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

8.19.1. 26 dB BANDWIDTH

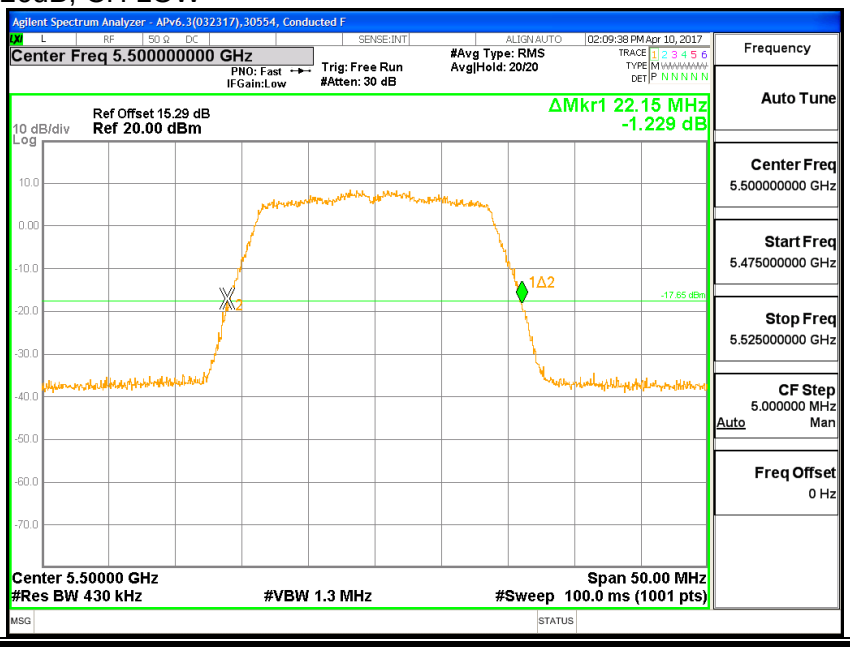
LIMITS

None; for reporting purposes only.

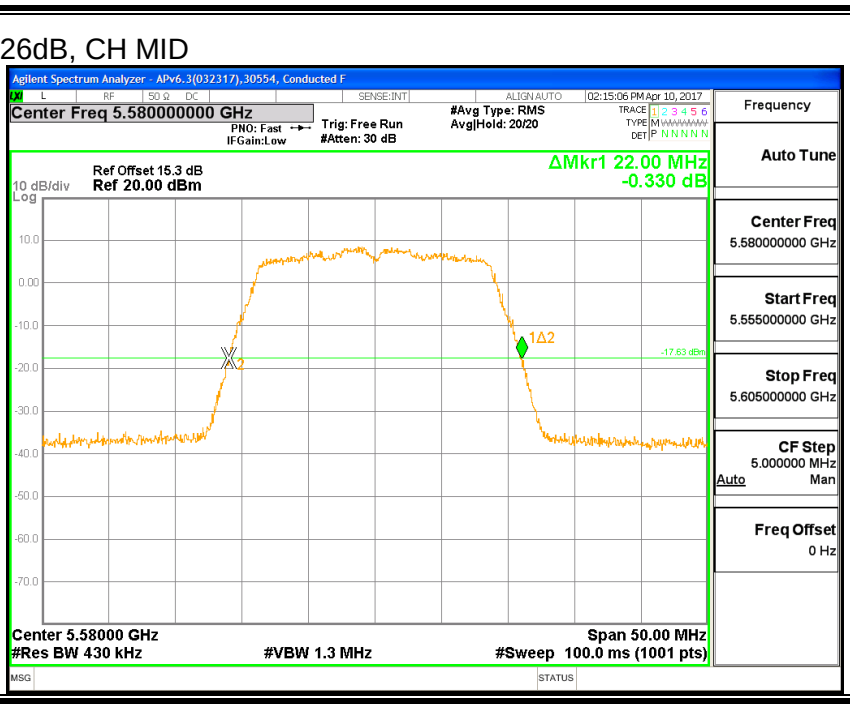
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5500	22.15
Mid	5580	22.00
High	5700	22.10
144	5720	22.10

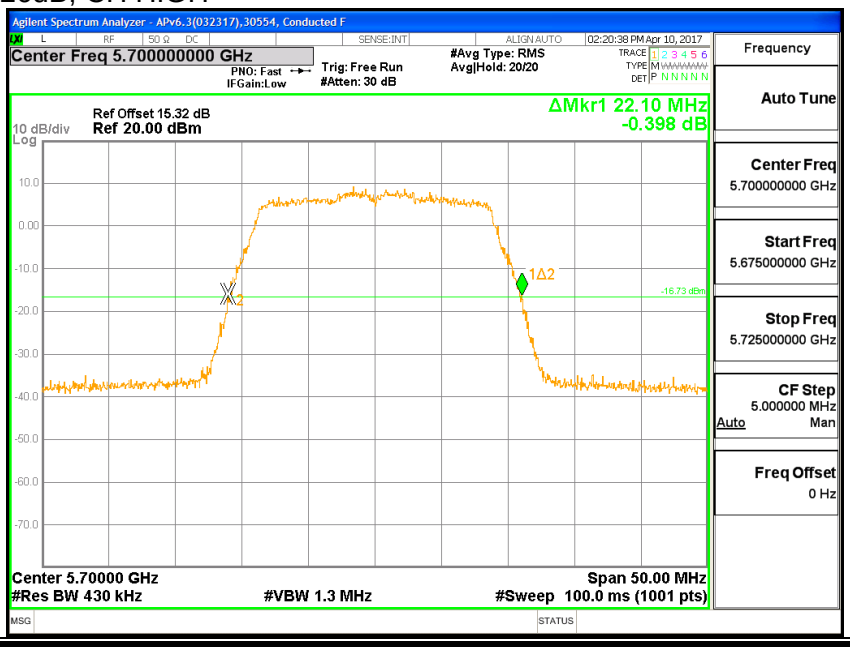
26dB, CH LOW



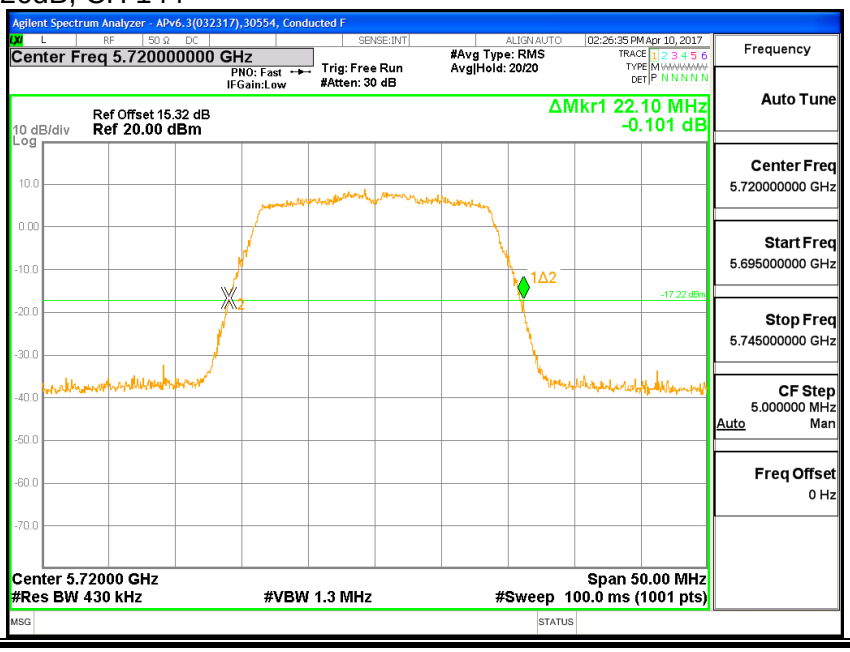
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.19.2. 99% BANDWIDTH

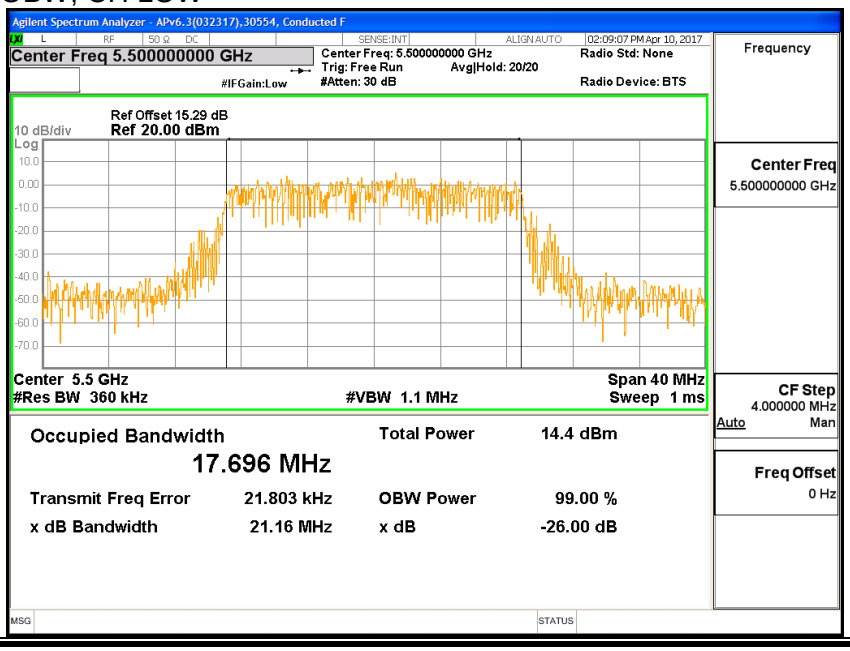
LIMITS

None; for reporting purposes only.

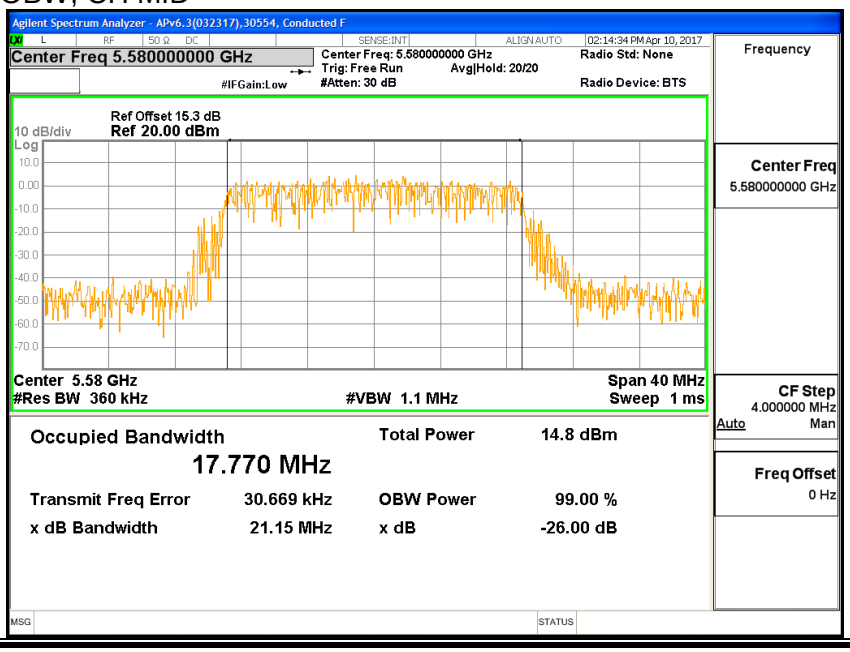
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5500	17.696
Mid	5580	17.770
High	5700	17.689
144	5720	17.764

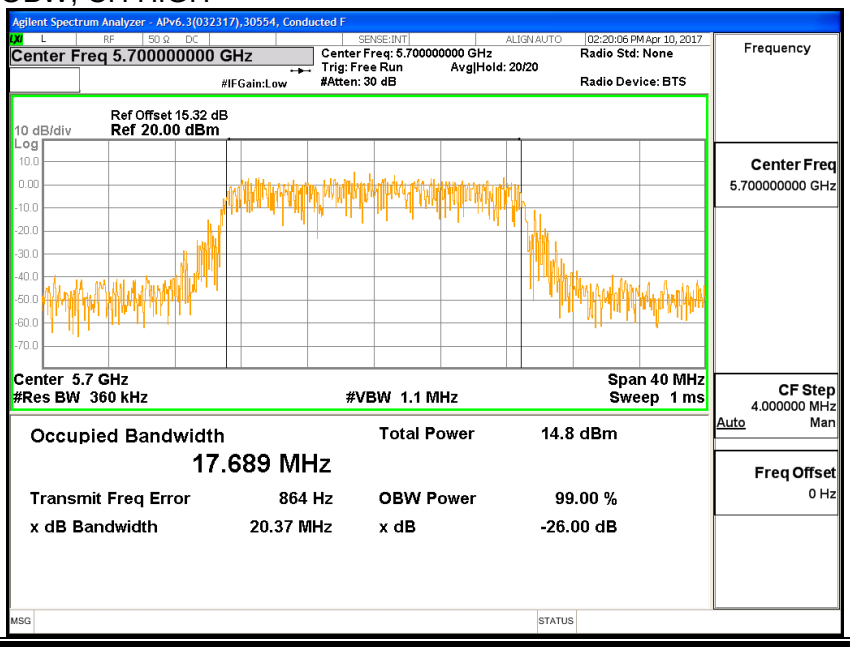
OBW, CH LOW



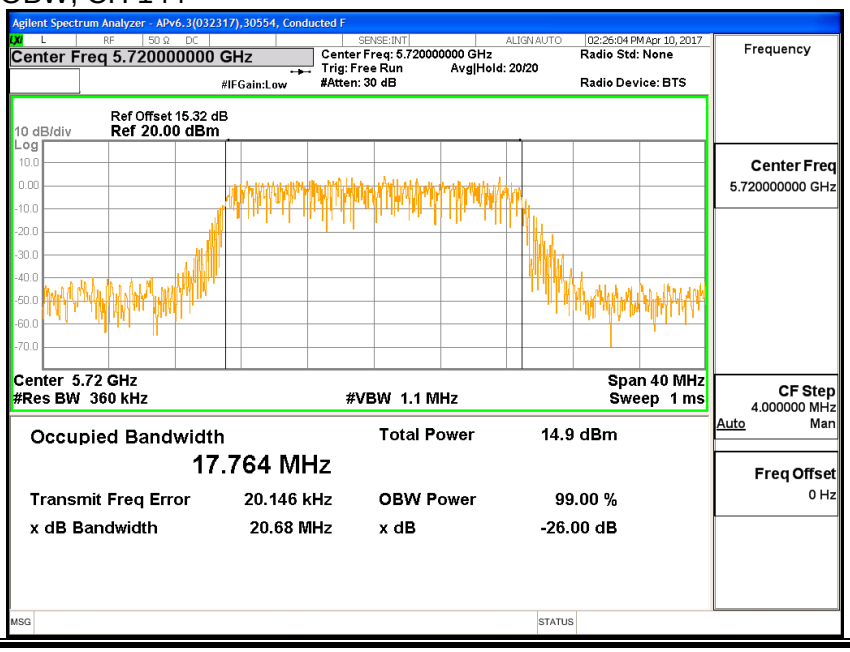
OBW, CH MID



OBW, CH HIGH



OBW, CH 144



8.19.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5500	16.45
Mid	5580	20.89
High	5700	16.76
144	5720	20.92

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)
Low	5500	22.15	17.70	-2.25	23.48	11.00
Mid	5580	22.00	17.77	-2.25	23.50	11.00
High	5700	22.10	17.69	-2.25	23.48	11.00

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

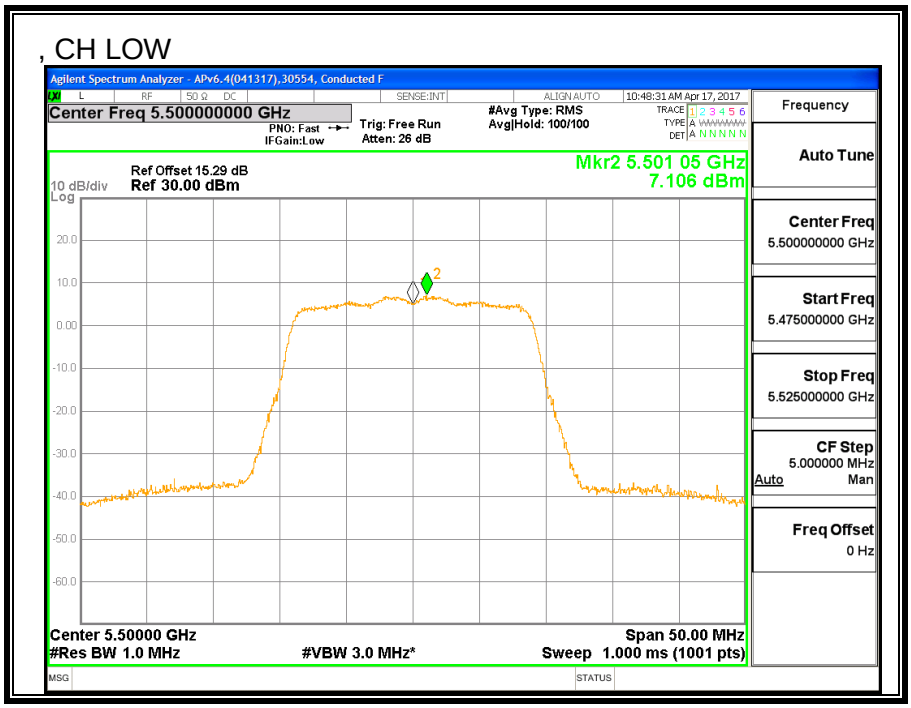
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.45	16.45	23.48	-7.03
Mid	5580	20.89	20.89	23.50	-2.61
High	5700	16.76	16.76	23.48	-6.72

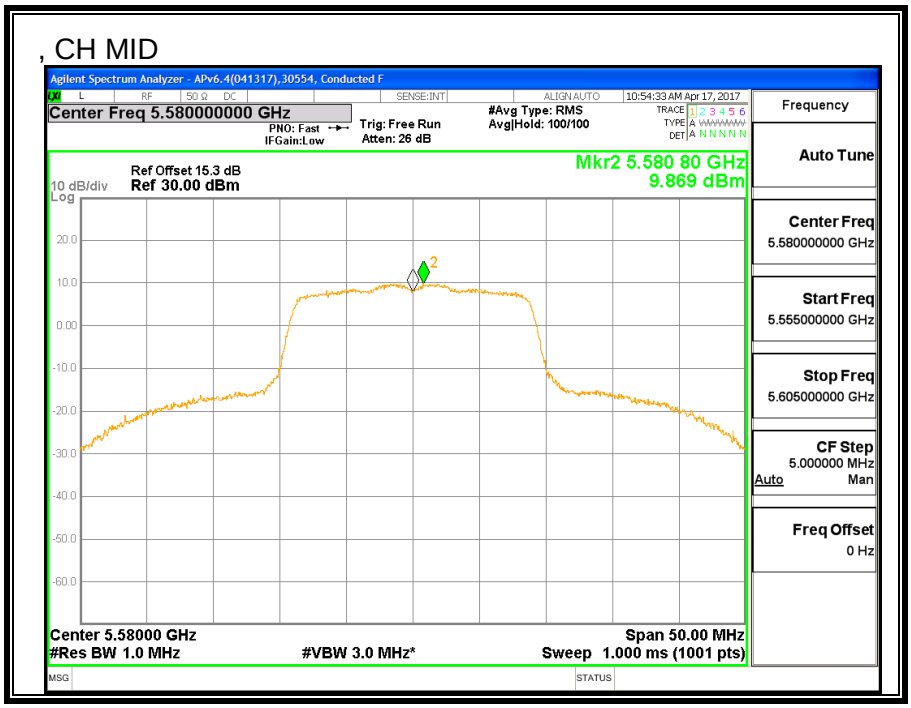
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	7.11	7.11	11.00	-3.89
Mid	5580	9.87	9.87	11.00	-1.13
High	5700	7.83	7.83	11.00	-3.17

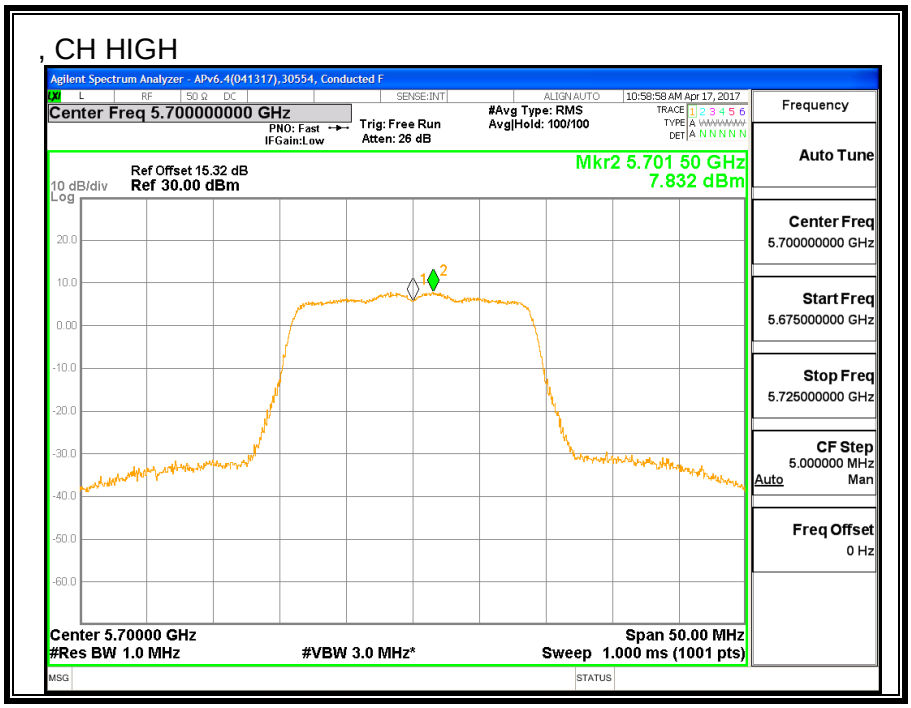
, CH LOW



, CH MID



, CH HIGH



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)
144	5720	22.10	-2.25	-2.25	24.00	11.00

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

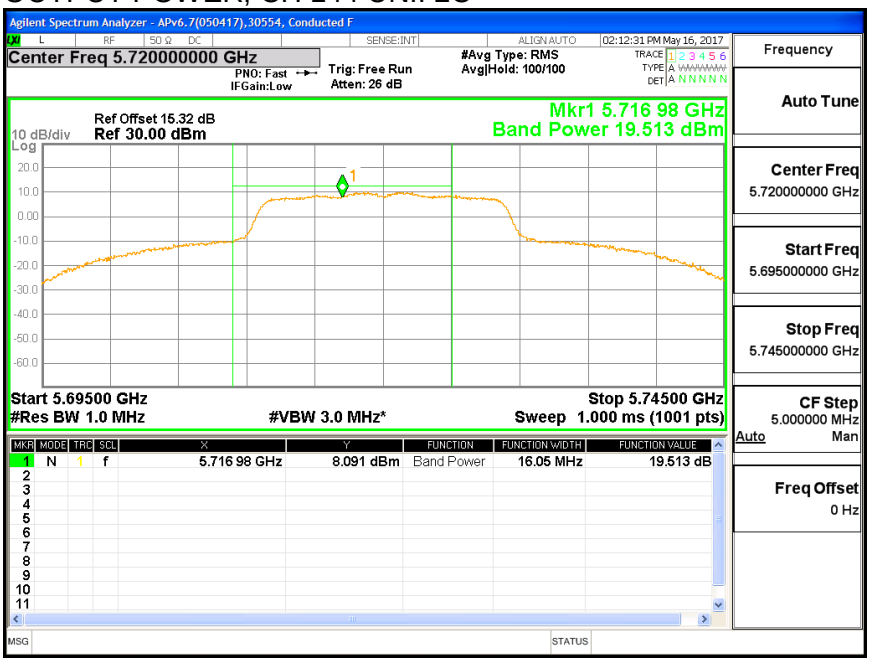
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	19.51	19.51	24.00	-4.49

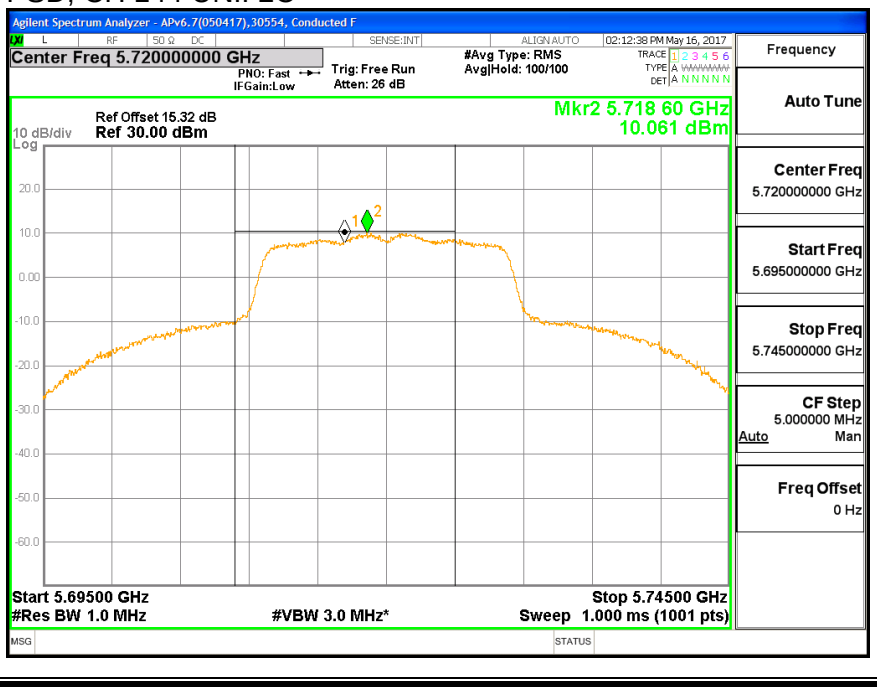
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	10.06	10.06	11.00	-0.94

OUTPUT POWER, CH 144 UNII 2C



PSD, CH 144 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	22.10	-2.41	30.00	30.00

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

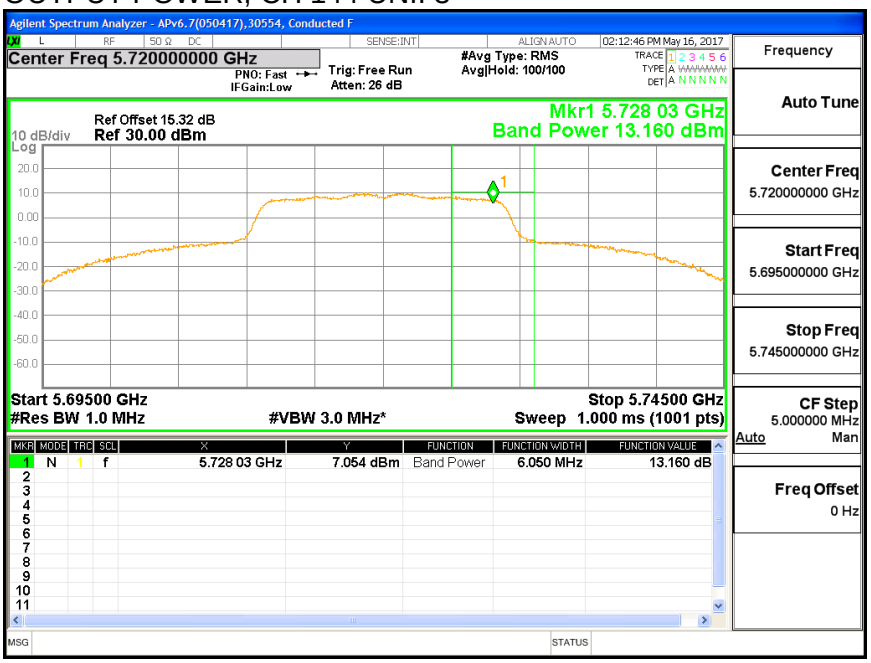
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.160	13.160	30.00	-16.84

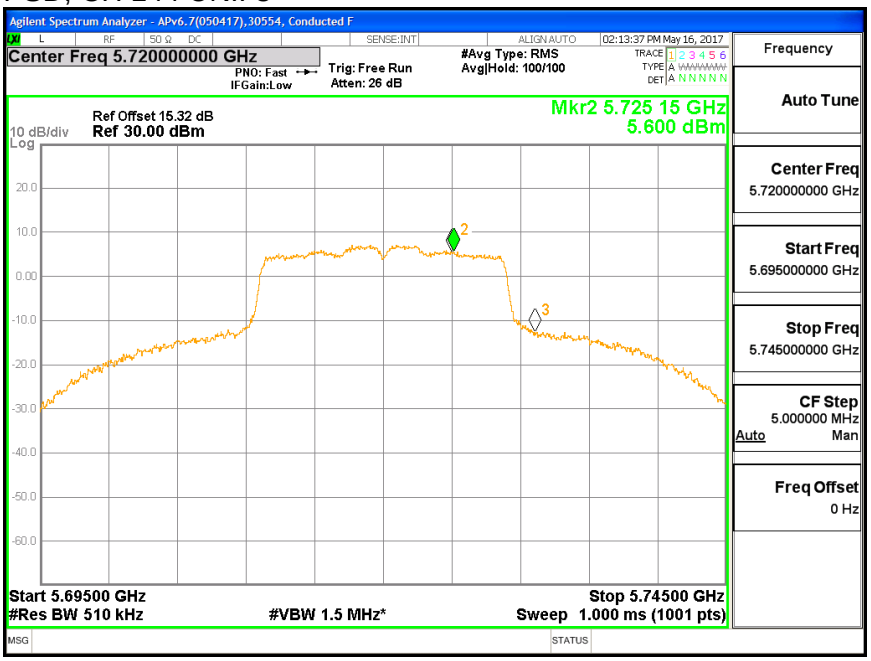
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.600	5.600	30.00	-24.40

OUTPUT POWER, CH 144 UNII 3



PSD, CH 144 UNII 3



8.19.6. 6 dB BANDWIDTH

LIMITS

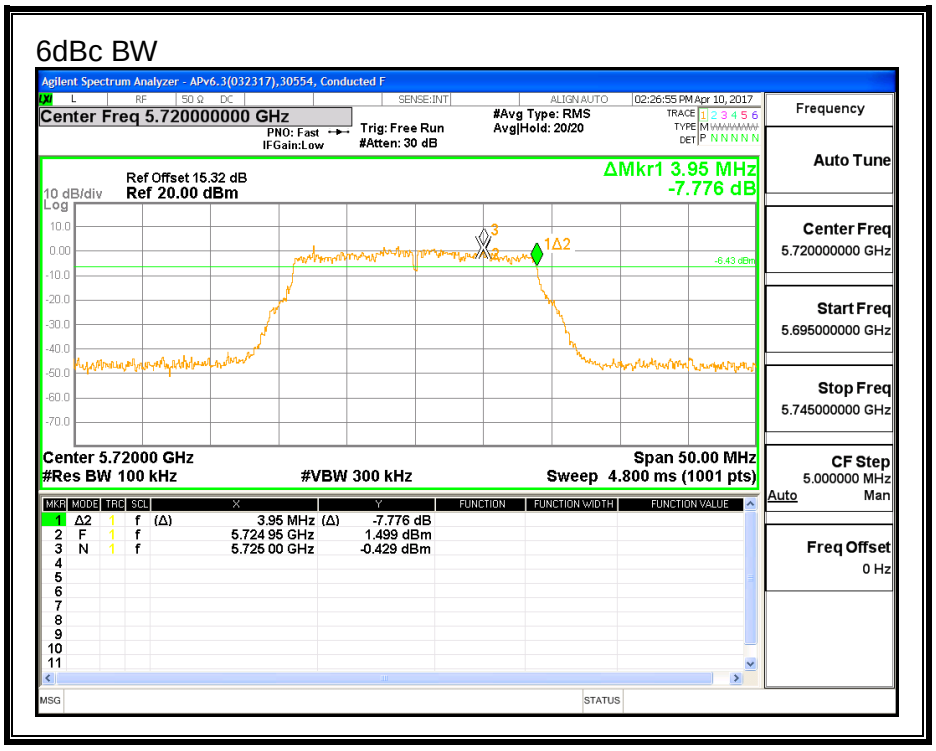
FCC §15.407 (e)

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

RESULTS

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

6 dB BANDWIDTH



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

8.20.1. 26 dB BANDWIDTH

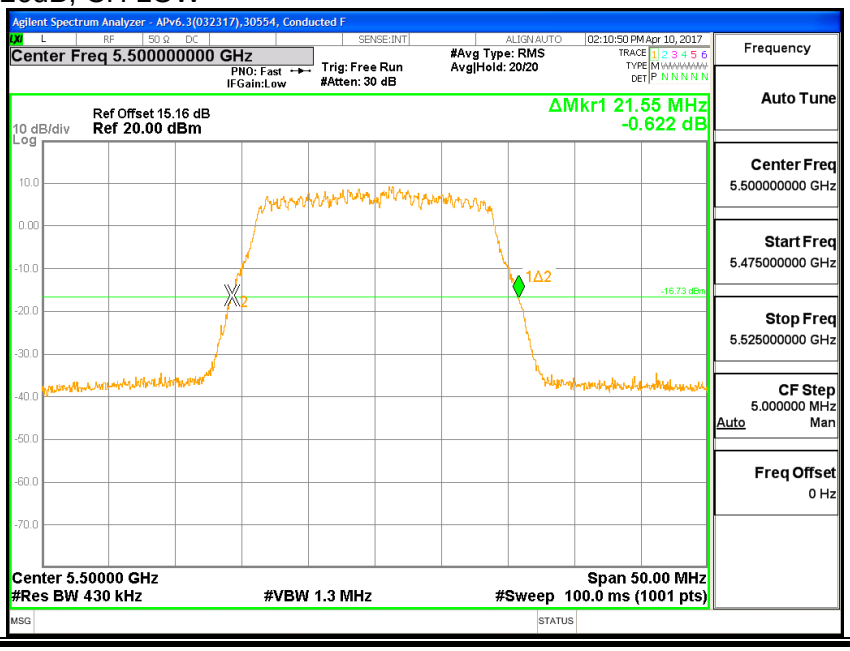
LIMITS

None; for reporting purposes only.

