

8.18.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)
7.10	7.60	7.36

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)
7.10	7.60	10.36

RESULTS

ID:	39004	Date:	9/2/16
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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	5260	22.2	17.8	7.36	10.36	22.14	6.64
Mid	5300	22.3	17.9	7.36	10.36	22.16	6.64
High	5320	22.2	17.9	7.36	10.36	22.17	6.64

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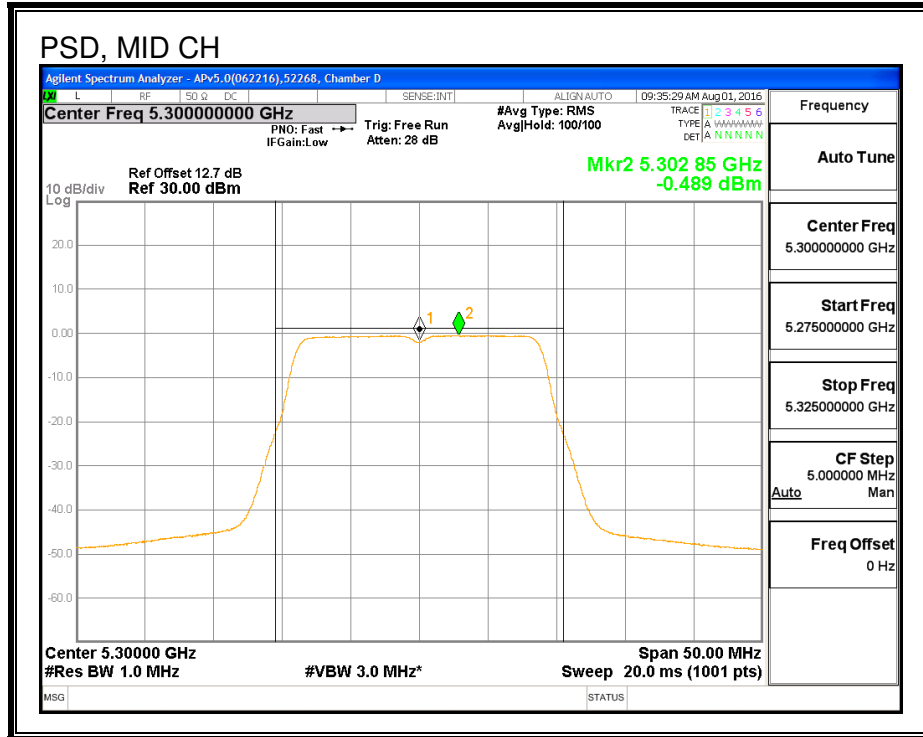
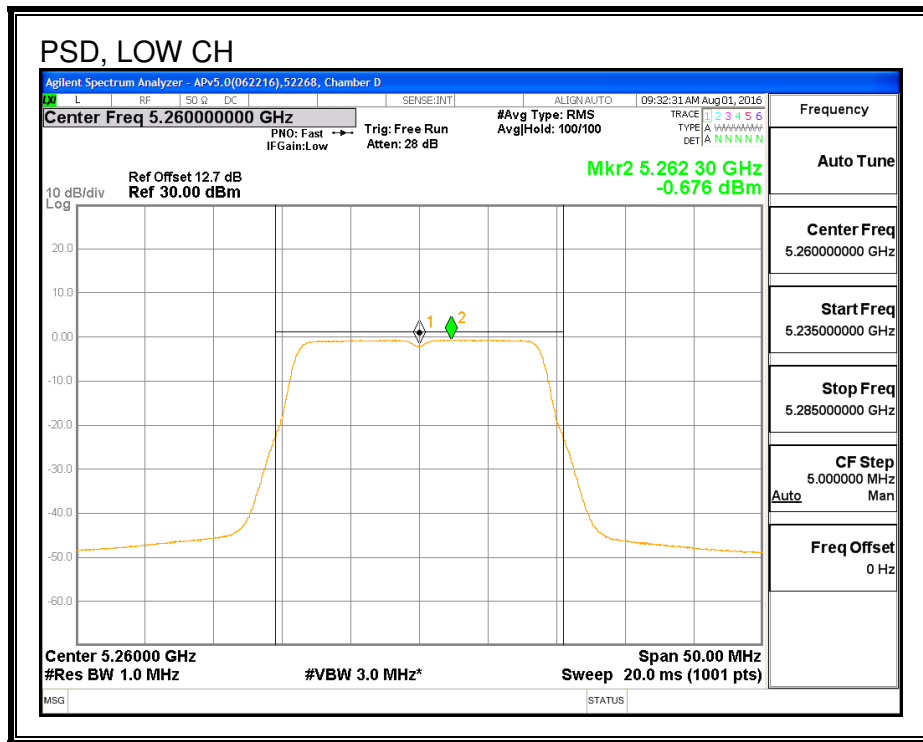
Output Power Results

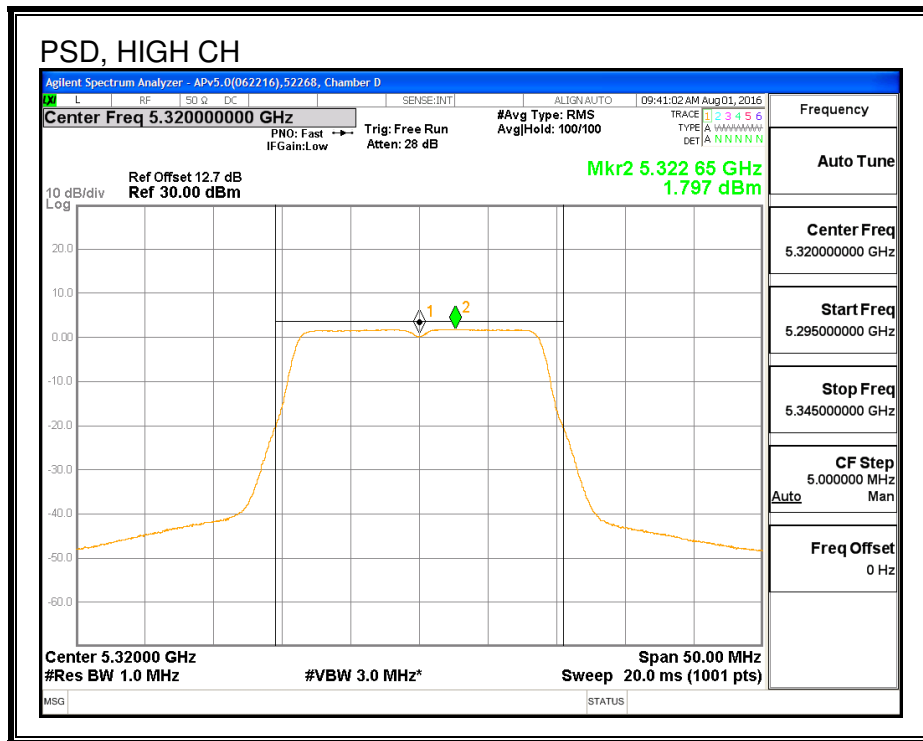
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.29	11.47	14.39	22.14	-7.75
Mid	5300	11.46	11.28	14.38	22.16	-7.78
High	5320	11.35	11.40	14.39	22.17	-7.79

