8.53. 802.11n HT40 2Tx CDD MODE IN THE 5.6 GHz BAND

8.53.1. 26 dB BANDWIDTH

LIMITS

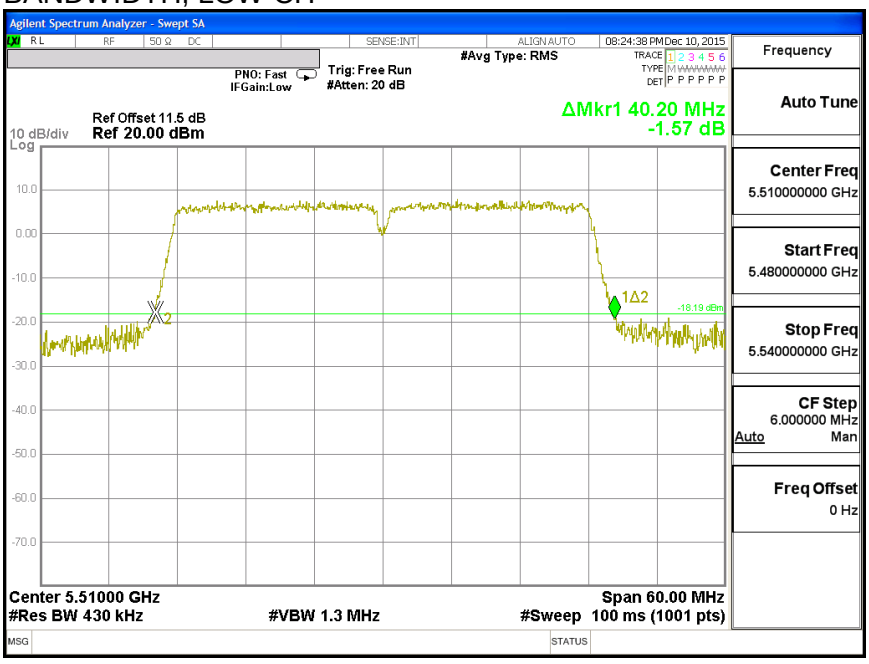
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Antenna B (MHz)	26 dB BW Antenna A (MHz)
Low	5510	40.20	39.90
Mid	5550	40.20	39.54
High	5670	40.02	39.78
142	5710	40.20	40.08

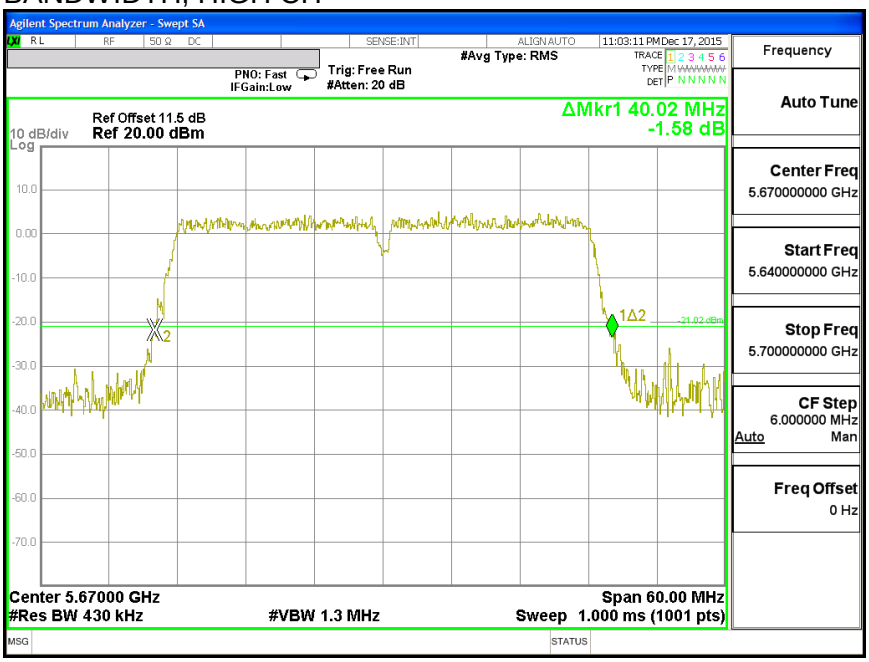
26 dB BANDWIDTH, ANTENNA - B

BANDWIDTH, LOW CH

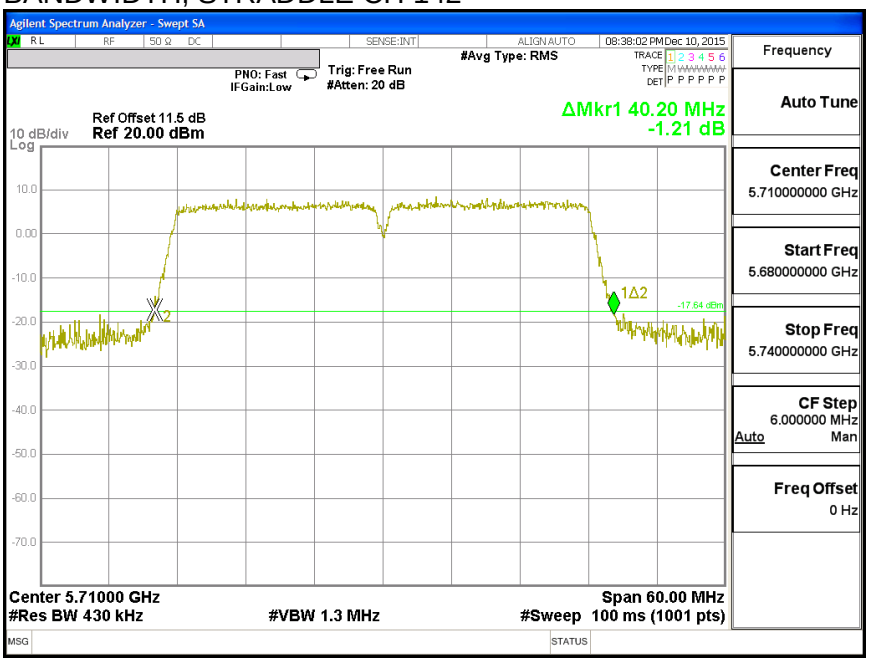


BANDWIDTH, MID CH

BANDWIDTH, HIGH CH

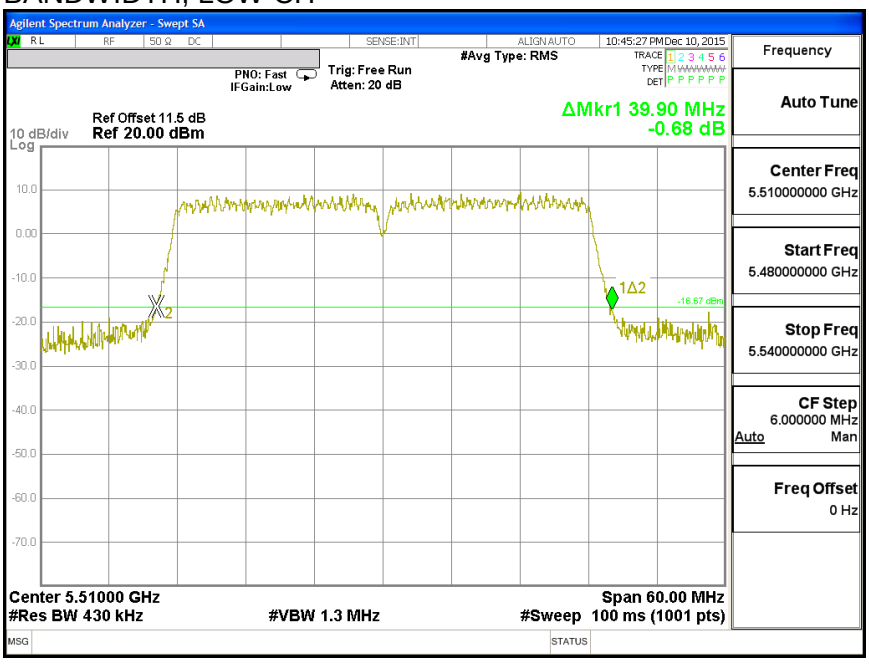


BANDWIDTH, STRADDLE CH 142

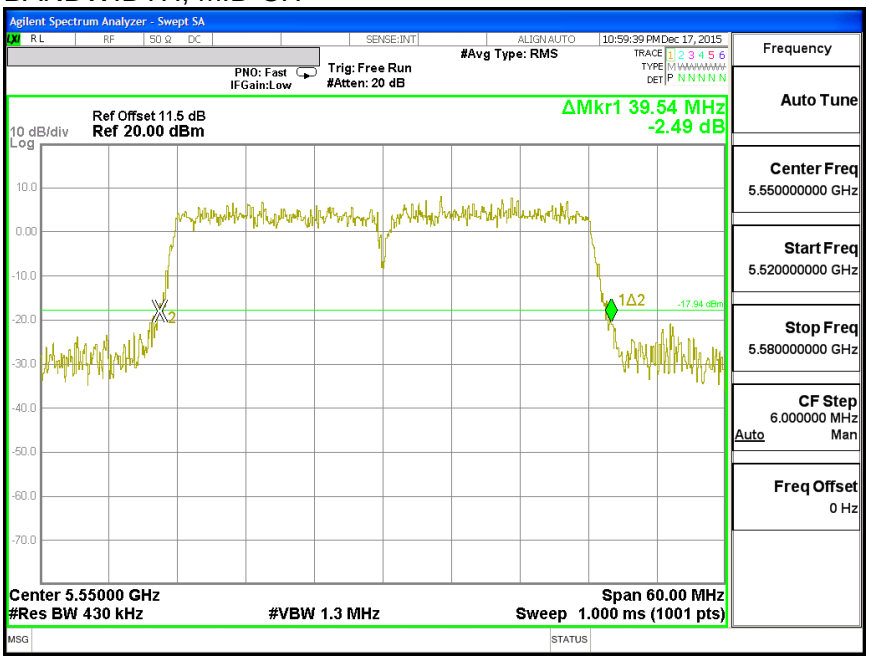


26 dB BANDWIDTH, ANTENNA - A

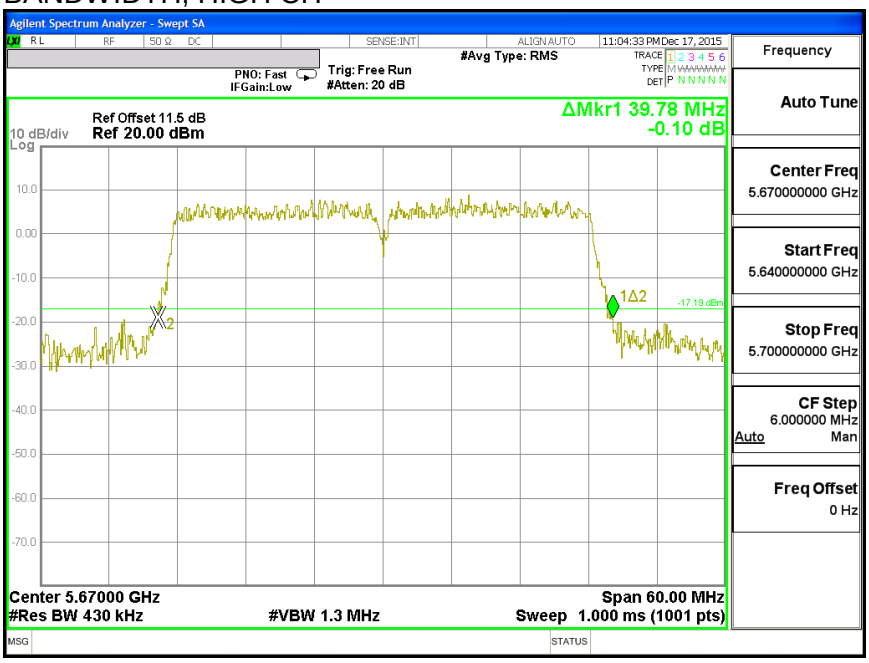
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH



BANDWIDTH, STRADDLE CH 142

8.53.2. 99% BANDWIDTH

LIMITS

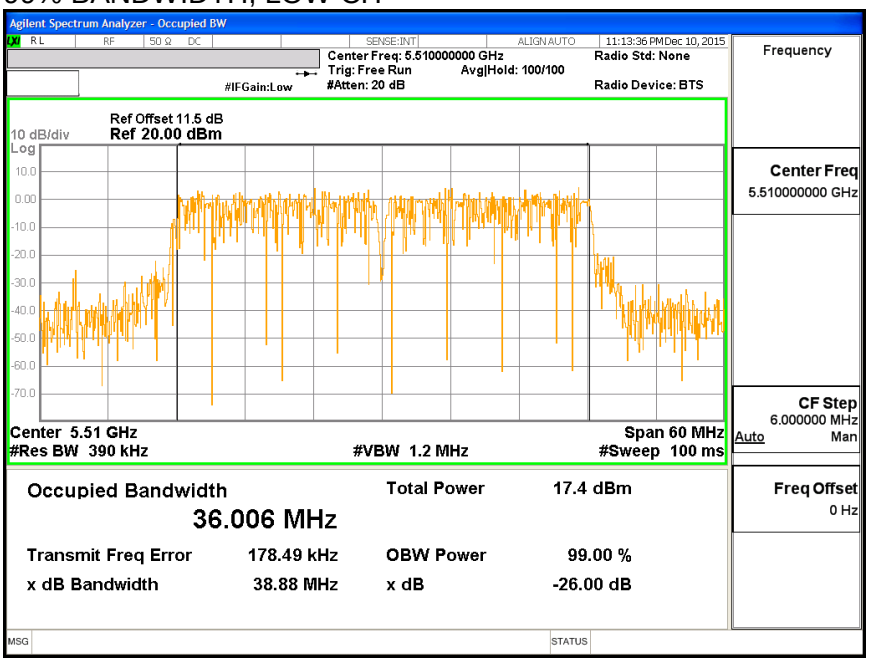
None; for reporting purposes only.

RESULTS

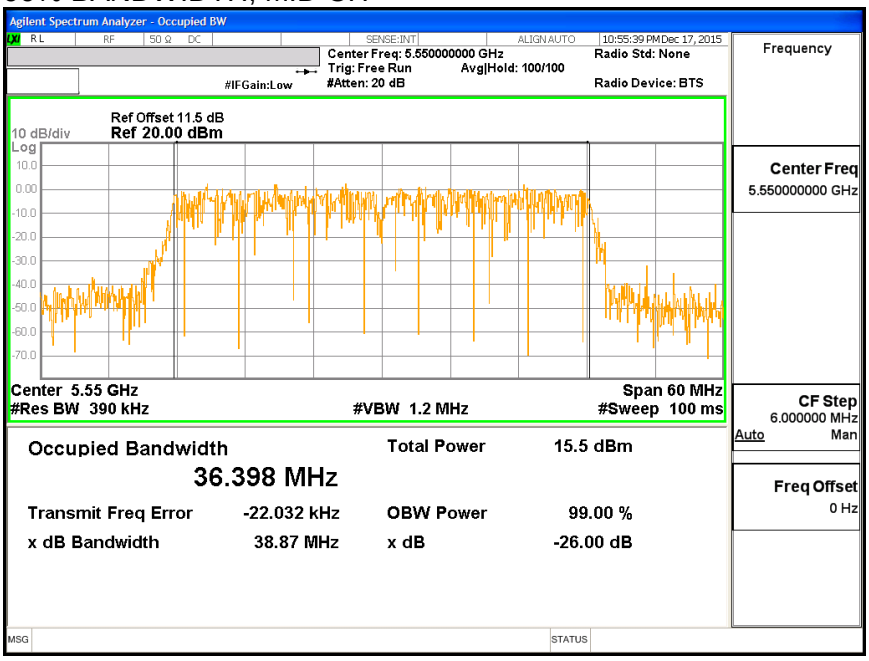
Channel	Frequency (MHz)	99% BW Antenna B (MHz)	99% BW Antenna A (MHz)
Low	5510	36.006	36.255
Mid	5550	36.398	36.283
High	5670	36.190	36.185
142	5710	36.054	36.273

99% BANDWIDTH, ANTENNA - B

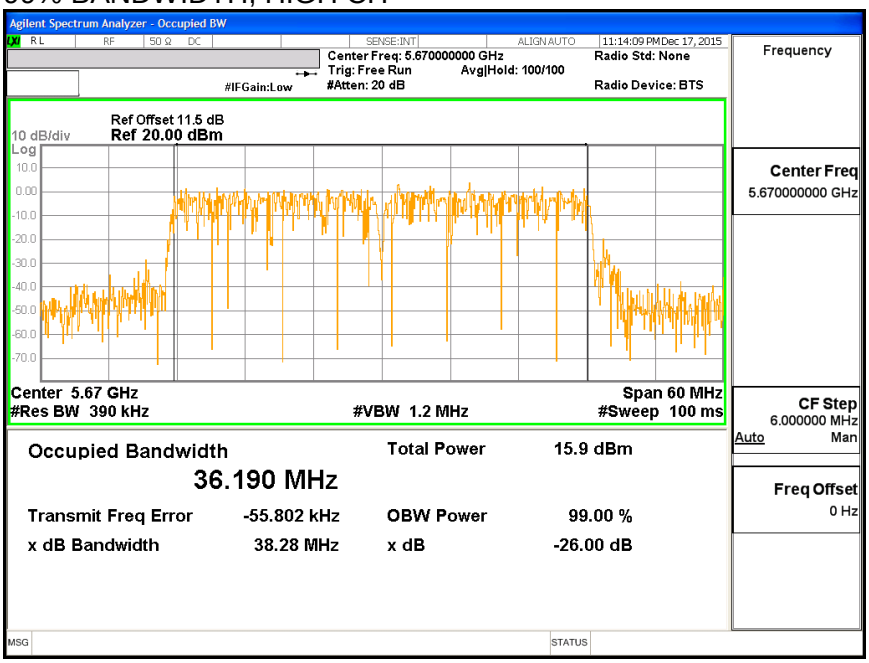
99% BANDWIDTH, LOW CH



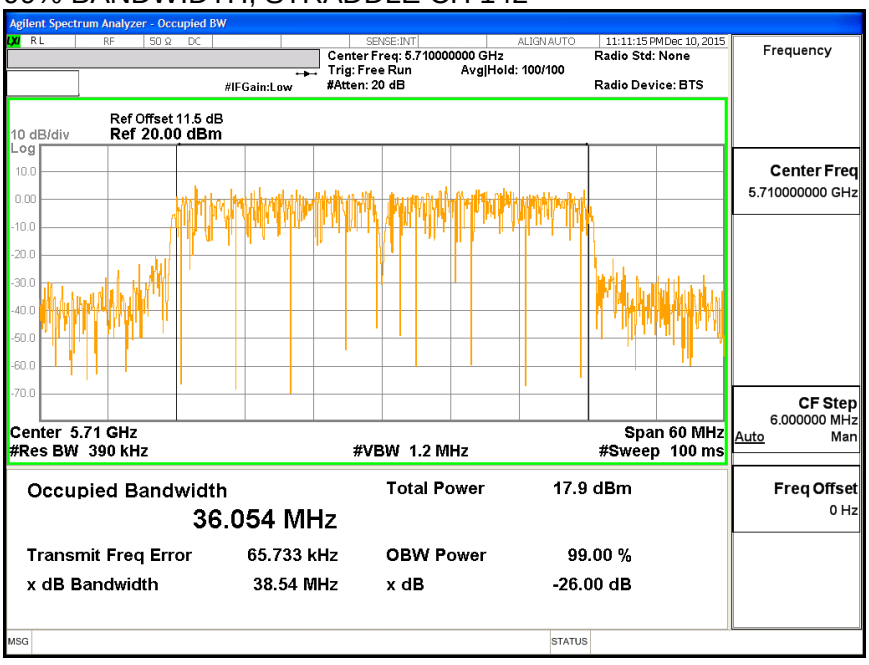
99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH

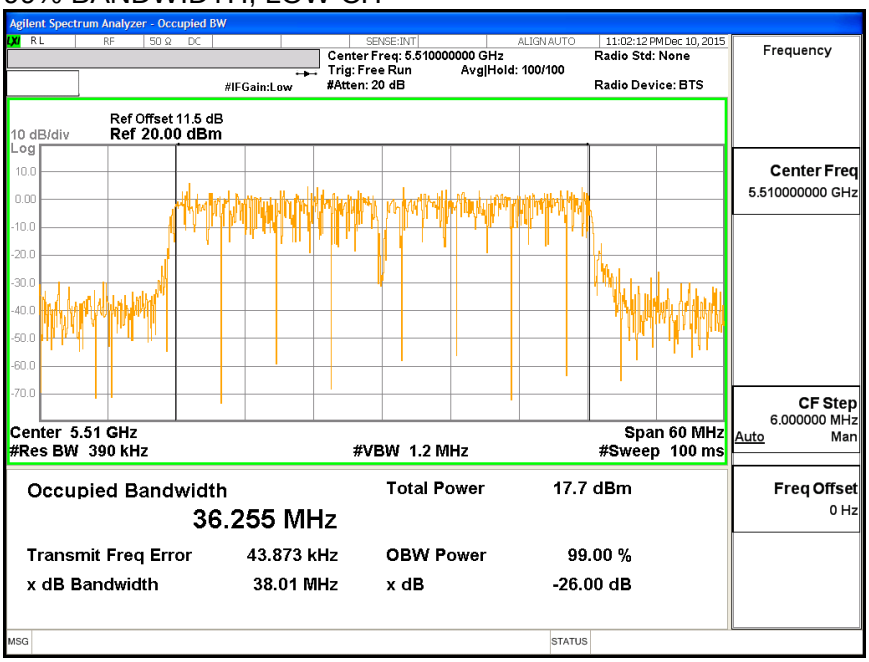


99% BANDWIDTH, STRADDLE CH 142

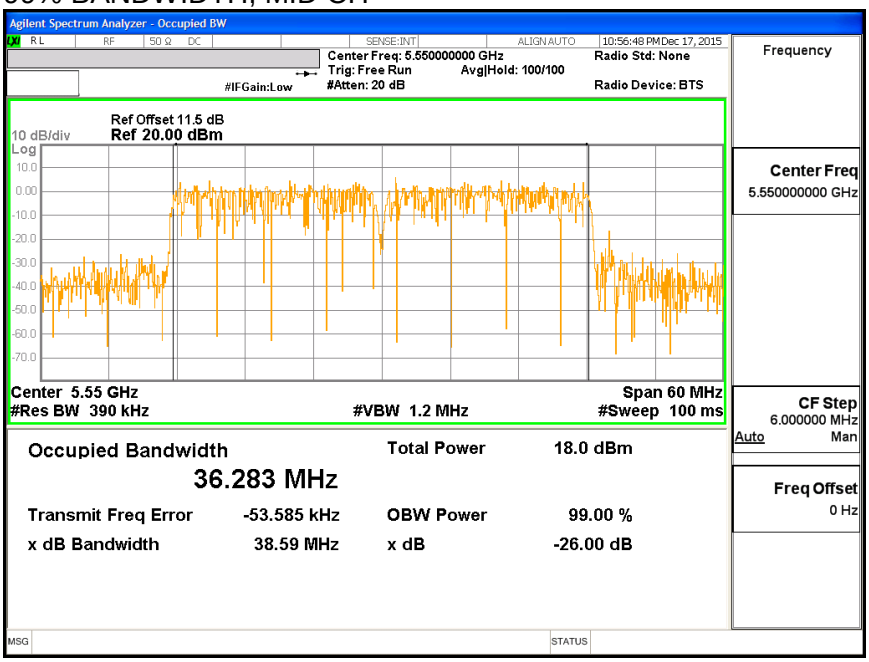


99% BANDWIDTH, ANTENNA - A

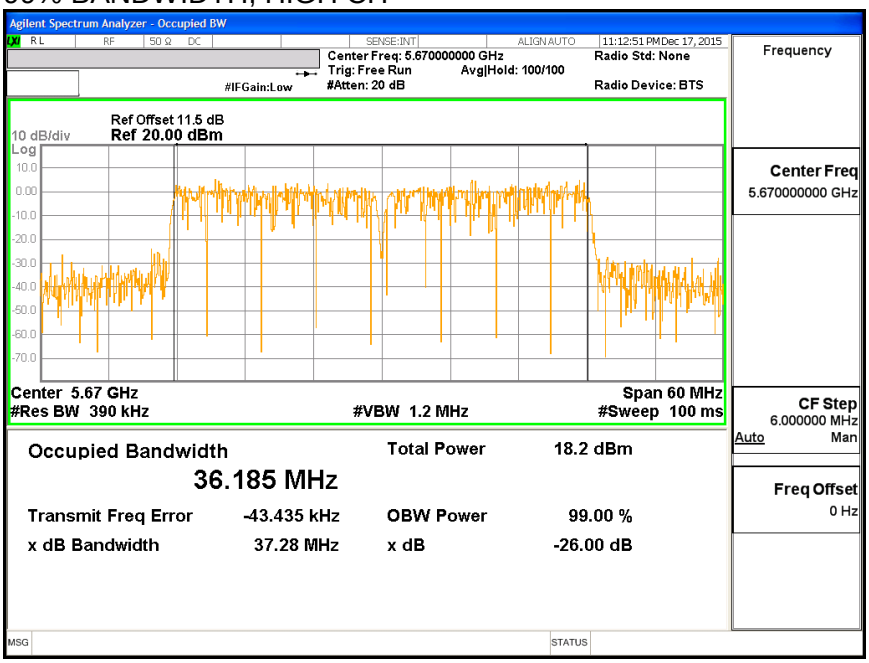
99% BANDWIDTH, LOW CH



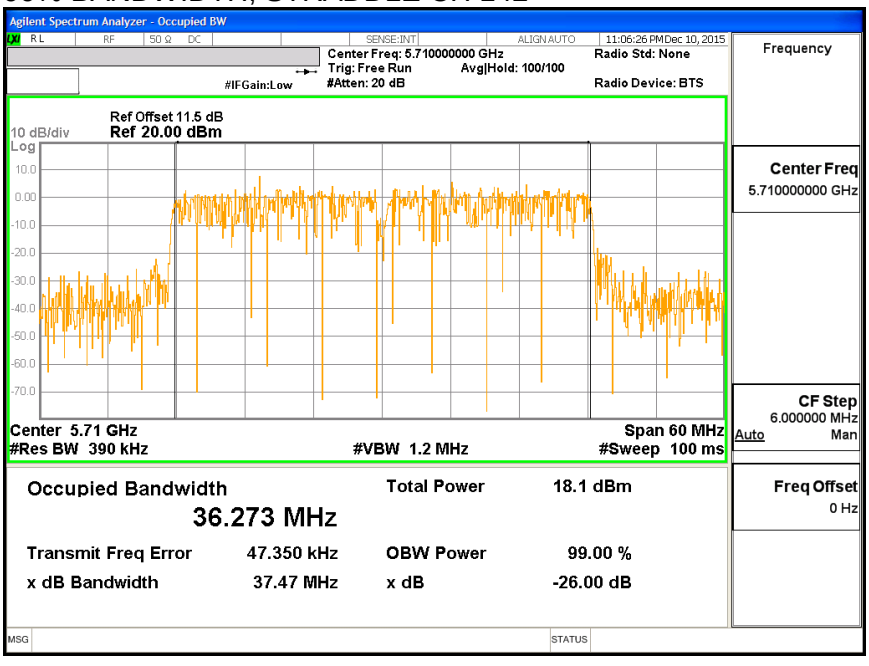
99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH



