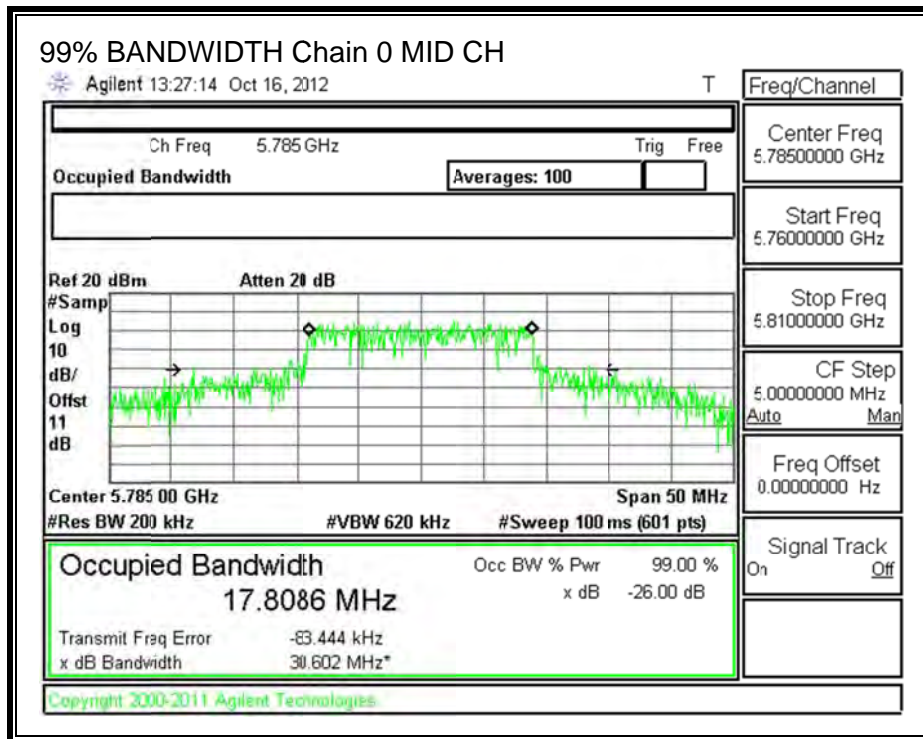
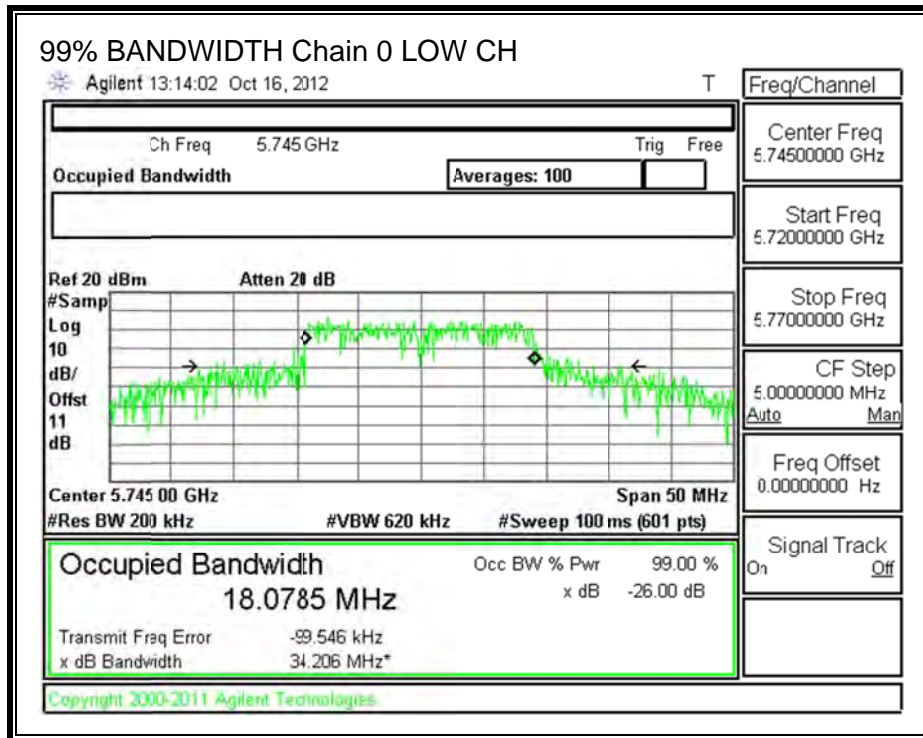
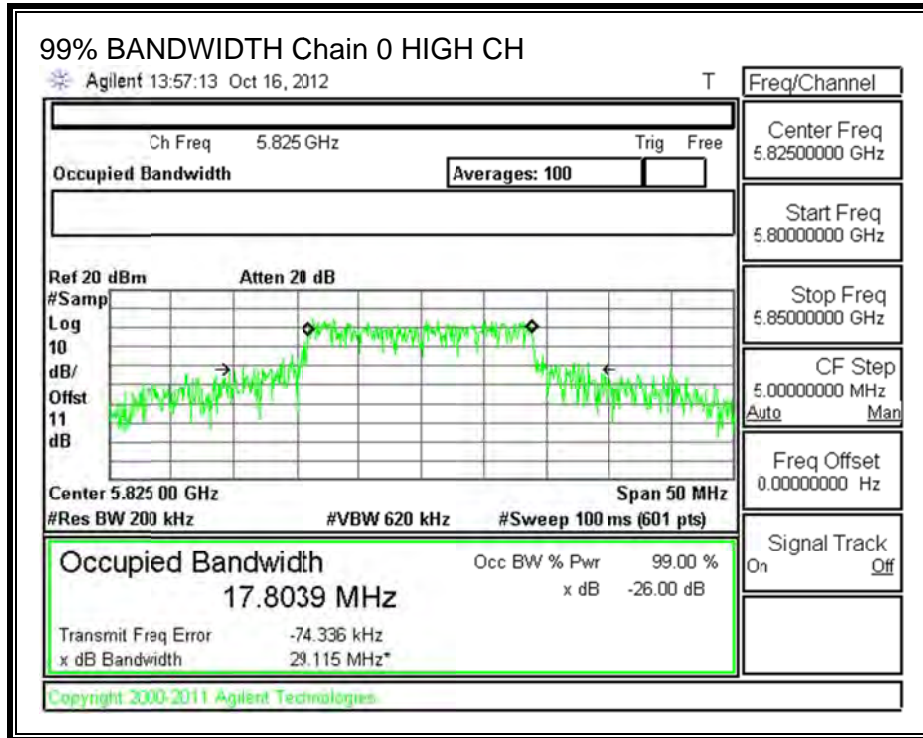
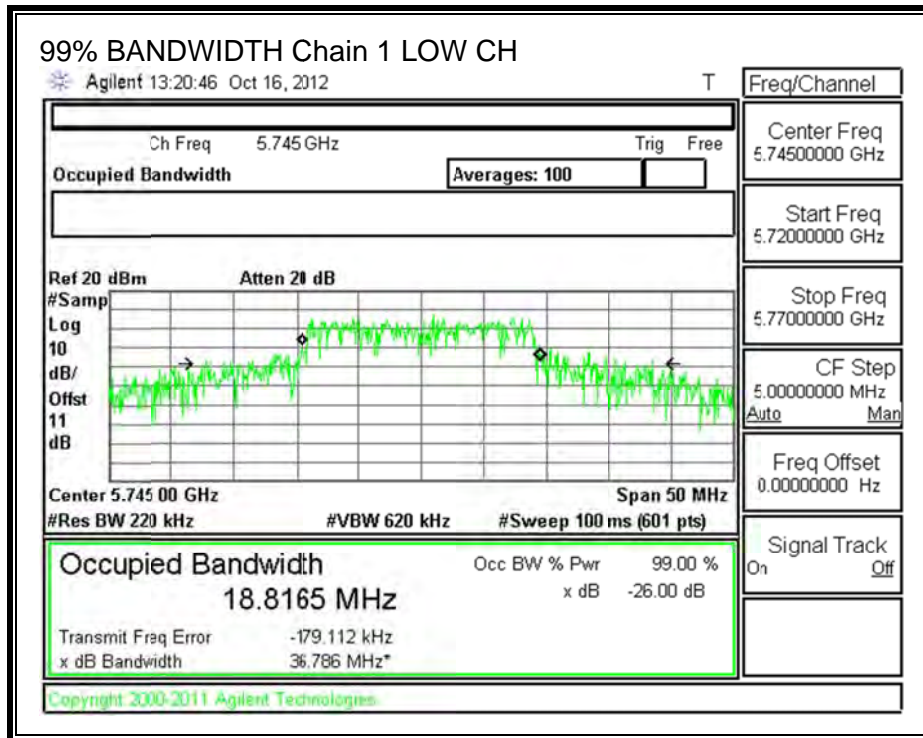


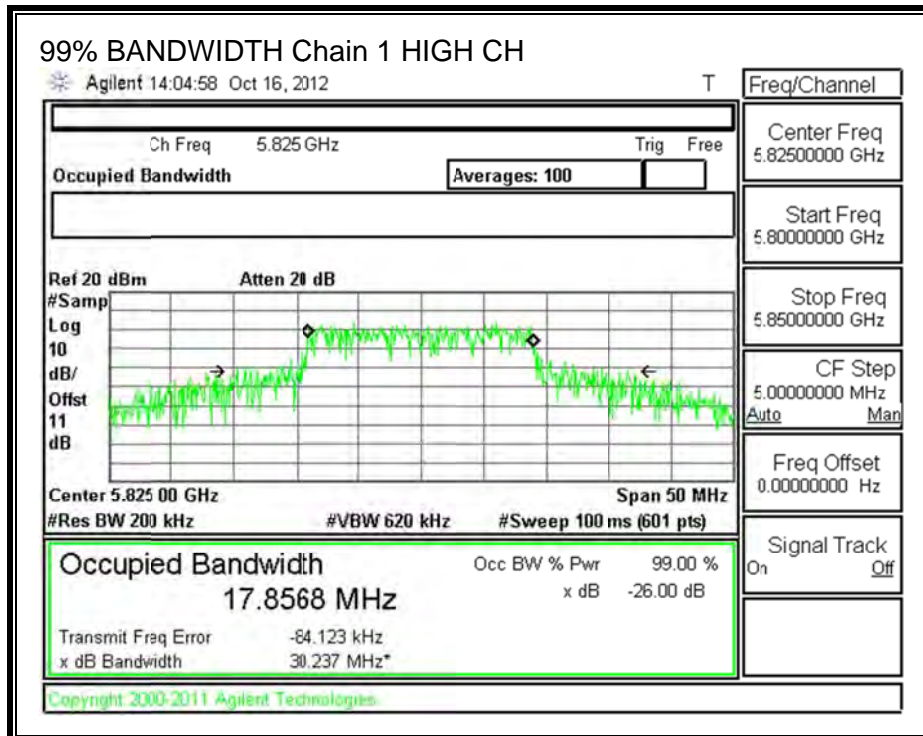
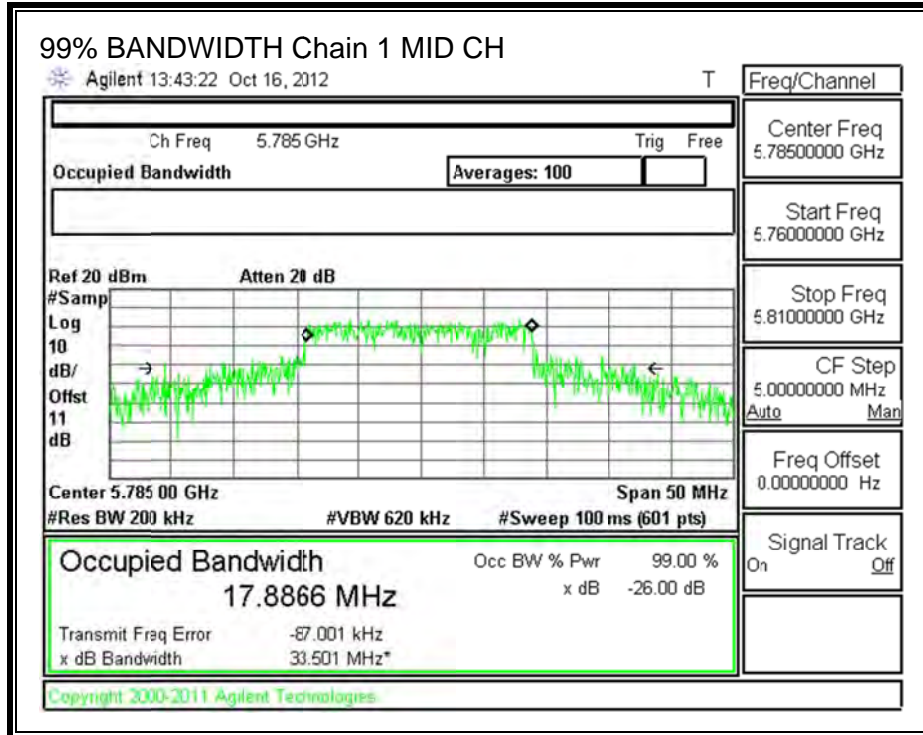
**99% BANDWIDTH, Chain 0**





**99% BANDWIDTH, Chain 1**





### 8.8.3. 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 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5745	16.70	17.00	19.86
Mid	5785	18.25	17.90	21.09
High	5825	17.80	17.00	20.43

### 8.8.4. OUTPUT POWER

#### LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### DIRECTIONAL ANTENNA GAIN

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

<b>Antenna Gain (dBi)</b>	<b>10 * Log (2 chains) (dB)</b>	<b>Correlated Chains Directional Gain (dBi)</b>
2.00	3.01	5.01

**RESULTS**

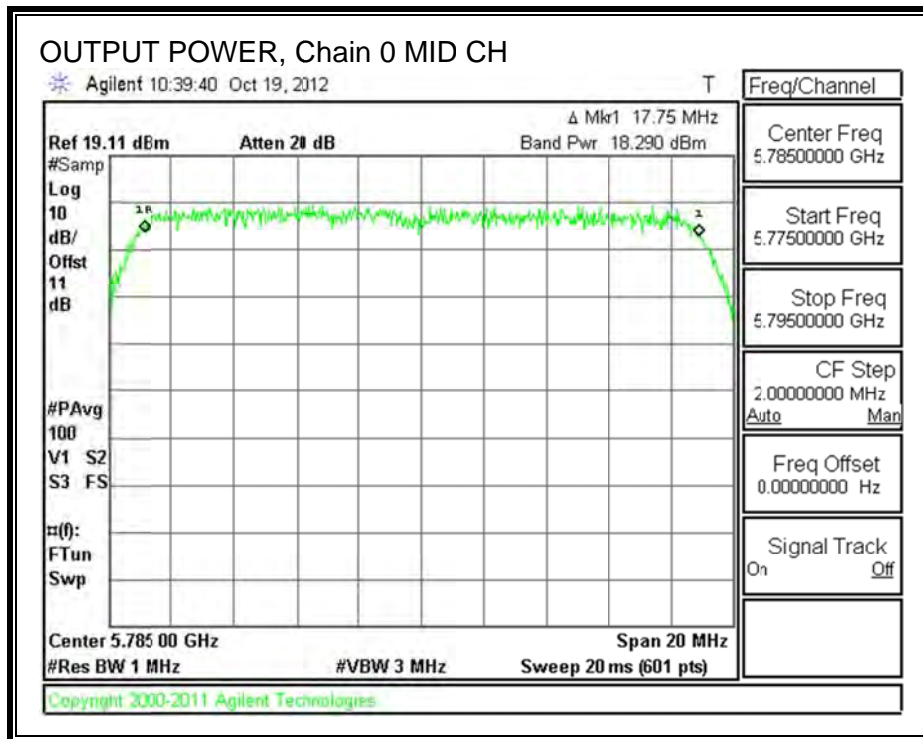
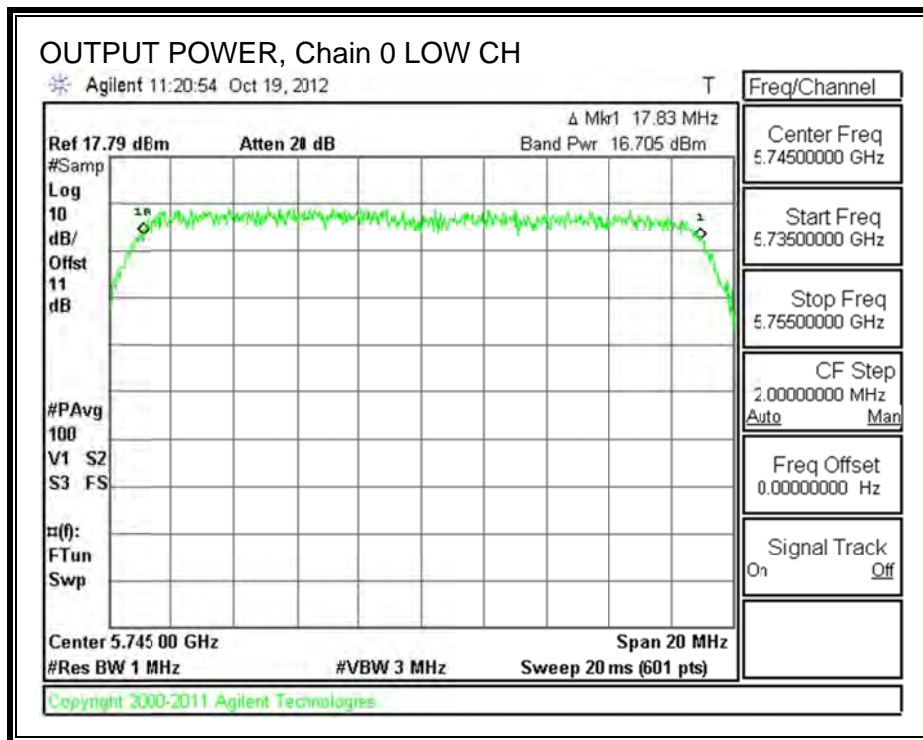
**Limits**

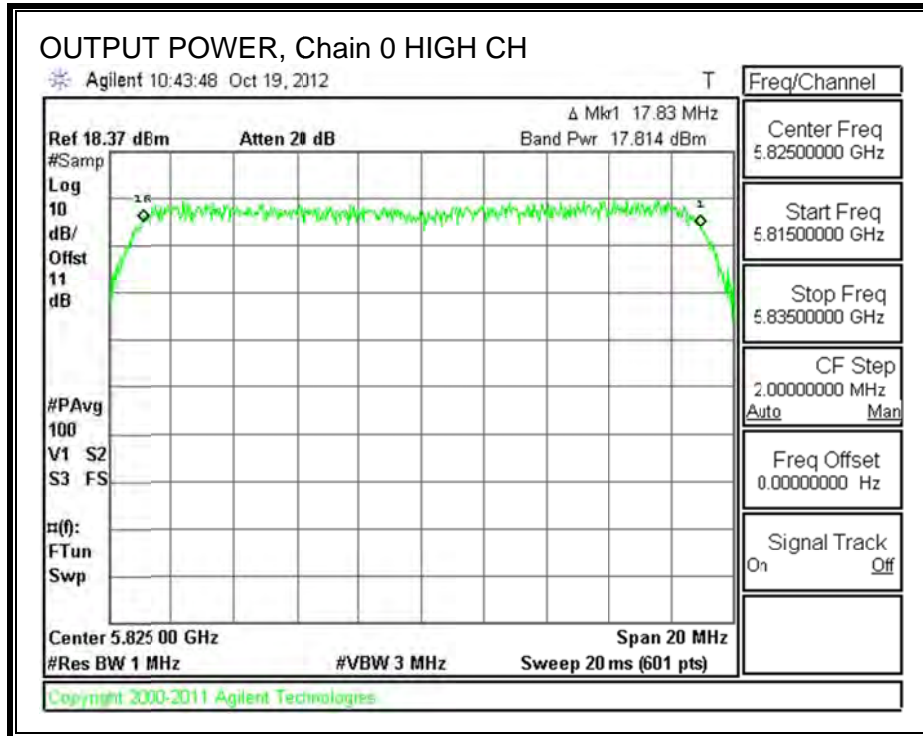
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	5.01	30.00	30	36	30.00
Mid	5785	5.01	30.00	30	36	30.00
High	5825	5.01	30.00	30	36	30.00

**Results**

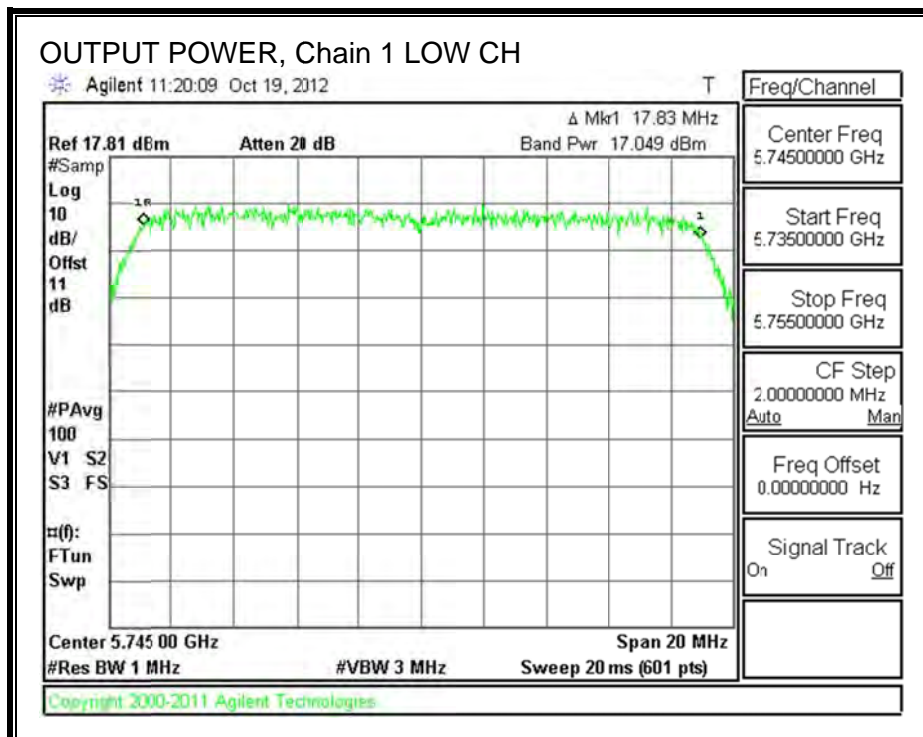
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5745	16.705	17.049	19.891	30.00	-10.109
Mid	5785	18.290	17.917	21.118	30.00	-8.882
High	5825	17.814	17.070	20.468	30.00	-9.532

**OUTPUT POWER, Chain 0**

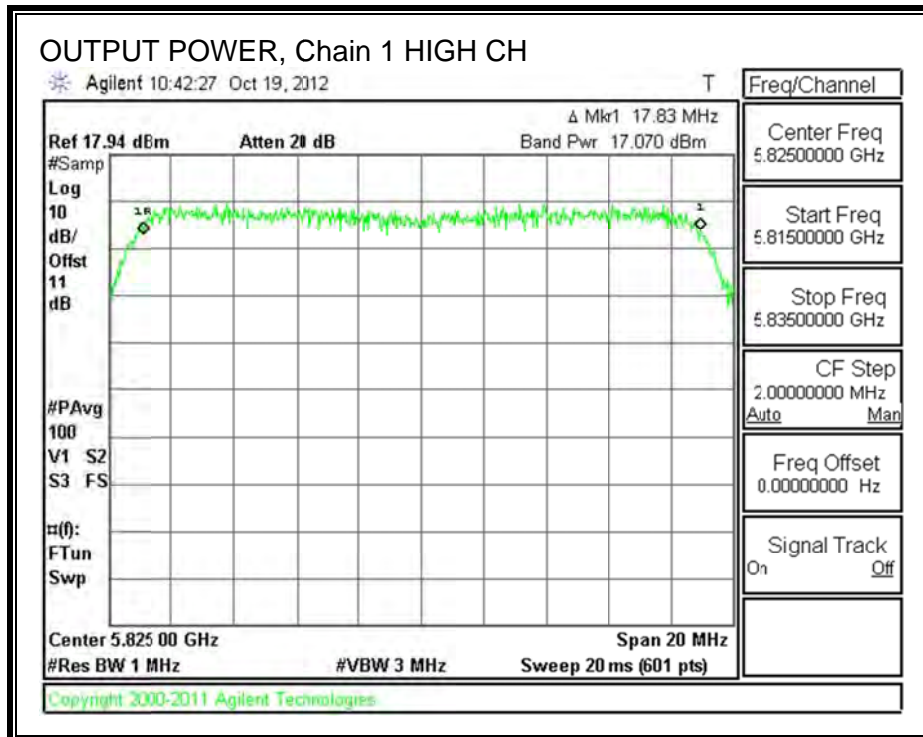
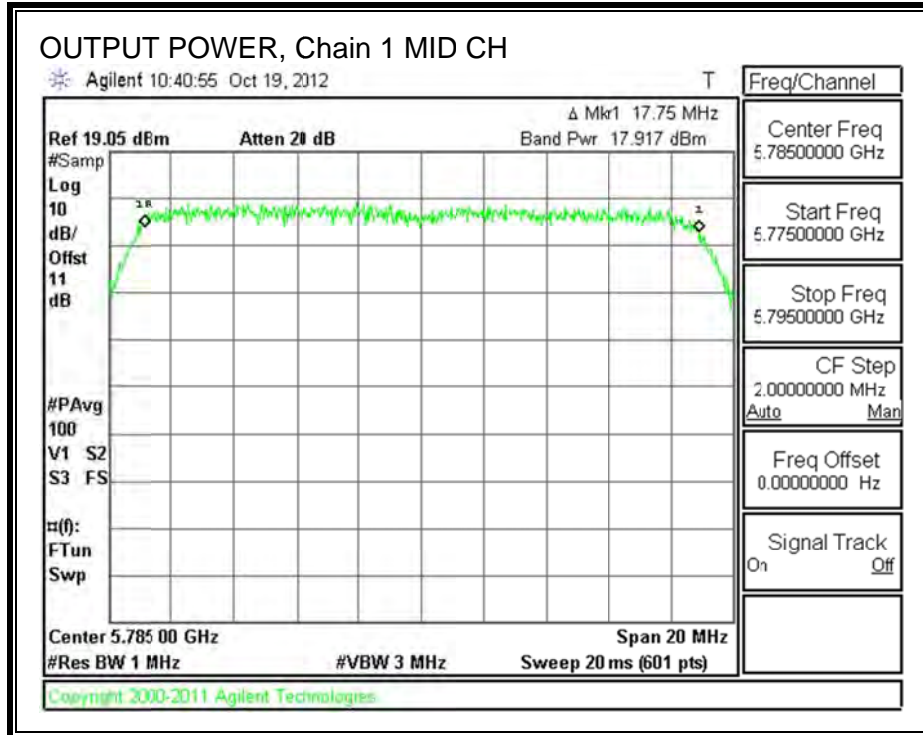




