FCC 47 CFR PART 15 SUBPART E

CLASS II PERMISSIVE CHANGE

TEST REPORT

FOR

802.11 a/g/n/ac WLAN +Bluetooth PCI-E Custom Combination Card

MODEL NUMBER: BCM94360CD

FCC ID: QDS-BRCM1070

REPORT NUMBER: 15U22130- E1V3

ISSUE DATE: JAUNARY 14, 2016

Prepared for
BROADCOM CORPORATION
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	12/23/15	Initial Issue	H. Mustapha
V2	1/11/16	Added reference to KDB 662911 under section 2	H. Mustapha
V3	1/14/16	Removed Antenna set 1 from section 5.4	H. Mustapha

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	BROADCOM CORPORATION 190 MATHILDA PLACE SUNNYVALE, CA 94086, U.S.A.
EUT DESCRIPTION:	802.11 a/g/n/ac WLAN + Bluetooth PCI-E Custom Combination Card
MODEL:	BCM94360CD
SERIAL NUMBER:	Radiated S/N: C86248400J0F6RY1B Conducted S/N: C86320100009F6RY38
DATE TESTED:	OCTOBER 26 – NOVEMBER 10, 2015 NOVEMBER 12 – NOVEMBER 20, 2012

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

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

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

Approved & Released For
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Huda Mustapha

HUDA MUSTAPHA
PROJECT LEAD
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Tested By:

Lionel Lara

LIONEL LARA
EMC ENGINEER
UL Verification Services Inc.

FRANK IBRAHIM
PROGRAM MANAGER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, FCC KDB 789033 D02 v01, KDB 662911 D01 v02r01 and ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

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

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 D
☒ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11 a/g/n/ac WLAN + Bluetooth PCI-E Custom Combination card.

The radio module is manufactured by Broadcom.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.8 GHz BAND

Frequency Range (MHz)	Mode	Power, Chain 0 (dBm)	Power, Chain 1 (dBm)	Power, Chain 2 (dBm)	Output Power (dBm)	Output Power (mW)
5.8 GHz band, 1TX						
5745-5825	802.11a Legacy	20.68	N/A	N/A	20.68	116.95
5745-5825	802.11n HT20	20.72	N/A	N/A	20.72	118.03
5755-5795	802.11n HT40	16.30	N/A	N/A	16.30	42.66
5775	802.11ac VHT80	15.90	N/A	N/A	15.90	38.90
5.8 GHz band, 3TX						
5745-5825	802.11n HT20 CDD	20.73	19.85	20.17	25.04	318.90
5745-5825	802.11n HT20 TxBF	19.40	19.10	19.40	24.07	255.48
5755-5795	802.11n HT40 CDD	20.27	19.42	19.80	24.62	289.41
5755-5795	802.11n HT40 TxBF	19.43	18.71	19.00	23.83	241.43
5775	802.11ac VHT80 CDD	12.75	12.47	12.86	17.47	55.82
5775	802.11ac VHT80 TxBF	12.46	12.09	12.41	17.09	51.22

5.3. LIST OF TEST REDUCTION AND MODES COVERING OTHER MODES

List of test reduction (Non Beam-Forming modes)

Antenna Port Testing		
Band	**Mode**	**Covered by**
5 GHz bands	802.11a Legacy 1TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11a CDD 2TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11a CDD 3TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11n HT40 1TX	802.11n HT40 CDD 3TX
5 GHz bands	802.11n HT40 CDD 2TX	802.11n HT40 CDD 3TX
5 GHz bands	802.11ac VHT80 1TX	802.11ac VHT80 CDD 3TX
5 GHz bands	802.11ac VHT80 CDD 2TX	802.11ac VHT80 CDD 3TX

Radiated Testing		
Band	**Mode**	**Covered by**
5 GHz bands	802.11a Legacy 1TX (Harmonics)	802.11n HT20 CDD 3TX (Harmonics)
5 GHz bands	802.11a CDD 2TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11a CDD 3TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11n HT20 CDD 2TX	802.11n HT20 CDD 3TX
5 GHz bands	802.11n HT40 1TX (Harmonics)	802.11n HT40 CDD 3TX (Harmonics)
5 GHz bands	802.11ac VHT80 1TX (Harmonics)	802.11ac VHT80 CDD 3TX (Harmonics)
5 GHz bands	802.11ac VHT80 CDD 2TX	802.11ac VHT80 CDD 3TX

List of test reduction (Beam-Forming modes)

Antenna Port Testing		
Band	**Mode**	**Covered by**
5 GHz bands	802.11n HT40 BF 2Tx	802.11n HT40 BF 3Tx
5 GHz bands	802.11ac VHT80 BF 2Tx	802.11ac VHT80 BF 3Tx

Radiated Testing		
Band	**Mode**	**Covered by**
5 GHz bands	802.11a BF 2TX	802.11n HT20 BF 3Tx
5 GHz bands	802.11a BF 3TX	802.11n HT20 BF 3Tx
5 GHz bands	802.11n HT20 BF 2Tx	802.11n HT20 BF 3Tx
5 GHz bands	802.11n HT40 BF 2Tx	802.11n HT40 BF 3Tx
5 GHz bands	802.11ac VHT80 BF 2Tx	802.11ac VHT80 BF 3Tx

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes the following antennas:

Antenna Type	Model	Peak gain @ 2412, 2422, 2432MHz, (WLAN)	Peak gain (5150-5250MHz) @5200MHz	Peak gain (5250-5350MHz) @5320MHz	Peak gain (5470-5725MHz) @5500, 5700MHz	Peak gain (5725-5850MHz) @5785, 5805MHz
802.11abgn WLAN Antenna	1	5.6	6.6	6.5	6.9	7.8
802.11abgn WLAN Antenna	2	3.4	6.9	7.7	5.3	7.4
802.11abgn WLAN Antenna	3	5.9	6	7	6.7	5.9
BT Antenna	4 (BT)	3.9				
	2x2 Composite	8.76	9.76	10.37	9.81	10.61
	3x3 Composite	9.81	11.28	11.85	11.10	11.84
	2x2 Composite (Un- correlated)	5.75	6.75	7.36	6.80	6.71
	3x3 Composite (Un-correlated)	5.10	6.52	7.09	6.36	7.11

Note: Worst case composite gains for a particular band are highlighted in yellow. These worst case antenna gains were used to determine compliance for Output Power and PPSD.

5.5. SOFTWARE AND FIRMWARE

The EUT driver software installed during testing was Broadcom, rev. 7.15.53.9.

The test utility software used during testing was Broadcom MTool, rev. 7.10 RC81.1.

5.6. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The purpose of this C2PC is to upgrade the device described under section 5.1 of this report to the new rules per KDB 789033 D02 v01.

For UNII-1, UNII-2 and UNII-2C bands, we have reviewed the original test report (report no. 13U14831-1B) and are hereby attesting that all the current technical requirements are still met and all applicable test procedures remain the same. Therefore, the original test report is still applicable and no additional testing is done.

5.7. WORST-CASE CONFIGURATION AND MODE

The EUT was tested as an external module installed in a test jig board connected to a host Laptop PC.

Radiated emission below 1 GHz and above 18 GHz were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

For AC Power Line conducted emissions, refer to report No. 15U22130-E2V1.

For all modes with single chain SISO, chain 1 (J0) was used for 5GHz band as worst case.

For radiated band edge, preliminary investigation showed vertical polarization was worst case for all modes. Therefore, only vertical polarization was tested.

Worst-case data rates as provided by the client were:

802.11a mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11n HT40 mode: MCS0
802.11ac HT80 mode: MCS0

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	**Manufacturer**	**Model**	**Serial Number**
Laptop	Lenovo	G560	CBU3475167
AC / DC Adapter	Lenovo	PA-1650-56LC	N/A
Laptop	Lenovo	G560	CBU4495771
AC / DC Adapter	Lenovo	PA-1650-56LC	N/A
PCIe. Card	Broadcom	N/A	N/A

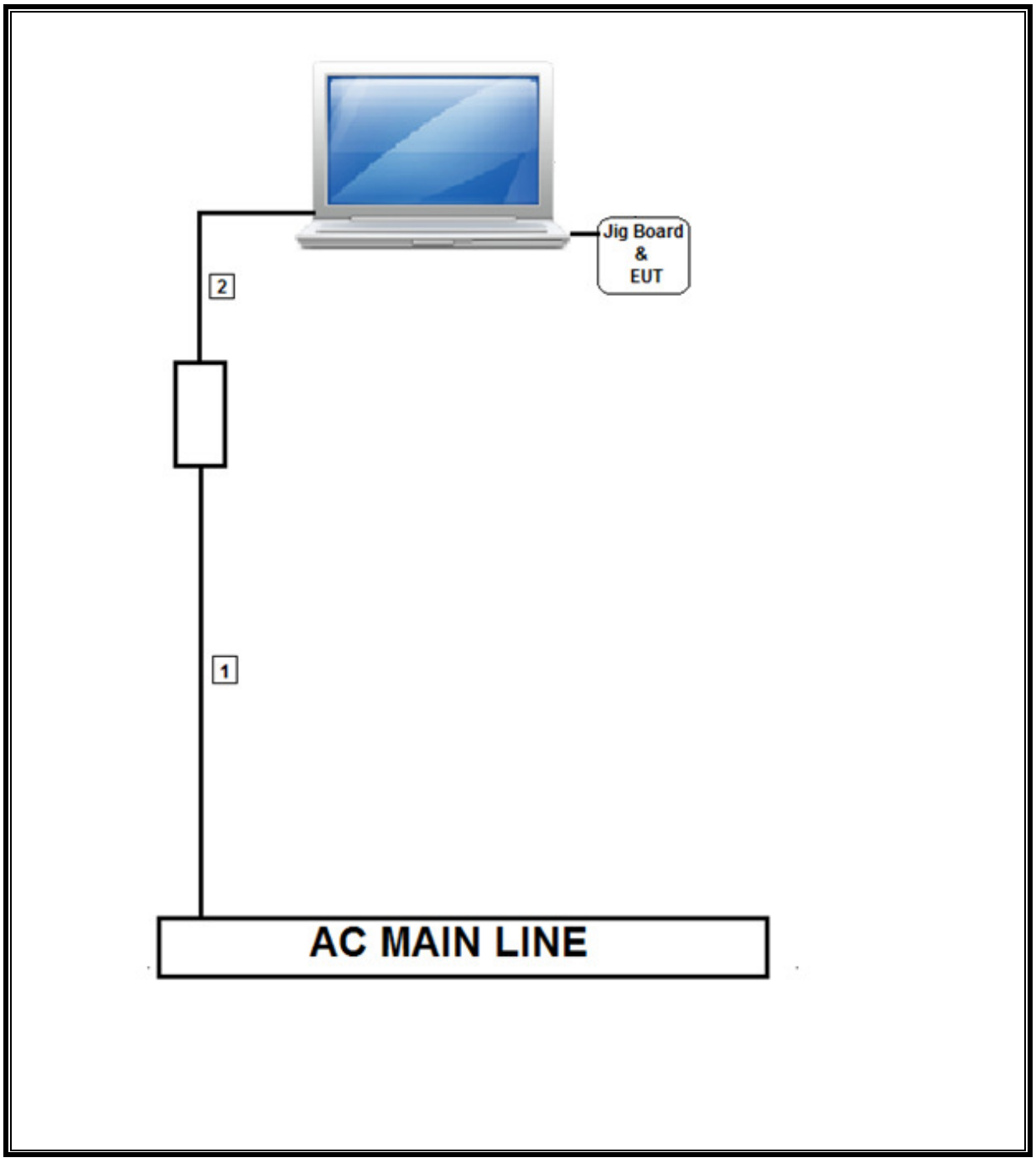
I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	US 115V	Unshielded	1.5 m	NA
2	DC	1	DC	Unshielded	1.5 m	Ferrite at laptop's end

TEST SETUP

The EUT was connected to a host laptop via PCIE card. Test software exercised the EUT.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List					
Description	**Manufacturer**	**Model**	**T No.**	**Cal Date**	**Cal Due**
Radiated Software	UL	UL EMC	Ver 9.5, June 6, 2015		
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012		
Bilog Antenna 30-1000MHz	Sunol	JB1	130	09/01/15	09/01/16
Horn Antenna 1-18GHz	ETS	3117	345	03/03/15	03/03/16
Horn Antenna 18-26GHz	ARA	SWH-28	98	12/17/14	12/17/15
Horn Antenna 26.5- 40GHz	ARA	MWH-2640/B	90	07/28/15	07/28/16
Preamp 10kHz-1000MHz	HP	8447D	10	01/16/15	01/16/16
Preamp 1-8GHz	Miteq	AMF-4D-01000	782	10/22/15	10/22/16
Preamp 1-26.5GHz	Agilent	8449B	404	06/29/15	06/29/16
Amplifier, 26-40GHz	Miteq	NSP4000-SP2	88	04/07/15	04/07/16
Spectrum Analyzer 3kHz - 44GHz	Agilent	N9030A	907	05/15/15	05/15/16
Coaxial Switchbox	Keysight	11713A	457	-	-
3GHz HPF	Micro-Tronics	HPM17543	485	01/16/15	01/16/16
5GHz LPF	Micro-Tronics	LPS17541	482	01/16/15	01/16/16
6GHz HPF	Micro-Tronics	HPS17542	483	01/16/15	01/16/16
EMI Test Receiver	Rohde & Schwarz	ECSI 7	1124	09/30/15	09/30/16
Spectrum Analzer 3Hz to 44GHz	Agilent	E4440A	123	10/22/15	10/22/16
Power Meter	Agilent	N1911A	T1268	06/07/15	06/07/16
Power Sensor	Agilent	N1921A	1223	06/07/15	02/06/16

7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 789033 D02 v01, Section B

6 dB Emission BW: KDB 789033 D02 v01, Section C.2.

Conducted Output Power: KDB 789033 D02 v01, Section E.3.b (Method PM-G), and KDB 662911 D01 v02r01.

Power Spectral Density: KDB 789033 D02 v01, Section F, and KDB 662911 D01 v02r01.

Unwanted emissions in restricted bands: KDB 789033 D02 v01, Sections G.2, G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v01, Sections G.2, G.3, G.4, and G.5

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

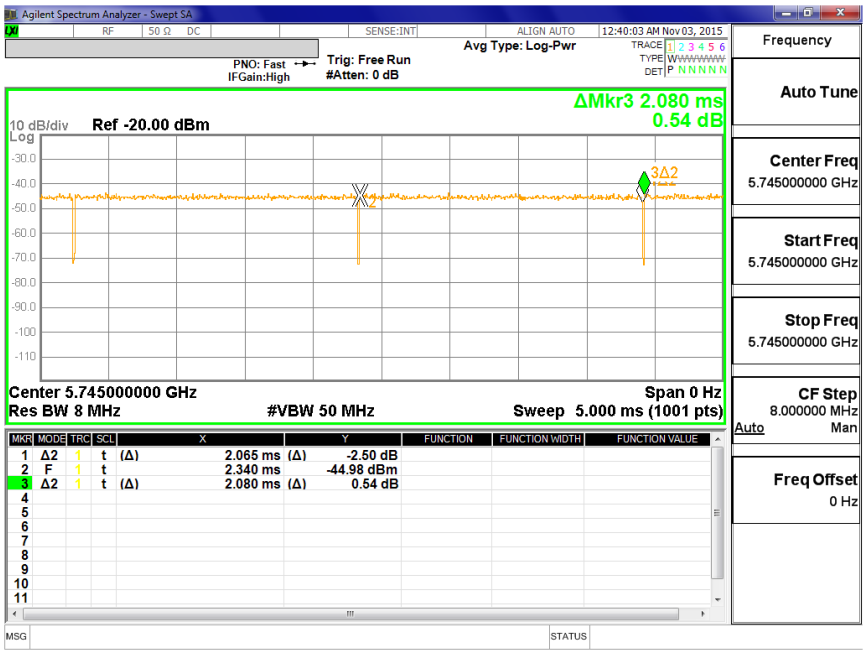
None; for reporting purposes only.

ON TIME AND DUTY CYCLE RESULTS

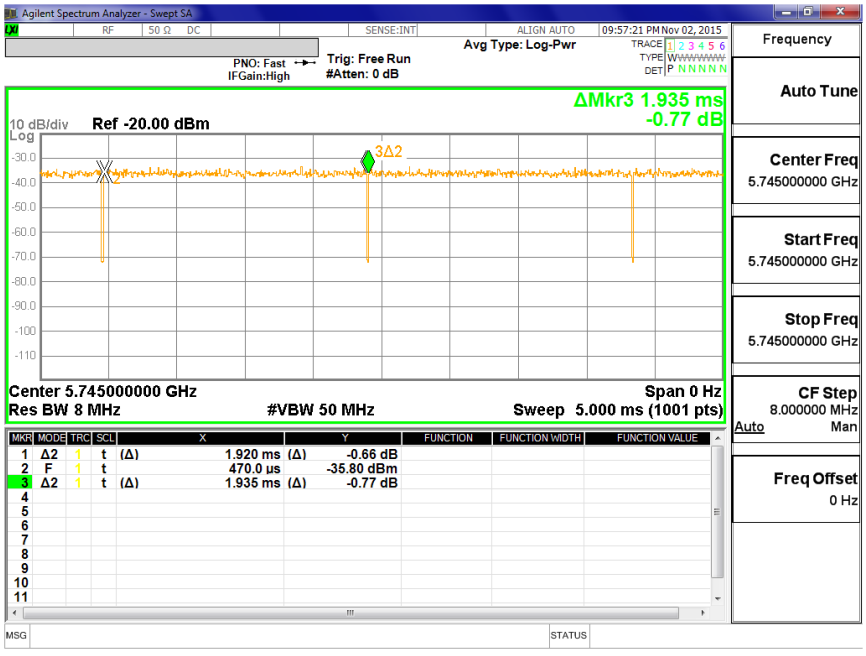
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a CDD	2.065	2.080	0.993	99.28%	0.00	0.010
802.11n HT20 CDD	1.920	1.935	0.992	99.22%	0.00	0.010
802.11n HT20 TxBF	23.370	25.530	0.915	91.54%	0.38	0.043
802.11n HT40 CDD	0.9420	0.9600	0.981	98.13%	0.00	0.010
802.11n HT40 TxBF	18.480	31.240	0.592	59.15%	2.28	0.054
802.11ac VHT80 CDD	0.4600	0.4769	0.965	96.46%	0.16	2.174
802.11ac VHT80 TxBF	12.0092	31.2800	0.384	38.39%	4.16	0.083

DUTY CYCLE PLOTS

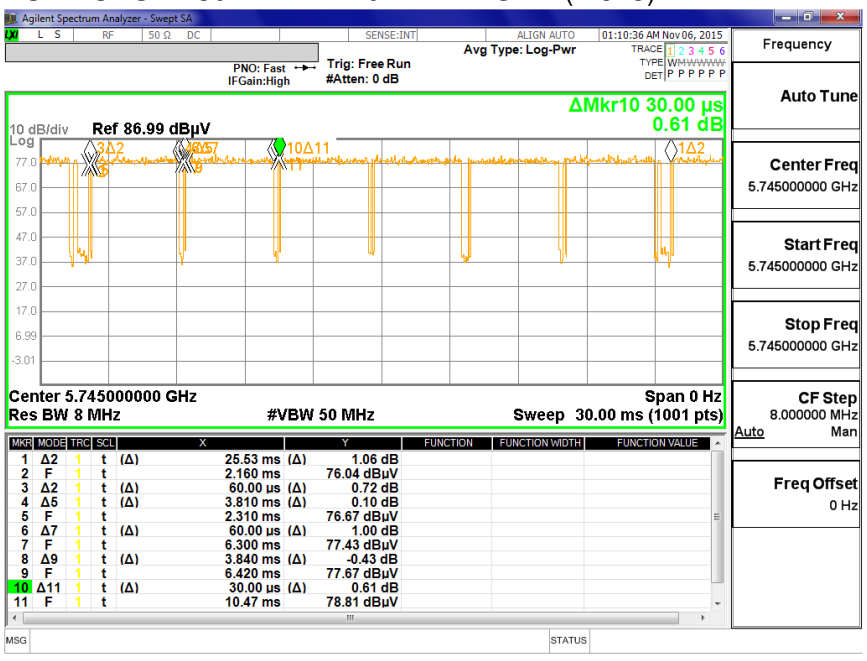
DUTY CYCLE 802.11a MODE



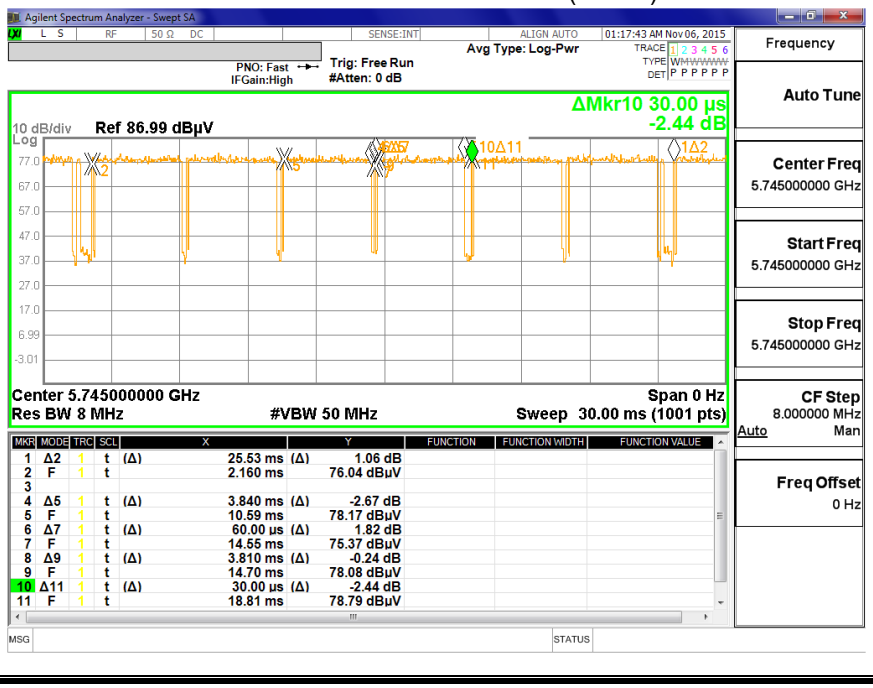
DUTY CYCLE 802.11n HT20 CDD MODE



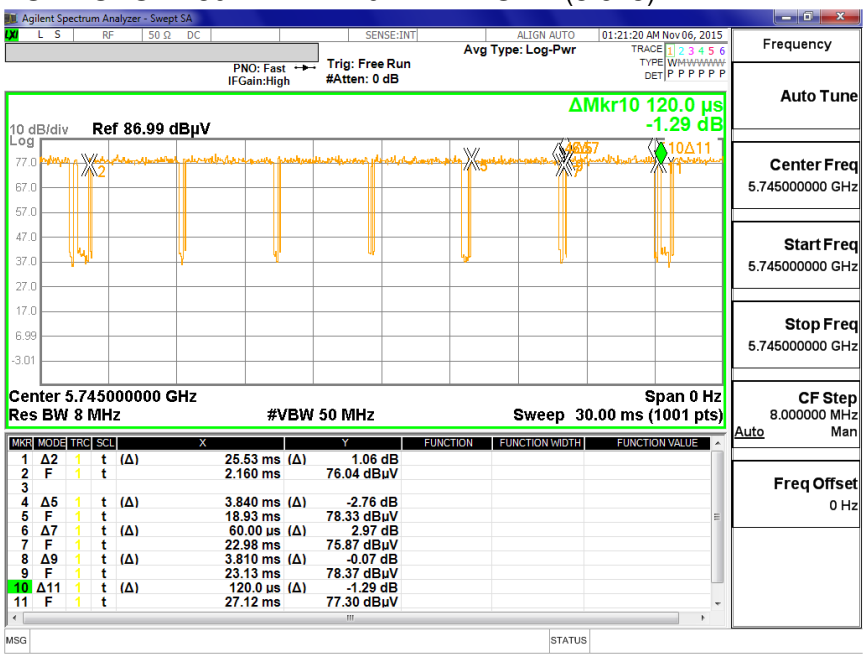
DUTY CYCLE 802.11n HT20 TxBF MODE (1 of 3)



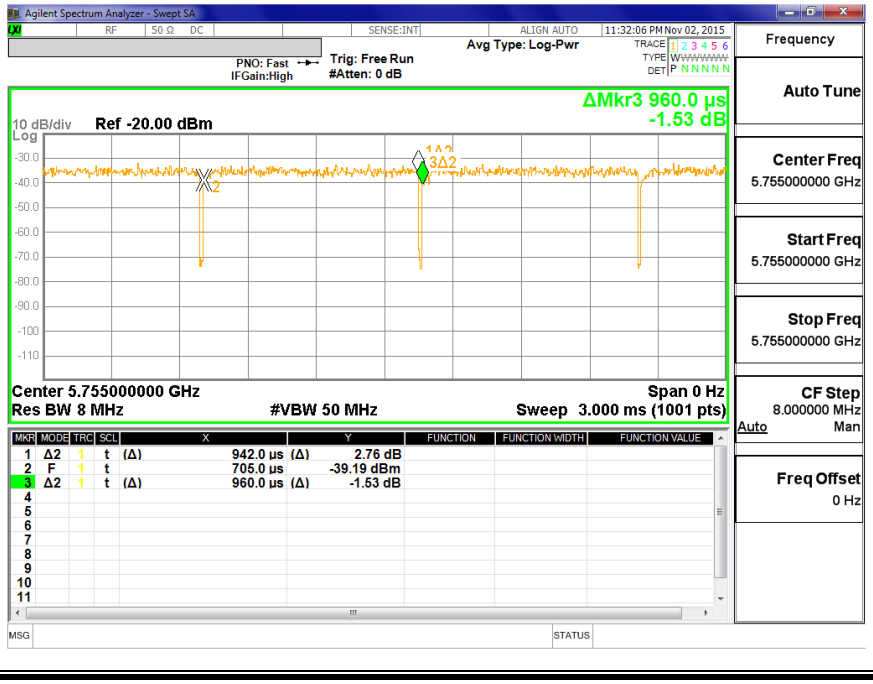
DUTY CYCLE 802.11n HT20 TxBF MODE (2 of 3)



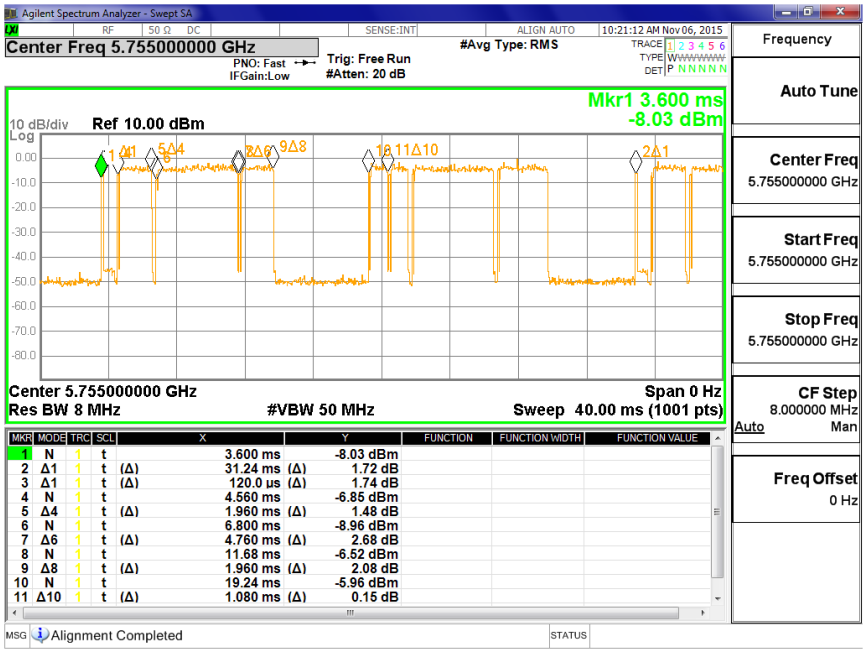
DUTY CYCLE 802.11n HT20 TxBF MODE (3 of 3)



DUTY CYCLE 802.11n HT40 CDD MODE

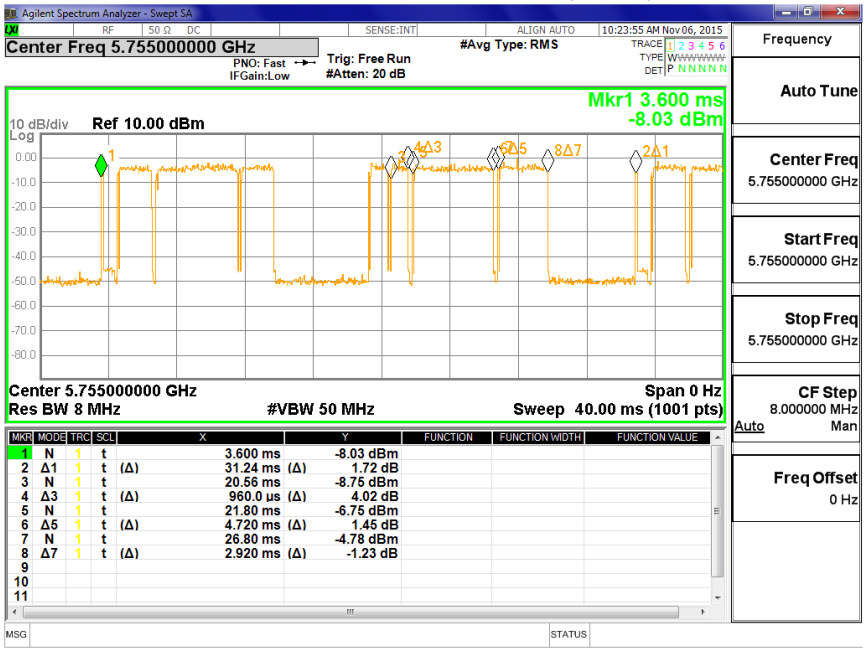


DUTY CYCLE 802.11n HT40 TxBF MODE (1 of 2)



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	3.600 ms	-8.03 dBm			
2	Δ1	1	t (Δ)	31.24 ms (Δ)	1.72 dB			
3	Δ1	1	t (Δ)	120.0 µs (Δ)	1.74 dB			
4	N	1	t	4.560 ms	-6.85 dBm			
5	Δ4	1	t (Δ)	1.960 ms (Δ)	1.48 dB			
6	N	1	t	6.800 ms	-8.96 dBm			
7	Δ6	1	t (Δ)	4.760 ms (Δ)	2.68 dB			
8	N	1	t	11.68 ms	-6.52 dBm			
9	Δ8	1	t (Δ)	1.960 ms (Δ)	2.08 dB			
10	N	1	t	19.24 ms	-5.96 dBm			
11	Δ10	1	t (Δ)	1.080 ms (Δ)	0.15 dB			

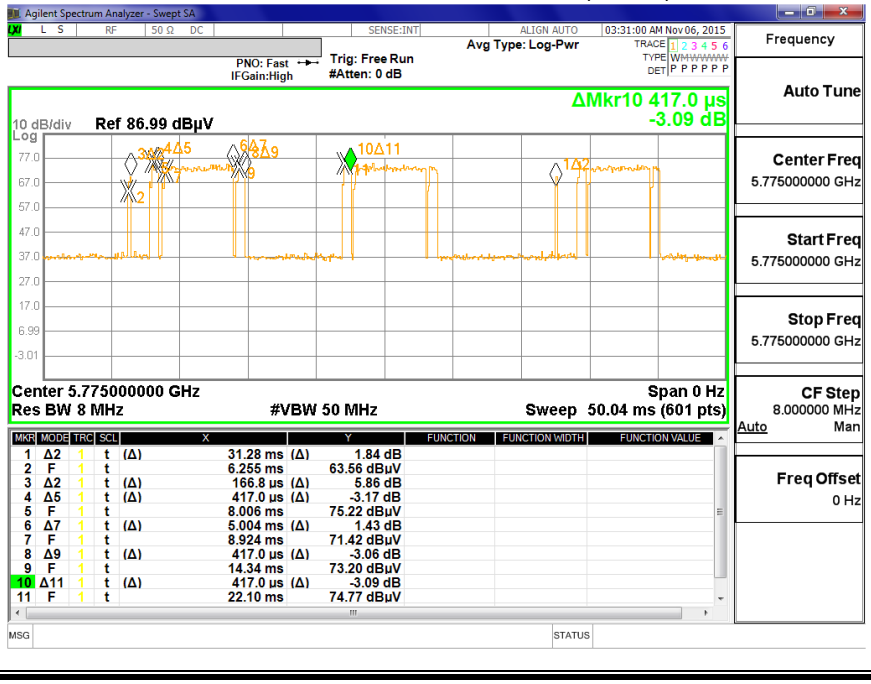
DUTY CYCLE 802.11n HT40 TxBF MODE (2 of 2)