99% BANDWIDTH, STRADDLE CH 142



8.53.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	Antenna B Power (dBm)	Antenna A Power (dBm)	Total Power (dBm)
Low	5510	13.41	13.50	16.47
Mid	5550	15.39	15.42	18.42
High	5670	14.98	15.00	18.00
142	5710	15.40	15.48	18.45

8.53.4. 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:

Antenna B Gain (dBi)	Antenna A Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.83	4.03	3.47

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

Antenna B Gain (dBi)	Antenna A Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.83	4.03	6.46

RESULTS

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	5510	39.90	36.006	3.47	6.46	24.00	10.54
Mid	5550	39.54	36.283	3.47	6.46	24.00	10.54
High	5670	39.78	36.185	3.47	6.46	24.00	10.54

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

Output Power Results

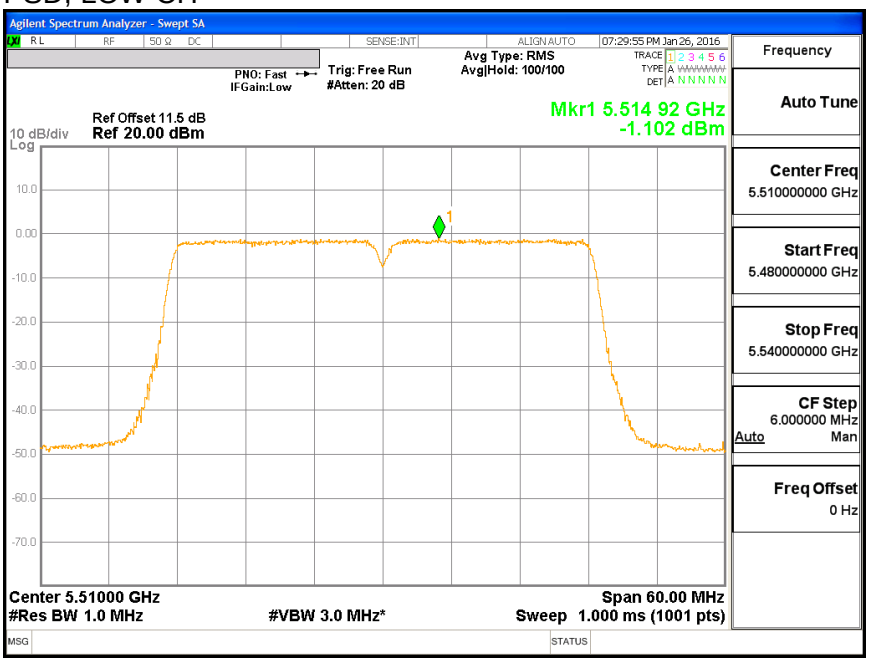
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	13.41	13.50	16.47	24.00	-7.53
Mid	5550	15.39	15.42	18.42	24.00	-5.58
High	5670	14.98	15.00	18.00	24.00	-6.00

PSD Results

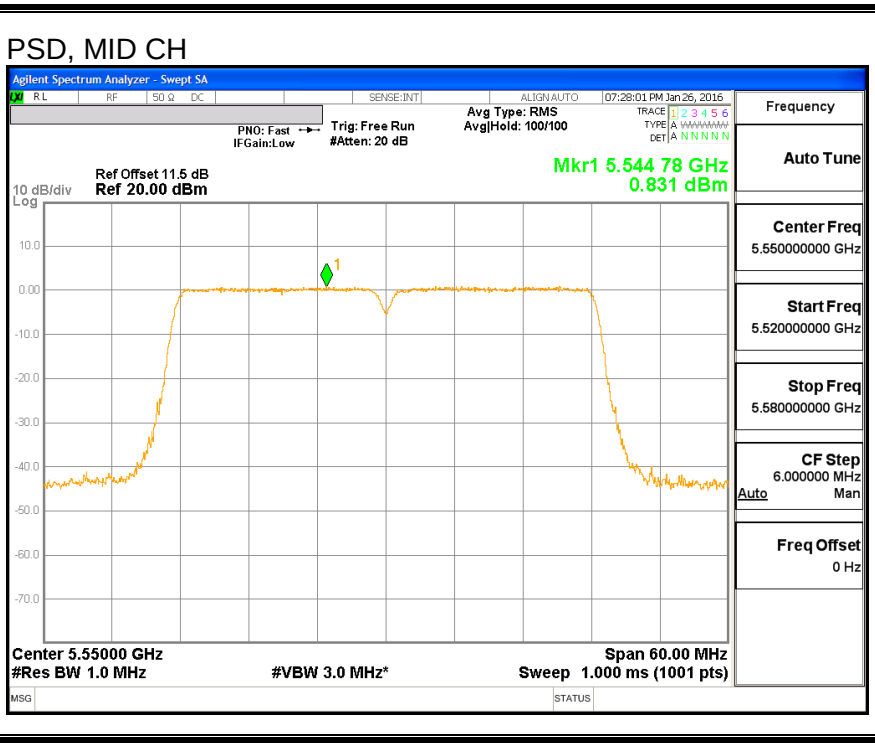
Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	-1.10	-1.09	1.91	10.54	-8.63
Mid	5550	0.83	1.12	3.99	10.54	-6.55
High	5670	0.57	0.61	3.60	10.54	-6.94

PSD, ANTENNA - B

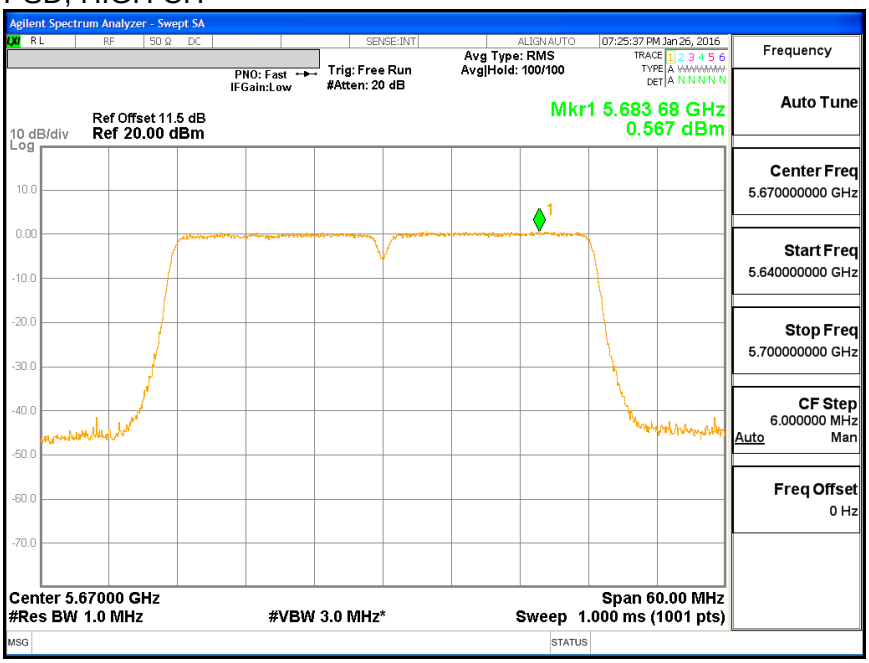
PSD, LOW CH



PSD, MID CH

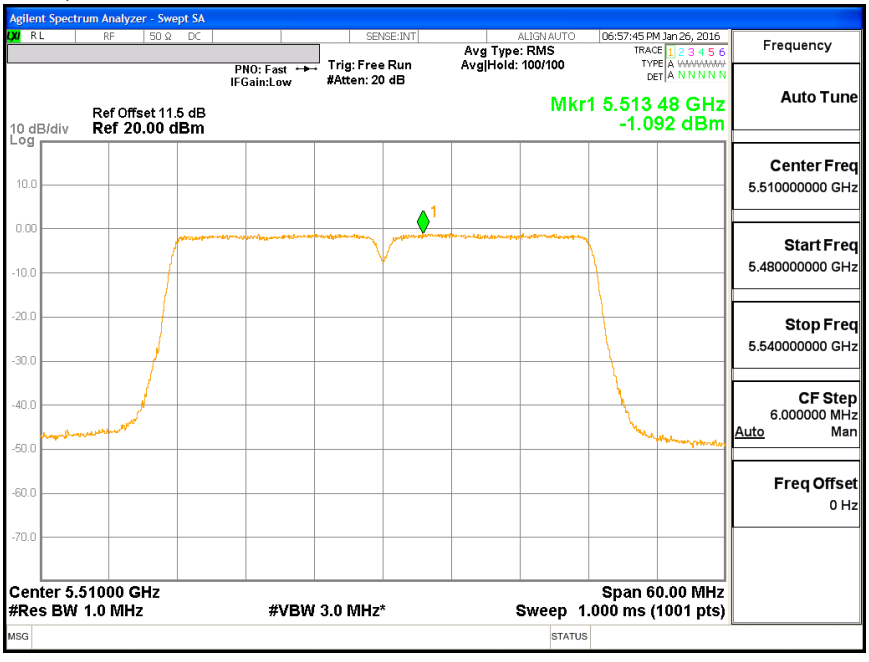


PSD, HIGH CH

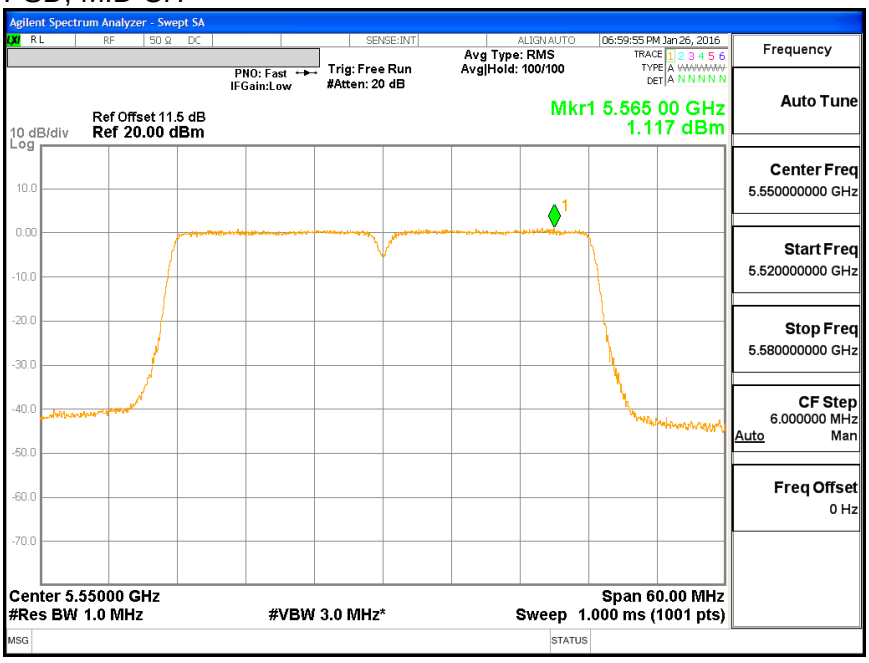


PSD, ANTENNA - A

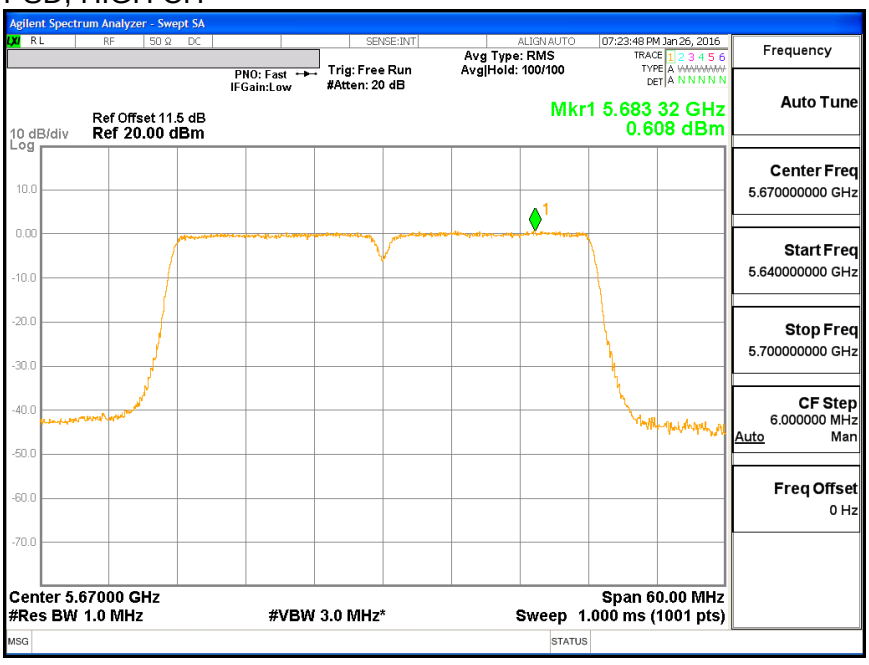
PSD, LOW CH



PSD, MID CH



PSD, HIGH CH



8.54. 802.11n HT40 2Tx CDD STRADDLE CHANNEL 142 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)
142	5710	35.10	3.47	6.46	24.00	10.54

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

Output Power Results

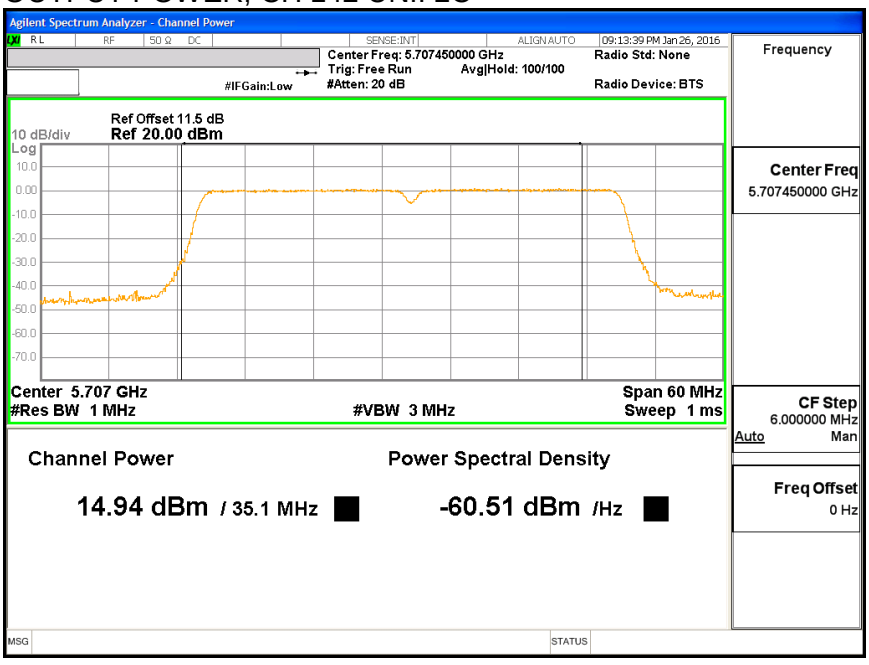
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	14.94	15.03	18.00	24.00	-6.00

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	1.037	1.141	4.10	10.54	-6.44

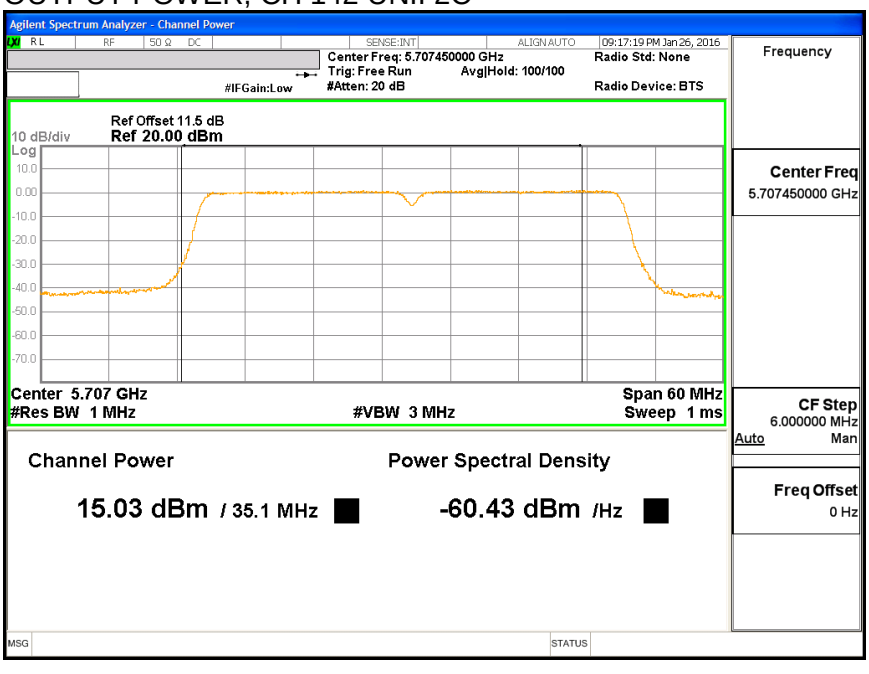
ANTENNA - B

OUTPUT POWER, CH 142 UNII 2C



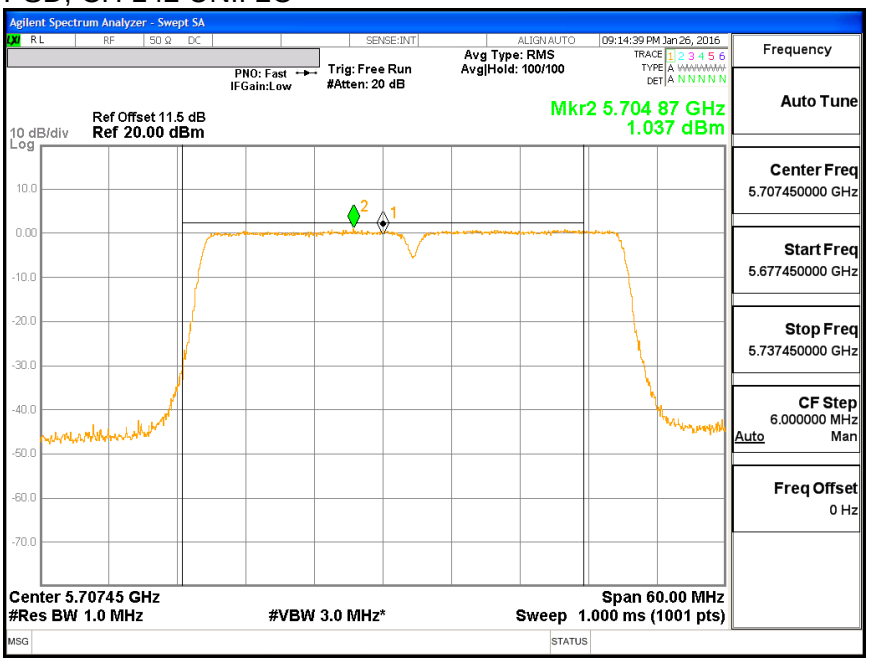
ANTENNA - A

OUTPUT POWER, CH 142 UNII 2C



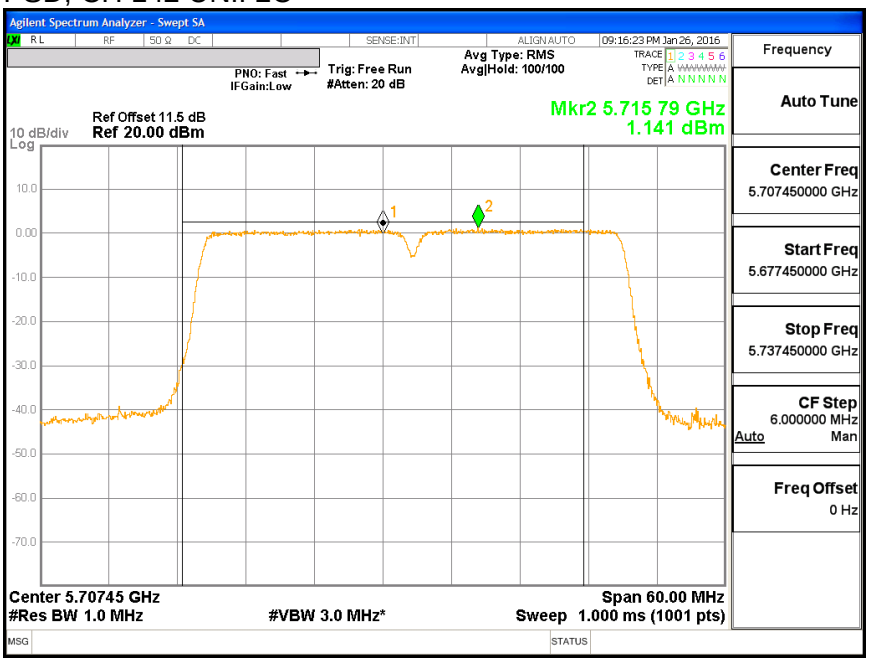
ANTENNA - B

PSD, CH 142 UNII 2C



ANTENNA - A

PSD, CH 142 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	5.10	3.47	6.46	30.00	29.54

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

Output Power Results

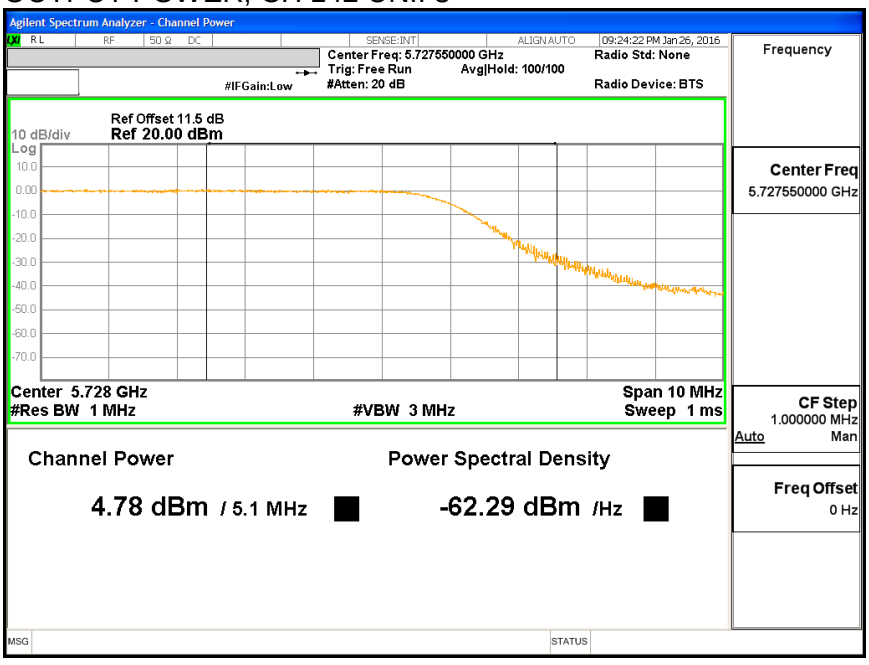
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	4.78	4.92	7.86	30.00	-22.14

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	-2.77	-2.62	0.31	29.54	-29.23