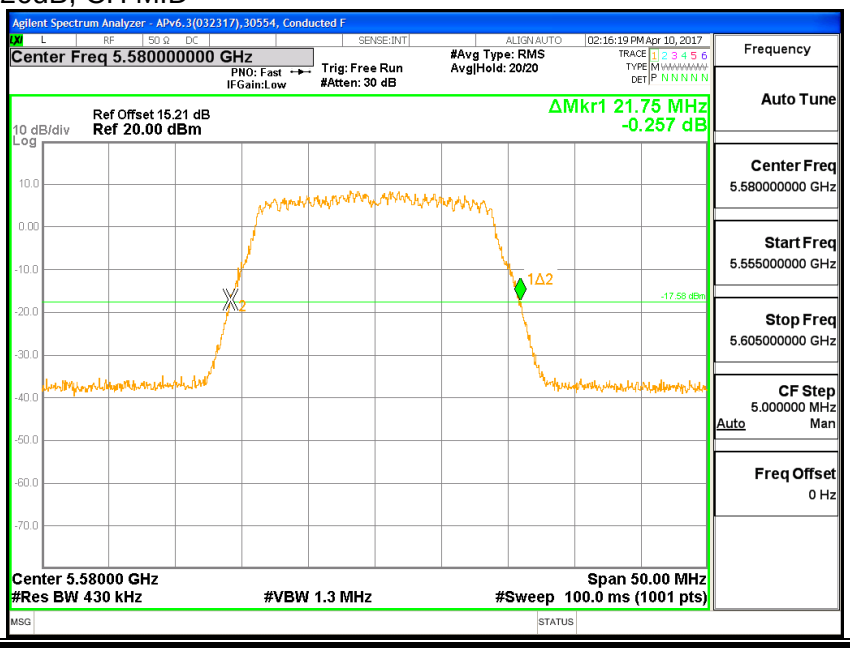
RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5500	21.55
Mid	5580	21.75
High	5700	21.60
144	5720	21.55

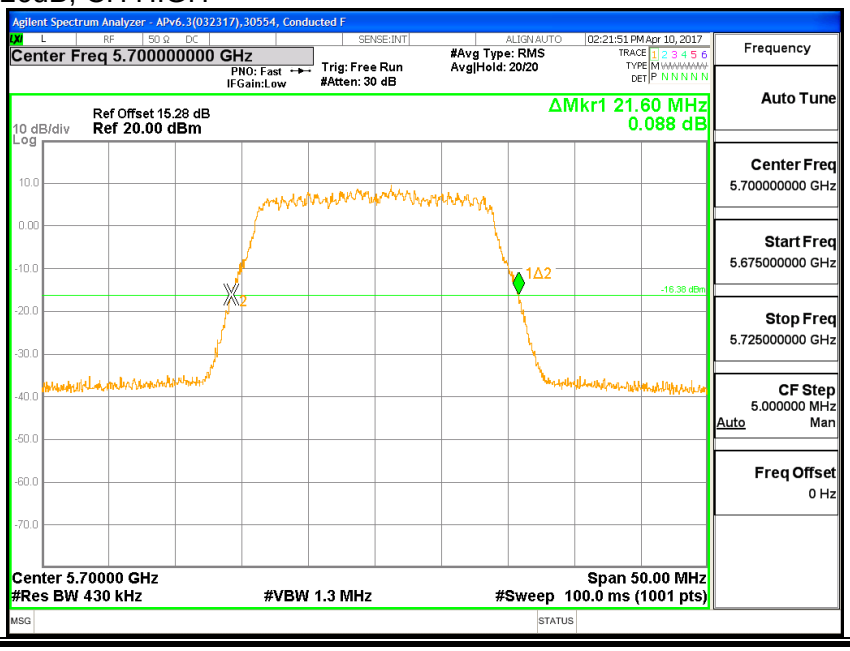
26dB, CH LOW



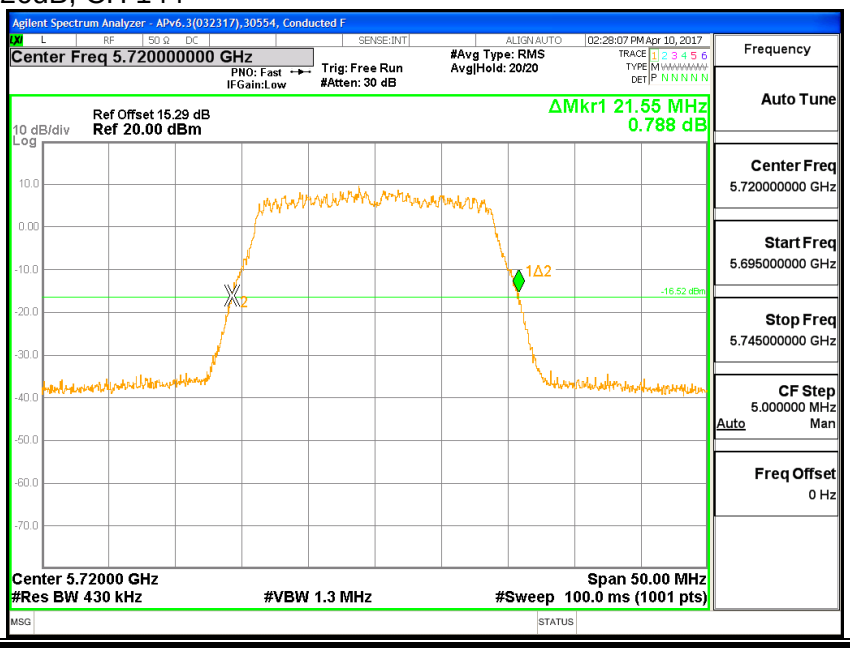
26dB, CH MID



26dB, CH HIGH



26dB, CH 144



8.20.2. 99% BANDWIDTH

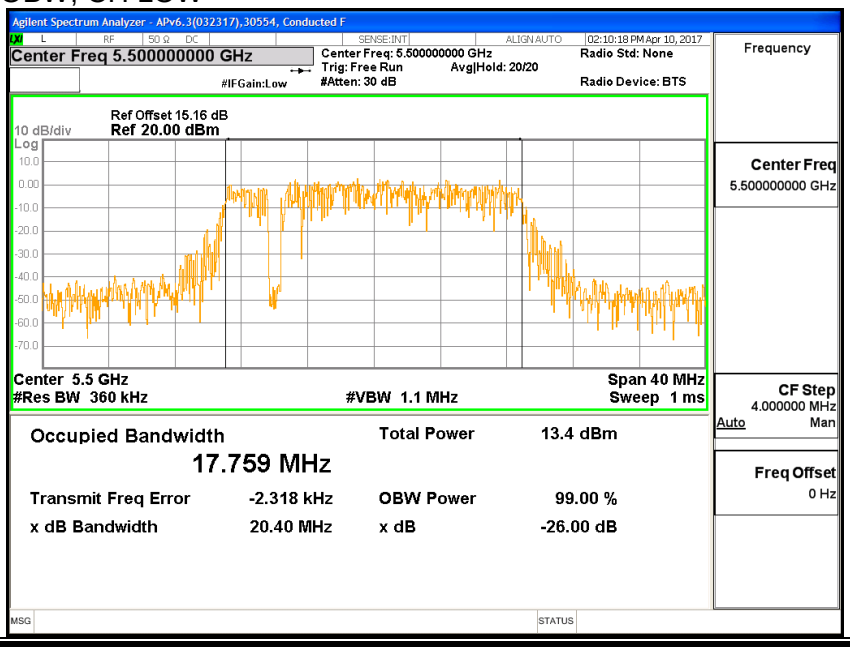
LIMITS

None; for reporting purposes only.

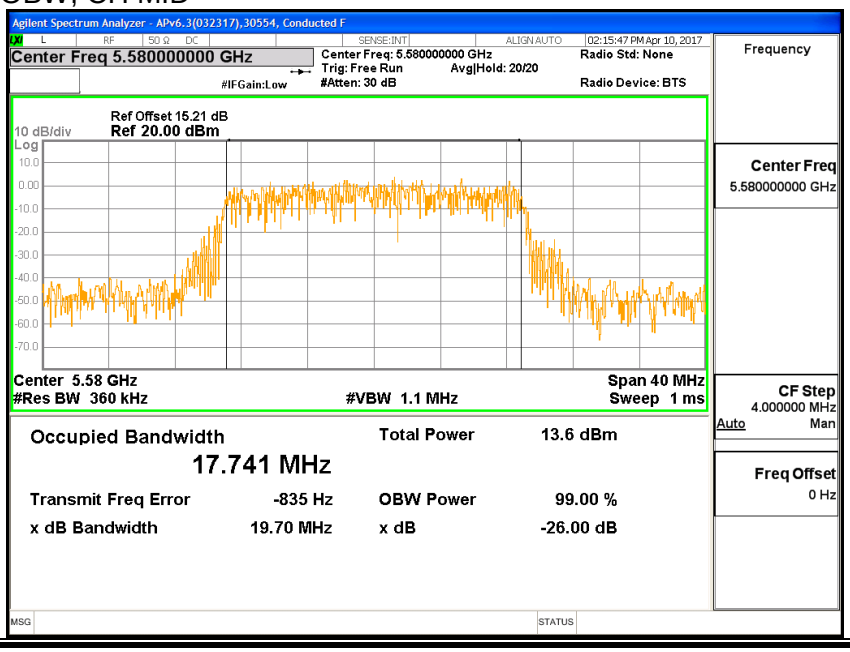
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5500	17.759
Mid	5580	17.741
High	5700	17.772
144	5720	17.773

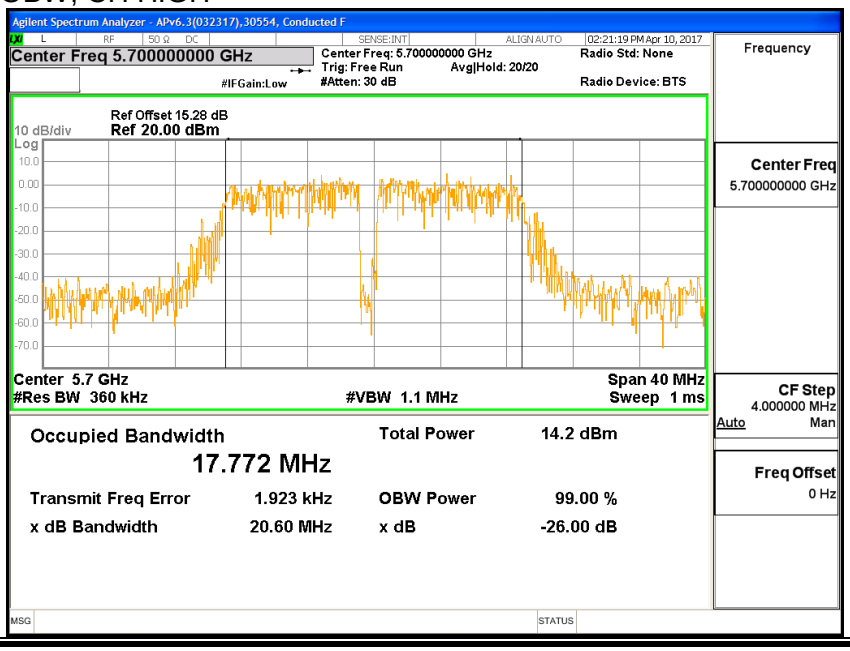
OBW, CH LOW



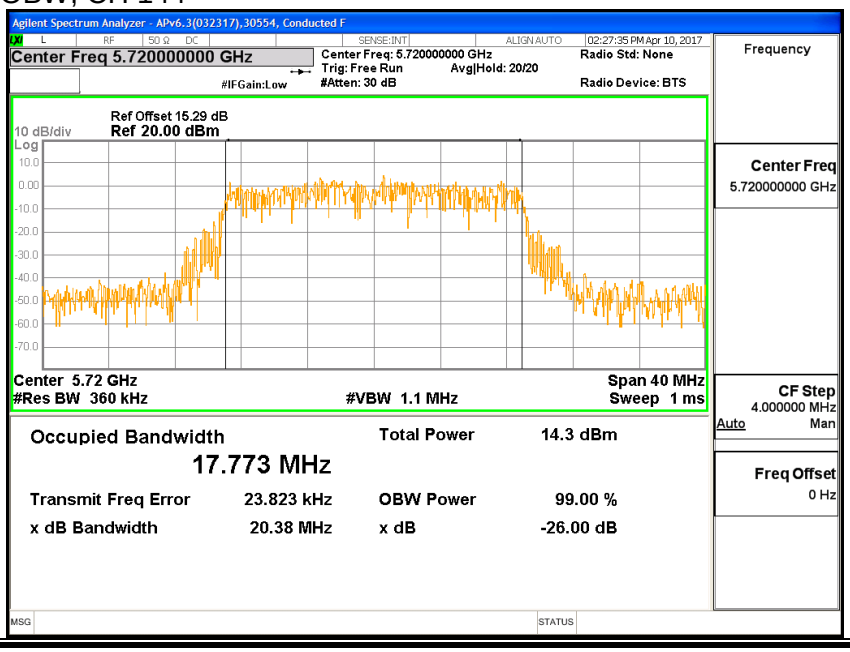
OBW, CH MID



OBW, CH HIGH



OBW, CH 144



8.20.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5500	16.31
Mid	5580	20.78
High	5700	16.82
144	5720	20.94

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)
Low	5500	21.55	17.76	-0.41	23.49	11.00
Mid	5580	21.75	17.74	-0.41	23.49	11.00
High	5700	21.60	17.77	-0.41	23.50	11.00

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

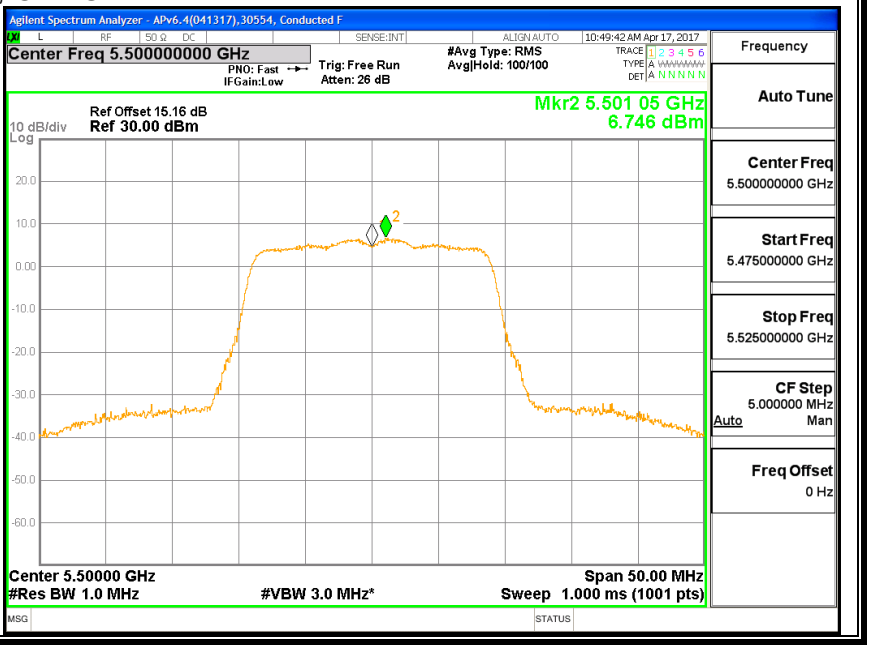
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.31	16.31	23.49	-7.18
Mid	5580	20.78	20.78	23.49	-2.71
High	5700	16.82	16.82	23.50	-6.68

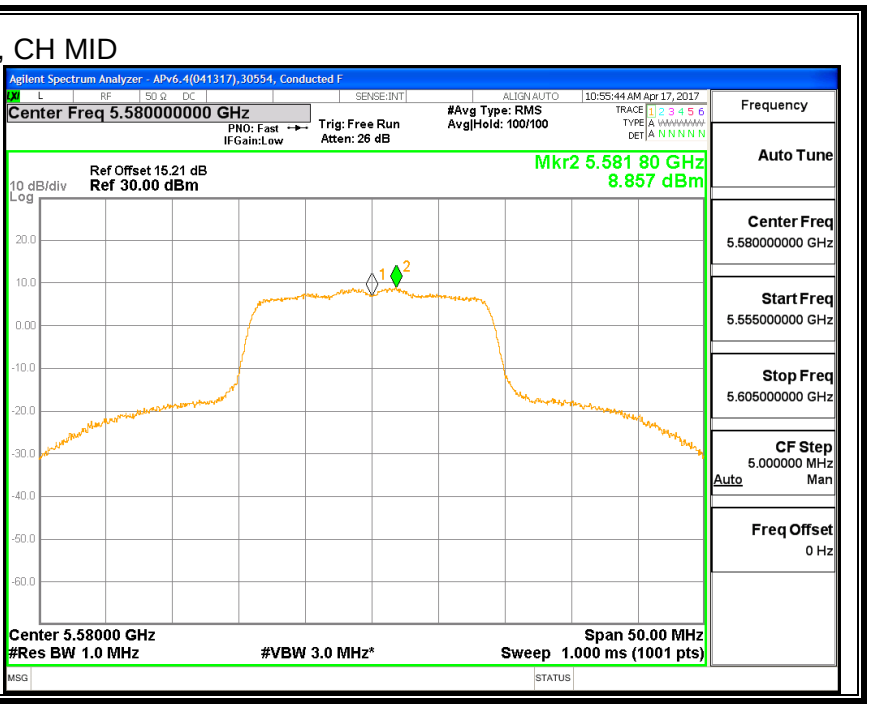
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	6.75	6.75	11.00	-4.25
Mid	5580	8.86	8.86	11.00	-2.14
High	5700	7.64	7.64	11.00	-3.36

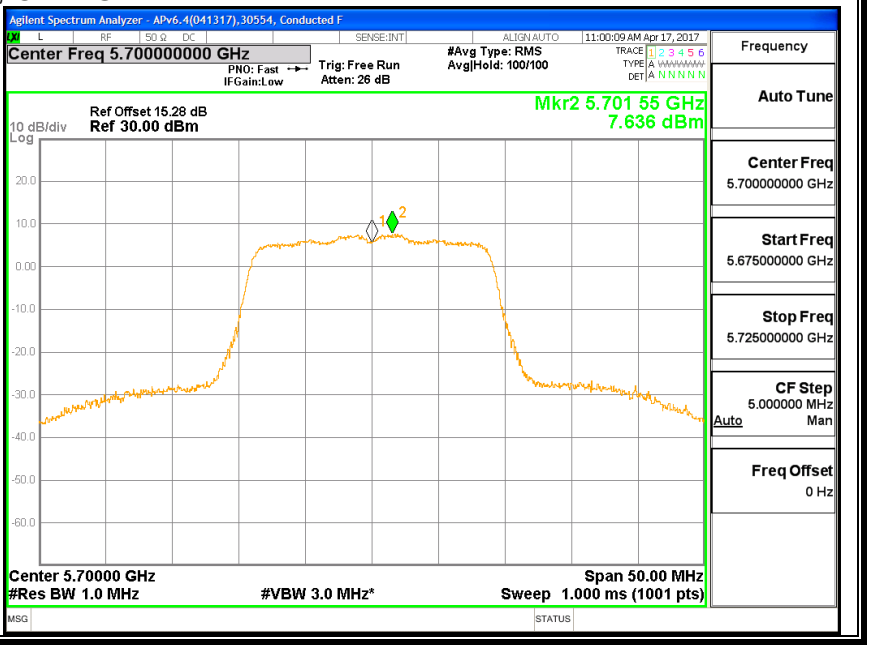
, CH LOW



, CH MID



, CH HIGH



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)
144	5720	21.55	-0.41	-0.41	24.00	11.00

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

Output Power Results

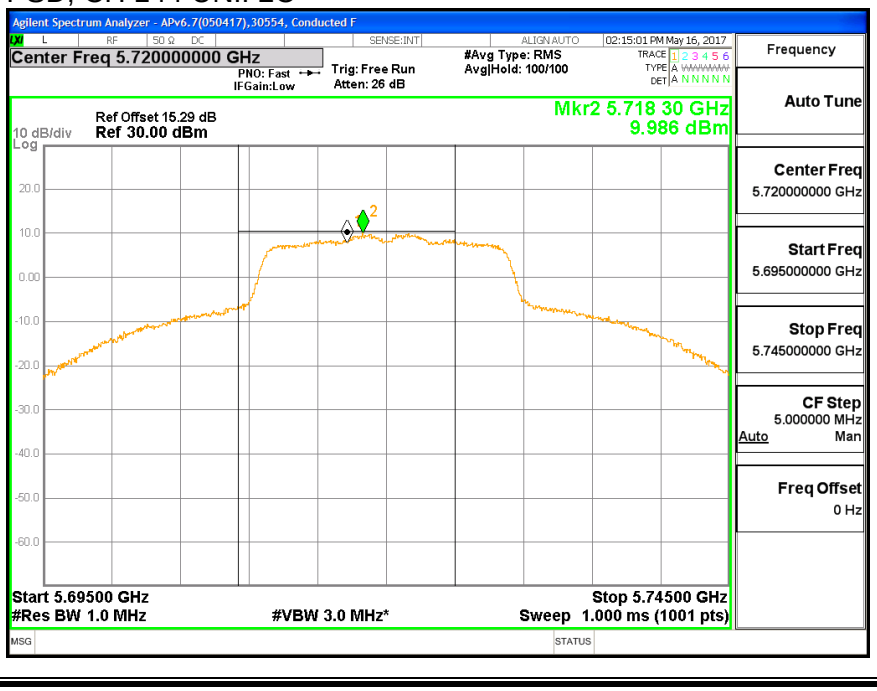
Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	19.39	19.39	24.00	-4.61

PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	9.99	9.99	11.00	-1.01

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	21.55	-0.15	30.00	30.00

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

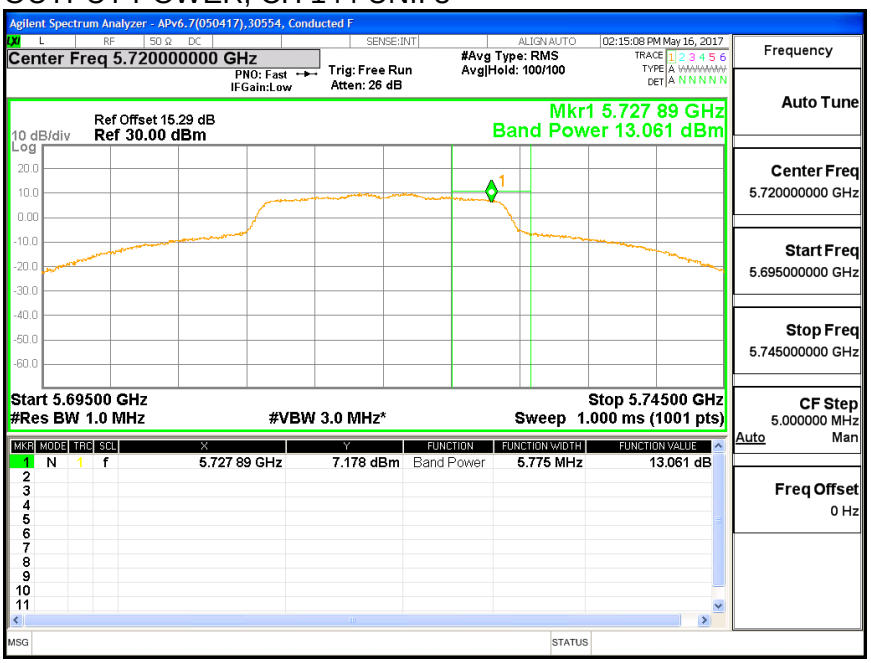
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.061	13.061	30.00	-16.94

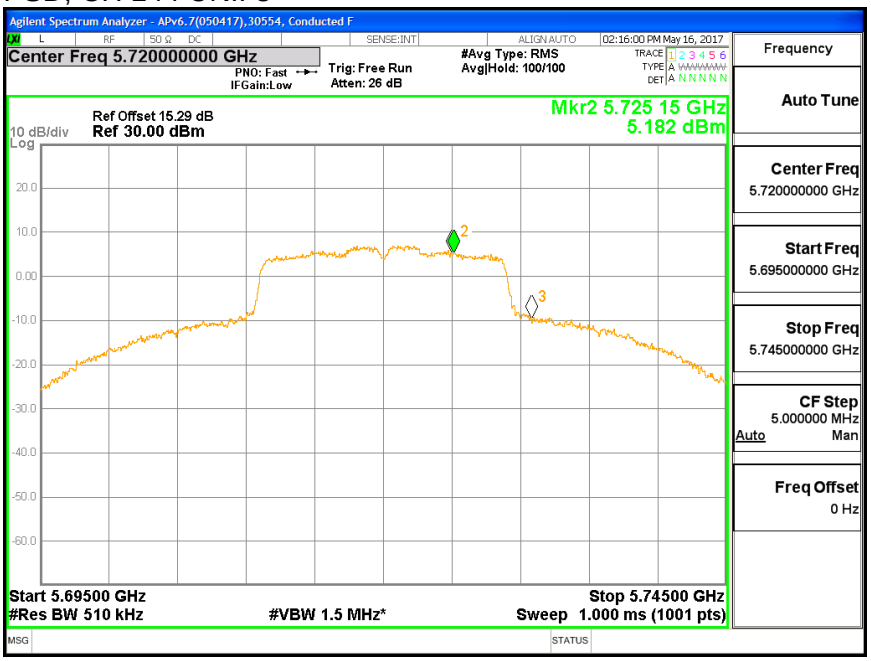
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.182	5.182	30.00	-24.82

OUTPUT POWER, CH 144 UNII 3



PSD, CH 144 UNII 3



8.20.6. 6 dB BANDWIDTH

LIMITS

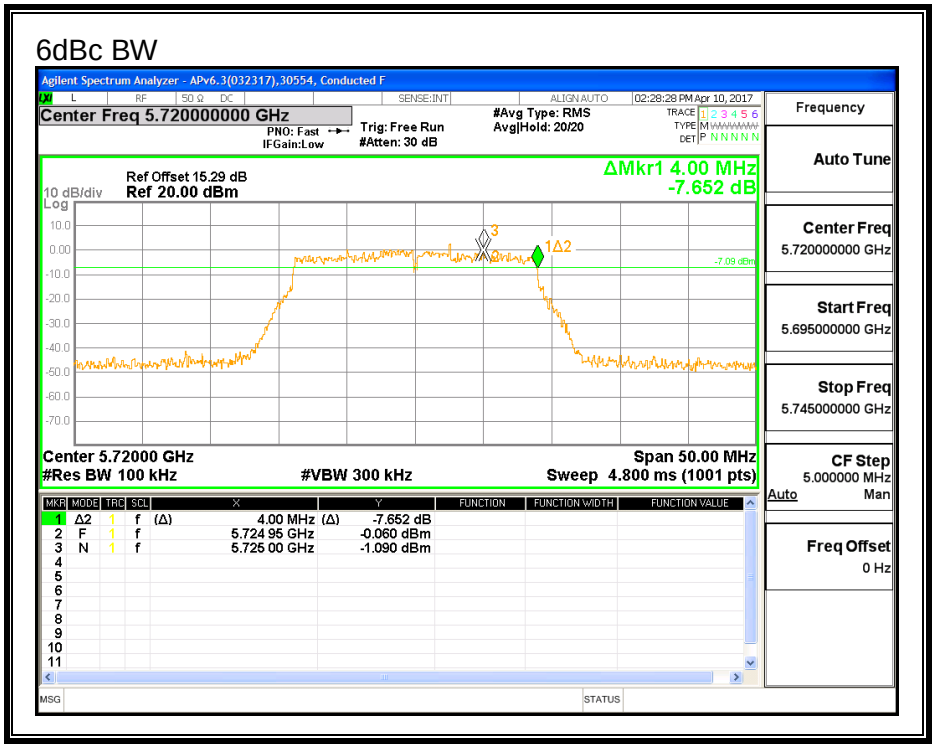
FCC §15.407 (e)

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

RESULTS

	(MHz)	(MHz)
144	5720	4.00

6 dB BANDWIDTH



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

8.21.1. 26 dB BANDWIDTH

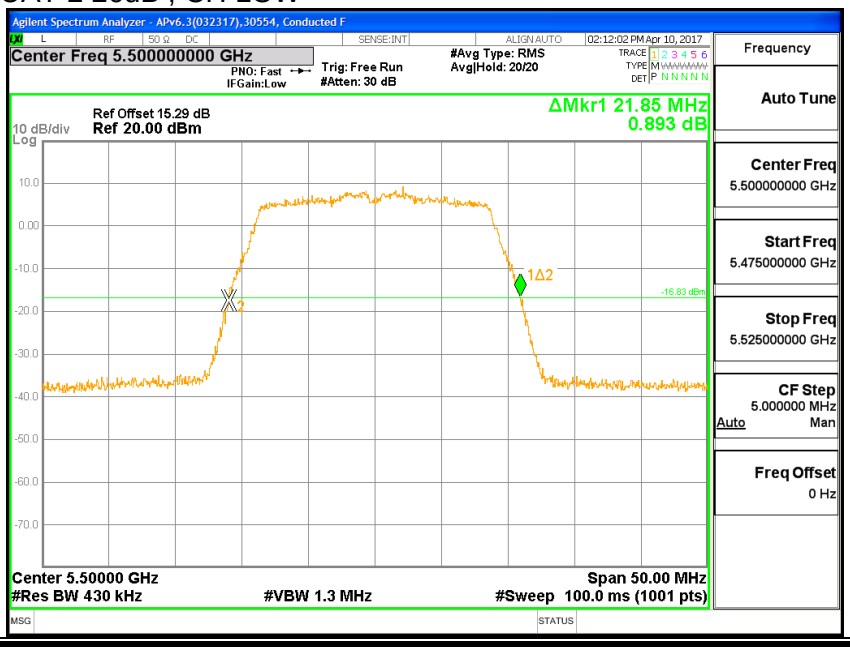
LIMITS

None; for reporting purposes only.

