9.16.2. 99% BANDWIDTH

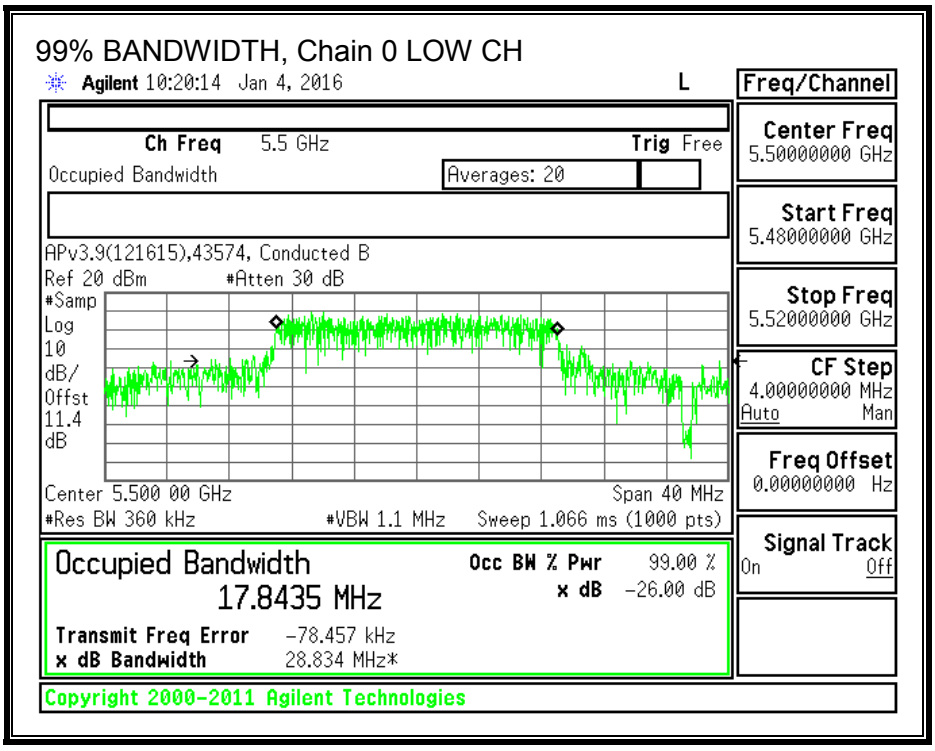
LIMITS

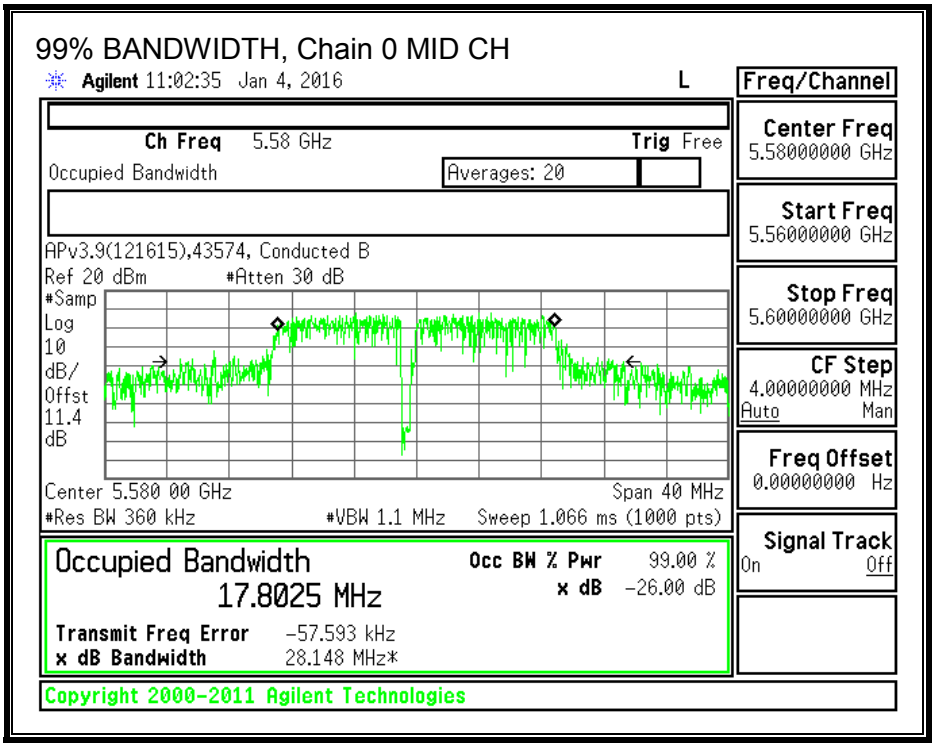
None; for reporting purposes only.

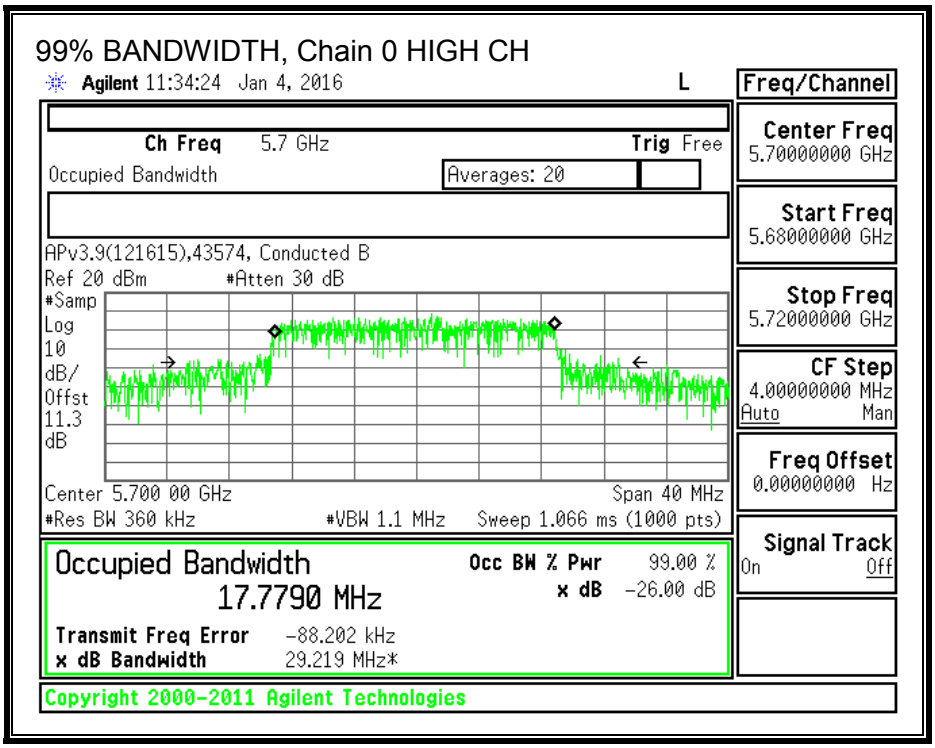
RESULTS

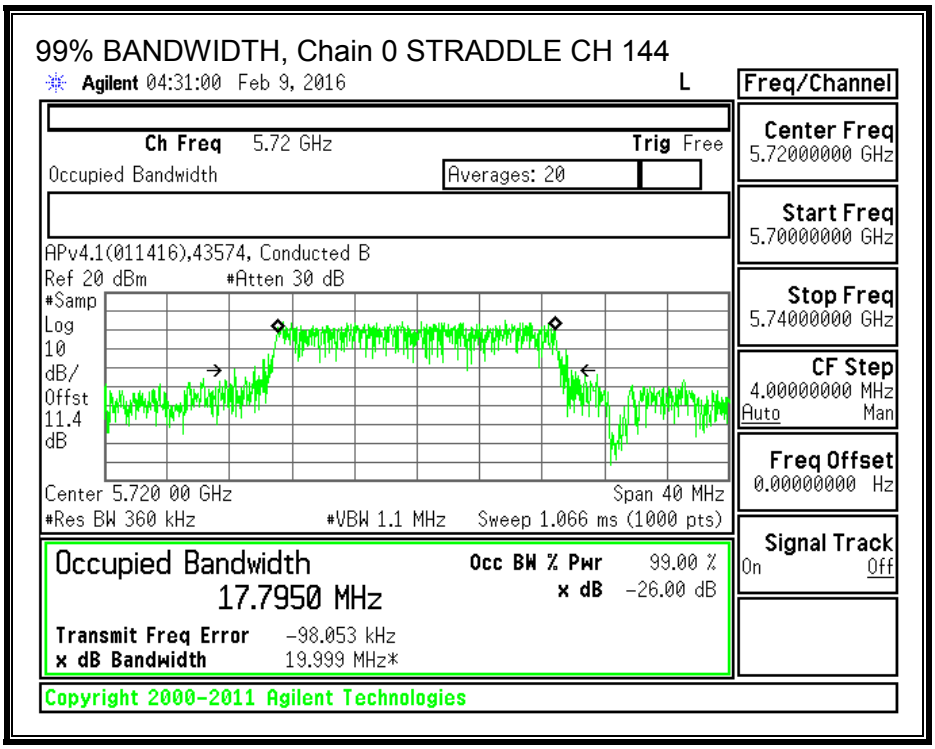
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5500	17.8435	17.8352	17.7700
Mid	5580	17.8025	17.8323	17.7916
High	5700	17.7790	17.7994	17.7775
144	5720	17.7950	17.7146	17.7271

99% BANDWIDTH, Chain 0

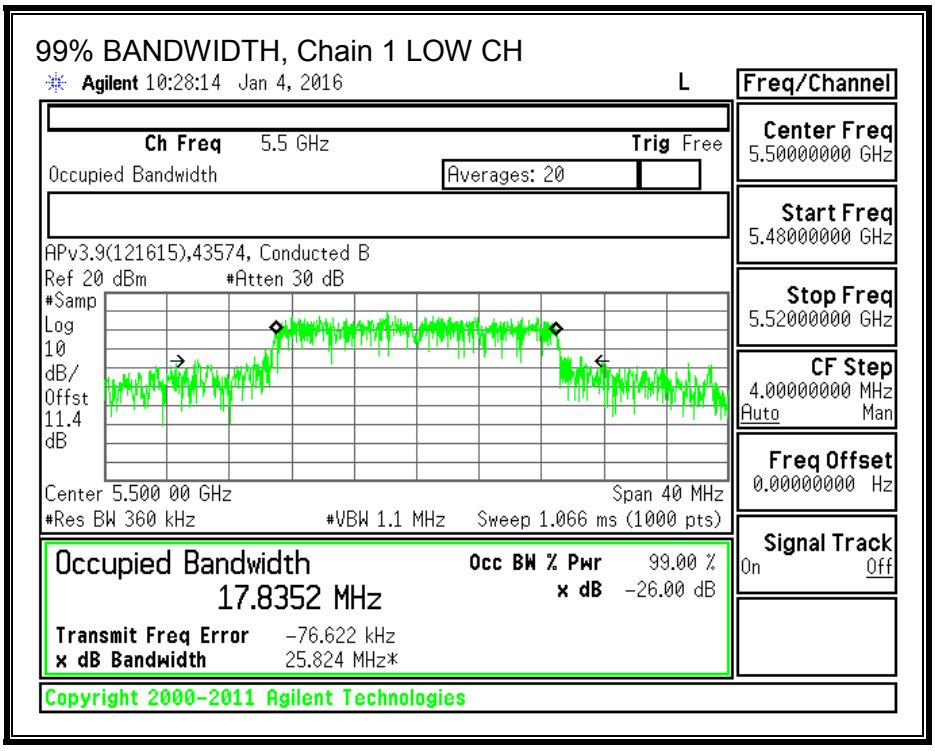


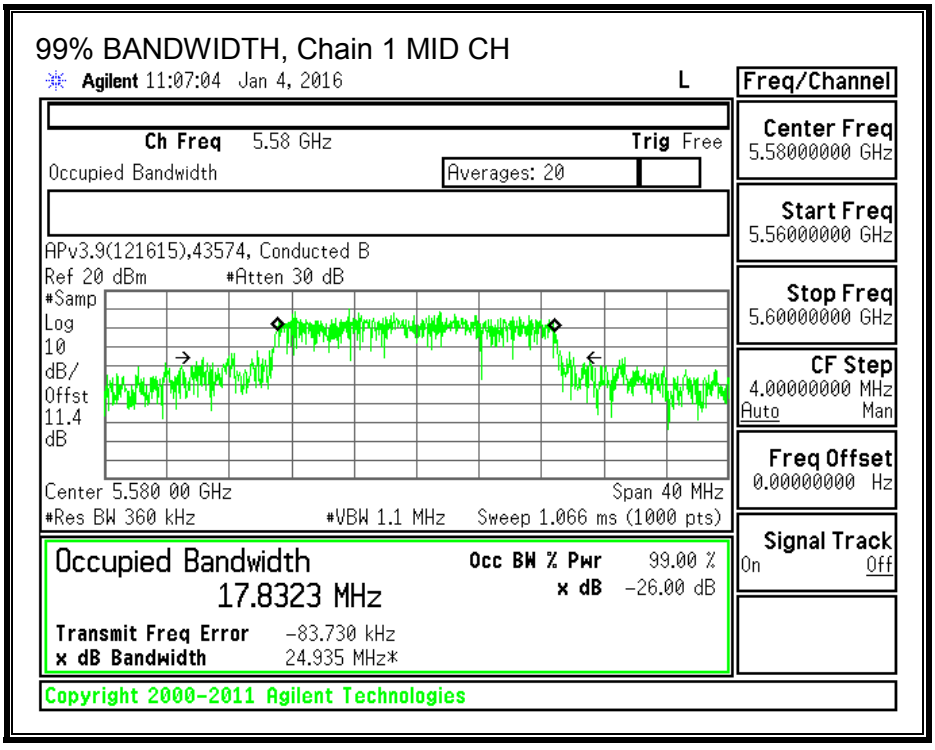




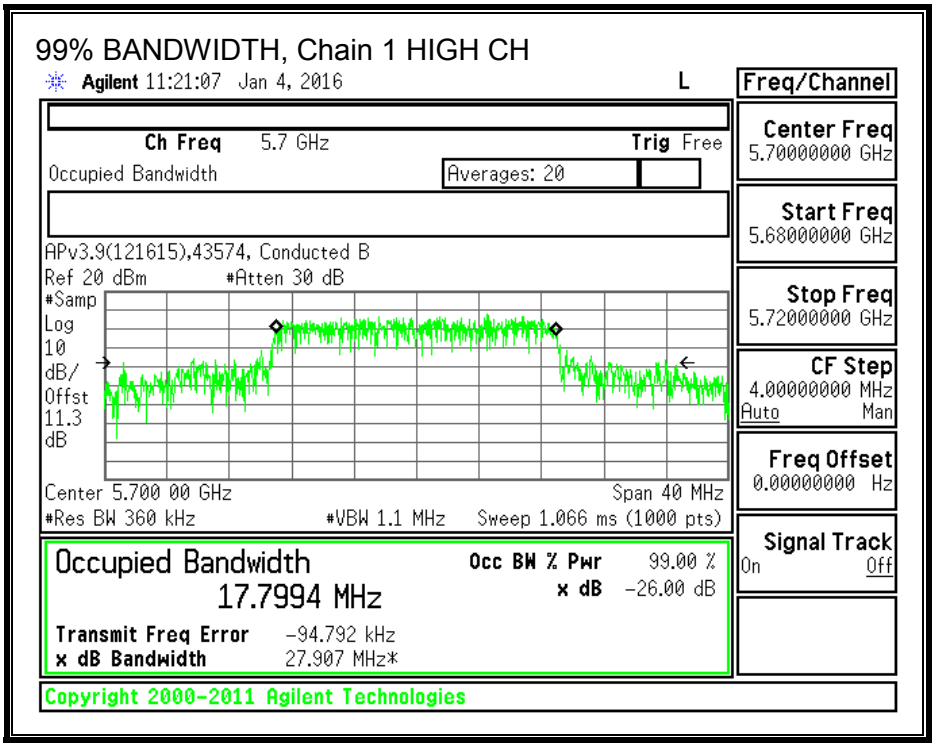


99% BANDWIDTH, Chain 1

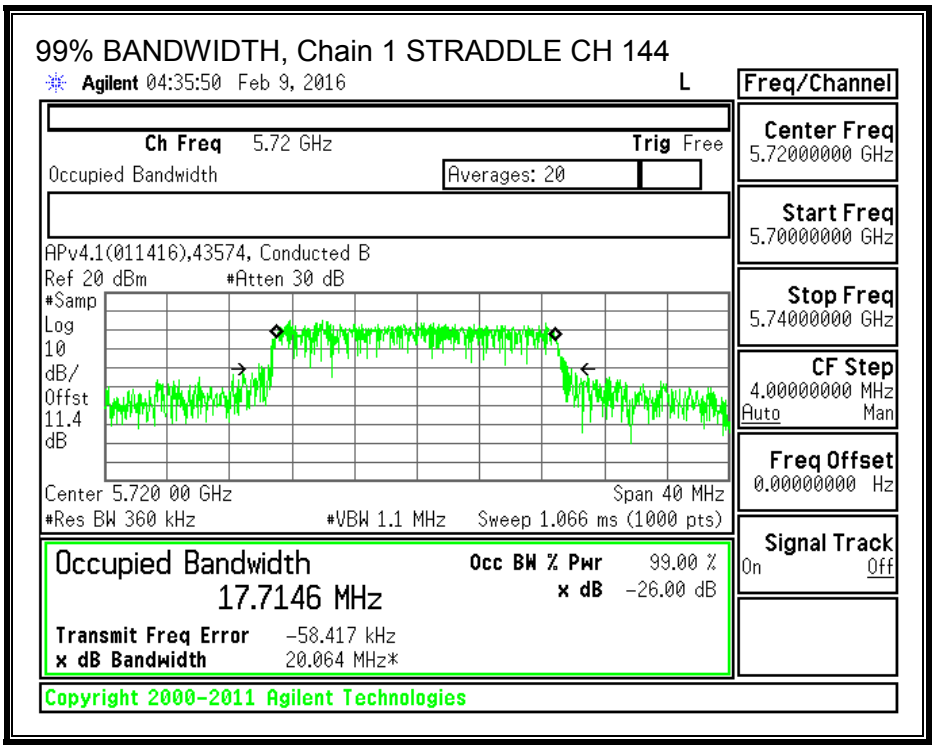




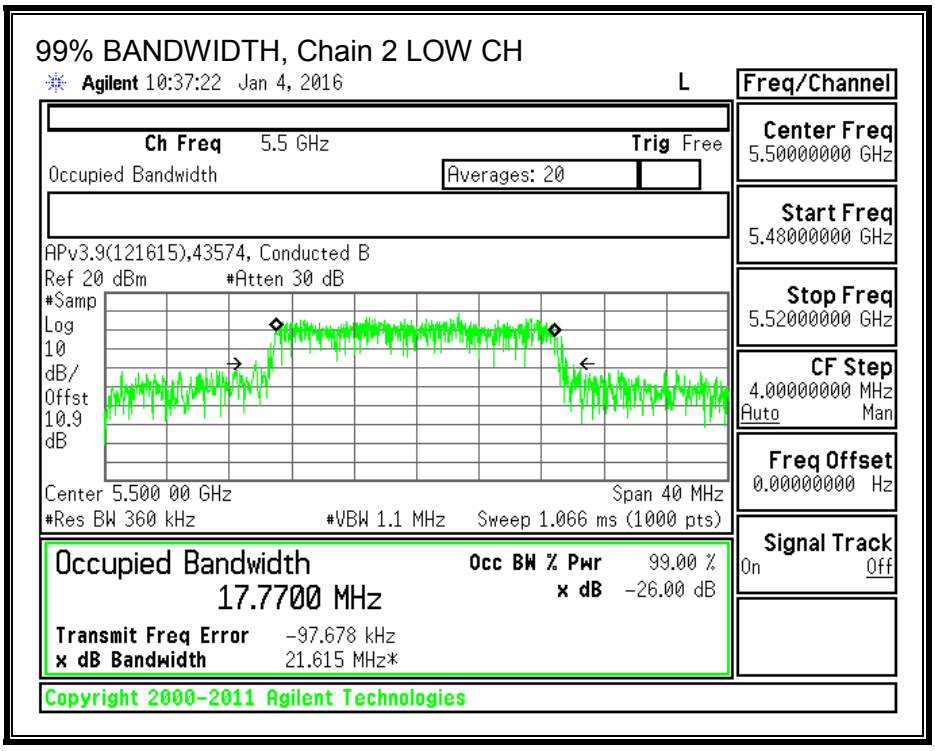
99% BANDWIDTH, Chain 1 HIGH CH

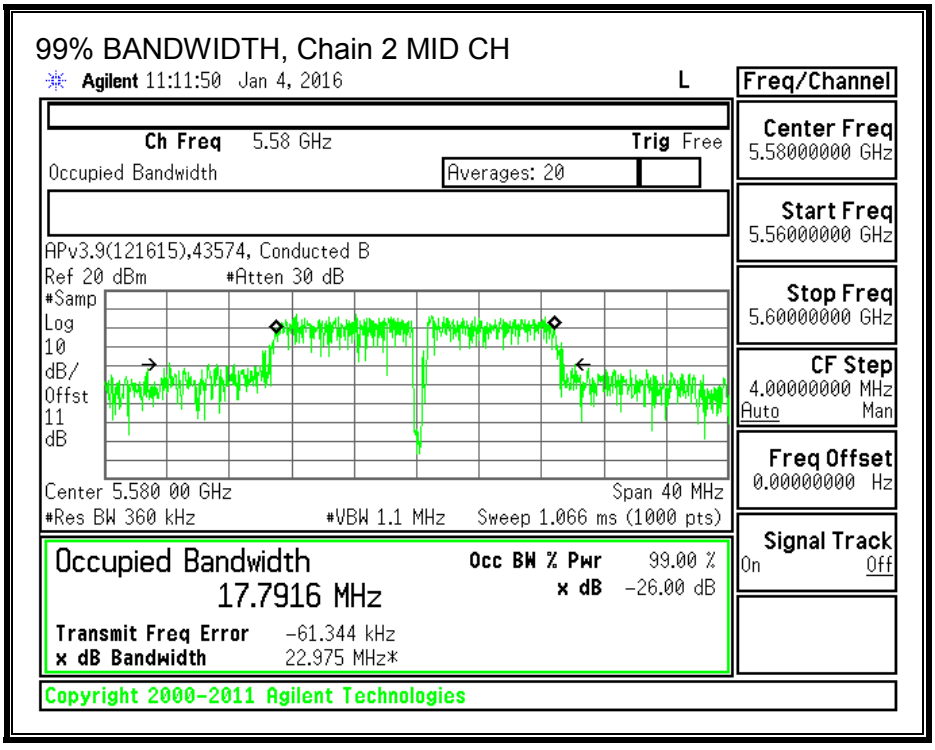


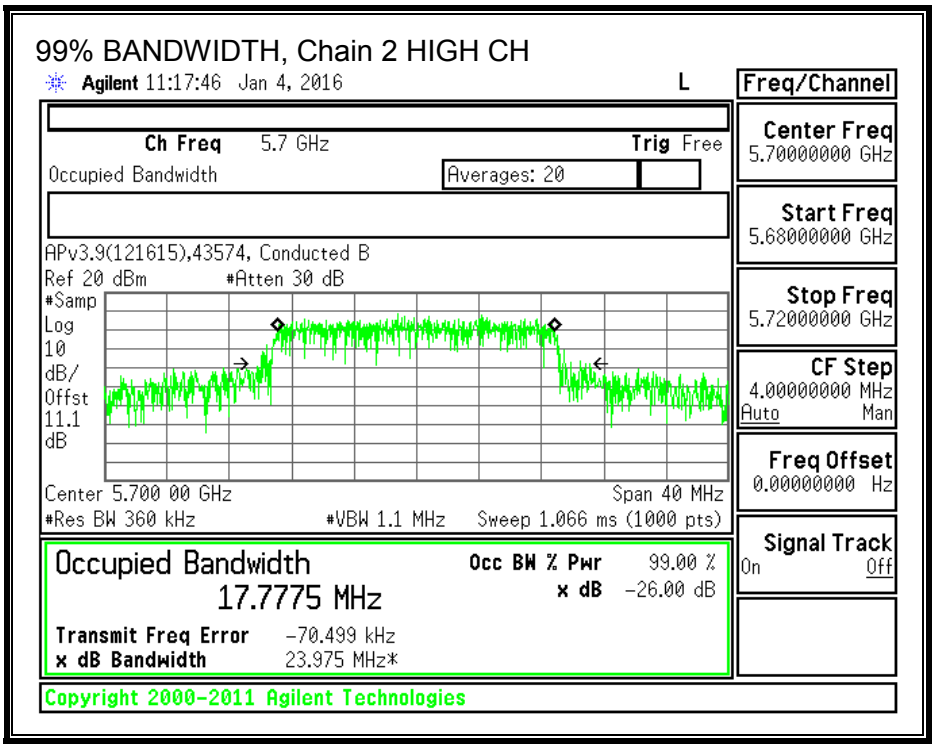
99% BANDWIDTH, Chain 1 STRADDLE CH 144

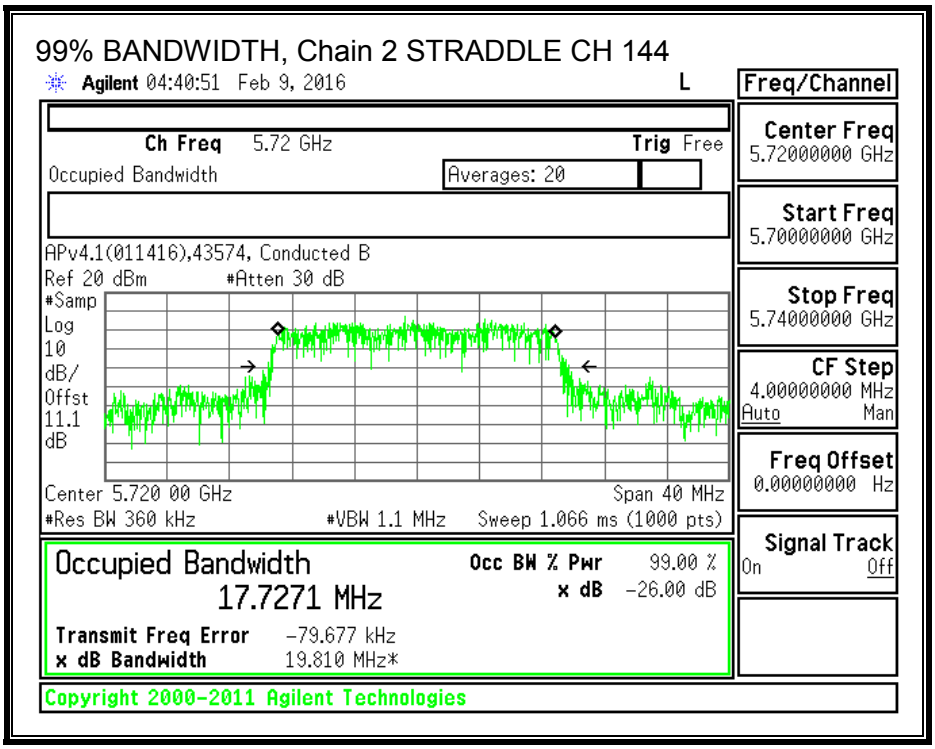


99% BANDWIDTH, Chain 2









9.16.3. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

DIRECTIONAL ANTENNA GAIN

For 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)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.77	3.46	1.88	3.11

For PSD, 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)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.77	3.46	1.88	7.85

RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5500	35.650	3.11	7.85	24.00	9.15
Mid	5580	31.114	3.11	7.85	24.00	9.15
High	5700	31.824	3.11	7.85	24.00	9.15

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.00	15.27	14.50	20.07	24.00	-3.93
Mid	5580	16.27	15.83	14.70	20.42	24.00	-3.58
High	5700	16.12	16.08	15.63	20.72	24.00	-3.28

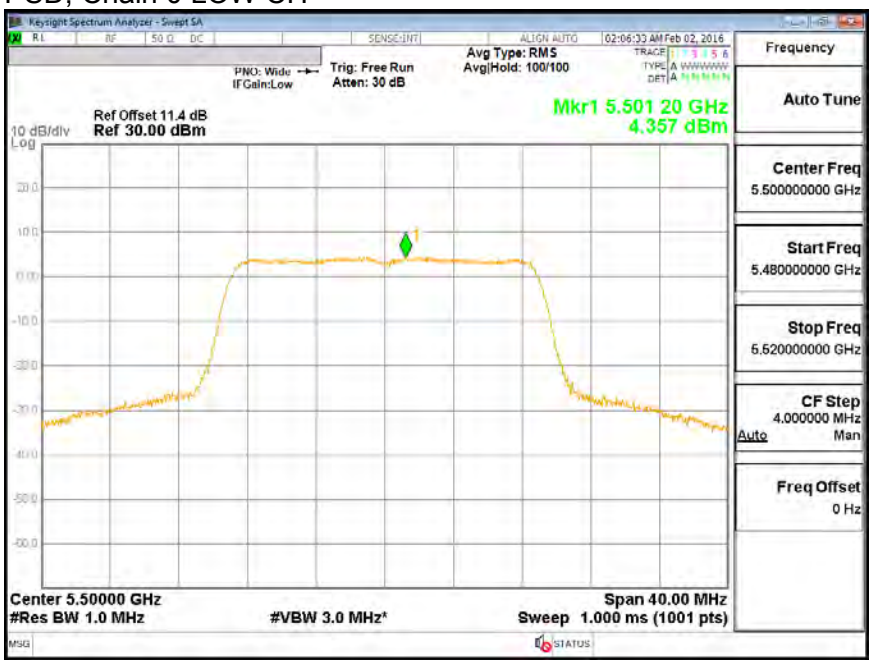
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	4.357	4.085	3.938	8.901	9.15	-0.25
Mid	5580	4.305	4.123	3.842	8.865	9.15	-0.28
High	5700	4.255	4.216	4.275	9.020	9.15	-0.13

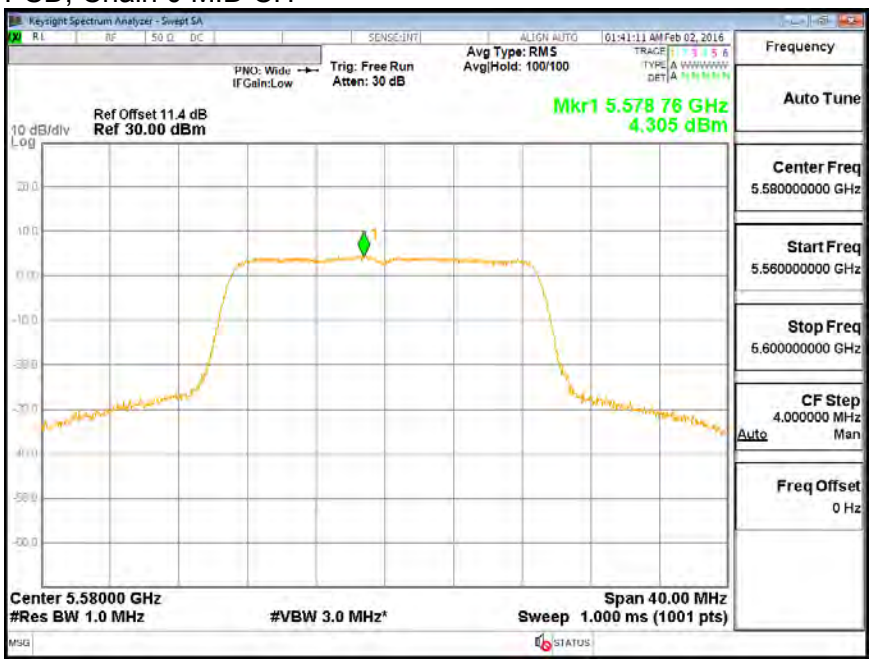
Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

PSD, Chain 0

PSD, Chain 0 LOW CH



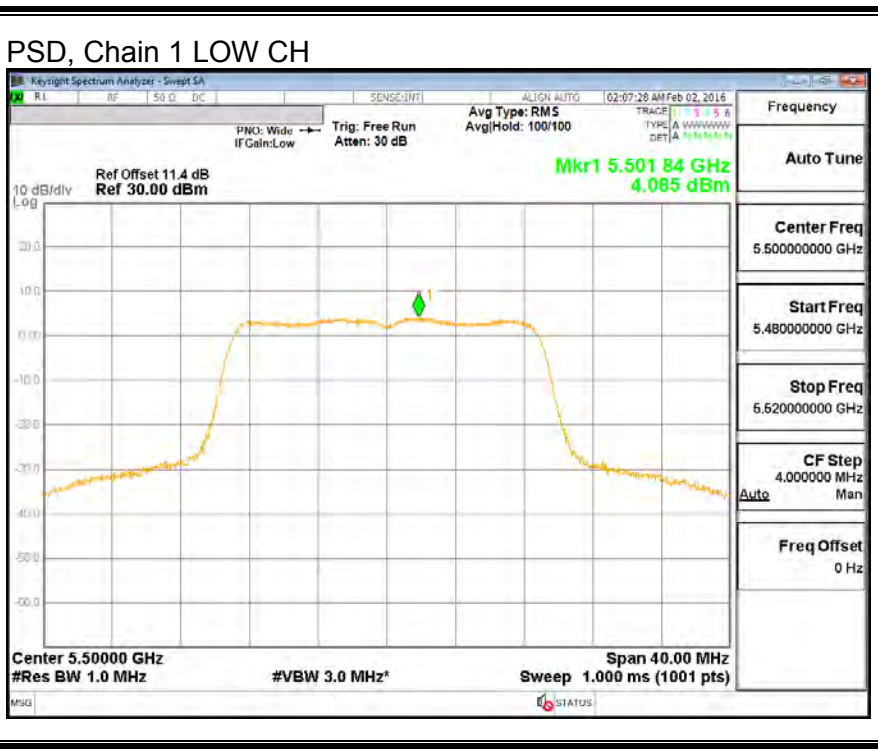
PSD, Chain 0 MID CH



PSD, Chain 0 HIGH CH

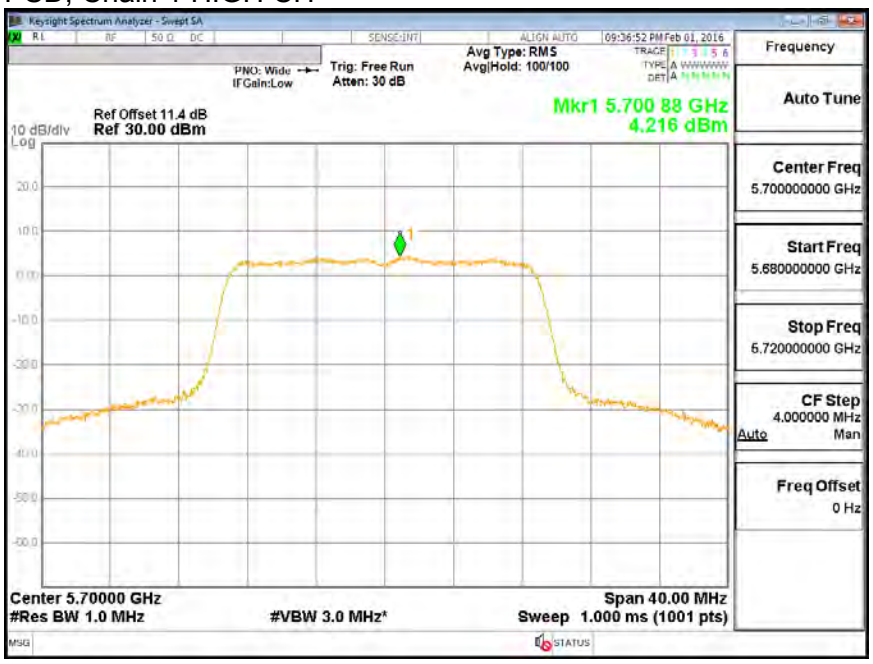
PSD, Chain 1

PSD, Chain 1 LOW CH



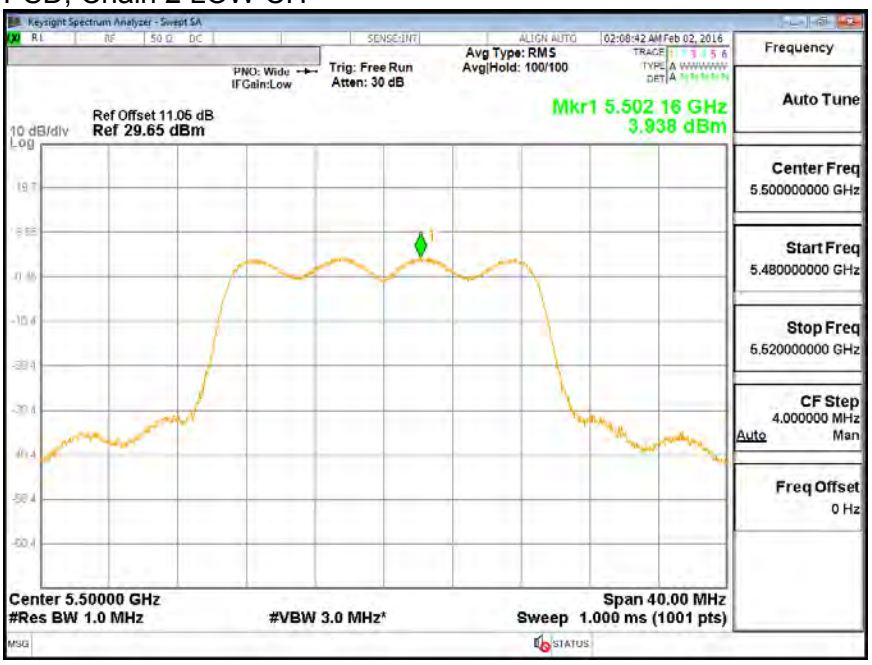
PSD, Chain 1 MID CH

PSD, Chain 1 HIGH CH



PSD, Chain 2

PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH

PSD, Chain 2 HIGH CH

STRADDLE CH 144 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	15.640	3.11	7.85	22.94	9.15

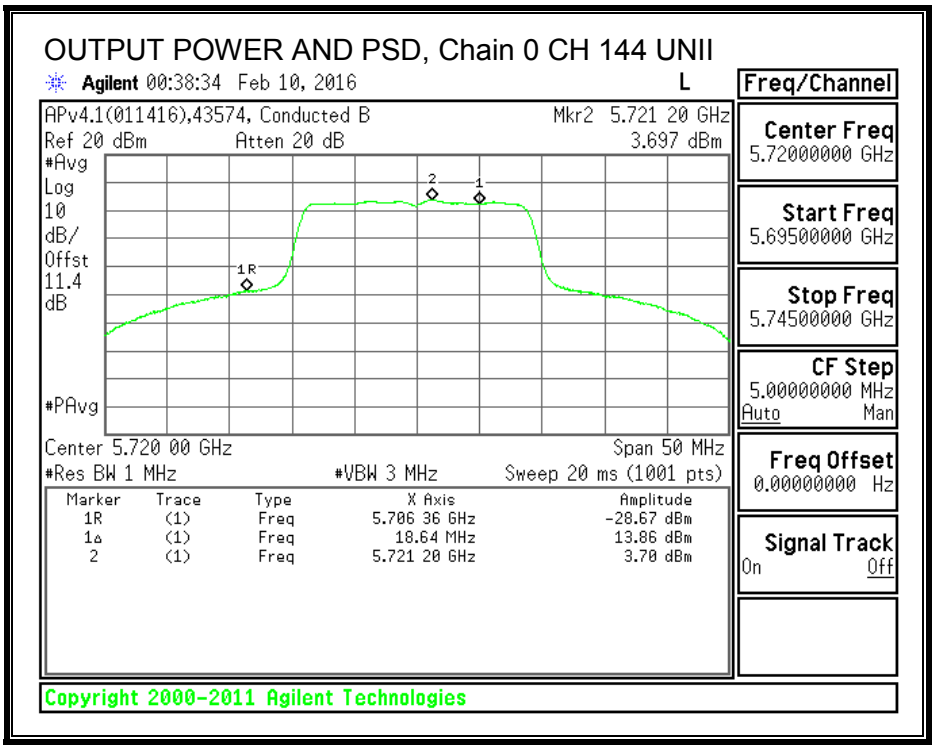
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

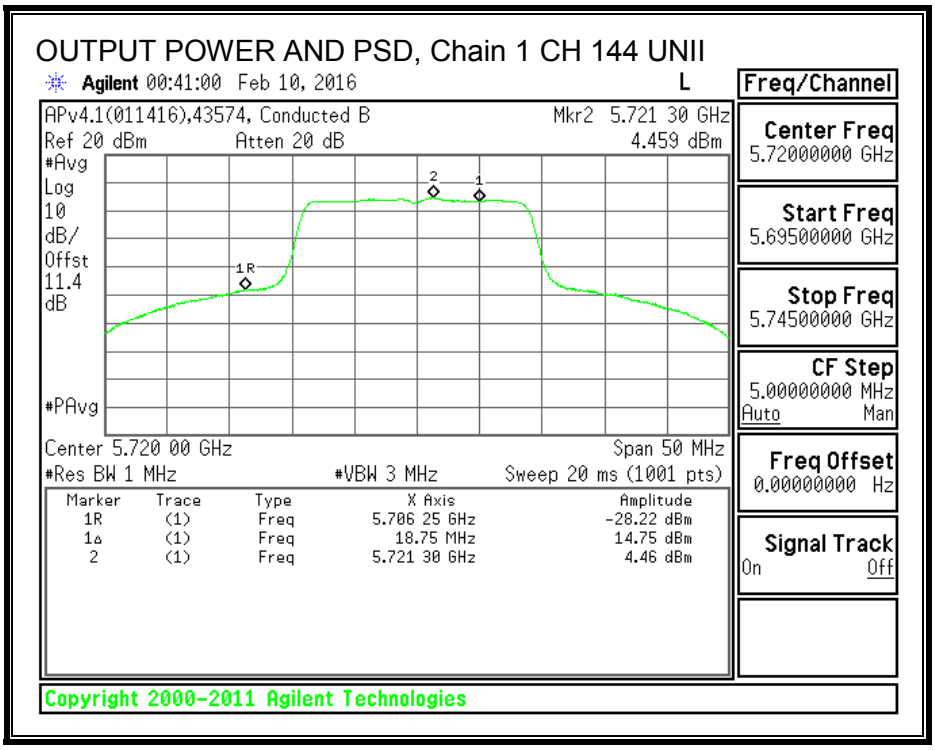
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	13.86	14.75	14.47	19.15	22.94	-3.79