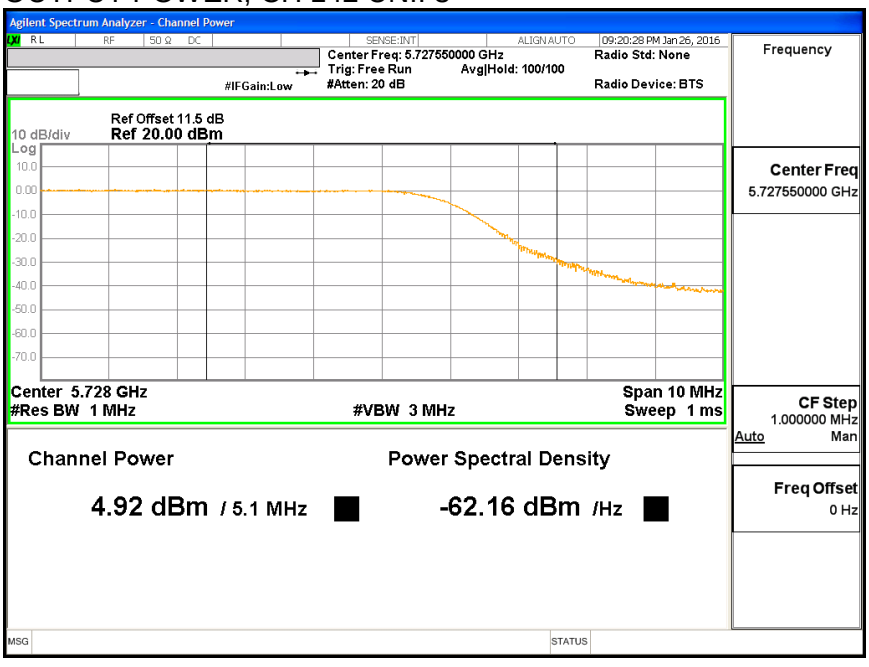
ANTENNA - B

OUTPUT POWER, CH 142 UNII 3



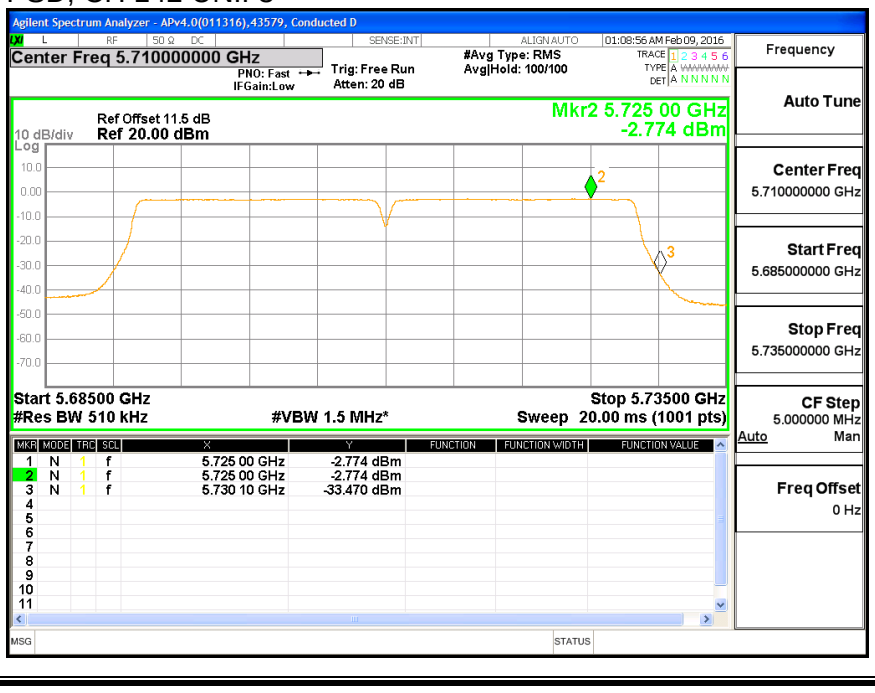
ANTENNA - A

OUTPUT POWER, CH 142 UNII 3



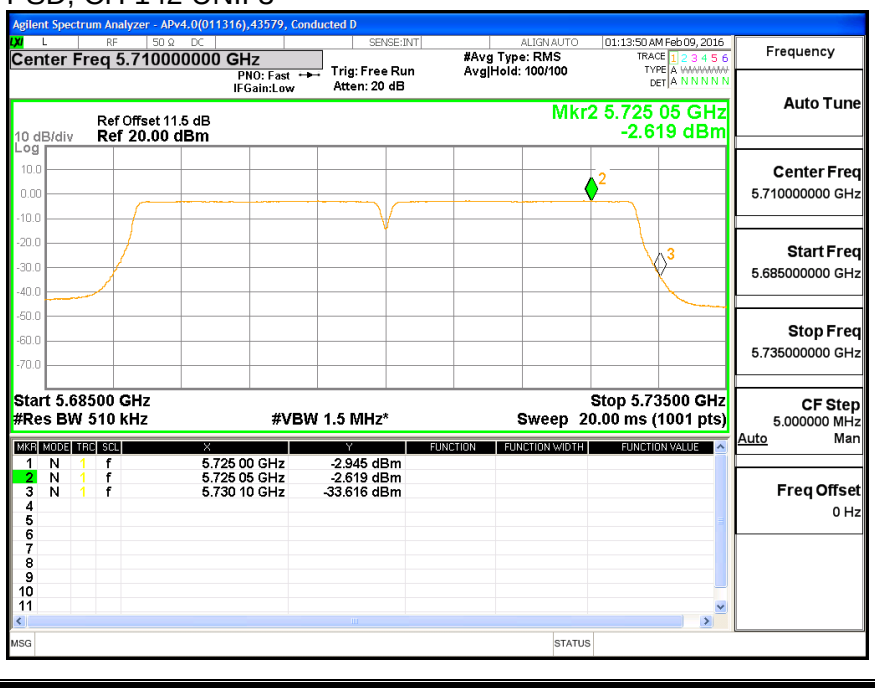
ANTENNA - B

PSD, CH 142 UNII 3



ANTENNA – A

PSD, CH 142 UNII 3



8.54.1. 6 dB BBANDWIDTH

LIMITS

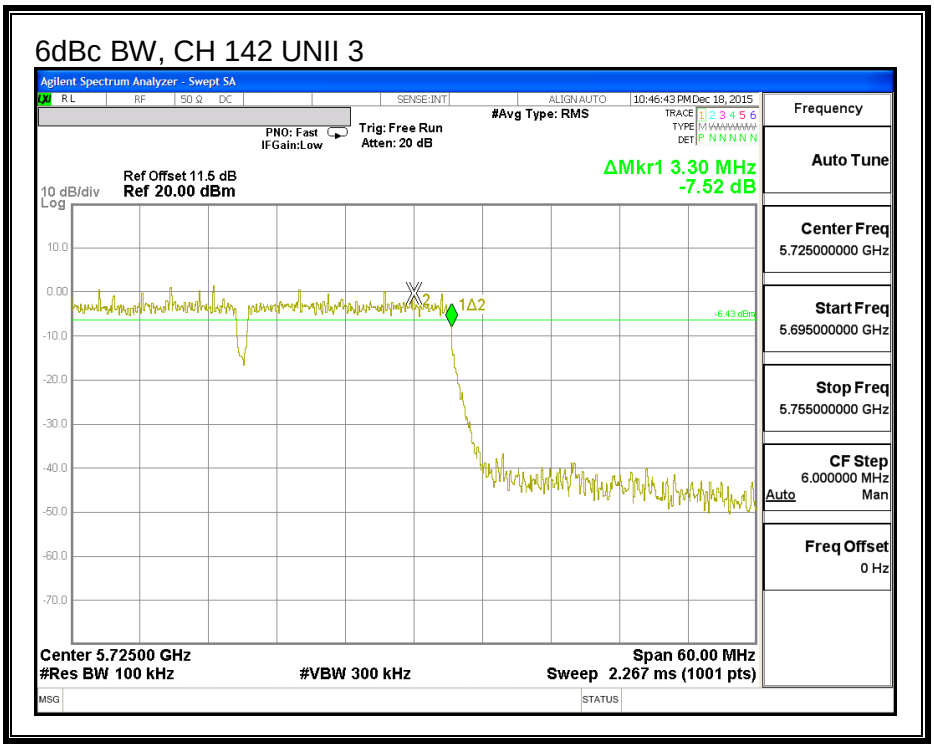
FCC §15.407 (e)

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

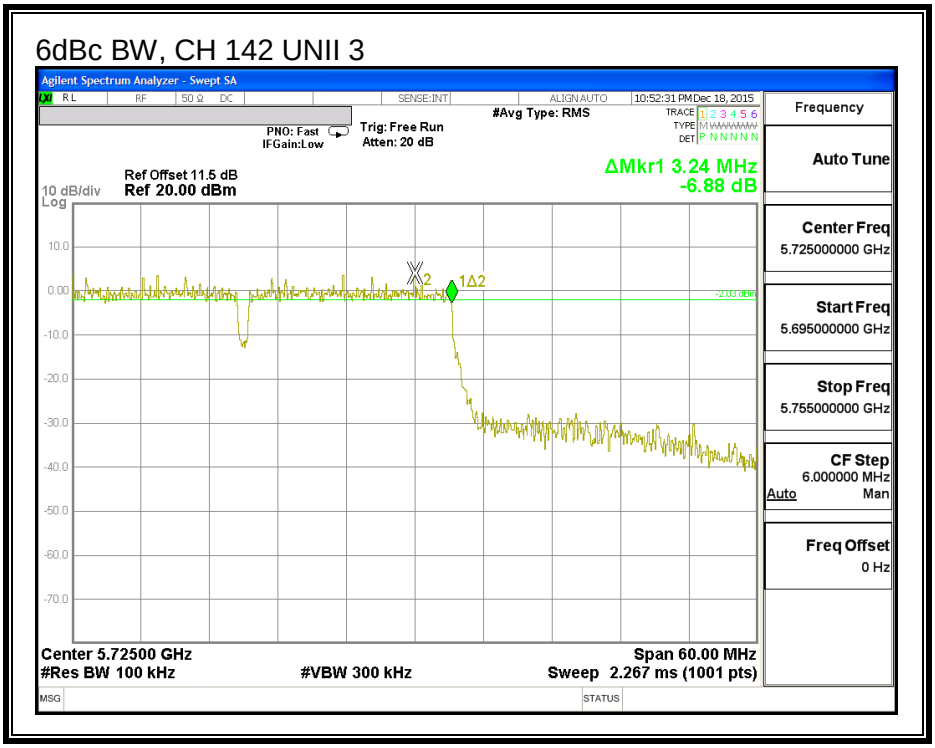
RESULTS

Channel	Frequency (MHz)	6 dB BW Antenna B (MHz)	6 dB BW Antenna A (MHz)
142	5710	3.30	3.24

ANTENNA - B



ANTENNA - A



8.55. 802.11n HT40 2Tx STBC MODE IN THE 5.6 GHz BAND

8.55.1. 26 dB BANDWIDTH

LIMITS

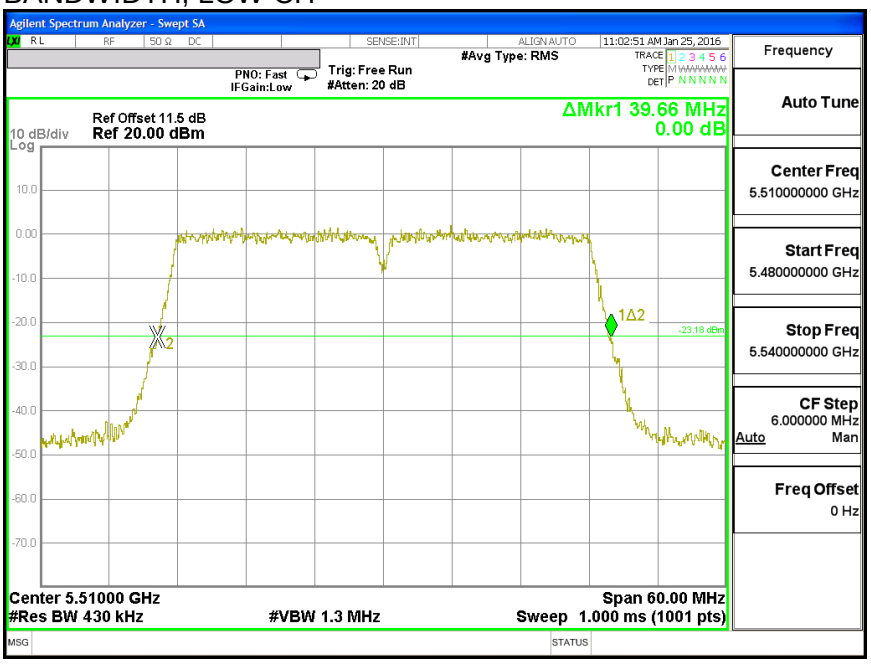
None; for reporting purposes only.

RESULTS

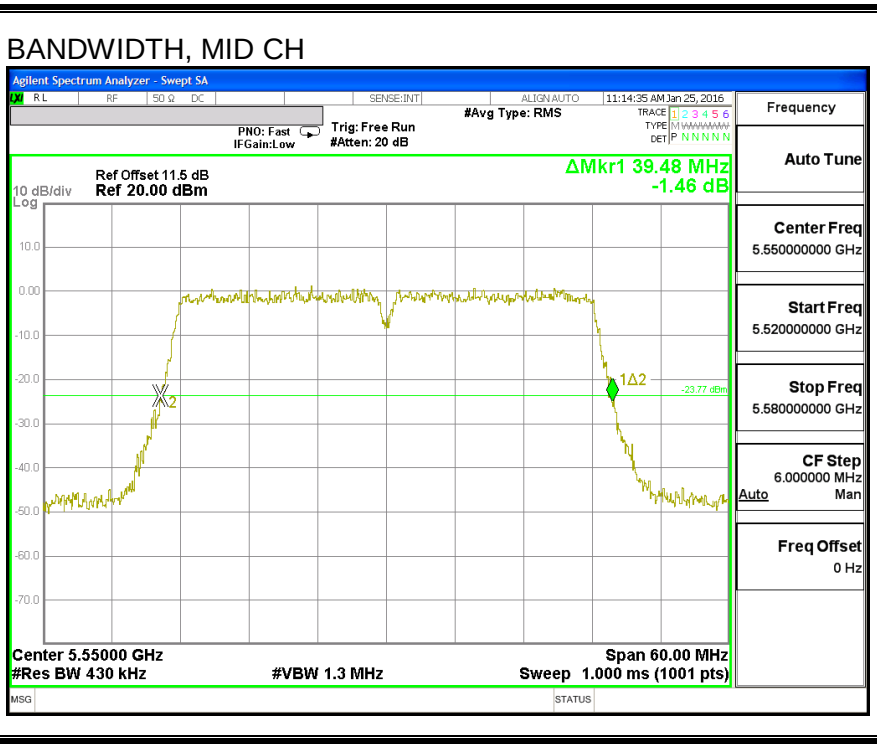
Channel	Frequency (MHz)	26 dB BW Antenna B (MHz)	26 dB BW Antenna A (MHz)
Low	5510	39.66	39.66
Mid	5550	39.48	39.36
High	5670	39.84	39.30
142	5710	39.54	39.36

26 dB BANDWIDTH, ANTENNA - B

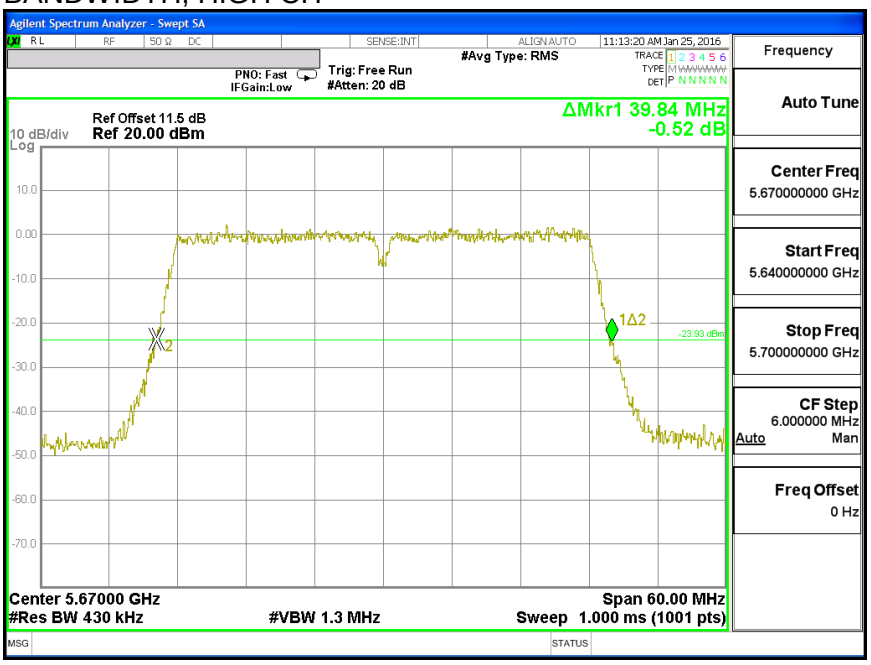
BANDWIDTH, LOW CH



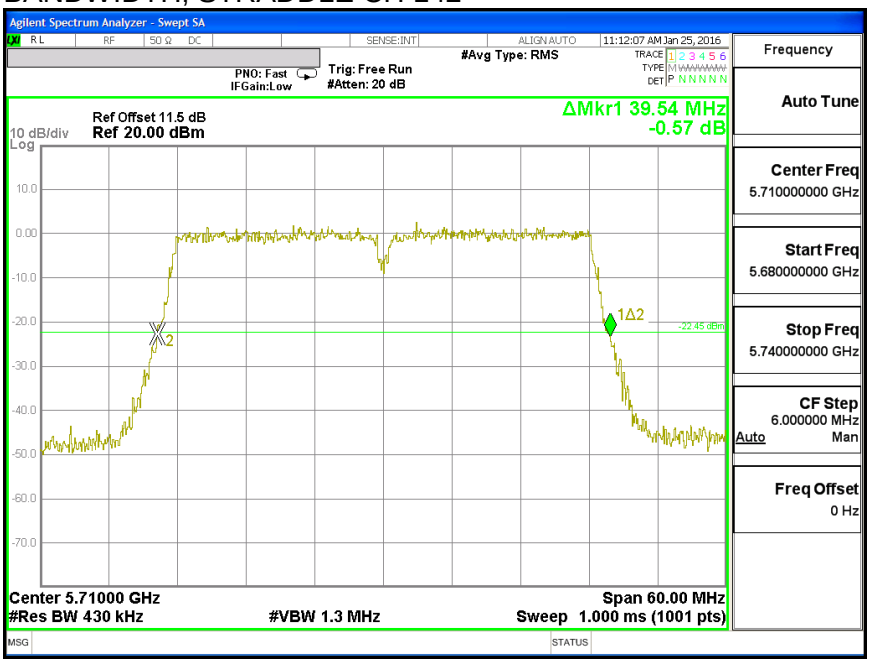
BANDWIDTH, MID CH



BANDWIDTH, HIGH CH

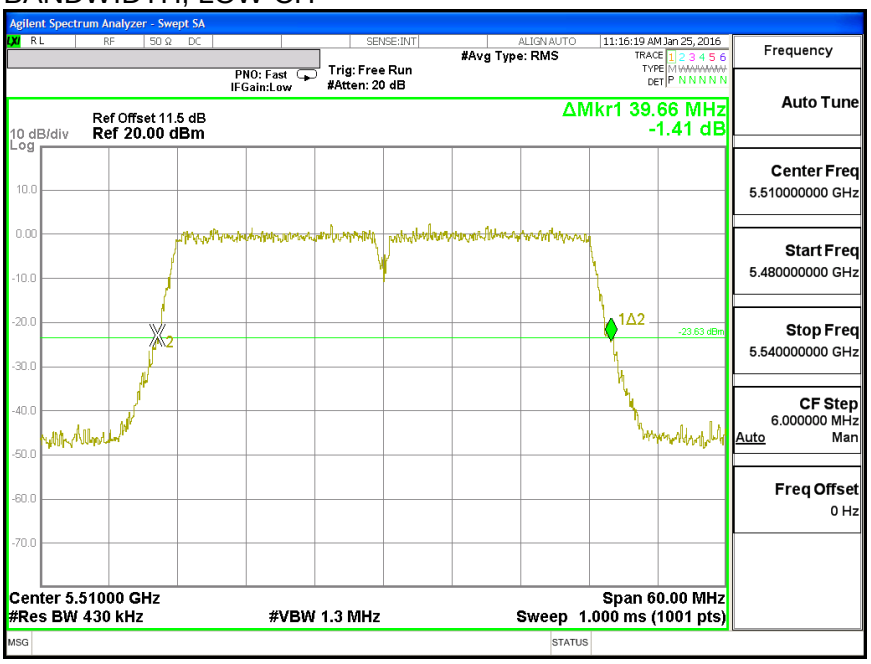


BANDWIDTH, STRADDLE CH 142



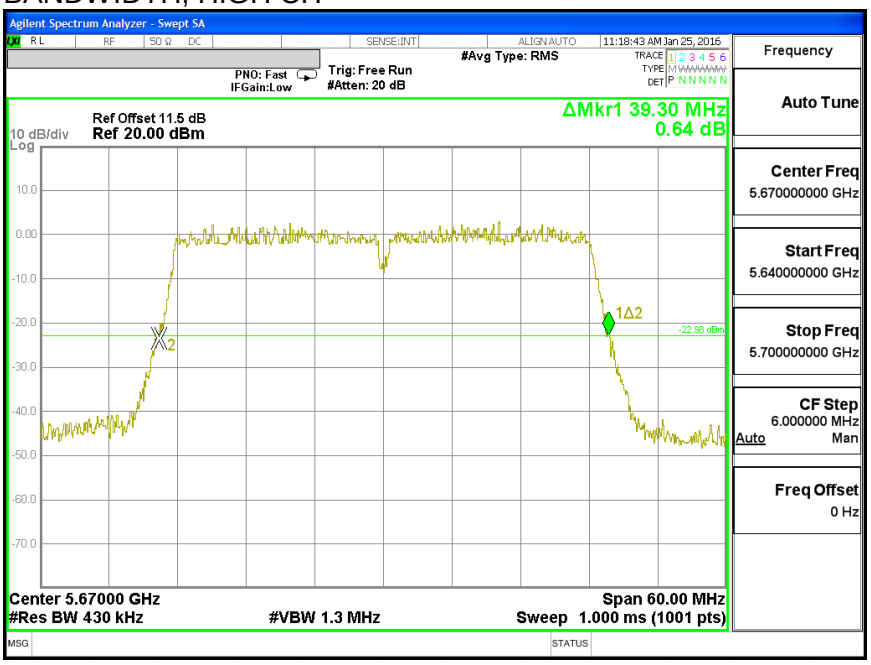
26 dB BANDWIDTH, ANTENNA - A

BANDWIDTH, LOW CH

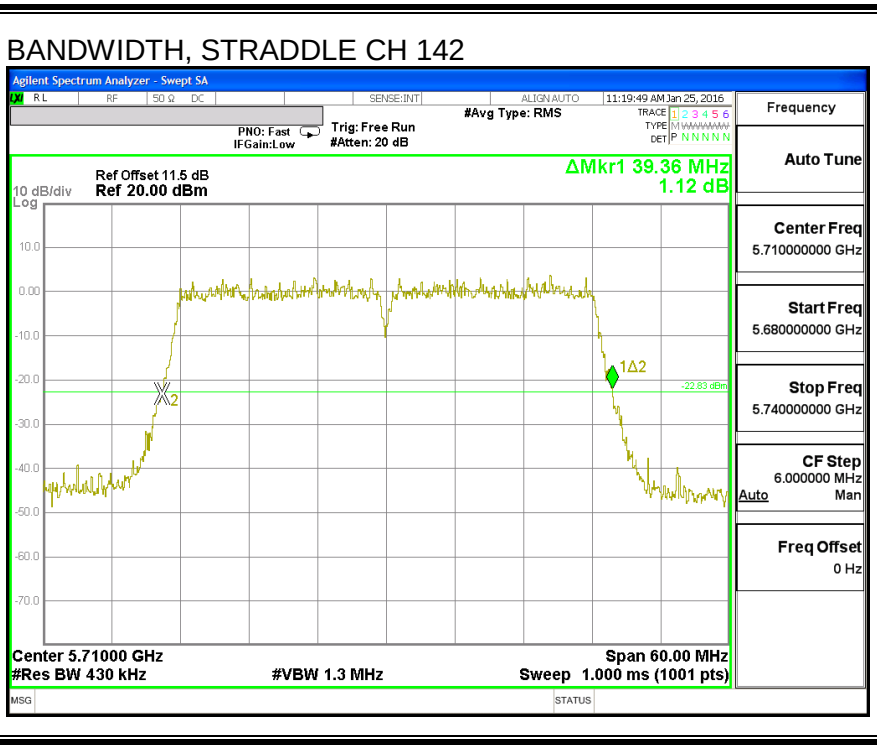


BANDWIDTH, MID CH

BANDWIDTH, HIGH CH



BANDWIDTH, STRADDLE CH 142



8.55.2. 99% BANDWIDTH

LIMITS

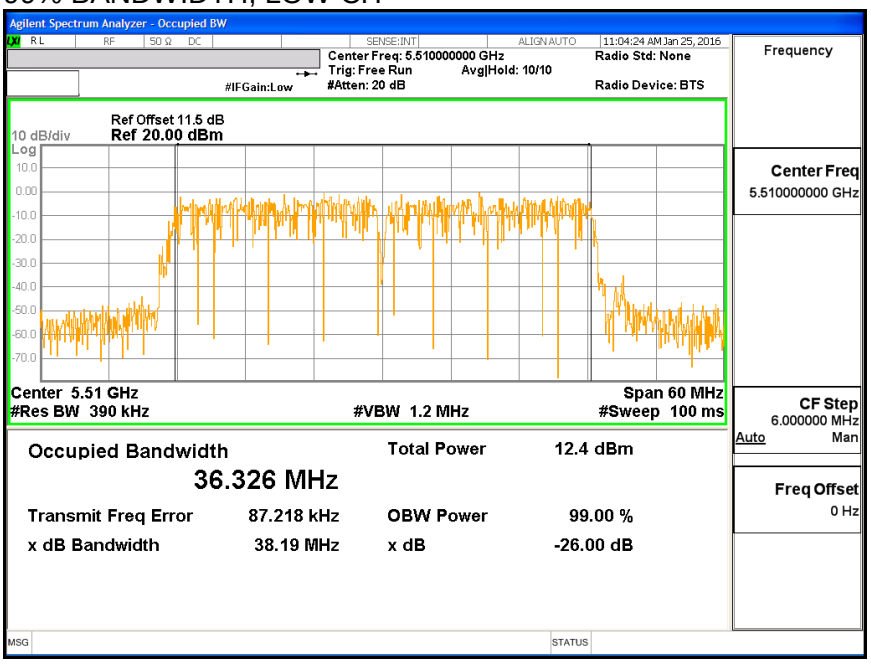
None; for reporting purposes only.