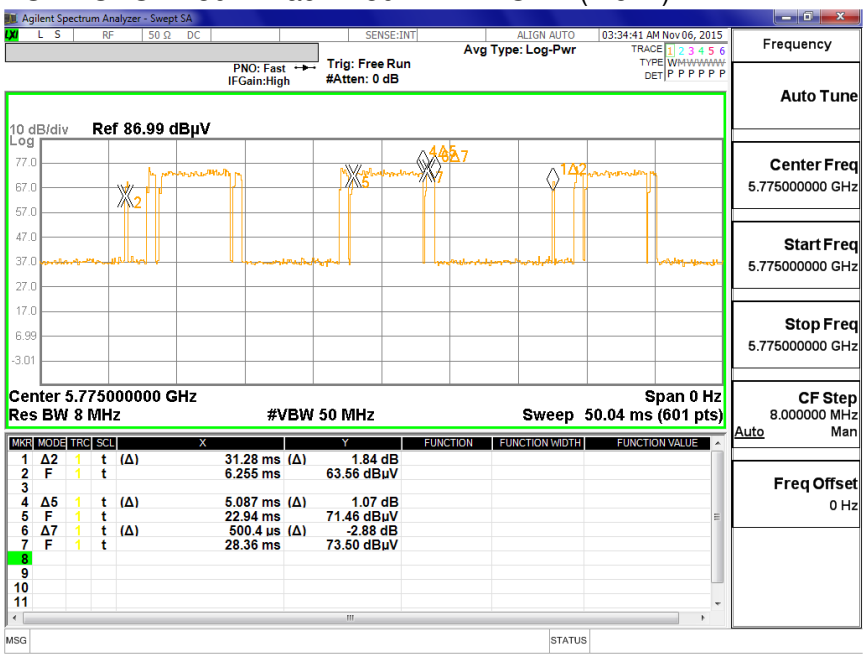
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	3.600 ms	-8.03 dBm			
2	Δ1	1	t (Δ)	31.24 ms (Δ)	1.72 dB			
3	N	1	t	20.56 ms	-8.75 dBm			
4	Δ3	1	t (Δ)	960.0 µs (Δ)	4.02 dB			
5	N	1	t	21.80 ms	-6.75 dBm			
6	Δ5	1	t (Δ)	4.720 ms (Δ)	1.45 dB			
7	N	1	t	26.80 ms	-4.78 dBm			
8	Δ7	1	t (Δ)	2.920 ms (Δ)	-1.23 dB			
9								
10								
11								

DUTY CYCLE 802.11ac HT80 CDD MODE

DUTY CYCLE 802.11ac HT80 TxBF MODE (1 of 2)



DUTY CYCLE 802.11ac HT80 TxBF MODE (2 of 2)



8.2.802.11a LEGACY MODE IN THE 5.8 GHz BAND

8.2.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

This is SISO mode, AG is the highest (worst-case) = 7.8 dBi

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	7.80	28.20
153	5765	7.80	28.20
High	5825	7.80	28.20

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	19.97	19.97	28.20	-8.23
153	5765	20.68	20.68	28.20	-7.52
High	5825	20.60	20.60	28.20	-7.60

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.3. 802.11n HT20 CDD 1Tx MODE IN THE 5.8 GHz BAND

8.3.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

This is SISO mode, AG is the highest (worst-case) = 7.8 dBi

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	7.80	28.20
153	5765	7.80	28.20
High	5825	7.80	28.20

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.61	16.61	28.20	-11.59
High	5825	20.72	20.72	28.20	-7.48

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.4.802.11n HT20 CDD 3TX MODE IN THE 5.8 GHz BAND

8.4.1. 6 dB BANDWIDTH

LIMITS

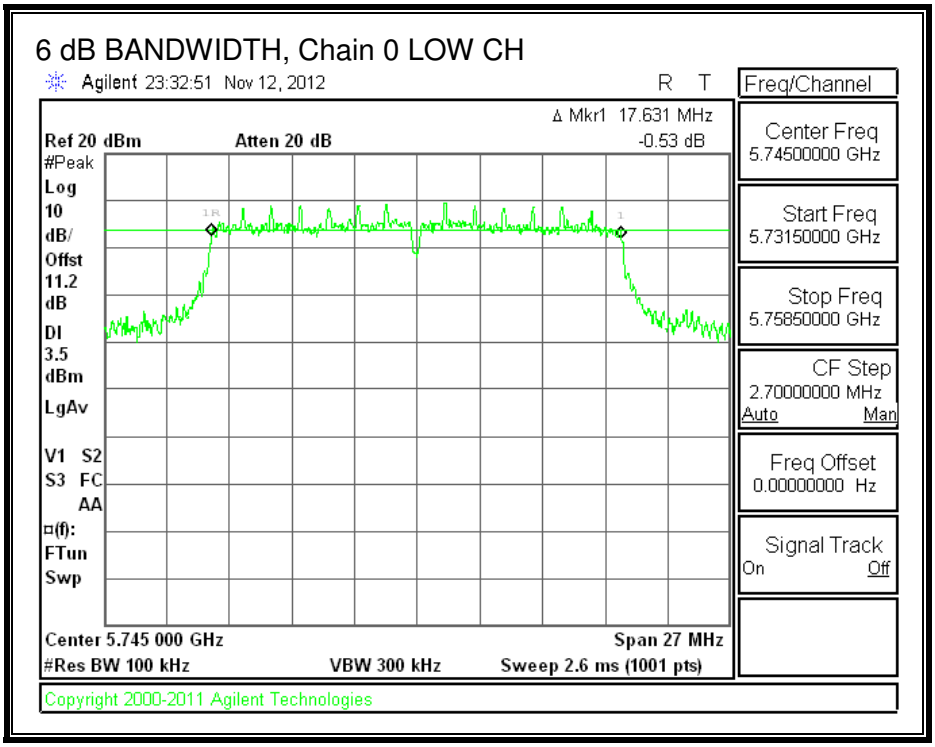
FCC §15.247 (a) (2)

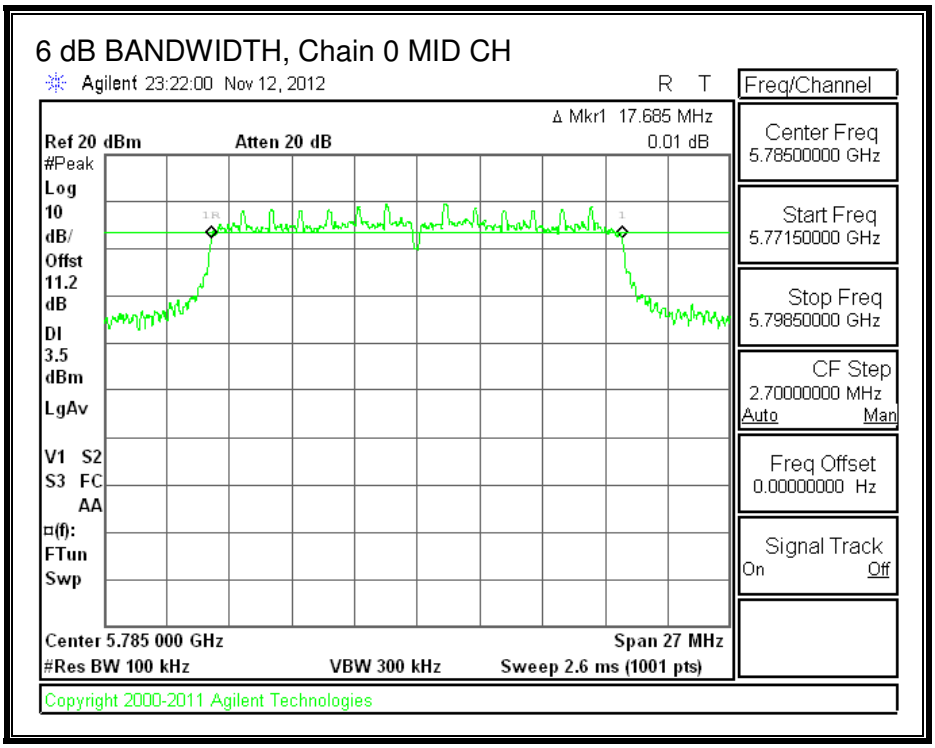
The minimum 6 dB bandwidth shall be at least 500 kHz.

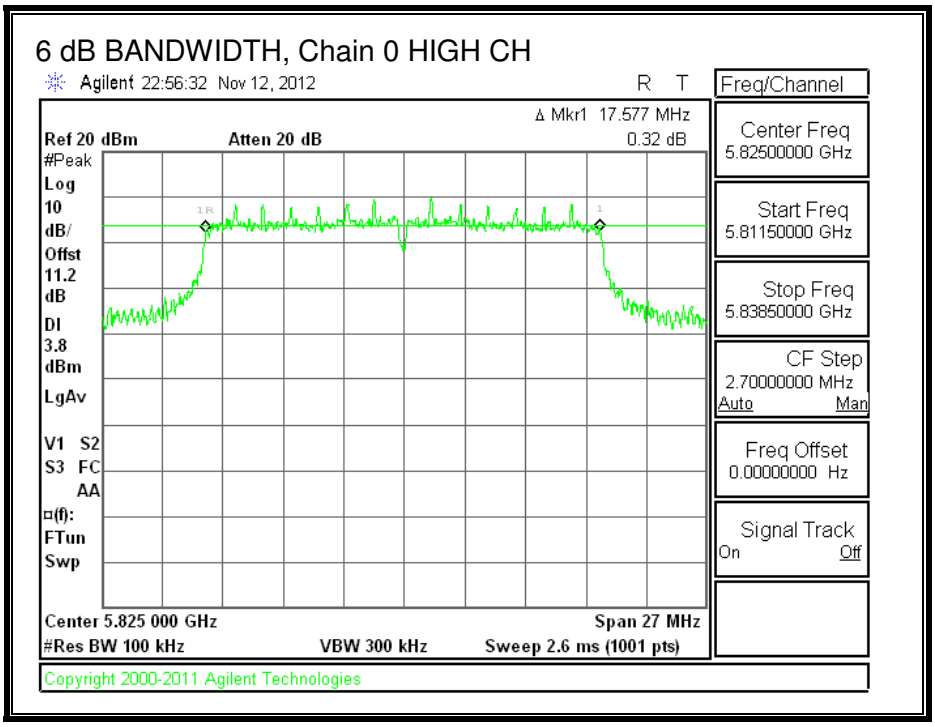
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	5745	17.631	17.685	17.631	0.5
Mid	5785	17.685	17.631	17.658	0.5
High	5825	17.577	17.658	17.577	0.5

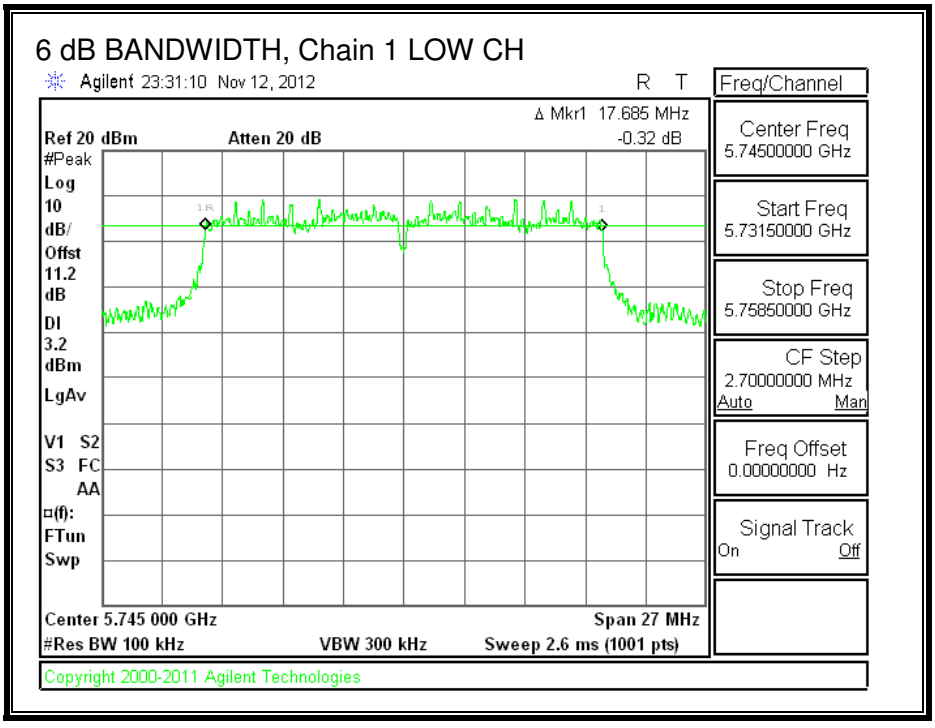
6 dB BANDWIDTH, Chain 0



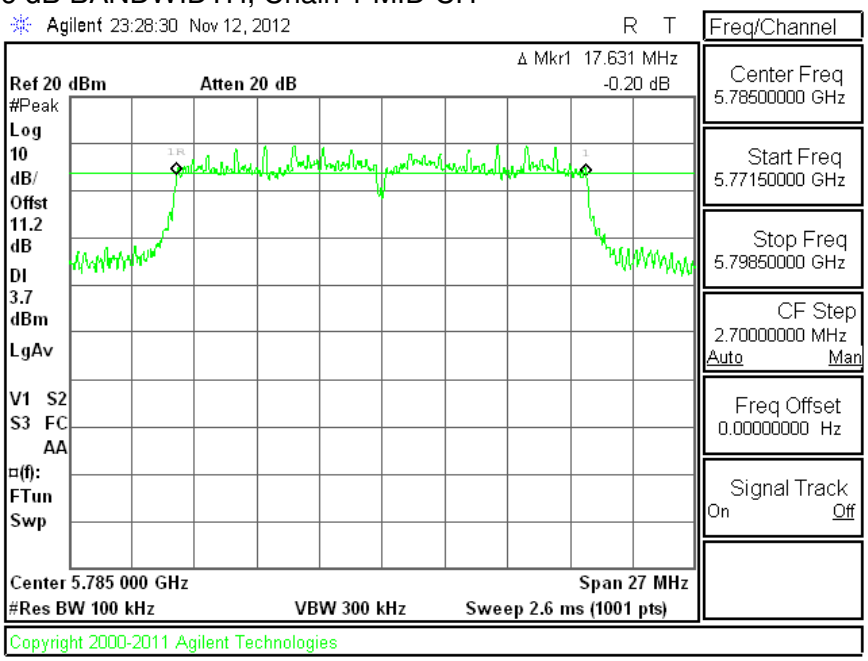




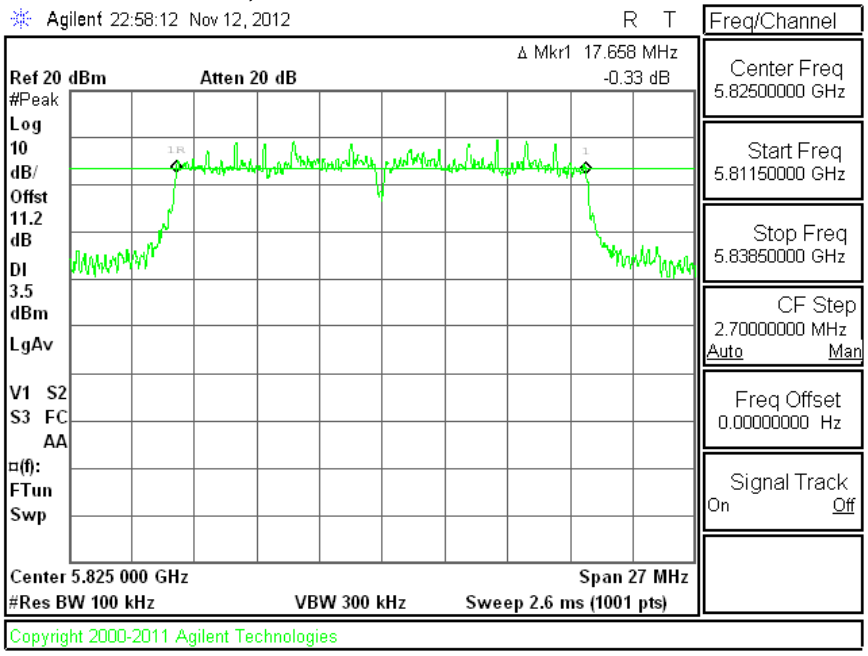
6 dB BANDWIDTH, Chain 1



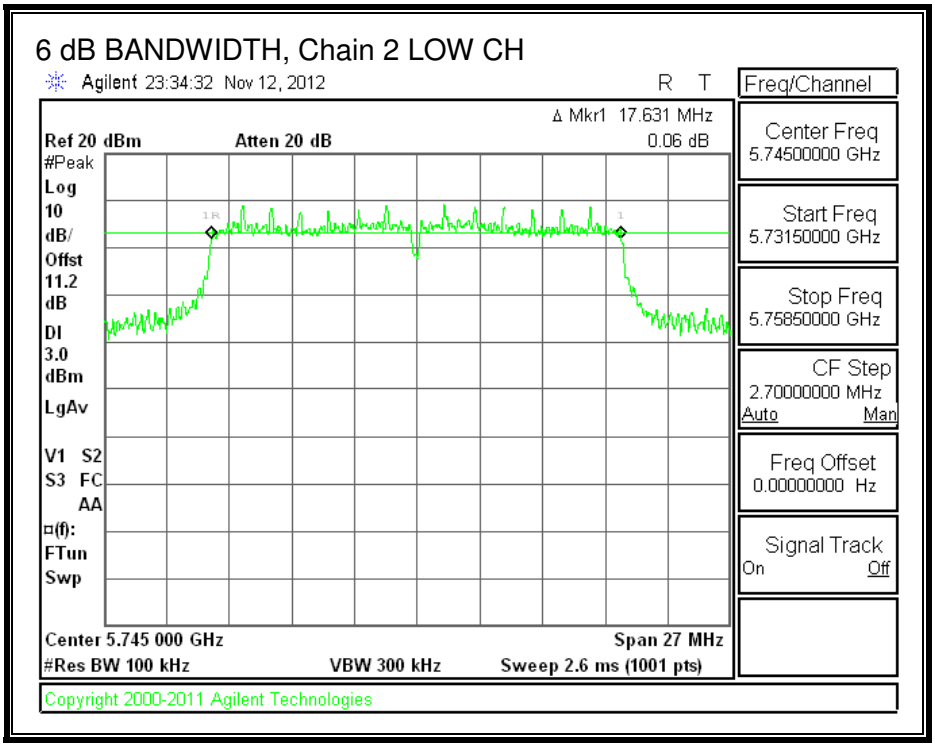
6 dB BANDWIDTH, Chain 1 MID CH

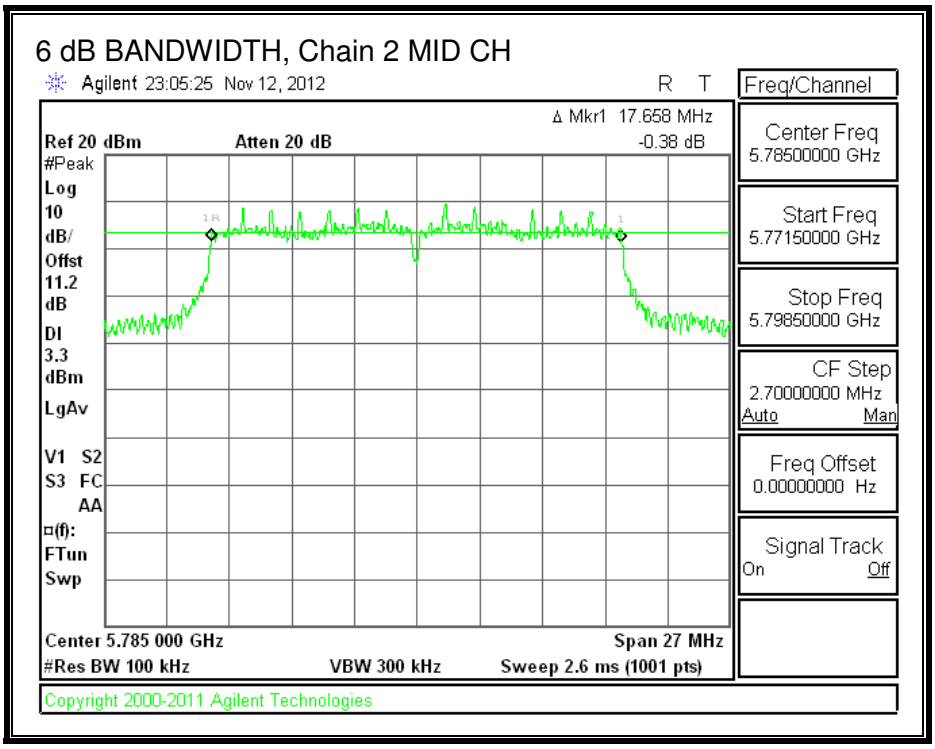


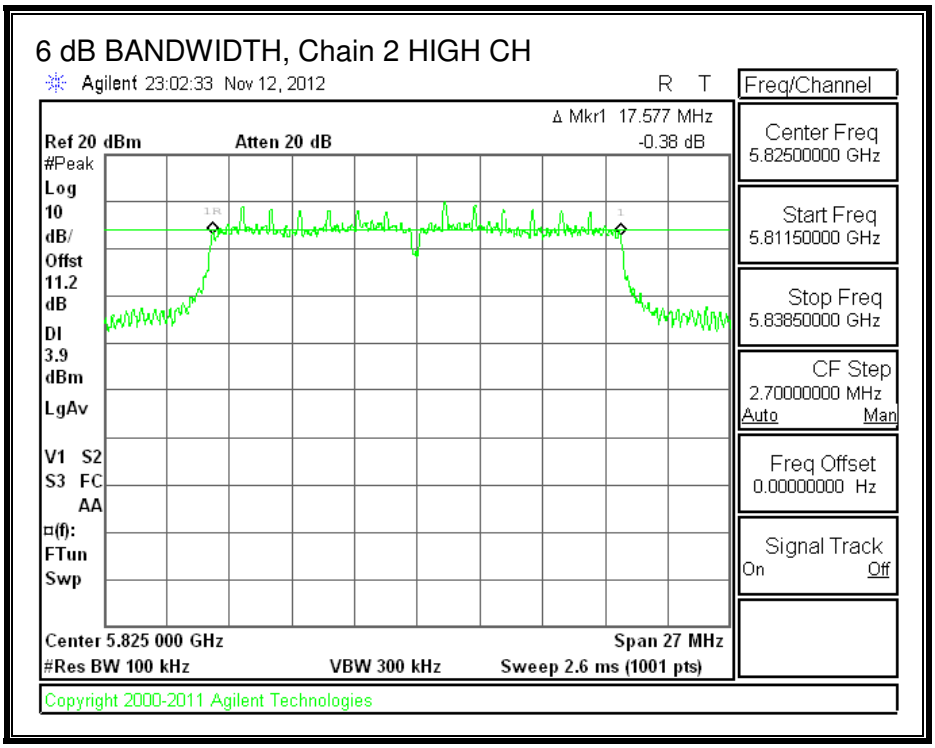
6 dB BANDWIDTH, Chain 1 HIGH CH



6 dB BANDWIDTH, Chain 2






6 dB BANDWIDTH, Chain 2 HIGH CH
Agilent 23:02:33 Nov 12, 2012
R T
Freq/Channel
Δ Mkr1 17.577 MHz
-0.38 dB
Ref 20 dBm
Atten 20 dB
#Peak
Log
10
dB/
Offst
11.2
dB
Dl
3.9
dBm
LgAv
V1 S2
S3 FC
AA
¤(f):
FTun
Swp
Center Freq
5.82500000 GHz
Start Freq
5.81150000 GHz
Stop Freq
5.83850000 GHz
CF Step
2.70000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Center 5.825 000 GHz
Span 27 MHz
#Res BW 100 kHz
VBW 300 kHz
Sweep 2.6 ms (1001 pts)
Copyright 2000-2011 Agilent Technologies

8.4.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
7.80	7.40	5.90	7.11

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5745	7.11	28.89
153	5765	7.11	30.00
Mid	5785	7.11	28.89
High	5825	7.11	28.89

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.65	15.06	15.33	20.12	28.89	-8.77
153	5765	20.53	19.72	20.01	24.87	30.00	-5.13
Mid	5785	20.73	19.85	20.17	25.04	28.89	-3.85
High	5825	18.57	18.21	18.36	23.15	28.89	-5.74

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.4.3. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

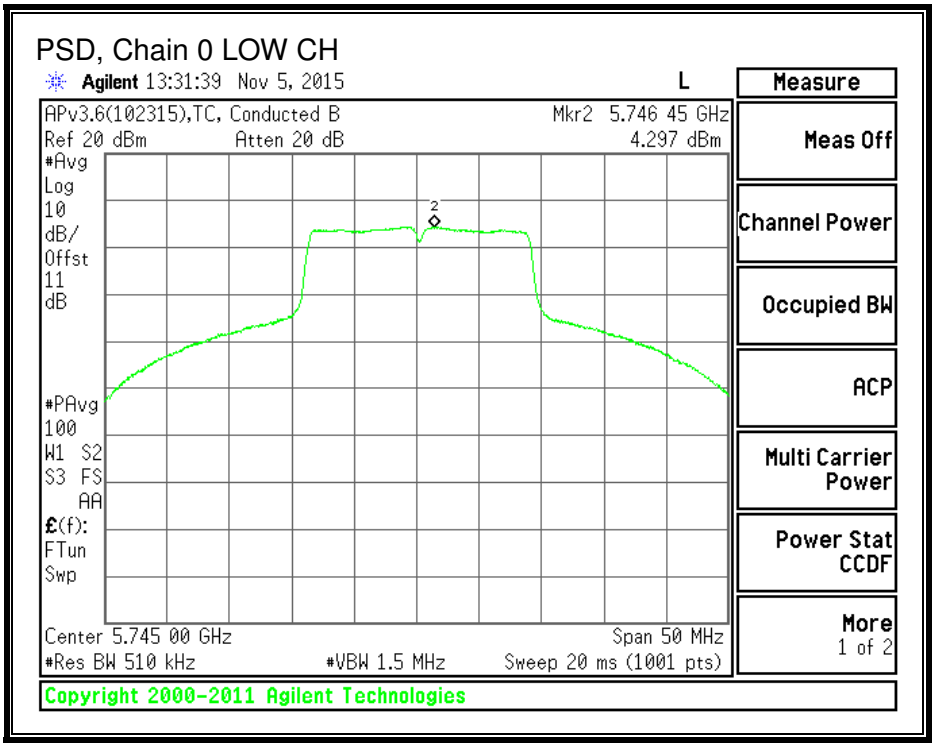
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	11.84	24.16
Mid	5785	11.84	24.16
High	5825	11.84	24.16

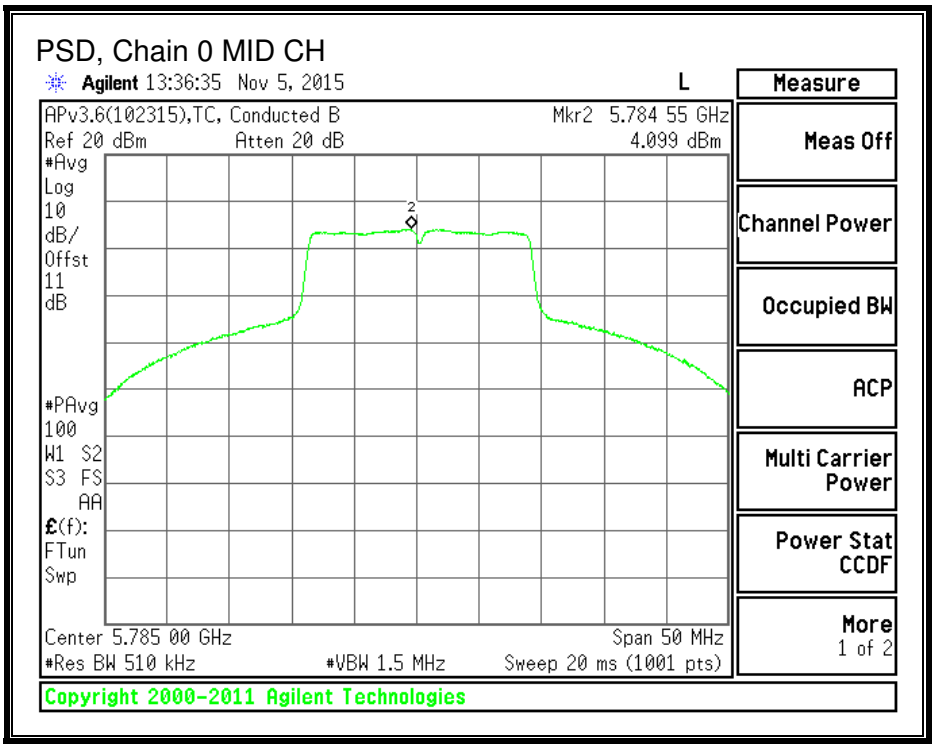
Duty Cycle CF (dB)	0.00	**Included in Calculations of Corr'd PSD**

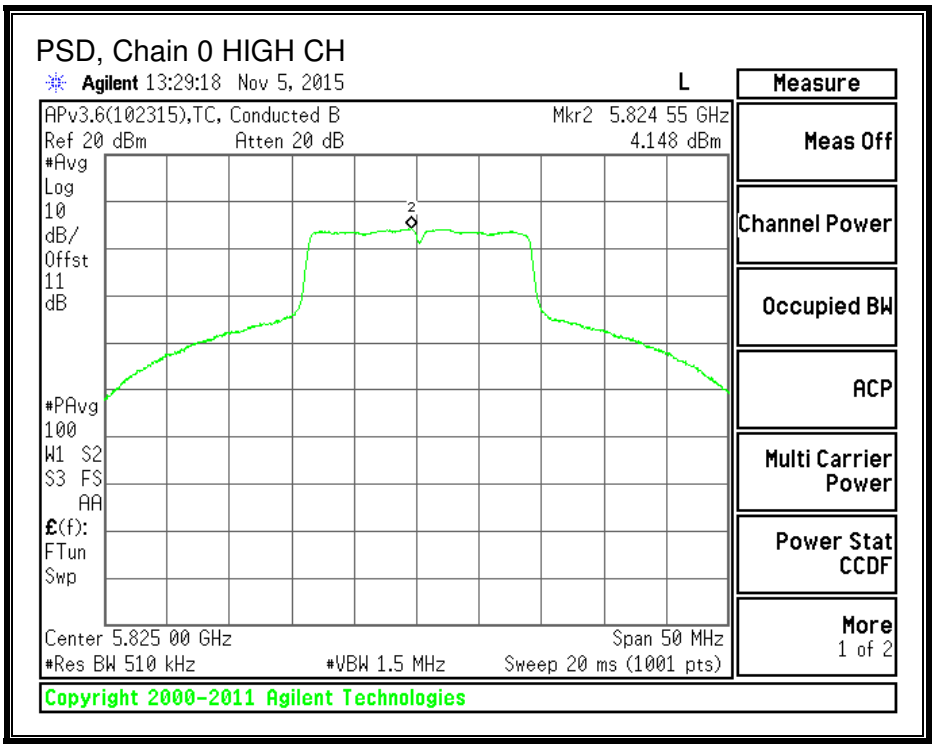
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	4.297	4.301	3.988	8.97	24.16	-15.19
Mid	5785	4.099	4.101	3.679	8.74	24.16	-15.42
High	5825	4.148	4.094	3.872	8.81	24.16	-15.35