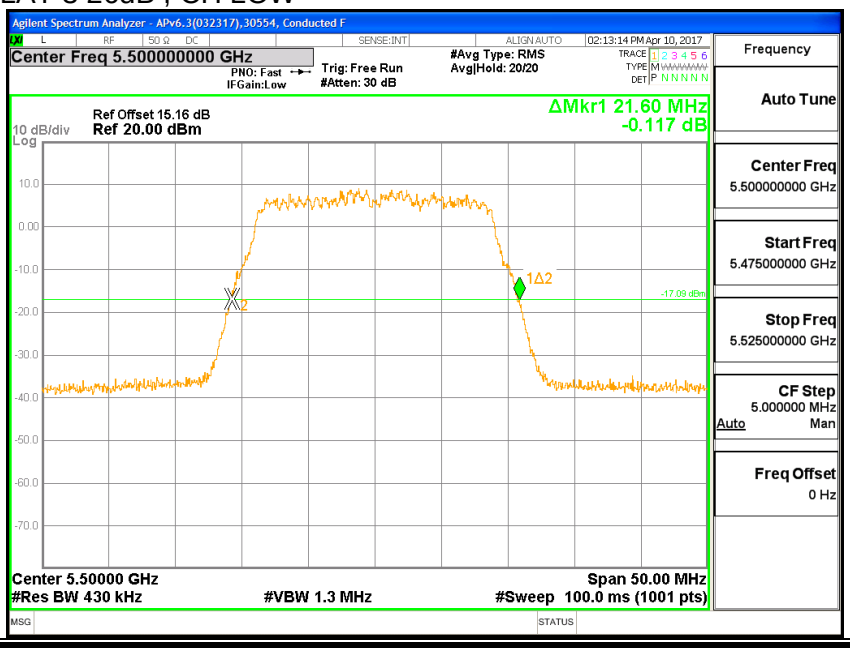
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5500	21.85	21.60
Mid	5580	22.00	21.55
High	5700	22.10	21.55
144	5720	22.10	21.60

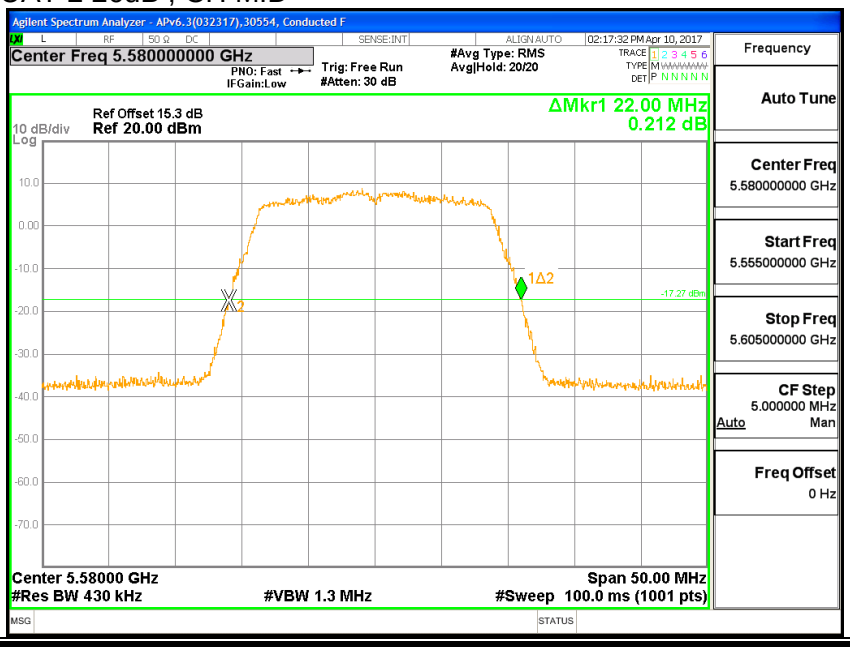
UAT 2 26dB , CH LOW



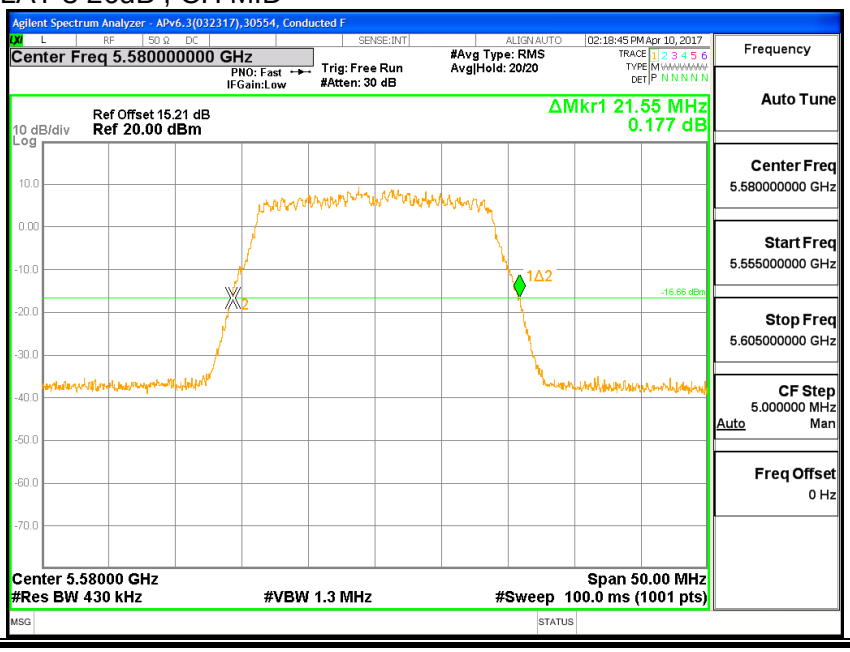
LAT 3 26dB , CH LOW



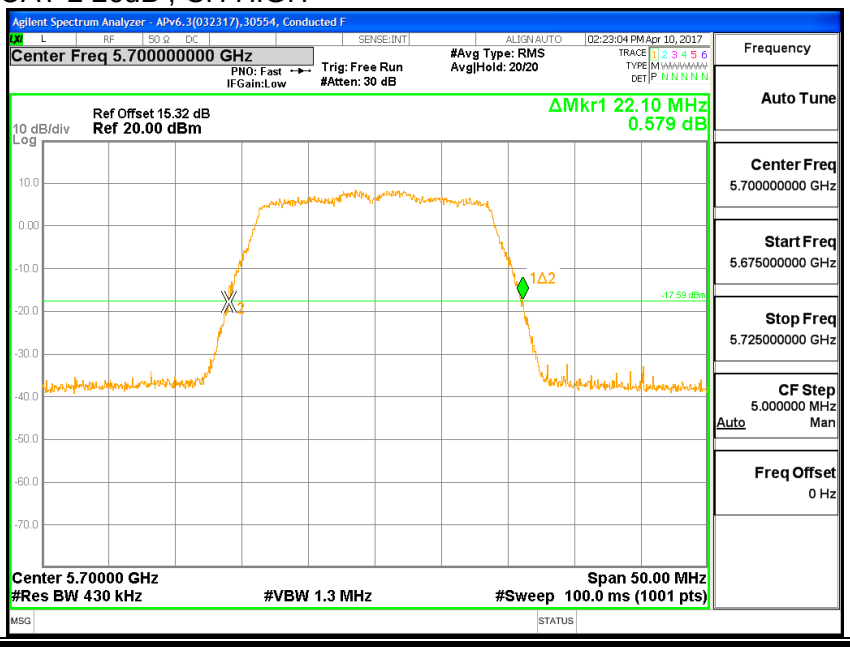
UAT 2 26dB , CH MID



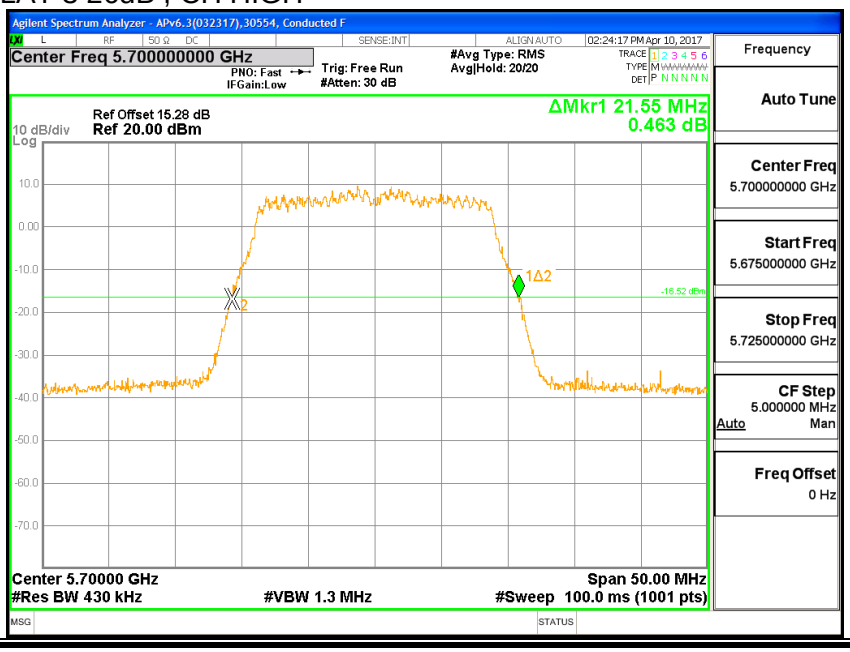
LAT 3 26dB , CH MID



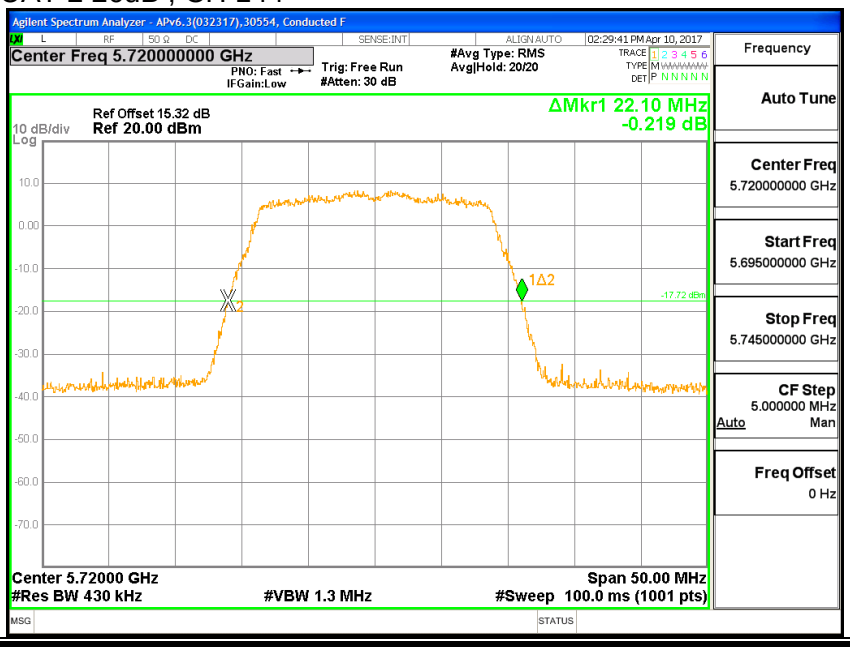
UAT 2 26dB , CH HIGH



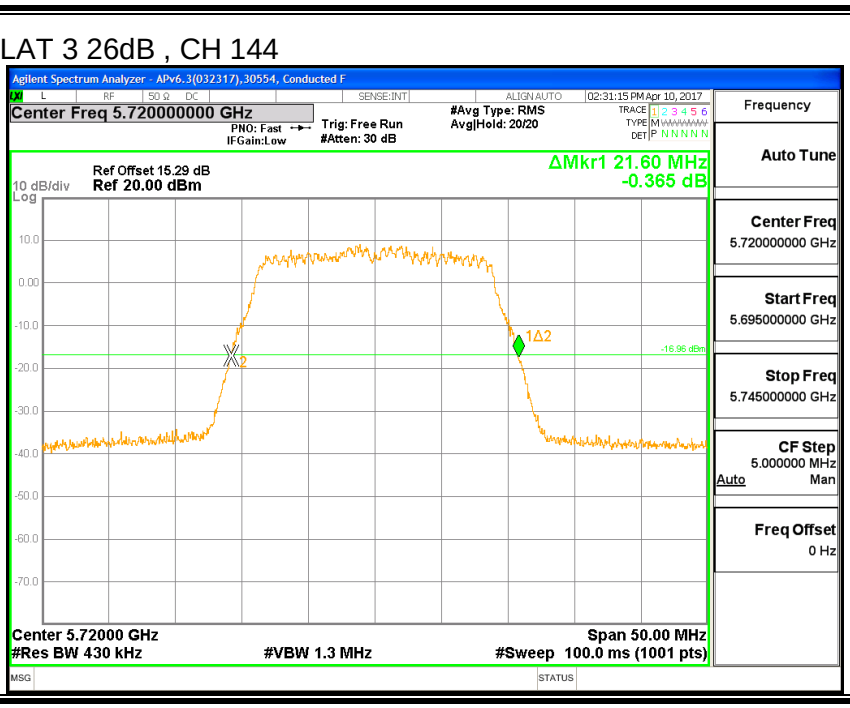
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 144



LAT 3 26dB , CH 144



8.21.2. 99% BANDWIDTH

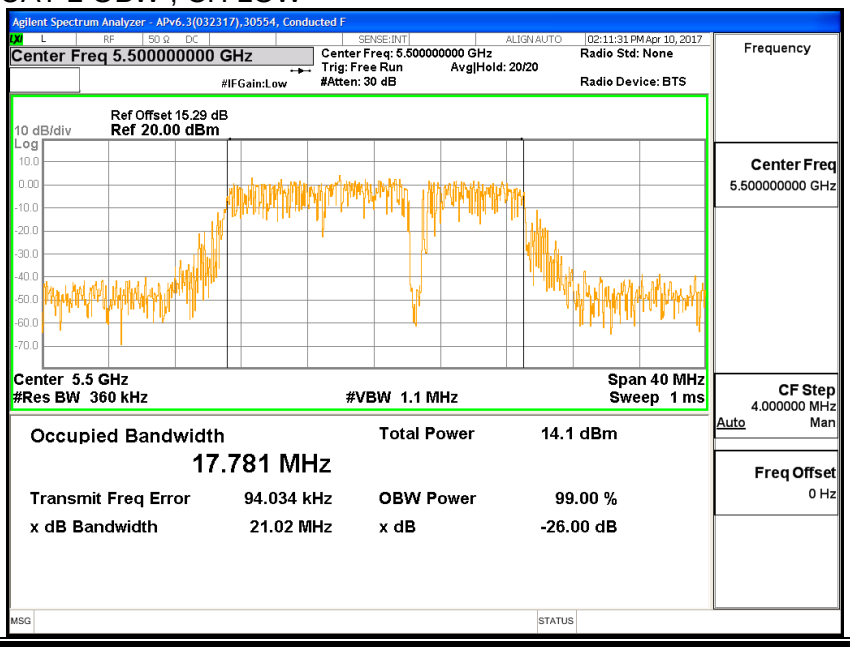
LIMITS

None; for reporting purposes only.

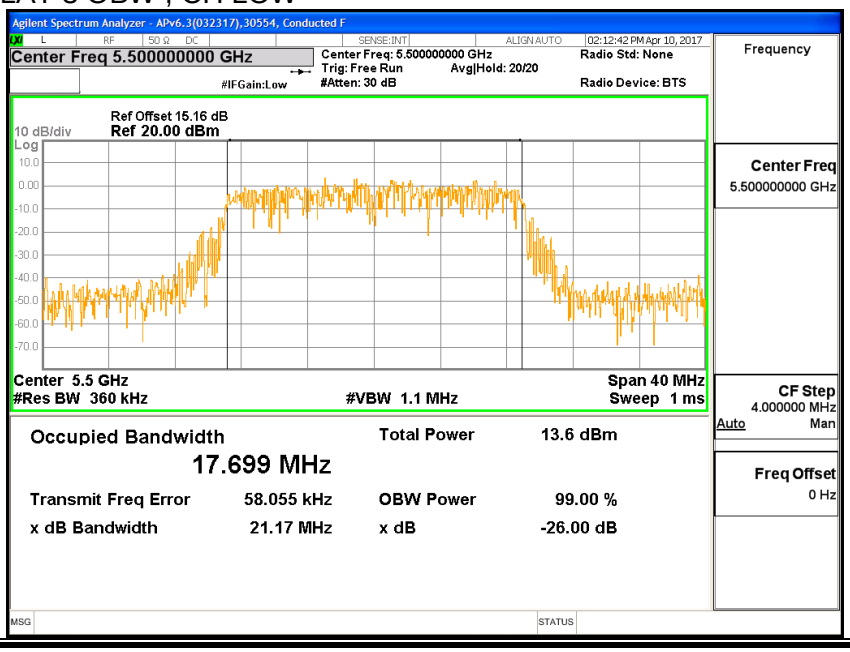
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5500	17.781	17.699
Mid	5580	17.697	17.715
High	5700	17.762	17.711
144	5720	17.827	17.707

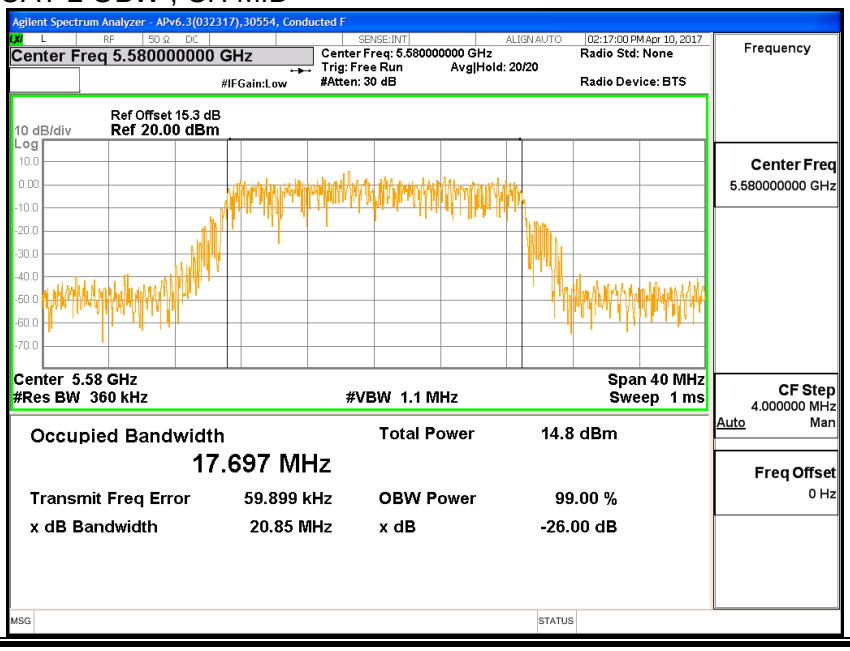
UAT 2 OBW , CH LOW



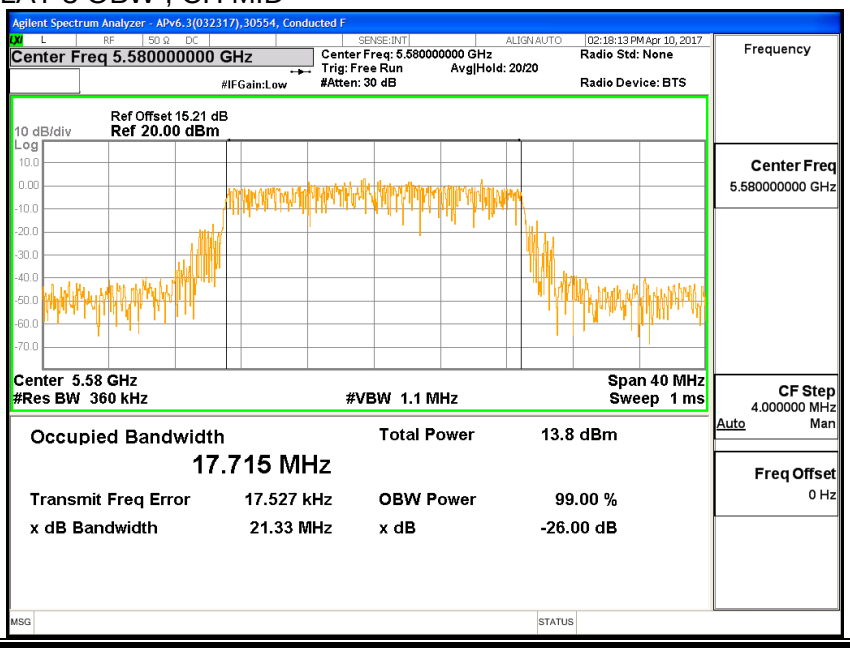
LAT 3 OBW , CH LOW



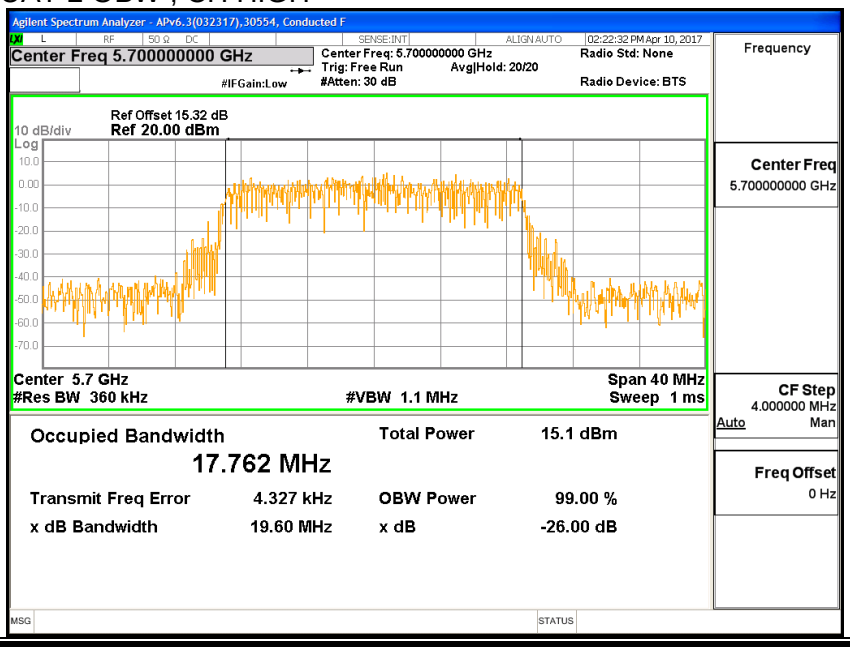
UAT 2 OBW , CH MID



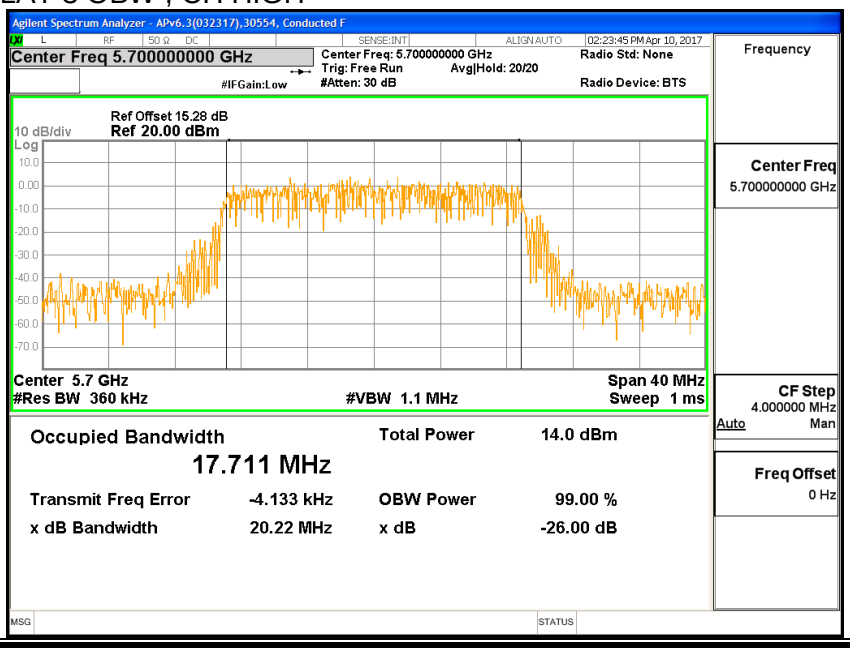
LAT 3 OBW , CH MID



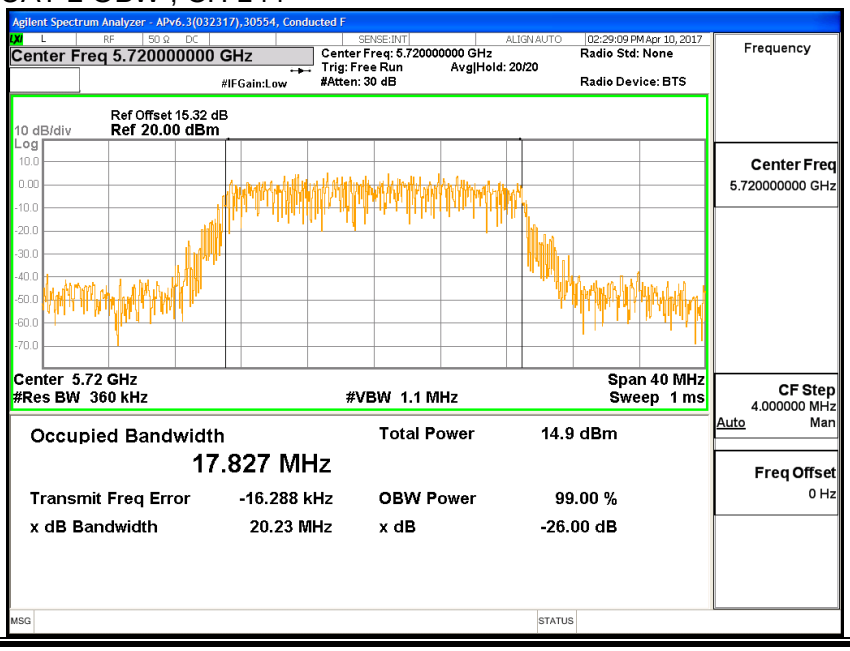
UAT 2 OBW , CH HIGH



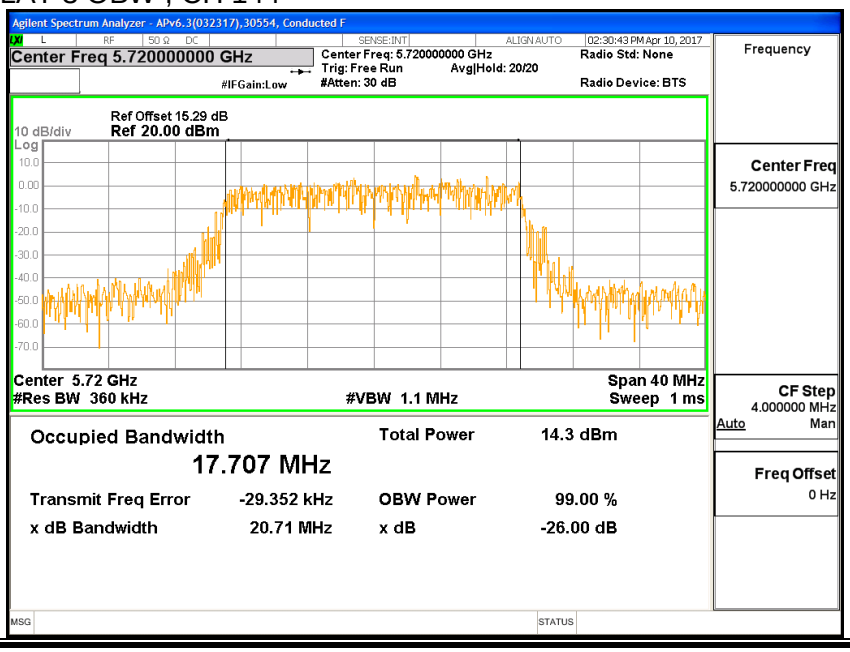
LAT 3 OBW , CH HIGH



UAT 2 OBW , CH 144



LAT 3 OBW , CH 144



8.21.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

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	15.92	15.88	18.91
Mid	5580	17.85	17.89	20.88
High	5700	16.39	16.27	19.34
144	5720	17.89	17.77	20.84

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)
-2.25	-0.41	-1.23

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)
-2.25	-0.41	1.73

RESULTS

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5500	21.60	17.699	-1.23	1.73	23.48	11.00
Mid	5580	21.55	17.697	-1.23	1.73	23.48	11.00
High	5700	21.55	17.711	-1.23	1.73	23.48	11.00