RESULTS

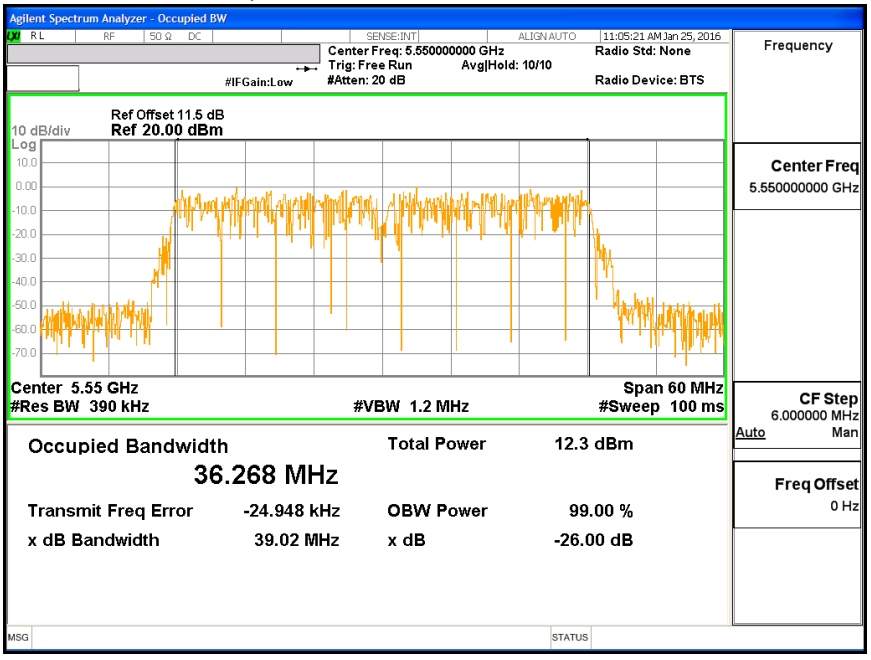
Channel	Frequency (MHz)	99% BW Antenna B (MHz)	99% BW Antenna A (MHz)
Low	5510	36.326	36.293
Mid	5550	36.268	36.168
High	5670	36.308	36.222
142	5710	35.889	36.217

99% BANDWIDTH, ANTENNA - B

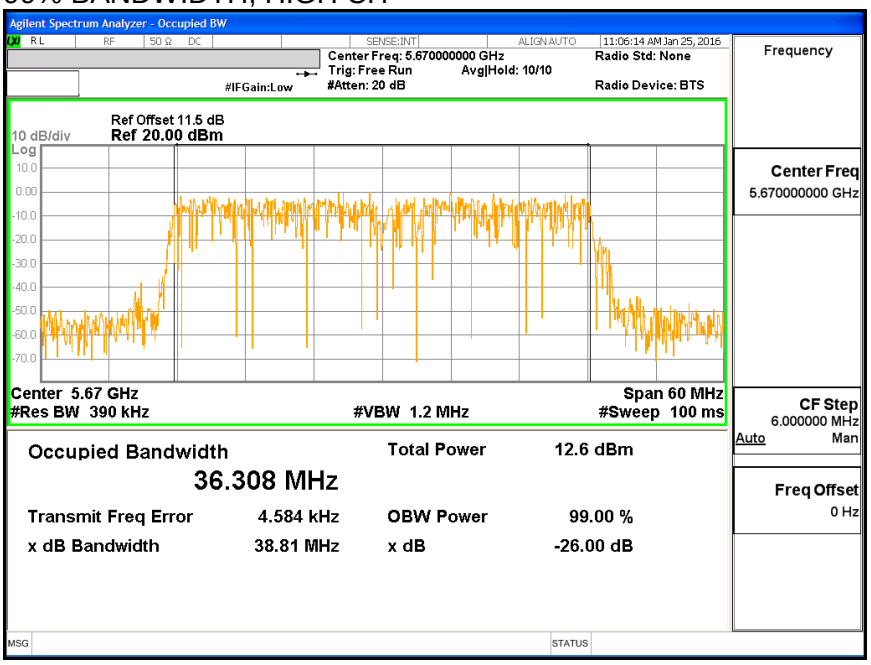
99% BANDWIDTH, LOW CH



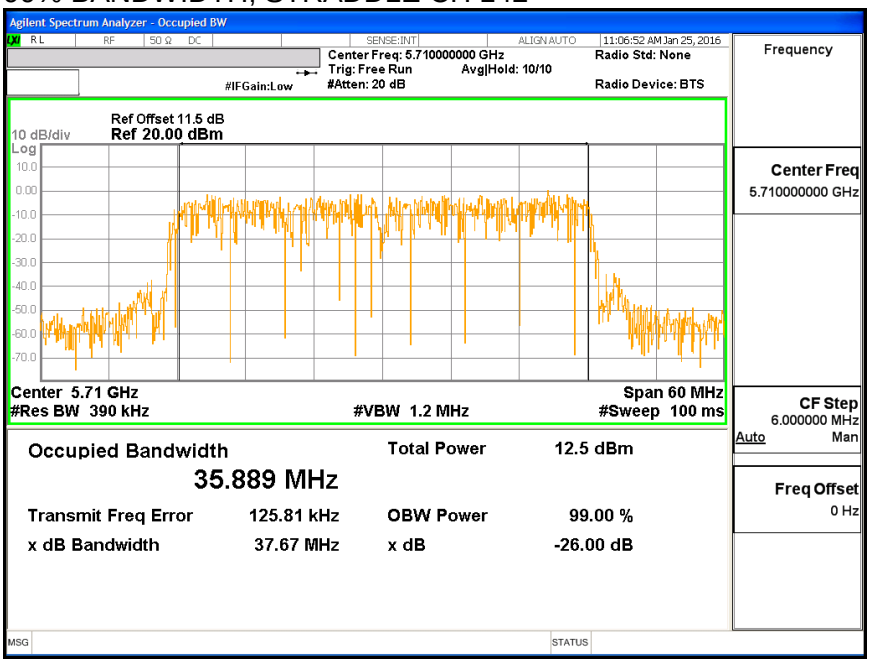
99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH

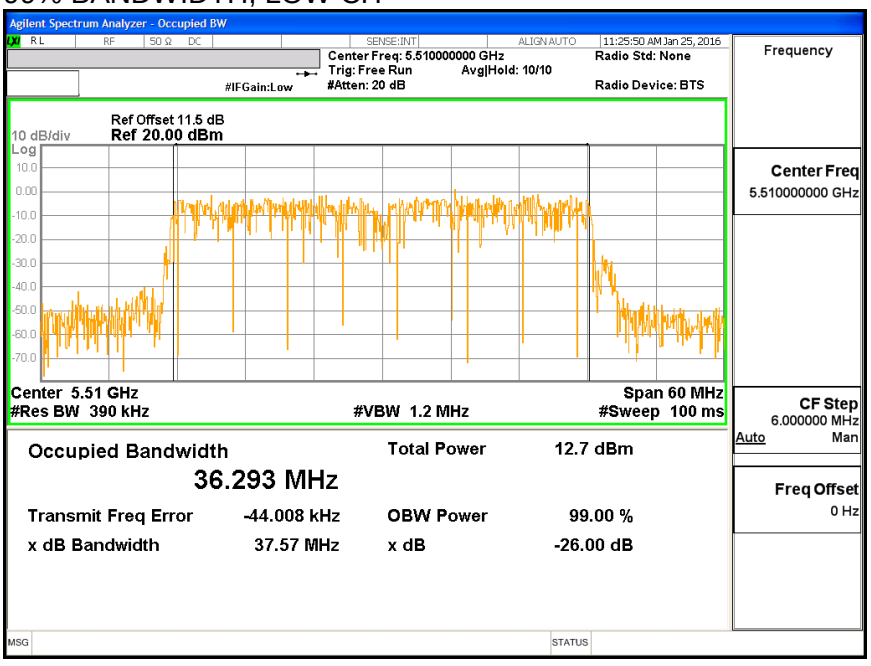


99% BANDWIDTH, STRADDLE CH 142

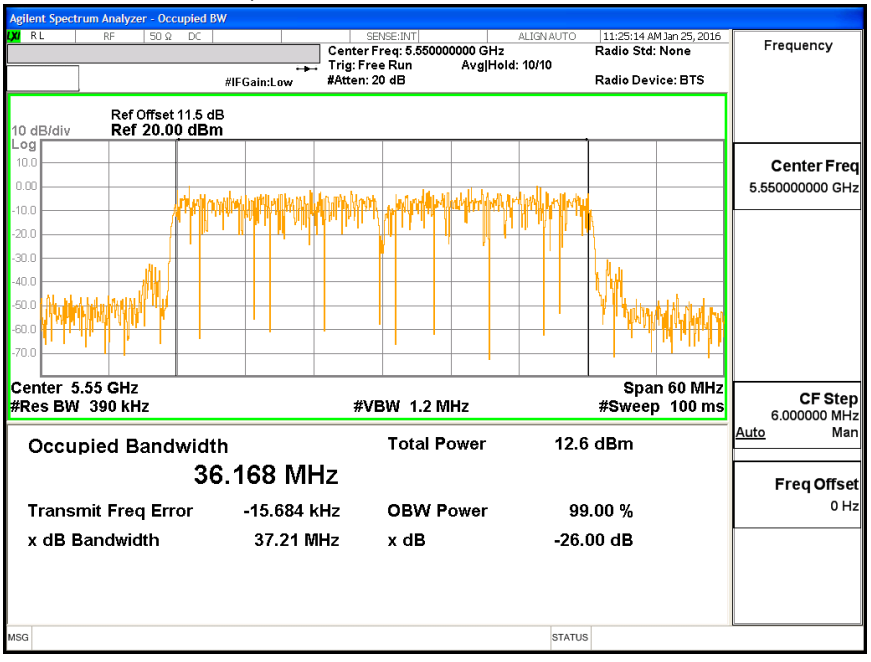


99% BANDWIDTH, ANTENNA - A

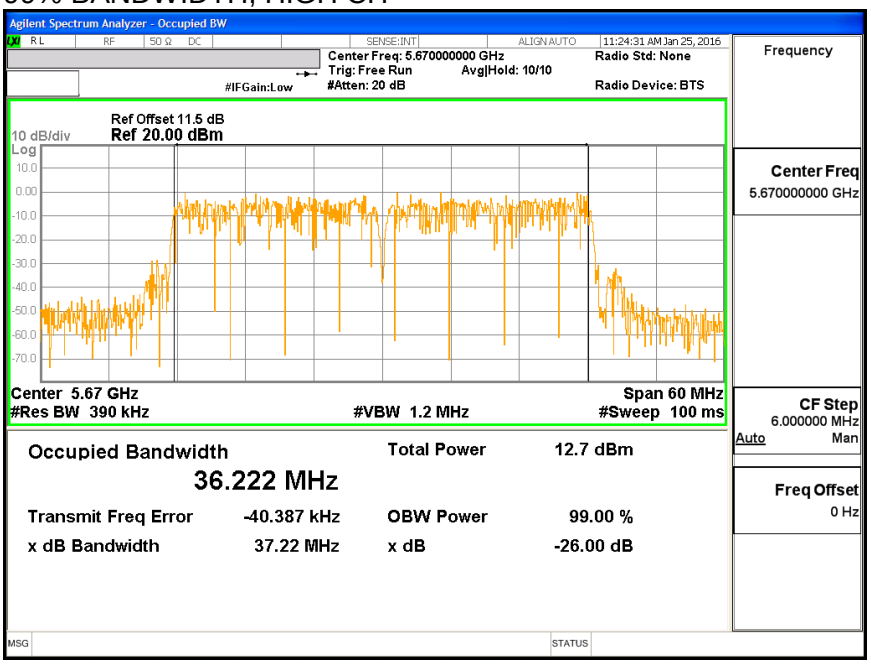
99% BANDWIDTH, LOW CH



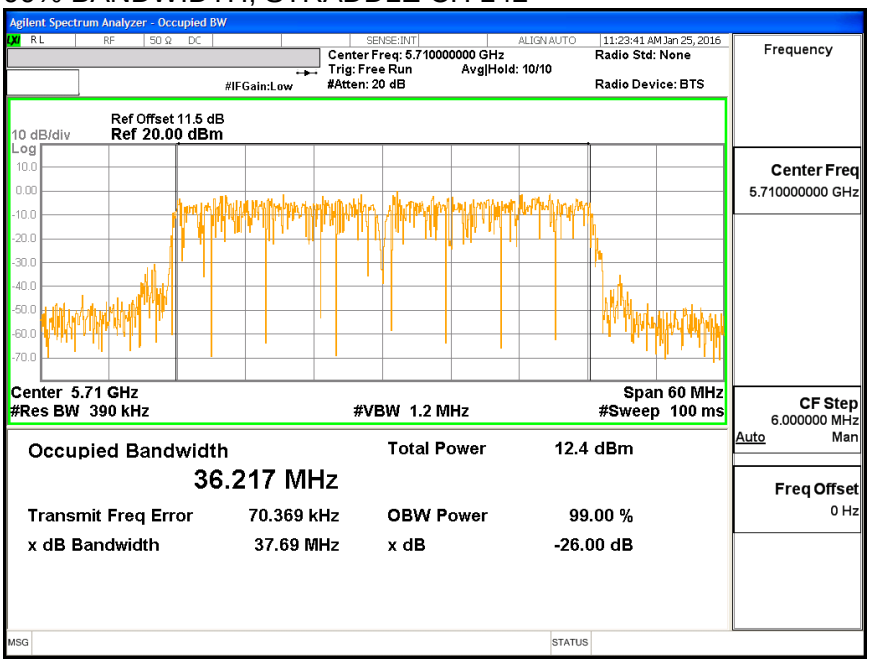
99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH



99% BANDWIDTH, STRADDLE CH 142



8.55.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	Antenna B Power (dBm)	Antenna A Power (dBm)	Total Power (dBm)
Low	5510	13.45	13.50	16.49
Mid	5550	16.50	15.99	19.26
High	5670	15.00	14.88	17.95
142	5710	16.41	15.98	19.21

8.55.4. 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:

Antenna B Gain (dBi)	Antenna A Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.83	4.03	3.47

RESULTS

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	5510	39.66	36.293	3.47	3.47	24.00	11.00
Mid	5550	39.36	36.168	3.47	3.47	24.00	11.00
High	5670	39.30	36.222	3.47	3.47	24.00	11.00

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

Output Power Results

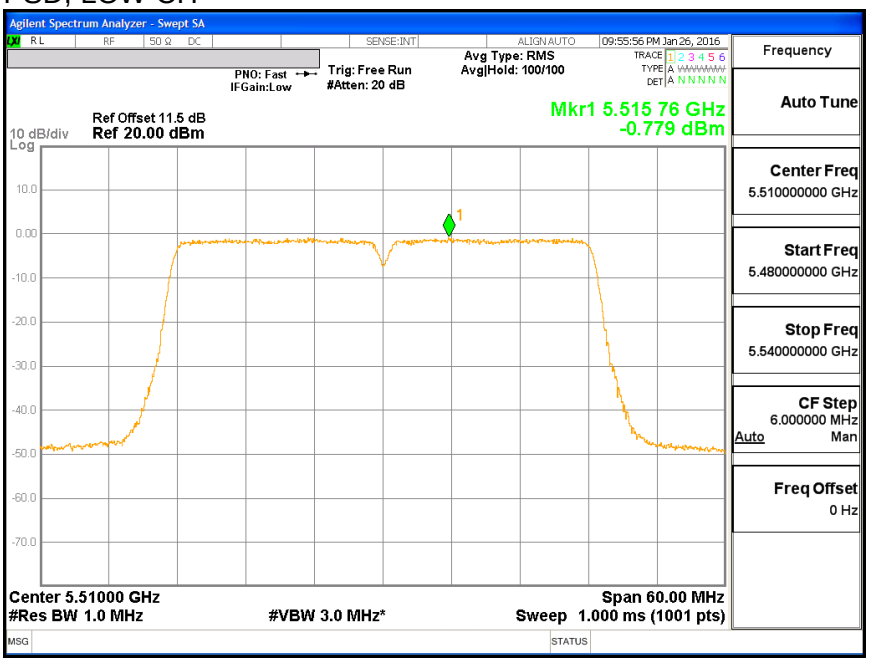
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	13.45	13.50	16.49	24.00	-7.51
Mid	5550	16.50	15.99	19.26	24.00	-4.74
High	5670	15.00	14.88	17.95	24.00	-6.05

PSD Results

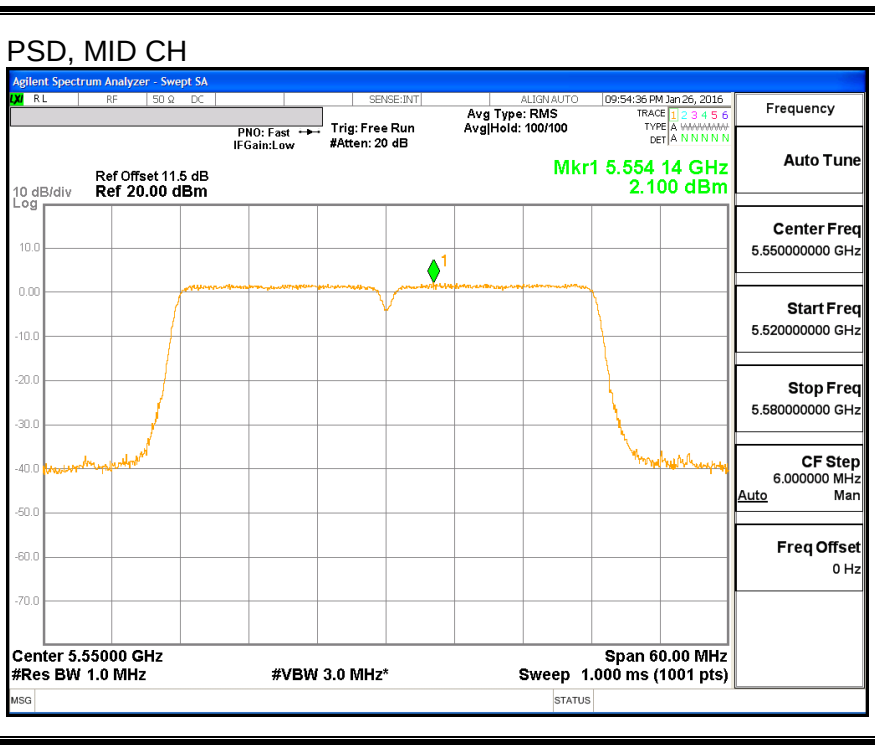
Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	-0.779	-0.885	2.179	11.00	-8.82
Mid	5550	2.100	1.495	4.818	11.00	-6.18
High	5670	0.875	0.343	3.627	11.00	-7.37

PSD, ANTENNA - B

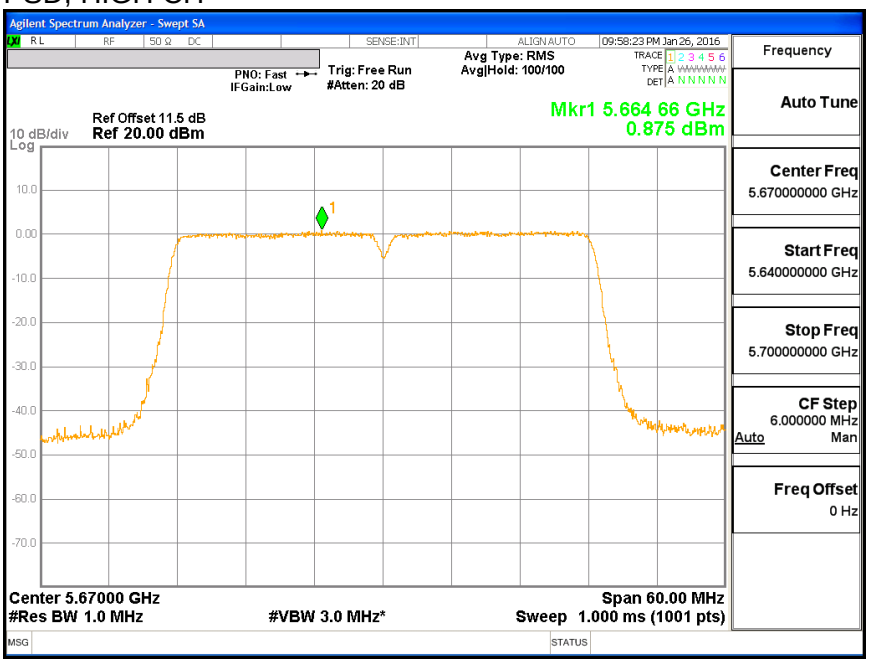
PSD, LOW CH



PSD, MID CH

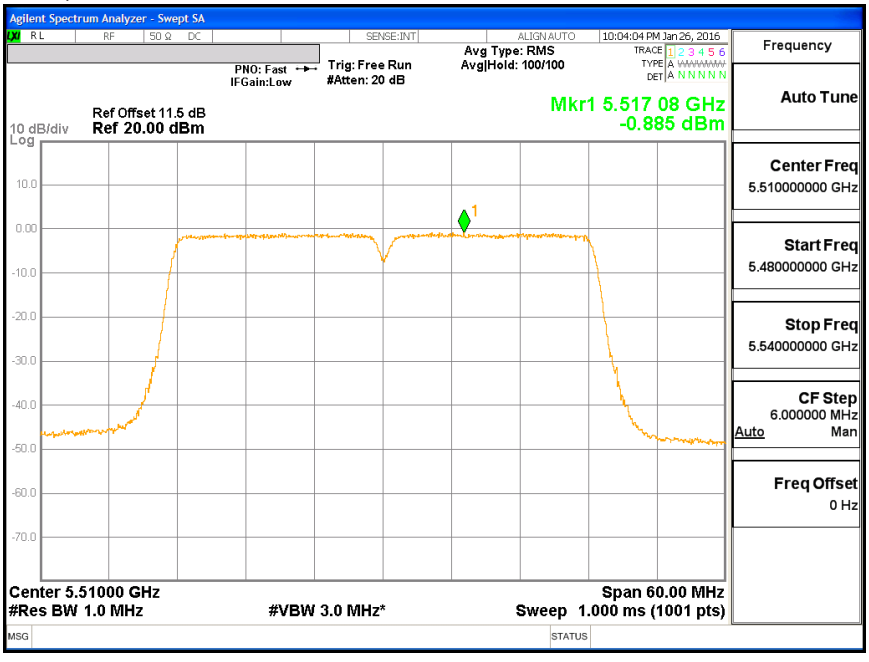


PSD, HIGH CH

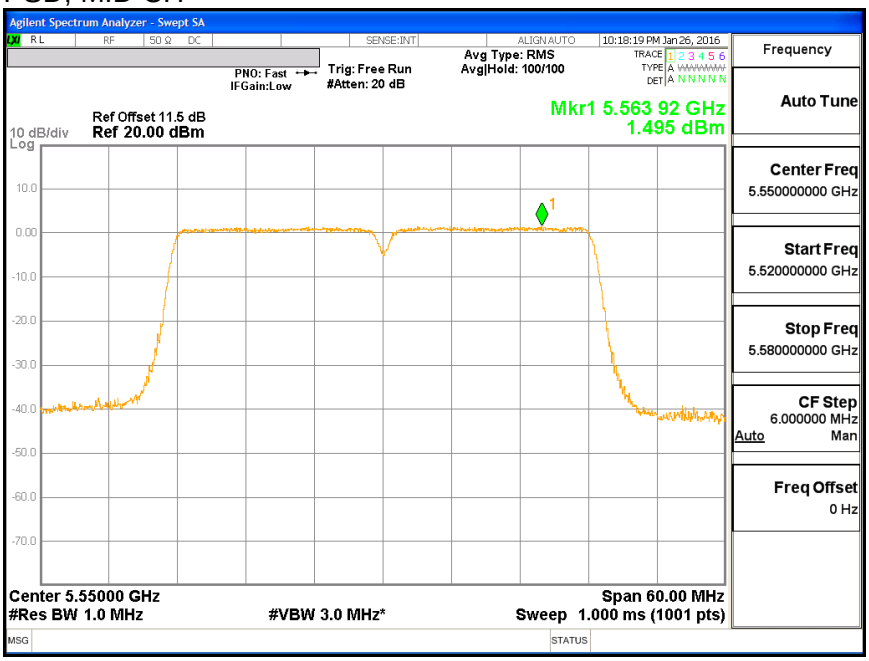


PSD, ANTENNA - A

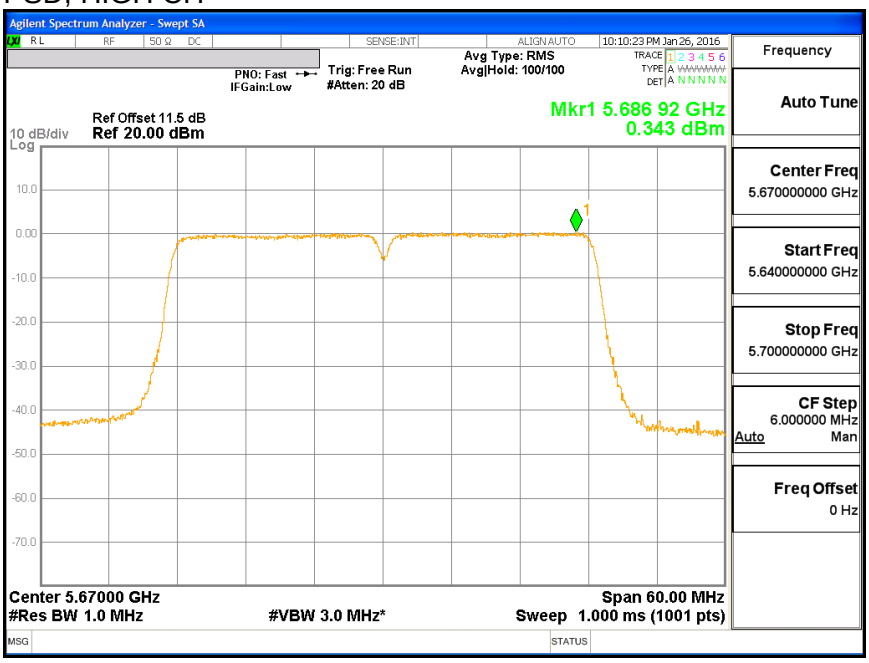
PSD, LOW CH



PSD, MID CH



PSD, HIGH CH



8.56. 802.11n HT40 2Tx STBC STRADDLE CHANNEL 142 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)
142	5710	34.77	3.47	3.47	24.00	11.00

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

Output Power Results

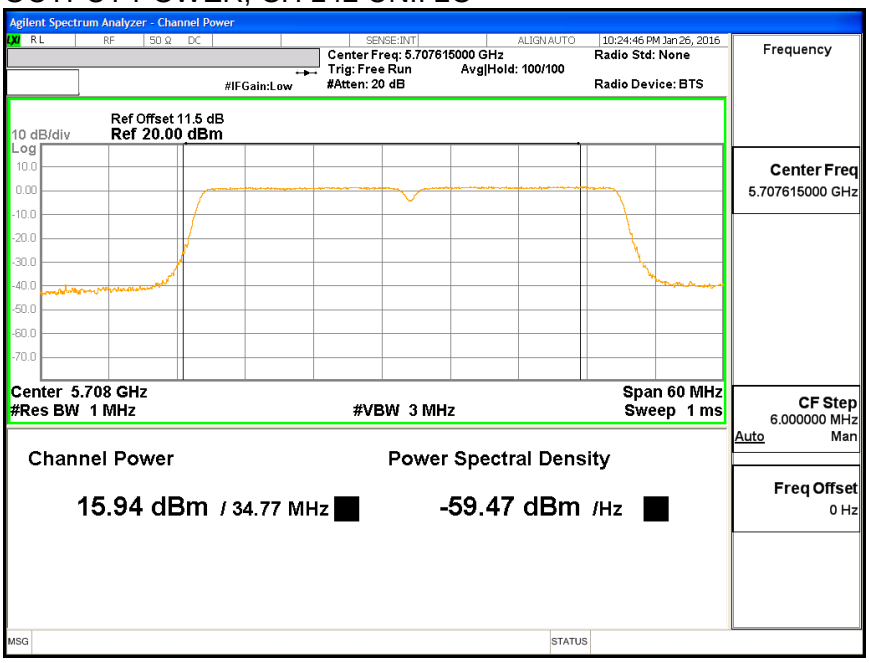
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	15.94	15.62	18.79	24.00	-5.21

