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**8.10. 802.11n HT40 2TX CDD MODE IN THE 5.3 GHz BAND**

**8.10.1. 26 dB BANDWIDTH**

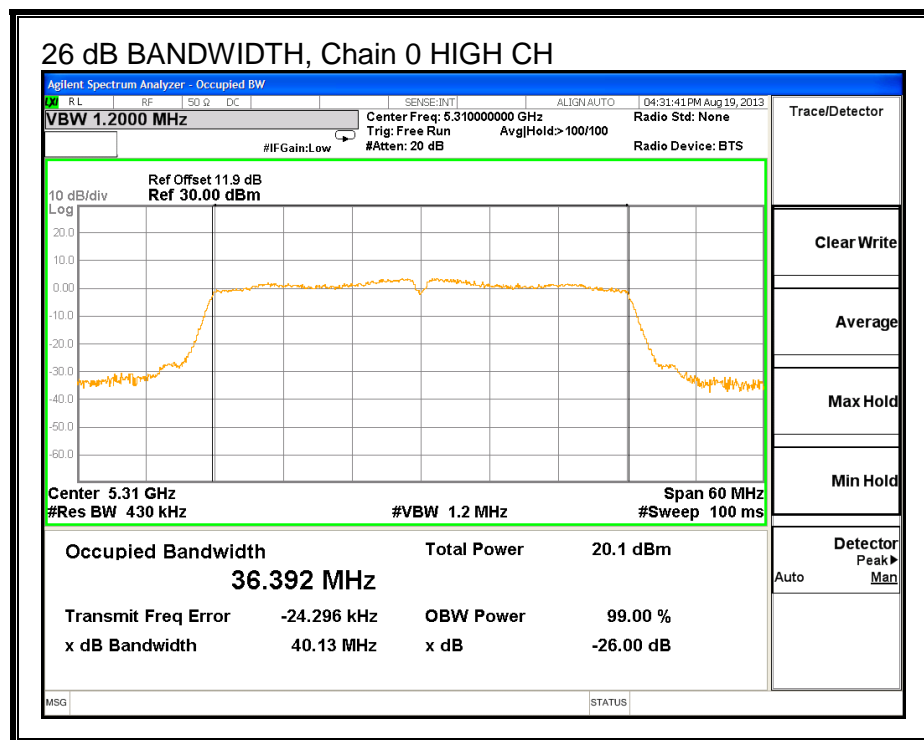
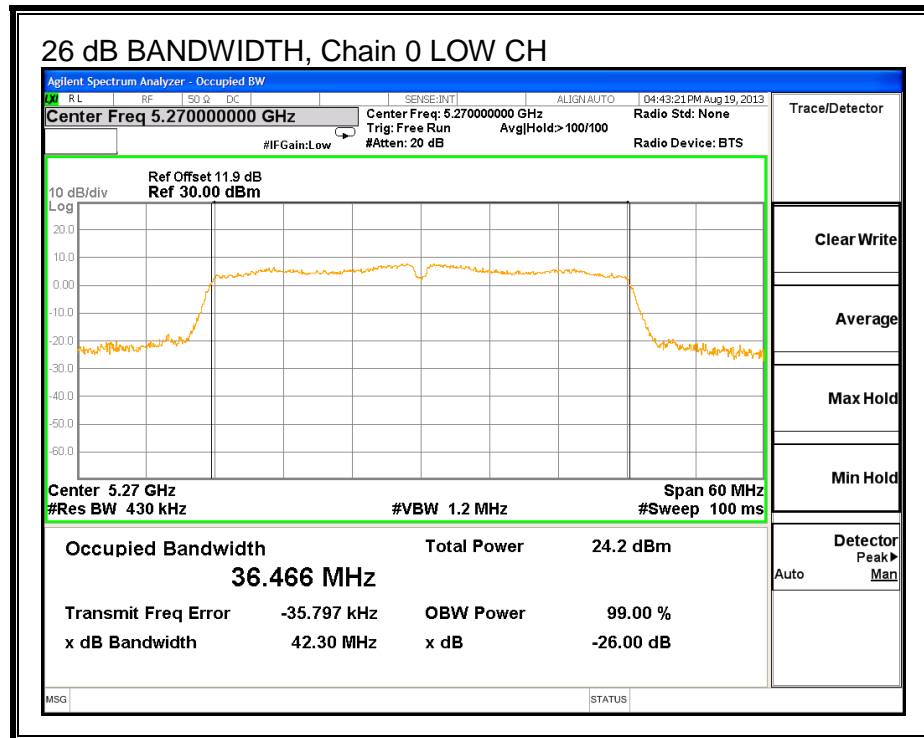
**LIMITS**

None; for reporting purposes only.

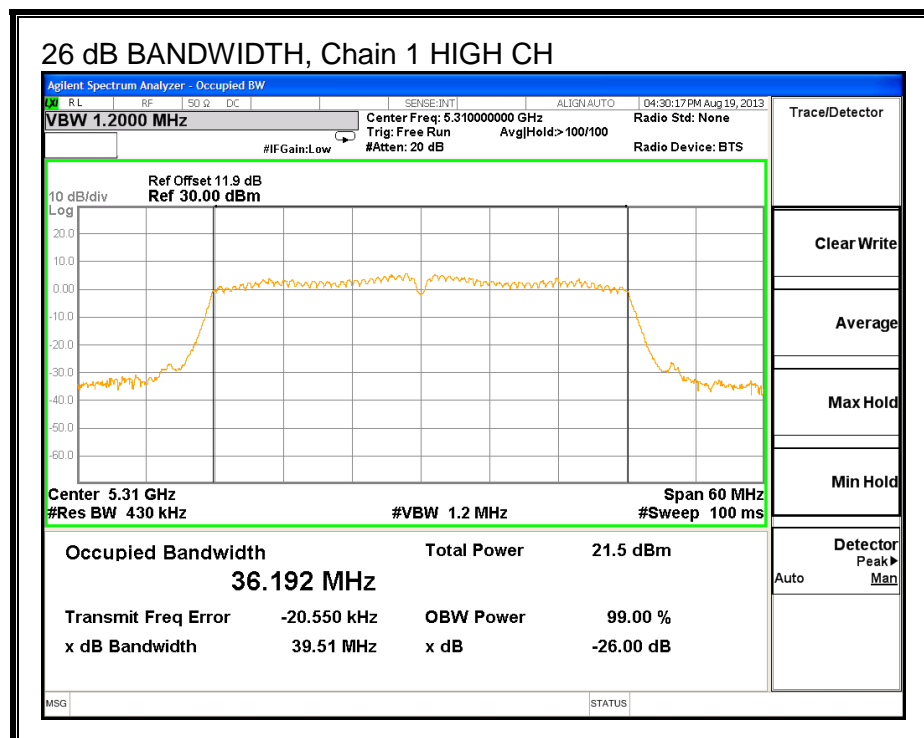
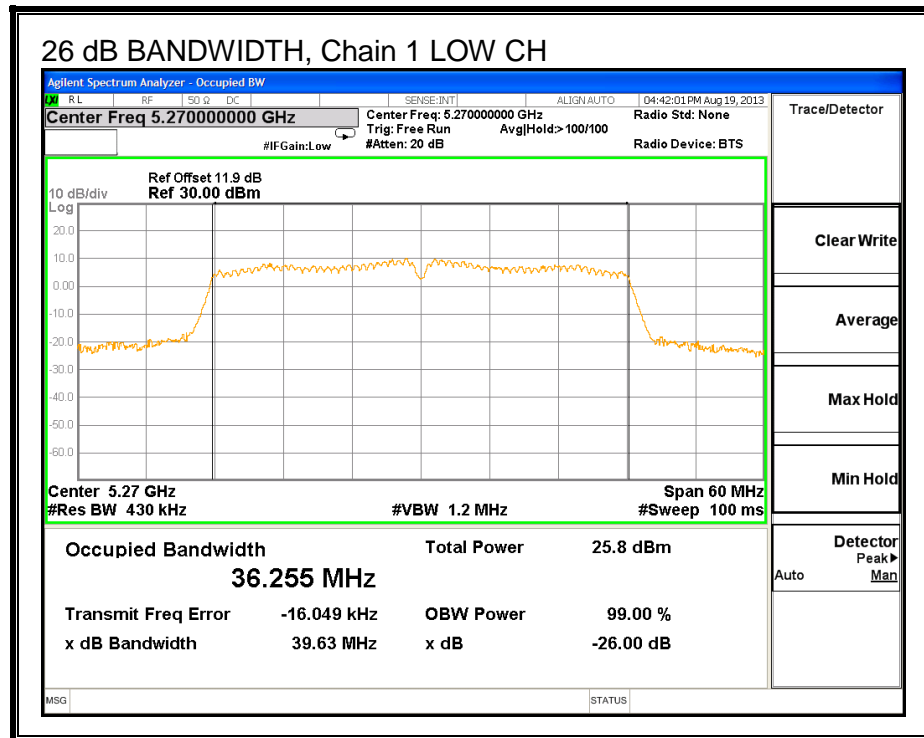
**RESULTS**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	42.30	39.63
High	5310	40.13	39.51

**26 dB BANDWIDTH, Chain 0**



**26 dB BANDWIDTH, Chain 1**



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### 8.10.2. 99% BANDWIDTH

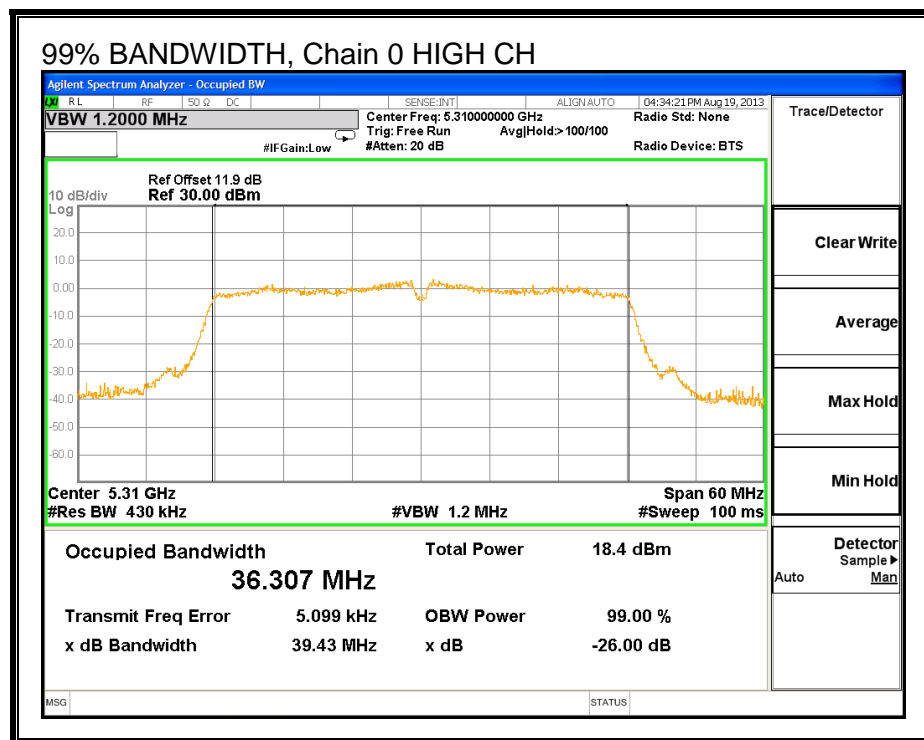
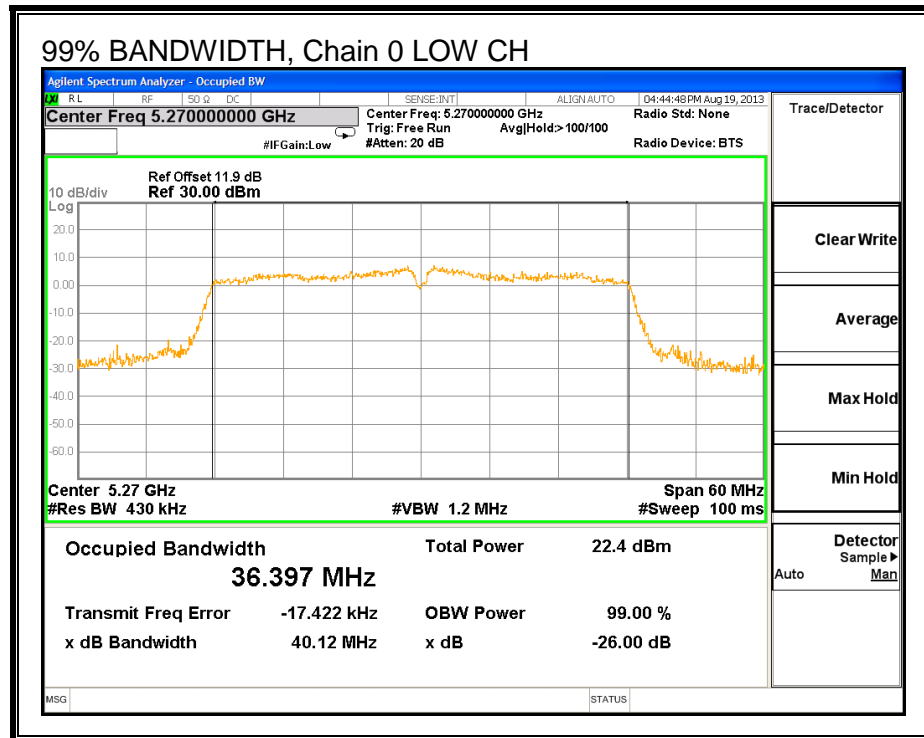
#### LIMITS

None; for reporting purposes only.

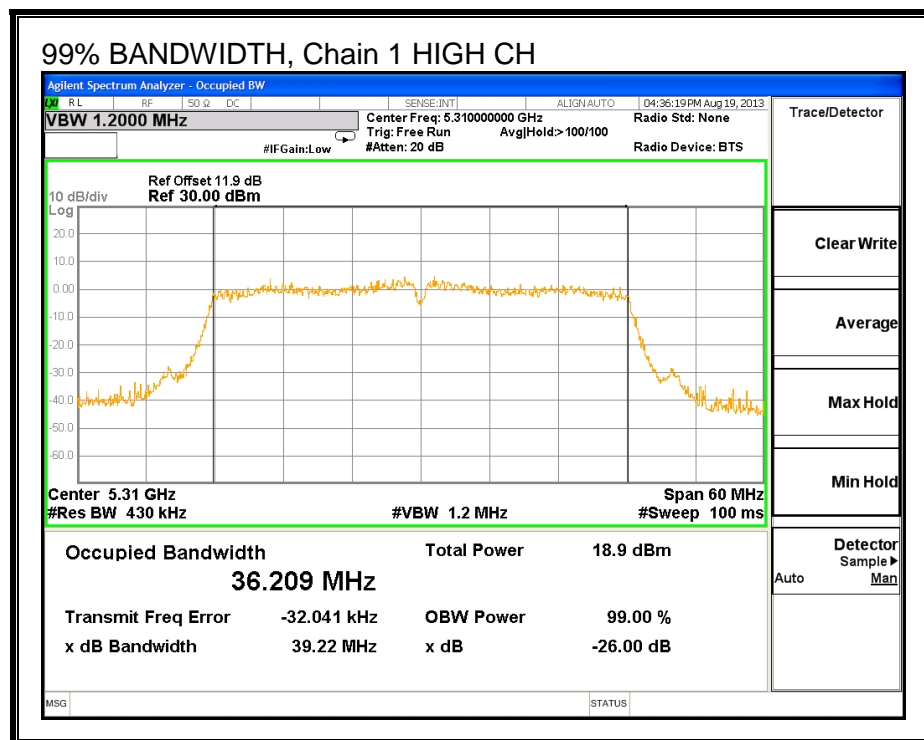
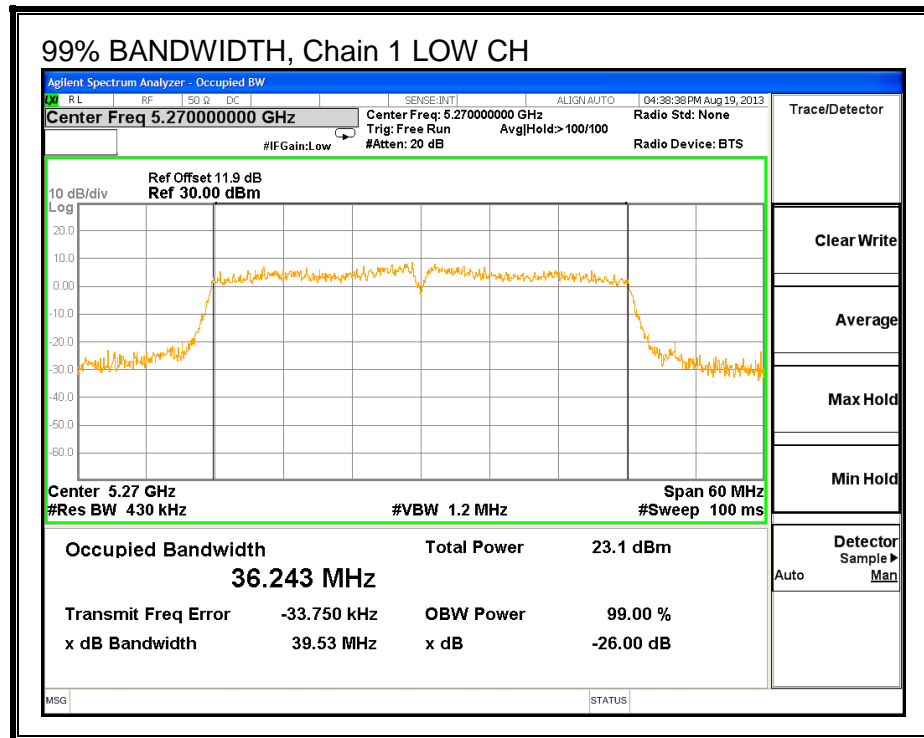
#### RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.40	36.24
High	5310	36.31	36.21

**99% BANDWIDTH, Chain 0**



**99% BANDWIDTH, Chain 1**



### 8.10.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.9 dB (including 10 dB pad and 1.9 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

##### Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5270	16.48	16.50	19.50
High	5310	12.45	12.50	15.49

#### 8.10.4. 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.

##### DIRECTIONAL ANTENNA GAIN

For output power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
2.60	2.11	2.36

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
2.60	2.11	5.37



## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Uncorre Directional Gain (dBi)	Correlated Directional Gain (dBi)
Low	5270	39.6	2.36	5.37
High	5310	39.5	2.36	5.37

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Low	5270	24.00	11.00
High	5310	24.00	11.00

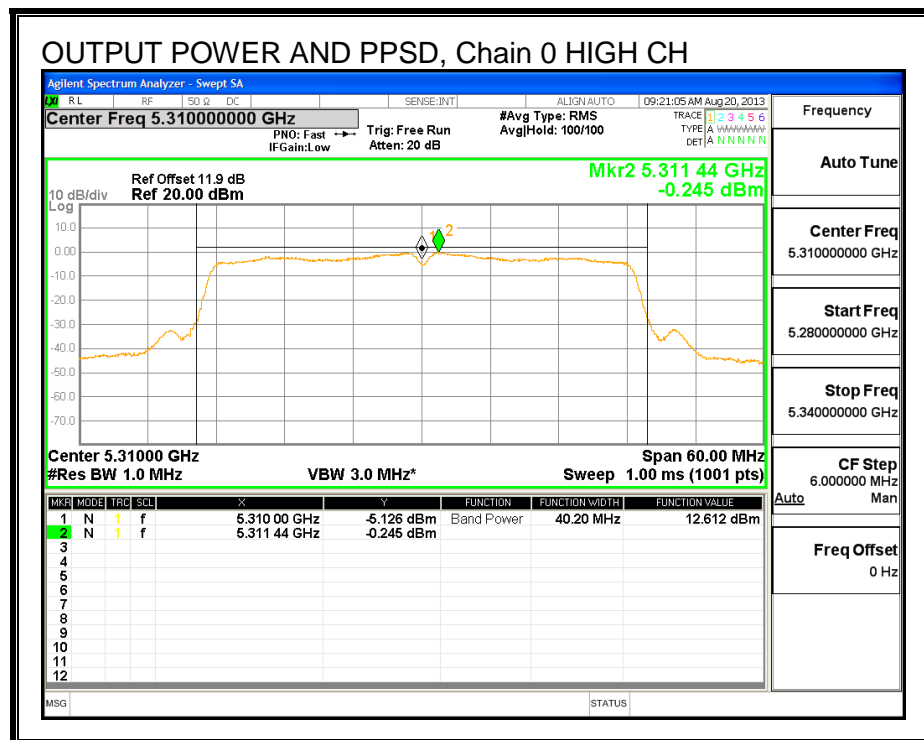
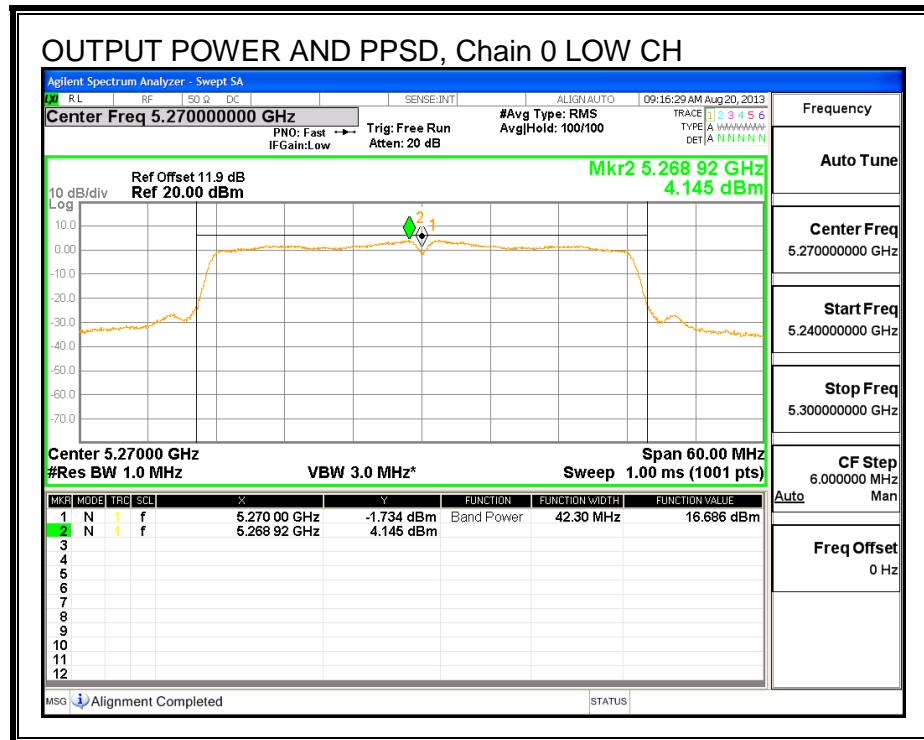
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSP
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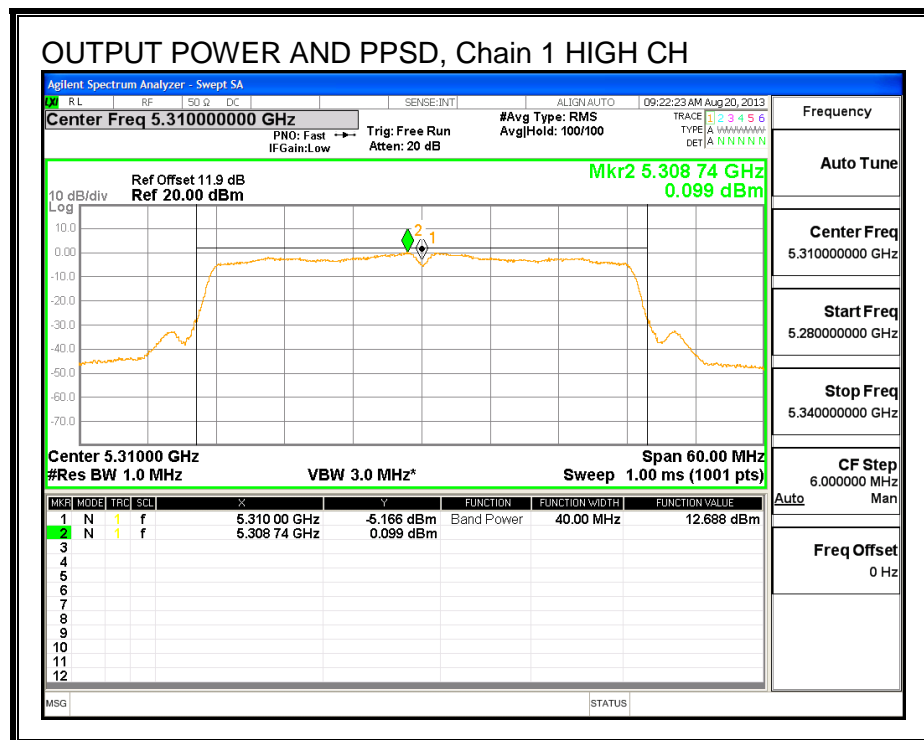
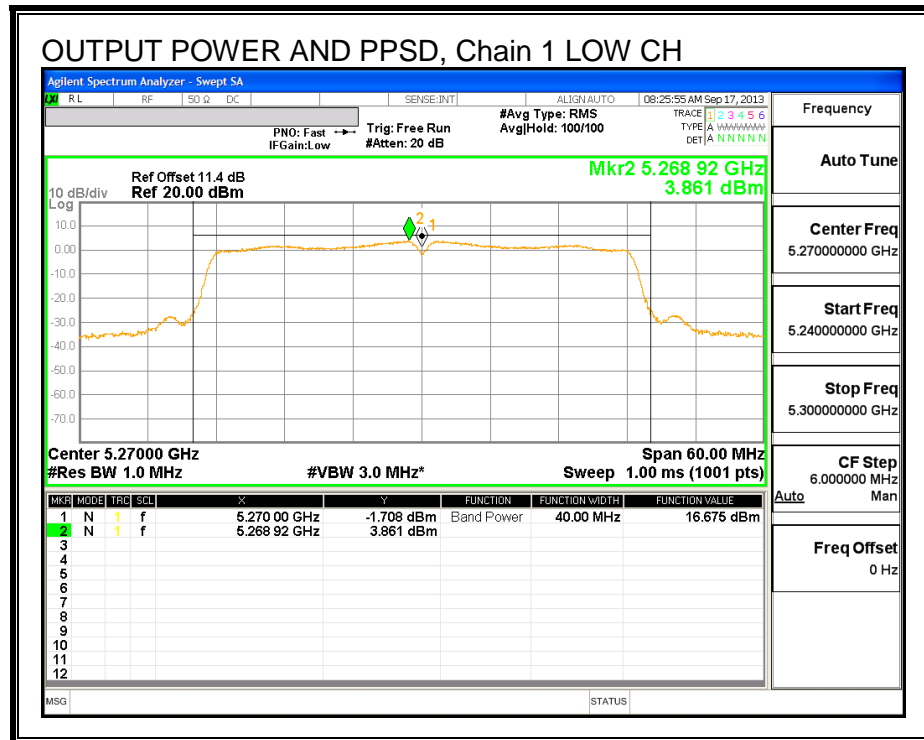
### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	16.69	16.68	19.69	24.00	-4.31
High	5310	12.61	12.69	15.66	24.00	-8.34

### PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5270	4.15	3.86	7.02	11.00	-3.98
High	5310	-0.25	0.10	2.94	11.00	-8.06

**OUTPUT POWER AND PPSD, Chain 0**

**OUTPUT POWER AND PPSP, Chain 1**

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## **8.11. 802.11a SISO MODE IN THE 5.6 GHz BAND**

### **8.11.1. 26 dB BANDWIDTH**

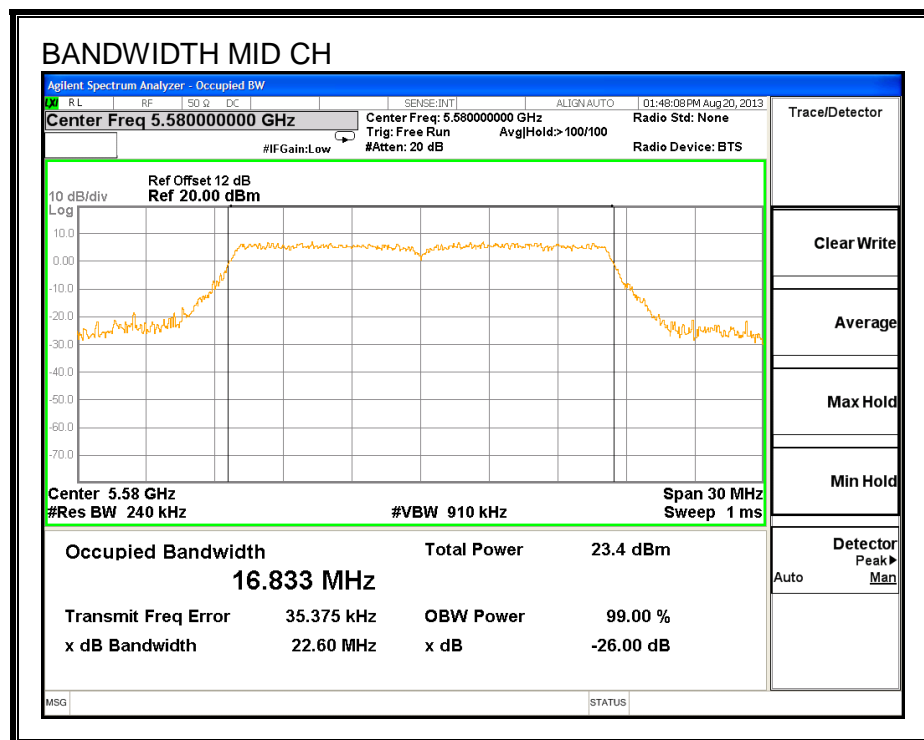
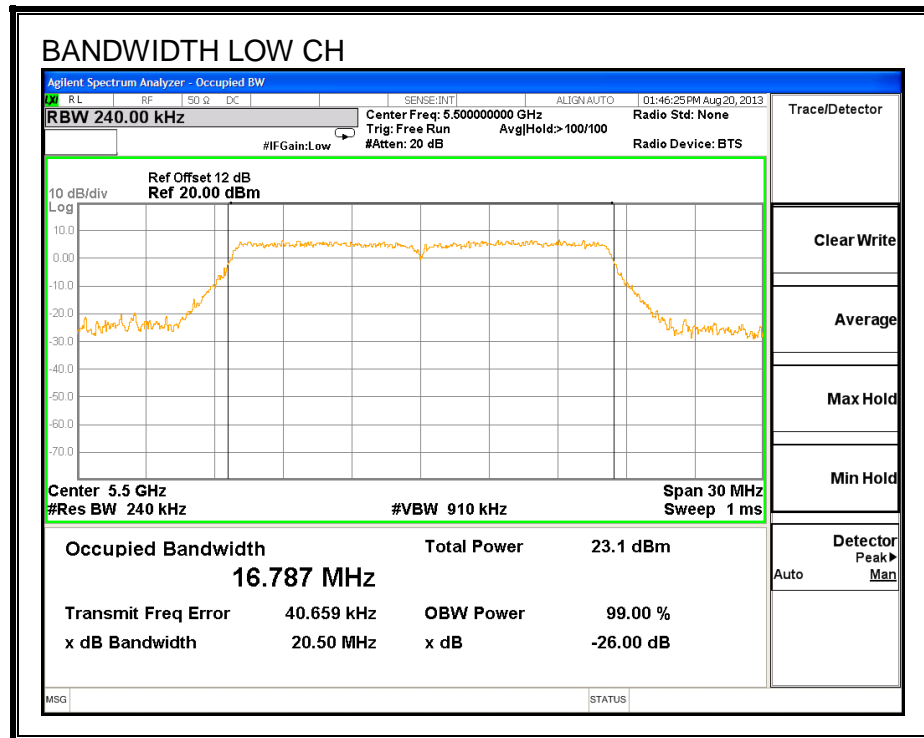
#### **LIMITS**

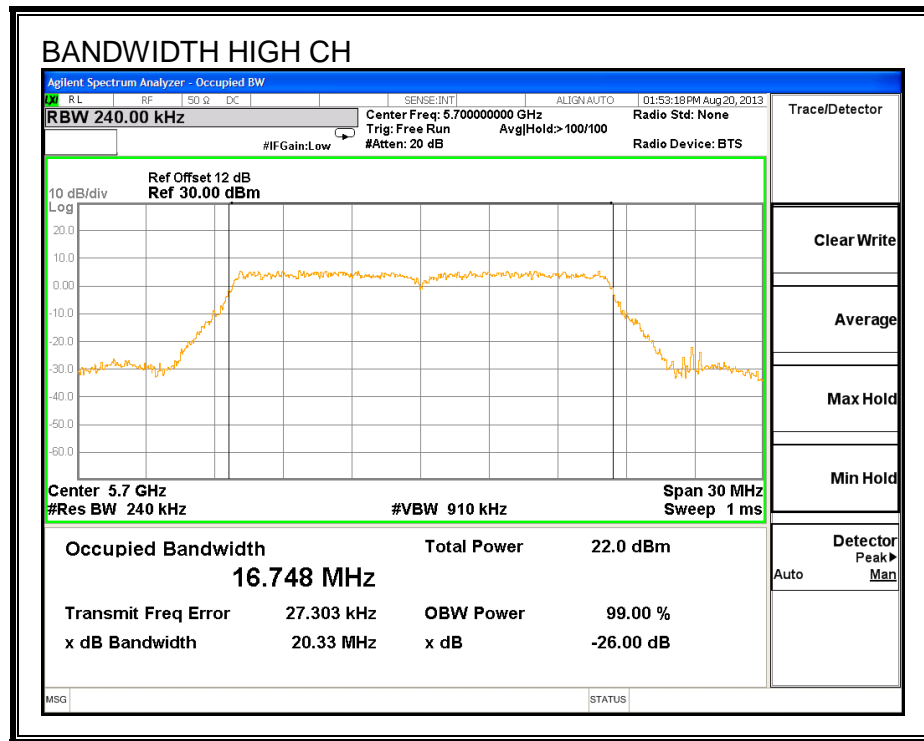
None; for reporting purposes only.

