8.26.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.90	6.00	8.48

RESULTS

ID:	44366	Date:	9/12/16

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.44	36.319	8.48	8.48	24.00	8.52
High	5310	40.44	36.326	8.48	8.48	24.00	8.52

Duty Cycle CF (dB)	0.79	Included in Calculations of Corr'd PSD

Output Power Results

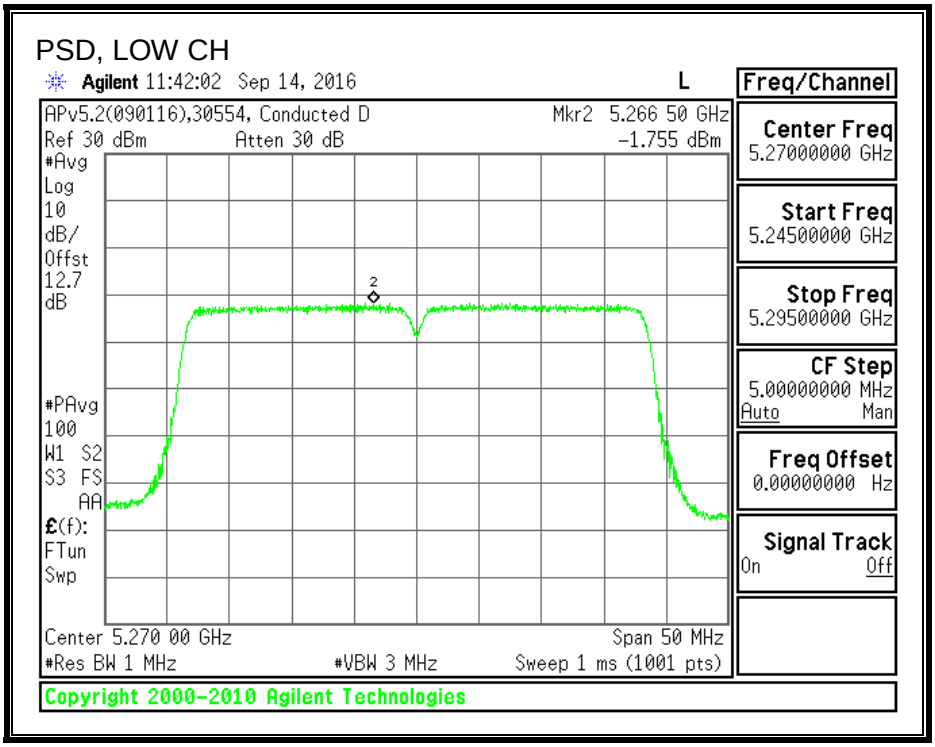
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.40	12.49	15.46	24.00	-8.54
High	5310	9.49	9.21	12.36	24.00	-11.64

PSD Results

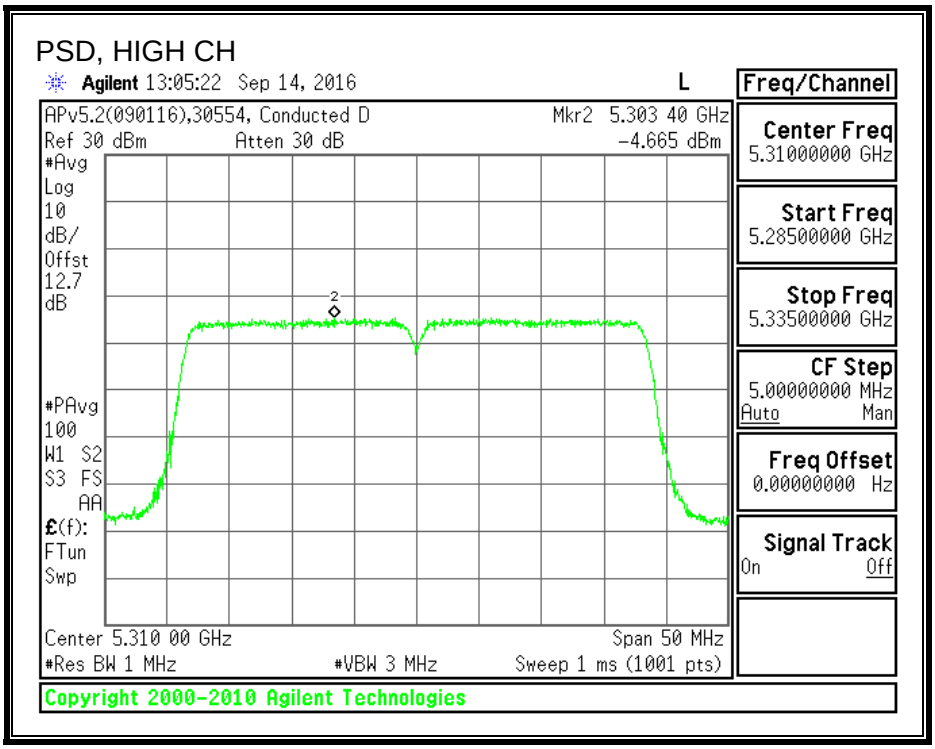
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-1.76	-1.44	2.21	8.52	-6.32
High	5310	-4.67	-4.09	-0.57	8.52	-9.09

PSD, CHAIN 0

PSD, LOW CH

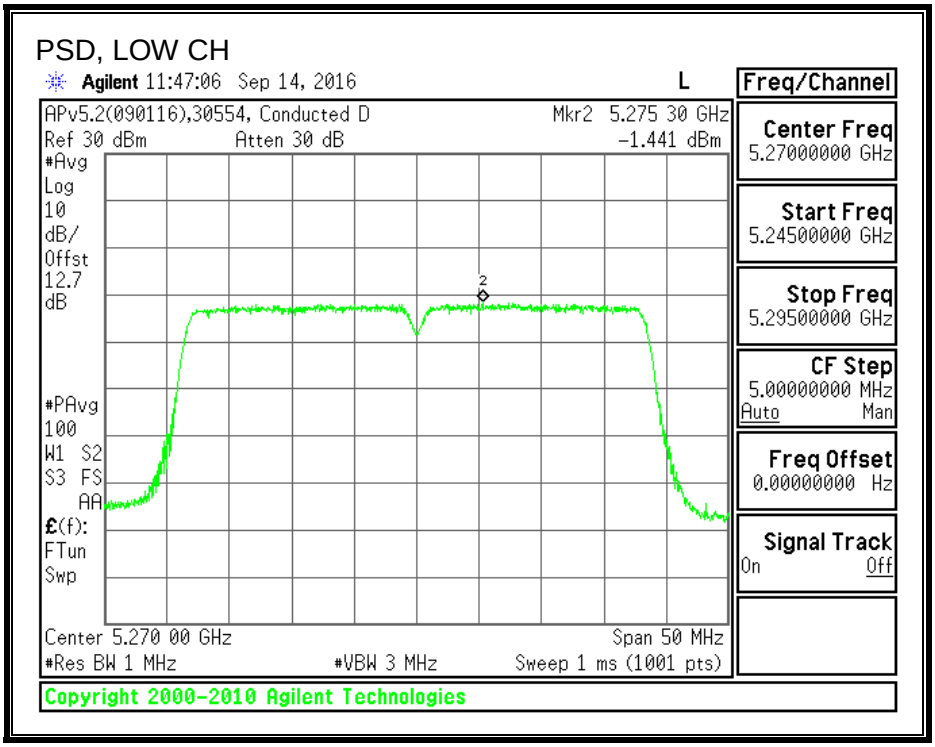


PSD, HIGH CH

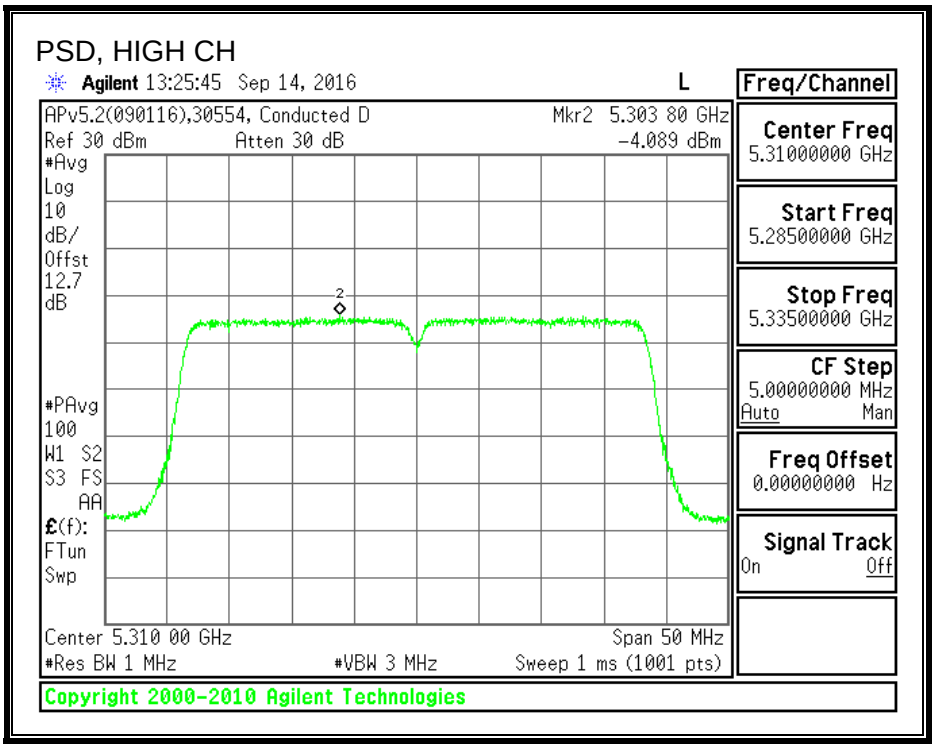


PSD, CHAIN 2

PSD, LOW CH



PSD, HIGH CH



8.27. 802.11ac VHT40 2Tx (CHAIN 1 + CHAIN 2) BEAM FORMING MODE IN THE 5.3 GHz BAND

8.27.1. **26 dB BANDWIDTH**

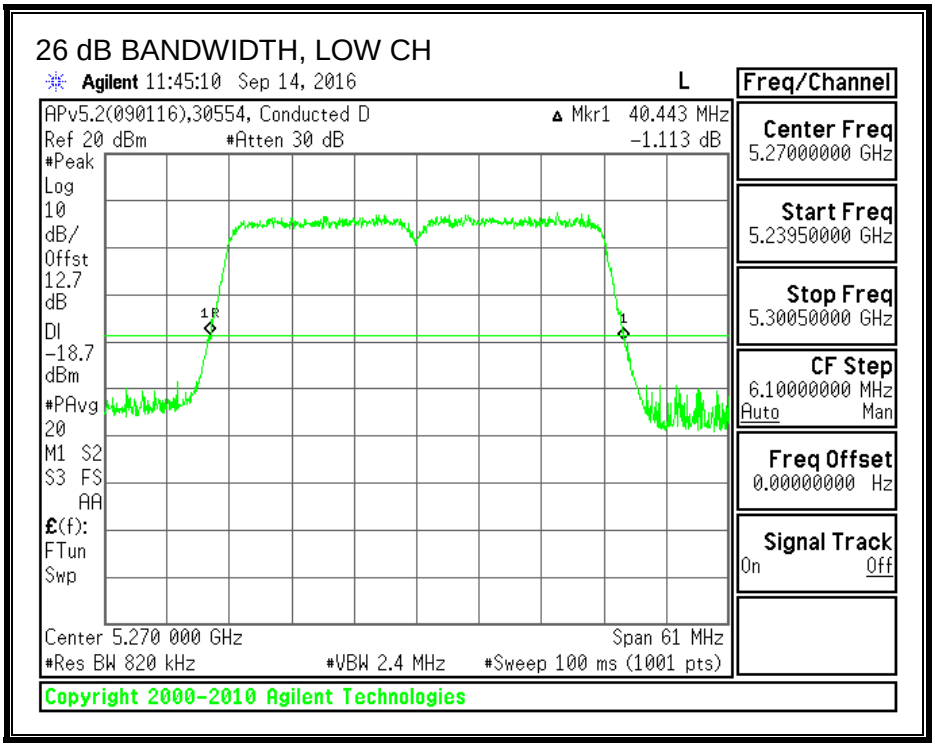
LIMITS

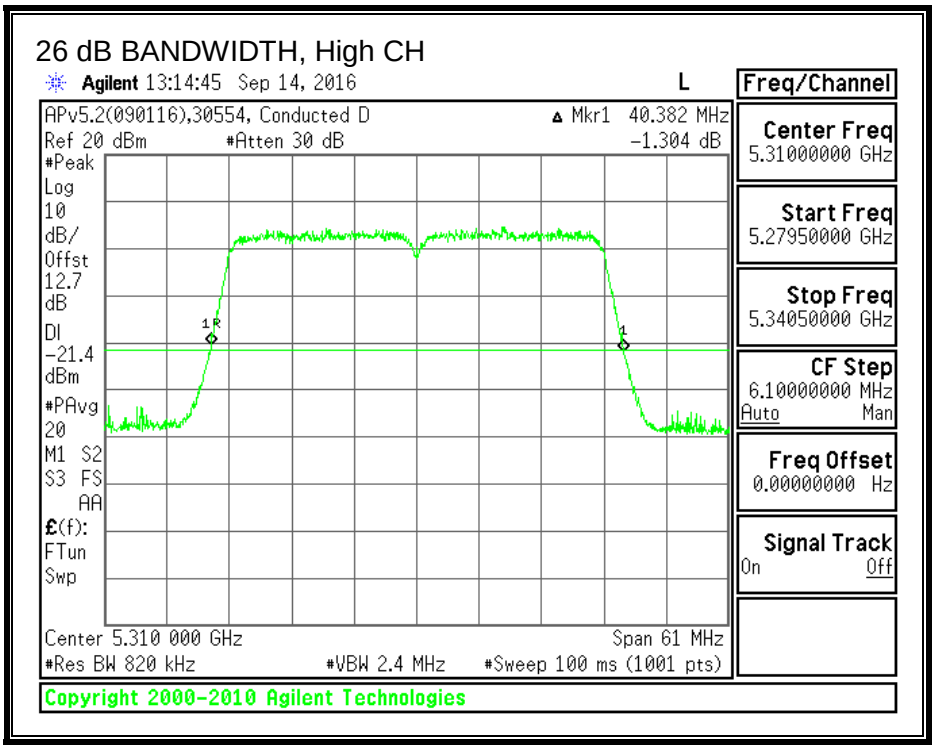
None; for reporting purposes only.

RESULTS

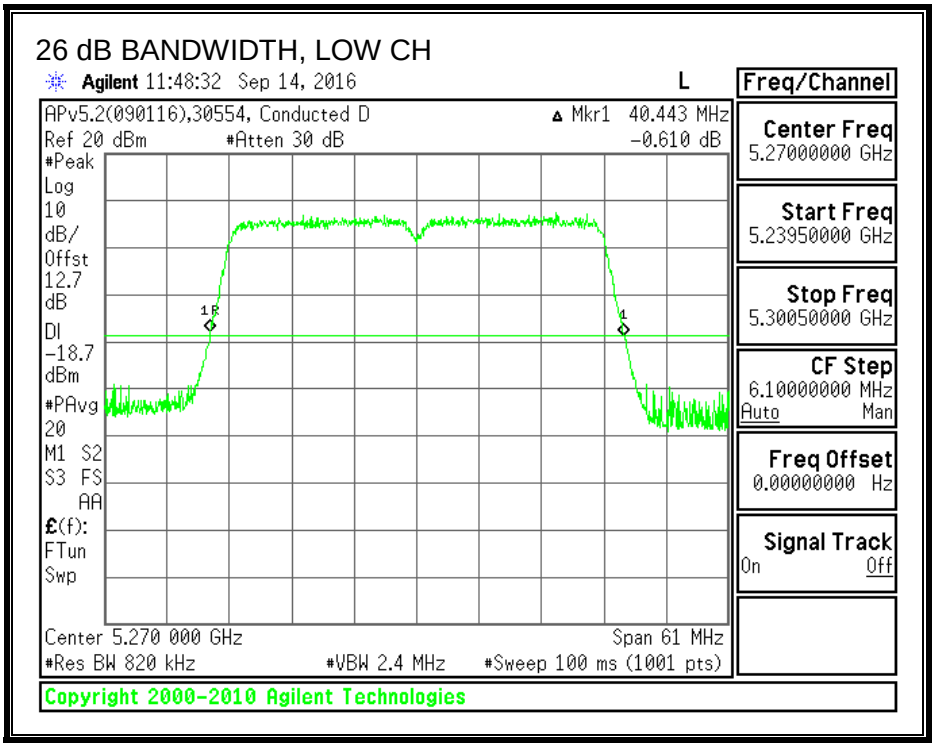
Channel	Frequency (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5270	40.443	40.443
High	5310	40.382	40.443

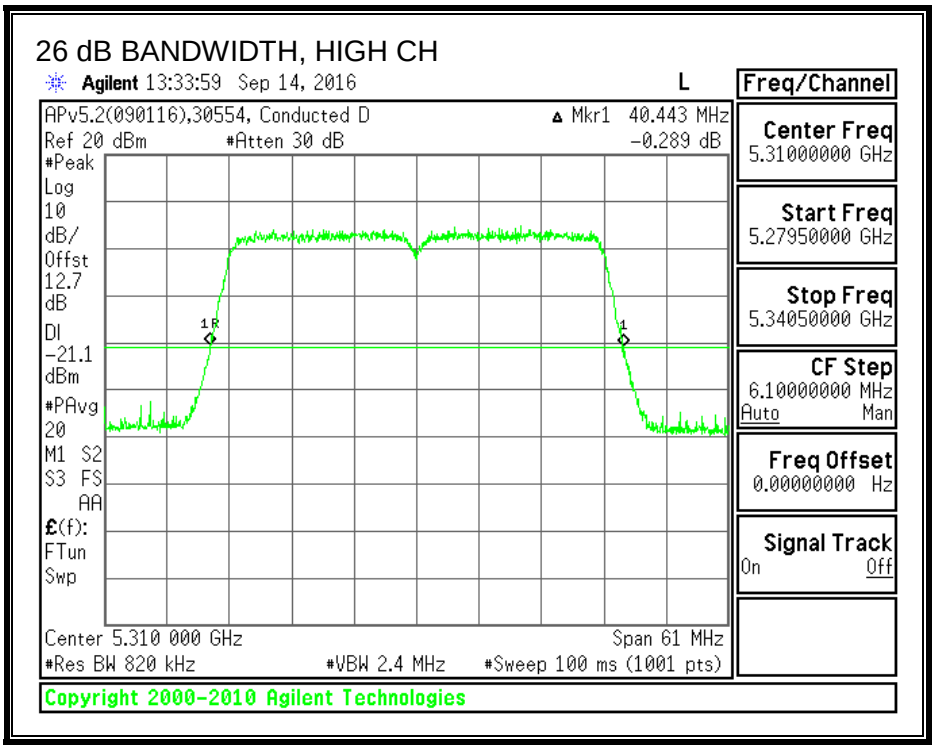
26 DB BANDWIDTH, CHAIN 1





26 DB BANDWIDTH, CHAIN 2





8.27.2. **99% BANDWIDTH**

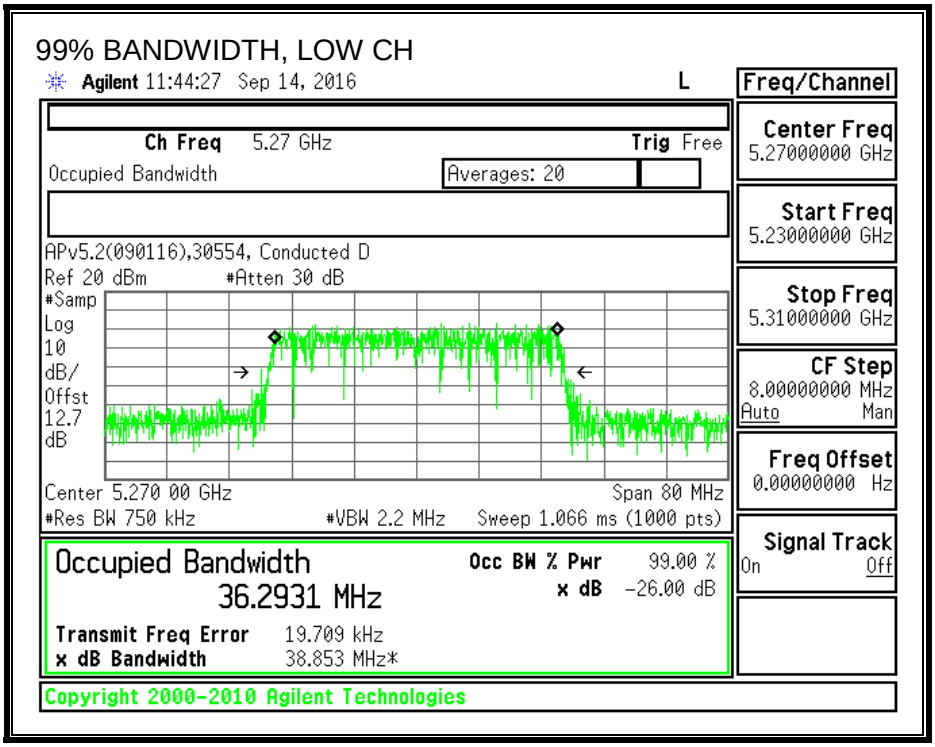
LIMITS

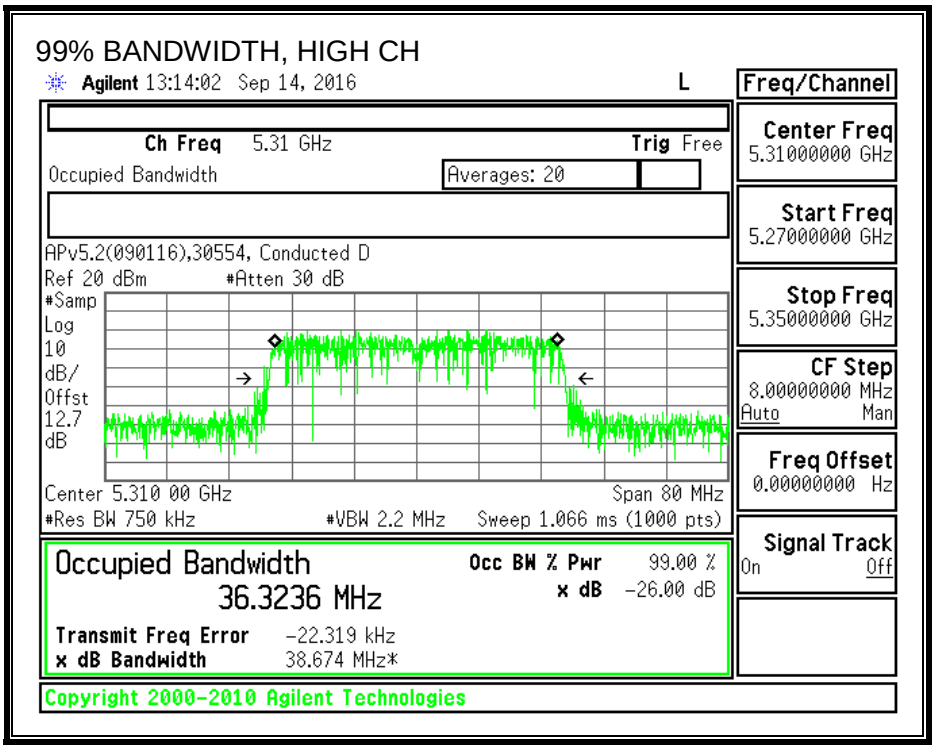
None; for reporting purposes only.