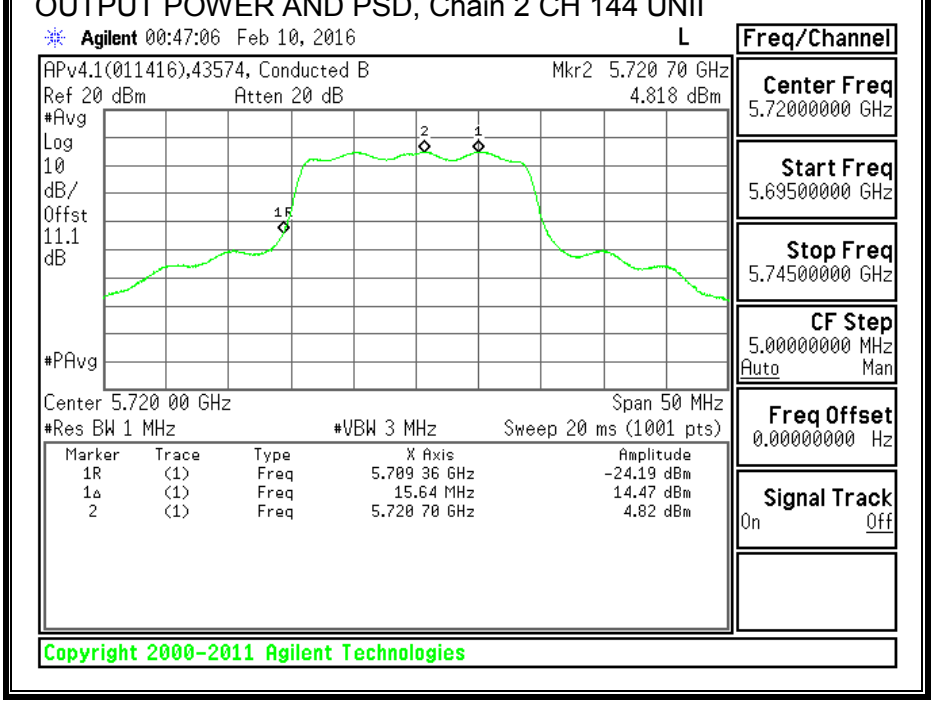
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	3.700	4.460	4.820	9.123	9.15	-0.03





OUTPUT POWER AND PSD, Chain 2 CH 144 UNII



UNII-3 BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
144	5720	5.640	3.11	7.85	18.51	9.15

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

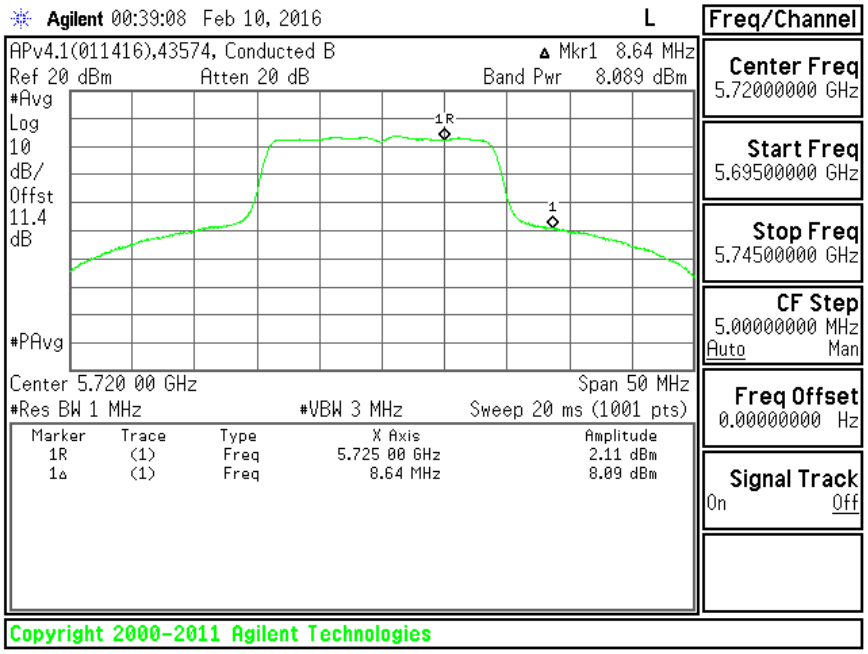
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
144	5720	8.09	9.00	8.53	13.33	18.51	-5.19

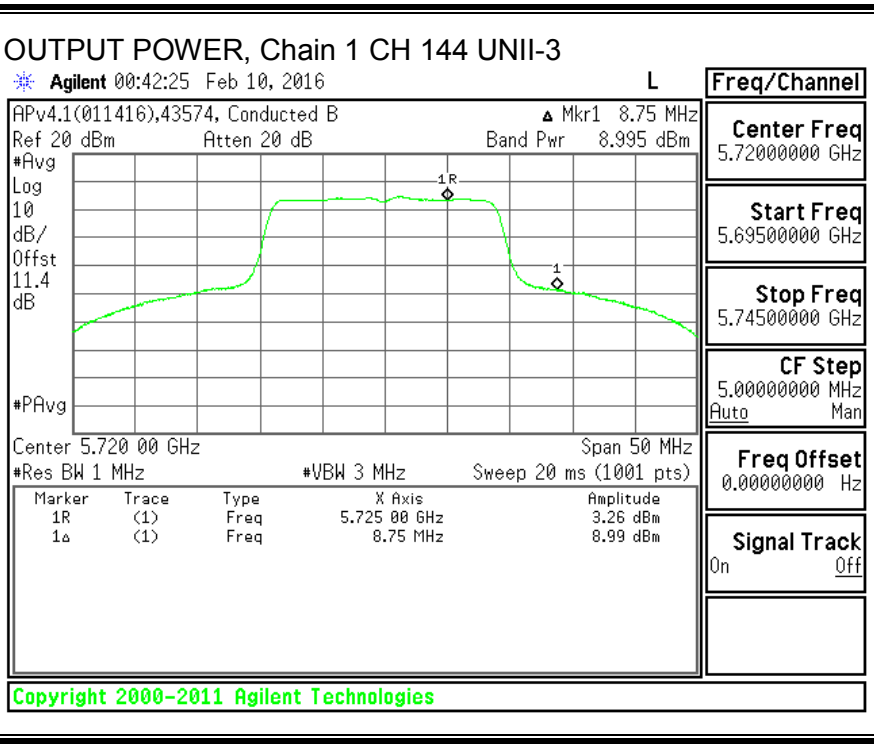
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
144	5720	1.210	1.020	2.070	6.229	9.15	-2.92

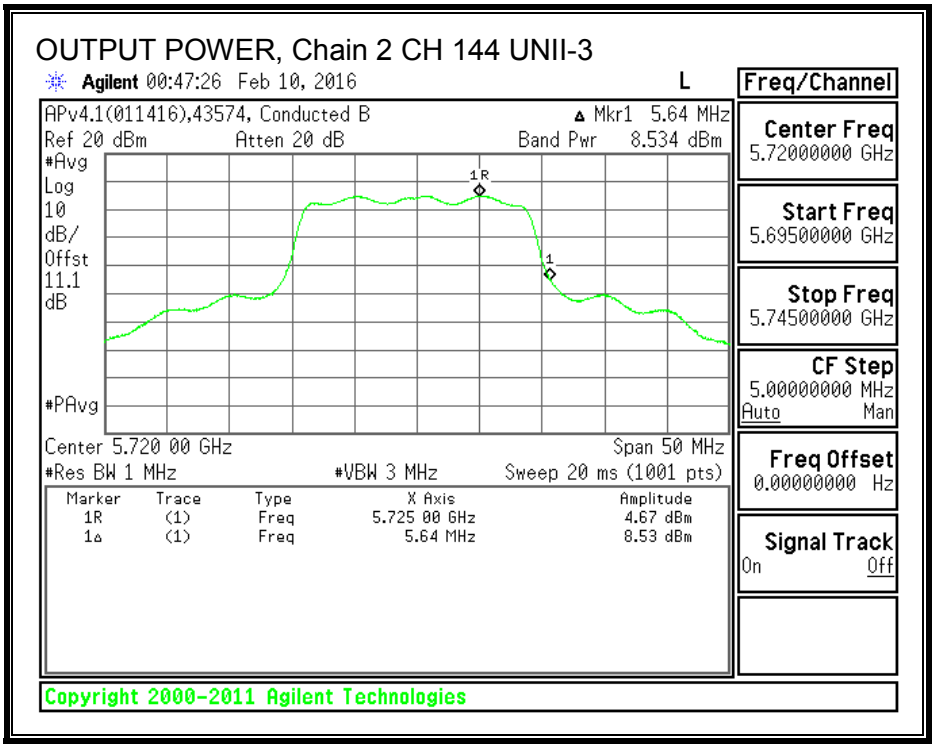
OUTPUT POWER, Chain 0 CH 144 UNII-3



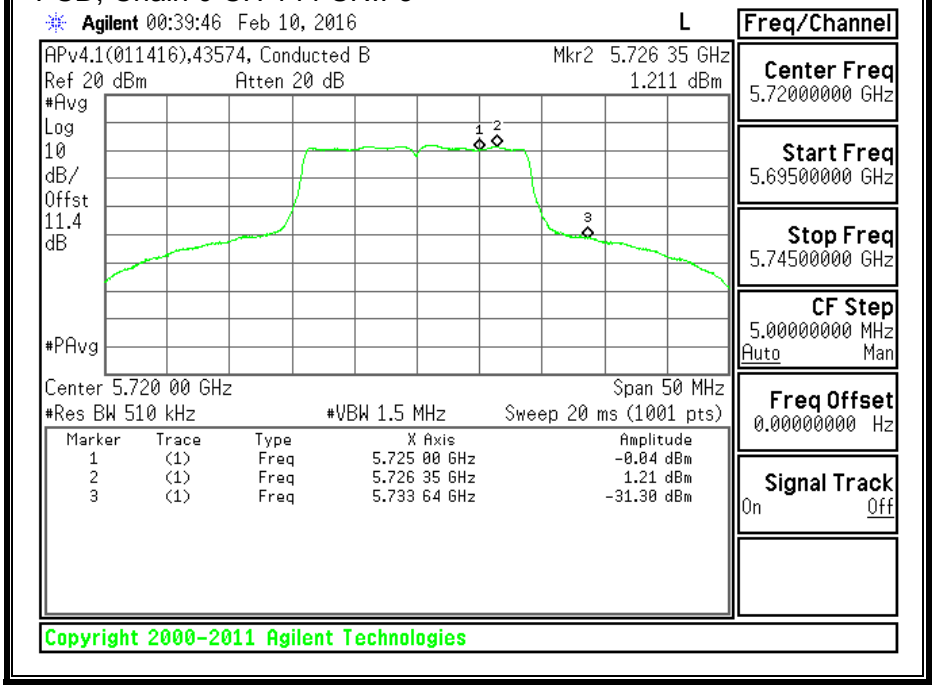
OUTPUT POWER, Chain 1 CH 144 UNII-3

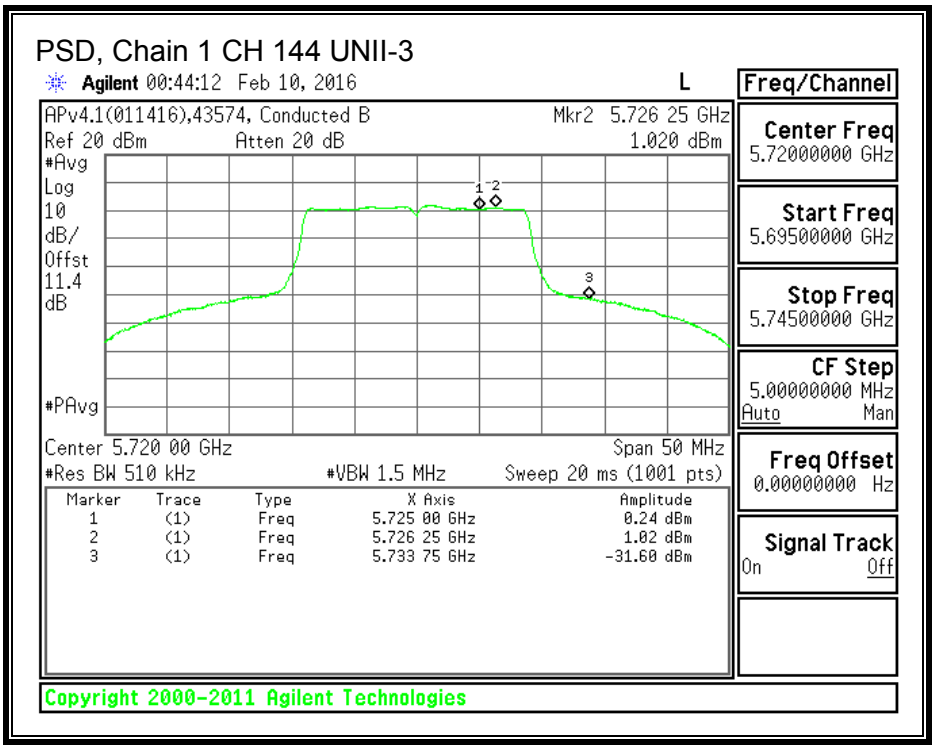


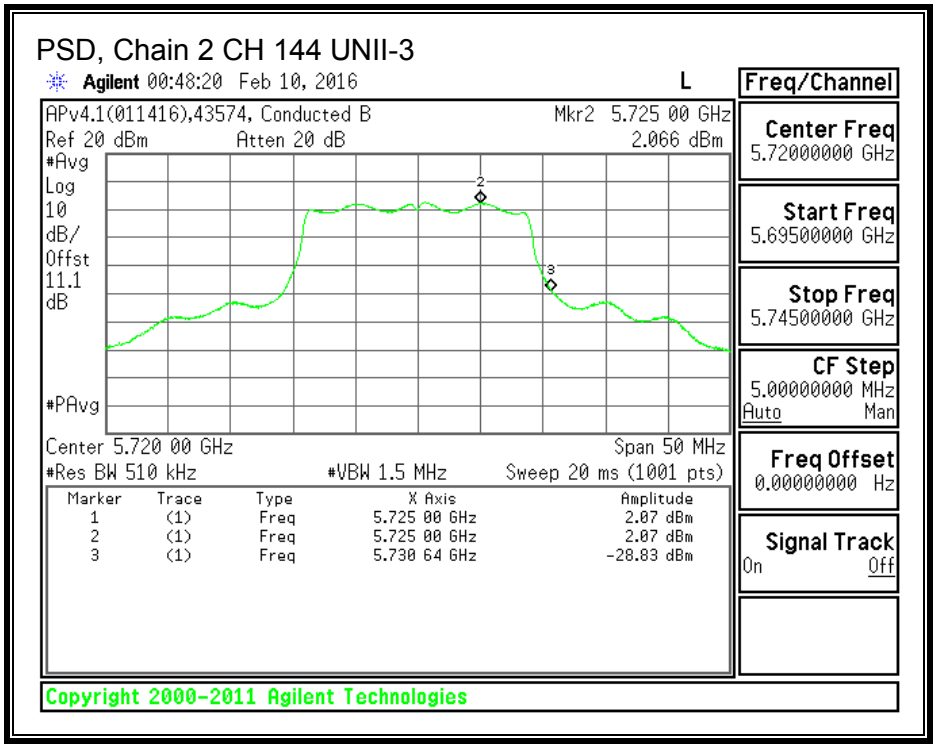
OUTPUT POWER, Chain 2 CH 144 UNII-3



PSD, Chain 0 CH 144 UNII-3







9.16.4. AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)
144	5720	15.81	15.89	15.21	20.42

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.17. 802.11n HT40 SISO MODE IN THE 5.6 GHz BAND

9.17.1. 26 dB BANDWIDTH

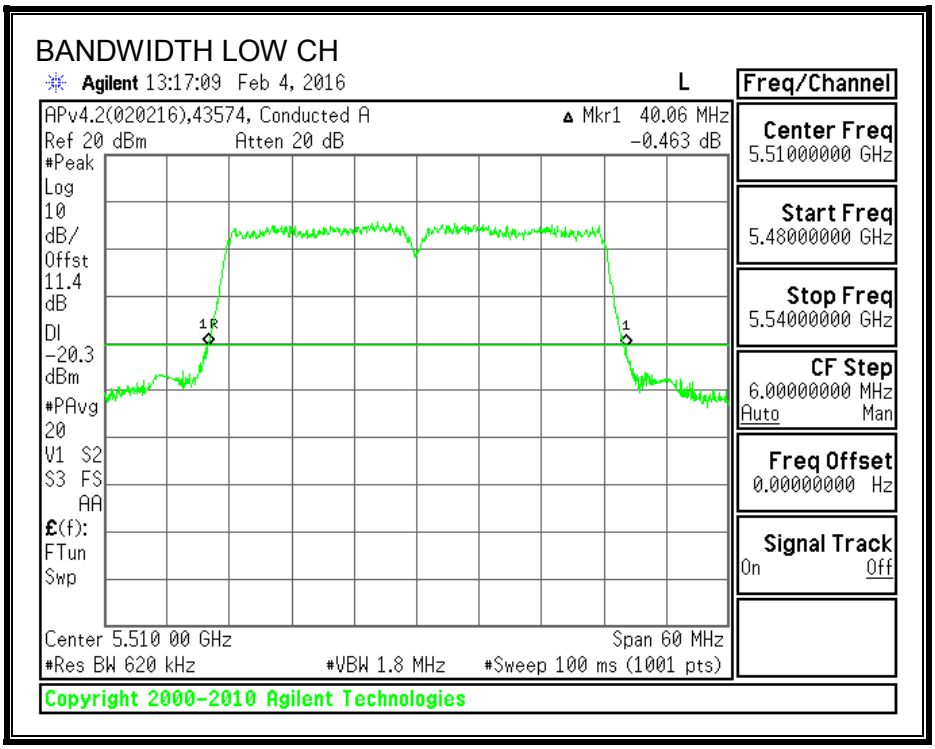
LIMITS

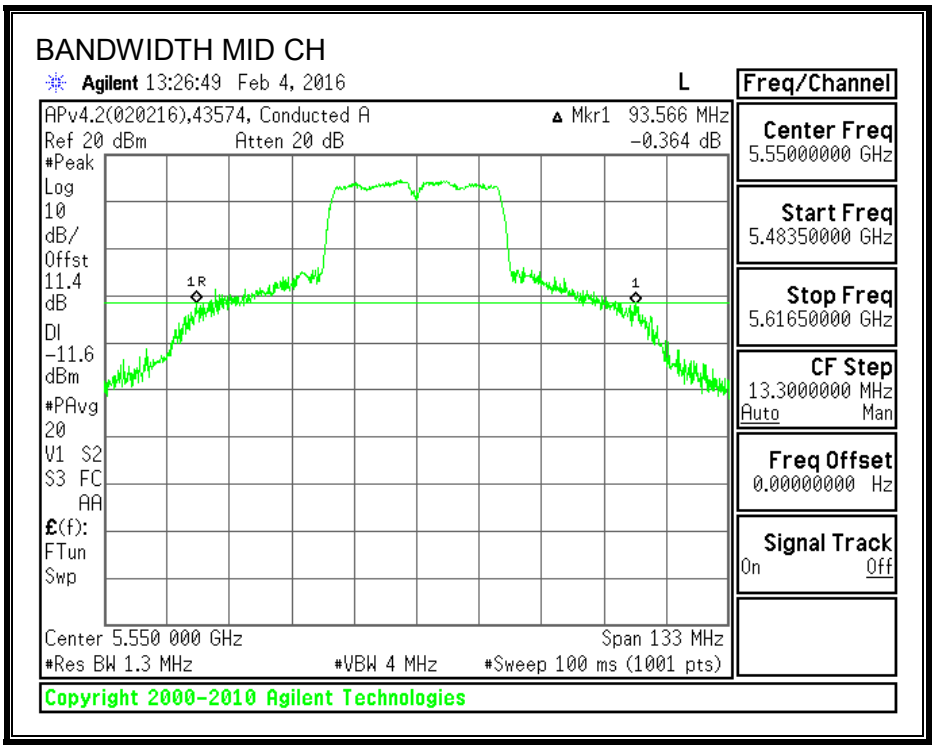
None; for reporting purposes only.

RESULTS

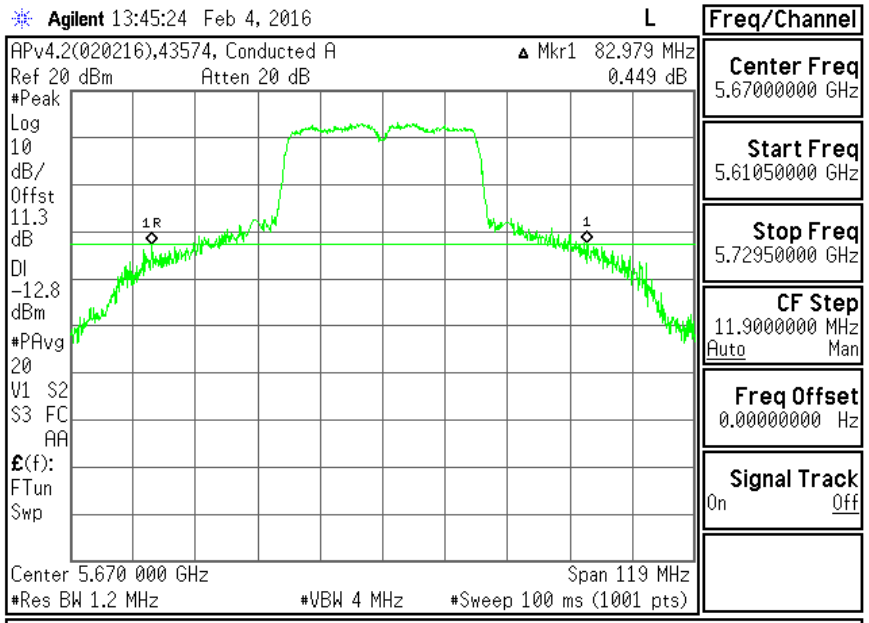
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	40.060
Mid	5550	93.566
High	5670	82.979
142	5710	84.975

26 dB BANDWIDTH

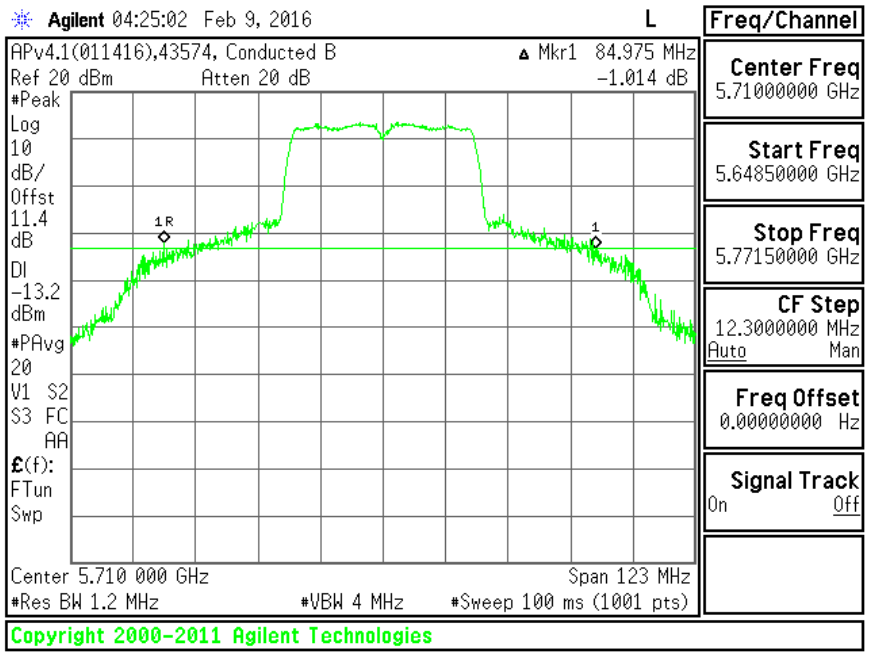




BANDWIDTH HIGH CH



BANDWIDTH STRADDLE CH 142



9.17.2. 99% BANDWIDTH

LIMITS

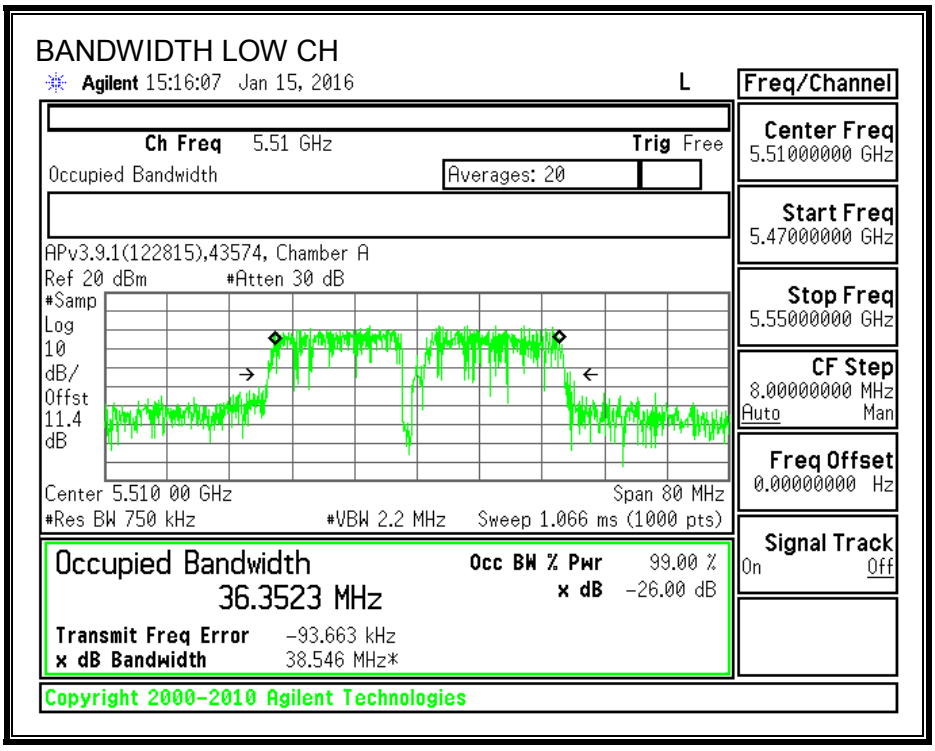
None; for reporting purposes only.

RESULTS

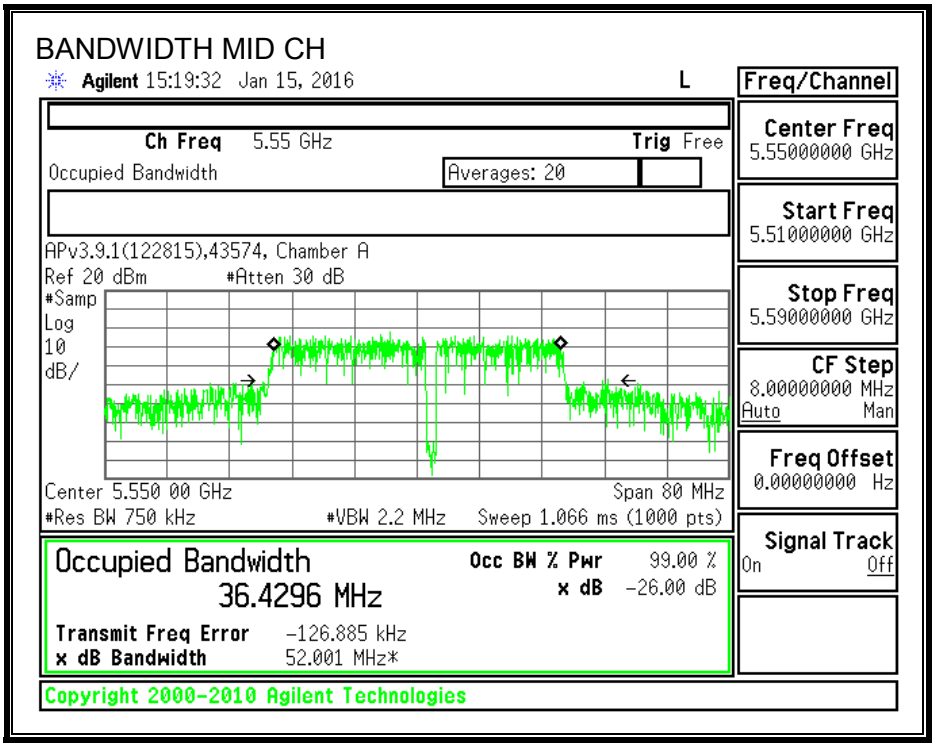
Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5510	36.3523
Mid	5550	36.4296
High	5670	36.4717
142	5710	36.3884

99% BANDWIDTH

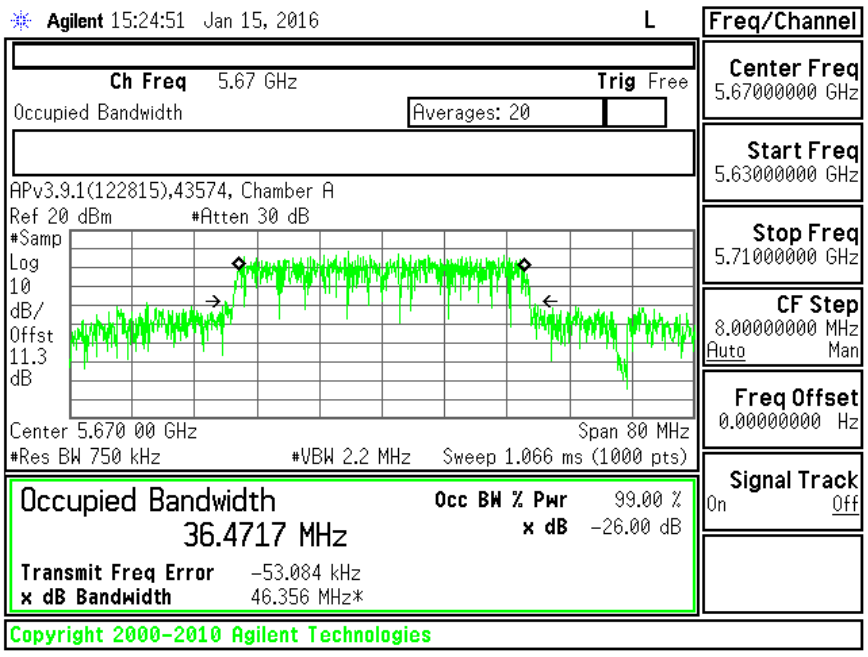
BANDWIDTH LOW CH



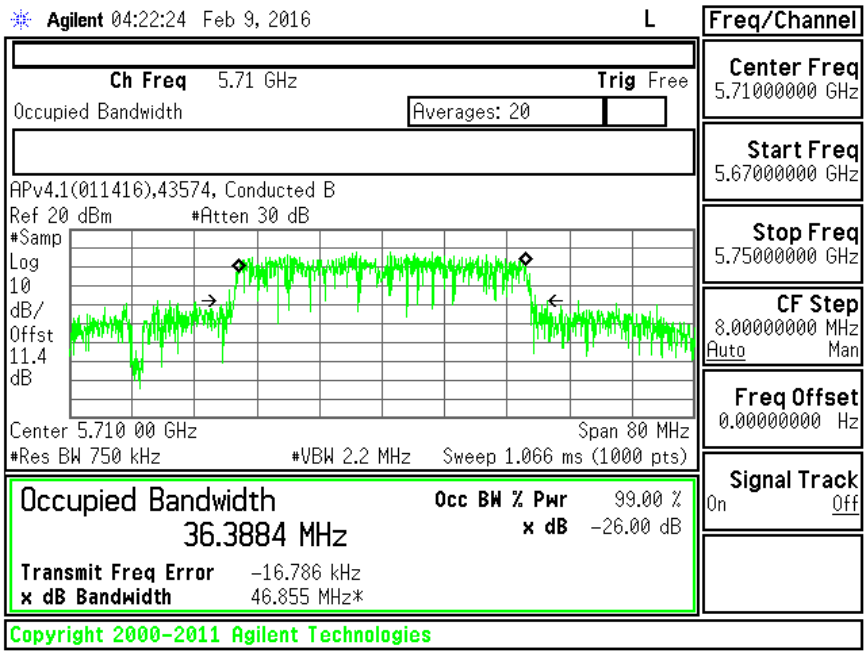
BANDWIDTH MID CH



BANDWIDTH HIGH CH



BANDWIDTH STRADDLE CH 142



9.17.3. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak 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

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5510	40.060	3.46	24.00	11.00
Mid	5550	93.566	3.46	24.00	11.00
High	5670	82.979	3.46	24.00	11.00

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

Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.52	12.52	24.00	-11.48
Mid	5550	17.97	17.97	24.00	-6.03
High	5670	17.10	17.10	24.00	-6.90

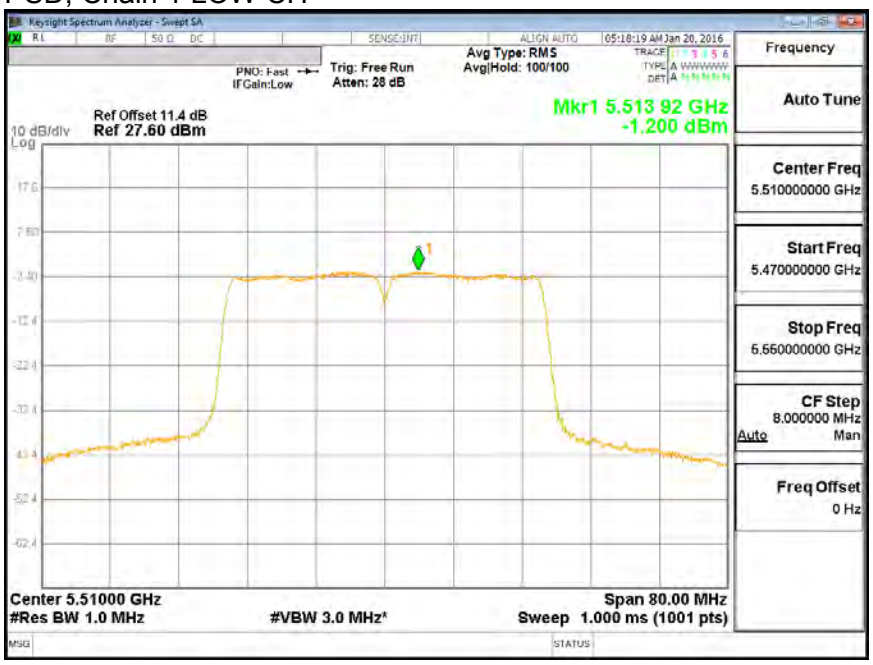
PSD Results

Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	-1.200	-1.200	11.00	-12.20
Mid	5550	4.786	4.786	11.00	-6.21
High	5670	3.281	3.281	11.00	-7.72

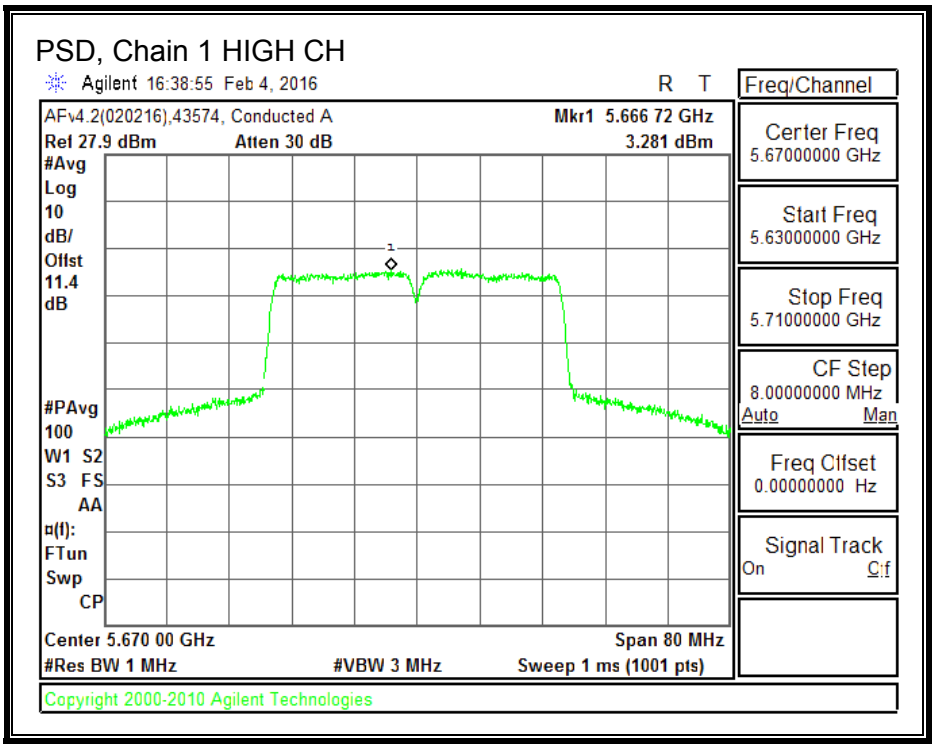
Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

PSD, Chain 1

PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



STRADDLE CHANNEL 142 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	57.50	3.46	3.46	24.00	11.00

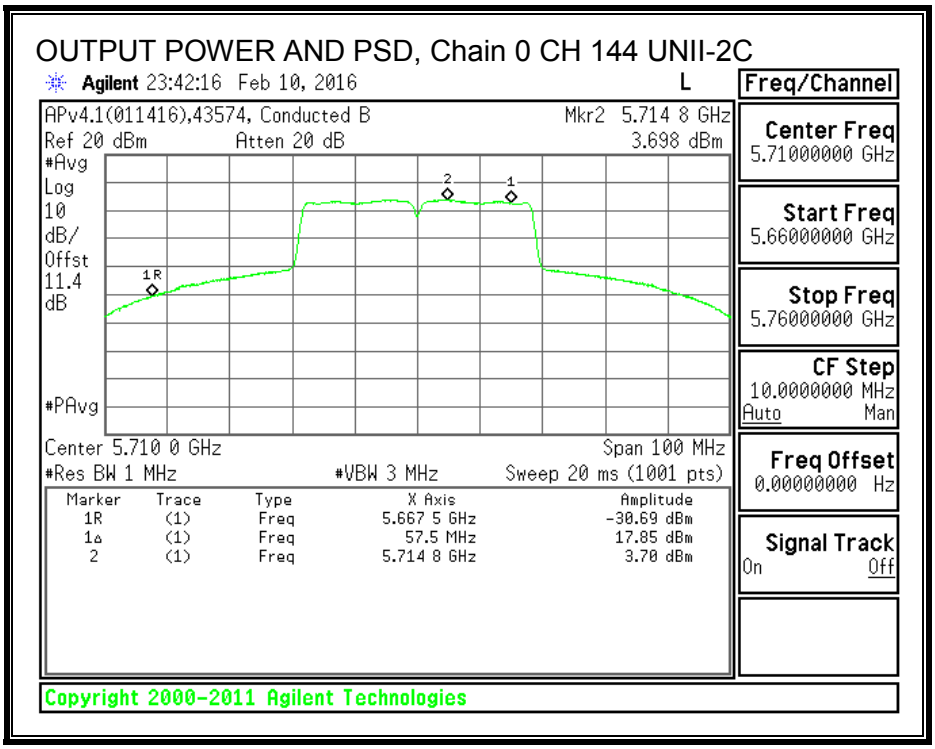
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	17.85	17.85	24.00	-6.15

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	3.70	3.70	11.00	-7.30



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	3.46	30.00	30.00

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

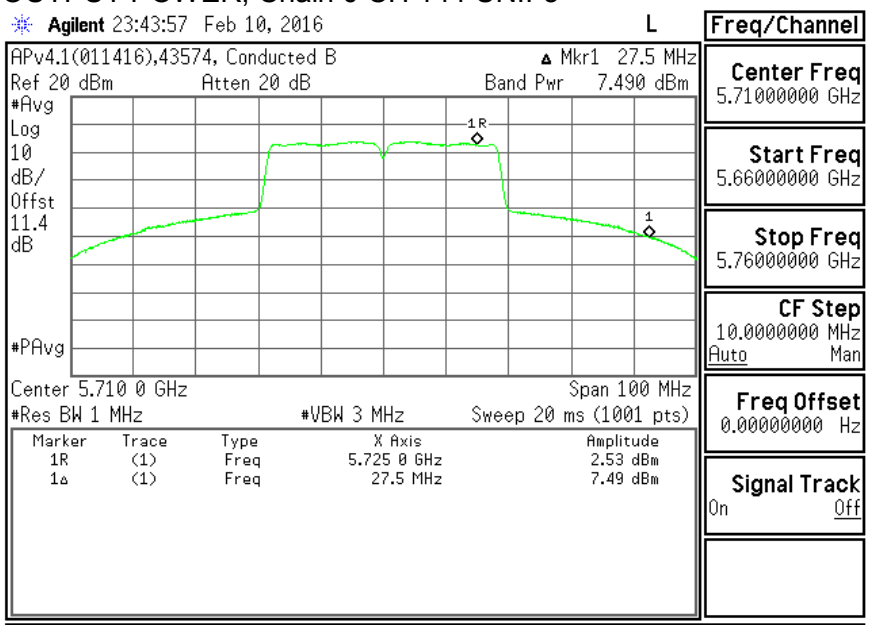
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	7.49	7.49	30.00	-22.51

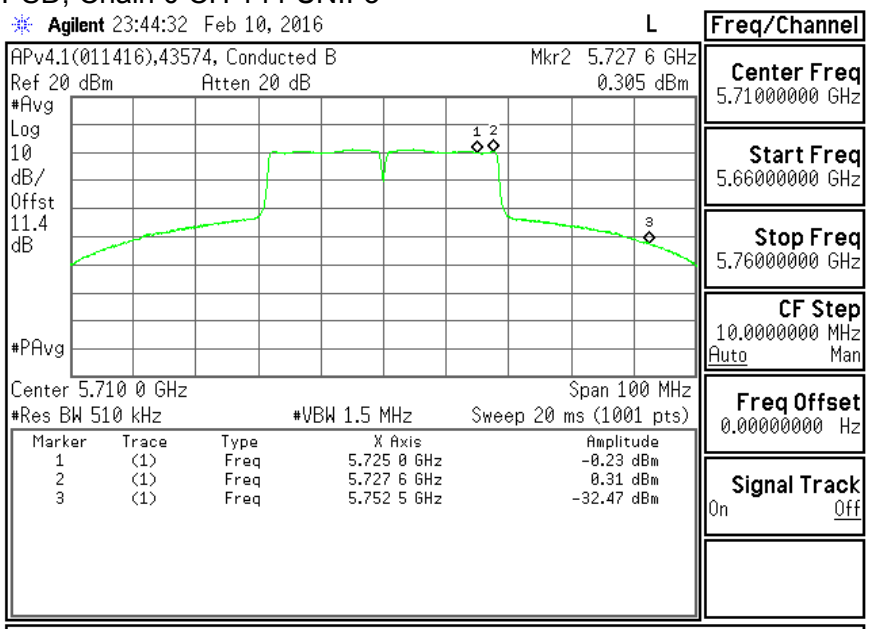
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.31	0.31	30.00	-29.69

OUTPUT POWER, Chain 0 CH 144 UNII-3



PSD, Chain 0 CH 144 UNII-3



9.17.4. AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)
142	5710	18.42	18.42

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.18. 802.11n HT40 CDD 3TX MODE IN THE 5.6 GHz BAND

9.18.1. 26 dB BANDWIDTH

LIMITS

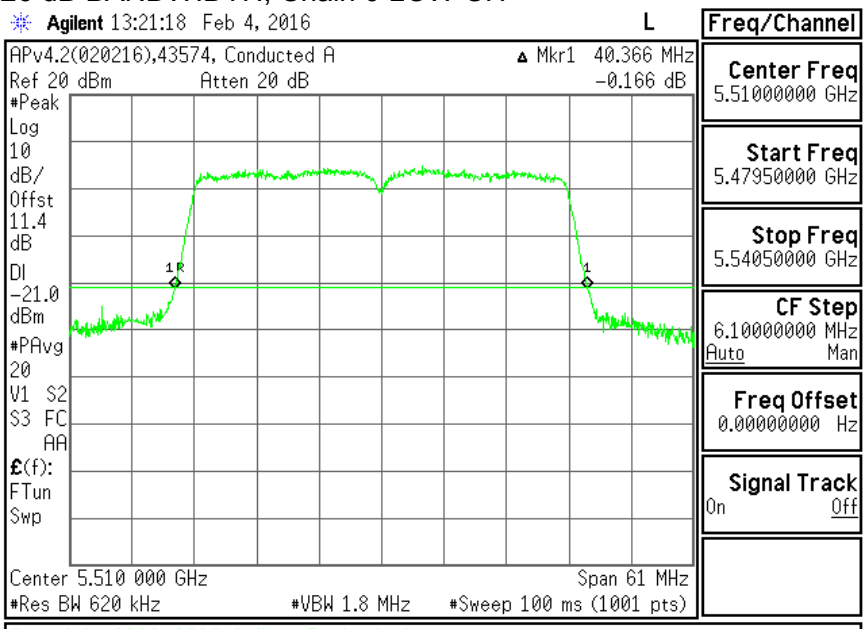
None; for reporting purposes only.