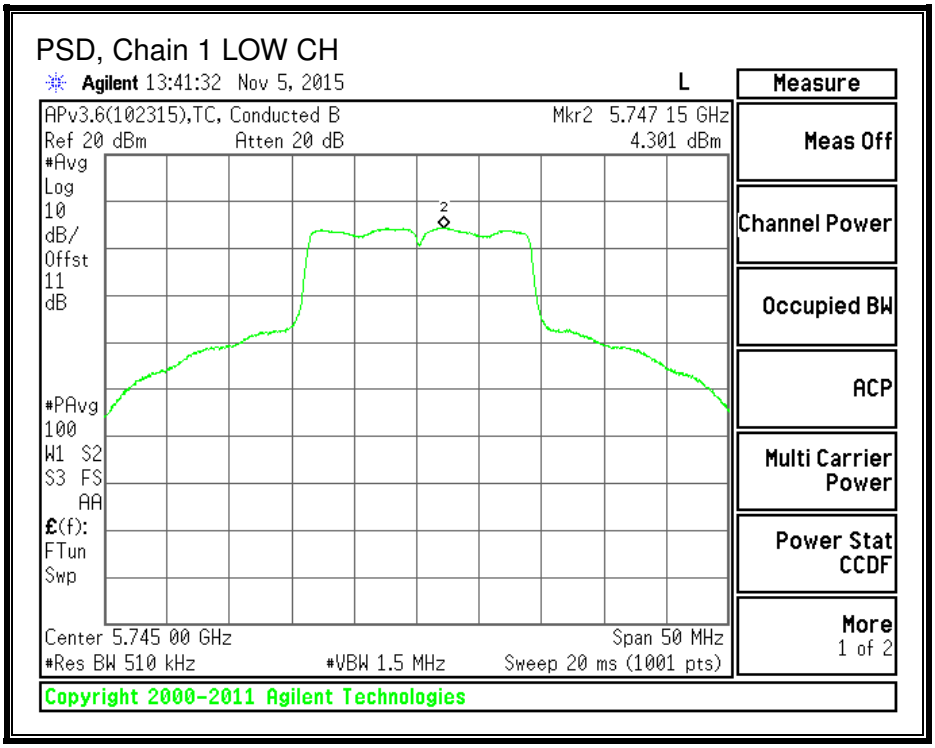
PSD, Chain 0


PSD, Chain 0 LOW CH
Agilent 13:31:39 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.746 45 GHz
Ref 20 dBm
Atten 20 dB
4.297 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.745 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

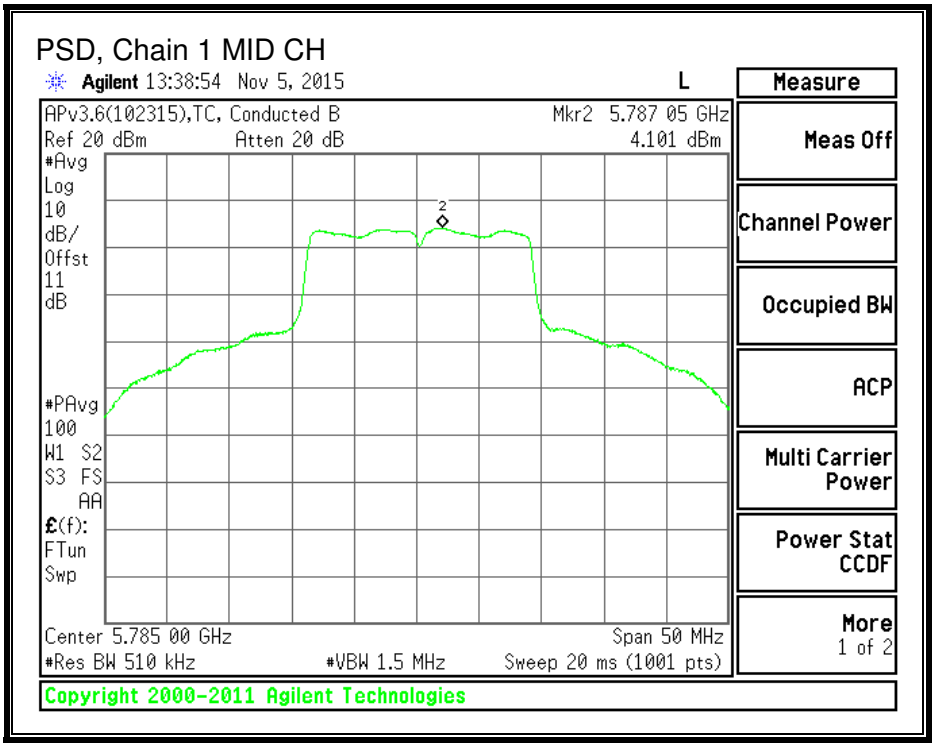

PSD, Chain 0 MID CH
Agilent 13:36:35 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.784 55 GHz
Ref 20 dBm
Atten 20 dB
4.099 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.785 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies


PSD, Chain 0 HIGH CH
Agilent 13:29:18 Nov 5, 2015
L
APv3.6(102315),TC, Conducted B
Mkr2 5.824 55 GHz
Ref 20 dBm
Atten 20 dB
4.148 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.825 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Measure
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

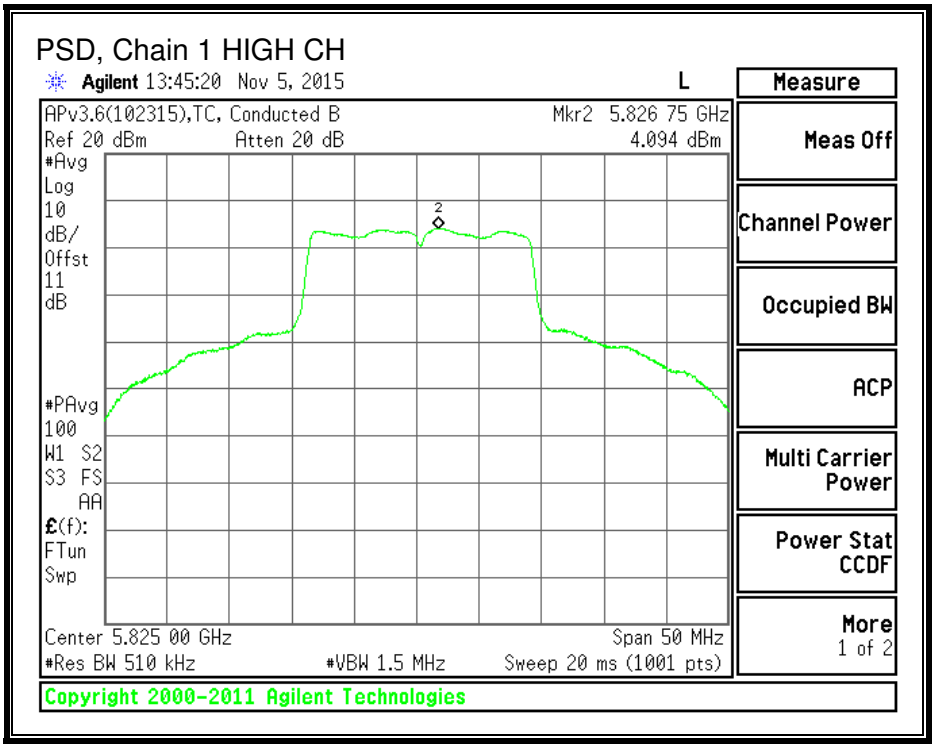
PSD, Chain 1


PSD, Chain 1 LOW CH
Agilent 13:41:32 Nov 5, 2015
L
APv3.6(102315),TC, Conducted B
Mkr2 5.747 15 GHz
Ref 20 dBm
Atten 20 dB
4.301 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.745 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Measure
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

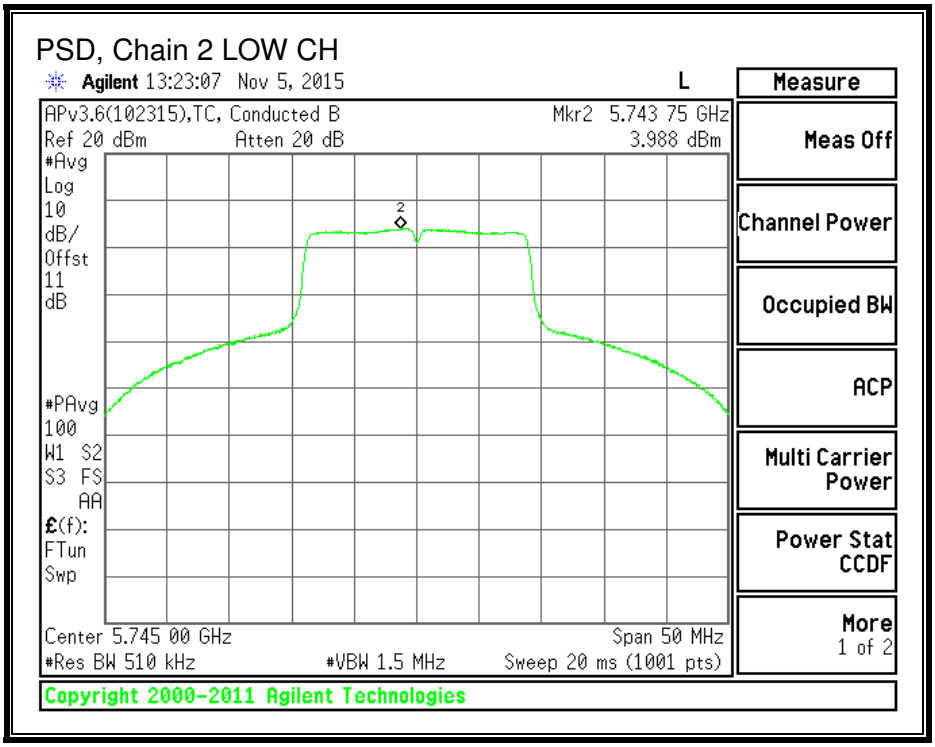
PSD, Chain 1 MID CH

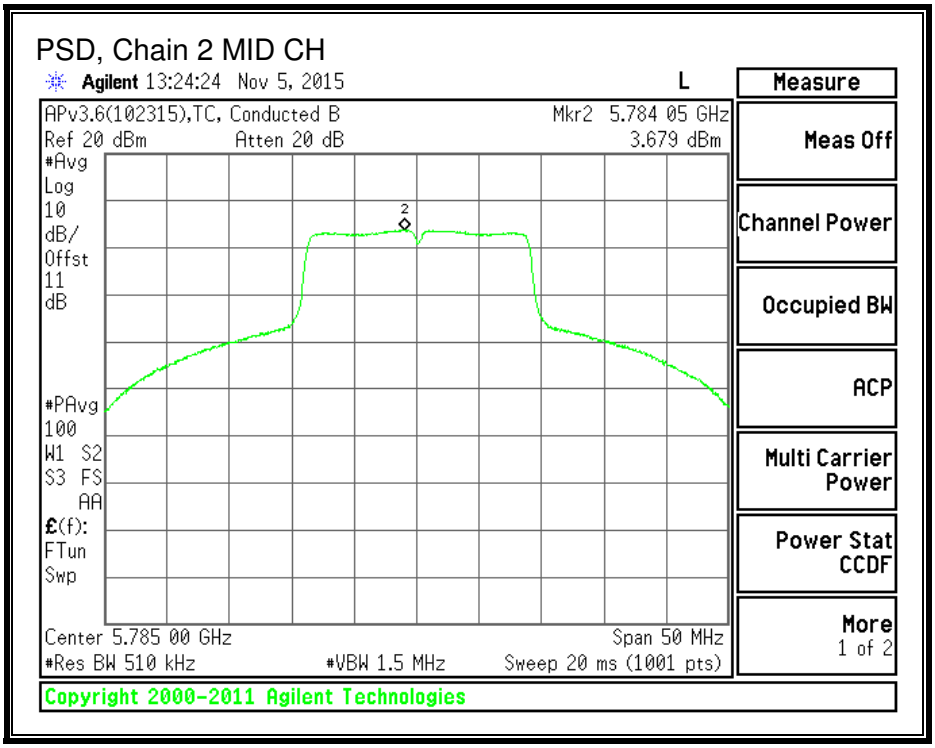


PSD, Chain 1 HIGH CH

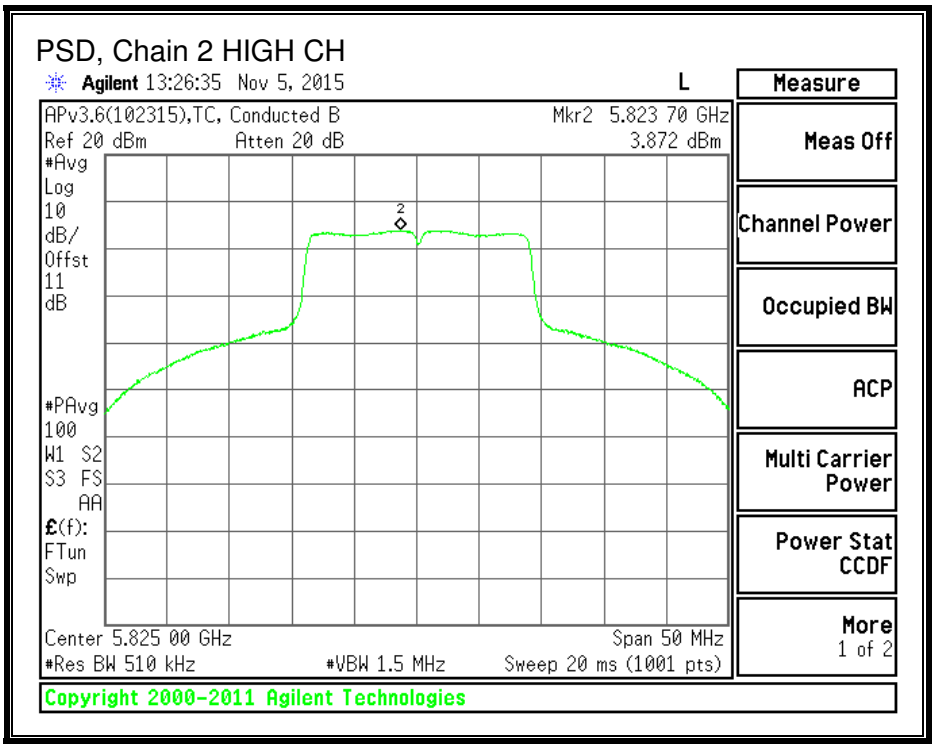


PSD, Chain 2


PSD, Chain 2 LOW CH
Agilent 13:23:07 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.743 75 GHz
Ref 20 dBm
Atten 20 dB
3.988 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.745 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies


PSD, Chain 2 MID CH
Agilent 13:24:24 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.784 05 GHz
Ref 20 dBm
Atten 20 dB
3.679 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.785 00 GHz
Span 50 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

PSD, Chain 2 HIGH CH



8.5.802.11n HT20 TxBF 3TX MODE IN THE 5.8 GHz BAND

8.5.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5745	11.84	24.16
Mid	5785	11.84	24.16
High	5825	11.84	24.16

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.65	15.06	15.33	20.12	24.16	-4.04
Mid	5785	19.40	19.10	19.40	24.07	24.16	-0.09
High	5825	18.46	17.64	18.01	22.82	24.16	-1.34

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.6.802.11n HT40 1TX MODE IN THE 5.8 GHz BAND

8.6.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

This is SISO mode, AG is the highest (worst-case) = 7.80 dBi

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	7.80	28.20
High	5795	7.80	28.20

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	16.30	16.30	28.20	-11.90

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.7.802.11n HT40 CDD 3TX MODE IN THE 5.8 GHz BAND

8.7.1. 6 dB BANDWIDTH

LIMITS

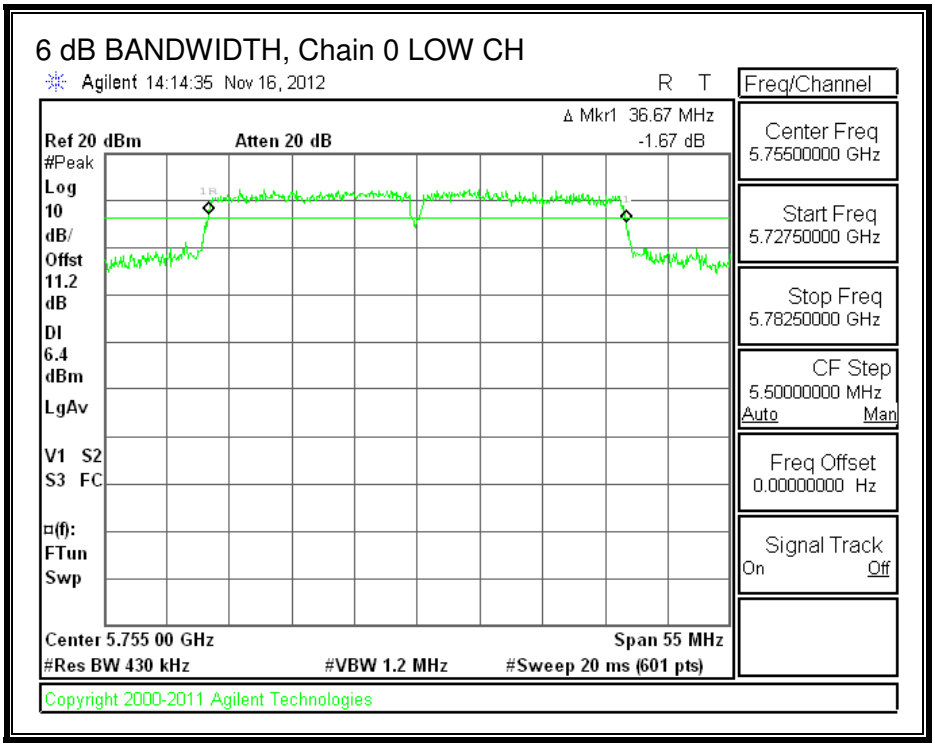
FCC §15.247 (a) (2)

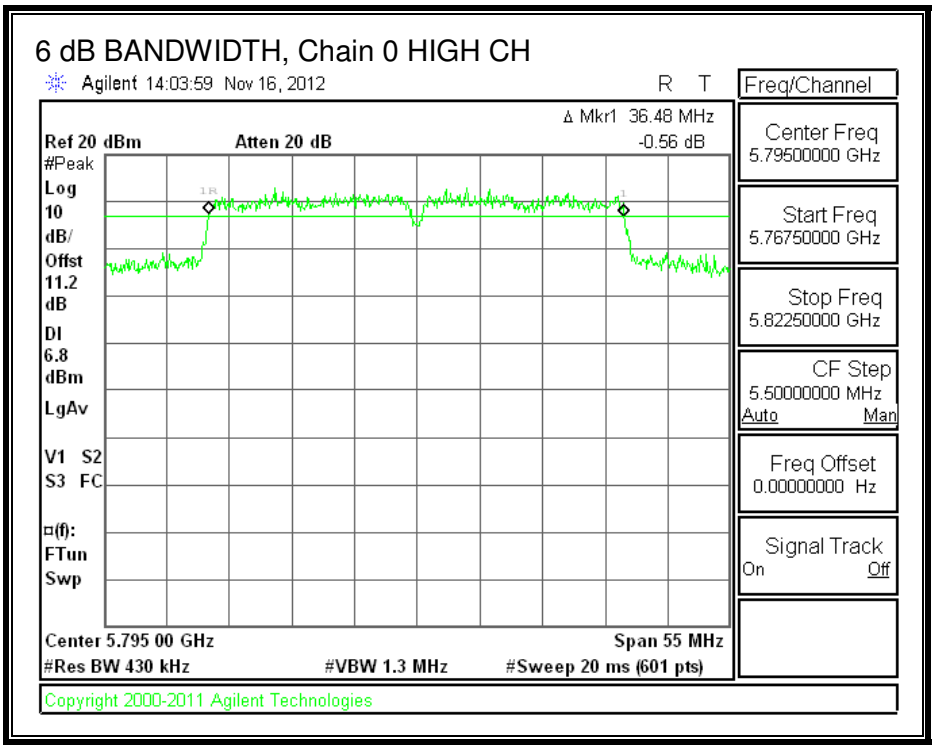
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

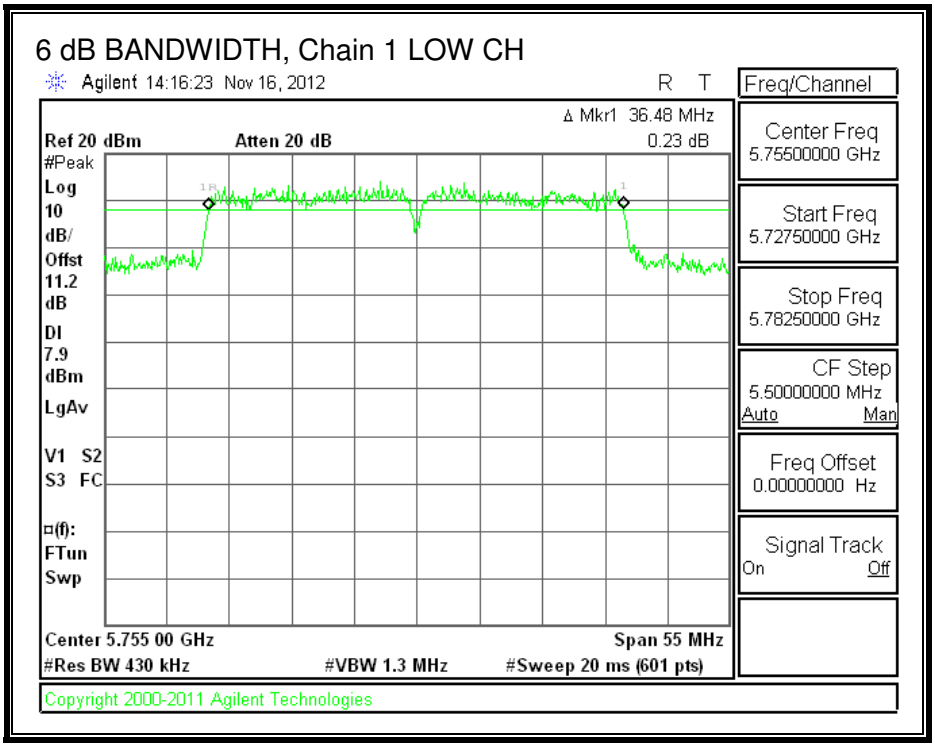
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	5755	36.67	36.48	36.58	0.5
High	5795	36.48	36.39	36.48	0.5

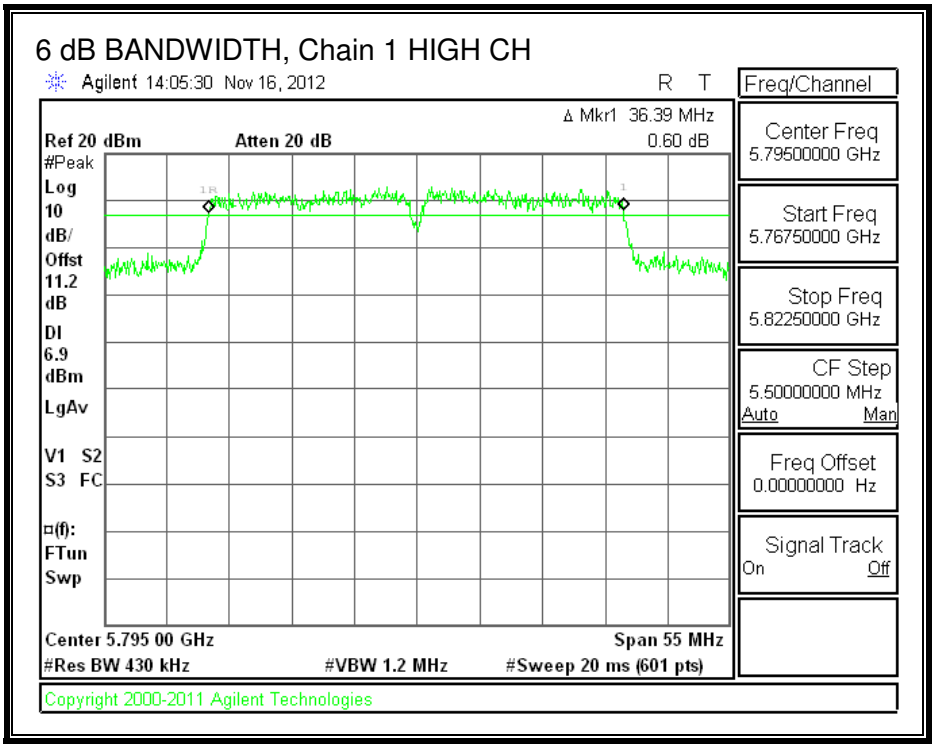
6 dB BANDWIDTH, Chain 0



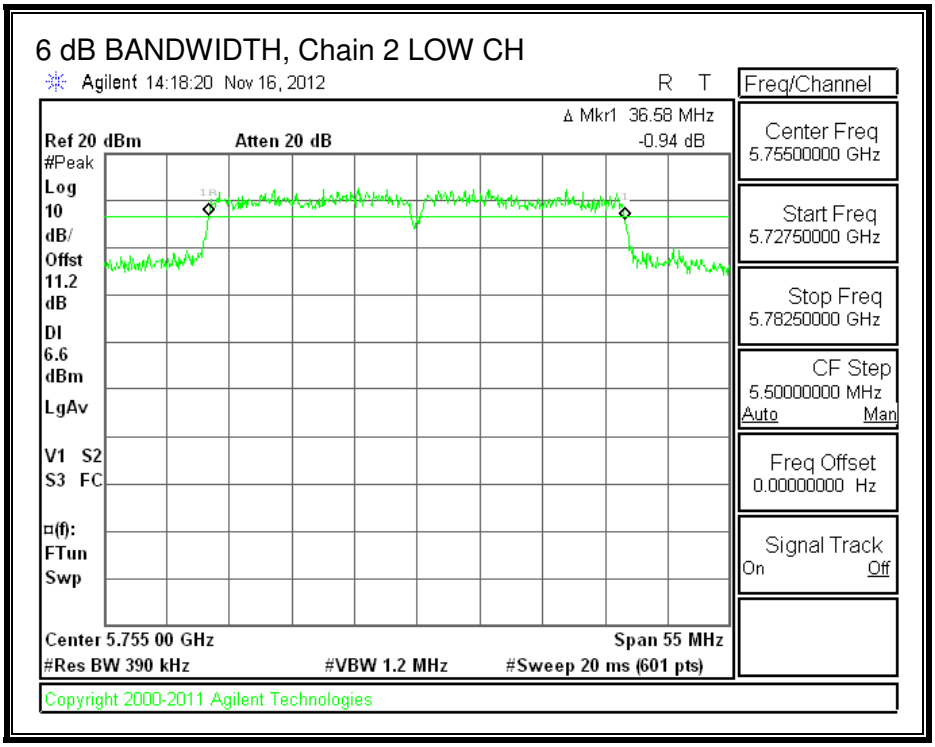


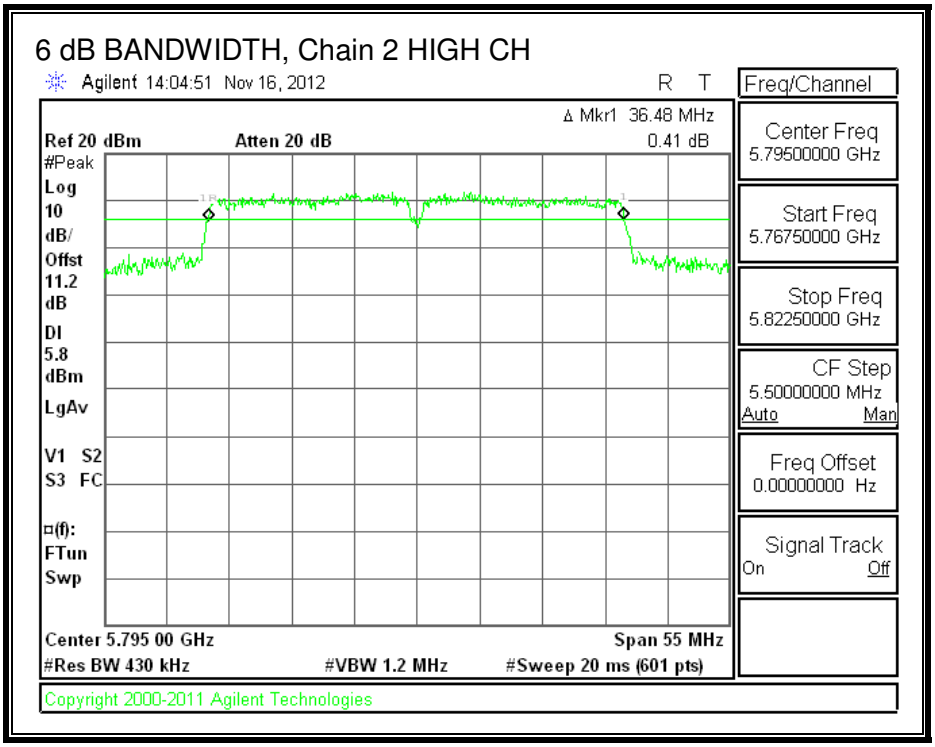
6 dB BANDWIDTH, Chain 1





6 dB BANDWIDTH, Chain 2





8.7.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
7.80	7.40	5.90	7.11

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	7.11	28.89
High	5795	7.11	28.89

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	14.95	14.50	14.90	19.56	28.89	-9.33
High	5795	20.27	19.42	19.80	24.62	28.89	-4.27

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.7.3. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

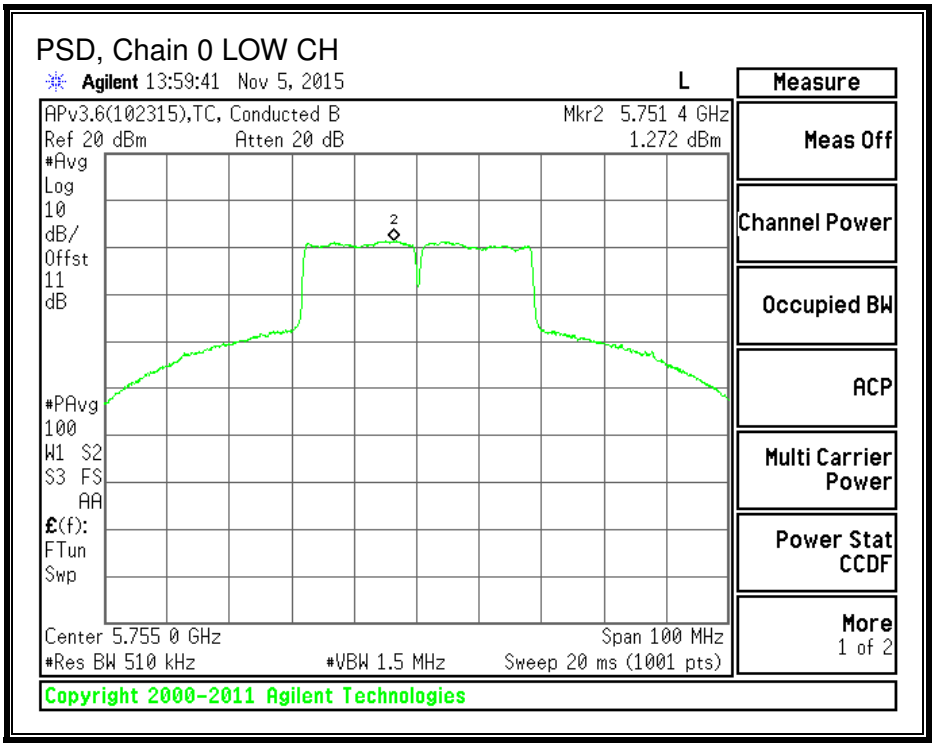
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	11.84	24.16
High	5795	11.84	24.16