PSD Results

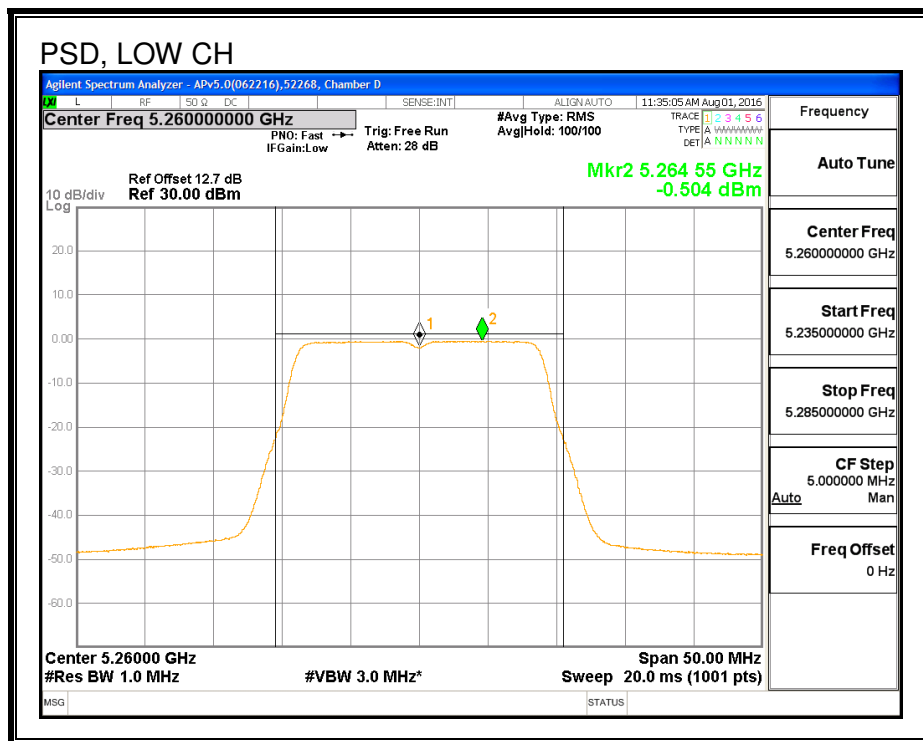
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-0.68	-0.50	2.42	6.64	-4.22
Mid	5300	-0.49	-0.69	2.42	6.64	-4.22
High	5320	1.80	1.96	4.89	6.64	-1.75

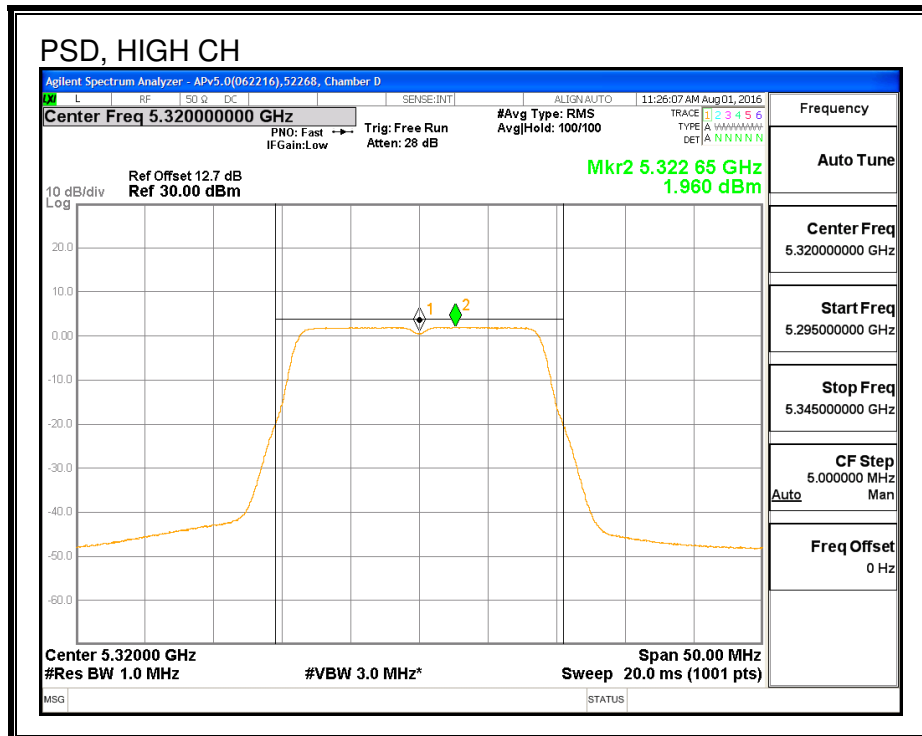
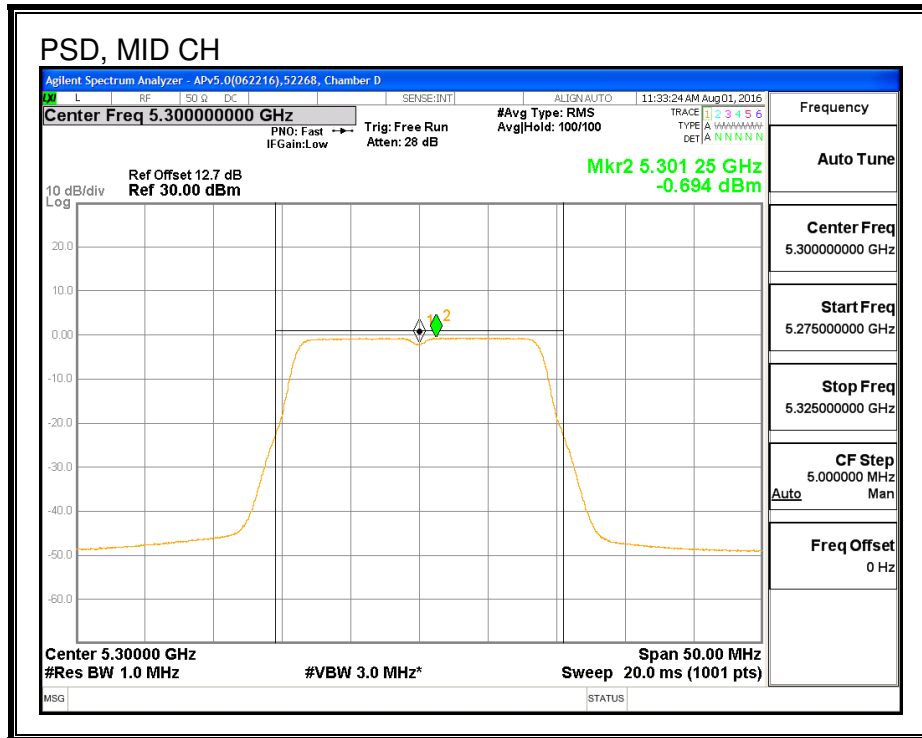
PSD, CHAIN 0





