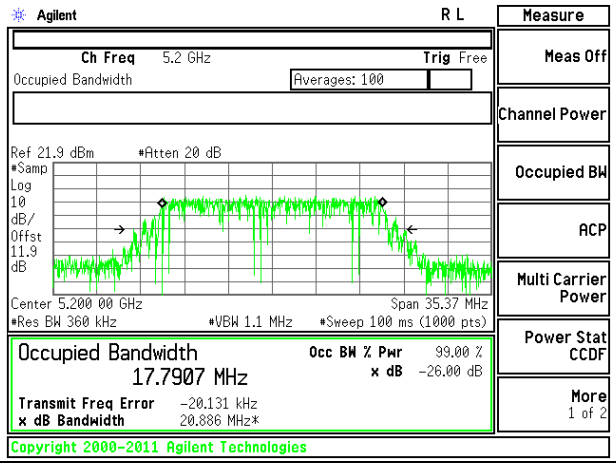
11a Mid CH. Chain 1



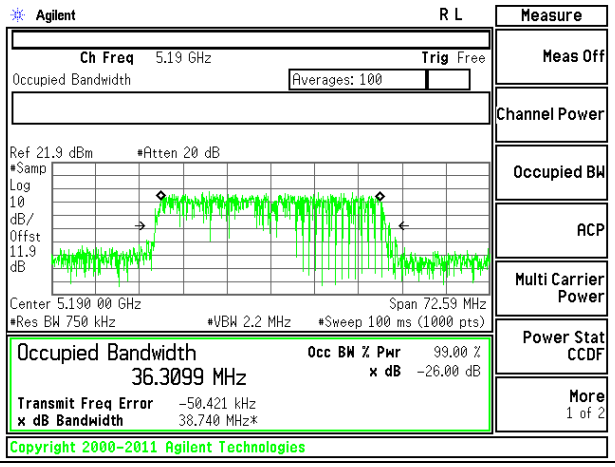
11n HT20 Mid CH. Chain 0



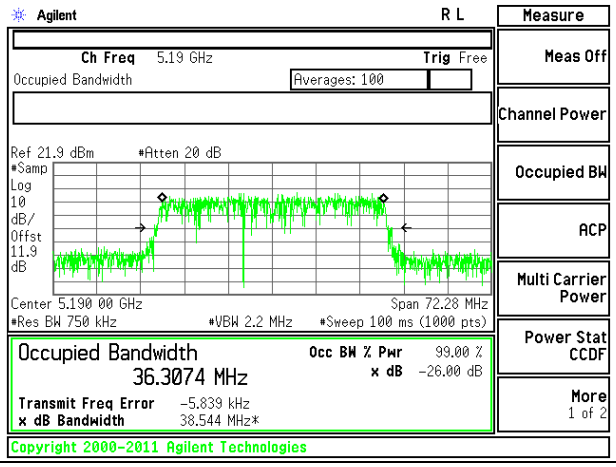
11n HT20 Mid CH. Chain 1



11n HT40 Low CH. Chain 0



11n HT40 Low CH. Chain 1



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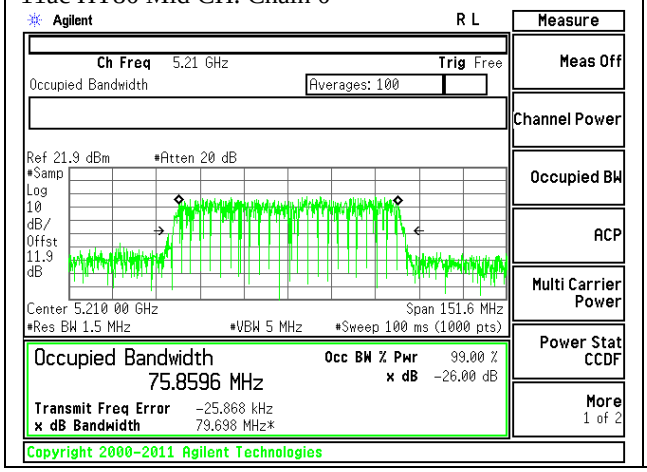
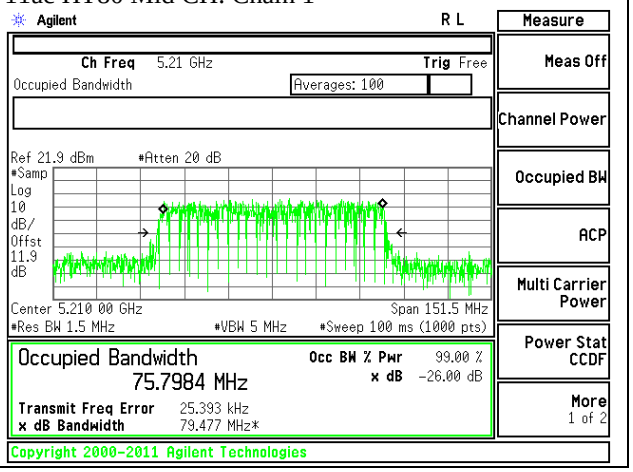
11ac HT80 Mid CH. Chain 0

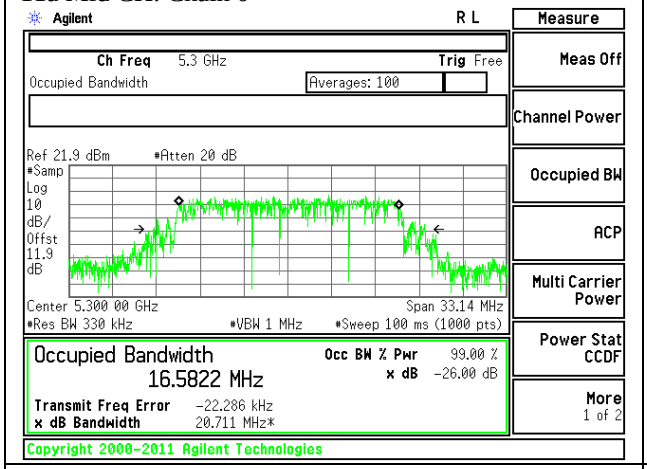


11ac HT80 Mid CH. Chain 1

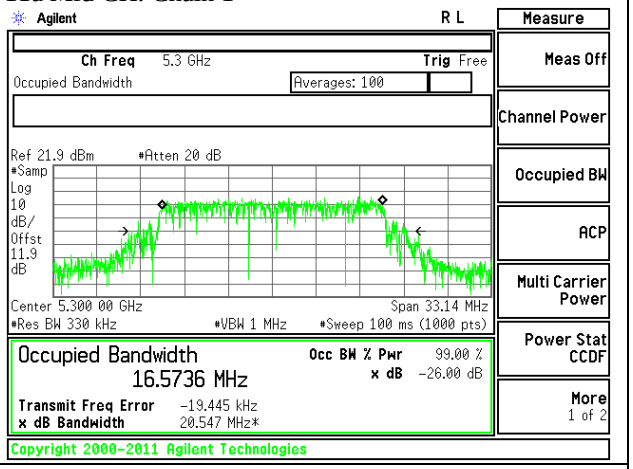


UNII 5.3GHz

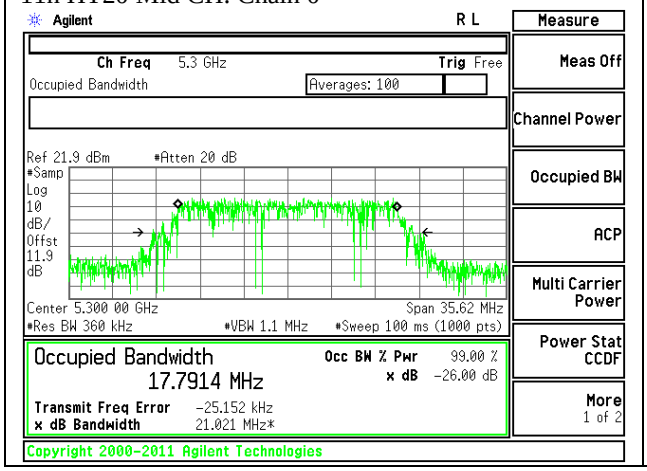
11a Mid CH. Chain 0



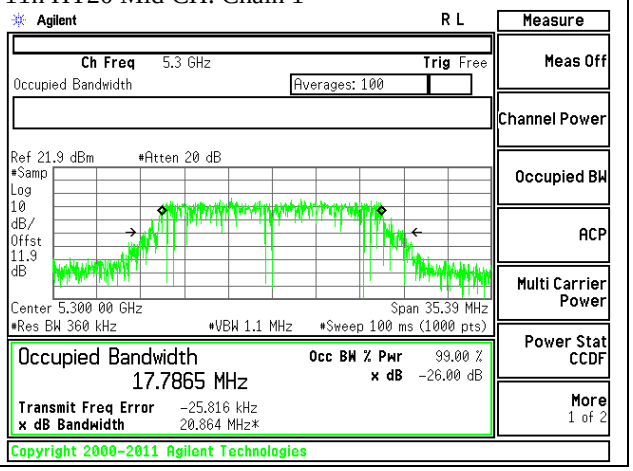
11a Mid CH. Chain 1



11n HT20 Mid CH. Chain 0



11n HT20 Mid CH. Chain 1



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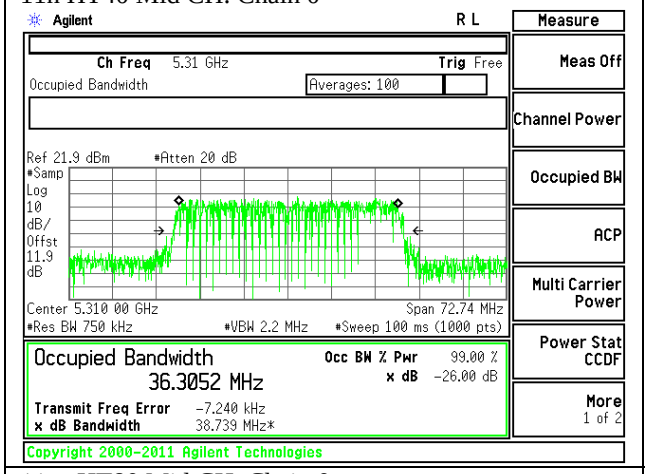
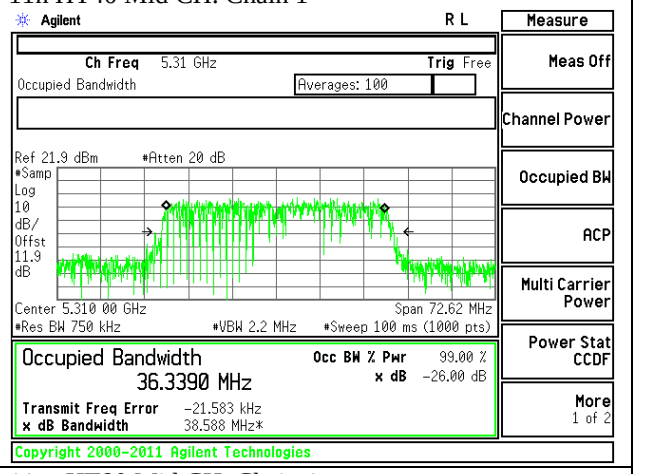
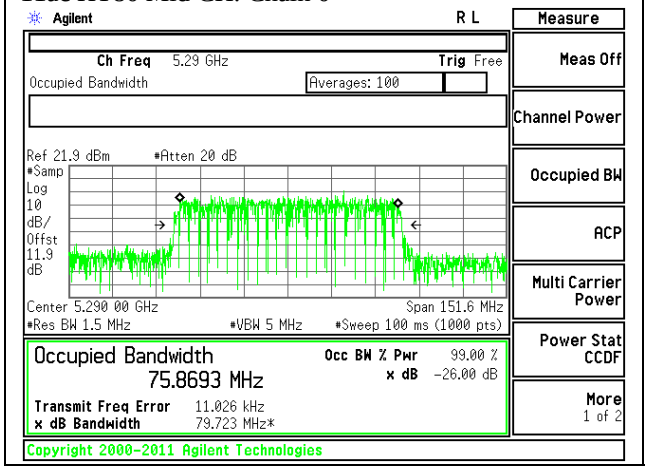
11n HT40 Mid CH. Chain 0



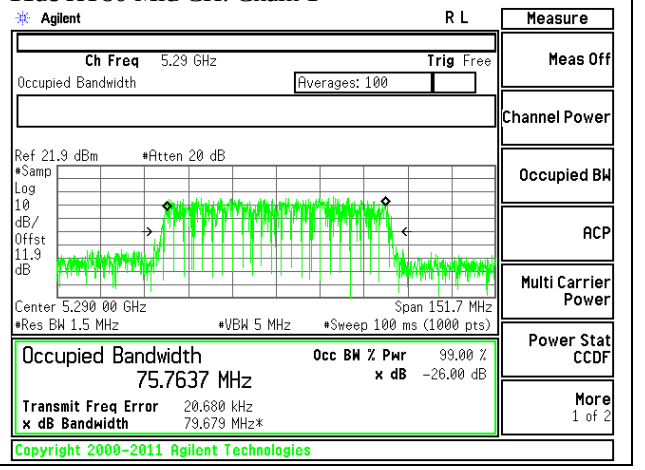
11n HT40 Mid CH. Chain 1



11ac HT80 Mid CH. Chain 0

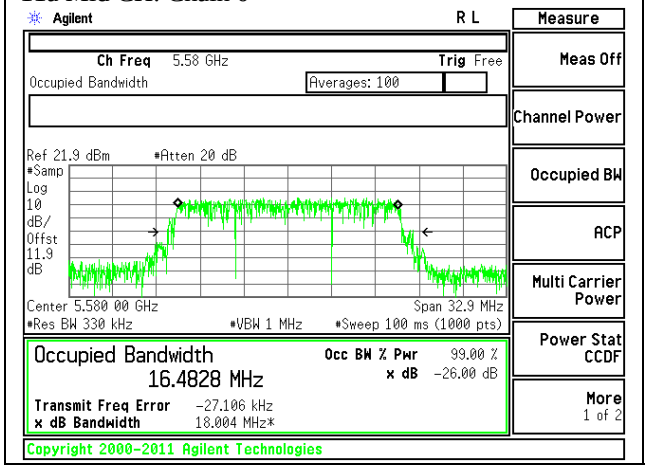


11ac HT80 Mid CH. Chain 1

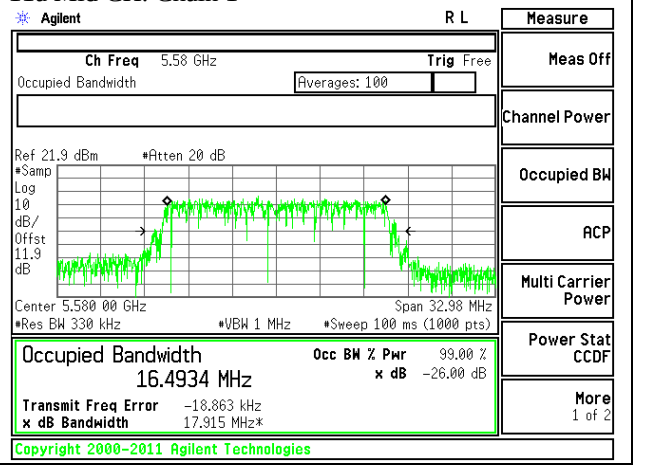


UNII 5.5GHz

11a Mid CH. Chain 0



11a Mid CH. Chain 1



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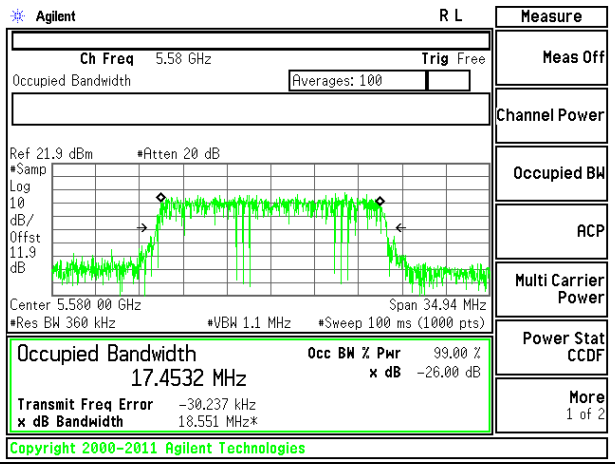
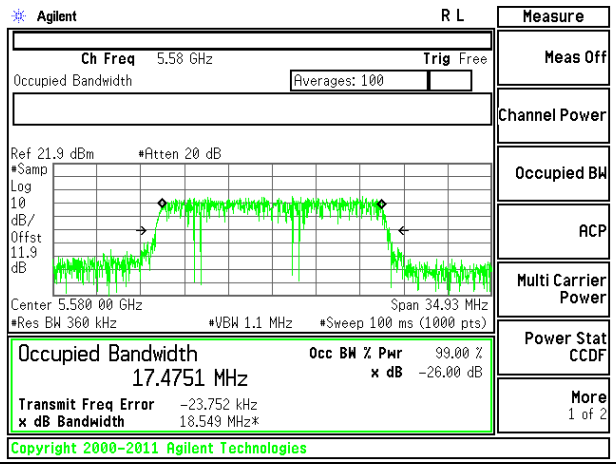
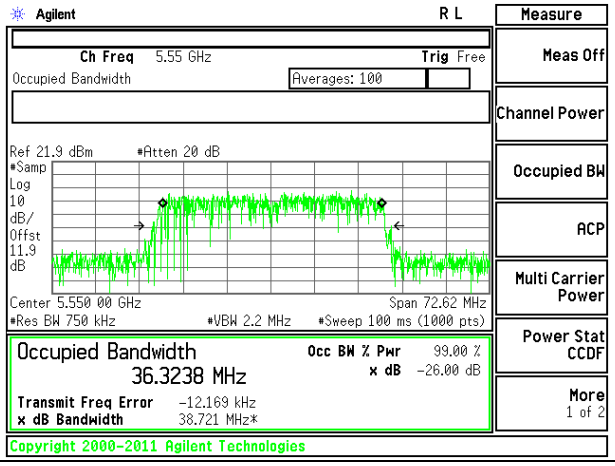
11n HT20 Mid CH. Chain 0



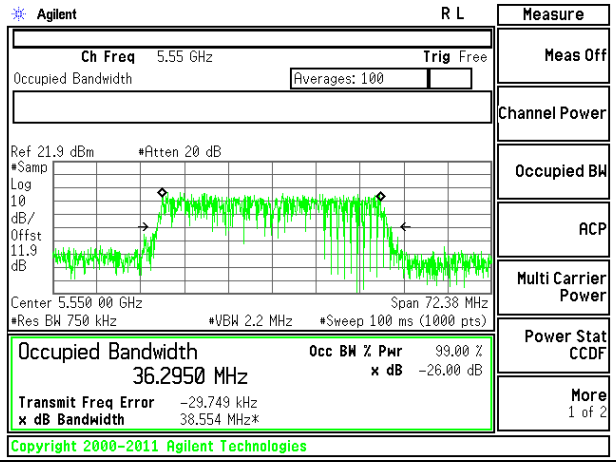
11n HT20 Mid CH. Chain 1



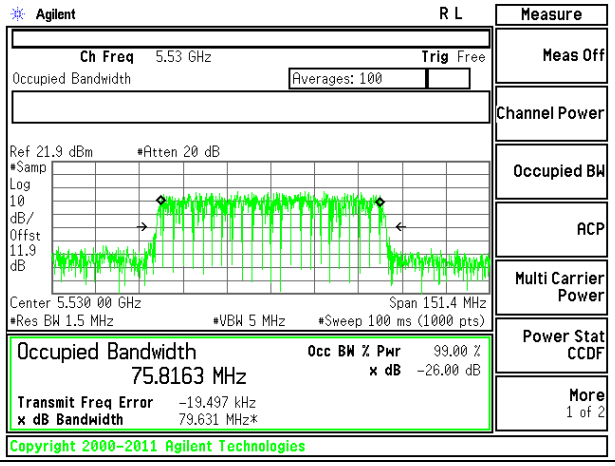
11n HT40 Mid CH. Chain 0



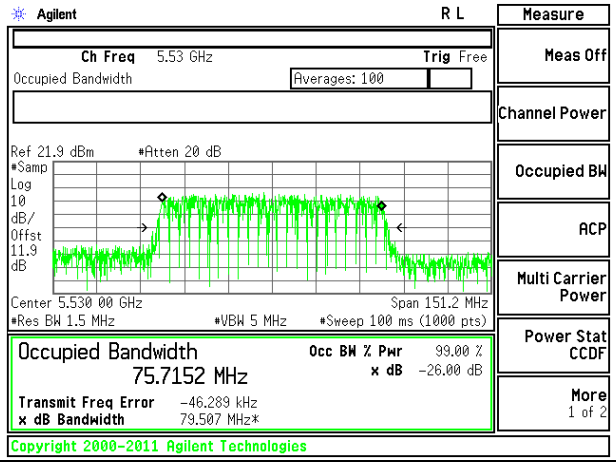
11n HT40 Mid CH. Chain 1



11ac HT80 Mid CH. Chain 0



11ac HT80 Mid CH. Chain 1



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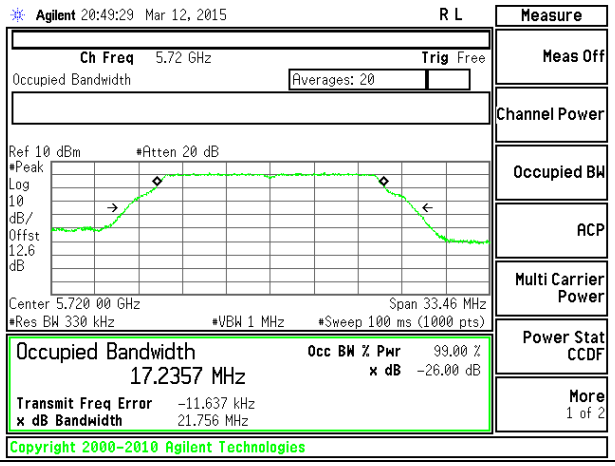
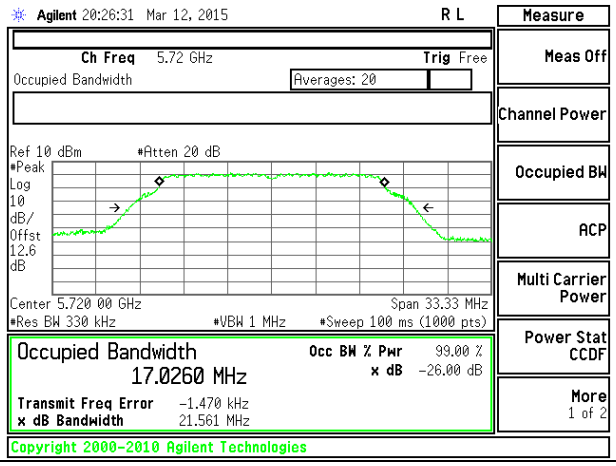
UNII Straddling Channels