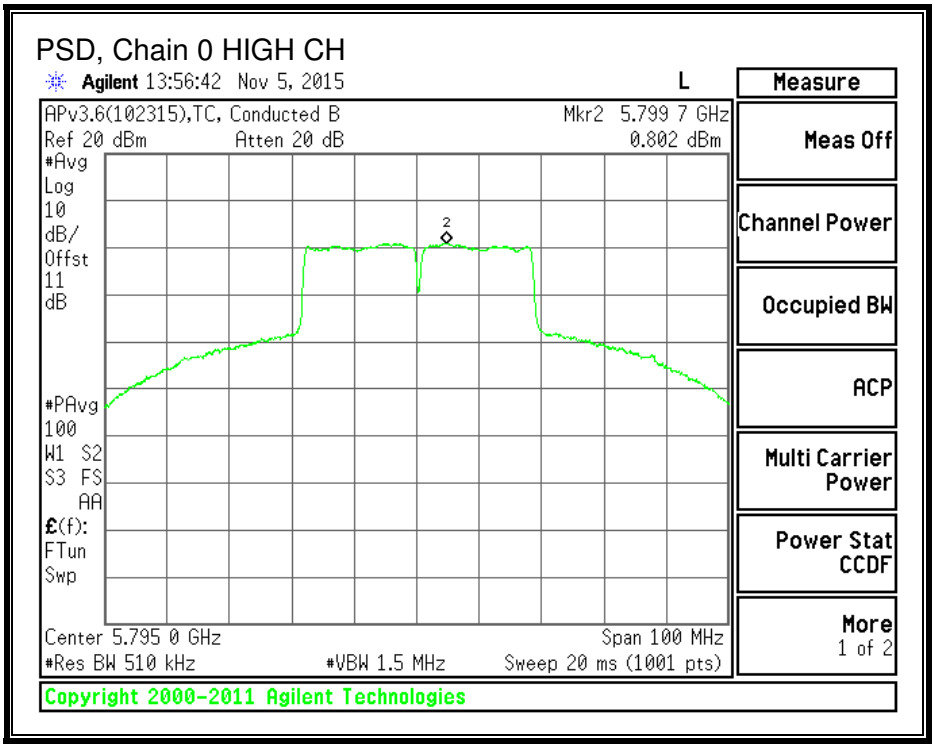
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

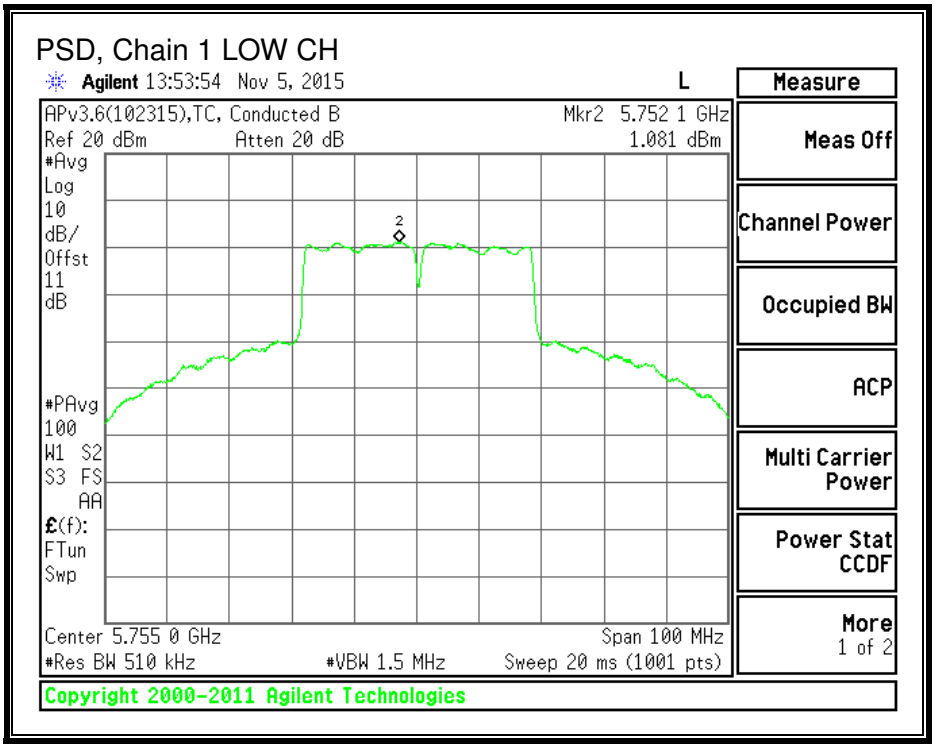
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	1.272	1.081	0.808	5.83	24.16	-18.33
High	5795	0.802	1.117	0.685	5.64	24.16	-18.52

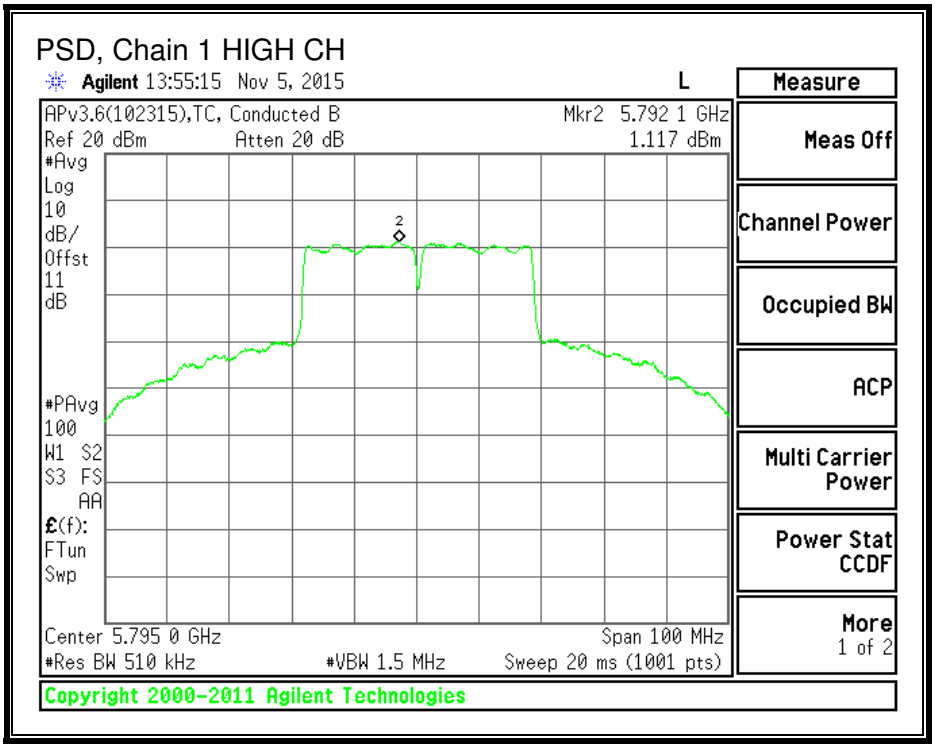
PSD, Chain 0


PSD, Chain 0 LOW CH
Agilent 13:59:41 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.751 4 GHz
Ref 20 dBm
Atten 20 dB
1.272 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.755 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

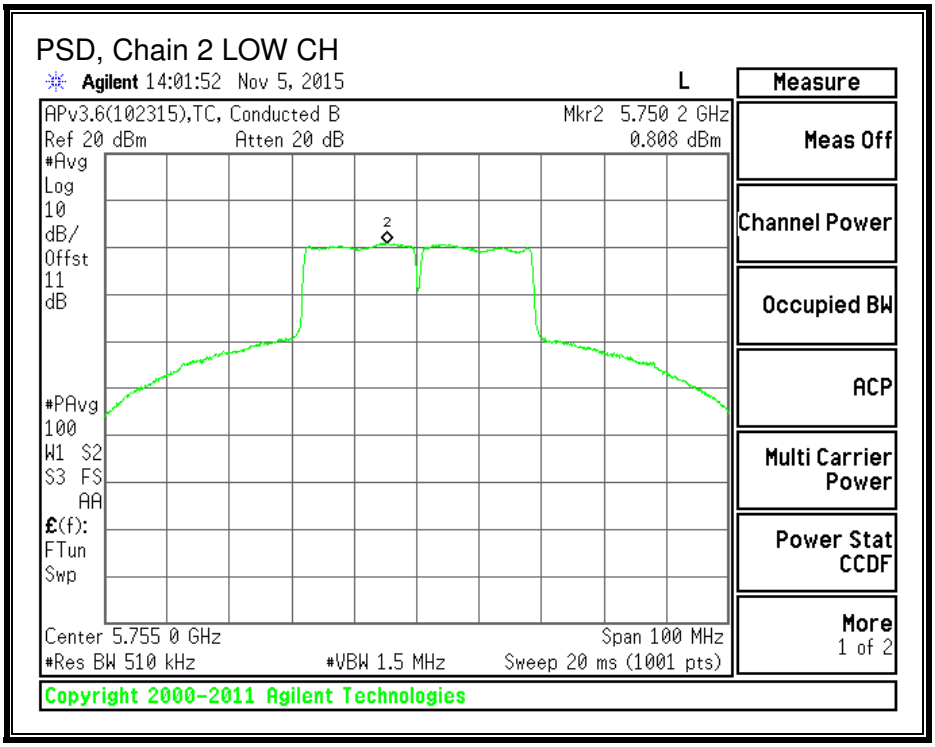

PSD, Chain 0 HIGH CH
Agilent 13:56:42 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.799 7 GHz
Ref 20 dBm
Atten 20 dB
0.802 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.795 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Copyright 2000-2011 Agilent Technologies

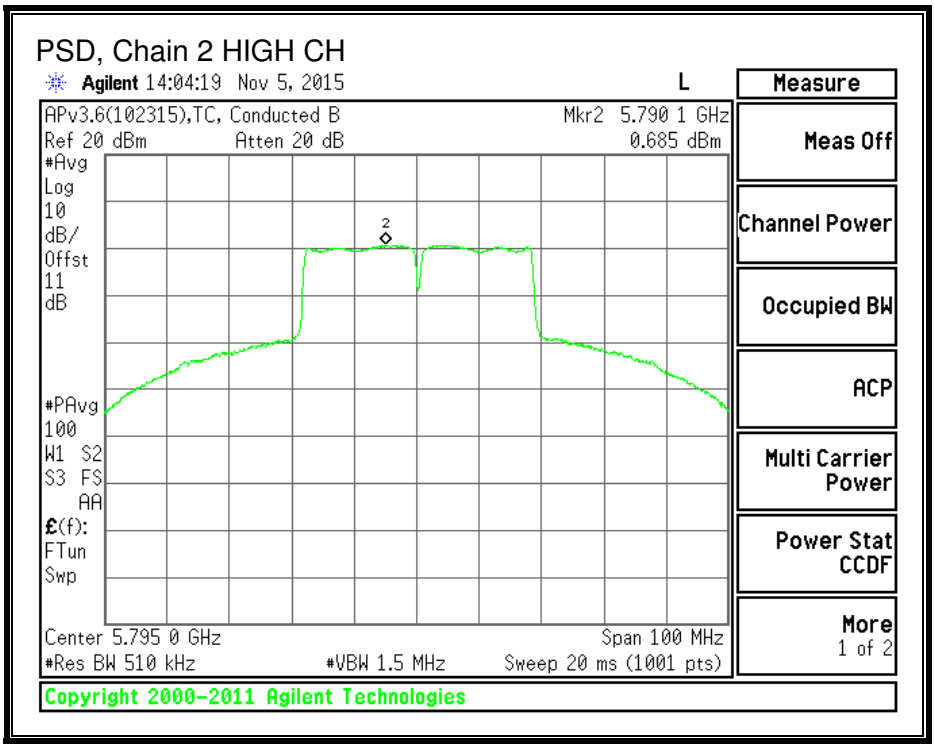
PSD, Chain 1


PSD, Chain 1 LOW CH
Agilent 13:53:54 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.752 1 GHz
Ref 20 dBm
Atten 20 dB
1.081 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.755 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More
1 of 2
Copyright 2000-2011 Agilent Technologies


PSD, Chain 1 HIGH CH
Agilent 13:55:15 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.792 1 GHz
Ref 20 dBm
Atten 20 dB
1.117 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.795 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More
1 of 2
Copyright 2000-2011 Agilent Technologies

PSD, Chain 2


PSD, Chain 2 LOW CH
Agilent 14:01:52 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.750 2 GHz
Ref 20 dBm
Atten 20 dB
0.808 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Center 5.755 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Copyright 2000-2011 Agilent Technologies


PSD, Chain 2 HIGH CH
Agilent 14:04:19 Nov 5, 2015
L
Measure
APv3.6(102315),TC, Conducted B
Mkr2 5.790 1 GHz
Ref 20 dBm
Atten 20 dB
0.685 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More 1 of 2
Center 5.795 0 GHz
Span 100 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Copyright 2000-2011 Agilent Technologies

8.8.802.11n HT40 TxBF 3TX MODE IN THE 5.8 GHz BAND

8.8.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	11.84	24.16
High	5795	11.84	24.16

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	13.23	13.02	13.20	17.92	24.16	-6.24
High	5795	19.43	18.71	19.00	23.83	24.16	-0.33

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.9.802.11ac VHT80 1TX MODE IN THE 5.8 GHz BAND

8.9.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

This is SISO mode, AG is the highest (worst-case) = 7.80 dBi

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	7.80	28.20

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	15.90	15.90	28.20	-12.30

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.10. 802.11ac VHT80 CDD 3TX MODE IN THE 5.8 GHz BAND

8.10.1. 6 dB BANDWIDTH

LIMITS

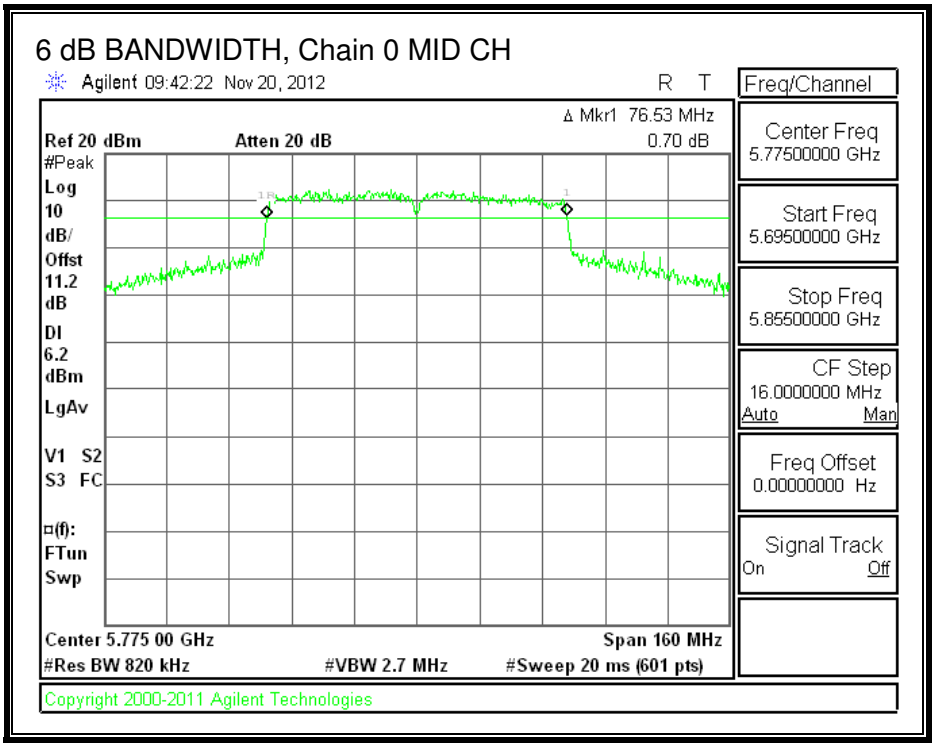
FCC §15.247 (a) (2)

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

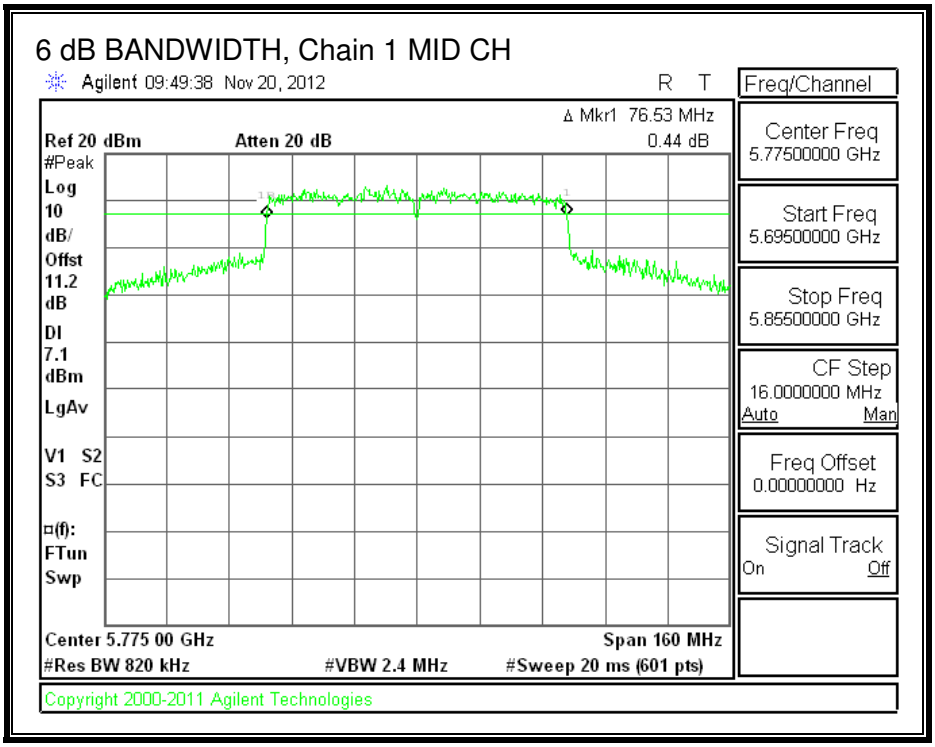
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Mid	5775	76.530	76.530	76.000	0.5

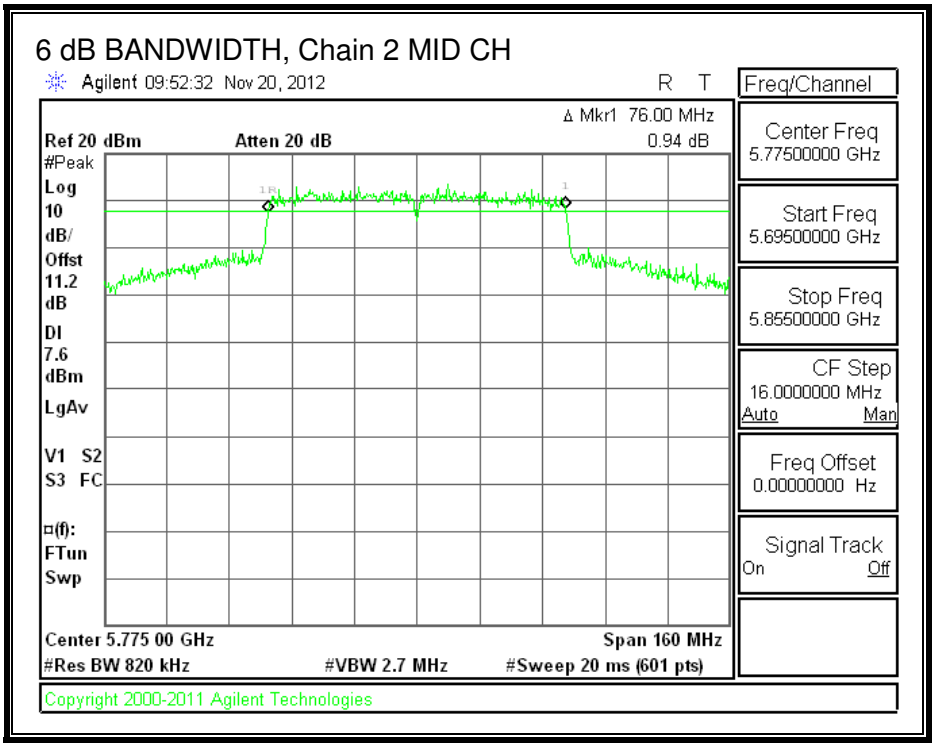
6 dB BANDWIDTH, Chain 0



6 dB BANDWIDTH, Chain 1



6 dB BANDWIDTH, Chain 2



8.10.2. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
7.80	7.40	5.90	7.11

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	7.11	28.89

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	12.75	12.47	12.86	17.47	28.89	-11.42

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.10.3. MAXIMUM POWER SPECTRAL DENSITY (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

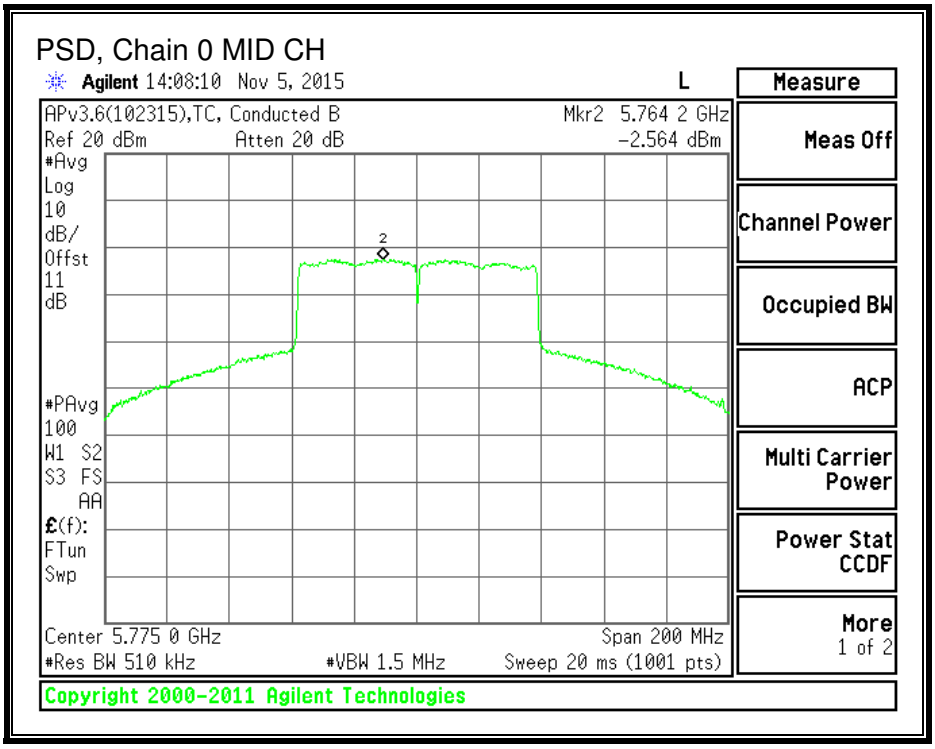
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Mid	5775	11.84	24.16

Duty Cycle CF (dB)	0.16	**Included in Calculations of Corr'd PSD**

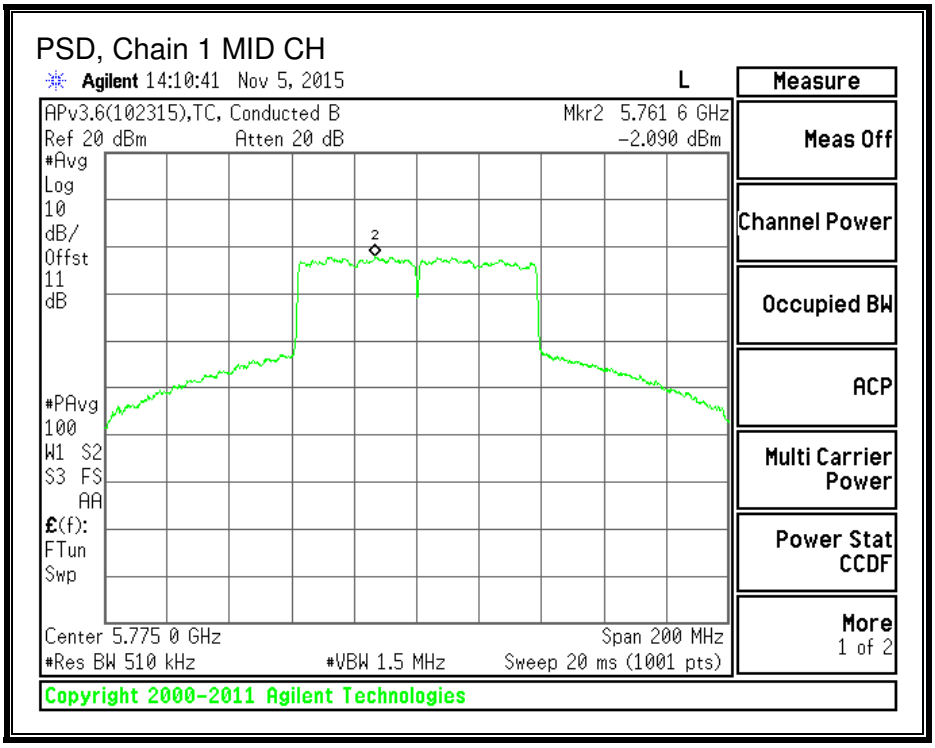
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5775	-2.564	-2.090	-2.412	2.580	24.16	-21.58

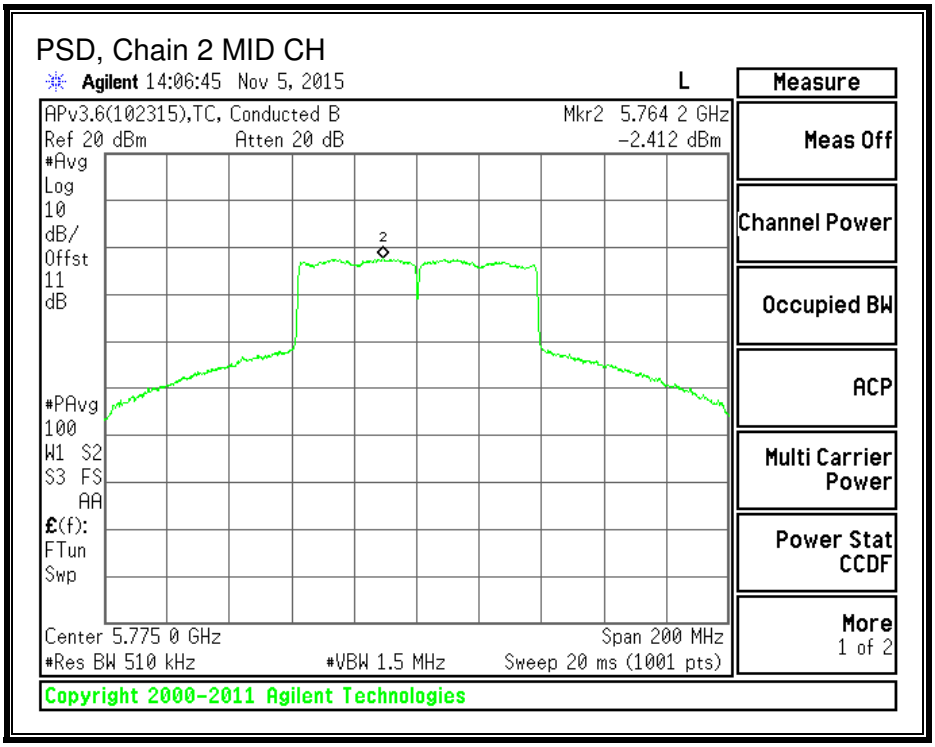
PSD, Chain 0



PSD, Chain 1



PSD, Chain 2


PSD, Chain 2 MID CH
Agilent 14:06:45 Nov 5, 2015
L
APv3.6(102315),TC, Conducted B
Mkr2 5.764 2 GHz
Ref 20 dBm
Atten 20 dB
-2.412 dBm
#Avg
Log
10
dB/
Offst
11
dB
#PAvg
100
W1 S2
S3 FS
AA
£(f):
FTun
Swp
Center 5.775 0 GHz
Span 200 MHz
#Res BW 510 kHz
#VBW 1.5 MHz
Sweep 20 ms (1001 pts)
Copyright 2000-2011 Agilent Technologies
Measure
Meas Off
Channel Power
Occupied BW
ACP
Multi Carrier Power
Power Stat CCDF
More
1 of 2

8.11. 802.11ac VHT80 TxBF 3TX MODE IN THE 5.8 GHz BAND

8.11.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.80	7.40	5.90	11.84

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	11.84	24.16

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	12.46	12.09	12.41	17.09	24.16	-7.07

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

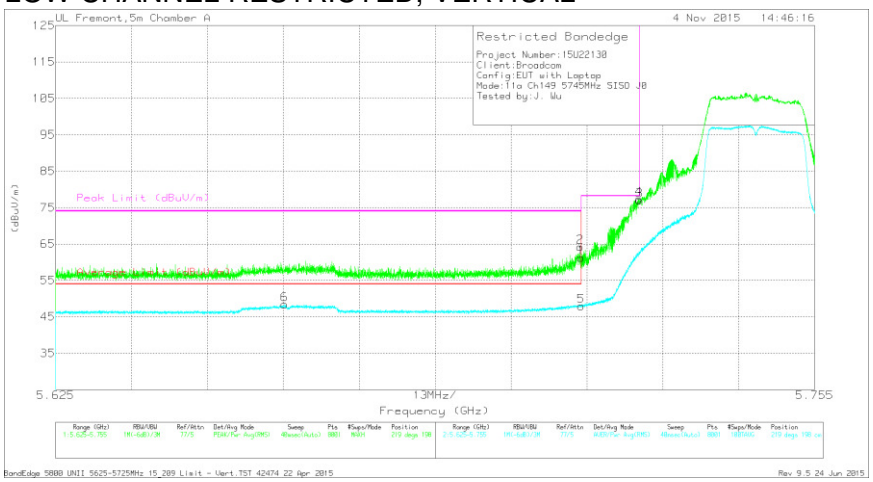
FCC §15.205 and §15.209

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

9.2. TX ABOVE 1 GHz 802.11a MODE SISO IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL, CH 149)

LOW CHANNEL RESTRICTED, VERTICAL



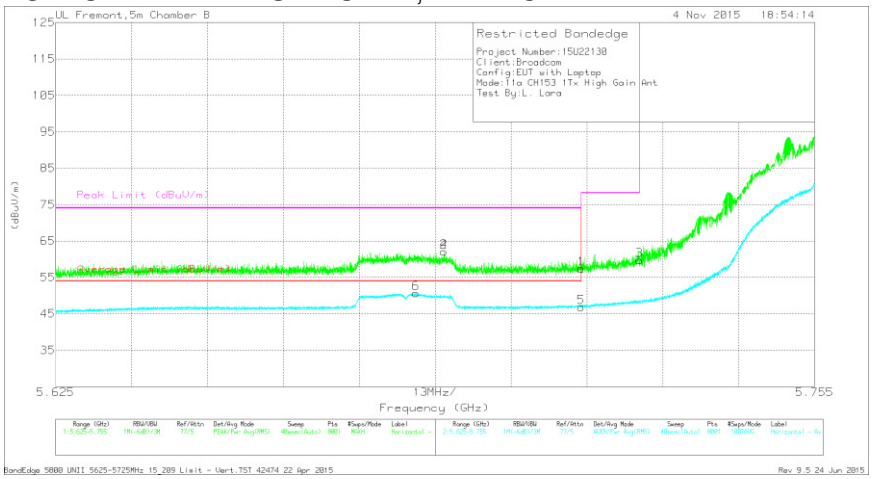
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Bypass (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	5.664	6.03	RMS	34.6	7.8	0	48.43	54	-5.57	-	-	219	198	V
1	5.715	18.68	Pk	34.7	7.8	0	61.18	-	-	74	-12.82	219	198	V
2	5.715	21.74	Pk	34.7	7.8	0	64.24	-	-	74	-9.76	219	198	V
5	5.715	5.4	RMS	34.7	7.8	0	47.9	54	-6.1	-	-	219	198	V
3	5.725	34.49	Pk	34.7	7.8	0	76.99	-	-	78.2	-1.21	219	198	V
4	5.725	34.84	Pk	34.7	7.8	0	77.34	-	-	78.2	-.86	219	198	V

Pk - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, CH153)