RESULTS

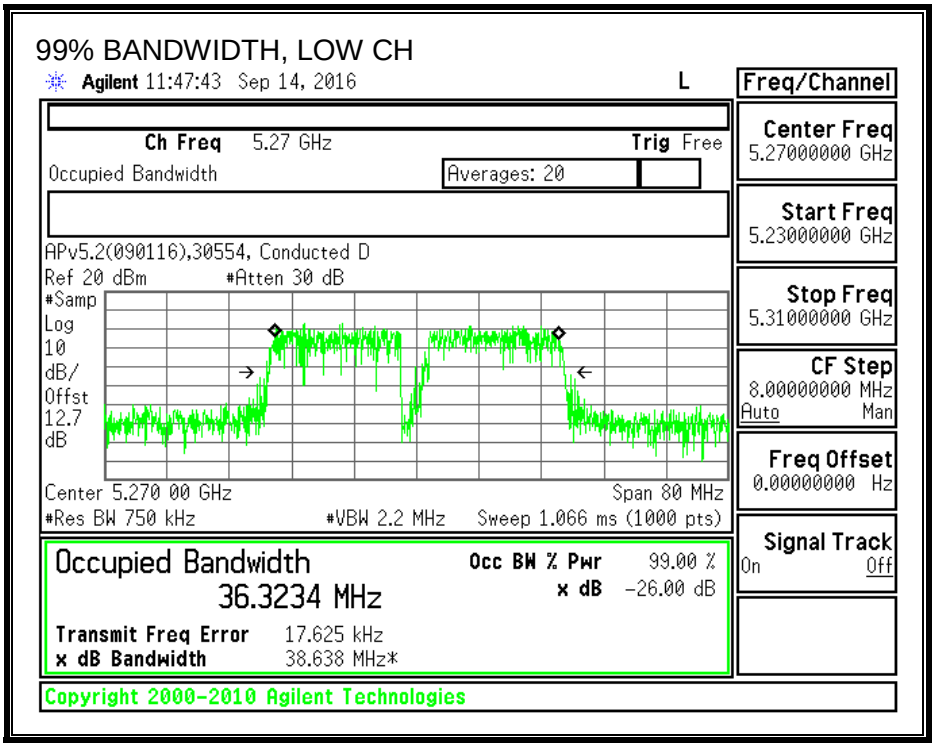
Channel	Frequency (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5270	36.293	36.323
High	5310	36.324	36.358

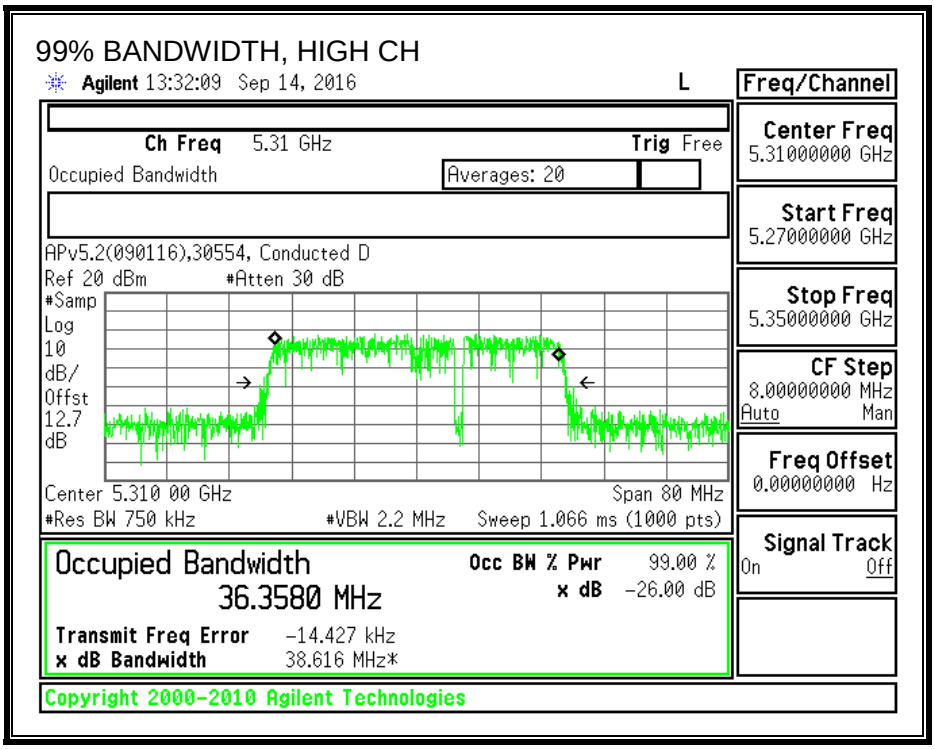
99% BANDWIDTH, CHAIN 1





99% BANDWIDTH, CHAIN 2





8.27.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	44366	Date:	9/12/16

Average Power Results

Channel	Frequency (MHz)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5270	12.49	12.47	15.49
High	5310	9.40	9.47	12.45

8.27.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.60	6.00	9.85

RESULTS

ID:	44366	Date:	9/12/16

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.44	36.293	9.85	9.85	22.75	7.15
High	5310	40.38	36.324	9.85	9.85	22.75	7.15

Duty Cycle CF (dB)	0.79	Included in Calculations of Corr'd PSD

Output Power Results

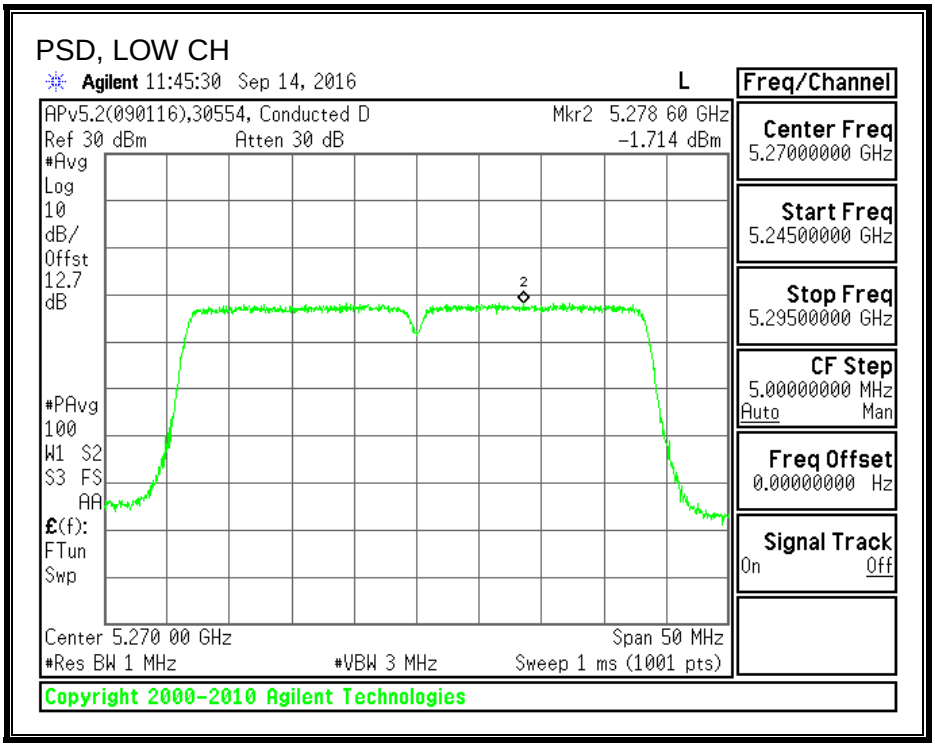
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.49	12.47	15.49	22.75	-7.26
High	5310	9.40	9.47	12.45	22.75	-10.31

PSD Results

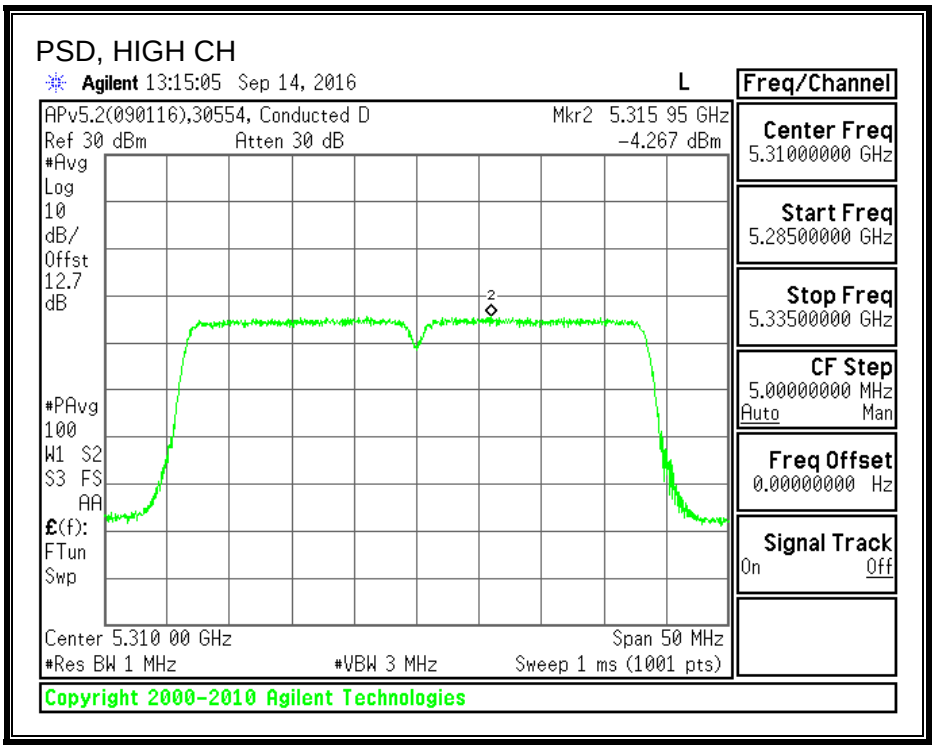
Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-1.71	-1.61	2.14	7.15	-5.02
High	5310	-4.27	-4.60	-0.63	7.15	-7.78

PSD, CHAIN 1

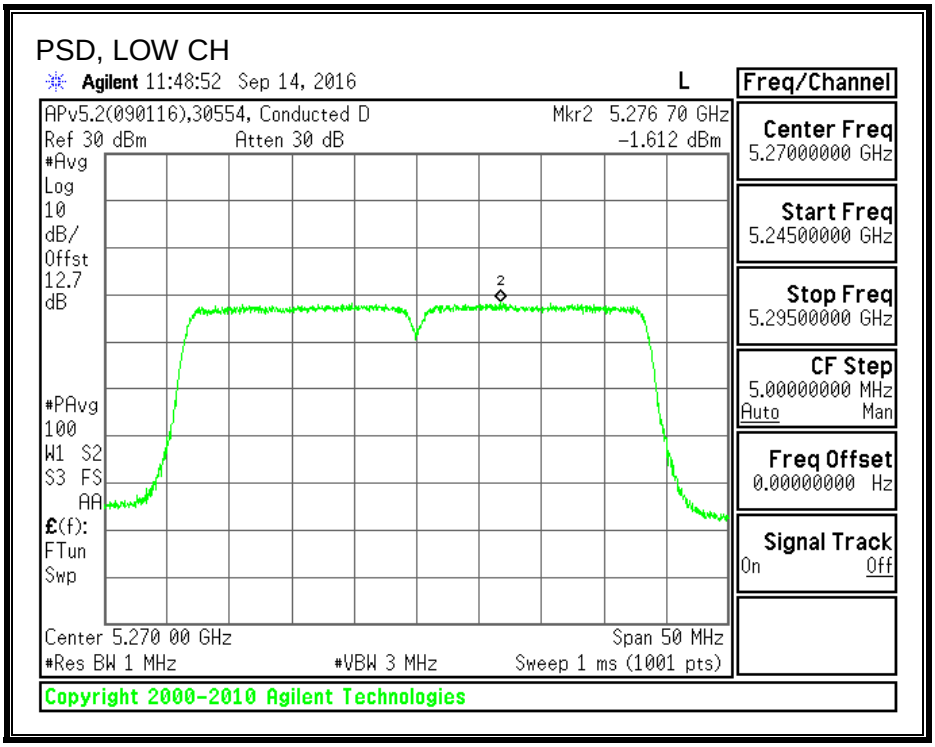
PSD, LOW CH

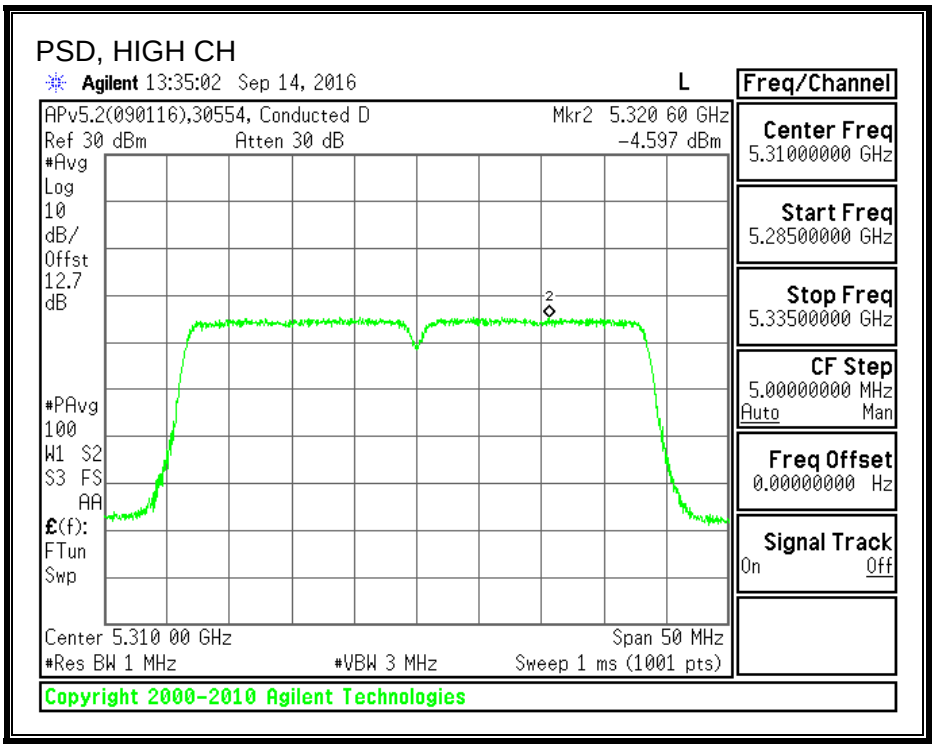


PSD, HIGH CH



PSD, CHAIN 2





8.28. 802.11n HT40 3Tx CDD MODE IN THE 5.3 GHz BAND

8.28.1. **26 dB BANDWIDTH**

LIMITS

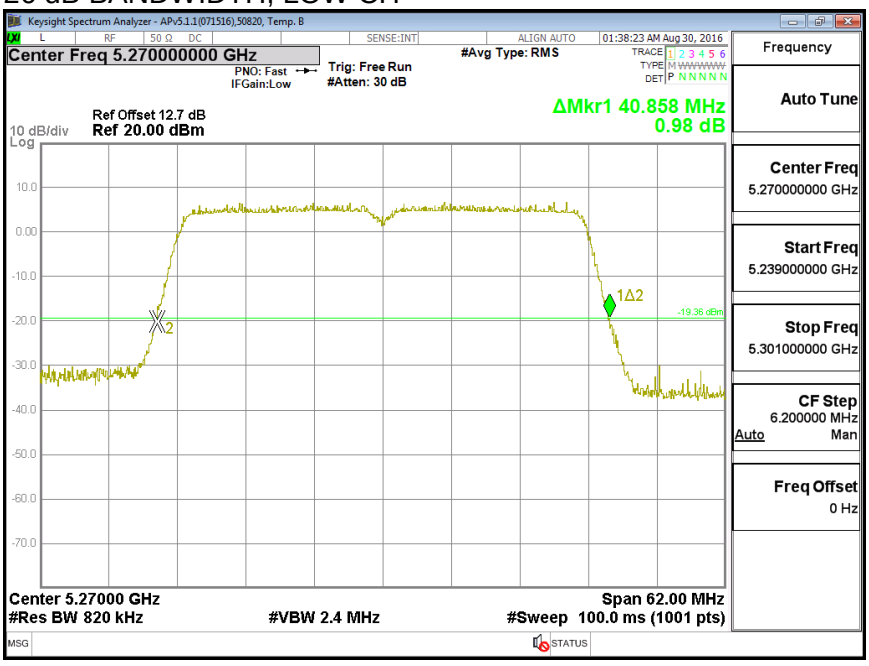
None; for reporting purposes only.

RESULTS

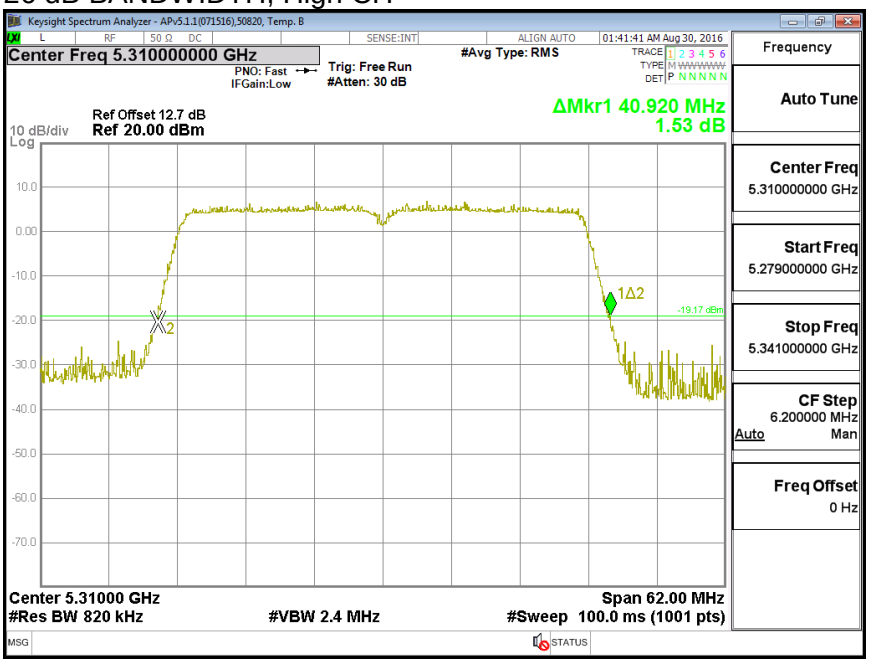
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5270	40.858	40.672	40.672
High	5310	40.920	40.734	40.796

