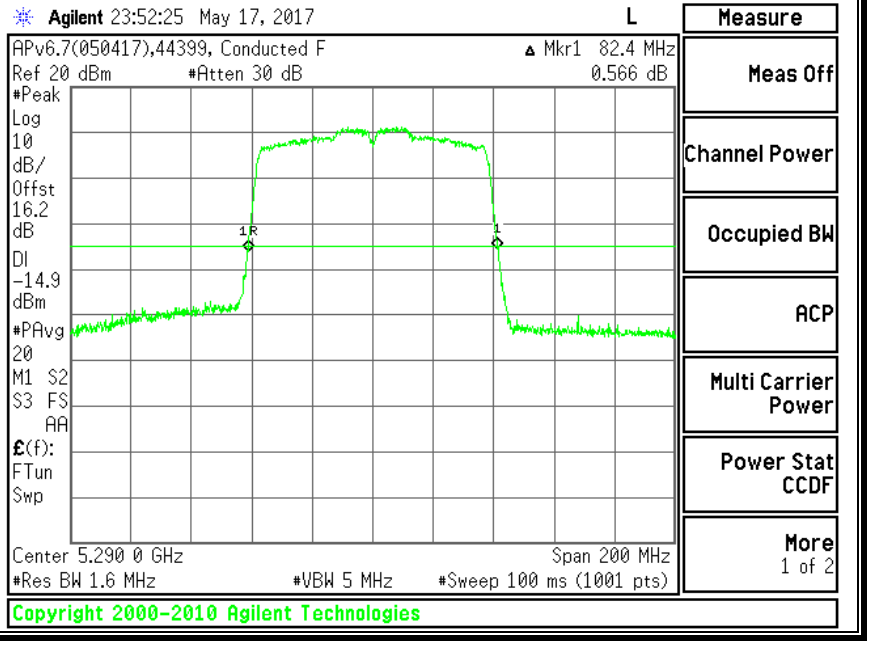
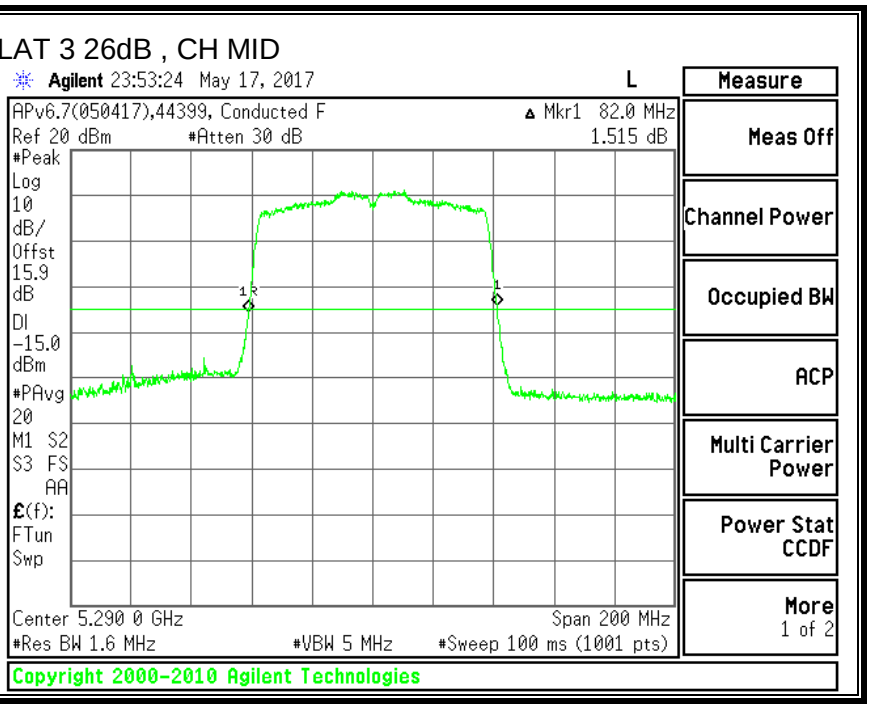
UAT 2 26dB , CH MID



LAT 3 26dB , CH MID



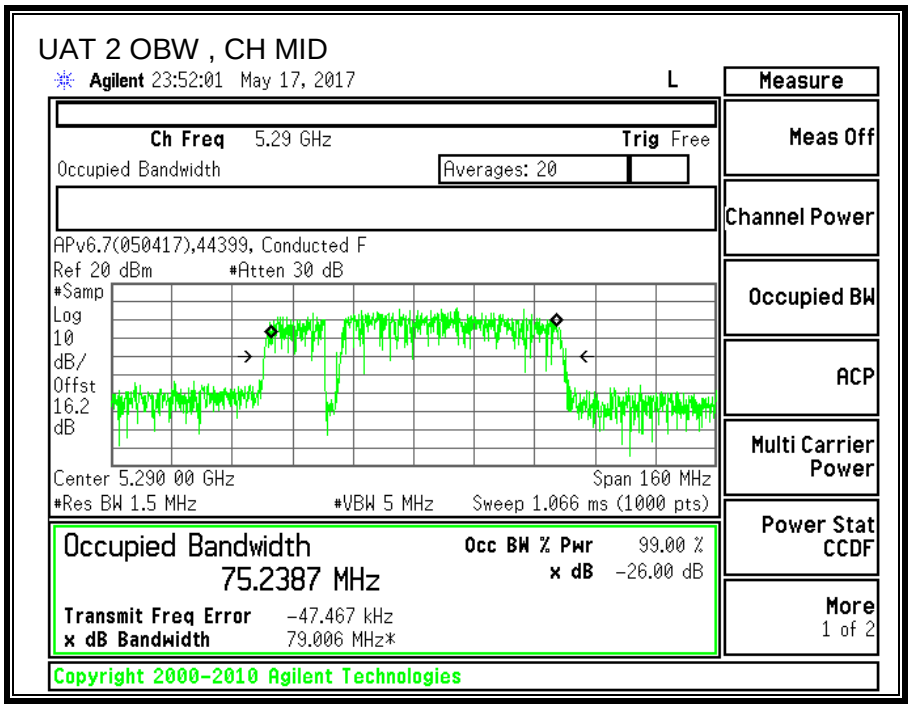
8.18.2. 99% BANDWIDTH

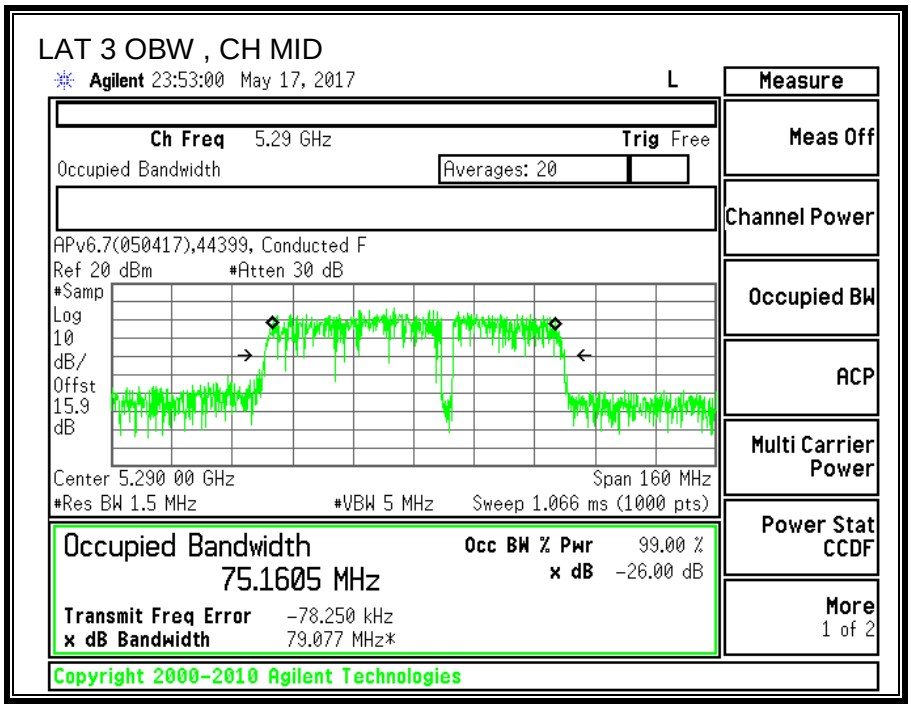
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Mid	5290	75.2387	75.1605





8.18.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Mid	5290	16.32	16.44	19.39

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.

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)
-3.11	-6.98	-4.63

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)
-3.11	-6.98	-1.82

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	82.00	75.16	-4.63	-1.82	24	11.0

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

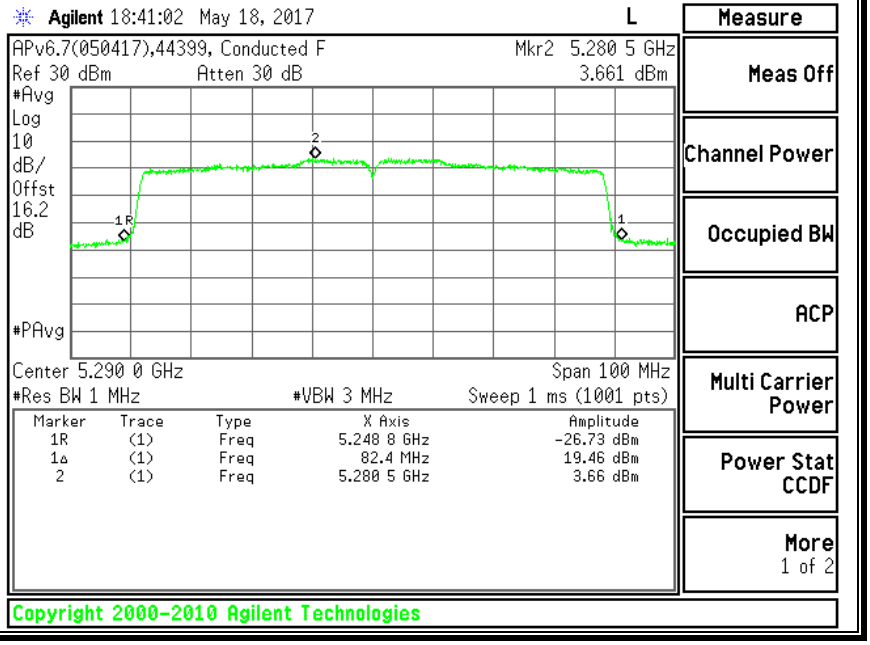
Output Power Results

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	16.32	16.44	19.39	24.00	-4.61

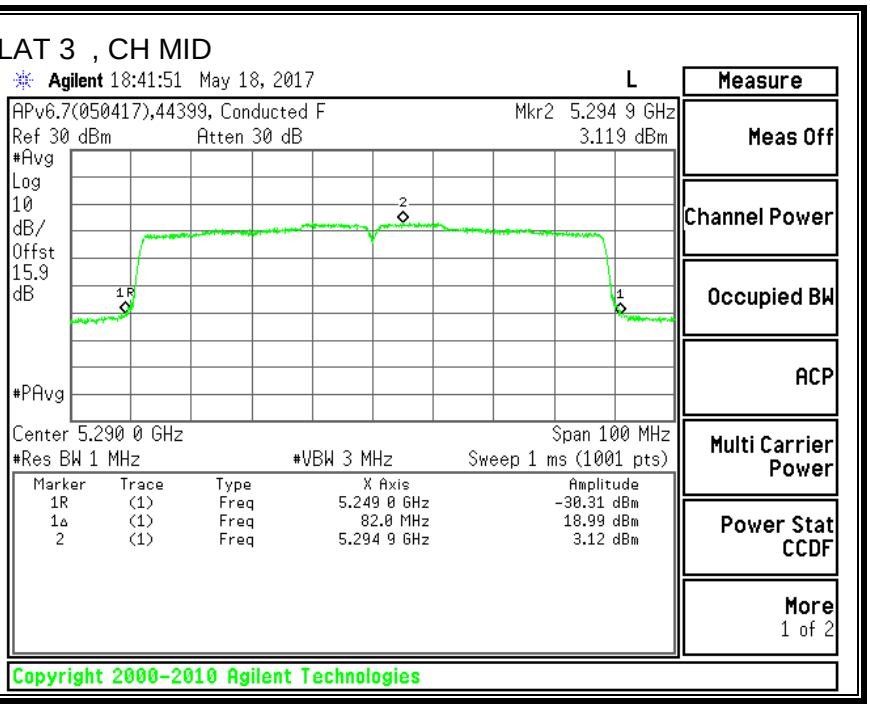
PSD Results

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	3.661	3.119	6.60	11.00	-4.40

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

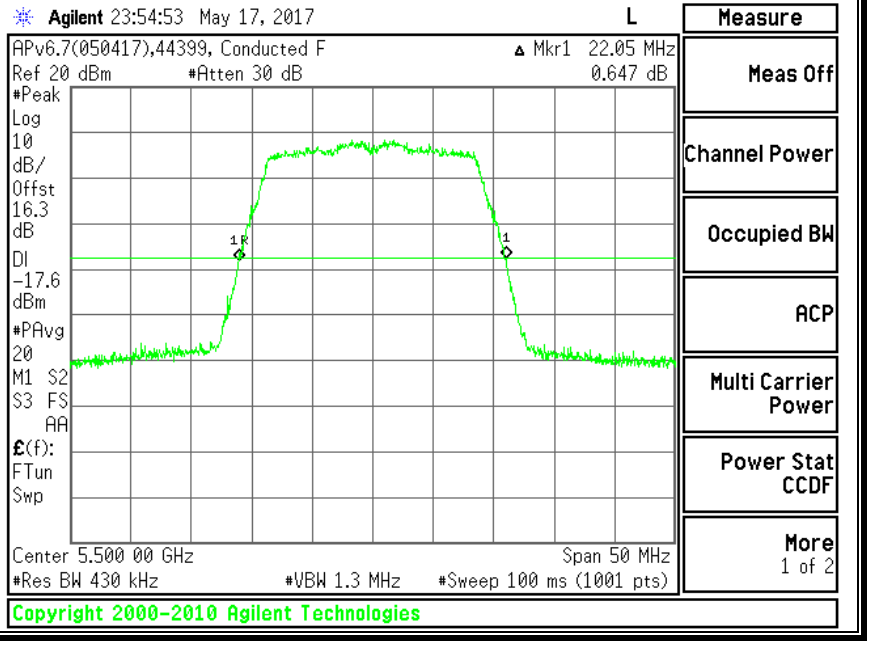
LIMITS

None; for reporting purposes only.

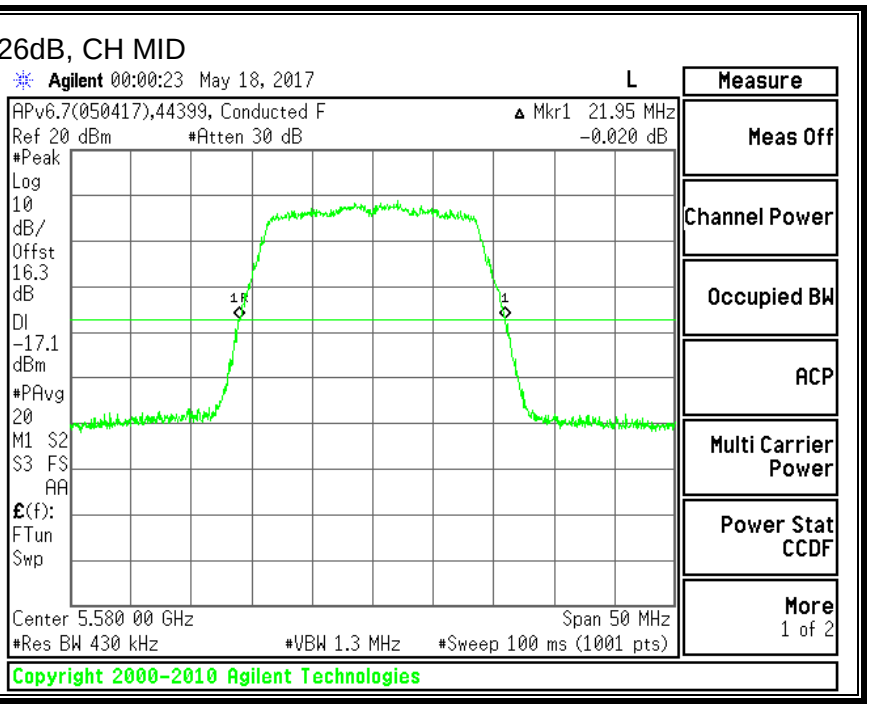
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5500	22.05
Mid	5580	21.95
High	5700	22.00
144	5720	22.05

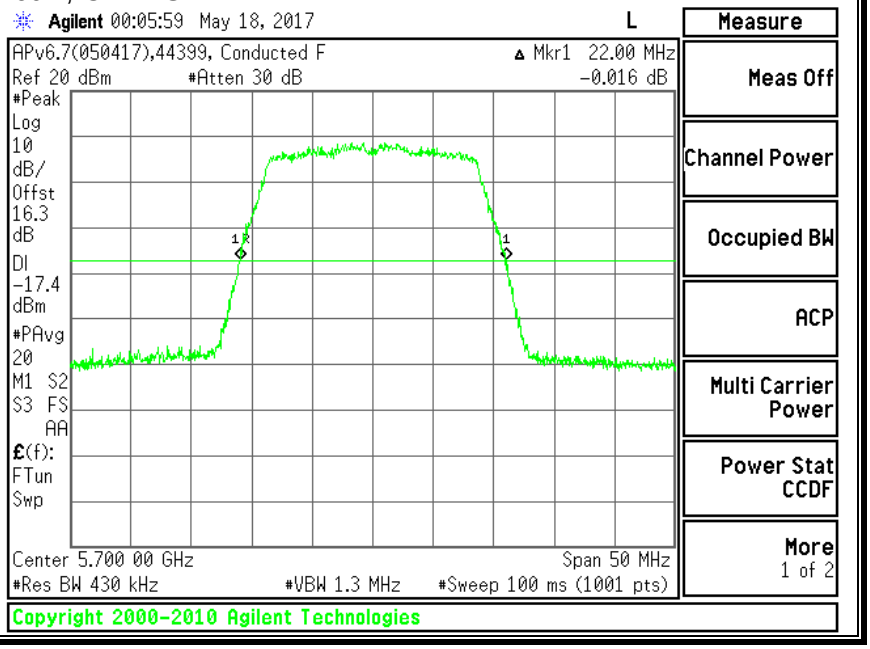
26dB, CH LOW



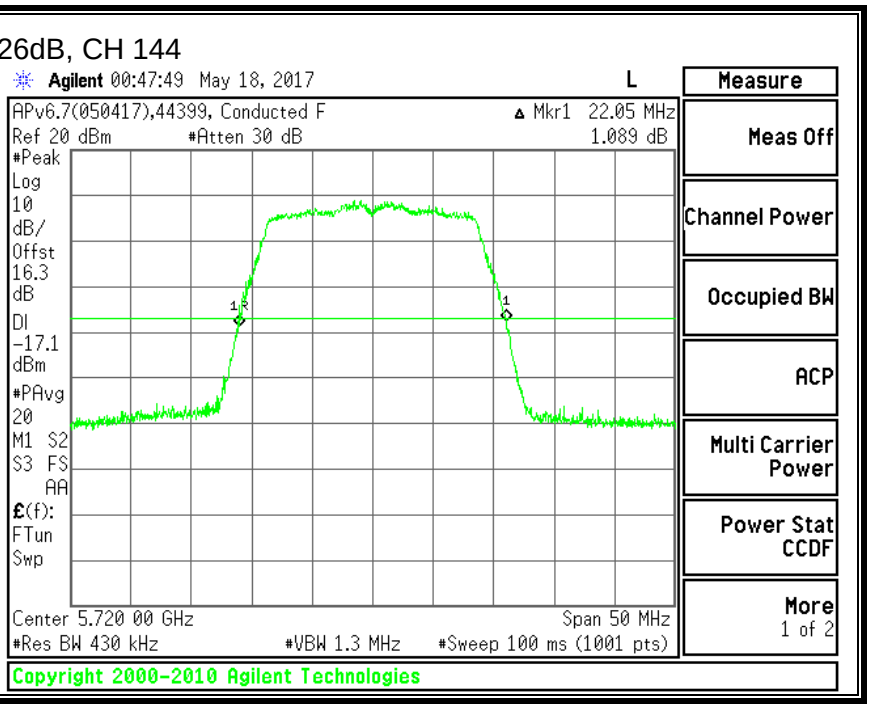
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.19.2. 99% BANDWIDTH

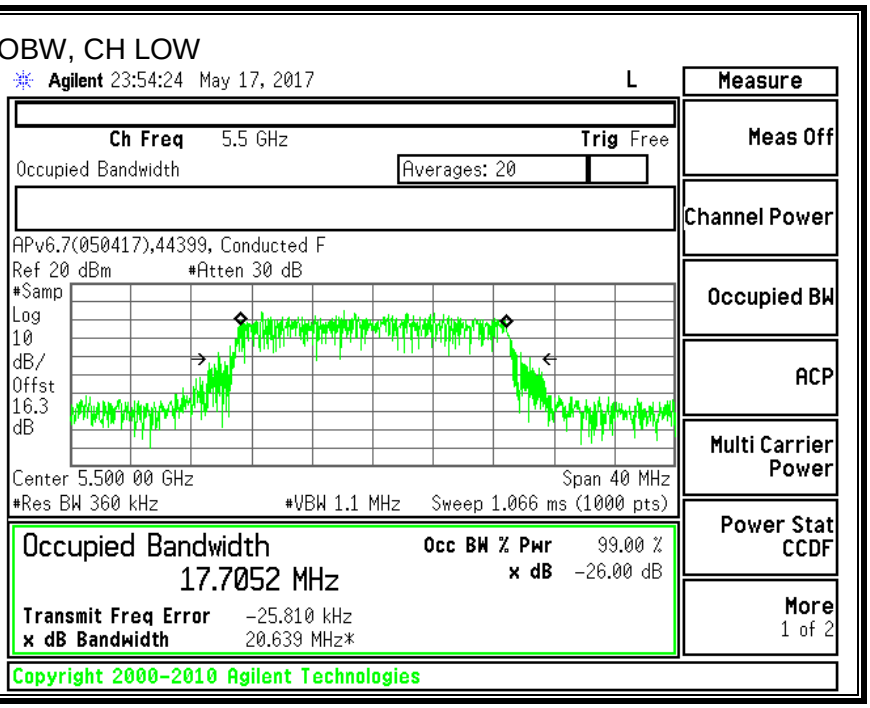
LIMITS

None; for reporting purposes only.

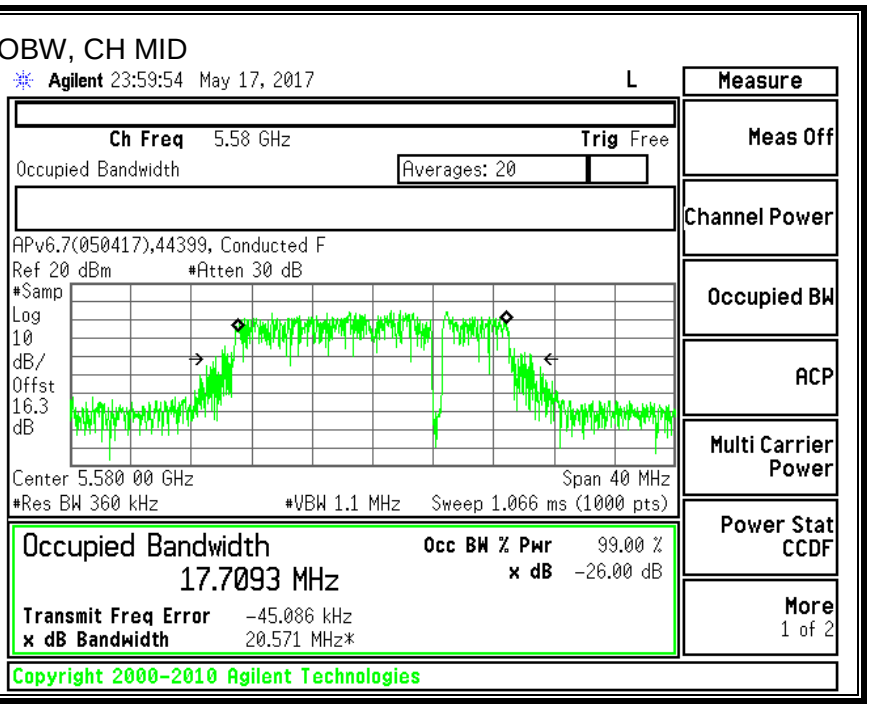
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5500	17.7052
Mid	5580	17.7093
High	5700	17.6898
144	5720	17.7060

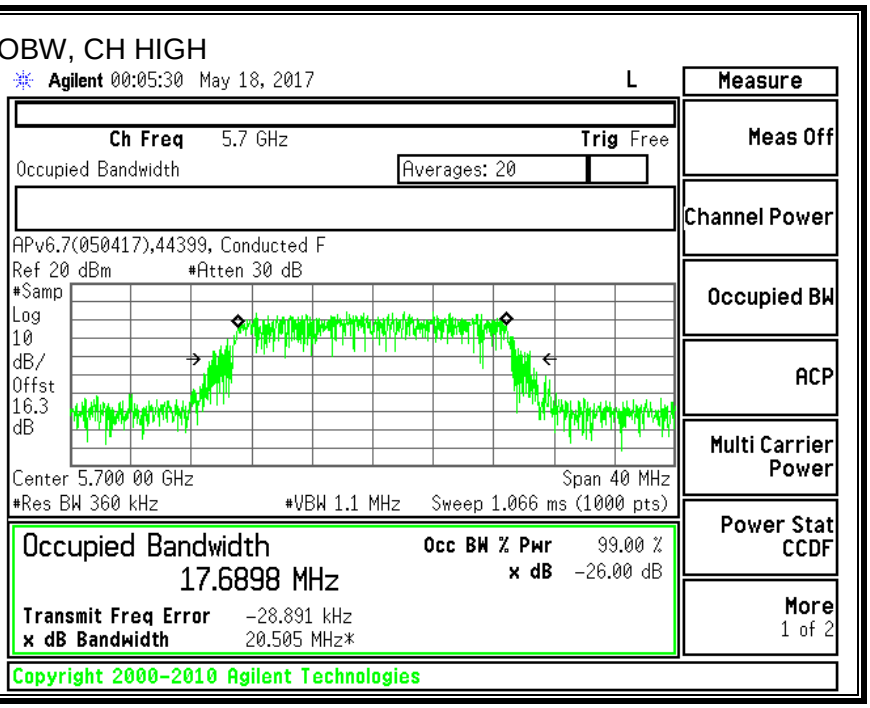
OBW, CH LOW



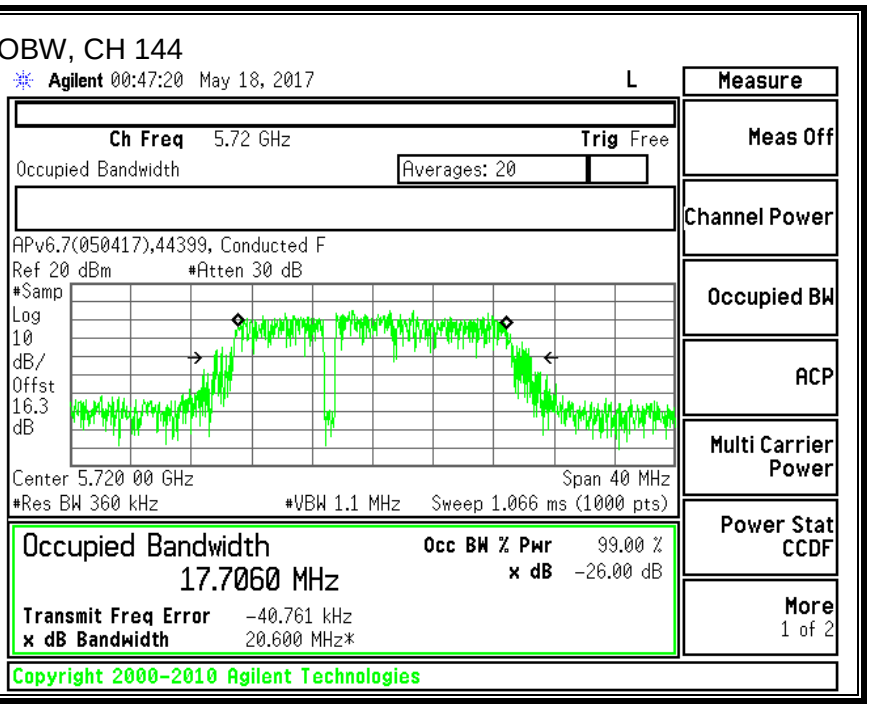
OBW, CH MID



OBW, CH HIGH



OBW, CH 144



8.19.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	18.86
Mid	5580	20.94
High	5700	18.88
144	5720	20.83

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.

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	22.05	17.71	-2.77	23.48	11.00
Mid	5580	21.95	17.71	-2.77	23.48	11.00
High	5700	22.00	17.69	-2.77	23.48	11.00

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

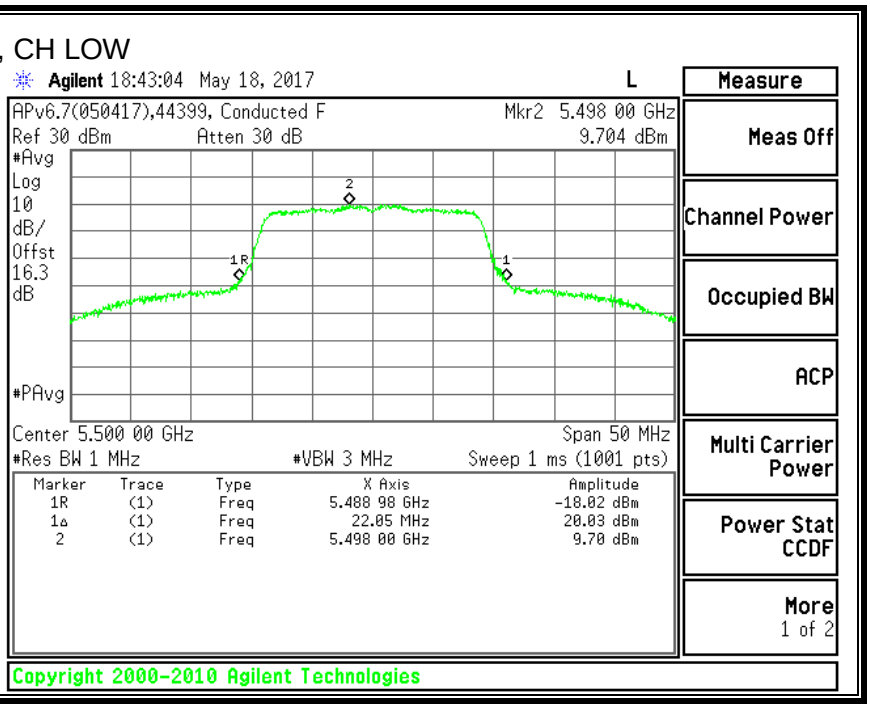
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	18.86	18.86	23.48	-4.62
Mid	5580	20.94	20.94	23.48	-2.54
High	5700	18.88	18.88	23.48	-4.60

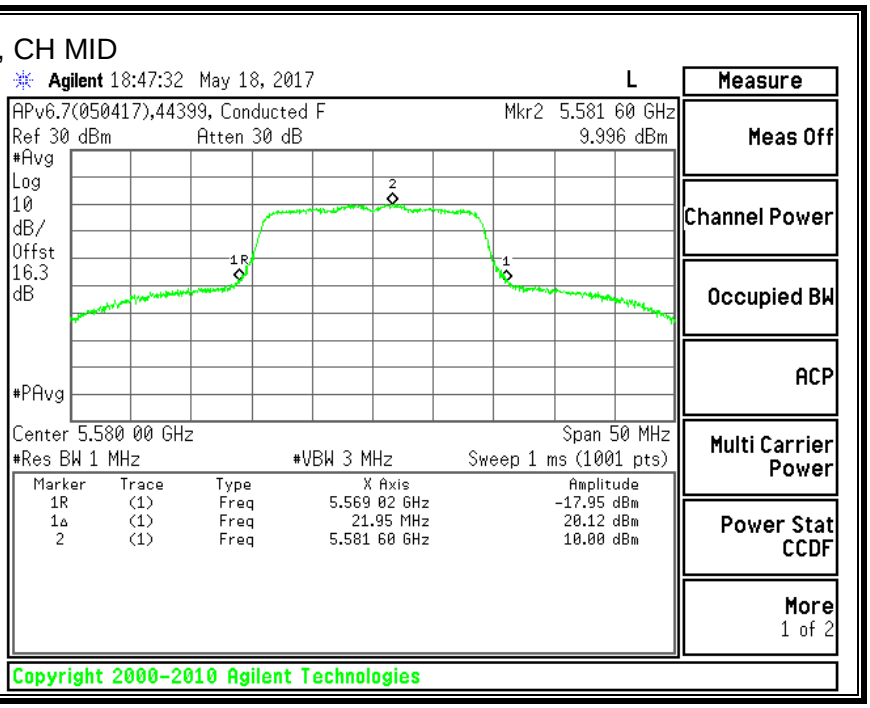
PSD Results

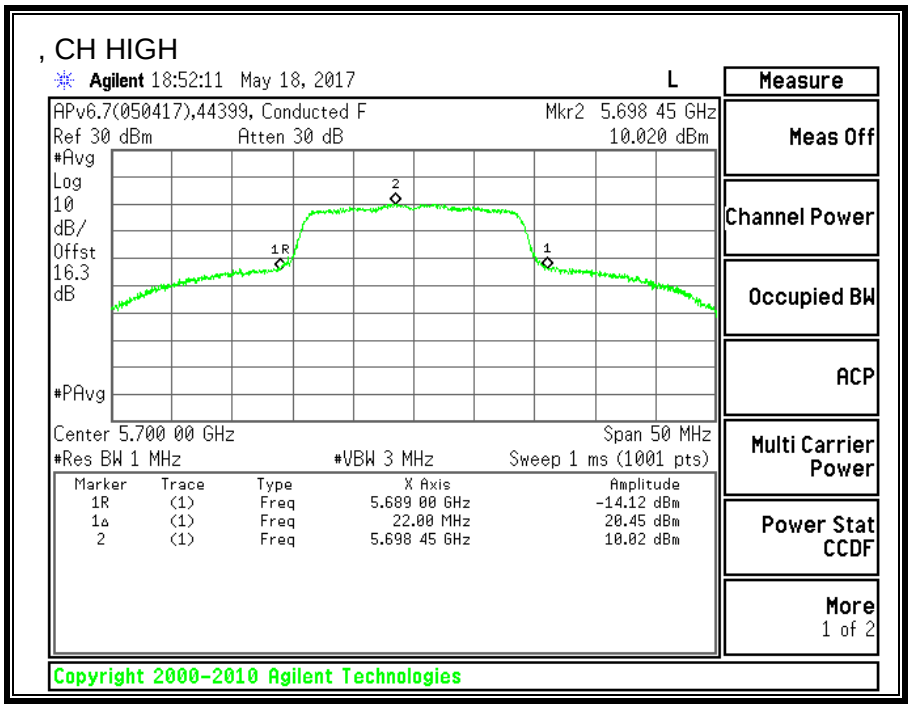
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5500	9.704	9.704	11.00	-1.30
Mid	5580	9.996	9.996	11.00	-1.00
High	5700	10.020	10.020	11.00	-0.98

, CH LOW



, CH MID





8.19.5. 11ac HT20 UAT 2 SISO STRADDLE CHANNEL 144

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

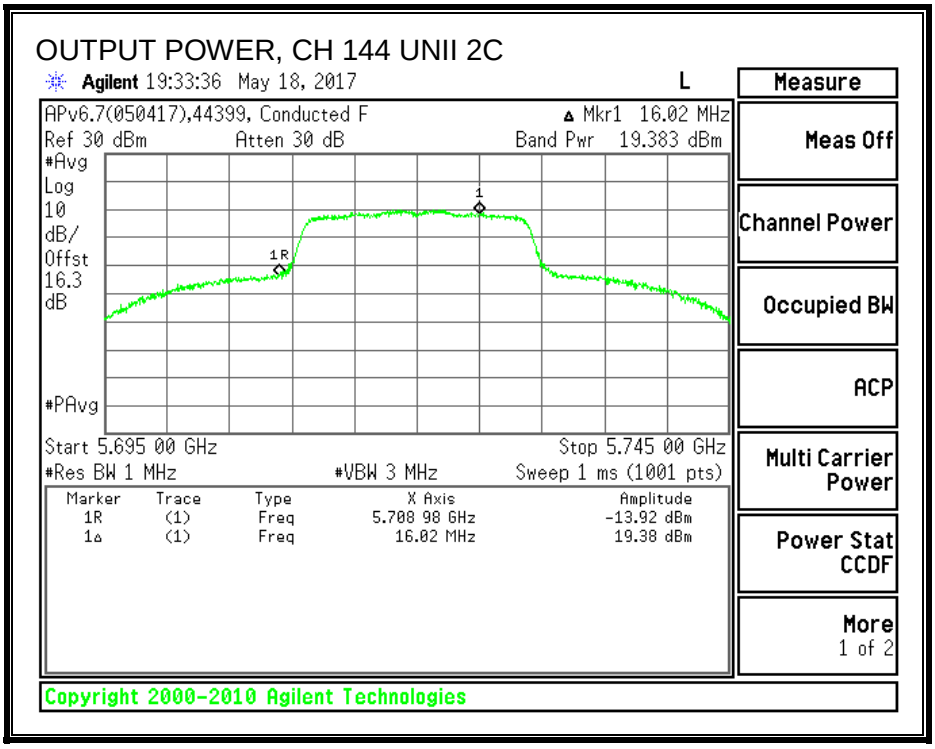
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	19.38	19.38	24.00	-4.62

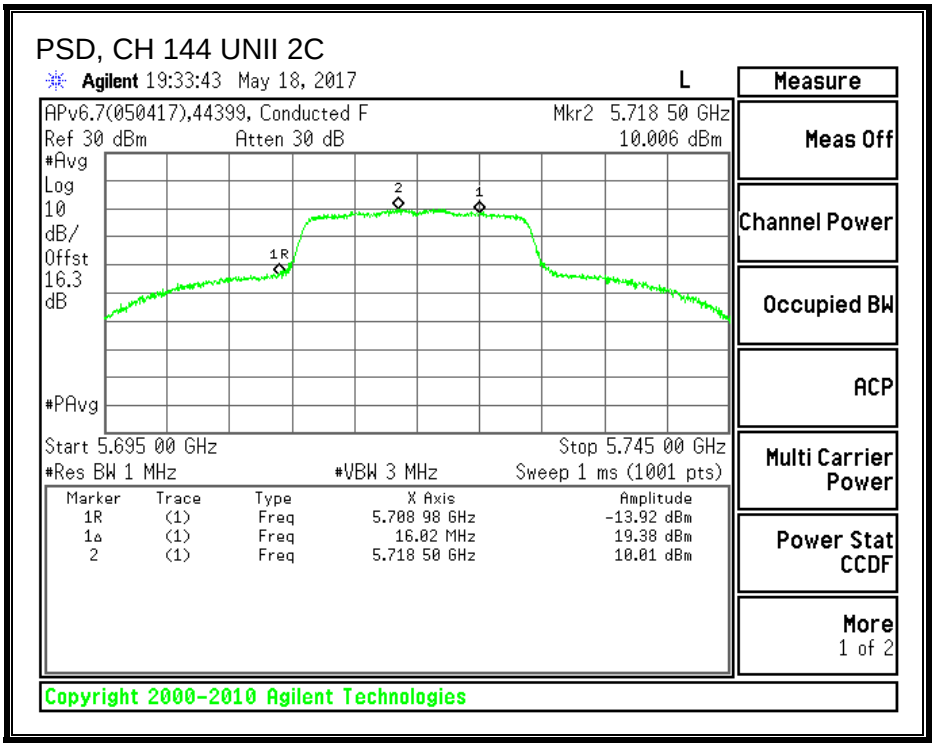
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
144	5720	10.01	10.01	11.00	-0.99

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

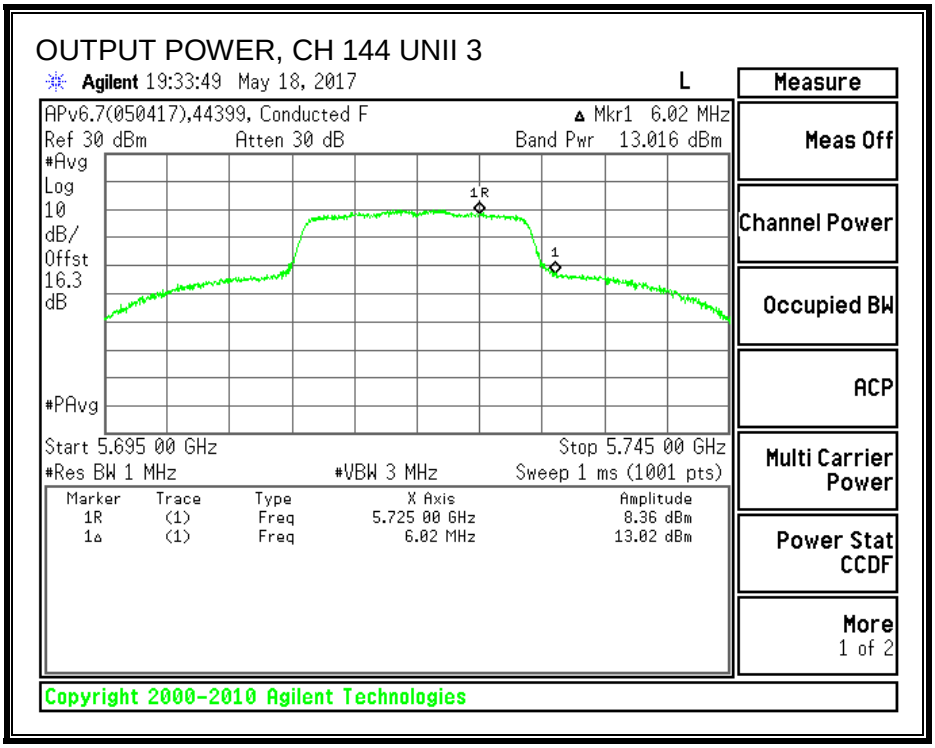
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

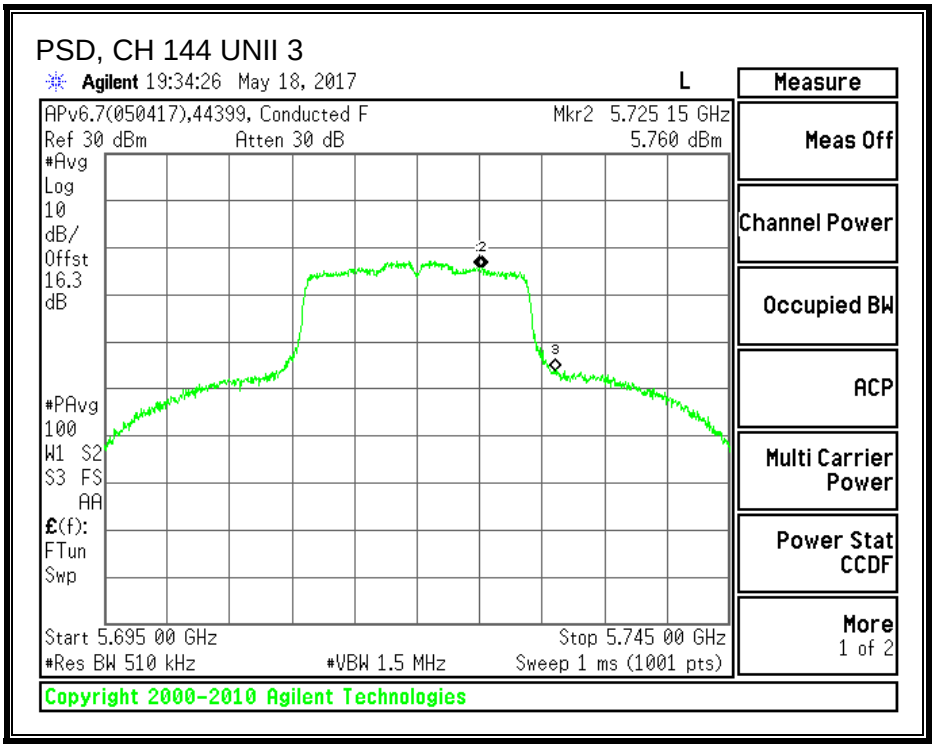
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.016	13.016	30.00	-16.98

PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.760	5.760	30.00	-24.24





8.19.6. 6 dB BANDWIDTH

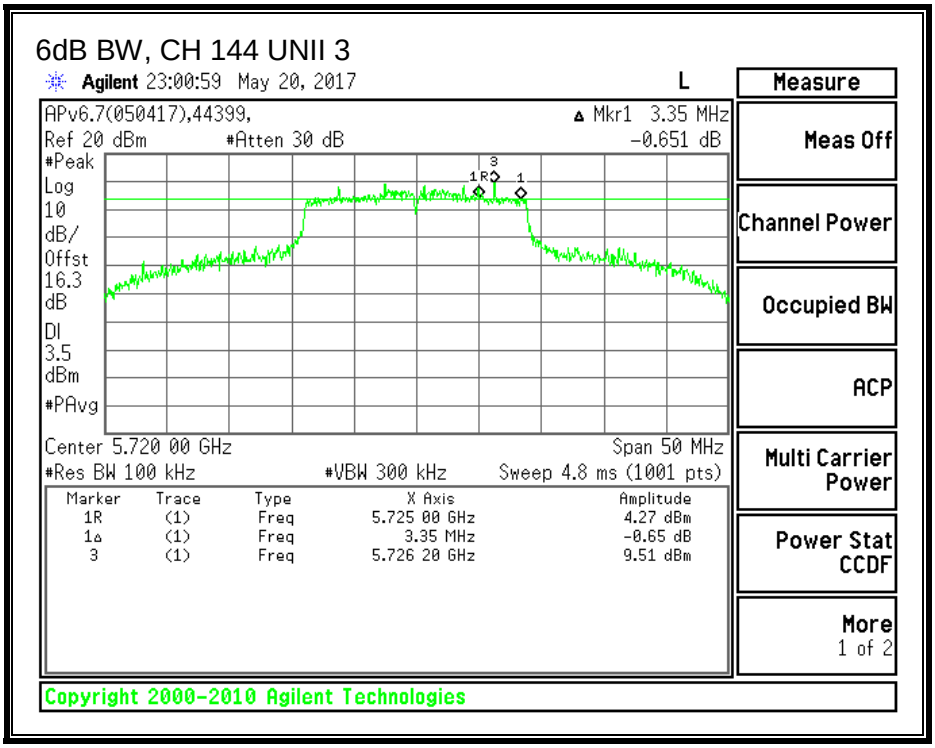
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
144	5720	3.35



8.20. 11n HT20 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.20.1. 26 dB BANDWIDTH

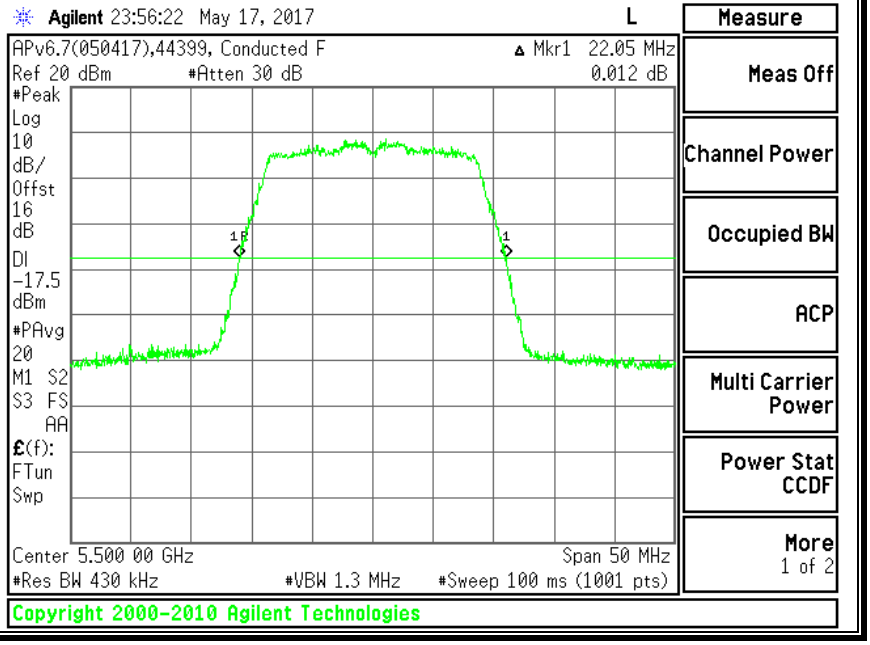
LIMITS

None; for reporting purposes only.

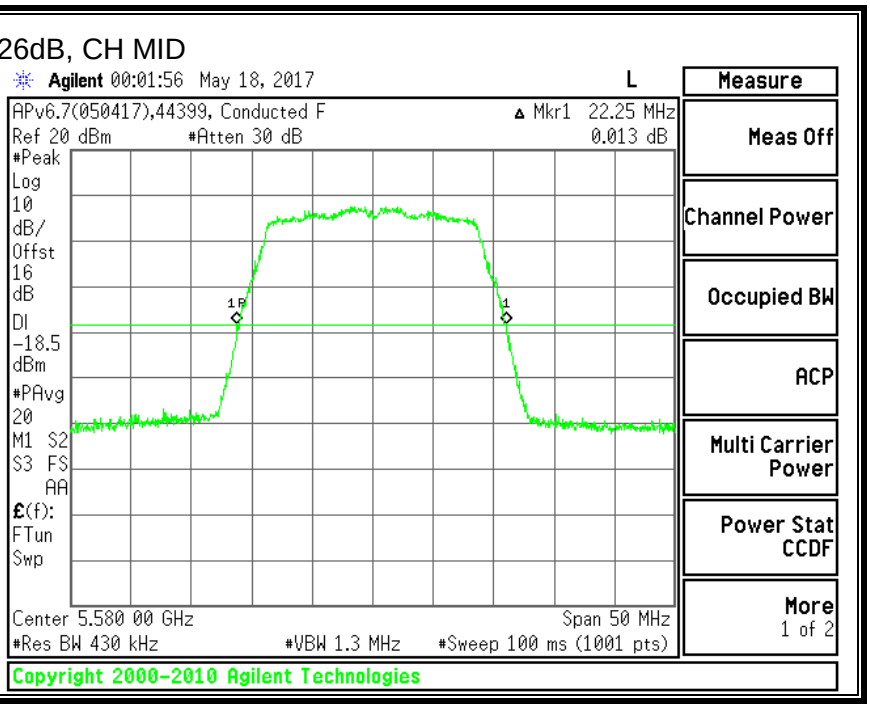
RESULTS

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

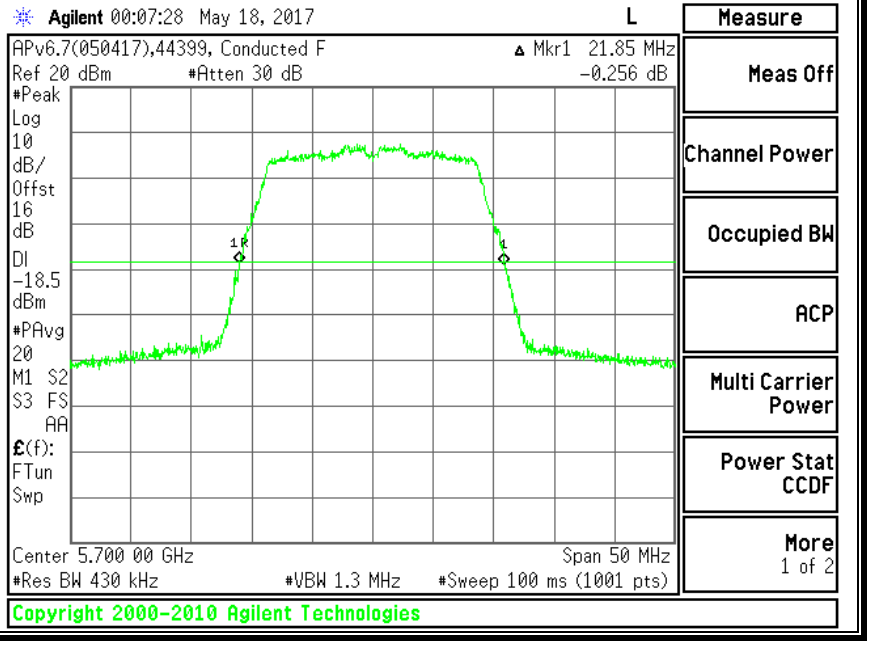
26dB, CH LOW



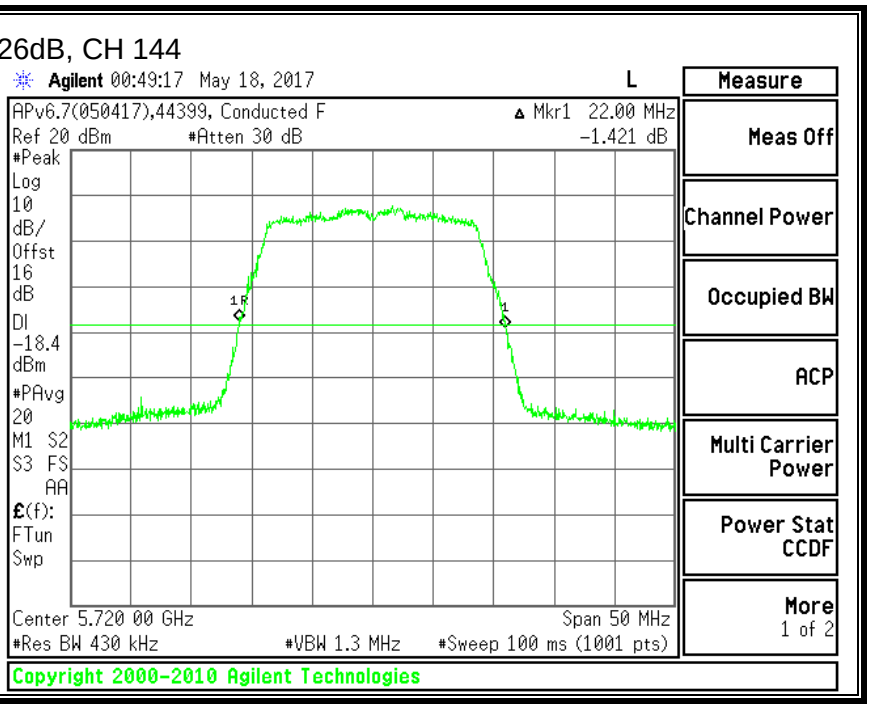
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.20.2. 99% BANDWIDTH

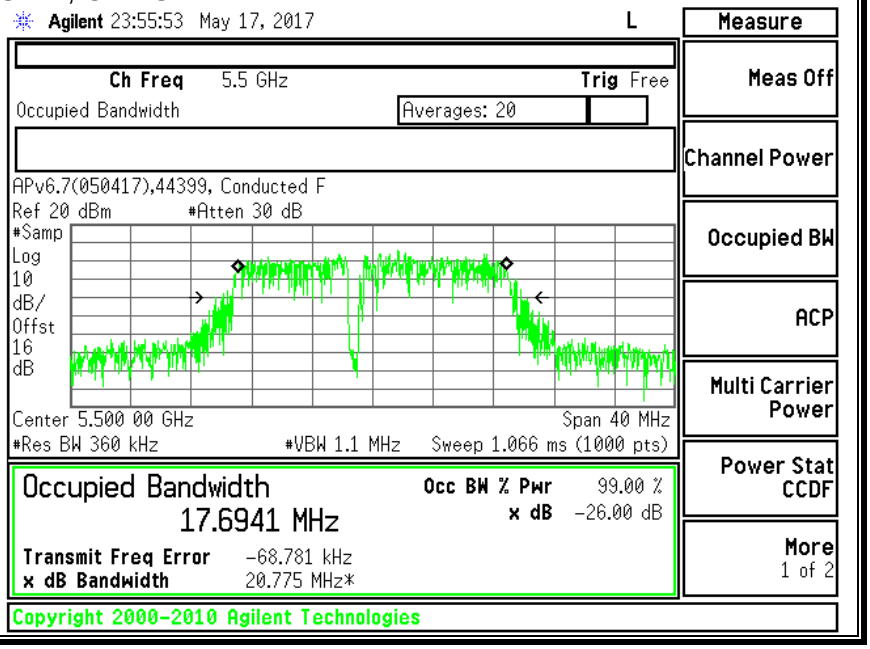
LIMITS

None; for reporting purposes only.

