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

C2PC TEST REPORT

FOR

MODEL NUMBER: 7260HMW

FCC ID: 2AB5I-7260H
IC: 11929A-7260H

REPORT NUMBER: R11308192-E1

ISSUE DATE: 2016-06-07

Prepared for
GE Inspection Technologies, LP
50 Industrial Park Road
Lewiston, PA 17044, USA

Prepared by
UL LLC
12 LABORATORY DR.
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NVLAP Lab code: 200246-0

Revision History

Ver.	Issue Date	Revisions	Revised By
1	2016-06-06	Initial Issue	Ron Reichard
2	2016-06-07	Added 26 dB and 99% OBW data.	Jeff Moser

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1. DATA REUSE

1.1. INTRODUCTION

This is a Class 2 Permissive change report to update testing and grant to meet 15.407 (b)(4)(ii)

1.2. DIFFERENCES

No changes have been made to the product.

1.3. TESTING PERFORMED

Testing performed under this Report (R11308192-E1) are Emissions Bandwidth, Conducted Output power and Power Spectral Density. All other data is referenced to FCCID: 2AB5I-7260H, IC: 11929A-7260H.

1.4. REFERENCE DETAIL SECTION

Equipment Class	Reference FCC ID	Type Grant
UNII	FCC ID: 2AB5I-7260H, IC: 11929A-7260H	C2PC

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2. ATTESTATION OF TEST RESULTS

COMPANY NAME: GE Inspection Technologies, LP
50 Industrial Park Road
Lewiston, PA 17044, USA

MODEL: 7260HMW

SERIAL NUMBER: 1678

DATE TESTED: 2016-06-01 to 2016-06-06

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

UL LLC 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 LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released
For UL LLC By:

Jeff Moser
EMC Program Manager
UL – Consumer Technology Division

Prepared By:

Ron Reichard
EMC Project Lead
UL – Consumer Technology Division

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3. TEST METHODOLOGY

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

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Suite B, Perimeter Park Drive, Morrisville, NC 27560.

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at http://www.nist.gov/nvlap/.

5. CALIBRATION AND UNCERTAINTY

5.1. 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.

5.2. 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

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5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER		UNCERTAINTY
Total RF power, conducted	+/-	0.45
RF power density, conducted	+/-	1.50
Spurious emissions, conducted	+/-	2.94
All emissions, radiated up to 40 GHz	+/-	5.36
Temperature	+/-	0.07
Humidity	+/-	2.26
DC and low frequency voltages	+/-	1.27
Conducted Emissions (0.150-30MHz)	+/-	2.37

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

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6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The equipment under test is an industrial remote visual inspection video borescope. It is used to visually inspect high value assets without having to tear them down. i.e., power gen turbines and aircraft engines.

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually but not Simultaneously.

For 802.11n/ac modes 802.11n HT20/802.11ac VHT20 (20 MHz channel bandwidth), 802.11n HT40/802.11ac VHT40 (40 MHz channel bandwidth) and 802.11ac VHT80 (80MHz channel bandwidth) mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually and simultaneously.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5745-5825	802.11a	16.83	48.19
5745-5825	802.11n HT20	17.90	61.66
5755-5795	802.11n HT40	19.27	84.53
5775	802.11ac VHT80	18.90	77.62

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two Ethertronics 1000418 antennas, each with a maximum gain of 3.42 dBi in the 5.8GHz band

6.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Team Build 2, rev. 1.

The EUT driver software installed during testing was SVNDISUIO, rev. 15.0.0.16

The test utility software used during testing was Intel DRTU 1.6.0-0510 utility DRTU Version during transmitter test.

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6.5. WORST-CASE CONFIGURATION AND MODE

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

802.11a mode: 6 Mbps
802.11n HT20mode: HT4
802.11n HT40mode: HT8
802.11ac VHT80mode: VHT6

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Mouse	Microsoft	X08-99491	None	None

I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	3	USB	I/O	1.5	None
2	Mains	1	Plug		1.5	None

TEST SETUP

The EUT is installed in a host enclosure during the tests. Test software exercised the radio card.

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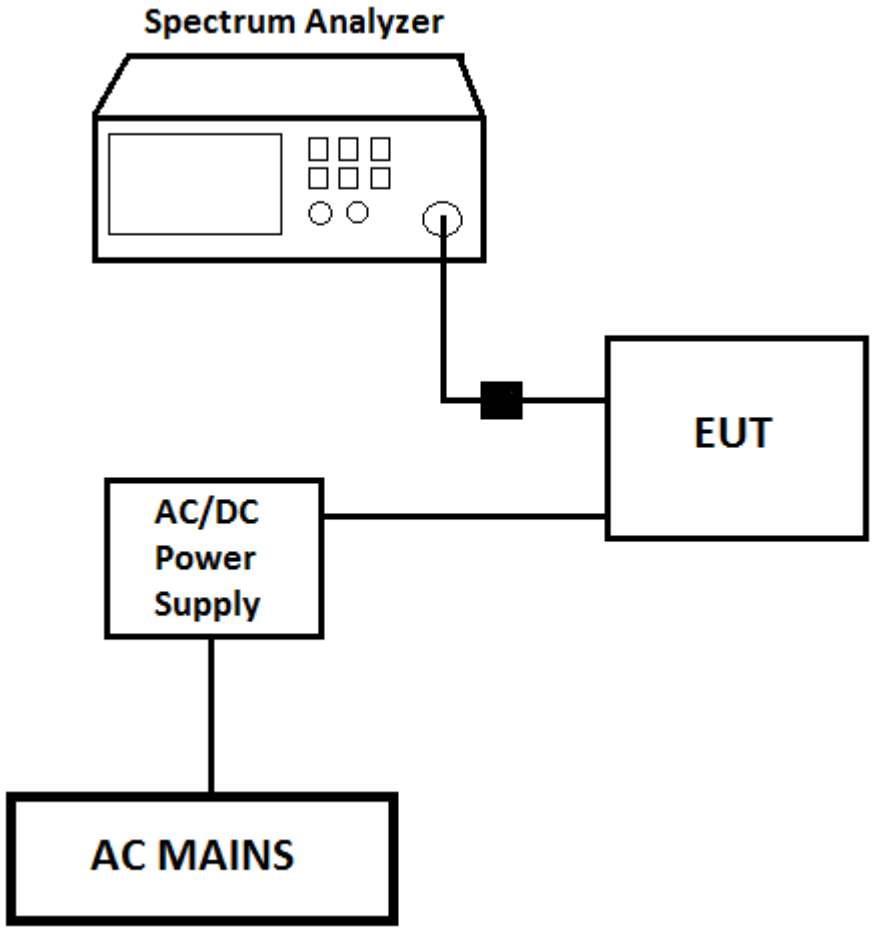
SETUP DIAGRAM FOR TESTS



Note – The Spectrum Analyzer was used for PSD and a Power Meter was used for output power.

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7. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Conducted Room 2				
T146	Spectrum Analyzer	Agilent Technologies	E4446A	2015-06-17	2016-06-17
PWM003	RF Power Meter	Keysight Technologies	N1911A	2015-06-08	2016-06-30
PWS003	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2015-06-05	2016-06-30
HI0080	Temp/Humid/Pressure Meter	Springfield	HI0080	2015-07-01	2016-07-31
MM0168	True RMS Multimeter	Agilent	U1232A	2015-08-17	2016-08-31
76021	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	NA	NA

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8. MEASUREMENT METHODS

26 dB Emission BW: KDB 789033 D02 v01r02, Section C.

99% Occupied BW: KDB 789033 D02 v01r02, Section D.

Conducted Output Power: KDB 789033 D02 v01r02, Section E.3.b (Method PM-G).

Power Spectral Density: KDB 789033 D02 v01r02, Section F.

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

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 1TX	2.064	2.093	0.986	98.61%	0.00	0.010
802.11n HT20 1TX	0.352	0.379	0.929	92.95%	0.32	2.841
802.11n HT40 1TX	0.496	0.525	0.945	94.53%	0.24	2.016
802.11ac VHT80 1TX	0.0678	0.0945	0.717	71.73%	1.44	14.749

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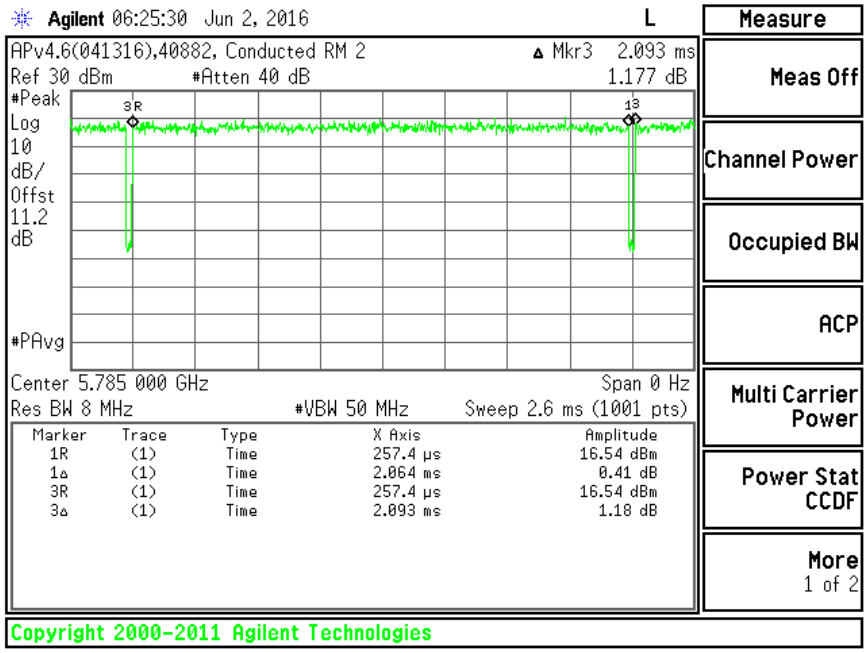
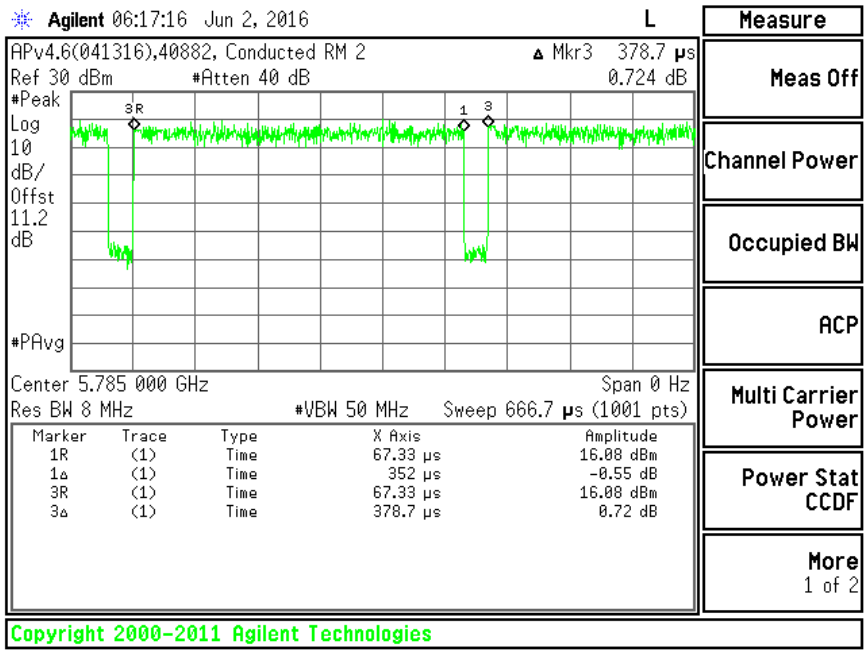
DUTY CYCLE PLOTS

DUTY CYCLE 802.11a 1TX MODE



DUTY CYCLE 802.11n HT20 1TX MODE



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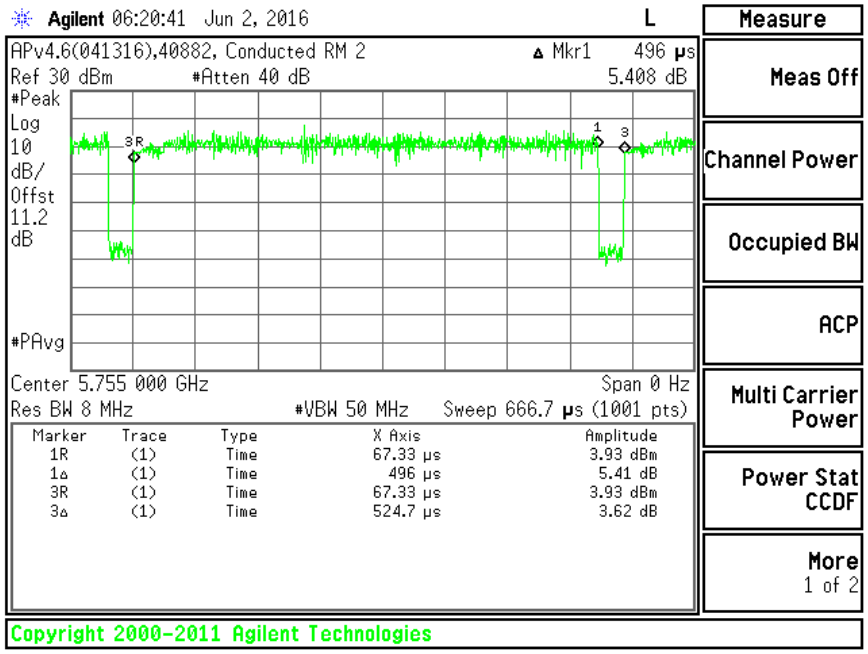
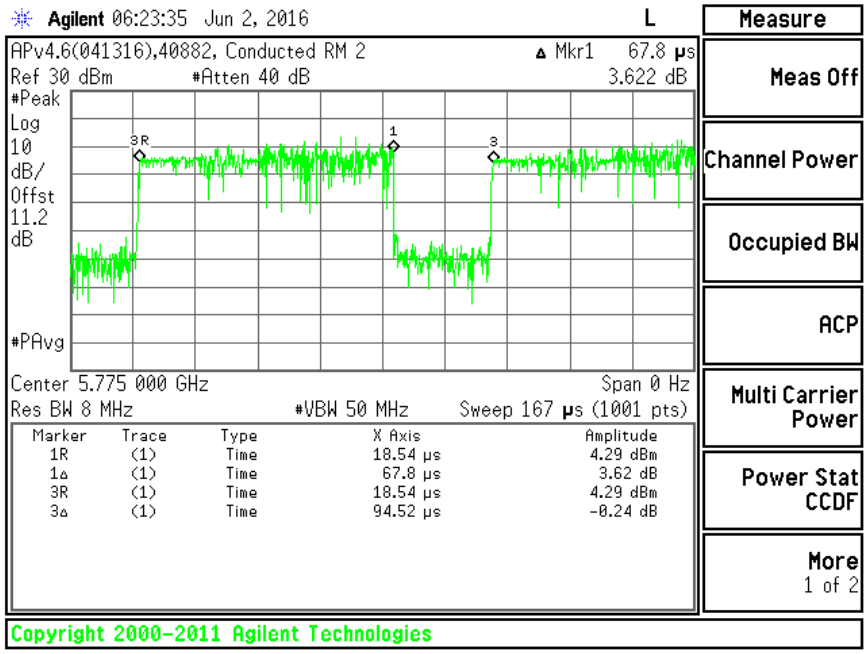
DUTY CYCLE 802.11n HT40 1TX MODE



DUTY CYCLE 802.11ac VHT80 1TX MODE



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9.2. 802.11a SISO MODE IN THE 5.8 GHz BAND

9.2.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	45.22	42.90
Mid	5785	38.34	44.15
High	5825	44.49	42.30
144	5720	38.88	42.84

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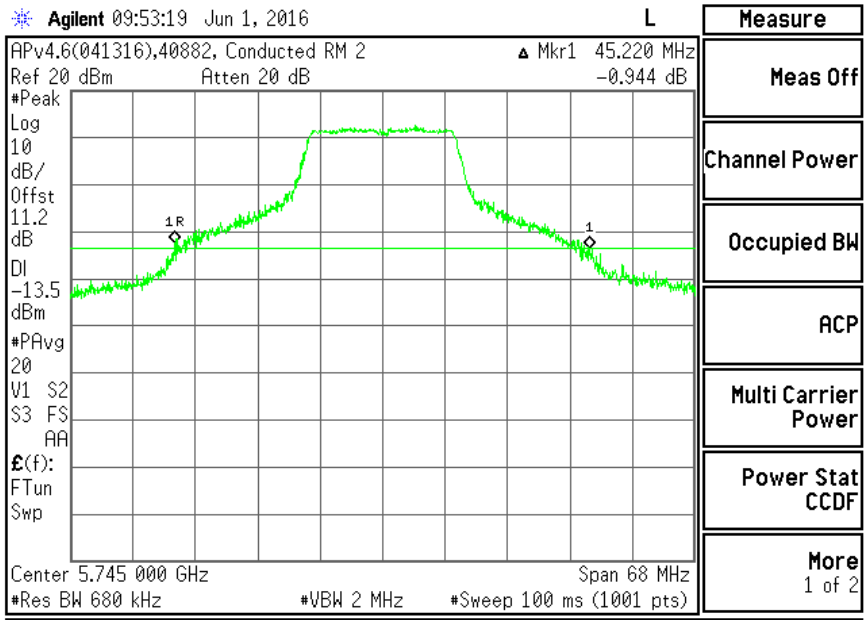
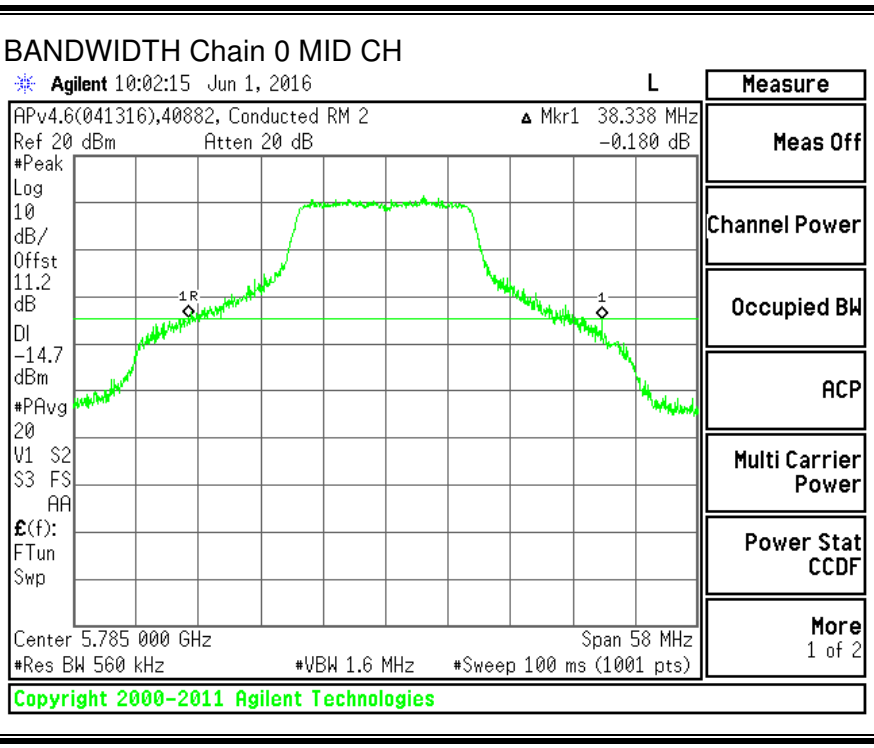
26 dB BANDWIDTH, Chain 0

BANDWIDTH Chain 0 LOW CH



BANDWIDTH Chain 0 MID CH



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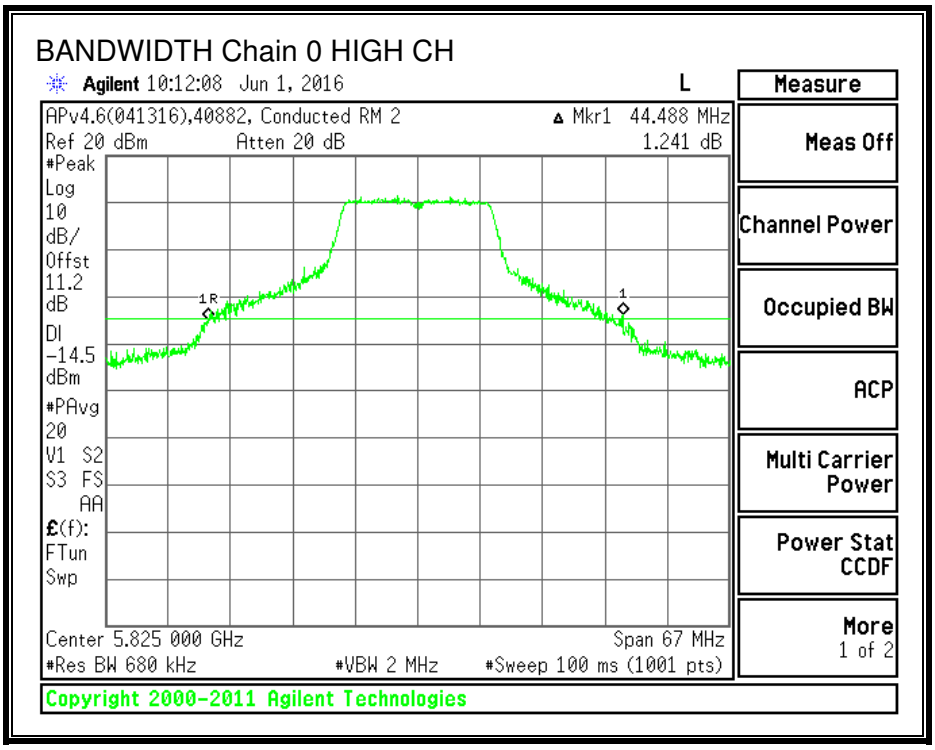

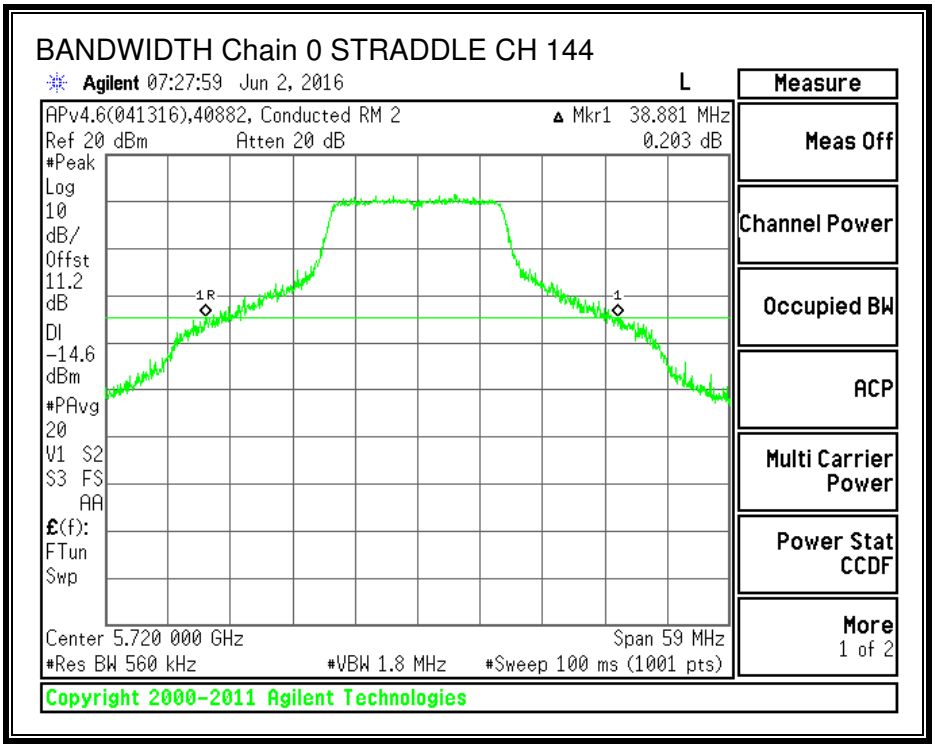

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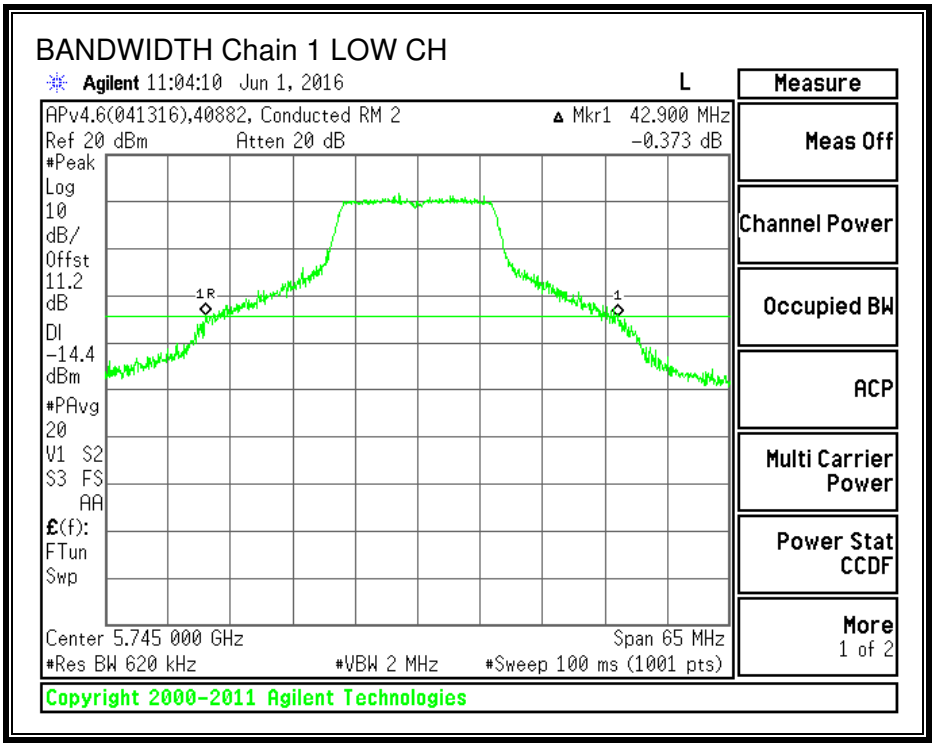
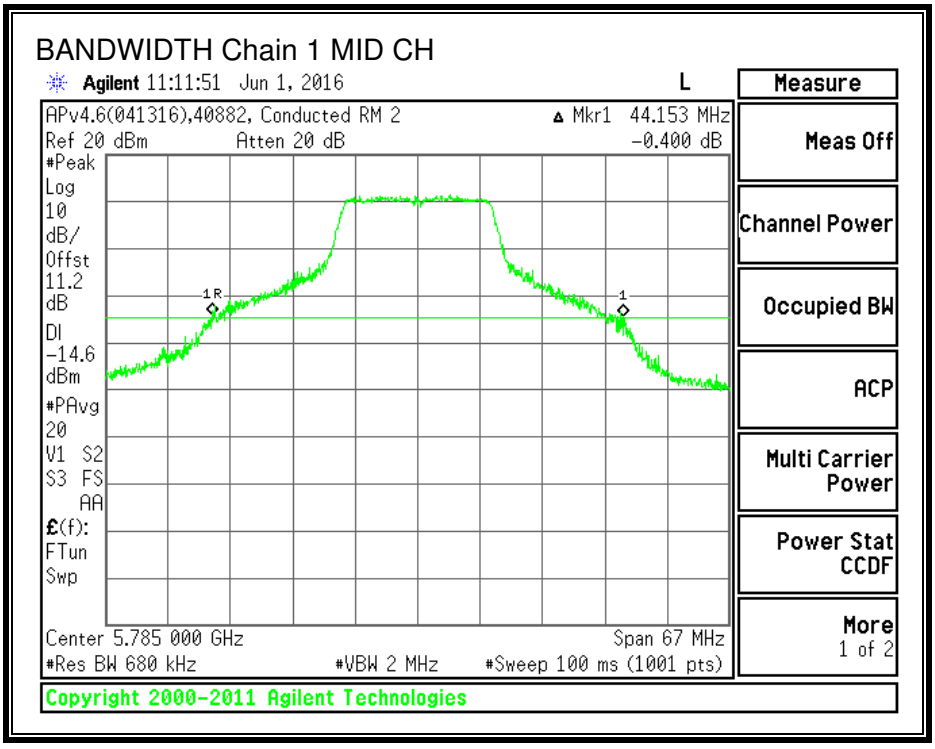
26 dB BANDWIDTH, Chain 1





