

8.41. 802.11ac VHT80 ANTENNA A MODE IN THE 5.6 GHz BAND

8.41.1. 26 dB BANDWIDTH

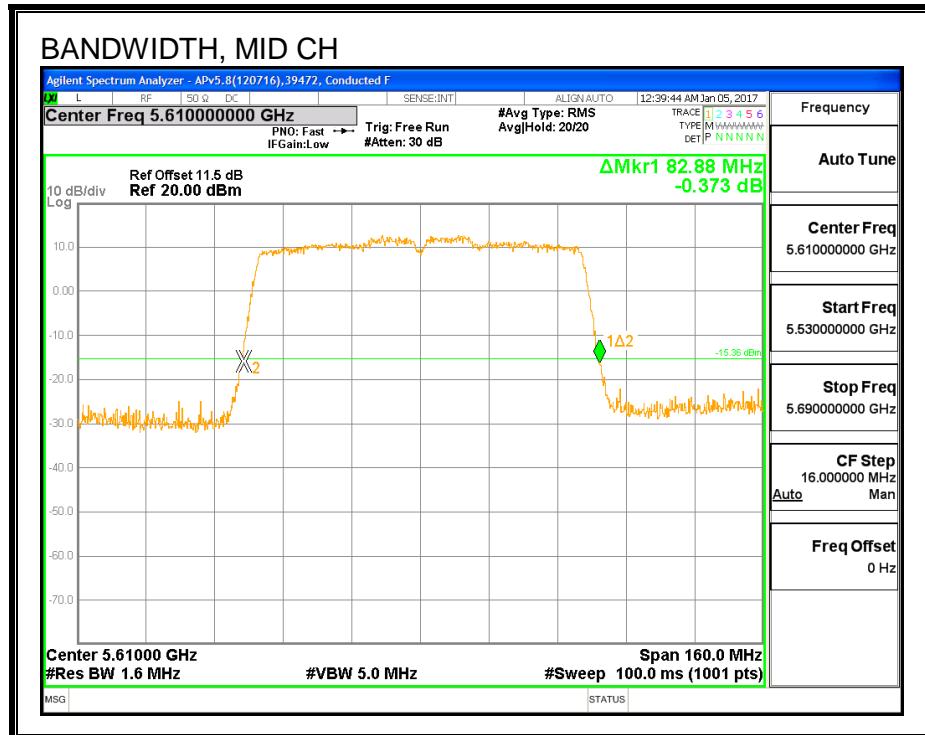
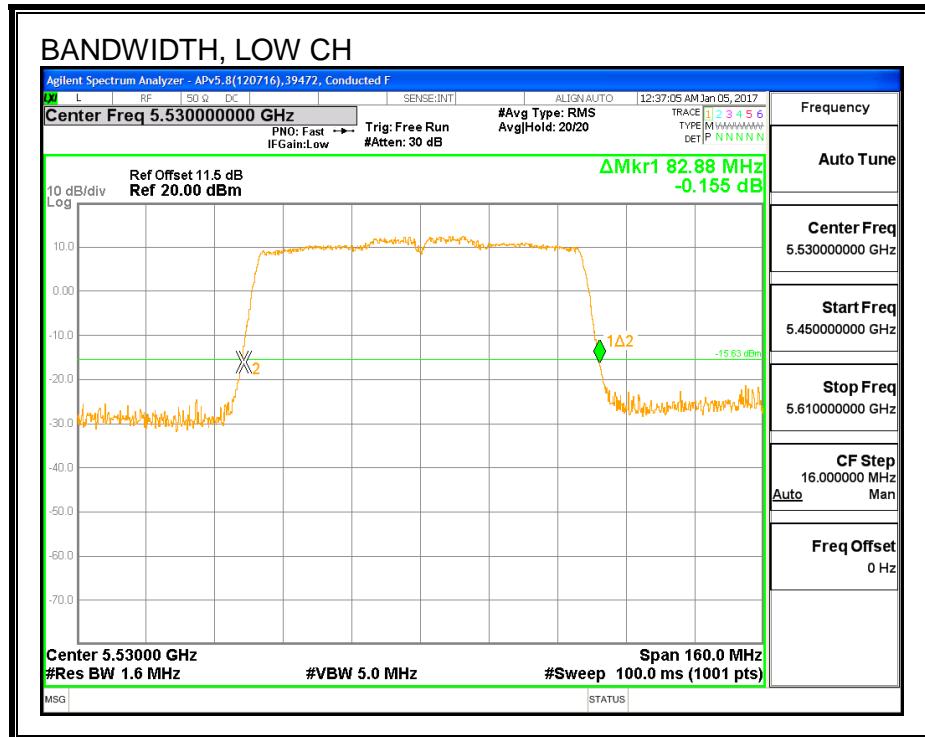
LIMITS

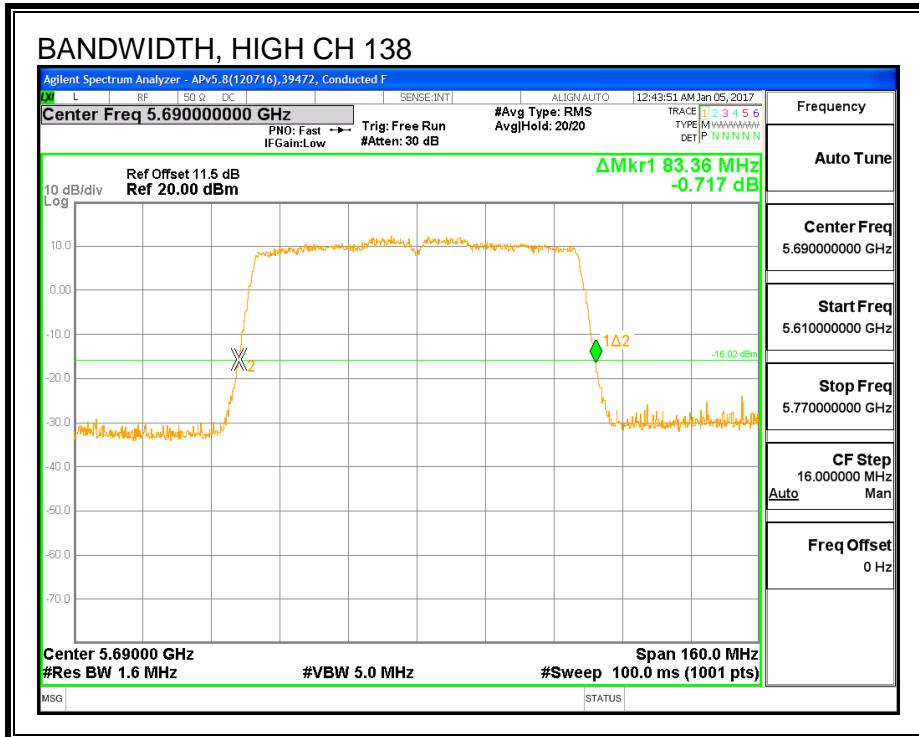
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	82.880
Mid	5610	82.880
High	5690	83.360

26 dB BANDWIDTH





8.41.2. 99% BANDWIDTH

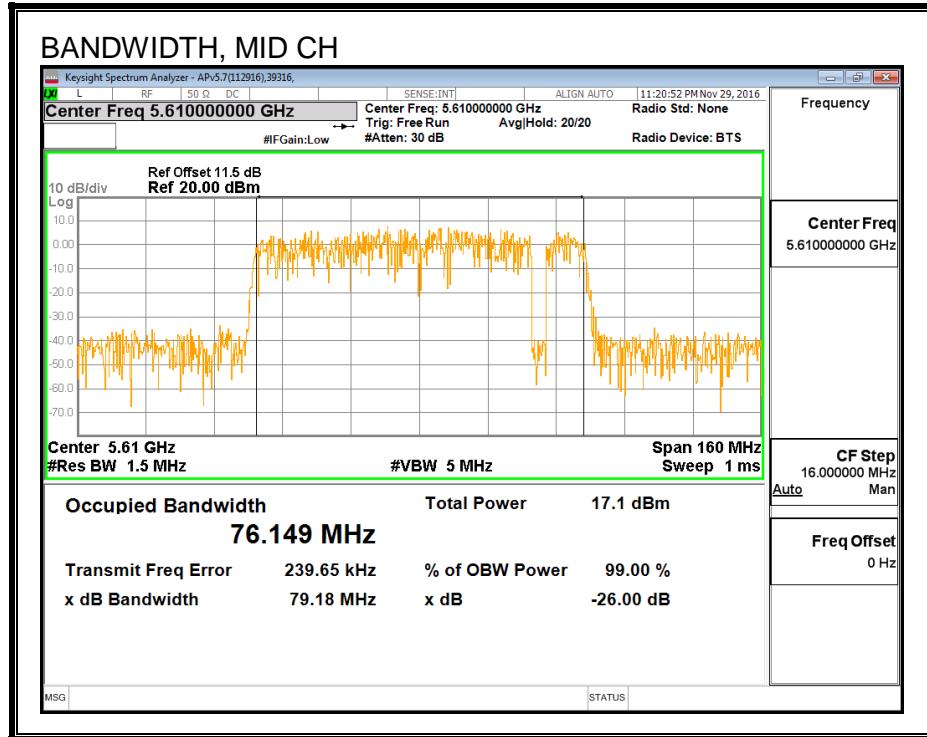
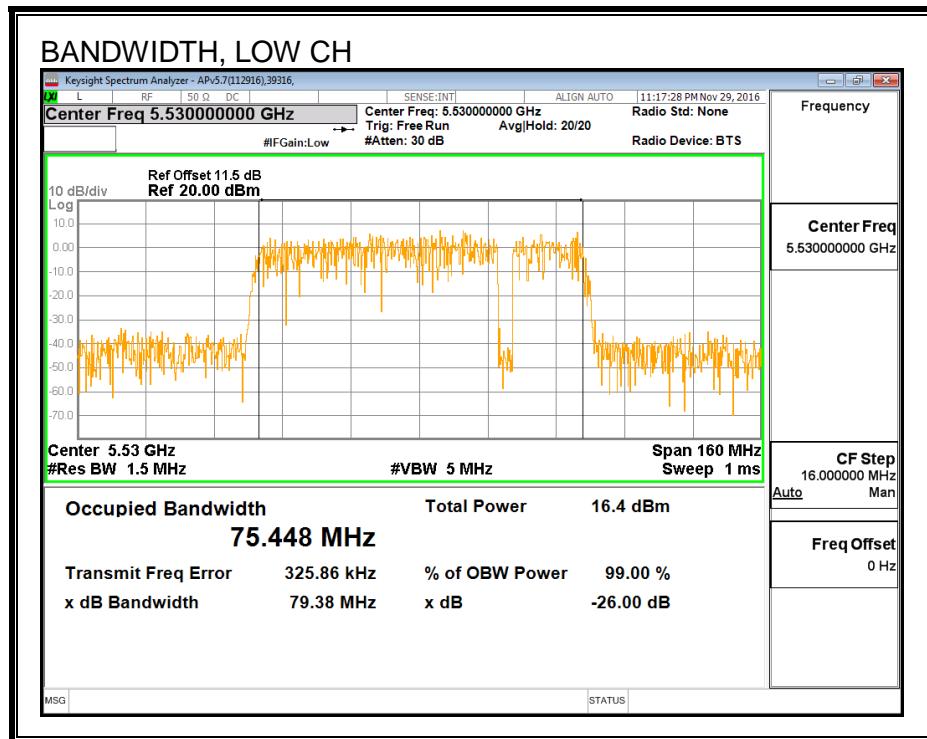
LIMITS

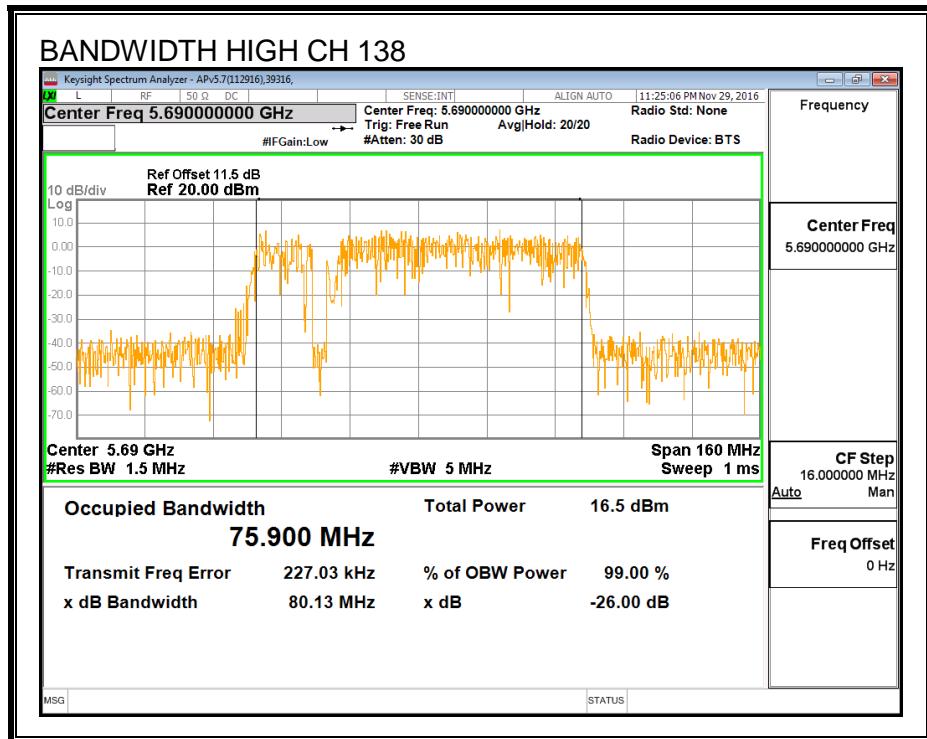
None; for reporting purposes only.

RESULTS

Frequency (MHz)	99% Bandwidth (MHz)
5530	75.448
5610	76.149
5690	75.900

99% BANDWIDTH





8.41.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

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Channel	Frequency (MHz)	Power (dBm)
Low	5530	12.80
Mid	5610	14.98
High	5690	14.89

8.41.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

ID:	50822	Date:	2/7/17
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Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5530	82.88	75.45	5.41	24.00	11.00
Mid	5610	82.88	76.15	5.41	24.00	11.00

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD
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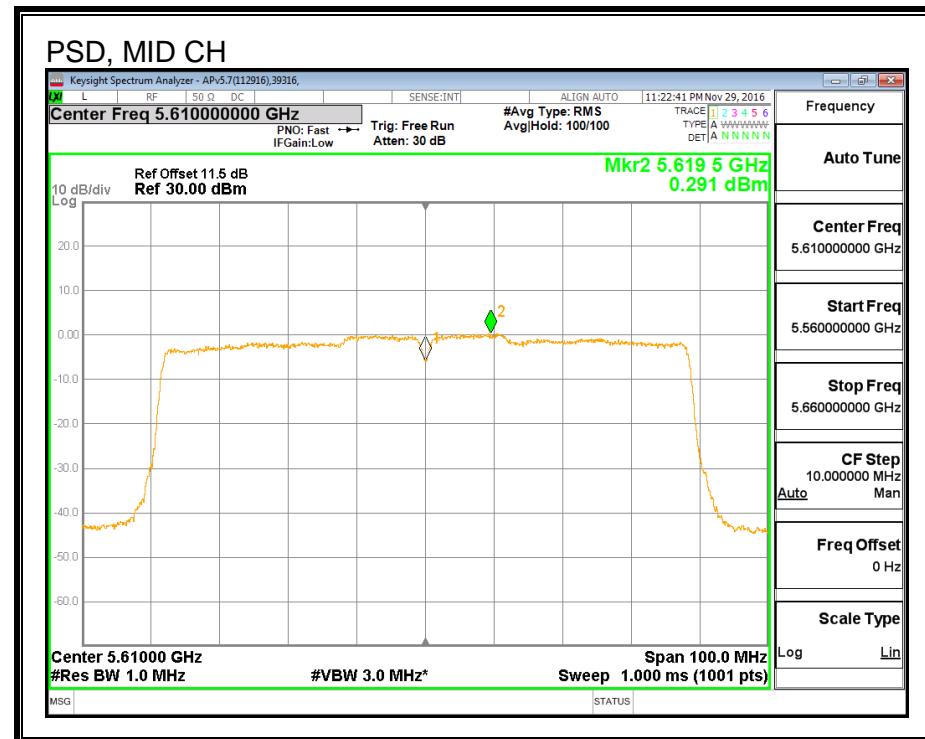
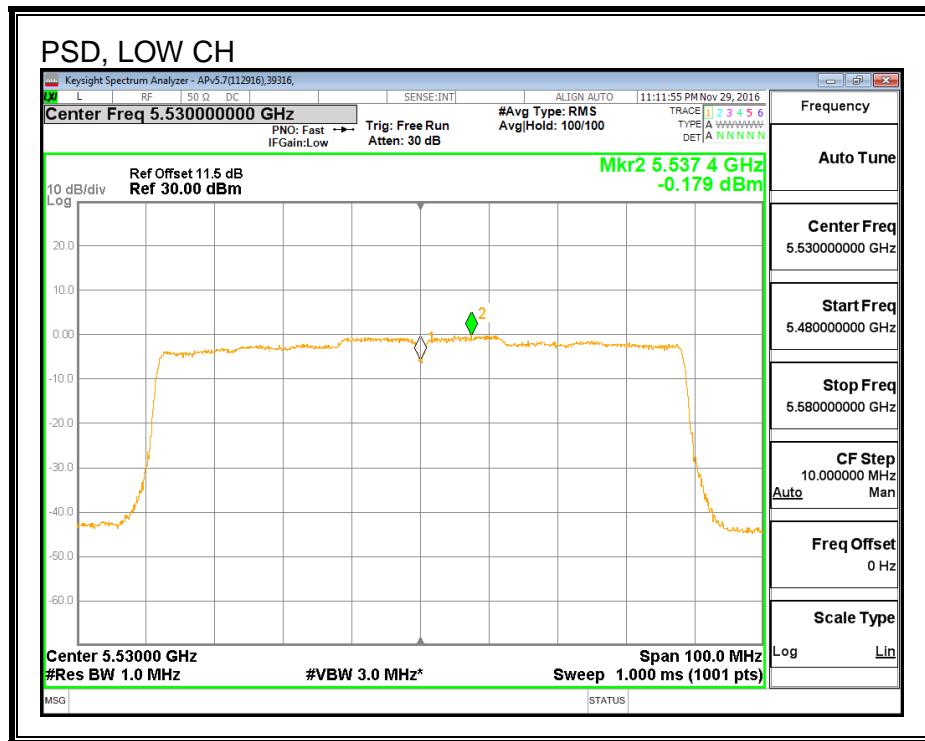
Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	12.80	12.80	24.00	-11.20
Mid	5610	14.98	14.98	24.00	-9.02

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-0.18	0.01	11.00	-10.99
Mid	5610	0.29	0.48	11.00	-10.52

PSD



8.41.5. STRADDLE CHANNEL 138 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.68	5.41	5.41	24.00	11.00

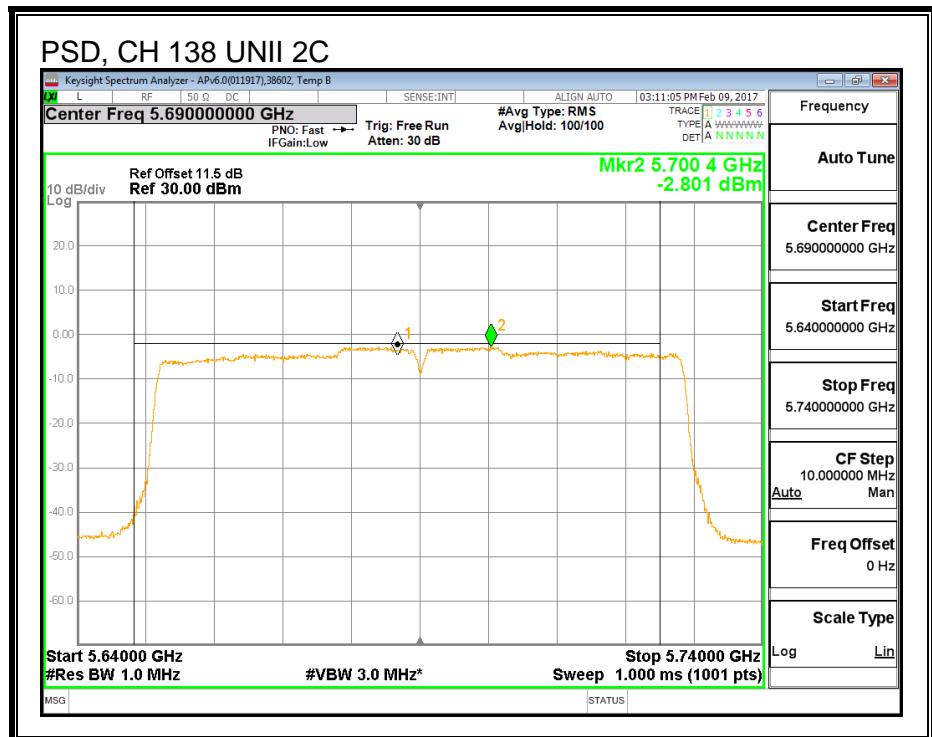
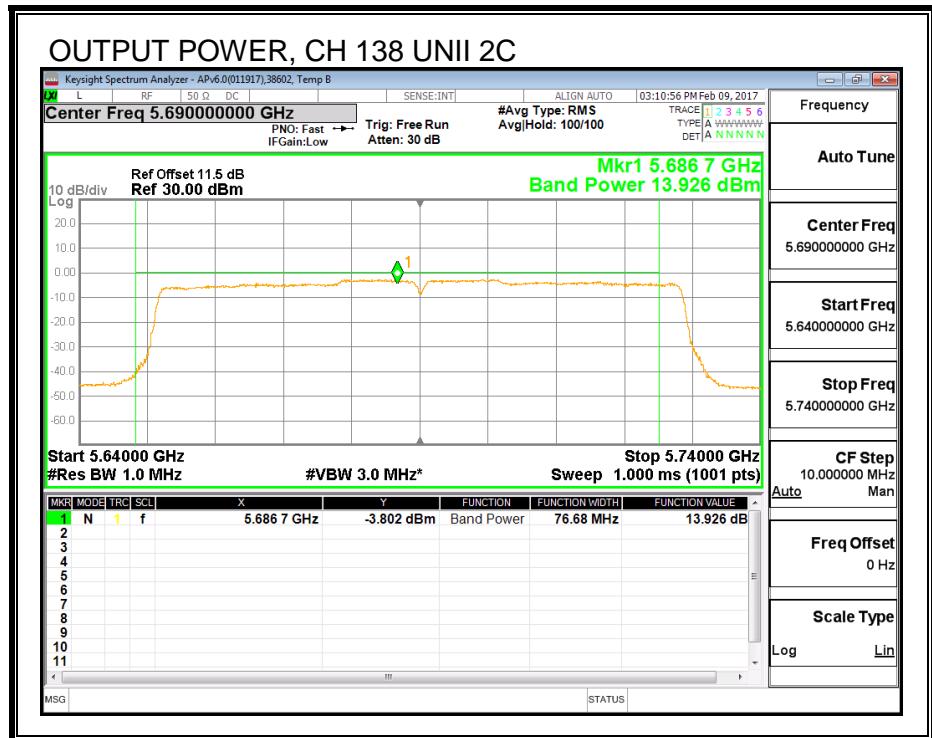
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	13.93	14.12	24.00	-9.88

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-2.80	-2.61	11.00	-13.61



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.68	4.20	30.00	30.00

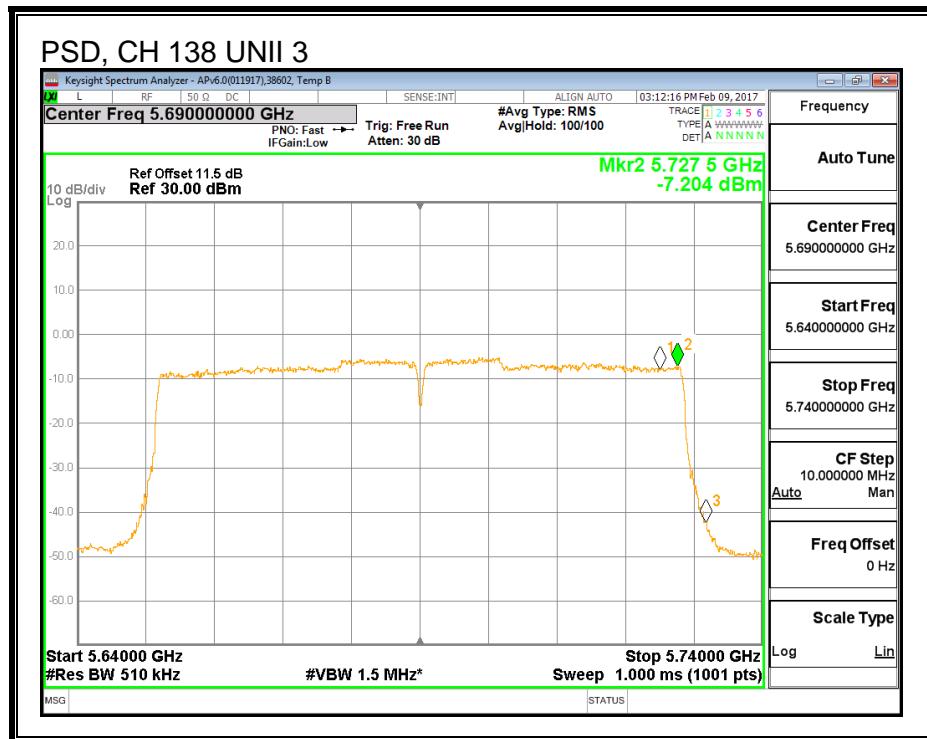
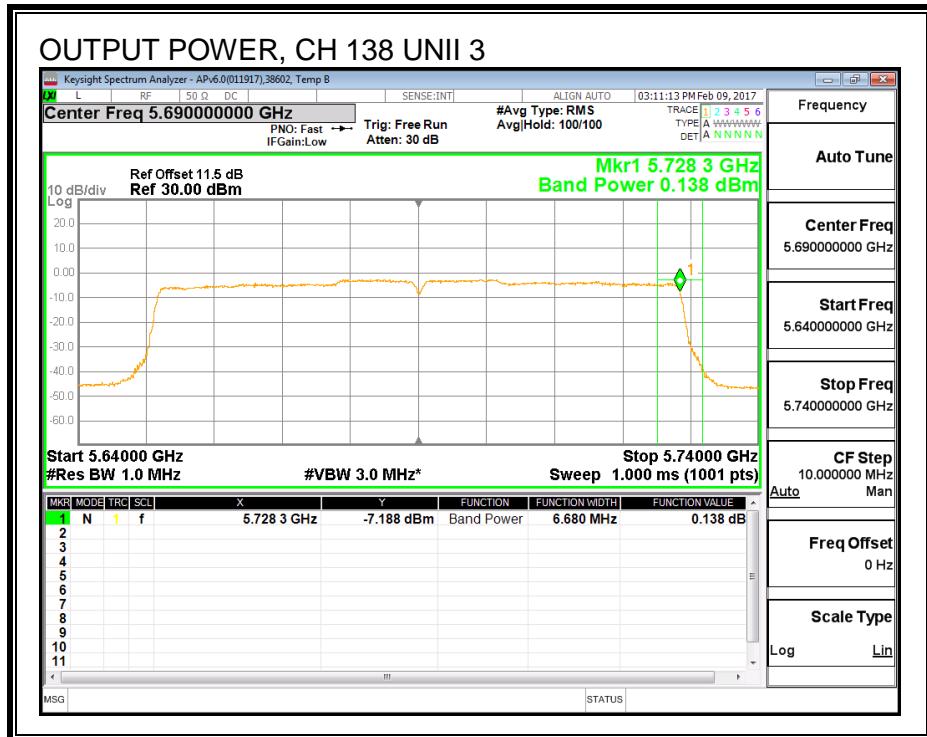
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	0.14	0.33	30.00	-29.67

PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-7.20	-7.01	30.00	-37.01



8.41.6. 6 dB BANDWIDTH

LIMITS

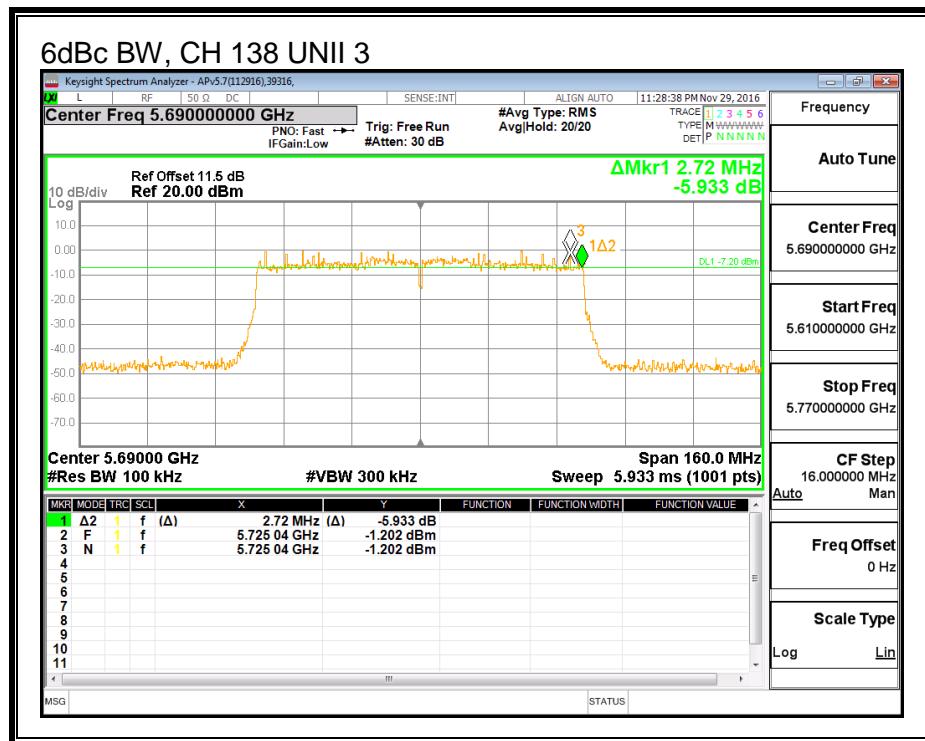
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	2.720