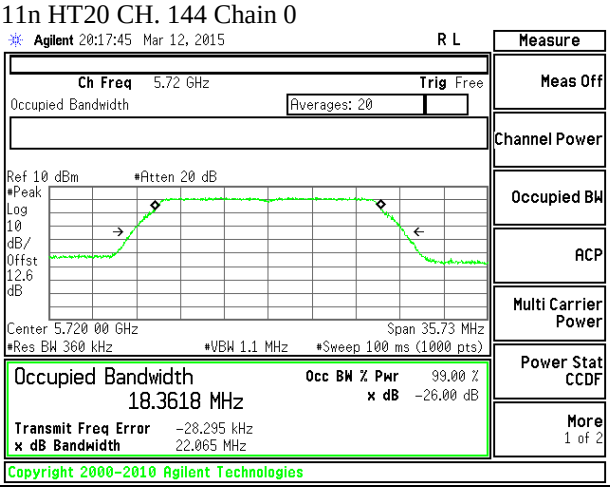
11a CH. 144 Chain 0



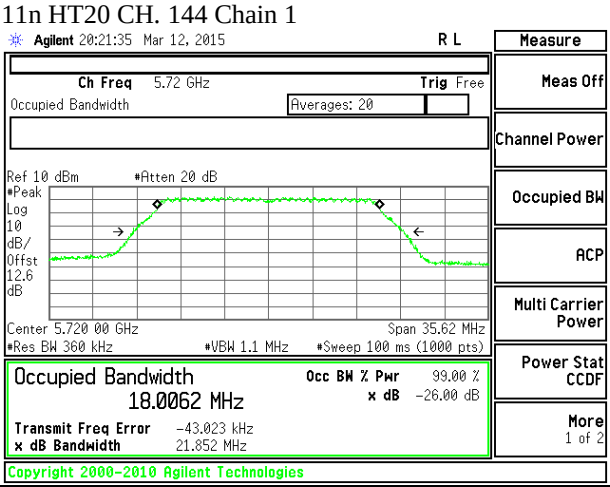
11a CH. 144 Chain 1



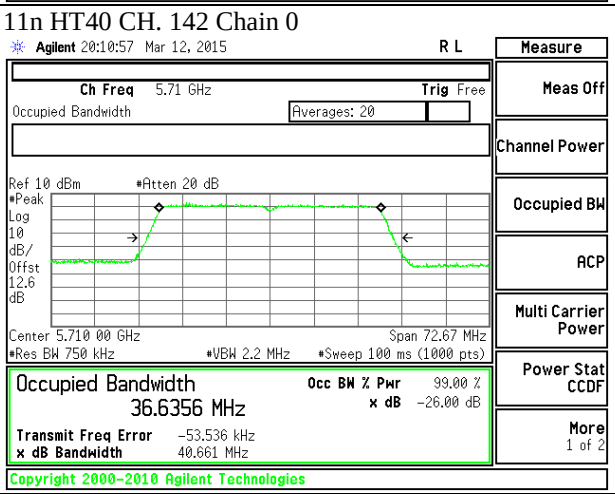
11n HT20 CH. 144 Chain 0



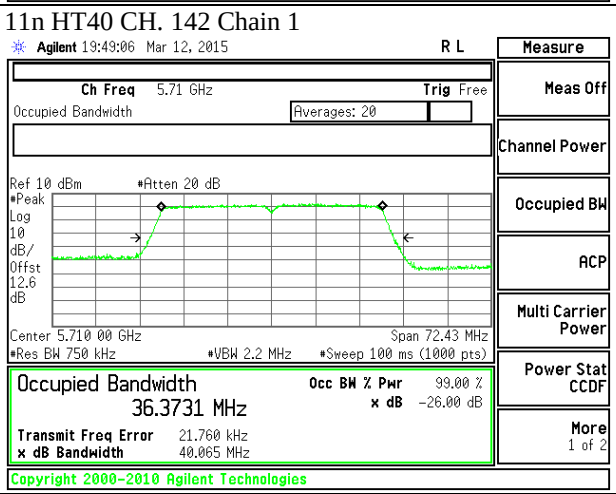
11n HT20 CH. 144 Chain 1



11n HT40 CH. 142 Chain 0



11n HT40 CH. 142 Chain 1



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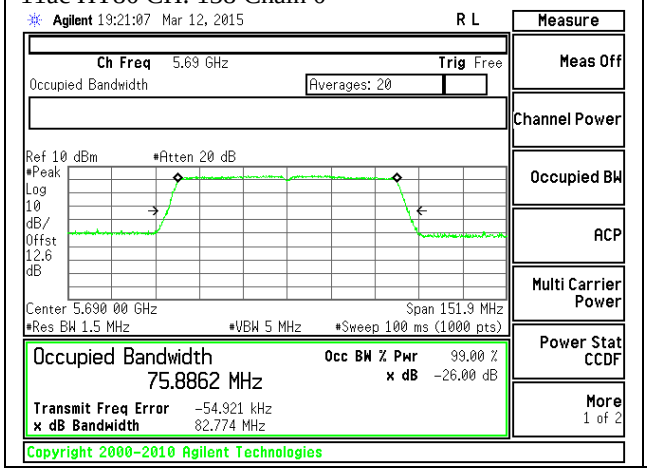
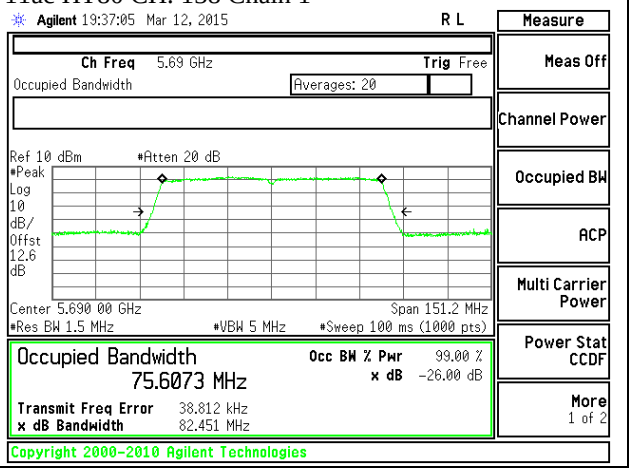
11ac HT80 CH. 138 Chain 0

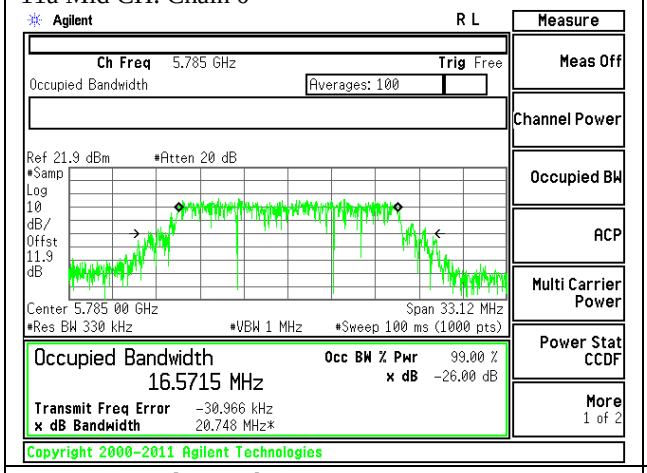


11ac HT80 CH. 138 Chain 1

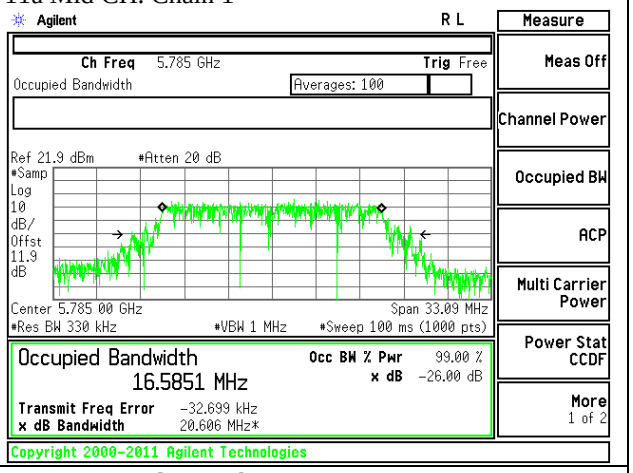


UNII 5.8GHz

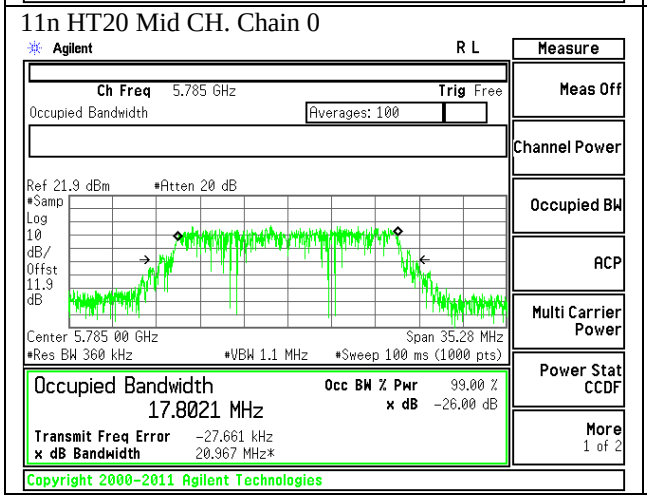
11a Mid CH. Chain 0



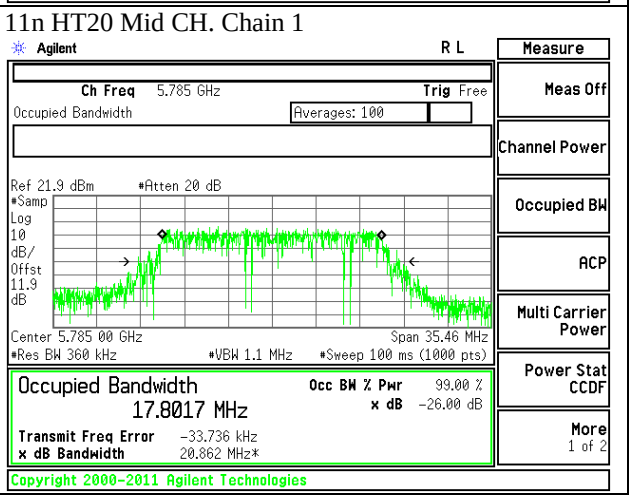
11a Mid CH. Chain 1



11n HT20 Mid CH. Chain 0



11n HT20 Mid CH. Chain 1



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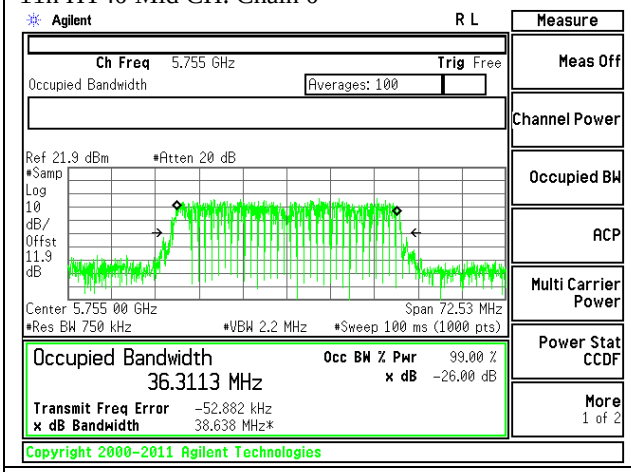
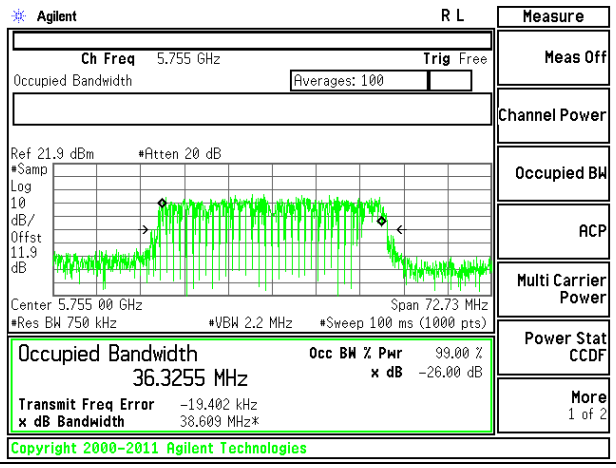
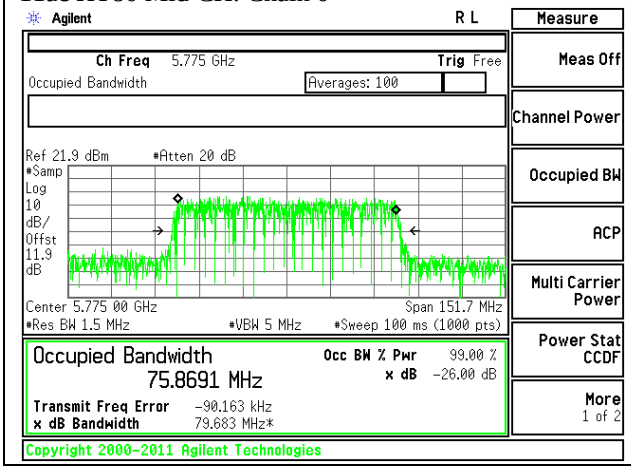
11n HT40 Mid CH. Chain 0



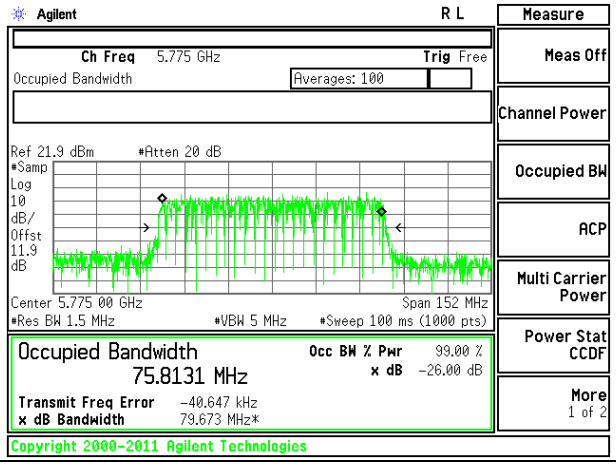
11n HT40 Mid CH. Chain 1



11ac HT80 Mid CH. Chain 0



11ac HT80 Mid CH. Chain 1



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10.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1) (2) (3)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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.

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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:

5180-5320MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-0.40	0.10	-0.14

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

5180-5320MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-0.40	0.10	2.86

5500-5700MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
0.60	-0.50	0.08

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

5500-5700MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
0.60	-0.50	3.08

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5725-5850MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-0.90	-1.00	-0.95

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

5725-5850MHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-0.90	-1.00	2.06

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RESULTS

10.4.1. 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	21.66	16.5900	-0.14	2.86
Mid	5200	21.60	16.5800	-0.14	2.86
High	5240	18.72	16.4800	-0.14	2.86

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	22.20	24.14	24.00	11.00	10.00	8.14
Mid	5200	24.00	22.20	24.14	24.00	11.00	10.00	8.14
High	5240	24.00	22.17	24.14	24.00	11.00	10.00	8.14

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	9.91	8.35	12.21	24.00	-11.79
Mid	5200	10.16	8.05	12.24	24.00	-11.76
High	5240	9.78	8.08	12.02	24.00	-11.98

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)
Low	5180	-1.79	-3.33	0.52	11.00	-10.48
Mid	5200	-1.53	-3.58	0.58	11.00	-10.42
High	5240	-1.94	-3.58	0.33	11.00	-10.67

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10.4.2. 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	21.78	17.8000	-0.14	2.86
Mid	5200	21.78	17.7950	-0.14	2.86
High	5240	22.05	17.4720	-0.14	2.86

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	22.50	22.64	24.00	11.00	10.00	8.14
Mid	5200	24.00	22.50	22.64	24.00	11.00	10.00	8.14
High	5240	24.00	22.42	22.56	24.00	11.00	10.00	8.14

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	9.66	8.04	11.93	24.00	-12.07
Mid	5200	9.63	7.98	11.89	24.00	-12.11
High	5240	9.79	8.14	12.05	24.00	-11.95

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	-2.32	-3.95	-0.05	11.00	-11.05
Mid	5200	-2.35	-3.98	-0.08	11.00	-11.08
High	5240	-2.11	-3.78	0.15	11.00	-10.85

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10.4.3. 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	43.62	36.3100	-0.14	2.86
High	5230	46.74	36.3300	-0.14	2.86

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	23.14	24.14	11.00	10.00	8.14
High	5230	24.00	23.00	23.14	24.14	11.00	10.00	8.14

Duty Cycle CF (dB)	0.12	**Included in Calculations of Corr'd Power & PPSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	9.76	8.38	12.25	24.00	-11.75
High	5230	9.50	8.31	12.07	24.00	-11.93

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5190	-5.08	-6.50	-2.60	11.00	-13.60
High	5230	-5.25	-6.66	-2.77	11.00	-13.77

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10.4.4. 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	81.96	75.8500	-0.14	2.86

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	23.14	24.14	11.00	10.00	8.14

Duty Cycle CF (dB)	0.24	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	9.81	7.78	12.16	24.00	-11.84

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	-7.91	-9.97	-5.57	11.00	-16.57

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10.4.5. 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	18.59	16.4900	-0.14	2.86
Mid	5300	21.62	16.5800	-0.14	2.86
High	5320	21.80	16.5900	-0.14	2.86

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	23.17	29.17	24.14	11.00	11.00	8.14
Mid	5300	24.00	23.20	29.20	24.14	11.00	11.00	8.14
High	5320	24.00	23.20	29.20	24.14	11.00	11.00	8.14

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	9.69	7.93	11.91	24.00	-12.09
Mid	5300	9.45	8.10	11.84	24.00	-12.16
High	5320	9.35	8.35	11.89	24.00	-12.11

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5260	-1.98	-3.72	0.25	11.00	-10.75
Mid	5300	-2.18	-3.56	0.19	11.00	-10.81
High	5320	-2.33	-3.33	0.21	11.00	-10.79

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10.4.6. 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	19.11	17.4700	-0.14	2.86
Mid	5300	21.88	17.7900	-0.14	2.86
High	5320	21.97	17.7900	-0.14	2.86

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	24.14	11.00	11.00	8.14
Mid	5300	24.00	23.50	29.50	24.14	11.00	11.00	8.14
High	5320	24.00	23.50	29.50	24.14	11.00	11.00	8.14

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	9.62	8.17	11.97	24.00	-12.03
Mid	5300	9.66	7.90	11.88	24.00	-12.12
High	5320	9.57	8.52	12.09	24.00	-11.91

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	-2.26	-3.72	0.08	11.00	-10.92
Mid	5300	-2.32	-4.09	-0.11	11.00	-11.11
High	5320	-2.43	-3.51	0.07	11.00	-10.93

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10.4.7. 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	40.37	36.3300	-0.14	2.86
High	5310	40.27	36.3300	-0.14	2.86

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	24.14	11.00	11.00	8.14
High	5310	24.00	24.00	30.00	24.14	11.00	11.00	8.14

Duty Cycle CF (dB)	0.12	Included in Calculations of Corr'd Power & PPSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	9.56	8.14	12.04	24.00	-11.96
High	5310	9.48	8.42	12.11	24.00	-11.89

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	-5.32	-6.84	-2.88	11.00	-13.88
High	5310	-5.32	-6.51	-2.74	11.00	-13.74

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10.4.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW	Min 99% BW	Directional Gain for Power	Directional Gain for PPSD
Low	5290	82.27	75.8600	-0.14	2.86

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	24.14	11.00	11.00	8.14

Duty Cycle CF (dB)	0.24	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	9.42	7.75	11.91	24.00	-12.09

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5290	-8.45	-10.02	-5.91	11.00	-16.91

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10.4.9. 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	21.75	16.5800	0.08	3.08
Mid	5580	18.68	16.4900	0.08	3.08
High	5700	21.75	16.5900	0.08	3.08

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	23.20	29.20	23.92	11.00	11.00	7.92
Mid	5580	24.00	23.17	29.17	23.92	11.00	11.00	7.92
High	5700	24.00	23.20	29.20	23.92	11.00	11.00	7.92

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	8.84	8.25	11.56	24.00	-12.44
Mid	5580	8.86	8.12	11.52	24.00	-12.48
High	5700	8.71	7.75	11.27	24.00	-12.73

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	-2.84	-3.38	-0.09	11.00	-11.09
Mid	5580	-2.83	-3.51	-0.15	11.00	-11.15
High	5700	-2.99	-3.95	-0.43	11.00	-11.43

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10.4.10. 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	21.97	17.7900	0.08	3.08
Mid	5580	19.07	17.4700	0.08	3.08
High	5700	21.93	17.7900	0.08	3.08

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	23.50	29.50	23.92	11.00	11.00	7.92
Mid	5580	24.00	23.42	29.42	23.92	11.00	11.00	7.92
High	5700	24.00	23.50	29.50	23.92	11.00	11.00	7.92

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	9.03	8.57	11.81	24.00	-12.19
Mid	5580	8.66	7.90	11.31	24.00	-12.69
High	5700	8.51	7.95	11.25	24.00	-12.75

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	-2.99	-3.41	-0.18	11.00	-11.18
Mid	5580	-3.25	-3.90	-0.55	11.00	-11.55
High	5700	-3.51	-4.00	-0.74	11.00	-11.74

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10.4.11. 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	40.37	36.3200	0.08	3.08
Mid	5550	40.07	36.3200	0.08	3.08
High	5670	40.17	36.3100	0.08	3.08

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	9.14	8.37	11.90	24.00	-12.10
Mid	5550	8.76	8.17	11.60	24.00	-12.40
High	5670	8.40	7.58	11.14	24.00	-12.86

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)
Low	5510	-5.77	-6.51	-2.99	11.00	-13.99
Mid	5550	-6.20	-6.70	-3.31	11.00	-14.31
High	5670	-6.44	-7.28	-3.71	11.00	-14.71

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10.4.12. 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	82.27	82.0500	0.08	3.08

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)	0.24	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	8.91	7.83	11.66	24.00	-12.34

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	-8.93	-9.90	-6.14	11.00	-17.14

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10.4.13. 802.11a MODE STRADDLE CHANNEL 144

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	15.8650	13.6150	0.08	3.08

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	23.00	22.34	28.34	22.34	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	8.61	8.00	11.32	22.34	-11.02

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-2.13	-2.63	0.64	11.00	-10.36

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UNII-3 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	5.8650	3.6150	0.08	3.08

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	18.68	16.58	22.58	16.58	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	2.66	1.53	5.14	16.58	-11.44

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
144	5720	-4.90	-5.89	-2.36	11.00	-13.36

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AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL

Results

5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)				
5720 (UNII-2 portion)	8.61	8.00	11.326	13.57
5720 (UNII-3 portion)	2.66	1.53	5.142	3.27
5720 (Whole signal)	9.59	8.88	12.263	16.84

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10.4.14. 802.11n HT20 MODE STRADDLE CHANNEL 144

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	15.9550	14.1800	0.08	3.08

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	23.03	22.52	28.52	22.52	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	8.63	7.73	11.21	22.52	-11.31

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	-2.31	-3.12	0.31	11.00	-10.69

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UNII-3 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	5.9550	4.1800	0.08	3.08

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	18.75	17.21	23.21	17.21	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	3.18	1.76	5.54	17.21	-11.67

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)
144	5720	-5.12	-6.29	-2.66	11.00	-13.66

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AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL

Results

5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)				
5720 (UNII-2 portion)	8.63	7.73	11.214	13.22
5720 (UNII-3 portion)	3.18	1.76	5.538	3.58
5720 (Whole signal)	9.72	8.71	12.254	16.80

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10.4.15. 802.11n HT40 MODE STRADDLE CHANNEL 142

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)
142	5710	35.1500	33.3150	0.08	3.08

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)
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB)	0.12	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	8.87	7.77	11.49	24.00	-12.51

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	-5.53	-6.30	-2.77	11.00	-13.77

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UNII-3 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)
142	5710	5.1500	3.3150	0.08	3.08

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)
142	5710	18.12	16.20	22.20	16.20	11.00	11.00	11.00

Duty Cycle CF (dB)	0.12	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	-1.57	-2.41	1.16	16.20	-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)
142	5710	-9.10	-9.74	-6.28	11.00	-17.28

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AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL

Results

Frequency	Power, Chain 0 (dBm)	Power, Chain 1 (dBm)	Output Power (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)				
5710 (UNII-2 portion)	8.87	7.77	11.485	14.08
5710 (UNII-3 portion)	-1.57	-2.41	1.161	1.31
5710 (Whole signal)	9.25	8.17	11.870	15.38

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10.4.16. 802.11ac80 MODE STRADDLE CHANNEL 138

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	76.00	72.9400	0.08	3.08

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)	0.24	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	8.67	7.35	11.31	24.00	-12.69

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
138	5690	-8.74	-9.89	-6.03	11.00	-17.03

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UNII-3 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	6.00	2.9400	0.08	3.08

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	18.78	15.68	21.68	15.68	11.00	11.00	11.00

Duty Cycle CF (dB)	0.24	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	-5.67	-6.55	-2.84	24.00	-26.84

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	-12.92	-13.67	-10.03	11.00	-21.03

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AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL

Results

Frequency	Power, Chain 0 (dBm)	Power, Chain 1 (dBm)	Output Power (dBm)	Output Power (mW)
5.6 GHz band, 2TX (Channels overlapping UNII-2 and UNII-3 bands)				
5690 (UNII-2 portion)	8.67	7.35	11.190	13.15
5690 (UNII-3 portion)	-5.67	-6.55	-2.837	0.52
5690 (Whole signal)	8.83	7.52	11.474	14.04

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10.4.17. 802.11a MODE IN THE 5.8 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	5745	21.67	16.5800	-0.95	2.06
Mid	5785	21.80	16.5800	-0.95	2.06
High	5825	21.75	16.5800	-0.95	2.06

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	5745	30.00	29.20	35.20	29.20	30.00	17.00	17.00
Mid	5785	30.00	29.20	35.20	29.20	30.00	17.00	17.00
High	5825	30.00	29.20	35.20	29.20	30.00	17.00	17.00

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	8.98	7.74	11.41	30.00	-18.59
Mid	5785	8.97	7.70	11.39	30.00	-18.61
High	5825	8.83	7.71	11.31	30.00	-18.69

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5745	-5.56	-6.79	-3.12	17.00	-20.12
Mid	5785	-5.51	-6.77	-3.08	17.00	-20.08
High	5825	-5.90	-6.78	-3.31	17.00	-20.31

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10.4.18. 802.11n HT20 MODE IN THE 5.8 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	5745	17.65	17.8000	-0.95	2.06
Mid	5785	17.60	17.8000	-0.95	2.06
High	5825	17.63	17.7900	-0.95	2.06

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	5745	29.47	29.50	35.50	29.47	30.00	17.00	17.00
Mid	5785	29.46	29.50	35.50	29.46	30.00	17.00	17.00
High	5825	29.46	29.50	35.50	29.46	30.00	17.00	17.00

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	8.98	7.96	11.51	29.47	-17.96
Mid	5785	8.87	7.88	11.41	29.46	-18.04
High	5825	8.76	7.94	11.38	29.46	-18.09

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	-5.82	-6.88	-3.31	17.00	-20.31
Mid	5785	-5.96	-6.88	-3.39	17.00	-20.39
High	5825	-5.99	-6.94	-3.43	17.00	-20.43

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10.4.19. 802.11n HT40 MODE IN THE 5.8 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	5755	40.1	36.3200	-0.95	2.06
High	5795	40.4	36.3200	-0.95	2.06

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	5755	30.00	30.00	36.00	30.00	30.00	17.00	17.00
High	5795	30.00	30.00	36.00	30.00	30.00	17.00	17.00

Duty Cycle CF (dB)	0.12	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	8.62	7.64	11.29	30.00	-18.71
High	5795	8.52	7.76	11.29	30.00	-18.71

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	-9.01	-10.05	-6.37	17.00	-23.37
High	5795	-9.14	-9.97	-6.40	17.00	-23.40

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10.4.20. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

:h and Antenna Gain

Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PPSD (dBi)
5775	82.27	75.8600	-0.95	2.06

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)
5775	30.00	30.00	36.00	30.00	30.00	17.00	17.00

ycle CF (dB)	0.24	**Included in Calculations of Corr'd Power & PPSD**

ower Results

Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
5775	8.69	7.04	11.19	30.00	-18.81

sults

Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
5775	-12.04	-13.54	-9.48	17.00	-26.48