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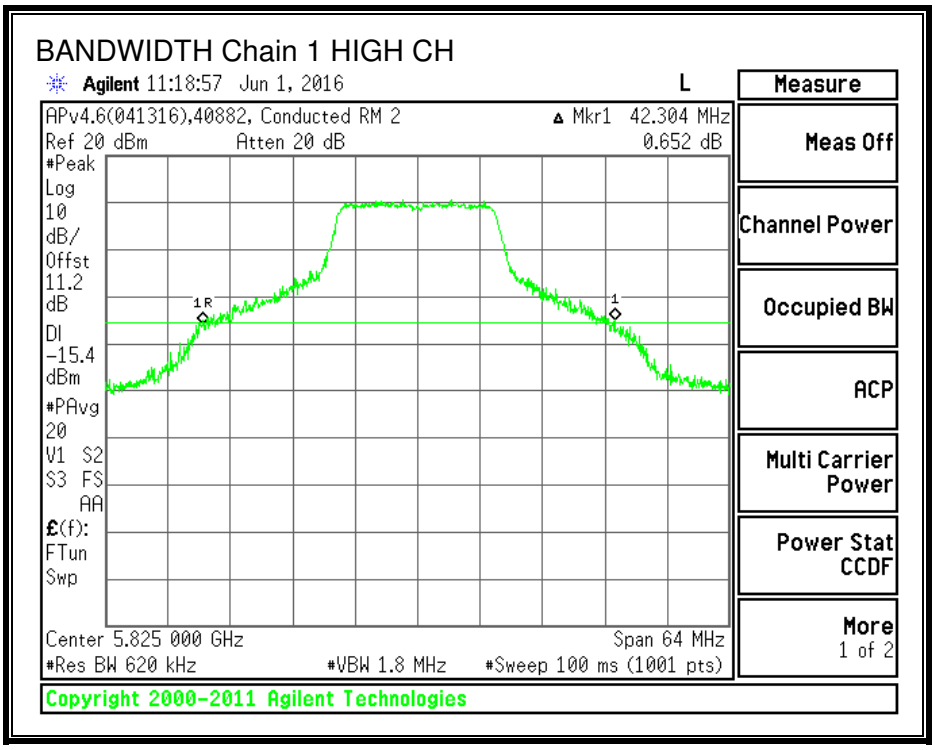

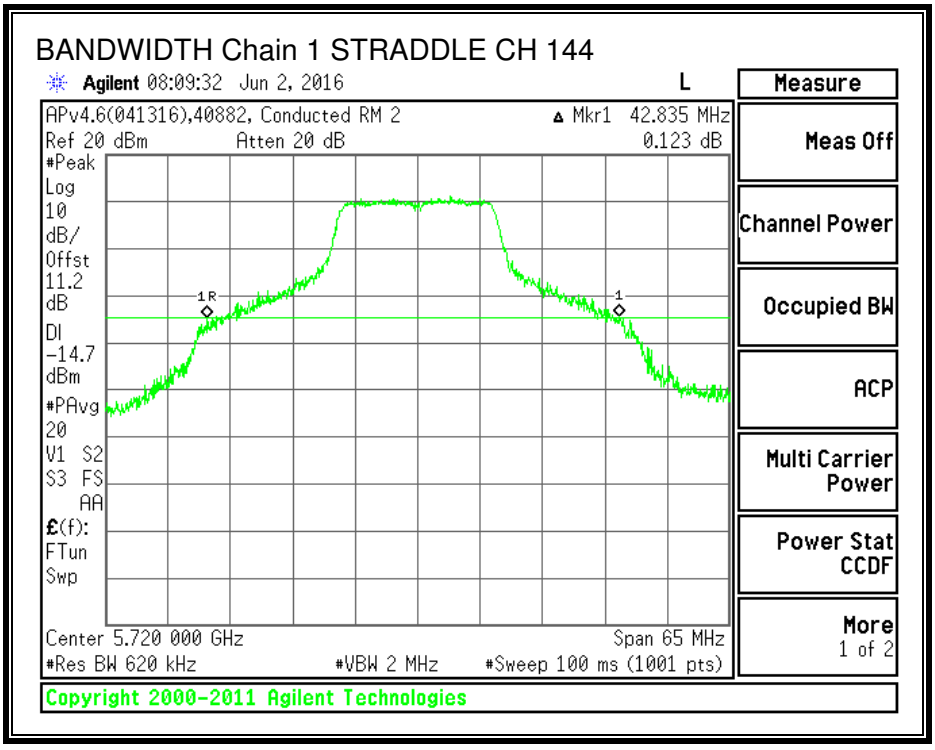

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9.2.1. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	18.8842	17.1608
Mid	5785	16.6781	18.8487
High	5825	17.2346	17.9335
144	5720	16.7414	18.0860

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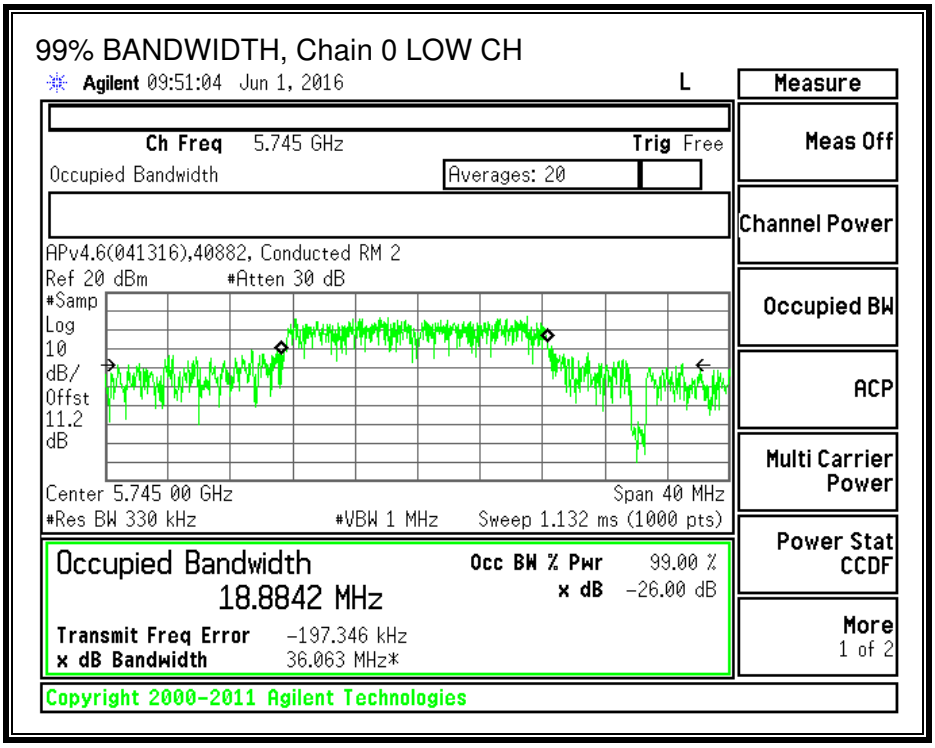
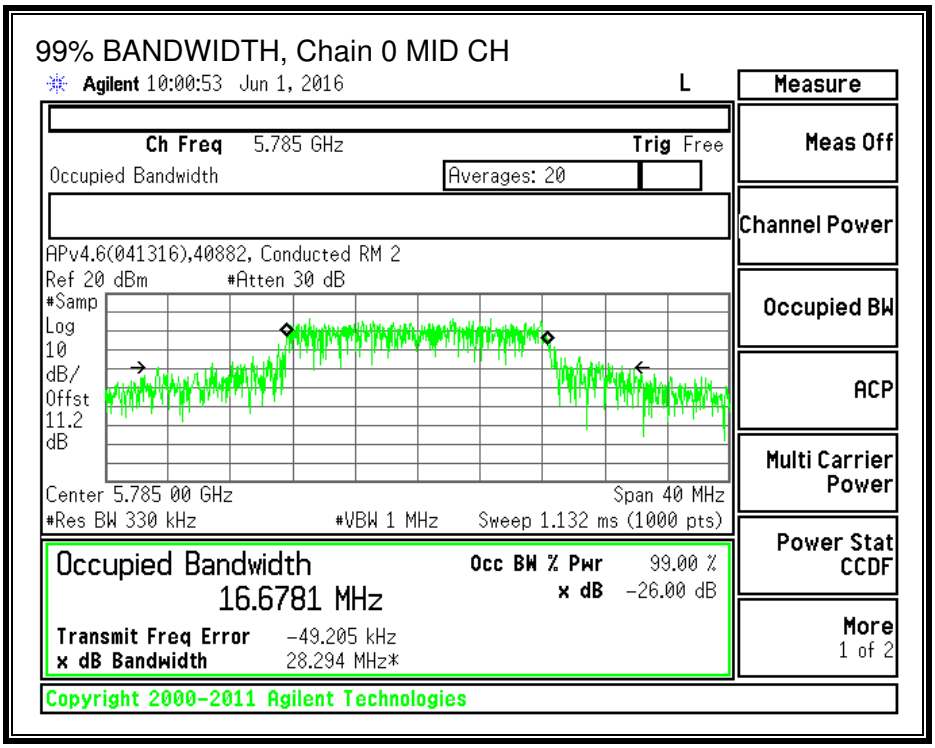
99% BANDWIDTH, Chain 0





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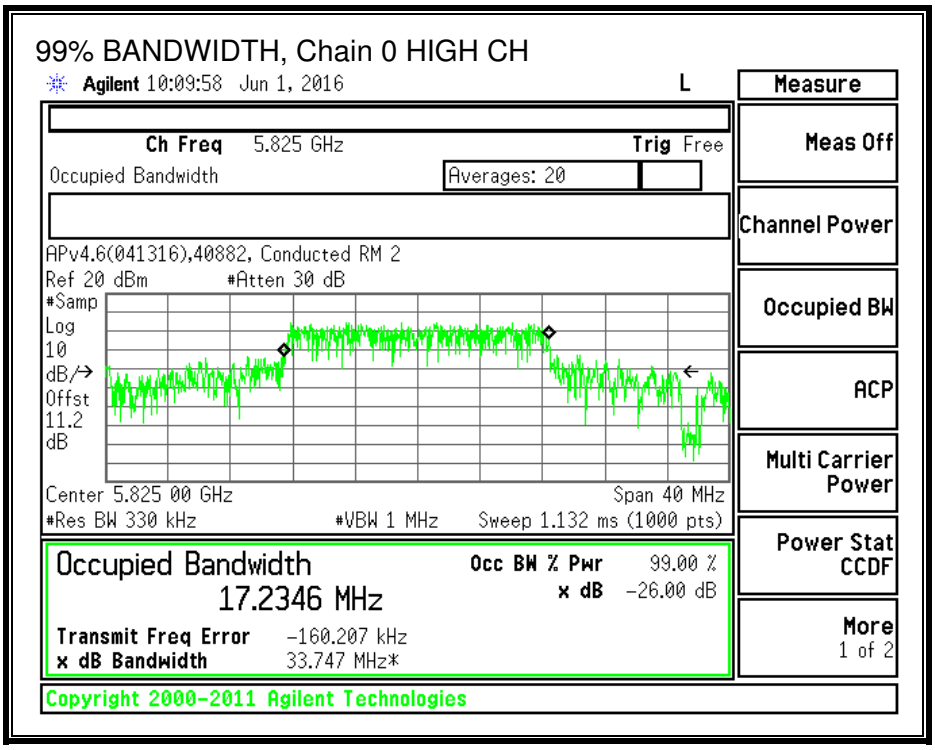

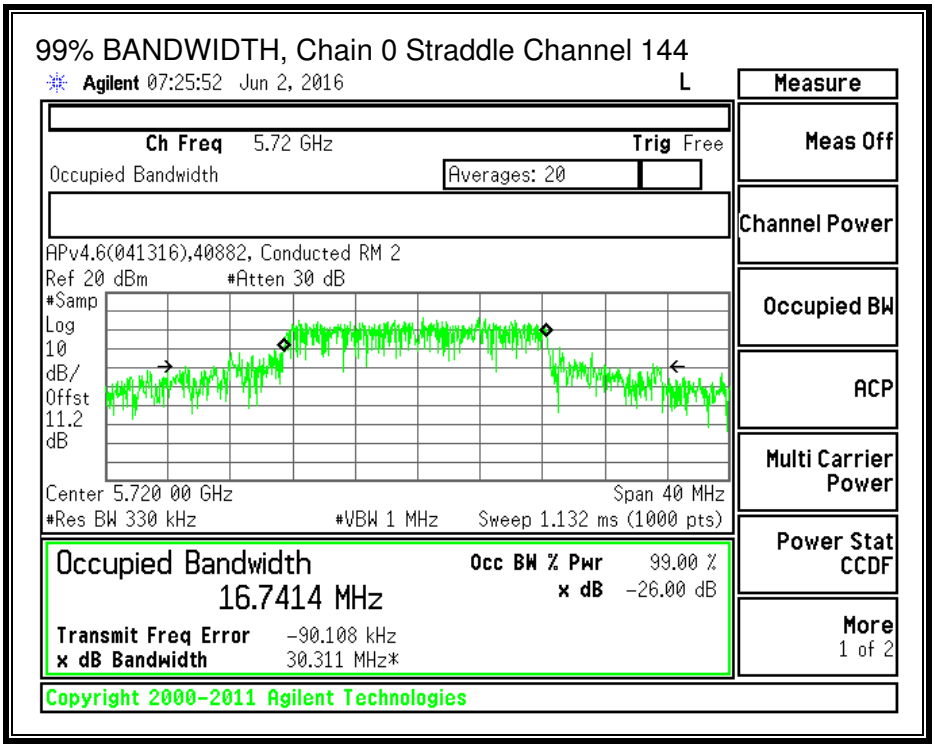

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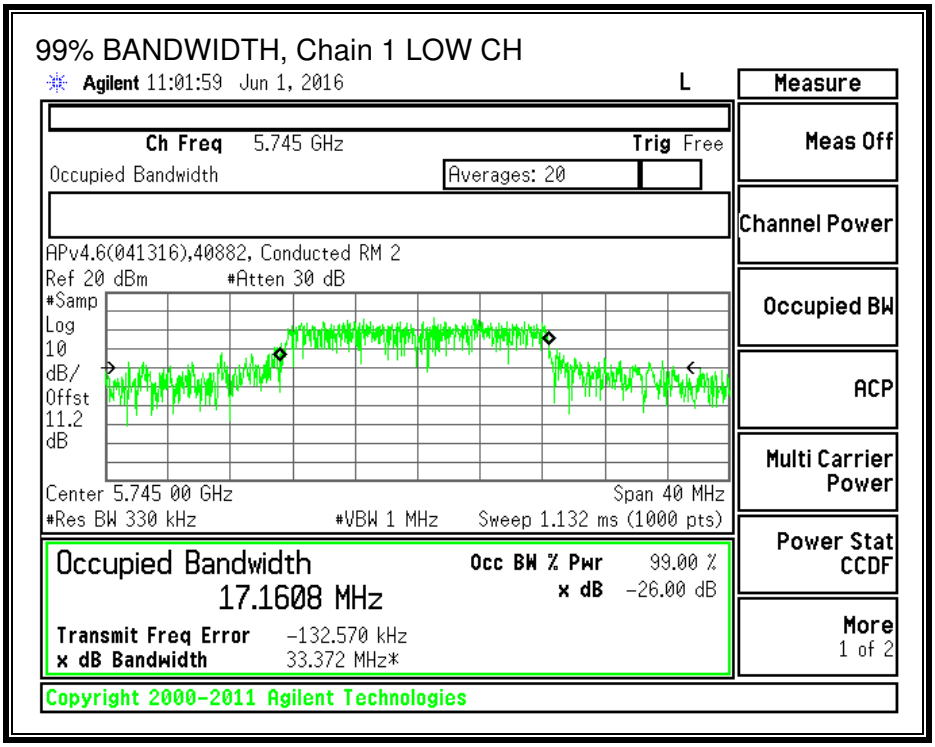
99% BANDWIDTH, Chain 1



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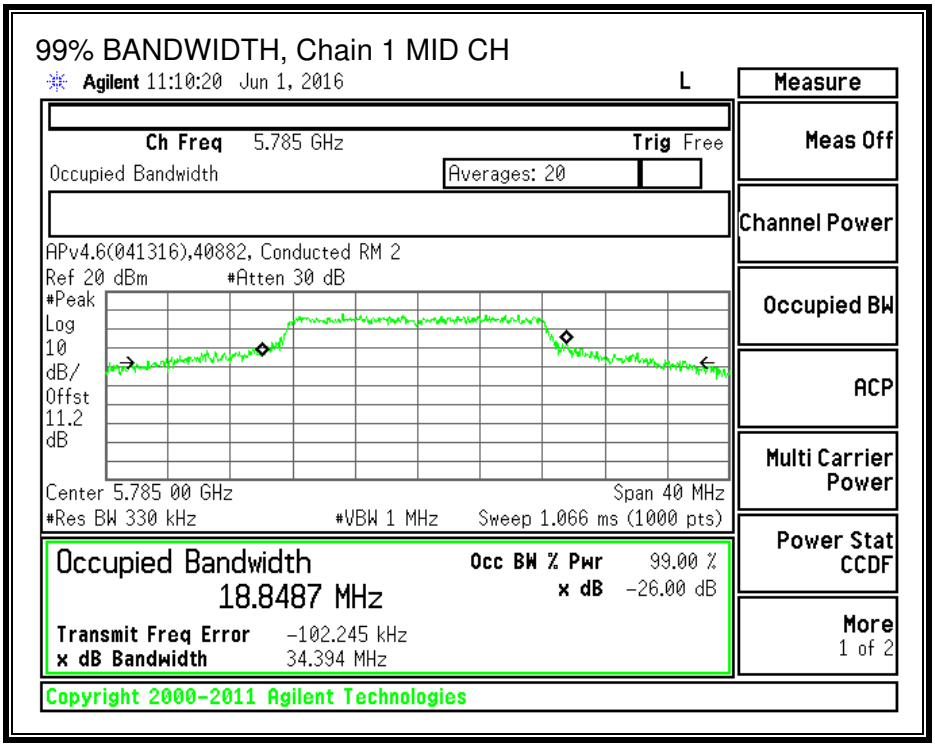

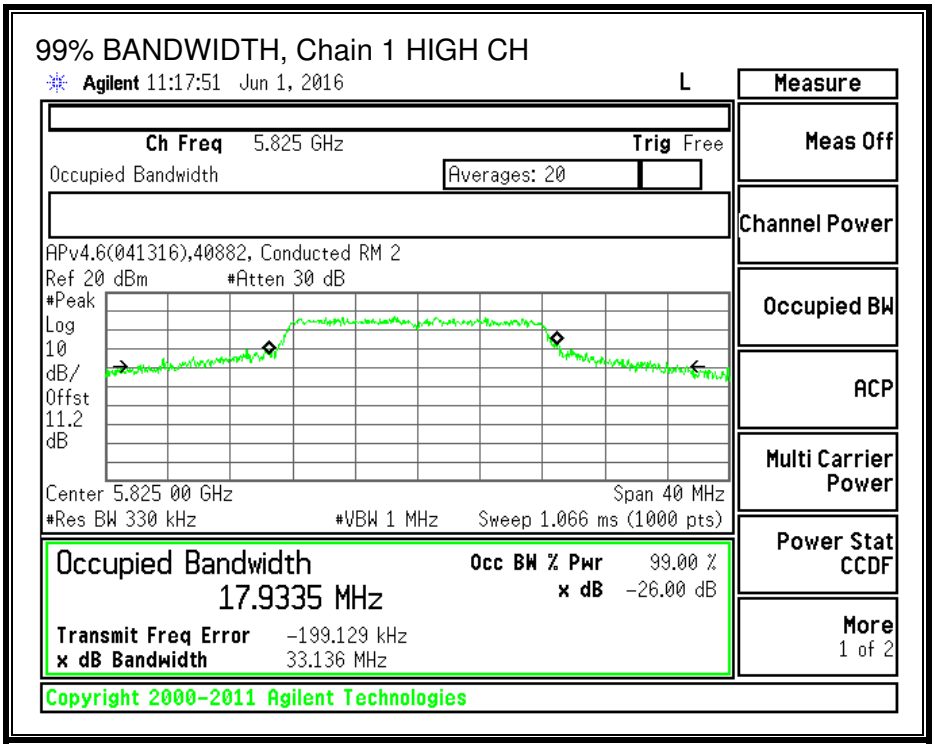

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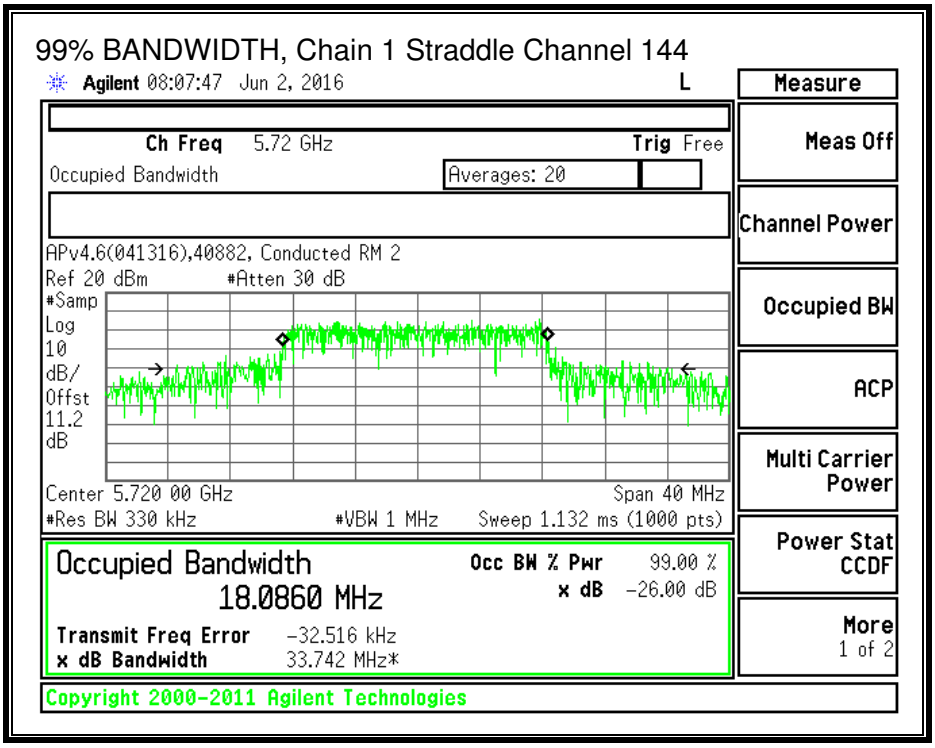

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9.2.2. OUTPUT POWER

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 the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.42	30.00
Mid	5785	3.42	30.00
High	5825	3.42	30.00

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

Chain A Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.83	16.83	30.00	-13.17
Mid	5785	16.34	16.34	30.00	-13.66
High	5825	16.04	16.04	30.00	-13.96

Chain B Output Power Results

Channel	Frequency (MHz)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.10	16.10	30.00	-13.90
Mid	5785	16.36	16.36	30.00	-13.64
High	5825	15.73	15.73	30.00	-14.27

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9.2.3. 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	3.42	30.00
Mid	5785	3.42	30.00
High	5825	3.42	30.00

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

Chain A PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.83	2.83	30.00	-27.17
Mid	5785	2.11	2.11	30.00	-27.89
High	5825	1.68	1.68	30.00	-28.32

Chain B PSD Results

Channel	Frequency (MHz)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.08	2.08	30.00	-27.92
Mid	5785	1.87	1.87	30.00	-28.13
High	5825	1.44	1.44	30.00	-28.56