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	1.946	1.622	4.80	11.00	-6.20

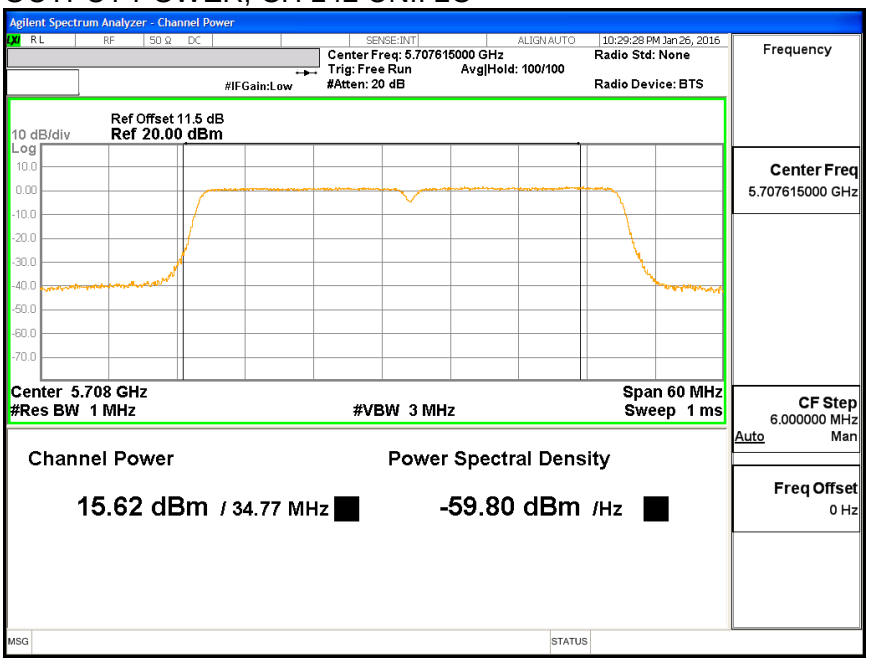
ANTENNA - B

OUTPUT POWER, CH 142 UNII 2C



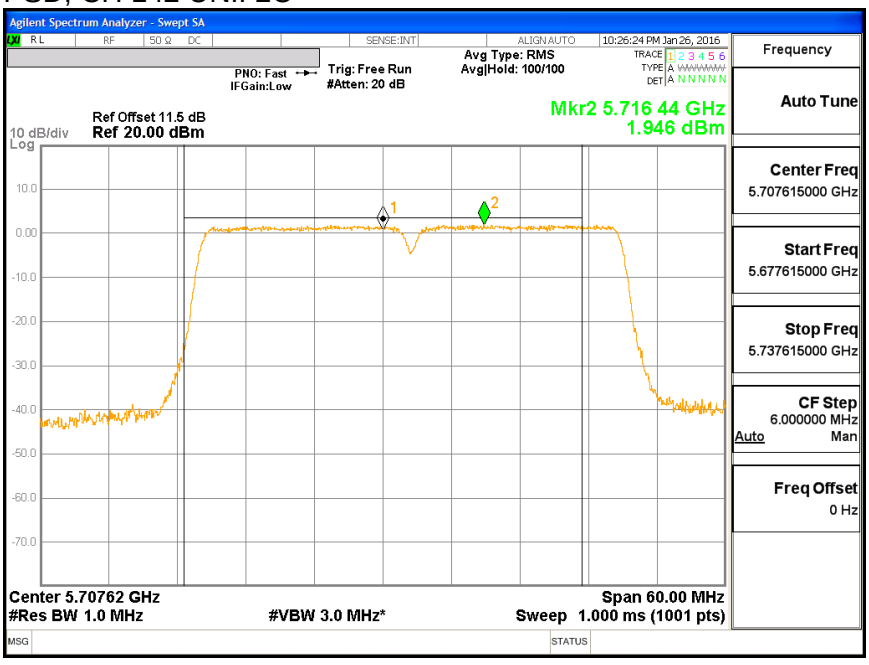
ANTENNA - A

OUTPUT POWER, CH 142 UNII 2C



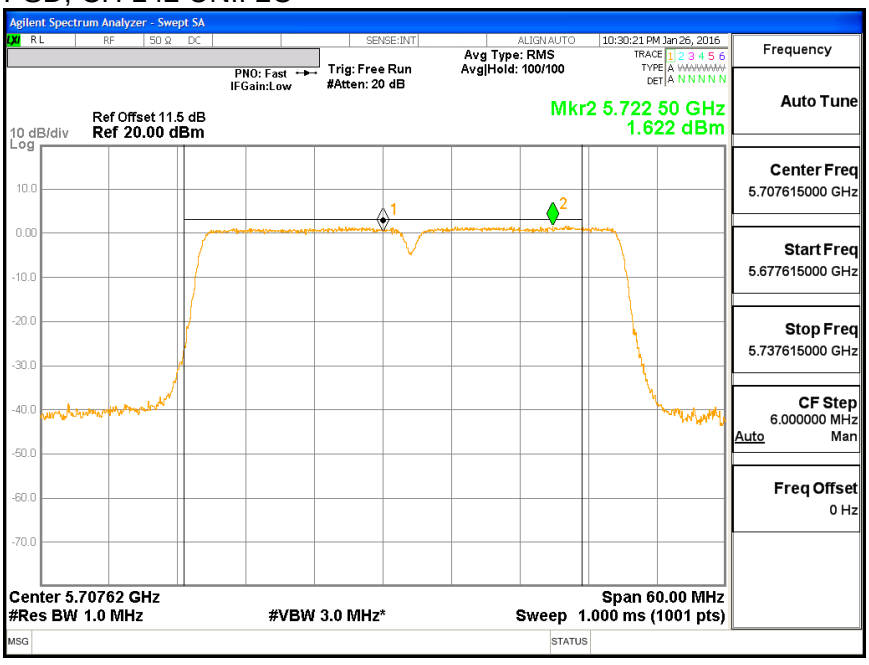
ANTENNA - B

PSD, CH 142 UNII 2C



ANTENNA - A

PSD, CH 142 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	4.77	3.47	3.47	30.00	30.00

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

Output Power Results

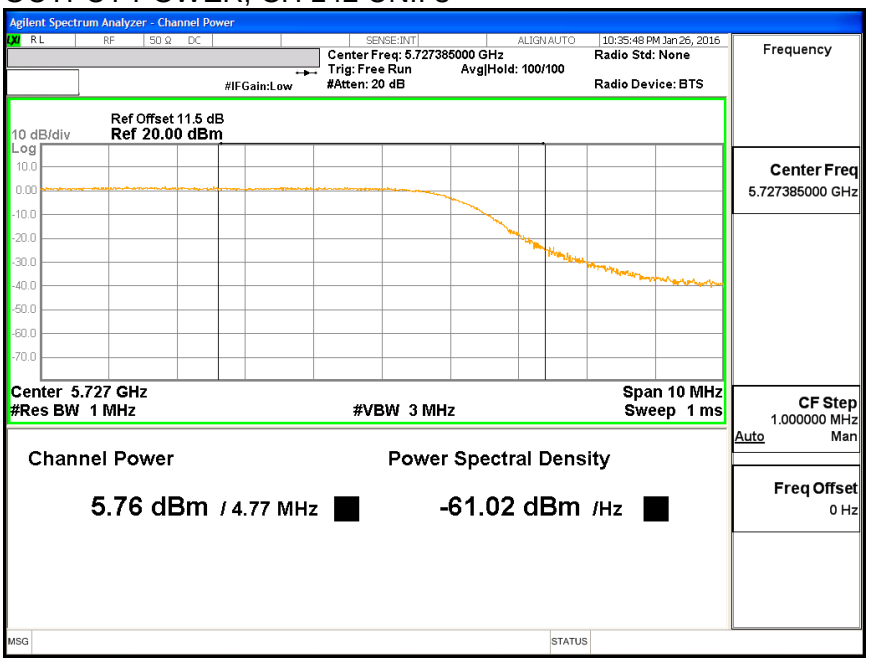
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	5.76	5.43	8.61	30.00	-21.39

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	-1.74	-2.10	1.10	30.00	-28.90

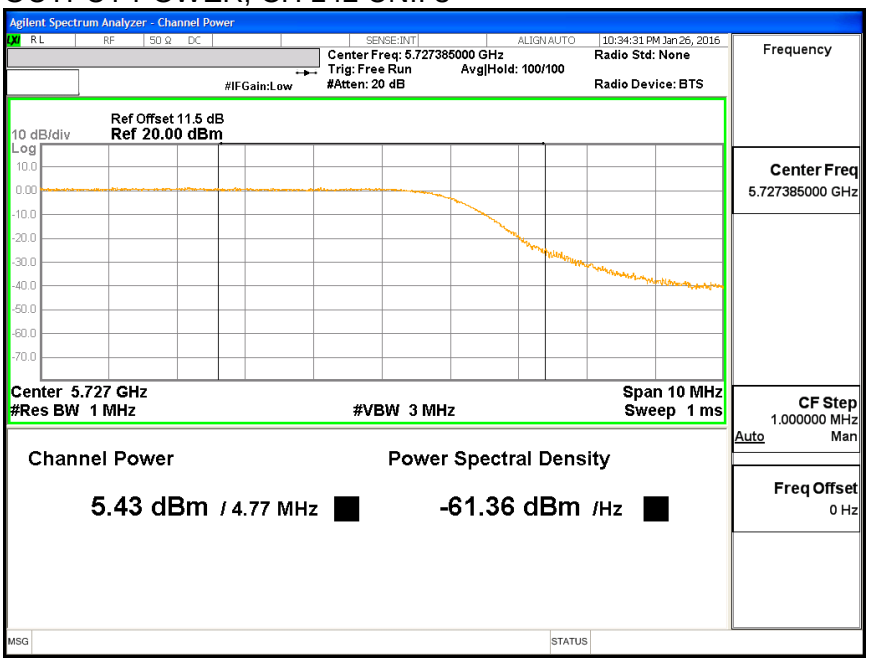
ANTENNA - B

OUTPUT POWER, CH 142 UNII 3

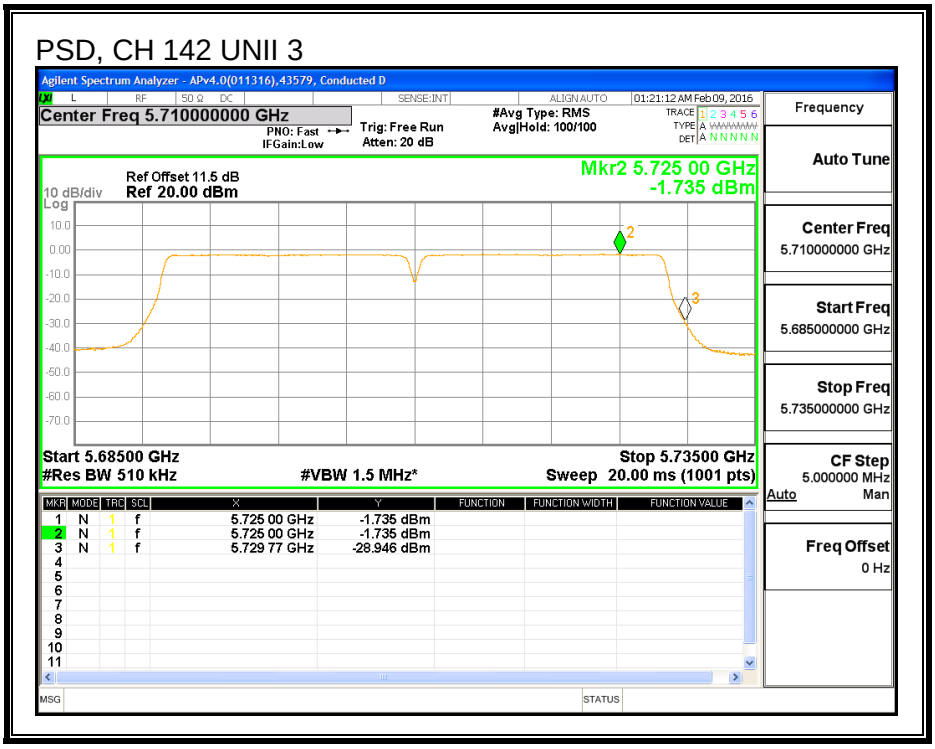


ANTENNA - A

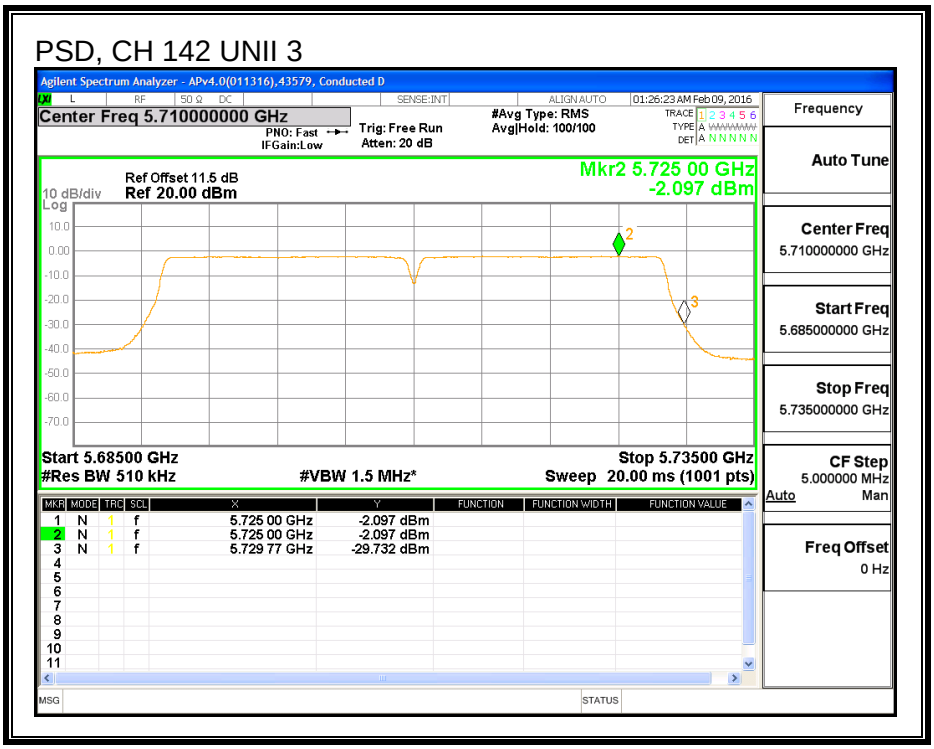
OUTPUT POWER, CH 142 UNII 3



ANTENNA - B



ANTENNA – A



8.56.1. 6 dB BBANDWIDTH

LIMITS

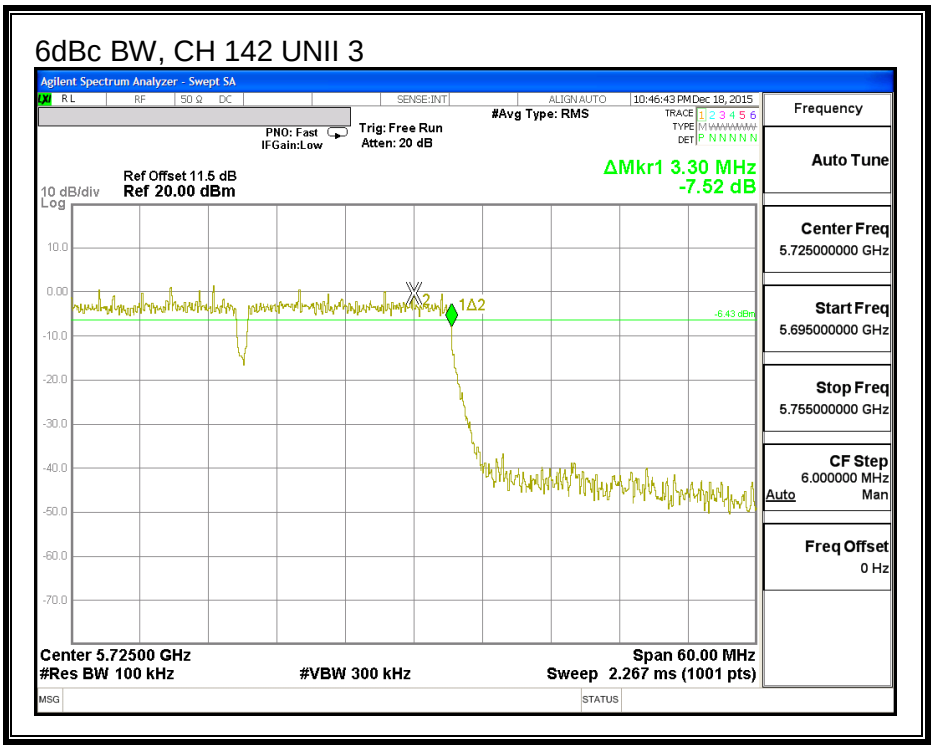
FCC §15.407 (e)

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

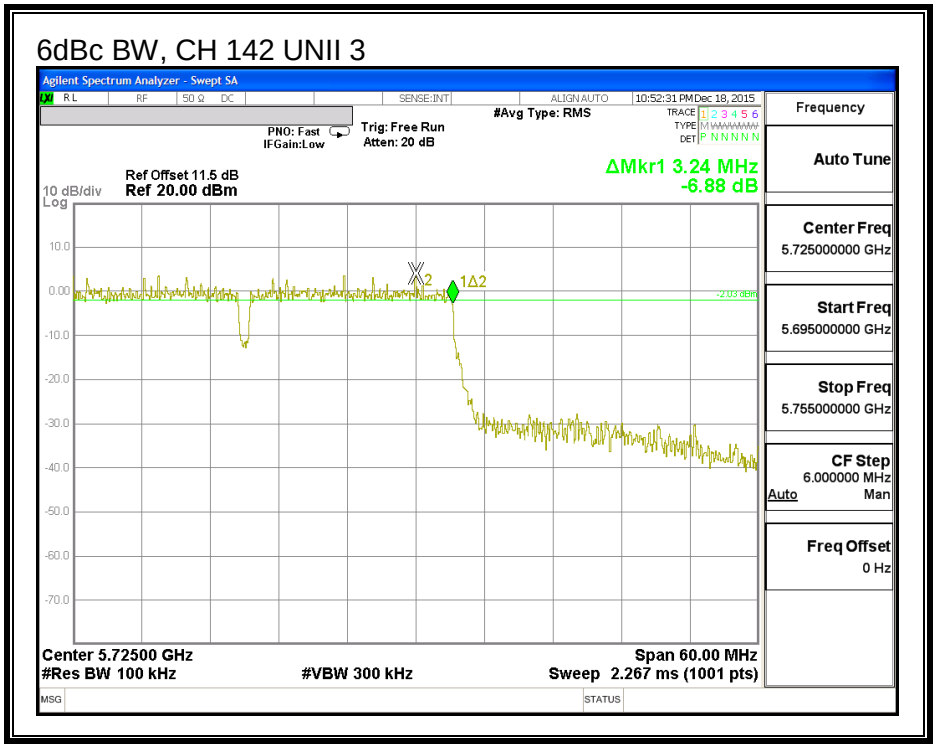
RESULTS

Channel	Frequency (MHz)	6 dB BW Antenna B (MHz)	6 dB BW Antenna A (MHz)
142	5710	3.30	3.24

ANTENNA - B



ANTENNA - A



8.57. 802.11n HT40 2Tx SDM MODE IN THE 5.6 GHz BAND

Note: Covered by 802.11n HT40 2Tx STBC MODE IN THE 5.6 GHz BAND

8.58. 802.11n HT40 2Tx SDM STRADDLE CHANNEL 142 RESULTS

Noted: Covered by 802.11n HT40 2Tx STBC STRADDLE CHANNEL 142 RESULTS

8.59. 802.11ac VHT80 ANTENNA - B MODE IN THE 5.6 GHz BAND

8.59.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

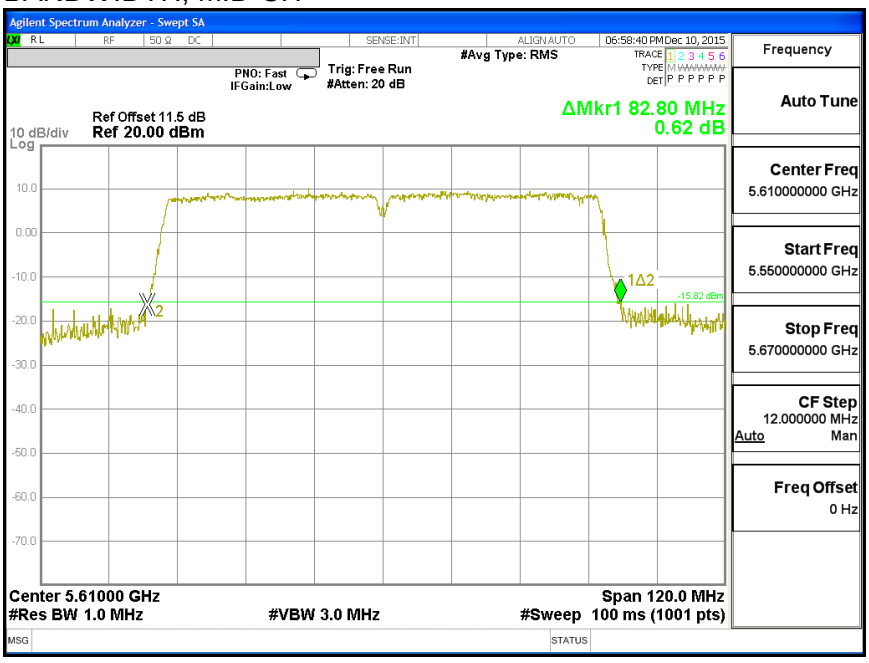
RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	81.96
Mid	5610	82.80
High	5690	82.32

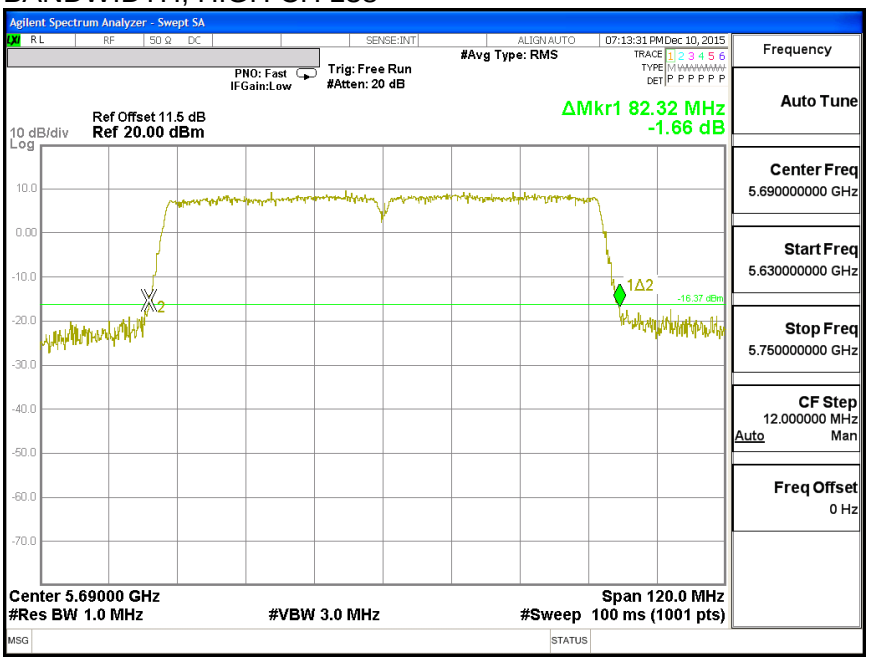
26 dB BANDWIDTH

BANDWIDTH, LOW CH

BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138



8.59.2. 99% BANDWIDTH

LIMITS

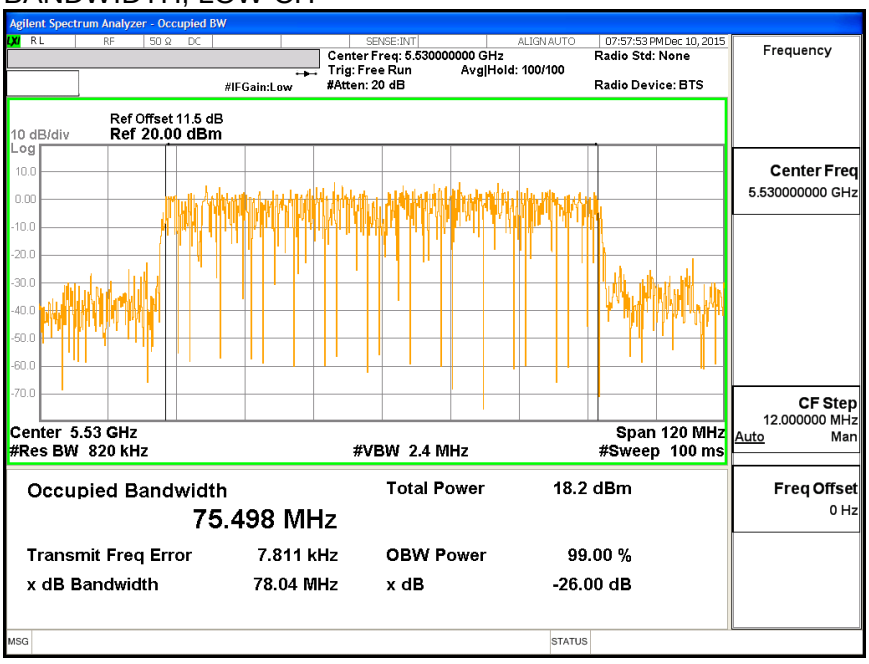
None; for reporting purposes only.