#### **RESULTS**

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5500	20.50
Mid	5580	22.60
High	5700	20.33

**26 dB BANDWIDTH**





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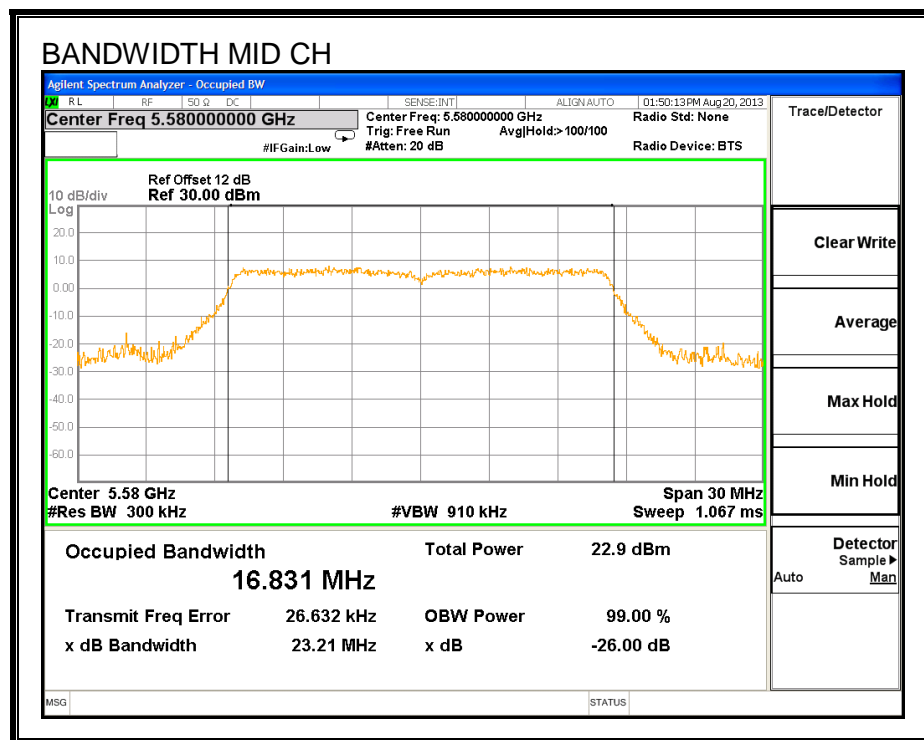
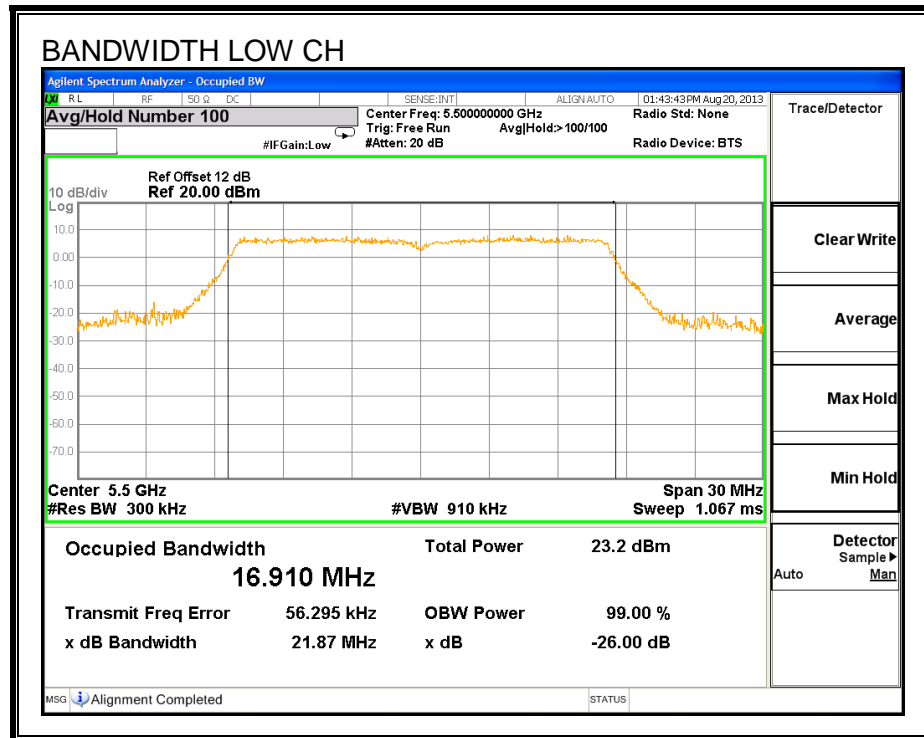
### 8.11.2. 99% BANDWIDTH

#### **LIMITS**

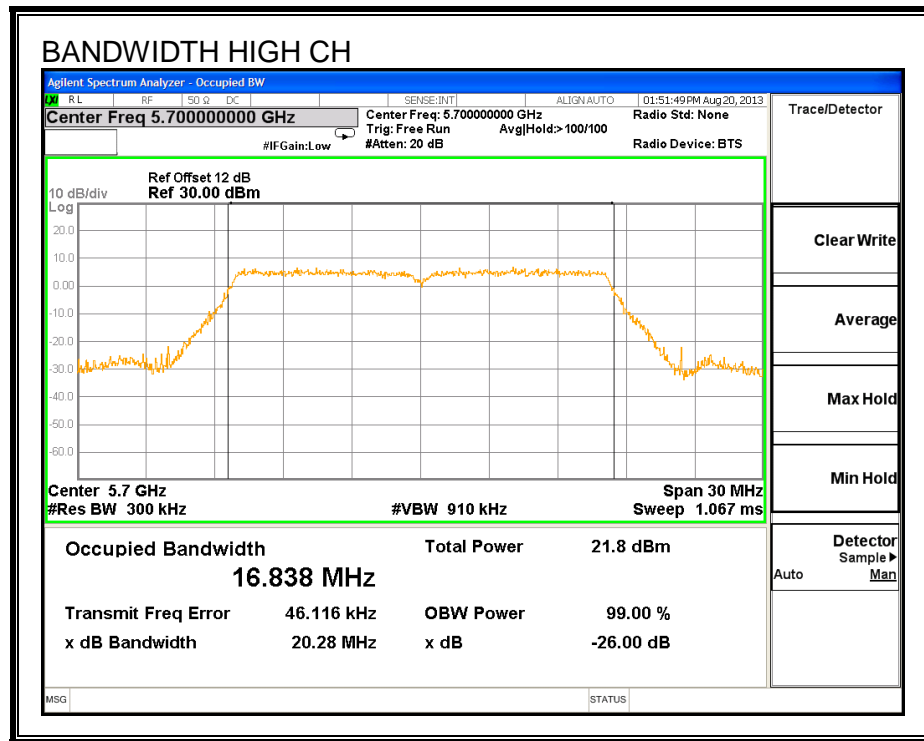
None; for reporting purposes only.

#### **RESULTS**

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5500	16.91
Mid	5580	16.83
High	5700	16.84

**99% BANDWIDTH**





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### 8.11.3. AVERAGE POWER

#### **LIMITS**

None; for reporting purposes only.

#### **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 12 dB (including 10 dB pad and 2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### **RESULTS**

Channel	Frequency (MHz)	Power (dBm)
Low	5500	15.0
Mid	5580	16.5
High	5700	14.5

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#### **8.11.4. 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  $11 \text{ dBm} + 10 \log B$ , 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.

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

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

## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directio Gain (dBi)
Low	5500	20.5	3.66
Mid	5580	22.6	3.66
High	5700	20.3	3.66

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Low	5500	24.00	11.00
Mid	5580	24.00	11.00
High	5700	24.00	11.00

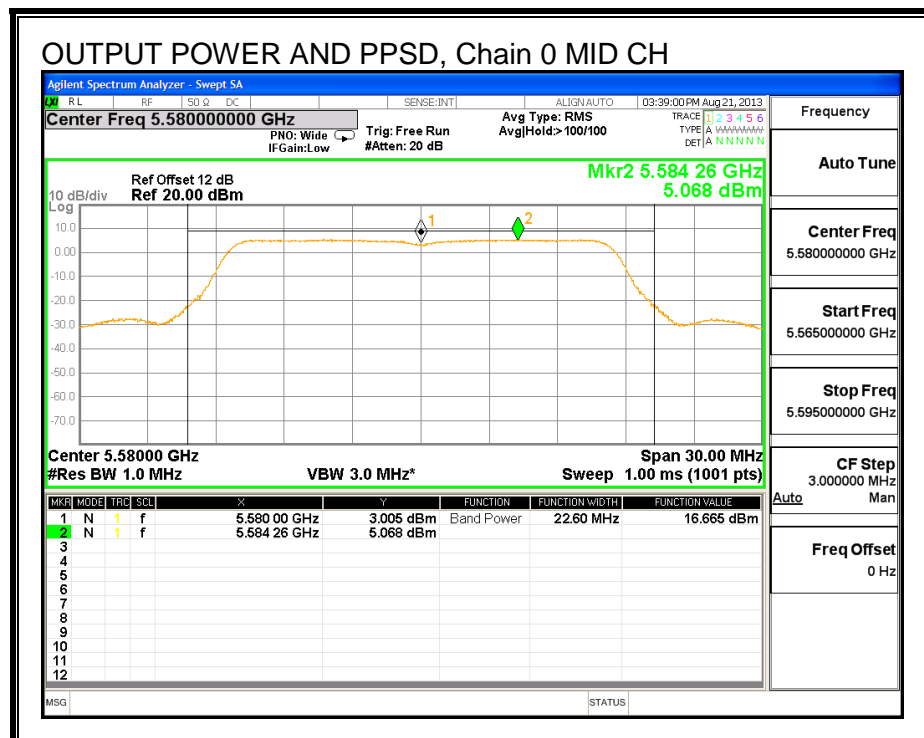
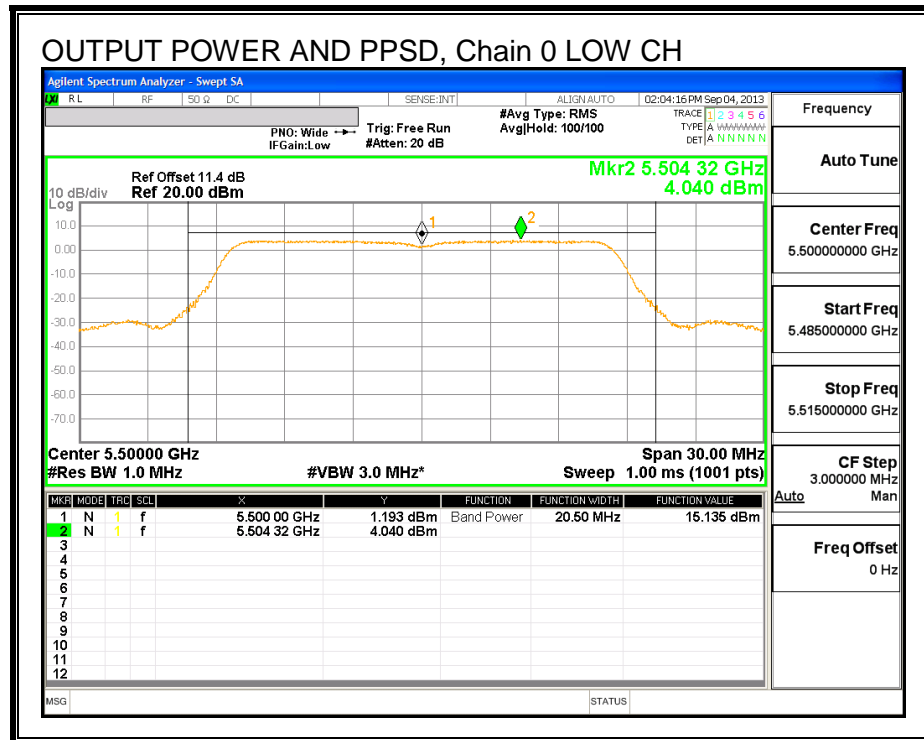
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSP
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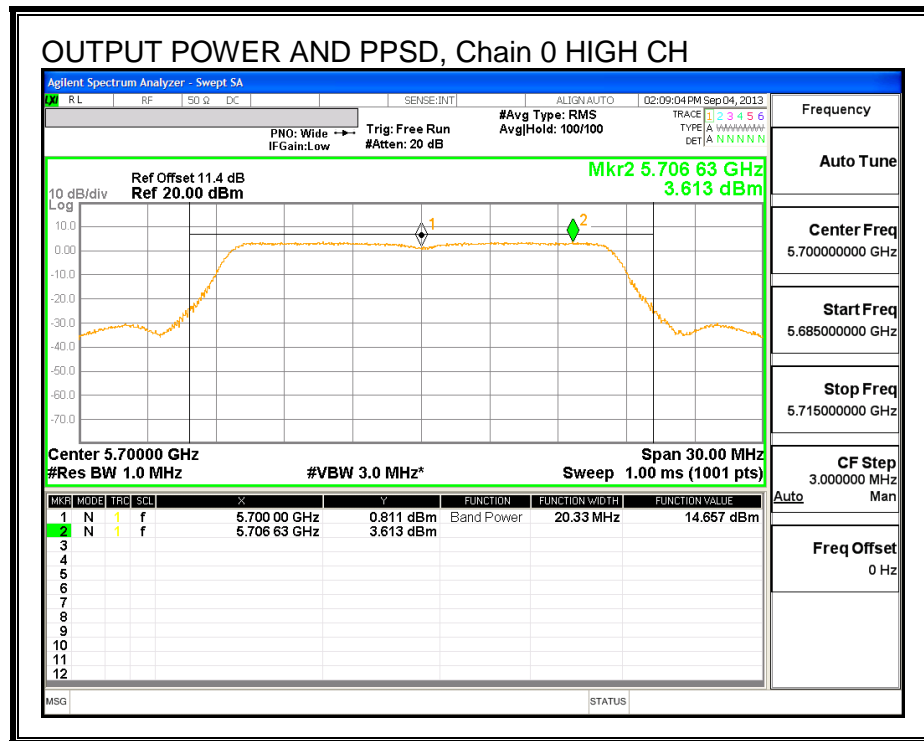
### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	15.14	15.14	24.00	-8.87
Mid	5580	16.67	16.67	24.00	-7.34
High	5700	14.66	14.66	24.00	-9.34

### PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	4.04	4.04	11.00	-6.96
Mid	5580	5.07	5.07	11.00	-5.93
High	5700	3.61	3.61	11.00	-7.39

**OUTPUT POWER AND PPSD, Chain 0**



## 8.12. 802.11n HT20 2TX CDD MODE IN THE 5.6 GHz BAND

### 8.12.1. 26 dB BANDWIDTH

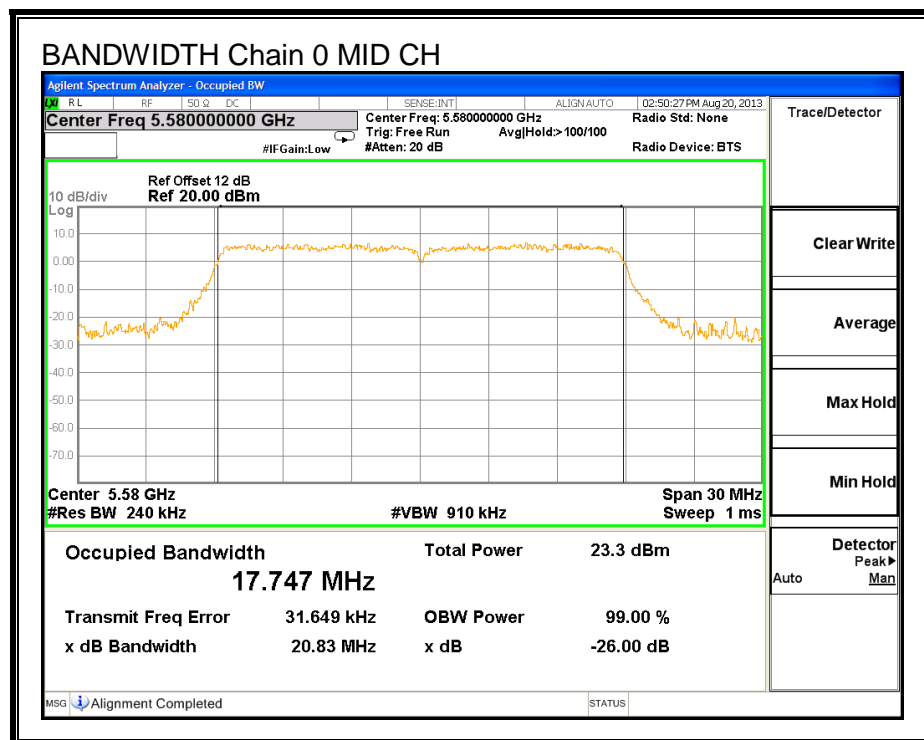
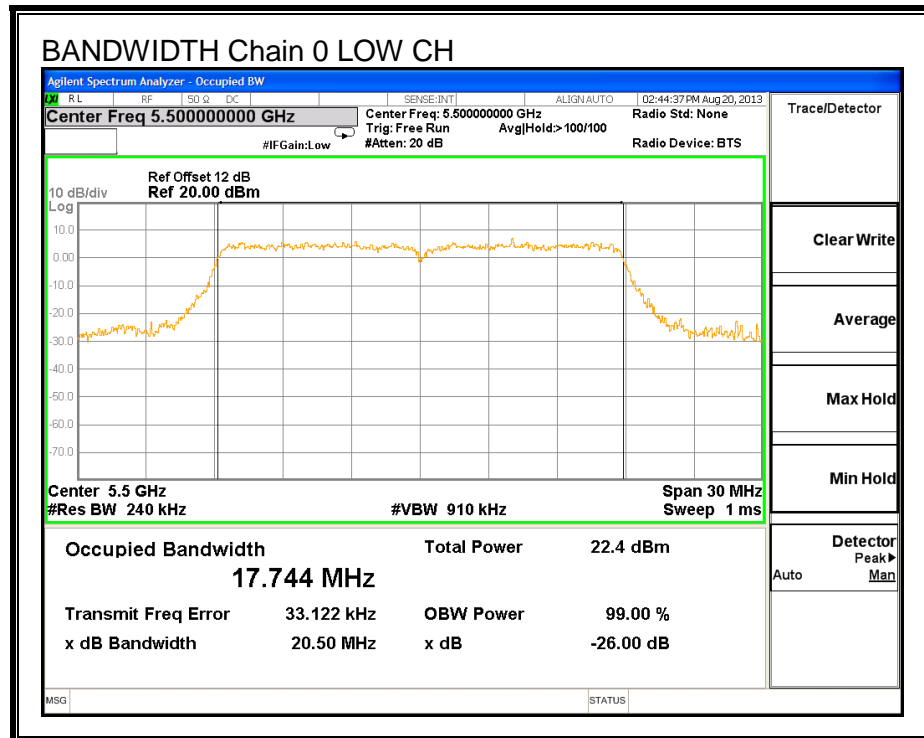
#### LIMITS

None; for reporting purposes only.

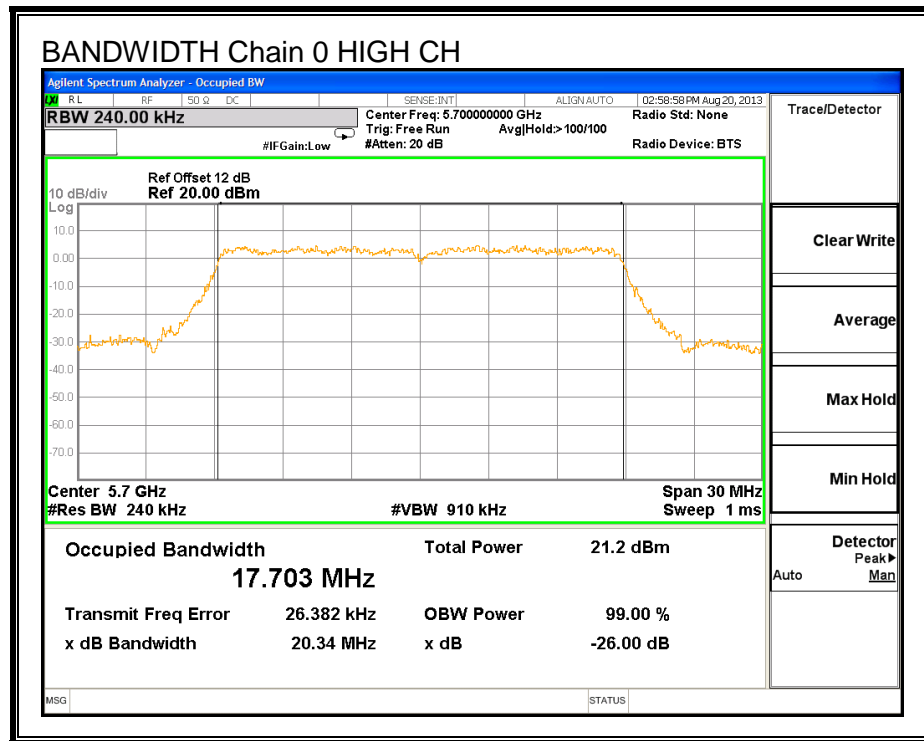
#### RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	20.50	20.59
Mid	5580	20.83	20.38
High	5700	20.34	20.39

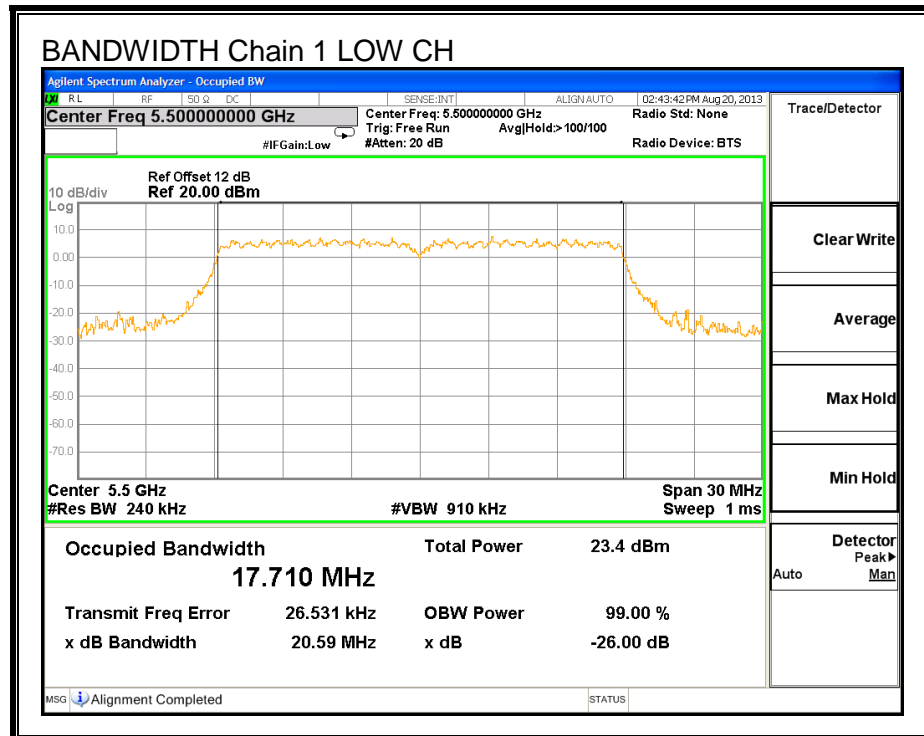
**26 dB BANDWIDTH, Chain 0**

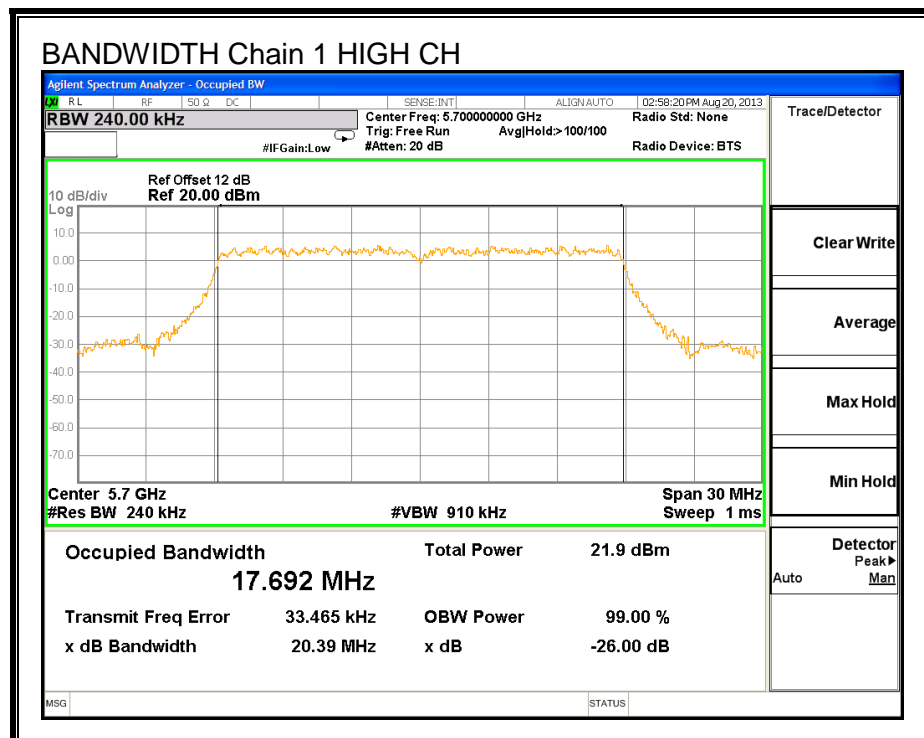
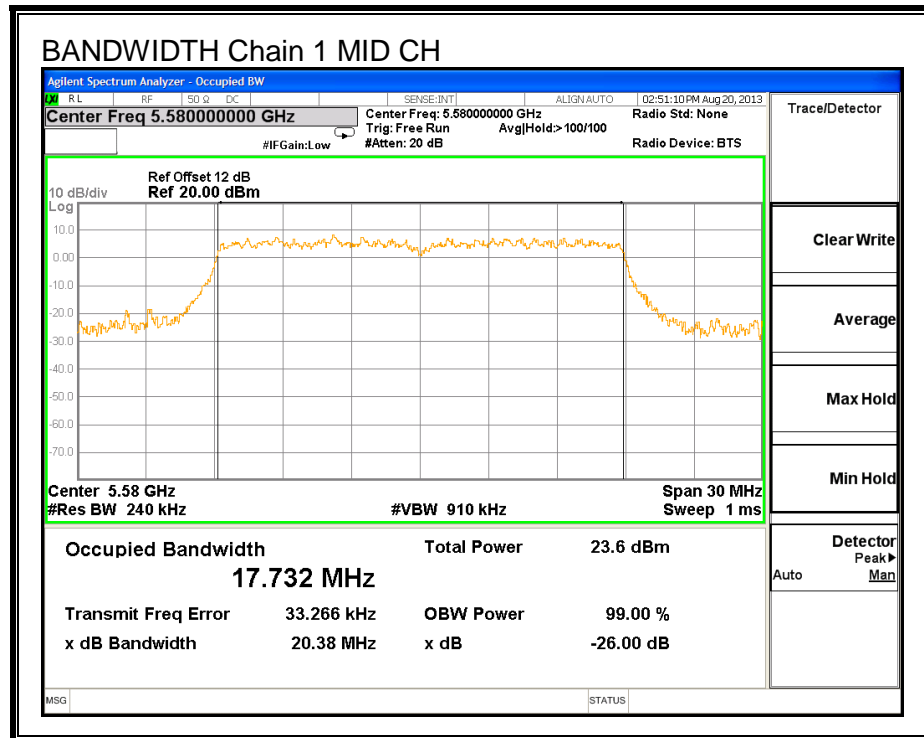






### 26 dB BANDWIDTH, Chain 1





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### 8.12.2. 99% BANDWIDTH

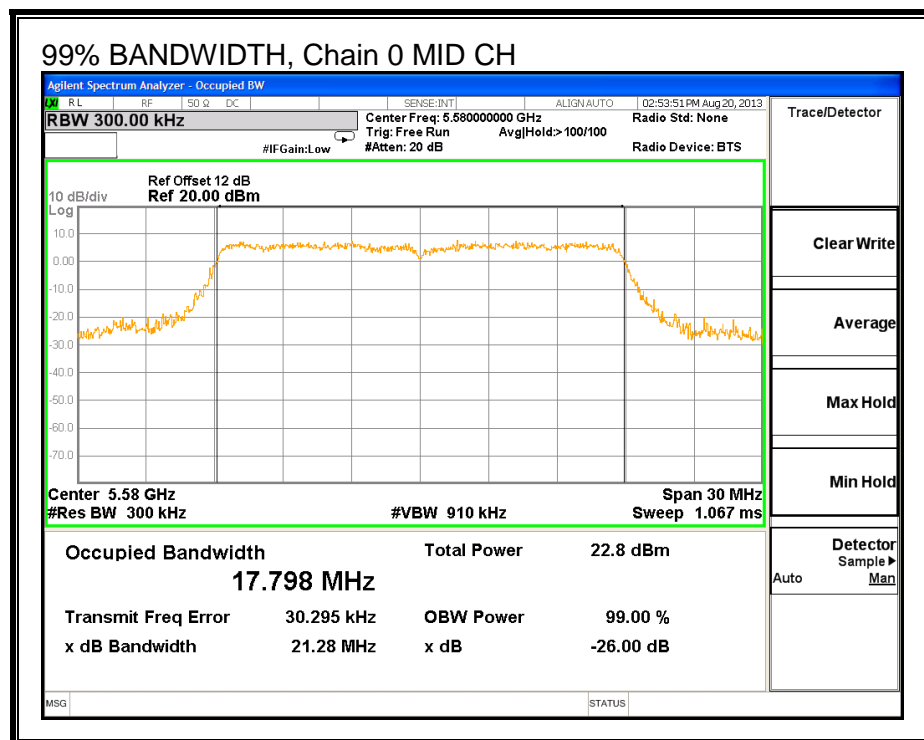
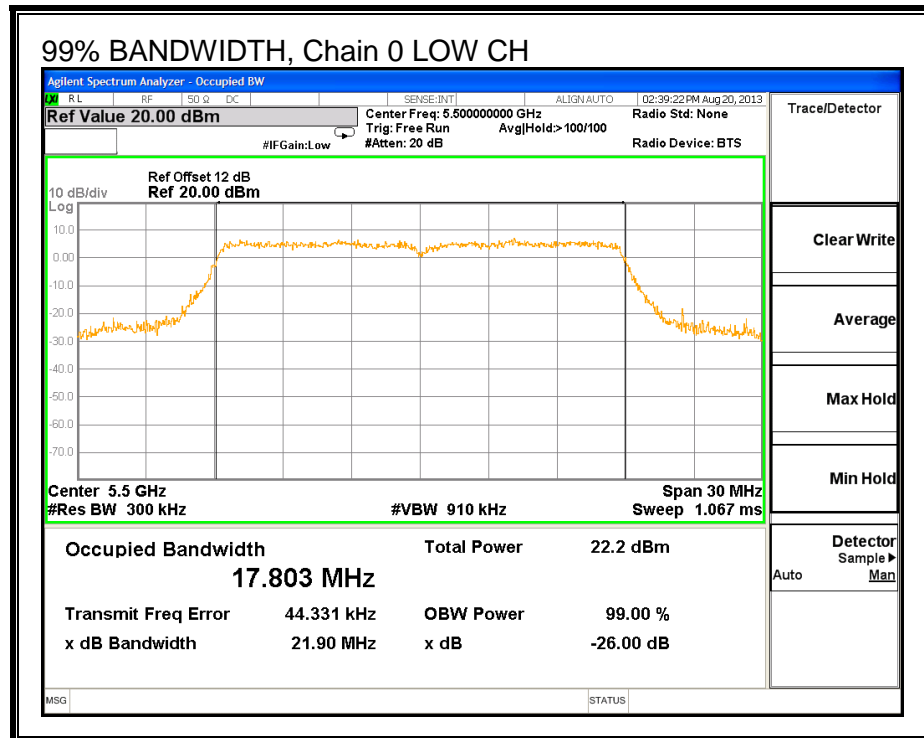
#### LIMITS

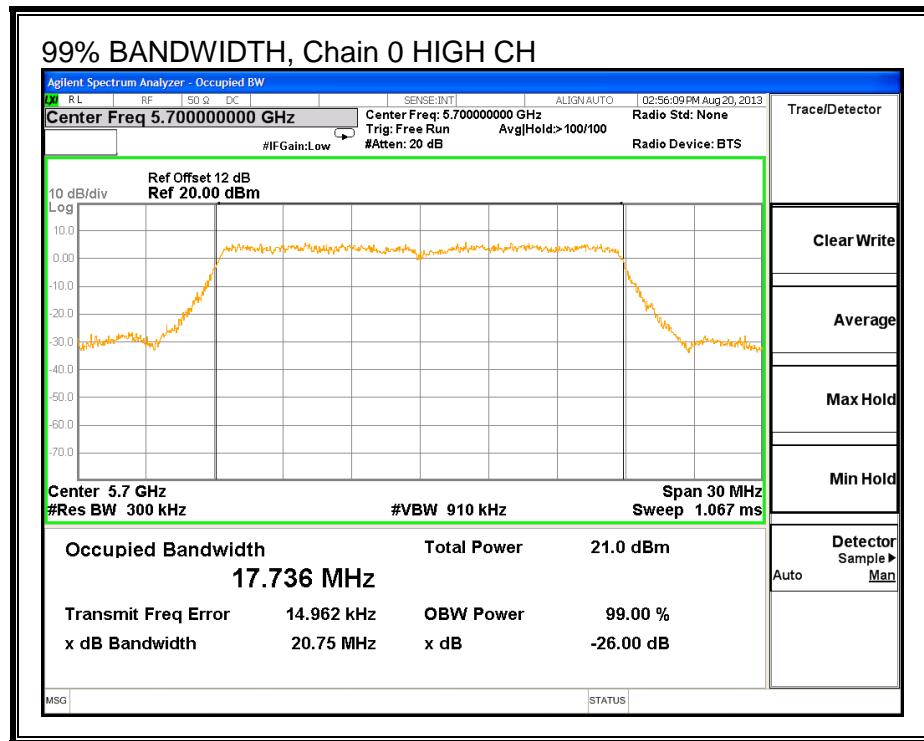
None; for reporting purposes only.