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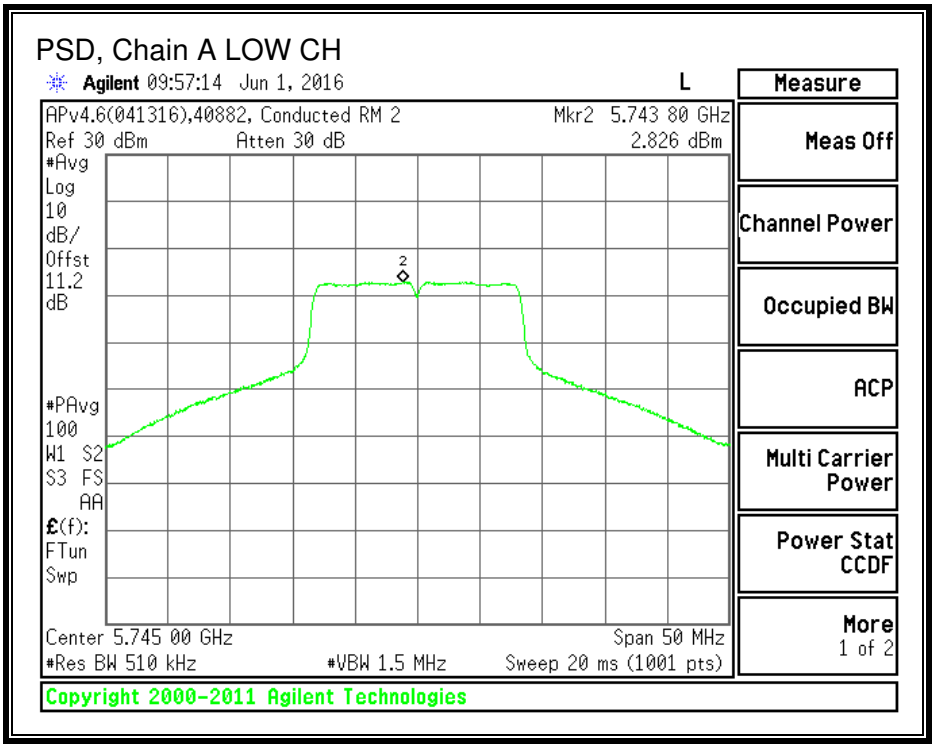
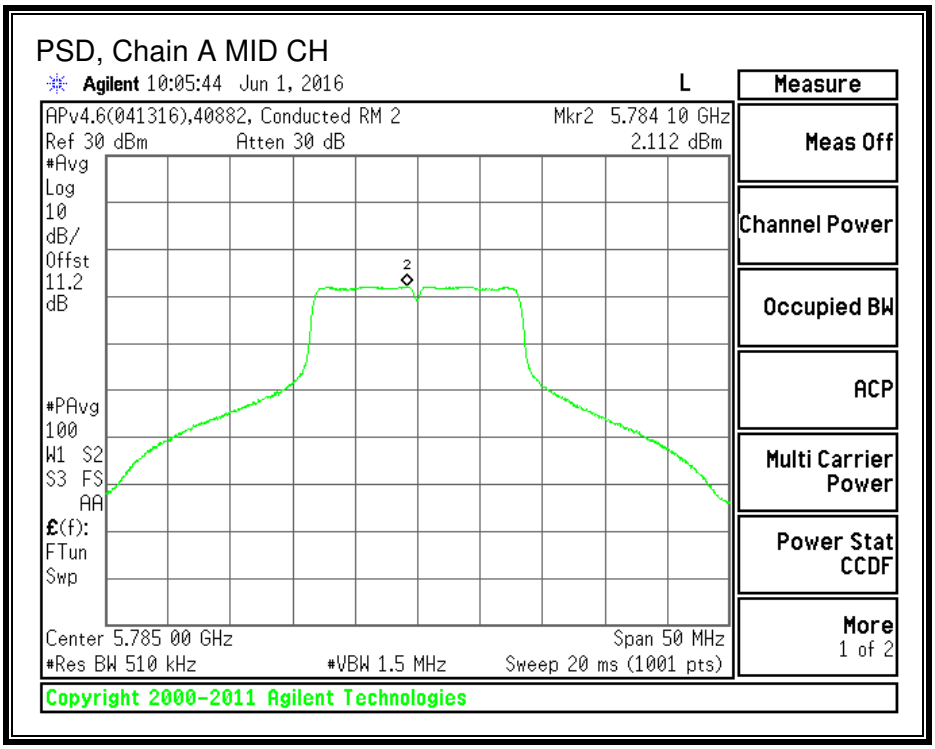
PSD, Chain A





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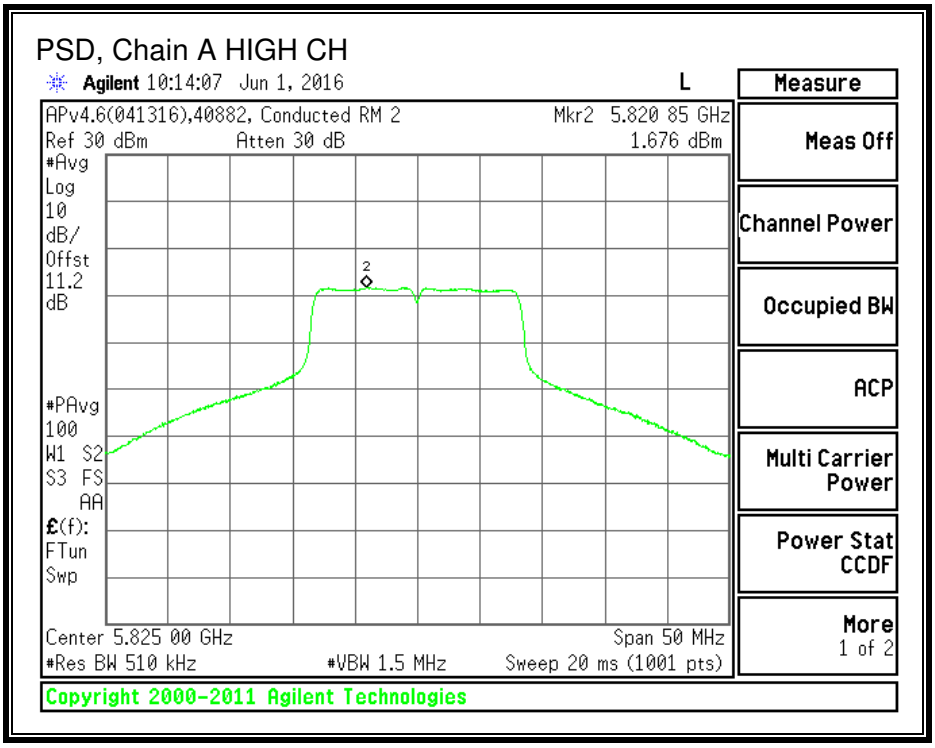
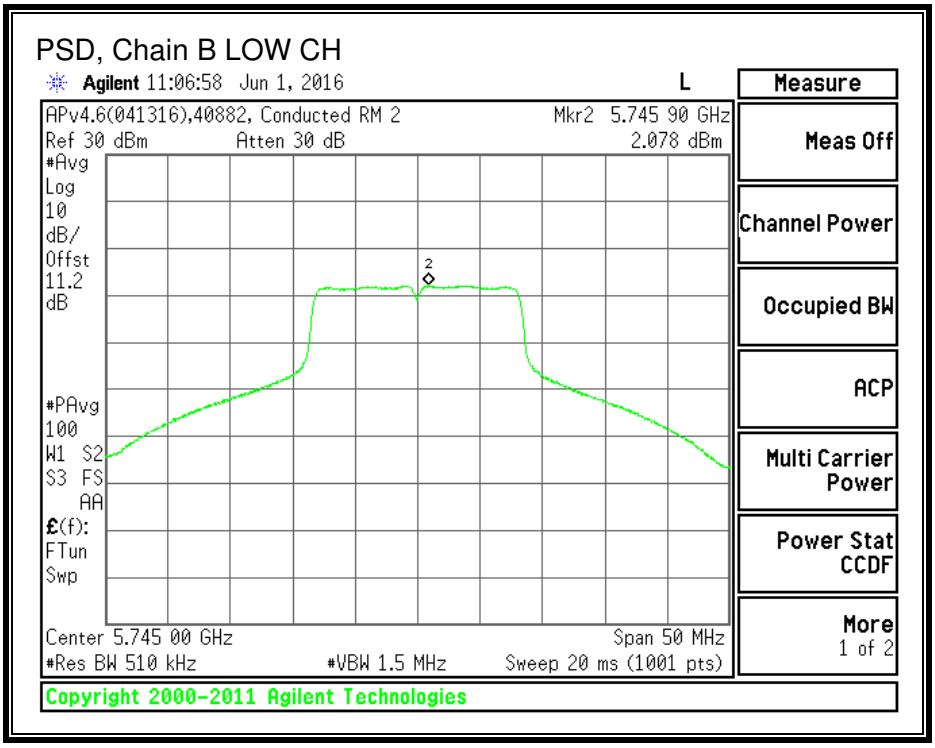


PSD, Chain B



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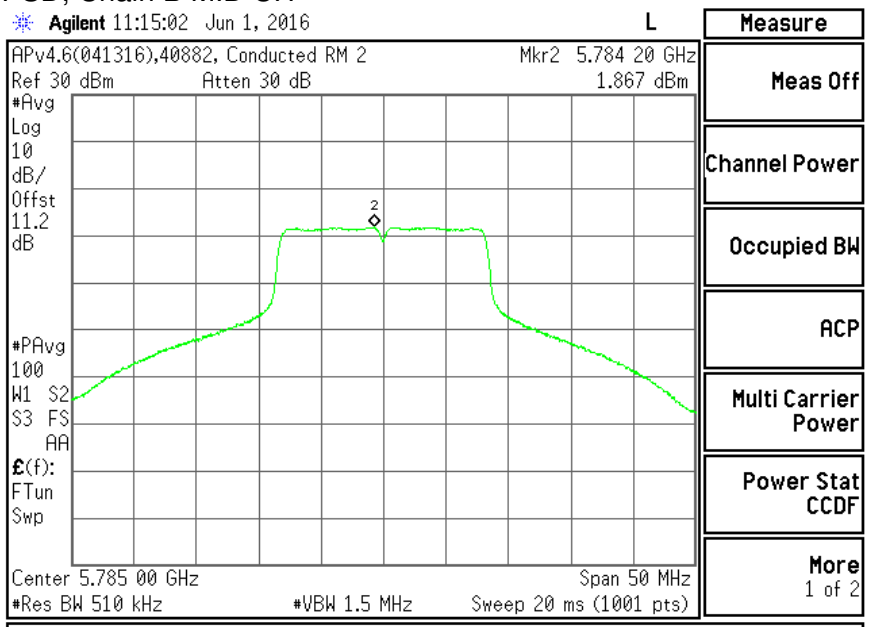
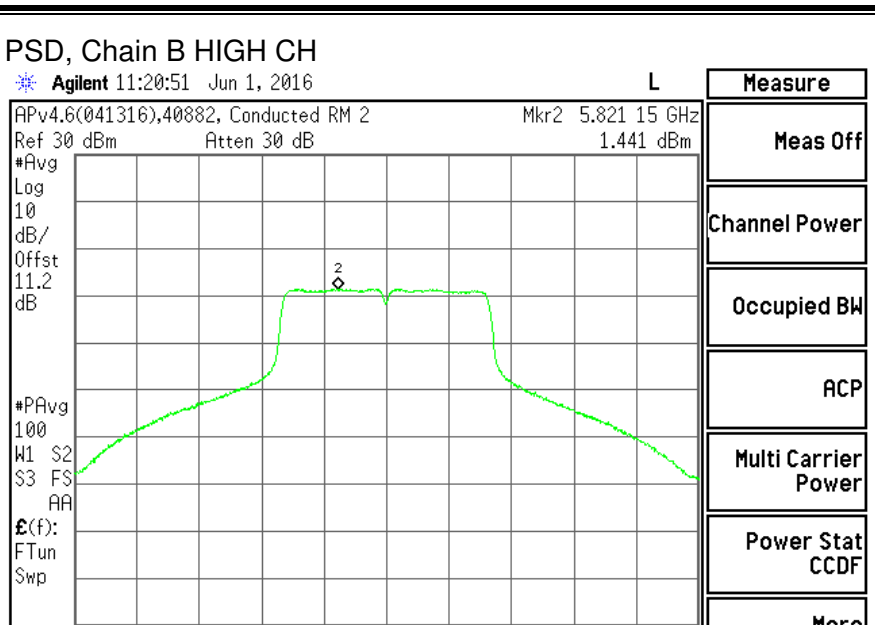
PSD, Chain B MID CH



PSD, Chain B HIGH CH



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9.2.4. STRADDLE CHANNEL OUTPUT POWER AND 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

STRADDLE CHANNEL 144 - 802.11a 20 MHz SISO RESULTS

UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	3.42	30.00	30.00

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

Chain A Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	9.60	9.60	30.00	-20.40

Chain A PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	2.34	2.34	30.00	-27.66

Chain B Output Power Results

Channel	Frequency (MHz)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	9.03	9.03	30.00	-20.97

Chain B PSD Results

Channel	Frequency (MHz)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	1.61	1.61	30.00	-28.39

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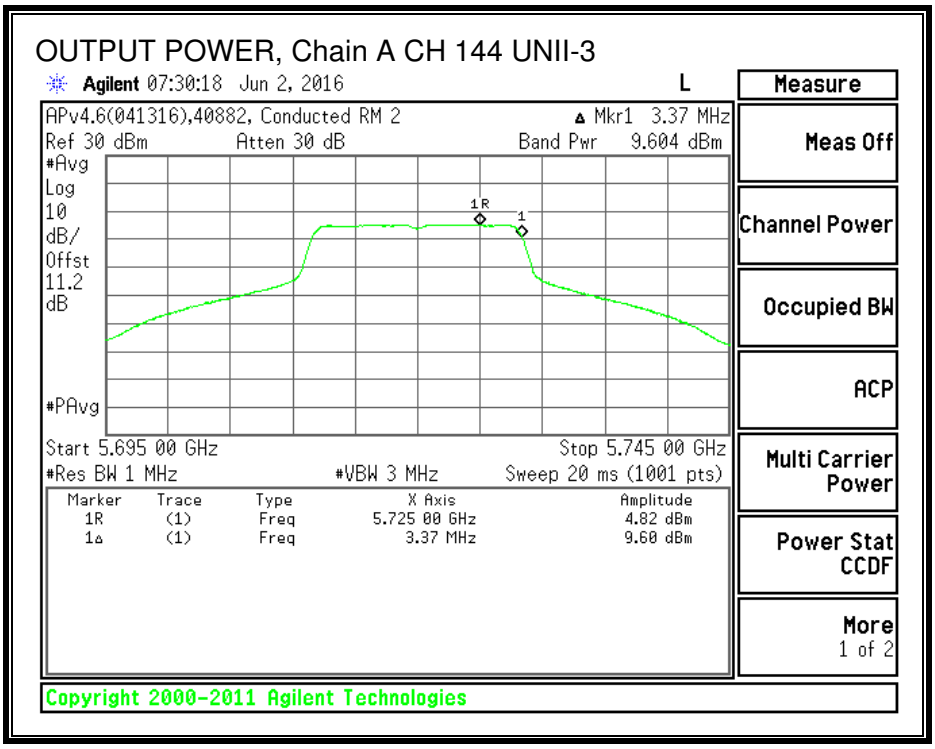

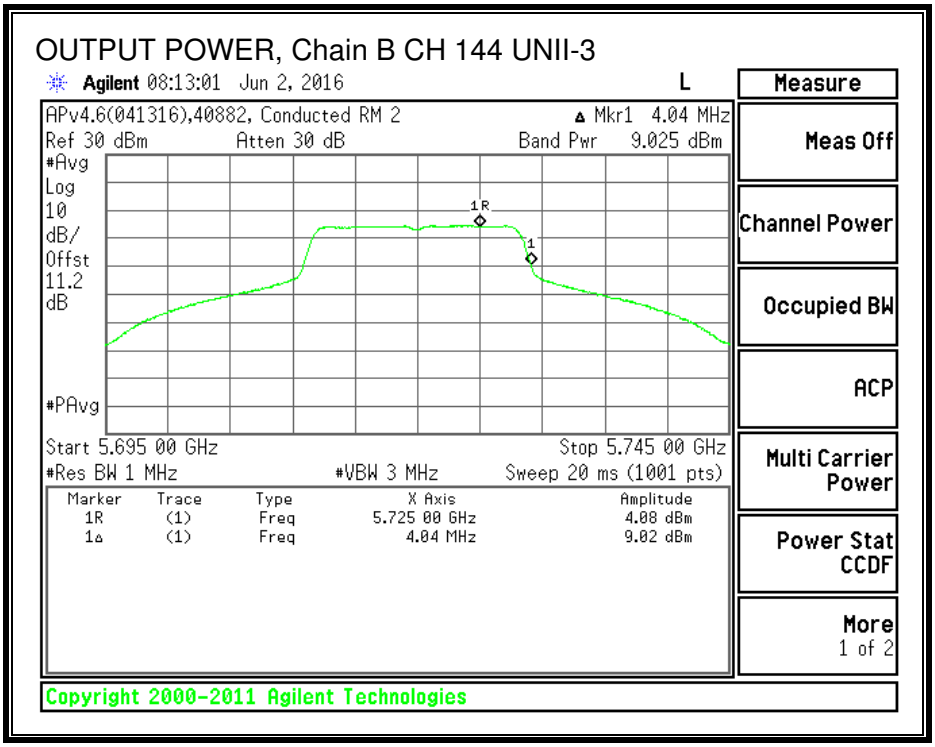

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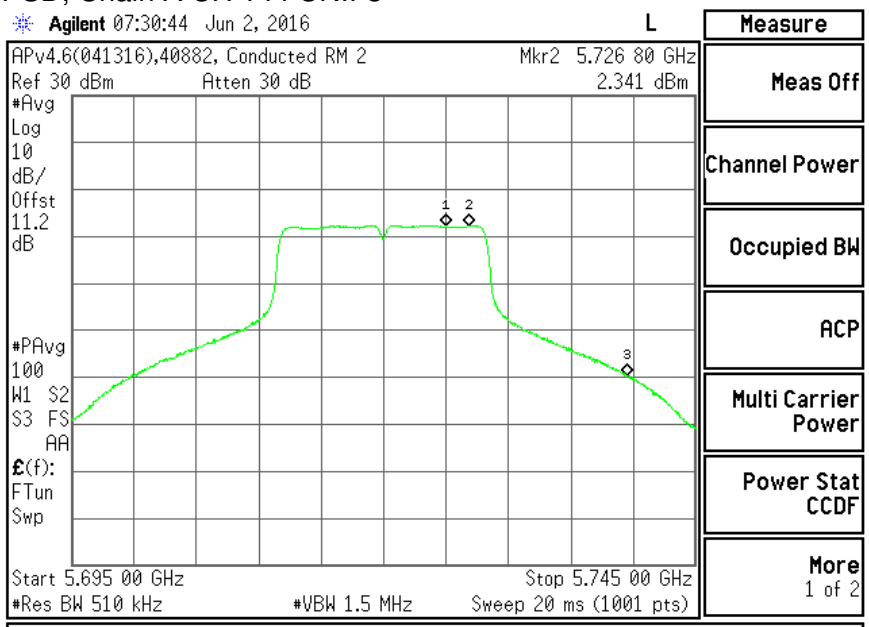
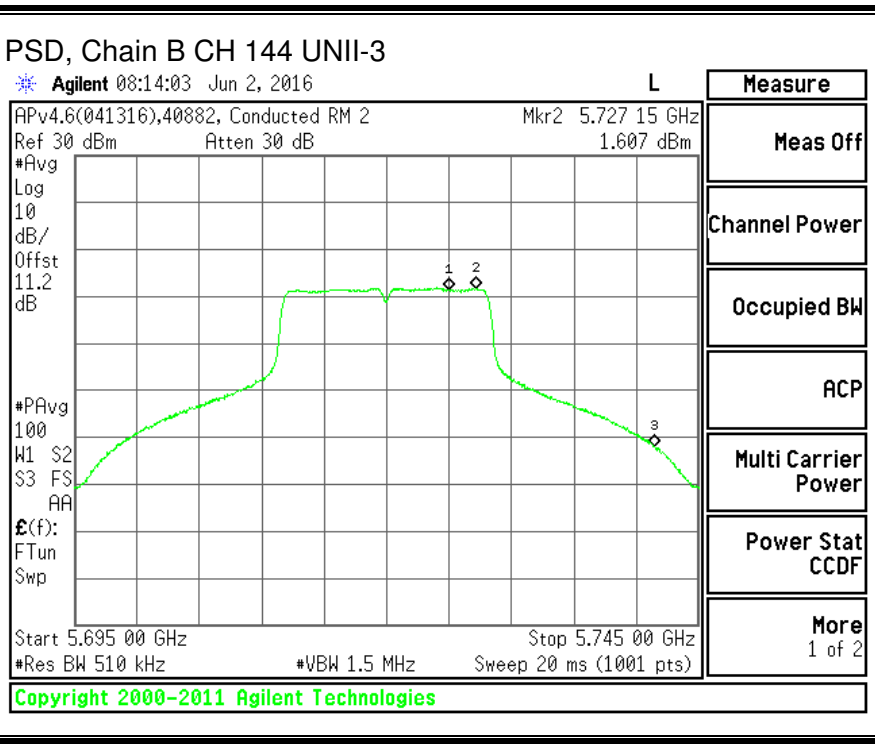
PSD, Chain A CH 144 UNII-3



PSD, Chain B CH 144 UNII-3



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9.3. 802.11n HT20 SISO MODE IN THE 5.8 GHz BAND

9.3.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5745	45.02	44.56
Mid	5785	25.19	44.81
High	5825	25.27	44.56
144	5720	45.22	46.27

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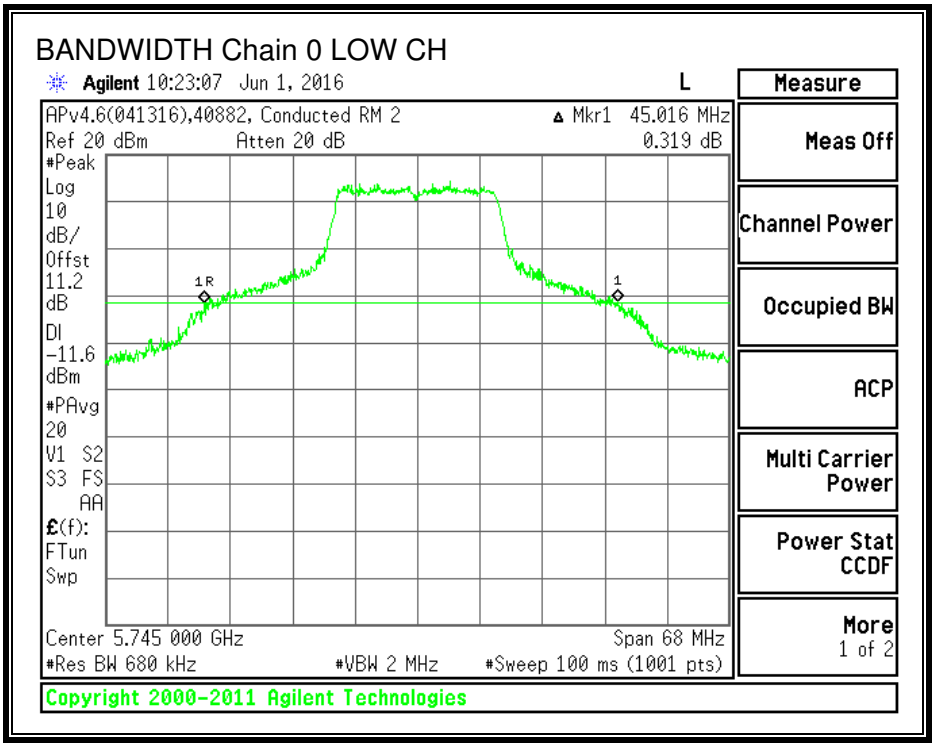
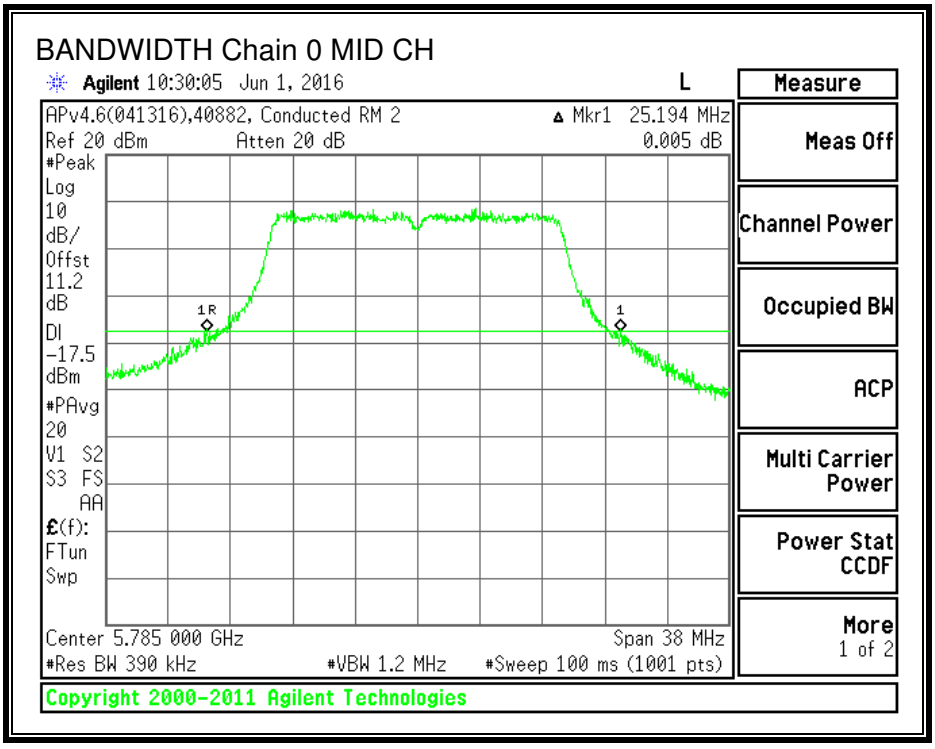
26 dB BANDWIDTH, Chain 0





