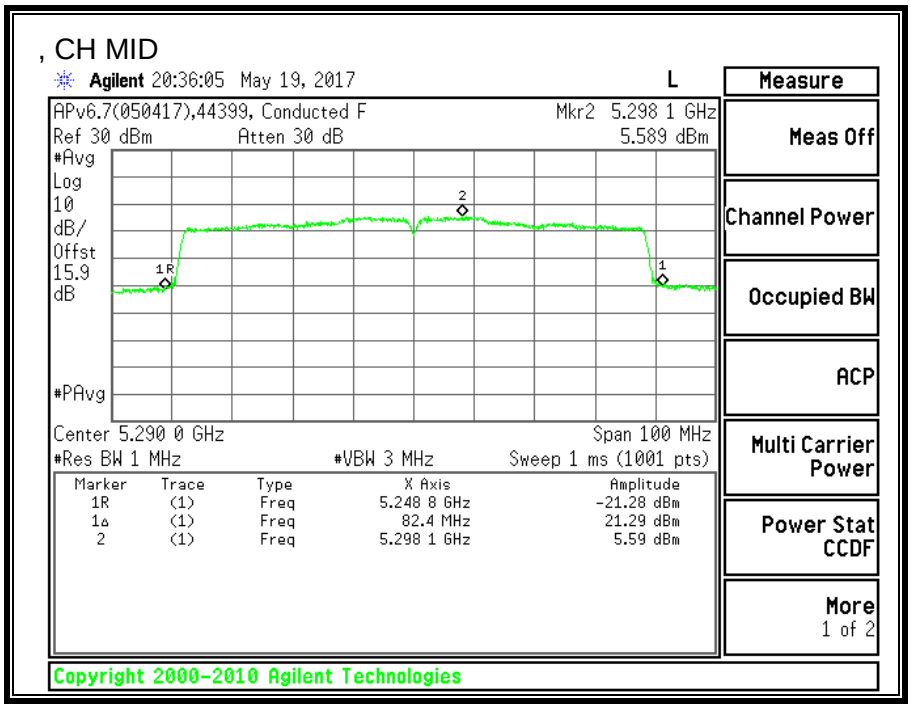


8.18. 11ac HT80 2TX CDD MIMO MODE IN THE 5.3GHz BAND

8.18.1. 26 dB BANDWIDTH

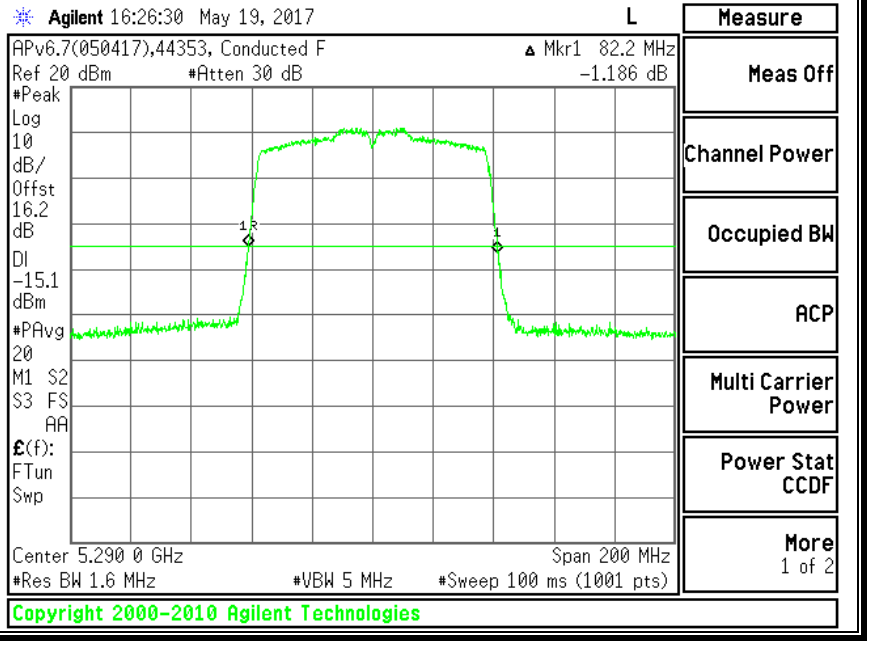
LIMITS

None; for reporting purposes only.

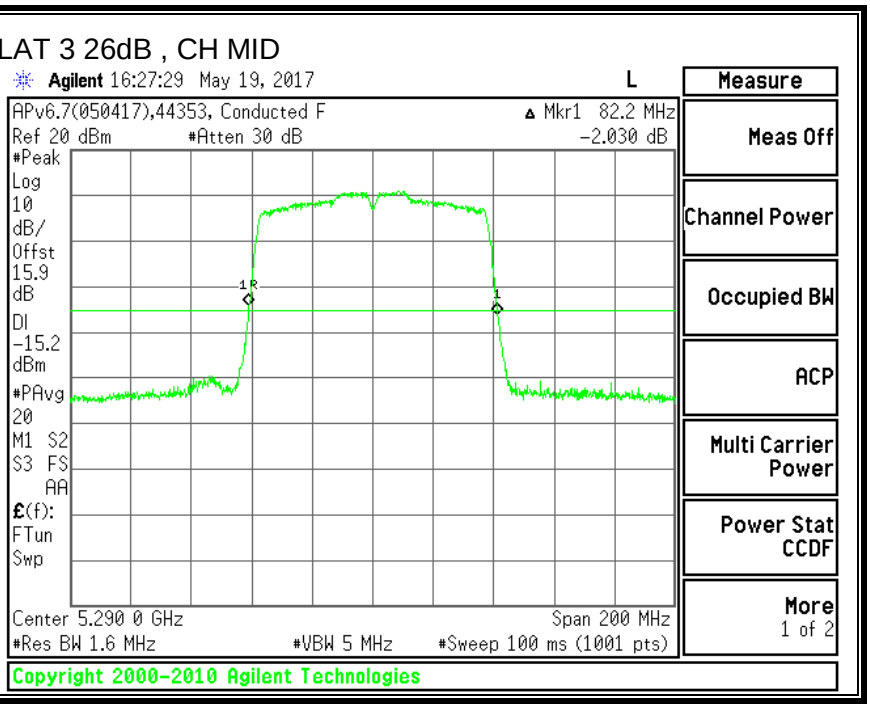
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Mid	5290	82.2	82.2

UAT 2 26dB , CH MID



LAT 3 26dB , CH MID



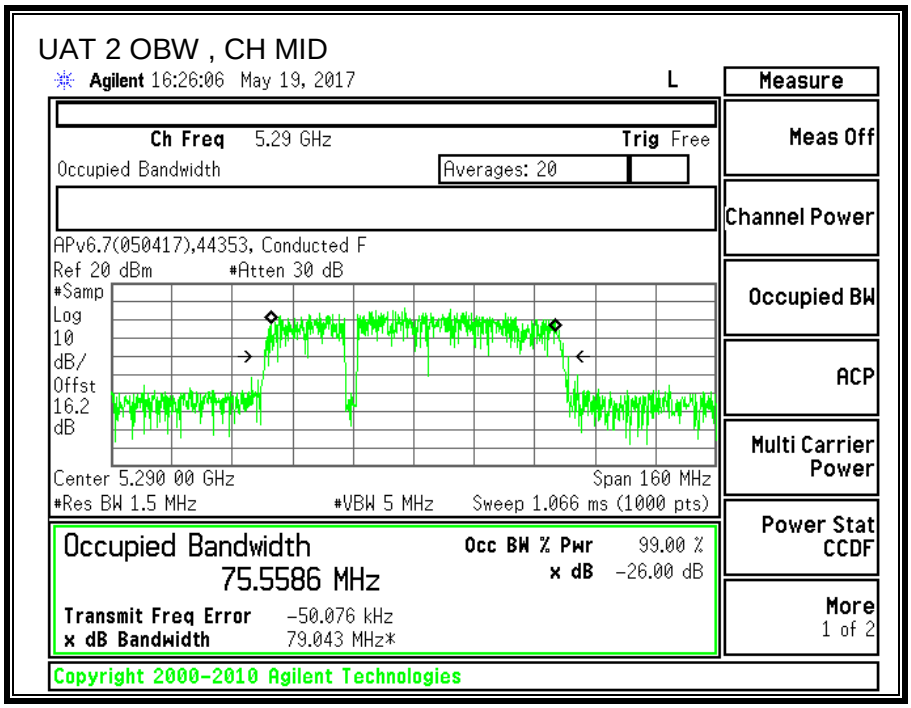
8.18.2. 99% BANDWIDTH

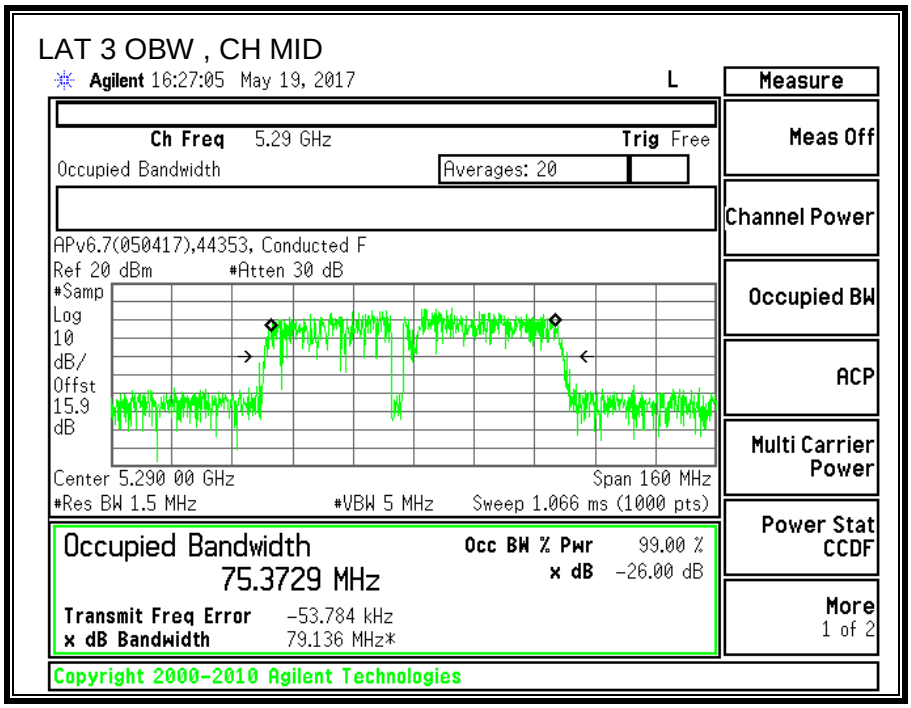
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Mid	5290	75.5586	75.3729





8.18.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Mid	5290	16.42	16.40	19.42

8.18.4. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.27	-6.98	-4.74

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-3.27	-6.98	-1.92

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/1MHz)
Mid	5290	82.20	75.37	-4.74	-1.92	24	11.0

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

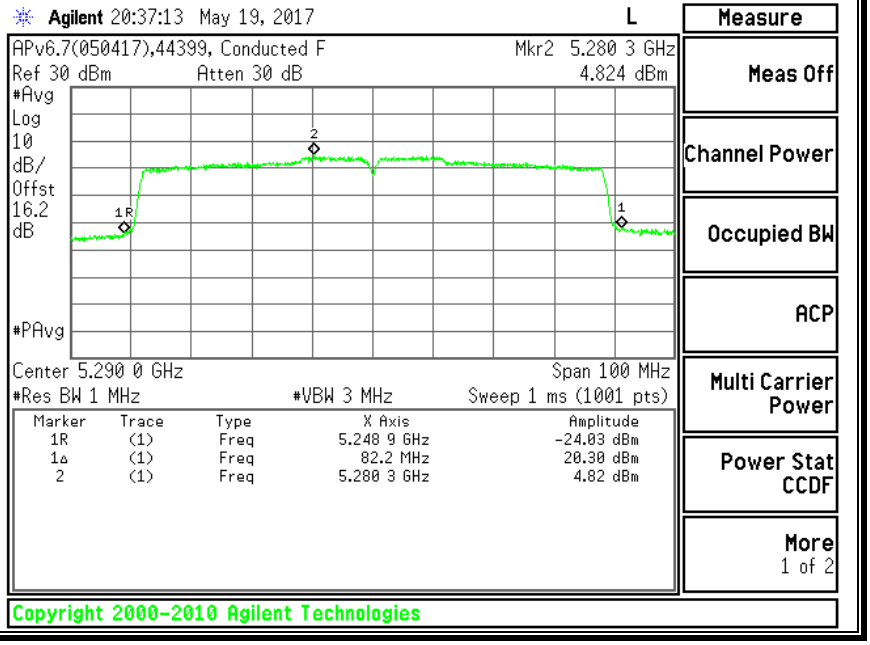
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	16.42	16.40	19.42	24.00	-4.58

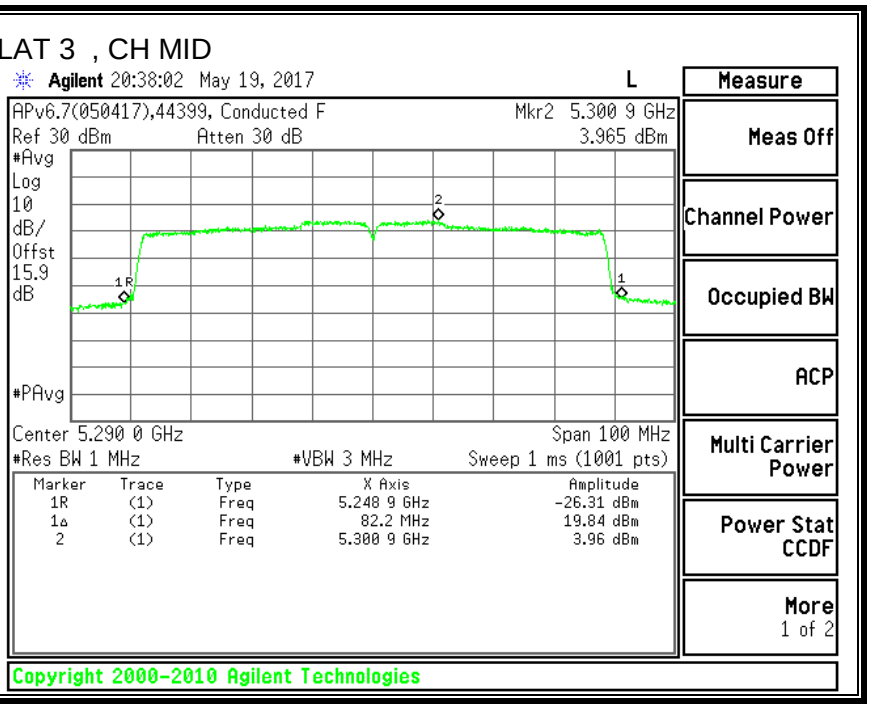
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Mid	5290	4.82	3.97	7.62	11.00	-3.38

UAT 2 , CH MID



LAT 3 , CH MID



8.19. 11n HT20 UAT 2 SISO MODE IN THE 5.6GHz BAND

8.19.1. 26 dB BANDWIDTH

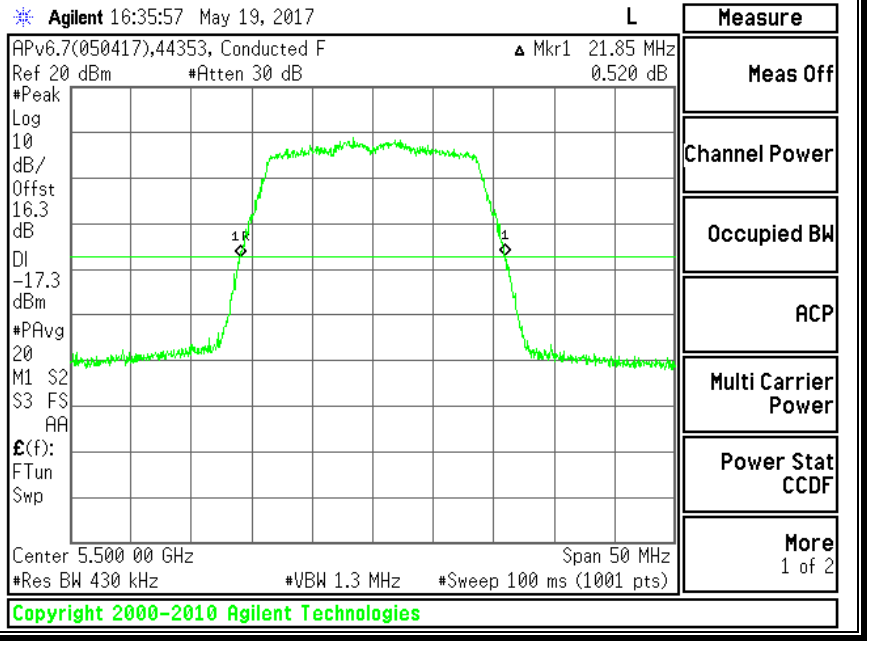
LIMITS

None; for reporting purposes only.

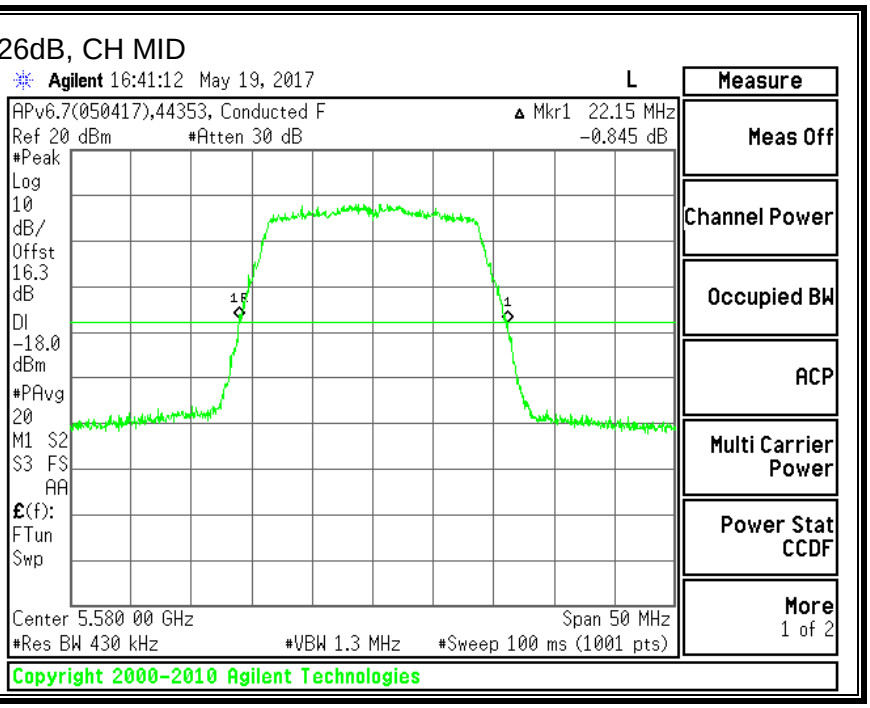
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5500	21.85
Mid	5580	22.15
High	5700	22.00
144	5720	22.05

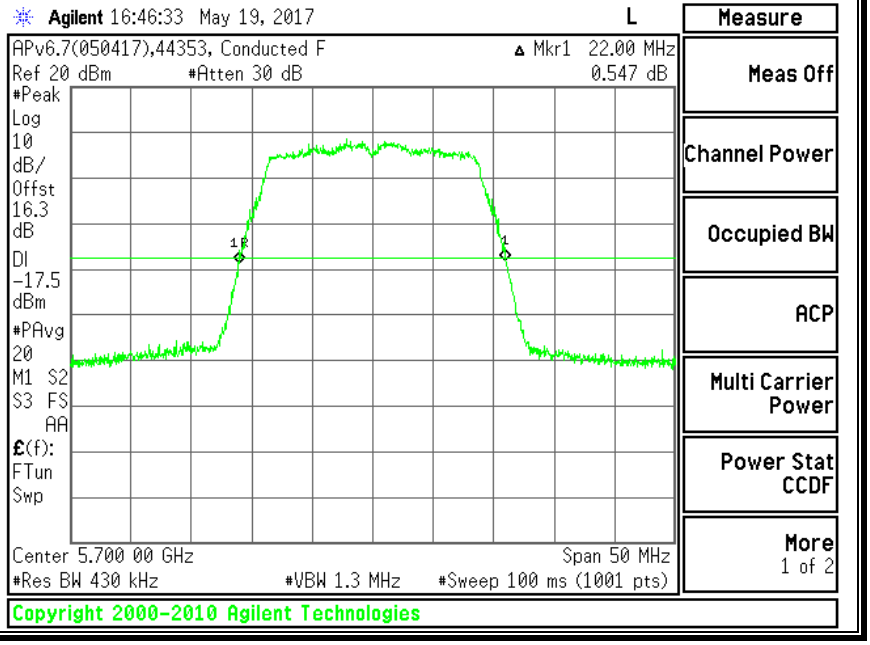
26dB, CH LOW



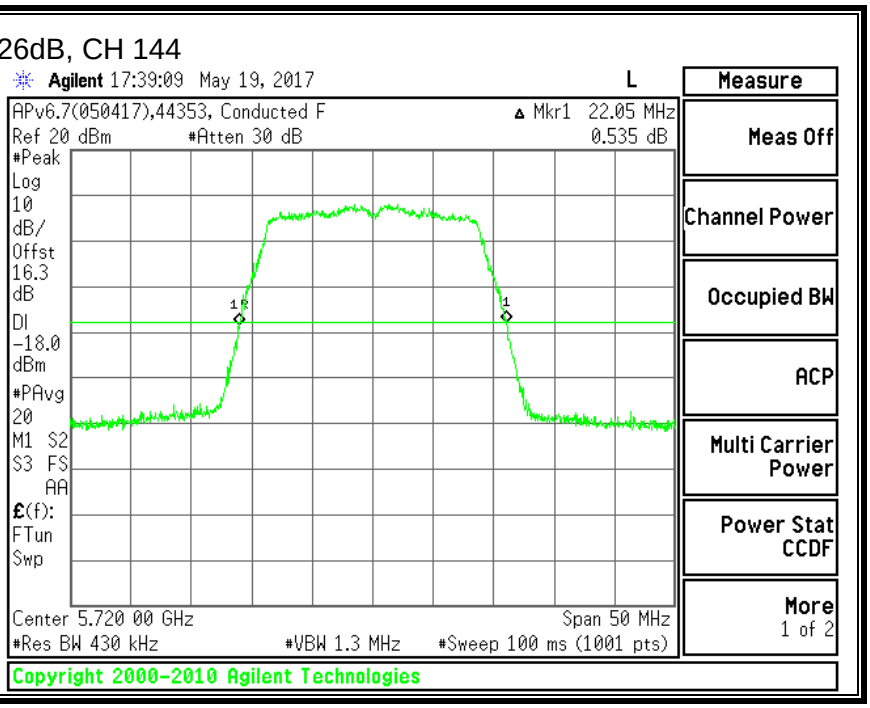
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.19.2. 99% BANDWIDTH

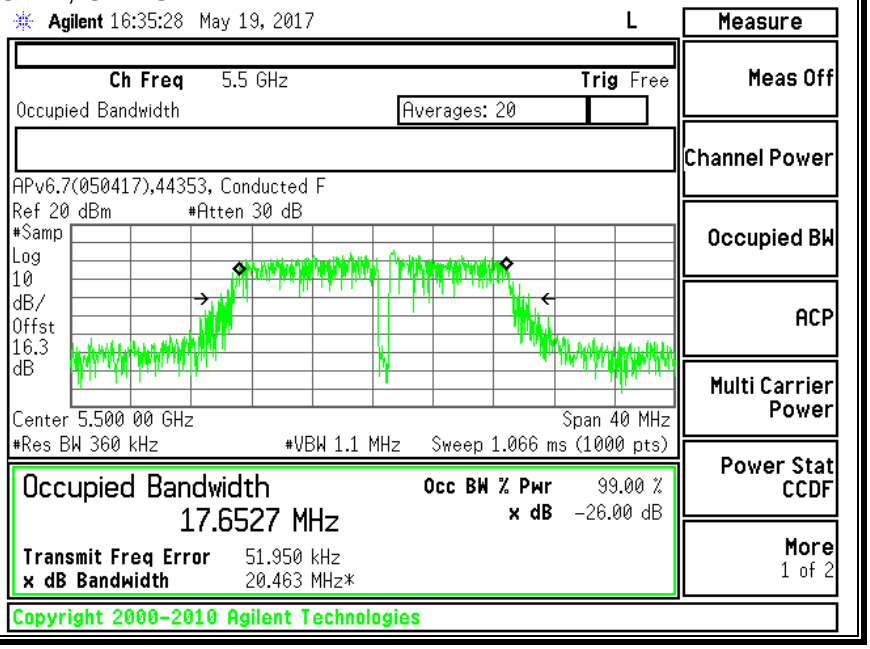
LIMITS

None; for reporting purposes only.

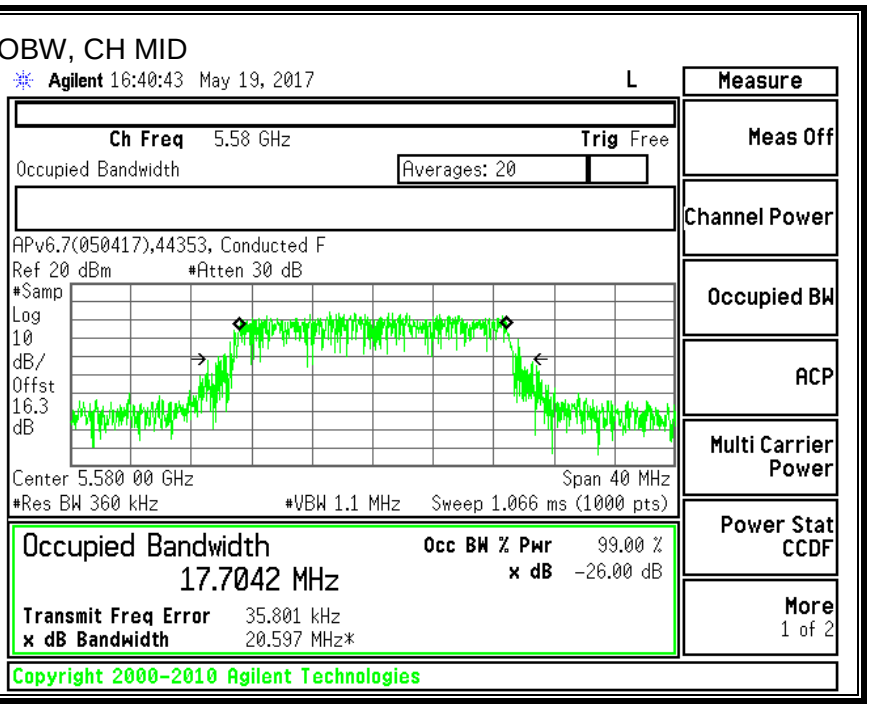
RESULTS

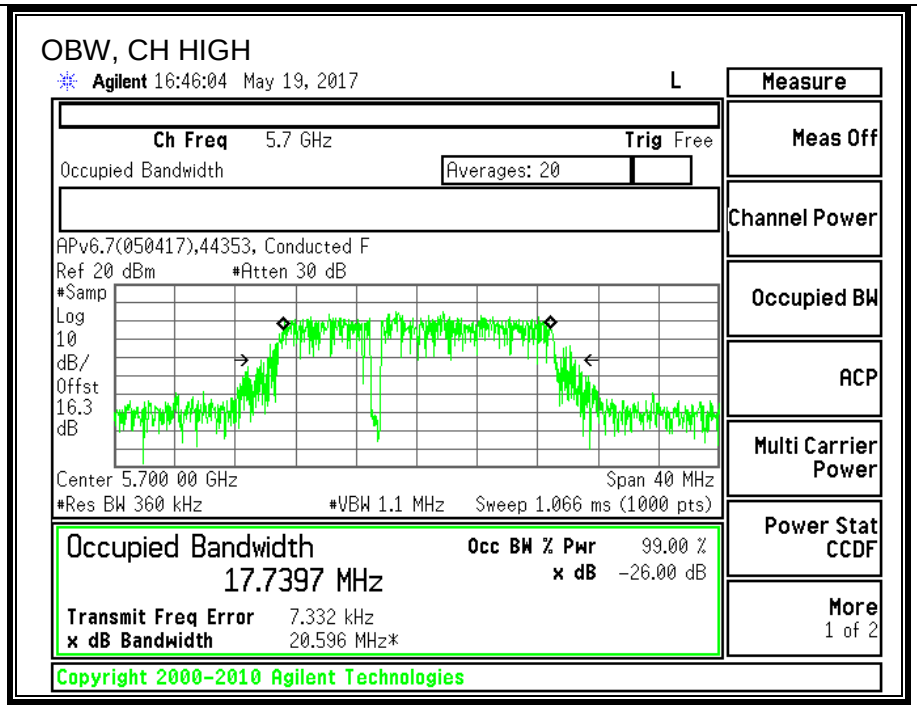
Channel	Frequency	99% BW UAT 2 (MHz)
Low	5500	17.6527
Mid	5580	17.7042
High	5700	17.7397
144	5720	17.6500

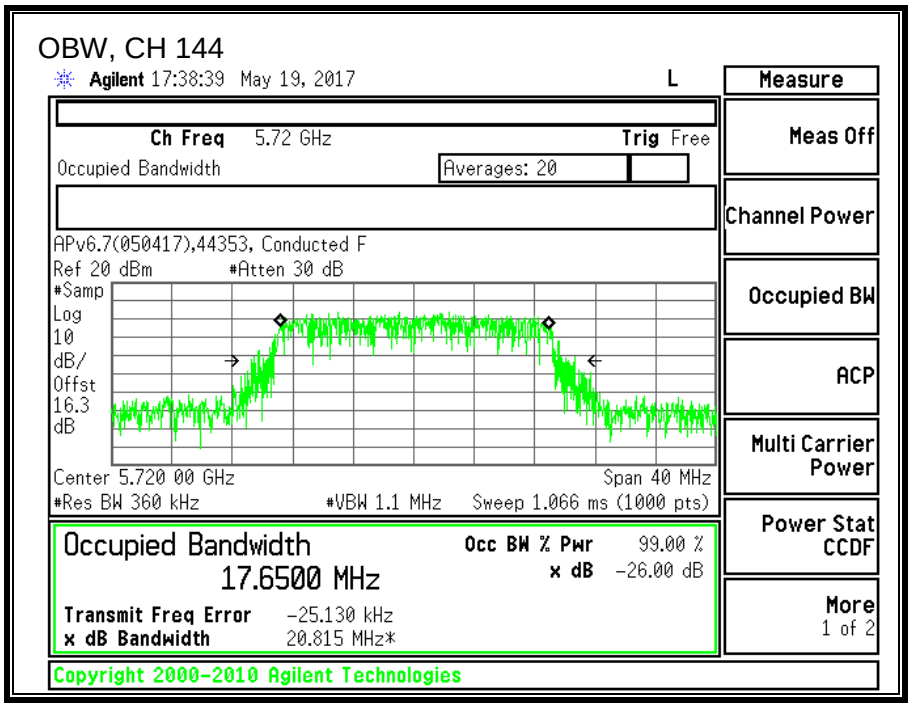
OBW, CH LOW



OBW, CH MID







8.19.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5500	18.89
Mid	5580	20.78
High	5700	18.78
144	5720	20.82

8.19.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5500	21.85	17.65	-2.77	23.47	11.00
Mid	5580	22.15	17.70	-2.77	23.48	11.00
High	5700	22.00	17.74	-2.77	23.49	11.00

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

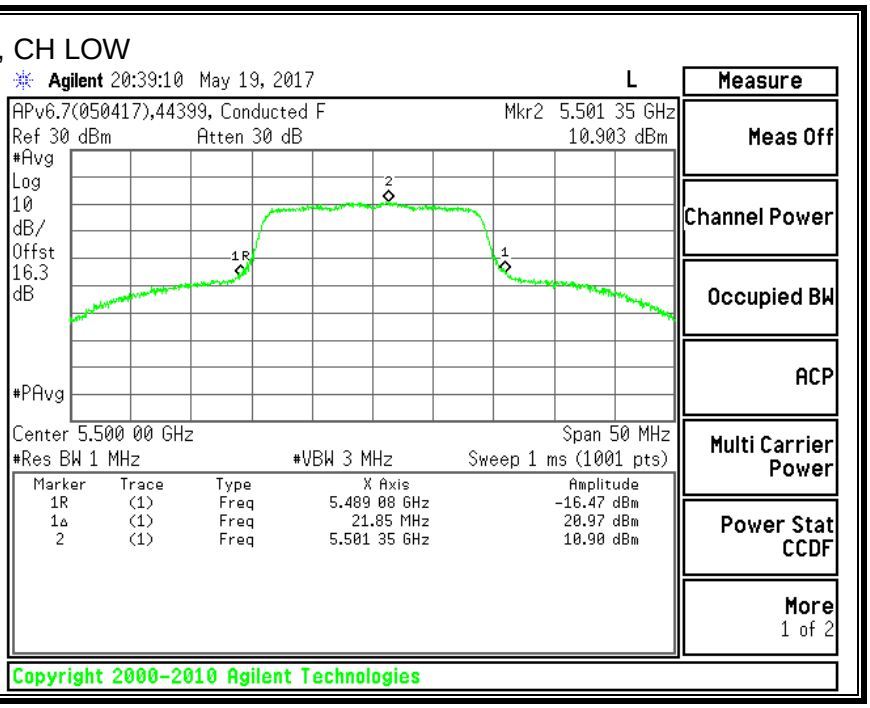
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	18.89	18.89	23.47	-4.58
Mid	5580	20.78	20.78	23.48	-2.70
High	5700	18.78	18.78	23.49	-4.71

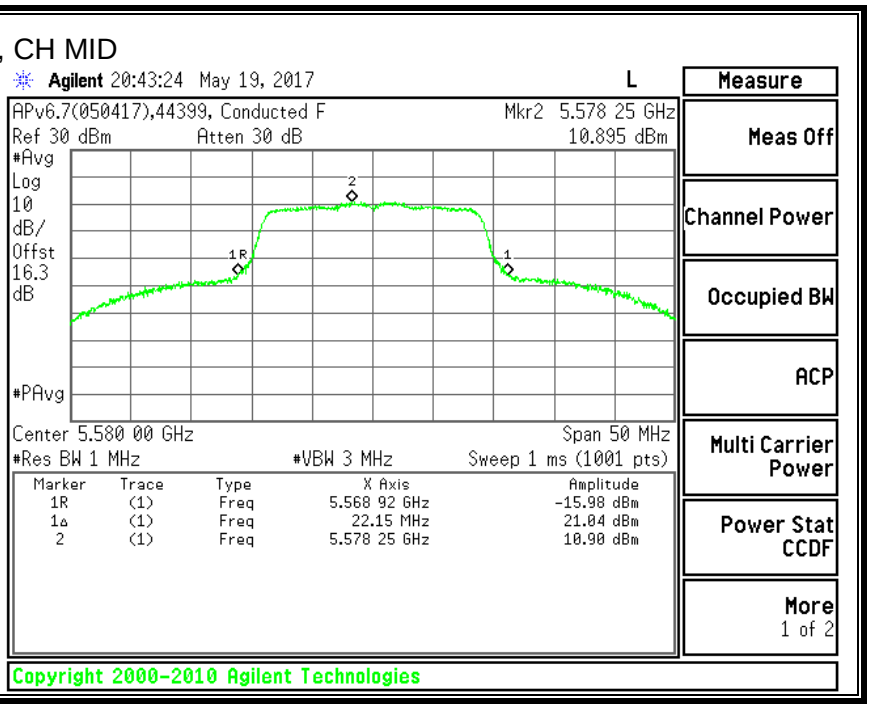
PSD Results

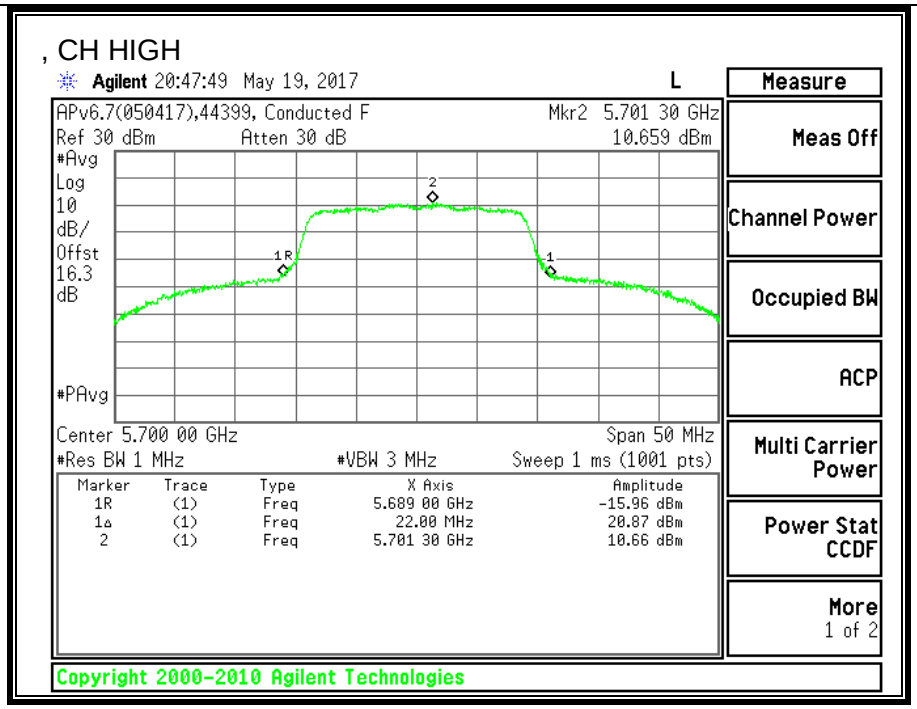
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5500	10.90	10.90	11.00	-0.10
Mid	5580	10.90	10.90	11.00	-0.11
High	5700	10.66	10.66	11.00	-0.34

, CH LOW



, CH MID





8.20. 11ac HT20 UAT 2 SISO STRADDLE CHANNEL 144

8.20.1. OUTPUT POWER AND PPSD

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/1MHz)
144	5720	22.05	-2.77	-2.77	24.00	11.00

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

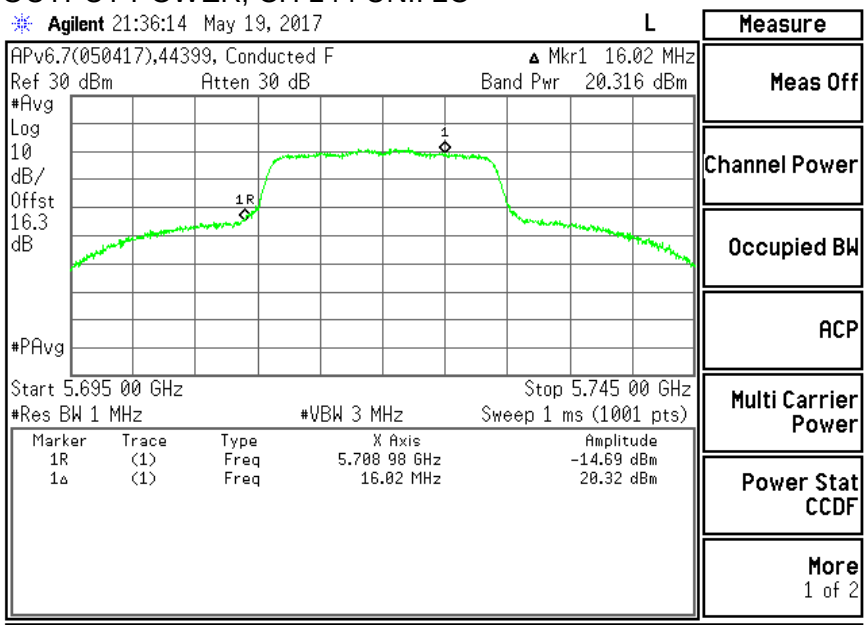
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	20.32	20.32	24.00	-3.68

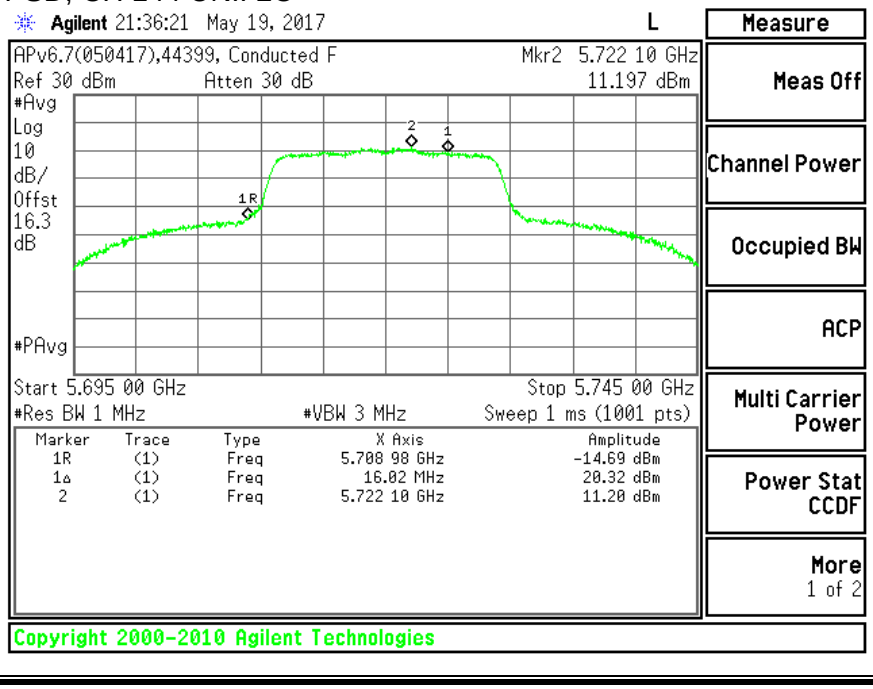
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
144	5720	11.20	11.20	11.00	0.20

OUTPUT POWER, CH 144 UNII 2C



PSD, CH 144 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)
144	5720	22.05	-3.57	30.00	30.00

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

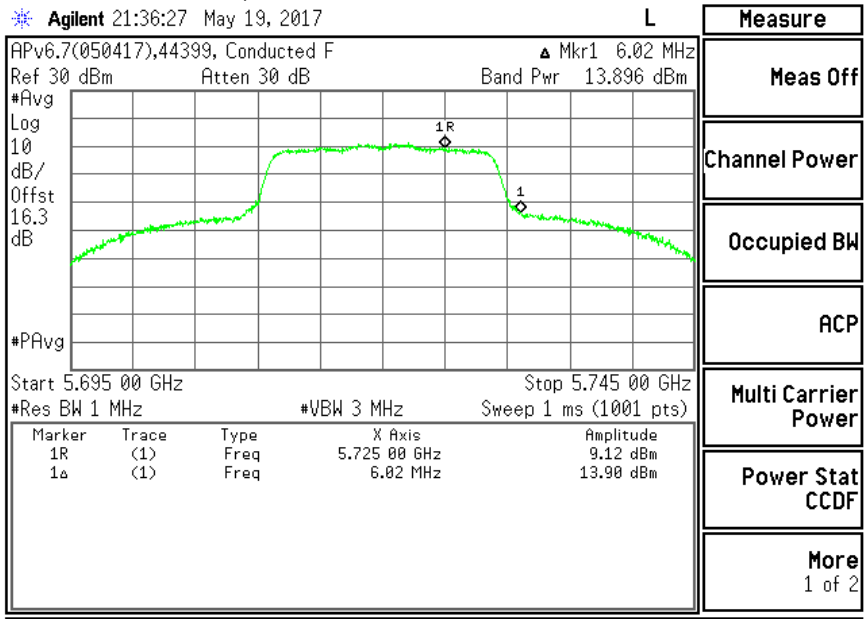
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.896	13.896	30.00	-16.10

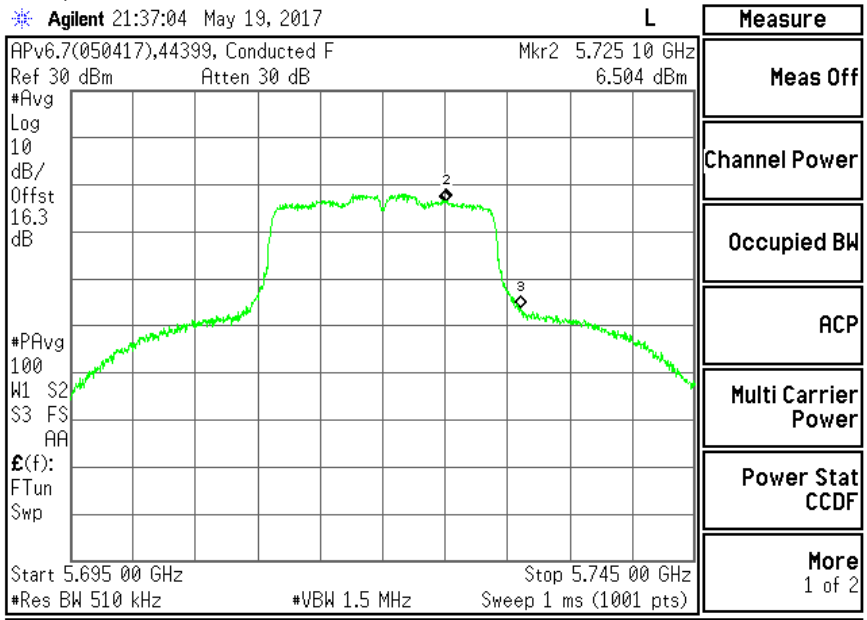
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	6.504	6.504	30.00	-23.50

OUTPUT POWER, CH 144 UNII 3



PSD, CH 144 UNII 3



8.20.2. 6 dB BANDWIDTH

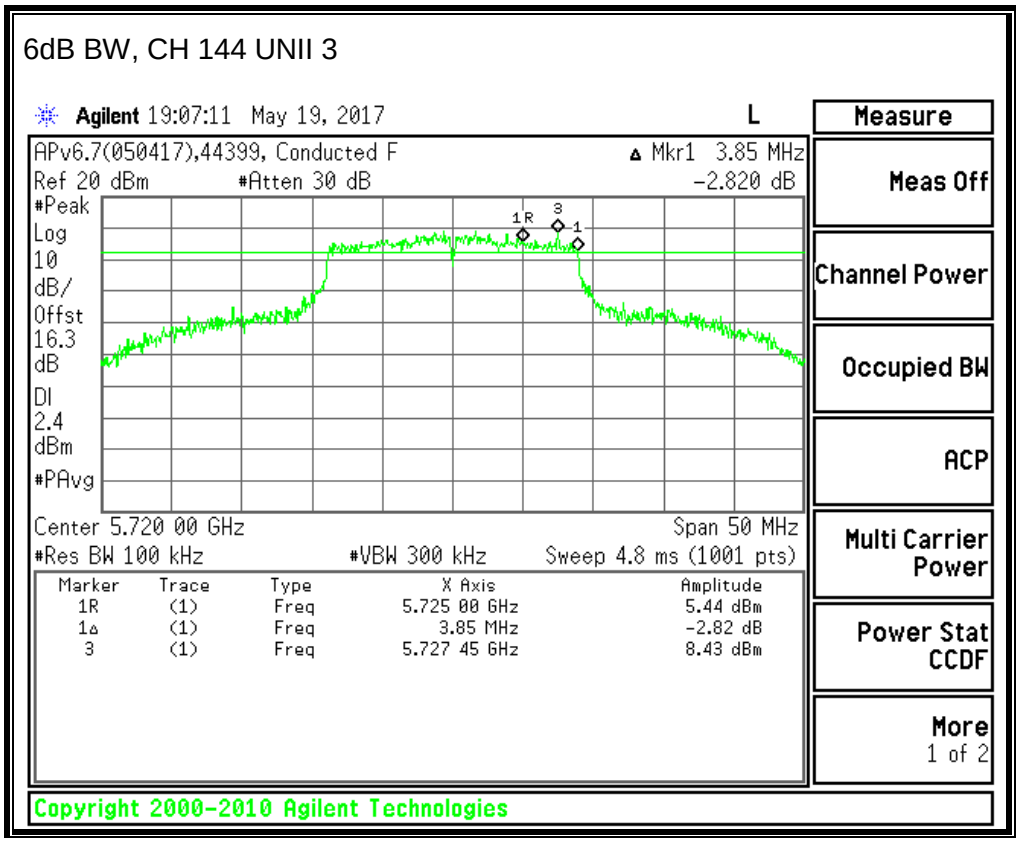
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
144	5720	3.85



8.21. 11n HT20 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.21.1. 26 dB BANDWIDTH

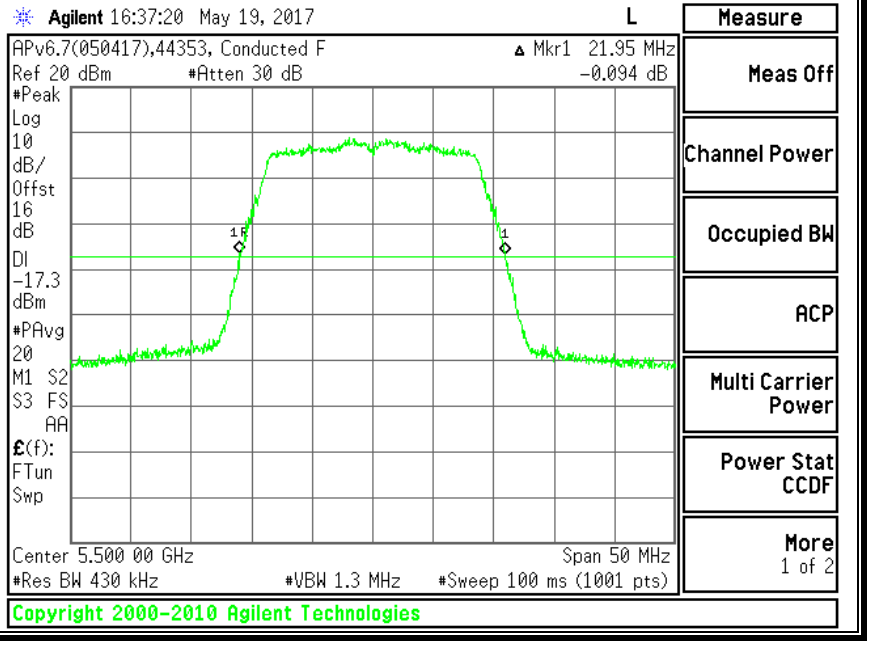
LIMITS

None; for reporting purposes only.