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

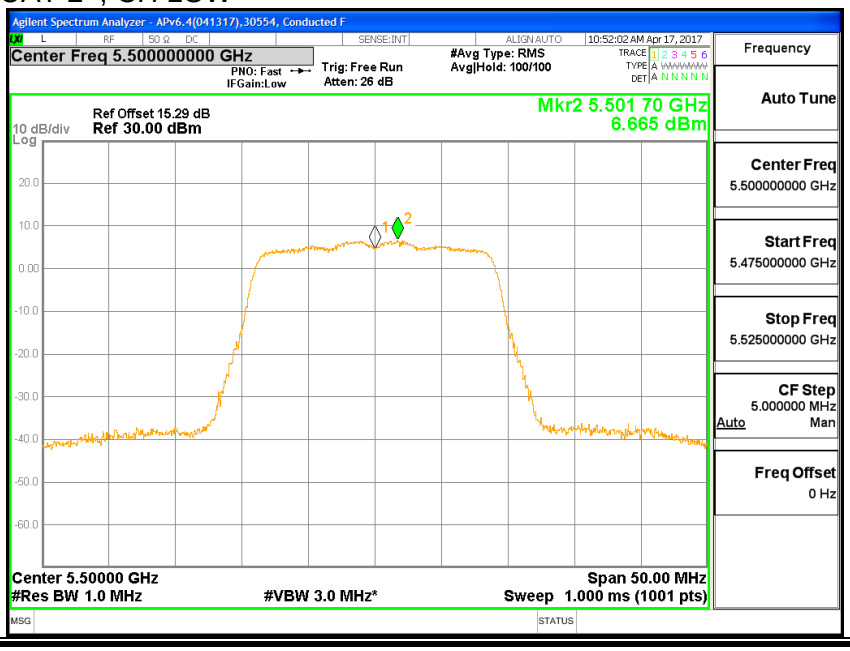
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	15.92	15.88	18.91	23.48	-4.57
Mid	5580	17.85	17.89	20.88	23.48	-2.60
High	5700	16.39	16.27	19.34	23.48	-4.14

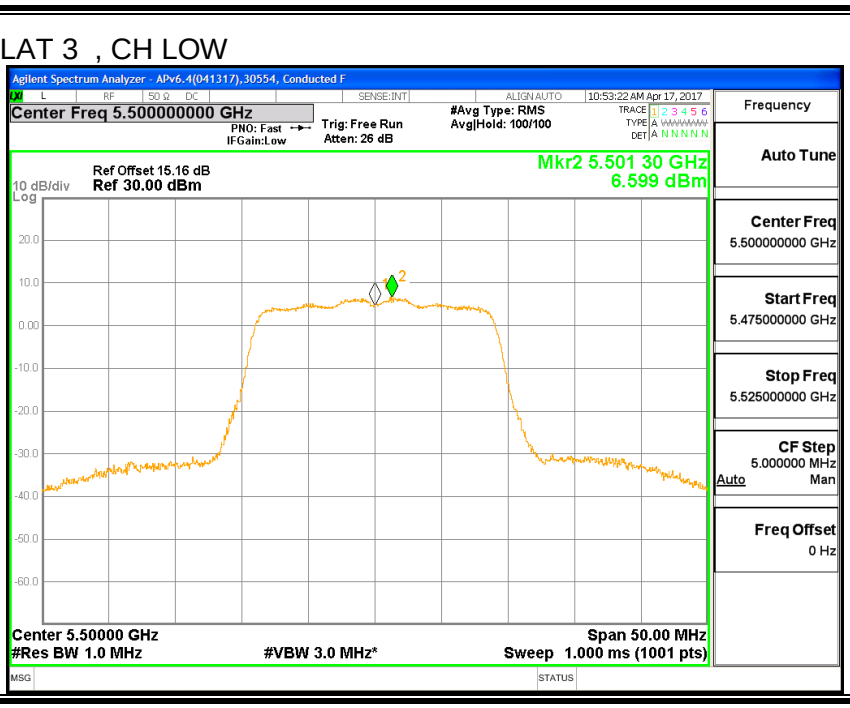
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	6.67	6.60	9.64	11.00	-1.36
Mid	5580	6.54	6.32	9.44	11.00	-1.56
High	5700	7.42	7.48	10.46	11.00	-0.54

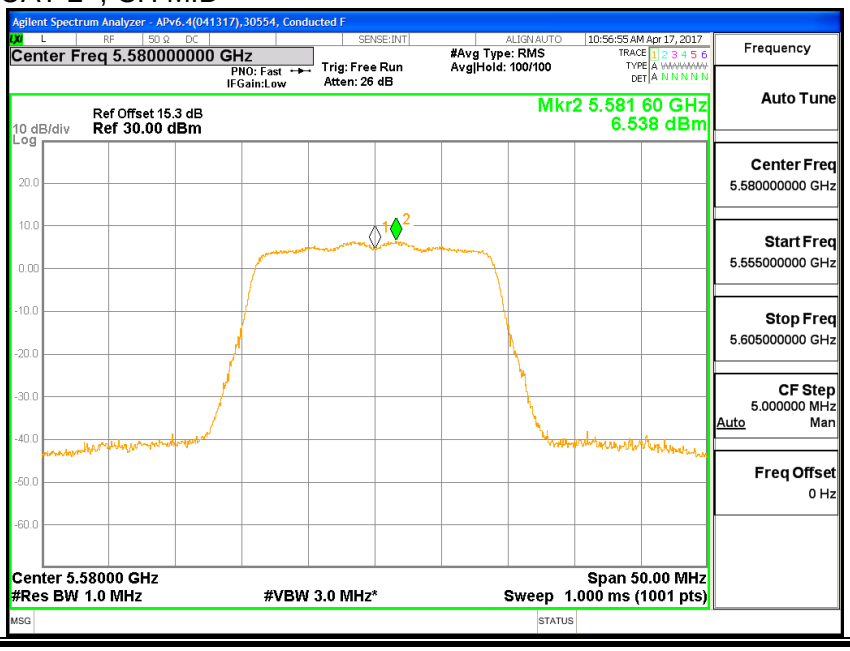
UAT 2 , CH LOW



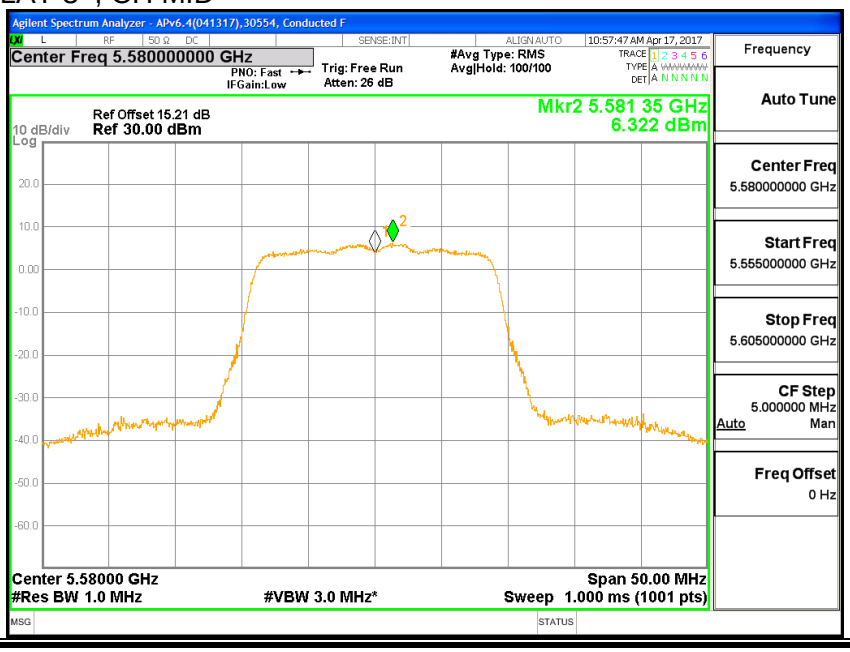
LAT 3 , CH LOW



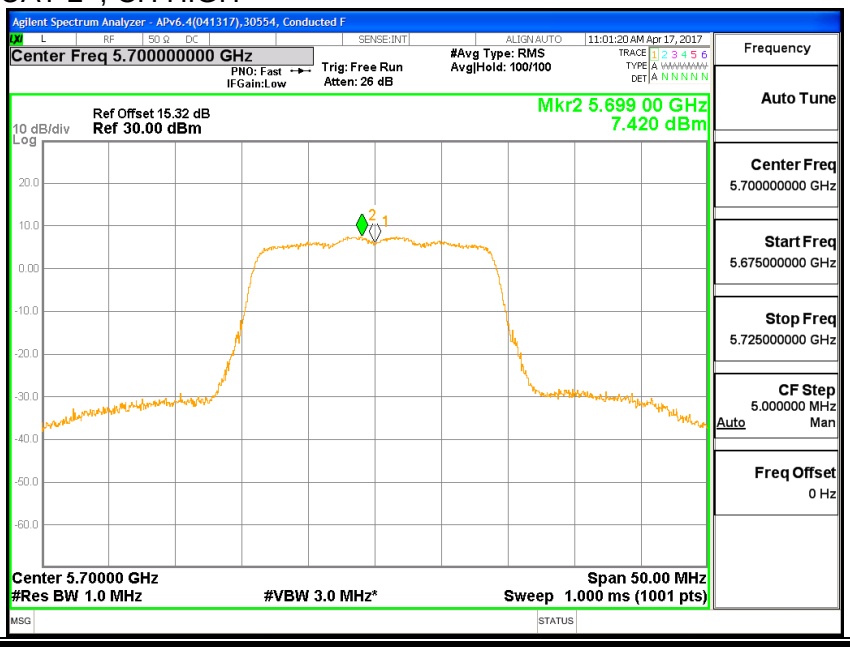
UAT 2 , CH MID



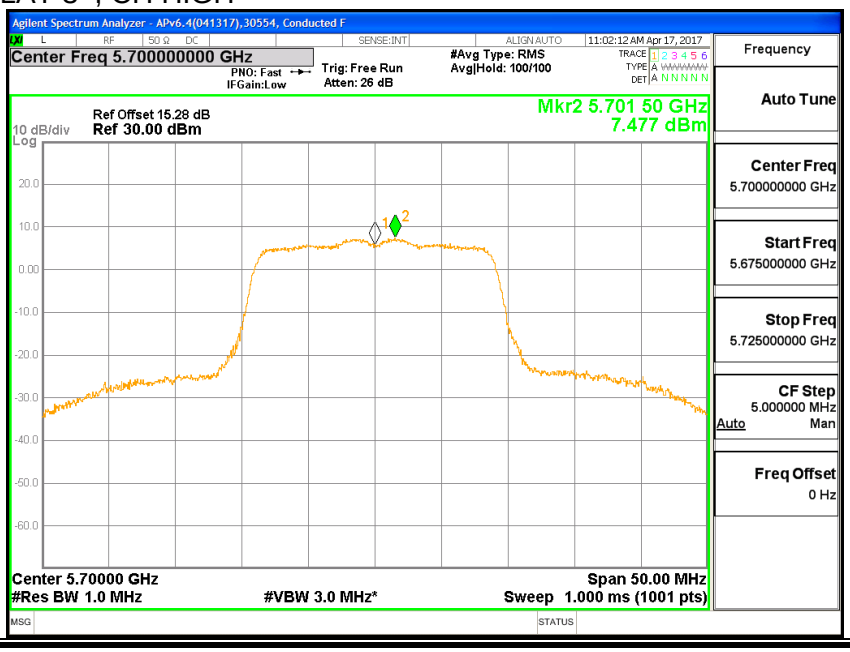
LAT 3 , CH MID



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)
144	5720	21.60	-1.23	1.73	24.00	11.00

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

Output Power Results

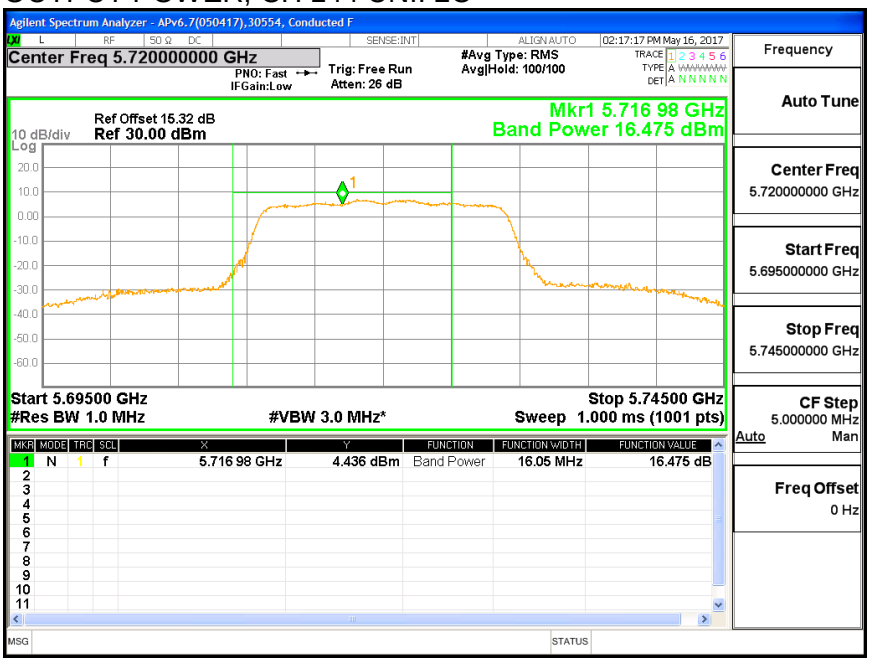
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	16.48	16.17	19.34	24.00	-4.66

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	7.02	6.59	9.82	11.00	-1.18

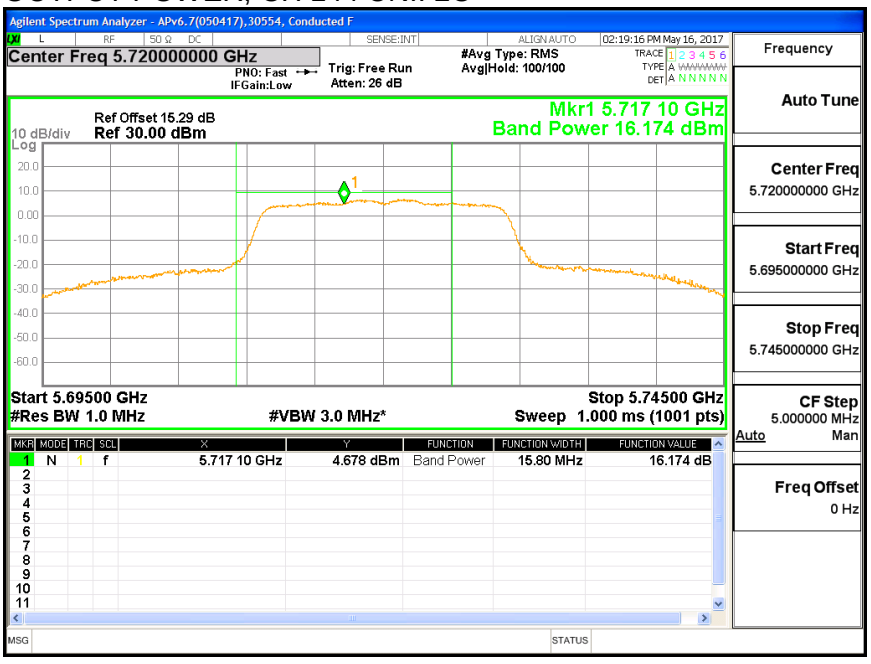
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 144 UNII 2C



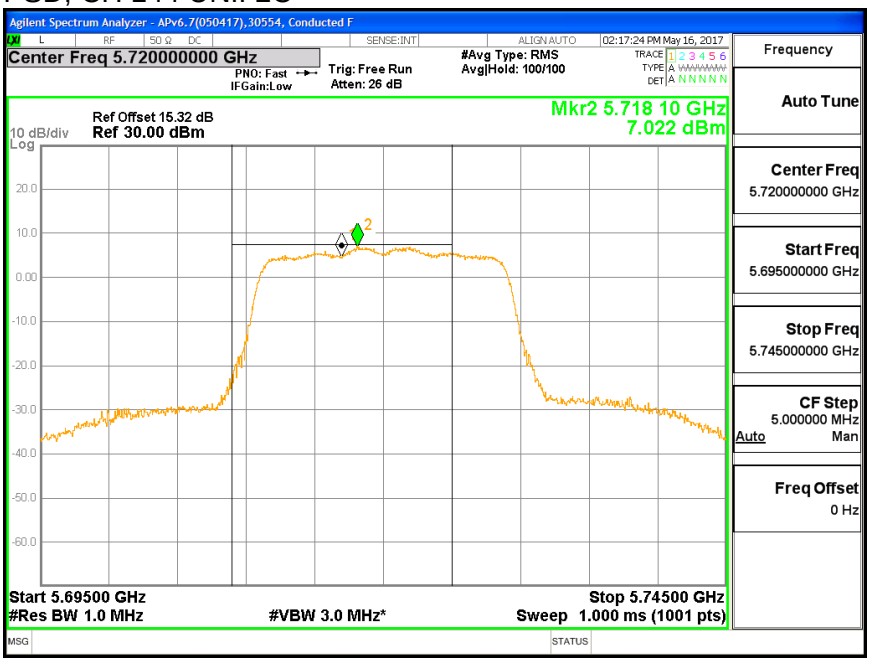
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 144 UNII 2C



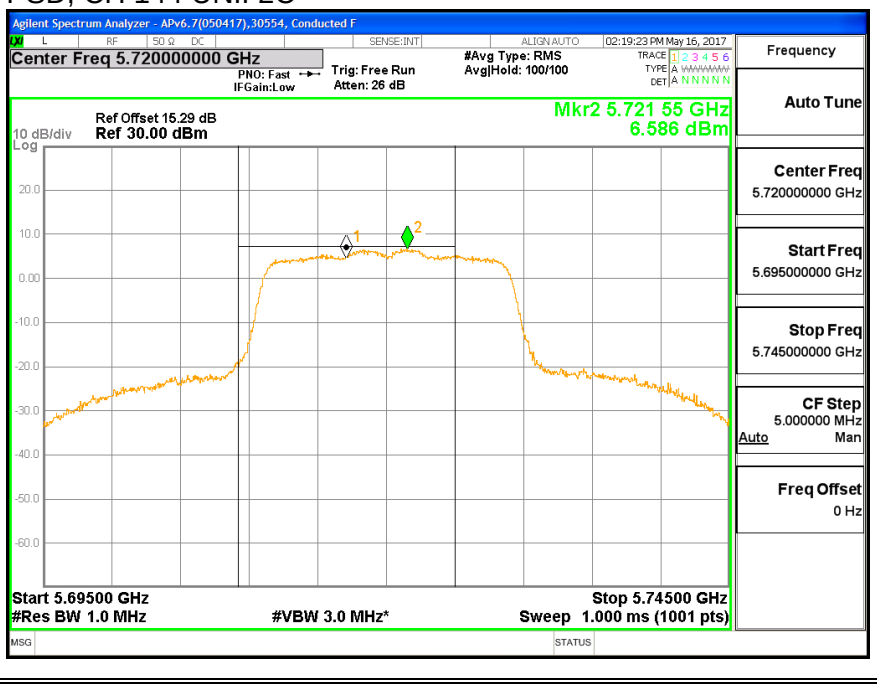
PSD, UAT 2

PSD, CH 144 UNII 2C



PSD, LAT 3

PSD, CH 144 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	21.60	-1.13	1.80	30.00	30.00

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

Output Power Results

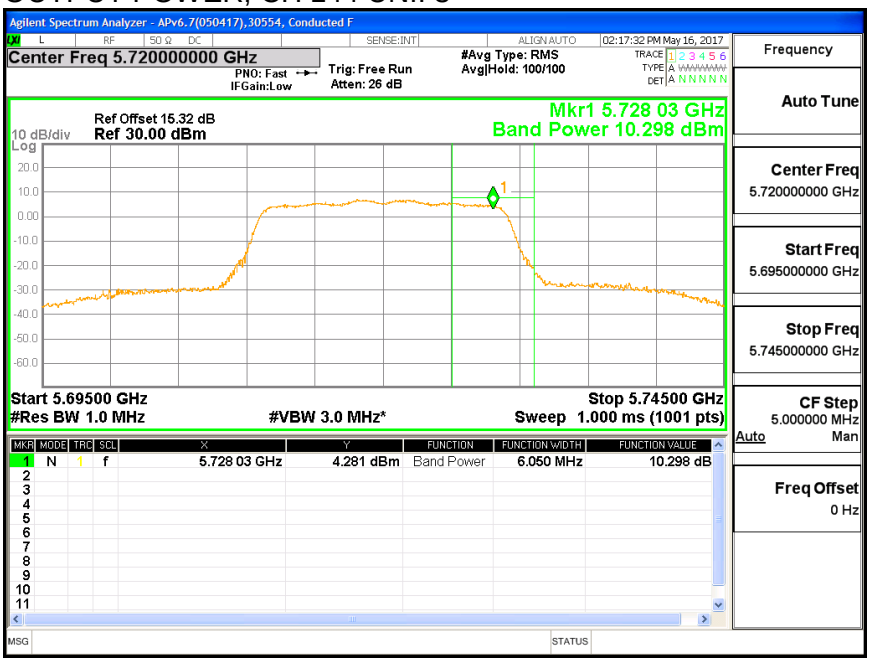
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	10.30	9.98	13.15	30.00	-16.85

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	2.615	2.507	5.572	30.00	-24.43

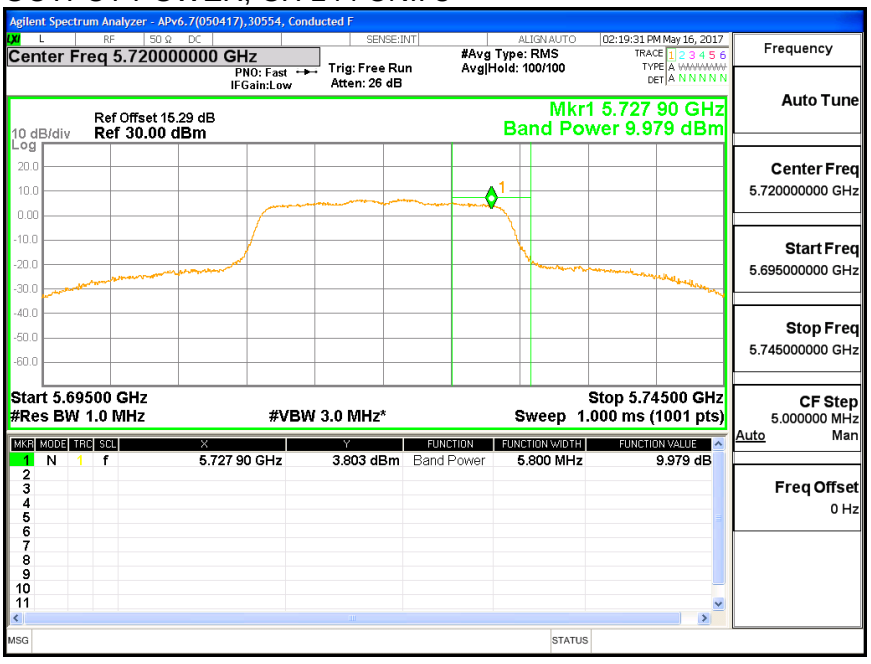
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 144 UNII 3

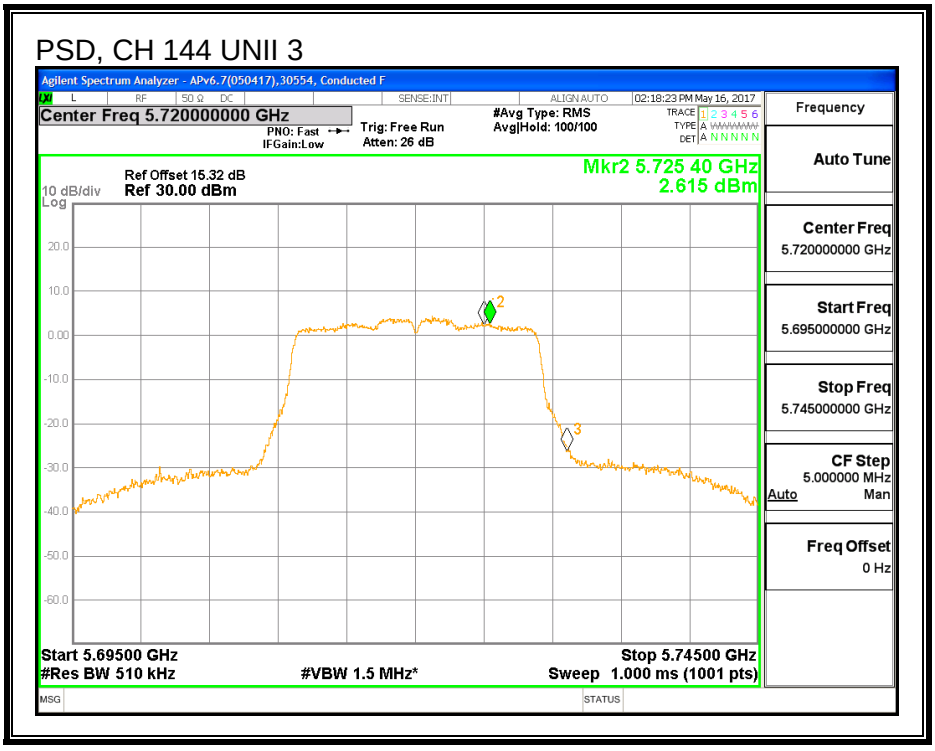


OUTPUT POWER, LAT 3

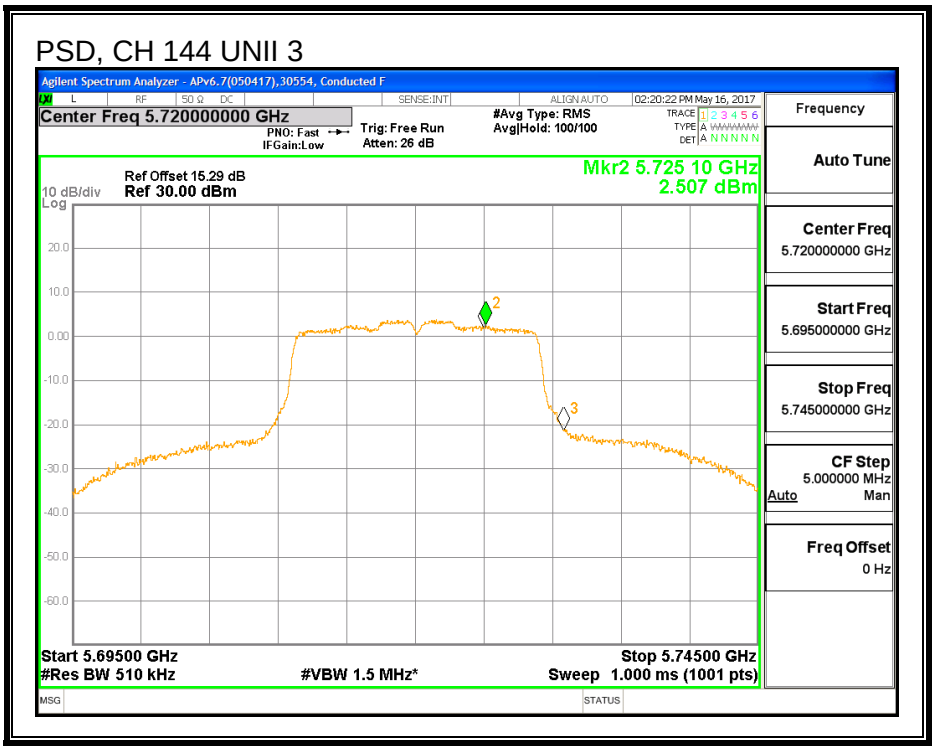
OUTPUT POWER, CH 144 UNII 3



PSD, UAT 2



PSD, LAT 3



8.21.6. 6 dB BANDWIDTH

LIMITS

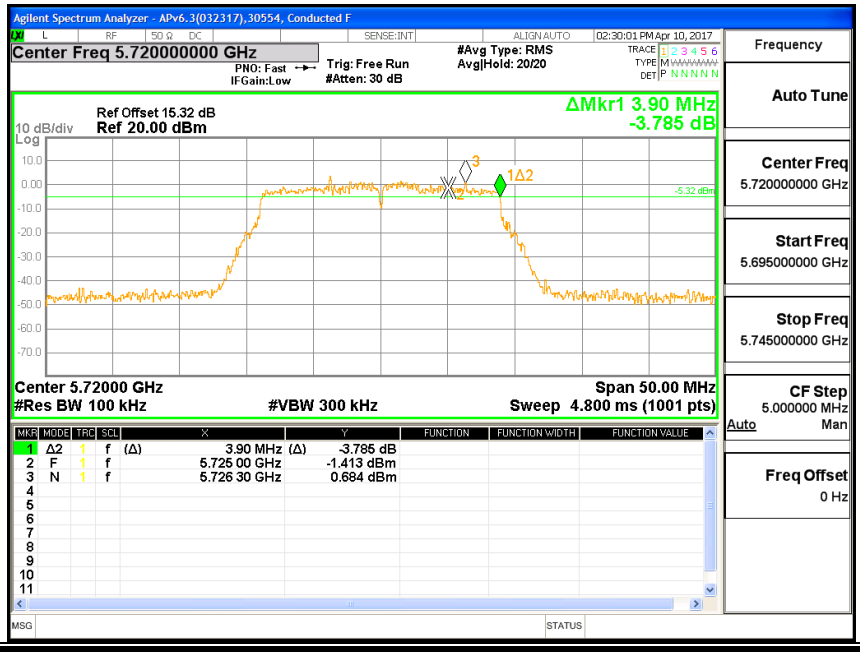
FCC §15.407 (e)

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

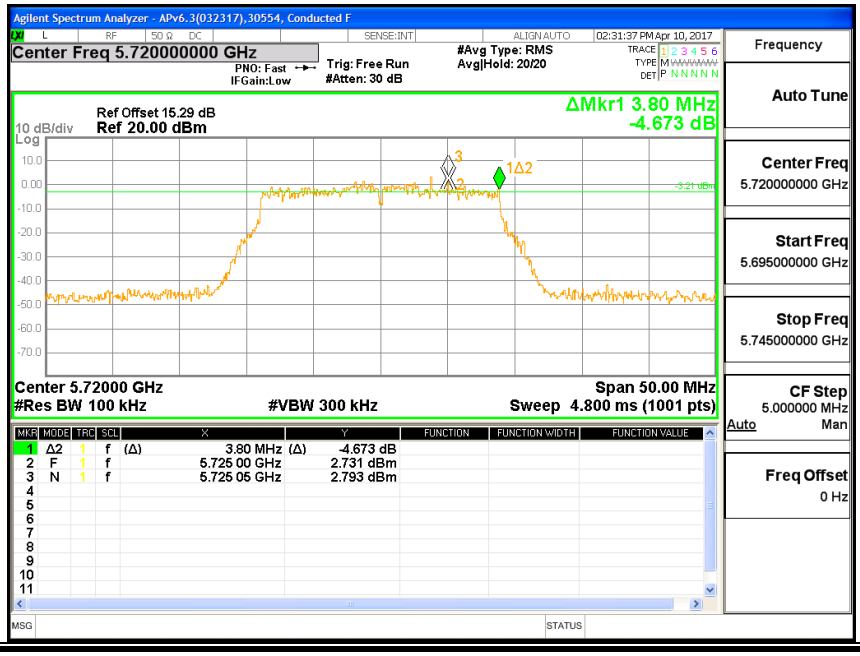
RESULTS

Channel	Frequency	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
144	5720	3.90	3.80	0.5

UAT 2 6dB



LAT 3 6dB



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

8.22.1. 26 dB BANDWIDTH

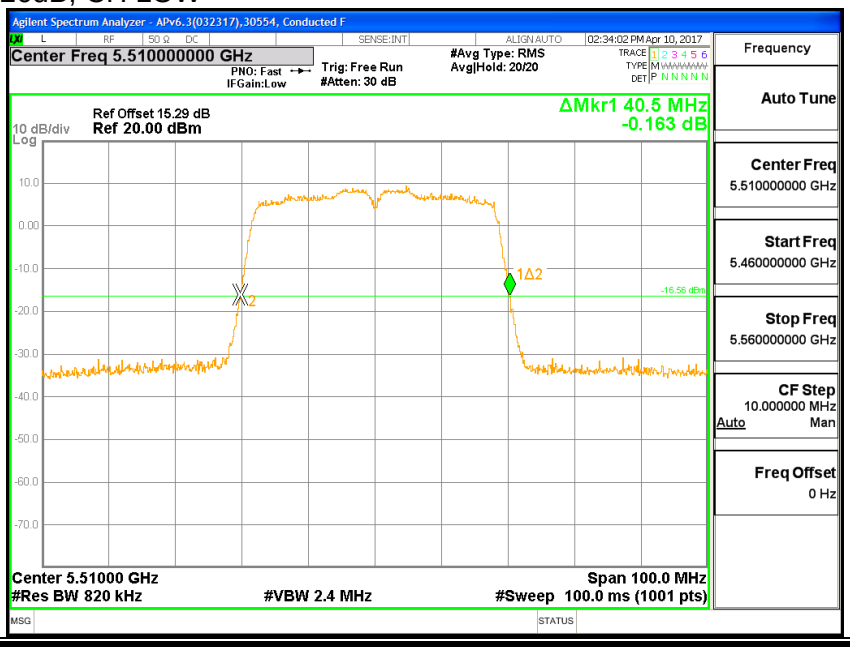
LIMITS

None; for reporting purposes only.