6 dB BANDWIDTH



8.42. 802.11ac VHT80 ANTENNA B MODE IN THE 5.6 GHz BAND

8.42.1. 26 dB BANDWIDTH

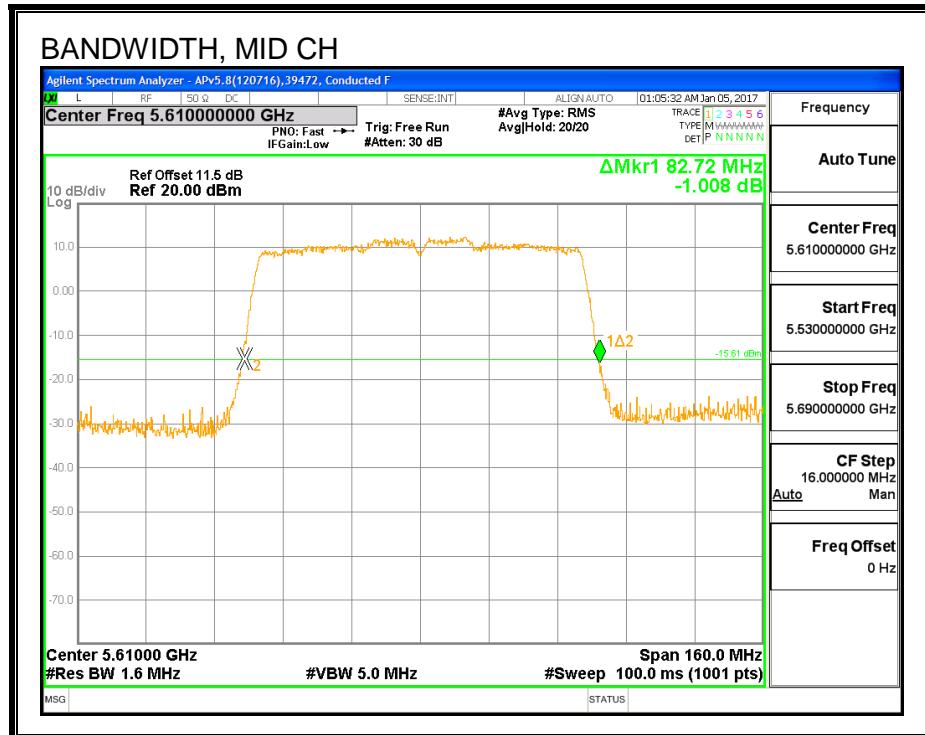
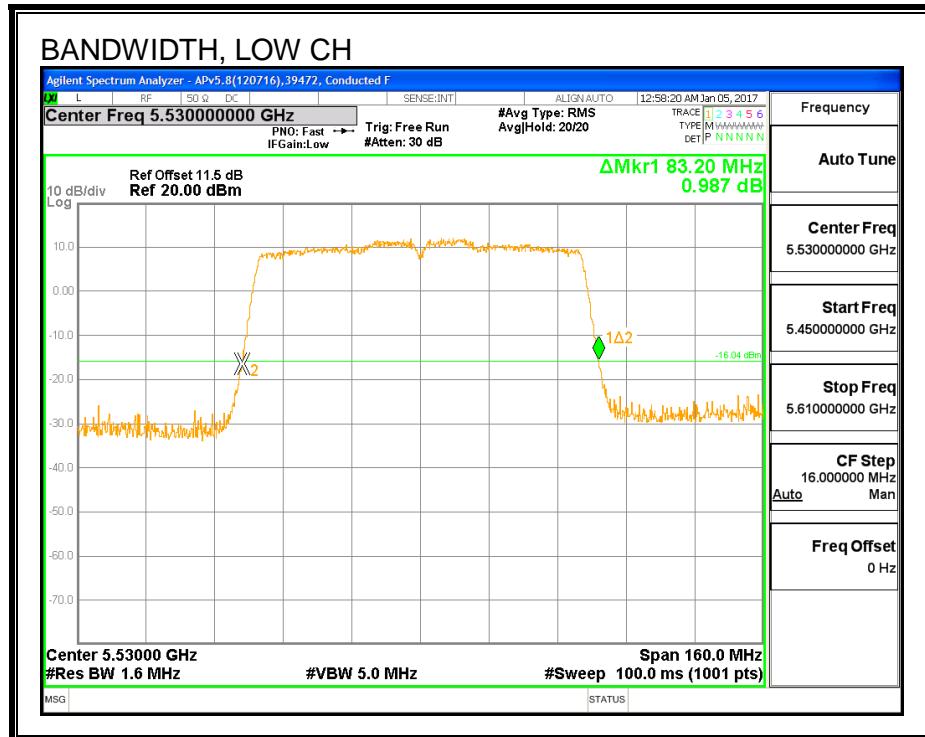
LIMITS

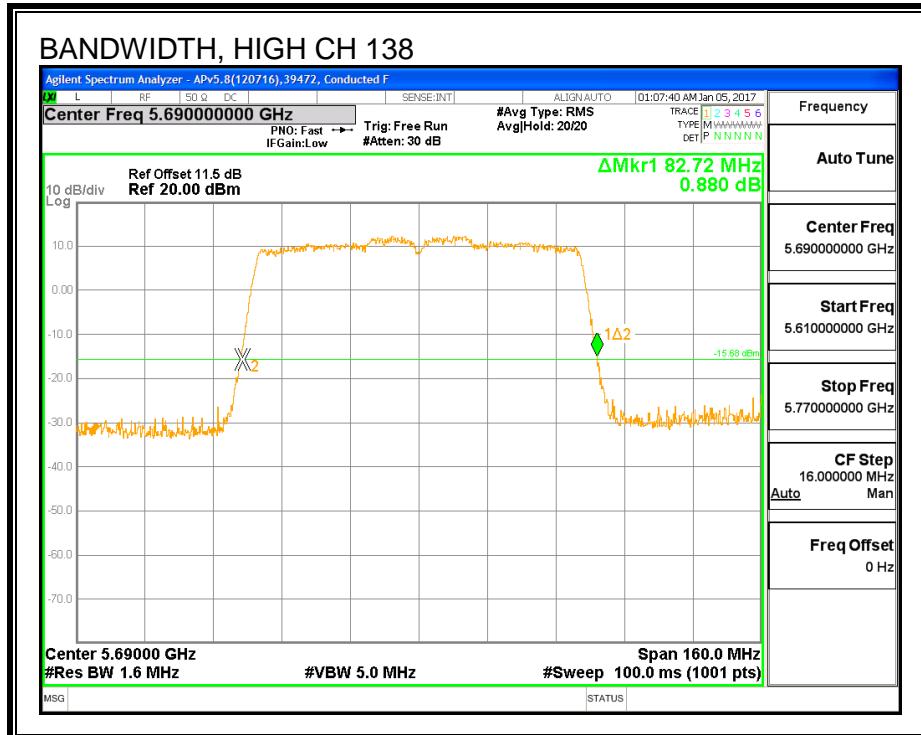
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	83.200
Mid	5610	82.720
High	5690	82.720

26 dB BANDWIDTH





8.42.2. 99% BANDWIDTH

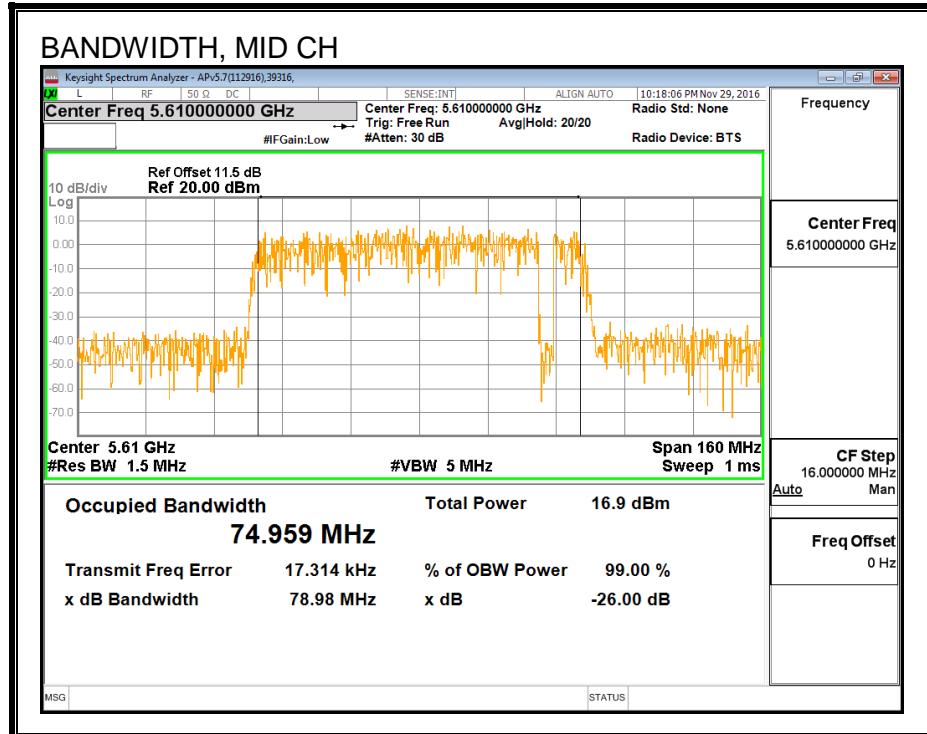
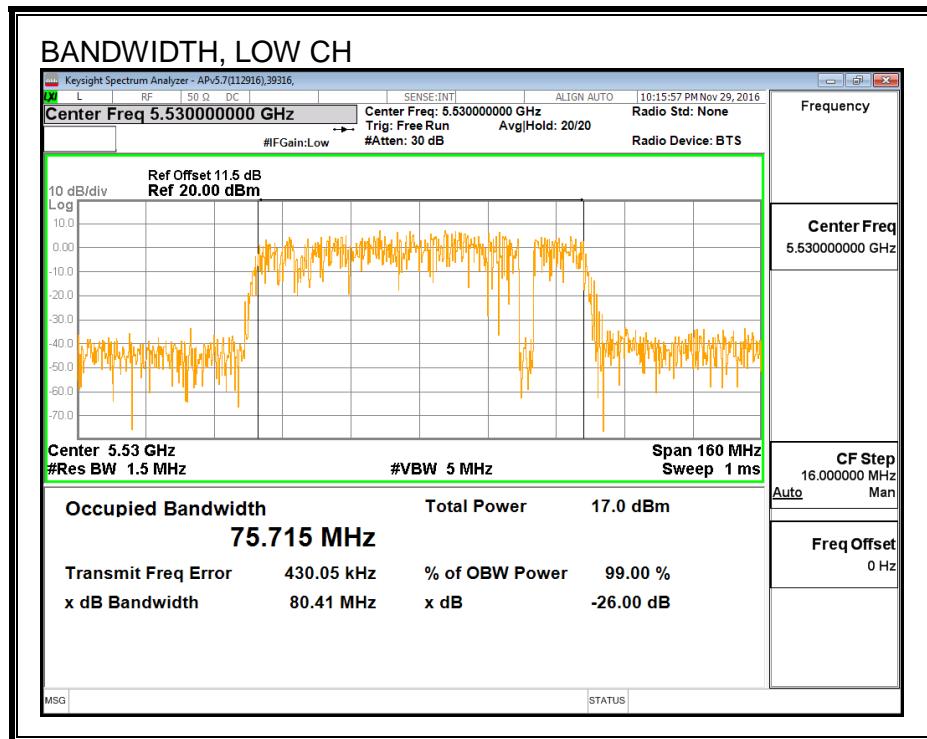
LIMITS

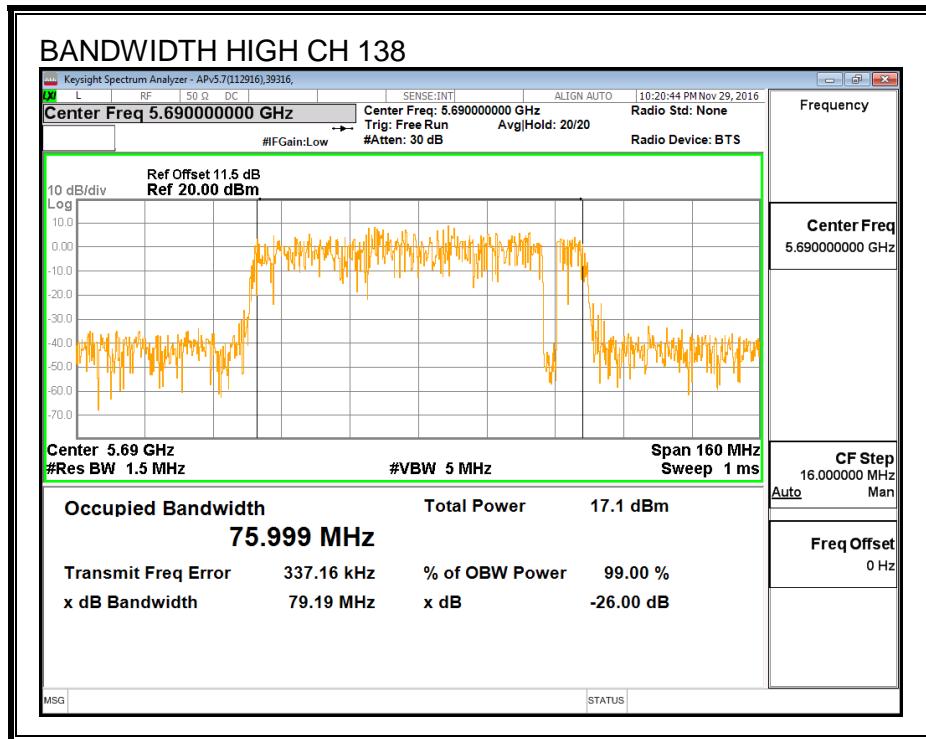
None; for reporting purposes only.

RESULTS

Frequency (MHz)	99% Bandwidth (MHz)
5530	75.715
5610	74.959
5690	75.999

99% BANDWIDTH





8.42.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	50822	Date:	2/7/17
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Channel	Frequency (MHz)	Power (dBm)
Low	5530	12.93
Mid	5610	14.91
High	5690	14.89

8.42.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

50822	Date:	2/9/17
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Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5530	82.40	75.72	5.17	24.00	11.00
Mid	5610	82.72	74.96	5.17	24.00	11.00

Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD
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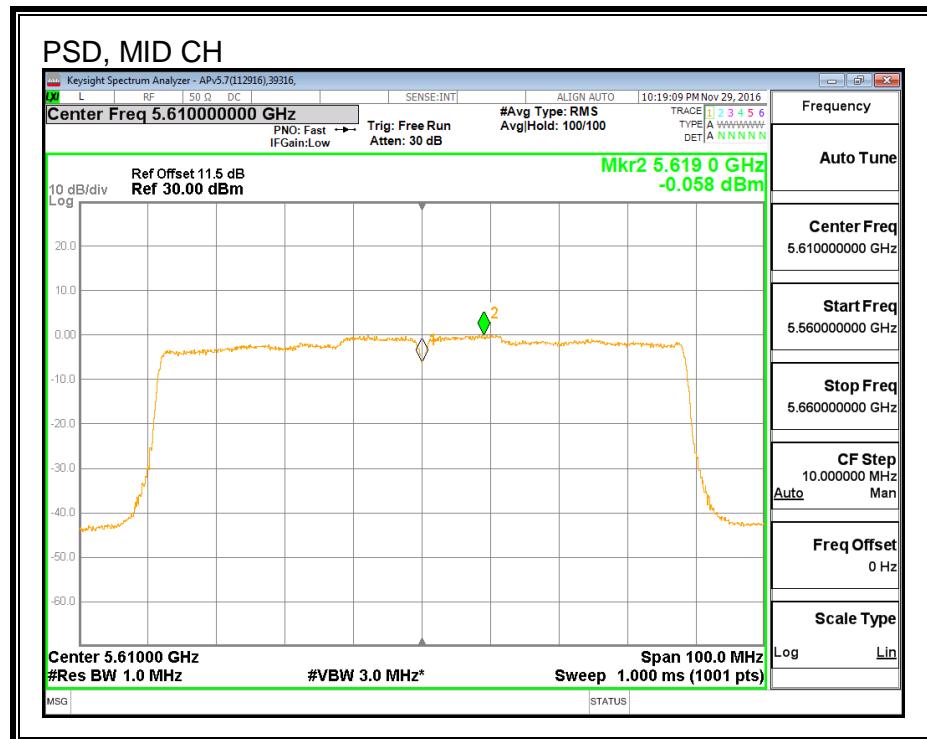
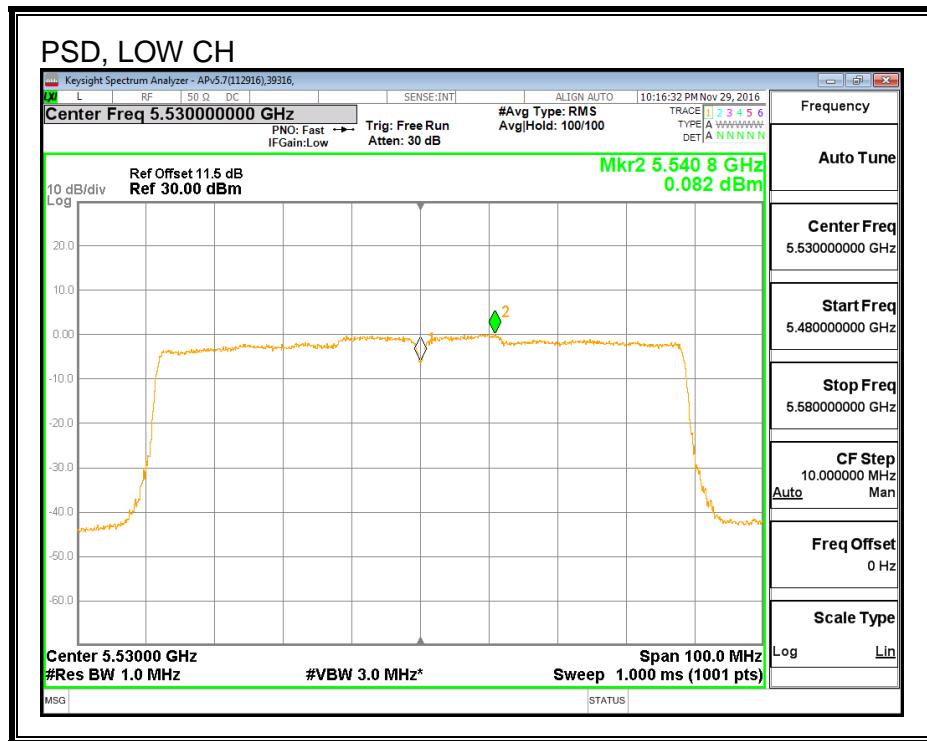
Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	12.93	12.93	24.00	-11.07
Mid	5610	14.91	14.91	24.00	-9.09

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	0.082	0.27	11.00	-10.73
Mid	5610	-0.058	0.13	11.00	-10.87

PSD



8.42.5. STRADDLE CHANNEL 138 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.68	5.17	5.17	24.00	11.00

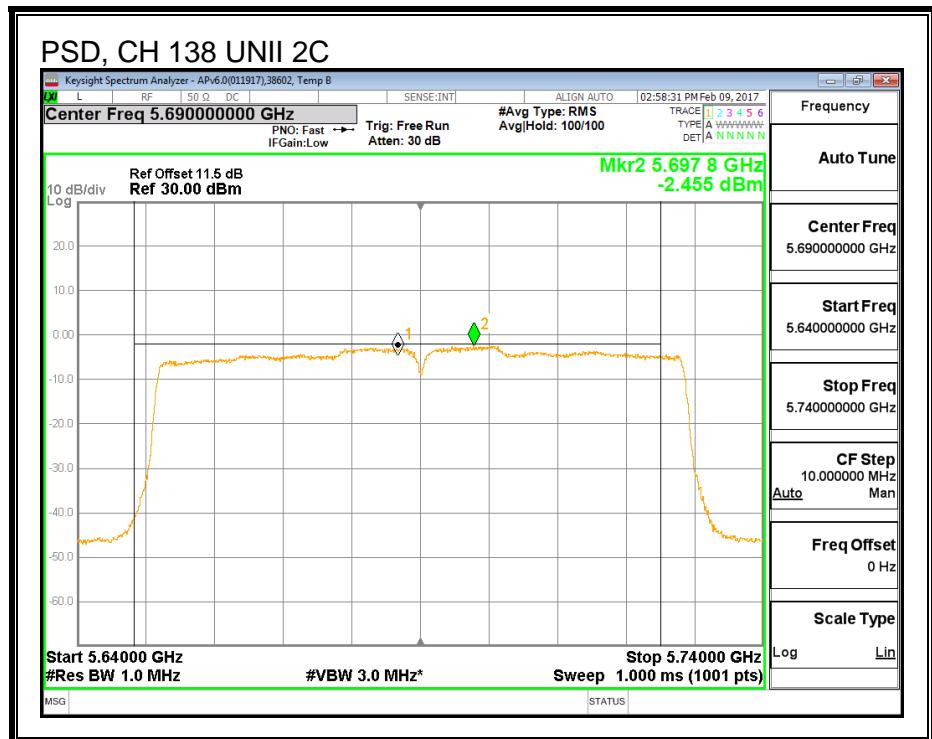
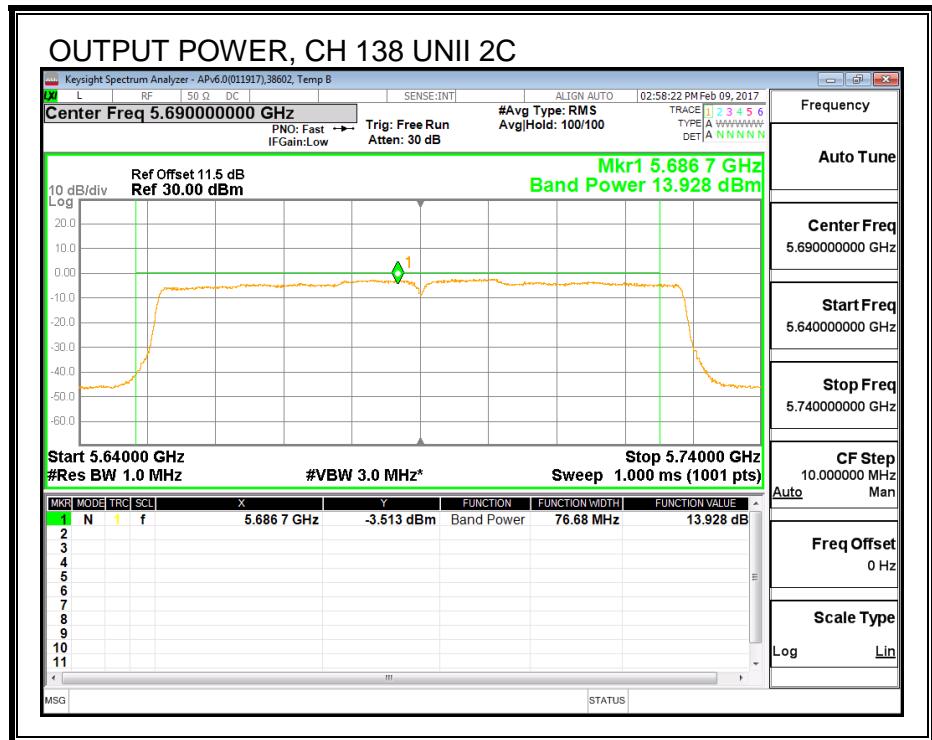
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	13.93	14.12	24.00	-9.88

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-2.46	-2.27	11.00	-13.27



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.68	4.32	30.00	30.00

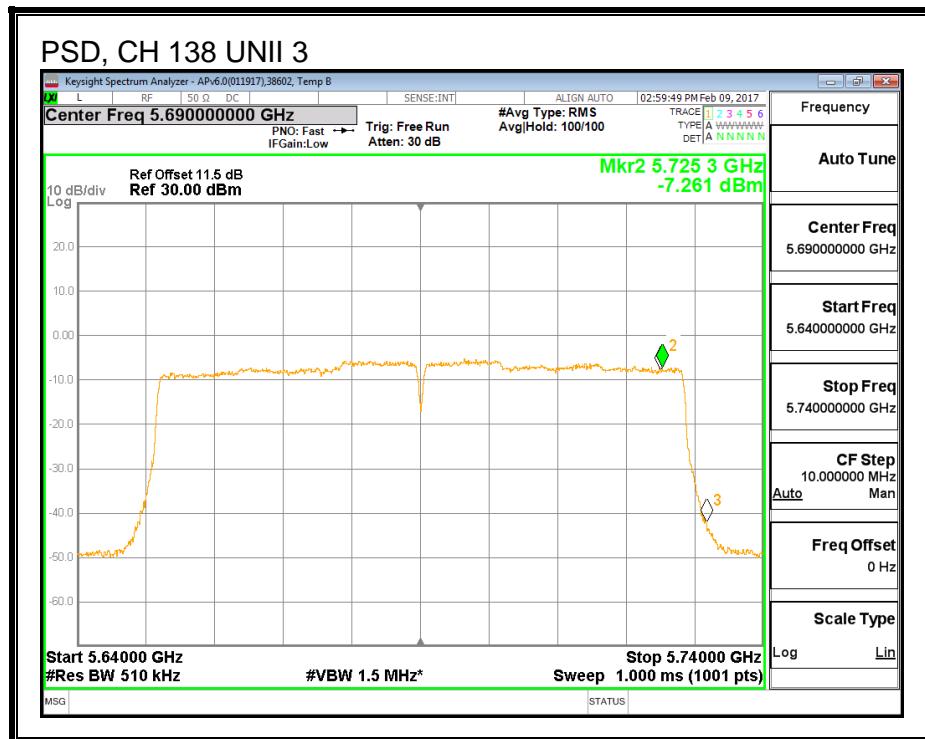
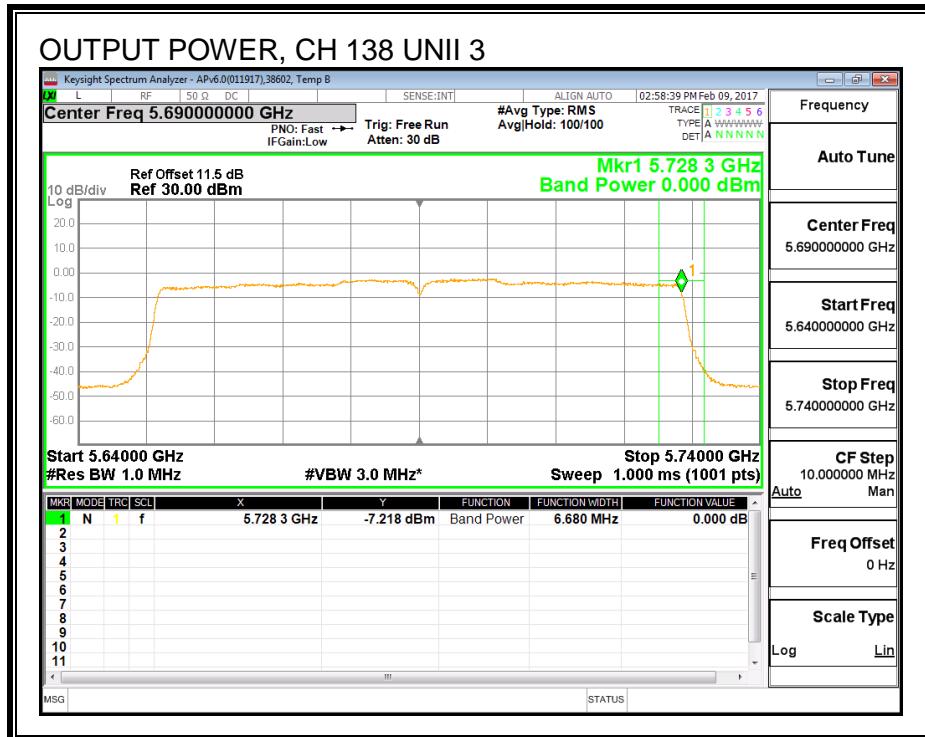
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd Power & PSD
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Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	0.00	0.19	30.00	-29.81

PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-7.26	-7.07	30.00	-37.07



8.42.6. 6 dB BANDWIDTH

LIMITS

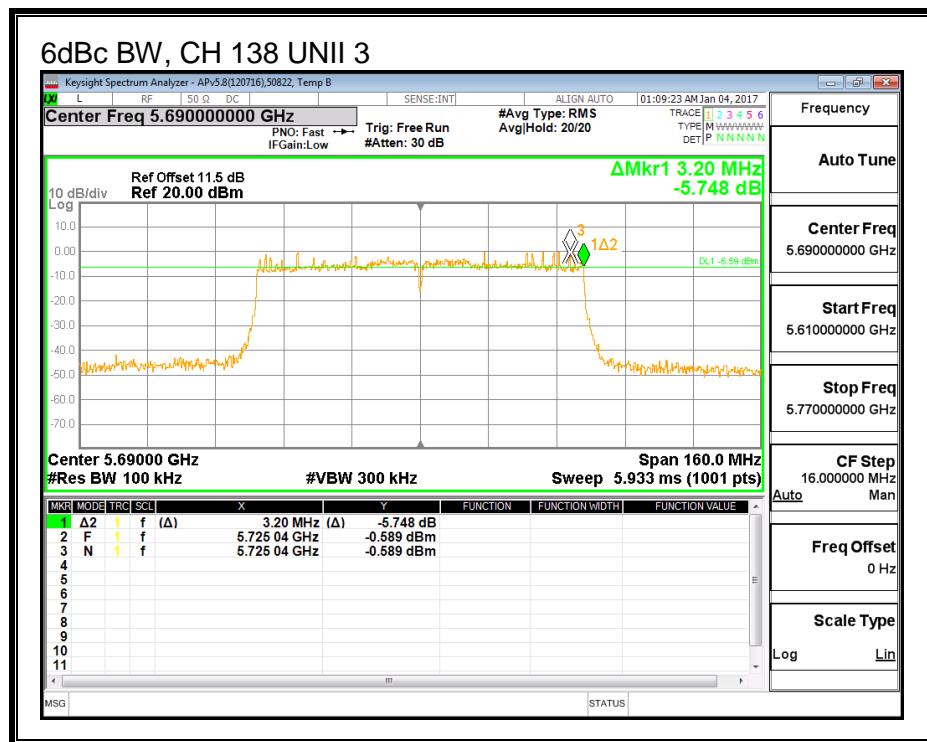
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	3.200

6 dB BANDWIDTH



8.43. 802.11ac VHT80 2Tx (ANTENNA A + ANTENNA B) CDD MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.43.1. 26 dB BANDWIDTH