26 dB BANDWIDTH, CHAIN 0

26 dB BANDWIDTH, LOW CH

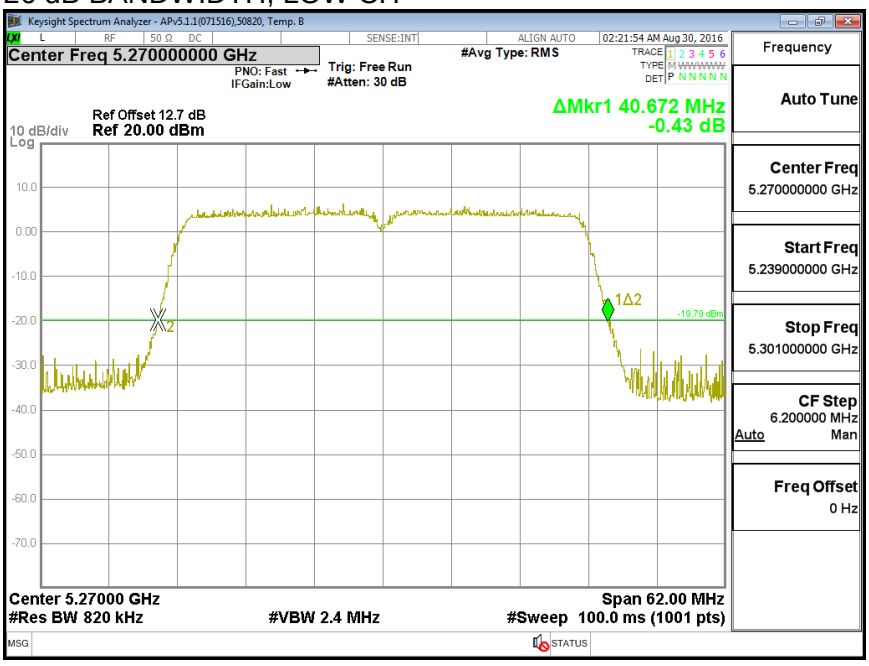


26 dB BANDWIDTH, High CH

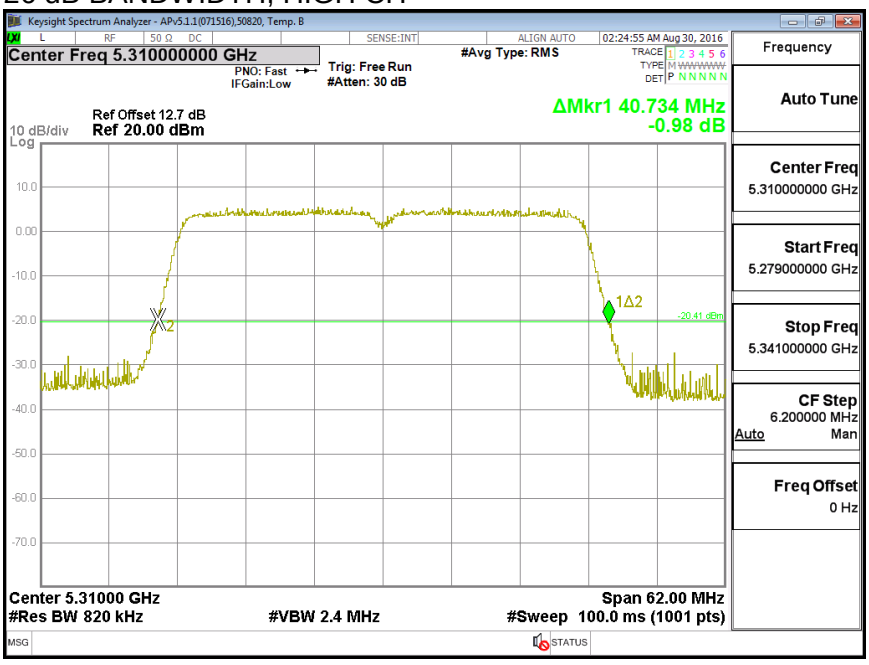


26 dB BANDWIDTH, CHAIN 1

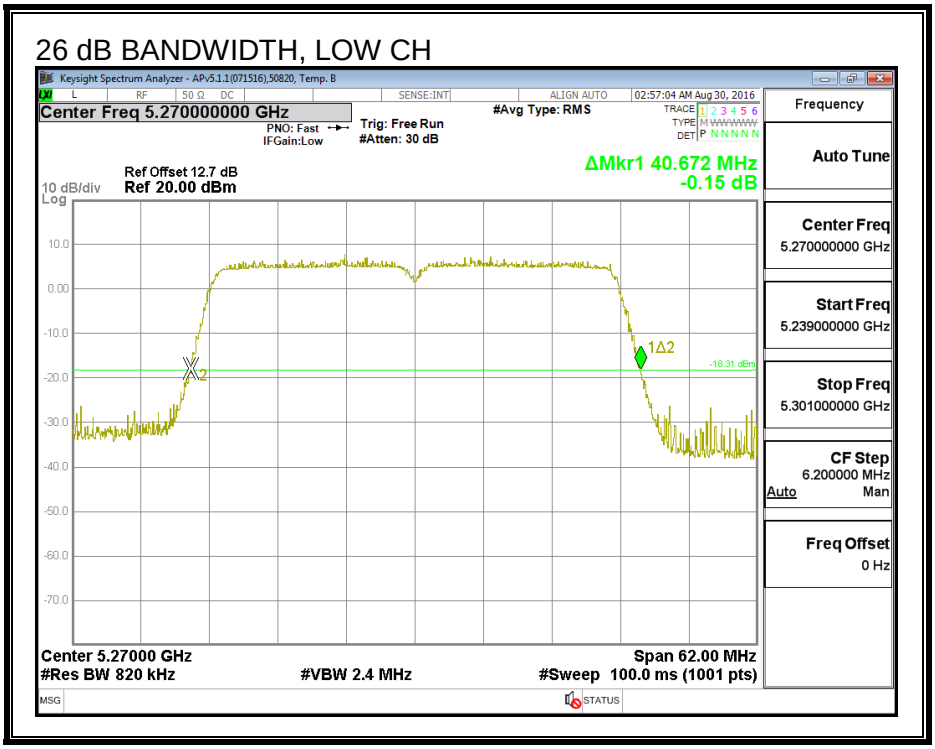
26 dB BANDWIDTH, LOW CH

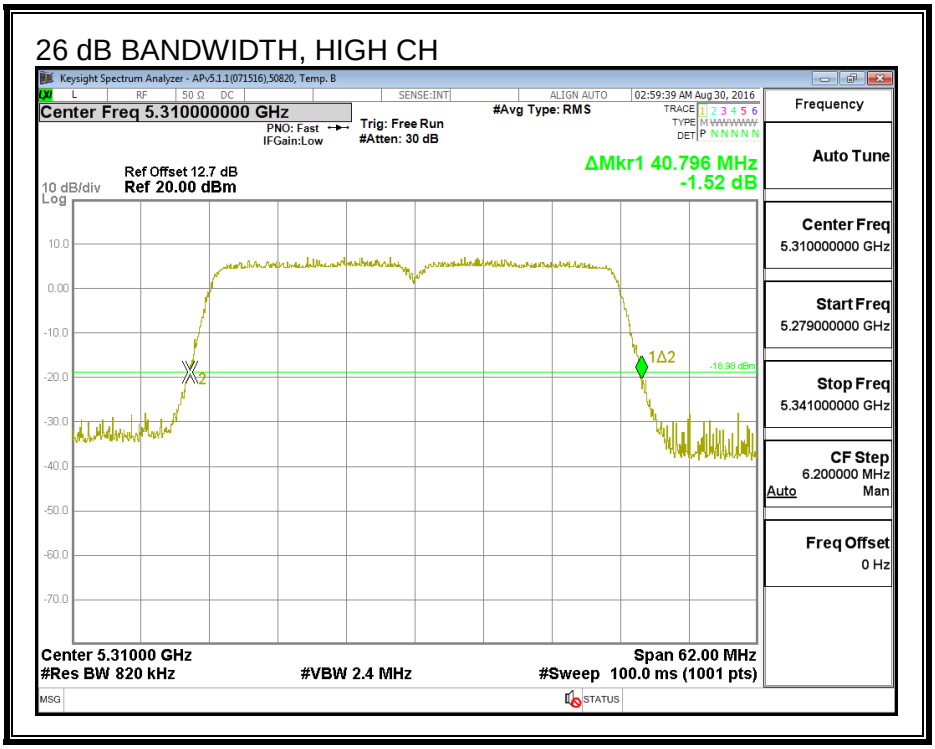


26 dB BANDWIDTH, HIGH CH



26 dB BANDWIDTH, CHAIN 2





8.28.2. **99% BANDWIDTH**

LIMITS

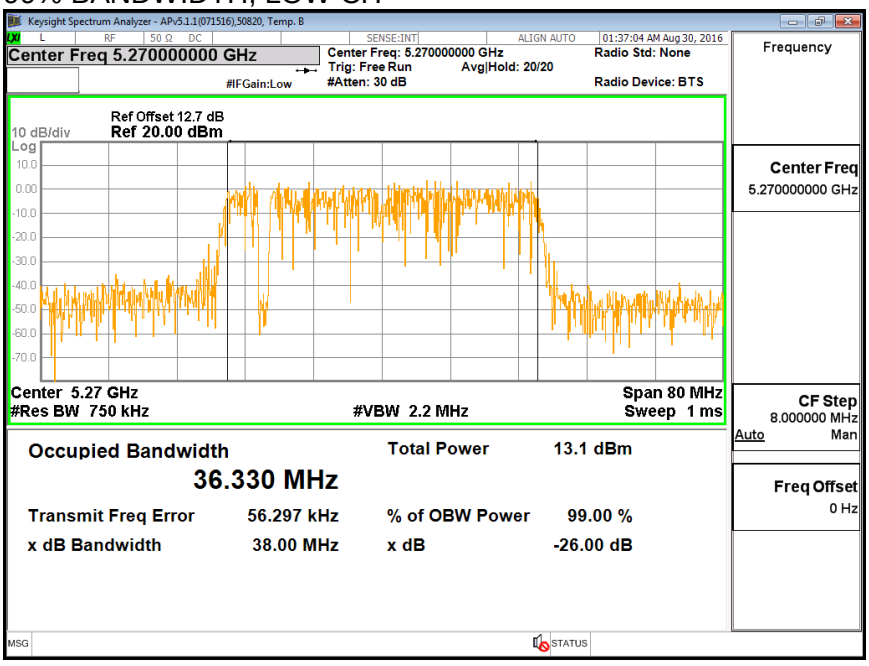
None; for reporting purposes only.

RESULTS

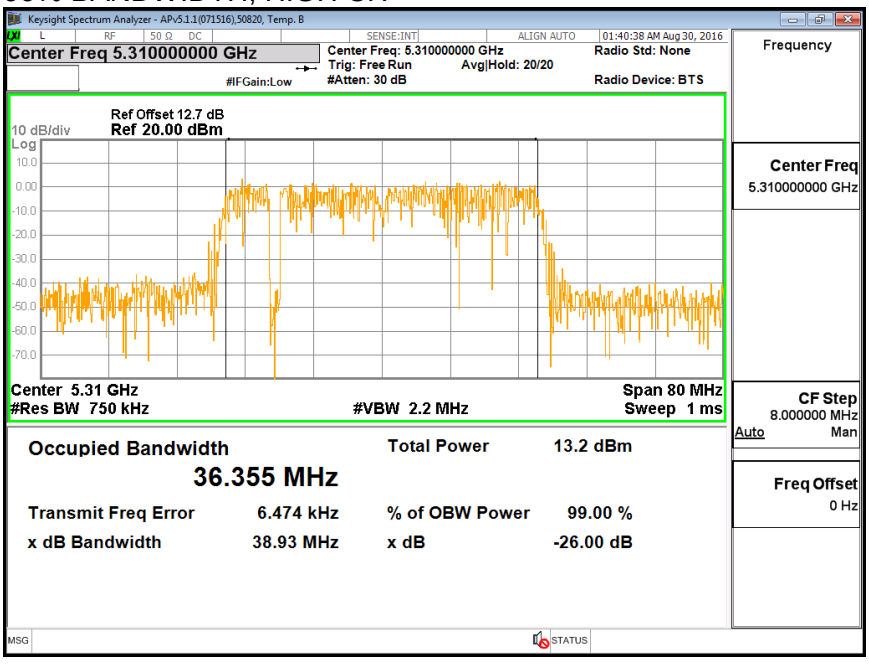
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5270	36.330	36.459	36.352
High	5310	36.355	36.285	36.348

99% BANDWIDTH, CHAIN 0

99% BANDWIDTH, LOW CH

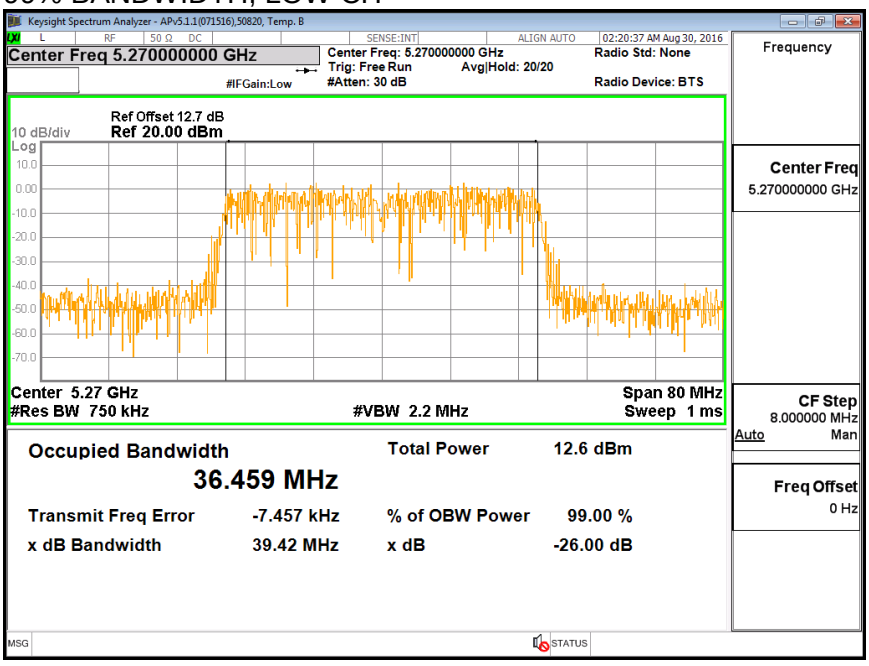


99% BANDWIDTH, HIGH CH

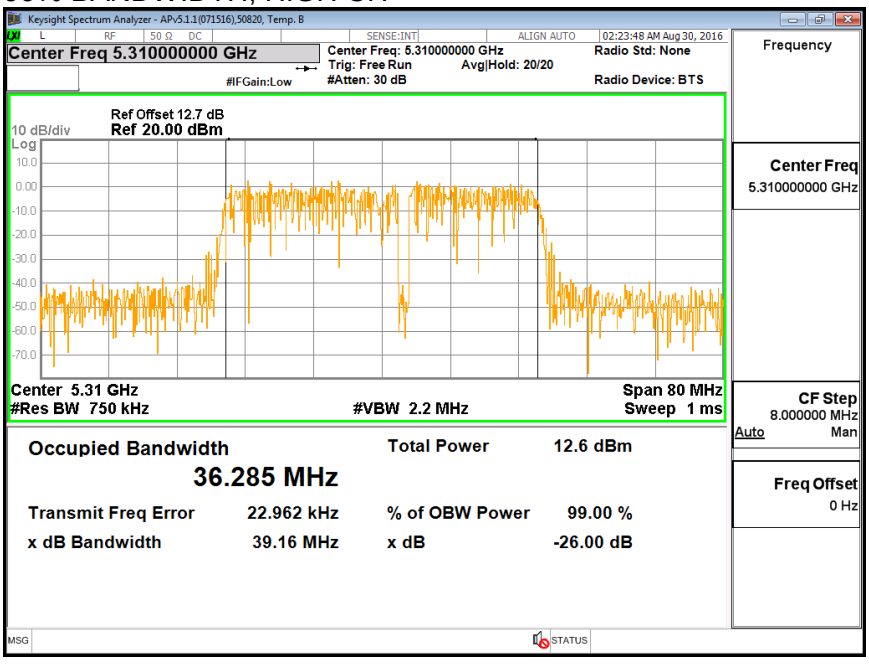


99% BANDWIDTH, CHAIN 1

99% BANDWIDTH, LOW CH

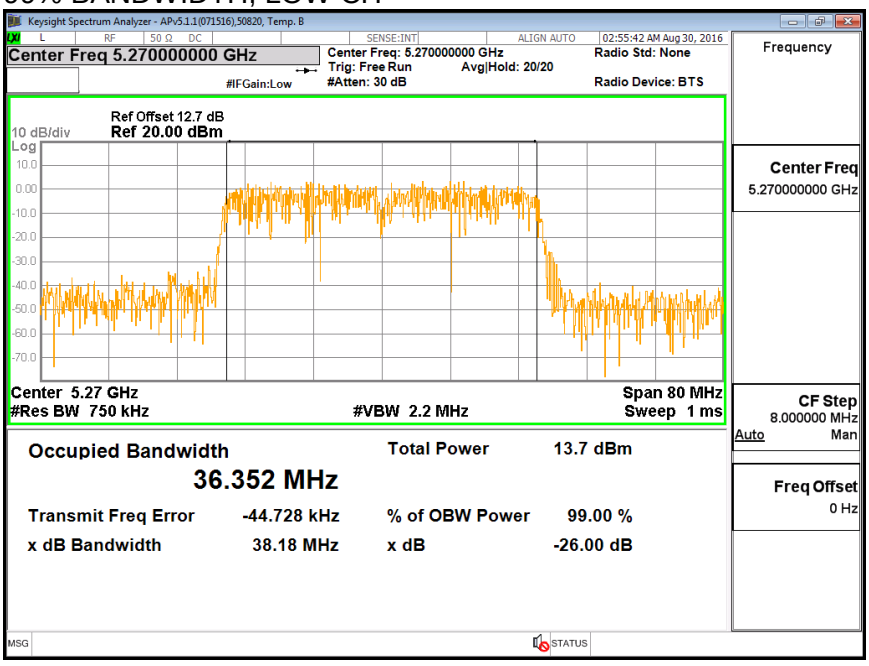


99% BANDWIDTH, HIGH CH

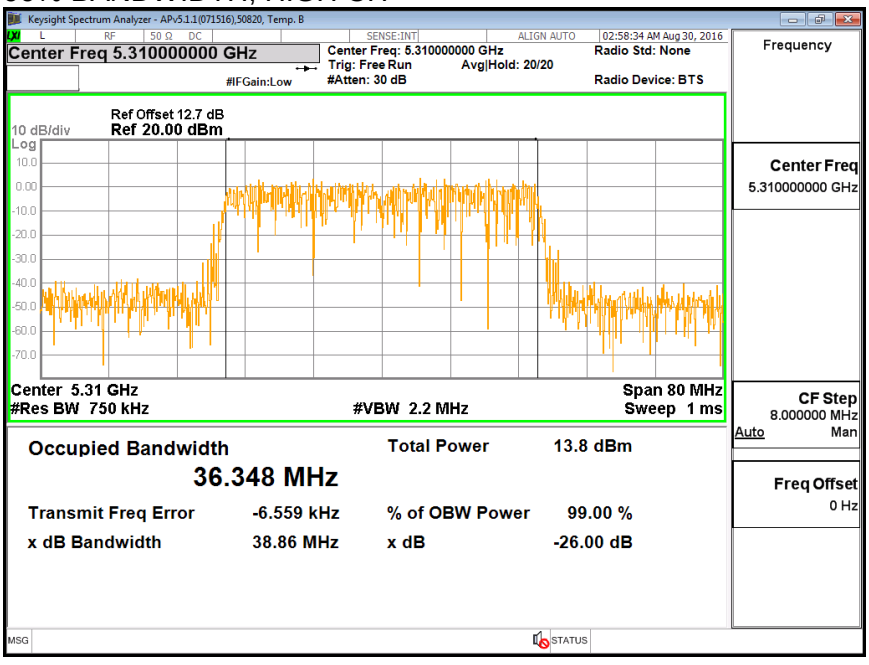


99% BANDWIDTH, CHAIN 2

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH



8.28.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	43573	**Date:**	9/7/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5270	11.44	11.39	11.41	16.18
High	5310	10.92	10.82	10.97	15.67

8.28.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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)
4.90	7.60	6.00	6.31

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)
4.90	7.60	6.00	11.01

RESULTS

ID:	43573	Date:	9/7/16

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.67	36.330	6.31	11.01	24.00	5.99
High	5310	40.73	36.285	6.31	11.01	24.00	5.99

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

Output Power Results

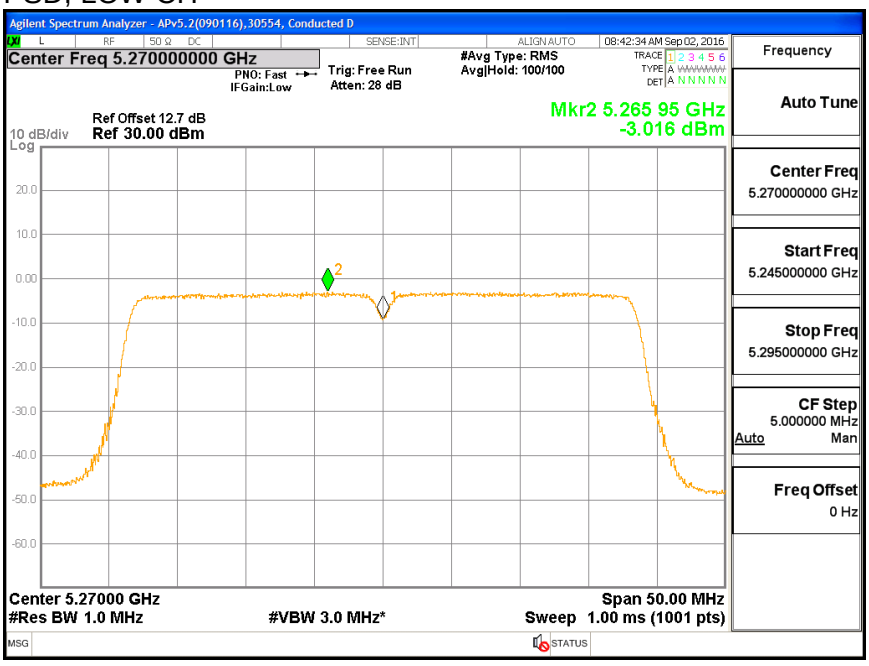
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	11.44	11.39	11.41	16.18	24.00	-7.82
High	5310	10.92	10.82	10.97	15.67	24.00	-8.33

PSD Results

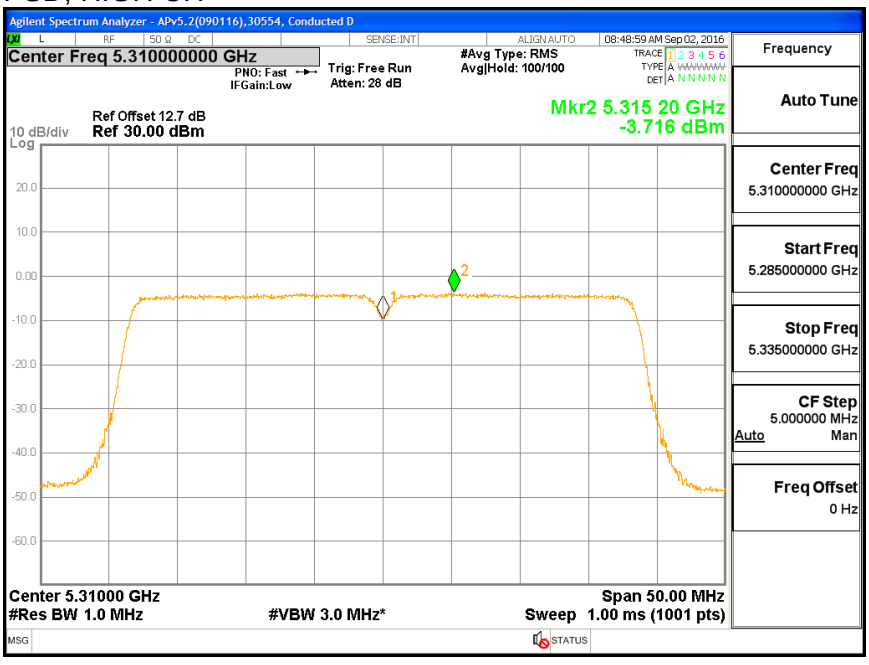
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-3.02	-3.08	-3.03	1.73	5.99	-4.26
High	5310	-3.72	-3.81	-3.73	1.02	5.99	-4.97