**OUTPUT POWER, Chain 1**







### 8.8.5. PSD

#### LIMITS

FCC §15.247

IC RSS-210 A8.2

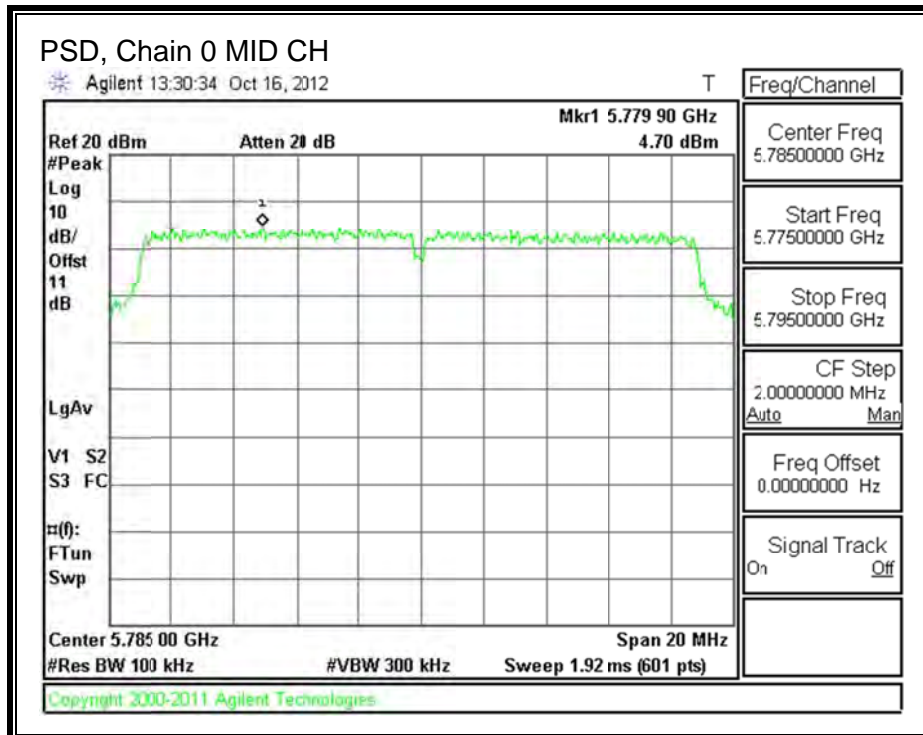
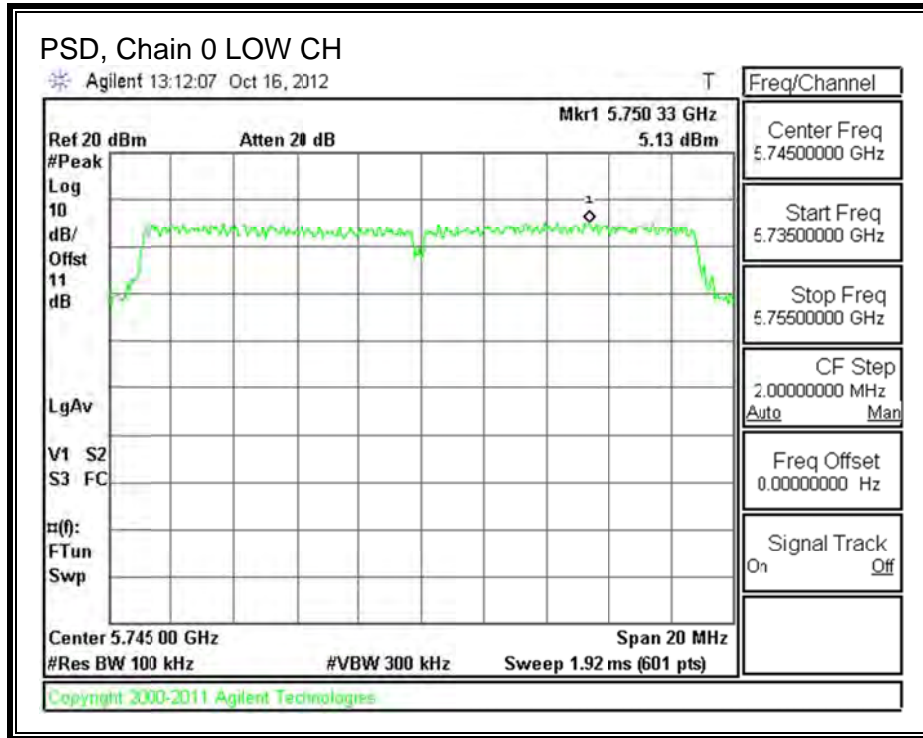
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

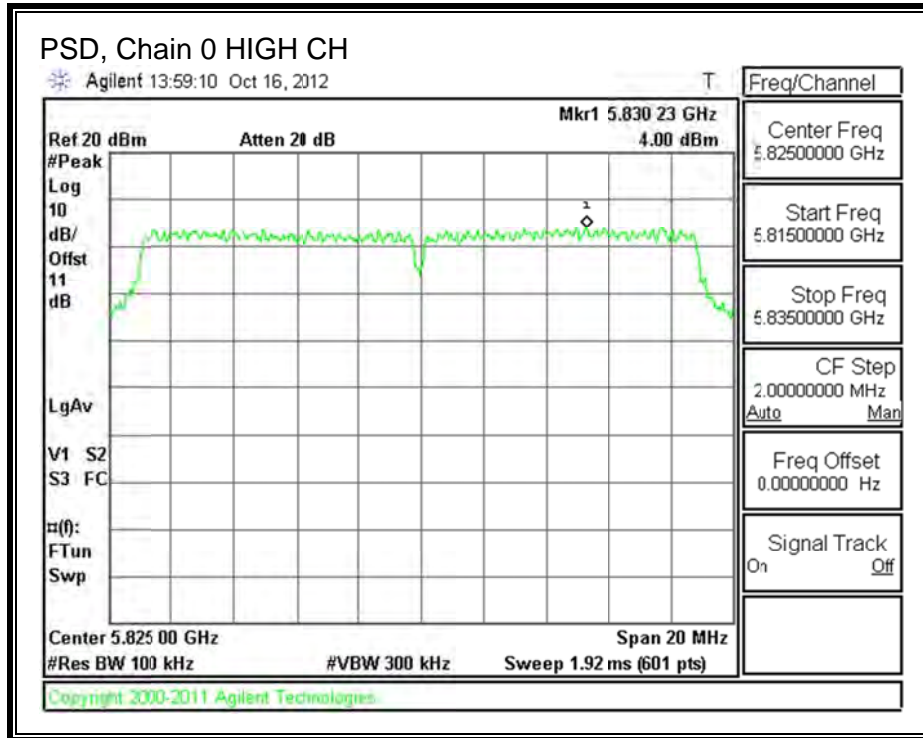
#### RESULTS

##### PSD Results

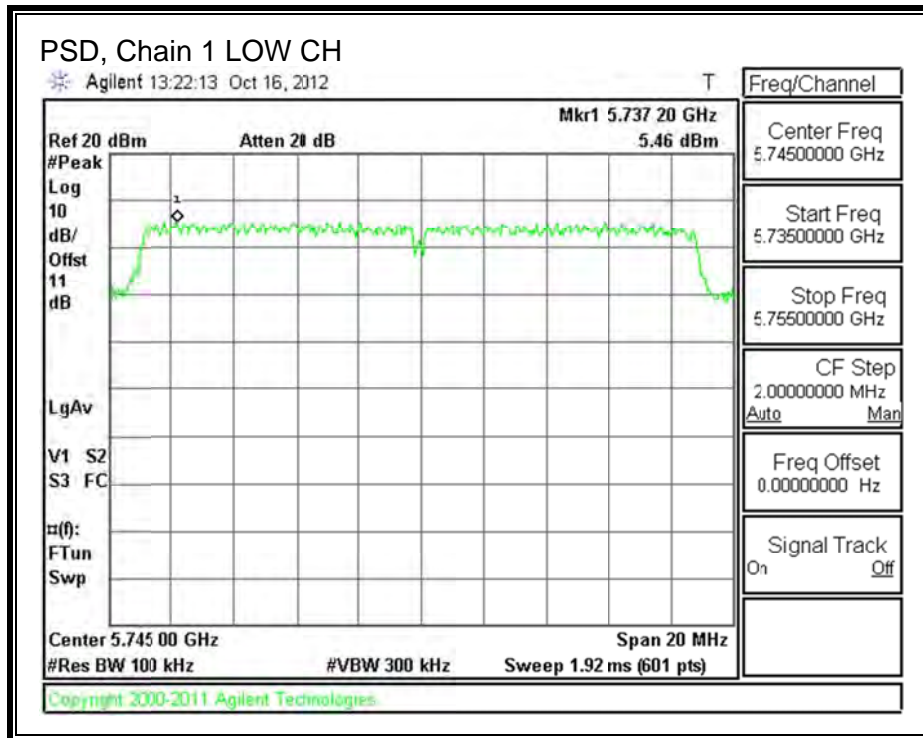
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	BW Corr (dB)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5745	5.13	5.46	-15.2	-6.89	8.0	-14.9
Mid	5785	4.70	4.15	-15.2	-7.76	8.0	-15.8
High	5825	4.00	3.57	-15.2	-8.40	8.0	-16.4

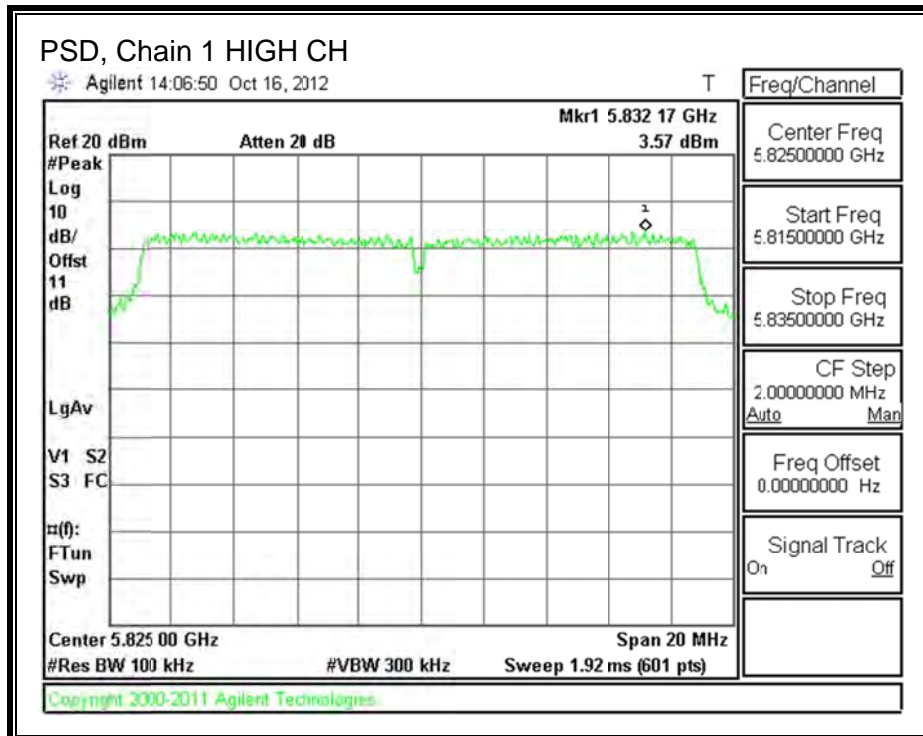
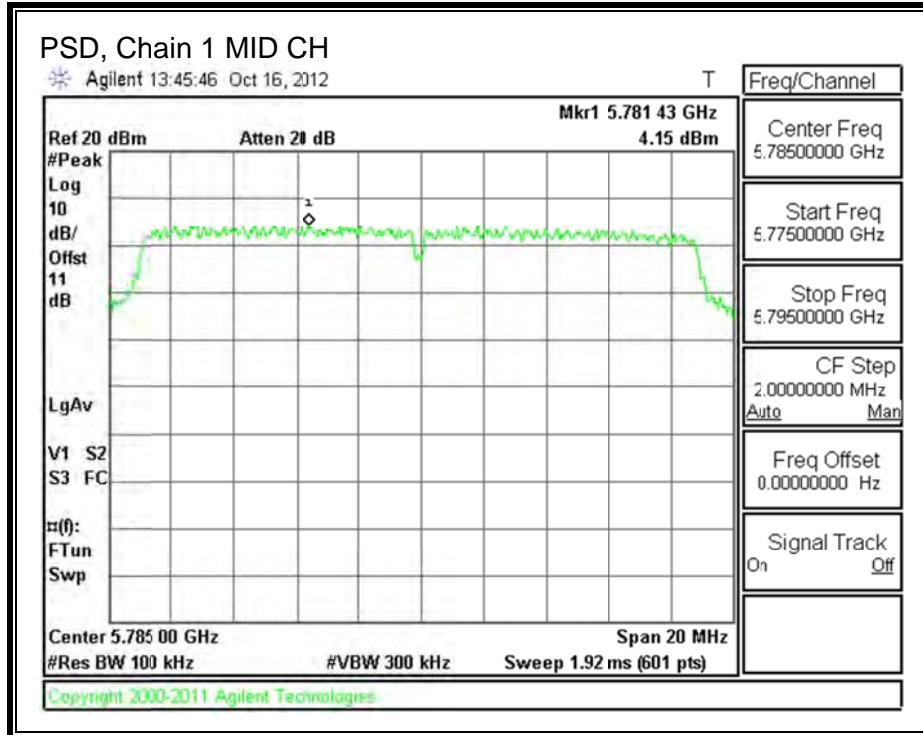
**PSD, Chain 0**





**PSD, Chain 1**





## 8.8.6. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

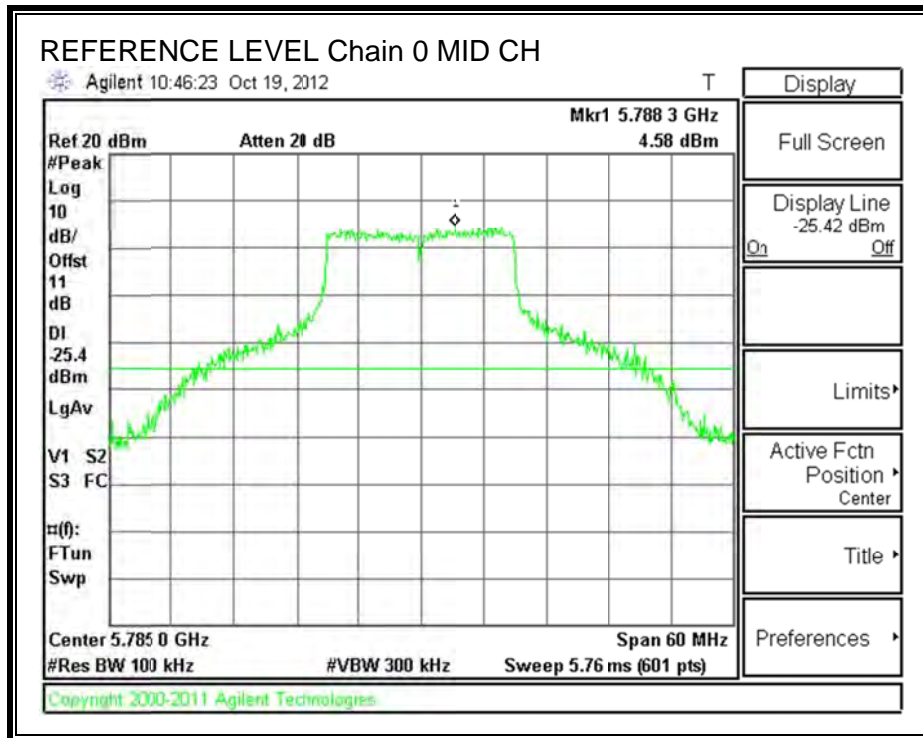
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

### TEST PROCEDURE

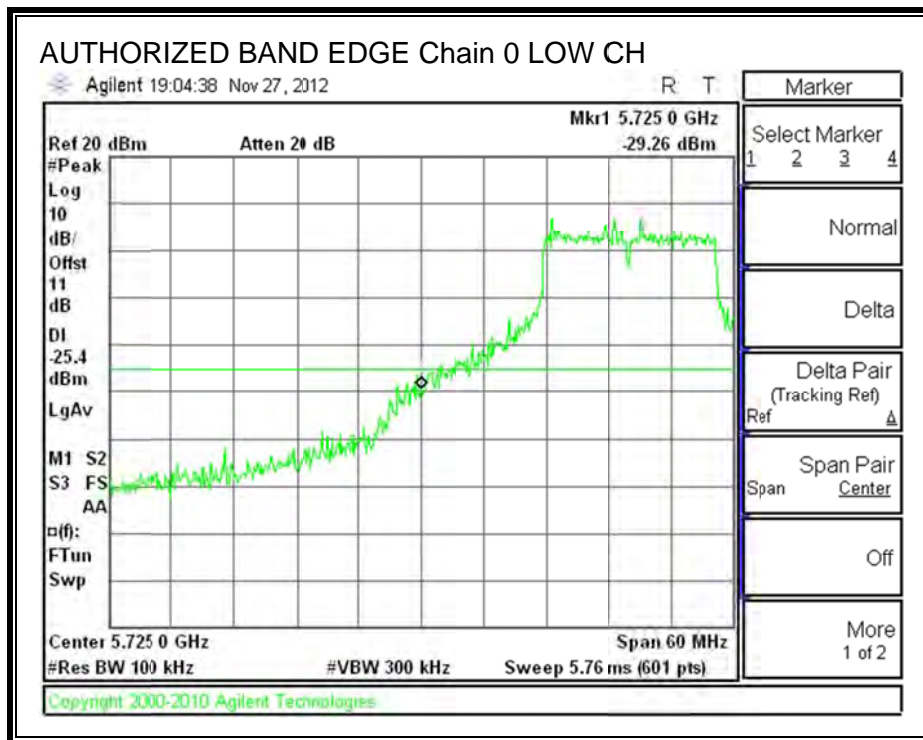
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

**RESULTS**

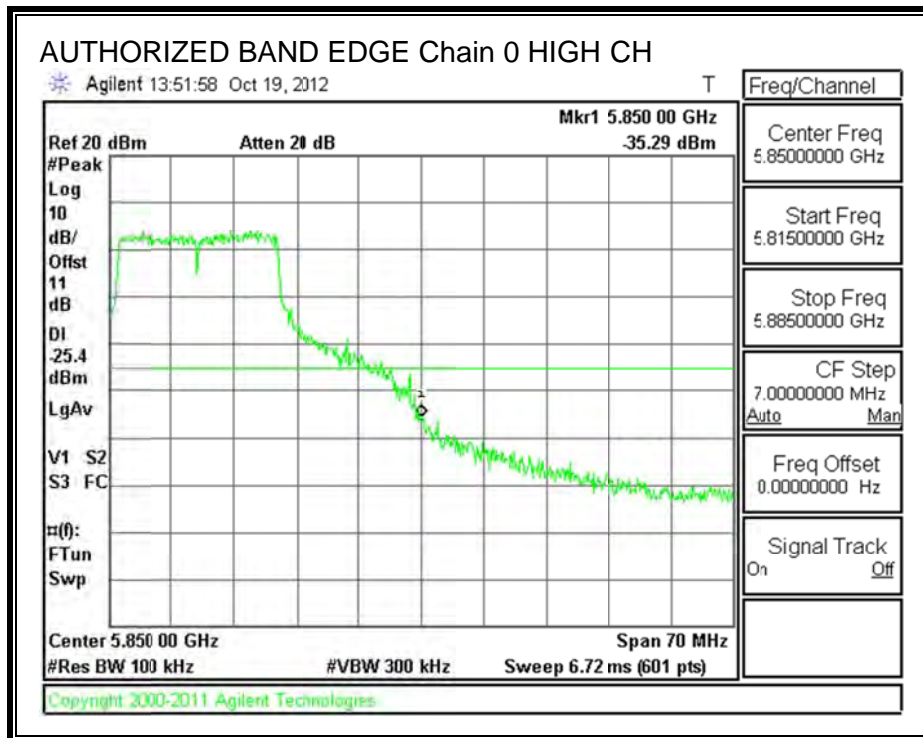
**IN-BAND REFERENCE LEVEL, Chain 0**



**LOW CHANNEL BANDEDGE, Chain 0**

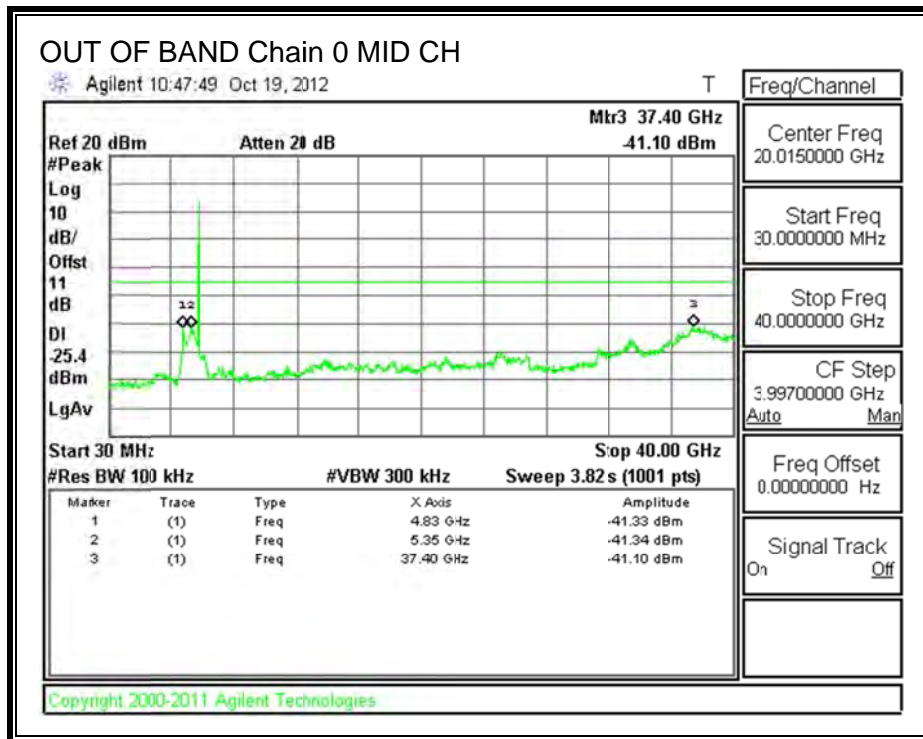
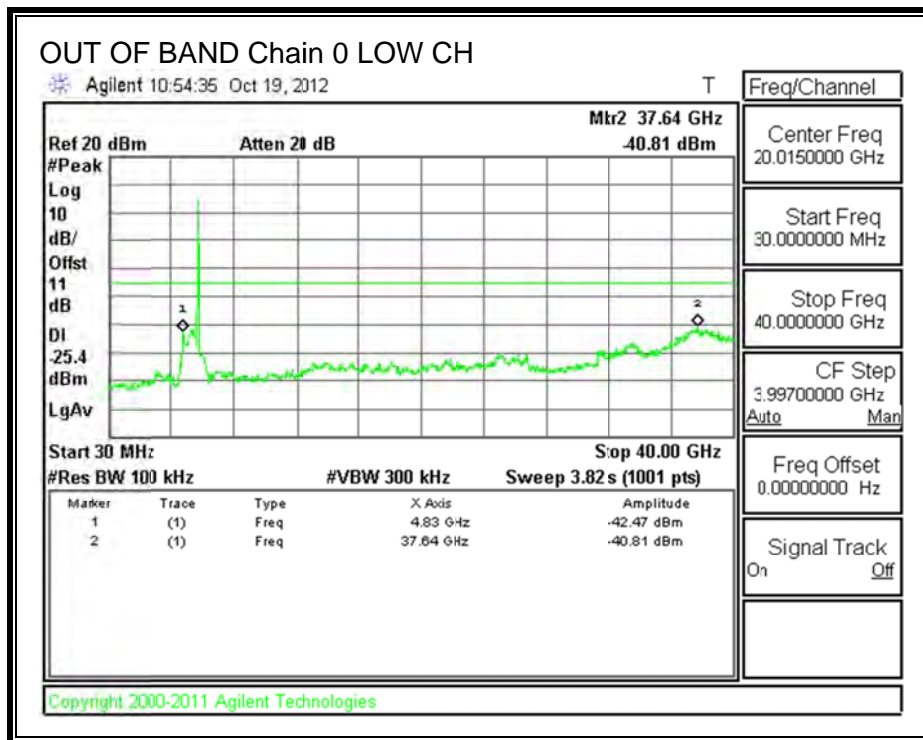


