

## 8.13. 11n HT40 UAT 2 SISO MODE IN THE 5.3GHz BAND

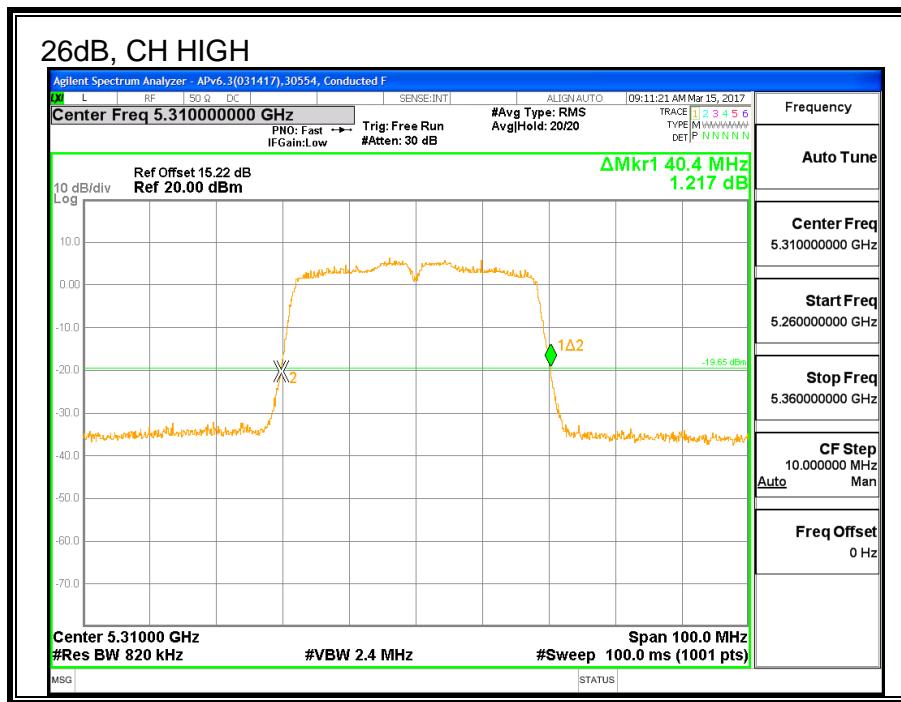
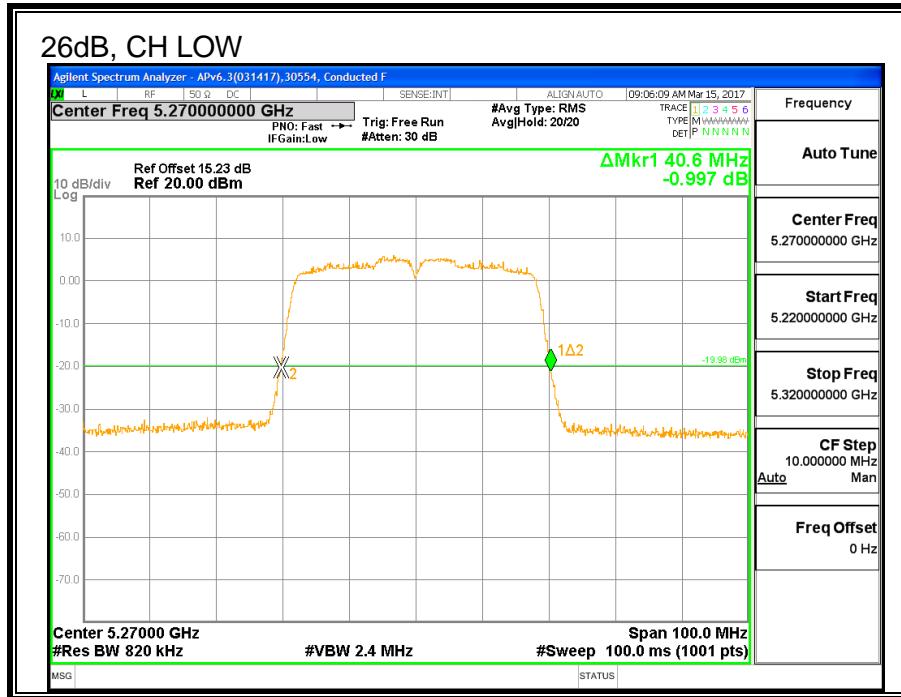
### 8.13.1. 26 dB BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low	5270	40.60
High	5310	40.40



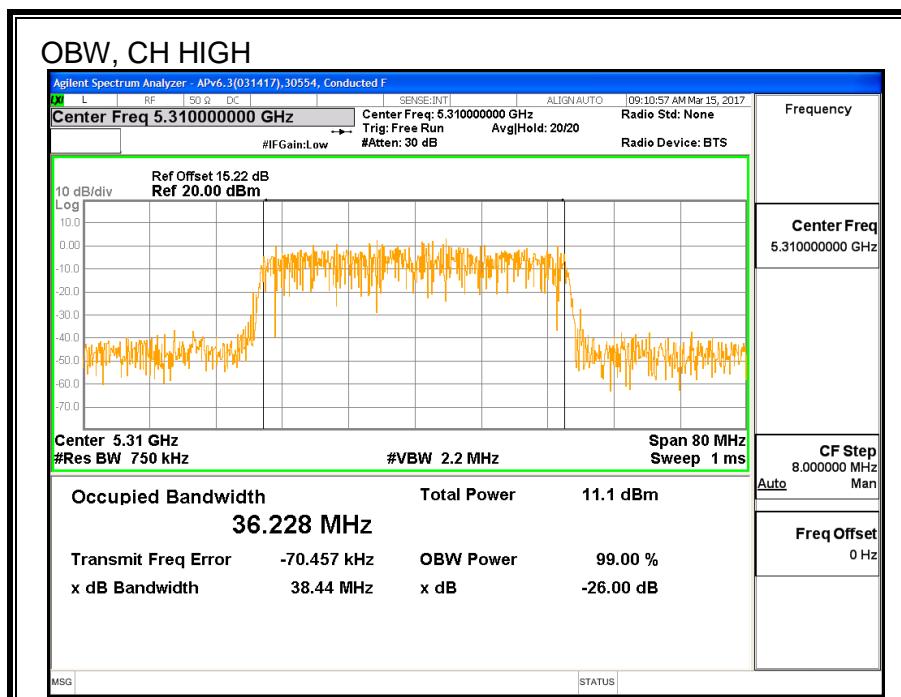
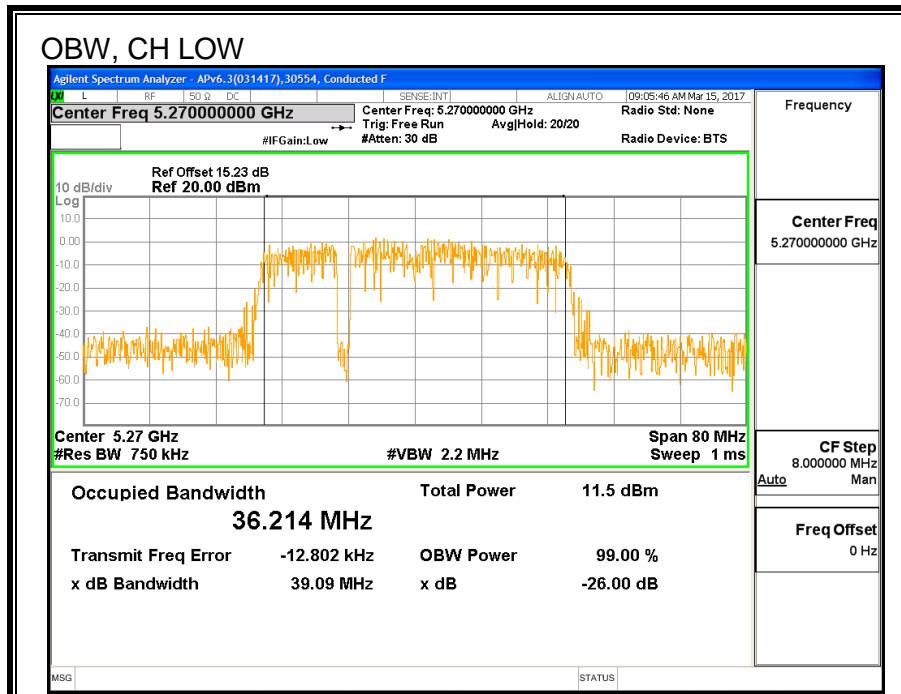
### 8.13.2. 99% BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low	5270	36.214
High	5310	36.228



### 8.13.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### 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	5270	18.44
High	5310	15.47

#### **8.13.4. 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  $11 \text{ dBm} + 10 \log B$ , where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### **TEST PROCEDURE**

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

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

##### **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	5270	40.60	36.21	-3.74	24.00	11.00
High	5310	40.40	36.23	-3.74	24.00	11.00

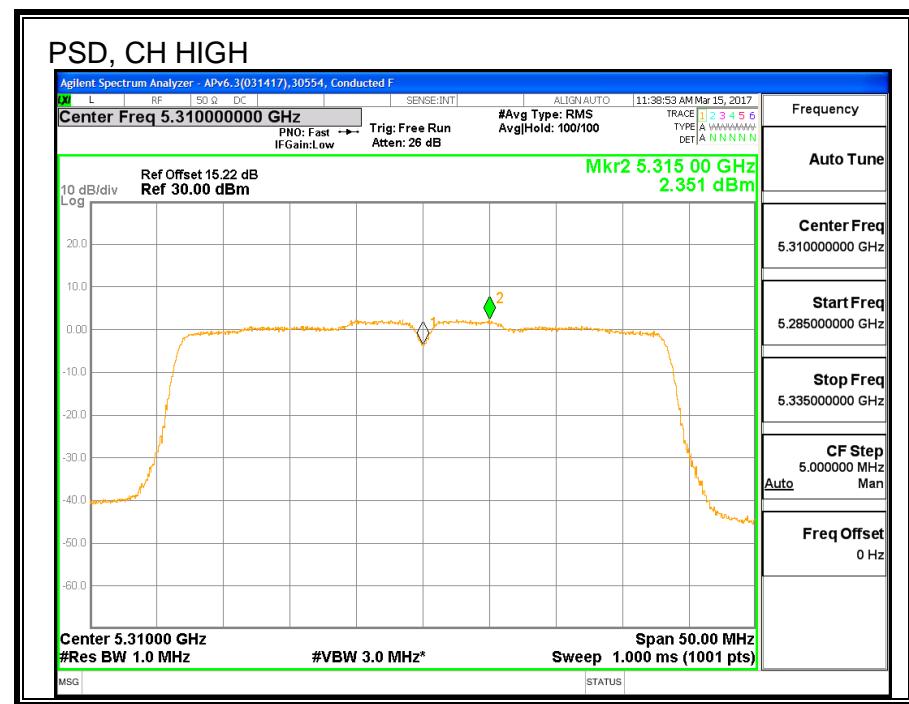
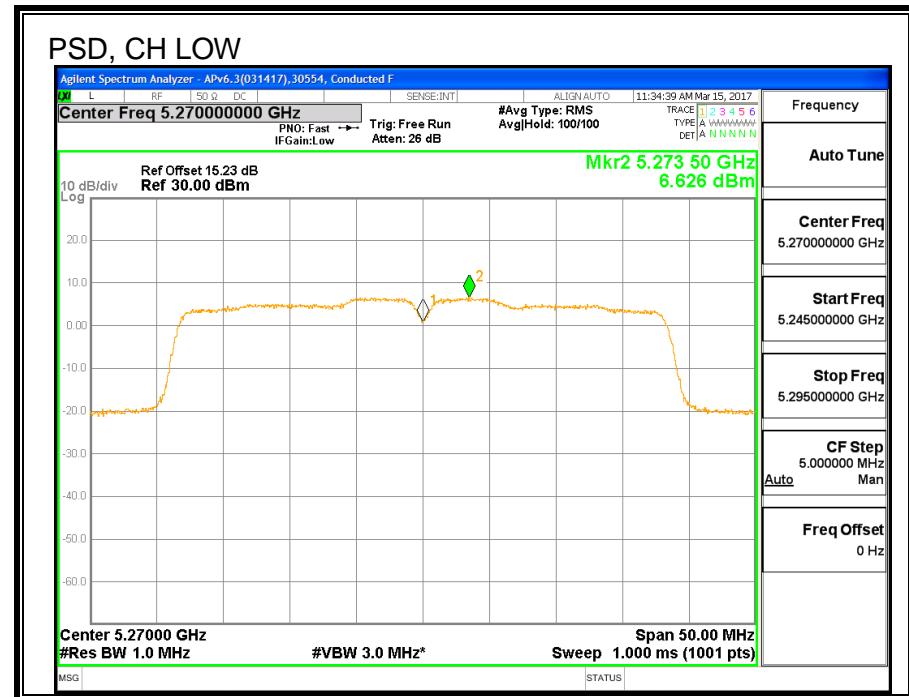
Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD
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### Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.44	18.44	24.00	-5.56
High	5310	15.47	15.47	24.00	-8.53

### PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	6.626	6.716	11.00	-4.28
High	5310	2.351	2.441	11.00	-8.56



## 8.14. 11n HT40 LAT 3 SISO MODE IN THE 5.3GHz BAND

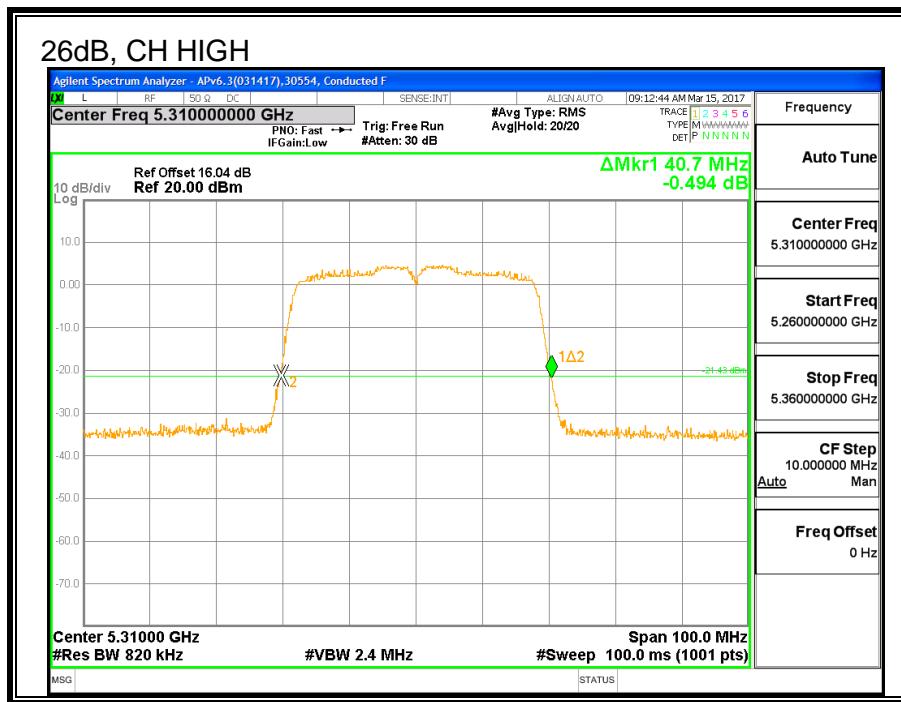
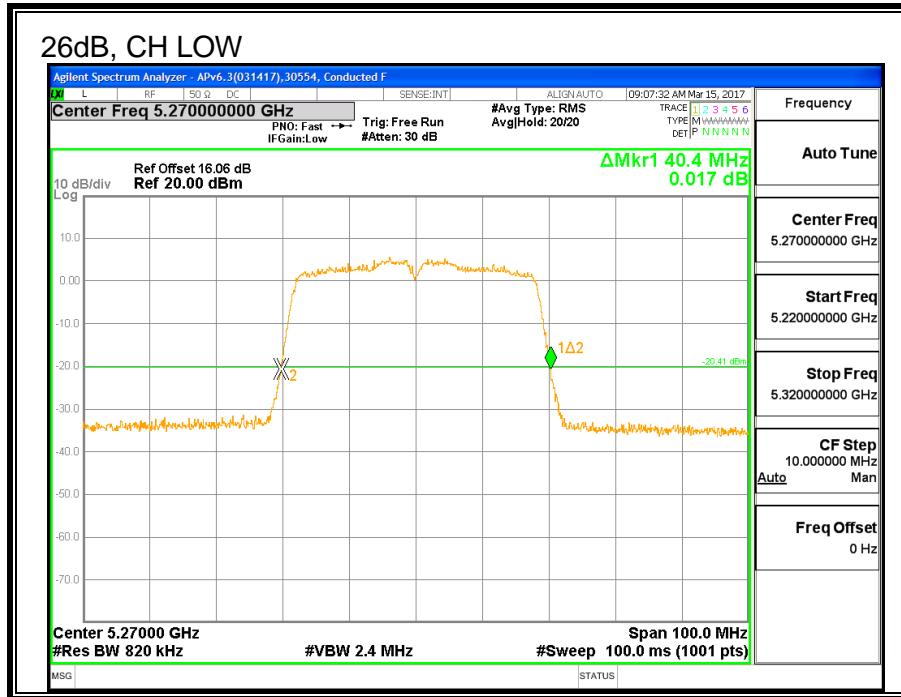
### 8.14.1. 26 dB BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low	5270	40.4
High	5310	40.7



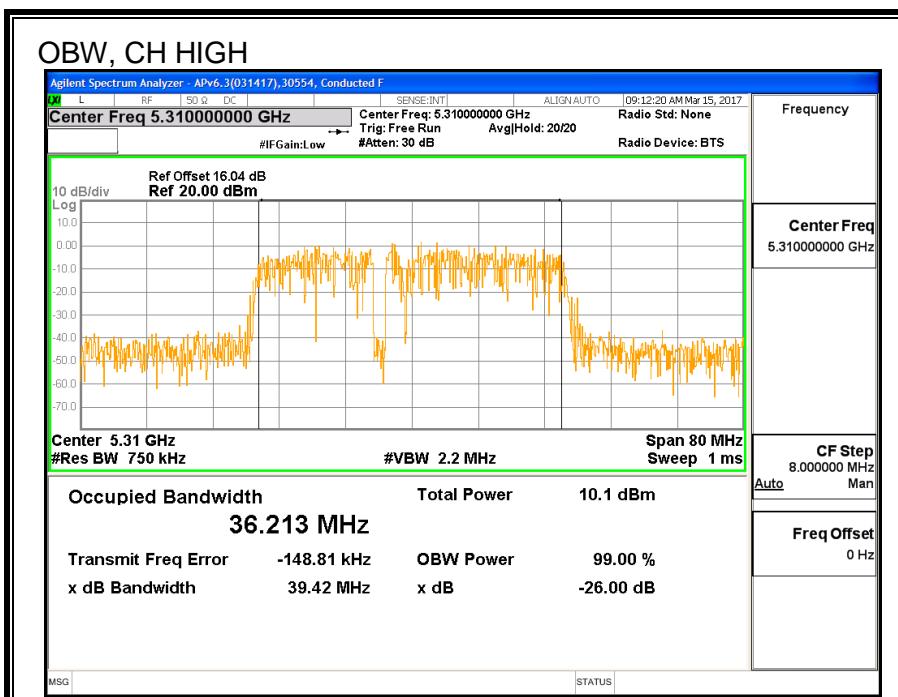
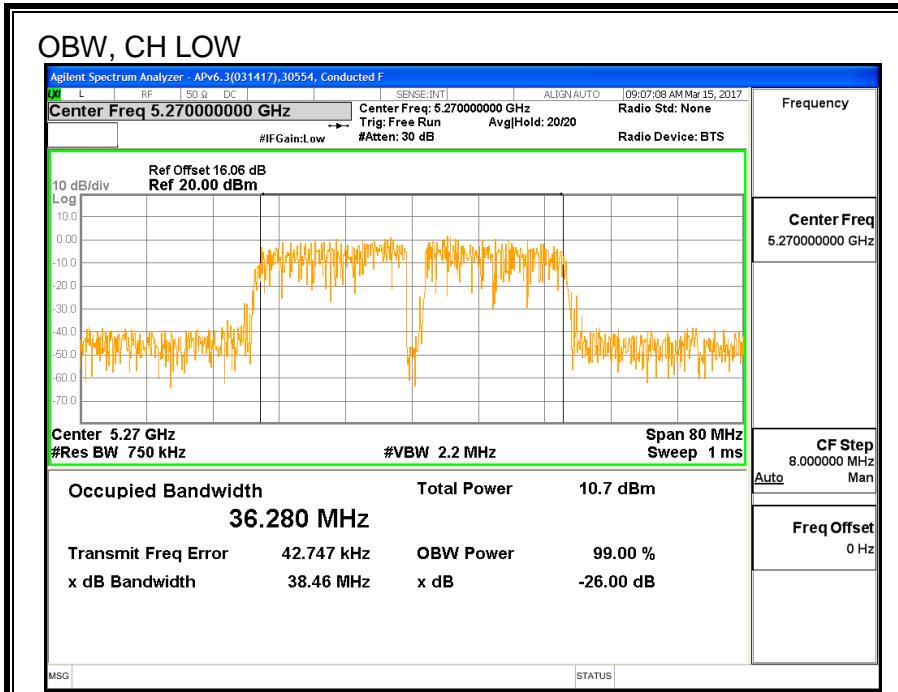
## 8.14.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low	5270	36.280
High	5310	36.213



### 8.14.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### 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	5270	18.47
High	5310	15.44

#### **8.14.4. OUTPUT POWER AND PPSD**

##### **LIMITS**

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### **TEST PROCEDURE**

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

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

##### **DIRECTIONAL ANTENNA GAIN**

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	5270	40.40	36.28	-1.09	24.00	11.00
High	5310	40.70	36.21	-1.09	24.00	11.00

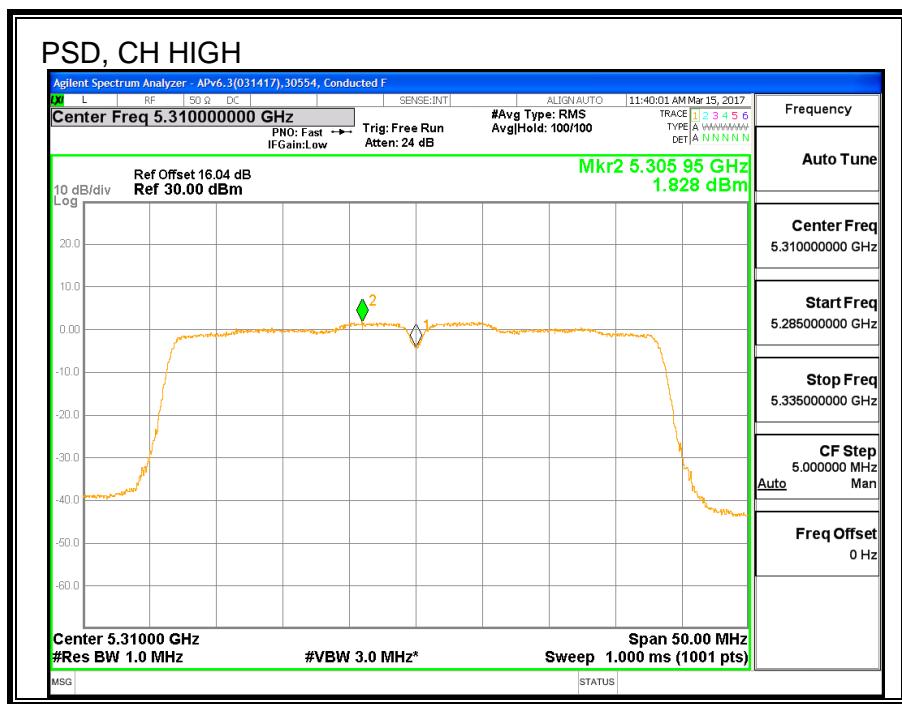
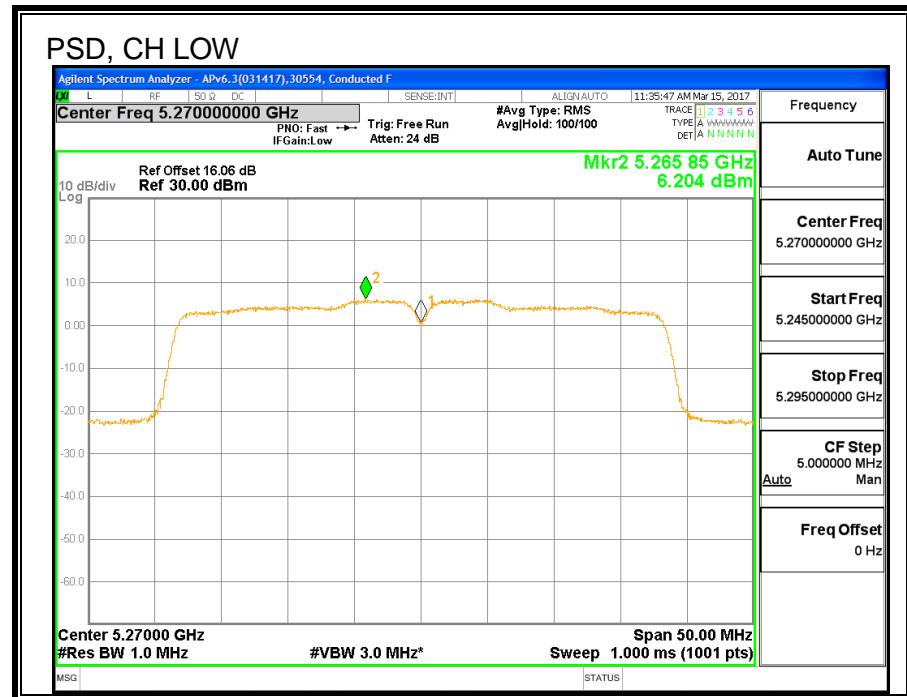
Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD
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### Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	18.47	18.47	24.00	-5.53
High	5310	15.44	15.44	24.00	-8.56

### PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	6.204	6.294	11.00	-4.71
High	5310	1.828	1.918	11.00	-9.08



## 8.15. 11n HT40 2TX CDD MIMO MODE IN THE 5.3GHz BAND

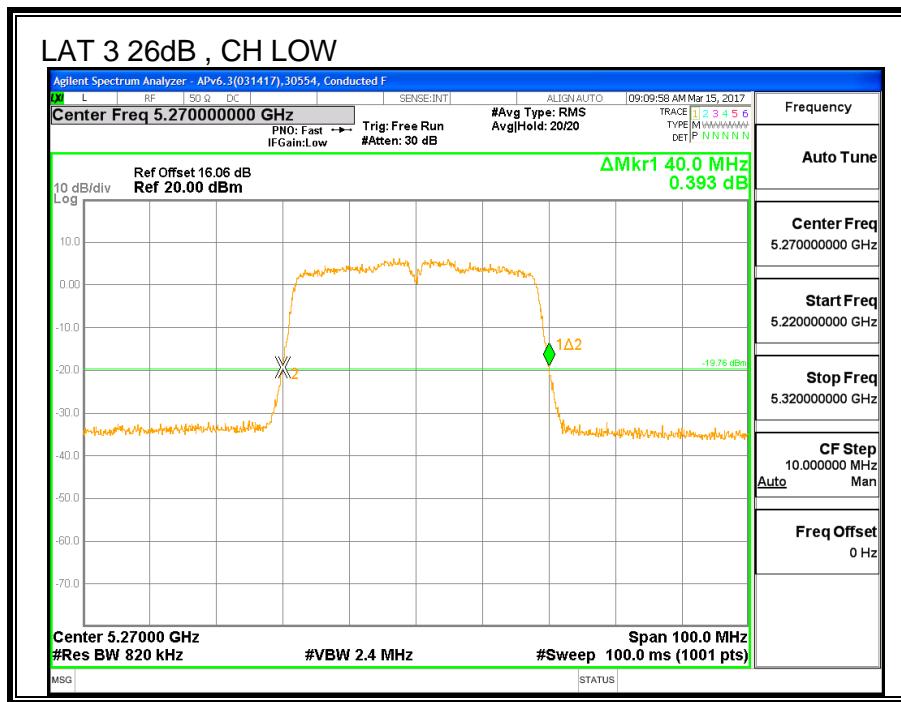
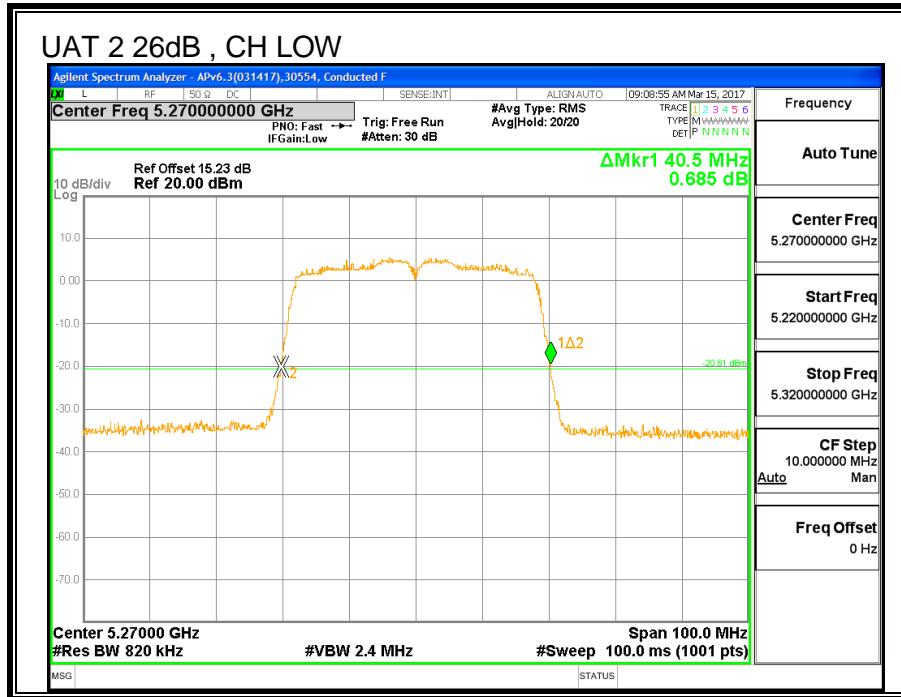
### 8.15.1. 26 dB BANDWIDTH

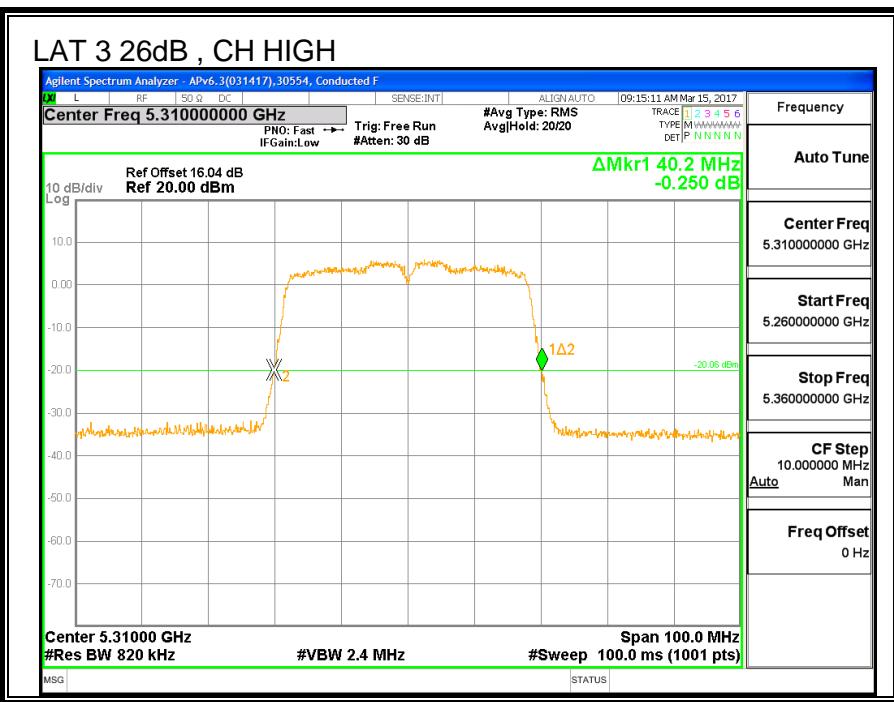
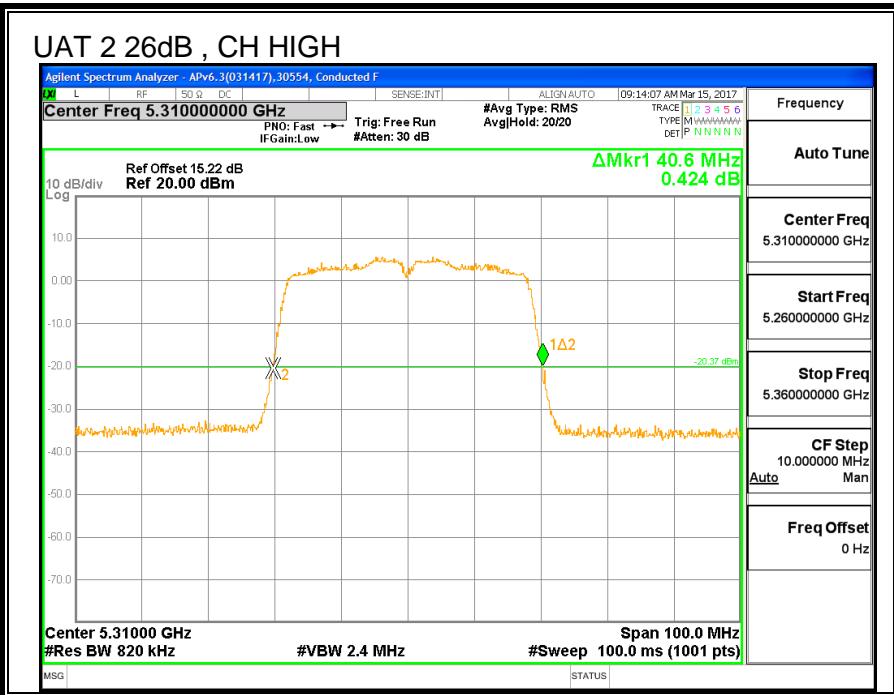
#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low	5270	40.5	40.0
High	5310	40.6	40.2