RESULTS

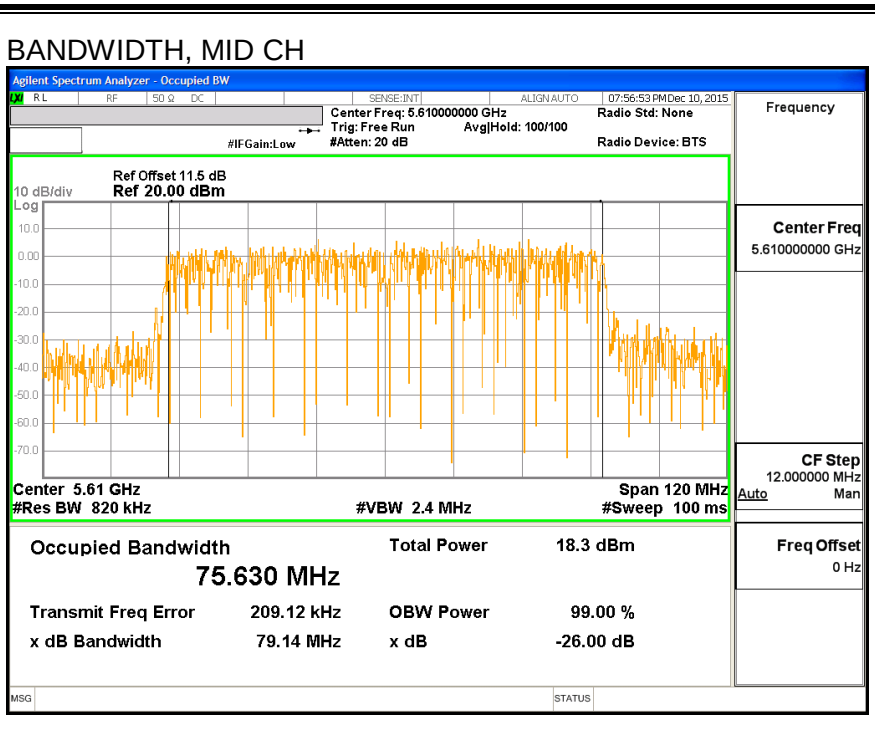
Frequency (MHz)	99% Bandwidth (MHz)
5530	75.498
5610	75.630
5690	76.117

99% BANDWIDTH

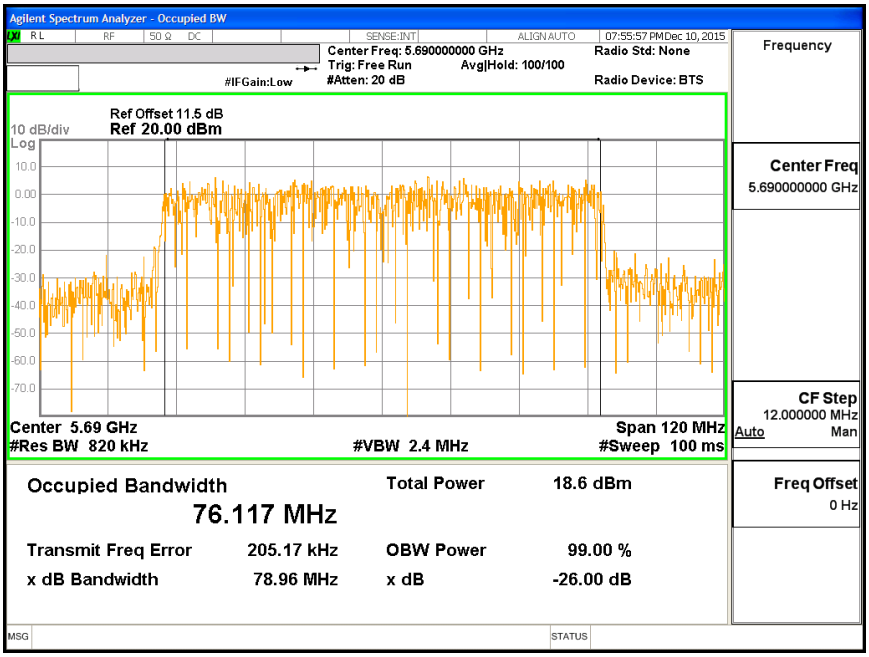
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH HIGH CH 138



8.59.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5530	14.49
Mid	5610	16.46
High	5690	16.48

8.59.4. 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

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

RESULTS

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	81.96	75.498	2.83	24.00	11.00
High	5610	82.80	75.630	2.83	24.00	11.00

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

Output Power Results

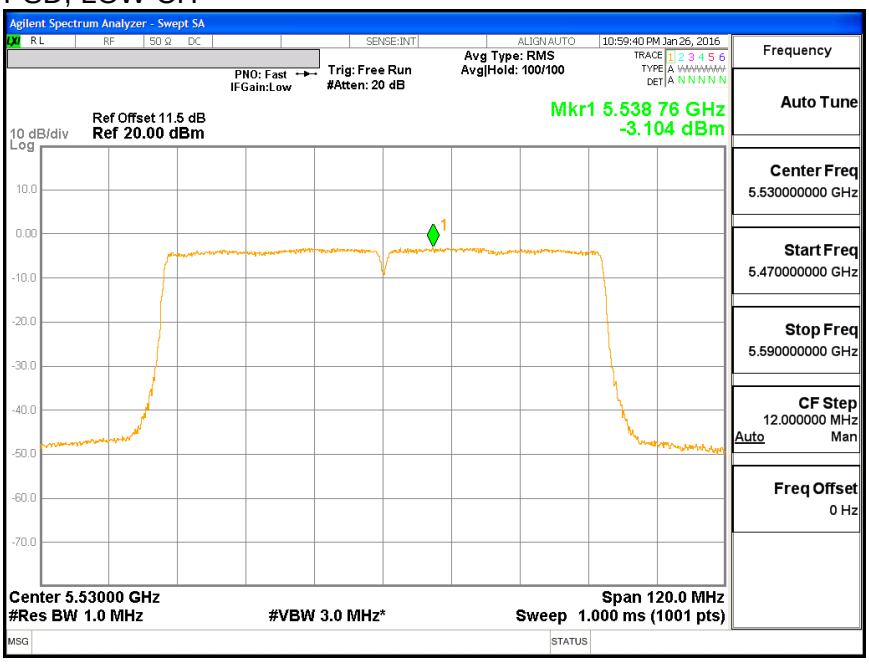
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	14.49	14.49	24.00	-9.51
High	5610	16.46	16.46	24.00	-7.54

PSD Results

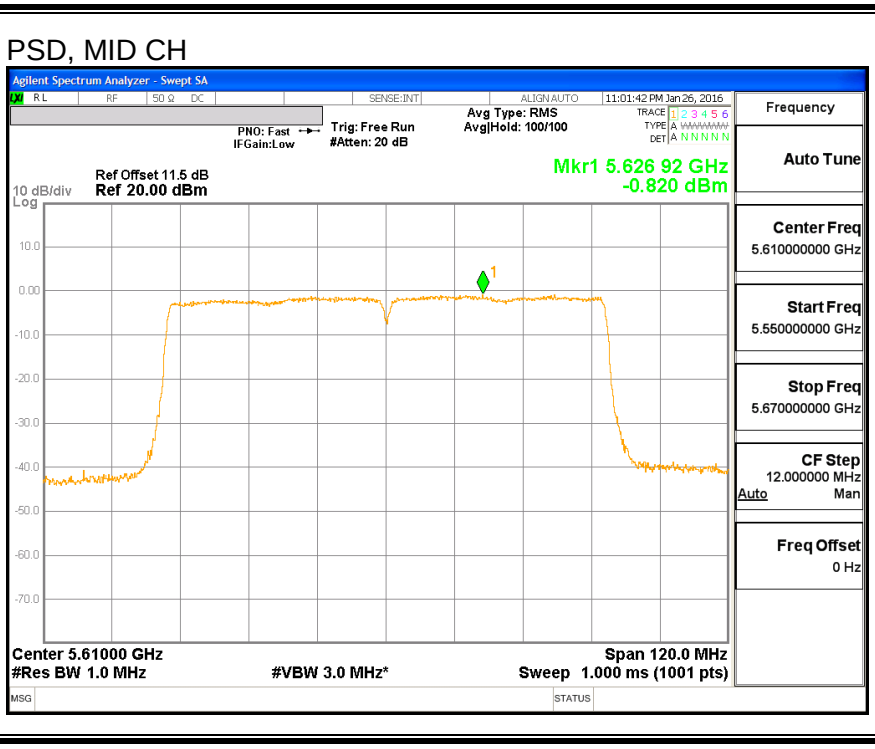
Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-3.104	-2.944	11.00	-13.94
High	5610	-0.820	-0.660	11.00	-11.66

PSD,

PSD, LOW CH



PSD, MID CH



8.59.5. 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	76.16	2.83	2.83	24.00	11.00

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

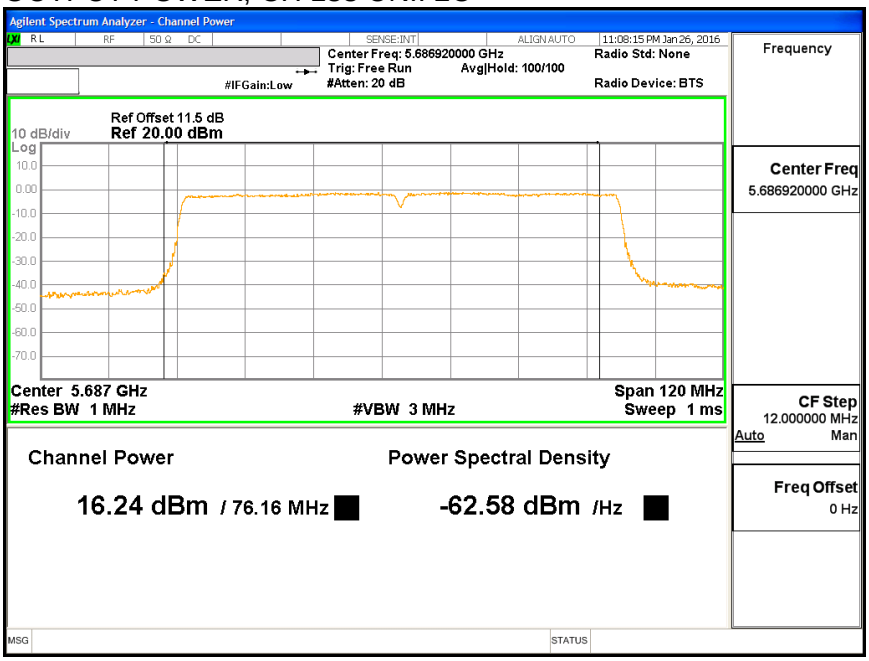
Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	16.24	16.40	24.00	-7.60

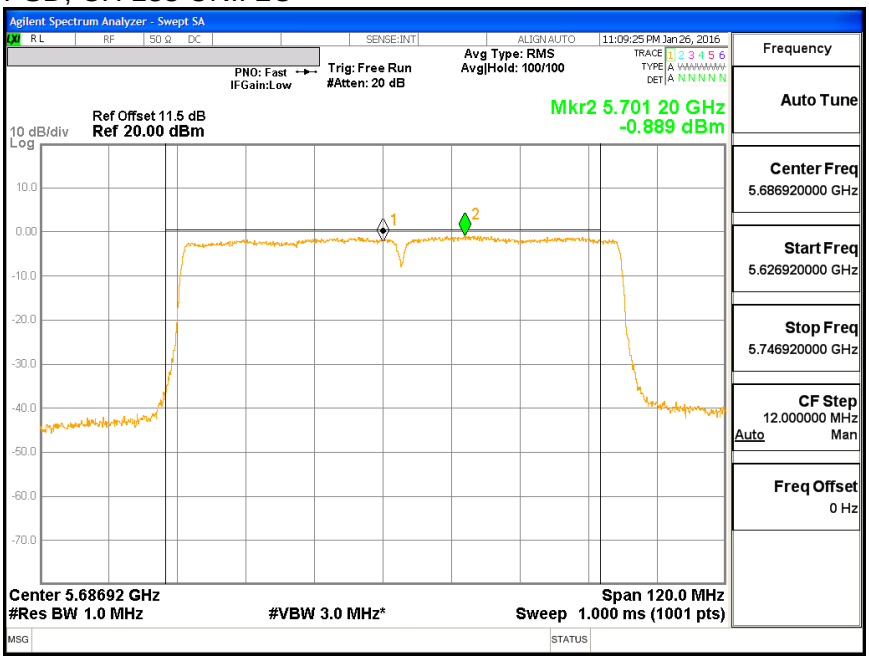
PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-0.889	-0.729	11.00	-11.73

OUTPUT POWER, CH 138 UNII 2C



PSD, CH 138 UNII 2C



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	6.16	2.83	30.00	30.00

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

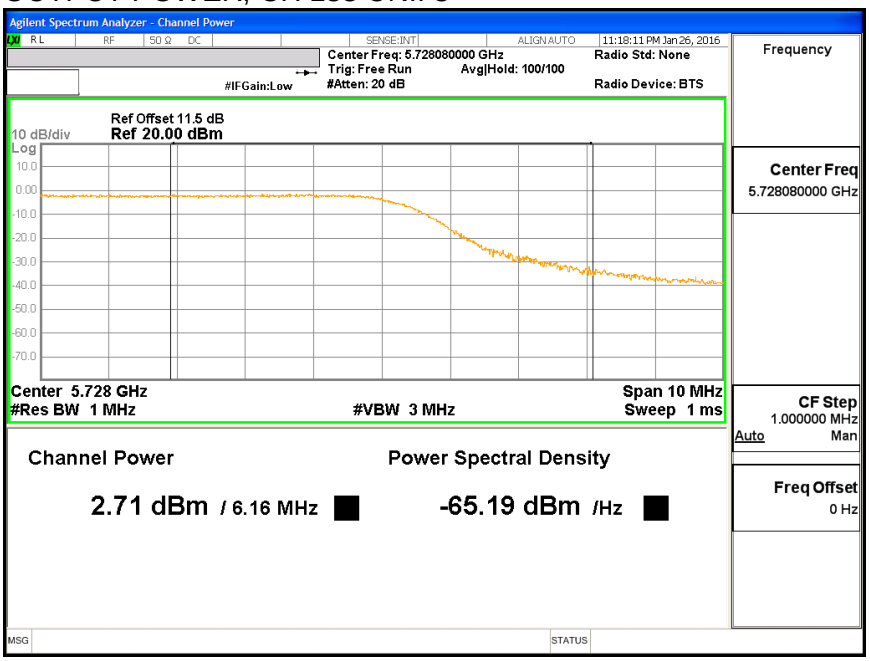
Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	2.71	2.87	30.00	-27.13

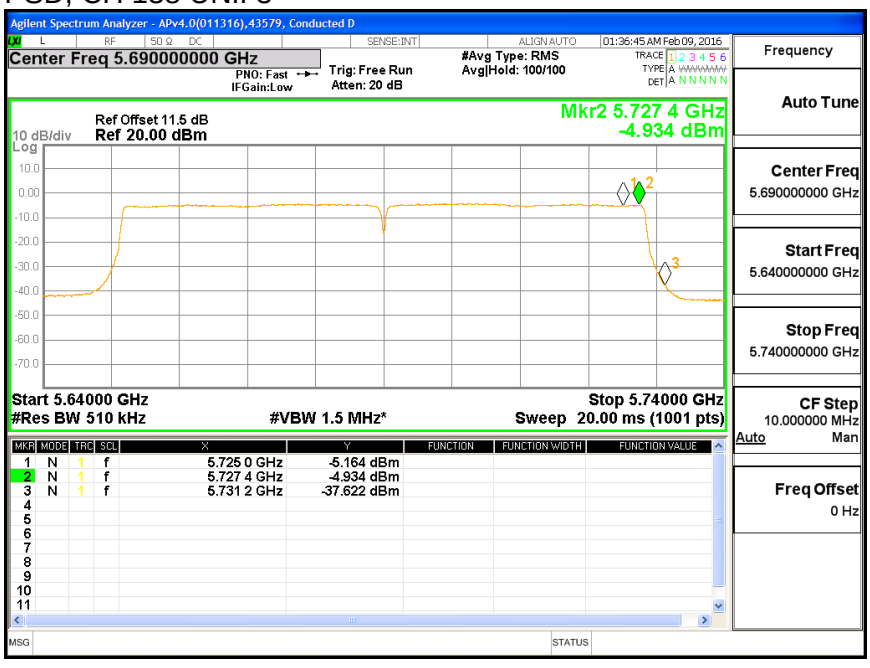
PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.93	-4.77	30.00	-34.77

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.59.6. 6 dB BANDWIDTH

LIMITS

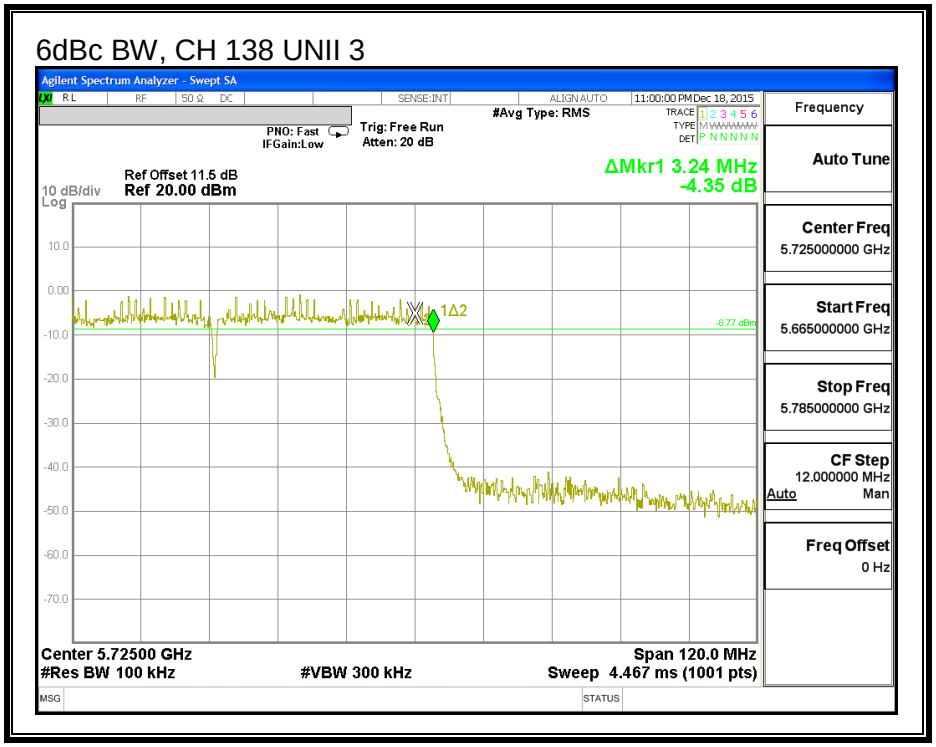
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	3.24

6 dB BANDWIDTH



8.60. 802.11ac VHT80 ANTENNA - A MODE IN THE 5.6 GHz BAND

8.60.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

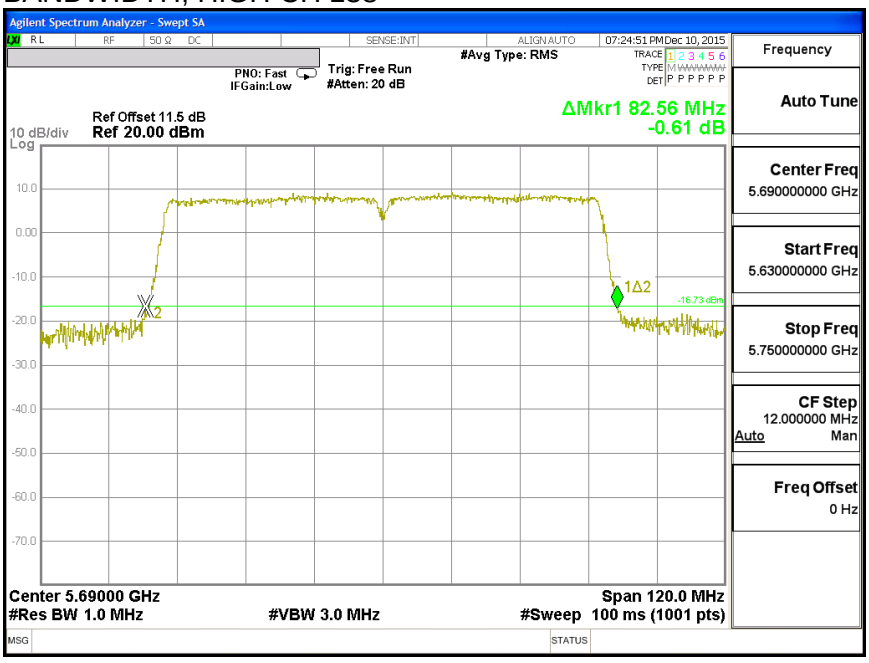
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5530	82.20
Mid	5610	82.20
High	5690	82.56

26 dB BANDWIDTH

BANDWIDTH, LOW CH

BANDWIDTH, MID CH

BANDWIDTH, HIGH CH 138



8.60.2. 99% BANDWIDTH

LIMITS

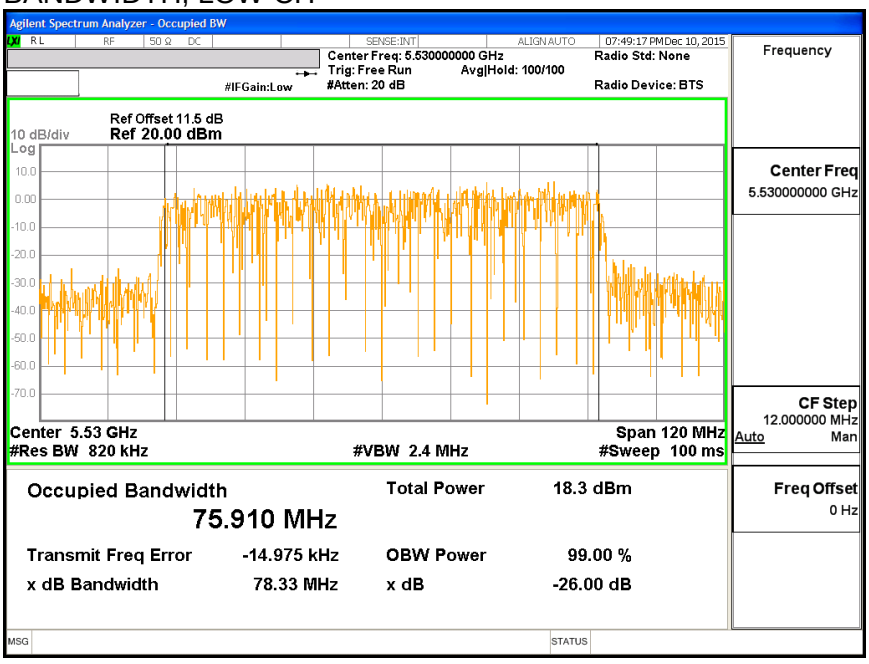
None; for reporting purposes only.