LOW CHANNEL RESTRICTED, VERTICAL



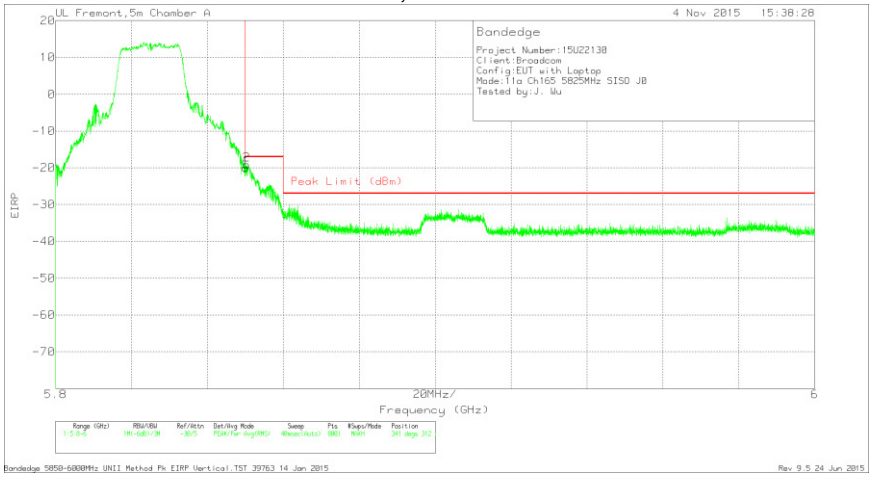
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	5.687	8.31	RMS	34.9	7.4	50.61	54	-3.39	-	-	71	242	V
2	5.691	19.81	Pk	34.9	7.4	62.11	-	-	74	-11.89	71	242	V
4	5.691	19.81	Pk	34.9	7.4	62.11	-	-	74	-11.89	71	242	V
1	5.715	15.02	Pk	35	7.3	57.32	-	-	74	-16.68	71	242	V
5	5.715	4.5	RMS	35	7.3	46.8	54	-7.2	-	-	71	242	V
3	5.725	17.3	Pk	35	7.4	59.7	-	-	78.2	-18.5	71	242	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, VERTICAL



Trace Markers

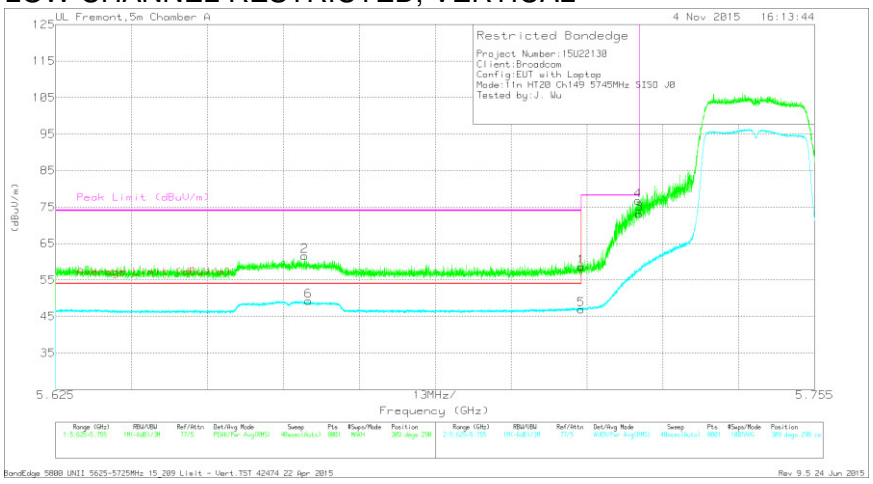
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T136 (dB/m)	Bypass (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-74.76	Pk	35.1	7.9	11.8	-19.96	-17	-2.96	341	312	V
2	5.85	-74	Pk	35.1	7.9	11.8	-19.2	-17	-2.2	341	312	V

Pk - Peak detector

9.3. TX ABOVE 1 GHz 802.11n HT20 MODE 1Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, VERTICAL



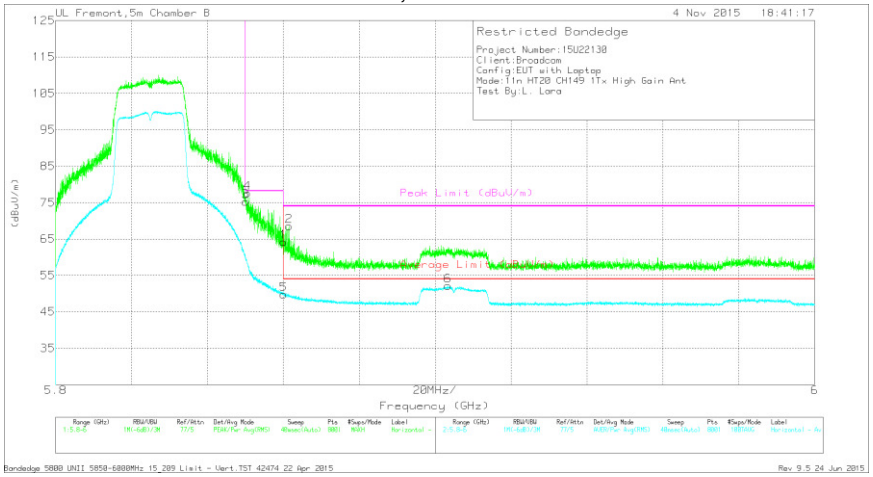
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Bypass (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	5.668	19.2	Pk	34.6	7.8	0	61.6	-	-	74	-12.4	309	298	V
6	5.668	6.88	RMS	34.6	7.8	0	49.28	54	-4.72	-	-	309	298	V
1	5.715	16.14	Pk	34.7	7.8	0	58.64	-	-	74	-15.36	309	298	V
5	5.715	4.49	RMS	34.7	7.8	0	46.99	54	-7.01	-	-	309	298	V
3	5.725	30.62	Pk	34.7	7.8	0	73.12	-	-	78.2	-5.08	309	298	V
4	5.725	34.2	Pk	34.7	7.8	0	76.7	-	-	78.2	-1.5	309	298	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, VERTICAL



Trace Markers

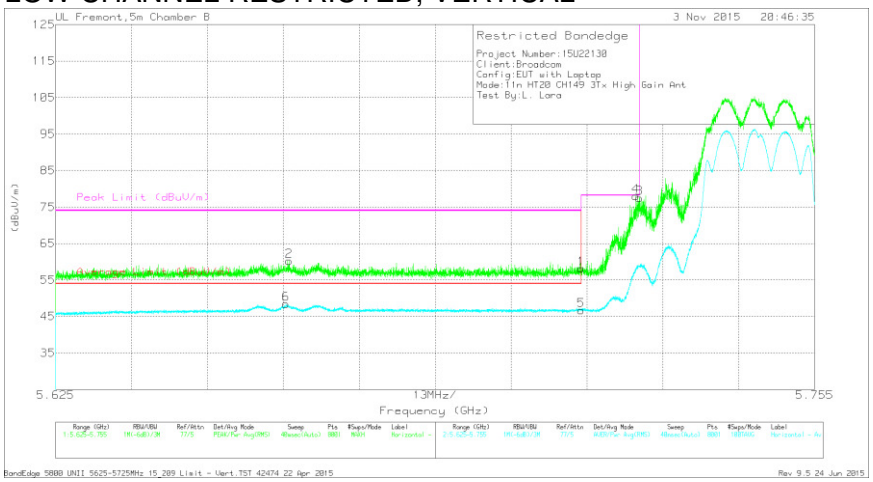
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.85	32.41	Pk	35.4	7.5	75.31	-	-	78.2	-2.89	231	311	V
4	5.851	34.71	Pk	35.4	7.5	77.61	-	-	78.2	-.59	231	311	V
1	5.86	21.3	Pk	35.4	7.5	64.2	-	-	74	-9.8	231	311	V
5	5.86	6.9	RMS	35.4	7.5	49.8	54	-4.2	-	-	231	311	V
2	5.862	25.67	Pk	35.4	7.5	68.57	-	-	74	-5.43	231	311	V
6	5.903	9.12	RMS	35.5	7.5	52.12	54	-1.88	-	-	231	311	V

Pk - Peak detector
RMS - RMS detection

9.4. TX ABOVE 1 GHz 802.11n HT20 MODE 3Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL, CH 149)

LOW CHANNEL RESTRICTED, VERTICAL



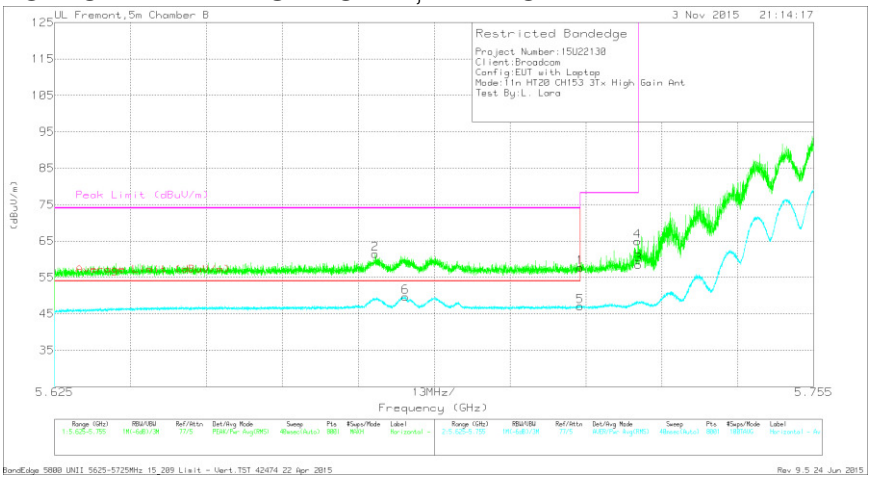
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	5.664	6.25	RMS	34.9	7.3	48.45	54	-5.55	-	-	207	209	V
2	5.665	18.06	Pk	34.9	7.3	60.26	-	-	74	-13.74	207	209	V
1	5.715	15.83	Pk	35	7.3	58.13	-	-	74	-15.87	207	209	V
5	5.715	4.41	RMS	35	7.3	46.71	54	-7.29	-	-	207	209	V
4	5.724	35.58	Pk	35	7.4	77.98	-	-	78.2	-.22	207	209	V
3	5.725	35.07	Pk	35	7.4	77.47	-	-	78.2	-.73	207	209	V

Pk - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, CH 153)

LOW CHANNEL RESTRICTED, VERTICAL



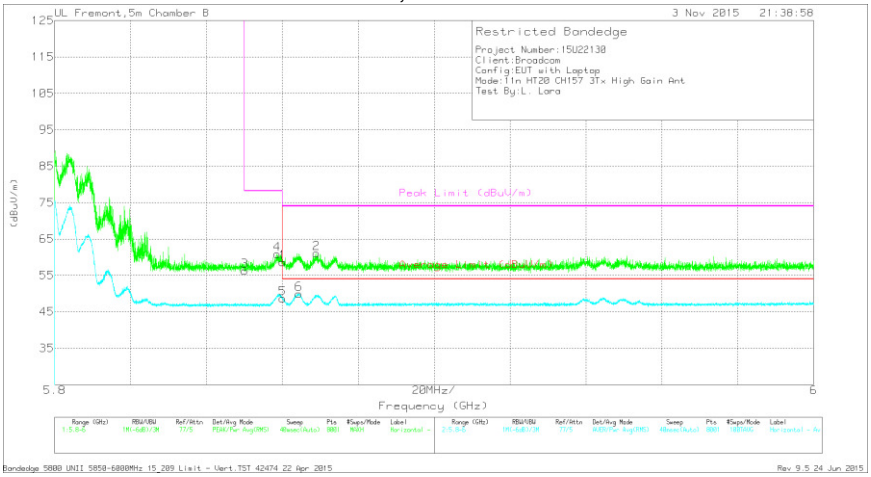
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.68	19.14	Pk	34.9	7.4	61.44	-	-	74	-12.56	206	221	V
6	5.685	7.42	RMS	34.9	7.4	49.72	54	-4.28	-	-	206	221	V
1	5.715	15.49	Pk	35	7.3	57.79	-	-	74	-16.21	206	221	V
5	5.715	4.75	RMS	35	7.3	47.05	54	-6.95	-	-	206	221	V
3	5.725	16.06	Pk	35	7.4	58.46	-	-	78.2	-19.74	206	221	V
4	5.725	22.51	Pk	35	7.4	64.91	-	-	78.2	-13.29	206	221	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 157)

HIGH CHANNEL BANDEDGE, VERTICAL



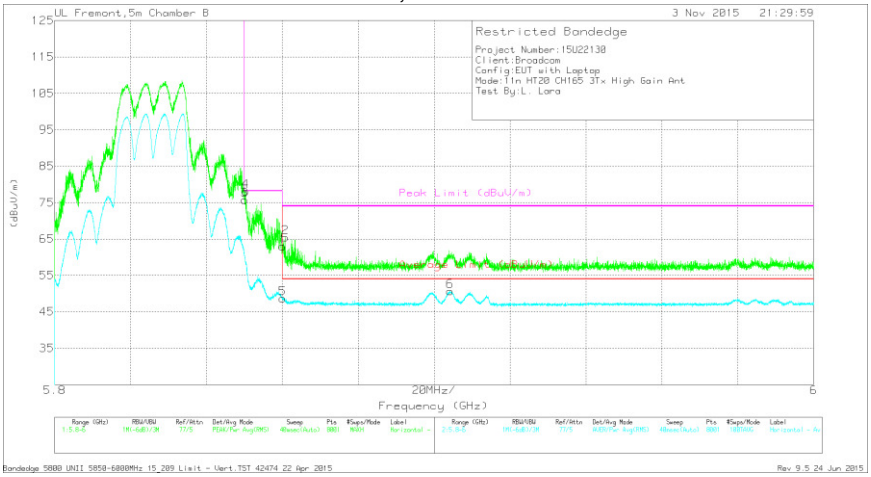
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.85	13.32	Pk	35.4	7.5	56.22	-	-	78.2	-21.98	120	208	V
4	5.859	17.91	Pk	35.4	7.5	60.81	-	-	78.2	-17.39	120	208	V
1	5.86	15.76	Pk	35.4	7.5	58.66	-	-	74	-15.34	120	208	V
5	5.86	5.78	RMS	35.4	7.5	48.68	54	-5.32	-	-	120	208	V
6	5.864	7.03	RMS	35.4	7.5	49.93	54	-4.07	-	-	120	208	V
2	5.869	18.14	Pk	35.4	7.5	61.04	-	-	74	-12.96	120	208	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 165)

HIGH CHANNEL BANDEDGE, VERTICAL



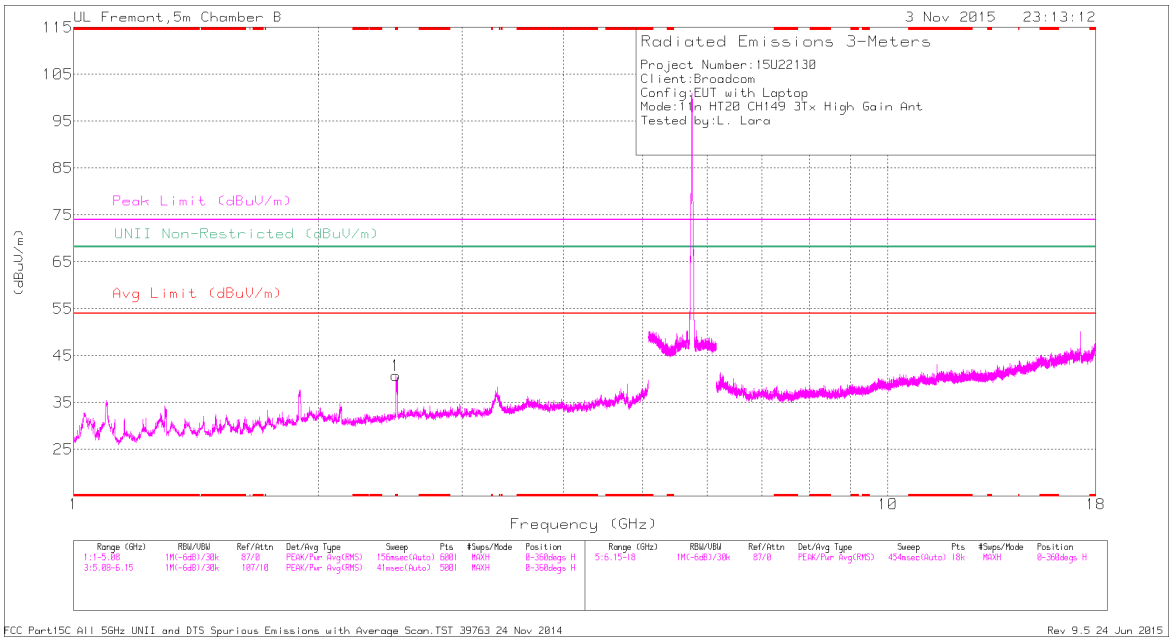
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.85	32.9	Pk	35.4	7.5	75.8	-	-	78.2	-2.4	121	214	V
4	5.85	35.24	Pk	35.4	7.5	78.14	-	-	78.2	-.06	121	214	V
1	5.86	20.1	Pk	35.4	7.5	63	-	-	74	-11	121	214	V
5	5.86	5.75	RMS	35.4	7.5	48.65	54	-5.35	-	-	121	214	V
2	5.861	22.52	Pk	35.4	7.5	65.42	-	-	74	-8.58	121	214	V
6	5.904	7.65	RMS	35.5	7.5	50.65	54	-3.35	-	-	121	214	V

Pk - Peak detector
RMS - RMS detection

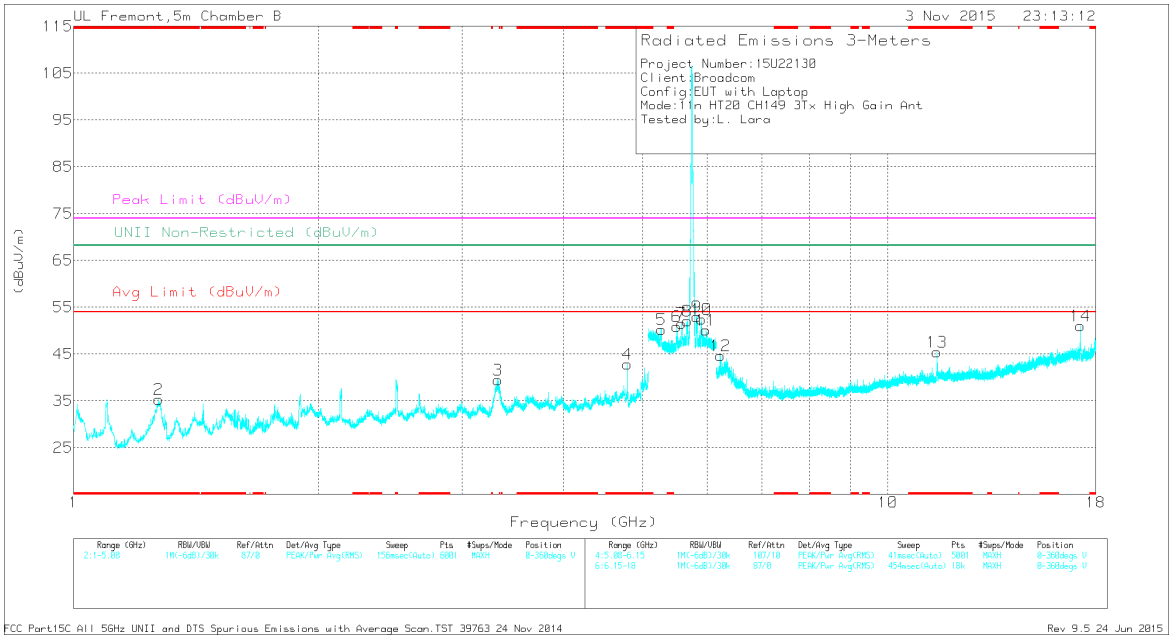
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 39763 24 Nov 2014 Rev 9.5 24 Jun 2015

LOW CHANNEL VERTICAL PLOT



FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 39763 24 Nov 2014 Rev 9.5 24 Jun 2015

DATA

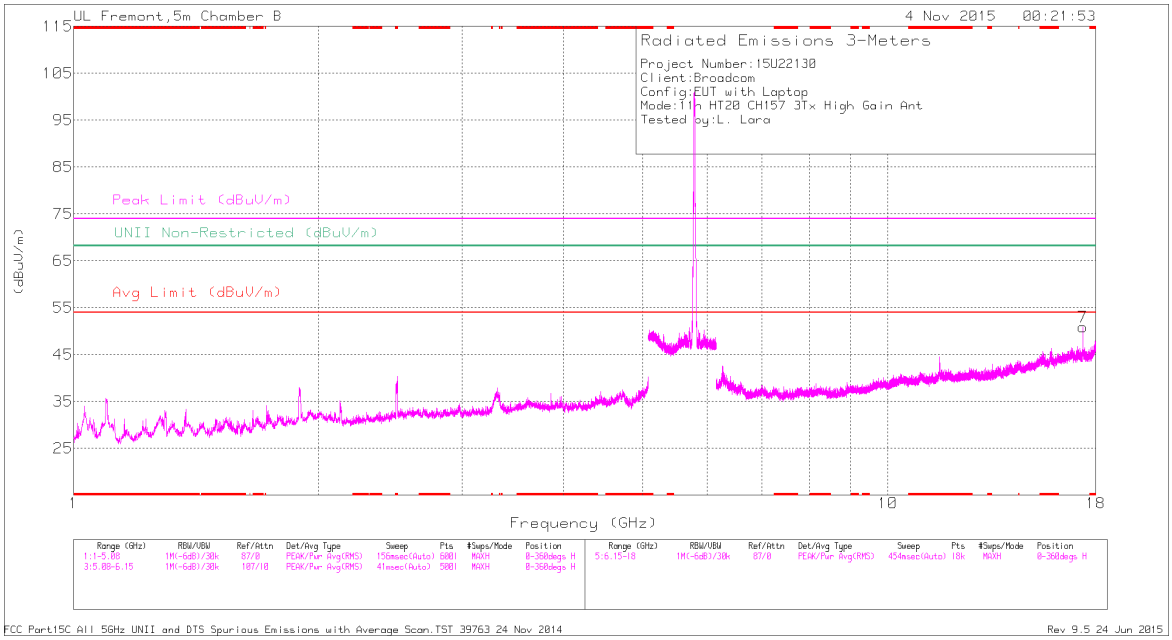
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.28	50.58	PK-U	29.2	-35.8	43.98	-	-	74	-30.02	-	-	3	101	V
	* 1.277	39.51	ADR	29.2	-35.8	32.91	54	-21.09	-	-	-	-	3	101	V
13	* 11.494	43.75	PK-U	38.3	-25.4	56.65	-	-	74	-17.35	-	-	143	234	V
	* 11.489	31.23	ADR	38.3	-25.4	44.13	54	-9.87	-	-	-	-	143	234	V
1	* 2.493	50.11	PK-U	32.5	-34	48.61	-	-	74	-25.39	-	-	339	116	H
	* 2.49	36.59	ADR	32.5	-34	35.09	54	-18.91	-	-	-	-	339	116	H
4	* 4.788	47.17	PK-U	34.3	-31.6	49.87	-	-	74	-24.13	-	-	100	217	V
	* 4.788	40.17	ADR	34.3	-31.6	42.87	54	-11.13	-	-	-	-	100	217	V
14	17.242	43.87	PK-U	41.1	-21.6	63.37	-	-	-	-	68.2	-4.83	180	324	V
3	3.303	49.25	PK-U	32.8	-33	49.05	-	-	-	-	68.2	-19.15	202	303	V
5	5.271	44.75	PK-U	34.3	-19.5	59.55	-	-	-	-	68.2	-8.65	108	210	V
6	5.501	46.42	PK-U	34.5	-20.5	60.42	-	-	-	-	68.2	-7.78	309	322	V
7	5.582	46.46	PK-U	34.7	-20.8	60.36	-	-	-	-	68.2	-7.84	283	264	V
8	**5.672	38.1	Pk	34.9	-20.9	52.1	-	-	-	-	68.2	-16.1	0-360	200	V
9	***5.827	38.56	Pk	35.3	-20.9	52.96	-	-	-	-	-	-	0-360	200	V
10	5.904	46.71	PK-U	35.5	-20.9	61.31	-	-	-	-	68.2	-6.89	130	236	V
11	5.966	42.76	PK-U	35.6	-20.9	57.46	-	-	-	-	68.2	-10.74	128	202	V
12	6.226	52.39	PK-U	35.5	-31.5	56.39	-	-	-	-	68.2	-11.81	183	378	V

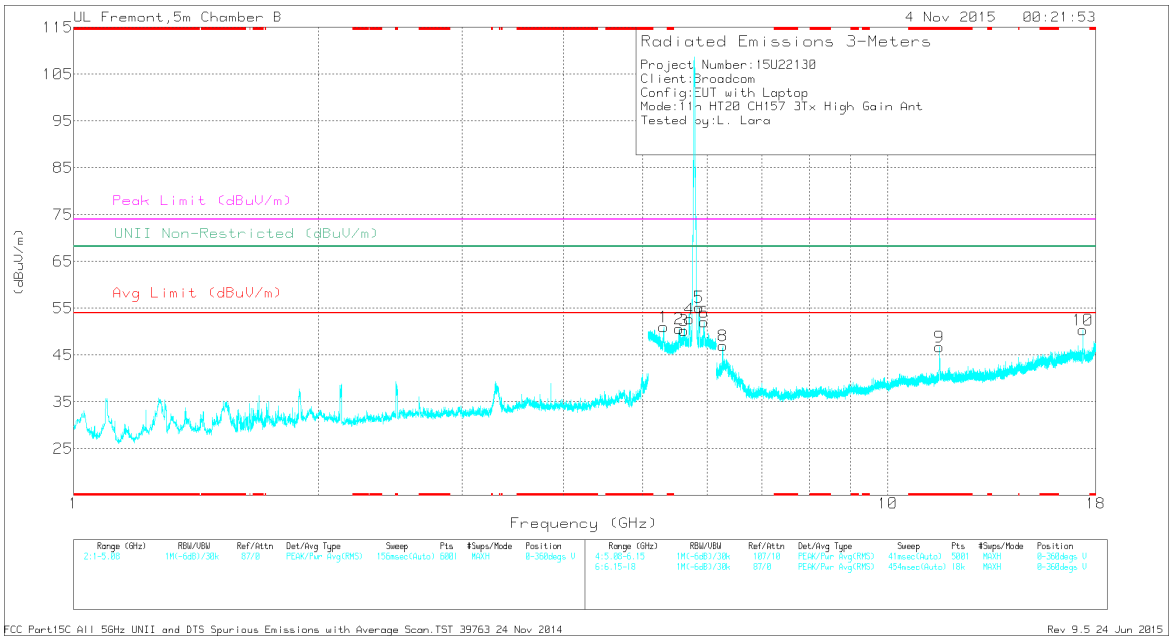
* - indicates frequency in CFR15.205 Restricted Band
** - indicates frequency covered by the radiated band edge
*** - indicates frequency in the authorized band

Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



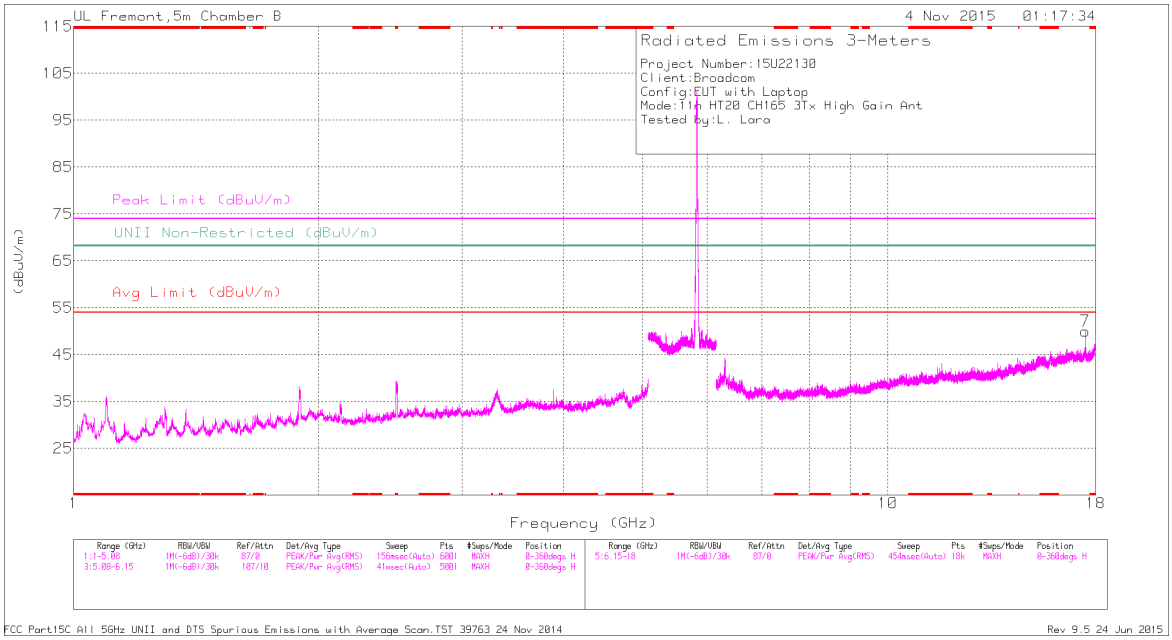
DATA

Trace Markers

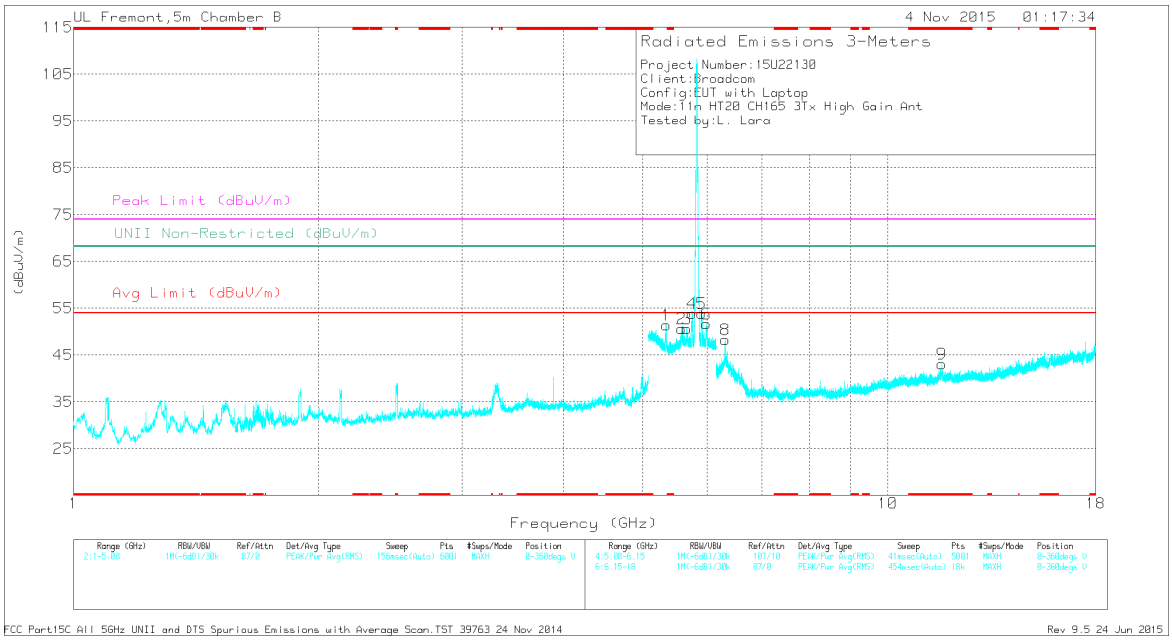
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	* 11.573	45.97	PK-U	38.4	-24.5	59.87	-	-	74	-14.13	-	-	155	306	V
	* 11.568	32.99	ADR	38.4	-24.6	46.79	54	-7.21	-	-	-	-	155	306	V
1	5.302	45.9	PK-U	34.4	-19.5	60.8	-	-	-	-	68.2	-7.4	109	219	V
2	5.545	47.04	PK-U	34.6	-20.6	61.04	-	-	-	-	68.2	-7.16	306	336	V
3	5.622	44.87	PK-U	34.8	-20.7	58.97	-	-	-	-	68.2	-9.23	102	262	V
4	5.705	49.02	PK-U	35	-21	63.02	-	-	-	-	68.2	-5.18	130	217	V
5	5.865	50.39	PK-U	35.4	-20.9	64.89	-	-	-	-	68.2	-3.31	132	235	V
6	5.944	47.27	PK-U	35.6	-20.7	62.17	-	-	-	-	68.2	-6.03	133	222	V
8	6.27	54.46	PK-U	35.5	-31.6	58.36	-	-	-	-	68.2	-9.84	59	307	V
7	17.353	39.57	PK-U	40.8	-21.3	59.07	-	-	-	-	68.2	-9.13	145	209	H
10	17.354	41.9	PK-U	40.8	-21.3	61.4	-	-	-	-	68.2	-6.8	262	235	V