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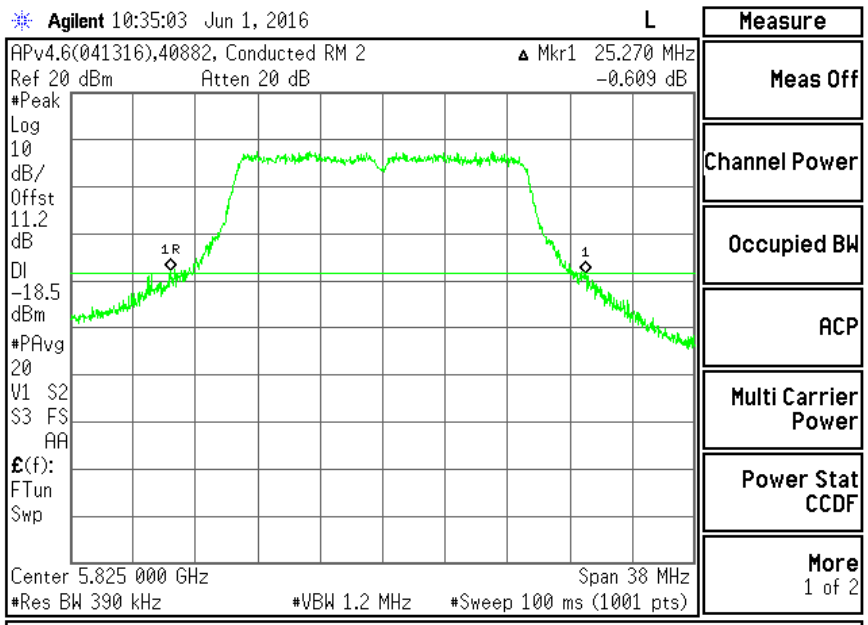
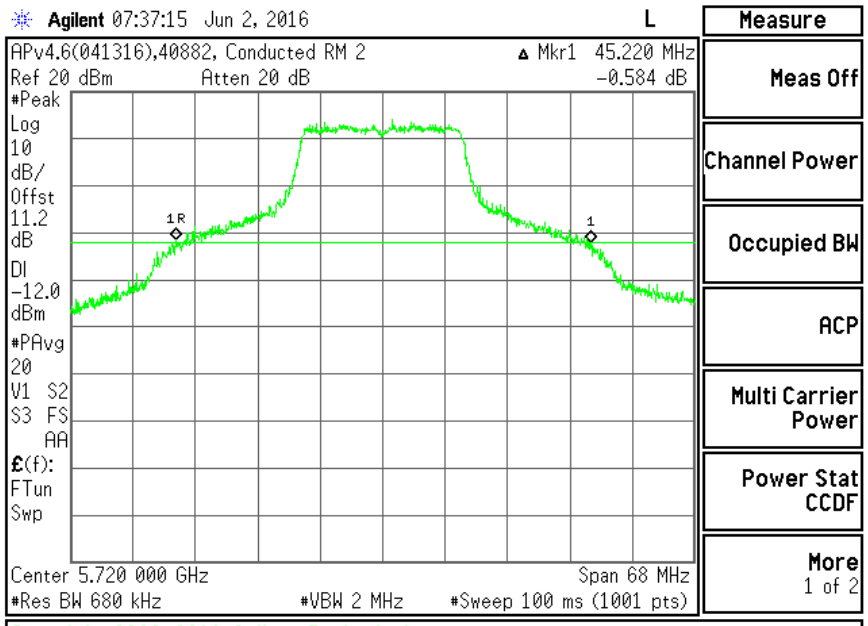
BANDWIDTH Chain 0 HIGH CH



BANDWIDTH Chain 0 STRADDLE CH 144



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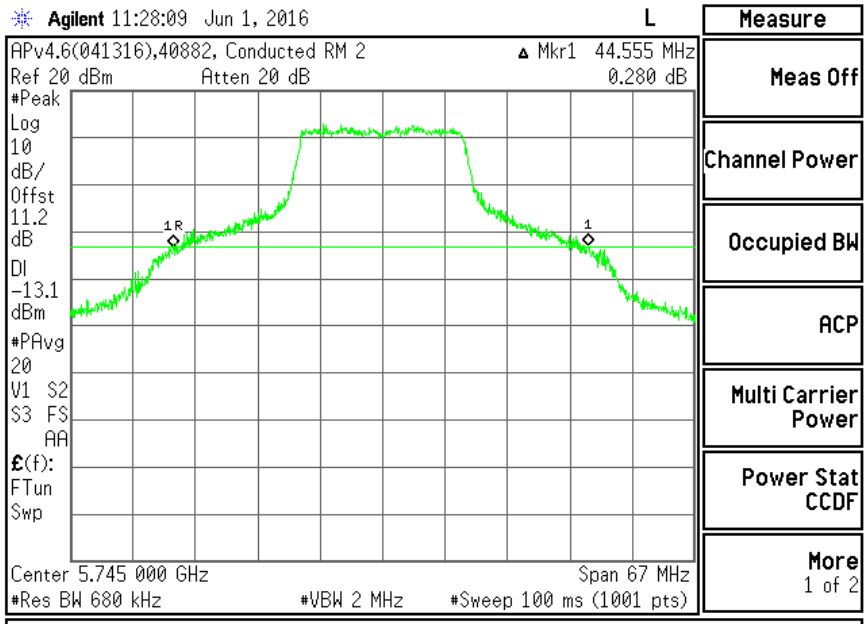
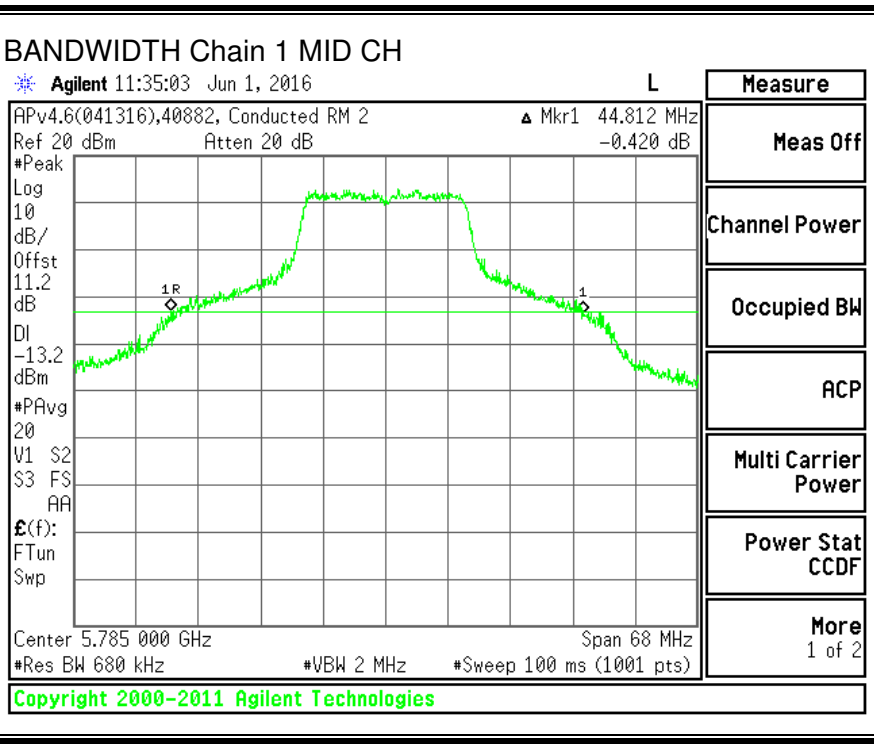
26 dB BANDWIDTH, Chain 1

BANDWIDTH Chain 1 LOW CH



BANDWIDTH Chain 1 MID CH



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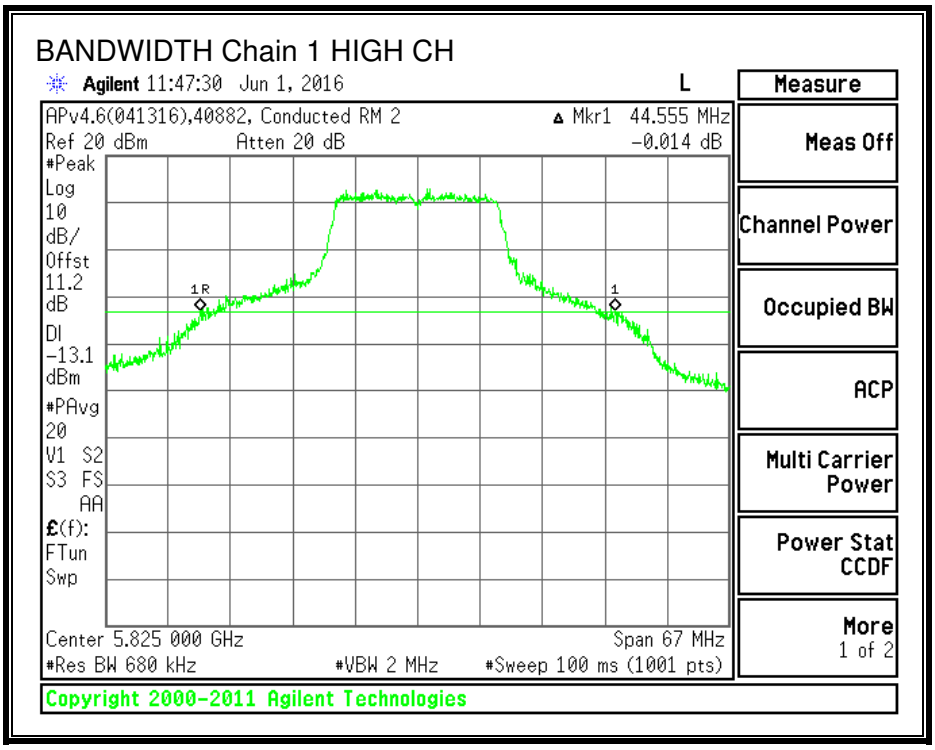

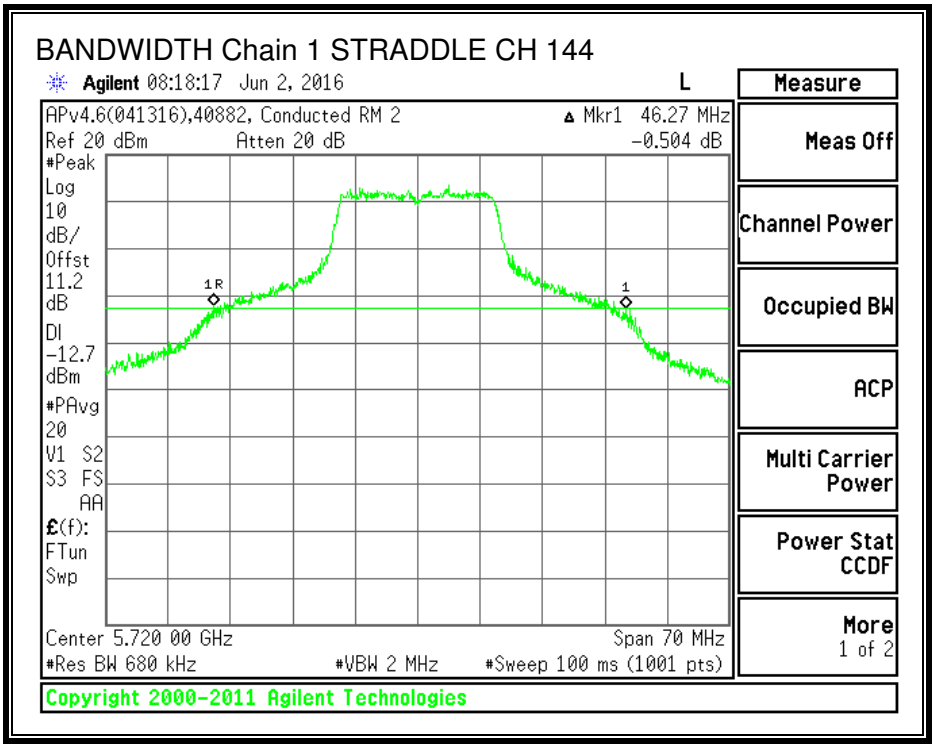

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9.3.1. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	19.9008	19.6620
Mid	5785	17.8902	19.6066
High	5825	17.9114	19.3141
144	5720	19.7467	19.8344

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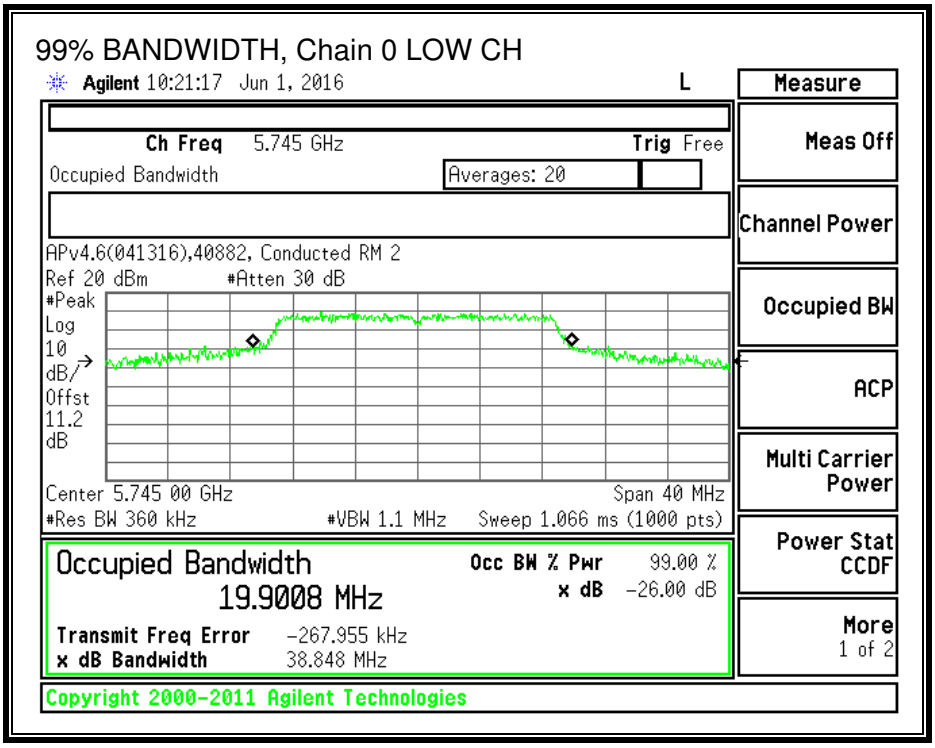
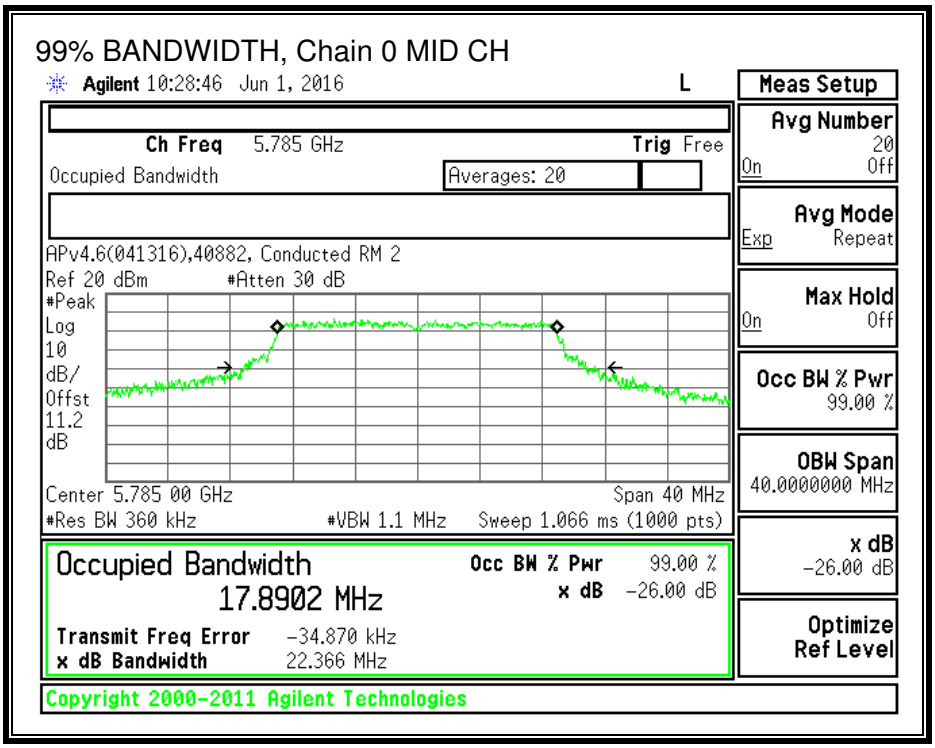
99% BANDWIDTH, Chain 0





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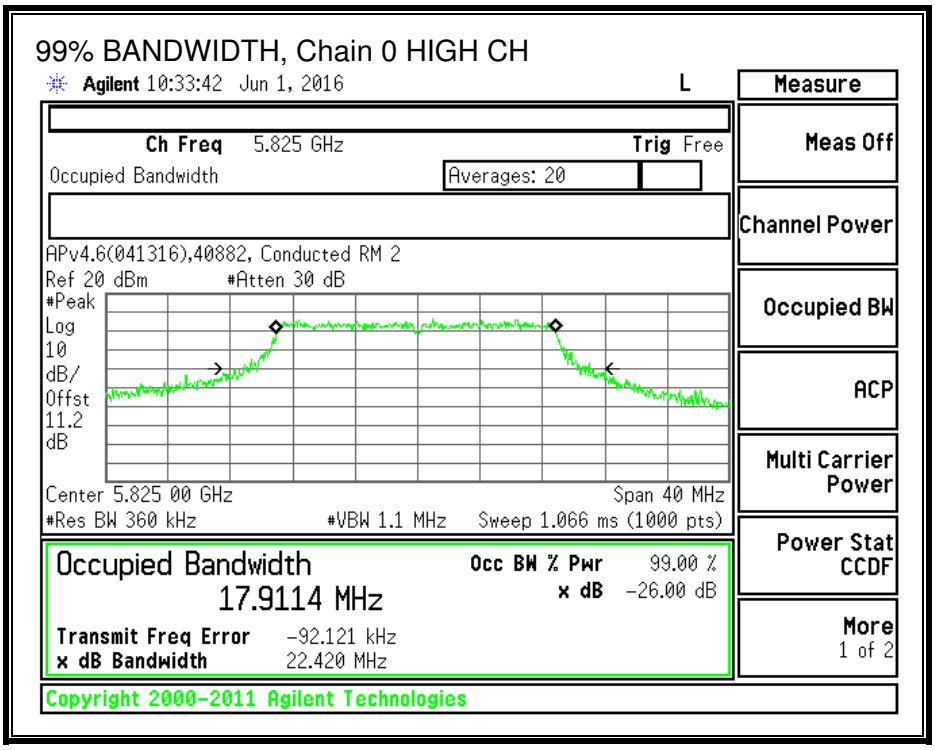

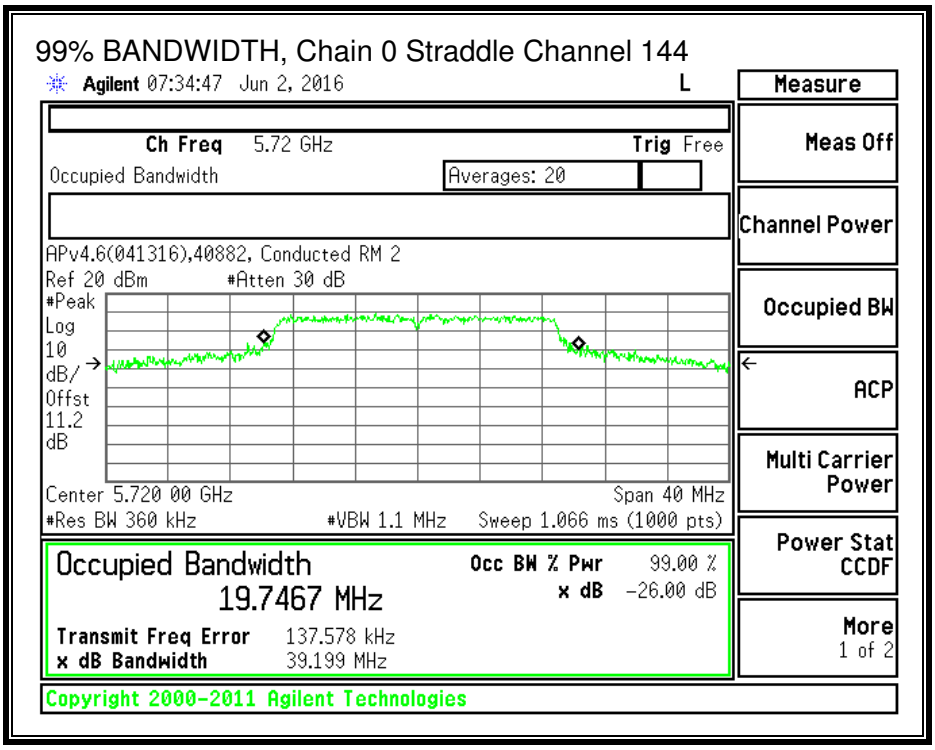

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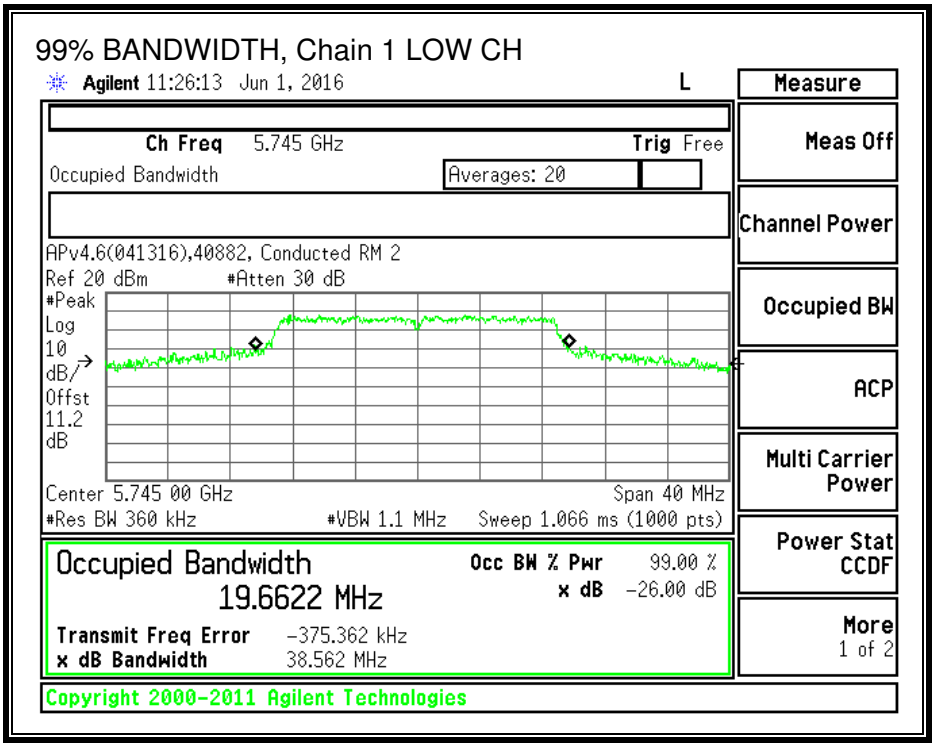
99% BANDWIDTH, Chain 1



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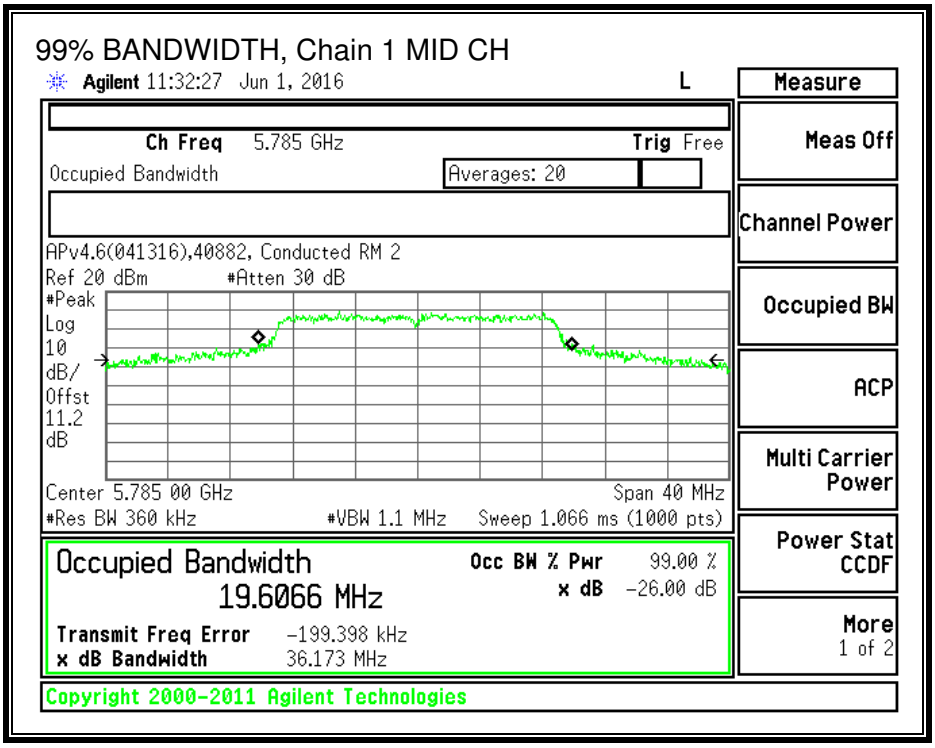