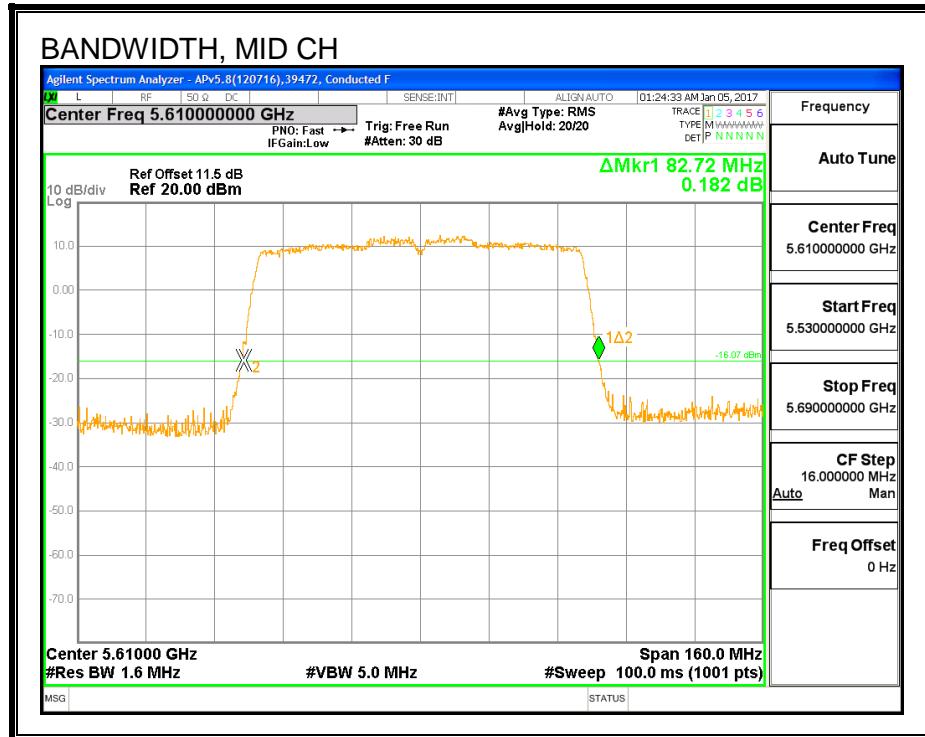
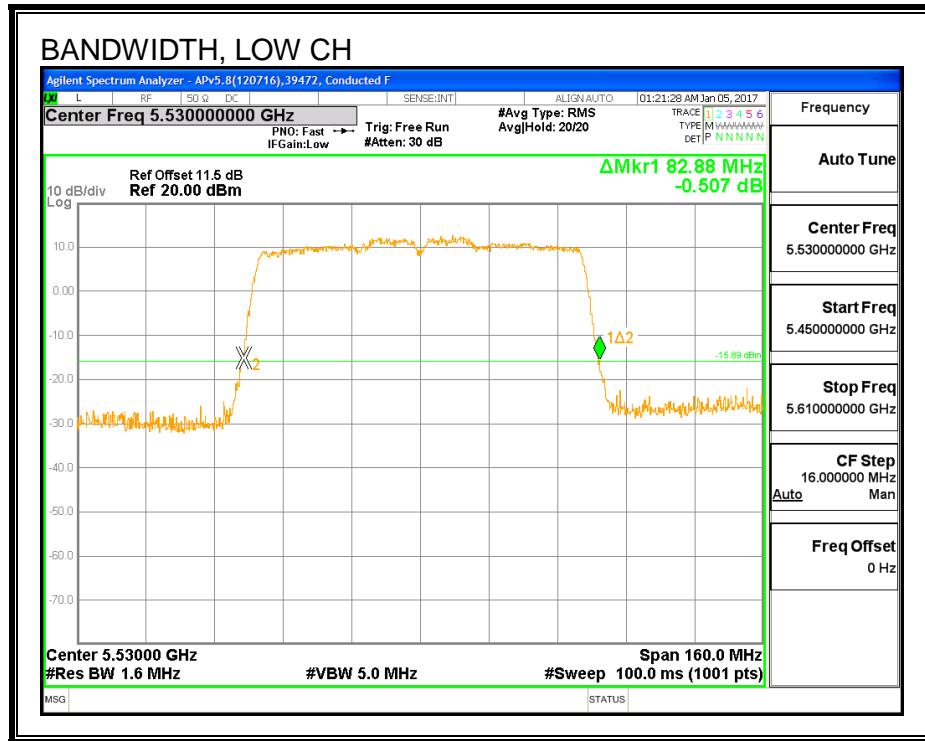
LIMITS

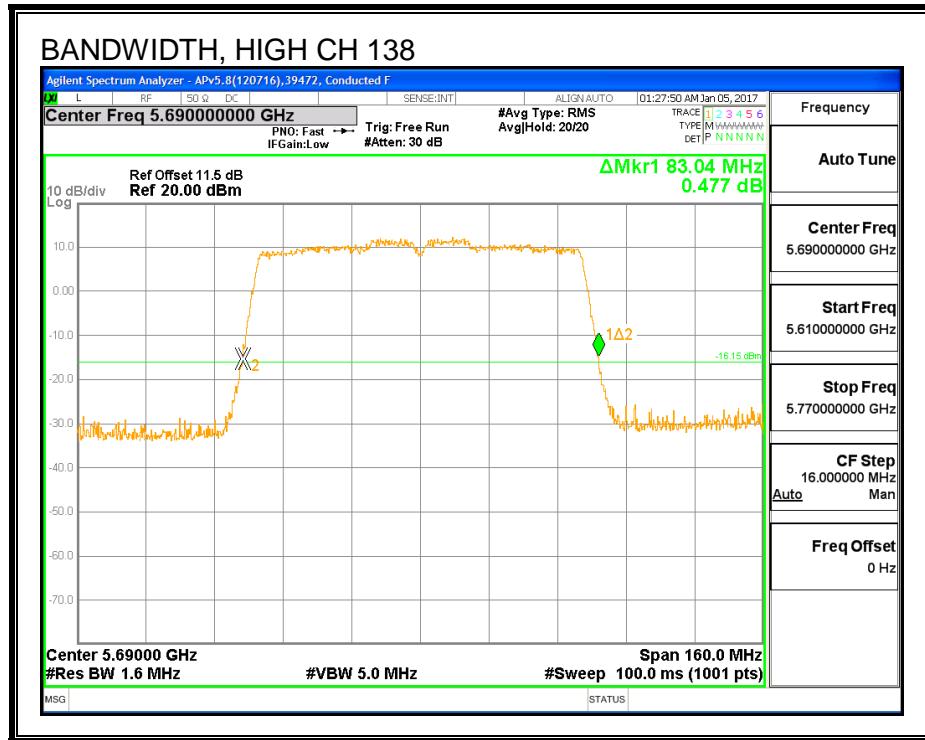
None; for reporting purposes only.

RESULTS

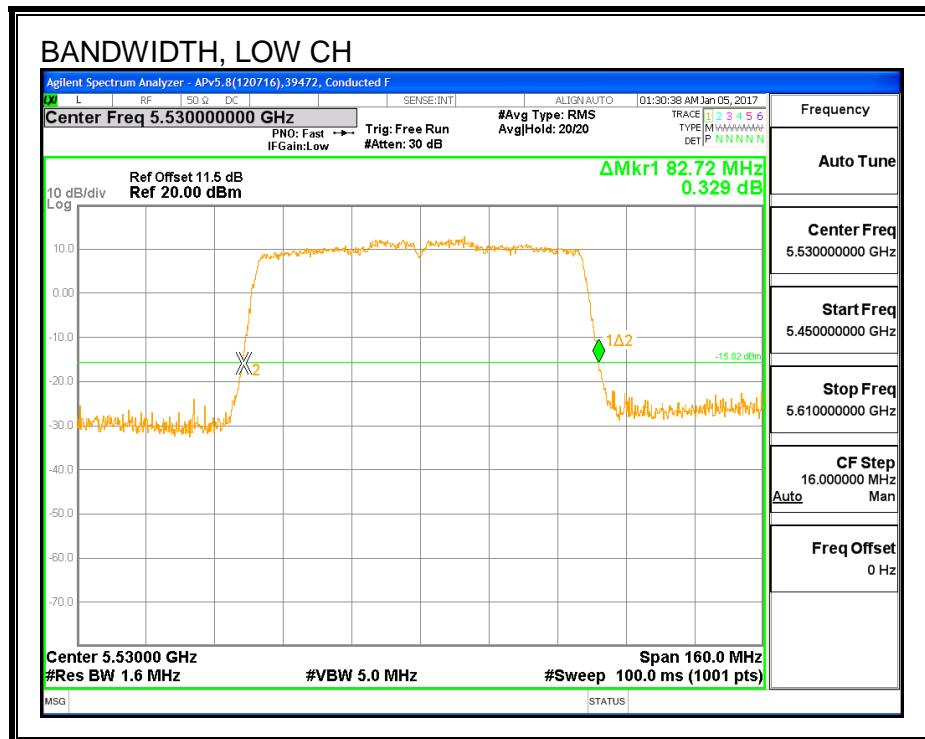
Channel	Frequency (MHz)	26 dB BW Ant A (MHz)	26 dB BW Ant B (MHz)
Low	5530	82.880	82.720
Mid	5610	82.720	82.720
High	5690	83.040	82.720

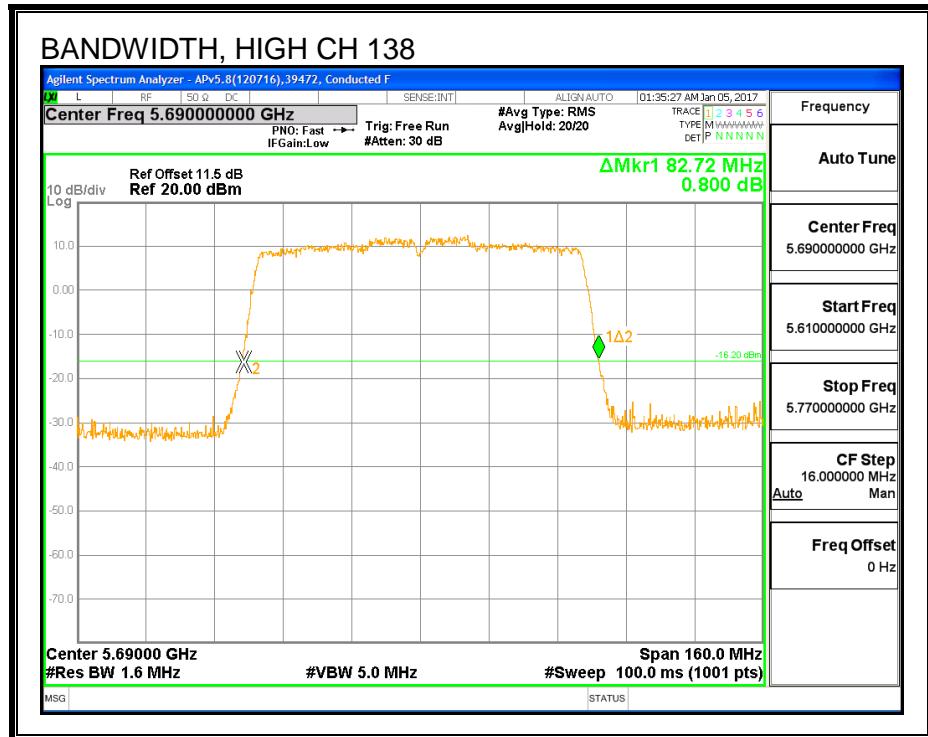
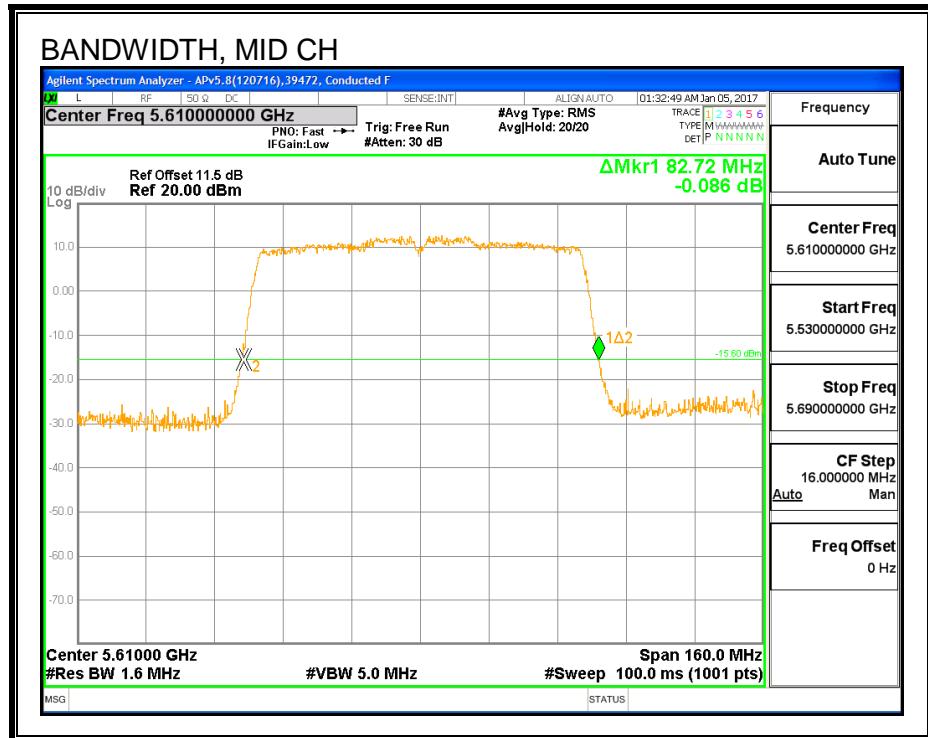
26 dB BANDWIDTH, ANTENNA A





26 dB BANDWIDTH, ANTENNA B





8.43.2. 99% BANDWIDTH

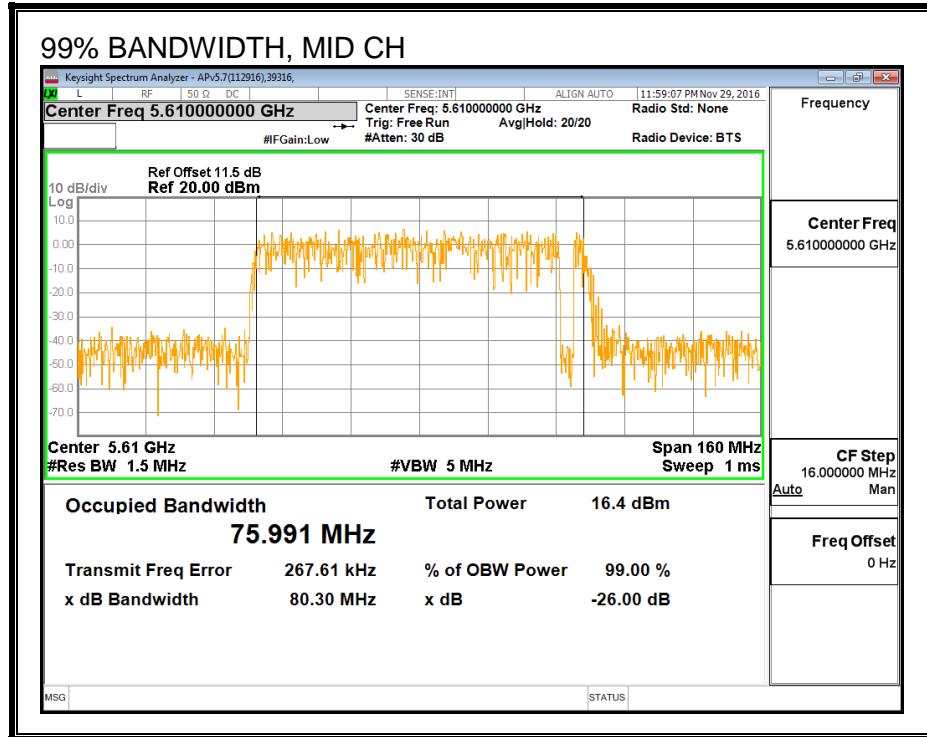
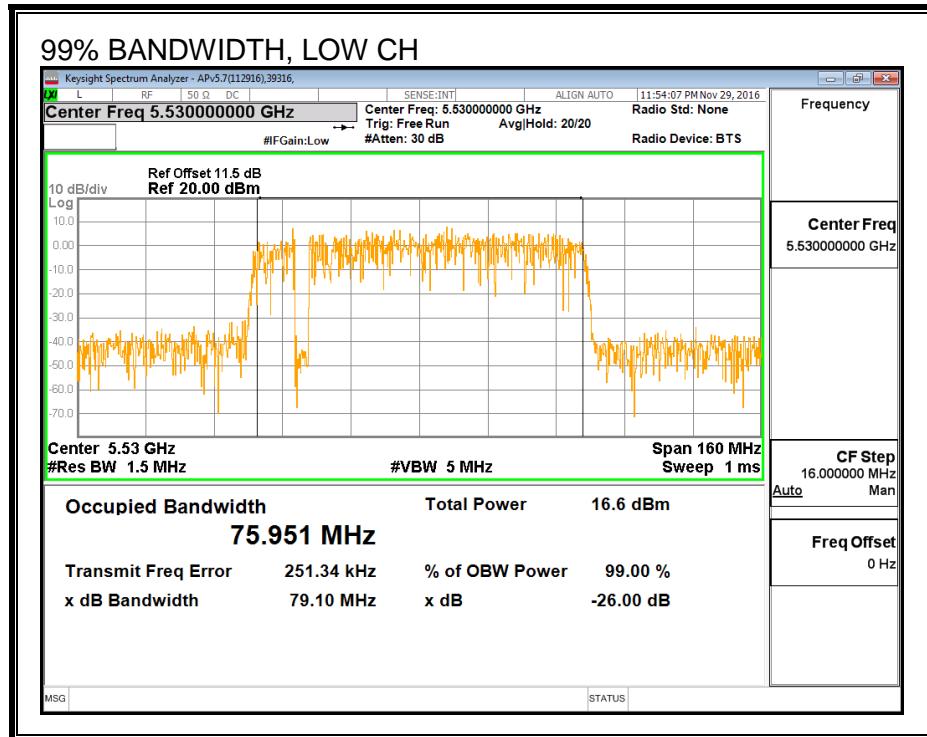
LIMITS

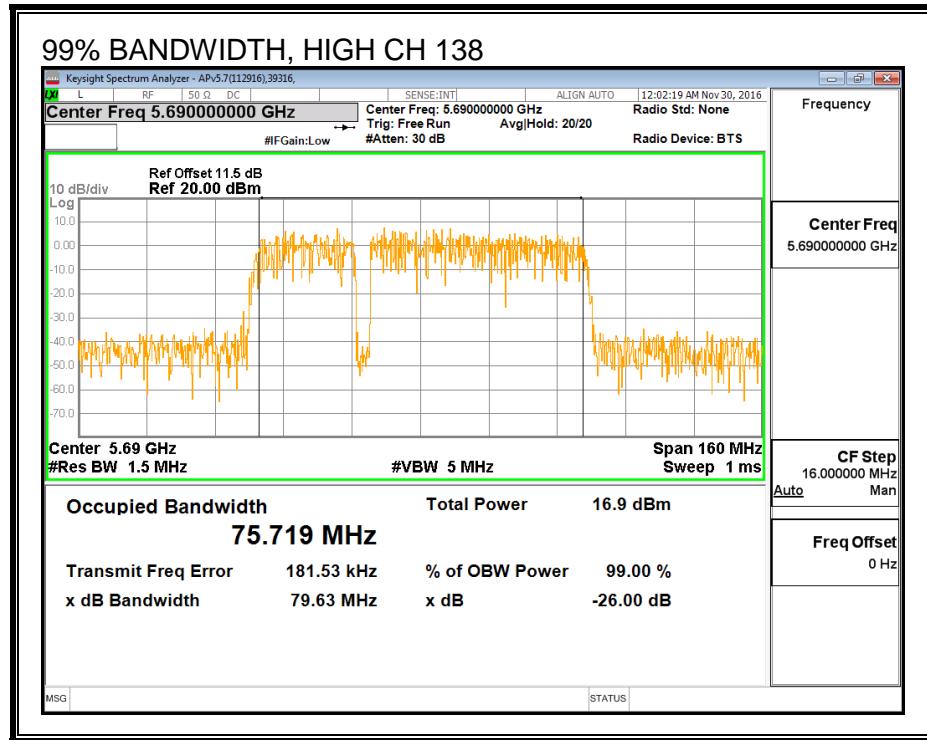
None; for reporting purposes only.

RESULTS

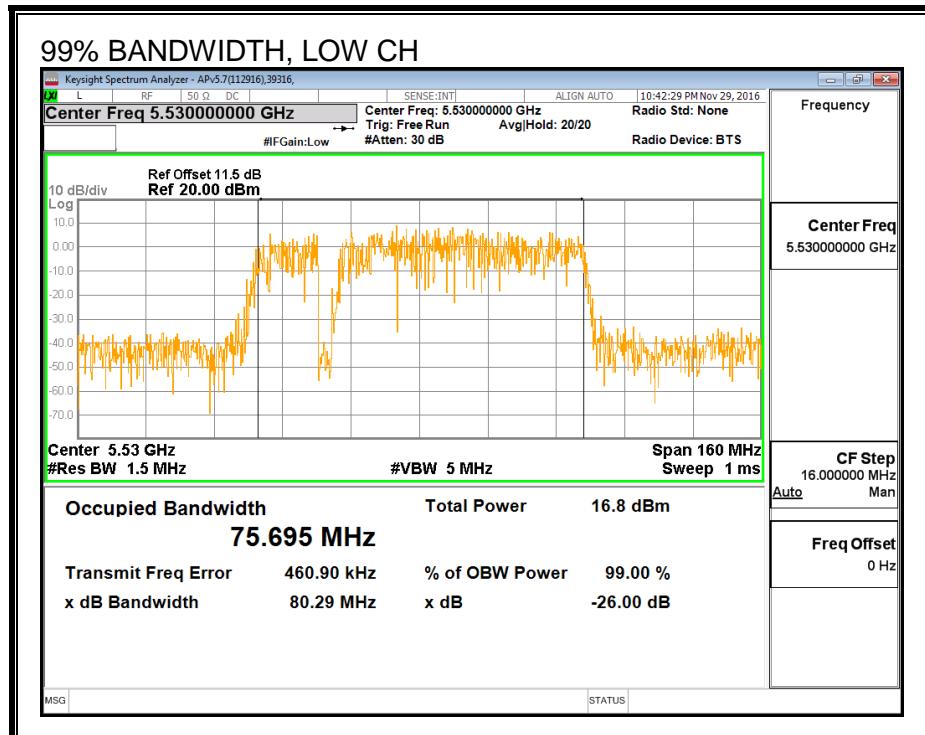
Channel	Frequency (MHz)	99% BW Ant A (MHz)	99% BW Ant B (MHz)
Low	5530	75.951	75.695
Mid	5610	75.991	75.944
High	5690	75.719	75.650

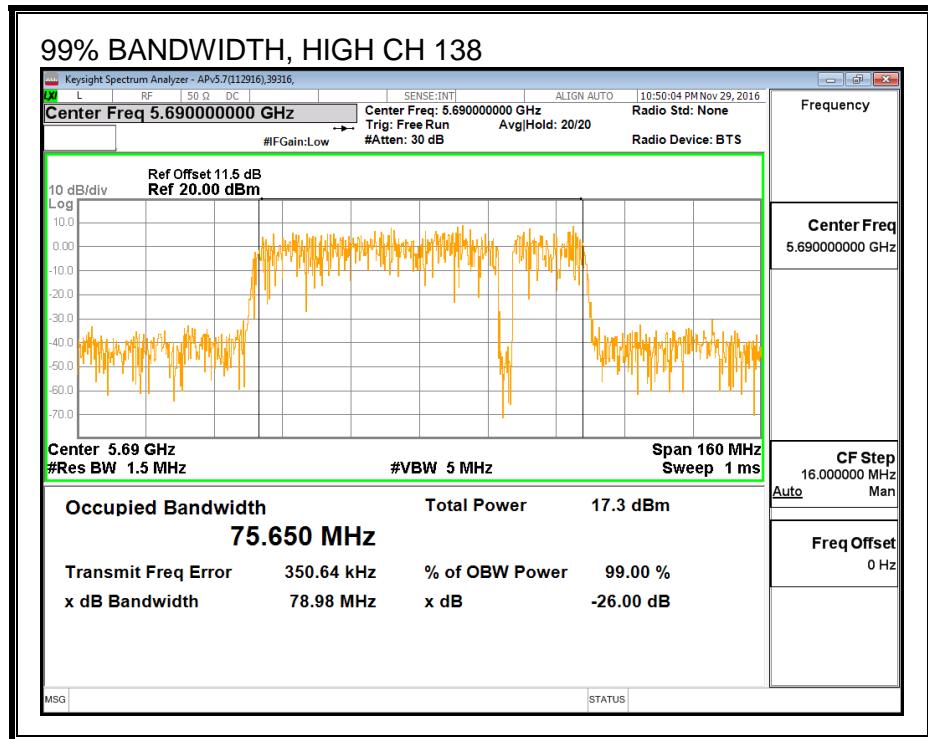
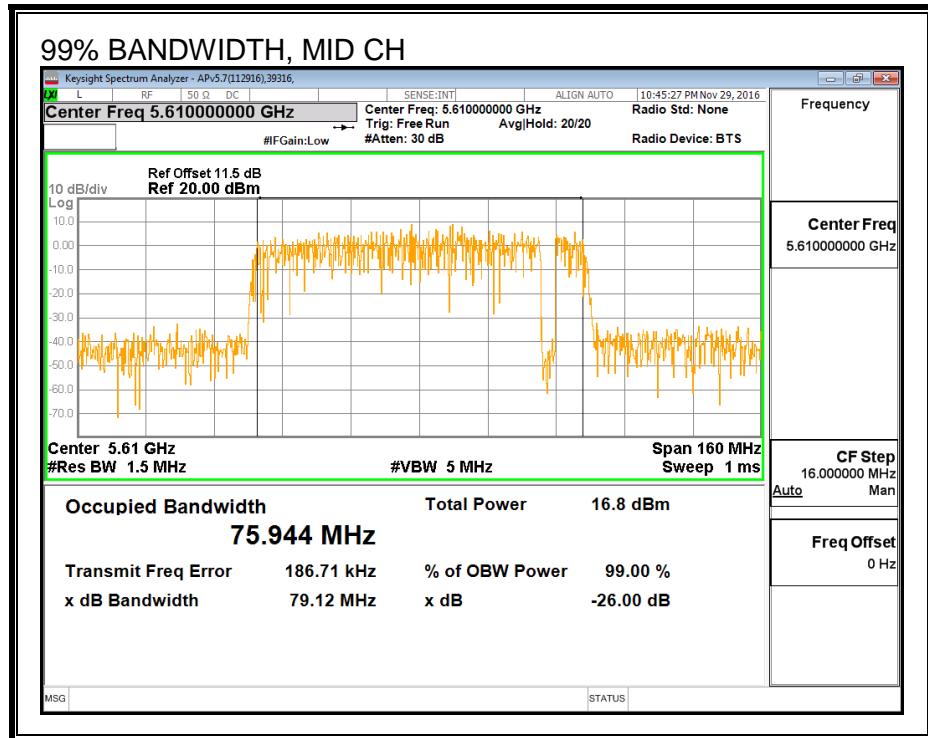
99% BANDWIDTH, ANTENNA A





99% BANDWIDTH, ANTENNA B





8.43.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	50822	Date:	2/7/17
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Average Power Results

Channel	Frequency (MHz)	Ant A Power (dBm)	Ant B Power (dBm)	Total Power (dBm)
Low	5530	11.49	11.48	14.50
Mid	5610	14.90	14.95	17.94
High	5690	14.98	14.98	17.99

8.43.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26-dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

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

Ant A	Ant B	Uncorrelated Chains Directional Gain (dBi)
Gain (dBi)	Gain (dBi)	
5.41	5.17	5.29

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

Ant A Antenna Gain (dBi)	Ant B Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
5.41	5.17	8.30

RESULTS

ID:	50822	Date:	2/9/17
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Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5530	82.72	75.695	5.29	8.30	24.00	8.70
High	5610	82.72	75.944	5.29	8.30	24.00	8.70

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd PSD
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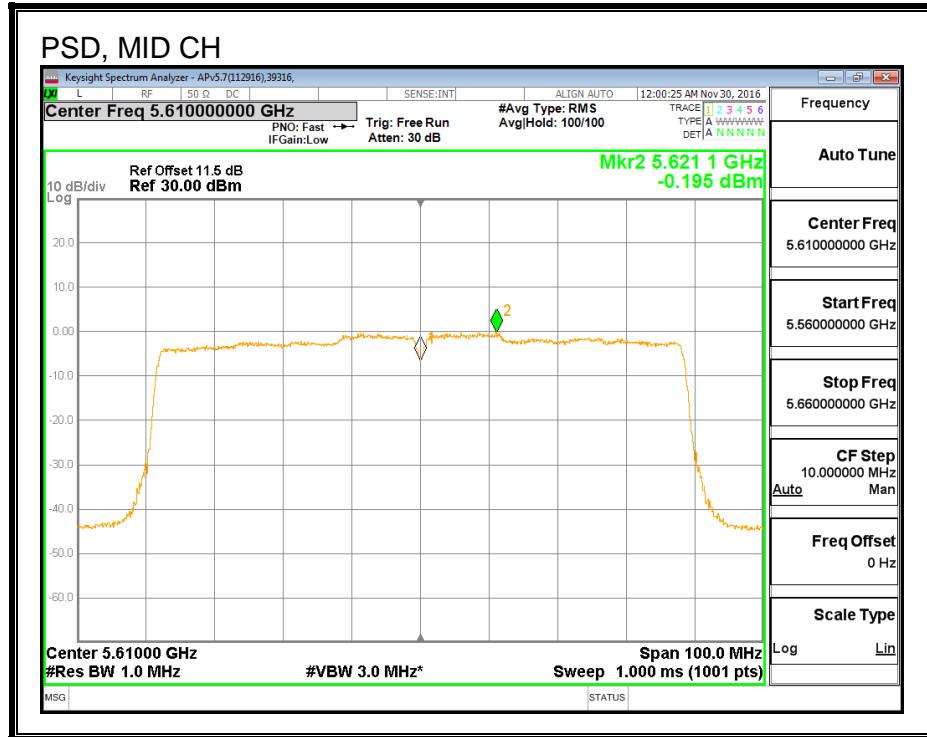
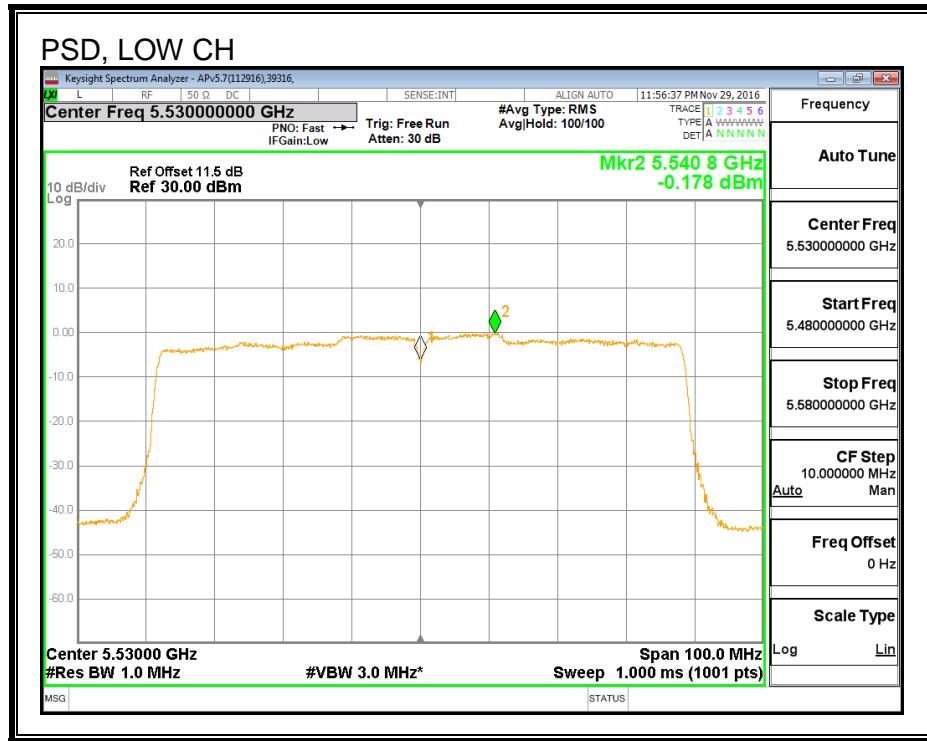
Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	11.49	11.48	14.50	24.00	-9.50
High	5610	14.90	14.95	17.94	24.00	-6.06