#### RESULTS

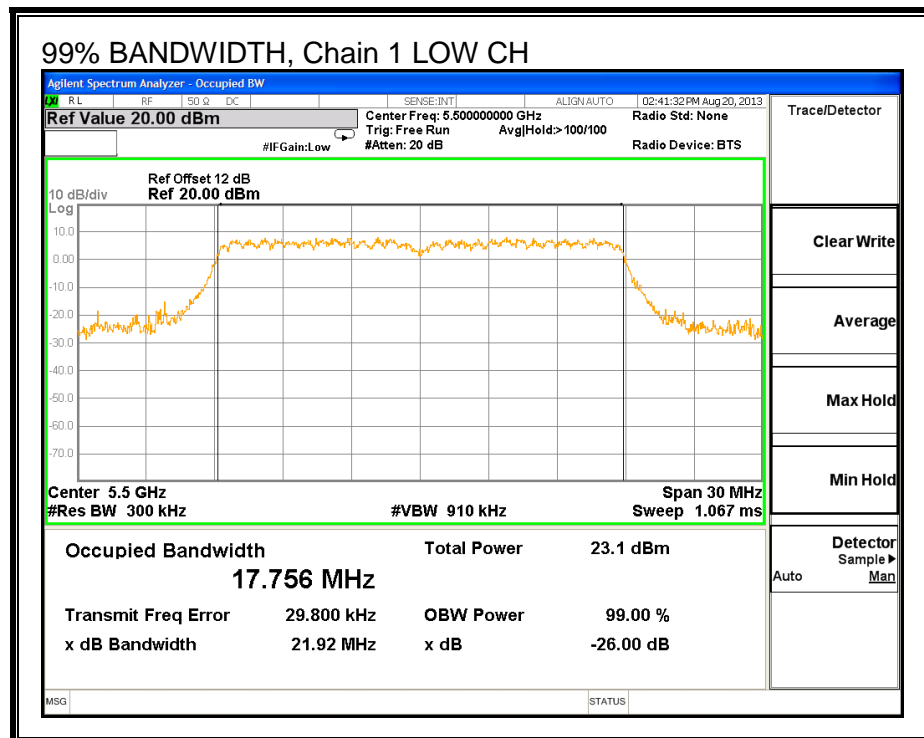
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.80	17.76
Mid	5580	17.80	17.76
High	5700	17.74	17.75

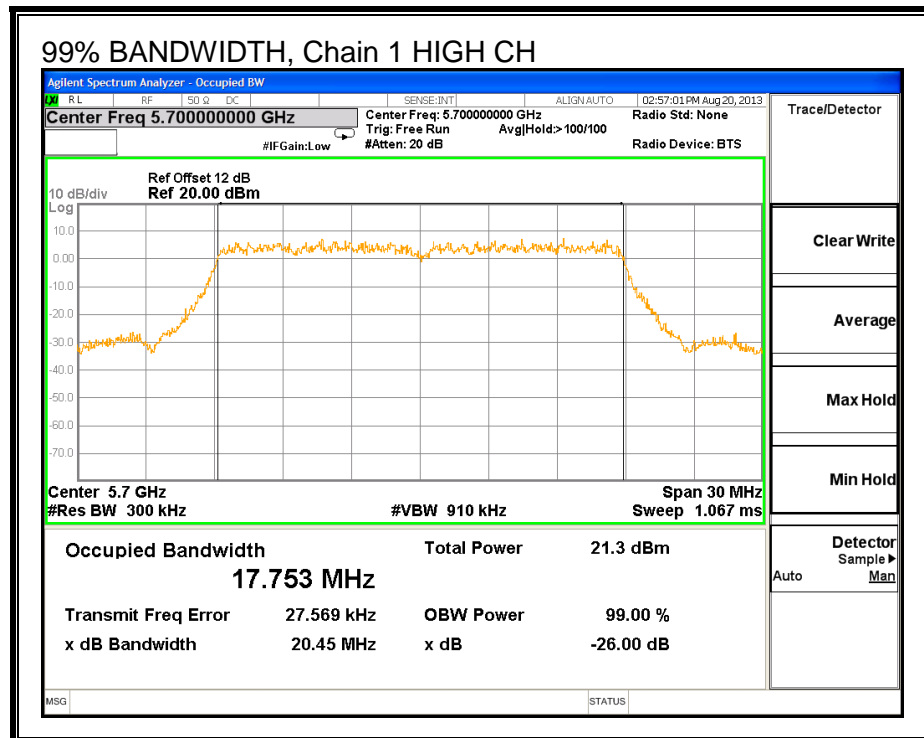
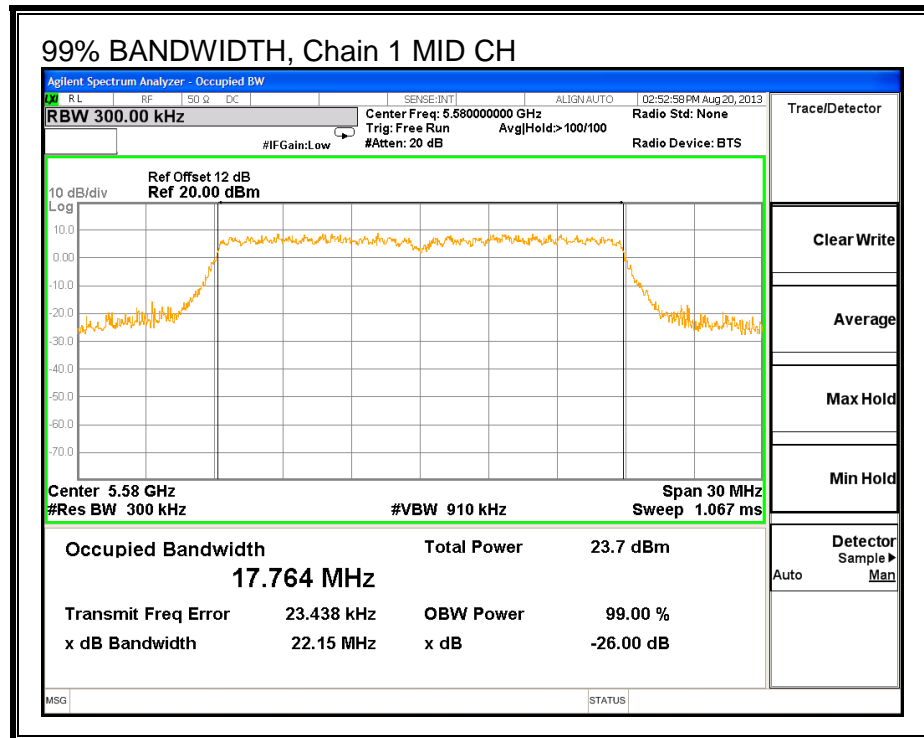
**99% BANDWIDTH, Chain 0**





**99% BANDWIDTH, Chain 1**





### 8.12.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 12 dB (including 10 dB pad and 2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

##### Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5500	14.00	13.88	16.95
Mid	5580	15.84	16.00	18.93
High	5700	13.00	13.00	16.01

## 8.12.4. 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.

### DIRECTIONAL ANTENNA GAIN

For output power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.66	3.99	3.83

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.66	3.99	6.84



## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Uncorre Directio nal Gain (dBi)	Correlated Directional Gain (dBi)
Low	5500	20.5	3.83	6.84
Mid	5580	20.4	3.83	6.84
High	5700	20.3	3.83	6.84

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Low	5500	24.00	10.16
Mid	5580	24.00	10.16
High	5700	24.00	10.16

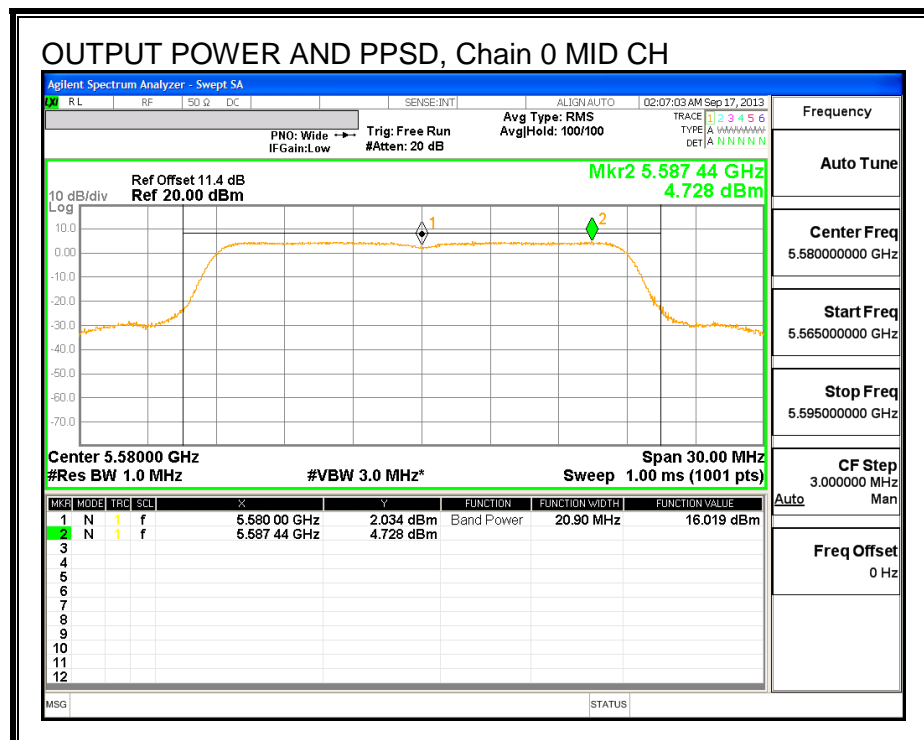
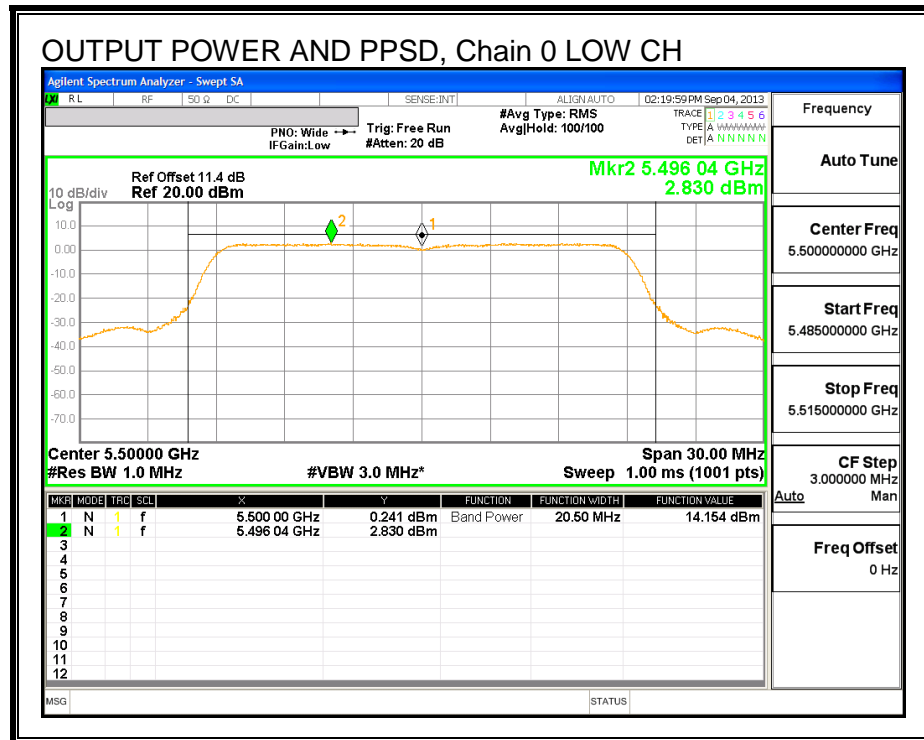
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSP
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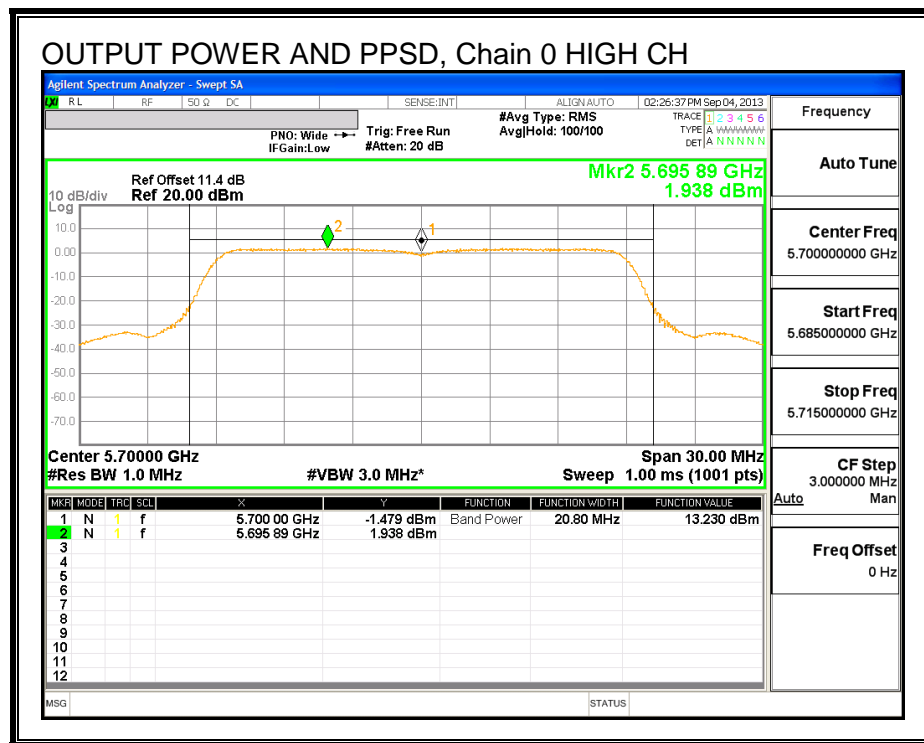
### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.15	13.92	17.05	24.00	-6.95
Mid	5580	16.02	16.24	19.14	24.00	-4.86
High	5700	13.23	13.20	16.23	24.00	-7.77

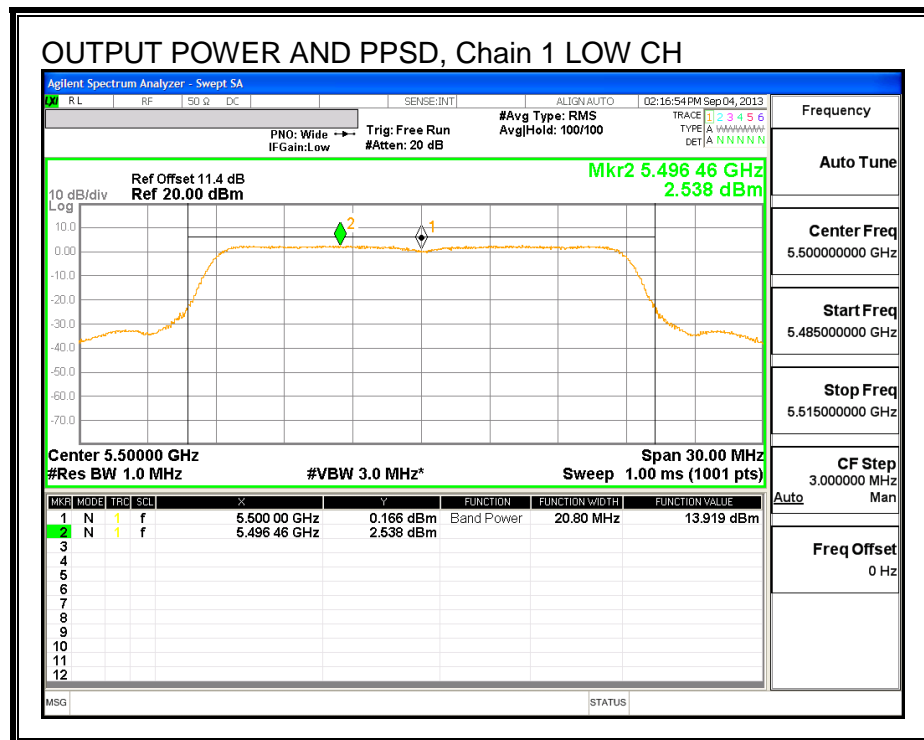
### PPSD Results

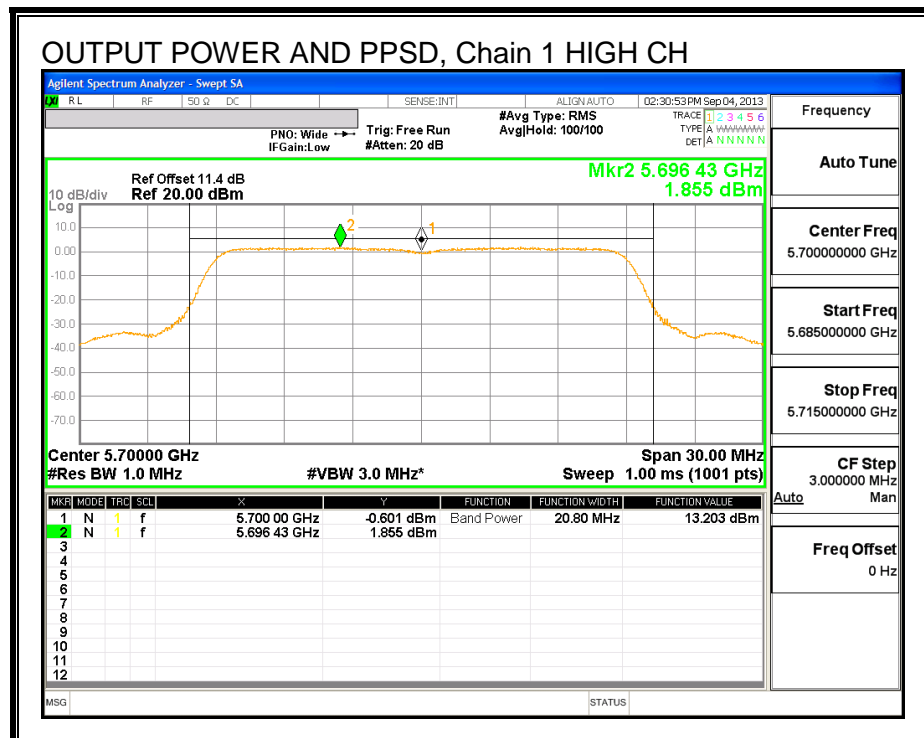
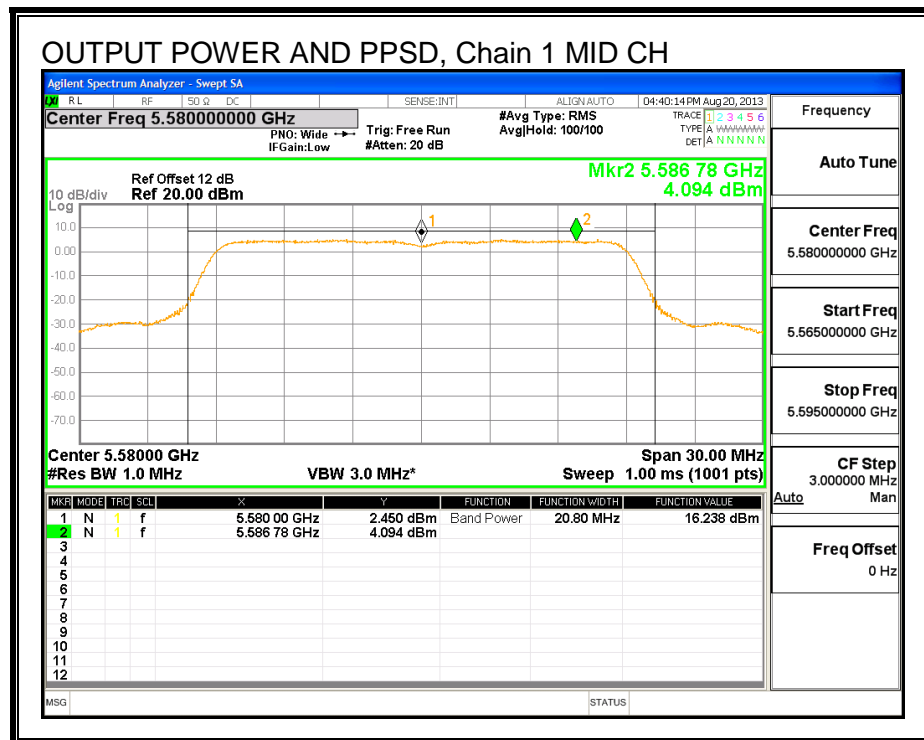
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5500	2.83	2.54	5.70	10.16	-4.46
Mid	5580	4.73	4.09	7.43	10.16	-2.73
High	5700	1.94	1.86	4.91	10.16	-5.25

**OUTPUT POWER AND PPSD, Chain 0**



### OUTPUT POWER AND PSD, Chain 1





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**8.13. 802.11n HT20 2TX STBC MODE IN THE 5.6 GHz BAND**

**8.13.1. 26 dB BANDWIDTH**

**LIMITS**

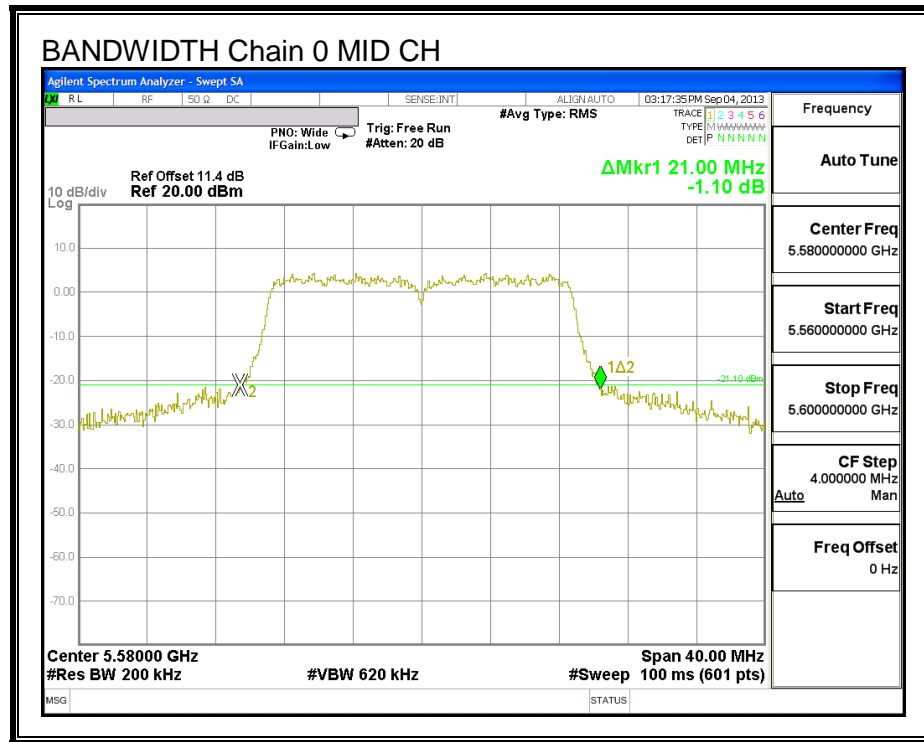
None; for reporting purposes only.

**RESULTS**

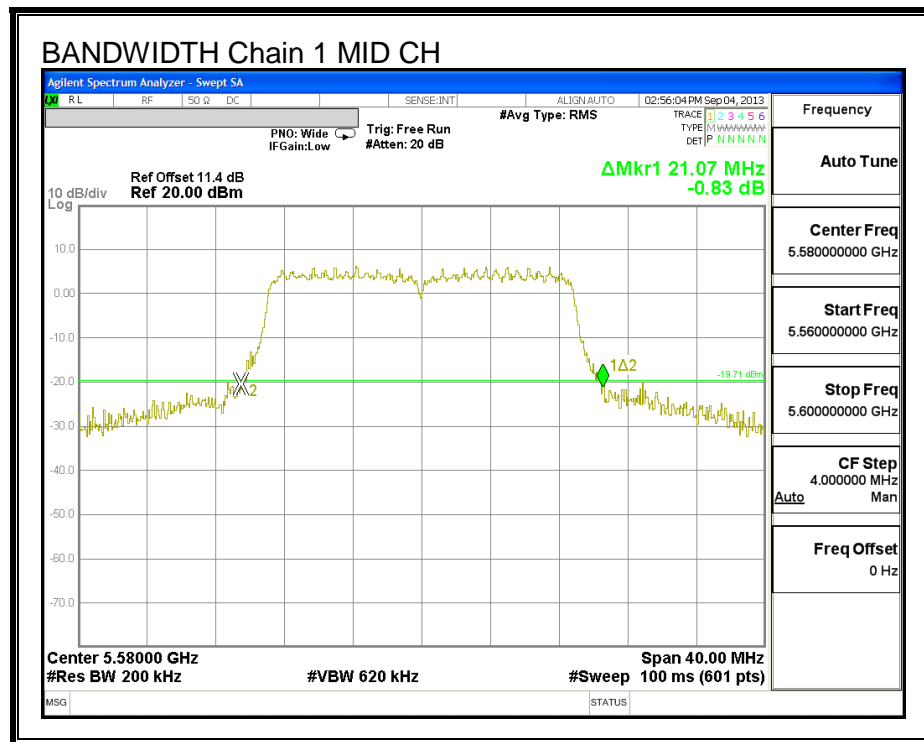
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5580	21.00	21.07

**26 dB BANDWIDTH**

**26 dB BANDWIDTH, Chain 0**



**26 dB BANDWIDTH, Chain 1**



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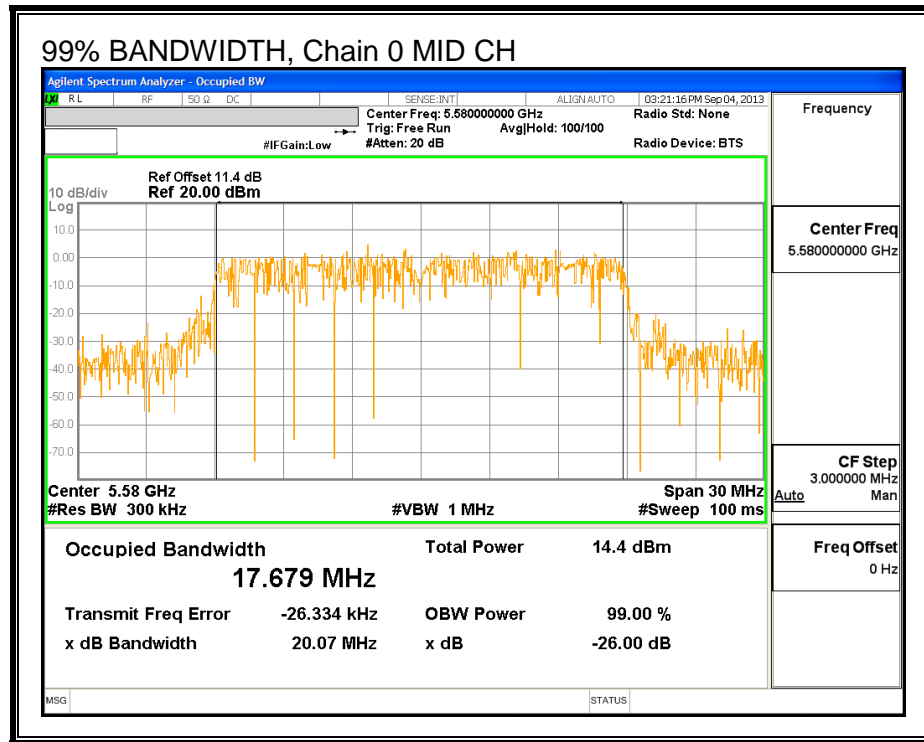
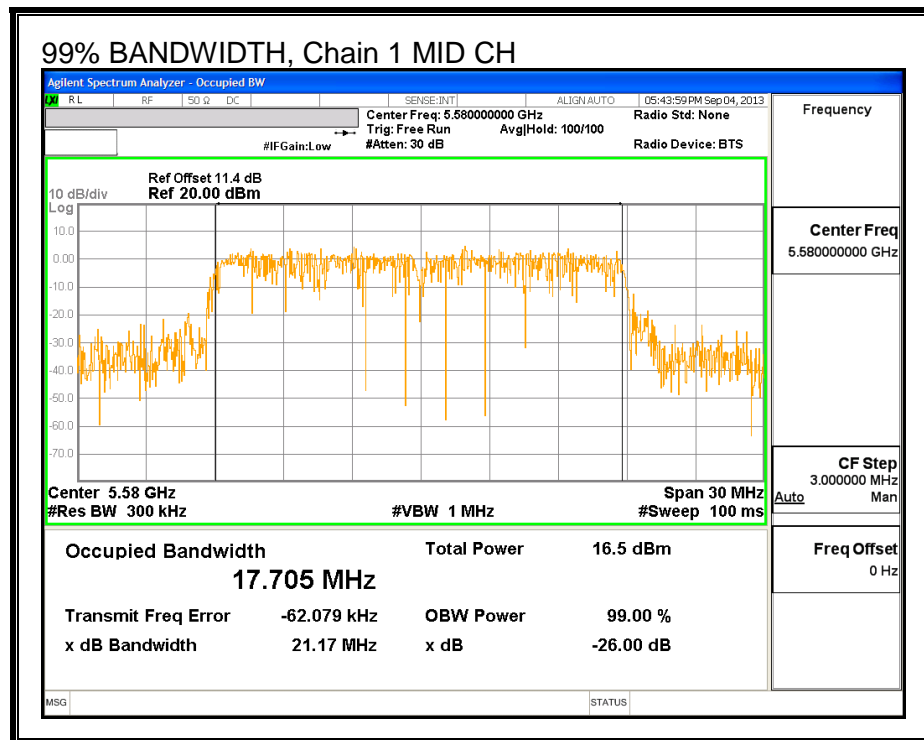
**8.13.2. 99% BANDWIDTH**

**LIMITS**

None; for reporting purposes only.