PSD, CHAIN 0

PSD, LOW CH

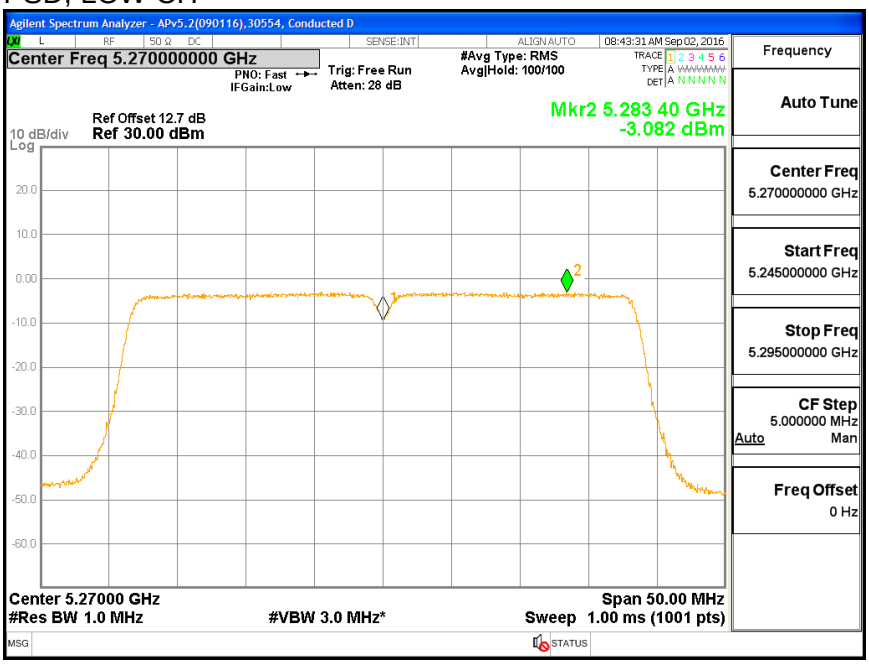


PSD, HIGH CH

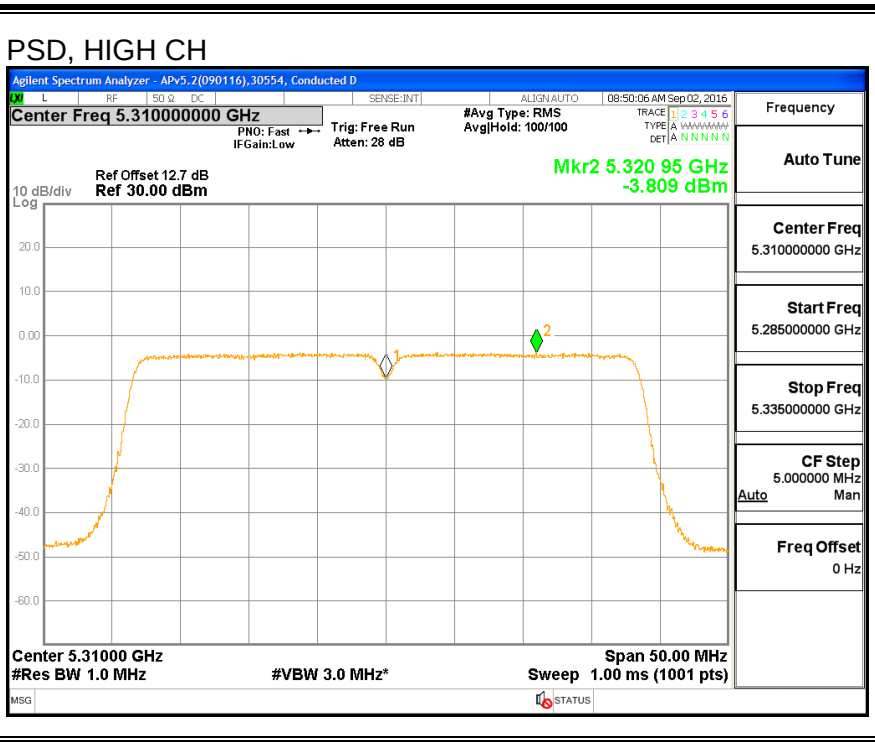


PSD, CHAIN 1

PSD, LOW CH

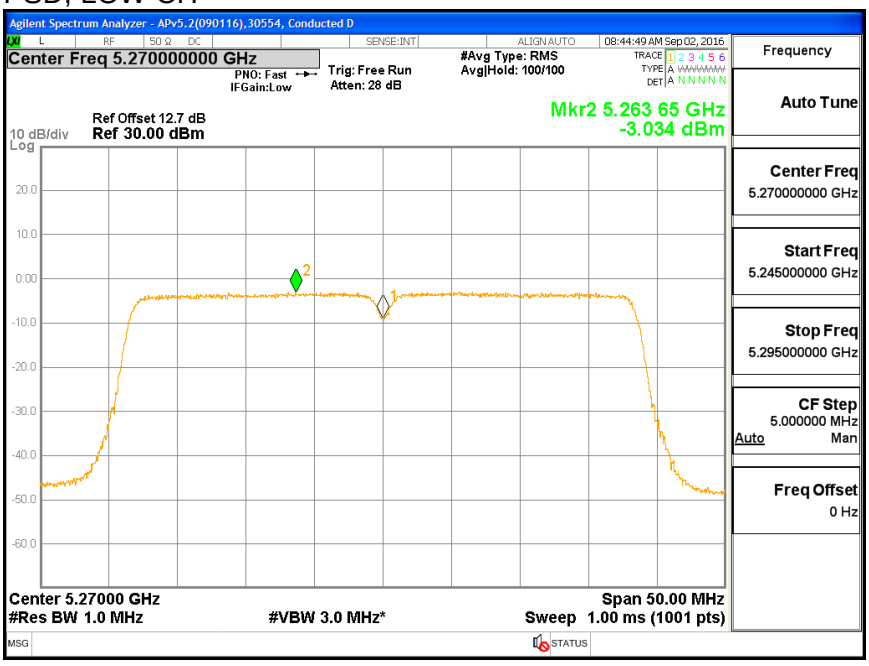


PSD, HIGH CH

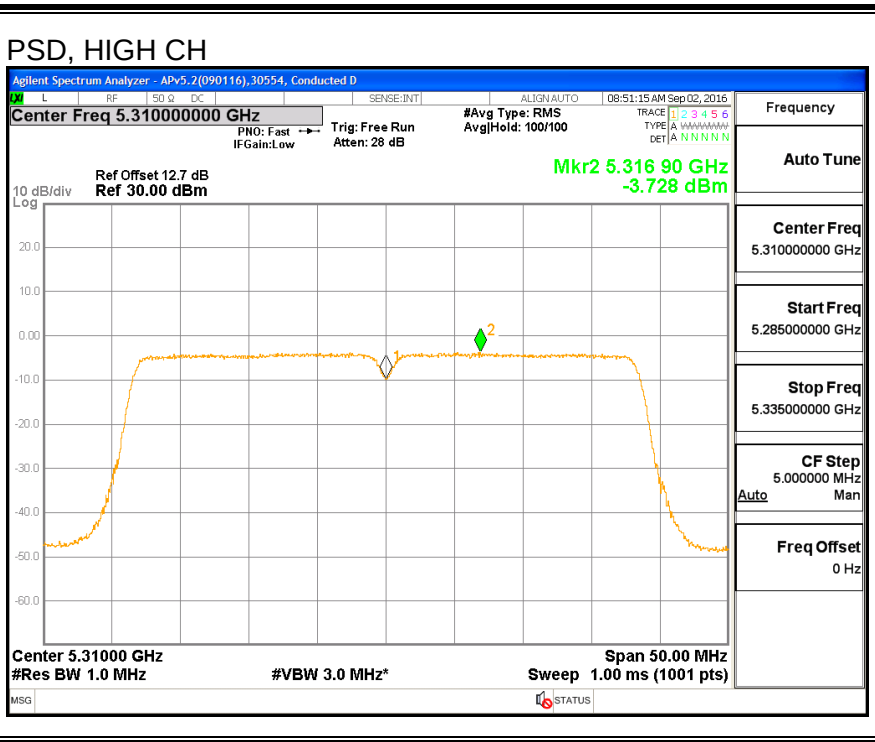


PSD, CHAIN 2

PSD, LOW CH



PSD, HIGH CH



8.29. 802.11n HT40 3Tx STBC MODE IN THE 5.3 GHz BAND

8.29.1. **26 dB BANDWIDTH**

LIMITS

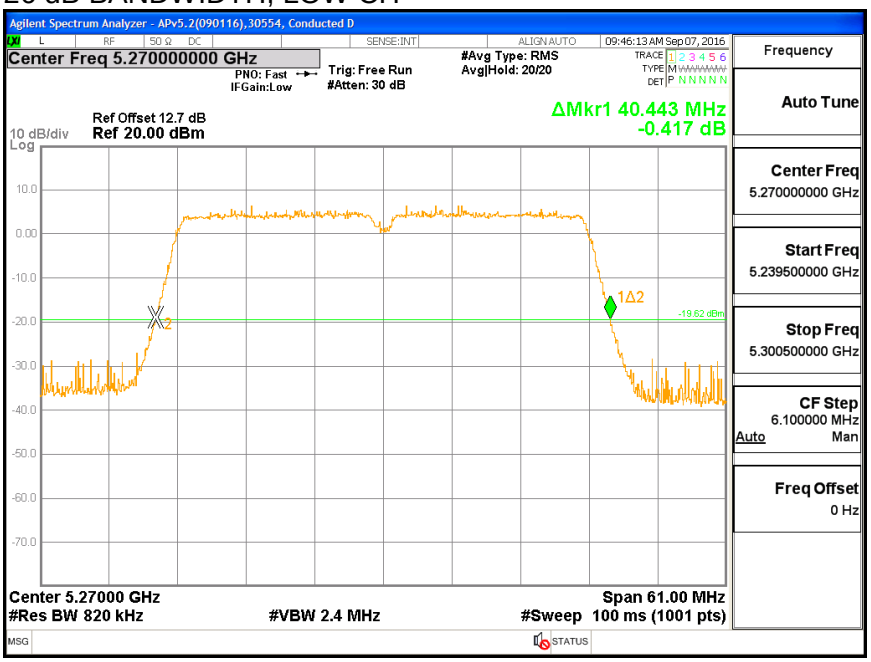
None; for reporting purposes only.

RESULTS

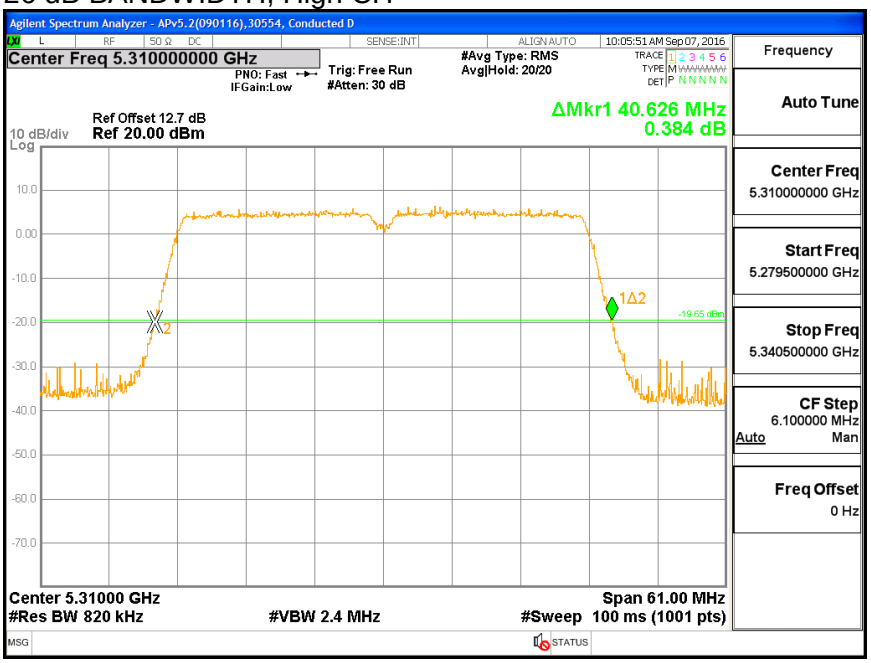
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5270	40.443	40.504	40.626
High	5310	40.626	40.443	40.565

26 dB BANDWIDTH, CHAIN 0

26 dB BANDWIDTH, LOW CH

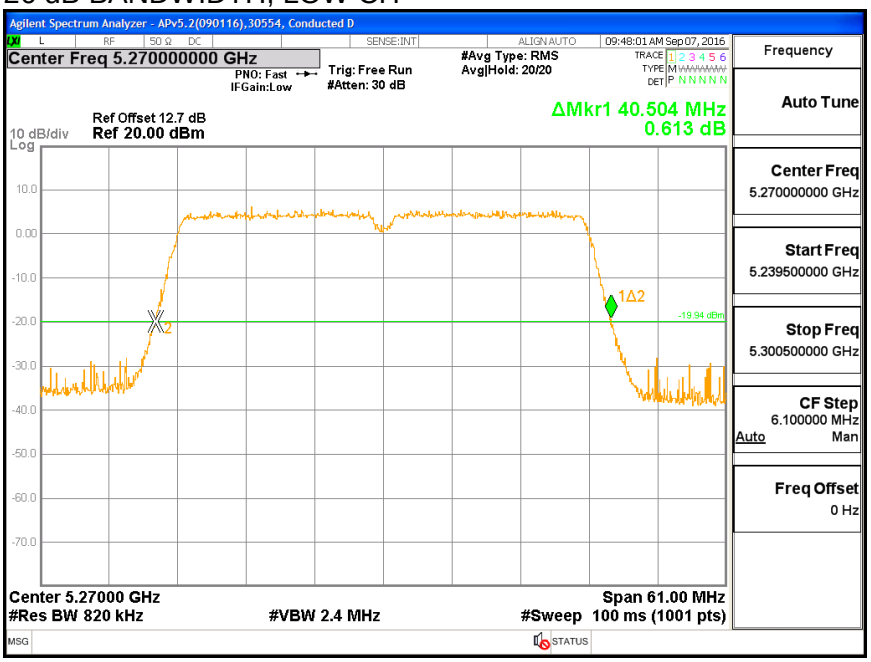


26 dB BANDWIDTH, High CH

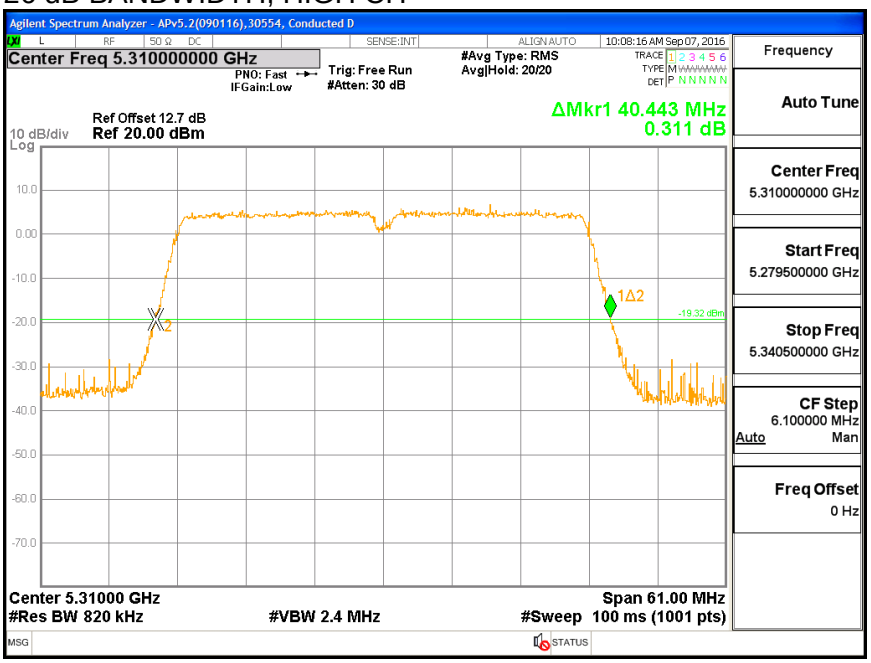


26 dB BANDWIDTH, CHAIN 1

26 dB BANDWIDTH, LOW CH

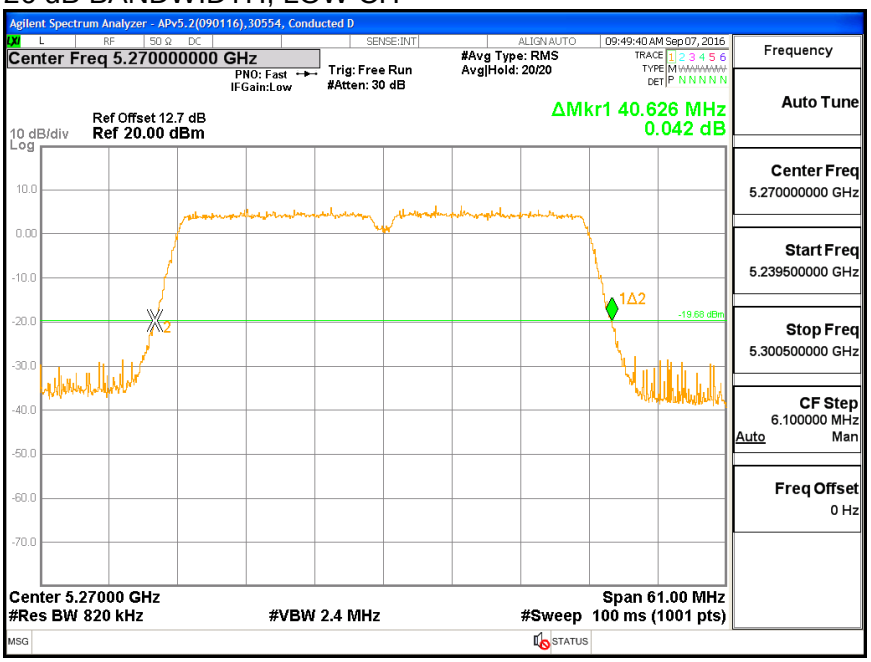


26 dB BANDWIDTH, HIGH CH

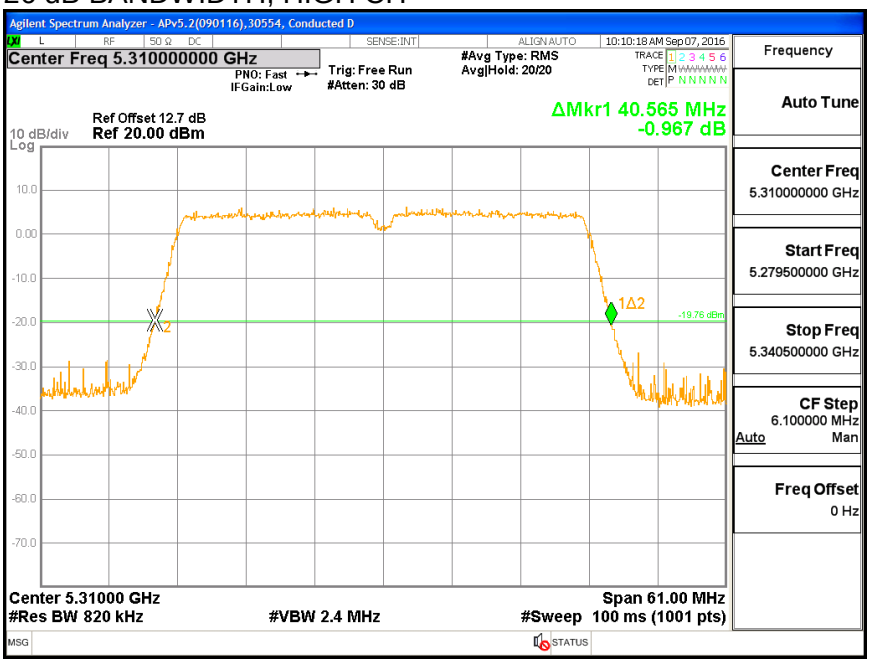


26 dB BANDWIDTH, CHAIN 2

26 dB BANDWIDTH, LOW CH



26 dB BANDWIDTH, HIGH CH



8.29.2. **99% BANDWIDTH**

LIMITS

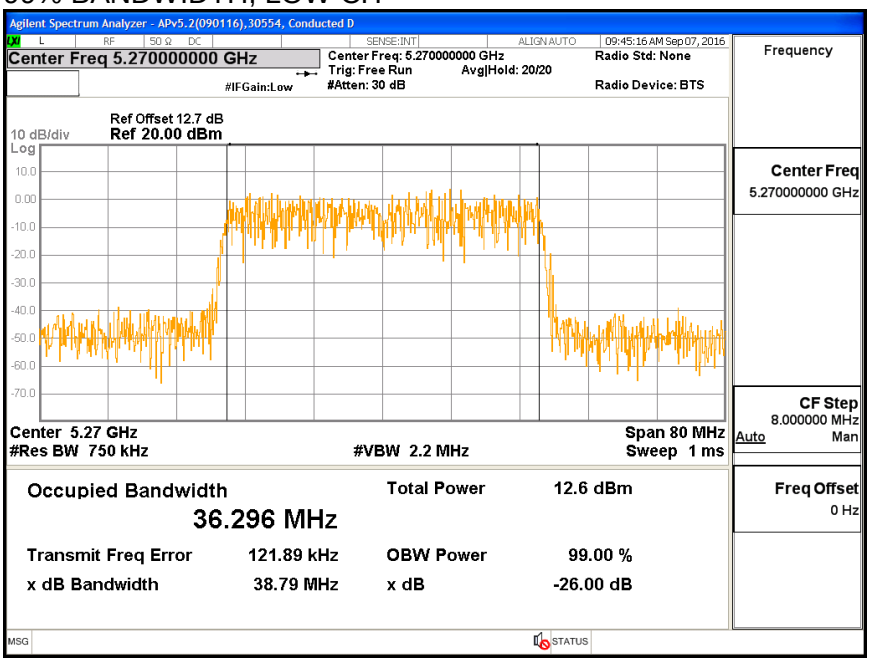
None; for reporting purposes only.

RESULTS

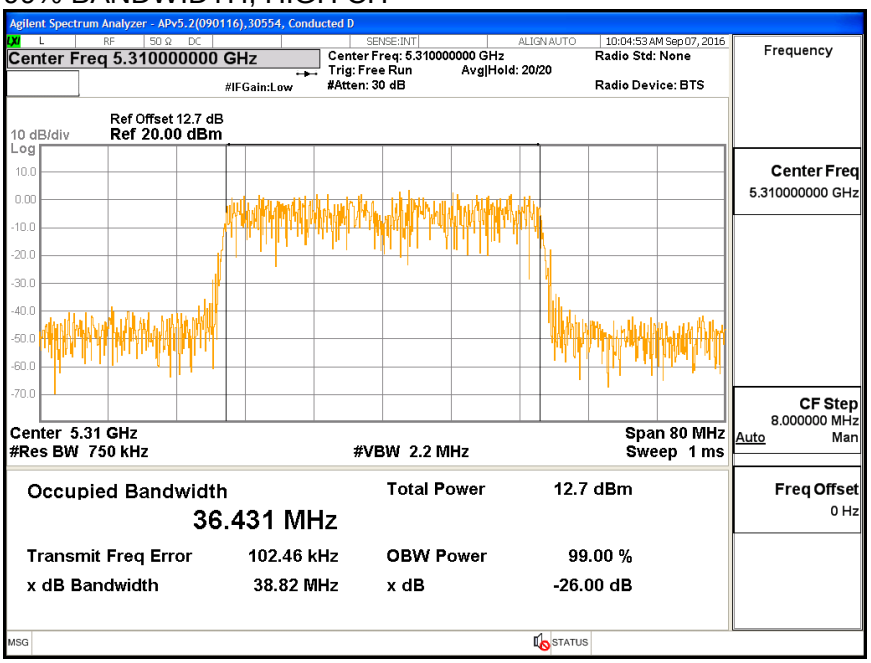
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5270	36.296	36.341	36.389
High	5310	36.431	36.243	36.466

99% BANDWIDTH, CHAIN 0

99% BANDWIDTH, LOW CH

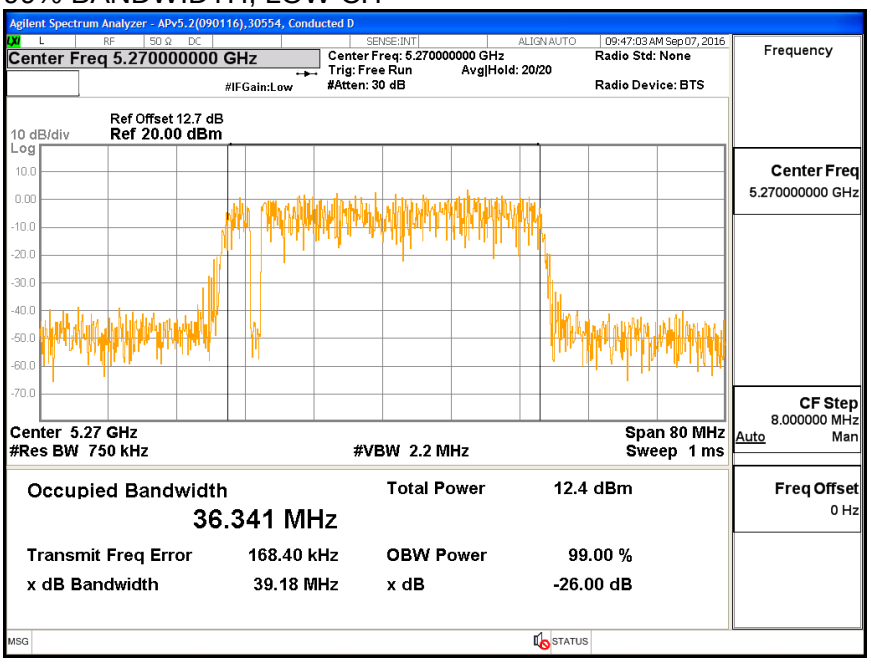


99% BANDWIDTH, HIGH CH

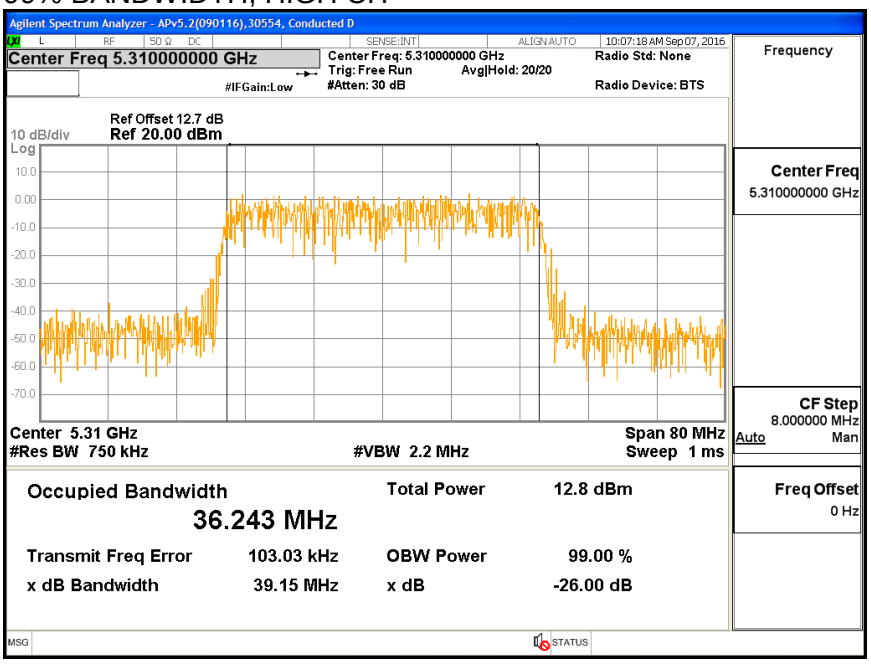


99% BANDWIDTH, CHAIN 1

99% BANDWIDTH, LOW CH

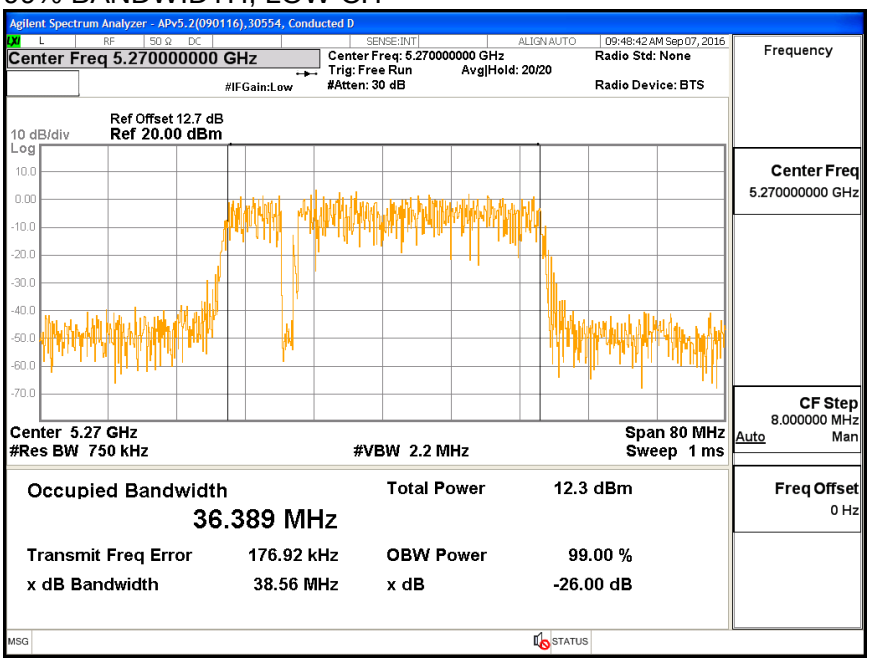


99% BANDWIDTH, HIGH CH

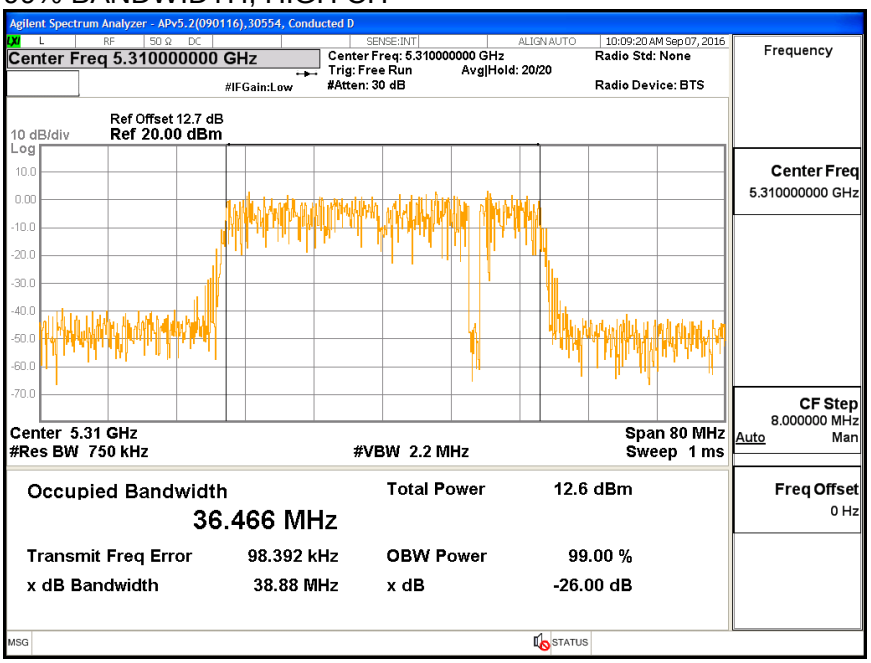


99% BANDWIDTH, CHAIN 2

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH



8.29.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	43573	**Date:**	9/7/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5270	12.35	12.42	12.37	17.15
High	5310	12.41	12.40	12.36	17.16