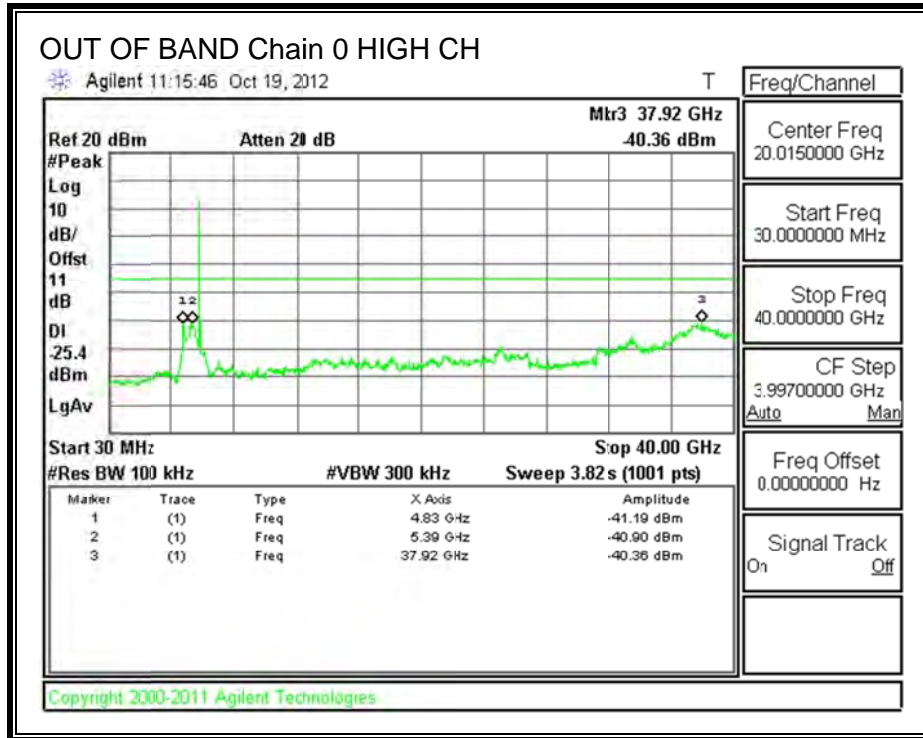
**HIGH CHANNEL BANDEDGE, Chain 0**



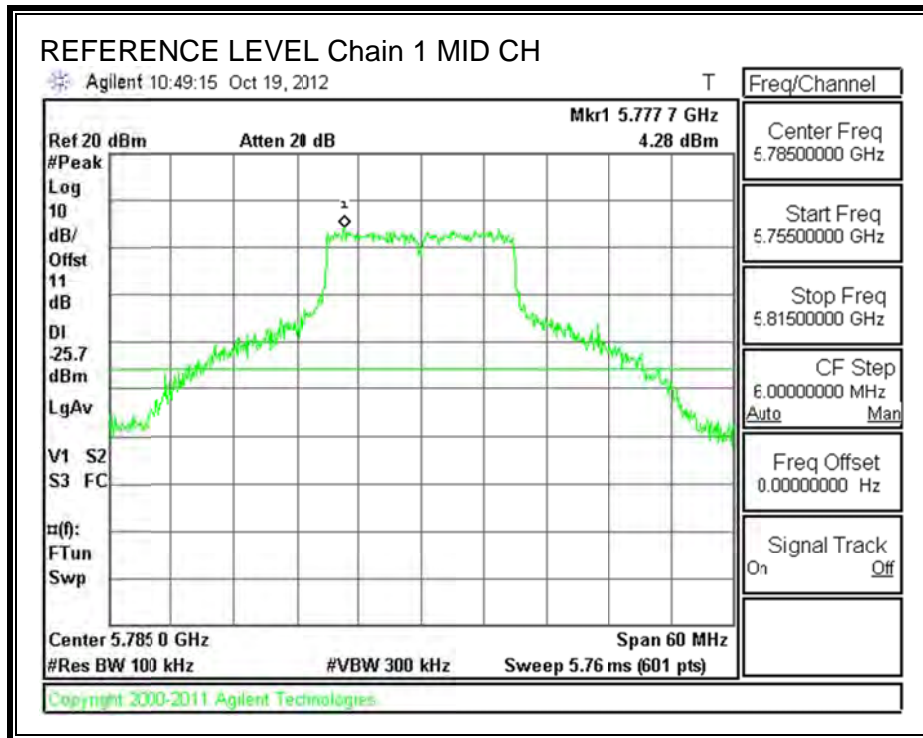


**OUT-OF-BAND EMISSIONS, Chain 0**

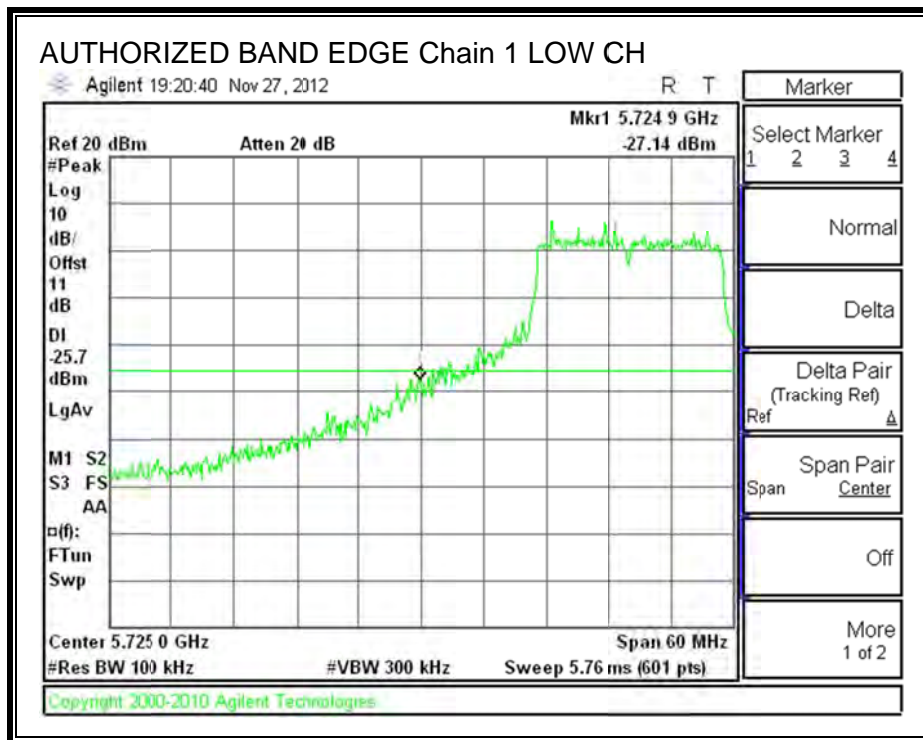




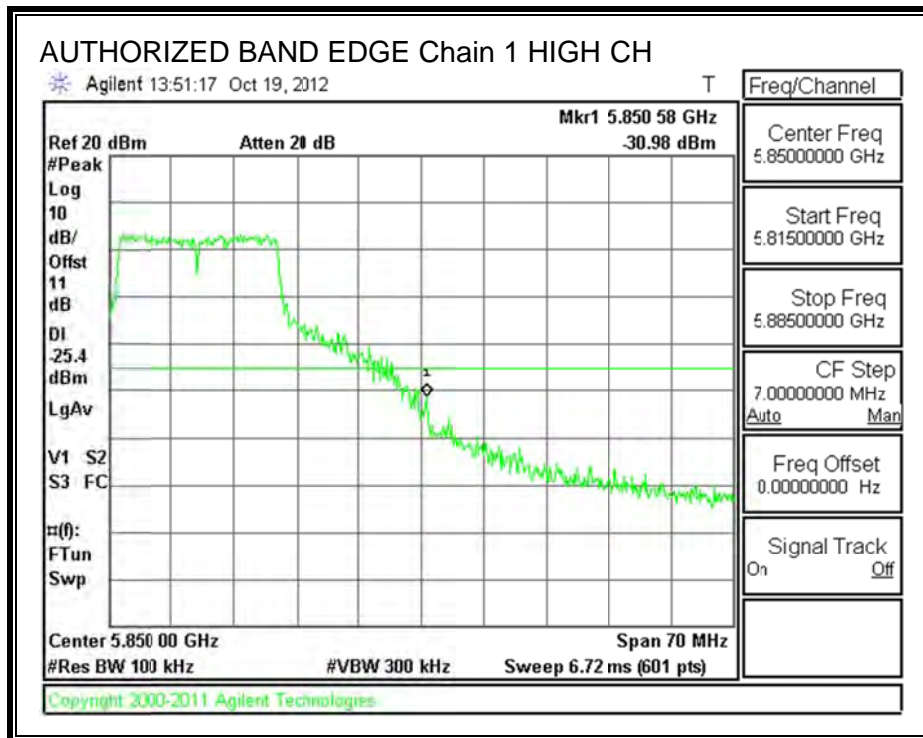
**IN-BAND REFERENCE LEVEL, Chain 1**

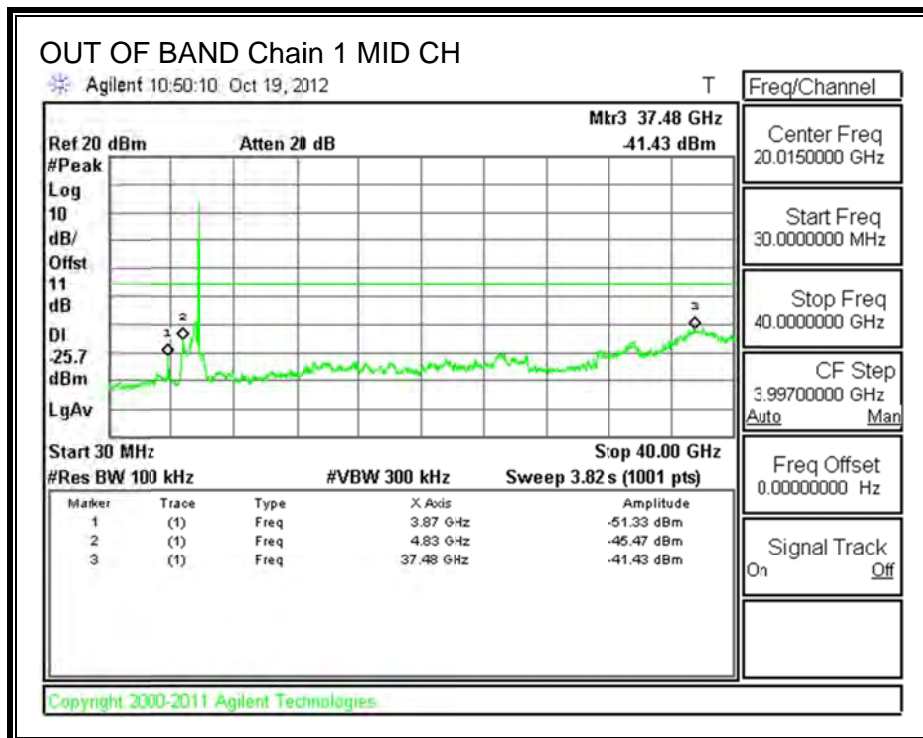
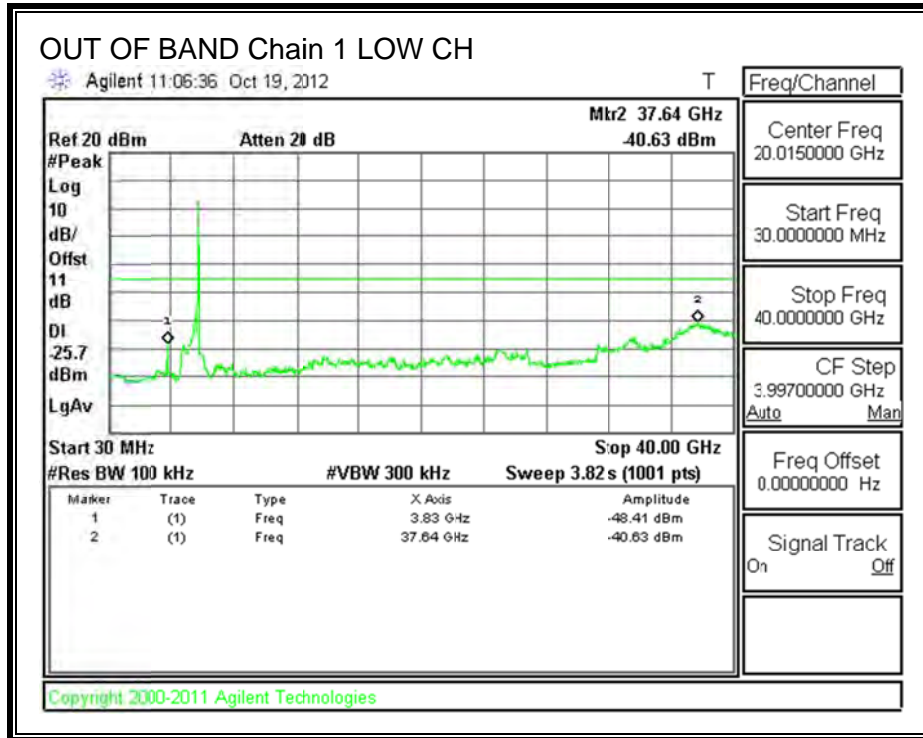


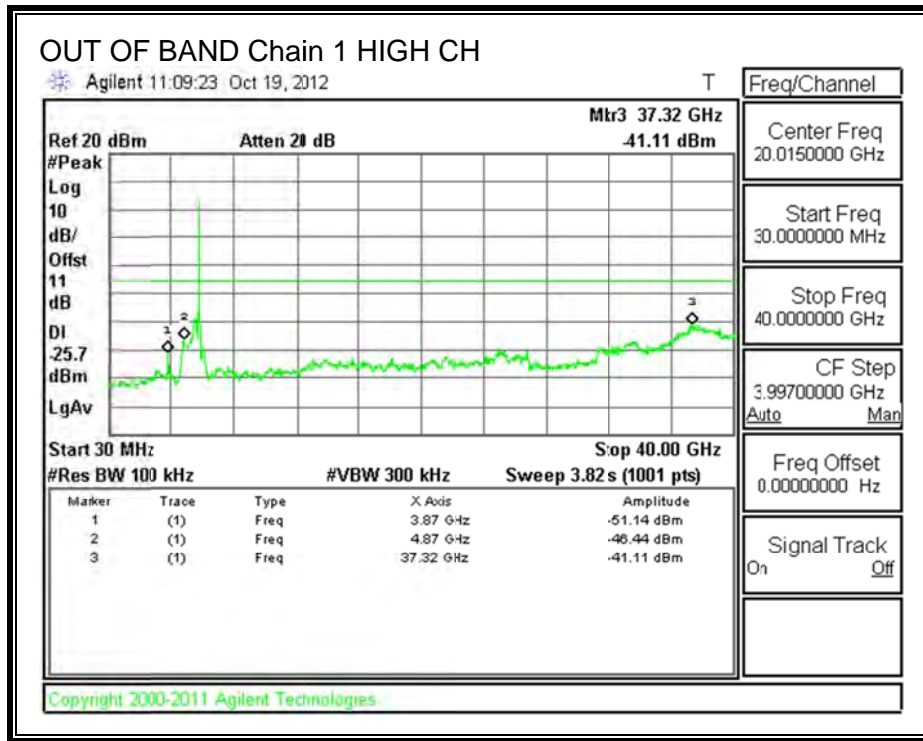
**LOW CHANNEL BANDEDGE, Chain 1**



**HIGH CHANNEL BANDEDGE, Chain 1**







## 8.9. 802.11n HT20 SDM MODE IN THE 5.8 GHz BAND

### 8.9.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

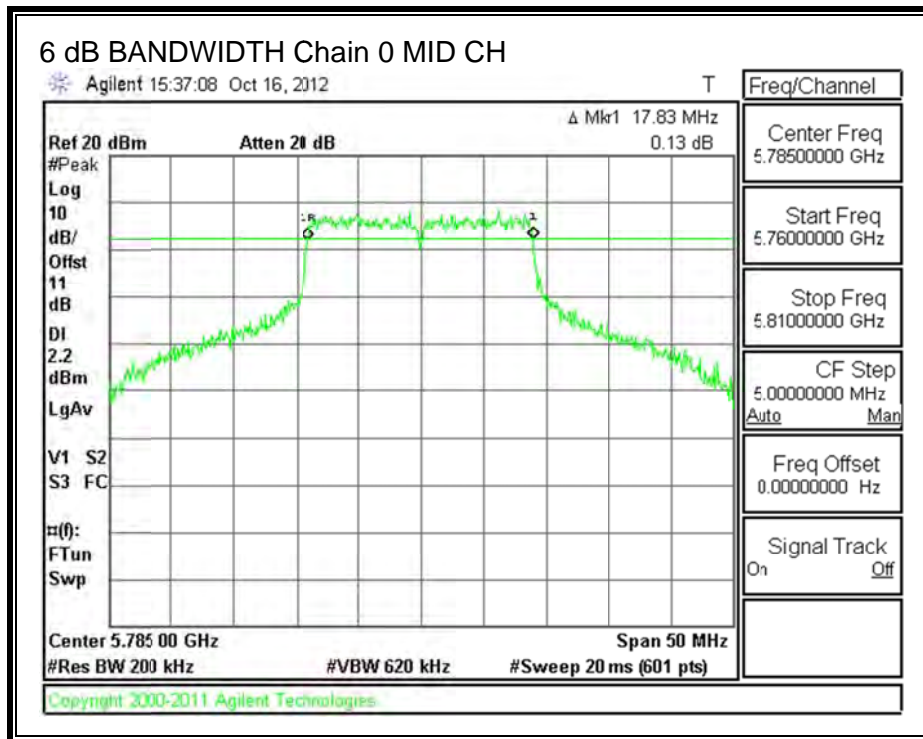
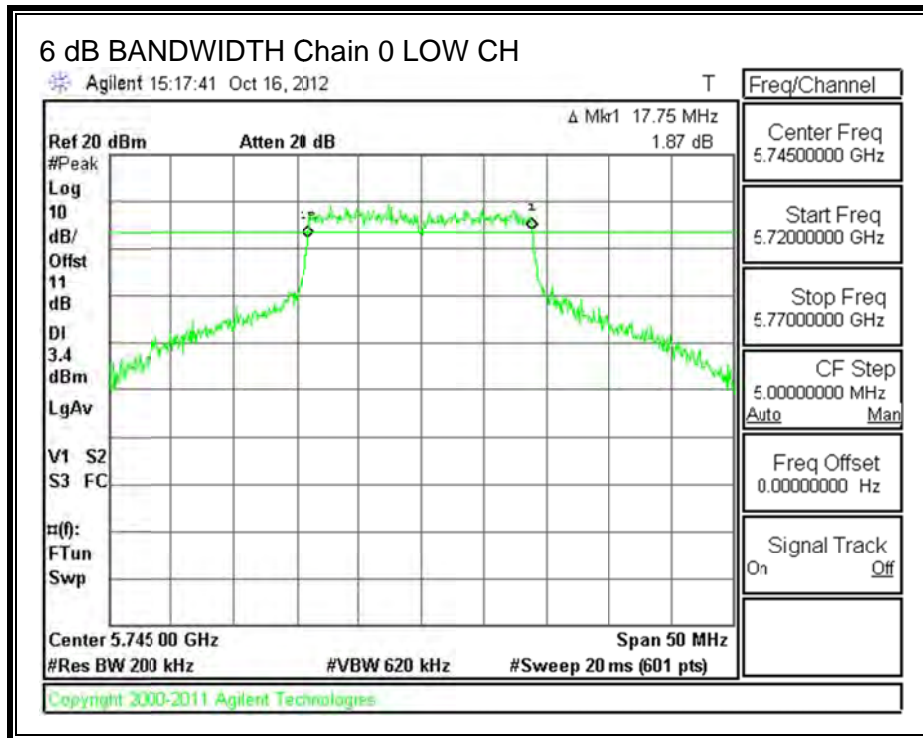
#### TEST PROCEDURE

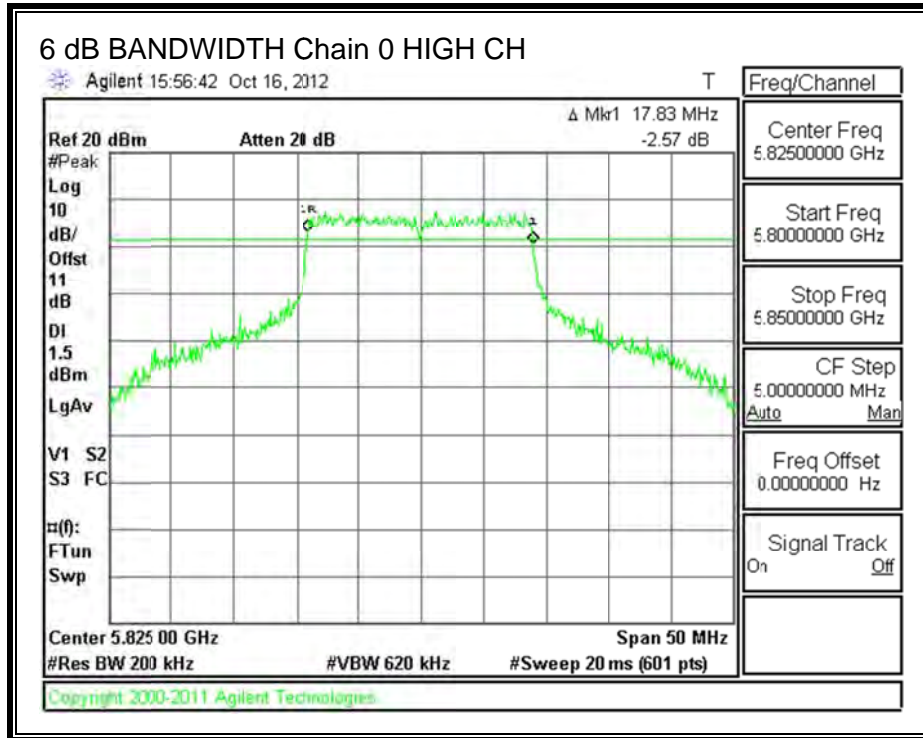
The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### RESULTS

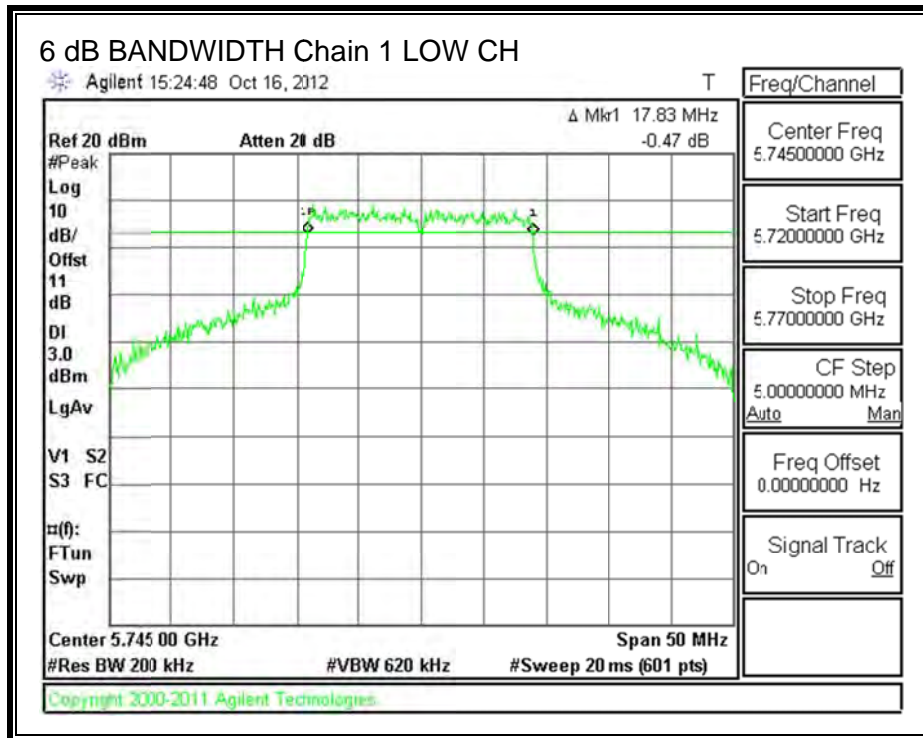
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.75	17.83	0.5
Mid	5785	17.83	17.92	0.5
High	5825	17.83	17.83	0.5

**6 dB BANDWIDTH, Chain 0**

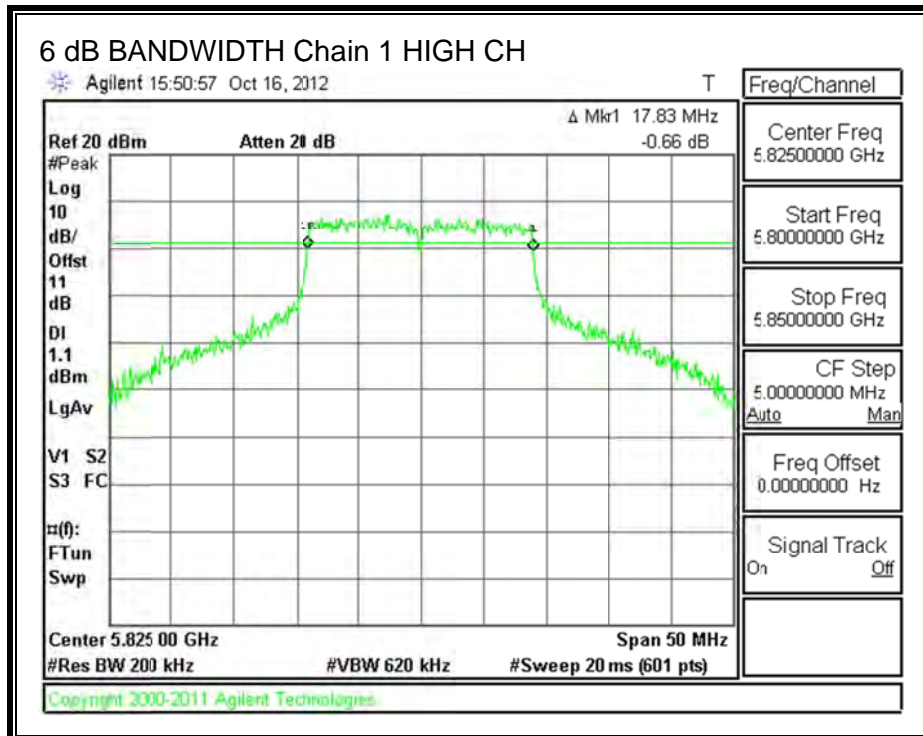
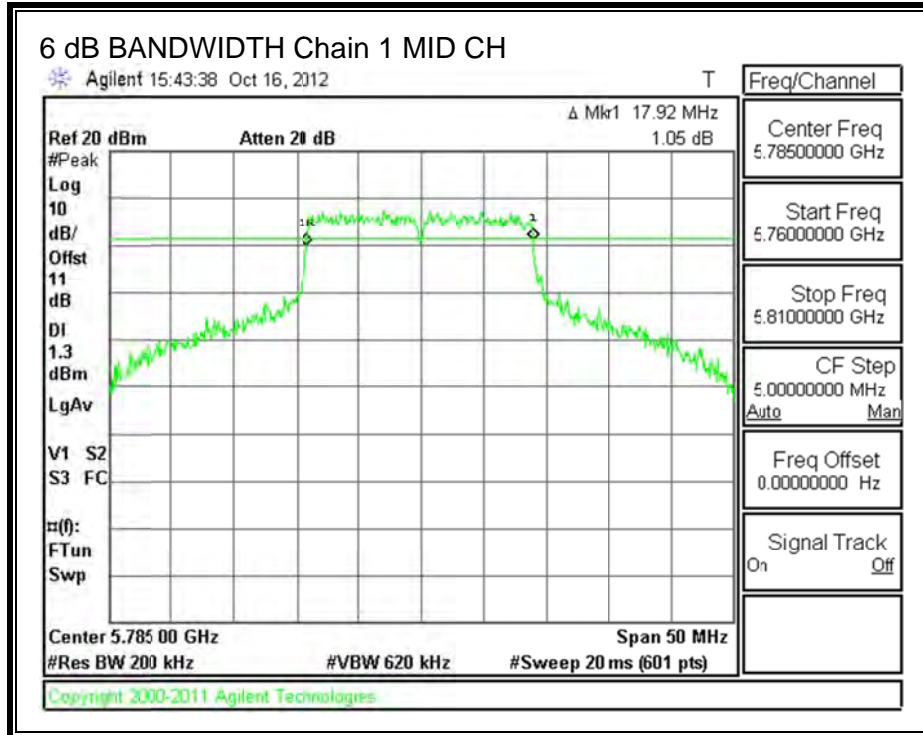




**6 dB BANDWIDTH, Chain 1**







### 8.9.2. 99% BANDWIDTH

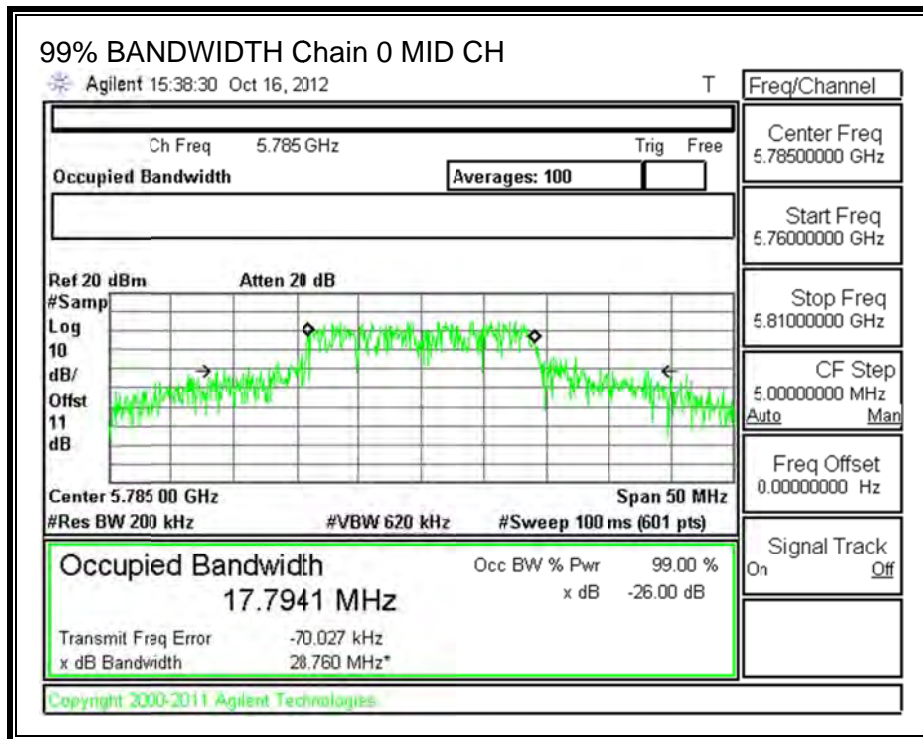
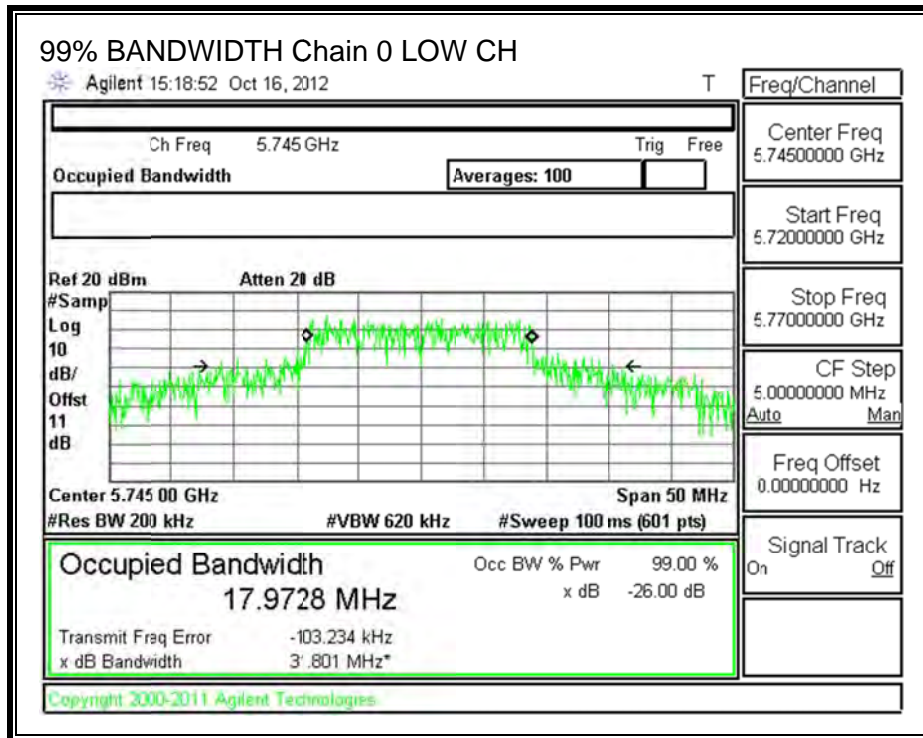
#### LIMITS

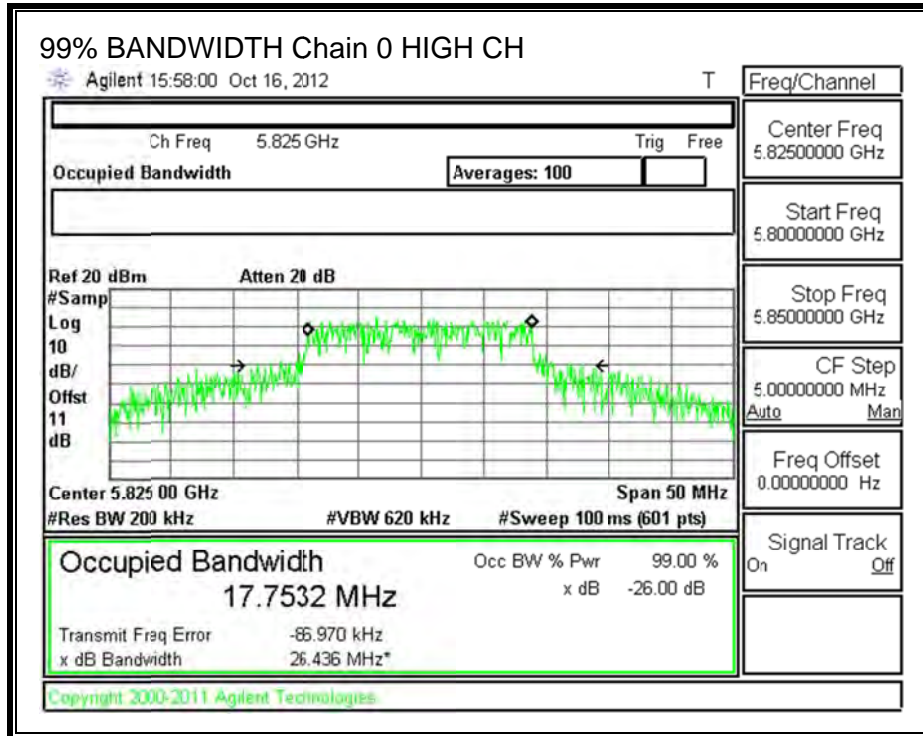
None; for reporting purposes only.