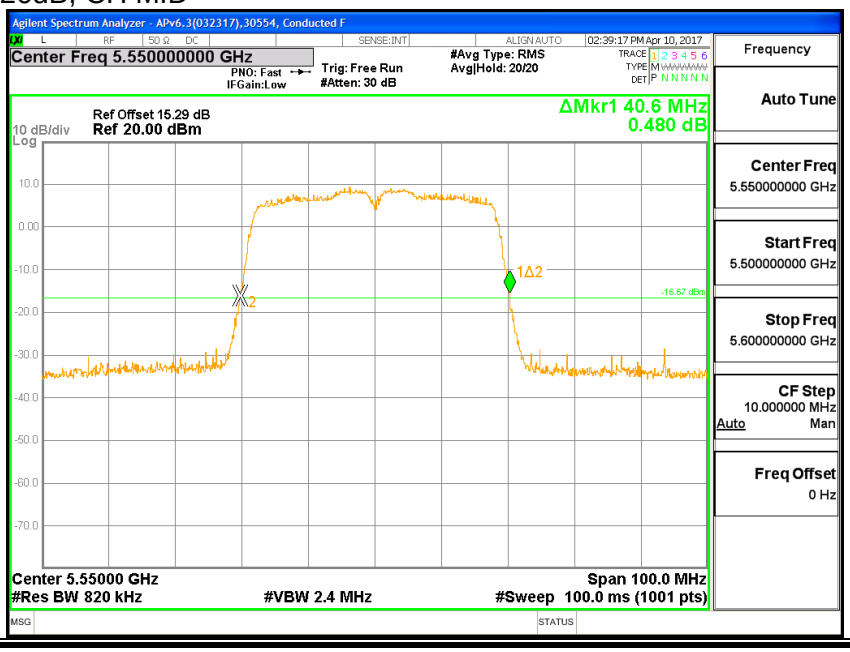
RESULTS

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

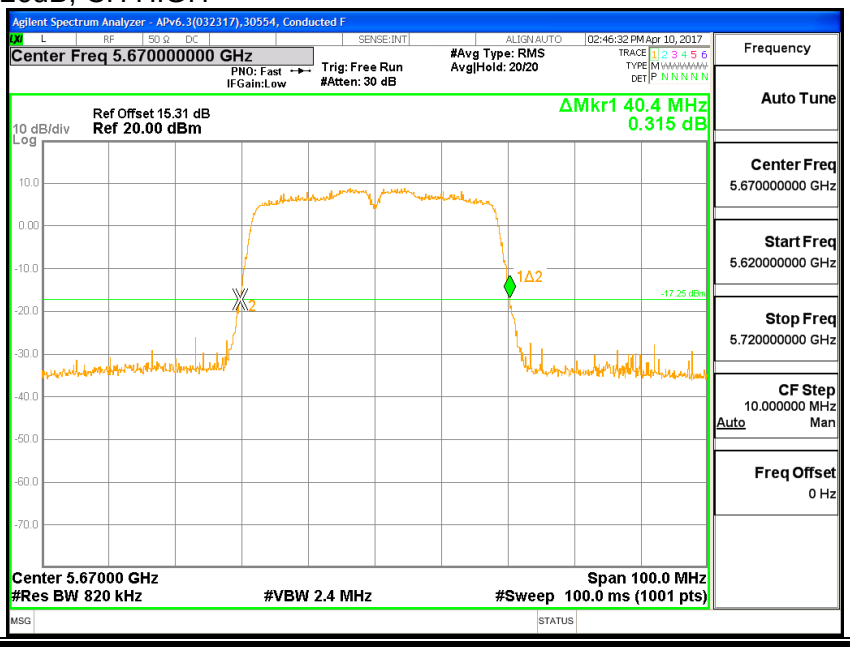
26dB, CH LOW



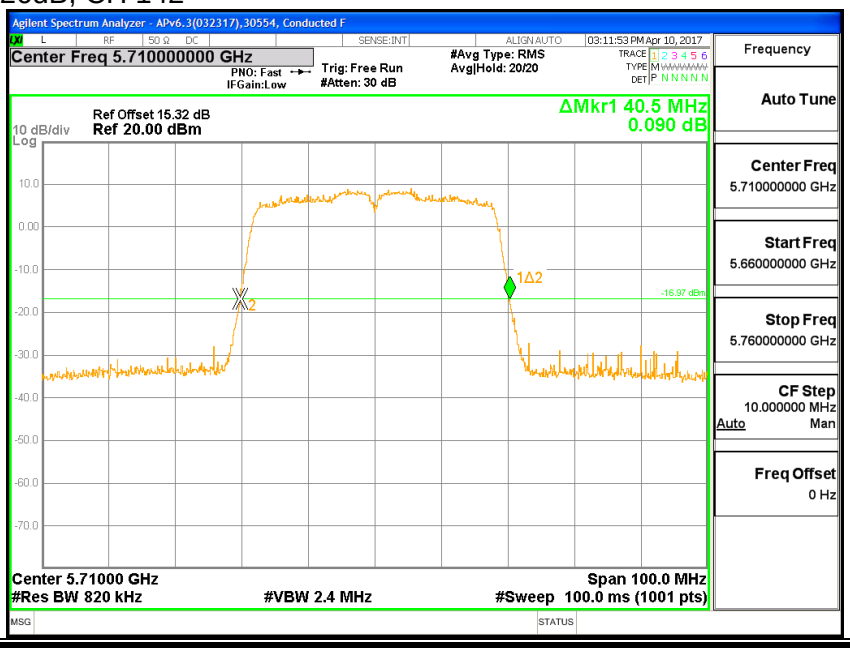
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.22.2. 99% BANDWIDTH

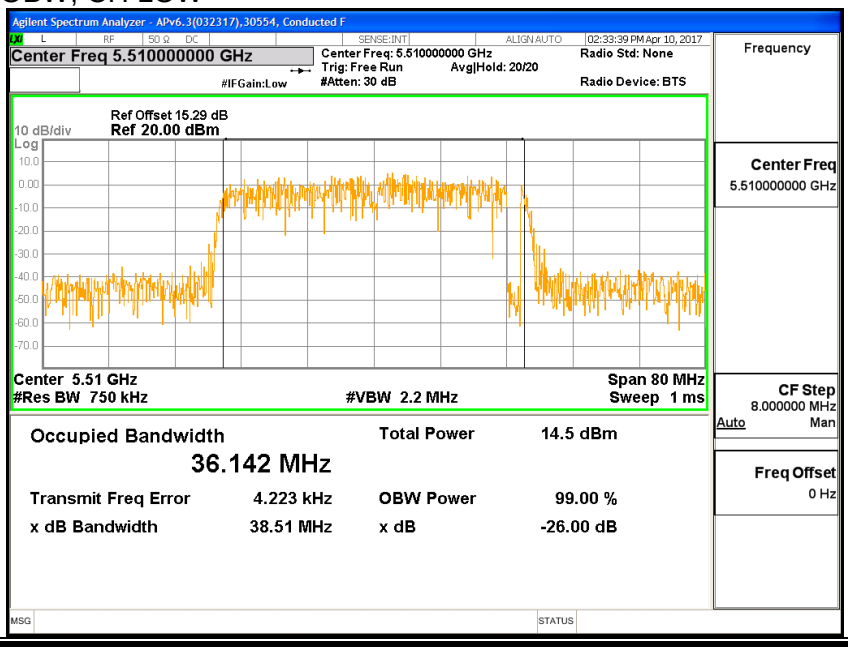
LIMITS

None; for reporting purposes only.

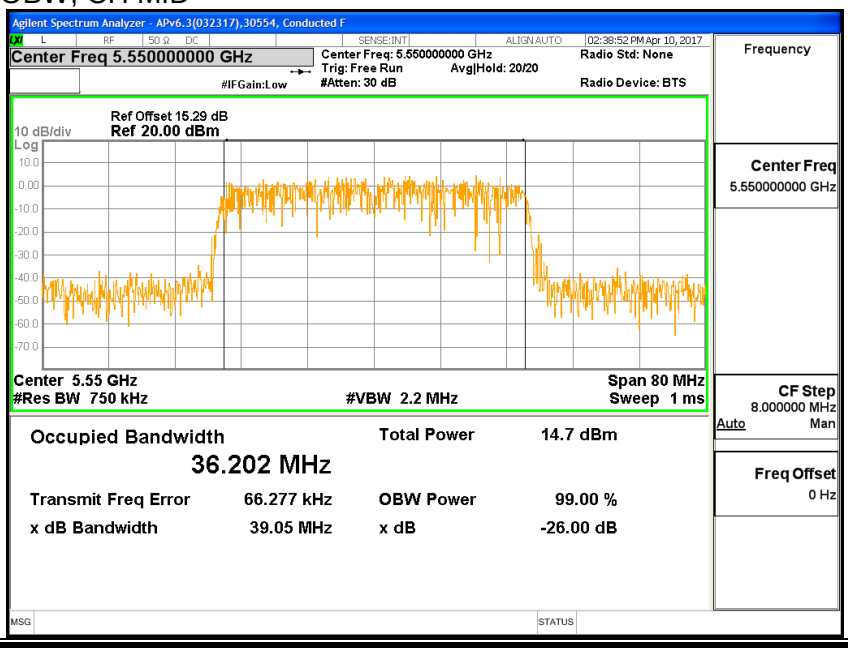
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5510	36.142
Mid	5550	36.202
High	5670	36.269
142	5710	36.147

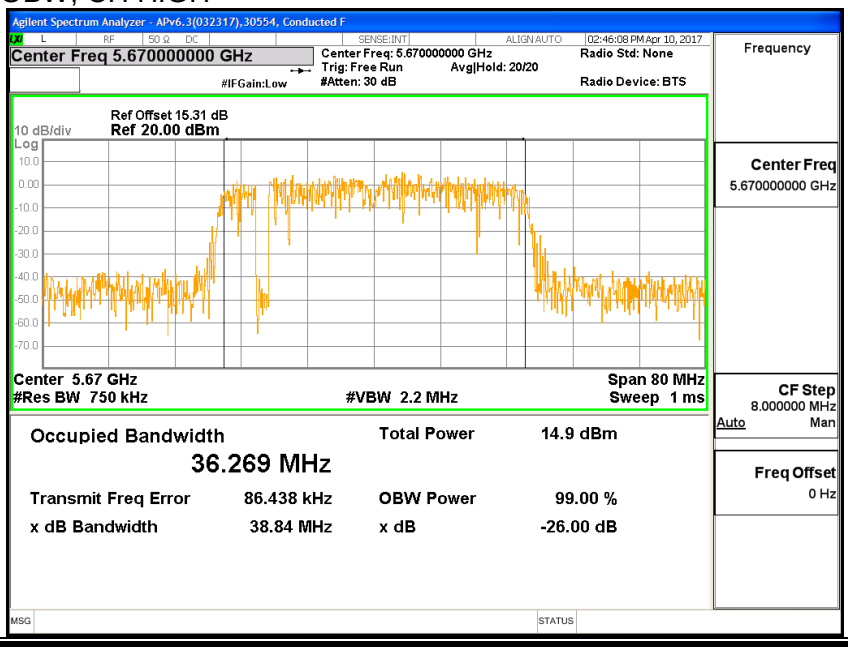
OBW, CH LOW



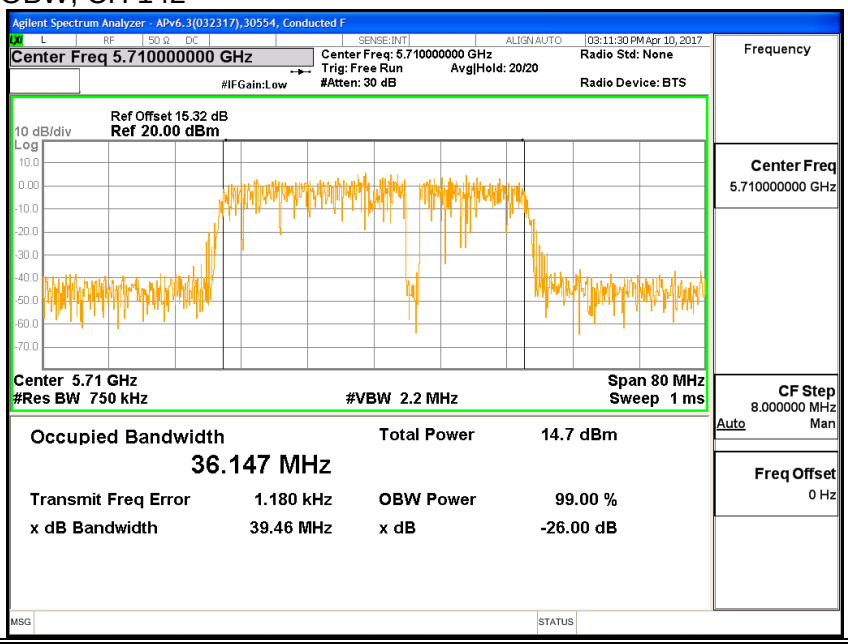
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.22.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Low	5510	15.39
Mid	5550	19.26
High	5670	17.94
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)
Low	5510	40.50	36.142	-2.25	24.00	11.00
Mid	5550	40.60	36.202	-2.25	24.00	11.00
High	5670	40.40	36.269	-2.25	24.00	11.00

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

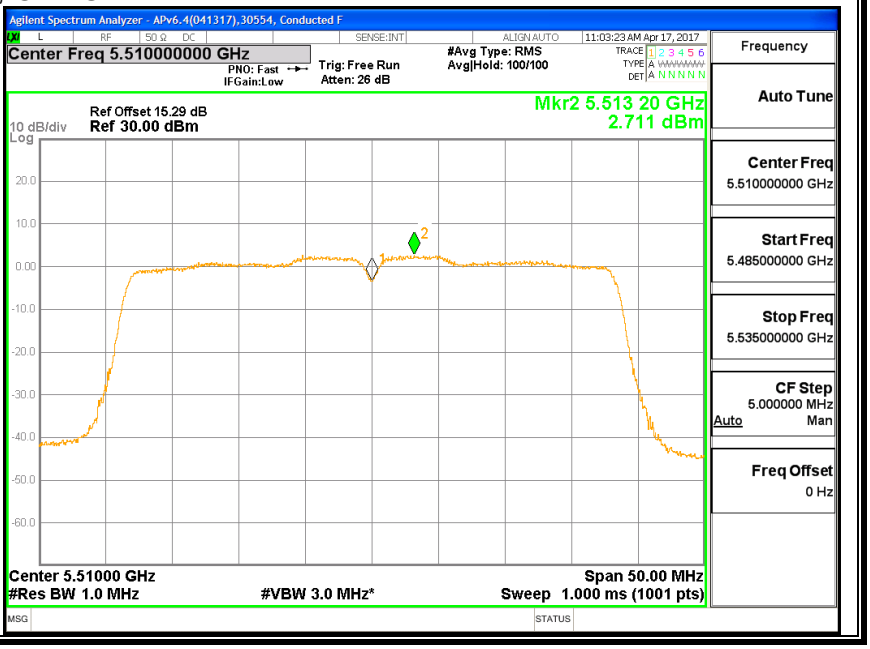
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	15.39	15.39	24.00	-8.61
Mid	5550	19.26	19.26	24.00	-4.74
High	5670	17.94	17.94	24.00	-6.06

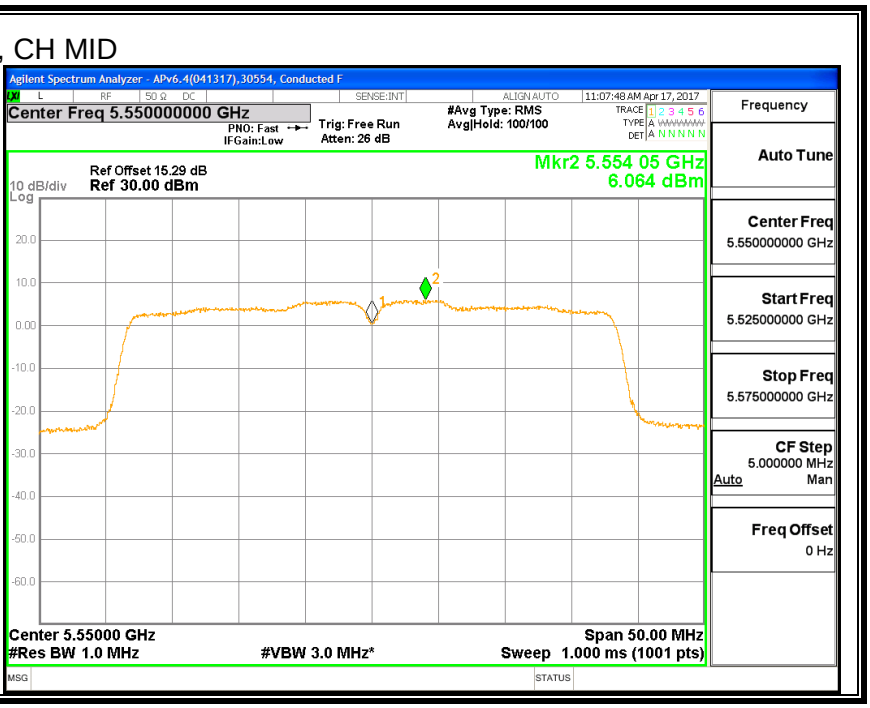
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	2.71	2.81	11.00	-8.19
Mid	5550	6.06	6.16	11.00	-4.84
High	5670	5.99	6.09	11.00	-4.91

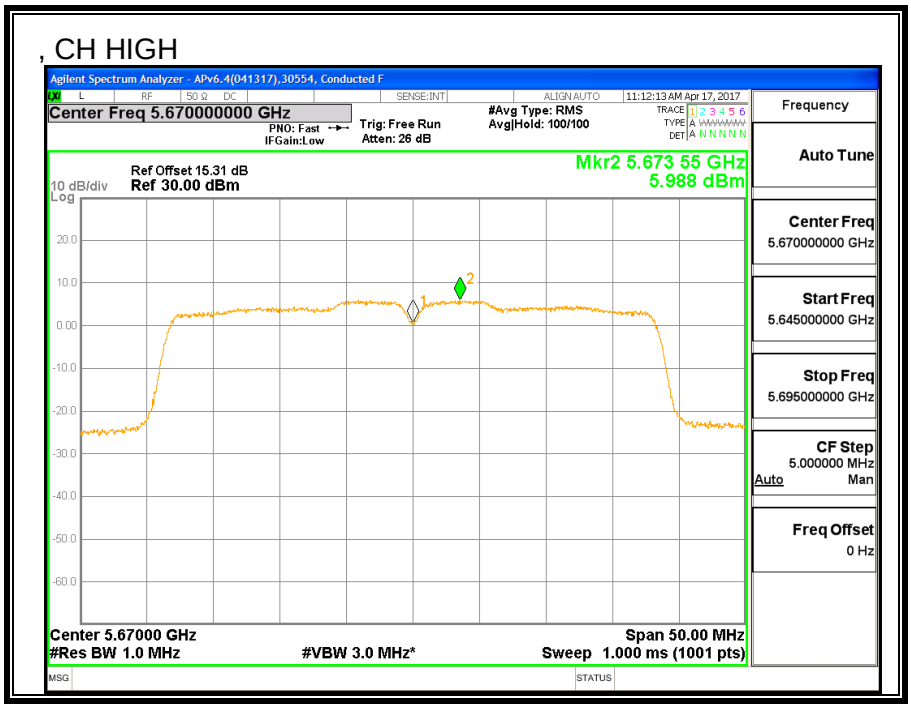
, CH LOW



, CH MID



, CH HIGH



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)
142	5710	40.50	-2.25	-2.25	24.00	11.00

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

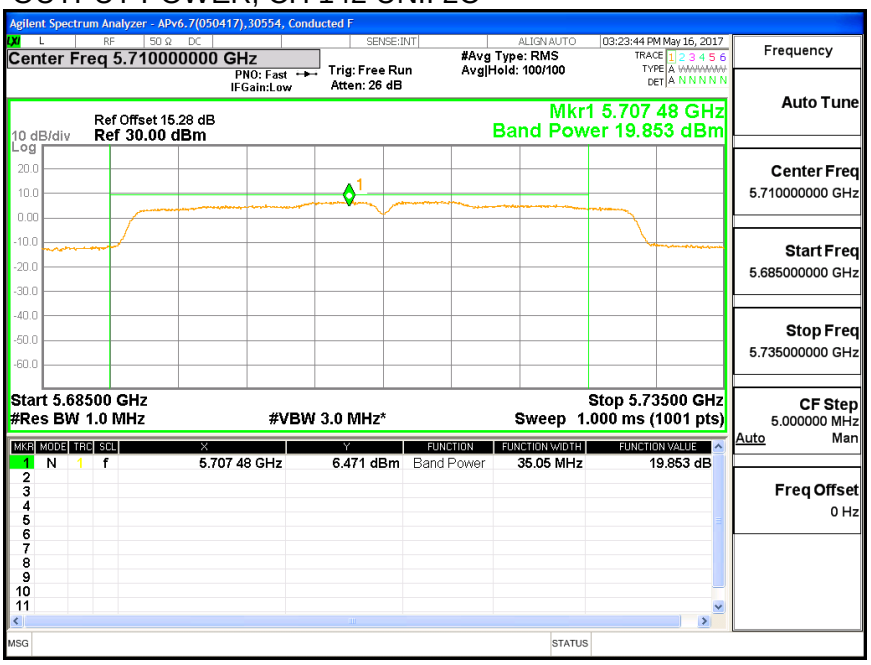
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	19.85	19.95	24.00	-4.05

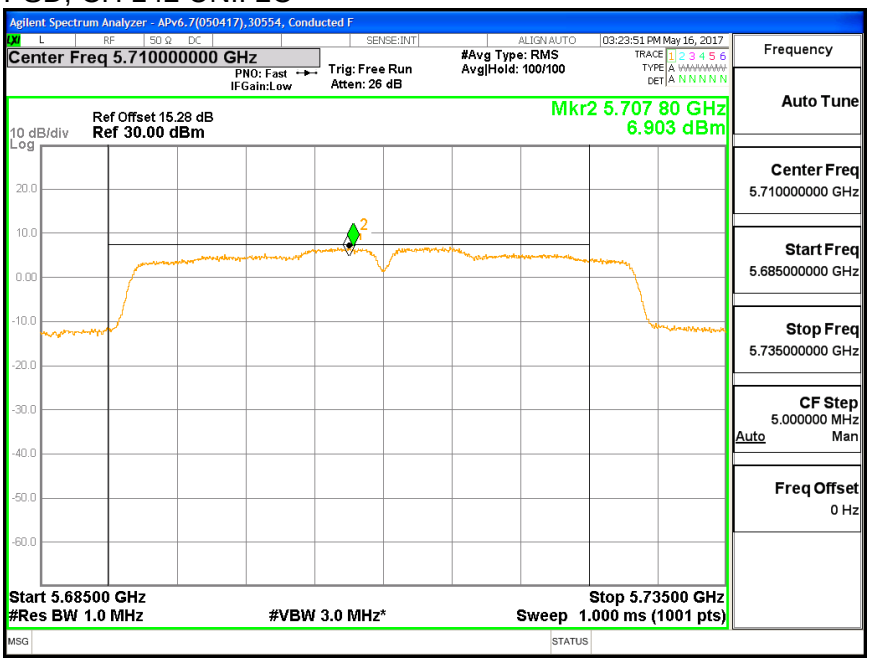
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	6.90	7.00	11.00	-4.00

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	40.50	-2.41	-2.41	30.00

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

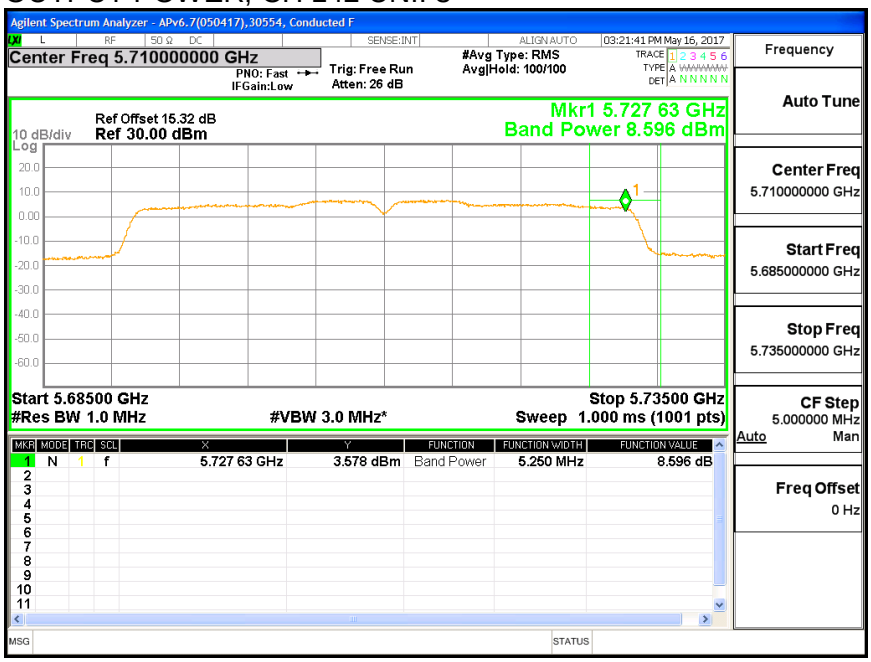
Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	8.60	8.70	-2.41	11.11

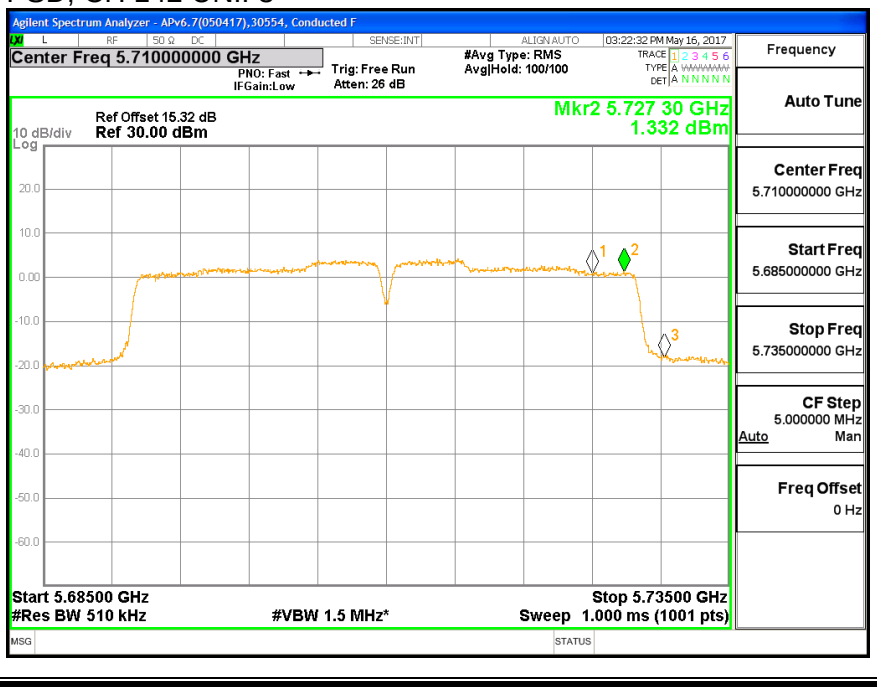
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	1.332	1.432	30.00	-28.57

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.22.6. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

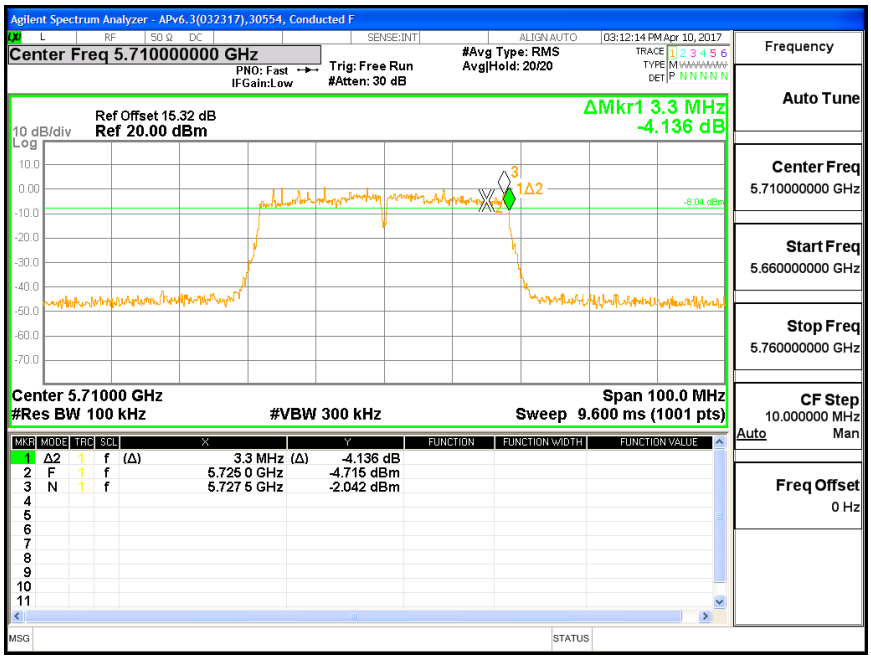
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

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

6 dB BANDWIDTH

6dBc BW



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

8.23.1. 26 dB BANDWIDTH

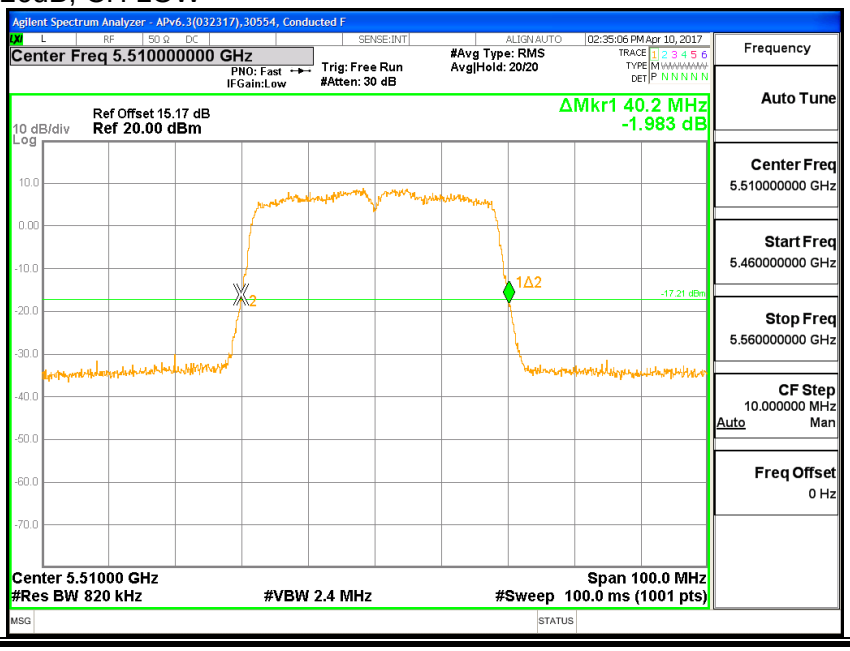
LIMITS

None; for reporting purposes only.