8.29.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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)
4.90	7.60	6.00	6.31

RESULTS

ID:	43573	Date:	9/7/16

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.44	36.296	6.31	6.31	24.00	10.69
High	5310	40.44	36.243	6.31	6.31	24.00	10.69

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

Output Power Results

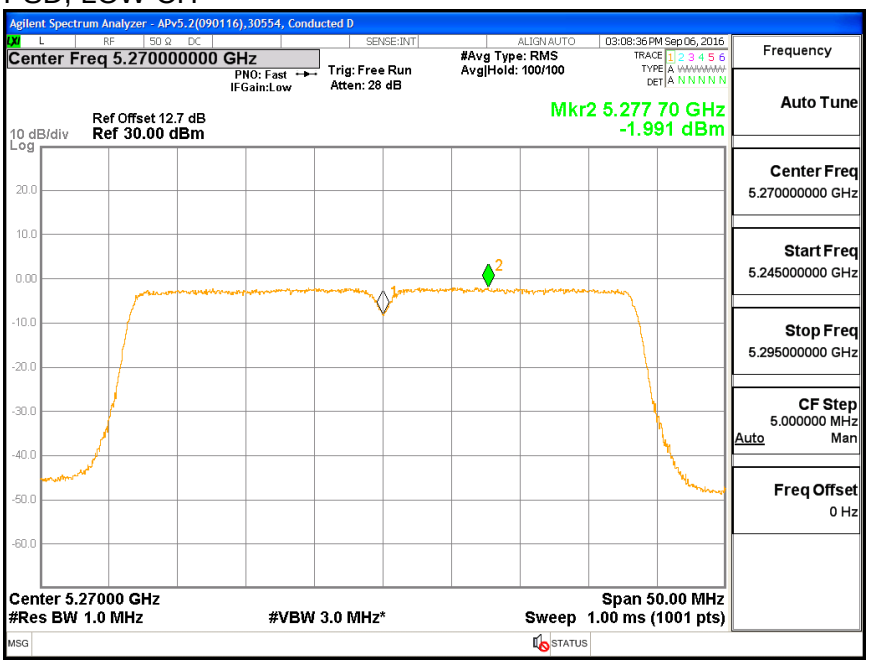
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.35	12.42	12.37	17.15	24.00	-6.85
High	5310	12.41	12.40	12.36	17.16	24.00	-6.84

PSD Results

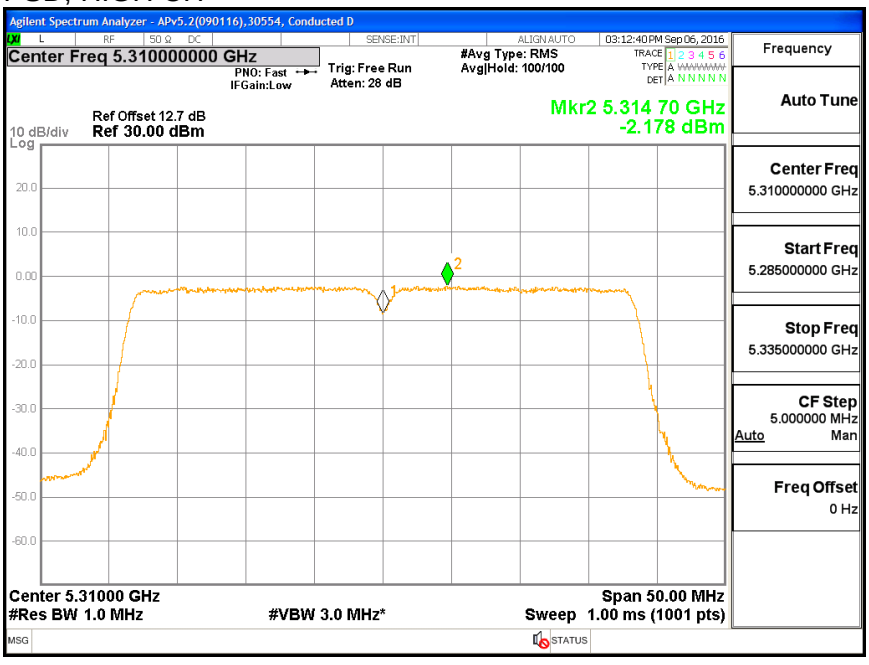
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-1.99	-1.80	-1.98	2.85	10.69	-7.84
High	5310	-2.18	-2.19	-1.79	2.72	10.69	-7.97

PSD, CHAIN 0

PSD, LOW CH

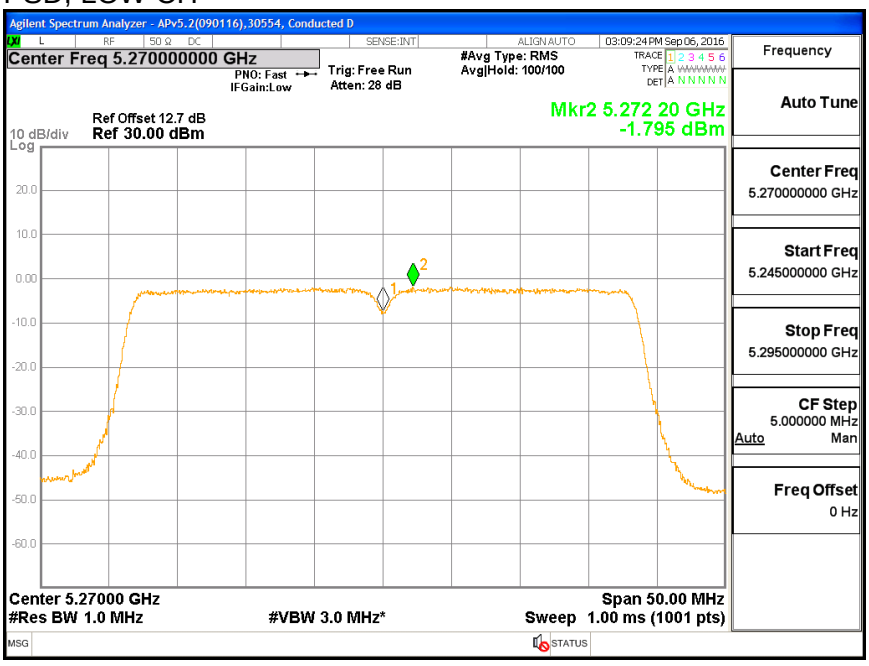


PSD, HIGH CH

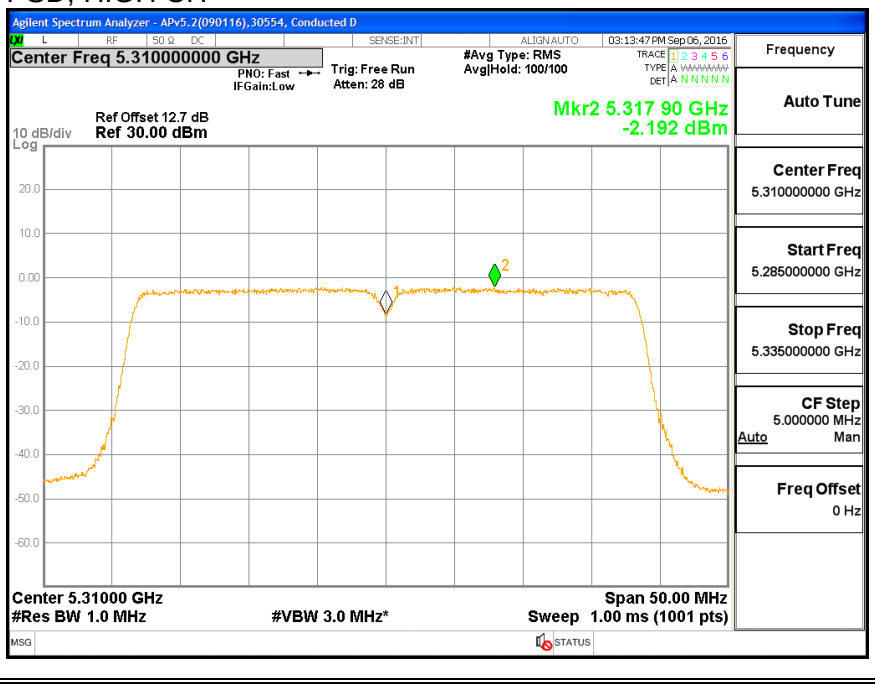


PSD, CHAIN 1

PSD, LOW CH

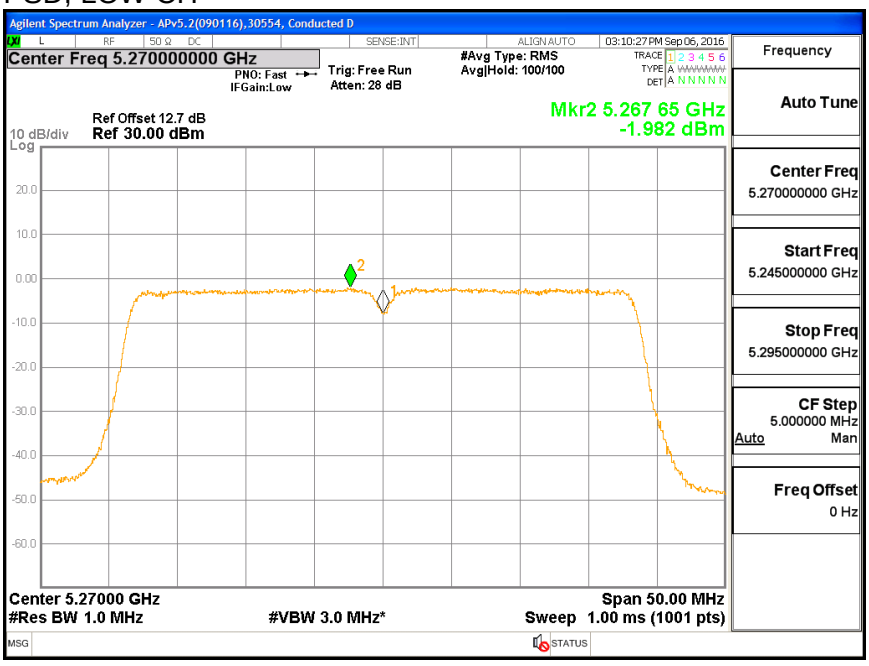


PSD, HIGH CH

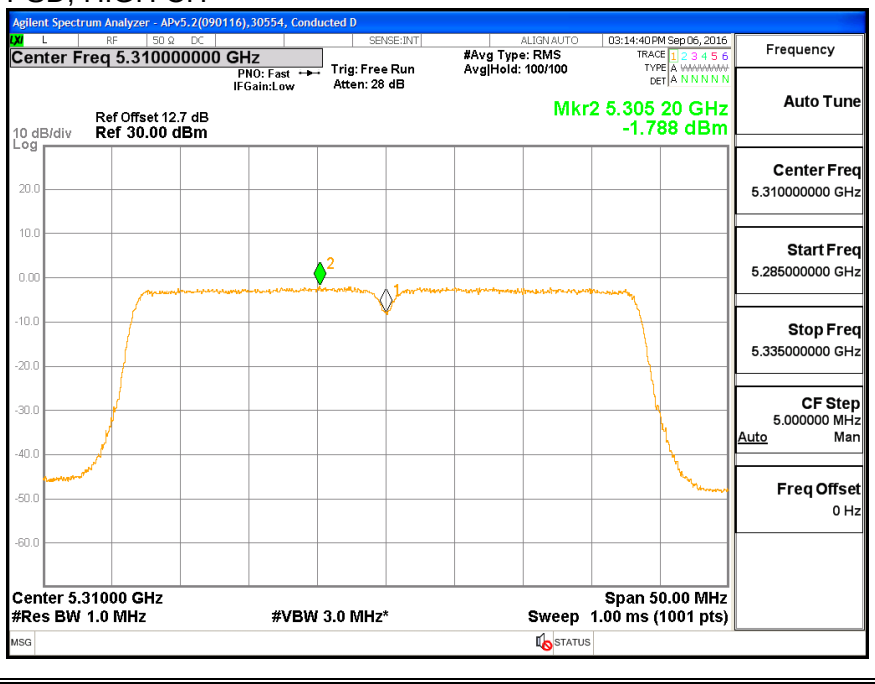


PSD, CHAIN 2

PSD, LOW CH



PSD, HIGH CH



8.30. 802.11ac VHT40 3Tx BEAM FORMING MODE IN THE 5.3 GHz BAND

8.30.1. **26 dB BANDWIDTH**

LIMITS

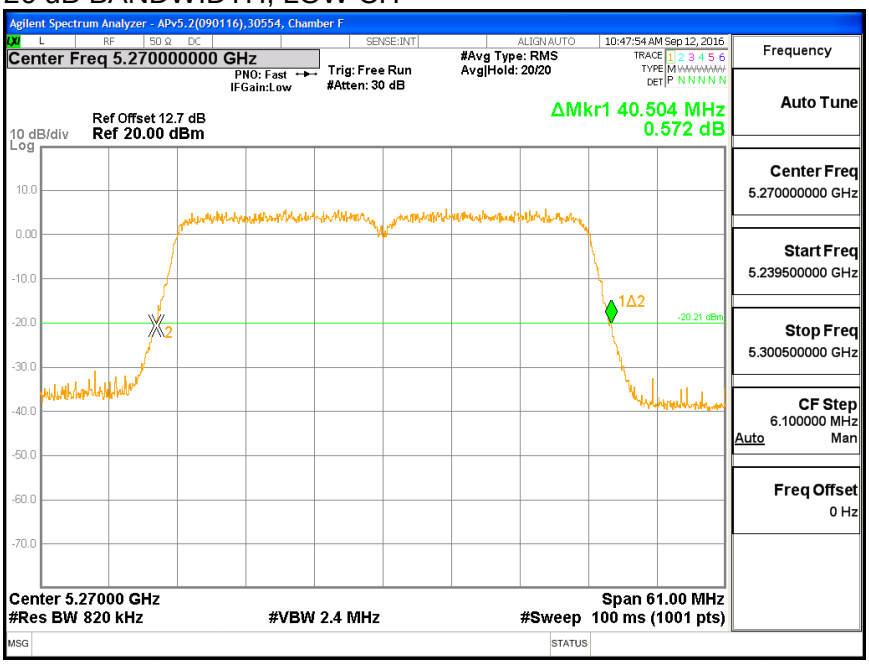
None; for reporting purposes only.

RESULTS

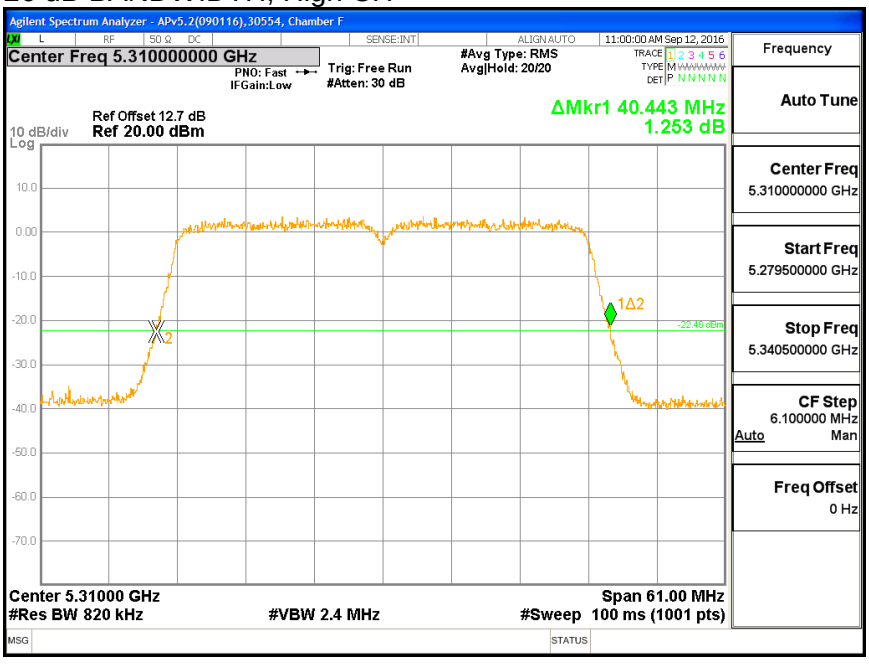
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5270	40.504	40.321	40.260
High	5310	40.443	40.565	40.504