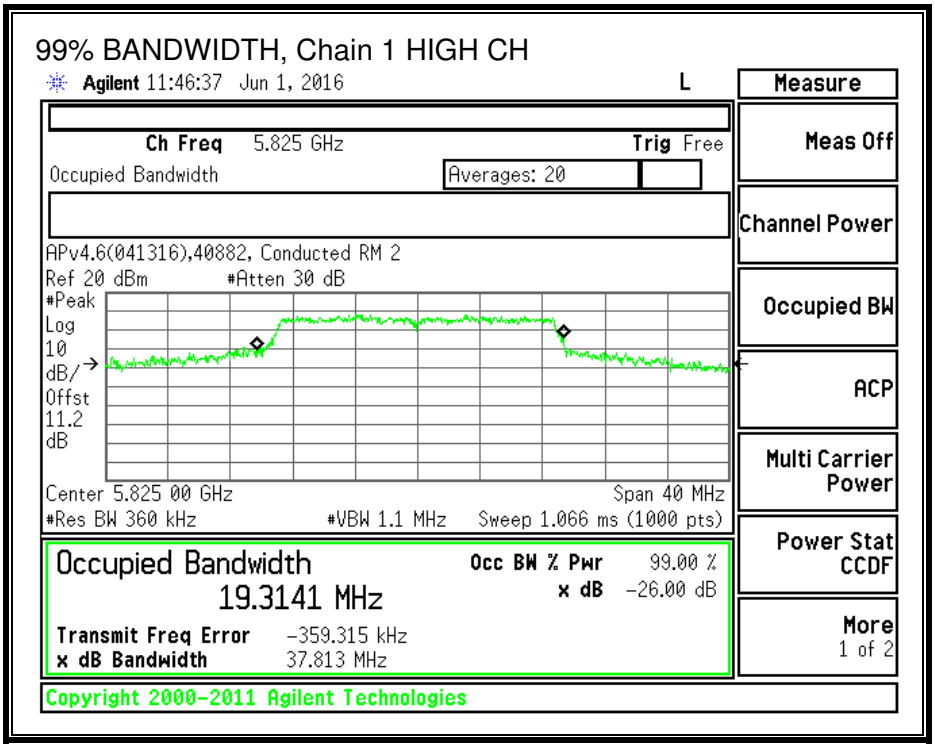

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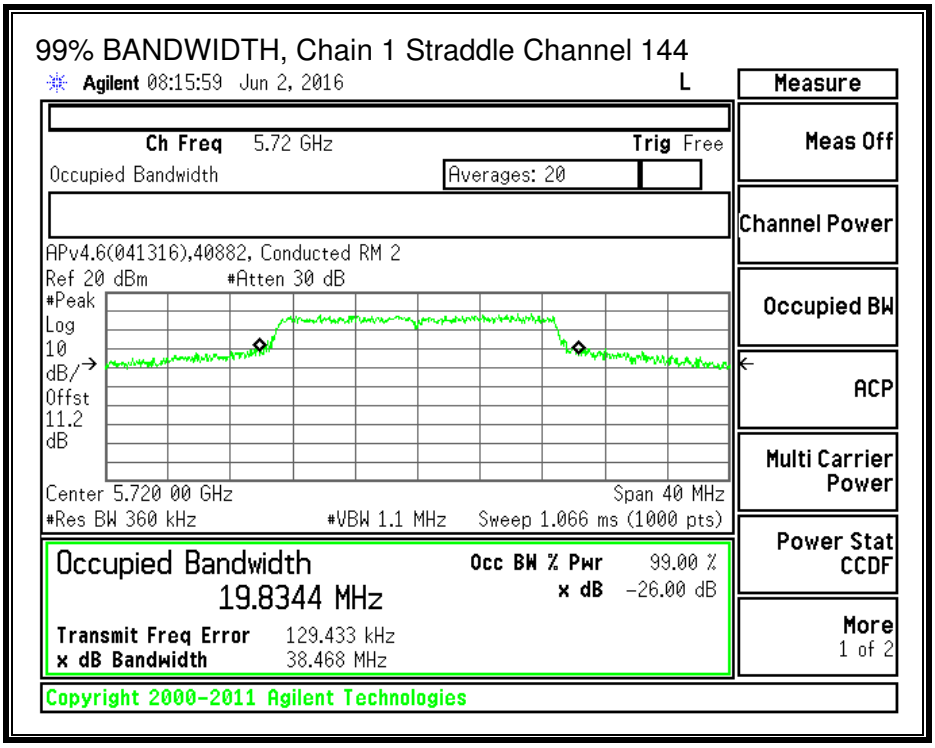

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9.3.2. OUTPUT POWER

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 the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.42	30.00
Mid	5785	3.42	30.00
High	5825	3.42	30.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power

Chain A Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	17.58	17.90	30.00	-12.10
Mid	5785	16.95	17.27	30.00	-12.73
High	5825	16.19	16.51	30.00	-13.49

Chain B Output Power Results

Channel	Frequency (MHz)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.80	17.12	30.00	-12.88
Mid	5785	17.03	17.35	30.00	-12.65
High	5825	16.34	16.66	30.00	-13.34

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9.3.3. 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	3.42	30.00
Mid	5785	3.42	30.00
High	5825	3.42	30.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd PSD

Chain A PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.37	3.69	30.00	-26.31
Mid	5785	2.93	3.25	30.00	-26.75
High	5825	2.22	2.54	30.00	-27.46

Chain B PSD Results

Channel	Frequency (MHz)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.12	2.44	30.00	-27.56
Mid	5785	2.18	2.50	30.00	-27.50
High	5825	1.77	2.09	30.00	-27.91

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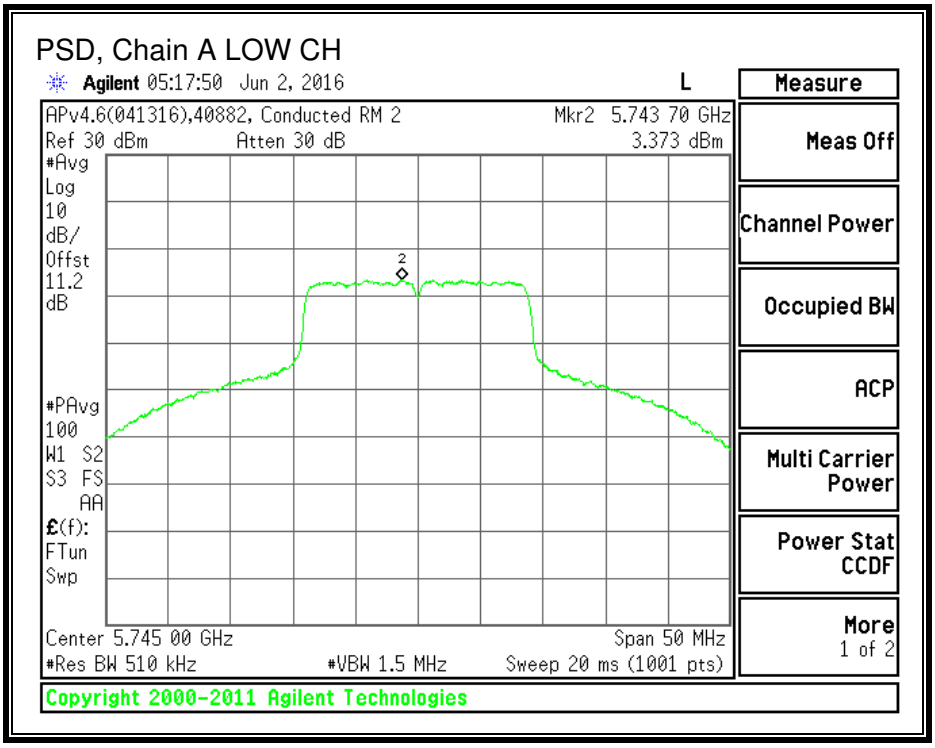
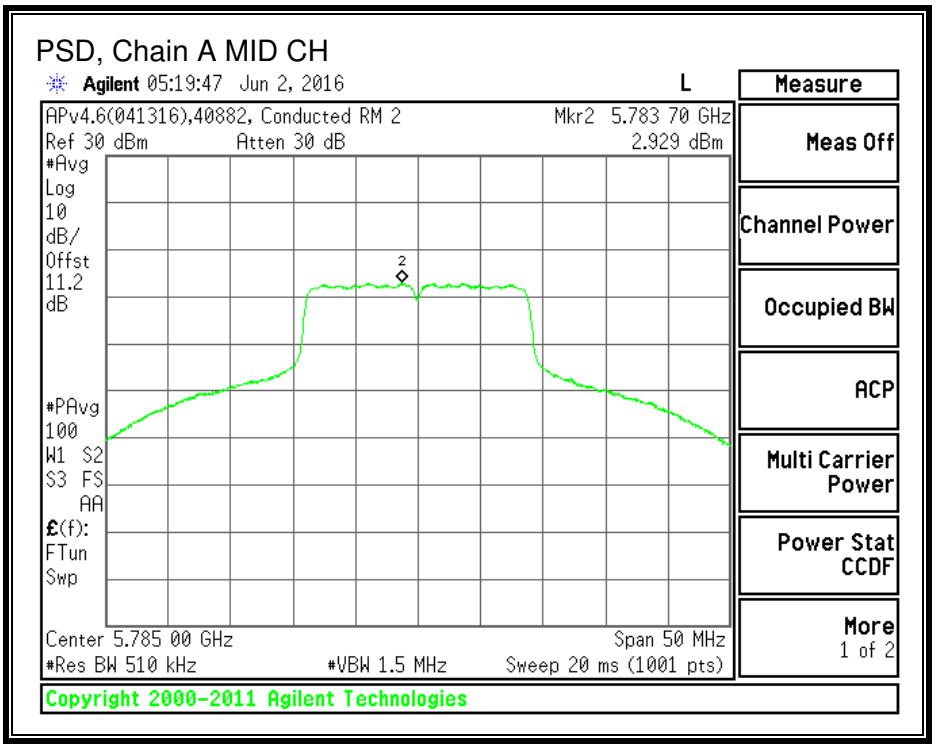
PSD, Chain A





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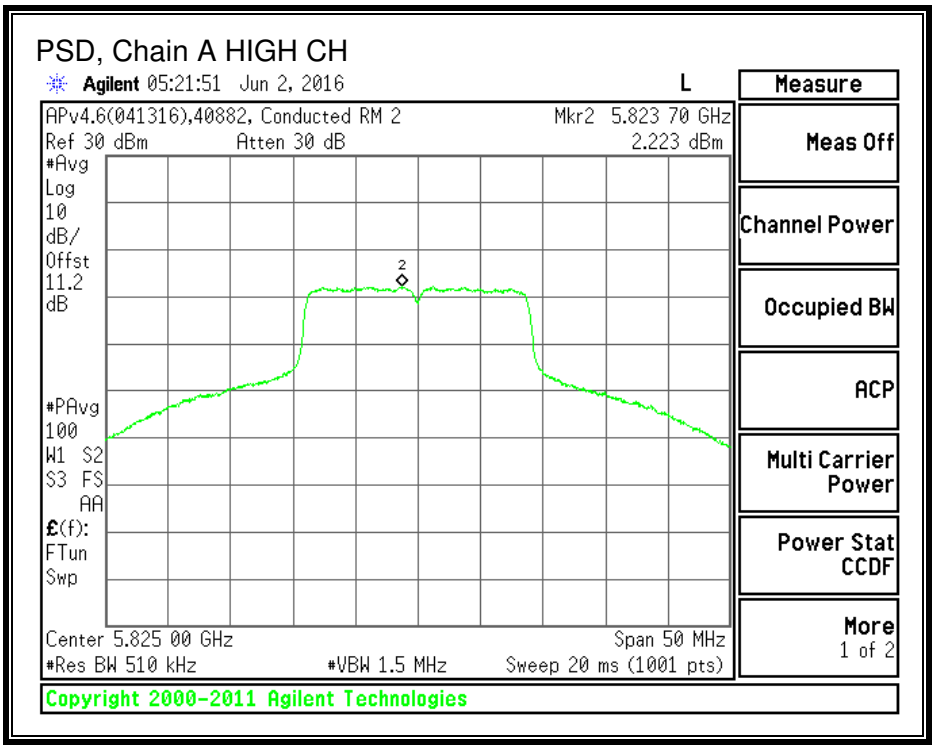
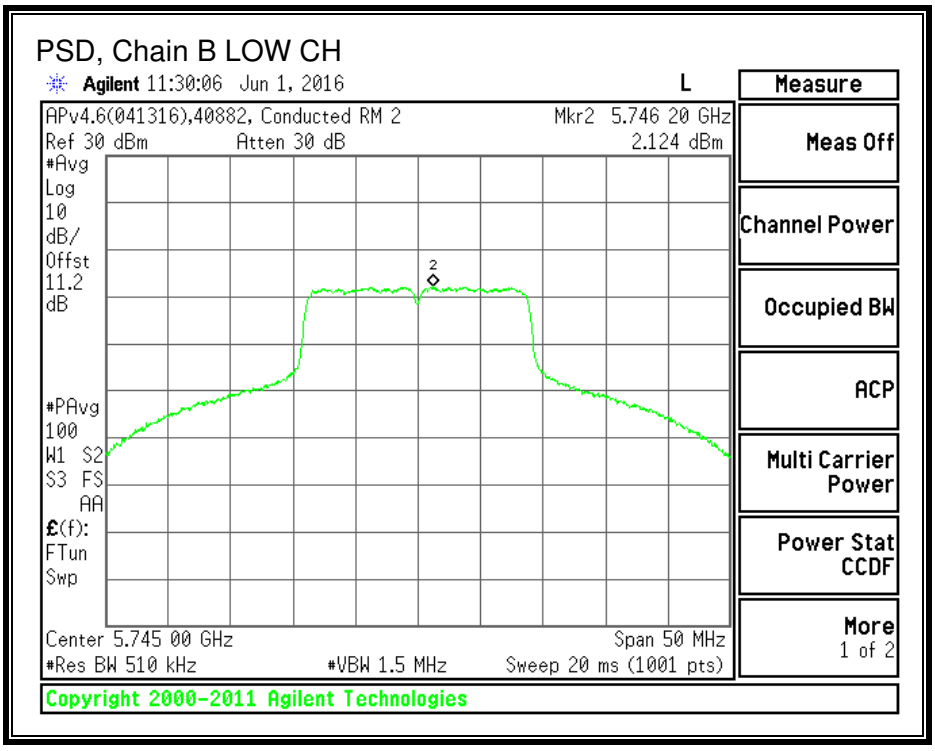


PSD, Chain B



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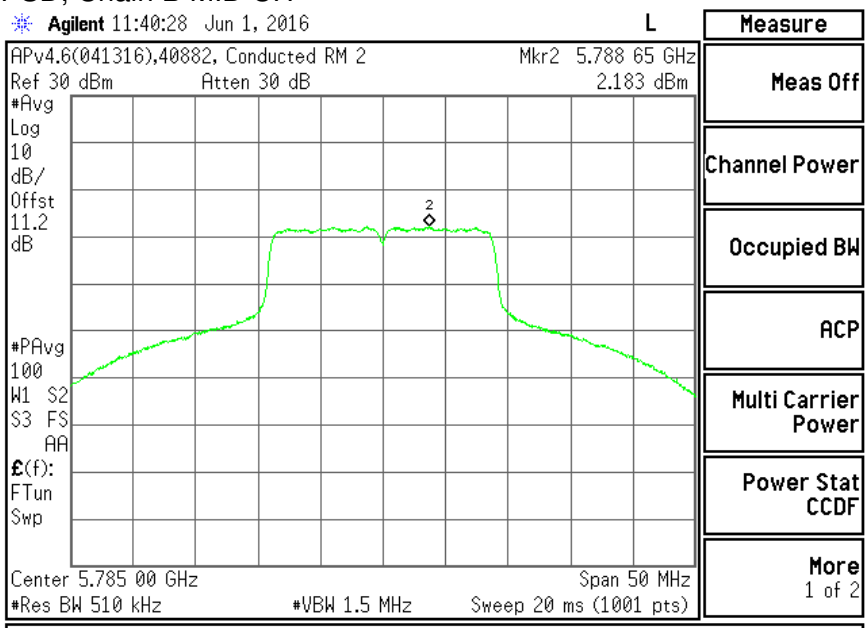
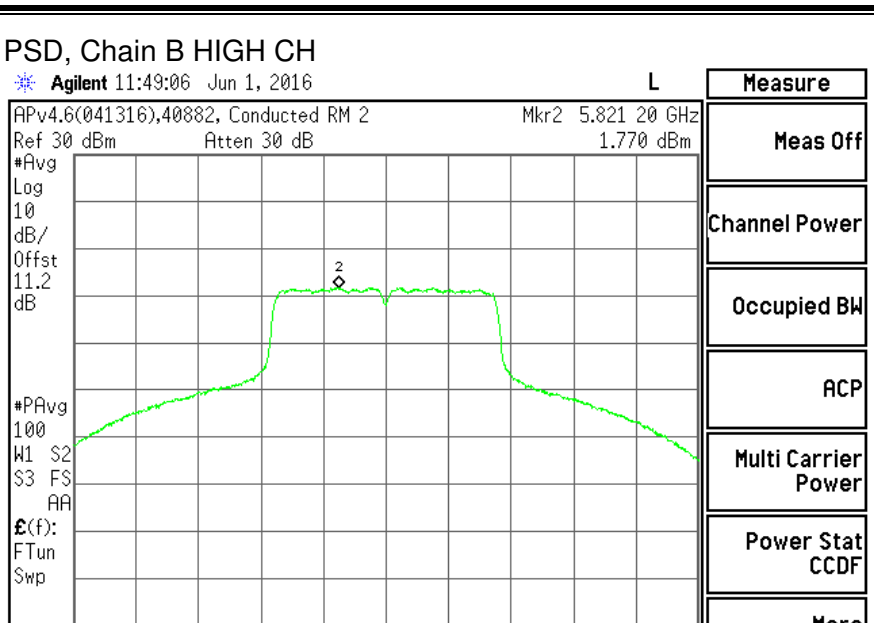
PSD, Chain B MID CH



PSD, Chain B HIGH CH



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9.3.4. STRADDLE CHANNEL OUTPUT POWER AND 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42.

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RESULTS

STRADDLE CHANNEL 144 - 802.11n 20 MHz SISO RESULTS

UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	3.42	30.00	30.00

Duty Cycle CF (dB)	0.32	Included in Calculations of Corr'd Power & PSD

Chain A Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	10.65	10.97	30.00	-19.03

Chain A PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	2.78	3.10	30.00	-26.90

Chain B Output Power Results

Channel	Frequency (MHz)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	9.89	10.21	30.00	-19.79

Chain B PSD Results

Channel	Frequency (MHz)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	1.94	2.26	30.00	-27.74

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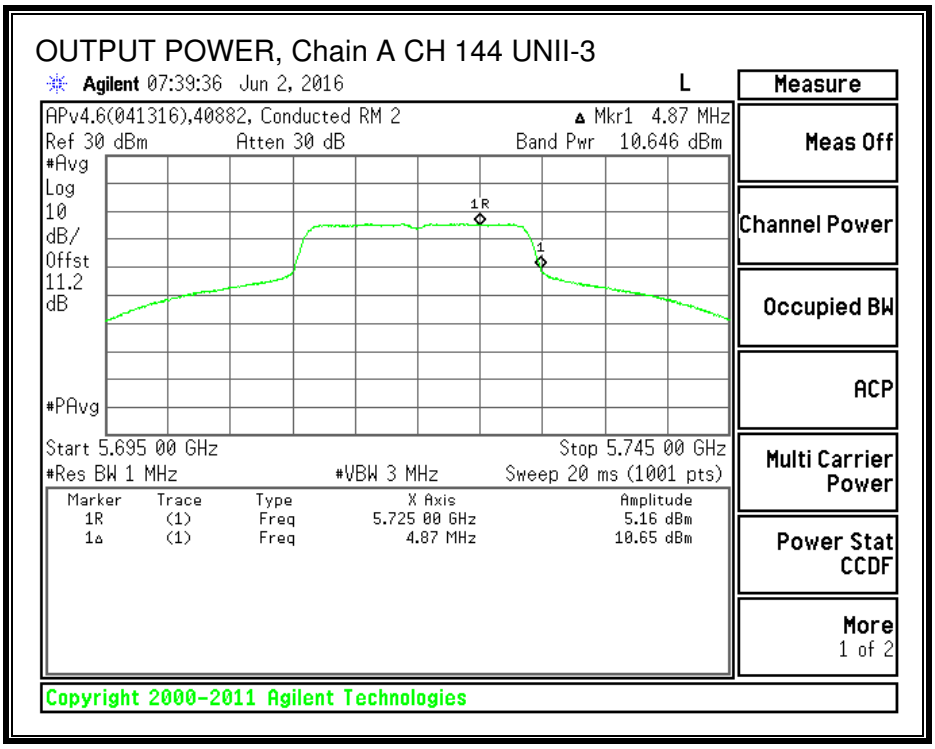

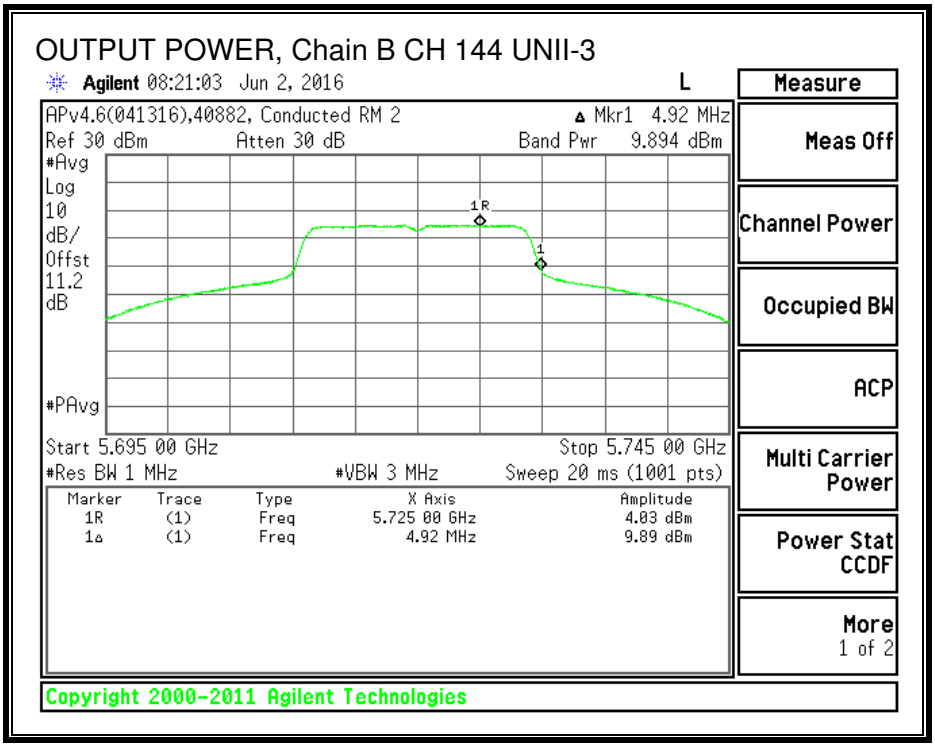

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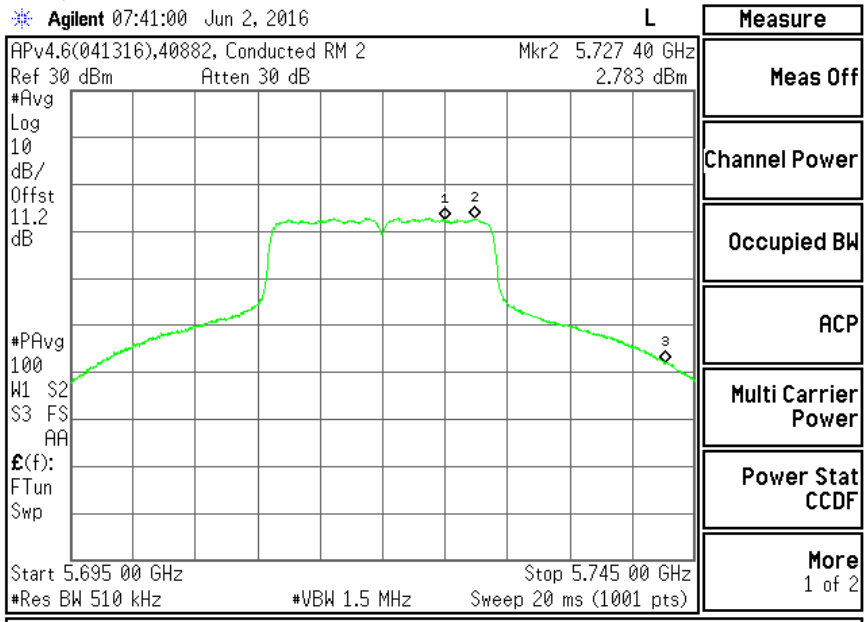
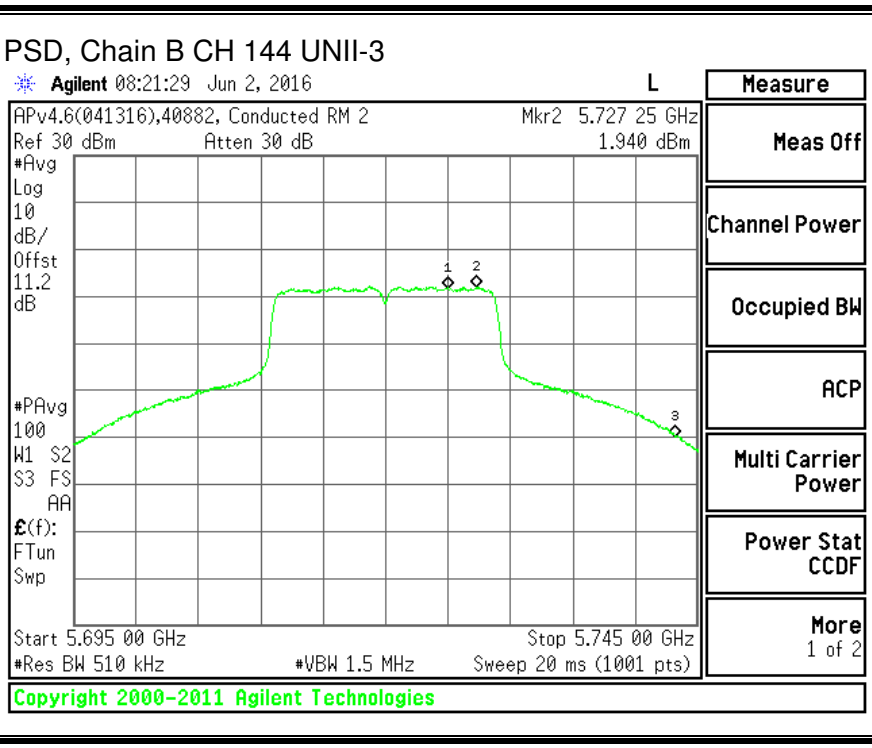
PSD, Chain A CH 144 UNII-3