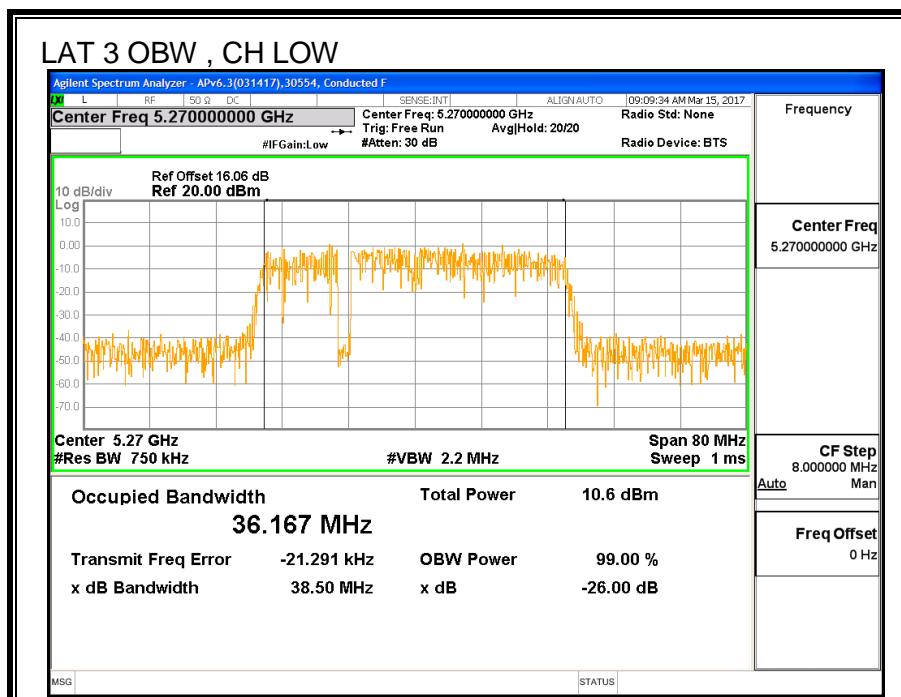
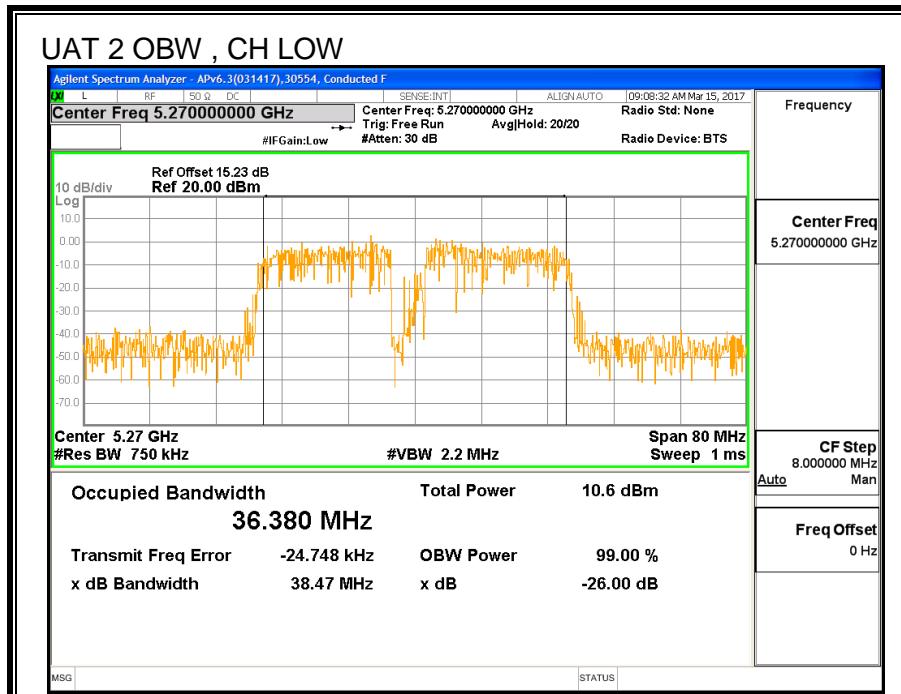
## 8.15.2. 99% BANDWIDTH

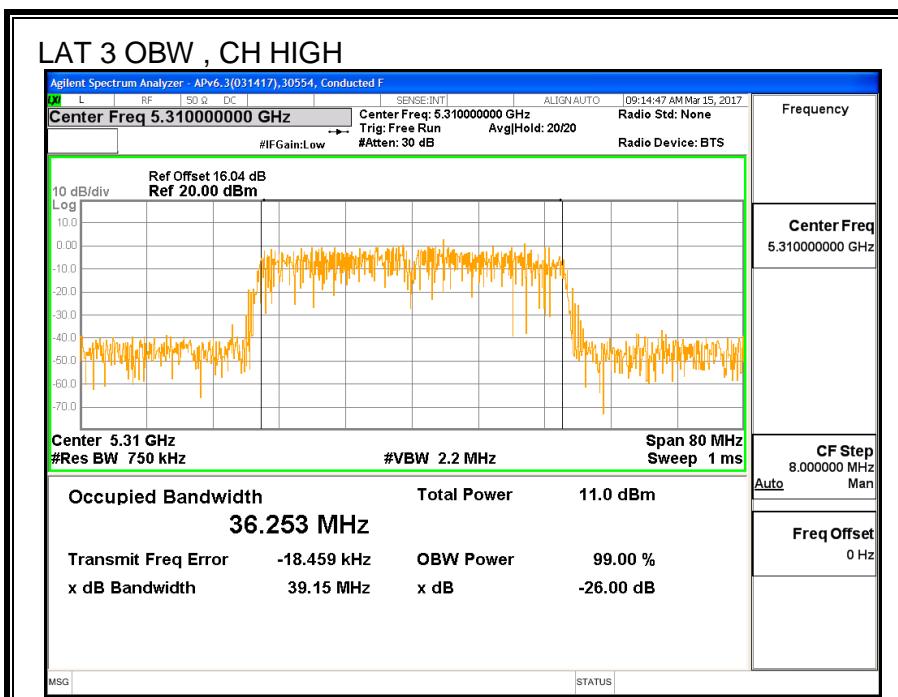
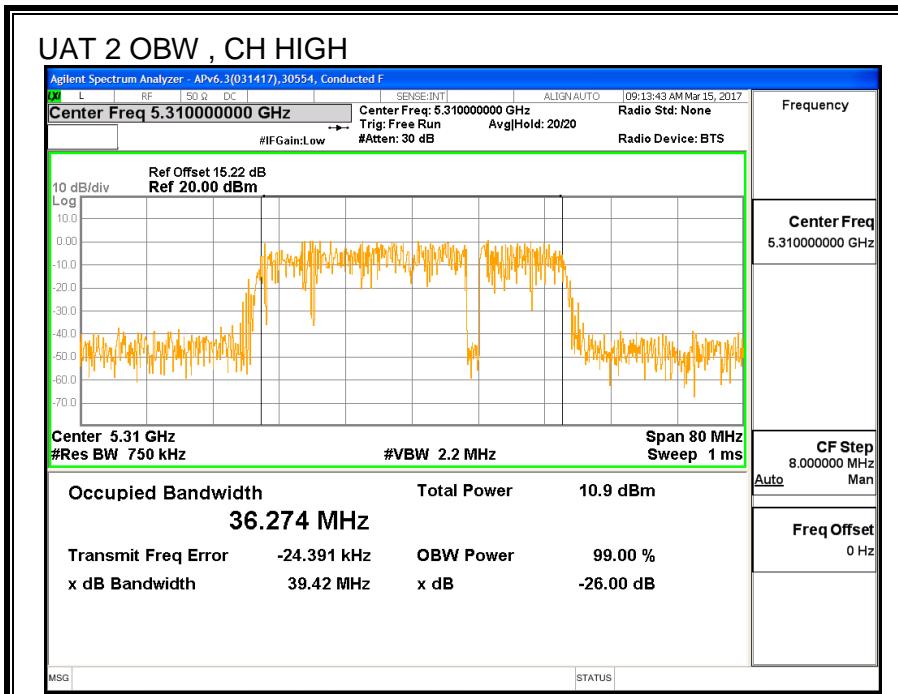
### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low	5270	36.380	36.167
High	5310	36.274	36.253





### 8.15.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### RESULTS

Channel	Frequency	Power UAT 2 (dBm)	Power LAT 3 (dBm)	Total Power (dBm)
Low	5270	18.47	18.50	21.50
High	5310	14.80	14.92	17.87

#### 8.15.4. OUTPUT POWER AND PSD

##### LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### TEST PROCEDURE

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

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

##### DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.74	-1.09	-2.22

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)
-3.74	-1.09	0.70

## RESULTS

### Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.500	36.380	-2.22	0.70	24.00	11.00
High	5310	40.600	36.274	-2.22	0.70	24.00	11.00

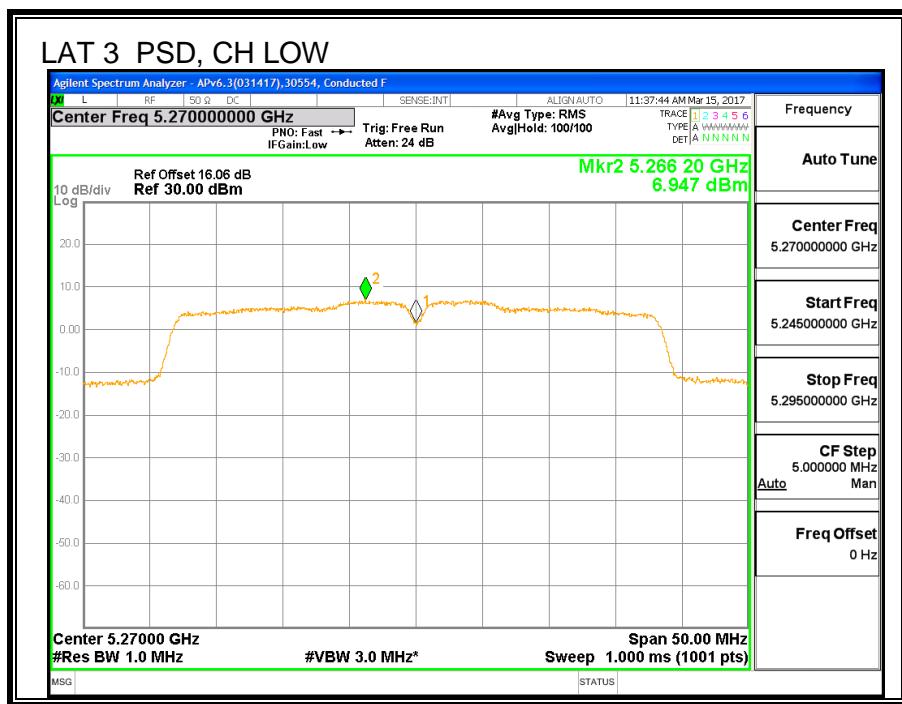
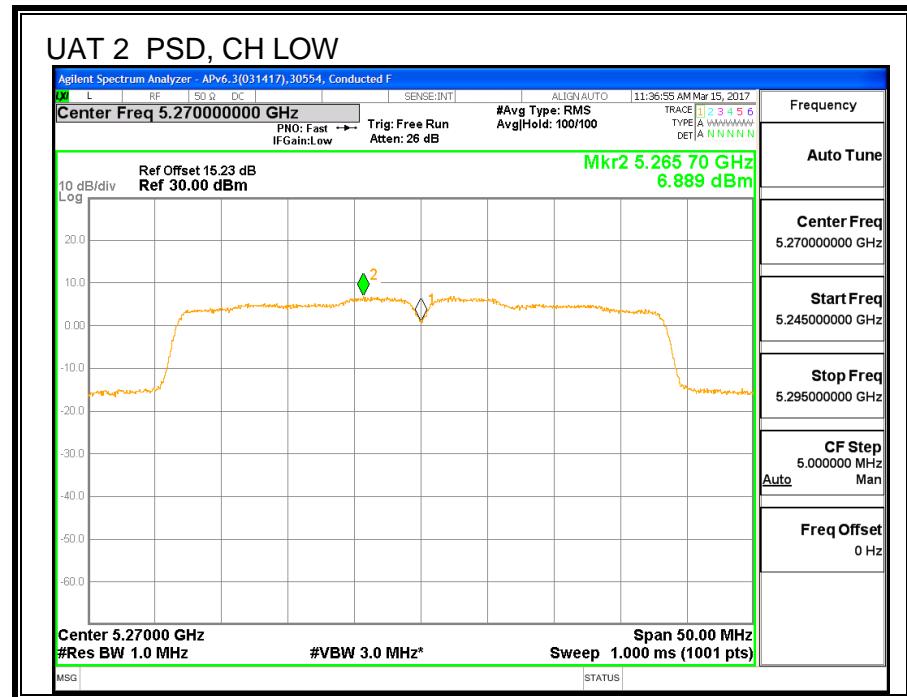
Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD
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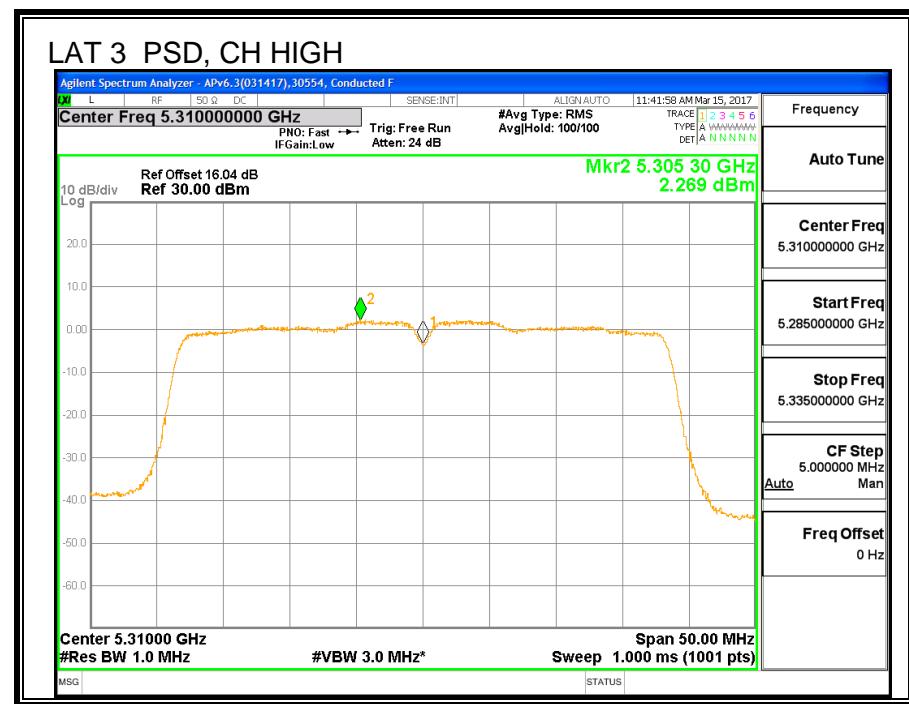
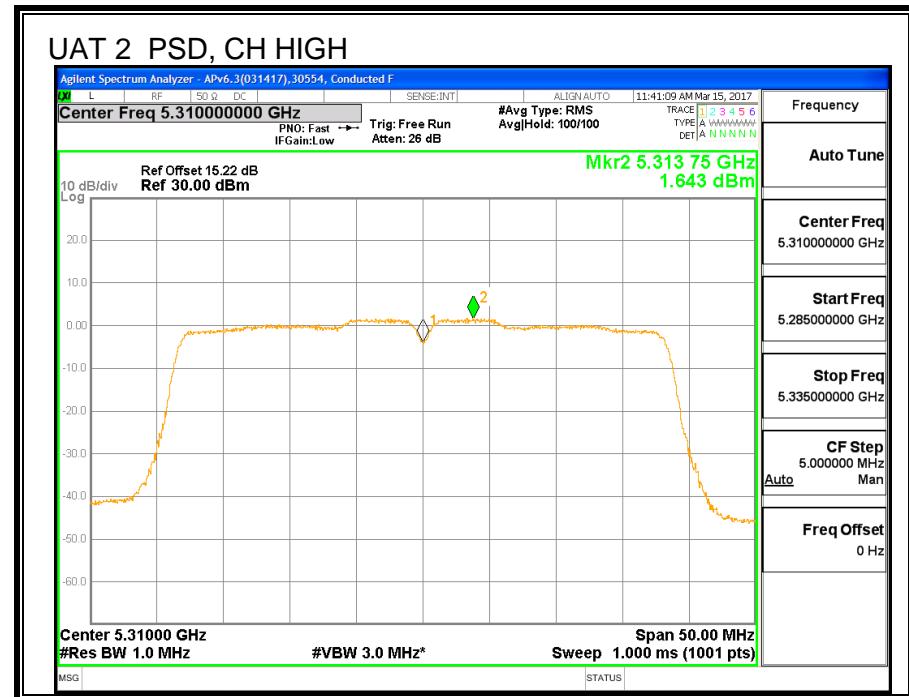
### Output Power Results

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	5270	18.47	18.50	21.50	24.00	-2.50
High	5310	14.80	14.92	17.87	24.00	-6.13

### 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	5270	6.889	6.947	10.02	11.00	-0.98
High	5310	1.643	2.269	5.07	11.00	-5.93





## 8.16. 11ac HT80 UAT 2 SISO MODE IN THE 5.3GHz BAND

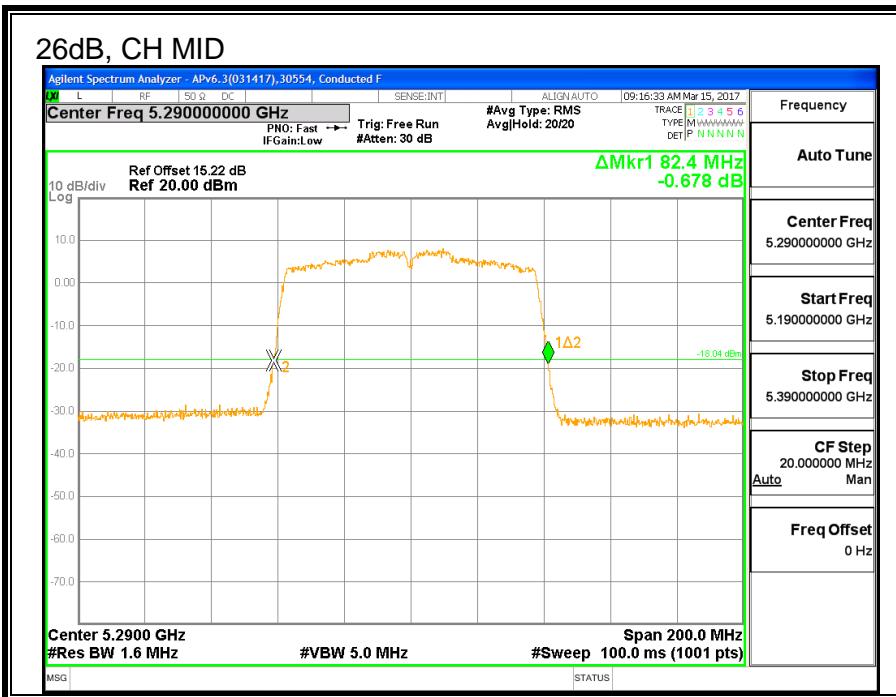
### 8.16.1. 26 dB BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Mid	5290	82.4



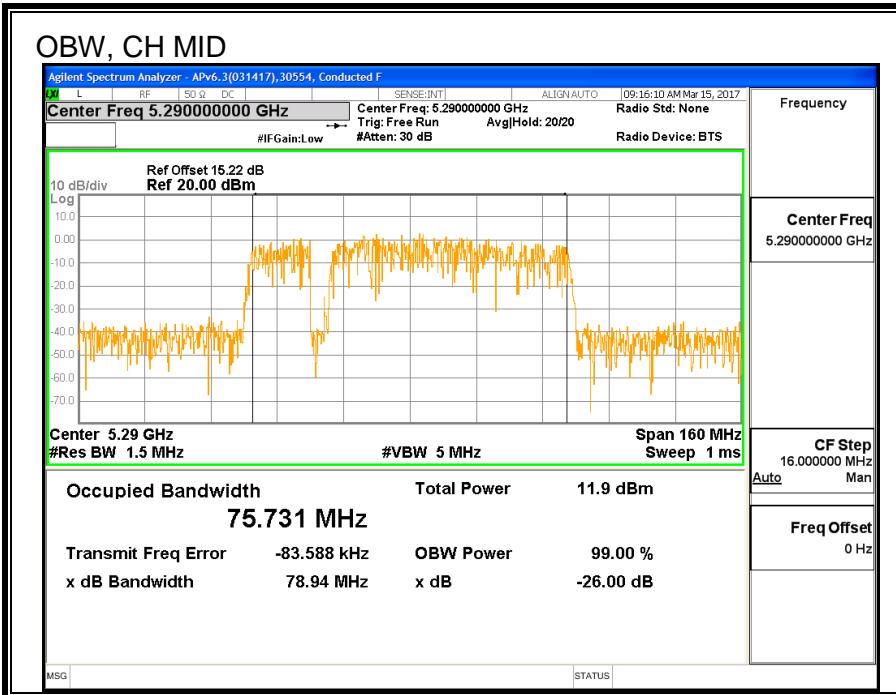
## 8.16.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Mid	5290	75.731



### 8.16.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### RESULTS

Channel	Frequency	Power UAT 2 (dBm)
Mid	5290	14.89

#### **8.16.4. OUTPUT POWER AND PPSD**

##### **LIMITS**

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### **TEST PROCEDURE**

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

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

##### **DIRECTIONAL ANTENNA GAIN**

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)
Mid	5290	82.40	75.73	-3.74	24.00	11.00

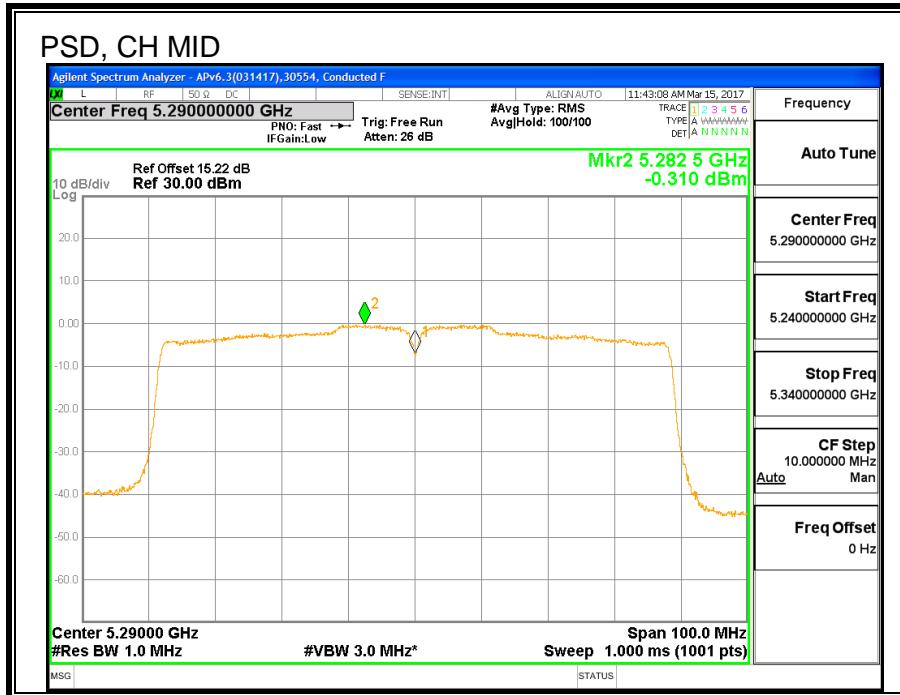
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD
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### Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.89	14.89	24.00	-9.11

### PPSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-0.31	-0.12	11.00	-11.12



## 8.17. 11ac HT80 LAT 3 SISO MODE IN THE 5.3GHz BAND

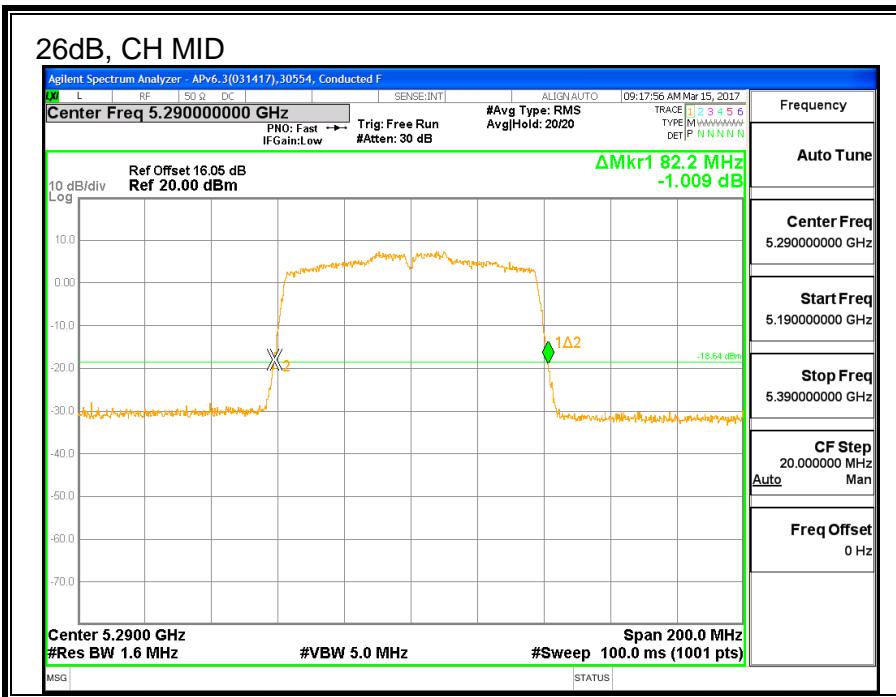
### 8.17.1. 26 dB BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

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



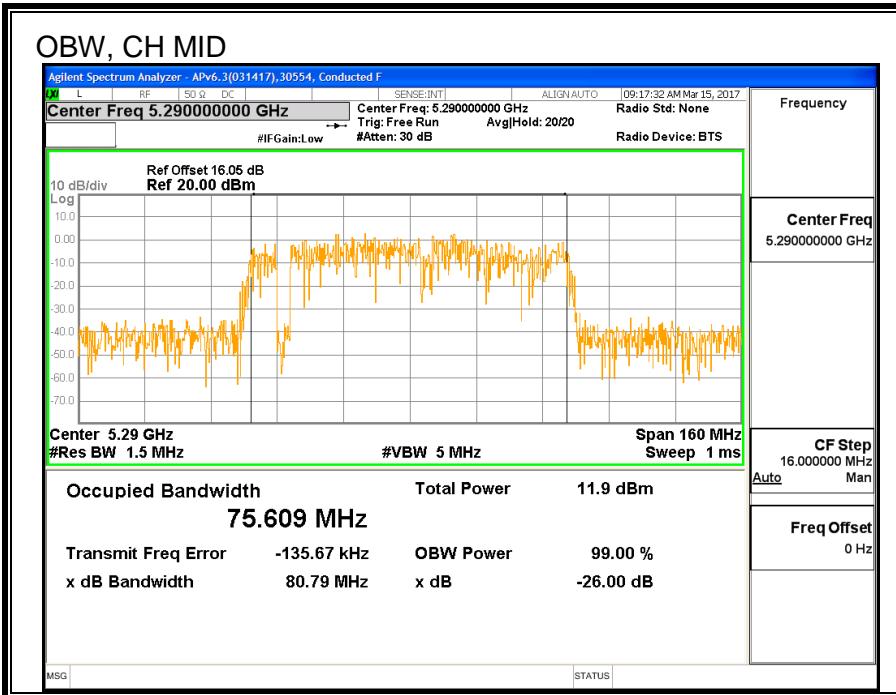
## 8.17.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Mid	5290	75.609



### 8.17.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### RESULTS

Channel	Frequency	Power LAT 3 (dBm)
Mid	5290	14.98

#### 8.17.4. OUTPUT POWER AND PPSD

##### LIMITS

FCC §15.407 (a) (2)

For the band 5.25–5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### TEST PROCEDURE

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

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

##### DIRECTIONAL ANTENNA GAIN

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)
Mid	5290	82.20	75.61	-1.09	24.00	11.00

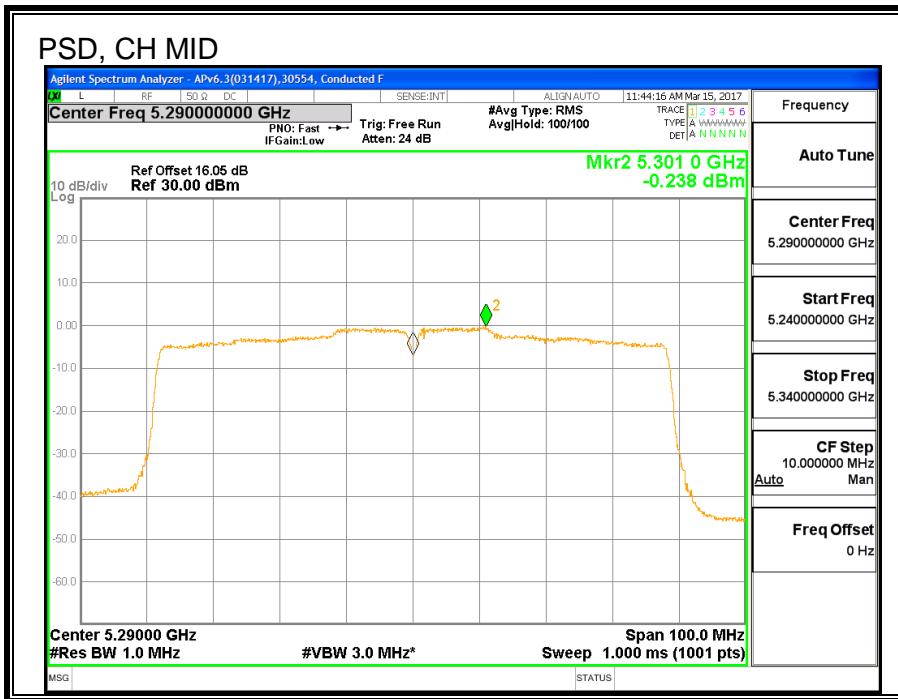
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD
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### Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	14.98	14.98	24.00	-9.02

### PPSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-0.238	-0.048	11.00	-11.05



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

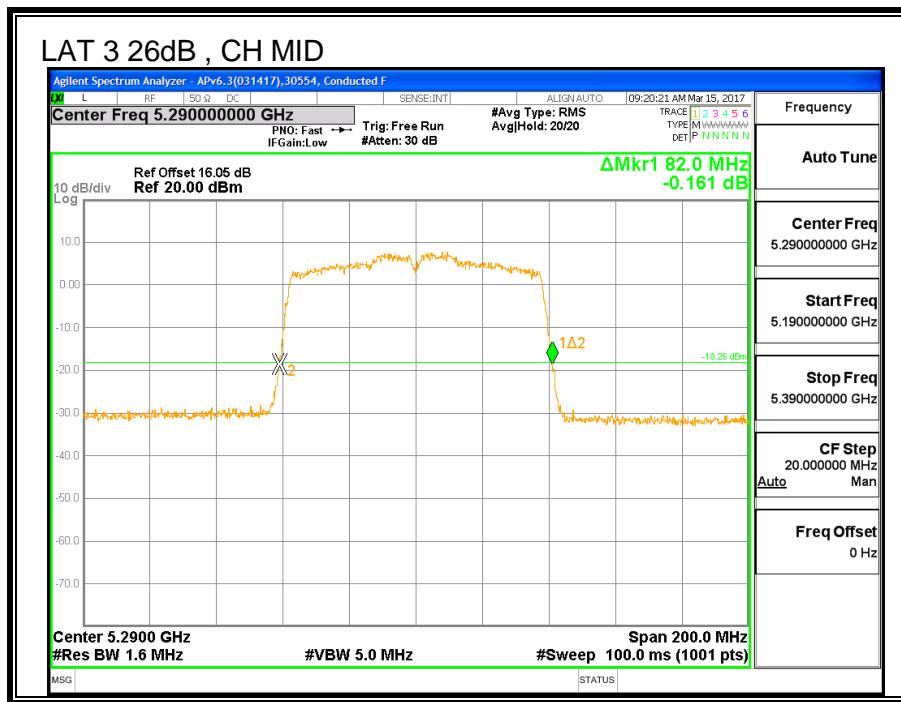
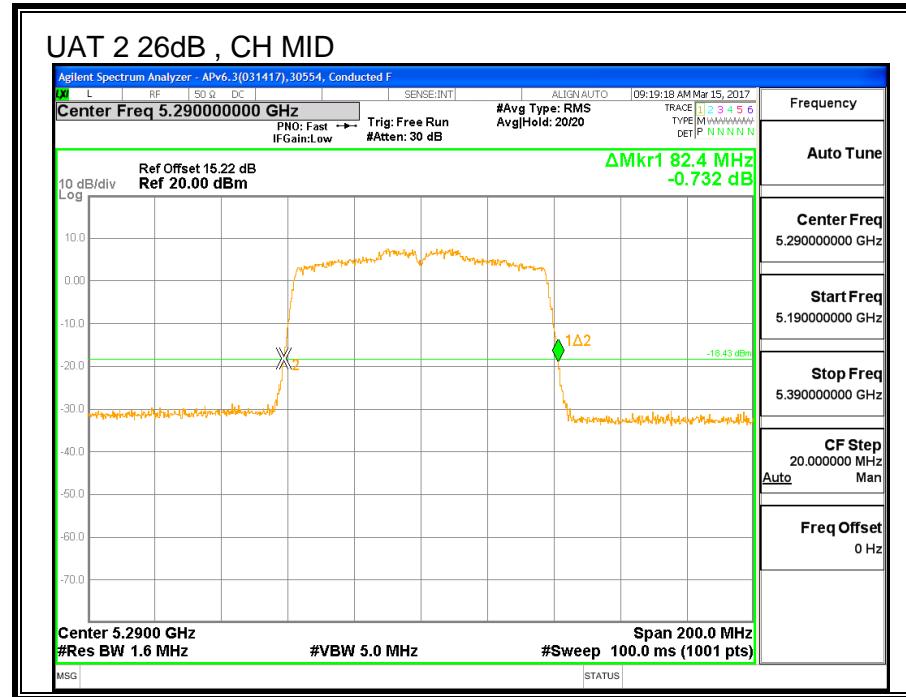
### 8.18.1. 26 dB BANDWIDTH

#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Mid	5290	82.4	82.0



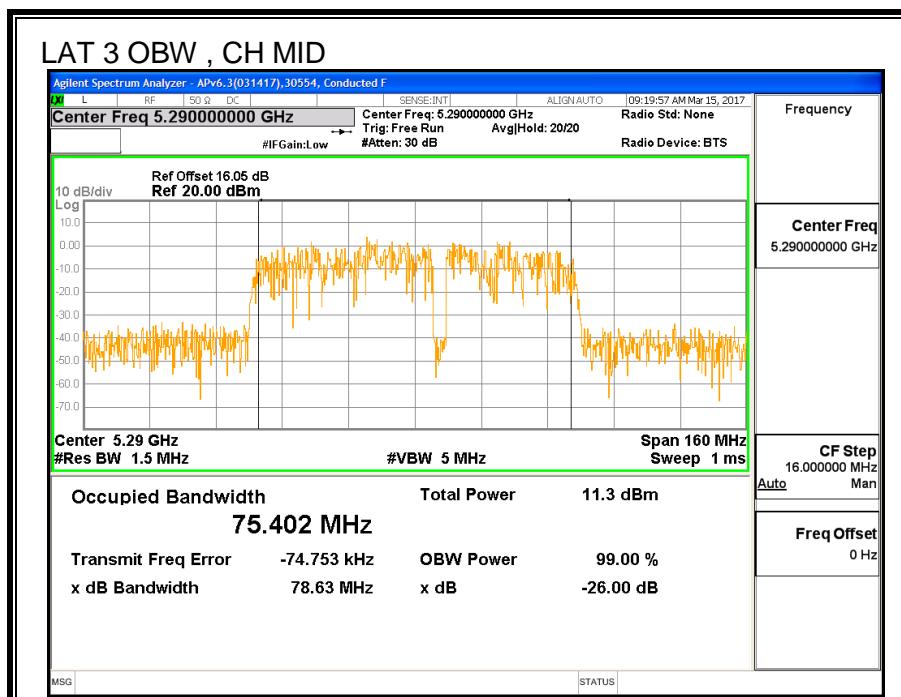
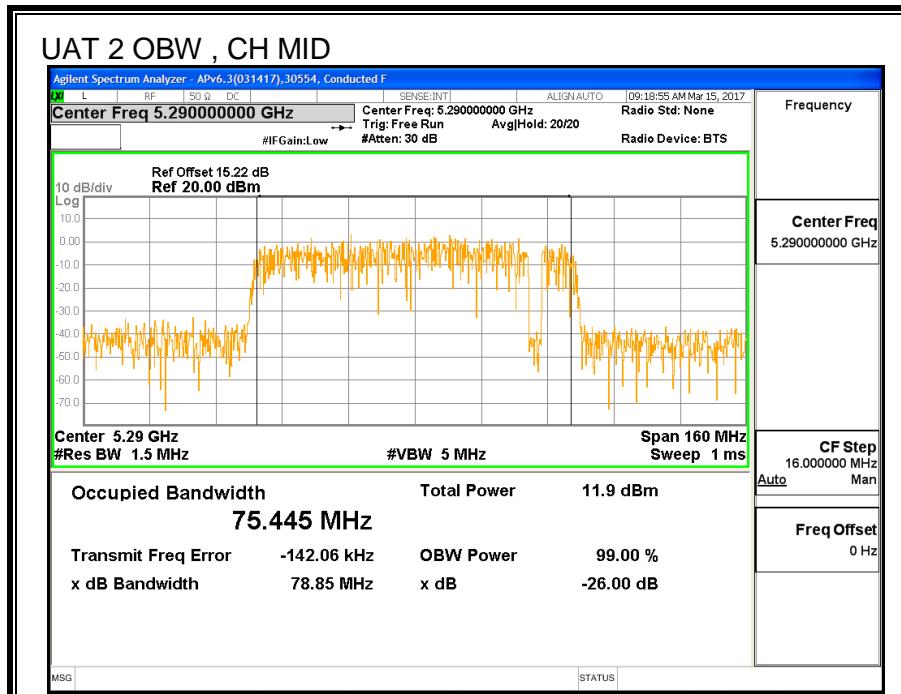
## 8.18.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Mid	5290	75.445	75.402



### 8.18.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### RESULTS

Channel	Frequency	Power UAT 2 (dBm)	Power LAT 3 (dBm)	Total Power (dBm)
Mid	5290	14.32	14.45	17.40

## 8.18.4. OUTPUT POWER AND PSD

### 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

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

### DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.74	-1.09	-2.22

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)
-3.74	-1.09	0.70

## RESULTS

### Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min BW (MHz)	Min BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	82.40	75.45	-2.22	0.7	24	11.0

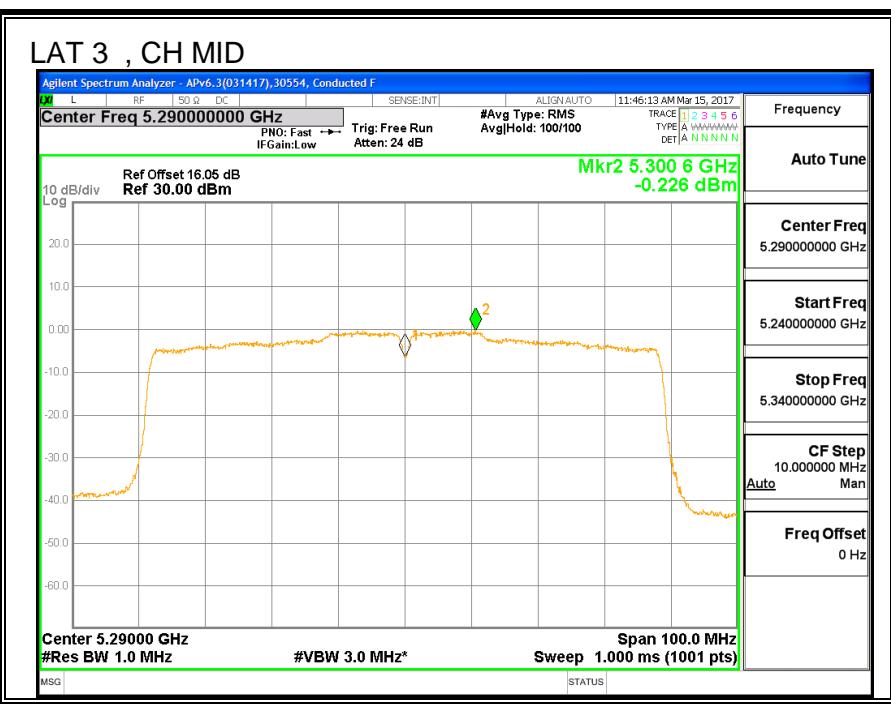
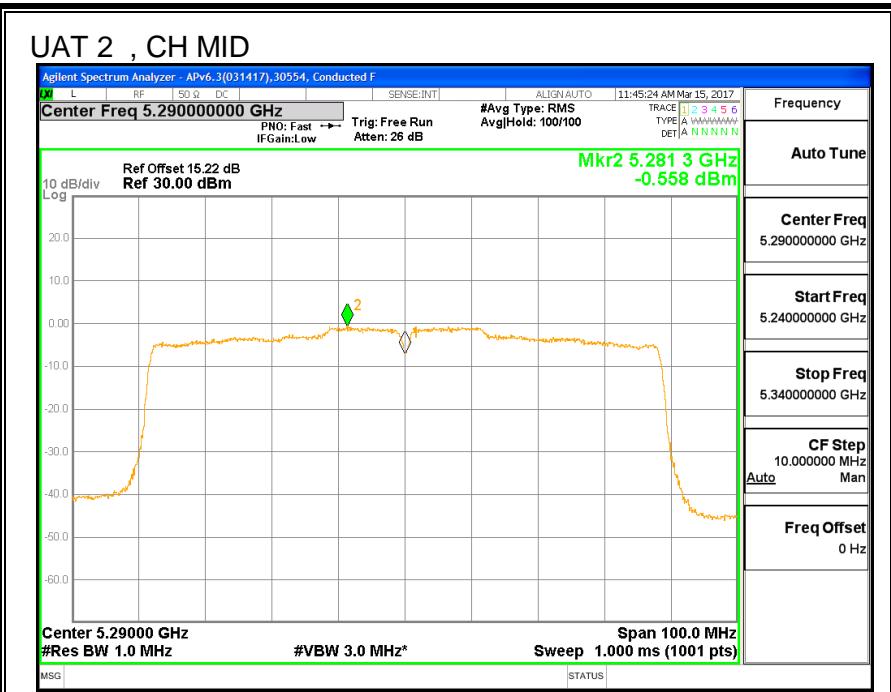
Duty Cycle CF (dB)	0.19	Included in Calculations of Corr'd PSD
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### Output Power Results

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	14.32	14.45	17.40	24.00	-6.60

### 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)
Mid	5290	-0.558	-0.226	2.81	11.00	-8.19



## 8.19. 11n HT20 UAT 2 SISO MODE IN THE 5.6GHz BAND (5700MHz OBW low)

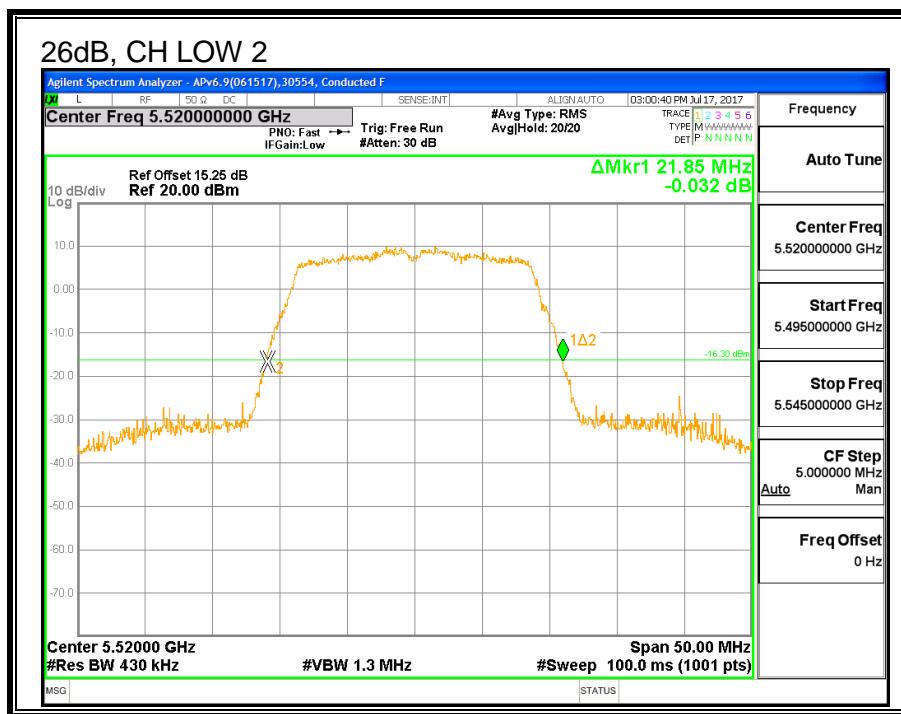
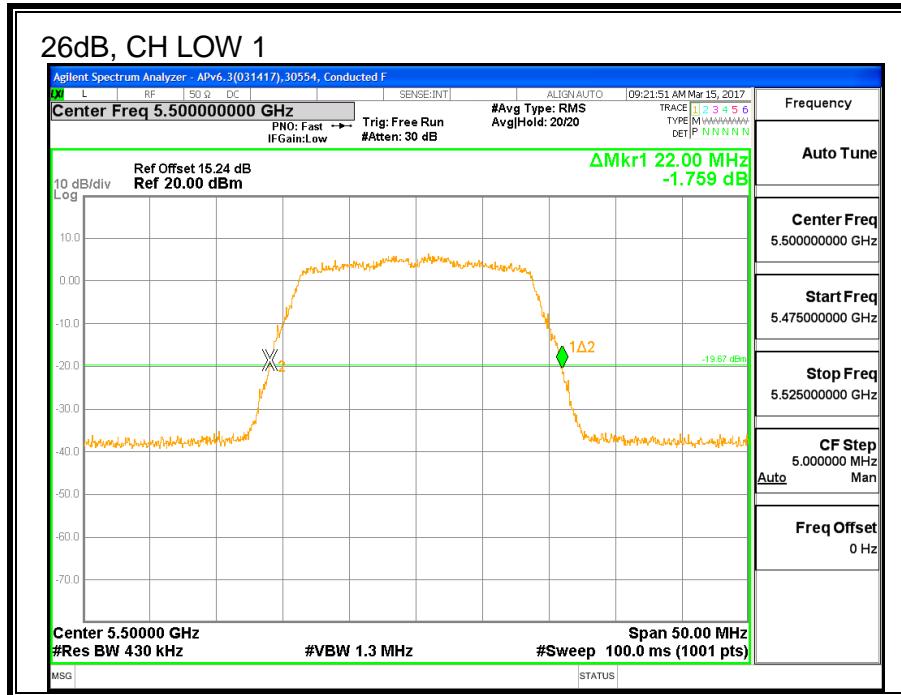
### 8.19.1. 26 dB BANDWIDTH

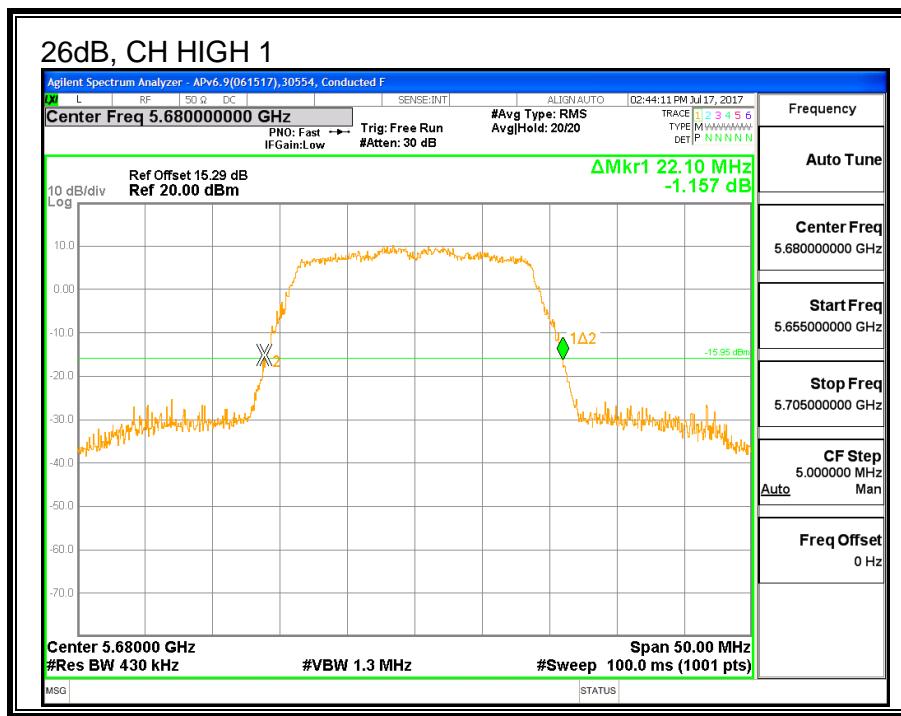
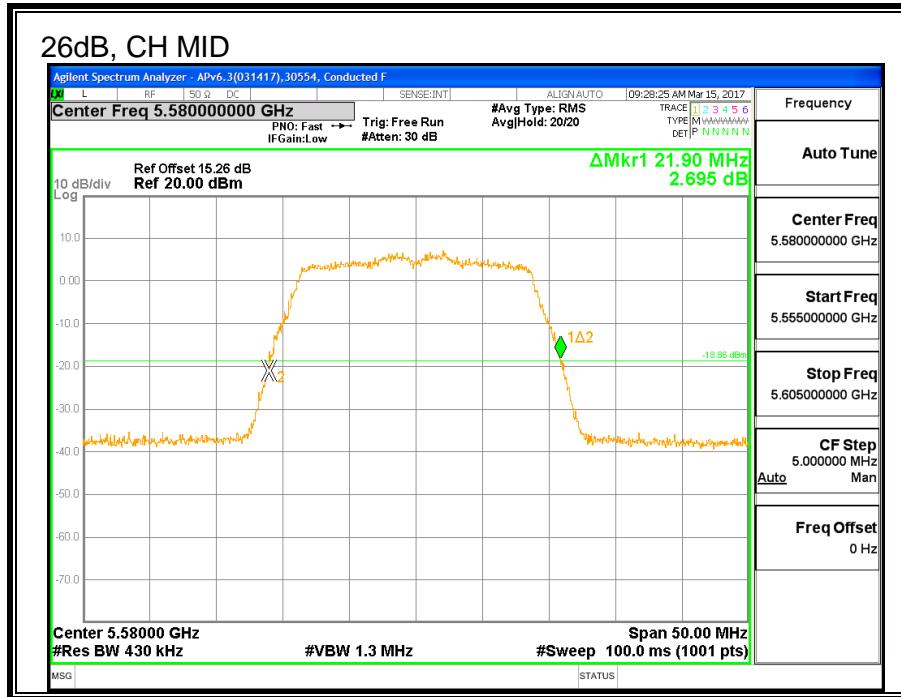
#### LIMITS

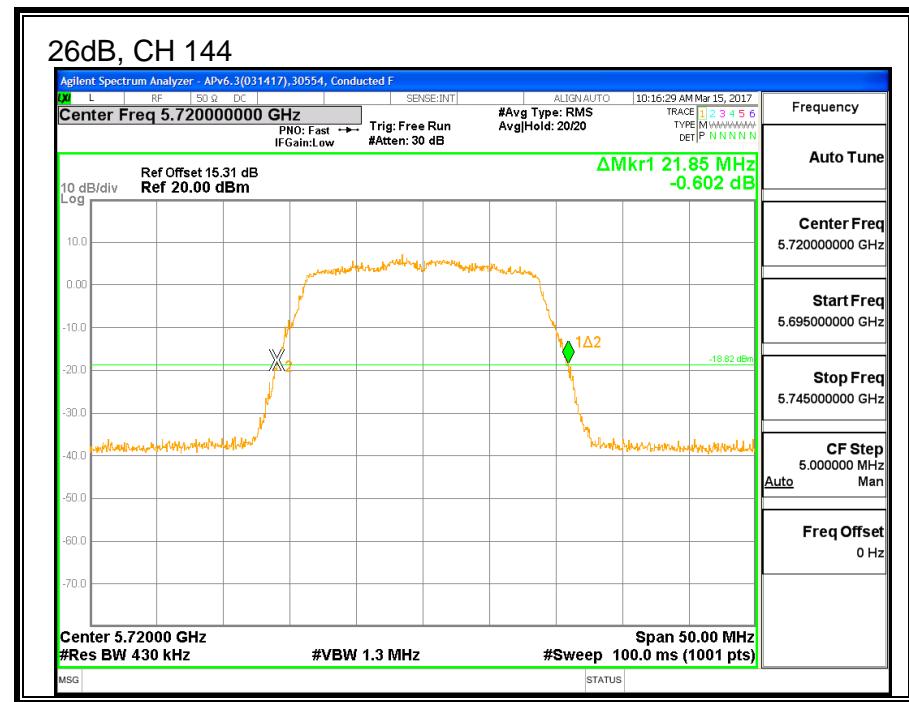
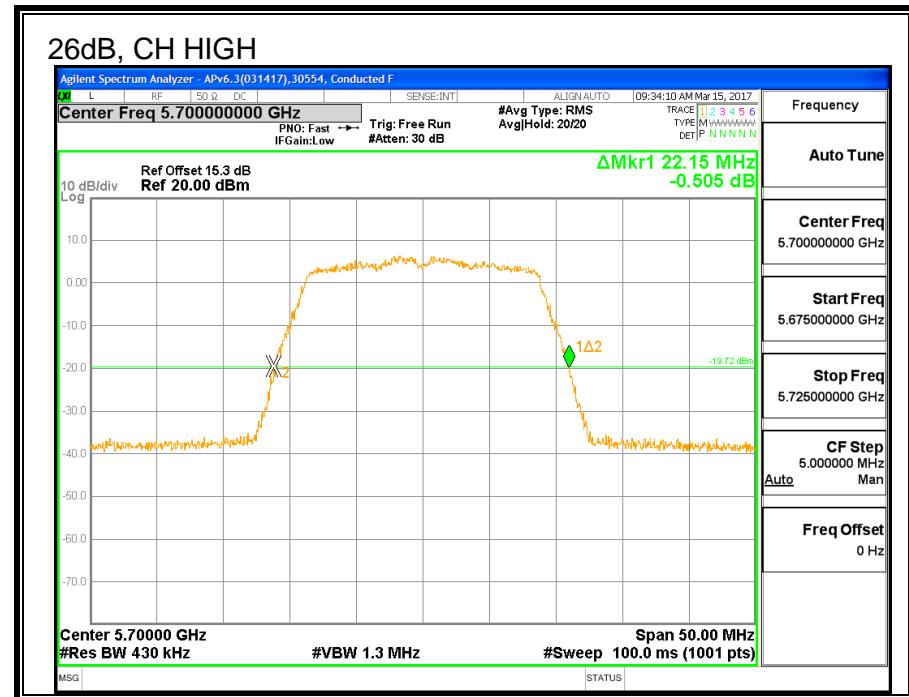
None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW UAT 2 (MHz)
Low 1	5500	22.00
Low 2	5520	21.85
Mid	5580	21.90
High 1	5680	22.10
High 2	5700	22.15
144	5720	21.85







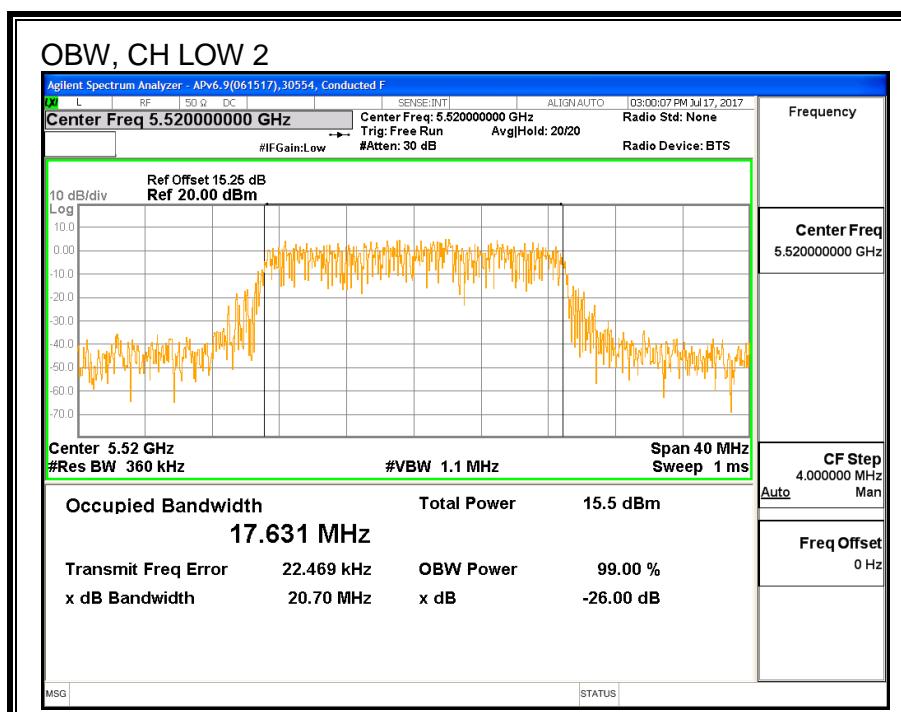
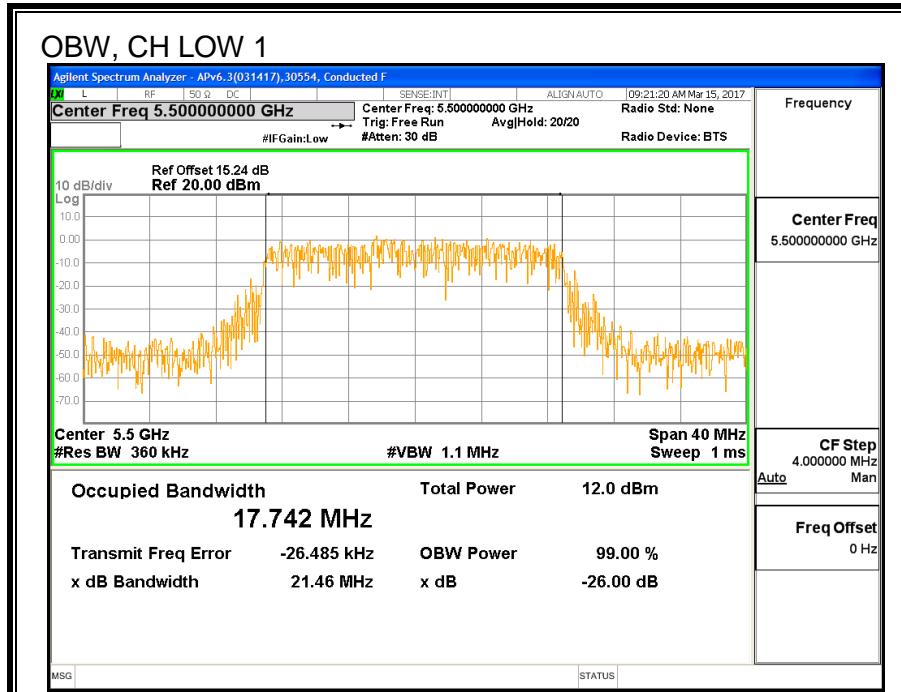
## 8.19.2. 99% BANDWIDTH

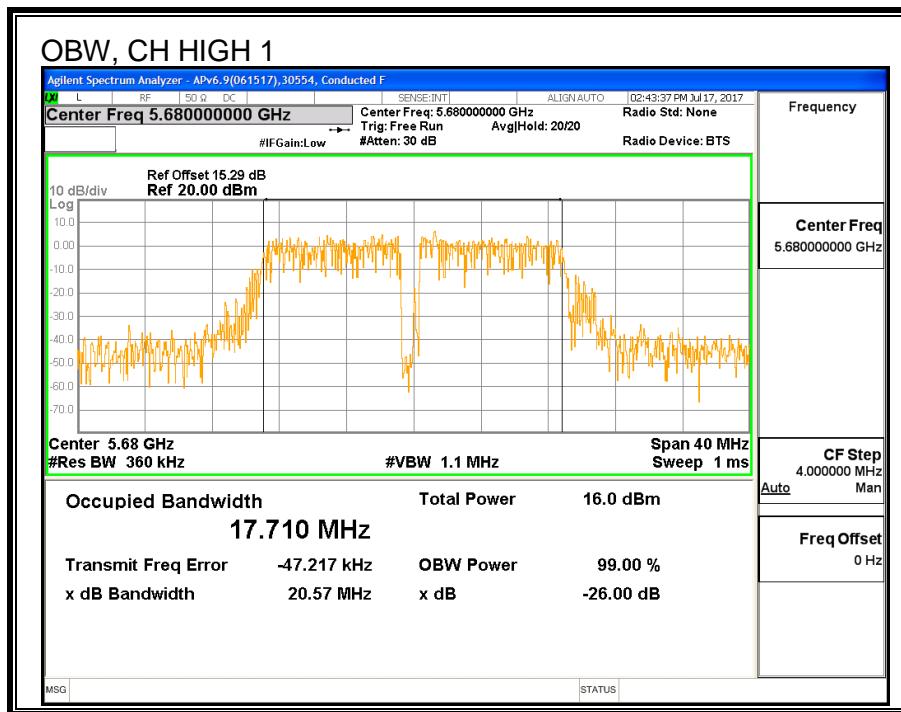
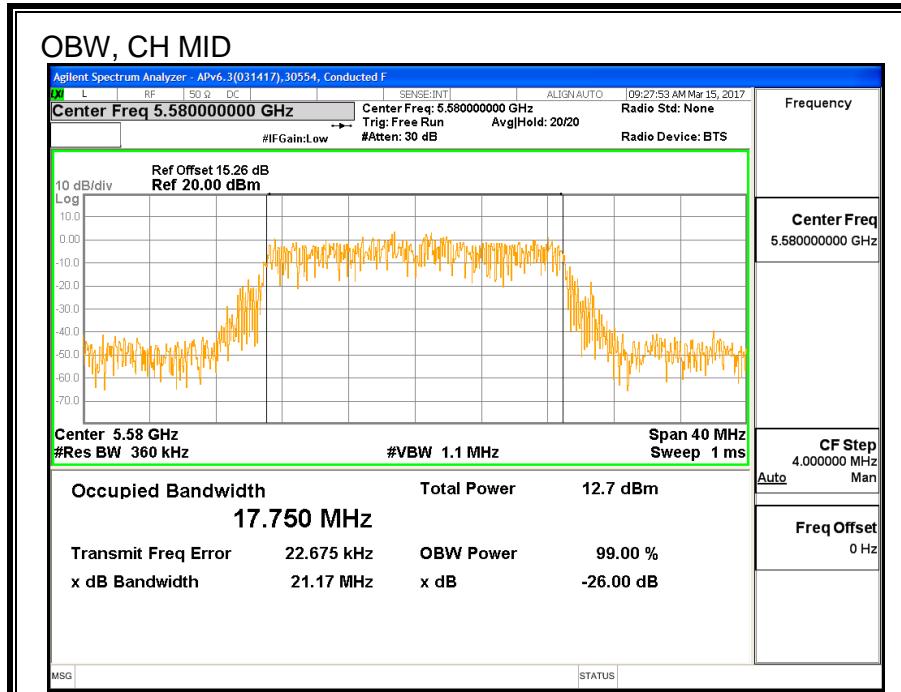
### LIMITS