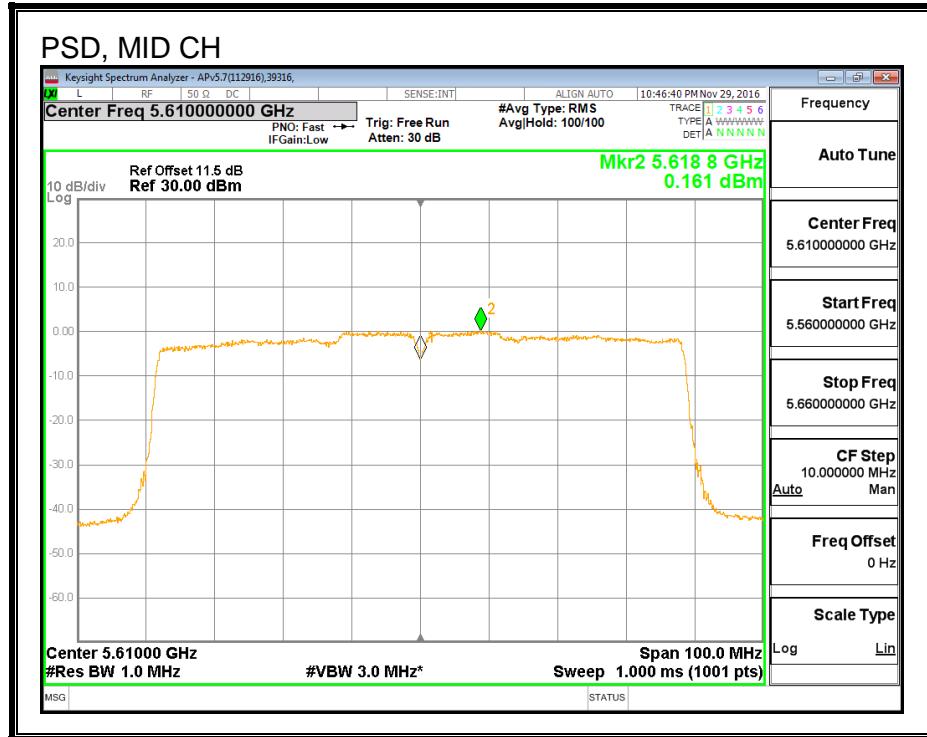
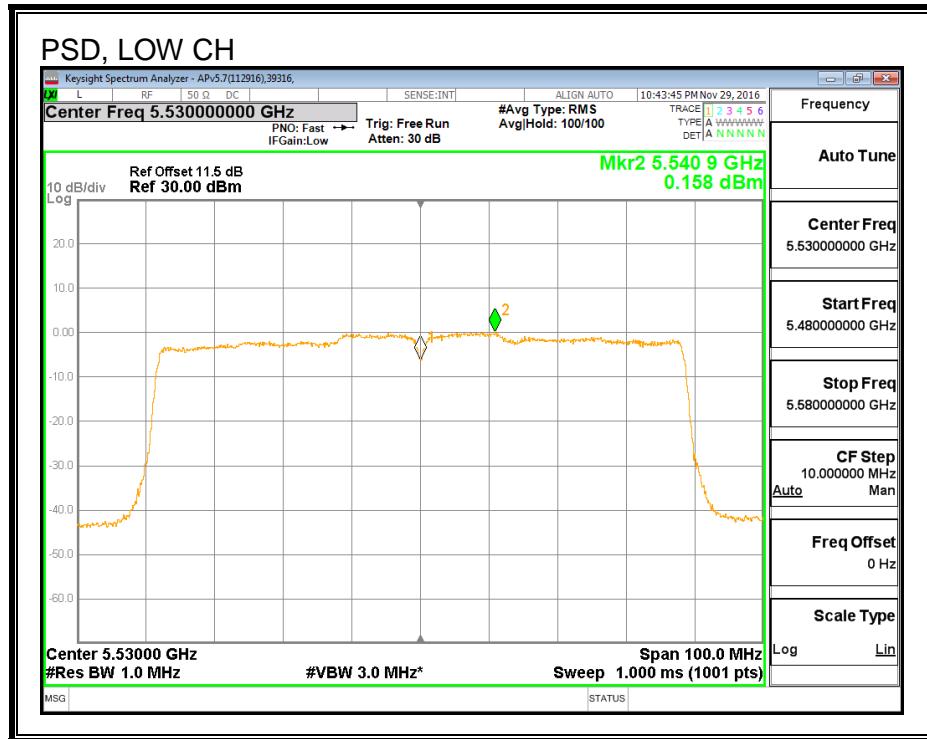
PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-0.18	0.16	3.20	8.70	-5.50
High	5610	-0.20	0.16	3.20	8.70	-5.50

PSD, ANTENNA A



PSD, ANTENNA B



8.43.5. STRADDLE CHANNEL 138 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.36	5.29	8.30	24.00	8.70

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PSD
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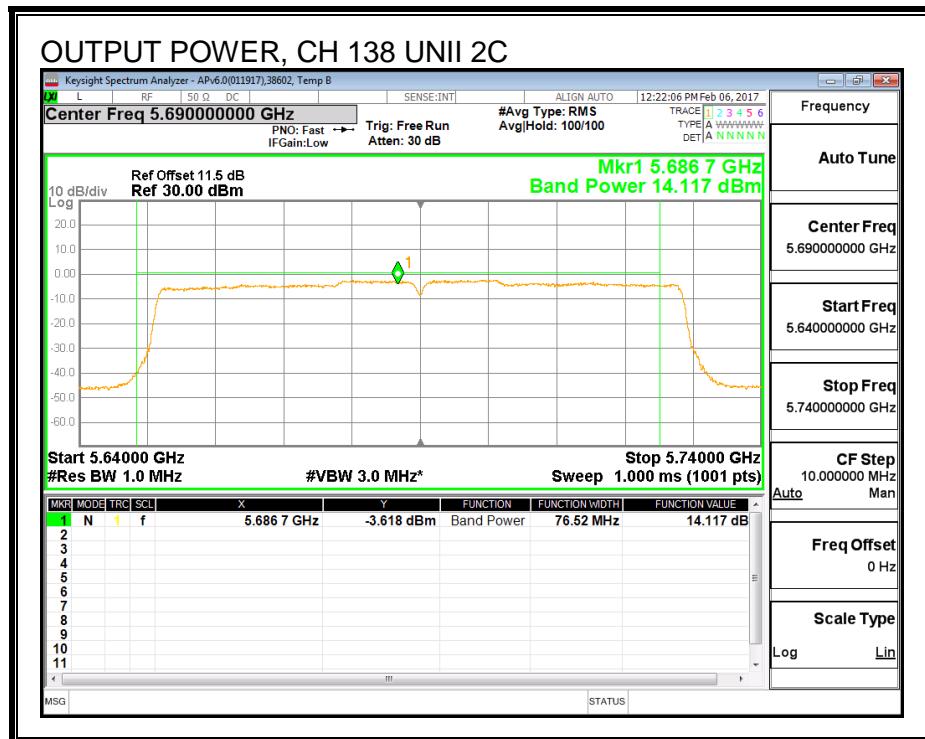
Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	14.12	14.02	17.28	24.00	-6.72

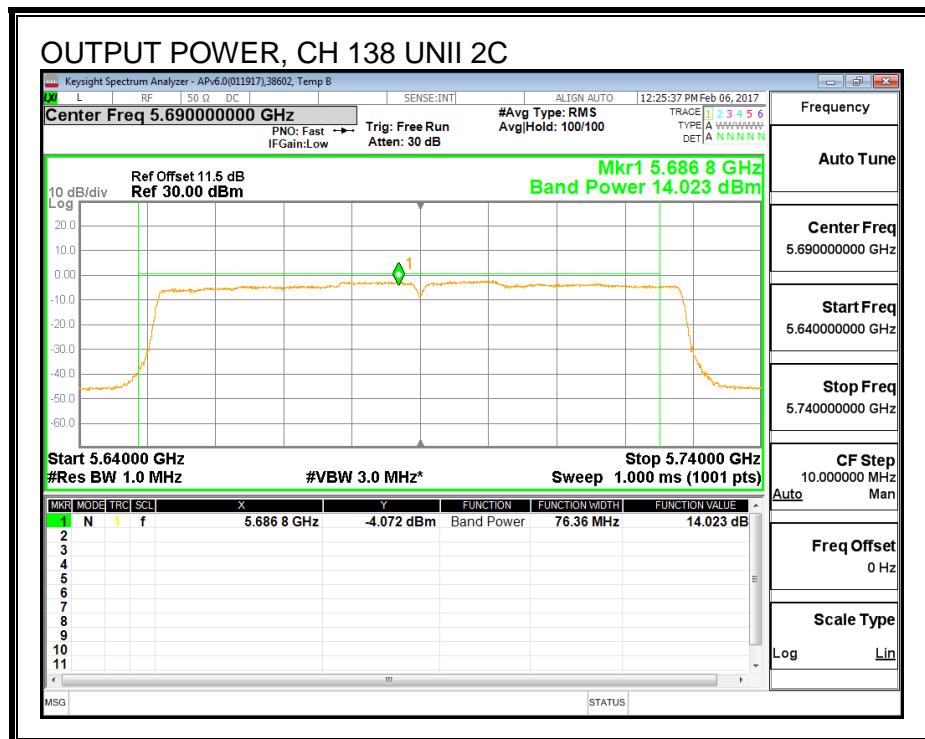
PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-2.39	-2.34	0.85	8.70	-7.85

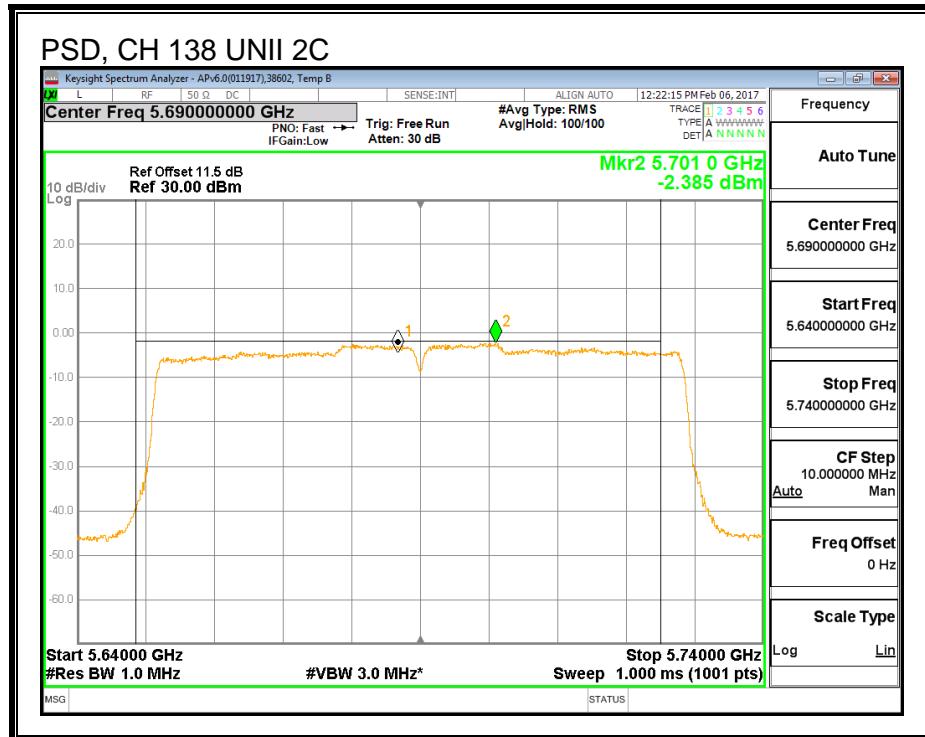
OUTPUT POWER, ANTENNA A



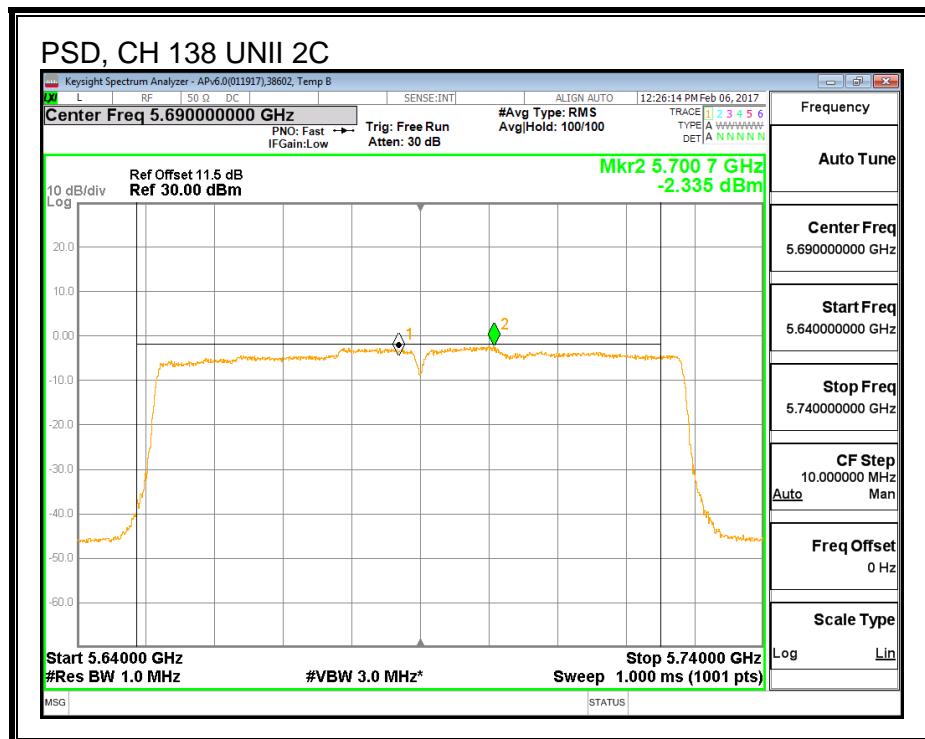
OUTPUT POWER, ANTENNA B



PSD, ANTENNA A



PSD, ANTENNA B



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.36	4.26	7.27	30.00	28.73

Duty Cycle CF (dB)	0.20	Included in Calculations of Corr'd Power & PSD
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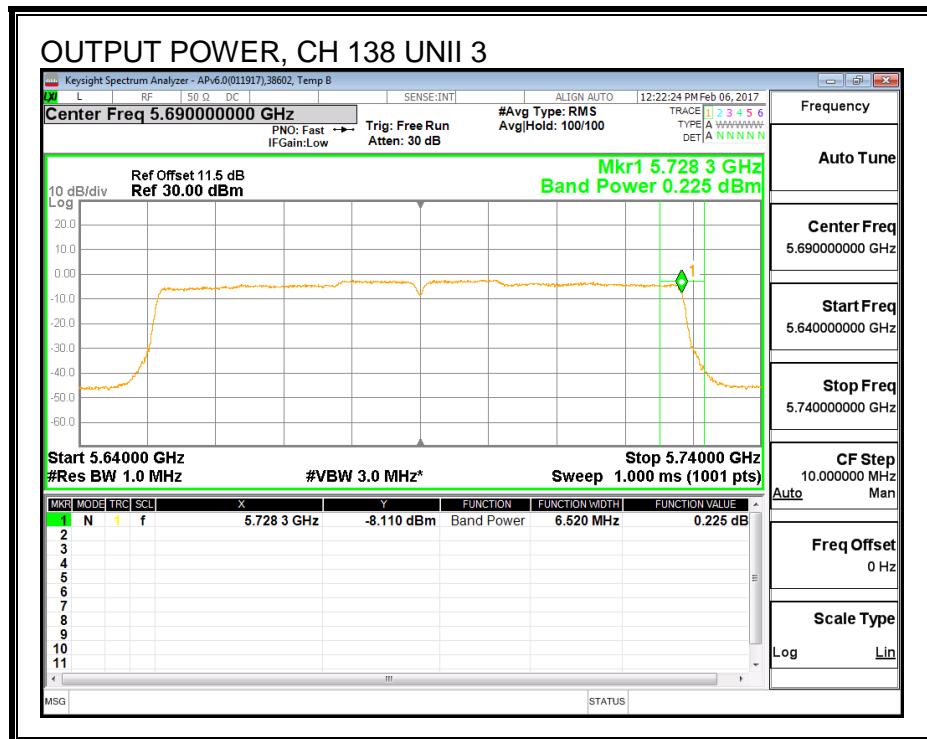
Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	0.23	0.14	3.39	30.00	-26.61

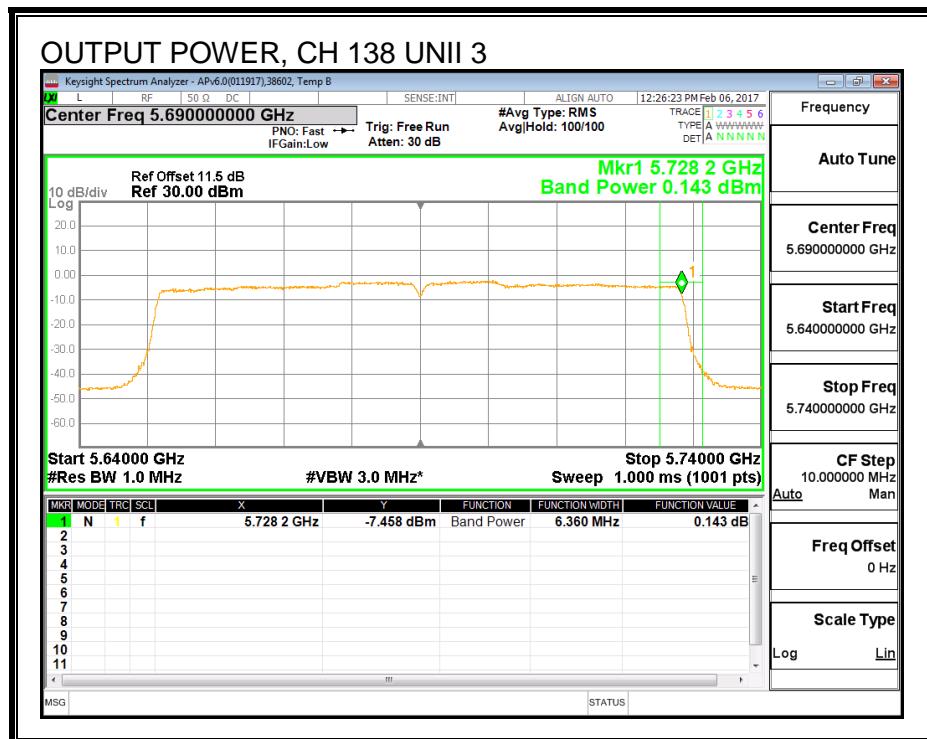
PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-7.12	-7.02	-3.86	28.73	-32.59

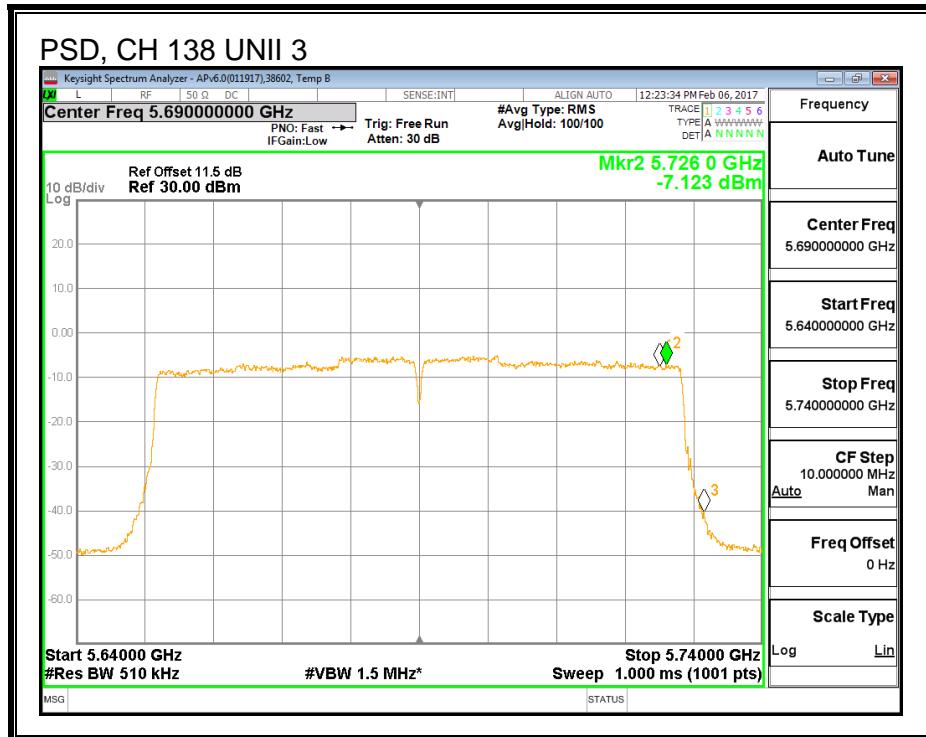
OUTPUT POWER, ANTENNA A



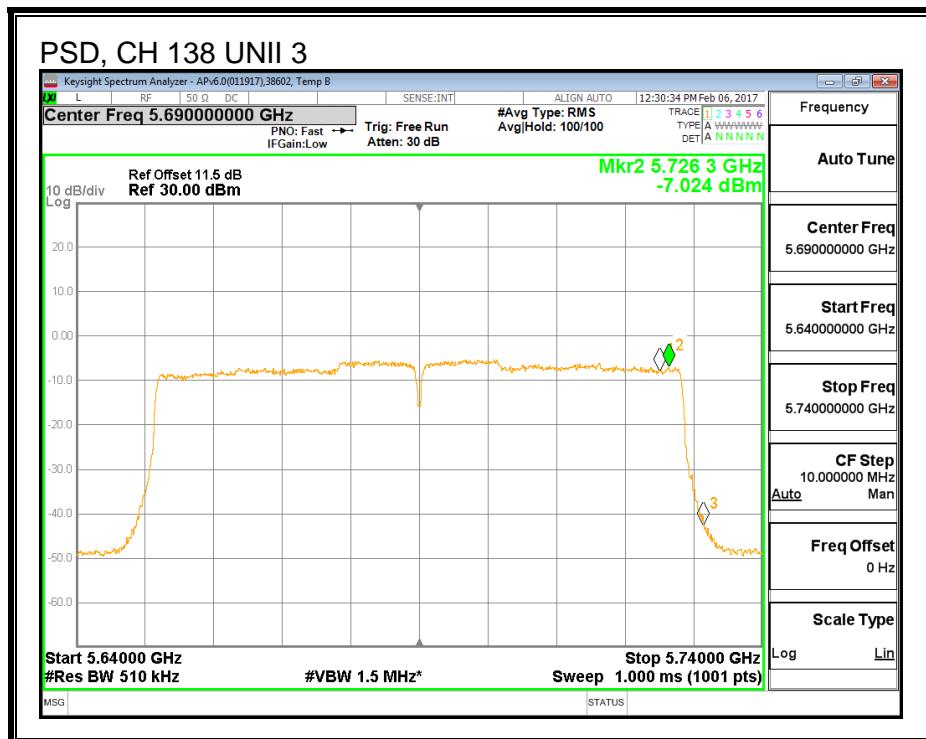
OUTPUT POWER, ANTENNA B



PSD, ANTENNA A



PSD, ANTENNA B



8.43.6. 6 dB BANDWIDTH

LIMITS

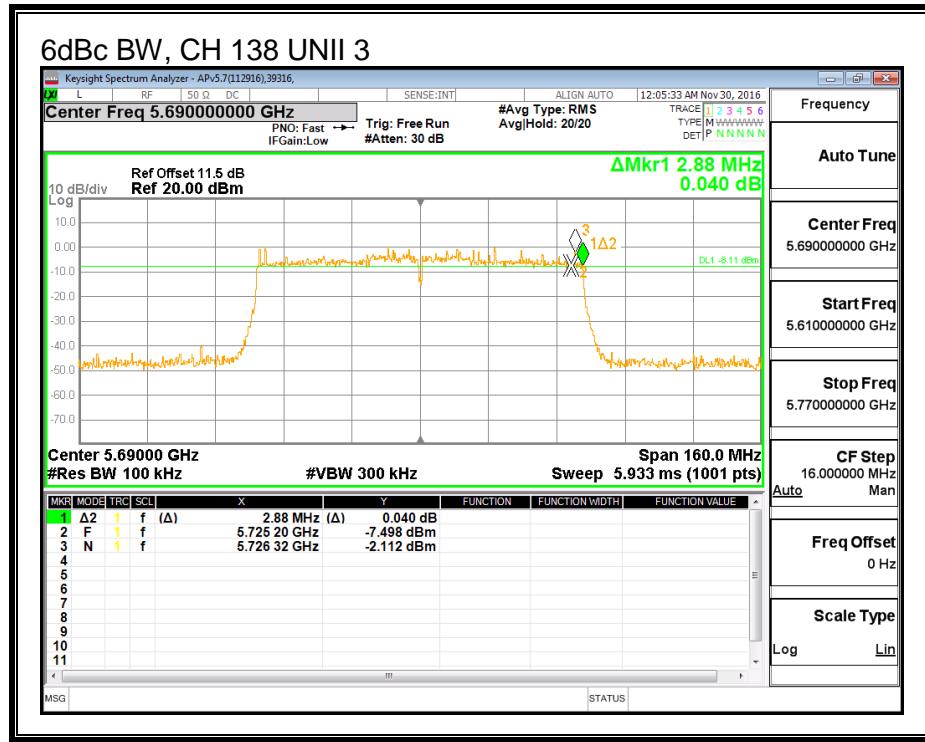
FCC §15.407 (e)

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

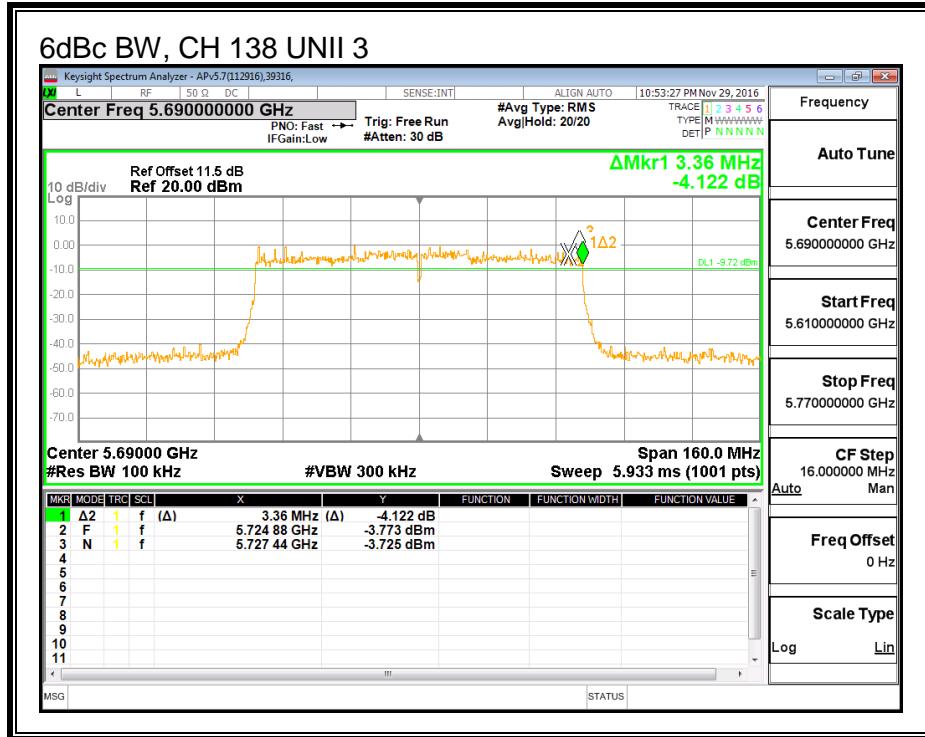
RESULTS

Channel	Frequency (MHz)	6 dB BW Ant A (MHz)	6 dB BW Ant B (MHz)
High	5690	2.88	3.36

ANTENNA A



ANTENNA B



**8.44. 802.11ac VHT80 2Tx (ANTENNA A + ANTENNA B) STBC MODE IN
THE 5.6 GHz BAND (5610MHz for FCC only)**

Noted: Covered by 802.11ac VHT80 2Tx (ANTENNA A + ANTENNA B) CDD MODE IN THE 5.6 GHz BAND

8.45. 802.11n HT20 ANTENNA A MODE IN THE 5.8 GHz BAND

8.45.1. 6 dB BANDWIDTH

LIMITS

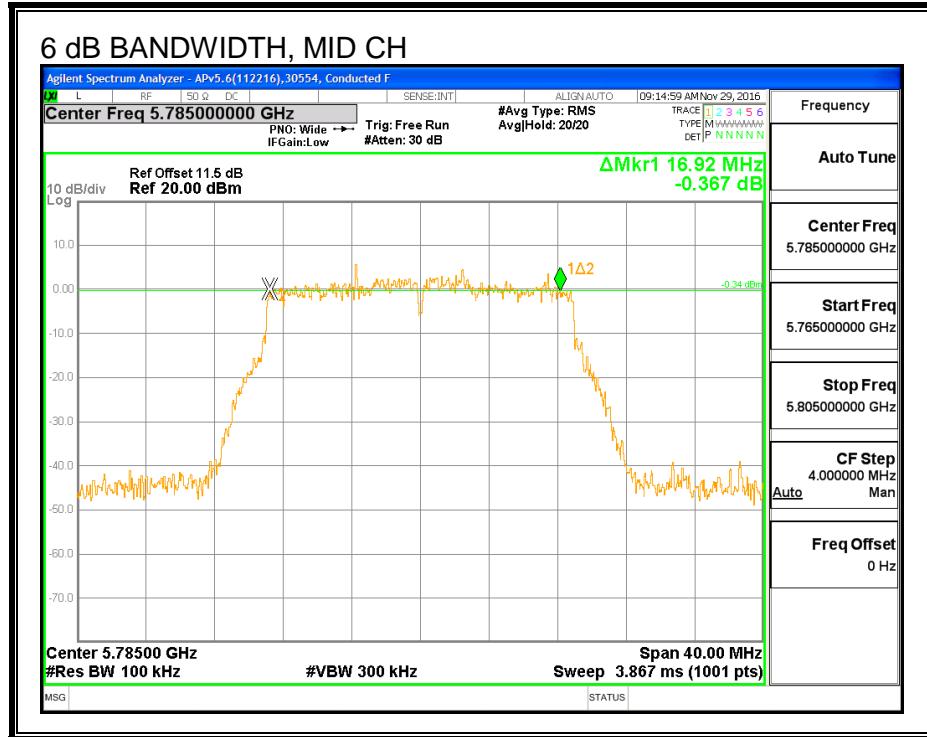
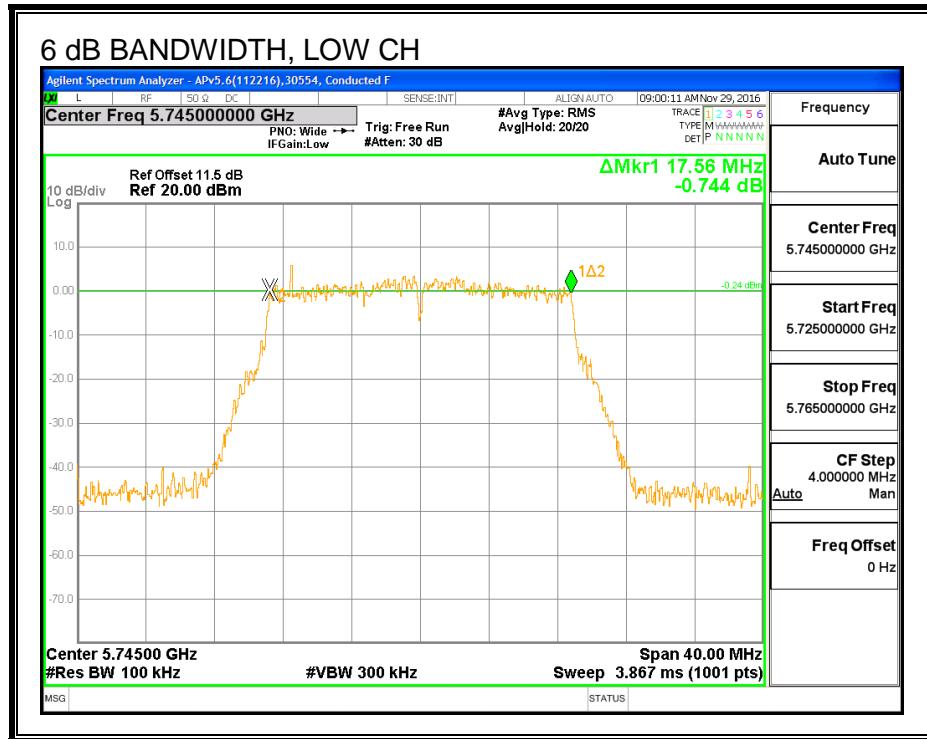
FCC §15.407 (e)