PSD, CHAIN 1





8.19. 802.11n HT20 2Tx STBC MODE IN THE 5.3 GHz BAND

8.19.1. 26 dB BANDWIDTH

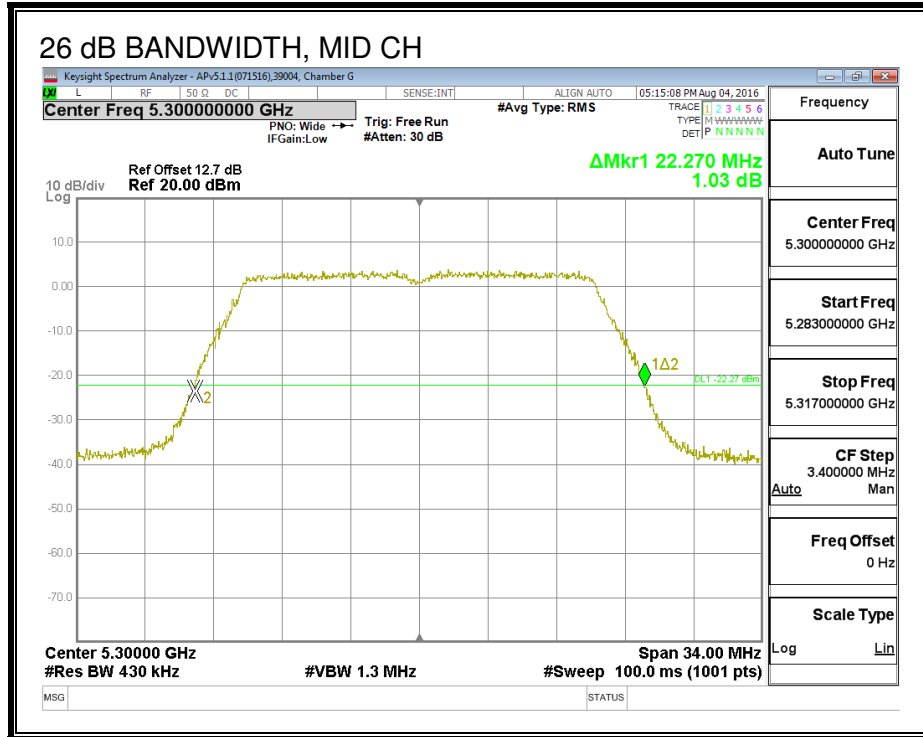
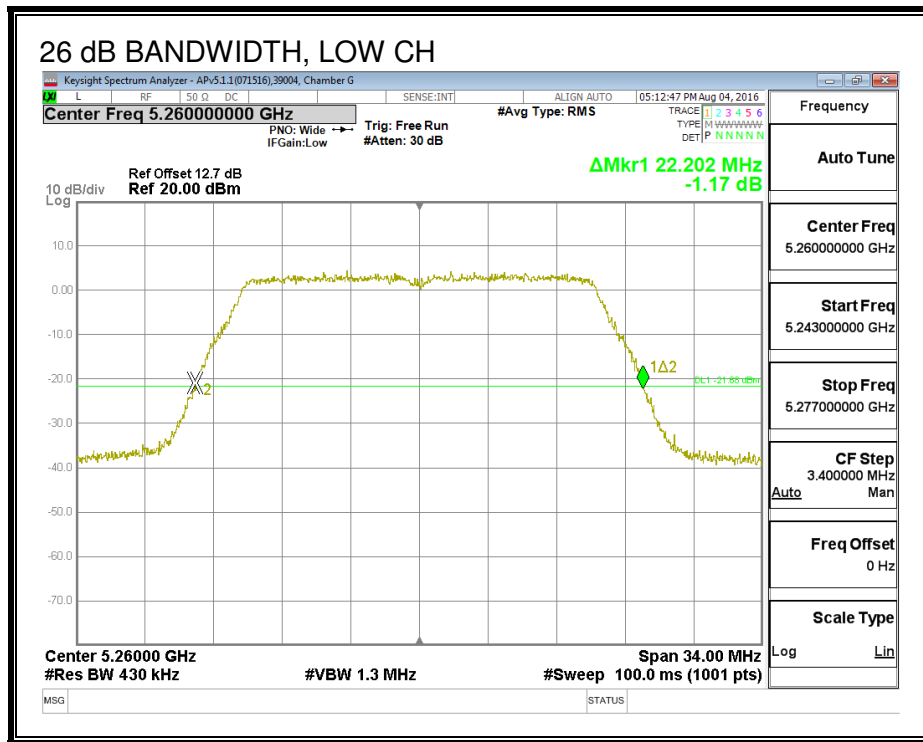
LIMITS