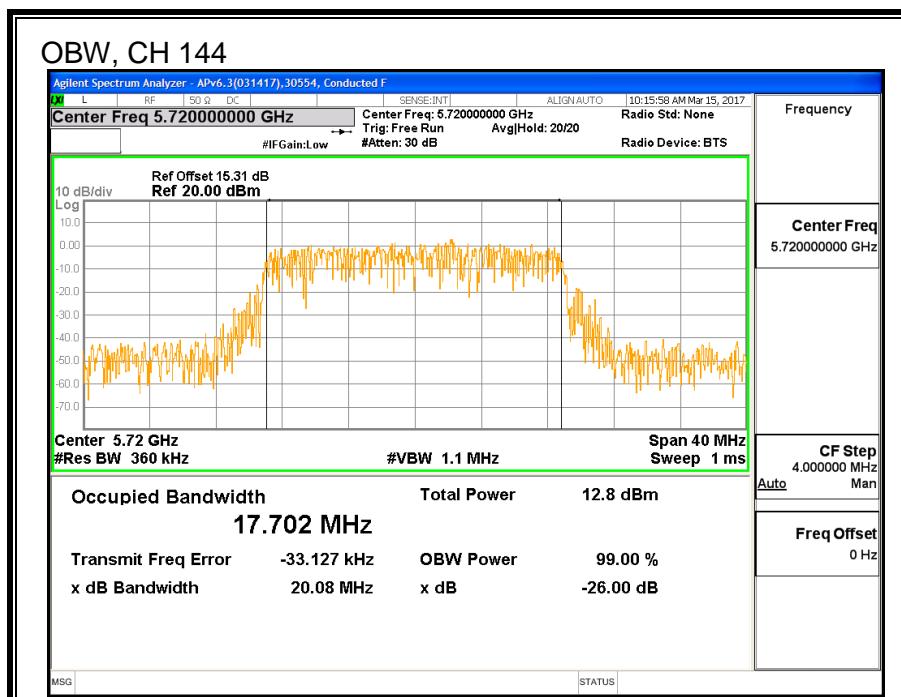
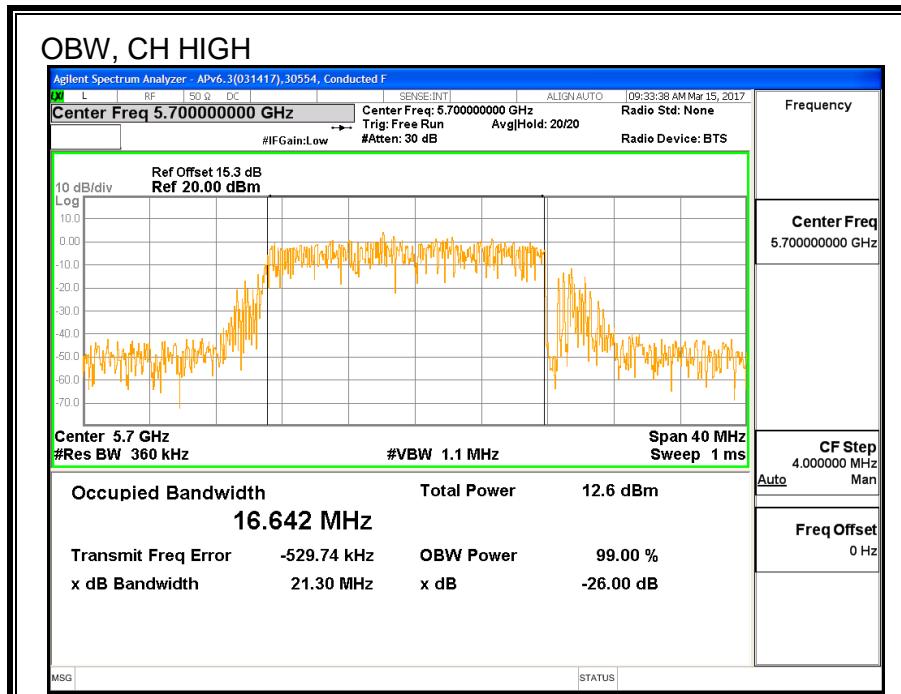
None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW UAT 2 (MHz)
Low 1	5500	17.742
Low 2	5520	17.631
Mid	5580	17.750
High 1	5680	17.710
High 2	5700	16.642
144	5720	17.702







### 8.19.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### 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 1	5500	16.71
Low 2	5520	19.42
Mid	5580	20.84
High 1	5680	19.41
High 2	5700	16.92
144	5720	20.99

#### **8.19.4. OUTPUT POWER AND PPSD**

##### **LIMITS**

FCC §15.407 (a) (2)

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

##### **TEST PROCEDURE**

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

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

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

##### **DIRECTIONAL ANTENNA GAIN**

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

## RESULTS

### Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low 1	5500	22.00	17.74	-0.75	23.49	11.00
Low 2	5520	21.85	17.63	-0.75	23.46	11.00
Mid	5580	21.90	17.75	-0.75	23.49	11.00
High 1	5680	22.10	17.71	-0.75	23.48	11.00
High 2	5700	22.15	16.64	-0.75	23.21	11.00

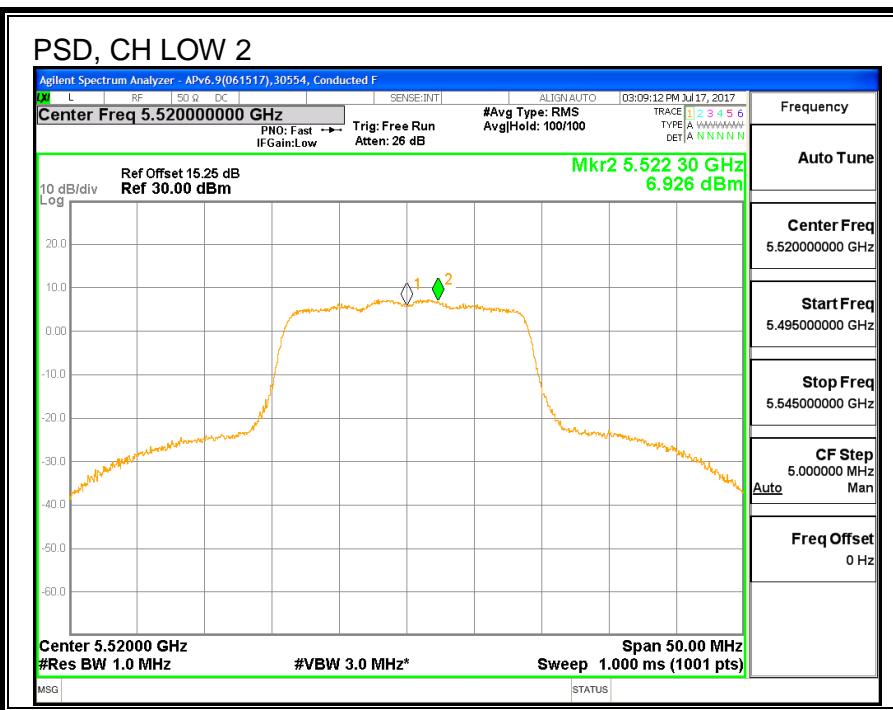
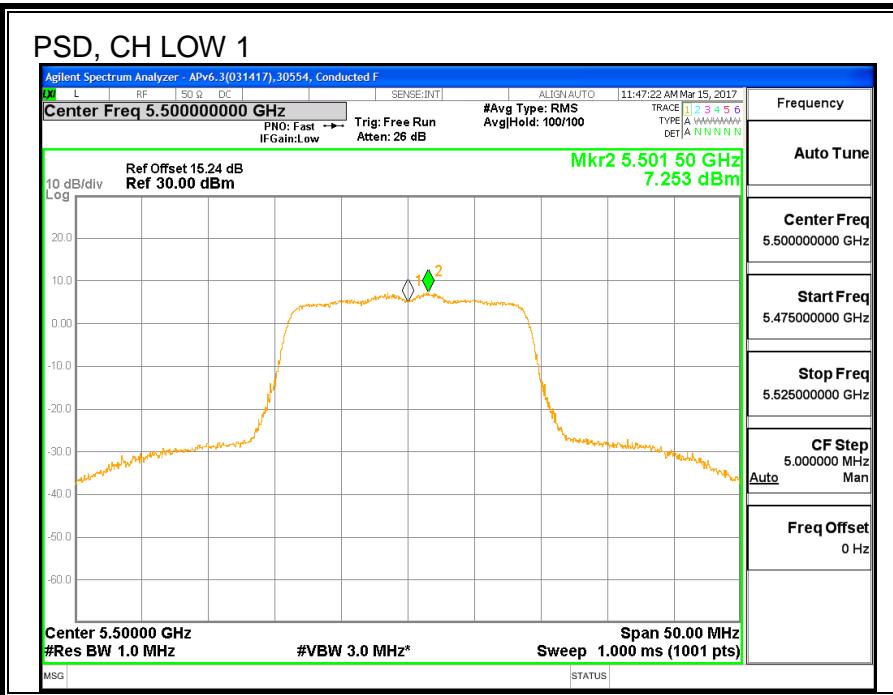
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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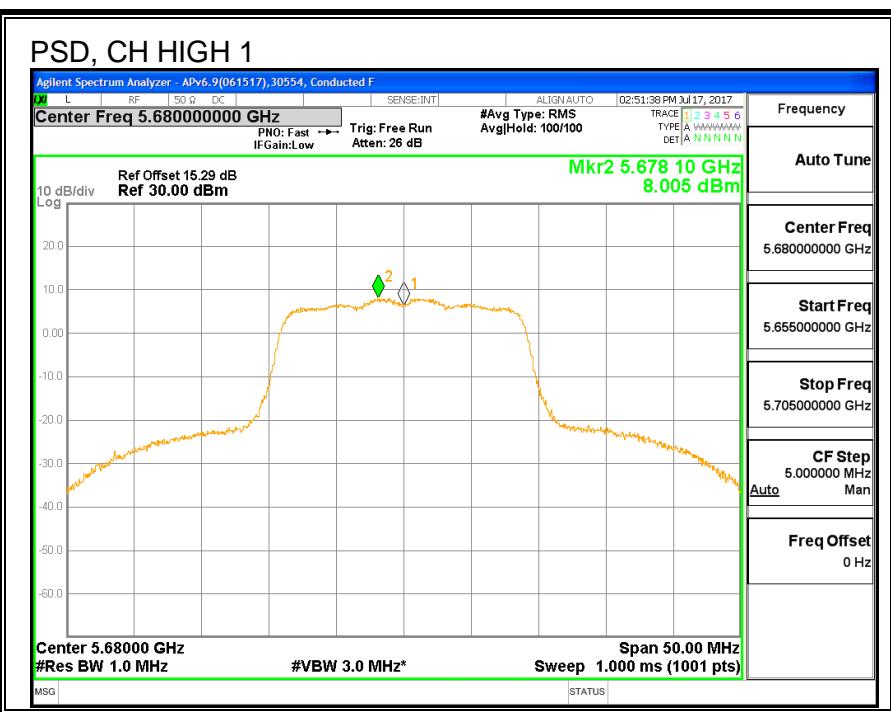
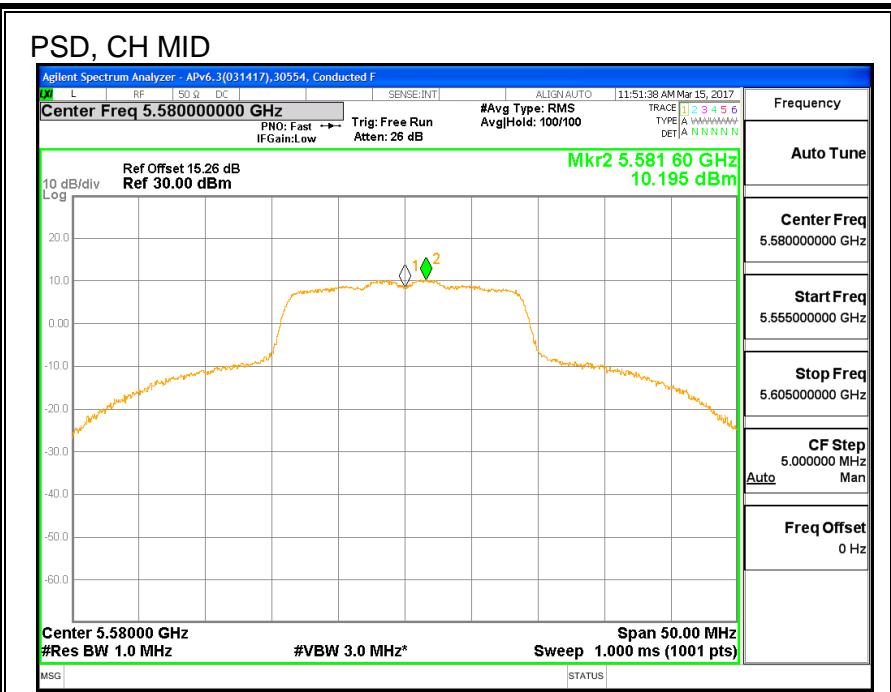
### Output Power Results

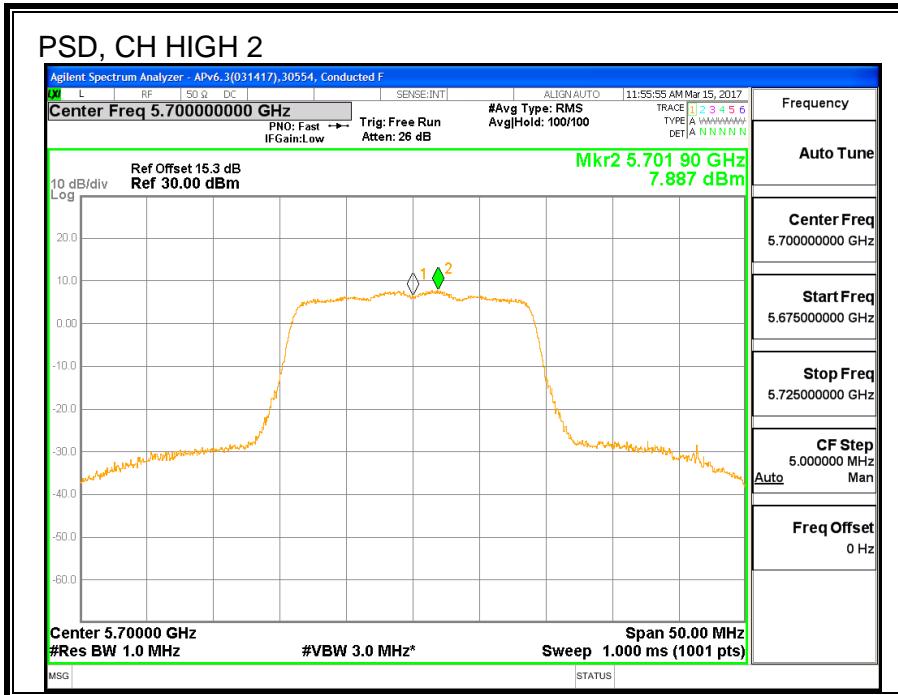
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low 1	5500	16.71	16.71	23.49	-6.78
Low 2	5520	19.42	19.42	23.46	-4.04
Mid	5580	20.84	20.84	23.49	-2.65
High 1	5680	19.41	19.41	23.48	-4.07
High 2	5700	16.92	16.92	23.21	-6.29

### PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low 1	5500	7.253	7.253	11.00	-3.75
Low 2	5520	6.926	6.926	11.00	-4.07
Mid	5580	10.195	10.195	11.00	-0.81
High 1	5680	8.005	8.005	11.00	-3.00
High 2	5700	7.887	7.887	11.00	-3.11







## 8.20. 11ac HT20 UAT 2 SISO STRADDLE CHANNEL 144

### 8.20.1. OUTPUT POWER AND PSD

#### 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	15.93	-0.75	-0.75	23.02	11.00

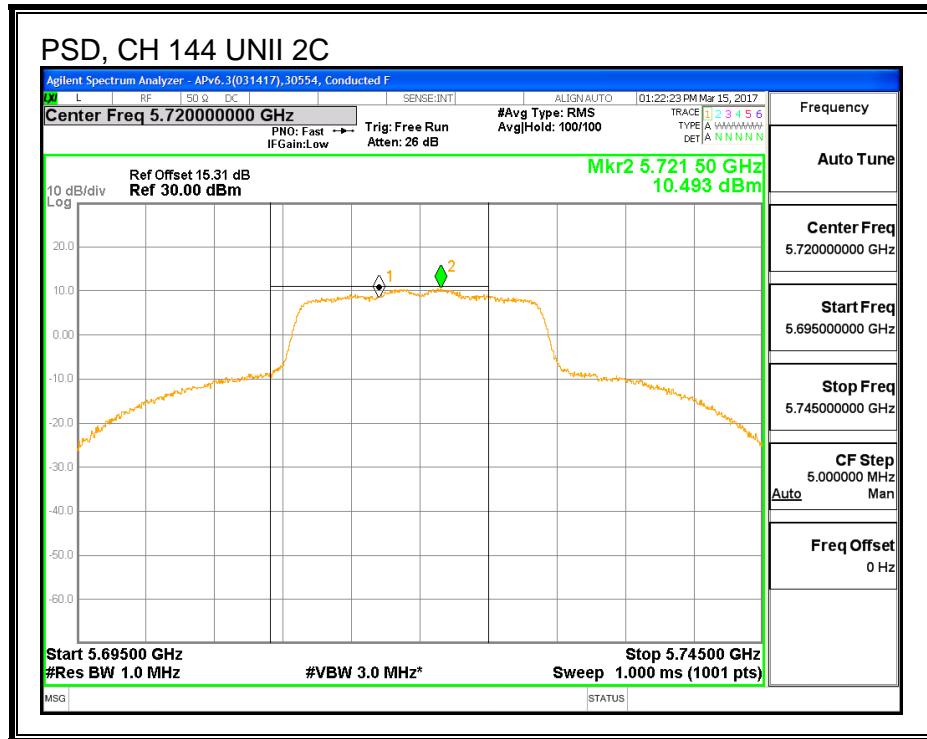
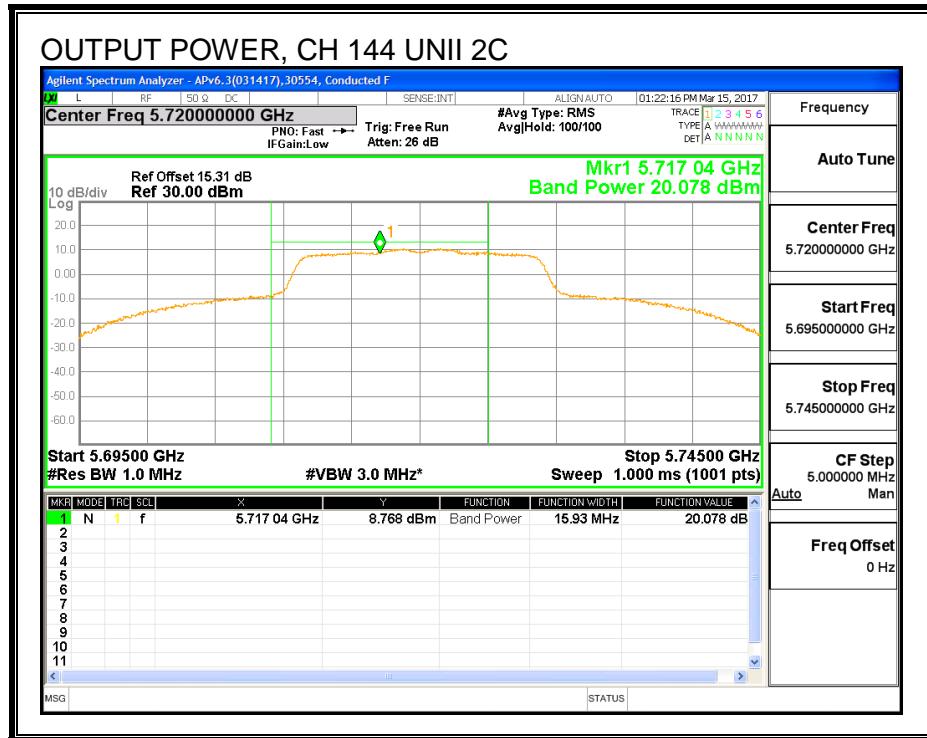
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD
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##### Output Power Results

Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	20.08	20.08	23.02	-2.94

##### PSD Results

Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	10.49	10.49	11.00	-0.51



**UNII-3 BAND**

**Antenna Gain and Limit**

Channel	Frequency	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	5.93	0.68	30.00	30.00

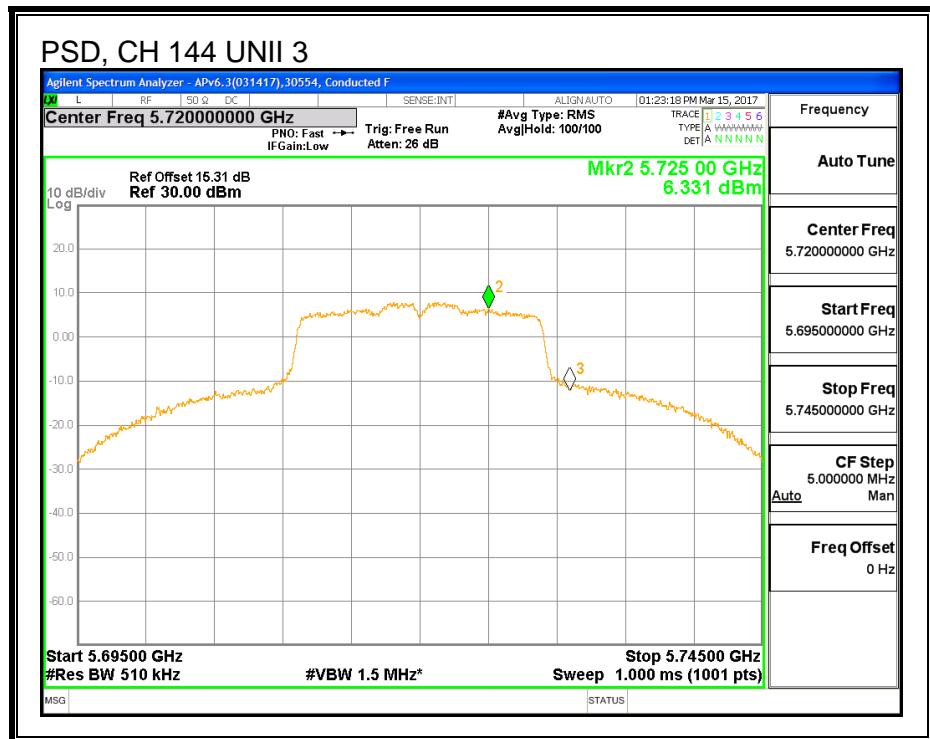
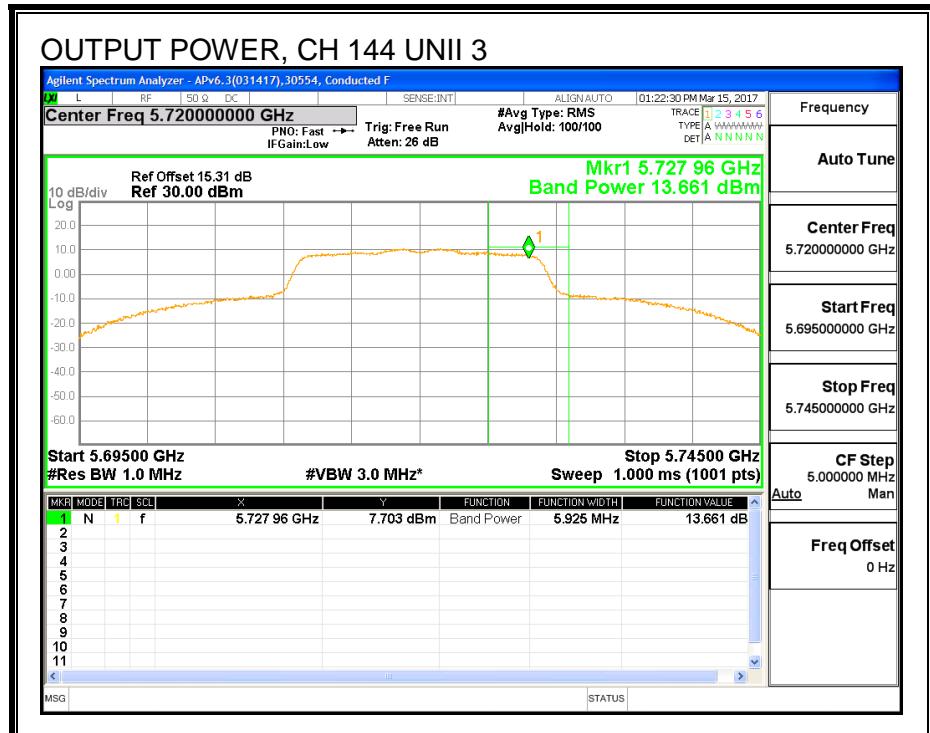
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD
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**Output Power Results**

Channel	Frequency	UAT 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.661	13.661	30.00	-16.34

**PSD Results**

Channel	Frequency	UAT 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	6.331	6.331	30.00	-23.67



## 8.20.2. 6 dB BANDWIDTH

### LIMITS

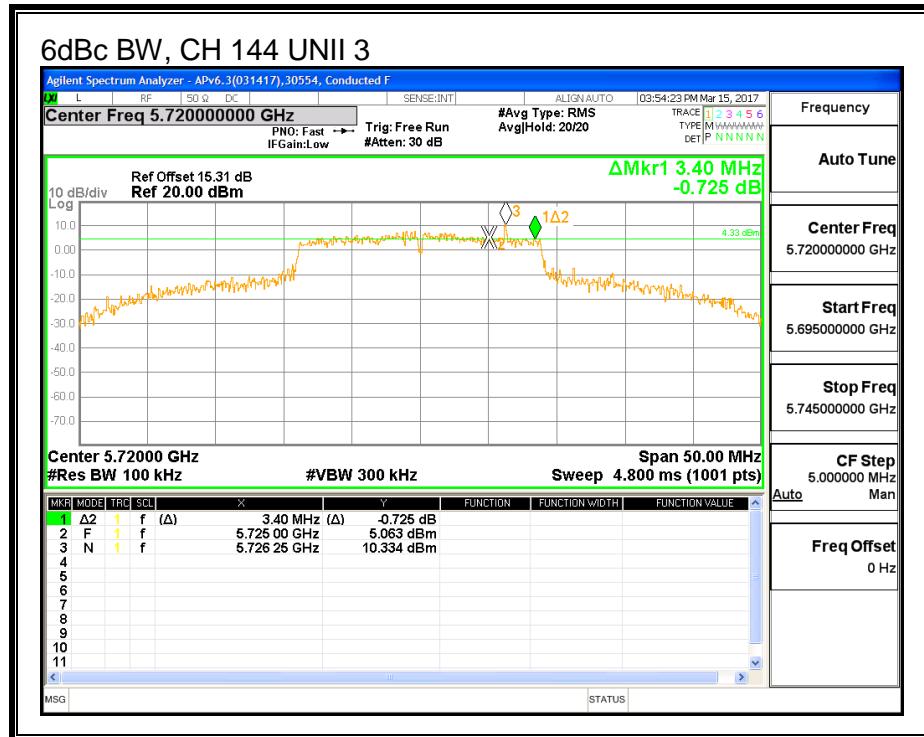
FCC §15.407 (e)

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

### RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)
High	5720	3.40

### 6 dB BANDWIDTH



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

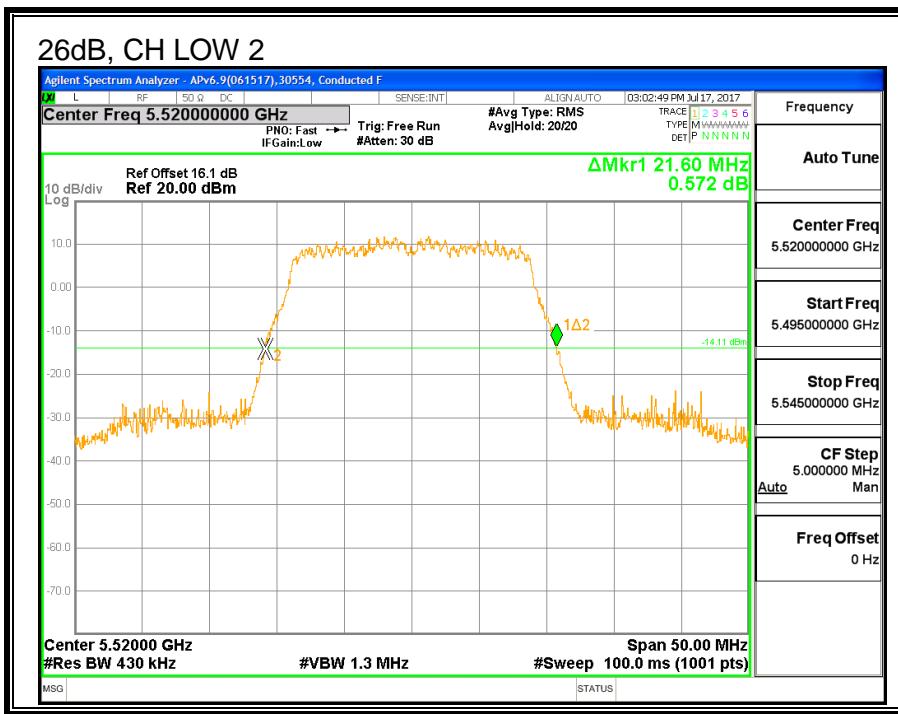
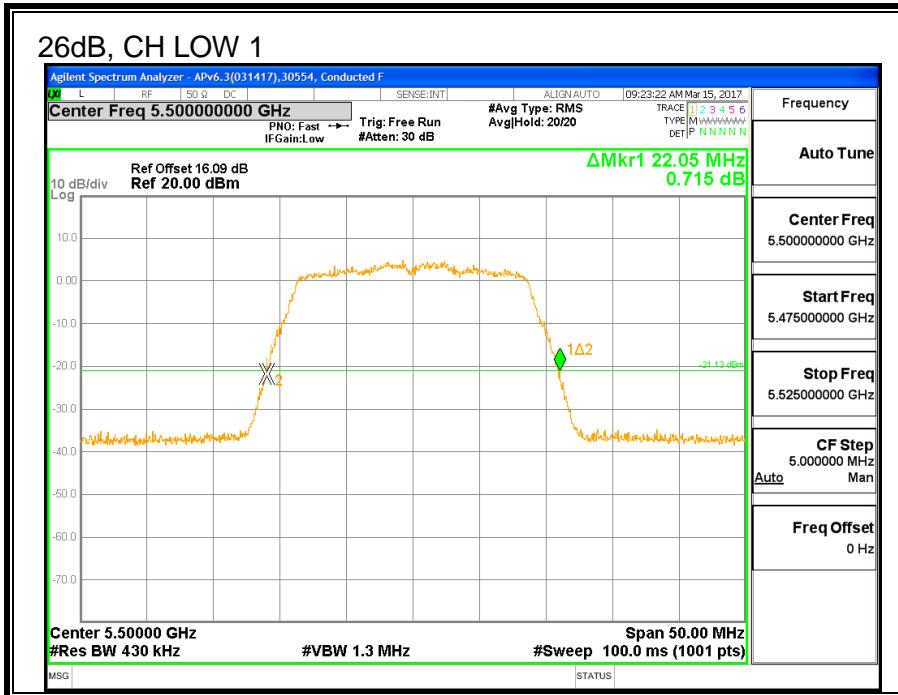
### 8.21.1. 26 dB BANDWIDTH