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Trace Markers

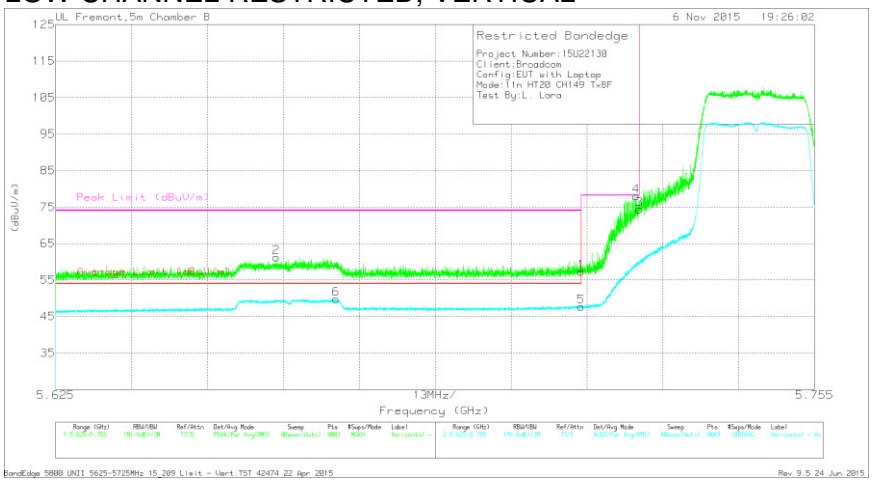
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	* 11.649	42.32	PK-U	38.5	-24.8	56.02	-	-	74	-17.98	-	-	196	294	V
	* 11.654	29.18	ADR	38.5	-24.9	42.78	54	-11.22	-	-	-	-	196	294	V
1	5.339	46.73	PK-U	34.4	-19.6	61.53	-	-	-	-	68.2	-6.67	107	353	V
2	5.584	47.38	PK-U	34.7	-20.8	61.28	-	-	-	-	68.2	-6.92	295	243	V
3	5.662	45.79	PK-U	34.9	-20.9	59.79	-	-	-	-	68.2	-8.41	130	238	V
4	***5.747	39.83	Pk	35.1	-21	53.93	-	-	-	-	-	-	0-360	199	V
5	**5.908	39.19	Pk	35.5	-20.8	53.89	-	-	-	-	68.2	-14.31	0-360	199	V
6	**5.985	36.76	Pk	35.6	-20.7	51.66	-	-	-	-	68.2	-16.54	0-360	199	V
8	6.311	53.77	PK-U	35.6	-31.3	58.07	-	-	-	-	68.2	-10.13	180	383	V
7	17.474	42.2	PK-U	40.7	-21.1	61.8	-	-	-	-	68.2	-6.4	257	252	H

* - indicates frequency in CFR15.205 Restricted Band
** - indicates frequency covered by the radiated band edge
*** - indicates frequency within the authorized band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.5. TX ABOVE 1 GHz 802.11n HT20 MODE TxBF IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, VERTICAL



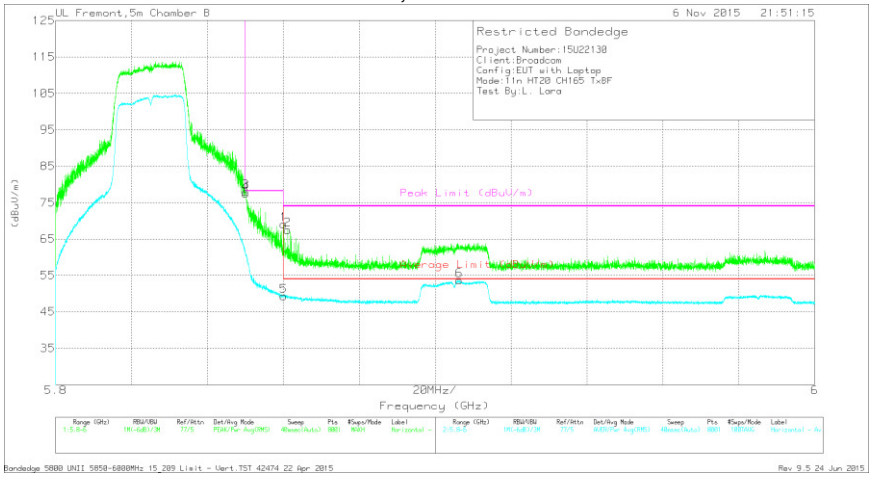
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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	5.663	18.99	Pk	34.9	7.3	0	61.19	-	-	74	-12.81	92	291	V
6	5.673	7.19	RMS	34.9	7.3	.38	49.77	54	-4.23	-	-	92	291	V
1	5.715	15	Pk	35	7.3	0	57.3	-	-	74	-16.7	92	291	V
5	5.715	4.95	RMS	35	7.3	.38	47.63	54	-6.37	-	-	92	291	V
4	5.724	35.61	Pk	35	7.4	0	78.01	-	-	78.2	-.19	92	291	V
3	5.725	32.01	Pk	35	7.4	0	74.41	-	-	78.2	-3.79	92	291	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, VERTICAL



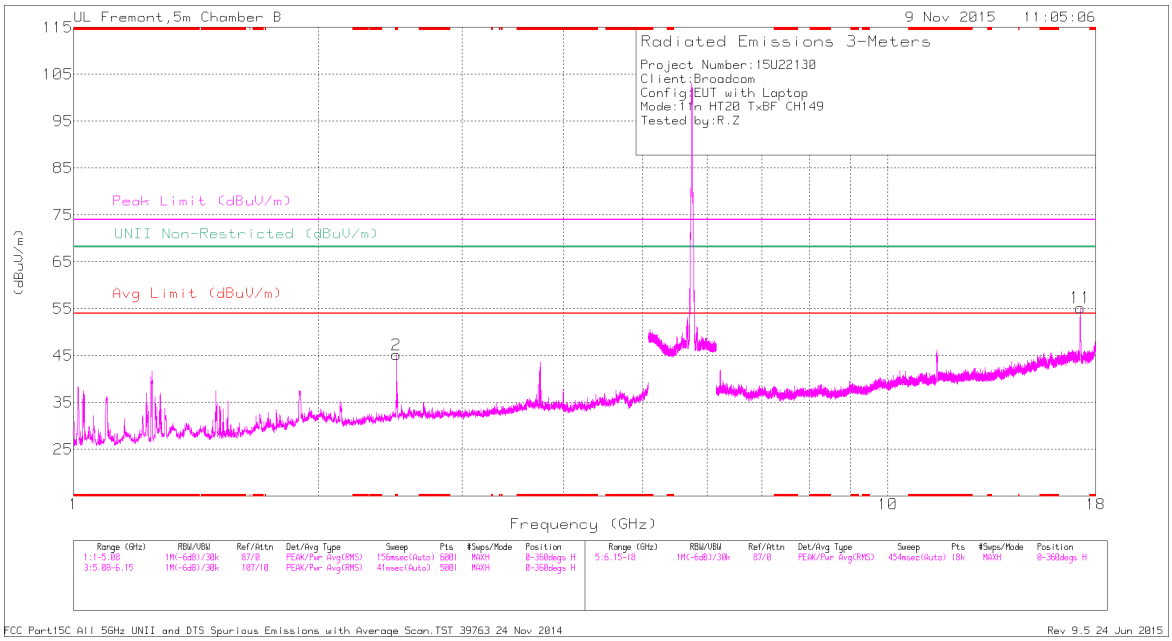
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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
3	5.85	35.09	Pk	35.4	7.5	0	77.99	-	-	78.2	-.21	204	266	V
4	5.85	34.61	Pk	35.4	7.5	0	77.51	-	-	78.2	-.69	204	266	V
1	5.86	26.09	Pk	35.4	7.5	0	68.99	-	-	74	-5.01	204	266	V
5	5.86	5.98	RMS	35.4	7.5	.38	49.26	54	-4.74	-	-	204	266	V
2	5.861	24.59	Pk	35.4	7.5	0	67.49	-	-	74	-6.51	204	266	V
6	5.906	10.24	RMS	35.5	7.5	.38	53.62	54	-.38	-	-	204	266	V

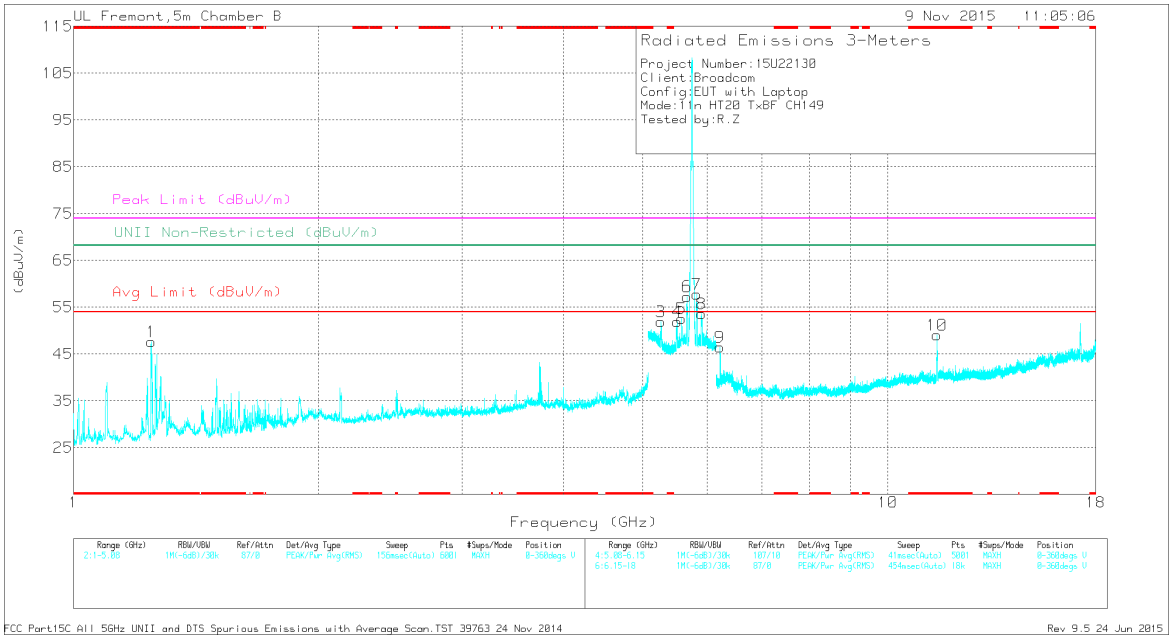
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



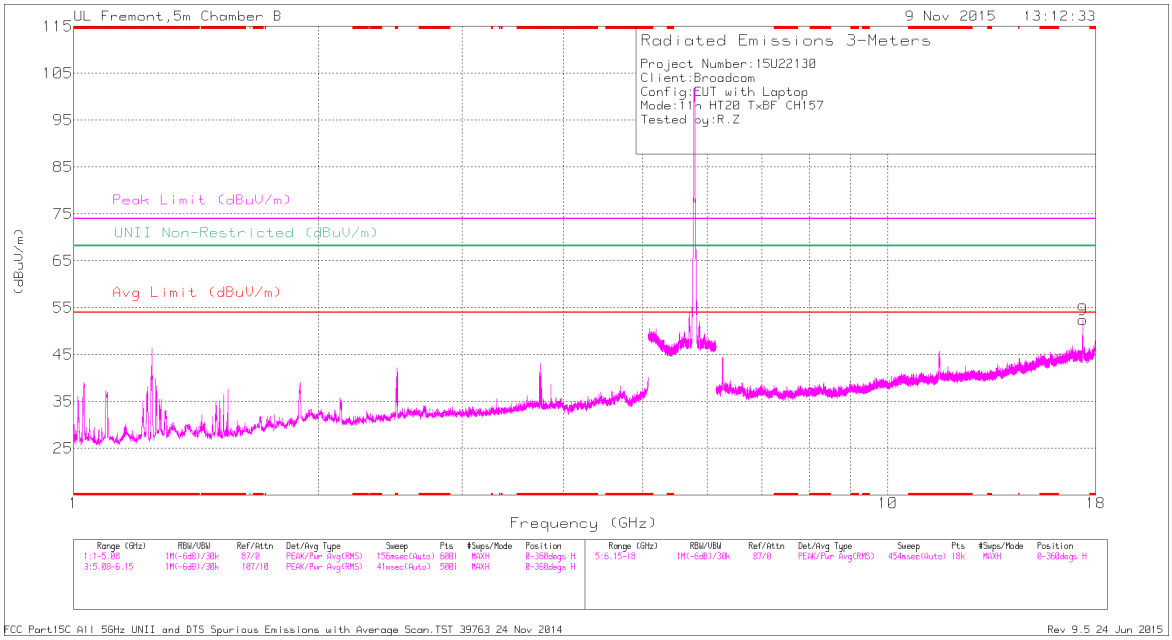
DATA

Trace Markers

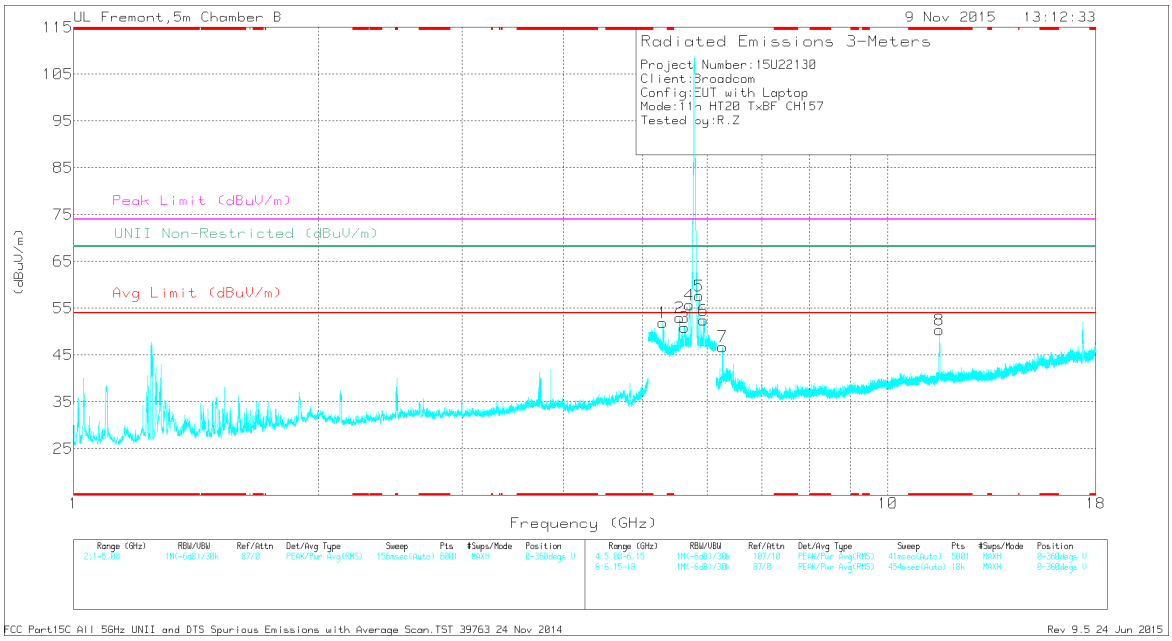
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.494	52.43	PK-U	32.5	-34	0	50.93	-	-	74	-23.07	-	-	352	249	H
	* 2.49	32.65	ADR	32.5	-34	.38	31.53	54	-22.47	-	-	-	-	352	249	H
1	* 1.247	60.41	PK-U	28.9	-35.9	0	53.41	-	-	74	-20.59	-	-	202	200	V
	* 1.246	39.95	ADR	28.9	-35.9	.38	33.33	54	-20.67	-	-	-	-	202	200	V
10	* 11.49	47.3	PK-U	38.3	-25.4	0	60.2	-	-	74	-13.8	-	-	214	249	V
	* 11.493	33.65	ADR	38.3	-25.4	.38	46.93	54	-7.07	-	-	-	-	214	249	V
3	5.261	44.41	PK-U	34.3	-19.3	0	59.41	-	-	-	-	68.2	-8.79	289	200	V
4	5.512	47.46	PK-U	34.5	-20.5	0	61.46	-	-	-	-	68.2	-6.74	157	300	V
5	5.579	47.38	PK-U	34.7	-20.8	0	61.28	-	-	-	-	68.2	-6.92	279	273	V
6	5.667	50.75	PK-U	34.9	-21	0	64.65	-	-	-	-	68.2	-3.55	53	295	V
7	5.906	48.07	PK-U	35.5	-20.7	0	62.87	-	-	-	-	68.2	-5.33	233	201	V
8	6.224	46.73	PK-U	35.5	-31.5	0	50.73	-	-	-	-	68.2	-17.47	30	200	V
9	17.231	42.27	PK-U	41.1	-21.7	0	61.67	-	-	-	-	68.2	-6.53	30	246	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



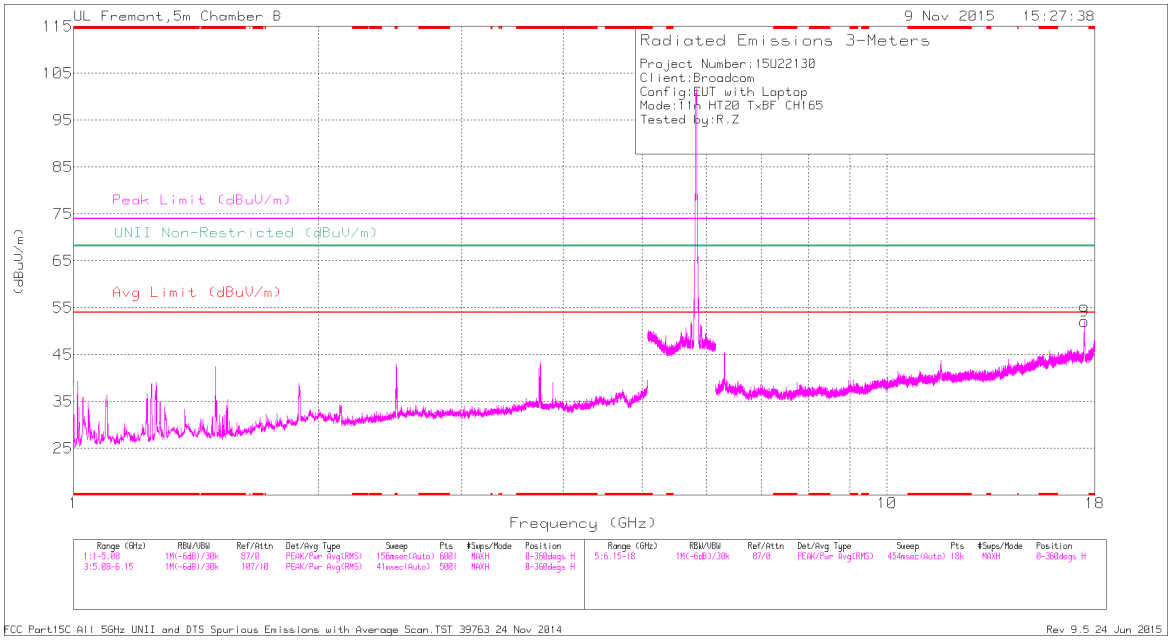
DATA

Trace Markers

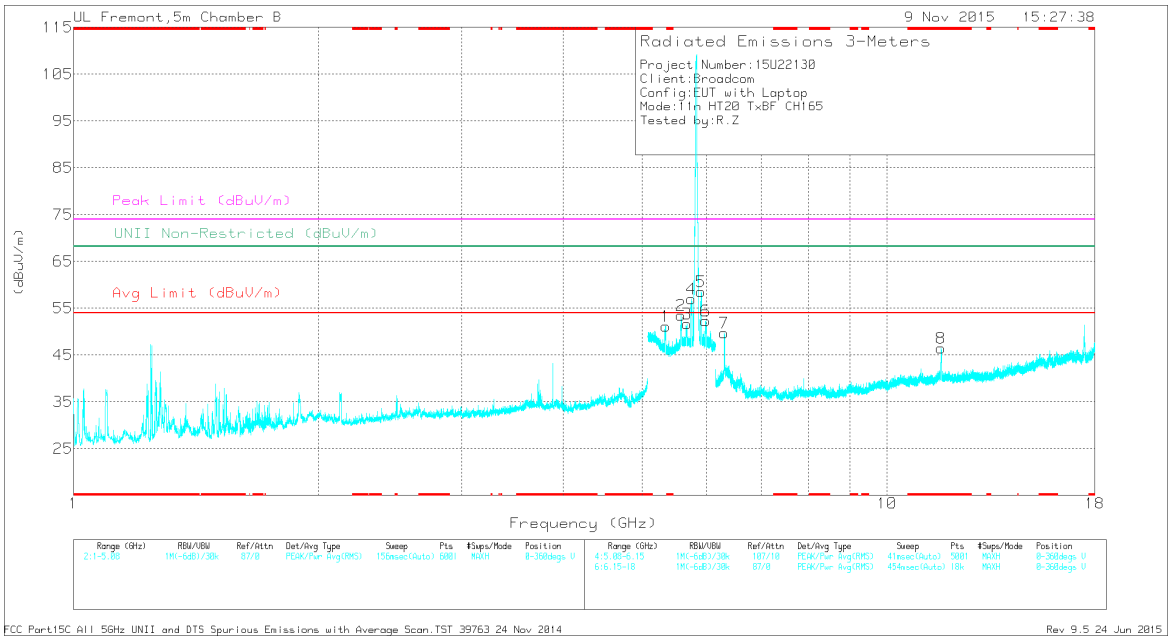
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	* 11.57	46.91	PK-U	38.4	-24.6	0	60.71	-	-	74	-13.29	-	-	274	387	V
	* 11.57	33.5	ADR	38.4	-24.6	.38	47.68	54	-6.32	-	-	-	-	274	387	V
1	5.296	45.31	PK-U	34.4	-19.6	0	60.11	-	-	-	-	68.2	-8.09	283	262	V
2	5.55	49.89	PK-U	34.6	-20.7	0	63.79	-	-	-	-	68.2	-4.41	201	373	V
3	5.629	46.98	PK-U	34.8	-20.5	0	61.28	-	-	-	-	68.2	-6.92	278	269	V
4	5.703	51.29	PK-U	35	-20.8	0	65.49	-	-	-	-	68.2	-2.71	229	270	V
5	5.867	53.13	PK-U	35.4	-20.9	0	67.63	-	-	-	-	68.2	-.57	228	237	V
6	5.938	47.43	PK-U	35.6	-20.7	0	62.33	-	-	-	-	68.2	-5.87	224	276	V
7	6.265	56.33	PK-U	35.5	-31.5	0	60.33	-	-	-	-	68.2	-7.87	199	347	V
9	17.35	41.89	PK-U	40.8	-21.4	0	61.29	-	-	-	-	68.2	-6.91	241	261	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Trace Markers

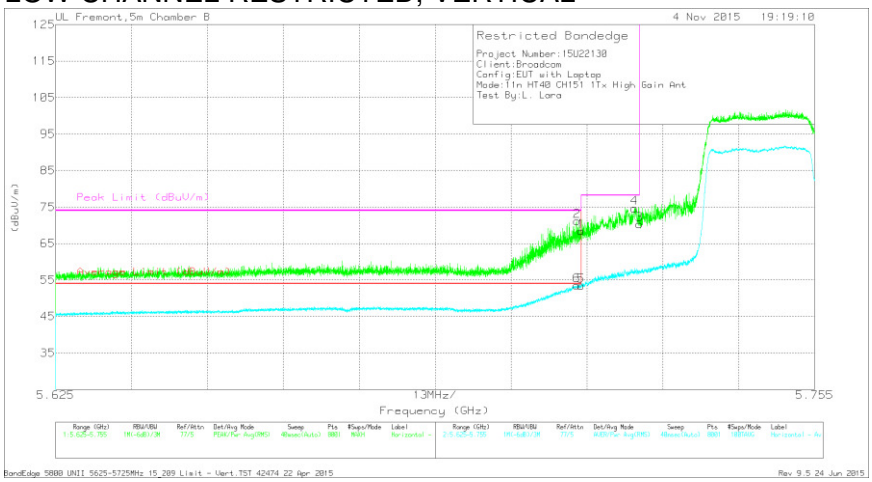
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	* 11.651	44.85	PK-U	38.5	-24.8	0	58.55	-	-	74	-15.45	-	-	282	305	V
	* 11.65	31.39	ADR	38.5	-24.8	.38	45.47	54	-8.53	-	-	-	-	282	305	V
1	5.34	45.21	PK-U	34.4	-19.6	0	60.01	-	-	-	-	68.2	-8.19	279	266	V
2	5.583	47.81	PK-U	34.7	-20.8	0	61.71	-	-	-	-	68.2	-6.49	76	209	V
3	5.672	47.51	PK-U	34.9	-20.9	0	61.51	-	-	-	-	68.2	-6.69	234	200	V
4	5.908	53.15	PK-U	35.5	-20.9	0	67.75	-	-	-	-	68.2	-.45	232	244	V
5	5.984	46.58	PK-U	35.6	-20.9	0	61.28	-	-	-	-	68.2	-6.92	224	222	V
6	6.303	53.5	PK-U	35.6	-31.3	0	57.8	-	-	-	-	68.2	-10.4	52	292	V
7	17.478	41.54	PK-U	40.7	-21.1	0	61.14	-	-	-	-	68.2	-7.06	237	386	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.6. TX ABOVE 1 GHz 802.11n HT40 MODE 1Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, VERTICAL



Trace Markers

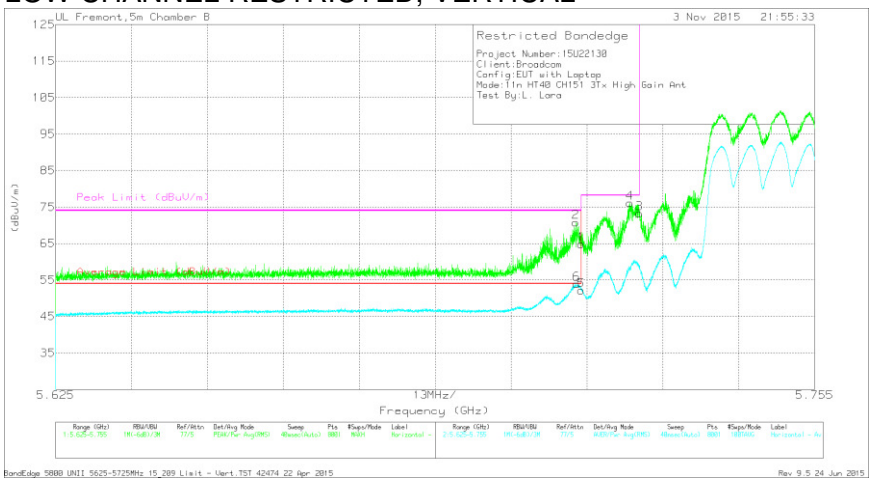
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.714	28.88	Pk	35	7.3	71.18	-	-	74	-2.82	73	241	V
6	5.714	11.21	RMS	35	7.3	53.51	54	-.49	-	-	73	241	V
1	5.715	26.16	Pk	35	7.3	68.46	-	-	74	-5.54	73	241	V
5	5.715	11.07	RMS	35	7.3	53.37	54	-.63	-	-	73	241	V
4	5.724	32.29	Pk	35	7.4	74.69	-	-	78.2	-3.51	73	241	V
3	5.725	27.85	Pk	35	7.4	70.25	-	-	78.2	-7.95	73	241	V

Pk - Peak detector
RMS - RMS detection

9.7. TX ABOVE 1 GHz 802.11n HT40 MODE 3Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, VERTICAL



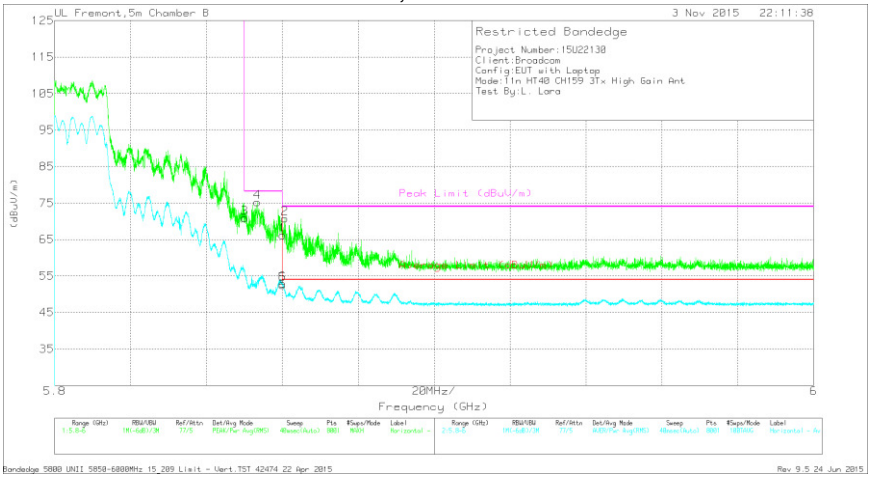
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.714	28.54	Pk	35	7.3	70.84	-	-	74	-3.16	118	191	V
6	5.714	11.61	RMS	35	7.3	53.91	54	-.09	-	-	118	191	V
1	5.715	22.49	Pk	35	7.3	64.79	-	-	74	-9.21	118	191	V
5	5.715	9.84	RMS	35	7.3	52.14	54	-1.86	-	-	118	191	V
4	5.723	33.77	Pk	35	7.4	76.17	-	-	78.2	-2.03	118	191	V
3	5.725	30.9	Pk	35	7.4	73.3	-	-	78.2	-4.9	118	191	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE,VERTICAL



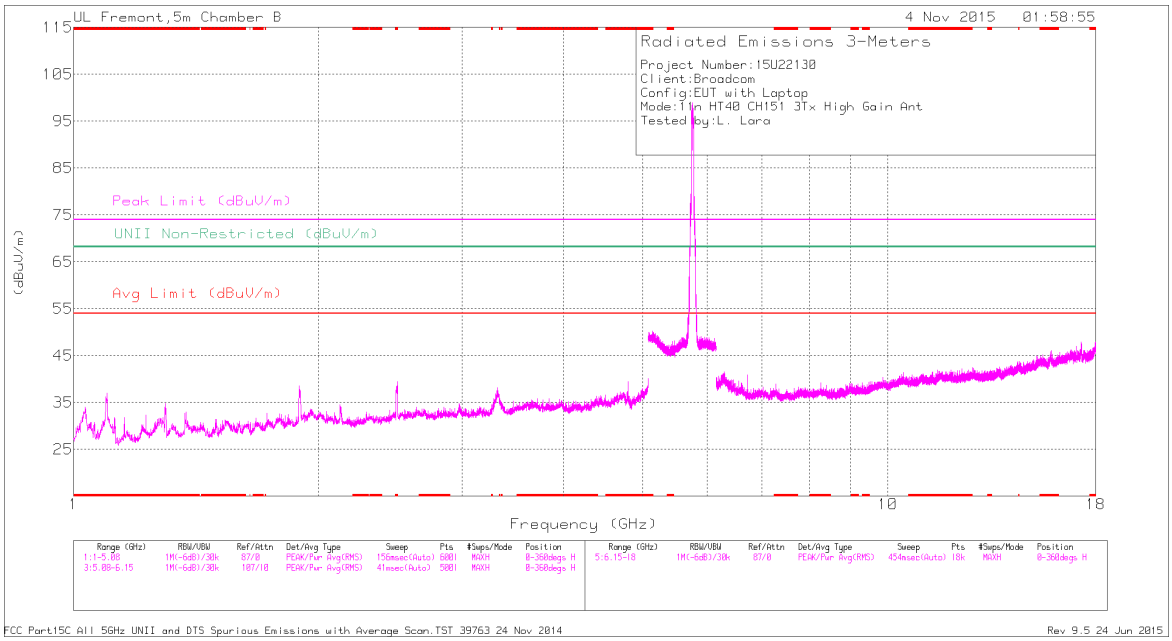
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.85	28.04	Pk	35.4	7.5	70.94	-	-	78.2	-7.26	123	202	V
4	5.853	32.44	Pk	35.4	7.4	75.24	-	-	78.2	-2.96	123	202	V
1	5.86	23.23	Pk	35.4	7.5	66.13	-	-	74	-7.87	123	202	V
5	5.86	9.69	RMS	35.4	7.5	52.59	54	-1.41	-	-	123	202	V
6	5.86	9.96	RMS	35.4	7.5	52.86	54	-1.14	-	-	123	202	V
2	5.861	27.86	Pk	35.4	7.5	70.76	-	-	74	-3.24	123	202	V