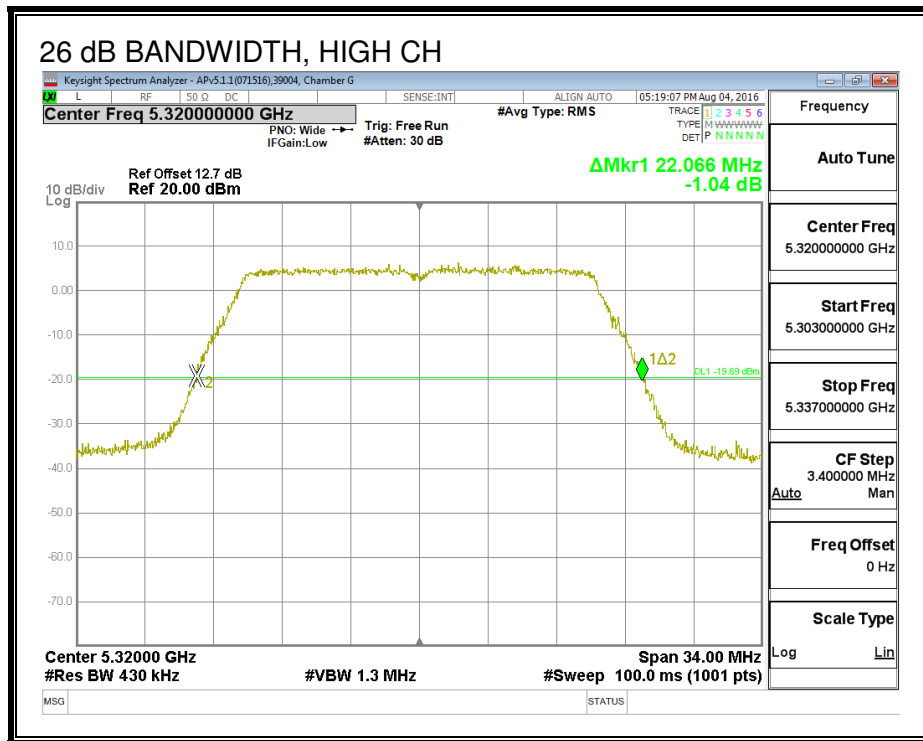
None; for reporting purposes only.

RESULTS

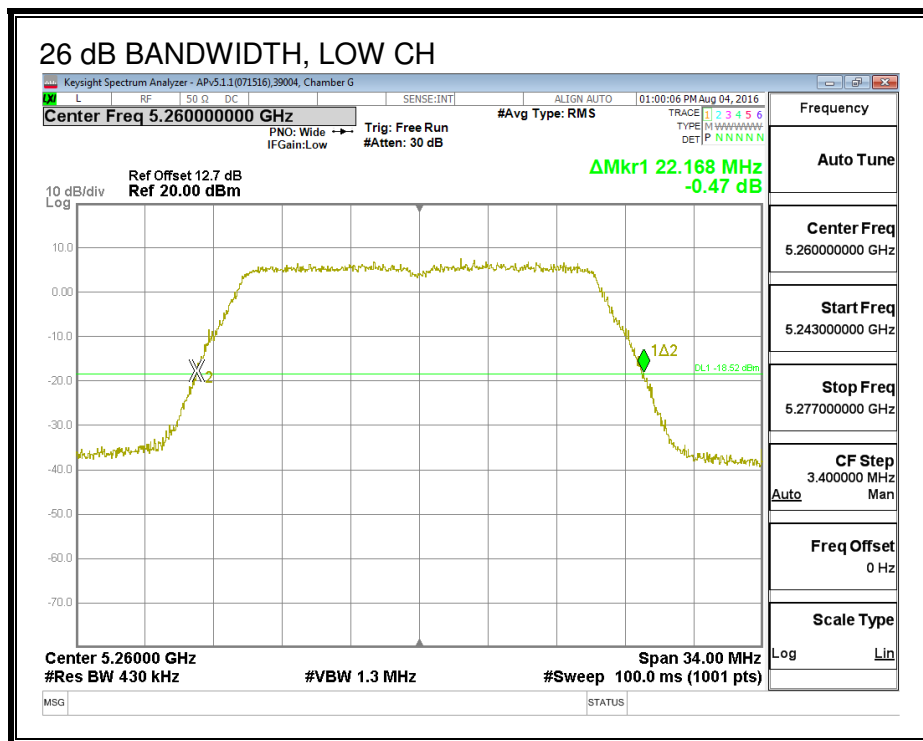
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	22.20	22.17
Mid	5300	22.27	22.27
High	5320	22.07	22.37

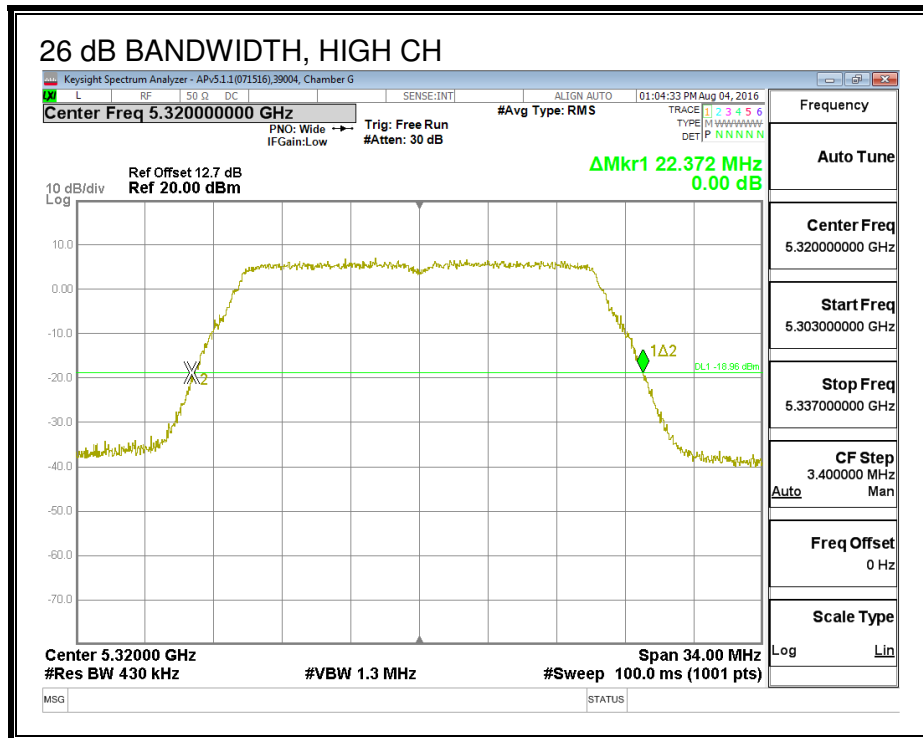
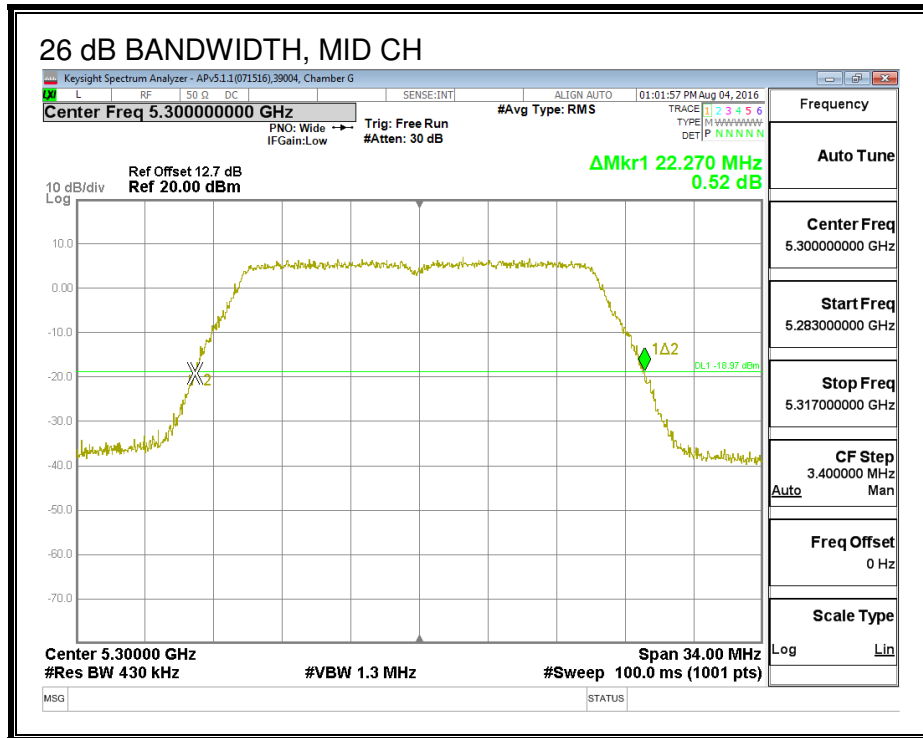
26 DB BANDWIDTH, CHAIN 0