RESULTS

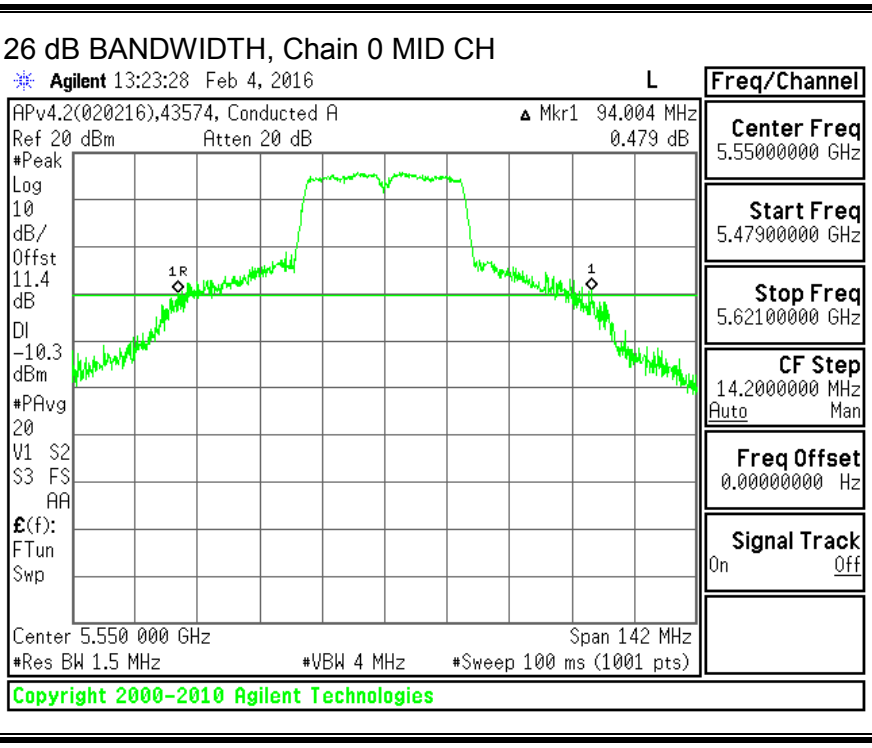
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5510	40.366	40.060	39.780
Mid	5550	94.004	93.566	85.781
High	5670	89.083	82.979	69.900
142	5710	88.91	85.45	65.88

26 dB BANDWIDTH, Chain 0

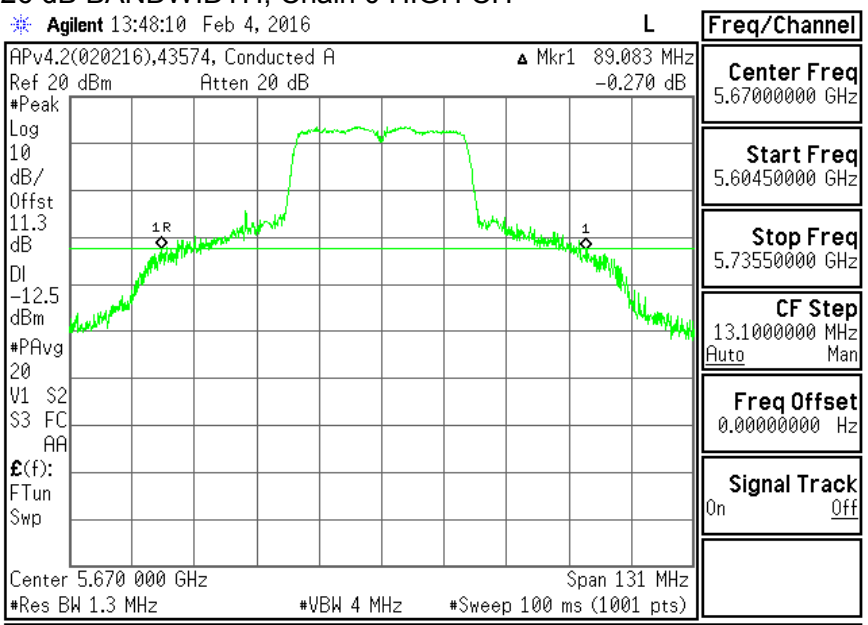
26 dB BANDWIDTH, Chain 0 LOW CH



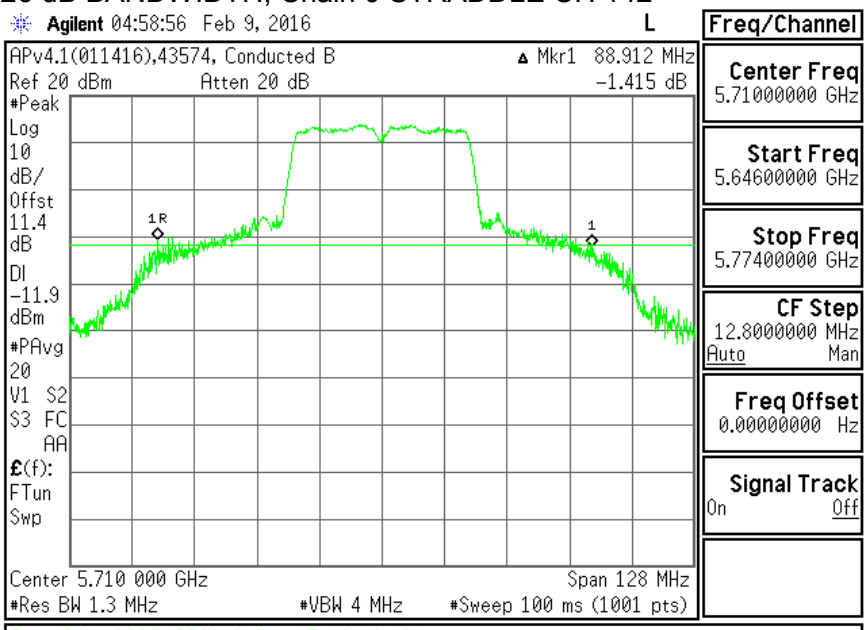
26 dB BANDWIDTH, Chain 0 MID CH



26 dB BANDWIDTH, Chain 0 HIGH CH

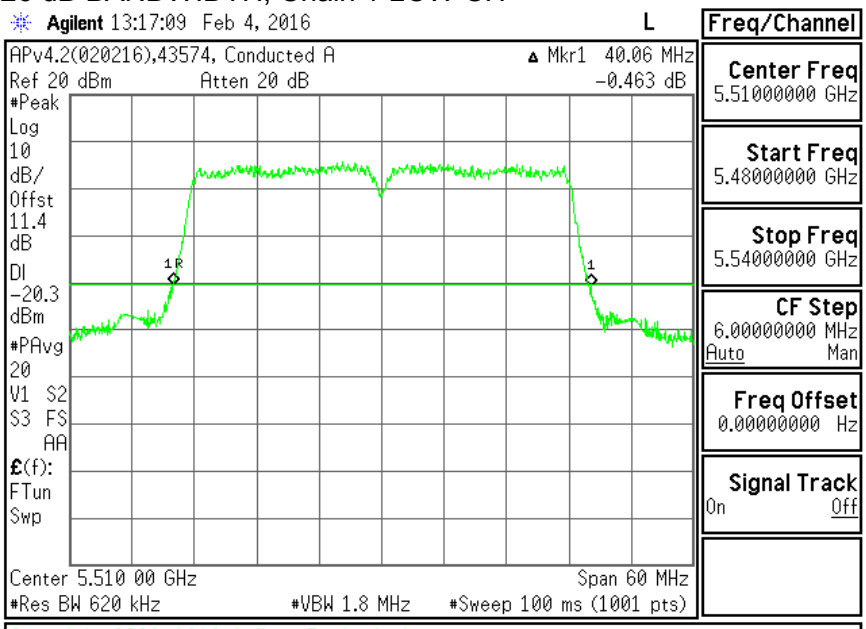


26 dB BANDWIDTH, Chain 0 STRADDLE CH 142

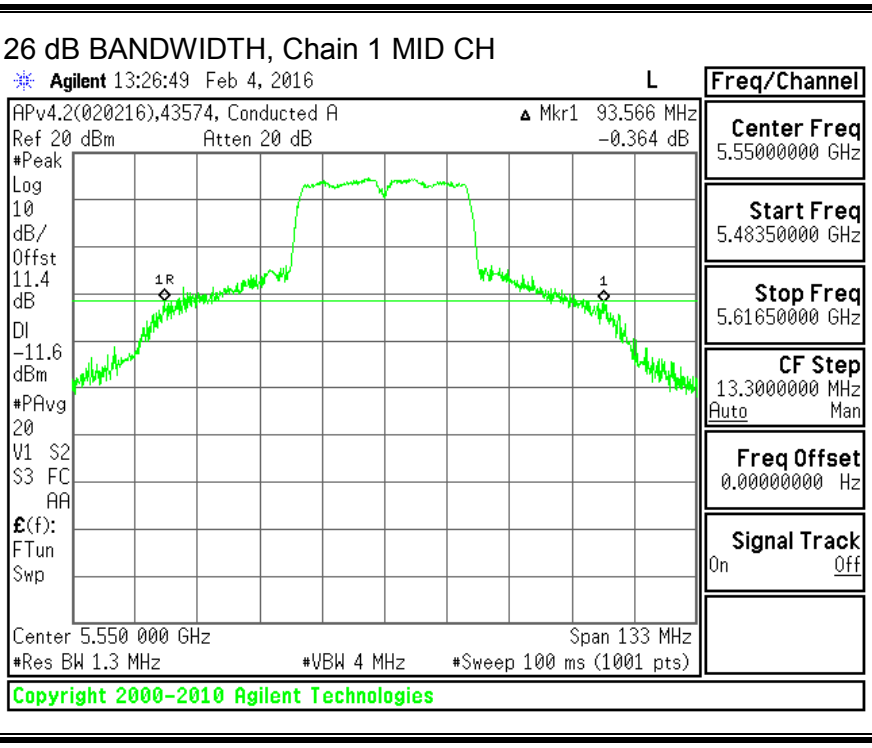


26 dB BANDWIDTH, Chain 1

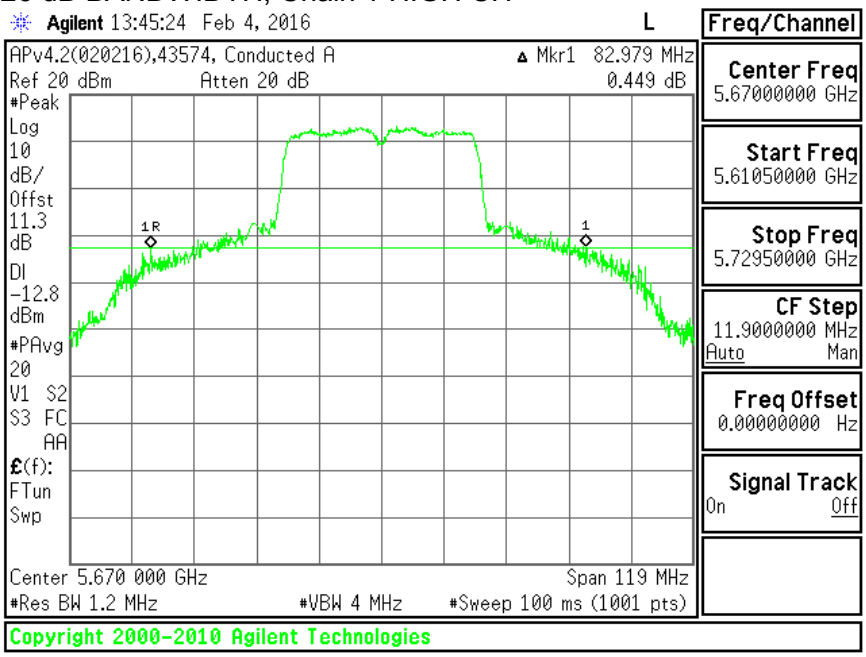
26 dB BANDWIDTH, Chain 1 LOW CH



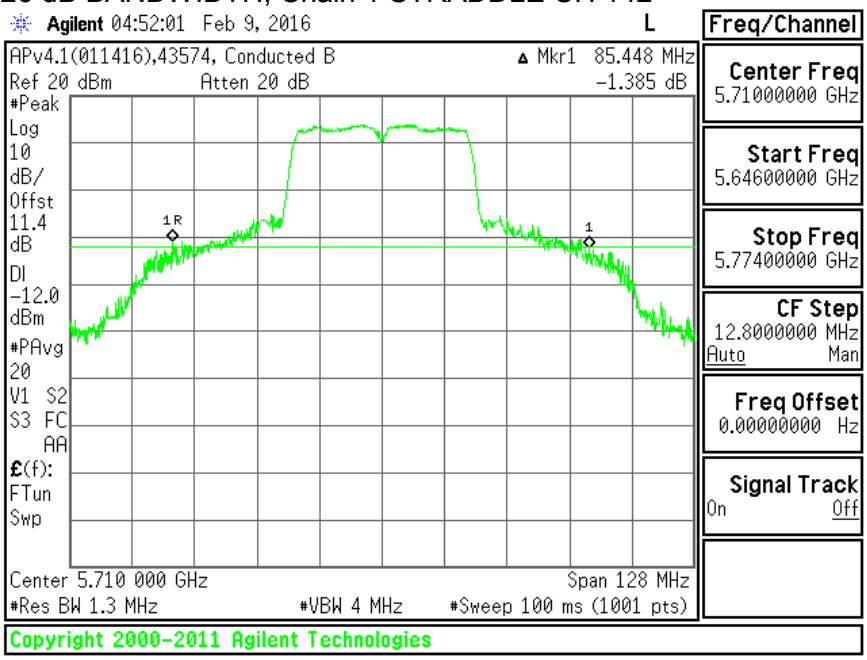
26 dB BANDWIDTH, Chain 1 MID CH



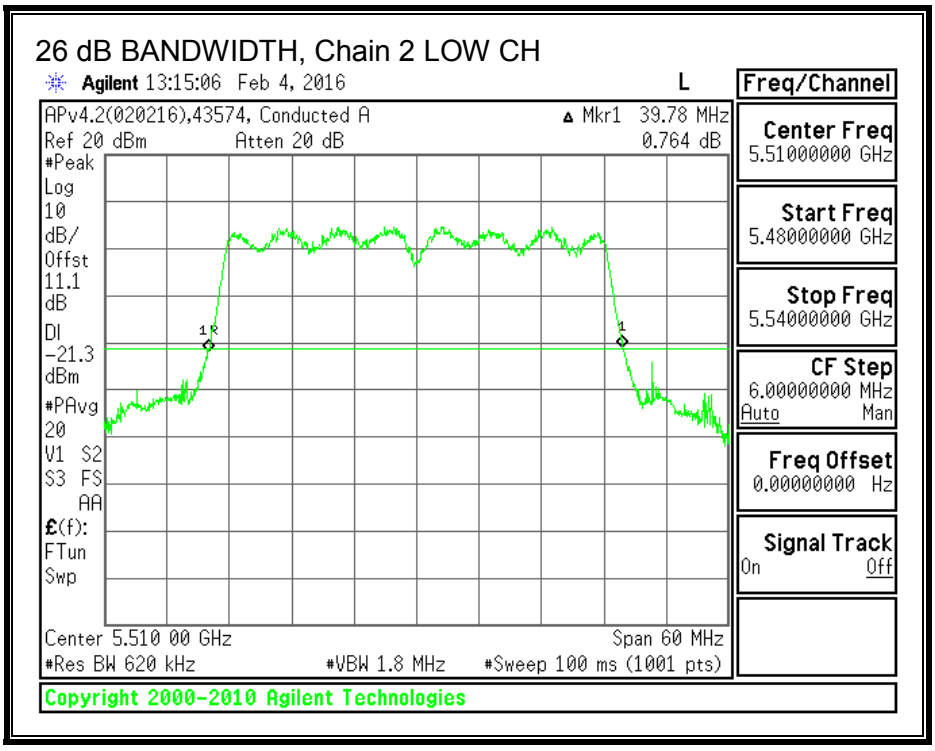
26 dB BANDWIDTH, Chain 1 HIGH CH

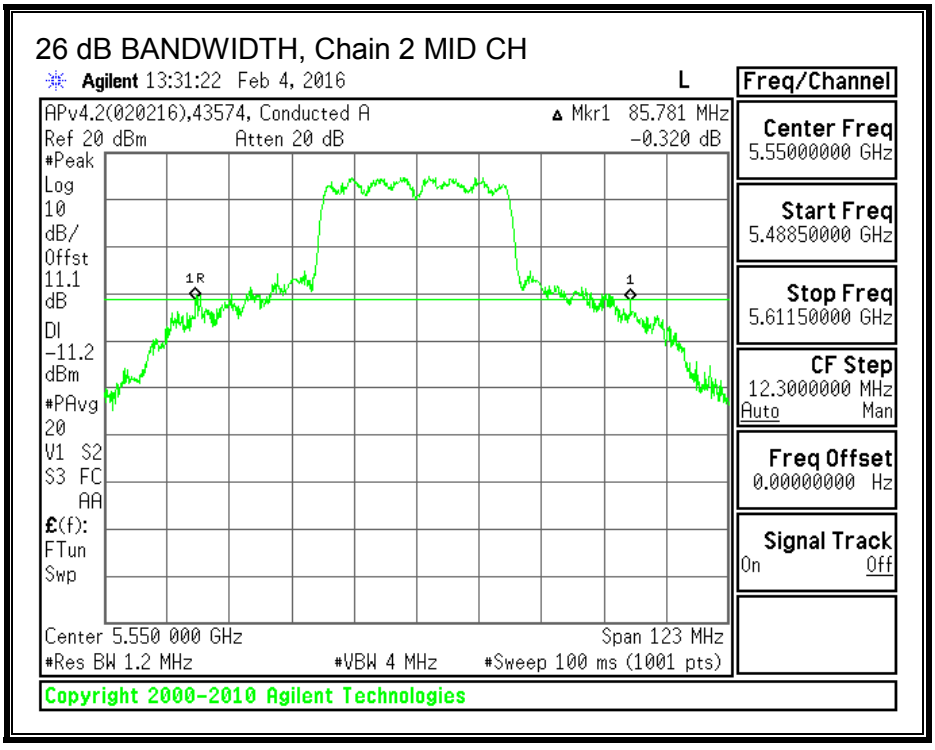


26 dB BANDWIDTH, Chain 1 STRADDLE CH 142

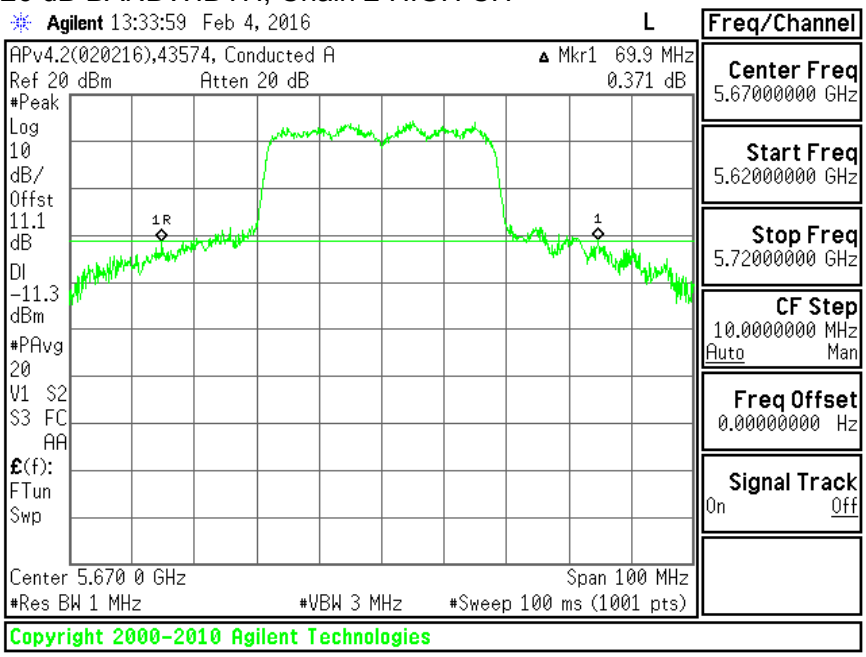


26 dB BANDWIDTH, Chain 2

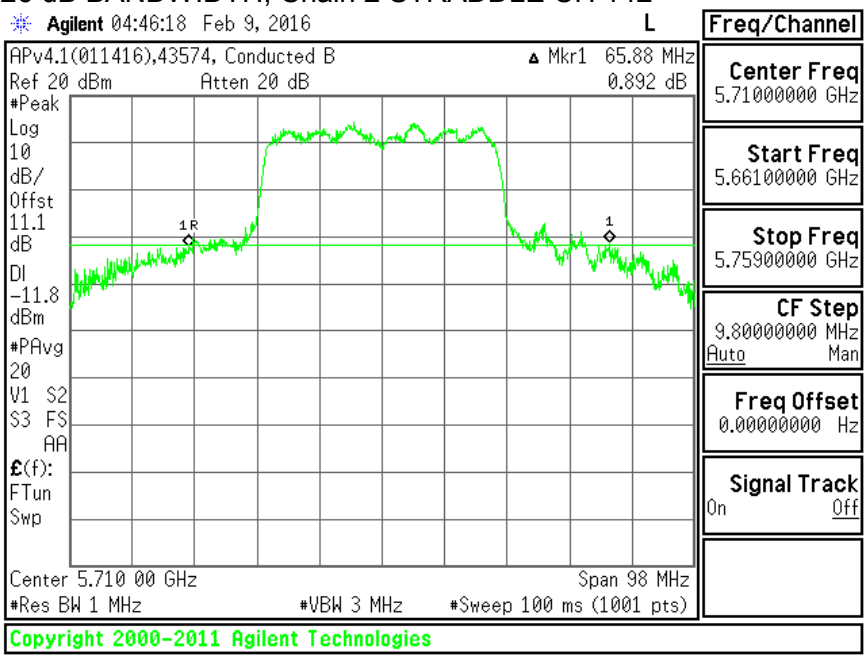




26 dB BANDWIDTH, Chain 2 HIGH CH



26 dB BANDWIDTH, Chain 2 STRADDLE CH 142



9.18.2. 99% BANDWIDTH

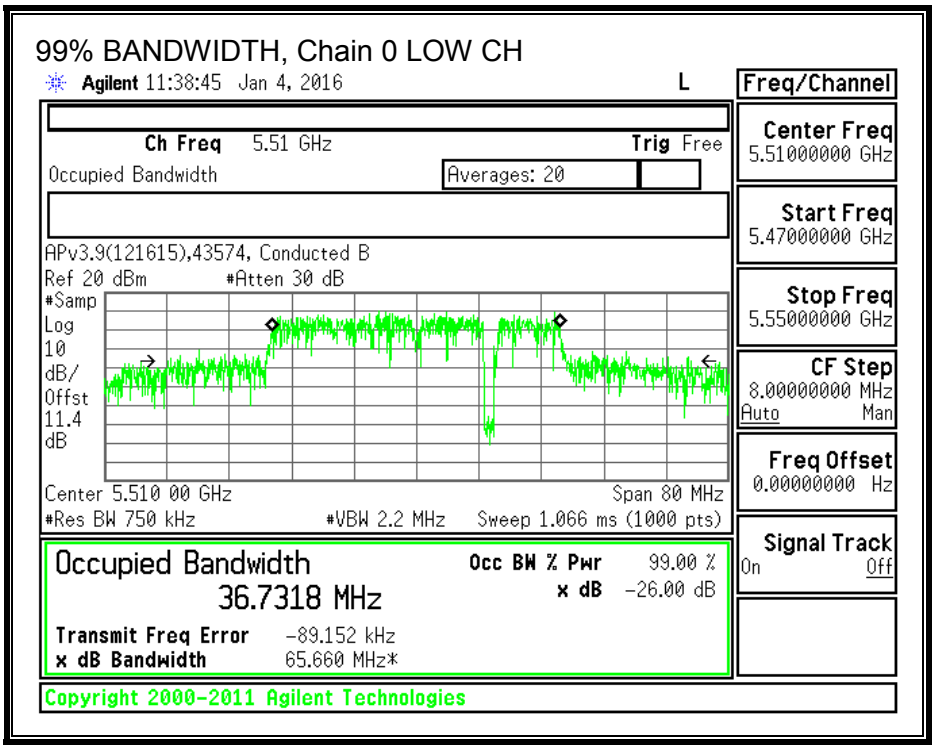
LIMITS

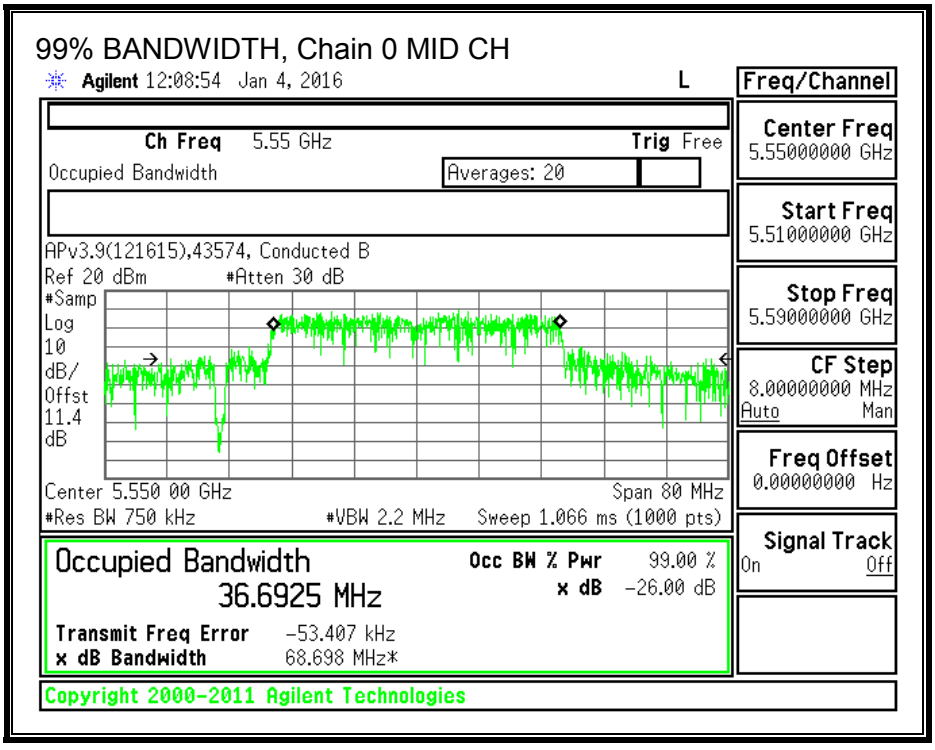
None; for reporting purposes only.

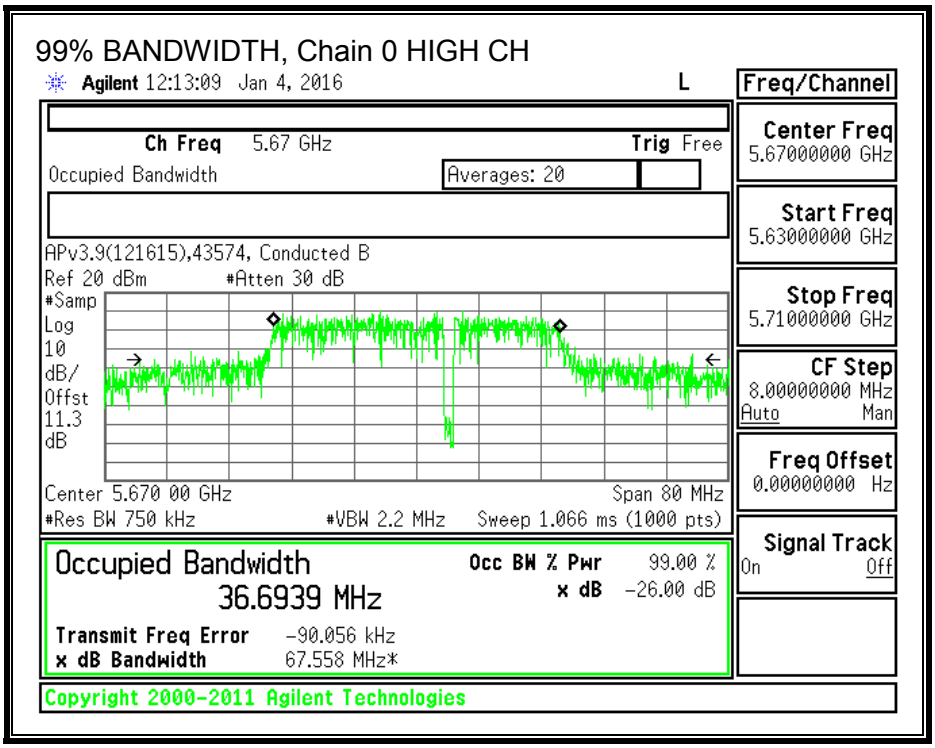
RESULTS

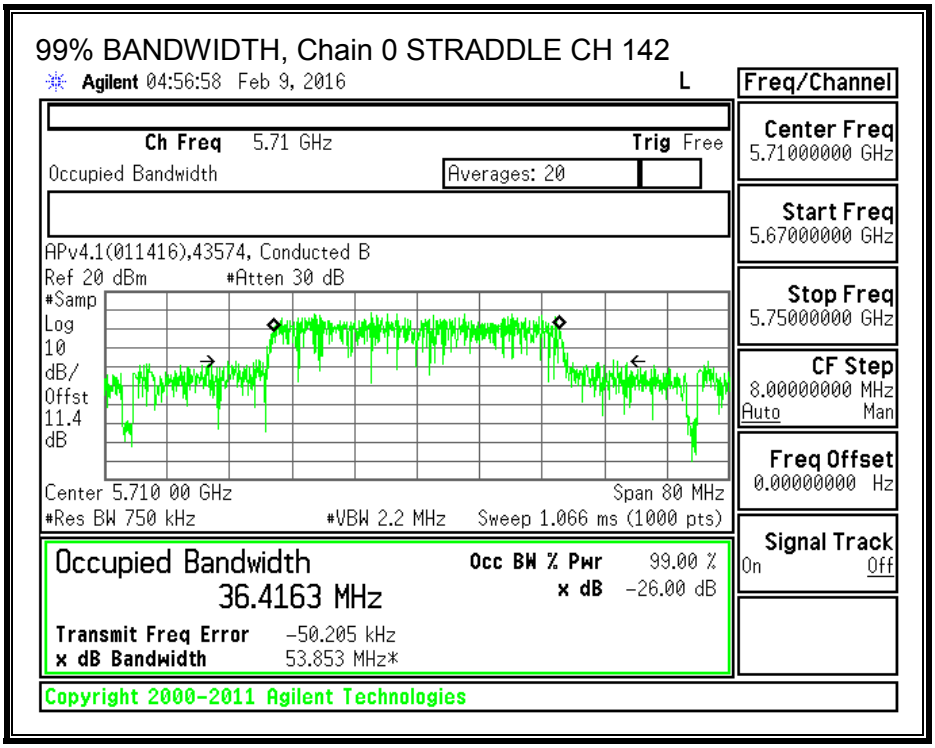
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5510	36.7318	36.7418	36.5755
Mid	5550	36.6925	36.6547	36.5006
High	5670	36.6939	36.6521	36.3890
142	5710	36.4163	36.4359	36.2707