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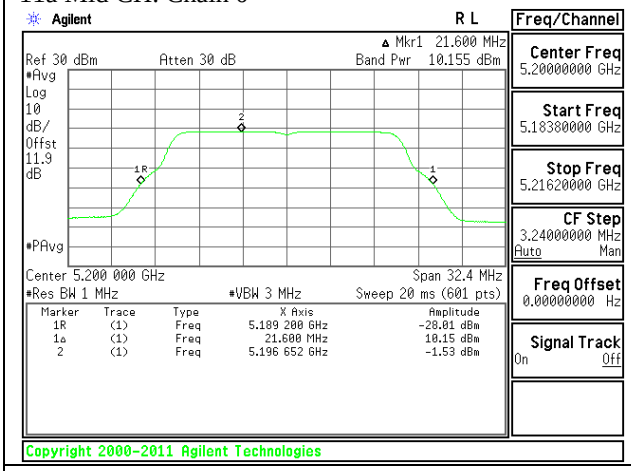
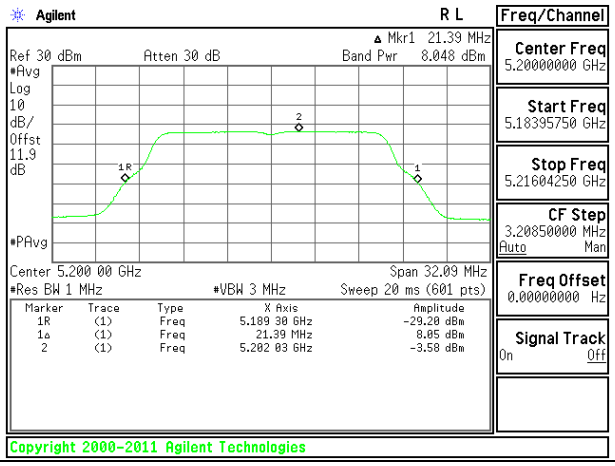
10.4.21. OUTPUT POWER AND PPSD PLOTS

UNII 5.2GHz

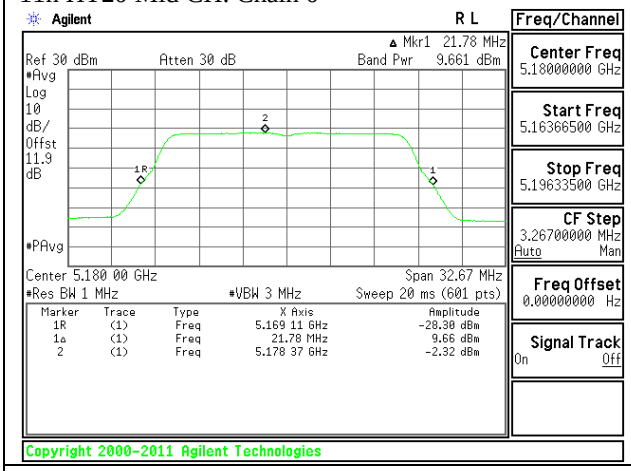
11a Mid CH. Chain 0



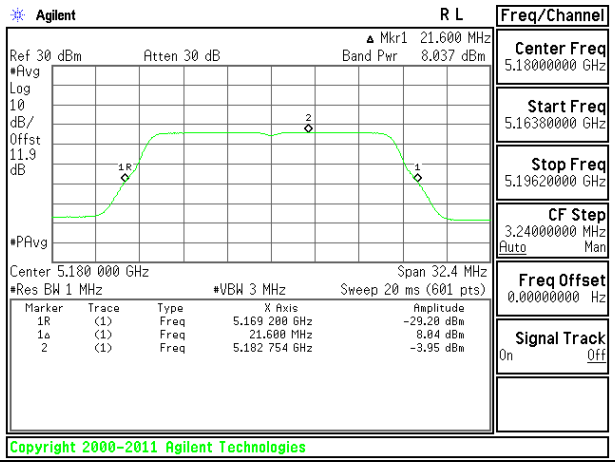
11a Mid CH. Chain 1



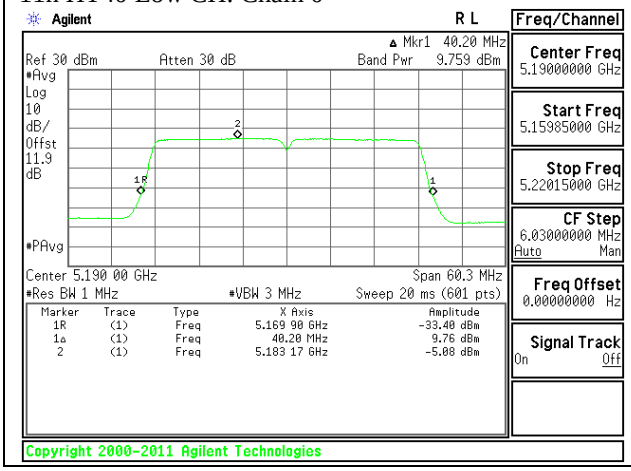
11n HT20 Mid CH. Chain 0



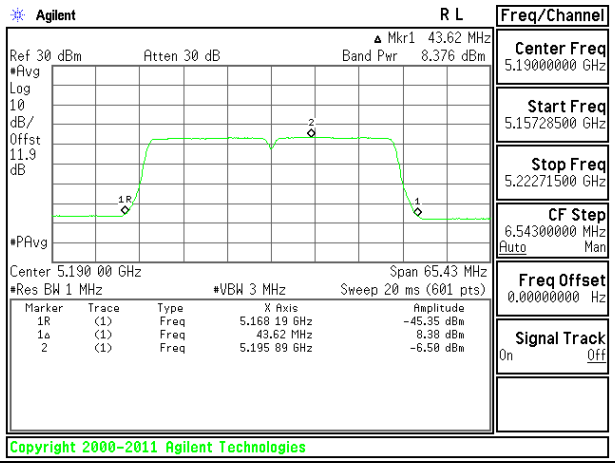
11n HT20 Mid CH. Chain 1



11n HT40 Low CH. Chain 0



11n HT40 Low CH. Chain 1



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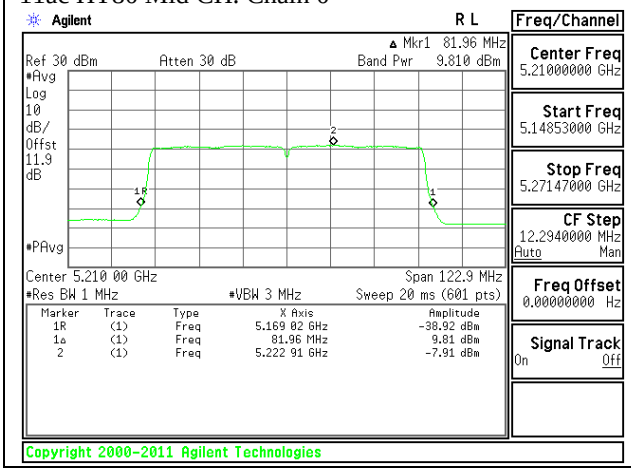
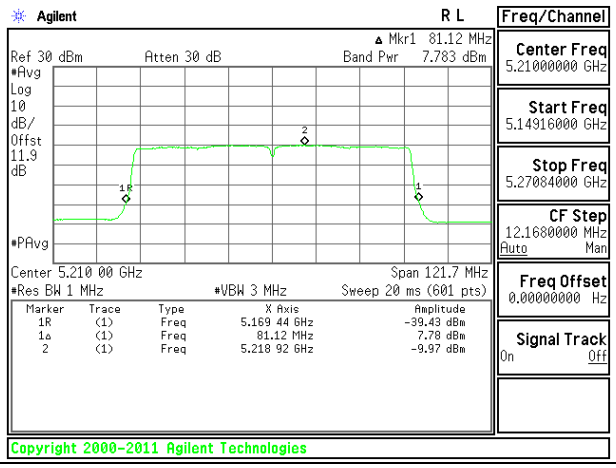
11ac HT80 Mid CH. Chain 0

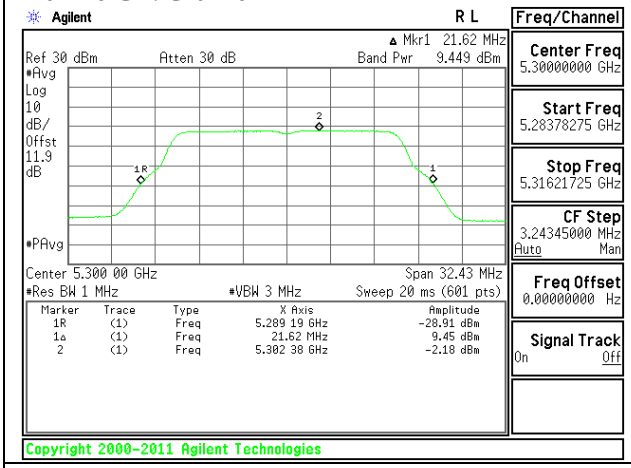


11ac HT80 Mid CH. Chain 1



UNII 5.3GHz

11a Mid CH. Chain 0



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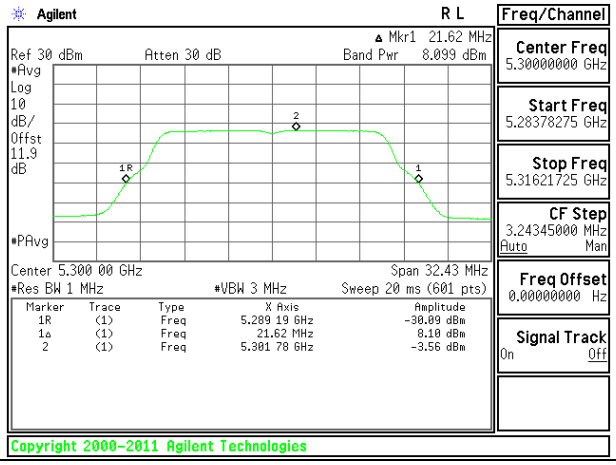

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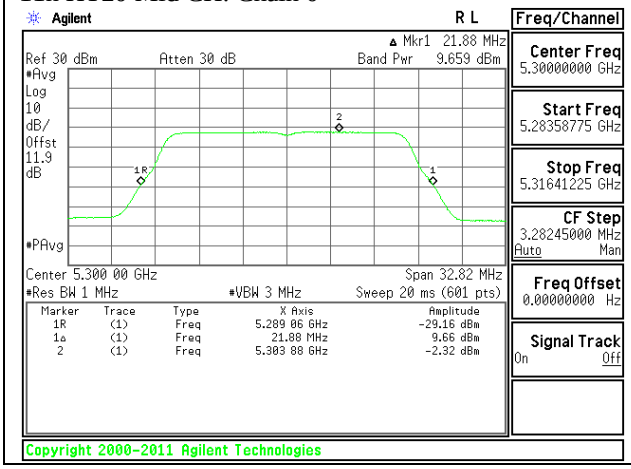

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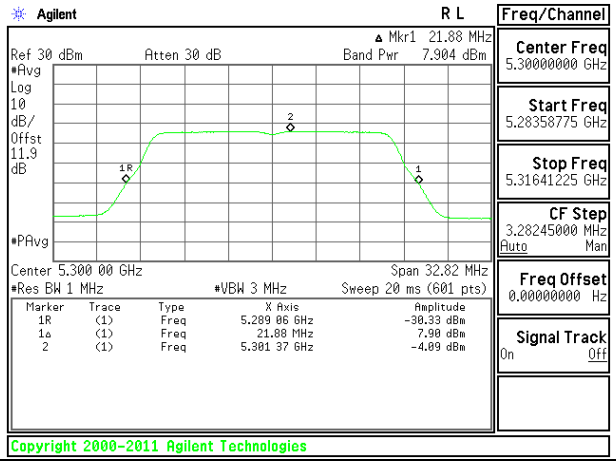

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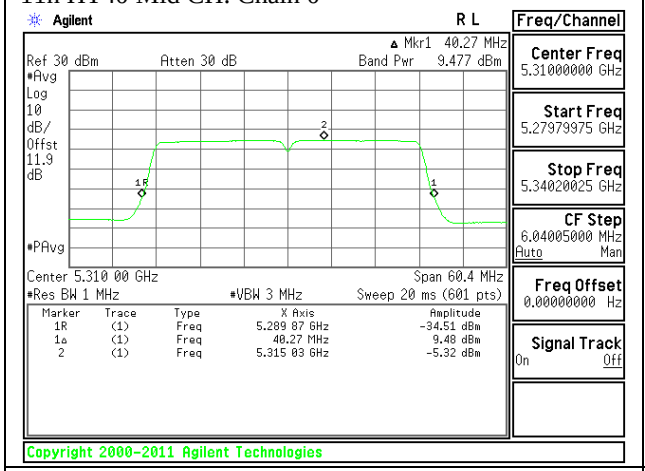
11n HT40 Mid CH. Chain 0



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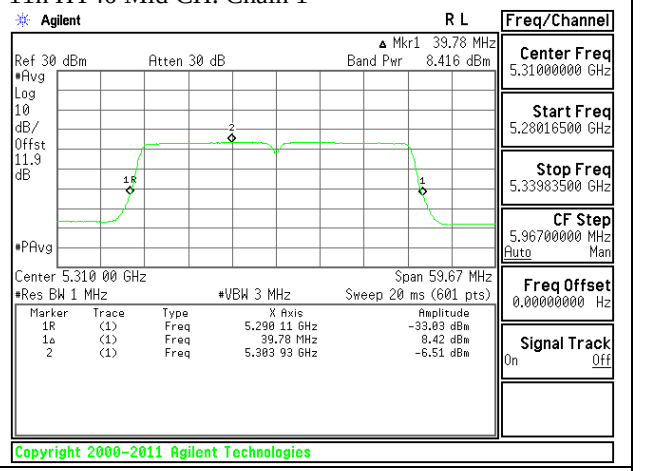

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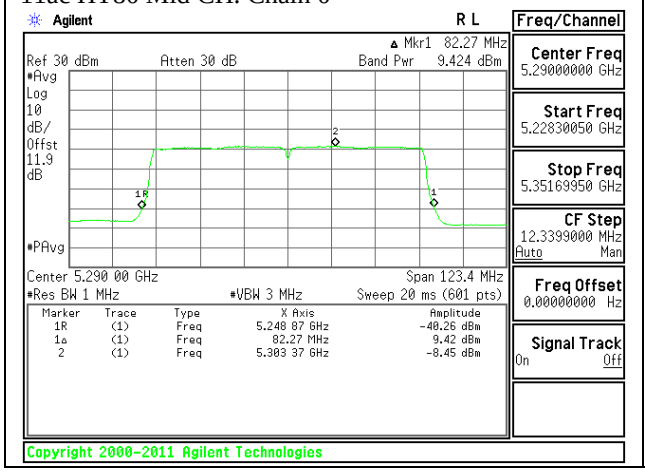

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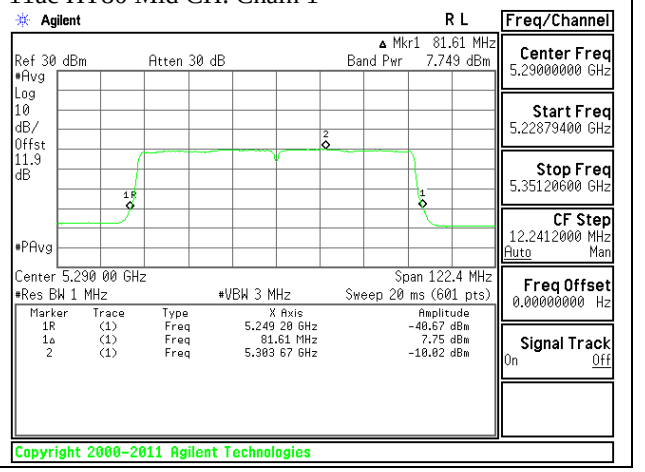
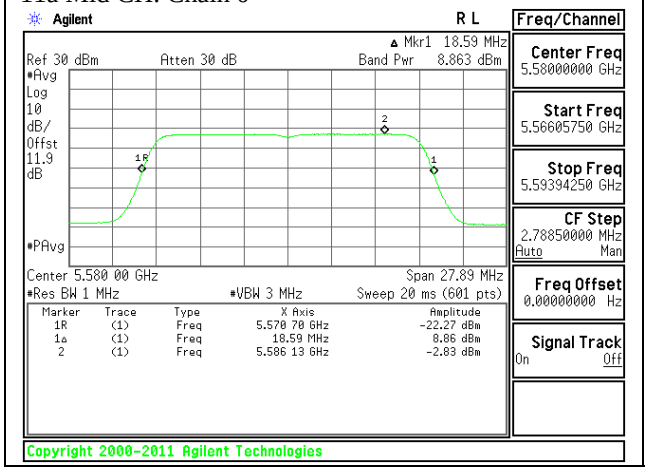


UNII 5.5GHz

11a Mid CH. Chain 0



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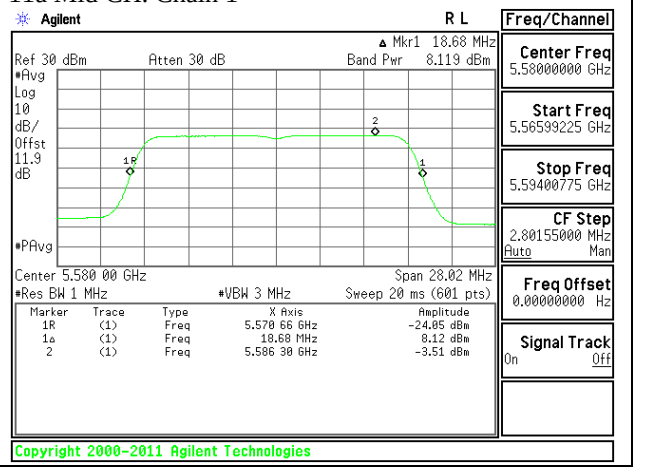

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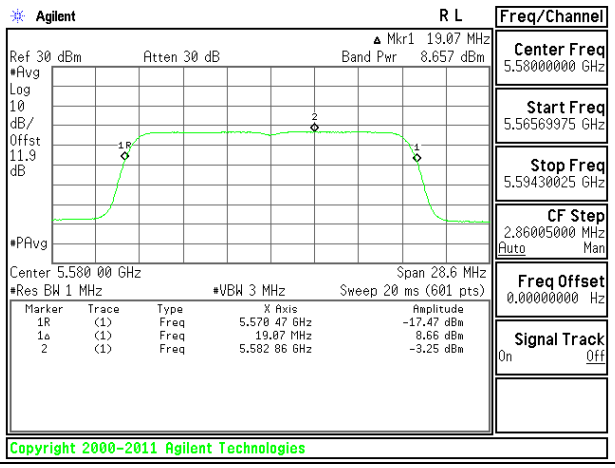
11n HT20 Mid CH. Chain 0



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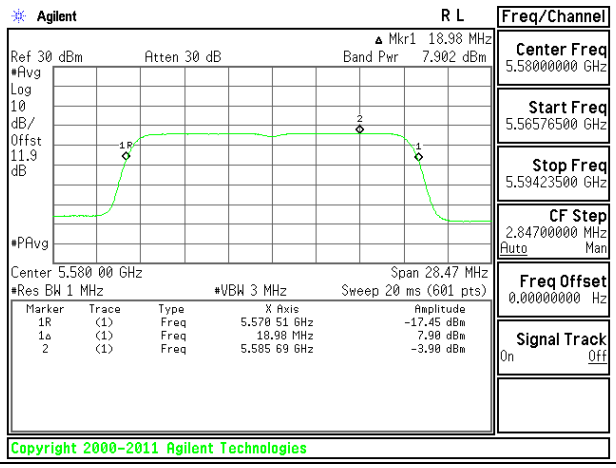

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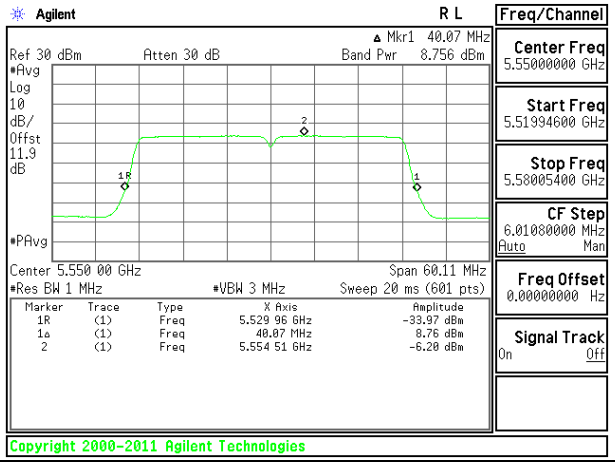

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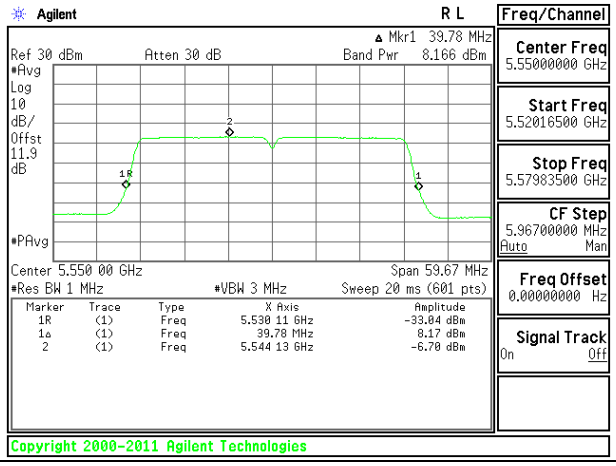
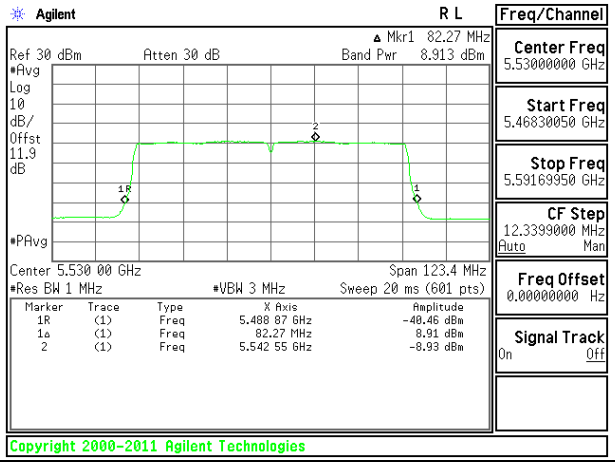


11ac HT80 Mid CH. Chain 0



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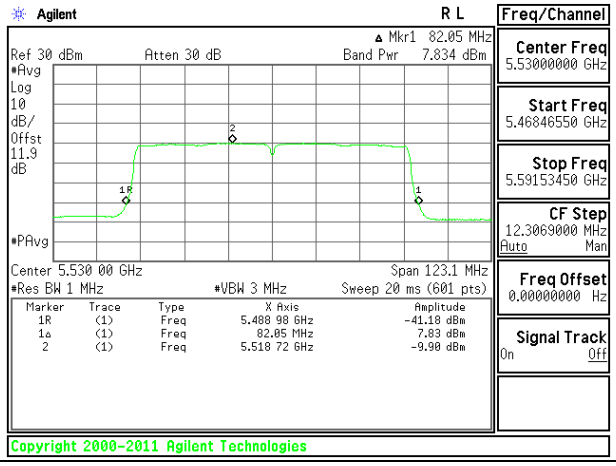

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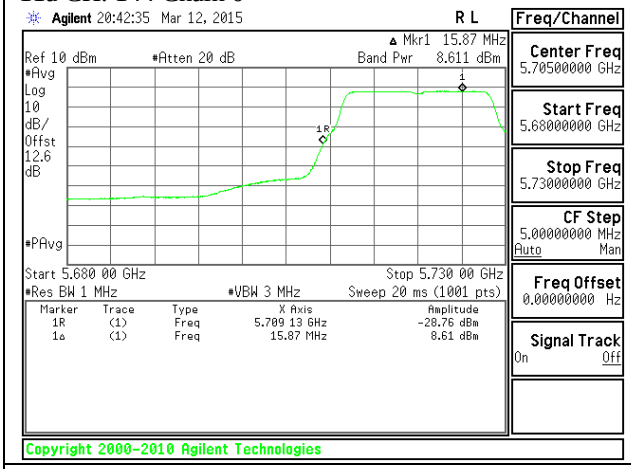
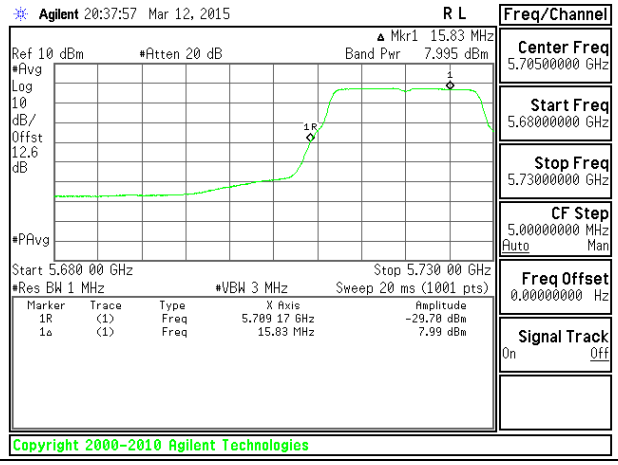
UNII STRADDLE CHANNEL