#### RESULTS

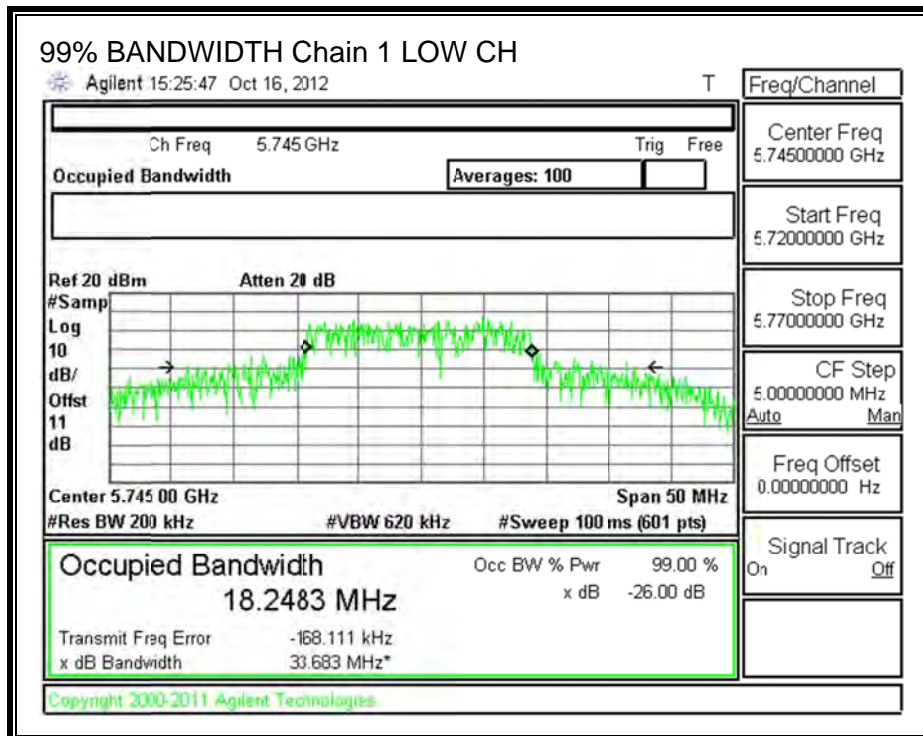
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	17.9728	18.2483
Mid	5785	17.7941	17.9454
High	5825	17.7532	17.7623

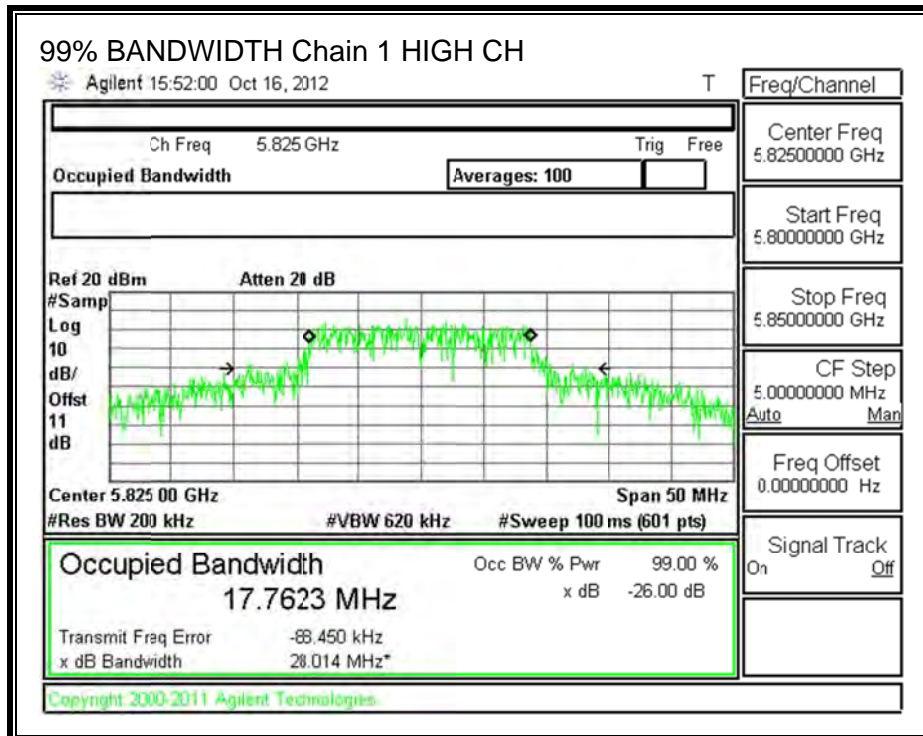
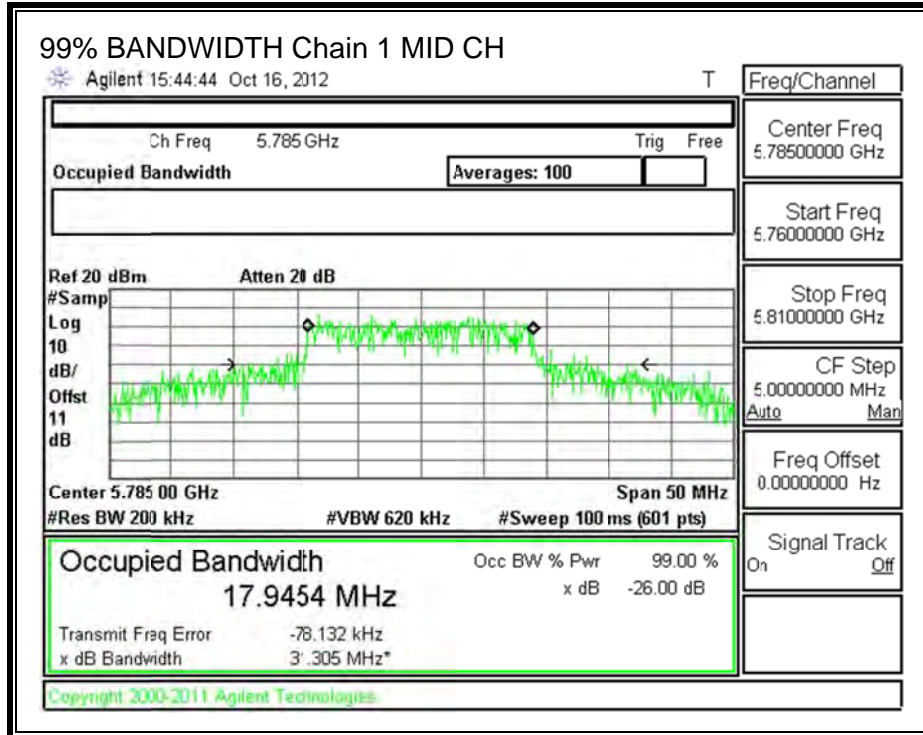
**99% BANDWIDTH, Chain 0**





**99% BANDWIDTH, Chain 1**





### 8.9.3. 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 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5745	17.60	16.20	19.97
Mid	5785	18.50	18.15	21.34
High	5825	17.95	17.30	20.65

## **8.9.4. OUTPUT POWER**

### **LIMITS**

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### **DIRECTIONAL ANTENNA GAIN**

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

**RESULTS**

**Limits**

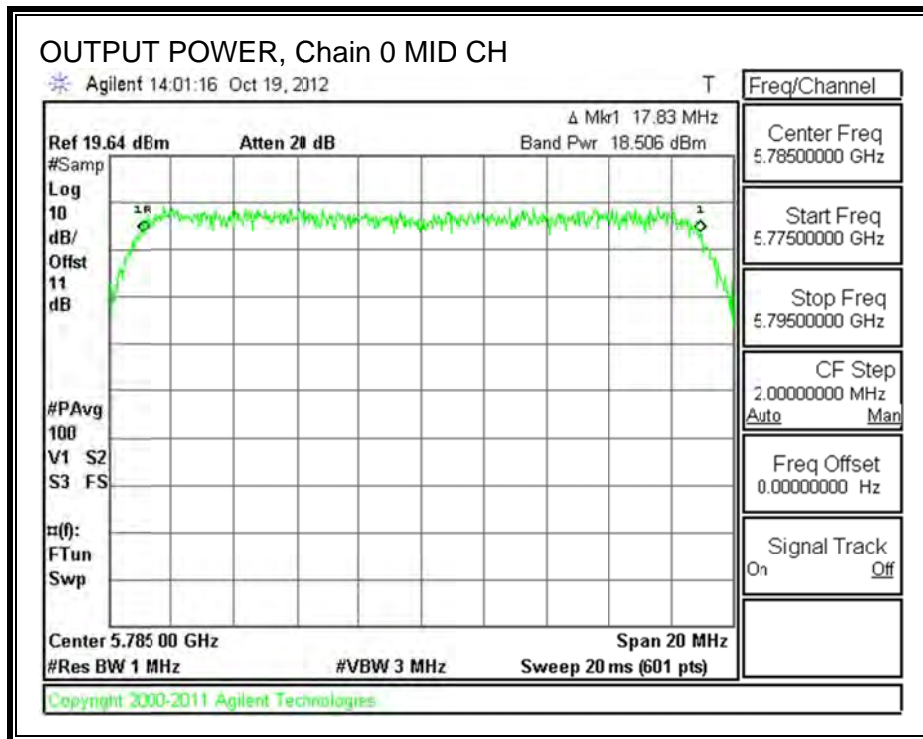
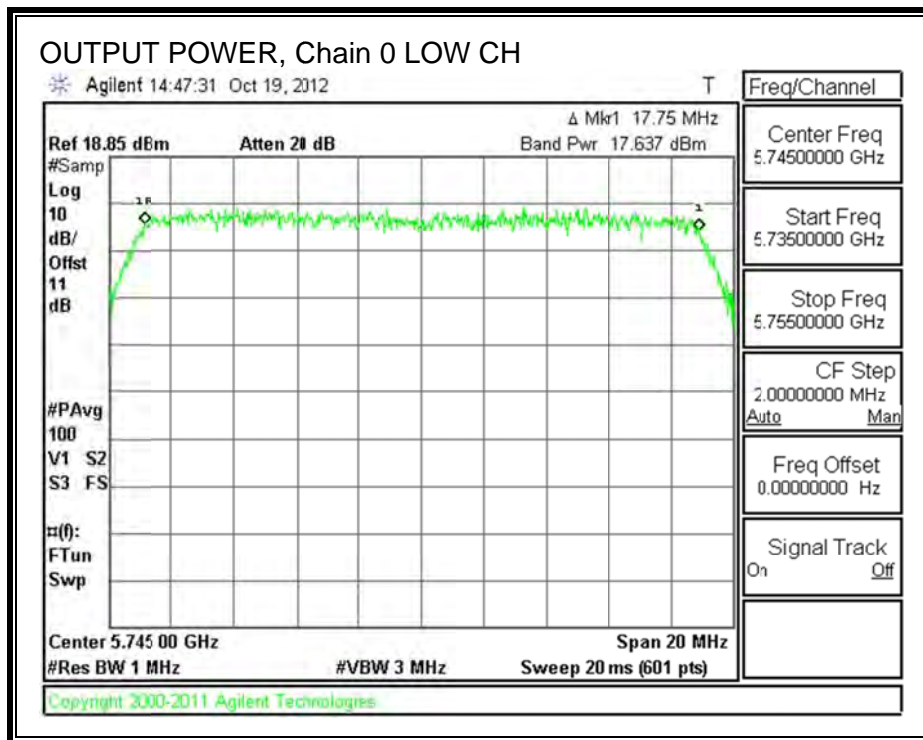
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	2.00	30.00	30	36	30.00
Mid	5785	2.00	30.00	30	36	30.00
High	5825	2.00	30.00	30	36	30.00

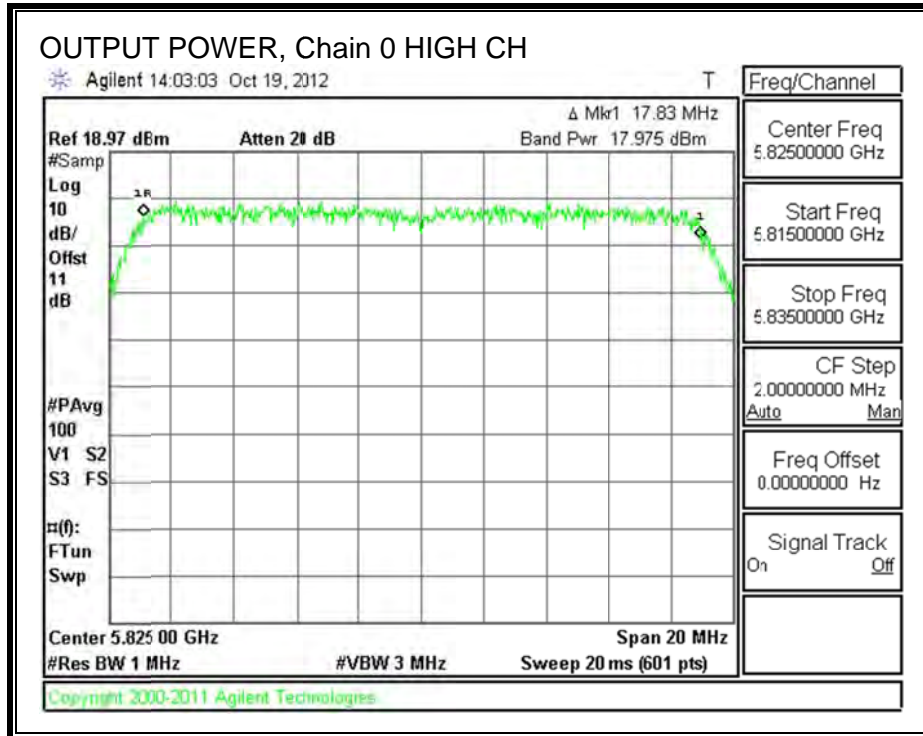
**Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	5745	17.637	16.239	20.004	30.00	-9.996
Mid	5785	18.506	18.190	21.361	30.00	-8.639
High	5825	17.975	17.349	20.684	30.00	-9.316

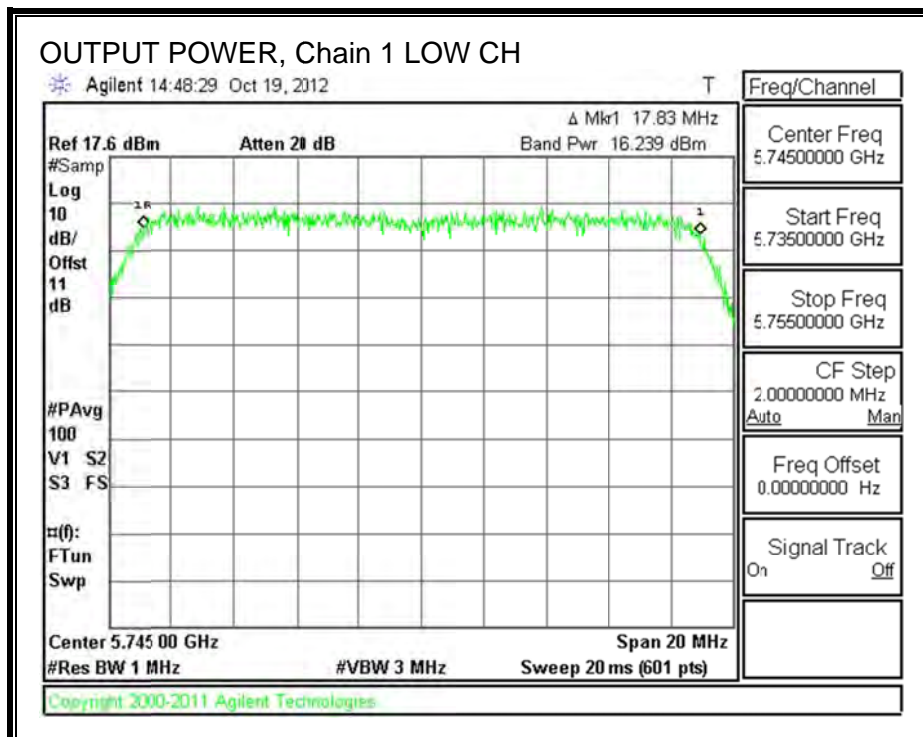


**OUTPUT POWER, Chain 0**





**OUTPUT POWER, Chain 1**





### 8.9.5. PSD

#### LIMITS

FCC §15.247

IC RSS-210 A8.2

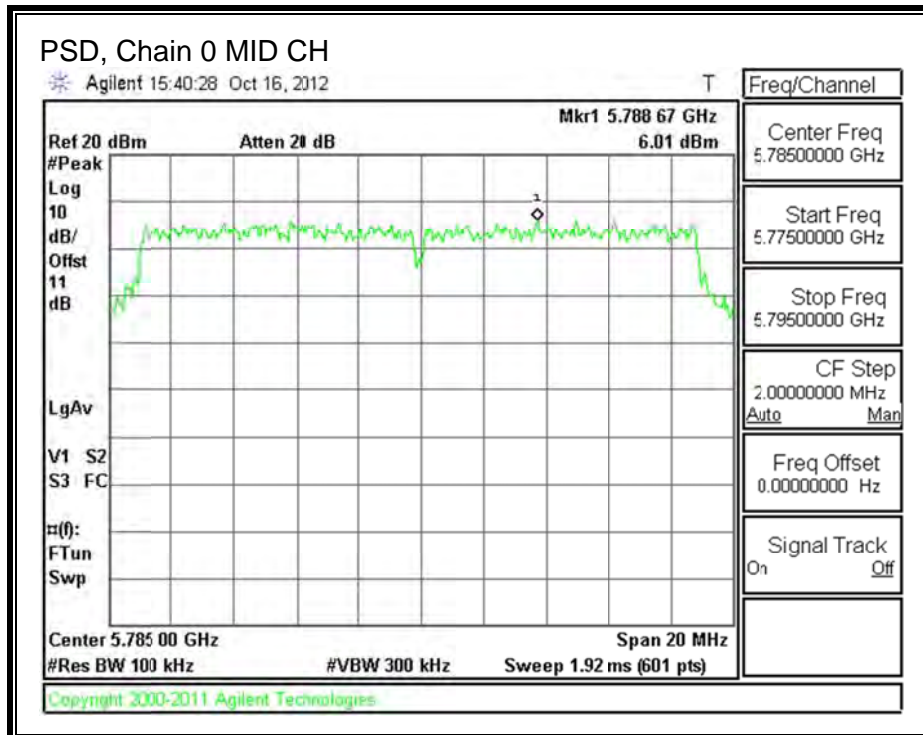
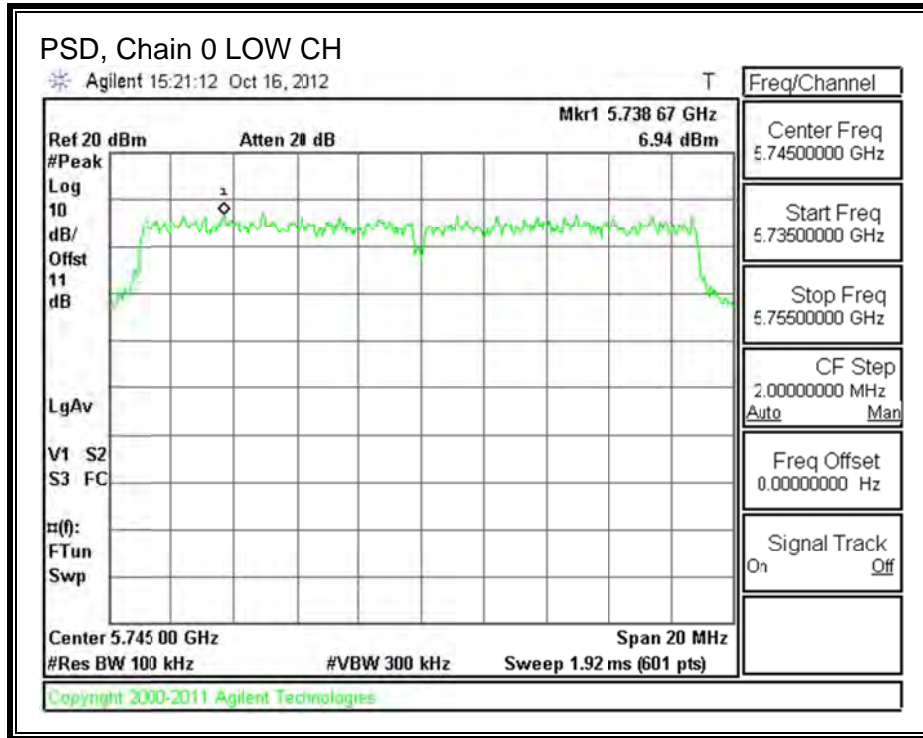
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

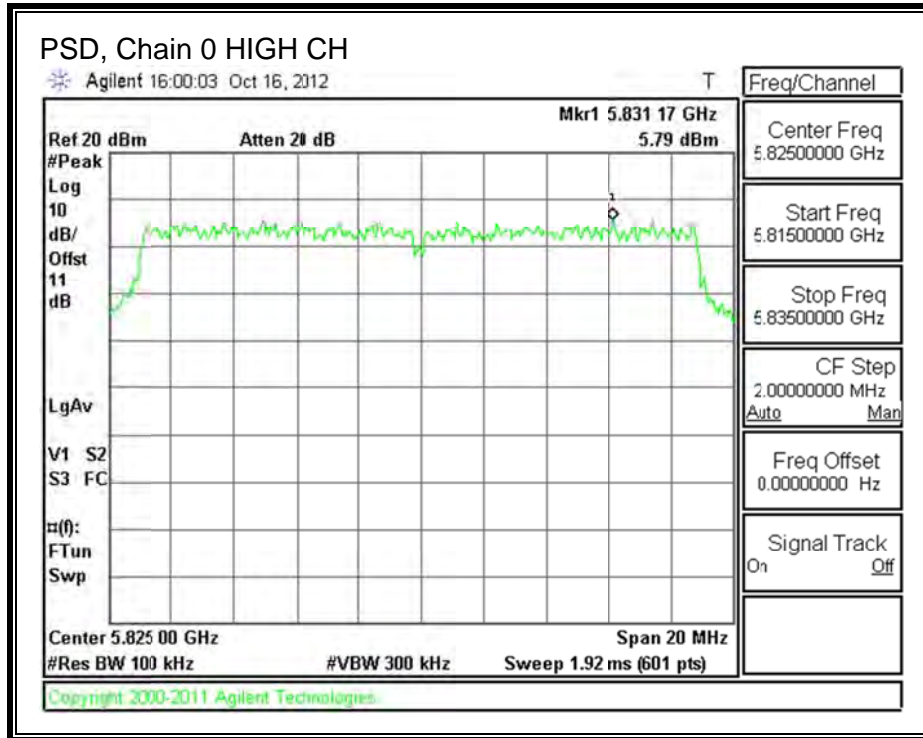
#### RESULTS

##### PSD Results

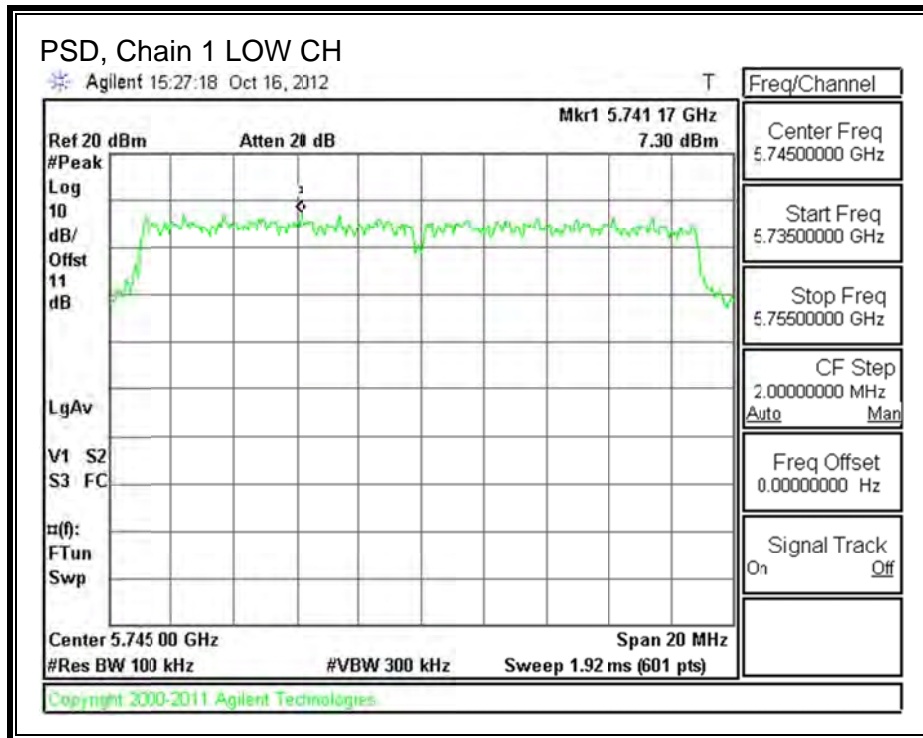
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	BW Corr (dB)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5745	6.94	7.30	-15.2	-5.07	8.0	-13.1
Mid	5785	6.01	6.69	-15.2	-5.83	8.0	-13.8
High	5825	5.79	5.10	-15.2	-6.73	8.0	-14.7

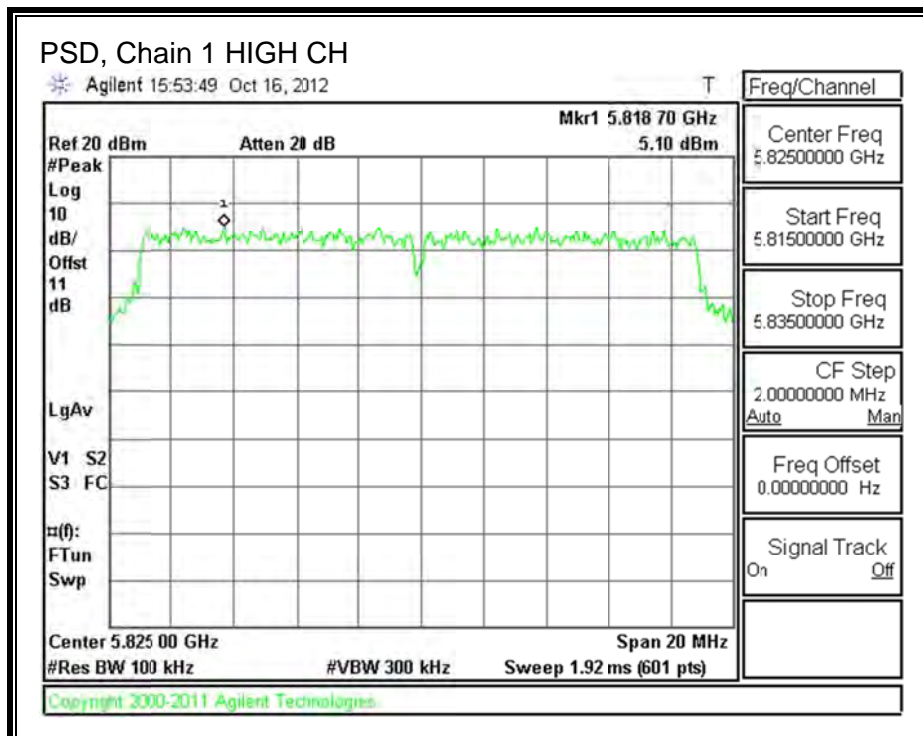
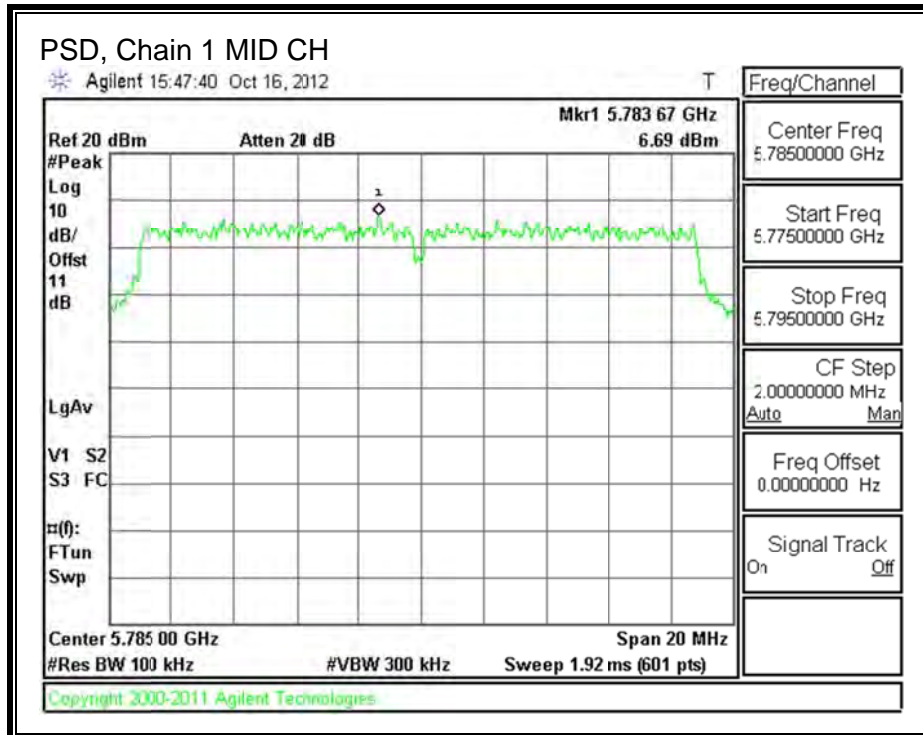
**PSD, Chain 0**