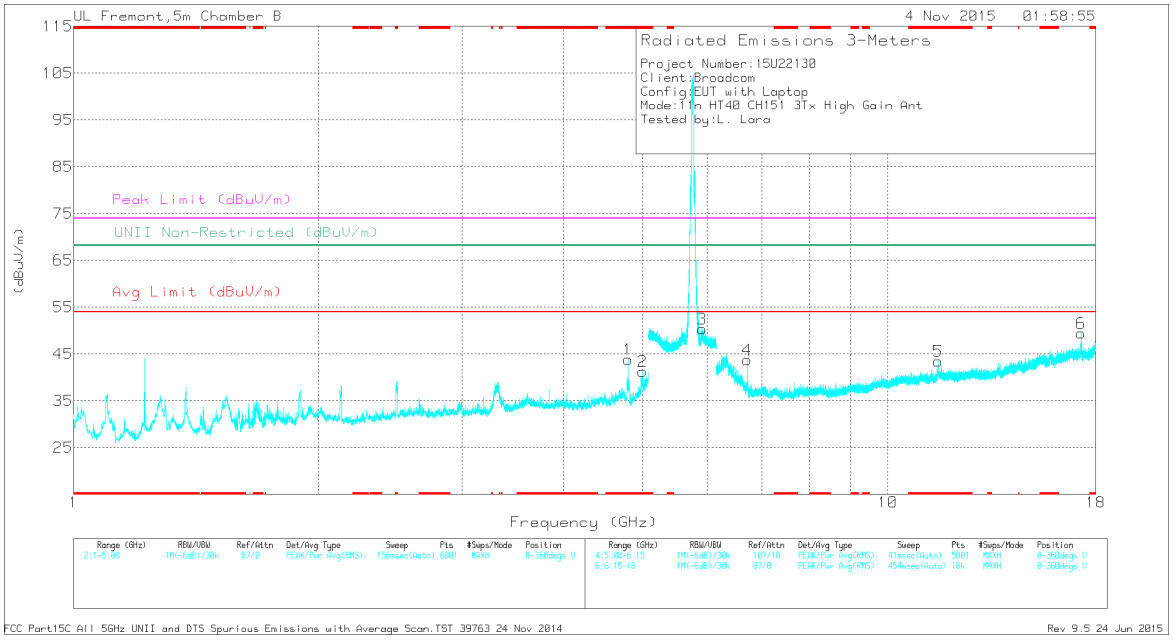
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



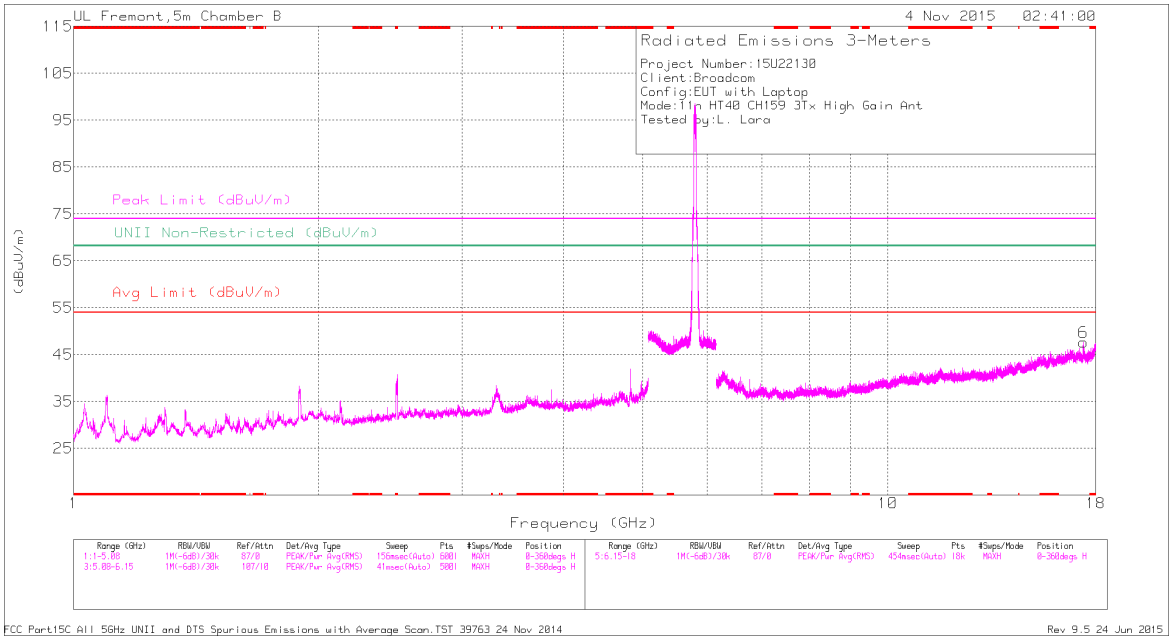
DATA

Trace Markers

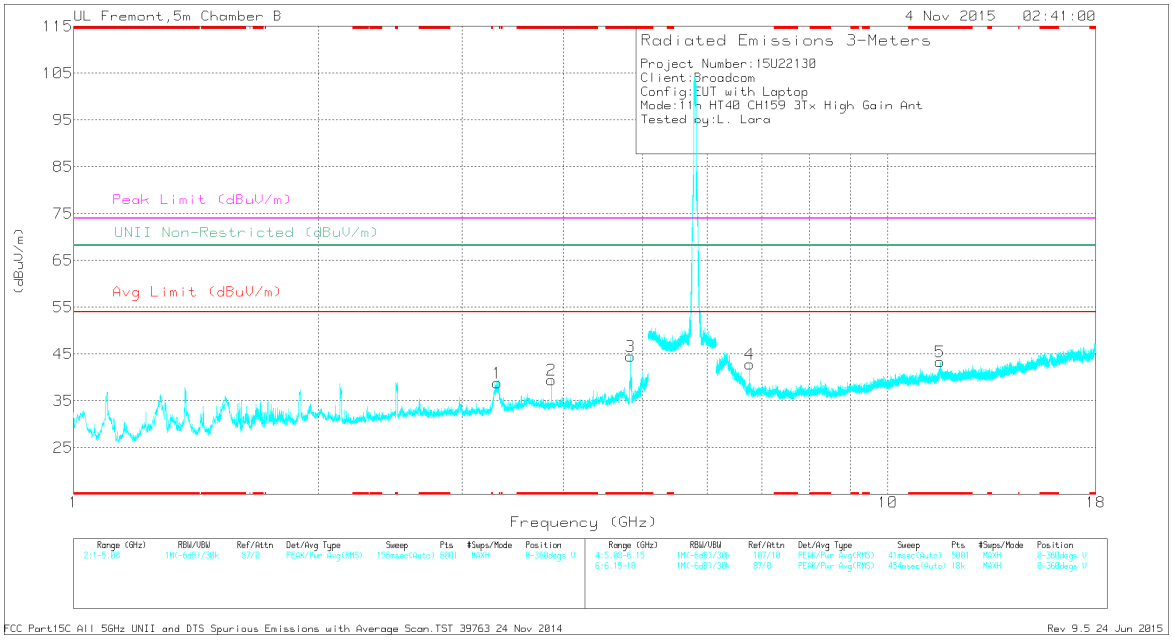
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.796	47.74	PK-U	34.3	-31.7	50.34	-	-	74	-23.66	-	-	29	328	V
	* 4.796	41.34	ADR	34.3	-31.7	43.94	54	-10.06	-	-	-	-	29	328	V
2	* 4.997	47.39	PK-U	34	-29.8	51.59	-	-	74	-22.41	-	-	275	268	V
	* 4.997	33.98	ADR	34	-29.8	38.18	54	-15.82	-	-	-	-	275	268	V
5	* 11.516	39.04	PK-U	38.3	-25.2	52.14	-	-	74	-21.86	-	-	139	278	V
	* 11.512	26.54	ADR	38.3	-25.2	39.64	54	-14.36	-	-	-	-	139	278	V
3	5.91	45.55	PK-U	35.5	-20.8	60.25	-	-	-	-	68.2	-7.95	129	225	V
4	6.715	46.72	PK-U	35.9	-31	51.62	-	-	-	-	68.2	-16.58	223	293	V
6	17.258	37.38	PK-U	41	-21.5	56.88	-	-	-	-	68.2	-11.32	146	272	V

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Trace Markers

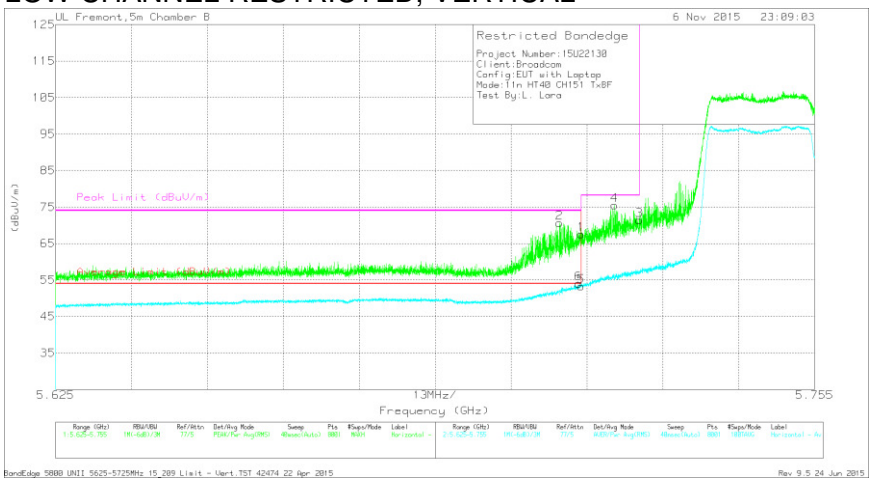
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.864	45.95	PK-U	33.4	-32.8	46.55	-	-	74	-27.45	-	-	340	325	V
	* 3.864	38.61	ADR	33.4	-32.8	39.21	54	-14.79	-	-	-	-	340	325	V
3	* 4.83	48.08	PK-U	34.3	-32.1	50.28	-	-	74	-23.72	-	-	99	205	V
	* 4.83	41.84	ADR	34.3	-32.1	44.04	54	-9.96	-	-	-	-	99	205	V
5	* 11.584	39.95	PK-U	38.4	-24.6	53.75	-	-	74	-20.25	-	-	194	318	V
	* 11.594	27.83	ADR	38.4	-24.7	41.53	54	-12.47	-	-	-	-	194	318	V
1	3.313	49.71	PK-U	32.8	-32.9	49.61	-	-	-	-	68.2	-18.59	202	302	V
4	6.762	46.15	PK-U	35.9	-30.9	51.15	-	-	-	-	68.2	-17.05	217	307	V
6	17.384	38.79	PK-U	40.8	-20.8	58.79	-	-	-	-	68.2	-9.41	257	242	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.8. TX ABOVE 1 GHz 802.11n HT40 MODE TxBF IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, VERTICAL



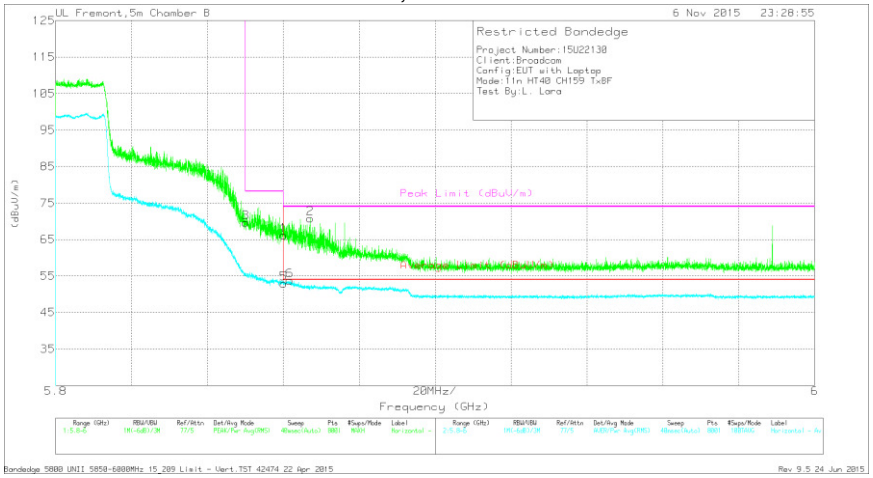
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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	5.711	28.22	Pk	35	7.4	0	70.62	-	-	74	-3.38	208	312	V
1	5.715	25.26	Pk	35	7.3	0	67.56	-	-	74	-6.44	208	312	V
5	5.715	8.7	RMS	35	7.3	2.28	53.28	54	-.72	-	-	208	312	V
6	5.715	9.4	RMS	35	7.3	2.28	53.98	54	-.02	-	-	208	312	V
4	5.721	33.11	Pk	35	7.4	0	75.51	-	-	78.2	-2.69	208	312	V
3	5.725	28.96	Pk	35	7.4	0	71.36	-	-	78.2	-6.84	208	312	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, VERTICAL



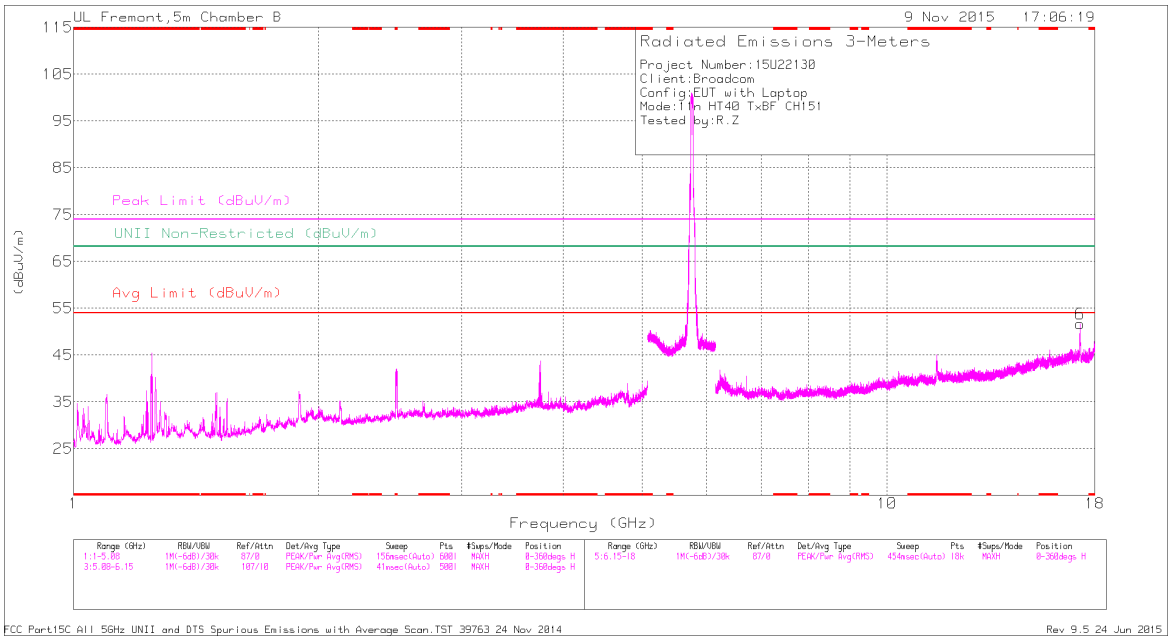
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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
3	5.85	26.78	Pk	35.4	7.5	0	69.68	-	-	78.2	-8.52	277	202	V
1	5.86	23.33	Pk	35.4	7.5	0	66.23	-	-	74	-7.77	277	202	V
5	5.86	7.68	RMS	35.4	7.5	2.28	52.86	54	-1.14	-	-	277	202	V
6	5.862	8.57	RMS	35.4	7.5	2.28	53.75	54	-.25	-	-	277	202	V
2	5.867	27.87	Pk	35.4	7.5	0	70.77	-	-	74	-3.23	277	202	V

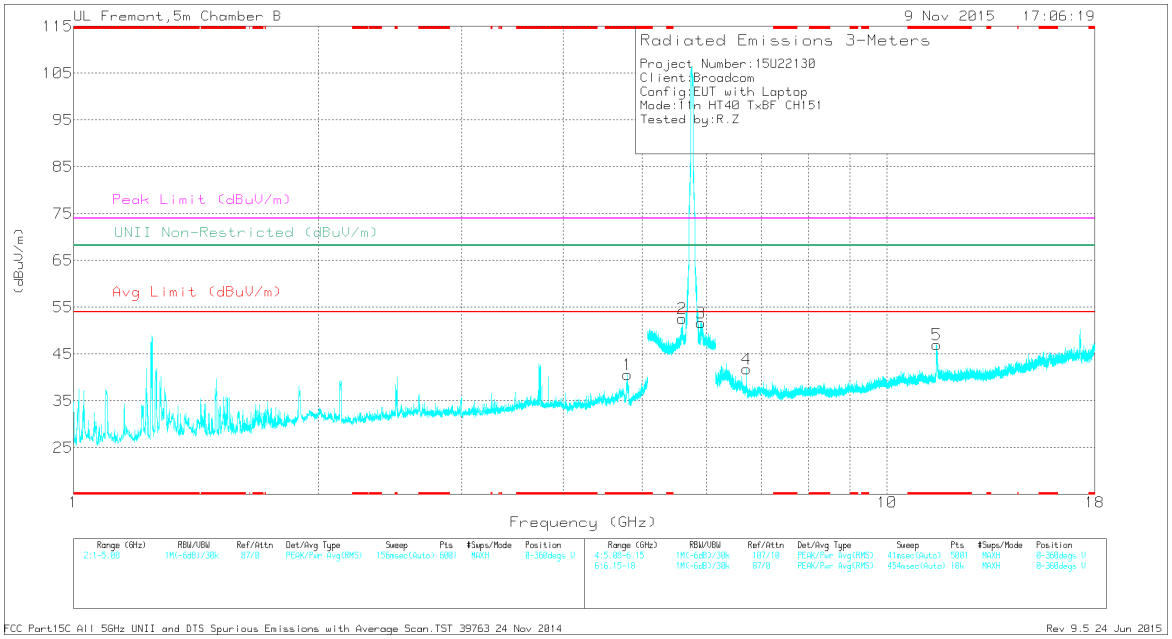
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



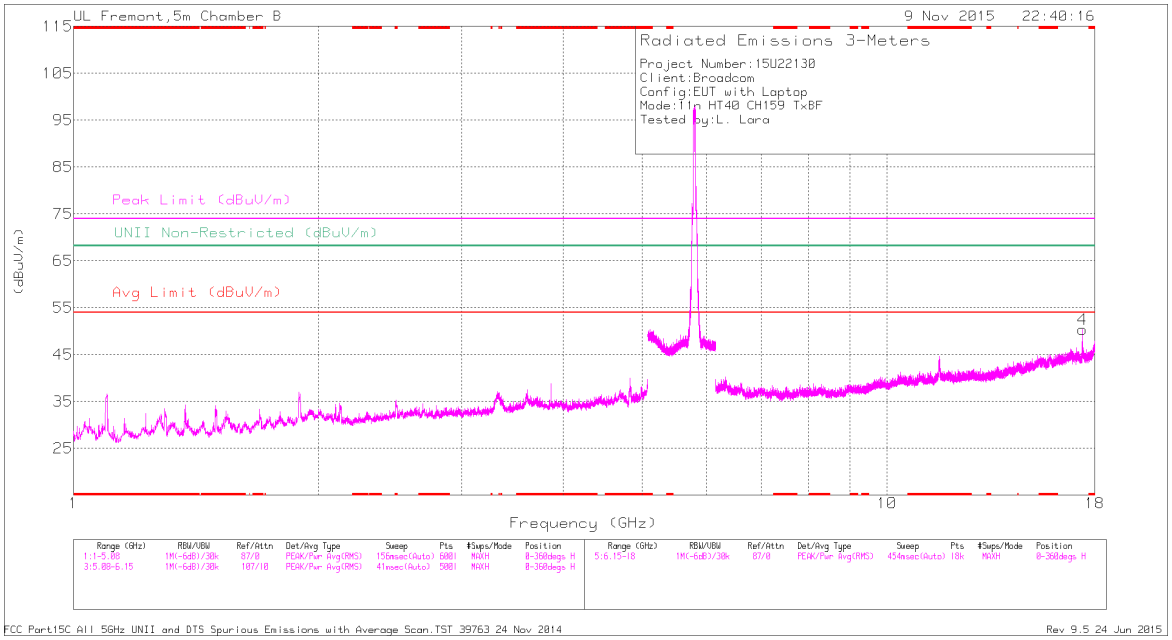
DATA

Trace Markers

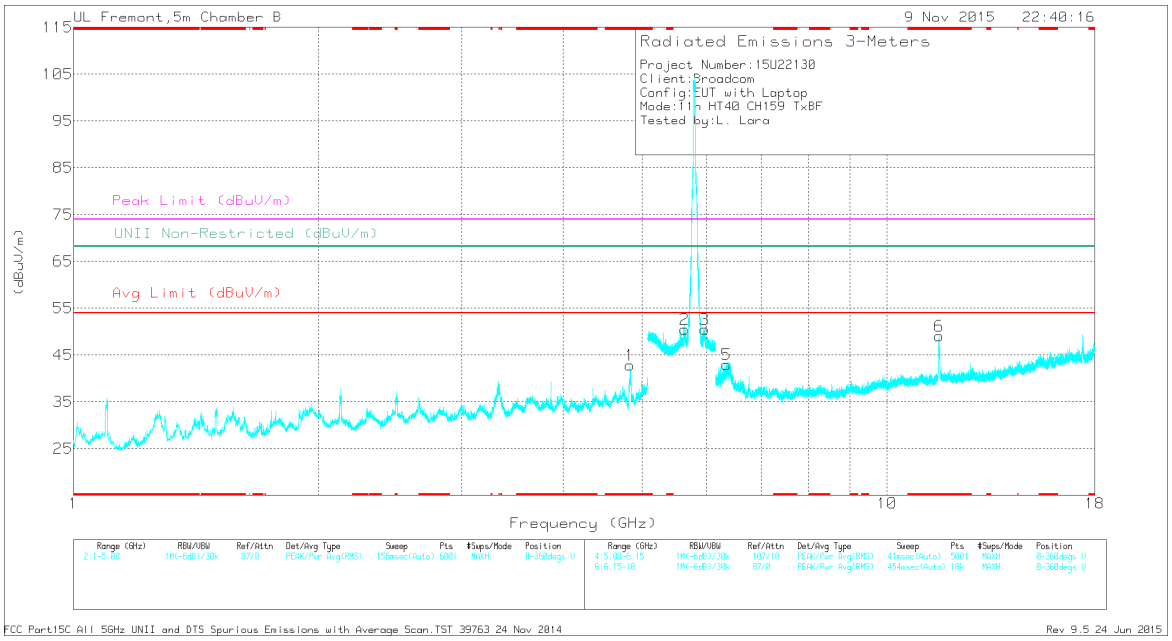
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.796	46.2	PK-U	34.3	-31.7	0	48.8	-	-	74	-25.2	-	-	243	189	V
	* 4.796	38.35	ADR	34.3	-31.7	2.28	43.23	54	-10.77	-	-	-	-	243	189	V
5	* 11.499	34.06	Pk	38.3	-25.3	0	47.06	-	-	74	-26.94	-	-	0-360	200	V
2	5.599	46.29	PK-U	34.7	-20.8	0	60.19	-	-	-	-	68.2	-8.01	79	226	V
3	5.9	46.47	PK-U	35.5	-20.7	0	61.27	-	-	-	-	68.2	-6.93	237	247	V
4	6.714	45.05	PK-U	35.9	-31	0	49.95	-	-	-	-	68.2	-18.25	245	388	V
6	17.27	38.78	PK-U	41	-21.6	0	58.18	-	-	-	-	68.2	-10.02	243	277	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Trace Markers

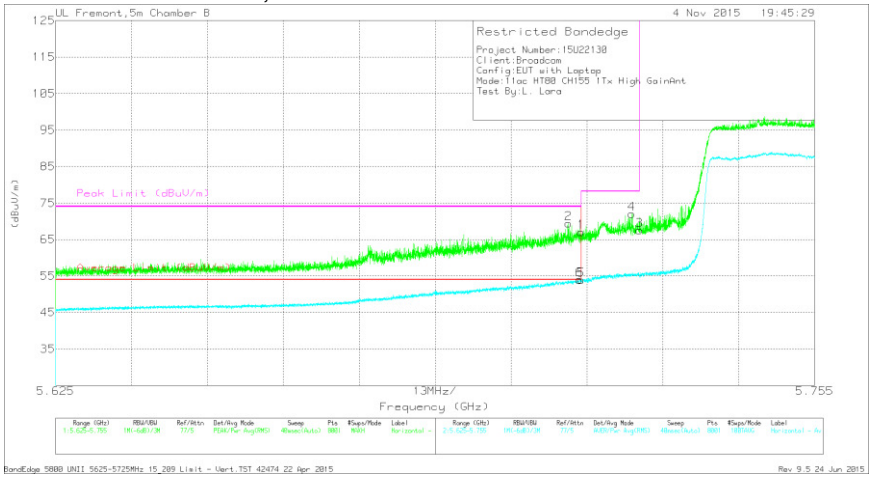
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.834	49.24	PK-U	34.3	-32.1	0	51.44	-	-	74	-22.56	-	-	86	274	V
	* 4.829	40.66	ADR	34.3	-32.1	2.28	45.14	54	-8.86	-	-	-	-	86	274	V
6	* 11.592	46.21	PK-U	38.4	-24.6	0	60.01	-	-	74	-13.99	-	-	287	272	V
	* 11.59	32.63	ADR	38.4	-24.7	2.28	48.61	54	-5.39	-	-	-	-	287	272	V
2	5.627	44.96	PK-U	34.8	-20.8	0	58.96	-	-	-	-	68.2	-9.24	234	296	V
3	5.961	45.9	PK-U	35.6	-20.9	0	60.6	-	-	-	-	68.2	-7.6	190	247	V
5	6.341	50.88	PK-U	35.6	-30.9	0	55.58	-	-	-	-	68.2	-12.62	77	245	V
4	17.396	37.93	PK-U	40.7	-21	0	57.63	-	-	-	-	68.2	-10.57	20	201	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.9. TX ABOVE 1 GHz 802.11ac HT80 MODE 1Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW EDGE)

CH155 LOW EDGE, VERTICAL



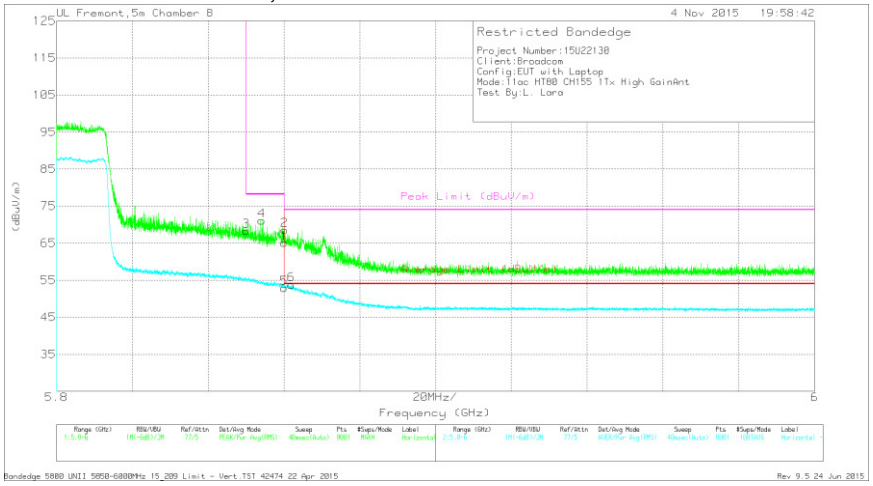
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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	5.713	27.07	Pk	35	7.3	0	69.37	-	-	74	-4.63	70	249	V
1	5.715	24.81	Pk	35	7.3	0	67.11	-	-	74	-6.89	70	249	V
5	5.715	11.39	RMS	35	7.3	.16	53.85	54	-.15	-	-	70	249	V
6	5.715	11.52	RMS	35	7.3	.16	53.98	54	-.02	-	-	70	249	V
4	5.724	29.61	Pk	35	7.4	0	72.01	-	-	78.2	-6.19	70	249	V
3	5.725	25.18	Pk	35	7.4	0	67.58	-	-	78.2	-10.62	70	249	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH EDGE)

CH155 HIGH EDGE, VERTICAL



Trace Markers

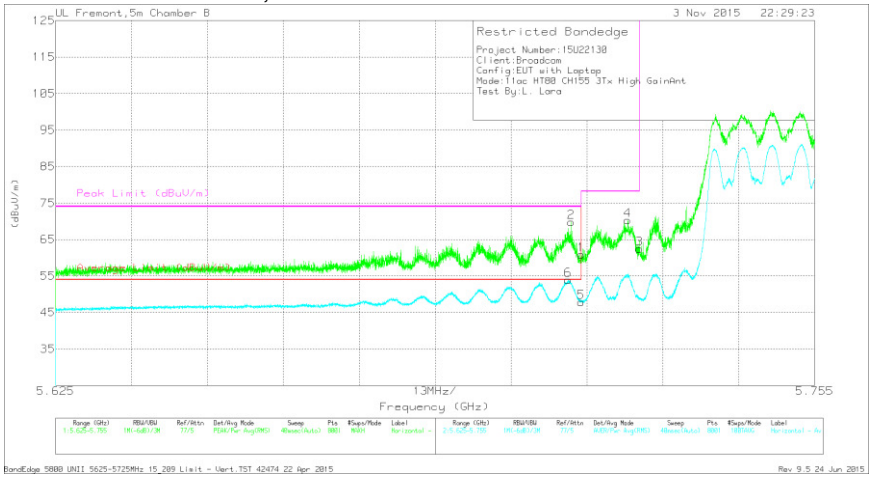
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.85	25.39	Pk	35.4	7.5	0	68.29	-	-	78.2	-9.91	229	316	V
4	5.854	28.28	Pk	35.4	7.4	0	71.08	-	-	78.2	-7.12	229	316	V
1	5.86	22.2	Pk	35.4	7.5	0	65.1	-	-	74	-8.9	229	316	V
2	5.86	25.63	Pk	35.4	7.5	0	68.53	-	-	74	-5.47	229	316	V
5	5.86	9.84	RMS	35.4	7.5	.16	52.9	54	-1.1	-	-	229	316	V
6	5.862	10.74	RMS	35.4	7.5	.16	53.8	54	-.2	-	-	229	316	V

Pk - Peak detector
RMS - RMS detection

9.10. TX ABOVE 1 GHz 802.11ac HT80 MODE 3Tx IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW EDGE)

CH155 LOW EDGE, VERTICAL



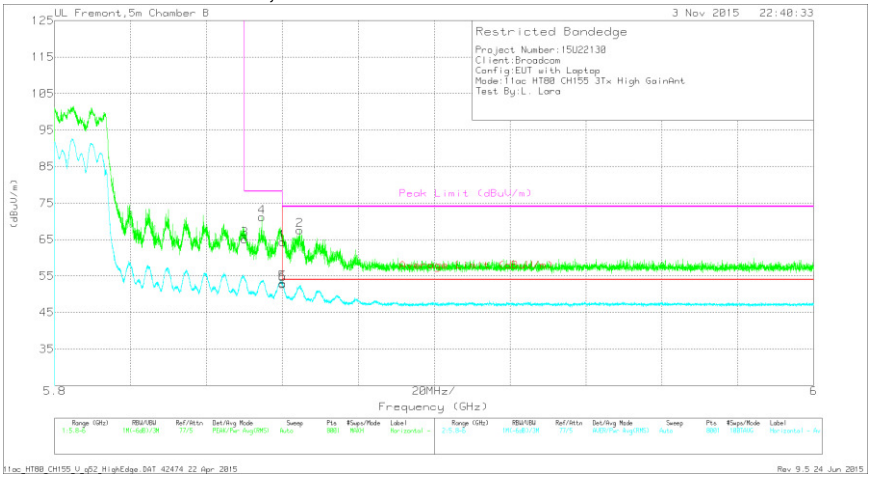
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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	5.713	27.44	Pk	35	7.3	0	69.74	-	-	74	-4.26	91	250	V
6	5.713	11.38	RMS	35	7.3	.16	53.84	54	-.16	-	-	91	250	V
1	5.715	18.59	Pk	35	7.3	0	60.89	-	-	74	-13.11	91	250	V
5	5.715	5.37	RMS	35	7.3	.16	47.83	54	-6.17	-	-	91	250	V
4	5.723	27.86	Pk	35	7.4	0	70.26	-	-	78.2	-7.94	91	250	V
3	5.725	20.04	Pk	35	7.4	0	62.44	-	-	78.2	-15.76	91	250	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH EDGE)