UNII-2C BAND

11a CH. 144 Chain 0



11a CH. 144 Chain 1



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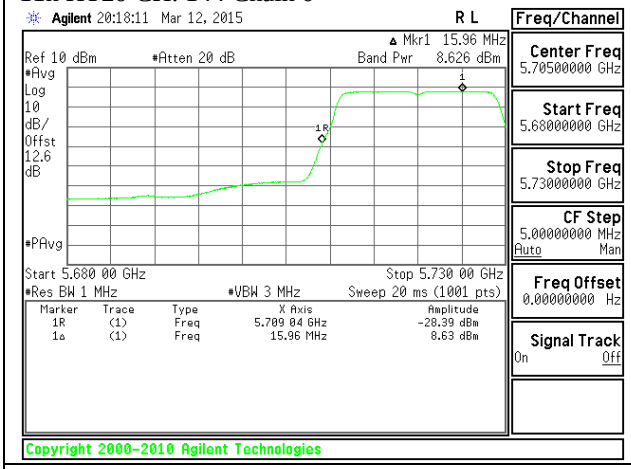

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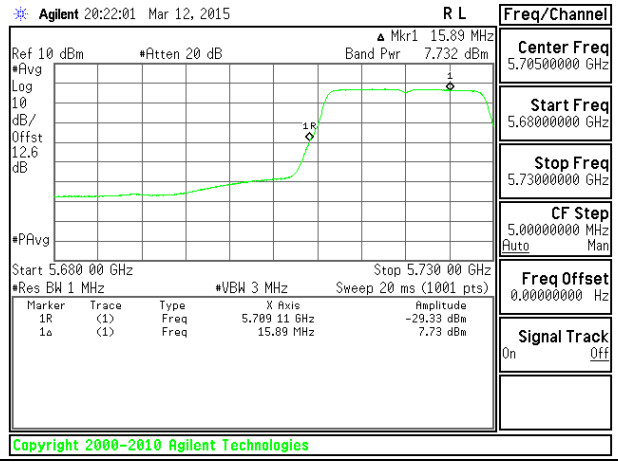

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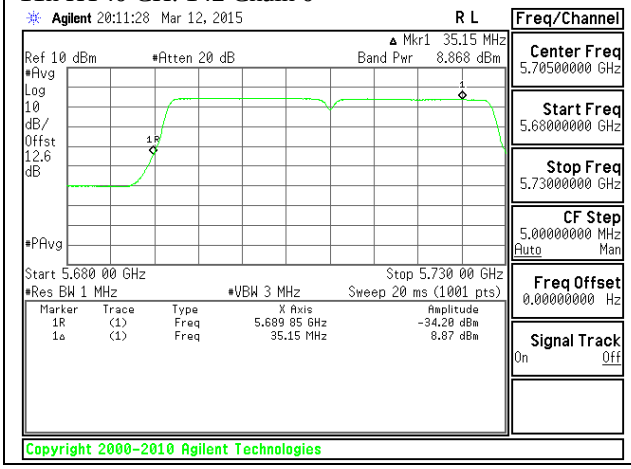

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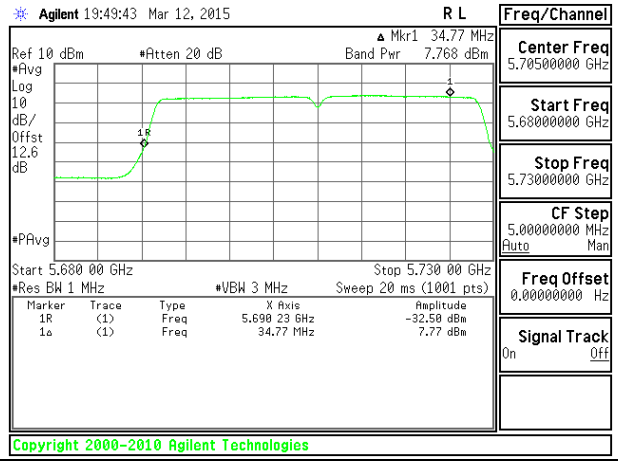

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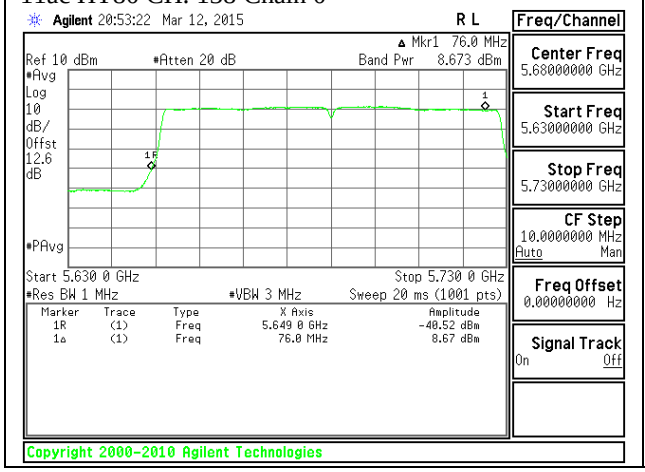
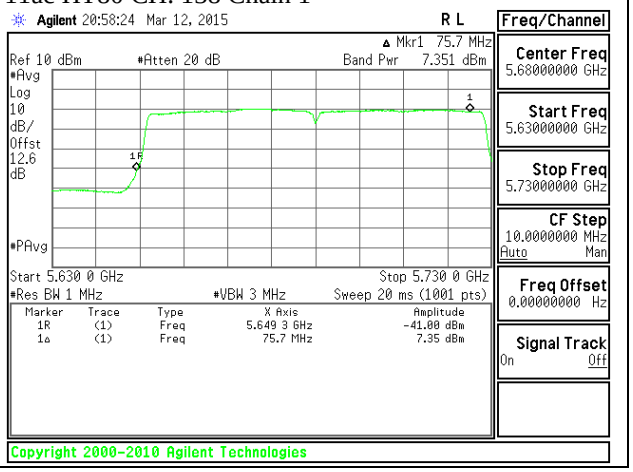
11ac HT80 CH. 138 Chain 0

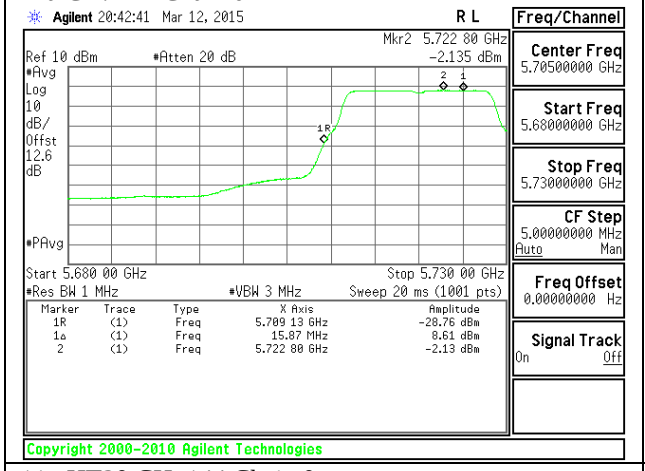


11ac HT80 CH. 138 Chain 1

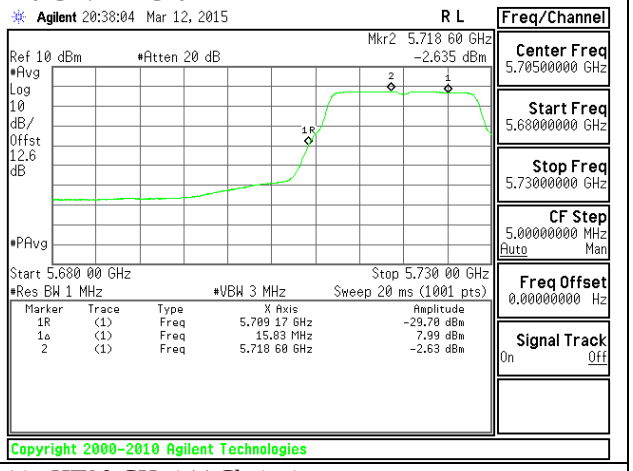


UNII-2C BAND PSD

11a CH. 144 Chain 0



11a CH. 144 Chain 1



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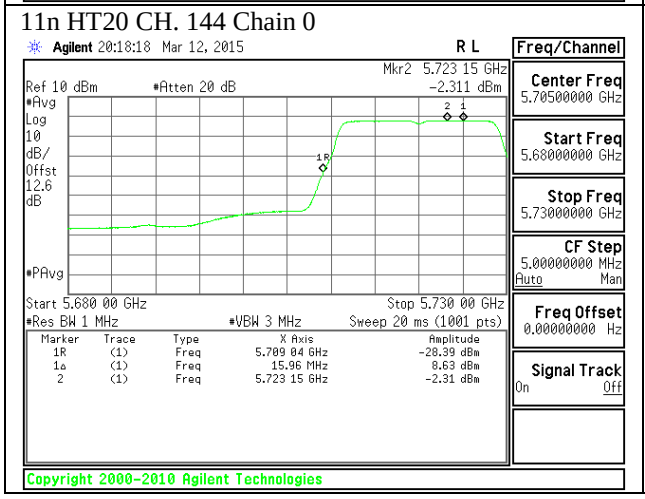
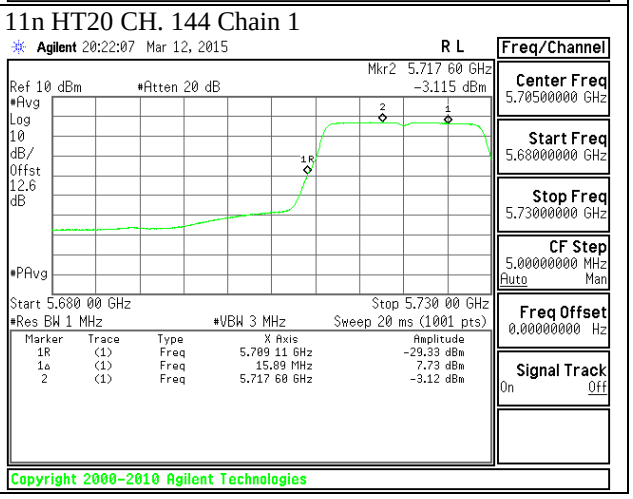


11n HT20 CH. 144 Chain 1



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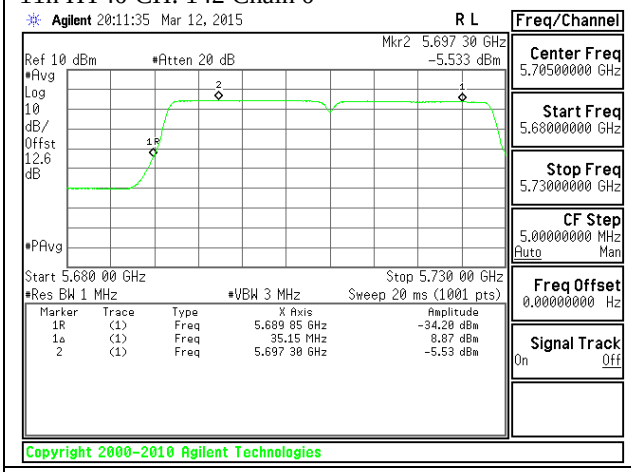
11n HT40 CH. 142 Chain 0



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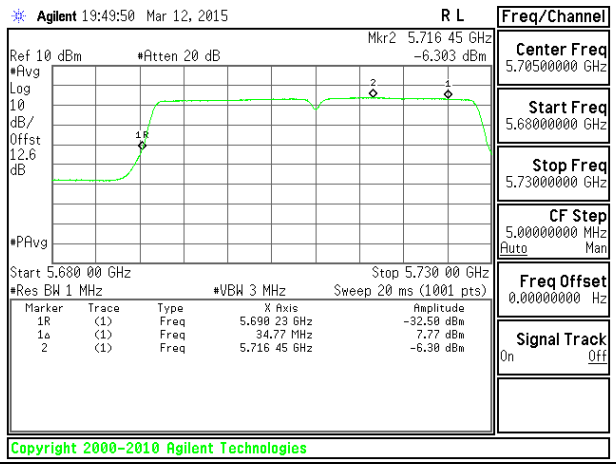

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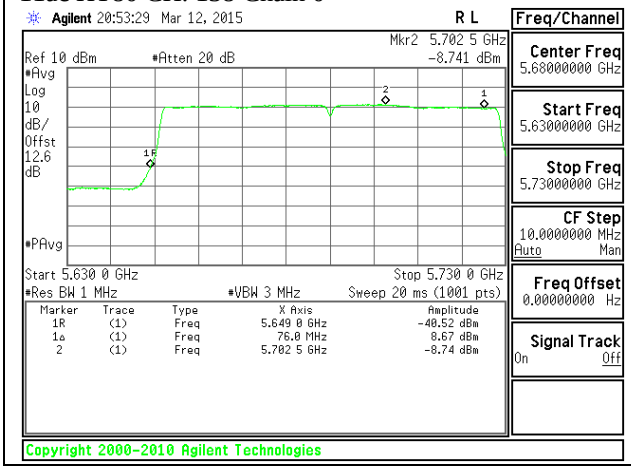

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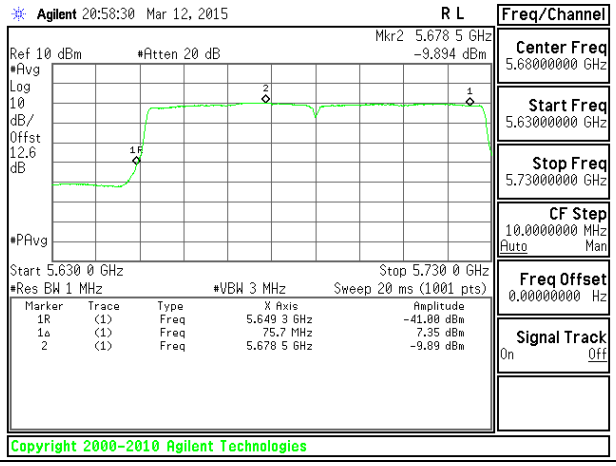

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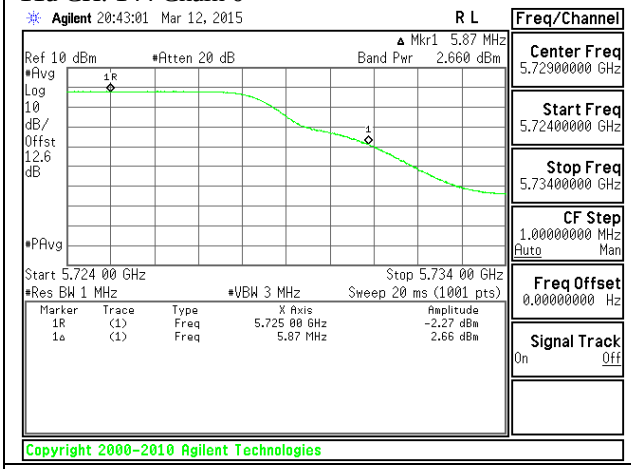
UNII-3 BAND

11a CH. 144 Chain 0



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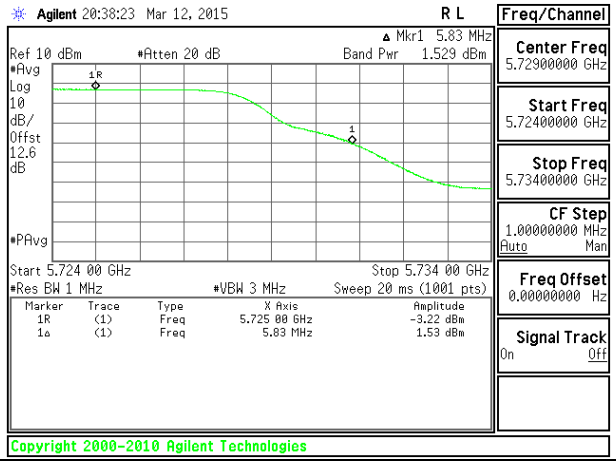

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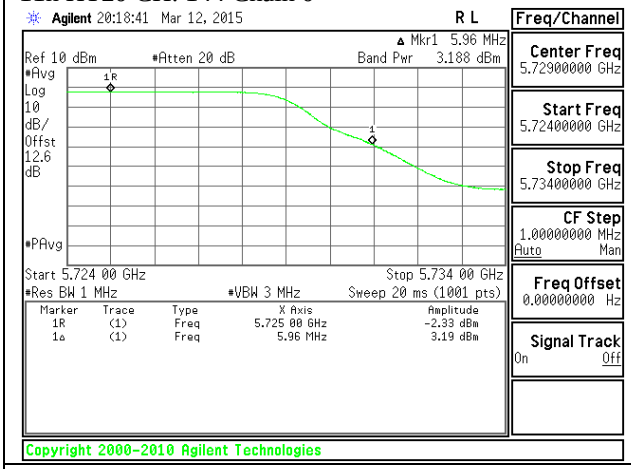

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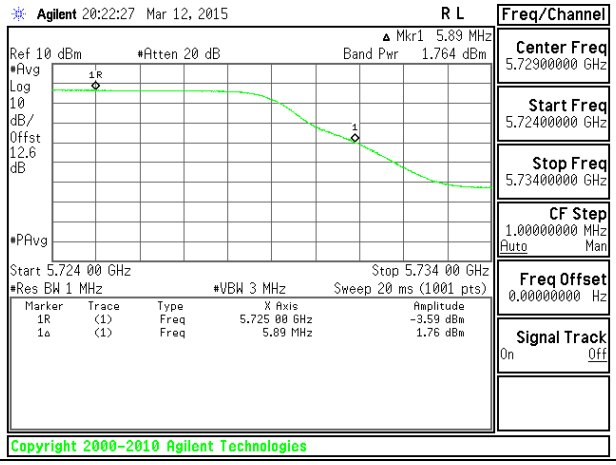

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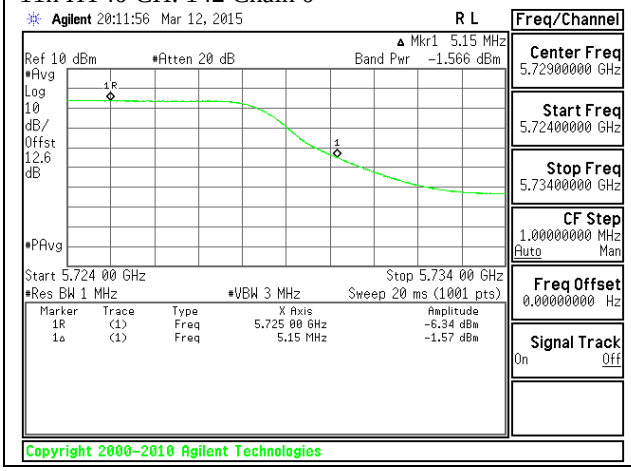

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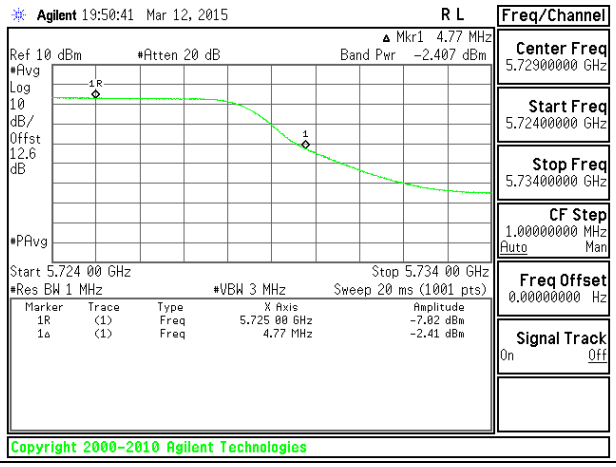

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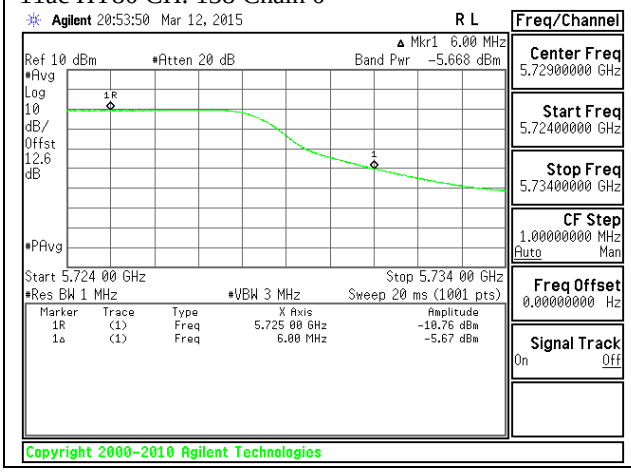
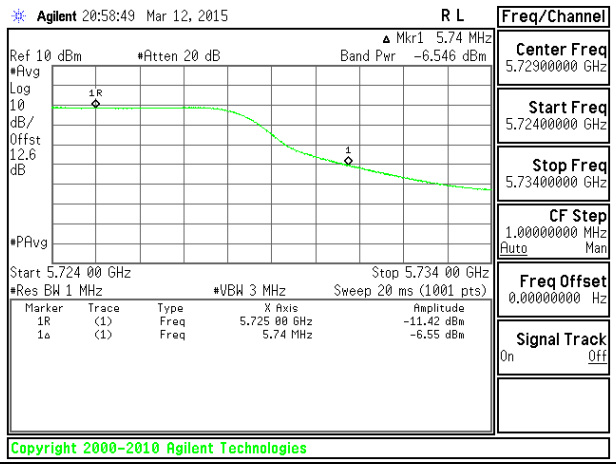
11ac HT80 CH. 138 Chain 0



11ac HT80 CH. 138 Chain 1



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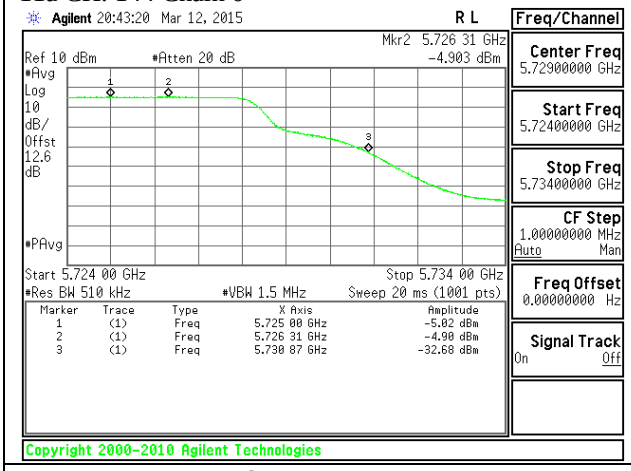
UNII-3 BAND PSD

11a CH. 144 Chain 0



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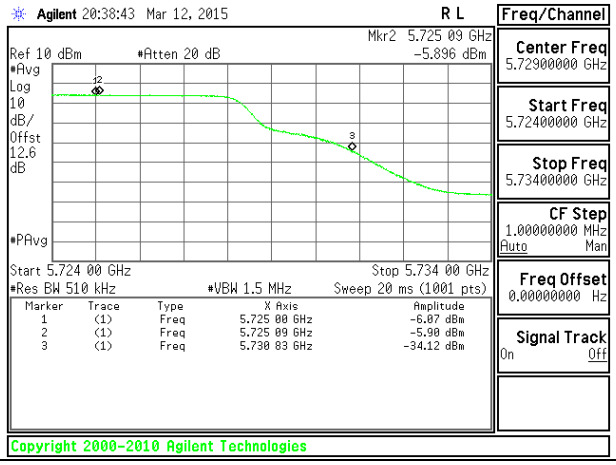

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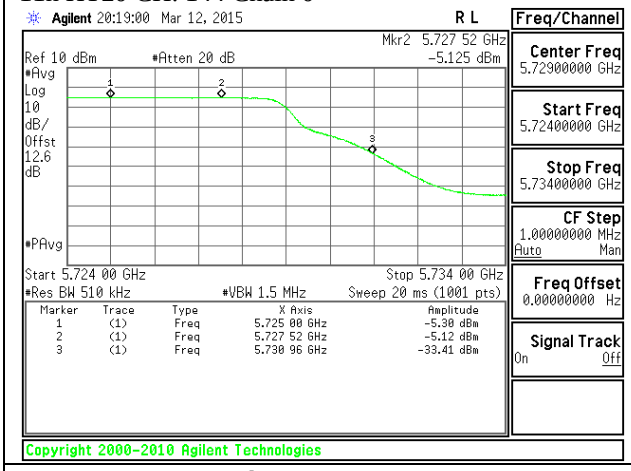
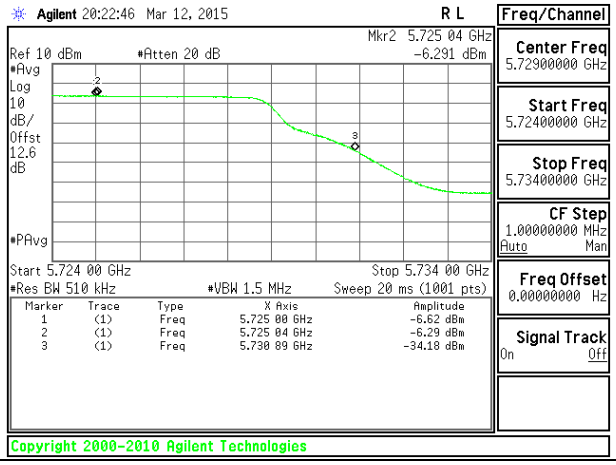


11n HT20 CH. 144 Chain 1



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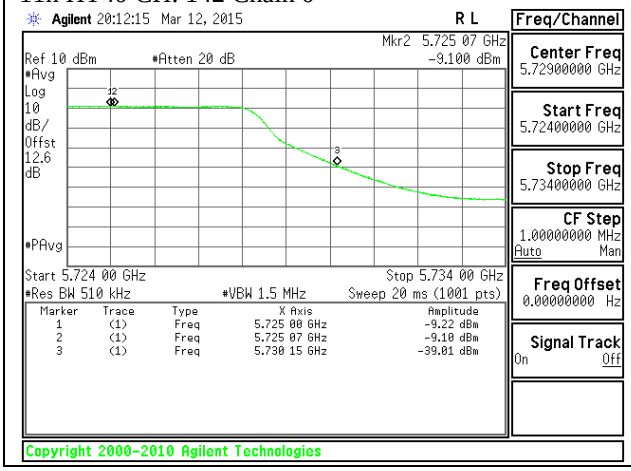