PSD, Chain 1





## 8.9.6. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

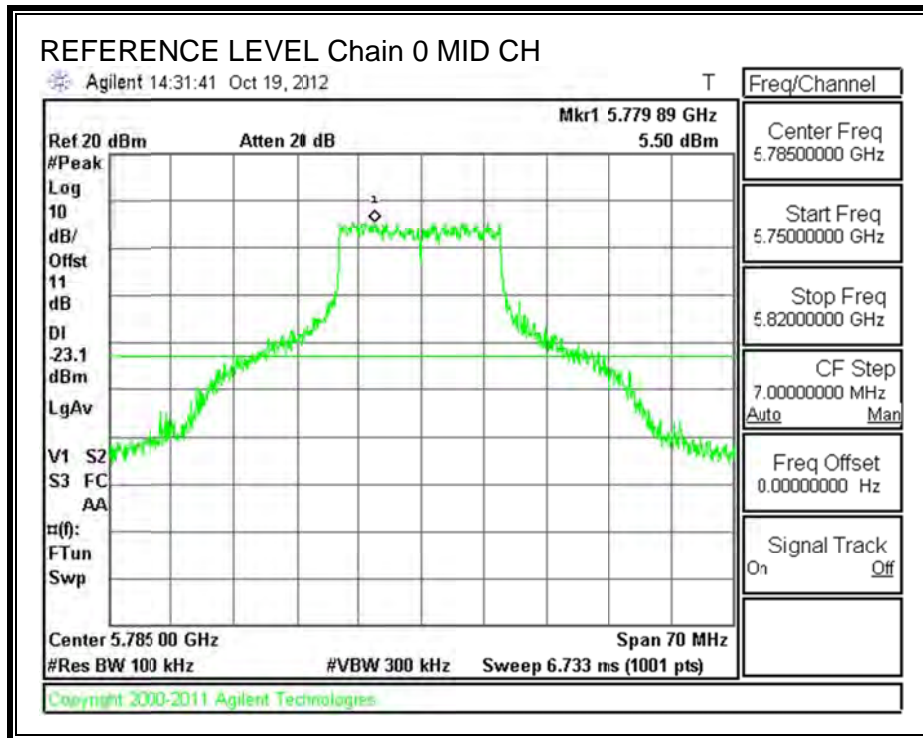
### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

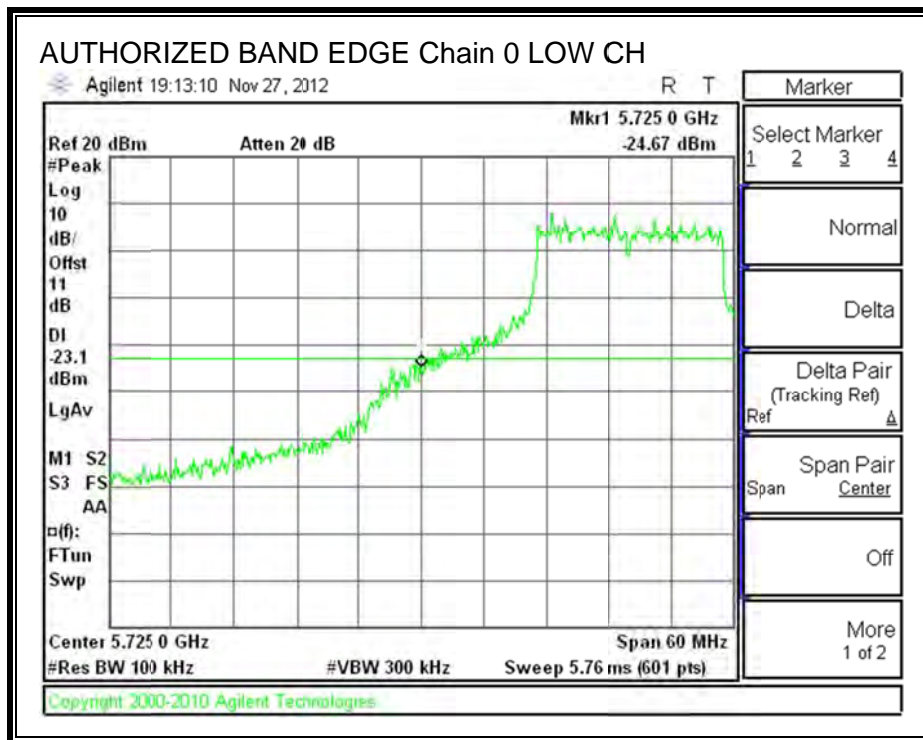


**RESULTS**

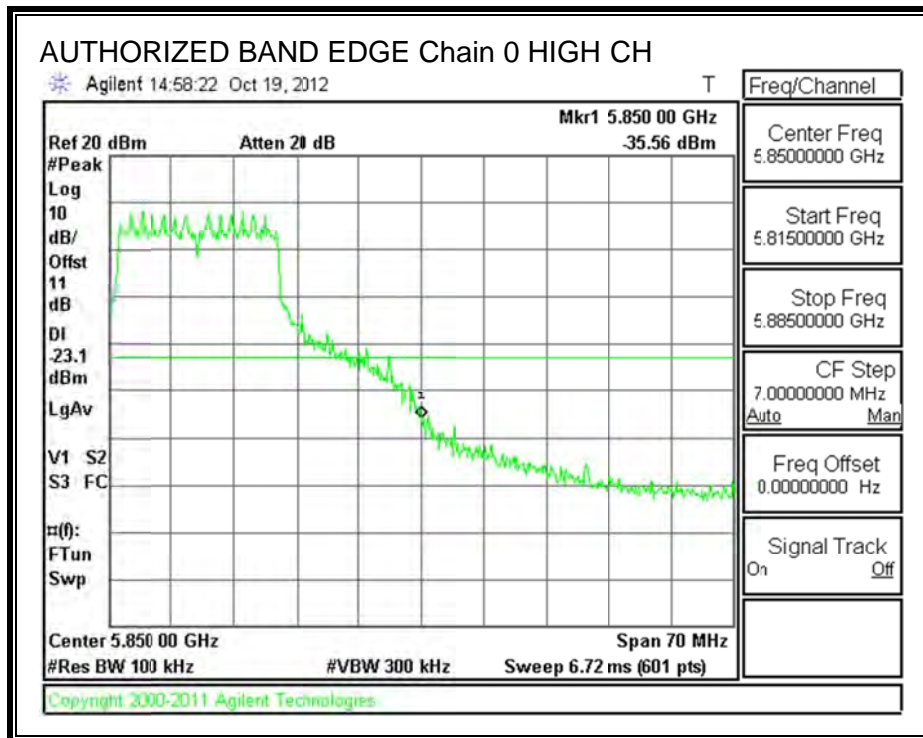
**IN-BAND REFERENCE LEVEL, Chain 0**



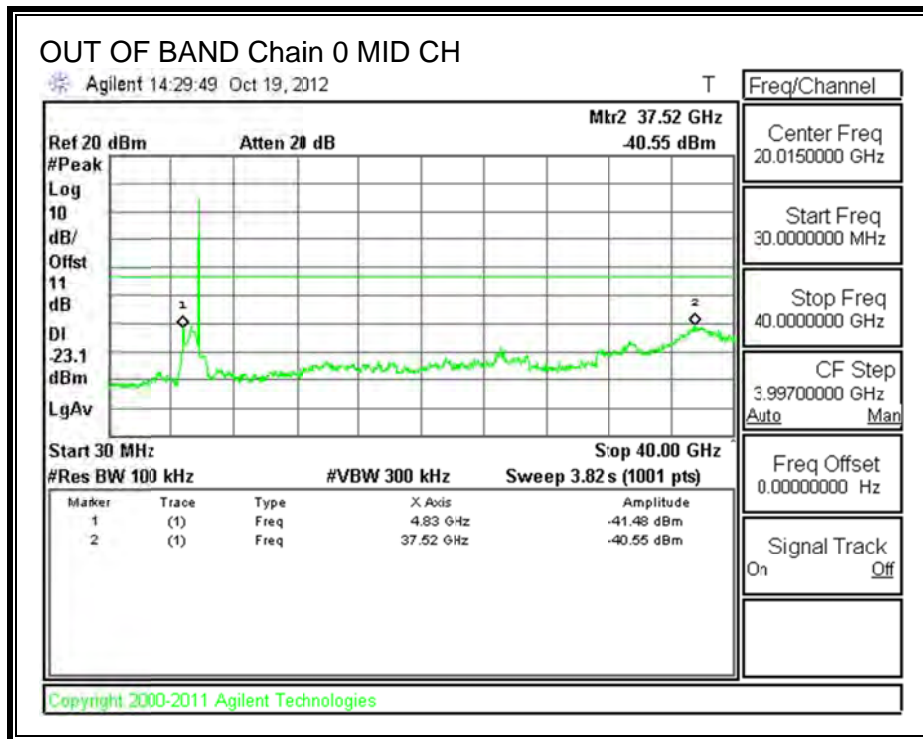
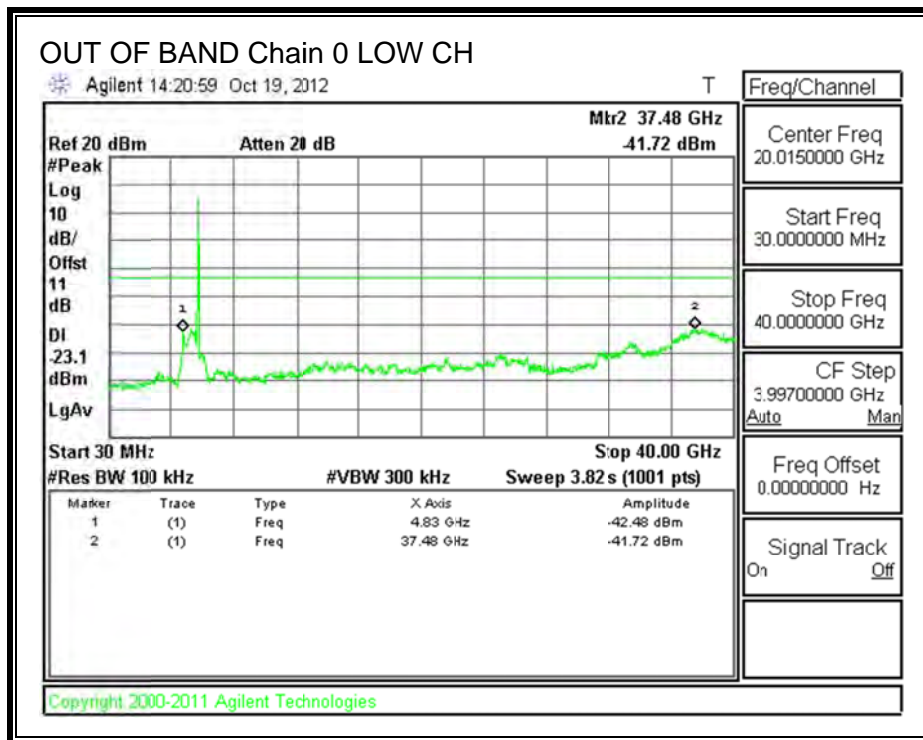
**LOW CHANNEL BANDEDGE, Chain 0**

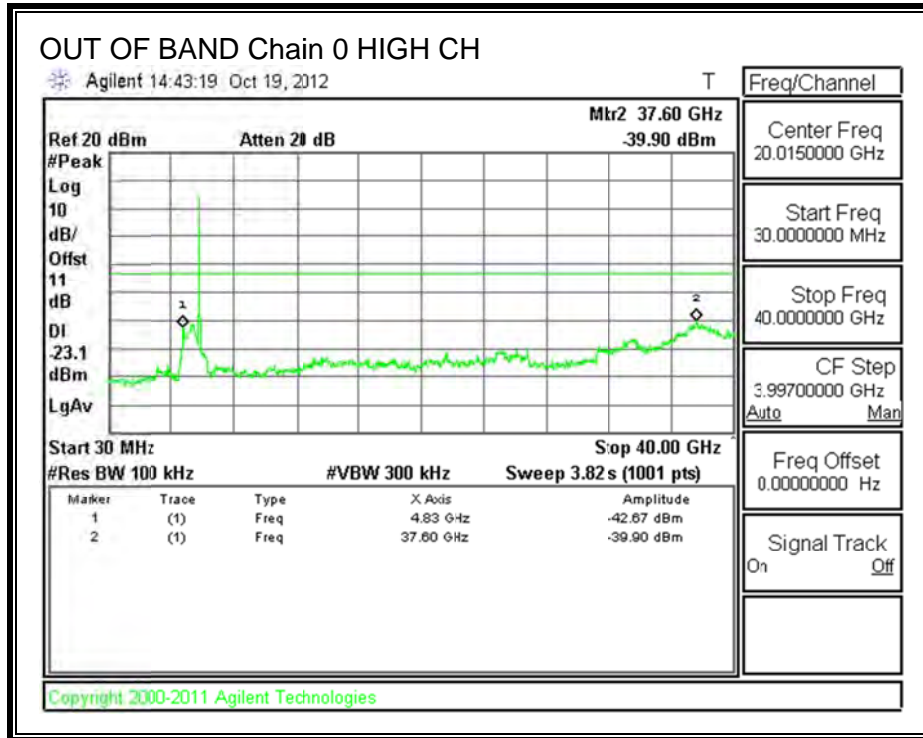


**HIGH CHANNEL BANDEDGE, Chain 0**

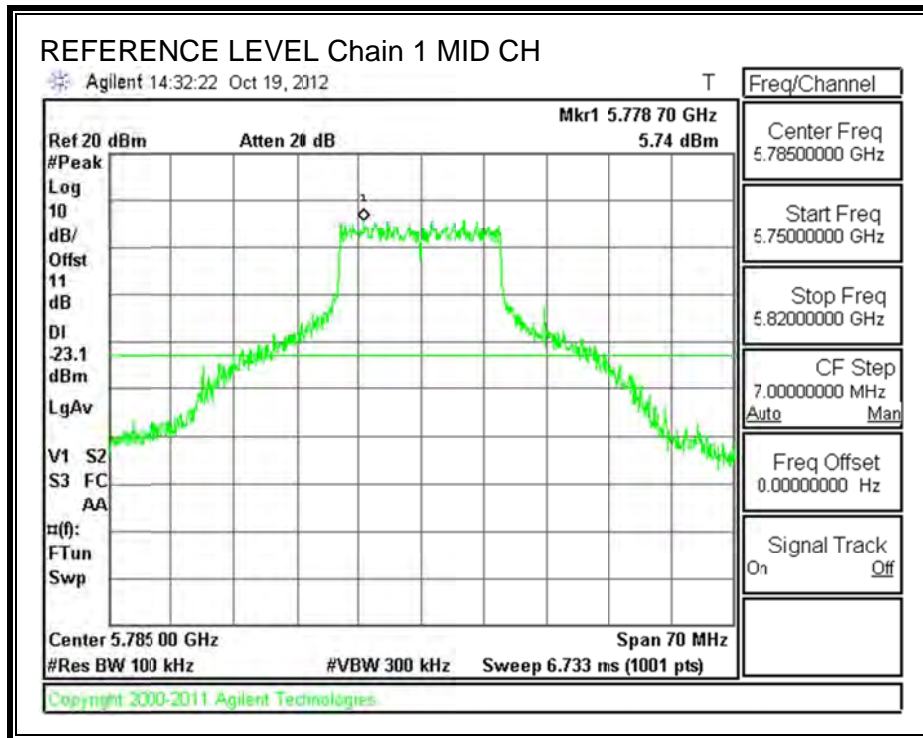


**OUT-OF-BAND EMISSIONS, Chain 0**

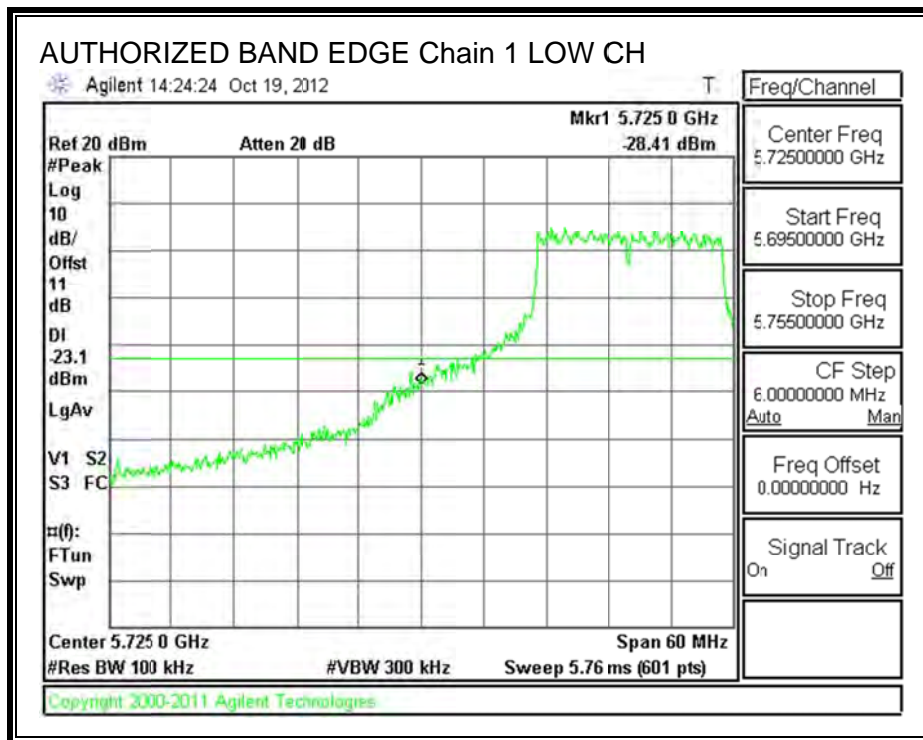




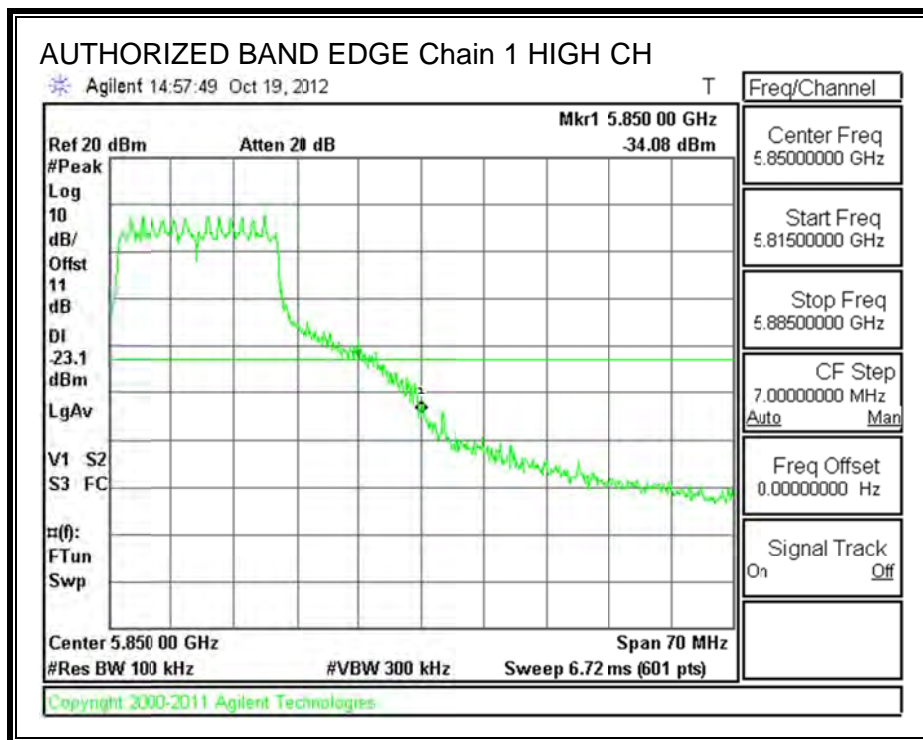
**IN-BAND REFERENCE LEVEL, Chain 1**

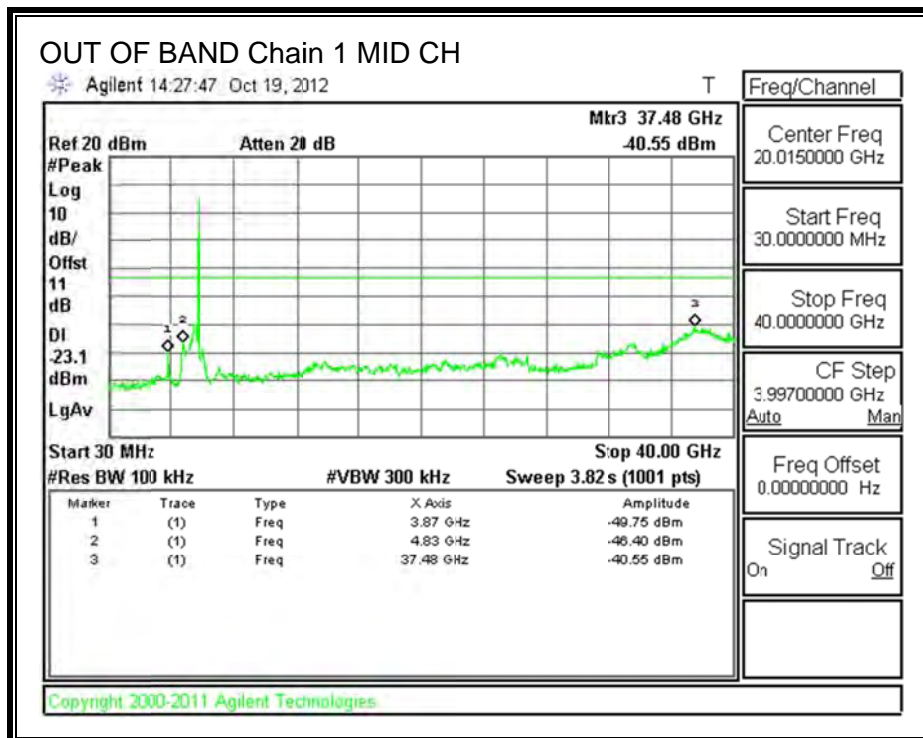
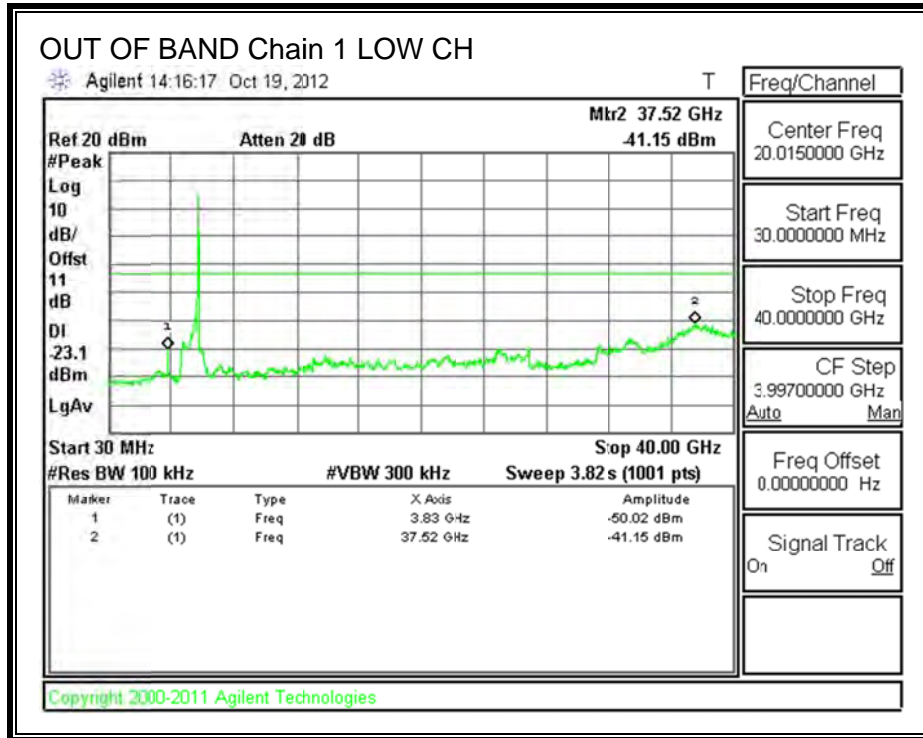