PSD, Chain B CH 144 UNII-3



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9.4. 802.11n HT40 MIMO MODE IN THE 5.8 GHz BAND

9.4.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5755	41.64	41.90
High	5795	41.29	42.71
142	5710	43.10	42.56

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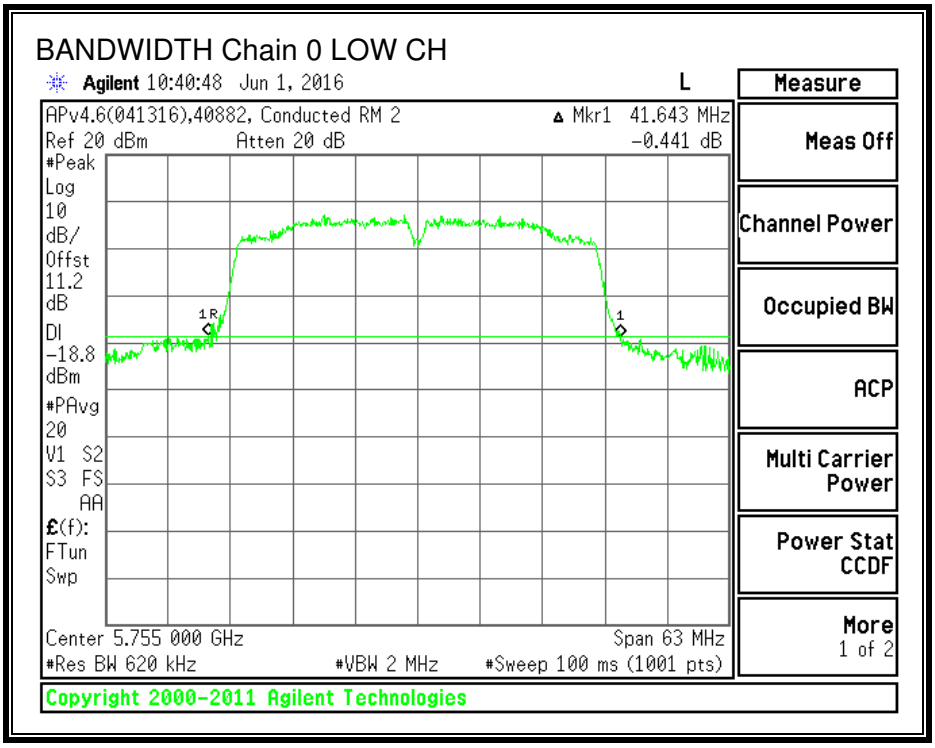
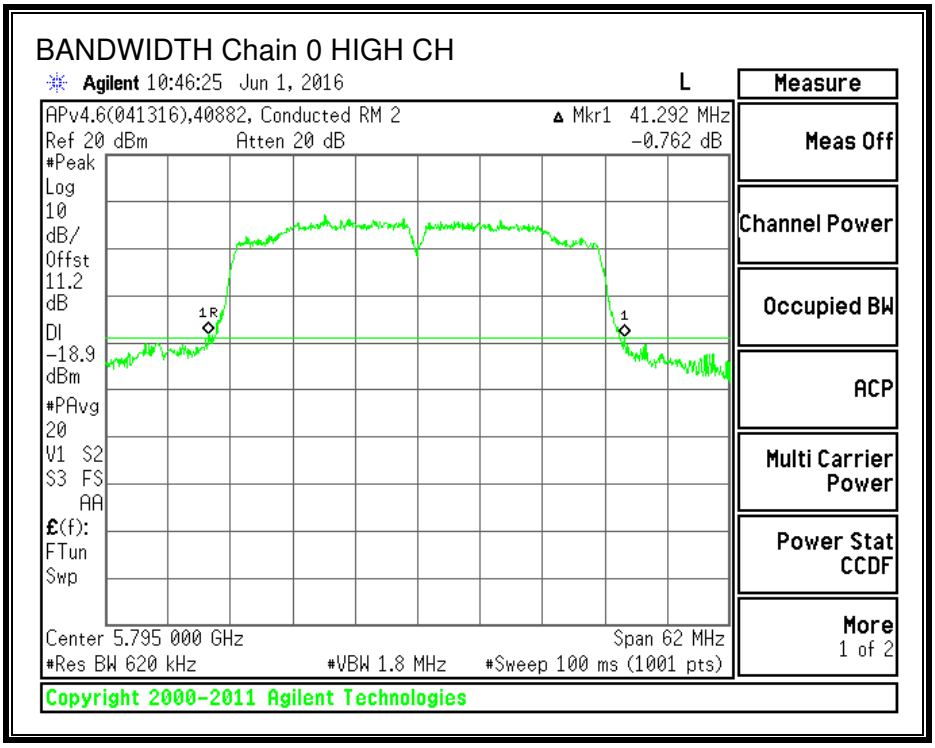
26 dB BANDWIDTH, Chain 0





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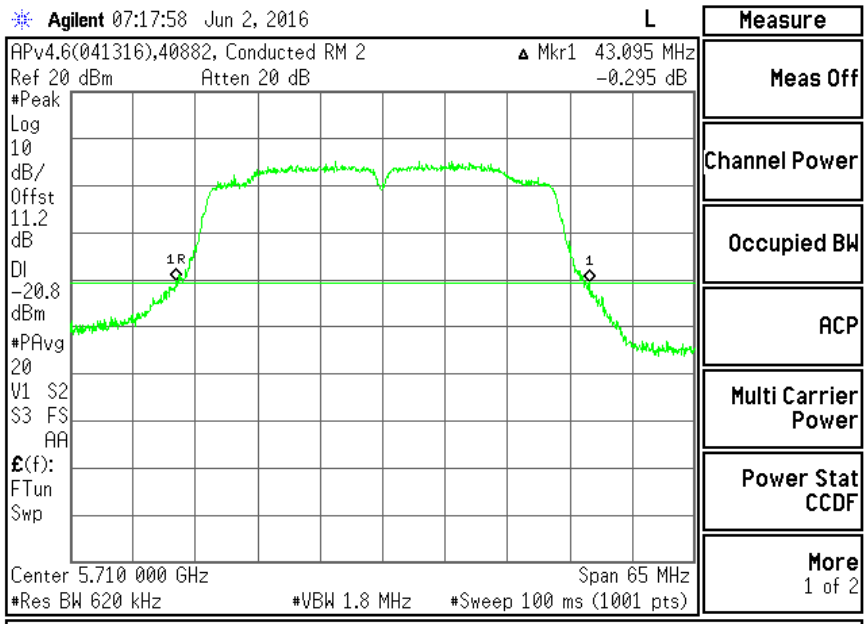
BANDWIDTH Chain 0 STRADDLE CH 142



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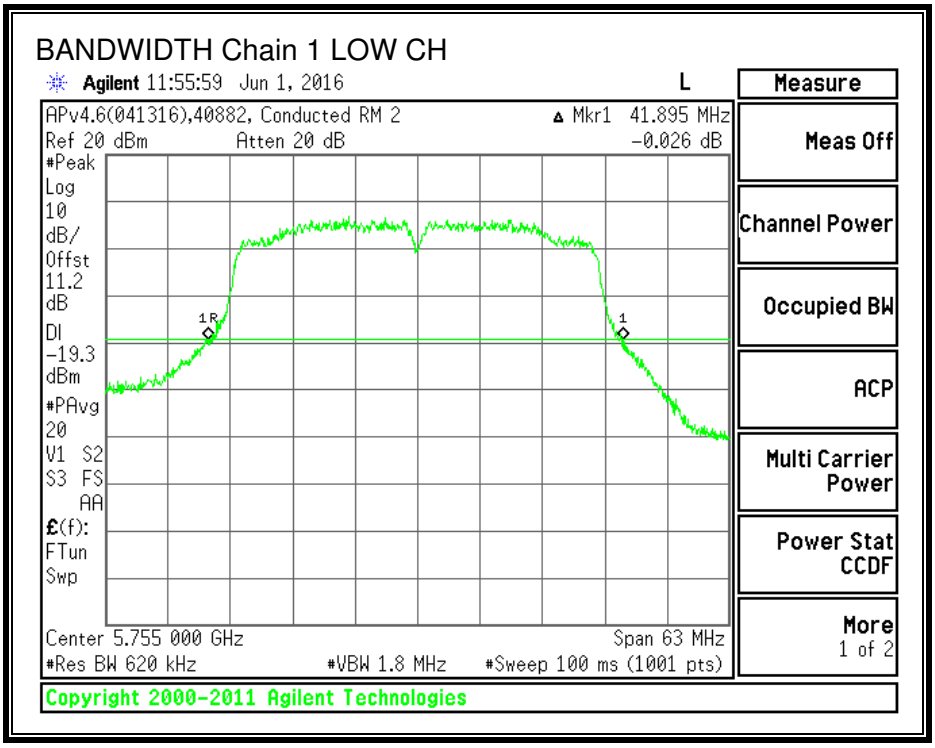
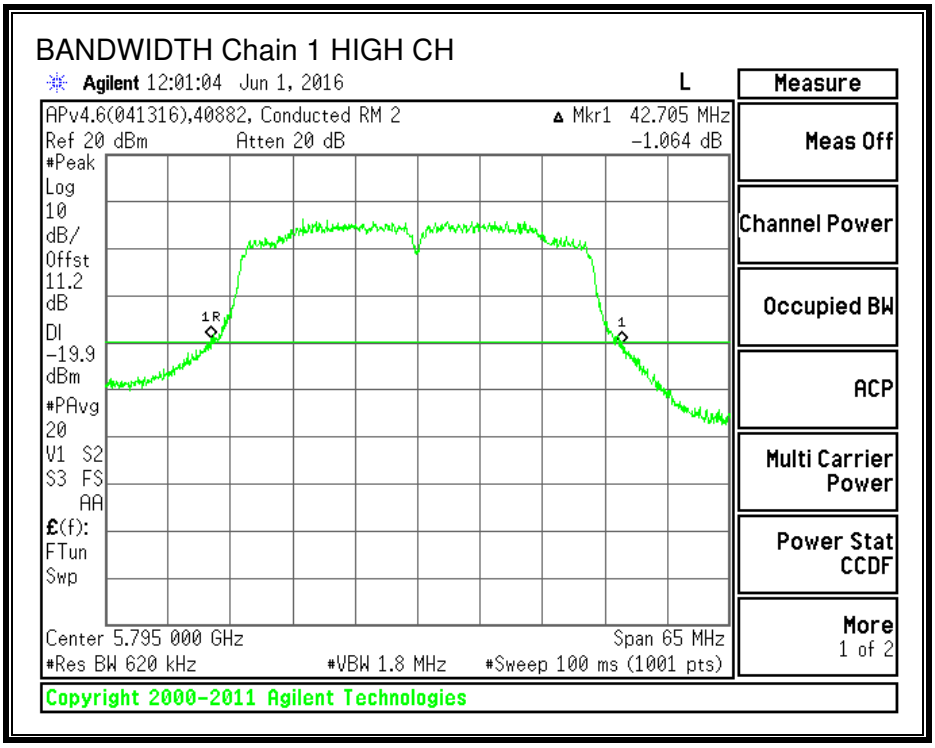
26 dB BANDWIDTH, Chain 1





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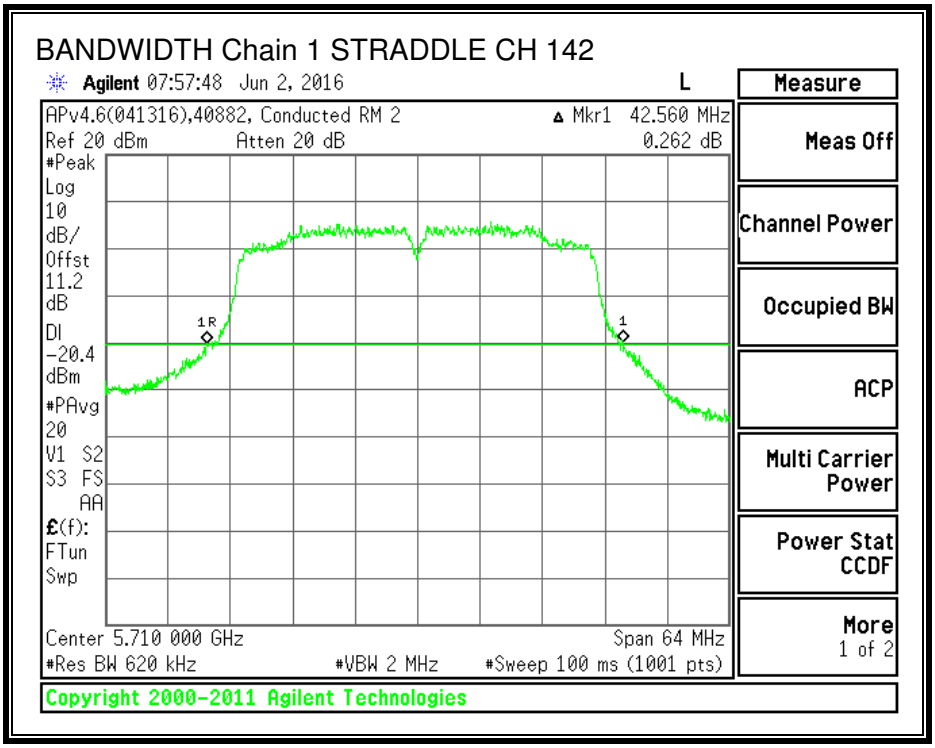

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9.4.1. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.1173	35.9162
High	5795	36.0413	35.9469
142	5710	35.9502	36.0993

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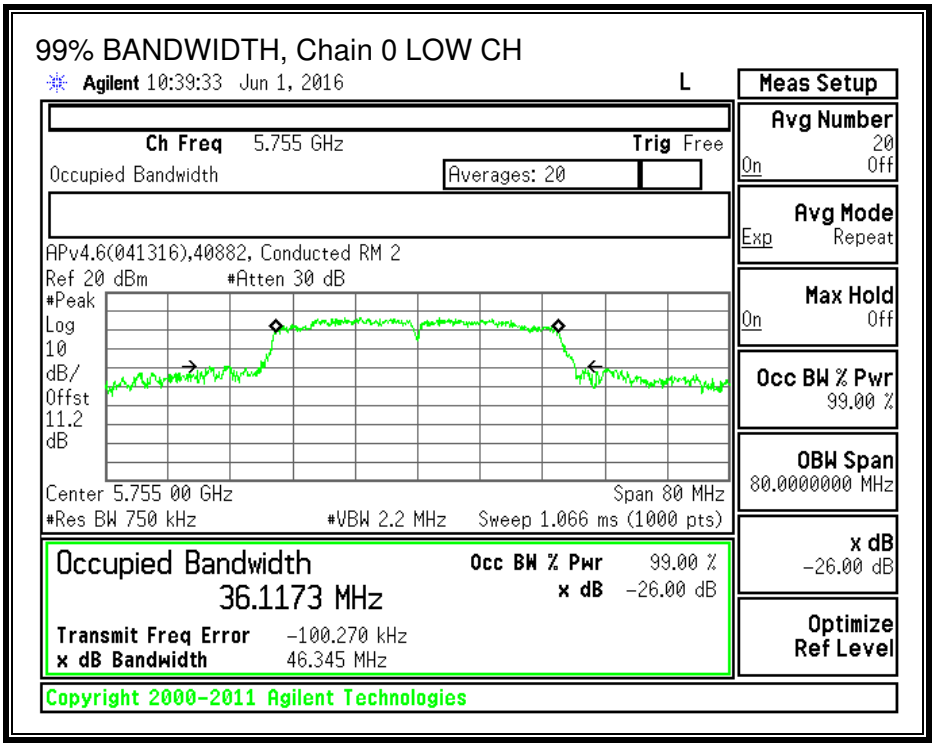
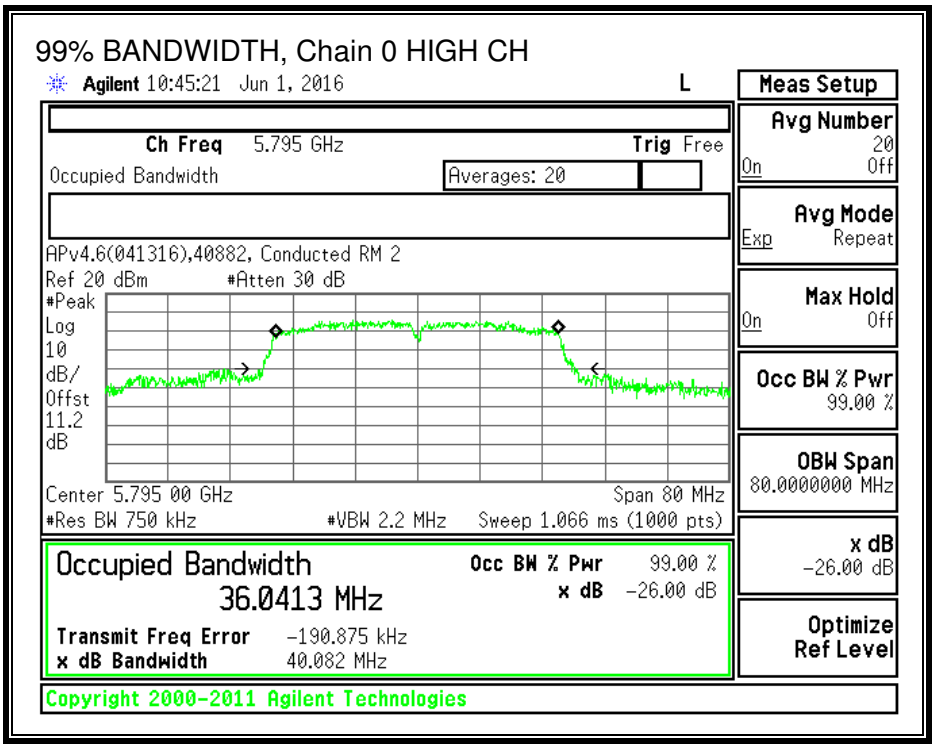
99% BANDWIDTH, Chain 0





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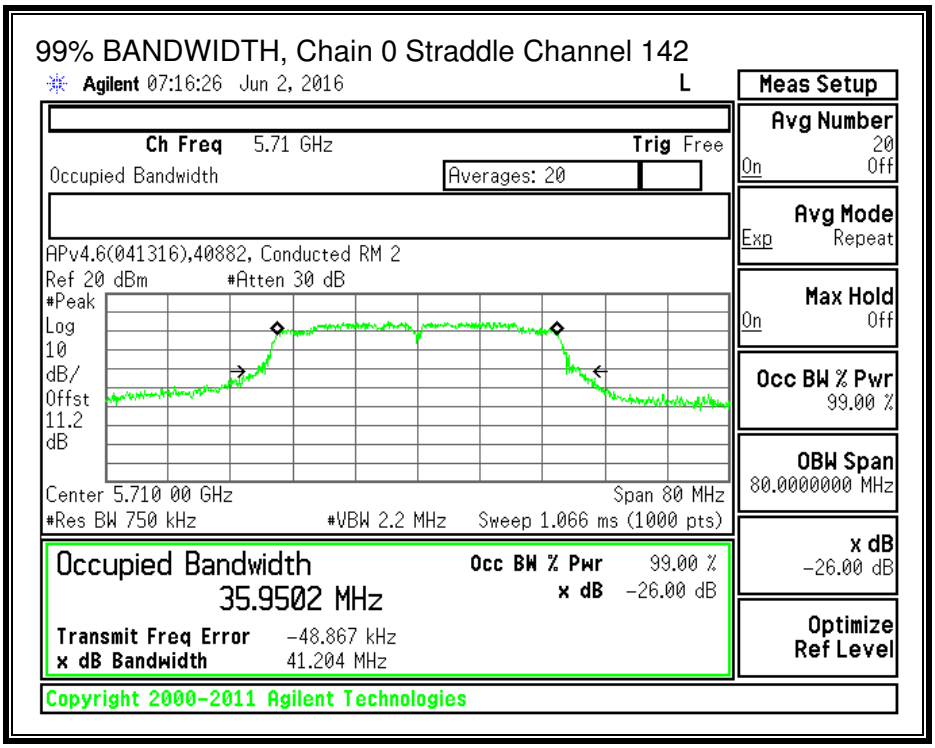

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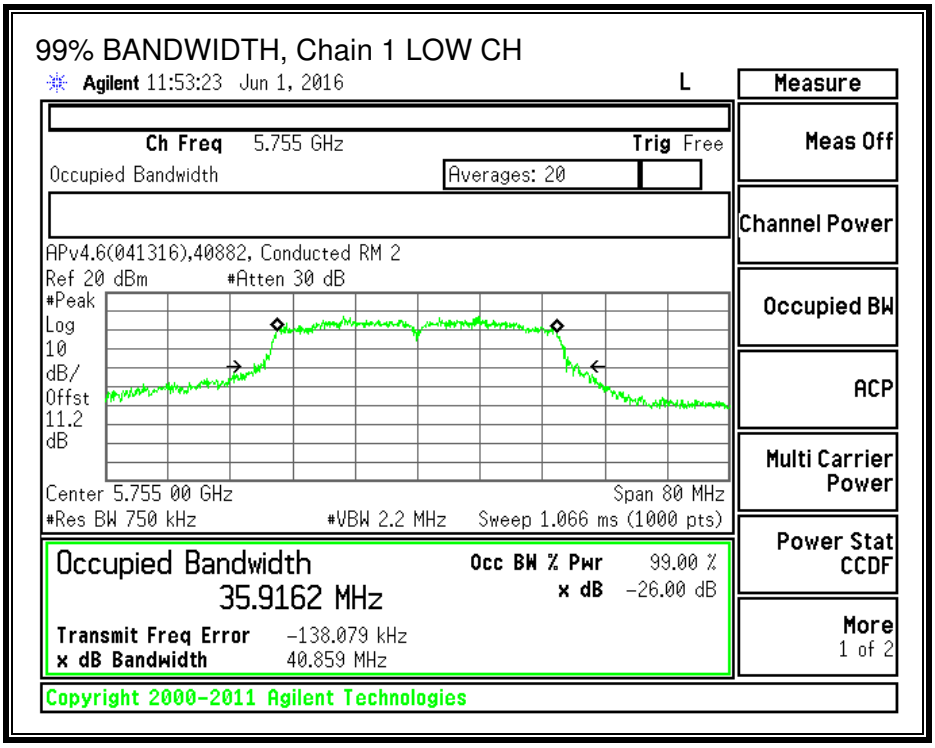
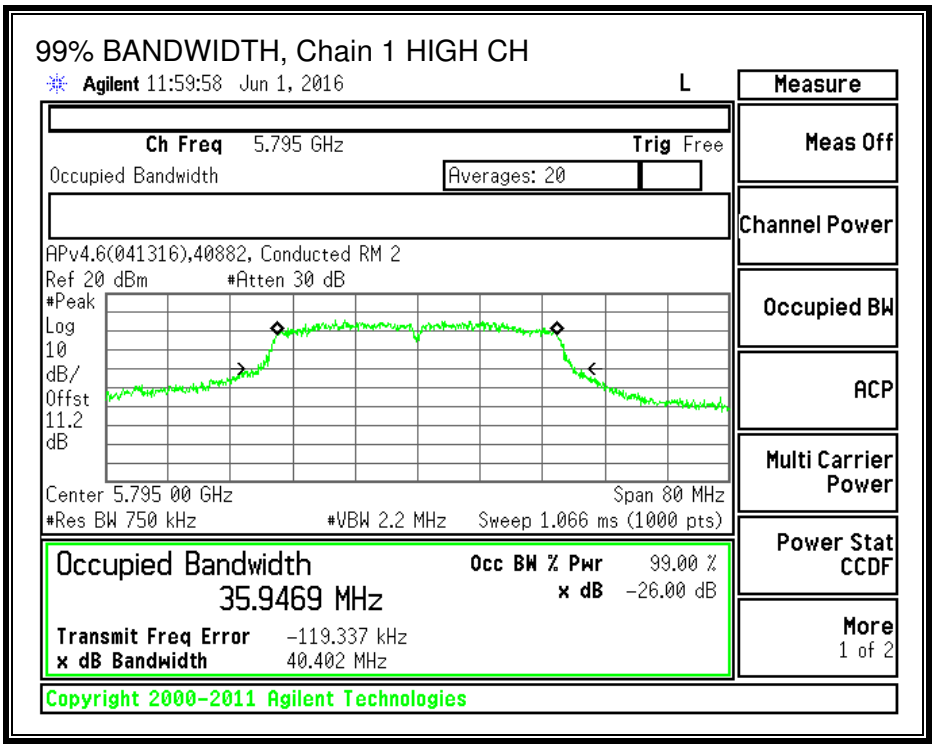
99% BANDWIDTH, Chain 1