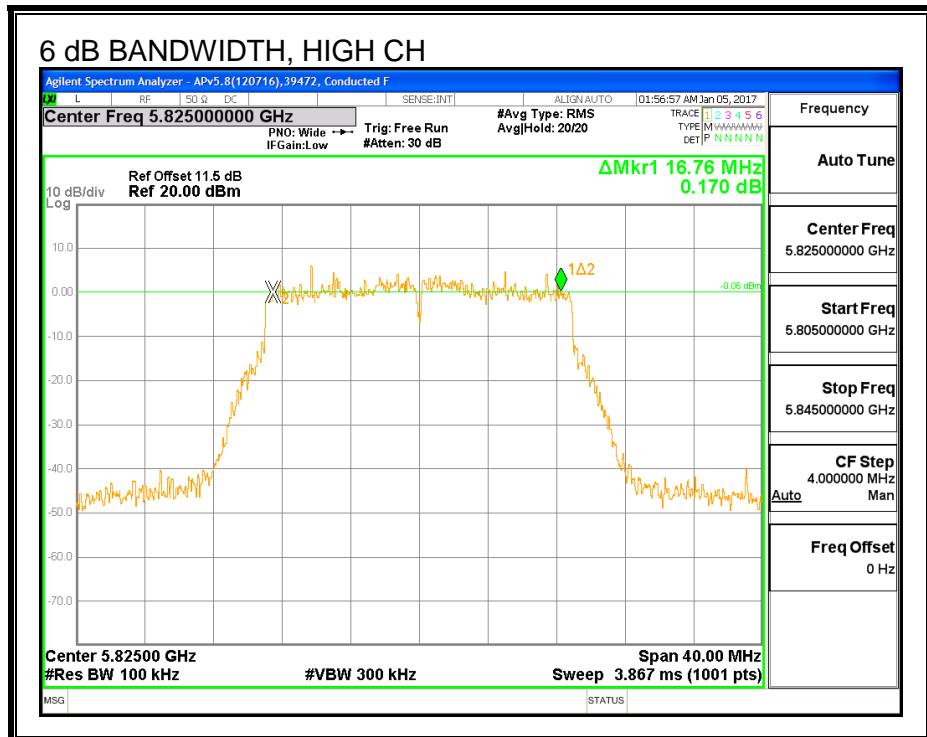
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.560	0.5
Mid	5785	16.920	0.5
High	5825	16.760	0.5

6 dB BANDWIDTH





8.45.2. 26 dB BANDWIDTH

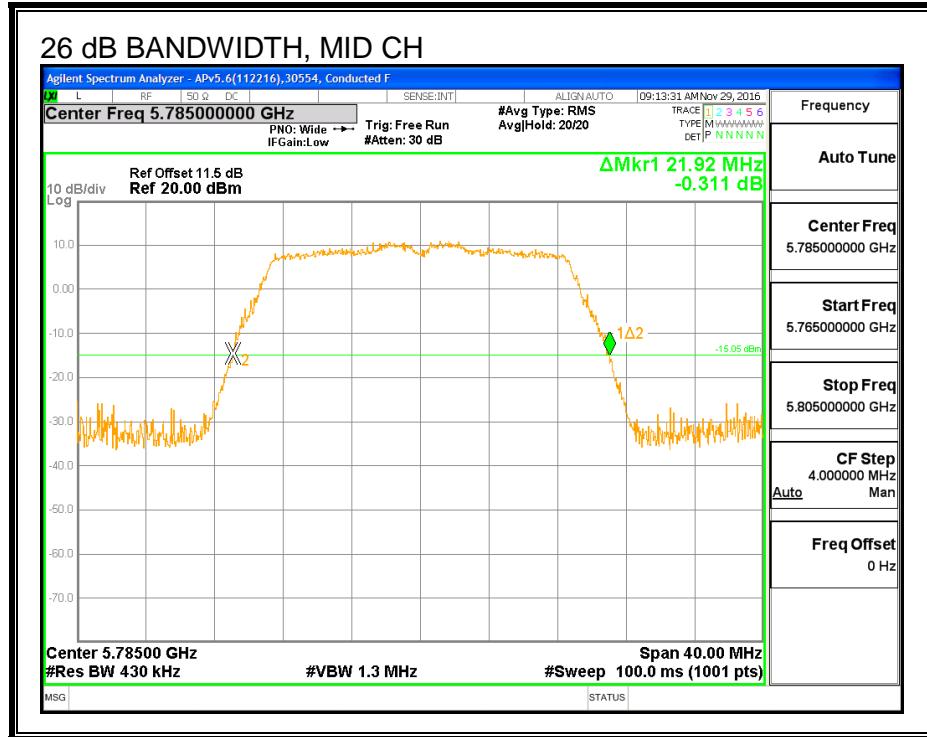
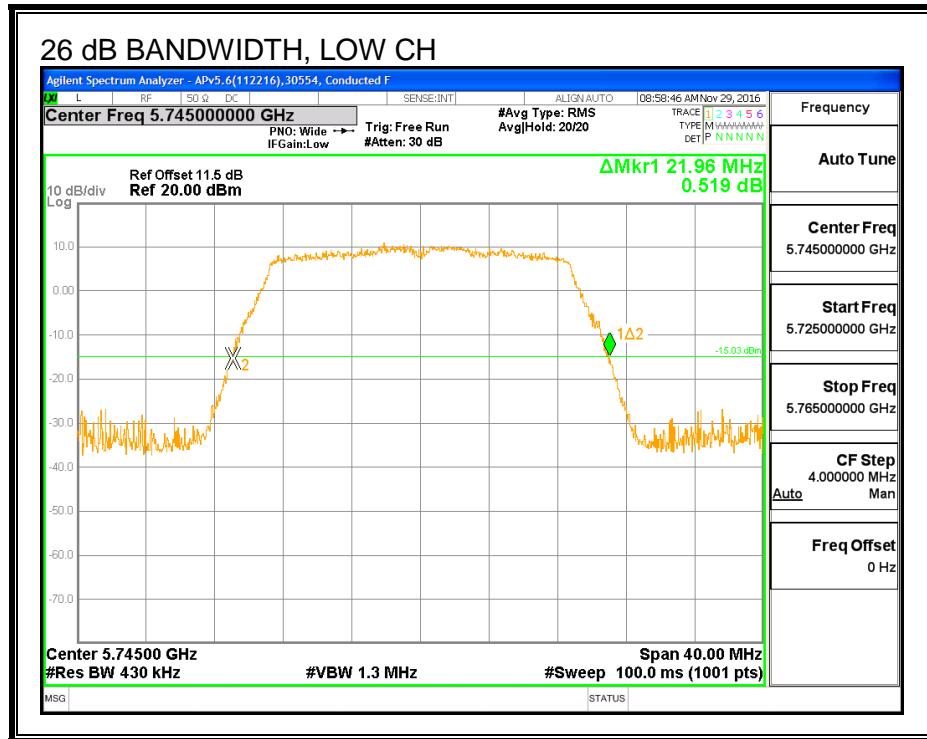
LIMITS

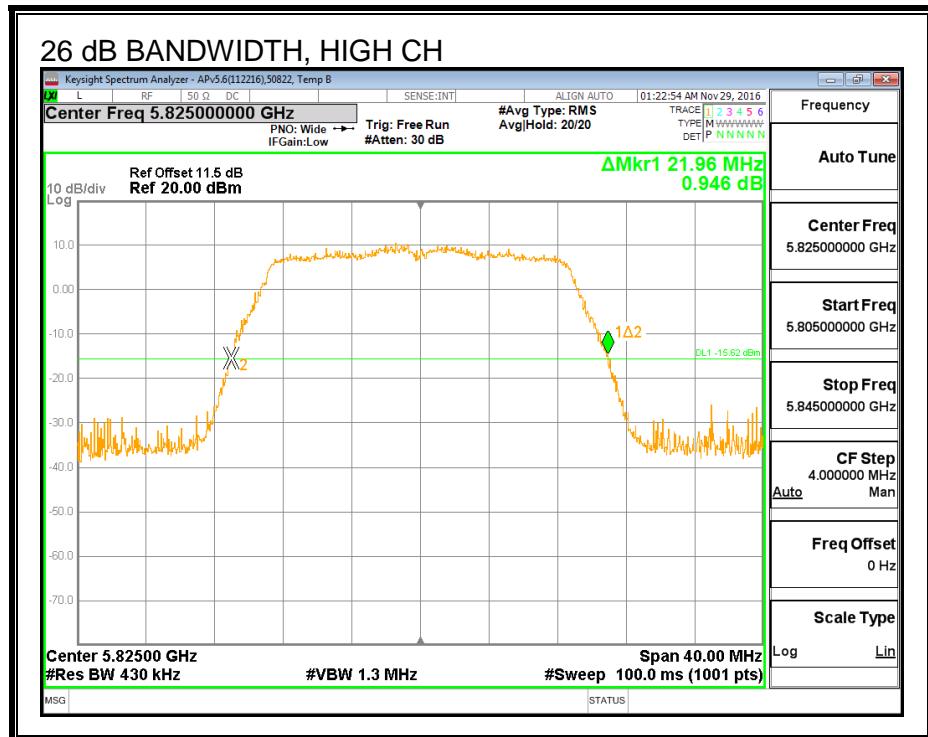
None, for reporting purposes only

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	21.960
Mid	5785	21.920
High	5825	21.960

26 dB BANDWIDTH





8.45.3. 99% BANDWIDTH

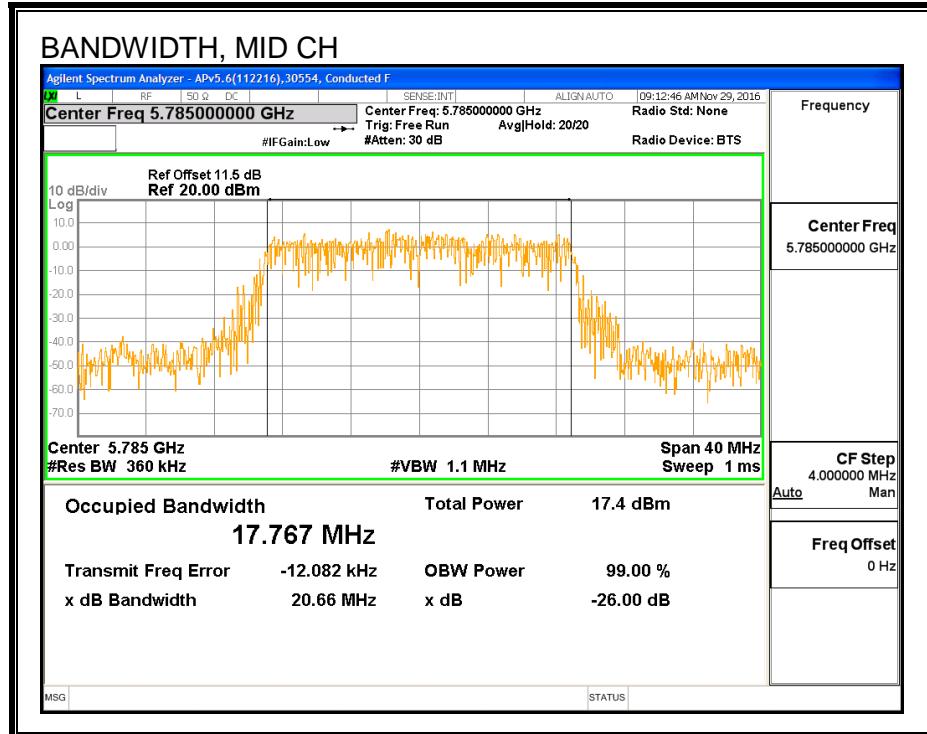
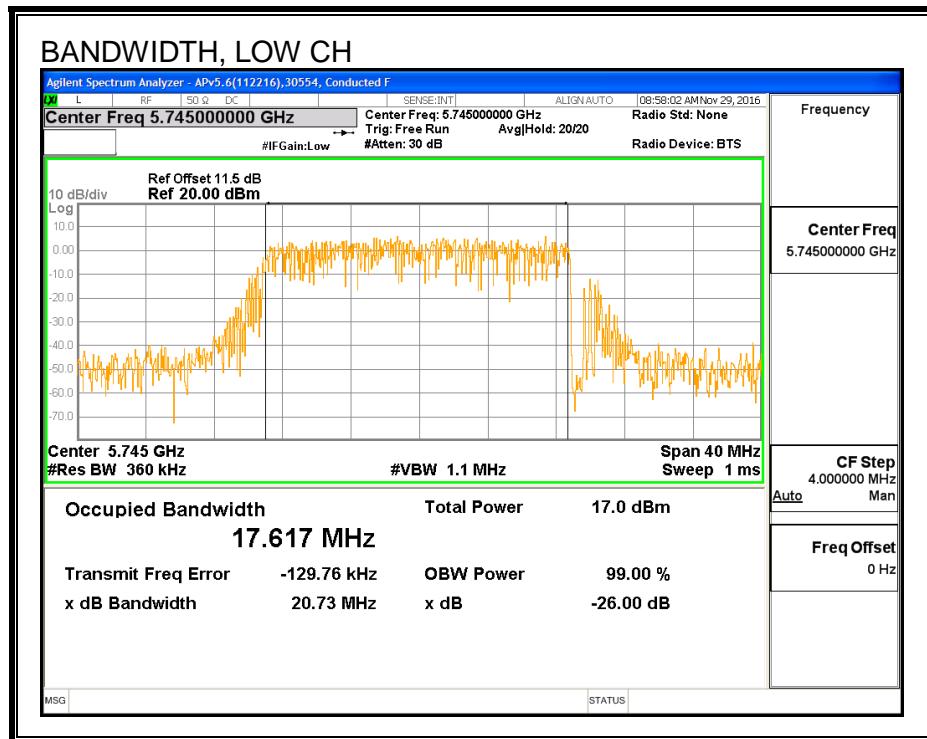
LIMITS

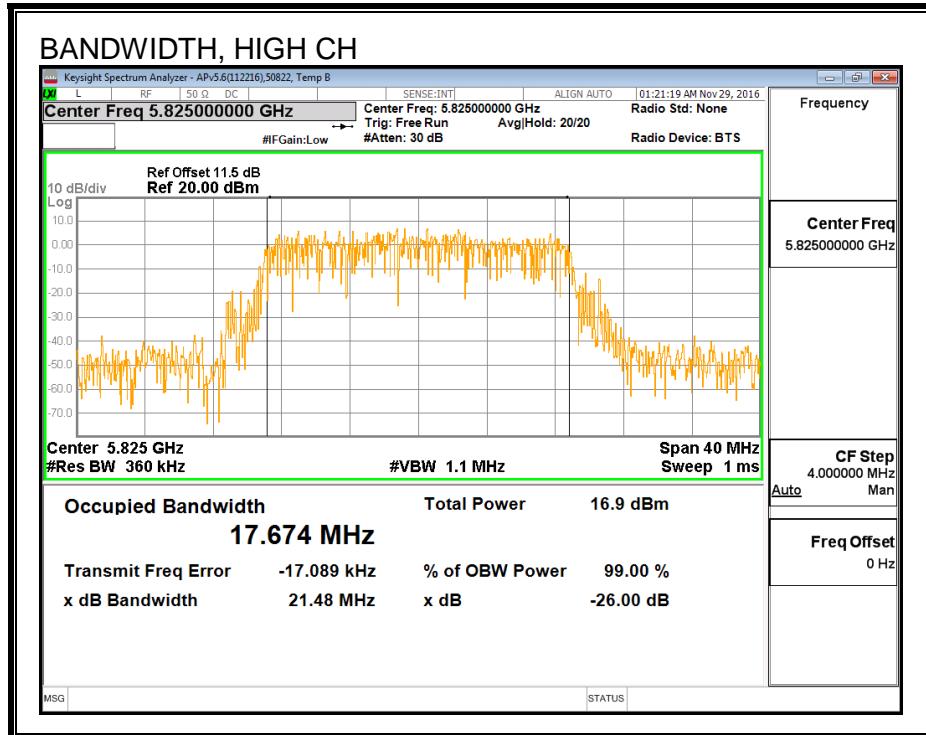
None; for reporting purposes only.

RESULTS

Frequency (MHz)	99% Bandwidth (MHz)
5745	17.617
5785	17.767
5825	17.674

99% BANDWIDTH





8.45.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	50822	Date:	2/7/17
-----	-------	-------	--------

Channel	Frequency (MHz)	Power (dBm)
Low	5745	14.98
Mid	5785	14.96
High	5825	14.93

8.45.5. 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

ID:	50822	Date:	2/7/17
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Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.20	30.00
Mid	5785	4.20	30.00
High	5825	4.20	30.00

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.98	14.98	30.00	-15.02
Mid	5785	14.96	14.96	30.00	-15.04
High	5825	14.93	14.93	30.00	-15.07

8.45.6. 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

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Antenna Gain and Limits

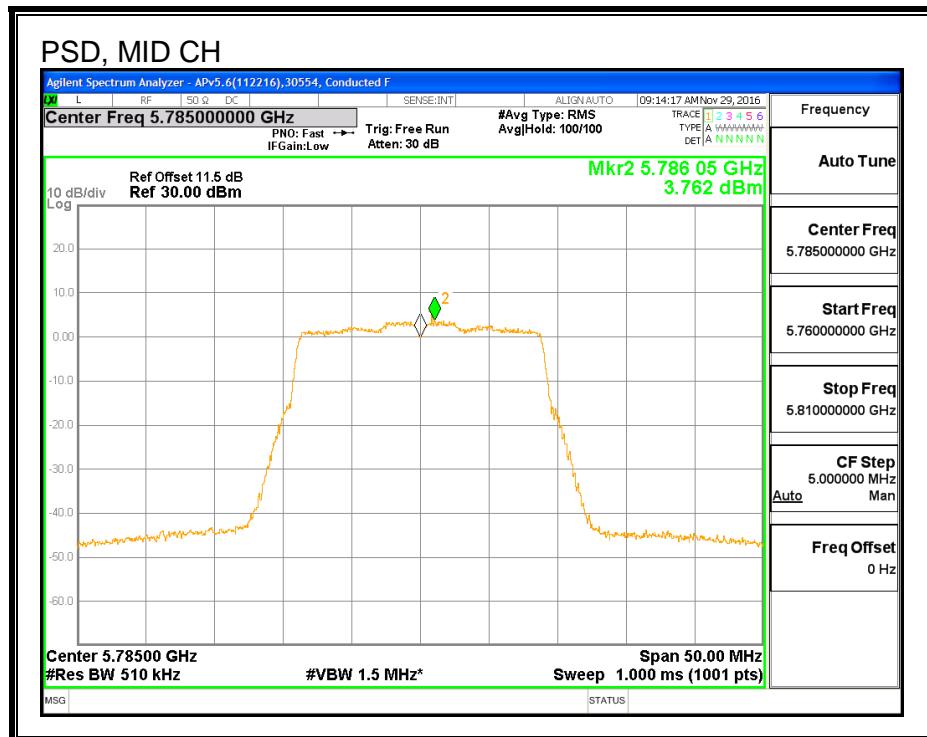
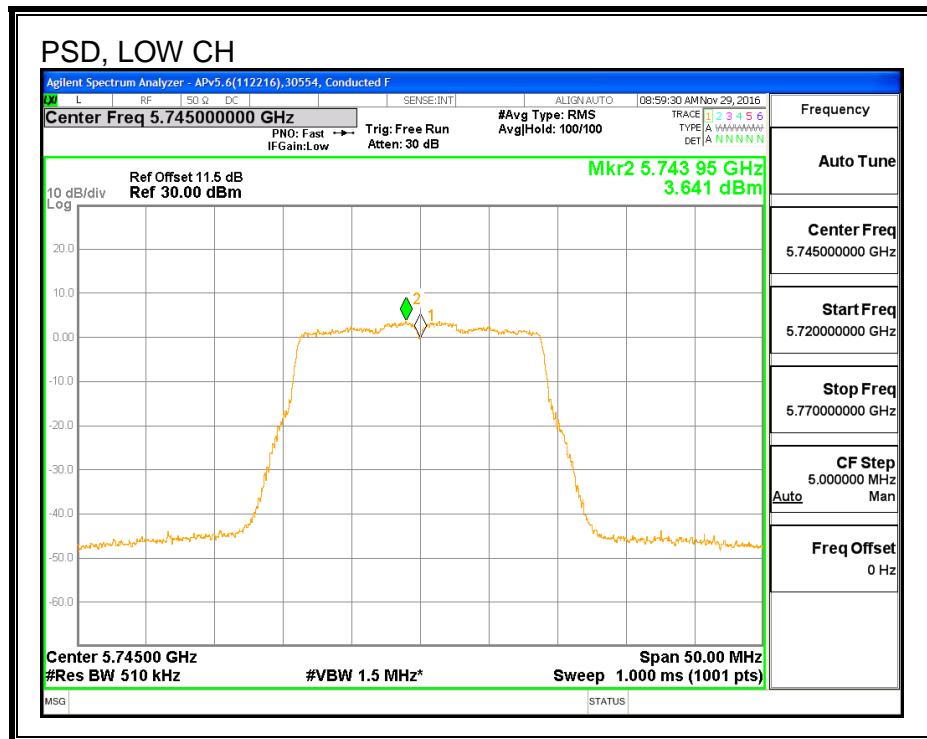
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	4.20	30.00
Mid	5785	4.20	30.00
High	5825	4.20	30.00

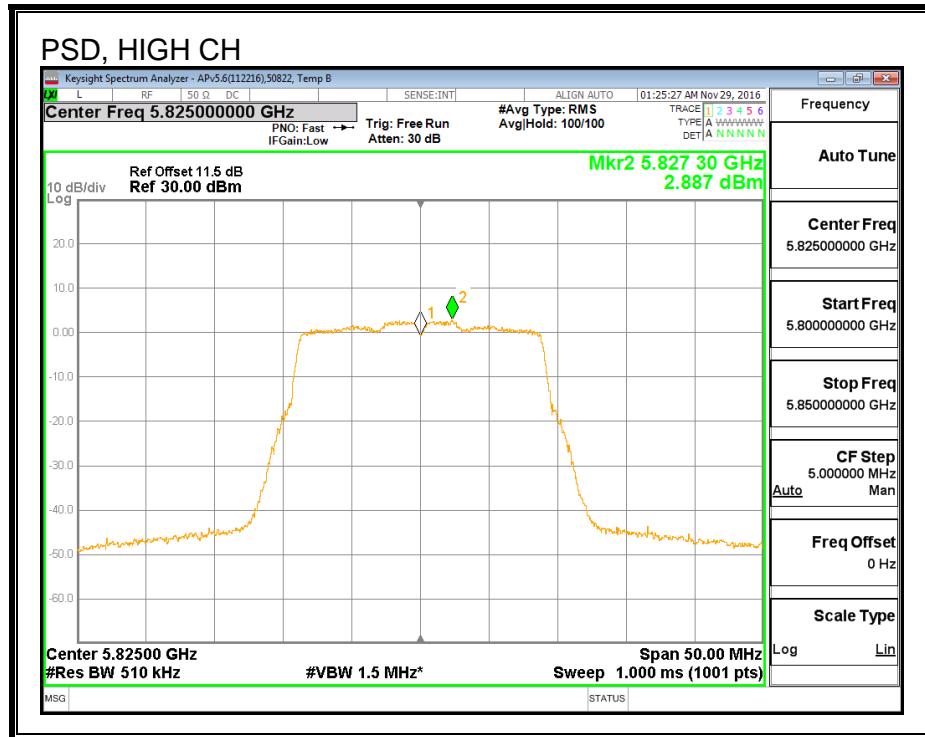
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.64	3.64	30.00	-26.36
Mid	5785	3.76	3.76	30.00	-26.24
High	5825	2.89	2.89	30.00	-27.11

PSD





8.46. 802.11n HT20 ANTENNA B MODE IN THE 5.8 GHz BAND

8.46.1. 6 dB BANDWIDTH

LIMITS

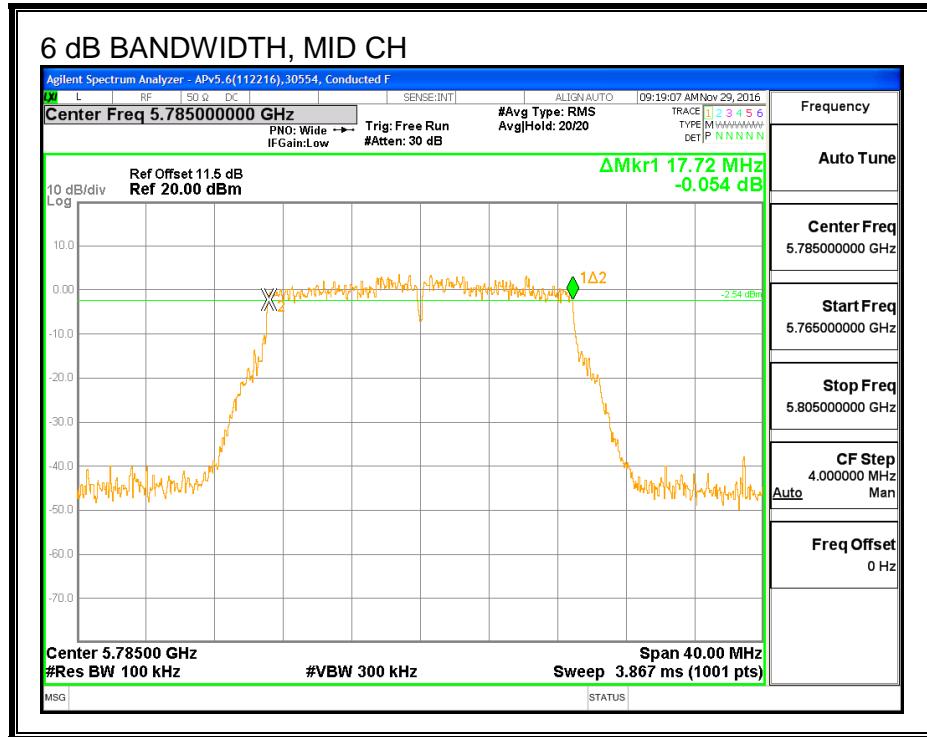
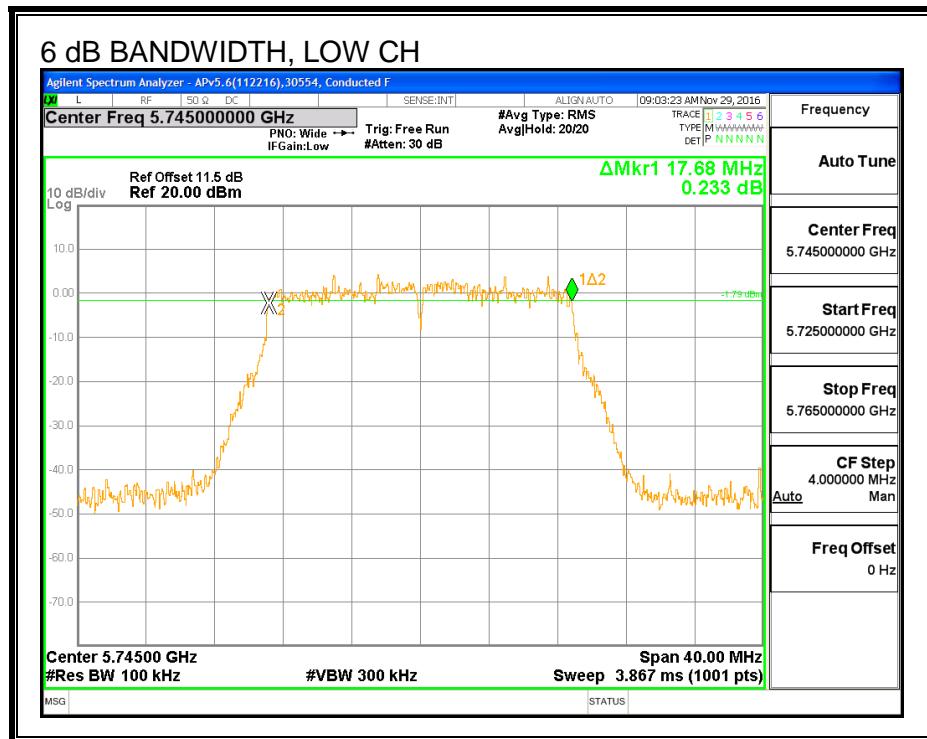
FCC §15.407 (e)