**RESULTS**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5580	17.6790	17.7050

**99% BANDWIDTH****99% BANDWIDTH, Chain 0****99% BANDWIDTH, Chain 1**



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### 8.13.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 12 dB (including 10 dB pad and 2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

##### Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Mid	5580	16.50	16.42	19.47

## 8.13.4. 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.

### DIRECTIONAL ANTENNA GAIN

For output power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.66	3.99	3.83

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.66	3.99	6.84

## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Uncorre Directio nal Gain (dBi)
Mid	5580	21.00	3.83

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Mid	5580	24.00	11.00

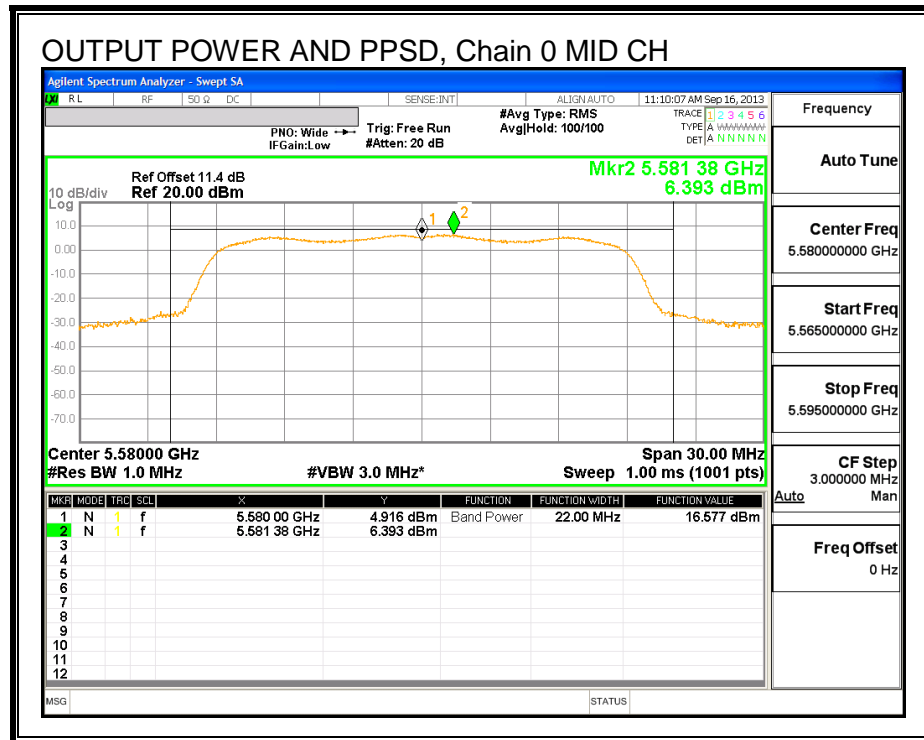
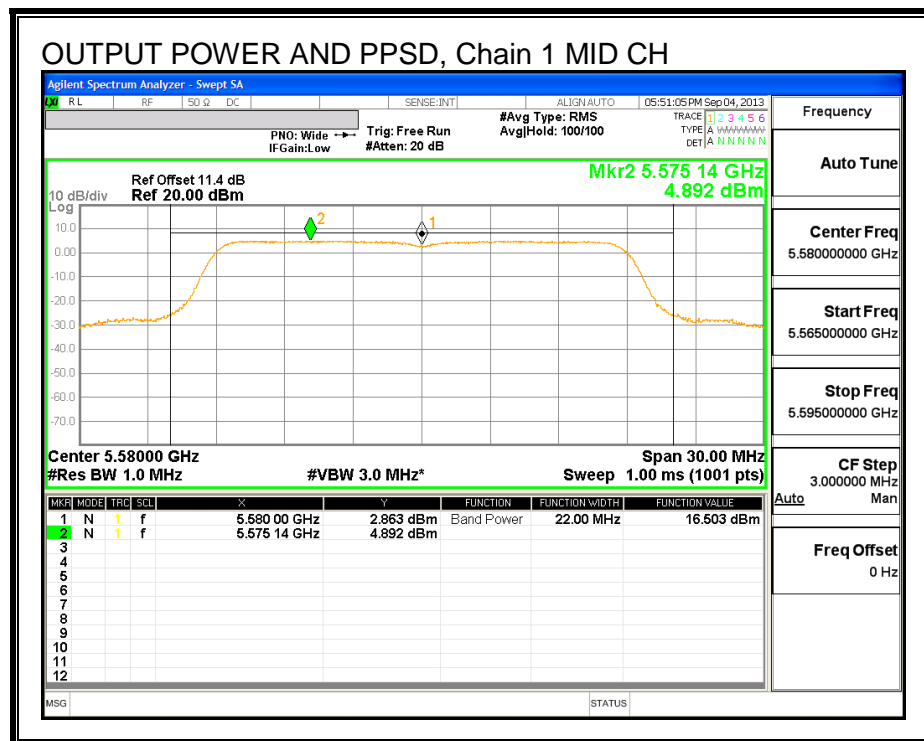
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD
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### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margi n (dB)
Mid	5580	16.58	16.50	19.55	24.00	-4.45

### PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margi n (dB)
Mid	5580	6.39	4.89	8.72	11.00	-2.28

**OUTPUT POWER AND PPSD, Chain 0****OUTPUT POWER AND PPSD, Chain 1**

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**8.14. 802.11n HT40 SISO MODE IN THE 5.6 GHz BAND**

**8.14.1. 26 dB BANDWIDTH**

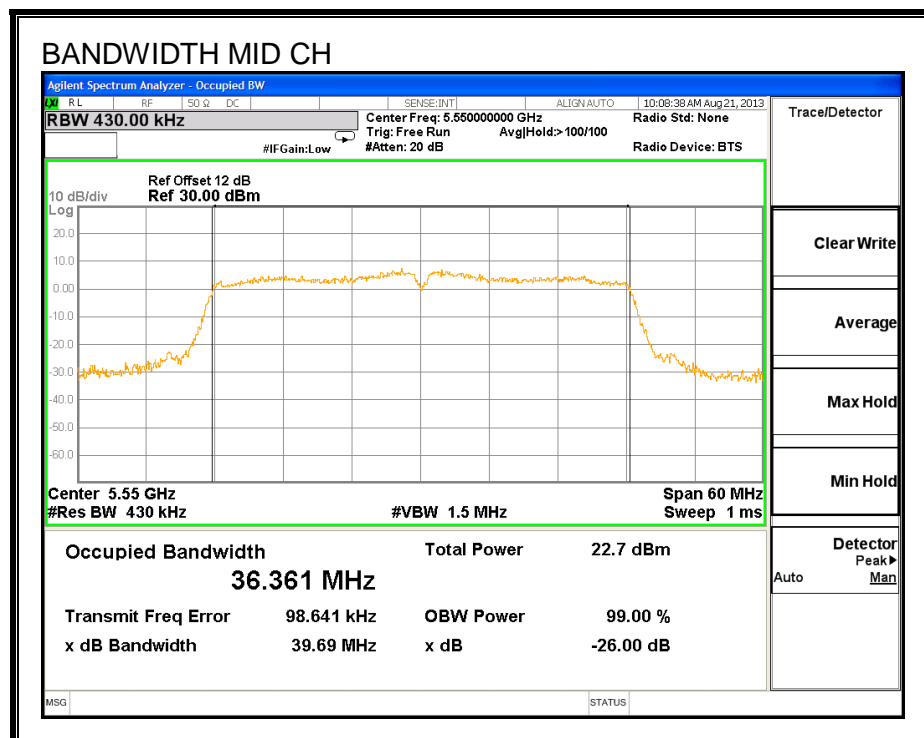
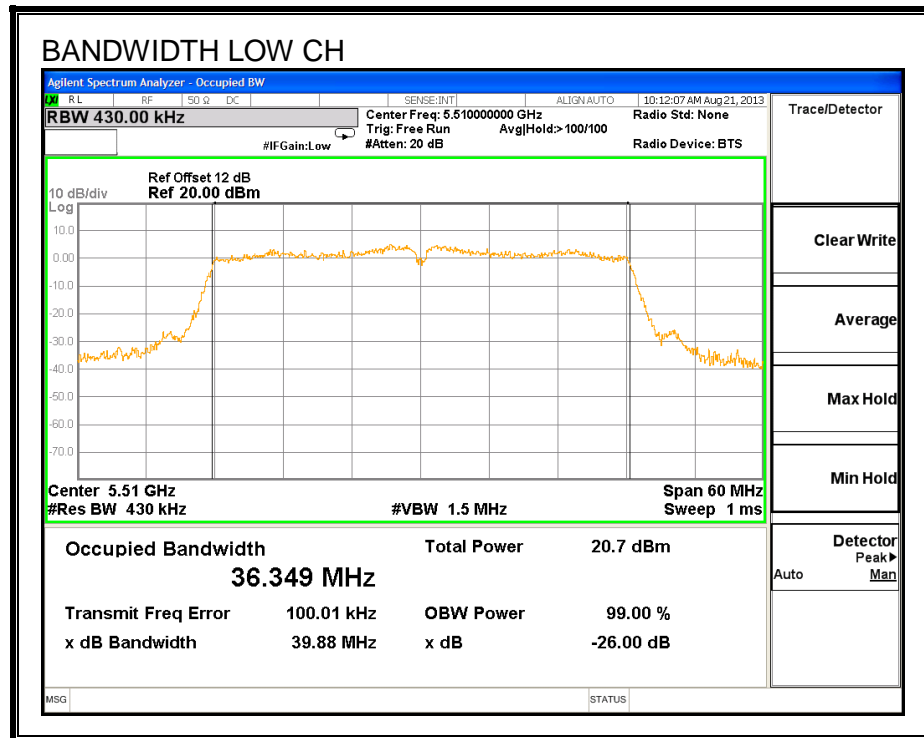
**LIMITS**

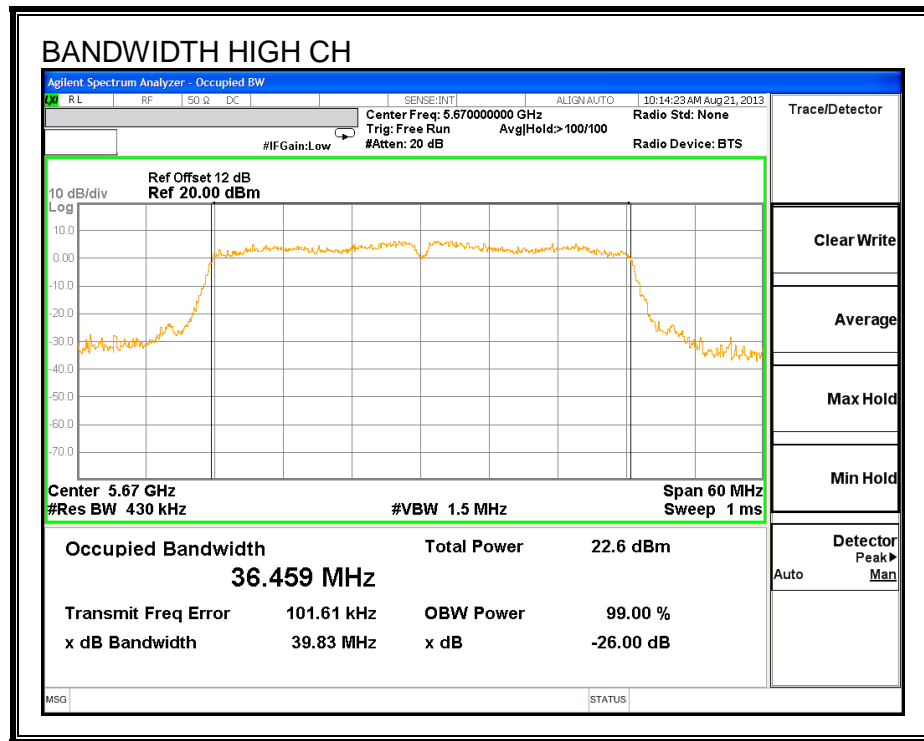
None; for reporting purposes only.

**RESULTS**

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	39.88
Mid	5550	39.69
High	5670	39.83

## 26 dB BANDWIDTH





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### 8.14.2. 99% BANDWIDTH

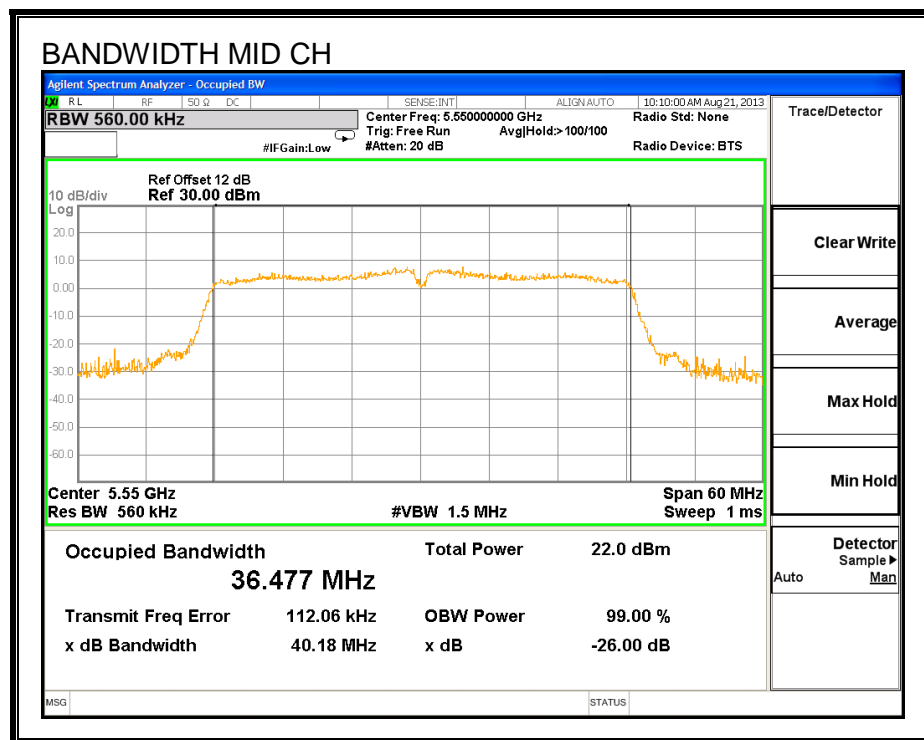
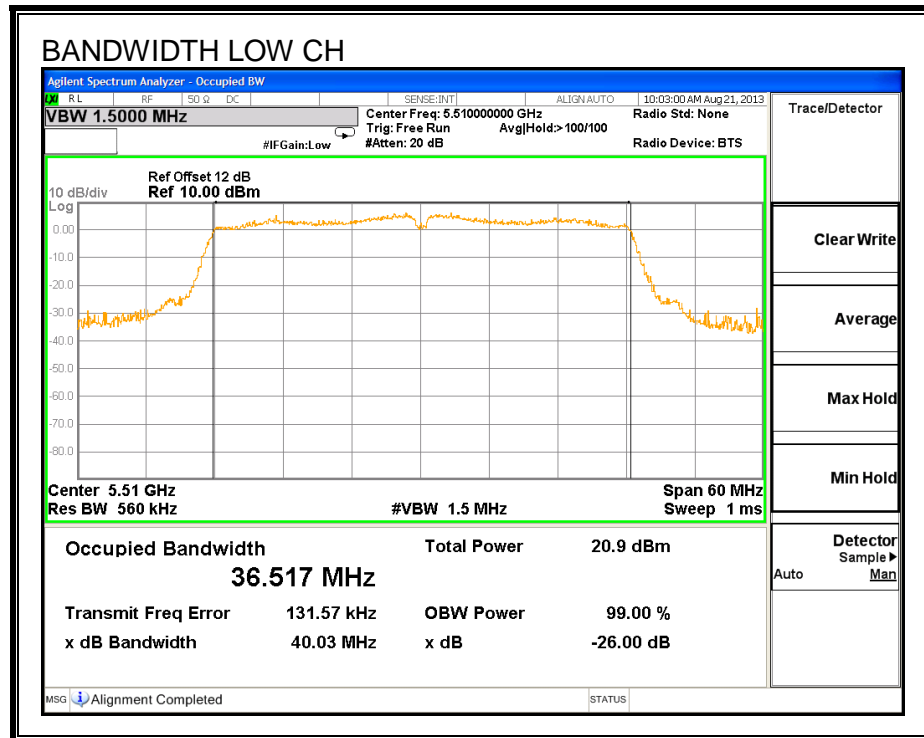
#### **LIMITS**

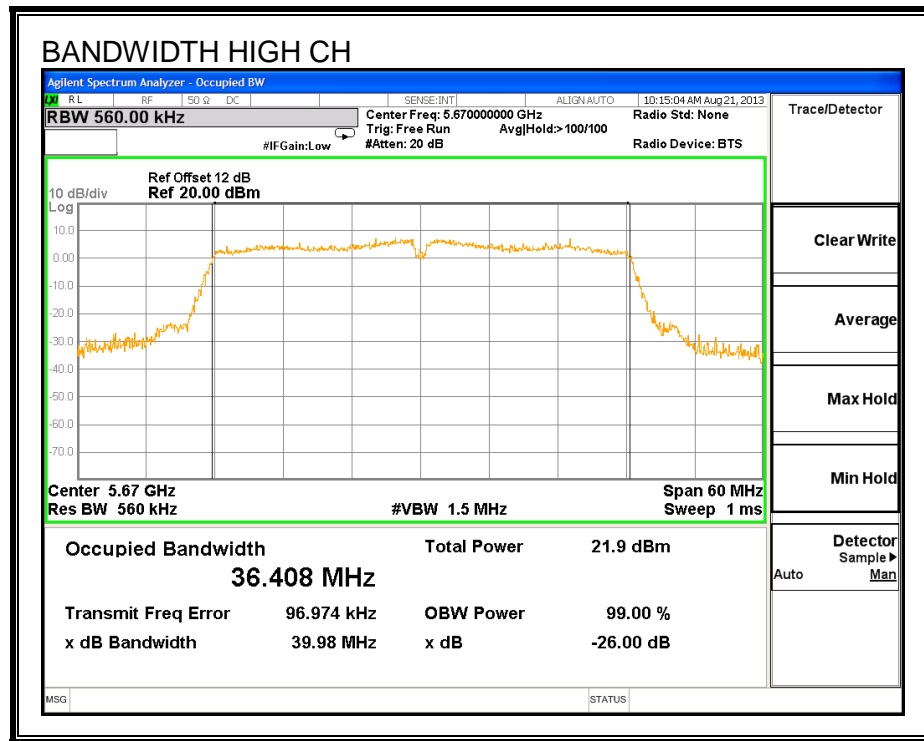
None; for reporting purposes only.

#### **RESULTS**

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5510	36.52
Mid	5550	36.48
High	5670	36.41







### 8.14.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 12 dB (including 10 dB pad and 2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5510	13.90
Mid	5550	16.40
High	5670	15.80

---

#### **8.14.4. 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  $11 \text{ dBm} + 10 \log B$ , 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.

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

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

## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directio Gain (dBi)
Low	5510	39.9	3.66
Mid	5550	39.7	3.66
High	5670	39.8	3.66

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Low	5510	24.00	11.00
Mid	5550	24.00	11.00
High	5670	24.00	11.00

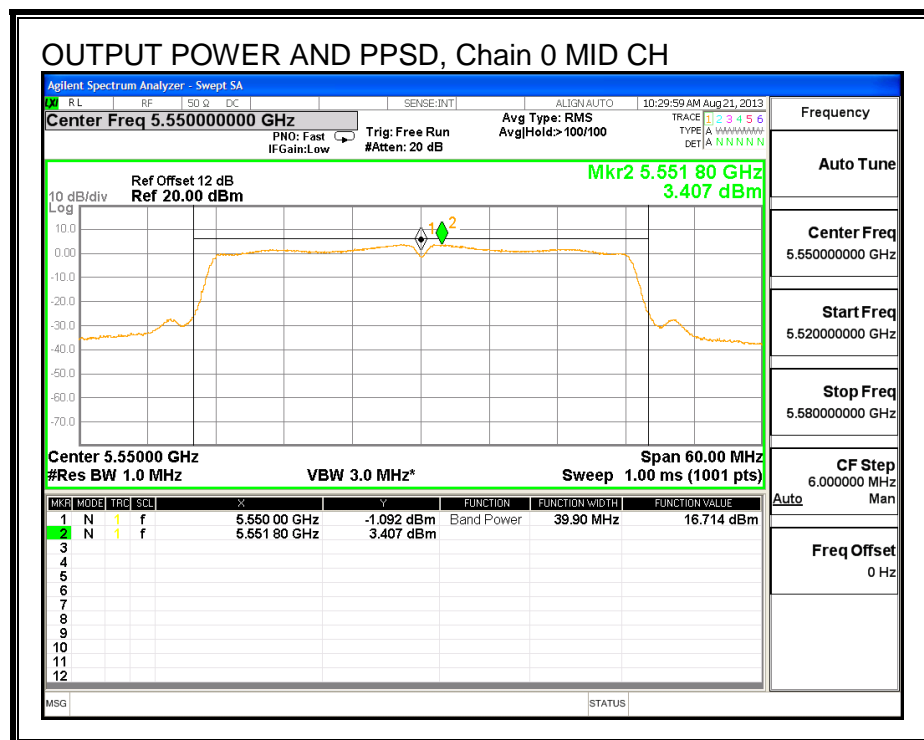
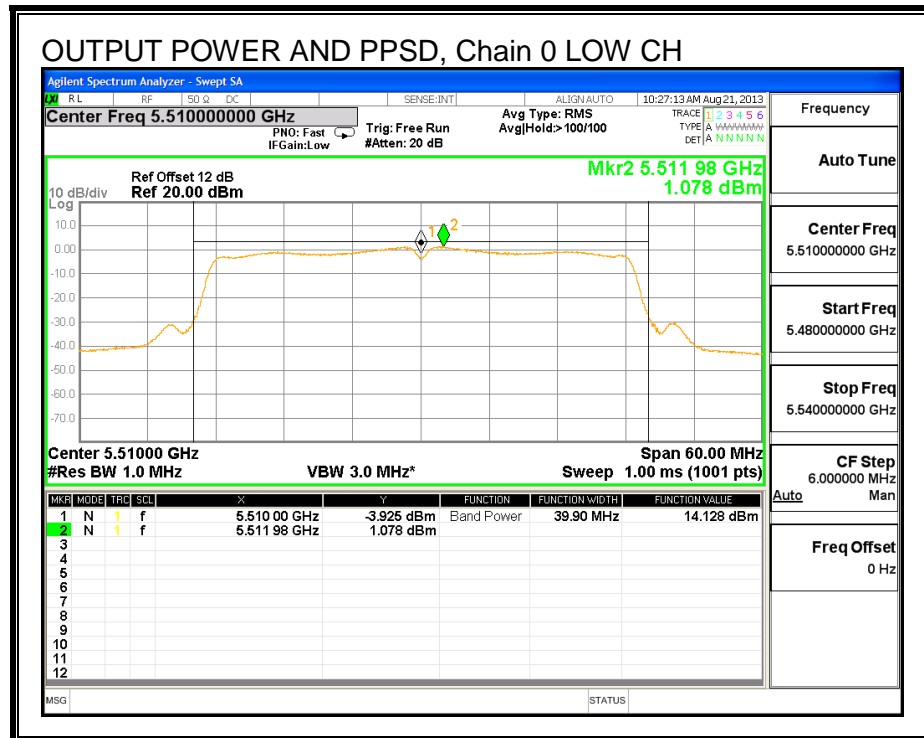
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSP
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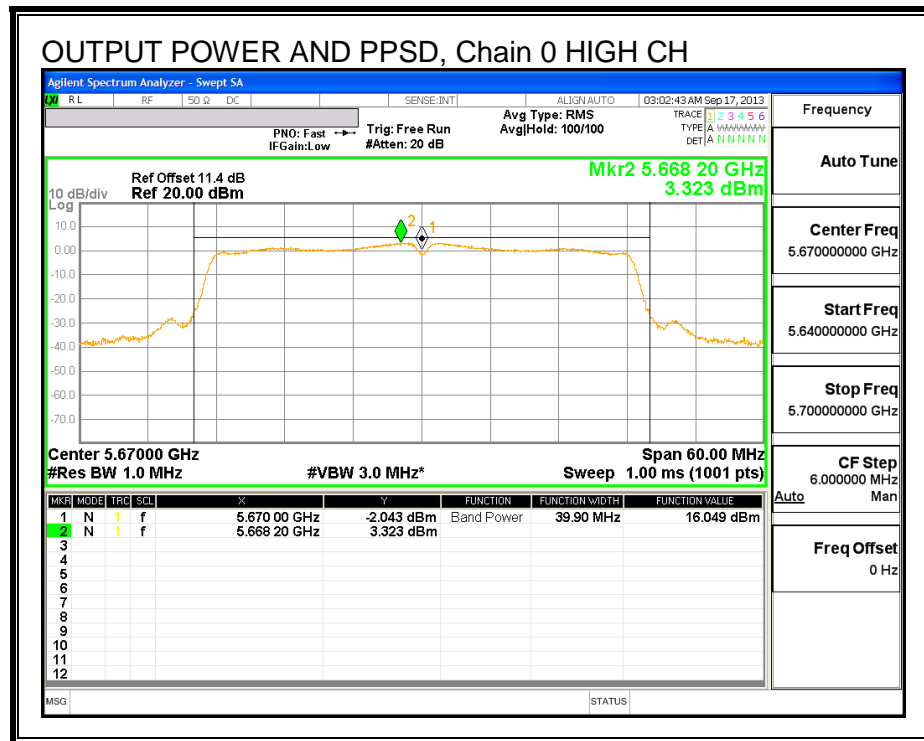
### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	14.13	14.13	24.00	-9.87
Mid	5550	16.71	16.71	24.00	-7.29
High	5670	16.05	16.05	24.00	-7.95

### PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	1.08	1.08	11.00	-9.92
Mid	5550	3.41	3.41	11.00	-7.59
High	5670	3.32	3.32	11.00	-7.68

**OUTPUT POWER AND PPSD, Chain 0**



## 8.15. 802.11n HT40 2TX CDD MODE IN THE 5.6 GHz BAND

### 8.15.1. 26 dB BANDWIDTH

#### LIMITS

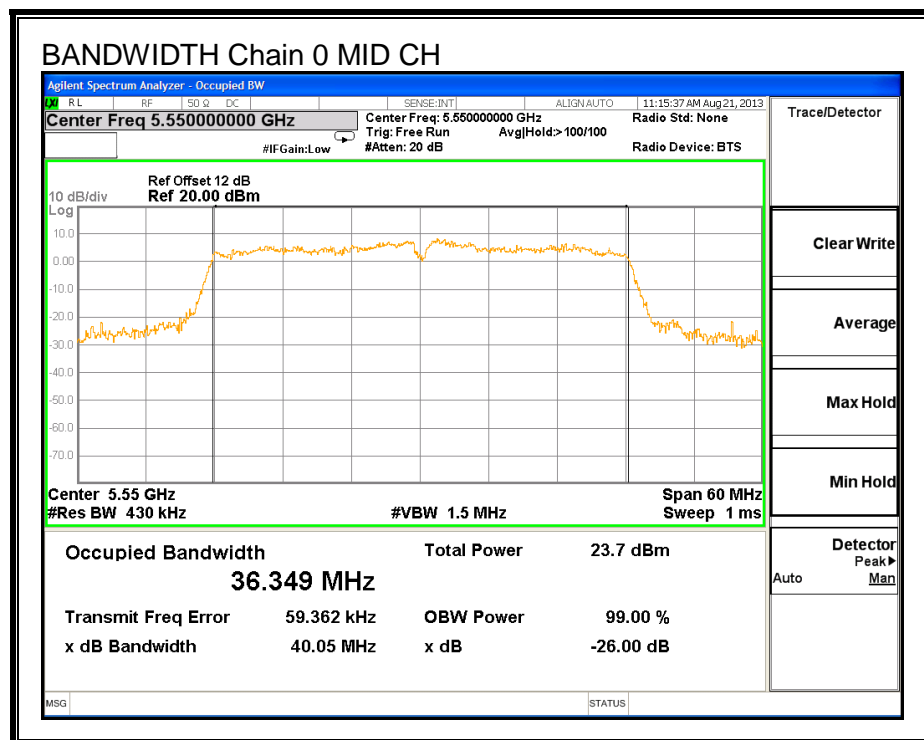
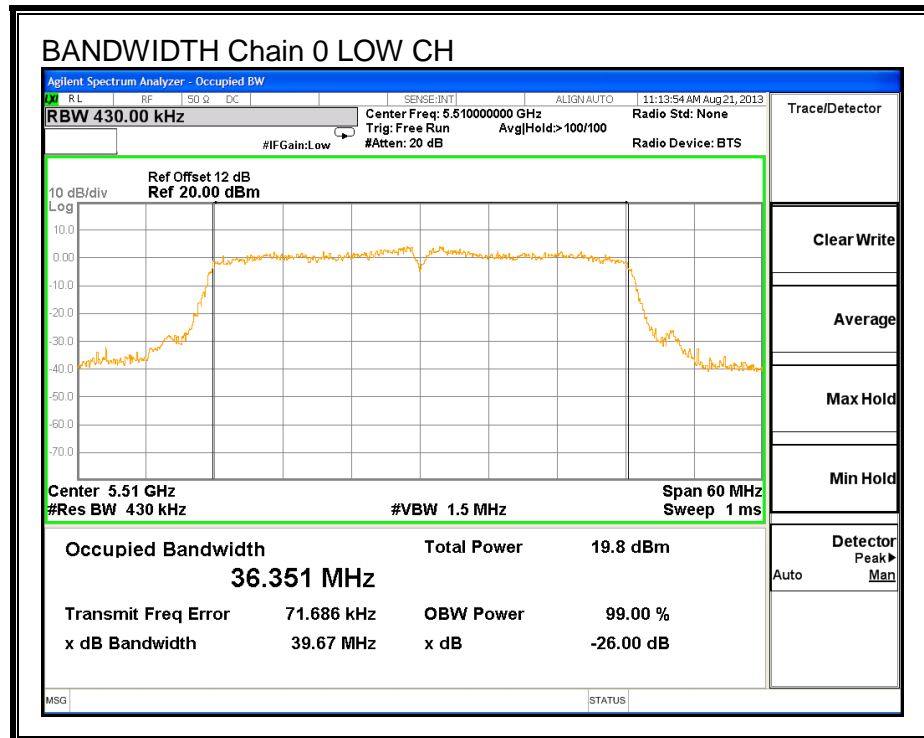
None; for reporting purposes only.