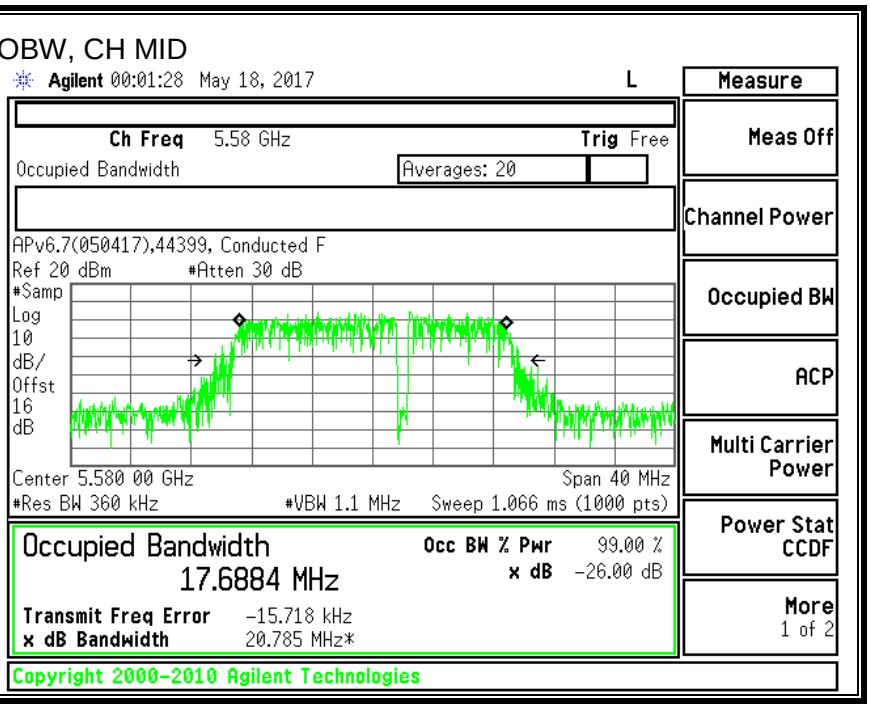
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5500	17.6941
Mid	5580	17.6884
High	5700	17.6856
144	5720	17.6131

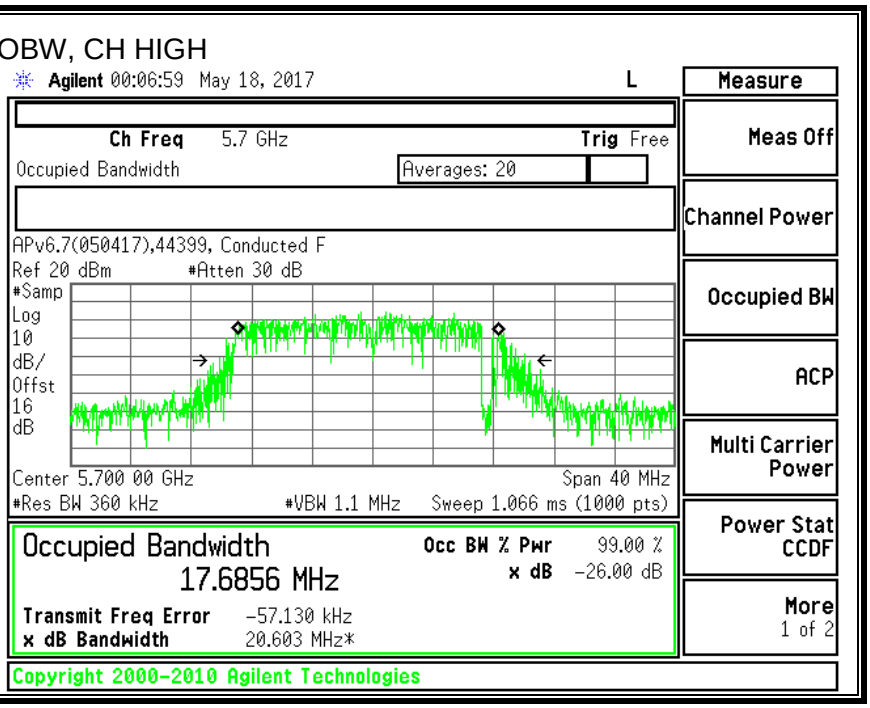
OBW, CH LOW



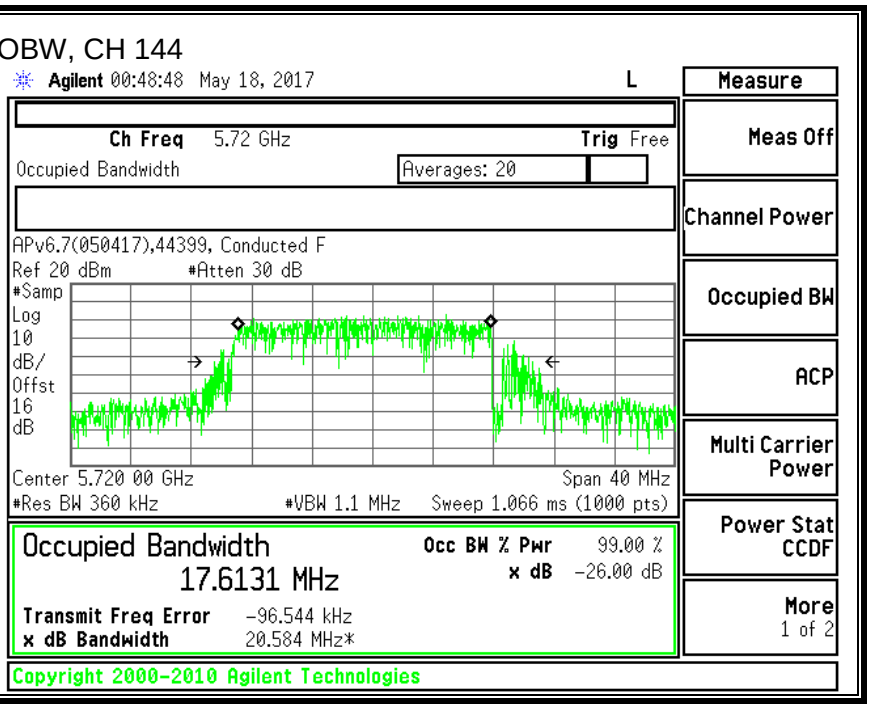
OBW, CH MID



OBW, CH HIGH



OBW, CH 144



8.20.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	18.83
Mid	5580	20.94
High	5700	18.77
144	5720	20.88

8.20.4. 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.

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	22.05	17.69	-6.89	23.48	11.00
Mid	5580	21.95	17.69	-6.89	23.48	11.00
High	5700	22.00	17.69	-6.89	23.48	11.00

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

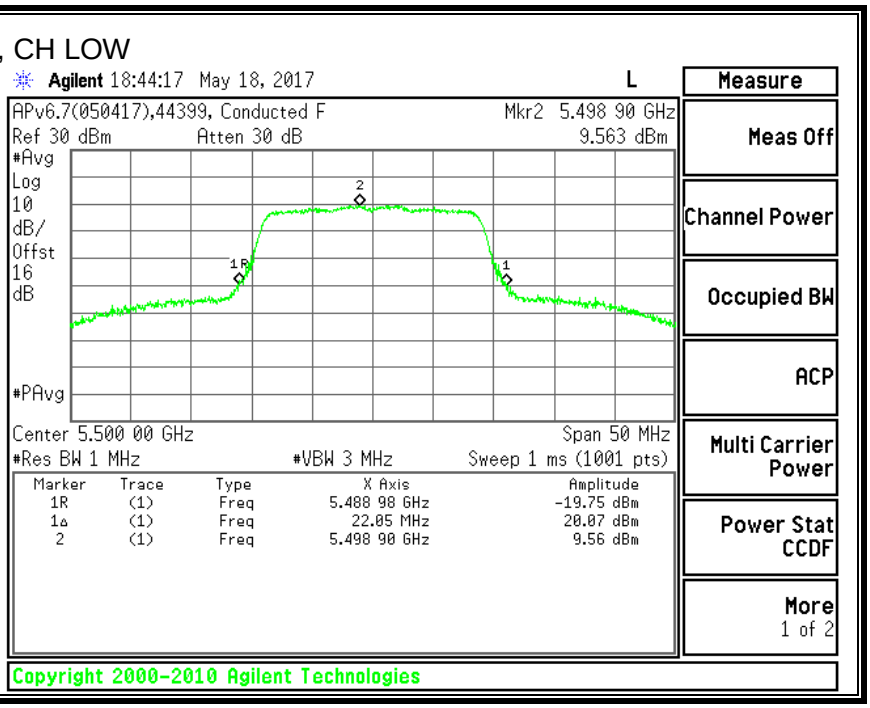
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	18.83	18.83	23.48	-4.65
Mid	5580	20.94	20.94	23.48	-2.54
High	5700	18.77	18.77	23.48	-4.71

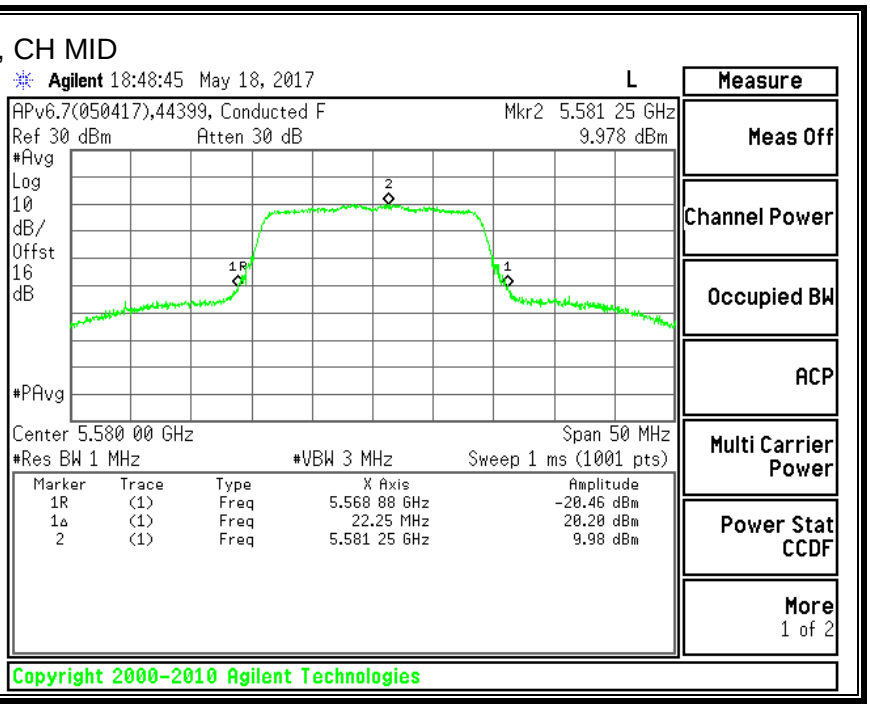
PSD Results

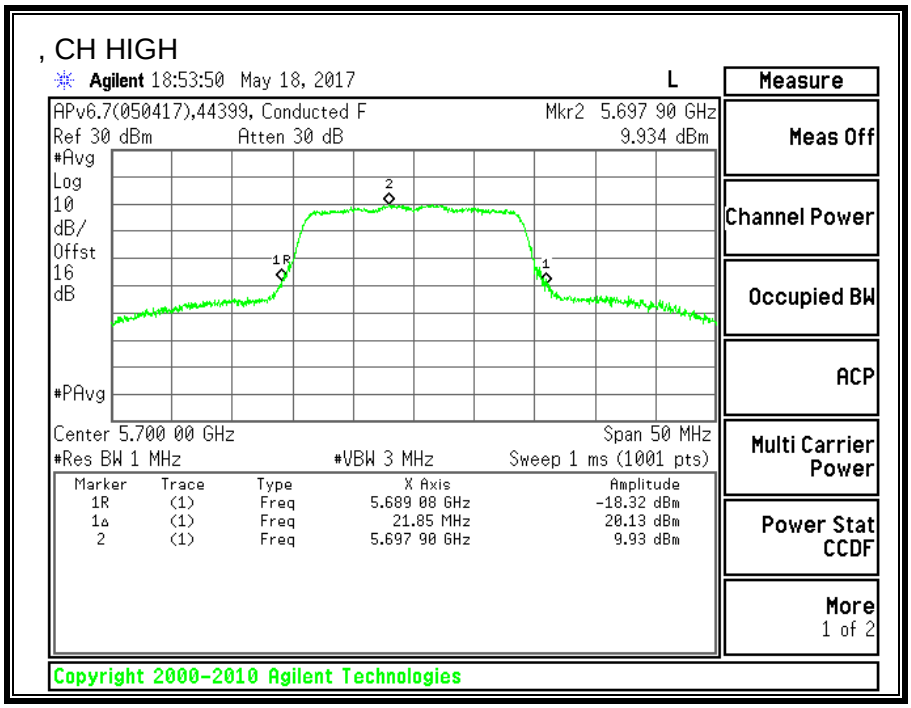
Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5500	9.563	9.563	11.00	-1.44
Mid	5580	9.978	9.978	11.00	-1.02
High	5700	9.934	9.934	11.00	-1.07

, CH LOW



, CH MID





8.20.5. 11ac HT20 LAT 3 SISO STRADDLE CHANNEL 144

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	-6.89	-6.89	24.00	11.00

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

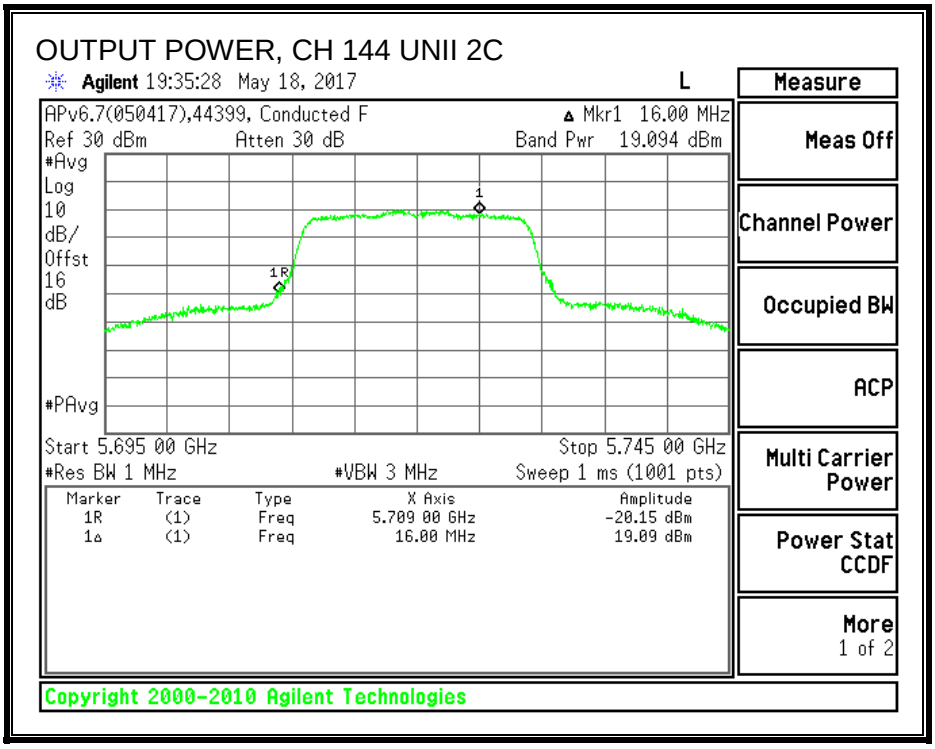
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	19.09	19.09	24.00	-4.91

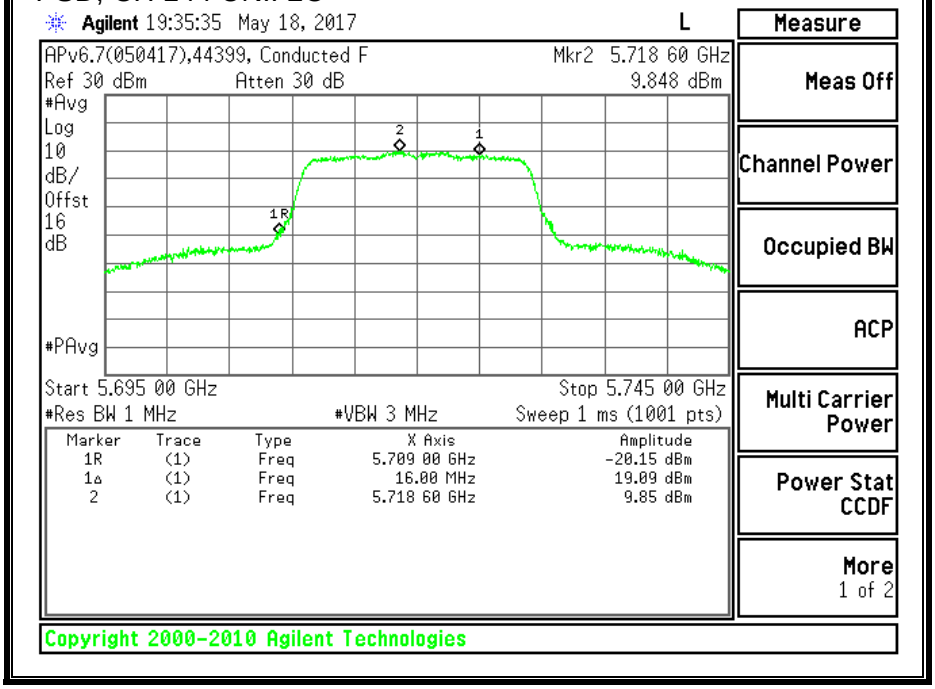
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
144	5720	9.85	9.85	11.00	-1.15

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	-6.31	30.00	30.00

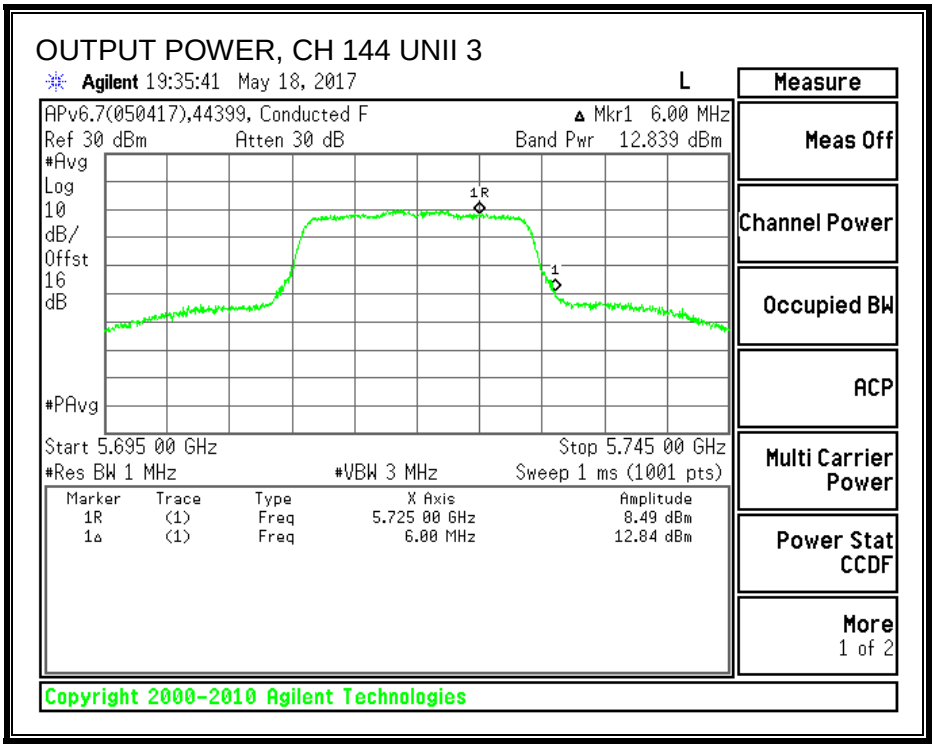
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

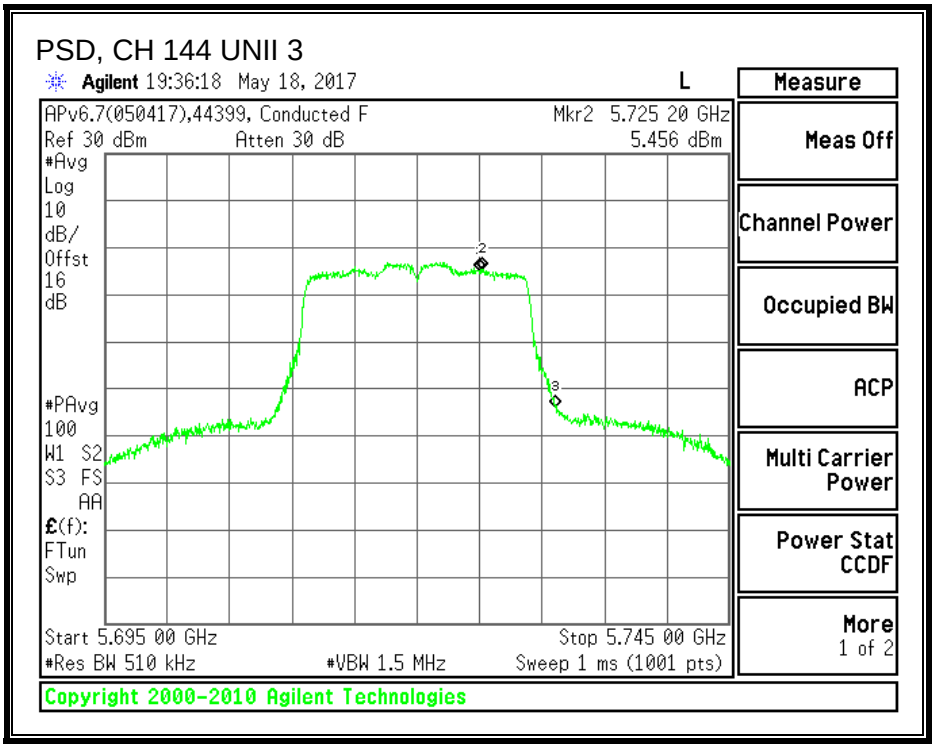
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	12.839	12.839	30.00	-17.16

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.456	5.456	30.00	-24.54





8.20.6. 6 dB BANDWIDTH

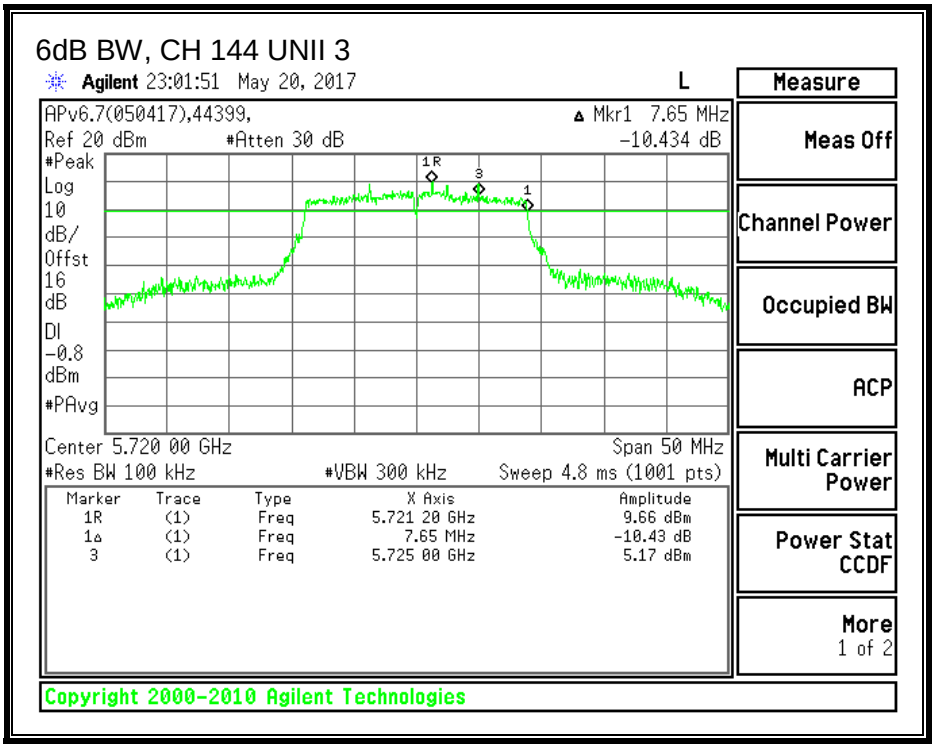
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
144	5720	7.65



8.21. 11n HT20 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.21.1. 26 dB BANDWIDTH

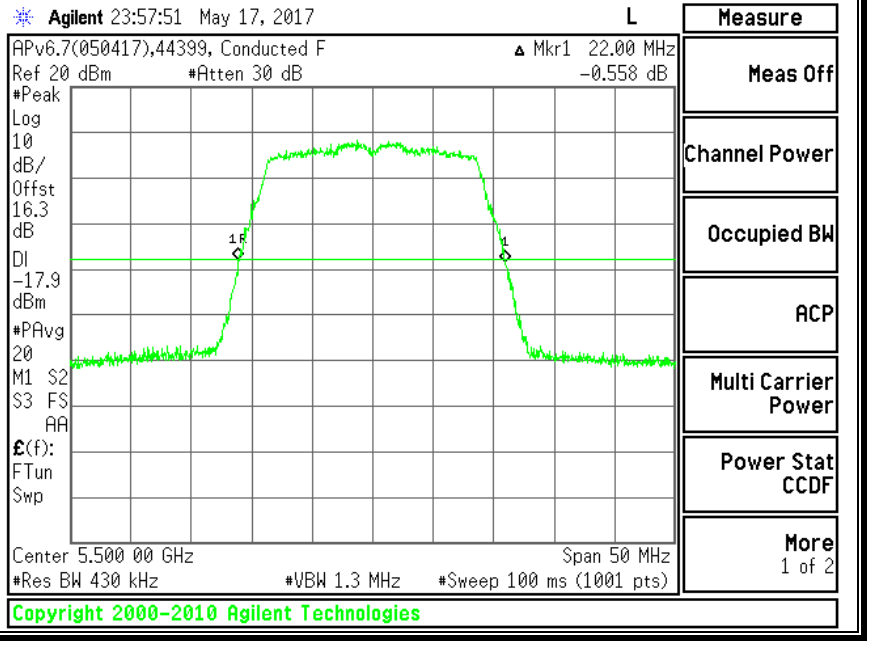
LIMITS

None; for reporting purposes only.

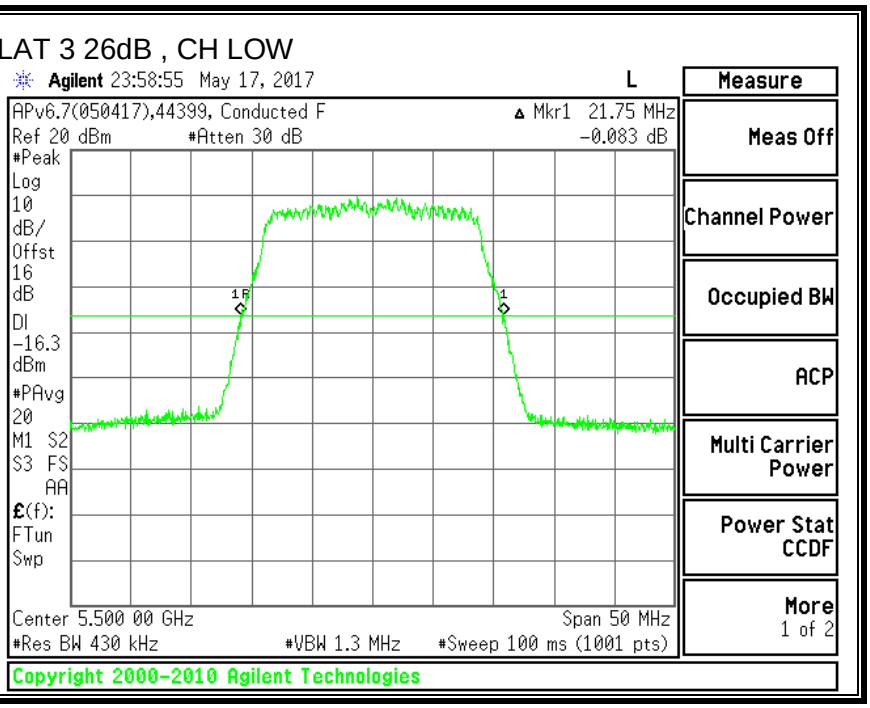
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5500	22.00	21.75
Mid	5580	21.95	21.60
High	5700	21.95	21.50
144	5720	21.85	21.60

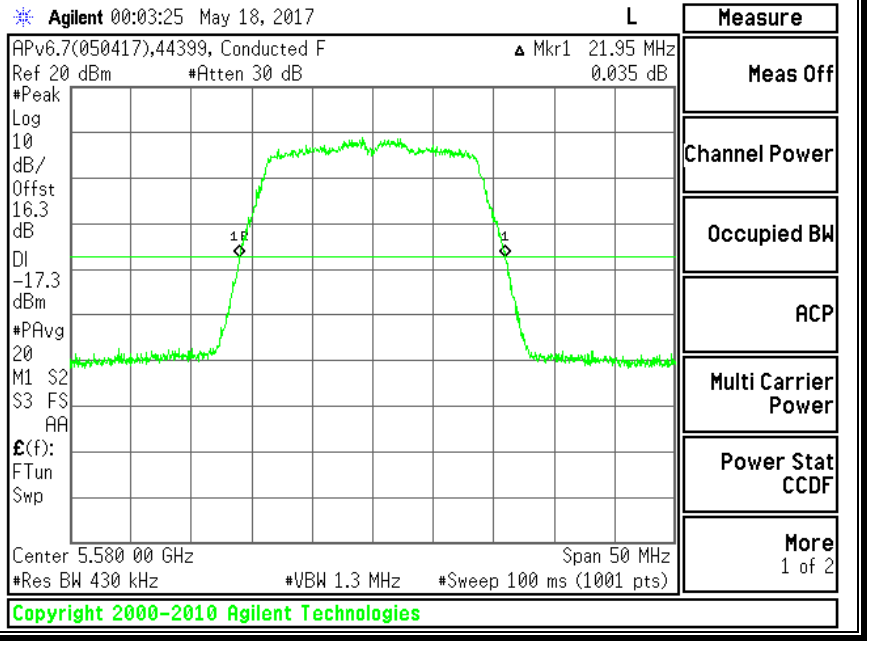
UAT 2 26dB , CH LOW



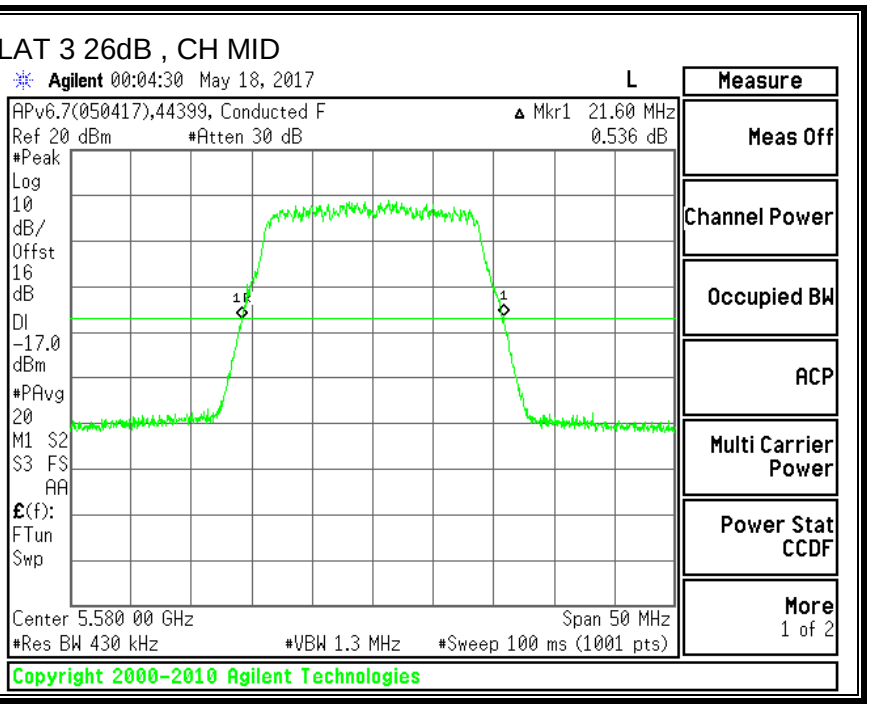
LAT 3 26dB , CH LOW



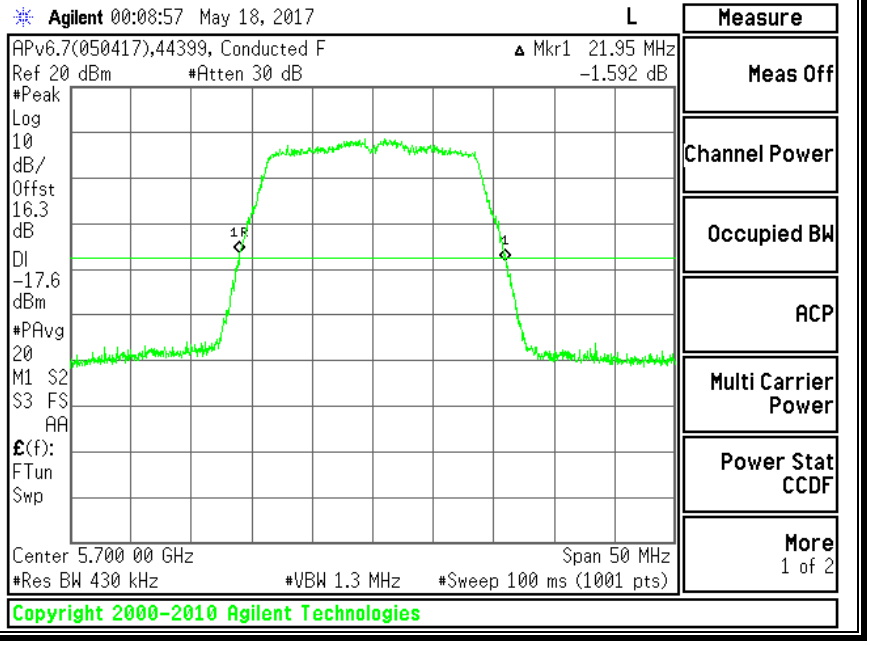
UAT 2 26dB , CH MID



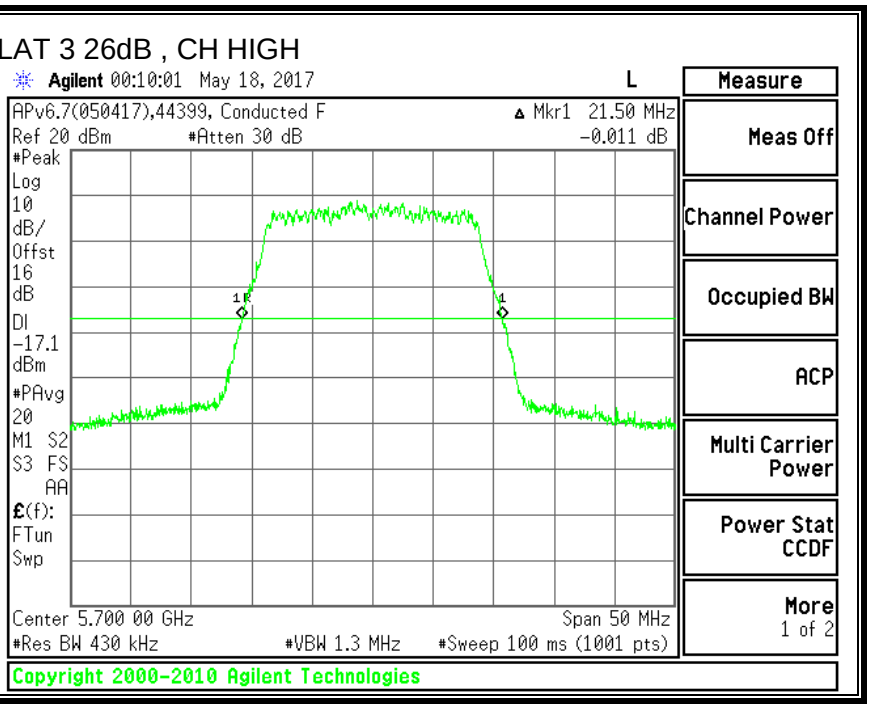
LAT 3 26dB , CH MID



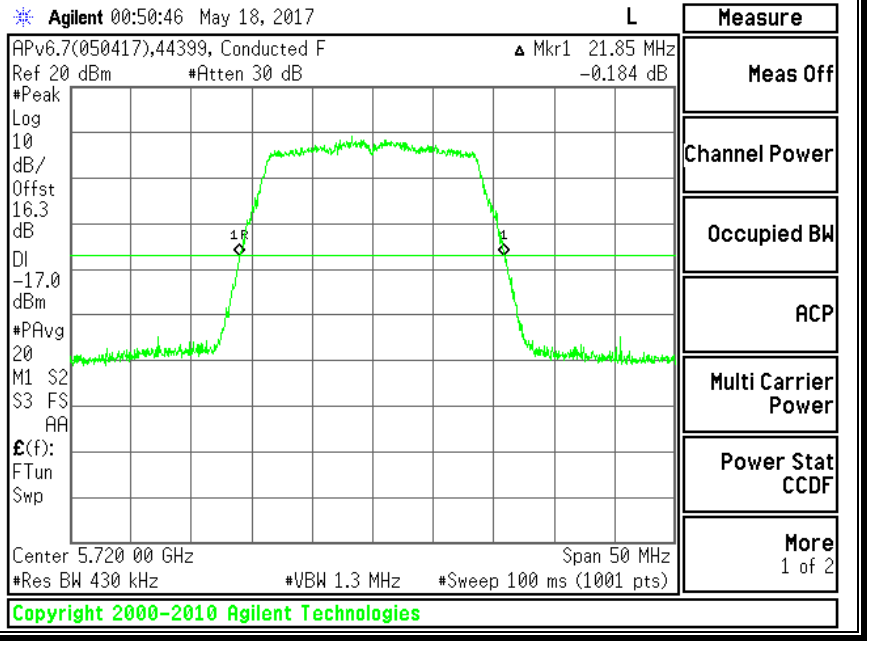
UAT 2 26dB , CH HIGH



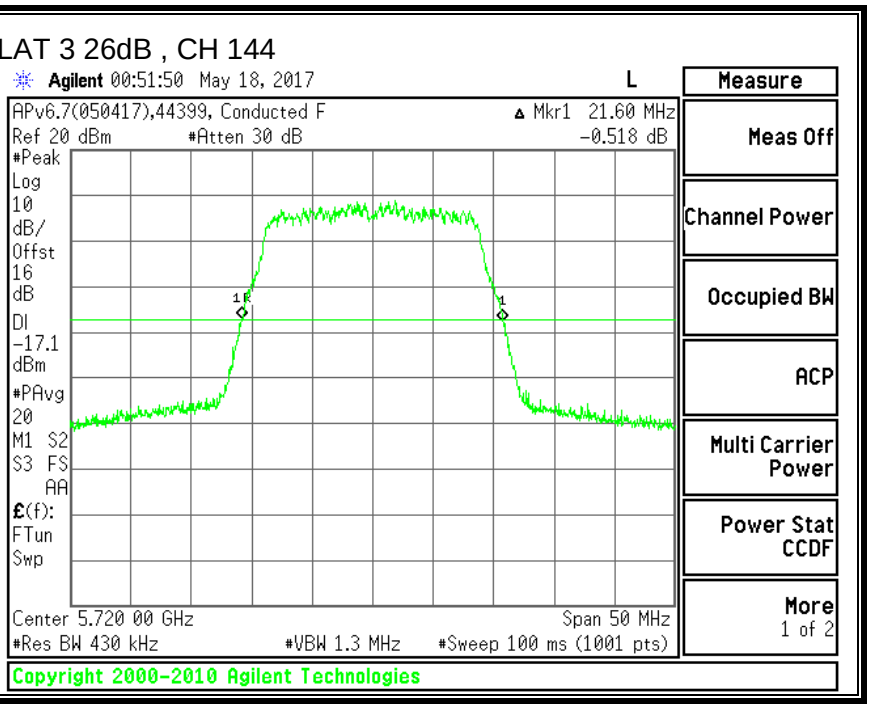
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 144



LAT 3 26dB , CH 144



8.21.2. 99% BANDWIDTH

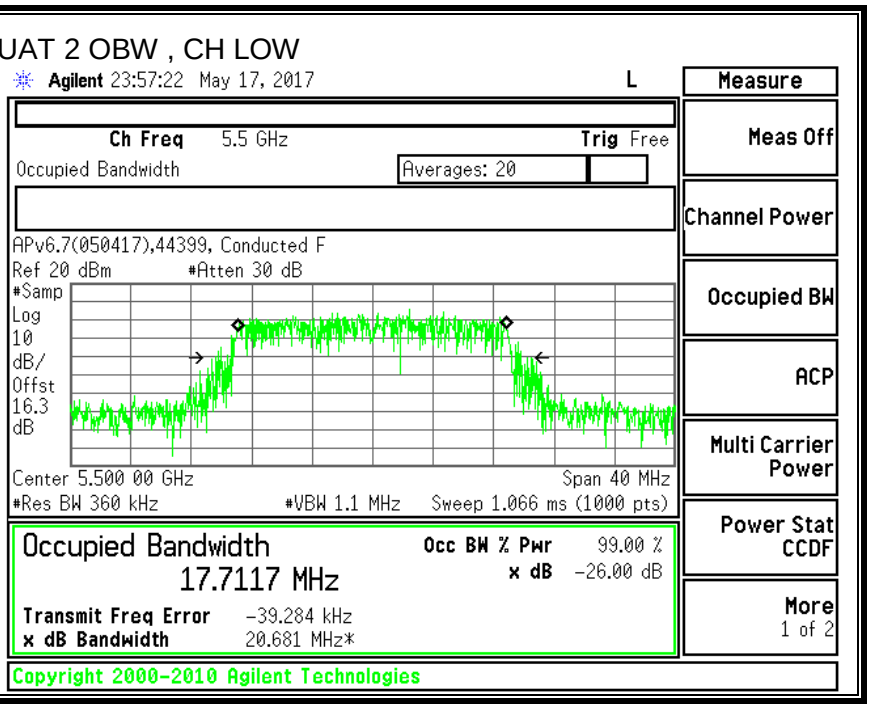
LIMITS

None; for reporting purposes only.

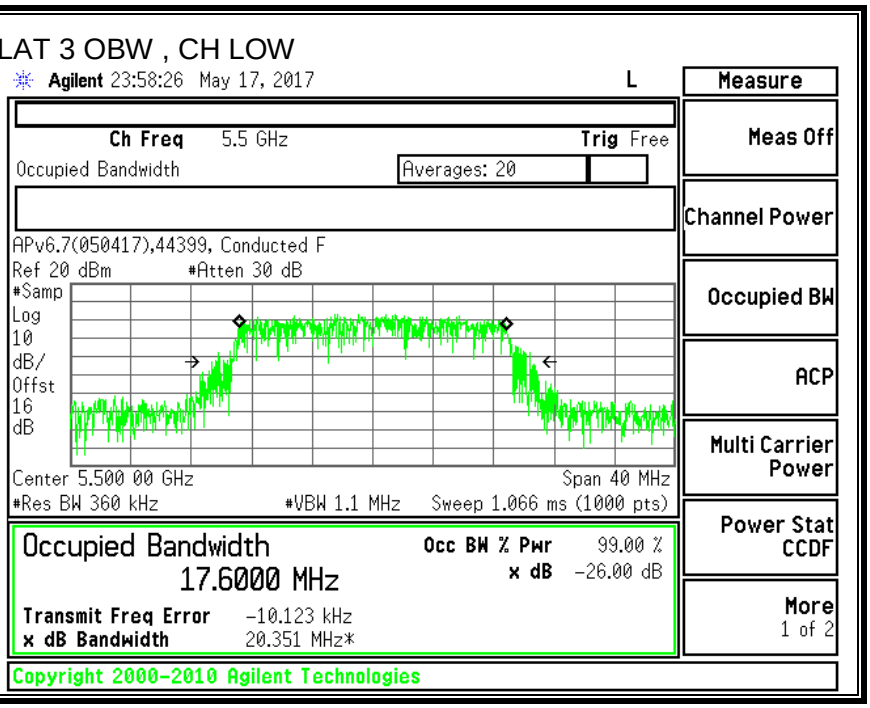
RESULTS

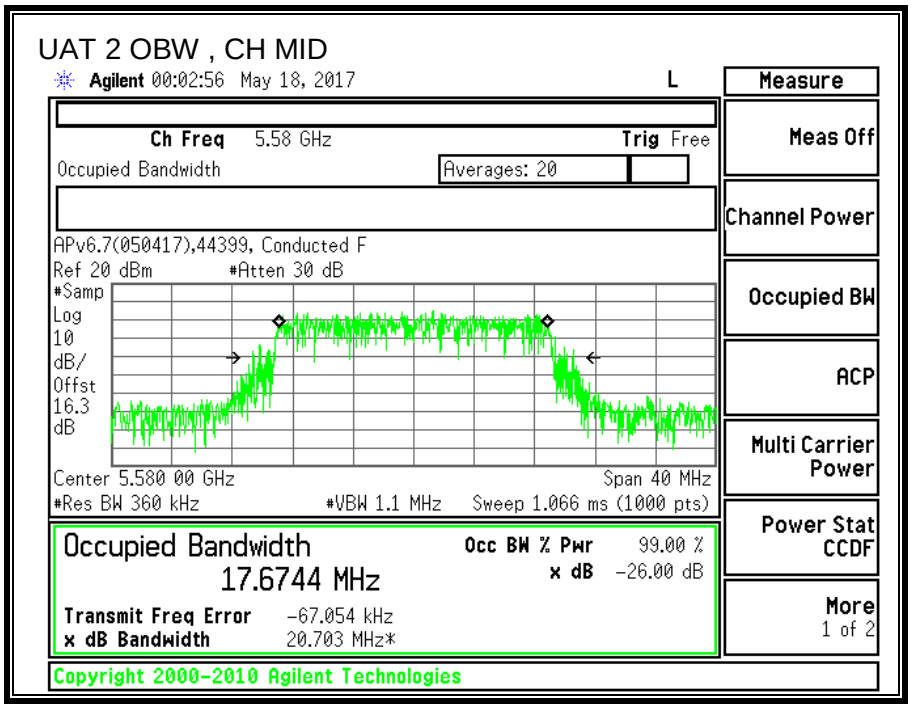
Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5500	17.7117	17.6000
Mid	5580	17.6744	17.6032
High	5700	17.6210	17.6530
144	5720	17.7116	17.7110

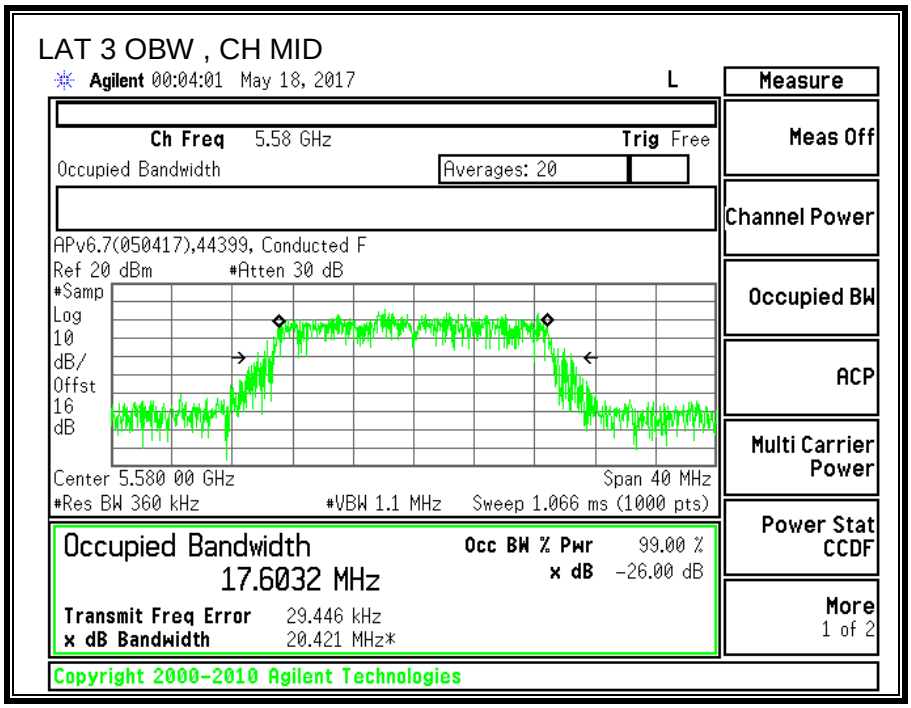
UAT 2 OBW , CH LOW

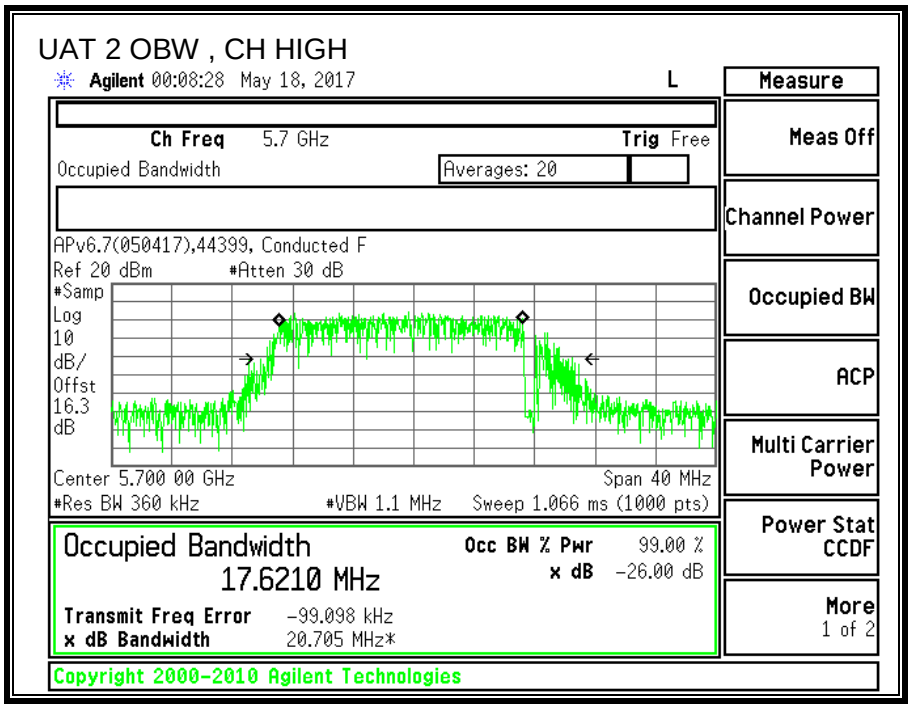


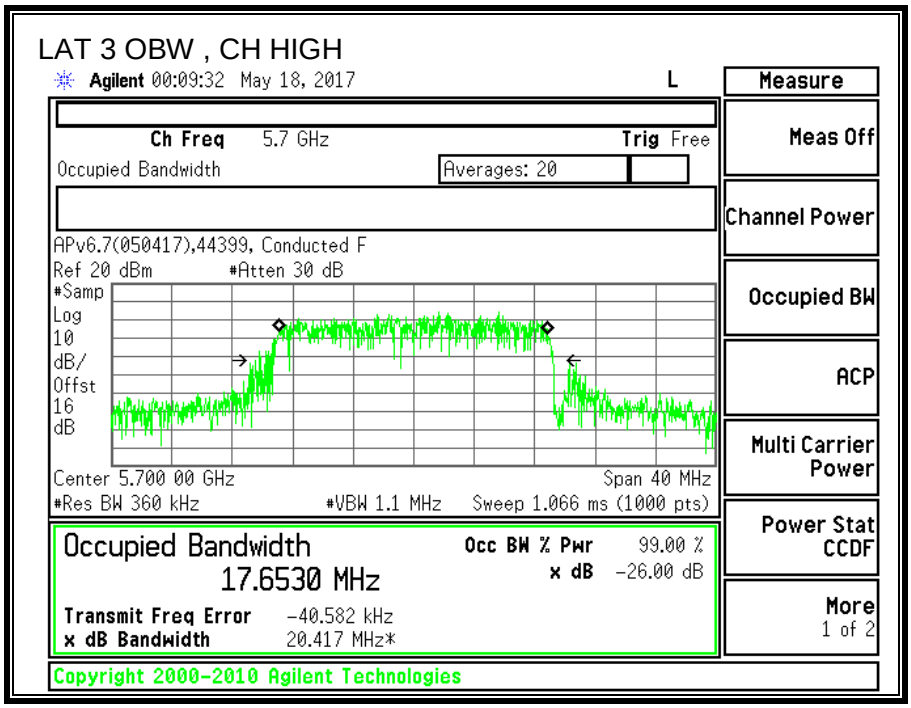
LAT 3 OBW , CH LOW

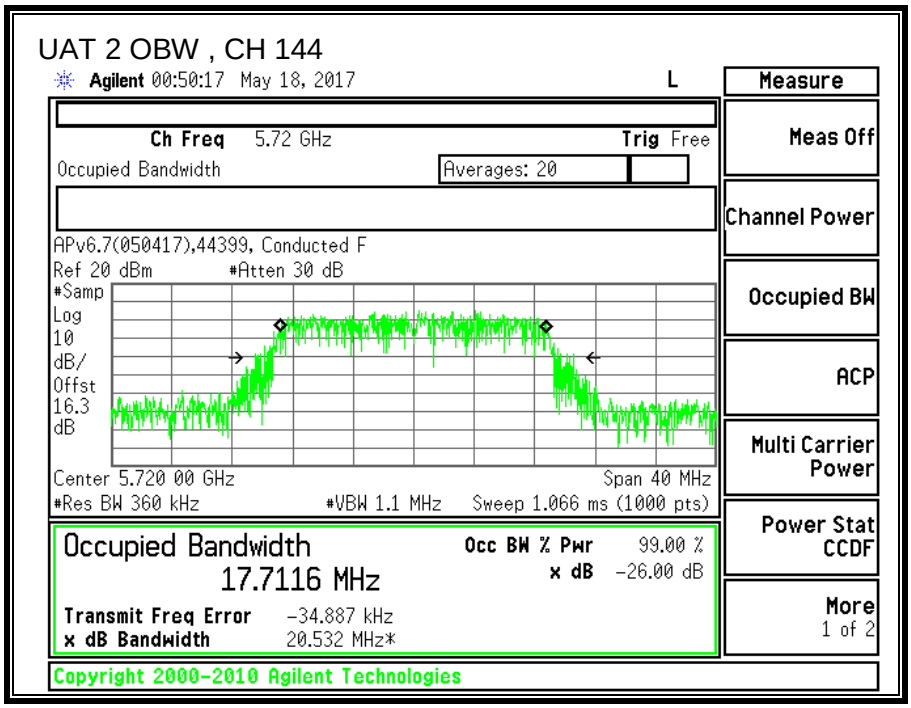


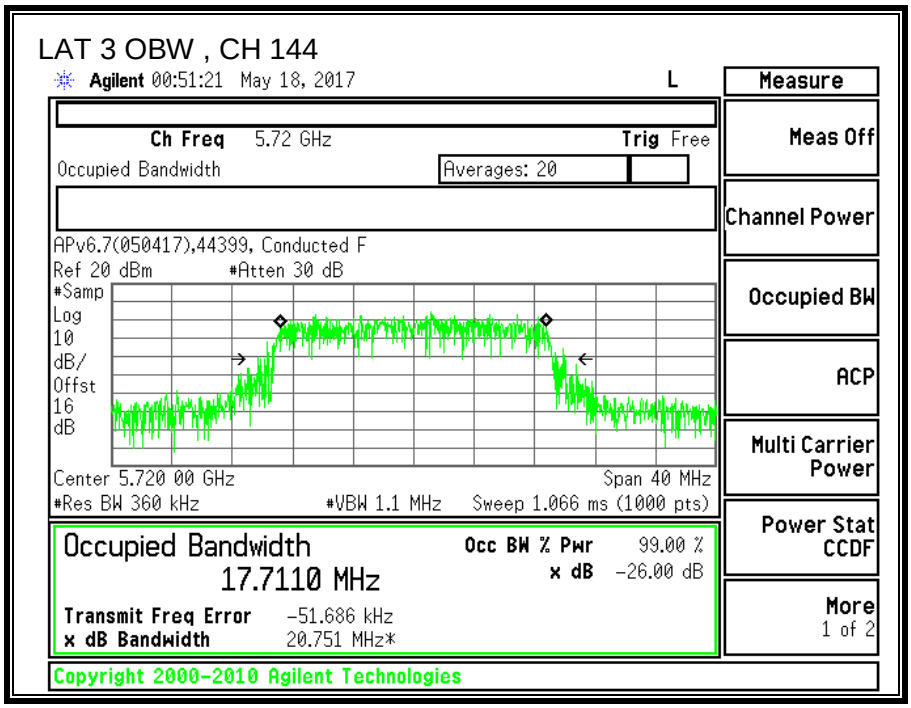












8.21.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5500	17.78	17.86	20.83
Mid	5580	17.82	17.88	20.86
High	5700	17.84	17.81	20.84
144	5720	17.79	17.83	20.82

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.