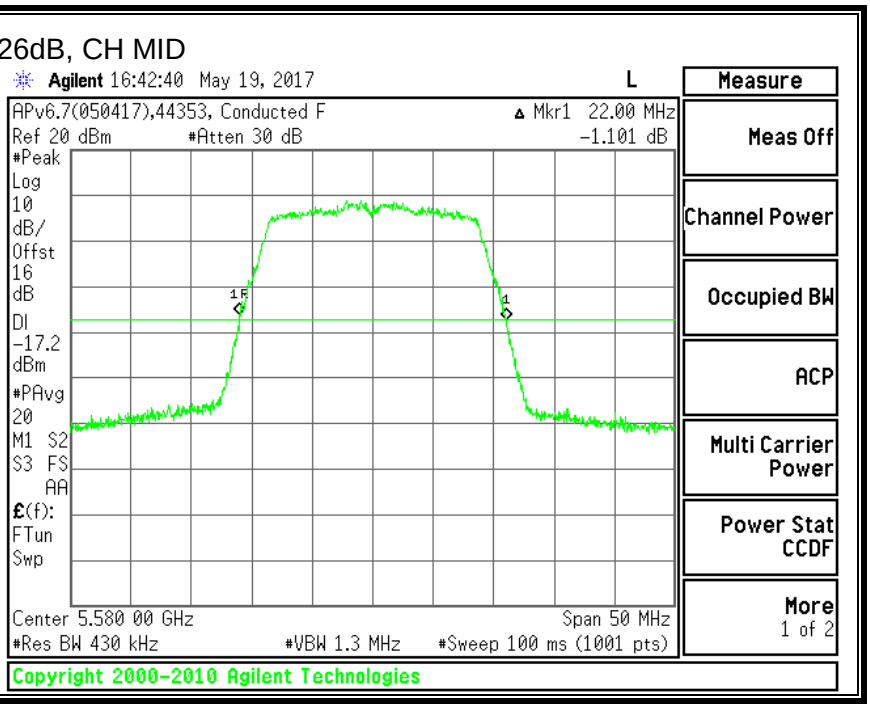
RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5500	21.95
Mid	5580	22.00
High	5700	22.05
144	5720	22.10

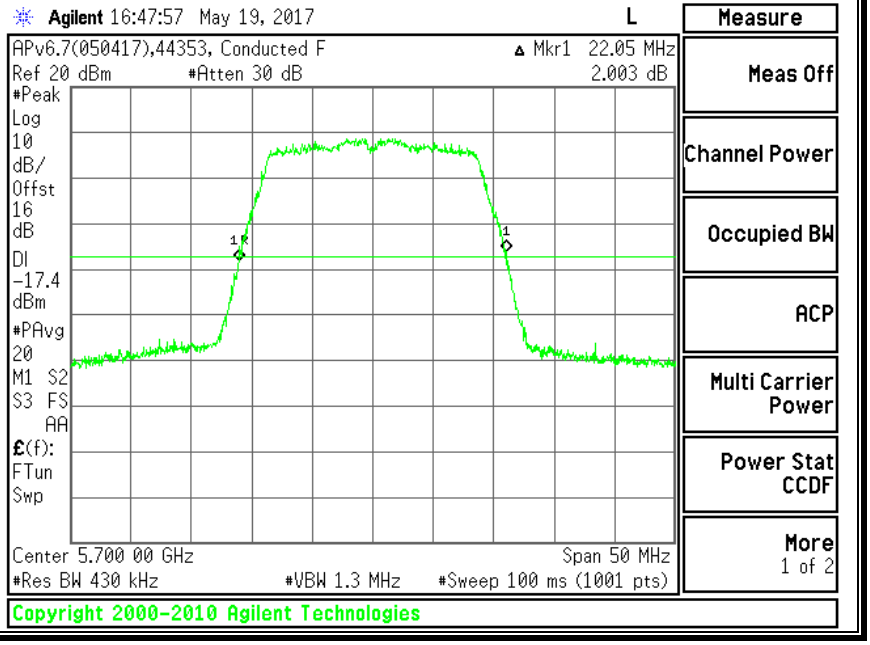
26dB, CH LOW



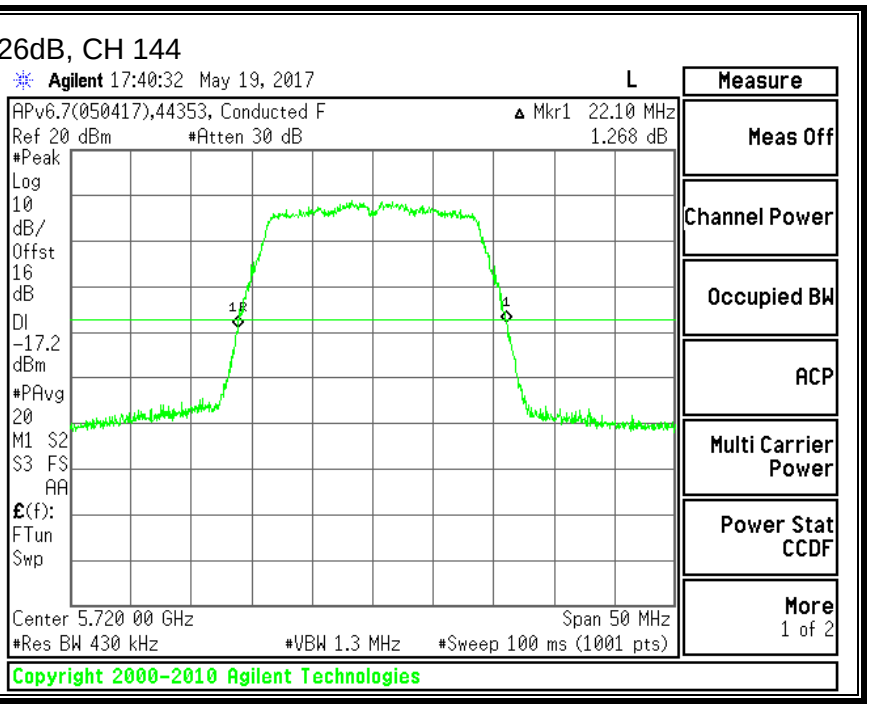
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.21.2. 99% BANDWIDTH

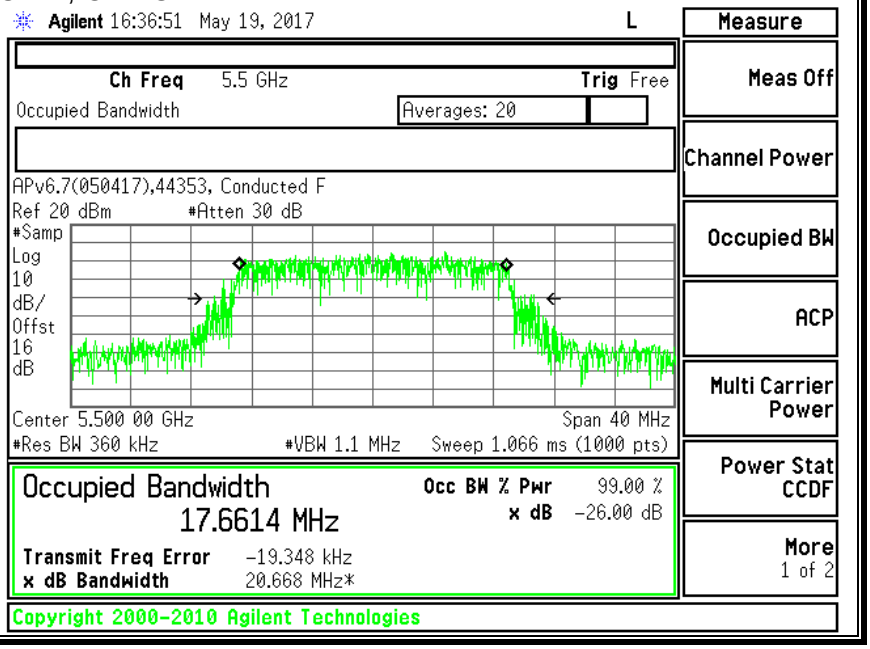
LIMITS

None; for reporting purposes only.

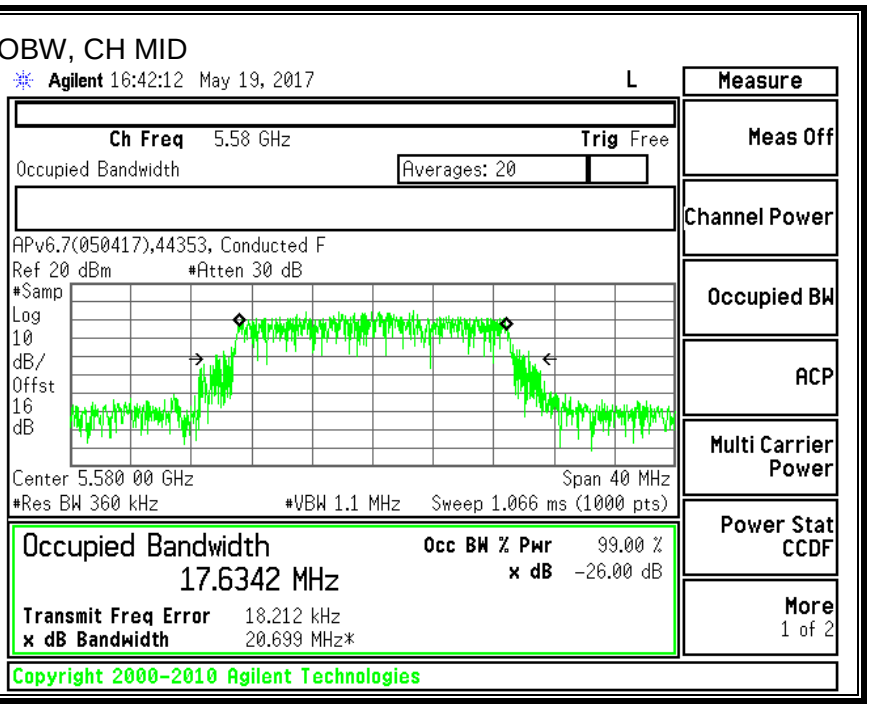
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5500	17.6614
Mid	5580	17.6342
High	5700	17.7212
144	5720	17.6166

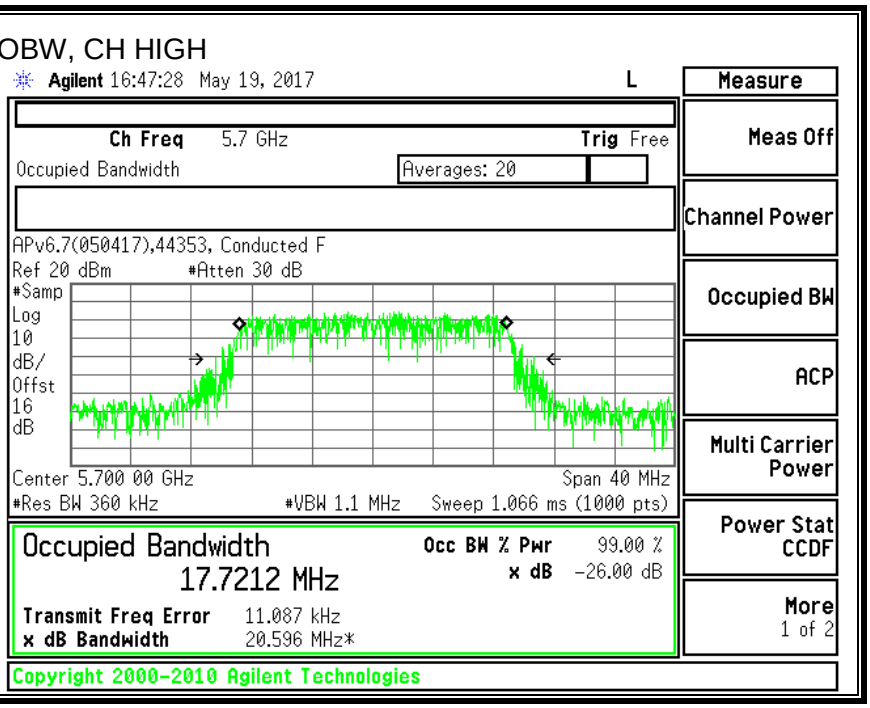
OBW, CH LOW



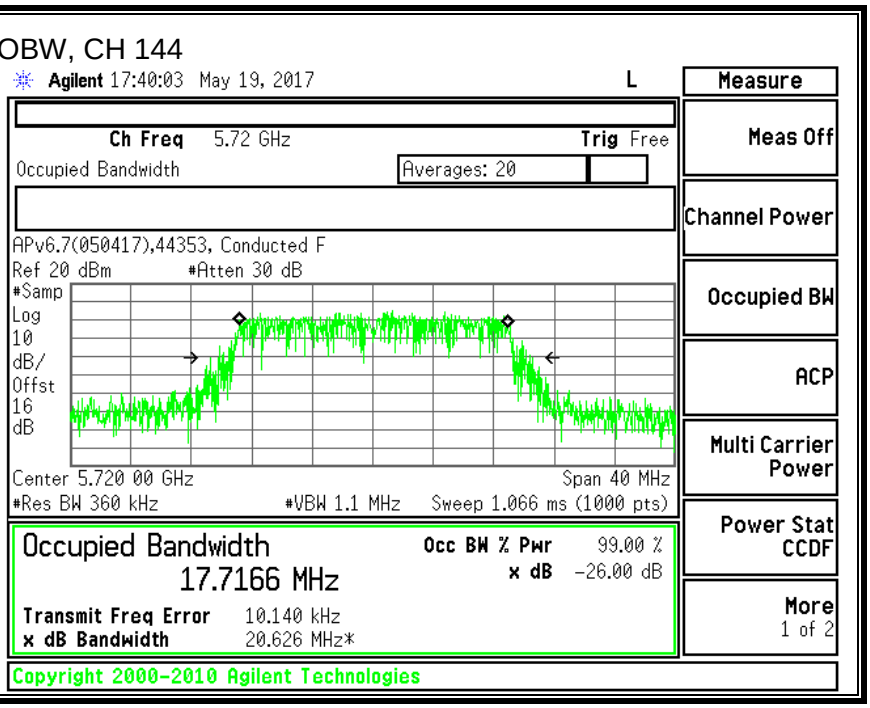
OBW, CH MID



OBW, CH HIGH



OBW, CH 144



8.21.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5500	18.82
Mid	5580	20.82
High	5700	18.86
144	5720	20.87

8.21.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5500	21.95	17.66	-6.89	23.47	11.00
Mid	5580	22.00	17.63	-6.89	23.46	11.00
High	5700	22.05	17.72	-6.89	23.48	11.00

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

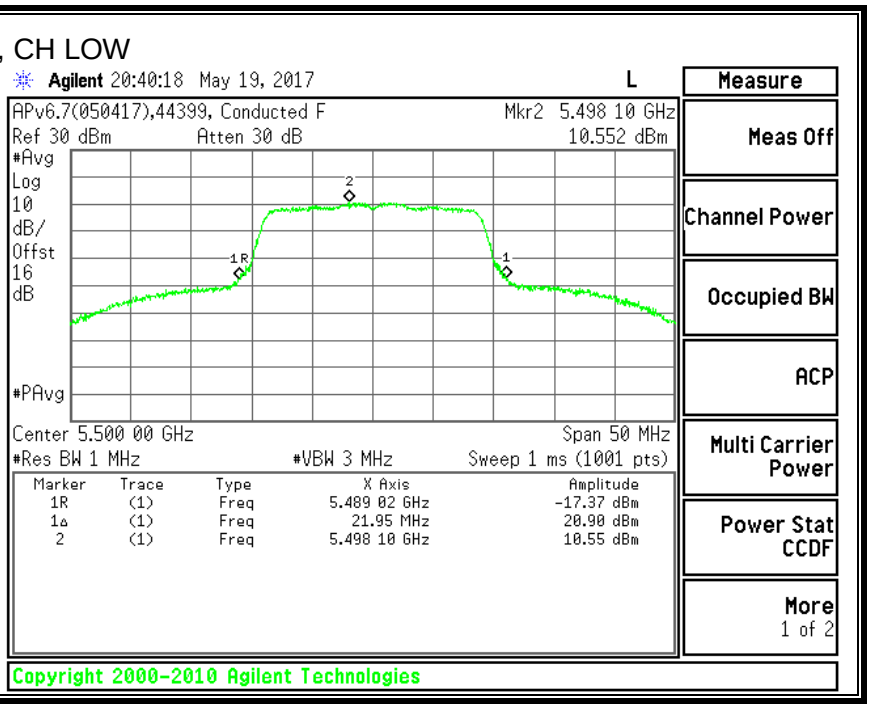
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	18.82	18.82	23.47	-4.65
Mid	5580	20.82	20.82	23.46	-2.64
High	5700	18.86	18.86	23.48	-4.62

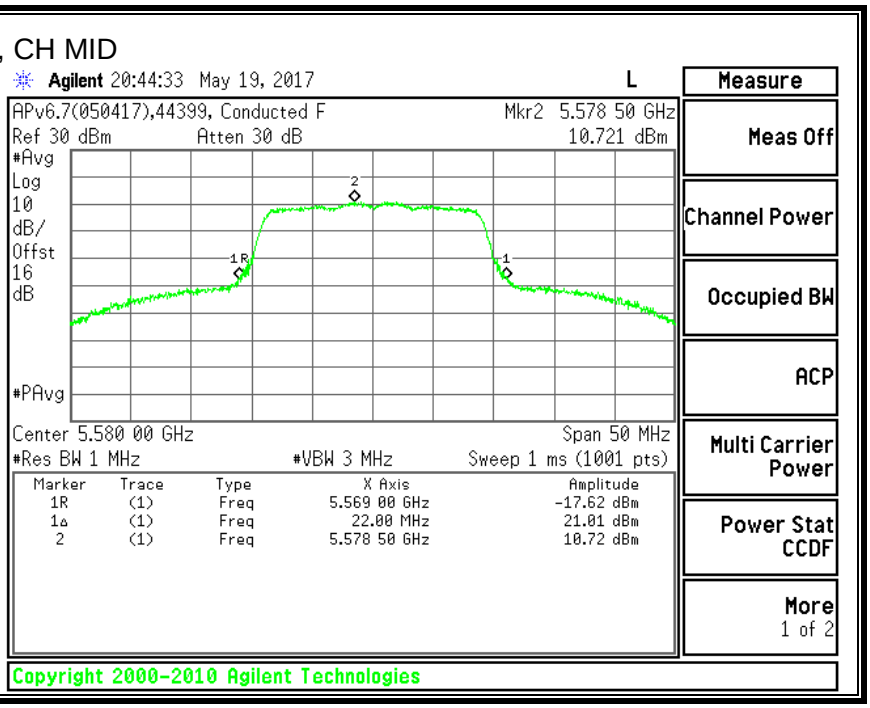
PSD Results

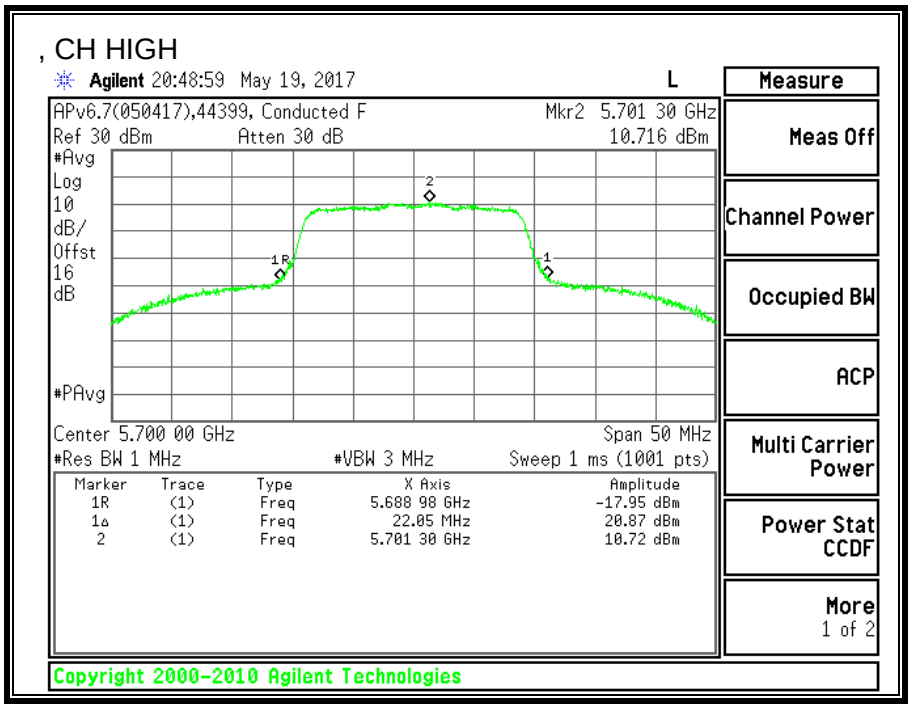
Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5500	10.55	10.55	11.00	-0.45
Mid	5580	10.72	10.72	11.00	-0.28
High	5700	10.72	10.72	11.00	-0.28

, CH LOW



, CH MID





8.22. 11ac HT20 LAT 3 SISO STRADDLE CHANNEL 144

8.22.1. OUTPUT POWER AND PPSD

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/1MHz)
144	5720	22.10	-6.89	-6.89	24.00	11.00

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

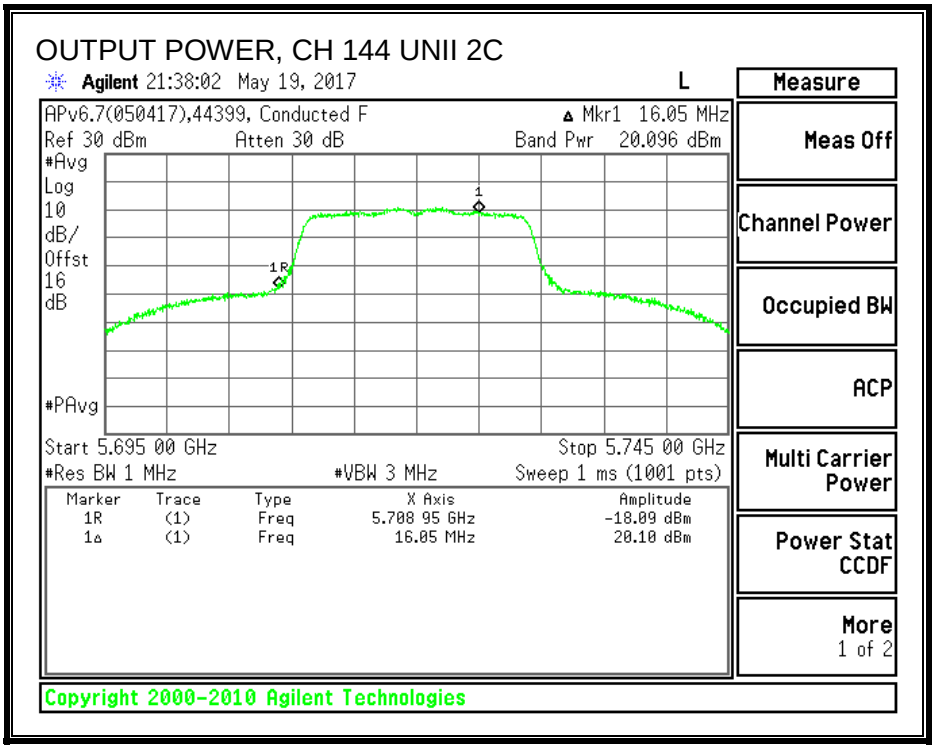
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	20.10	20.10	24.00	-3.90

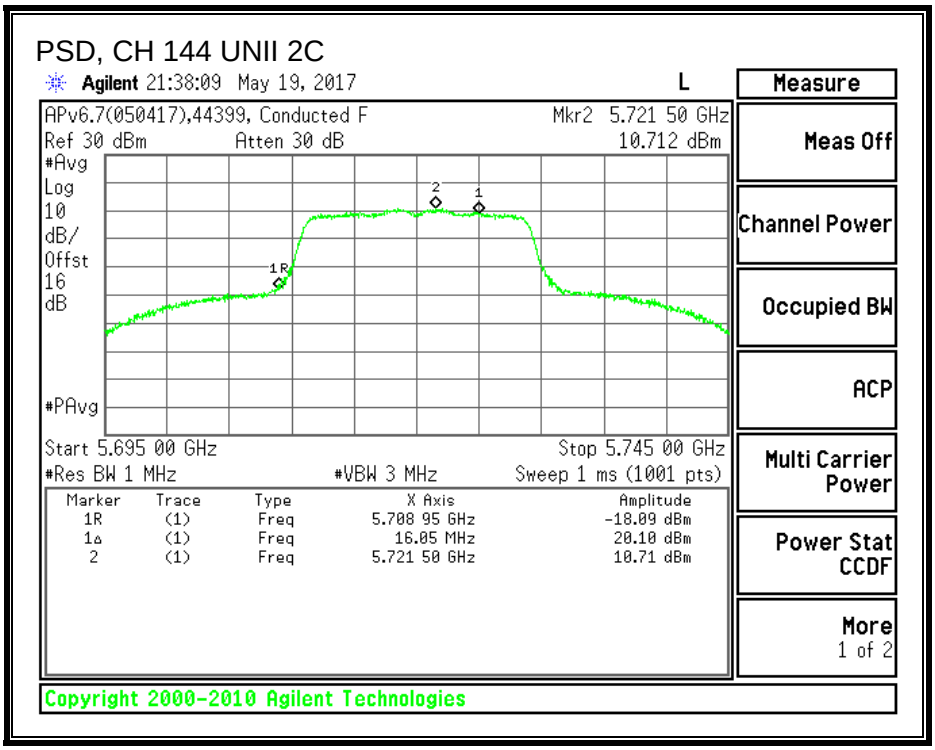
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
144	5720	10.71	10.71	11.00	-0.29

OUTPUT POWER, CH 144 UNII 2C



PSD, CH 144 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)
144	5720	22.10	-6.31	30.00	30.00

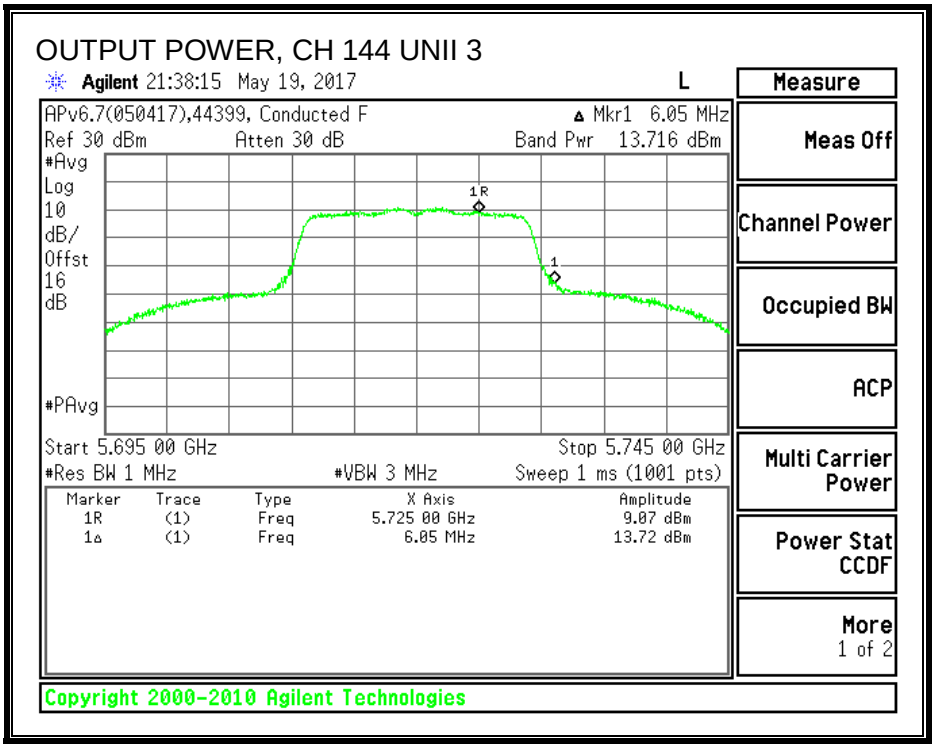
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

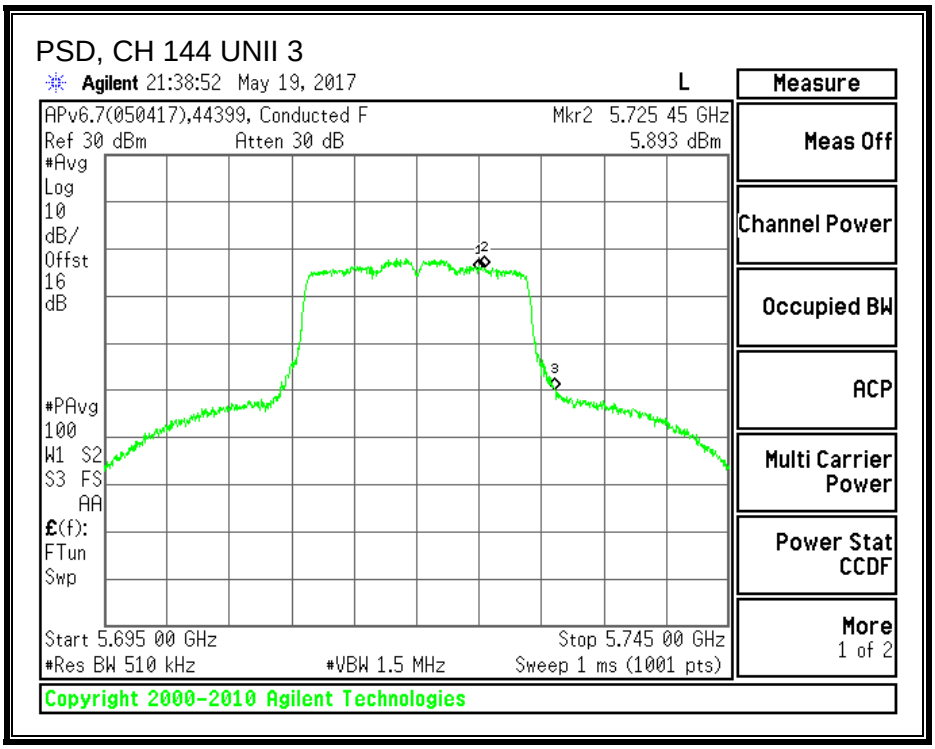
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.716	13.716	30.00	-16.28

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.893	5.893	30.00	-24.11





8.22.2. 6 dB BANDWIDTH

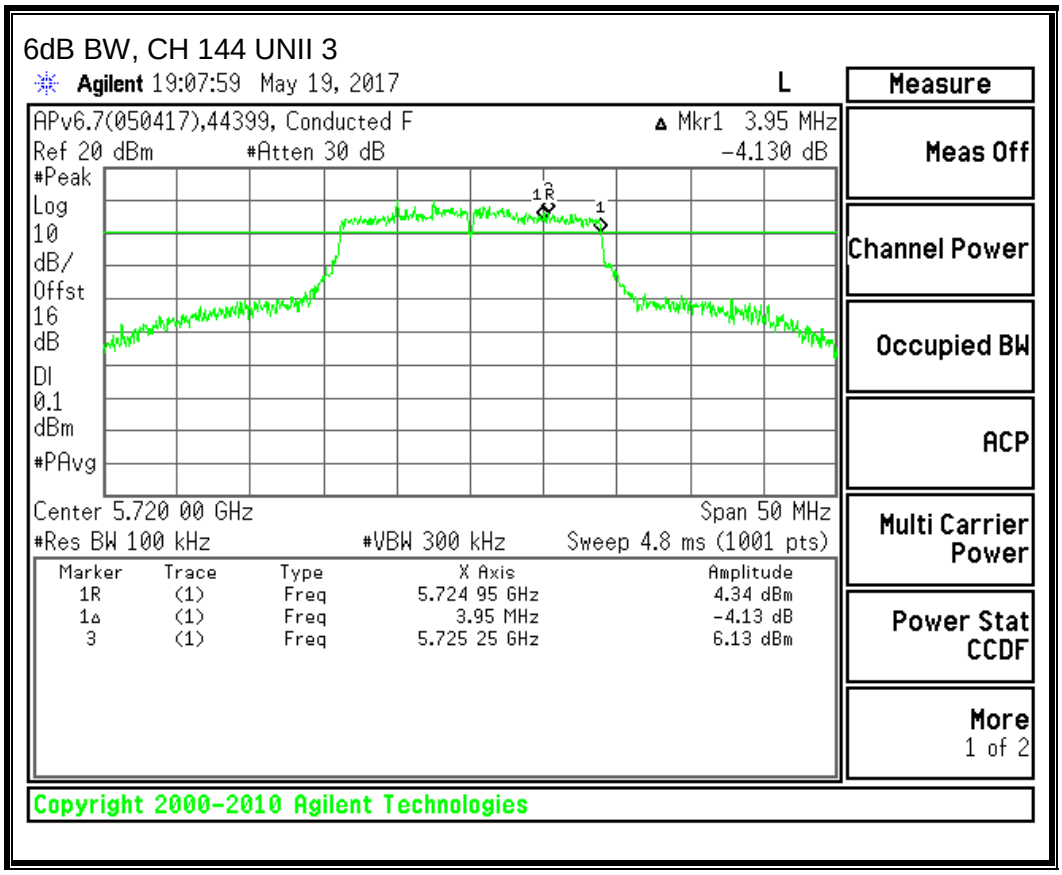
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
144	5720	3.95



8.23. 11n HT20 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.23.1. 26 dB BANDWIDTH

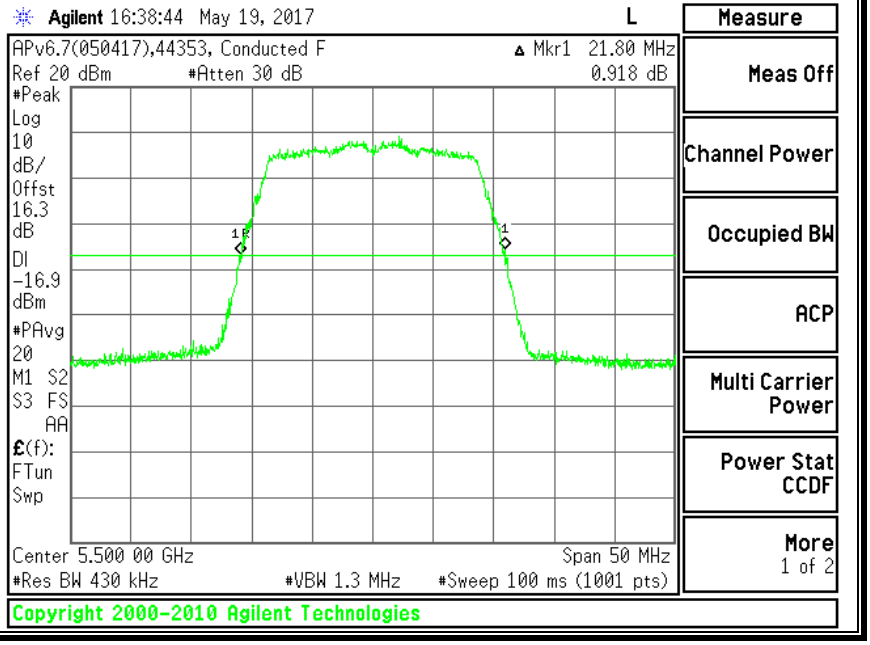
LIMITS

None; for reporting purposes only.

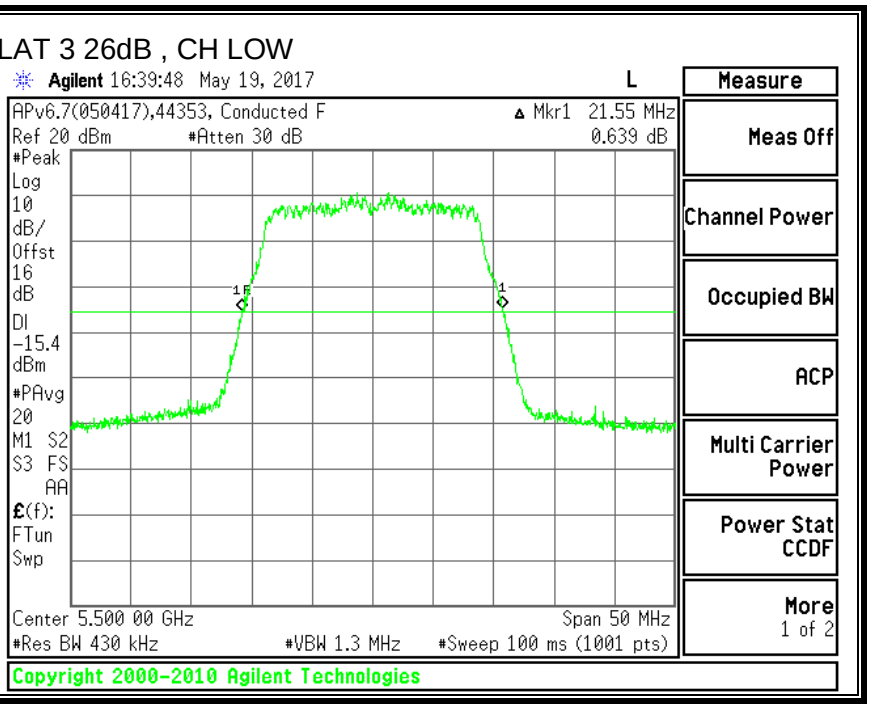
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5500	21.80	21.55
Mid	5580	21.75	21.60
High	5700	21.95	21.60
144	5720	21.85	21.65

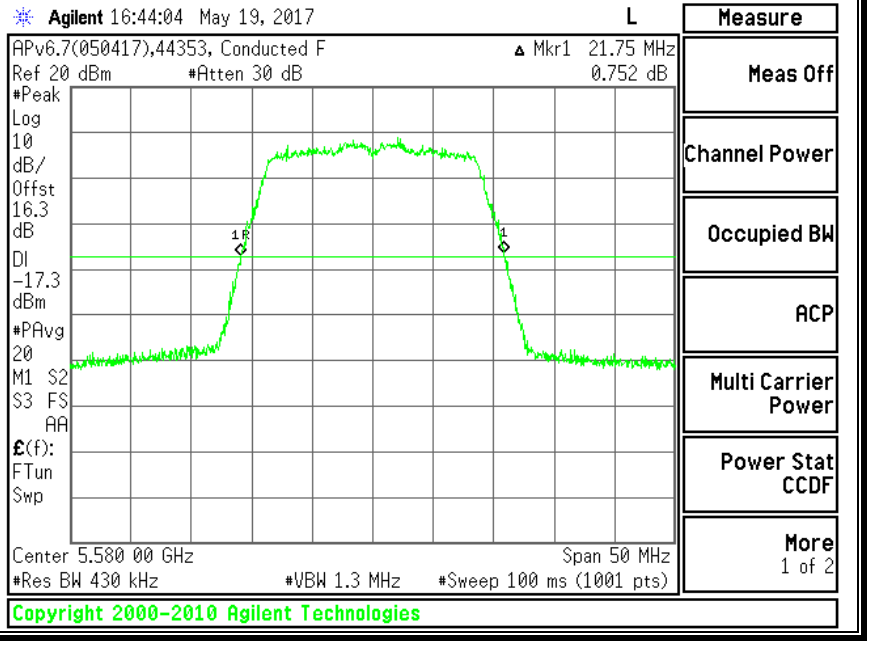
UAT 2 26dB , CH LOW



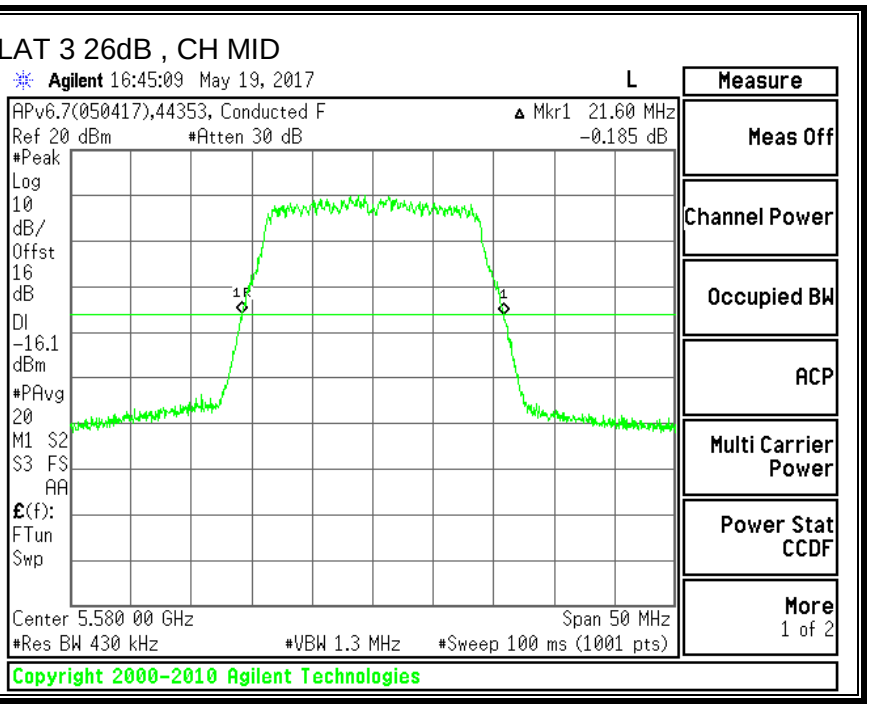
LAT 3 26dB , CH LOW



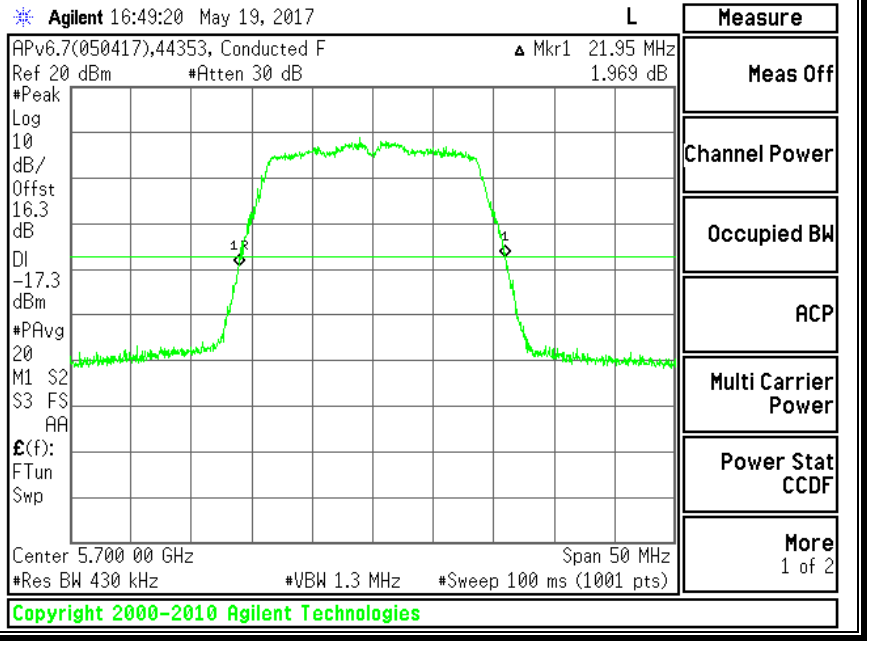
UAT 2 26dB , CH MID



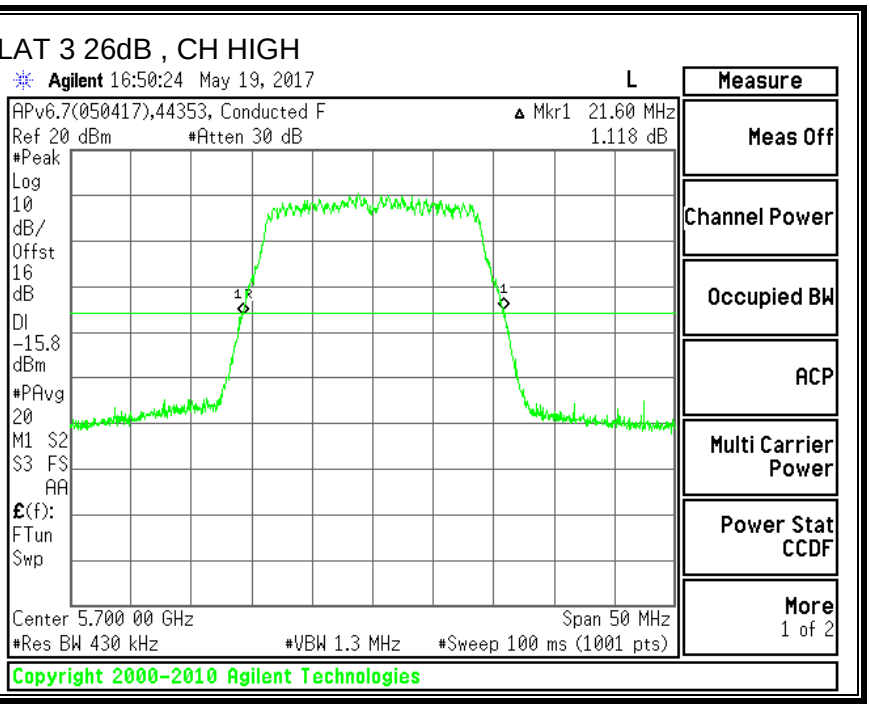
LAT 3 26dB , CH MID



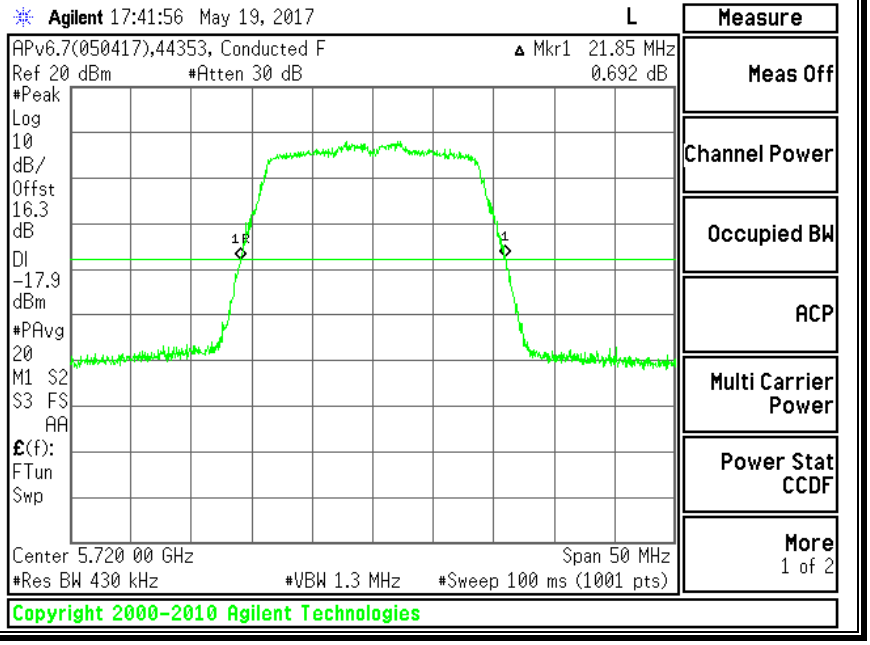
UAT 2 26dB , CH HIGH



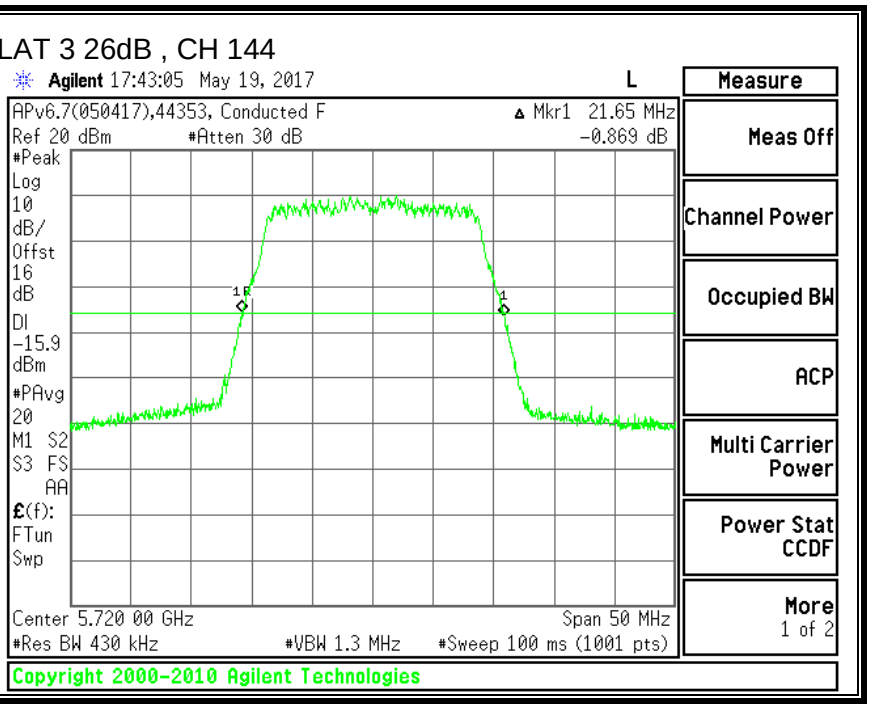
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 144



LAT 3 26dB , CH 144



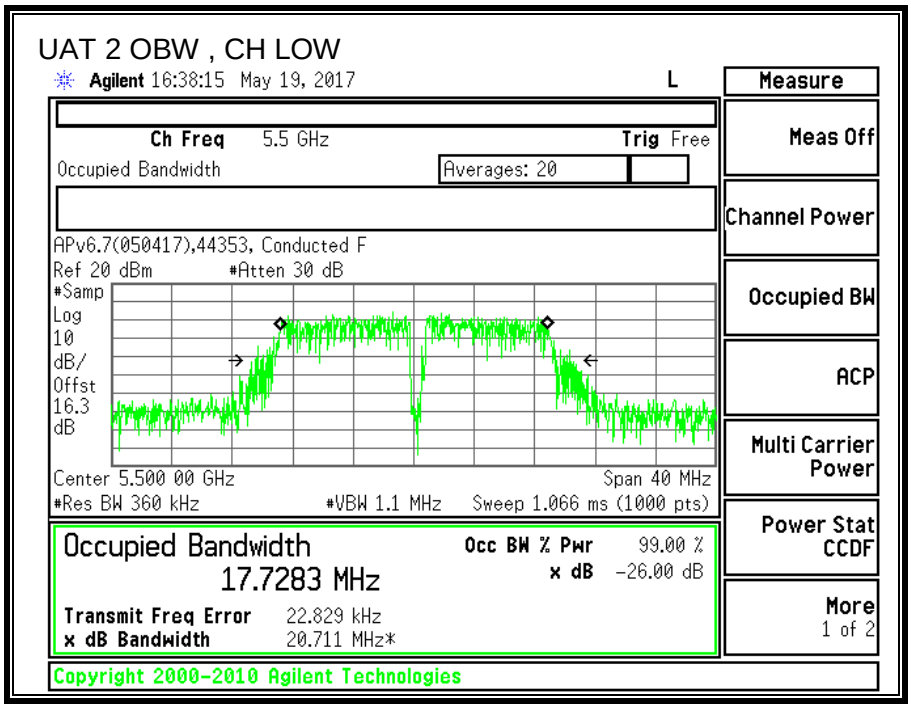
8.23.2. 99% BANDWIDTH

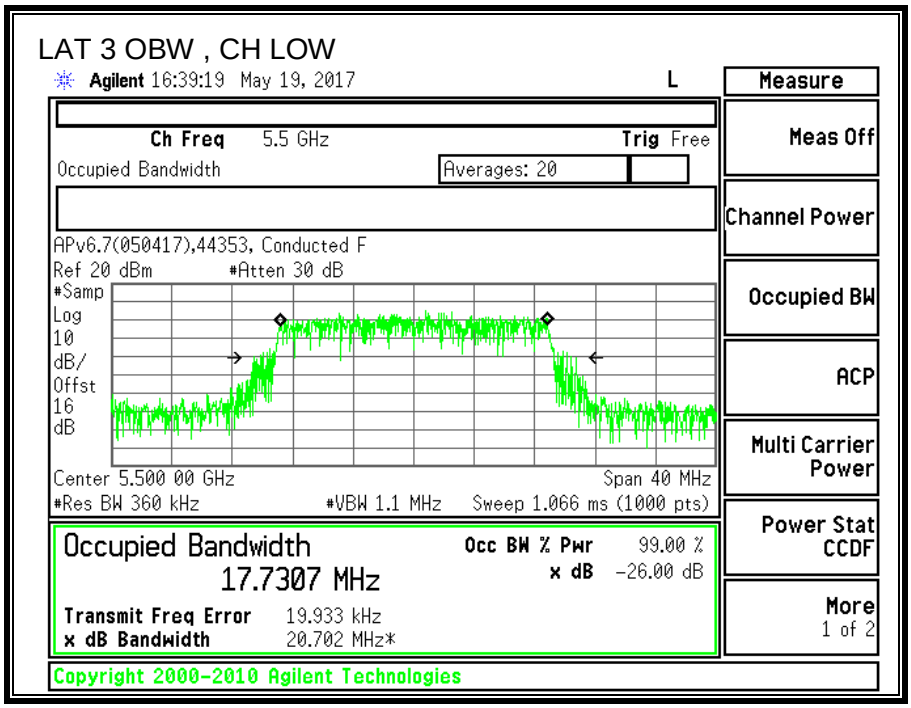
LIMITS

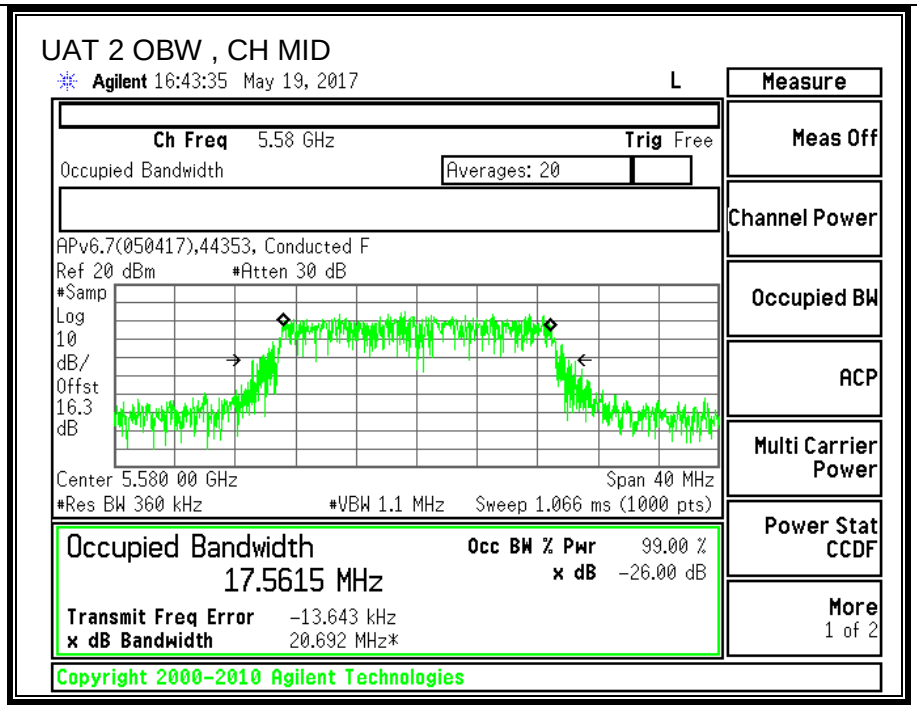
None; for reporting purposes only.