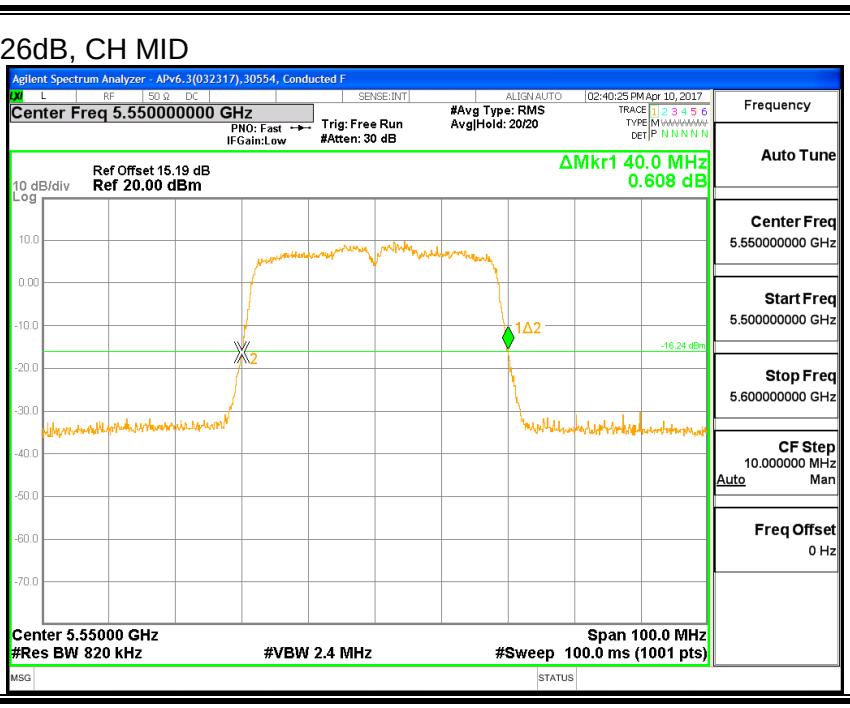
RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5510	40.2
Mid	5550	40.0
High	5670	40.2
142	5710	40.1

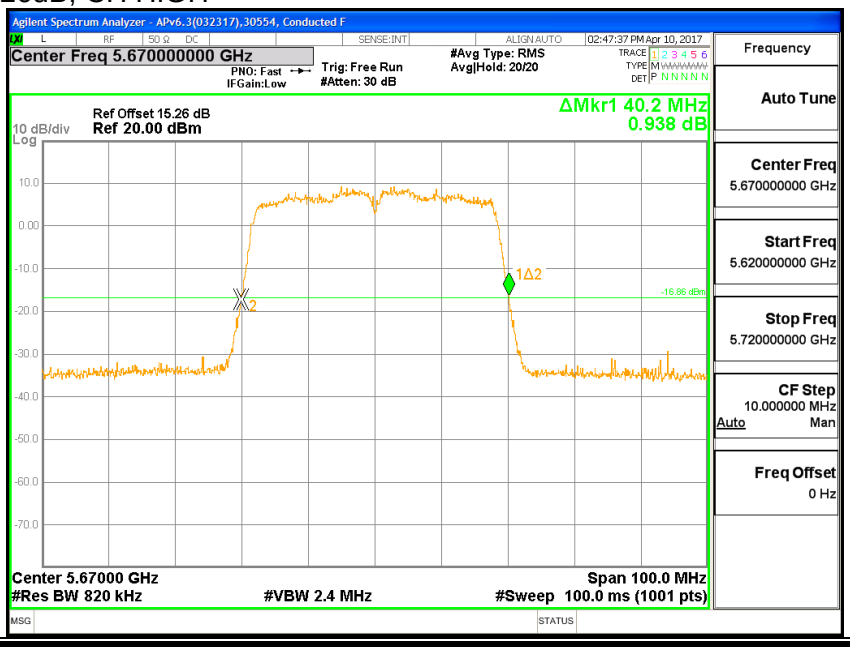
26dB, CH LOW



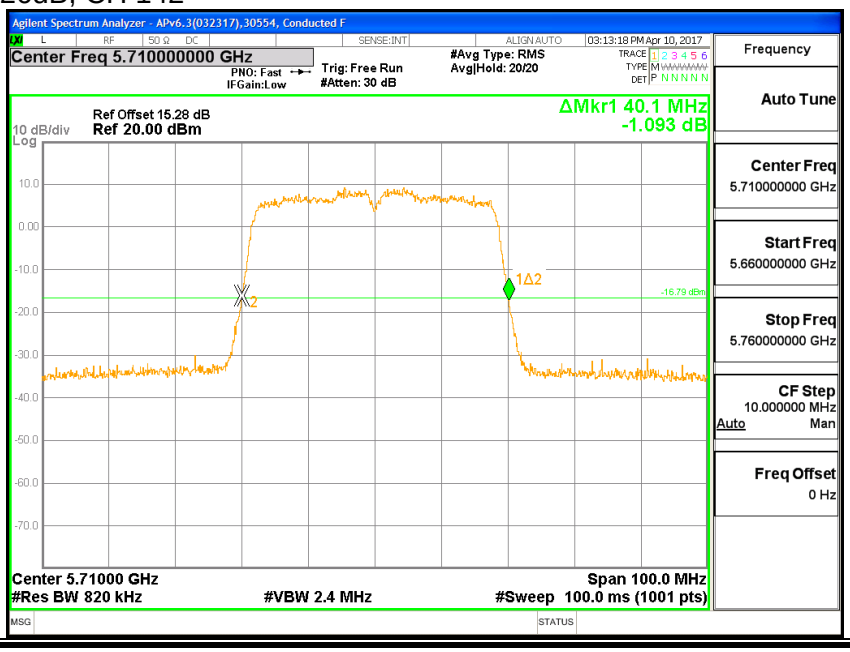
26dB, CH MID



26dB, CH HIGH



26dB, CH 142



8.23.2. 99% BANDWIDTH

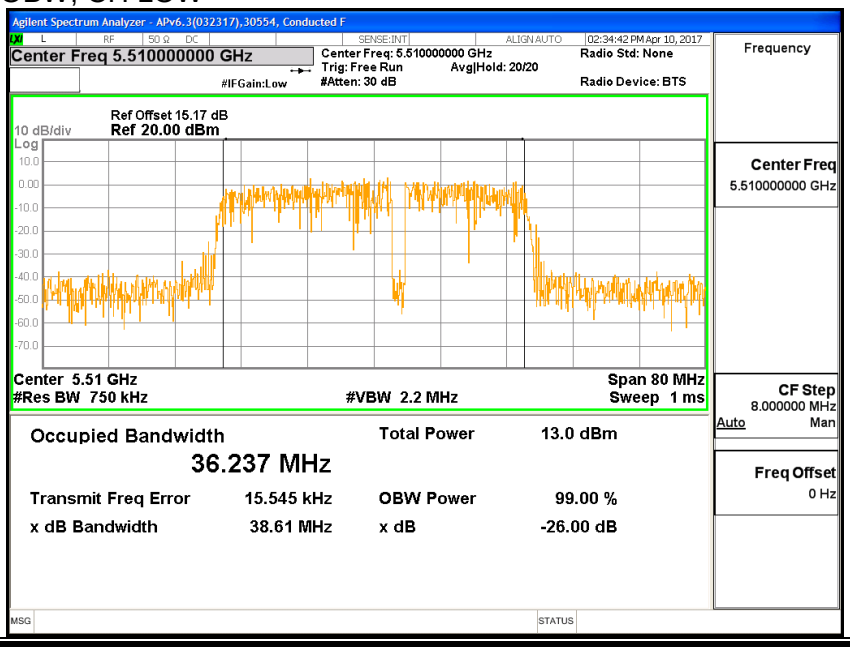
LIMITS

None; for reporting purposes only.

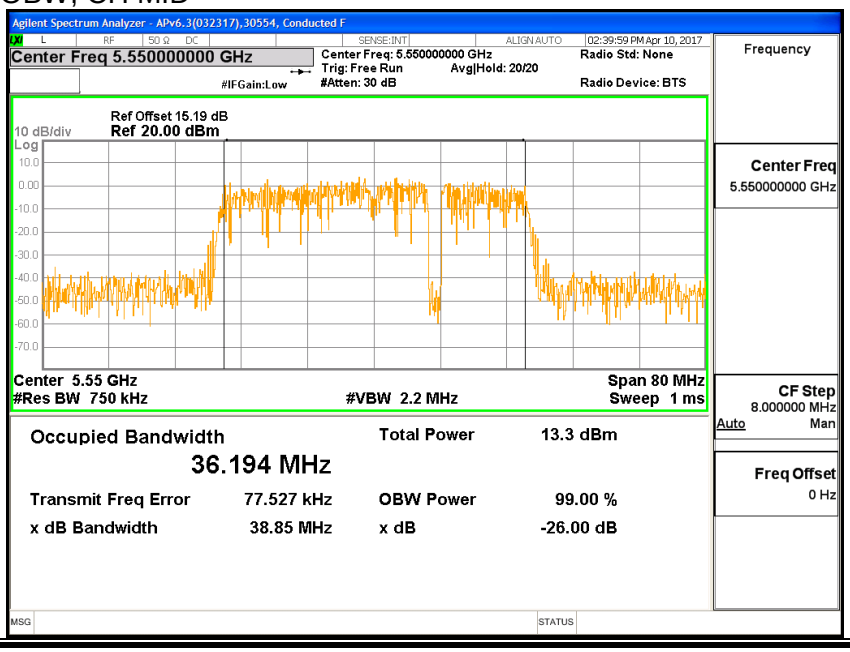
RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5510	36.237
Mid	5550	36.194
High	5670	36.136
142	5710	36.174

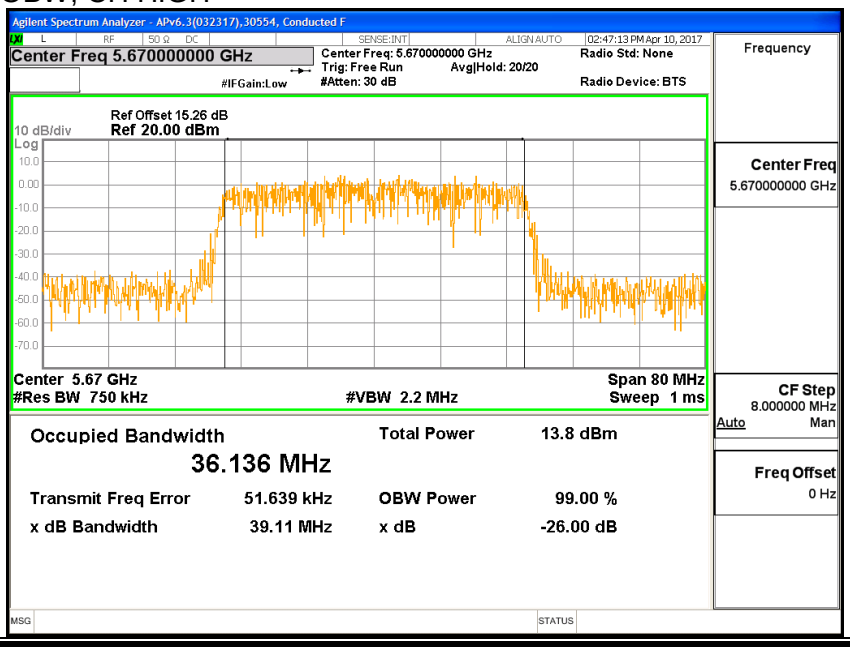
OBW, CH LOW



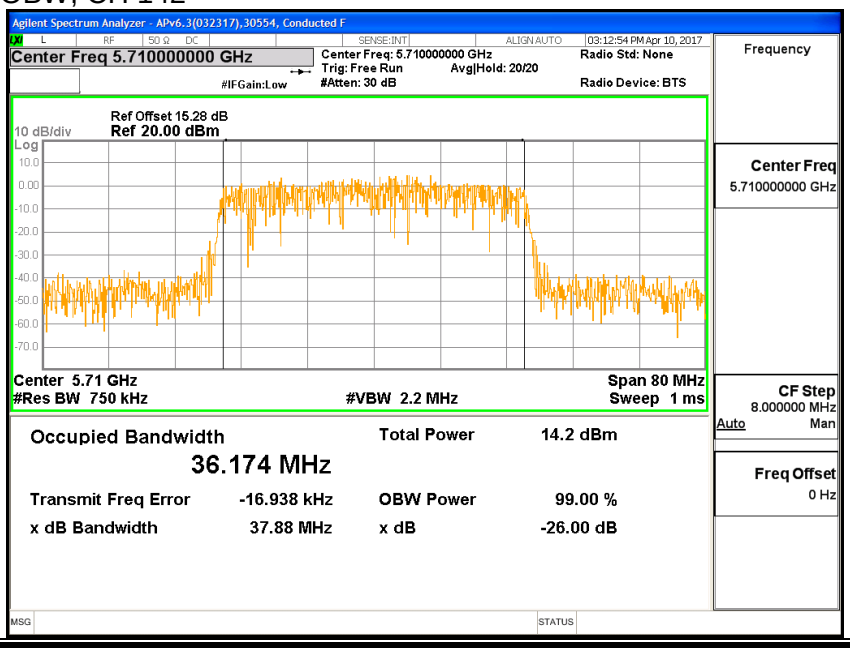
OBW, CH MID



OBW, CH HIGH



OBW, CH 142



8.23.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Low	5510	15.33
Mid	5550	19.46
High	5670	17.79
142	5710	19.36

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)
Low	5510	40.20	36.24	-0.41	24.00	11.00
Mid	5550	40.00	36.19	-0.41	24.00	11.00
High	5670	40.20	36.14	-0.41	24.00	11.00

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

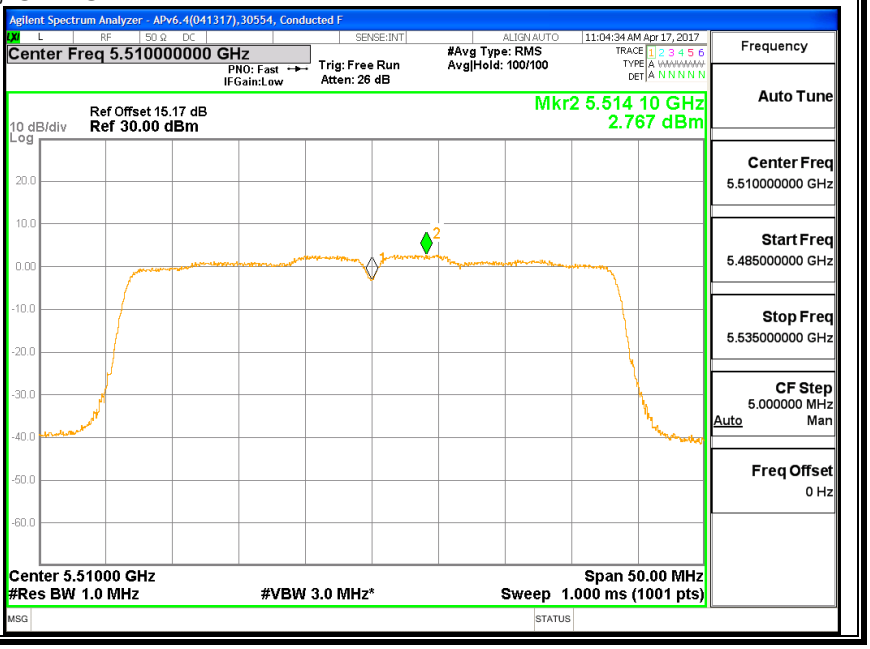
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	15.33	15.33	24.00	-8.67
Mid	5550	19.46	19.46	24.00	-4.54
High	5670	17.79	17.79	24.00	-6.21

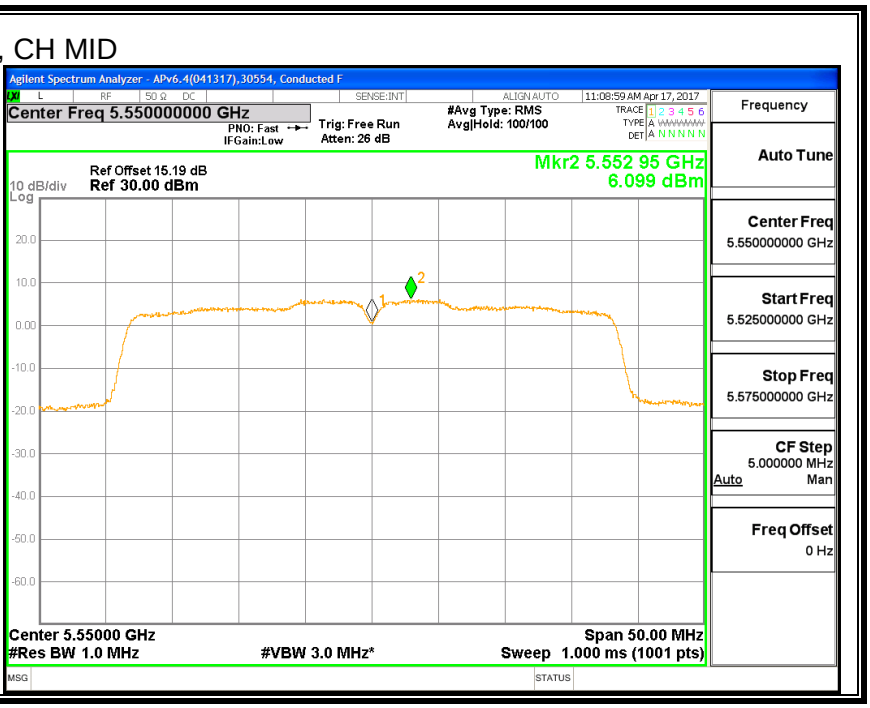
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	2.77	2.87	11.00	-8.13
Mid	5550	6.10	6.20	11.00	-4.80
High	5670	5.92	6.02	11.00	-4.99

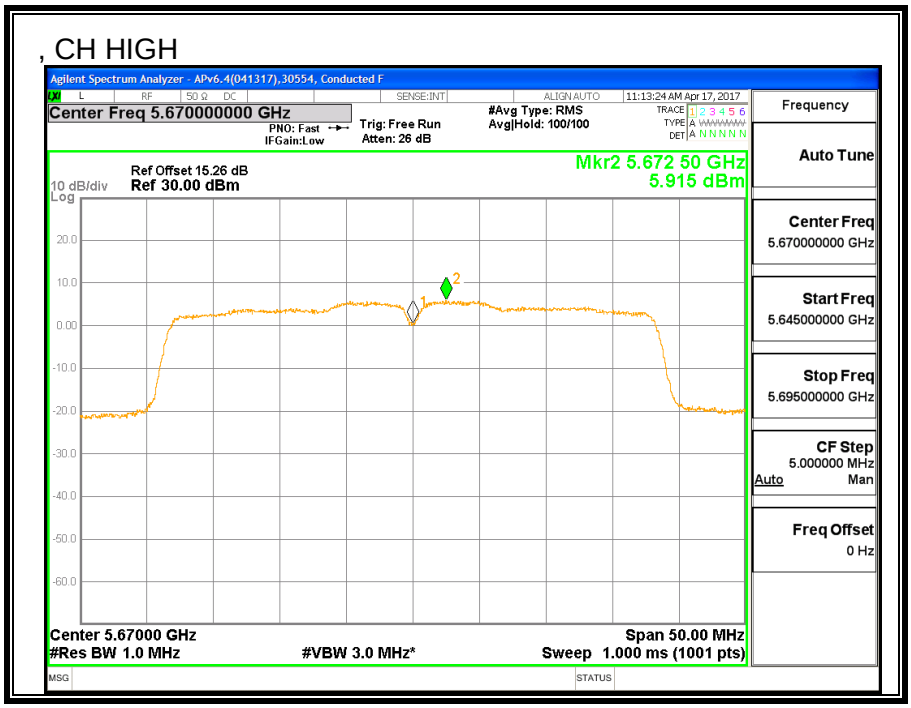
, CH LOW



, CH MID



, CH HIGH



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)
142	5710	40.10	-0.41	-0.41	24.00	11.00

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

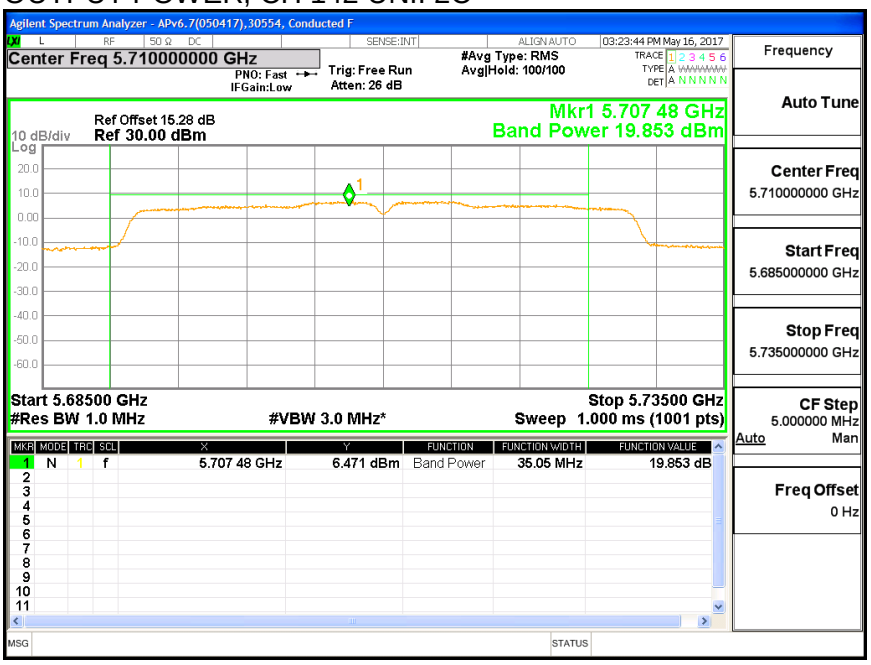
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	19.85	19.95	24.00	-4.05

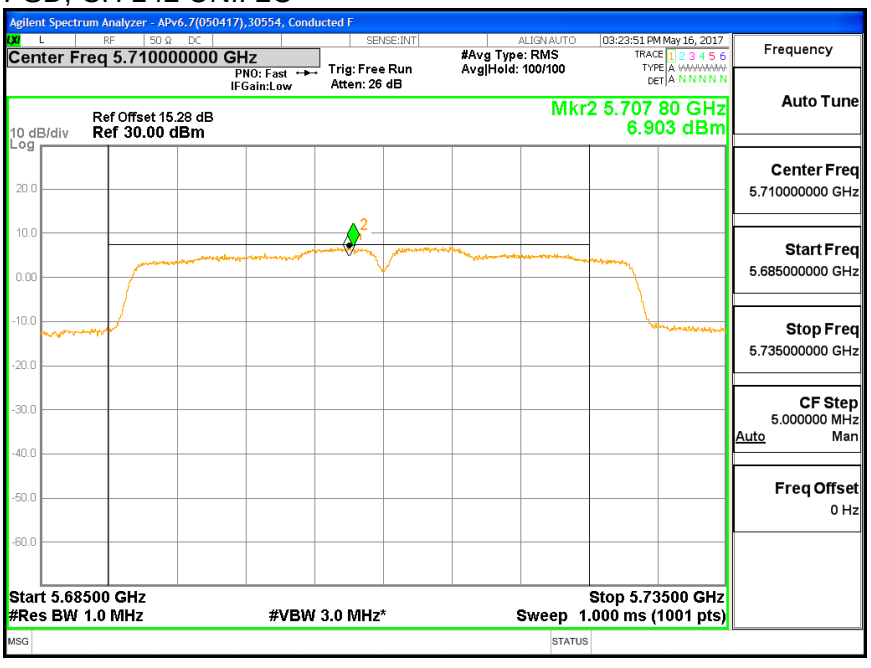
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	6.90	7.00	11.00	-4.00

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	40.10	-0.15	30.00	30.00

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

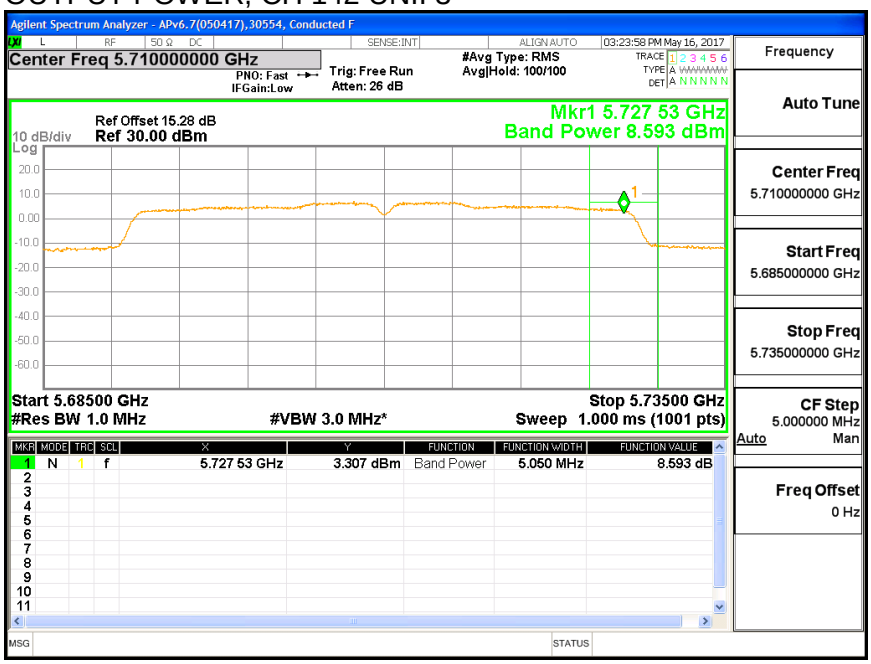
Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	8.59	8.69	30.00	-21.31

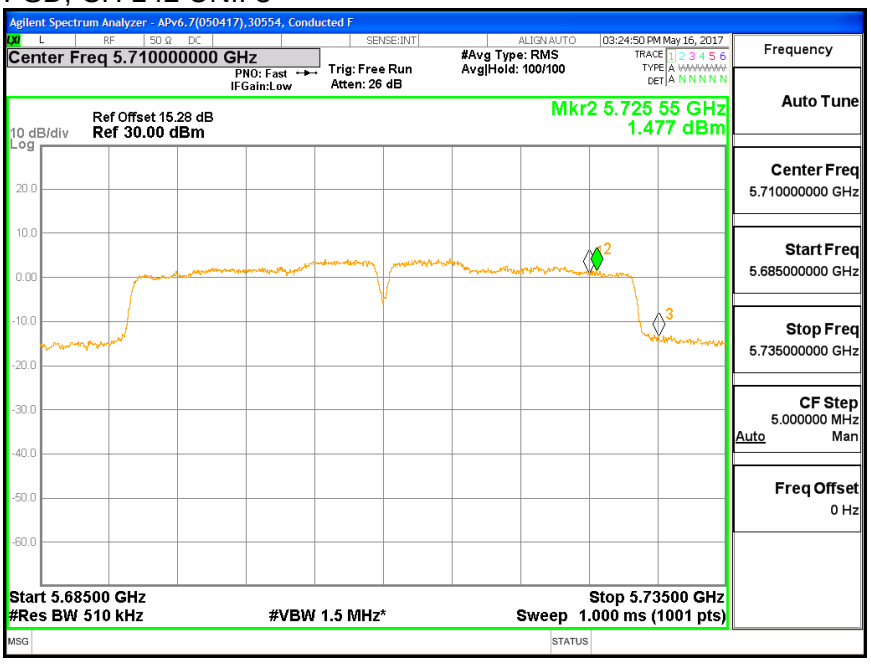
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	1.477	1.577	30.00	-28.42

OUTPUT POWER, CH 142 UNII 3



PSD, CH 142 UNII 3



8.23.6. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

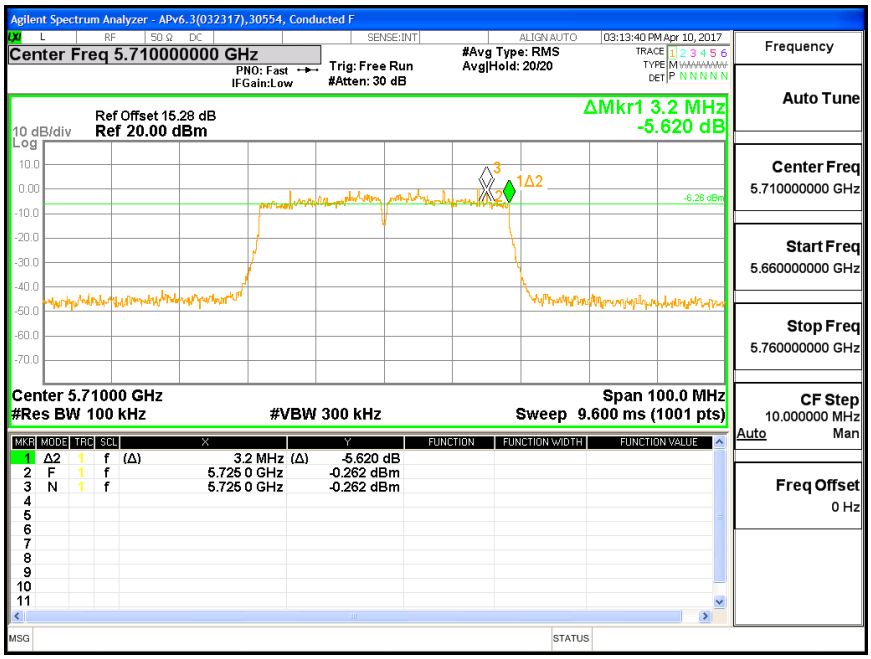
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

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

6 dB BANDWIDTH

6dBc BW



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

8.24.1. 26 dB BANDWIDTH

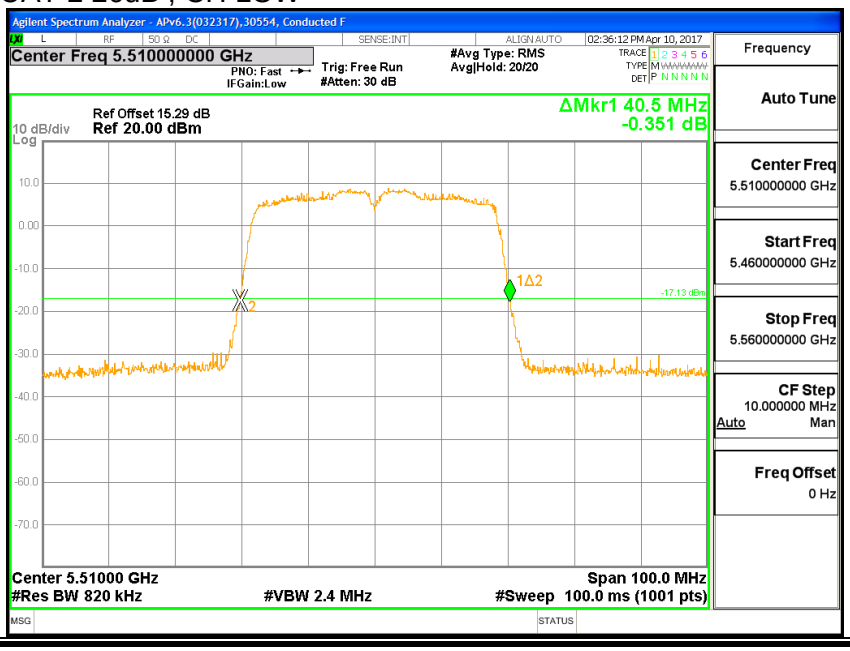
LIMITS

None; for reporting purposes only.