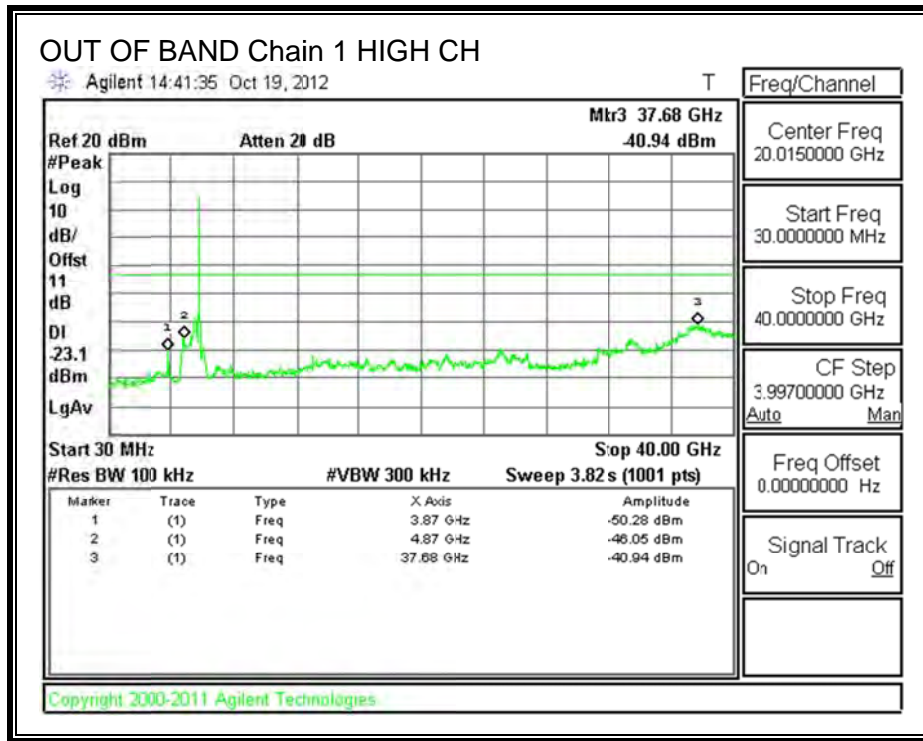
**LOW CHANNEL BANDEDGE, Chain 1**



**HIGH CHANNEL BANDEDGE, Chain 1**







## 8.10. 802.11n HT40 CDD MODE IN THE 5.8 GHz BAND

### 8.10.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

#### TEST PROCEDURE

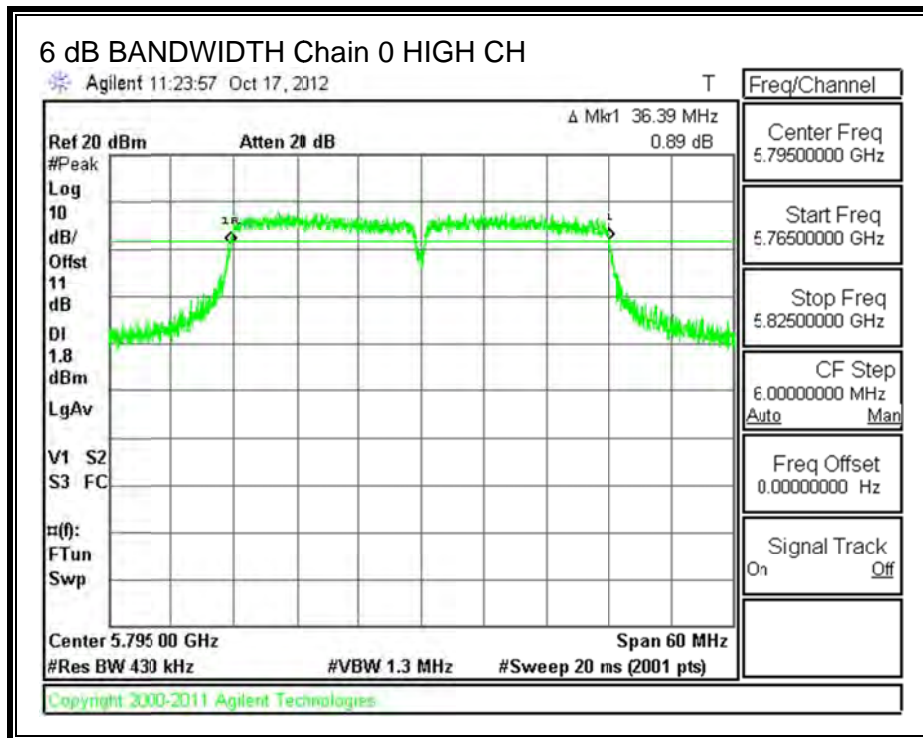
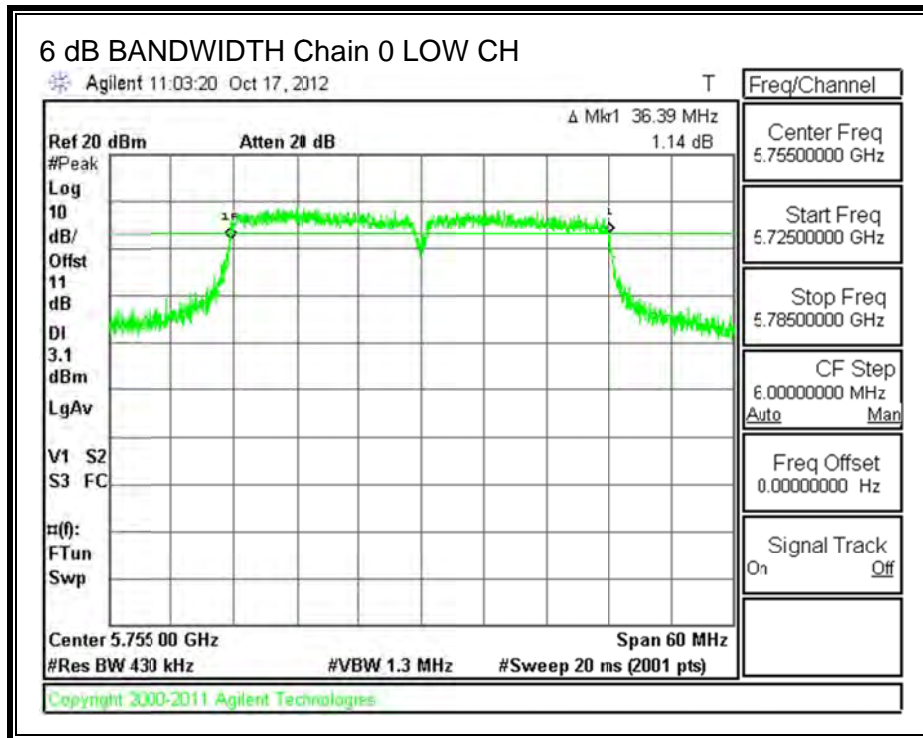
The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### RESULTS

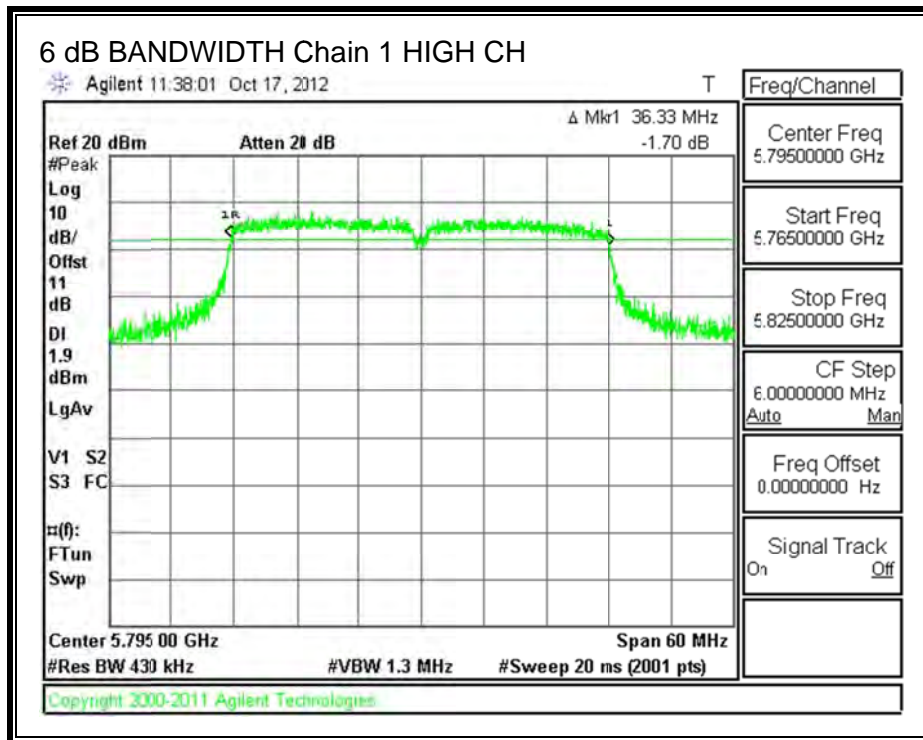
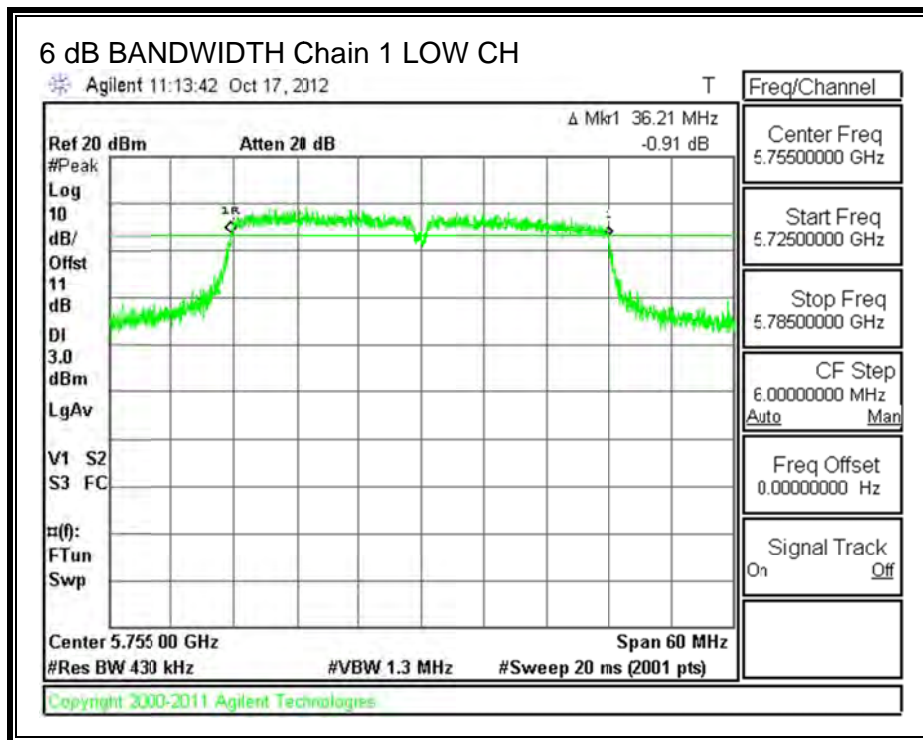
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	36.39	36.21	0.5
High	5795	36.39	36.33	0.5



**6 dB BANDWIDTH, Chain 0**



**6 dB BANDWIDTH, Chain 1**



**8.10.2. 99% BANDWIDTH**

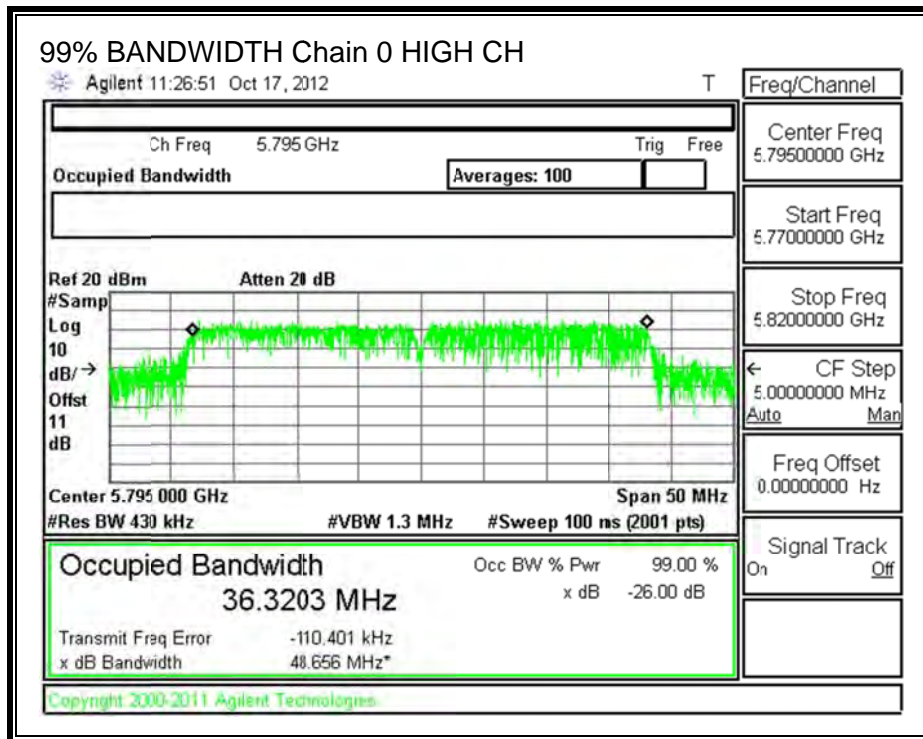
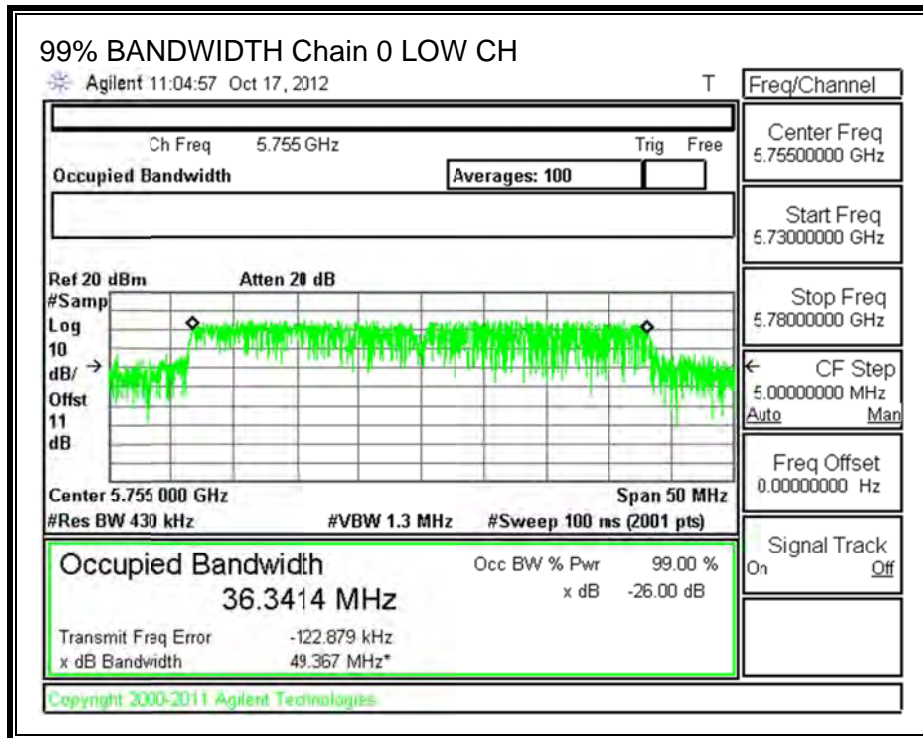
**LIMITS**

None; for reporting purposes only.

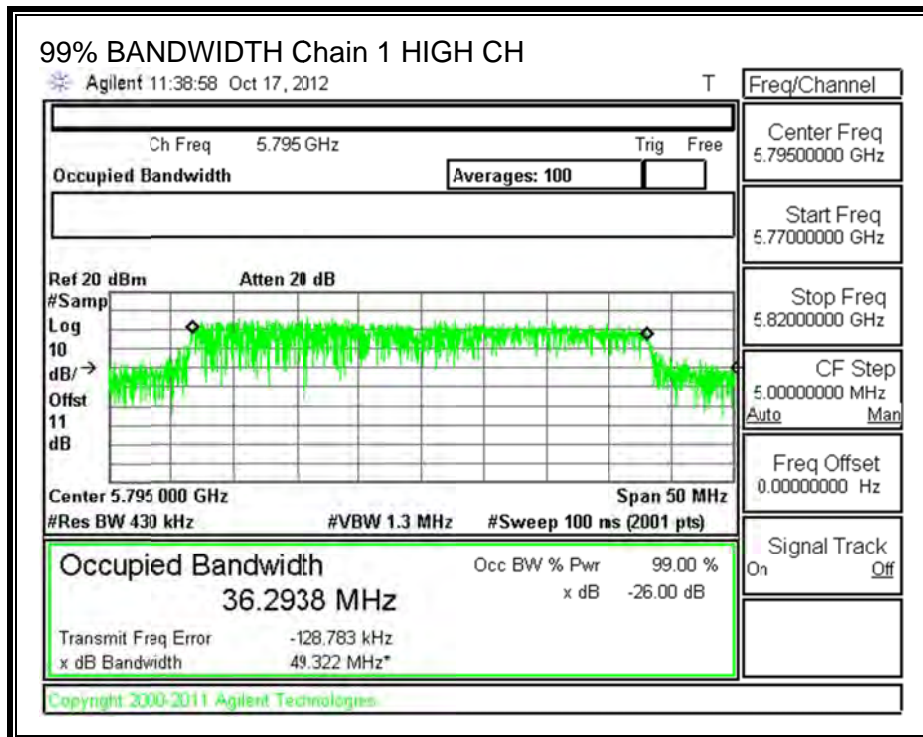
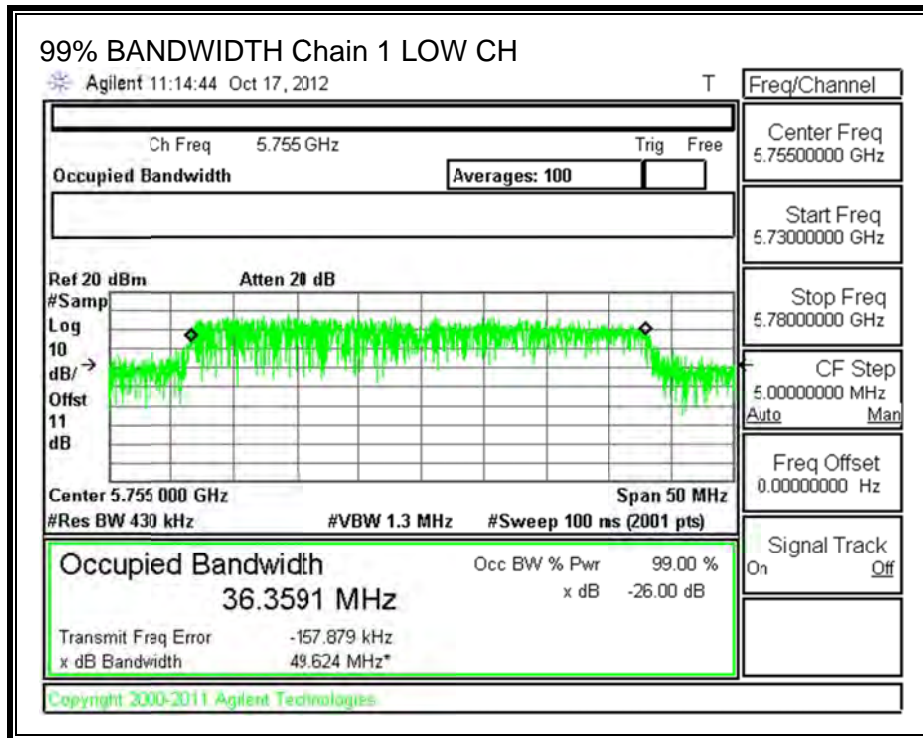
**RESULTS**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.3414	36.3591
High	5795	36.3203	36.2938

**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 dB (including 10 dB pad and 1.0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5755	15.45	16.15	18.82
High	5795	17.80	17.50	20.66

### 8.10.4. OUTPUT POWER

#### LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### DIRECTIONAL ANTENNA GAIN

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

Antenna Gain (dBi)	10 * Log (2 chains) (dB)	Correlated Chains Directional Gain (dBi)
2.00	3.01	5.01

**RESULTS**

**Limits**

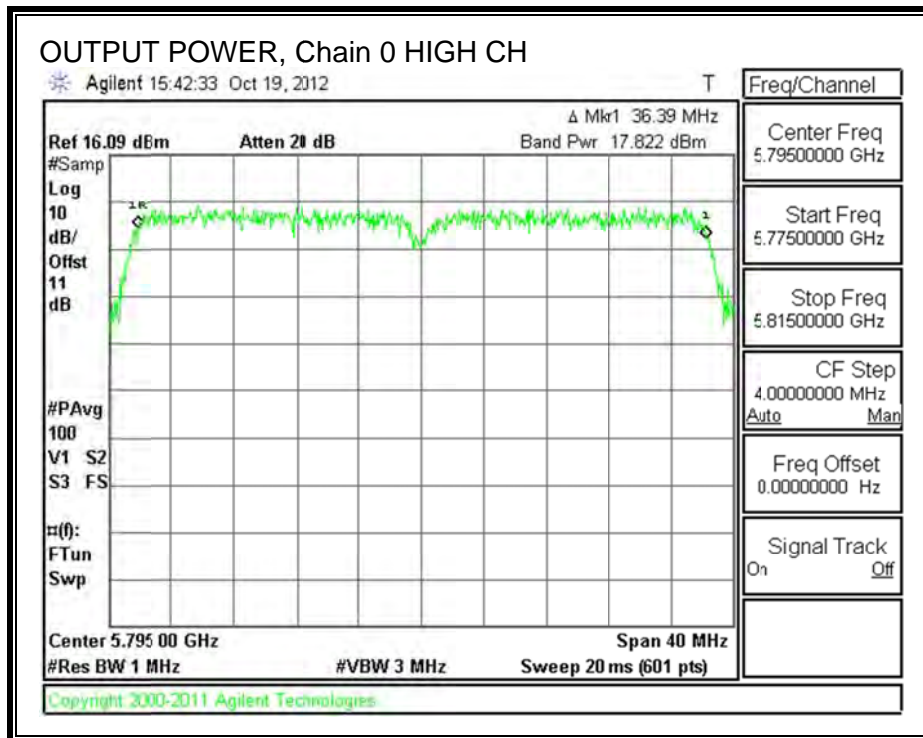
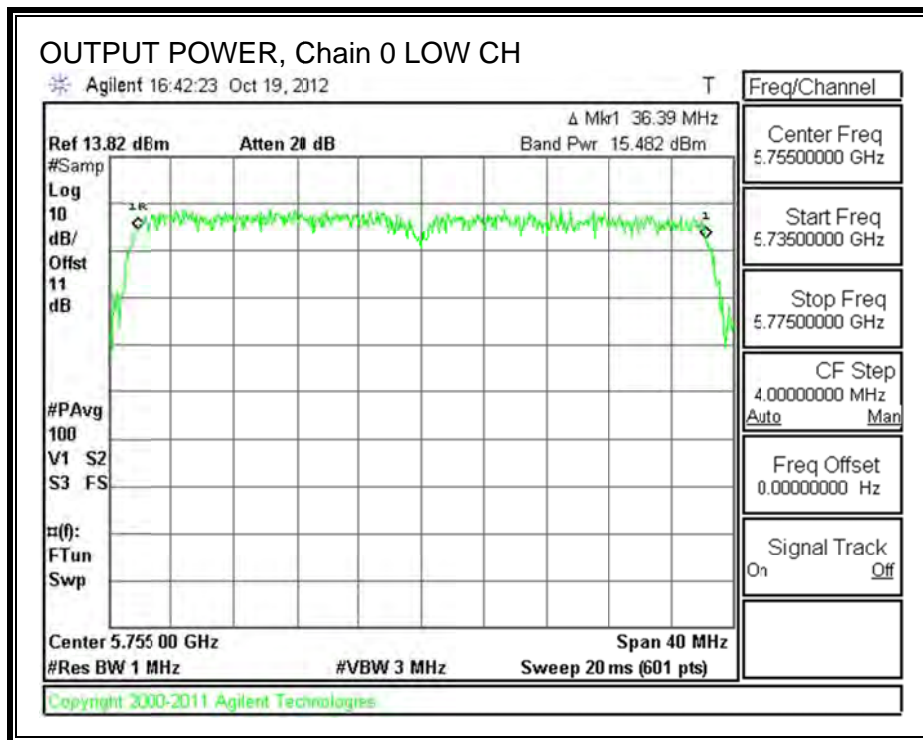
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5755	5.01	30.00	30	36	30.00
High	5795	5.01	30.00	30	36	30.00

**Results**

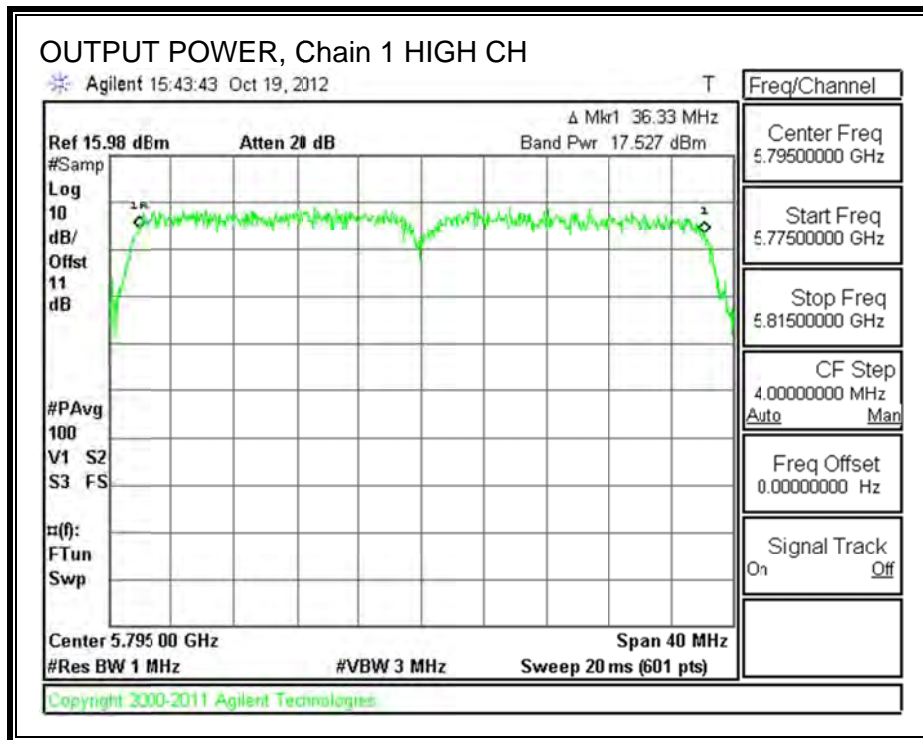
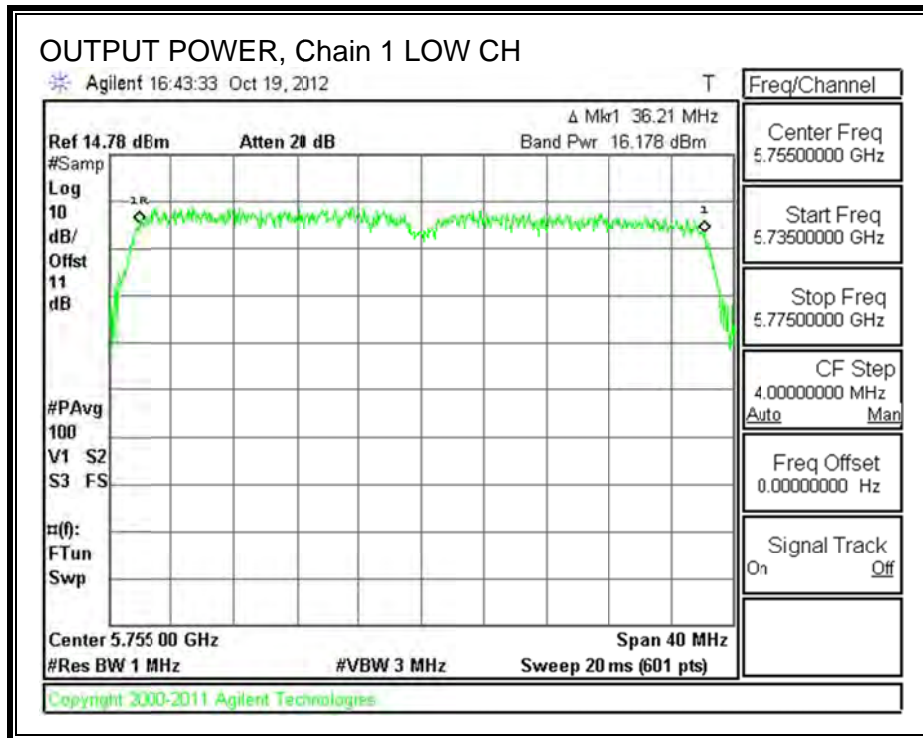
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5755	15.482	16.178	18.854	30.00	-11.146
High	5795	17.822	17.527	20.687	30.00	-9.313