99% BANDWIDTH, Chain 0

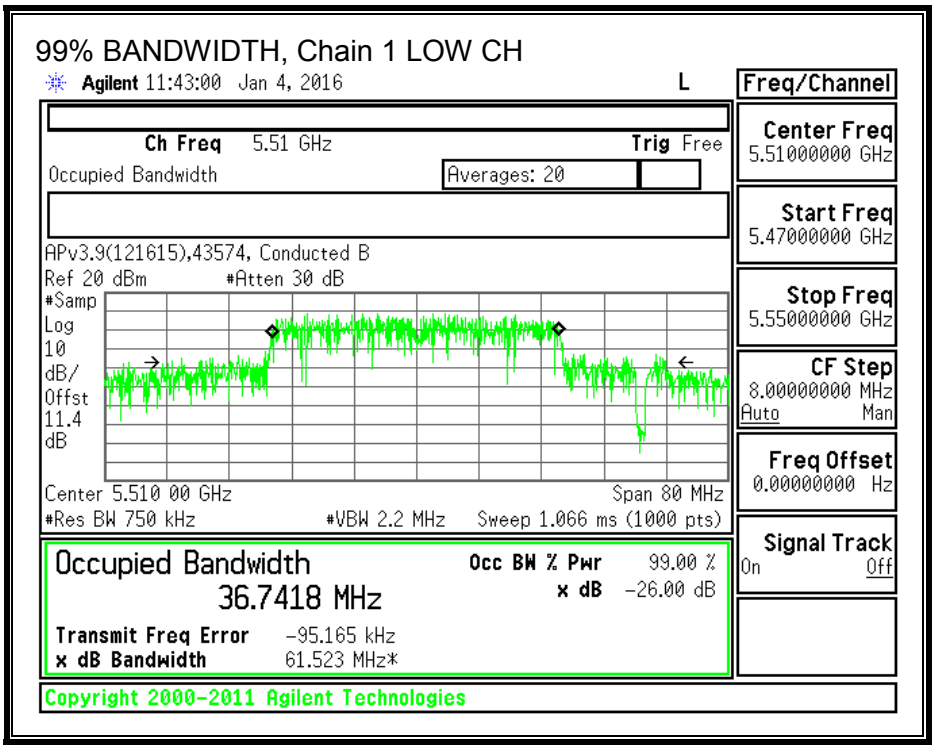


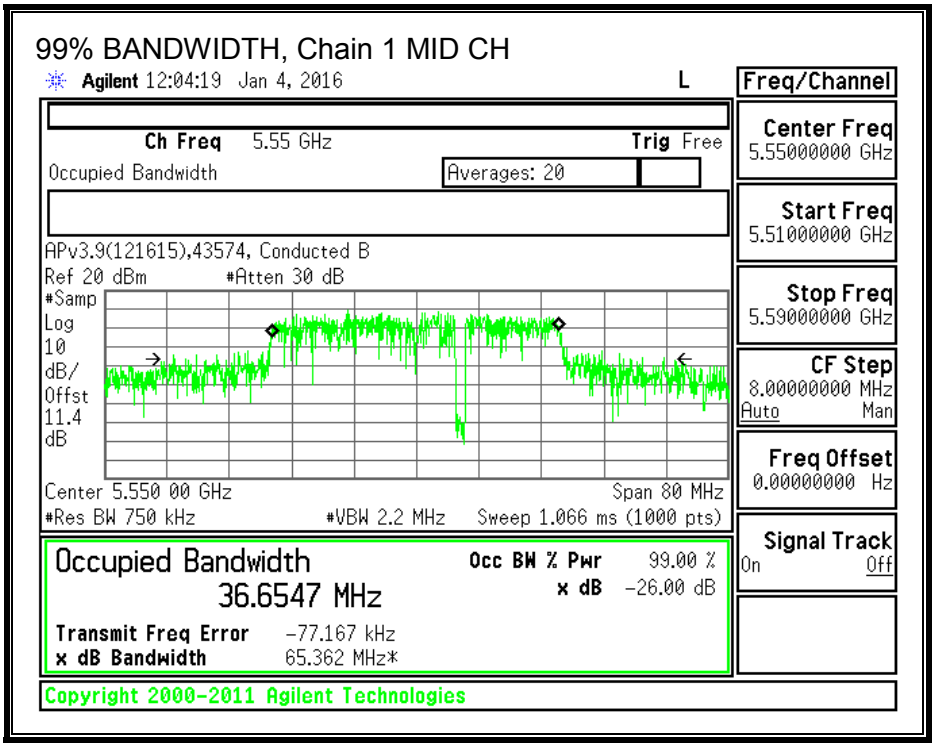


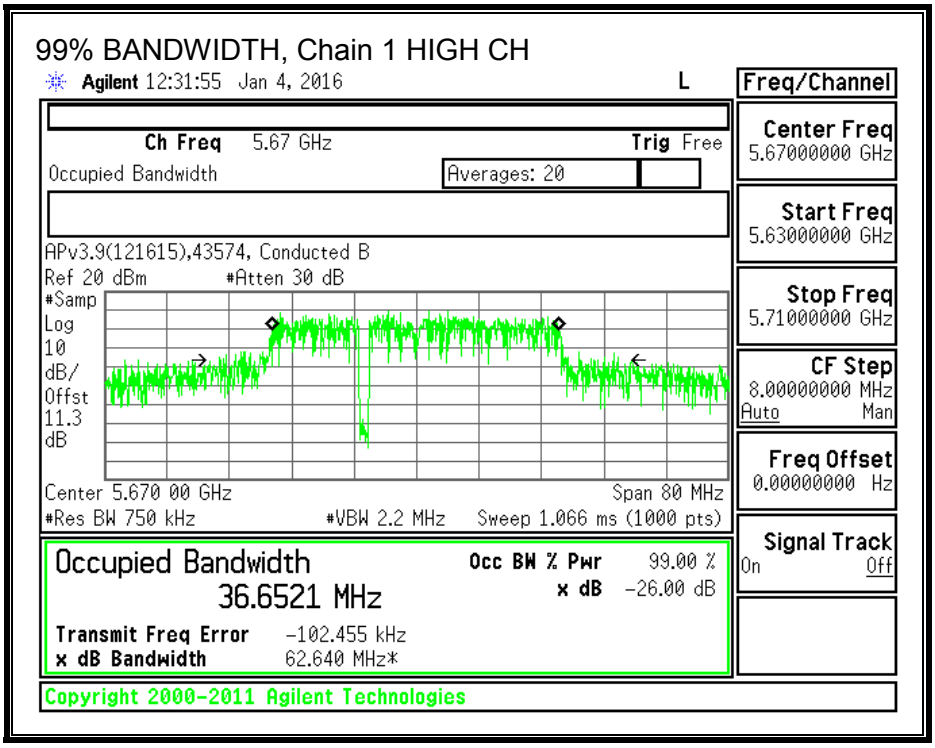


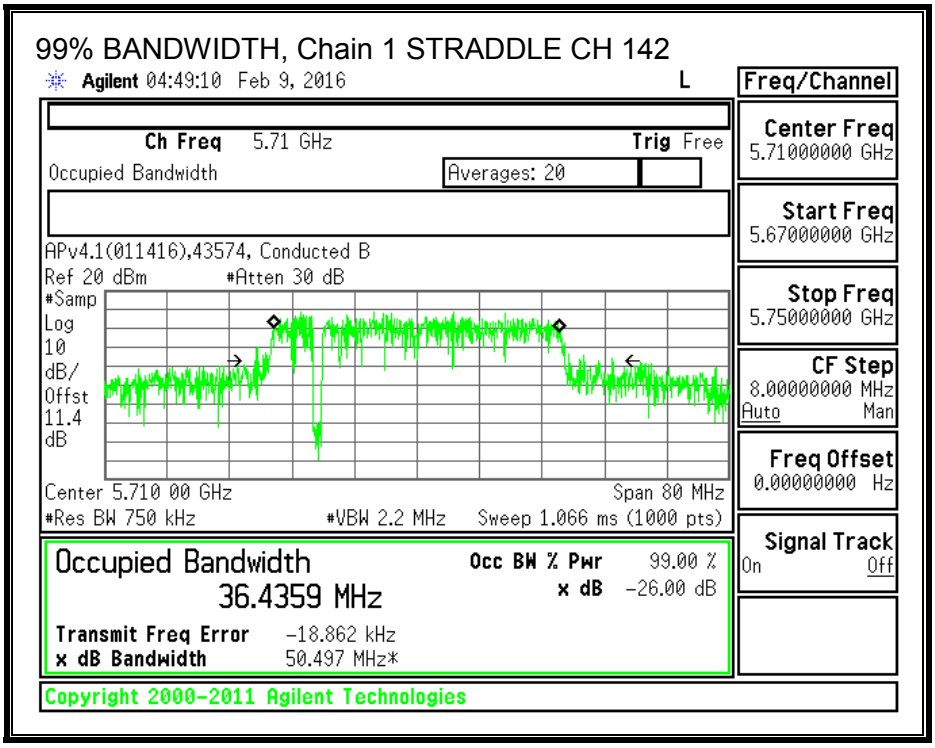


99% BANDWIDTH, Chain 1

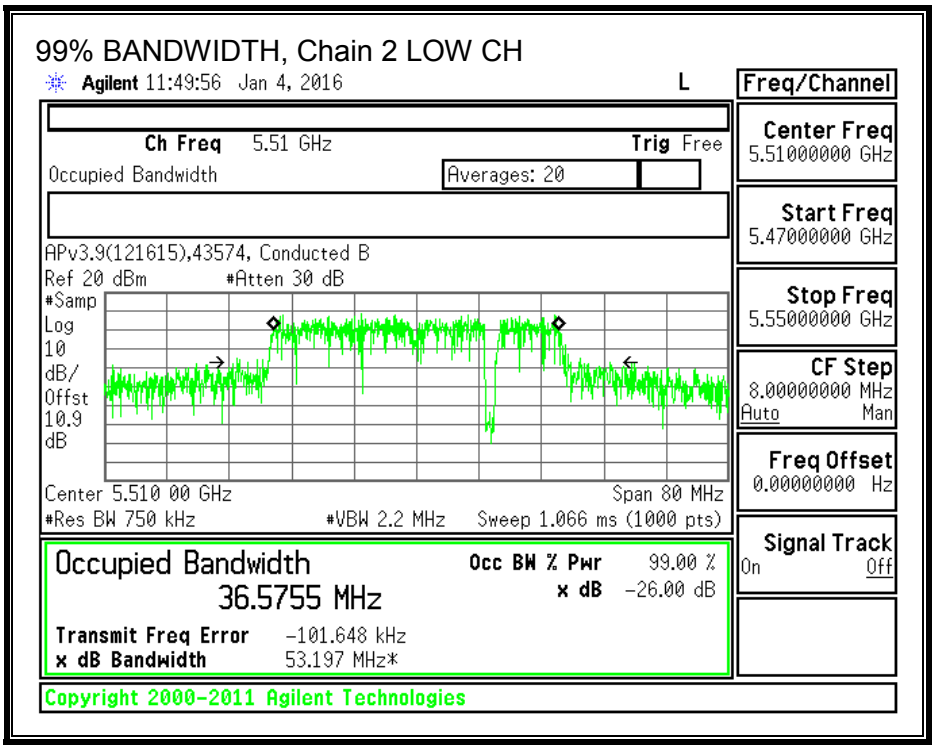


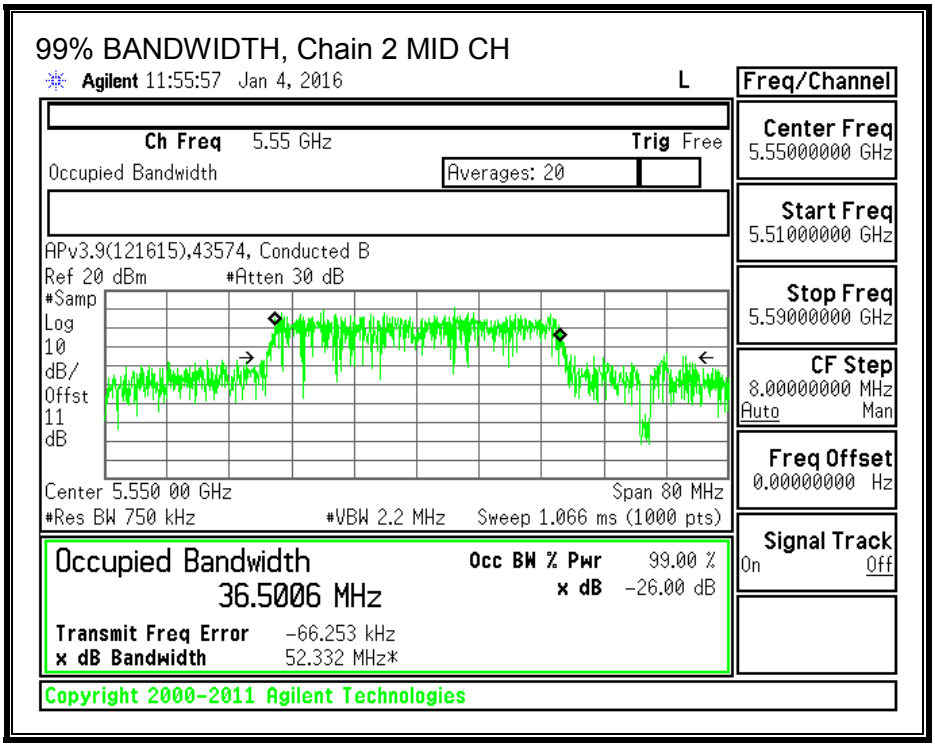


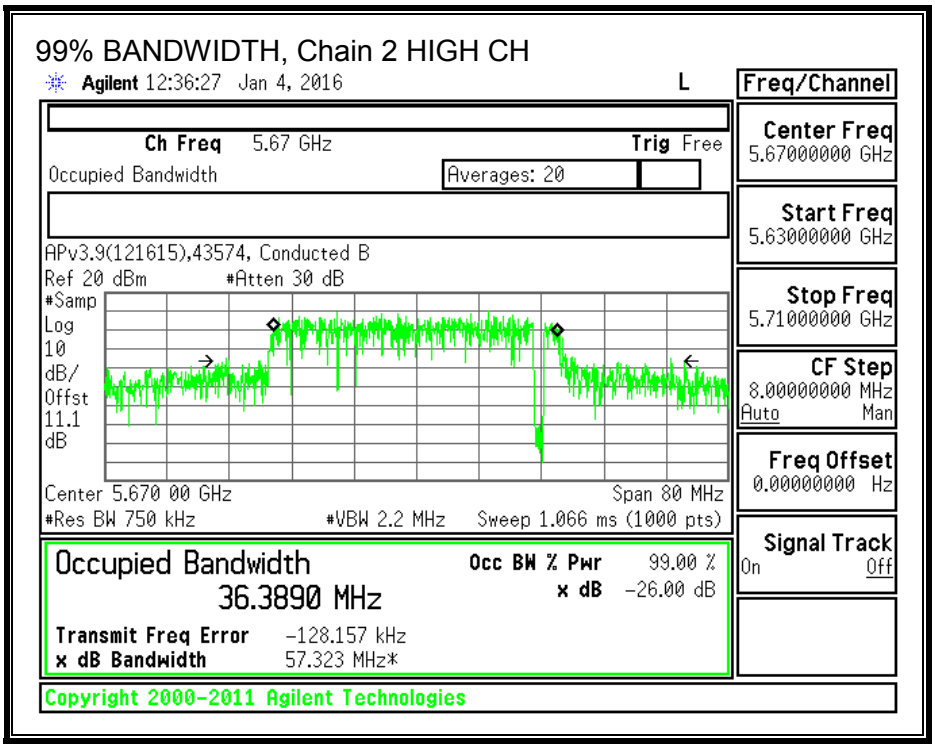


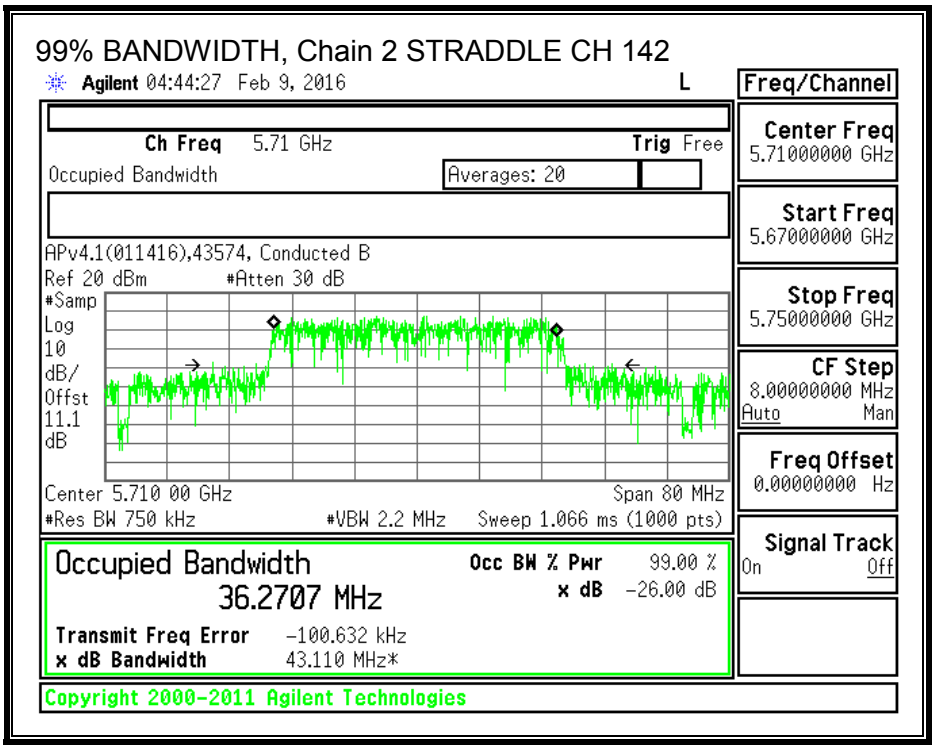


99% BANDWIDTH, Chain 2









9.18.3. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

DIRECTIONAL ANTENNA GAIN

For 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)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.77	3.46	1.88	3.11

For PSD, 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)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.77	3.46	1.88	7.85

RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5510	39.780	3.11	7.85	24.00	9.15
Mid	5550	85.781	3.11	7.85	24.00	9.15
High	5670	69.900	3.11	7.85	24.00	9.15

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

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	12.00	11.70	10.90	16.33	24.00	-7.67
Mid	5550	18.89	18.44	17.92	23.21	24.00	-0.79
High	5670	18.17	17.89	17.67	22.69	24.00	-1.31

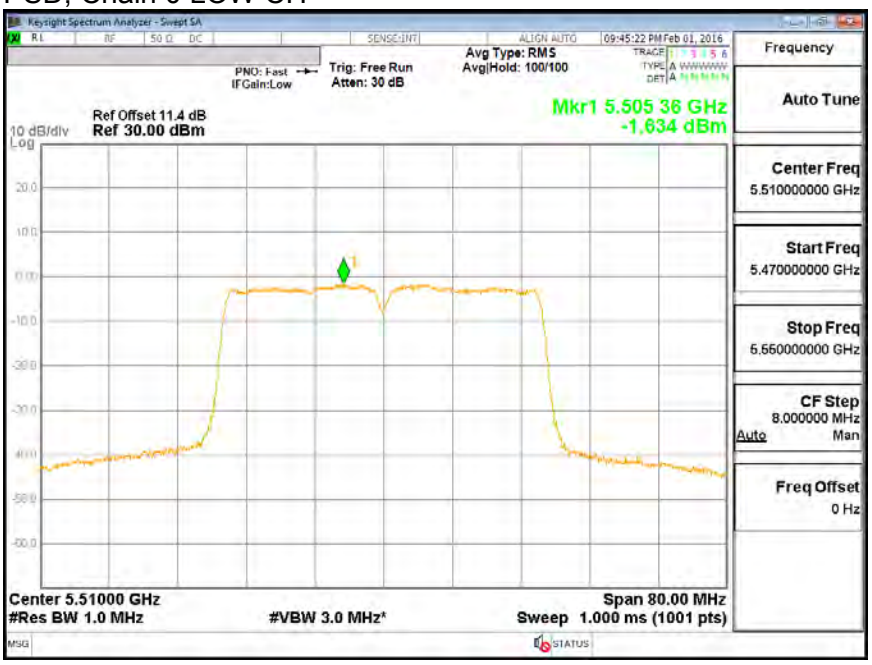
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	-1.634	-2.066	-2.431	2.740	9.15	-6.41
Mid	5550	4.195	4.381	4.497	9.131	9.15	-0.02
High	5670	3.309	3.100	4.447	8.431	9.15	-0.72

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

PSD, Chain 0

PSD, Chain 0 LOW CH

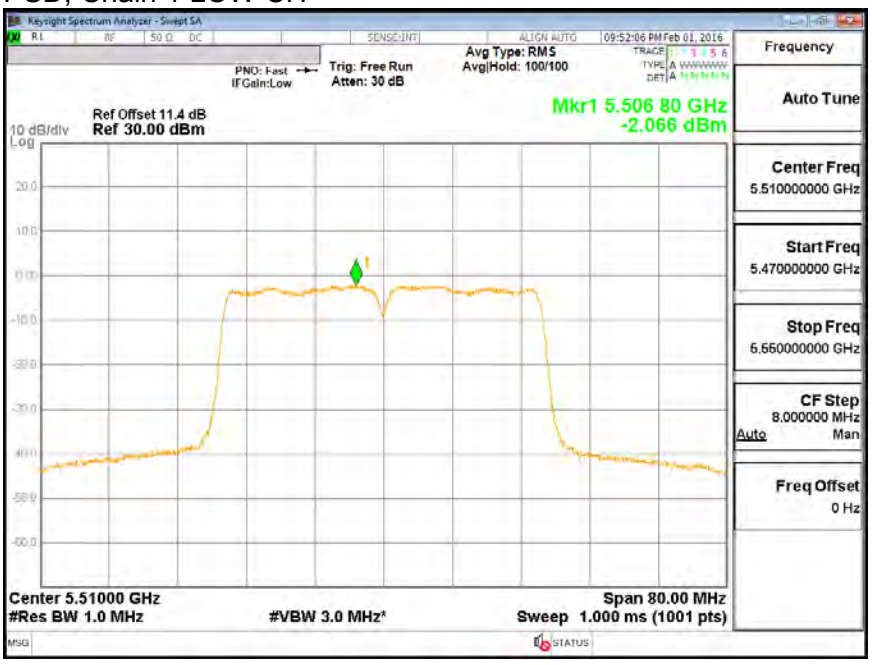


PSD, Chain 0 MID CH

PSD, Chain 0 HIGH CH

PSD, Chain 1

PSD, Chain 1 LOW CH

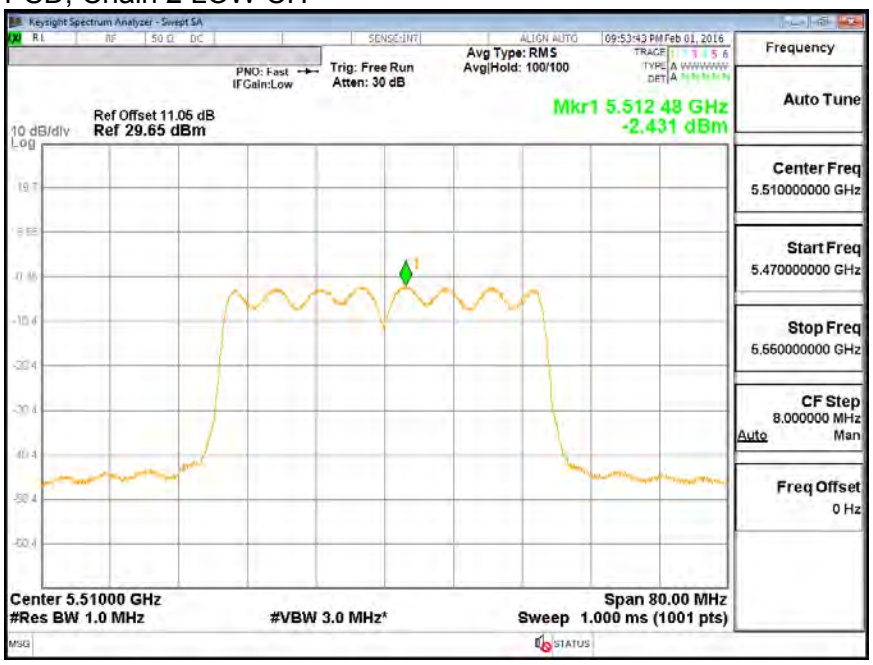


PSD, Chain 1 MID CH

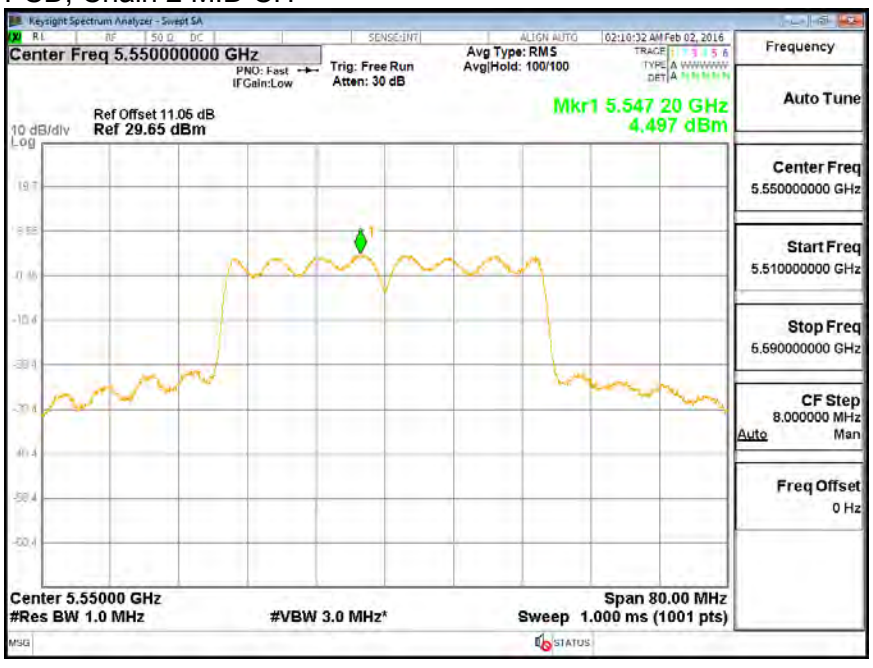
PSD, Chain 1 HIGH CH

PSD, Chain 2

PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



PSD, Chain 2 HIGH CH

STRADDLE CHANNEL 142 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
142	5710	47.90	3.11	7.85	24.00	9.15

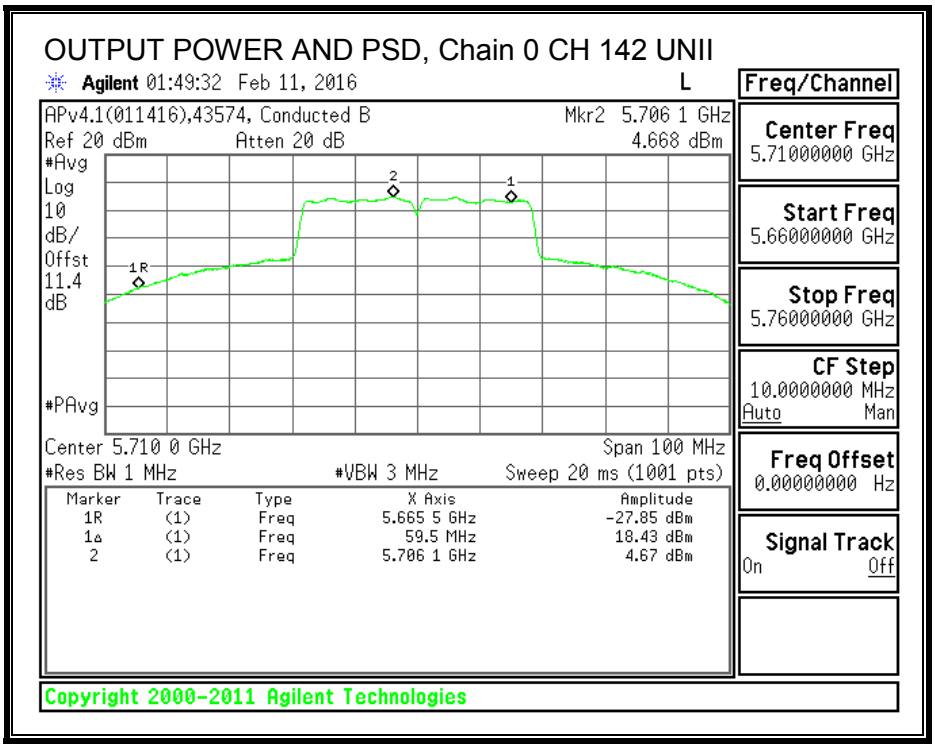
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

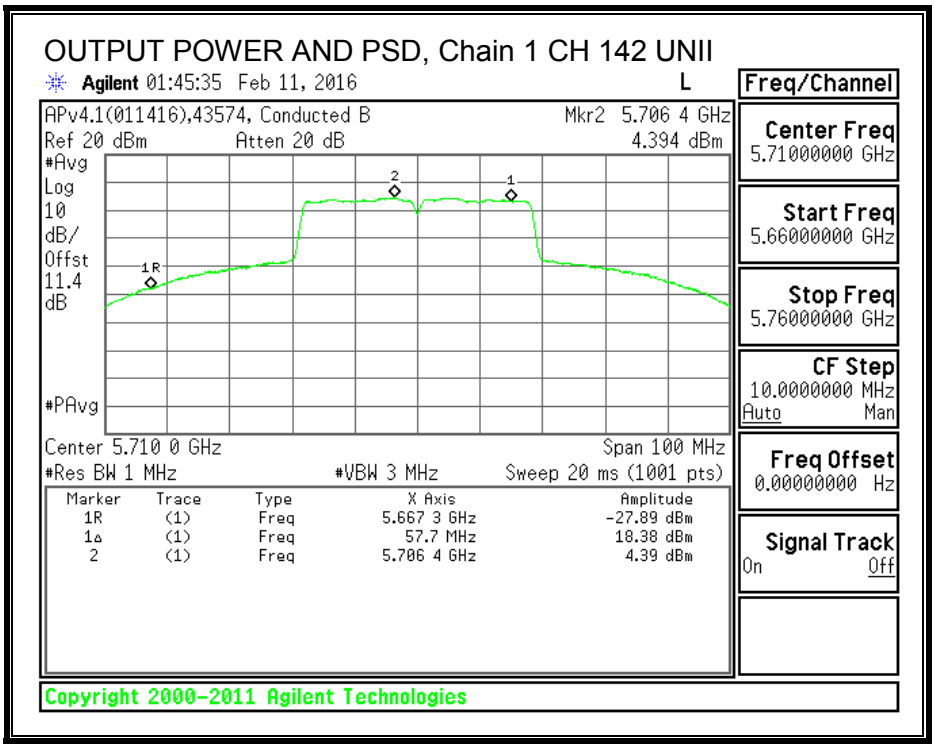
Output Power Results

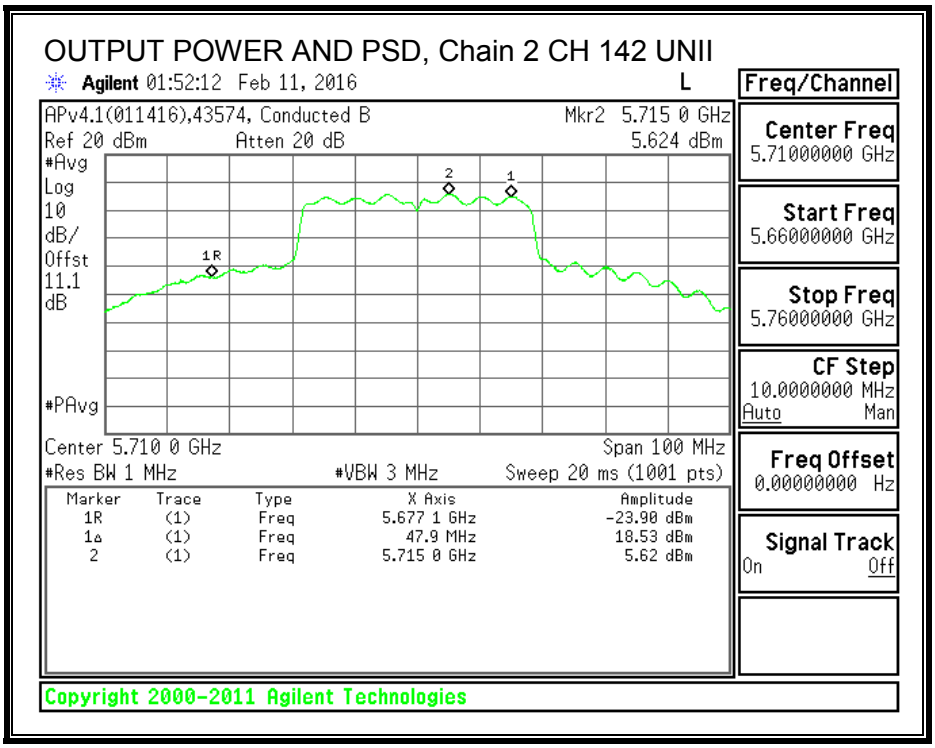
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	18.43	18.38	18.53	23.22	24.00	-0.78

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	4.67	4.39	5.62	9.70	9.15	0.55







UNII-3 BAND

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

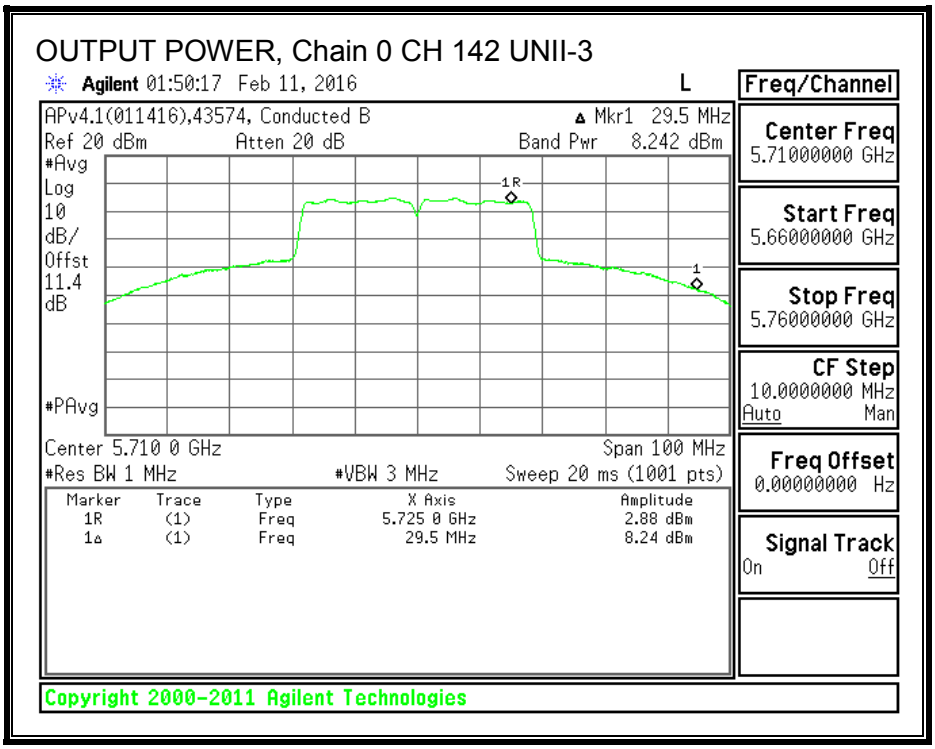
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
142	5710	8.24	8.06	8.14	12.92	30.00	-17.08

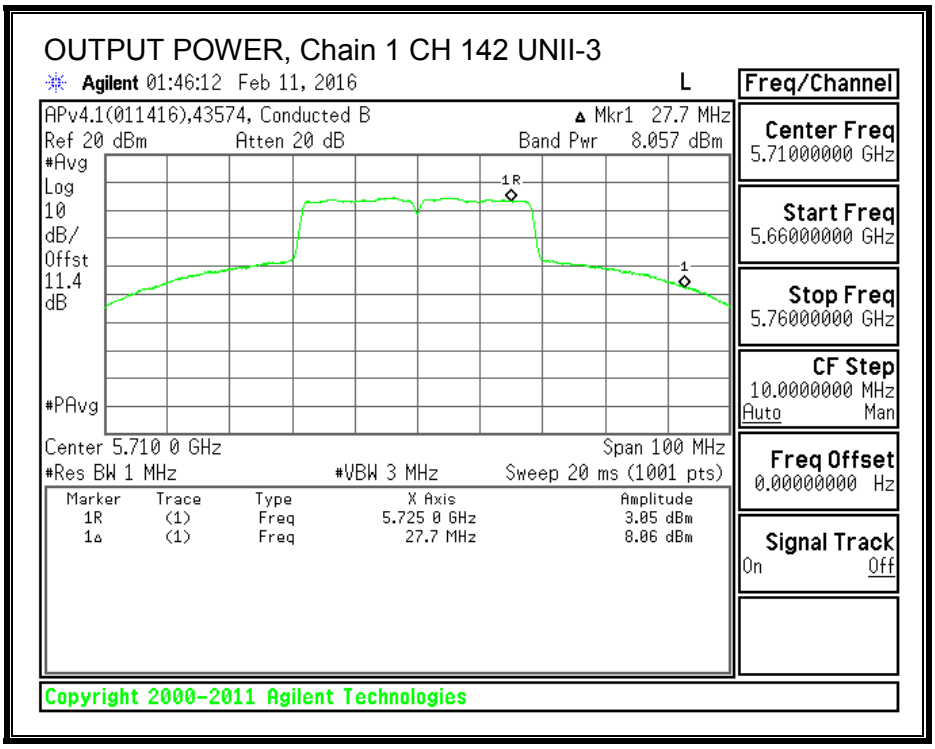
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
142	5710	0.89	0.50	2.13	6.00	28.15	-22.15

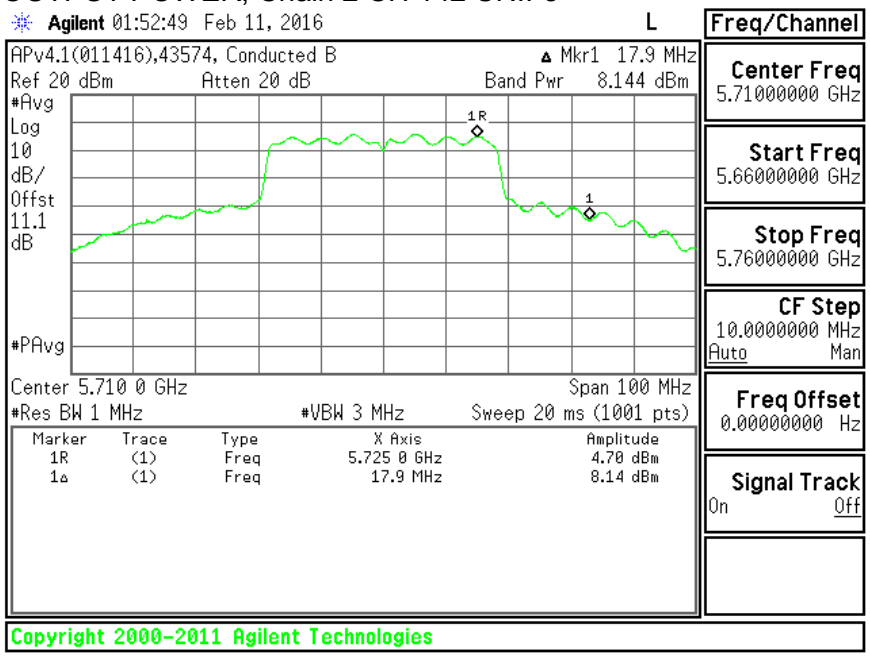
OUTPUT POWER, Chain 0 CH 142 UNII-3



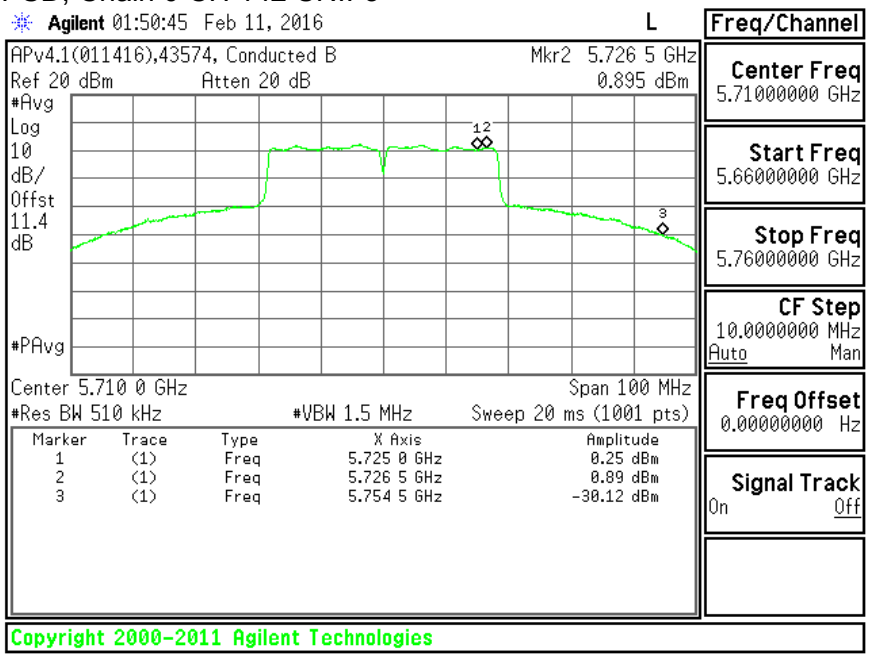
OUTPUT POWER, Chain 1 CH 142 UNII-3



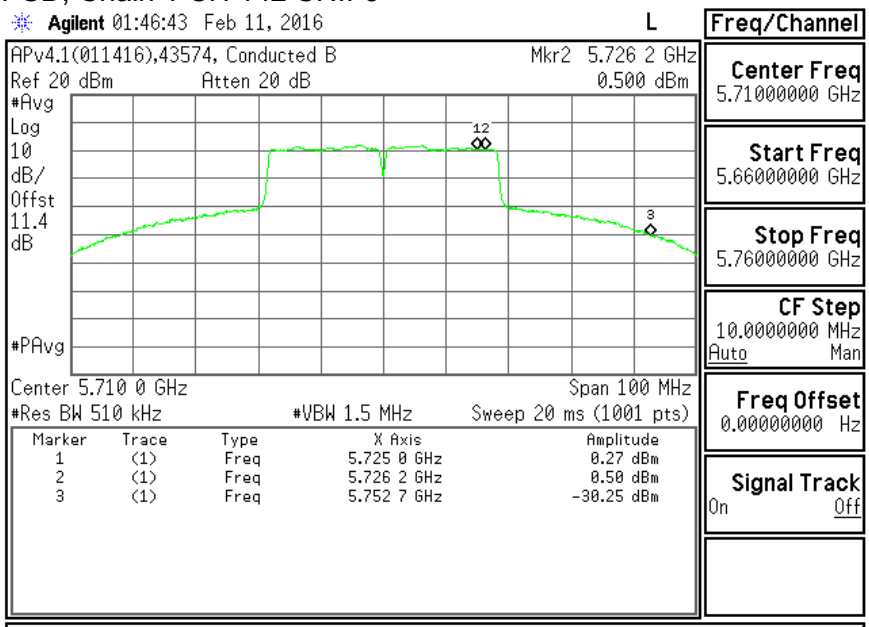
OUTPUT POWER, Chain 2 CH 142 UNII-3



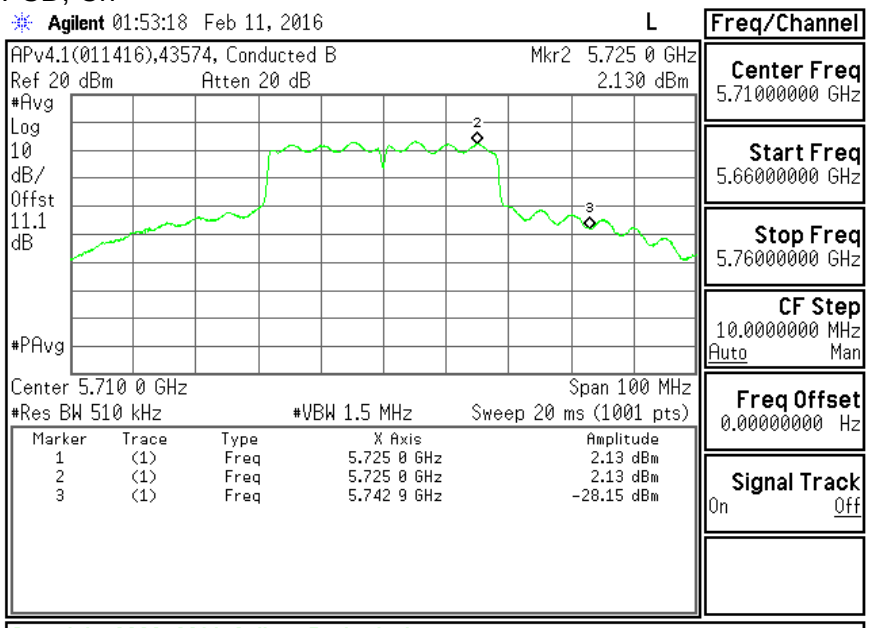
PSD, Chain 0 CH 142 UNII-3



PSD, Chain 1 CH 142 UNII-3



PSD, Ch



ain 2 CH 142 UNII-3

9.18.4. AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)
142	5710	18.71	18.78	18.91	23.57

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.19. 802.11ac VHT80 CDD 3TX MODE IN THE 5.6 GHz BAND

9.19.1. 26 dB BANDWIDTH

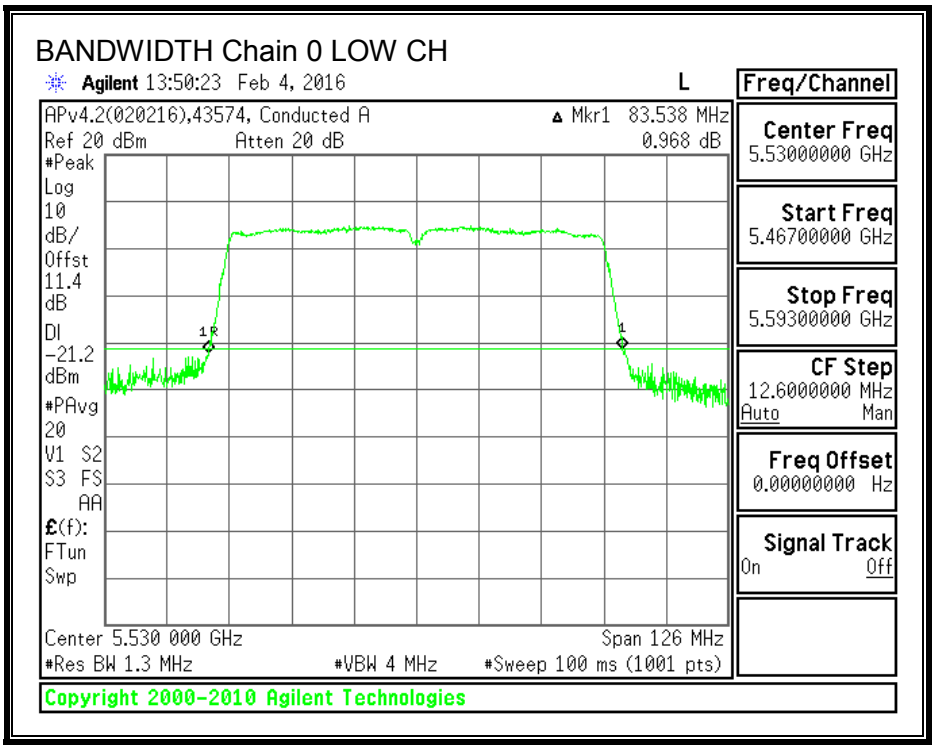
LIMITS

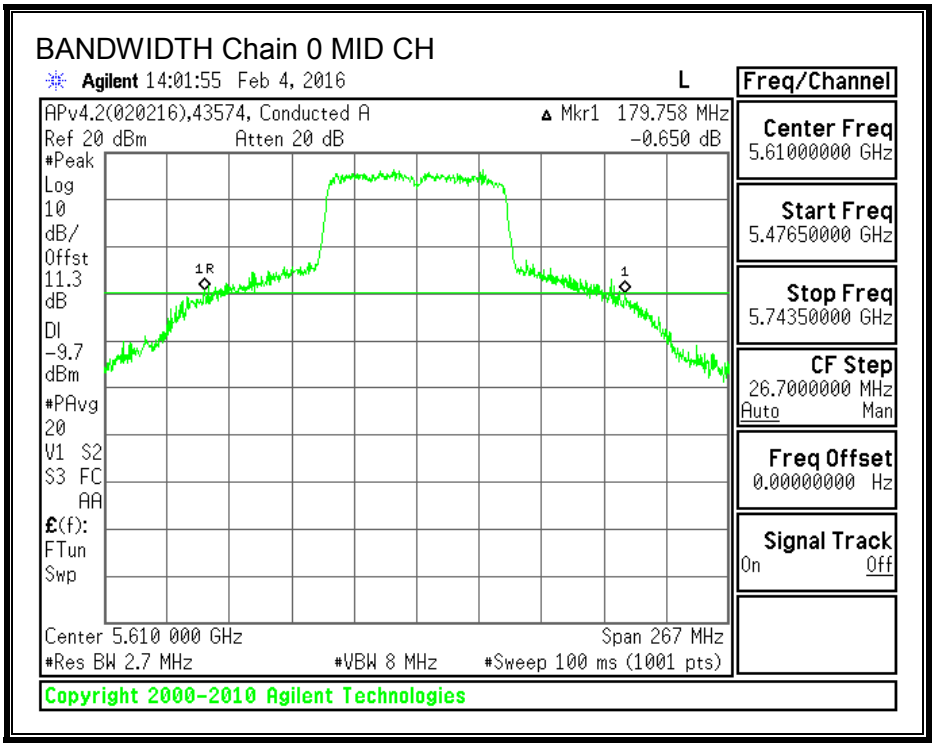
None; for reporting purposes only.