RESULTS

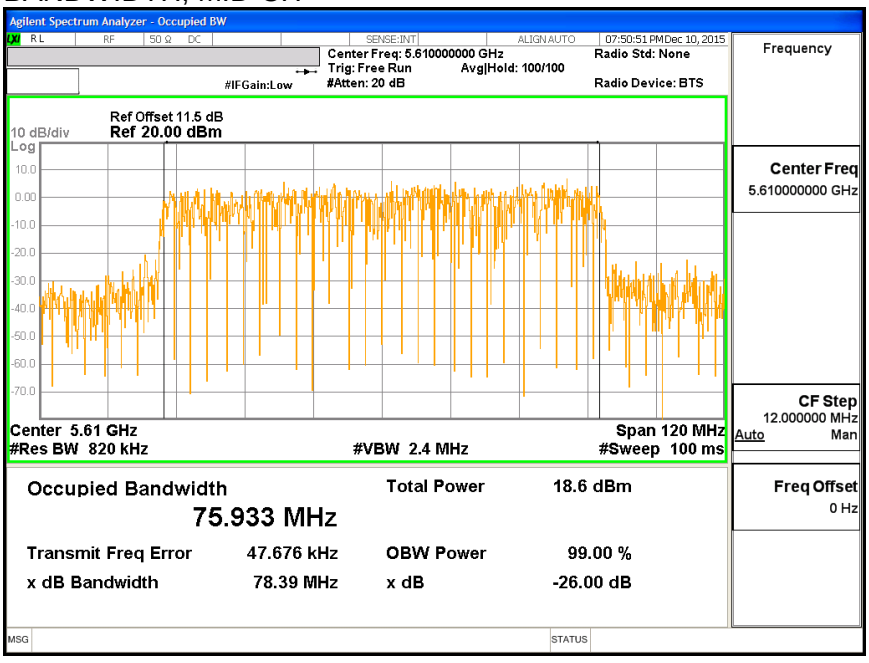
Frequency (MHz)	99% Bandwidth (MHz)
5530	75.910
5610	75.933
5690	76.221

99% BANDWIDTH

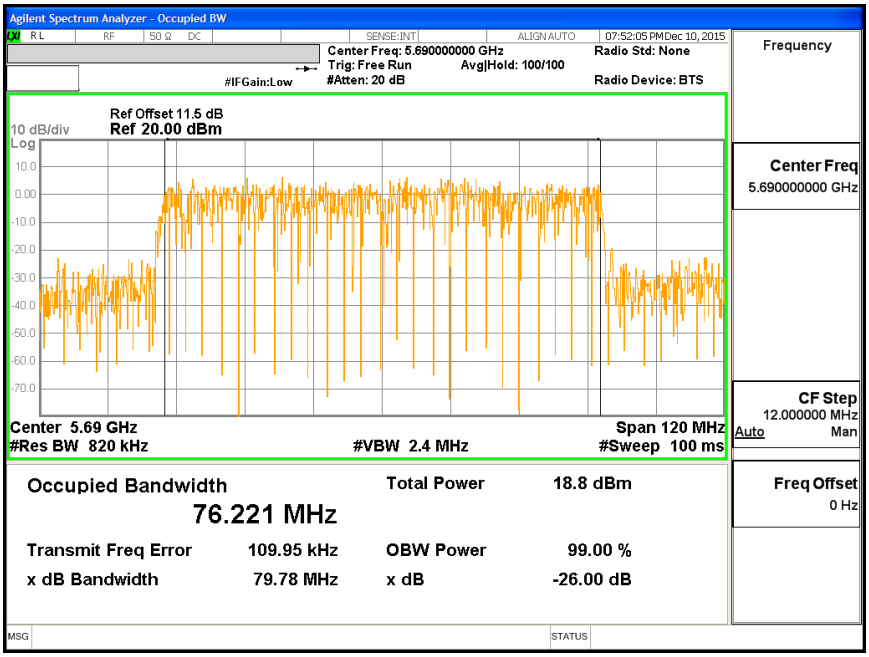
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH HIGH CH 138



8.60.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5530	14.47
Mid	5610	15.88
High	5690	15.91

8.60.4. 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

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

RESULTS

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	82.20	75.910	4.03	24.00	11.00
High	5610	82.20	75.933	4.03	24.00	11.00

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

Output Power Results

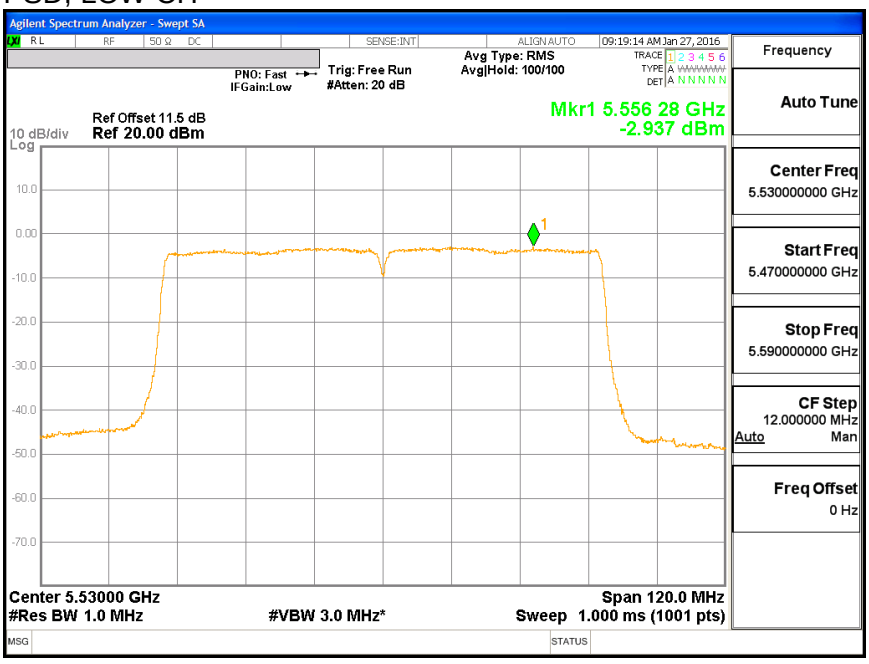
Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	14.47	14.47	24.00	-9.53
High	5610	15.88	15.88	24.00	-8.12

PSD Results

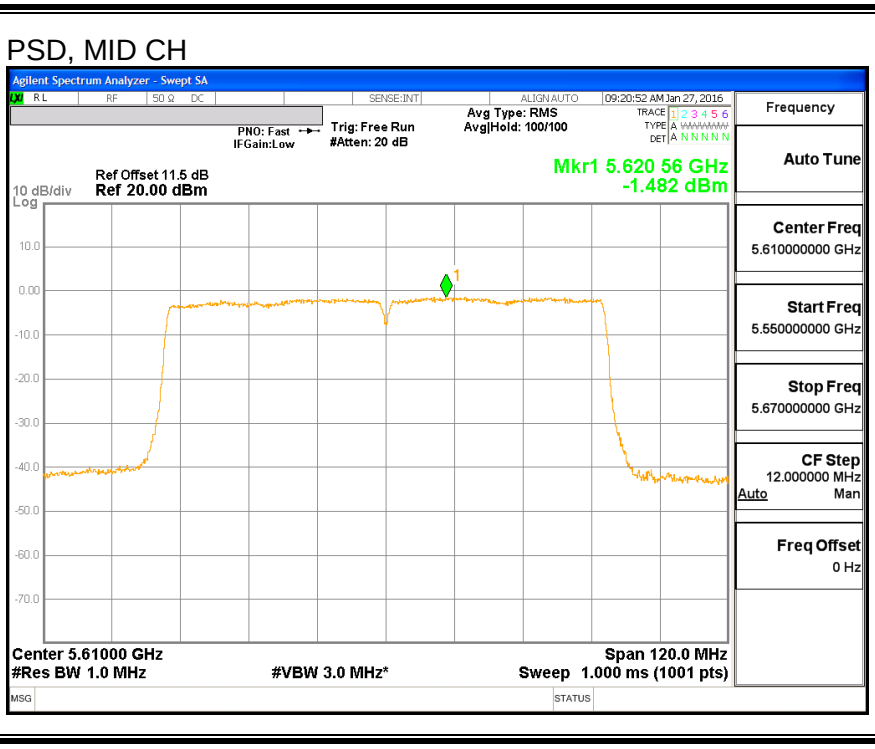
Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-2.937	-2.777	11.00	-13.78
High	5610	-1.482	-1.322	11.00	-12.32

PSD

PSD, LOW CH



PSD, MID CH



8.60.5. 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	76.28	4.03	4.03	24.00	11.00

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

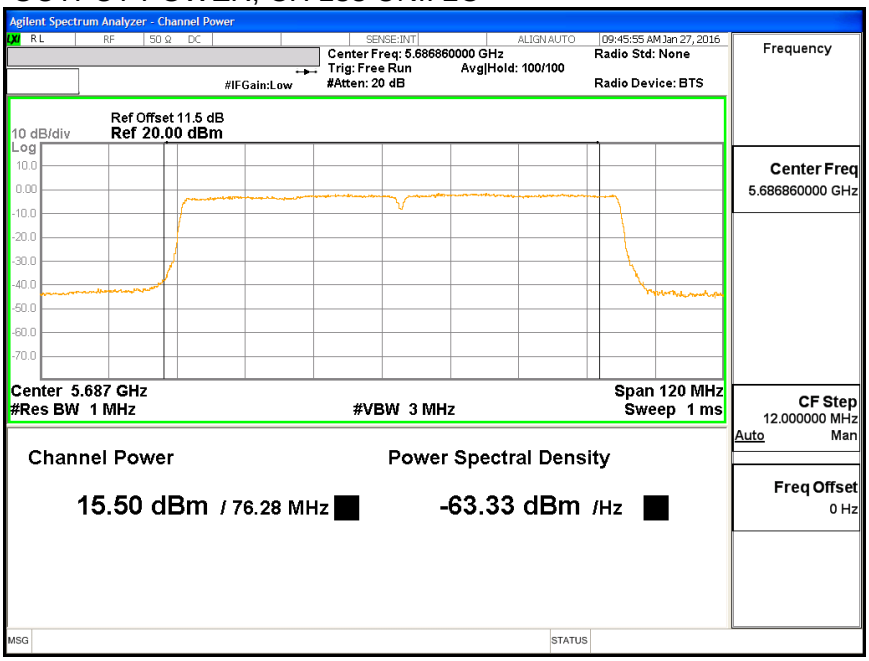
Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	15.50	15.66	24.00	-8.34

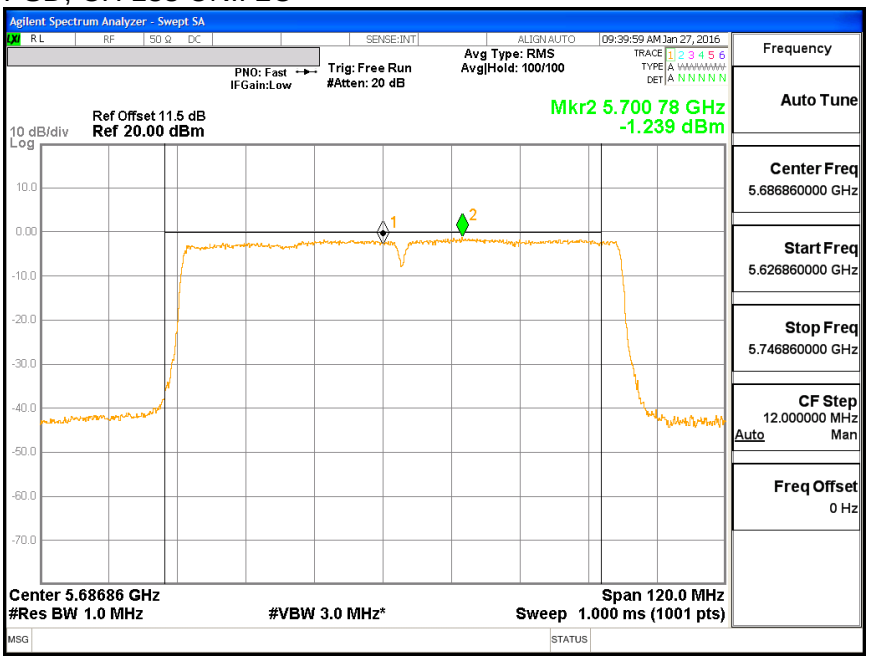
PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-1.239	-1.079	11.00	-12.08

OUTPUT POWER, CH 138 UNII 2C



PSD, CH 138 UNII 2C



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	6.28	1.03	30.00	30.00

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

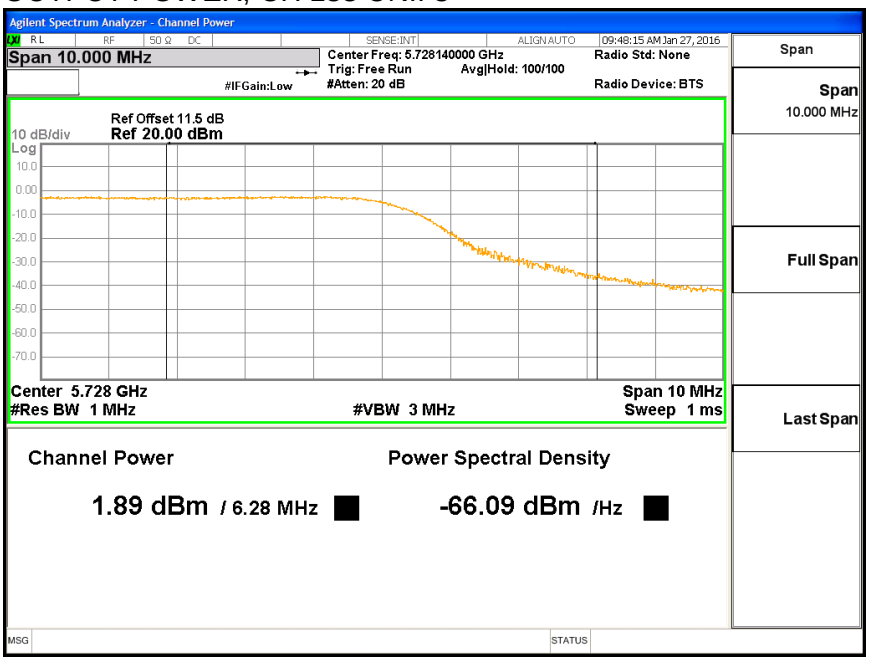
Output Power Results

Channel	Frequency (MHz)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	1.89	2.05	30.00	-27.95

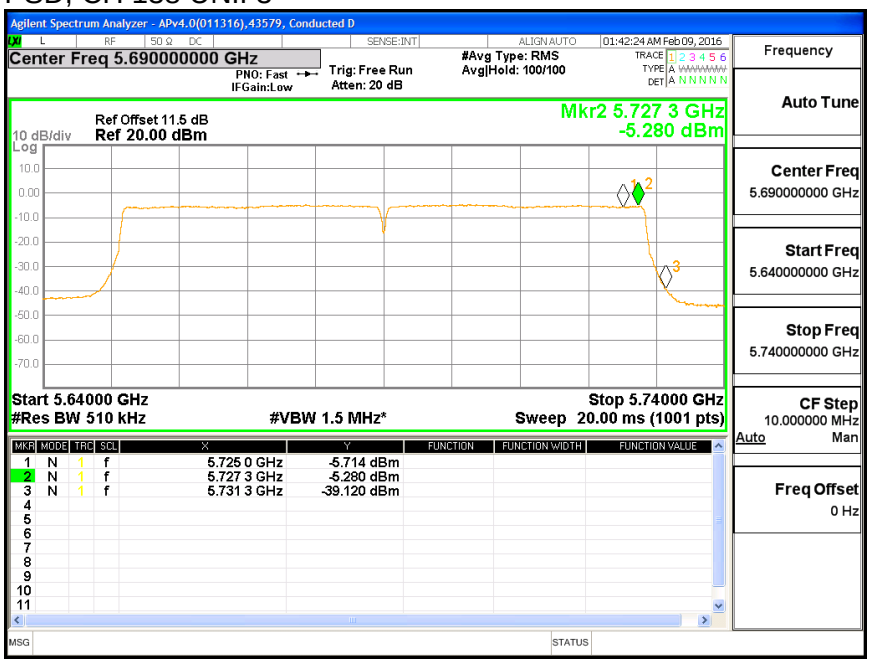
PSD Results

Channel	Frequency (MHz)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-5.28	-5.12	30.00	-35.12

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.60.6. 6 dB BANDWIDTH

LIMITS

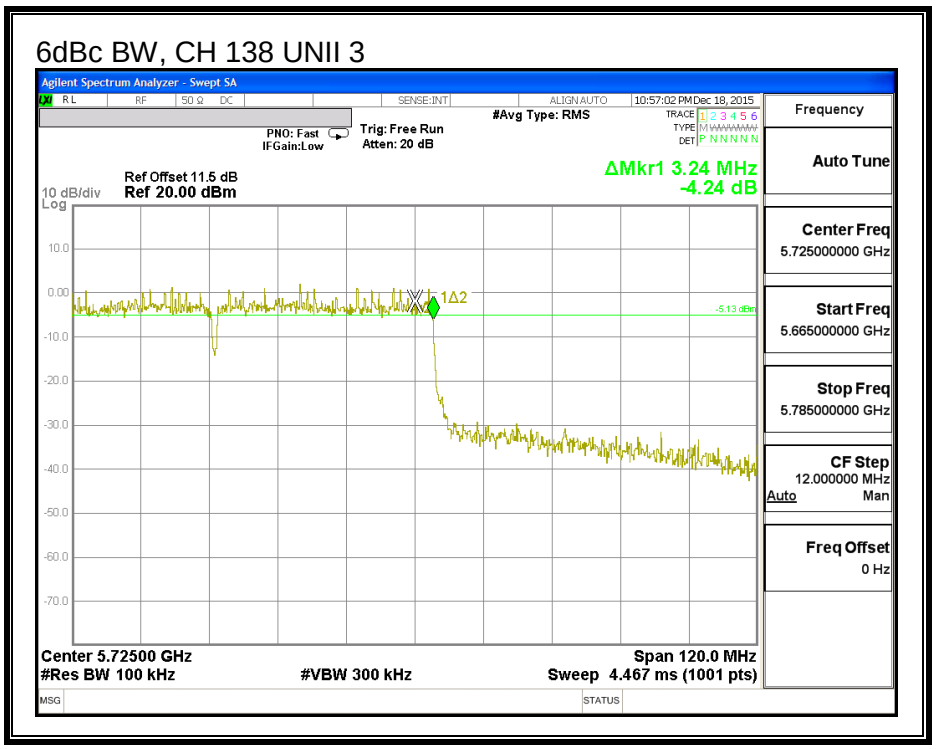
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	3.24

6 dB BANDWIDTH



8.61. 802.11ac VHT80 2Tx CDD MODE IN THE 5.6 GHz BAND

8.61.1.1. 26 dB BANDWIDTH

LIMITS

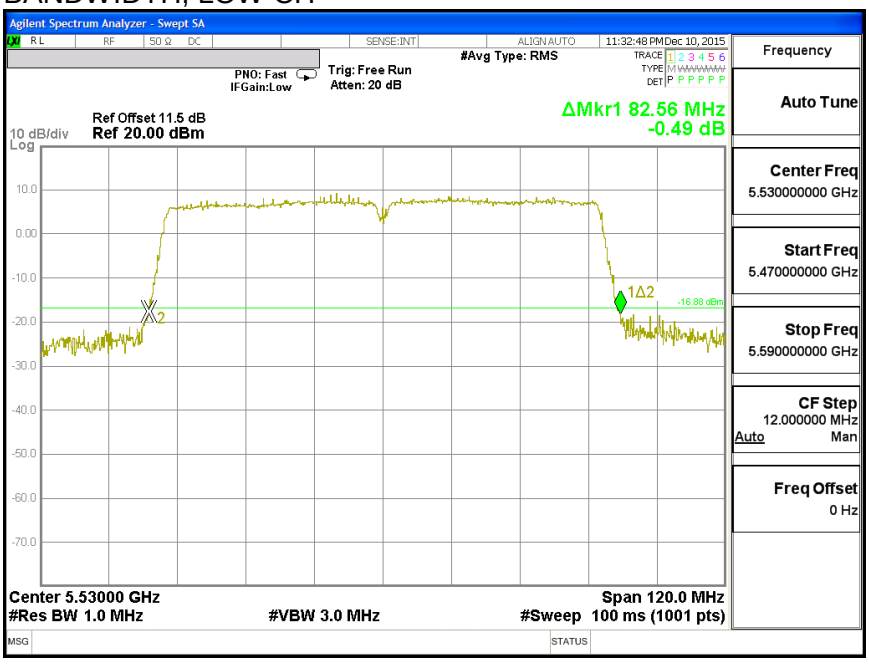
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Antenna B (MHz)	26 dB BW Antenna A (MHz)
Low	5530	82.56	82.32
Mid	5610	82.08	82.20
High	5690	83.16	82.20

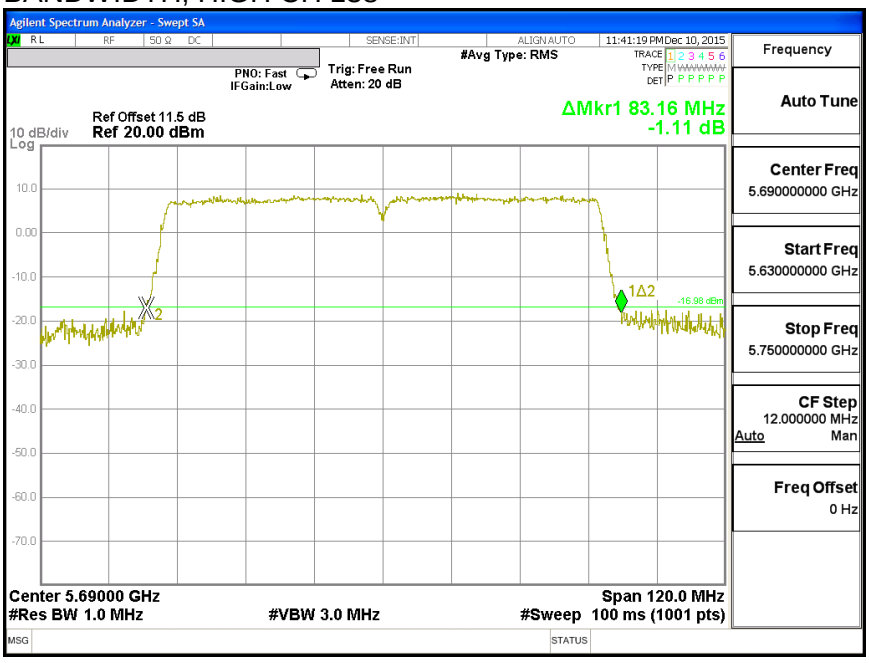
26 dB BANDWIDTH, ANTENNA - B

BANDWIDTH, LOW CH



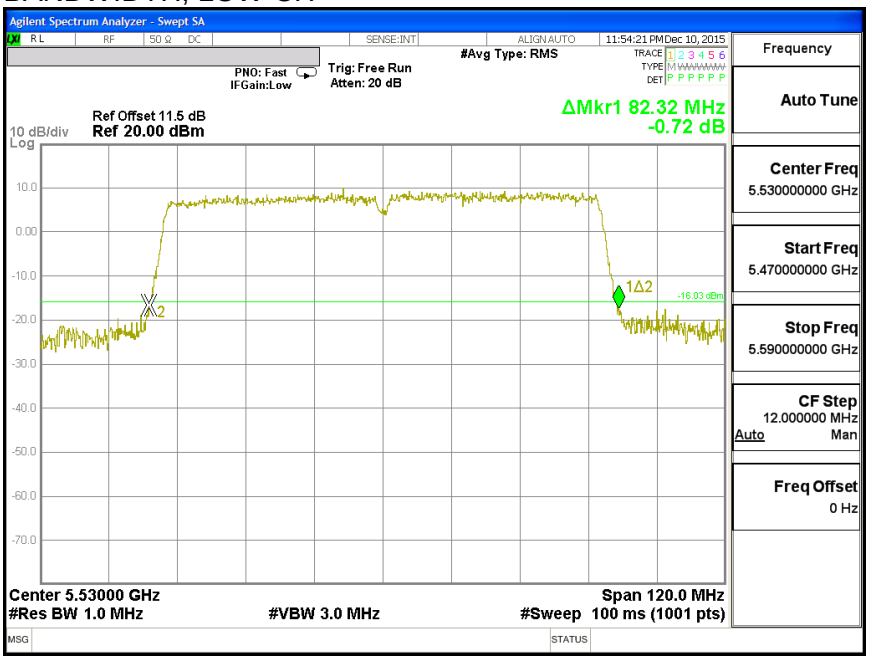
BANDWIDTH, MID CH

BANDWIDTH, HIGH CH 138



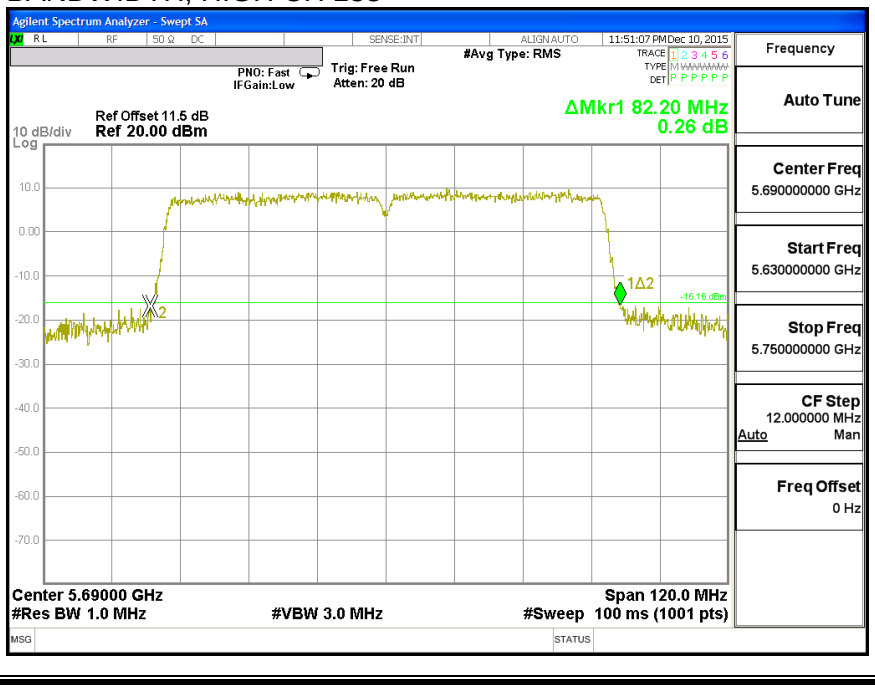
26 dB BANDWIDTH, ANTENNA - A

BANDWIDTH, LOW CH



BANDWIDTH, MID CH

BANDWIDTH, HIGH CH 138



8.61.2. 99% BANDWIDTH

LIMITS

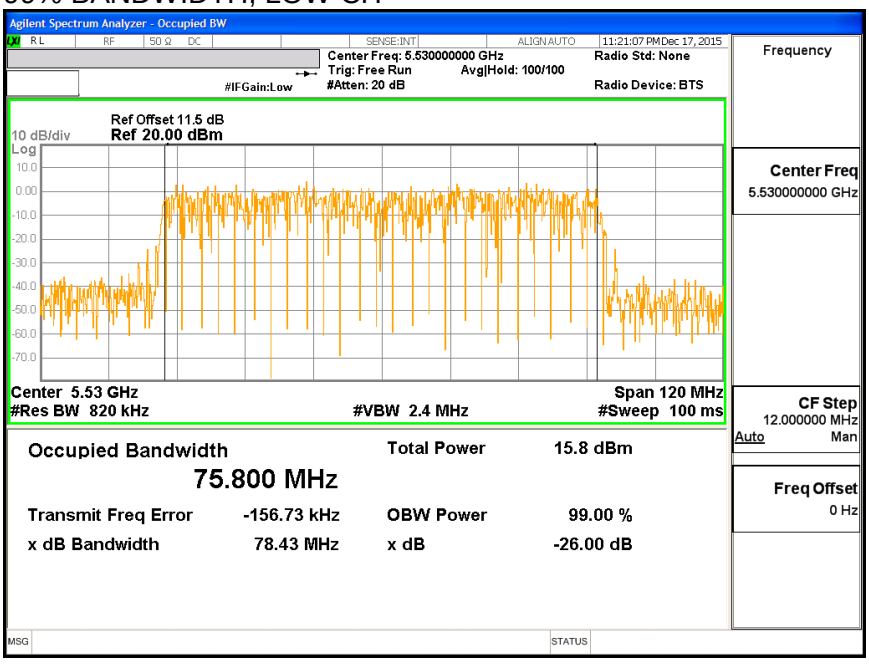
None; for reporting purposes only.