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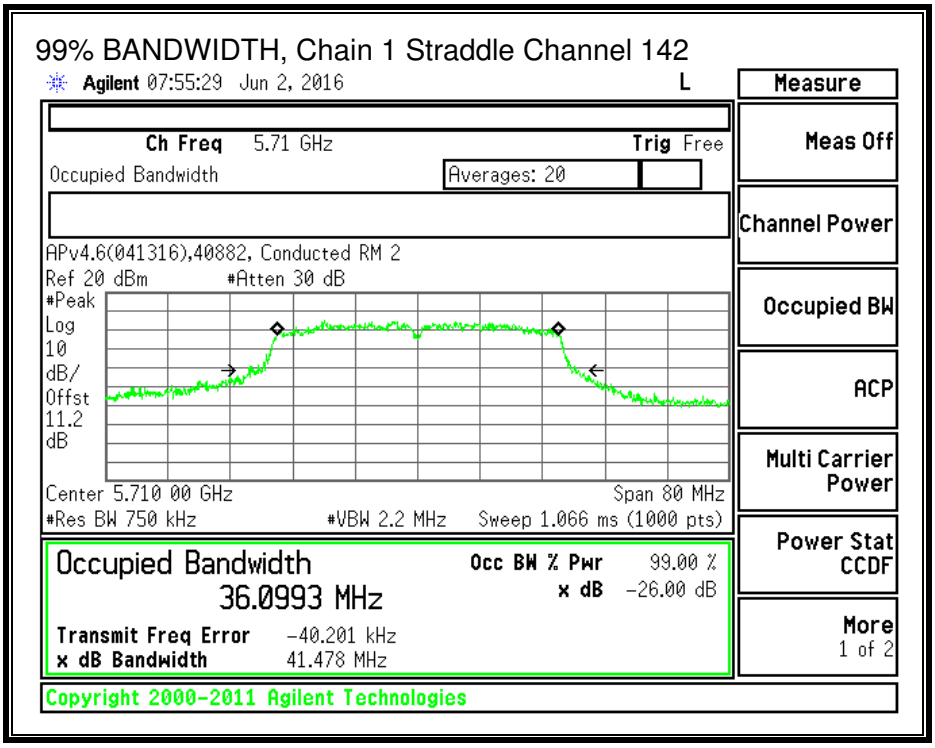

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9.4.2. OUTPUT POWER

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 the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	3.42	30.00
High	5795	3.42	30.00

Duty Cycle CF (dB)	0.24	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	16.66	15.28	19.27	30.00	-10.73
High	5795	15.63	15.47	18.80	30.00	-11.20

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9.4.3. 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	3.42	30.00
High	5795	3.42	30.00

Duty Cycle CF (dB)	0.24	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-3.09	-4.57	-0.52	30.00	-30.52
High	5795	-3.89	-4.78	-1.06	30.00	-31.06

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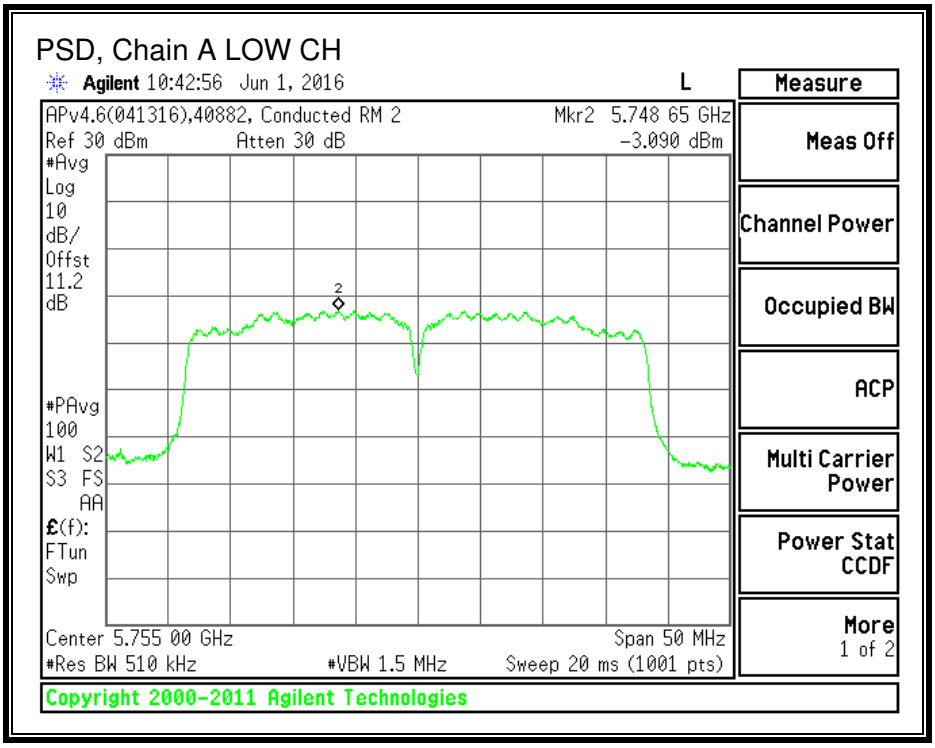
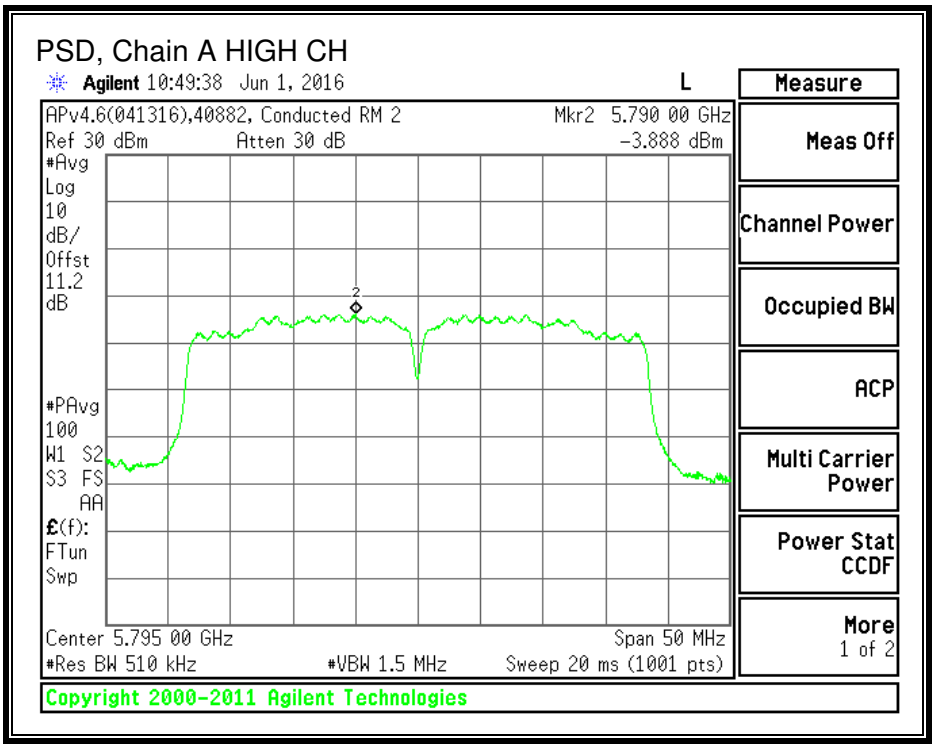
PSD, Chain A





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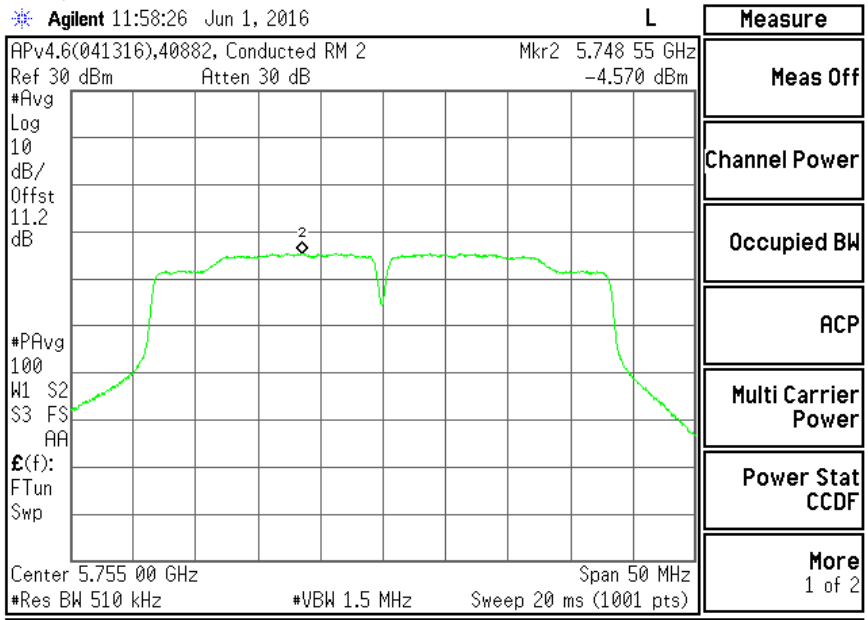
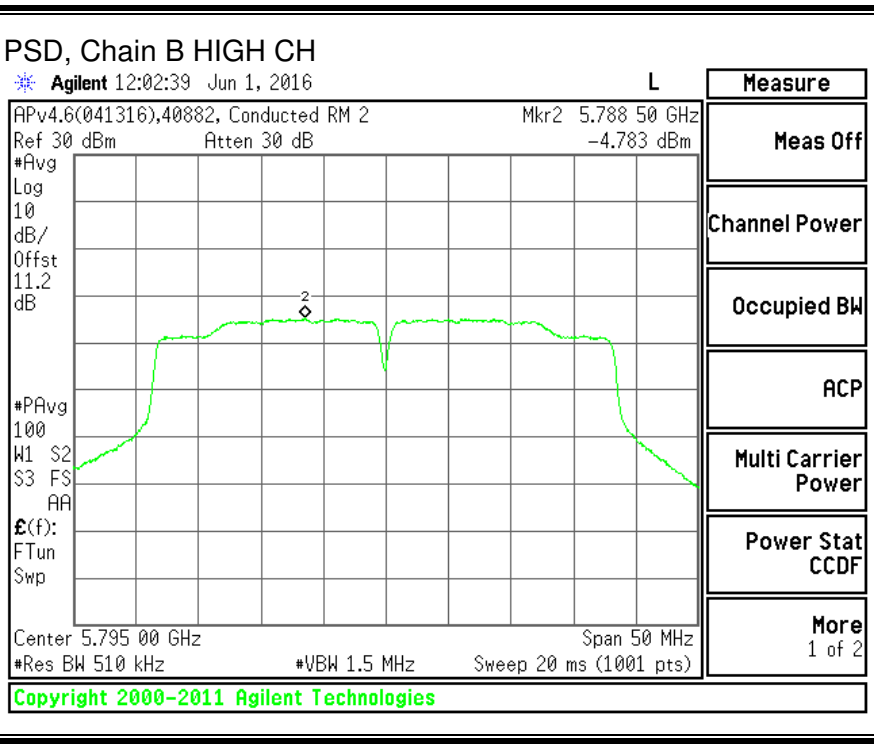
PSD, Chain B

PSD, Chain B LOW CH



PSD, Chain B HIGH CH



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9.4.4. STRADDLE CHANNEL OUTPUT POWER AND 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

STRADDLE CHANNEL 142 – 802.11n HT40 MIMO RESULTS

UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	3.42	3.42	30.00	30.00

Duty Cycle CF (dB)	0.24	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	-0.84	-2.03	1.86	30.00	-28.14

PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	-7.66	-8.91	-4.99	30.00	-34.99

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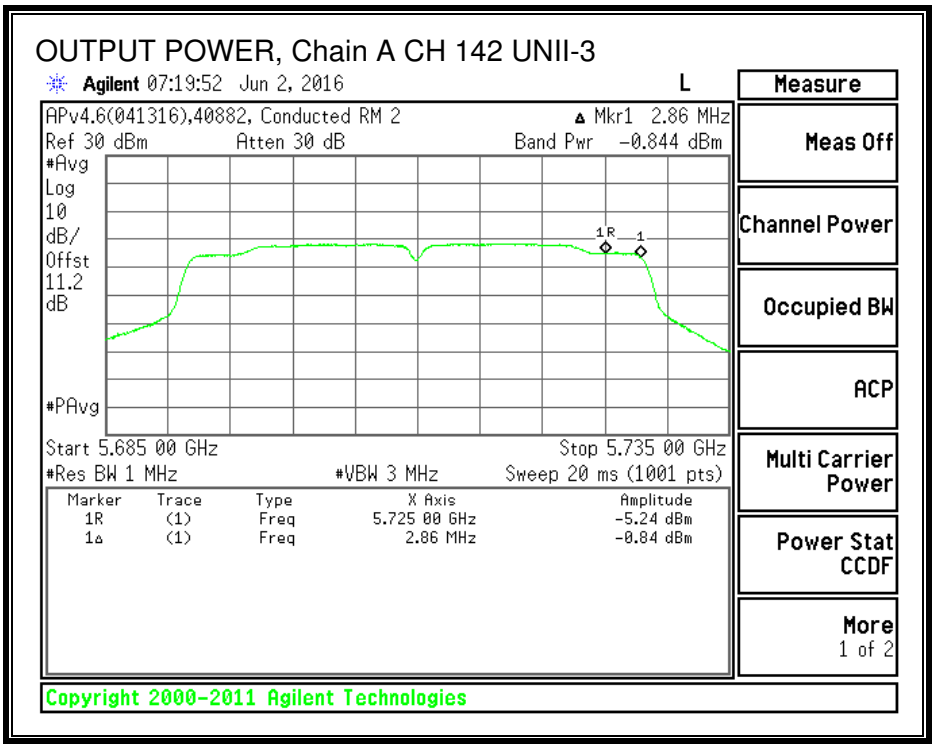

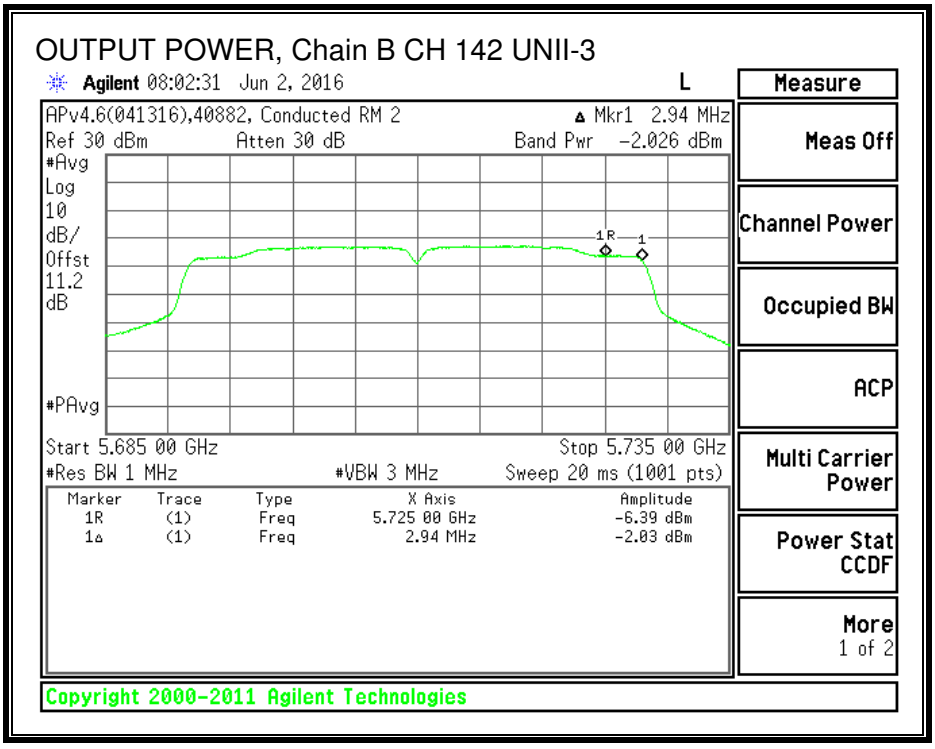

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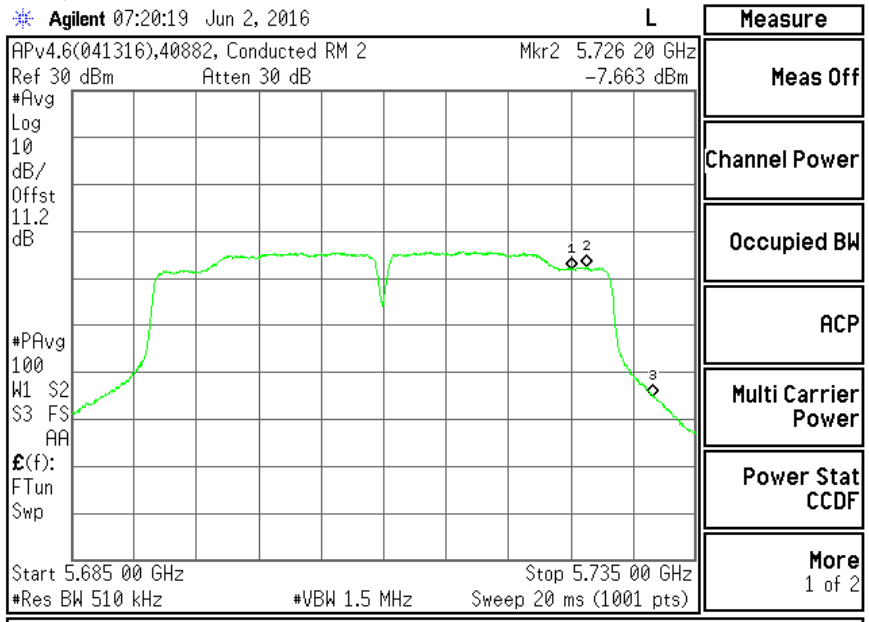
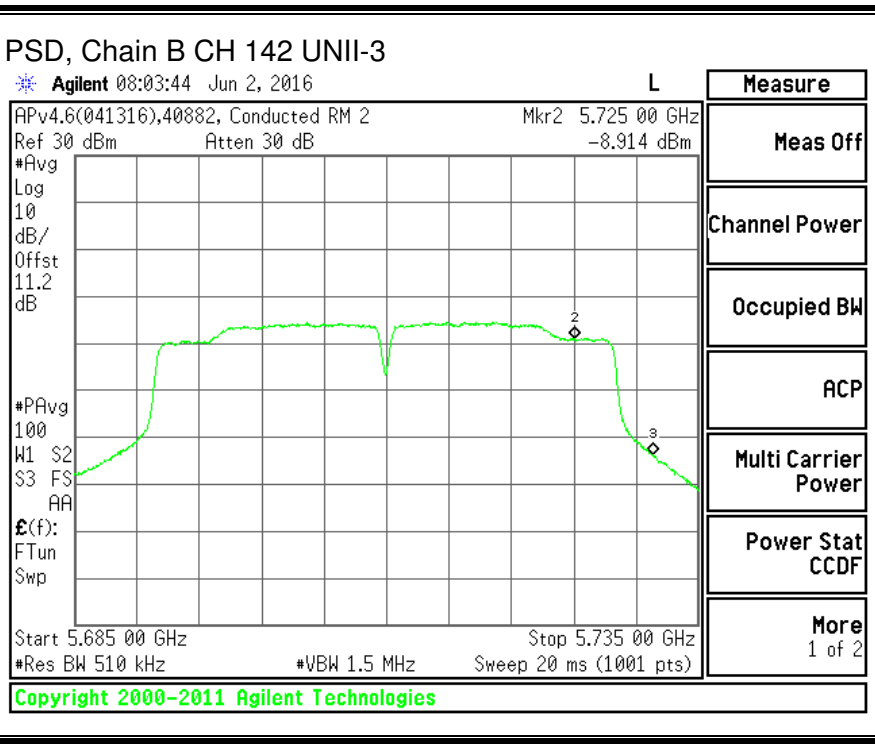
PSD, Chain A CH 142 UNII-3



PSD, Chain B CH 142 UNII-3



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9.5. 802.11ac VHT80 MIMO MODE IN THE 5.8 GHz BAND

9.5.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5775	81.43	81.55
138	5690	106.74	106.40

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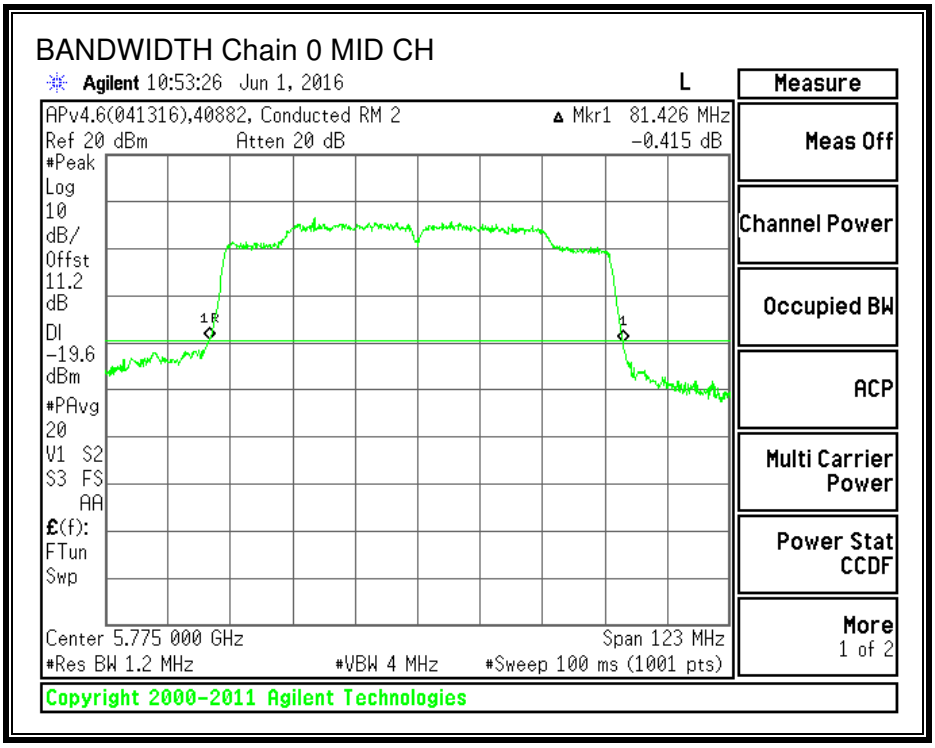
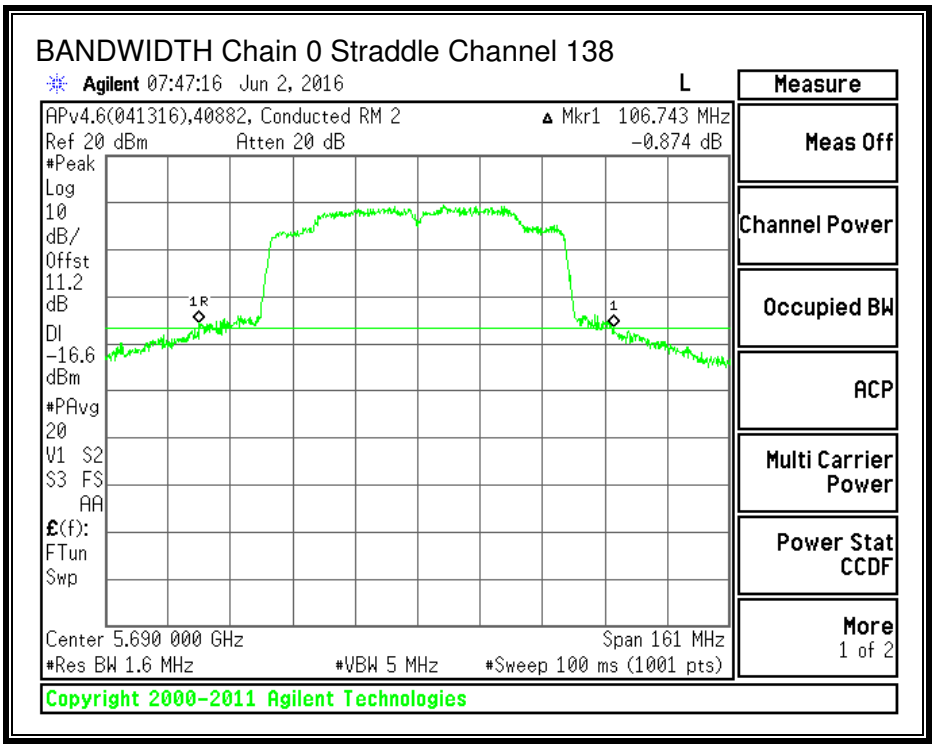
26 dB BANDWIDTH, Chain 0





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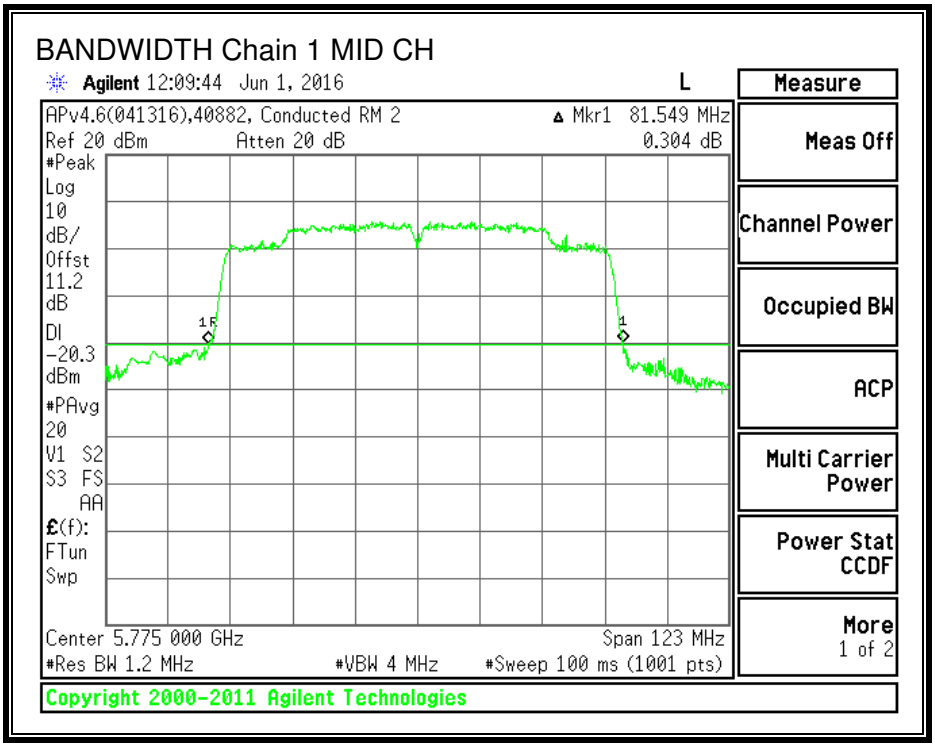
26 dB BANDWIDTH, Chain 1