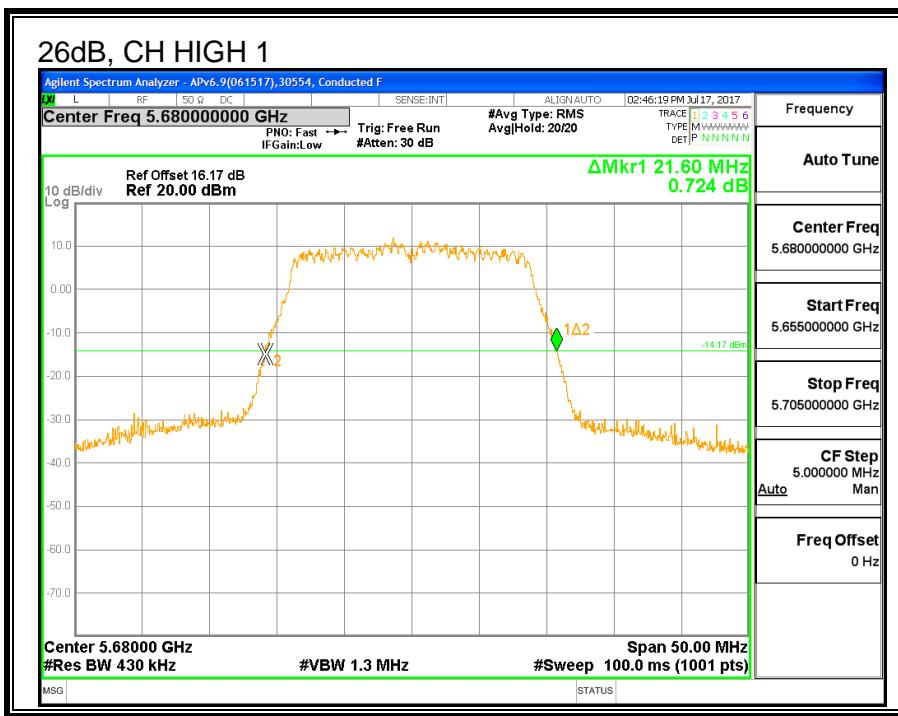
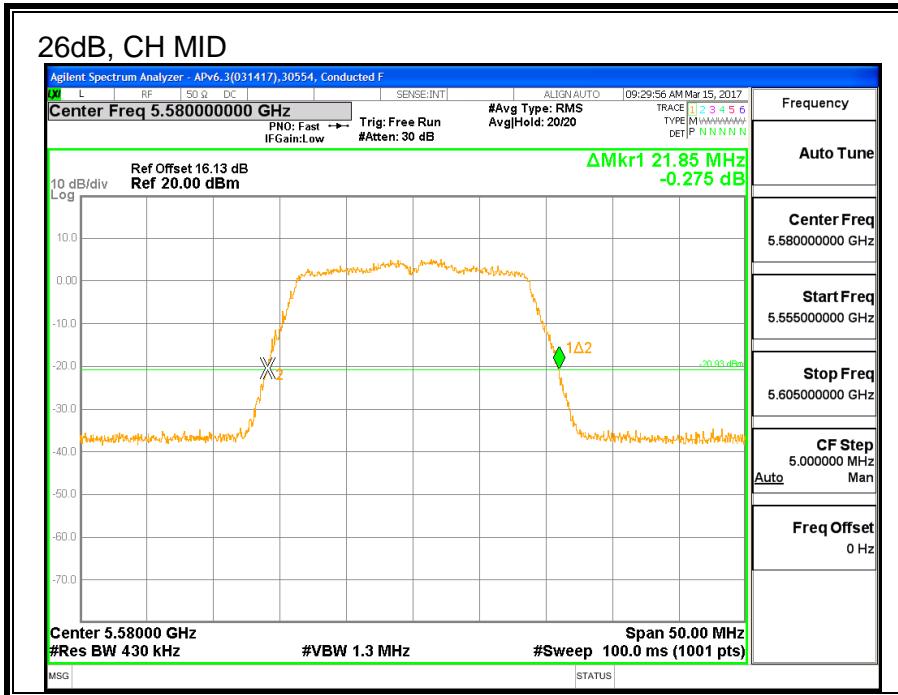
#### LIMITS

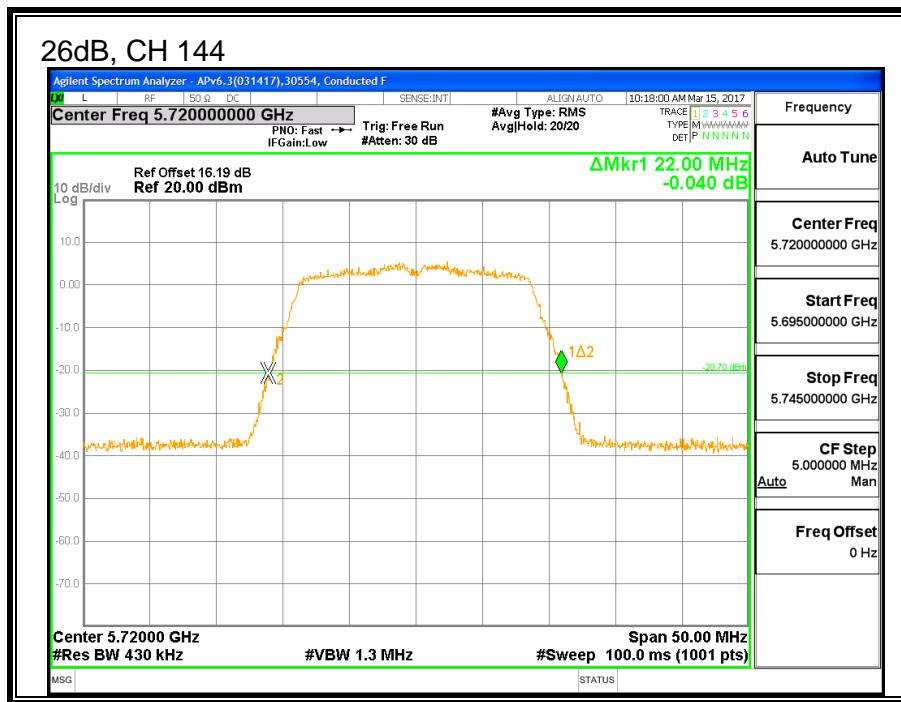
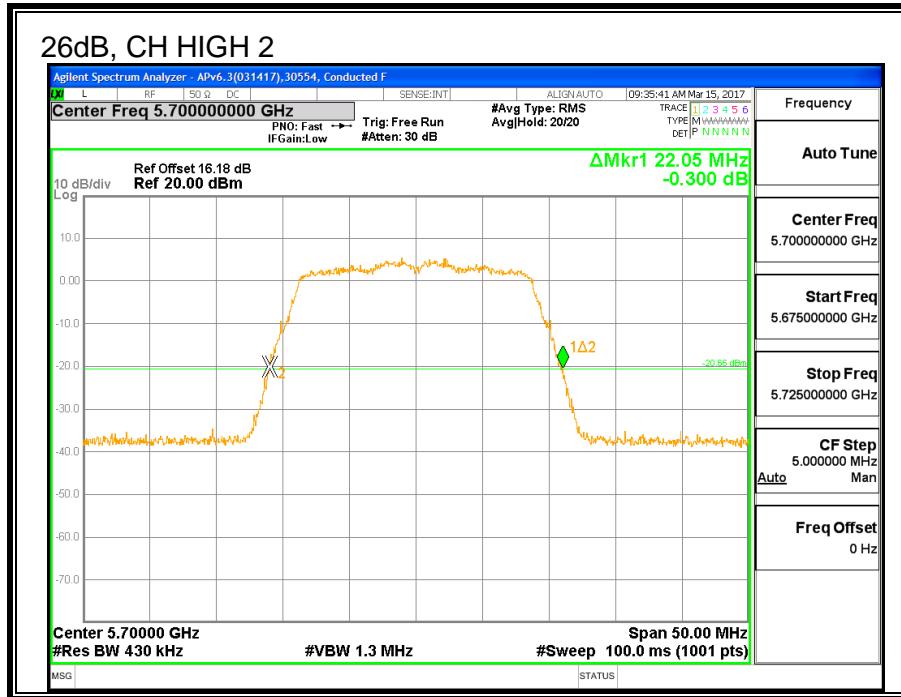
None; for reporting purposes only.

#### RESULTS

Channel	Frequency	26 dB BW LAT 3 (MHz)
Low 1	5500	22.05
Low 2	5520	21.60
Mid	5580	21.85
High 1	5680	21.60
High 2	5700	22.05
144	5720	22.00







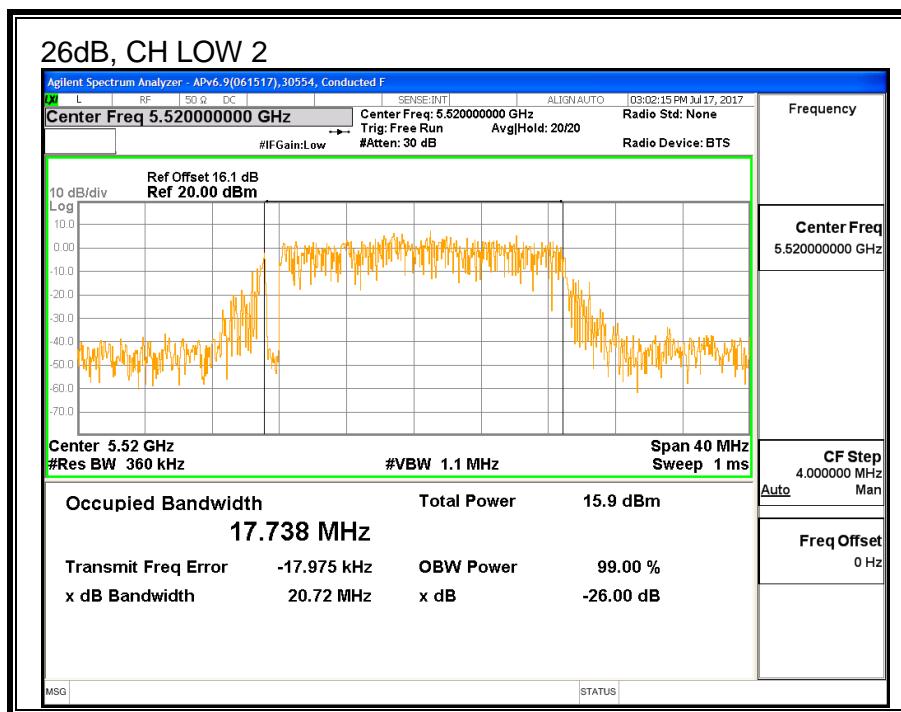
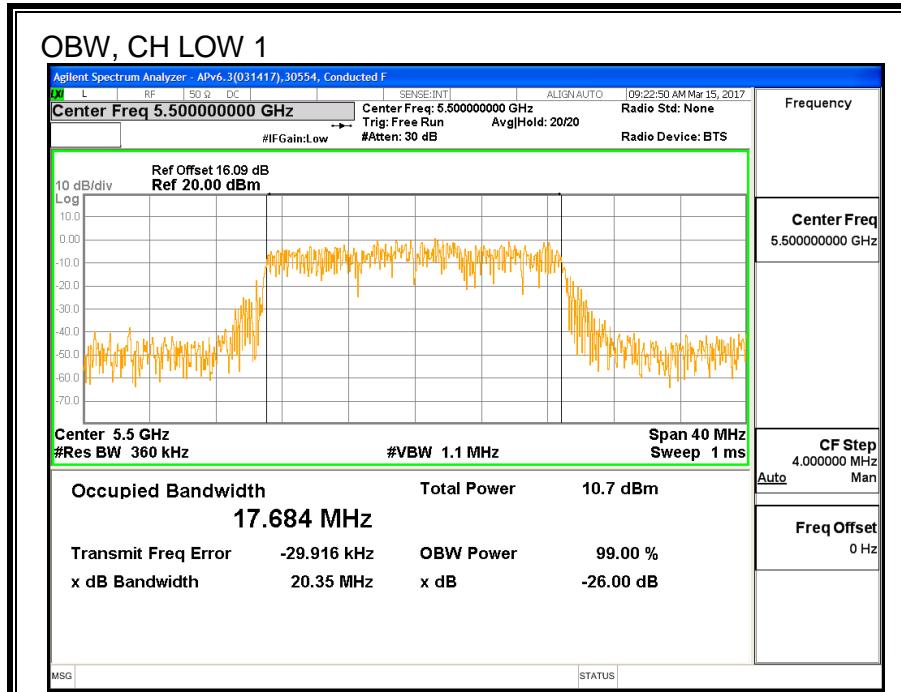
## 8.21.2. 99% BANDWIDTH

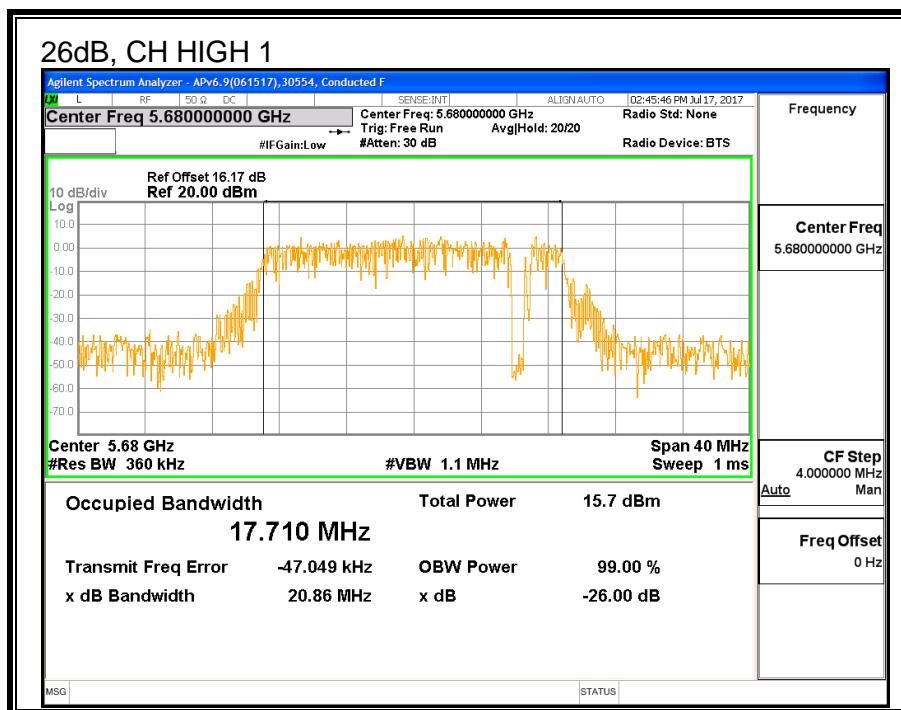
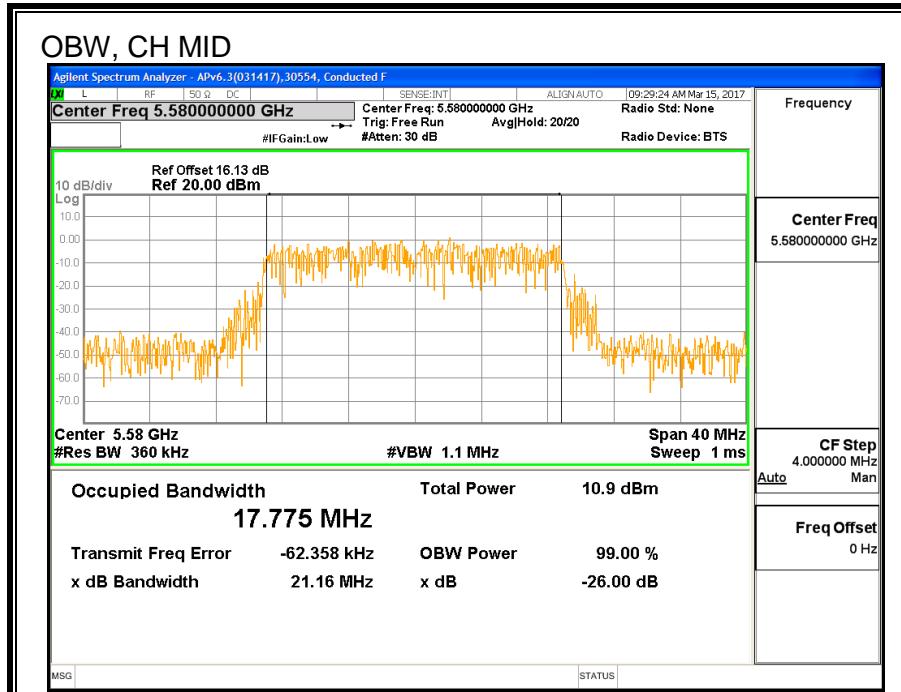
### LIMITS

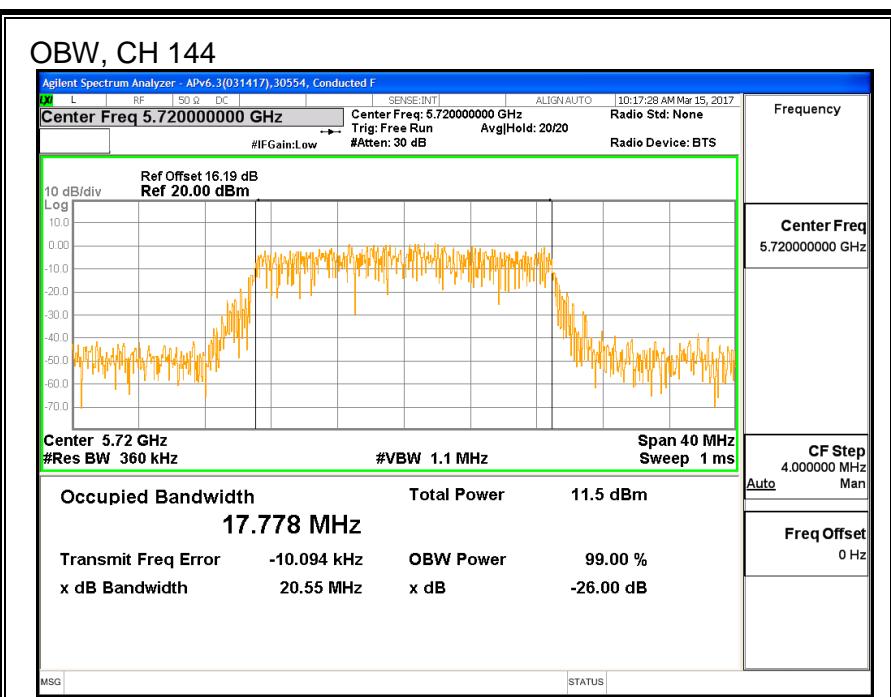
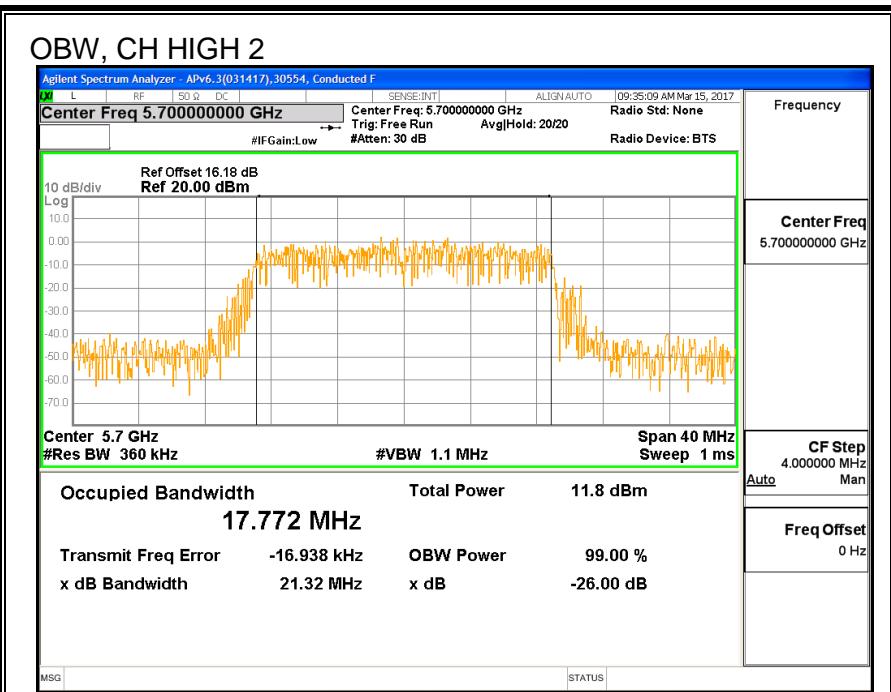
None; for reporting purposes only.

### RESULTS

Channel	Frequency	99% BW LAT 3 (MHz)
Low 1	5500	17.684
Low 2	5520	17.738
Mid	5580	17.775
High 1	5680	17.710
High 2	5700	17.772
144	5720	17.778







### 8.21.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### 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 1	5500	16.98
Low 2	5520	19.44
Mid	5580	20.69
High 1	5680	19.38
High 2	5700	16.85
144	5720	20.77

#### **8.21.4. OUTPUT POWER AND PPSD**

##### **LIMITS**

FCC §15.407 (a) (2)

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

##### **TEST PROCEDURE**

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

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

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

##### **DIRECTIONAL ANTENNA GAIN**

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

## RESULTS

### Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low 1	5500	22.05	17.68	-0.96	23.48	11.00
Low 2	5520	21.60	17.74	-0.96	23.49	11.00
Mid	5580	21.85	17.78	-0.96	23.50	11.00
High 1	5680	21.60	17.71	-0.96	23.48	11.00
High 2	5700	22.05	17.77	-0.96	23.50	11.00

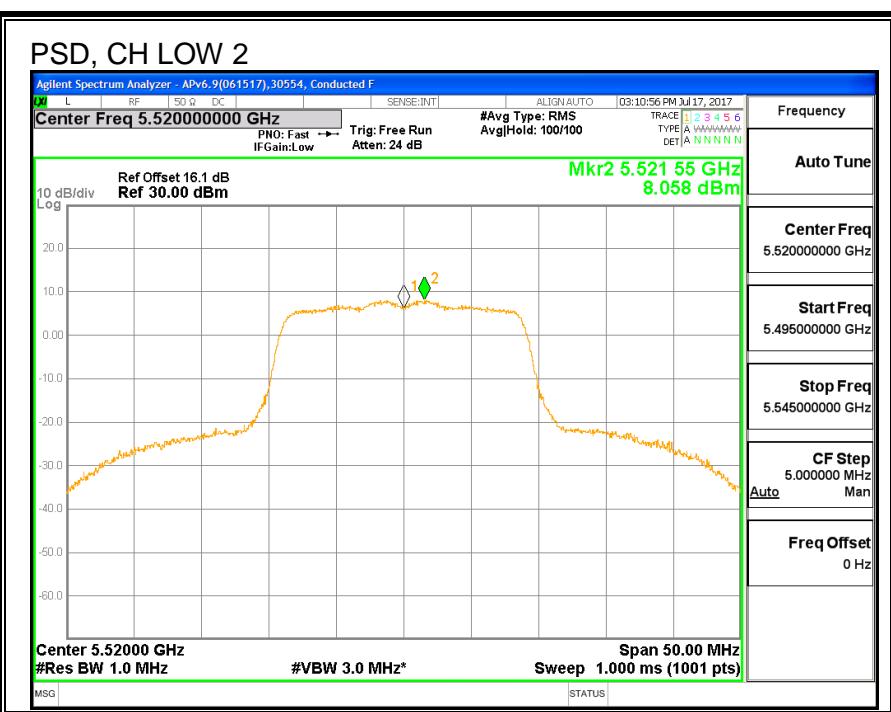
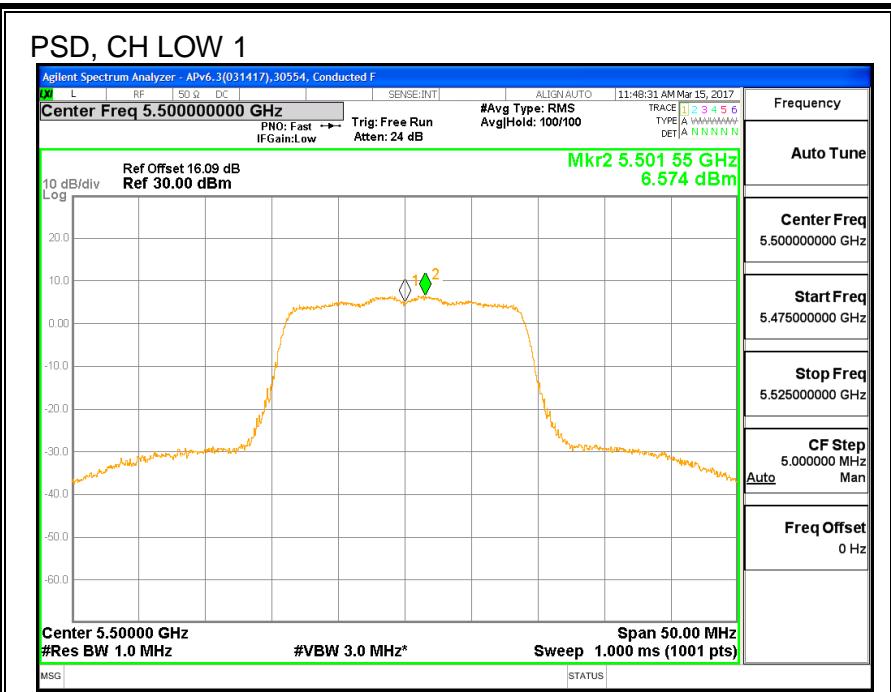
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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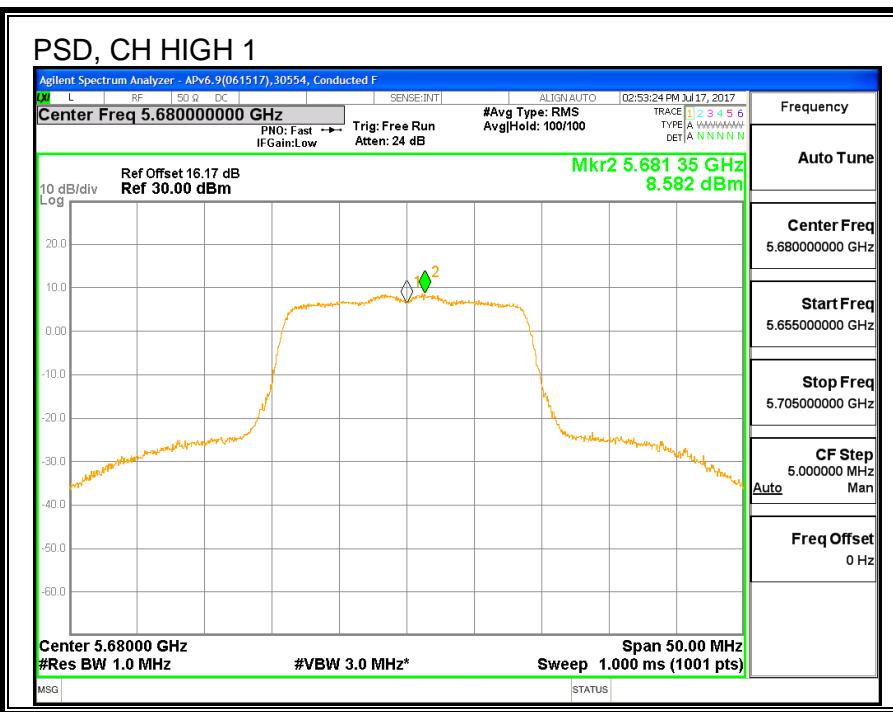
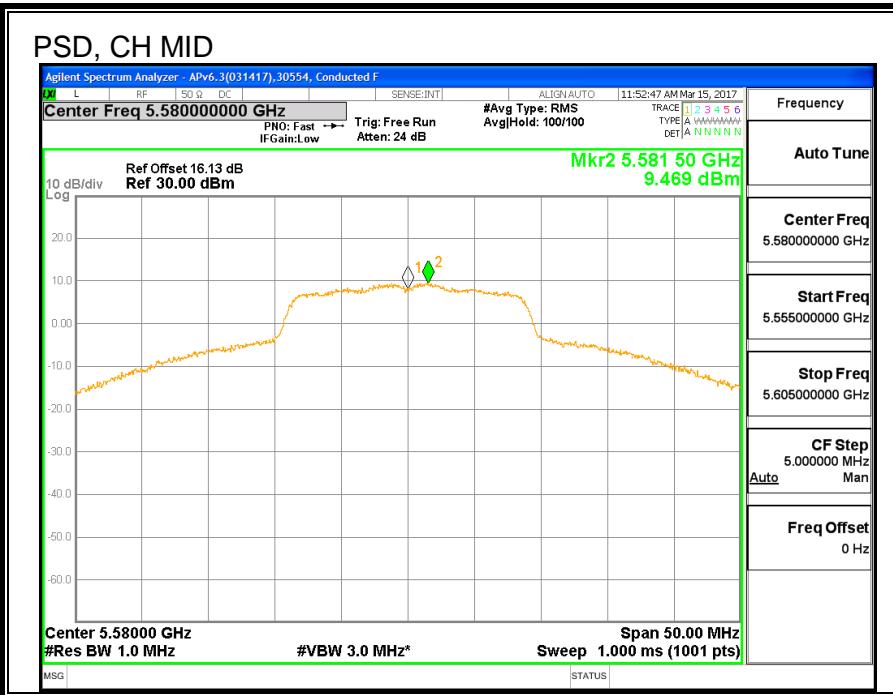
### Output Power Results

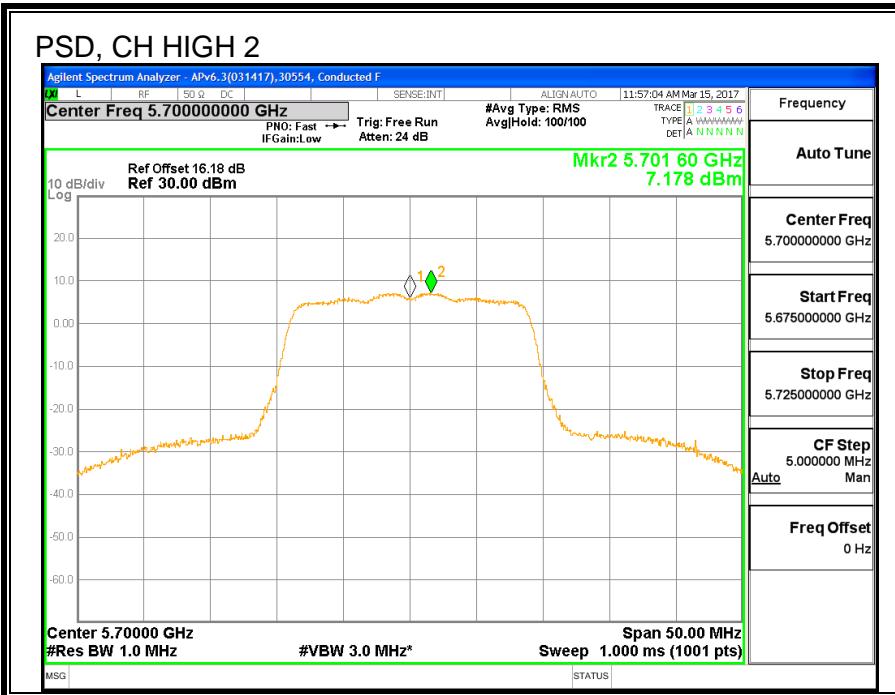
Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low 1	5500	16.98	16.98	23.48	-6.50
Low 2	5520	19.44	19.44	23.49	-4.05
Mid	5580	20.69	20.69	23.50	-2.81
High 1	5680	19.38	19.38	23.48	-4.10
High 2	5700	16.85	16.85	23.50	-6.65

### PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low 1	5500	6.574	6.574	11.00	-4.43
Low 2	5520	8.058	8.058	11.00	-2.94
Mid	5580	9.469	9.469	11.00	-1.53
High 1	5680	8.582	8.582	11.00	-2.42
High 2	5700	7.718	7.718	11.00	-3.28