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	21.75	17.600	-4.36	-1.58	23.46	11.00
Mid	5580	21.60	17.603	-4.36	-1.58	23.46	11.00
High	5700	21.50	17.621	-4.36	-1.58	23.46	11.00

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

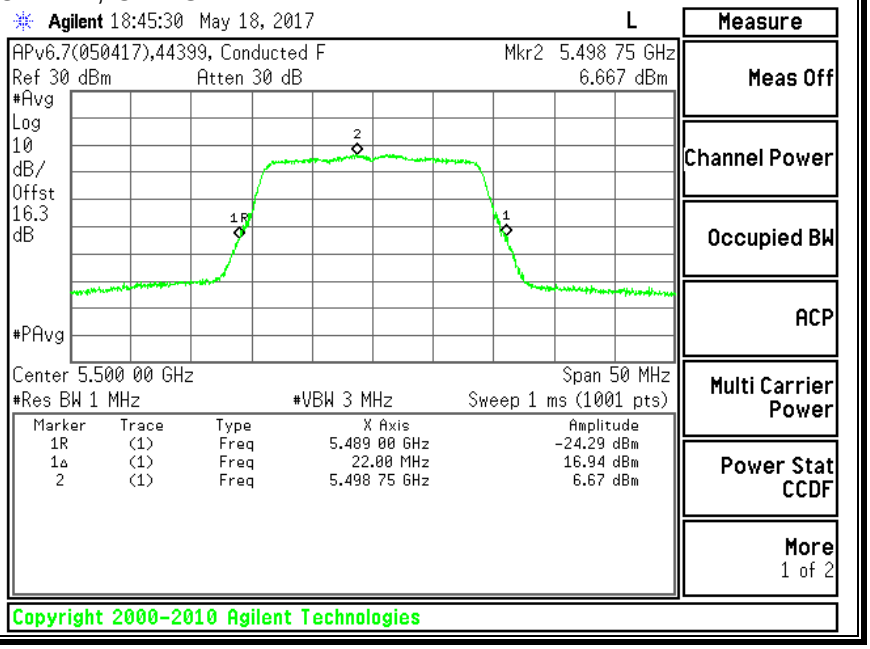
Output Power Results

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	17.78	17.86	20.83	23.46	-2.62
Mid	5580	17.82	17.88	20.86	23.46	-2.60
High	5700	17.84	17.81	20.84	23.46	-2.62

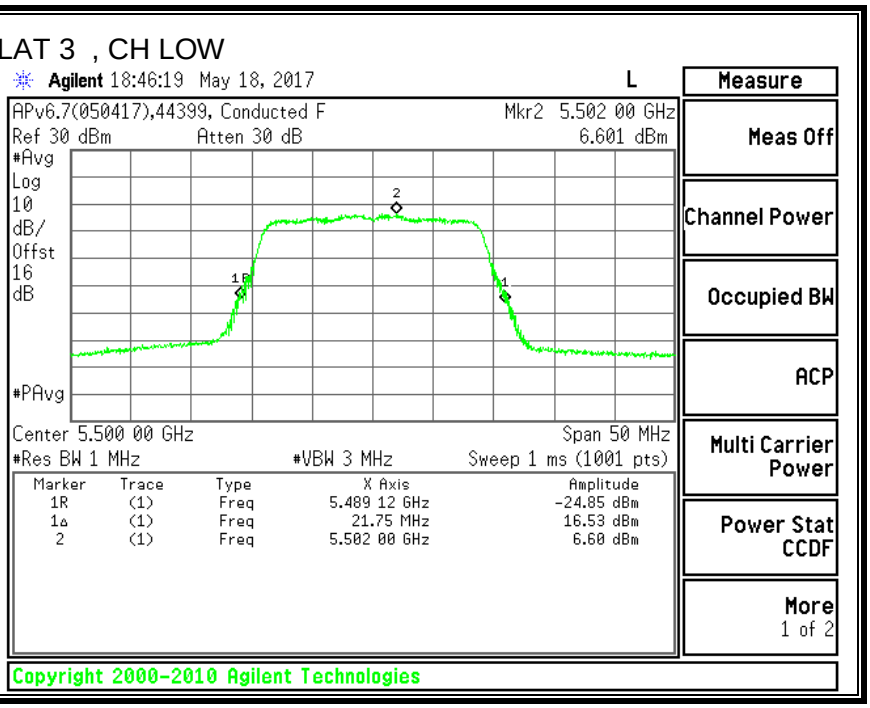
PSD Results

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	6.667	6.601	9.64	11.00	-1.36
Mid	5580	6.847	6.300	9.59	11.00	-1.41
High	5700	7.013	6.61	9.83	11.00	-1.17

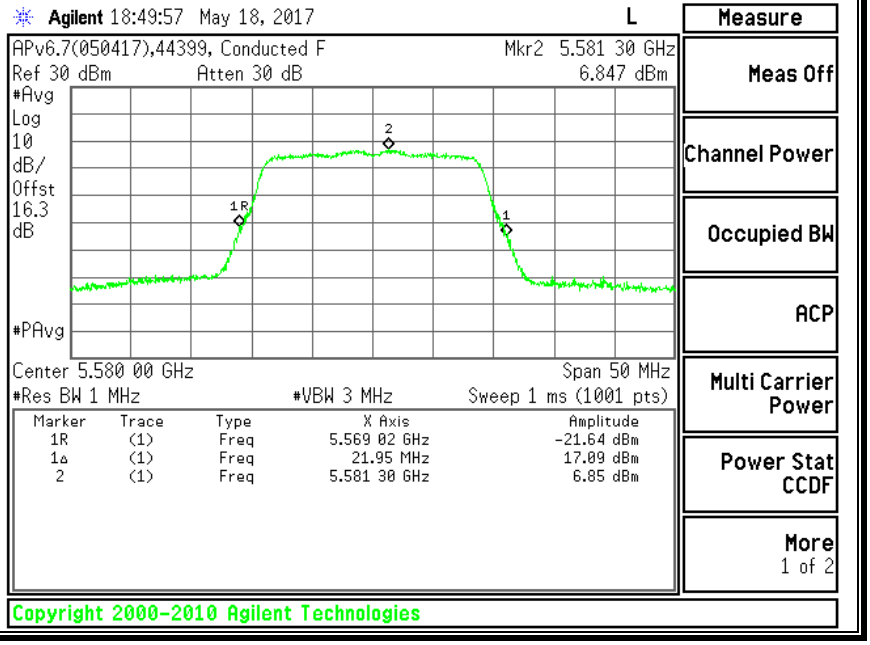
UAT 2 , CH LOW



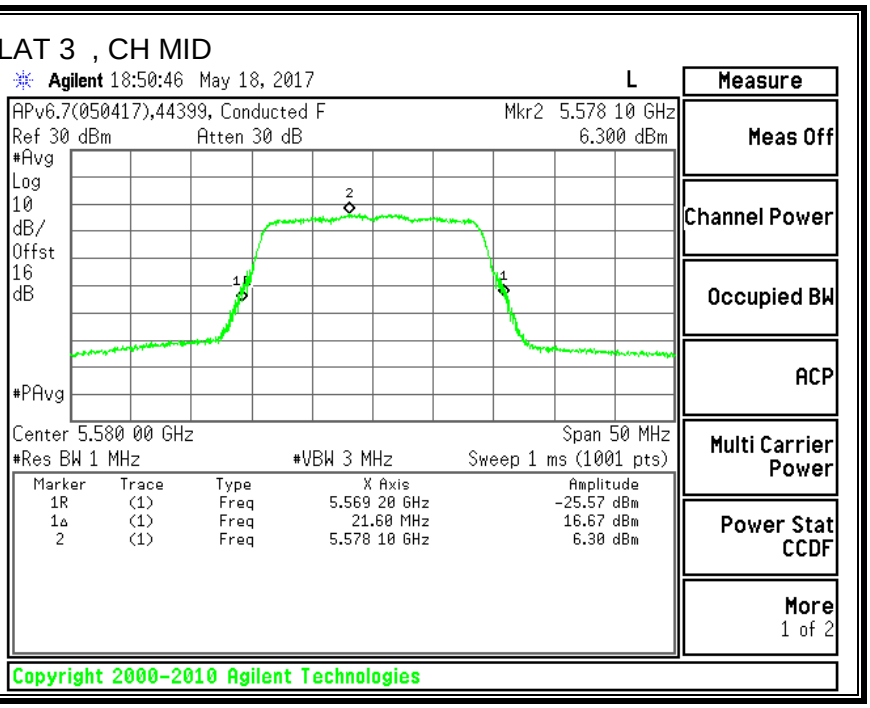
LAT 3 , CH LOW



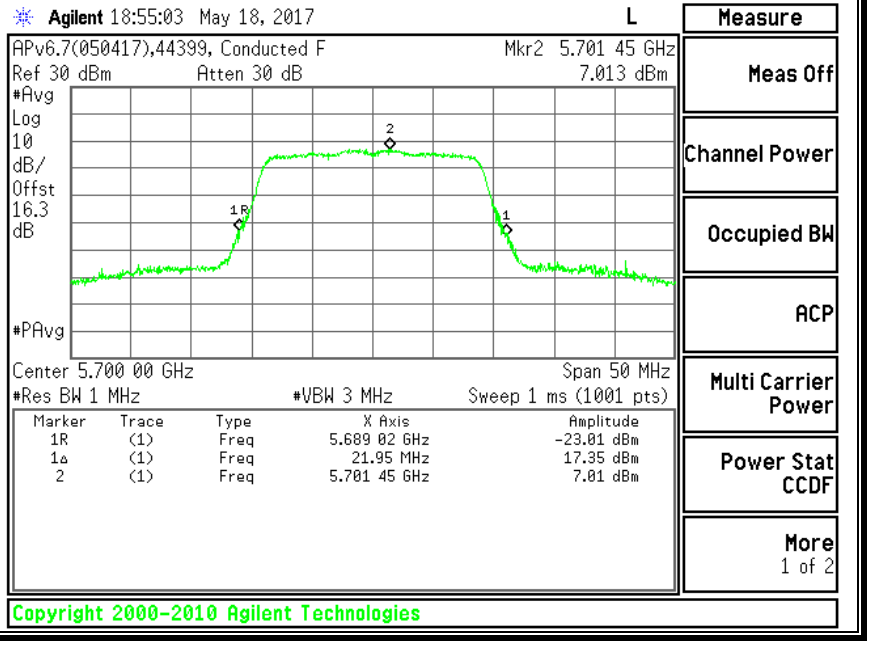
UAT 2 , CH MID



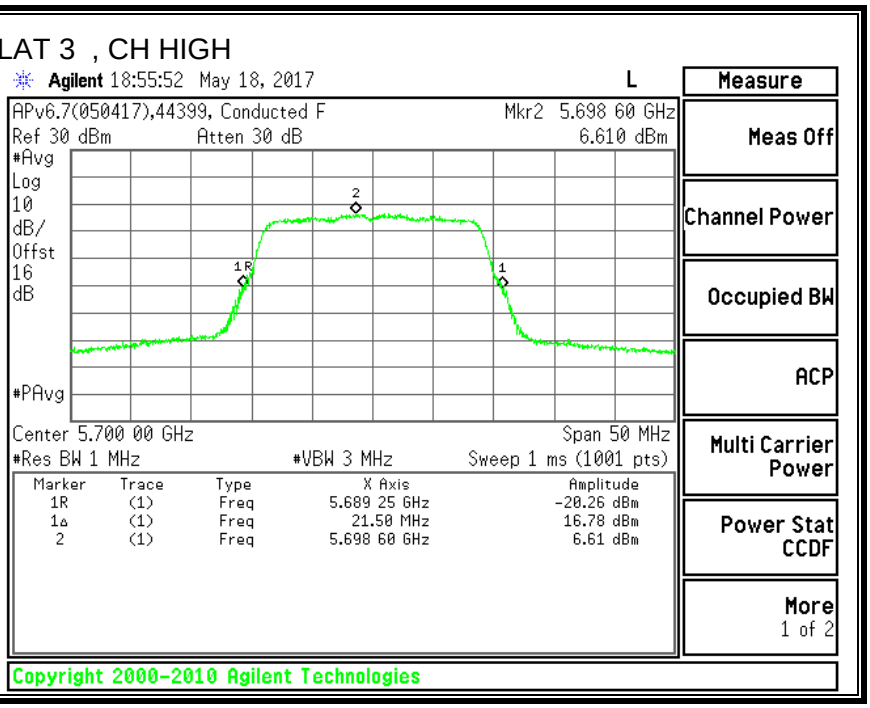
LAT 3 , CH MID



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.21.5. 11ac HT20 2TX CDD MIMO STRADDLE CHANNEL 144

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	21.60	-4.36	-1.58	24.00	11.00

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

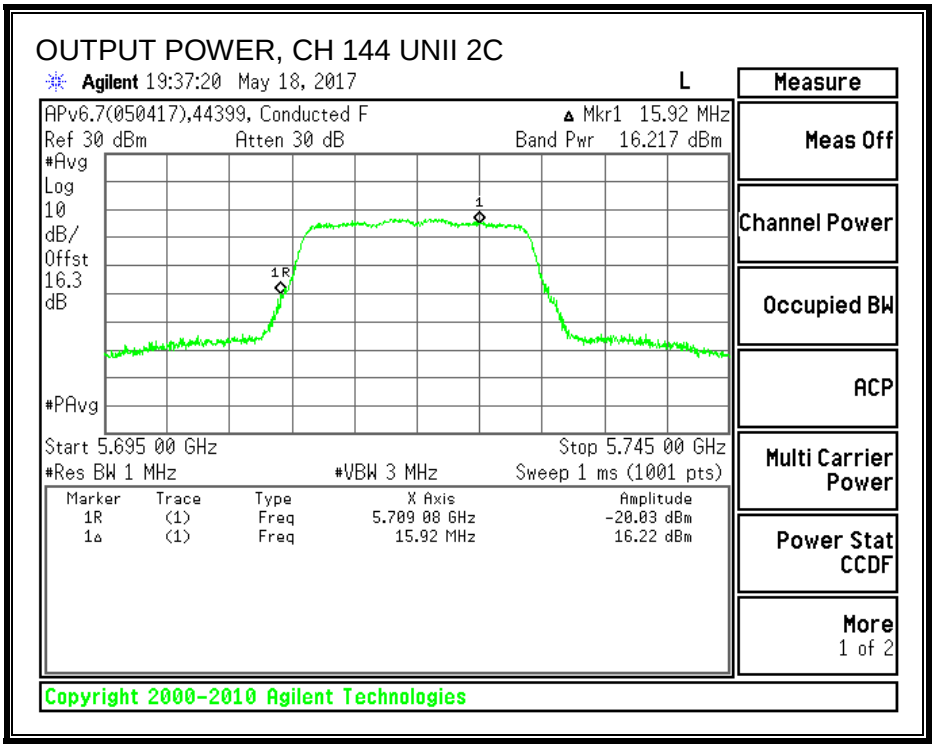
Output Power Results

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	16.22	15.79	19.02	24.00	-4.98

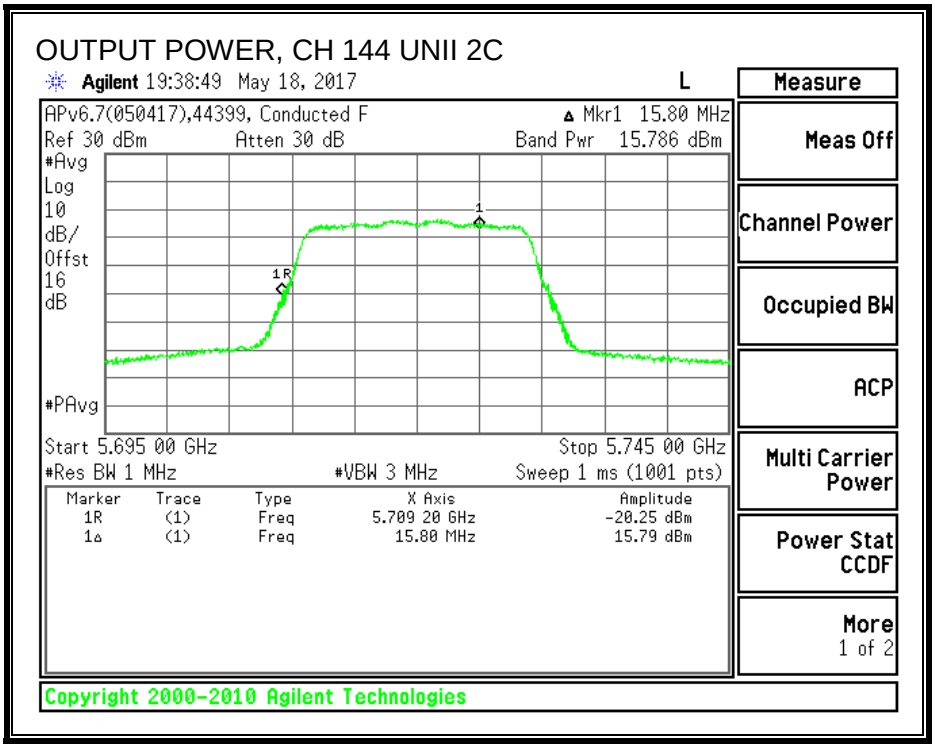
PSD Results

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	6.66	6.24	9.46	11.00	-1.54

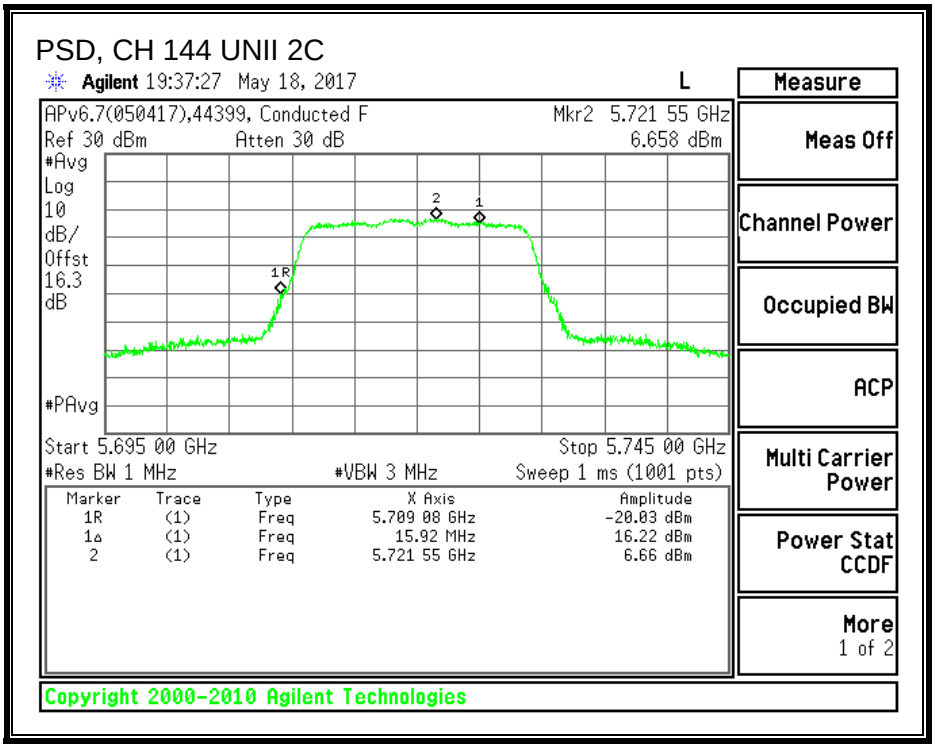
OUTPUT POWER, UAT 2



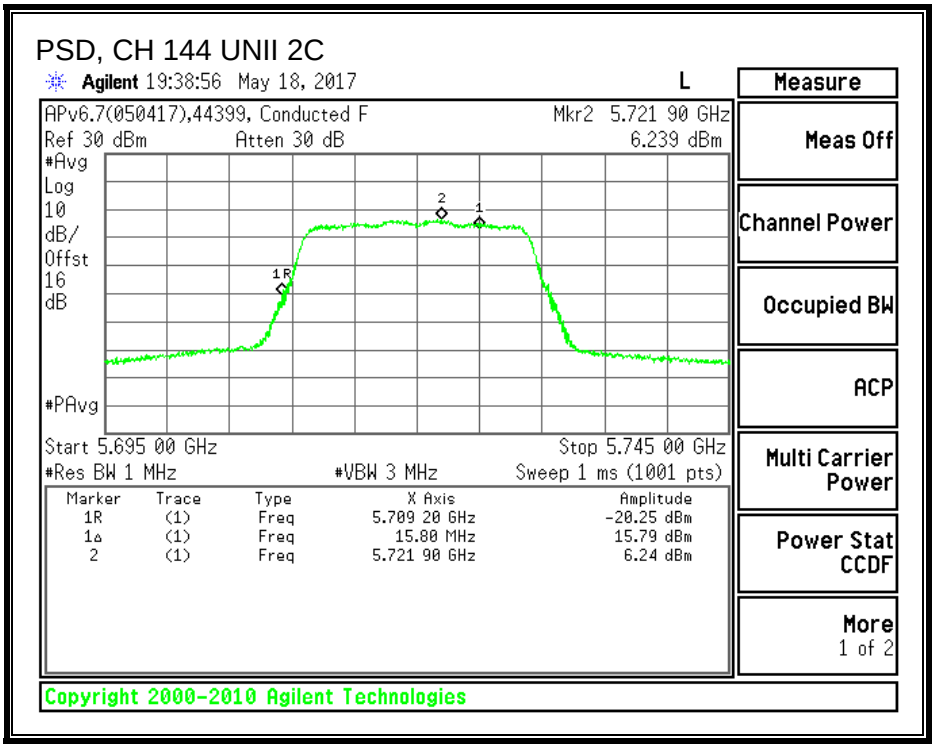
OUTPUT POWER, LAT 3



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	21.60	-4.73	-1.82	30.00	30.00

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

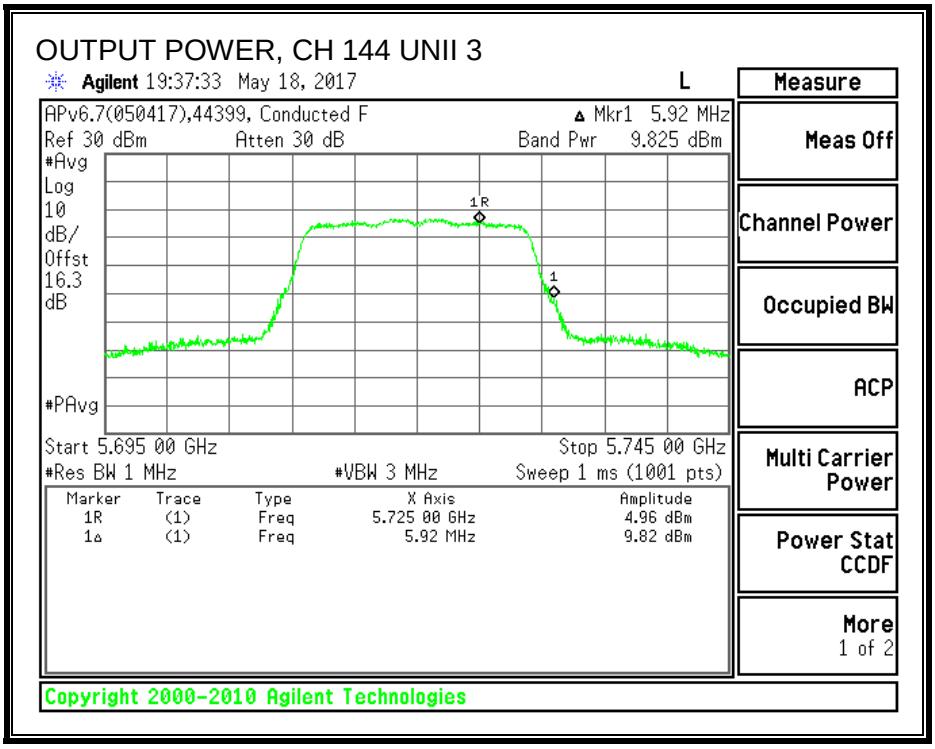
Output Power Results

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	9.83	9.47	12.66	30.00	-17.34

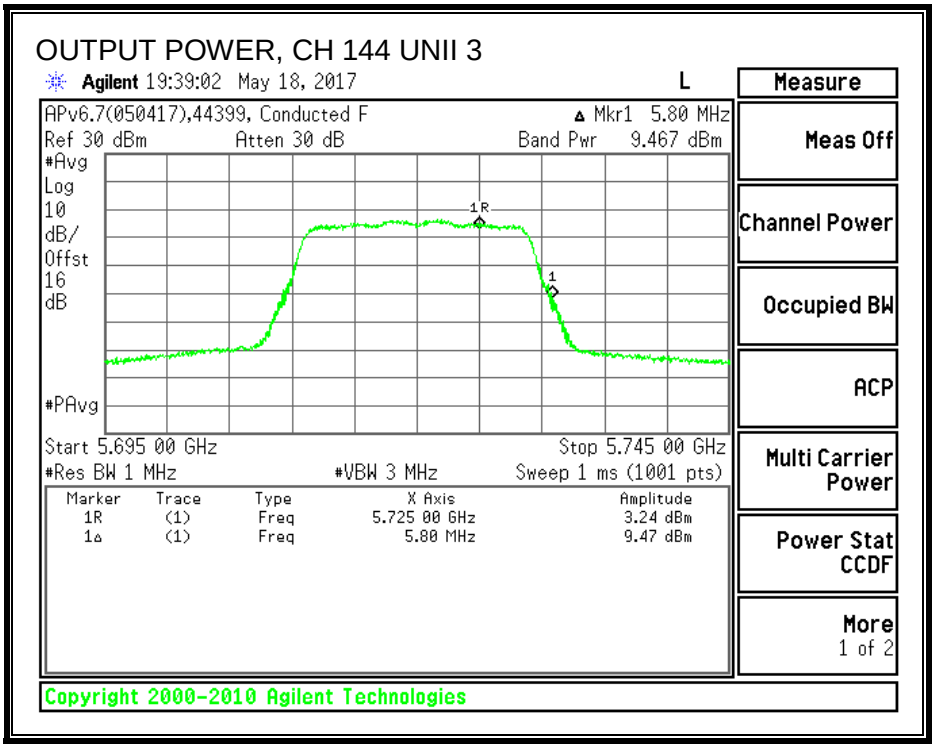
PSD Results

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	2.65	2.15	5.42	30.00	-24.58

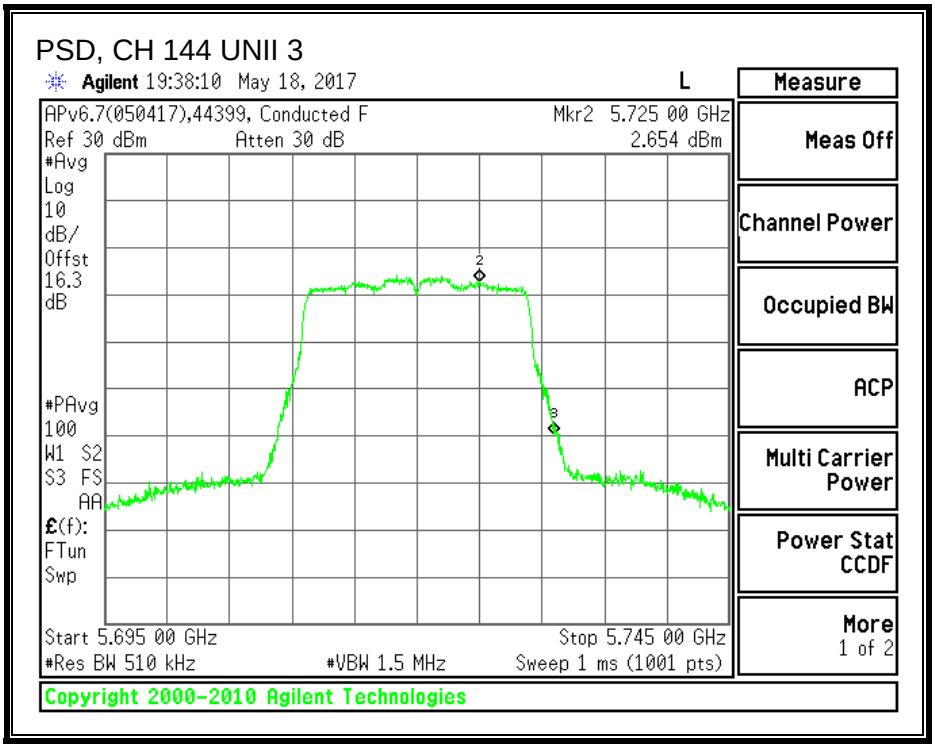
OUTPUT POWER, UAT 2



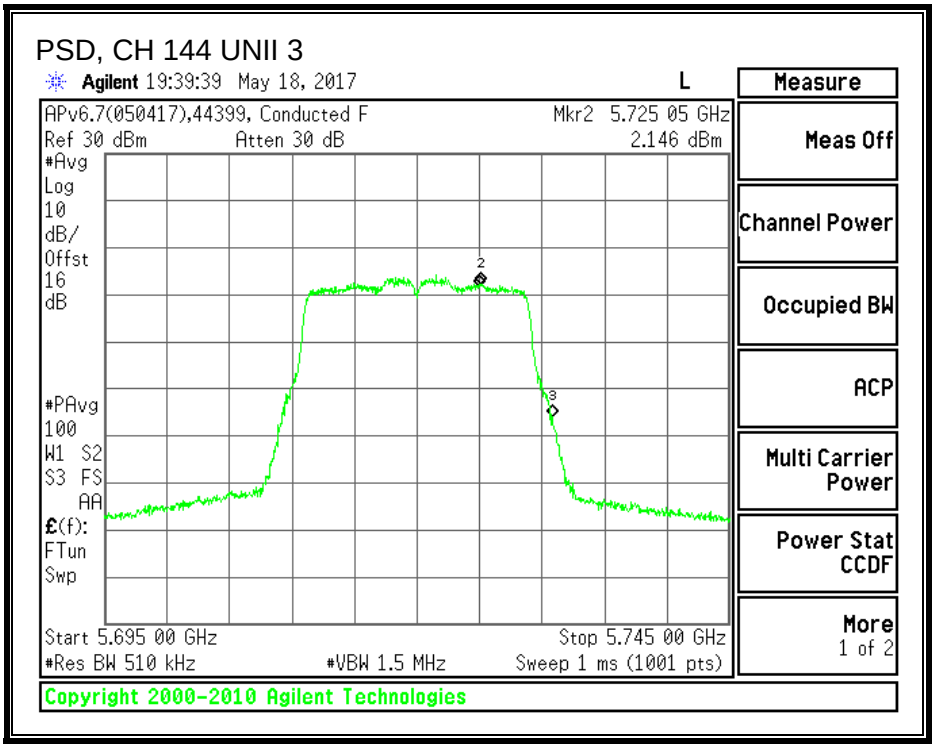
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



8.21.6. 6 dB BANDWIDTH

LIMITS

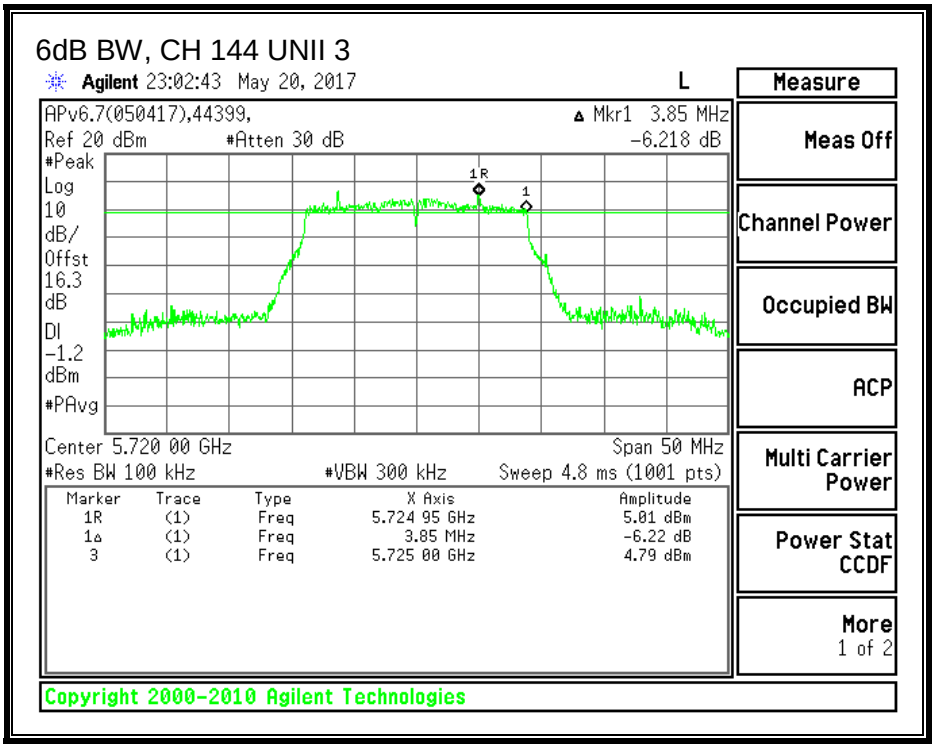
FCC §15.407 (e)

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

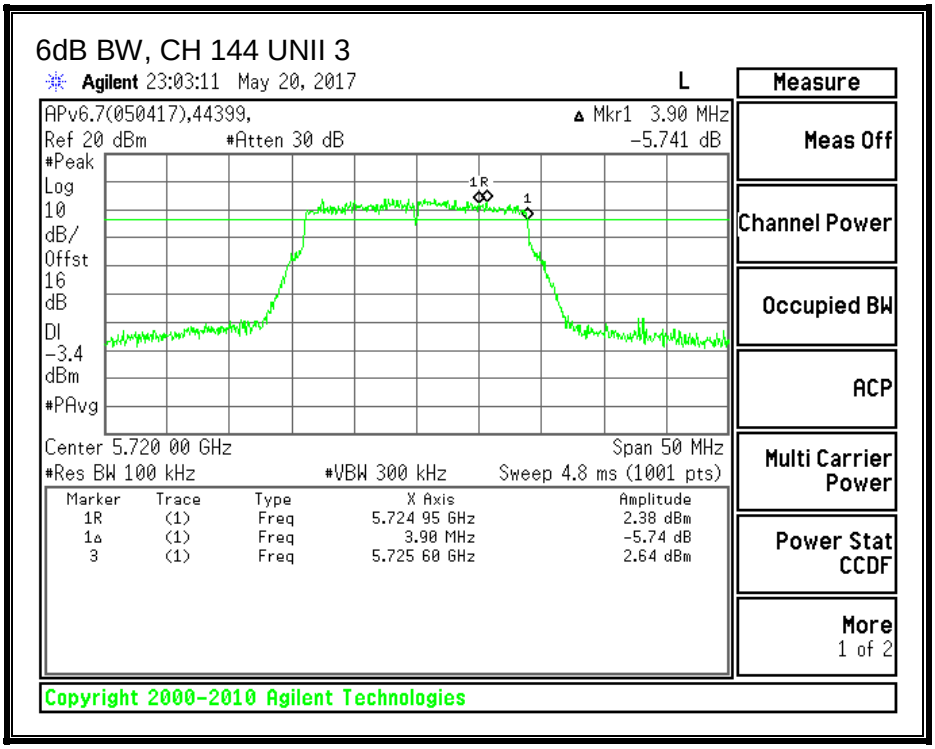
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
144	5720	3.85	3.90

UAT 2



LAT 3



8.22. 11n HT40 UAT 2 SISO MODE IN THE 5.6GHz BAND

8.22.1. 26 dB BANDWIDTH

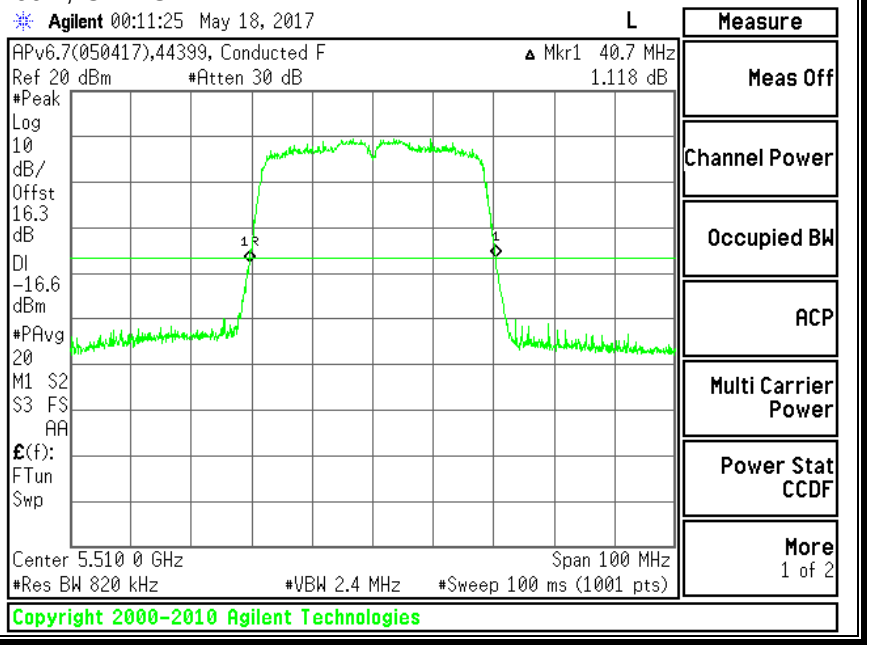
LIMITS

None; for reporting purposes only.

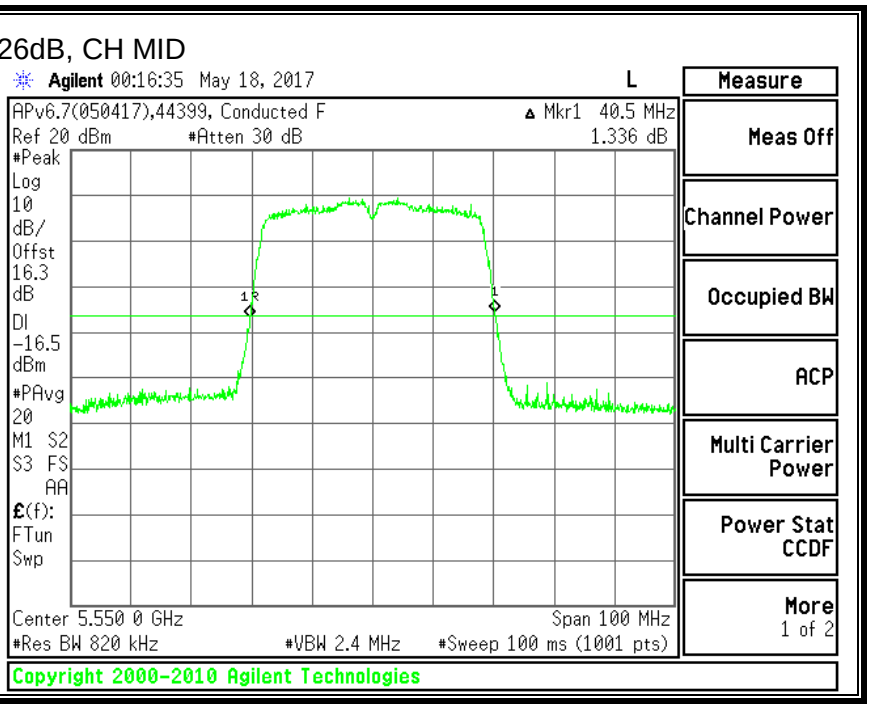
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5510	40.7
Mid	5550	40.5
High	5670	40.5
142	5710	40.6

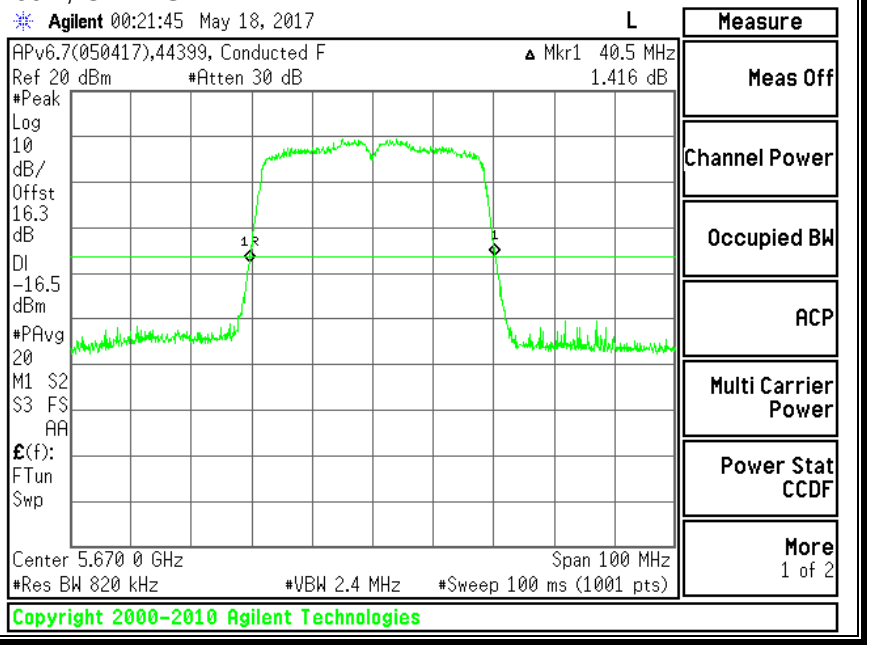
26dB, CH LOW



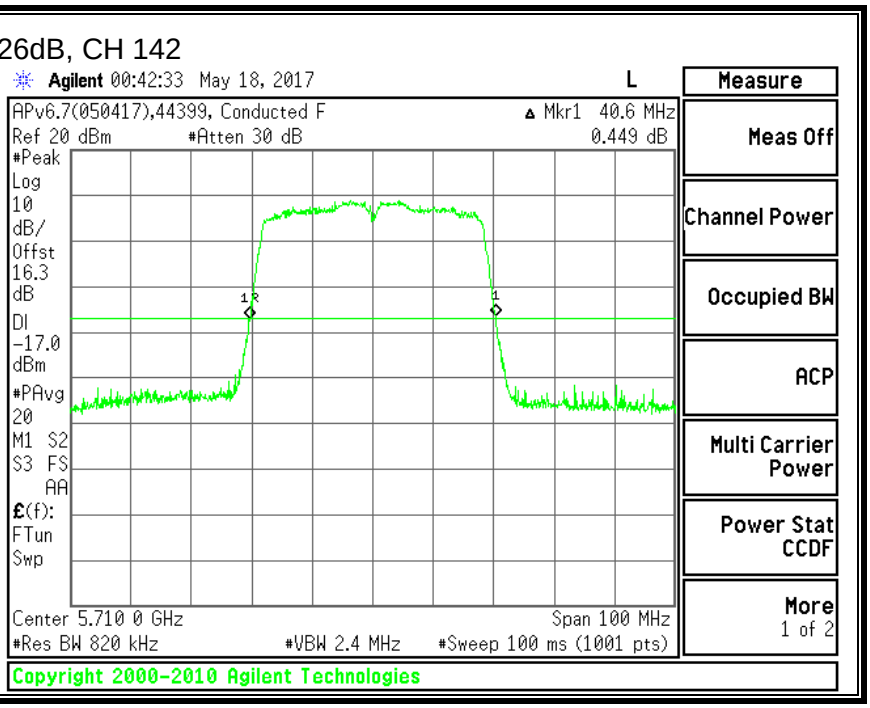
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.22.2. 99% BANDWIDTH

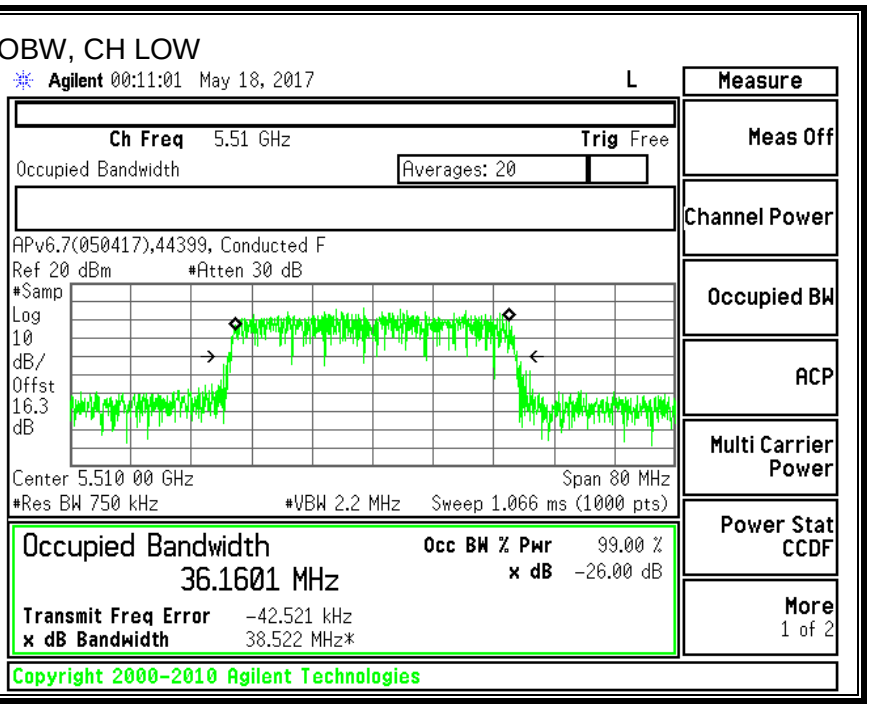
LIMITS

None; for reporting purposes only.

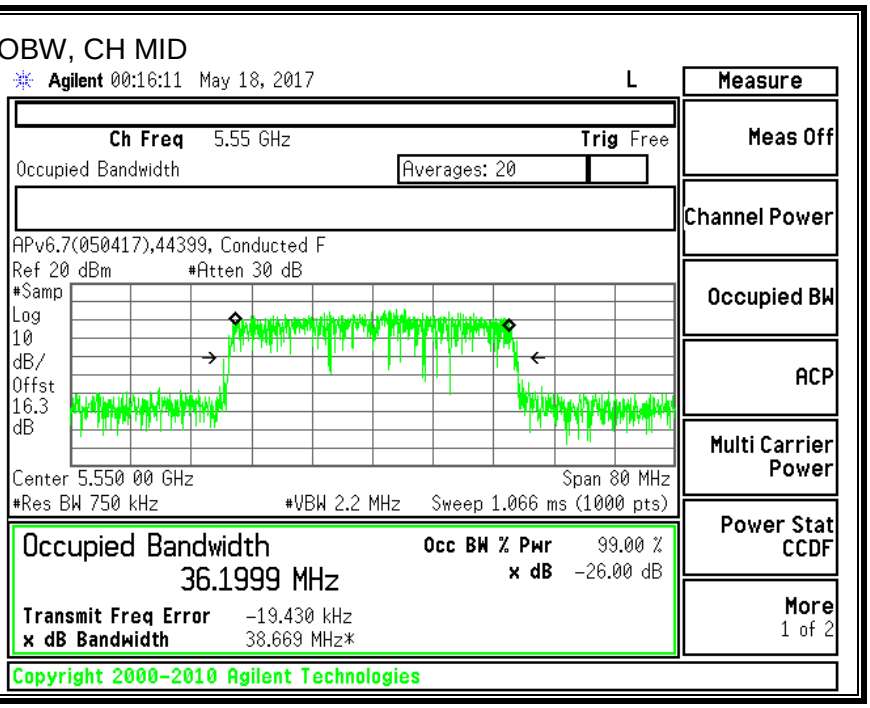
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5510	36.1601
Mid	5550	36.1999
High	5670	36.0797
142	5710	36.1947

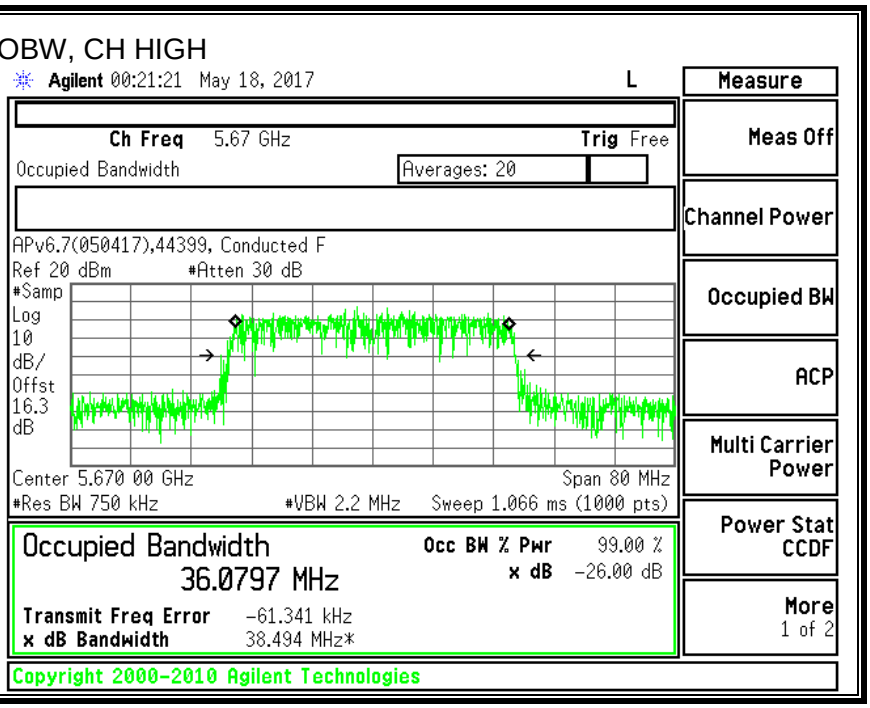
OBW, CH LOW



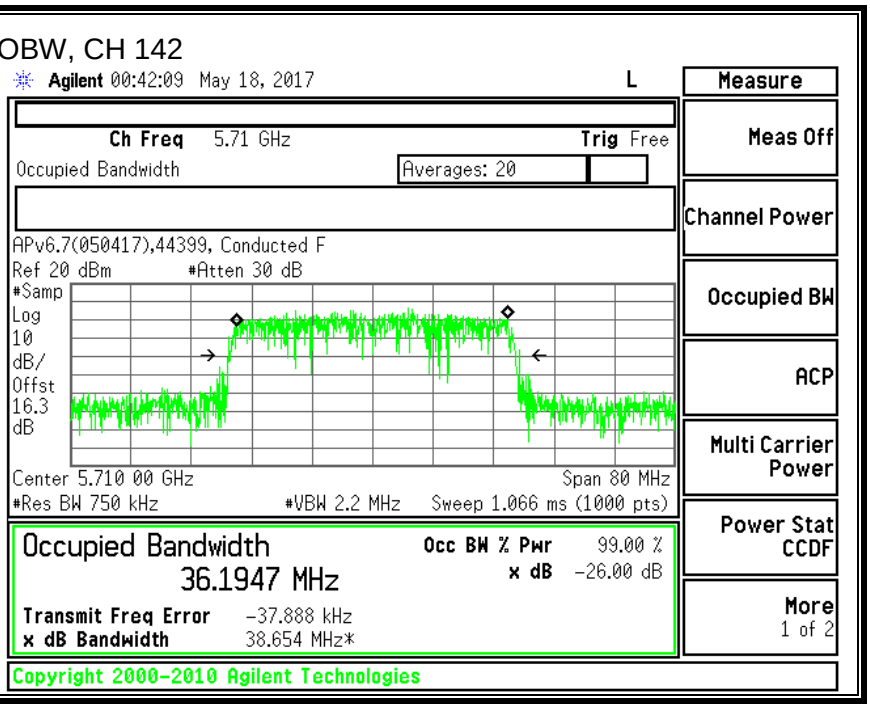
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.22.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	17.76
Mid	5550	19.42
High	5670	19.47
142	5710	19.41

8.22.4. 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.