26 dB BANDWIDTH, CHAIN 0

26 dB BANDWIDTH, LOW CH

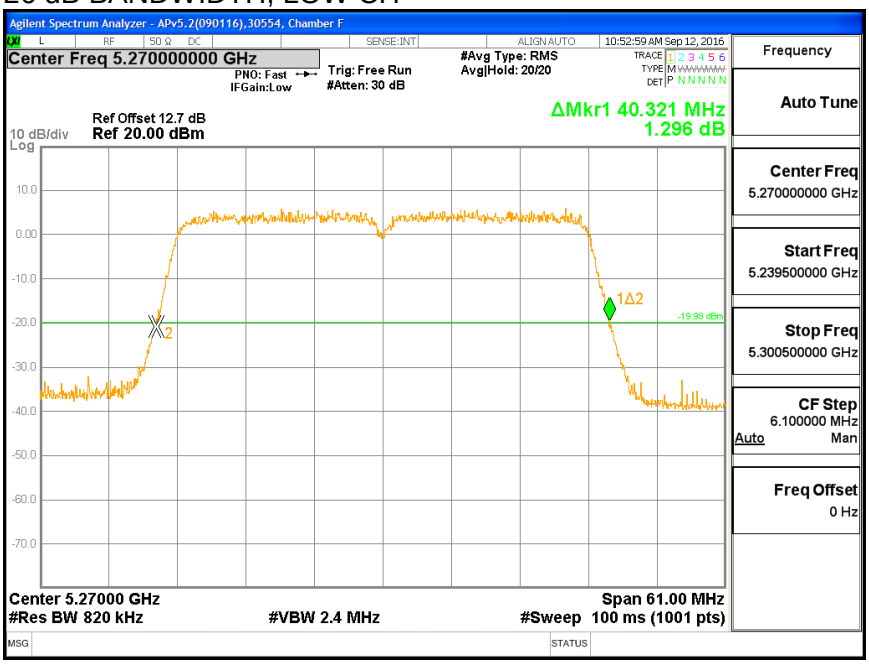


26 dB BANDWIDTH, High CH

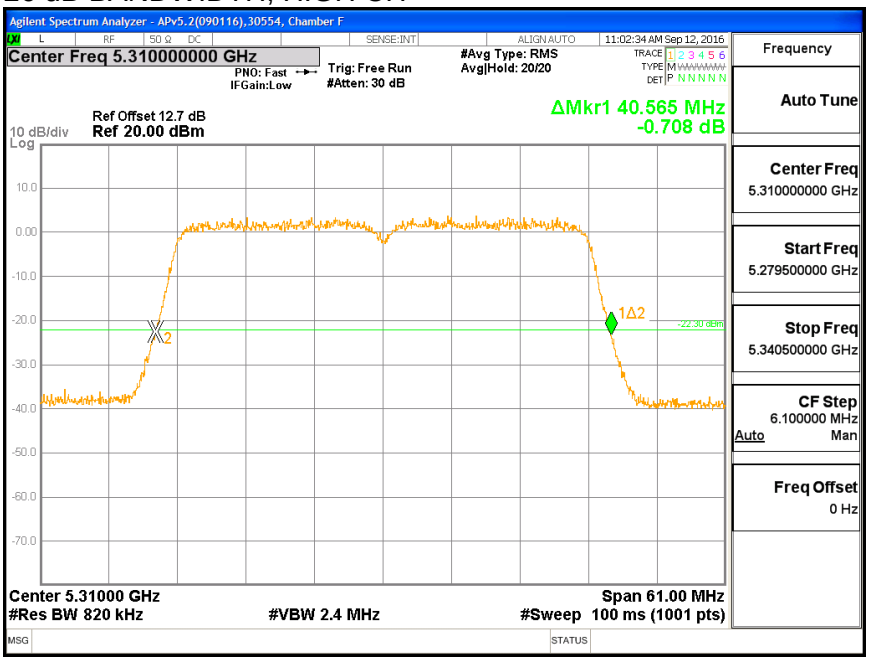


26 dB BANDWIDTH, CHAIN 1

26 dB BANDWIDTH, LOW CH

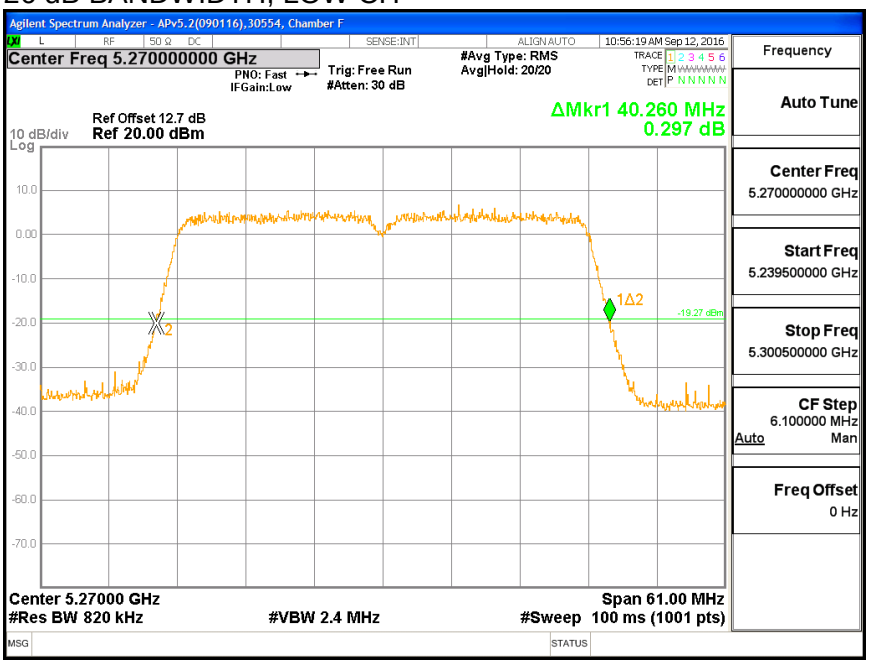


26 dB BANDWIDTH, HIGH CH

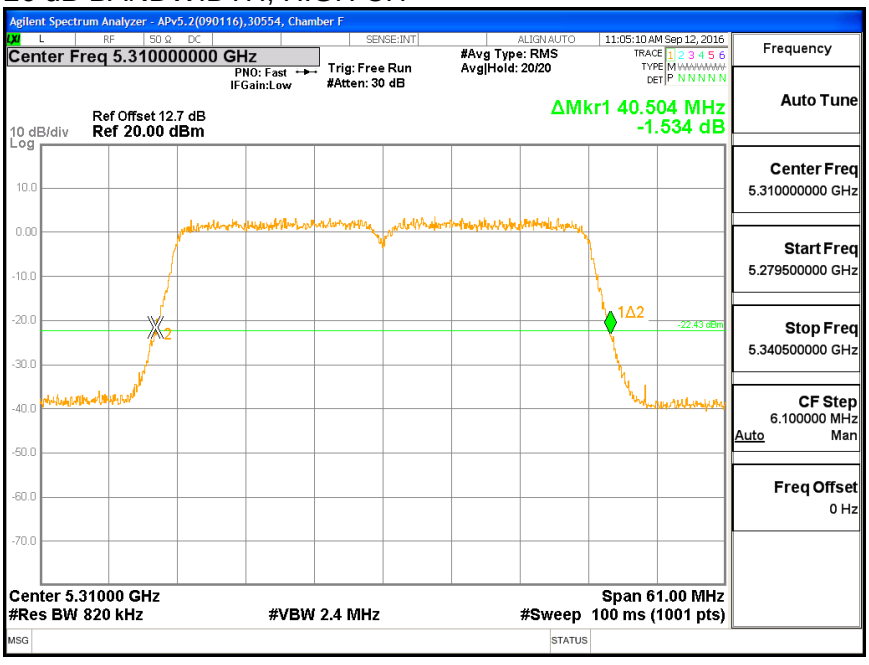


26 dB BANDWIDTH, CHAIN 2

26 dB BANDWIDTH, LOW CH



26 dB BANDWIDTH, HIGH CH



8.30.2. **99% BANDWIDTH**

LIMITS

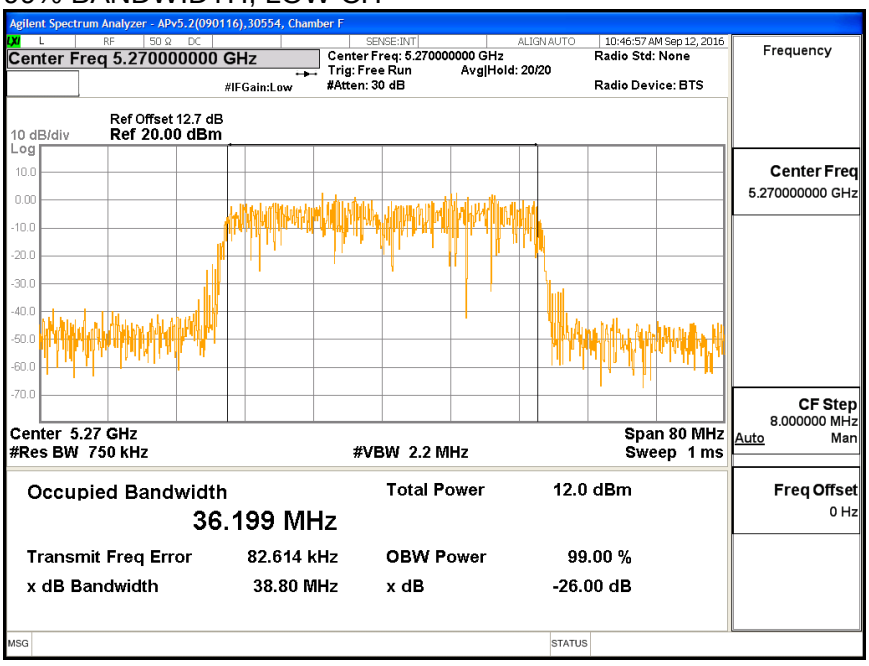
None; for reporting purposes only.

RESULTS

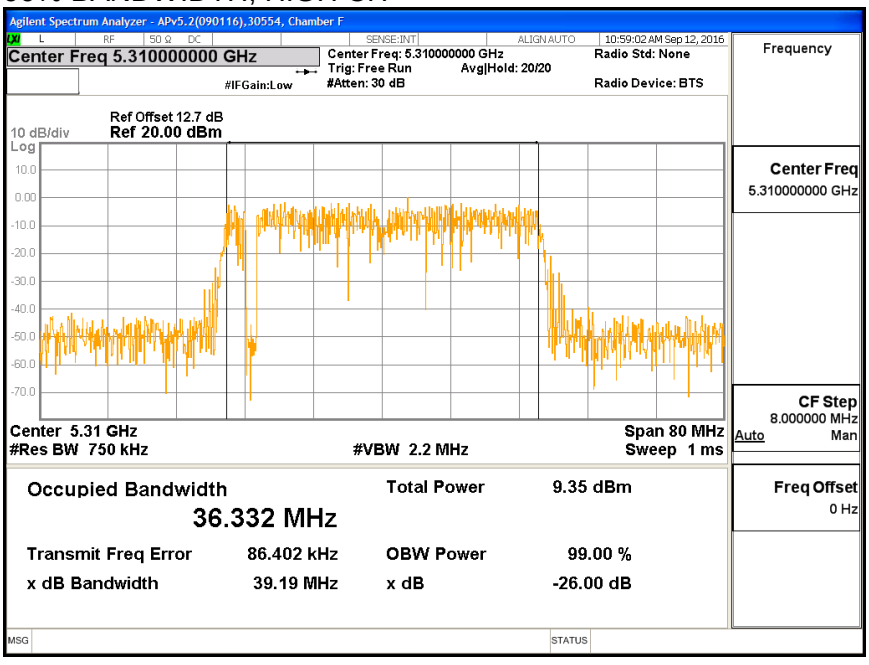
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5270	36.199	36.396	36.207
High	5310	36.332	36.281	36.386

99% BANDWIDTH, CHAIN 0

99% BANDWIDTH, LOW CH

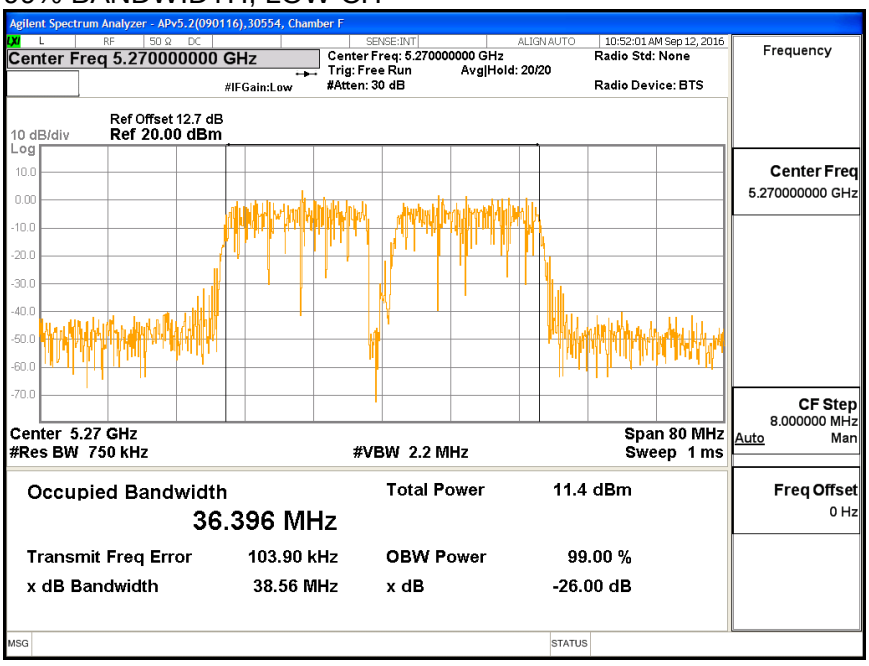


99% BANDWIDTH, HIGH CH

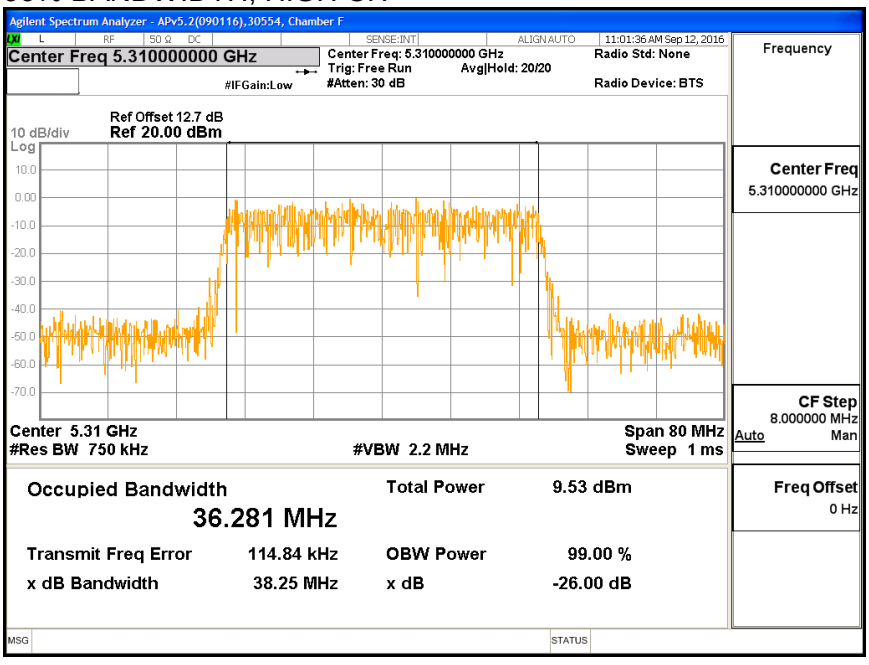


99% BANDWIDTH, CHAIN 1

99% BANDWIDTH, LOW CH

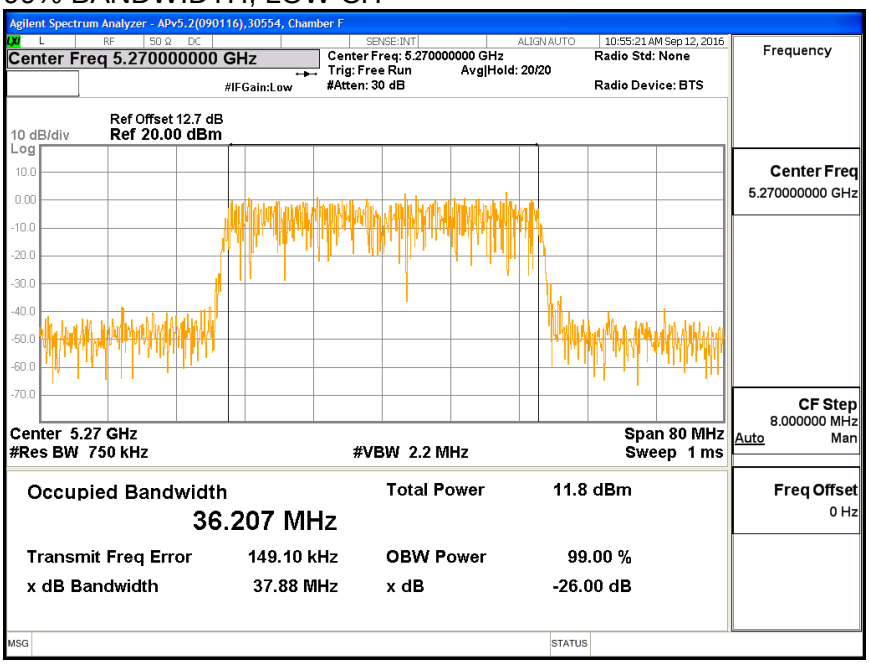


99% BANDWIDTH, HIGH CH

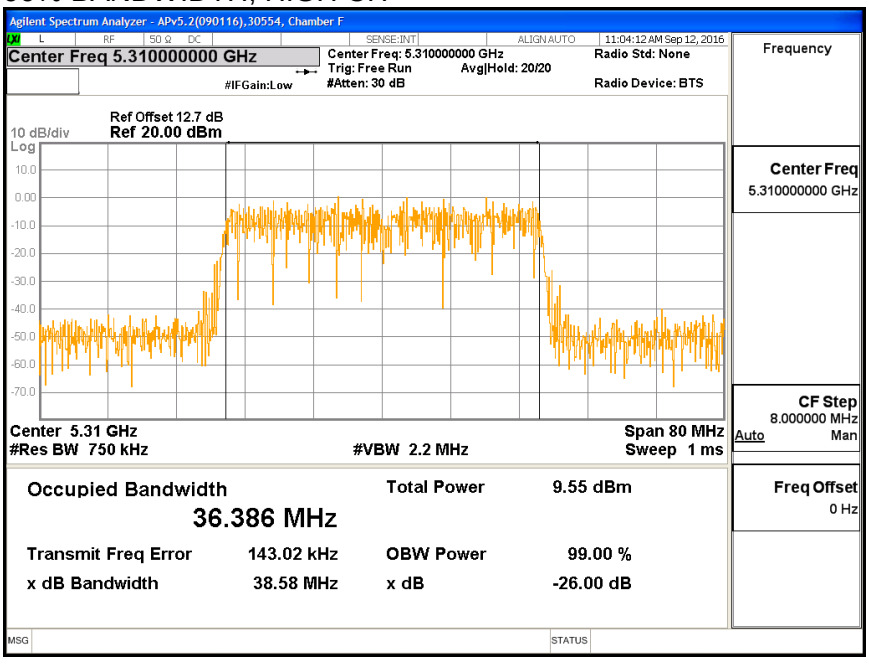


99% BANDWIDTH, CHAIN 2

99% BANDWIDTH, LOW CH



99% BANDWIDTH, HIGH CH



8.30.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	30606	**Date:**	9/12/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5270	11.49	11.45	11.40	16.22
High	5310	9.40	9.50	9.36	14.19

8.30.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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)
4.90	7.60	6.00	11.01

RESULTS

ID:	30606	Date:	9/12/16

Bandwidth, Antenna Gain and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.26	36.199	11.01	11.01	21.58	5.99
High	5310	40.44	36.281	11.01	11.01	21.59	5.99

Duty Cycle CF (dB)	0.58	Included in Calculations of Corr'd PSD

Output Power Results

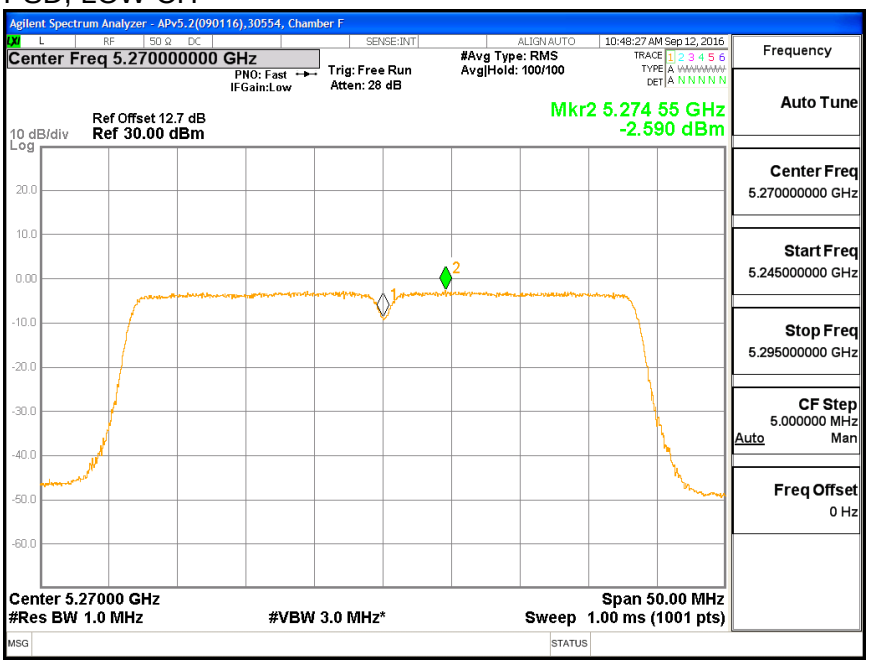
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	11.49	11.45	11.40	16.22	21.58	-5.36
High	5310	9.40	9.50	9.36	14.19	21.59	-7.40

PSD Results

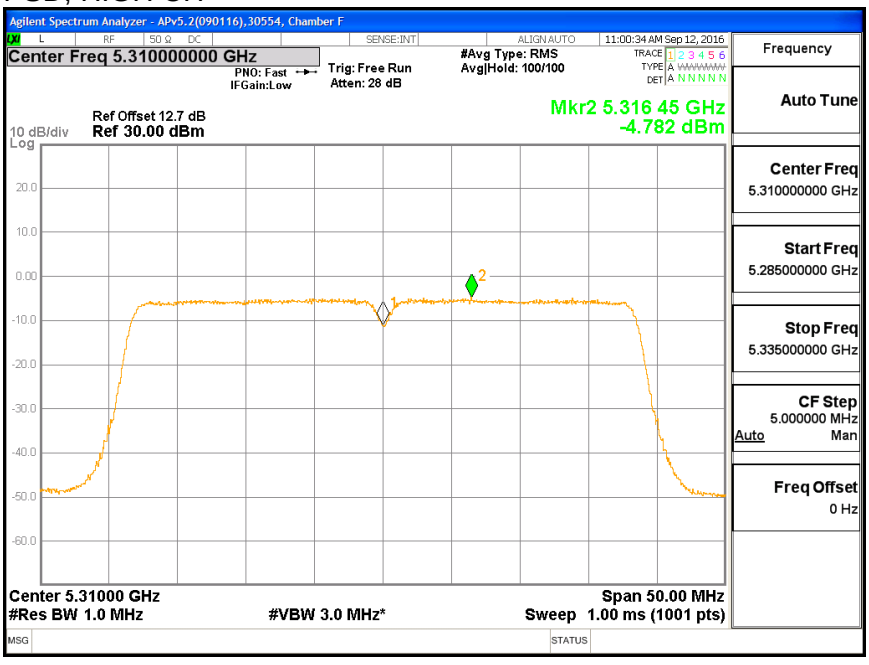
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-2.59	-2.81	-2.75	2.64	5.99	-3.35
High	5310	-4.78	-4.86	-4.63	0.60	5.99	-5.39