## 8.22. 11ac HT20 LAT 3 SISO STRADDLE CHANNEL 144

### 8.22.1. OUTPUT POWER AND PSD

#### 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	16.00	-0.96	-0.96	23.04	11.00

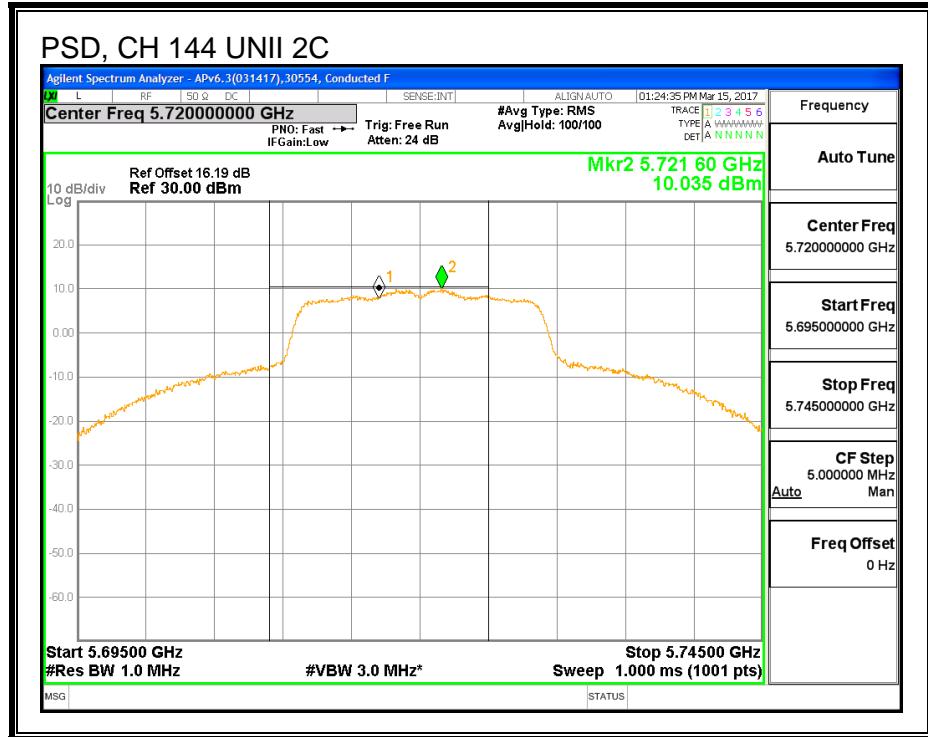
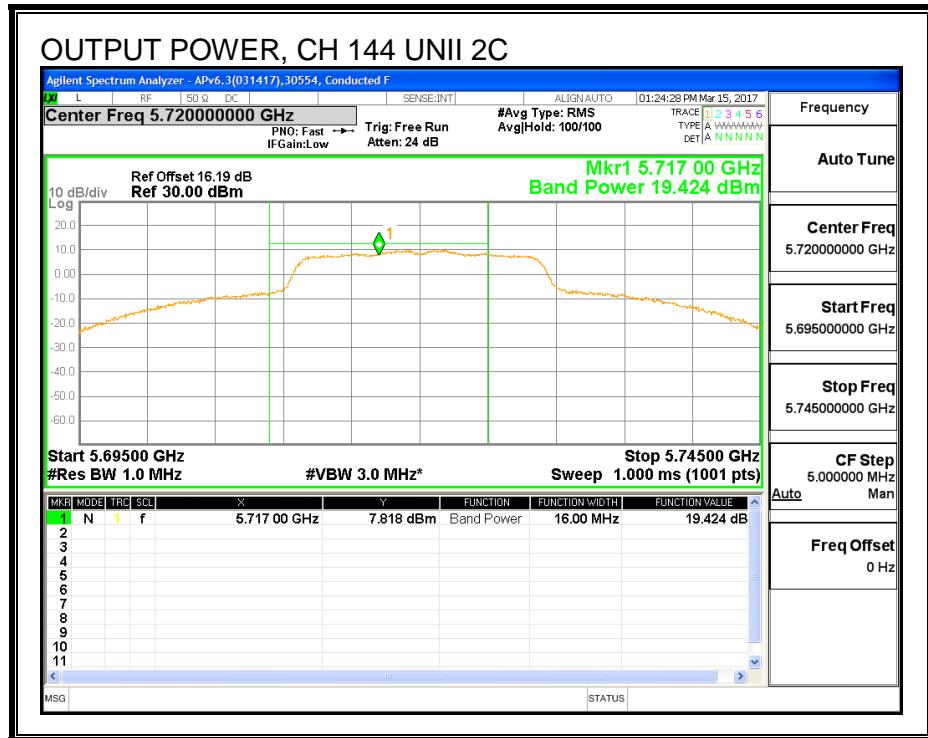
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD
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#### Output Power Results

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	19.42	19.42	23.04	-3.62

#### PSD Results

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	10.04	10.04	11.00	-0.97



**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	6.00	-0.93	30.00	30.00

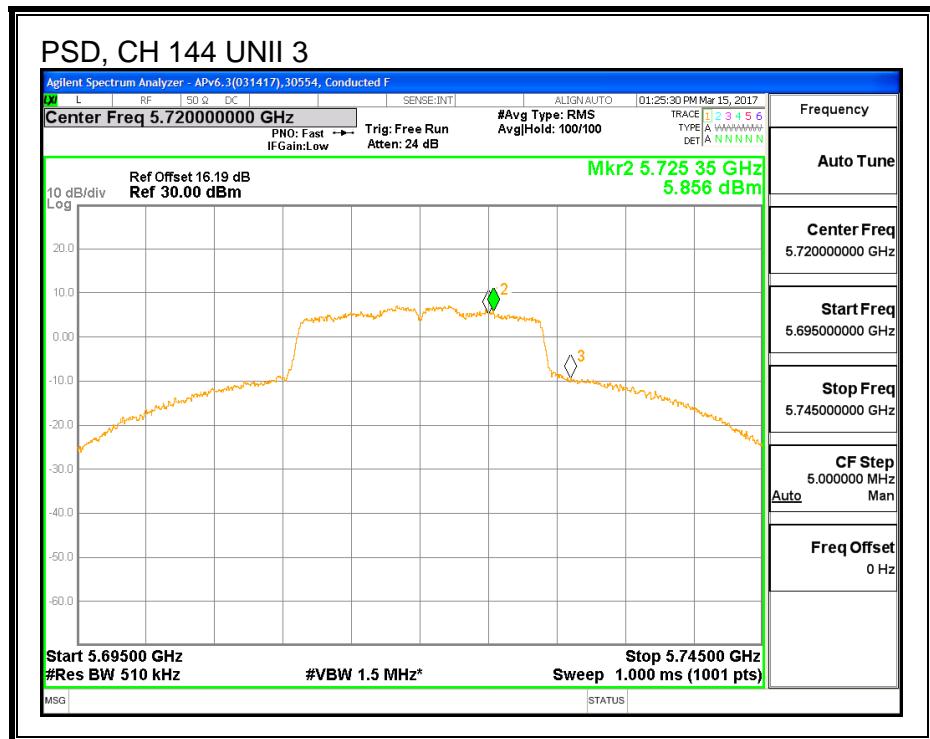
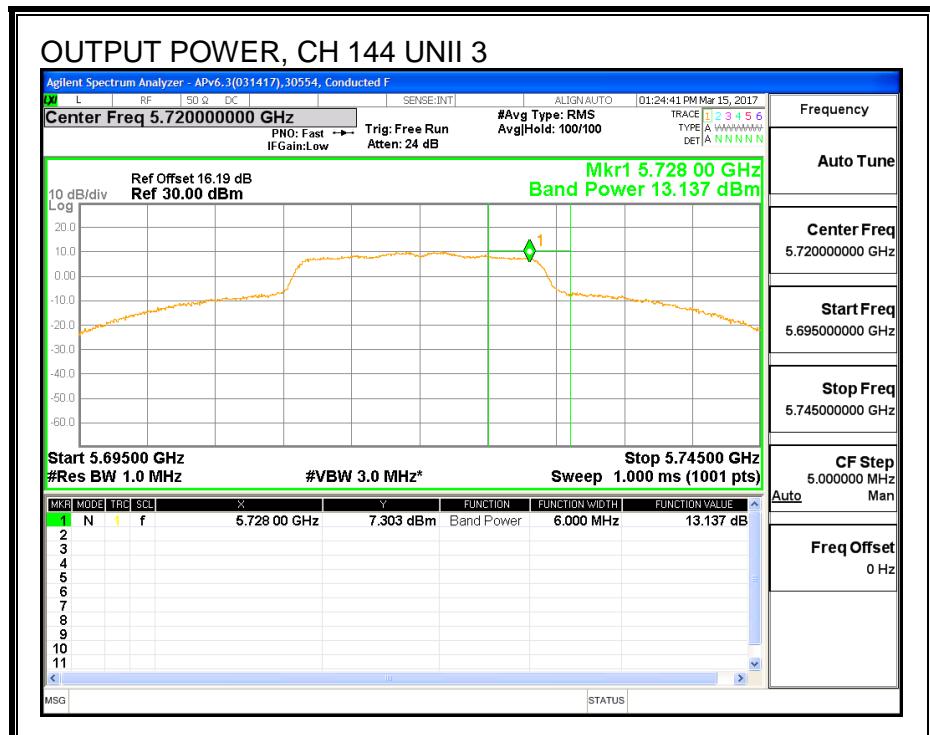
<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.137	13.137	30.00	-16.86

**PSD Results**

Channel	Frequency (MHz)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	5.856	5.856	30.00	-24.14



## 8.22.2. 6 dB BANDWIDTH

### LIMITS

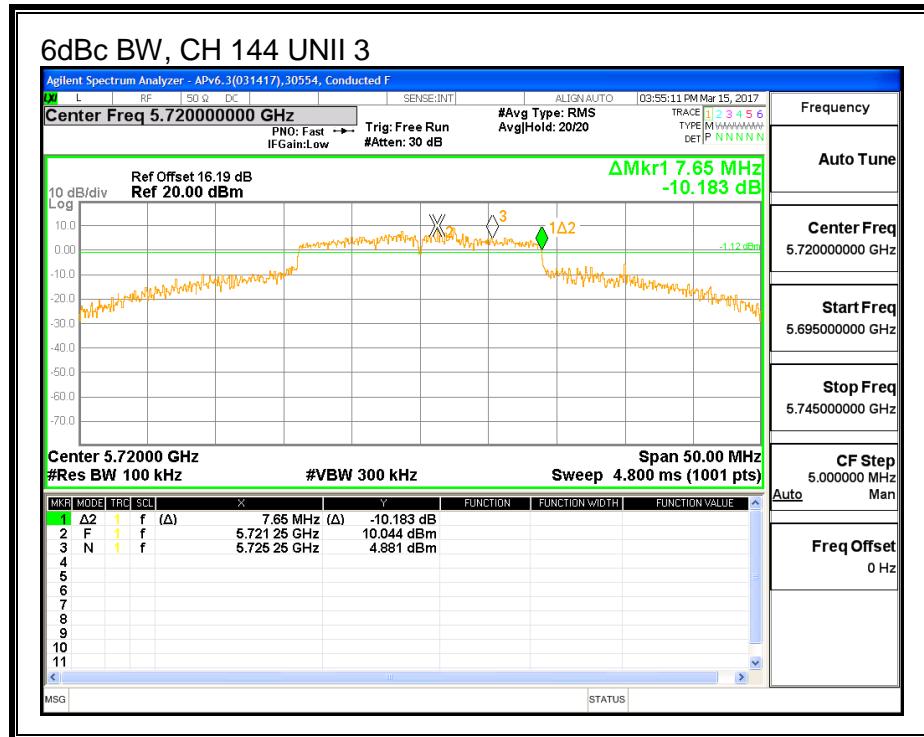
FCC §15.407 (e)

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

### RESULTS

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

### 6 dB BANDWIDTH



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

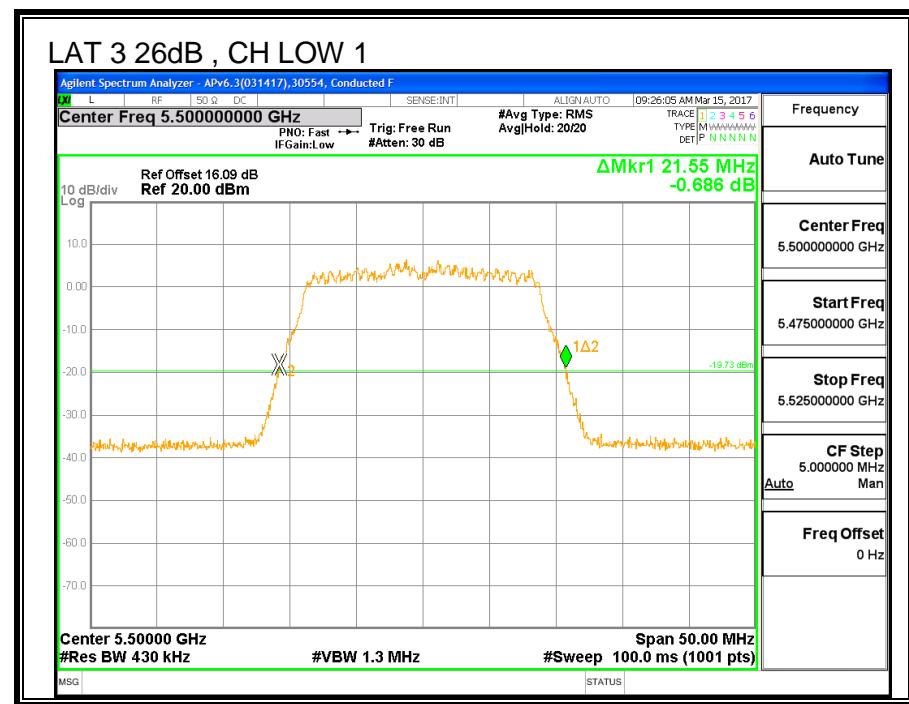
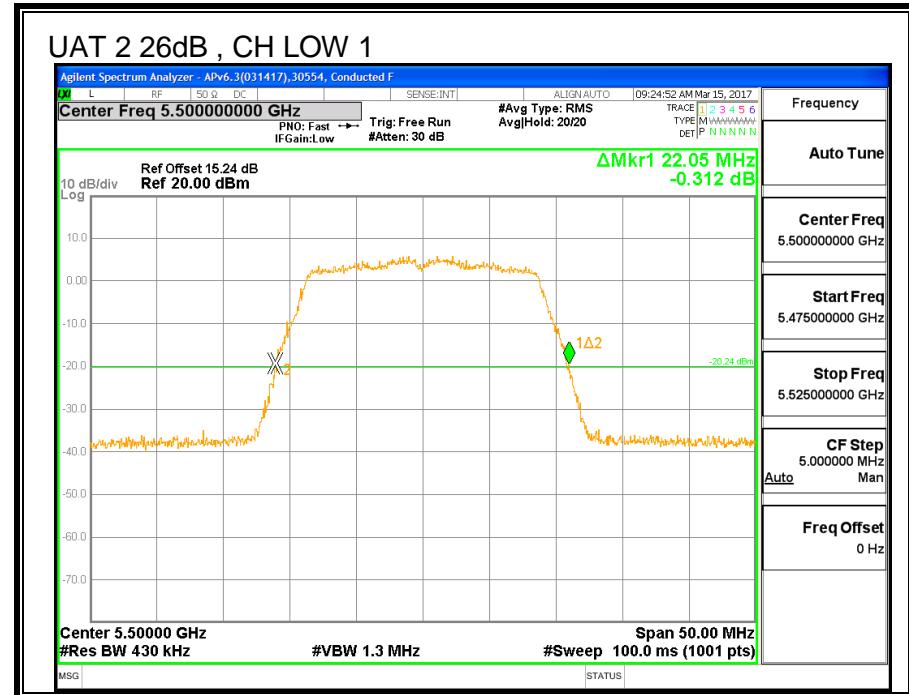
### 8.23.1. 26 dB BANDWIDTH

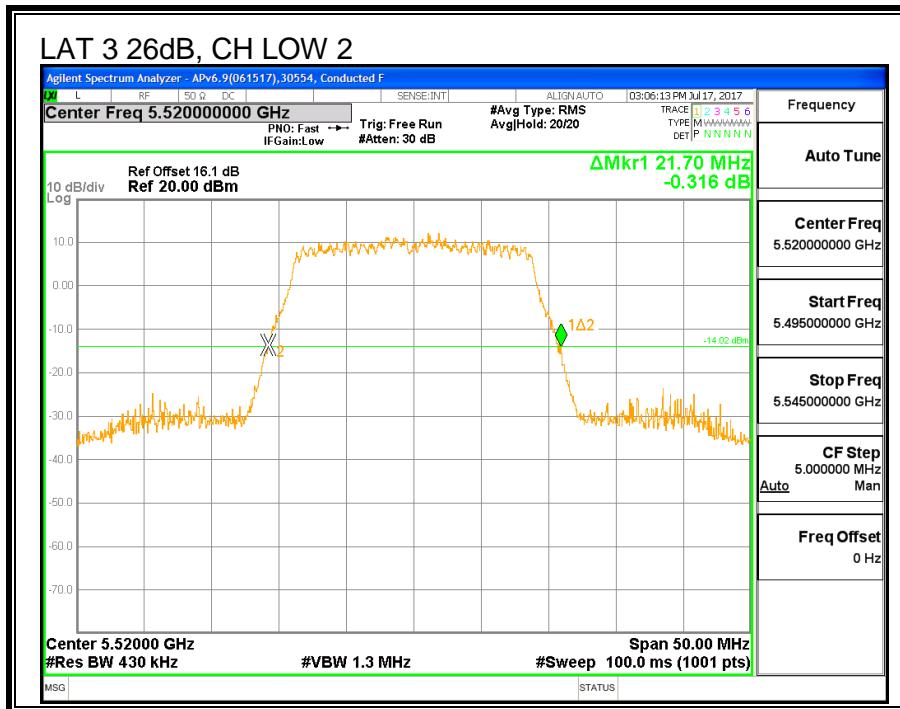
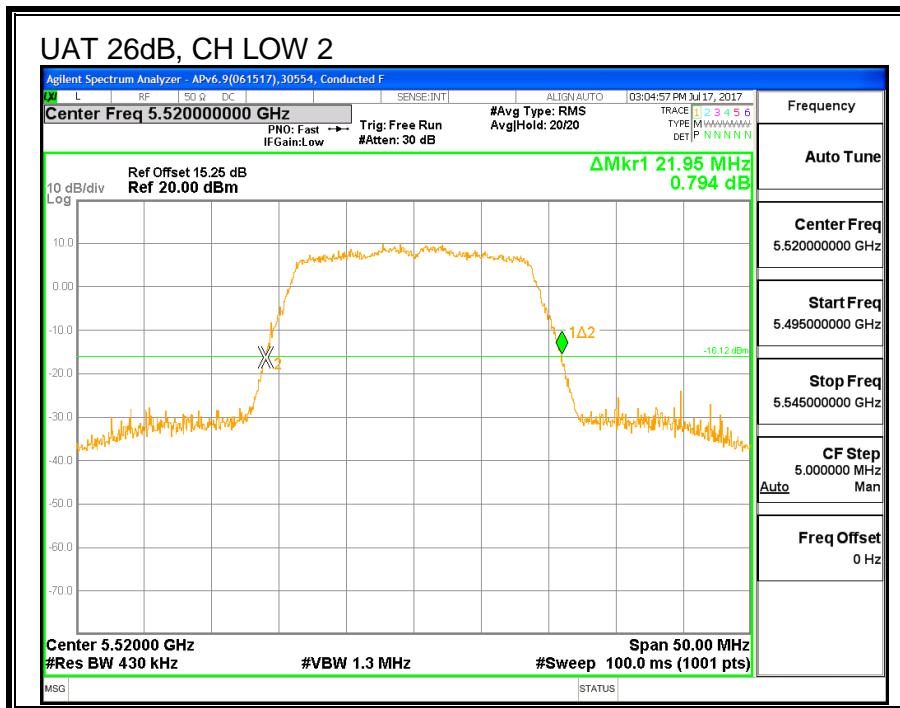
#### LIMITS

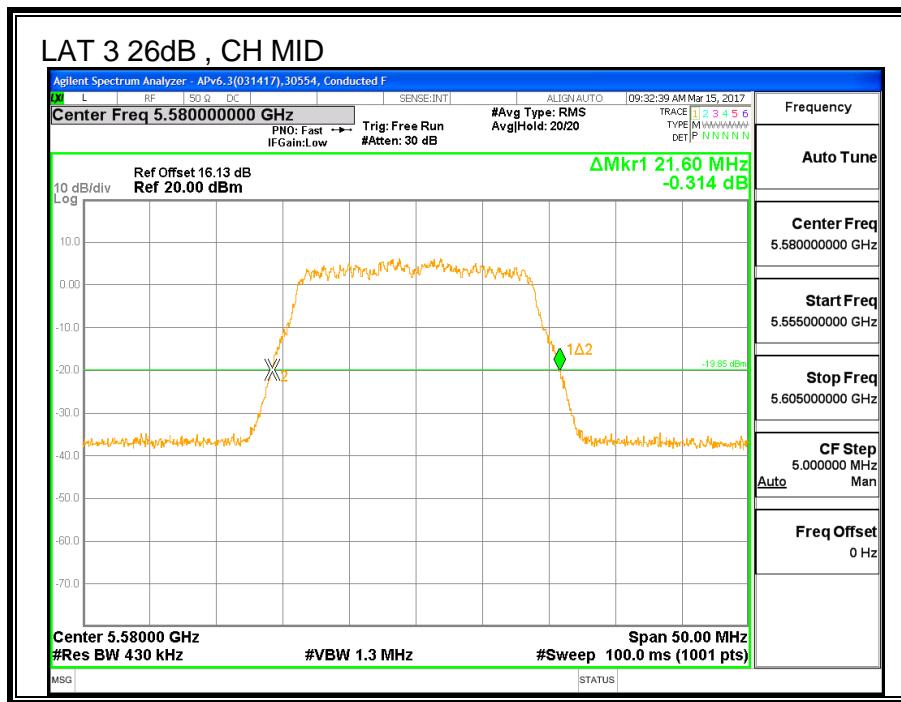
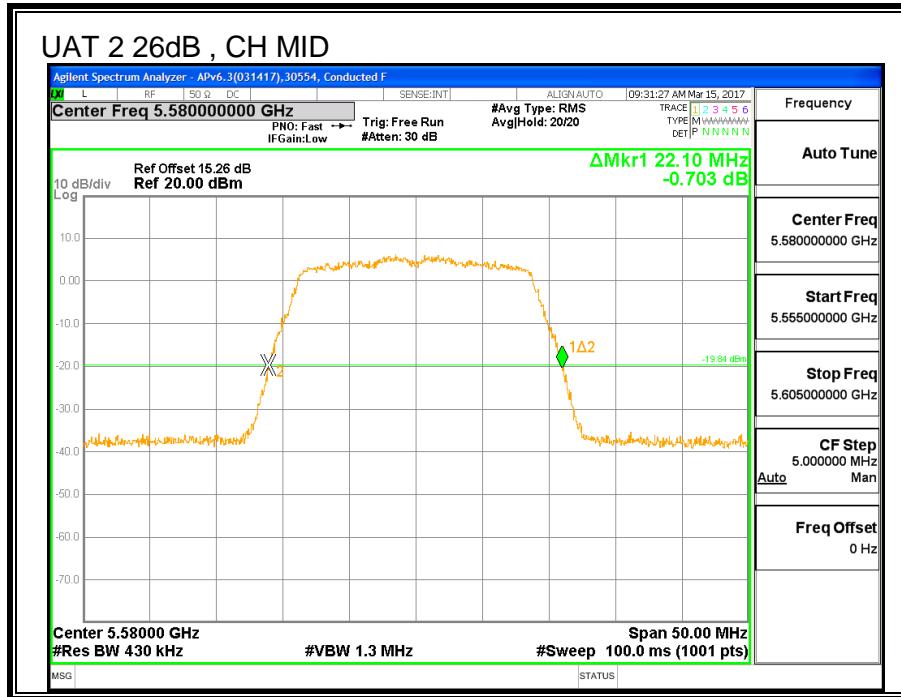
None; for reporting purposes only.

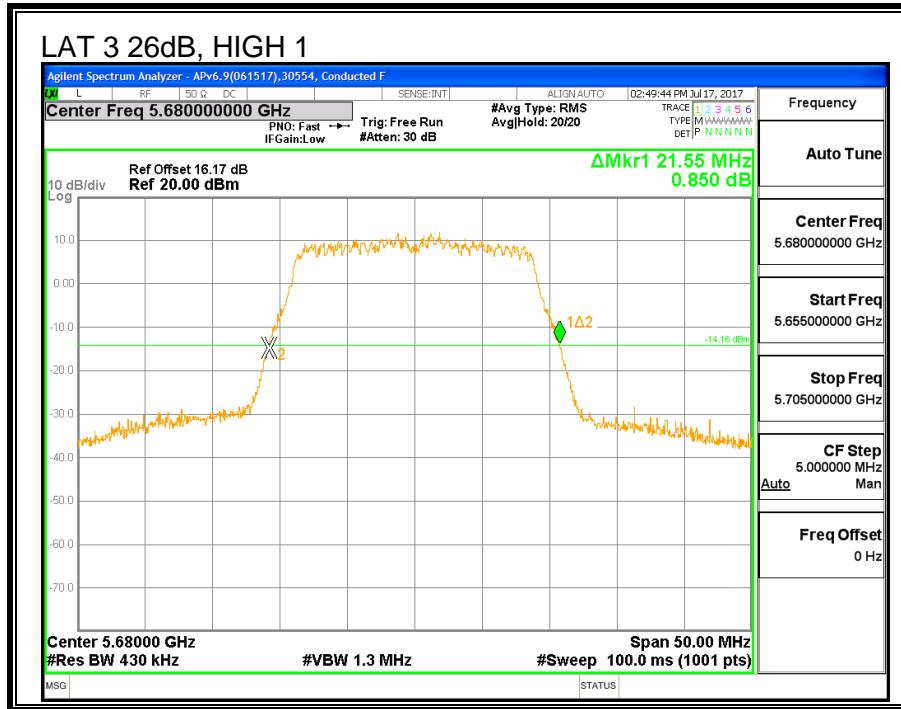
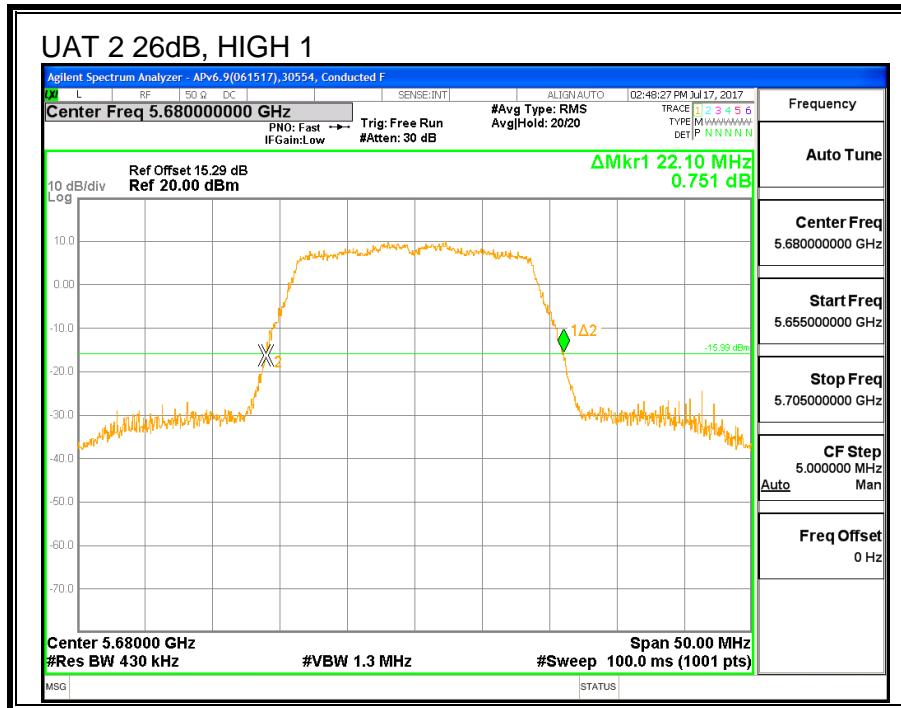
#### RESULTS

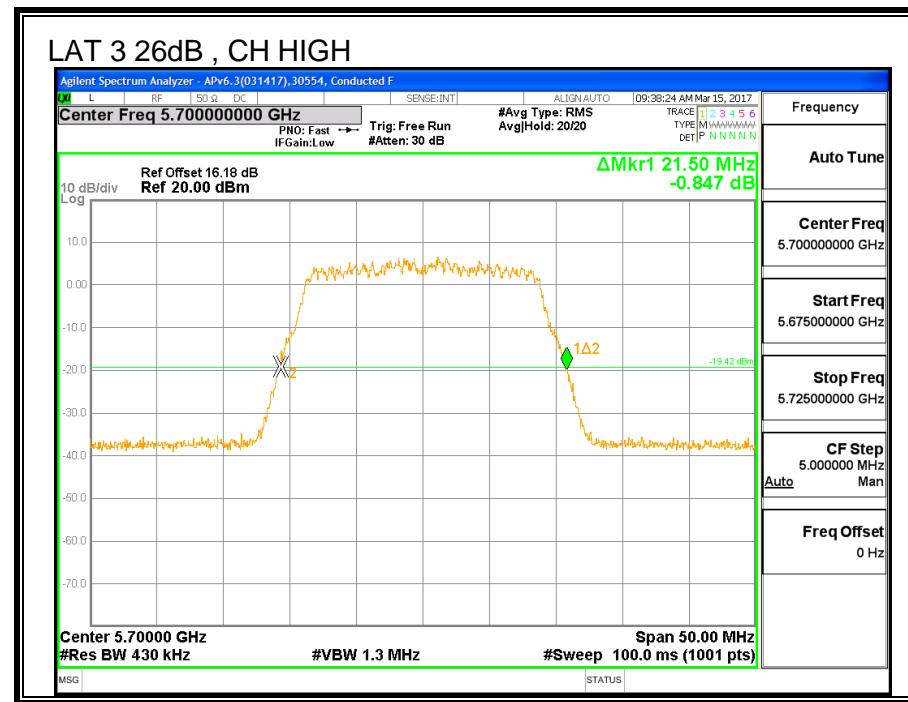
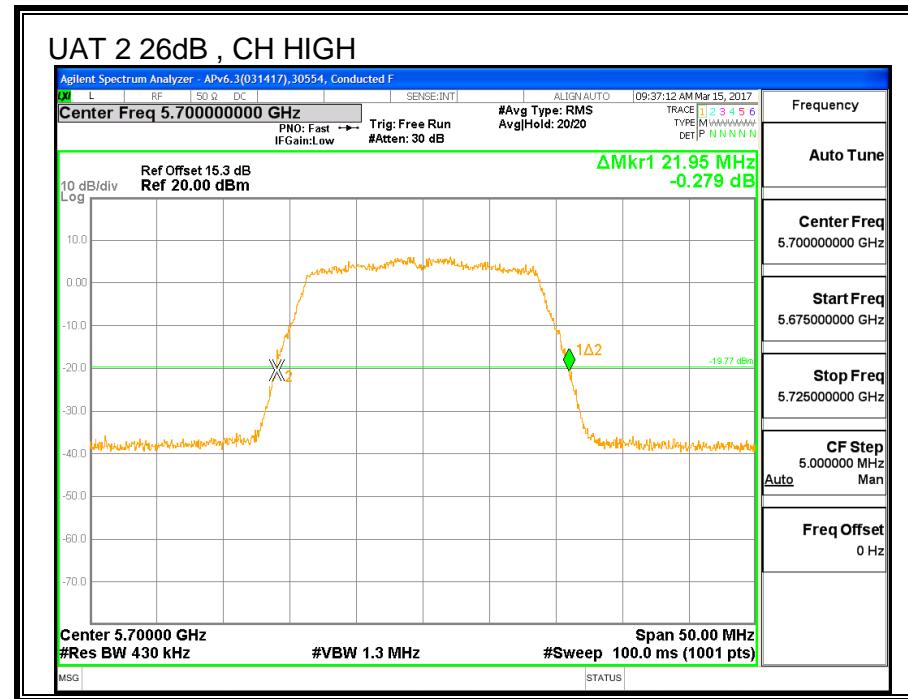
Channel	Frequency	26 dB BW UAT 2 (MHz)	26 dB BW LAT 3 (MHz)
Low 1	5500	22.05	21.55
Low 2	5520	21.95	21.70
Mid	5580	22.10	21.60
High 1	5680	22.10	21.55
High 2	5700	21.95	21.50
144	5720	22.10	21.65

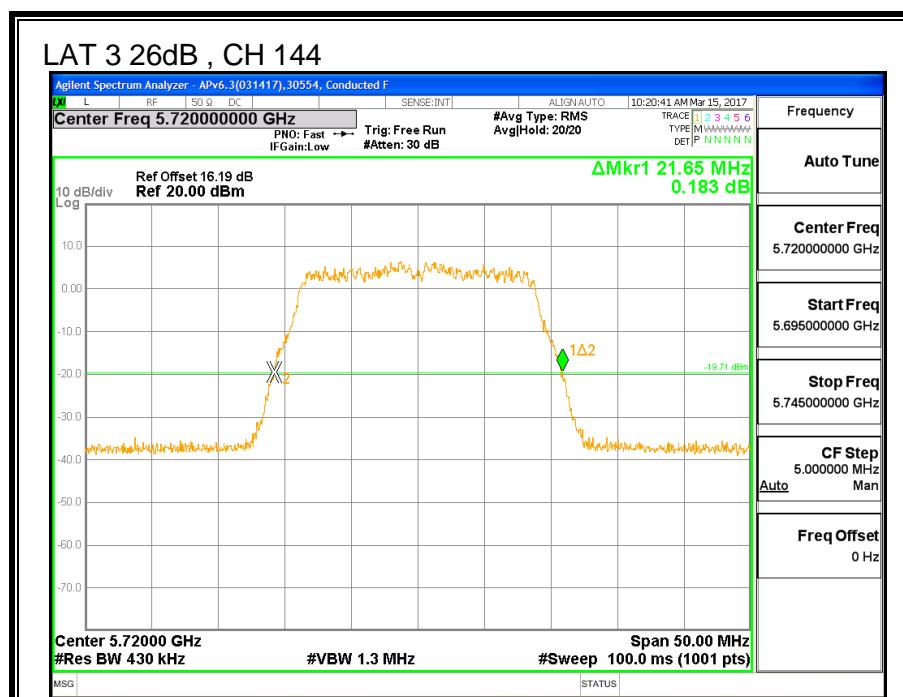
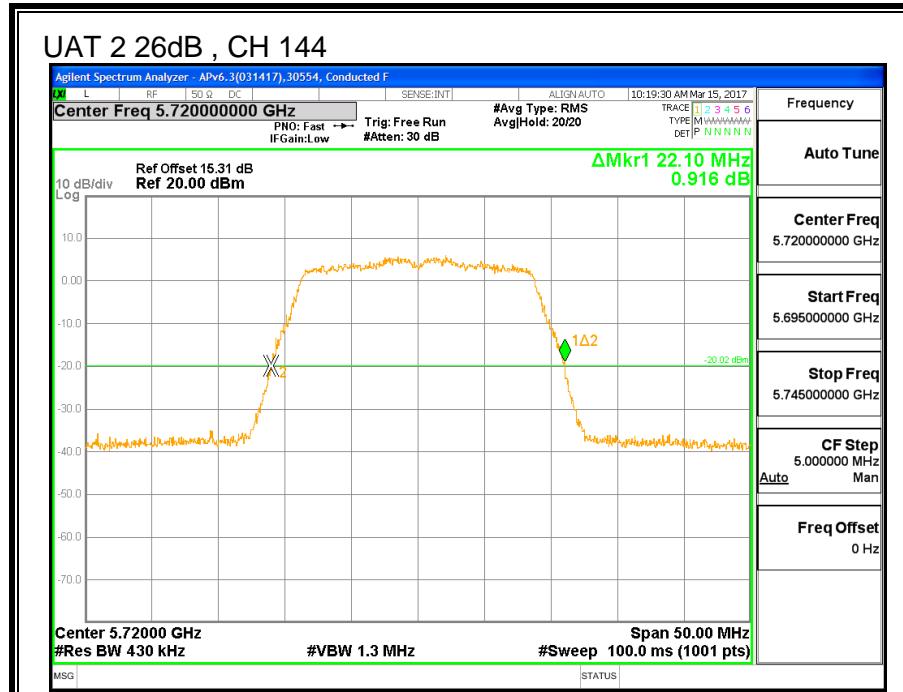