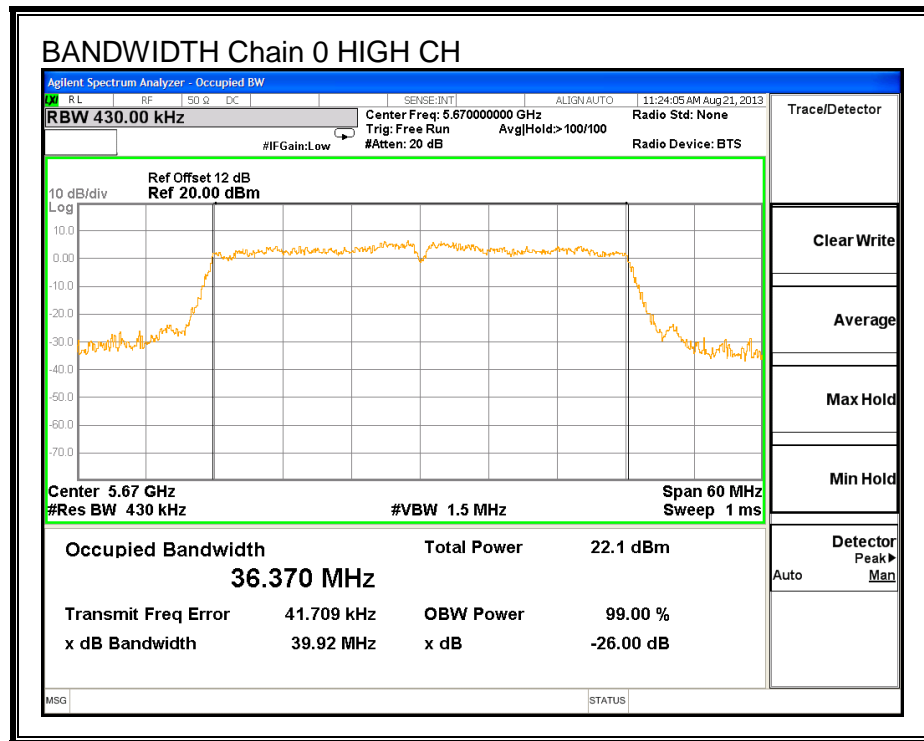
#### RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	39.67	39.20
Mid	5550	40.05	39.18
High	5670	39.92	39.35

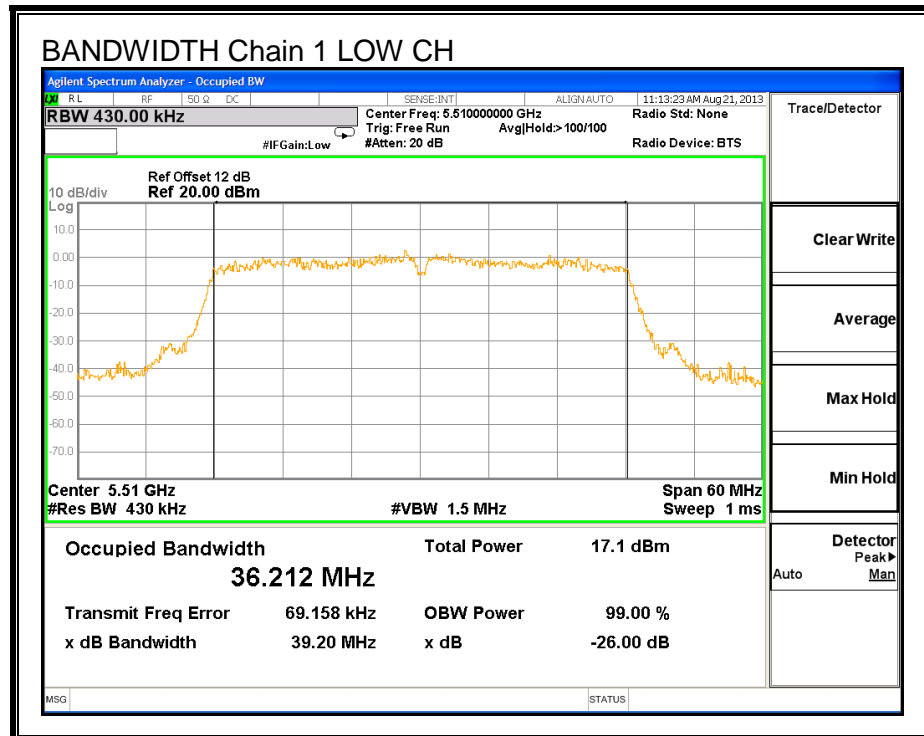


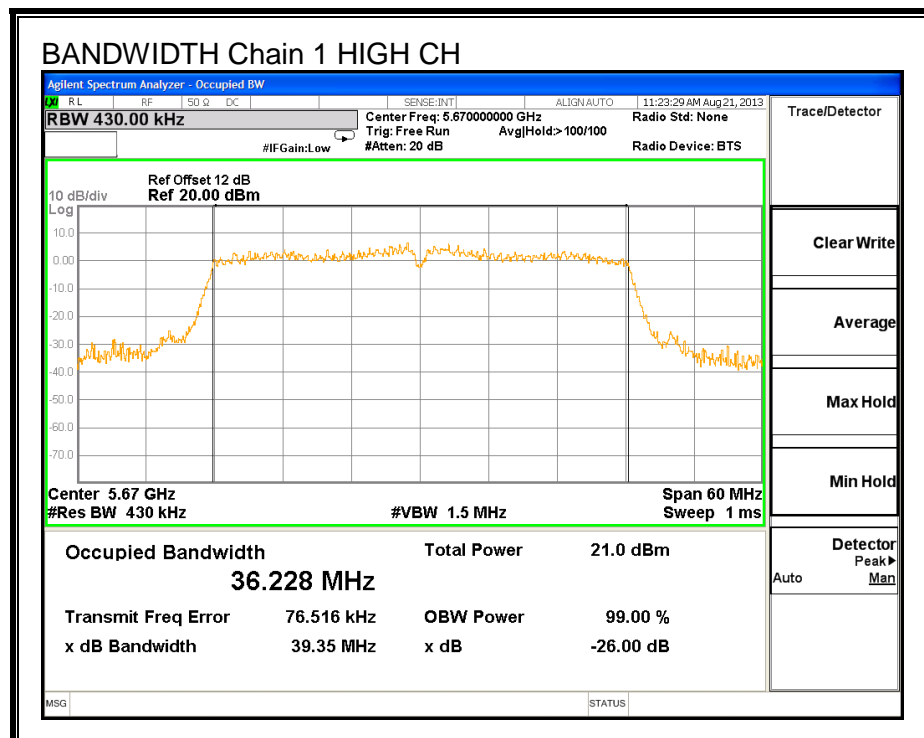
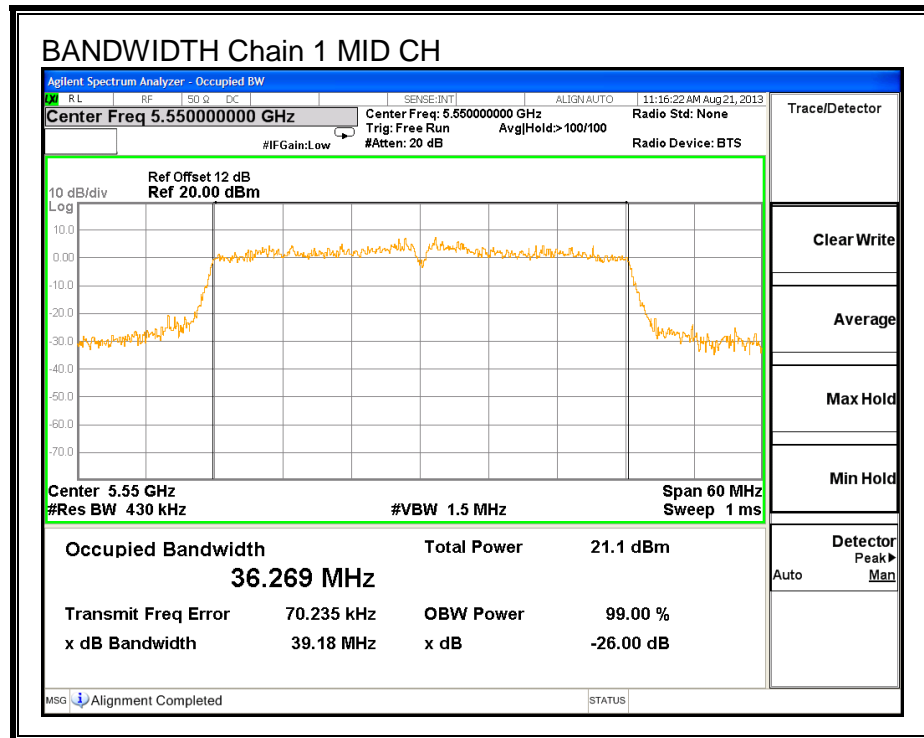
**26 dB BANDWIDTH, Chain 0**





### 26 dB BANDWIDTH, Chain 1





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### 8.15.2. 99% BANDWIDTH

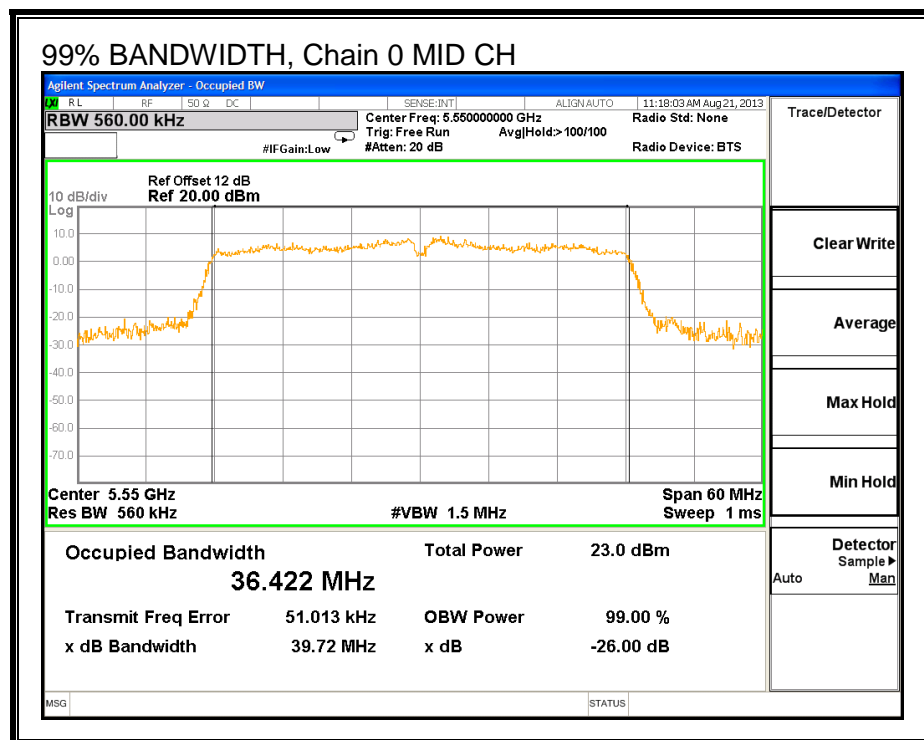
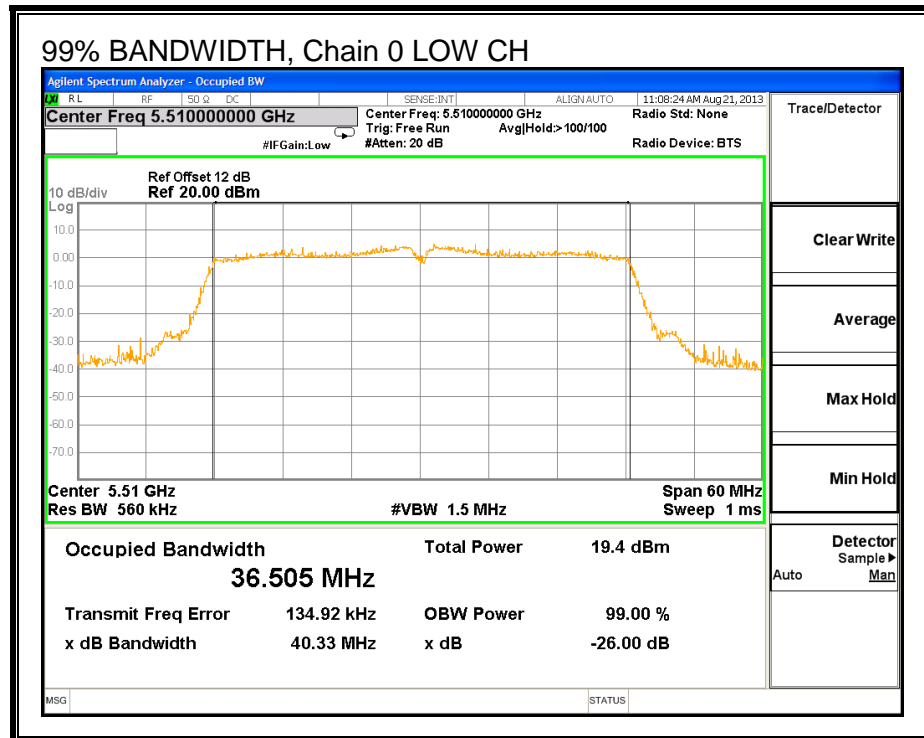
#### LIMITS

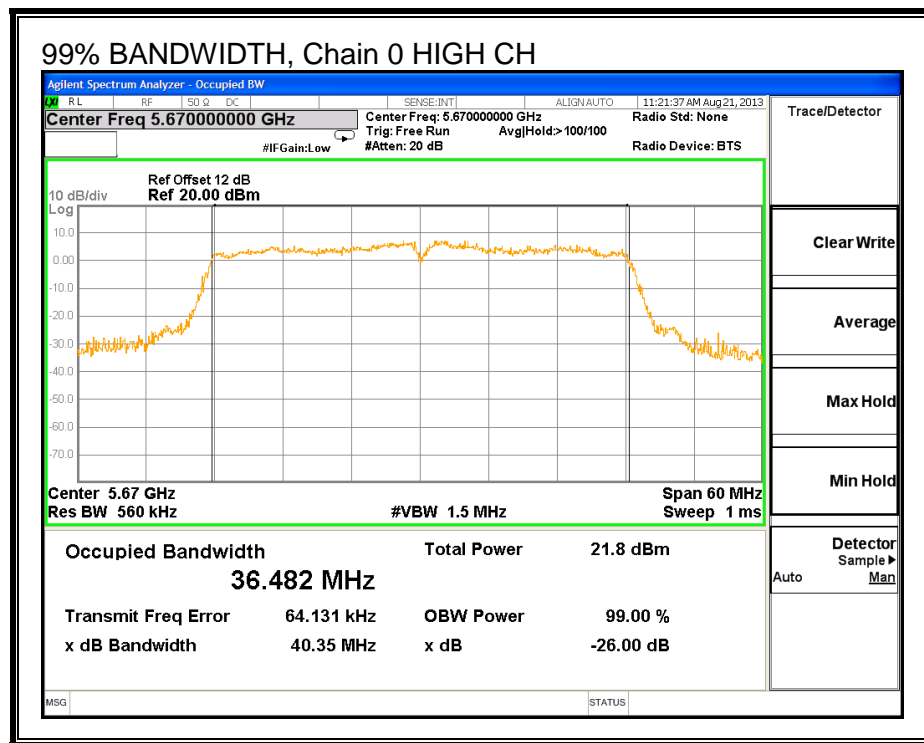
None; for reporting purposes only.

#### RESULTS

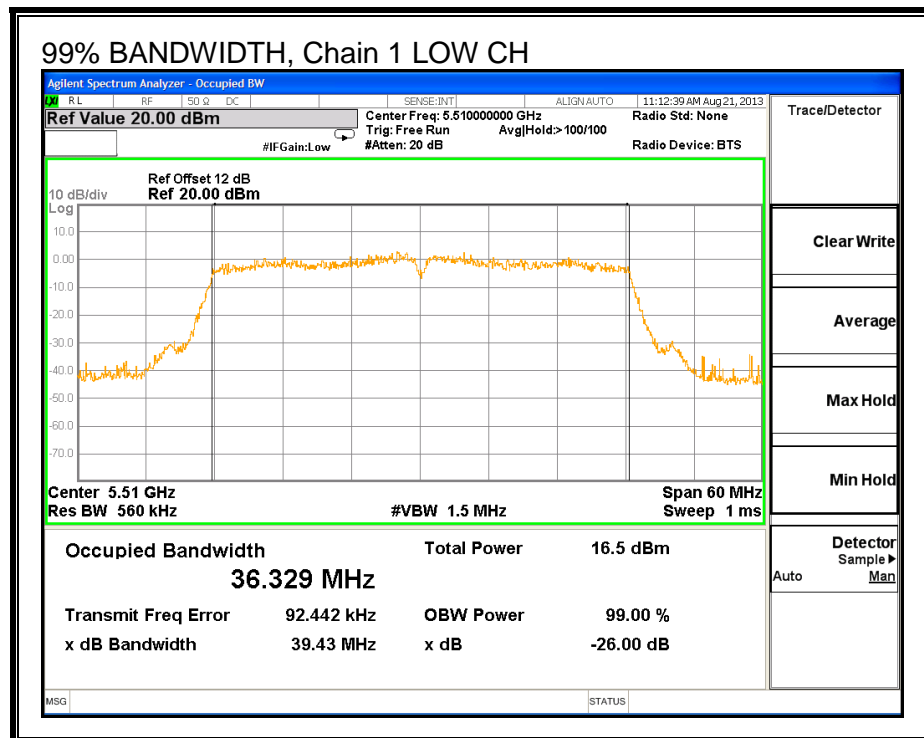
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	36.51	36.33
Mid	5550	36.42	36.26
High	5670	36.48	36.29

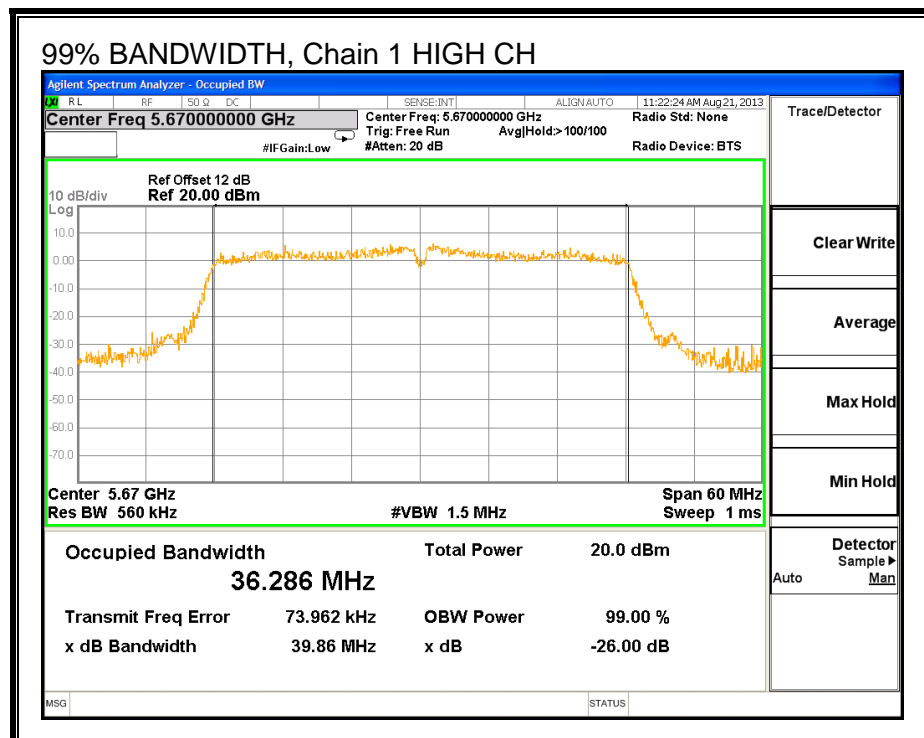
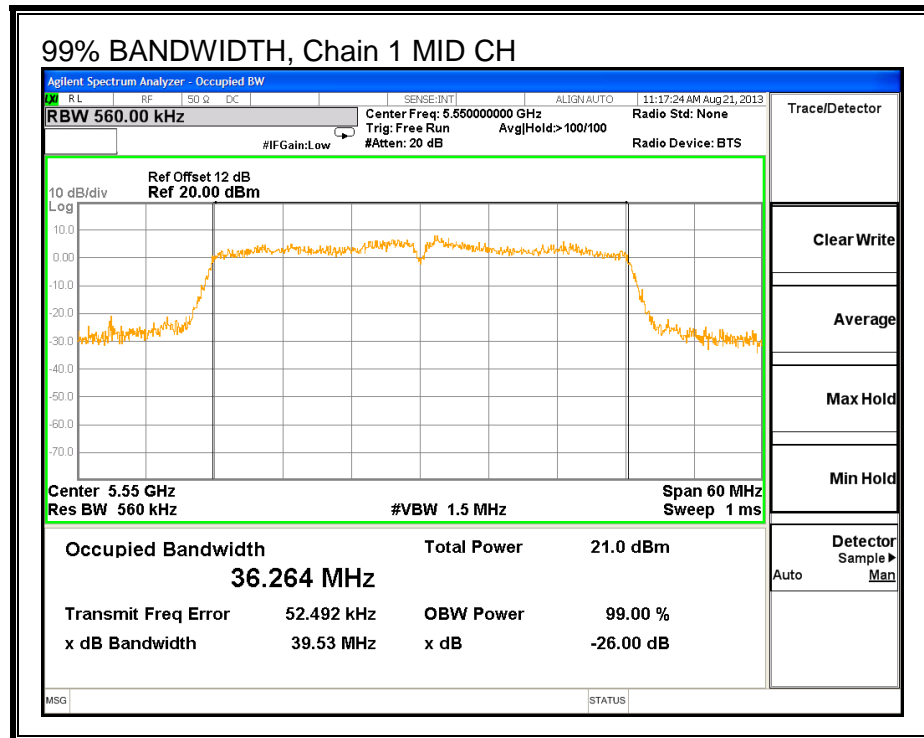
**99% BANDWIDTH, Chain 0**





**99% BANDWIDTH, Chain 1**





### 8.15.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 12 dB (including 10 dB pad and 2 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

##### Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5510	11.99	11.81	14.91
Mid	5550	16.39	16.35	19.38
High	5670	15.50	15.38	18.45



#### 8.15.4. 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.

##### DIRECTIONAL ANTENNA GAIN

For output power, the TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.66	3.99	3.83

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.66	3.99	6.84

## RESULTS

### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Uncorre Directional Gain (dBi)	Correlated Directional Gain (dBi)
Low	5510	39.2	3.83	6.84
Mid	5550	39.2	3.83	6.84
High	5670	39.4	3.83	6.84

### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	FCC PPSD Limit (dBm)
Low	5510	24.00	10.16
Mid	5550	24.00	10.16
High	5670	24.00	10.16

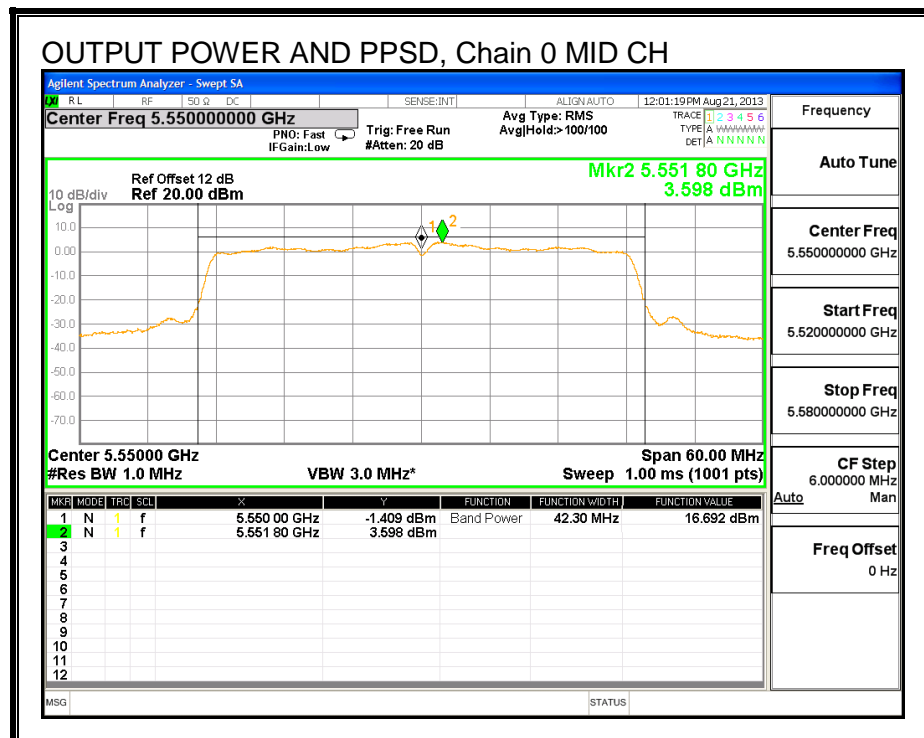
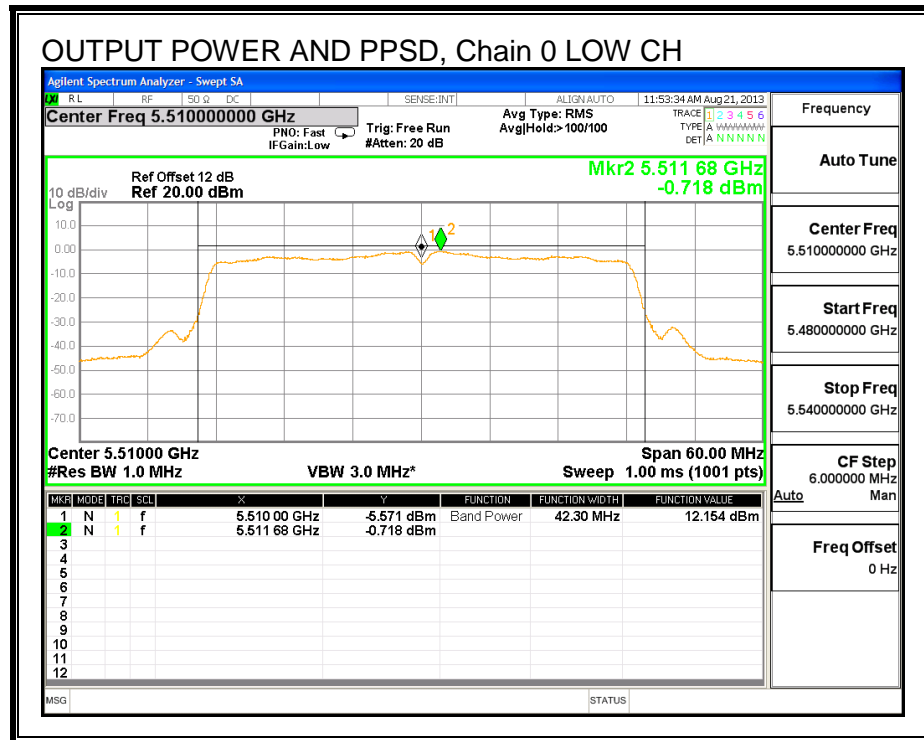
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PPSP
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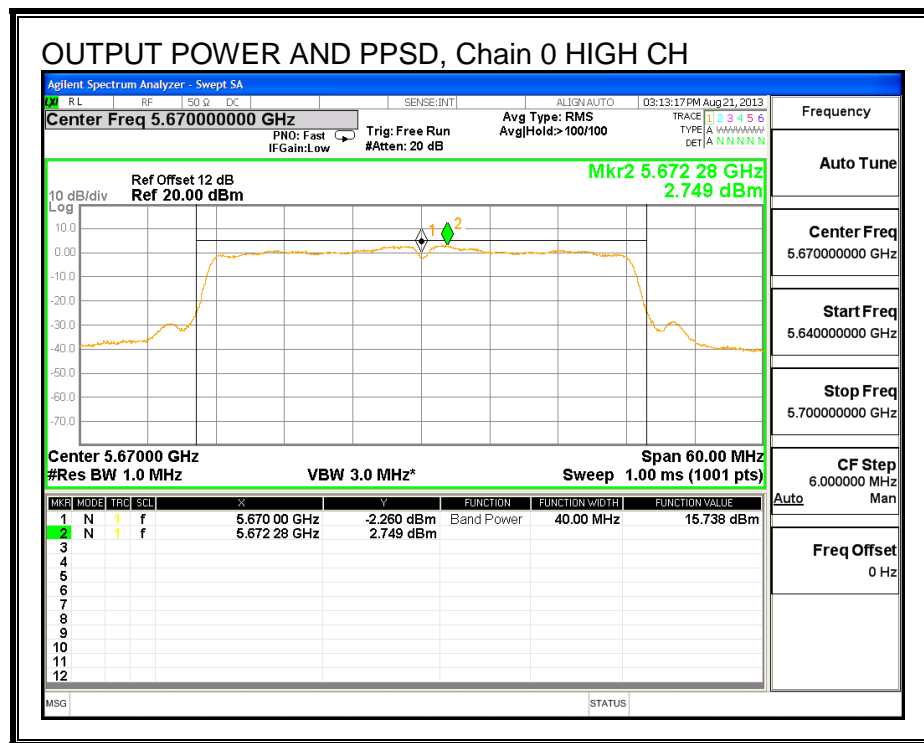
### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.15	12.07	15.12	24.00	-8.88
Mid	5550	16.69	16.58	19.65	24.00	-4.35
High	5670	15.74	15.63	18.70	24.00	-5.30

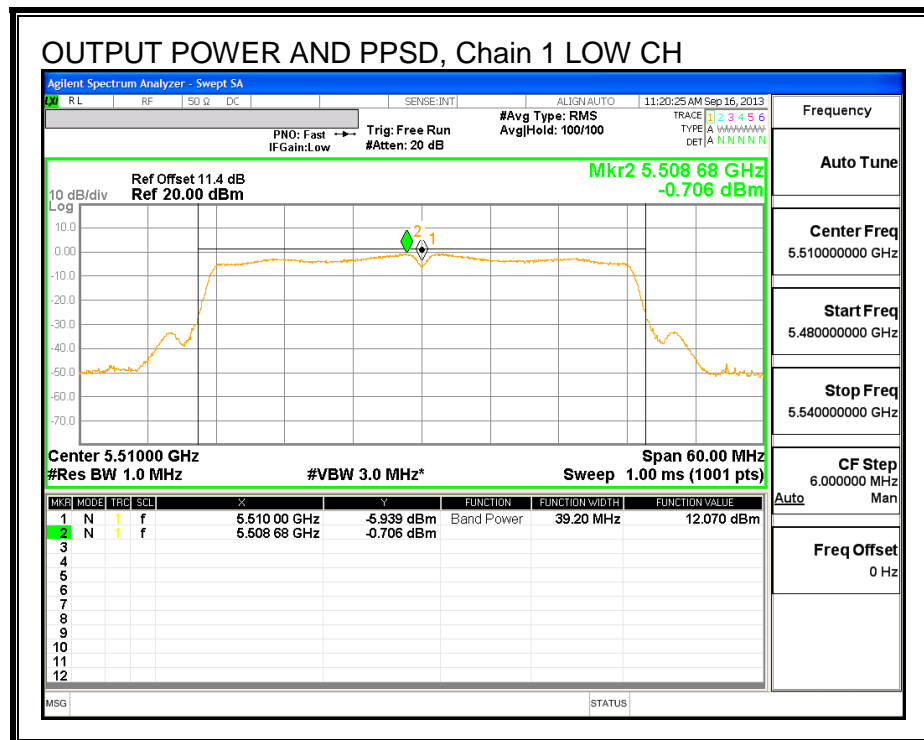
### PPSD Results

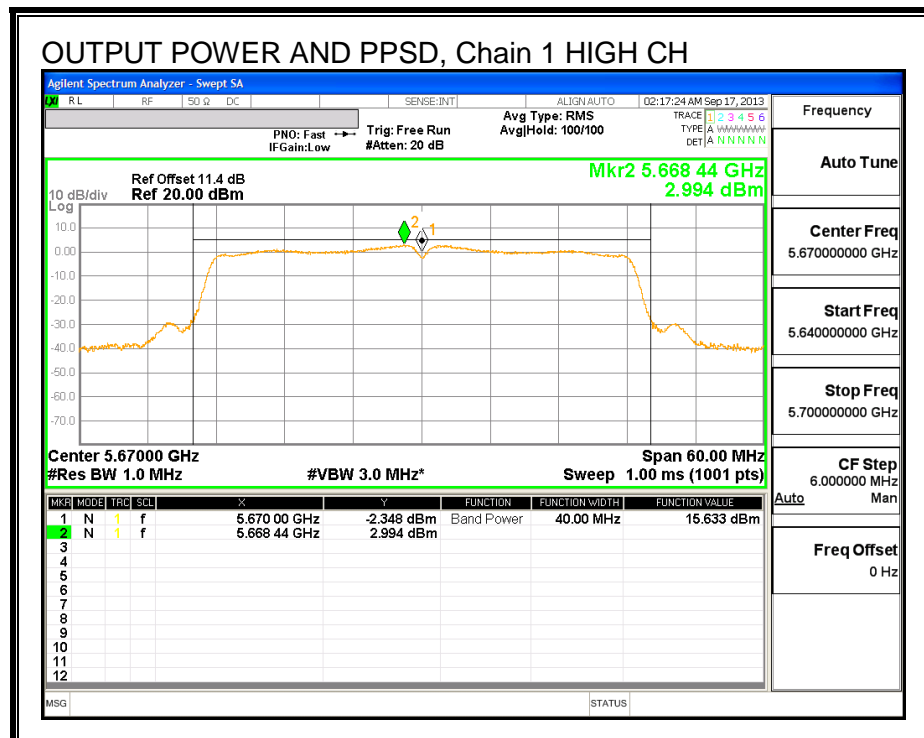
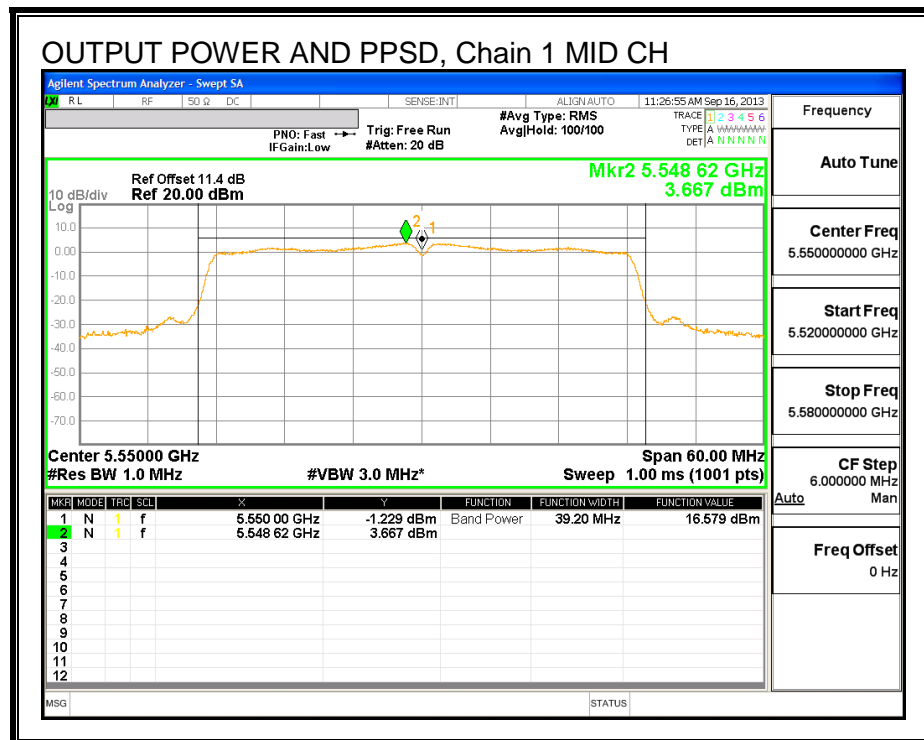
Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Chain 1 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5510	-0.72	-0.71	2.30	10.16	-7.86
Mid	5550	3.60	3.67	6.64	10.16	-3.52
High	5670	2.75	2.99	5.88	10.16	-4.28