**OUTPUT POWER, Chain 0**



**OUTPUT POWER, Chain 1**



**8.10.5. PSD**

**LIMITS**

FCC §15.247

IC RSS-210 A8.2

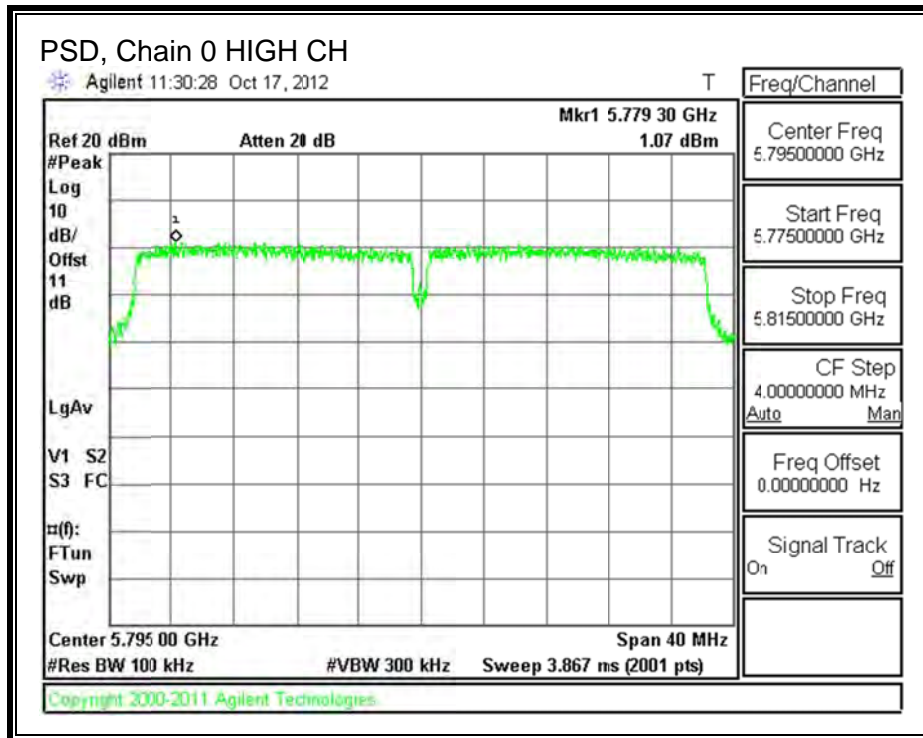
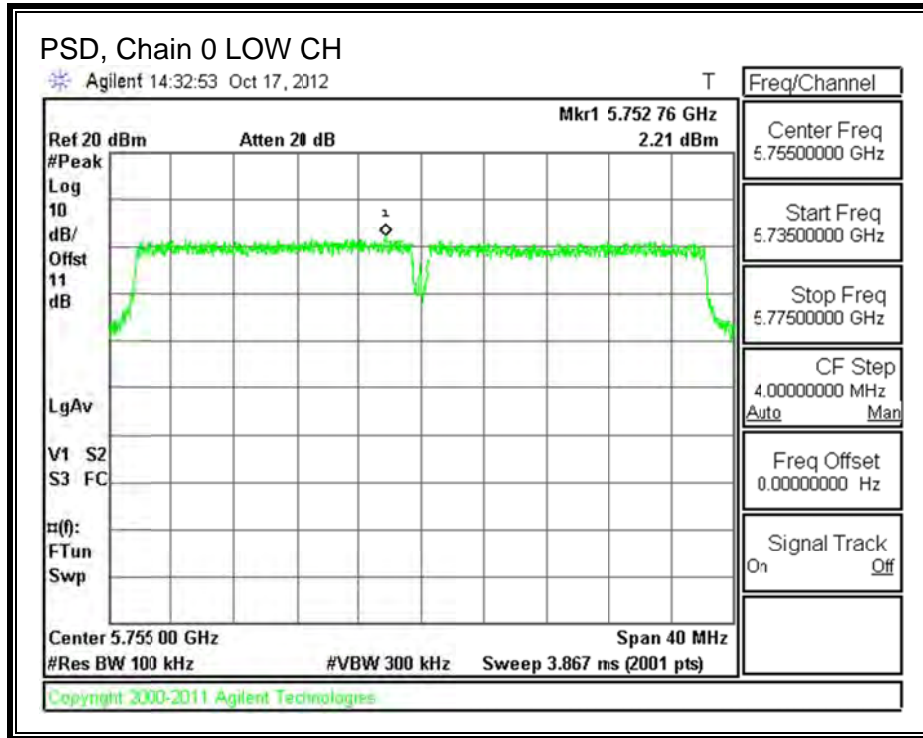
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

**RESULTS**

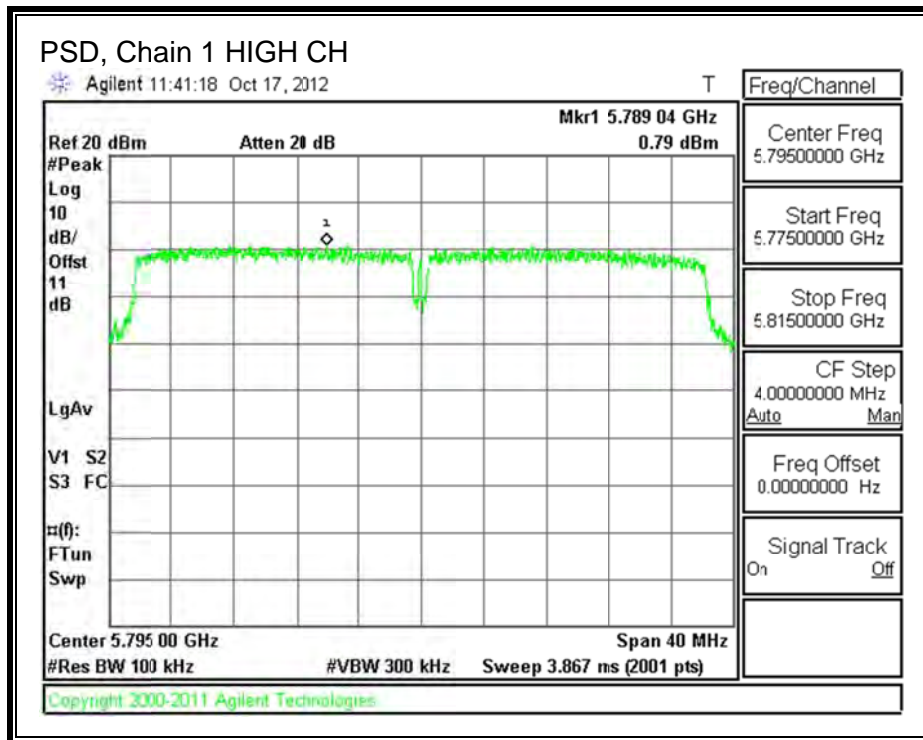
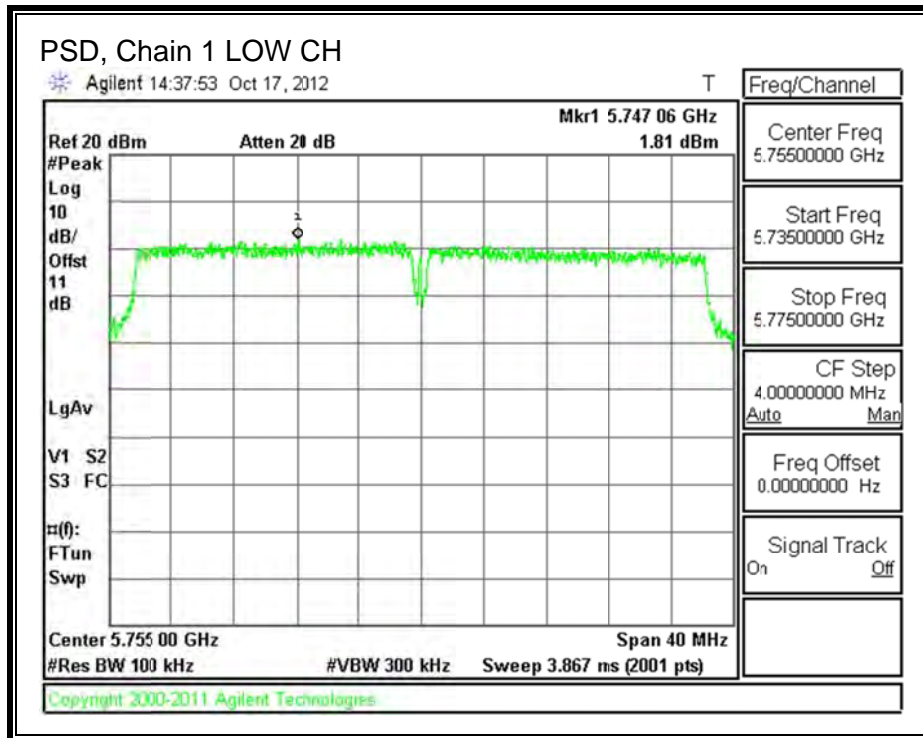
**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	BW Corr (dB)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5755	2.21	1.81	-15.2	-10.18	8.0	-18.2
High	5795	1.07	0.79	-15.2	-11.26	8.0	-19.3

**PSD, Chain 0**



**PSD, Chain 1**



## 8.10.6. OUT-OF-BAND EMISSIONS

### LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

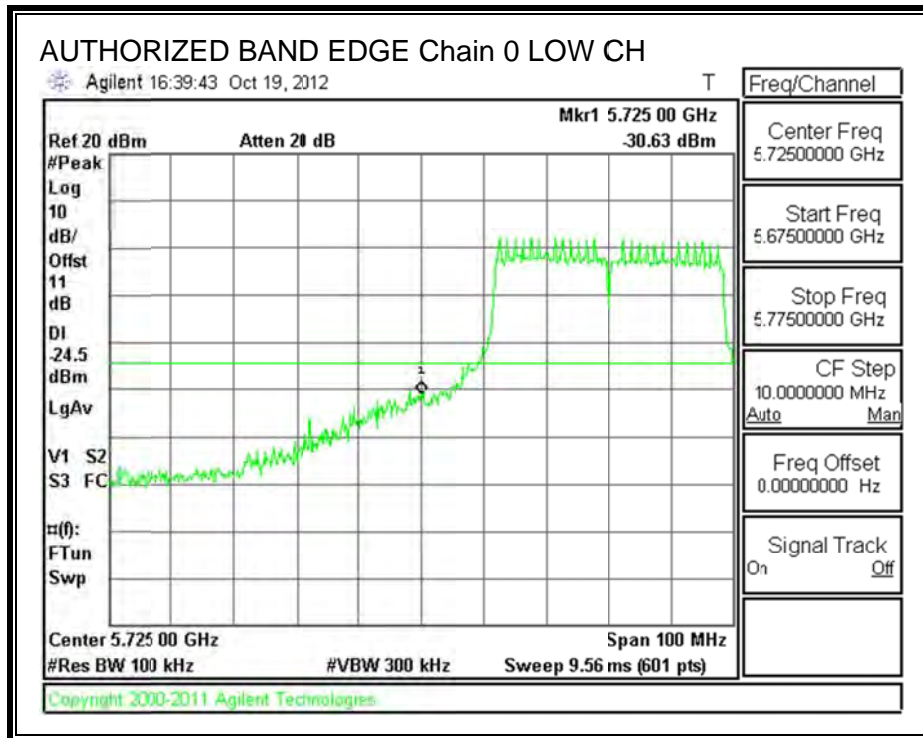
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

### TEST PROCEDURE

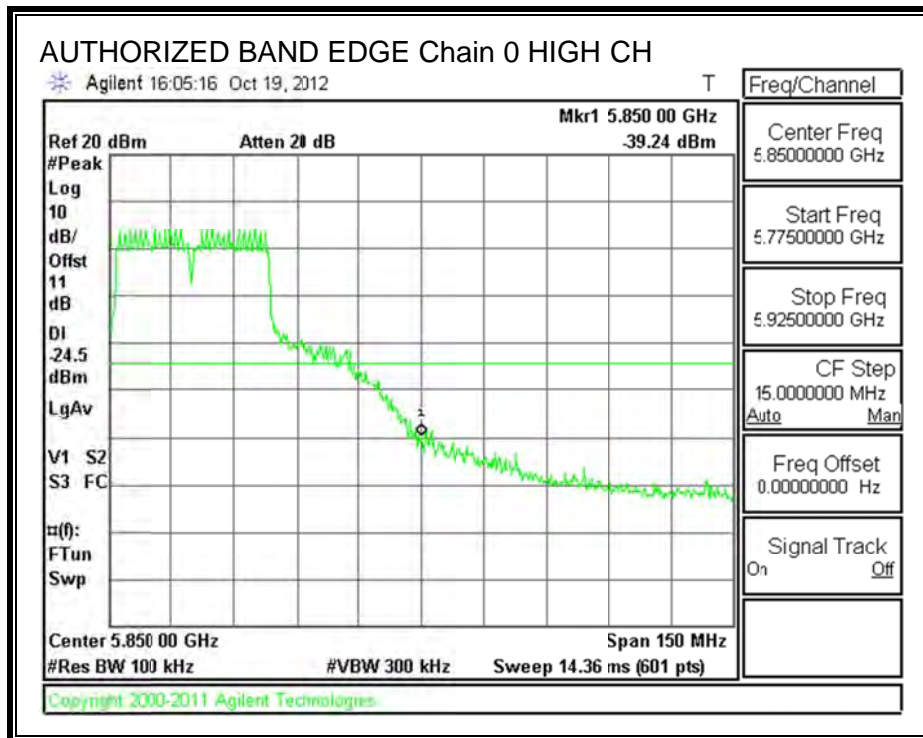
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

**RESULTS**

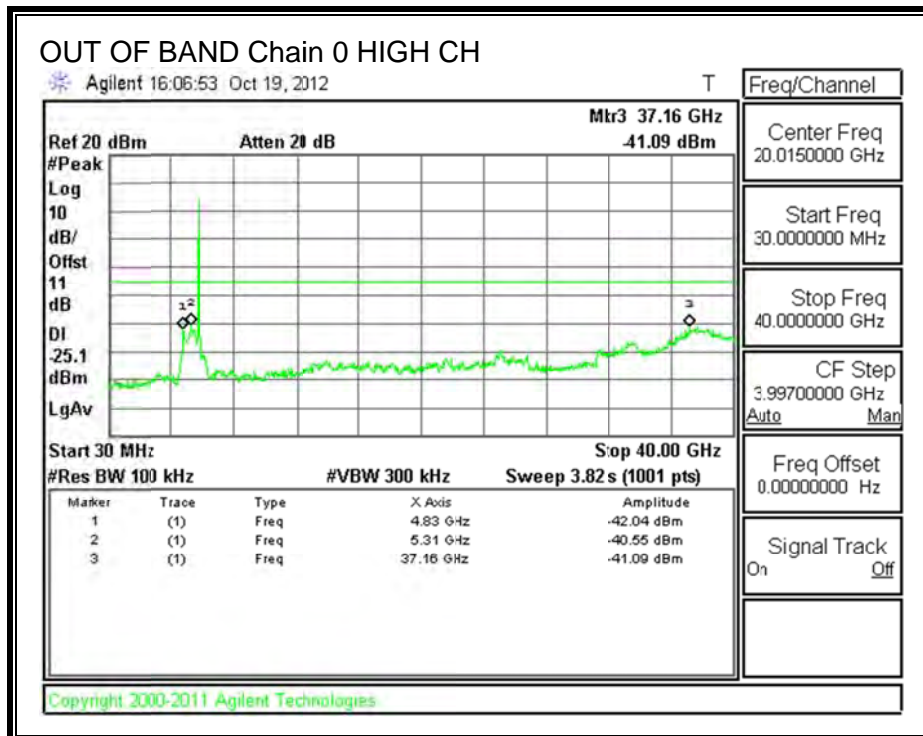
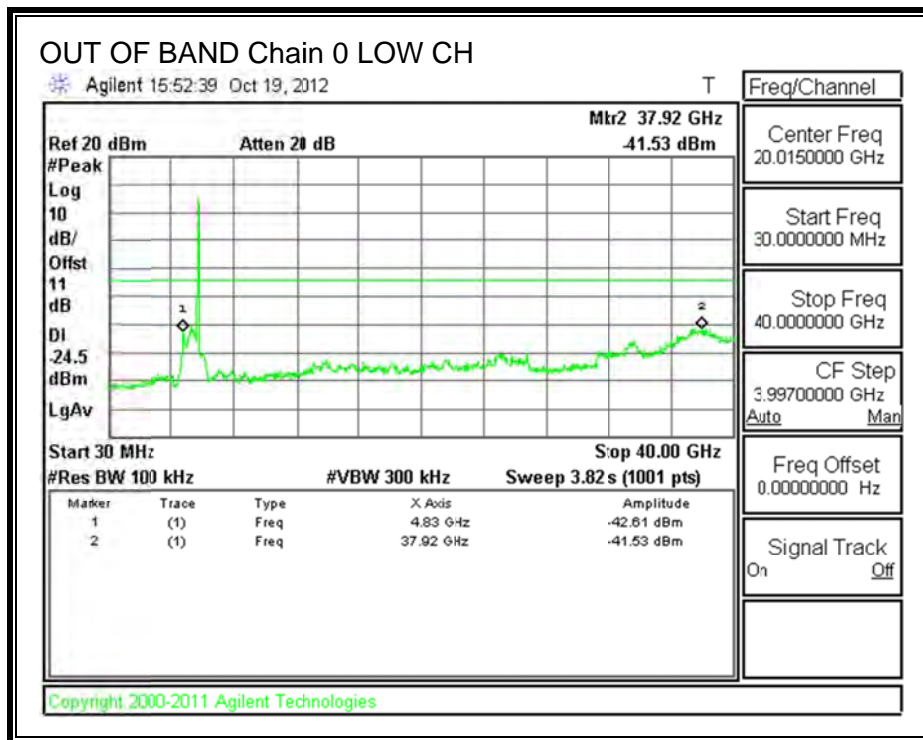
**LOW CHANNEL BANDEDGE, Chain 0**



**HIGH CHANNEL BANDEDGE, Chain 0**

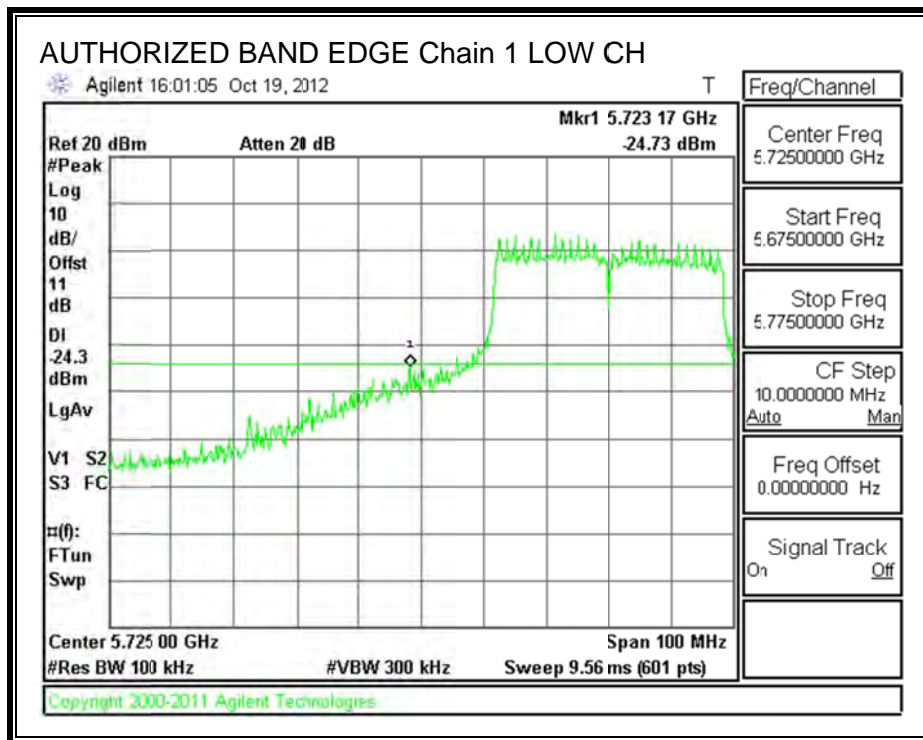


**OUT-OF-BAND EMISSIONS, Chain 0**

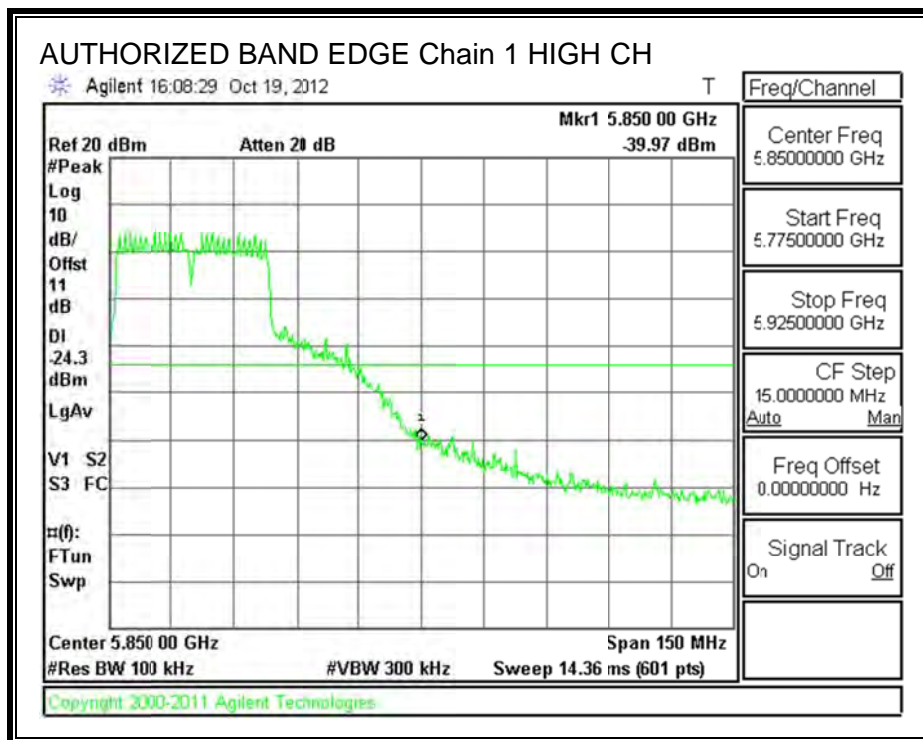


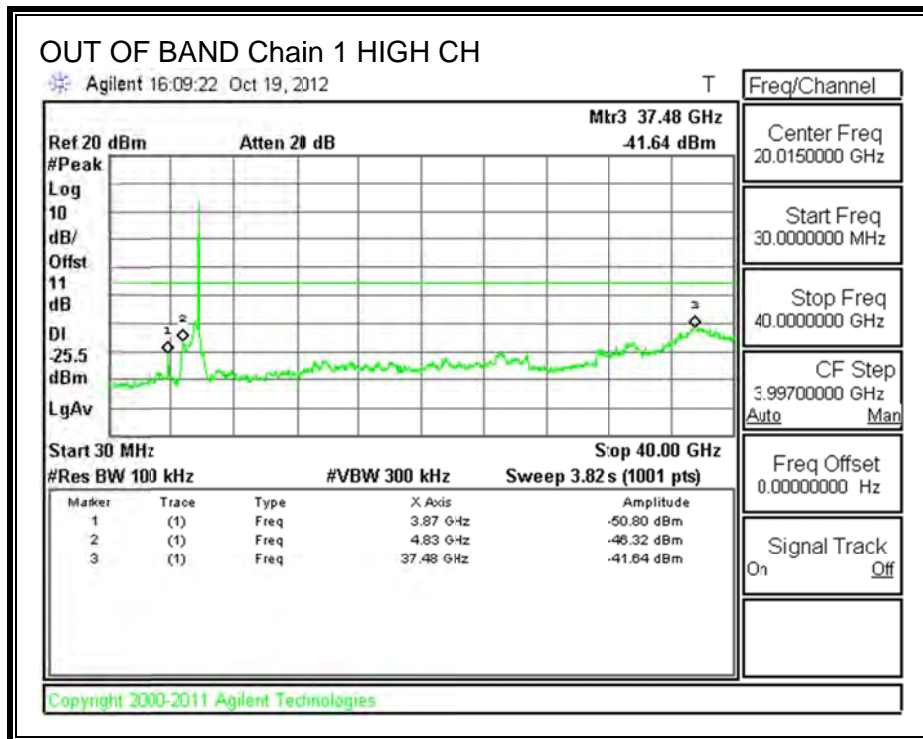
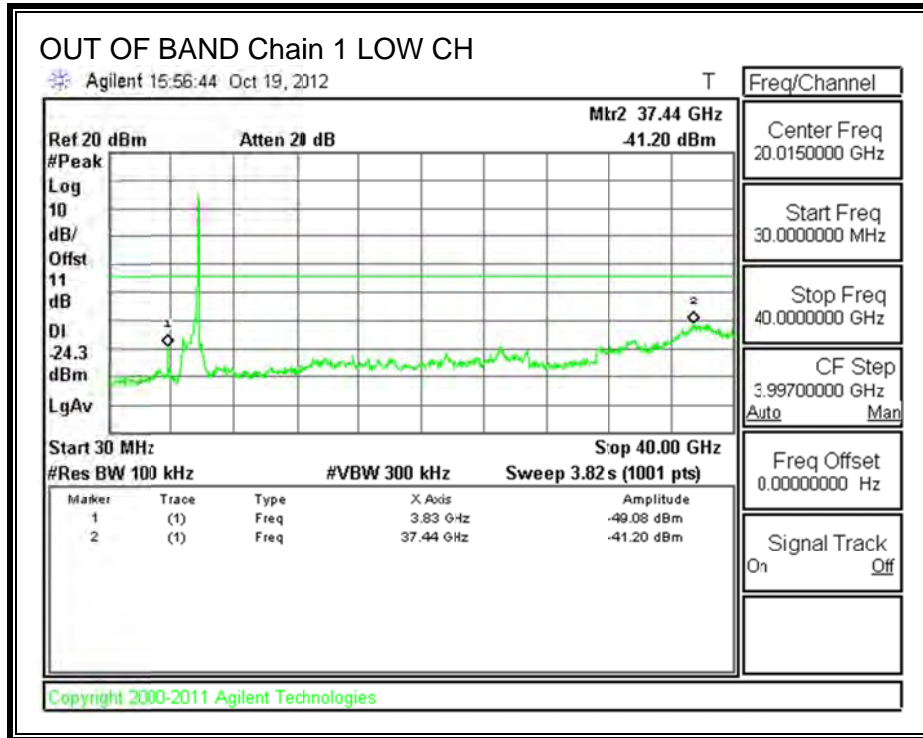


**LOW CHANNEL BANDEDGE, Chain 1**



**HIGH CHANNEL BANDEDGE, Chain 1**





## 8.11. 802.11n HT40 SDM MODE IN THE 5.8 GHz BAND

### 8.11.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

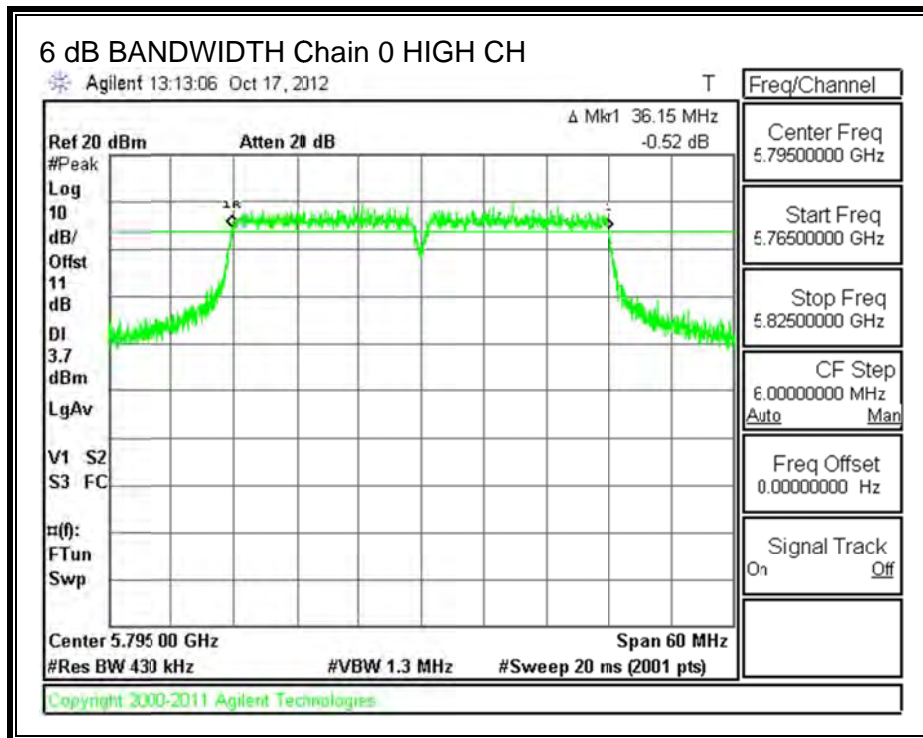
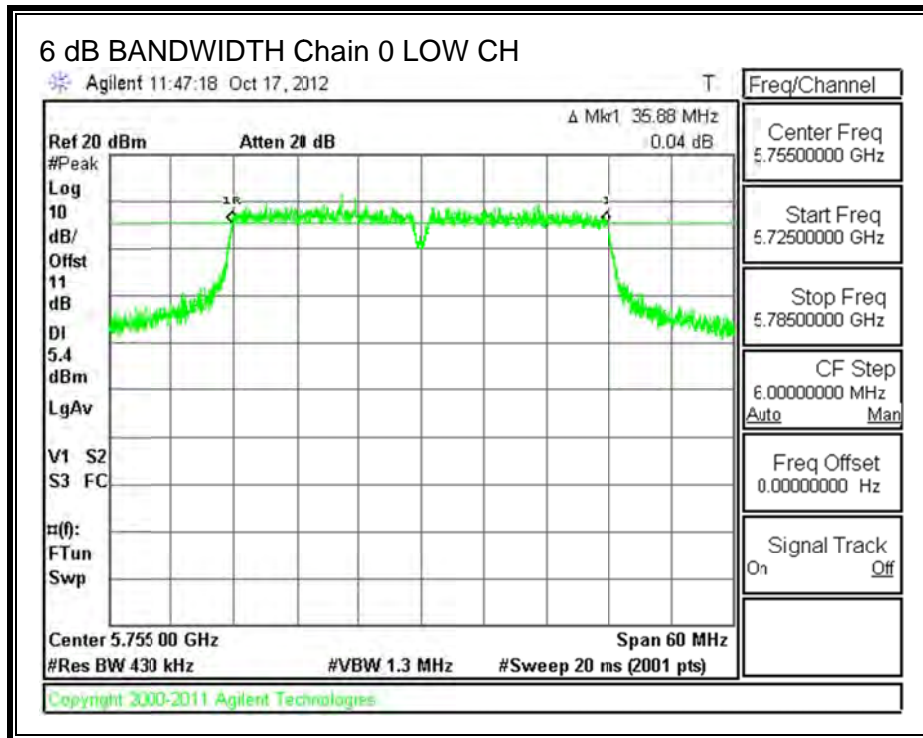
#### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