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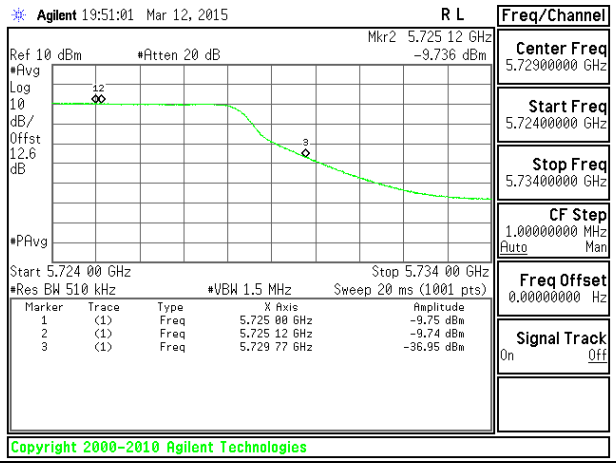

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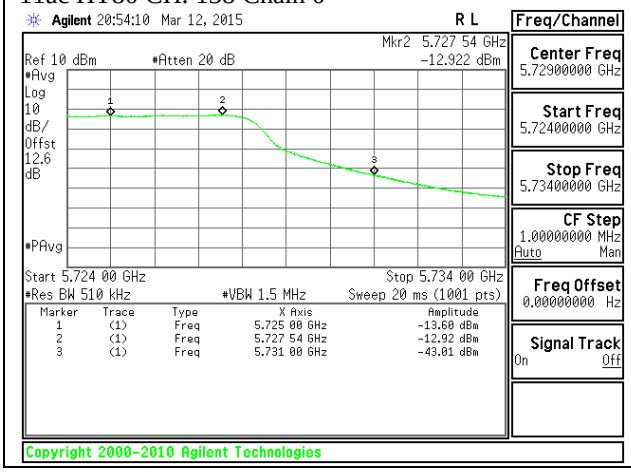
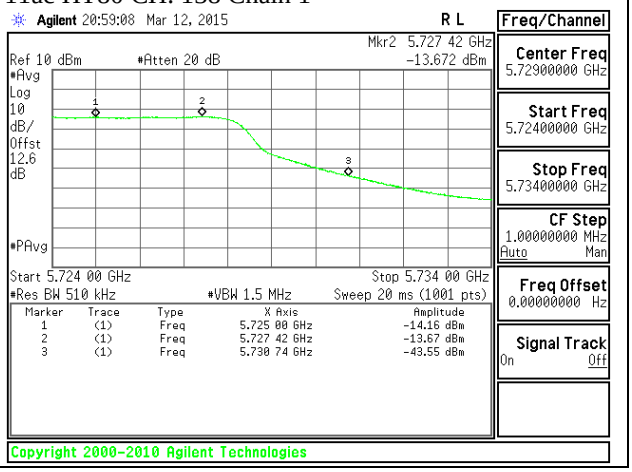
11ac HT80 CH. 138 Chain 0



11ac HT80 CH. 138 Chain 1



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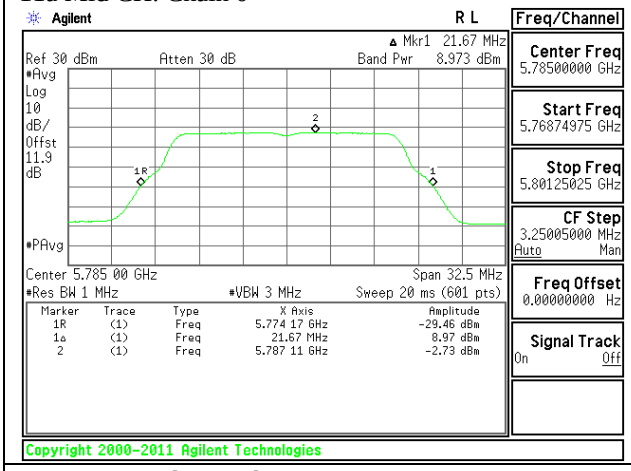
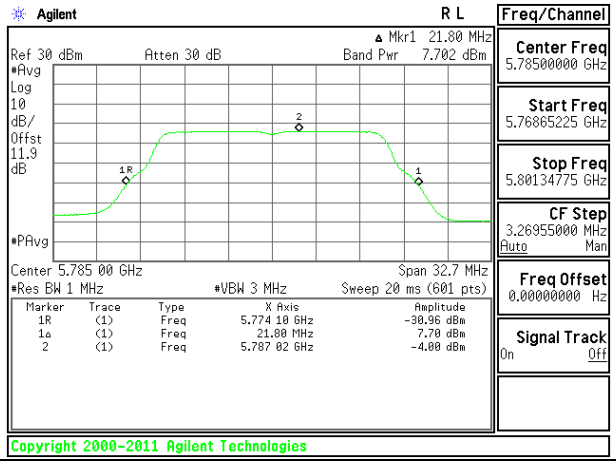
UNII 5.8GHz

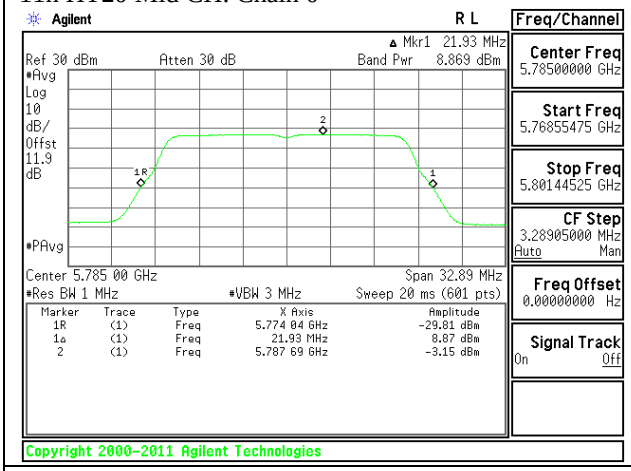
11a Mid CH. Chain 0



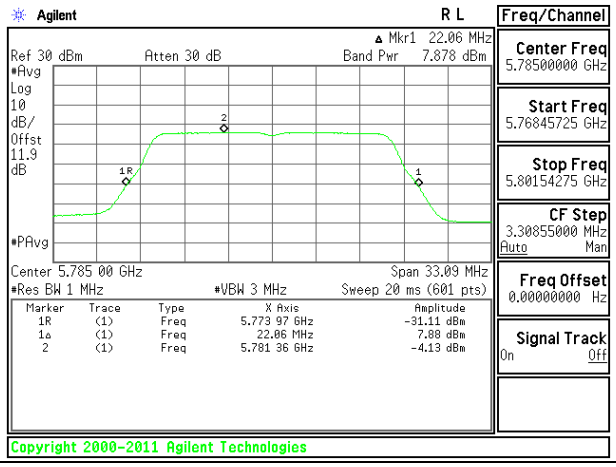
11a Mid CH. Chain 1



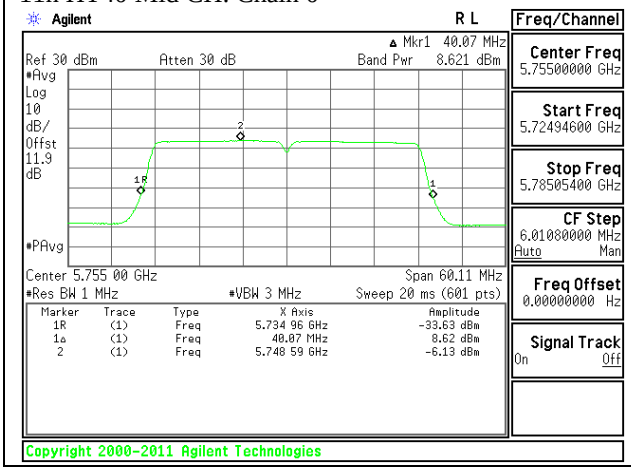
11n HT20 Mid CH. Chain 0



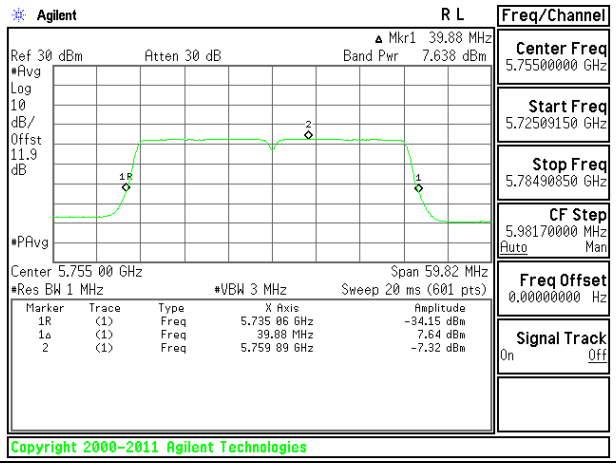
11n HT20 Mid CH. Chain 1



11n HT40 Mid CH. Chain 0



11n HT40 Mid CH. Chain 1



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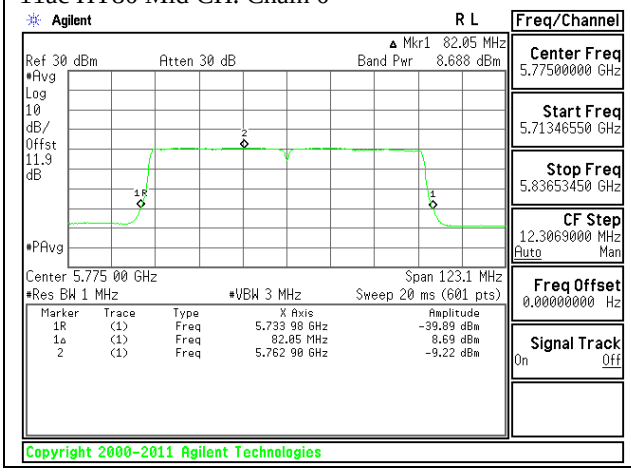
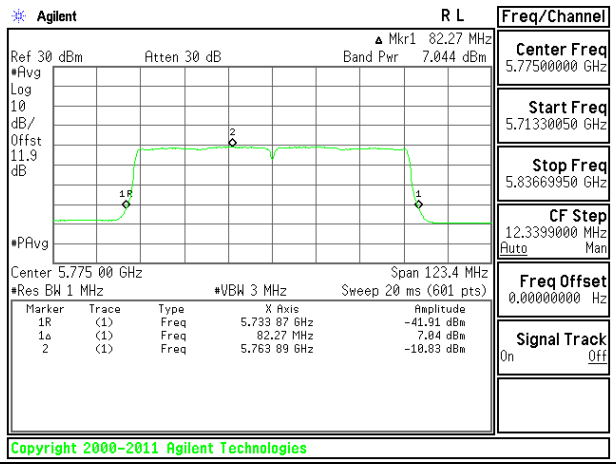
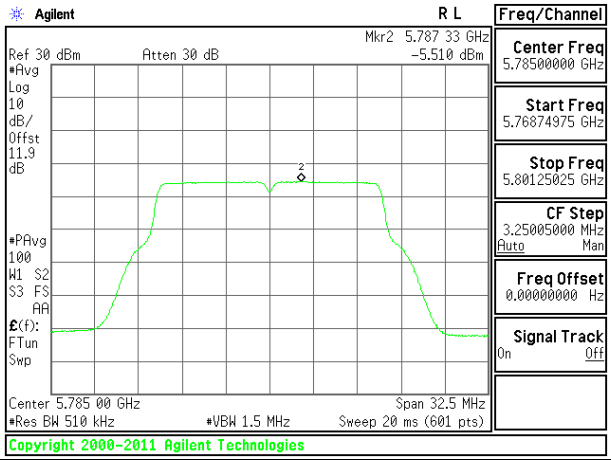
11ac HT80 Mid CH. Chain 0



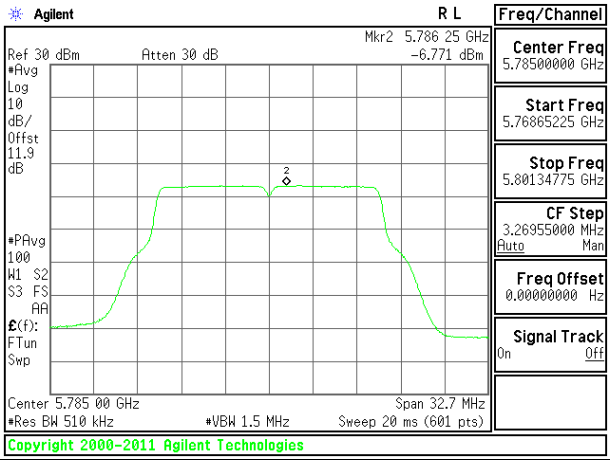
11ac HT80 Mid CH. Chain 1



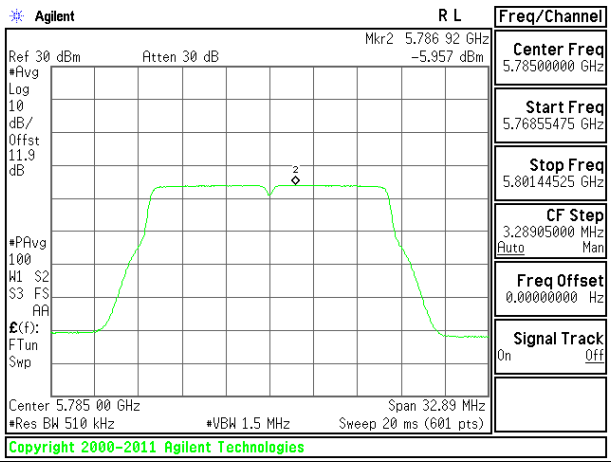
11a Mid CH. PSD Chain 0



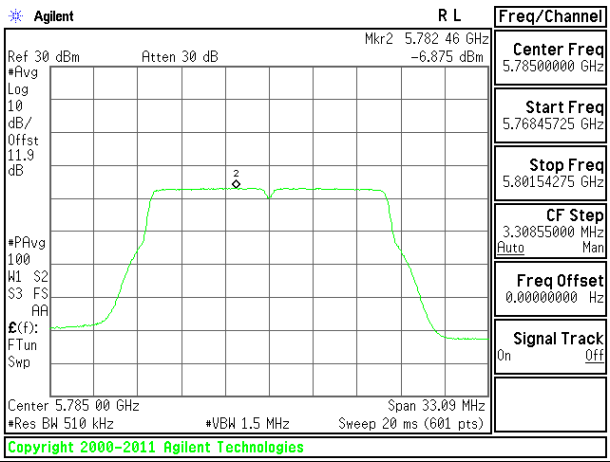
11a Mid CH. PSD Chain 1



11n HT20 Mid CH. PSD Chain 0



11n HT20 Mid CH. PSD Chain 1



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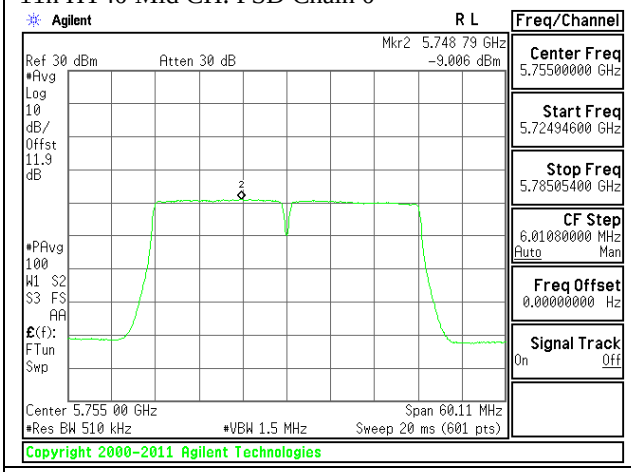
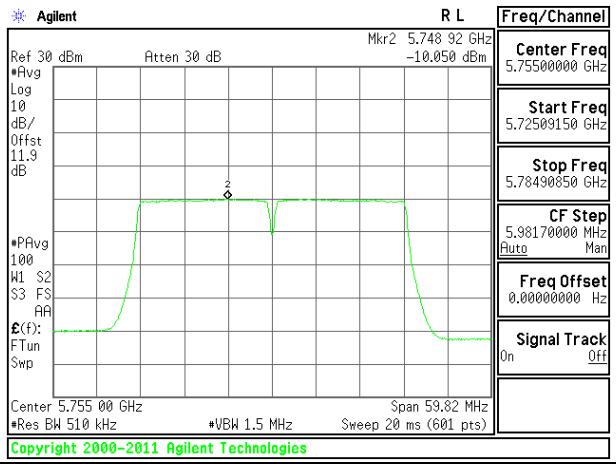
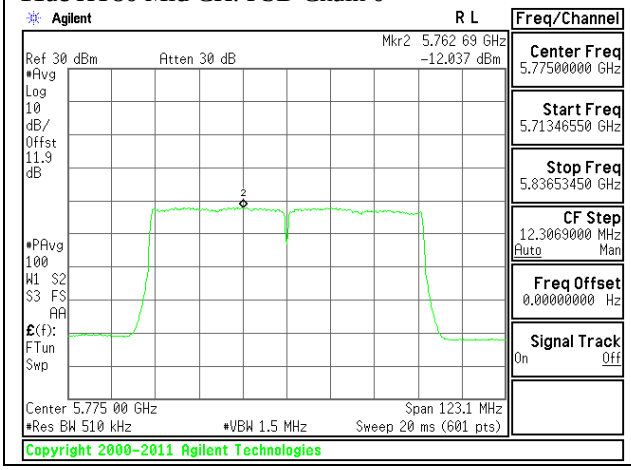
11n HT40 Mid CH. PSD Chain 0



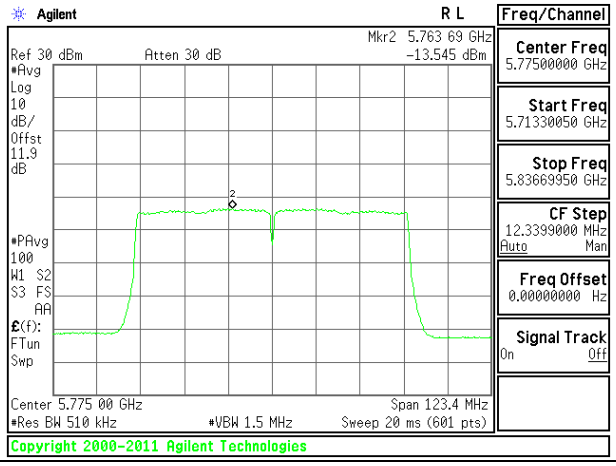
11n HT40 Mid CH. PSD Chain 1



11ac HT80 Mid CH. PSD Chain 0



11ac HT80 Mid CH. PSD Chain 1



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11. TRANSMITTER ABOVE 1 GHz

LIMITS

FCC §15.205 and §15.209

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. 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 AD:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The spectrum from 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.

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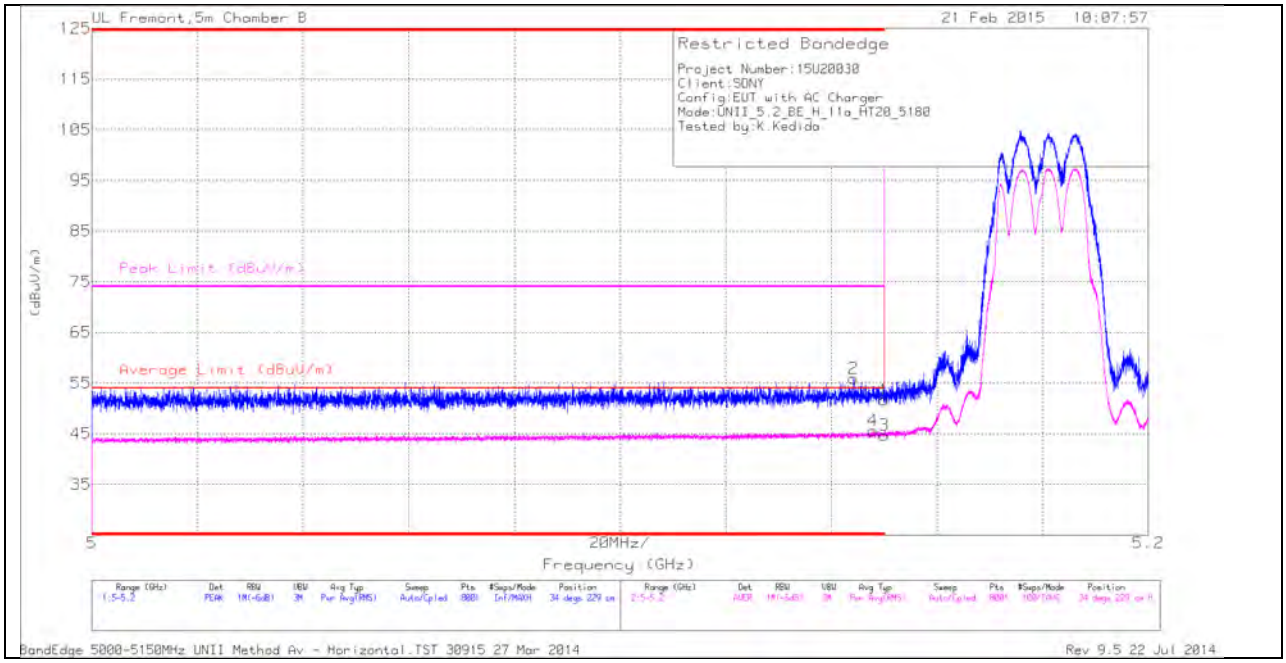
11.1. 5.2 GHz

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	37.51	PK	34.3	-20.2	0	51.61	-	-	74	-22.39	34	229	H
2	* 5.144	41.84	PK	34.3	-20.3	0	55.84	-	-	74	-18.16	34	229	H
3	* 5.15	30.51	RMS	34.3	-20.2	0	44.61	54	-9.39	-	-	34	229	H
4	* 5.148	31.48	RMS	34.3	-20.3	0	45.48	54	-8.52	-	-	34	229	H

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

PK - Peak detector

RMS - RMS detection

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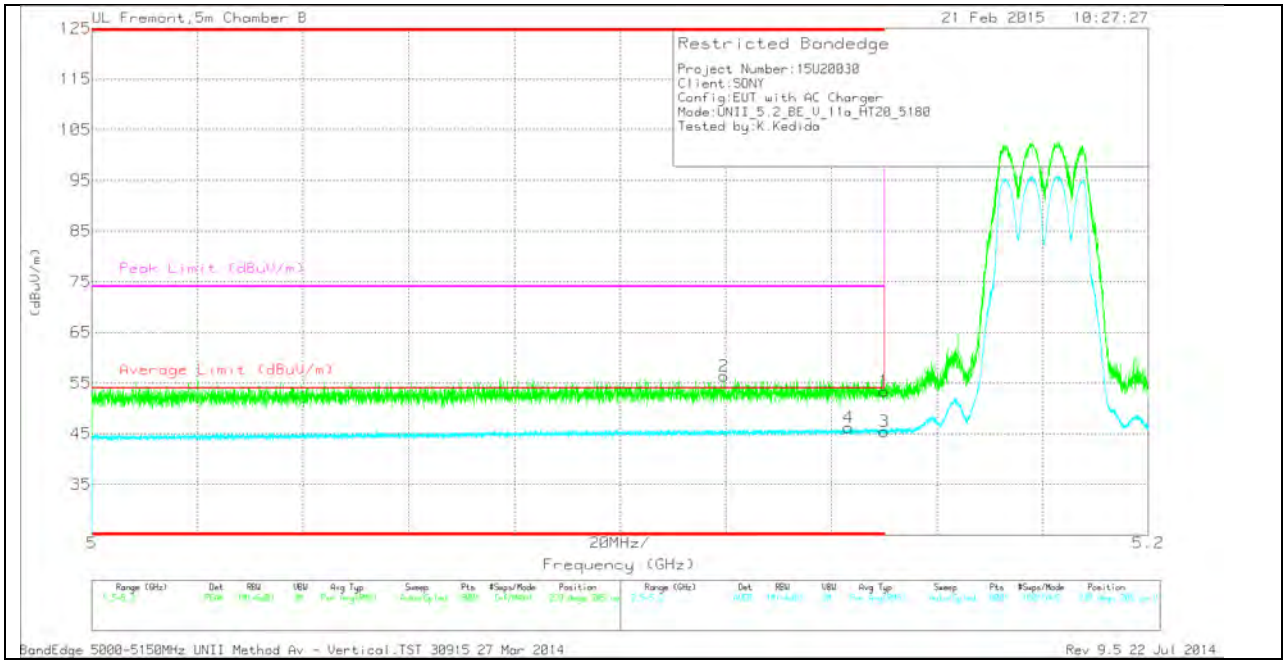
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	39.24	PK	34.3	-20.2	0	53.34	-	-	74	-20.66	239	205	V
2	* 5.12	42.27	PK	34.3	-20.2	0	56.37	-	-	74	-17.63	239	205	V
3	* 5.15	31.28	RMS	34.3	-20.2	0	45.38	54	-8.62	-	-	239	205	V
4	* 5.143	32.12	RMS	34.3	-20.3	0	46.12	54	-7.88	-	-	239	205	V