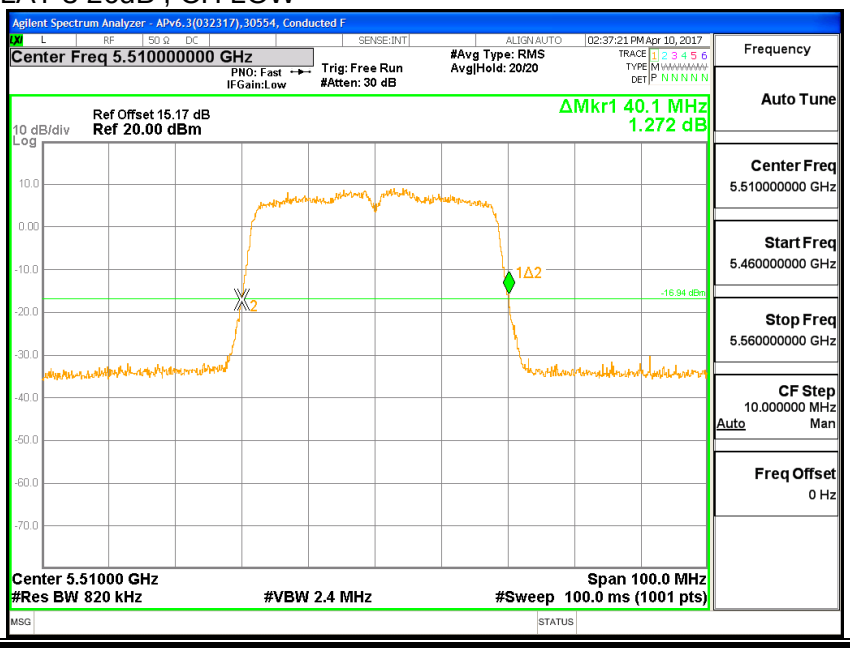
RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5510	40.5	40.1
Mid	5550	40.6	40.1
High	5670	40.4	40.1
142	5710	40.6	40.1

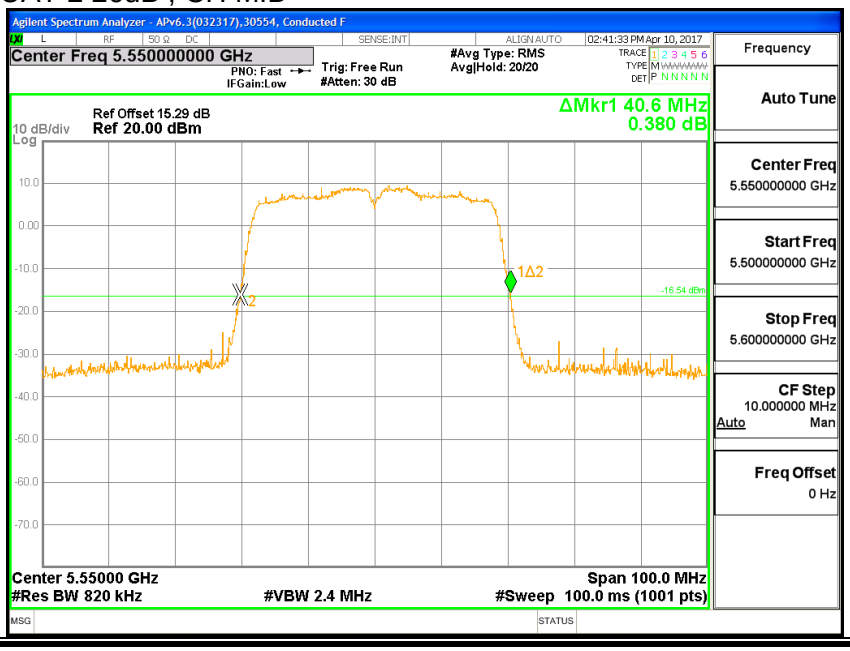
UAT 2 26dB , CH LOW



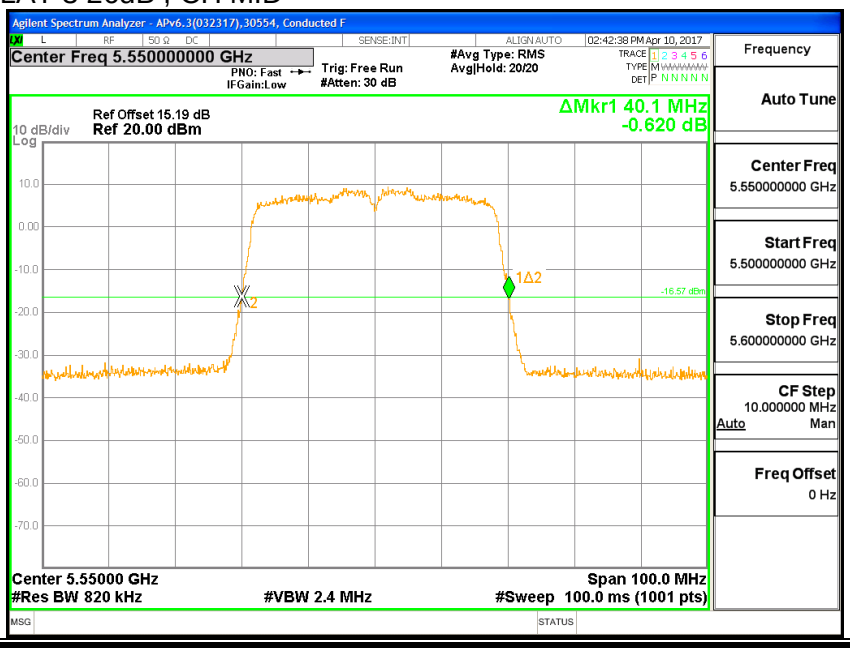
LAT 3 26dB , CH LOW



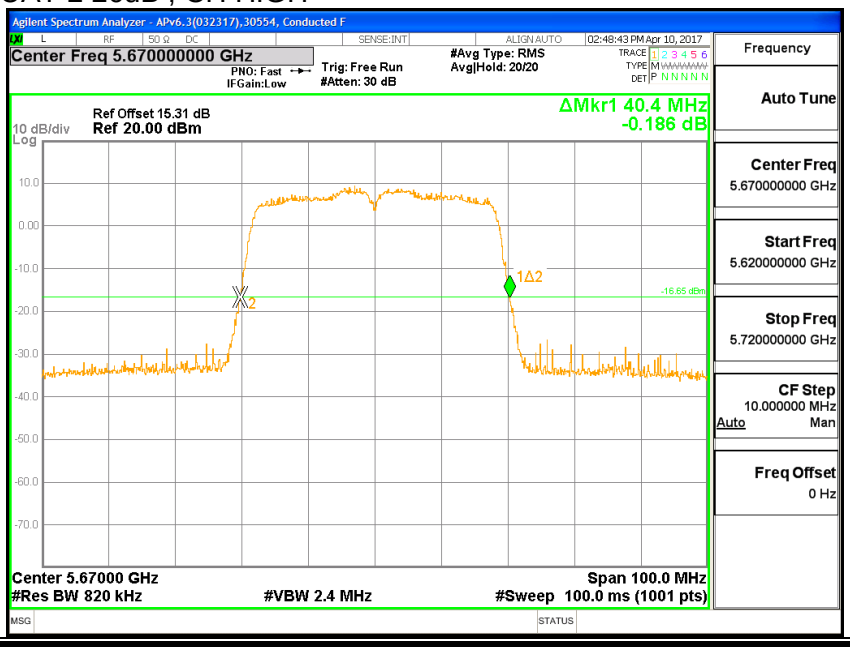
UAT 2 26dB , CH MID



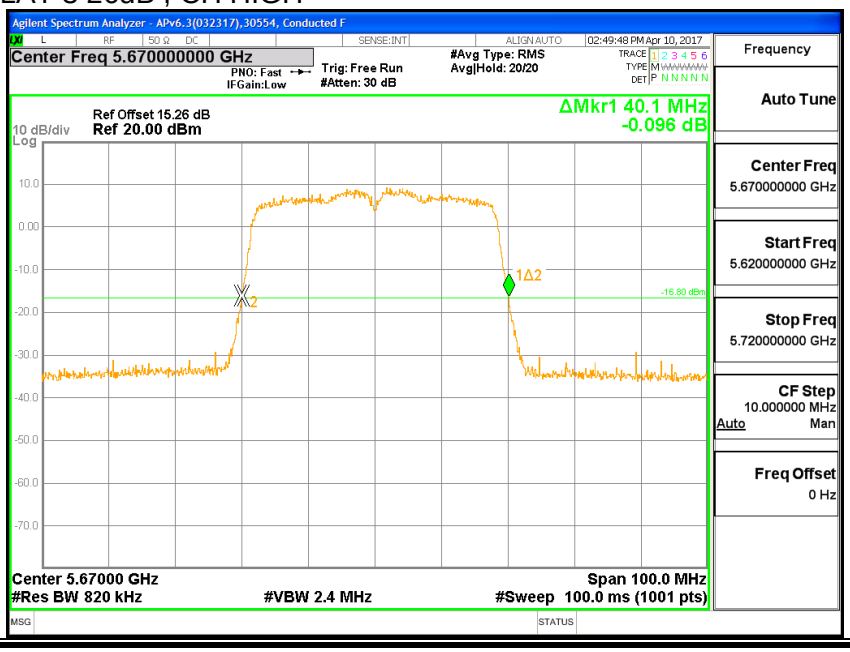
LAT 3 26dB , CH MID



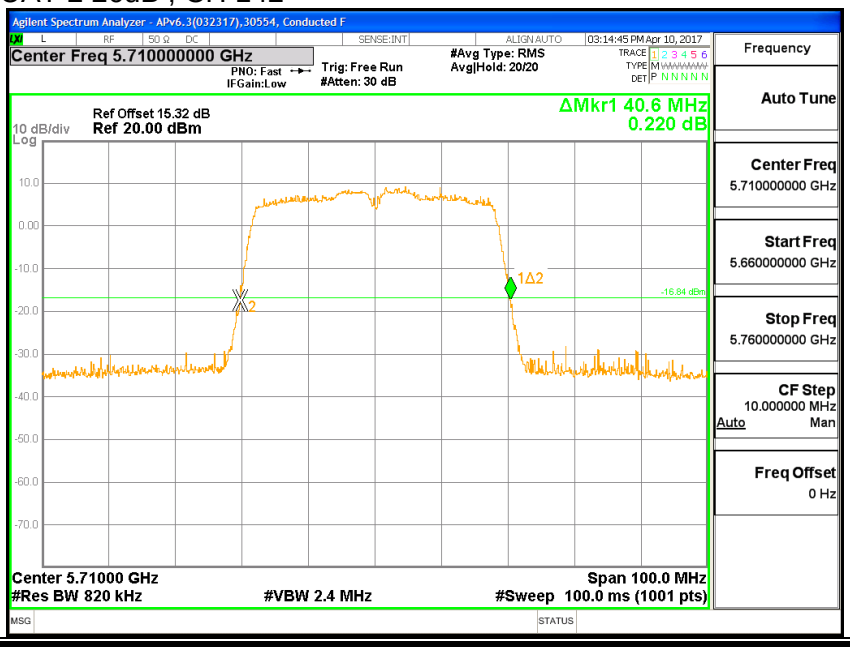
UAT 2 26dB , CH HIGH



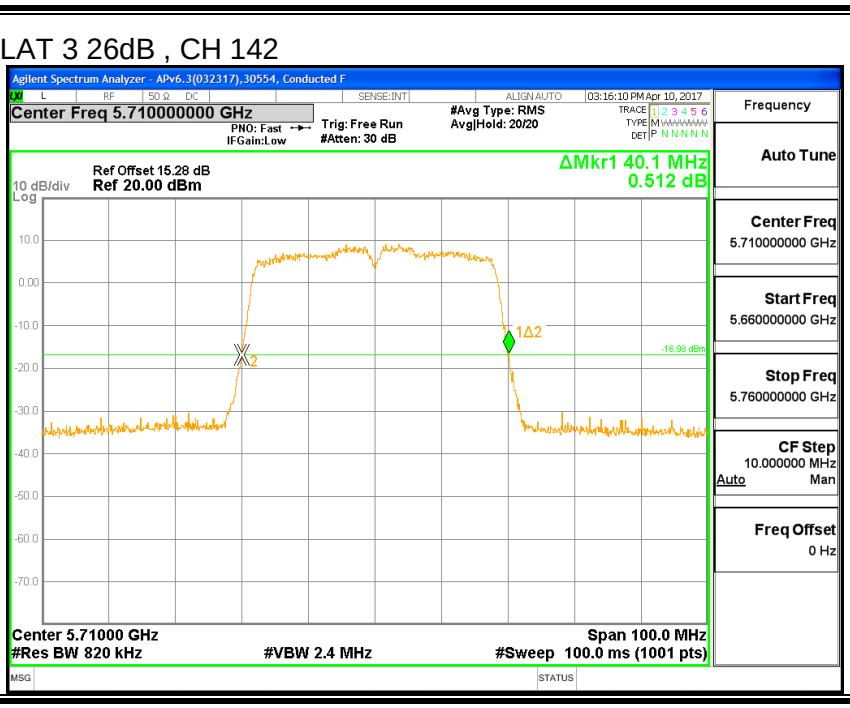
LAT 3 26dB , CH HIGH



UAT 2 26dB , CH 142



LAT 3 26dB , CH 142



8.24.2. 99% BANDWIDTH

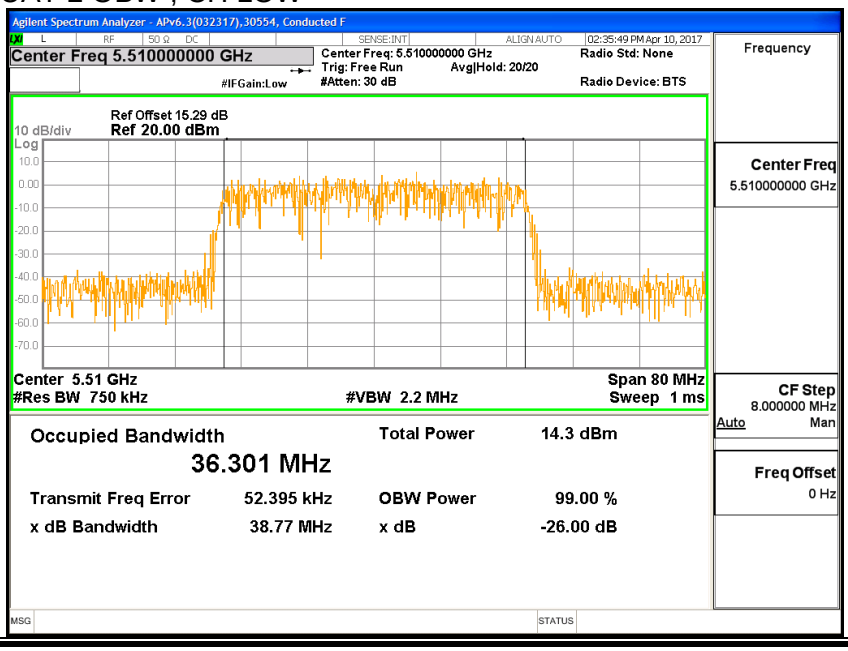
LIMITS

None; for reporting purposes only.

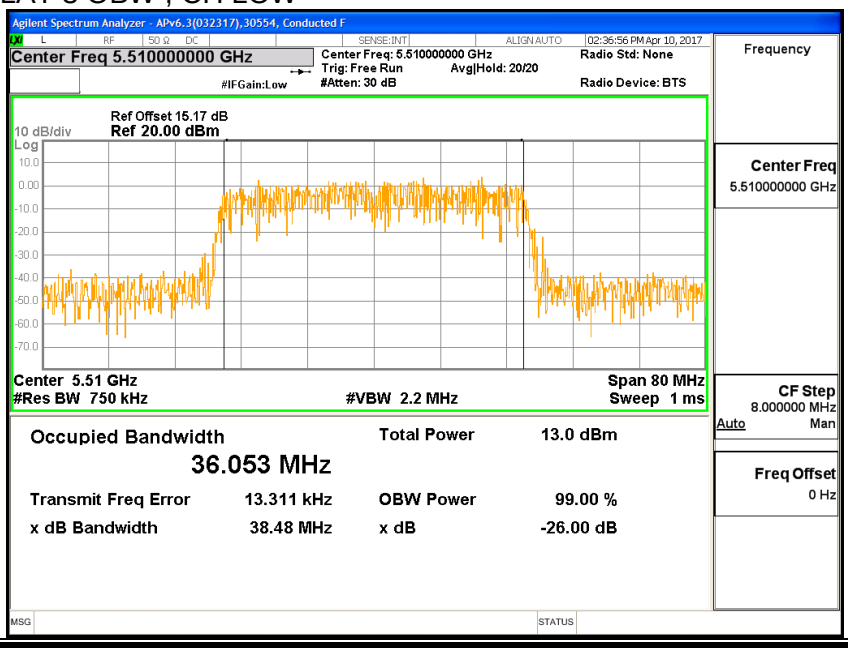
RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5510	36.301	36.053
Mid	5550	36.271	36.188
High	5670	36.193	36.143
142	5710	36.107	36.195

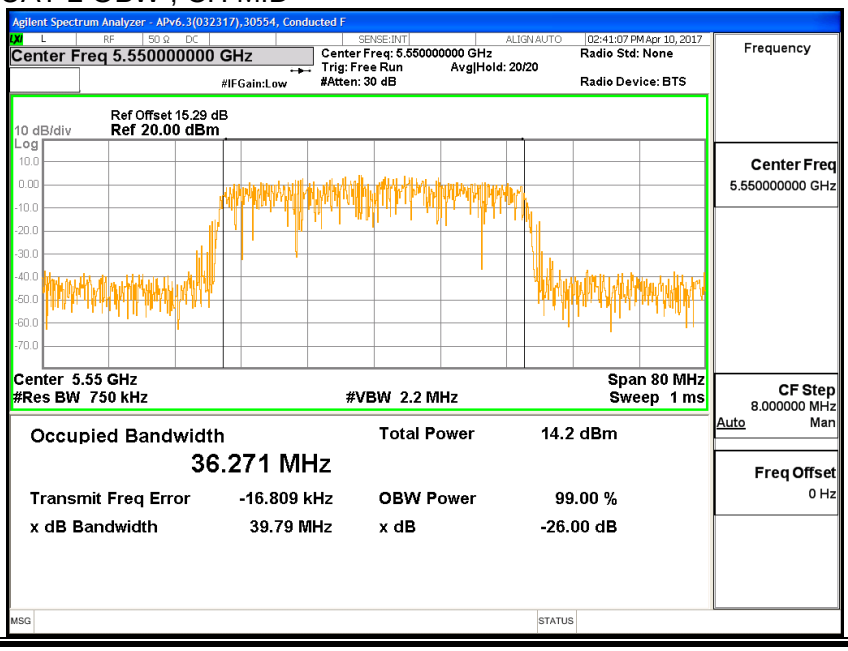
UAT 2 OBW , CH LOW



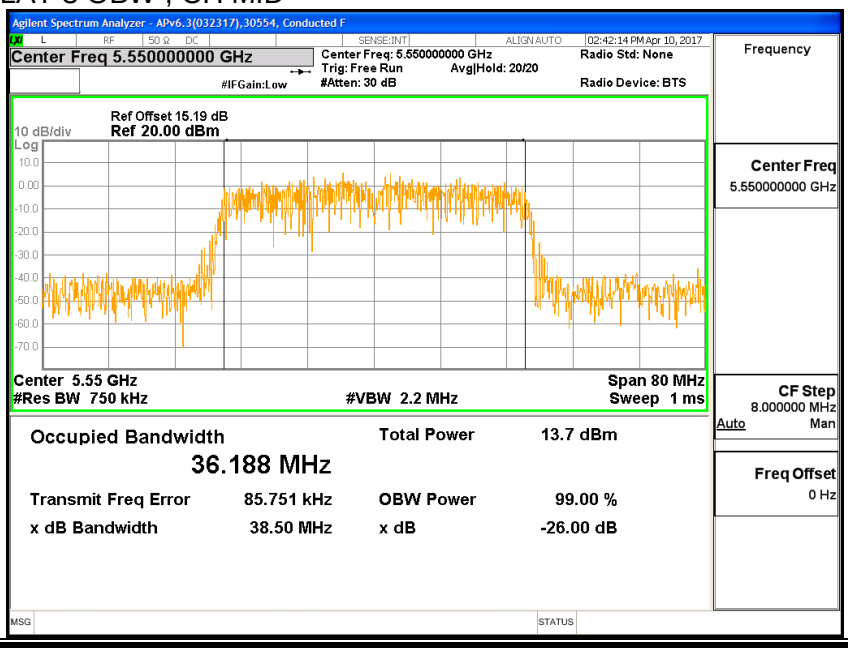
LAT 3 OBW , CH LOW



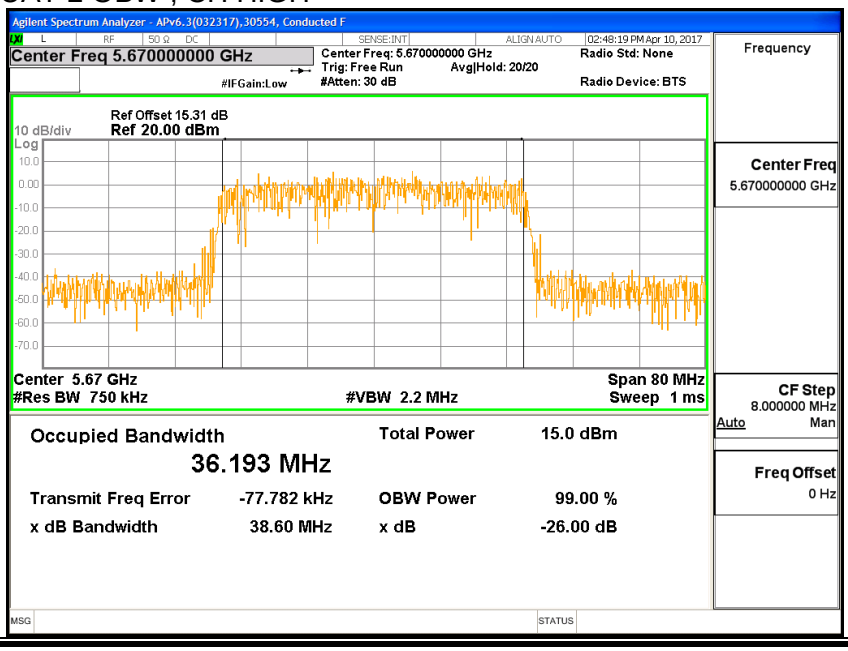
UAT 2 OBW , CH MID



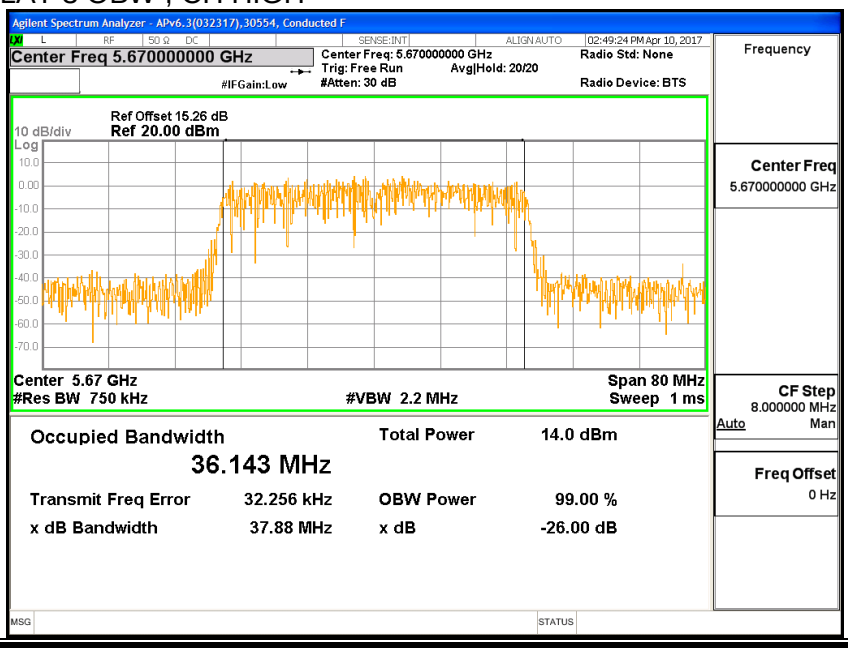
LAT 3 OBW , CH MID



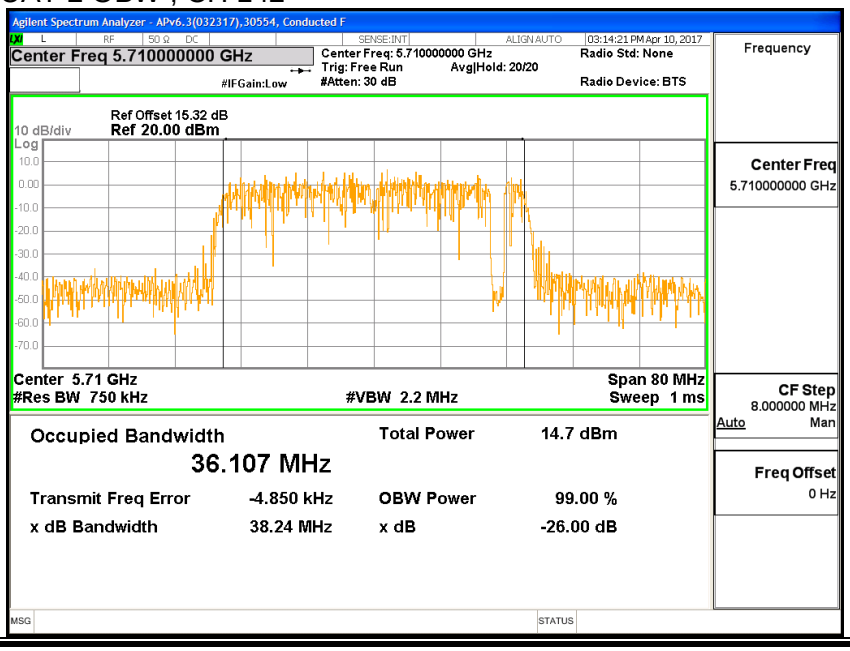
UAT 2 OBW , CH HIGH



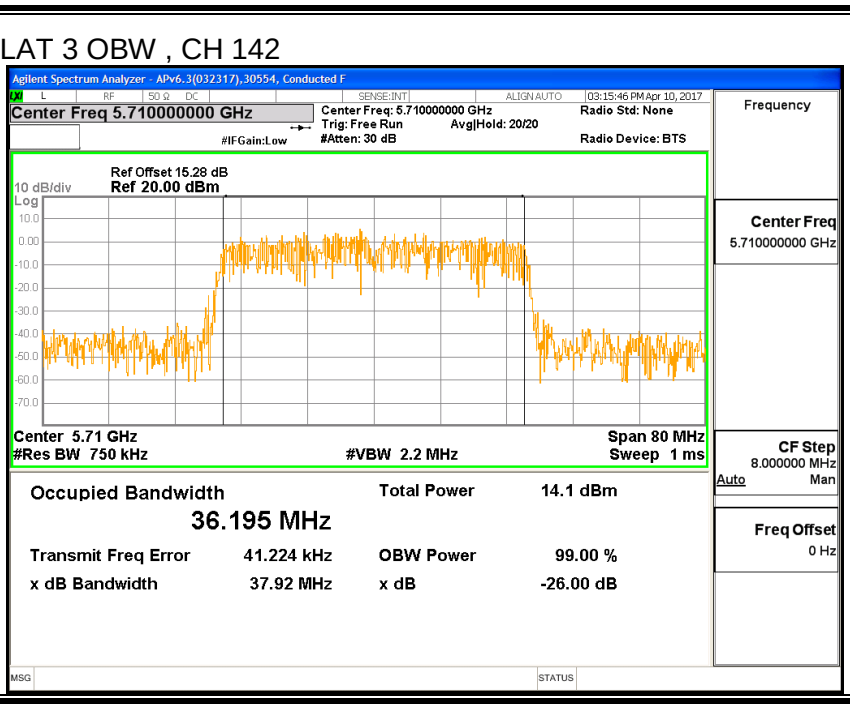
LAT 3 OBW , CH HIGH



UAT 2 OBW , CH 142



LAT 3 OBW , CH 142



8.24.3. AVERAGE POWER

ID:	30554	Date:	7/13/2017

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	14.78	14.82	17.81
Mid	5550	19.36	19.35	22.37
High	5670	17.29	17.44	20.38
142	5710	19.38	19.47	22.44