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	36.16	-2.77	24.00	11.00
Mid	5550	40.50	36.20	-2.77	24.00	11.00
High	5670	40.50	36.08	-2.77	24.00	11.00

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

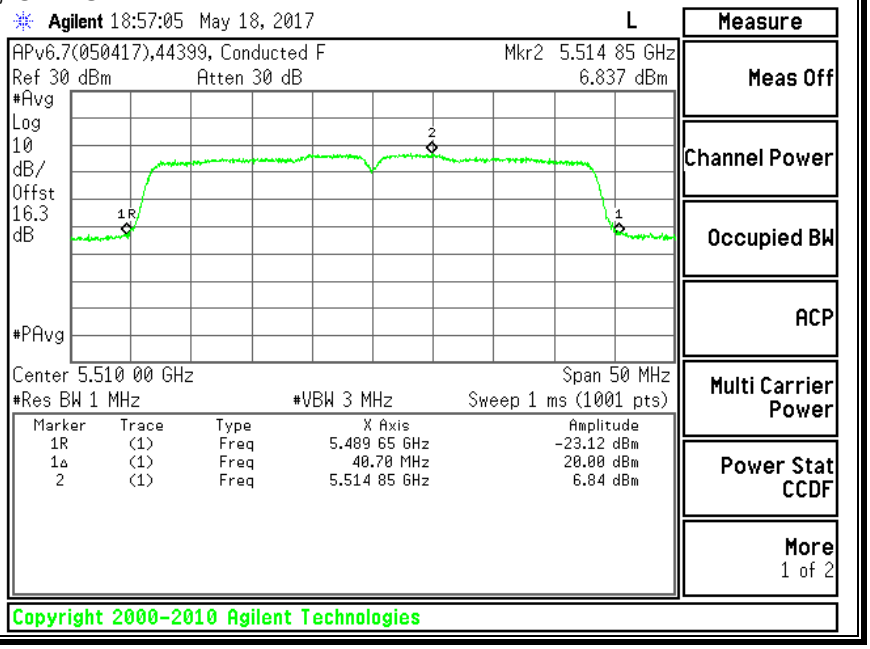
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	17.76	17.76	24.00	-6.24
Mid	5550	19.42	19.42	24.00	-4.58
High	5670	19.47	19.47	24.00	-4.53

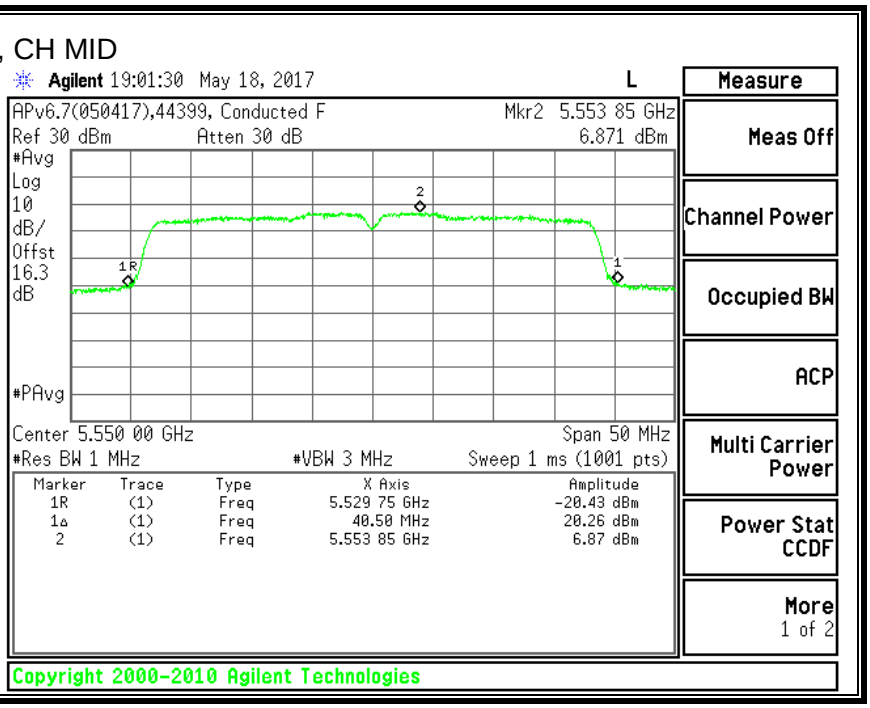
PSD Results

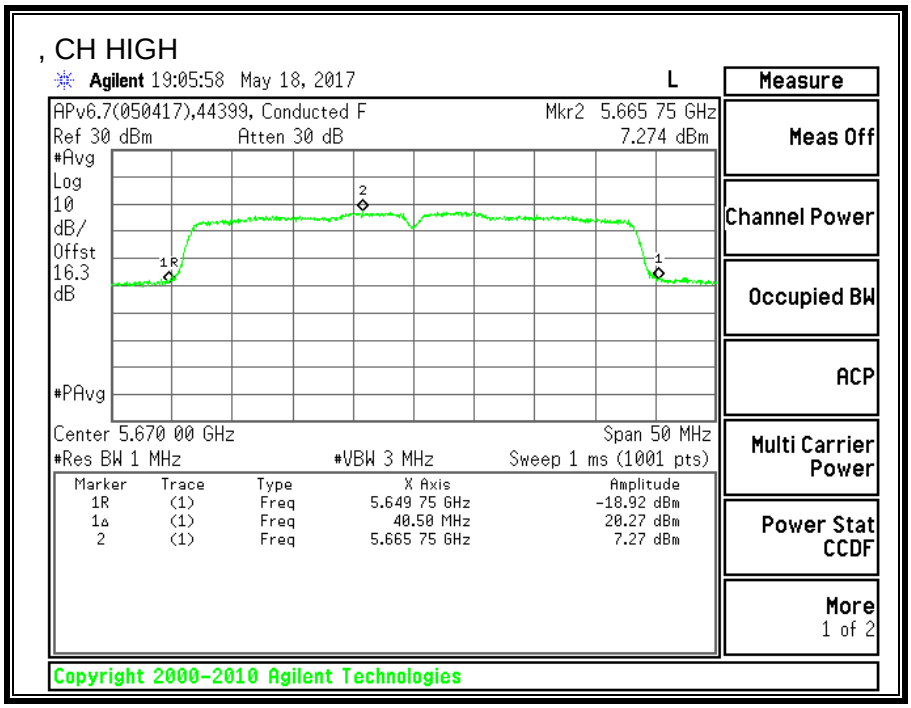
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5510	6.84	6.94	11.00	-4.06
Mid	5550	6.87	6.97	11.00	-4.03
High	5670	7.27	7.37	11.00	-3.63

, CH LOW



, CH MID





8.22.5. 11ac HT40 UAT 2 SISO STRADDLE CHANNEL 142

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	40.60	-2.77	-2.77	24.00	11.00

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

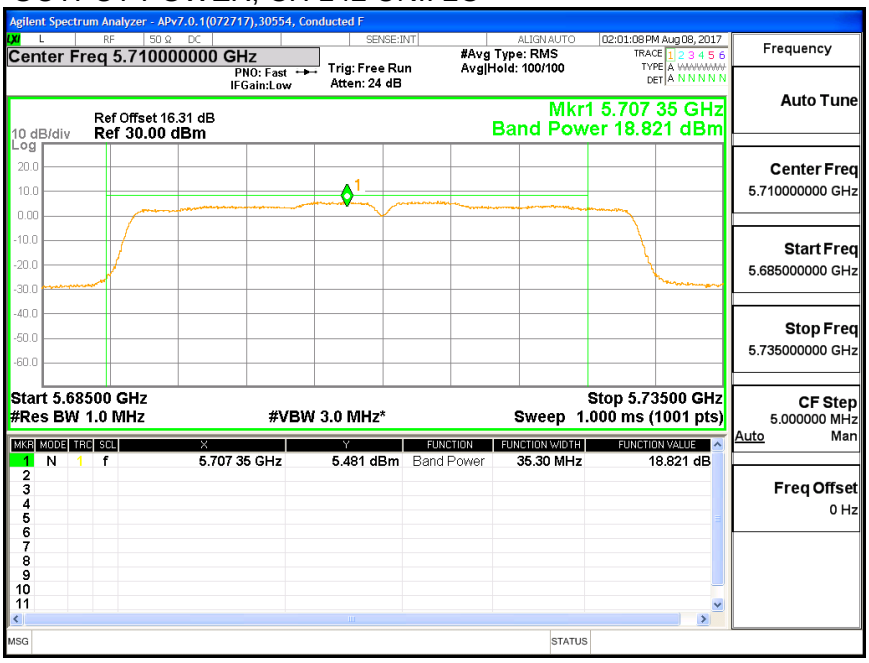
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	18.82	18.92	24.00	-5.08

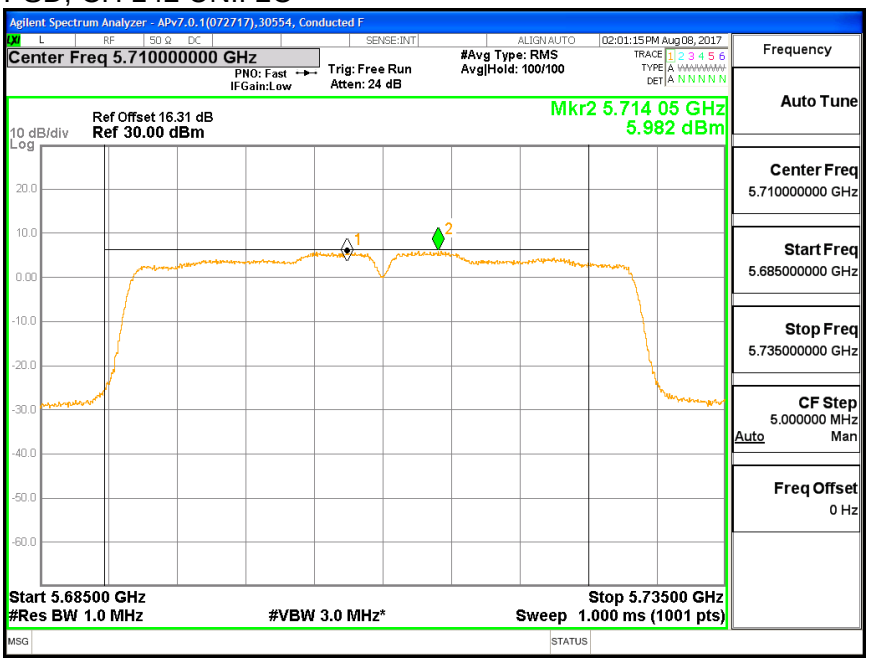
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
142	5710	5.98	6.08	11.00	-4.92

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	40.60	-3.57	30.00	30.00

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

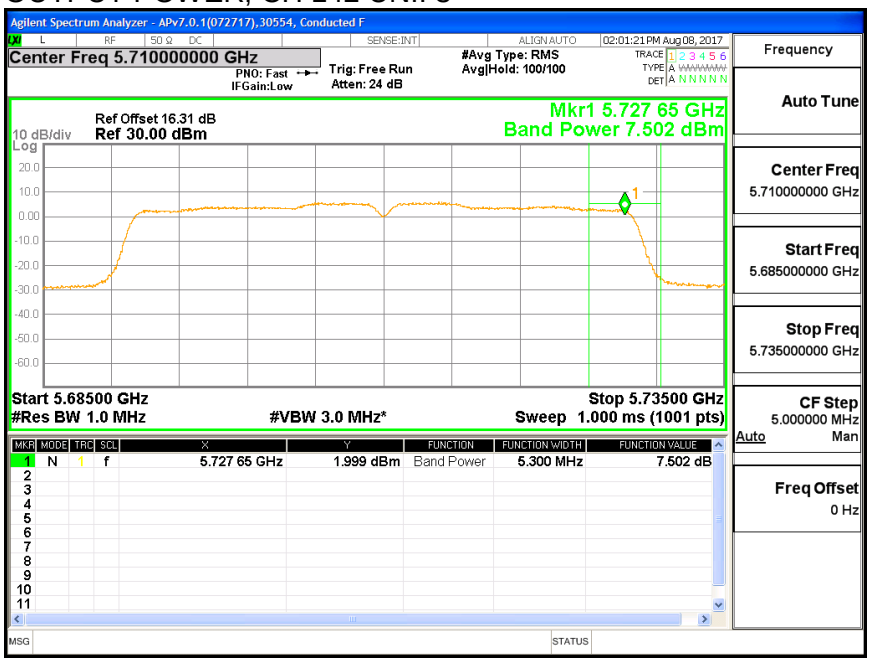
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.50	7.60	30.00	-22.40

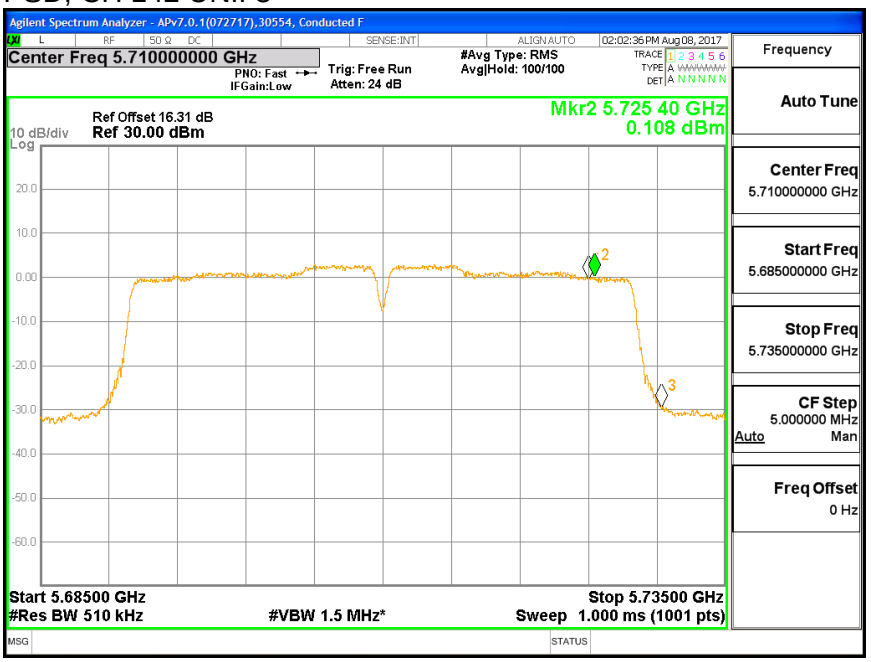
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.11	0.21	30.00	-29.79

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.22.6. 6 dB BANDWIDTH

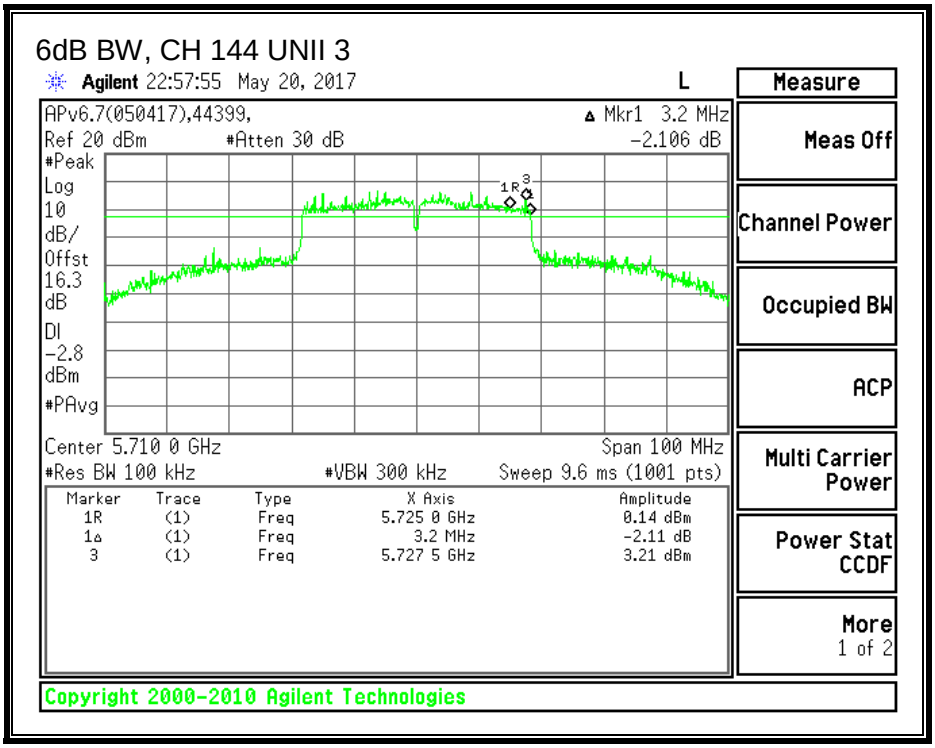
LIMITS

FCC §15.407 (e)

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

RESULTS

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



8.23. 11n HT40 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.23.1. 26 dB BANDWIDTH

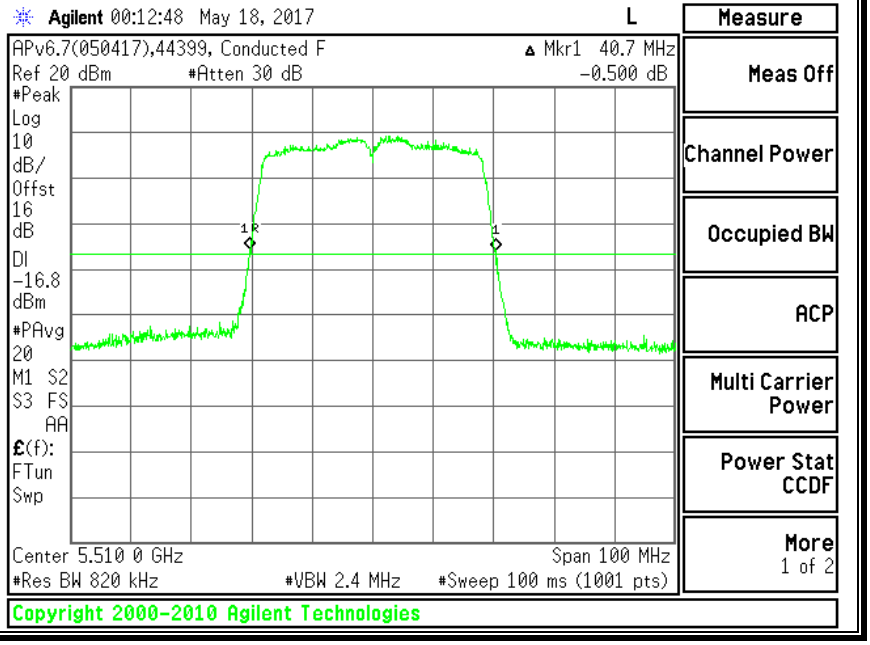
LIMITS

None; for reporting purposes only.

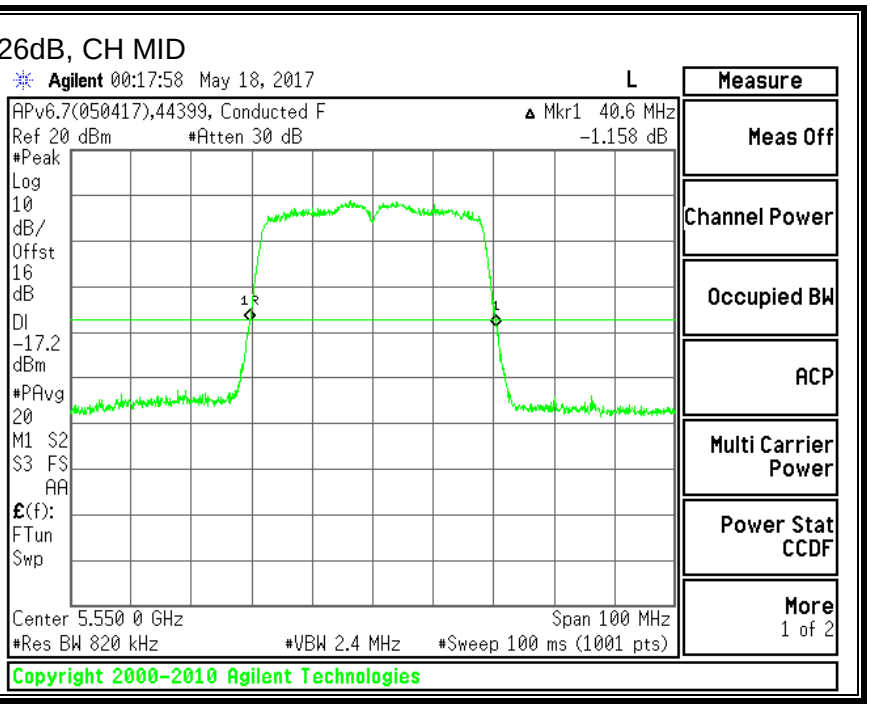
RESULTS

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

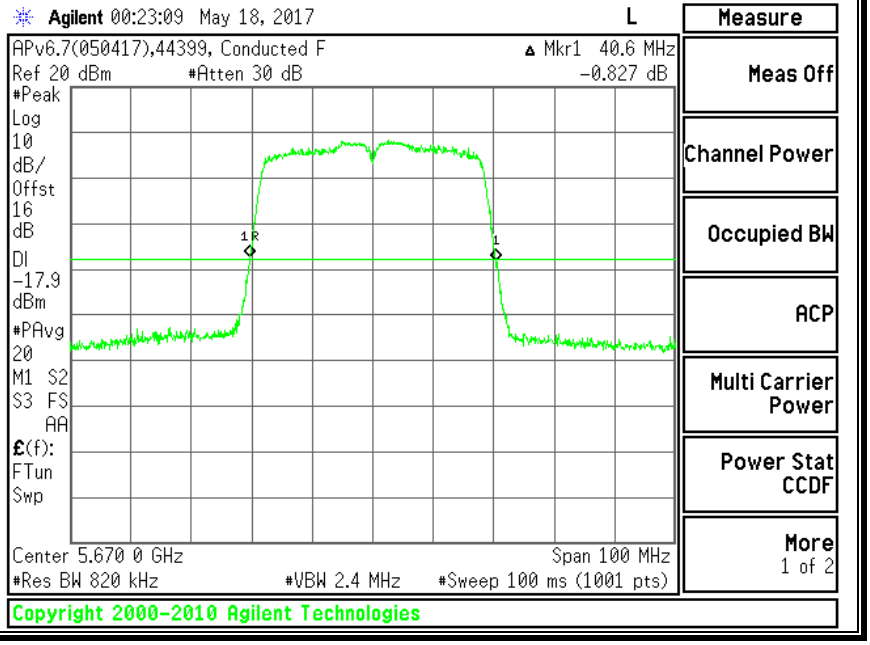
26dB, CH LOW



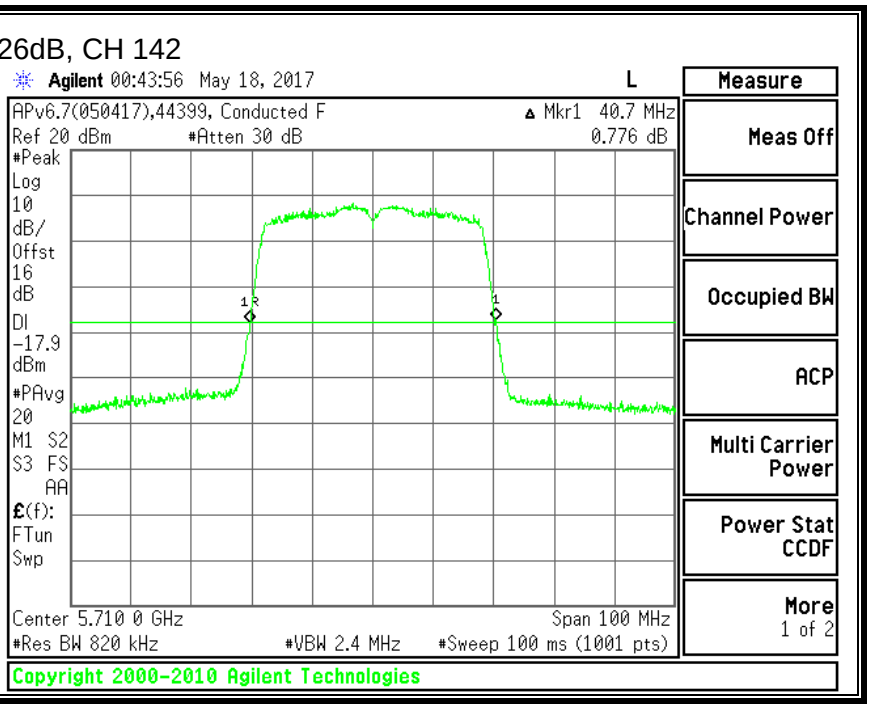
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.23.2. 99% BANDWIDTH

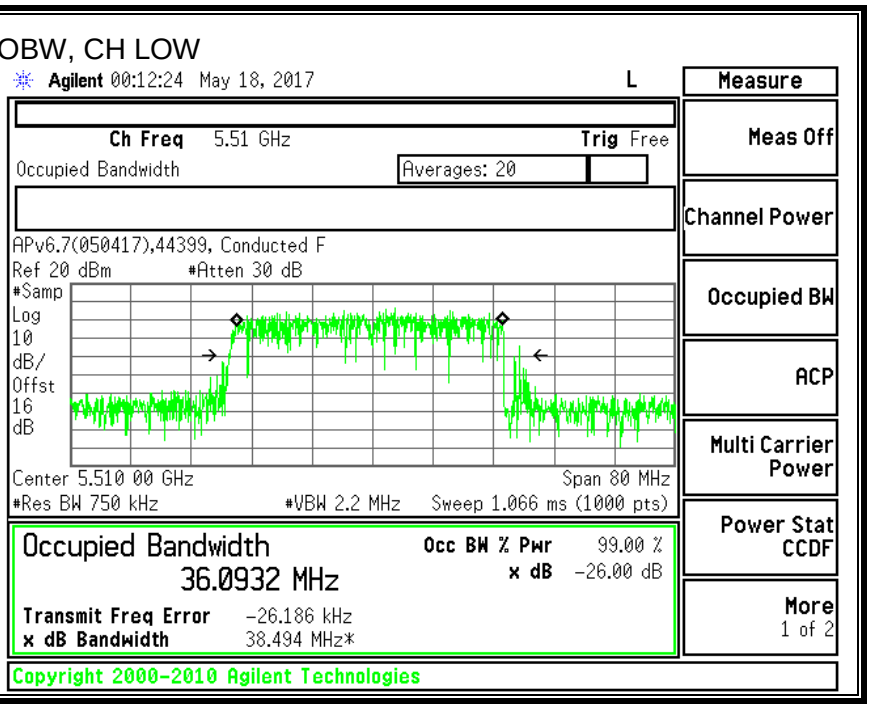
LIMITS

None; for reporting purposes only.

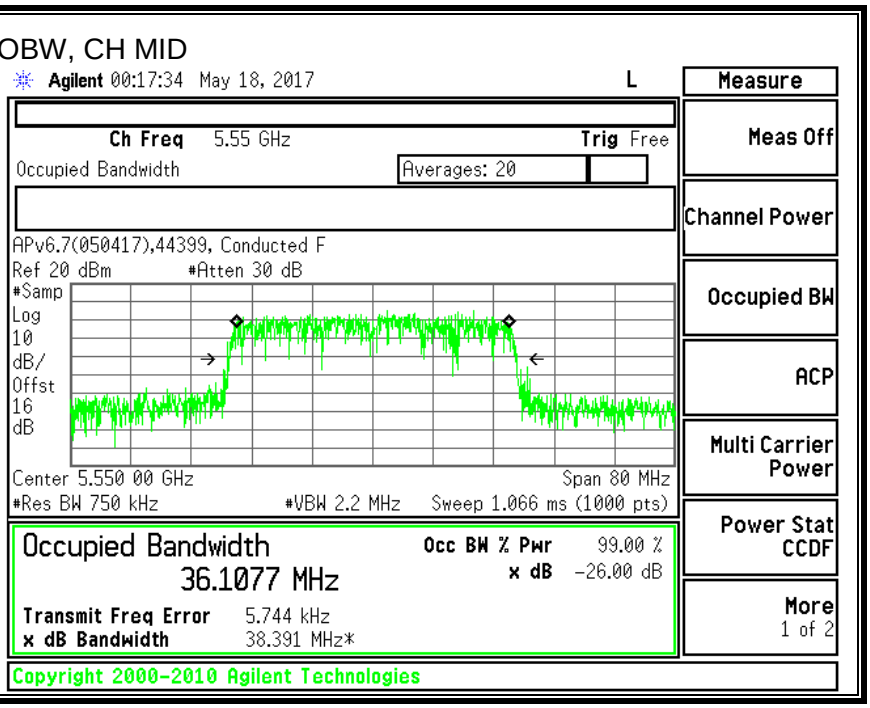
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5510	36.0932
Mid	5550	36.1077
High	5670	36.0634
142	5710	36.1605

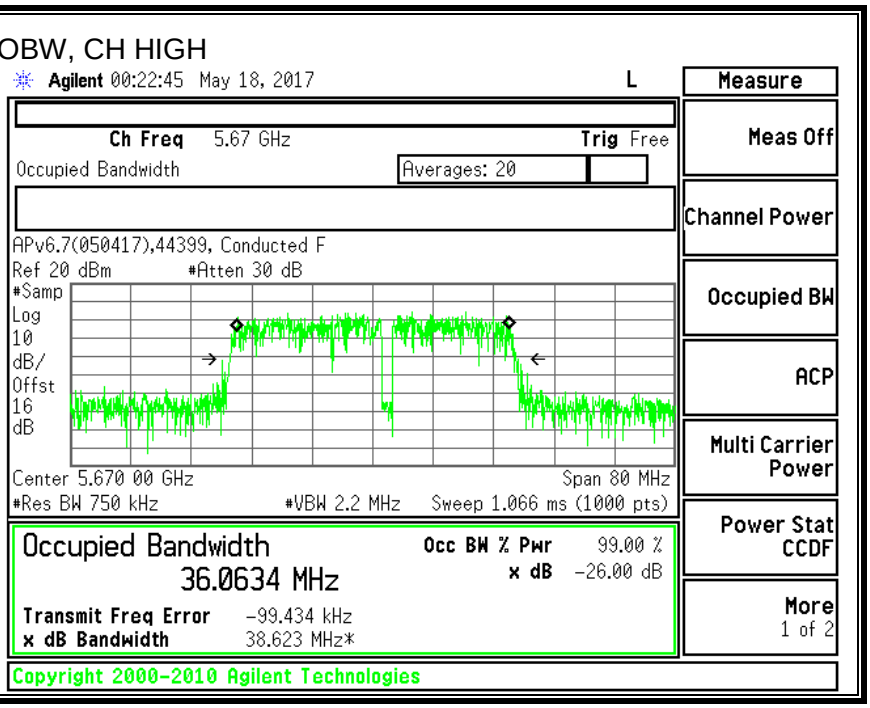
OBW, CH LOW



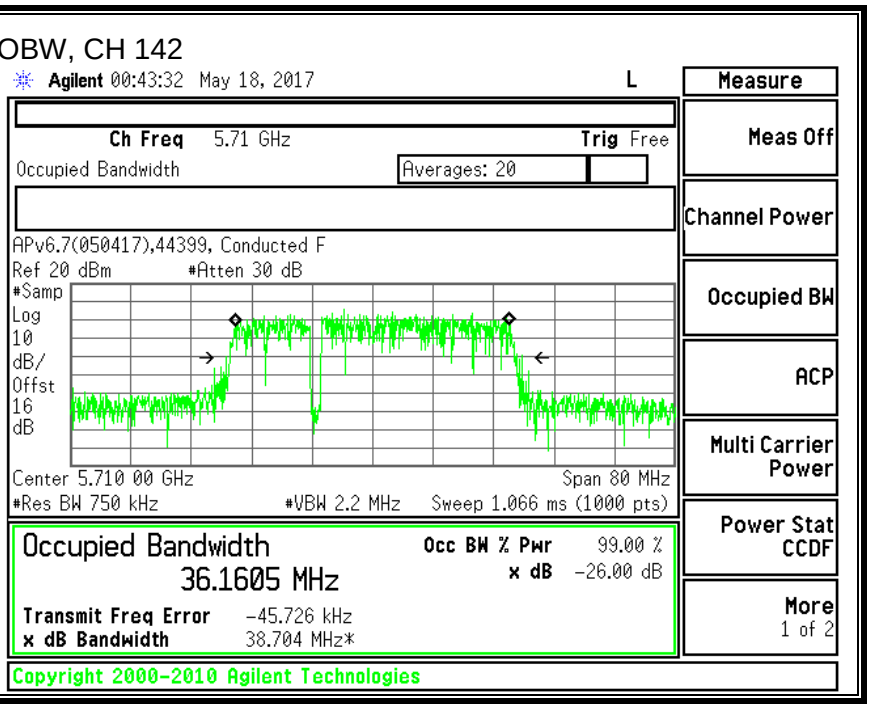
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.23.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	17.89
Mid	5550	19.22
High	5670	19.30
142	5710	19.38

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.

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	36.09	-6.89	24.00	11.00
Mid	5550	40.60	36.11	-6.89	24.00	11.00
High	5670	40.60	36.06	-6.89	24.00	11.00

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

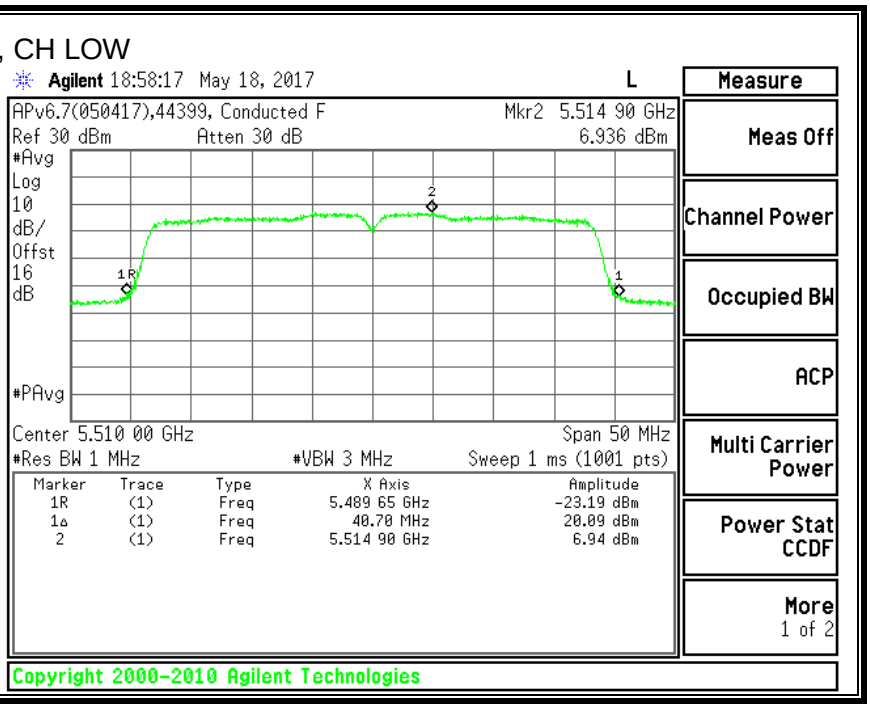
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	17.89	17.89	24.00	-6.11
Mid	5550	19.22	19.22	24.00	-4.78
High	5670	19.30	19.30	24.00	-4.70

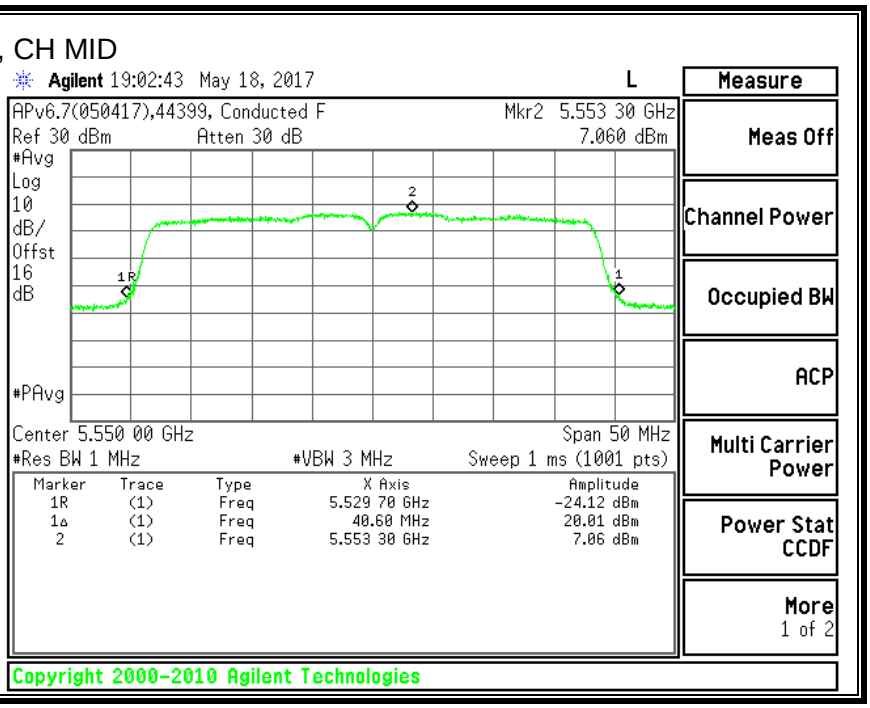
PSD Results

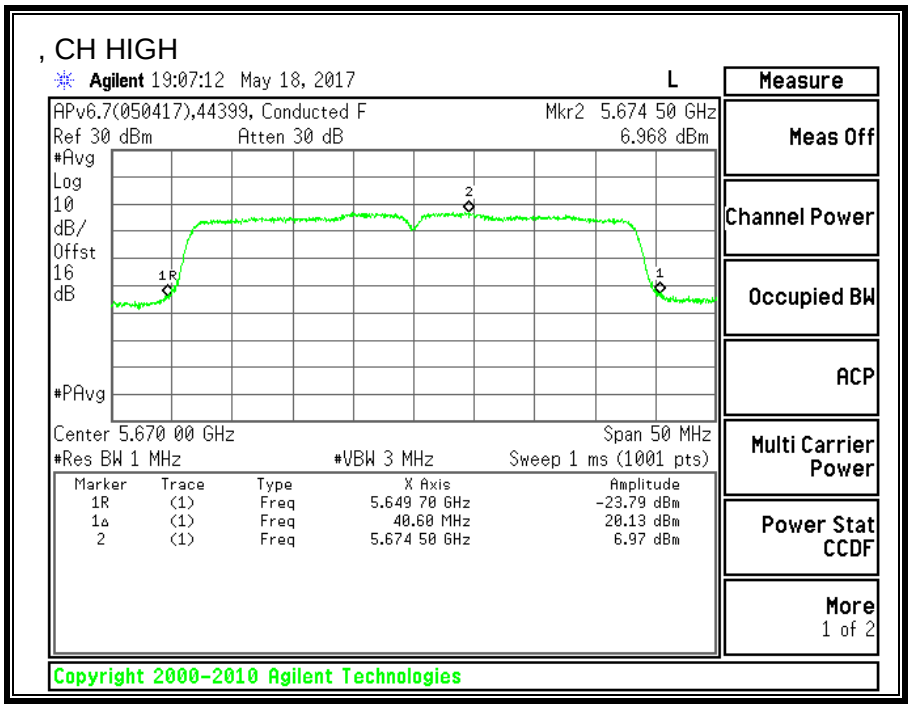
Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5510	6.94	7.04	11.00	-3.96
Mid	5550	7.06	7.16	11.00	-3.84
High	5670	6.97	7.07	11.00	-3.93

, CH LOW



, CH MID





8.23.5. 11ac HT40 LAT 3 SISO STRADDLE CHANNEL 142

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

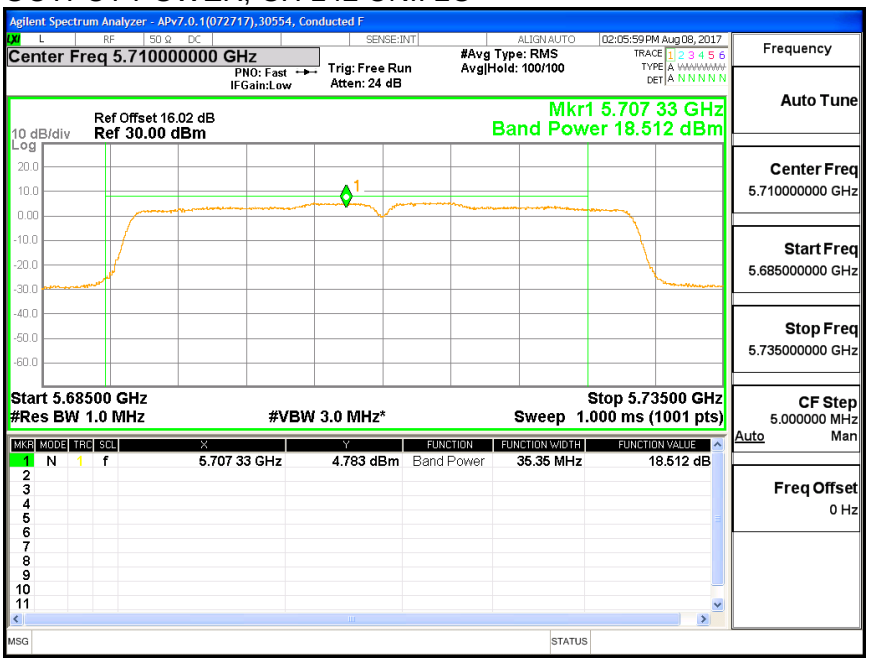
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	18.51	18.61	24.00	-5.39

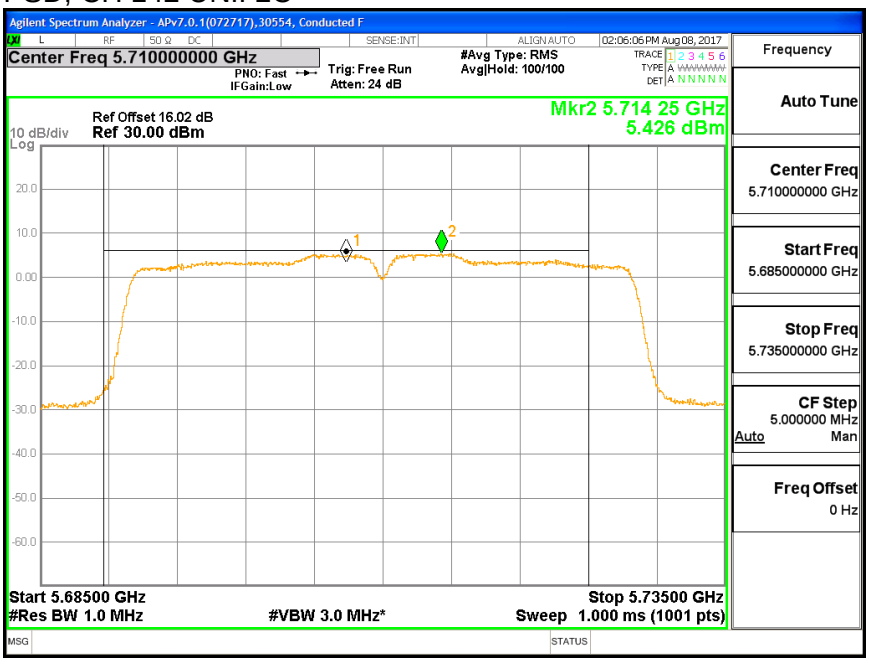
PSD Results

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

	(MHz)	26 dB BW (MHz)	Gain (dBi)	Limit (dBm)	Limit (dBm)
142	5710	40.70	-6.89	30.00	30.00

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

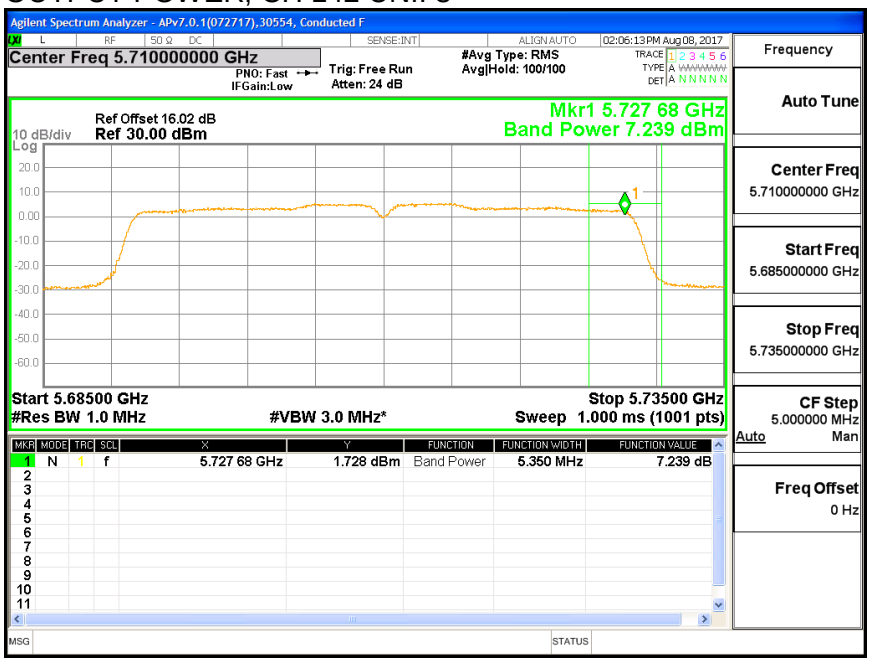
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.24	7.34	30.00	-22.66

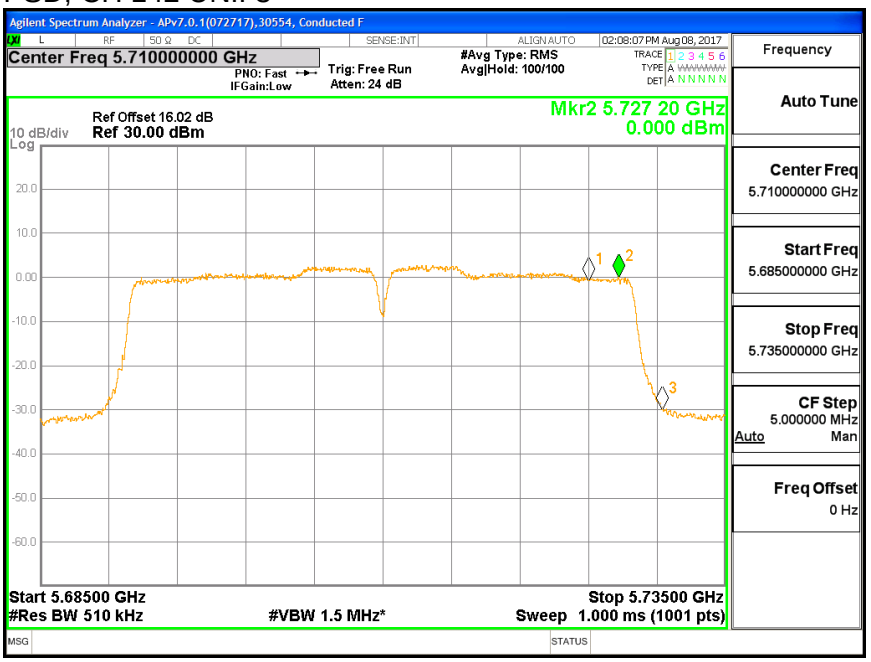
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.00	0.10	30.00	-29.90

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.23.6. 6 dB BANDWIDTH

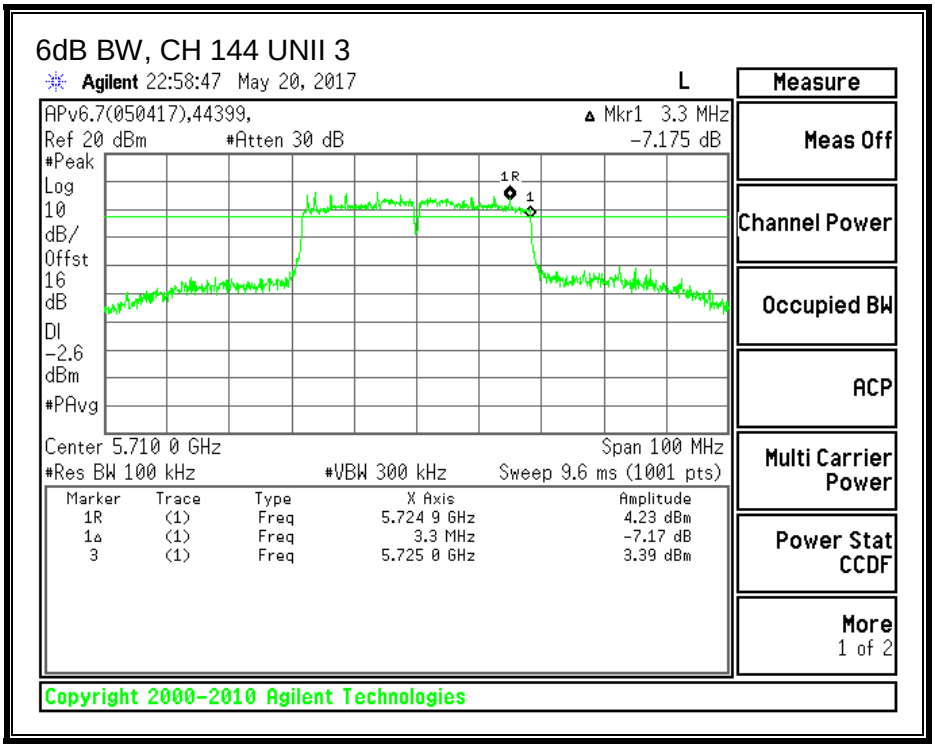
LIMITS

FCC §15.407 (e)

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

RESULTS

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



8.24. 11n HT40 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.24.1. 26 dB BANDWIDTH

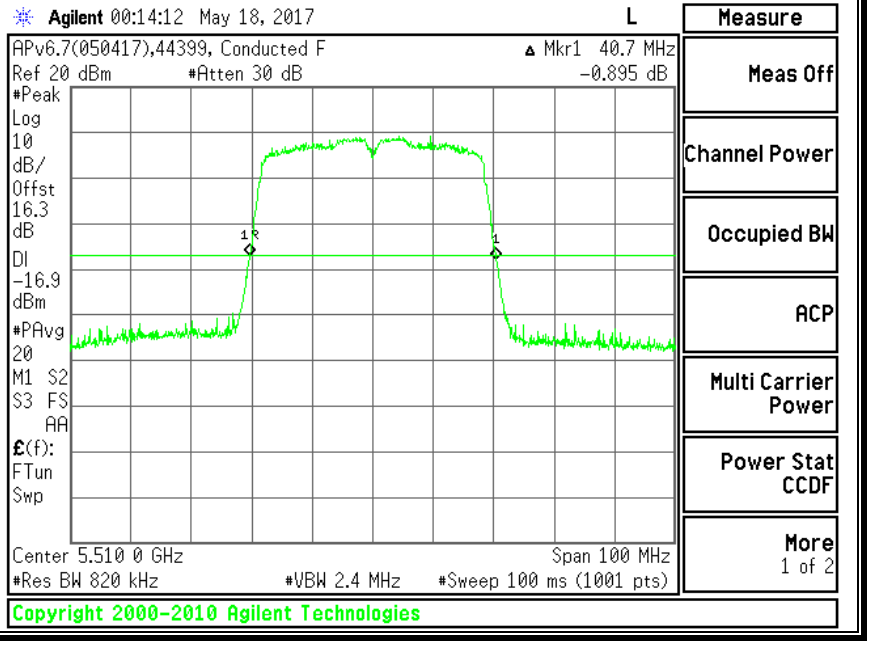
LIMITS

None; for reporting purposes only.