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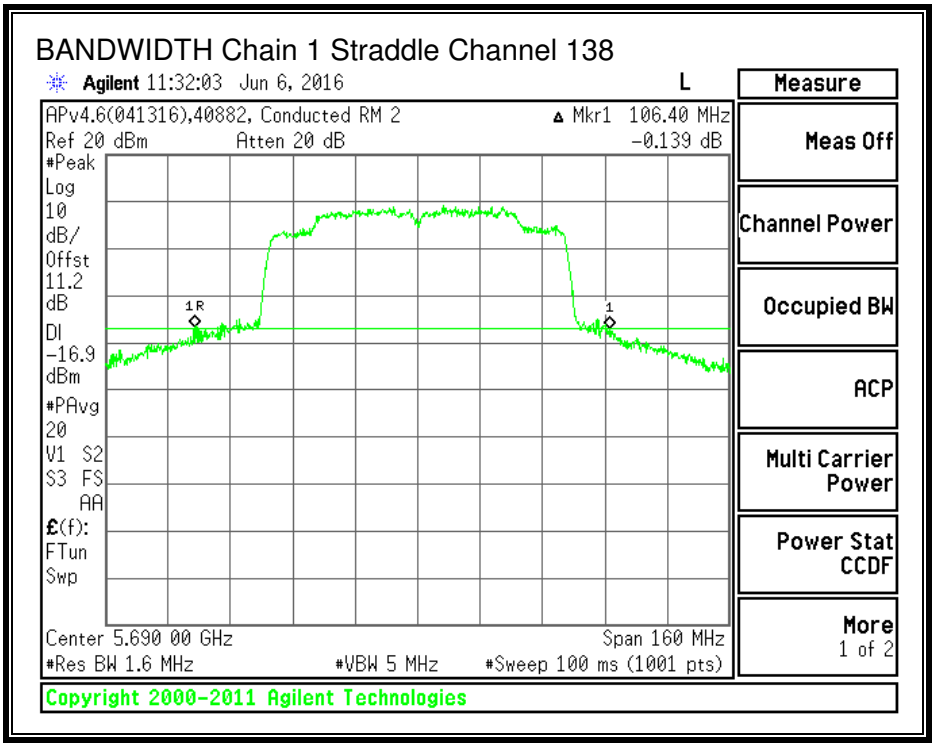

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9.5.1. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5775	74.9447	75.1182
138	5690	75.1959	75.0387

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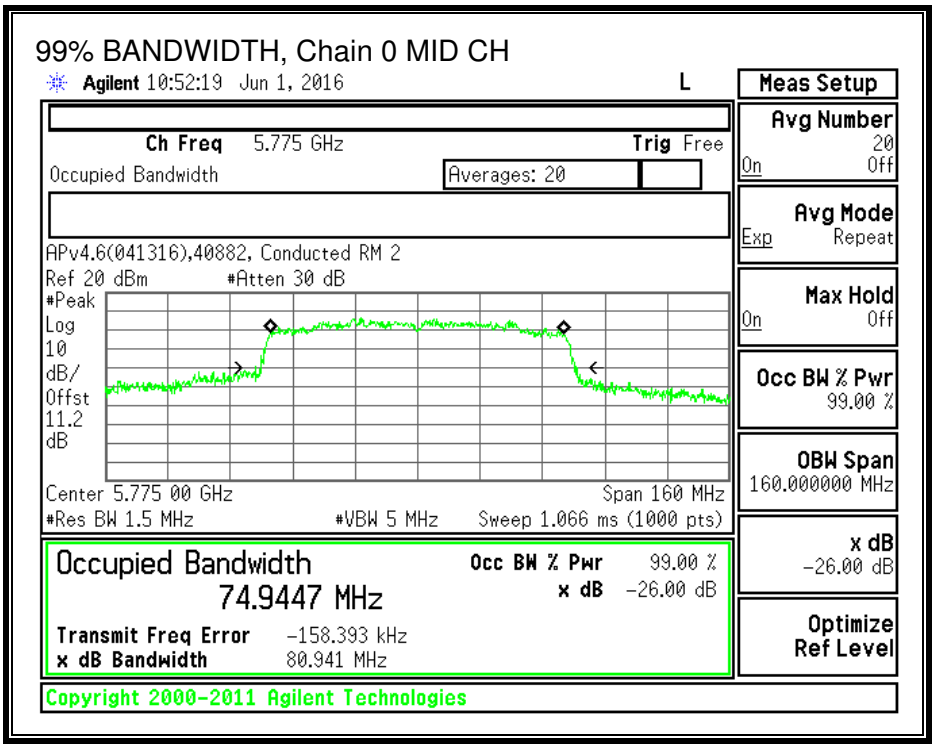
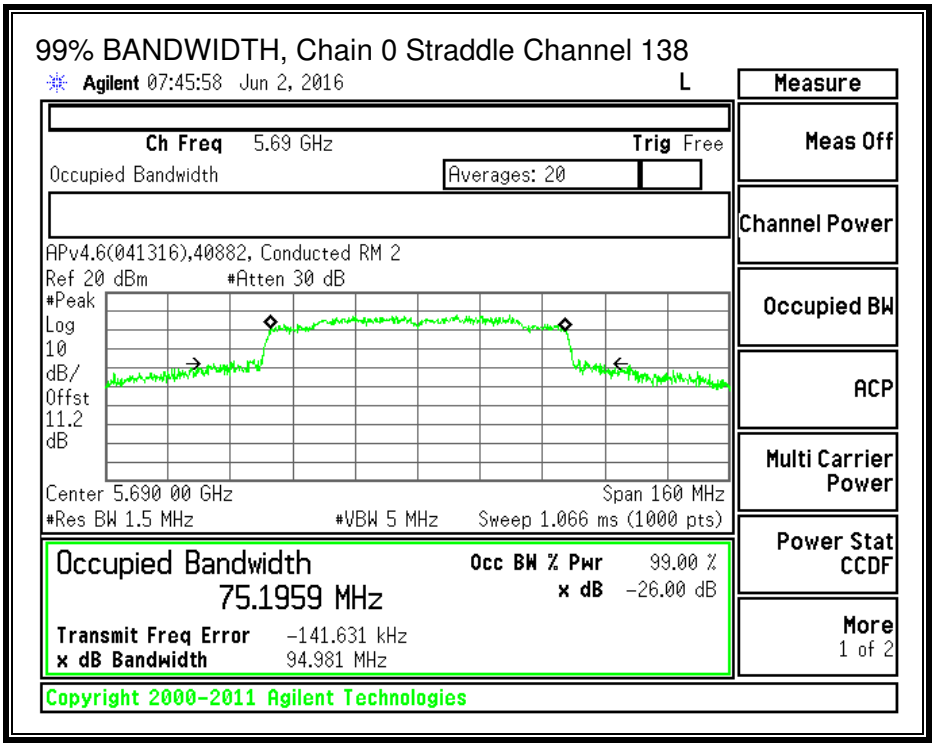
99% BANDWIDTH, Chain 0





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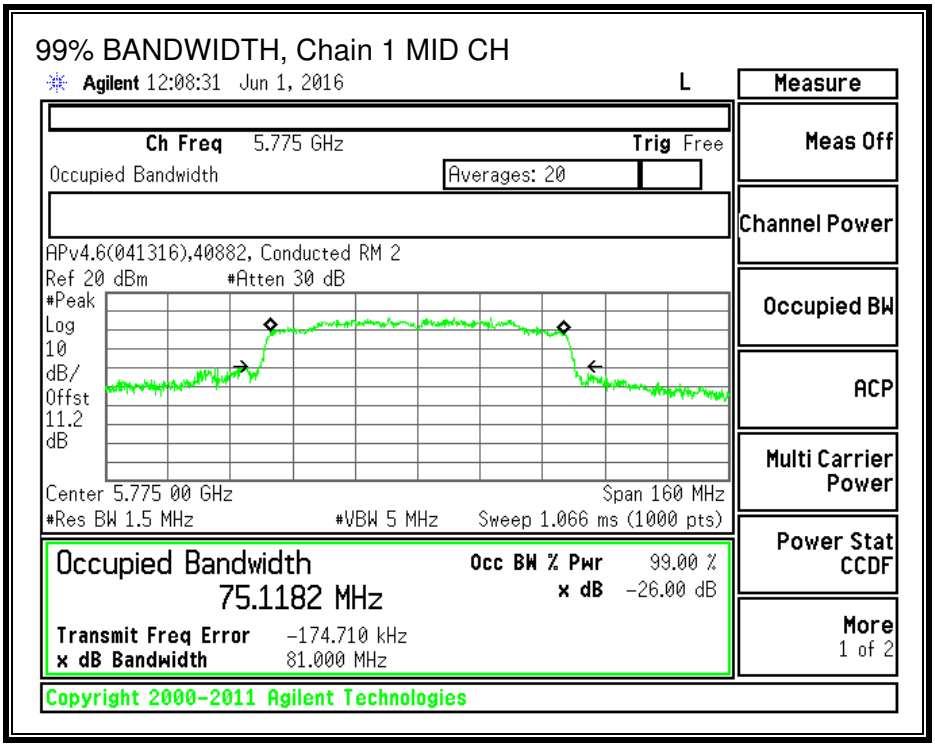
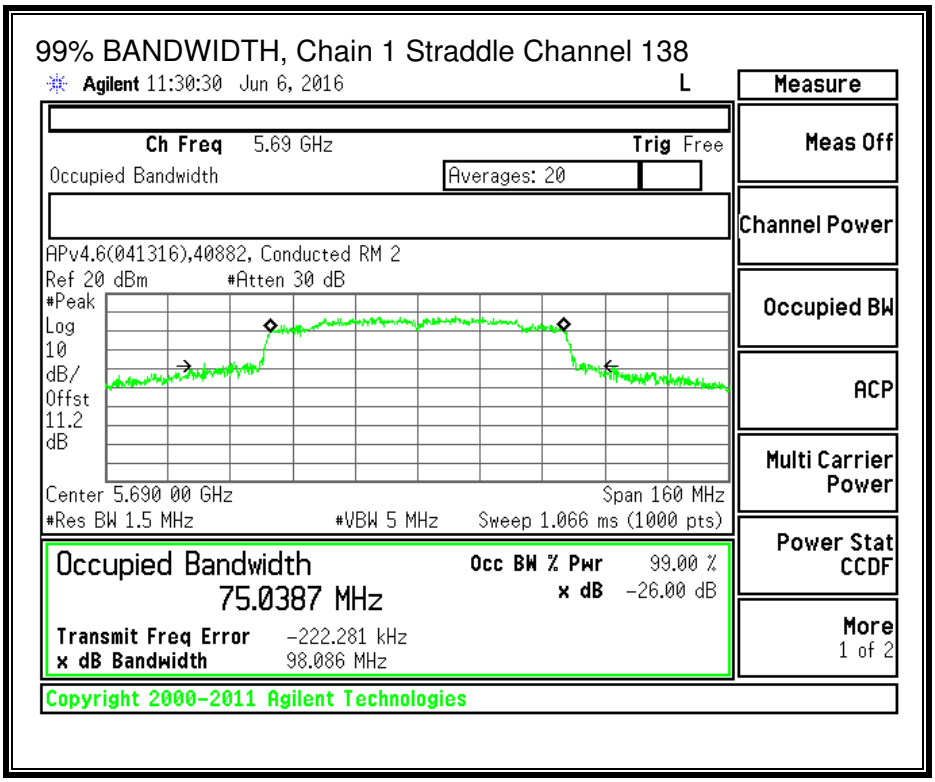
99% BANDWIDTH, Chain 1





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9.5.2. 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 the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Mid	5775	3.42	30.00

Duty Cycle CF (dB)	1.44	Included in Calculations of Corr'd Power

Output Power Results

Channel	Frequency (MHz)	Chain A Meas Power (dBm)	Chain B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	15.39	13.25	18.90	30.00	-11.10

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9.5.3. 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42 dBi.

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RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Mid	5755	3.42	30.00

Duty Cycle CF (dB)	1.44	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Chain A Meas PSD (dBm)	Chain B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5755	-5.52	-7.12	-1.80	30.00	-31.80

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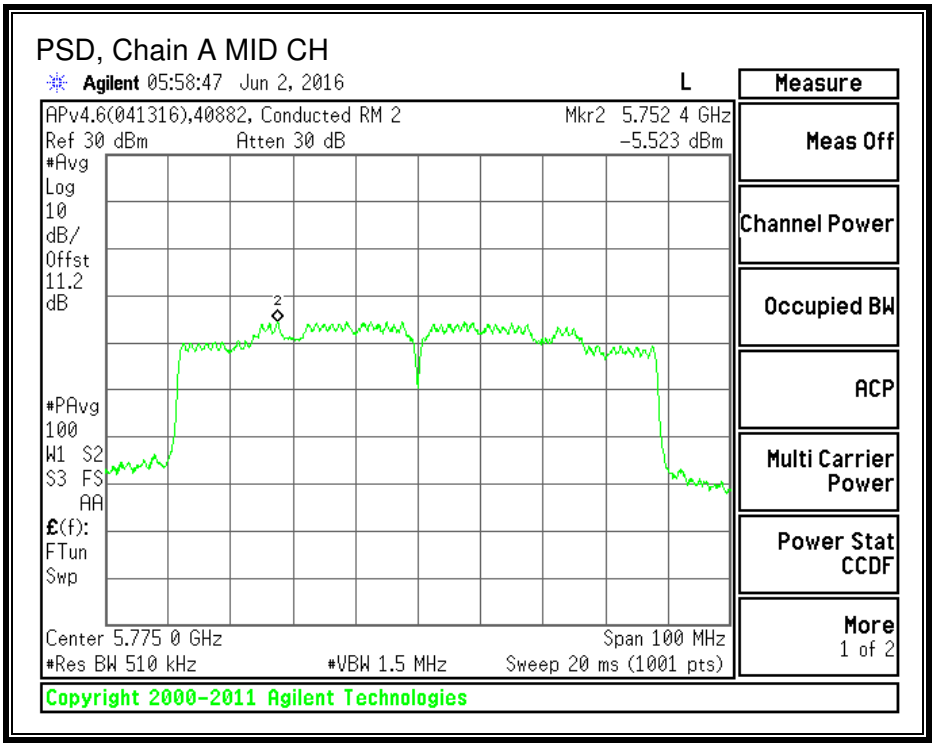
PSD, Chain A



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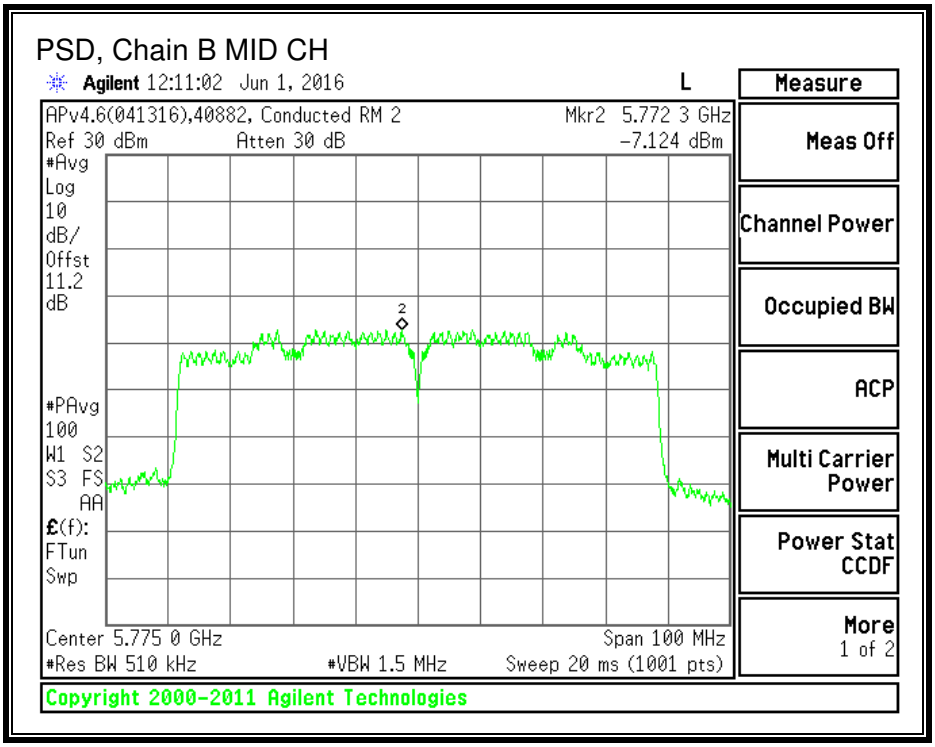
PSD, Chain B



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9.5.4. STRADDLE CHANNEL OUTPUT POWER AND 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 uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain, which is 3.42.

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STRADDLE CHANNEL 138 - 802.11ac VHT80 MIMO RESULTS

UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	3.42	3.42	30.00	30.00

Duty Cycle CF (dB)	1.44	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-3.39	-3.77	0.88	30.00	-29.12

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-9.97	-10.05	-5.56	30.00	-35.56

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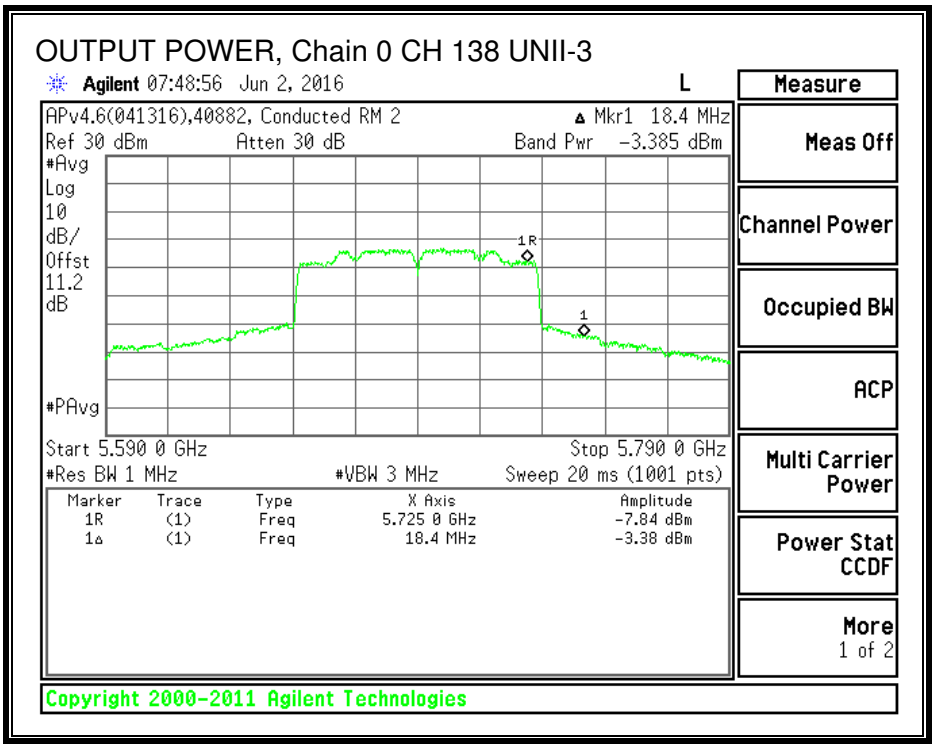

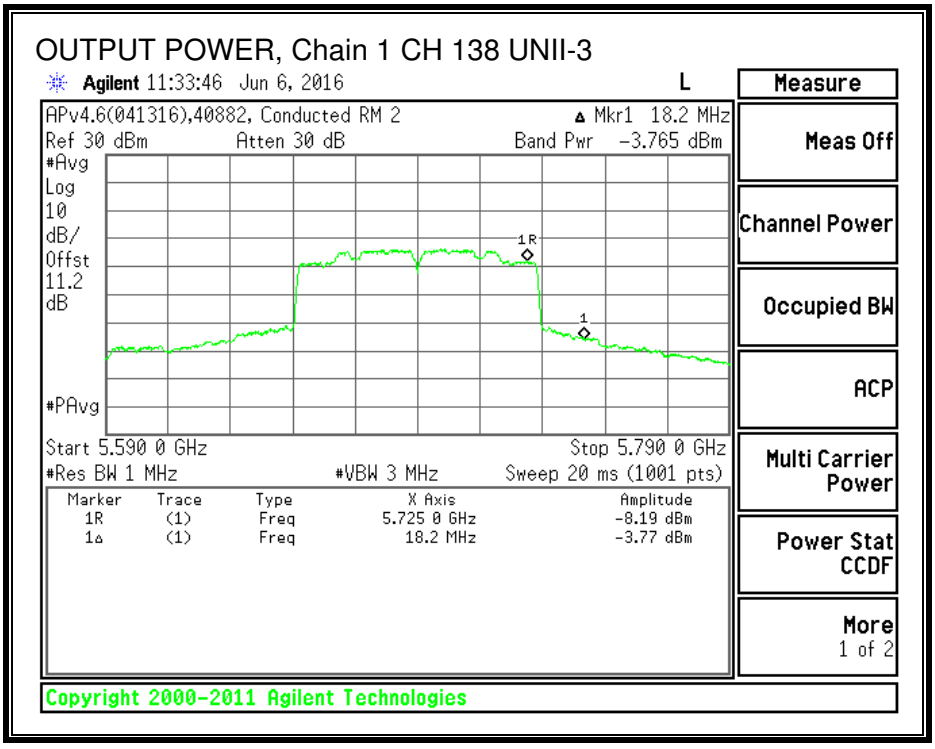

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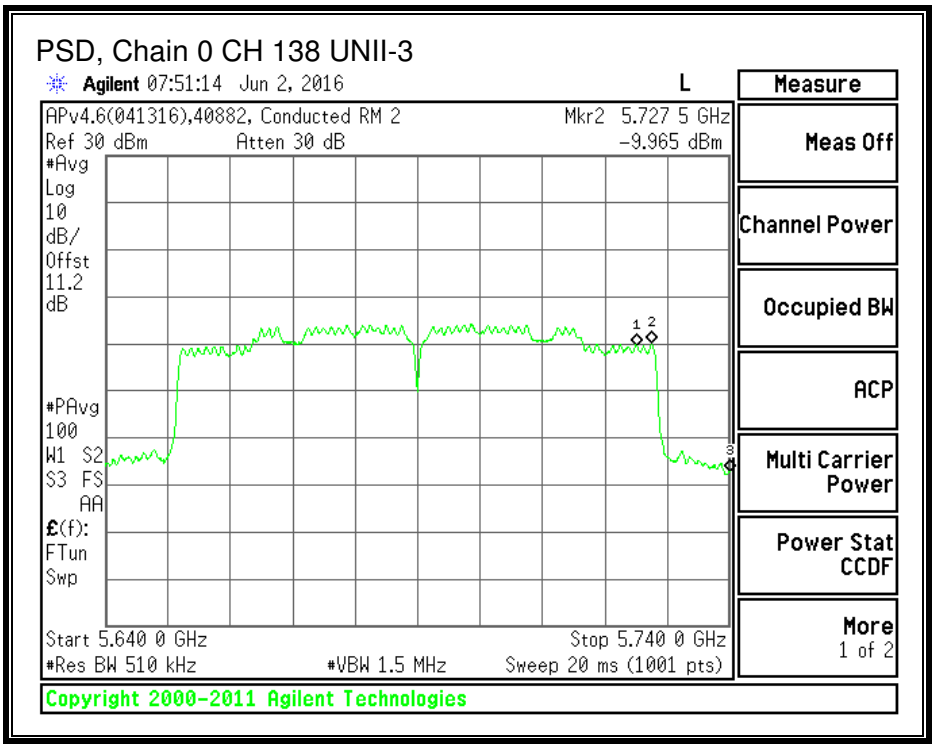

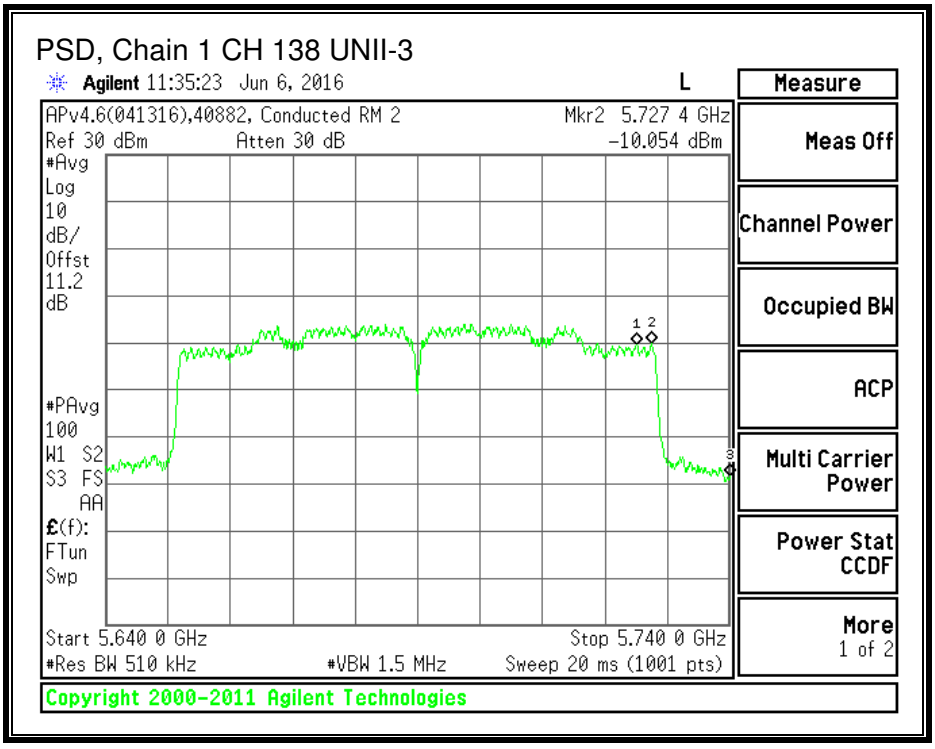

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