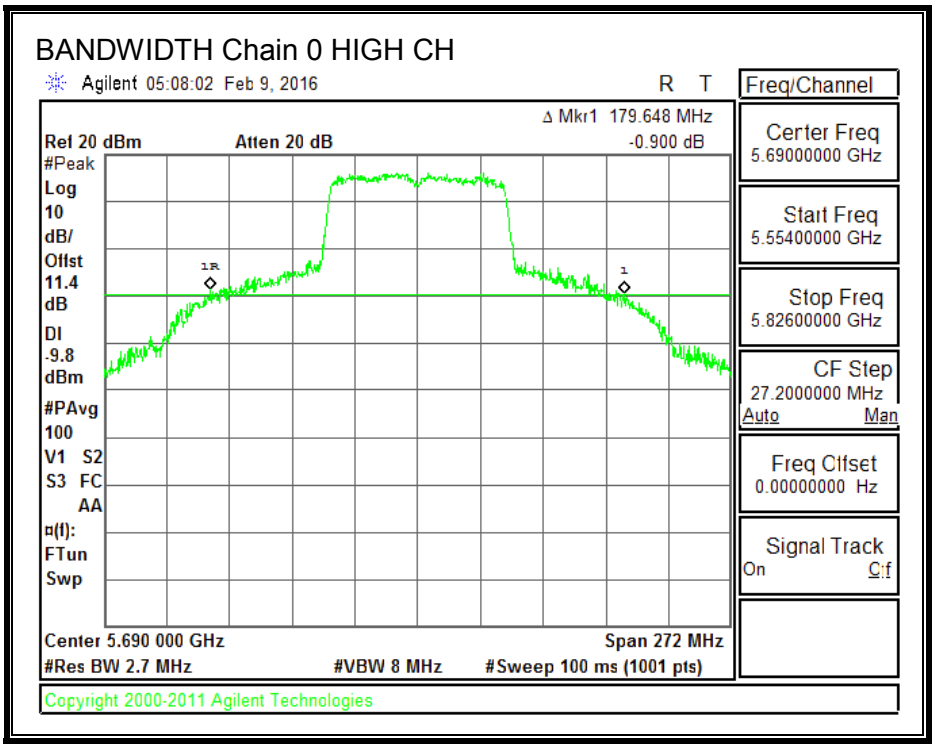
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	83.538	83.125	82.336
Mid	5610	179.758	162.460	154.329
High	5690	179.65	172.65	155.61

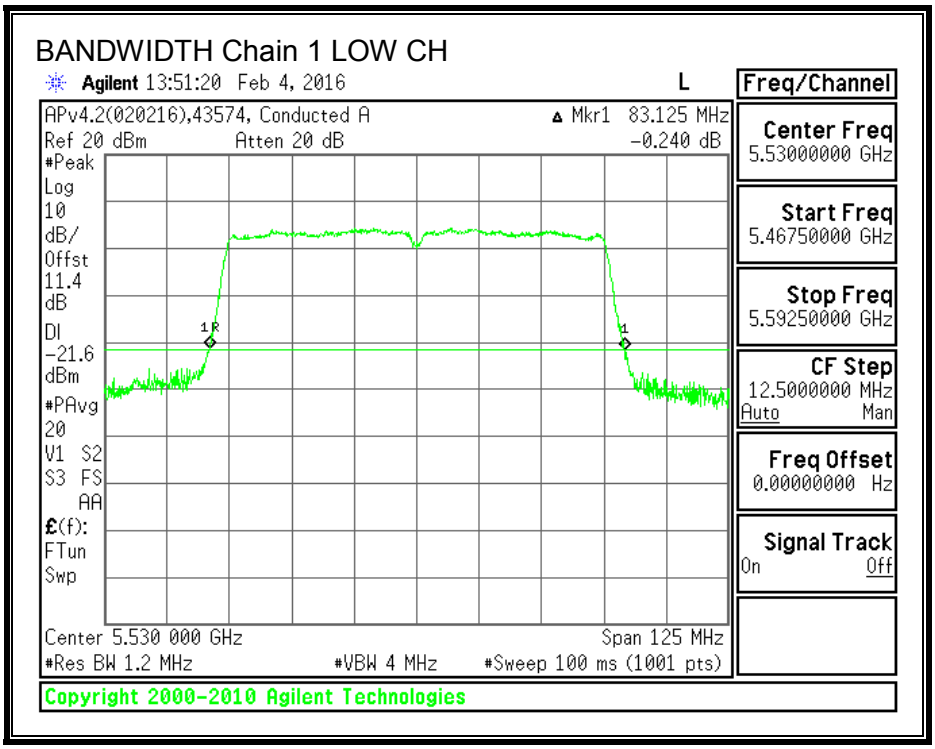
26 dB BANDWIDTH, Chain 0



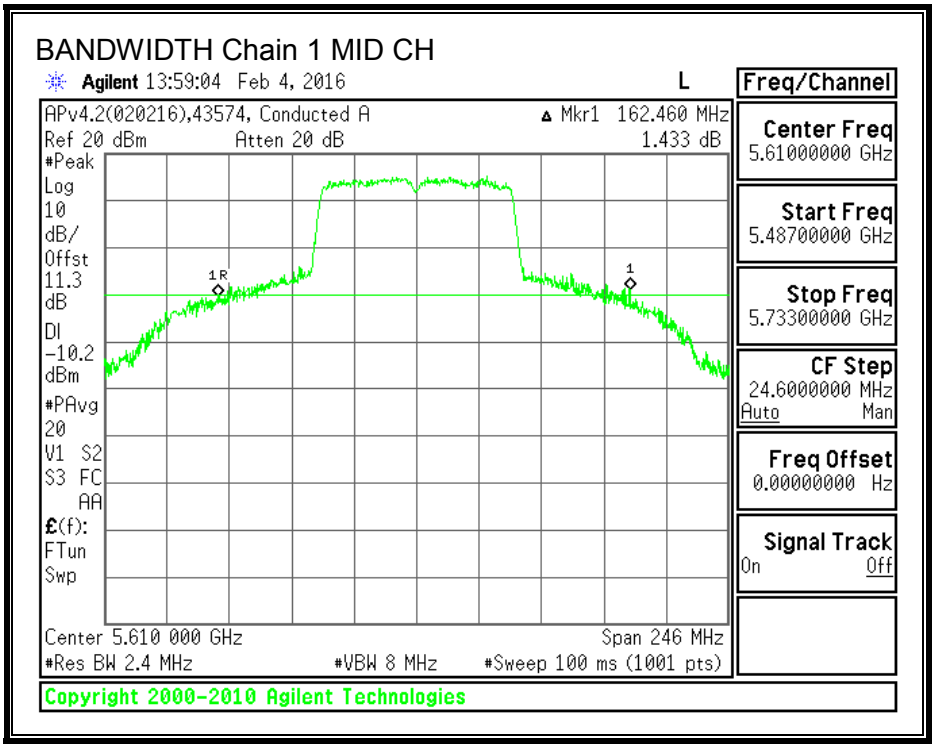




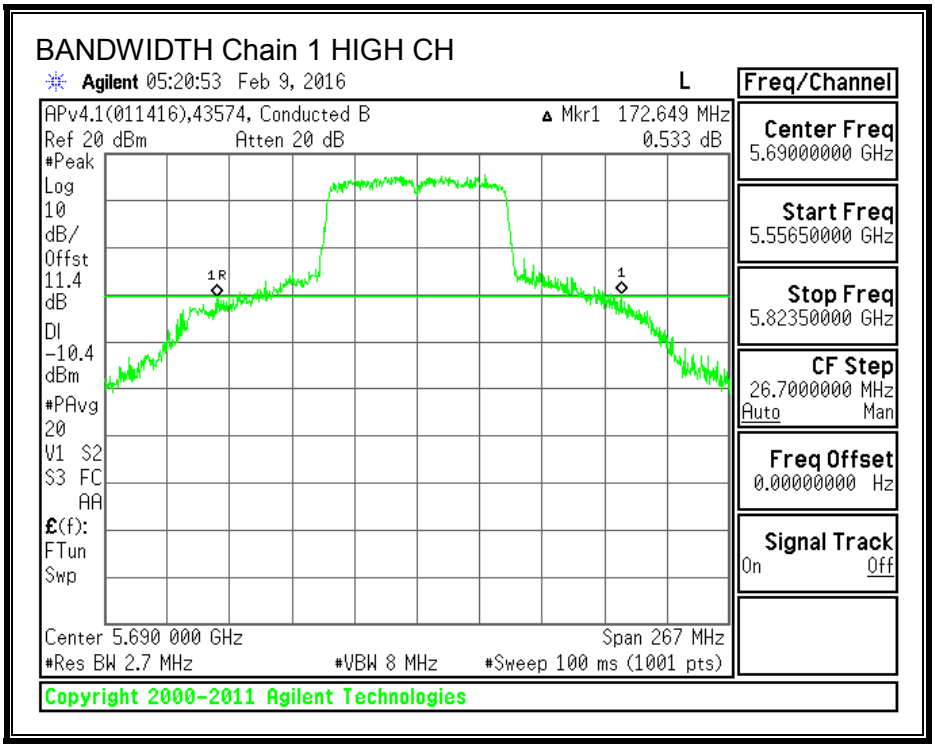
26 dB BANDWIDTH, Chain 1



BANDWIDTH Chain 1 MID CH

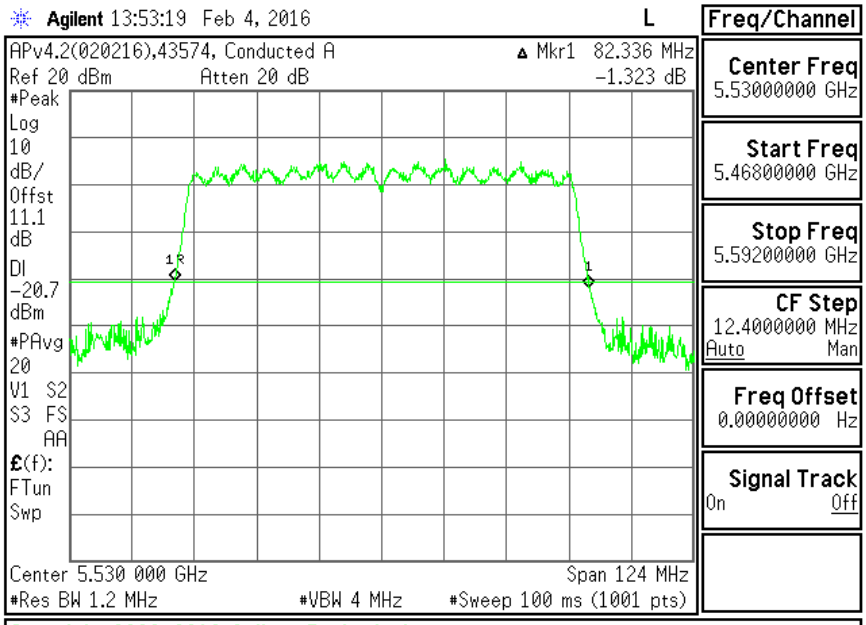


BANDWIDTH Chain 1 HIGH CH

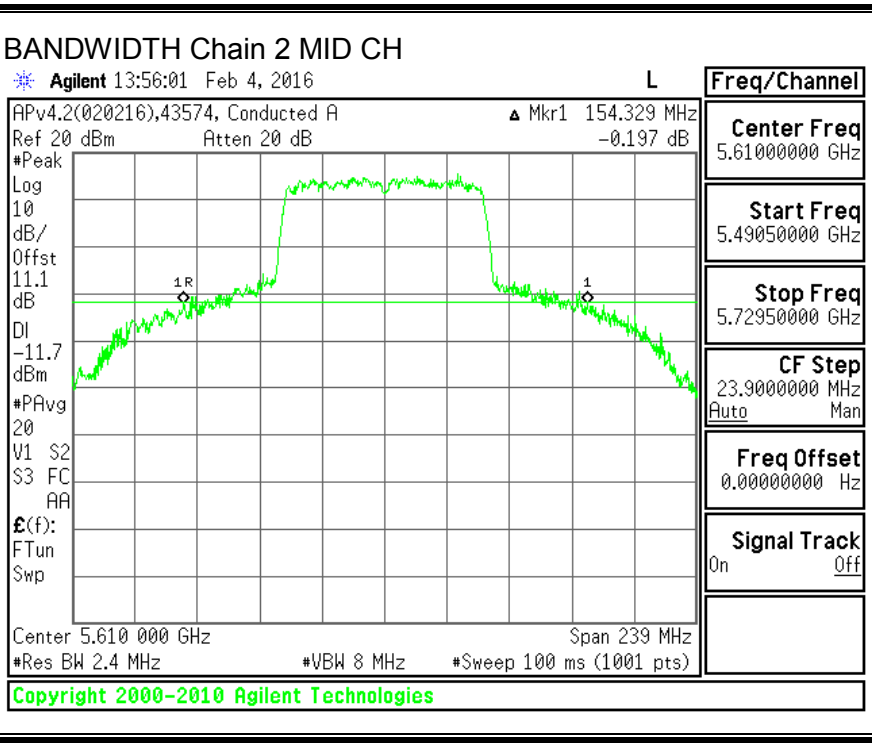


26 dB BANDWIDTH, Chain 2

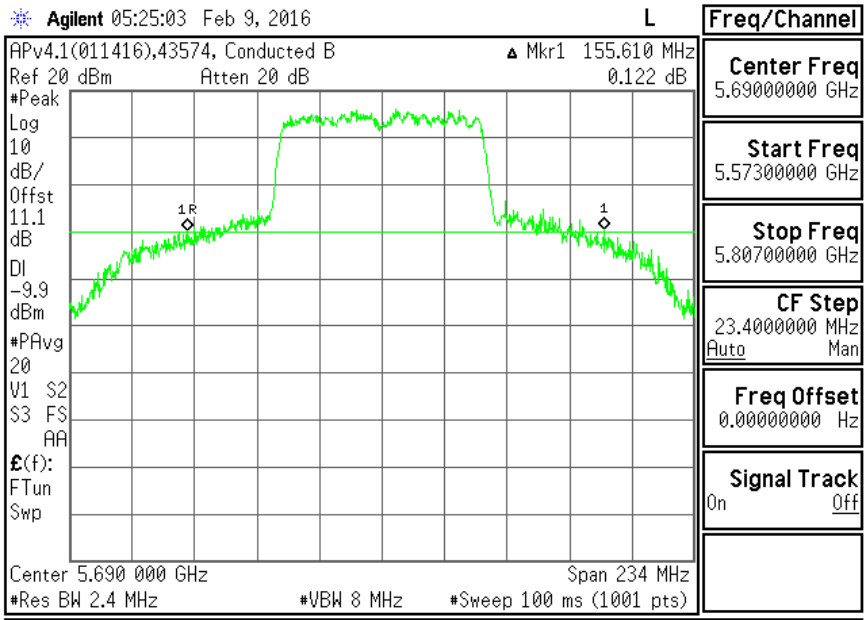
BANDWIDTH Chain 2 LOW CH



BANDWIDTH Chain 2 MID CH



BANDWIDTH Chain 2 HIGH CH



9.19.2. 99% BANDWIDTH

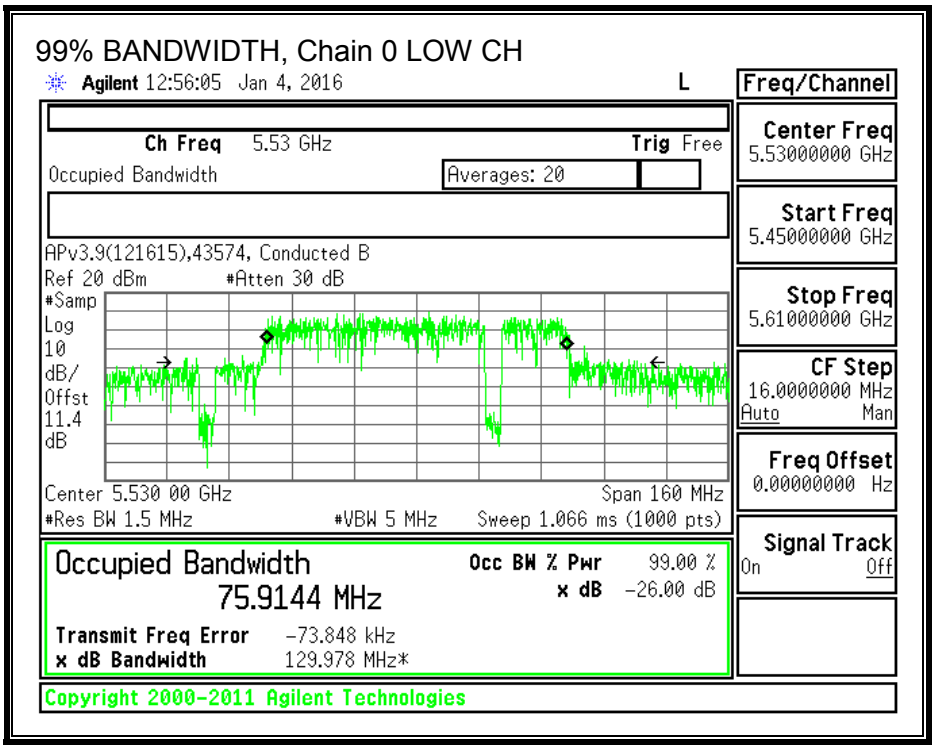
LIMITS

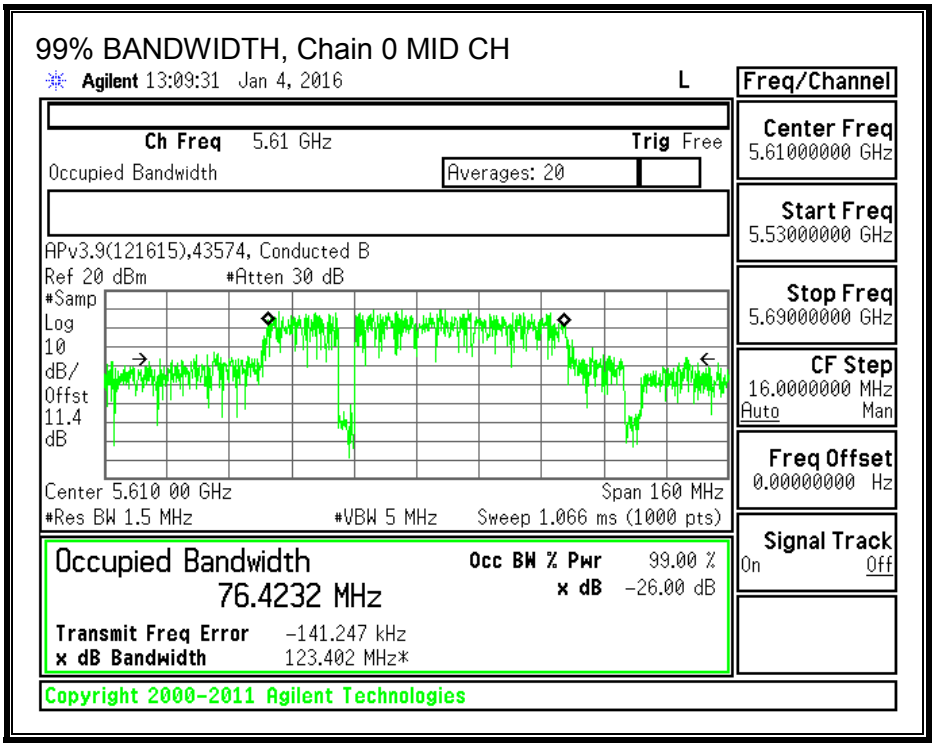
None; for reporting purposes only.

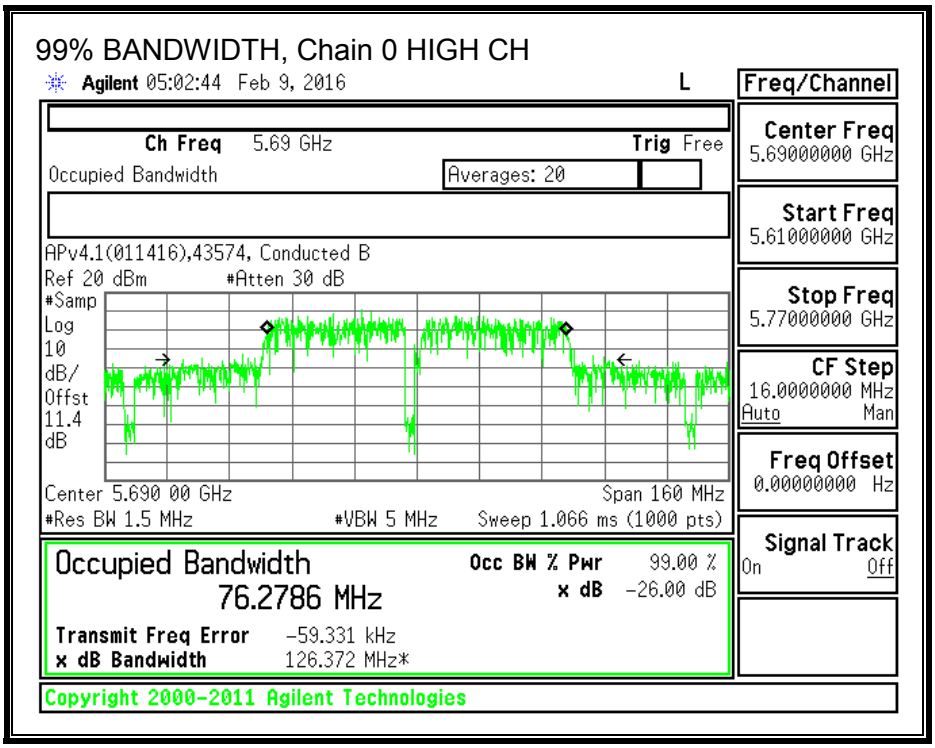
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5530	75.9144	76.2584	75.4132
Mid	5610	76.4232	75.9384	75.9339
High	5690	76.2786	76.3395	75.6323

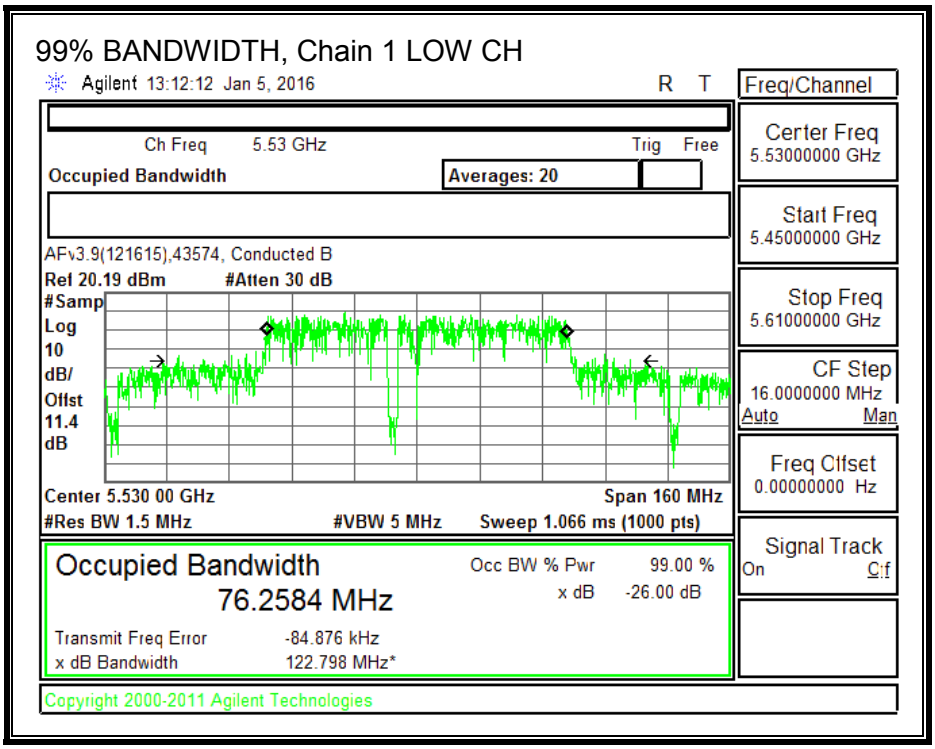
99% BANDWIDTH, Chain 0

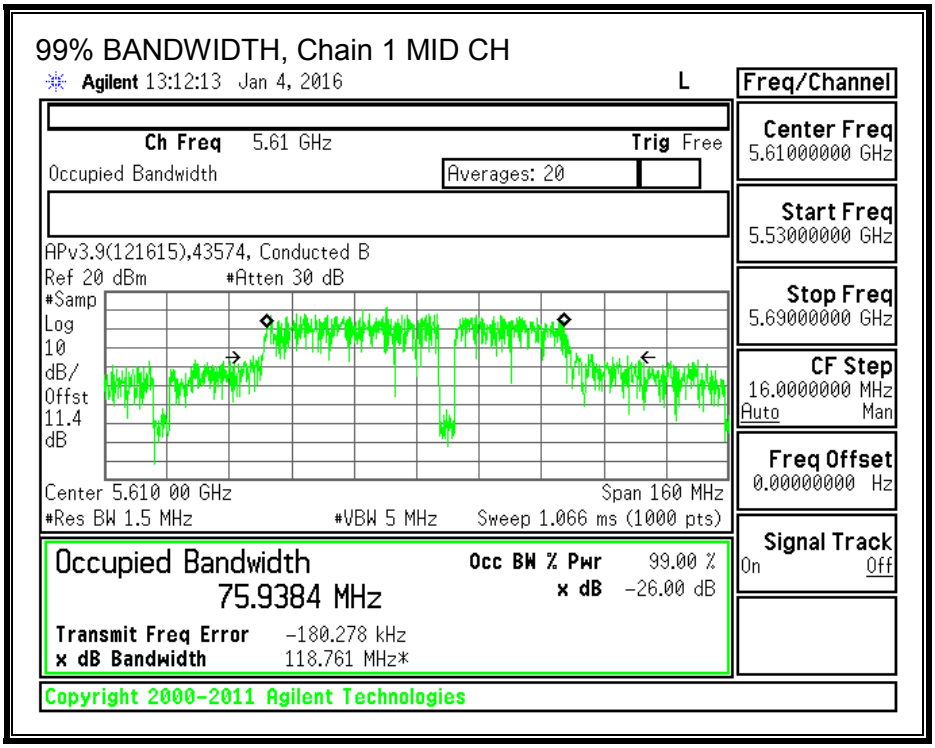


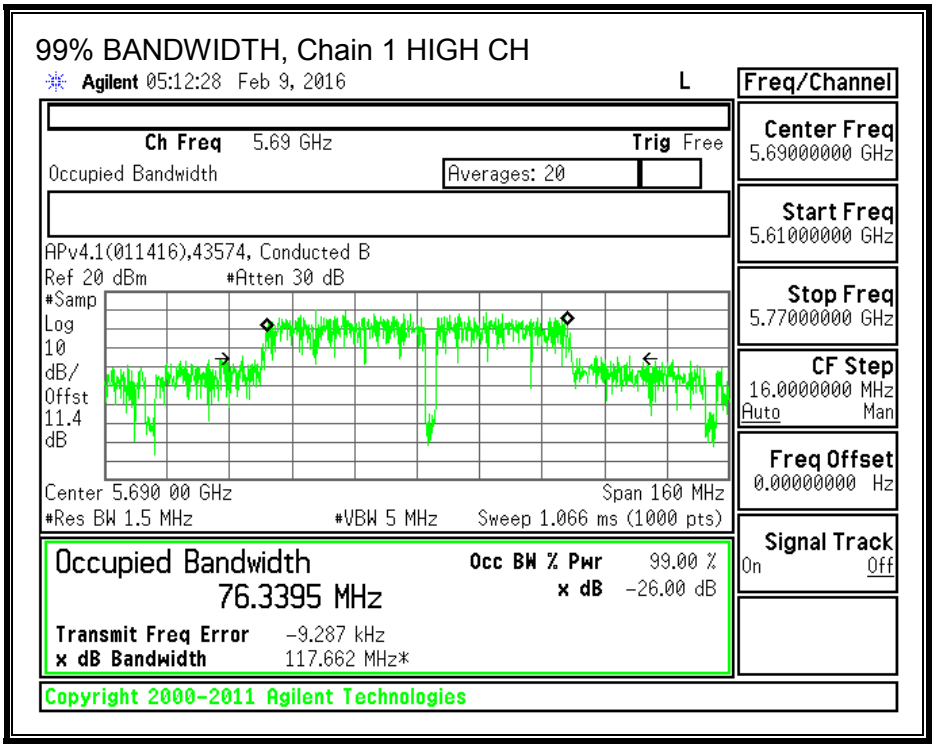




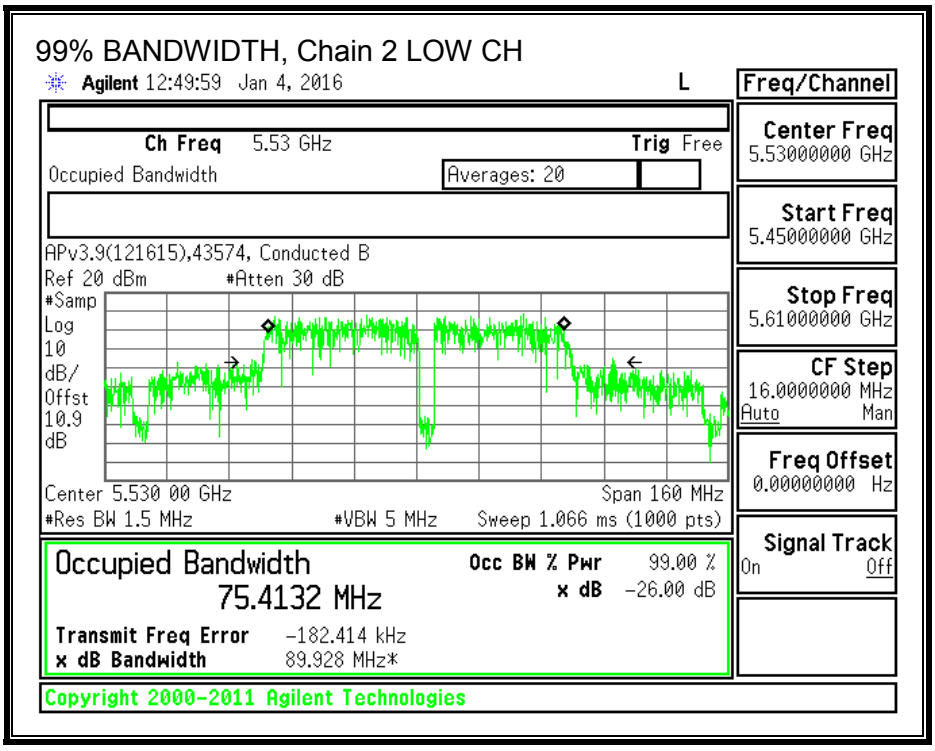
99% BANDWIDTH, Chain 1

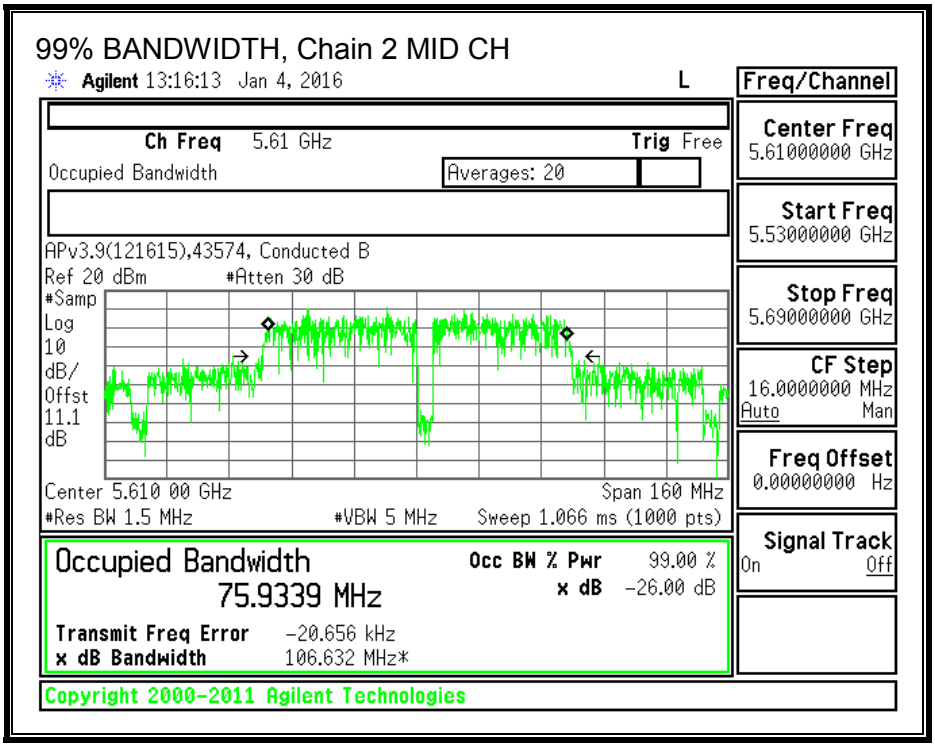


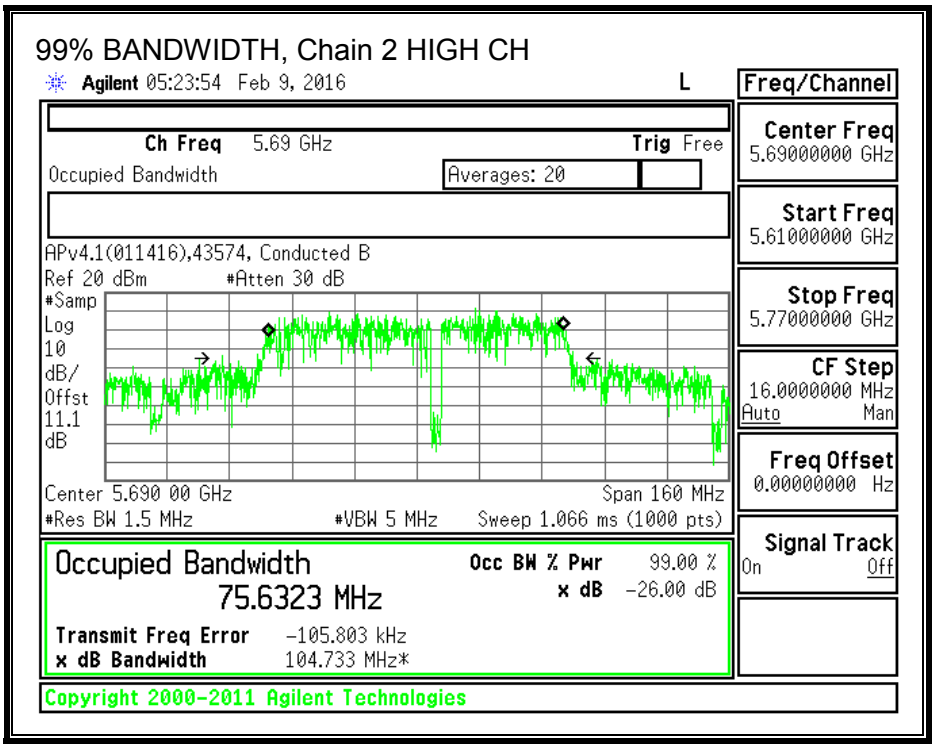




99% BANDWIDTH, Chain 2







9.19.3. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

DIRECTIONAL ANTENNA GAIN

For 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)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.77	3.46	1.88	3.11

For PSD, 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)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
3.77	3.46	1.88	7.85

RESULTS

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5530	82.336	3.11	7.85	24.00	9.15
Mid	5610	154.329	3.11	7.85	24.00	9.15

Duty Cycle CF (dB)	0.17	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	11.83	11.51	10.70	16.31	24.00	-7.69
Mid	5610	18.65	18.05	17.70	23.09	24.00	-0.91

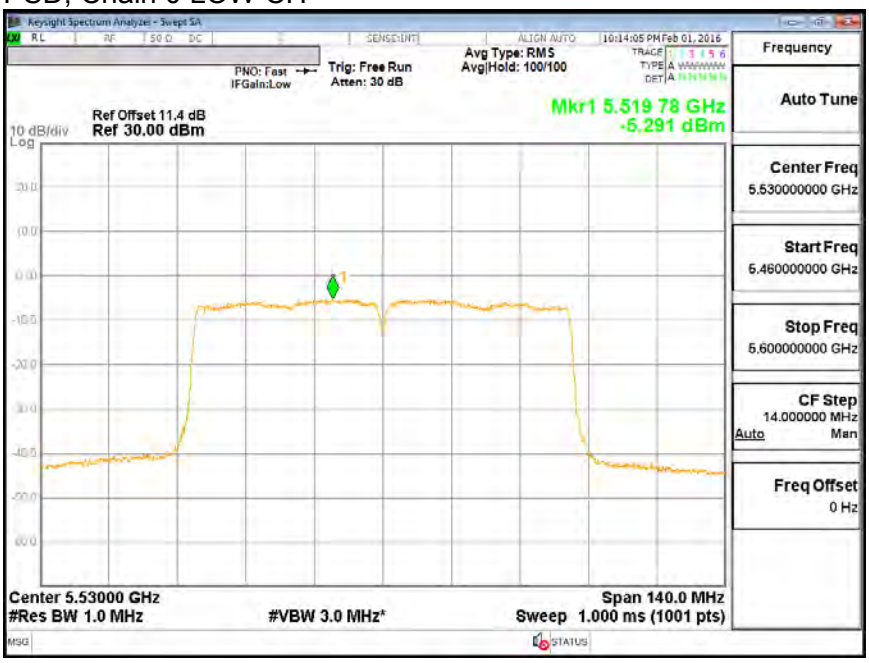
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-5.291	-5.291	-5.704	-0.483	9.15	-9.63
Mid	5610	1.687	1.087	1.471	6.363	9.15	-2.79

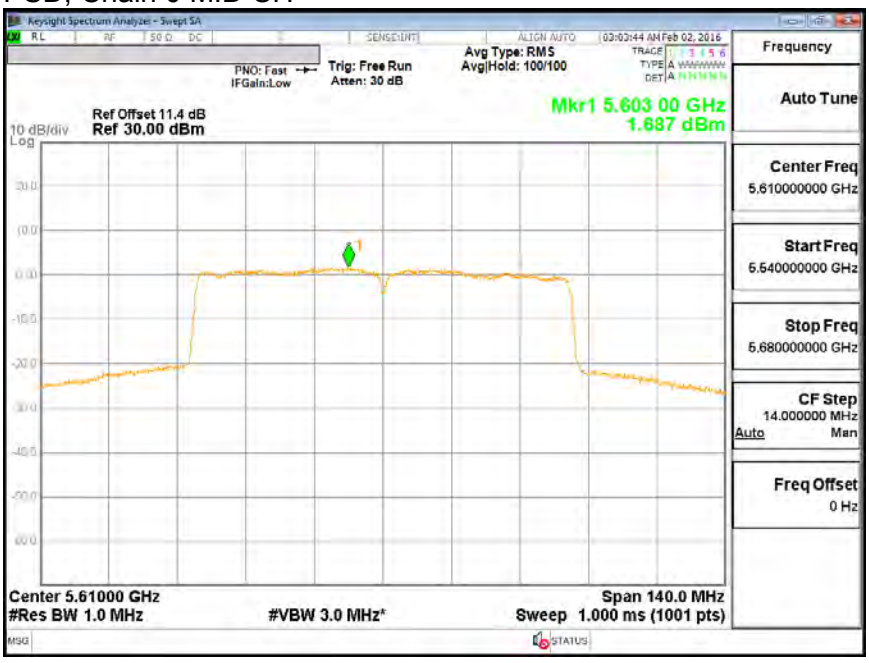
Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