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

PK - Peak detector

RMS - RMS detection

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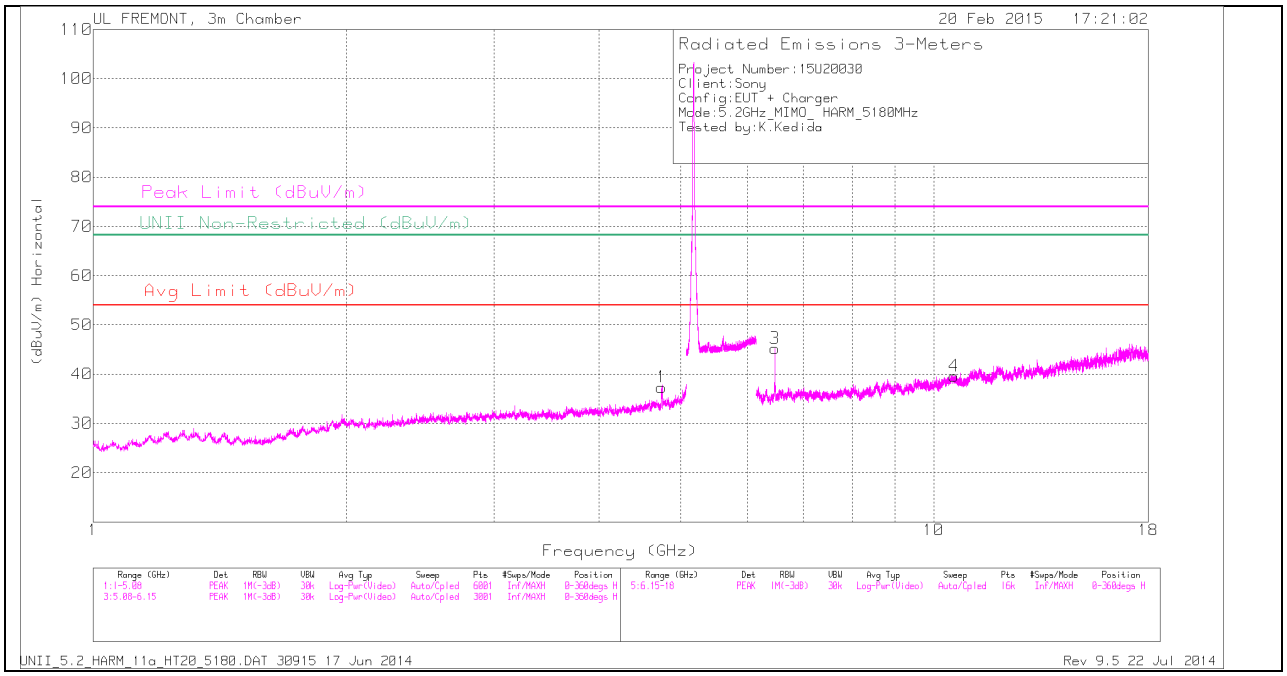
HARMONICS AND SPURIOUS EMISSIONS

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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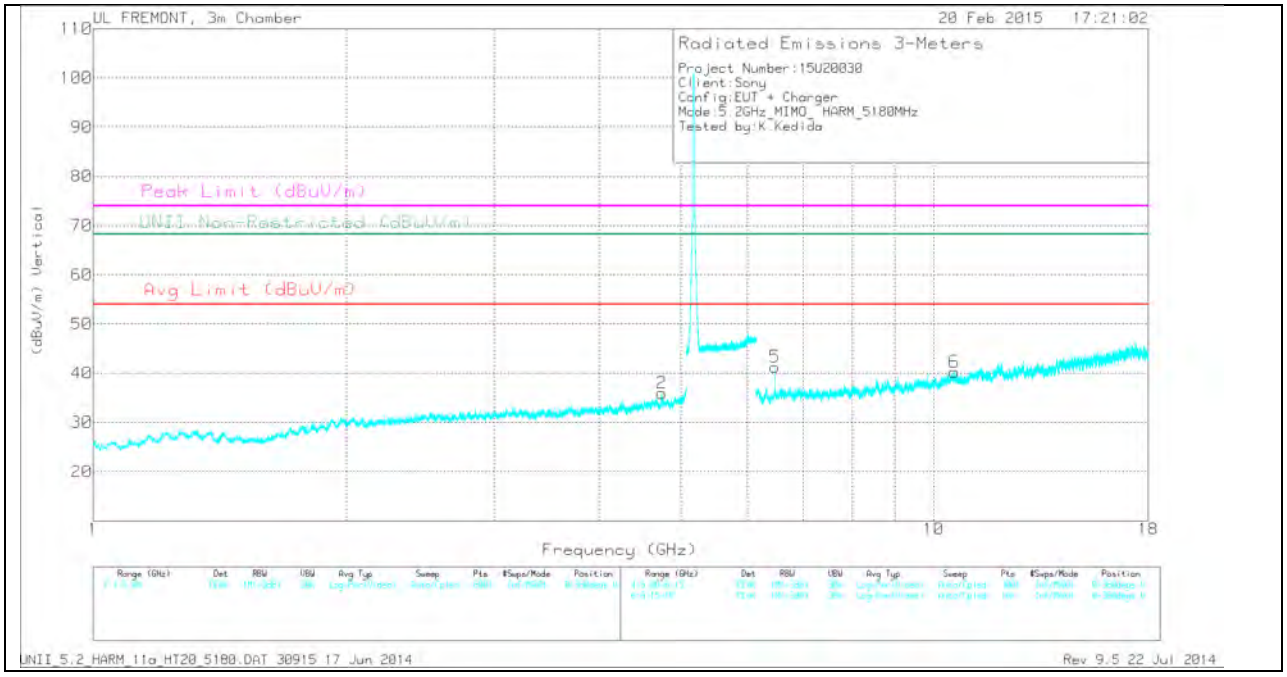
LOW CHANNEL VERTICAL



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	** 4.745	33.94	PK	34	-30.6	37.34	-	-	74	-36.66	-	-	0-360	100	H
2	** 4.752	32.74	PK	34	-30.8	35.94	-	-	74	-38.06	-	-	0-360	200	V
3	6.475	39.12	PK	35.6	-29.5	45.22	-	-	-	-	68.2	-22.98	0-360	200	H
5	6.475	35.18	PK	35.6	-29.5	41.28	-	-	-	-	68.2	-26.92	0-360	200	V
4	10.576	26.7	PK	37.6	-24.7	39.6	-	-	-	-	68.2	-28.6	0-360	100	H
6	10.582	27.44	PK	37.6	-24.8	40.24	-	-	-	-	68.2	-27.96	0-360	200	V

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

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
6.473	39.86	PK1	35.6	-29.5	45.96	-	-	-	-	68.2	-22.24	207	262	H
6.475	43.76	PK1	35.6	-29.5	49.86	-	-	-	-	68.2	-18.34	231	226	H
6.475	36.72	AD1	35.6	-29.5	42.82	-	-	-	-	-	-	231	226	H
6.477	27.44	AD1	35.6	-29.5	33.54	-	-	-	-	-	-	207	262	H

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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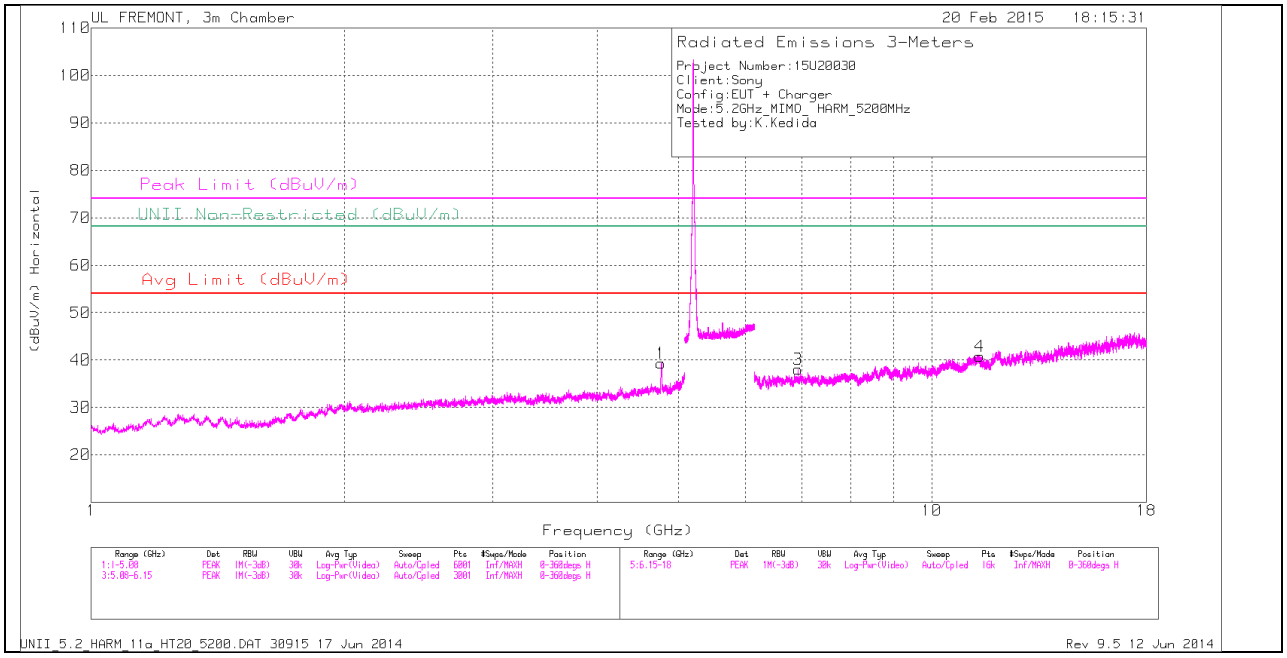
MID CHANNEL HORIZONTAL



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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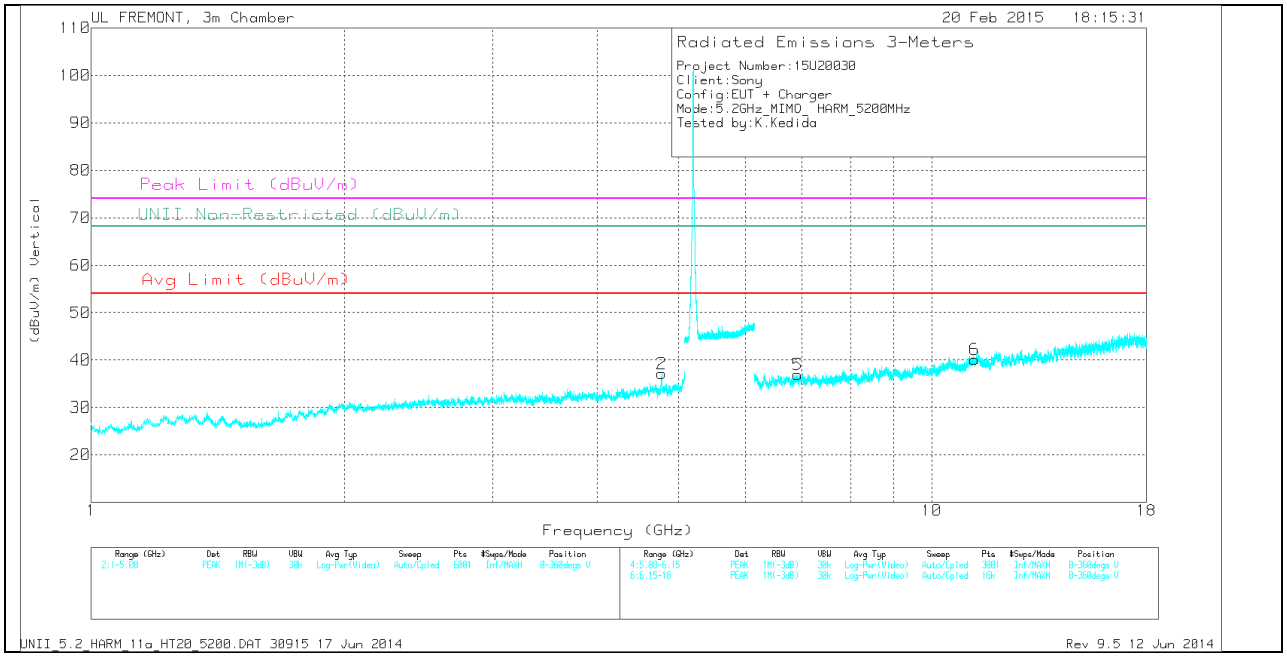
MID CHANNEL VERTICAL



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
1	4.764	35.89	PK	34	-30.6	39.29	-	-	74	-34.71	-	-	0-360	100	H
2	4.771	33.34	PK	34	-30.2	37.14	-	-	74	-36.86	-	-	0-360	200	V
5	6.922	30.1	PK	35.6	-28.8	36.9	-	-	-	-	68.2	-31.3	0-360	100	V
3	6.934	31.13	PK	35.6	-28.7	38.03	-	-	-	-	68.2	-30.17	0-360	100	H
6	11.239	28.02	PK	38	-25.9	40.12	-	-	74	-33.88	-	-	0-360	100	V
4	11.393	28.51	PK	38.2	-25.9	40.81	-	-	74	-33.19	-	-	0-360	100	H

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
4.765	45.05	PK1	34	-30.6	48.45	-	-	74	-25.55	-	-	206	260	H
4.765	34.23	AD1	34	-30.6	37.63	54	-16.37	-	-	-	-	206	260	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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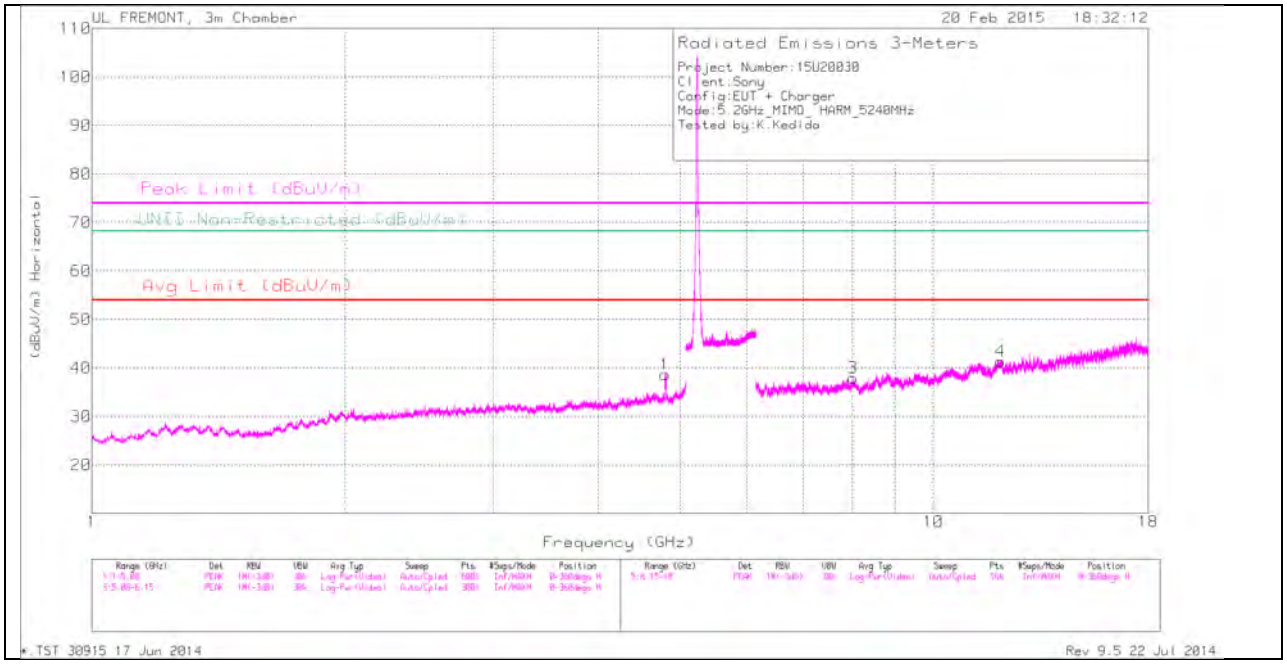
HIGH CHANNEL HORIZONTAL



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

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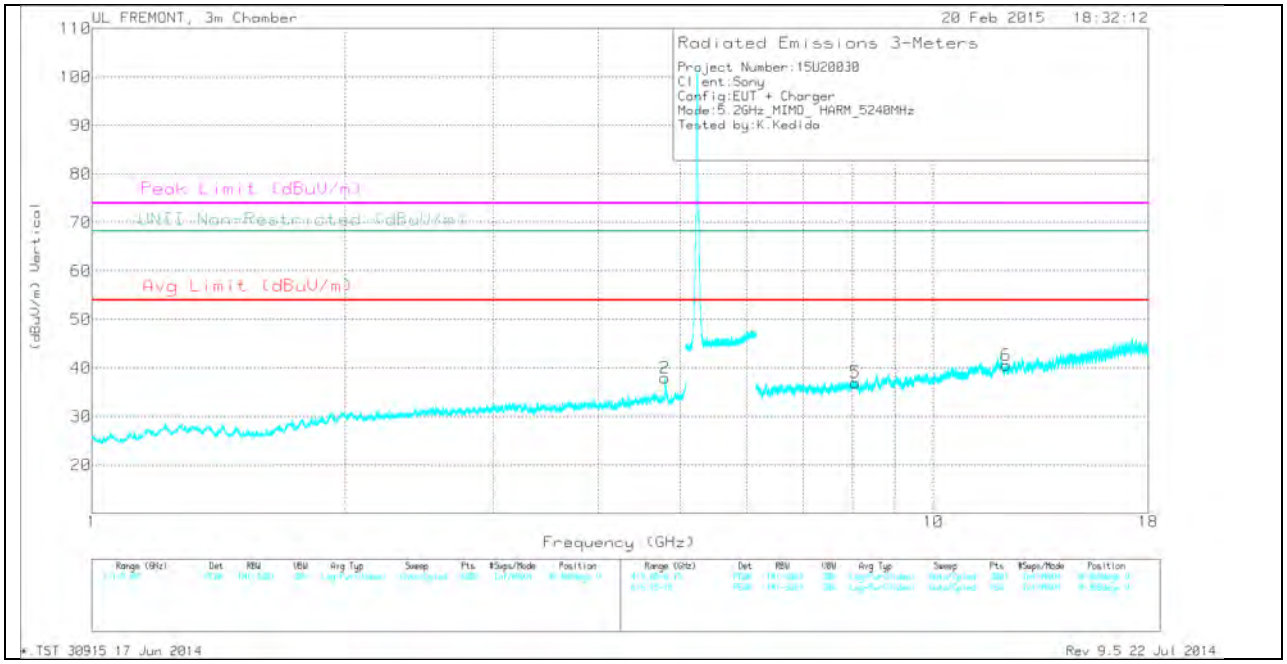
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	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	4.797	34.22	PK	34	-30.3	37.92	-	-	74	-36.08	-	-	0-360	200	V
1	4.801	34.87	PK	34	-30.3	38.57	-	-	74	-35.43	-	-	0-360	200	H
3	8.024	29.95	PK	35.8	-27.8	37.95	-	-	-	-	68.2	-30.25	0-360	100	H
5	8.071	28.5	PK	35.7	-27.2	37	-	-	74	-37	-	-	0-360	200	V
4	12.019	28.4	PK	39.1	-26.1	41.4	-	-	74	-32.6	-	-	0-360	100	H
6	12.192	27.88	PK	39	-26.3	40.58	-	-	74	-33.42	-	-	0-360	100	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
4.8	28.38	AD1	34	-30.3	32.08	54	-21.92	-	-	-	-	104	200	H
4.801	40.4	PK1	34	-30.3	44.1	-	-	74	-29.9	-	-	104	200	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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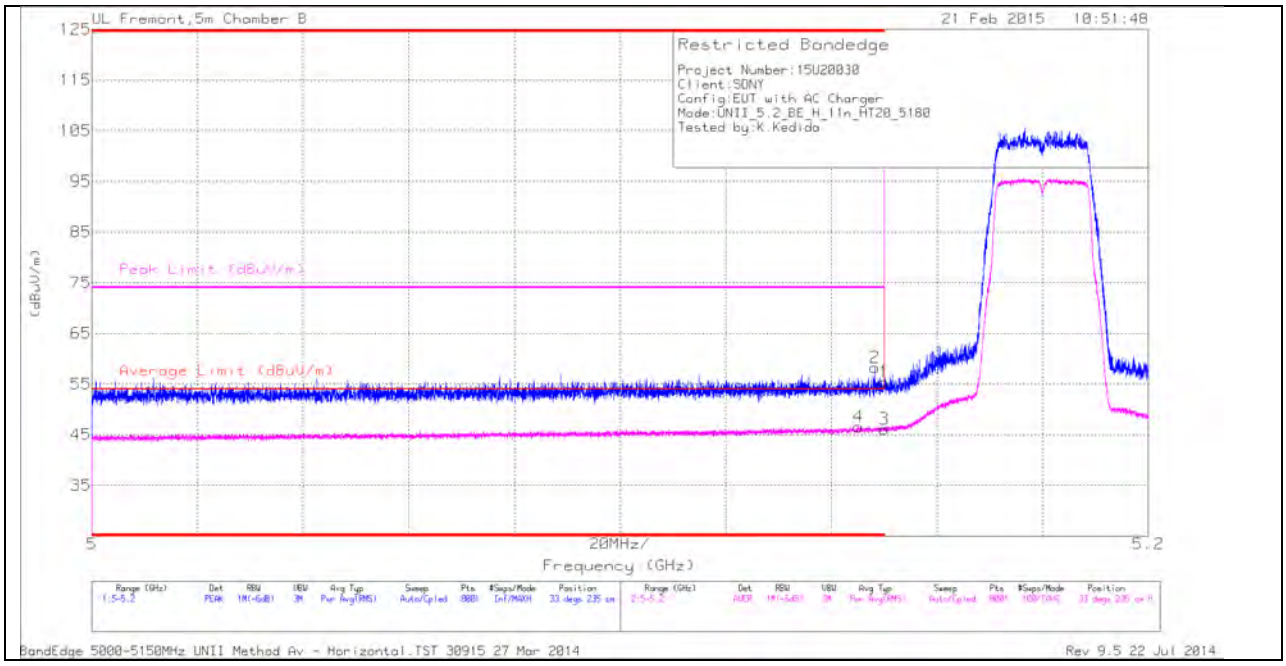
11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.25	PK	34.3	-20.2	0	55.35	-	-	74	-18.65	33	235	H
2	* 5.148	44.18	PK	34.3	-20.2	0	58.28	-	-	74	-15.72	33	235	H
3	* 5.15	31.9	RMS	34.3	-20.2	0	46.0	54	-8.0	-	-	33	235	H
4	* 5.145	32.47	RMS	34.3	-20.3	0	46.47	54	-7.53	-	-	33	235	H

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

PK - Peak detector

RMS - RMS detection

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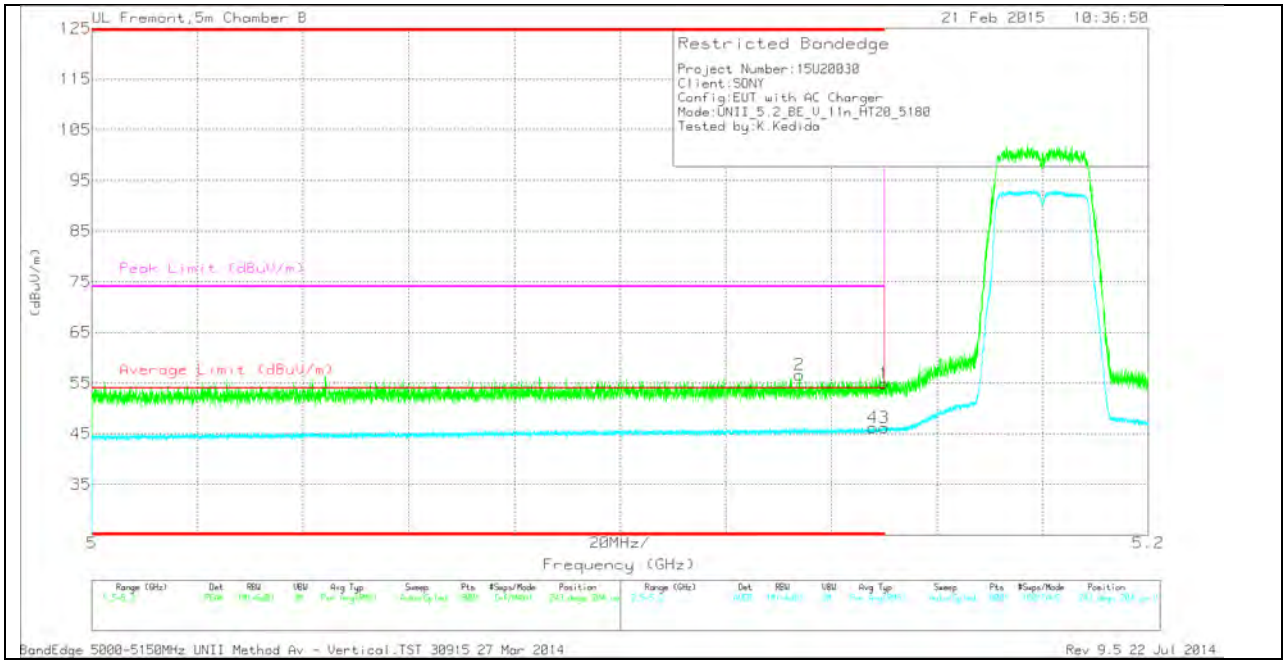
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	40.83	PK	34.3	-20.2	0	54.93	-	-	74	-19.07	243	204	V
2	* 5.134	42.53	PK	34.3	-20.2	0	56.63	-	-	74	-17.37	243	204	V
3	* 5.15	31.97	RMS	34.3	-20.2	0	46.07	54	-7.93	-	-	243	204	V
4	* 5.148	32.02	RMS	34.3	-20.2	0	46.12	54	-7.88	-	-	243	204	V