CH155 HIGH EDGE, VERTICAL



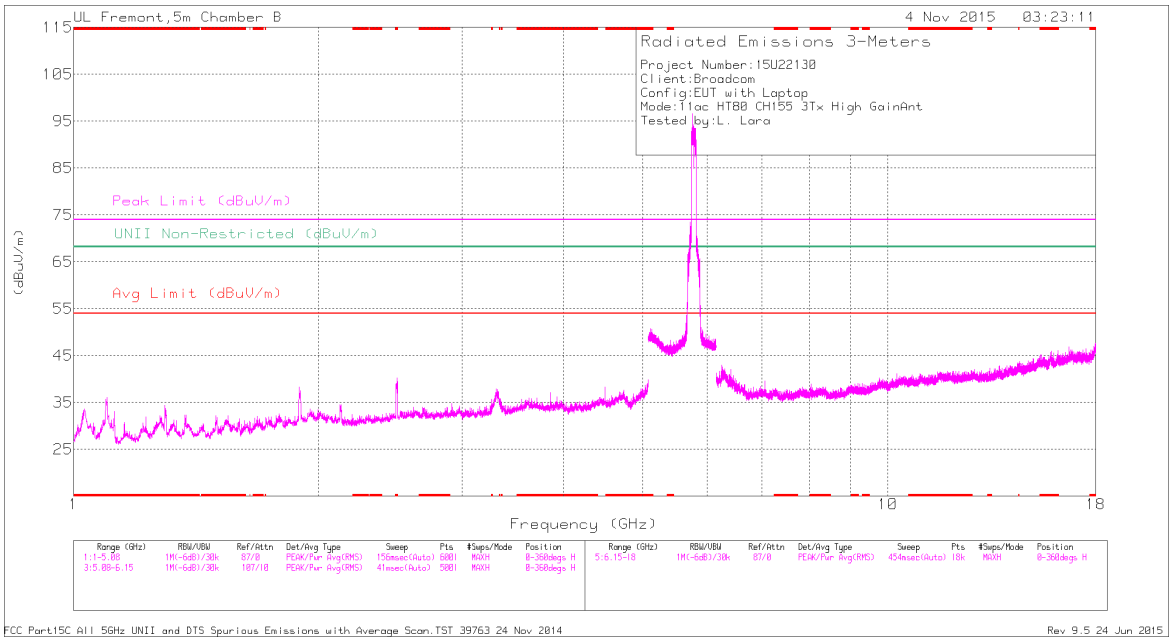
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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
3	5.85	22.12	Pk	35.4	7.5	0	65.02	-	-	78.2	-13.18	130	225	V
4	5.855	28.34	Pk	35.4	7.4	0	71.14	-	-	78.2	-7.06	130	225	V
1	5.86	21.45	Pk	35.4	7.5	0	64.35	-	-	74	-9.65	130	225	V
5	5.86	10.18	RMS	35.4	7.5	.16	53.24	54	-.76	-	-	130	225	V
6	5.86	9.84	RMS	35.4	7.5	.16	52.9	54	-1.1	-	-	130	225	V
2	5.865	24.65	Pk	35.4	7.5	0	67.55	-	-	74	-6.45	130	225	V

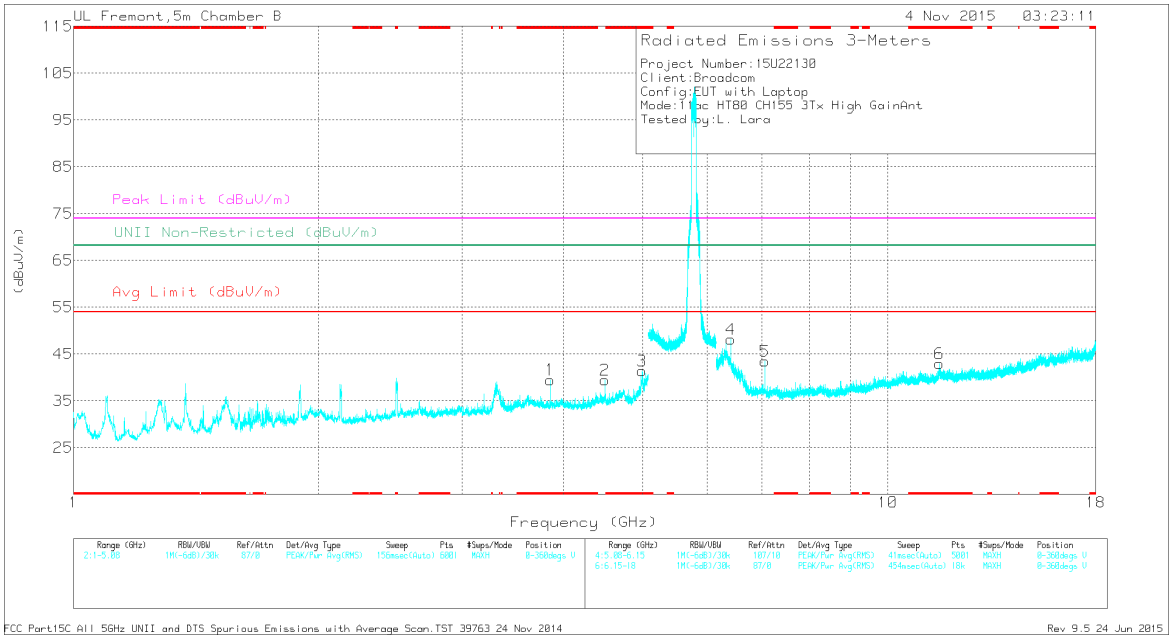
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

CH155 HORIZONTAL PLOT



CH155 VERTICAL PLOT



DATA

Trace Markers

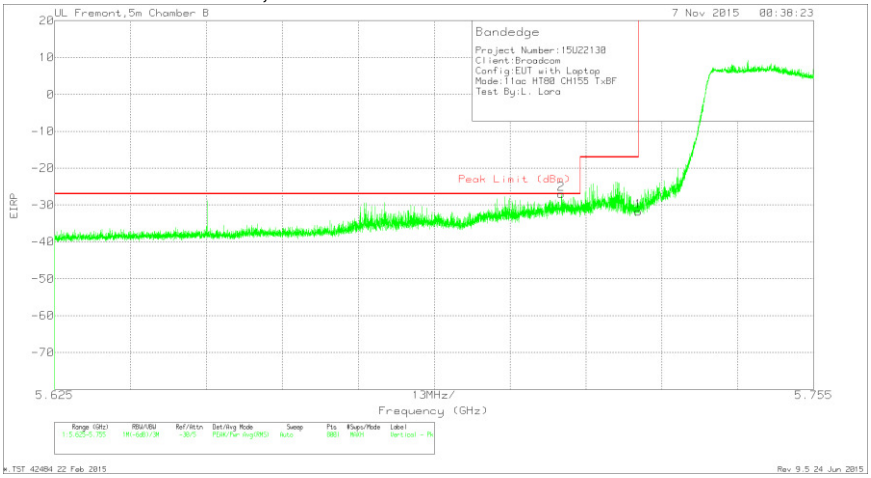
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.85	45.35	PK-U	33.4	-33	0	45.75	-	-	74	-28.25	-	-	58	193	V
	* 3.85	37.45	ADR	33.4	-33	.16	38.01	54	-15.99	-	-	-	-	58	193	V
3	* 4.988	47.83	PK-U	34	-30	0	51.83	-	-	74	-22.17	-	-	271	250	V
	* 4.997	34.34	ADR	34	-29.8	.16	38.7	54	-15.3	-	-	-	-	271	250	V
6	* 11.533	38.37	PK-U	38.3	-25.1	0	51.57	-	-	74	-22.43	-	-	156	304	V
	* 11.568	25.9	ADR	38.4	-24.6	.16	39.86	54	-14.14	-	-	-	-	156	304	V
2	4.492	44.28	PK-U	34	-31.7	0	46.58	-	-	-	-	68.2	-21.62	11	198	V
4	6.418	51.21	PK-U	35.7	-30	0	56.91	-	-	-	-	68.2	-11.29	309	265	V
5	7.059	43.77	PK-U	35.8	-29.9	0	49.67	-	-	-	-	68.2	-18.53	217	271	V

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.11. TX ABOVE 1 GHz 802.11ac HT80 MODE TxBF IN THE 5.8 GHz BAND

RESTRICTED BANDEDGE (LOW EDGE)

CH155 LOW EDGE, VERTICAL



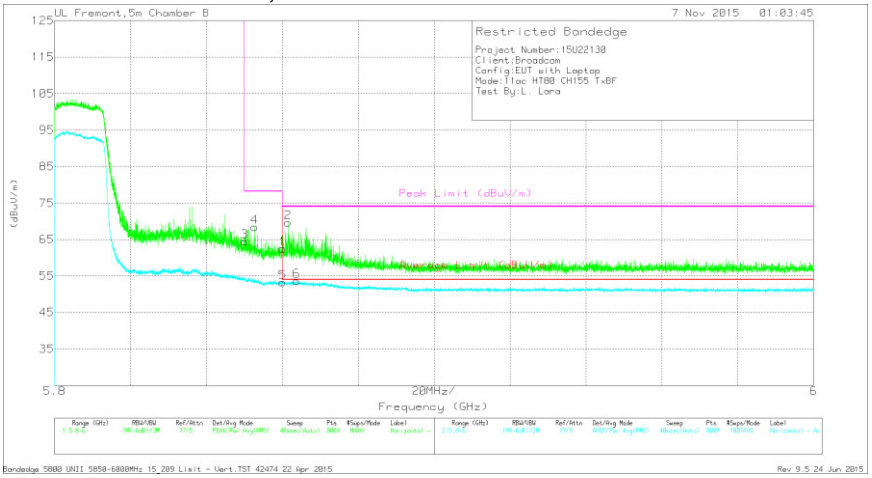
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T345 (dB/m)	Bypass (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.712	-81.25	Pk	35	7.4	11.8	-27.05	-27	-.05	209	271	V
1	5.725	-85.93	Pk	35	7.4	11.8	-31.73	-17	-14.73	209	271	V

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH EDGE)

CH155 HIGH EDGE, VERTICAL



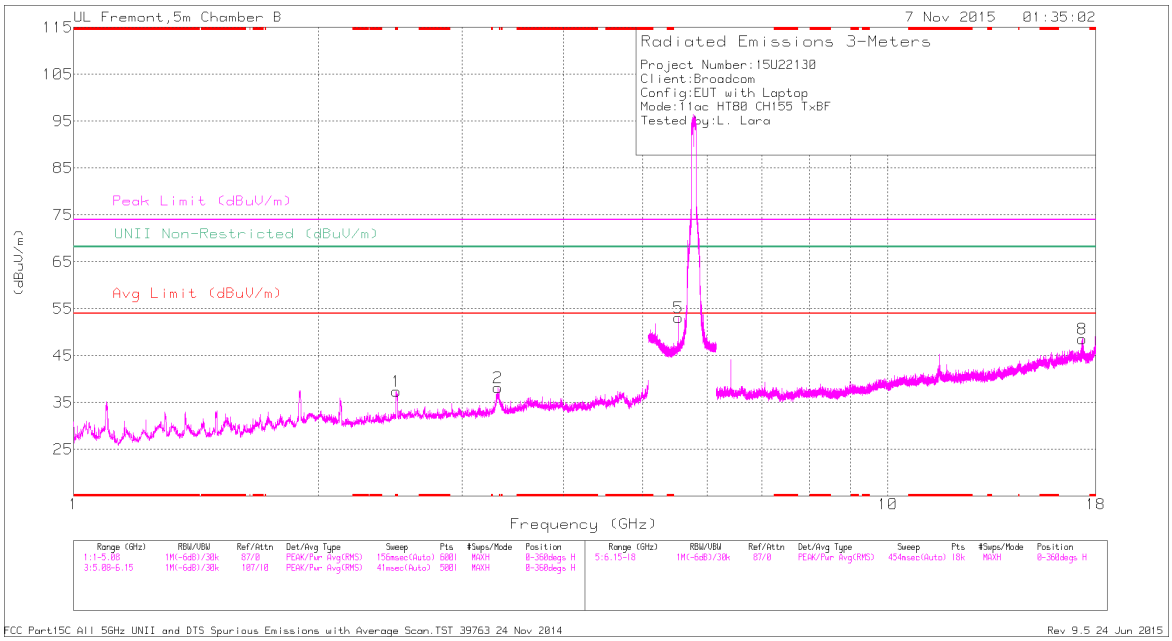
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Bypass (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
3	5.85	21.55	Pk	35.4	7.5	0	64.45	-	-	78.2	-13.75	208	305	V
4	5.853	25.66	Pk	35.4	7.4	0	68.46	-	-	78.2	-9.74	208	305	V
1	5.86	19.51	Pk	35.4	7.5	0	62.41	-	-	74	-11.59	208	305	V
5	5.86	6.22	RMS	35.4	7.5	4.16	53.28	54	-.72	-	-	208	305	V
2	5.862	26.74	Pk	35.4	7.5	0	69.64	-	-	74	-4.36	208	305	V
6	5.864	6.55	RMS	35.4	7.5	4.16	53.61	54	-.39	-	-	208	305	V

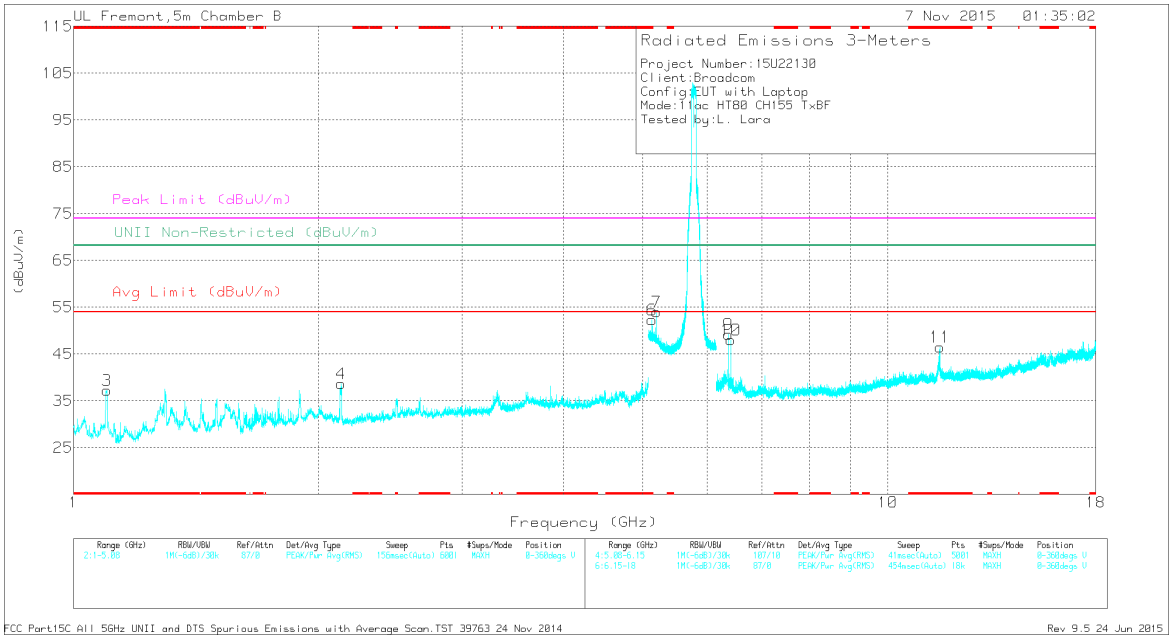
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

CH155 HORIZONTAL PLOT



CH155 VERTICAL PLOT



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.489	34.59	ADR	32.5	-34	4.16	37.25	54	-16.75	-	-	-	-	342	282	H
	* 2.491	47.87	PK-U	32.5	-34	0	46.37	-	-	74	-27.63	-	-	342	282	H
3	* 1.098	52.58	PK-U	27.6	-35.5	0	44.68	-	-	74	-29.32	-	-	217	147	V
	* 1.099	41.2	ADR	27.6	-35.5	4.16	37.46	54	-16.54	-	-	-	-	217	147	V
6	* 5.133	45.07	PK-U	34.1	-19.1	0	60.07	-	-	74	-13.93	-	-	304	252	V
	* 5.133	34.73	ADR	34.1	-19.1	4.16	53.89	54	-.11	-	-	-	-	304	252	V
11	* 11.559	26.9	ADR	38.4	-24.6	4.16	47.40	54	-9.14	-	-	-	-	67	247	V
	* 11.568	41.9	PK-U	38.4	-24.6	0	55.7	-	-	74	-18.3	-	-	67	247	V
4	2.132	51.51	PK-U	31.6	-34.9	0	48.21	-	-	-	-	68.2	-19.99	266	135	V
2	3.316	47.96	PK-U	32.8	-32.9	0	47.86	-	-	-	-	68.2	-20.34	178	341	H
7	5.192	42.88	PK-U	34.3	-19.1	0	58.08	-	-	-	-	68.2	-10.12	278	382	V
5	5.524	45.03	PK-U	34.6	-20.7	0	58.93	-	-	-	-	68.2	-9.27	71	338	H
9	6.341	45.6	PK-U	35.6	-30.9	0	50.3	-	-	-	-	68.2	-17.9	297	400	V
10	6.417	46.79	PK-U	35.7	-29.9	0	52.59	-	-	-	-	68.2	-15.61	94	214	V
8	17.311	38.29	PK-U	40.9	-21.7	0	57.49	-	-	-	-	68.2	-10.71	22	326	H

* - indicates frequency in CFR15.205 Restricted Band
Pk - Peak detector
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

9.12. WORST-CASE BELOW 1 GHz HIGH ANTENNA GAIN

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

Trace Markers

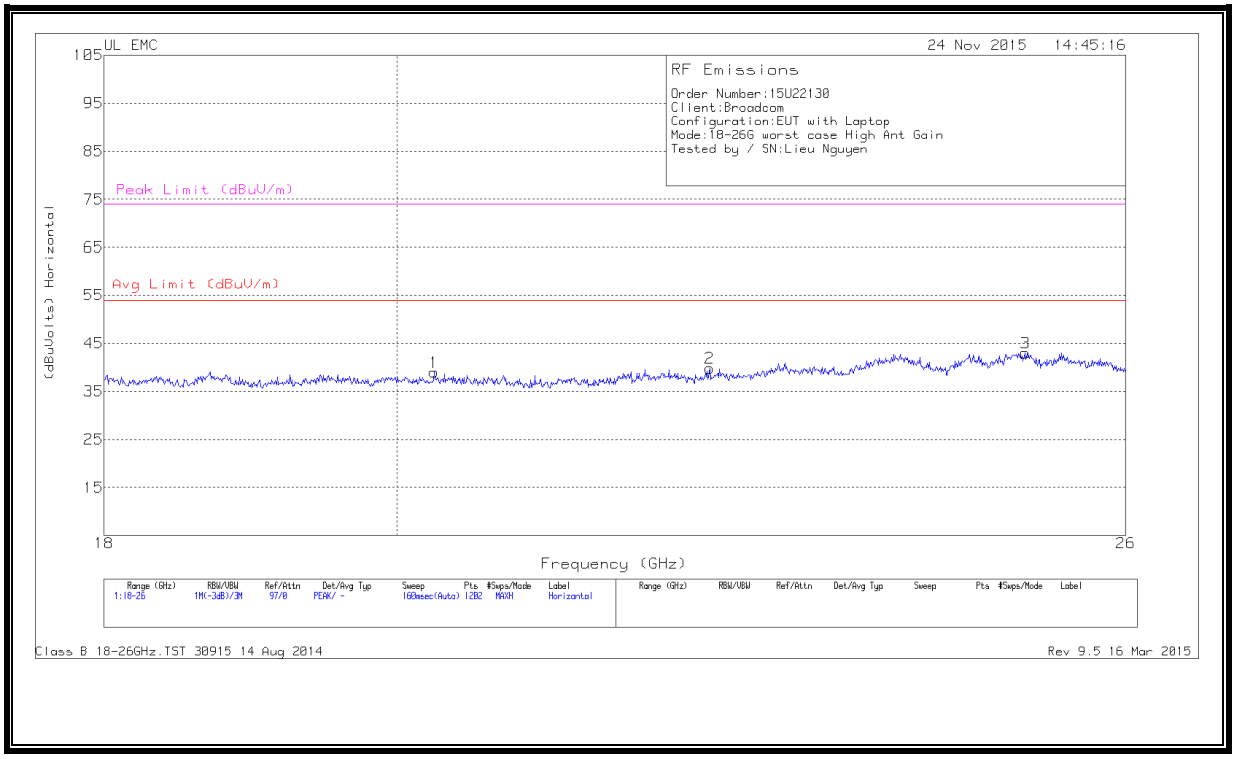
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 162.7275	45.13	Pk	16.1	-30.2	31.03	43.52	-12.49	0-360	101	V
1	* 252.5	50.89	Pk	15.4	-29.6	36.69	46.02	-9.33	0-360	101	H
5	* 252.5	46.37	Pk	15.4	-29.6	32.17	46.02	-13.85	0-360	199	V
2	372.3	44.99	Pk	18.9	-29.1	34.79	46.02	-11.23	0-360	101	H
3	443.8	45.8	Pk	20.7	-28.9	37.6	46.02	-8.42	0-360	199	H
6	529.8	43.15	Pk	22	-28.7	36.45	46.02	-9.57	0-360	199	V

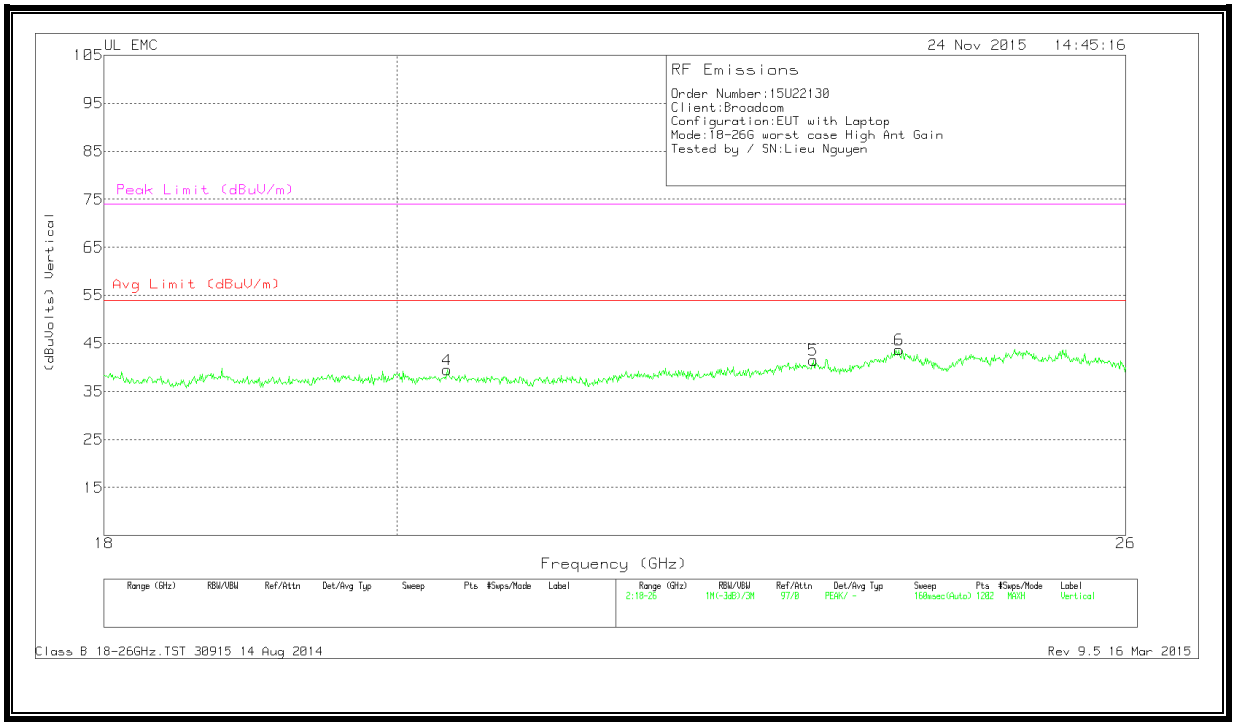
* - indicates frequency in CFR15.205 Restricted Band

Pk - Peak detector

9.13. WORST-CASE ABOVE 18GHz

SPURIOUS EMISSIONS 18 – 26GHz



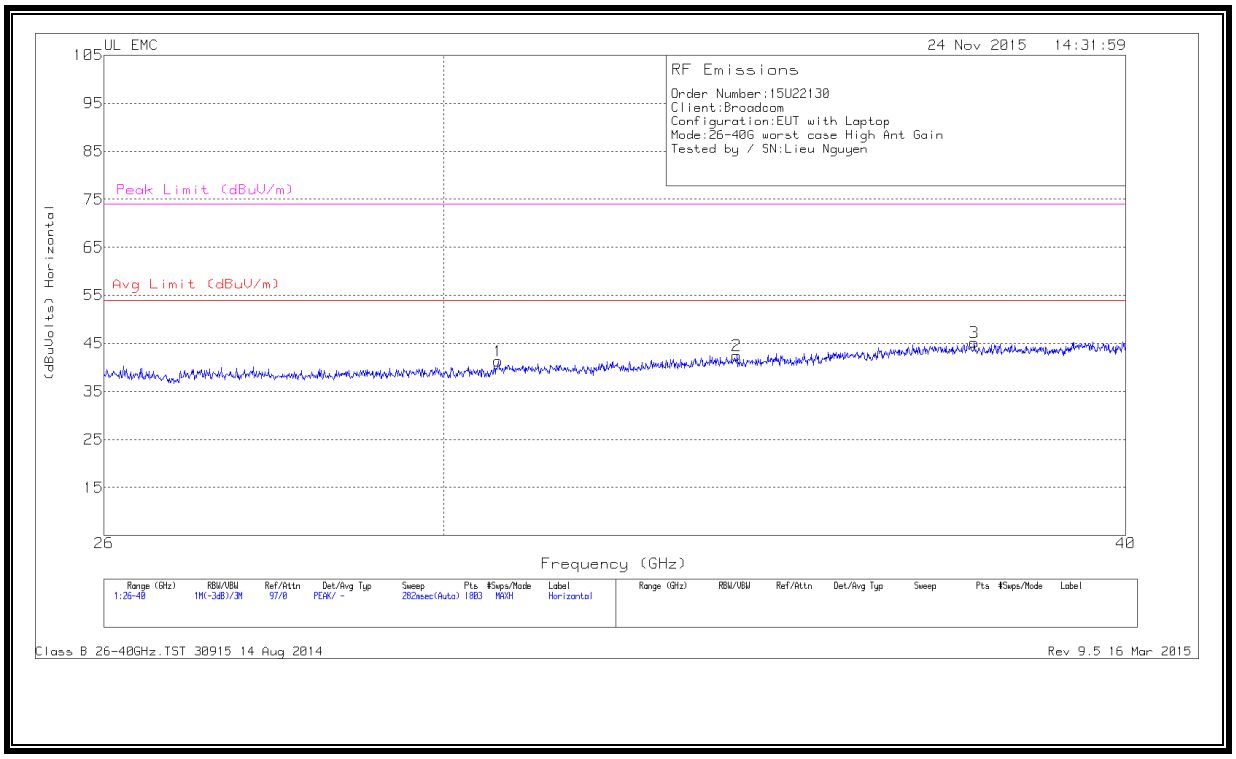


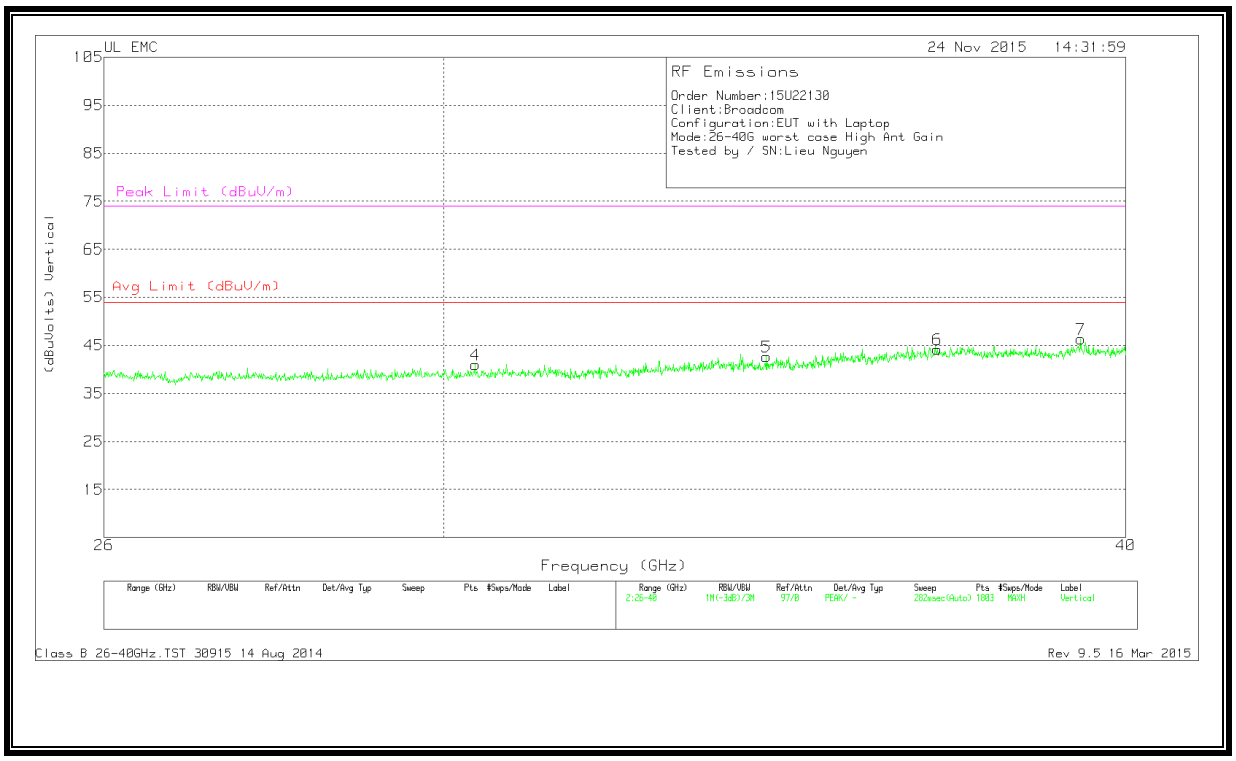
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	20.271	41.2	Pk	32.5	-25.2	-9.5	39	54	-15	74	-35
2	22.383	41.03	Pk	33.1	-24.8	-9.5	39.83	54	-14.16	74	-34.16
3	25.074	43.1	Pk	34	-24.6	-9.5	43	54	-11	74	-31
4	20.365	41.6	Pk	32.6	-25.2	-9.5	39.5	54	-14.5	74	-34.5
5	23.236	42.6	Pk	33.5	-25.1	-9.5	41.5	54	-12.5	74	-32.5
6	23.962	44.07	Pk	33.3	-24.2	-9.5	43.66	54	-10.33	74	-30.33

Pk - Peak detector

SPURIOUS EMISSIONS 26 – 40GHz





Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	30.7	47.33	Pk	36.1	-32.6	-9.5	41.33	54	-12.66	74	-32.66
2	33.948	48	Pk	36.9	-32.9	-9.5	42.5	54	-11.5	74	-31.5
3	37.522	50.47	Pk	37.2	-33	-9.5	45.16	54	-8.83	74	-28.83
4	30.405	47.2	Pk	35.9	-32.6	-9.5	41	54	-13	74	-33
5	34.375	47.97	Pk	37.2	-33	-9.5	42.66	54	-11.33	74	-31.33
6	36.947	49.57	Pk	37.2	-33.1	-9.5	44.16	54	-9.83	74	-29.83
7	39.246	49.23	Pk	38.6	-32	-9.5	46.33	54	-7.66	74	-27.66

Pk - Peak detector
Class B 26-40GHz.TST 30915 14 Aug 2014
Rev 9.5 16 Mar 2015