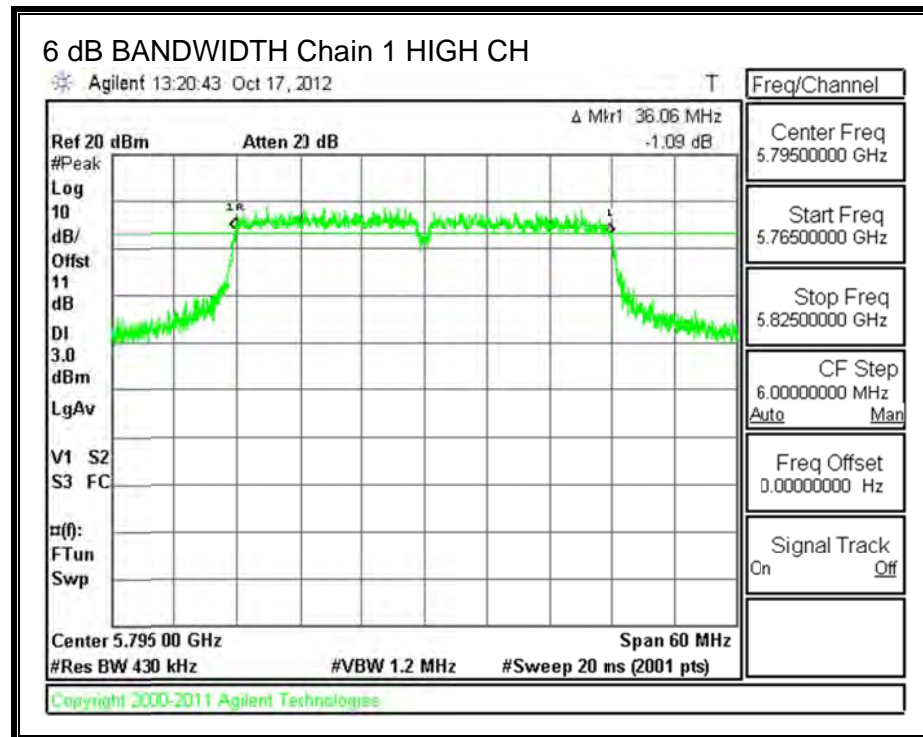
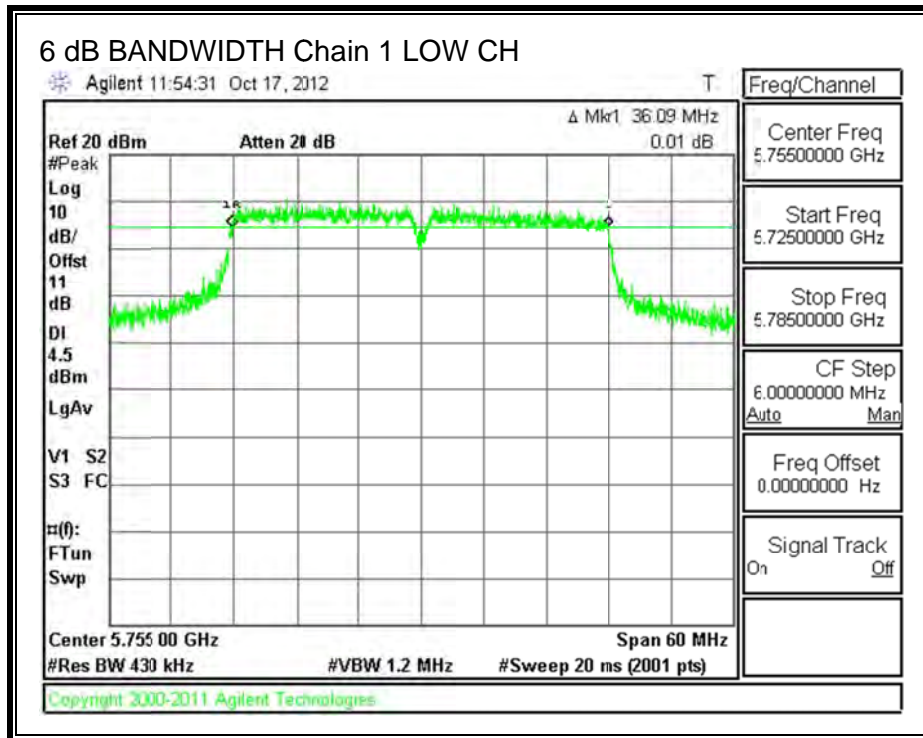
#### RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	35.88	36.09	0.5
High	5795	36.15	36.06	0.5

**6 dB BANDWIDTH, Chain 0**



**6 dB BANDWIDTH, Chain 1**



**8.11.2. 99% BANDWIDTH**

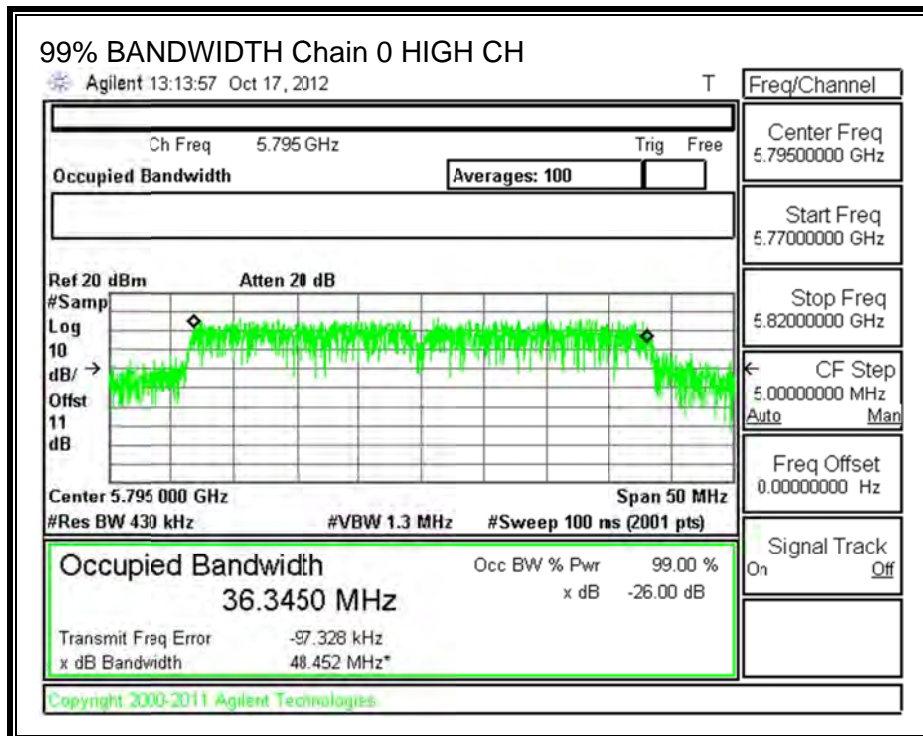
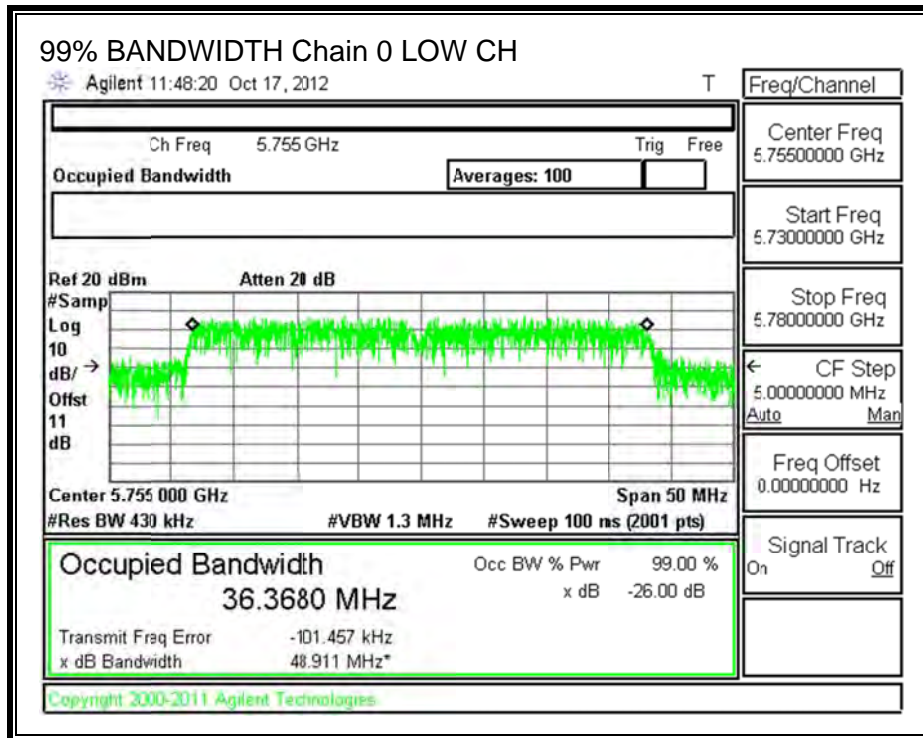
**LIMITS**

None; for reporting purposes only.

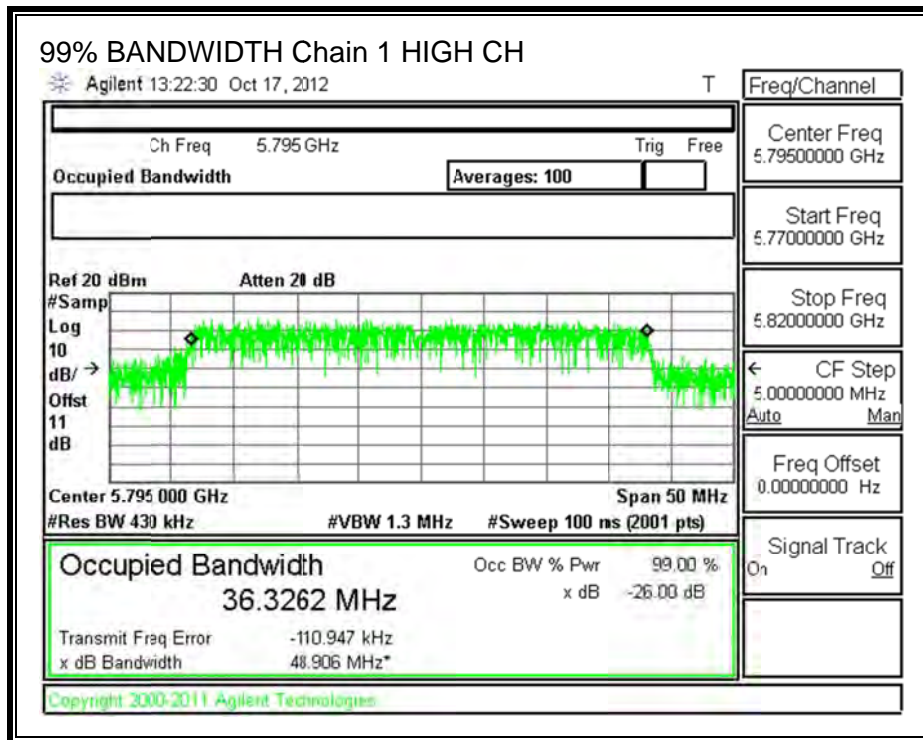
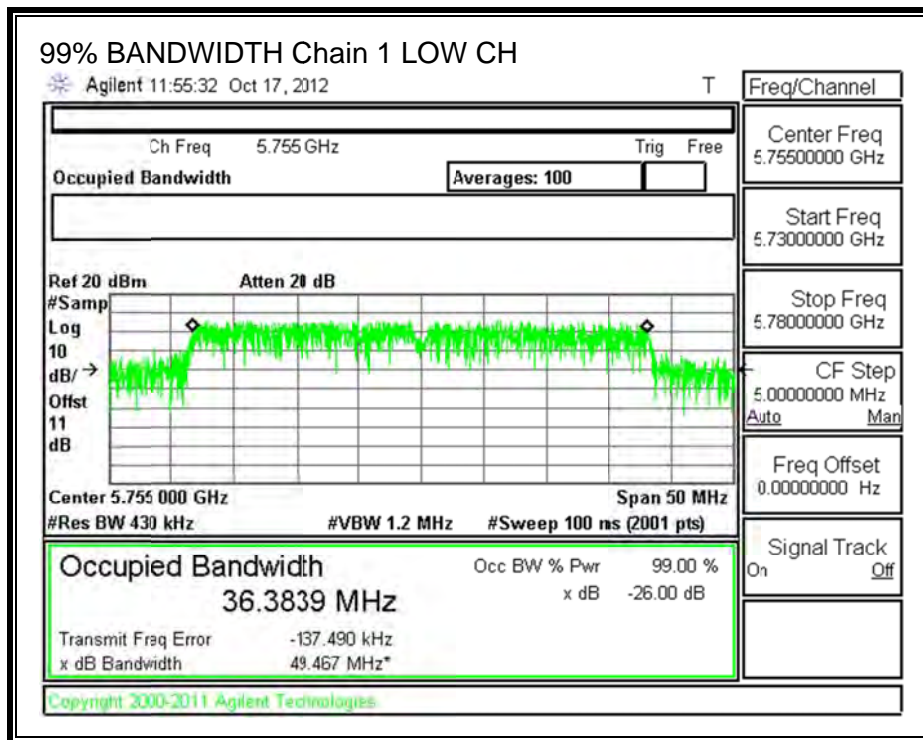
**RESULTS**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.3680	36.3839
High	5795	36.3450	36.3262

**99% BANDWIDTH, Chain 0**



**99% BANDWIDTH, Chain 1**





### 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 11.5 dB (including 10 dB pad and 1.5dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### RESULTS

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5755	15.20	15.80	18.52
High	5795	17.85	17.40	20.64

#### **8.11.4. OUTPUT POWER**

##### **LIMITS**

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

**RESULTS**

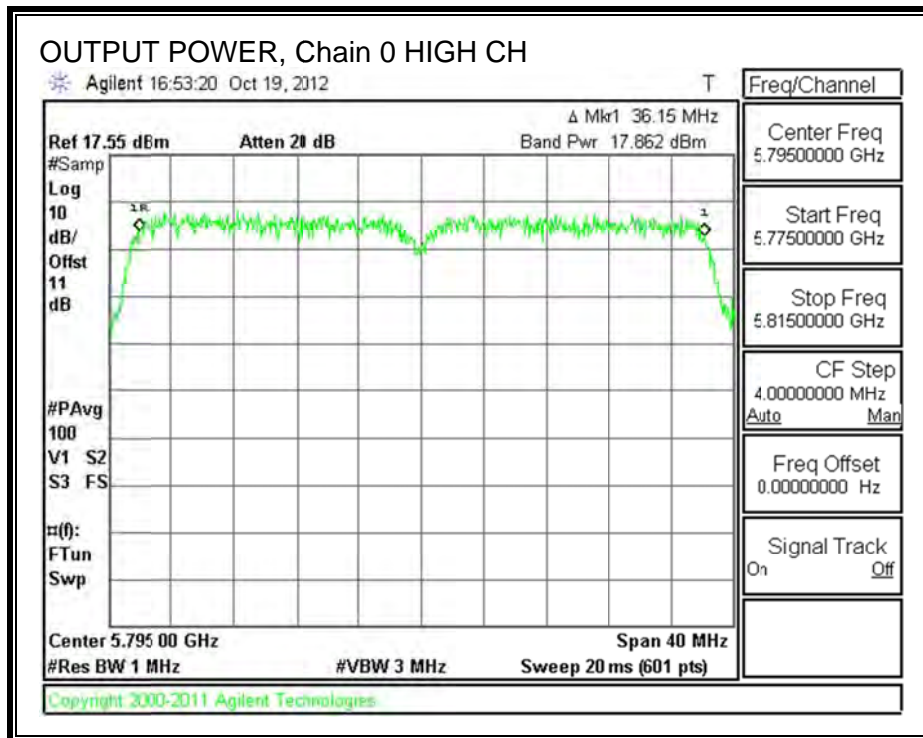
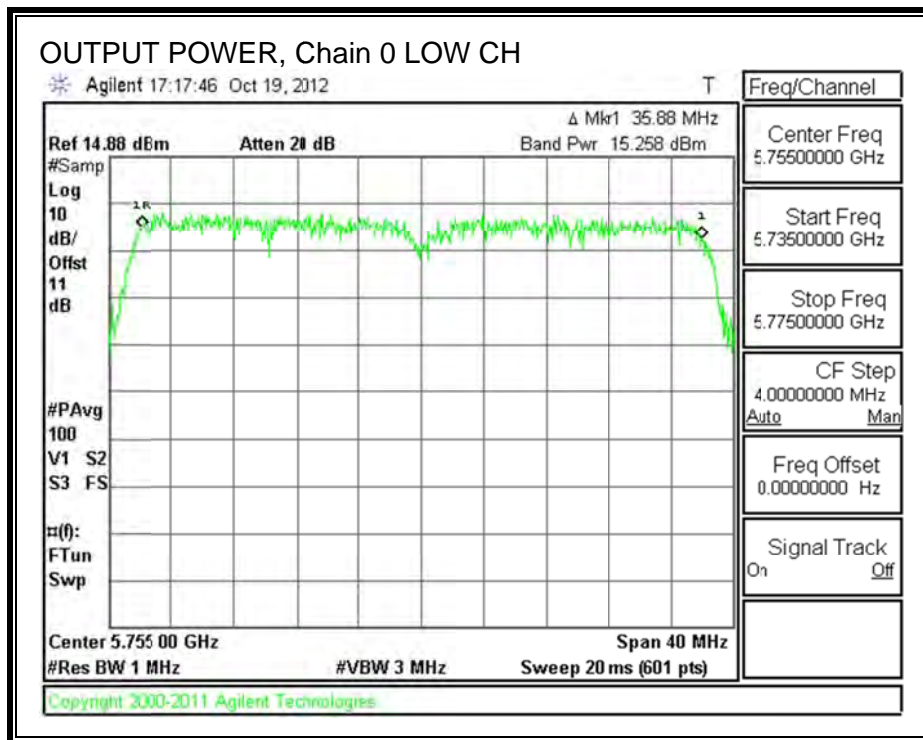
**Limits**

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5755	2.00	30.00	30	36	30.00
High	5795	2.00	30.00	30	36	30.00

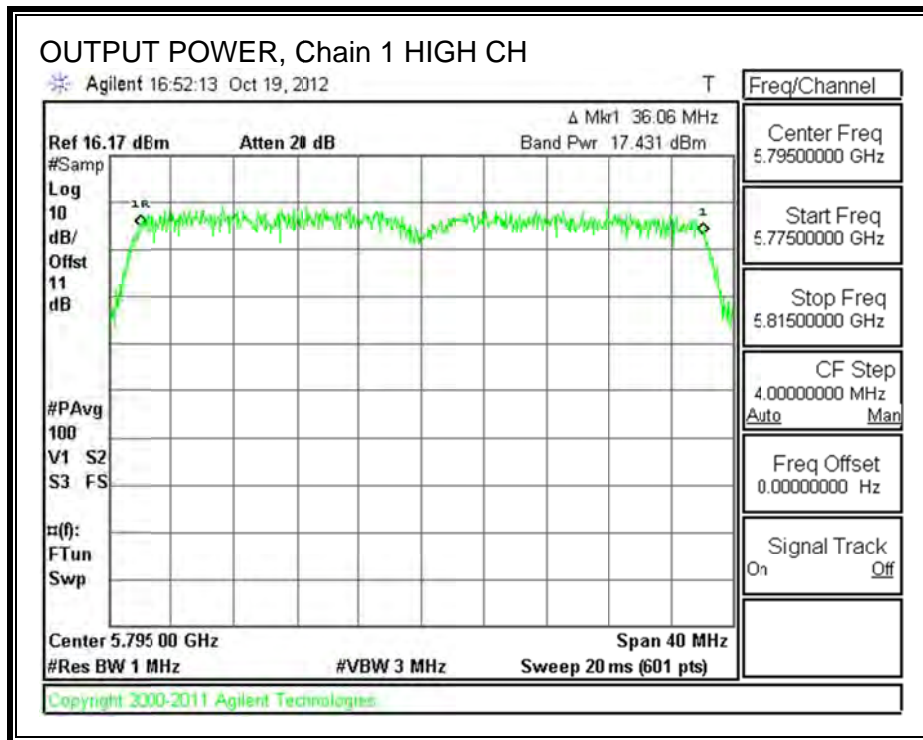
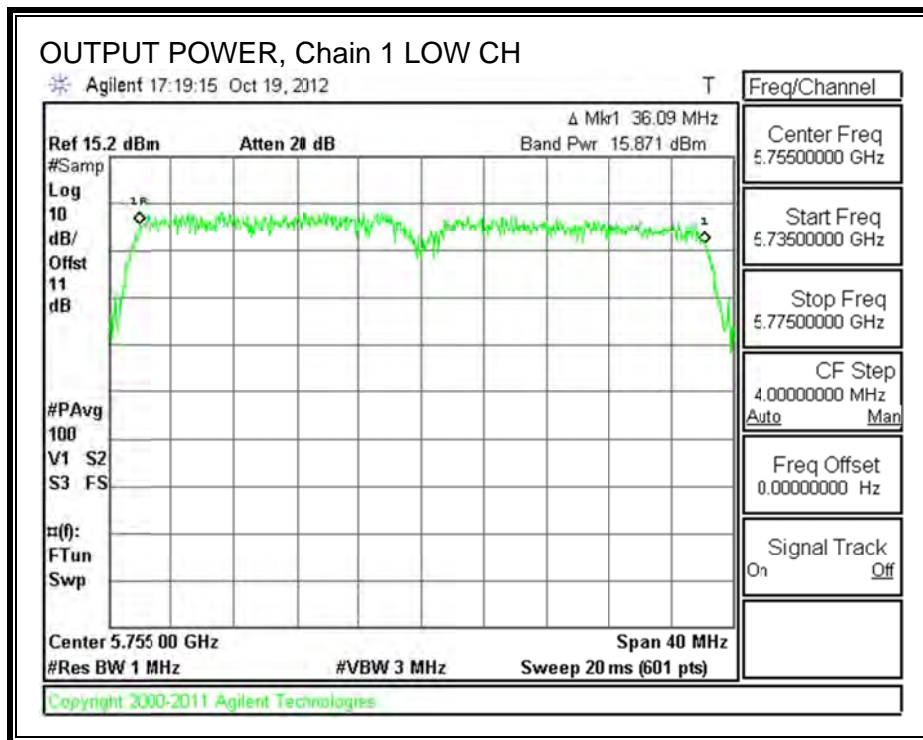
**Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5755	15.258	15.871	18.586	30.00	-11.414
High	5795	17.862	17.431	20.662	30.00	-9.338

**OUTPUT POWER, Chain 0**



**OUTPUT POWER, Chain 1**



**8.11.5. PSD**

**LIMITS**

FCC §15.247

IC RSS-210 A8.2

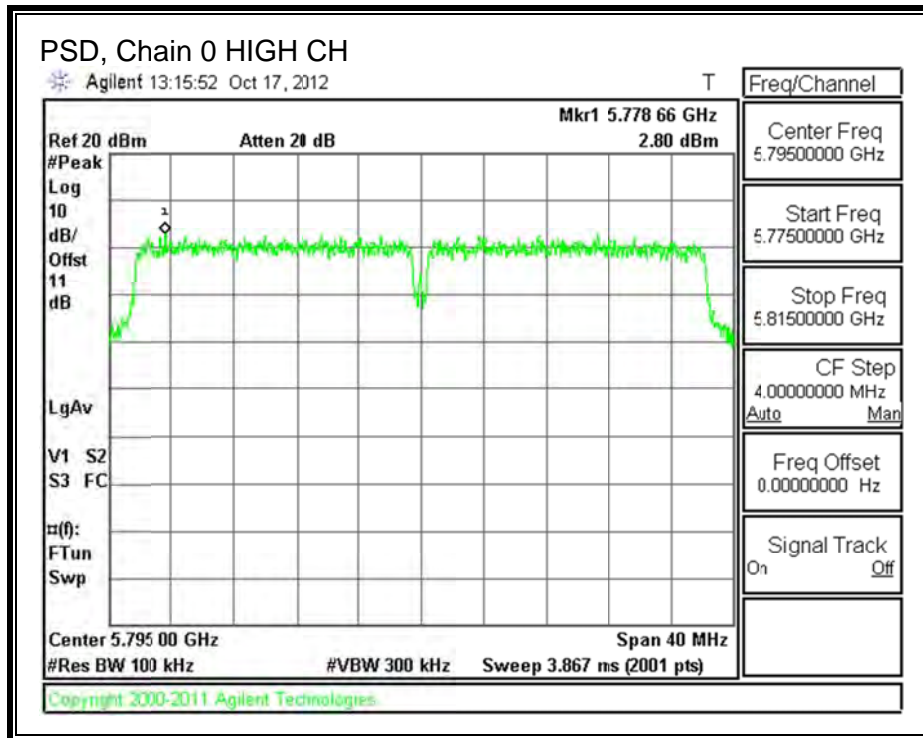
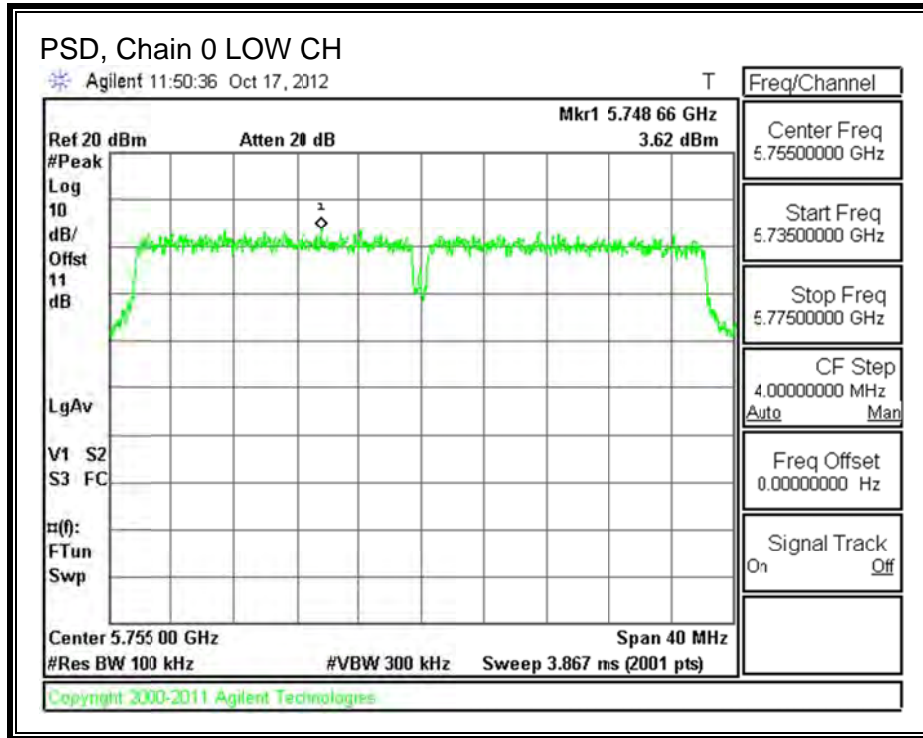
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

**RESULTS**

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	BW Corr (dB)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5755	3.62	3.87	-15.2	-8.44	8.0	-16.4
High	5795	2.80	2.68	-15.2	-9.45	8.0	-17.4

**PSD, Chain 0**



**PSD, Chain 1**