PSD, Chain 0

PSD, Chain 0 LOW CH

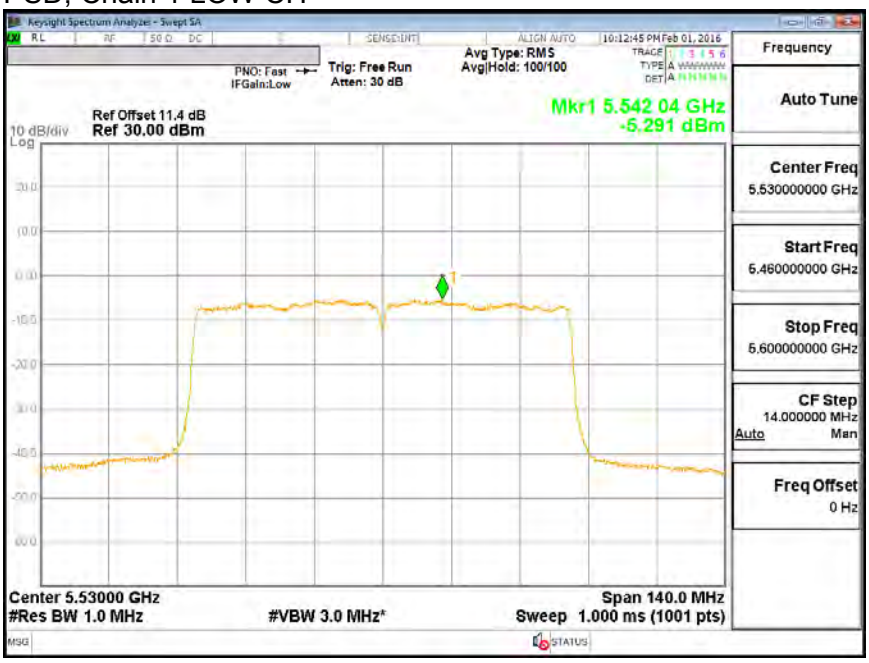


PSD, Chain 0 MID CH

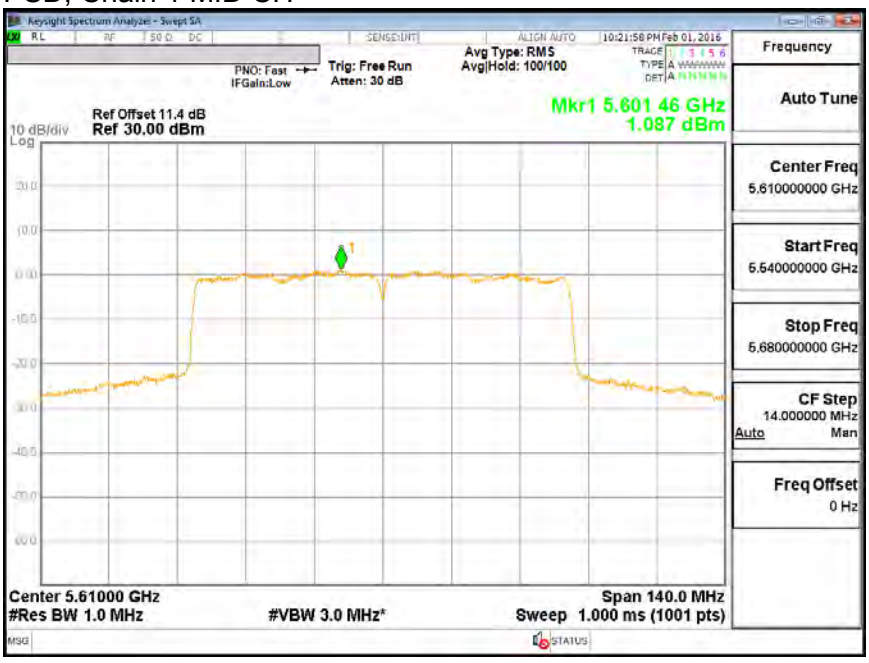


PSD, Chain 1

PSD, Chain 1 LOW CH

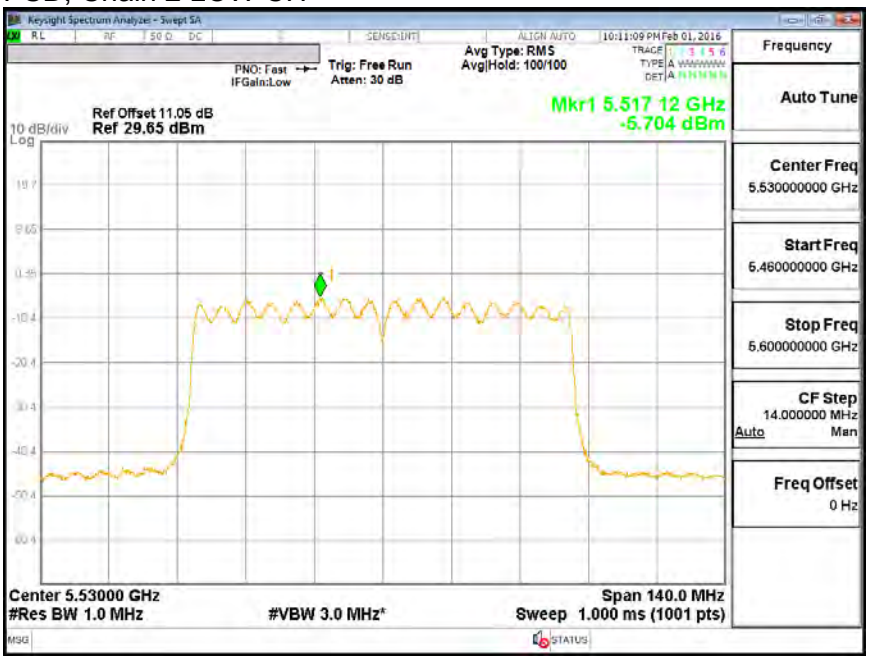


PSD, Chain 1 MID CH

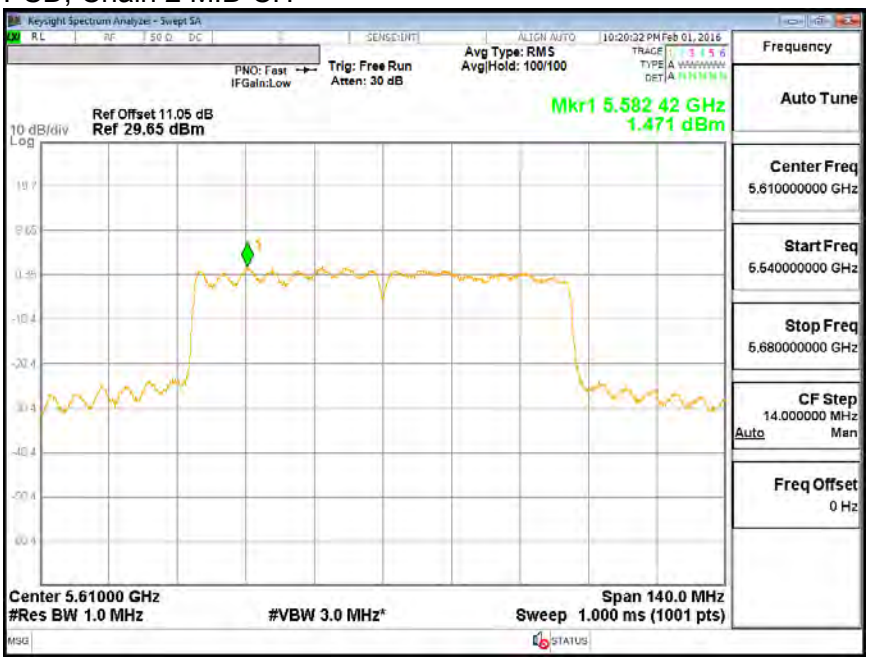


PSD, Chain 2

PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



STRADDLE CHANNEL 138 RESULTS

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	112.80	3.11	7.85	24.00	9.15

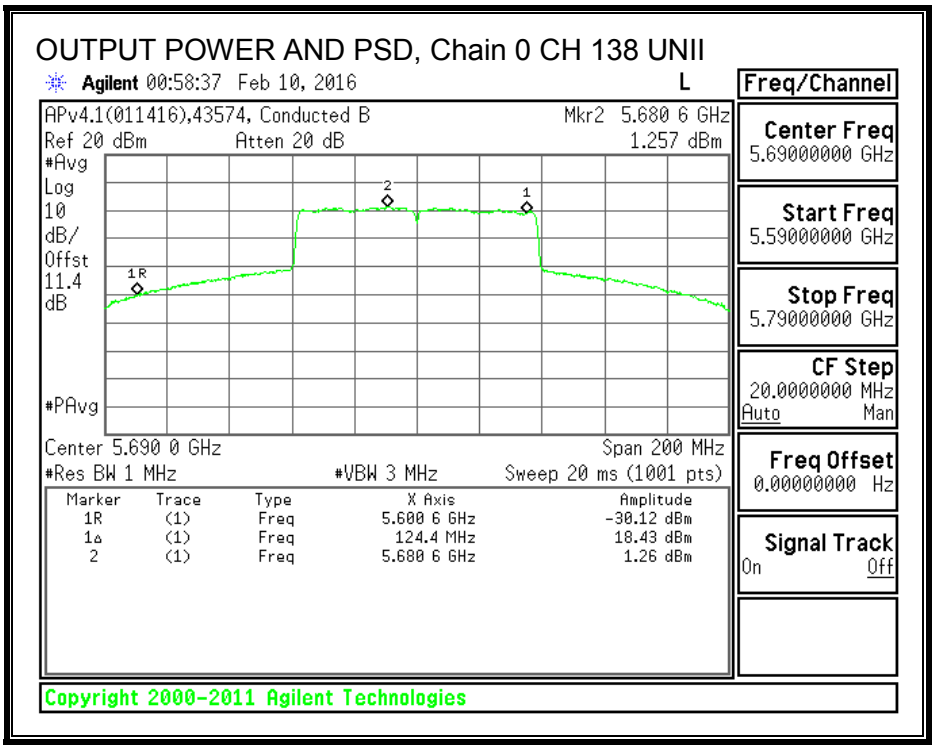
Duty Cycle CF (dB)	0.17	Included in Calculations of Corr'd Power & PSD

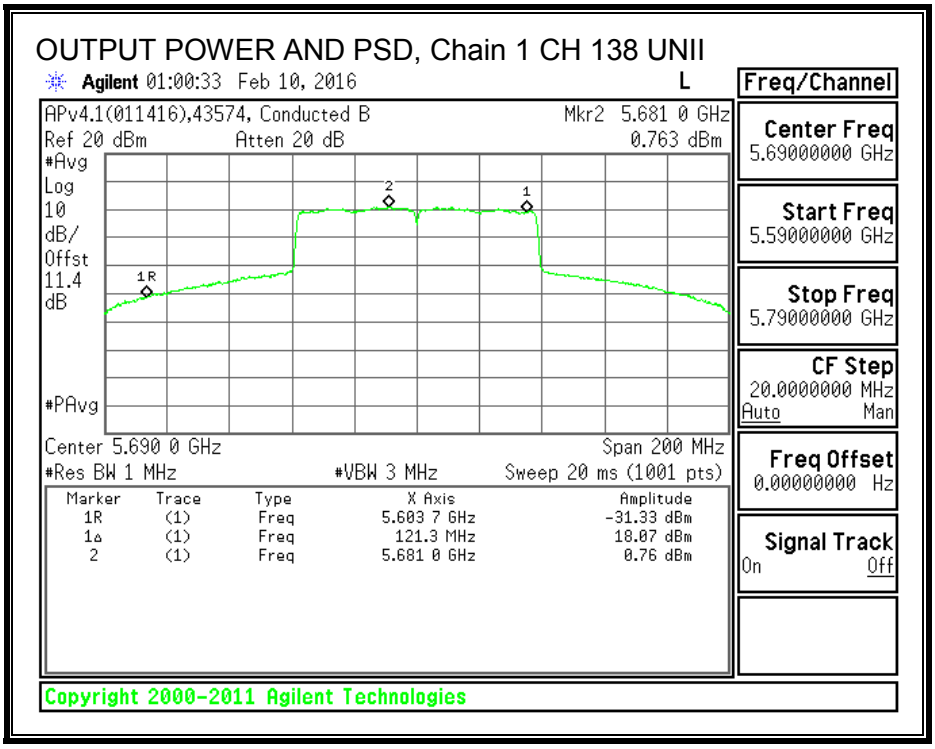
Output Power Results

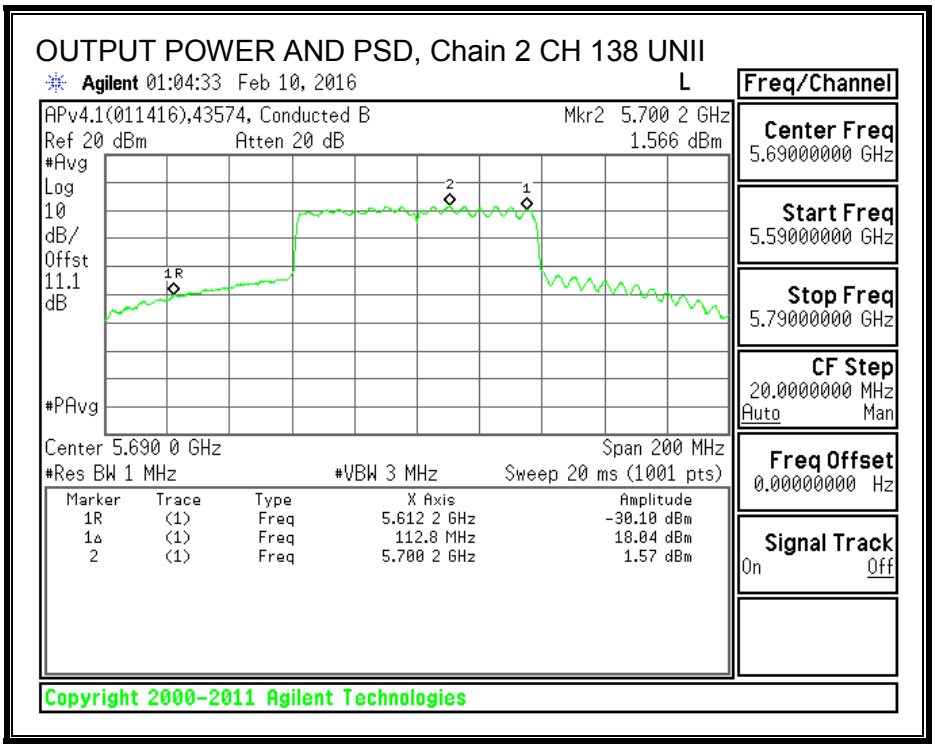
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	18.43	18.07	18.04	23.12	24.00	-0.88

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	1.26	0.76	1.57	6.15	9.15	-3.00







UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	3.11	7.85	30.00	28.15

Duty Cycle CF (dB)	0.17	Included in Calculations of Corr'd Power & PSD

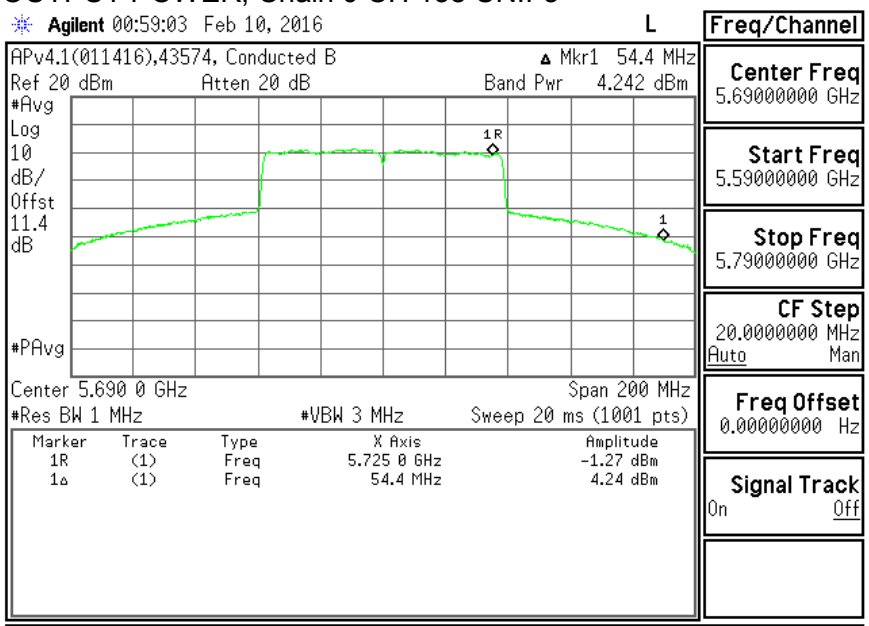
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	4.24	4.08	3.90	9.02	30.00	-20.98

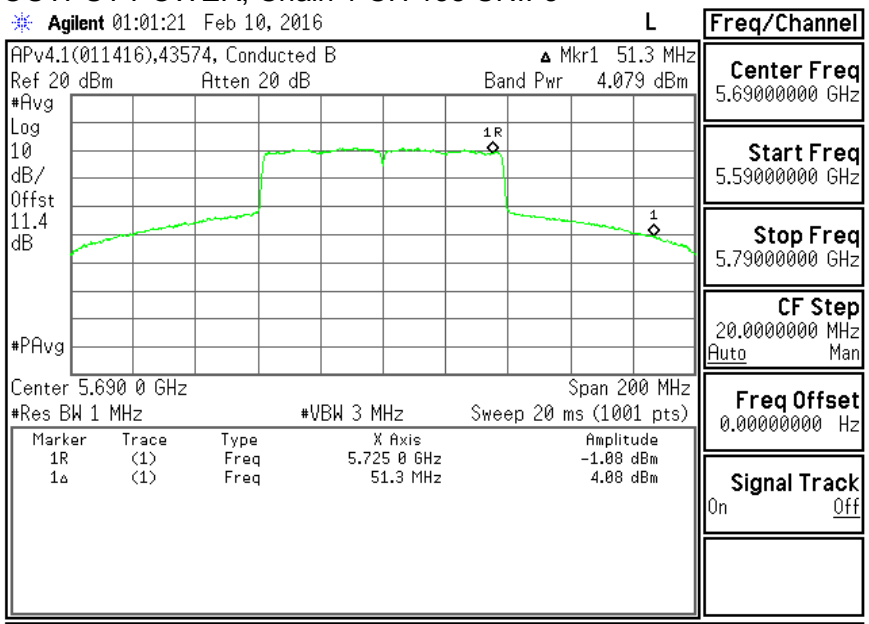
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
138	5690	-3.12	-3.32	-1.97	2.18	28.15	-25.97

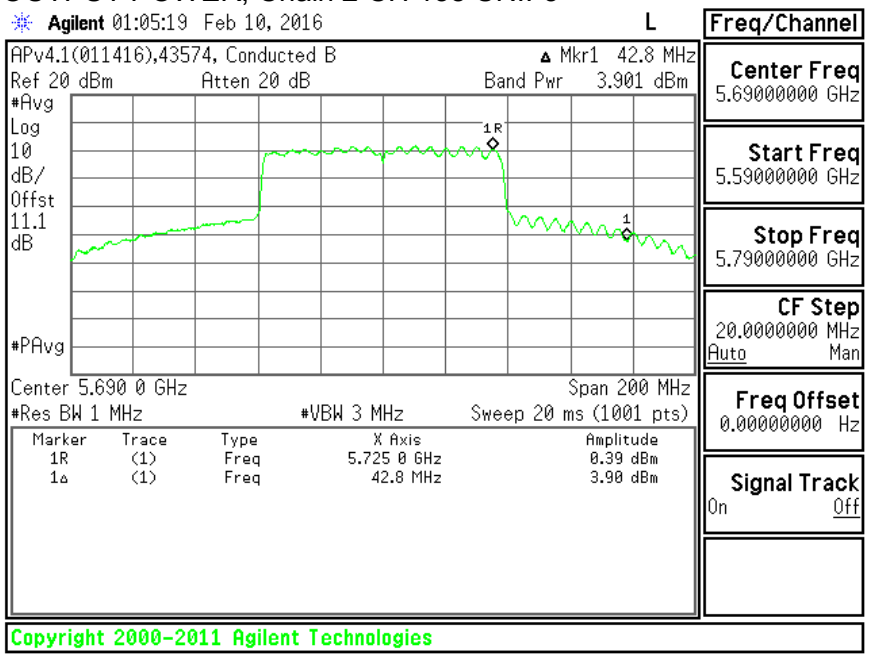
OUTPUT POWER, Chain 0 CH 138 UNII-3



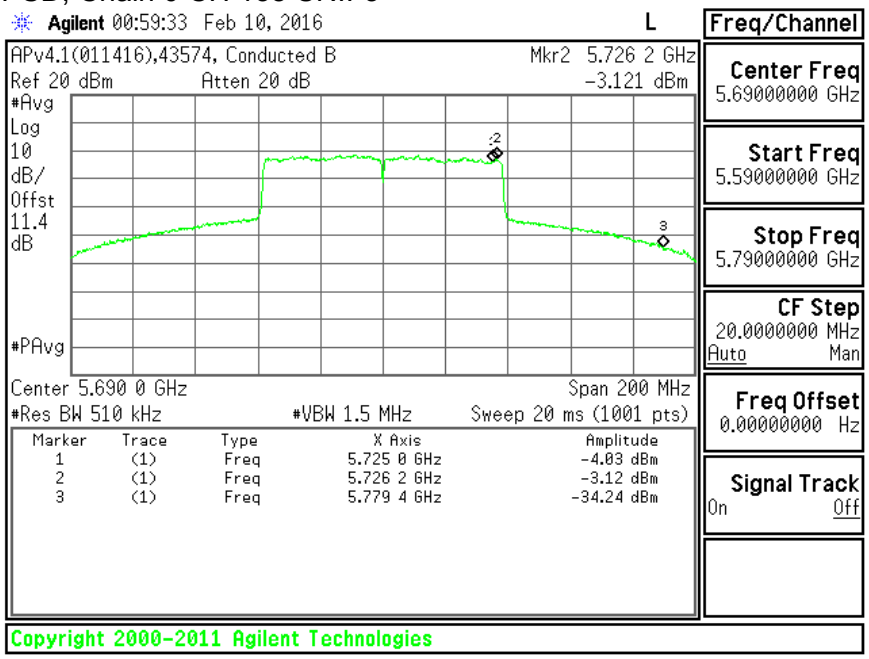
OUTPUT POWER, Chain 1 CH 138 UNII-3



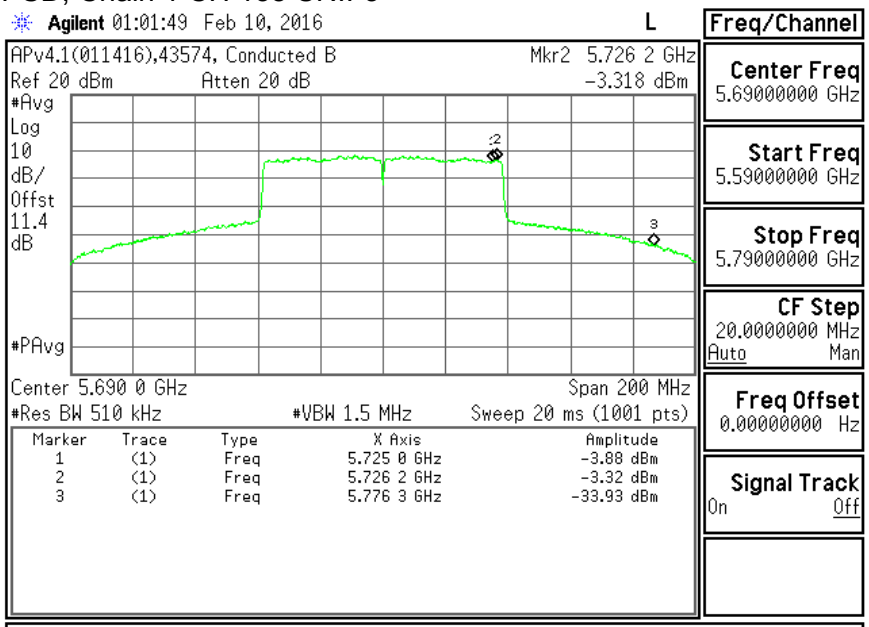
OUTPUT POWER, Chain 2 CH 138 UNII-3



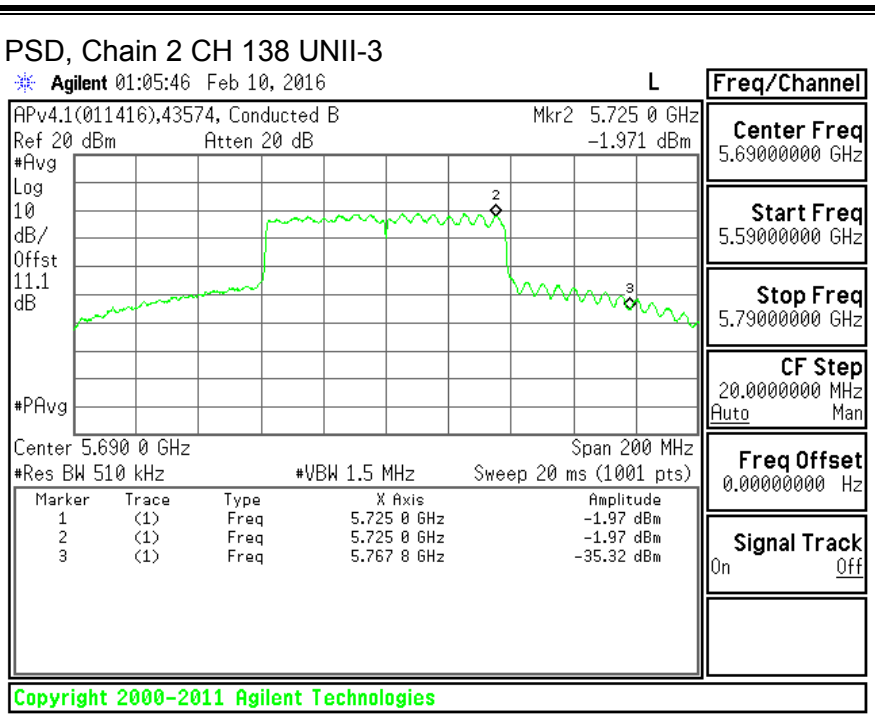
PSD, Chain 0 CH 138 UNII-3



PSD, Chain 1 CH 138 UNII-3



PSD, Chain 2 CH 138 UNII-3



9.19.4. AVERAGE OUTPUT POWER (WHOLE FUNDAMENTAL)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)
138	5690	18.33	18.12	18.04	22.94

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.20. 802.11a LEGACY MODE IN THE 5.8 GHz BAND

9.20.1. 6 dB BANDWIDTH

LIMITS

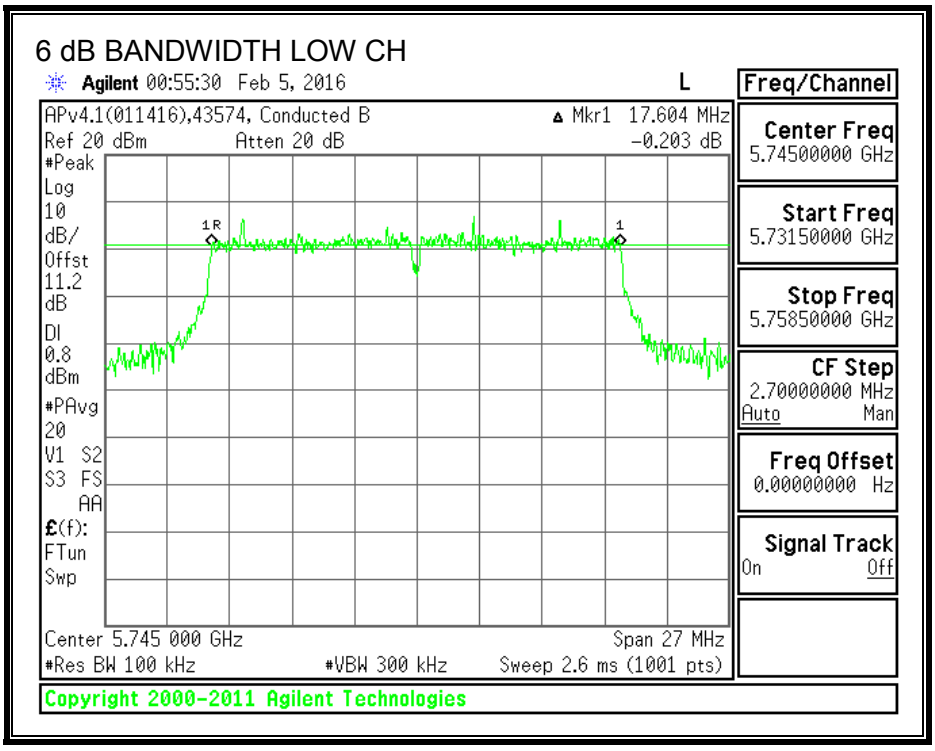
FCC §15.407 (e)

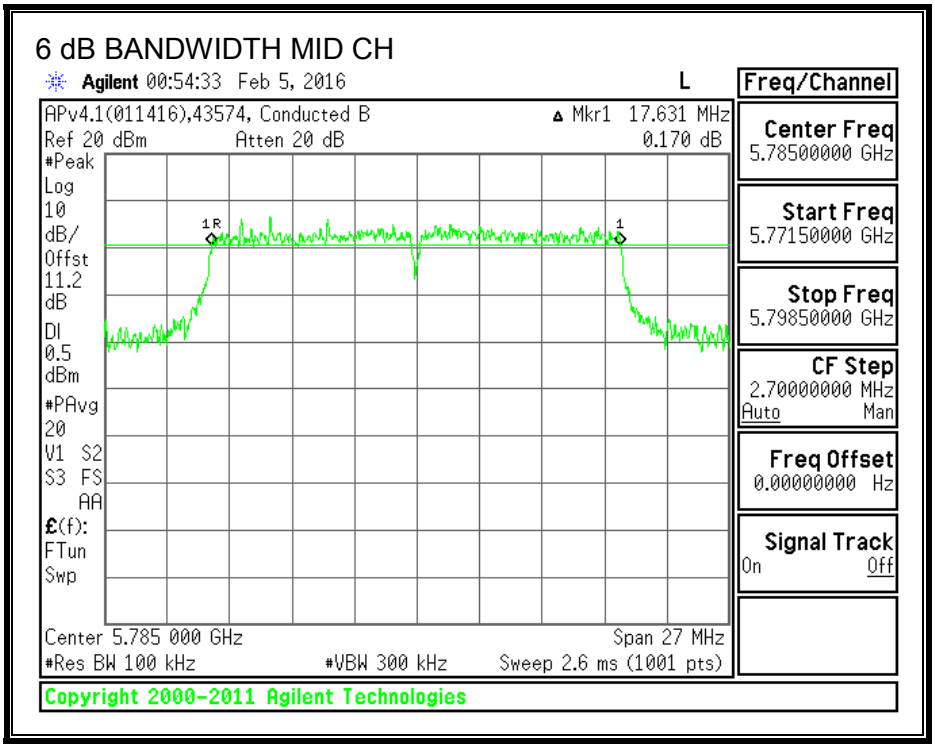
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

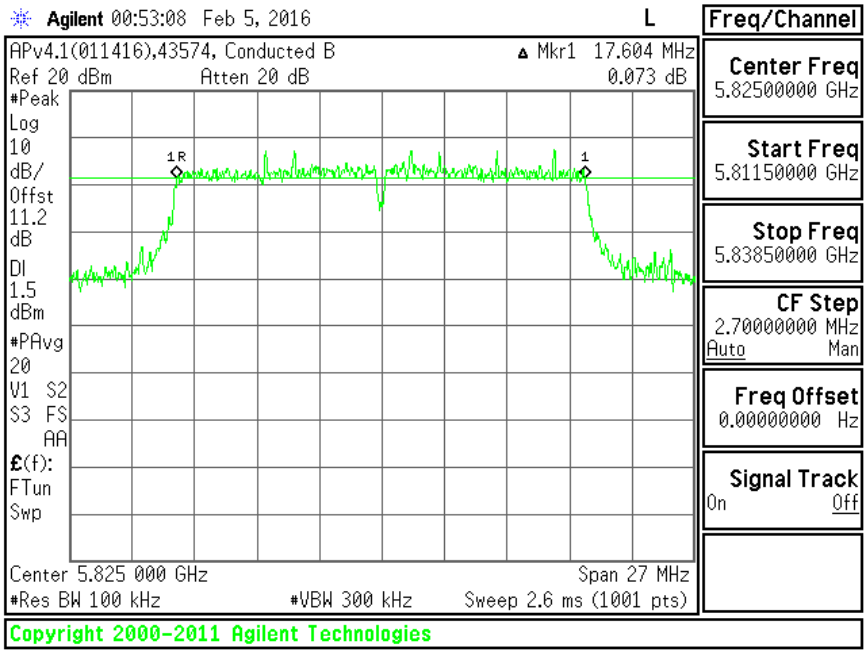
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.6040	0.5
Mid	5785	17.6310	0.5
High	5825	17.6040	0.5

6 dB BANDWIDTH





6 dB BANDWIDTH HIGH CH



9.20.2. 99% BANDWIDTH

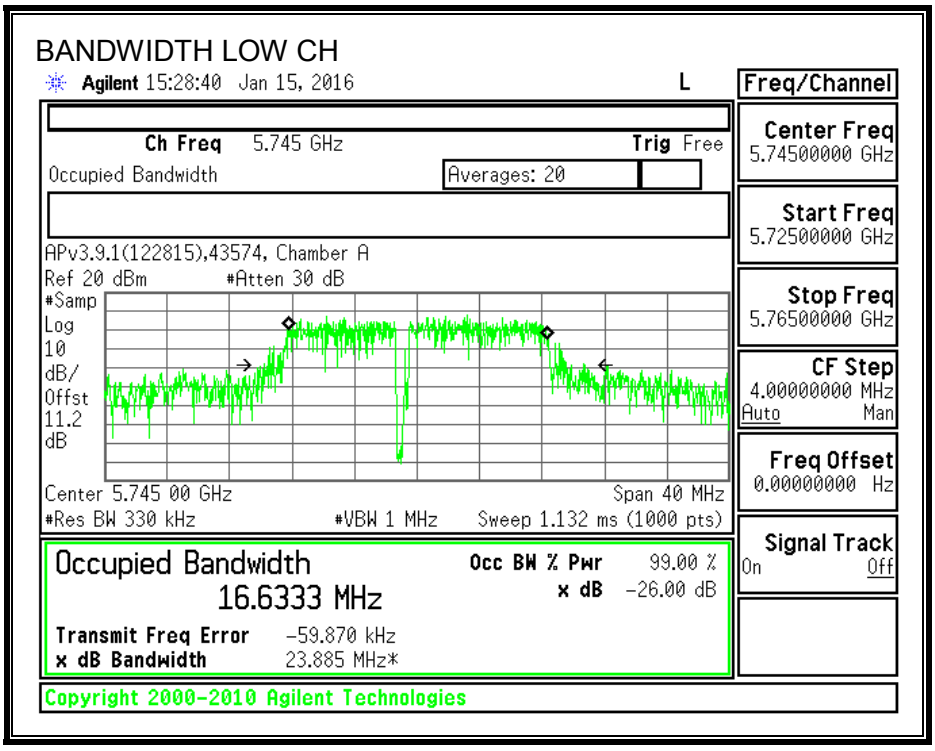
LIMITS

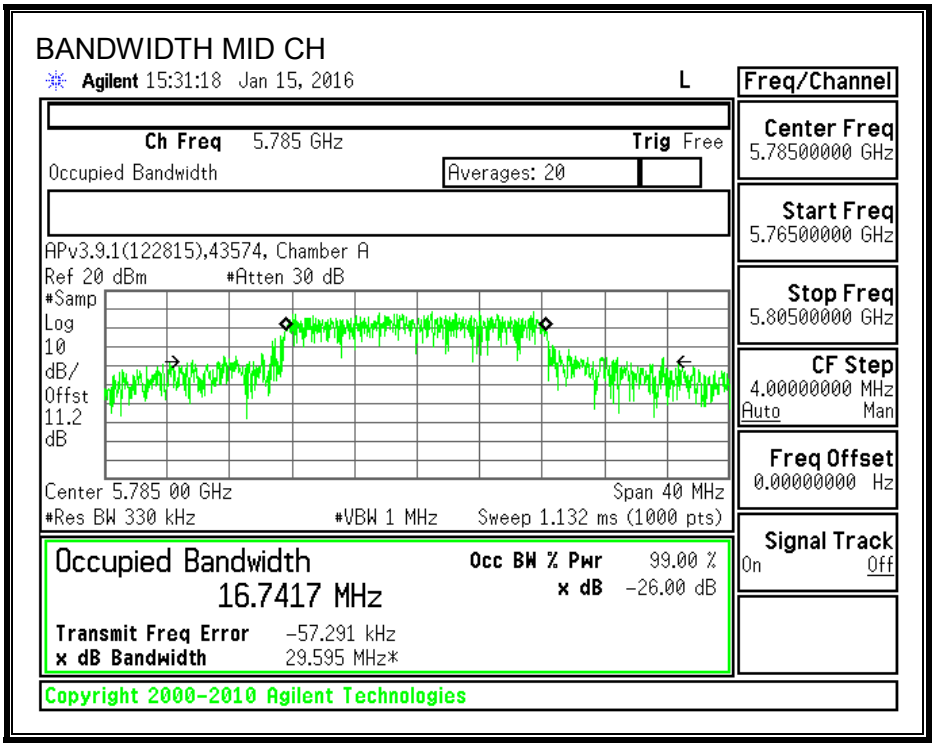
None; for reporting purposes only.

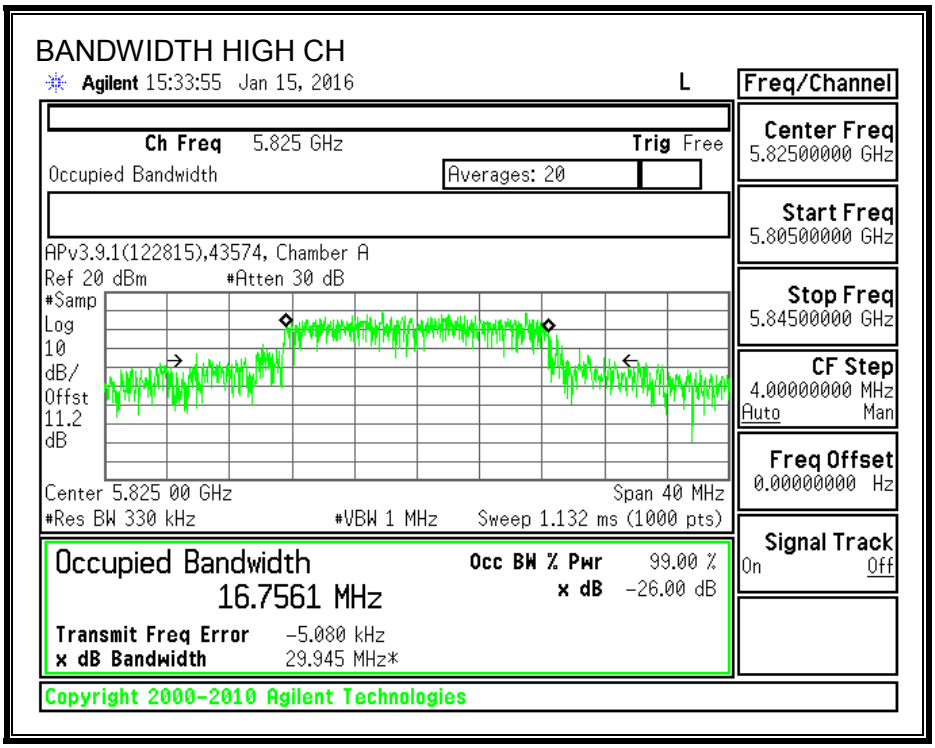
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	16.6333
Mid	5785	16.7417
High	5825	16.7561

99% BANDWIDTH







9.20.3. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

OUTPUT POWER, Chain 1

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.27	30.00
Mid	5785	3.27	30.00
High	5825	3.27	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	17.76	17.76	30.00	-12.24
Mid	5785	18.97	18.97	30.00	-11.03
High	5825	18.96	18.96	30.00	-11.04

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.20.4. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	3.27	30.00
Mid	5785	3.27	30.00
High	5825	3.27	30.00

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

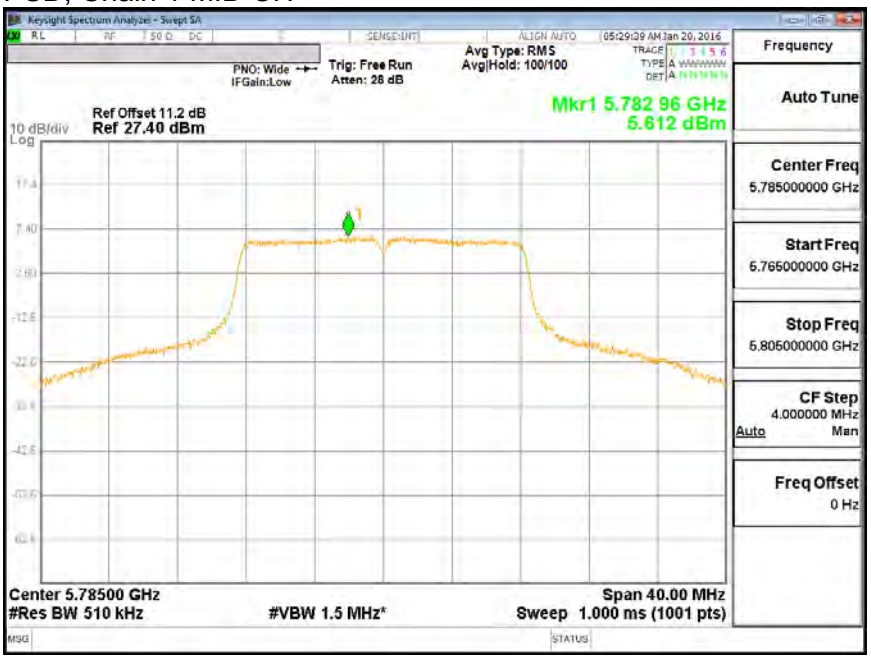
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	4.556	4.556	30.00	-25.44
Mid	5785	5.612	5.612	30.00	-24.39
High	5825	5.613	5.613	30.00	-24.39

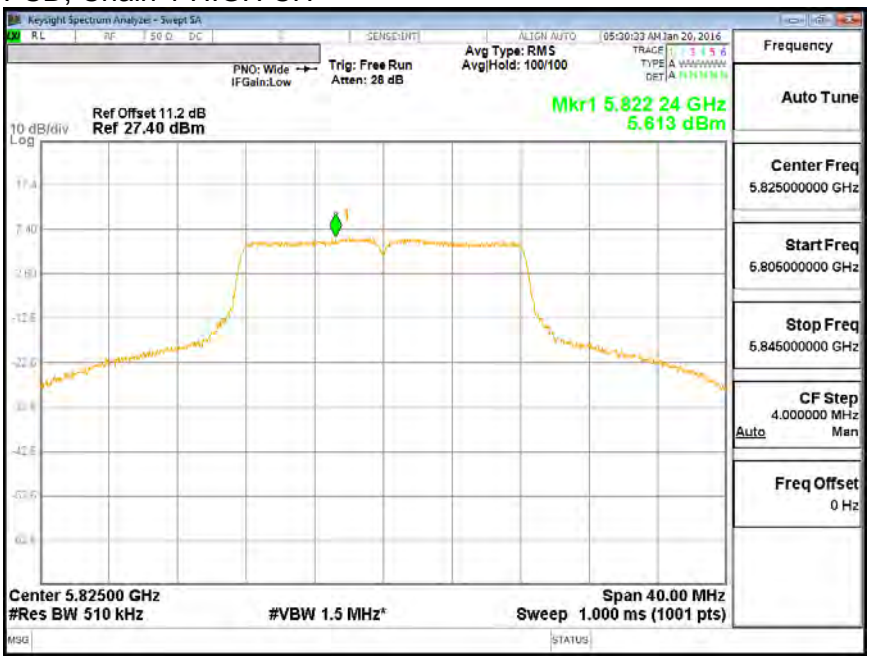
PSD, Chain 1

PSD, Chain 1 LOW CH

PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



9.21. 802.11n HT20 SISO MODE IN THE 5.8 GHz BAND

9.21.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

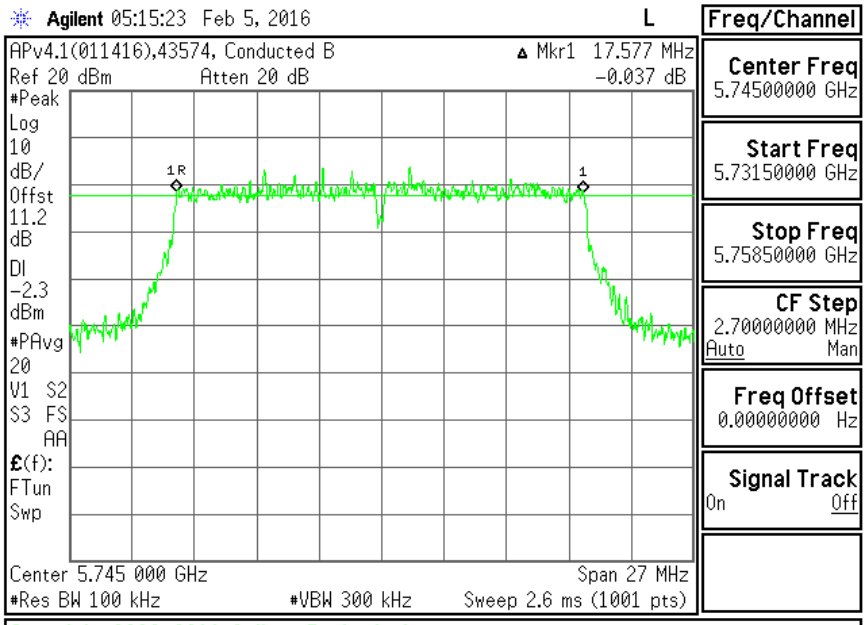
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