PSD, CHAIN 0

PSD, LOW CH

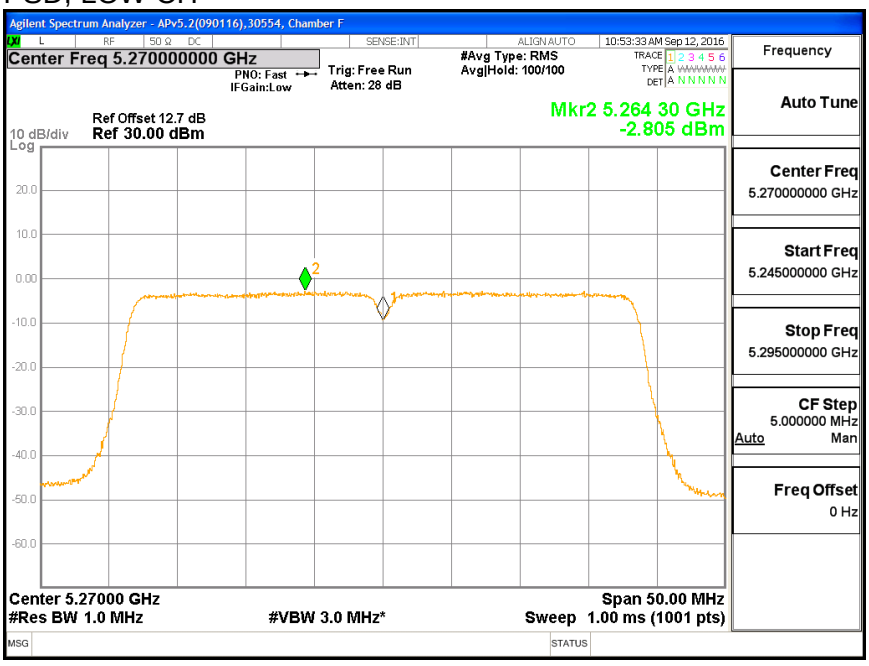


PSD, HIGH CH

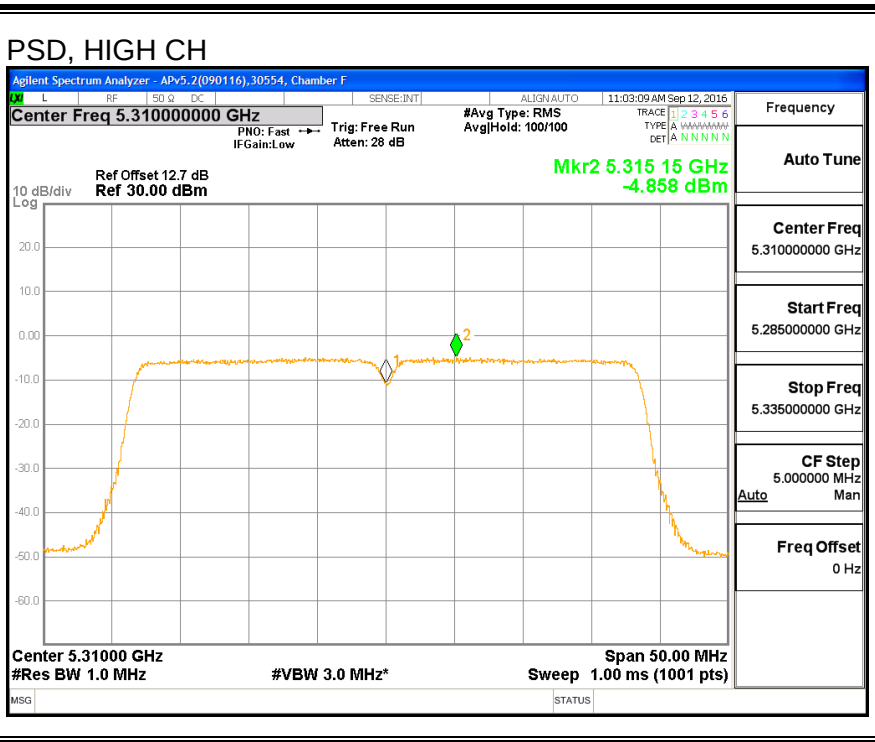


PSD, CHAIN 1

PSD, LOW CH

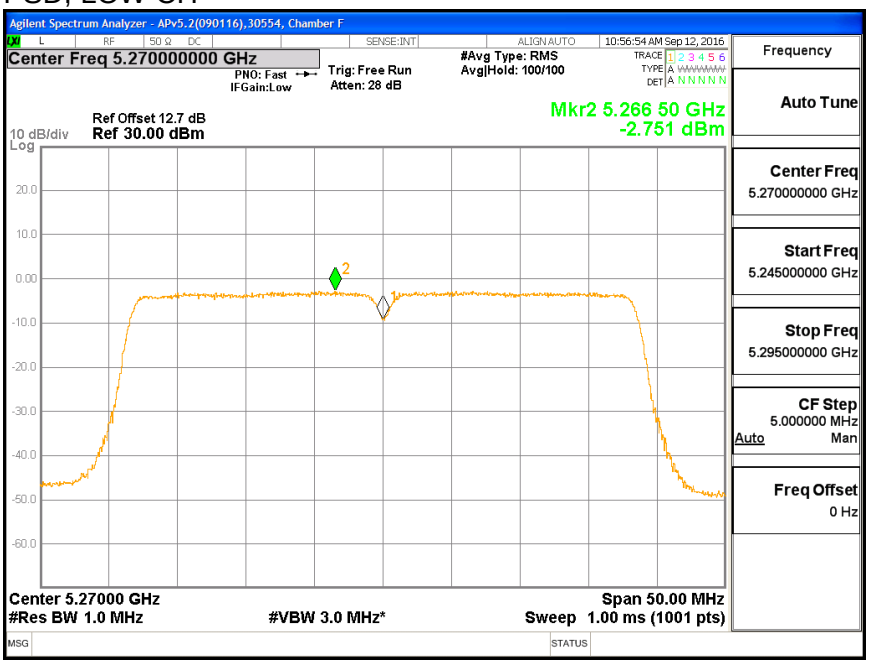


PSD, HIGH CH

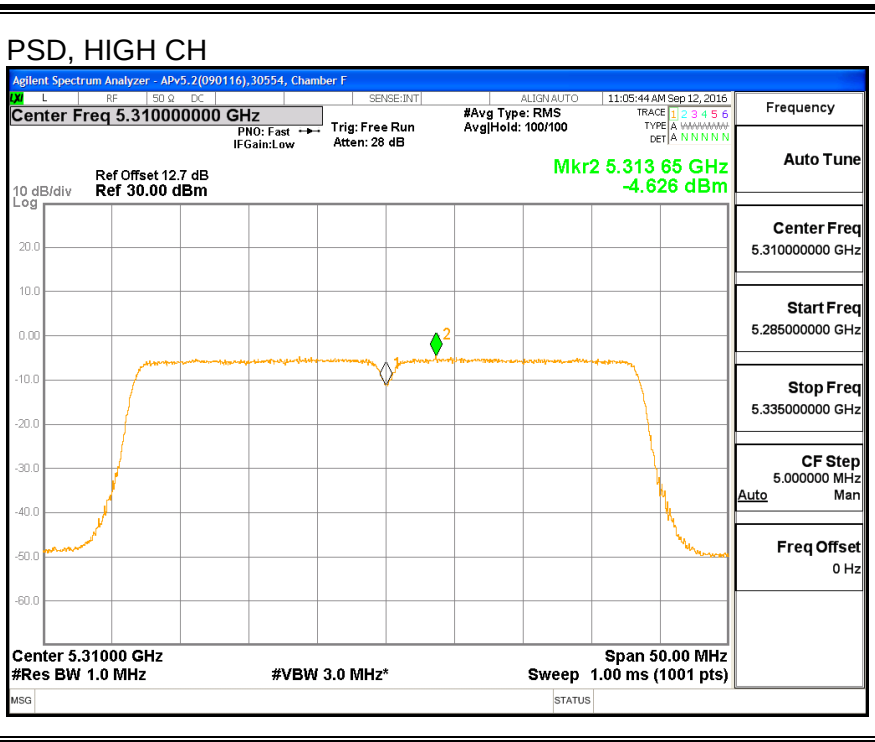


PSD, CHAIN 2

PSD, LOW CH



PSD, HIGH CH



8.31. 802.11ac VHT80 CHAIN 0 MODE IN THE 5.3 GHz BAND

8.31.1. 26 dB BANDWIDTH

LIMITS

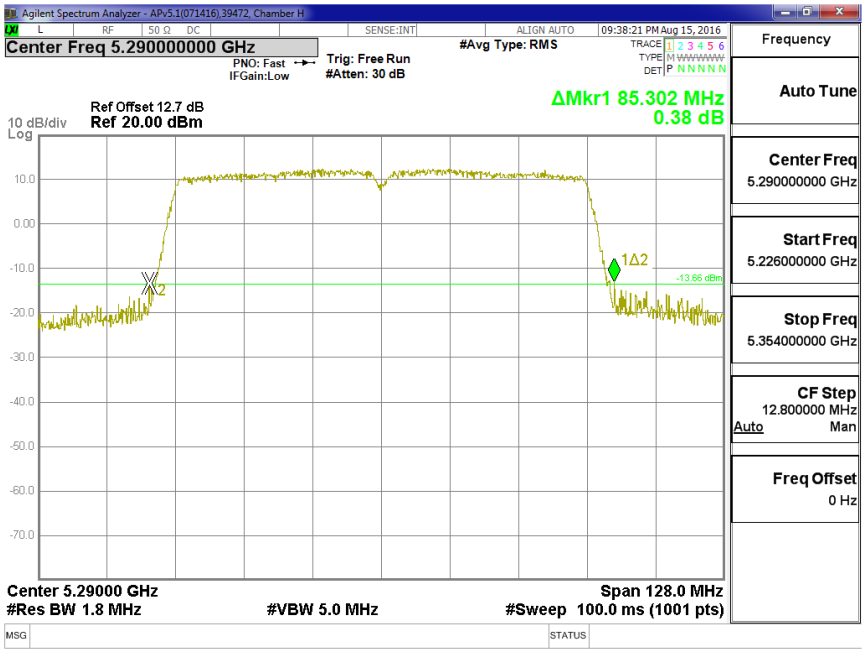
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Mid	5290	85.302

26 dB BANDWIDTH

BANDWIDTH, MID CH



8.31.2. **99% BANDWIDTH**

LIMITS

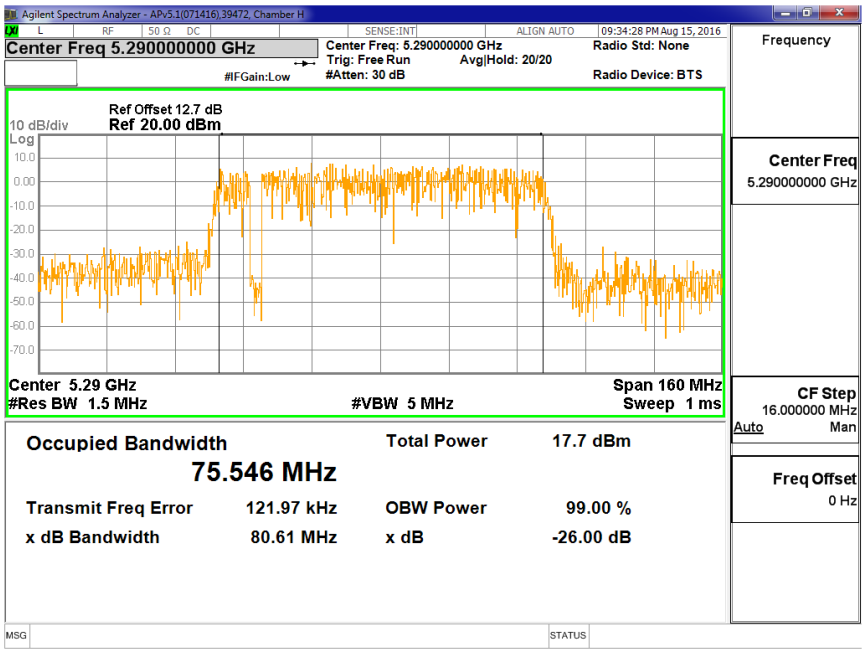
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5290	75.546

99% BANDWIDTH

BANDWIDTH, MID CH



8.31.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	30554	**Date:**	9/13/16

Channel	Frequency (MHz)	Power (dBm)
Mid	5290	12.35

8.31.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

RESULTS

ID:	30554	Date:	9/13/16

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	85.302	75.546	4.90	24.00	11.00

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD

Output Power Results

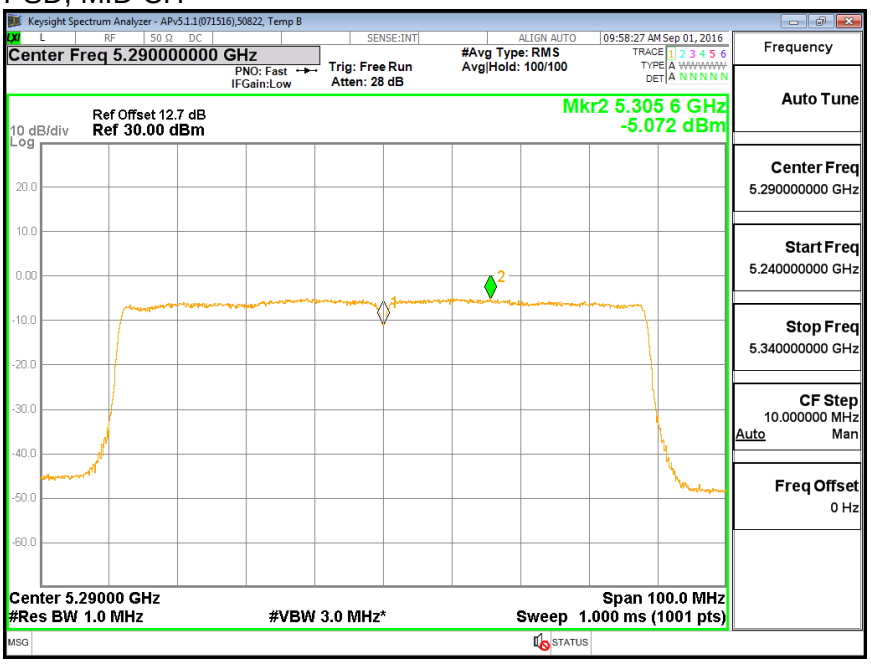
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.35	12.35	24.00	-11.65

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-5.07	-4.98	11.00	-15.98

PSD

PSD, MID CH



8.32. 802.11ac VHT80 CHAIN 1 MODE IN THE 5.3 GHz BAND

8.32.1. 26 dB BANDWIDTH

LIMITS

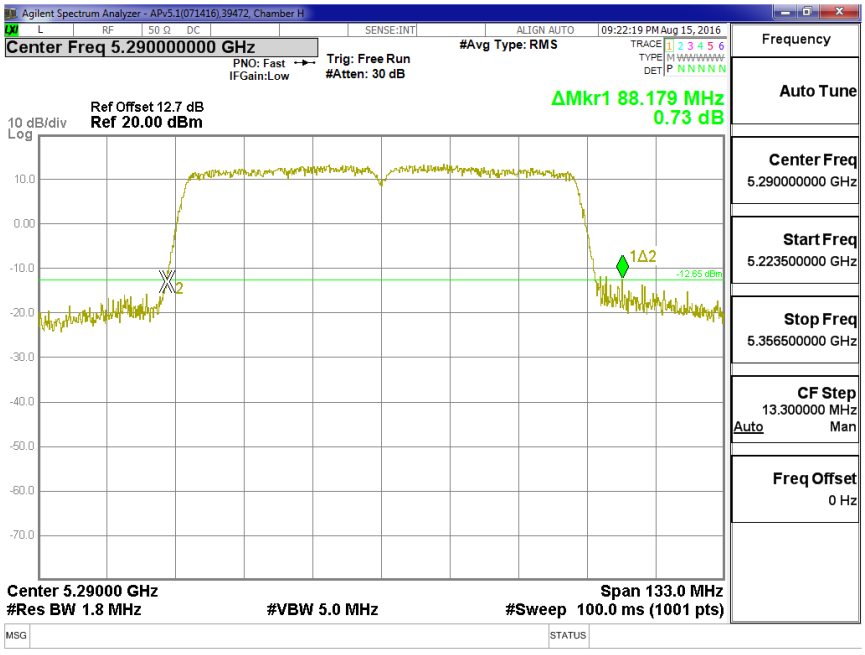
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Mid	5290	88.179

26 dB BANDWIDTH

BANDWIDTH, MID CH



8.32.2. **99% BANDWIDTH**

LIMITS

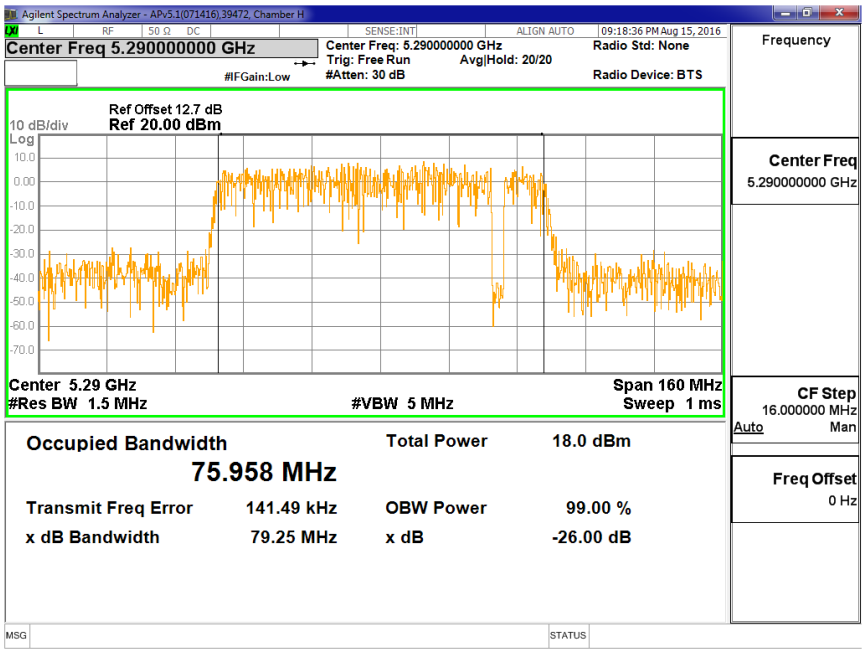
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5290	75.958

99% BANDWIDTH

BANDWIDTH, MID CH



8.32.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	30554	**Date:**	9/13/16

Channel	Frequency (MHz)	Power (dBm)
Mid	5290	12.45

8.32.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

RESULTS

ID:	30554	Date:	9/13/16

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	88.179	75.958	7.60	24.00	9.40

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD

Output Power Results

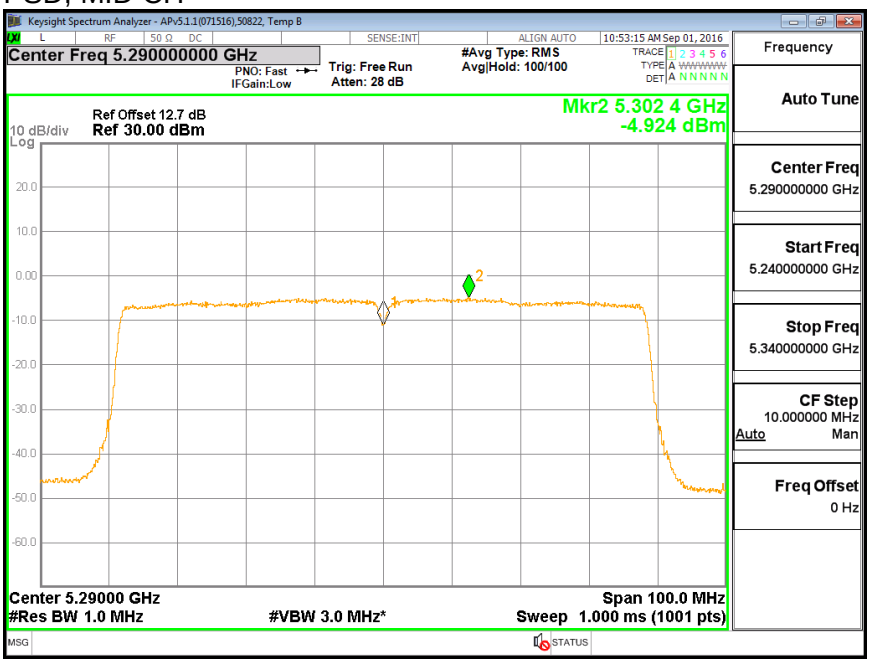
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.45	12.45	24.00	-11.55

PPSD Results

Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-4.92	-4.83	9.40	-14.23

PSD

PSD, MID CH



8.33. 802.11ac VHT80 CHAIN 2 MODE IN THE 5.3 GHz BAND

8.33.1. 26 dB BANDWIDTH

LIMITS

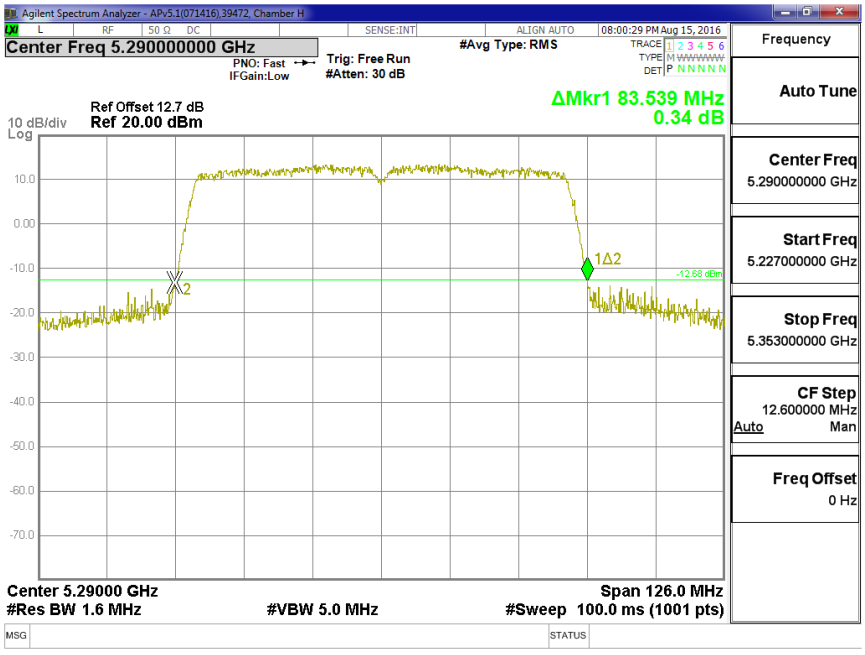
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Mid	5290	83.539

26 dB BANDWIDTH

BANDWIDTH, MID CH



8.33.2. 99% BANDWIDTH

LIMITS

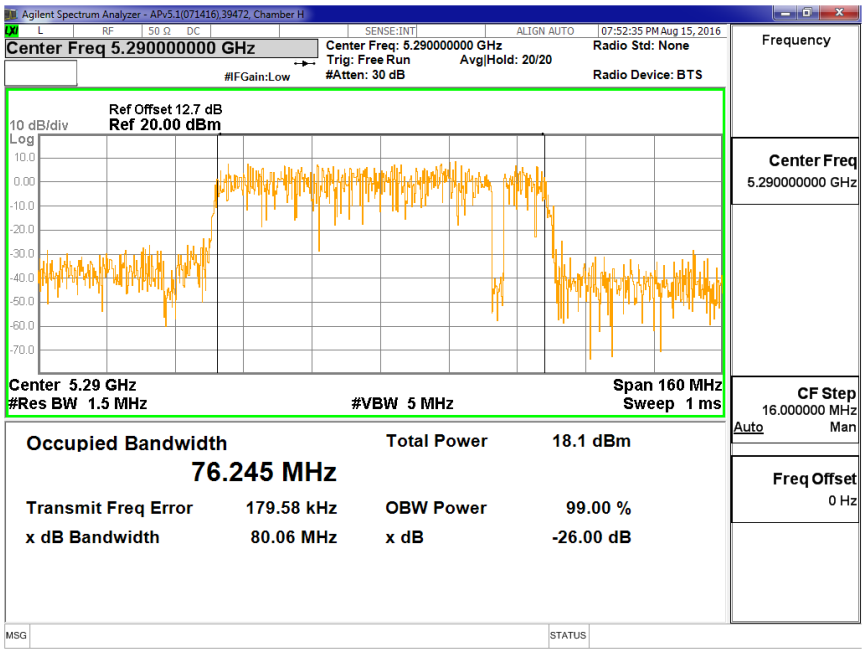
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5290	76.245

99% BANDWIDTH

BANDWIDTH, MID CH



8.33.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	30554	**Date:**	9/13/16

Channel	Frequency (MHz)	Power (dBm)
Mid	5290	12.49

8.33.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

RESULTS

ID:	30554	Date:	9/13/16

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	83.539	76.245	6.00	24.00	11.00

Duty Cycle CF (dB)	0.09	Included in Calculations of Corr'd PSD

Output Power Results

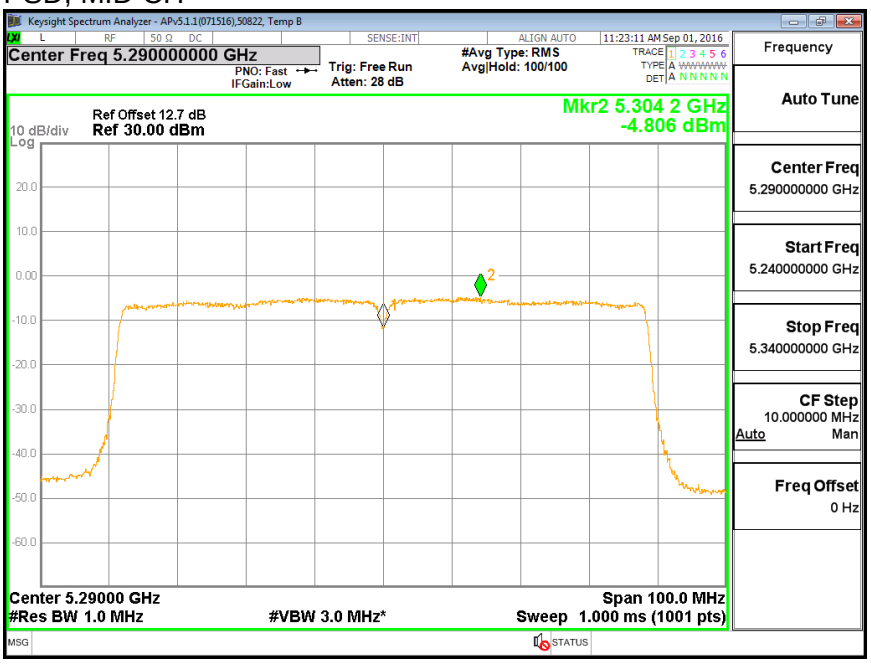
Channel	Frequency (MHz)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.49	12.49	24.00	-11.51

PPSD Results

Channel	Frequency (MHz)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-4.81	-4.72	11.00	-15.72

PSD

PSD, MID CH



8.34. 802.11ac VHT80 2Tx (CHAIN 0 + CHAIN 1) CDD MODE IN THE 5.3 GHz BAND

8.34.1. 26 dB BANDWIDTH

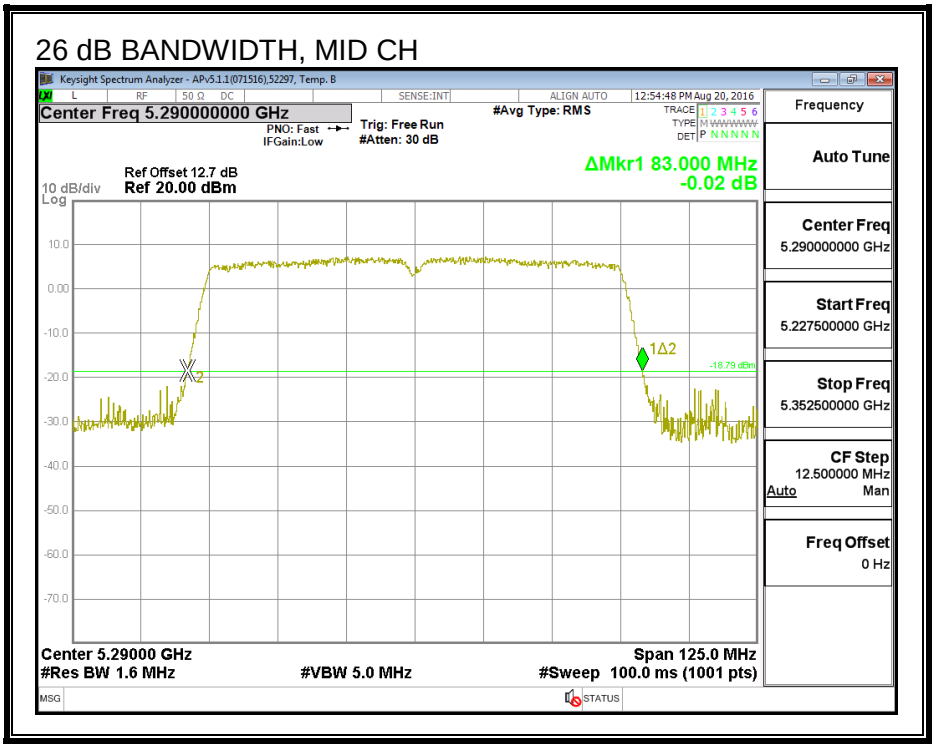
LIMITS

None; for reporting purposes only.