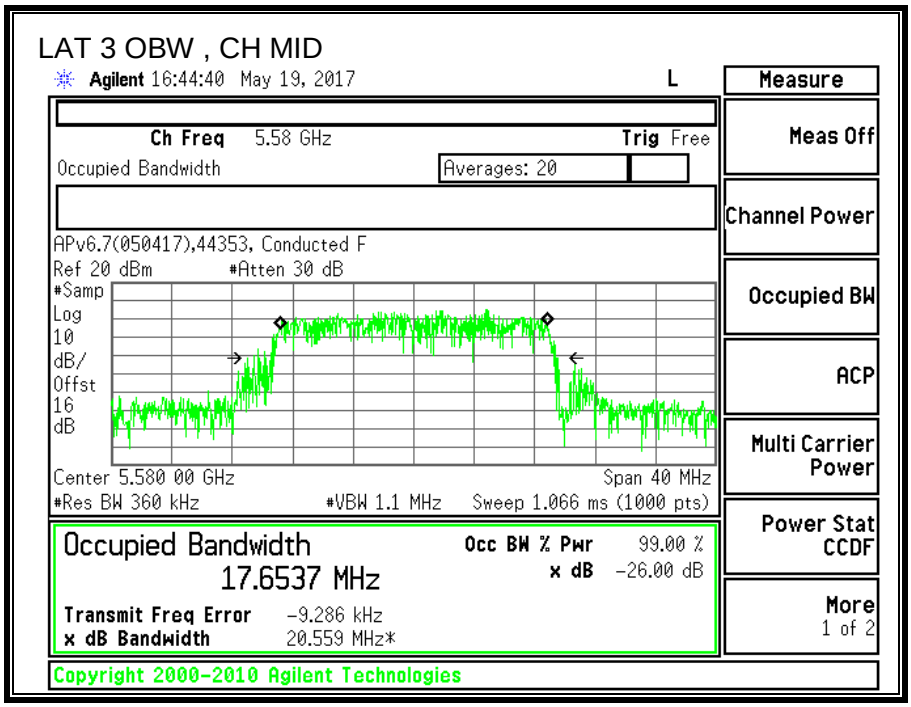
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5500	17.7283	17.7307
Mid	5580	17.5615	17.6537
High	5700	17.7261	17.7056
144	5720	17.7070	17.6885

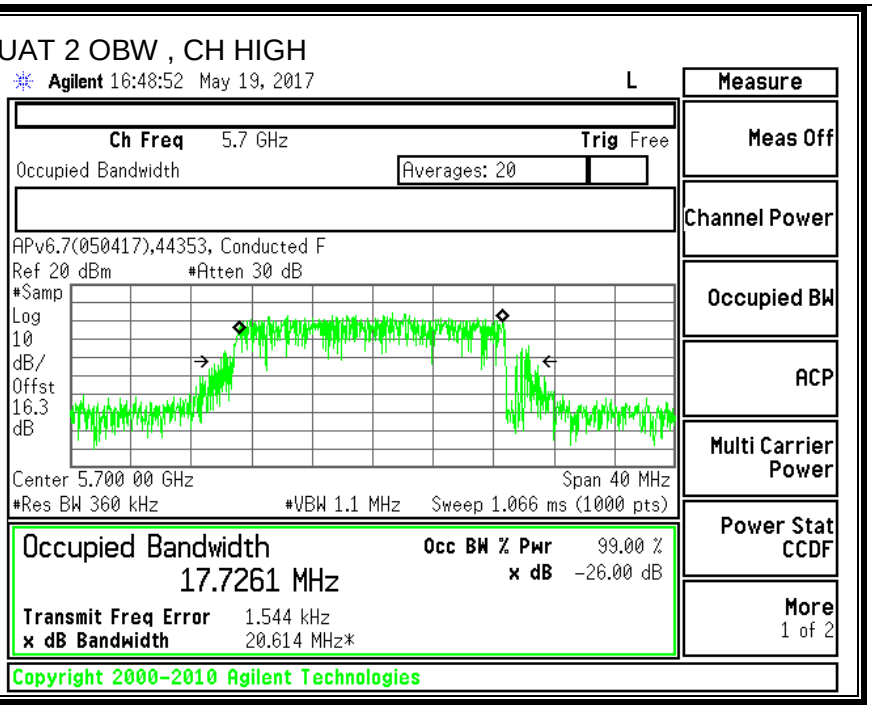




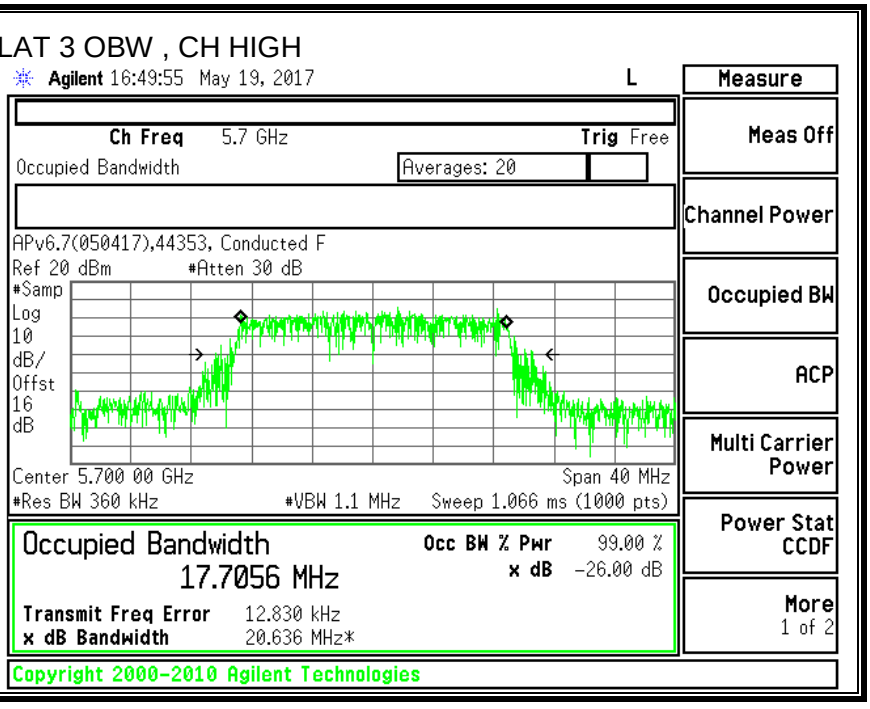


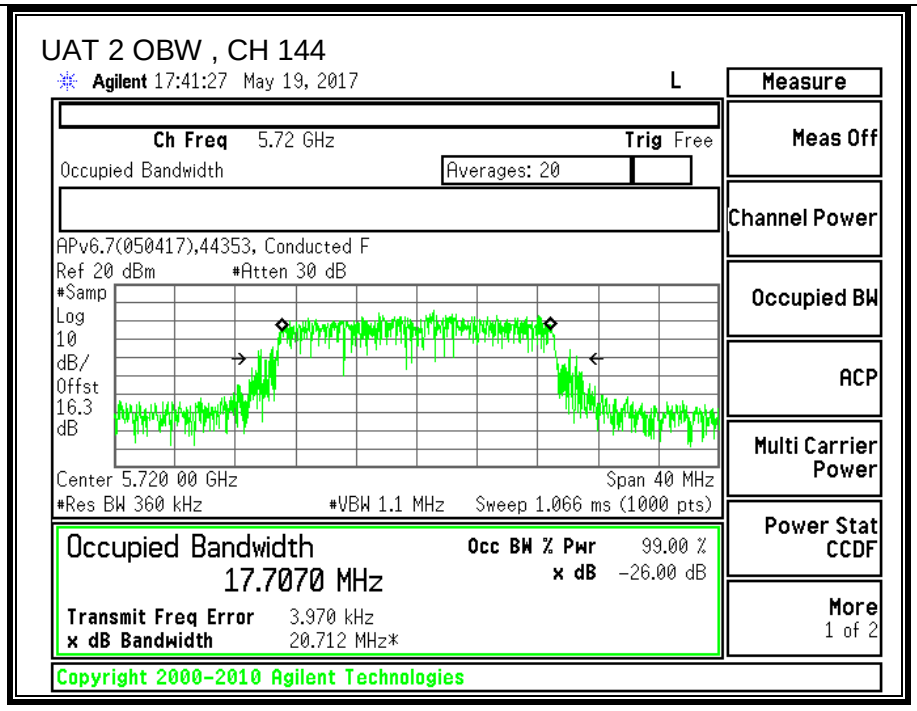


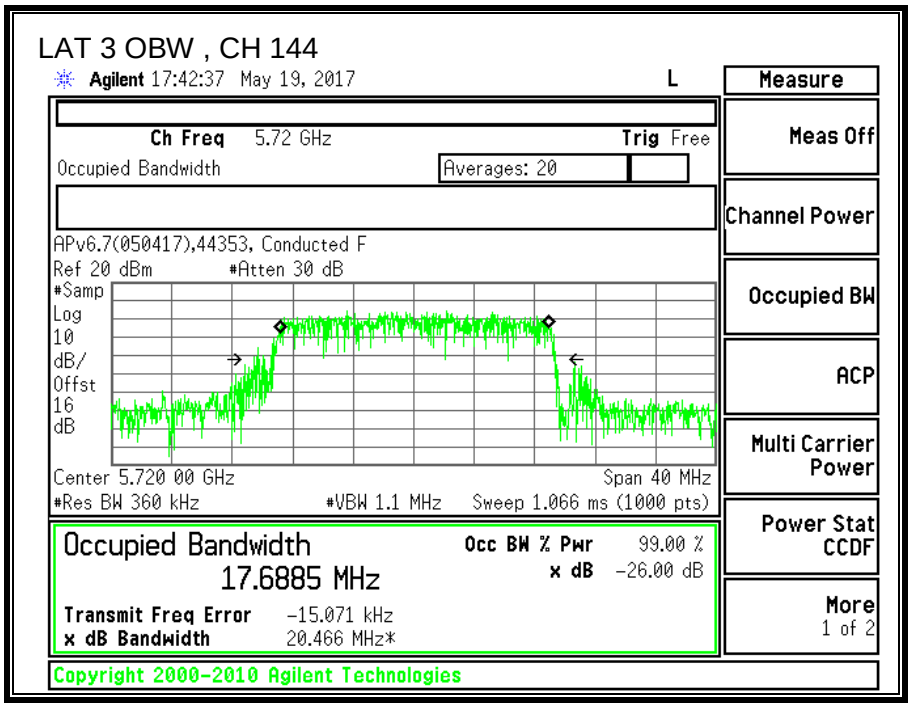
UAT 2 OBW , CH HIGH



LAT 3 OBW , CH HIGH







8.23.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5500	17.93	17.88	20.92
Mid	5580	17.86	17.91	20.90
High	5700	17.93	17.85	20.90
144	5720	17.91	17.84	20.89

8.23.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-2.77	-6.89	-4.36

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-2.77	-6.89	-1.58

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/1MHz
Low	5500	21.55	17.728	-4.36	-1.58	23.49	11.00
Mid	5580	21.60	17.561	-4.36	-1.58	23.45	11.00
High	5700	21.60	17.706	-4.36	-1.58	23.48	11.00

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

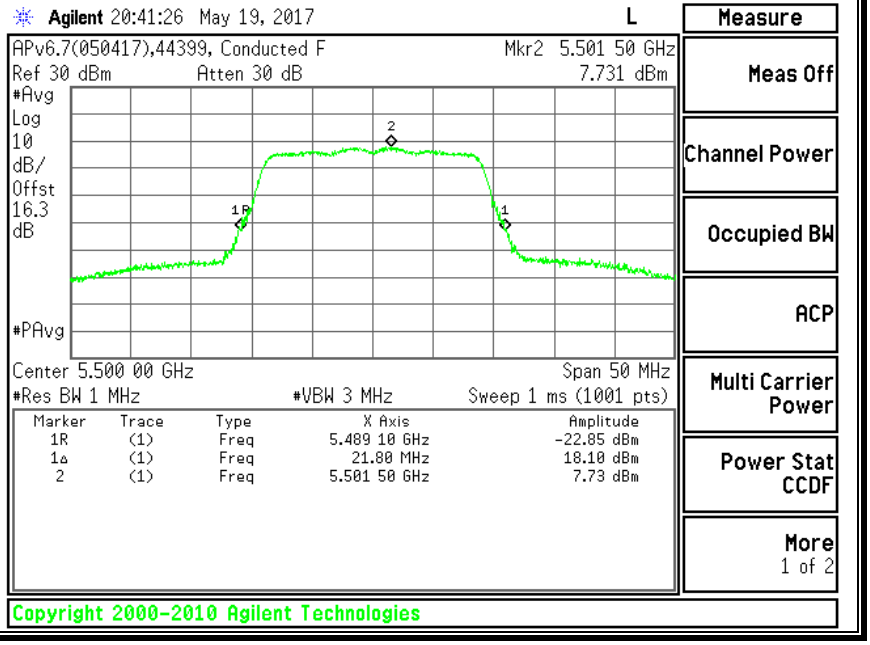
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	17.93	17.88	20.92	23.49	-2.57
Mid	5580	17.86	17.91	20.90	23.45	-2.55
High	5700	17.93	17.85	20.90	23.48	-2.58

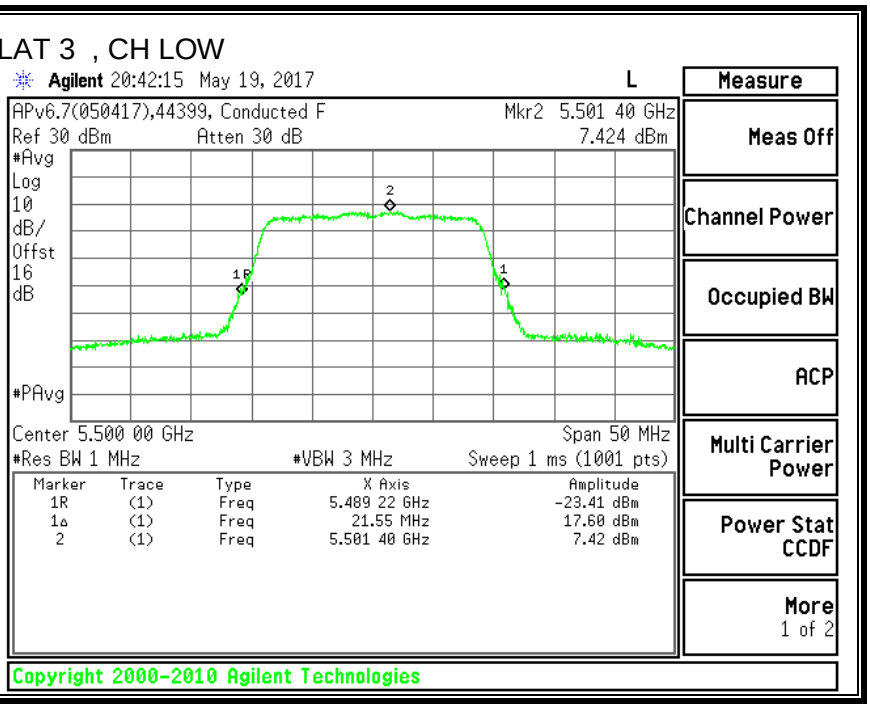
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5500	7.73	7.42	10.59	11.00	-0.41
Mid	5580	7.80	7.81	10.81	11.00	-0.19
High	5700	7.79	7.99	10.90	11.00	-0.10

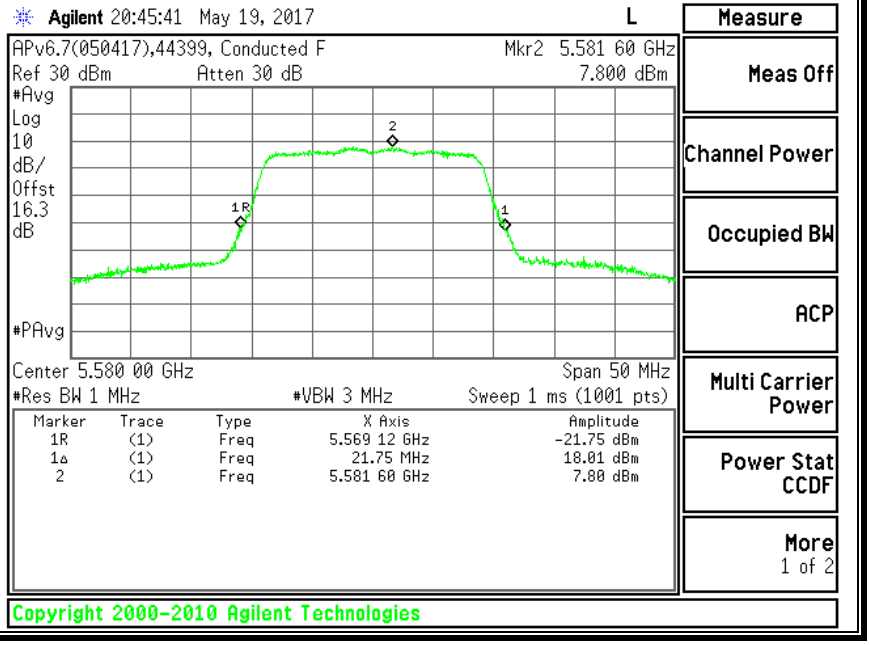
UAT 2 , CH LOW



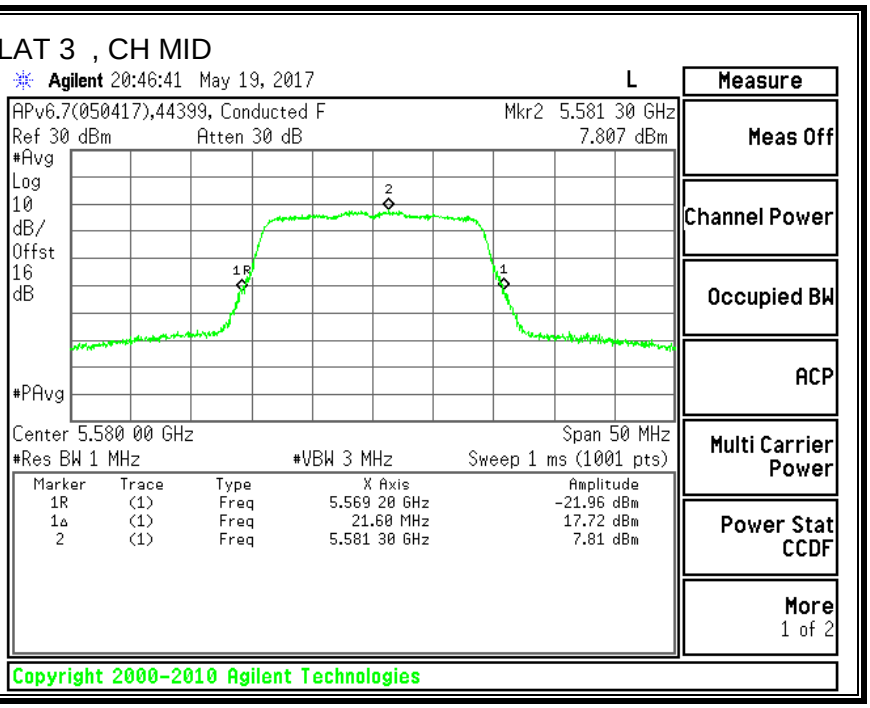
LAT 3 , CH LOW



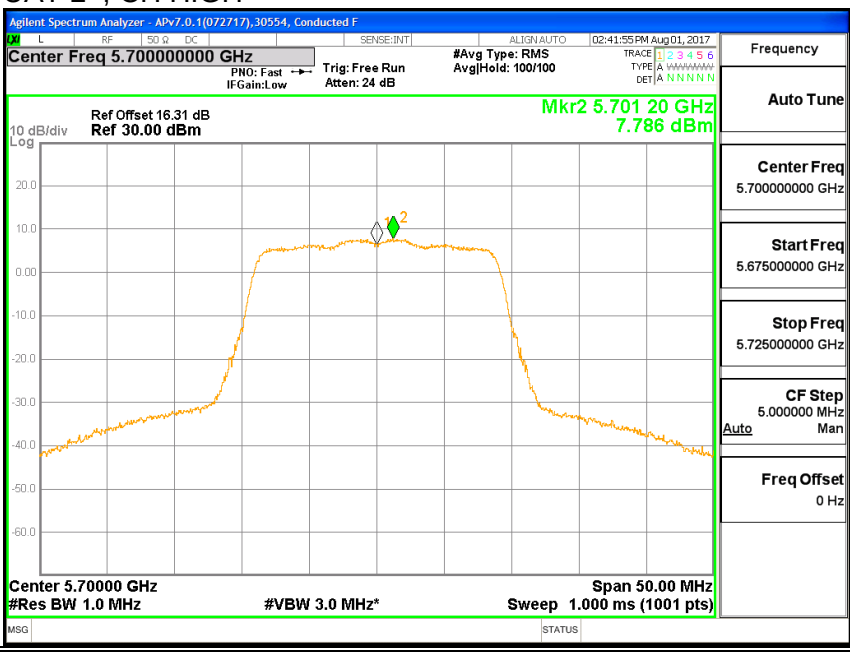
UAT 2 , CH MID



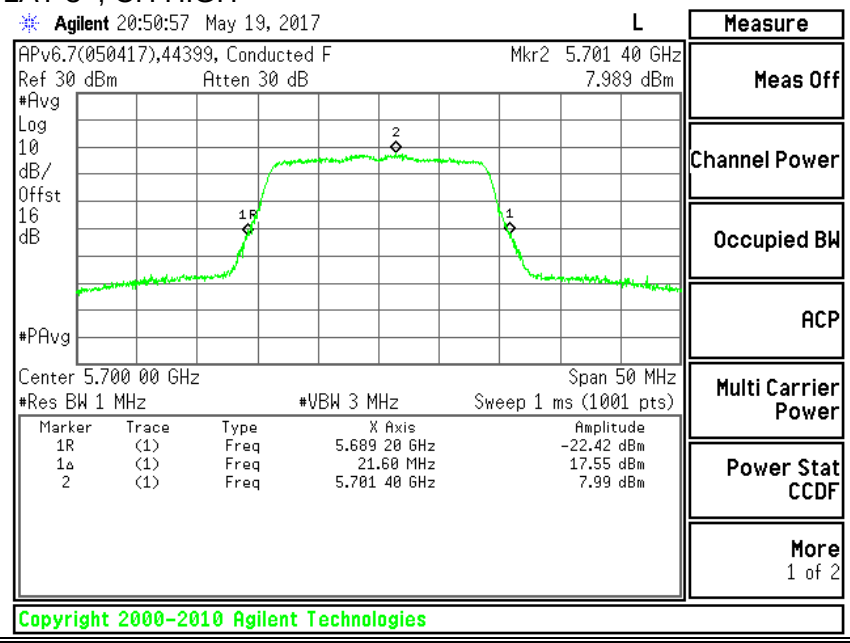
LAT 3 , CH MID



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.24. 11ac HT20 2TX CDD MIMO STRADDLE CHANNEL 144

8.24.1. OUTPUT POWER AND PPSD

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/1MHz)
144	5720	21.65	-4.36	-1.58	24.00	11.00

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

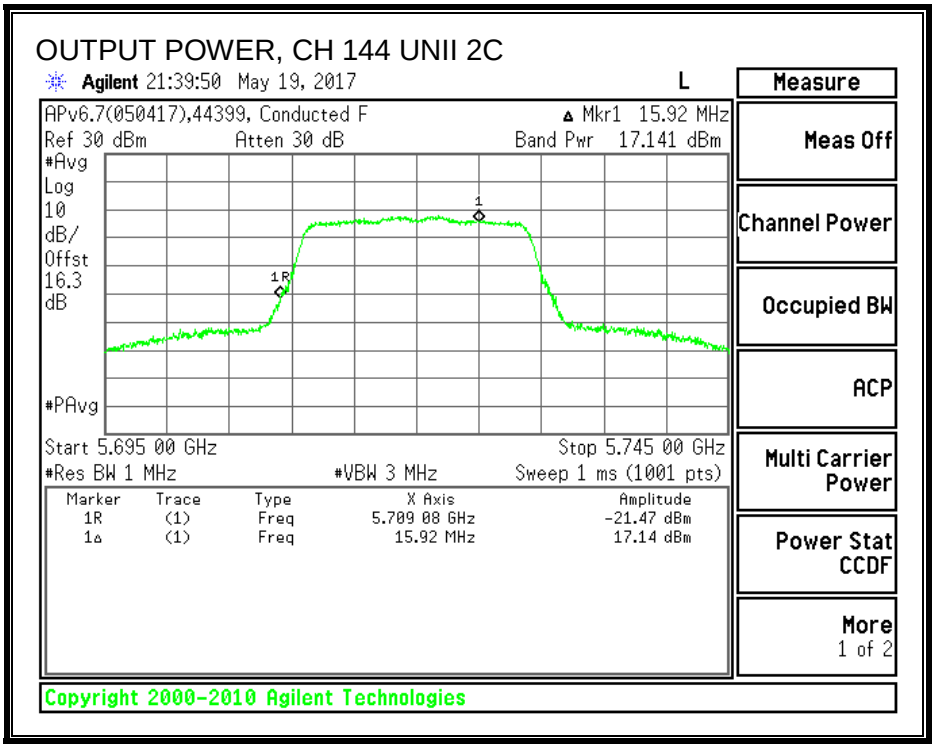
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	17.14	16.83	20.00	24.00	-4.00

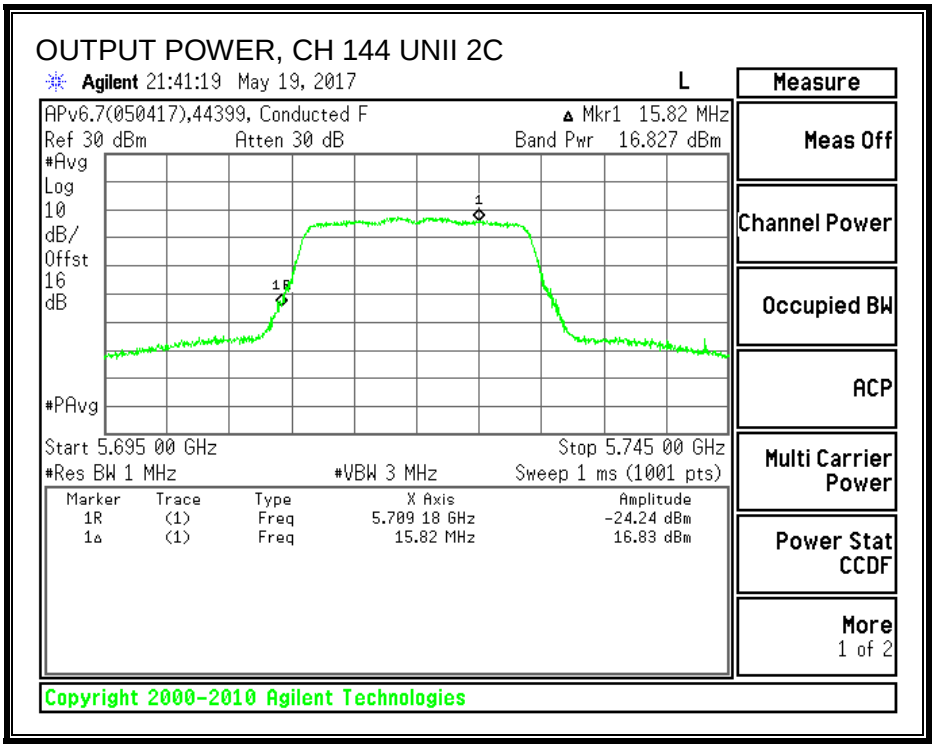
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
144	5720	7.81	7.54	10.69	11.00	-0.31

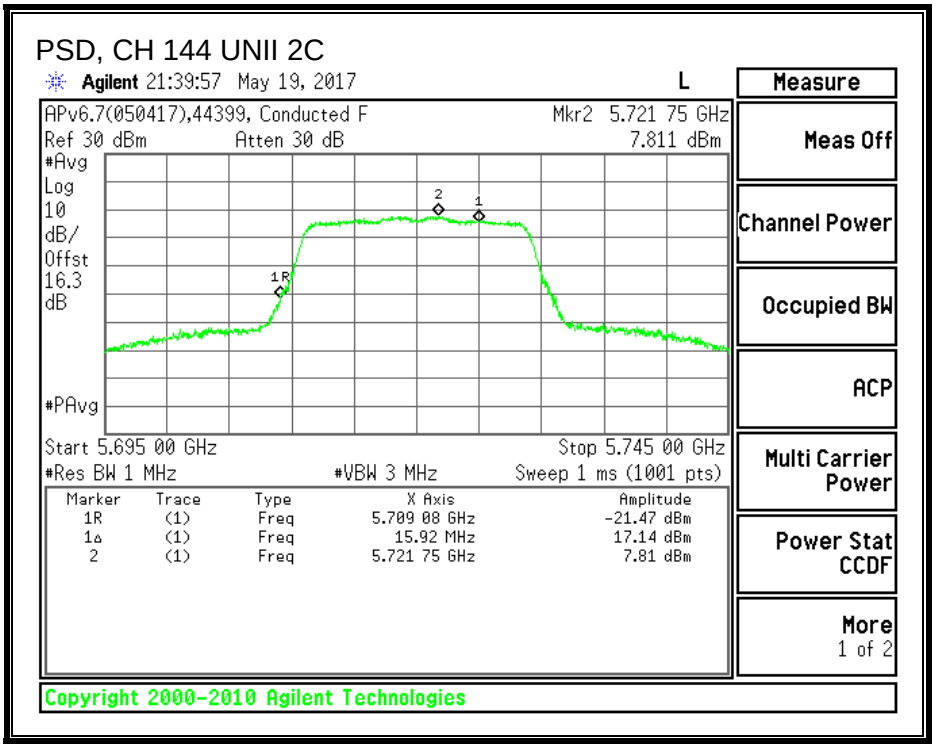
OUTPUT POWER, UAT 2



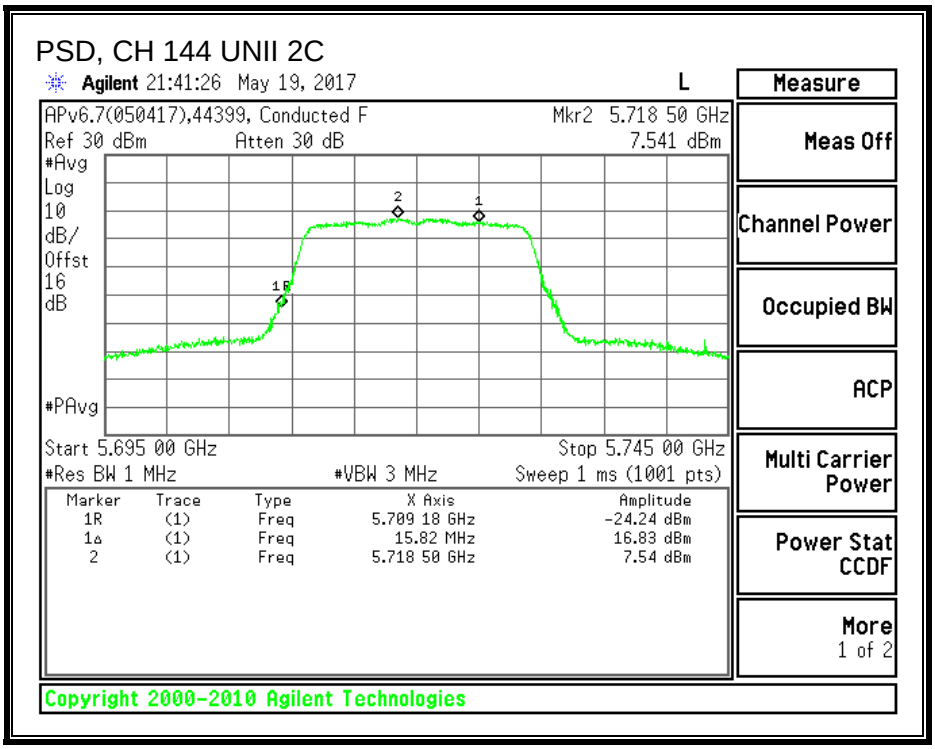
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



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)
144	5720	21.65	-4.73	-1.82	30.00	30.00

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

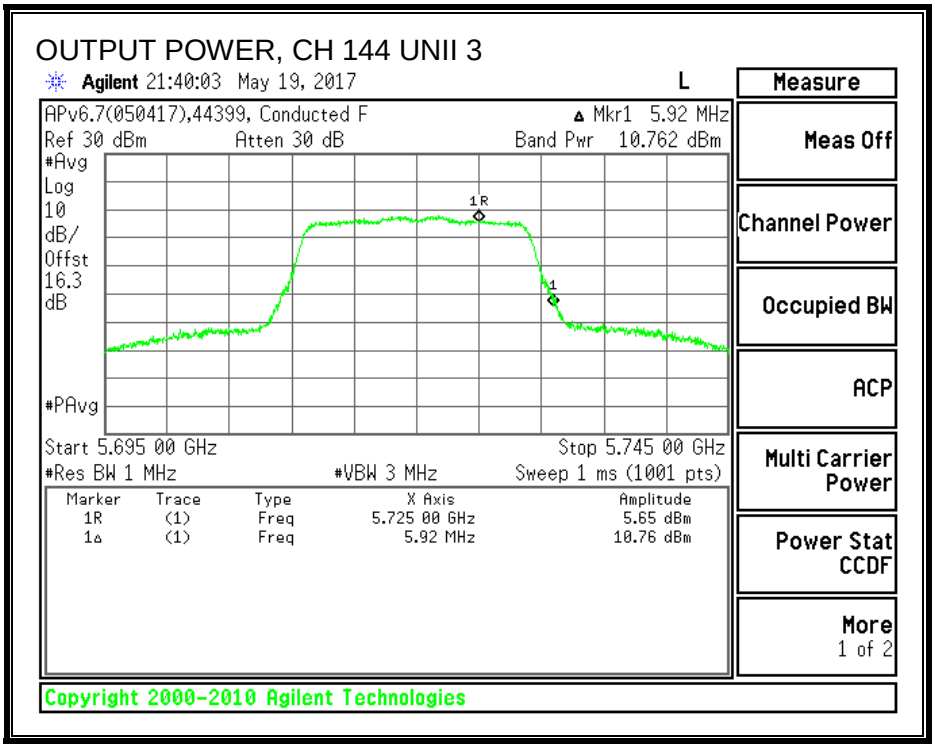
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	10.76	10.50	13.64	30.00	-16.36

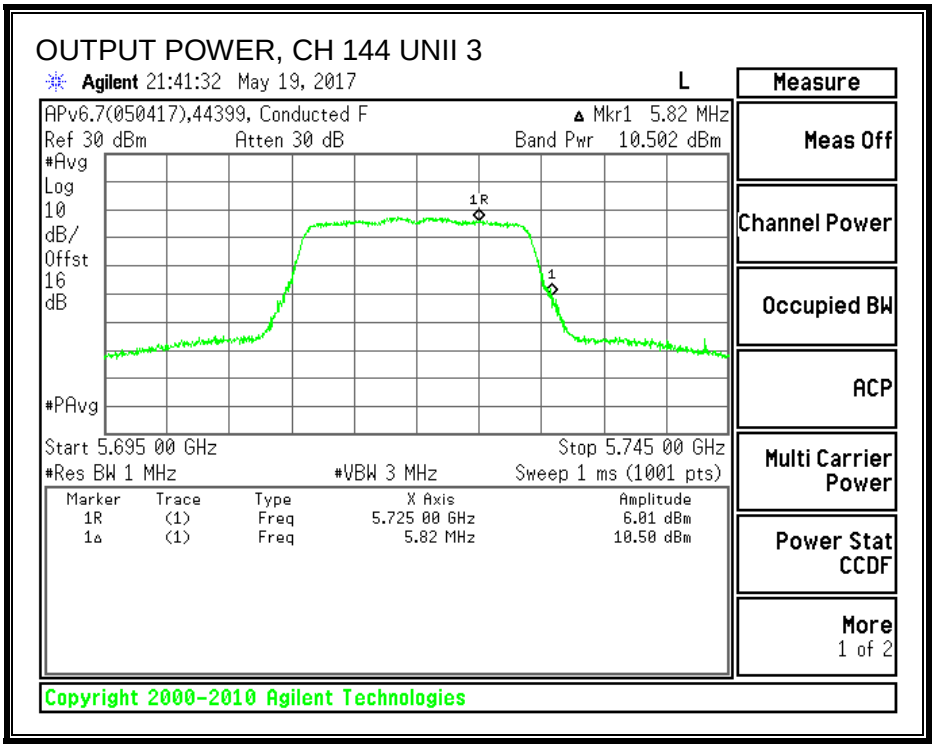
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	3.38	2.94	6.18	30.00	-23.82

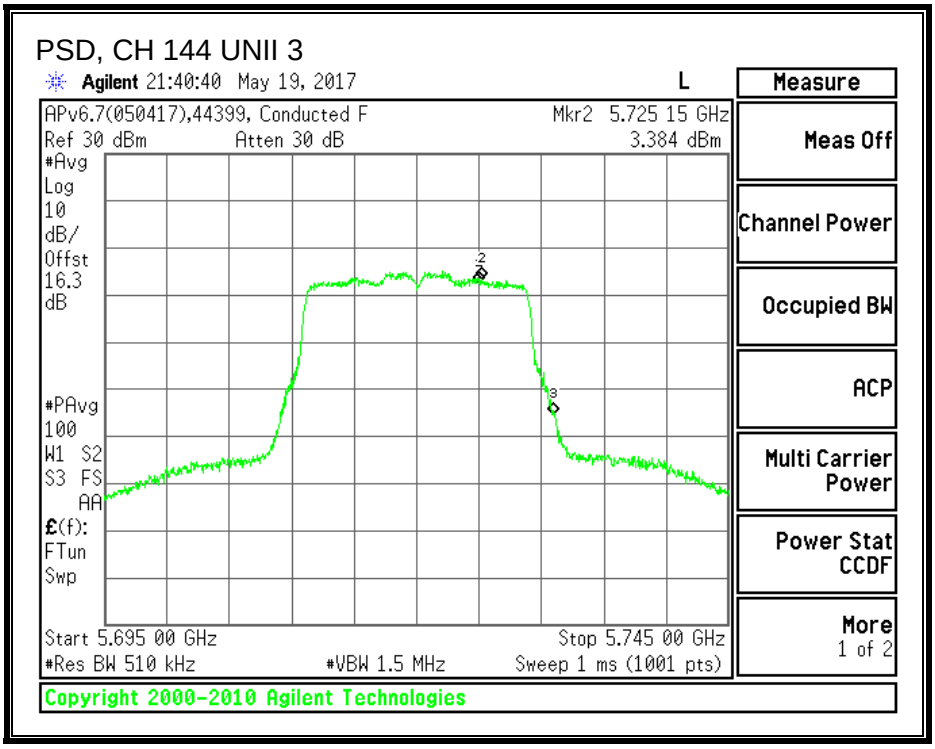
OUTPUT POWER, UAT 2



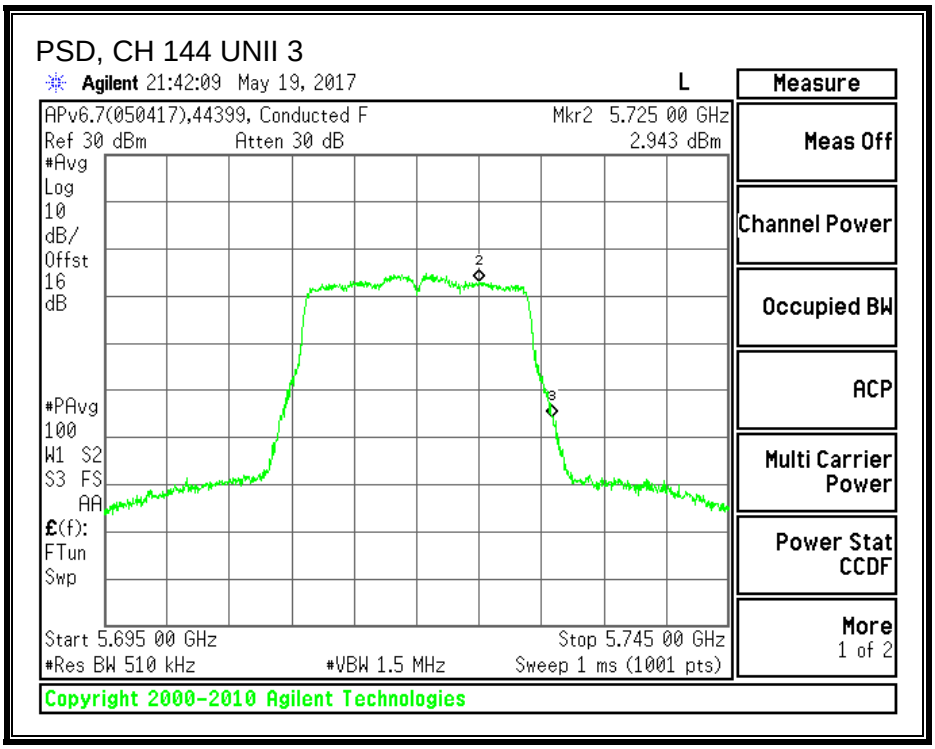
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



8.24.2. 6 dB BANDWIDTH

LIMITS

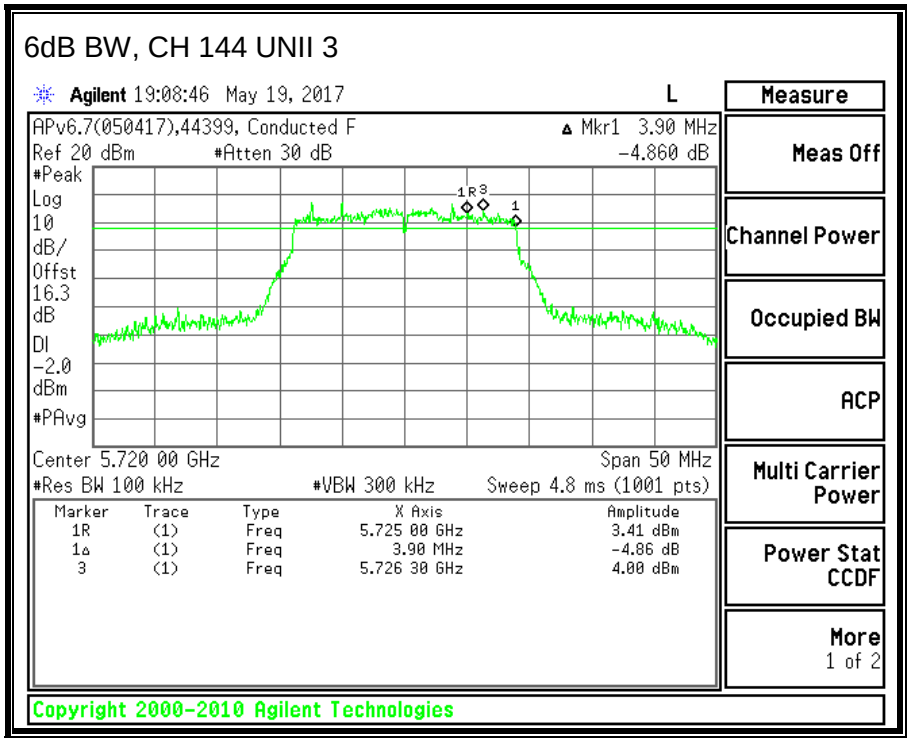
FCC §15.407 (e)

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

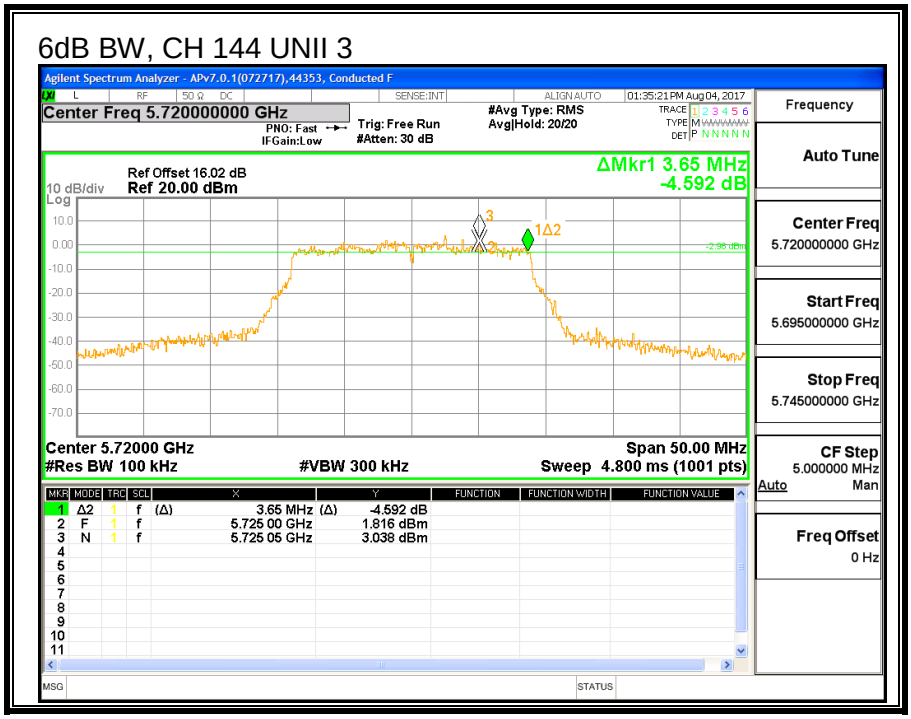
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
144	5720	3.90	3.65

UAT 2



LAT 3



8.25. 11n HT40 UAT 2 SISO MODE IN THE 5.6GHz BAND

8.25.1. 26 dB BANDWIDTH

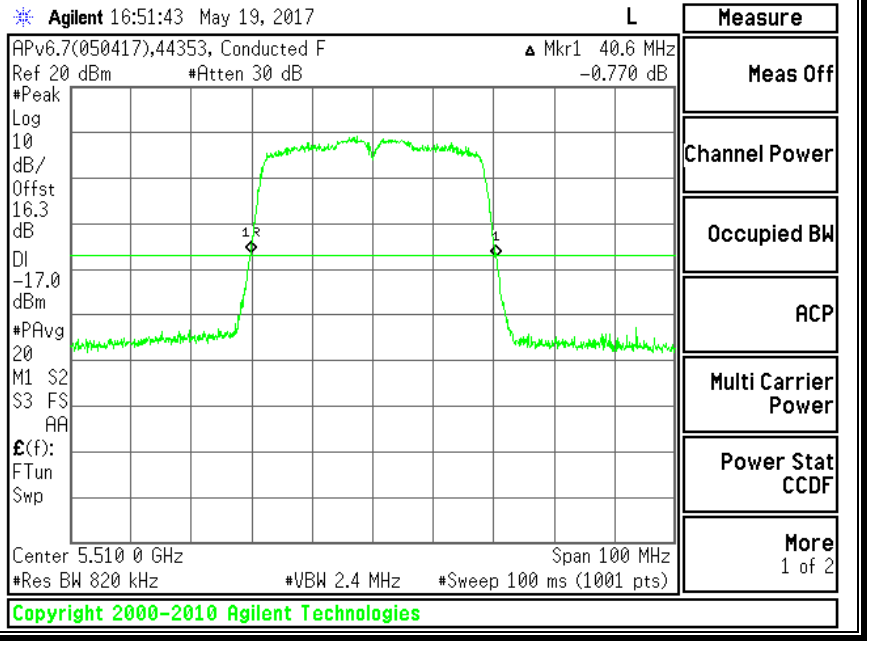
LIMITS

None; for reporting purposes only.

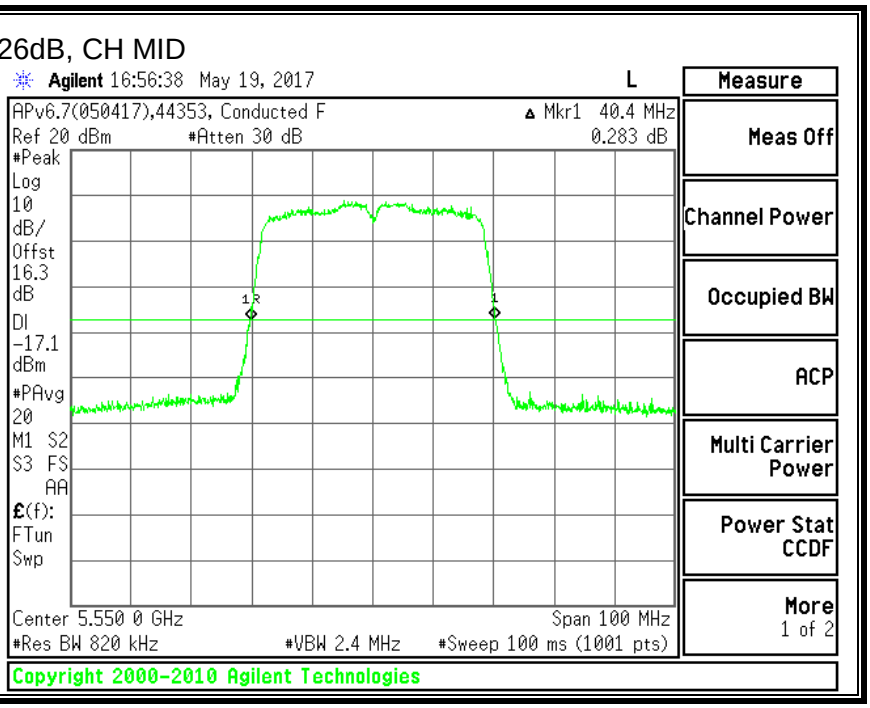
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5510	40.6
Mid	5550	40.4
High	5670	40.5
142	5710	40.4

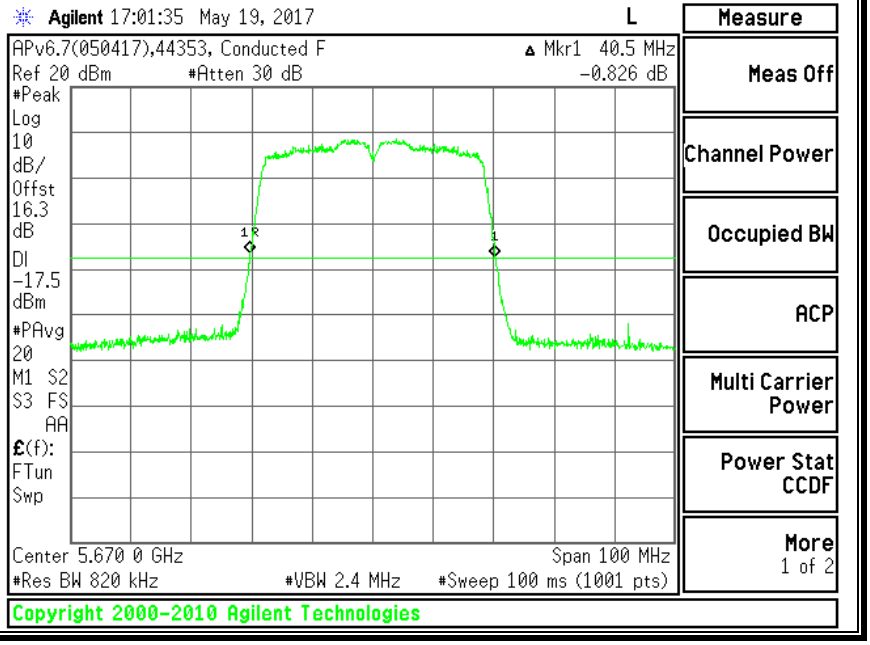
26dB, CH LOW



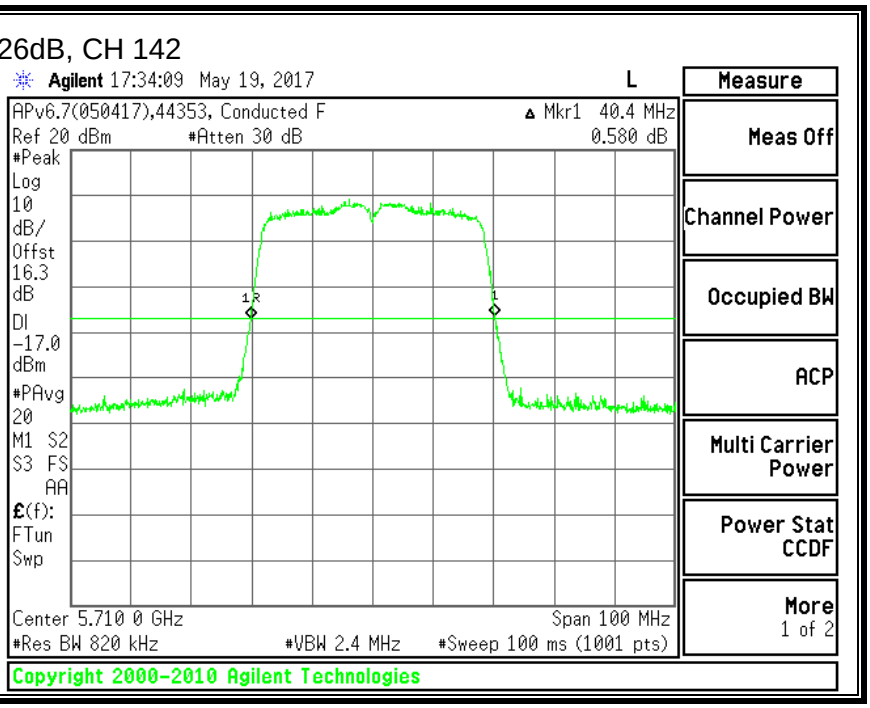
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.25.2. 99% BANDWIDTH

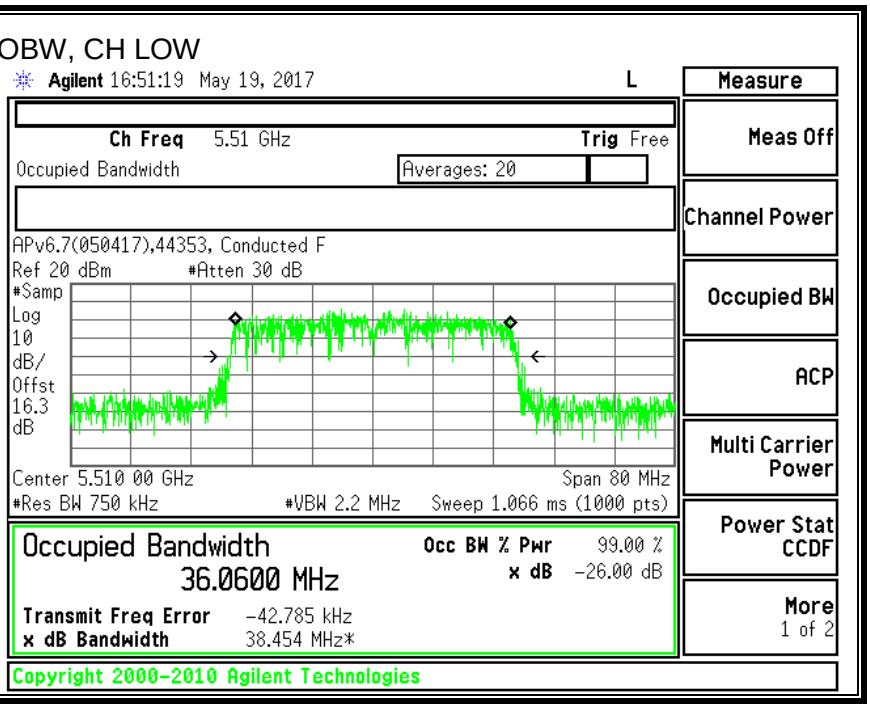
LIMITS

None; for reporting purposes only.