26 DB BANDWIDTH, CHAIN 1





8.19.2. 99% BANDWIDTH

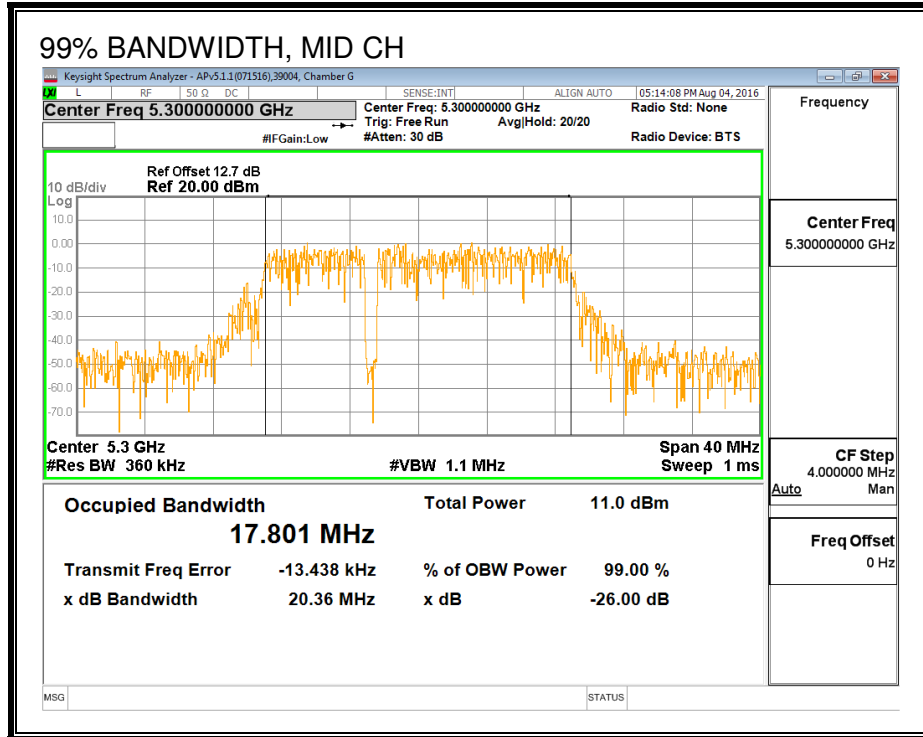
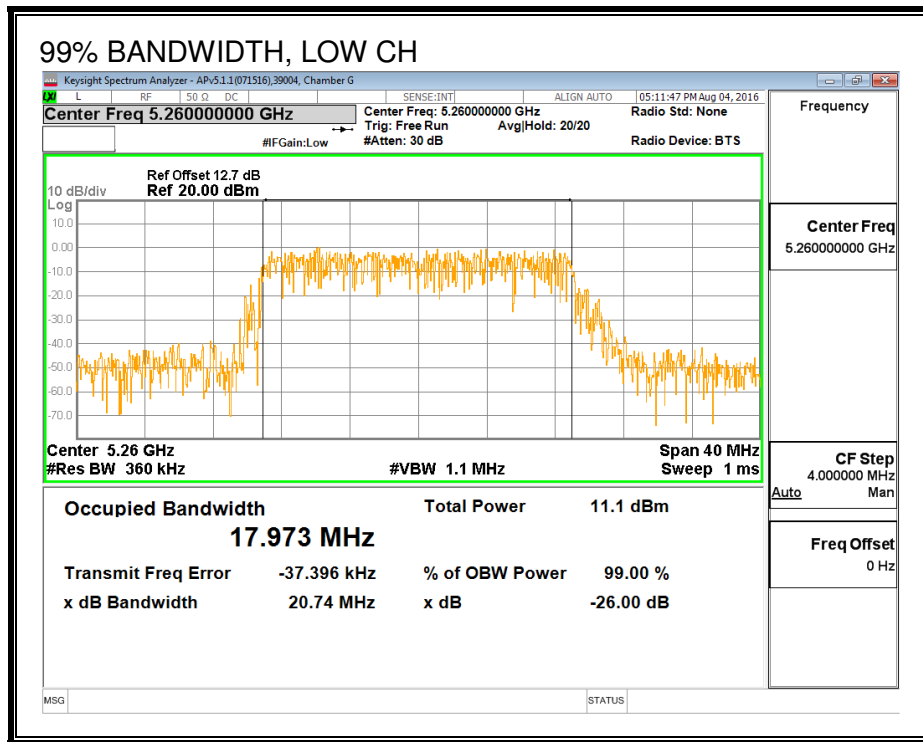
LIMITS