**OUTPUT POWER AND PPSD, Chain 0**



### OUTPUT POWER AND PSD, Chain 1





## 9. RADIATED TEST RESULTS

### 9.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

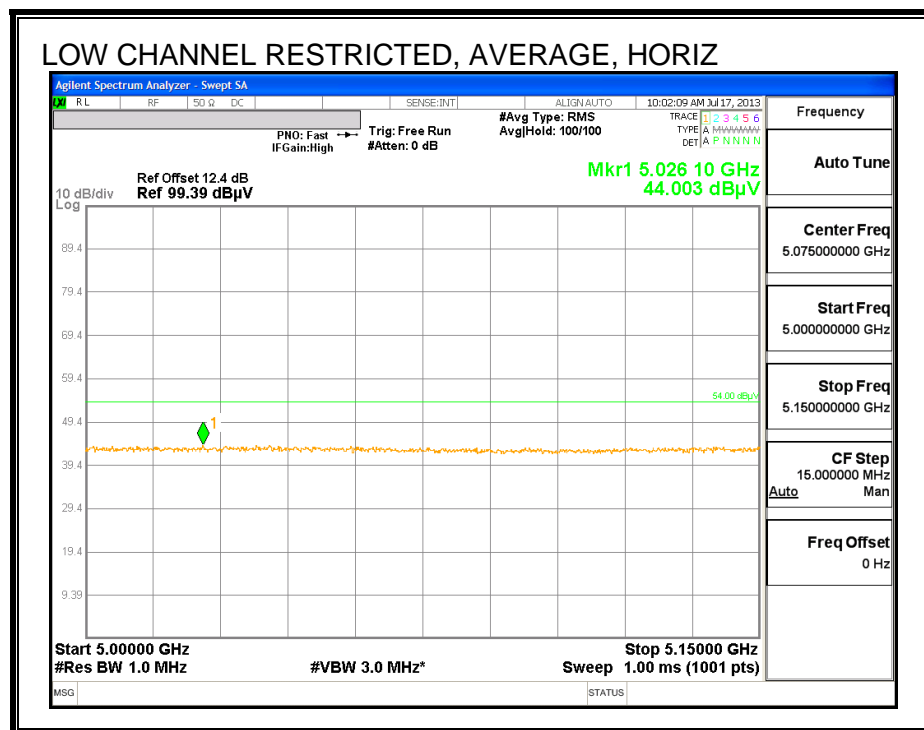
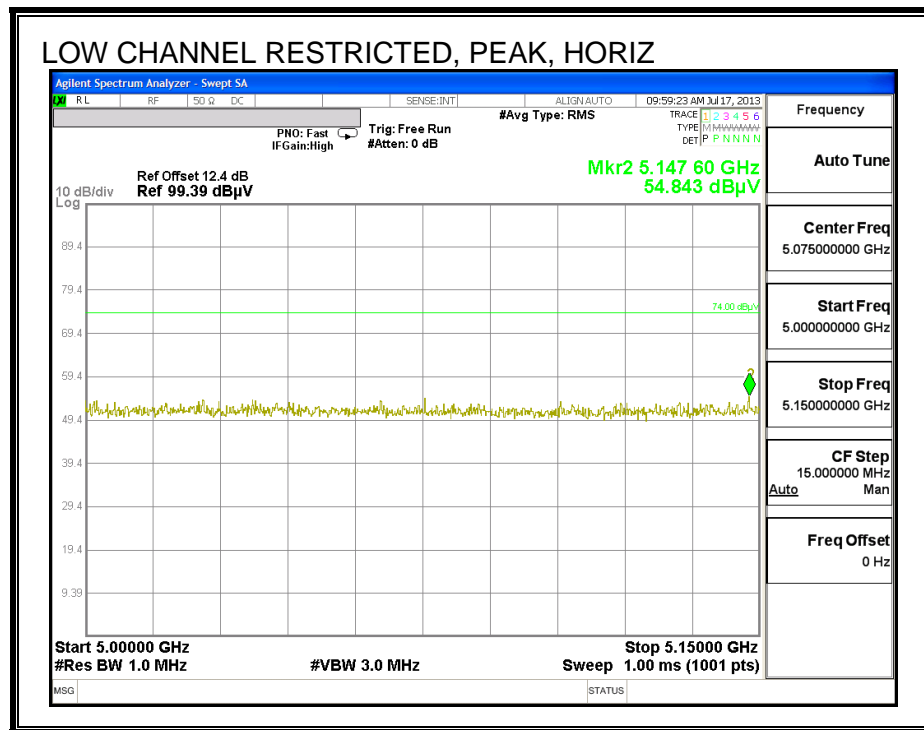
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

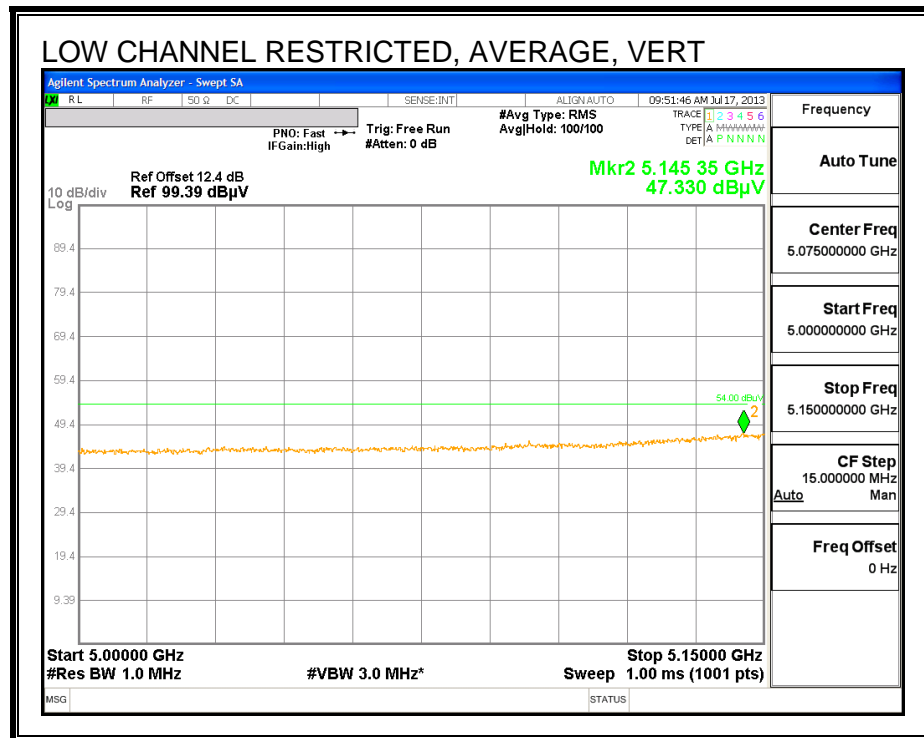
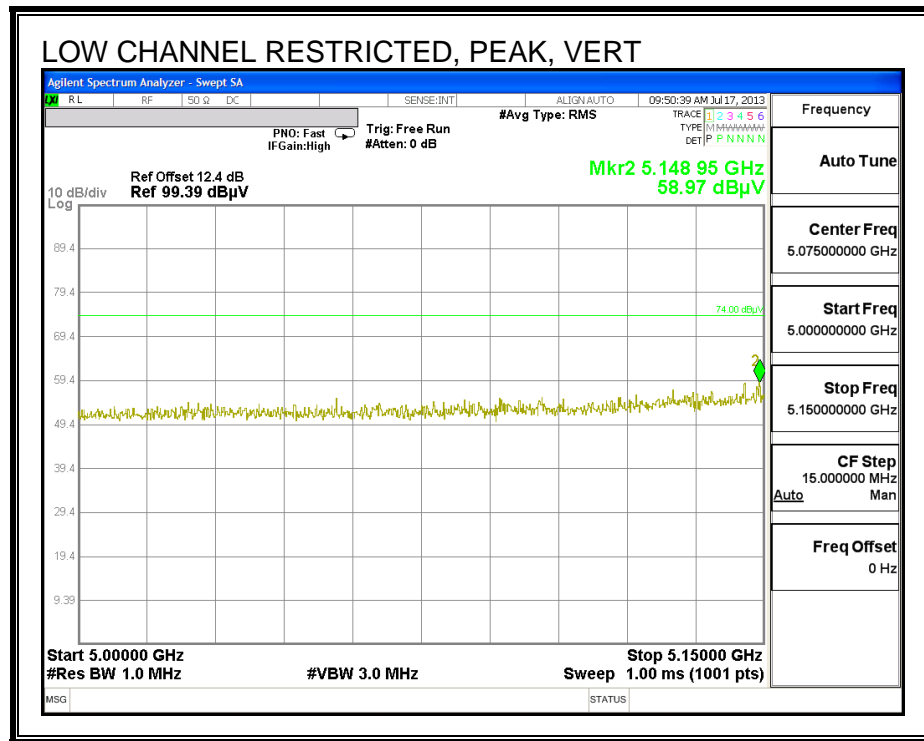
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

## 9.2. TRANSMITTER ABOVE 1 GHz

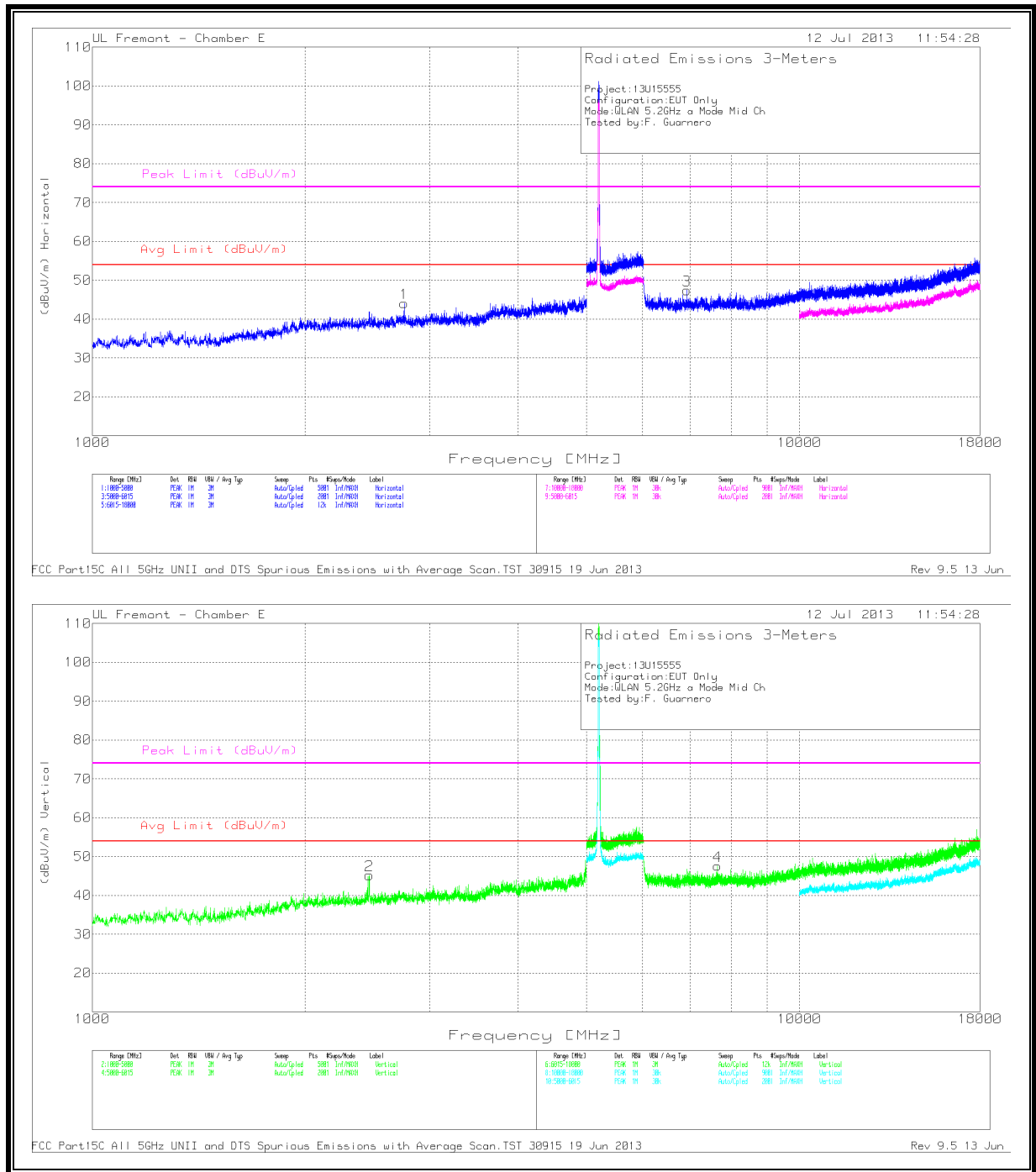
### 9.2.1. 802.11a SISO MODE IN THE 5.2 GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL)







**HARMONICS AND SPURIOUS EMISSIONS****LOW CHANNEL**

## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	2.76	43.8	PK	33.2	-32.9	44.1	53.97	-9.87	74	-29.9	199	H
3	6.934	41.02	PK	35.9	-29.5	47.42	53.97	-6.55	74	-26.58	199	H

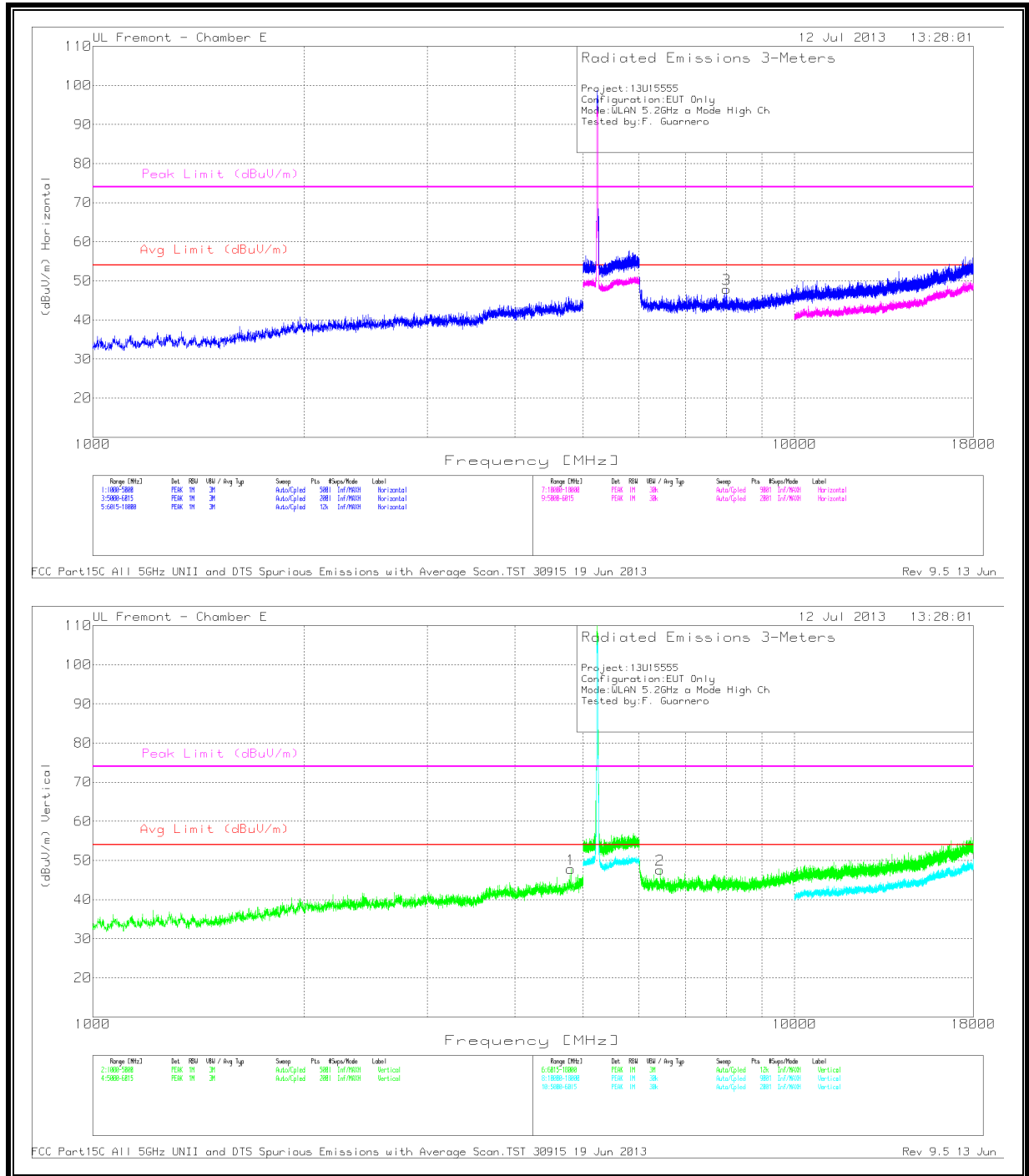
PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
2	2.464	45.71	PK	32.7	-33.2	45.21	53.97	-8.76	74	-28.79	199	V
4	7.661	39.97	PK	36.2	-28.6	47.57	53.97	-6.4	74	-26.43	199	V

PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
Jun 2013Rev 9.5 13 Jun 2013

**MID CHANNEL**



## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
3	8.005	40.4	PK	36.2	-28.7	47.9	53.97	-6.07	74	-26.1	199	H

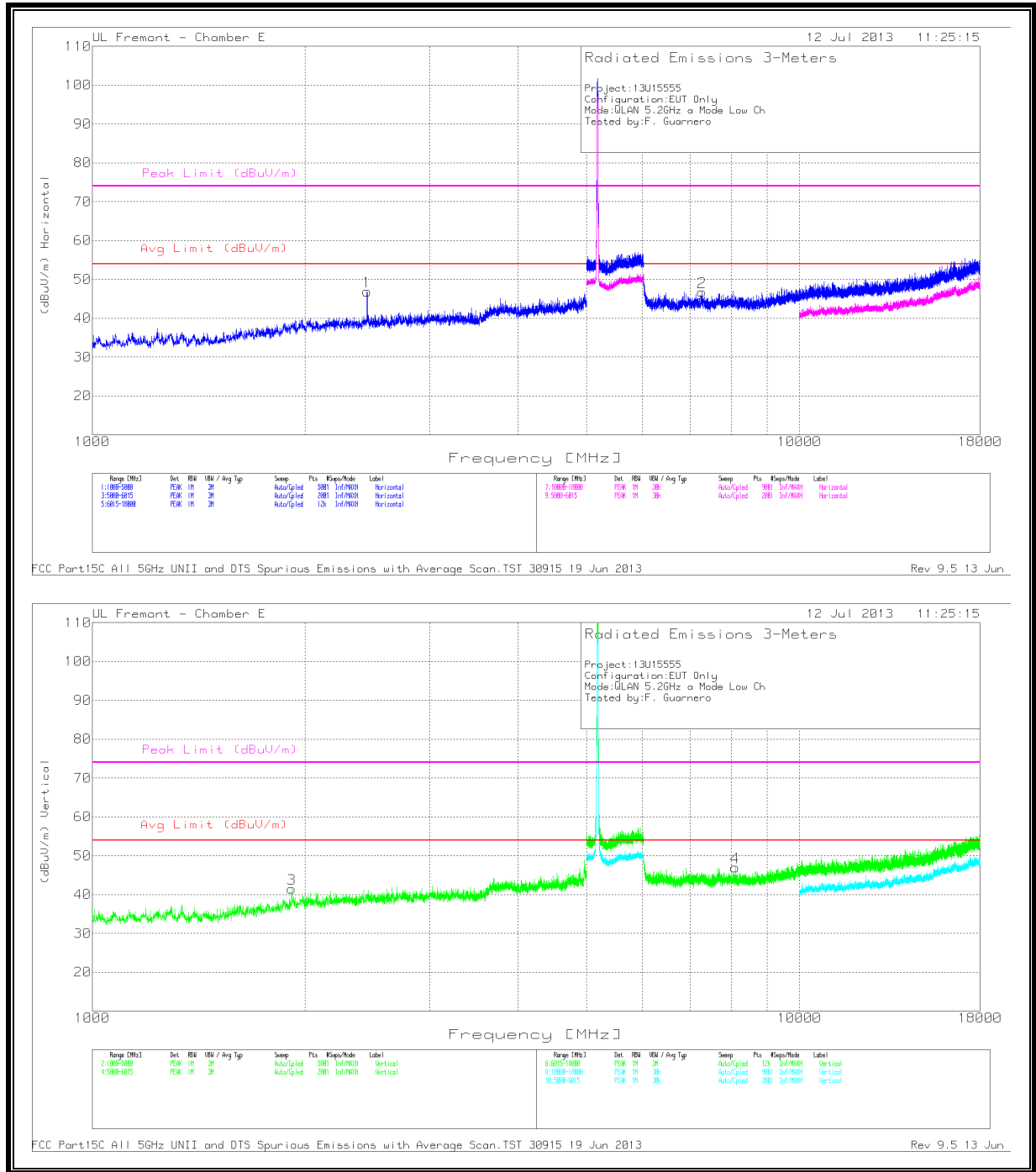
### PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	4.804	44.3	PK	34.4	-30.9	47.8	53.97	-6.17	74	-26.2	199	V
2	6.438	42.23	PK	35.8	-30.4	47.63	53.97	-6.34	74	-26.37	199	V

### PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
Jun 2013Rev 9.5 13 Jun 2013

**HIGH CHANNEL**



## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	2.446	47.67	PK	32.6	-33.4	46.87	53.97	-7.1	74	-27.13	199	H
2	7.28	39.54	PK	36	-28.8	46.74	53.97	-7.23	74	-27.26	199	H

PK - Peak detector

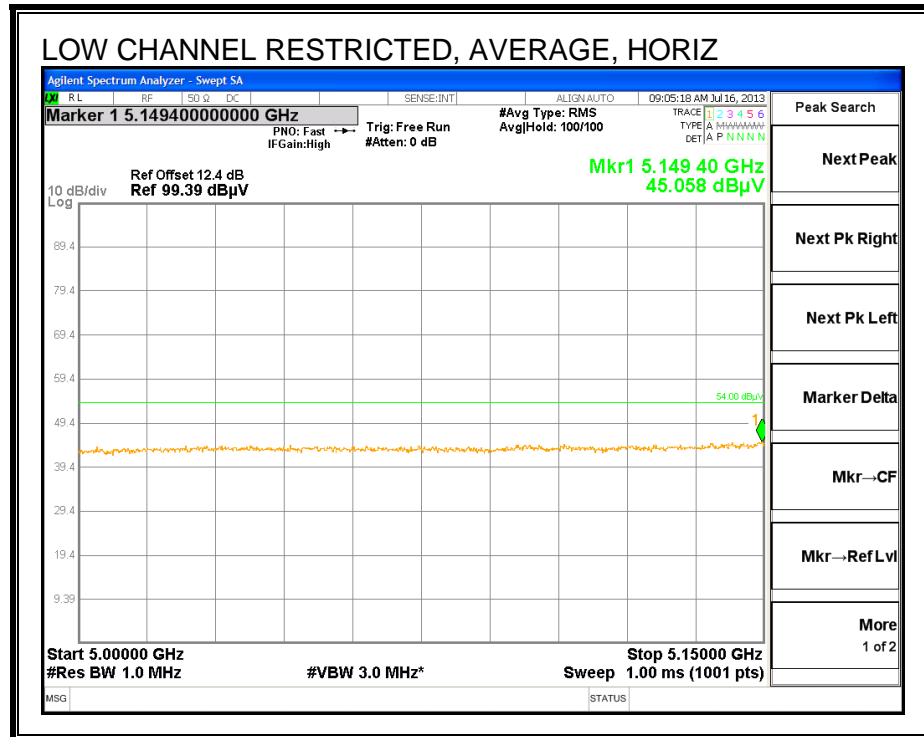
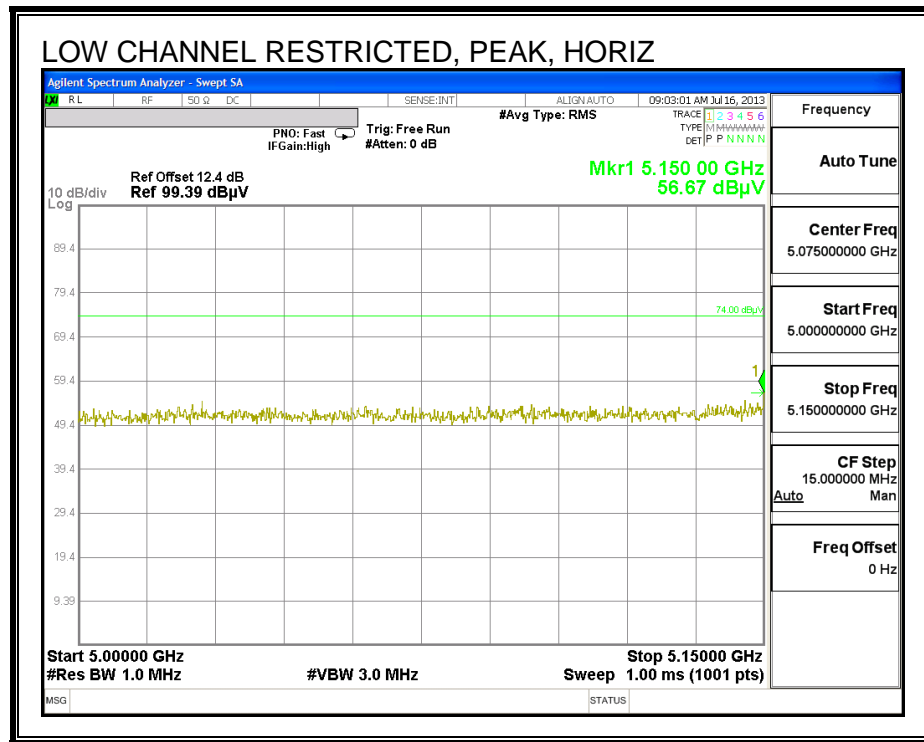
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
3	1.914	43.81	PK	31.5	-33.8	41.51	53.97	-12.46	74	-32.49	199	V
4	8.111	39.38	PK	36.2	-28.6	46.98	53.97	-6.99	74	-27.02	199	V

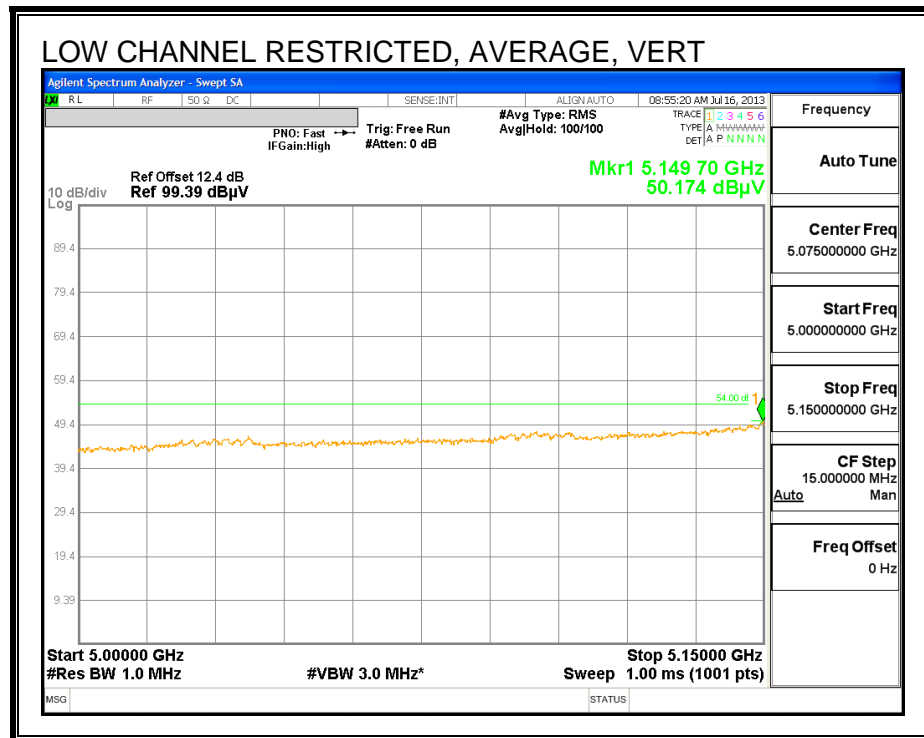
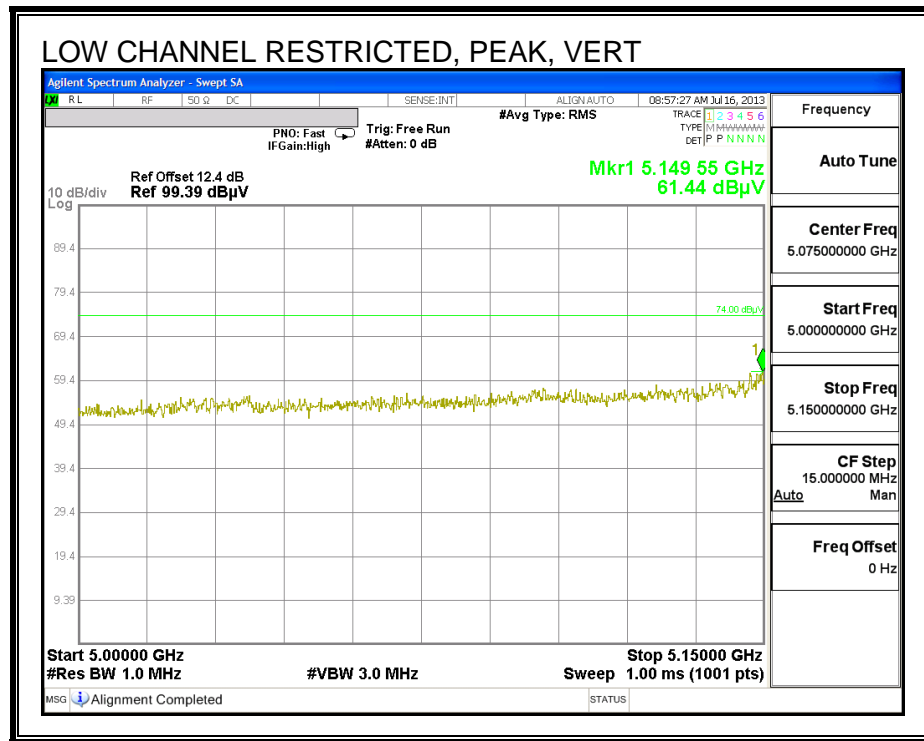
PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
Jun 2013Rev 9.5 13 Jun 2013

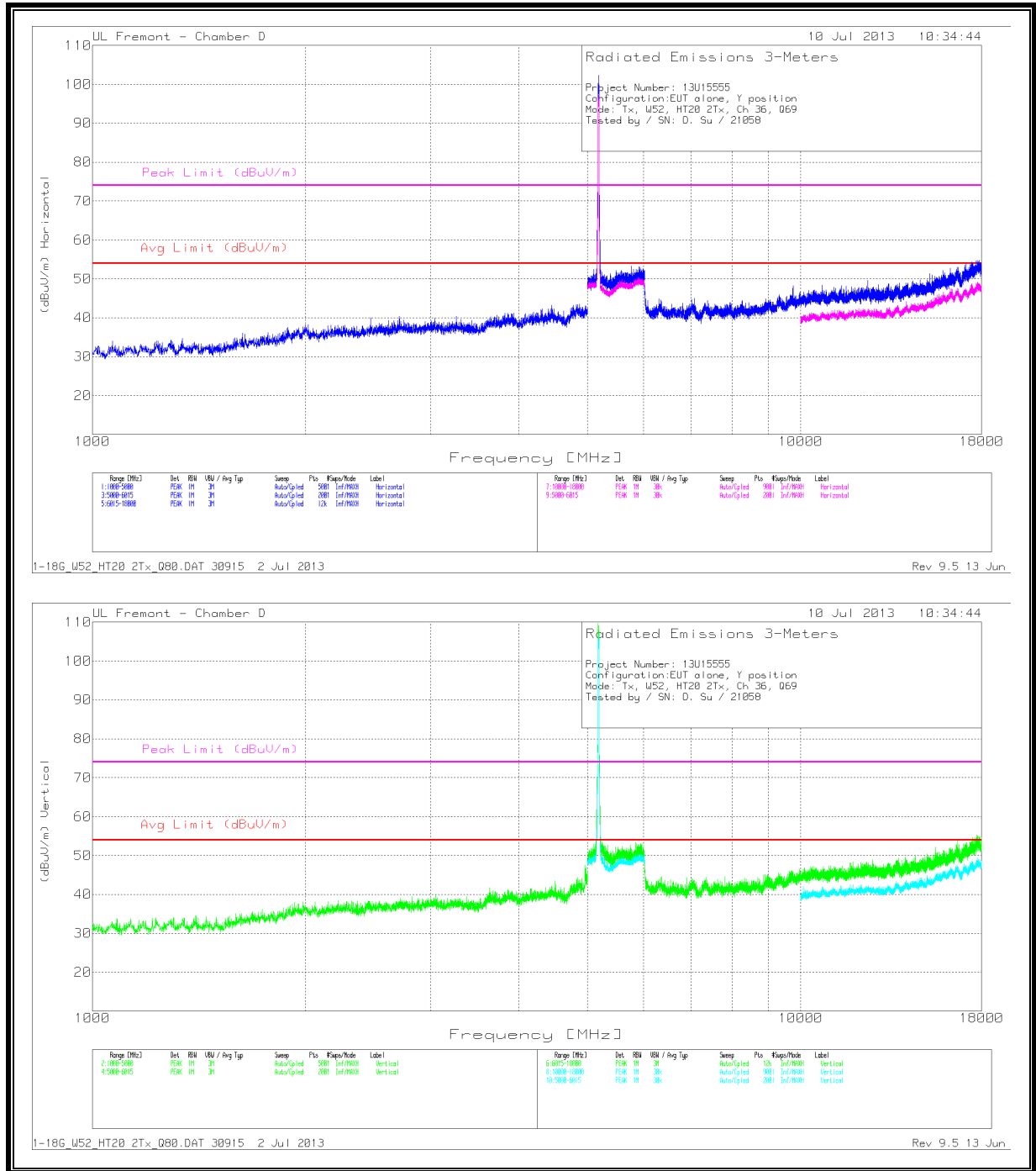
## 9.2.2. 802.11n HT20 2TX CDD MODE IN THE 5.2 GHz BAND