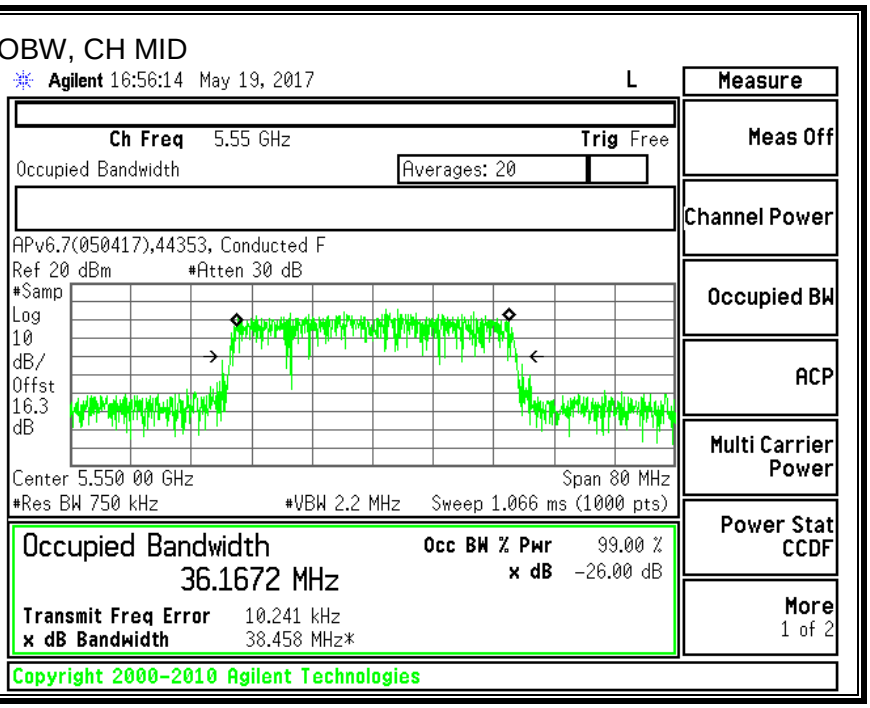
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5510	36.0600
Mid	5550	36.1672
High	5670	36.1599
142	5710	36.0809

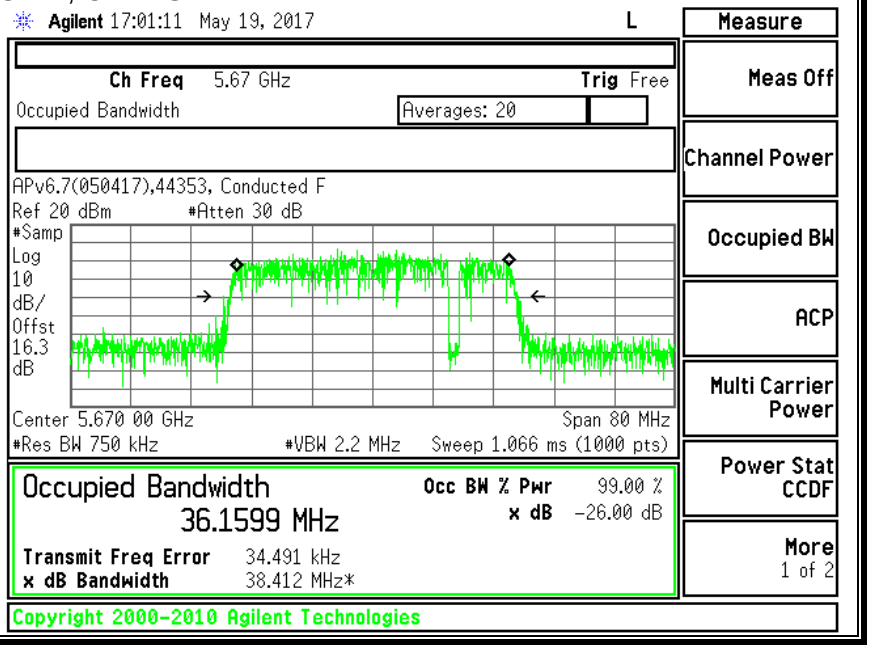
OBW, CH LOW



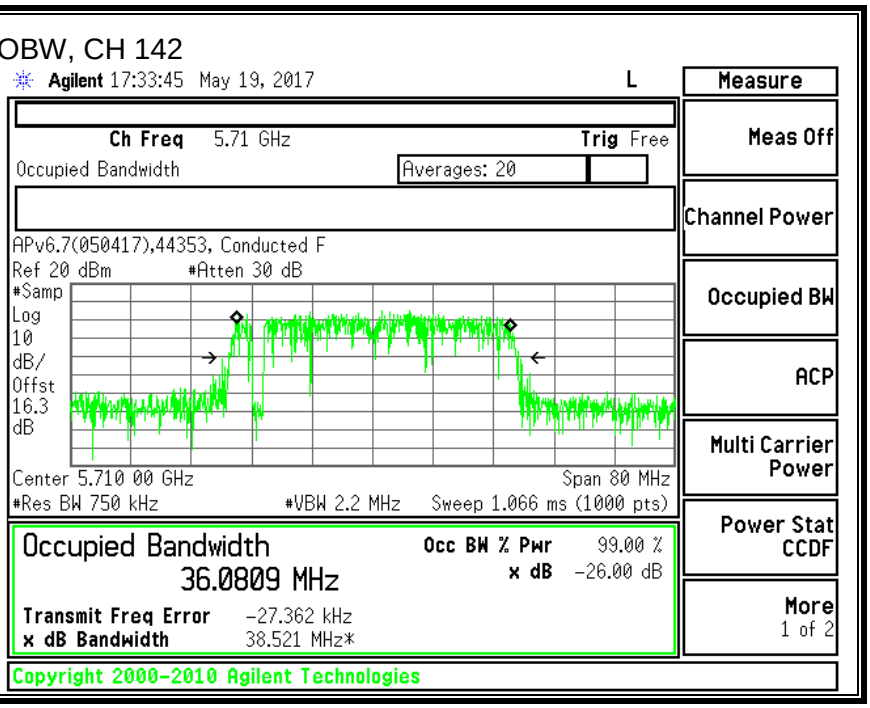
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.25.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5510	17.79
Mid	5550	19.42
High	5670	19.39
142	5710	19.43

8.25.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5510	40.60	36.060	-2.77	24.00	11.00
Mid	5550	40.40	36.167	-2.77	24.00	11.00
High	5670	40.50	36.160	-2.77	24.00	11.00

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

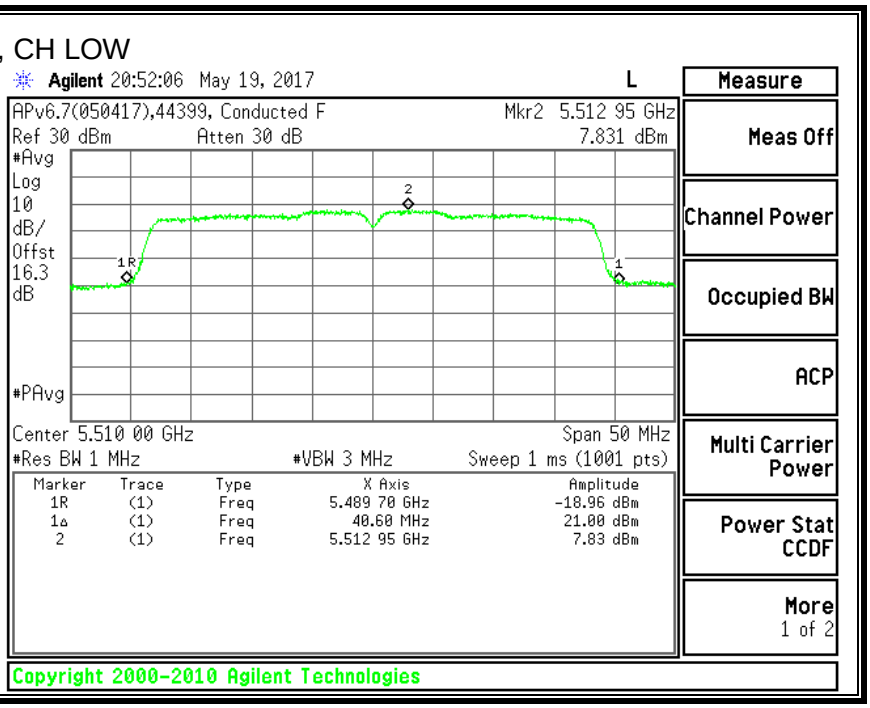
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	17.79	17.79	24.00	-6.21
Mid	5550	19.42	19.42	24.00	-4.58
High	5670	19.39	19.39	24.00	-4.61

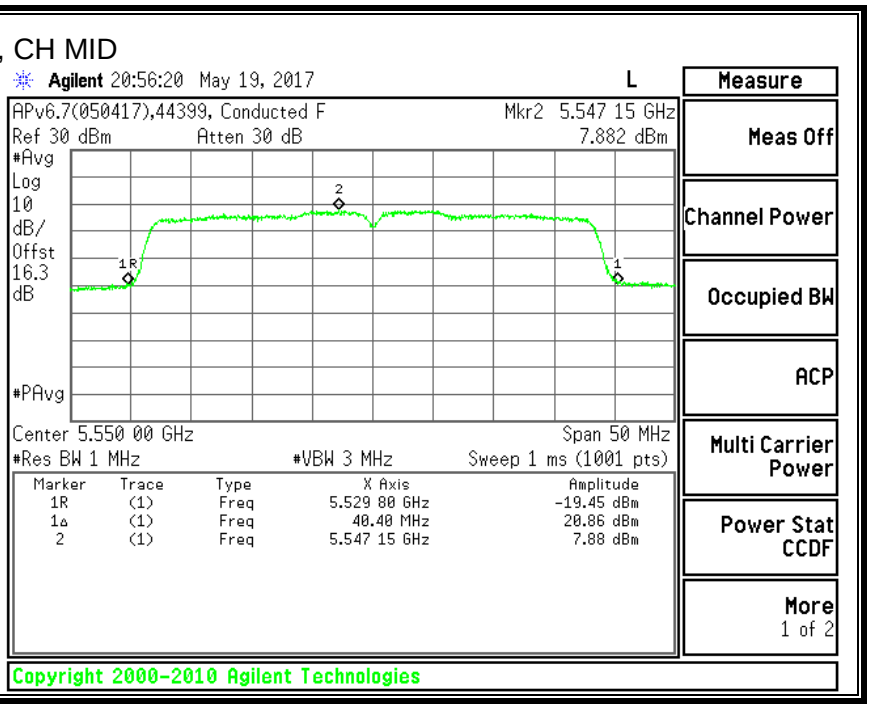
PSD Results

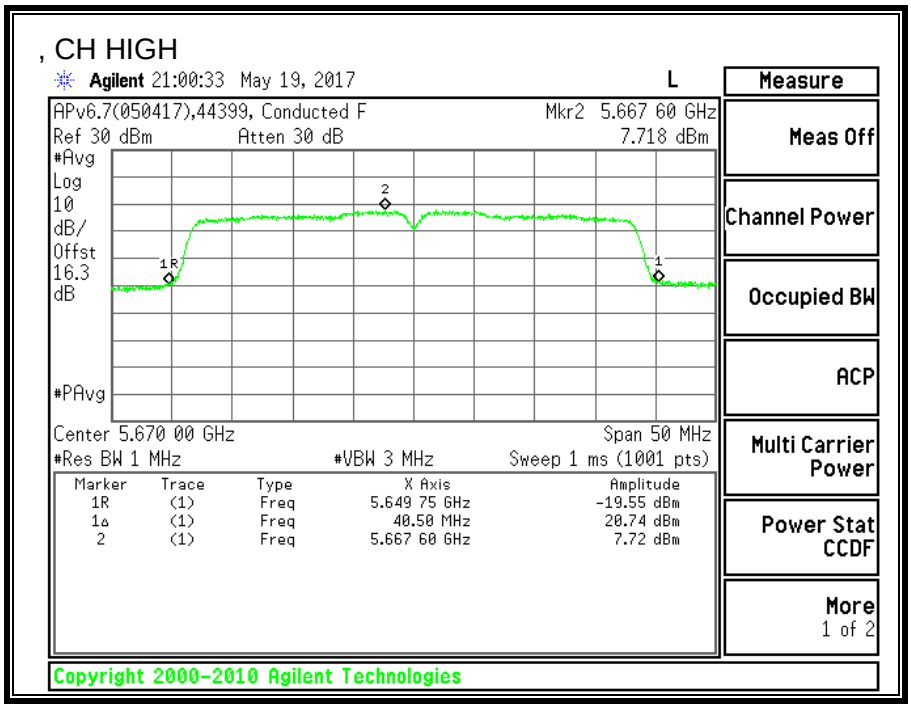
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5510	7.83	7.93	11.00	-3.07
Mid	5550	7.88	7.98	11.00	-3.02
High	5670	7.72	7.82	11.00	-3.18

, CH LOW



, CH MID





8.26. 11ac HT40 UAT 2 SISO STRADDLE CHANNEL 142

8.26.1. OUTPUT POWER AND PPSD

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/1MHz
142	5710	40.40	-2.77	-2.77	24.00	11.00

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

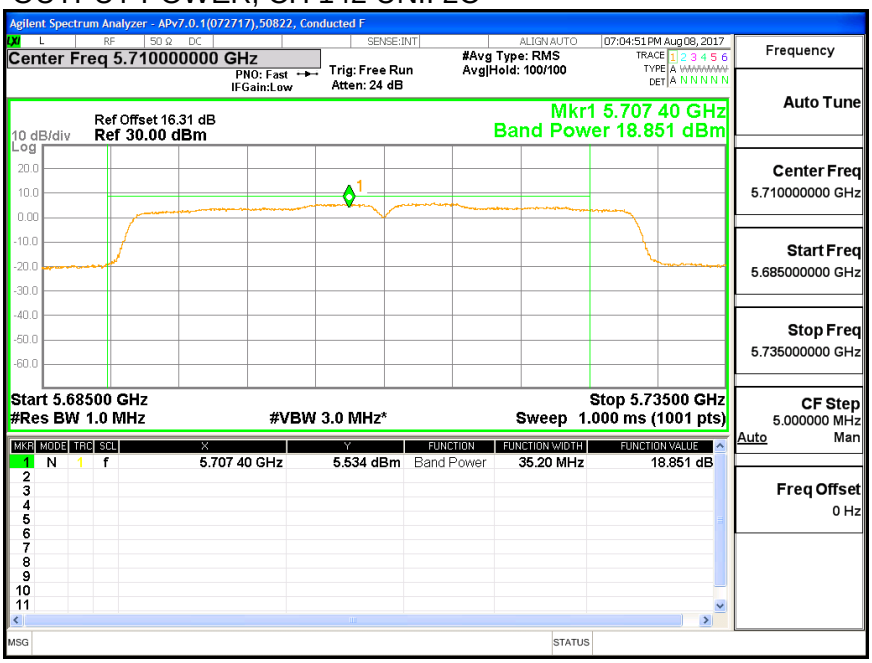
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	18.85	18.95	24.00	-5.05

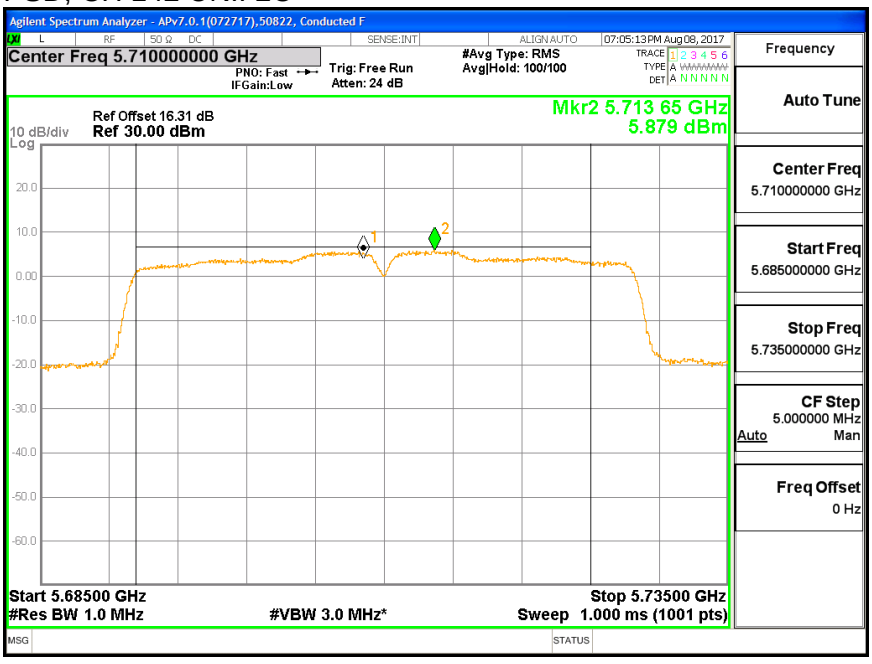
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
142	5710	5.88	5.98	11.00	-5.02

OUTPUT POWER, CH 142 UNII 2C



PSD, CH 142 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)
142	5710	22.05	-3.57	30.00	30.00

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

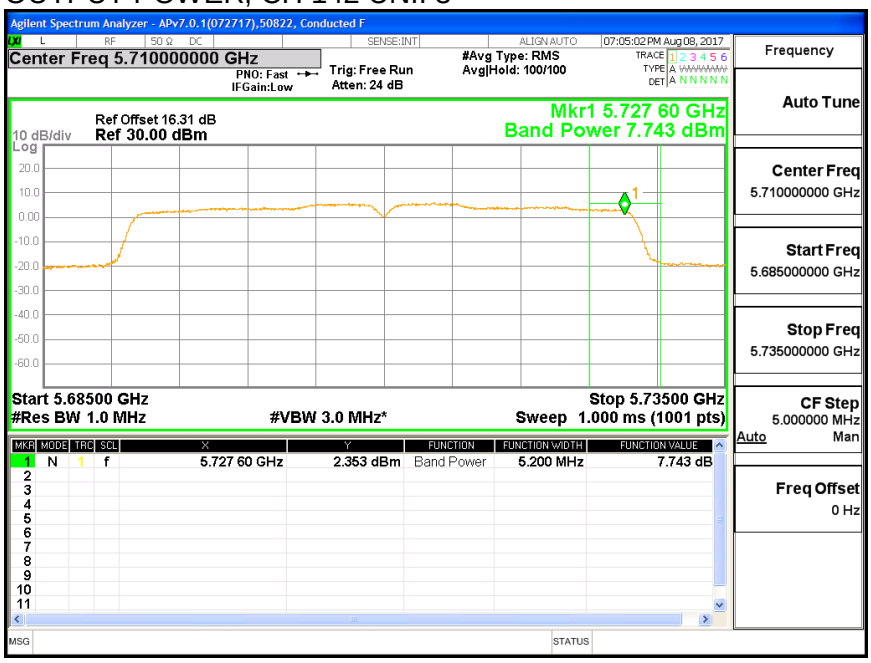
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.74	7.84	30.00	-22.16

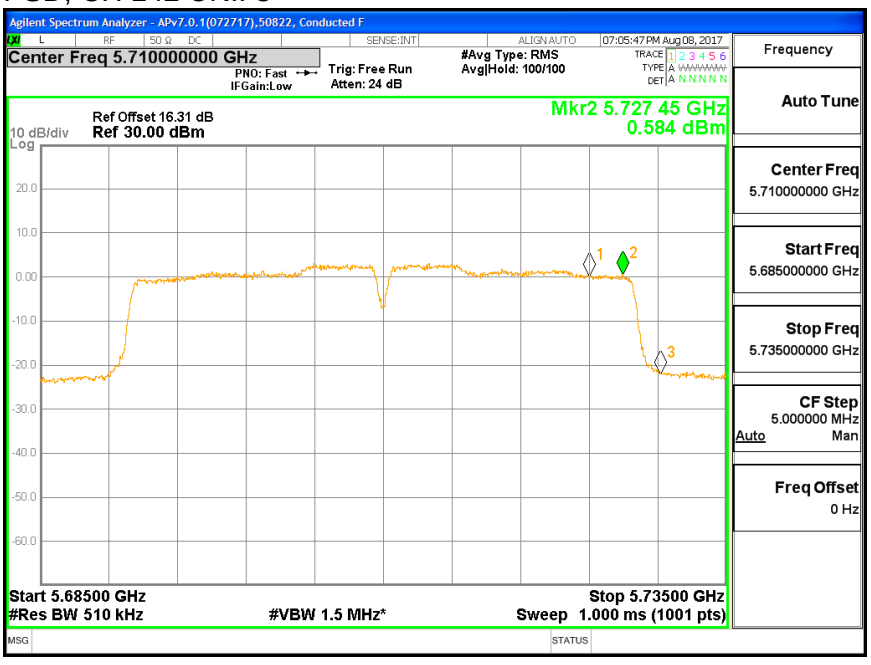
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.58	0.68	30.00	-29.32

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.26.2. 6 dB BANDWIDTH

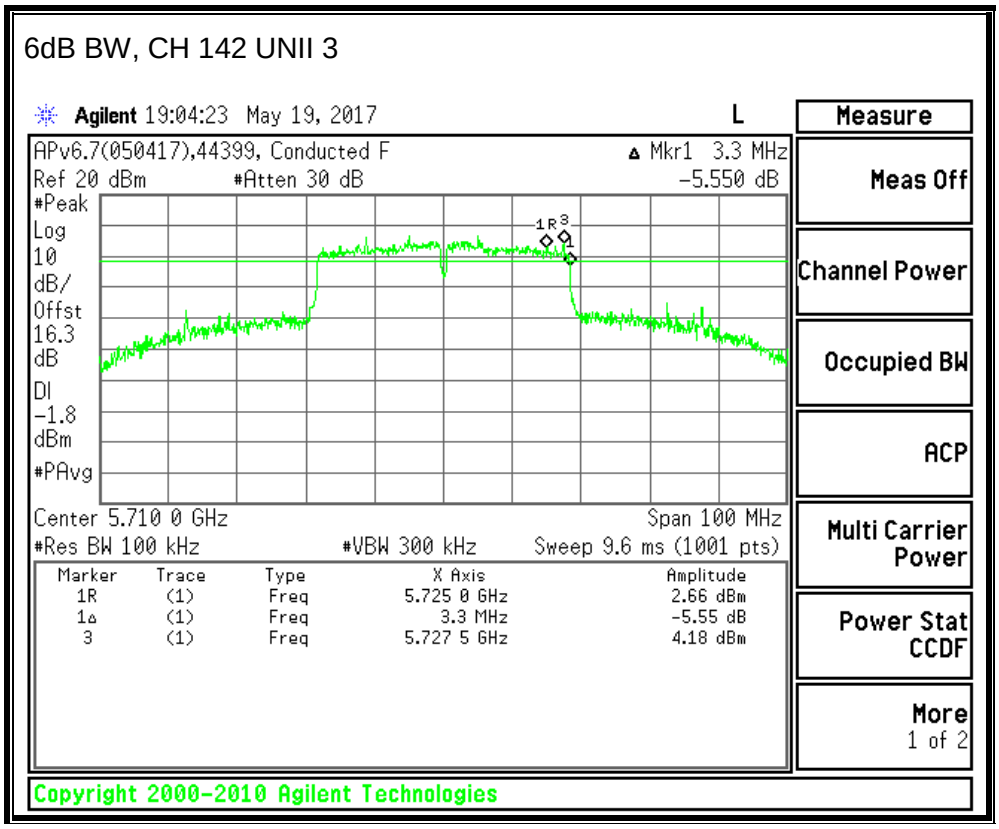
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
142	5710	3.30



8.27. 11n HT40 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.27.1. 26 dB BANDWIDTH

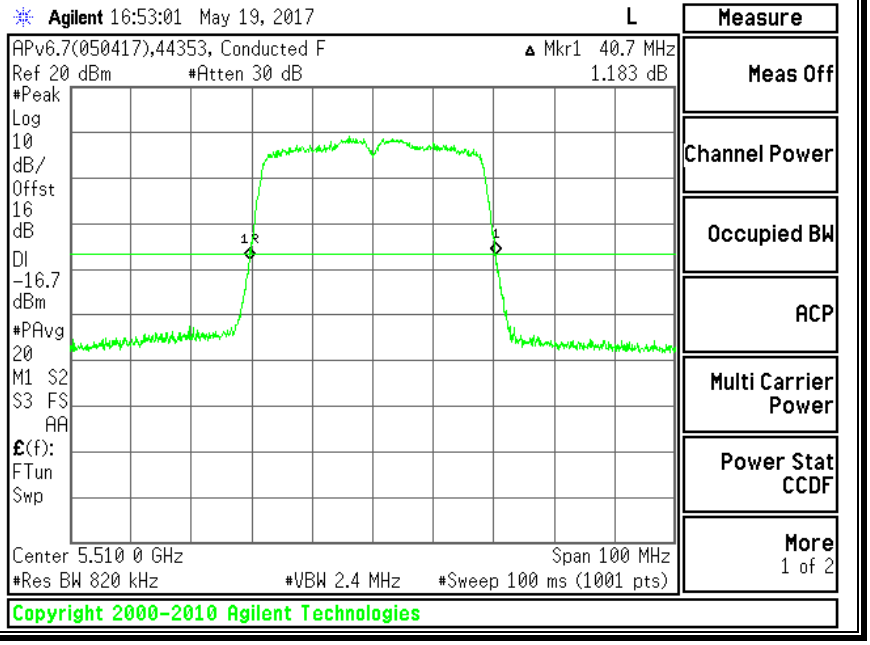
LIMITS

None; for reporting purposes only.

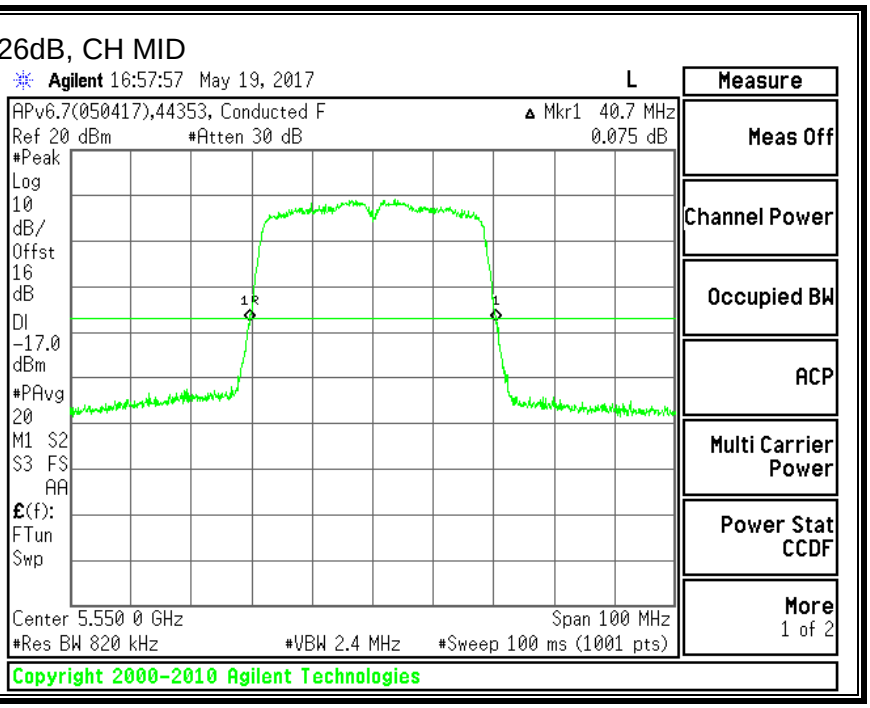
RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5510	40.7
Mid	5550	40.7
High	5670	40.7
142	5710	40.7

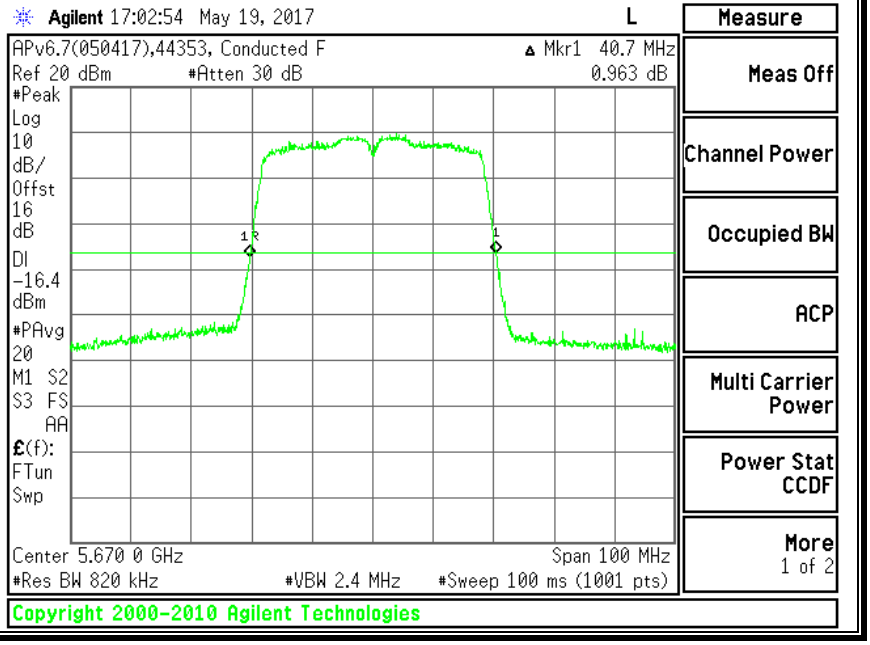
26dB, CH LOW



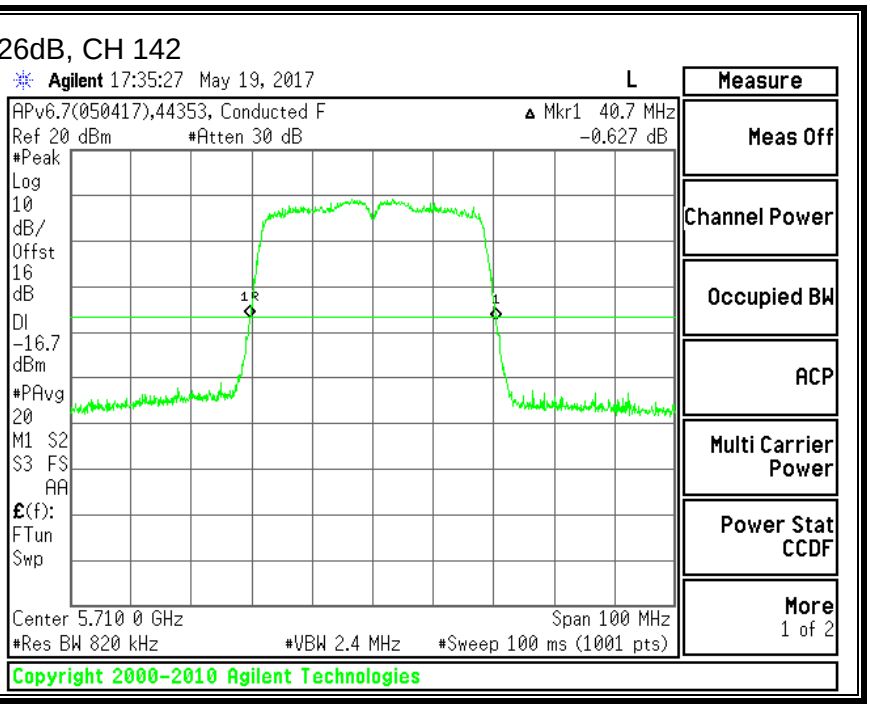
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.27.2. 99% BANDWIDTH

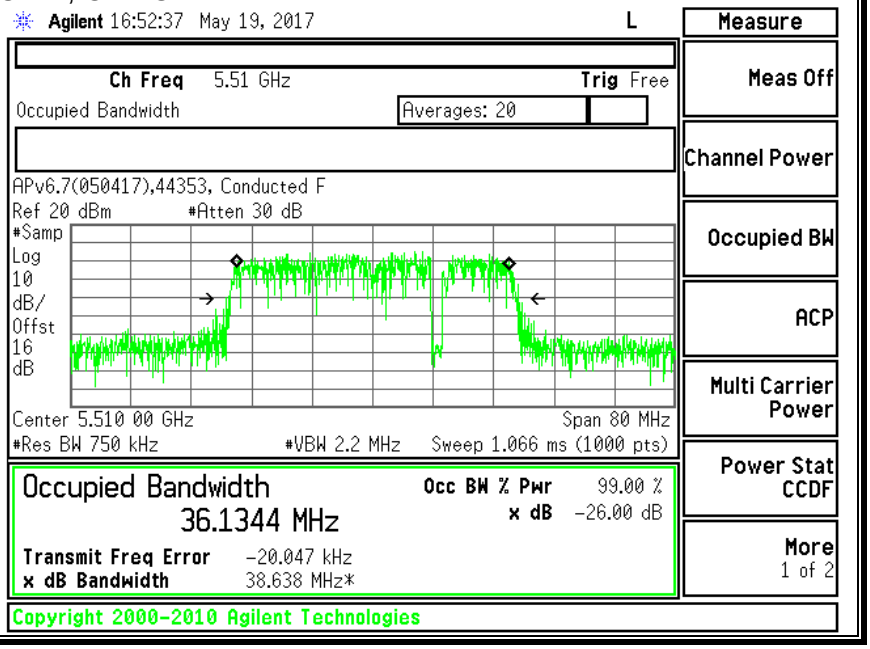
LIMITS

None; for reporting purposes only.

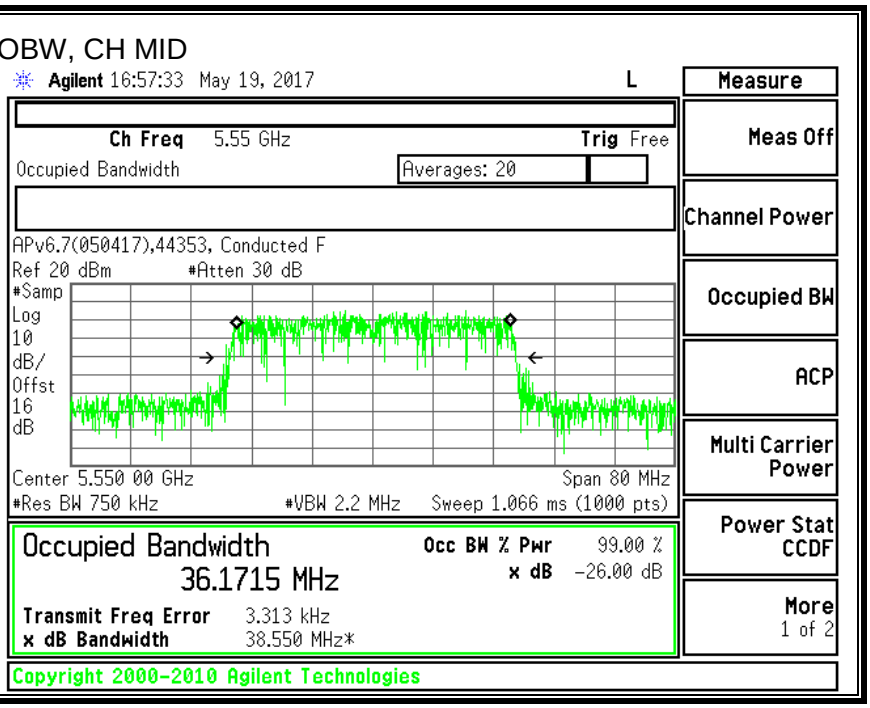
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5510	36.1344
Mid	5550	36.1715
High	5670	35.9795
142	5710	36.2129

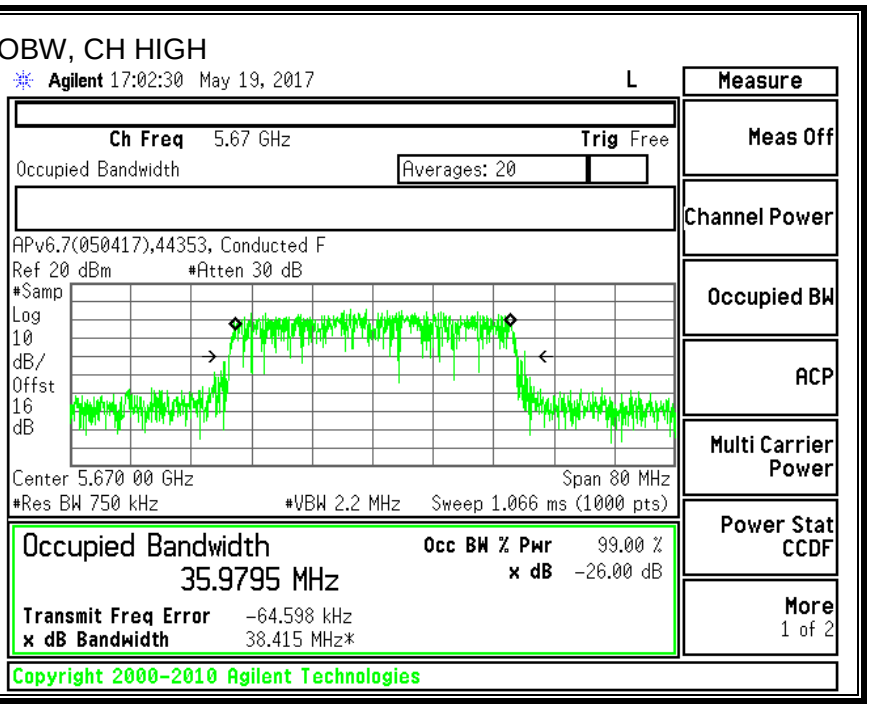
OBW, CH LOW



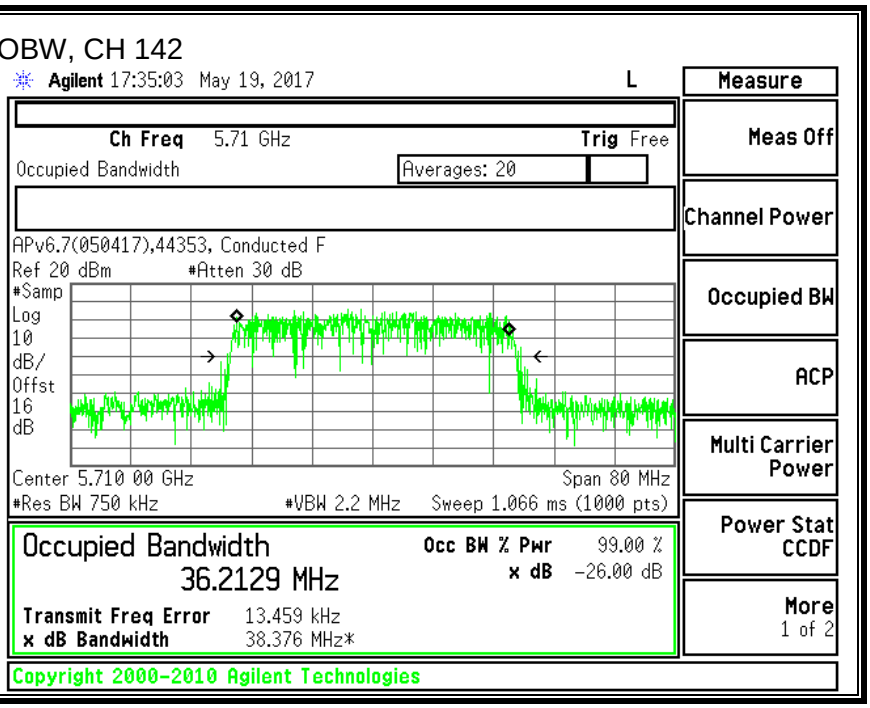
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.27.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5510	17.86
Mid	5550	19.36
High	5670	19.41
142	5710	19.45

8.27.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5510	40.70	36.13	-6.89	24.00	11.00
Mid	5550	40.70	36.17	-6.89	24.00	11.00
High	5670	40.70	35.98	-6.89	24.00	11.00

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

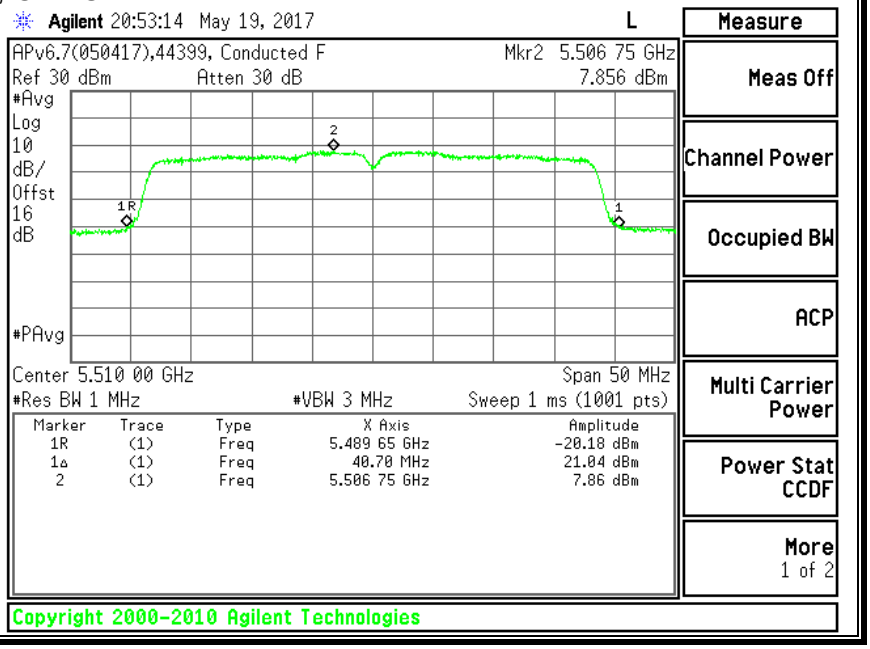
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	17.86	17.86	24.00	-6.14
Mid	5550	19.36	19.36	24.00	-4.64
High	5670	19.41	19.41	24.00	-4.59

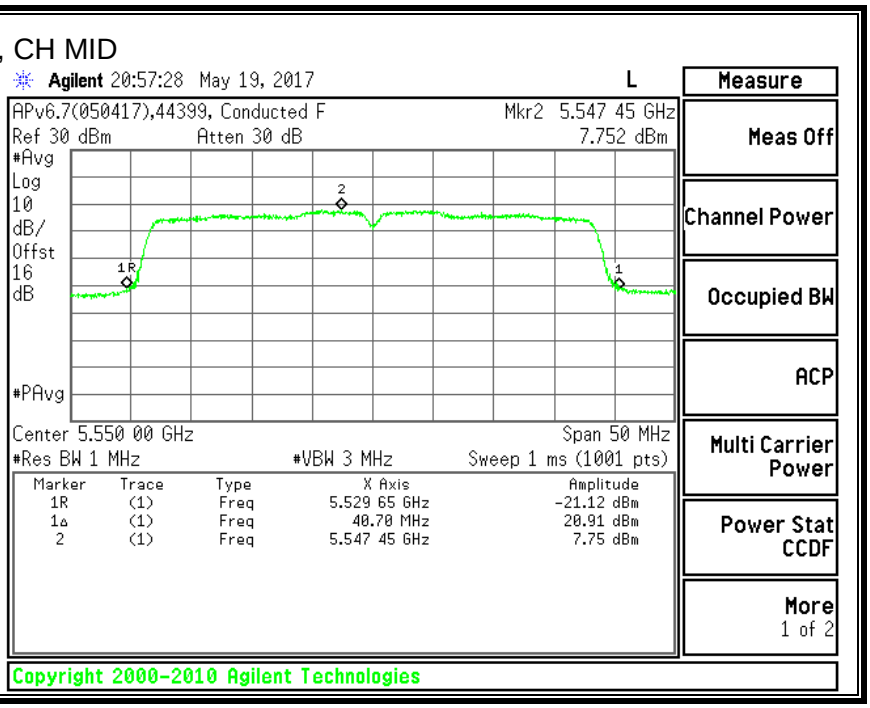
PSD Results

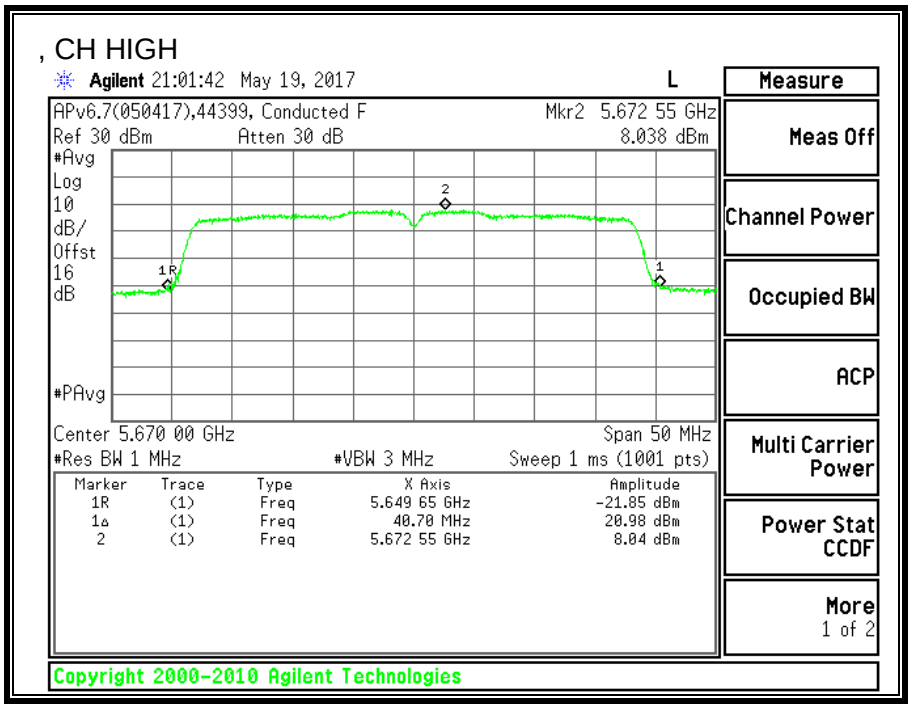
Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5510	7.86	7.96	11.00	-3.04
Mid	5550	7.75	7.85	11.00	-3.15
High	5670	8.04	8.14	11.00	-2.86

, CH LOW



, CH MID





8.28. 11ac HT40 LAT 3 SISO STRADDLE CHANNEL 142

8.28.1. OUTPUT POWER AND PPSD

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/1MHz)
142	5710	40.70	-6.89	-6.89	24.00	11.00

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

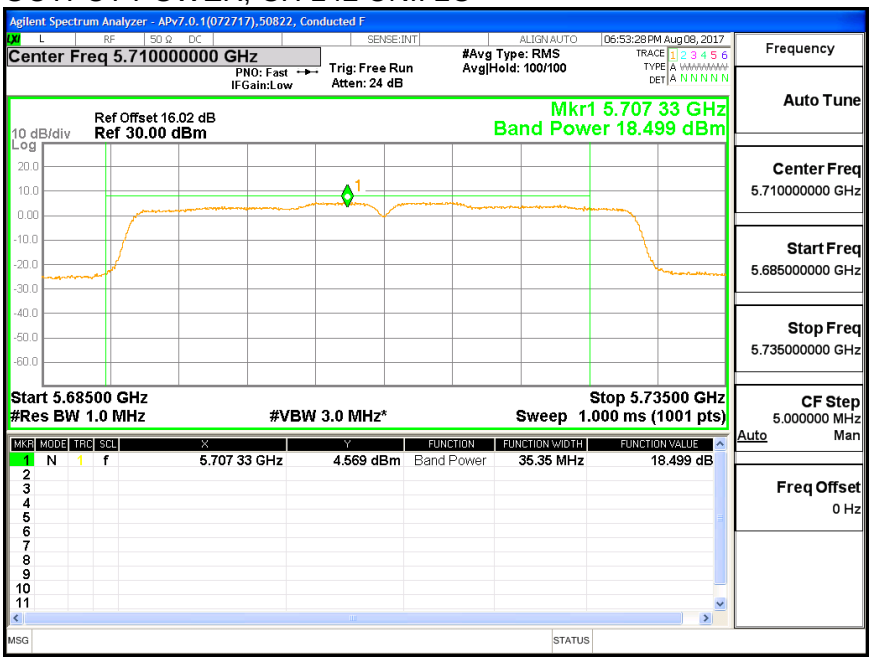
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	18.50	18.60	24.00	-5.40

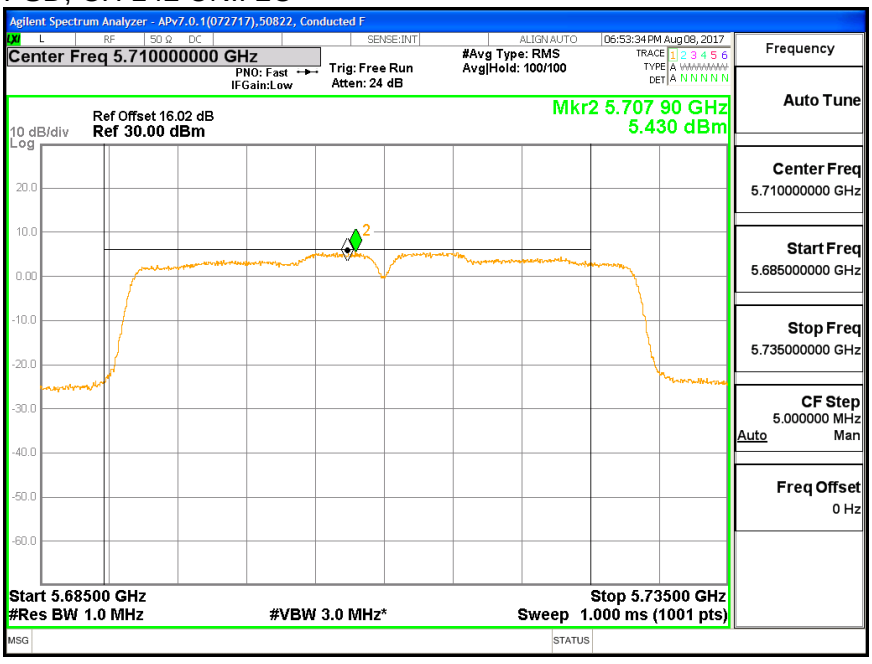
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
142	5710	5.43	5.53	11.00	-5.47

OUTPUT POWER, CH 142 UNII 2C



PSD, CH 142 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)
142	5710	40.70	-6.31	30.00	30.00

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

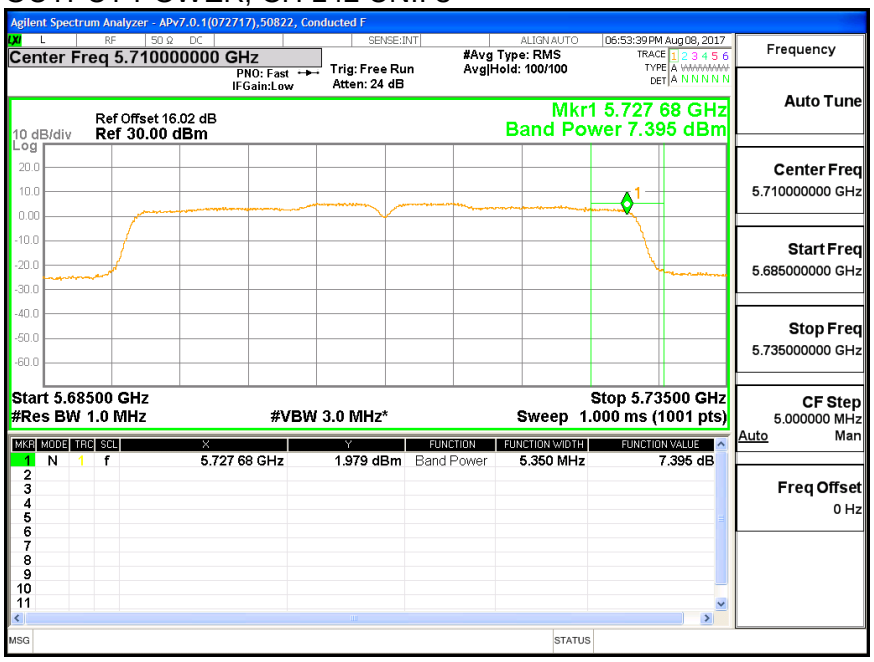
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.40	7.50	30.00	-22.51

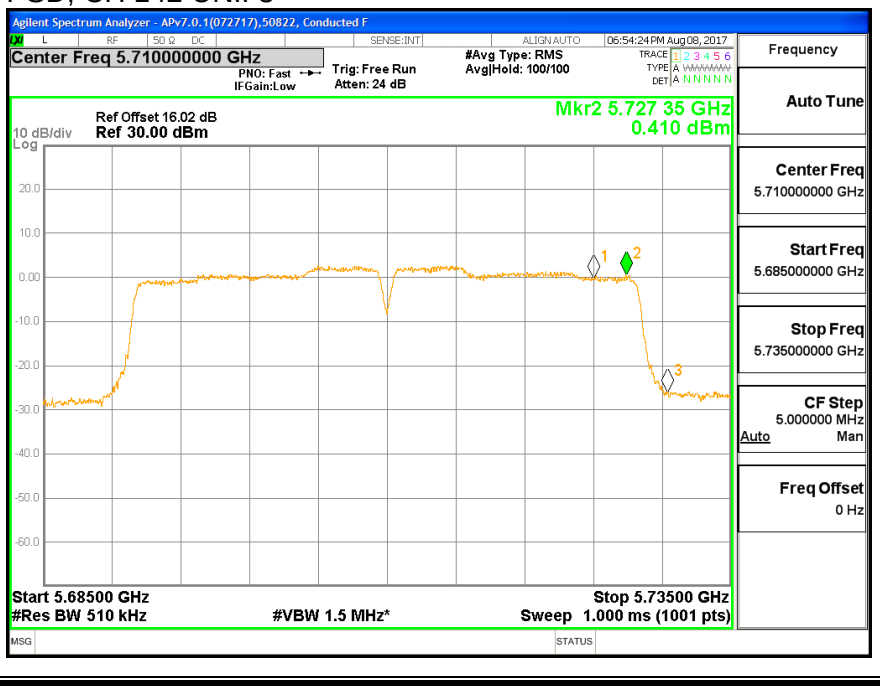
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.41	0.51	30.00	-29.49

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.28.2. 6 dB BANDWIDTH

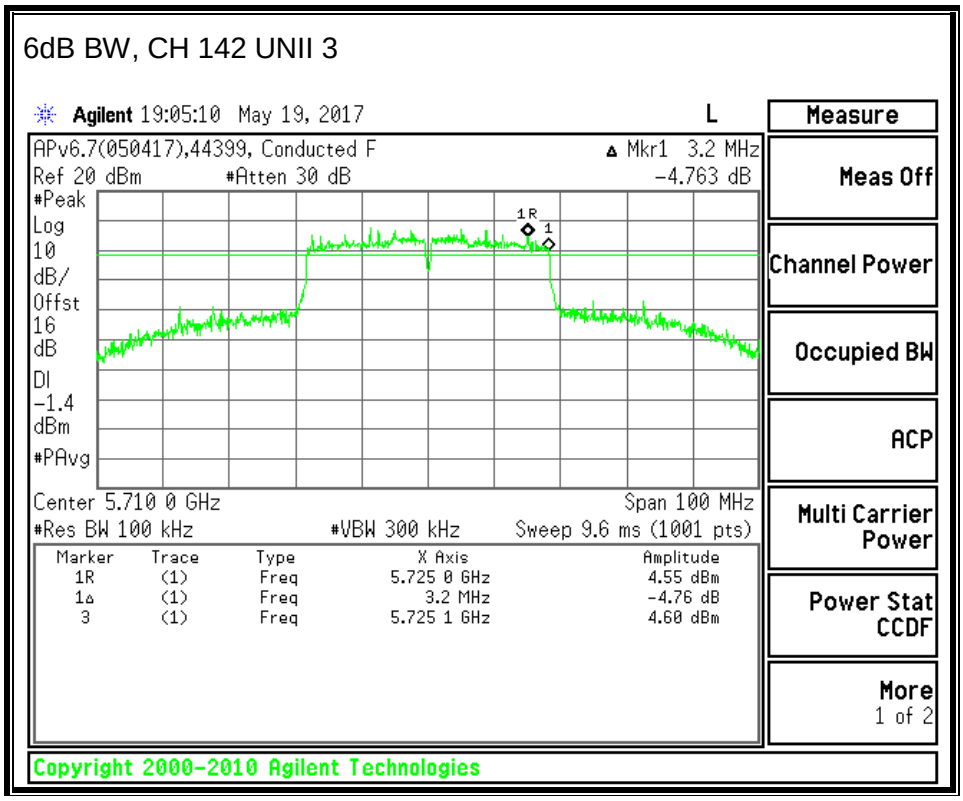
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
142	5710	3.20



8.29. 11n HT40 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.29.1. 26 dB BANDWIDTH

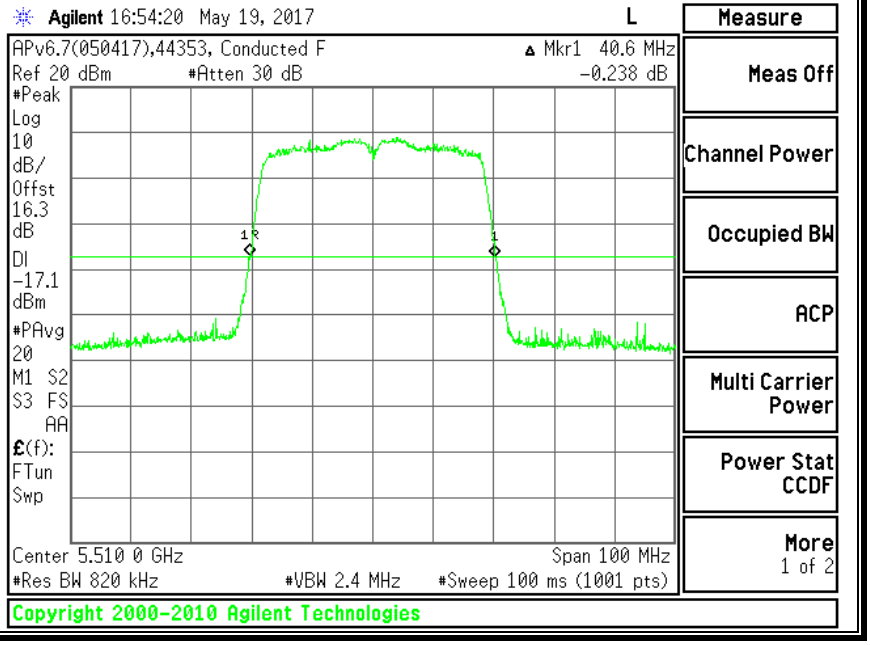
LIMITS

None; for reporting purposes only.