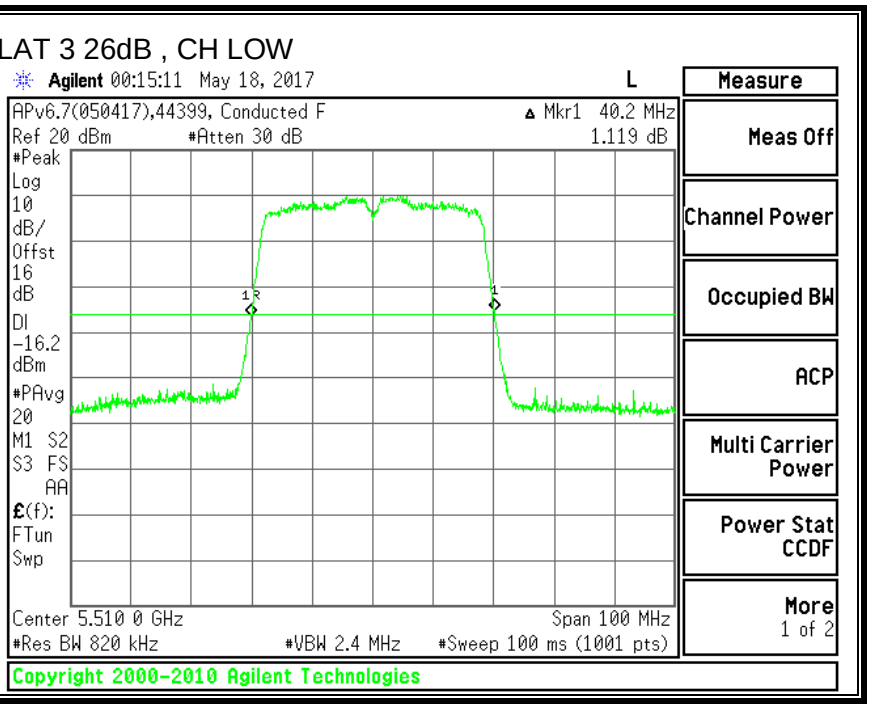
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5510	40.7	40.2
Mid	5550	40.9	40.2
High	5670	40.6	40.1
142	5710	40.8	40.2

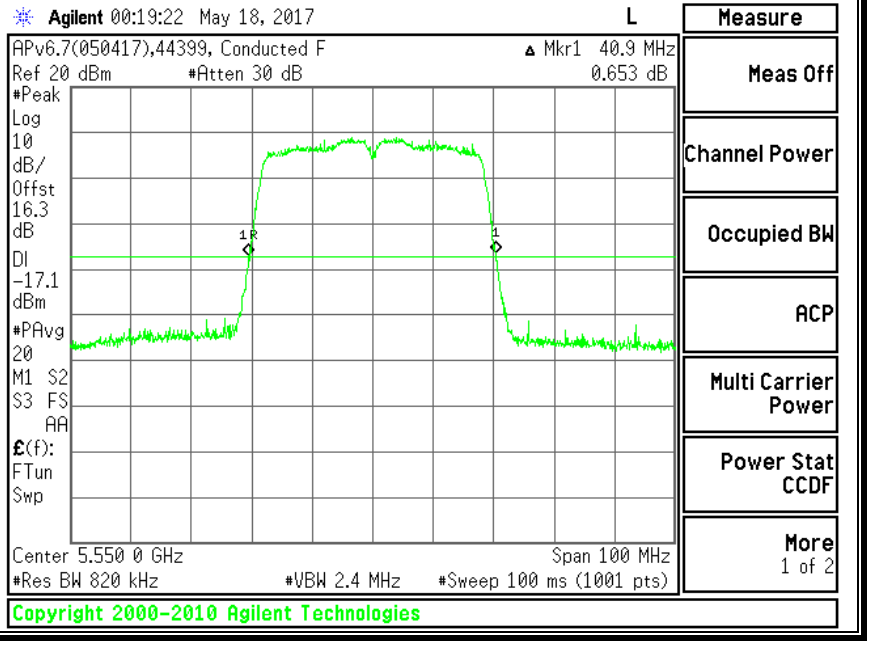
UAT 2 26dB , CH LOW



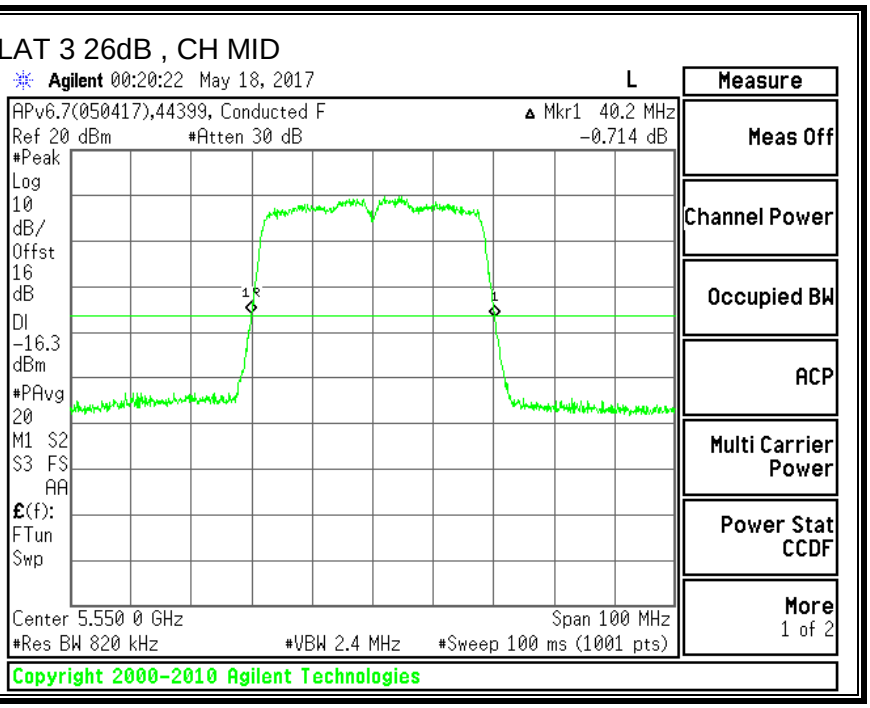
LAT 3 26dB , CH LOW



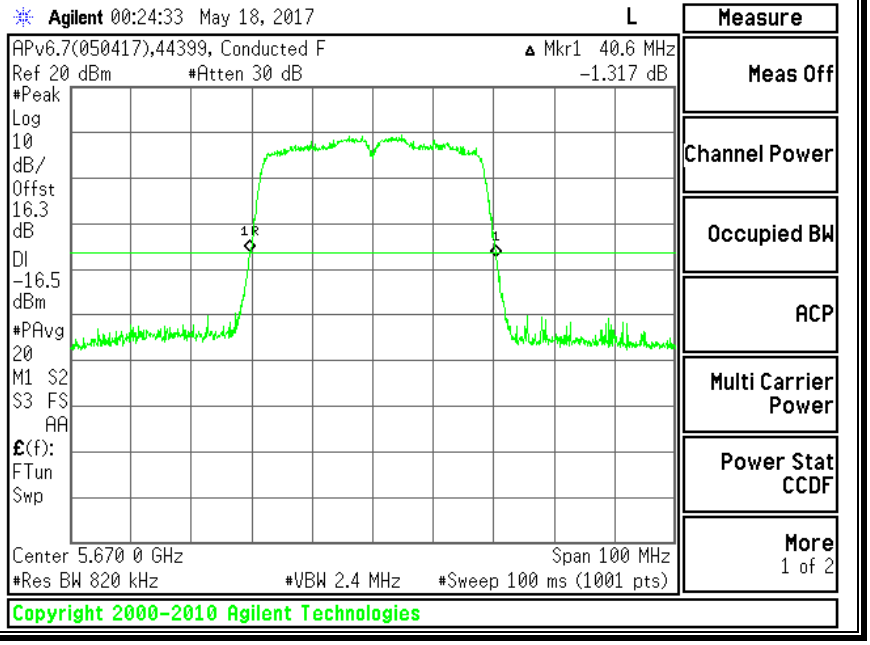
UAT 2 26dB , CH MID



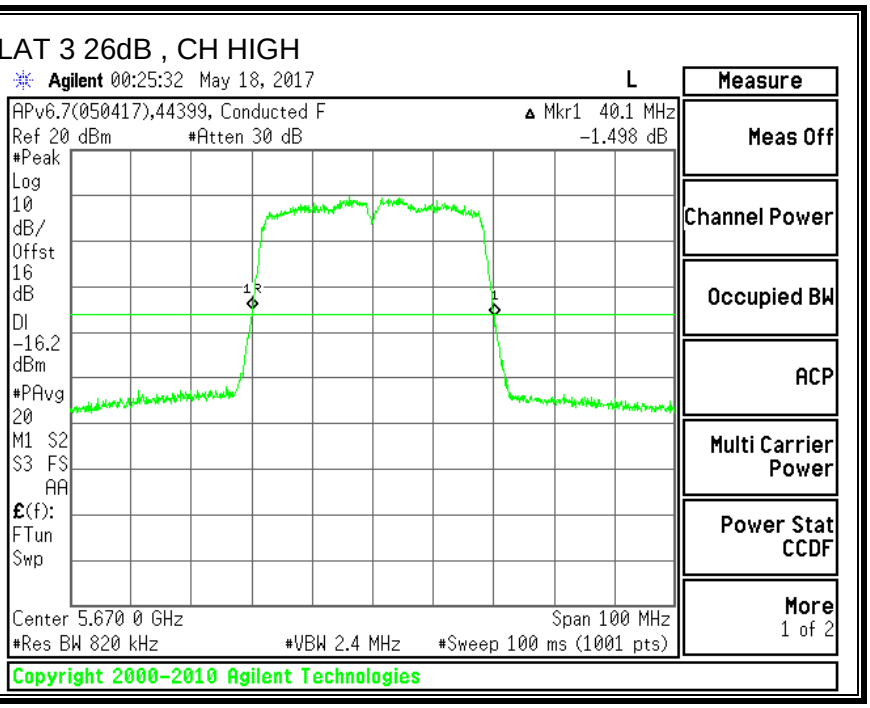
LAT 3 26dB , CH MID



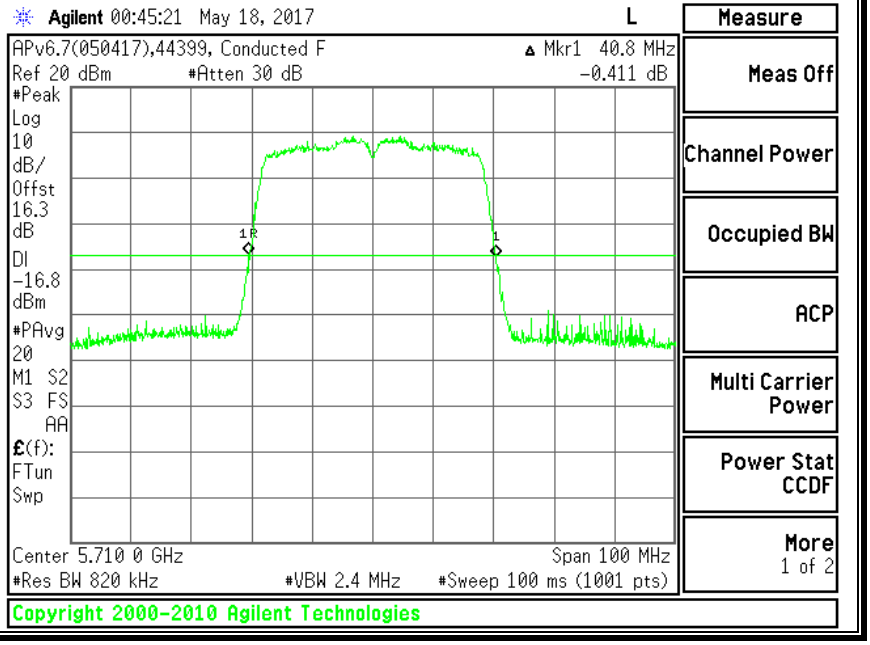
UAT 2 26dB , CH HIGH



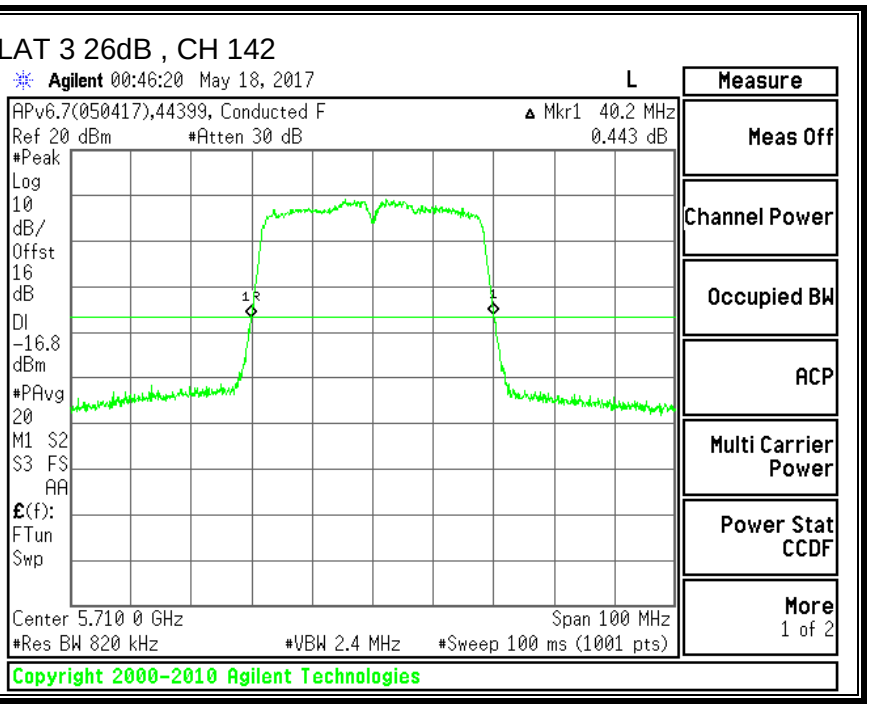
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 142



LAT 3 26dB , CH 142



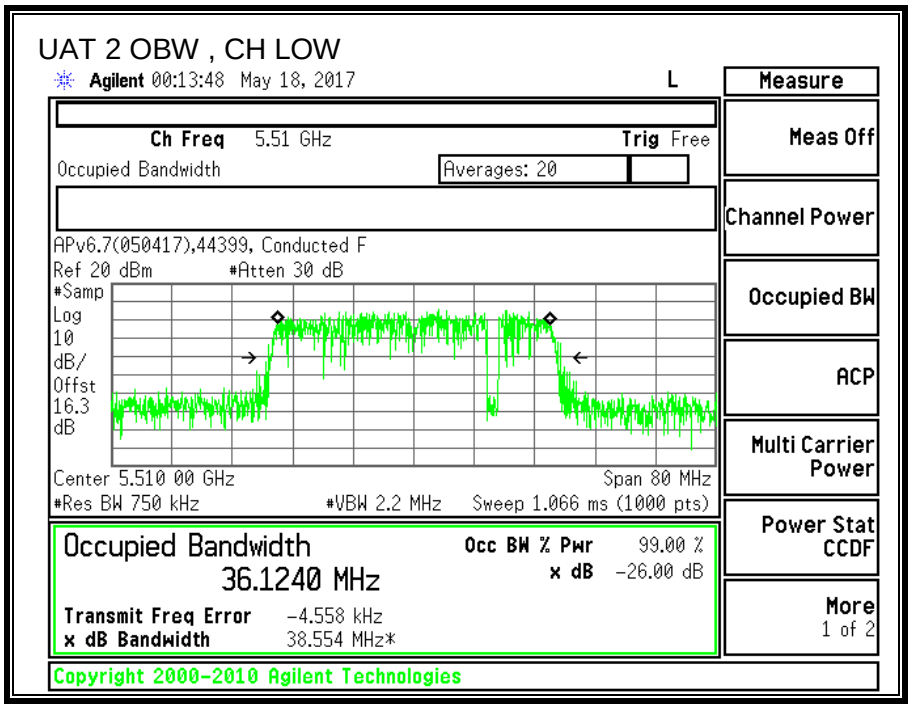
8.24.2. 99% BANDWIDTH

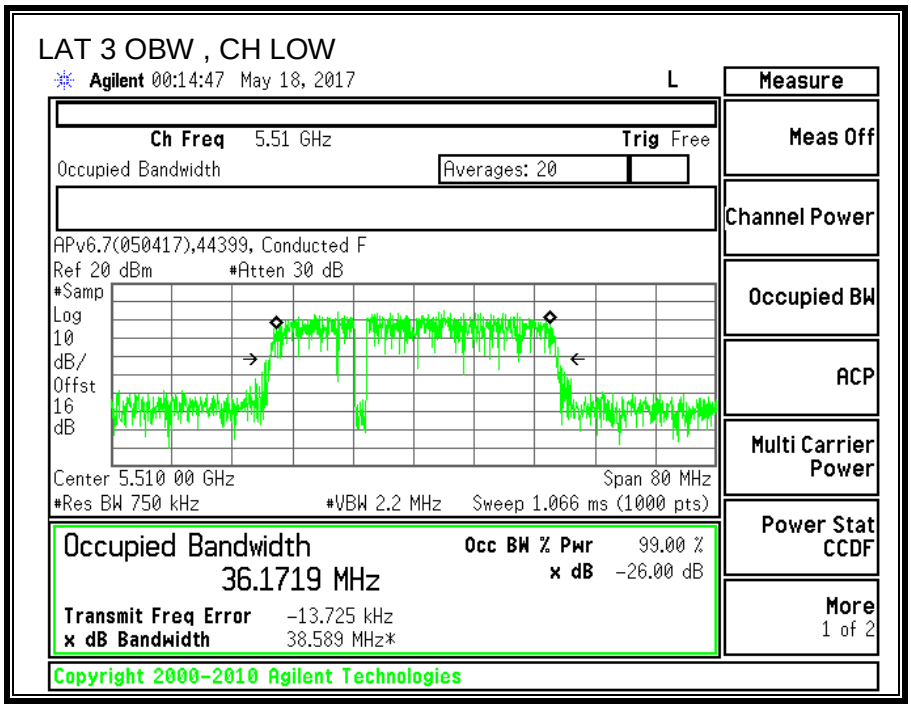
LIMITS

None; for reporting purposes only.

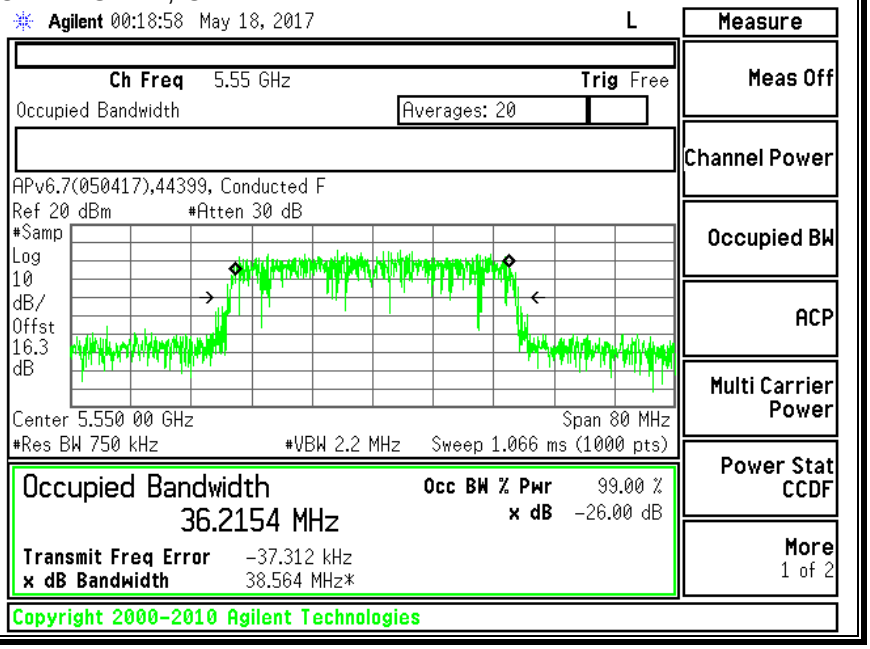
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5510	36.1240	36.1719
Mid	5550	36.2154	36.0110
High	5670	36.1193	36.1079
142	5710	36.2167	36.1590

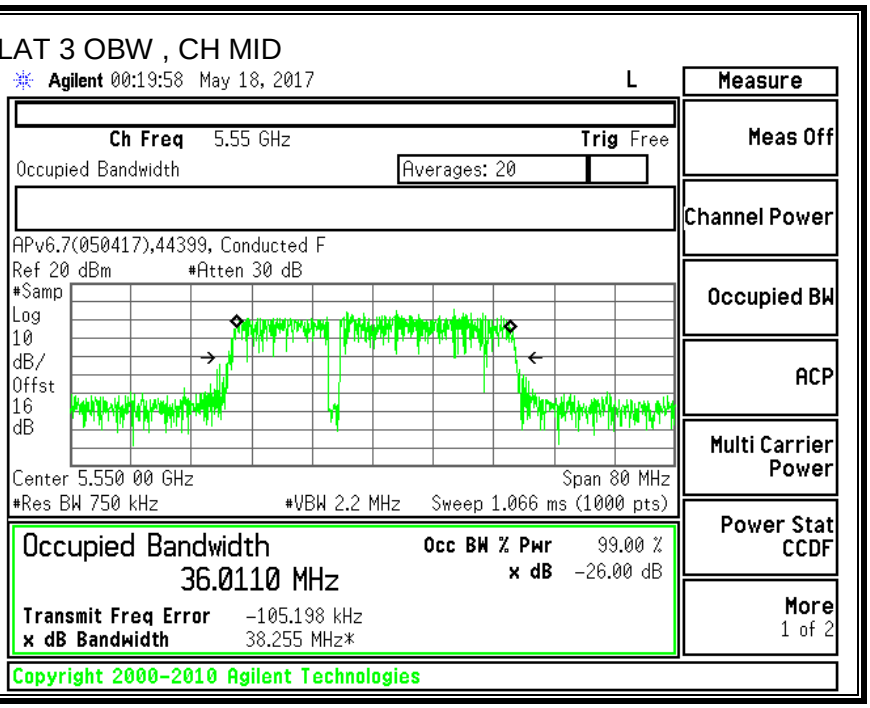




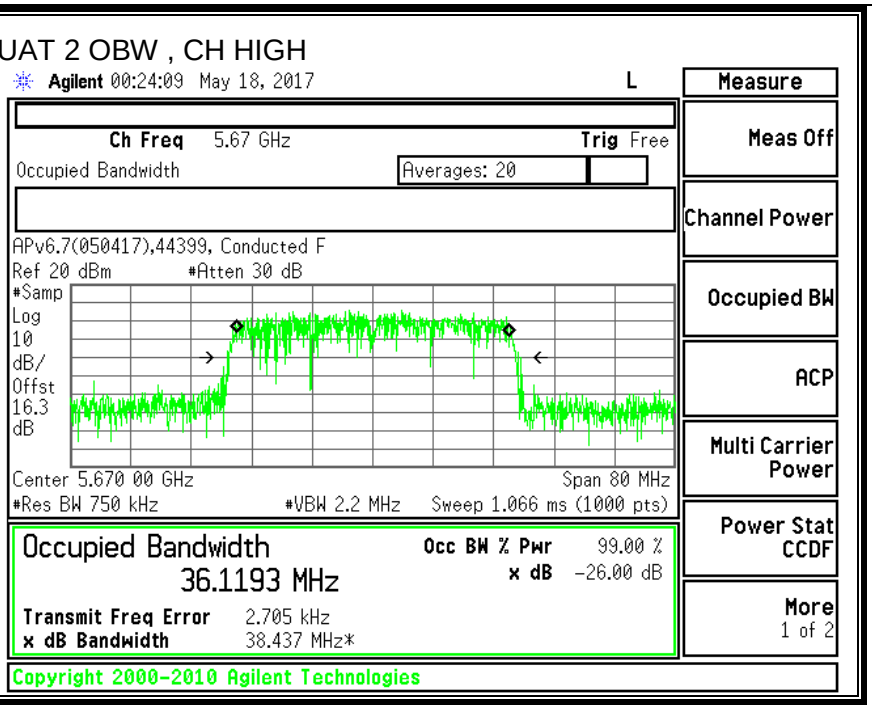
UAT 2 OBW , CH MID



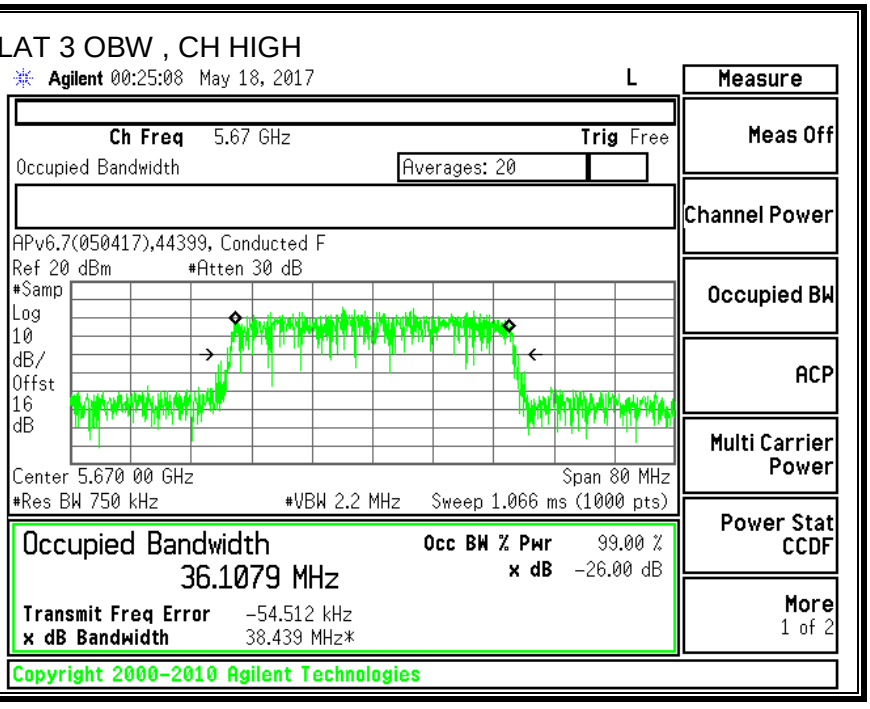
LAT 3 OBW , CH MID

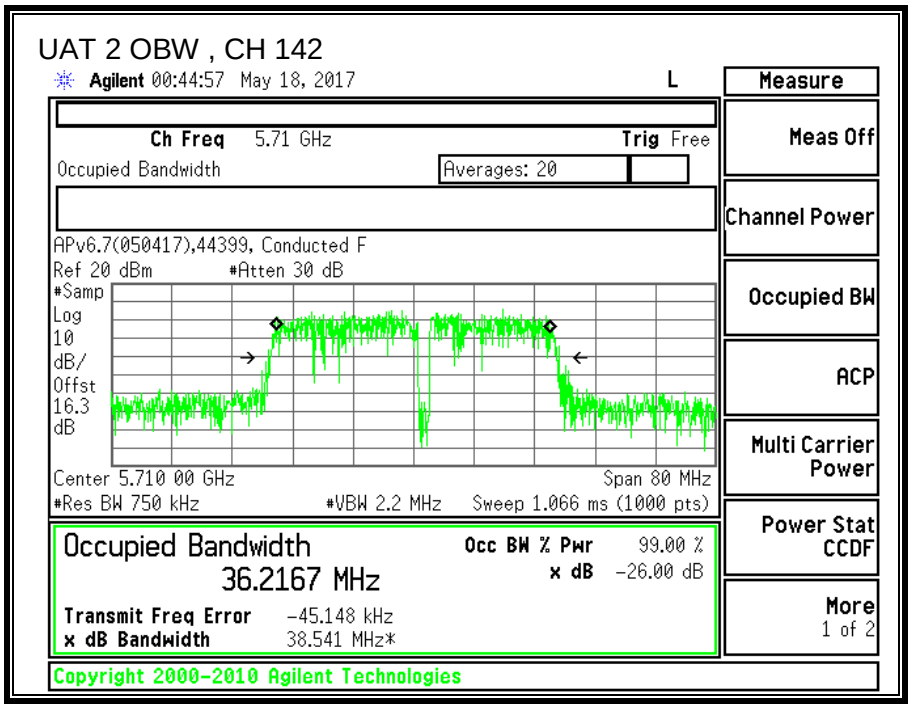


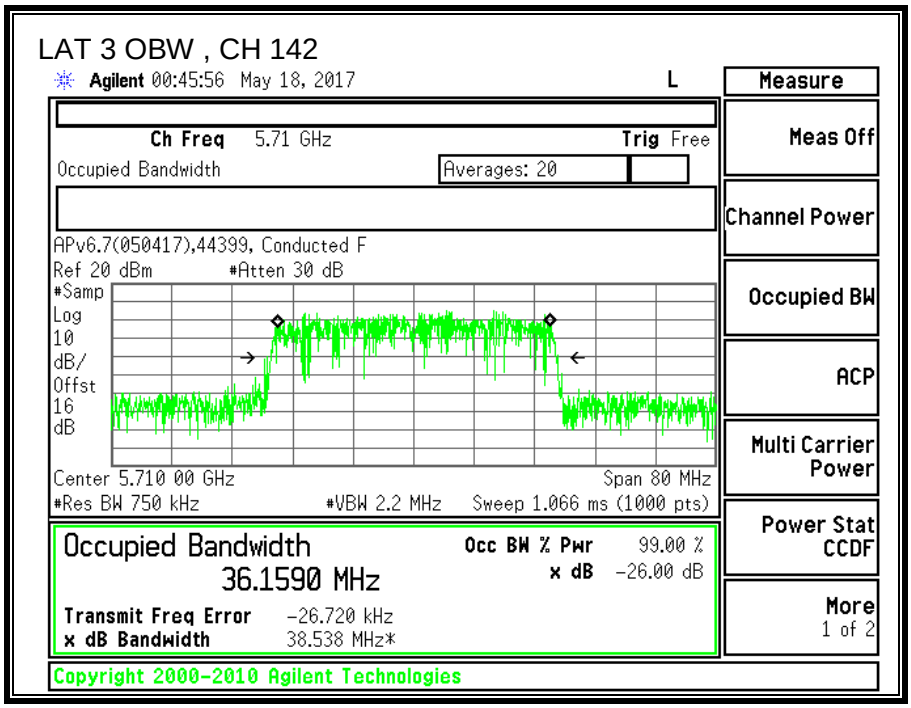
UAT 2 OBW , CH HIGH



LAT 3 OBW , CH HIGH







8.24.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5510	16.91	16.75	19.84
Mid	5550	19.34	19.25	22.31
High	5670	19.36	19.17	22.28
142	5710	19.48	19.26	22.38

8.24.4. 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.

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	36.1719	-4.36	-1.58	24.00	11.00
Mid	5550	40.20	36.011	-4.36	-1.58	24.00	11.00
High	5670	40.10	36.1079	-4.36	-1.58	24.00	11.00

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

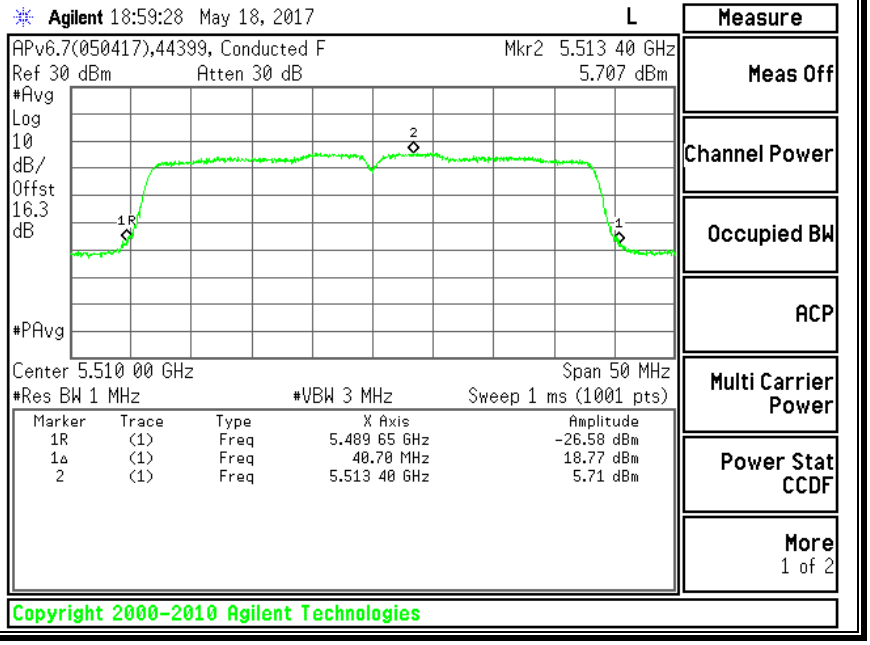
Output Power Results

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	16.91	16.75	19.84	24.00	-4.16
Mid	5550	19.34	19.25	22.31	24.00	-1.69
High	5670	19.36	19.17	22.28	24.00	-1.72

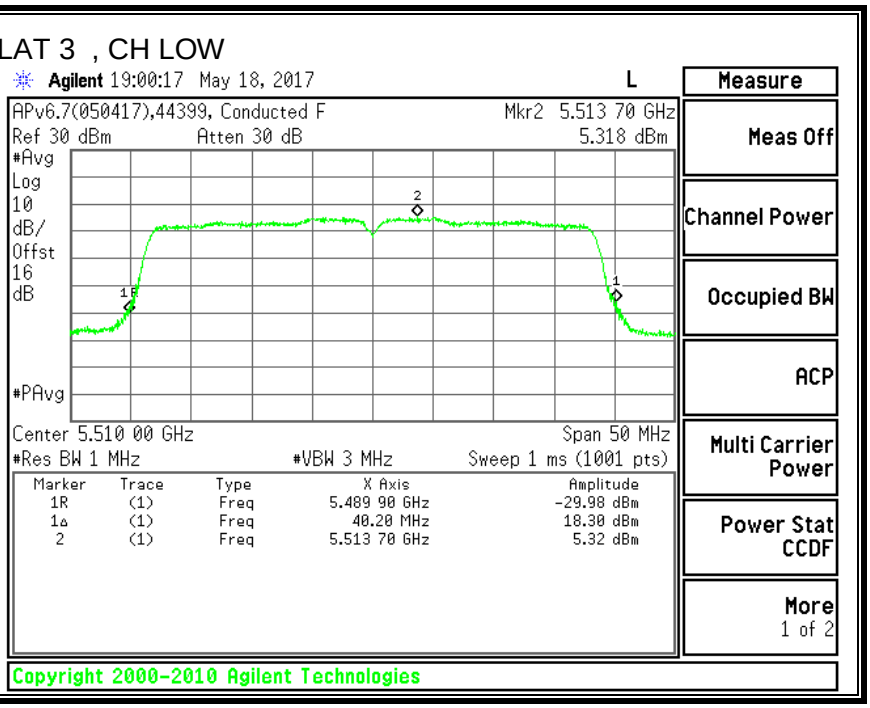
PSD Results

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	5.707	5.318	8.63	11.00	-2.37
Mid	5550	5.586	5.272	8.54	11.00	-2.46
High	5670	5.548	5.113	8.45	11.00	-2.55

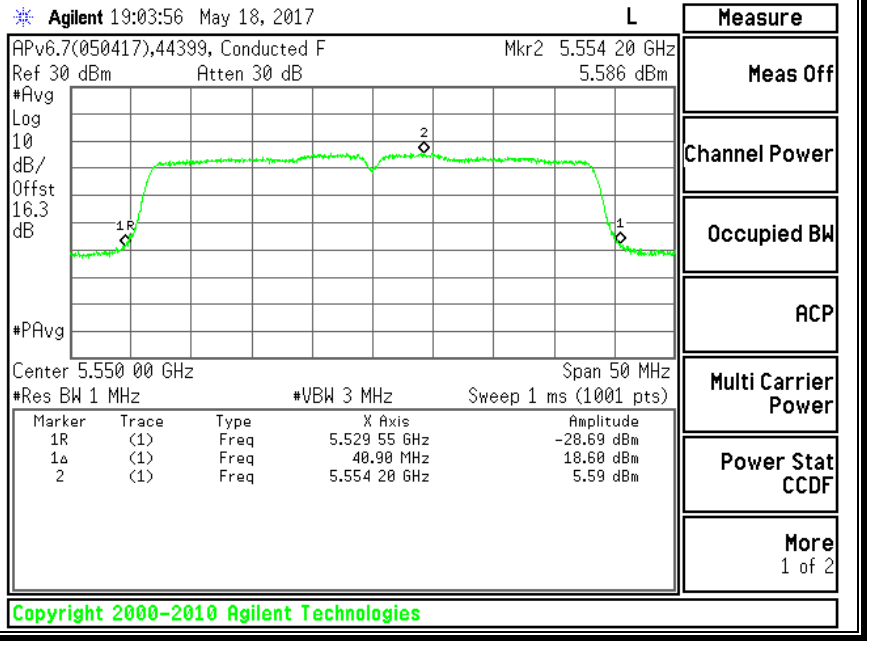
UAT 2 , CH LOW



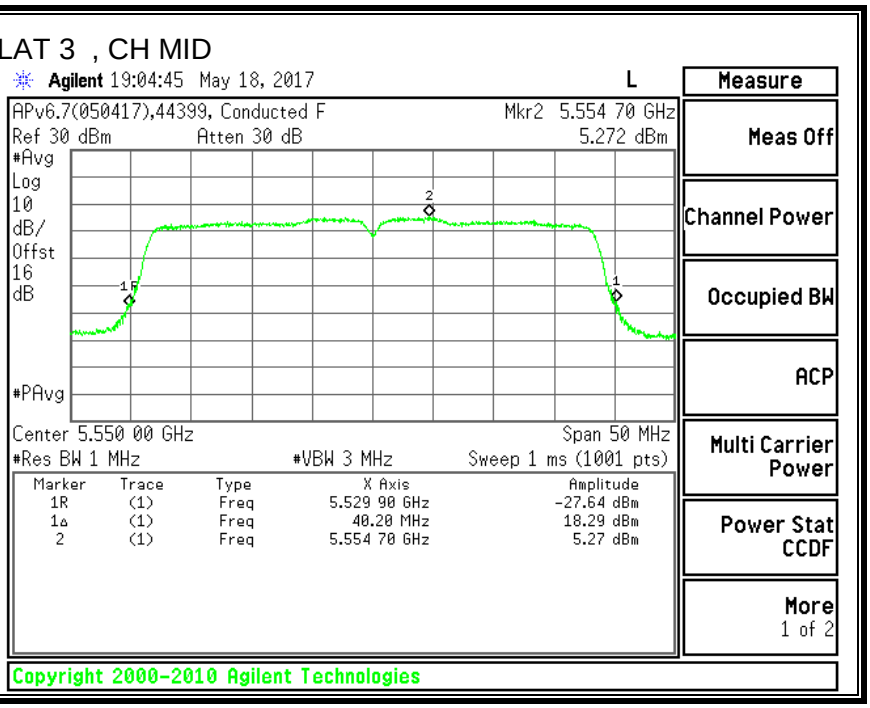
LAT 3 , CH LOW



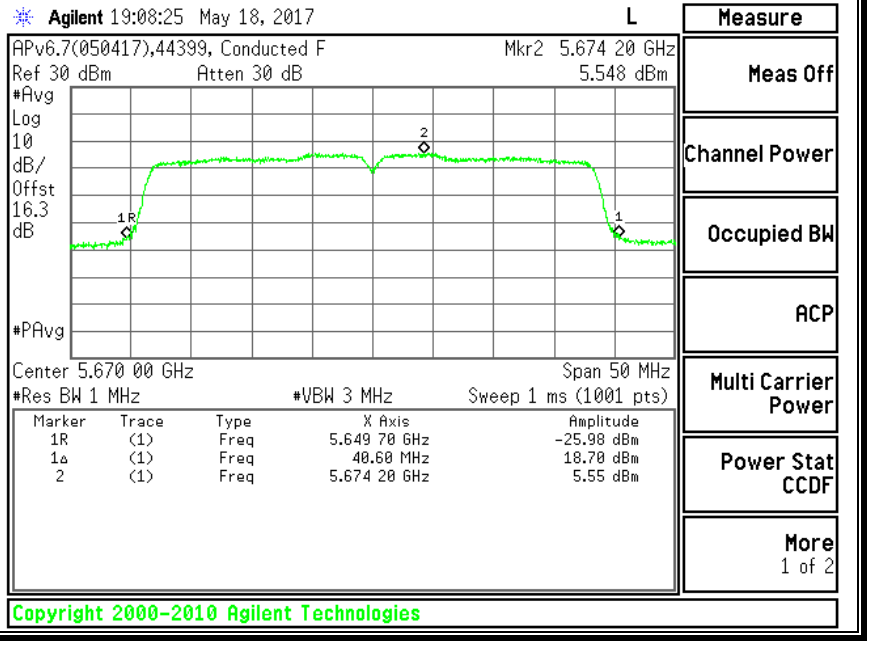
UAT 2 , CH MID



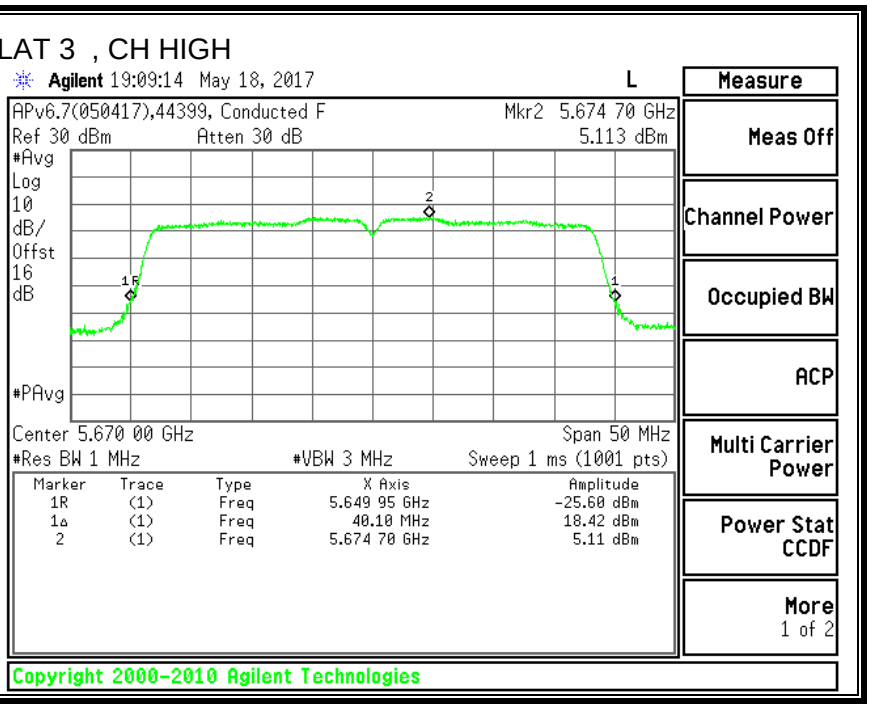
LAT 3 , CH MID



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.24.5. 11ac HT40 2TX CDD MIMO STRADDLE CHANNEL 142

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	40.20	-4.36	-1.58	24.00	11.00

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

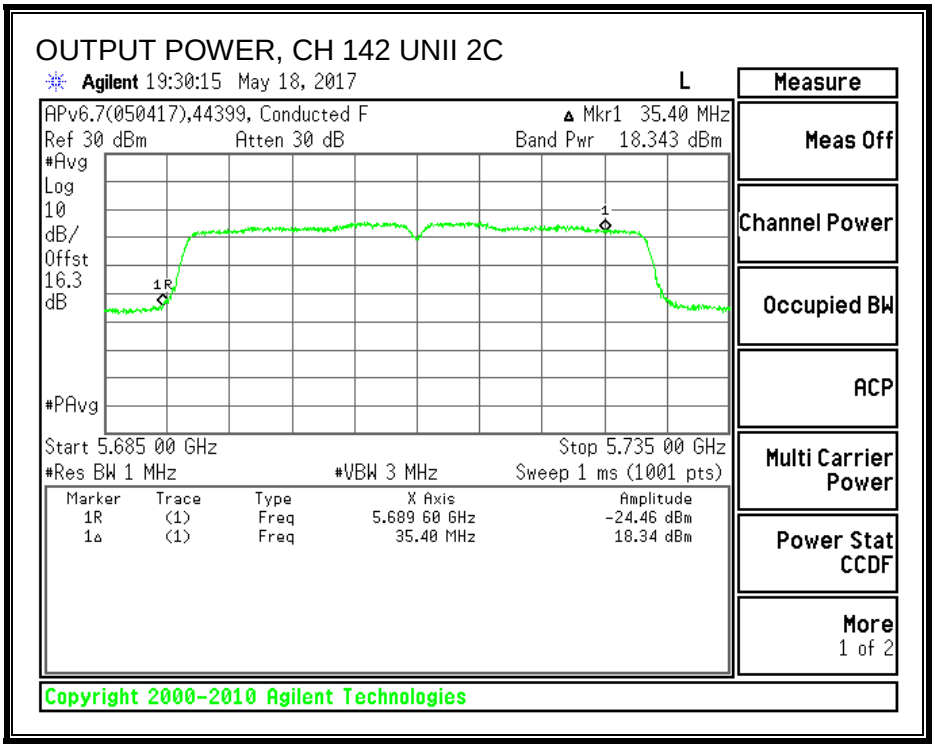
Output Power Results

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	18.34	17.62	21.11	24.00	-2.89

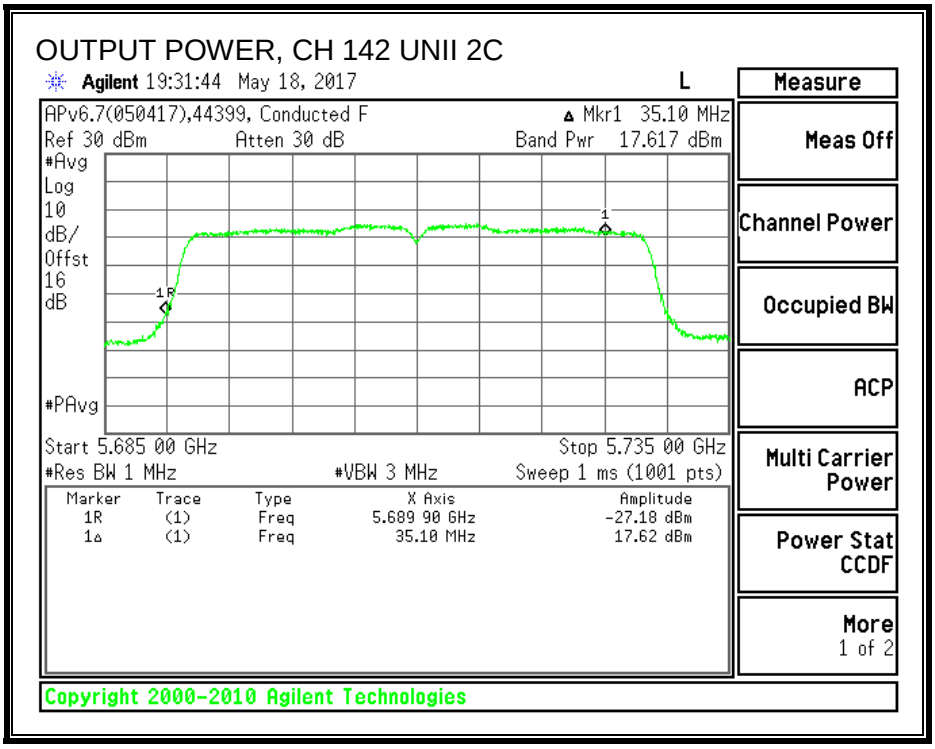
PSD Results

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	5.63	5.04	8.45	11.00	-2.55

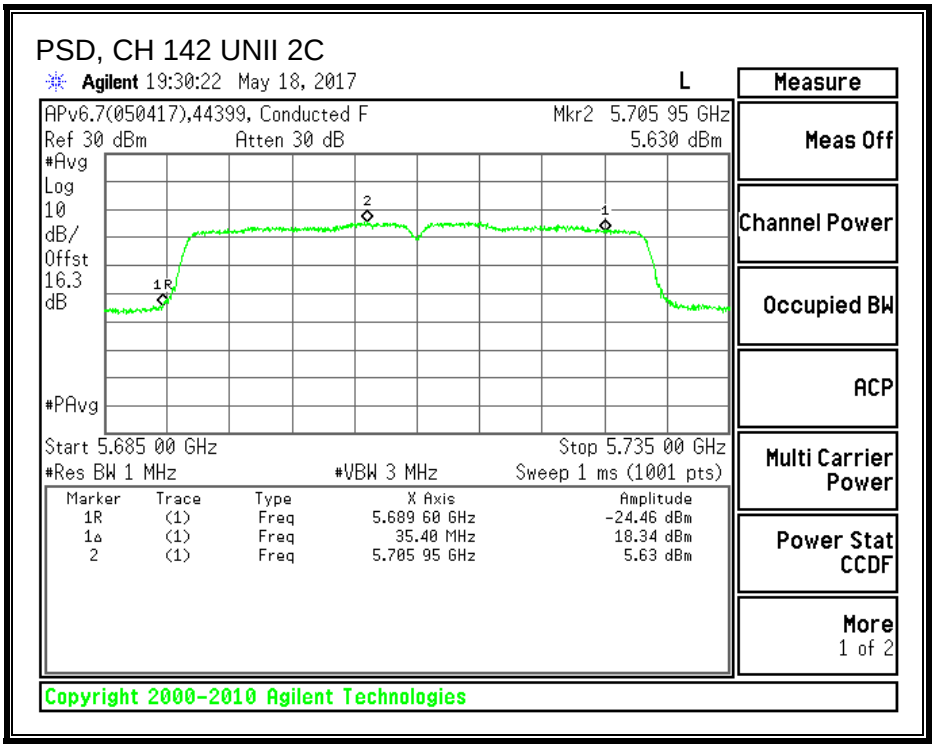
OUTPUT POWER, UAT 2



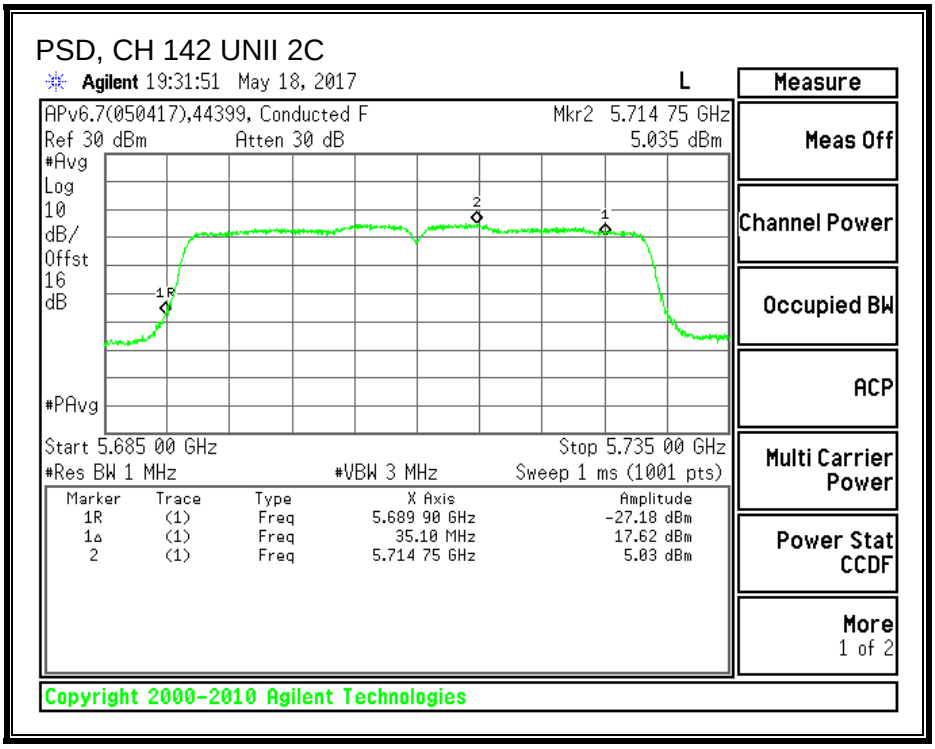
OUTPUT POWER, LAT 3



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	40.20	-4.73	-1.82	30.00	30.00

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

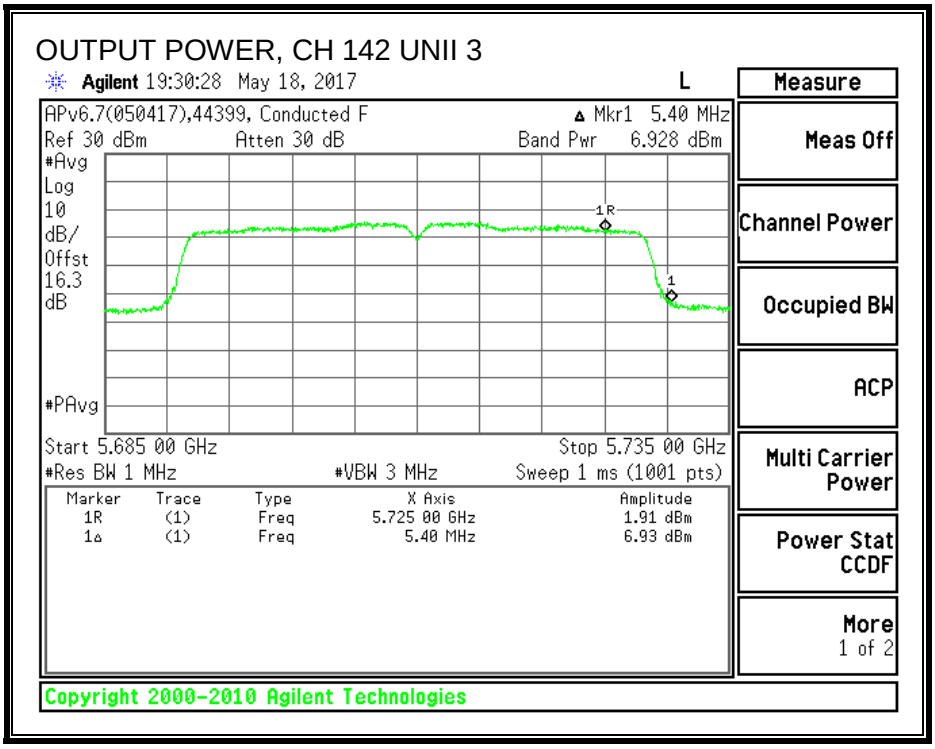
Output Power Results

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	6.93	6.36	9.76	30.00	-20.24