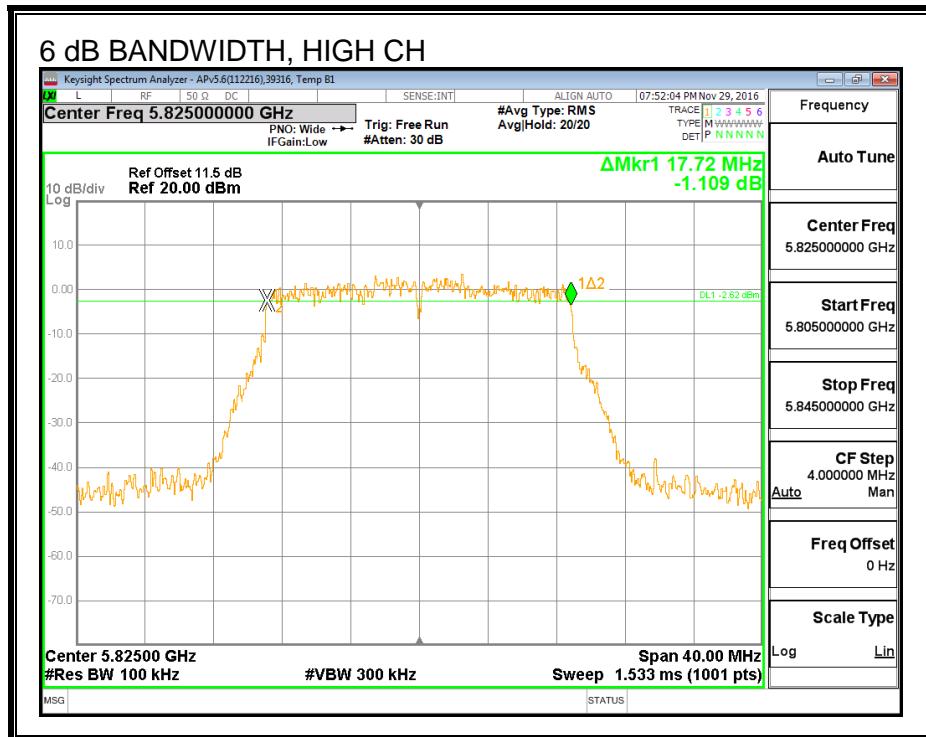
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.680	0.5
Mid	5785	17.720	0.5
High	5825	17.720	0.5

6 dB BANDWIDTH





8.46.2. 26 dB BANDWIDTH

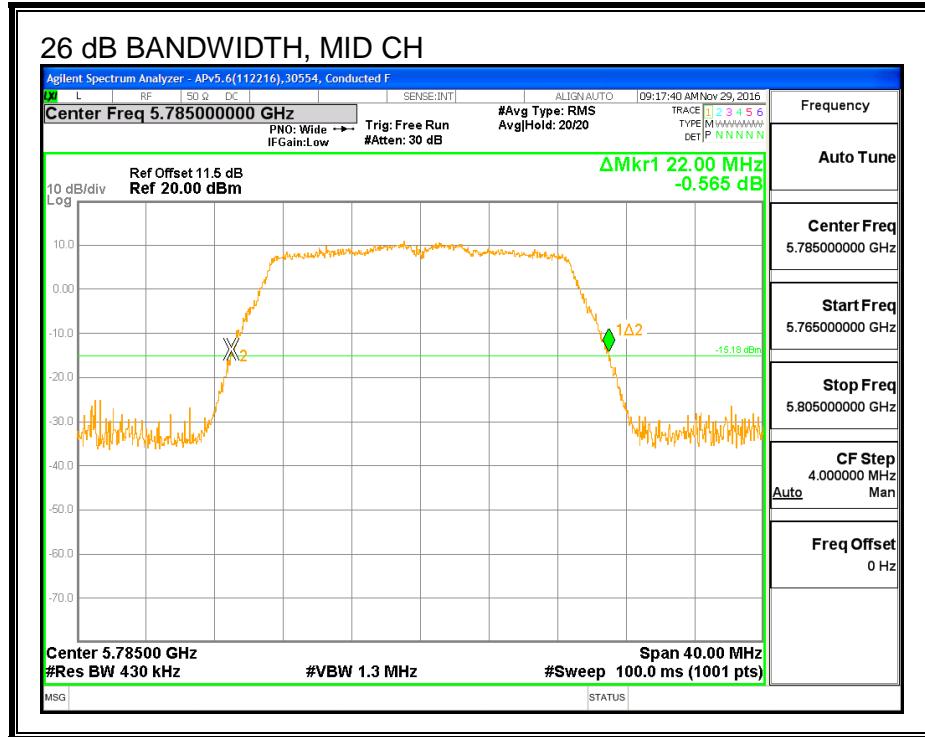
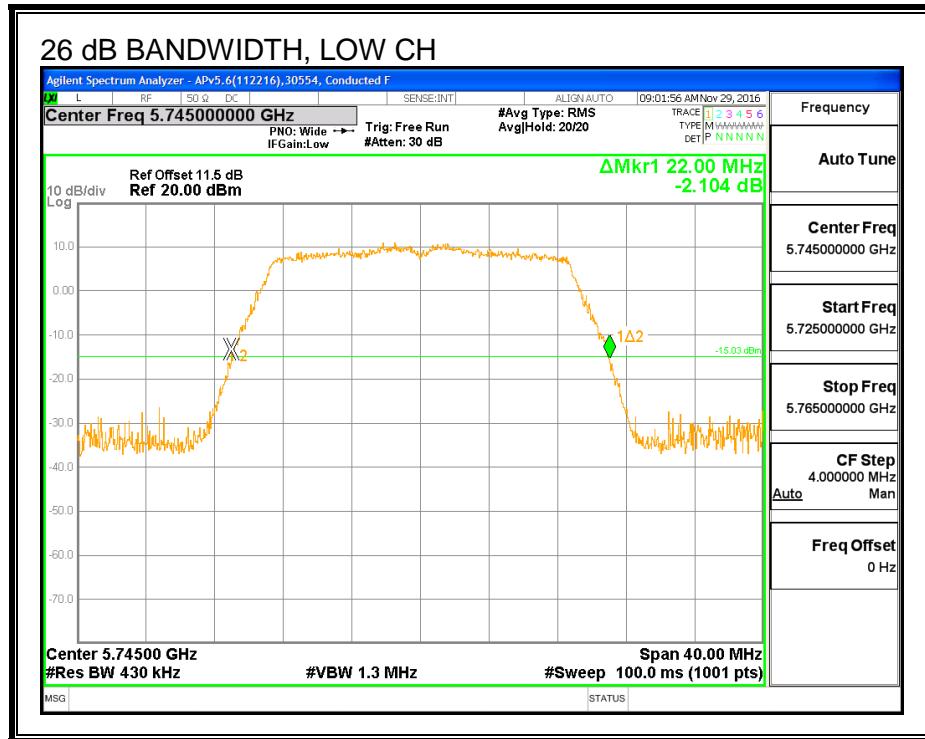
LIMITS

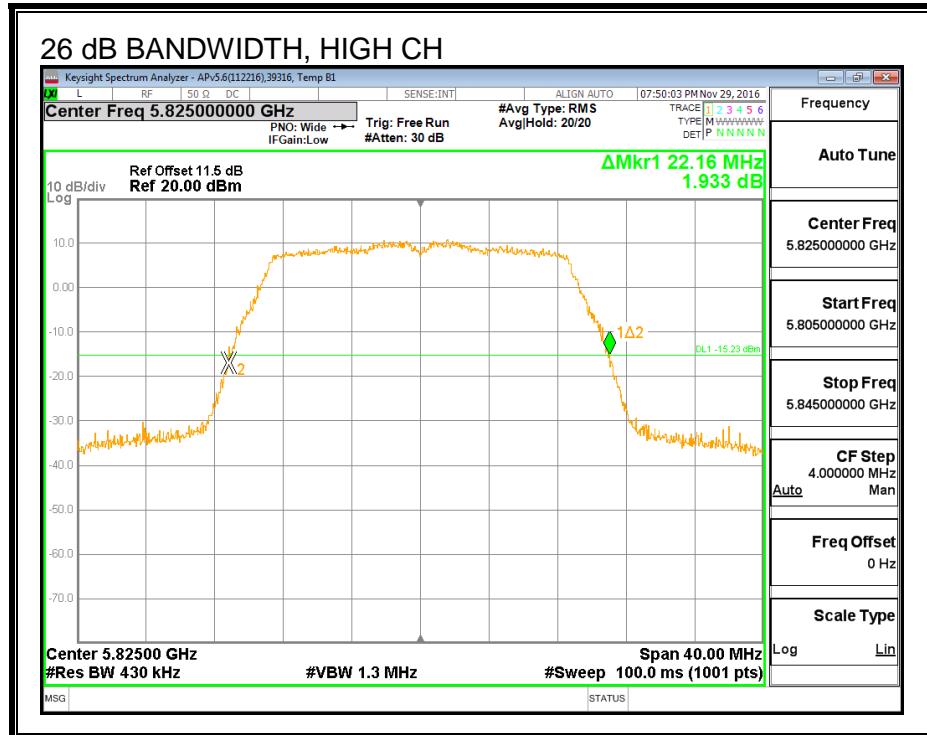
None, for reporting purposes only

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5745	22.000
Mid	5785	22.000
High	5825	22.160

26 dB BANDWIDTH





8.46.3. 99% BANDWIDTH

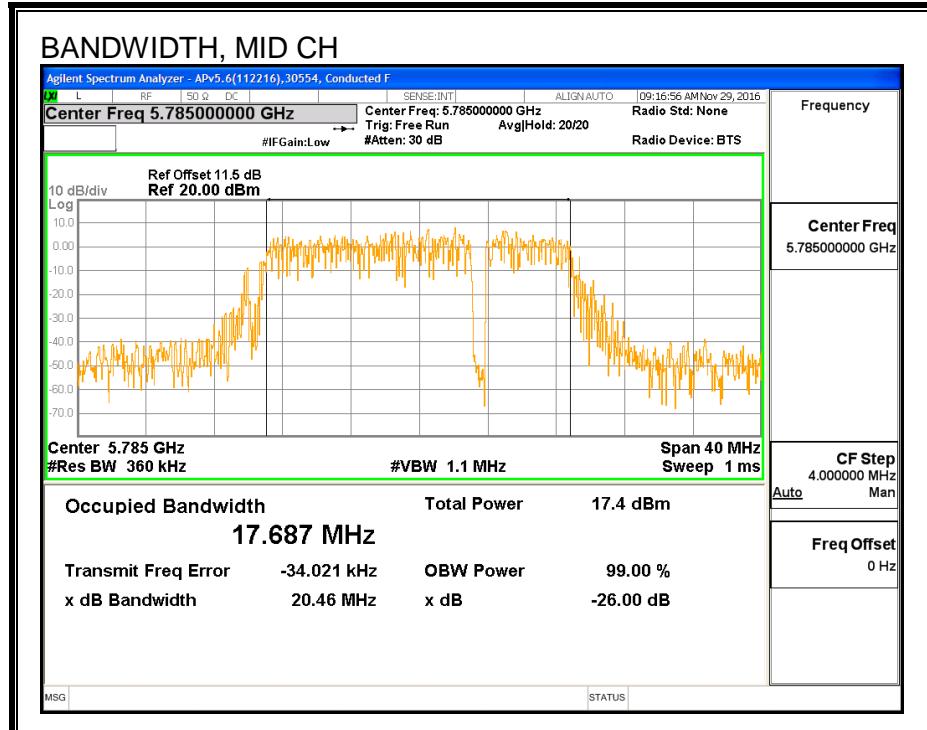
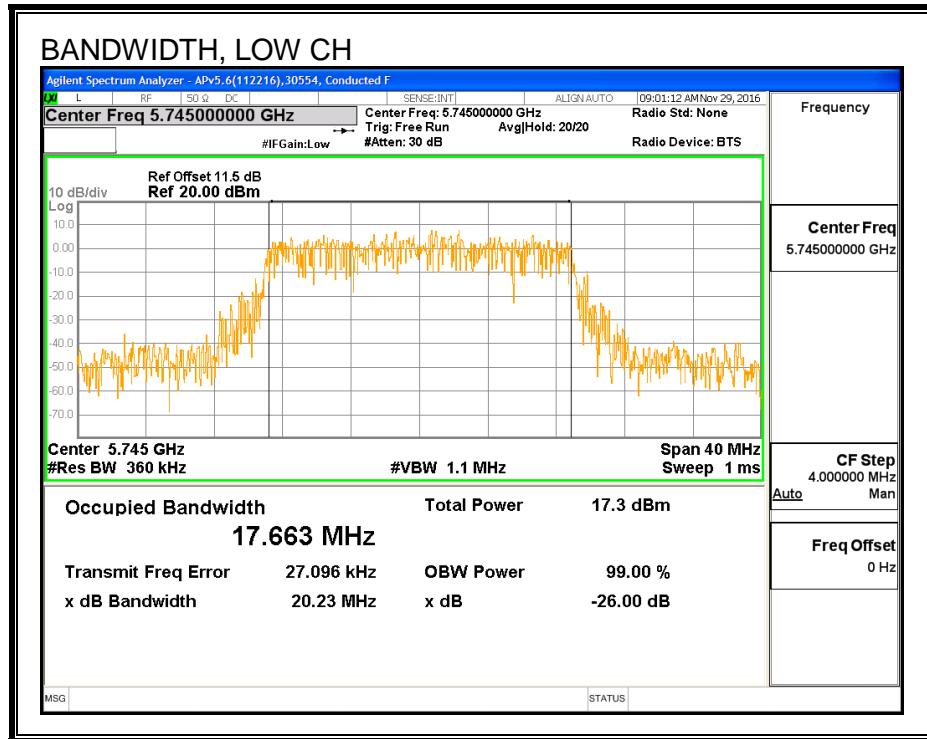
LIMITS

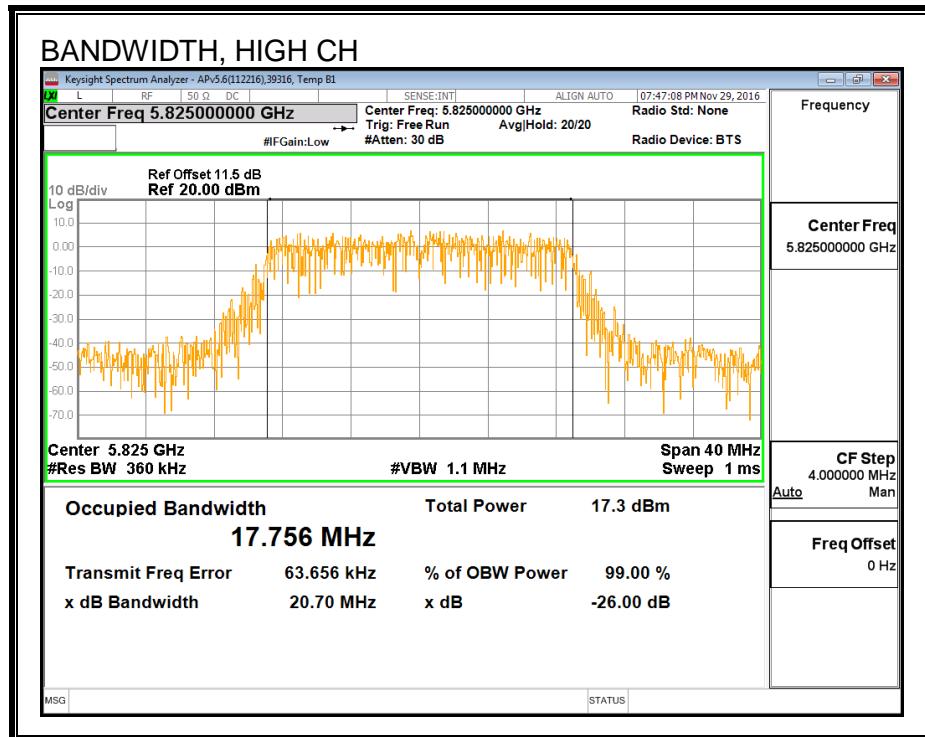
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.663
Mid	5785	17.687
High	5825	17.756

99% BANDWIDTH





8.46.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	50822	Date:	2/8/17
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Channel	Frequency (MHz)	Power (dBm)
Low	5745	15.49
Mid	5785	15.48
High	5825	15.42

8.46.5. 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

ID:	50822	Date:	2/9/17
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Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.32	30.00
Mid	5785	4.32	30.00
High	5825	4.32	30.00

Output Power Results

Channel	Frequency (MHz)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.49	15.49	30.00	-14.51
Mid	5785	15.48	15.48	30.00	-14.52
High	5825	15.42	15.42	30.00	-14.58

8.46.6. 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

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Antenna Gain and Limits

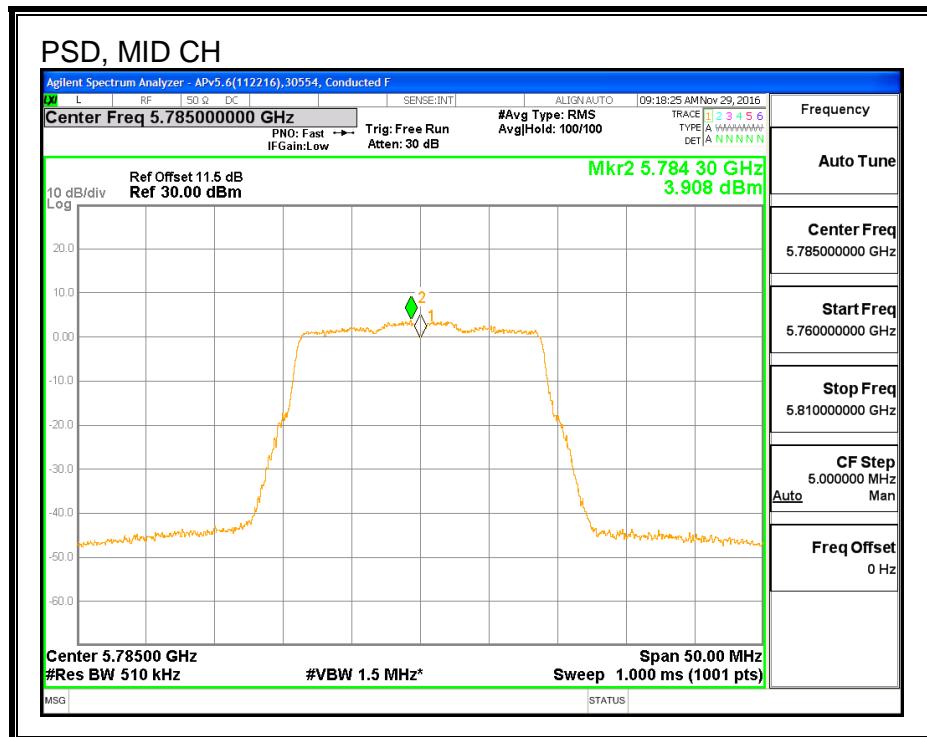
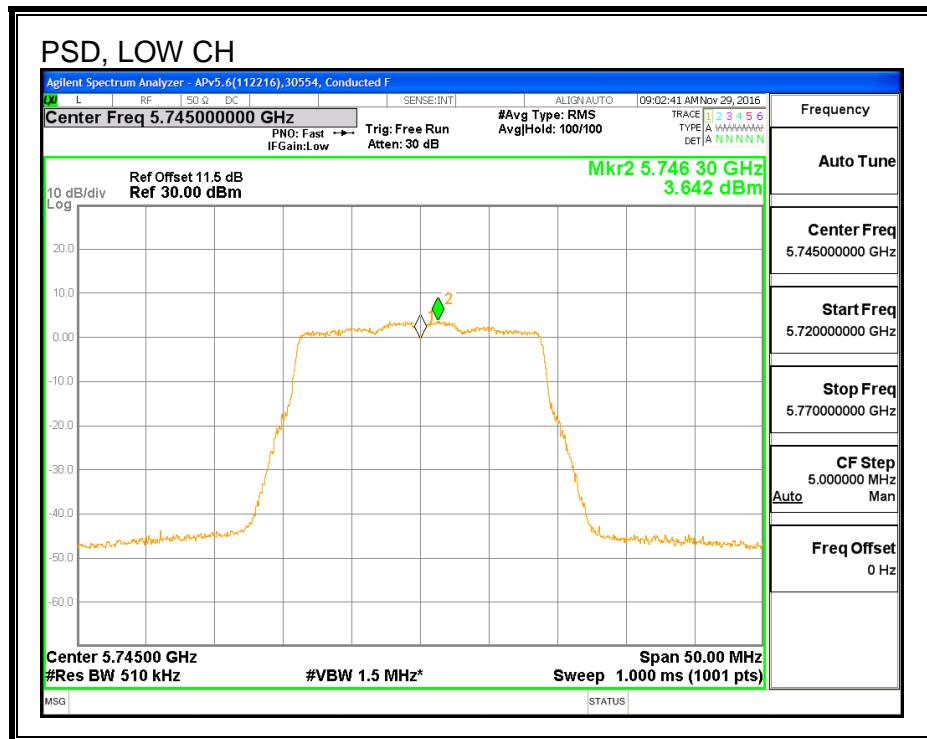
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	4.32	30.00
Mid	5785	4.32	30.00
High	5825	4.32	30.00

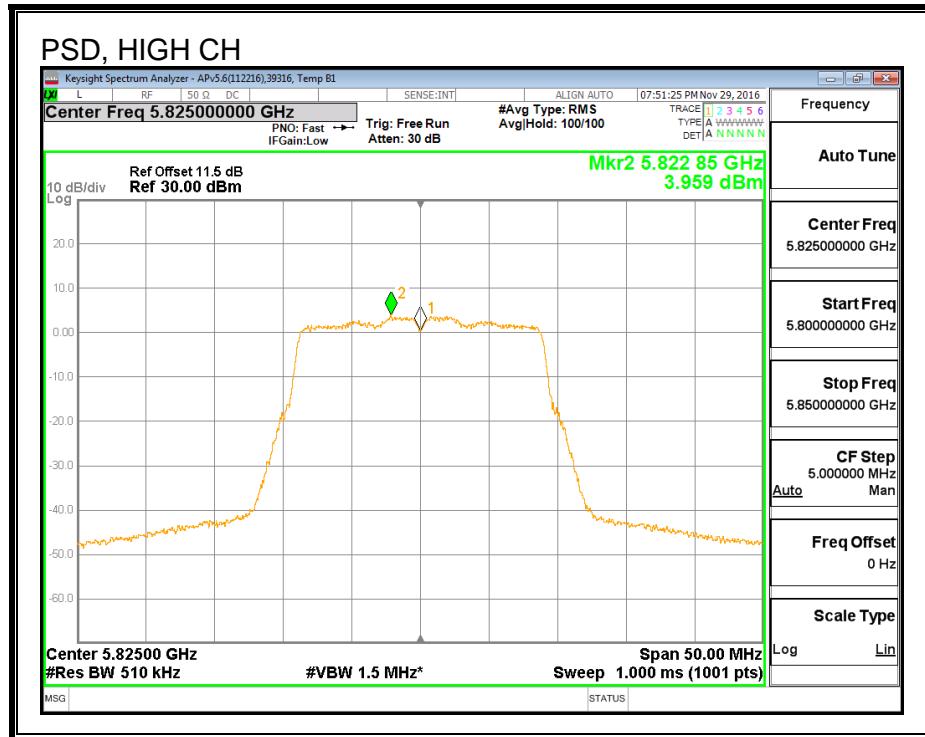
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.64	3.64	30.00	-26.36
Mid	5785	3.91	3.91	30.00	-26.09
High	5825	3.96	3.96	30.00	-26.04

PSD





8.47. 802.11n HT20 2Tx (ANTENNA A + ANTENNA B) CDD MODE IN THE 5.8 GHz BAND

8.47.1. 6 dB BANDWIDTH

LIMITS

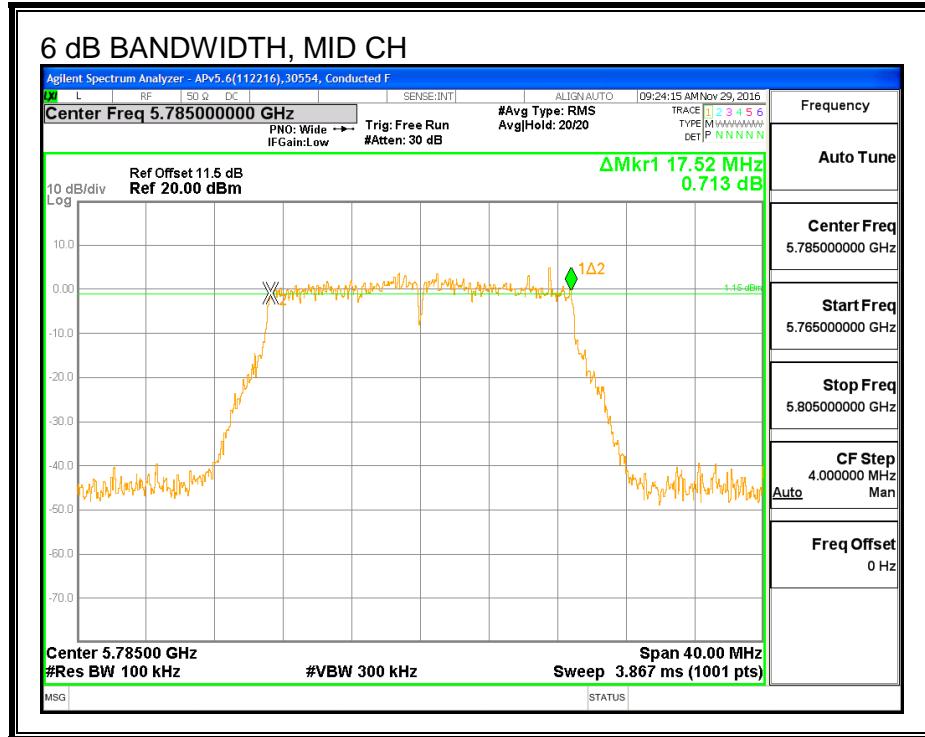
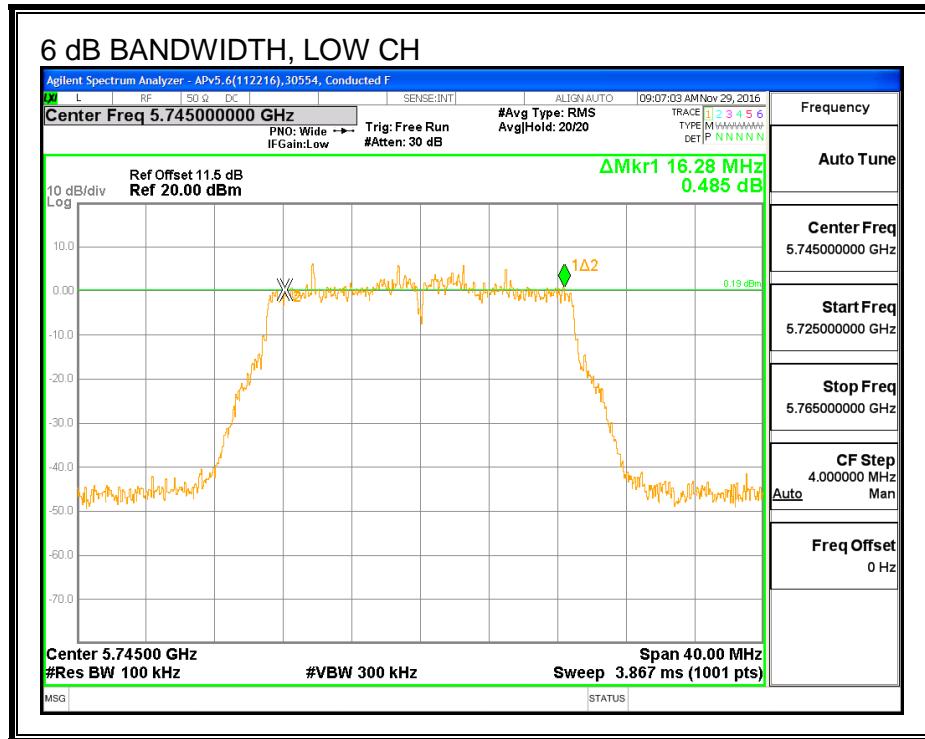
FCC §15.407 (e)

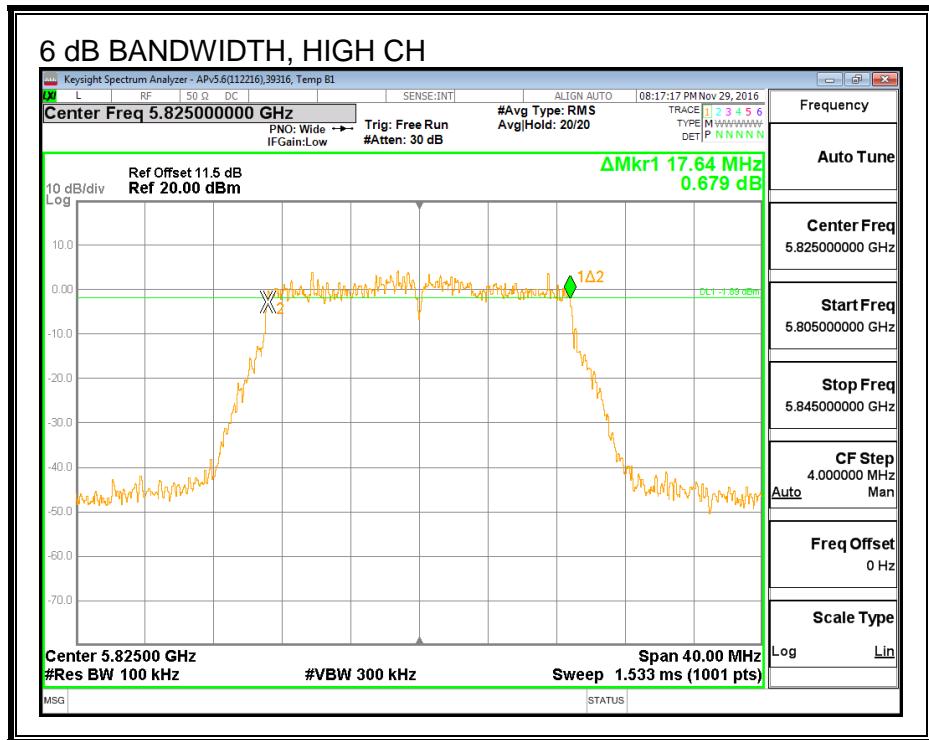
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

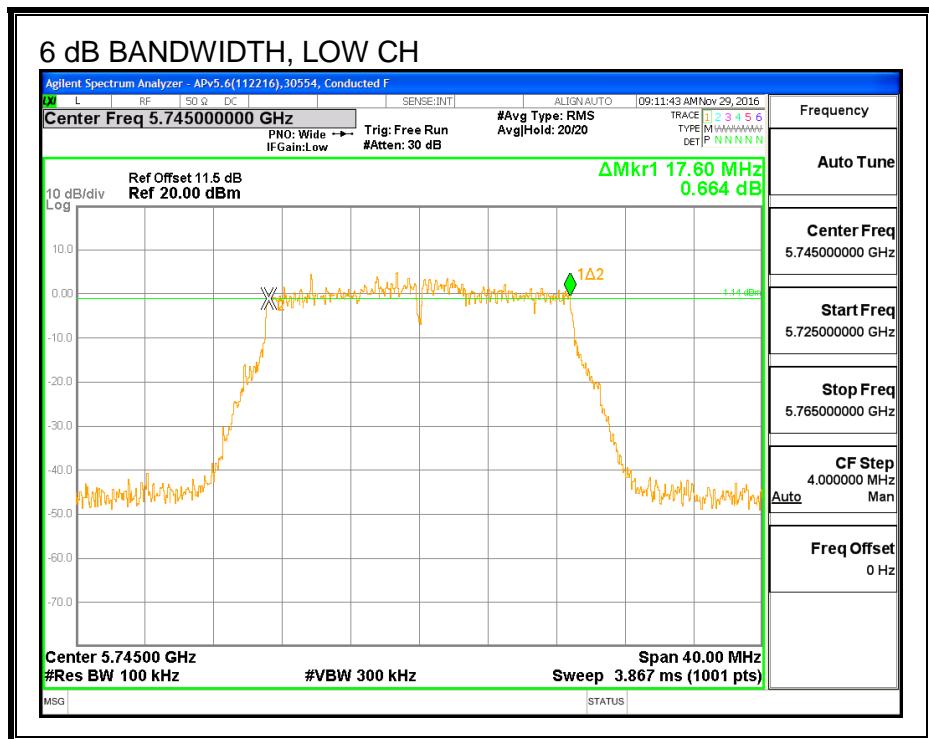
Channel	Frequency (MHz)	6 dB BW Ant A (MHz)	6 dB BW Ant B (MHz)	Minimum Limit (MHz)
Low	5745	16.280	17.600	0.5
Mid	5785	17.520	17.520	0.5
High	5825	17.640	17.560	0.5