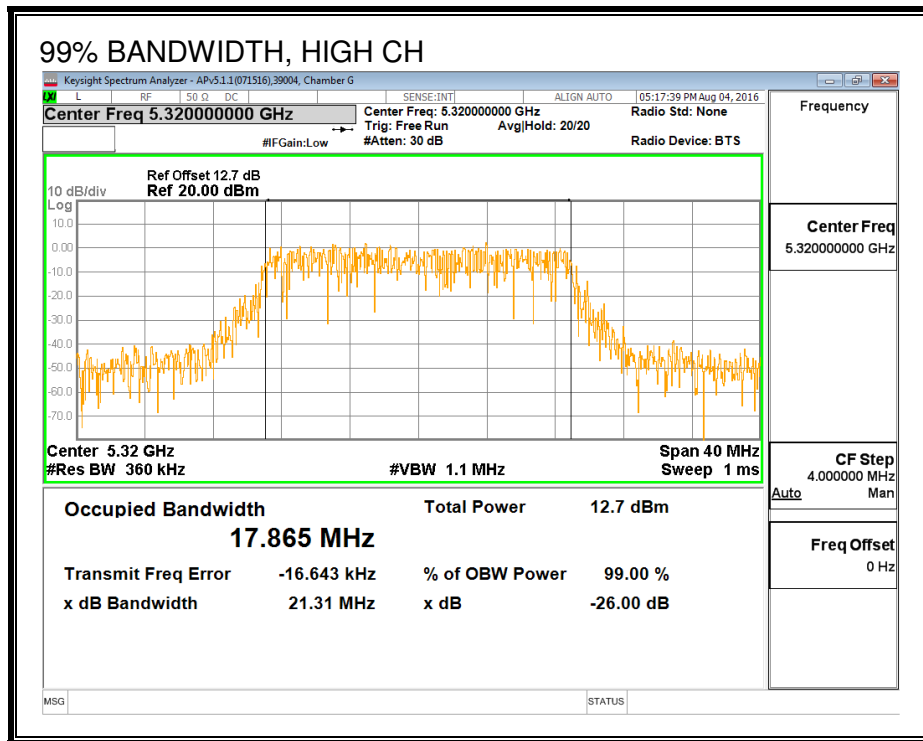
None; for reporting purposes only.

RESULTS

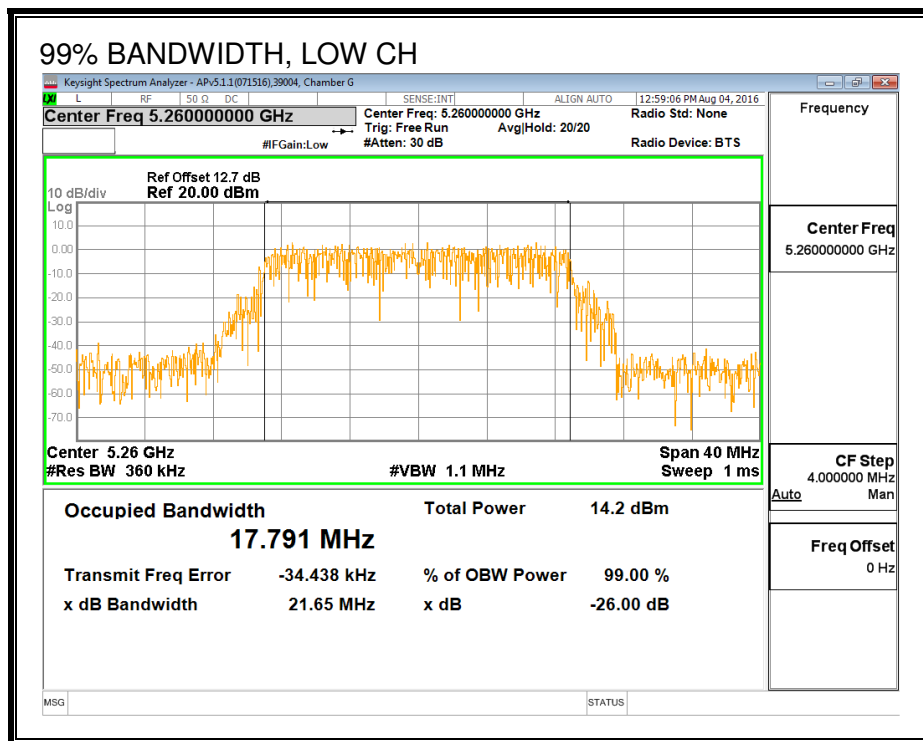
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.973	17.791
Mid	5300	17.801	17.765
High	5320	17.865	17.934