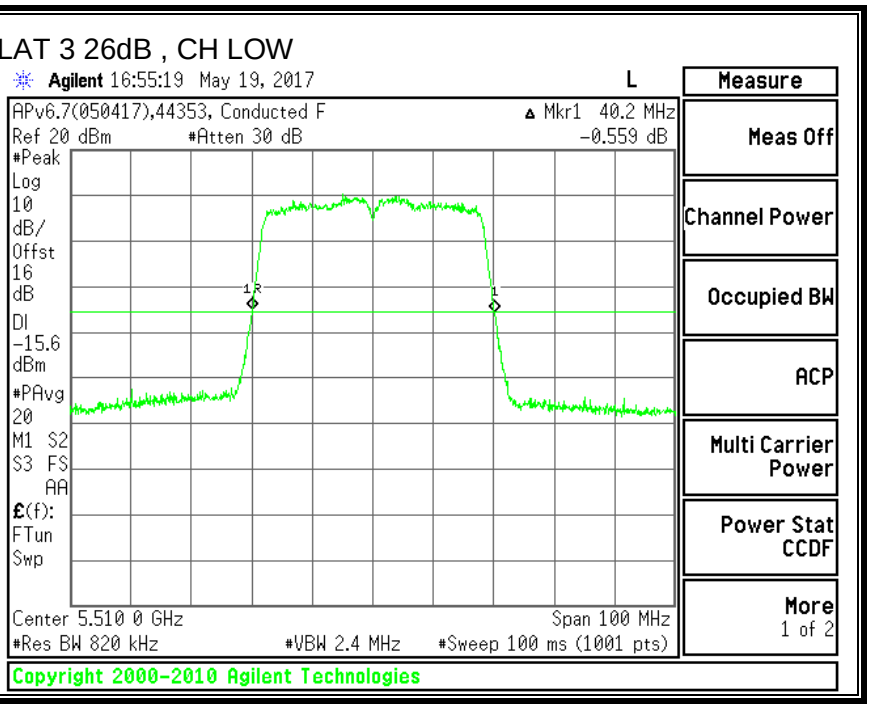
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5510	40.6	40.2
Mid	5550	40.7	40.1
High	5670	40.6	40.1
142	5710	40.6	40.1

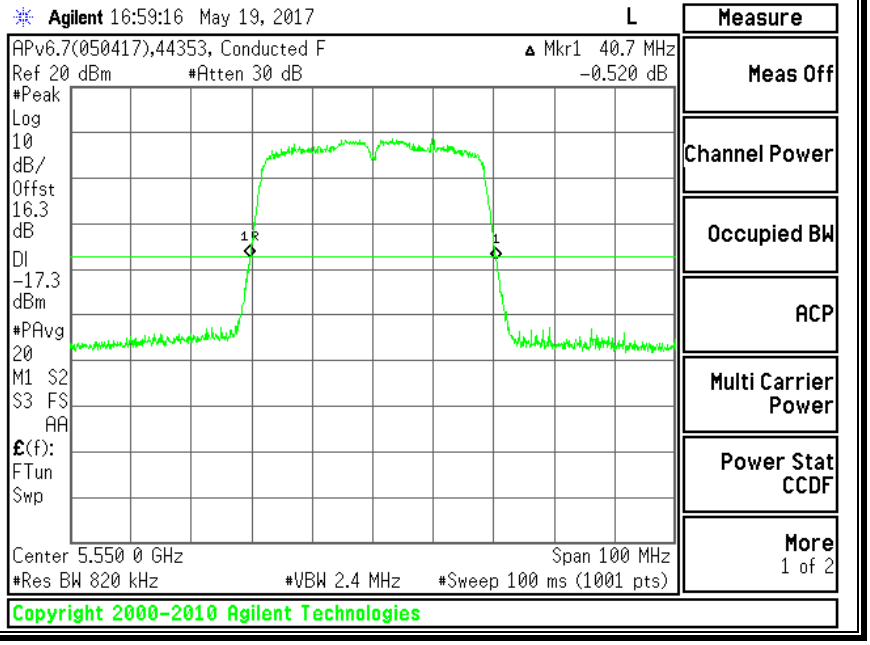
UAT 2 26dB , CH LOW



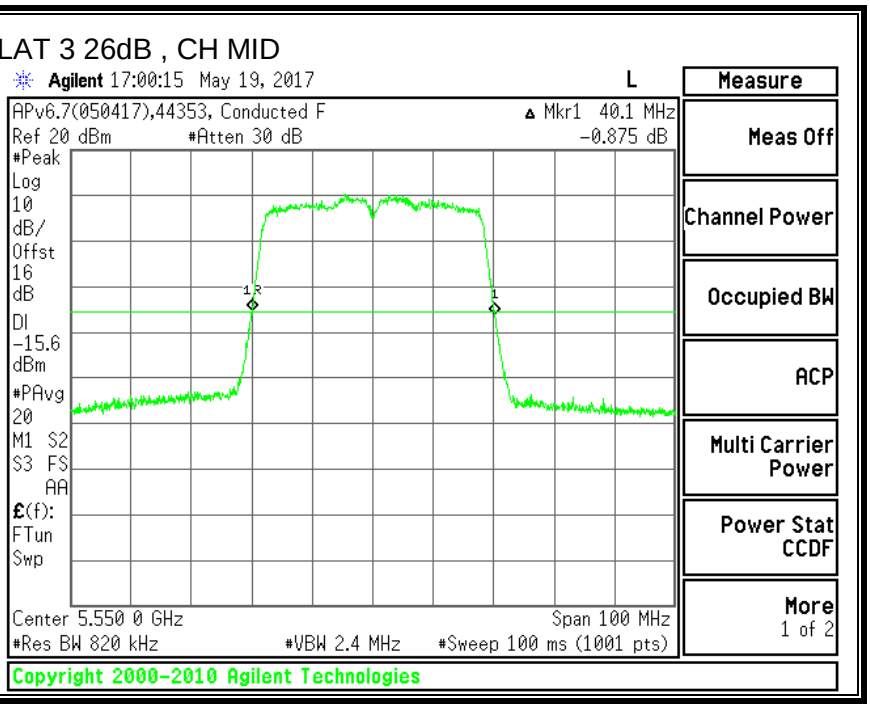
LAT 3 26dB , CH LOW



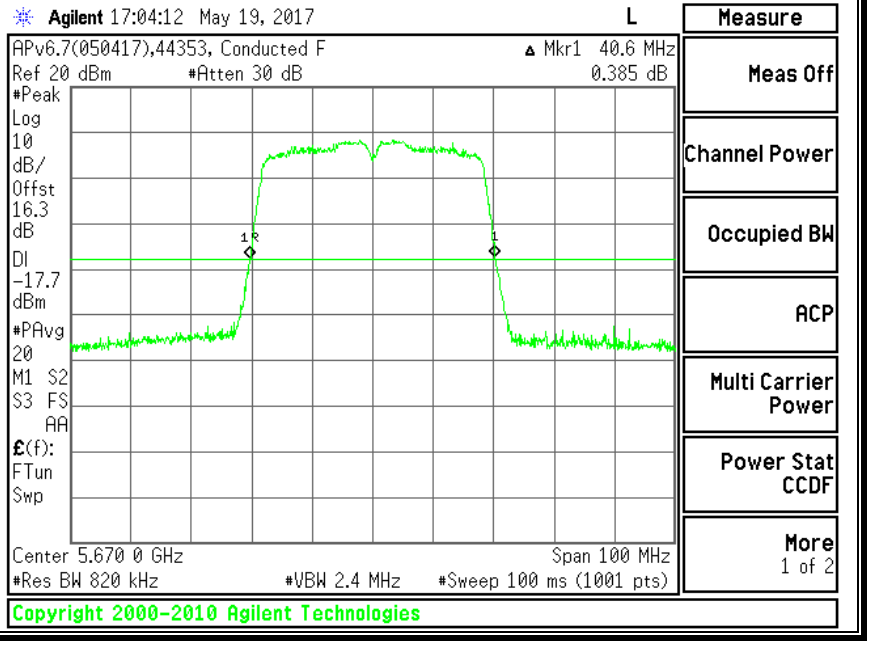
UAT 2 26dB , CH MID



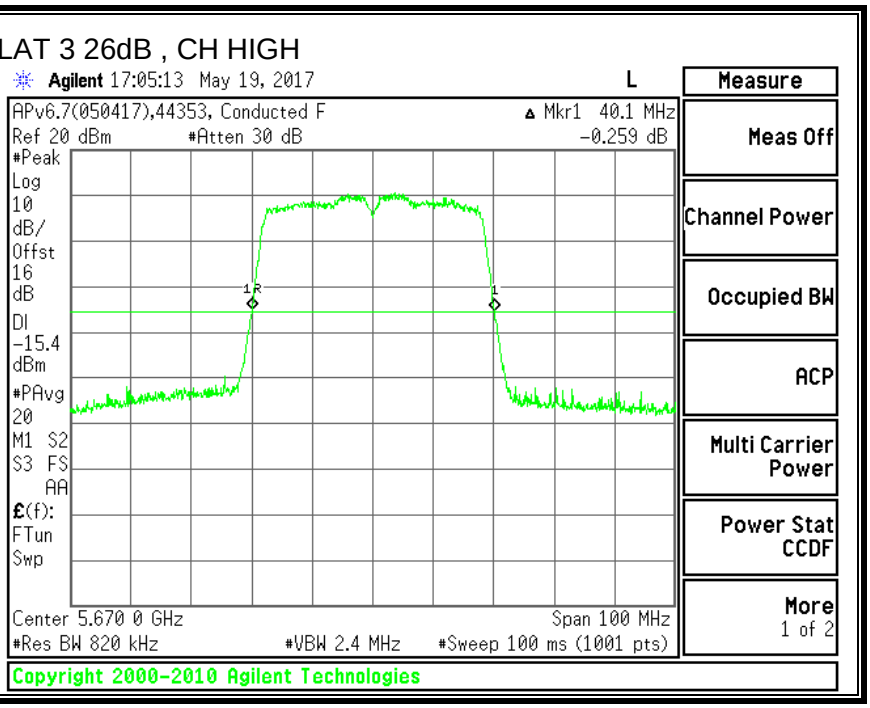
LAT 3 26dB , CH MID



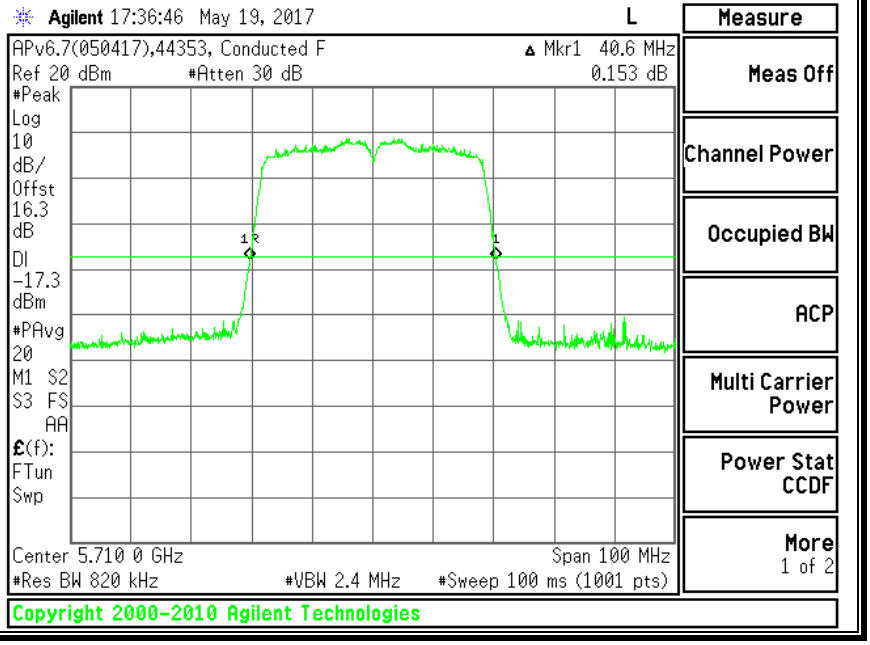
UAT 2 26dB , CH HIGH



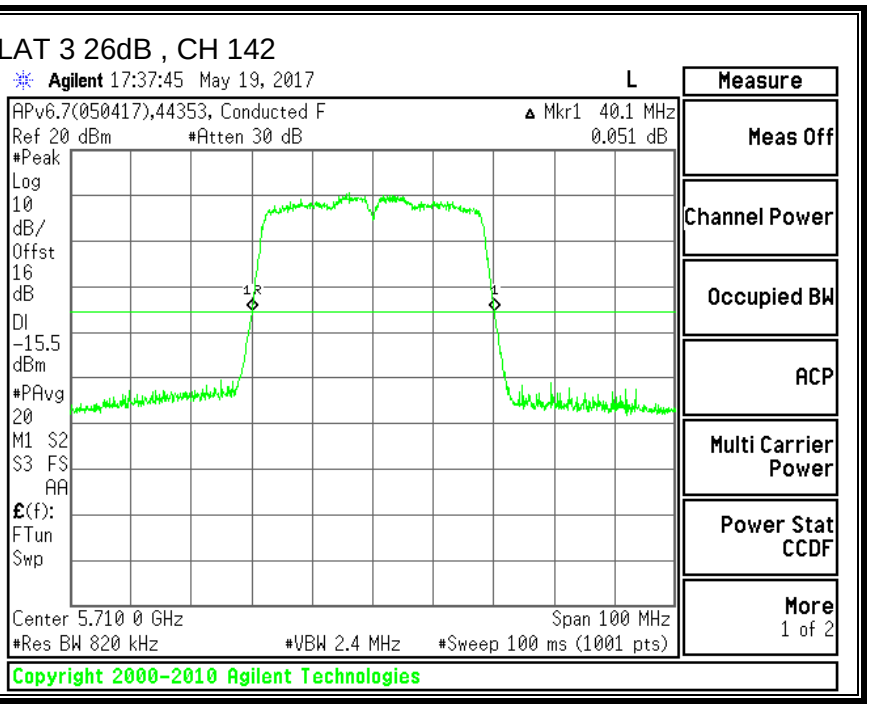
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 142



LAT 3 26dB , CH 142



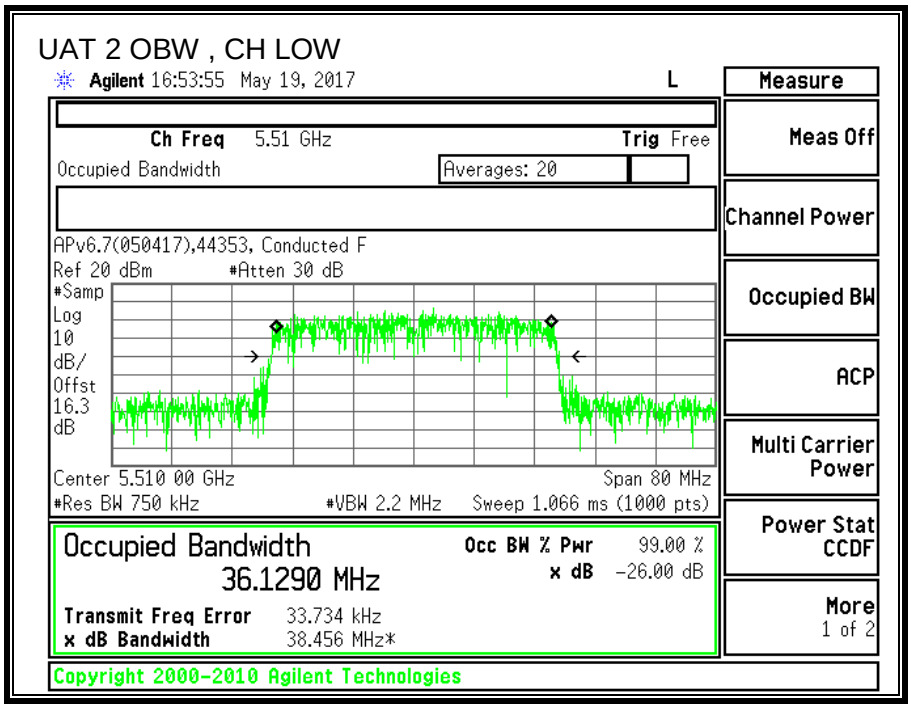
8.29.2. 99% BANDWIDTH

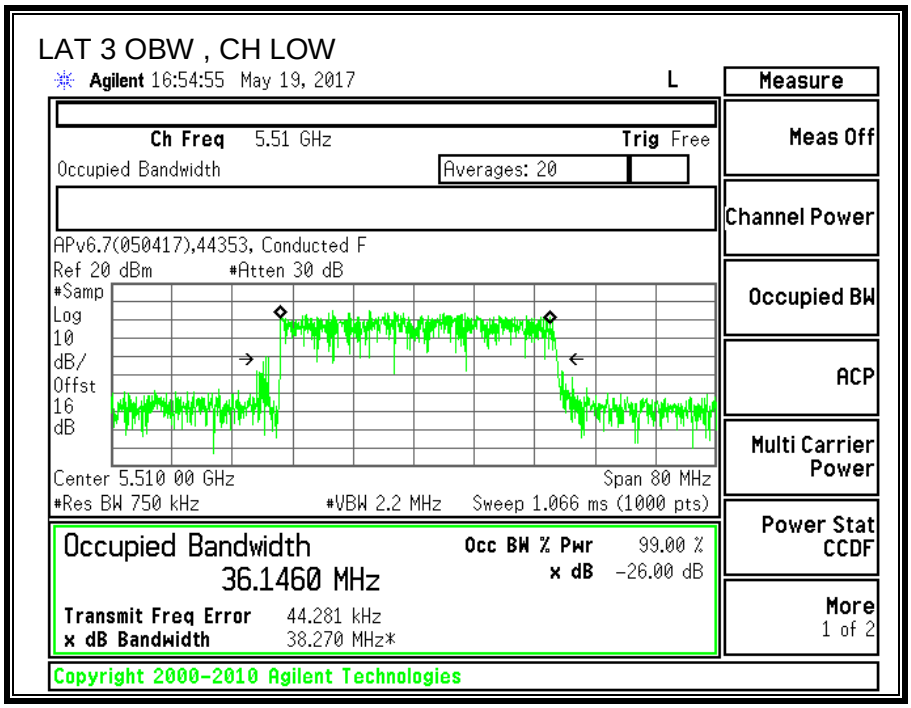
LIMITS

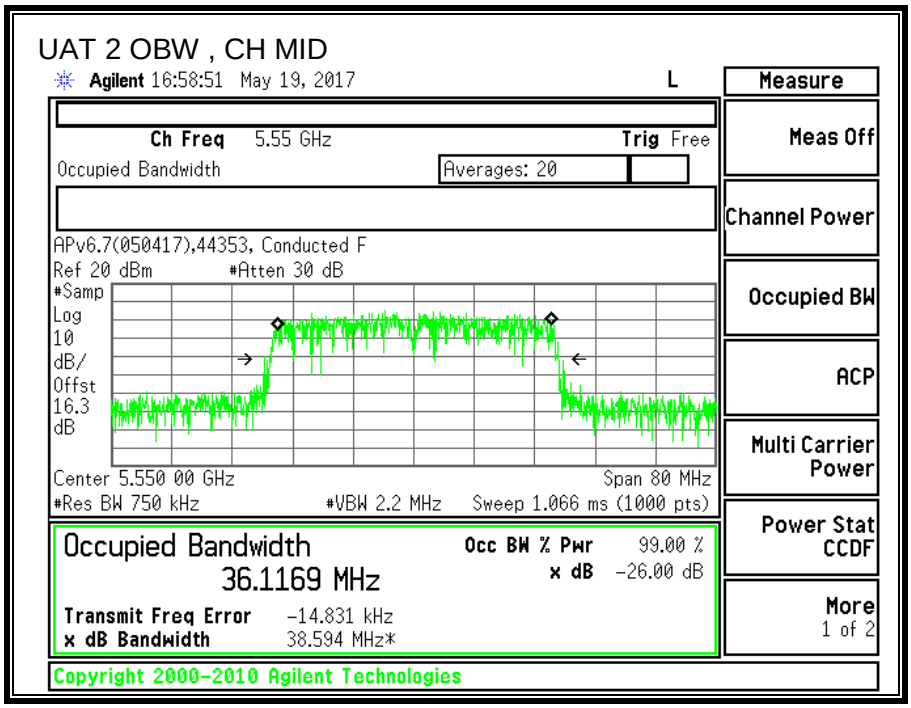
None; for reporting purposes only.

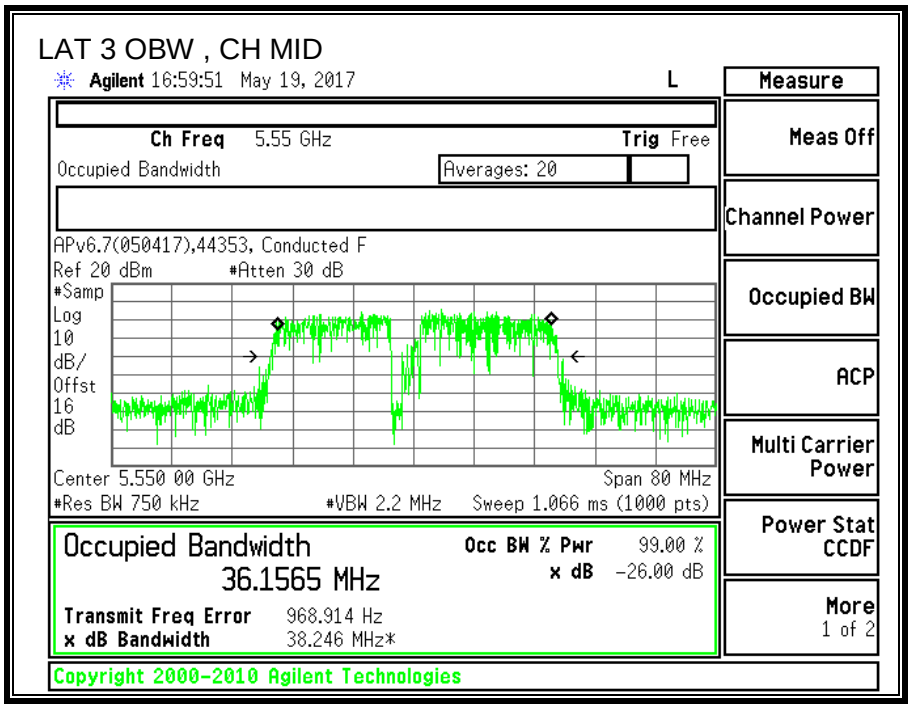
RESULTS

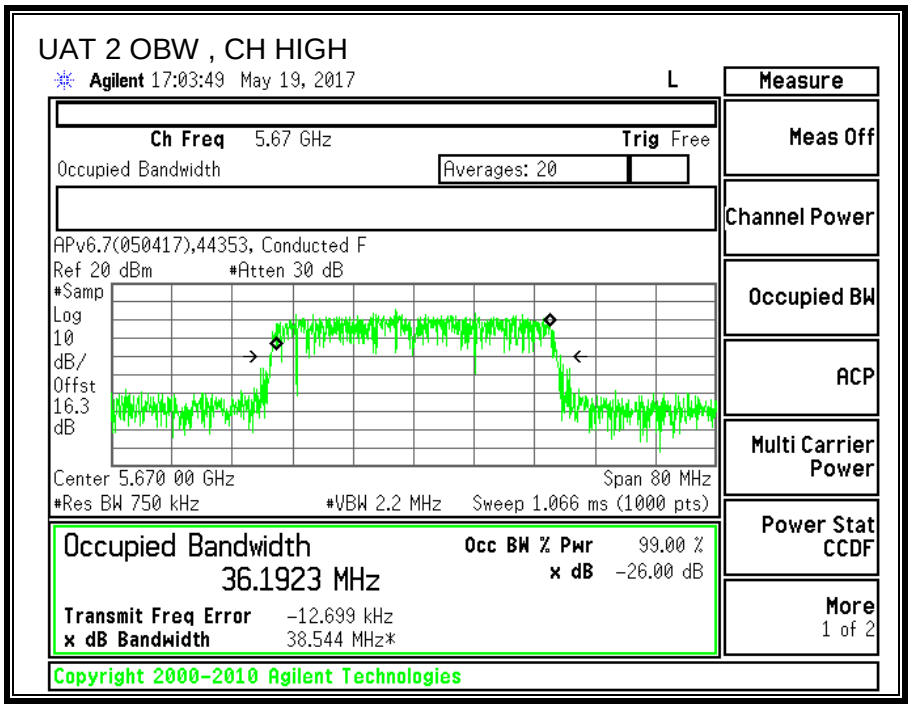
Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5510	36.1290	36.1460
Mid	5550	36.1169	36.1565
High	5670	36.1923	36.1662
142	5710	36.1961	36.1349

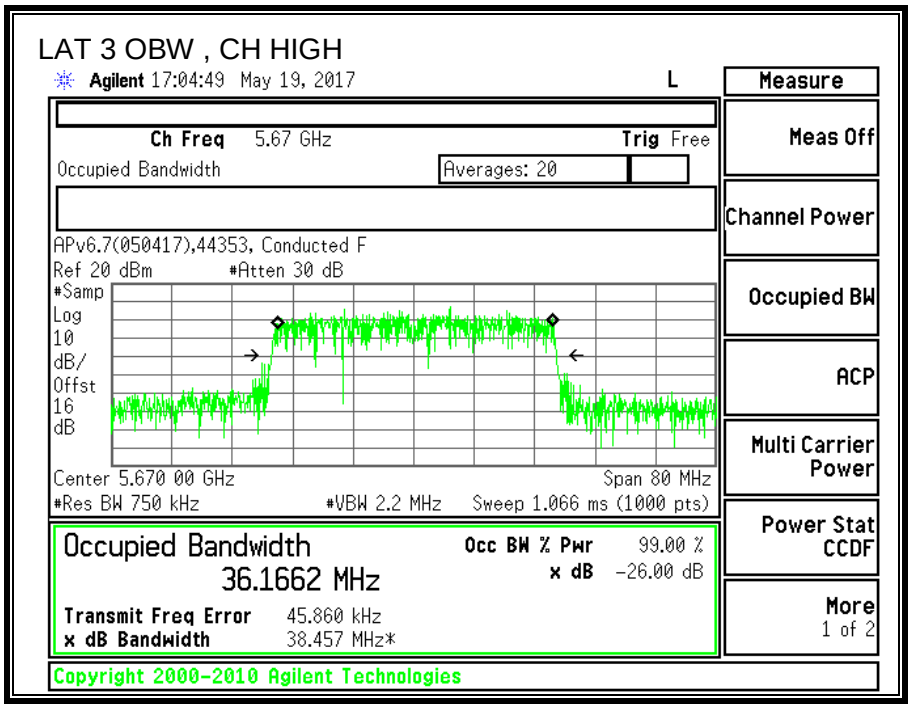


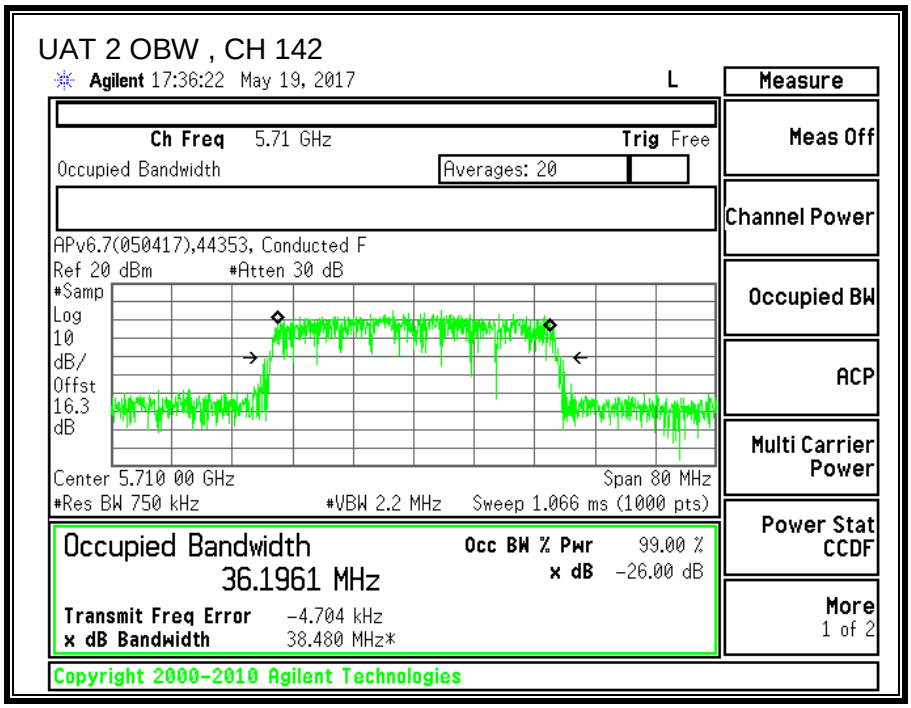


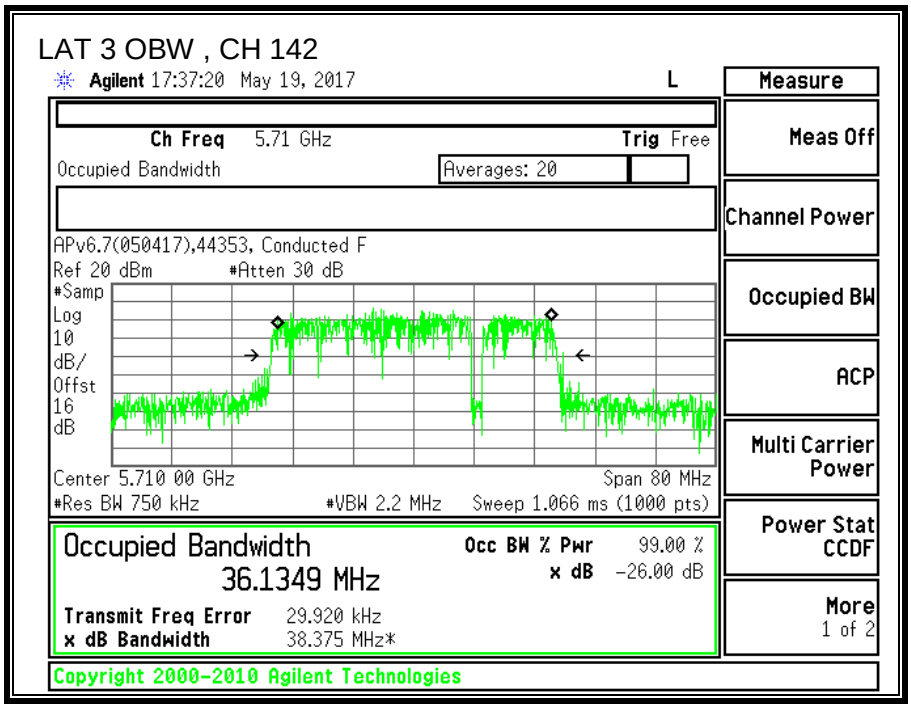












8.29.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5510	16.92	16.86	19.90
Mid	5550	19.42	19.39	22.42
High	5670	19.43	19.40	22.43
142	5710	19.39	19.46	22.44

8.29.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-2.77	-6.89	-4.36

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-2.77	-6.89	-1.58

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/1MHz)
Low	5510	40.20	36.129	-4.36	-1.58	24.00	11.00
Mid	5550	40.10	36.117	-4.36	-1.58	24.00	11.00
High	5670	40.10	36.166	-4.36	-1.58	24.00	11.00

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

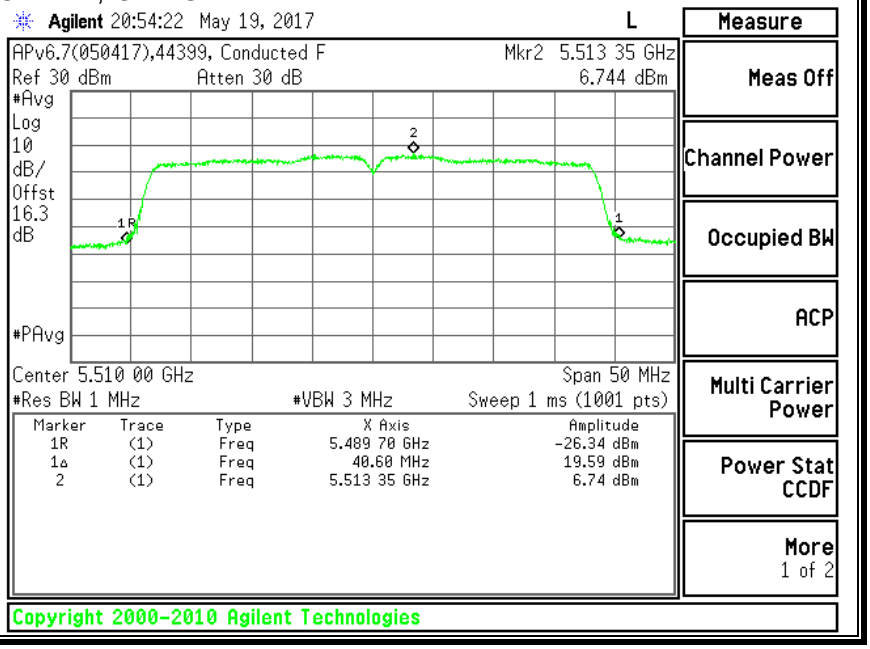
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	16.92	16.86	19.90	24.00	-4.10
Mid	5550	19.42	19.39	22.42	24.00	-1.58
High	5670	19.43	19.40	22.43	24.00	-1.57

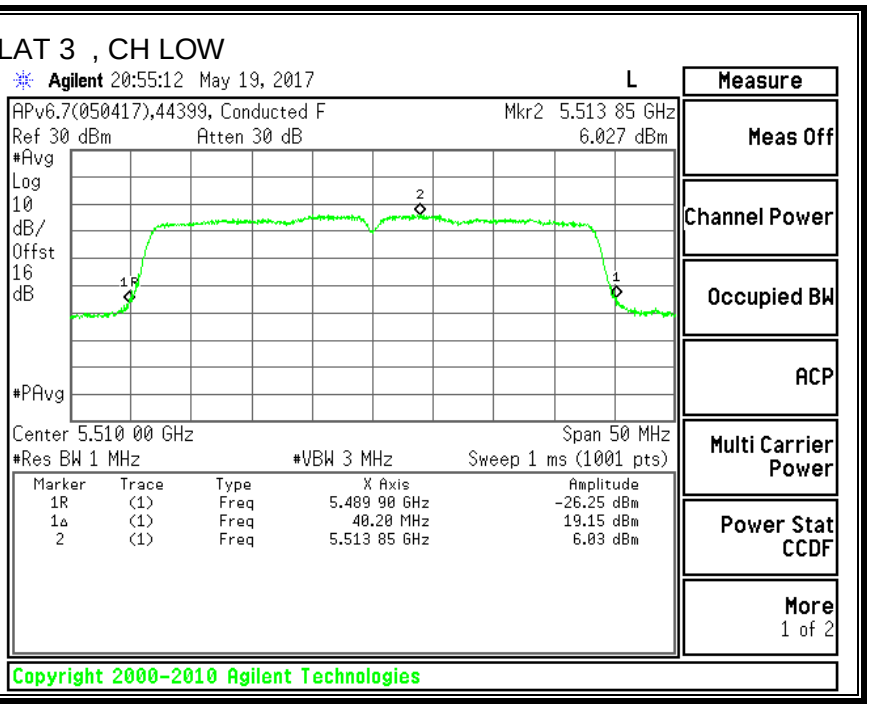
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5510	6.74	6.03	9.51	11.00	-1.49
Mid	5550	6.47	5.82	9.26	11.00	-1.74
High	5670	6.42	5.93	9.29	11.00	-1.71

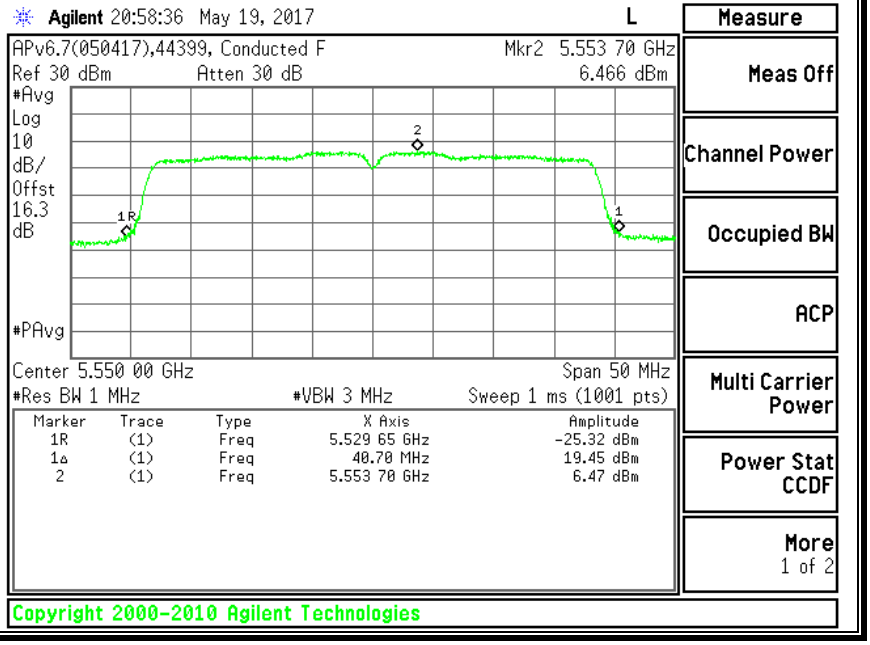
UAT 2 , CH LOW



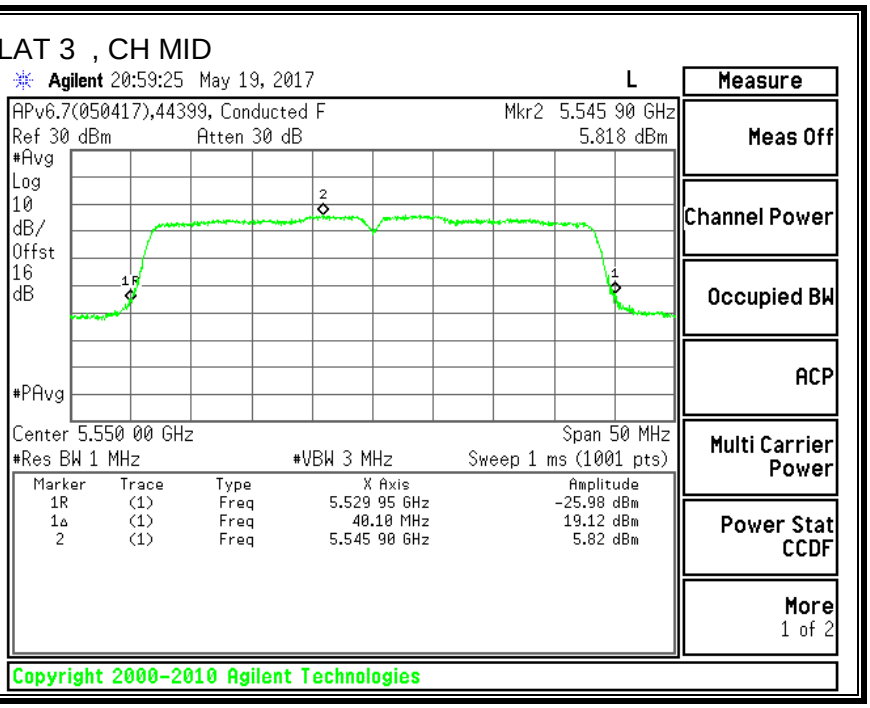
LAT 3 , CH LOW



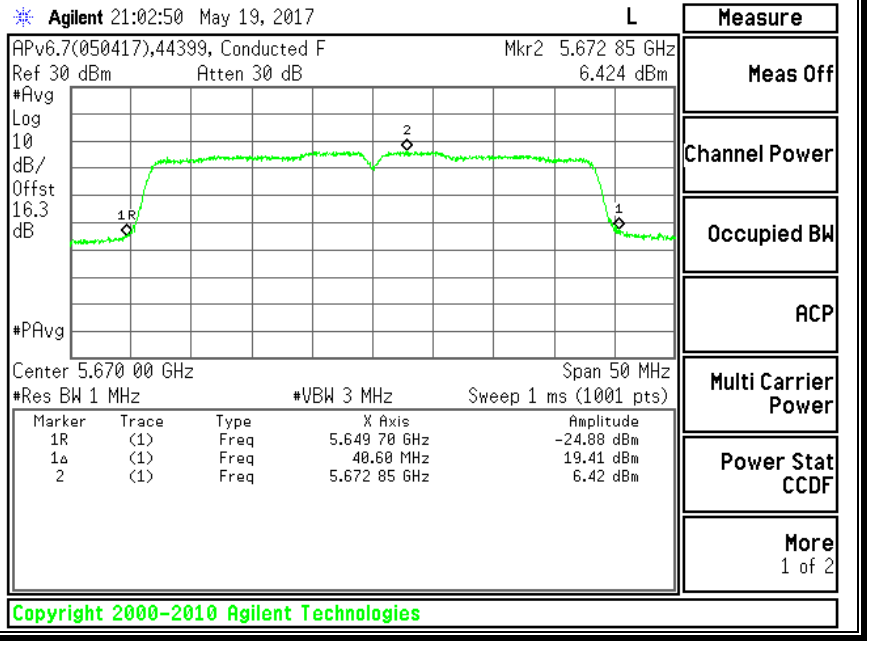
UAT 2 , CH MID



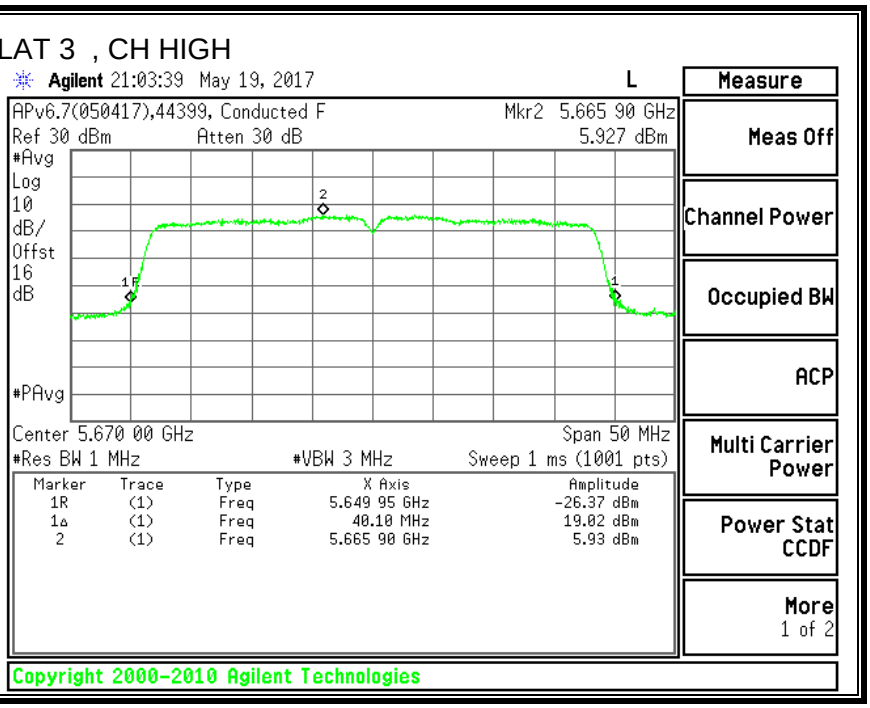
LAT 3 , CH MID



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.30. 11ac HT40 2TX CDD MIMO STRADDLE CHANNEL 142

8.30.1. OUTPUT POWER AND PPSD

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/1MHz
142	5710	40.10	-4.36	-1.58	24.00	11.00

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

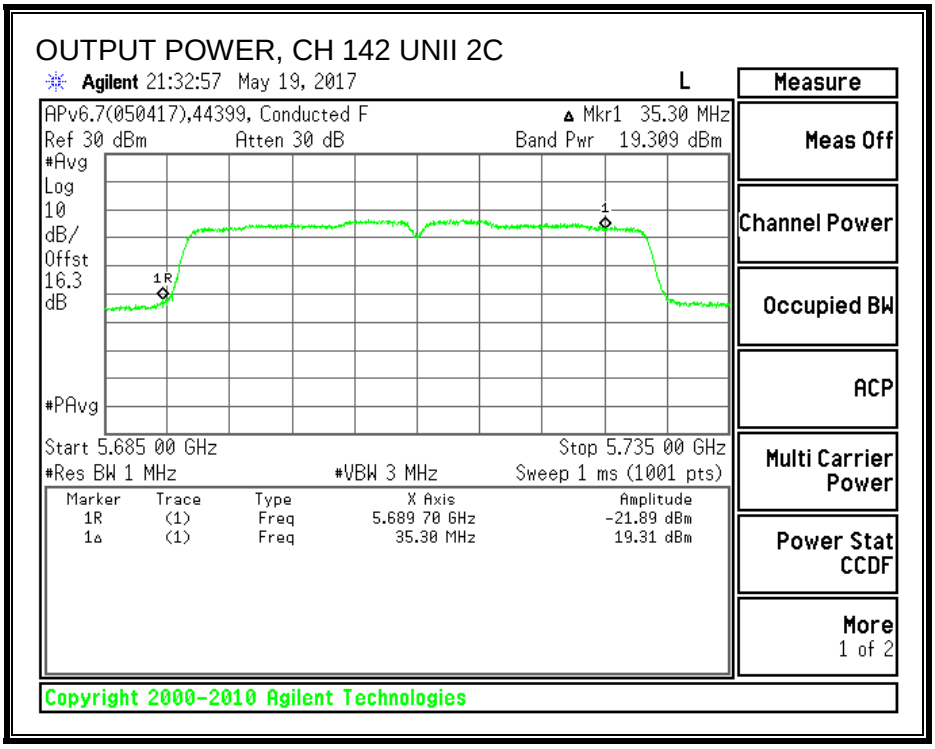
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	19.31	18.86	22.20	24.00	-1.80

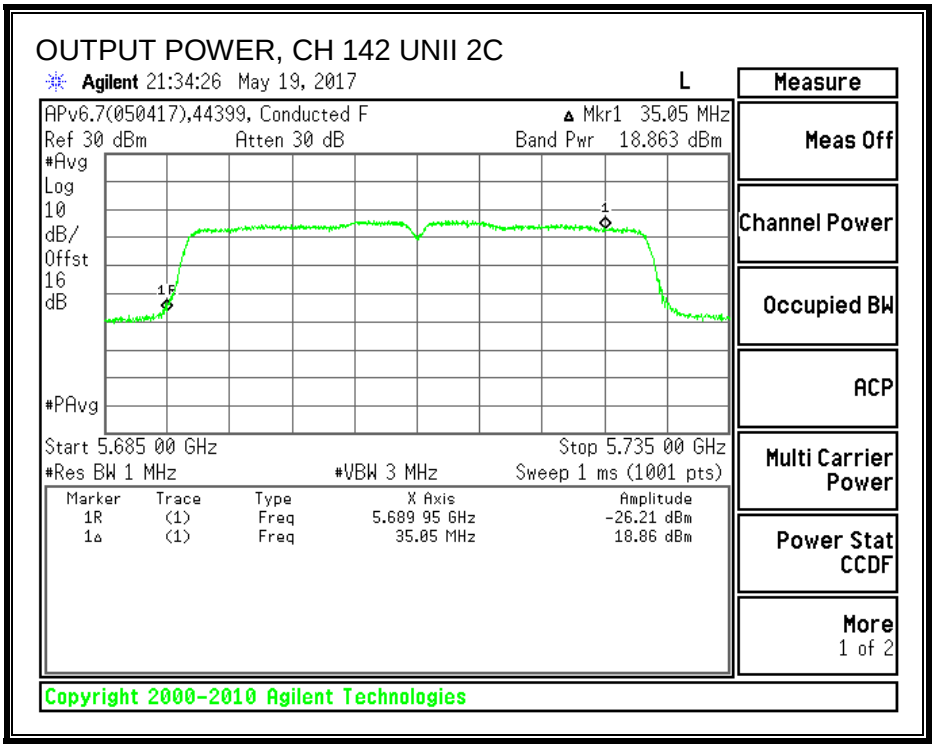
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
142	5710	8.84	8.18	11.63	11.00	0.63

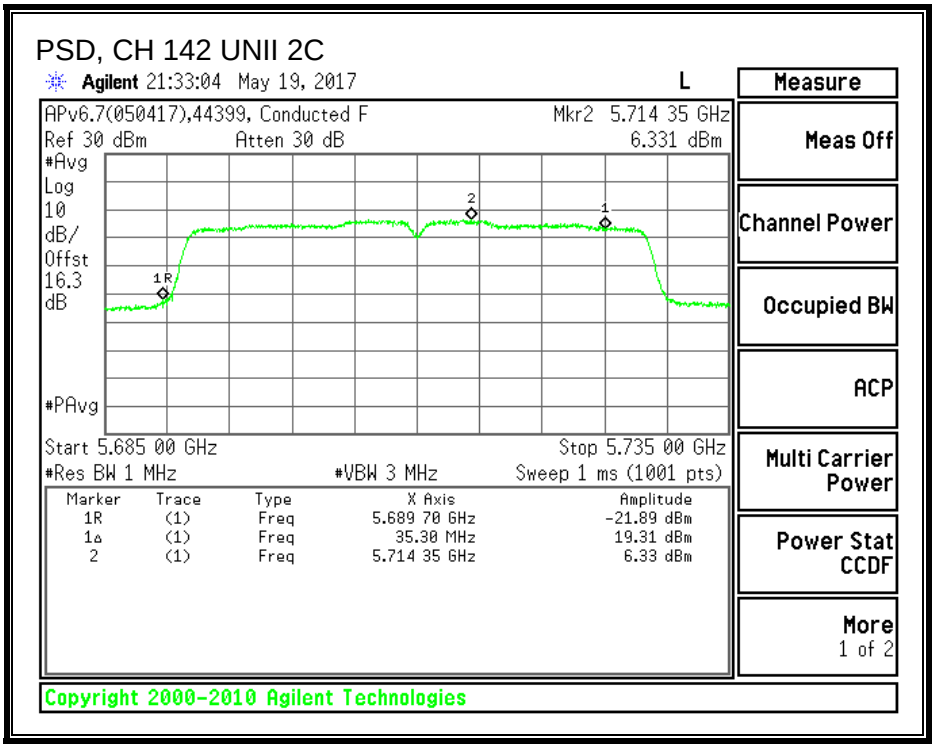
OUTPUT POWER, UAT 2



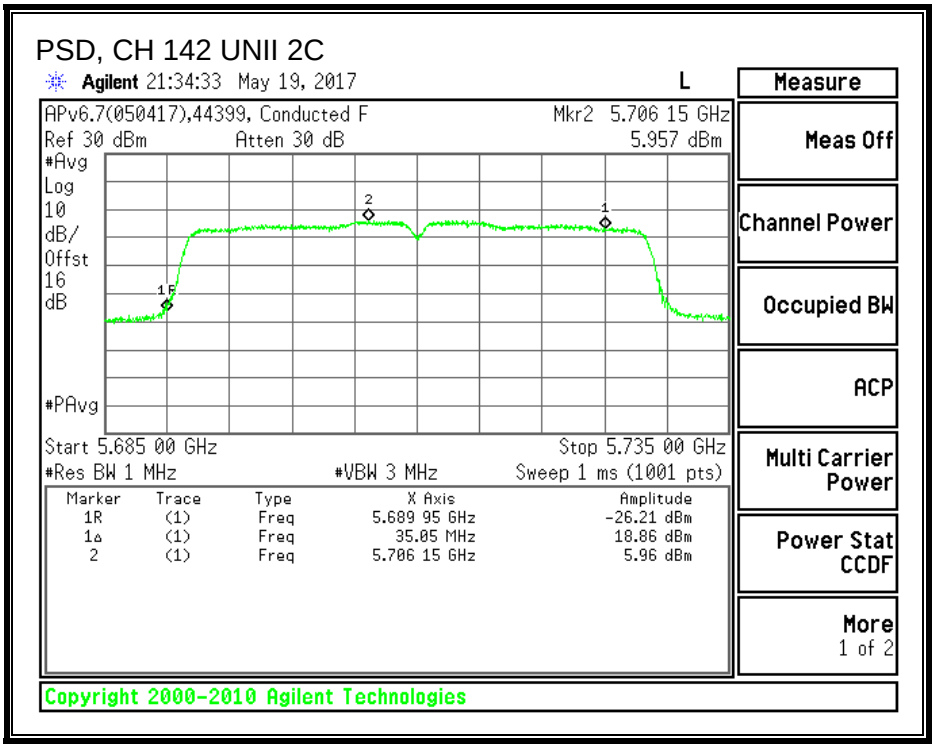
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