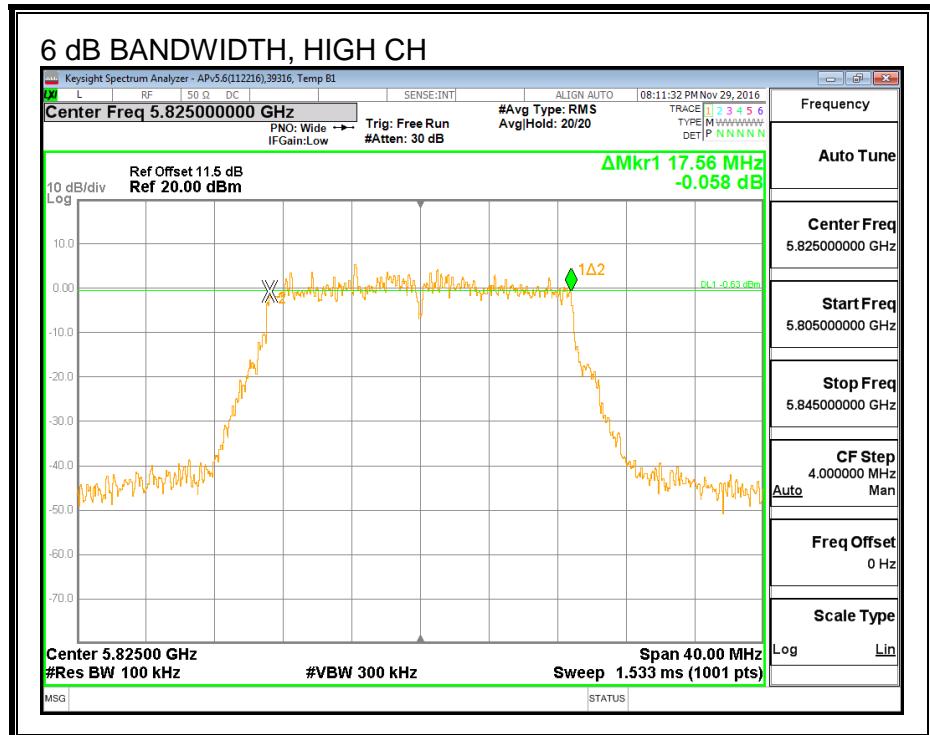
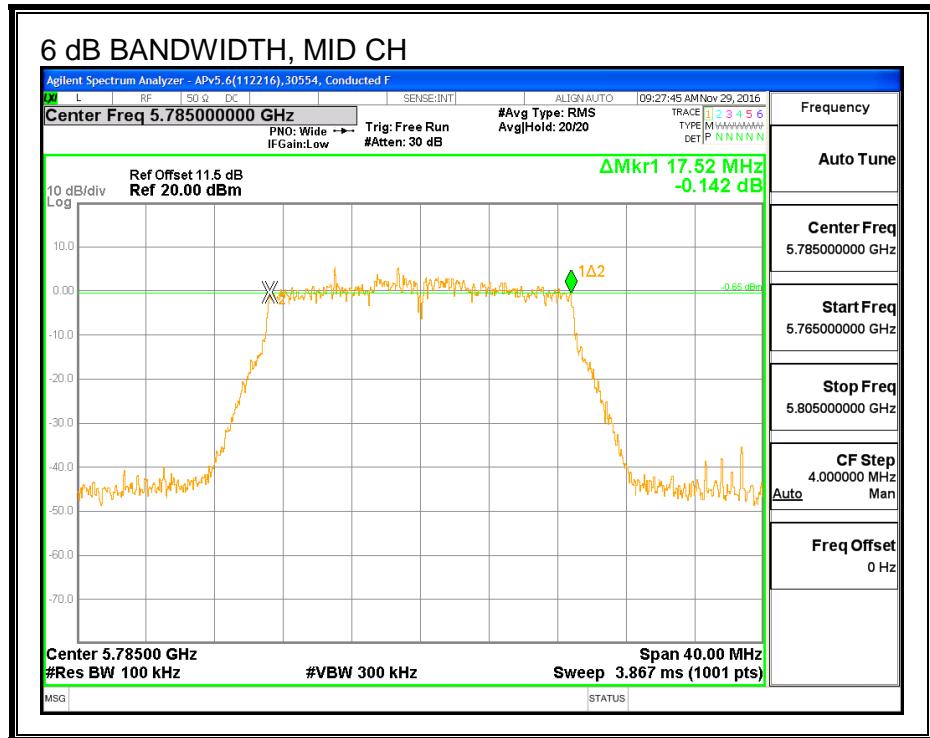
6 dB BANDWIDTH, ANTENNA A





6 dB BANDWIDTH, ANTENNA B





8.47.2. 26 dB BANDWIDTH

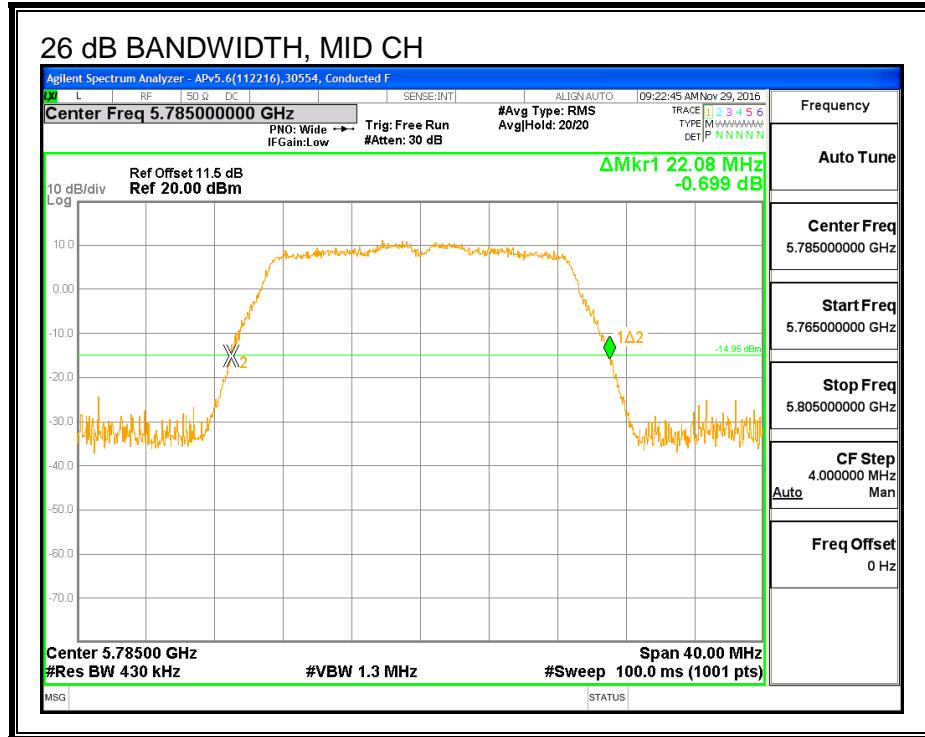
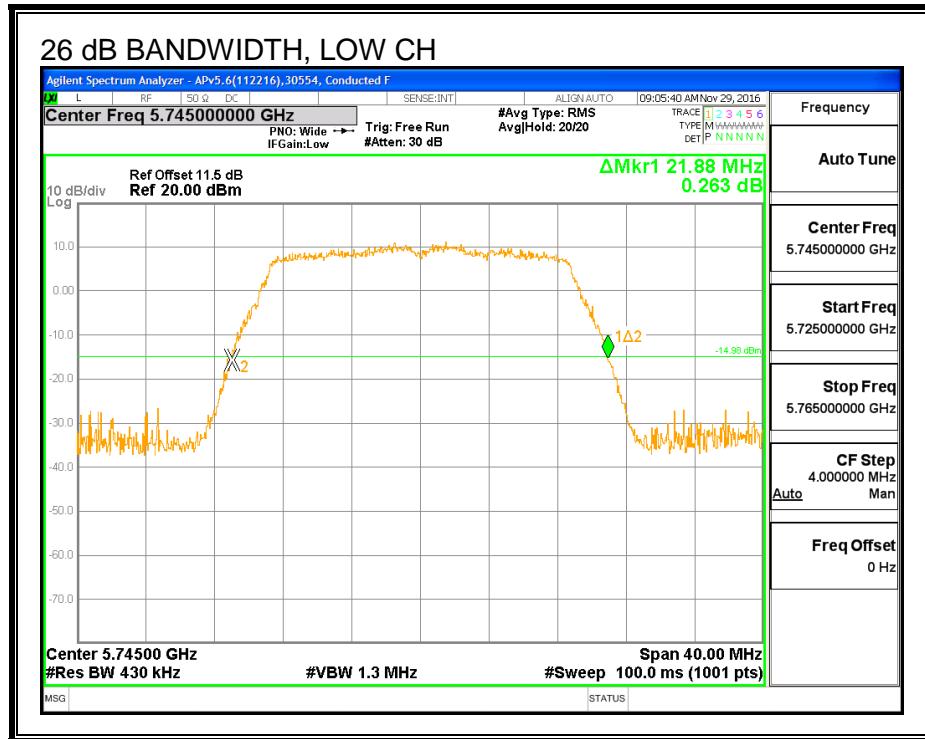
LIMITS

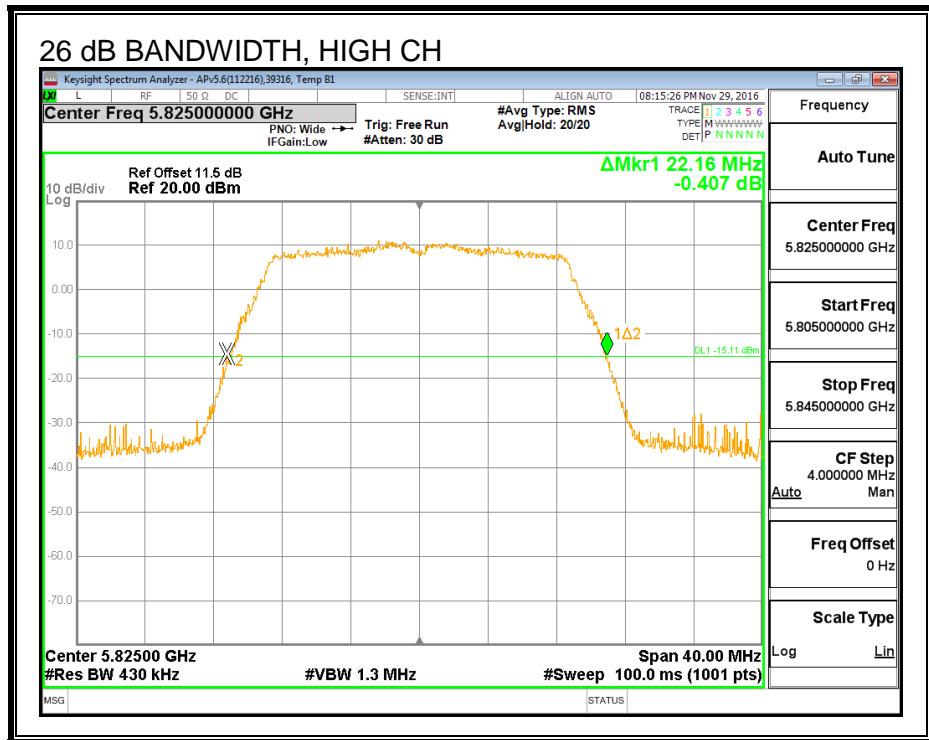
None, for reporting purposes only.

RESULTS

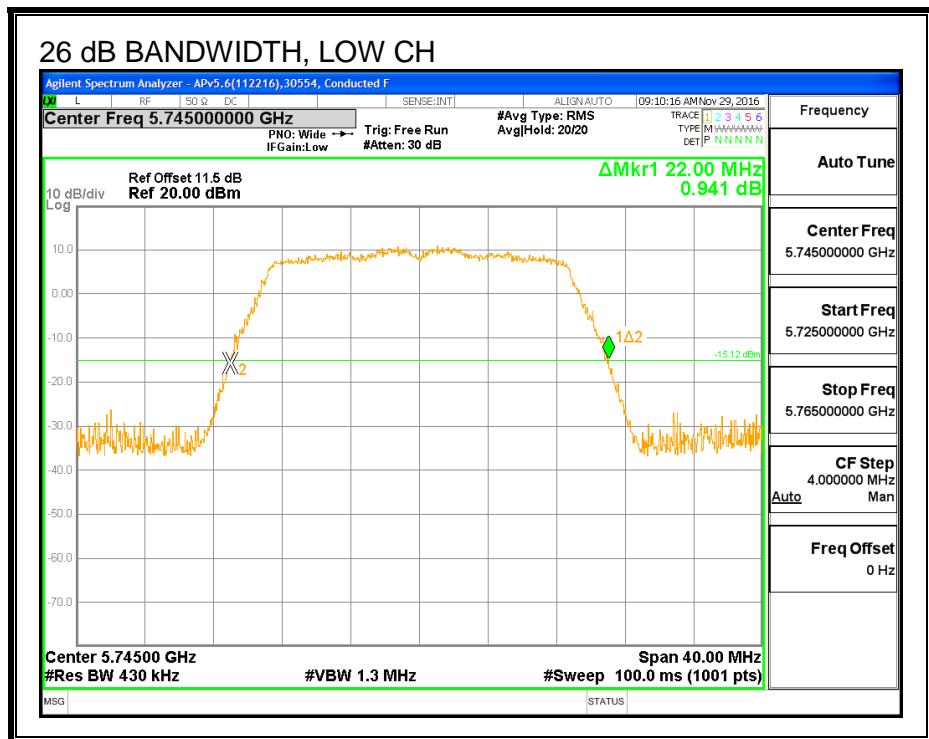
Channel	Frequency (MHz)	26 dB BW Ant A (MHz)	26 dB BW Ant B (MHz)
Low	5745	21.880	22.000
Mid	5785	22.080	22.120
High	5825	22.160	21.680

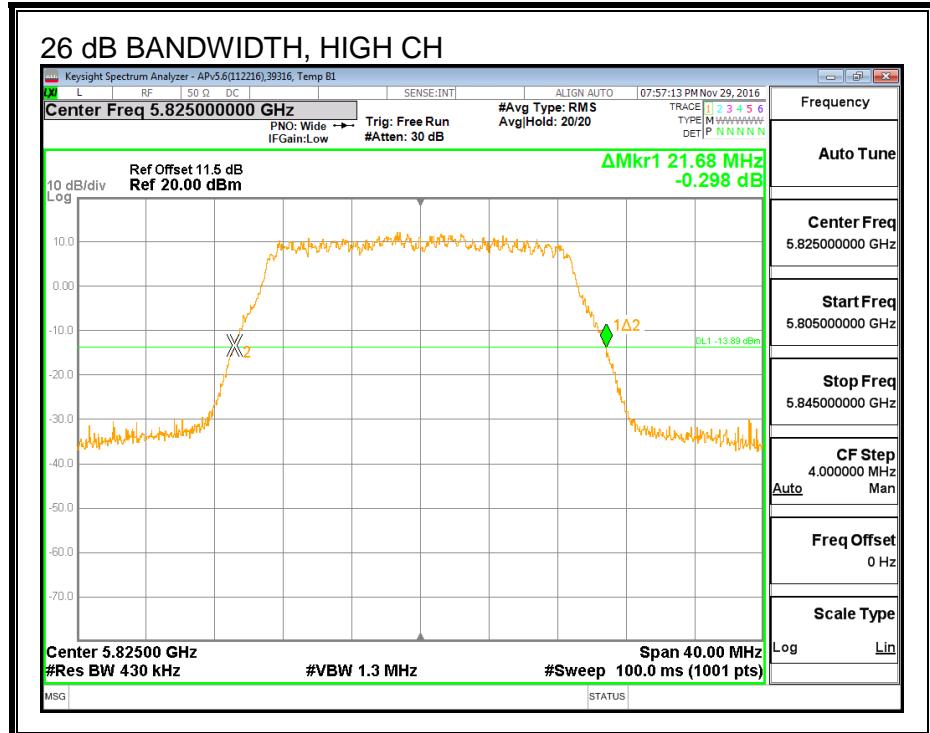
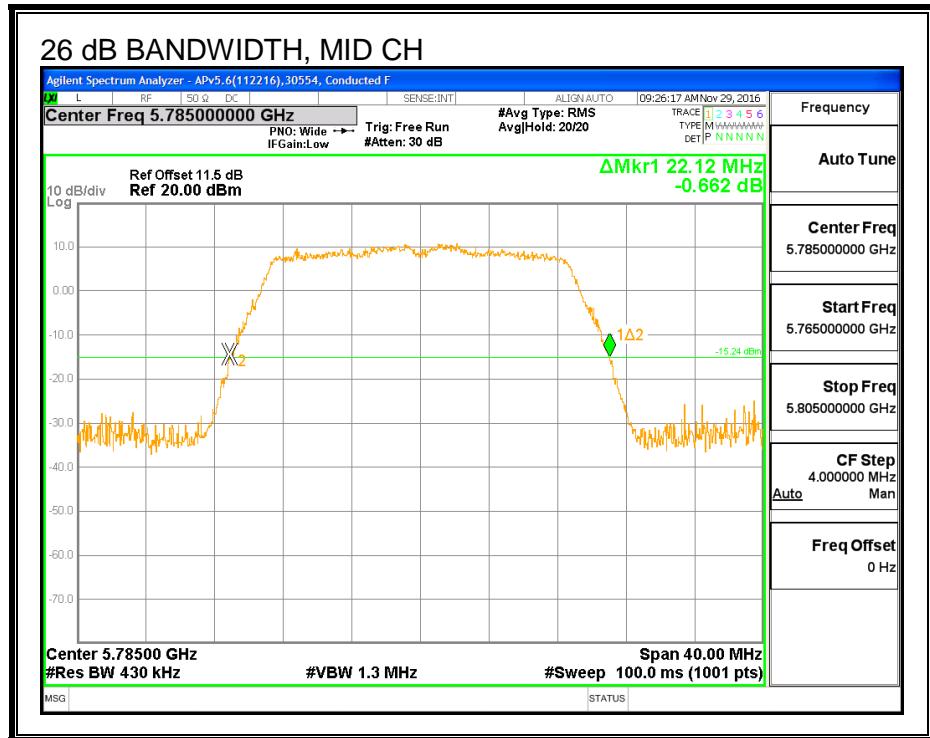
26 dB BANDWIDTH, ANTENNA A





26 dB BANDWIDTH, ANTENNA B





8.47.3. 99% BANDWIDTH

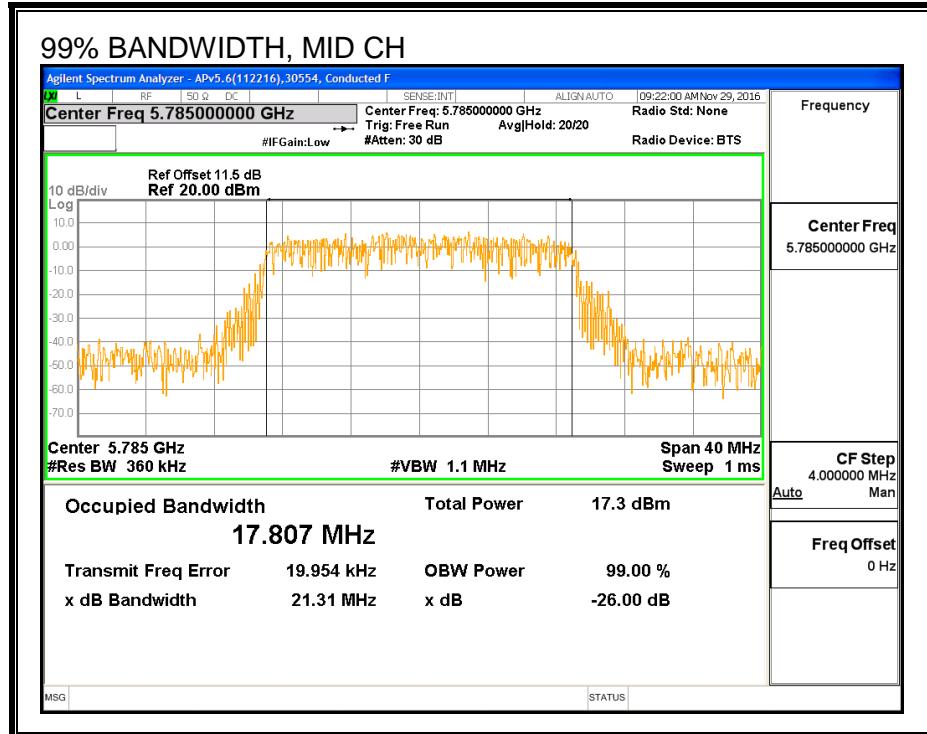
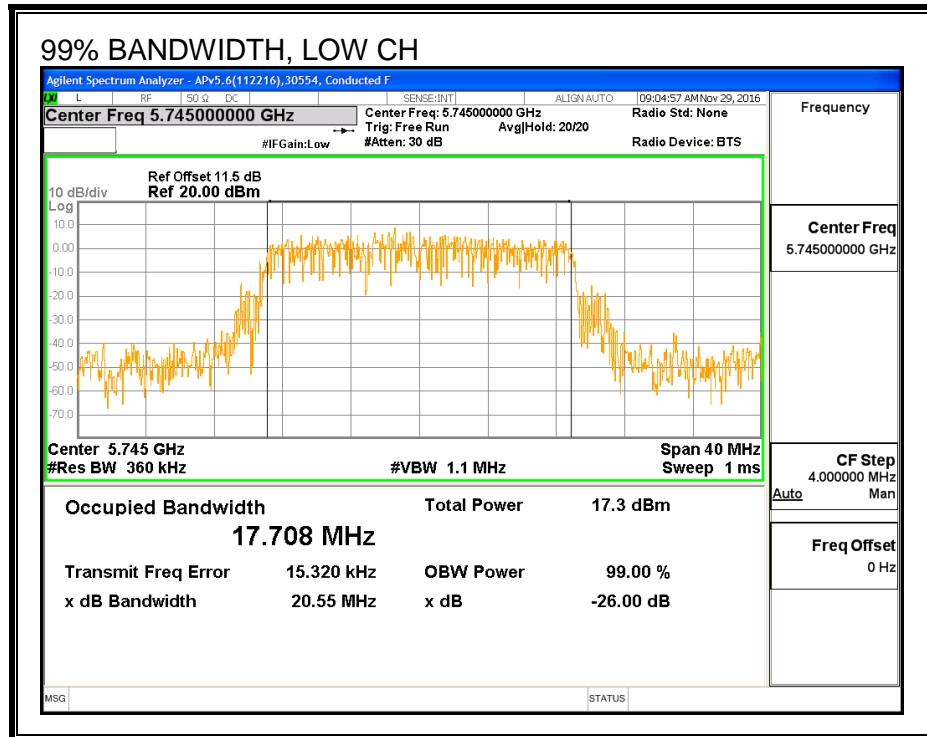
LIMITS

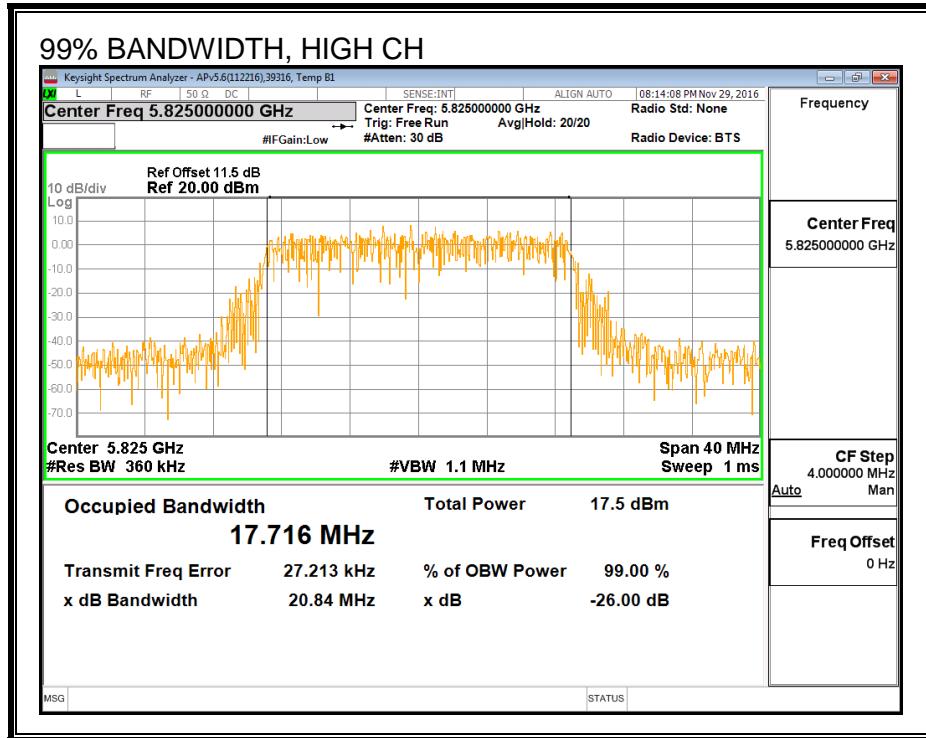
None; for reporting purposes only.

RESULTS

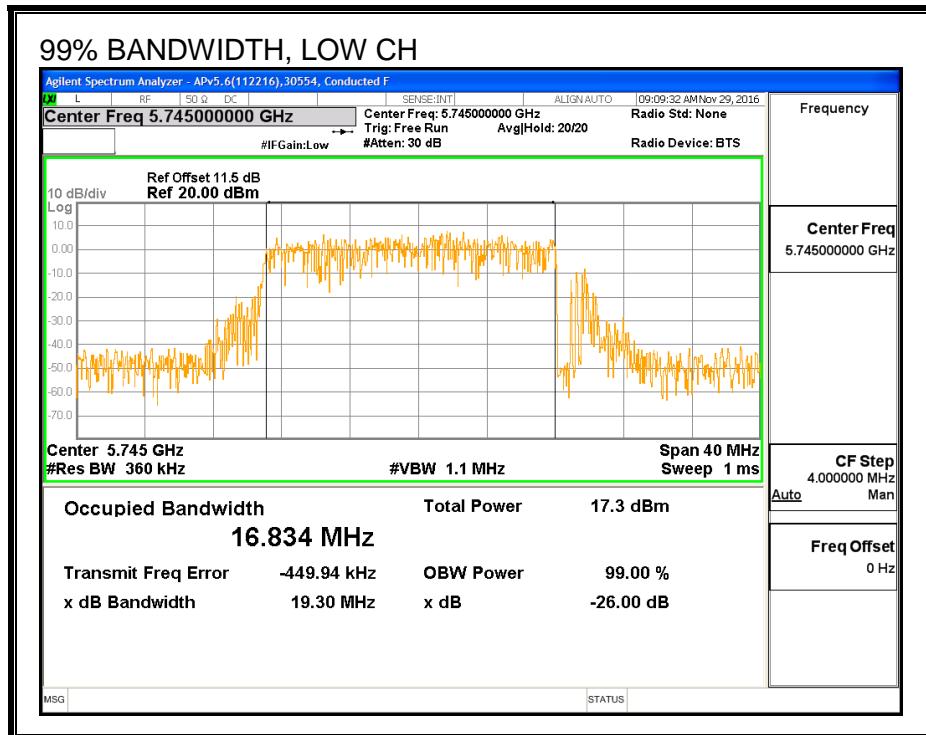
Channel	Frequency (MHz)	99% BW Ant A (MHz)	99% BW Ant B (MHz)
Low	5745	17.708	16.834
Mid	5785	17.807	17.771
High	5825	17.716	17.672

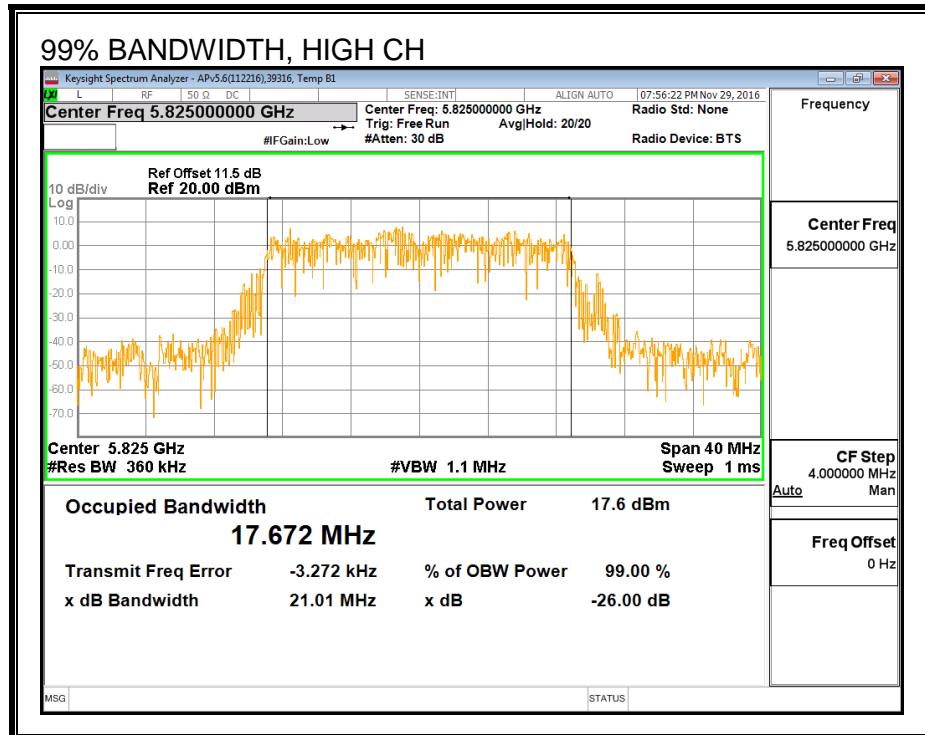
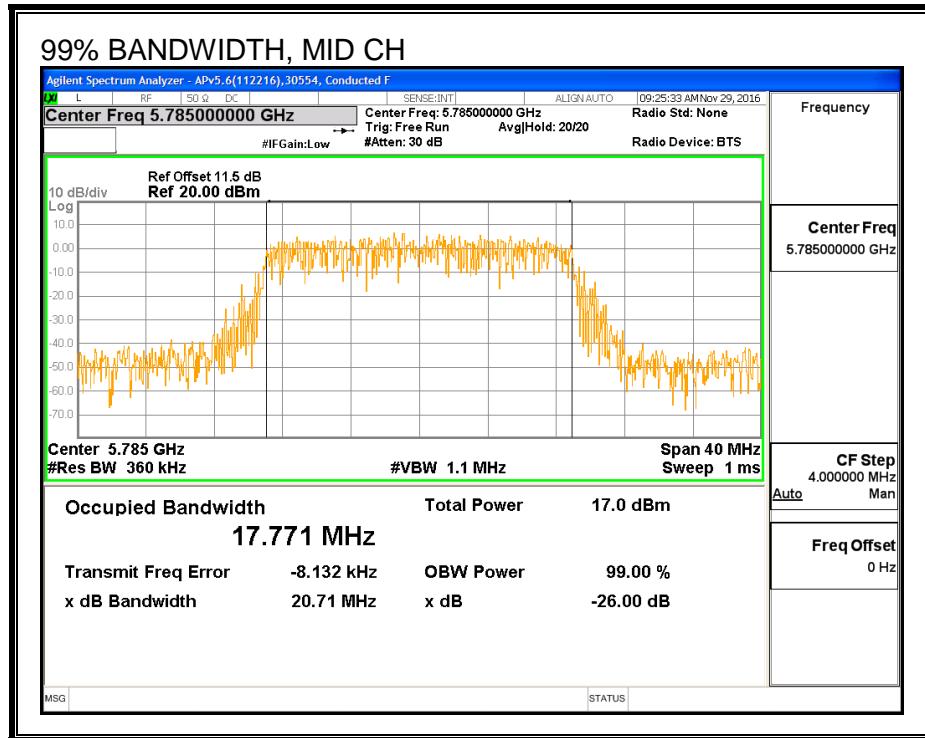
99% BANDWIDTH, ANTENNA A