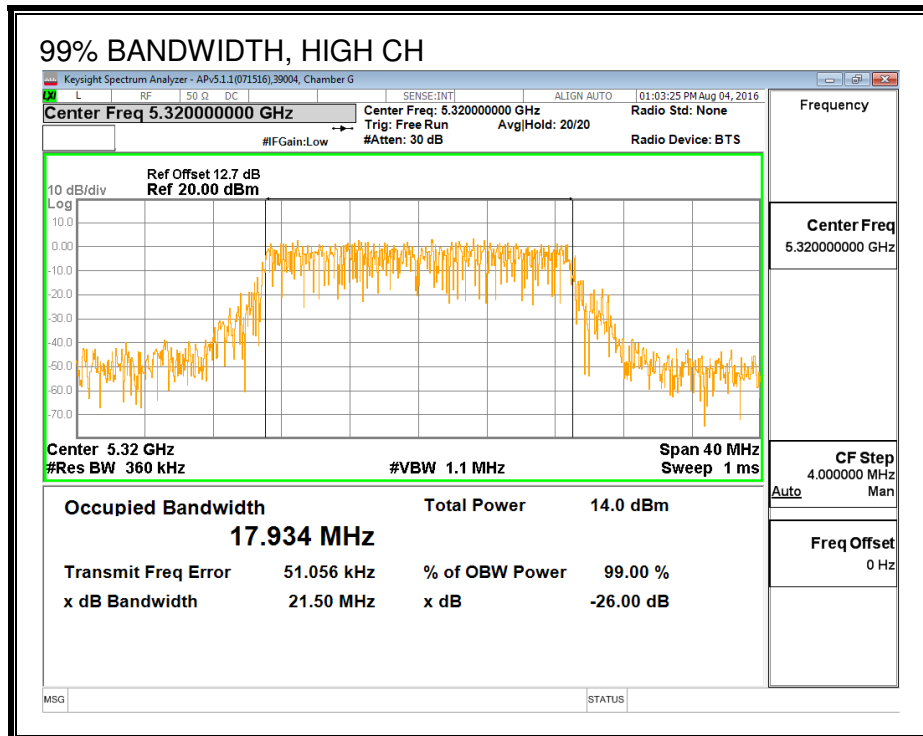
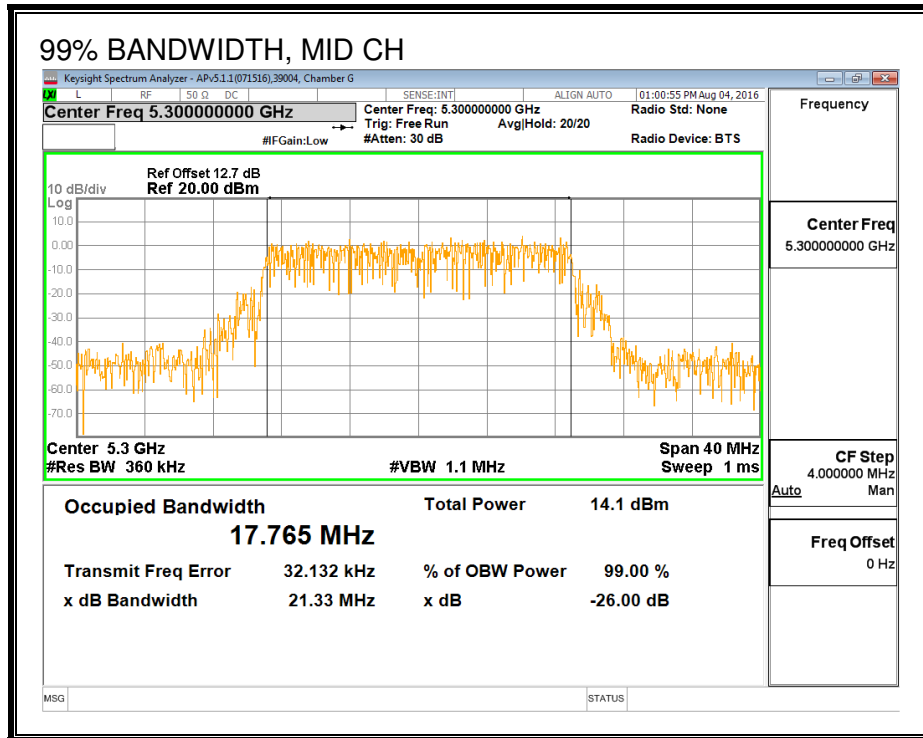
99% BANDWIDTH, CHAIN 0





99% BANDWIDTH, CHAIN 1





8.19.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5260	12.38	12.36	15.38
Mid	5300	12.42	12.39	15.42
High	5320	12.39	12.36	15.39

8.19.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)
7.10	7.60	7.36

RESULTS

ID:	39004	Date:	9/2/16
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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	5260	22.17	17.79	7.36	7.36	22.14	9.64
Mid	5300	22.27	17.77	7.36	7.36	22.14	9.64
High	5320	22.07	17.87	7.36	7.36	22.16	9.64

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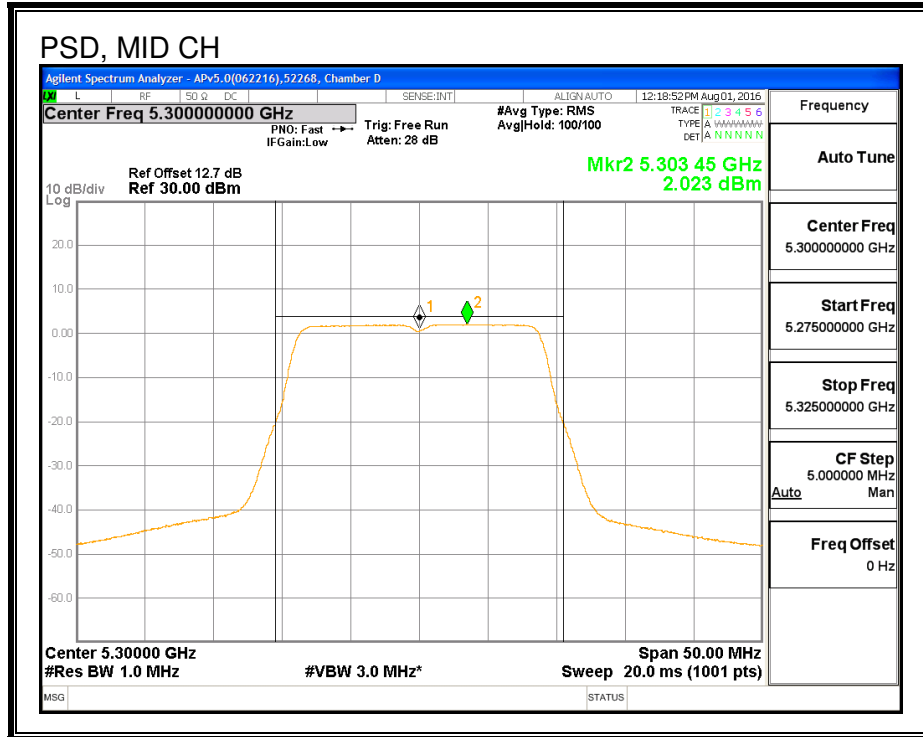
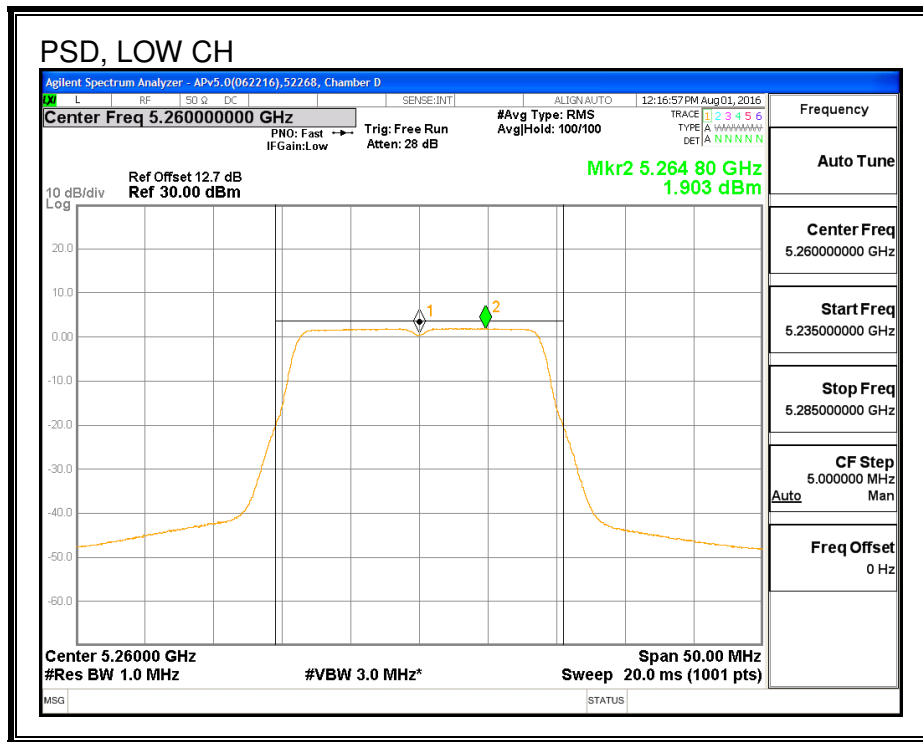
Output Power Results