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	40.10	-4.73	-1.82	30.00	30.00

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

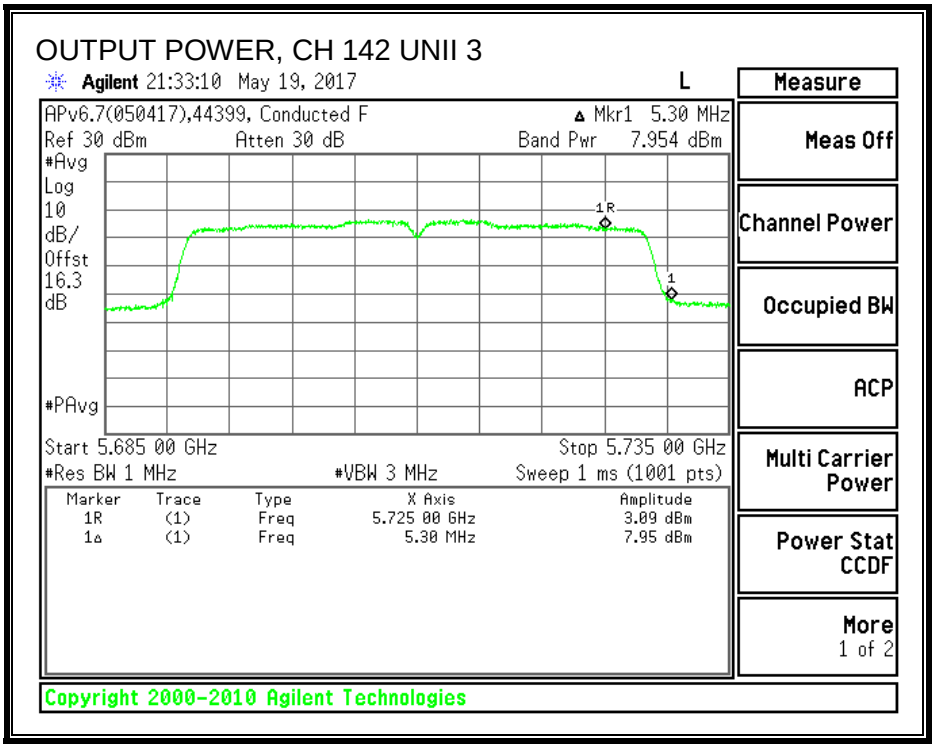
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.95	7.50	10.84	30.00	-19.16

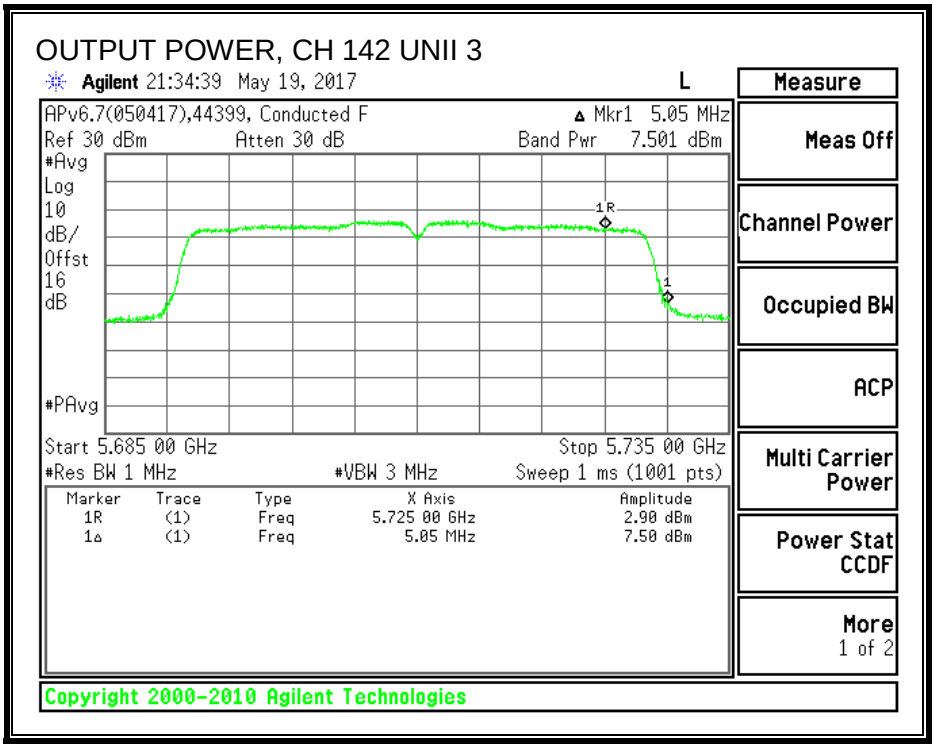
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.88	0.72	3.91	30.00	-26.09

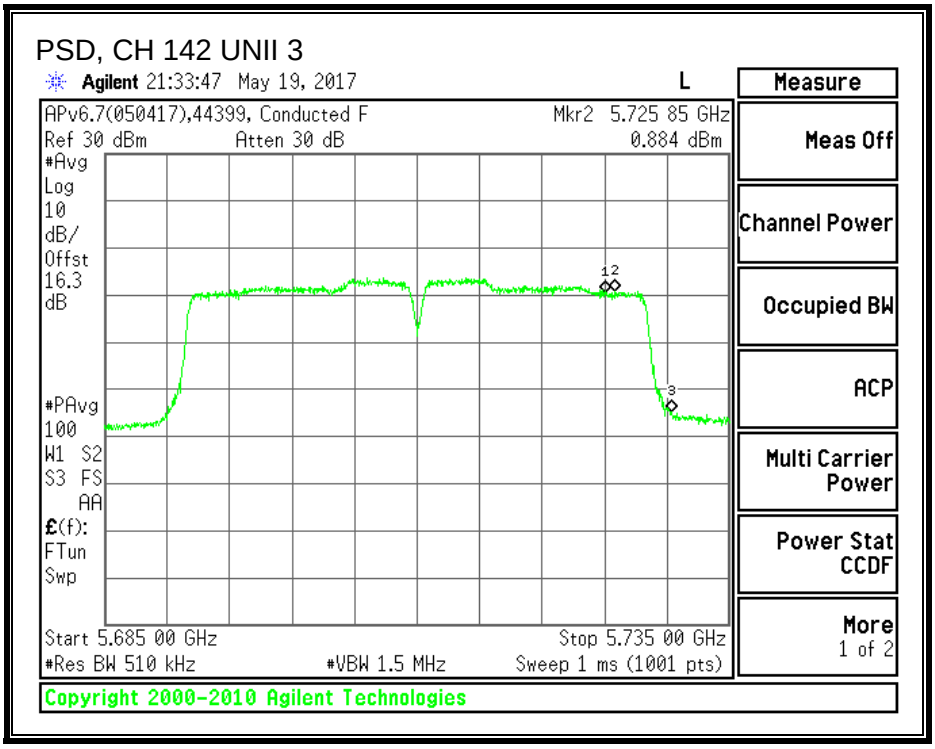
OUTPUT POWER, UAT 2



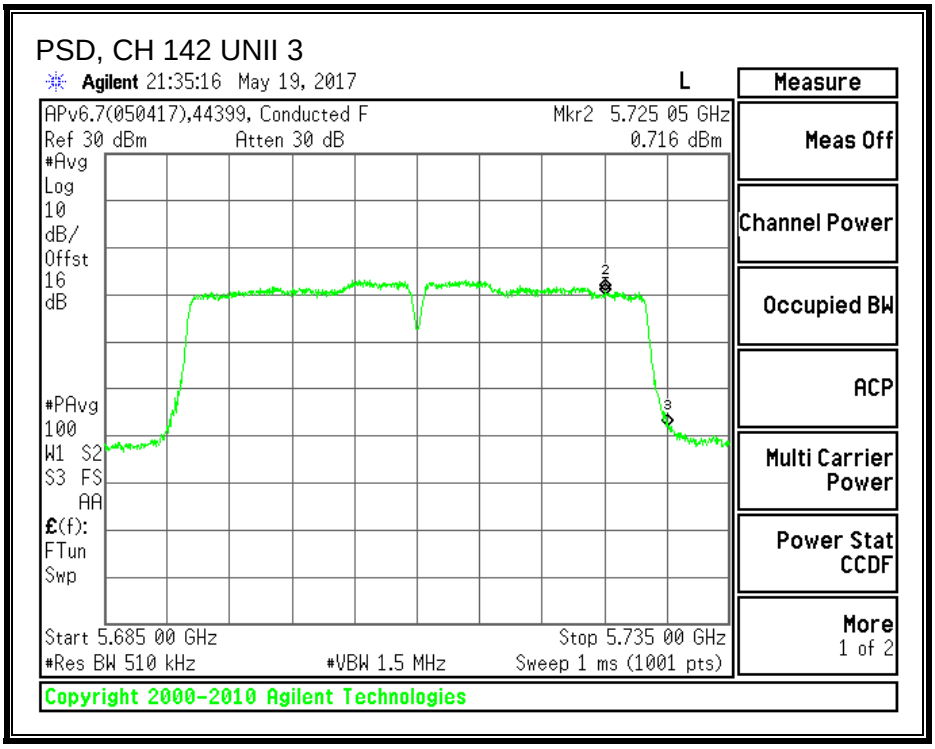
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



8.30.2. 6 dB BANDWIDTH

LIMITS

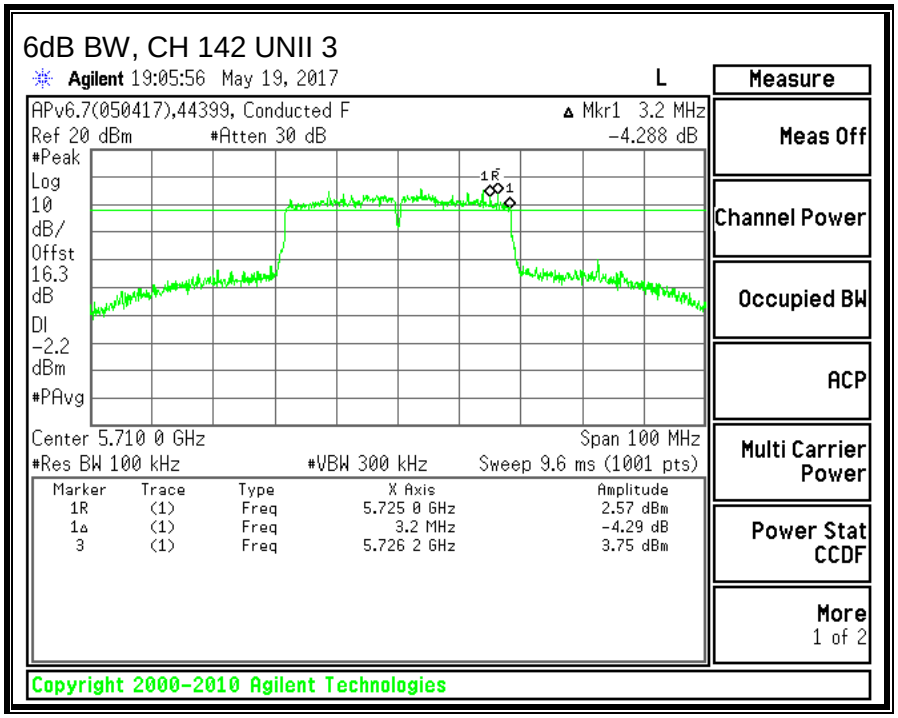
FCC §15.407 (e)

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

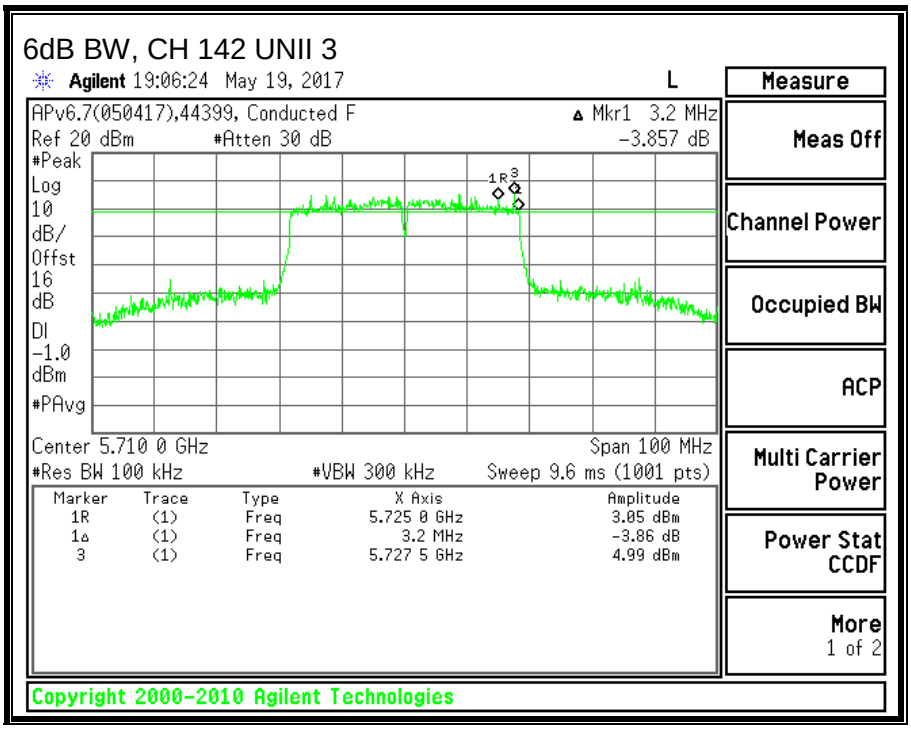
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
142	5710	-4.29	-3.86

UAT 2



LAT 3



8.31. 11ac HT80 UAT 2 SISO MODE IN THE 5.6GHz BAND

8.31.1. 26 dB BANDWIDTH

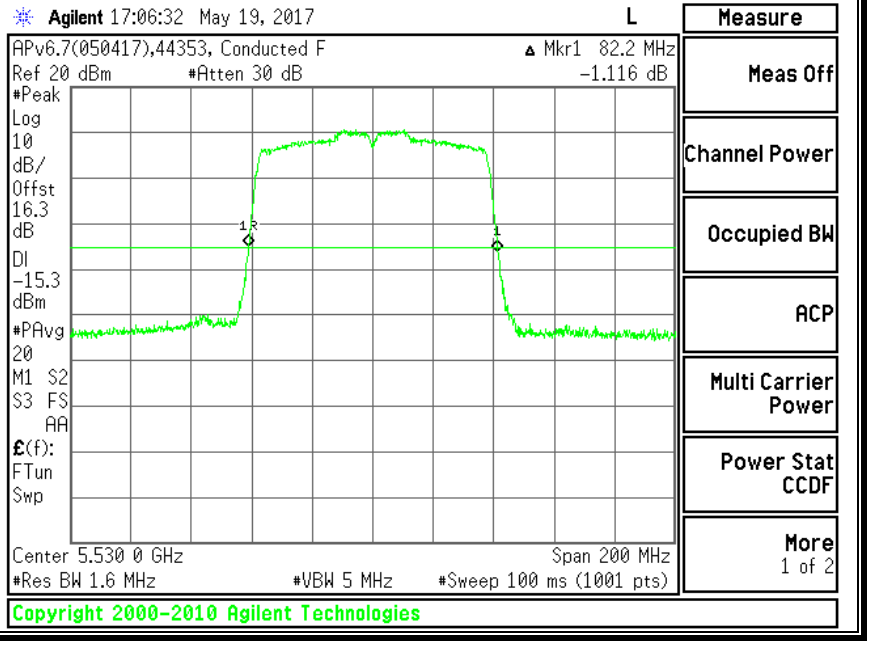
LIMITS

None; for reporting purposes only.

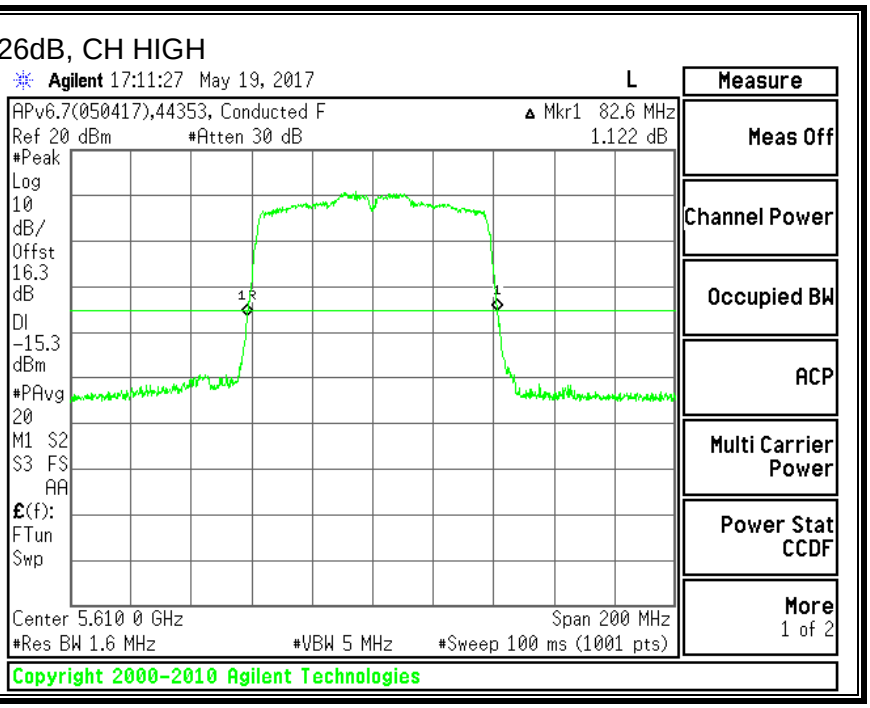
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5530	82.2
High	5610	82.6
138	5690	82.6

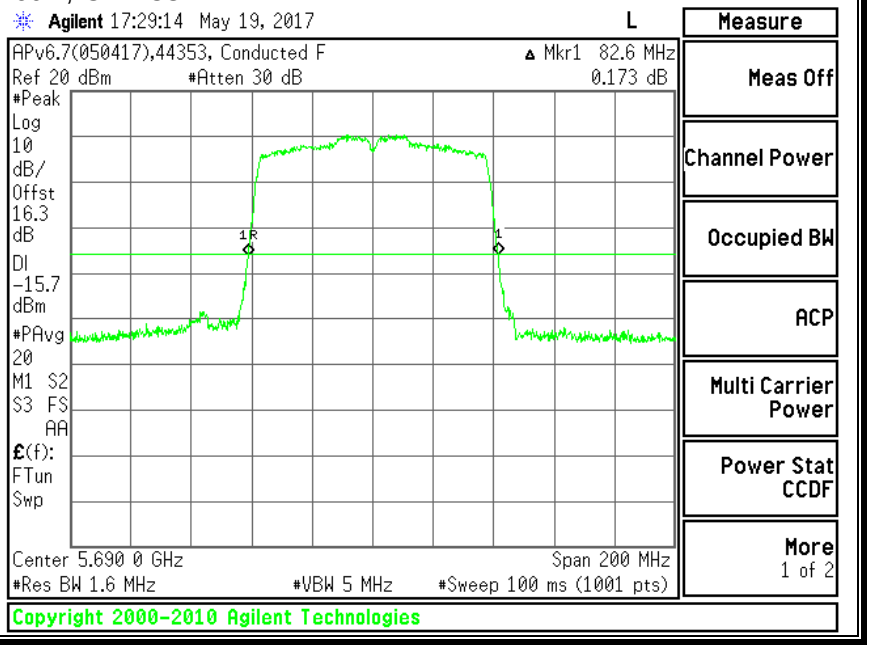
26dB, CH LOW



26dB, CH HIGH



26dB, CH 138



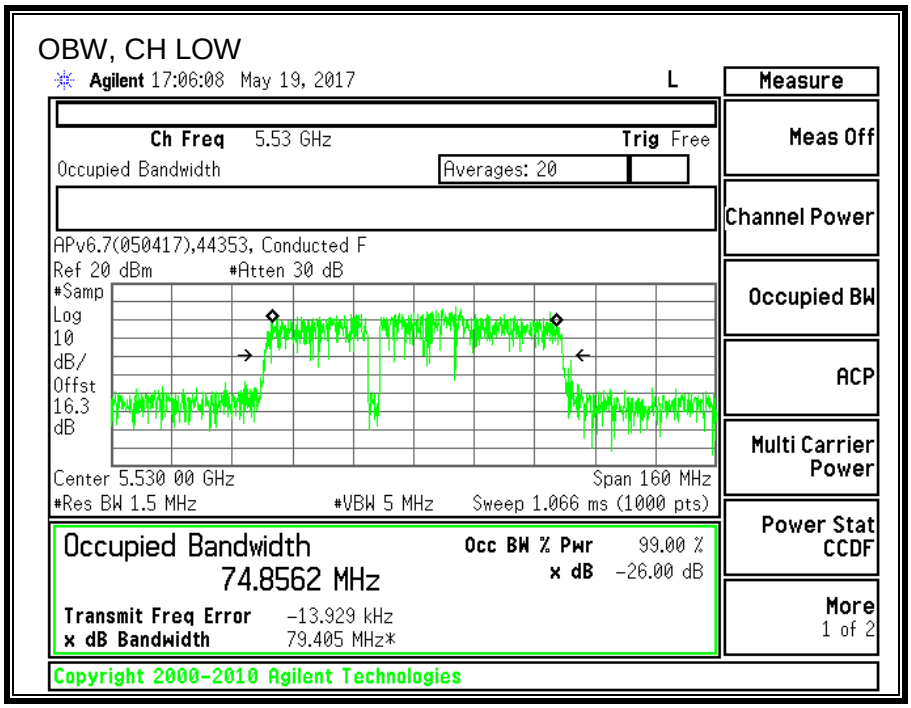
8.31.2. 99% BANDWIDTH

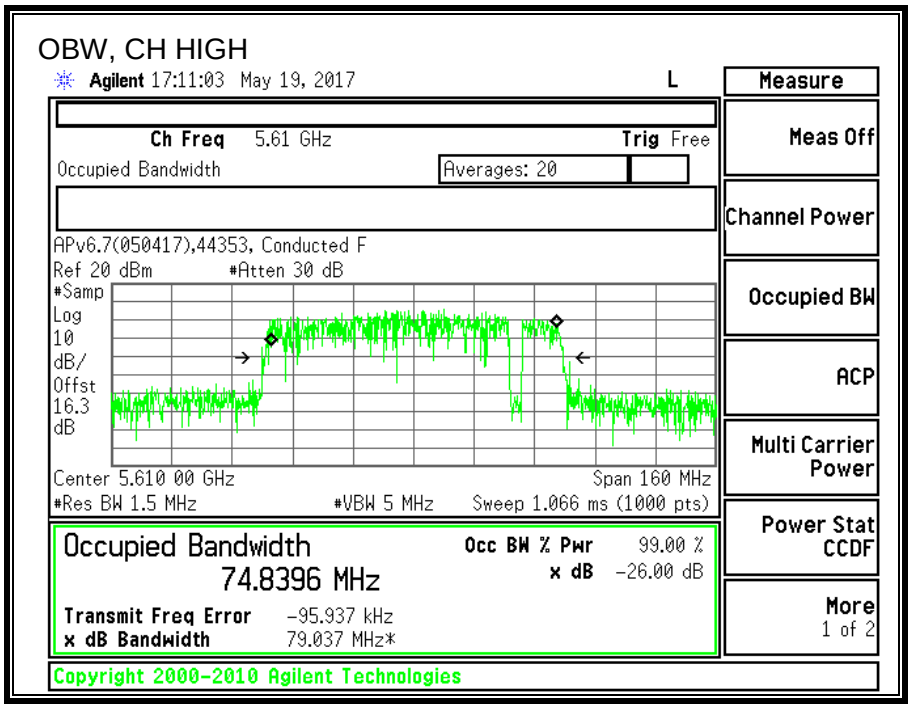
LIMITS

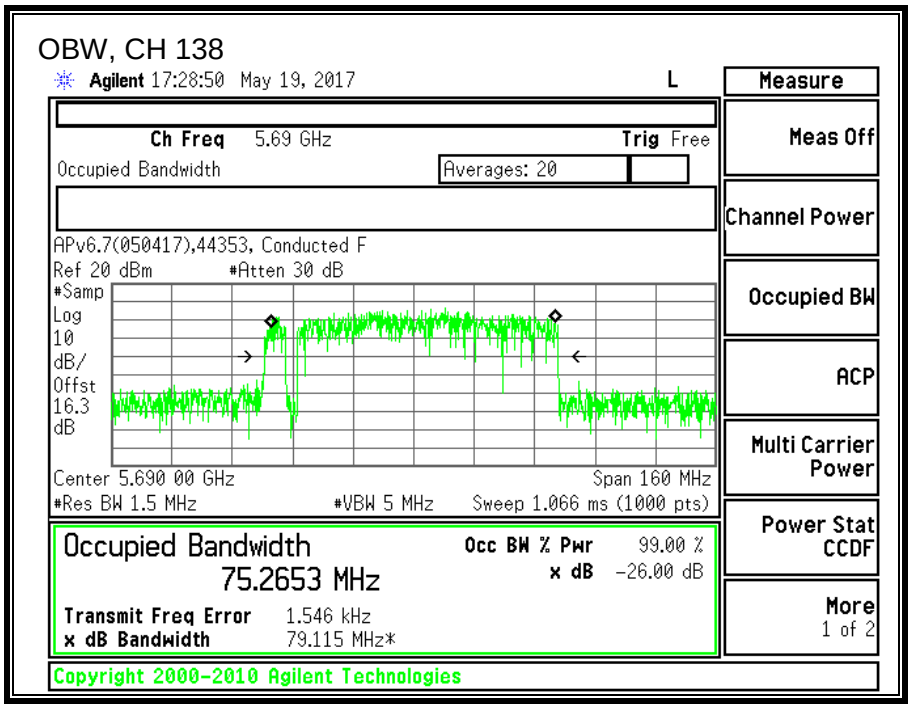
None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5530	74.8562
High	5610	74.8396
138	5690	75.2653







8.31.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5530	17.41
High	5610	19.35
138	5690	19.42

8.31.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5530	82.20	74.86	-2.77	24.00	11.00
Mid	5610	82.60	74.84	-2.77	24.00	11.00

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

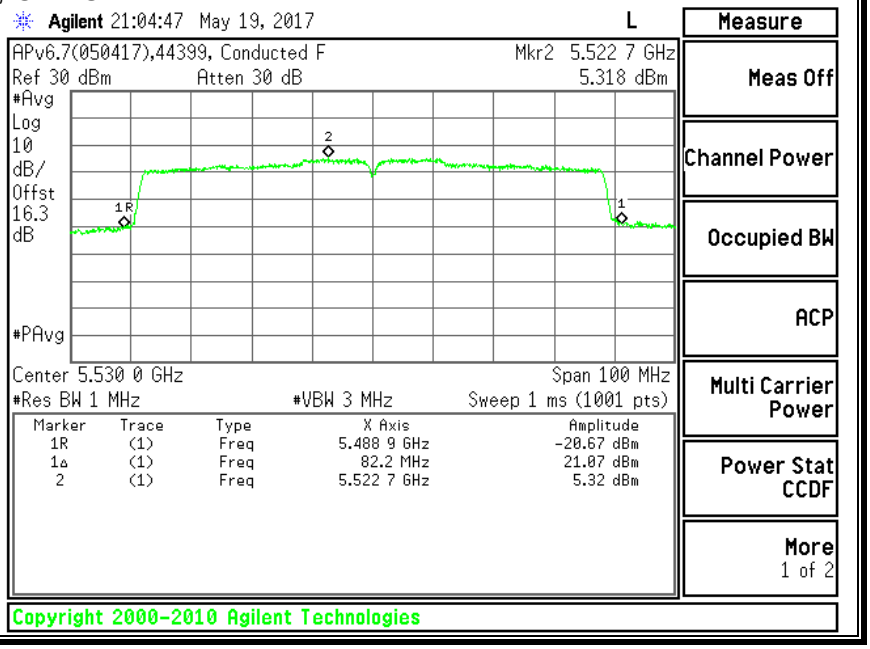
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	17.41	17.41	24.00	-6.59
Mid	5610	19.35	19.35	24.00	-4.65

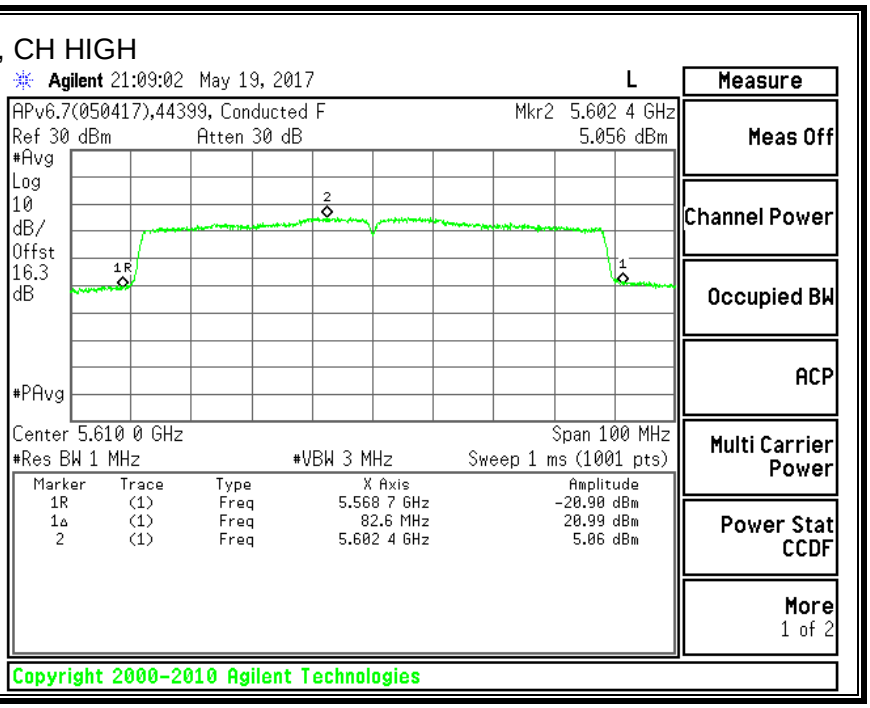
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5530	5.32	5.51	11.00	-5.49
Mid	5610	5.06	5.25	11.00	-5.75

, CH LOW



, CH HIGH



8.31.5. 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/1MHz)
138	5690	82.60	-2.77	-2.77	24.00	11.00

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

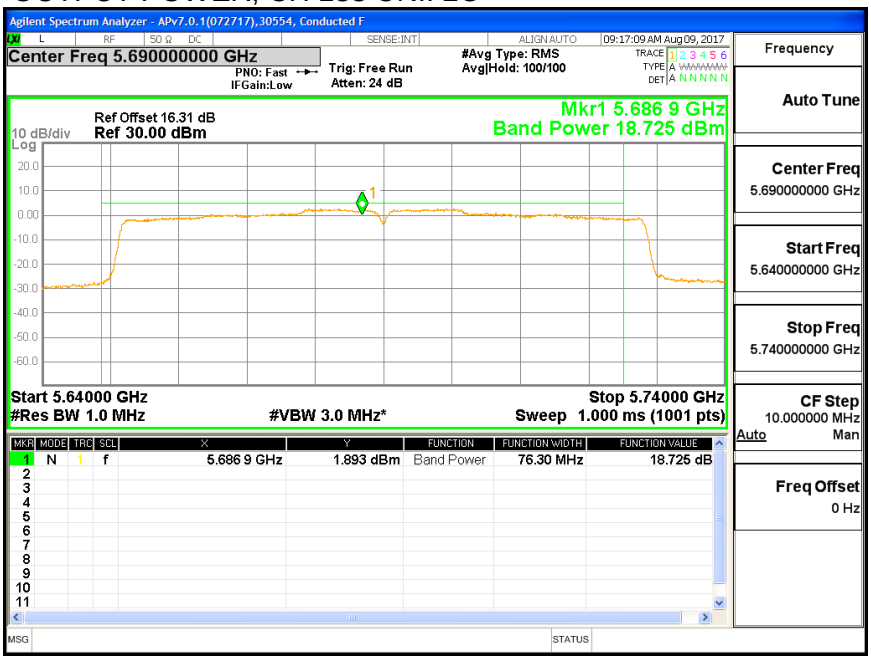
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.73	18.92	24.00	-5.09

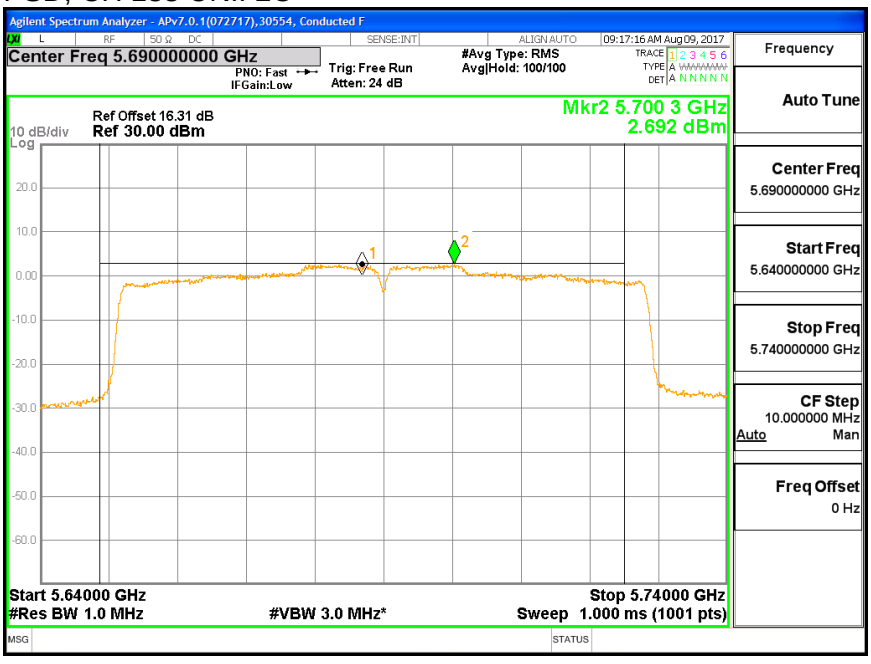
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
138	5690	2.69	2.88	11.00	-8.12

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	82.60	-3.57	30.00	30.00

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

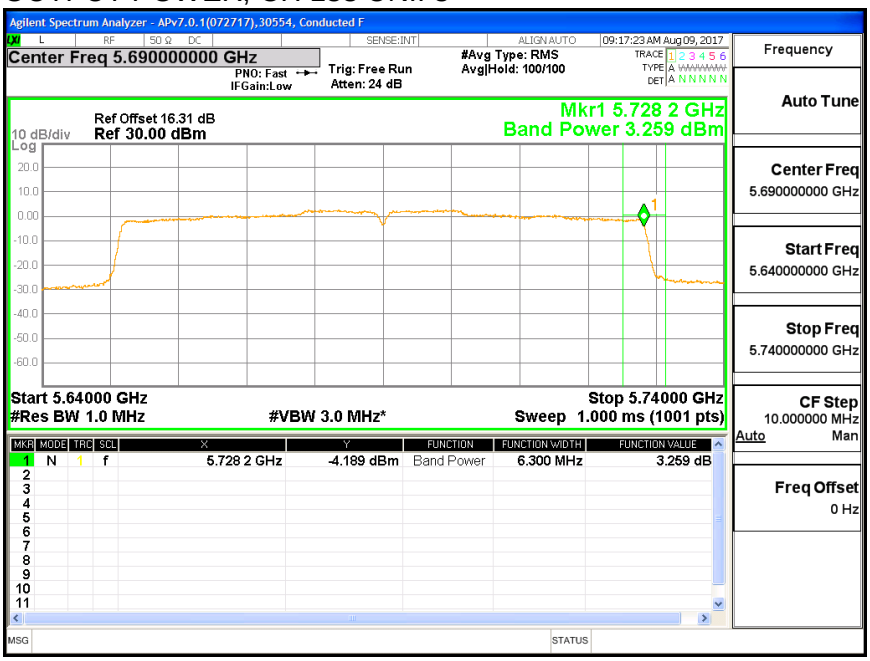
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	3.26	3.45	30.00	-26.55

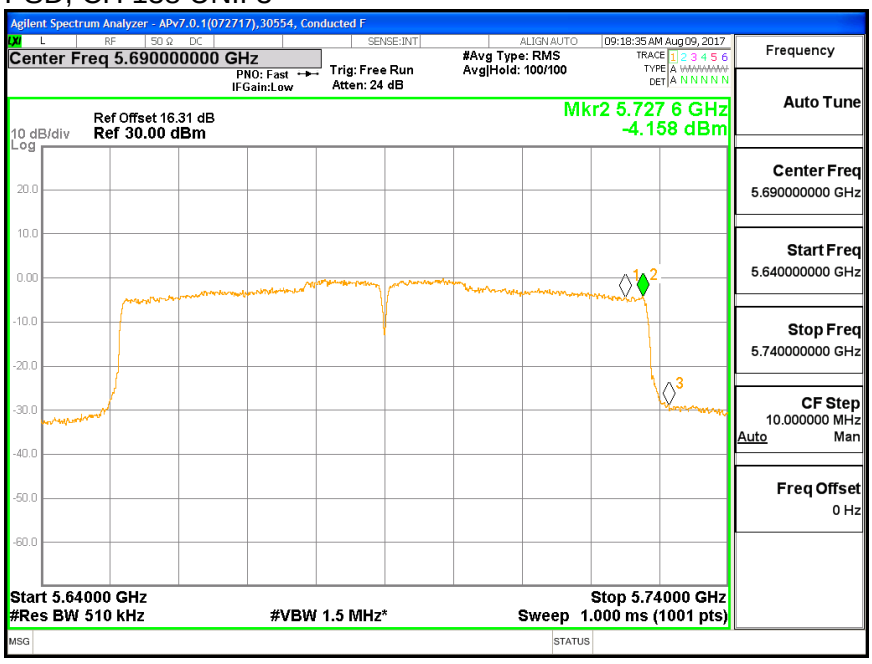
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.16	-3.97	30.00	-33.97

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.31.6. 6 dB BANDWIDTH

LIMITS

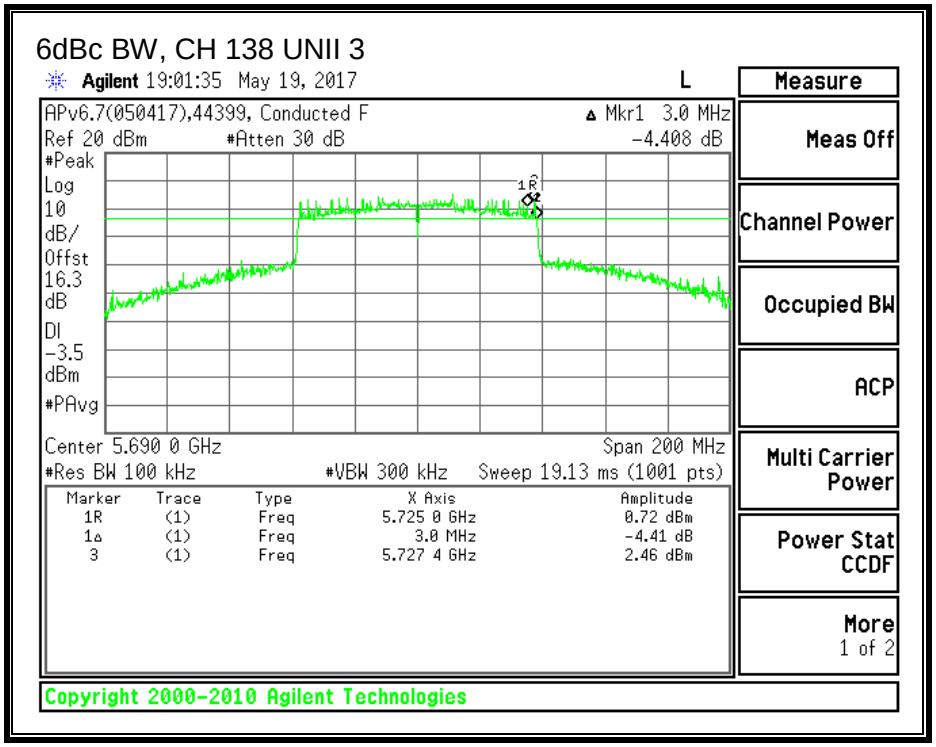
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	3.00

6 dB BANDWIDTH



8.32. 11ac HT80 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.32.1. 26 dB BANDWIDTH

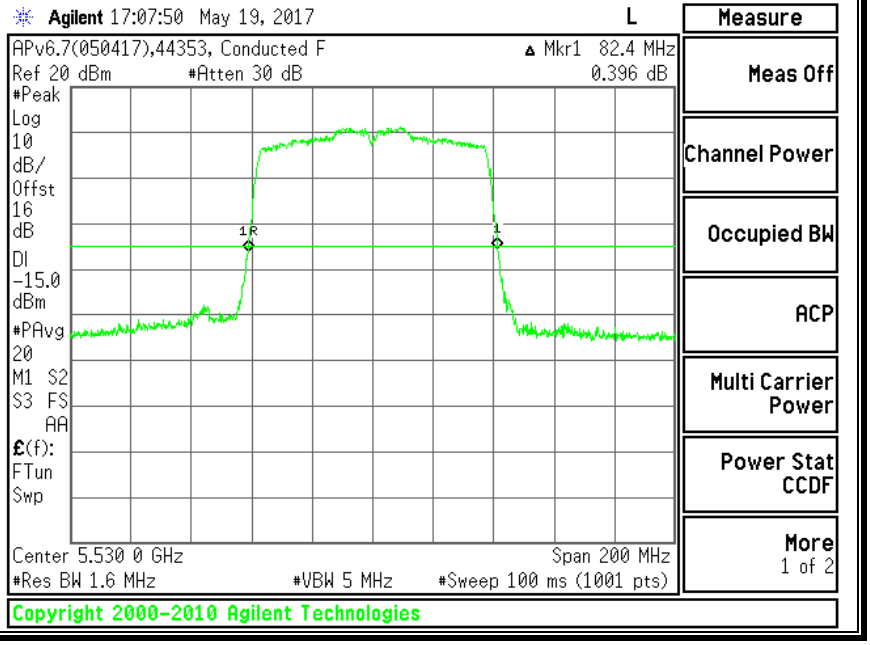
LIMITS

None; for reporting purposes only.

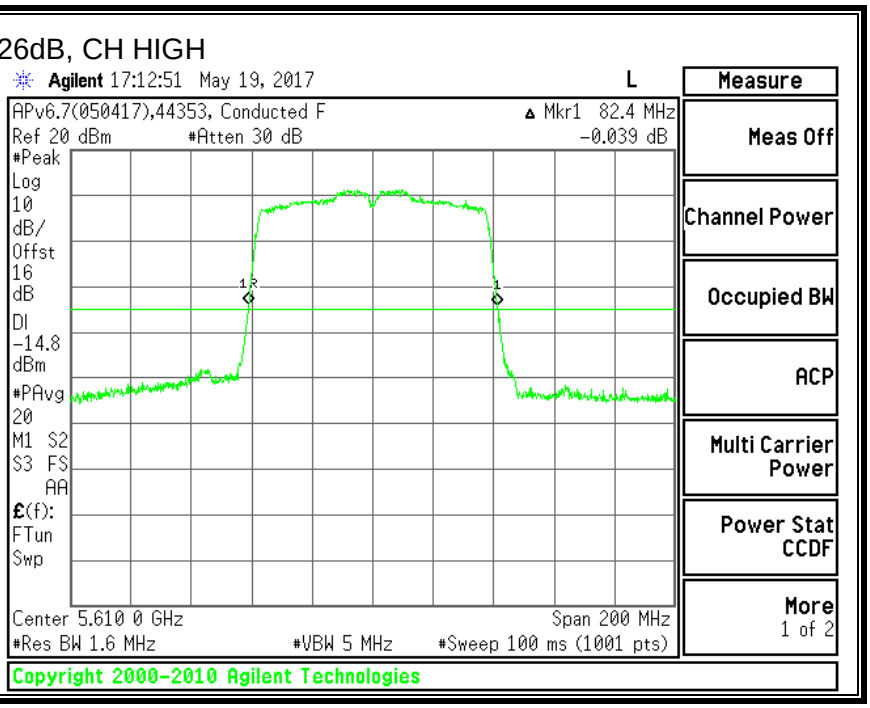
RESULTS

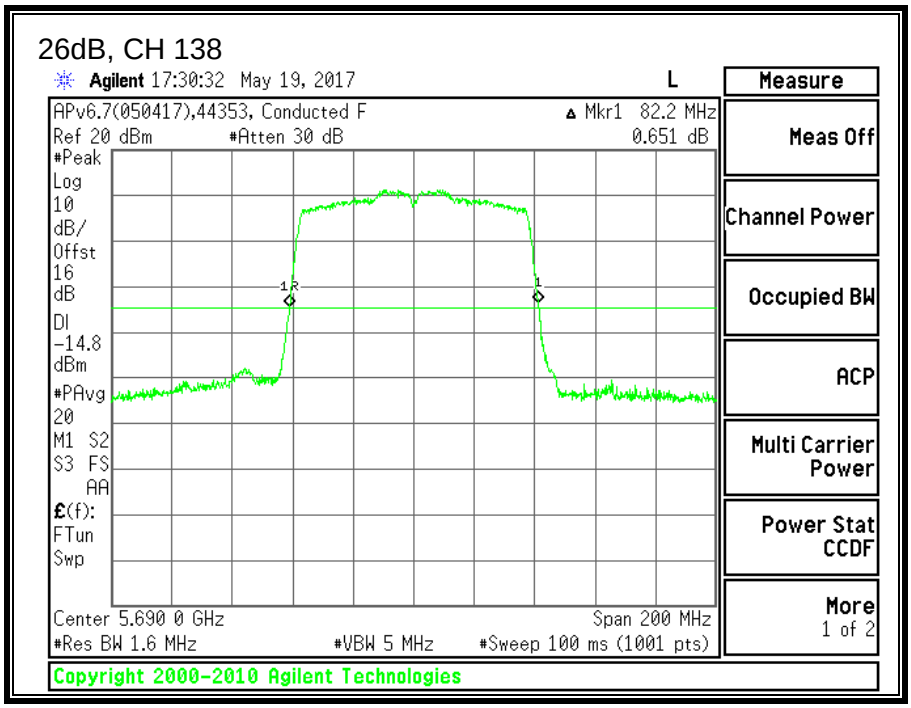
Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5530	82.4
High	5610	82.4
138	5690	82.2

26dB, CH LOW



26dB, CH HIGH





8.32.2. 99% BANDWIDTH

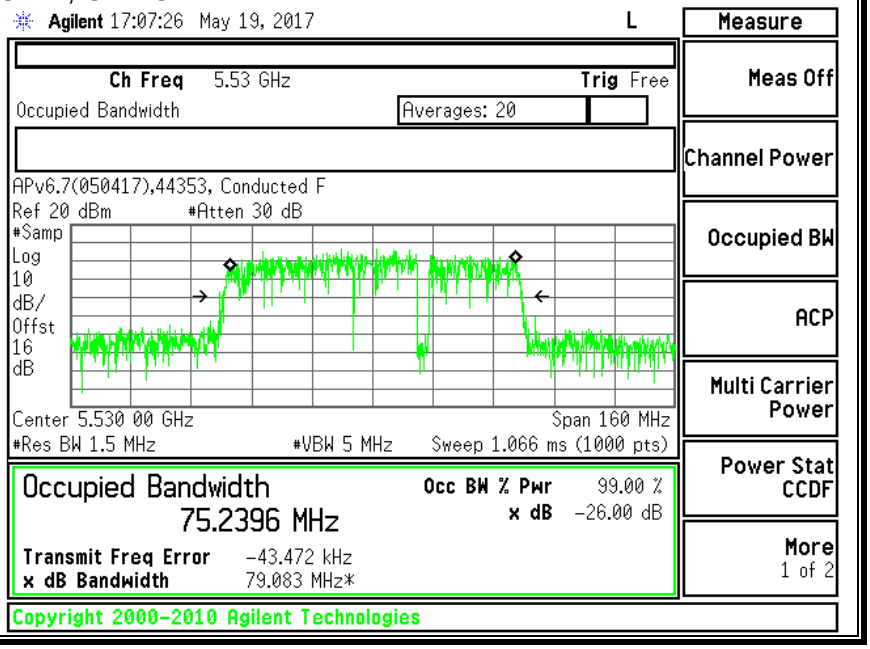
LIMITS

None; for reporting purposes only.