99% BANDWIDTH, ANTENNA B





8.47.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	50822	Date:	2/8/17
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Channel	Frequency (MHz)	Ant A Power (dBm)	Ant B Power (dBm)	Total Power (dBm)
Low	5745	14.97	15.47	18.24
Mid	5785	14.95	15.43	18.21
High	5825	14.93	15.45	18.21

8.47.5. 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

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

Ant A	Ant B	Uncorrelated Chains Directional Gain (dBi)
Gain (dBi)	Gain (dBi)	Gain (dBi)
4.20	4.32	4.26

RESULTS

ID:	50822	Date:	2/9/17
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Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	4.26	30.00
Mid	5785	4.26	30.00
High	5825	4.26	30.00

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Ant B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	14.97	15.47	18.24	30.00	-11.76
Mid	5785	14.95	15.43	18.21	30.00	-11.79
High	5825	14.93	15.45	18.21	30.00	-11.79

8.47.6. 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:

Ant A Antenna Gain (dBi)	Ant B Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.20	4.32	7.27

RESULTS

Antenna Gain and Limits

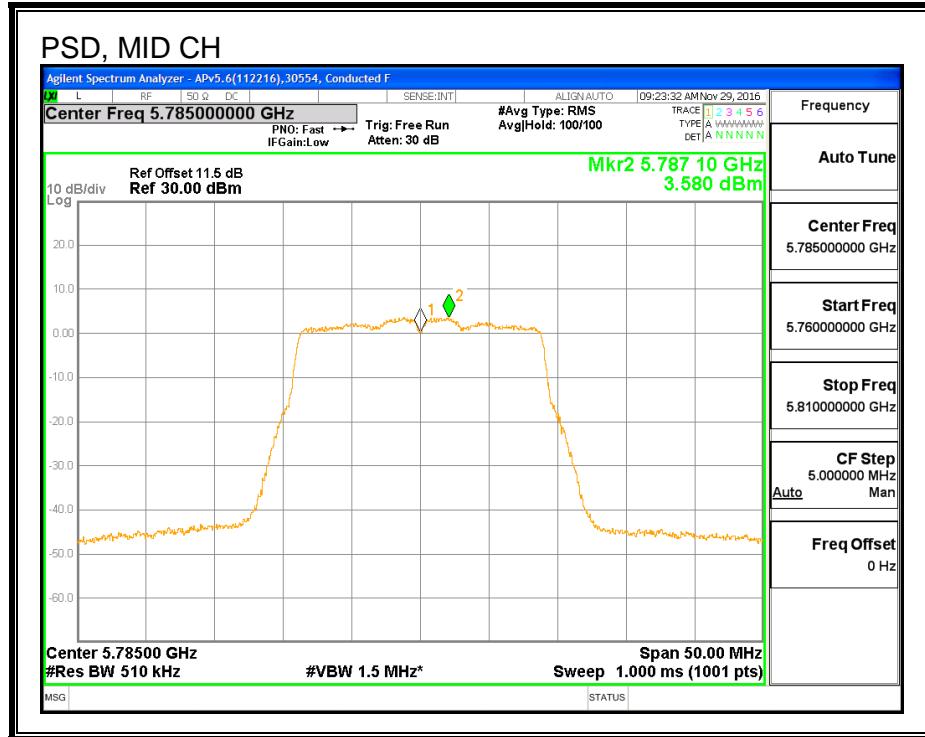
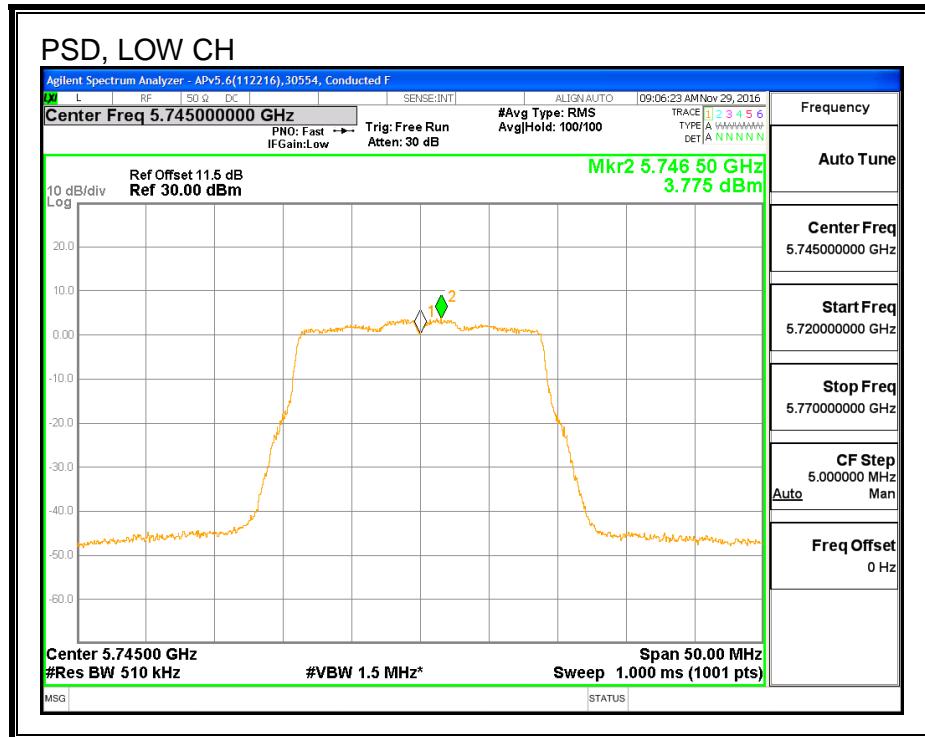
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	7.27	28.73
Mid	5785	7.27	28.73
High	5825	7.27	28.73

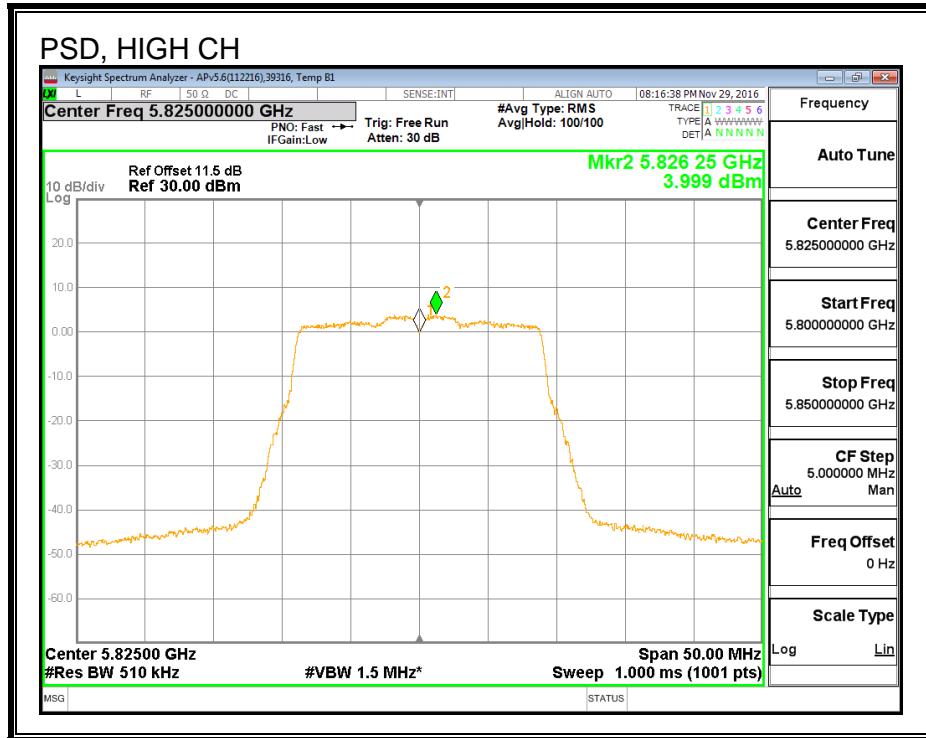
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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PSD Results

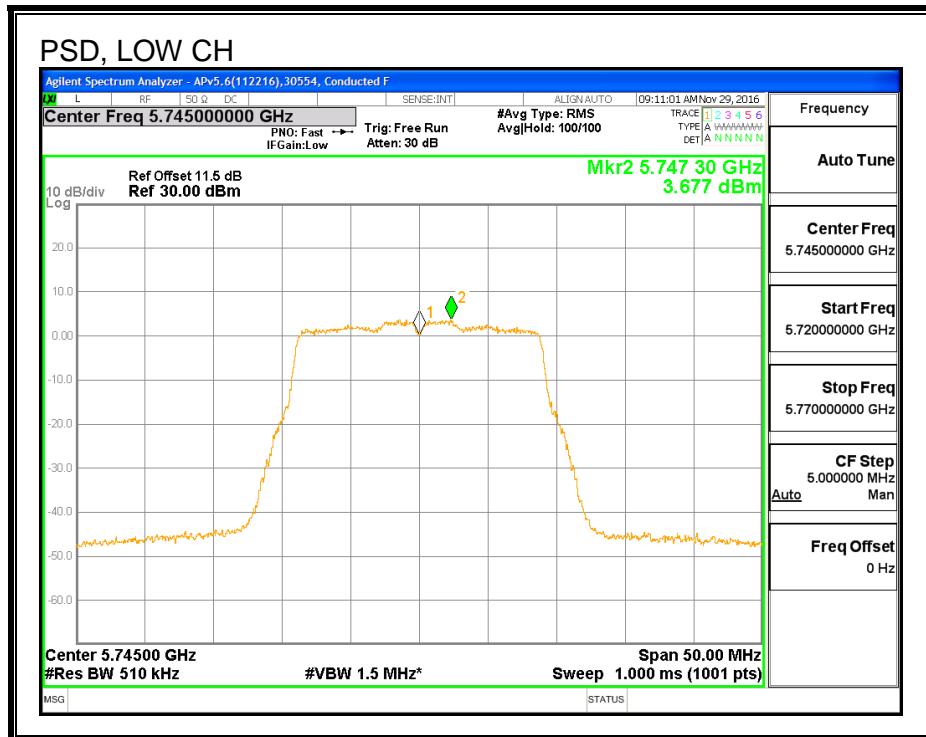
Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Ant B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	3.78	3.68	6.74	28.73	-21.99
Mid	5785	3.58	3.48	6.54	28.73	-22.19
High	5825	4.00	3.76	6.89	28.73	-21.84

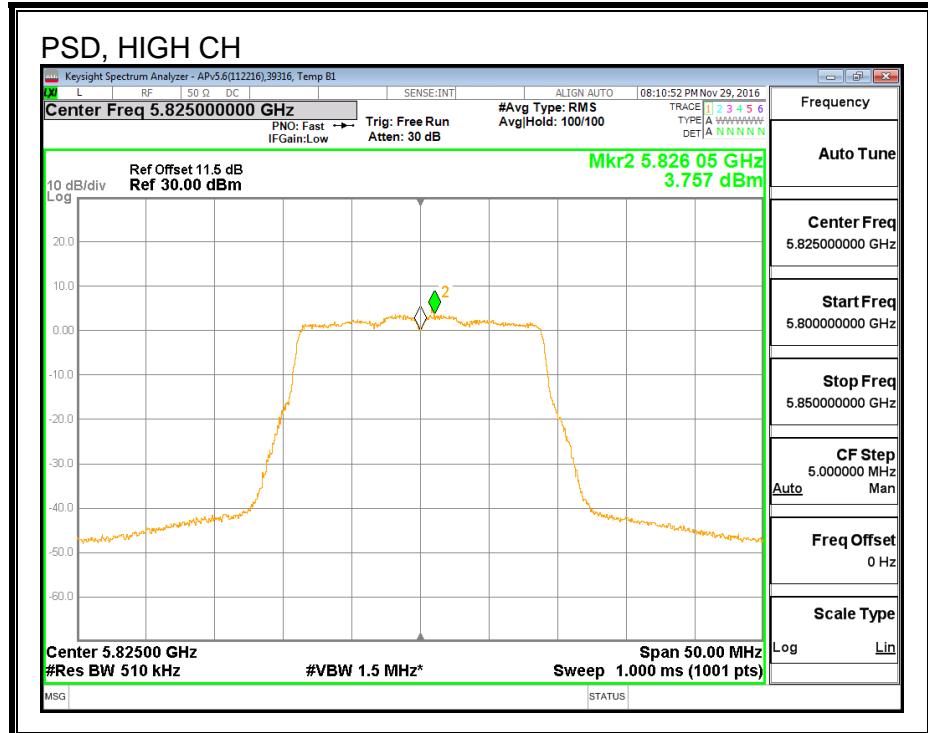
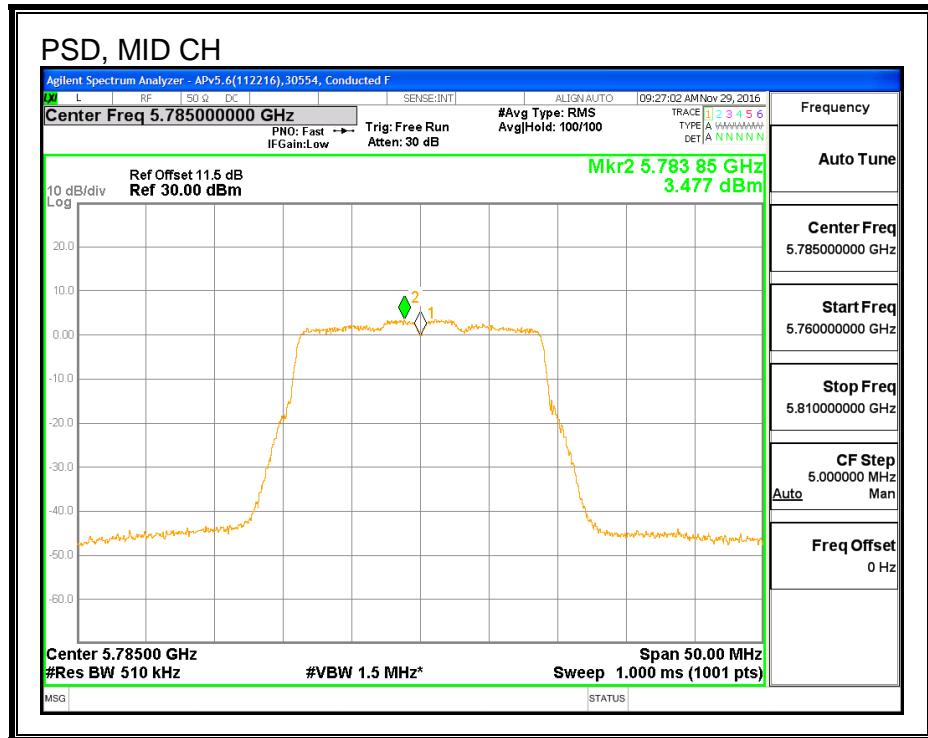
PSD, ANTENNA A





PSD, ANTENNA B





8.48. 802.11n HT20 2Tx (ANTENNA A + ANTENNA B) STBC MODE IN THE 5.8 GHz BAND

Noted: Covered by 802.11n HT20 2Tx (ANTENNA A + ANTENNA B) CDD MODE IN THE 5.8 GHz BAND

8.49. 802.11n HT40 ANTENNA A MODE IN THE 5.8 GHz BAND

8.49.1. 6 dB BANDWIDTH

LIMITS

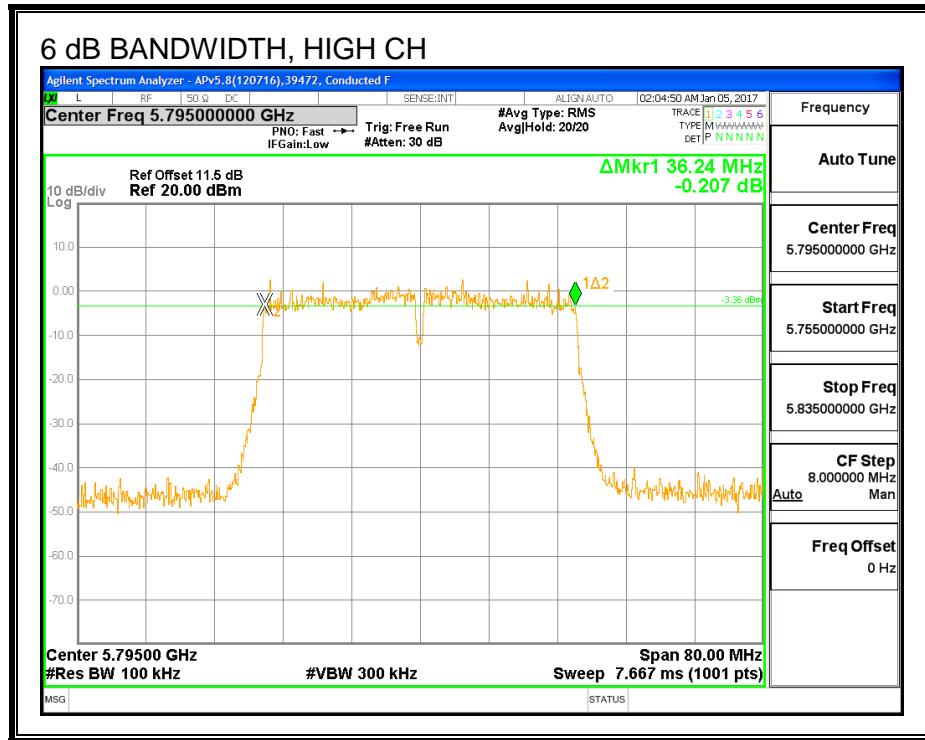
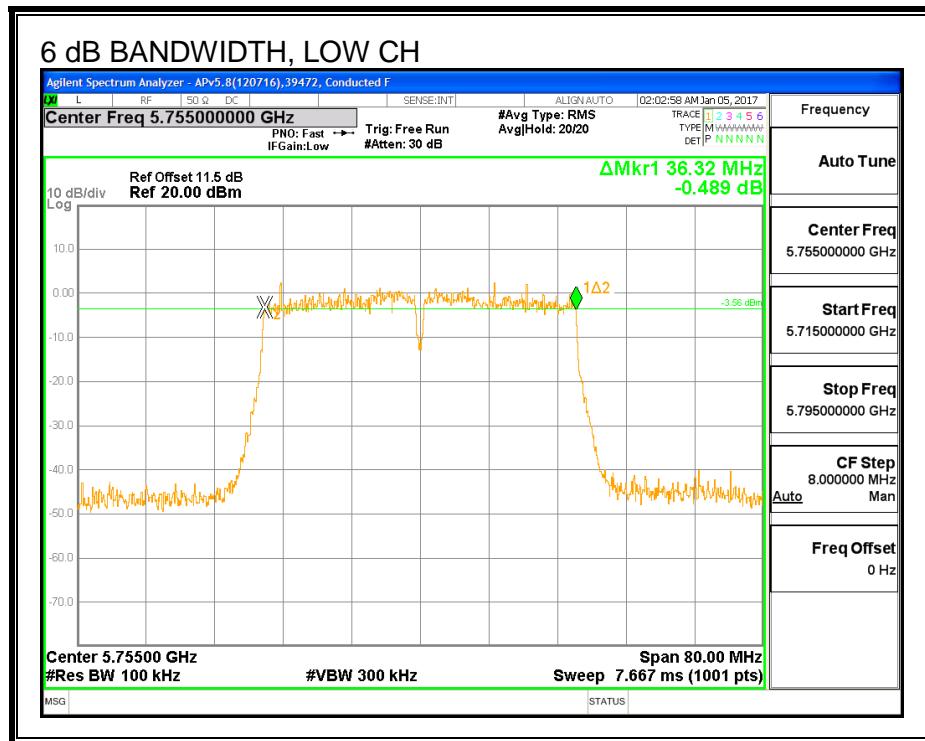
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.320	0.5
High	5795	36.240	0.5

6 dB BANDWIDTH



8.49.2. 26 dB BANDWIDTH

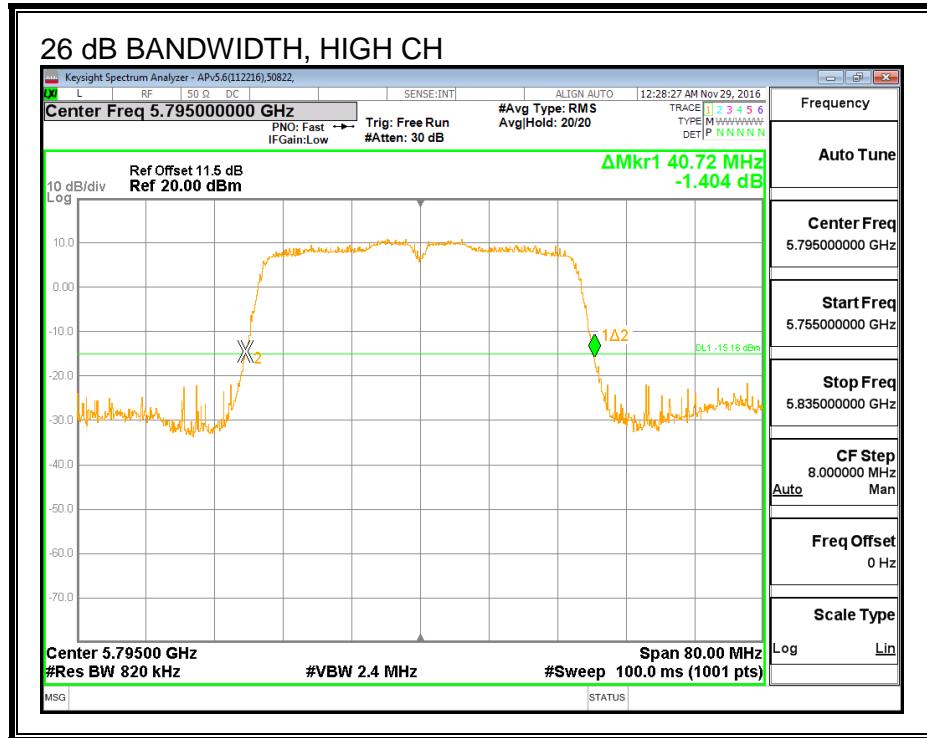
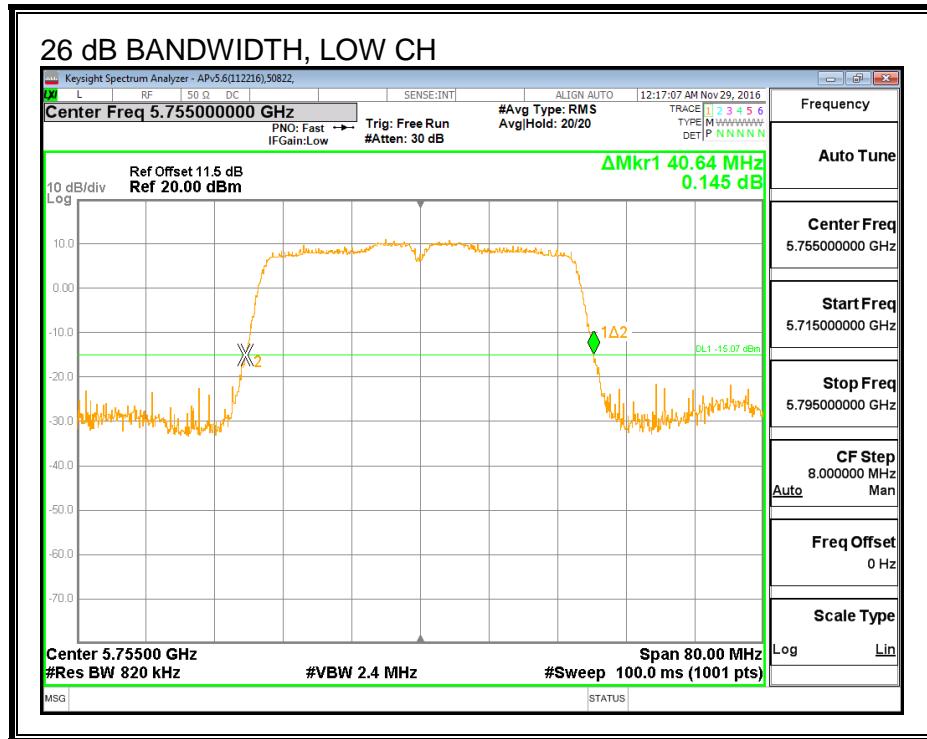
LIMITS

None, for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5755	40.640
High	5795	40.720

26 dB BANDWIDTH



8.49.3. 99% BANDWIDTH

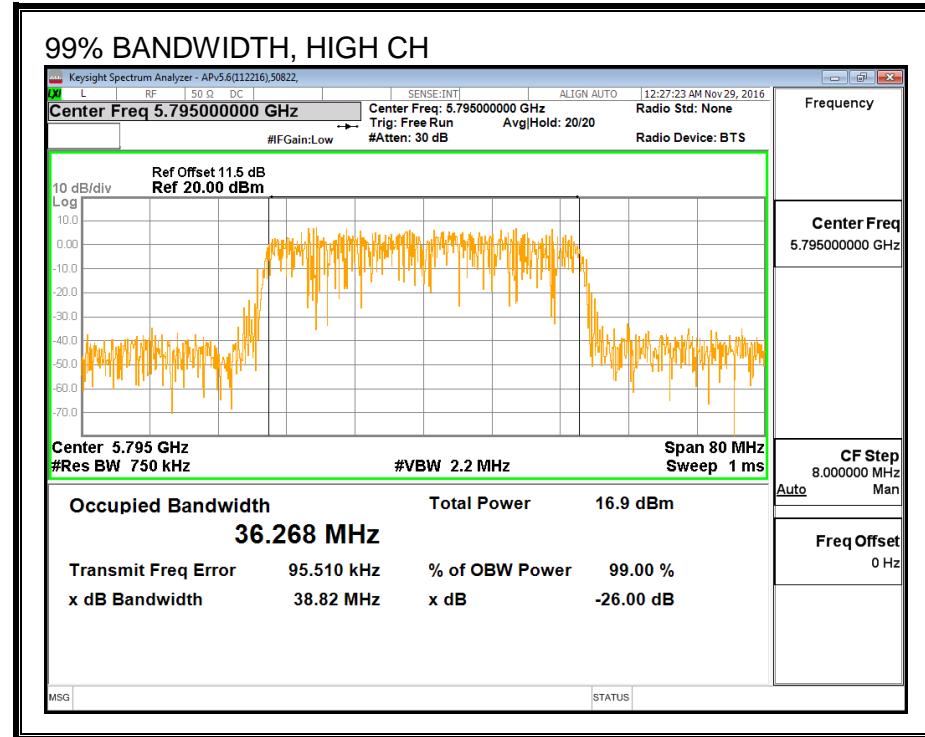
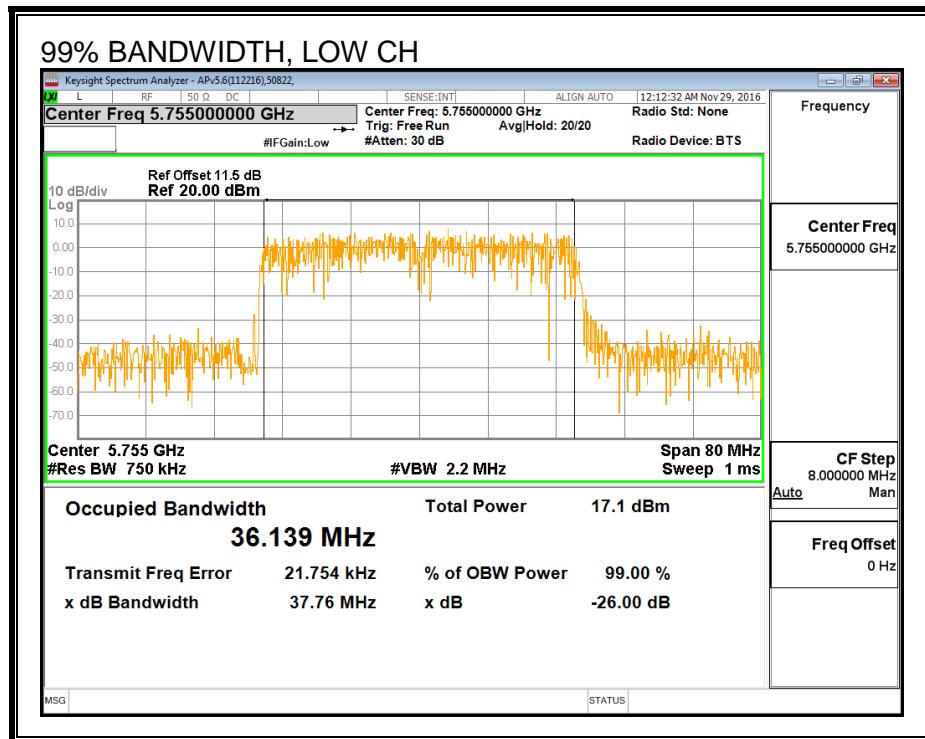
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.139
High	5795	36.268

99% BANDWIDTH



8.49.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

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Channel	Frequency (MHz)	Power (dBm)
Low	5755	14.99
High	5795	14.98

8.49.5. 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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

ID:	50822	Date:	2/9/17
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Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	4.20	30.00
High	5795	4.20	30.00

Output Power Results

Channel	Frequency (MHz)	Ant A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	14.99	14.99	30.00	-15.01
High	5795	14.98	14.98	30.00	-15.02

8.49.6. 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

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	4.20	30.00
High	5795	4.20	30.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD
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PSD Results

Channel	Frequency (MHz)	Ant A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	0.89	0.99	30.00	-29.01
High	5795	0.60	0.70	30.00	-29.30

PSD