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)
-2.25	-0.41	-1.23

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)
-2.25	-0.41	1.73

RESULTS

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5510	40.10	36.053	-1.23	1.73	24.00	11.00
Mid	5550	40.10	36.188	-1.23	1.73	24.00	11.00
High	5670	40.10	36.143	-1.23	1.73	24.00	11.00

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

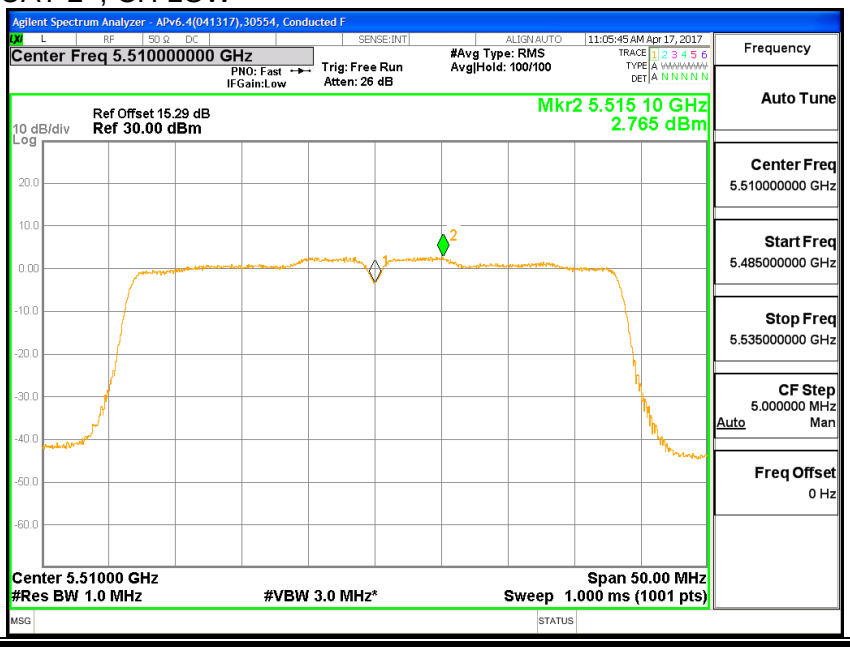
Output Power Results

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	14.78	14.82	17.81	24.00	-6.19
Mid	5550	19.36	19.35	22.37	24.00	-1.63
High	5670	17.29	17.44	20.38	24.00	-3.62

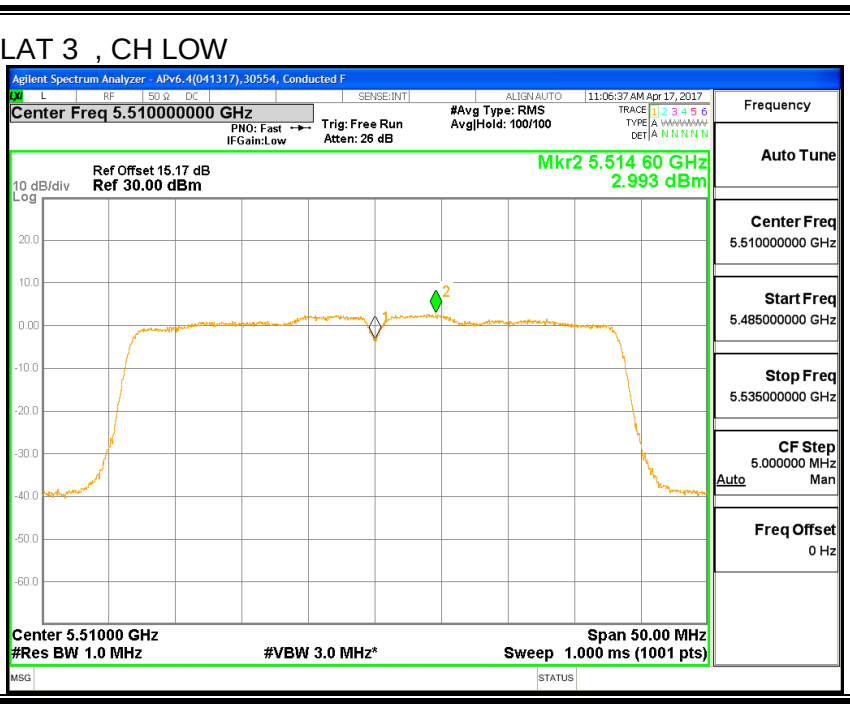
PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	2.77	2.99	5.99	11.00	-5.01
Mid	5550	6.05	5.95	9.11	11.00	-1.89
High	5670	5.82	5.72	8.88	11.00	-2.12

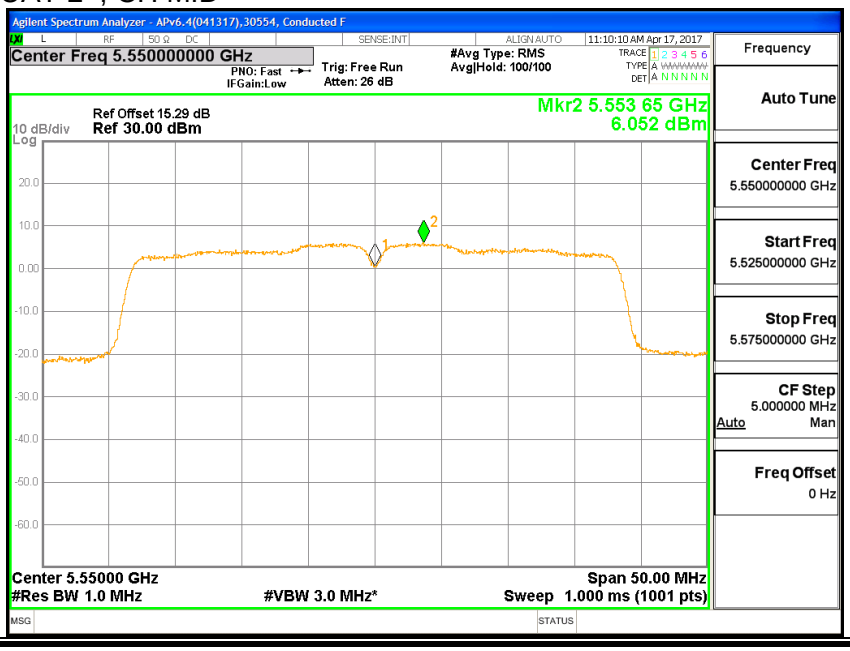
UAT 2 , CH LOW



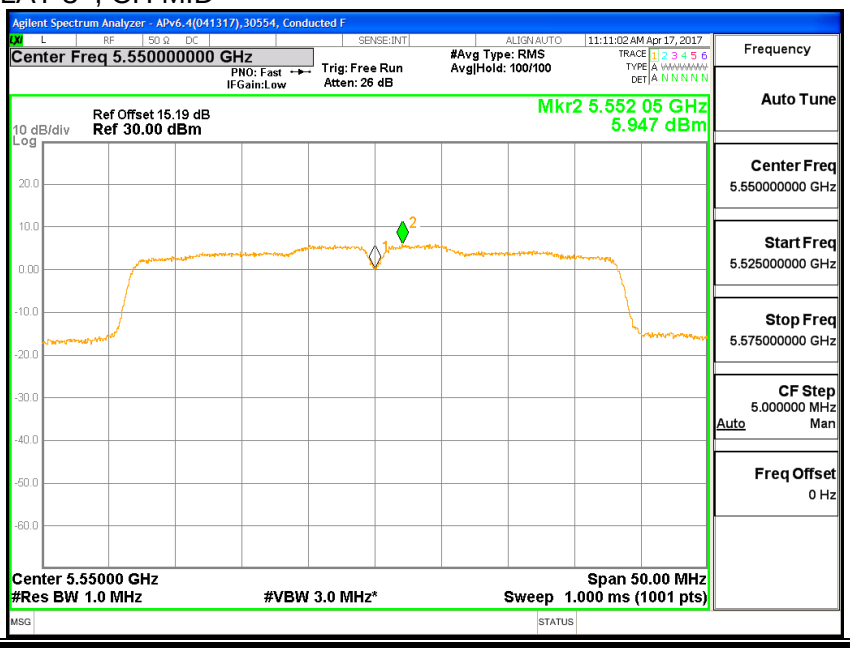
LAT 3 , CH LOW



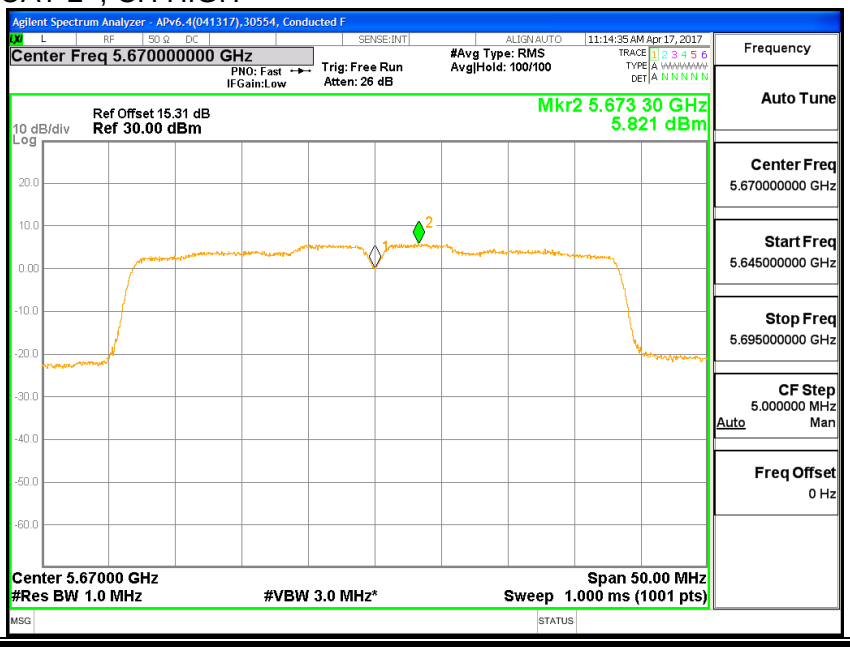
UAT 2 , CH MID



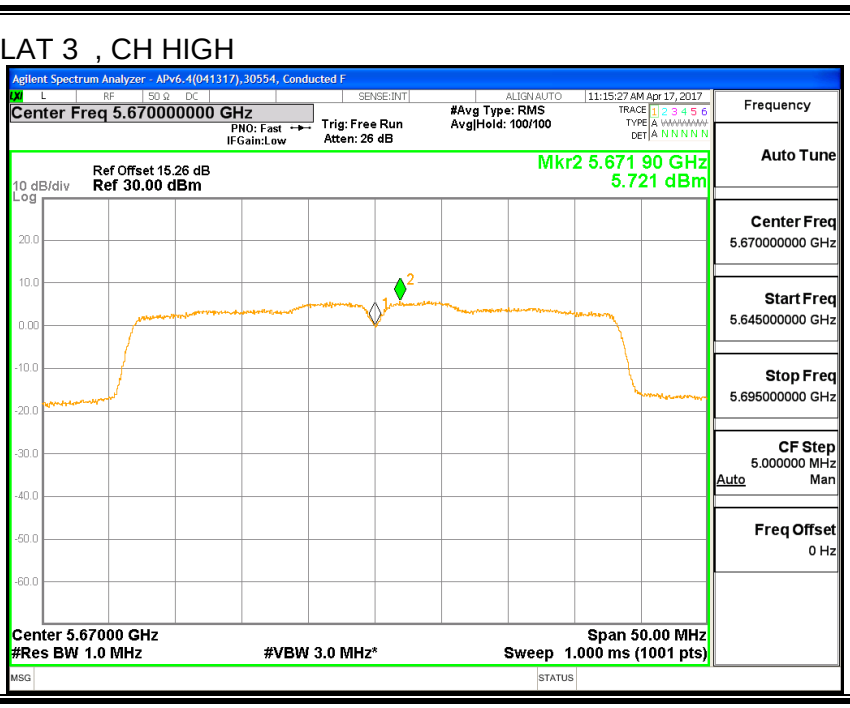
LAT 3 , CH MID



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)
142	5710	40.10	-1.23	1.73	24.00	11.00

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

Output Power Results

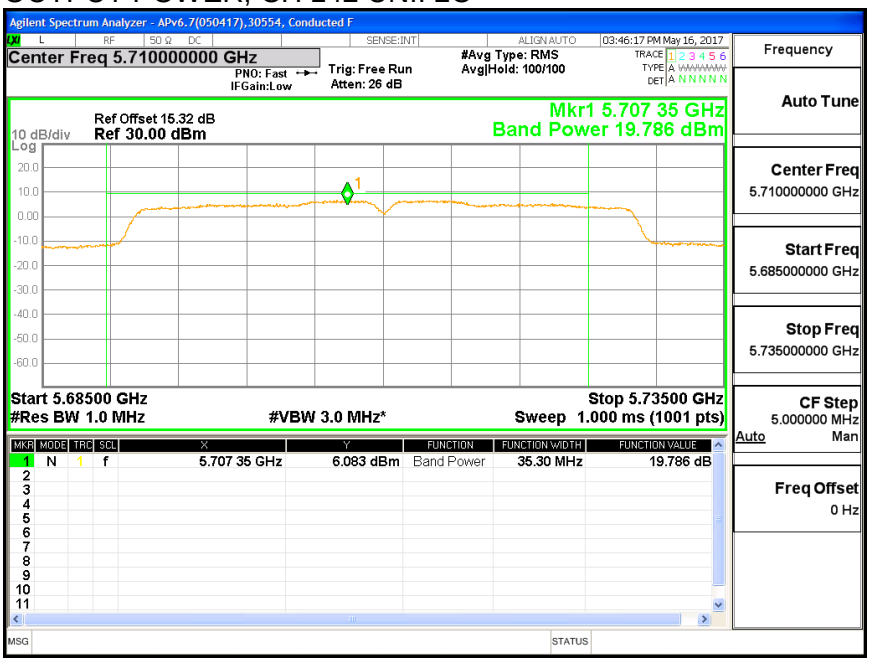
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	19.79	19.30	22.66	24.00	-1.34

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)
142	5710	6.68	6.19	9.55	11.00	-1.45

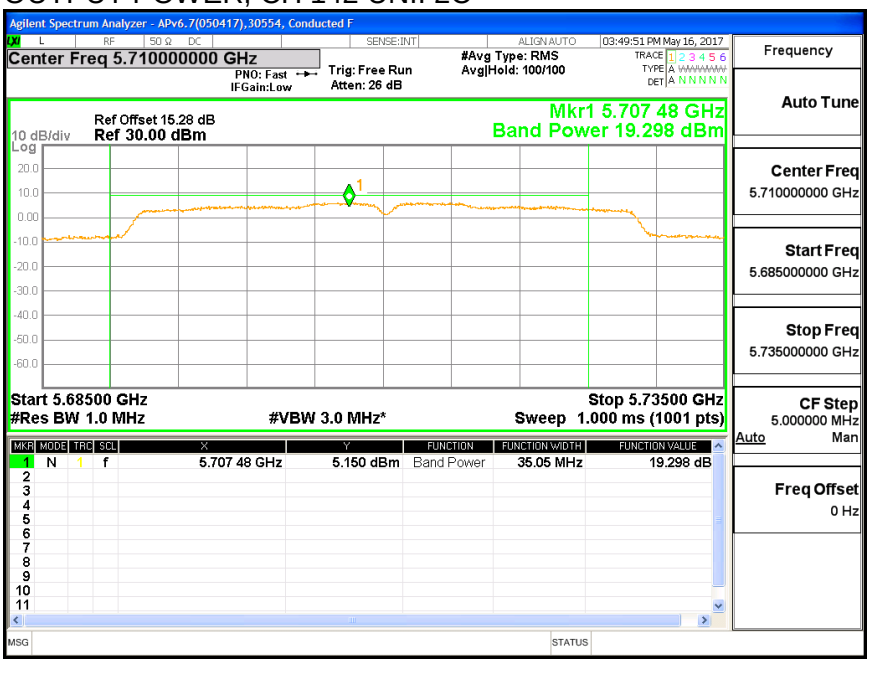
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 142 UNII 2C

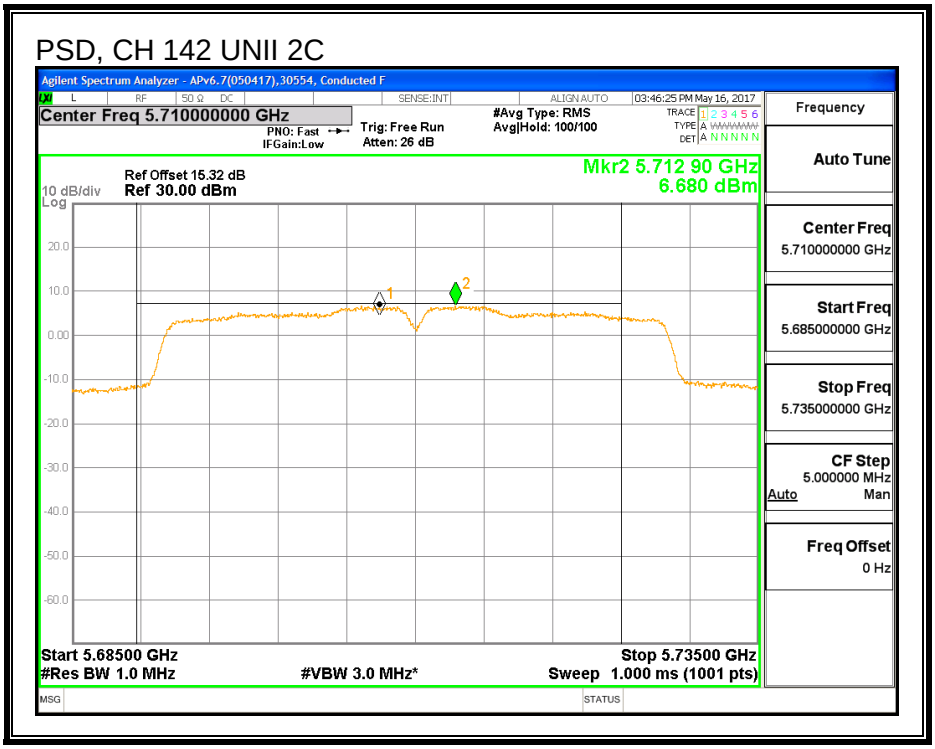


OUTPUT POWER, LAT 3

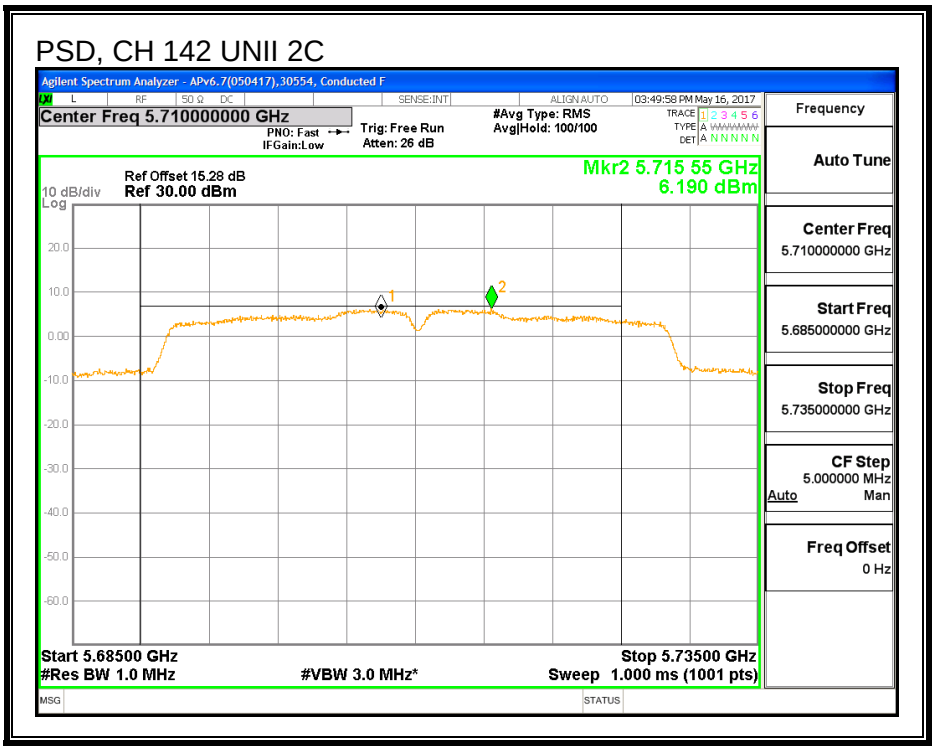
OUTPUT POWER, CH 142 UNII 2C



PSD, UAT 2



PSD, LAT 3



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	40.10	-1.13	1.80	30.00	30.00

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

Output Power Results

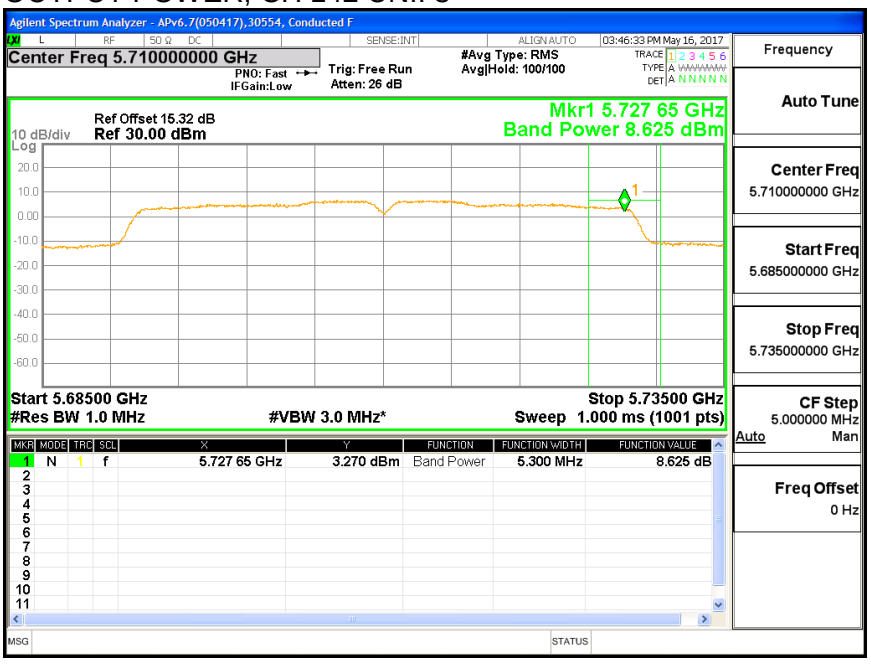
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	8.63	8.29	11.57	30.00	-18.43

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	0.986	0.471	3.846	30.00	-26.15

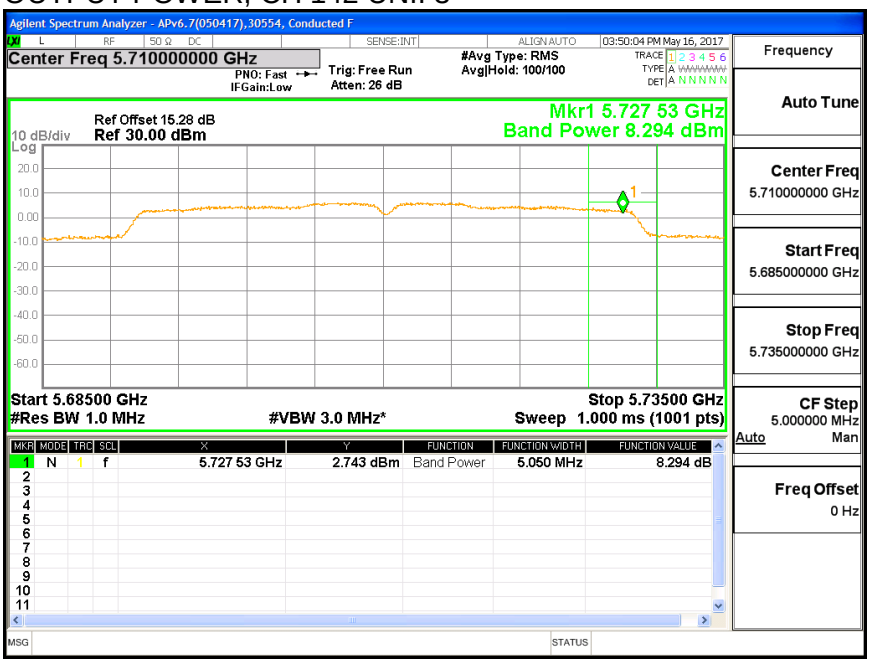
OUTPUT POWER, UAT 2

OUTPUT POWER, CH 142 UNII 3



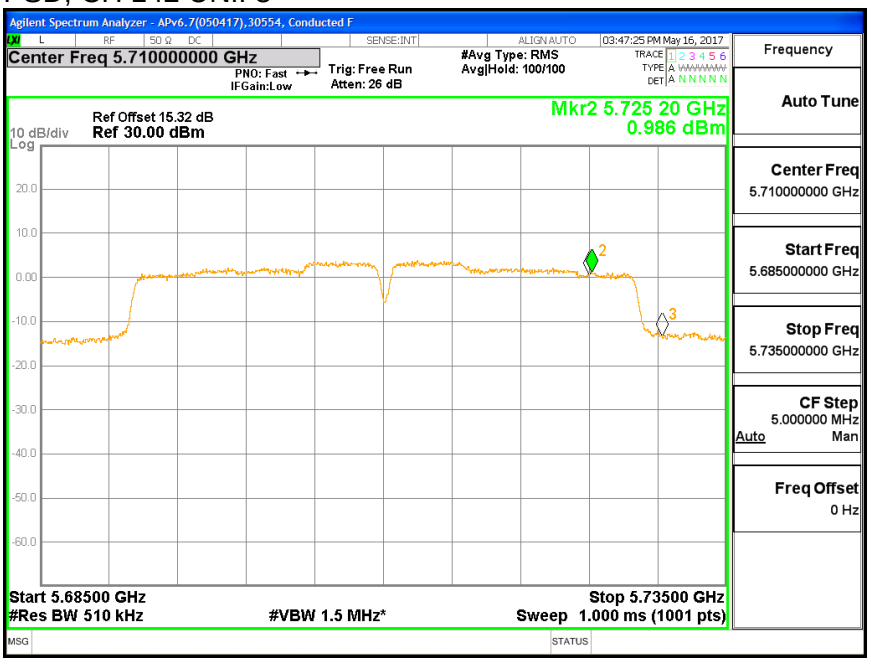
OUTPUT POWER, LAT 3

OUTPUT POWER, CH 142 UNII 3



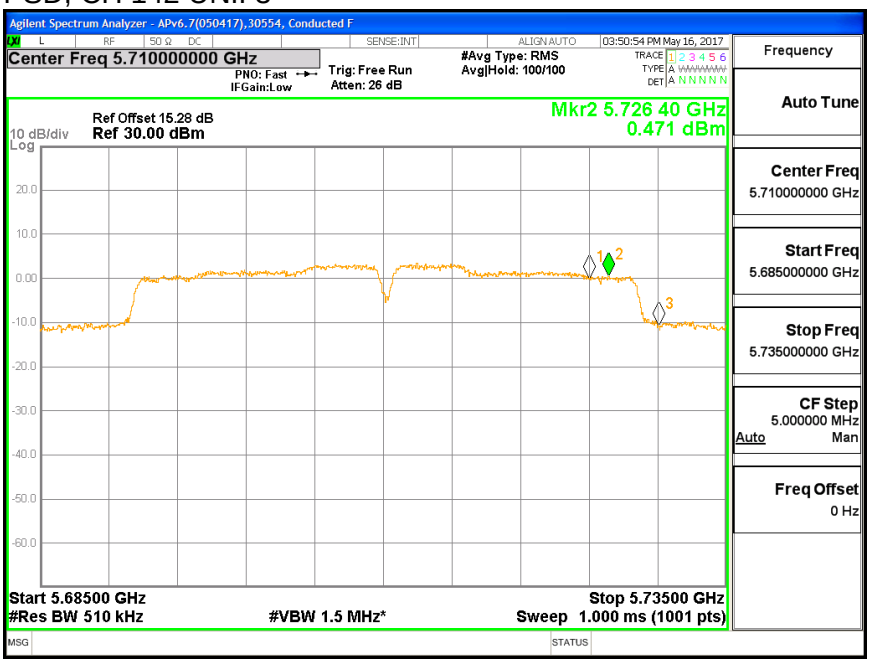
PSD, UAT 2

PSD, CH 142 UNII 3



PSD, LAT 3

PSD, CH 142 UNII 3



8.24.6. 6 dB BANDWIDTH

LIMITS

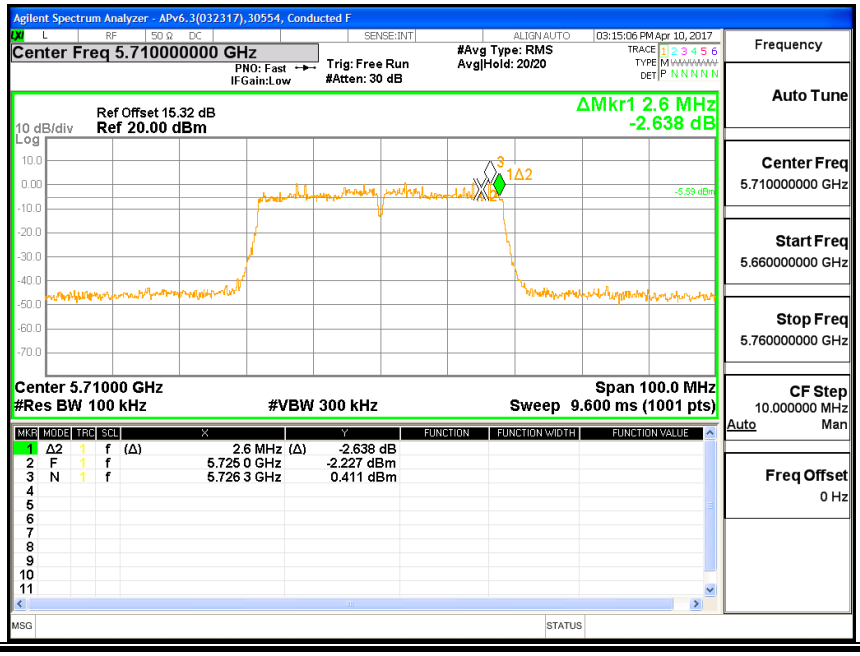
FCC §15.407 (e)

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

RESULTS

Channel	Frequency	6 dB BW UAT 2 (MHz)	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
142	5710	2.6	23.3	0.5

UAT 2 6dB



LAT 3 6dB