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

PK - Peak detector

RMS - RMS detection

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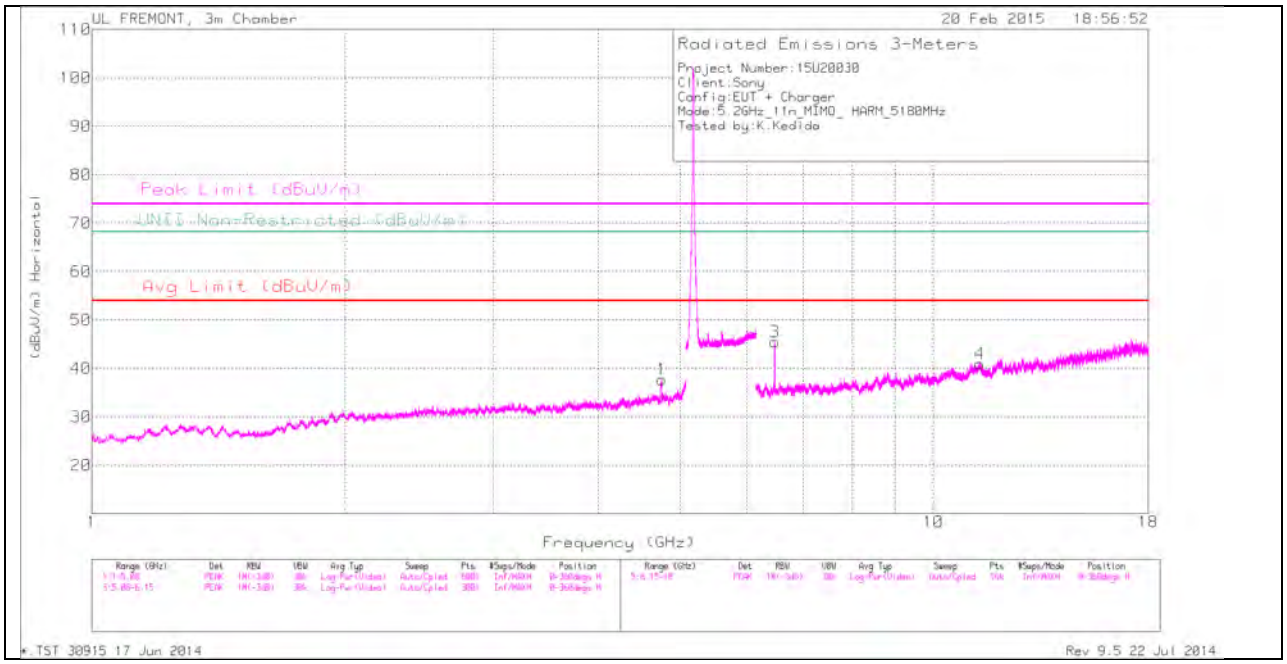
HARMONICS AND SPURIOUS EMISSIONS

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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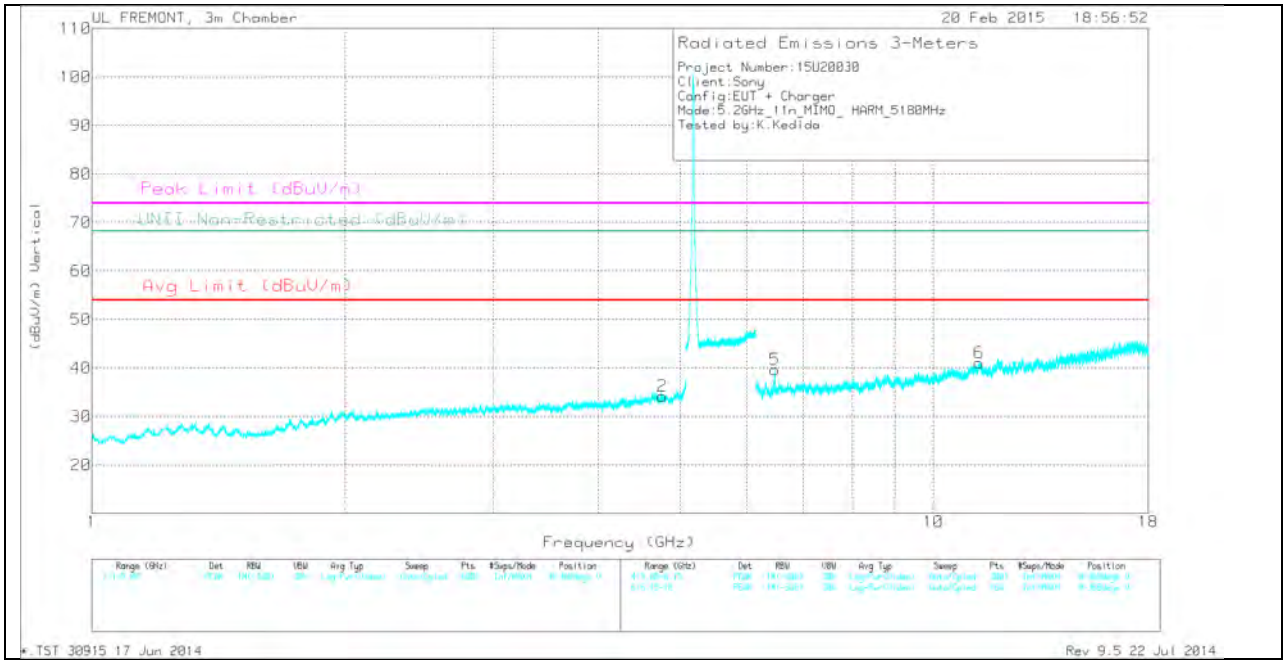
LOW CHANNEL VERTICAL



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	4.752	34.48	PK	34	-30.8	37.68	-	-	74	-36.32	-	-	0-360	100	H
2	4.764	30.83	PK	34	-30.6	34.23	-	-	74	-39.77	-	-	0-360	200	V
3	6.475	39.38	PK	35.6	-29.5	45.48	-	-	-	-	68.2	-22.72	0-360	200	H
5	6.475	33.55	PK	35.6	-29.5	39.65	-	-	-	-	68.2	-28.55	0-360	200	V
6	11.329	28.43	PK	38.1	-25.4	41.13	-	-	74	-32.87	-	-	0-360	200	V
4	11.36	28.62	PK	38.1	-25.8	40.92	-	-	74	-33.08	-	-	0-360	200	H

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
6.475	45.56	PK1	35.6	-29.5	51.66	-	-	-	-	68.2	-16.54	219	293	H
6.475	39.68	AD1	35.6	-29.5	45.78	-	-	-	-	-	-	219	293	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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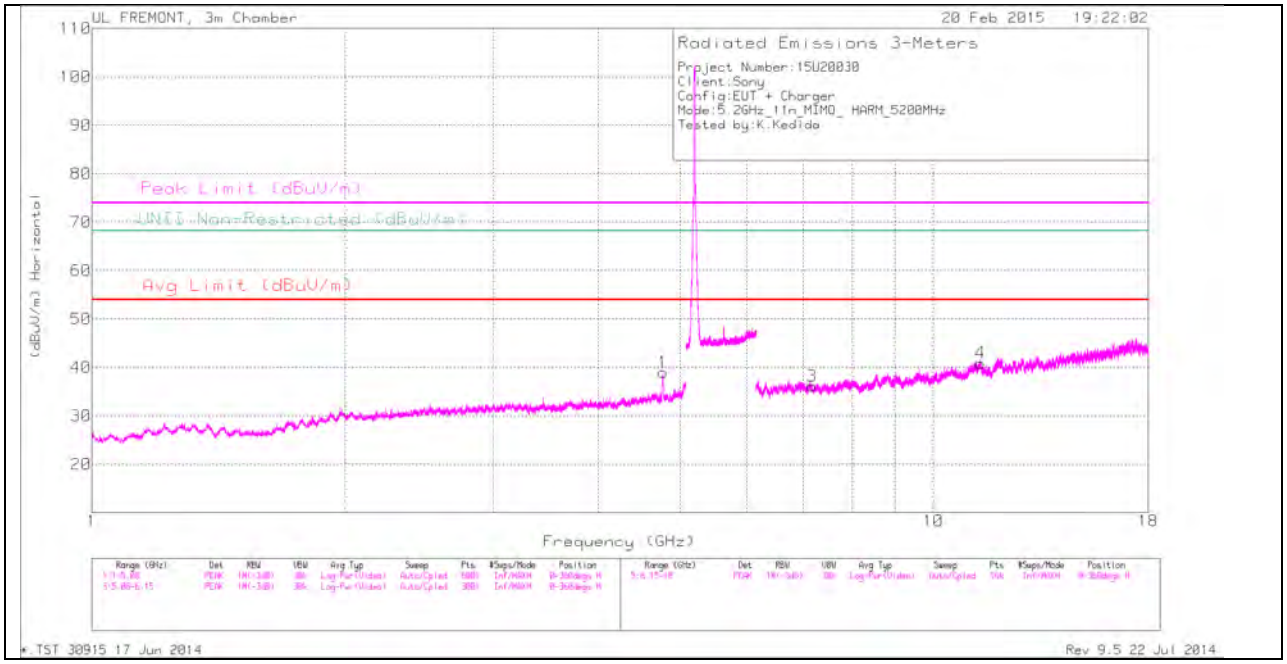
MID CHANNEL HORIZONTAL



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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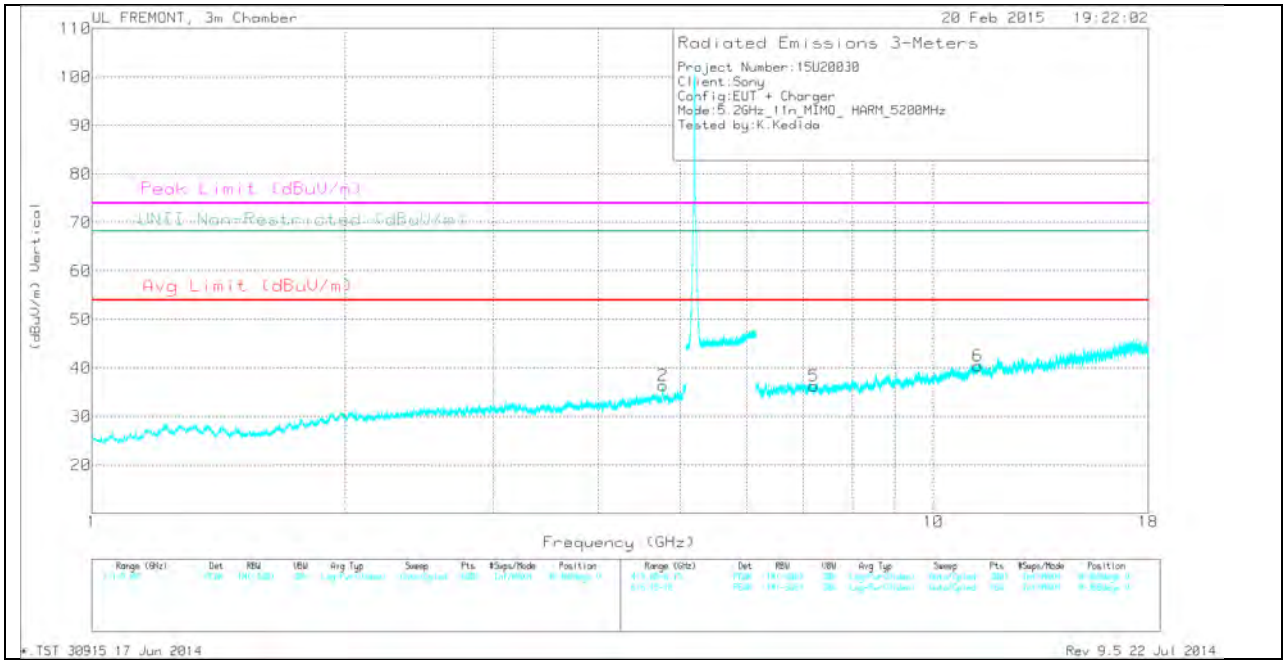
MID CHANNEL VERTICAL



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
1	4.769	35.28	PK	34	-30.3	38.98	-	-	74	-35.02	-	-	0-360	100	H
2	4.772	32.63	PK	34	-30.2	36.43	-	-	74	-37.57	-	-	0-360	200	V
3	7.177	29.6	PK	35.6	-29.1	36.1	-	-	-	-	68.2	-32.1	0-360	200	H
5	7.21	29.92	PK	35.6	-29.2	36.32	-	-	-	-	68.2	-31.88	0-360	200	V
6	11.301	28.03	PK	38.1	-25.7	40.43	-	-	74	-33.57	-	-	0-360	100	V
4	11.364	28.69	PK	38.1	-25.9	40.89	-	-	74	-33.11	-	-	0-360	200	H

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
7.177	27.61	AD1	35.6	-29	34.21	-	-	-	-	-	-	360	200	H
7.179	39.22	PK1	35.6	-29	45.82	-	-	-	-	68.2	-22.38	360	200	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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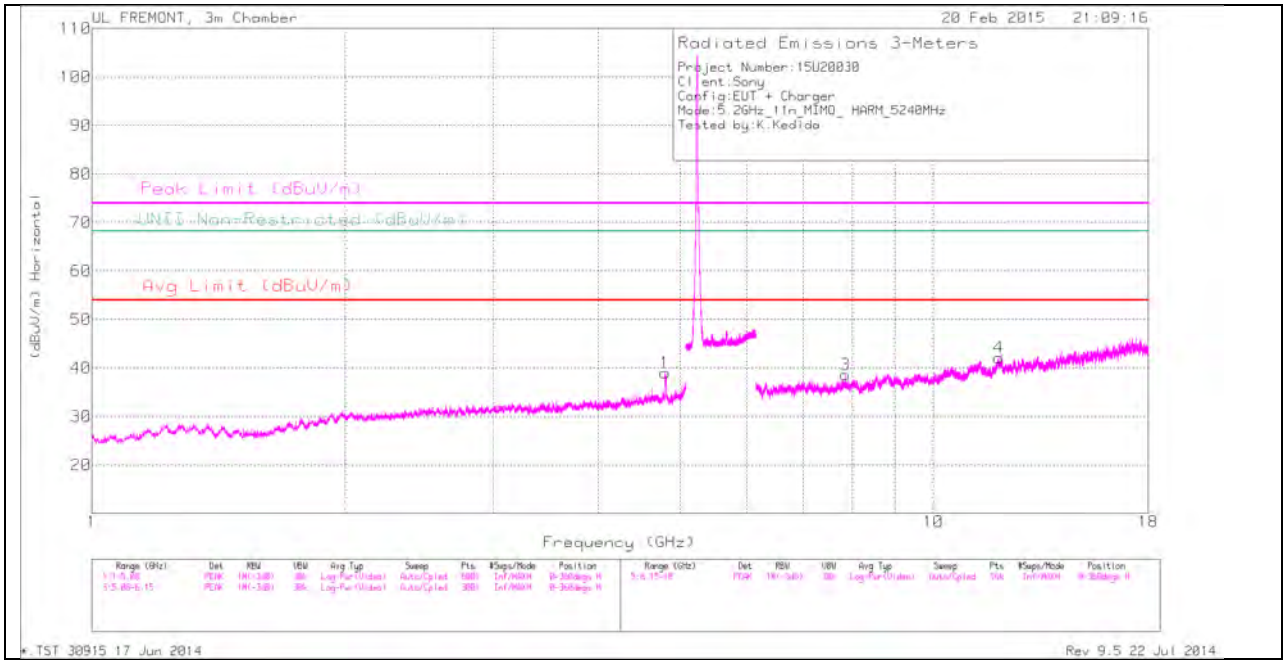
HIGH CHANNEL HORIZONTAL



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

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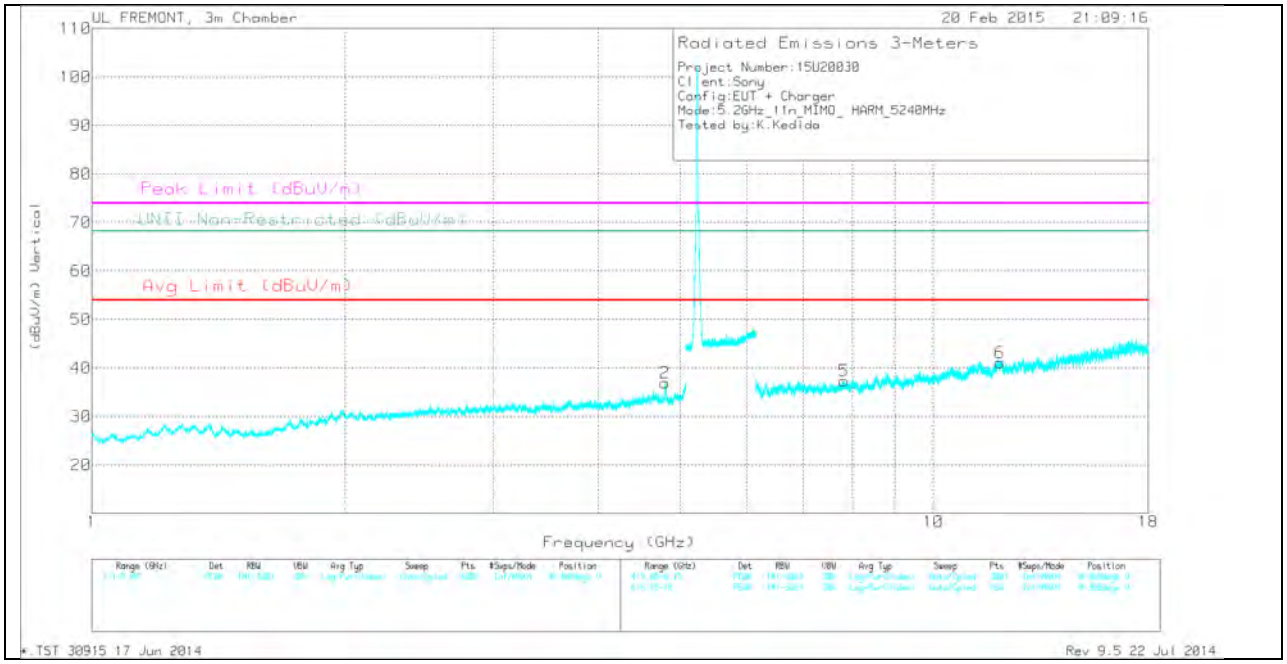
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	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	4.796	33.29	PK	34	-30.3	36.99	-	-	74	-37.01	-	-	0-360	200	V
1	4.801	35.33	PK	34	-30.3	39.03	-	-	74	-34.97	-	-	0-360	100	H
5	7.834	29.33	PK	35.8	-27.8	37.33	-	-	-	-	68.2	-30.87	0-360	200	V
3	7.855	30.47	PK	35.8	-27.7	38.57	-	-	-	-	68.2	-29.63	0-360	100	H
4	11.961	29.3	PK	39.1	-26.3	42.1	-	-	74	-31.9	-	-	0-360	100	H
6	11.987	28.24	PK	39.1	-26.3	41.04	-	-	74	-32.96	-	-	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
4.801	46.45	PK1	34	-30.3	50.15	-	-	74	-23.85	-	-	203	262	H
4.801	35.77	AD1	34	-30.3	39.47	54	-14.53	-	-	-	-	203	262	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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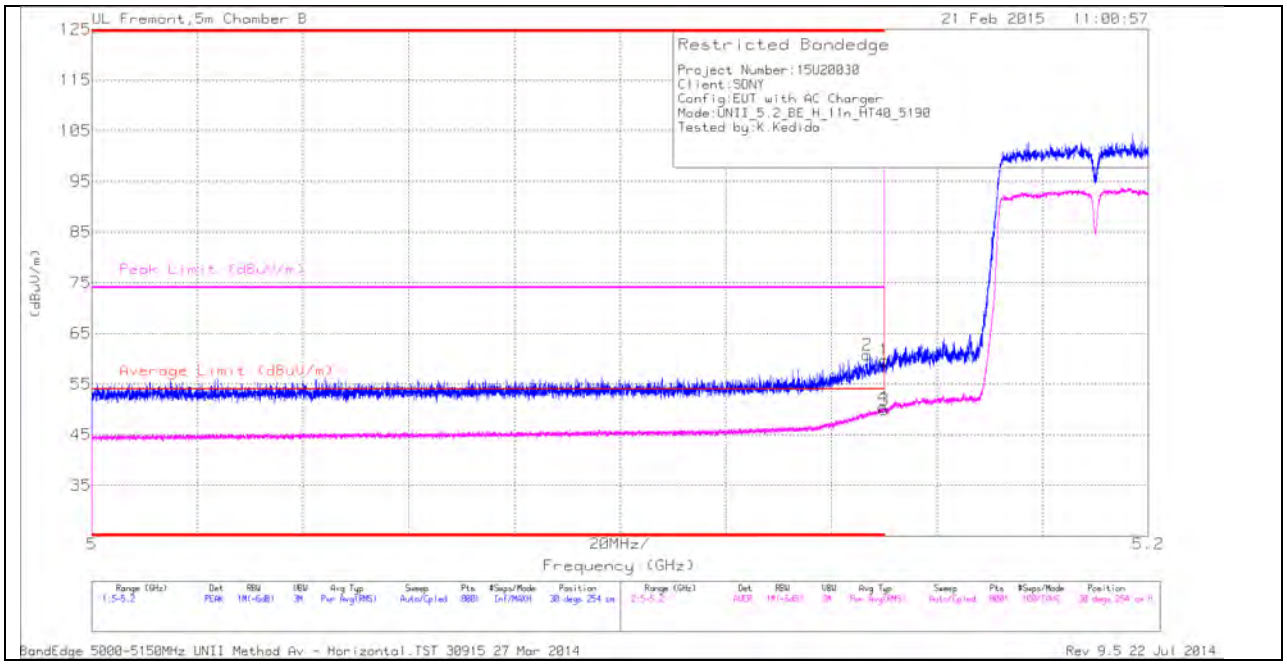
11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	45.57	PK	34.3	-20.2	0	59.67	-	-	74	-14.33	30	254	H
2	* 5.147	46.75	PK	34.3	-20.3	0	60.75	-	-	74	-13.25	30	254	H
3	* 5.15	35.64	RMS	34.3	-20.2	.12	49.86	54	-4.14	-	-	30	254	H
4	* 5.15	36.09	RMS	34.3	-20.2	.12	50.31	54	-3.69	-	-	30	254	H

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

PK - Peak detector

RMS - RMS detection

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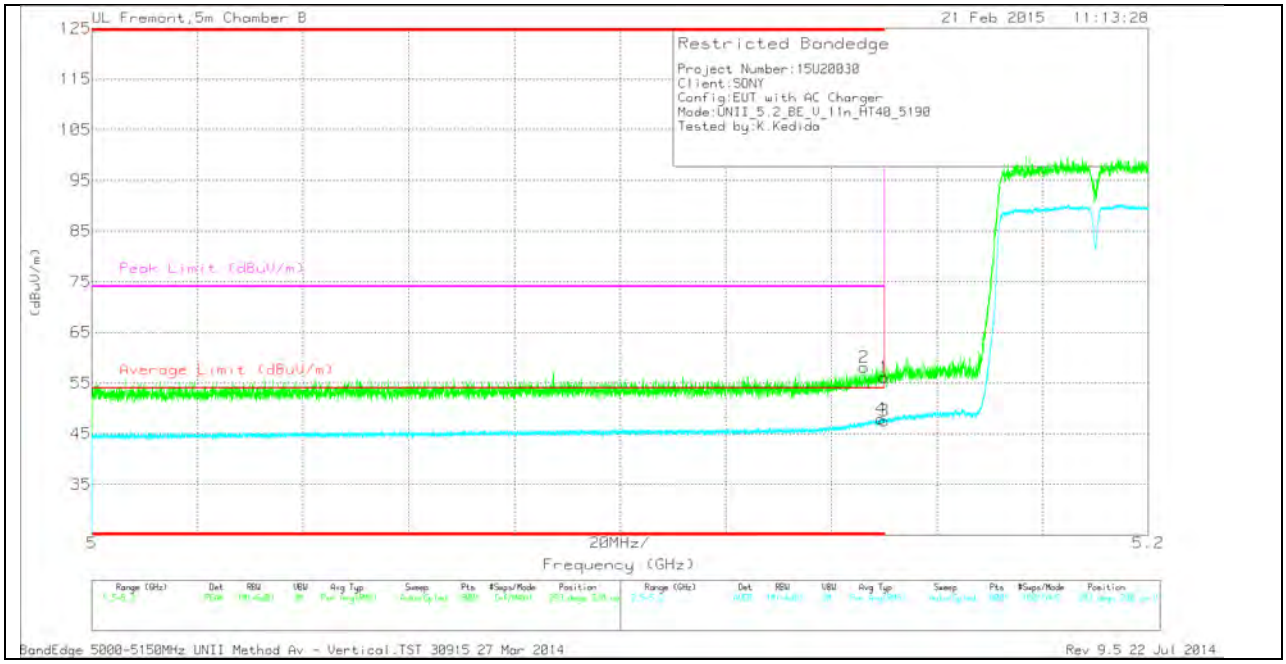
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	42.03	PK	34.3	-20.2	0	56.13	-	-	74	-17.87	293	230	V
2	* 5.146	44.14	PK	34.3	-20.3	0	58.14	-	-	74	-15.86	293	230	V
3	* 5.15	33.27	RMS	34.3	-20.2	.12	47.49	54	-6.51	-	-	293	230	V
4	* 5.149	33.68	RMS	34.3	-20.2	.12	47.90	54	-6.10	-	-	293	230	V