### RESTRICTED BANEDGE (LOW CHANNEL)



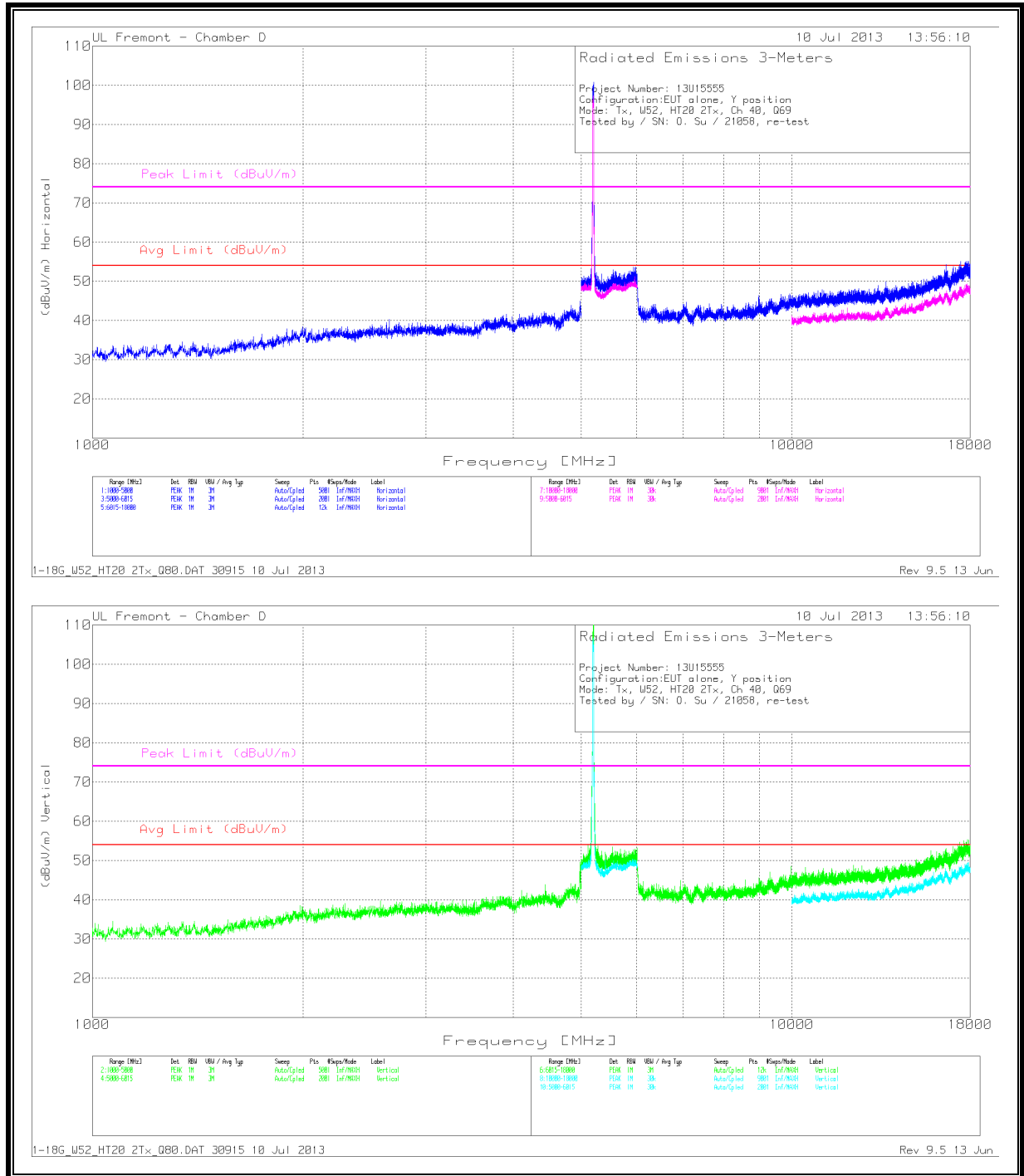




**HARMONICS AND SPURIOUS EMISSIONS****LOW CHANNEL**

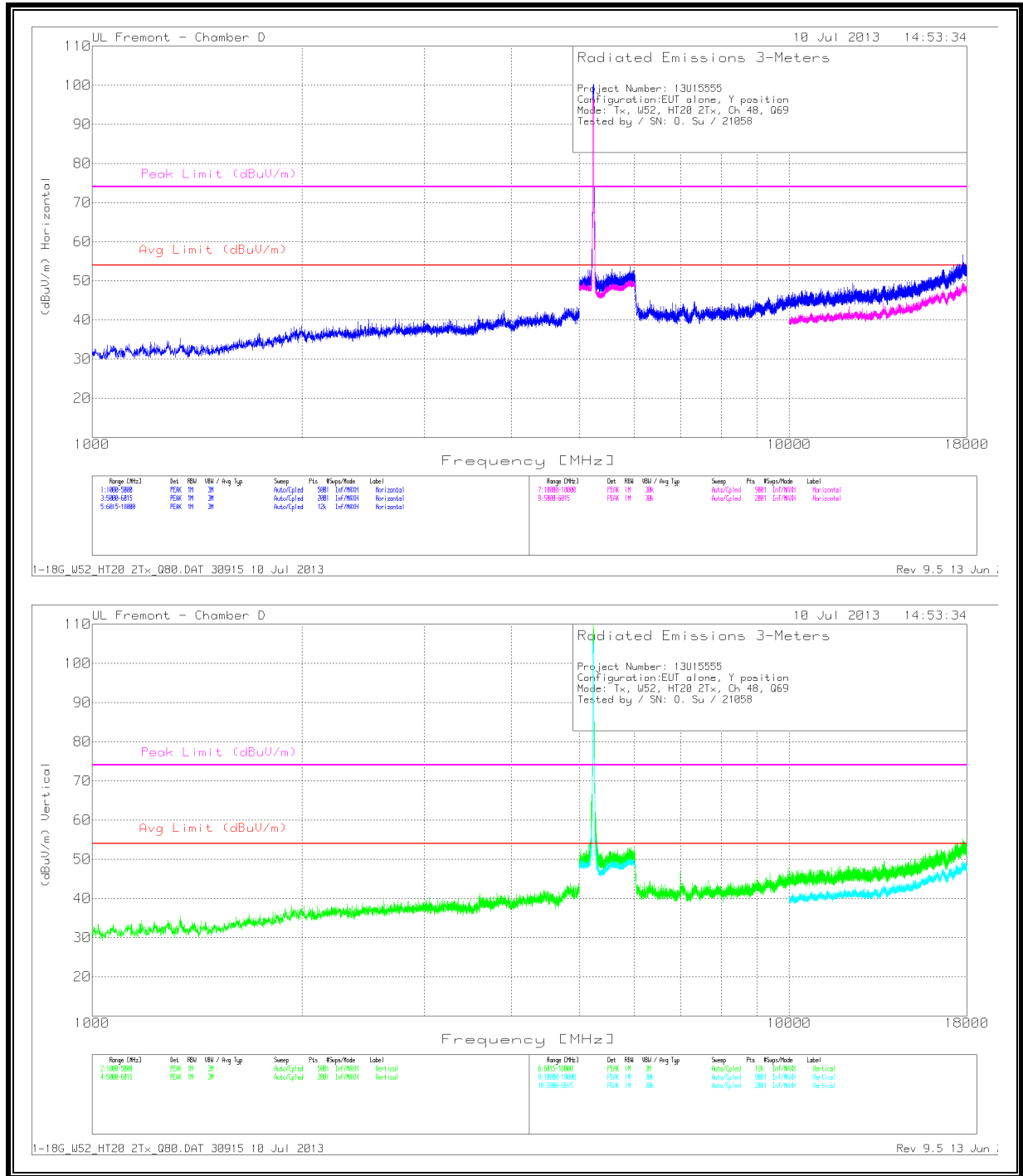
1-18G\_W52\_HT20 2Tx\_Q80.DAT 30915 2 Jul 2013 Rev 9.5 13 Jun 2013

**MID CHANNEL**



1-18G\_W52\_HT20 2Tx\_Q80.DAT 30915 10 Jul 2013 Rev 9.5 13 Jun 2013

**HIGH CHANNEL**



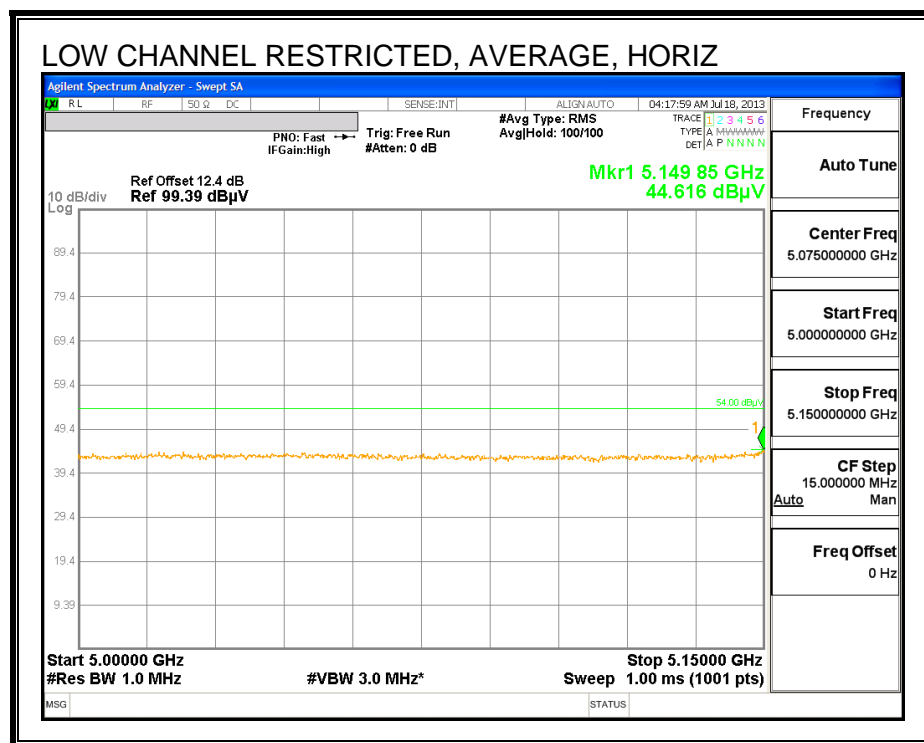
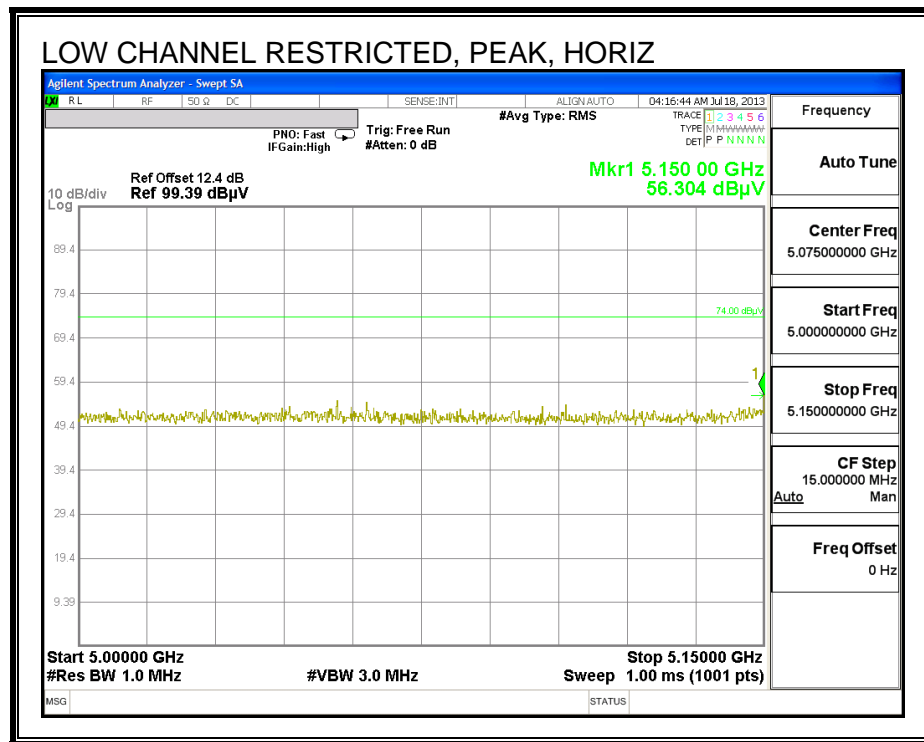
1-18G\_W52\_HT20 2Tx\_Q80.DAT 30915 10 Jul 2013 Rev 9.5 13 Jun 2013

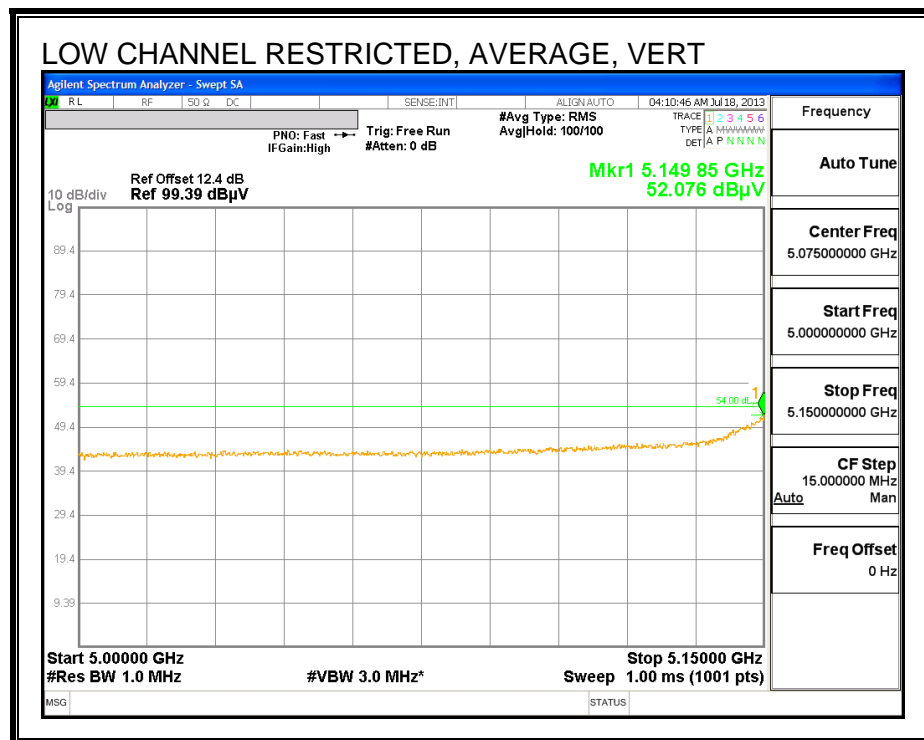
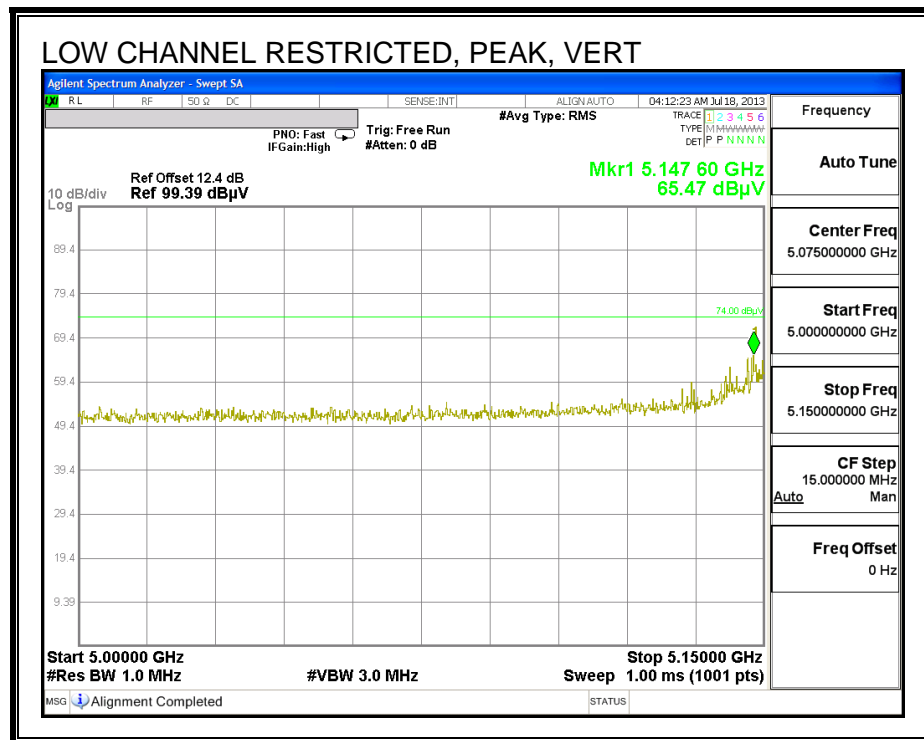
### **9.2.3. 802.11n HT20 2TX STBC MODE IN THE 5.2 GHz BAND**

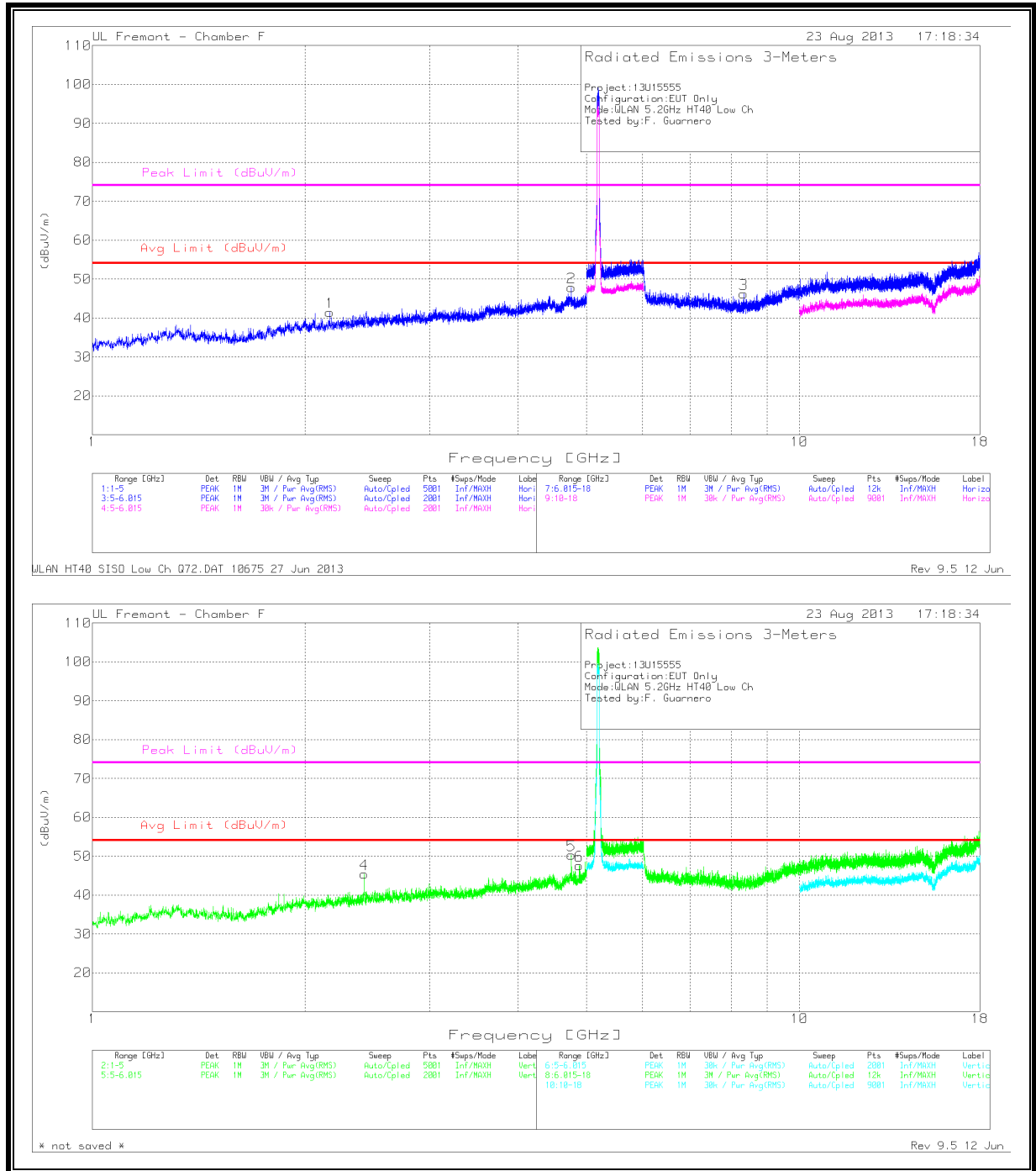
Covered by testing 11n HT20 CDD 2TX in the 5.2GHz band, total power across the two chains is higher than the power level the device will operate at.

## 9.2.4. 802.11n HT40 SISO MODE IN THE 5.2 GHz BAND

### RESTRICTED BANDEDGE (LOW CHANNEL)





**HARMONICS AND SPURIOUS EMISSIONS****LOW CHANNEL**

## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.166	40.81	PK	31.7	-31	41.51	53.97	-12.46	74	-32.49	0-360	201	H
2	4.758	41.5	PK	34.1	-27.7	47.9	53.97	-6.07	74	-26.1	0-360	100	H
3	8.337	37.3	PK	36	-27.1	46.2	53.97	-7.77	74	-27.8	0-360	101	H
4	2.425	44.13	PK	32.2	-30.9	45.43	53.97	-8.54	74	-28.57	0-360	199	V
5	4.758	43.88	PK	34.1	-27.7	50.28	53.97	-3.69	74	-23.72	0-360	100	V
6	4.881	41.49	PK	34	-27.9	47.59	53.97	-6.38	74	-26.41	0-360	199	V

PK - Peak detector

## Radiated Emissions

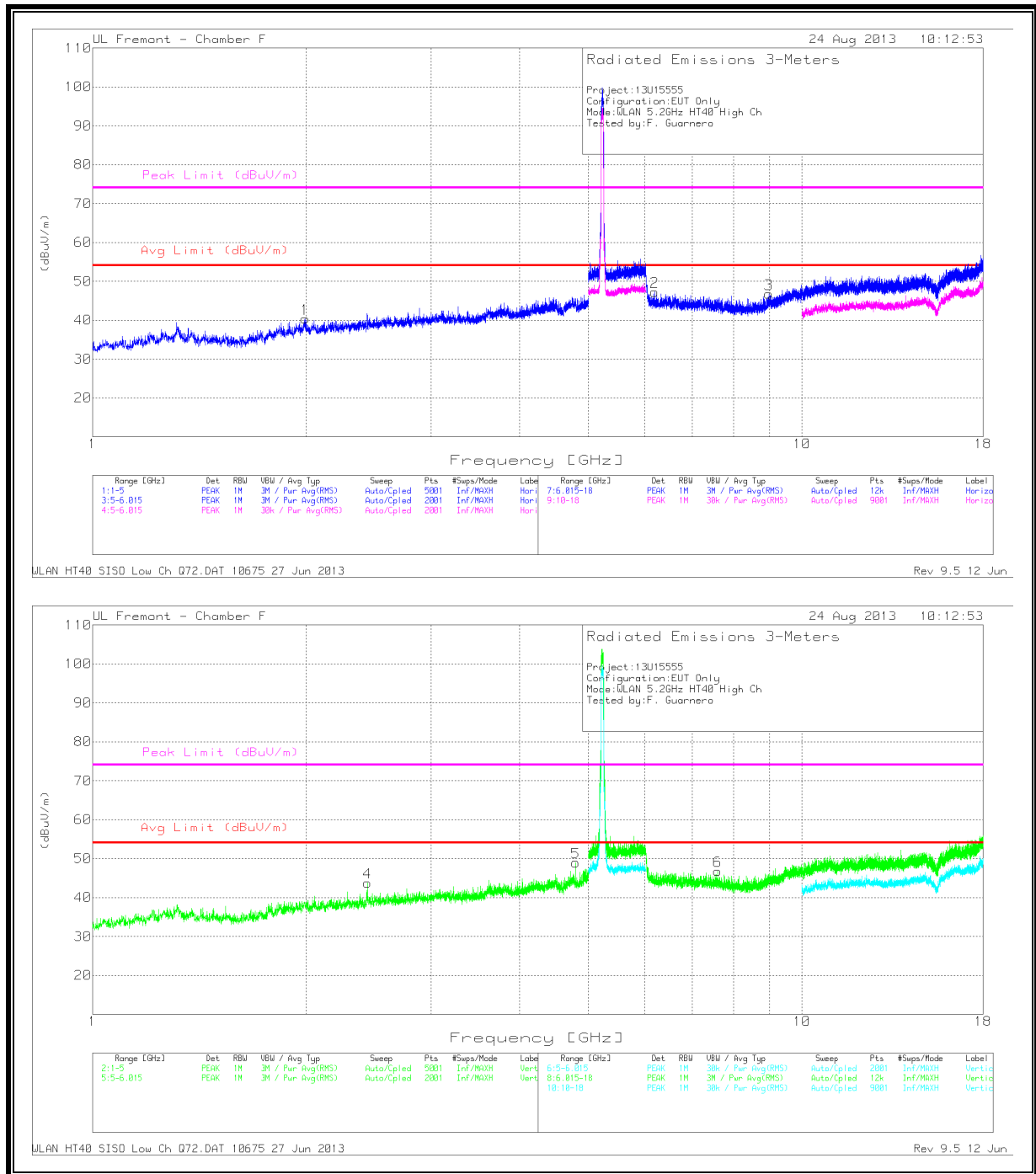
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.757	40.46	AV	34.1	-27.7	46.86	53.97	-7.11	74	--	222	275	V

AV - Average Detection

\* not saved \* Rev 9.5 12 Jun 2013



**HIGH CHANNEL**



## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.994	39.98	PK	31.6	-31.2	40.38	53.97	-13.59	74	-33.62	0-360	199	H
2	6.198	38.88	PK	35.5	-27.1	47.28	53.97	-6.69	74	-26.72	0-360	199	H
3	8.979	35.78	PK	36.3	-25.3	46.78	53.97	-7.19	74	-27.22	0-360	100	H
4	2.44	42.53	PK	32.3	-31	43.83	53.97	-10.14	74	-30.17	0-360	100	V
5	4.795	43.11	PK	34.1	-28.2	49.01	53.97	-4.96	74	-24.99	0-360	201	V
6	7.605	37.31	PK	35.9	-26.4	46.81	53.97	-7.16	74	-27.19	0-360	200	V

PK - Peak detector

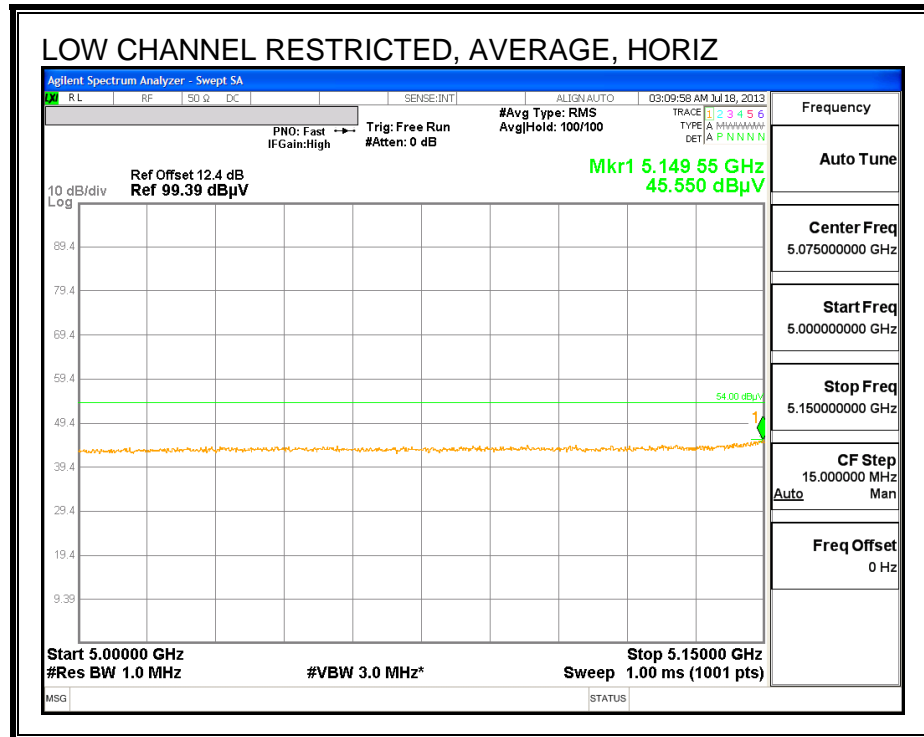
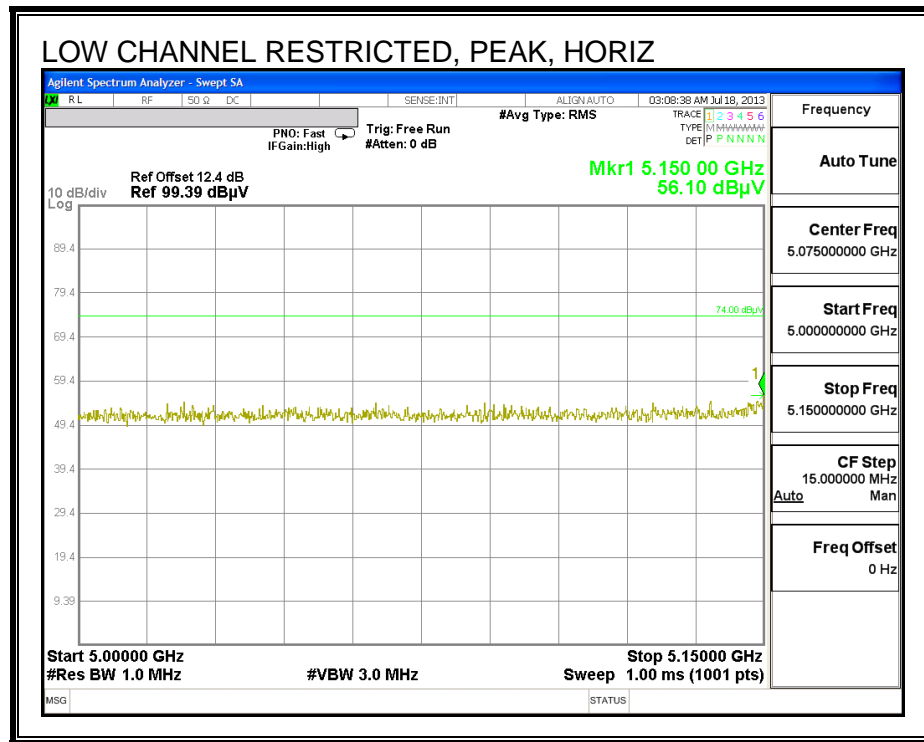
## Radiated Emissions