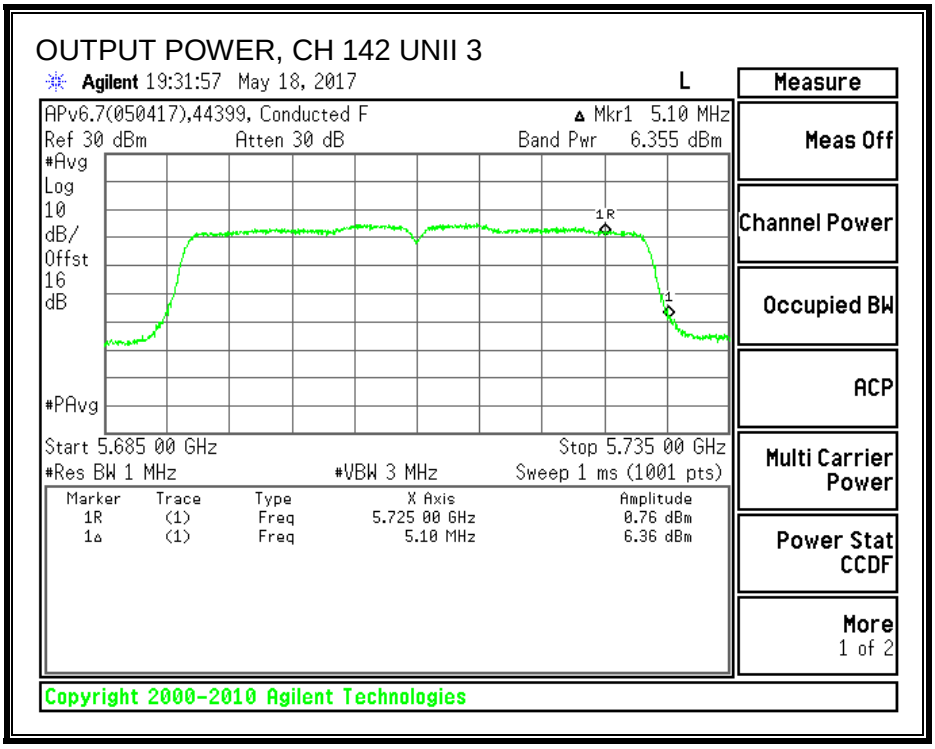
PSD Results

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	0.38	-0.72	2.98	30.00	-27.02

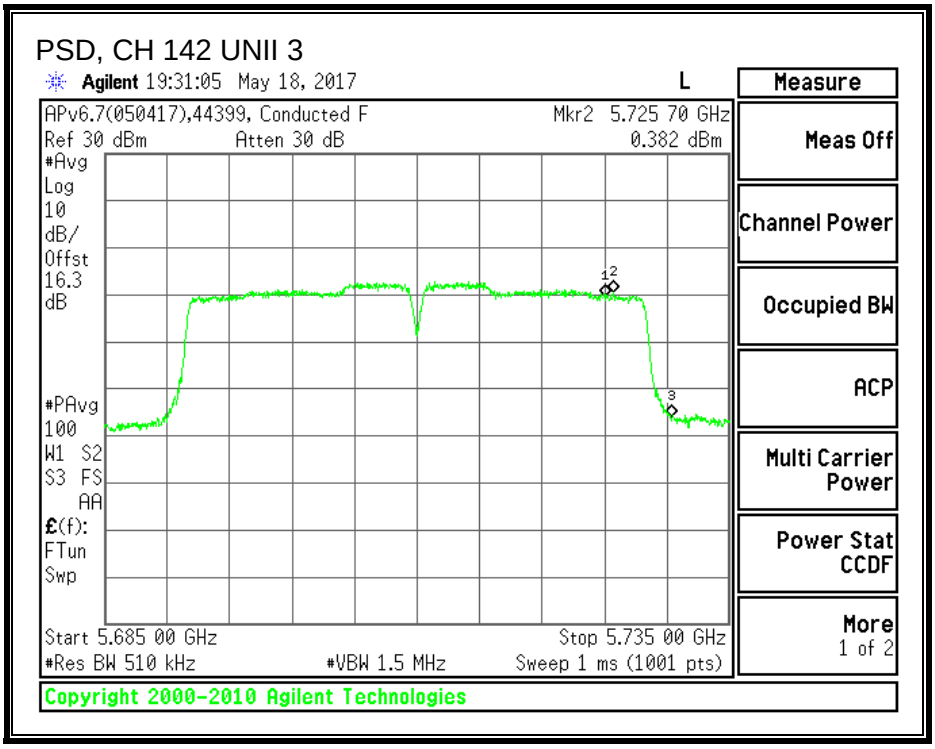
OUTPUT POWER, UAT 2



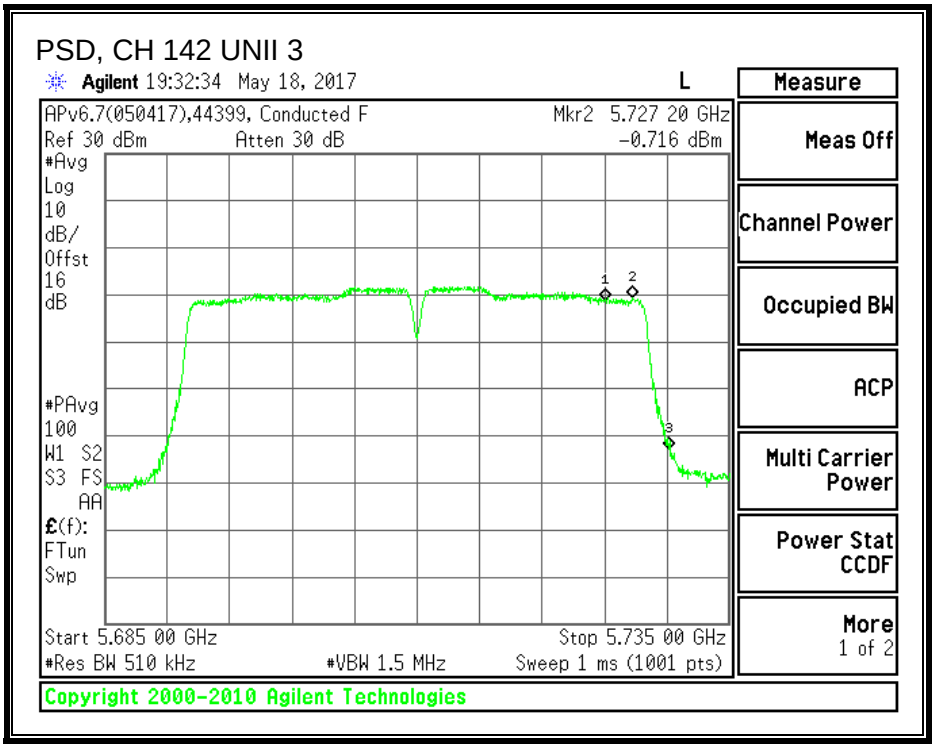
OUTPUT POWER, LAT 3



PSD, UAT 2



PSD, LAT 3



8.24.6. 6 dB BANDWIDTH

LIMITS

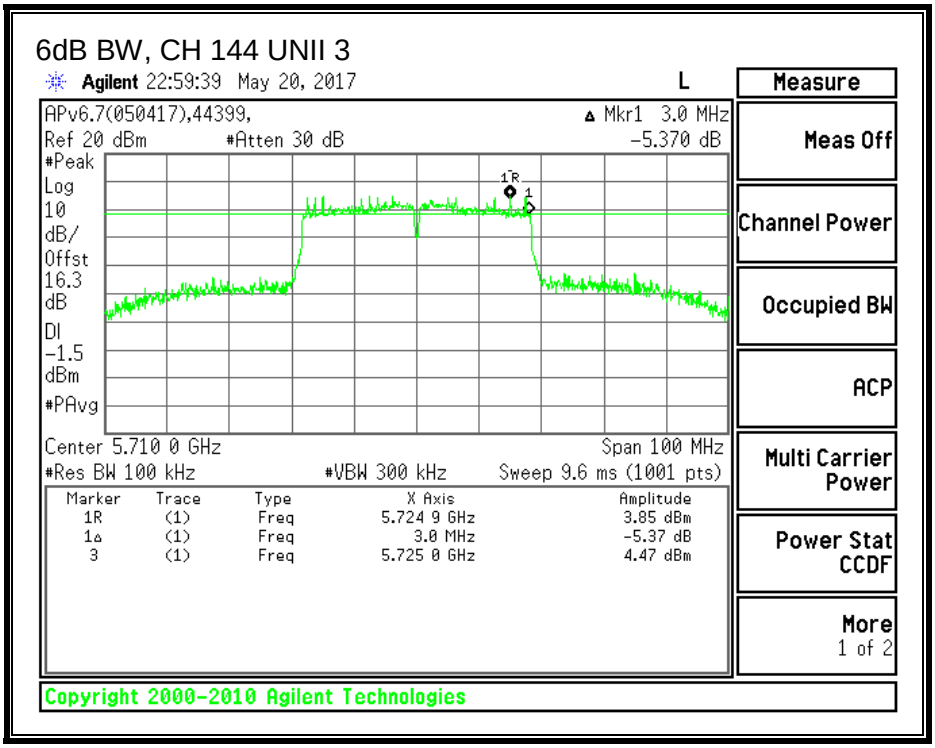
FCC §15.407 (e)

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

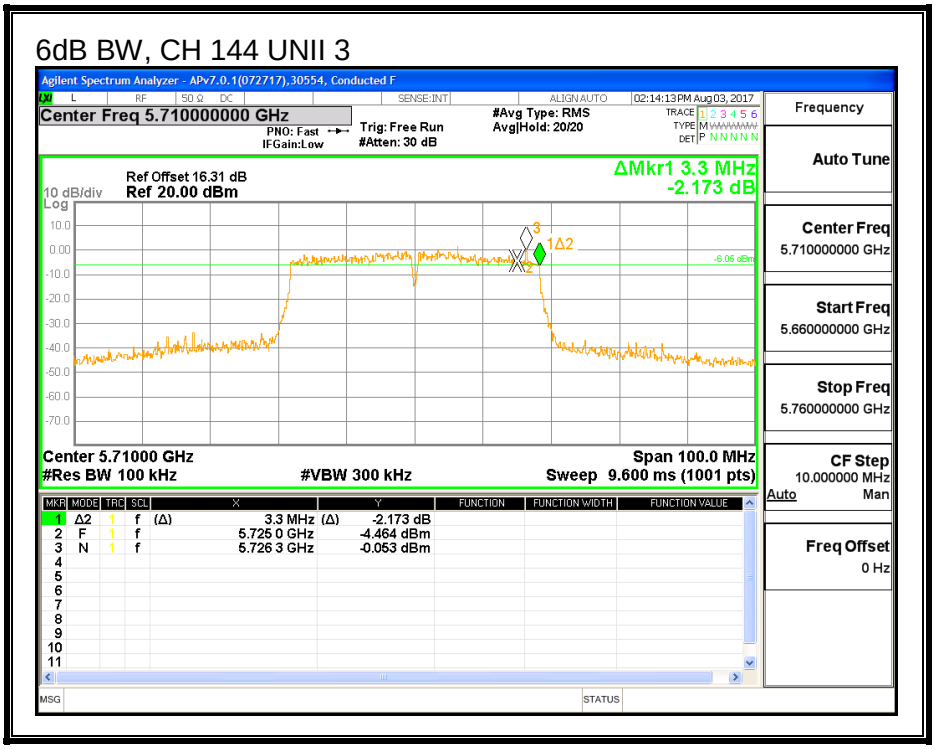
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
142	5710	3.00	3.30

UAT 2



LAT 3



8.25. 11ac HT80 UAT 2 SISO MODE IN THE 5.6GHz BAND

8.25.1. 26 dB BANDWIDTH

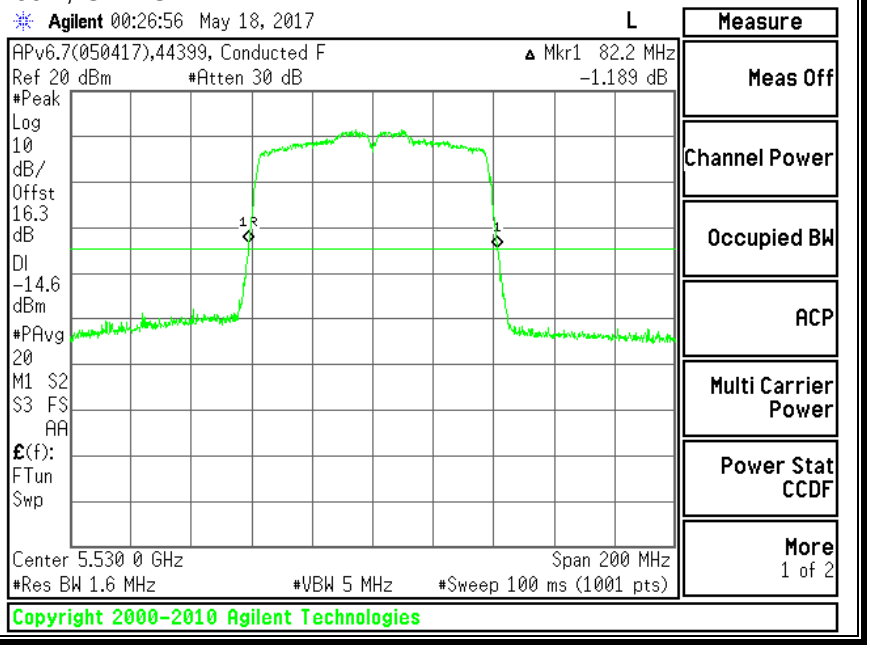
LIMITS

None; for reporting purposes only.

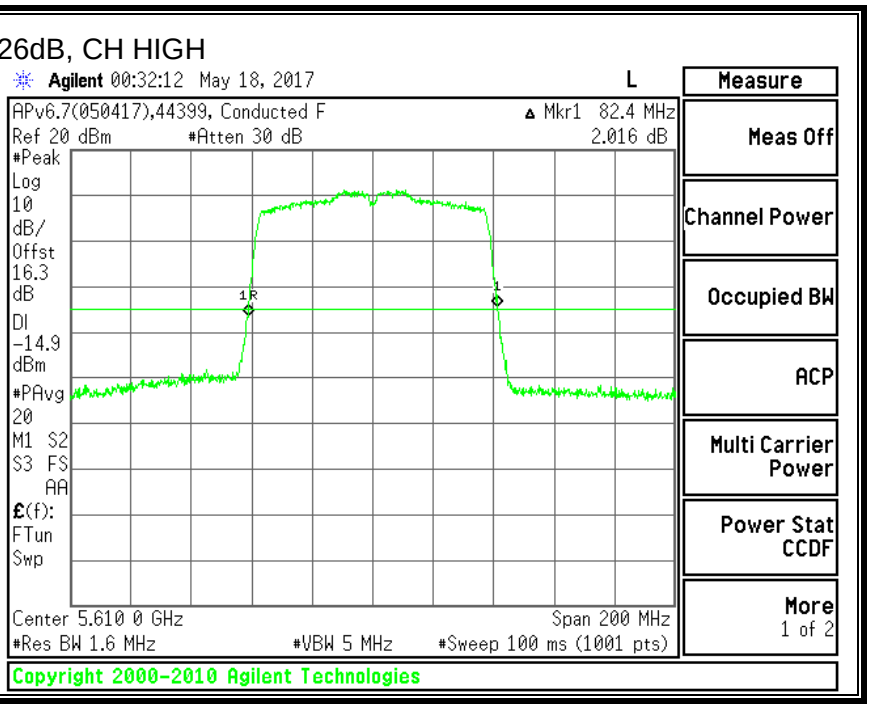
RESULTS

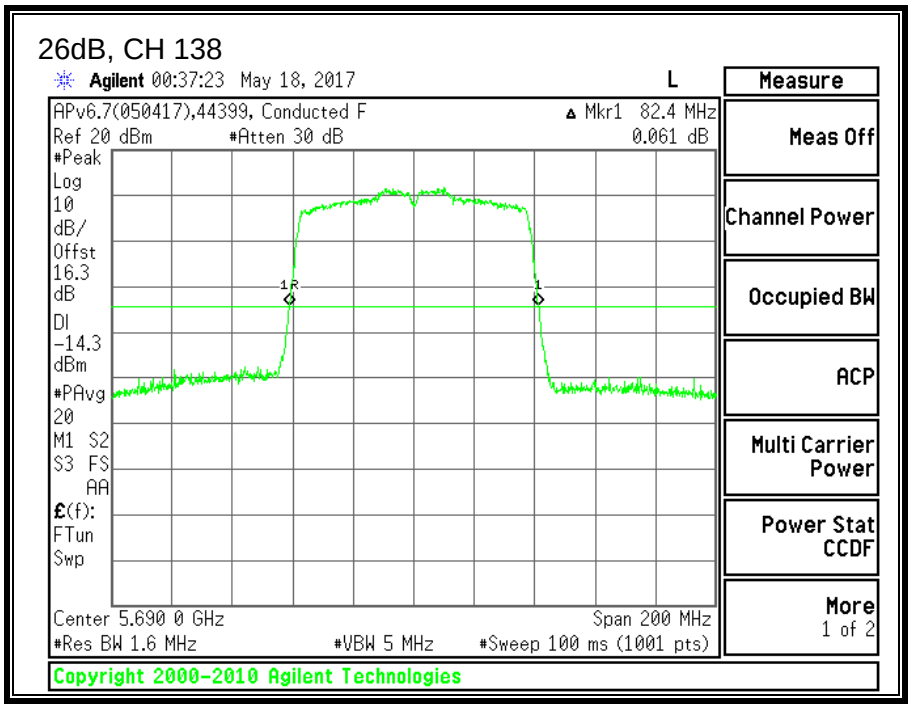
Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5530	82.2
High	5610	82.4
138	5690	82.4

26dB, CH LOW



26dB, CH HIGH





8.25.2. 99% BANDWIDTH

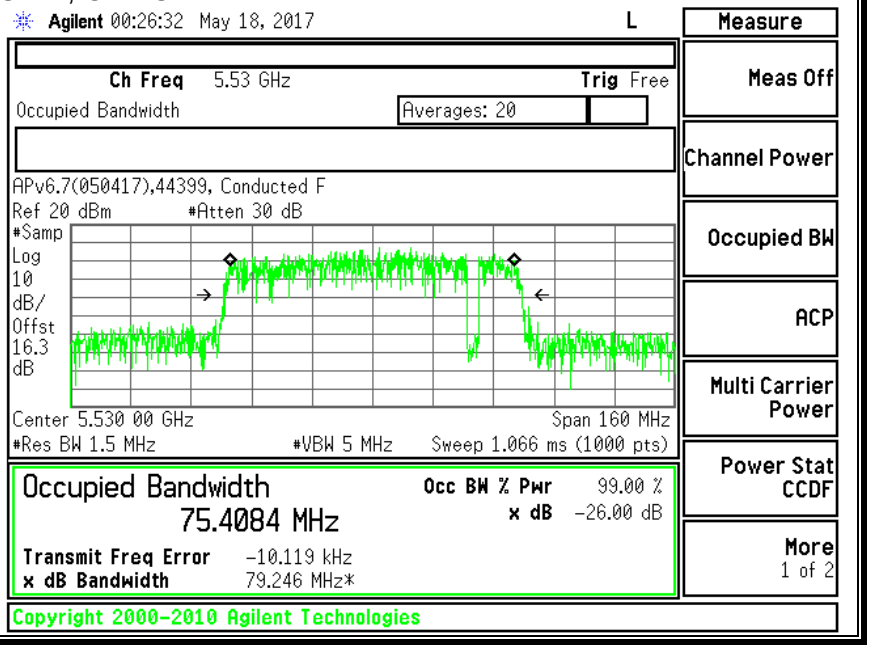
LIMITS

None; for reporting purposes only.

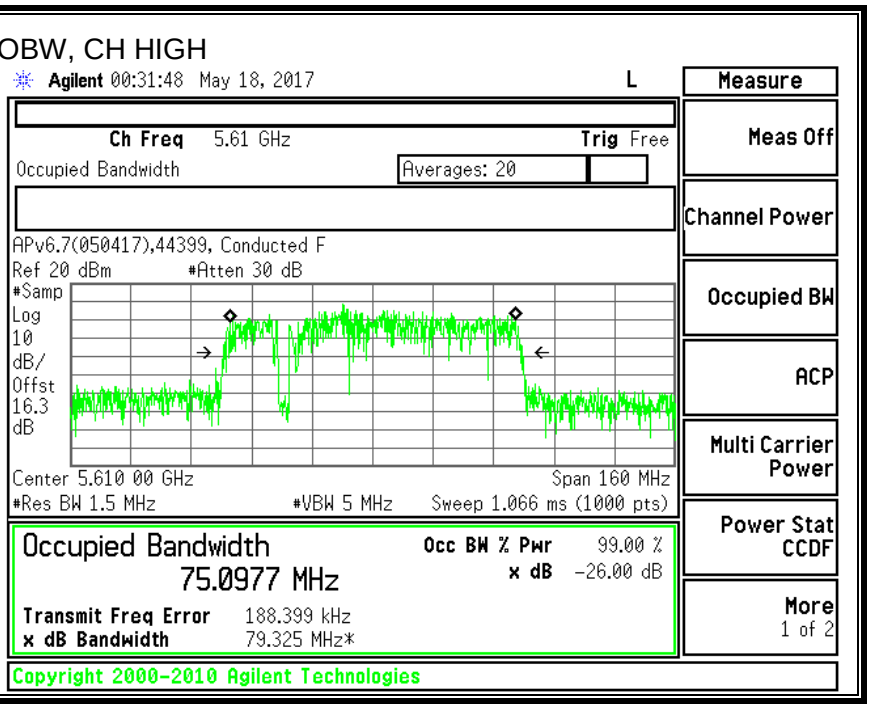
RESULTS

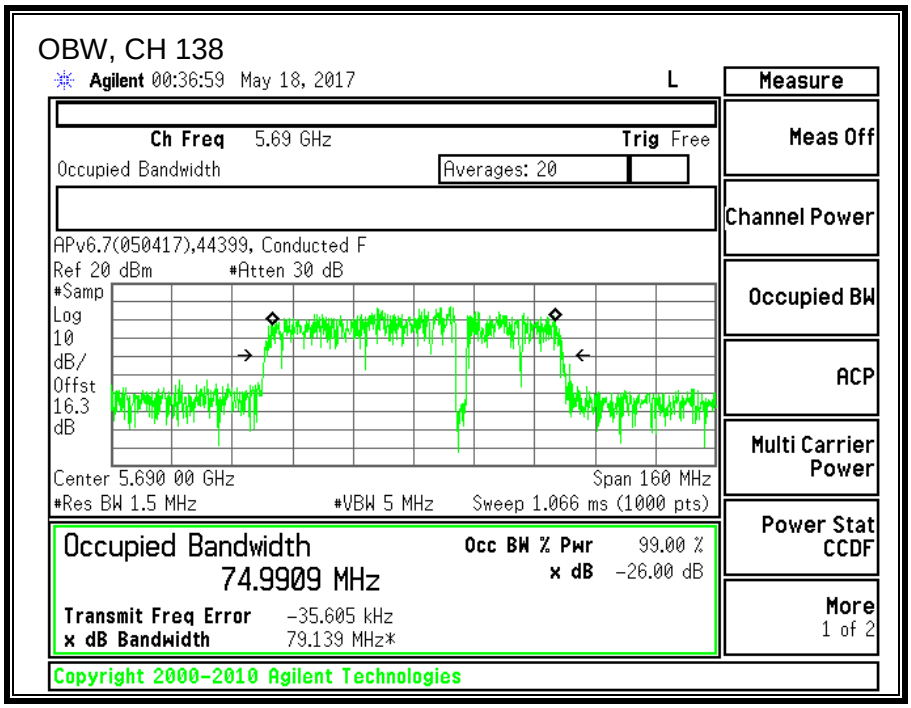
Channel	Frequency	99% BW UAT 2 (MHz)
Low	5530	75.4084
High	5610	75.0977
138	5690	74.9909

OBW, CH LOW



OBW, CH HIGH





8.25.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	17.21
High	5610	19.28
138	5690	19.34

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.

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	75.41	-2.77	24.00	11.00
High	5610	82.40	75.10	-2.77	24.00	11.00

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

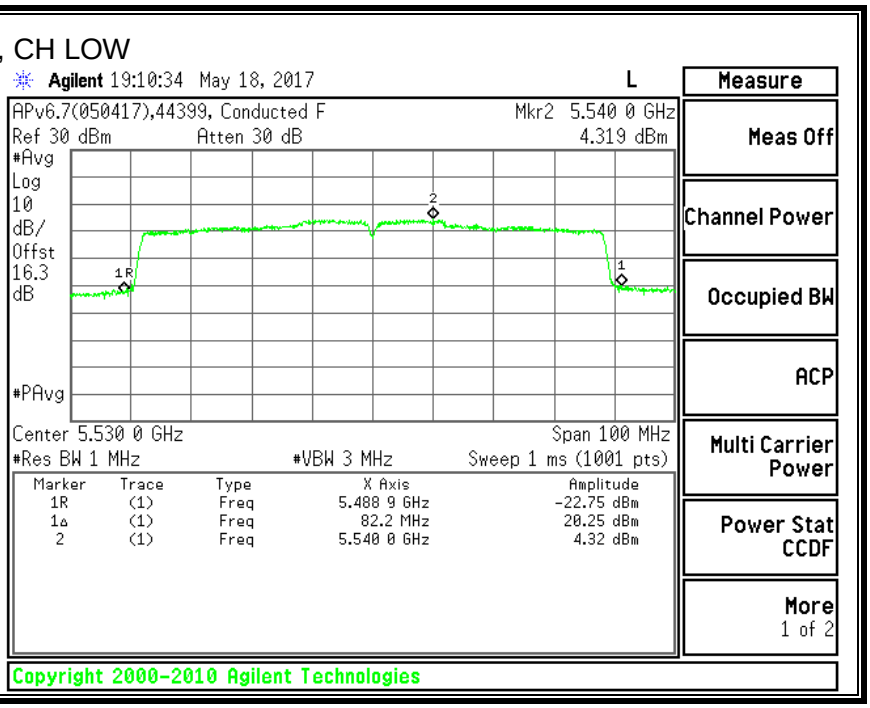
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	17.21	17.21	24.00	-6.79
High	5610	19.2	19.2	24.00	-4.80

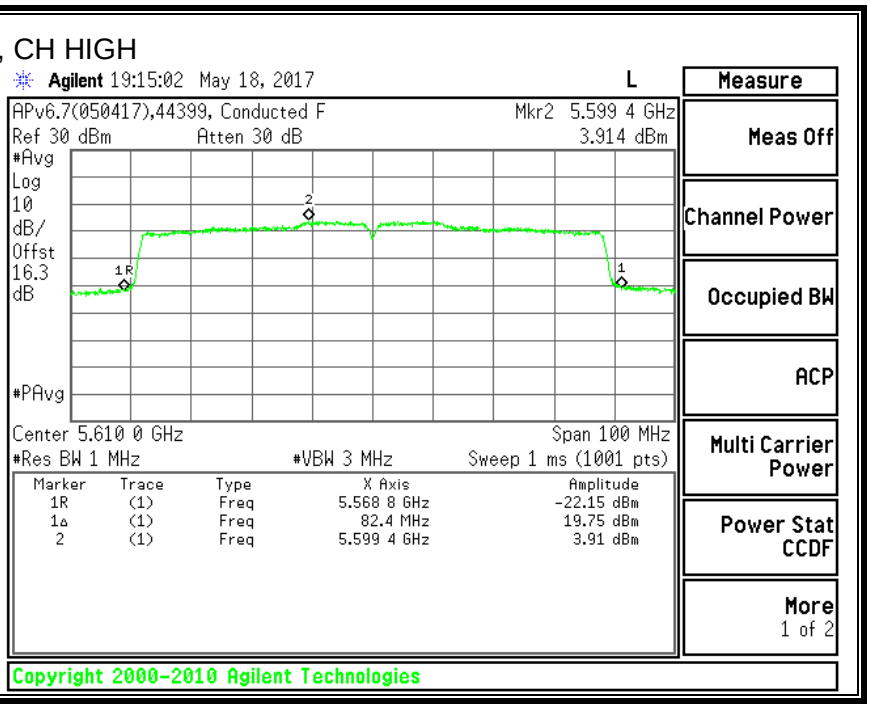
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5530	4.319	4.509	11.00	-6.49
High	5610	3.914	4.104	11.00	-6.90

, CH LOW



, CH HIGH



8.25.5. STRADDLE CHANNEL 138

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	-2.77	-2.77	24.00	11.00

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

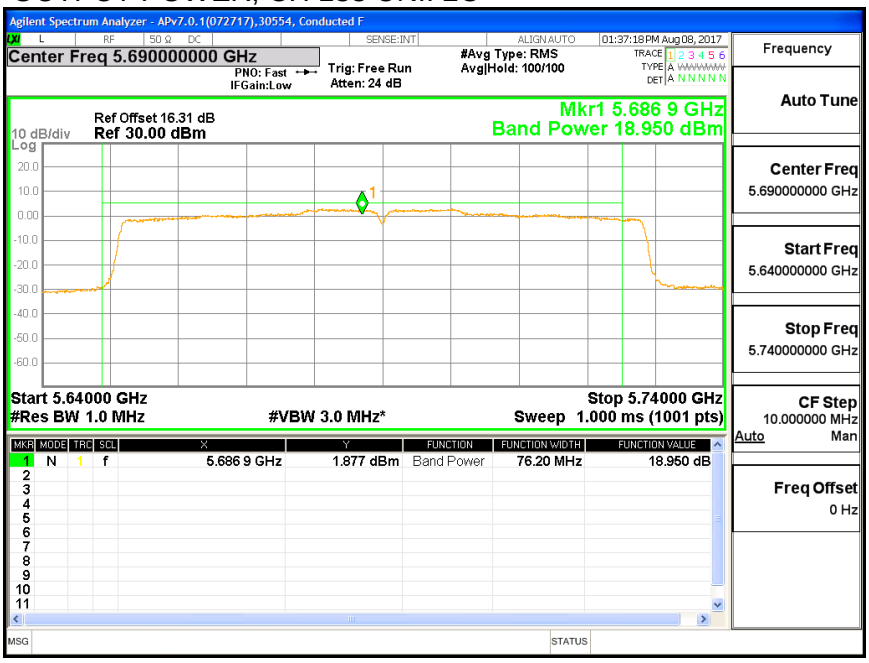
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.95	19.14	24.00	-4.86

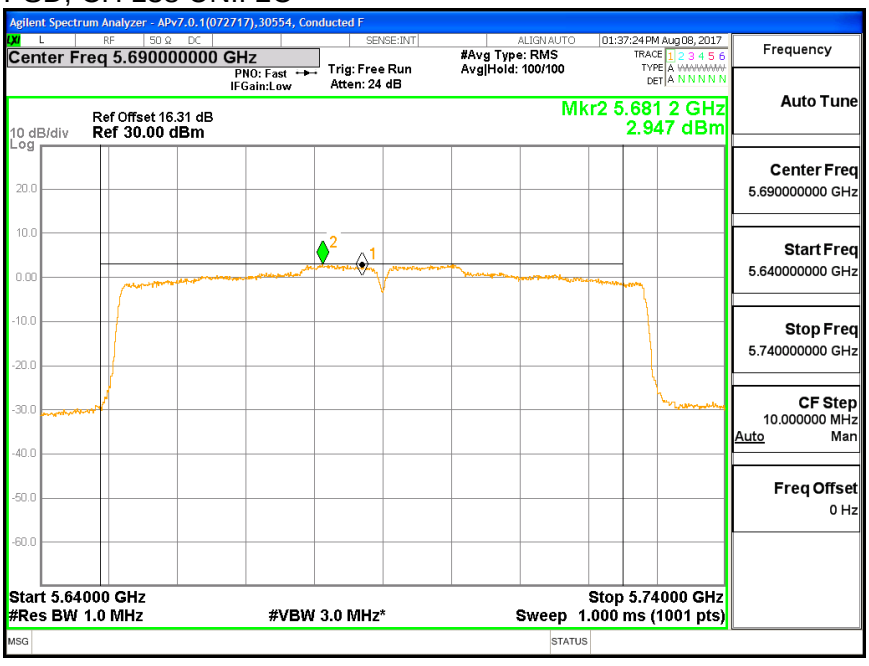
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
138	5690	2.95	3.14	11.00	-7.86

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	82.40	-3.57	30.00	30.00

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

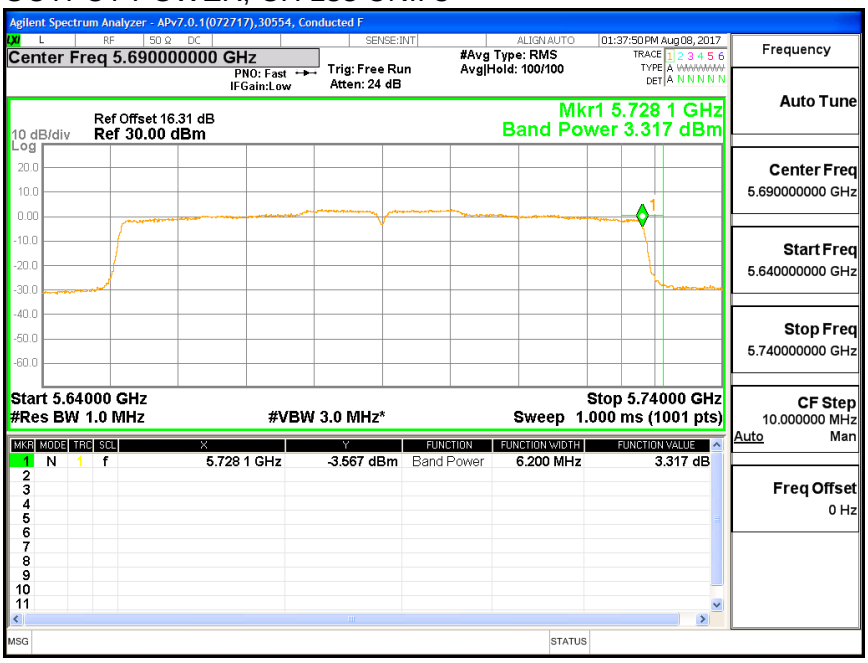
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	2.09	2.28	30.00	-27.72

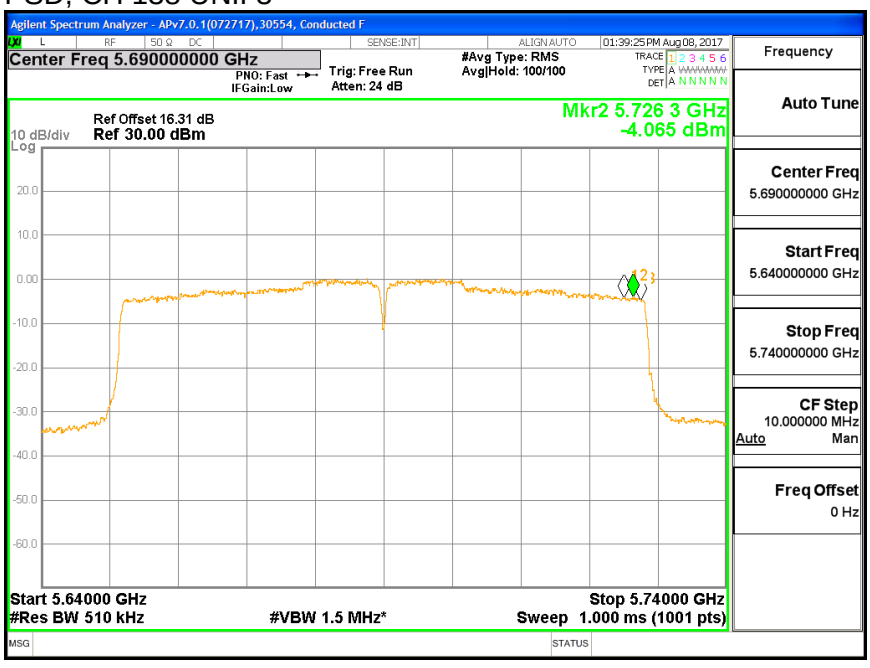
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-4.07	-3.88	30.00	-33.88

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.25.6. 6 dB BANDWIDTH

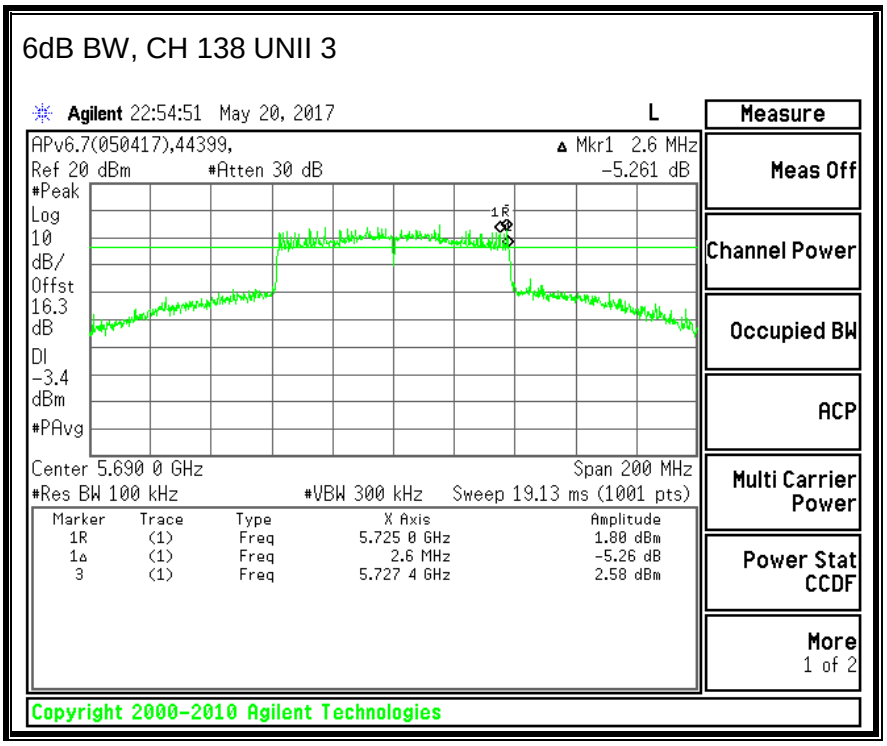
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
138	5690	2.60



8.26. 11ac HT80 LAT 3 SISO MODE IN THE 5.6GHz BAND

8.26.1. 26 dB BANDWIDTH

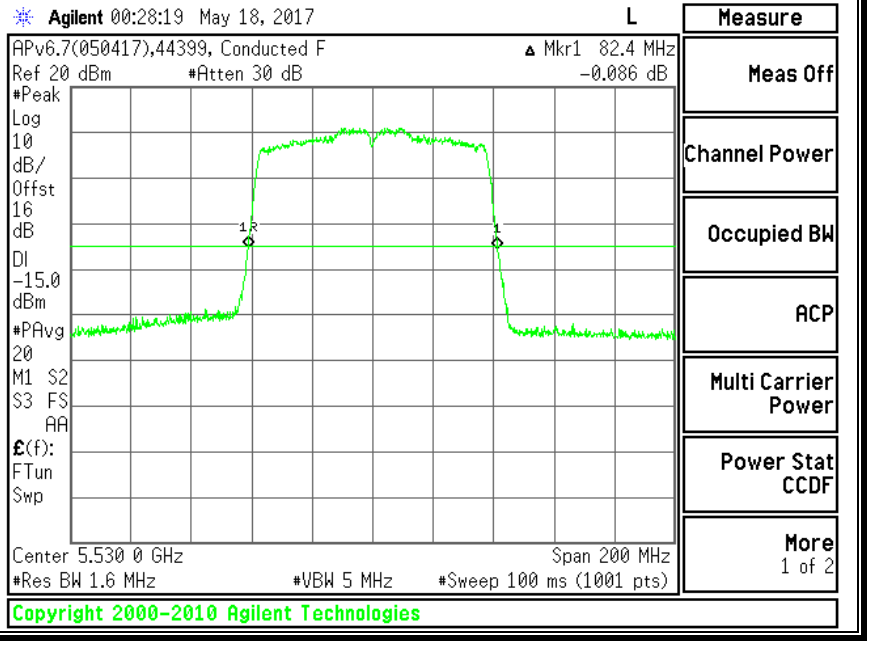
LIMITS

None; for reporting purposes only.

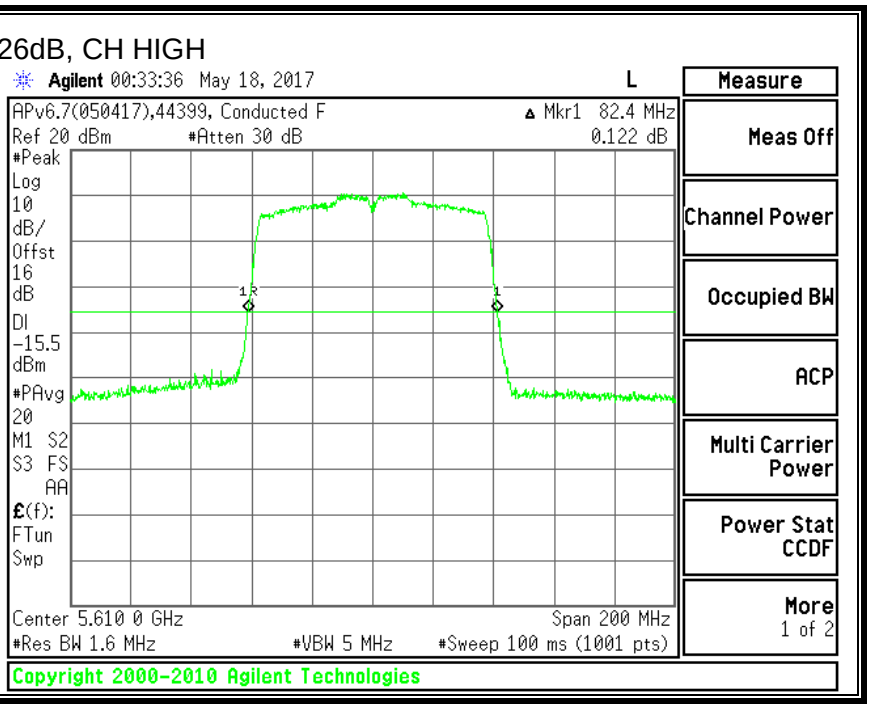
RESULTS

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

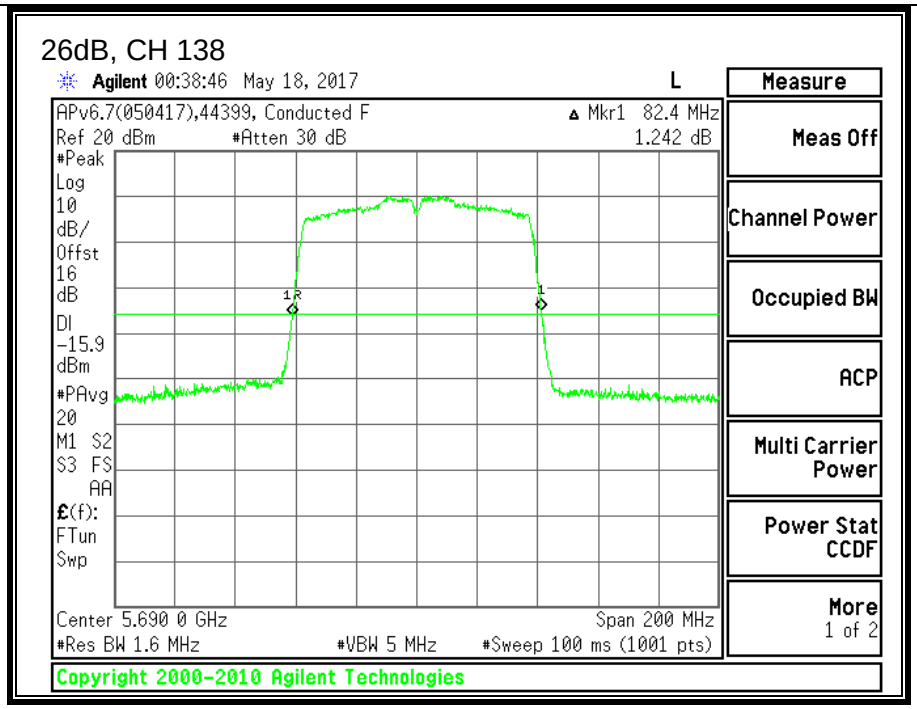
26dB, CH LOW



26dB, CH HIGH



26dB, CH 138



8.26.2. 99% BANDWIDTH

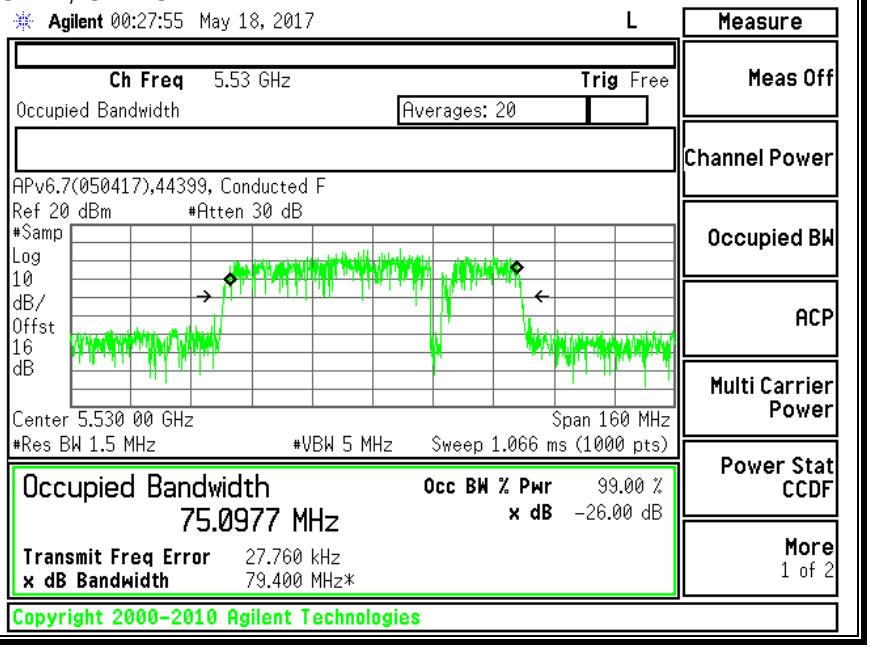
LIMITS

None; for reporting purposes only.

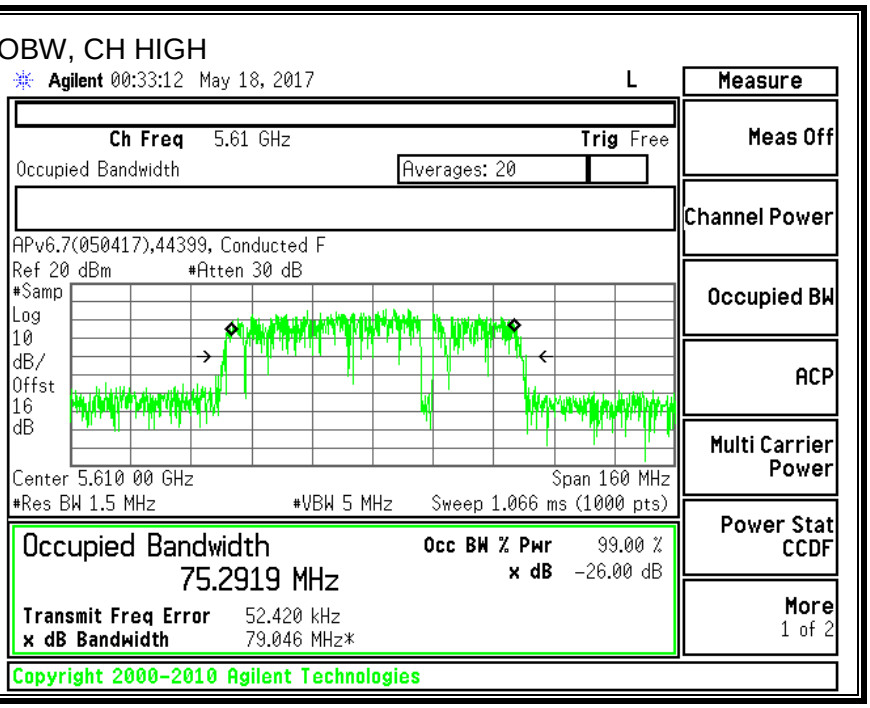
RESULTS

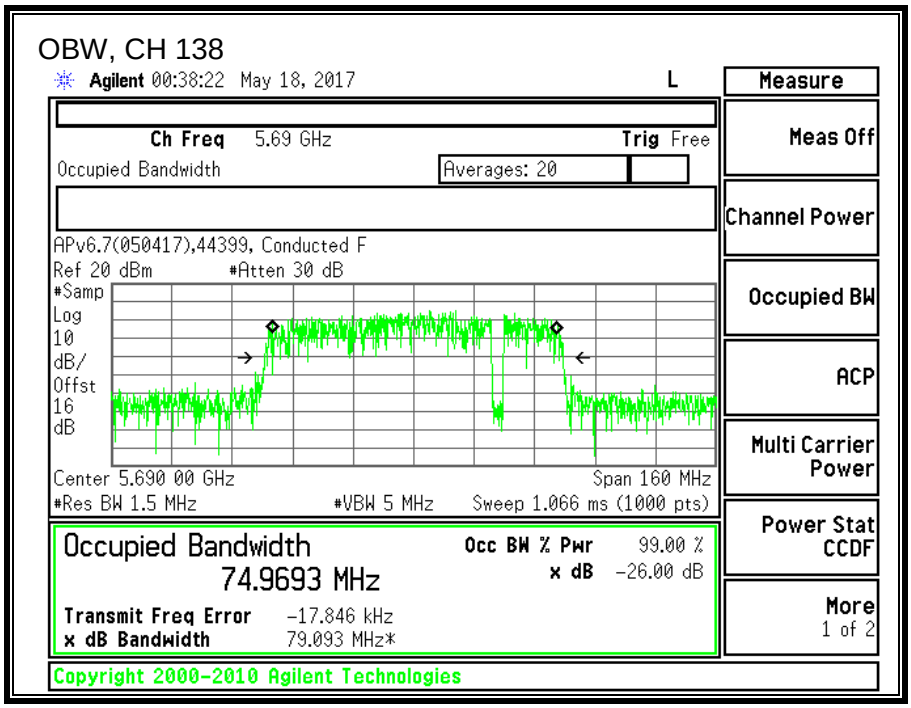
Channel	Frequency	99% BW LAT 3 (MHz)
Low	5530	75.0977
High	5610	75.2919
138	5690	74.9693

OBW, CH LOW



OBW, CH HIGH





8.26.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	17.25
High	5610	19.43
138	5690	19.42

8.26.4. 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.