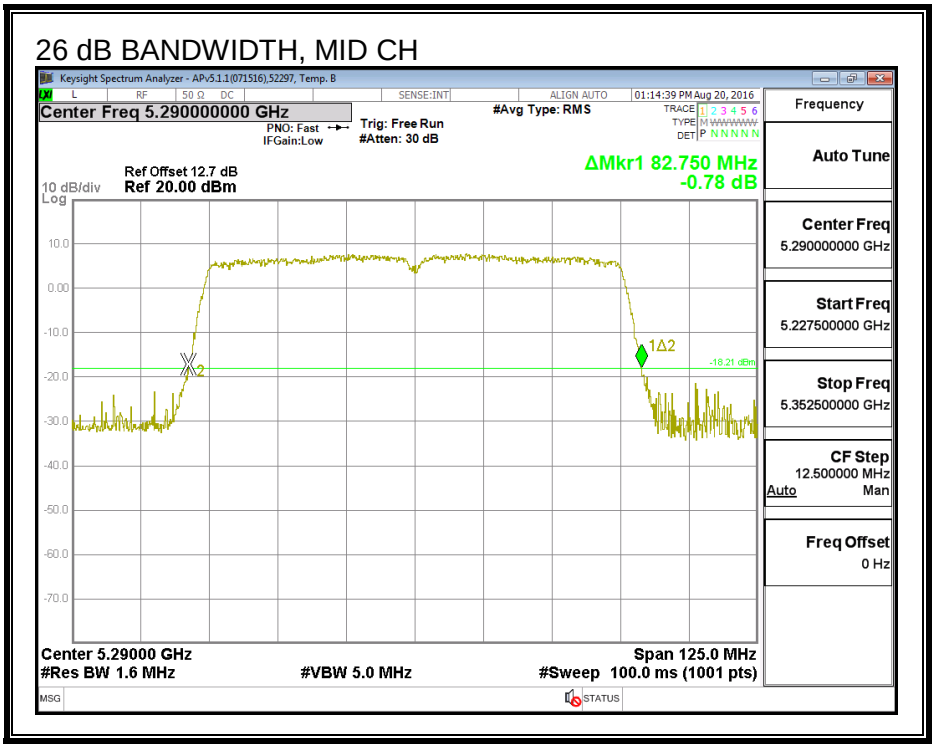
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5290	83.000	82.750

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 1



8.34.2. **99% BANDWIDTH**

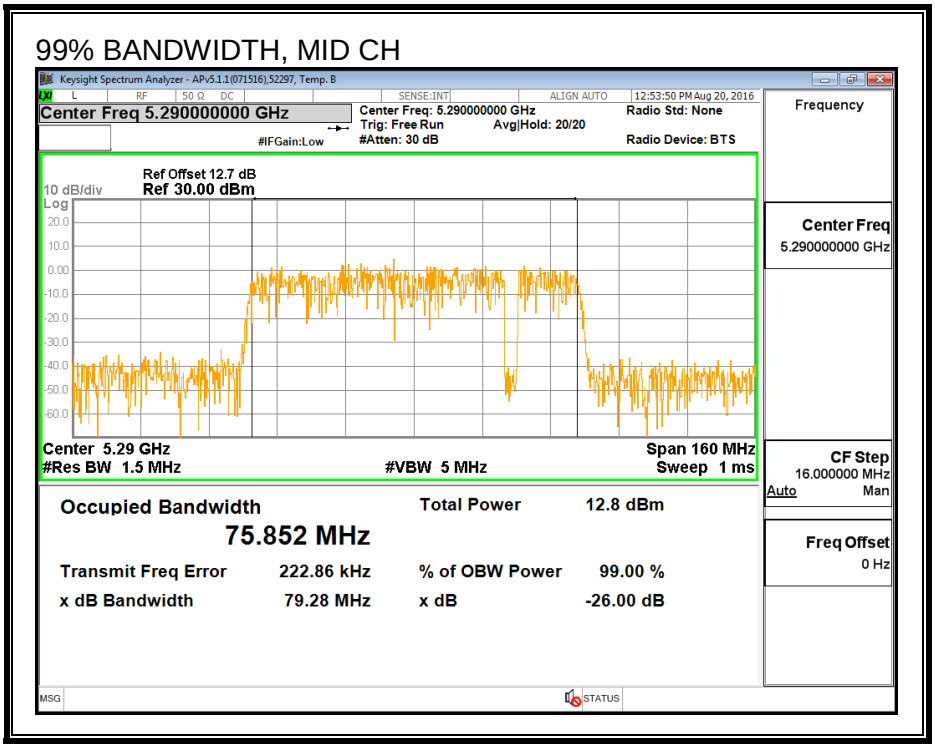
LIMITS

None; for reporting purposes only.

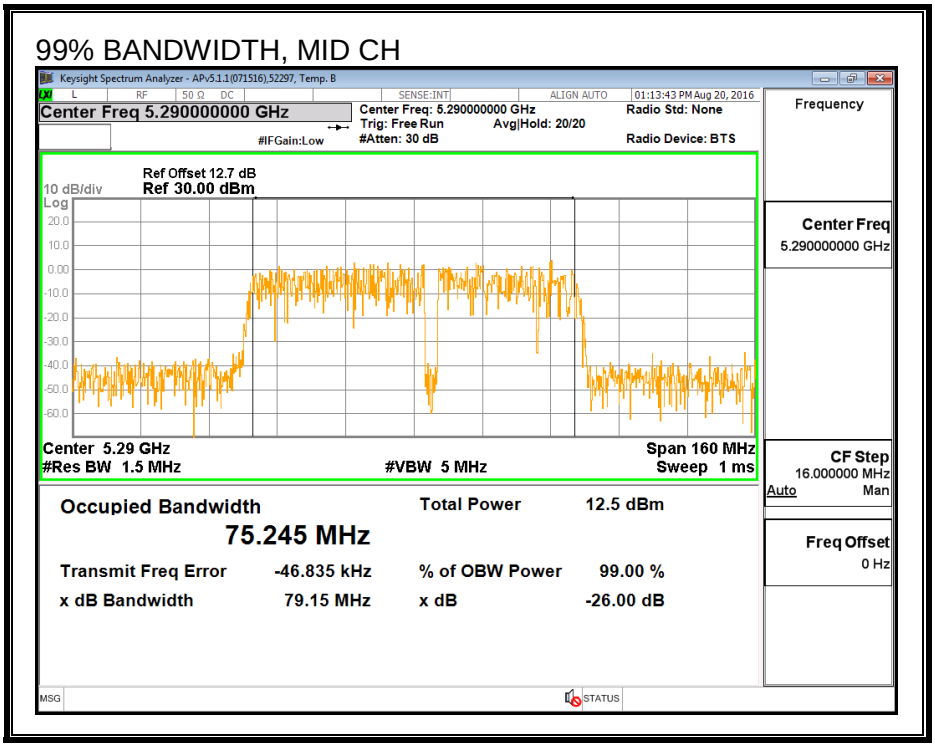
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5290	75.852	75.245

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



8.34.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	43573	**Date:**	9/7/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Mid	5290	8.98	8.91	11.96

8.34.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.90	7.60	6.46

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.90	7.60	9.36

RESULTS

ID:	43573	Date:	9/7/16

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	82.75	75.25	6.46	9.36	24.00	7.64

Duty Cycle CF (dB)	0.18	Included in Calculations of Corr'd PSD

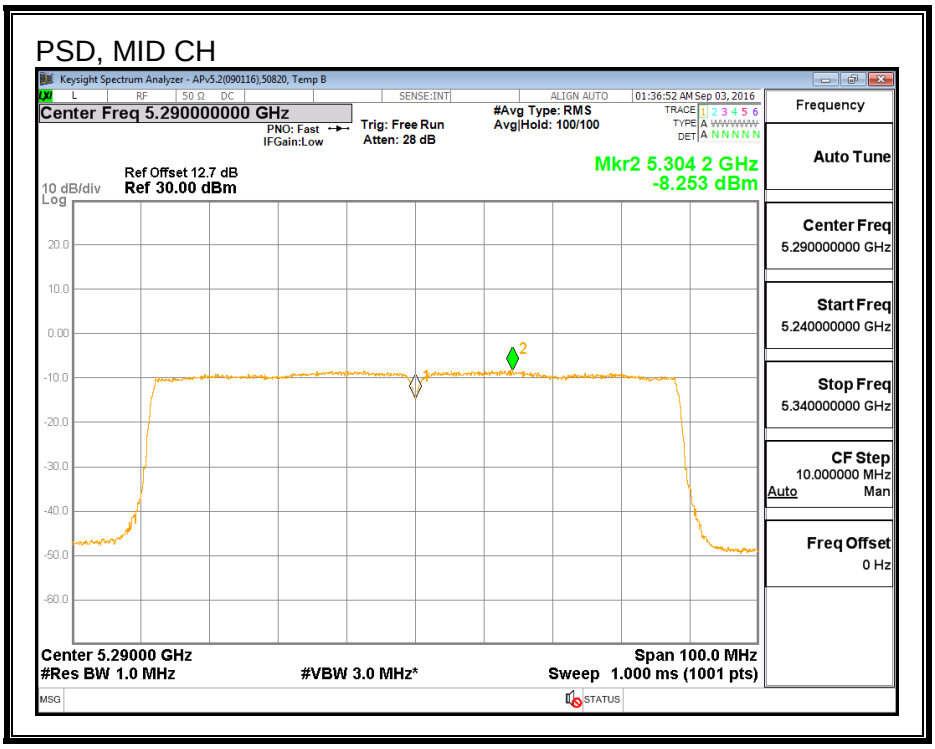
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	8.98	8.91	11.96	24.00	-12.04

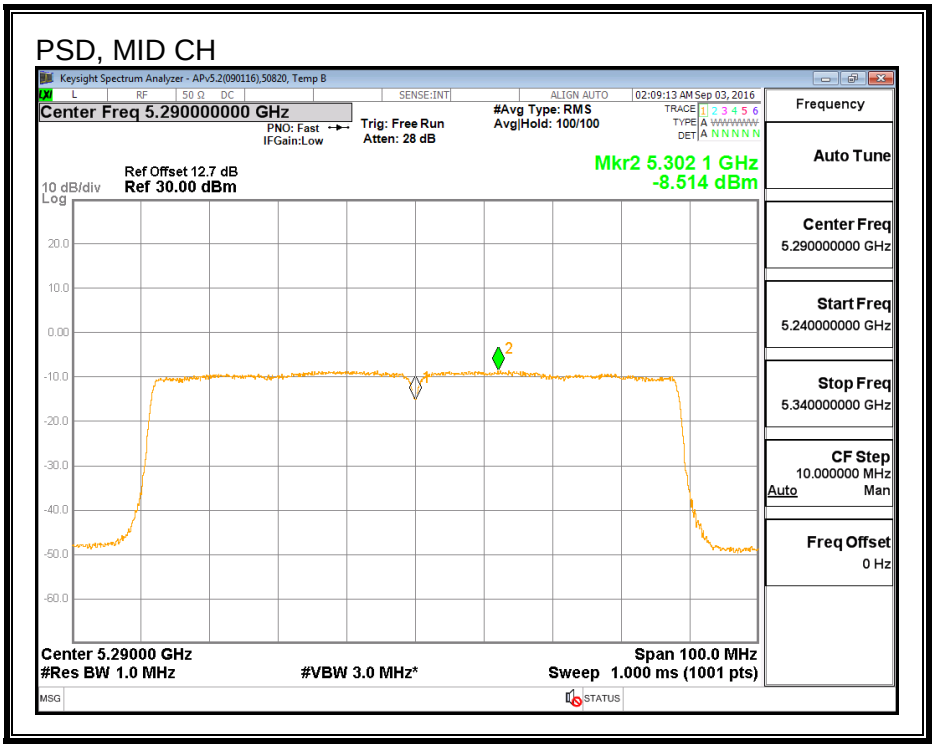
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-8.25	-8.51	-5.19	7.64	-12.83

PSD, CHAIN 0



PSD, CHAIN 1



8.35. 802.11ac VHT80 2Tx (CHAIN 0 + CHAIN 2) CDD MODE IN THE 5.3 GHz BAND

8.35.1. 26 dB BANDWIDTH

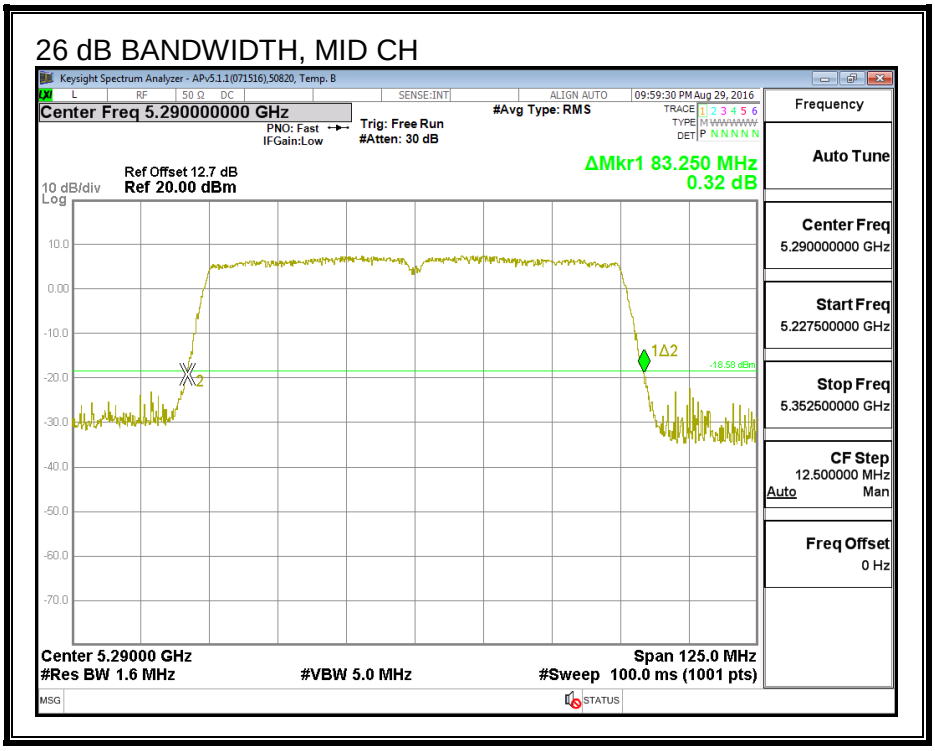
LIMITS

None; for reporting purposes only.

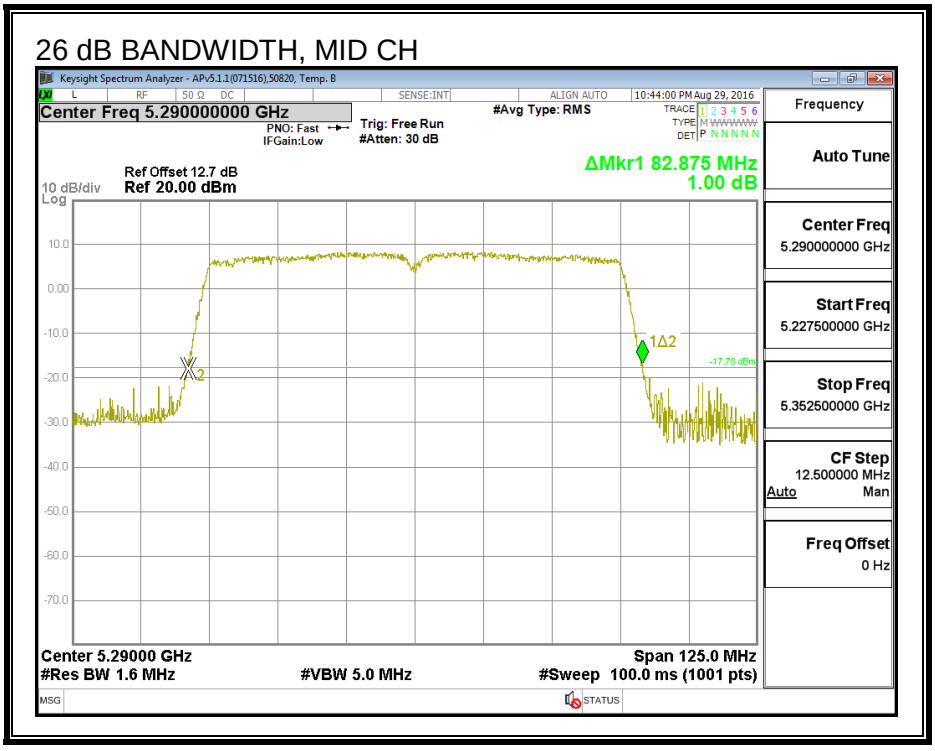
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 2 (MHz)
Mid	5290	83.250	82.875

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 2



8.35.2. **99% BANDWIDTH**

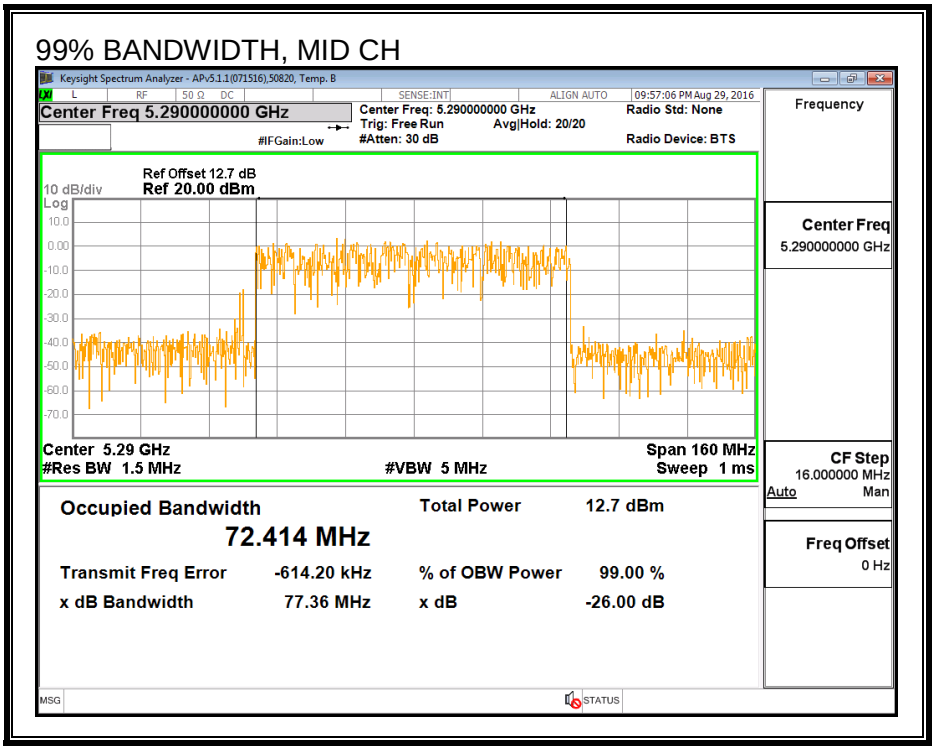
LIMITS

None; for reporting purposes only.

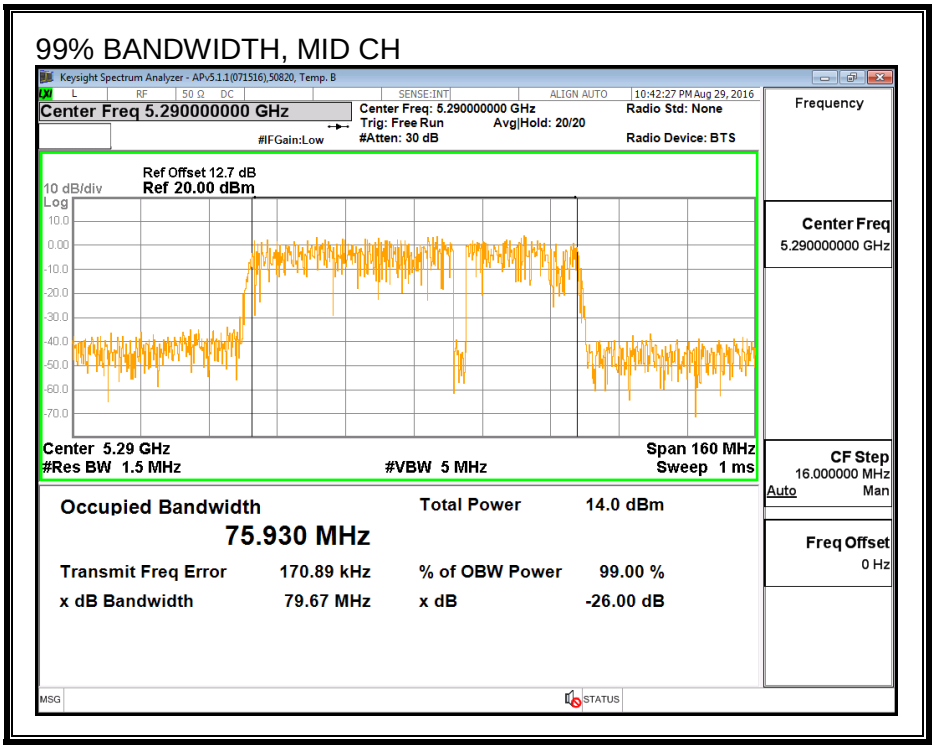
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 2 (MHz)
Mid	5290	72.414	75.930

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 2



8.35.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	43573	Date:	9/7/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Mid	5290	8.85	8.97	11.92

8.35.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

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

DIRECTIONAL ANTENNA GAIN

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

Chain 0 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
4.90	6.00	5.48

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

Chain 0 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.90	6.00	8.48

RESULTS

ID:	43573	Date:	9/7/16

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5290	82.88	72.41	5.48	8.48	24.00	8.52

Duty Cycle CF (dB)	0.18	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	8.85	8.97	11.92	24.00	-12.08

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-8.34	-8.53	-5.24	8.52	-13.77