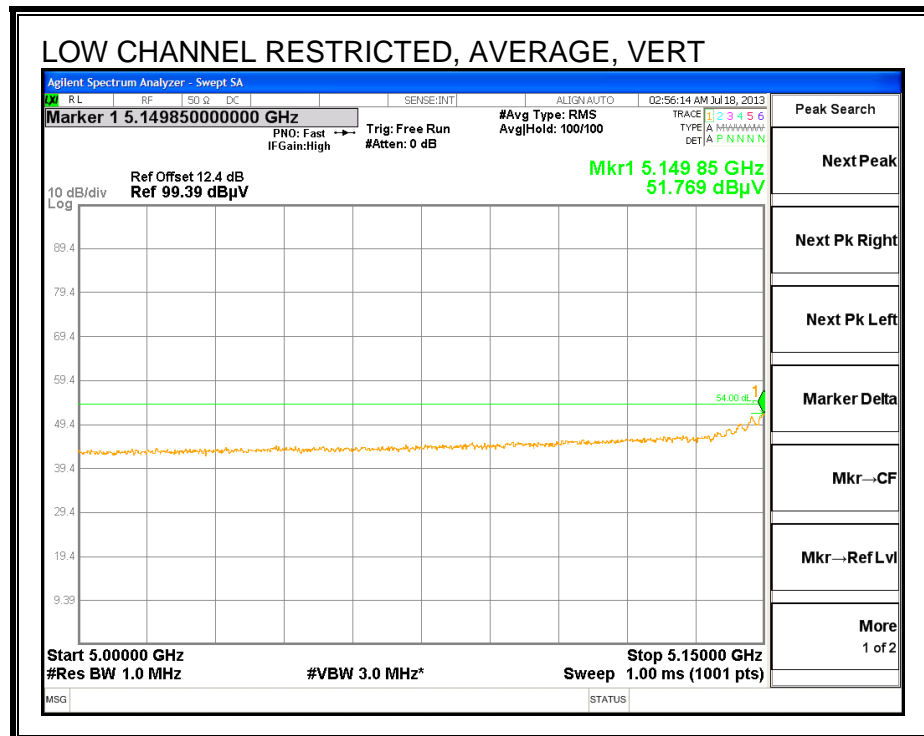
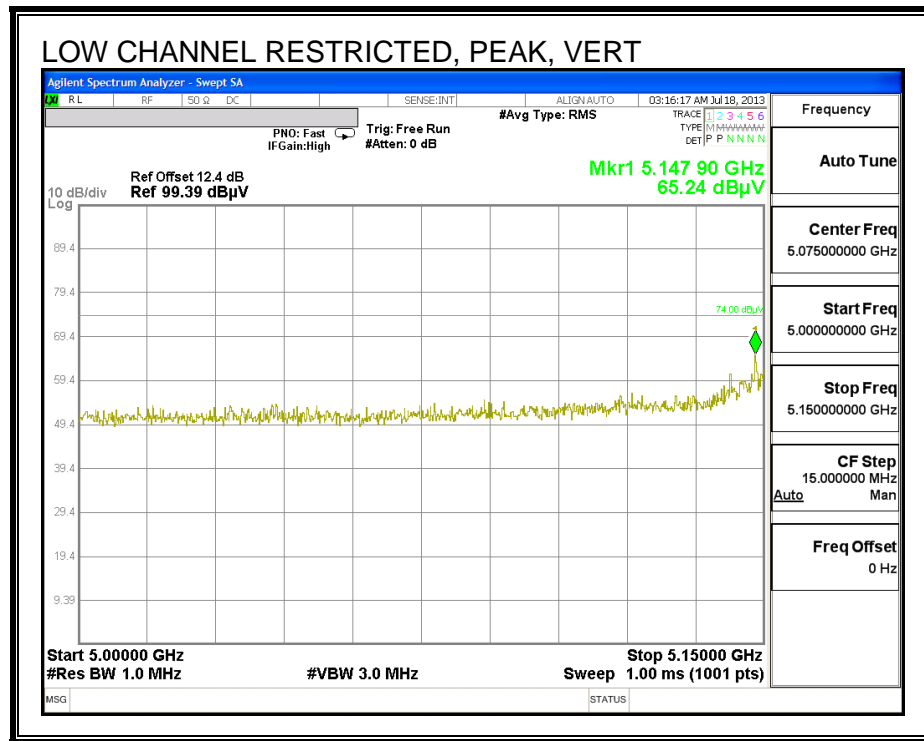
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.794	39.92	AV	34.1	-28.1	45.92	53.97	-8.05	74	--	236	275	V

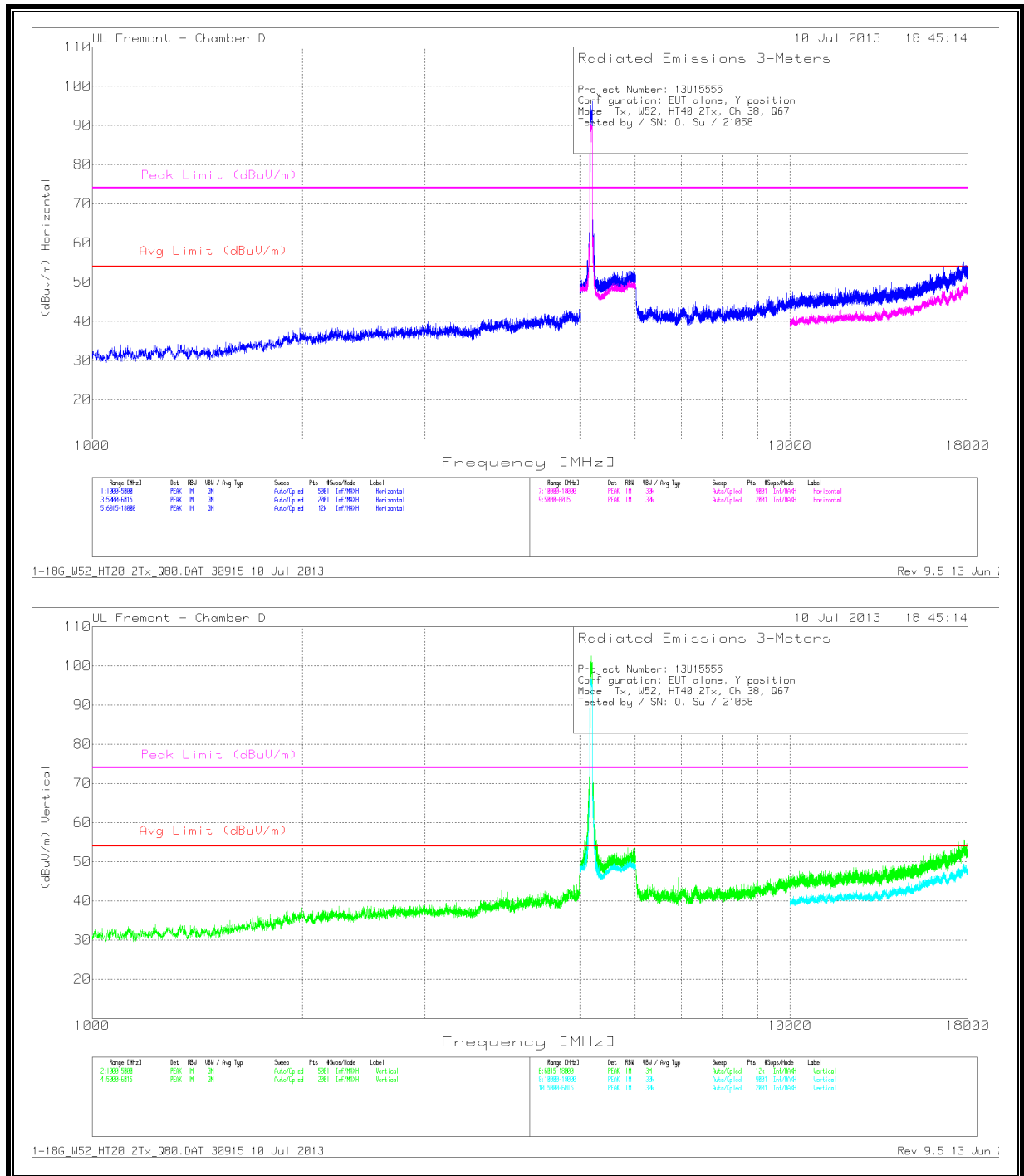
AV – Average detection

## 9.2.5. 802.11n HT40 2TX CDD MODE IN THE 5.2 GHz BAND

### RESTRICTED BANEDGE (LOW CHANNEL)





**HARMONICS AND SPURIOUS EMISSIONS****LOW CHANNEL**

## Trace Markers

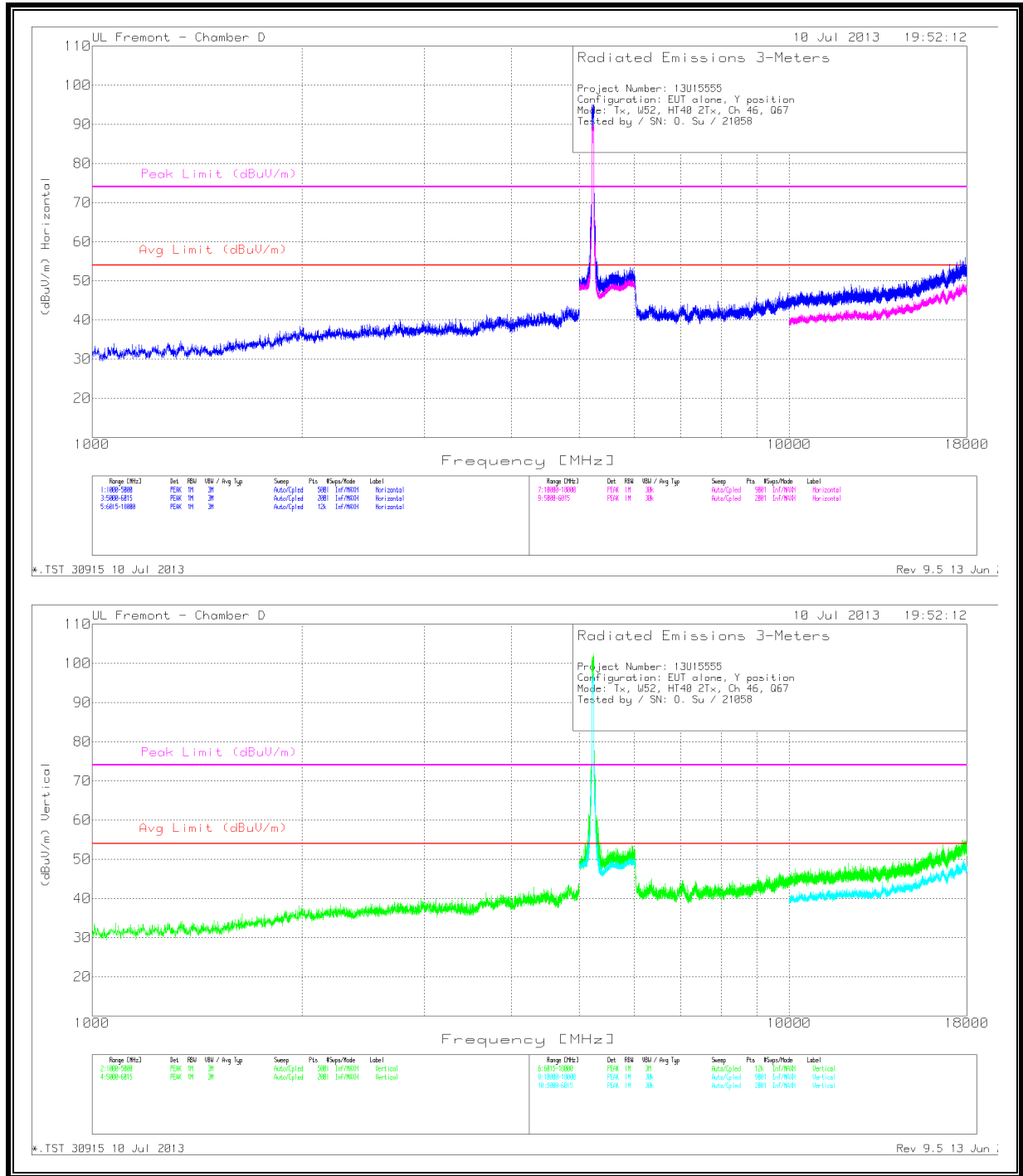
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cb/Filtr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
5.082	42.9	PK	34.5	-21.9	55.5	-	-	74	-18.5	201	V
5.082	16.75	Av	34.5	-21.9	29.35	53.97	-24.62	74	--	209	V

PK - Peak detector

Av - average detection

1-18G\_W52\_HT40 2Tx\_Q67.DAT 30915 10 Jul 2013Rev 9.5 13 Jun 2013

**HIGH CHANNEL**



\*.TST 30915 10 Jul 2013 Rev 9.5 13 Jun 2013

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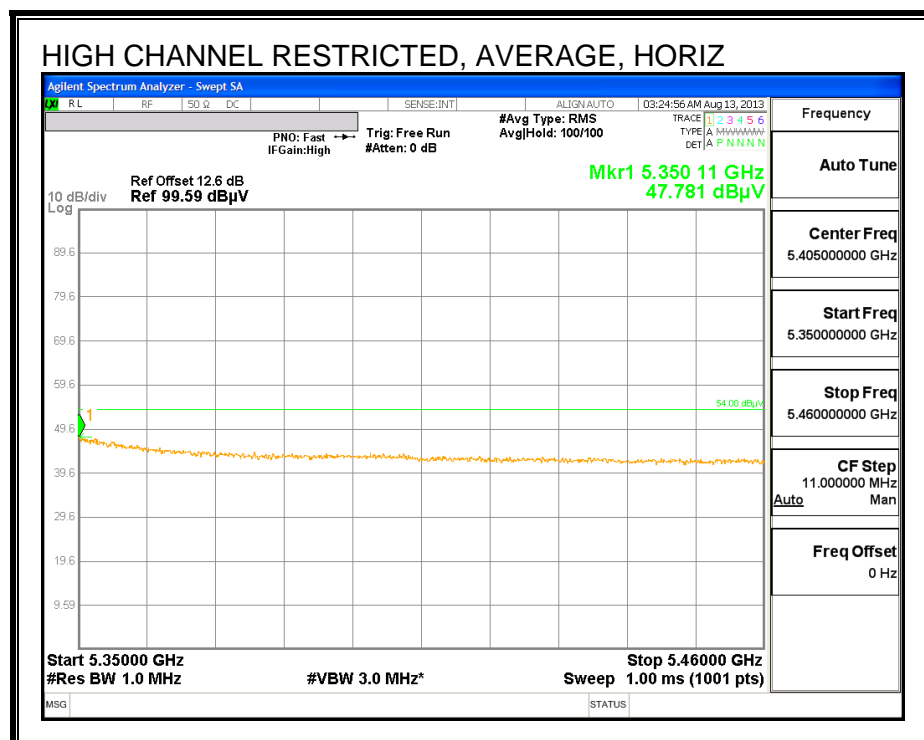
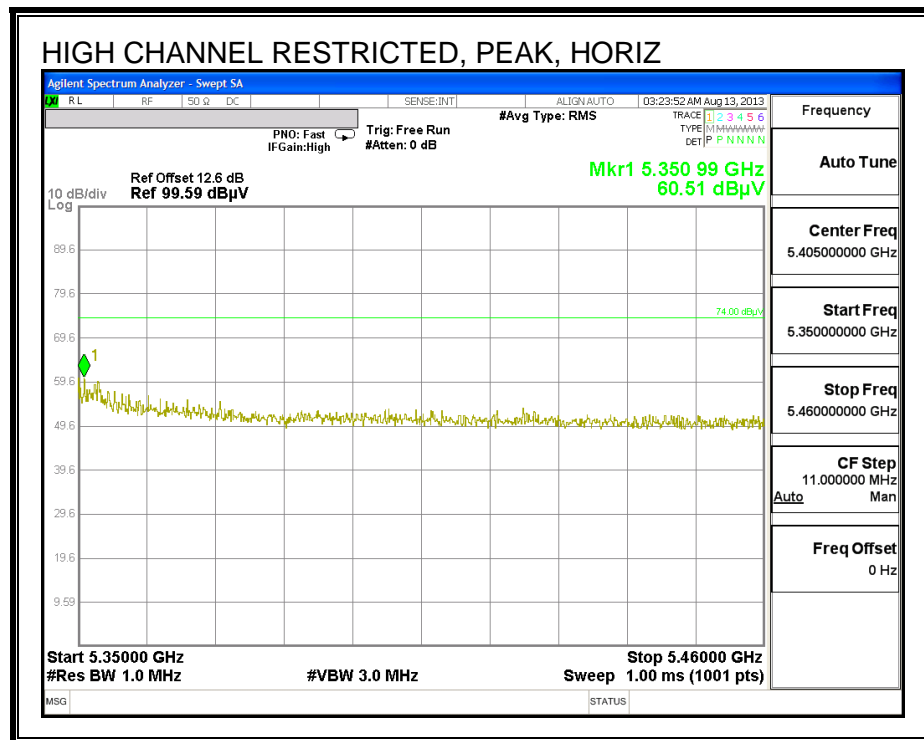
**9.2.6. 802.11n HT40 2TX STBC MODE IN THE 5.2 GHz BAND**

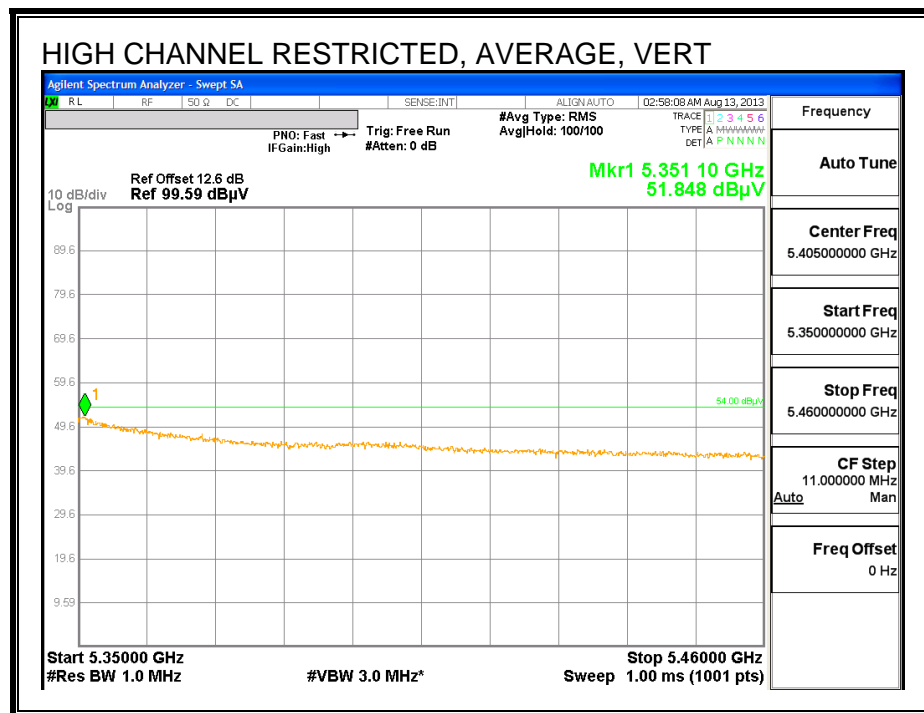
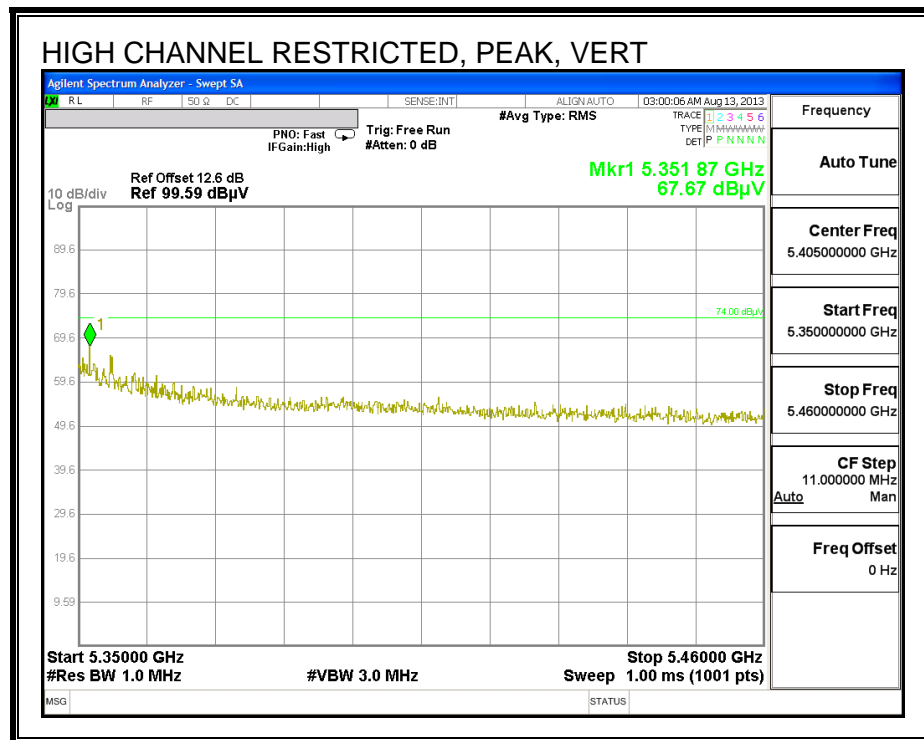
Covered by testing 11n HT40 CDD 2TX in the 5.2GHz band, total power across the two chains is higher than the power level the device will operate at.

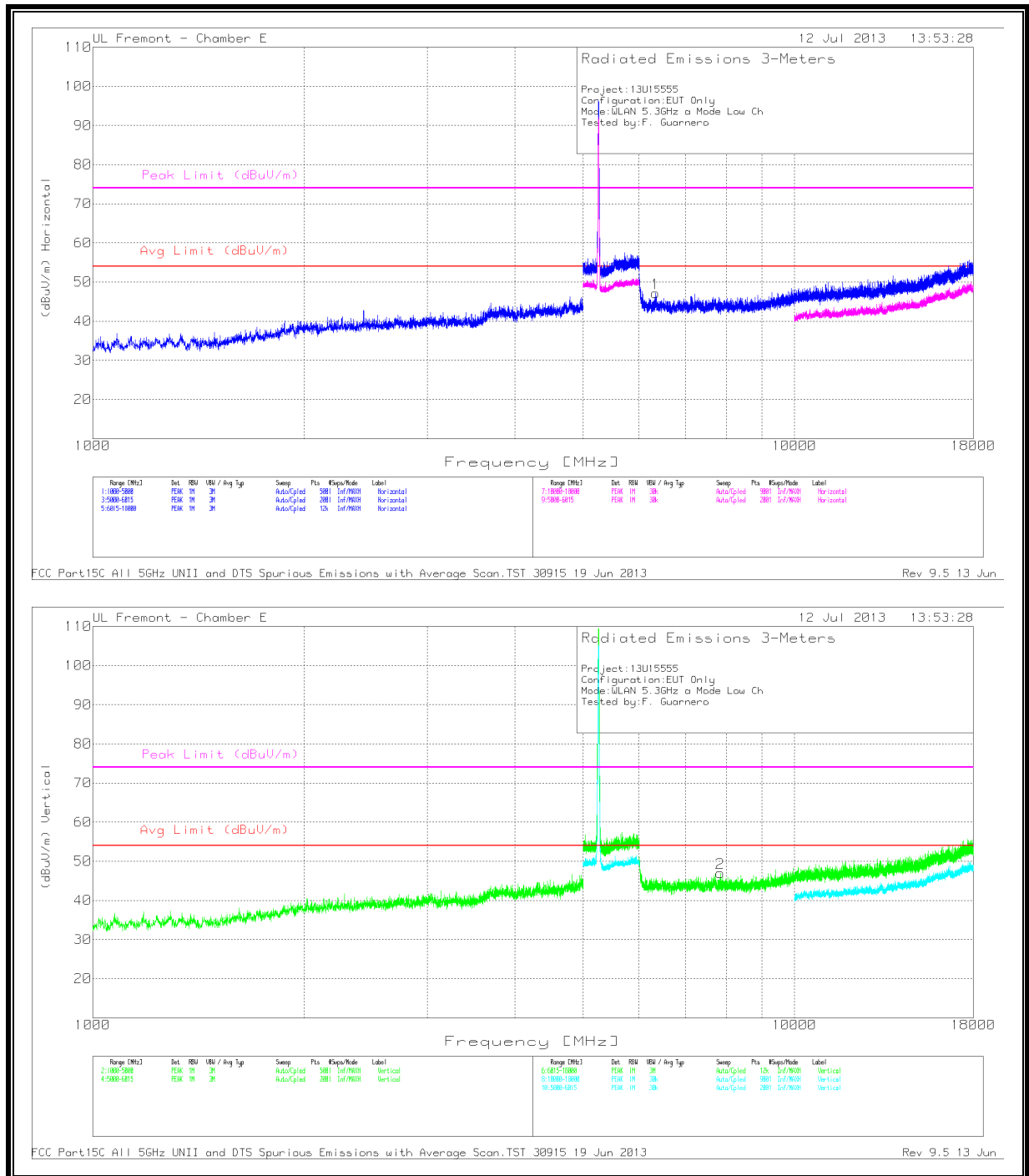


## 9.2.7. 802.11a SISO MODE IN THE 5.3 GHZ BAND

### RESTRICTED BANDEDGE (HIGH CHANNEL)





**HARMONICS AND SPURIOUS EMISSIONS****LOW CHANNEL**

## Trace Markers

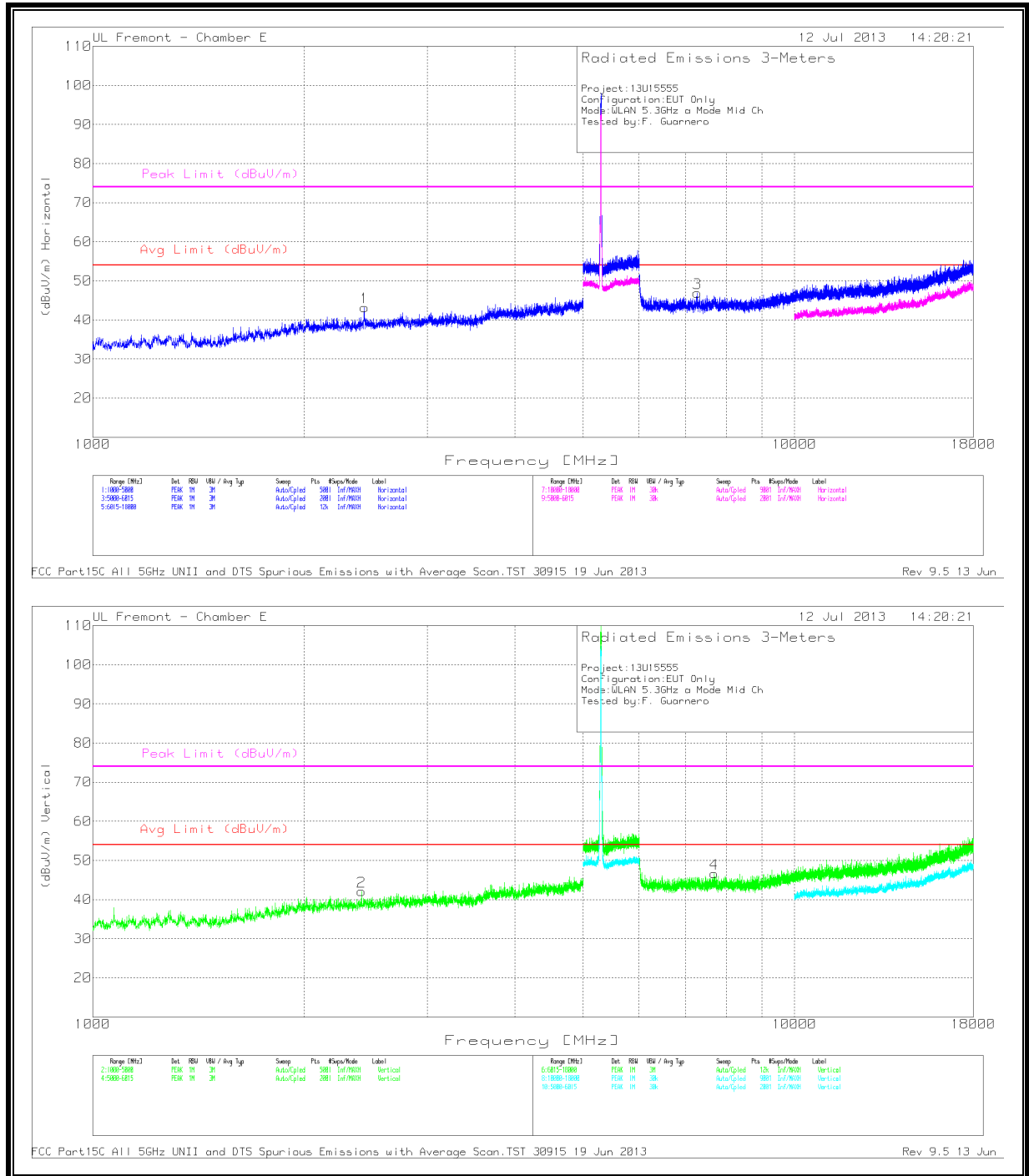
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	6.342	40.45	PK	35.9	-29.2	47.15	53.97	-6.82	74	-26.85	199	H

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
2	7.844	39.58	PK	36.2	-28.8	46.98	53.97	-6.99	74	-27.02	199	V

PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
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**MID CHANNEL**



## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl 5GHz LPF dB	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	2.441	44	PK	32.6	-33.4	43.2	53.97	-10.77	74	-30.8	199	H
3	7.275	39.8	PK	36	-28.9	46.9	53.97	-7.07	74	-27.1	199	H

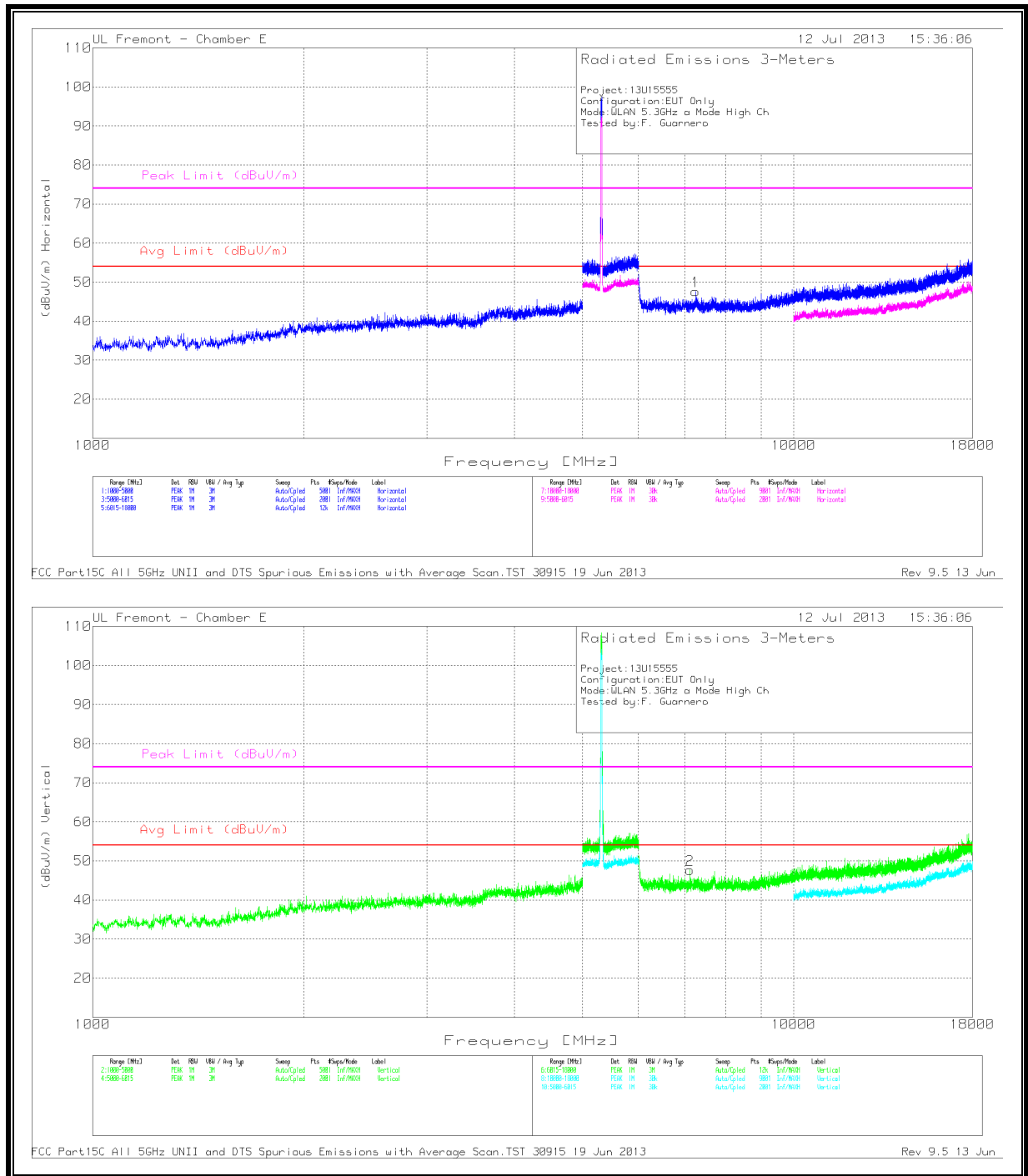
PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
2	2.417	43.2	PK	32.6	-33.7	42.1	53.97	-11.87	74	-31.9	199	V
4	7.689	39.16	PK	36.2	-28.7	46.66	53.97	-7.31	74	-27.34	199	V

PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
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**HIGH CHANNEL**



## Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
1	7.248	40.82	PK	36	-29.2	47.62	53.97	-6.35	74	-26.38	199	H

PK - Peak detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (dB/m)	Amp/Cbl/6 GHz HPF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarity
2	7.116	41.3	PK	36	-29.6	47.7	53.97	-6.27	74	-26.3	199	V

PK - Peak detector

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 19  
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