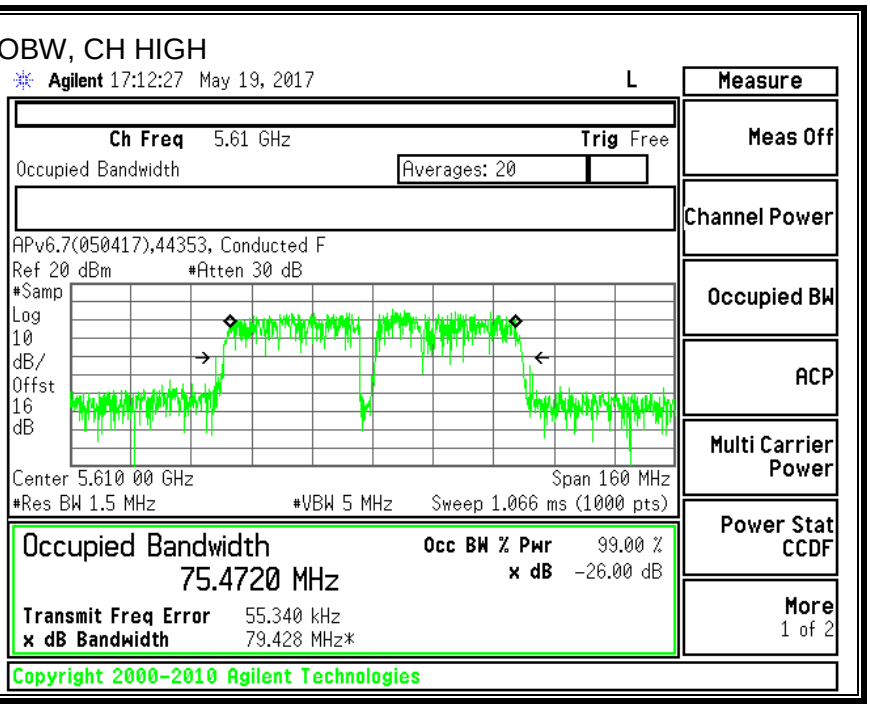
RESULTS

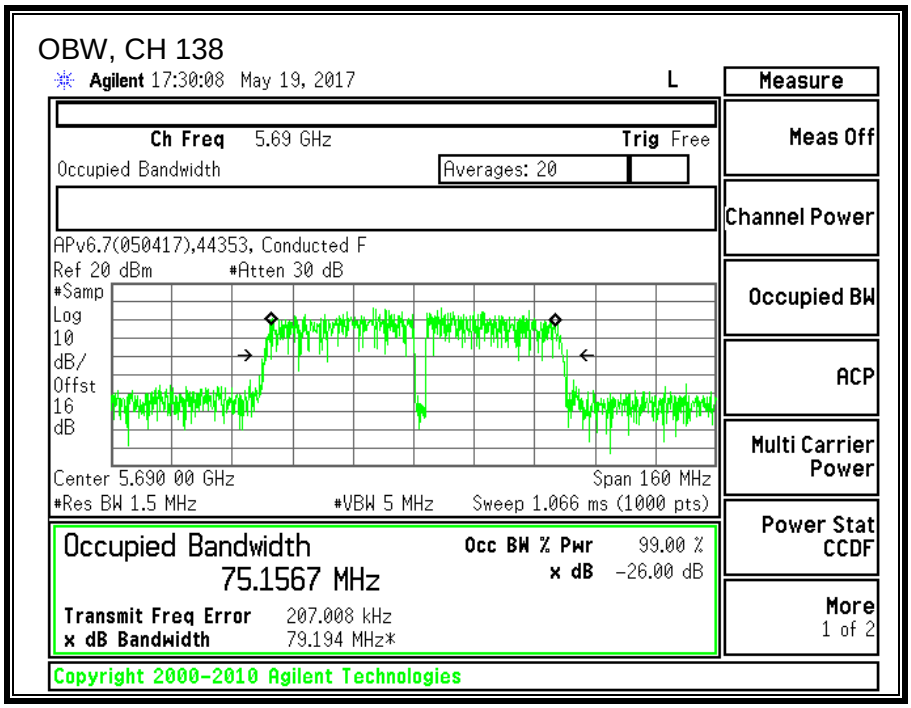
Channel	Frequency	99% BW LAT 3 (MHz)
Low	5530	75.2396
High	5610	75.4720
138	5690	75.1567

OBW, CH LOW



OBW, CH HIGH





8.32.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5530	17.41
High	5610	19.35
138	5690	19.47

8.32.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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/1MHz)
Low	5530	82.40	75.24	-6.89	24.00	11.00
Mid	5610	82.40	75.47	-6.89	24.00	11.00

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

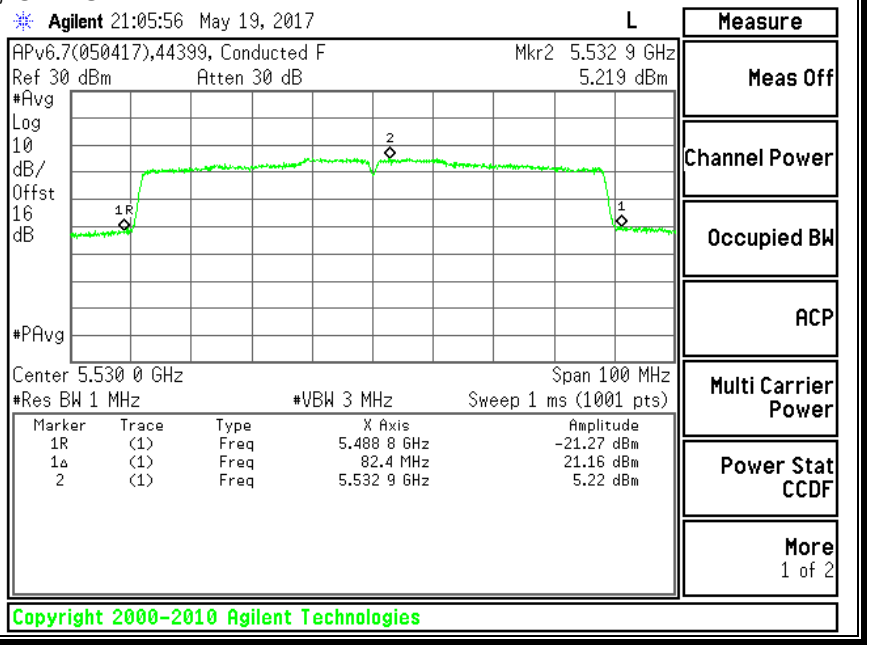
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	17.41	17.41	24.00	-6.59
Mid	5610	19.35	19.35	24.00	-4.65

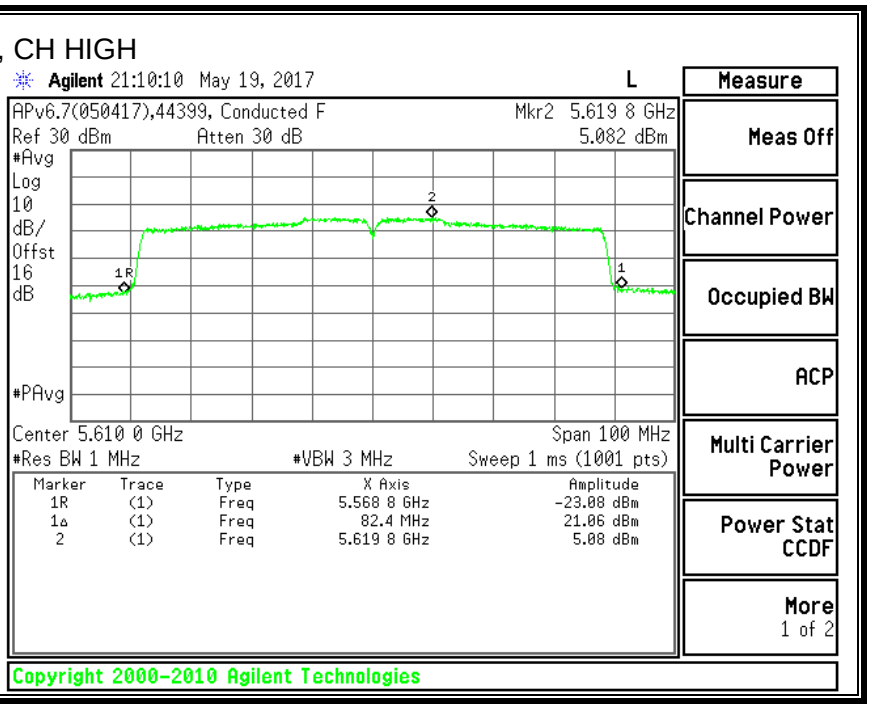
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5530	5.22	5.41	11.00	-5.59
Mid	5610	5.08	5.27	11.00	-5.73

, CH LOW



, CH HIGH



8.32.5. 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/1MHz)
138	5690	82.2	-6.89	-6.89	24.00	11.00

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

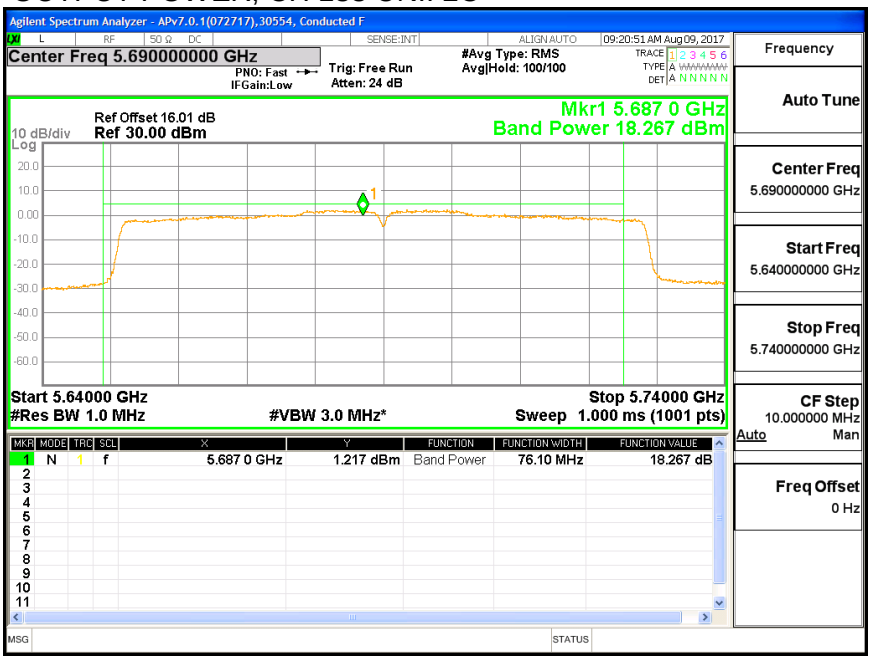
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.27	18.46	24.00	-5.54

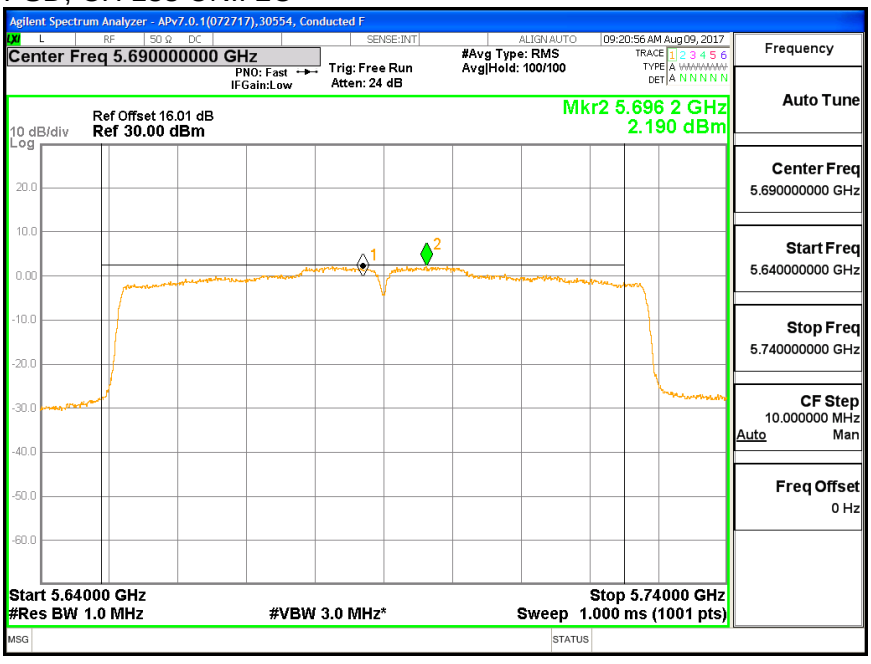
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
138	5690	2.19	2.38	11.00	-8.62

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	82.20	-6.31	30.00	30.00

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

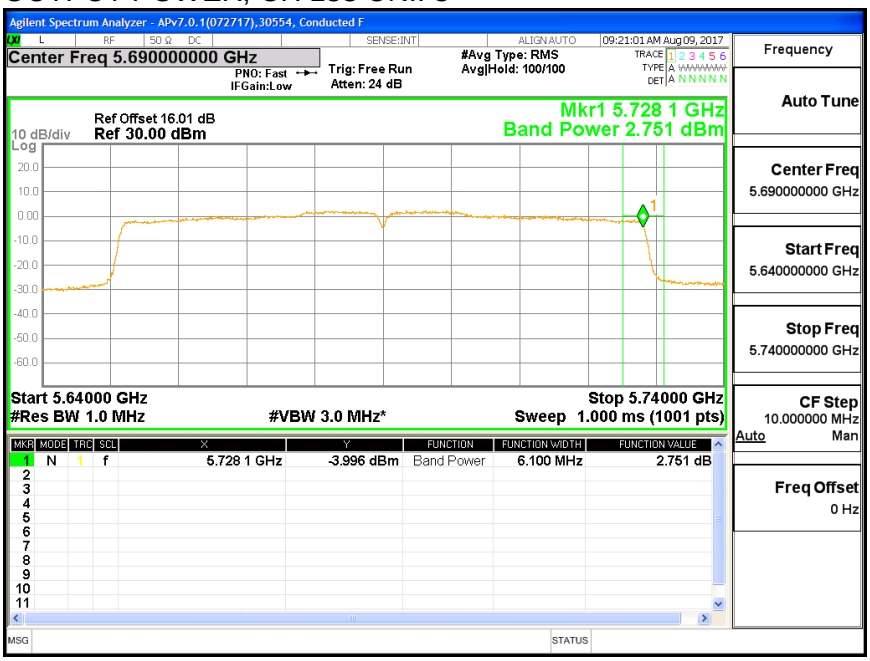
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	2.75	2.94	30.00	-27.06

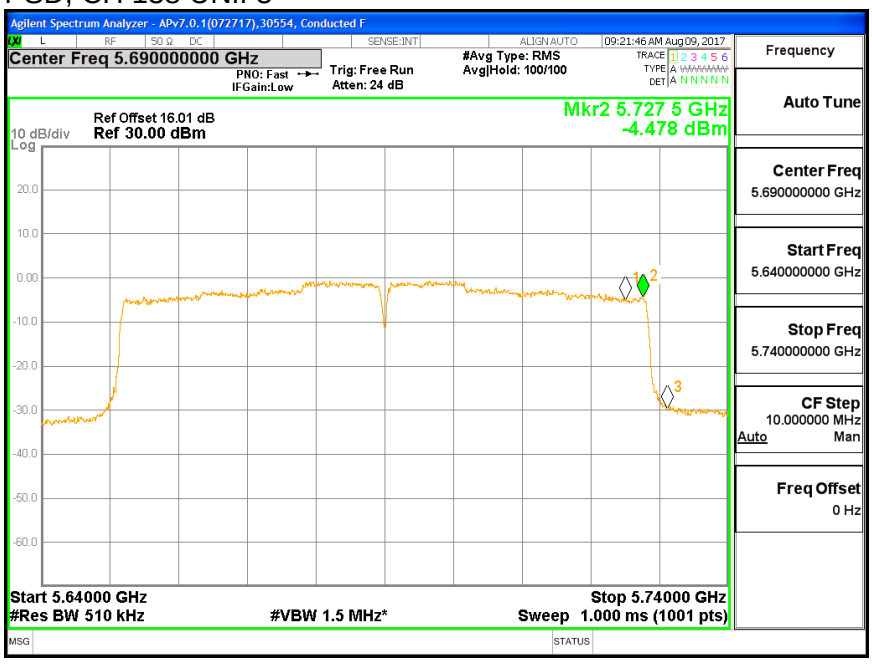
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.48	-4.29	30.00	-34.29

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.32.6. 6 dB BANDWIDTH

LIMITS

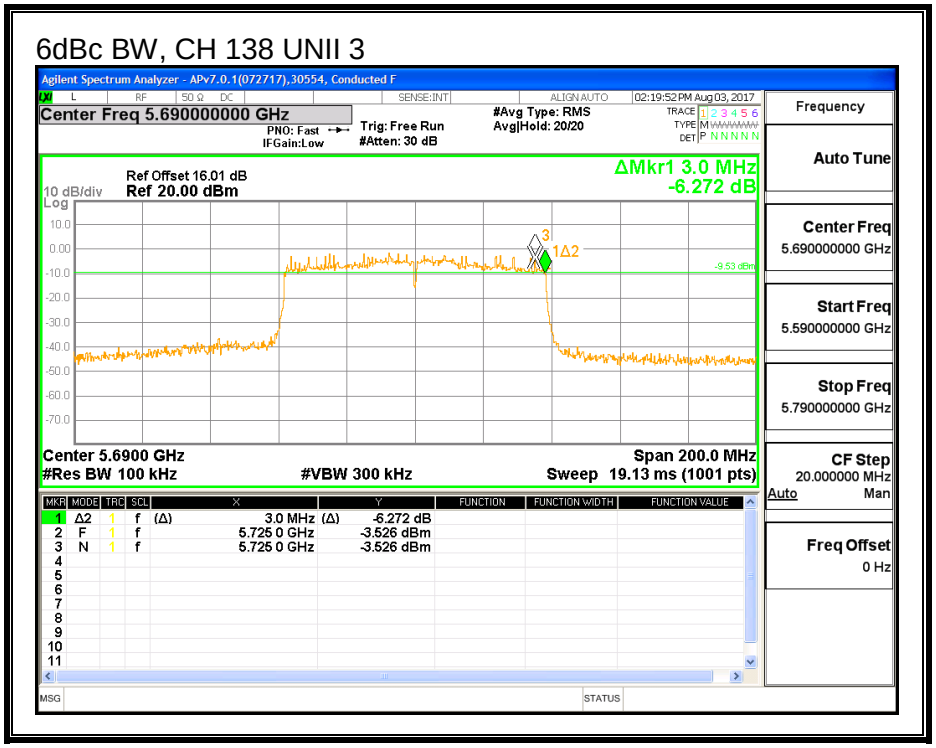
FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5690	3.00

6 dB BANDWIDTH



8.33. 11ac HT80 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.33.1. 26 dB BANDWIDTH

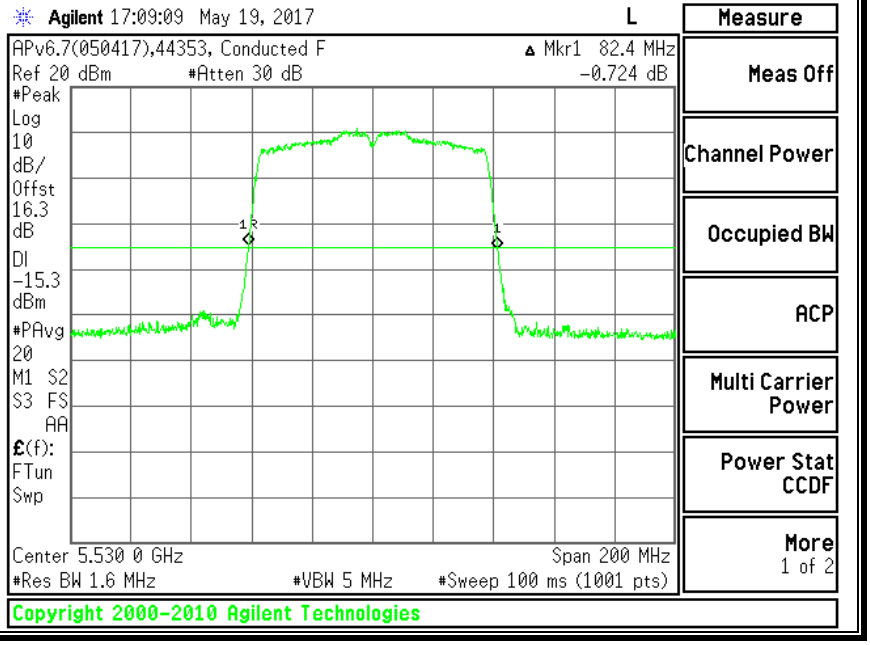
LIMITS

None; for reporting purposes only.

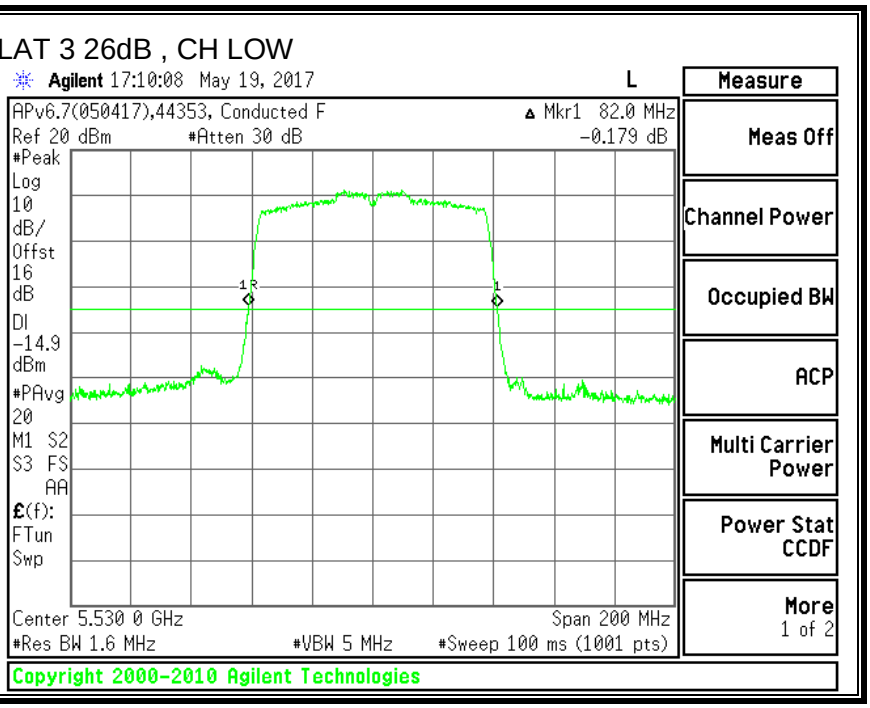
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5530	82.4	82.0
High	5610	82.6	82.2
138	5690	82.4	82.4

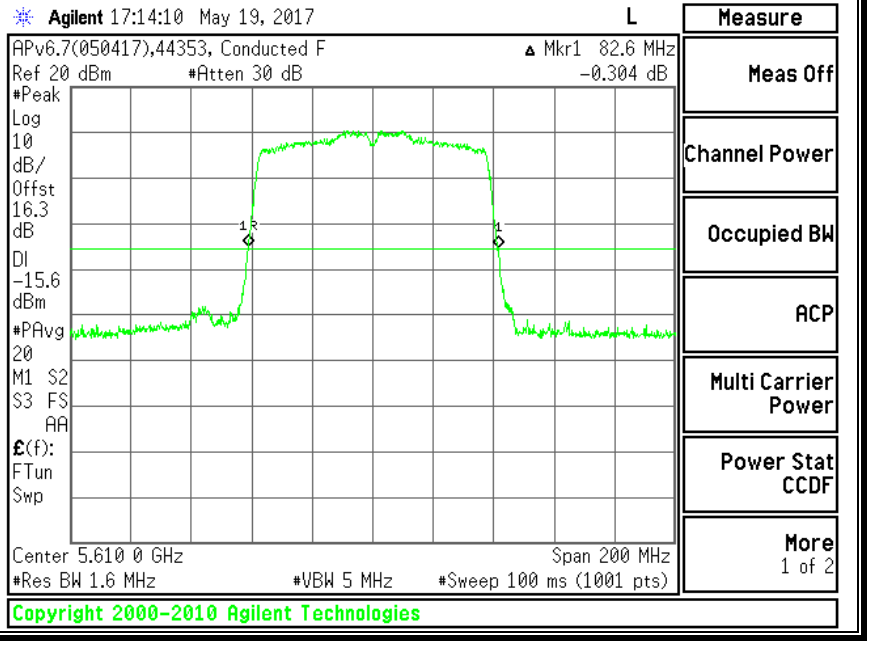
UAT 2 26dB , CH LOW



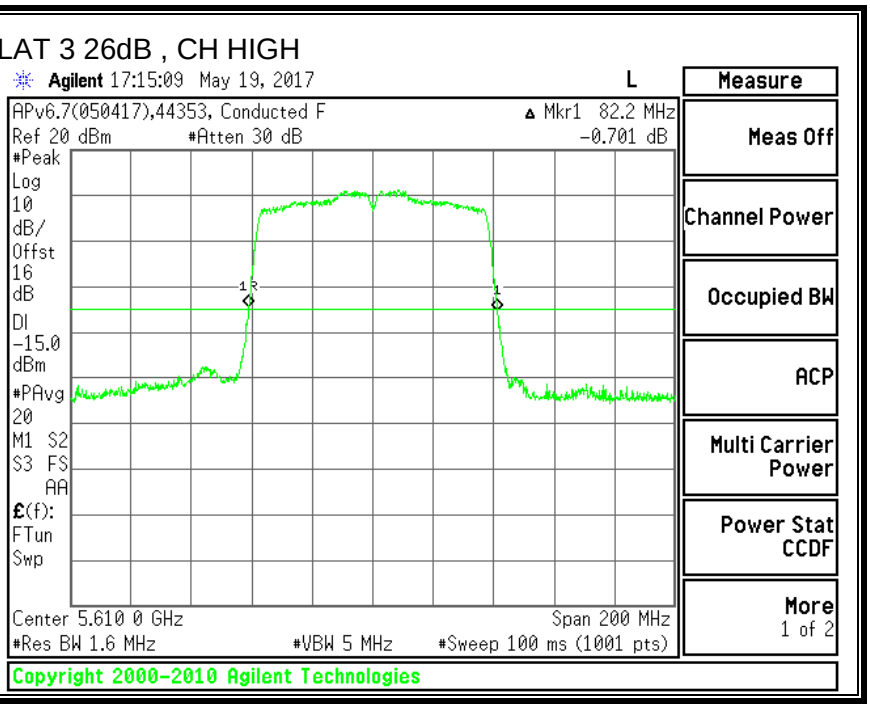
LAT 3 26dB , CH LOW



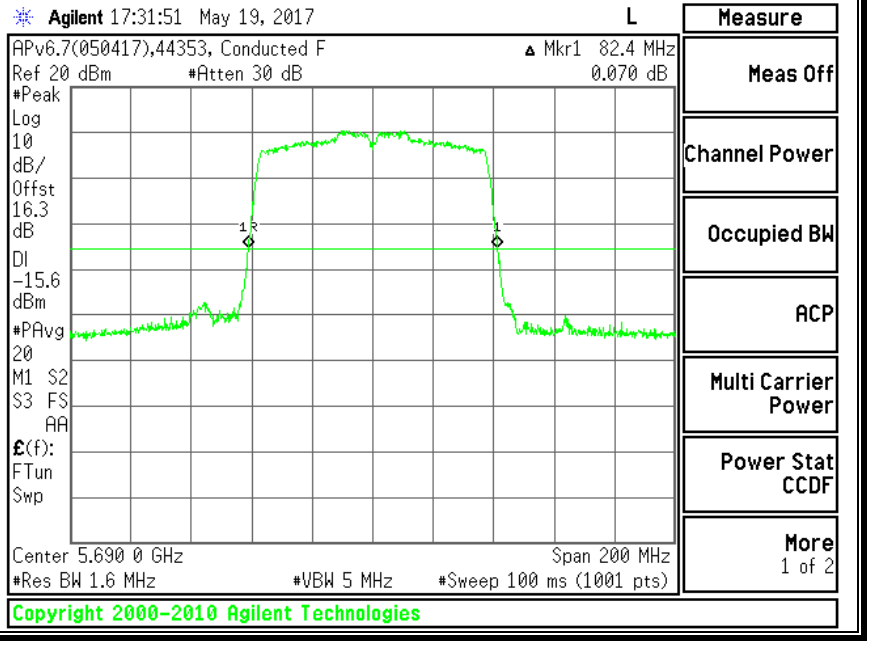
UAT 2 26dB , CH HIGH



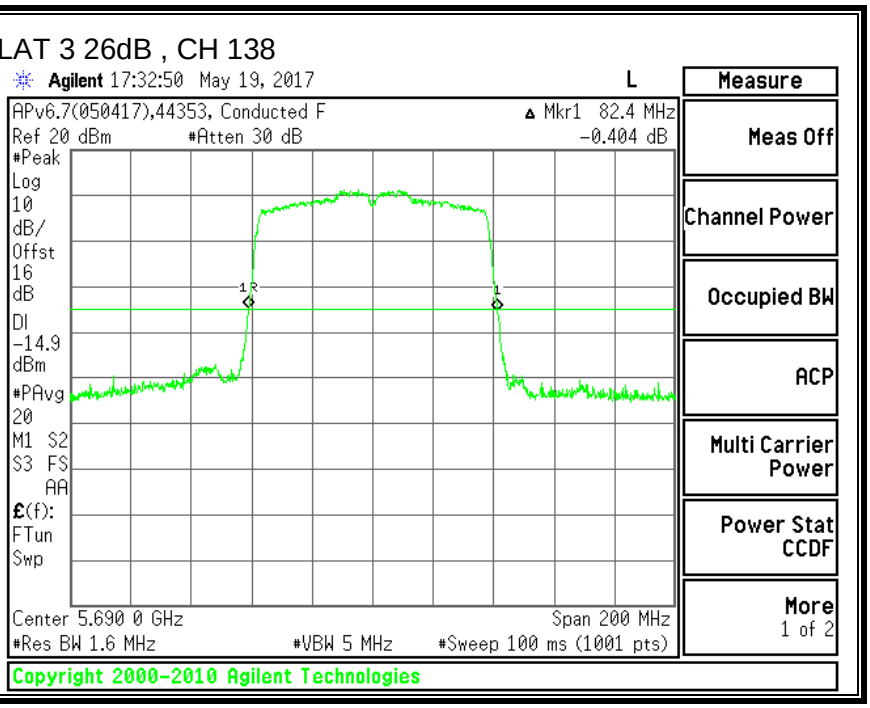
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 138



LAT 3 26dB , CH 138



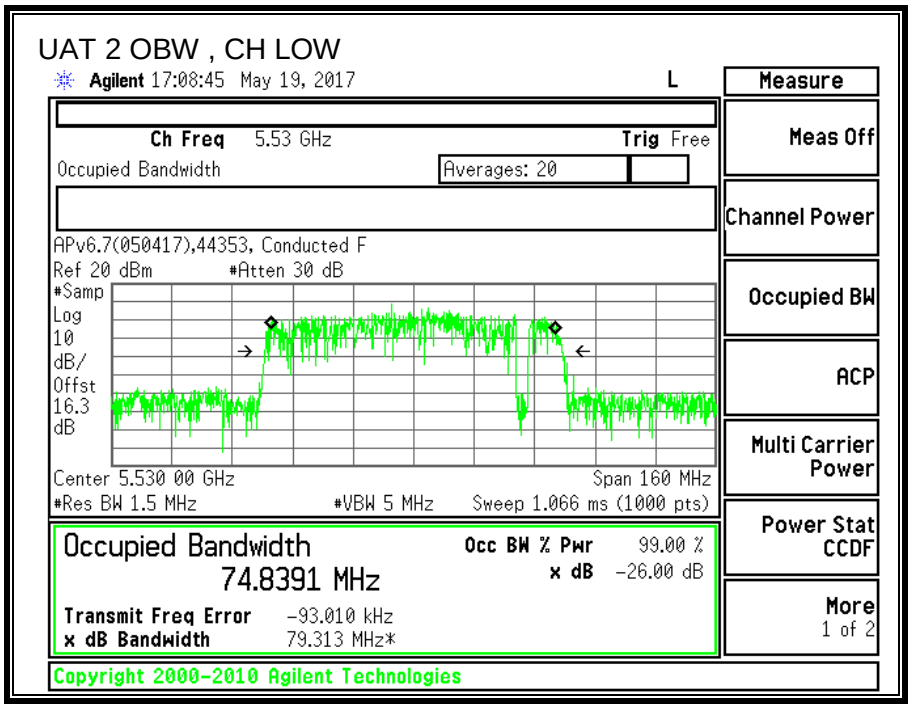
8.33.2. 99% BANDWIDTH

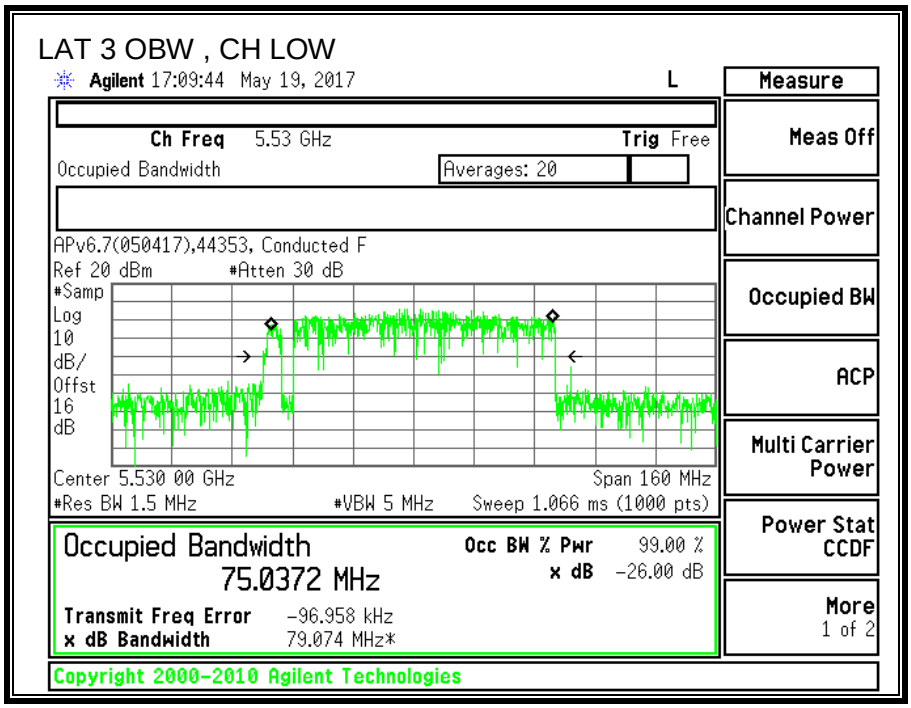
LIMITS

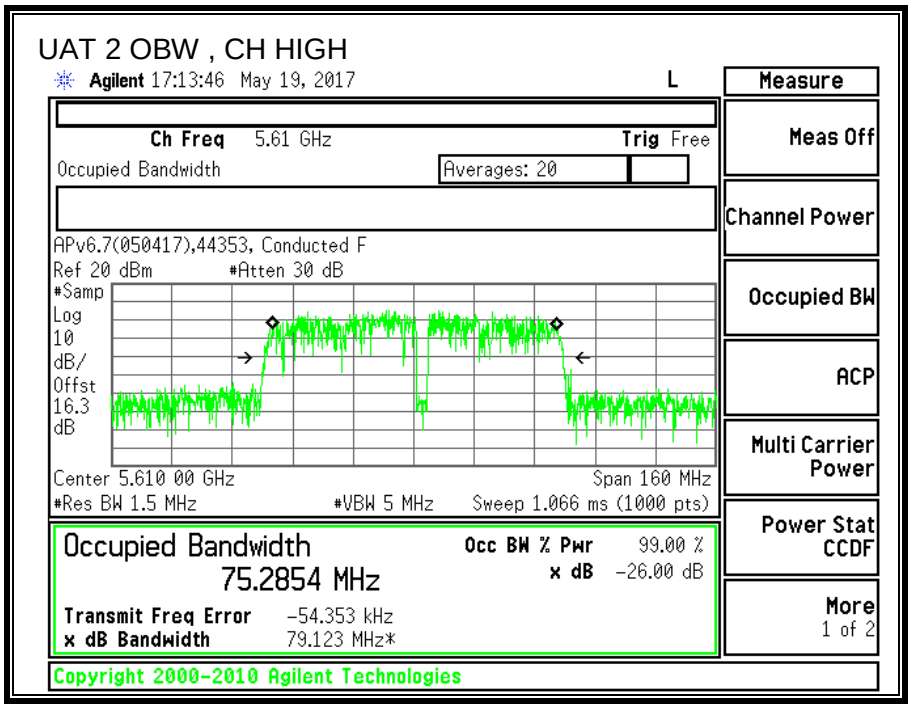
None; for reporting purposes only.

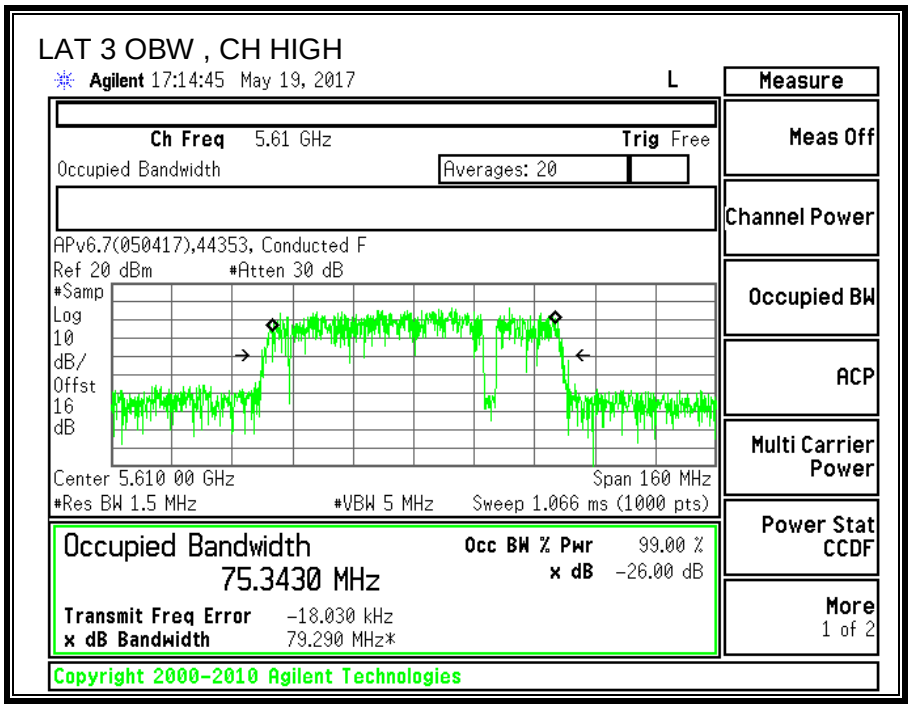
RESULTS

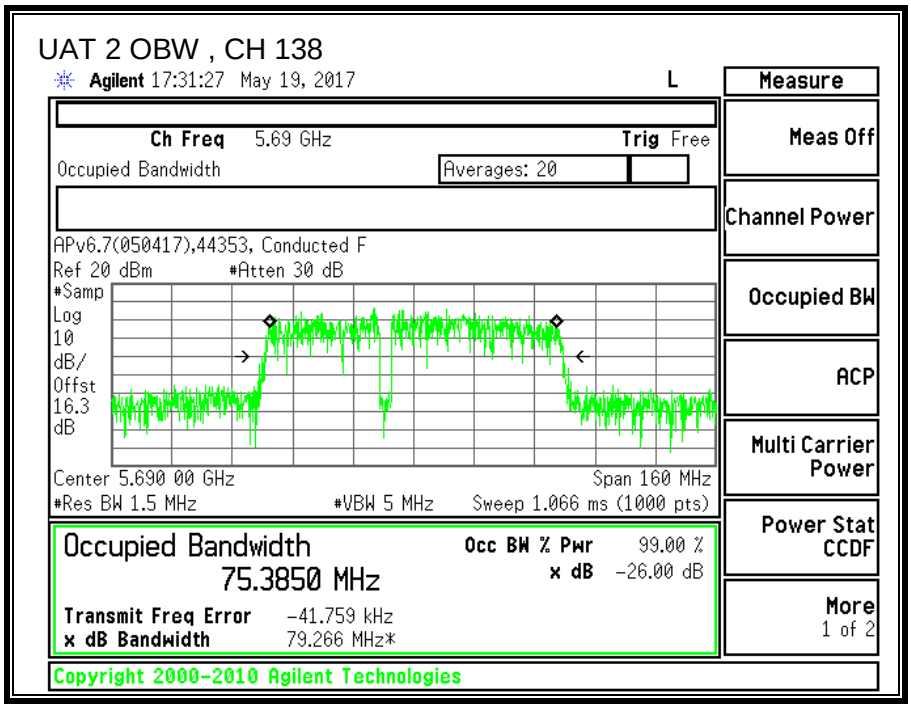
Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5530	74.8391	75.0372
High	5610	75.2854	75.3430
138	5690	75.3850	75.3184

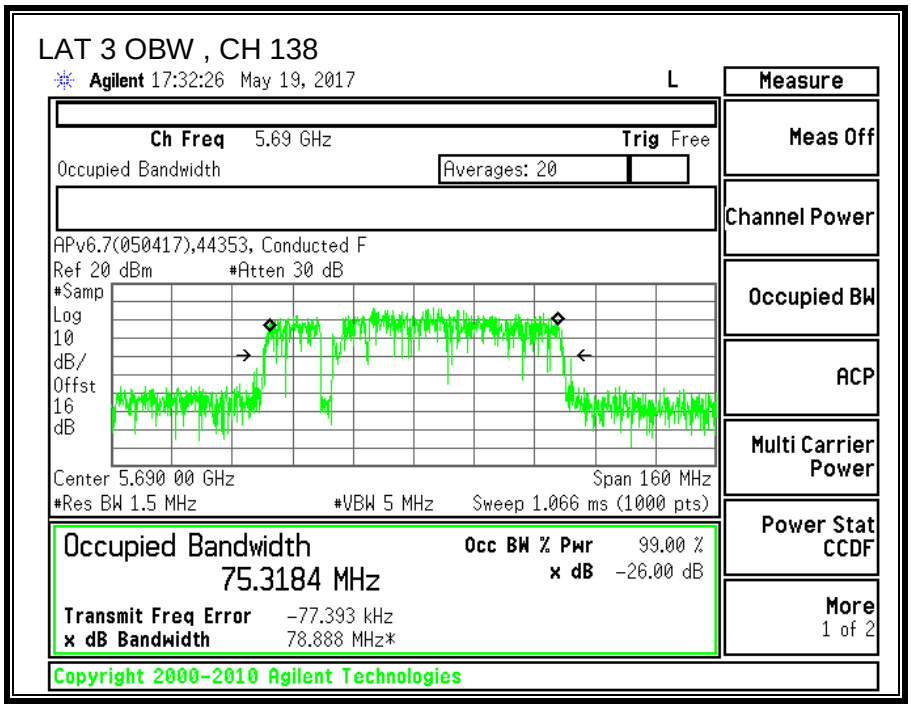












8.33.3. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5530	16.42	16.39	19.42
Mid	5610	19.41	19.43	22.43
High	5690	19.47	19.37	22.43

8.33.4. OUTPUT POWER AND PPSD

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.

PSD test procedure: KDB 789033 D02 v01r04 Section F (SA-2 method)

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

DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-2.77	-6.89	-4.36

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-2.77	-6.89	-1.58

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/1MHz)
Low	5530	82.00	74.839	-4.36	-1.58	24.00	11.00
High	5610	82.20	75.285	-4.36	-1.58	24.00	11.00

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

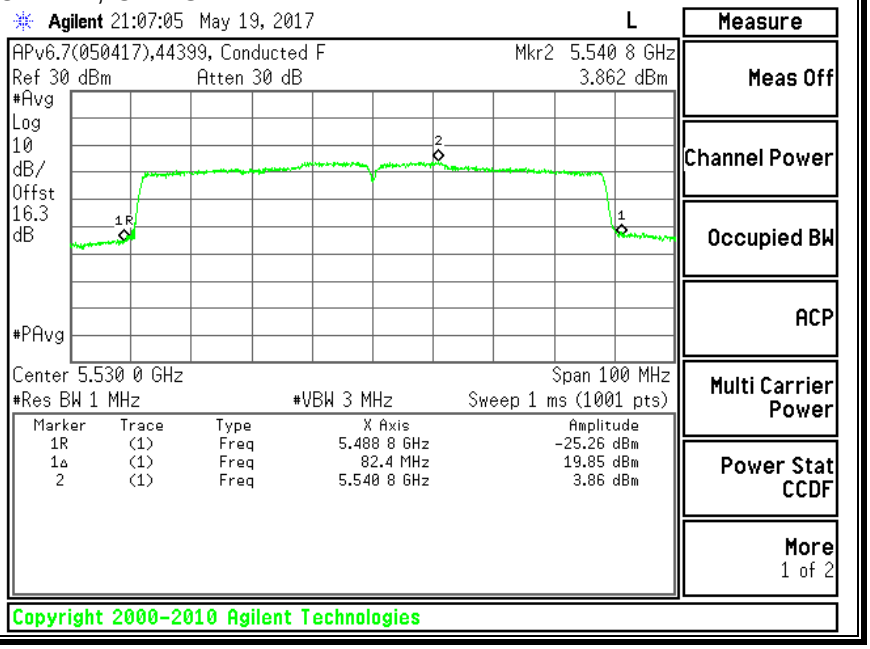
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	16.42	16.39	19.42	24.00	-4.58
High	5610	19.41	19.43	22.43	24.00	-1.57

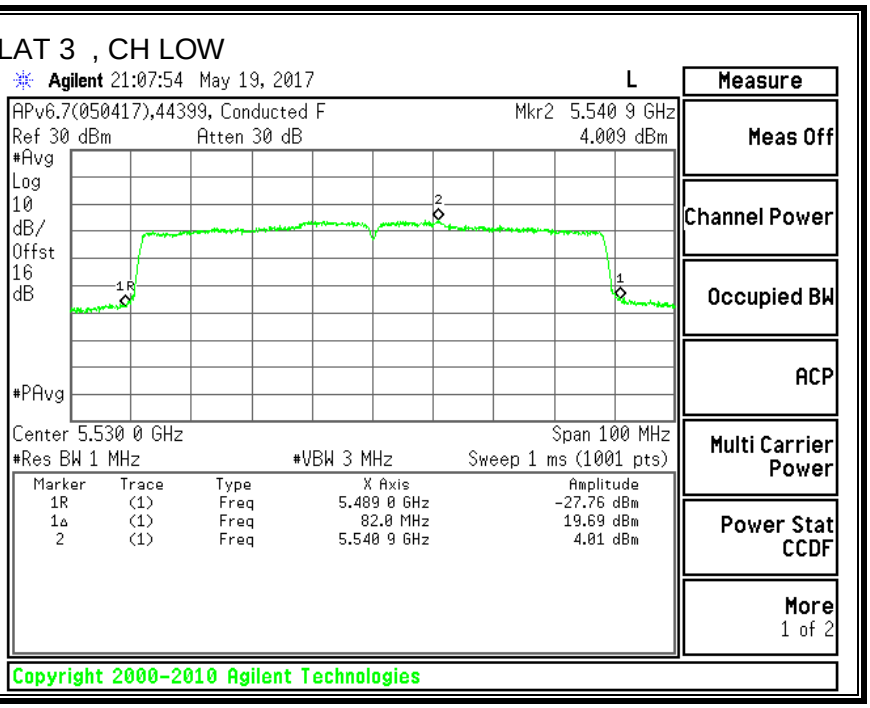
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5530	3.86	4.01	7.14	11.00	-3.86
High	5610	4.42	3.75	7.30	11.00	-3.70

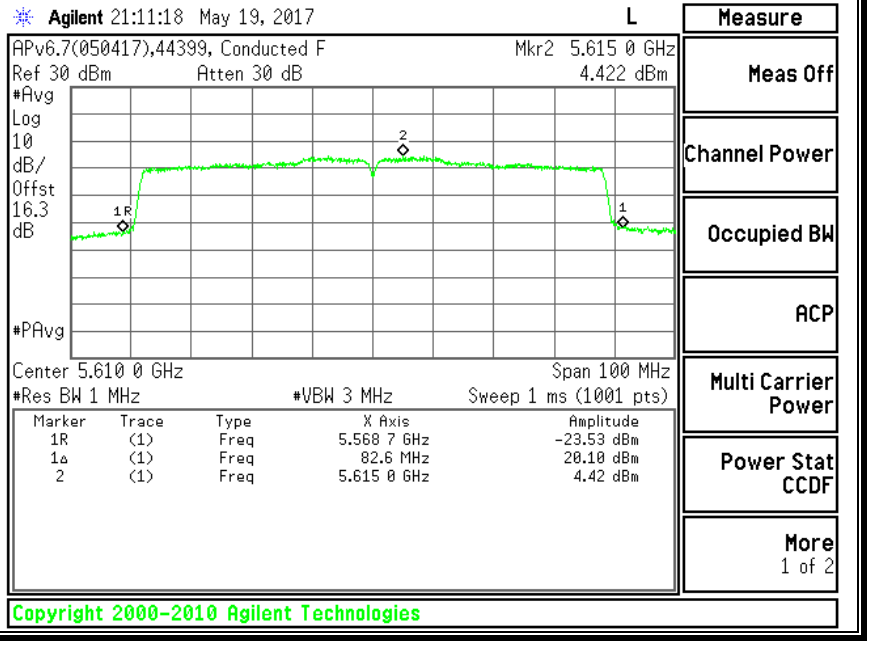
UAT 2 , CH LOW



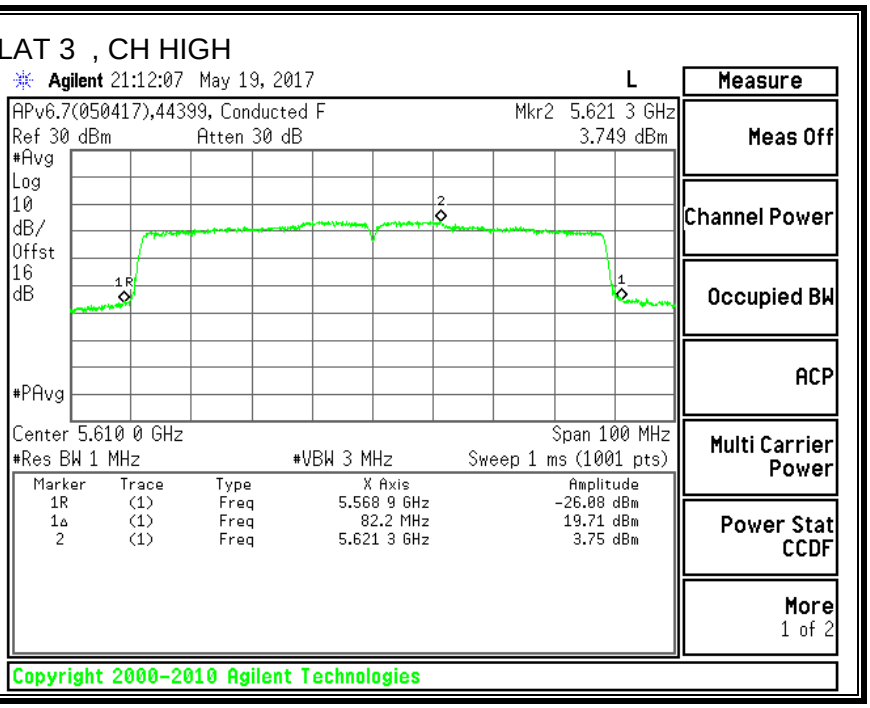
LAT 3 , CH LOW



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.33.5. 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/1MHz)
138	5690	82.40	-4.36	-1.58	24.00	11.00

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

Output Power Results

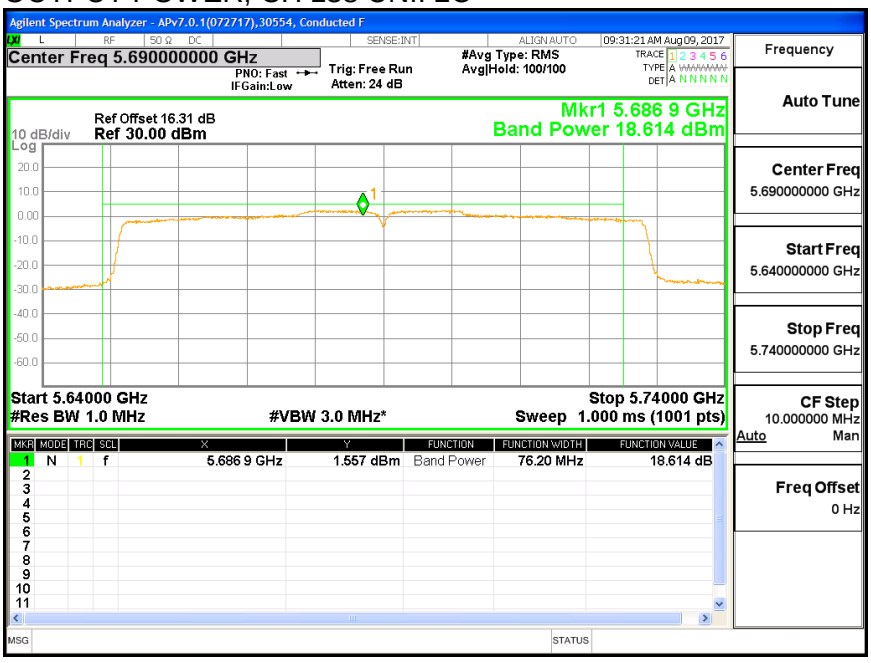
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.61	18.29	21.65	24.00	-2.35

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
138	5690	2.46	2.33	5.59	11.00	-5.41

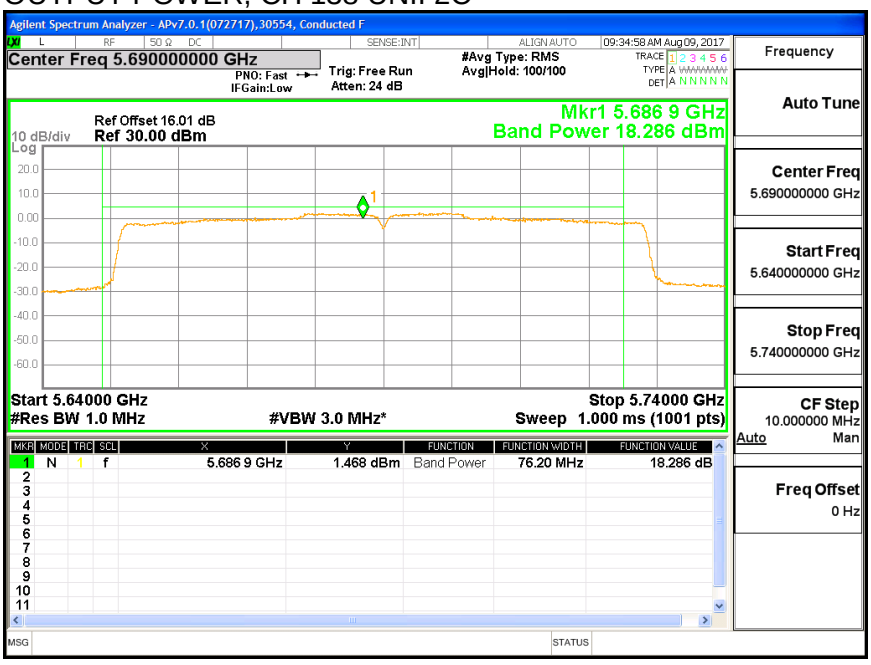
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 138 UNII 2C



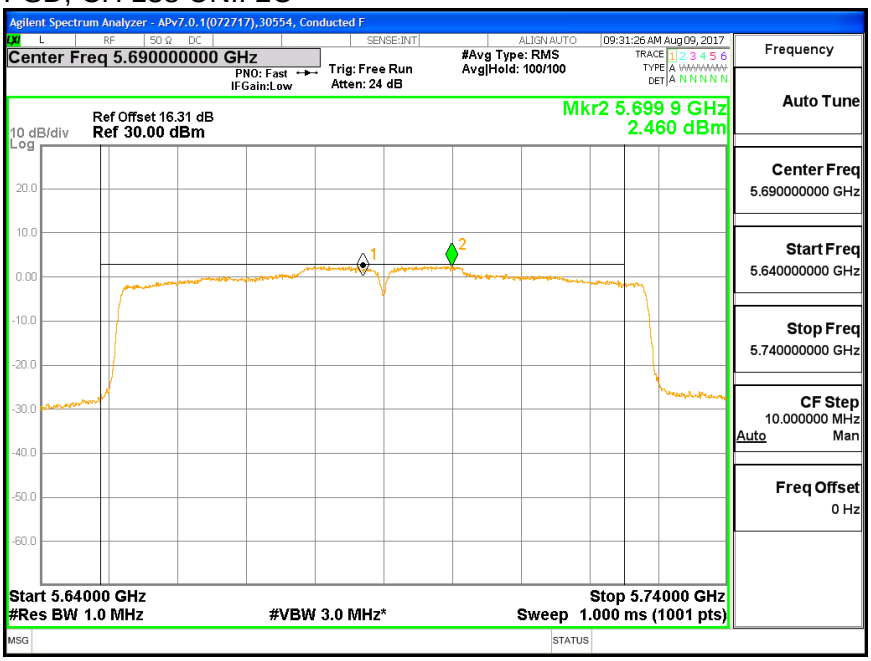
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 138 UNII 2C