RESULTS

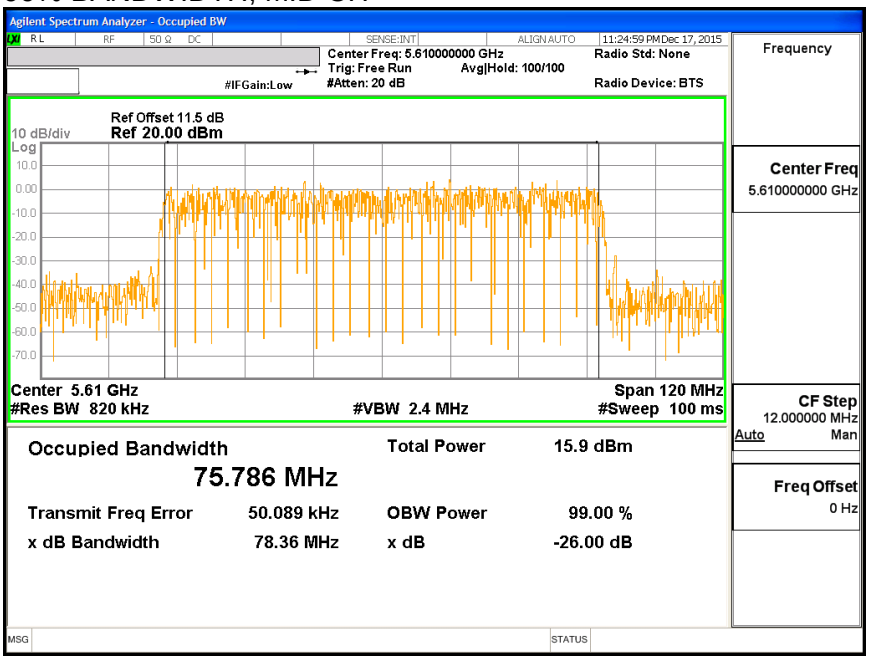
Channel	Frequency (MHz)	99% BW Antenna B (MHz)	99% BW Antenna A (MHz)
Low	5530	75.800	75.623
Mid	5610	75.786	75.571
High	5690	75.526	75.702

99% BANDWIDTH, ANTENNA - B

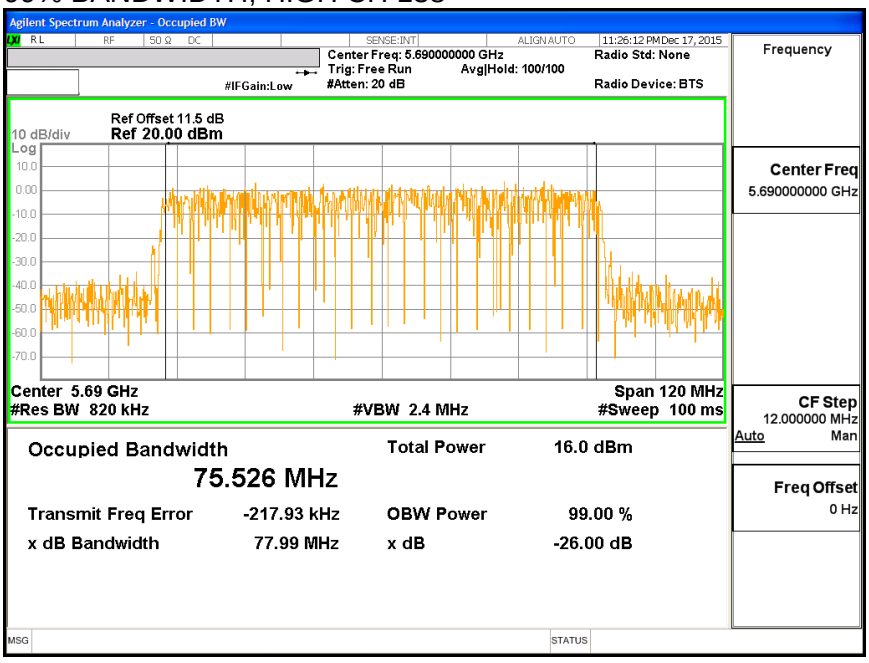
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

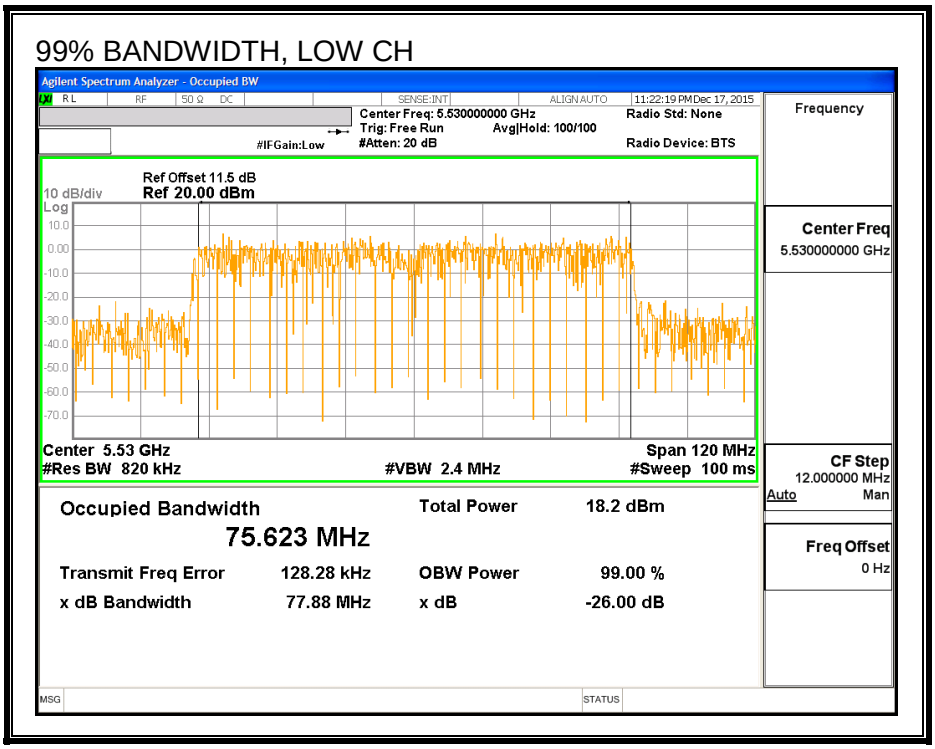


99% BANDWIDTH, HIGH CH 138

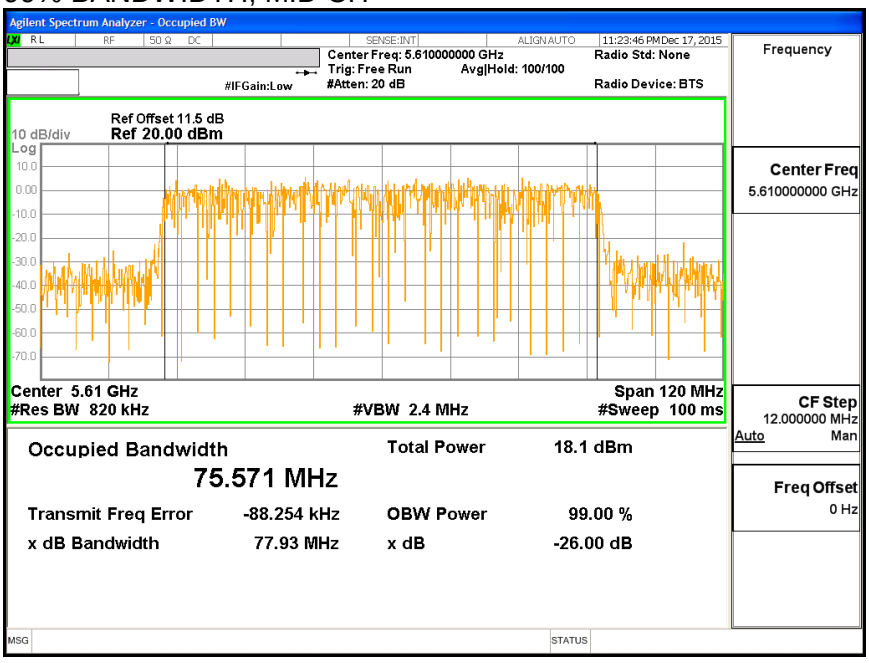


99% BANDWIDTH, ANTENNA A

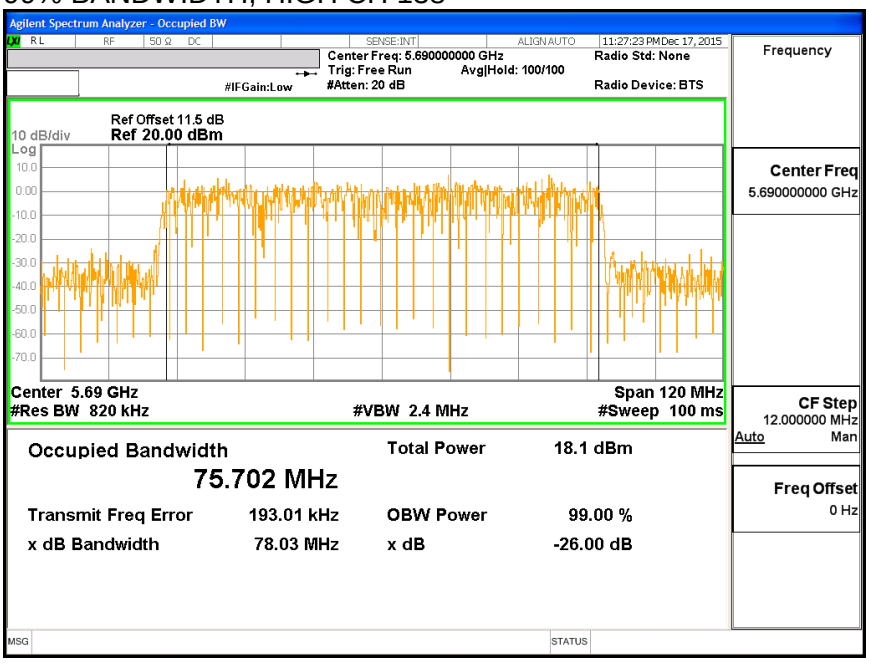
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.61.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	Antenna B Power (dBm)	Antenna A Power (dBm)	Total Power (dBm)
Low	5530	13.42	13.39	16.42
Mid	5610	16.37	15.90	19.15
High	5690	16.40	15.95	19.19

8.61.4. 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:

Antenna B Gain (dBi)	Antenna A Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.83	4.03	3.47

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

Antenna B Gain (dBi)	Antenna A Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.83	4.03	6.46

RESULTS

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	82.32	75.623	3.47	6.46	24.00	10.54
High	5610	82.08	75.571	3.47	6.46	24.00	10.54

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

Output Power Results

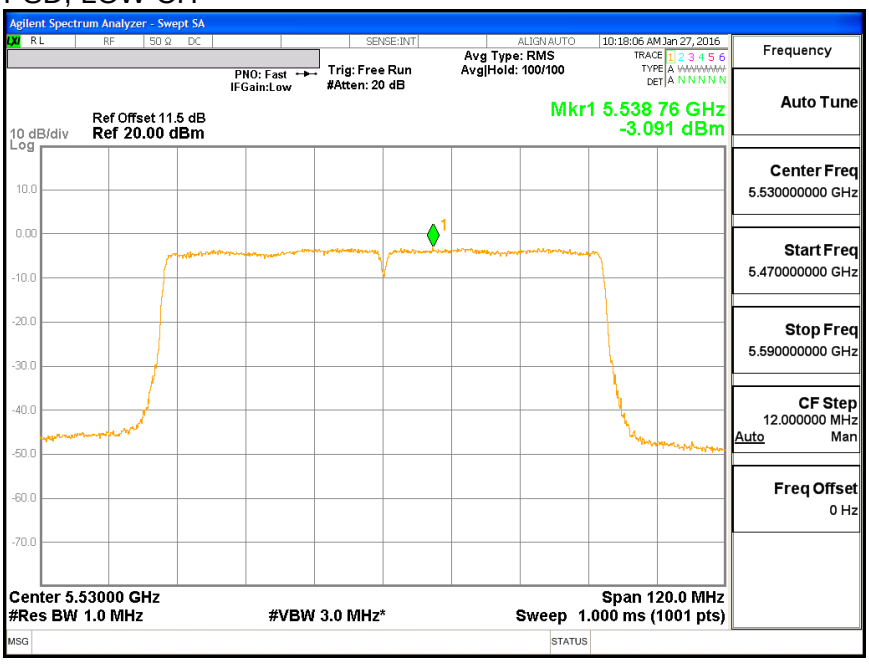
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	13.42	13.39	16.42	24.00	-7.58
High	5610	16.37	15.90	19.15	24.00	-4.85

PSD Results

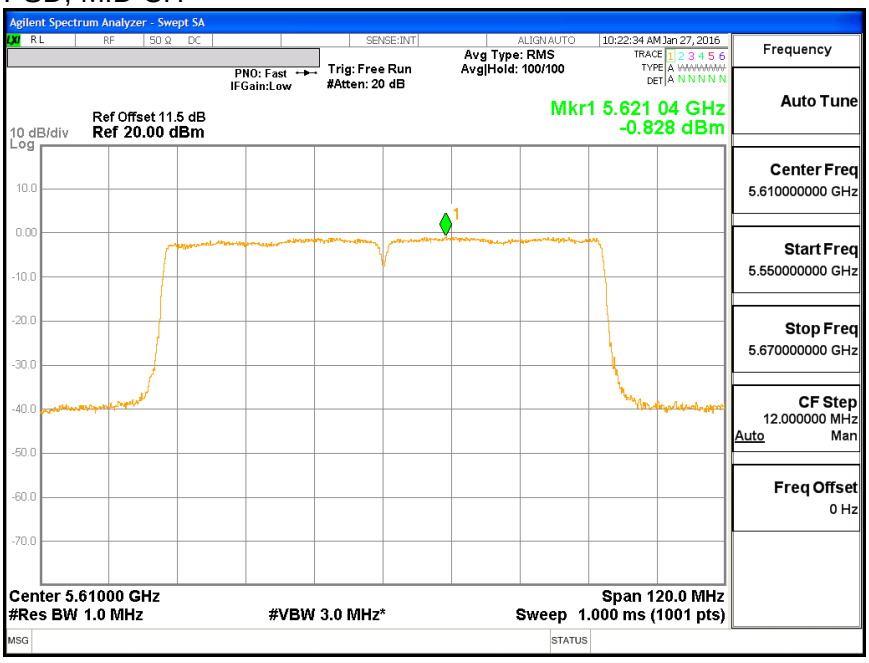
Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-3.091	-3.184	0.073	10.54	-10.47
High	5610	-0.828	-1.384	2.113	10.54	-8.43

OUTPUT POWER AND PSD, ANTENNA - B

PSD, LOW CH

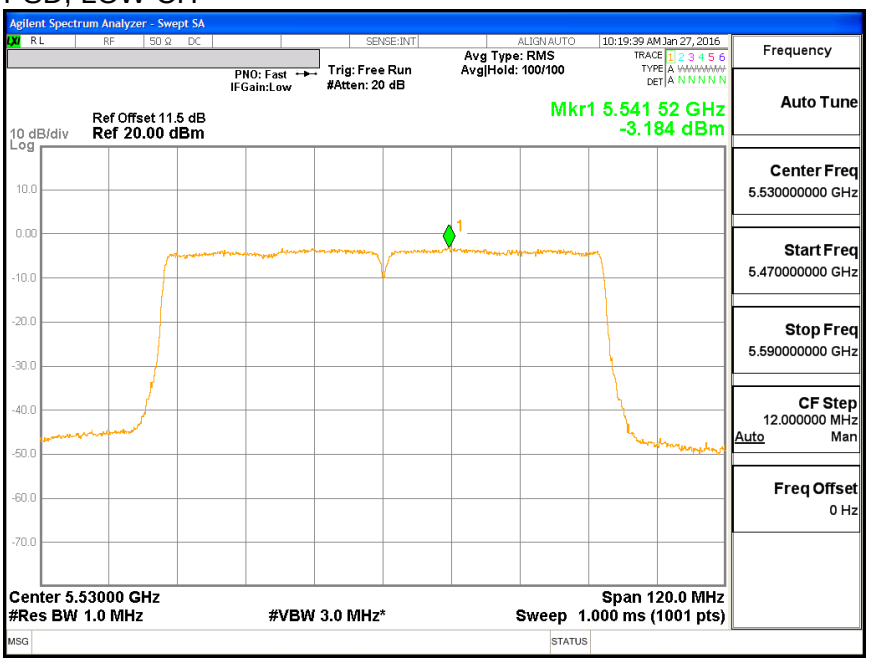


PSD, MID CH

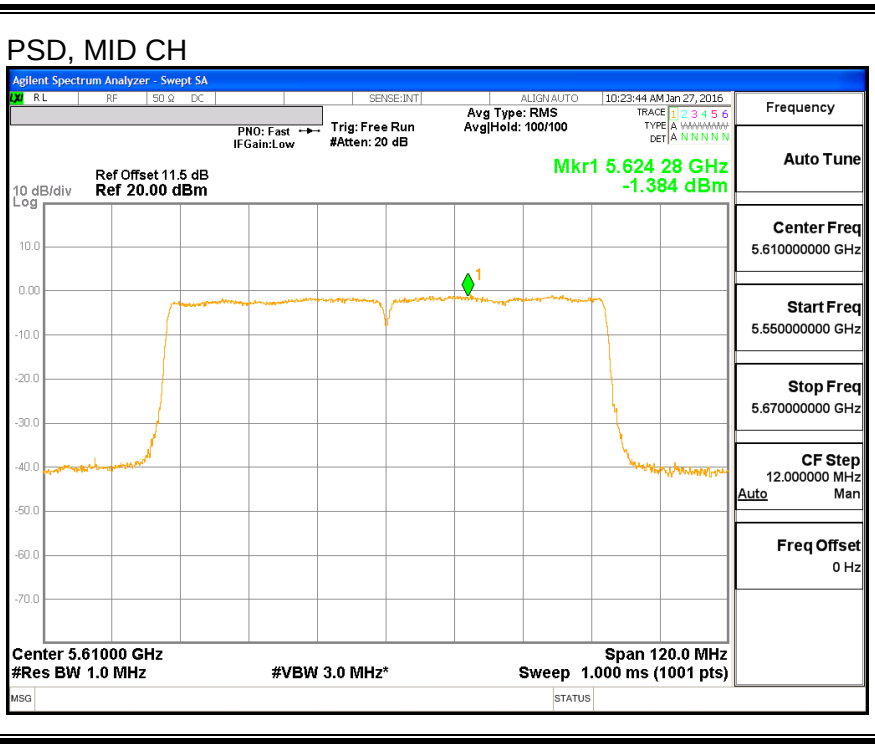


OUTPUT POWER AND PSD, ANTENNA - A

PSD, LOW CH



PSD, MID CH



8.61.5. 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	76.10	3.47	6.46	24.00	10.54

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

Output Power Results

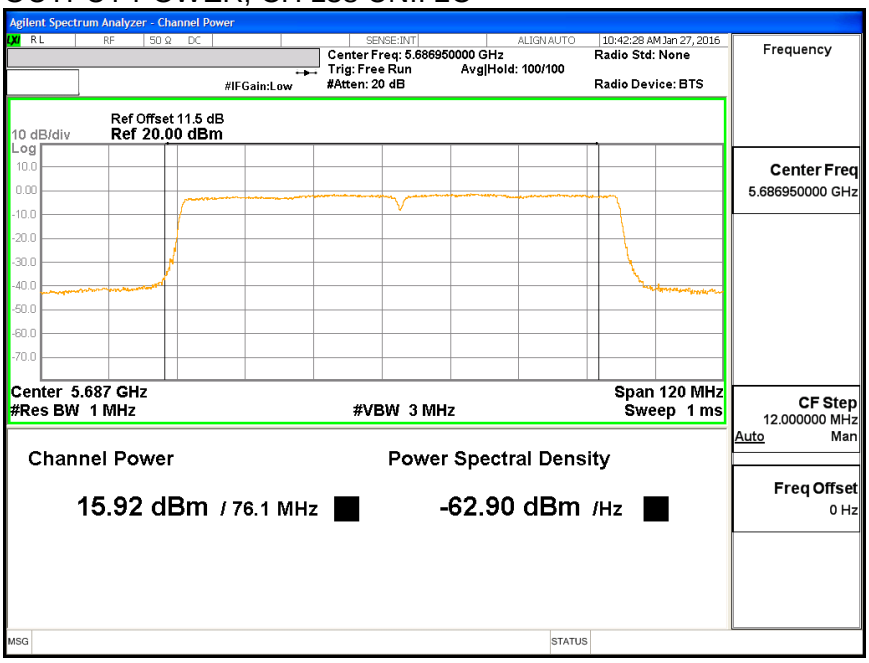
Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	15.92	15.65	19.00	24.00	-5.00

PSD Results

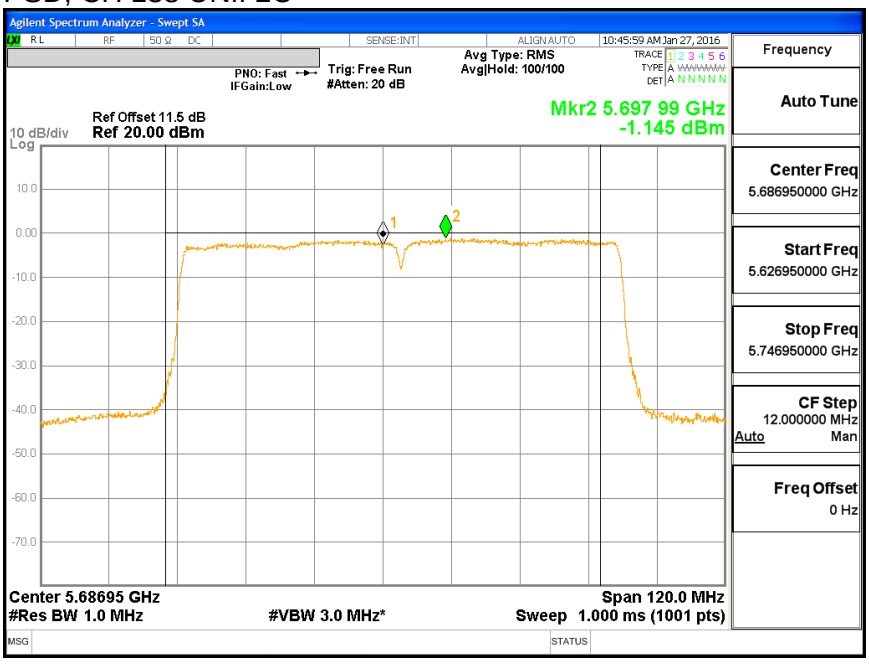
Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-1.145	-1.432	1.924	10.54	-8.62

ANTENNA - B

OUTPUT POWER, CH 138 UNII 2C

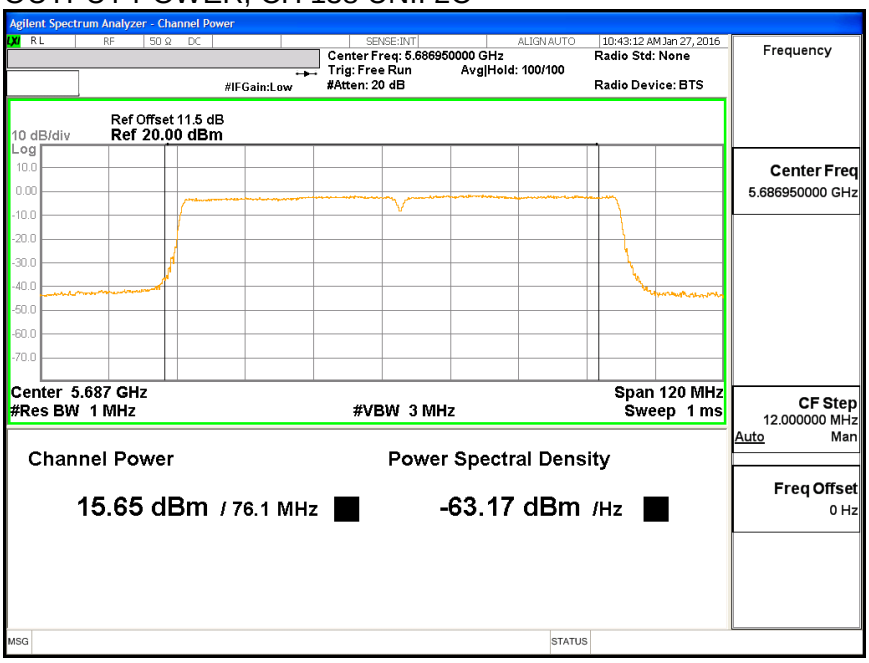


PSD, CH 138 UNII 2C

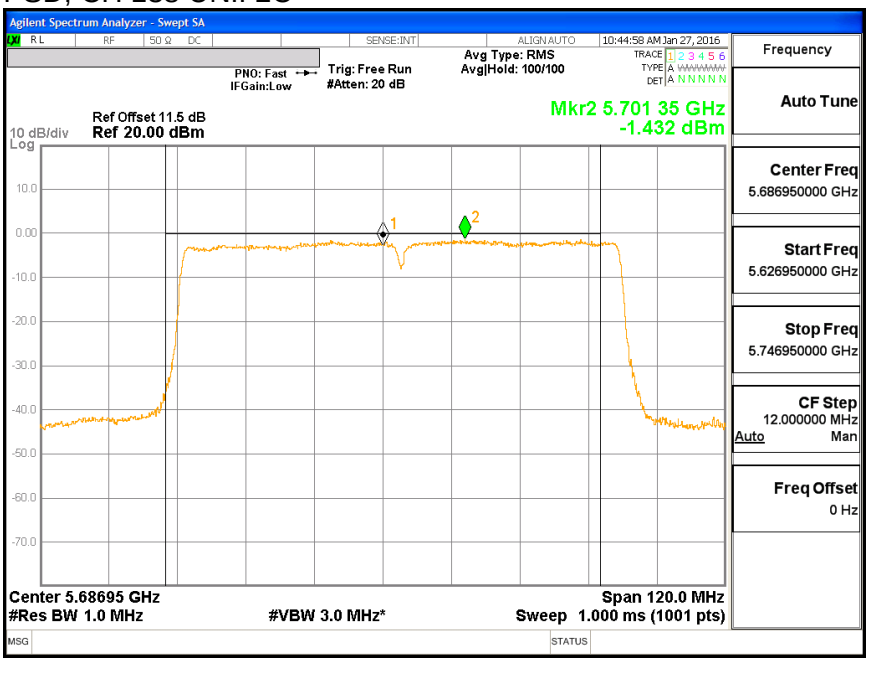


ANTENNA - A

OUTPUT POWER, CH 138 UNII 2C



PSD, CH 138 UNII 2C



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	6.10	3.47	6.46	30.00	29.54

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

Output Power Results

Channel	Frequency (MHz)	Antenna B Meas Power (dBm)	Antenna A Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	2.50	2.19	5.56	30.00	-24.44

PSD Results

Channel	Frequency (MHz)	Antenna B Meas PSD (dBm)	Antenna A Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.80	-5.35	-1.85	29.54	-31.39