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

PK - Peak detector

RMS - RMS detection

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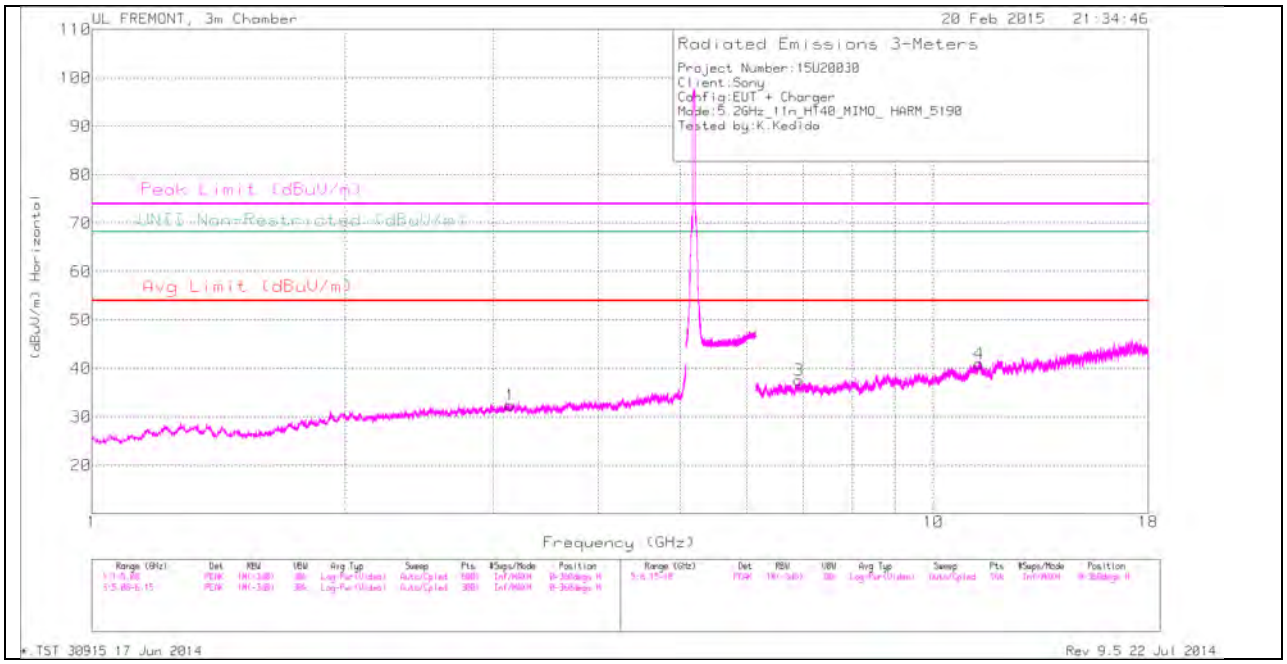
HARMONICS AND SPURIOUS EMISSIONS

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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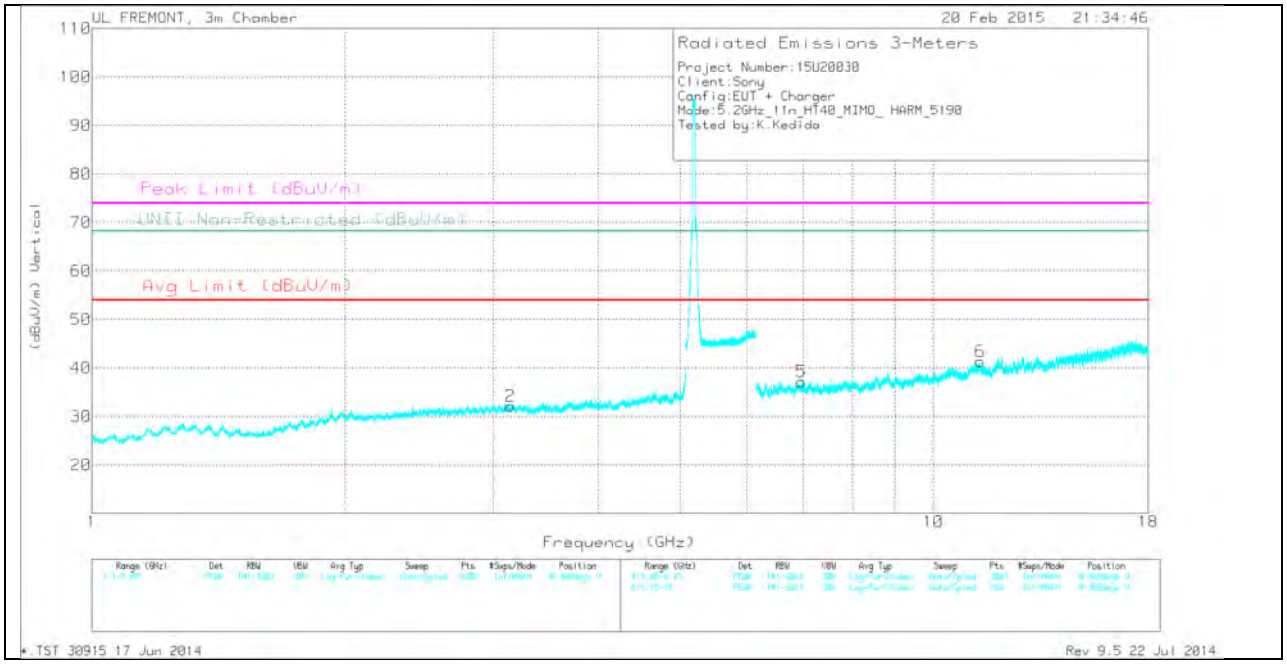
LOW CHANNEL VERTICAL



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
2	3.144	31.09	PK	32.7	-31.7	32.09	-	-	-	-	68.2	-36.11	0-360	100	V
1	3.145	31.41	PK	32.7	-31.7	32.41	-	-	-	-	68.2	-35.79	0-360	200	H
3	6.92	30.65	PK	35.6	-28.7	37.55	-	-	-	-	68.2	-30.65	0-360	200	H
5	6.961	29.94	PK	35.6	-28.4	37.14	-	-	-	-	68.2	-31.06	0-360	100	V
4	11.322	28.26	PK	38.1	-25.4	40.96	-	-	74	-33.04	-	-	0-360	100	H
6	11.368	29.1	PK	38.2	-26	41.3	-	-	74	-32.7	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	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
6.922	39.66	PK1	35.6	-28.8	46.46	-	-	-	-	68.2	-21.74	360	200	H
6.922	28.02	AD1	35.6	-28.8	34.82	-	-	-	-	-	-	360	200	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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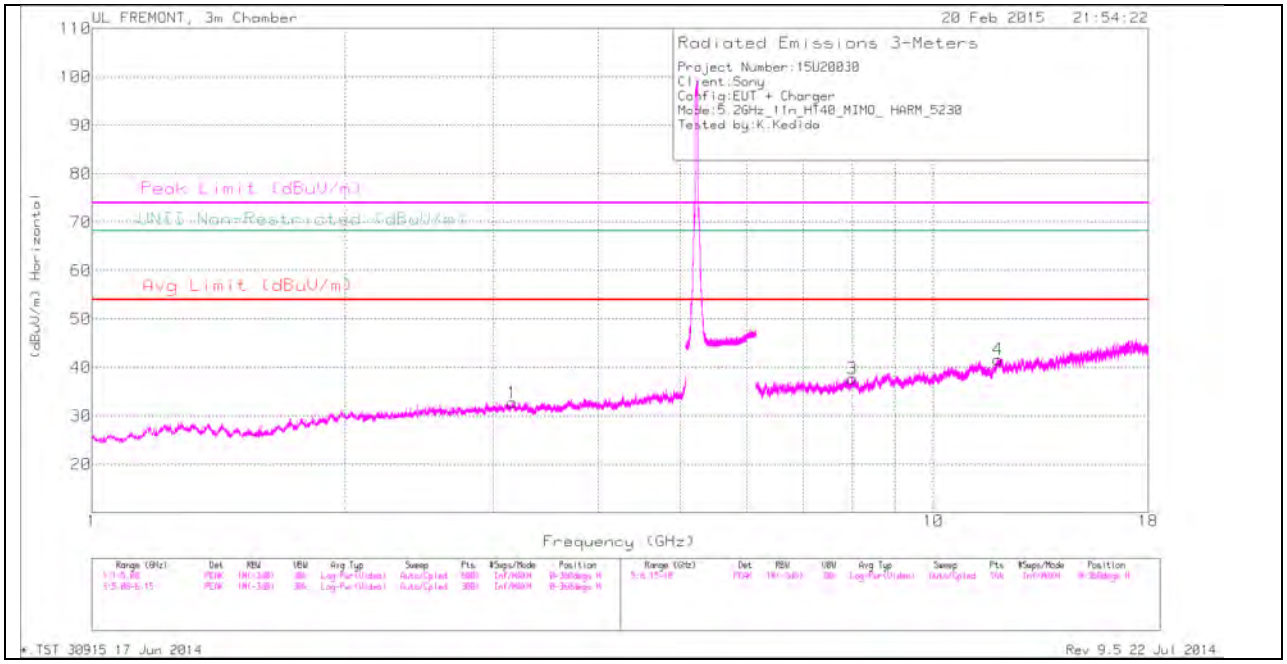
HIGH CHANNEL HORIZONTAL



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

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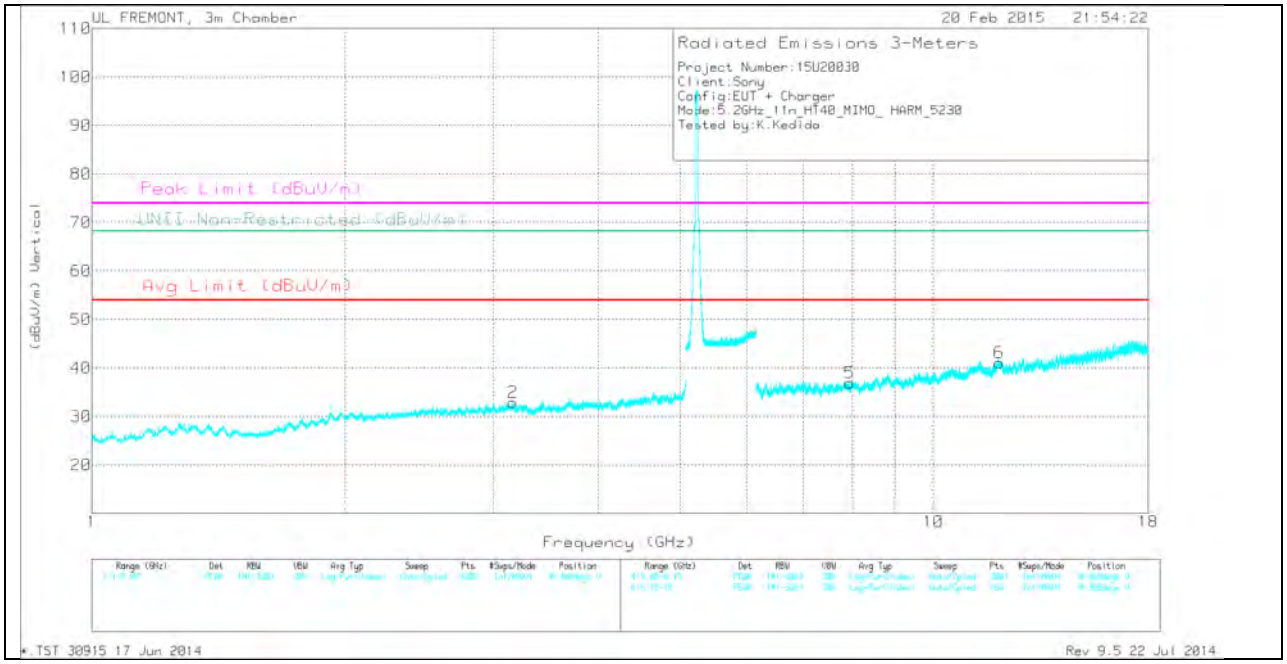
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	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	3.16	31.56	PK	32.7	-31.5	32.76	-	-	-	-	68.2	-35.44	0-360	100	H
2	3.163	31.7	PK	32.7	-31.5	32.9	-	-	-	-	68.2	-35.3	0-360	200	V
5	7.953	29.72	PK	35.8	-28.6	36.92	-	-	-	-	68.2	-31.28	0-360	200	V
3	8.013	29.97	PK	35.8	-28	37.77	-	-	-	-	68.2	-30.43	0-360	100	H
4	11.939	28.87	PK	39.1	-26.3	41.67	-	-	74	-32.33	-	-	0-360	200	H
6	11.966	28.29	PK	39.1	-26.3	41.09	-	-	74	-32.91	-	-	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
7.953	38.65	PK1	35.8	-28.6	45.85	-	-	-	-	68.2	-22.35	360	200	V
7.955	26.89	AD1	35.8	-28.5	34.19	-	-	-	-	-	-	360	200	V

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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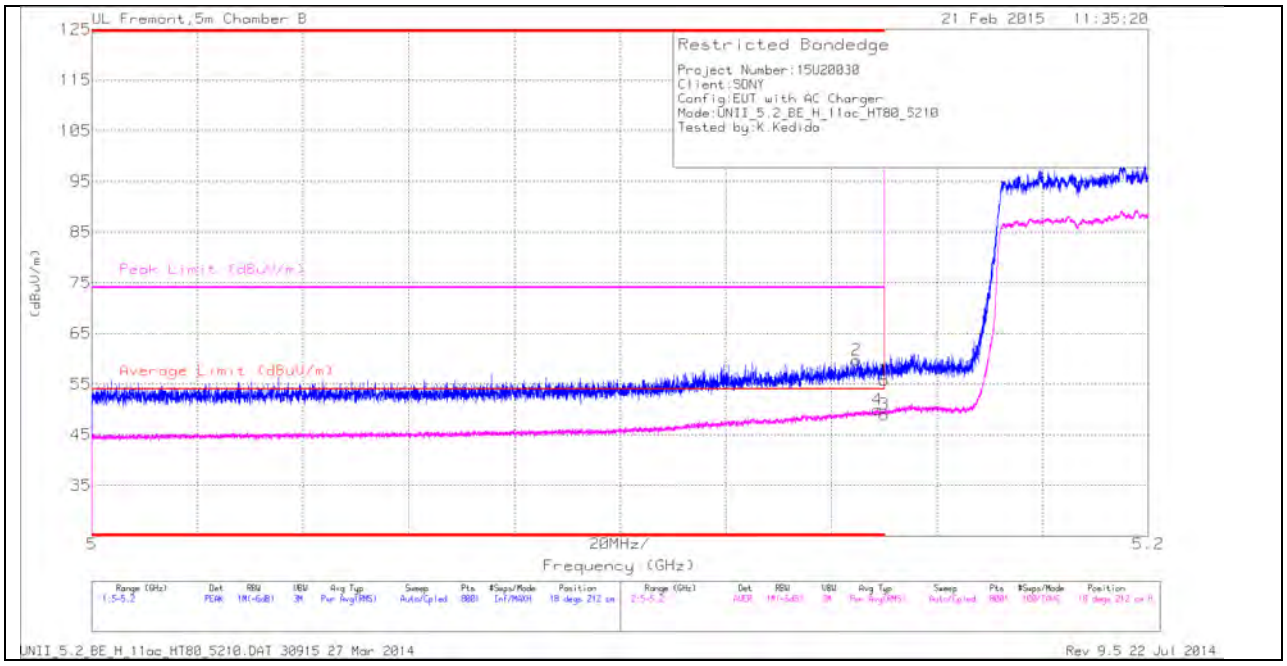
11.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.145	45.68	PK	34.3	-20.3	0	59.68	-	-	74	-14.32	18	212	H
4	* 5.149	35.55	RMS	34.3	-20.2	.24	49.89	54	-4.11	-	-	18	212	H
1	* 5.15	41.6	PK	34.3	-20.2	0	55.7	-	-	74	-18.3	18	212	H
3	* 5.15	34.65	RMS	34.3	-20.2	.24	48.99	54	-5.01	-	-	18	212	H

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

PK - Peak detector

RMS - RMS detection

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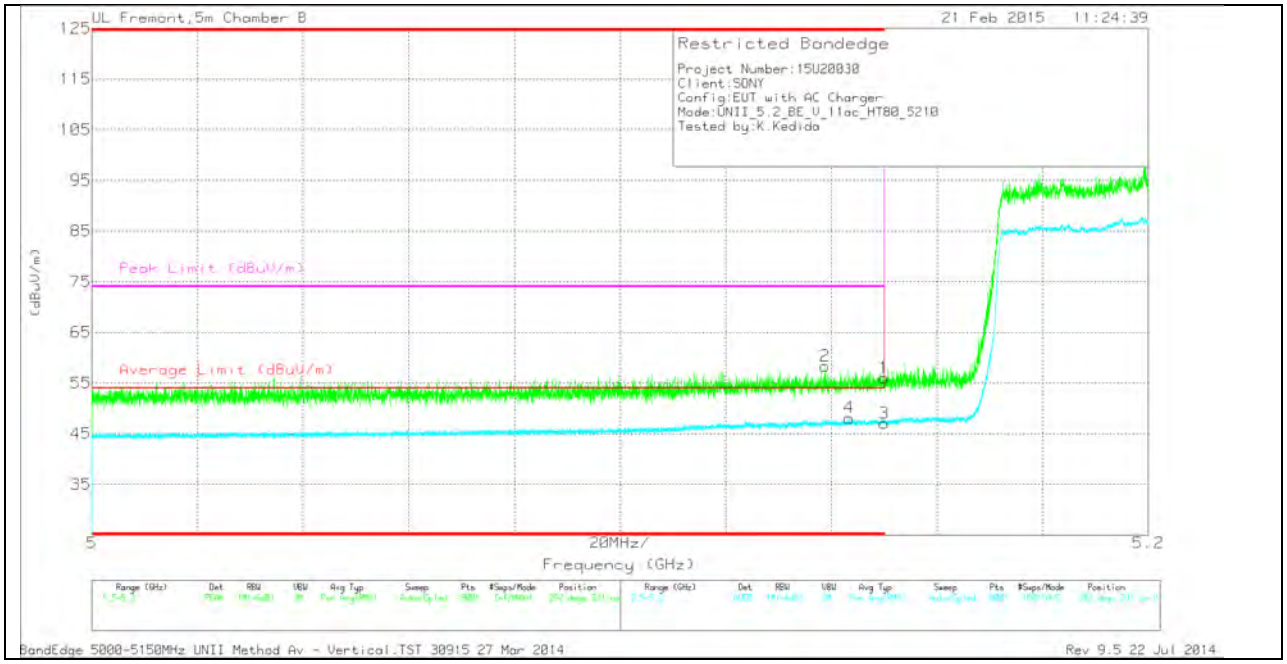
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	41.94	PK	34.3	-20.2	0	56.04	-	-	74	-17.96	292	231	V
2	* 5.139	44.31	PK	34.3	-20.2	0	58.41	-	-	74	-15.59	292	231	V
3	* 5.15	32.74	RMS	34.3	-20.2	.24	47.08	54	-6.92	-	-	292	231	V
4	* 5.143	33.85	RMS	34.3	-20.3	.24	48.09	54	-5.91	-	-	292	231	V

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

PK - Peak detector

RMS - RMS detection

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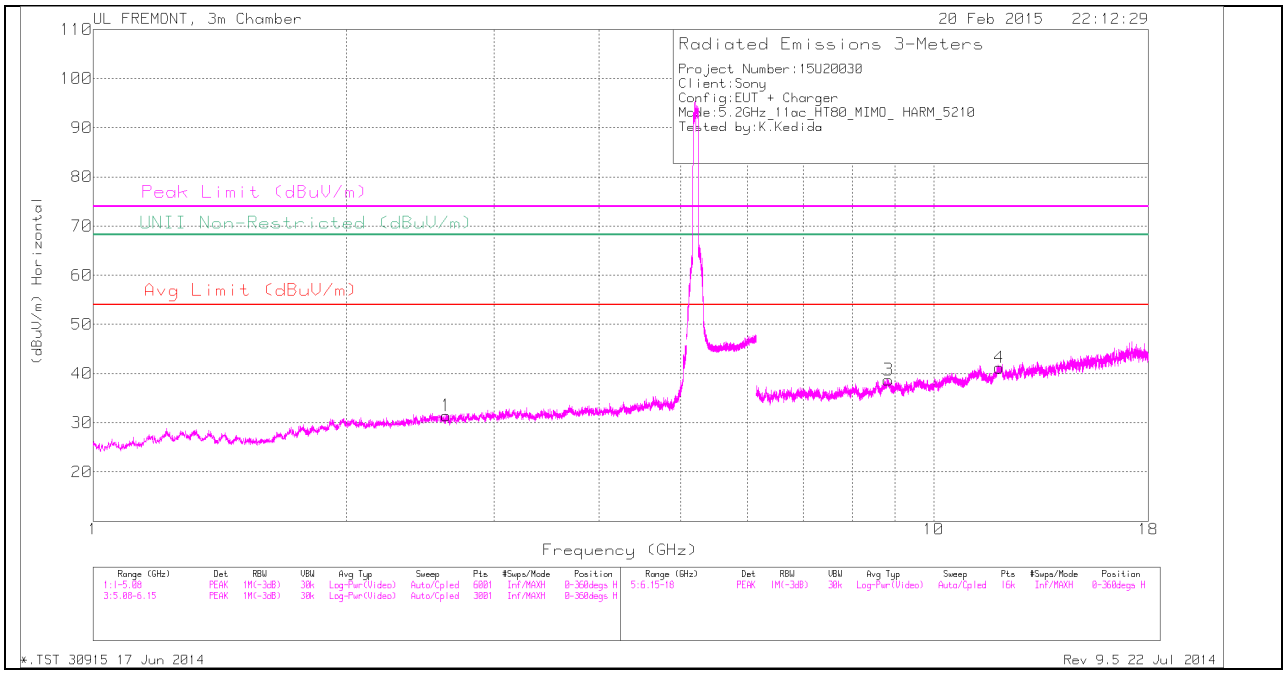
HARMONICS AND SPURIOUS EMISSIONS

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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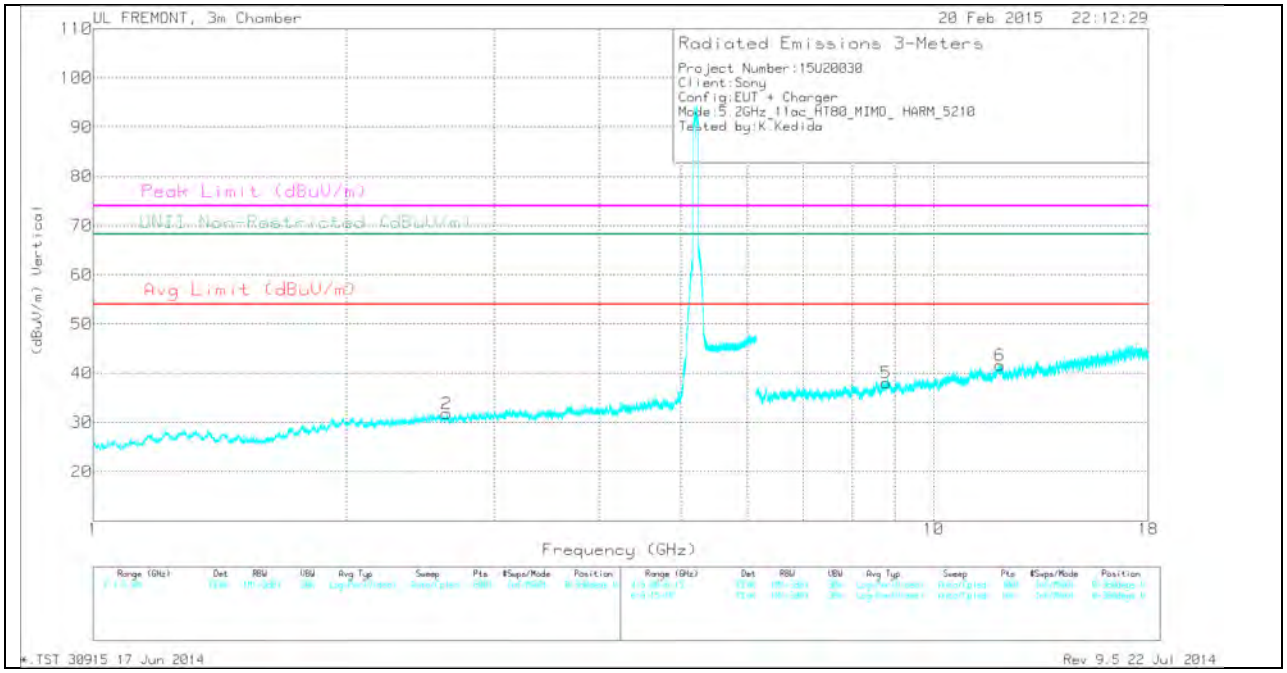
LOW CHANNEL VERTICAL



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	2.631	31.43	PK	32.4	-32.4	31.43	-	-	-	-	68.2	-36.77	0-360	200	H
2	2.634	31.89	PK	32.4	-32.5	31.79	-	-	-	-	68.2	-36.41	0-360	200	V
5	8.775	28.14	PK	35.9	-26	38.04	-	-	-	-	68.2	-30.16	0-360	200	V
3	8.832	28.83	PK	35.9	-26	38.73	-	-	-	-	68.2	-29.47	0-360	100	H
4	11.972	28.4	PK	39.1	-26.3	41.2	-	-	74	-32.8	-	-	0-360	100	H
6	11.987	28.8	PK	39.1	-26.3	41.6	-	-	74	-32.4	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	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
8.832	37.17	PK1	35.9	-26	47.07	-	-	-	-	68.2	-21.13	360	100	H
8.834	25.74	AD1	35.9	-26	35.64	-	-	-	-	-	-	360	100	H

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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