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	75.10	-6.89	24.00	11.00
High	5610	82.40	75.29	-6.89	24.00	11.00

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

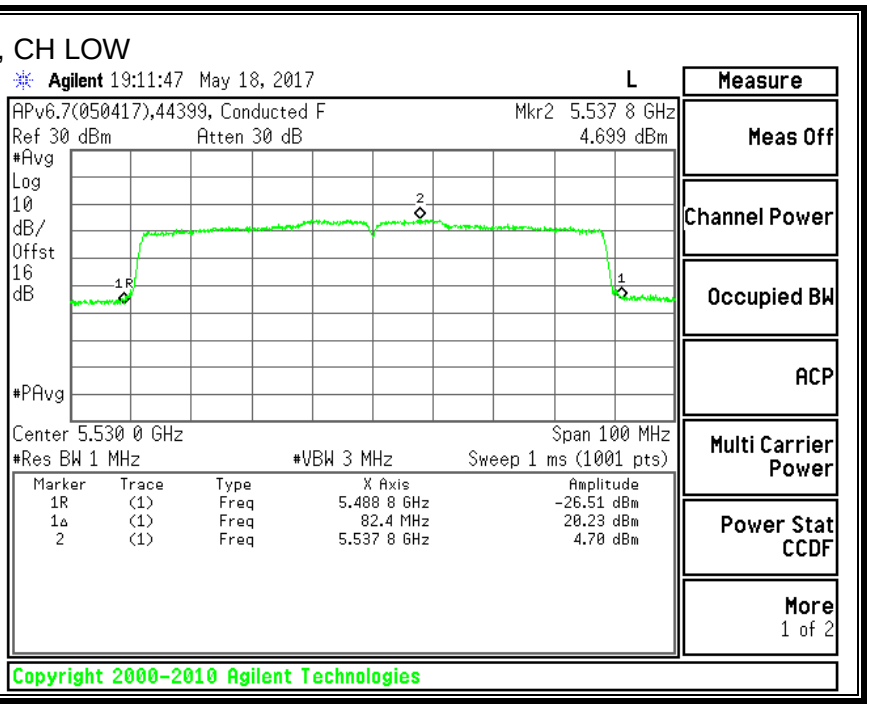
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	17.25	17.25	24.00	-6.75
High	5610	19.43	19.43	24.00	-4.57

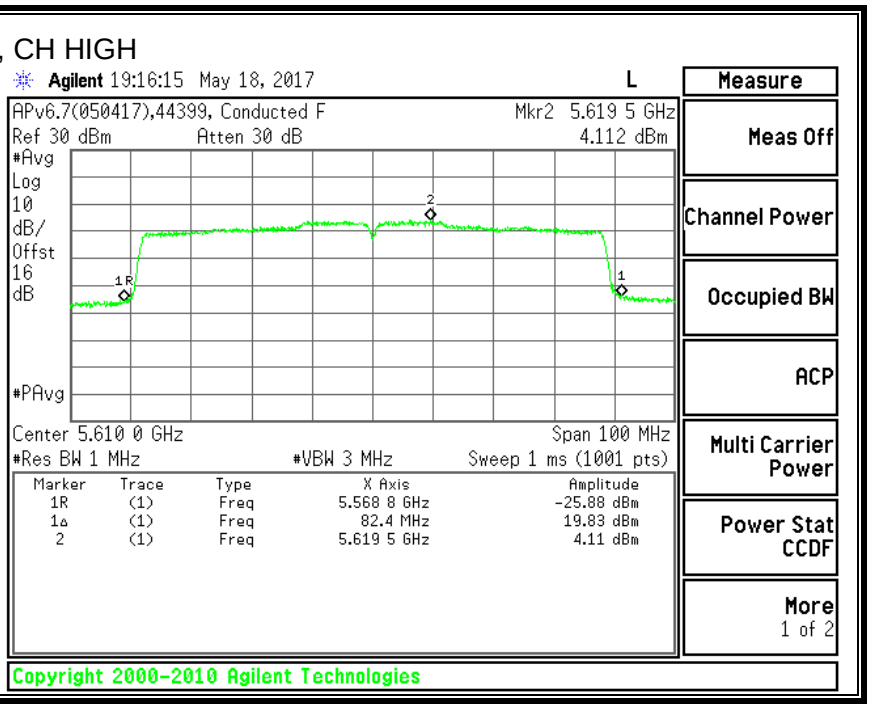
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
Low	5530	4.699	4.89	11.00	-6.11
High	5610	4.112	4.30	11.00	-6.70

, CH LOW



, CH HIGH



8.26.5. STRADDLE CHANNEL 138

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	82.4	-6.89	-6.89	24.00	11.00

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

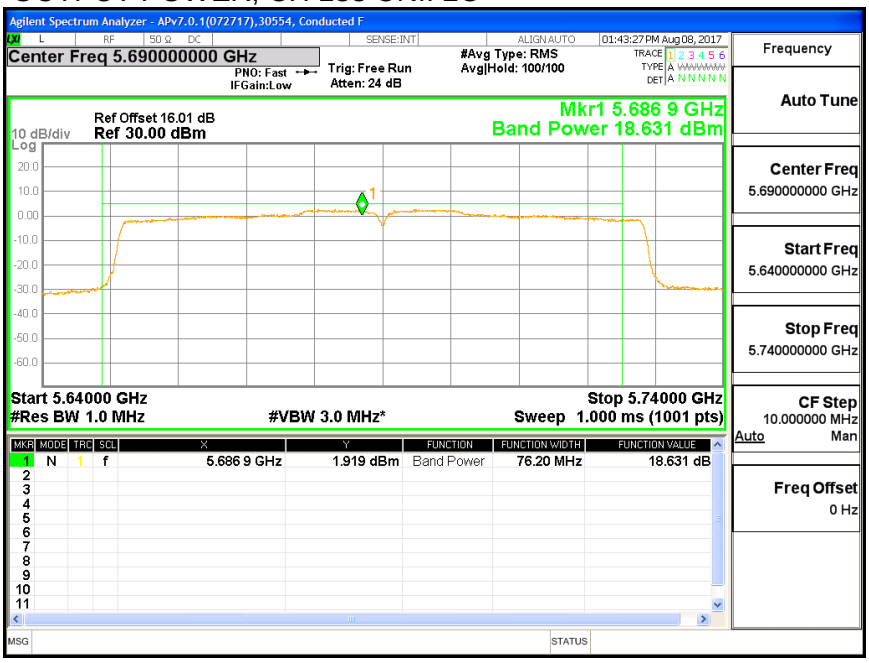
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.63	18.82	24.00	-5.18

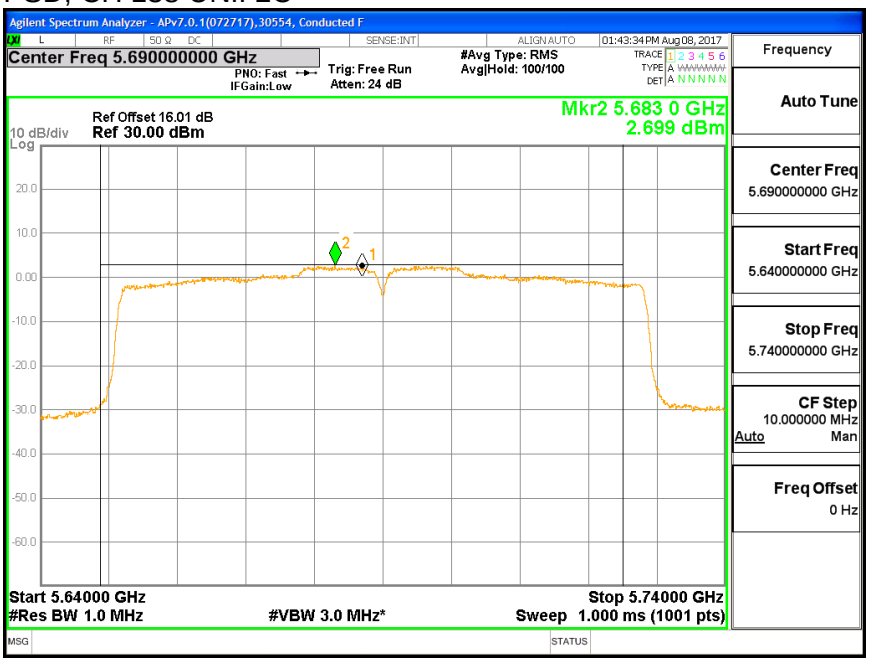
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/1MHz)	PSD Margin (dB)
138	5690	2.69	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	82.40	-6.89	30.00	30.00

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

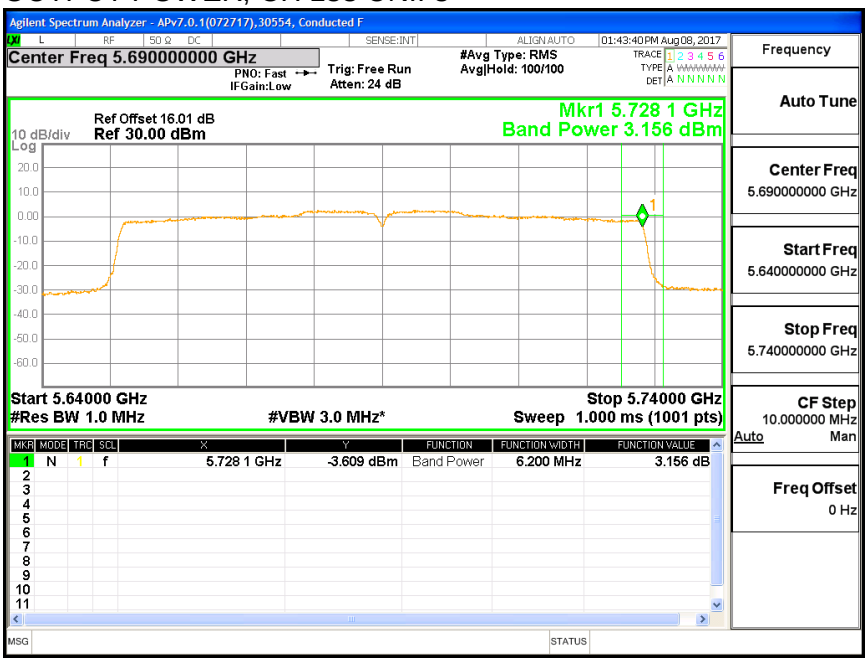
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	3.16	3.35	30.00	-26.65

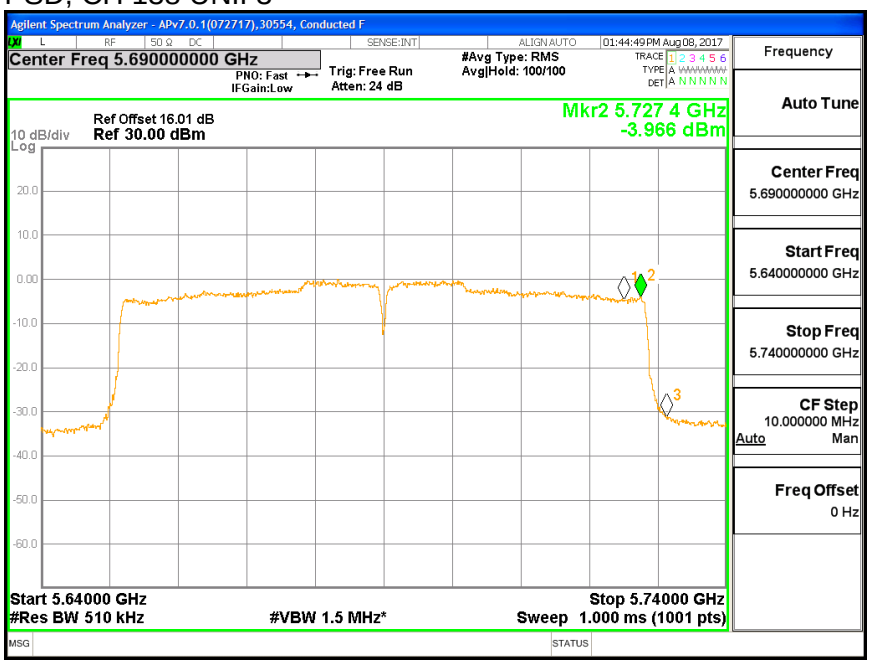
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-3.97	-3.78	30.00	-33.78

OUTPUT POWER, CH 138 UNII 3



PSD, CH 138 UNII 3



8.26.6. 6 dB BANDWIDTH

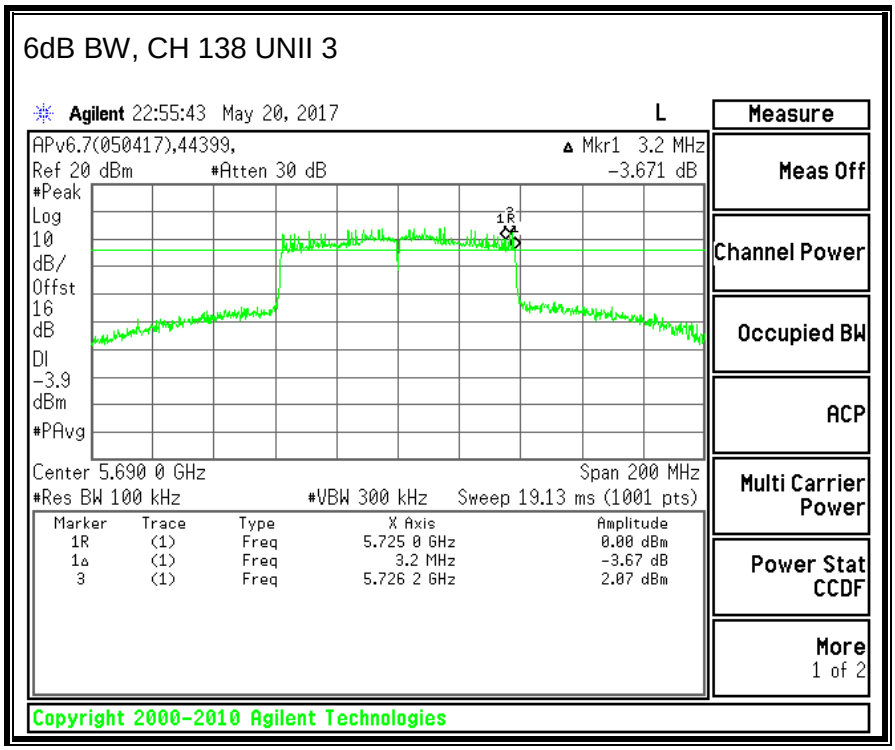
LIMITS

FCC §15.407 (e)

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

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
138	5690	3.20



8.27. 11ac HT80 2TX CDD MIMO MODE IN THE 5.6GHz BAND

8.27.1. 26 dB BANDWIDTH

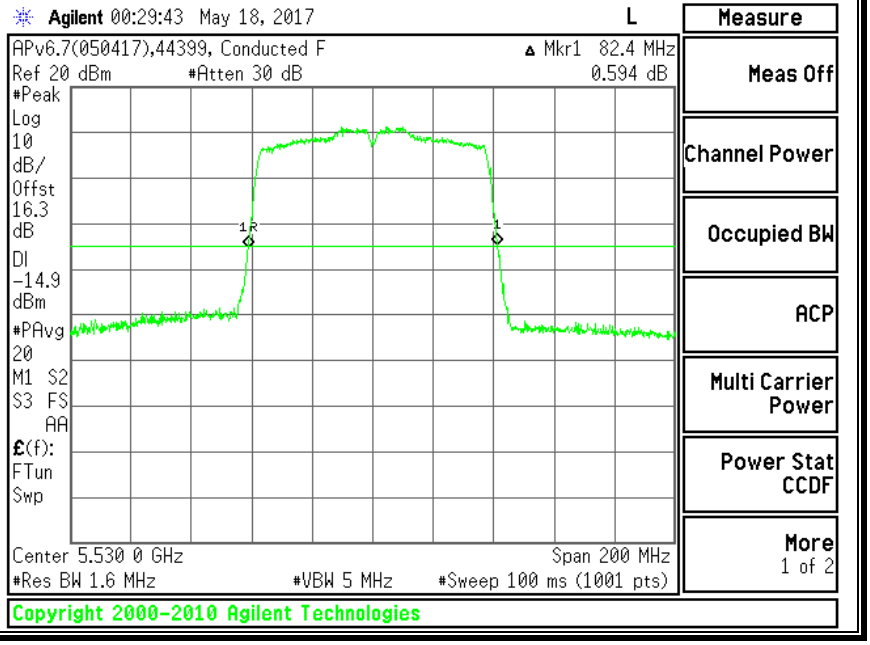
LIMITS

None; for reporting purposes only.

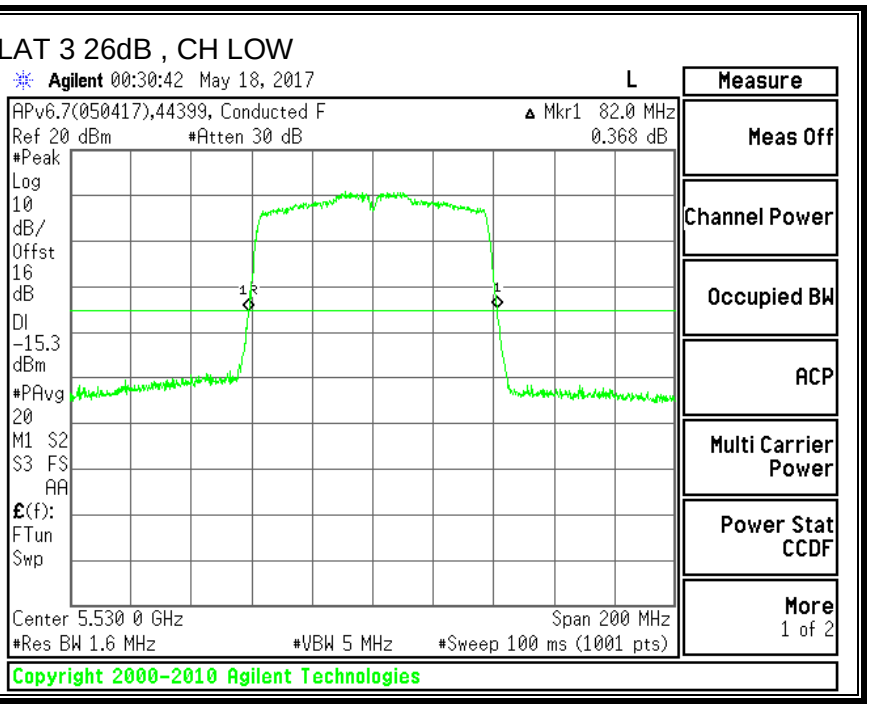
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5530	82.4	82.0
High	5610	82.4	81.8
138	5690	82.4	82.0

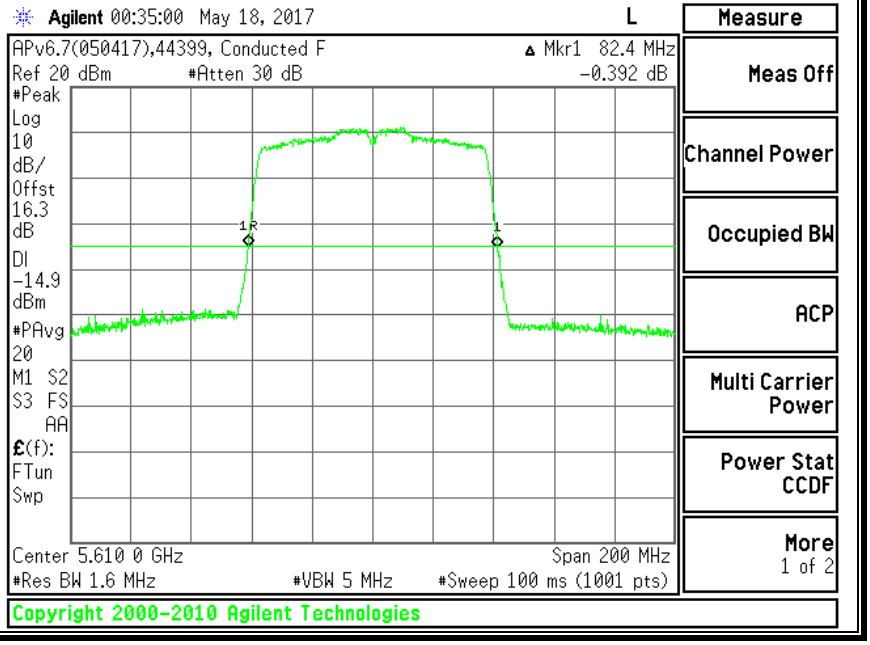
UAT 2 26dB , CH LOW



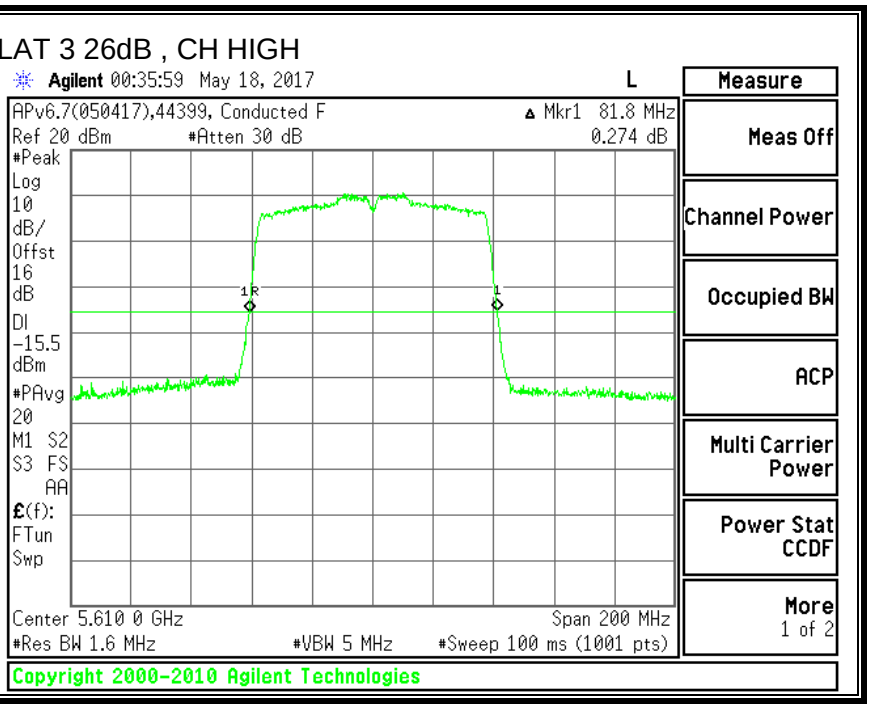
LAT 3 26dB , CH LOW



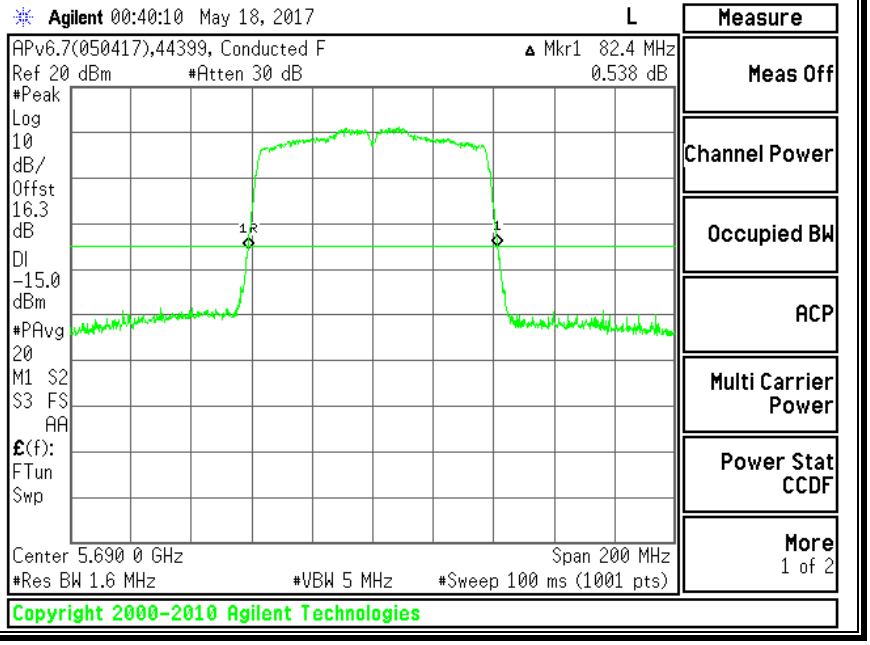
UAT 2 26dB , CH HIGH



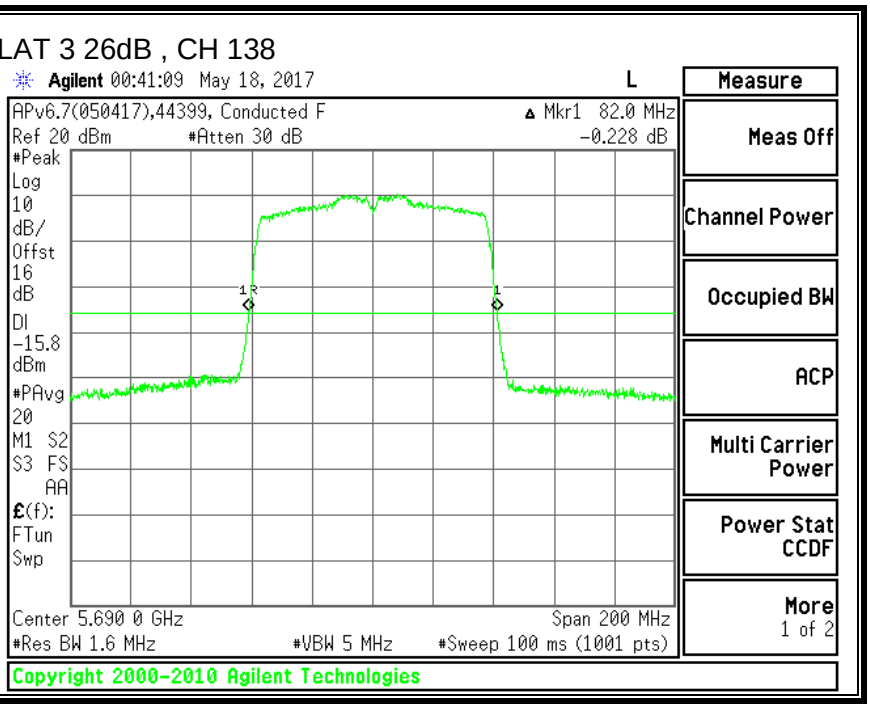
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 138



LAT 3 26dB , CH 138



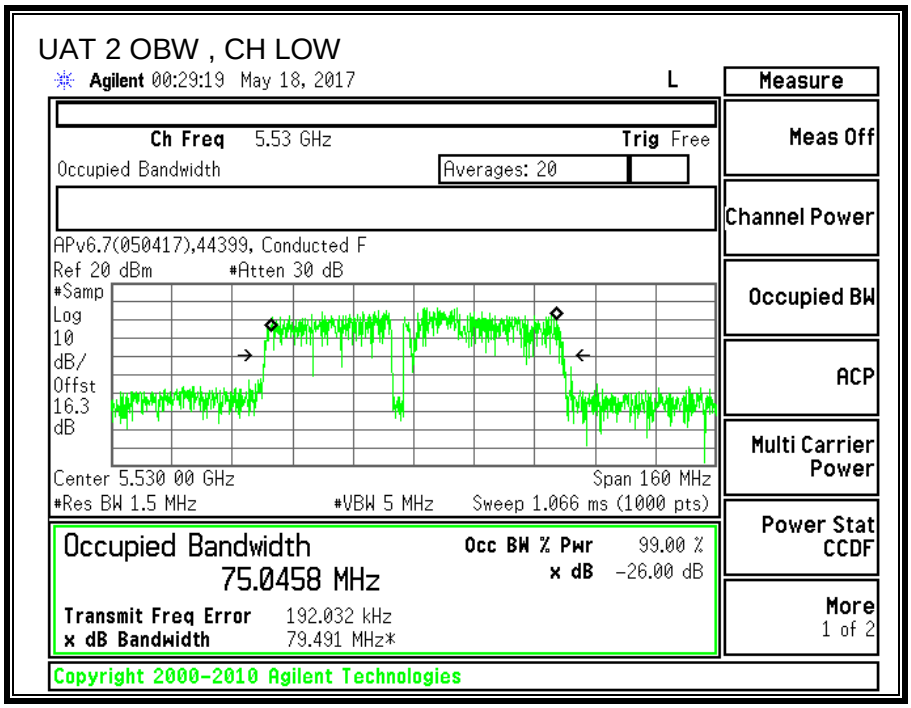
8.27.2. 99% BANDWIDTH

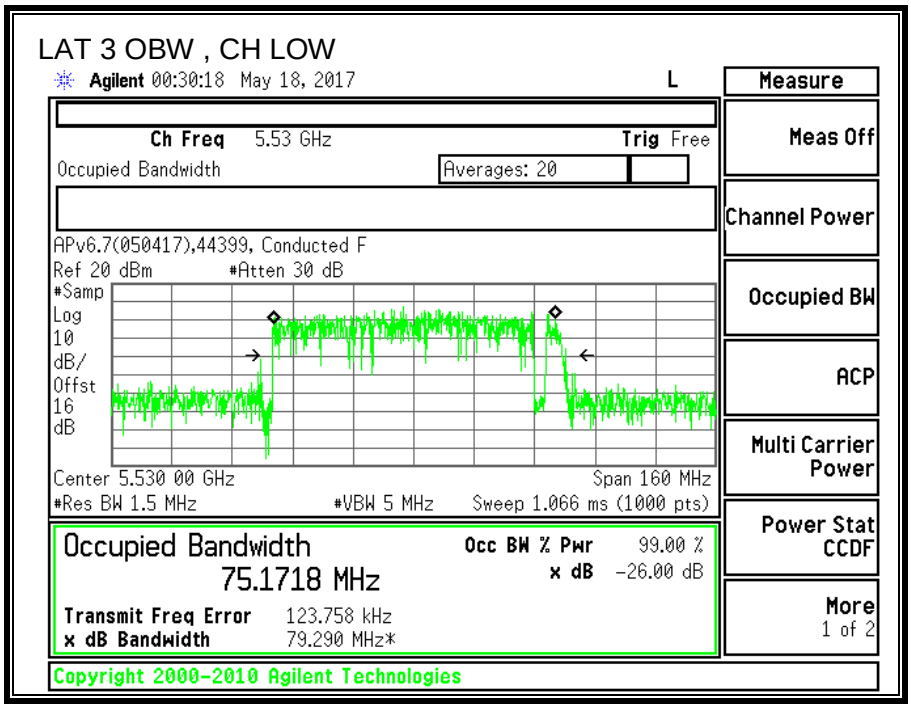
LIMITS

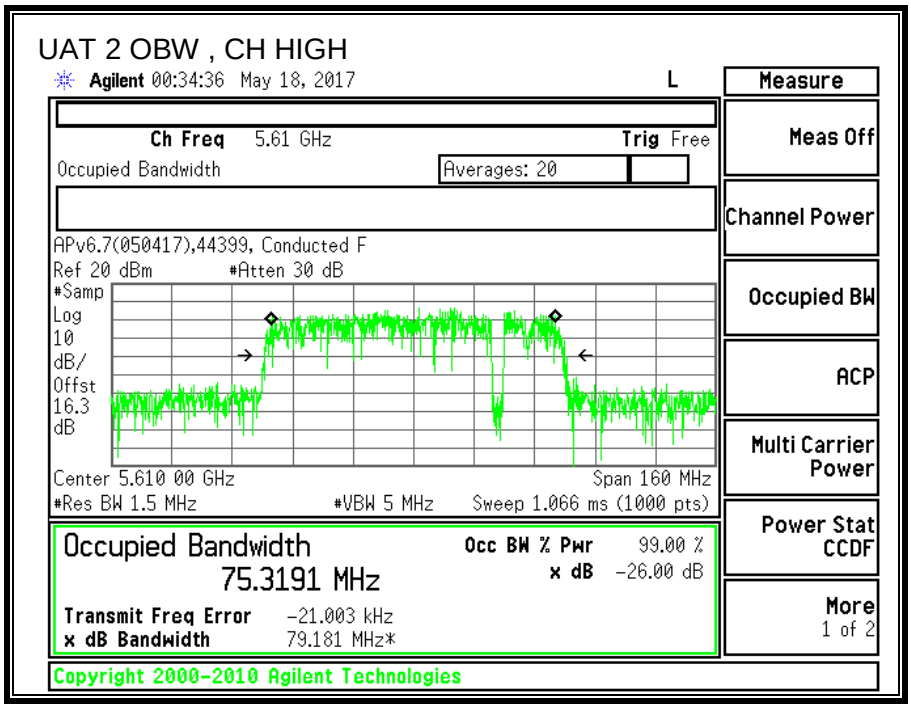
None; for reporting purposes only.

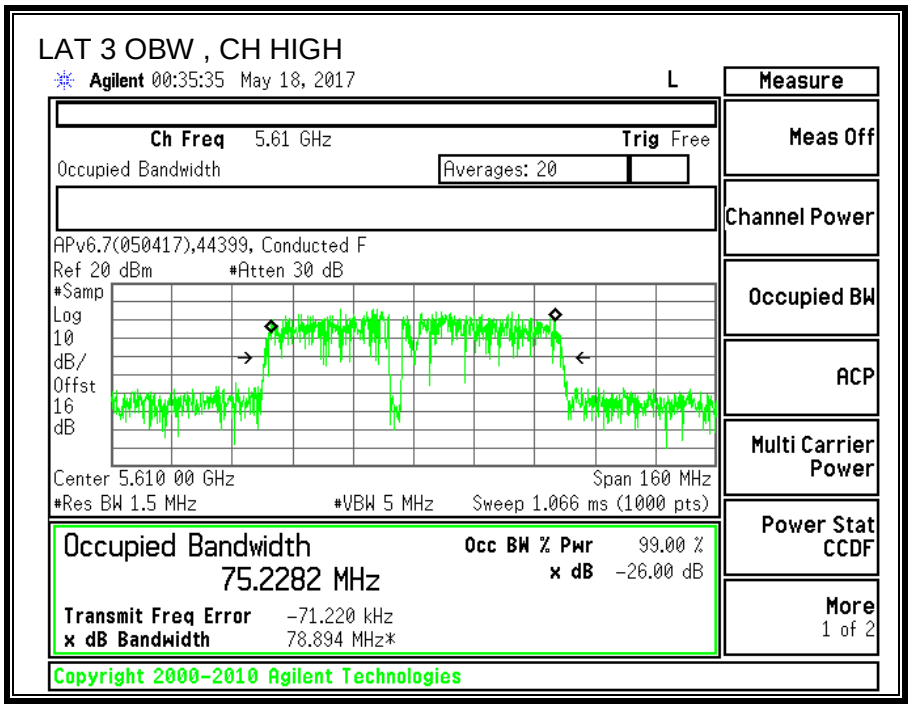
RESULTS

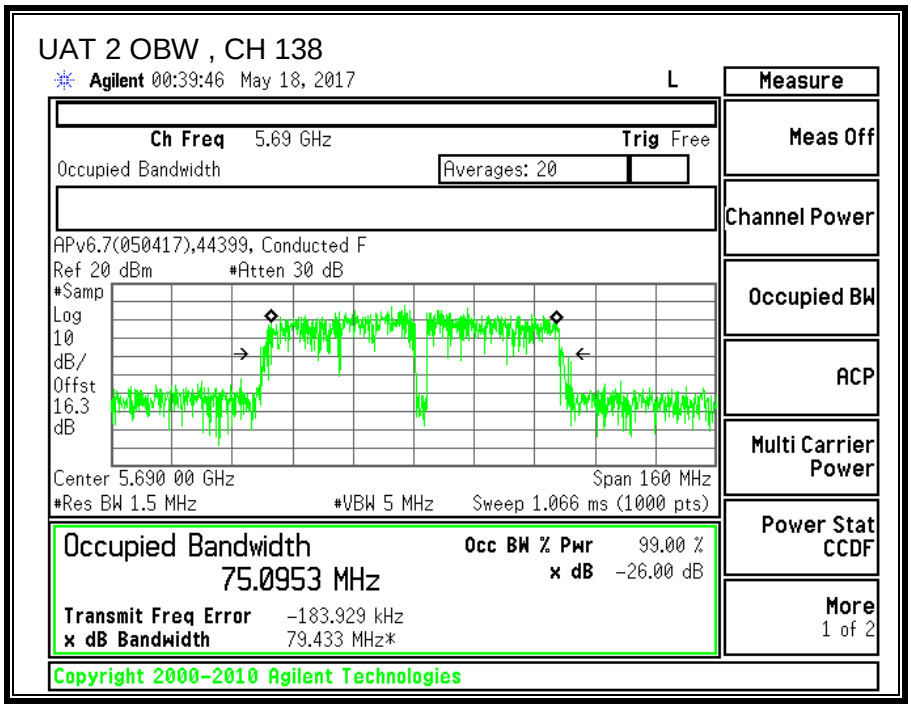
Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5530	75.0458	75.1718
High	5610	75.3191	75.2282
138	5690	75.0953	74.8385

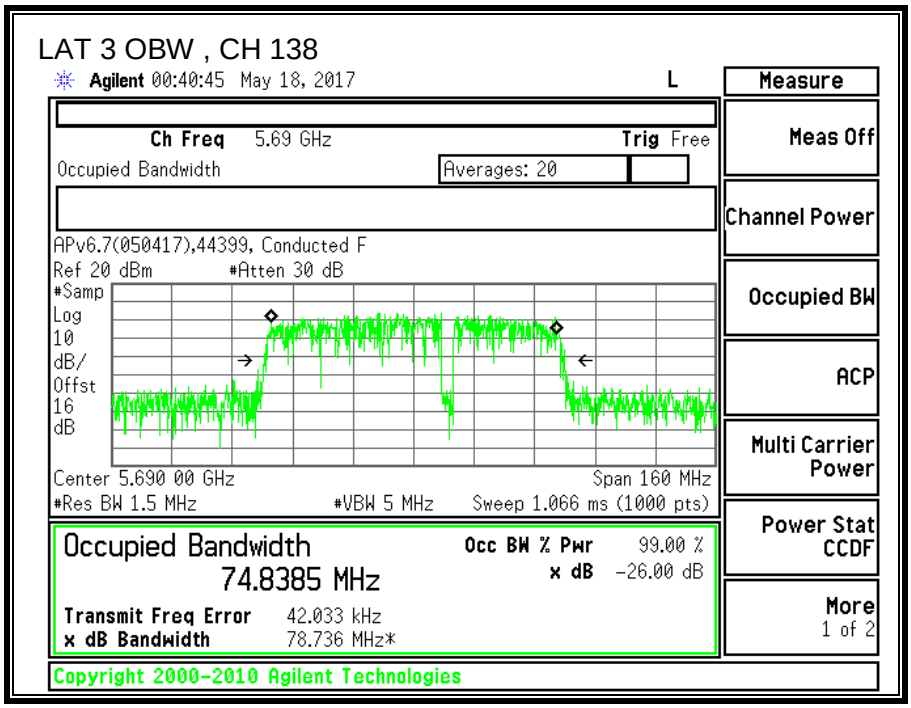












8.27.3. AVERAGE POWER

ID:	44366	Date:	7/25/17

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Average Power Results

Channel	Frequency (MHz)	UAT 2 Power (dBm)	LAT 3 Power (dBm)	Total Power (dBm)
Low	5530	16.24	16.15	19.21
High	5610	19.44	19.22	22.34
138	5690	19.28	19.21	22.26

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.

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	75.046	-4.36	-1.58	24.00	11.00
High	5610	81.80	75.228	-4.36	-1.58	24.00	11.00

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

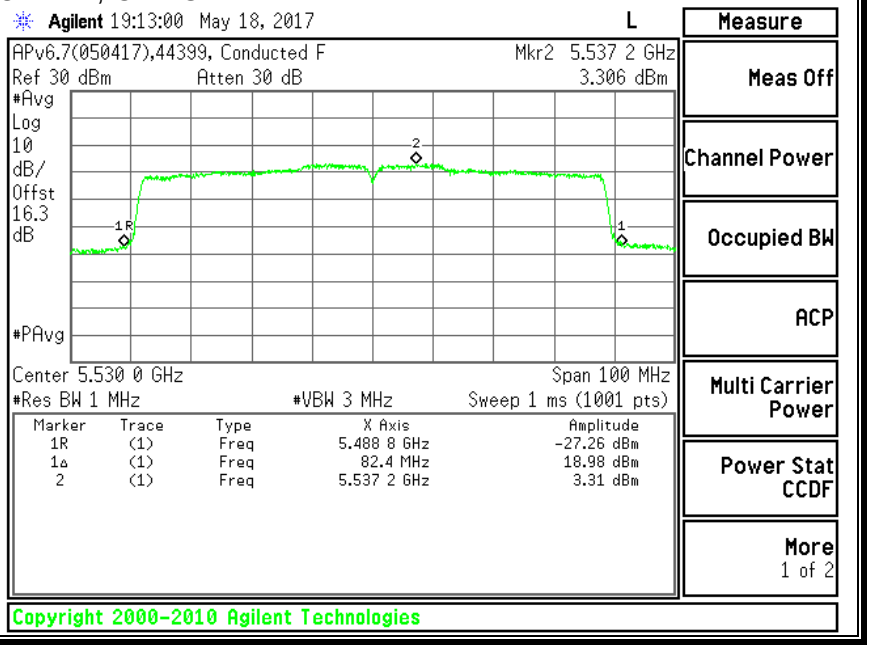
Output Power Results

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	16.24	16.15	19.21	24.00	-4.79
High	5610	19.44	19.22	22.34	24.00	-1.66

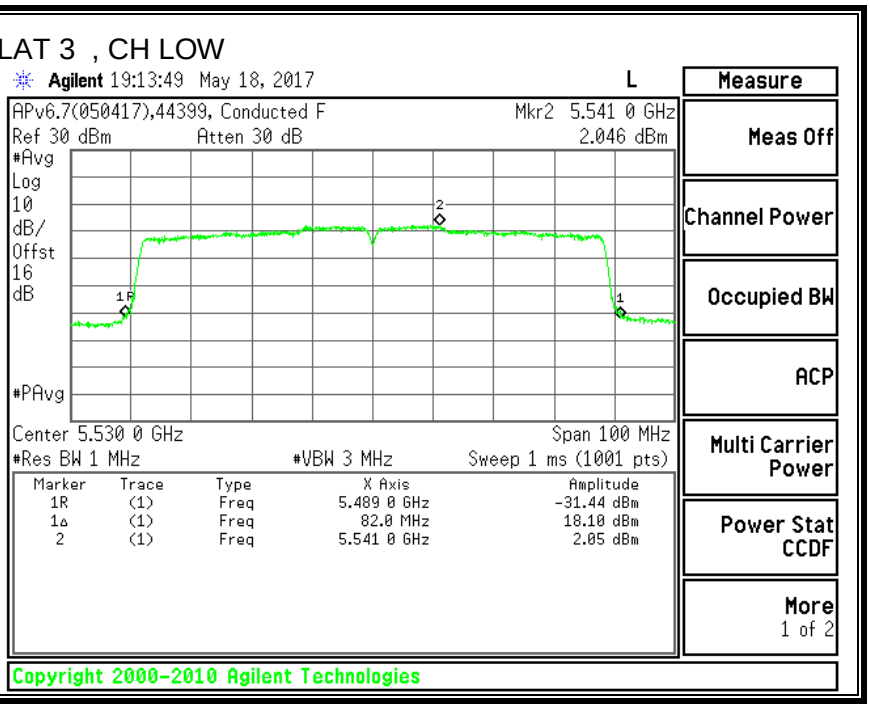
PSD Results

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	3.31	2.05	5.92	11.00	-5.08
High	5610	3.01	2.58	6.00	11.00	-5.00

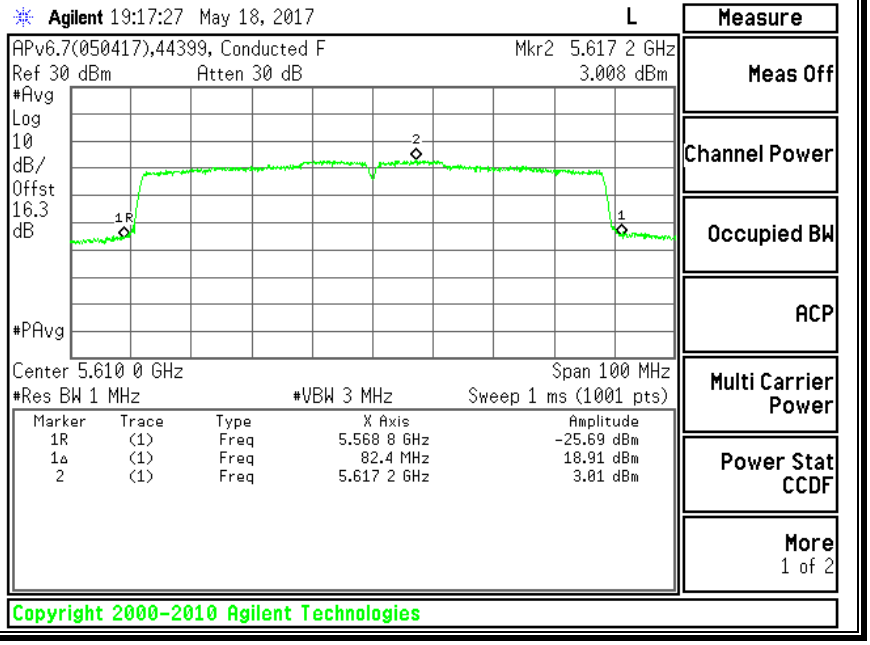
UAT 2 , CH LOW



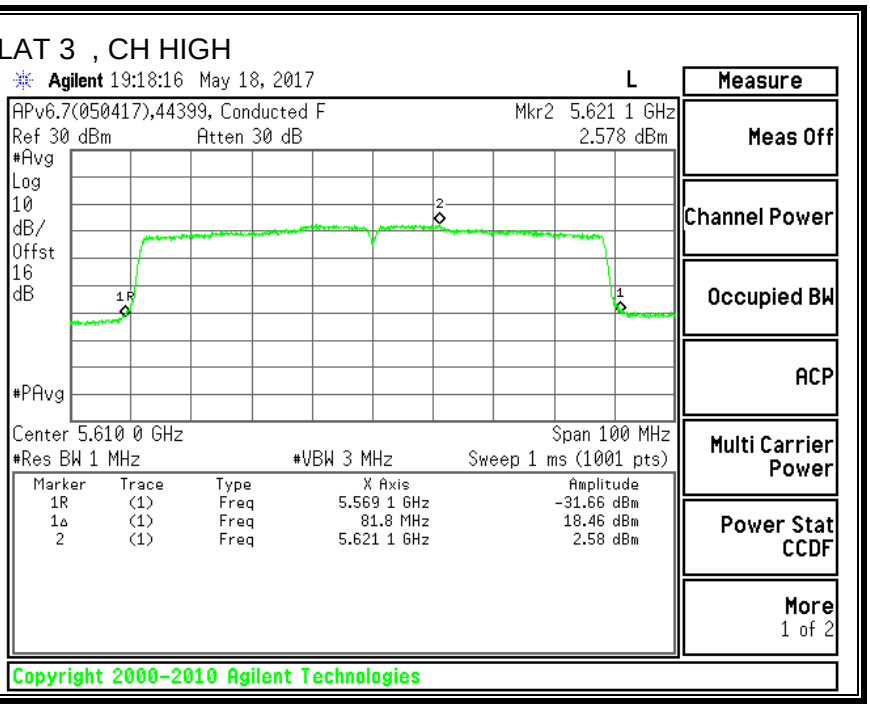
LAT 3 , CH LOW



UAT 2 , CH HIGH



LAT 3 , CH HIGH



8.27.5. STRADDLE CHANNEL 138

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	82.00	-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

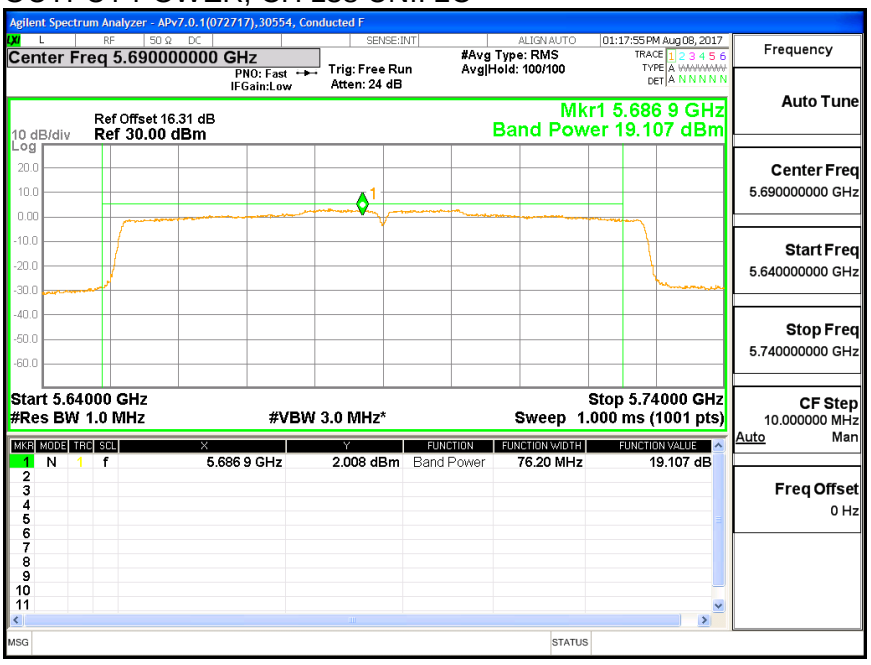
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	19.11	18.78	22.15	24.00	-1.85

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	3.17	2.74	6.16	11.00	-4.84

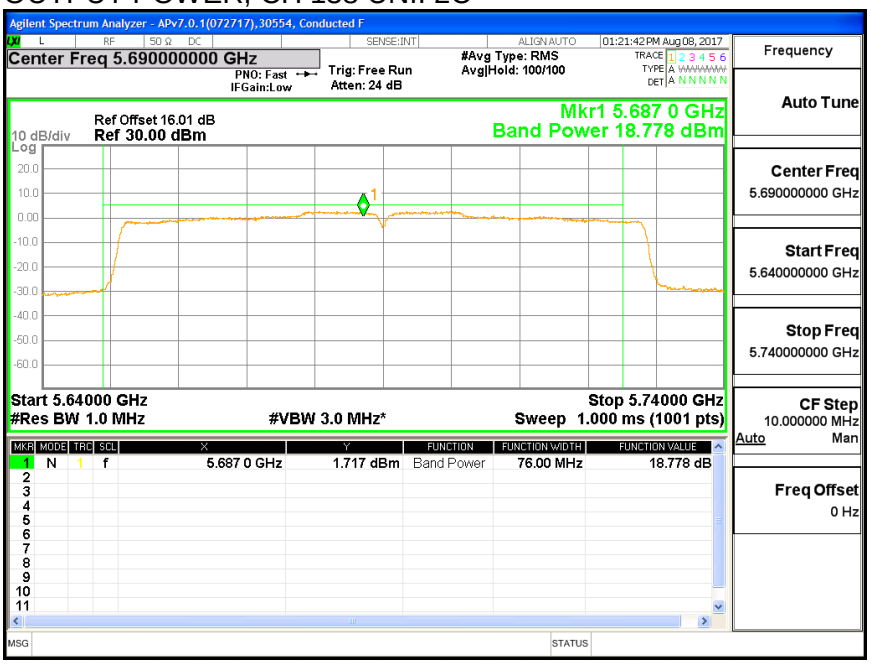
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 138 UNII 2C



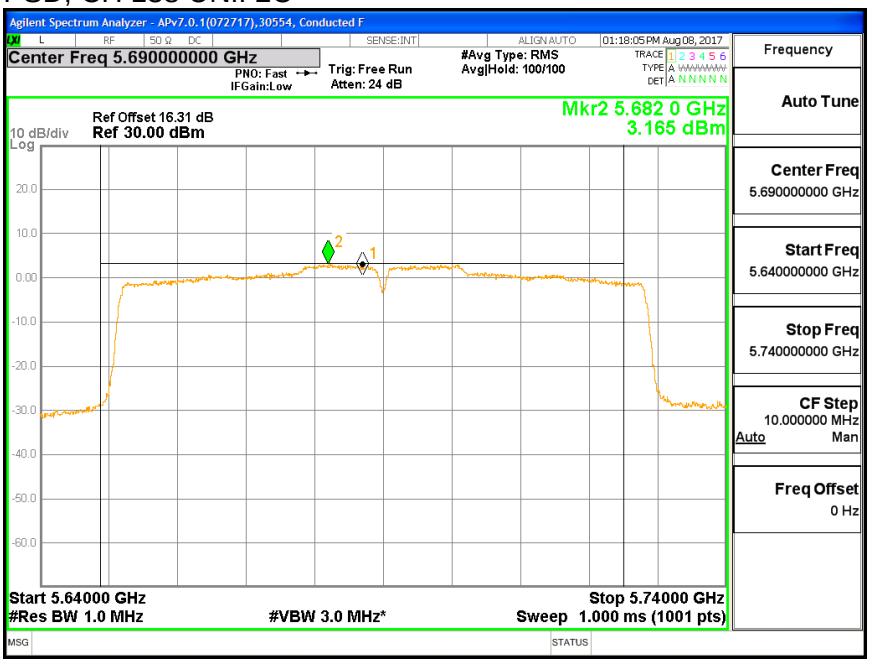
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 138 UNII 2C



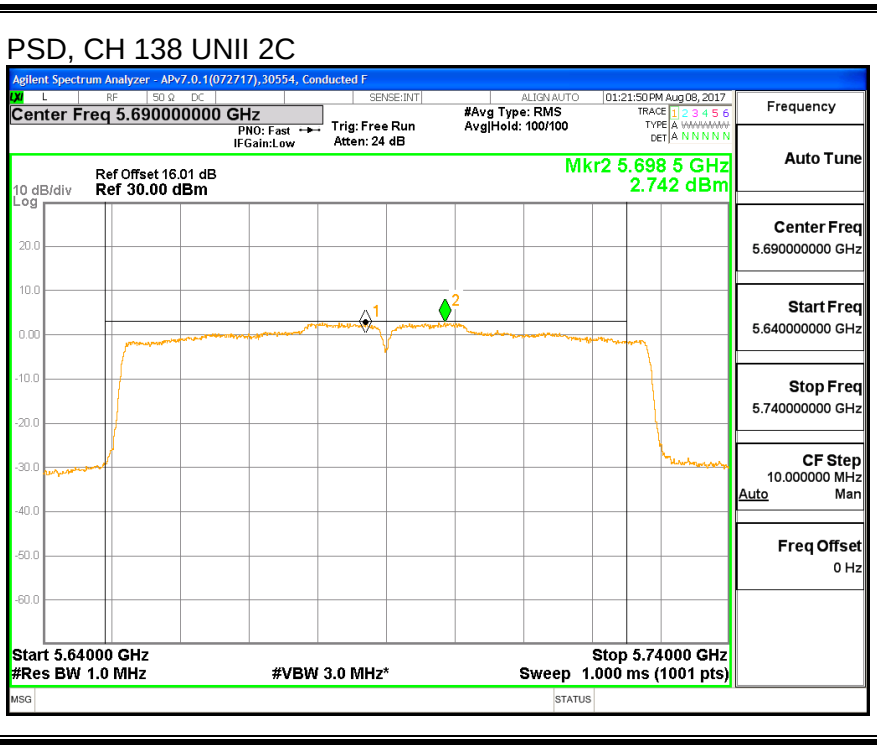
PSD, UAT 2

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 (dBi)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	82.00	-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

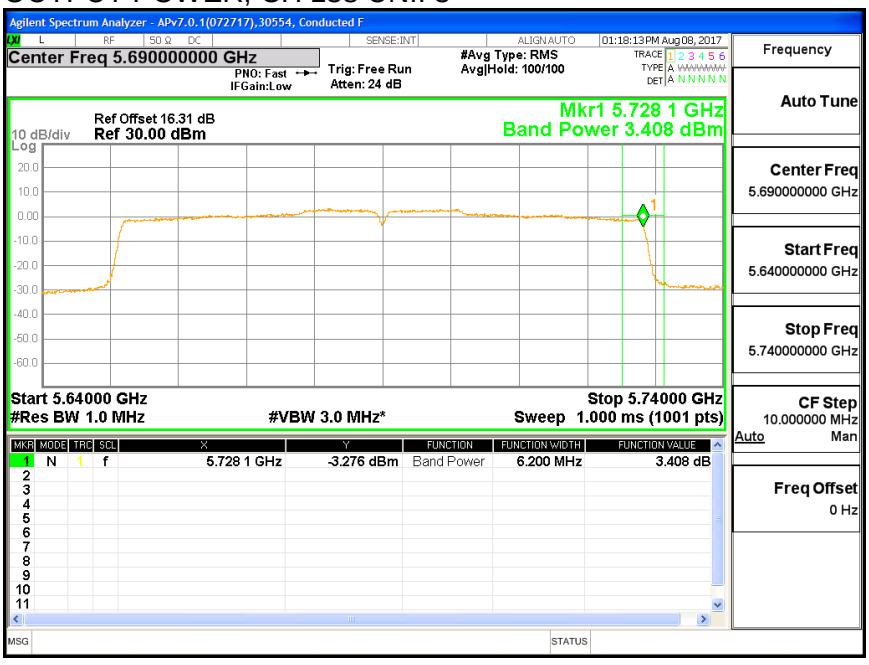
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	3.05	3.24	6.35	30.00	-23.65

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	-3.48	-4.22	-0.63	30.00	-30.63