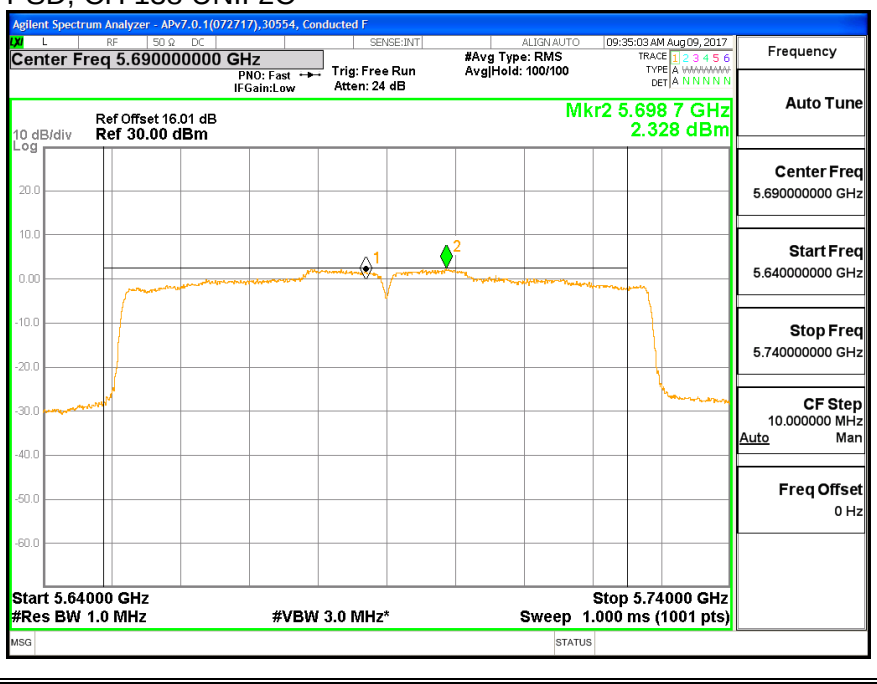
PSD, UAT 2

PSD, CH 138 UNII 2C



PSD, LAT 3

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain Power (dBi)	Directional Gain PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	82.40	-4.73	-1.82	30.00	30.00

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

Output Power Results

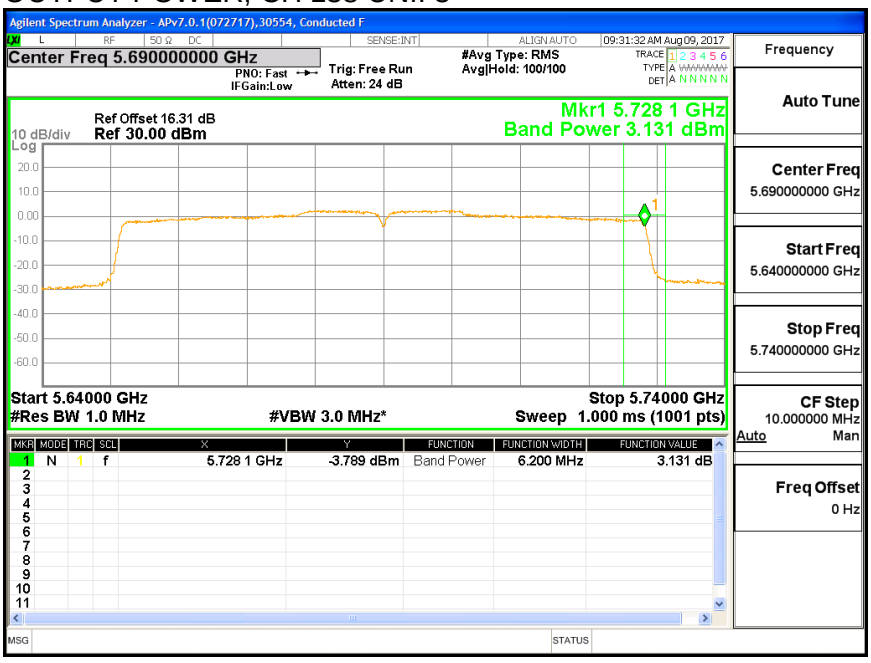
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	3.13	2.95	6.24	30.00	-23.76

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.13	-4.58	-1.15	30.00	-31.15

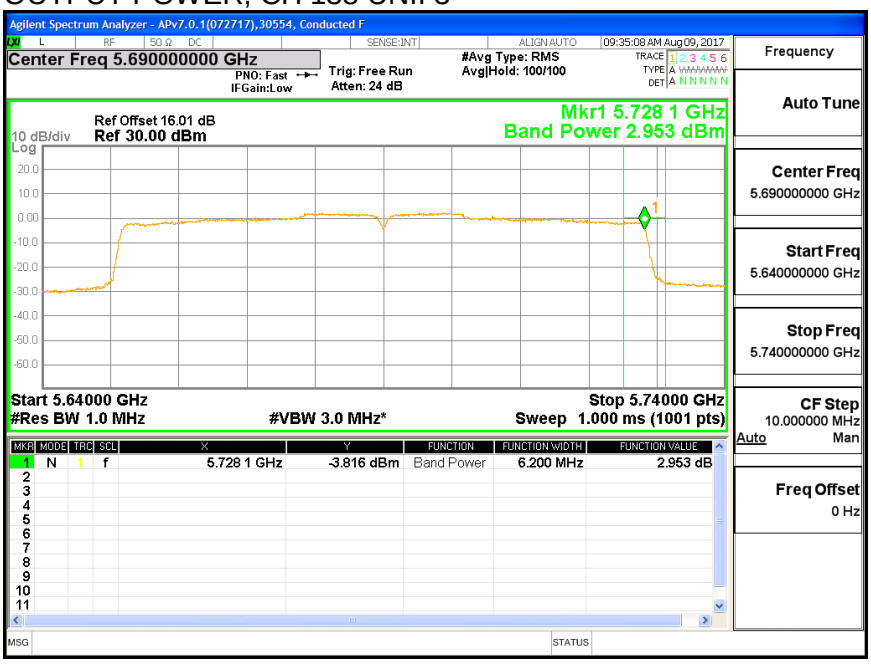
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 138 UNII 3



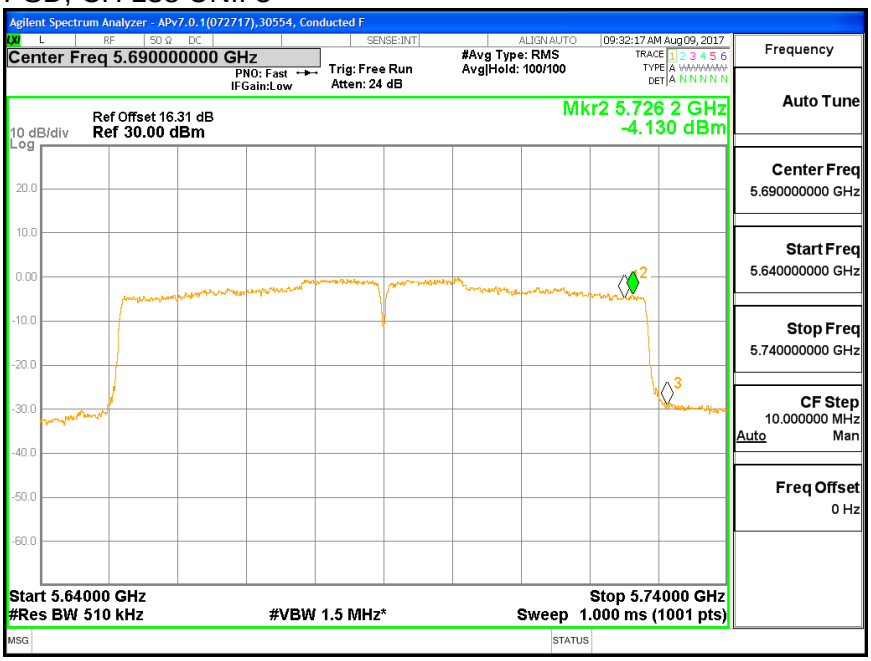
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 138 UNII 3



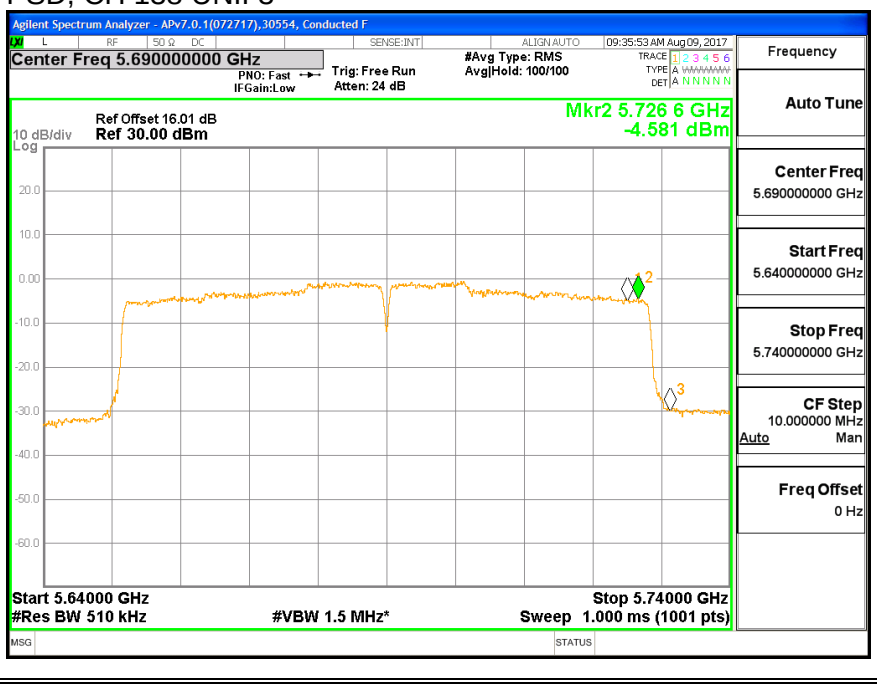
PSD, UAT 2

PSD, CH 138 UNII 3



PSD, LAT 3

PSD, CH 138 UNII 3



8.33.6. 6 dB BANDWIDTH

LIMITS

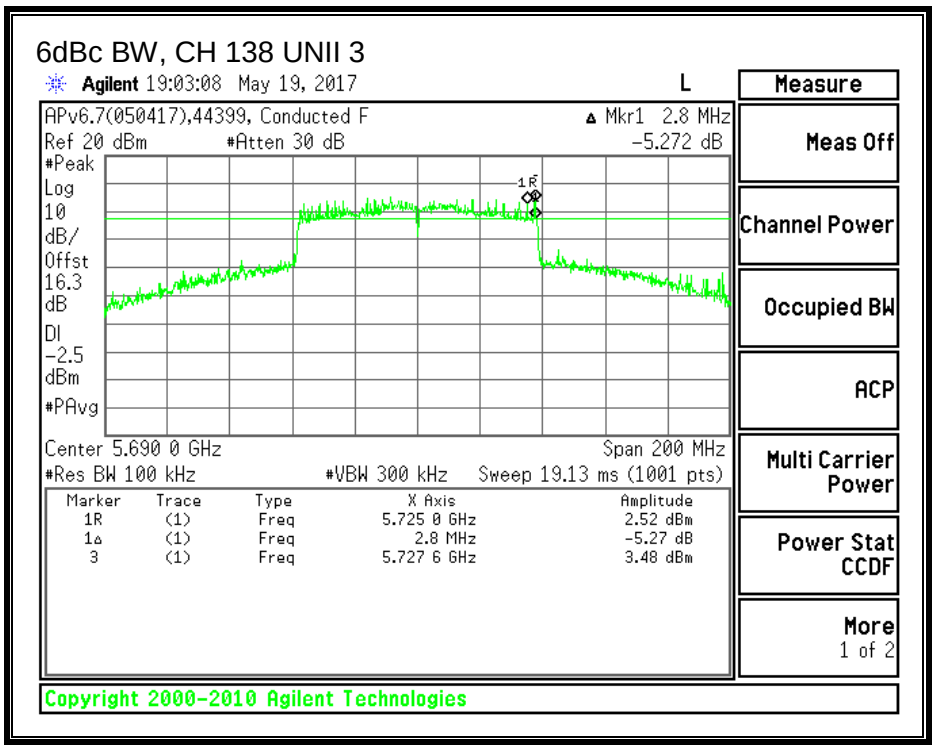
FCC §15.407 (e)

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

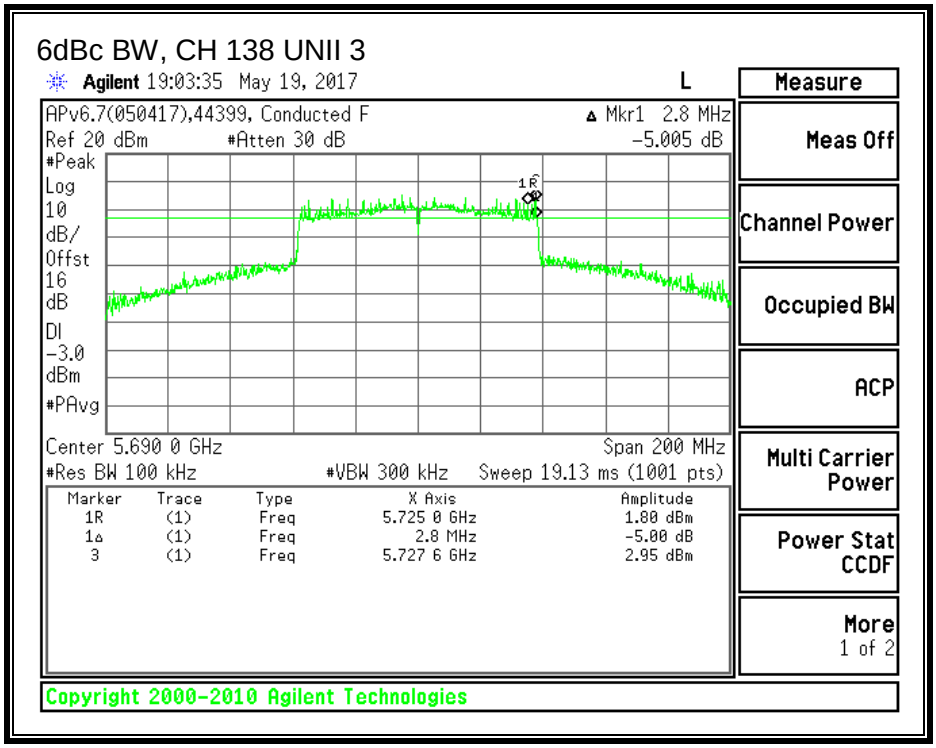
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
High	5690	2.80	2.80

UAT 2



LAT 3



8.34. 11n HT20 UAT 2 SISO MODE IN THE 5.8GHz BAND

8.34.1. 6 dB BANDWIDTH

LIMITS

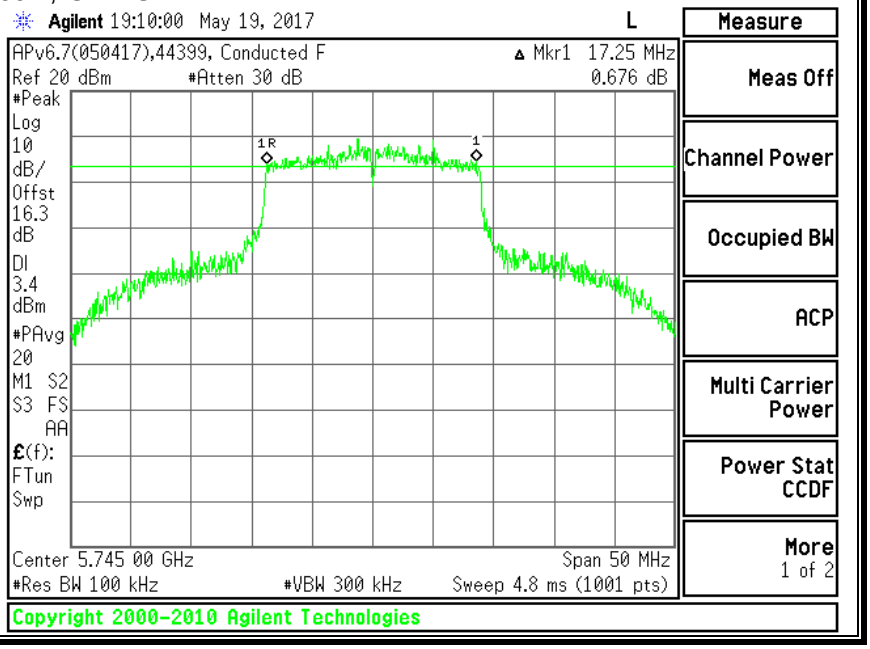
FCC §15.407 (e)

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

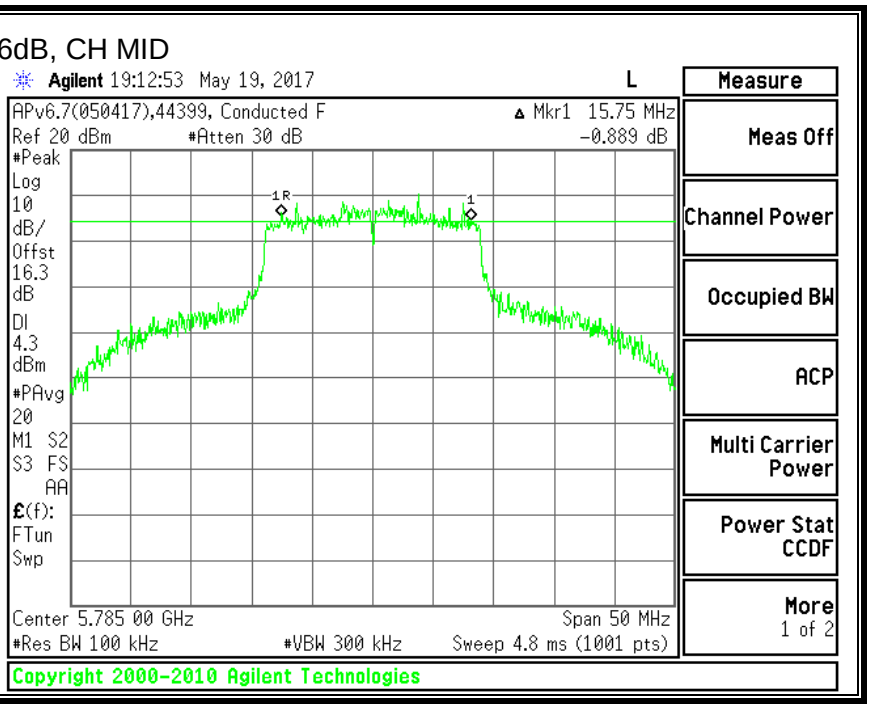
RESULTS

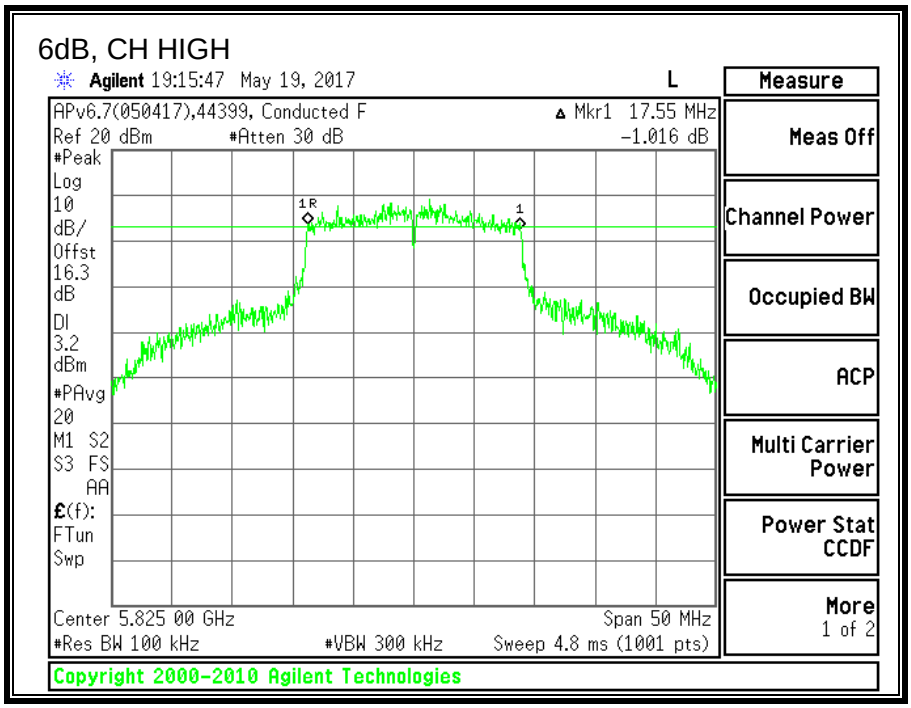
Channel	Frequency	6 dB BW UAT 2 (MHz)	Minimum Limit (MHz)
Low	5745	17.25	0.5
Mid	5785	15.75	0.5
High	5825	17.55	0.5

6dB, CH LOW



6dB, CH MID





8.34.2. 26 dB BANDWIDTH

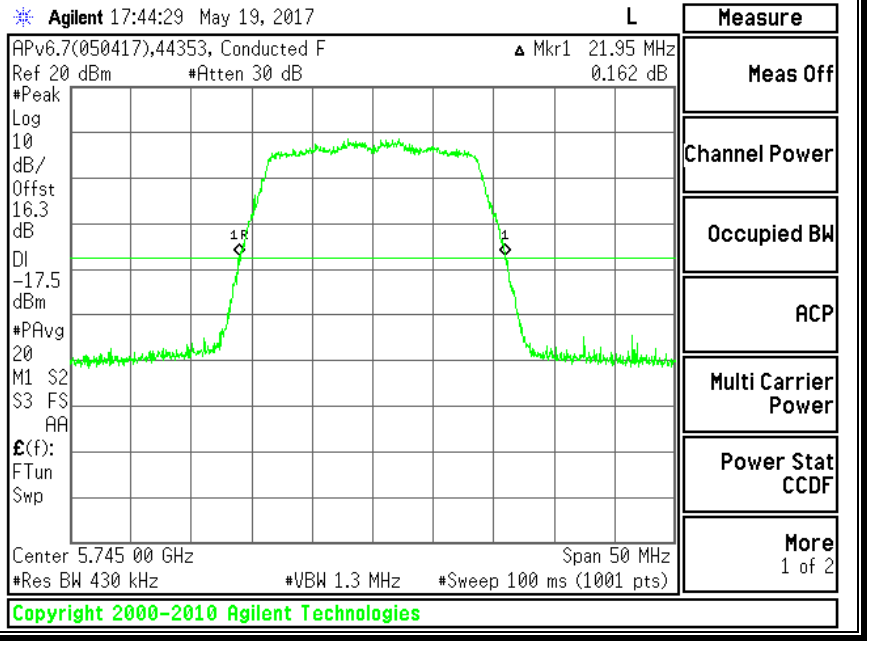
LIMITS

None; for reporting purposes only.

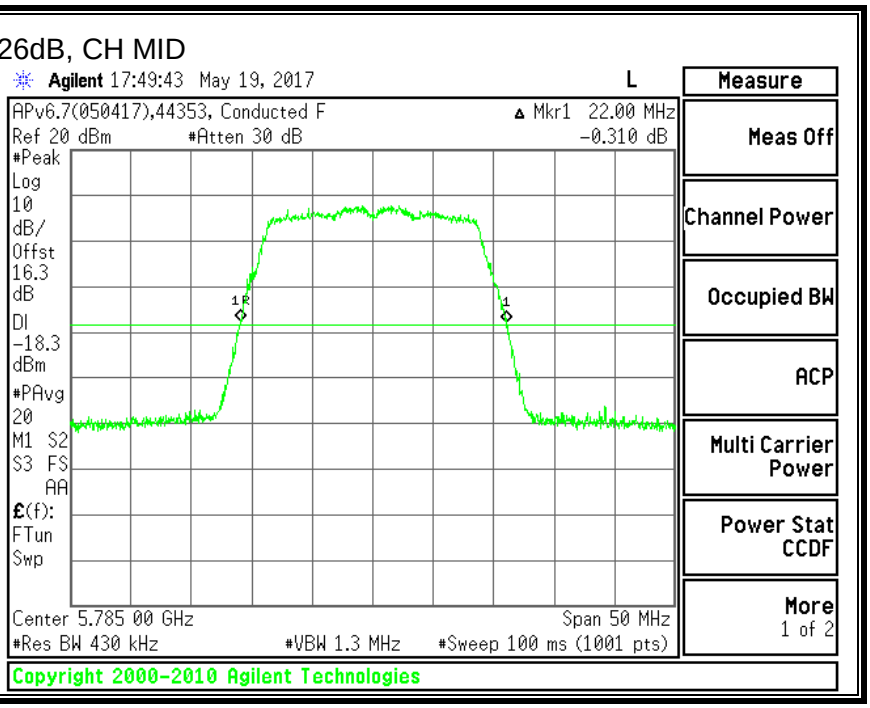
RESULTS

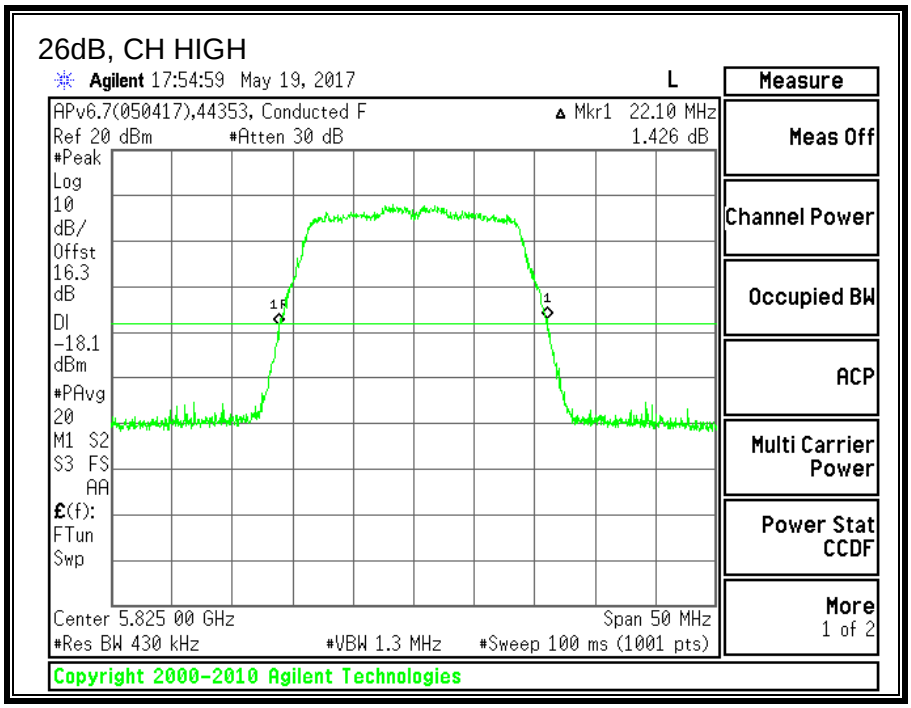
Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5745	21.95
Mid	5785	22.00
High	5825	22.10

26dB, CH LOW



26dB, CH MID





8.34.3. 99% BANDWIDTH

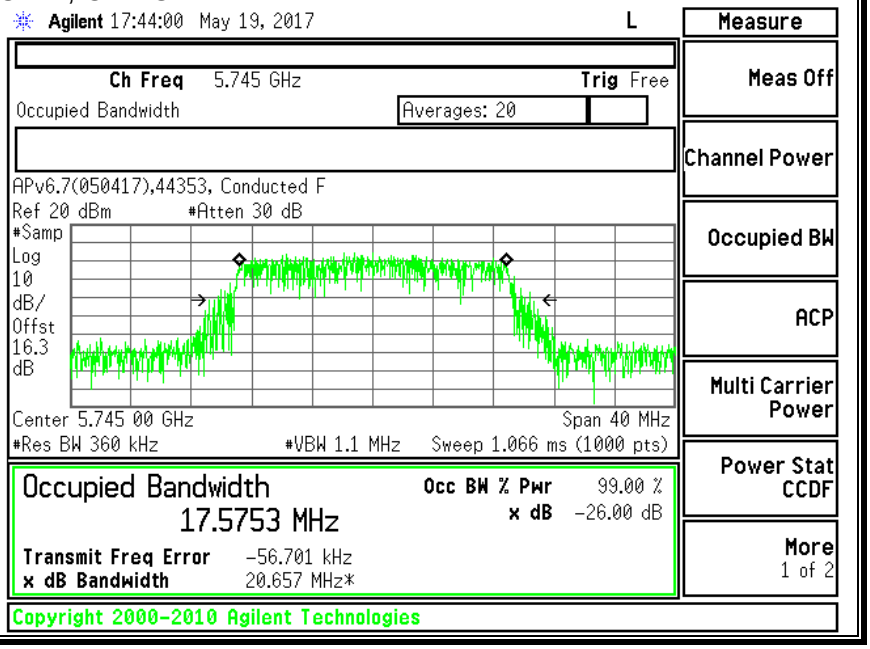
LIMITS

None; for reporting purposes only.

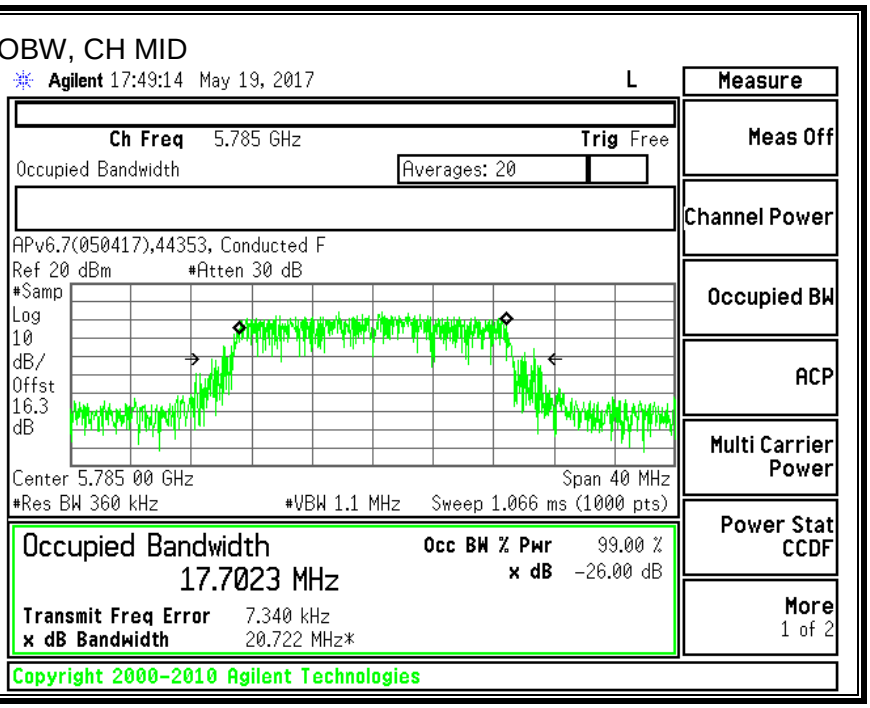
RESULTS

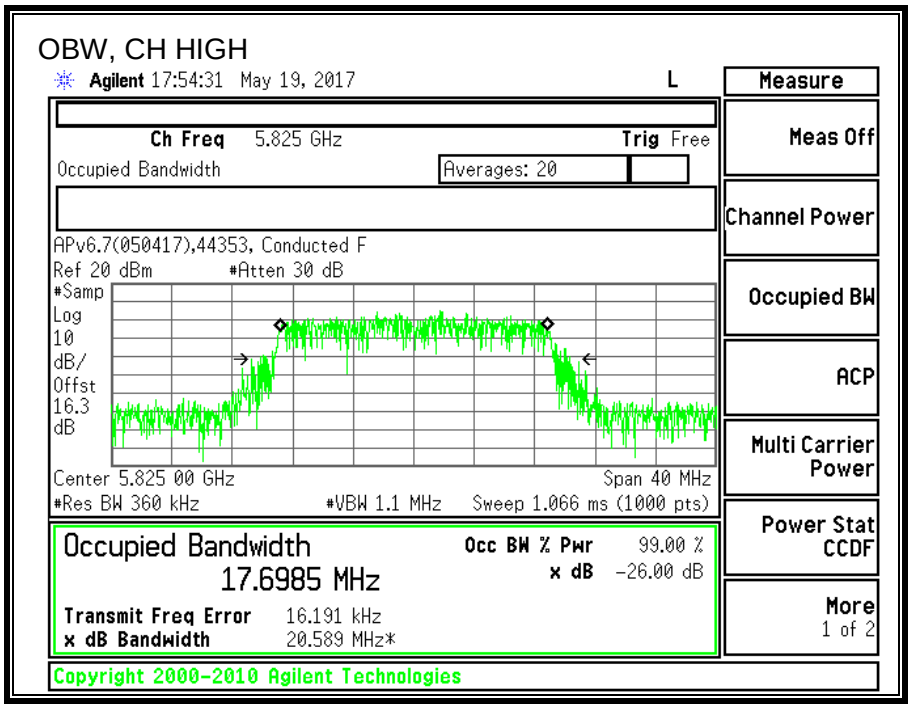
Channel	Frequency	99% BW UAT 2 (MHz)
Low	5745	17.5753
Mid	5785	17.7023
High	5825	17.6985

OBW, CH LOW



OBW, CH MID





8.34.4. AVERAGE POWER

ID:	30554	Date:	7/28/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5745	21.43
Mid	5785	21.39
High	5825	21.40

8.34.5. OUTPUT POWER

ID:	30554	Date:	7/28/2017

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

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	-3.57	30.00
Mid	5785	-3.57	30.00
High	5825	-3.57	30.00

Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	21.43	21.43	30.00	-8.57
Mid	5785	21.39	21.39	30.00	-8.61
High	5825	21.40	21.40	30.00	-8.60

8.34.6. POWER SPECTRAL DENSITY

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

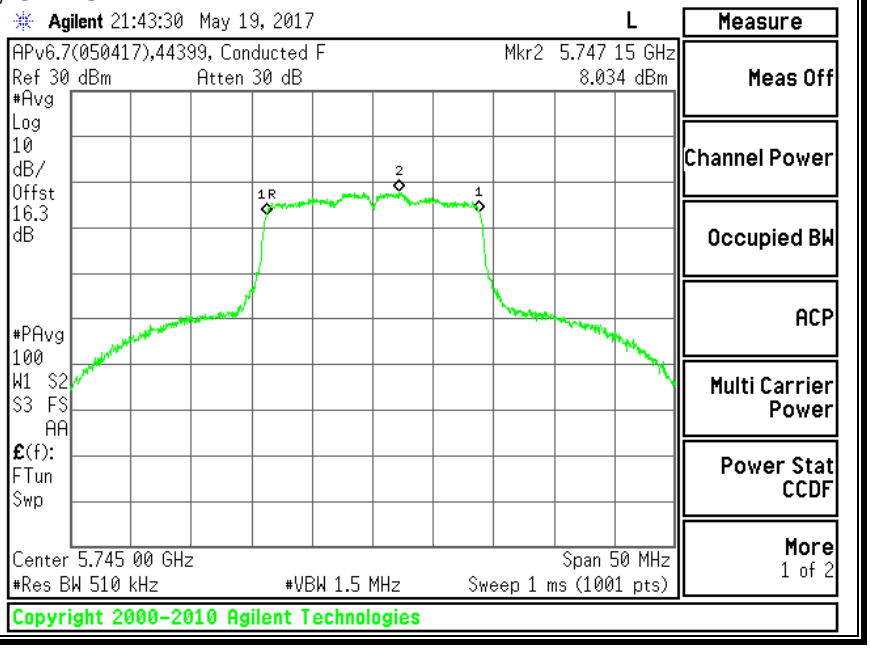
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm/500KHz)
Low	5745	-3.57	30.00
Mid	5785	-3.57	30.00
High	5825	-3.57	30.00

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

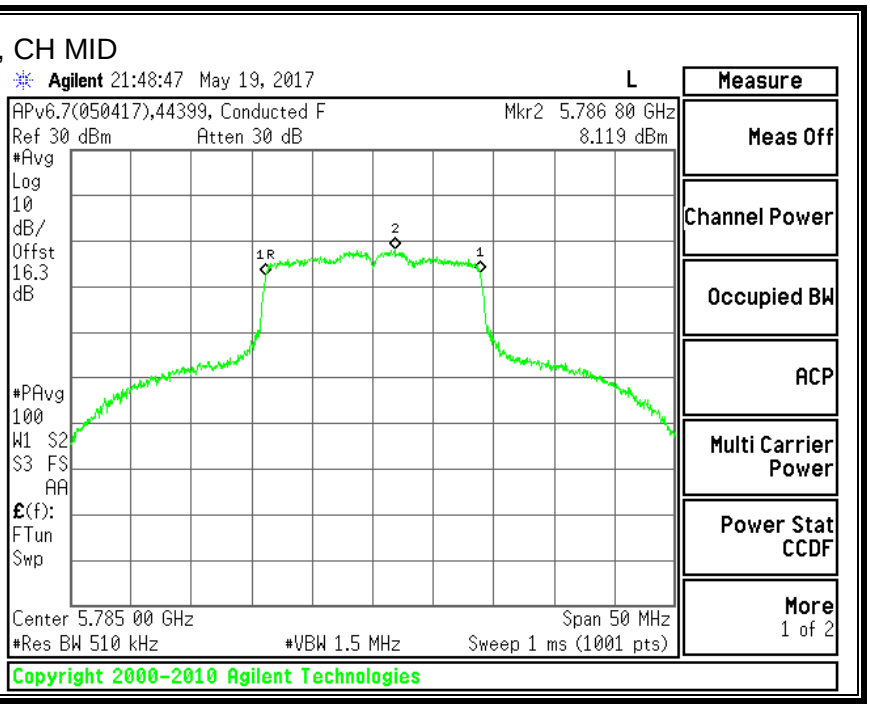
PSD Results

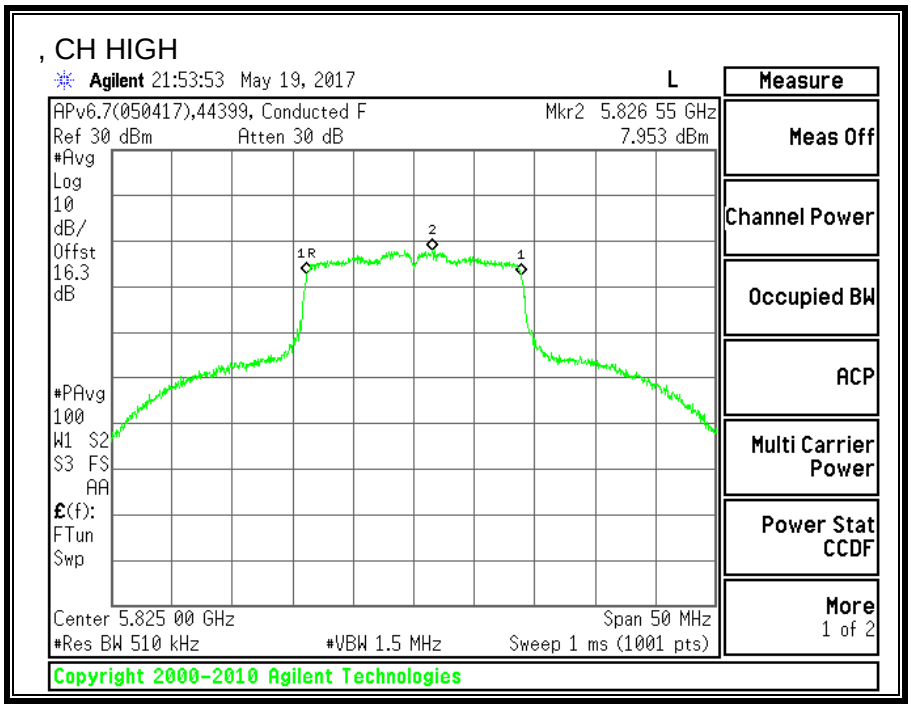
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5745	8.034	8.034	30.00	-21.97
Mid	5785	8.119	8.119	30.00	-21.88
High	5825	7.953	7.953	30.00	-22.05

, CH LOW



, CH MID





8.35. 11n HT20 LAT 3 SISO MODE IN THE 5.8GHz BAND

8.35.1. 6 dB BANDWIDTH

LIMITS

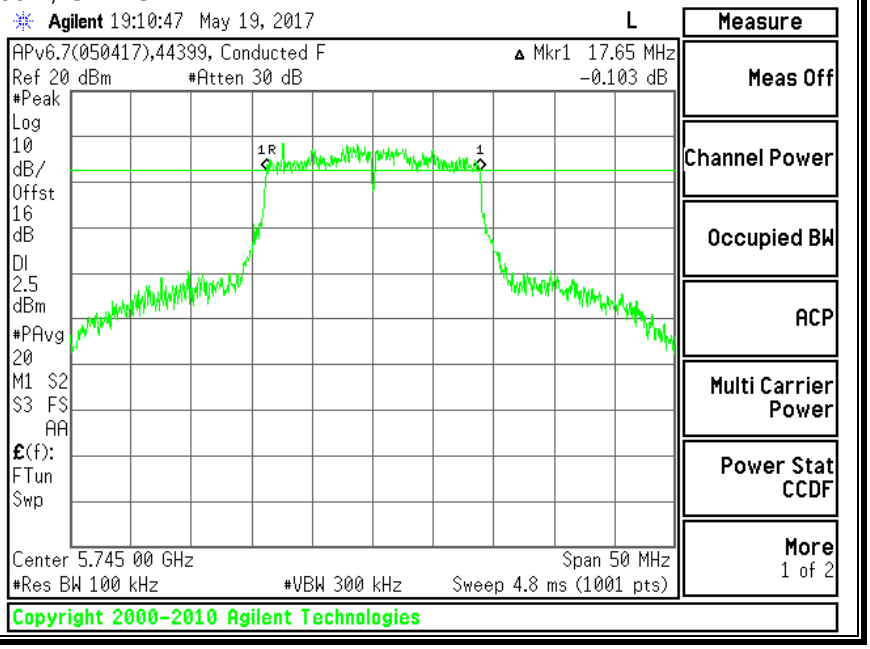
FCC §15.407 (e)

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

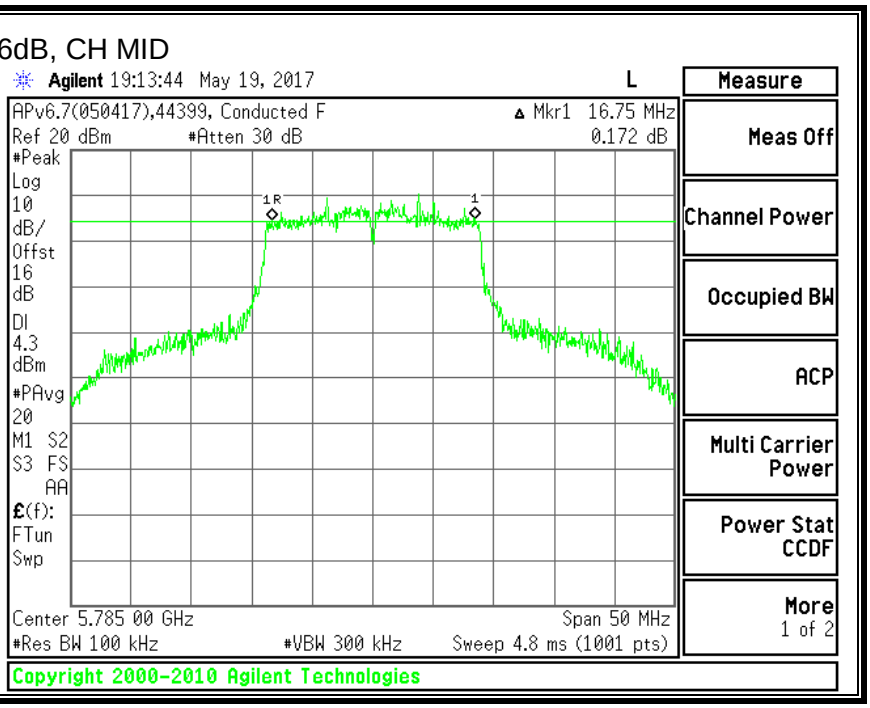
RESULTS

Channel	Frequency	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low	5745	17.65	0.5
Mid	5785	16.75	0.5
High	5825	17.60	0.5

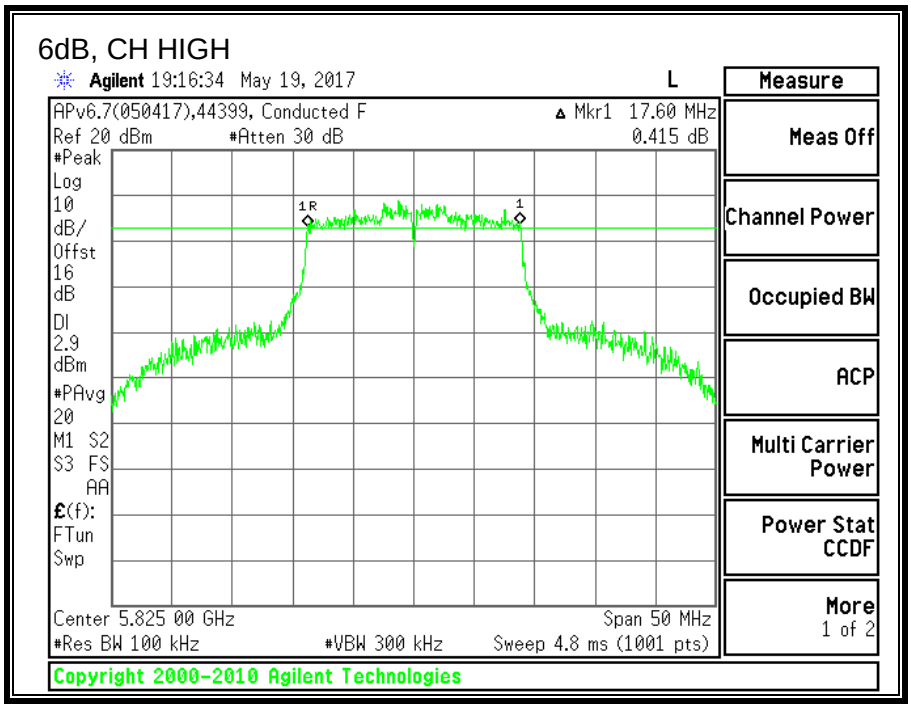
6dB, CH LOW



6dB, CH MID



6dB, CH HIGH



8.35.2. 26 dB BANDWIDTH

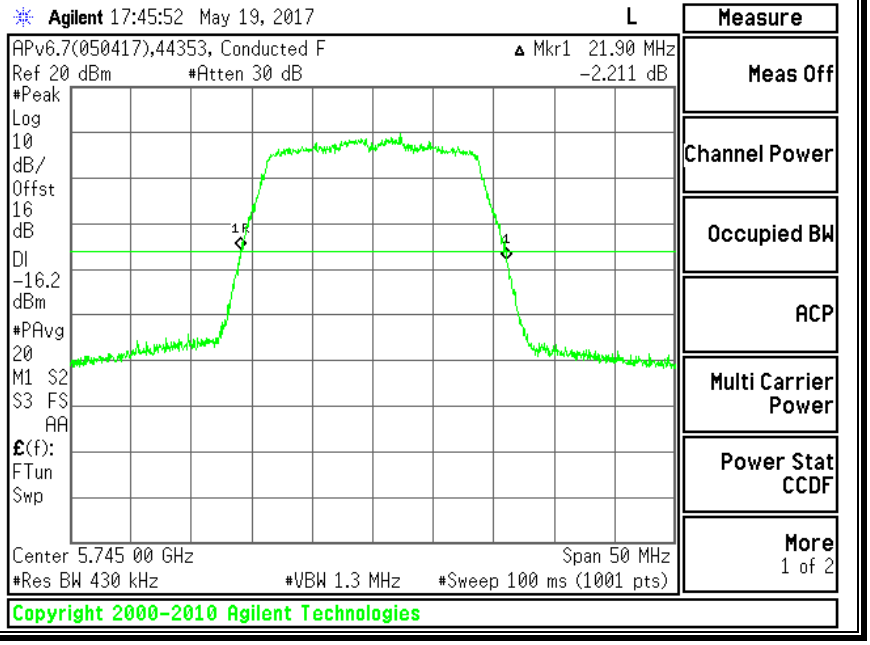
LIMITS

None; for reporting purposes only.

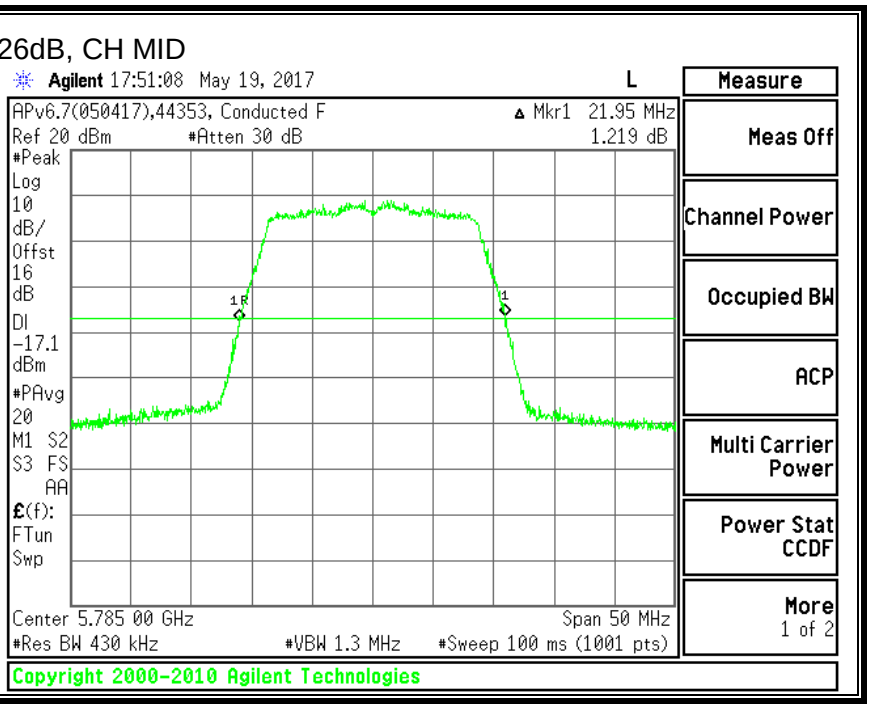
RESULTS

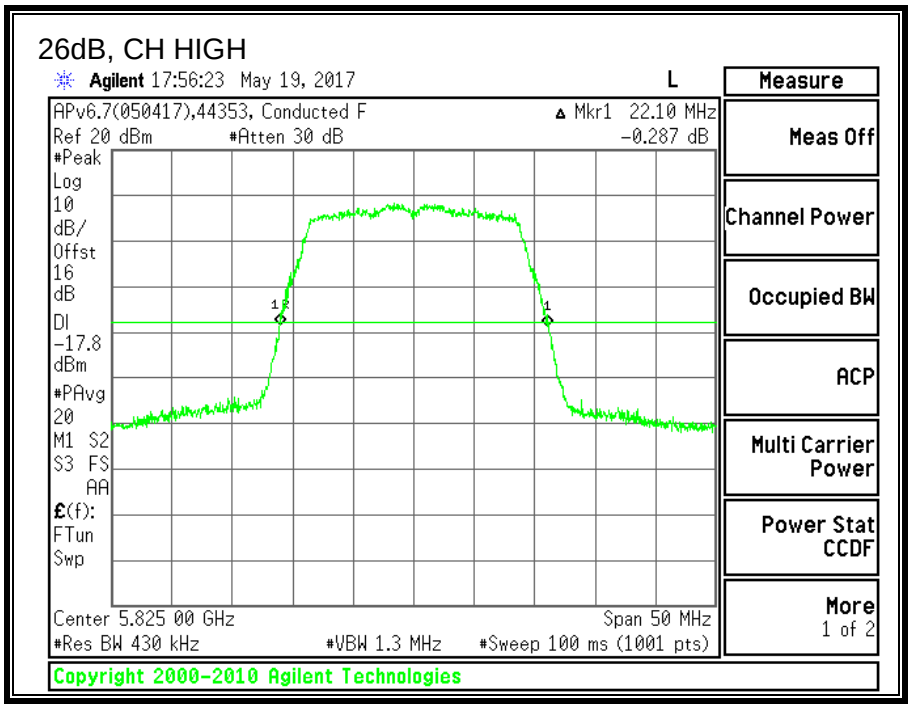
Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5745	21.90
Mid	5785	21.95
High	5825	22.10

26dB, CH LOW



26dB, CH MID





8.35.3. 99% BANDWIDTH

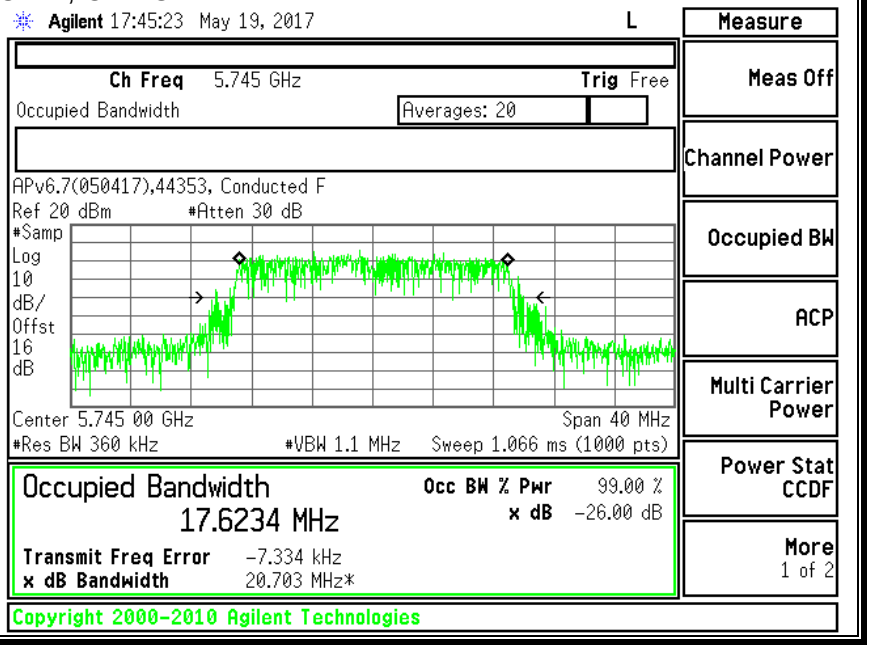
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5745	17.6234
Mid	5785	17.7391
High	5825	17.7393

OBW, CH LOW



OBW, CH MID