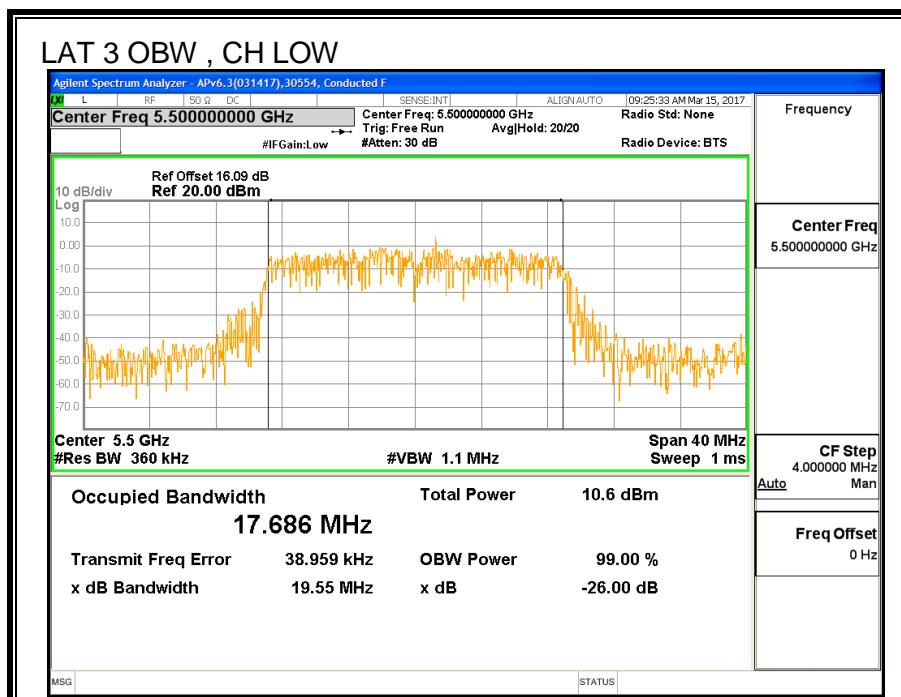
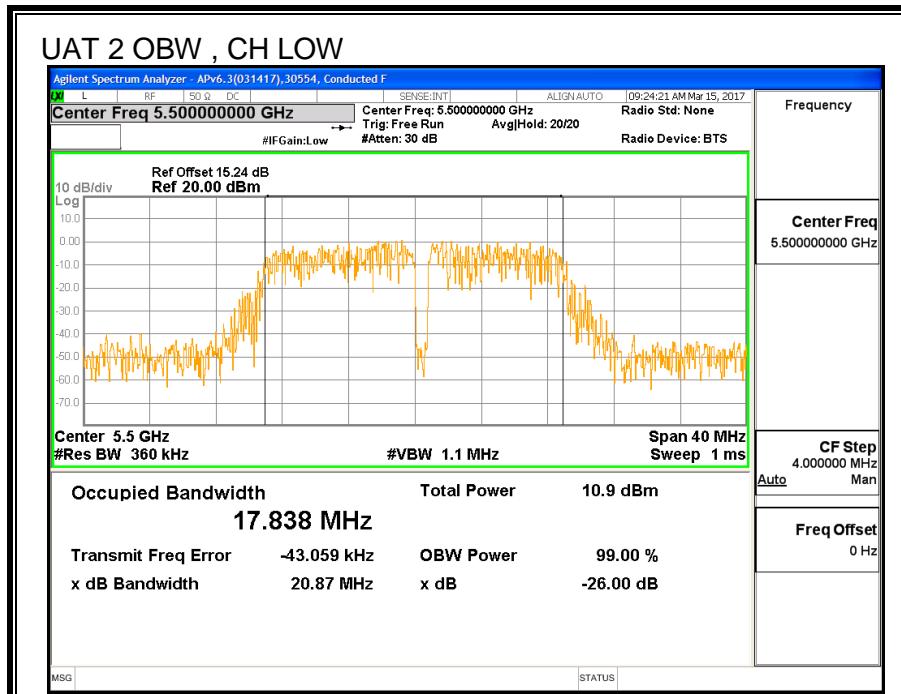
### 8.23.2. 99% BANDWIDTH

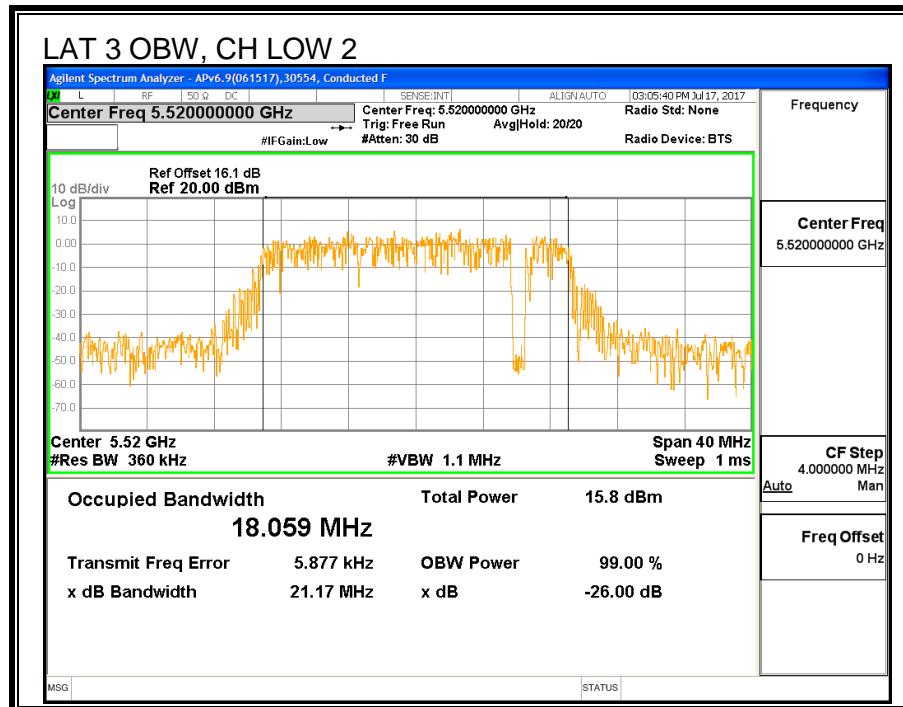
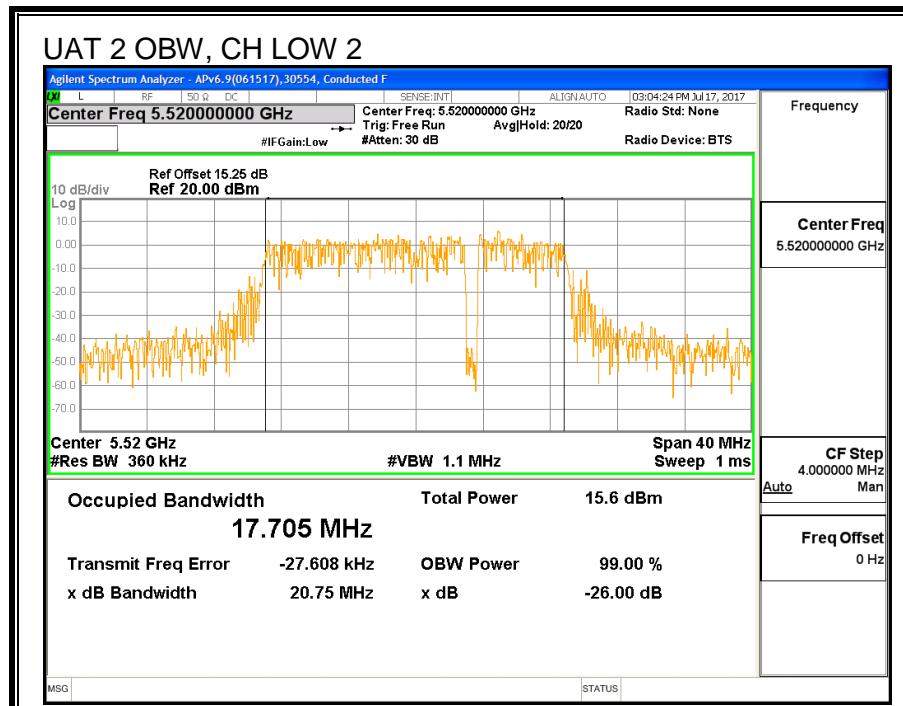
#### LIMITS

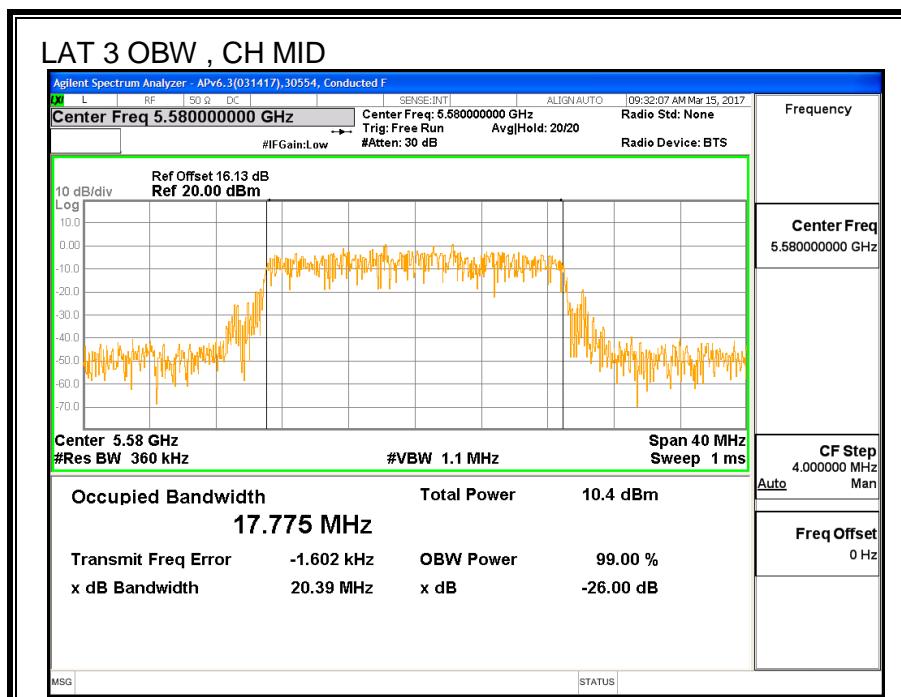
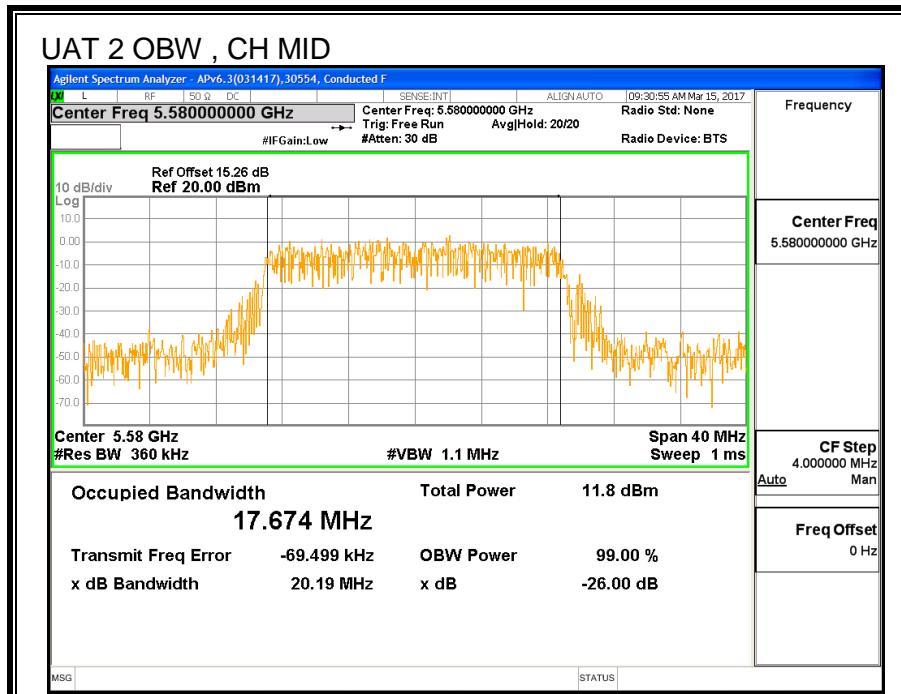
None; for reporting purposes only.

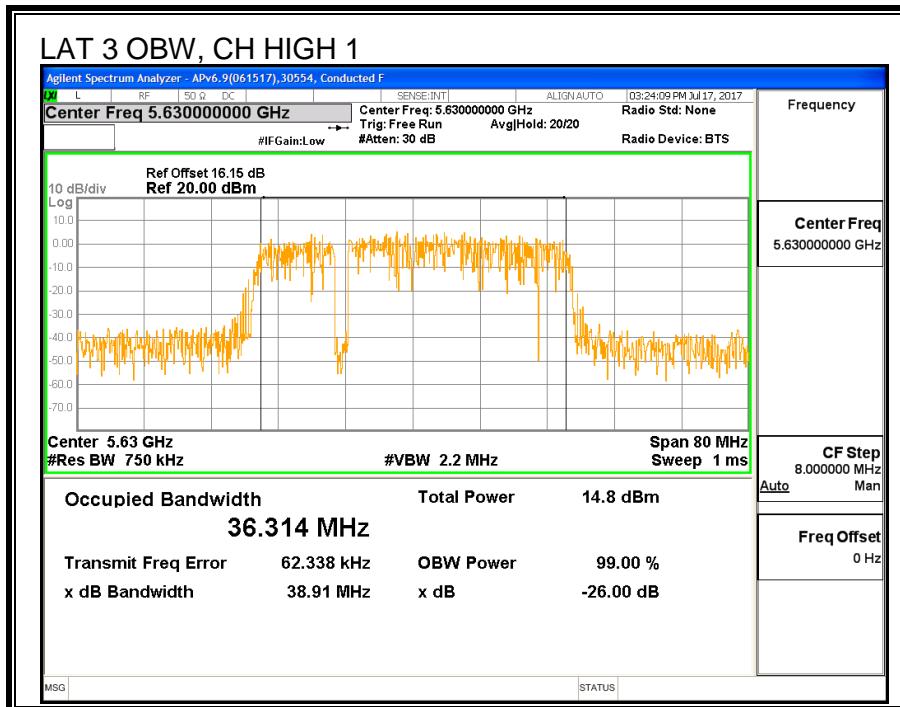
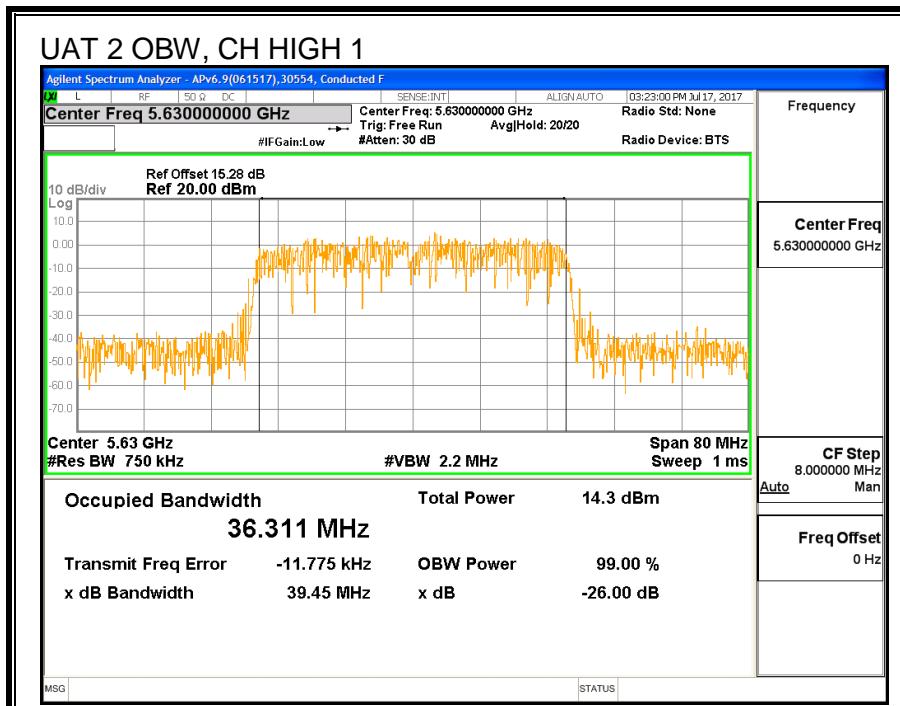
#### RESULTS

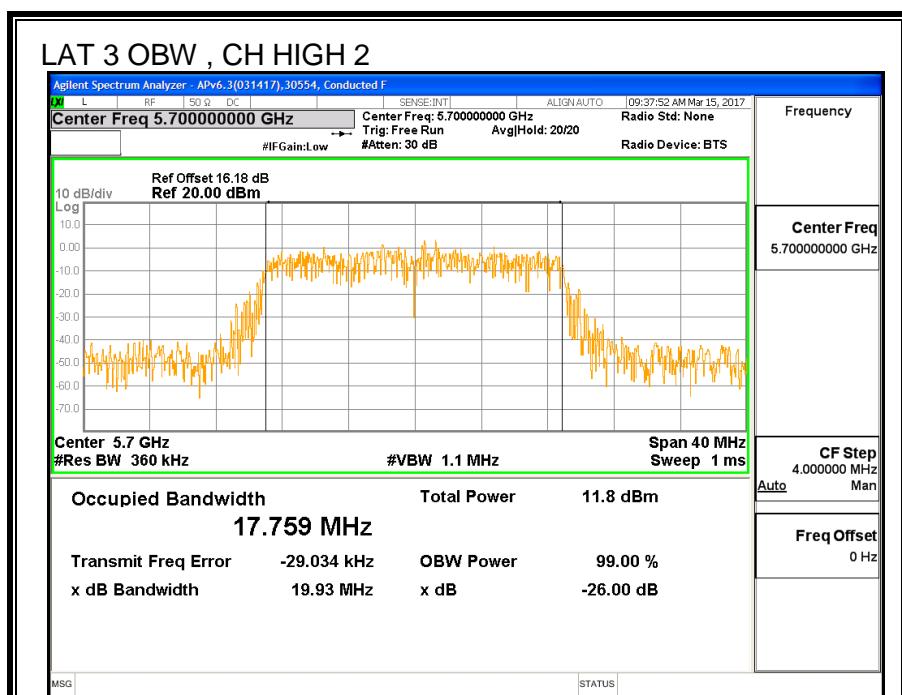
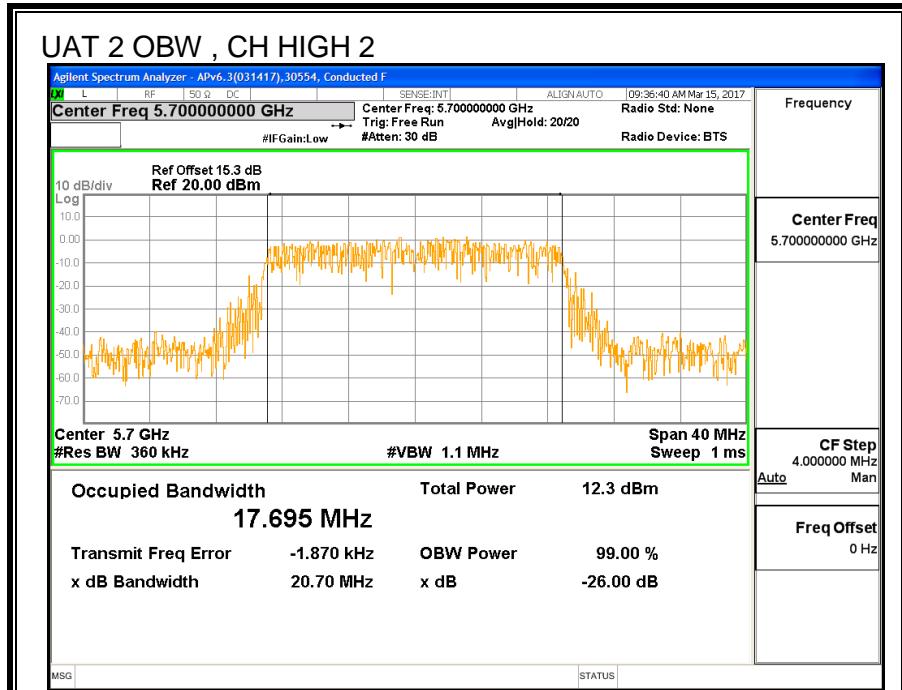
Channel	Frequency	99% BW UAT 2 (MHz)	99% BW LAT 3 (MHz)
Low 1	5500	17.838	17.686
Low 2	5520	17.705	18.059
Mid	5580	17.674	17.775
High 1	5680	17.644	17.814
High 2	5700	17.695	17.759
144	5720	17.733	17.713

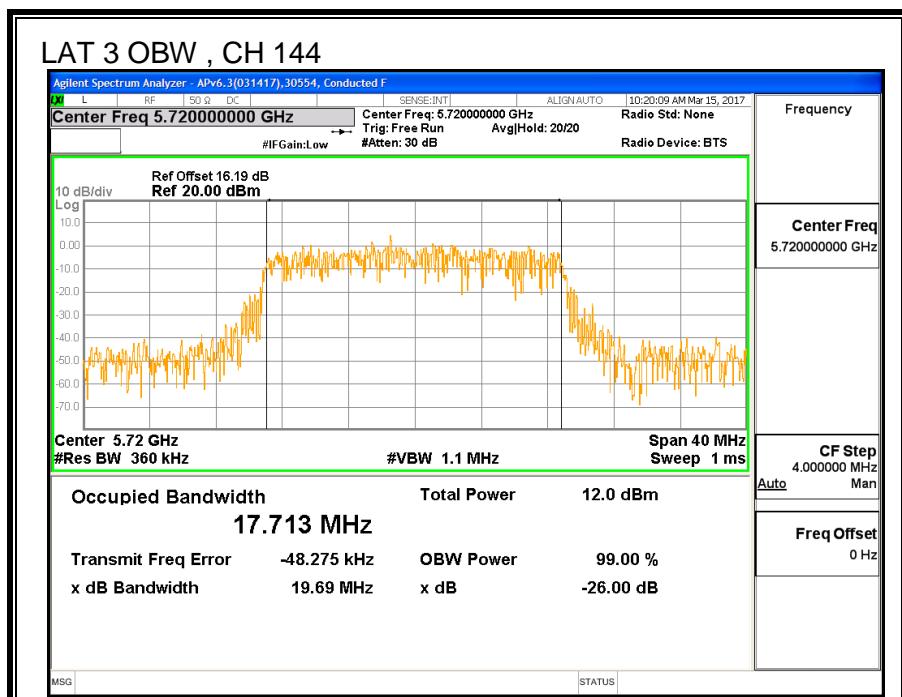
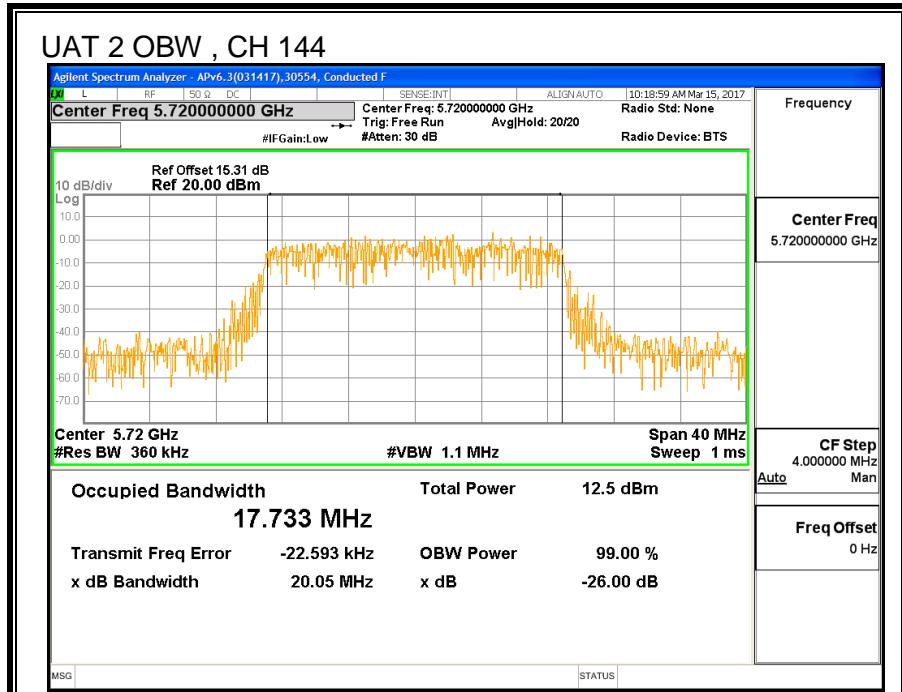












### 8.23.3. AVERAGE POWER

<b>ID:</b>	39472	<b>Date:</b>	6/11/17
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#### 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 1	5500	16.79	16.92	19.87
Low 2	5520	17.91	17.88	20.91
Mid	5580	17.85	17.91	20.89
High 1	5680	17.89	17.90	20.91
High 2	5700	16.42	16.40	19.42
144	5720	17.69	17.83	20.77

#### 8.23.4. OUTPUT POWER AND PSD

##### LIMITS

FCC §15.407 (a) (2)

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

##### TEST PROCEDURE

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

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

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

##### DIRECTIONAL ANTENNA GAIN

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

UAT 2 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-0.75	-0.96	-0.85

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)
-0.75	-0.96	2.16

## 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 1	5500	21.55	17.686	-0.85	2.16	23.48	11.00
Low 2	5520	21.70	17.705	-0.85	2.16	23.48	11.00
Mid	5580	21.60	17.674	-0.85	2.16	23.47	11.00
High 1	5680	21.55	17.644	-0.85	2.16	23.47	11.00
High 2	5700	21.50	17.695	-0.85	2.16	23.48	11.00

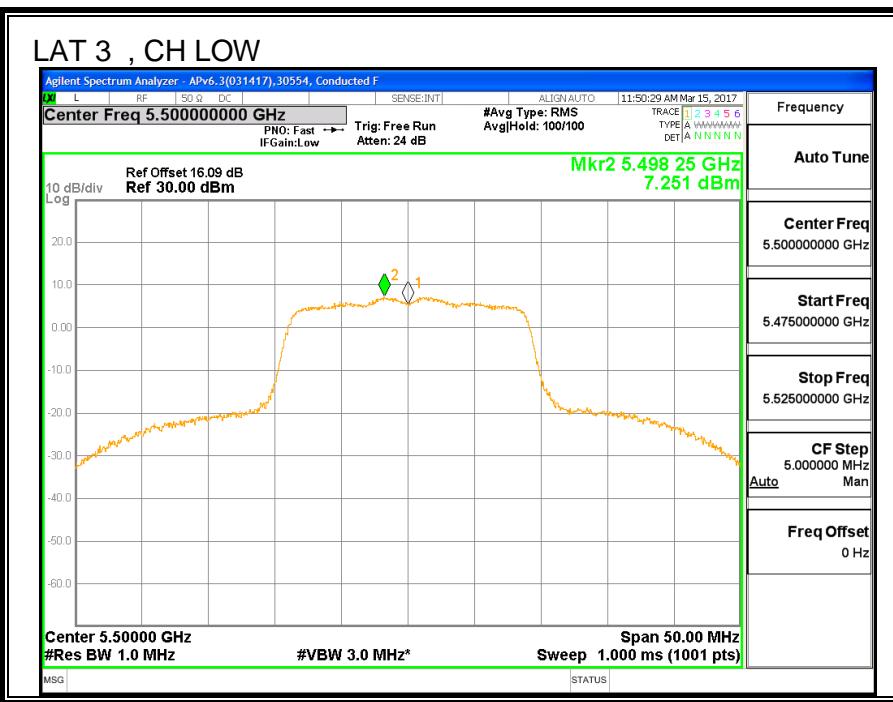
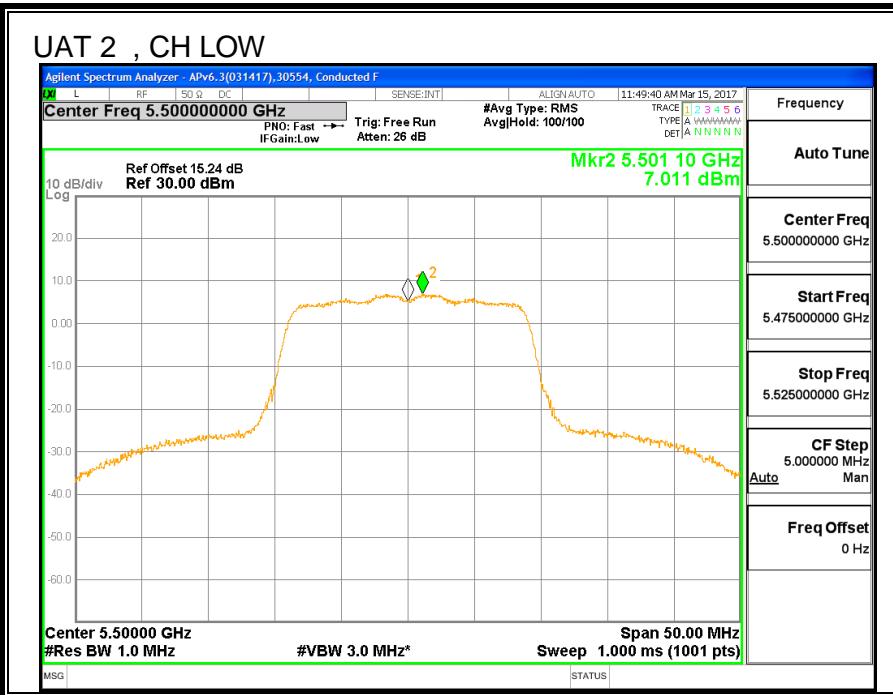
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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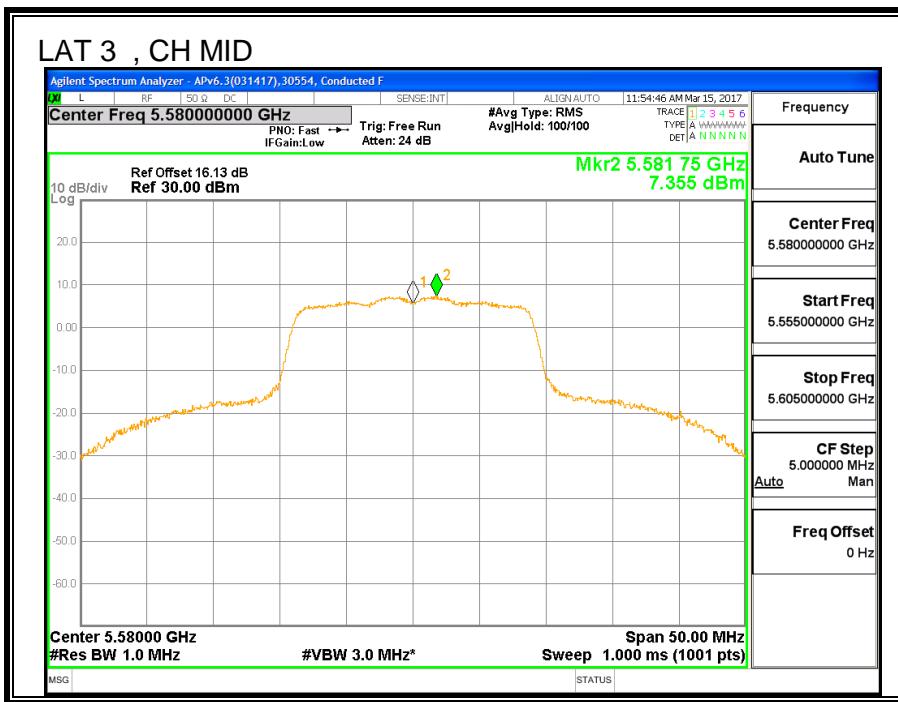
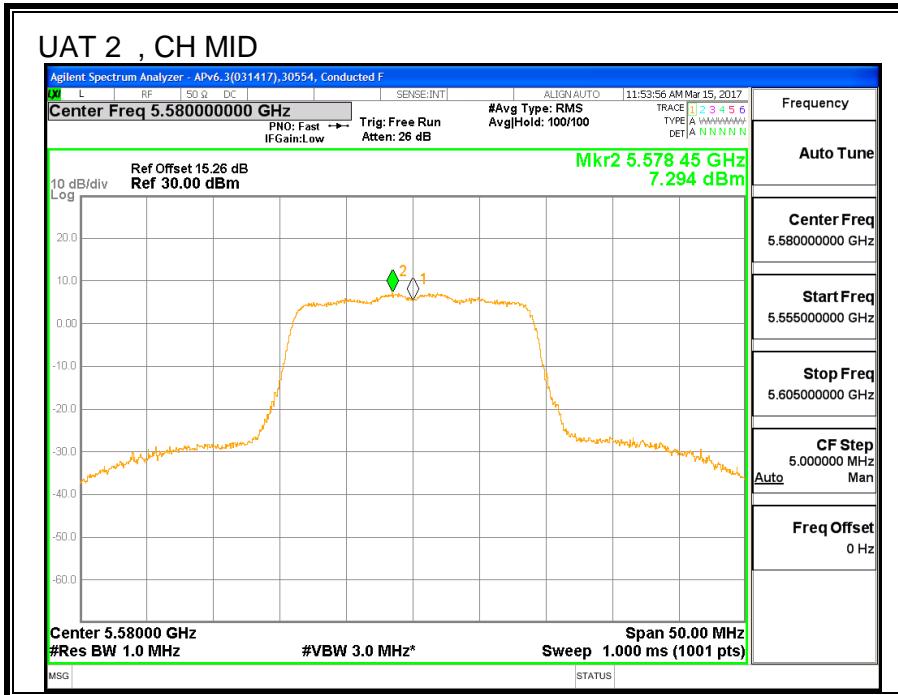
### Output Power Results