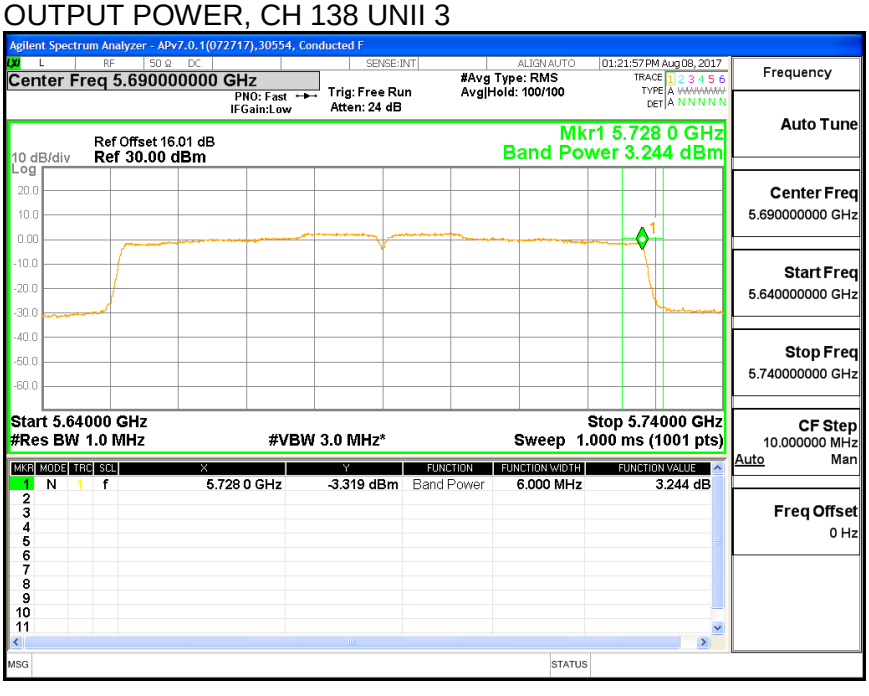
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 138 UNII 3



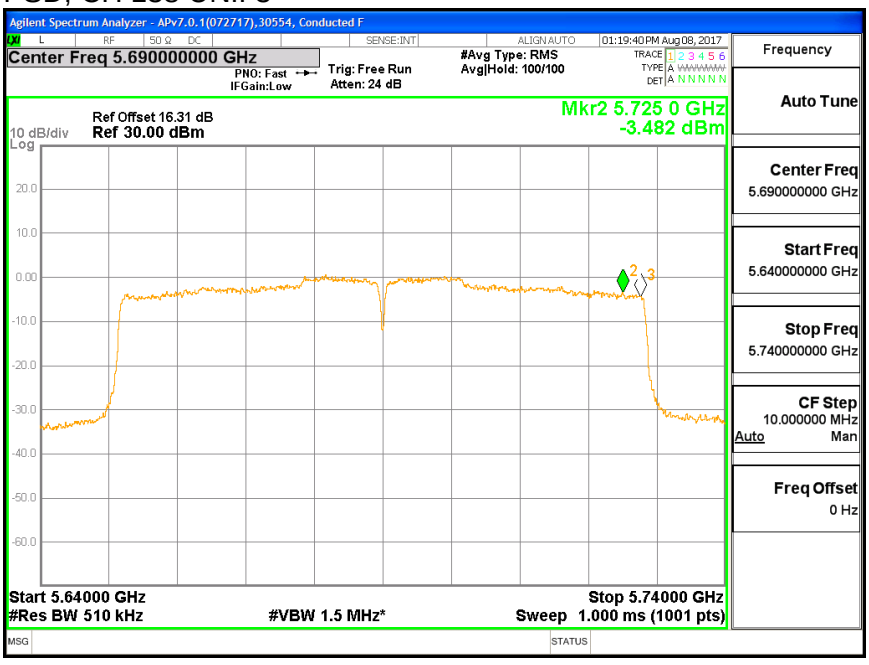
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 138 UNII 3



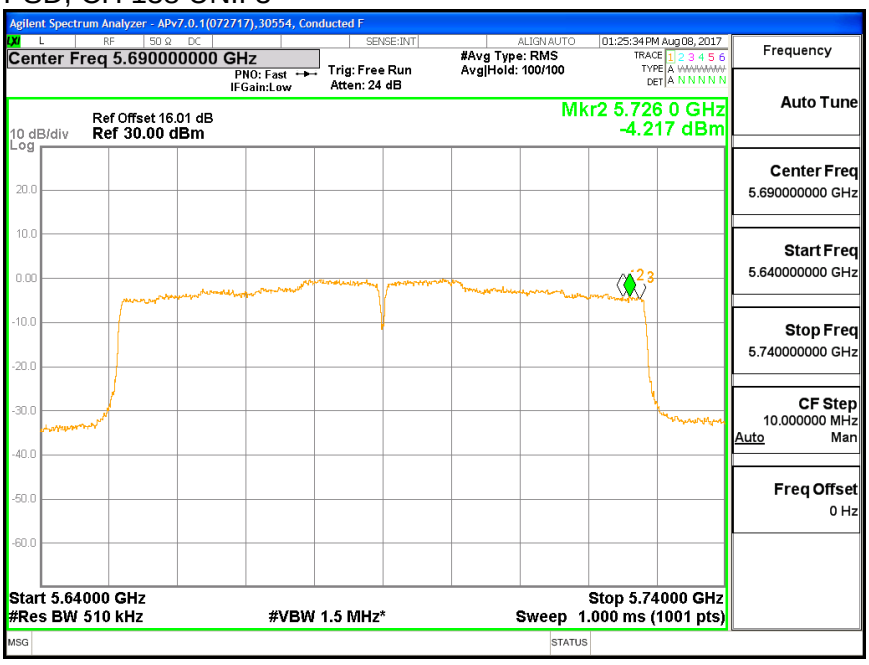
PSD, UAT 2

PSD, CH 138 UNII 3



PSD, LAT 3

PSD, CH 138 UNII 3



8.27.6. 6 dB BANDWIDTH

LIMITS

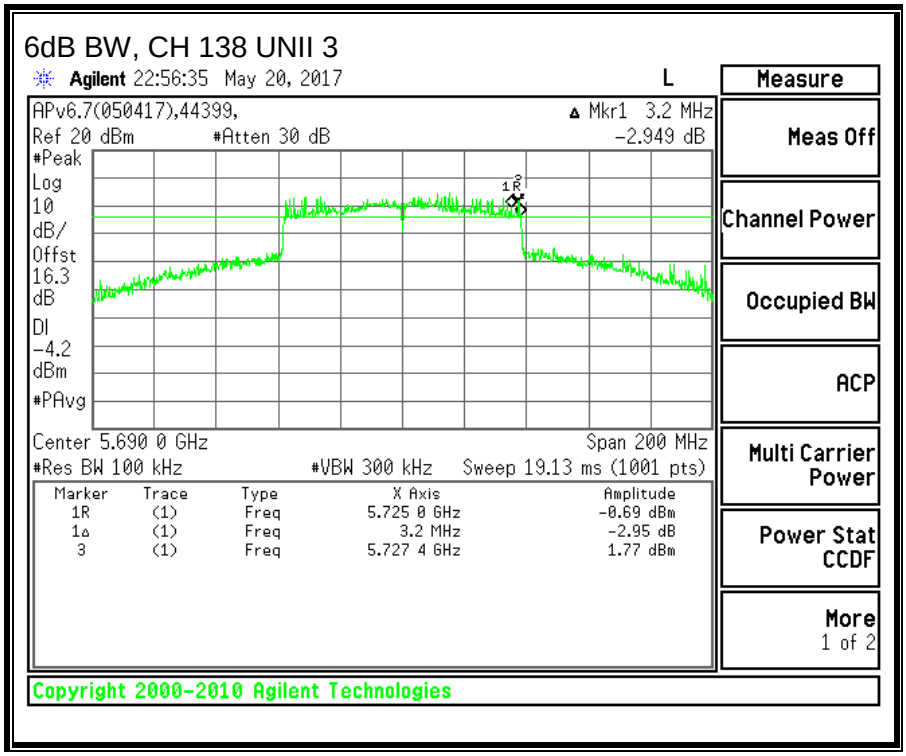
FCC §15.407 (e)

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

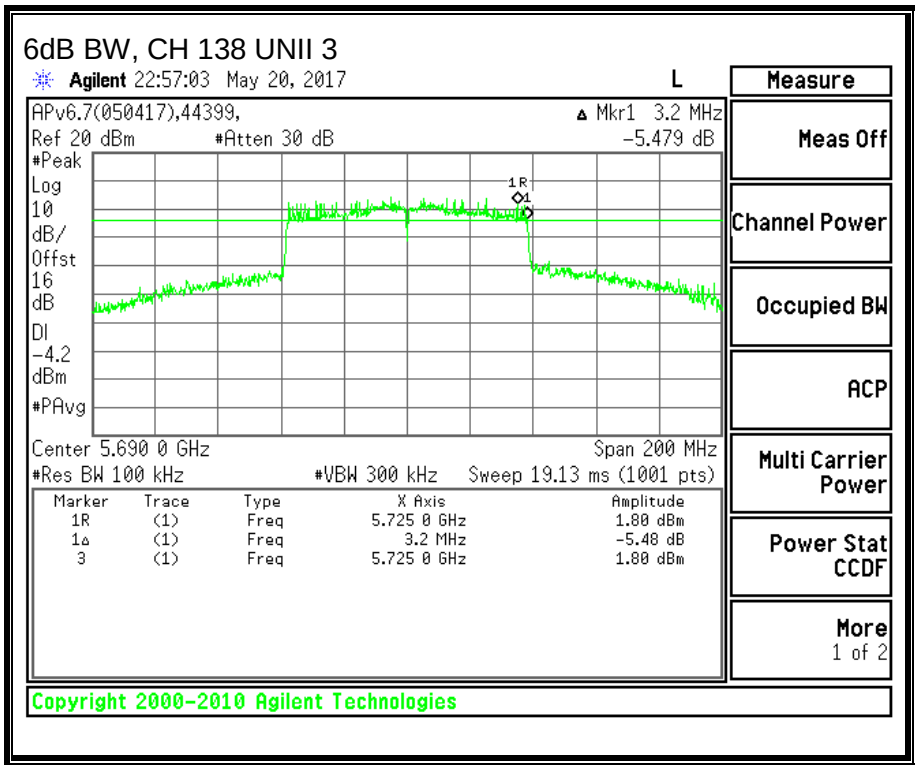
RESULTS

Channel	Frequency (MHz)	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)
138	5690	3.20	3.20

UAT 2



LAT 3



8.28. 11n HT20 UAT 2 SISO MODE IN THE 5.8GHz BAND

8.28.1. 6 dB BANDWIDTH

LIMITS

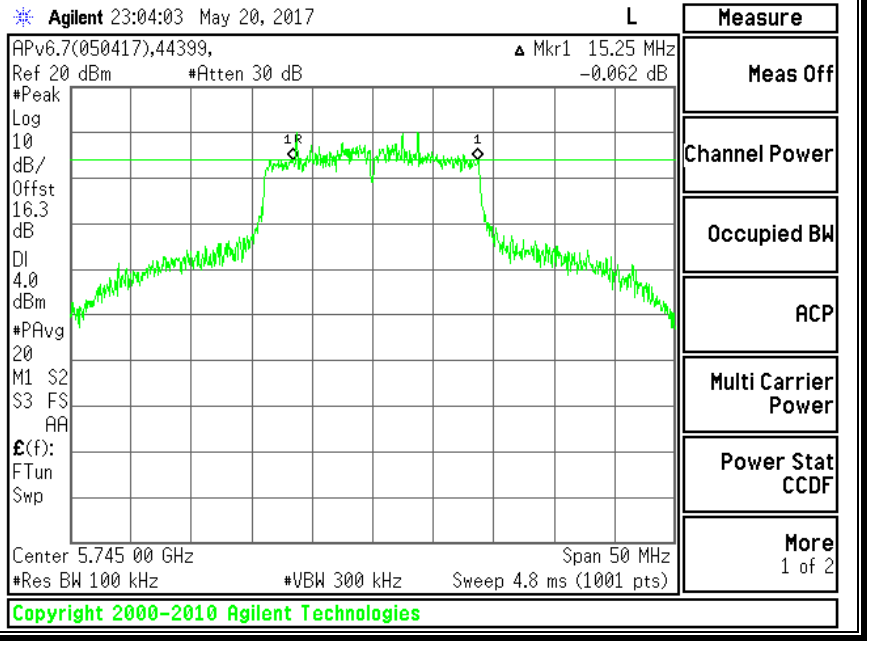
FCC §15.407 (e)

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

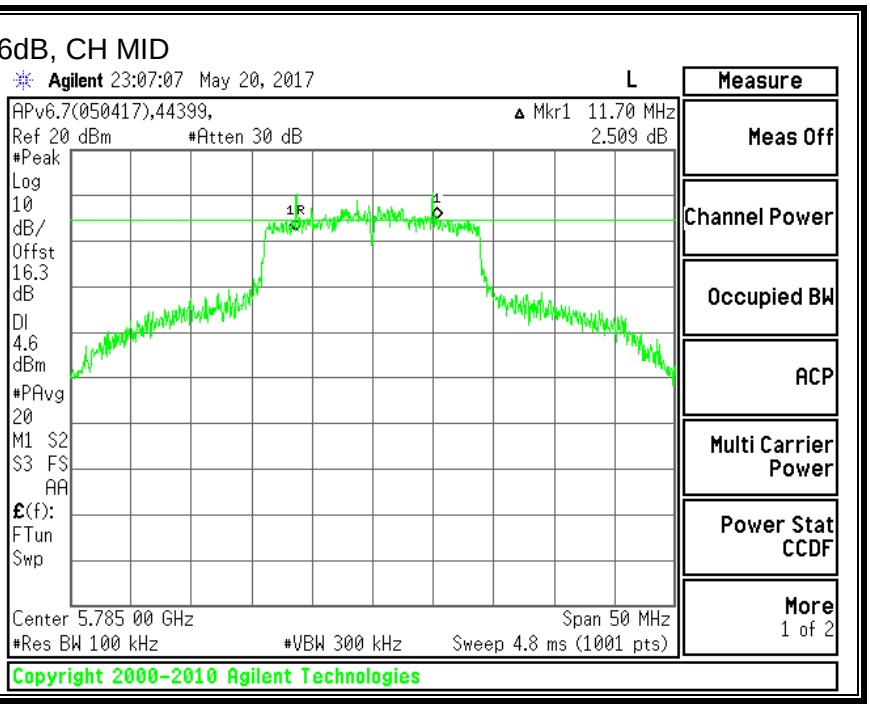
RESULTS

Channel	Frequency	6 dB BW UAT 2 (MHz)	Minimum Limit (MHz)
Low	5745	15.25	0.5
Mid	5785	11.7	0.5
High	5825	16.95	0.5

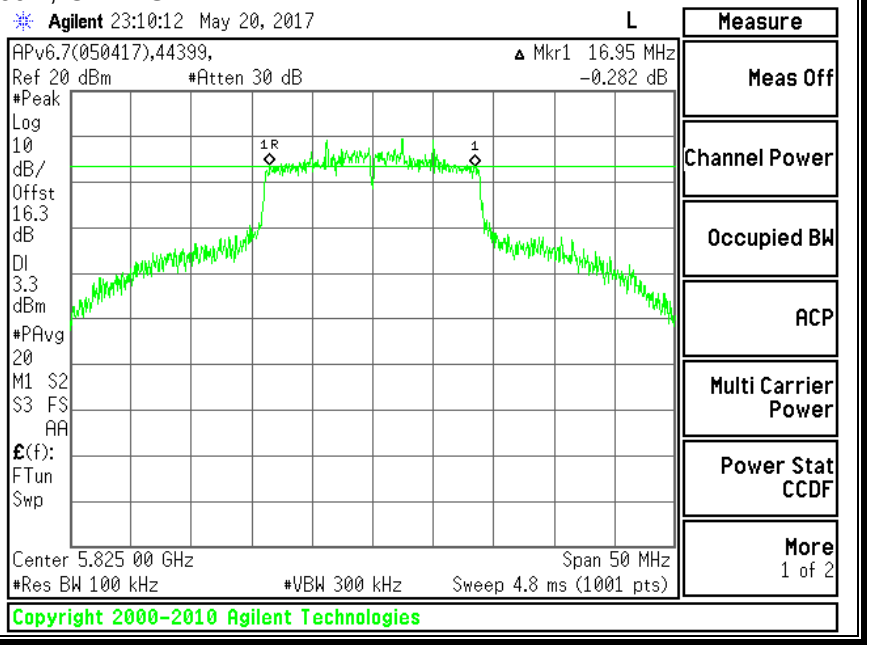
6dB, CH LOW



6dB, CH MID



6dB, CH HIGH



8.28.2. 26 dB BANDWIDTH

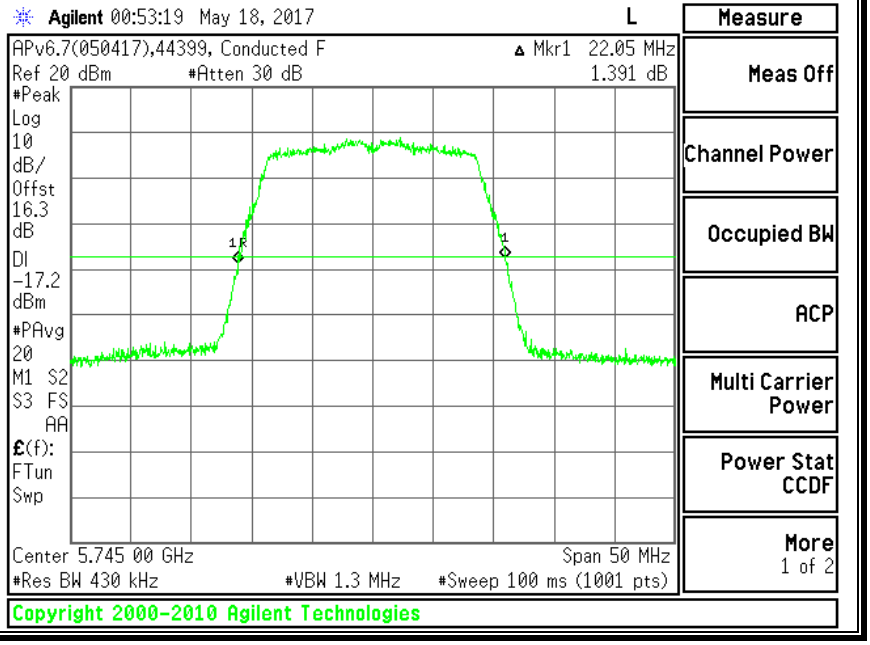
LIMITS

None; for reporting purposes only.

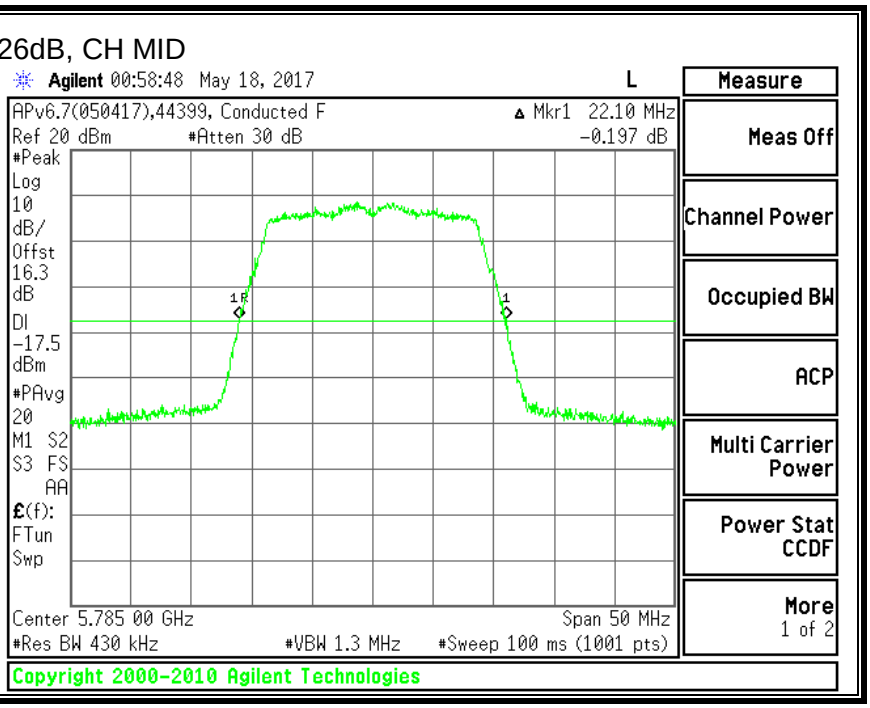
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5745	22.05
Mid	5785	22.1
High	5825	21.75

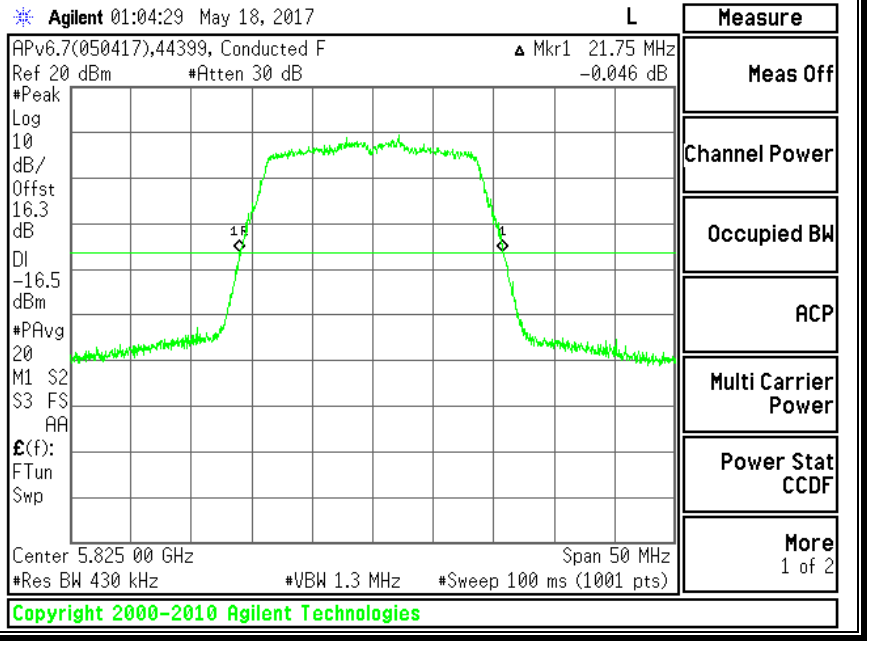
26dB, CH LOW



26dB, CH MID



26dB, CH HIGH



8.28.3. 99% BANDWIDTH

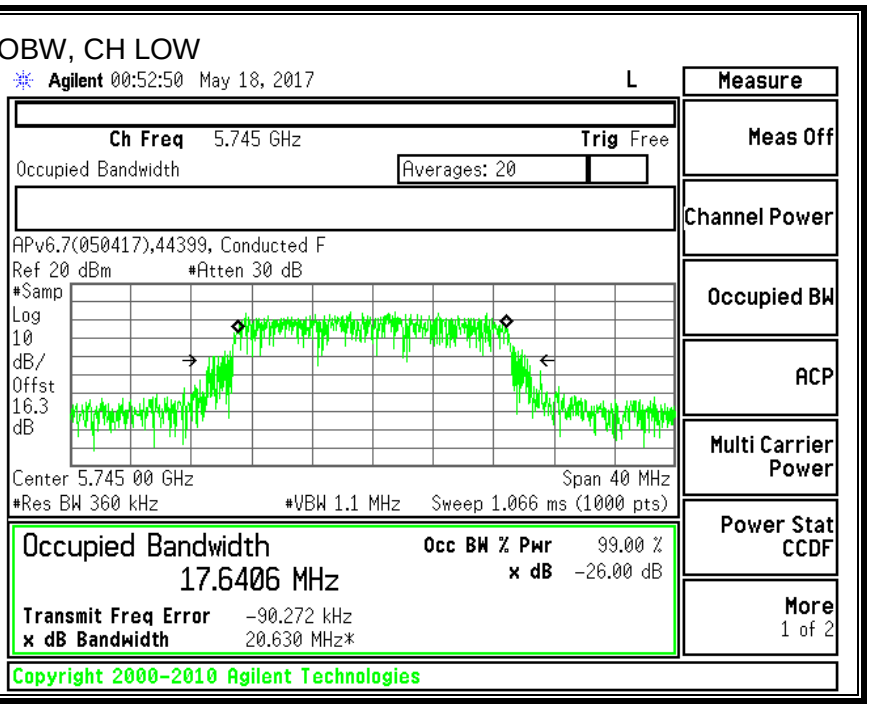
LIMITS

None; for reporting purposes only.

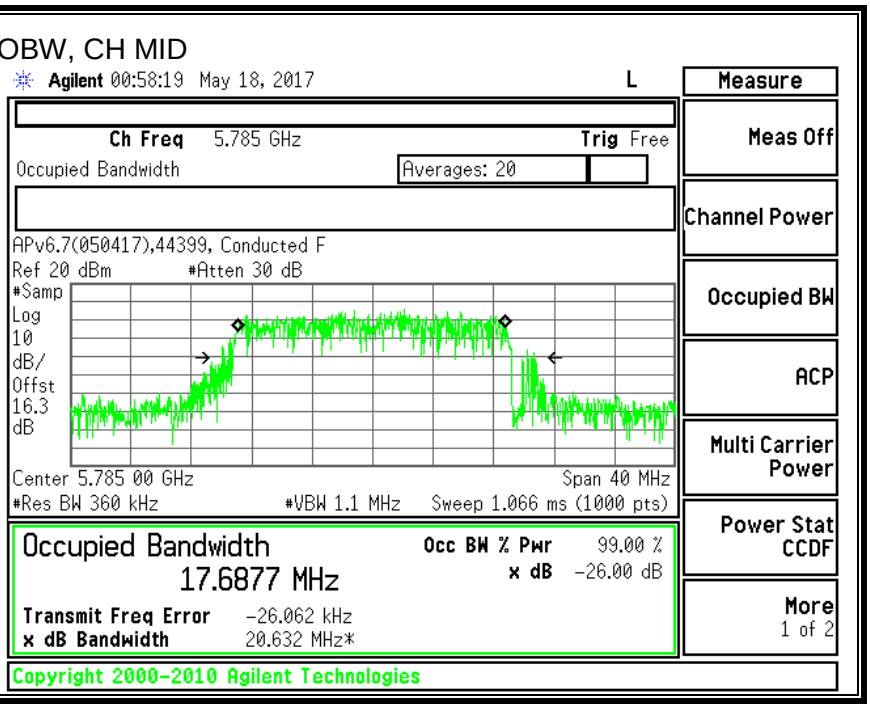
RESULTS

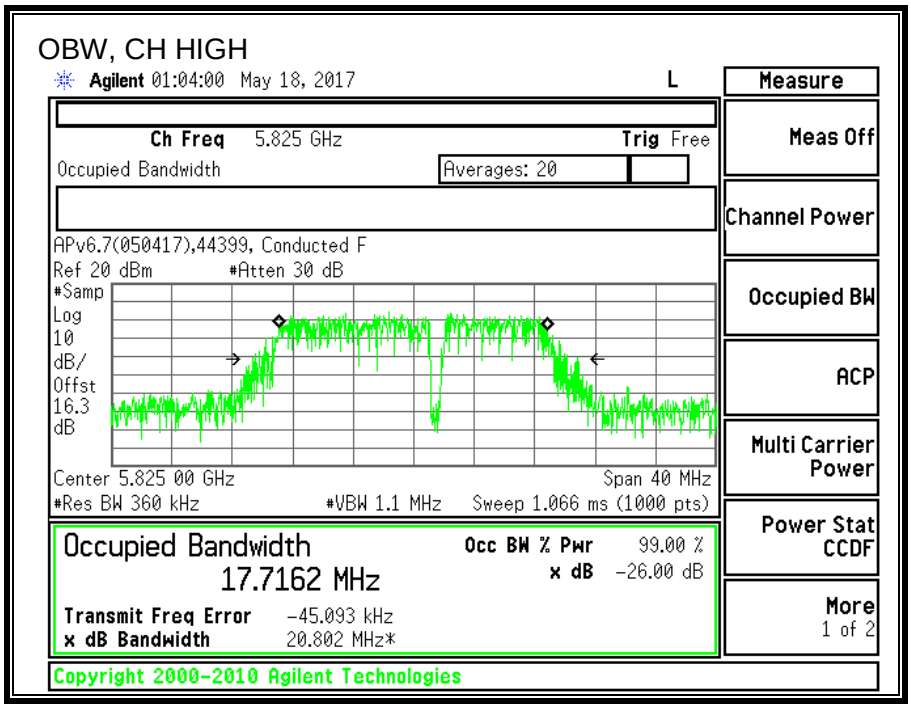
Channel	Frequency	99% BW UAT 2 (MHz)
Low	5745	17.6406
Mid	5785	17.6877
High	5825	17.7162

OBW, CH LOW



OBW, CH MID





8.28.4. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	21.24
Mid	5785	21.44
High	5825	21.28

8.28.5. OUTPUT POWER

ID:	44366	Date:	7/25/17

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	21.24	21.24	30.00	-8.76
Mid	5785	21.44	21.44	30.00	-8.56
High	5825	21.28	21.28	30.00	-8.72

8.28.6. 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

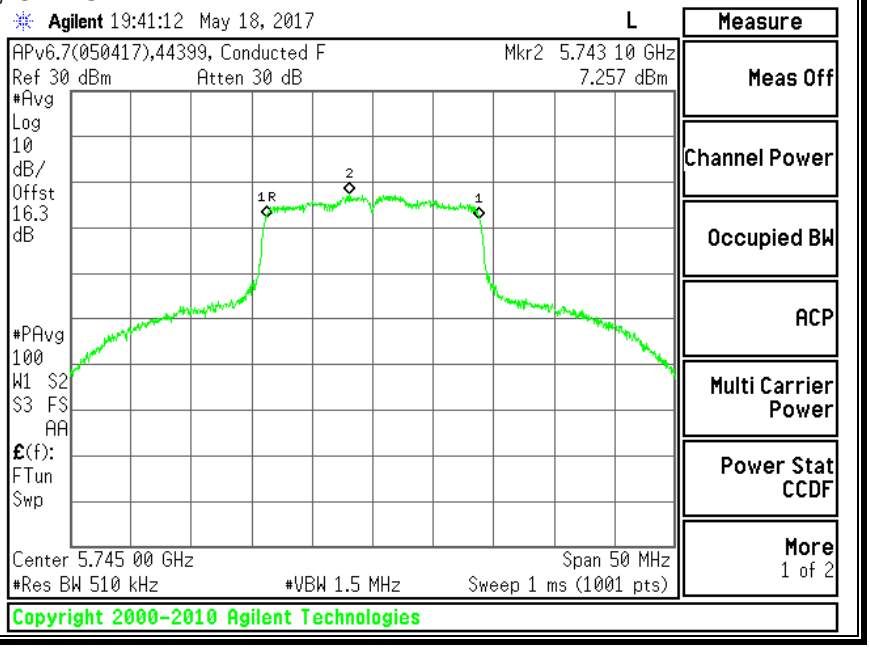
Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm/500KHz)
Low	5745	-3.57	30.00
Mid	5785	-3.57	30.00
High	5825	-3.57	30.00

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

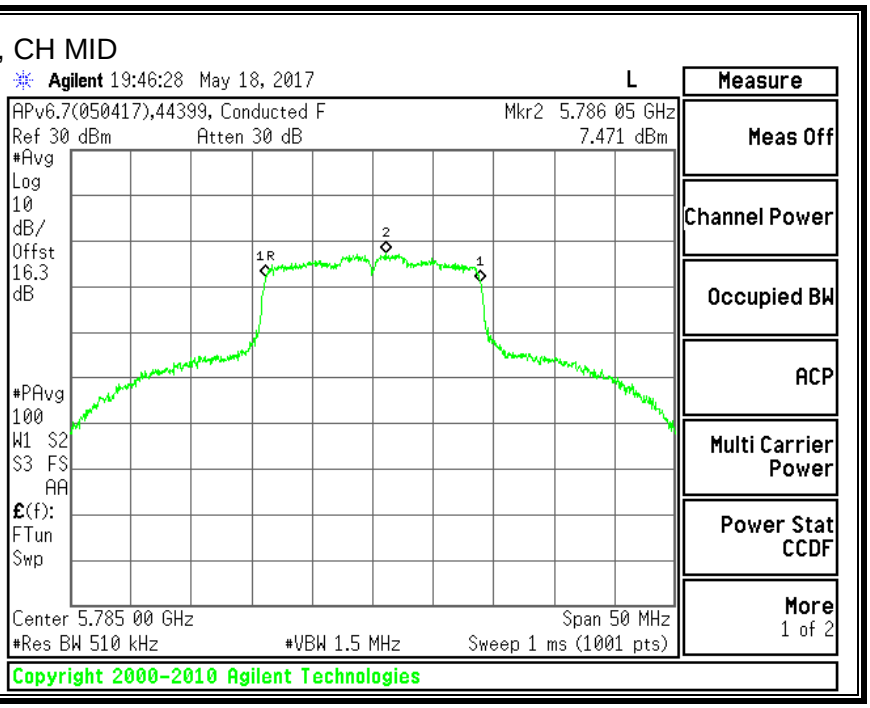
PSD Results

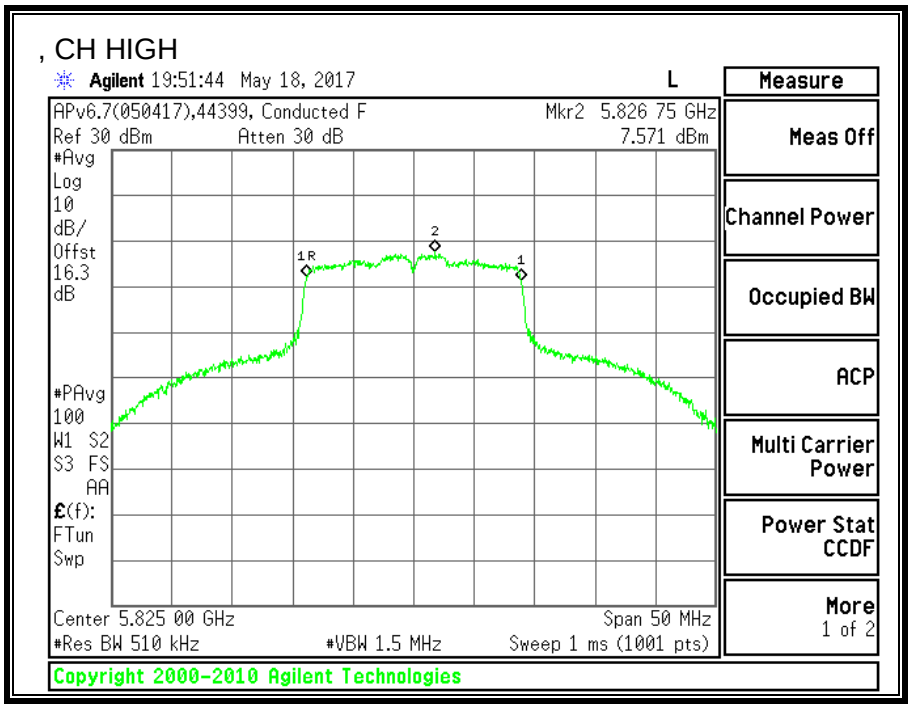
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5745	7.257	7.257	30.00	-22.74
Mid	5785	7.471	7.471	30.00	-22.53
High	5825	7.571	7.571	30.00	-22.43

, CH LOW



, CH MID





8.29. 11n HT20 LAT 3 SISO MODE IN THE 5.8GHz BAND

8.29.1. 6 dB BANDWIDTH

LIMITS

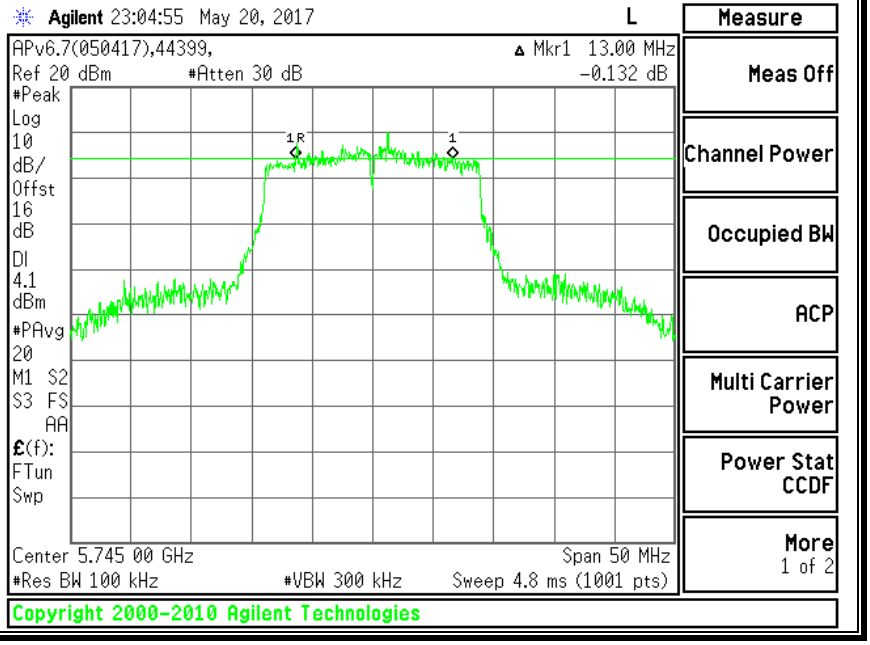
FCC §15.407 (e)

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

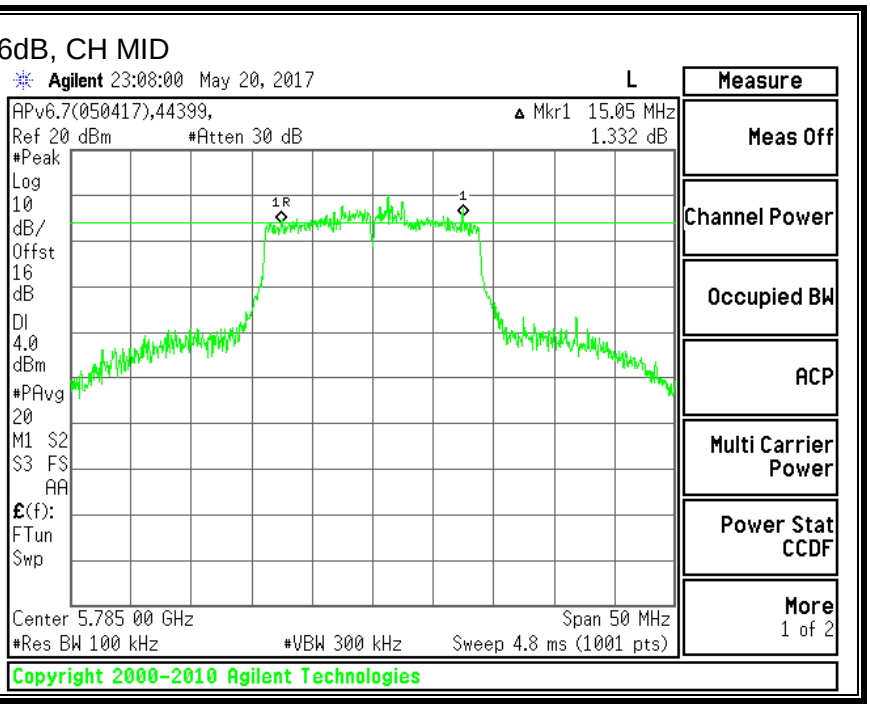
RESULTS

Channel	Frequency	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low	5745	13.00	0.5
Mid	5785	15.05	0.5
High	5825	15.50	0.5

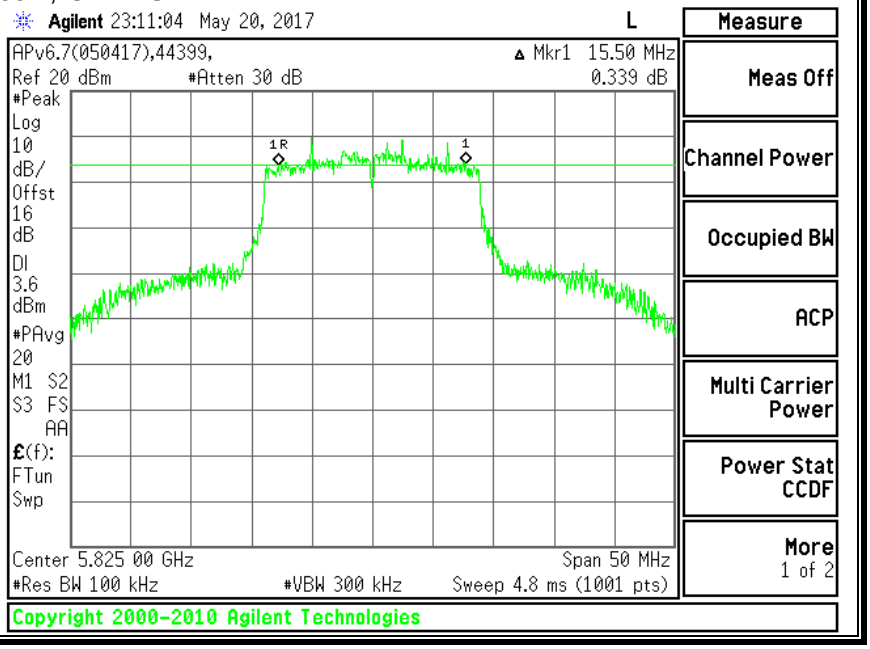
6dB, CH LOW



6dB, CH MID



6dB, CH HIGH



8.29.2. 26 dB BANDWIDTH

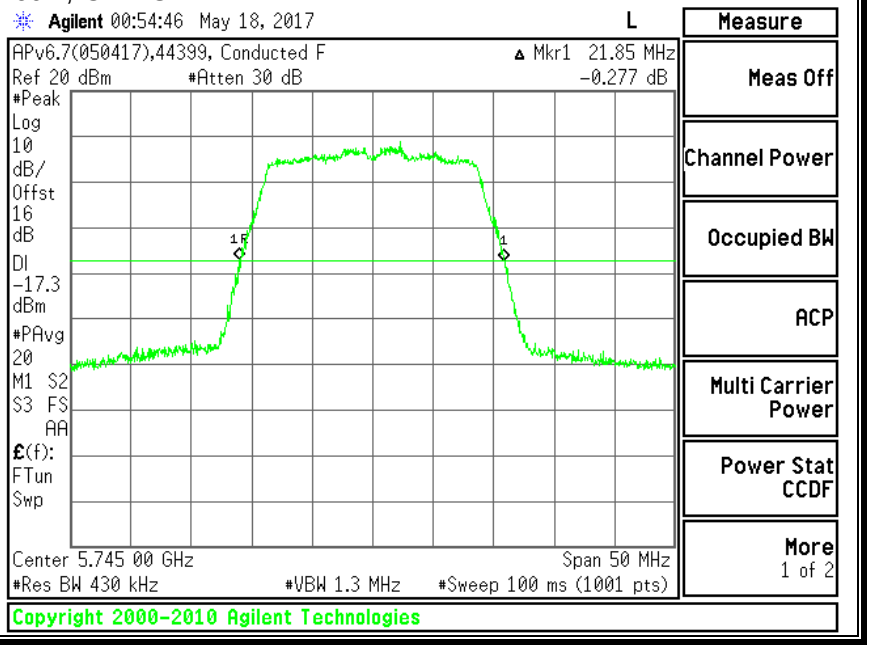
LIMITS

None; for reporting purposes only.

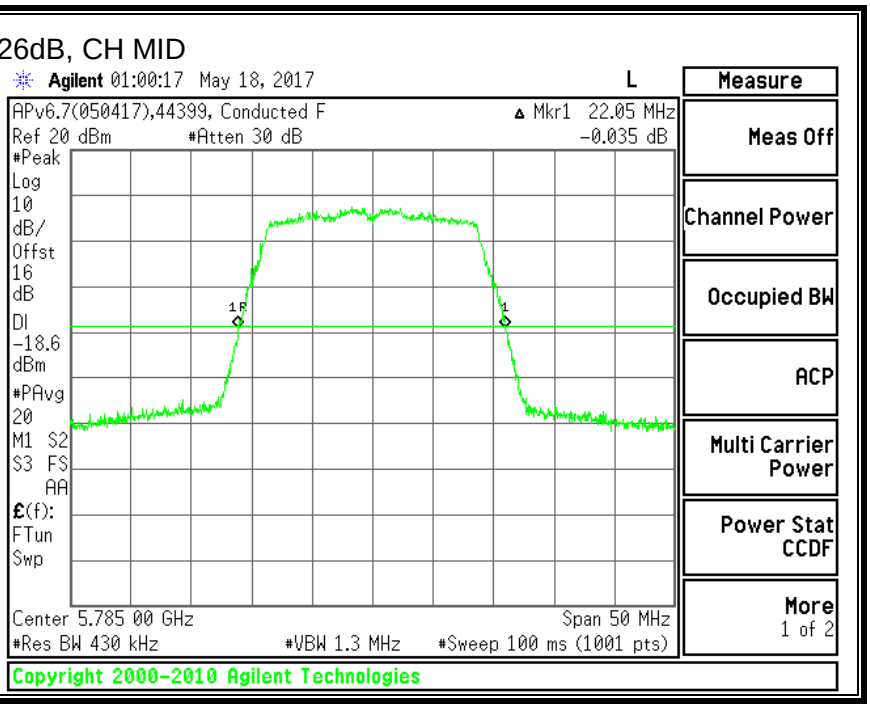
RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5745	21.85
Mid	5785	22.05
High	5825	22.10

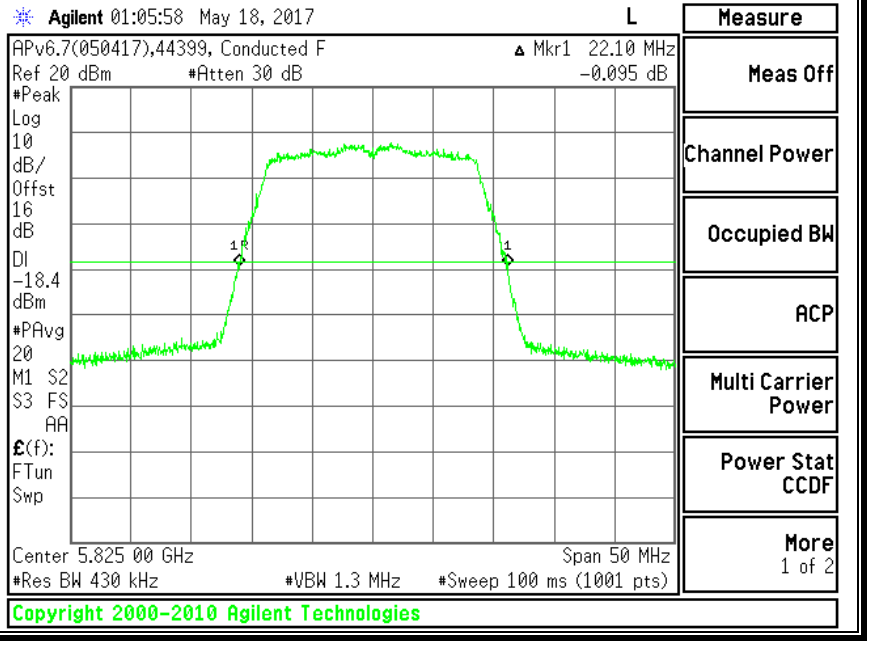
26dB, CH LOW



26dB, CH MID



26dB, CH HIGH



8.29.3. 99% BANDWIDTH

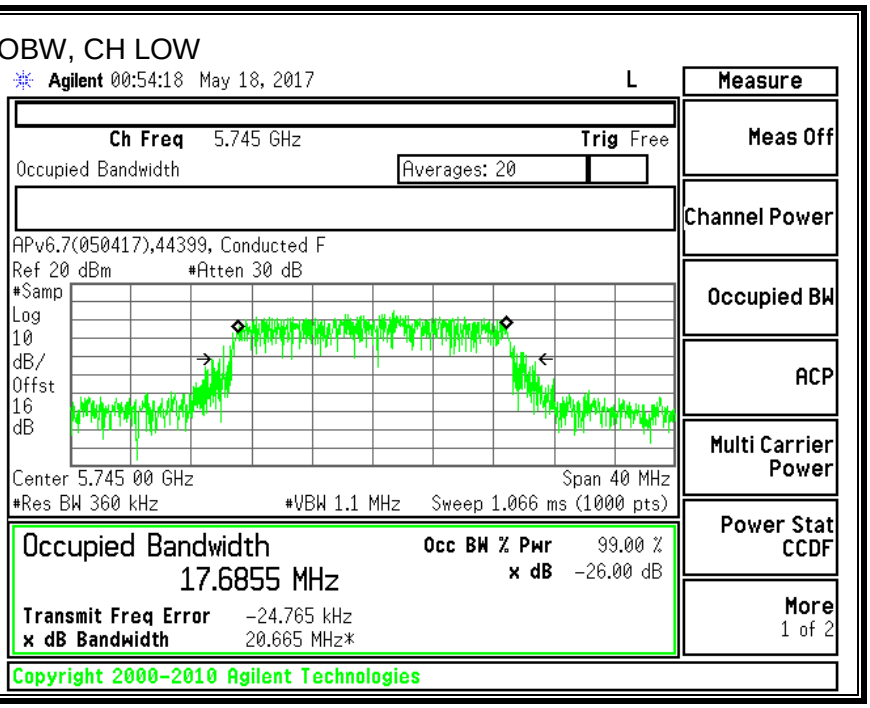
LIMITS

None; for reporting purposes only.

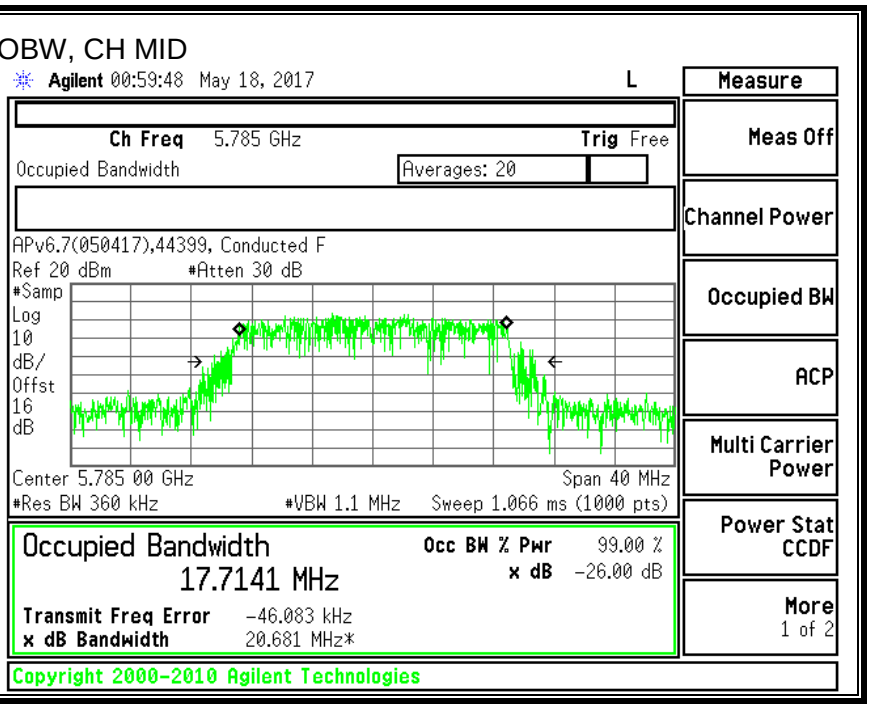
RESULTS

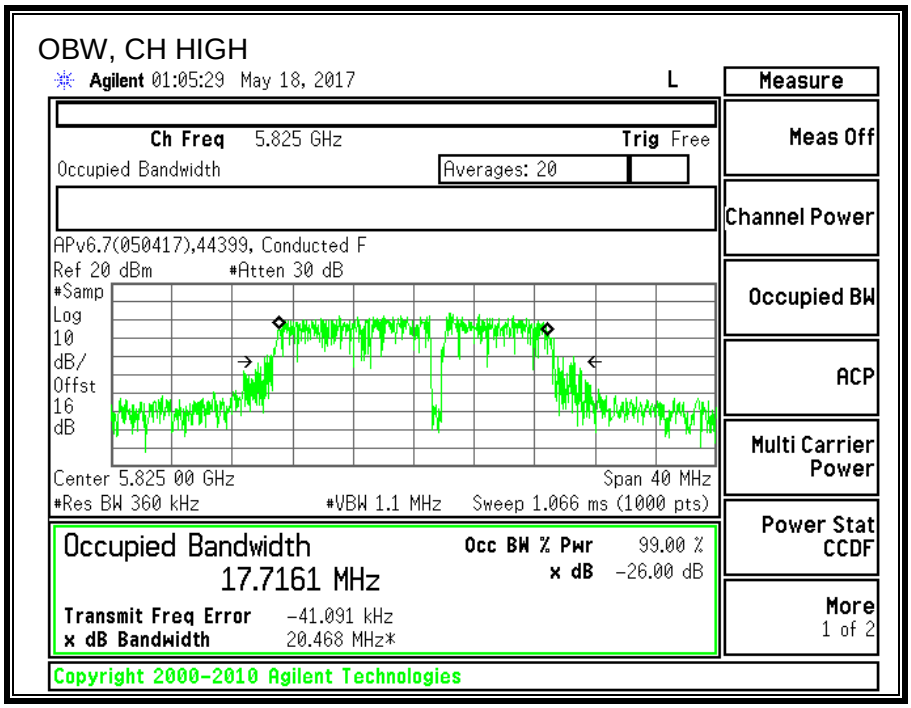
Channel	Frequency	99% BW LAT 3 (MHz)
Low	5745	17.68551
Mid	5785	17.7141
High	5825	17.7161

OBW, CH LOW



OBW, CH MID





8.29.4. AVERAGE POWER

ID:	44366	Date:	7/25/17

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	5745	21.39
Mid	5785	21.31
High	5825	21.46

8.29.5. OUTPUT POWER

ID:	44366	Date:	7/25/17

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	-6.31	30.00
Mid	5785	-6.31	30.00
High	5825	-6.31	30.00

Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	21.39	21.39	30.00	-8.61
Mid	5785	21.31	21.31	30.00	-8.69
High	5825	21.46	21.46	30.00	-8.54

8.29.6. 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	-6.31	30.00
Mid	5785	-6.31	30.00
High	5825	-6.31	30.00

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

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5745	6.739	6.739	30.00	-23.26
Mid	5785	7.058	7.058	30.00	-22.94
High	5825	6.996	6.996	30.00	-23.00