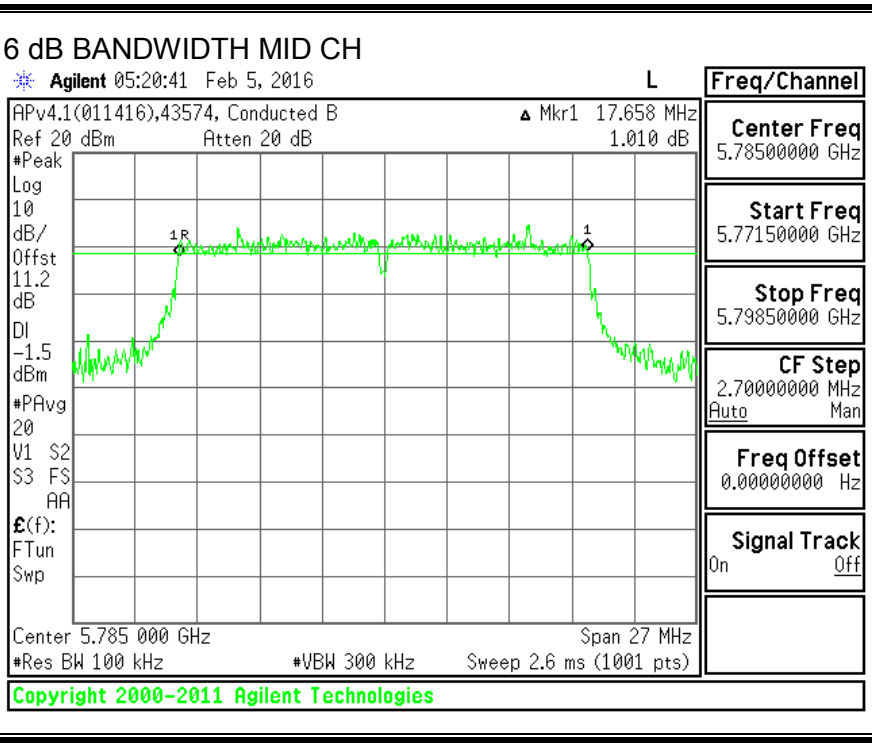
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	17.577	0.5
Mid	5785	17.658	0.5
High	5825	17.631	0.5

6 dB BANDWIDTH

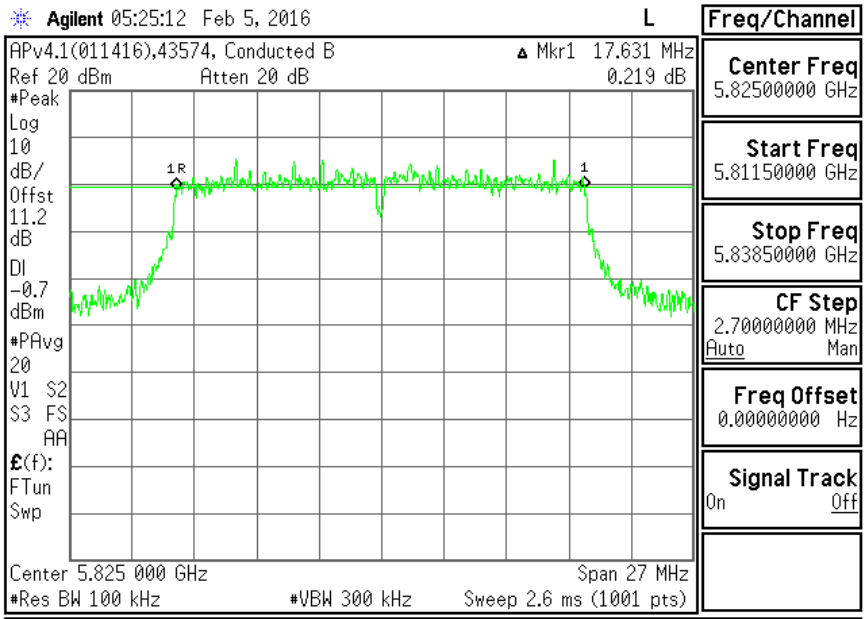
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



9.21.2. 99% BANDWIDTH

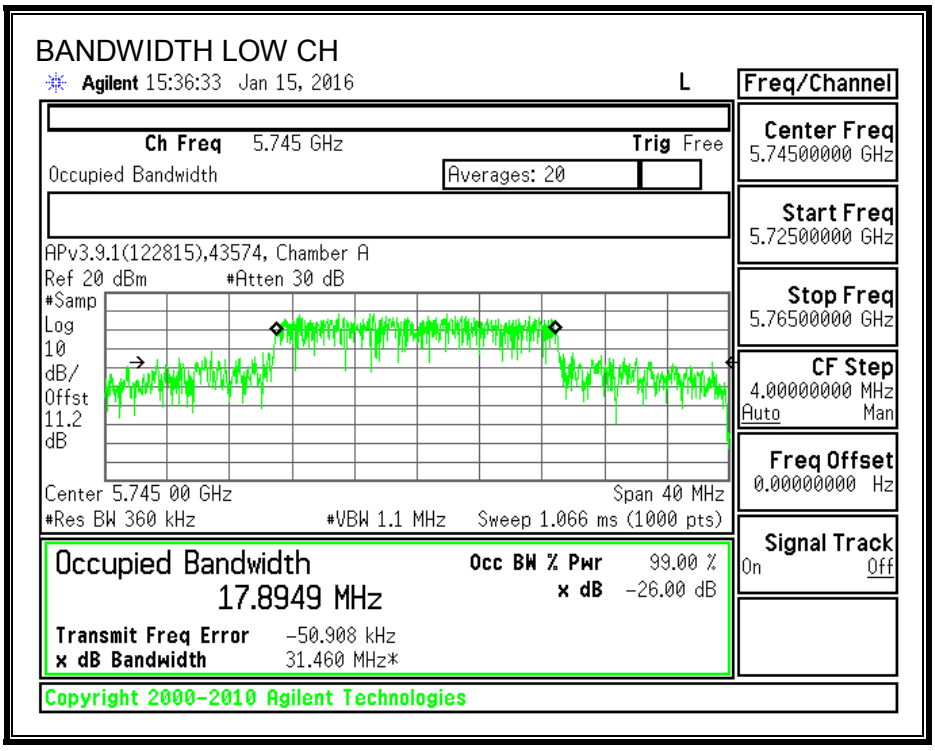
LIMITS

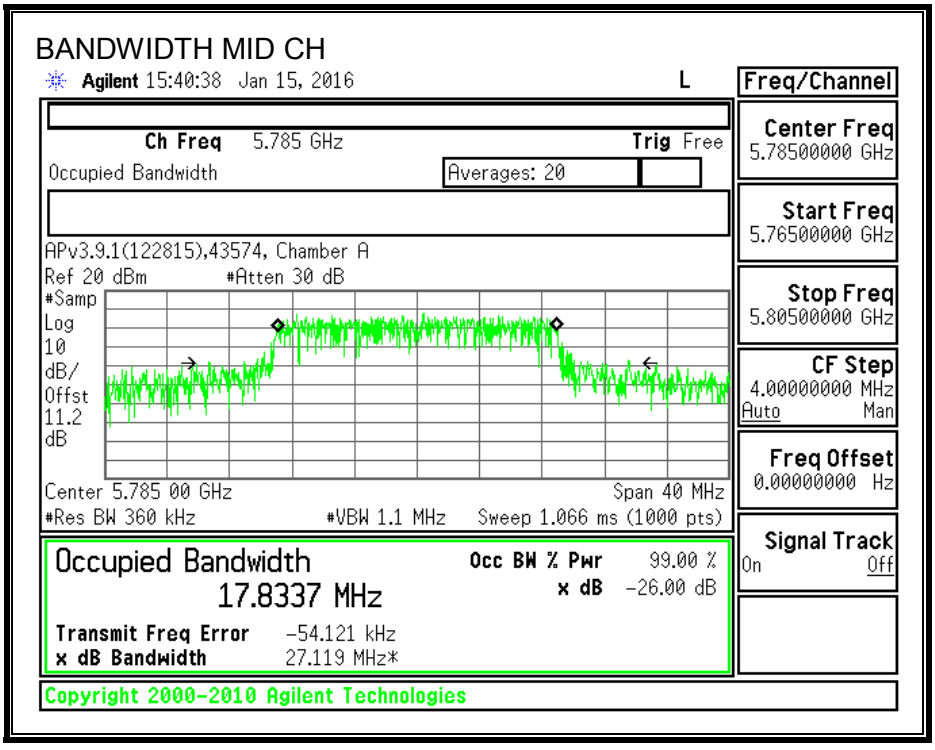
None; for reporting purposes only.

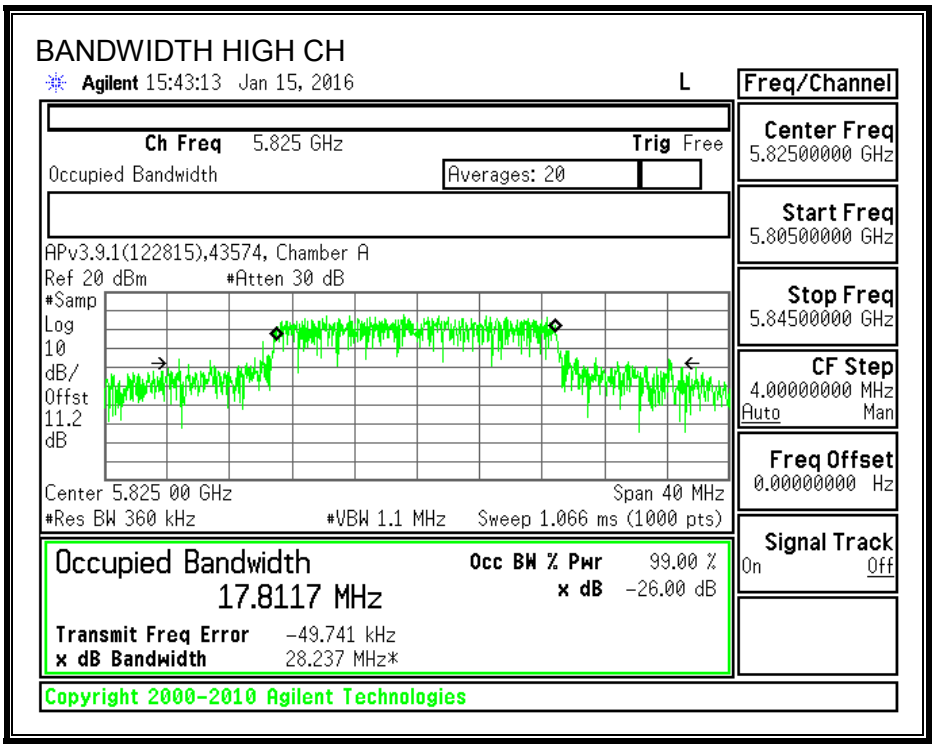
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.8949
Mid	5785	17.8337
High	5825	17.8117

99% BANDWIDTH







9.21.3. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Power Limit (dBm)
Low	5745	3.27	30.00
Mid	5785	3.27	30.00
High	5825	3.27	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.10	15.10	30.00	-14.90
Mid	5785	17.65	17.65	30.00	-12.35
High	5825	18.01	18.01	30.00	-11.99

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.21.4. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	3.27	30.00
Mid	5785	3.27	30.00
High	5825	3.27	30.00

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

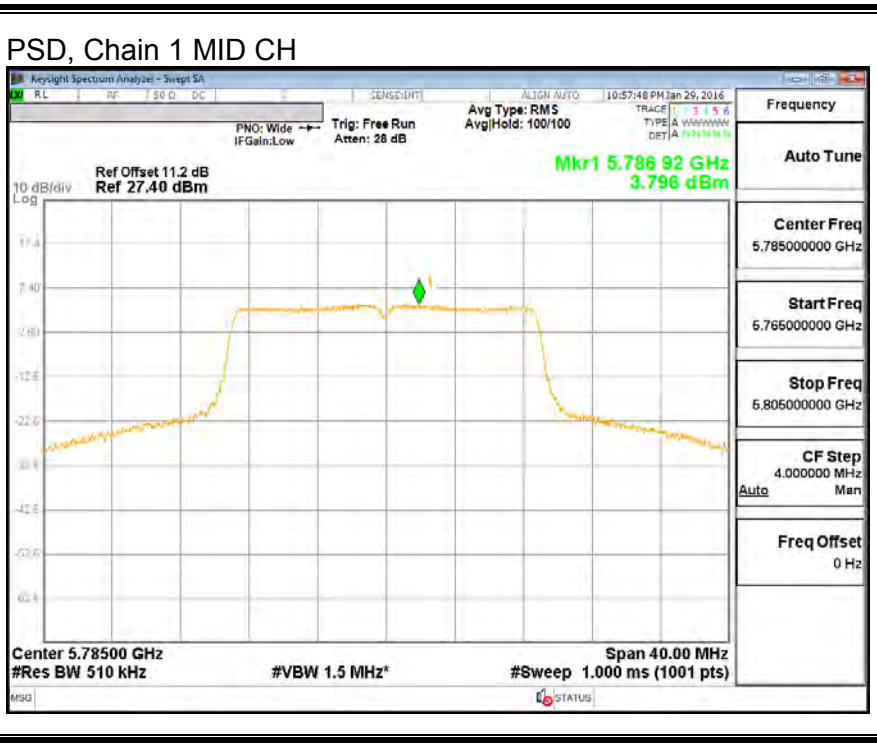
PSD Results

Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	1.030	1.030	30.00	-28.97
Mid	5785	3.796	3.796	30.00	-26.20
High	5825	4.615	4.615	30.00	-25.39

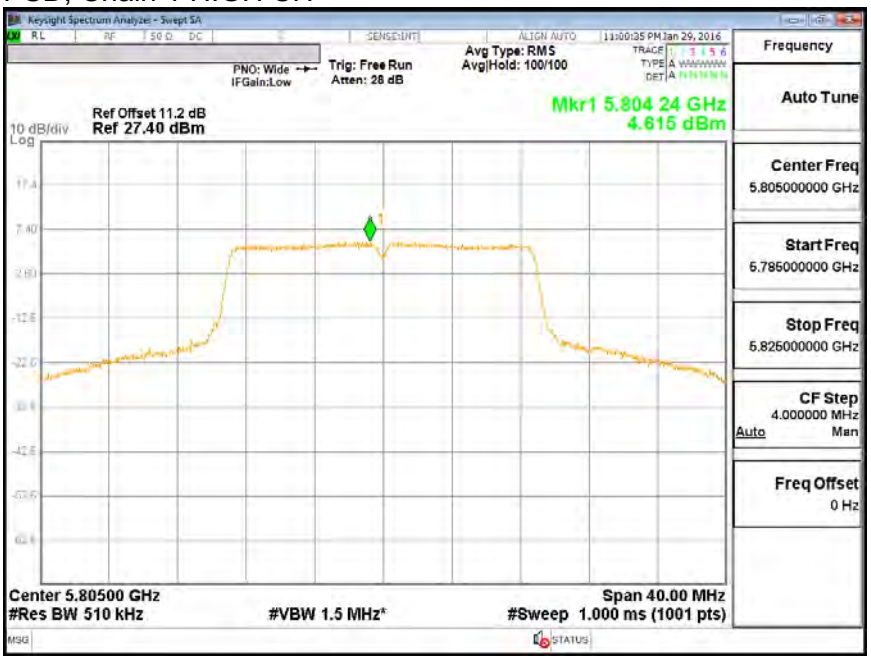
PSD, Chain 1

PSD, Chain 1 LOW CH

PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



9.22. 802.11n HT20 CDD 3TX MODE IN THE 5.8 GHz BAND

9.22.1. 6 dB BANDWIDTH

LIMITS

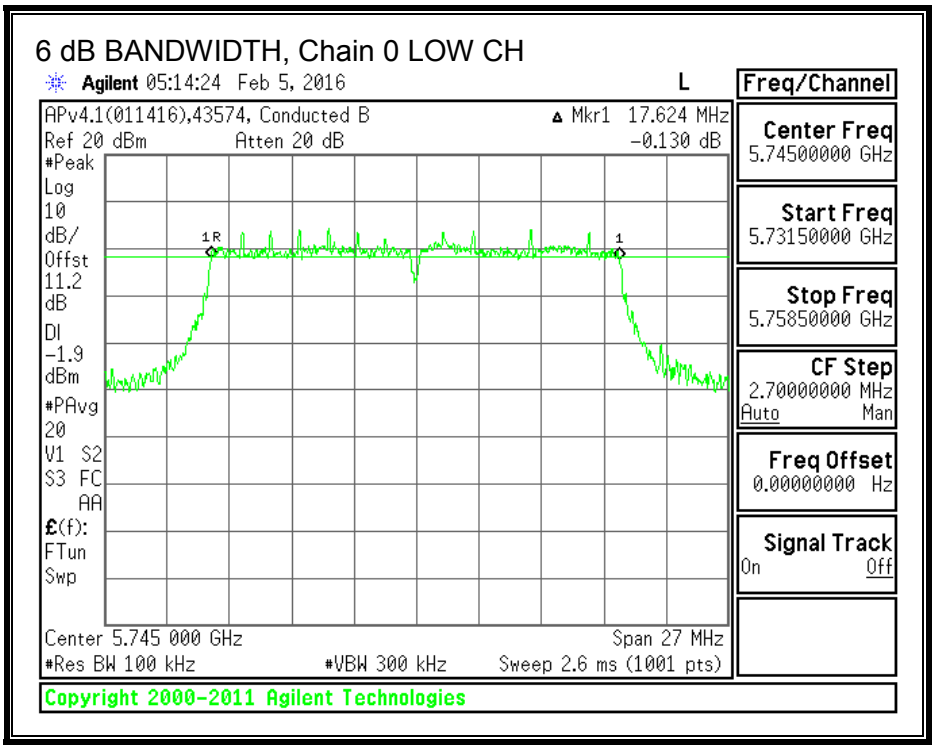
FCC §15.407 (e)

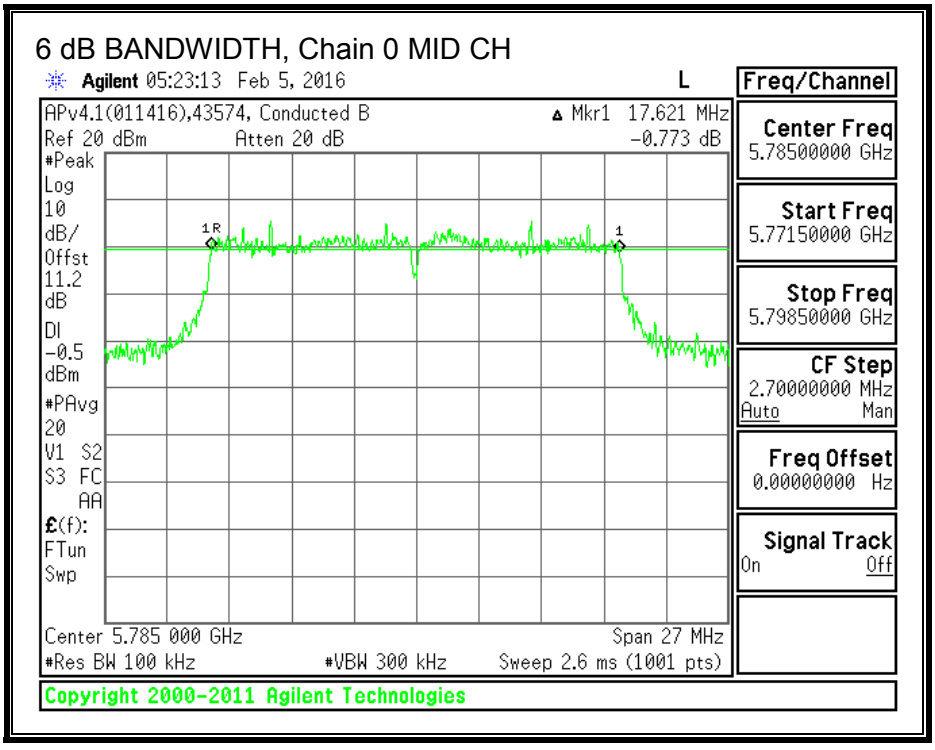
The minimum 6 dB bandwidth shall be at least 500 kHz.

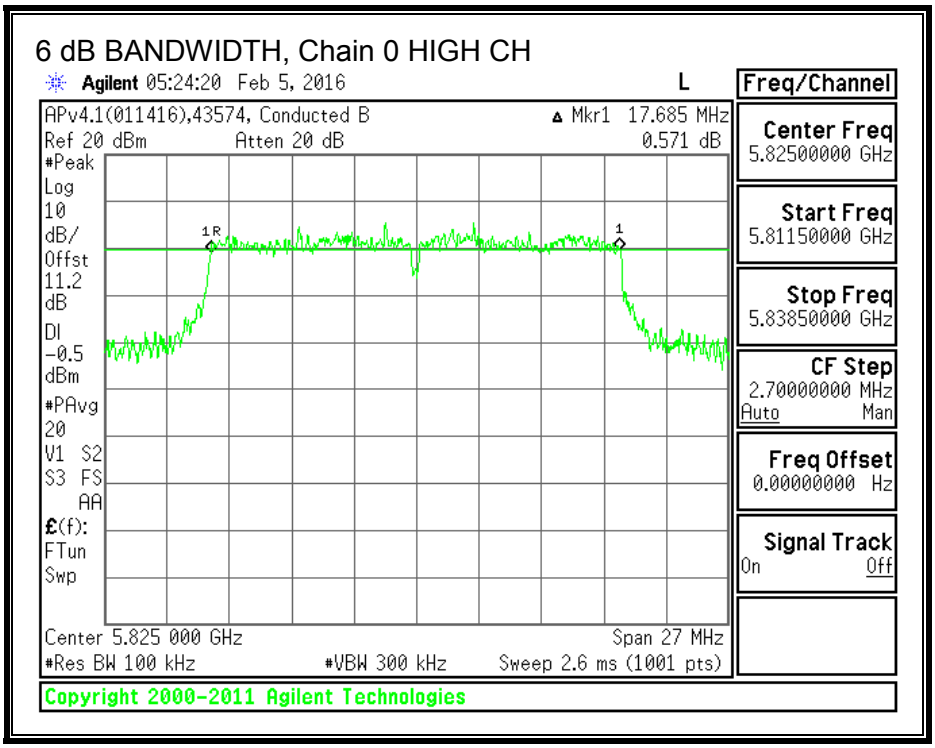
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	5745	17.6240	17.5770	17.5700	0.5
Mid	5785	17.6210	17.6580	17.7660	0.5
High	5825	17.6850	17.6310	17.6760	0.5

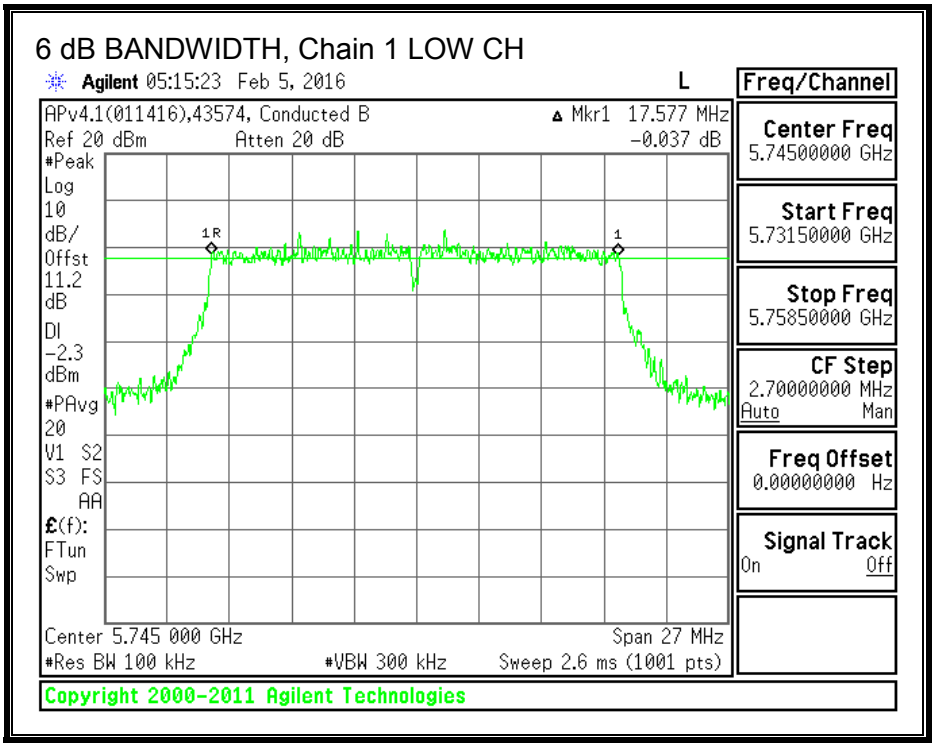
6 dB BANDWIDTH, Chain 0

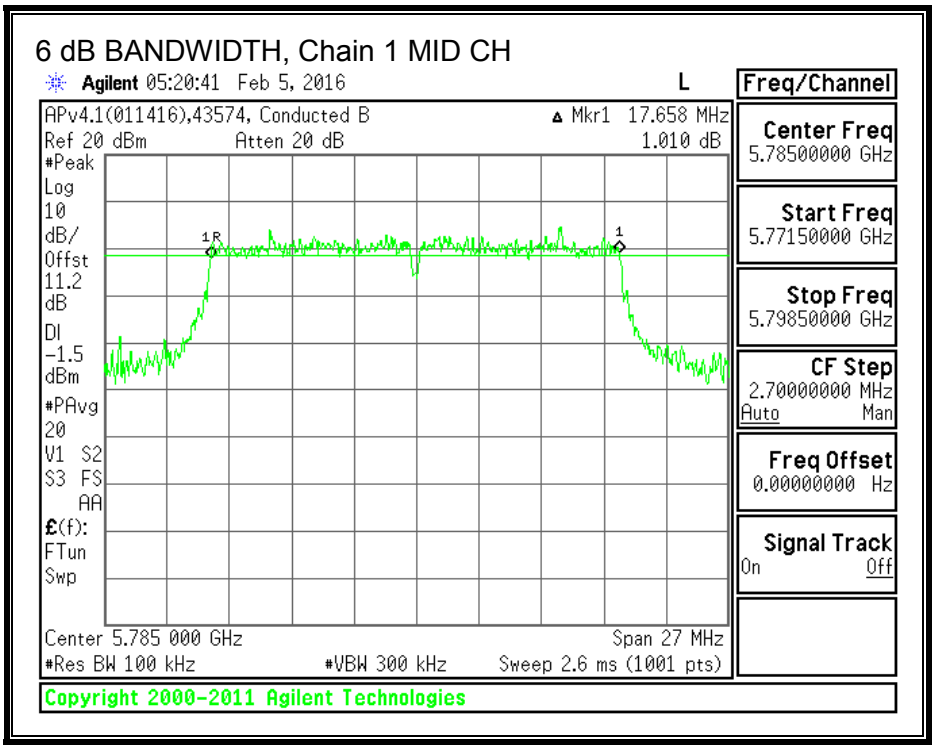


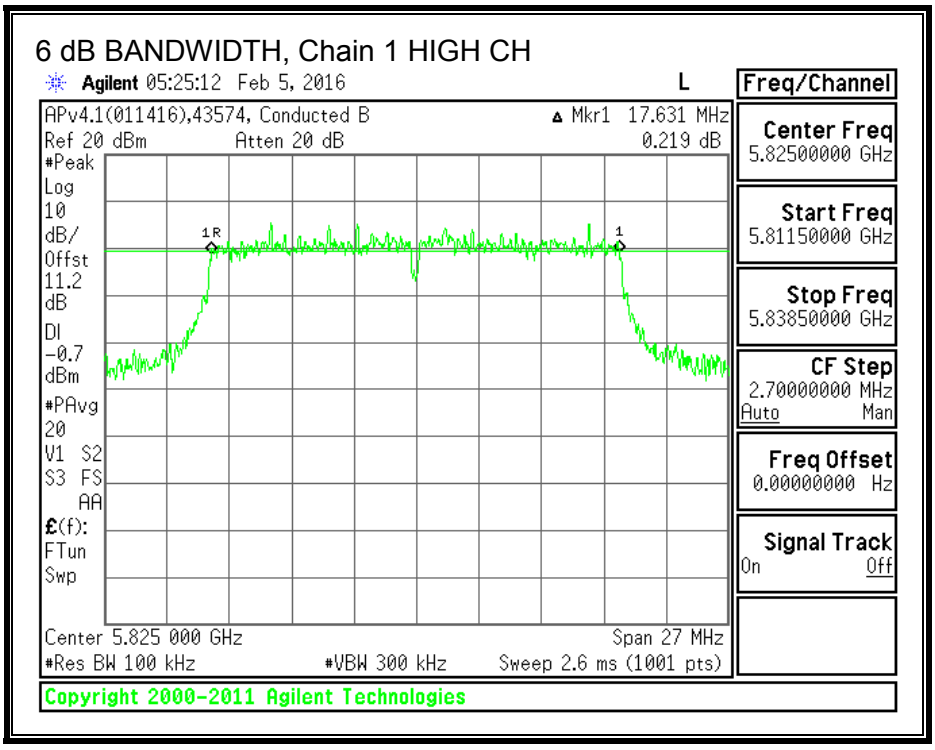




6 dB BANDWIDTH, Chain 1

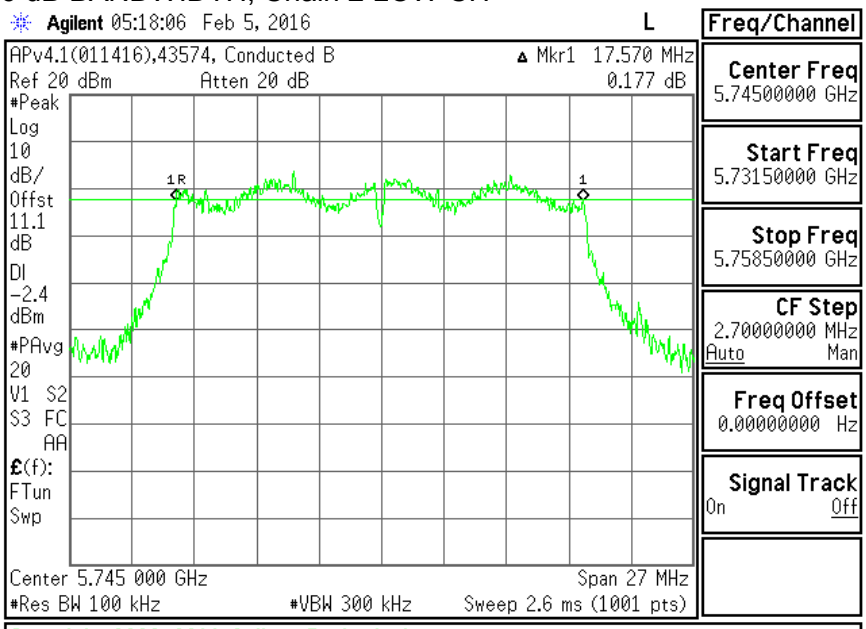




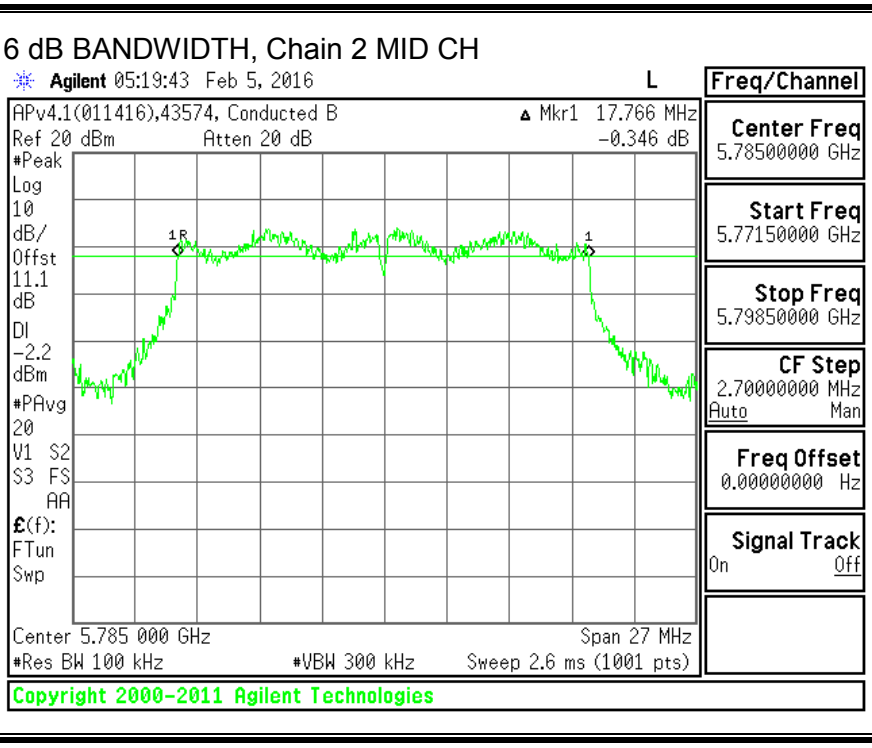


6 dB BANDWIDTH, Chain 2

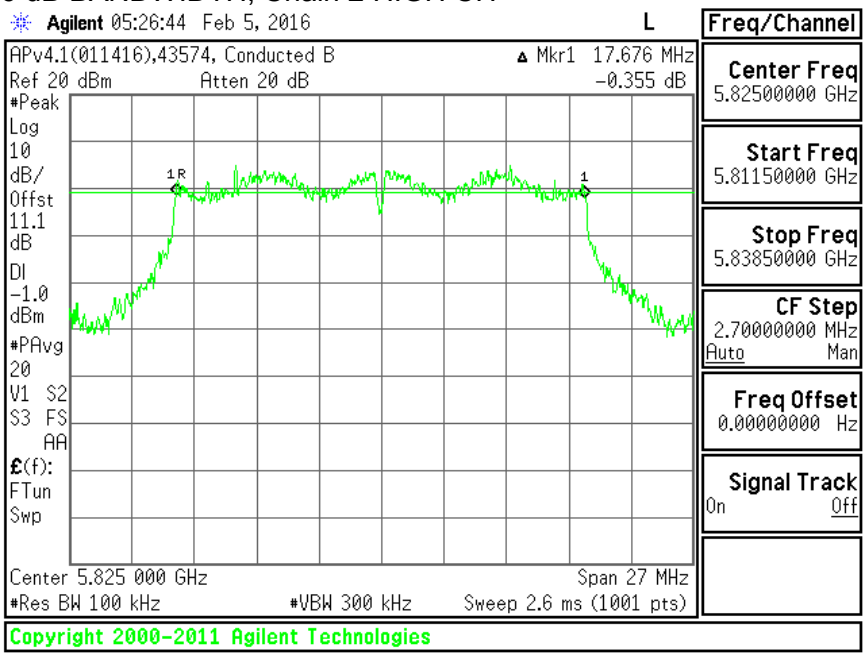
6 dB BANDWIDTH, Chain 2 LOW CH



6 dB BANDWIDTH, Chain 2 MID CH



6 dB BANDWIDTH, Chain 2 HIGH CH



9.22.2. 99% BANDWIDTH

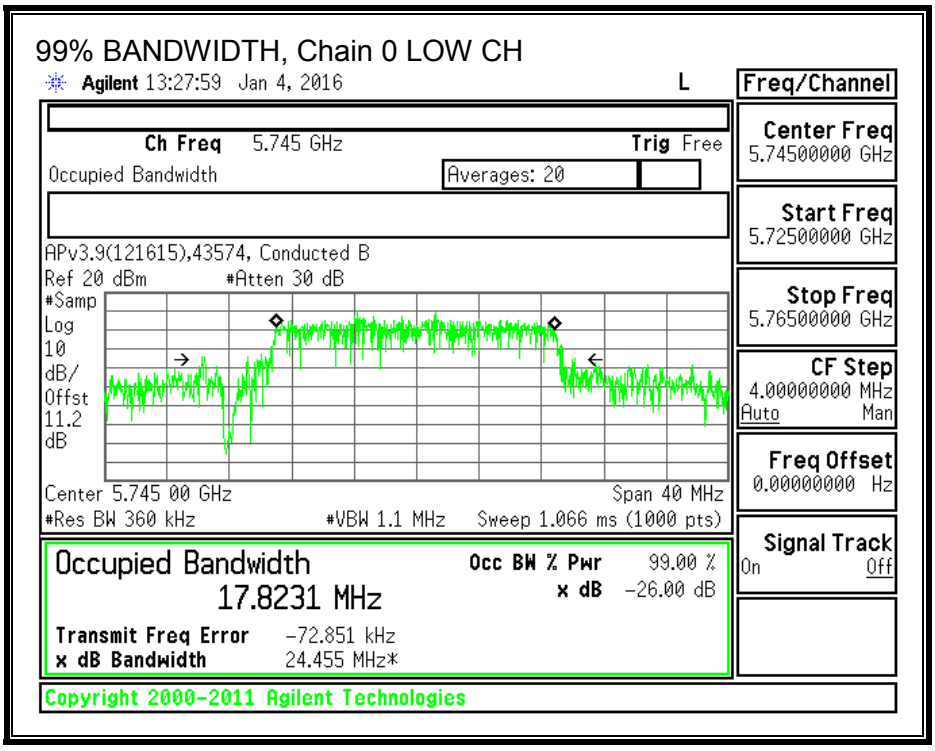
LIMITS

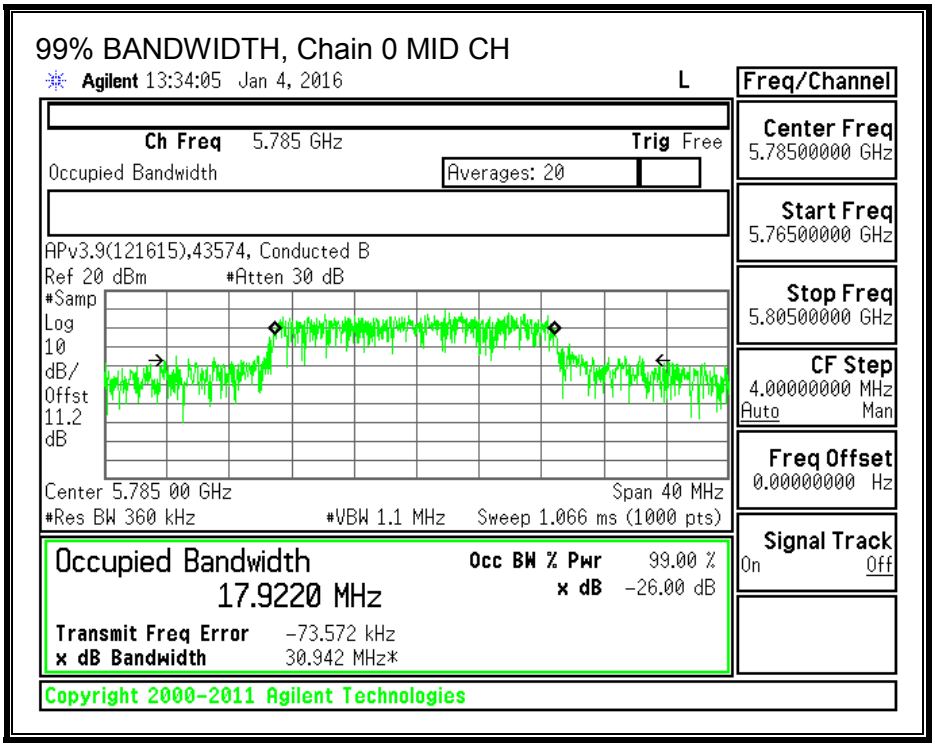
None; for reporting purposes only.