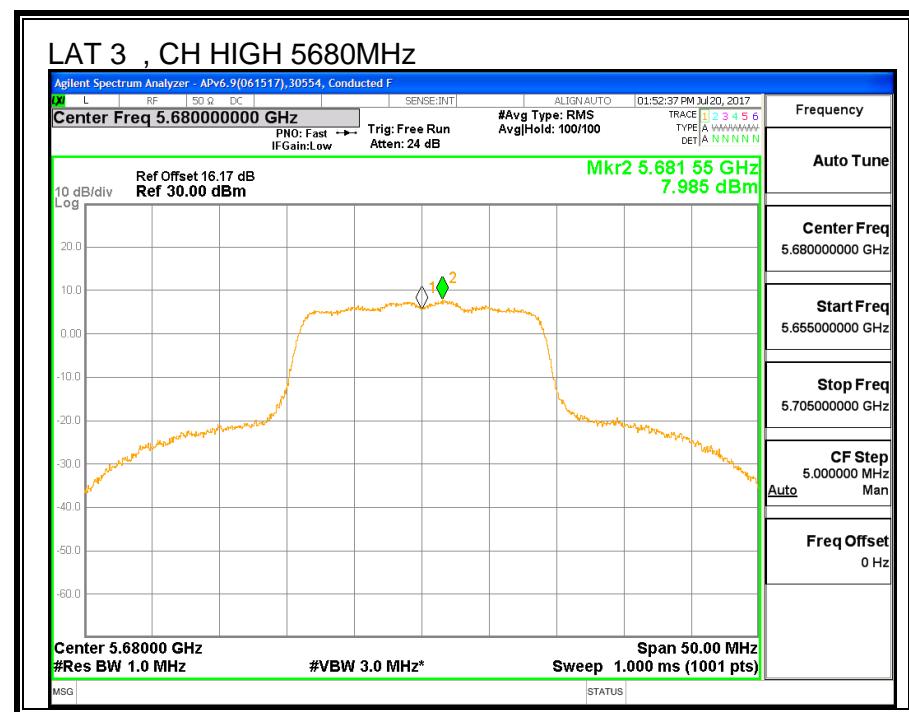
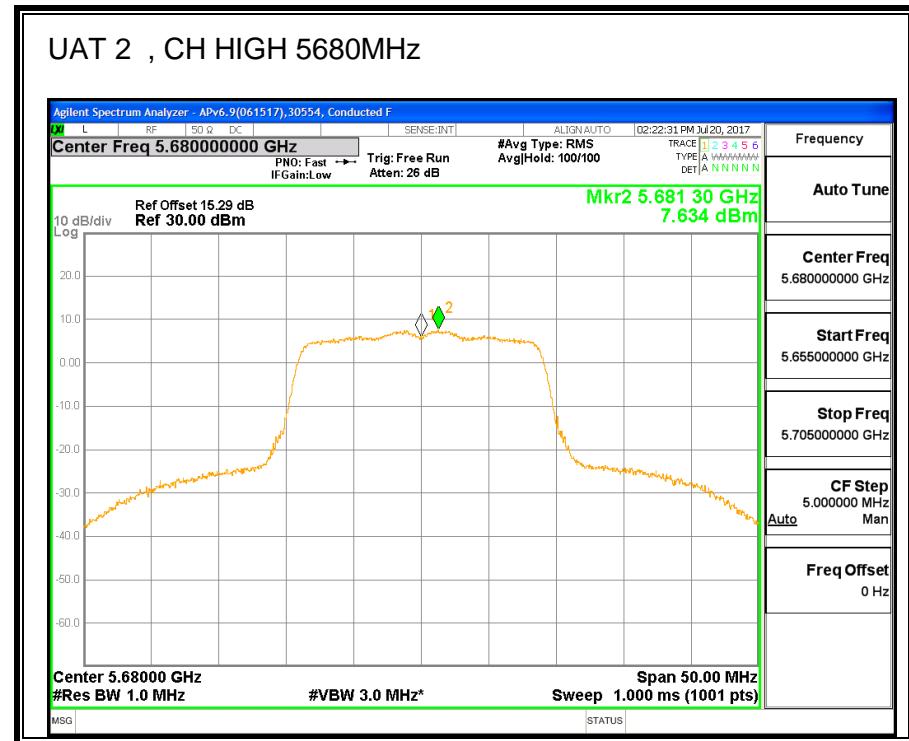
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low 1	5500	16.79	16.92	19.87	23.48	-3.61
Low 2	5520	17.91	17.88	20.91	23.48	-2.58
Mid	5580	17.85	17.91	20.89	23.47	-2.58
High 1	5680	17.89	17.90	20.91	23.47	-2.56
High 2	5700	16.42	16.40	19.42	23.48	-4.06

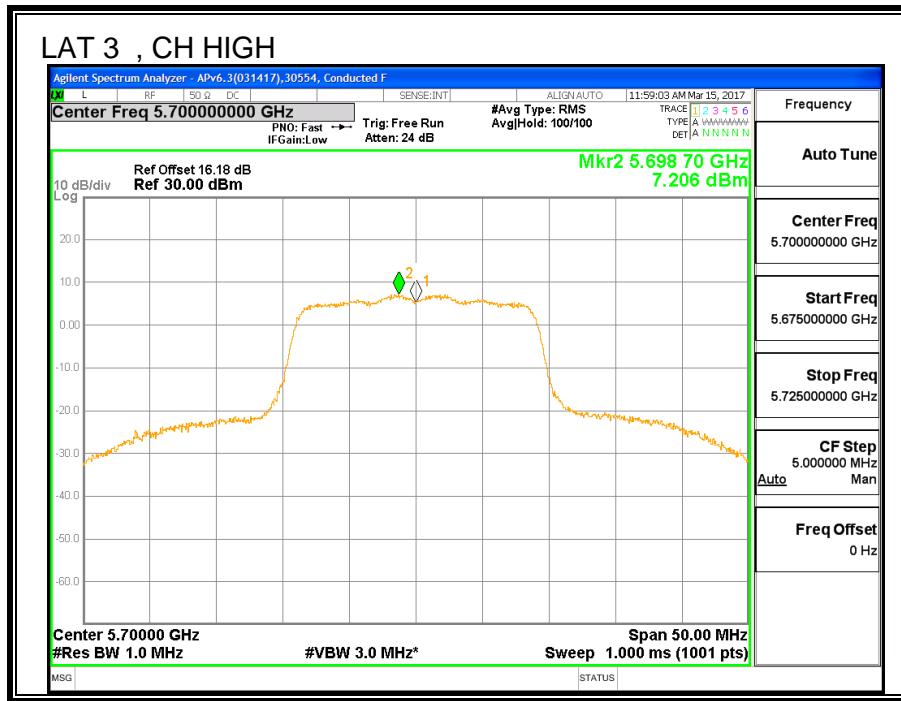
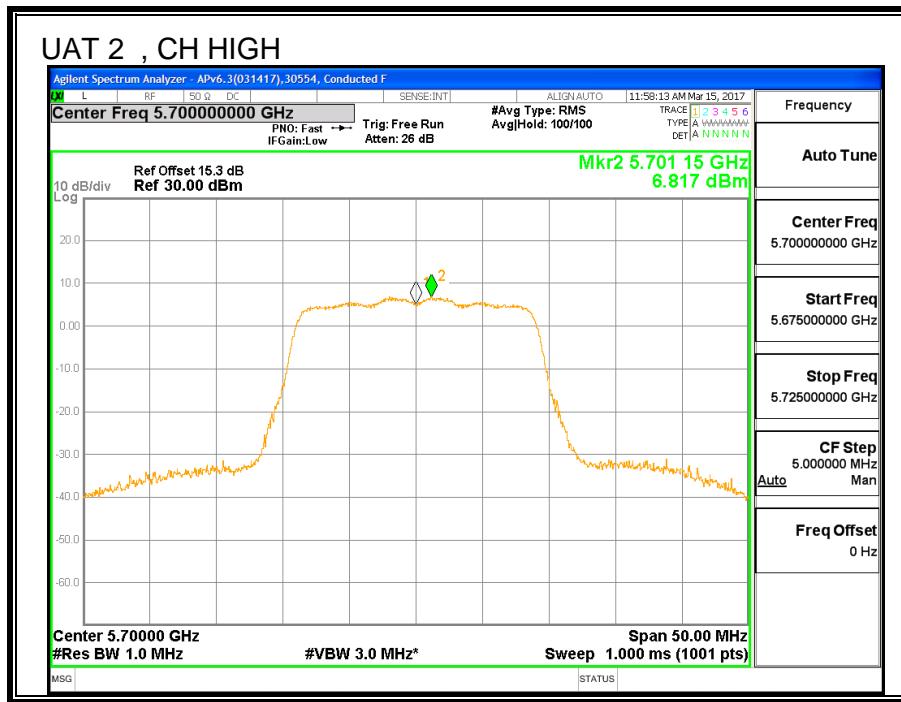
### PSD Results

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 1	5500	7.011	7.251	10.14	11.00	-0.86
Low 2	5520	7.403	8.158	10.81	11.00	-0.19
Mid	5580	7.294	7.355	10.33	11.00	-0.67
High 1	5680	7.634	7.985	10.82	11.00	-0.18
High 2	5700	6.817	7.206	10.03	11.00	-0.97









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

### 8.24.1. OUTPUT POWER AND PSD

#### 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	15.83	-0.85	2.16	22.99	11.00

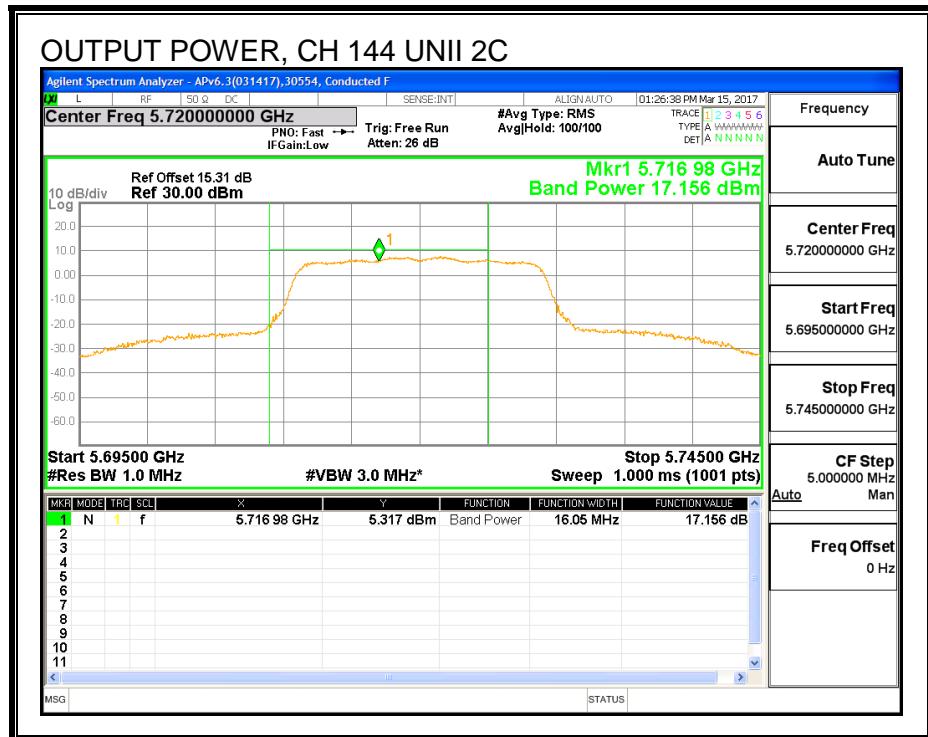
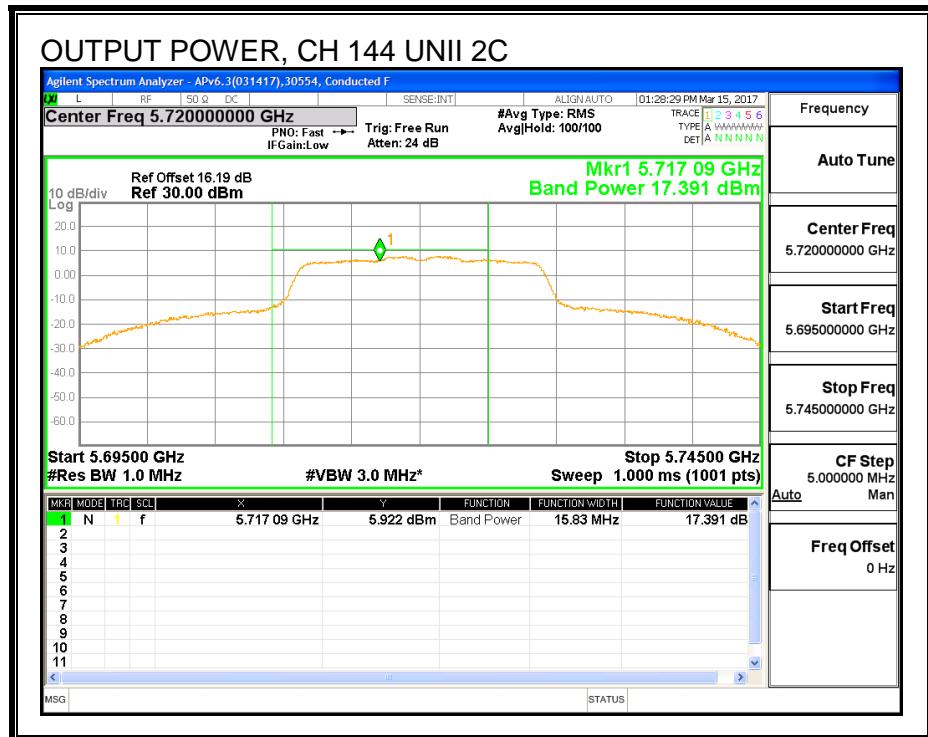
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD
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##### Output Power Results

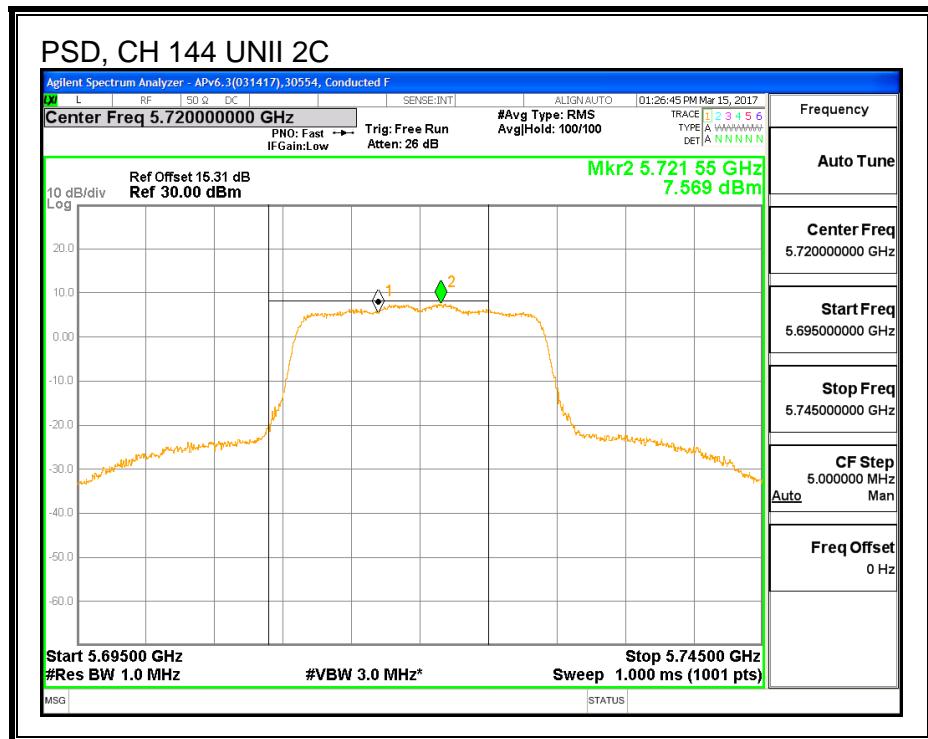
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	17.16	17.39	20.29	22.99	-2.71

##### PSD Results

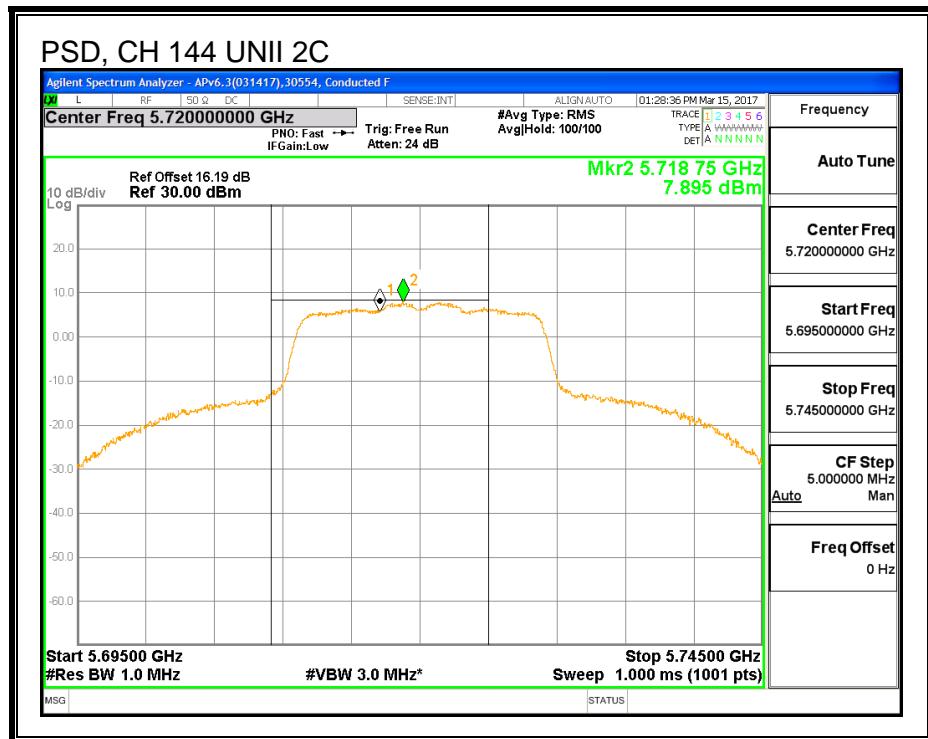
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	7.57	7.90	10.75	11.00	-0.25

**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	5.83	-0.05	2.92	30.00	30.00

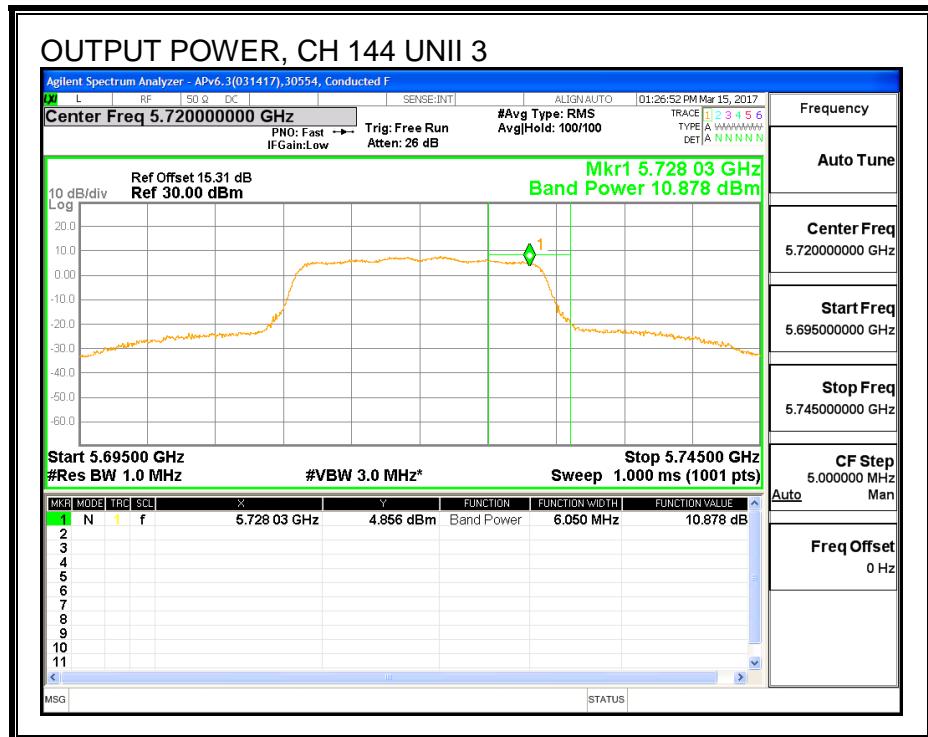
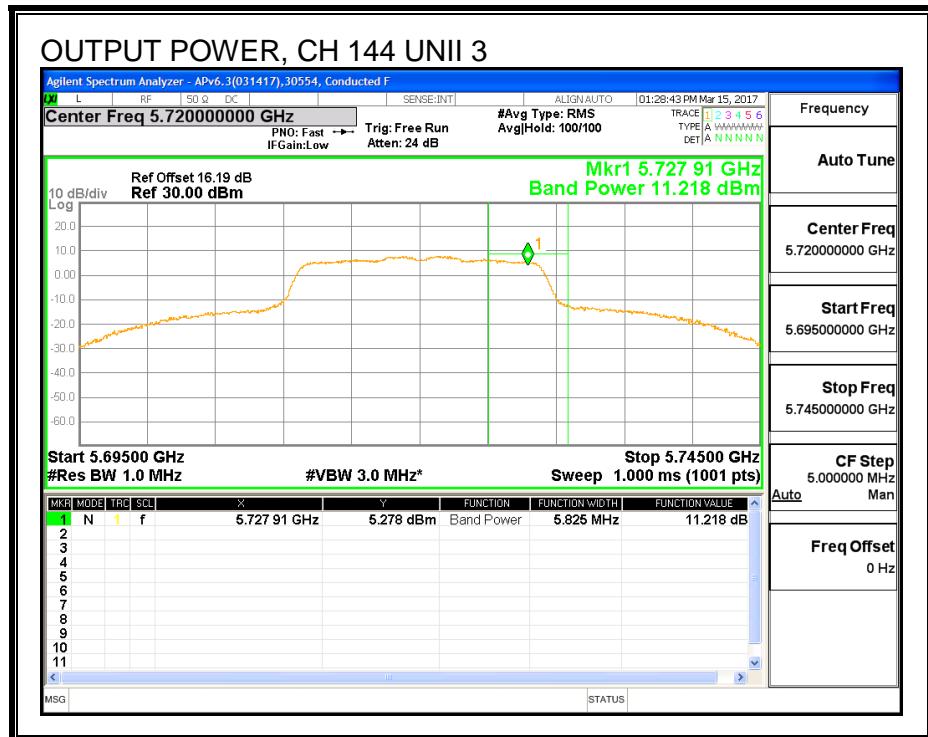
<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd Power &amp; PSD</b>
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**Output Power Results**

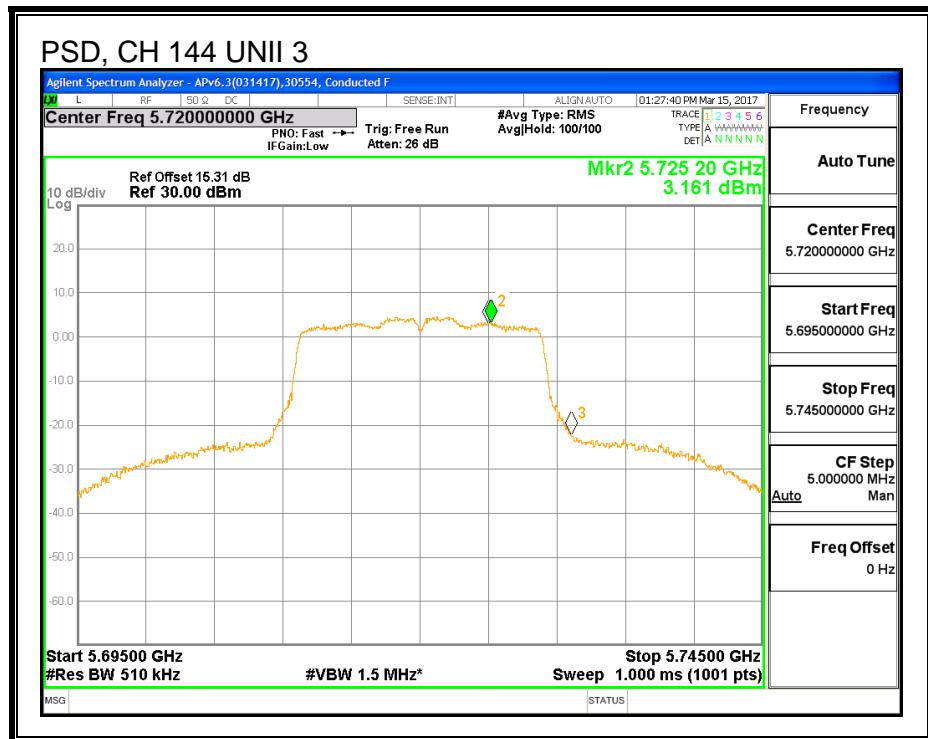
Channel	Frequency (MHz)	UAT 2 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	10.88	11.22	14.06	30.00	-15.94

**PSD Results**

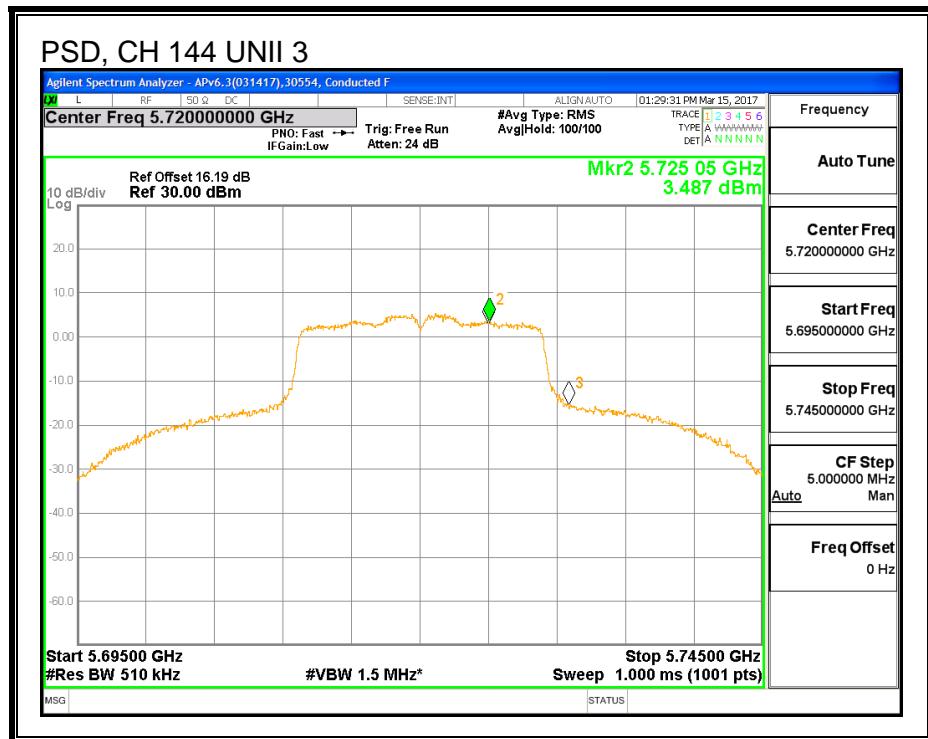
Channel	Frequency (MHz)	UAT 2 Meas PSD (dBm)	LAT 3 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	3.16	3.49	6.34	30.00	-23.66

**OUTPUT POWER, UAT 2****OUTPUT POWER, LAT 3**

**PSD, UAT 2**



**PSD, LAT 3**



## 8.24.2. 6 dB BANDWIDTH

### LIMITS

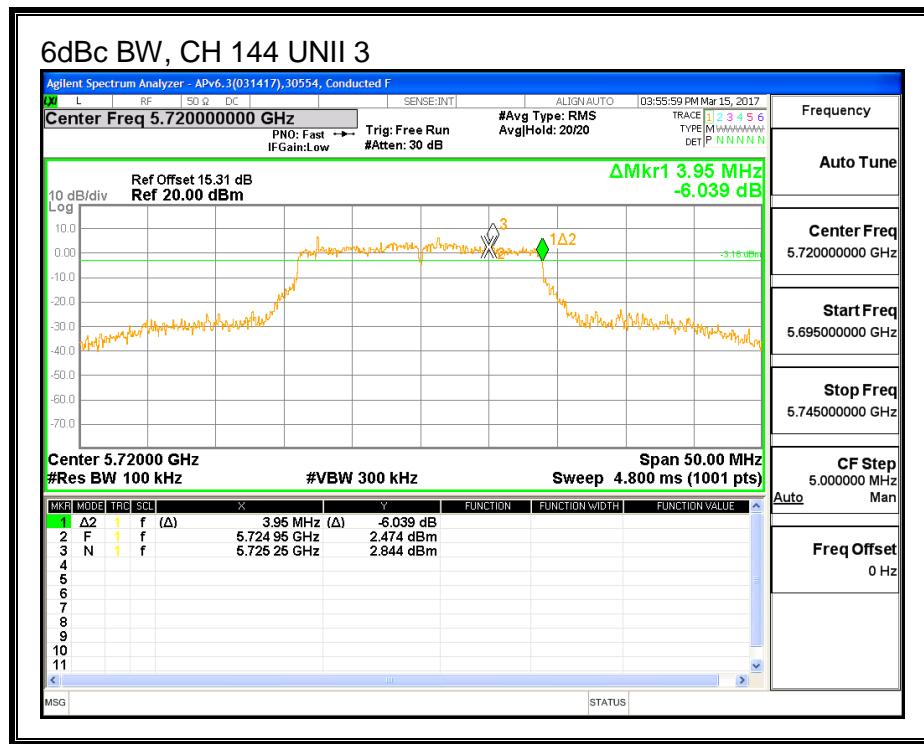
FCC §15.407 (e)

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

### RESULTS

Channel	Frequency (MHz)	6dB BW UAT 2 (MHz)	6dB BW LAT 3 (MHz)
High	5720	3.95	3.95

**UAT 2**



LAT 3