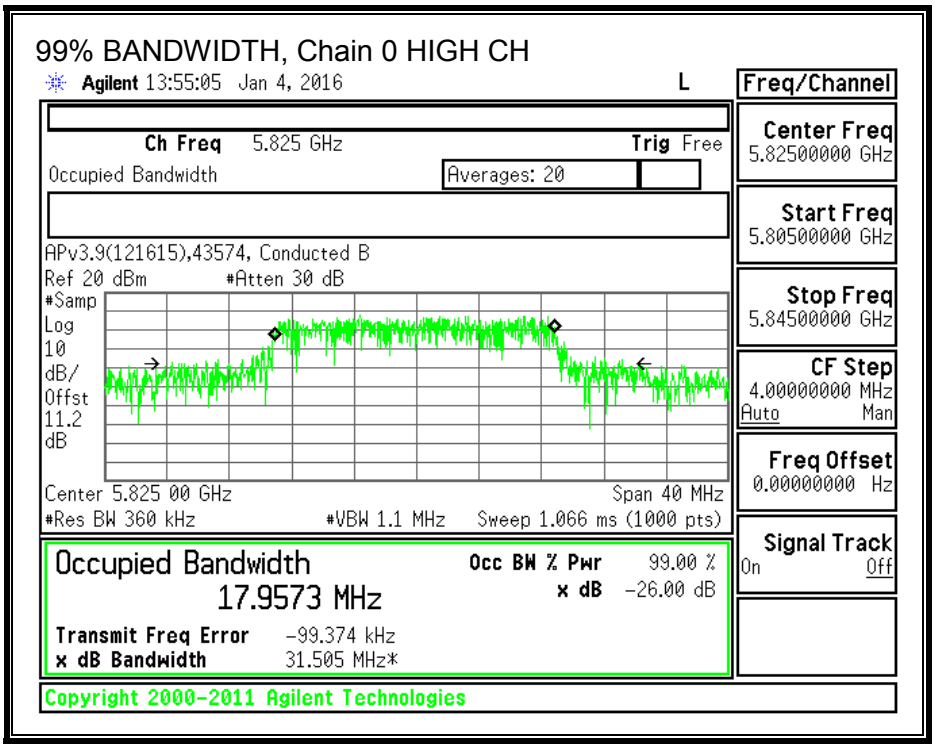
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5745	17.8231	17.9160	17.7597
Mid	5785	17.9220	17.8031	17.7837
High	5825	17.9573	17.8289	17.7065

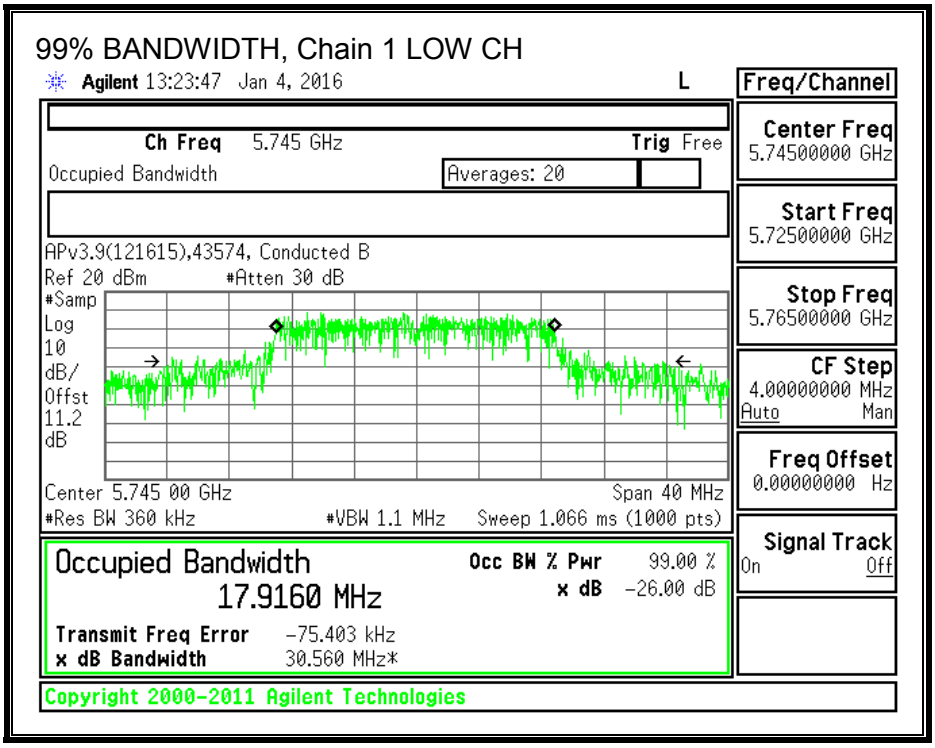
99% BANDWIDTH, Chain 0

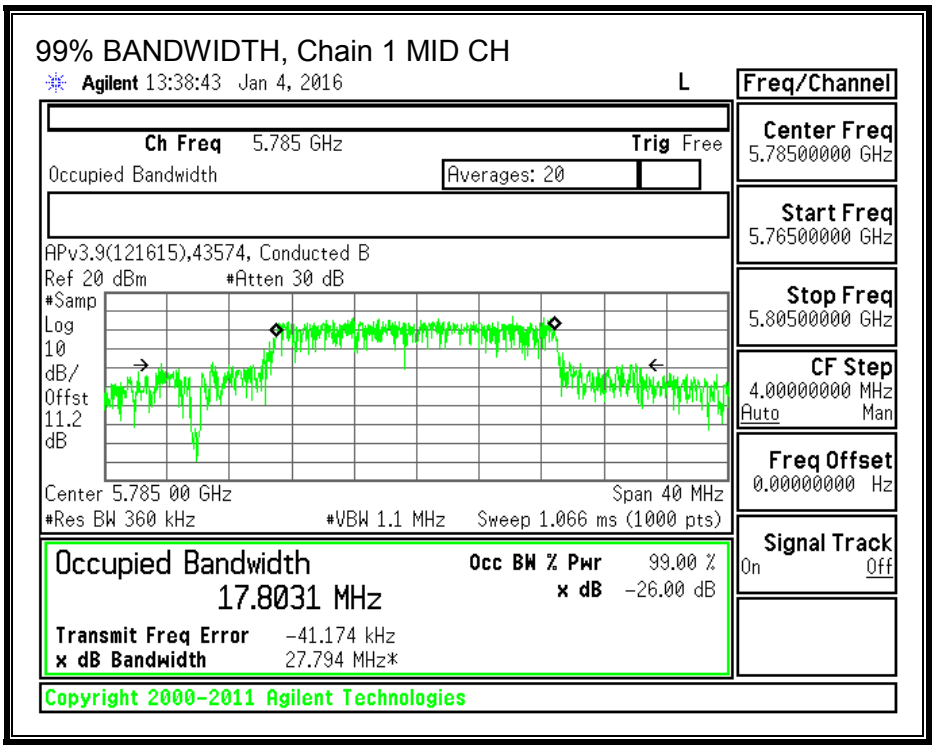


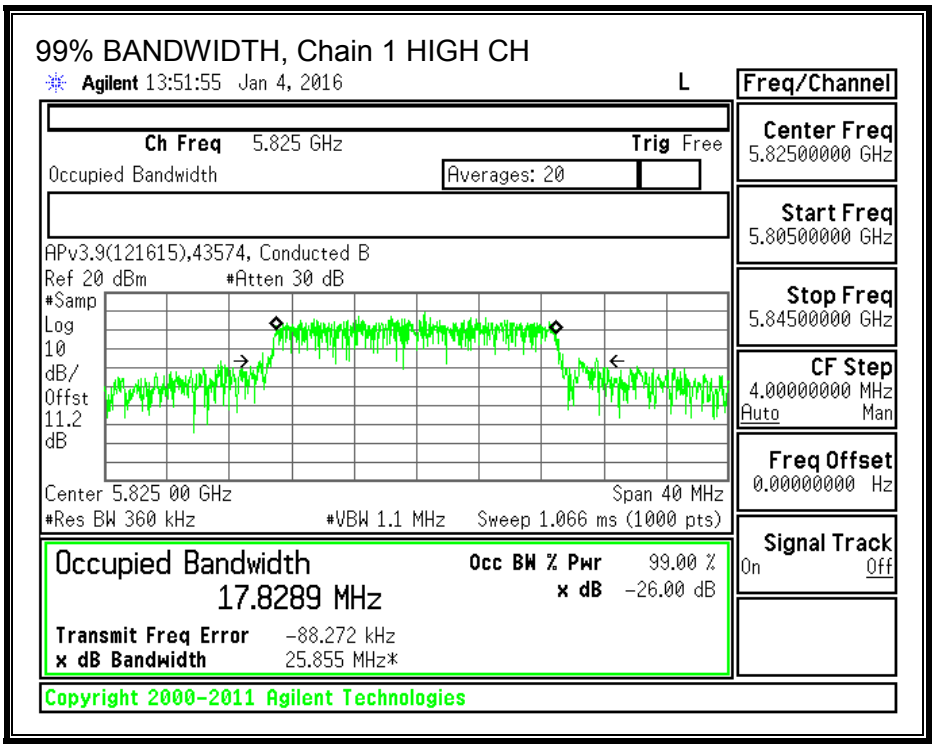




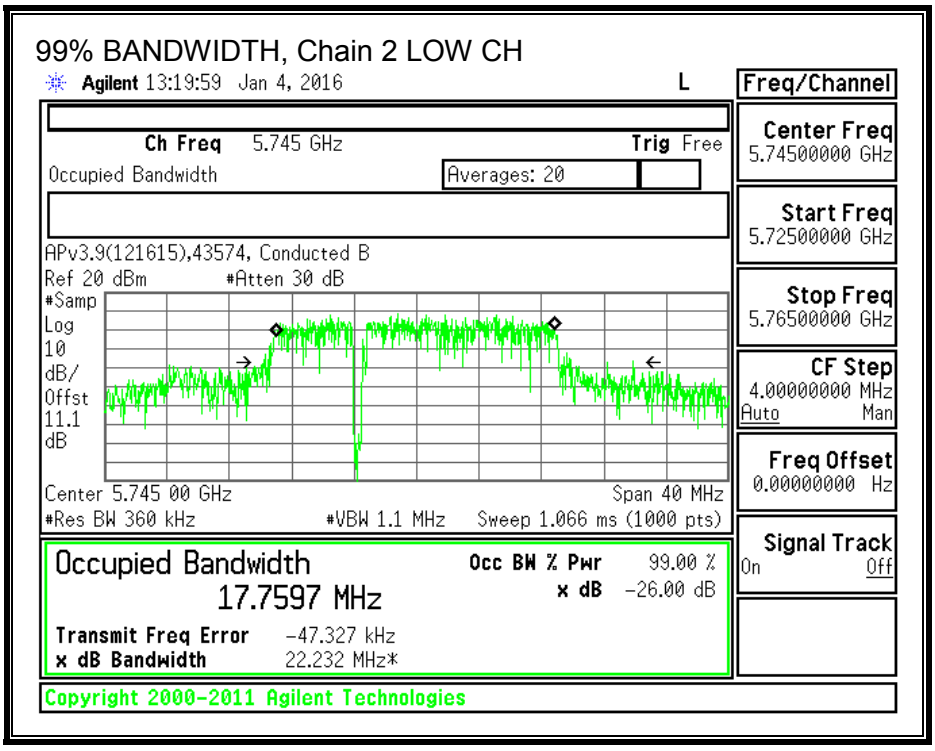
99% BANDWIDTH, Chain 1

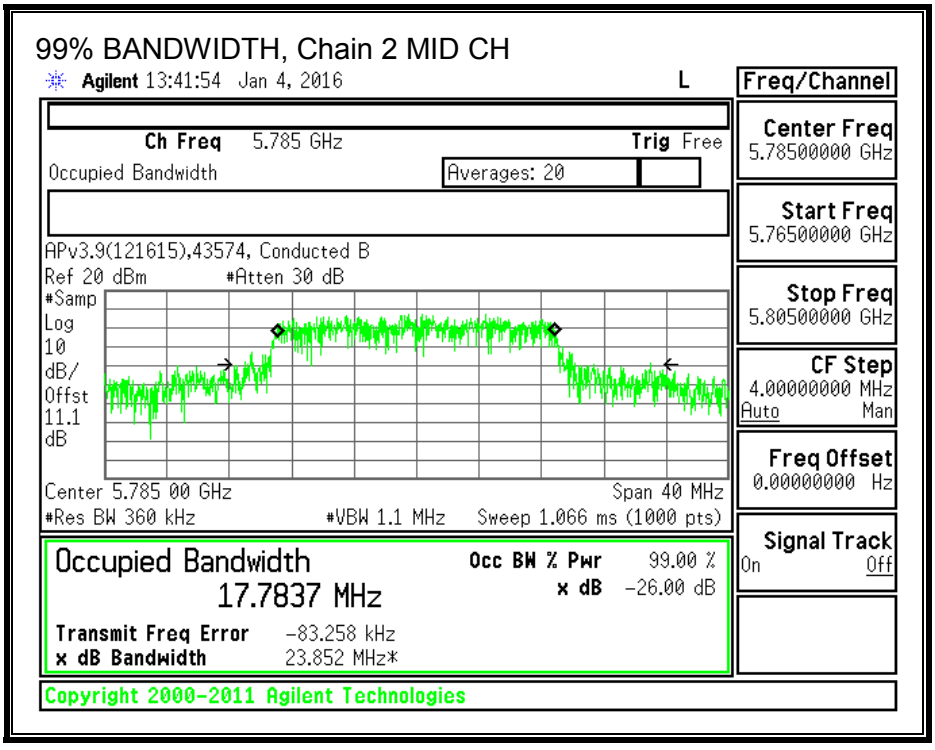


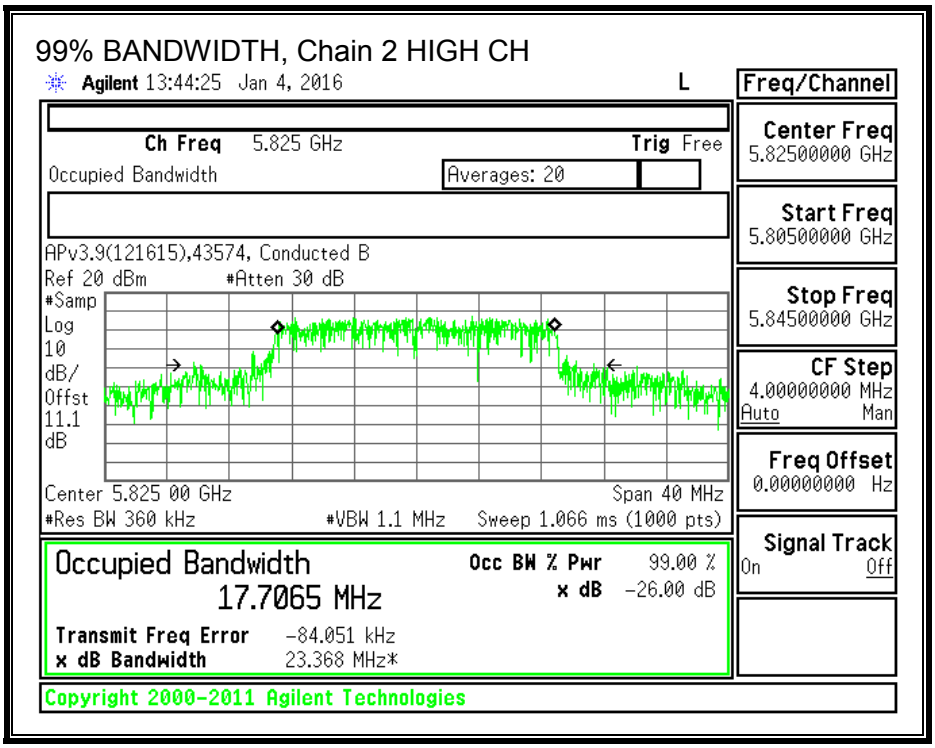




99% BANDWIDTH, Chain 2







9.22.3. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

For 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)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.56	3.27	2.89	3.63

For PSD, 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)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.56	3.27	2.89	8.37

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5745	3.63	30.00
Mid	5785	3.63	30.00
High	5825	3.63	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.35	14.75	15.08	19.84	30.00	-10.16
Mid	5785	17.30	16.80	16.98	21.80	30.00	-8.20
High	5825	17.46	16.81	17.54	22.05	30.00	-7.95

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.22.4. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

For 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)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.56	3.27	2.89	3.63

For PSD, 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)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.56	3.27	2.89	8.37

RESULTS

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5745	8.37	27.63
Mid	5785	8.37	27.63
High	5825	8.37	27.63

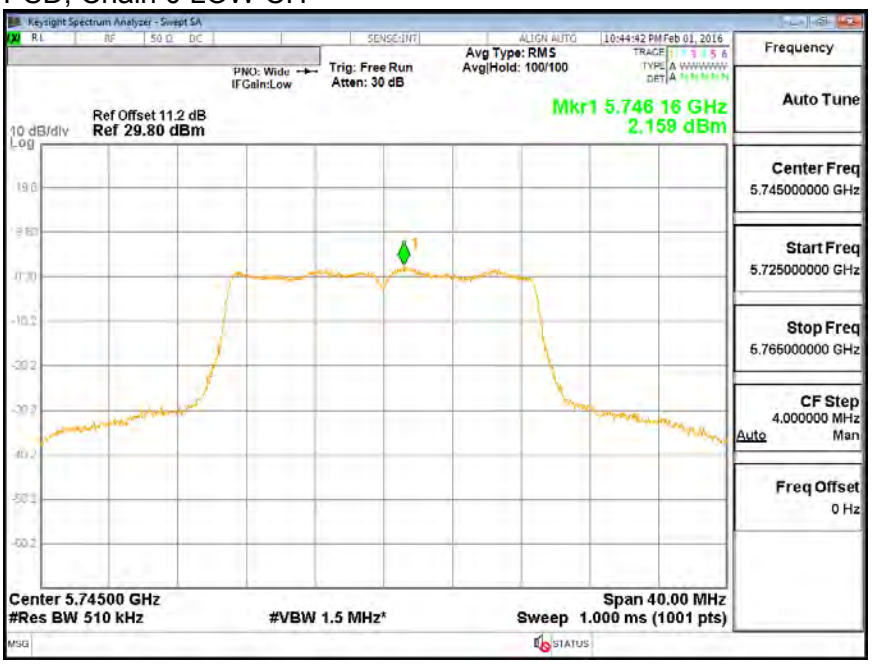
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

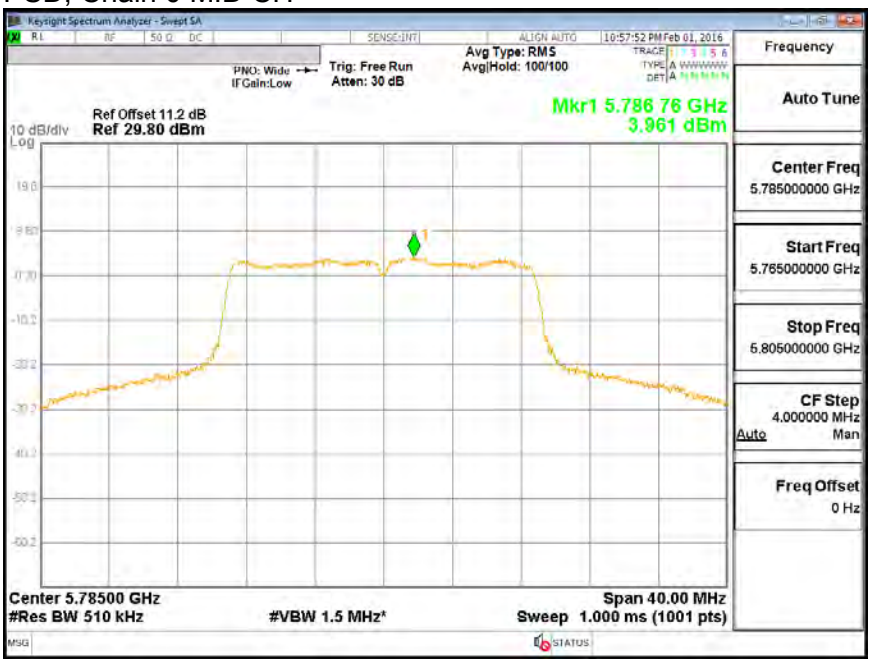
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	2.159	1.001	2.891	6.857	27.63	-20.77
Mid	5785	3.961	3.214	5.200	8.975	27.63	-18.66
High	5825	3.983	3.173	5.200	8.971	27.63	-18.66

PSD, Chain 0

PSD, Chain 0 LOW CH



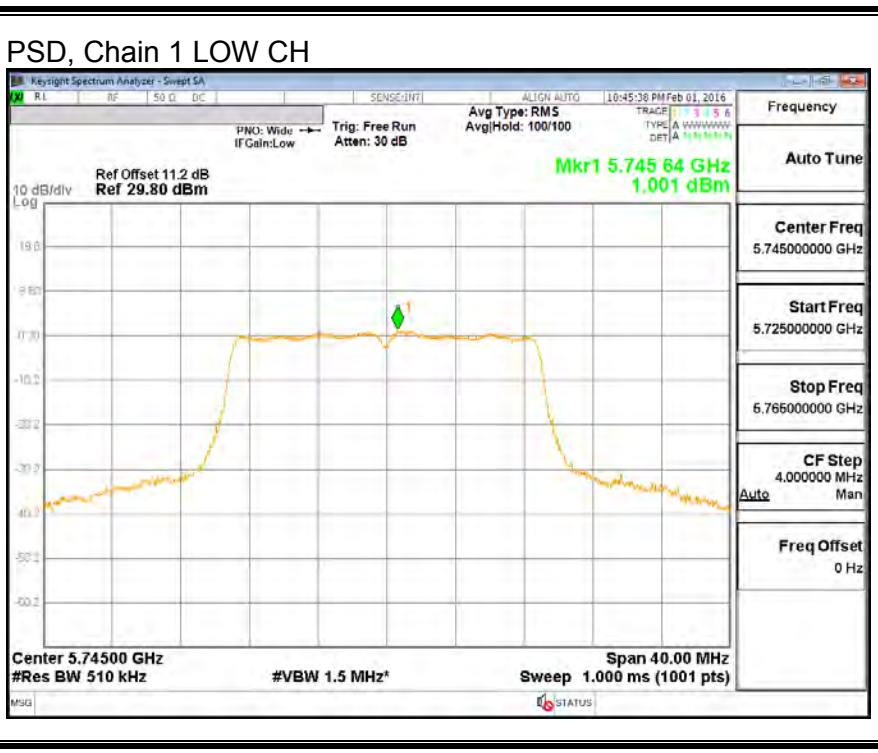
PSD, Chain 0 MID CH



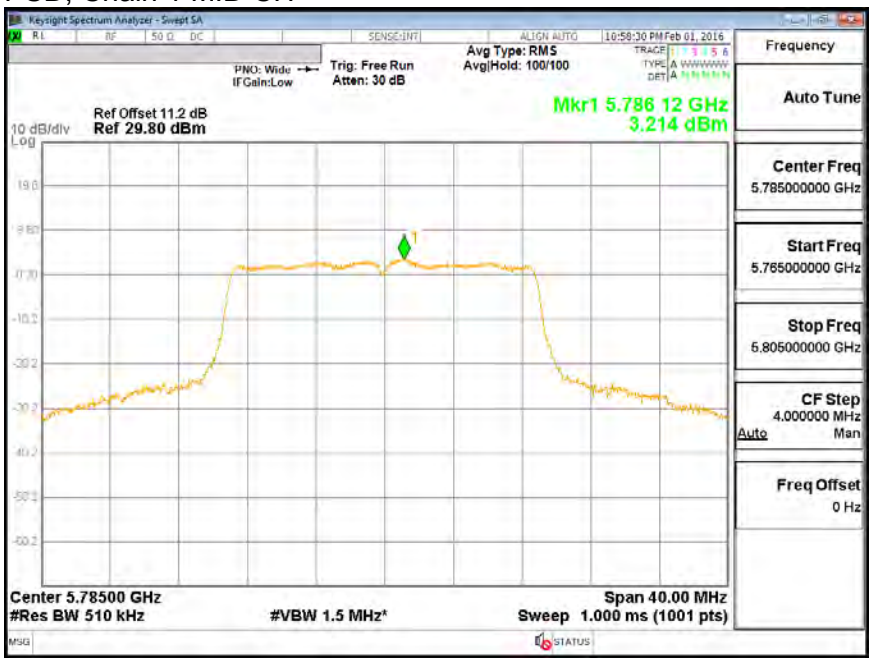
PSD, Chain 0 HIGH CH

PSD, Chain 1

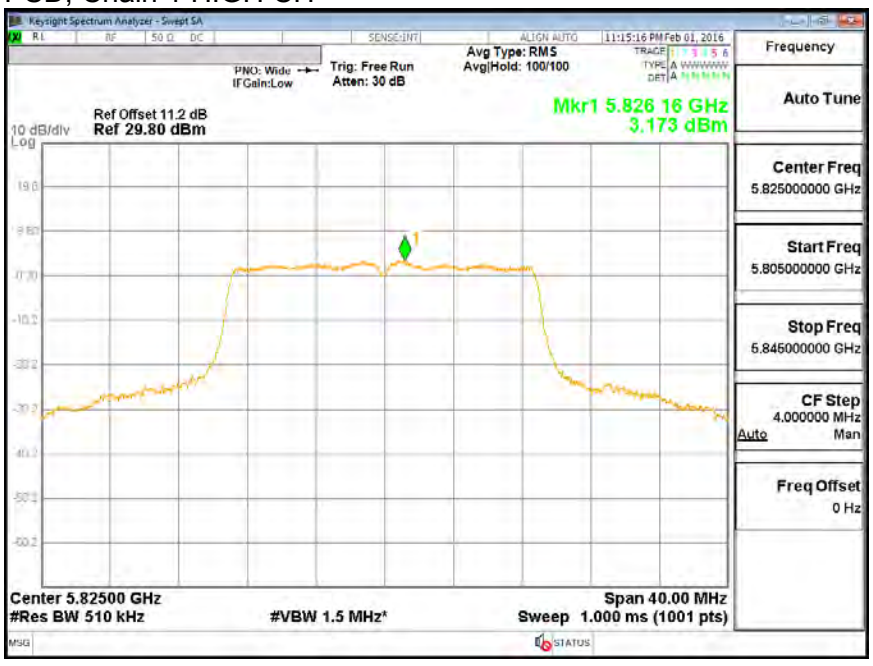
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



PSD, Chain 2

PSD, Chain 2 LOW CH

PSD, Chain 2 MID CH

PSD, Chain 2 HIGH CH

9.23. 802.11n HT40 SISO MODE IN THE 5.8 GHz BAND

9.23.1. 6 dB BANDWIDTH

LIMITS

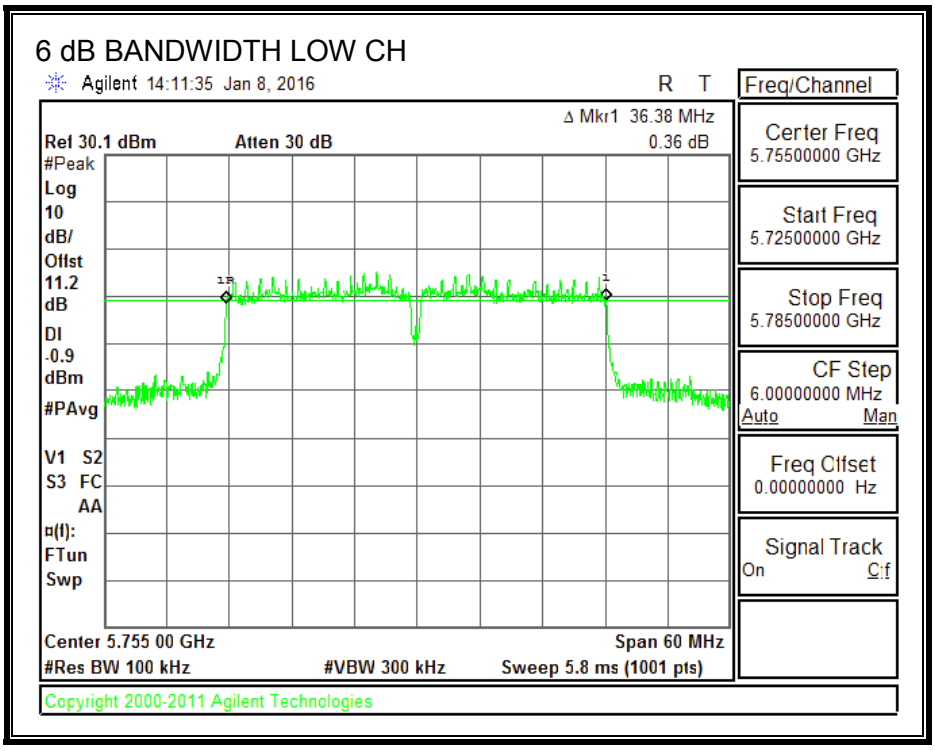
FCC §15.407 (e)

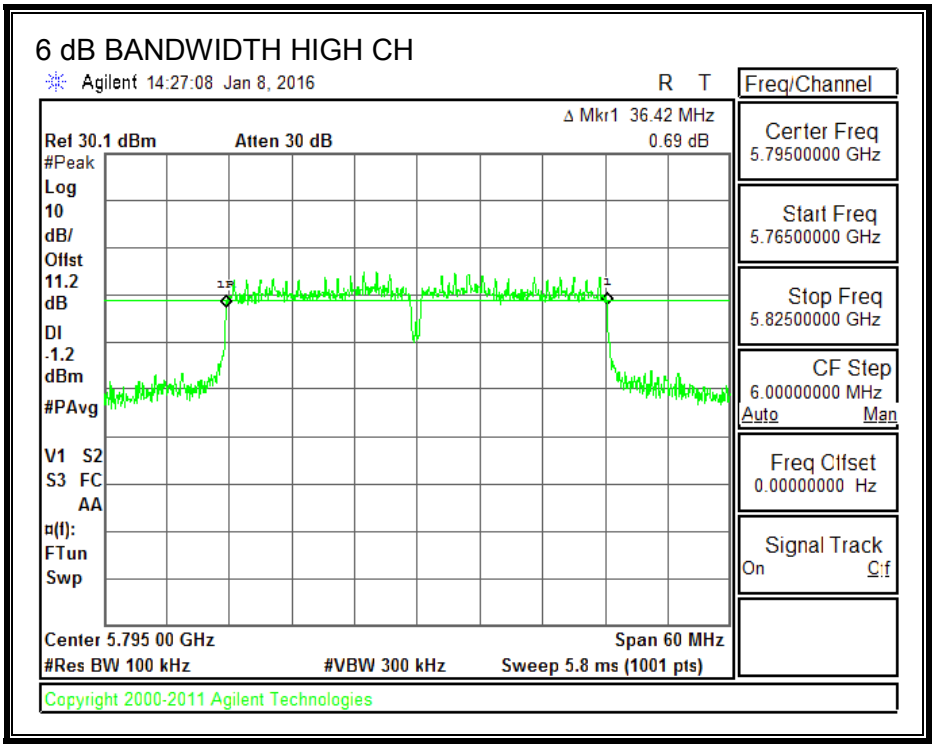
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.3800	0.5
High	5795	36.4200	0.5

6 dB BANDWIDTH





9.23.2. 99% BANDWIDTH

LIMITS

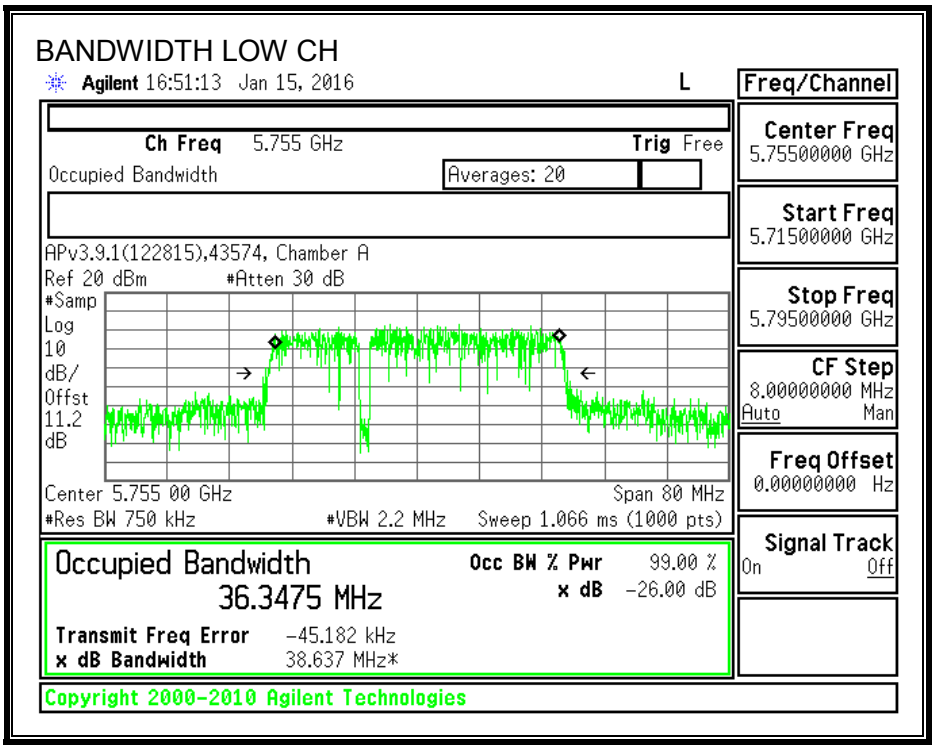
None; for reporting purposes only.

RESULTS

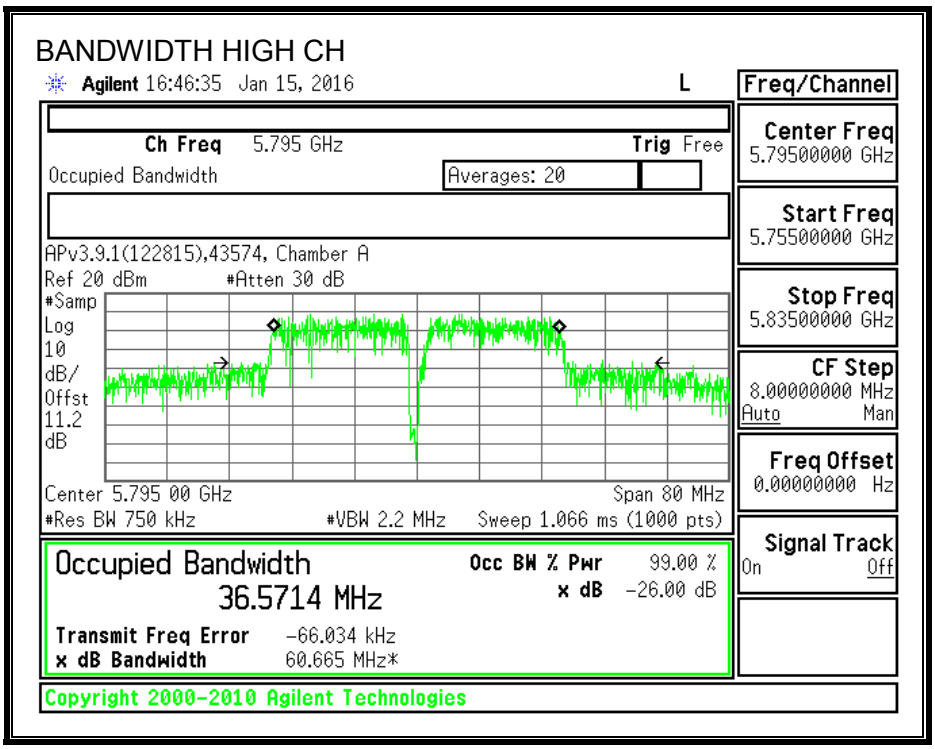
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	36.3475
High	5795	36.5714

99% BANDWIDTH

BANDWIDTH LOW CH



BANDWIDTH HIGH CH



9.23.3. OUTPUT POWER

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

OUTPUT POWER, Chain 0

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)
Low	5755	3.27	30.00
High	5795	3.27	30.00

Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.73	11.73	30.00	-18.27
High	5795	18.23	18.23	30.00	-11.77

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9.23.4. Maximum Power Spectral Density (PSD)

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

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

RESULTS

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	PSD Limit (dBm)
Low	5755	3.27	30.00
High	5795	3.27	30.00

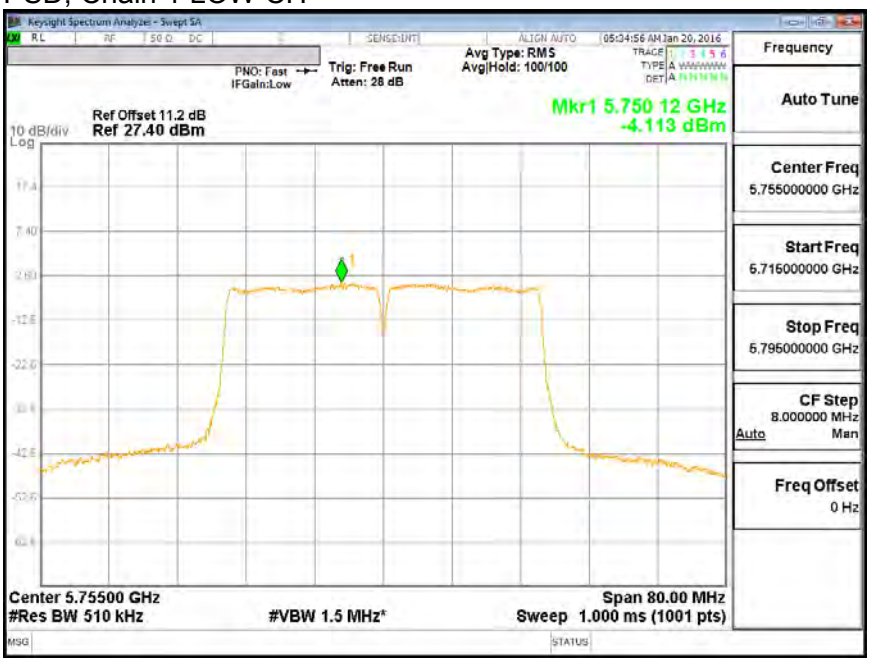
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

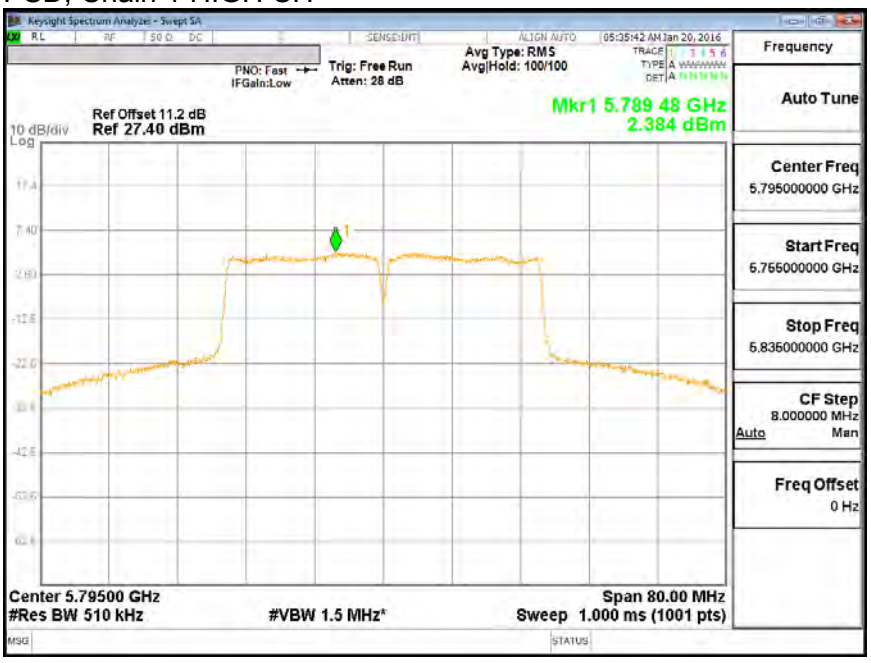
Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-4.113	-4.113	30.00	-34.11
High	5795	2.384	2.384	30.00	-27.62

PSD, Chain 1

PSD, Chain 1 LOW CH



PSD, Chain 1 HIGH CH



9.24. 802.11n HT40 CDD 3TX MODE IN THE 5.8 GHz BAND

9.24.1. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

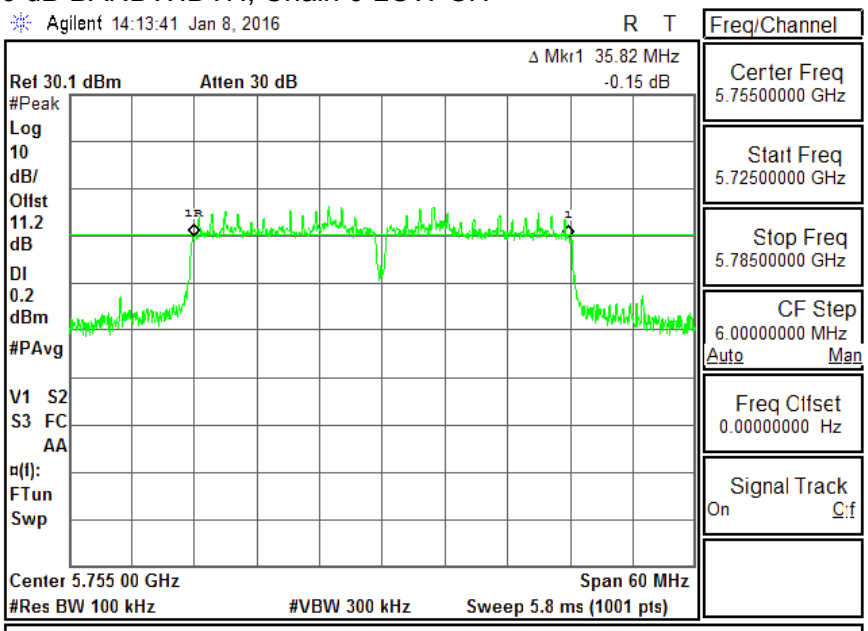
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

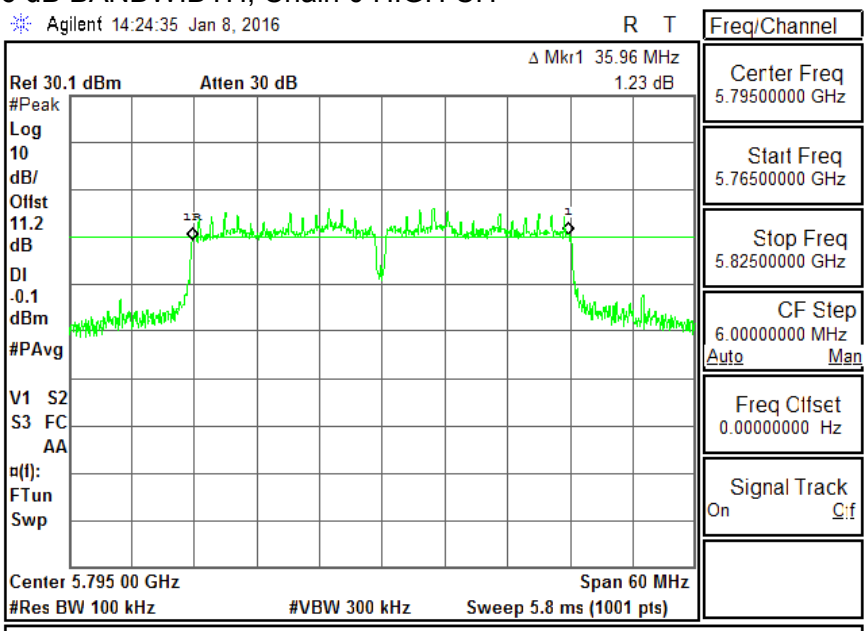
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	5755	35.8200	36.3800	35.6600	0.5
High	5795	35.9600	36.4200	36.0000	0.5

6 dB BANDWIDTH, Chain 0

6 dB BANDWIDTH, Chain 0 LOW CH



6 dB BANDWIDTH, Chain 0 HIGH CH



6 dB BANDWIDTH, Chain 1