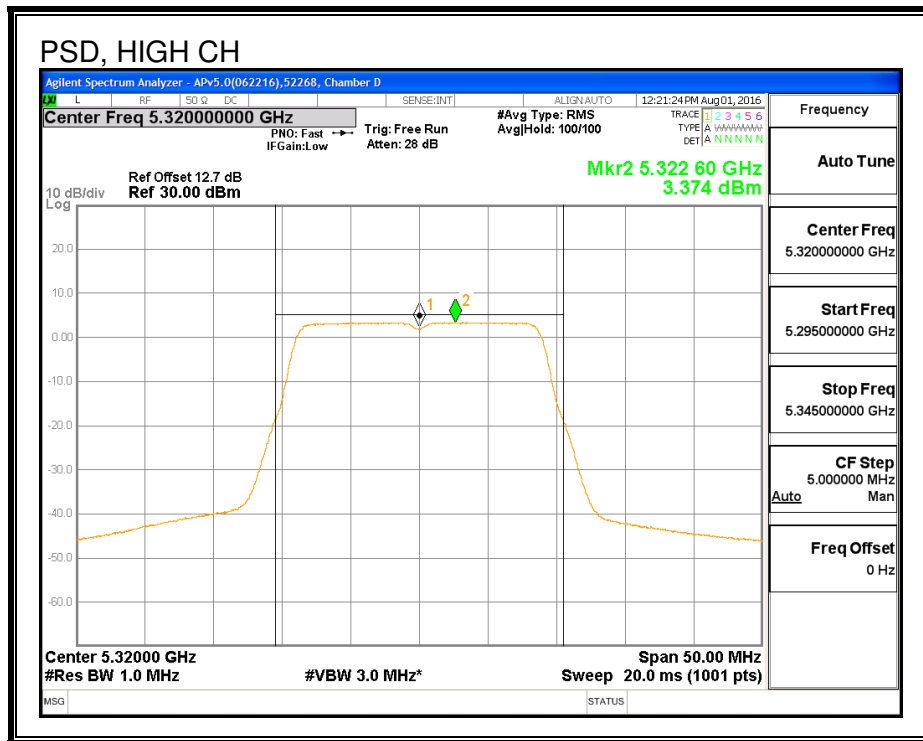
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	12.38	12.36	15.38	22.14	-6.76
Mid	5300	12.42	12.39	15.42	22.14	-6.72
High	5320	12.39	12.36	15.39	22.16	-6.77

PSD Results

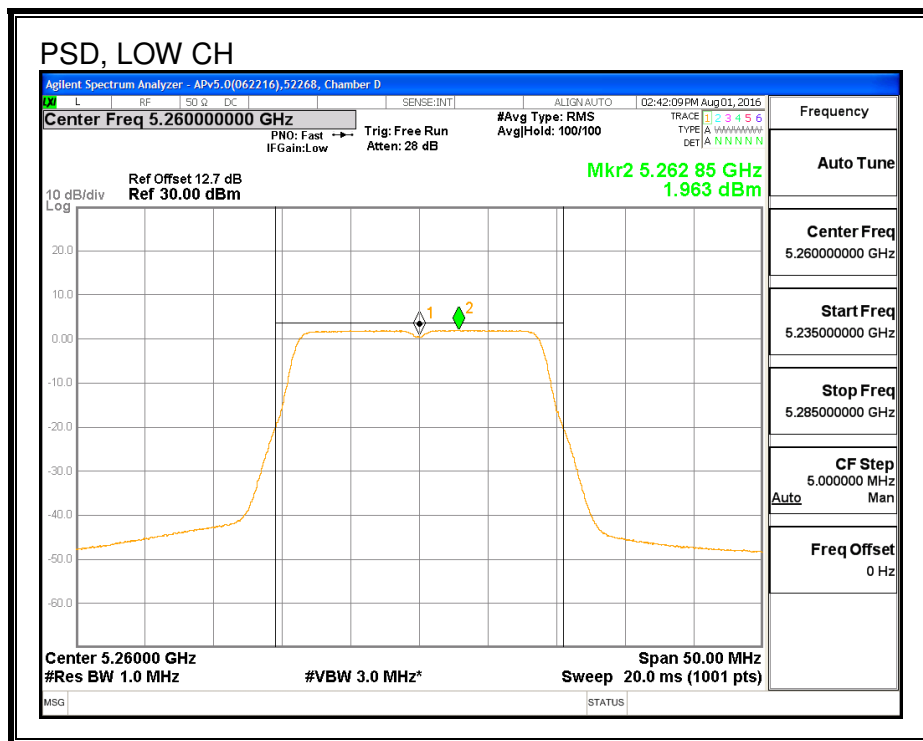
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	1.90	1.96	4.94	9.64	-4.70
Mid	5300	2.02	1.87	4.96	9.64	-4.68
High	5320	3.36	3.45	6.42	9.64	-3.22

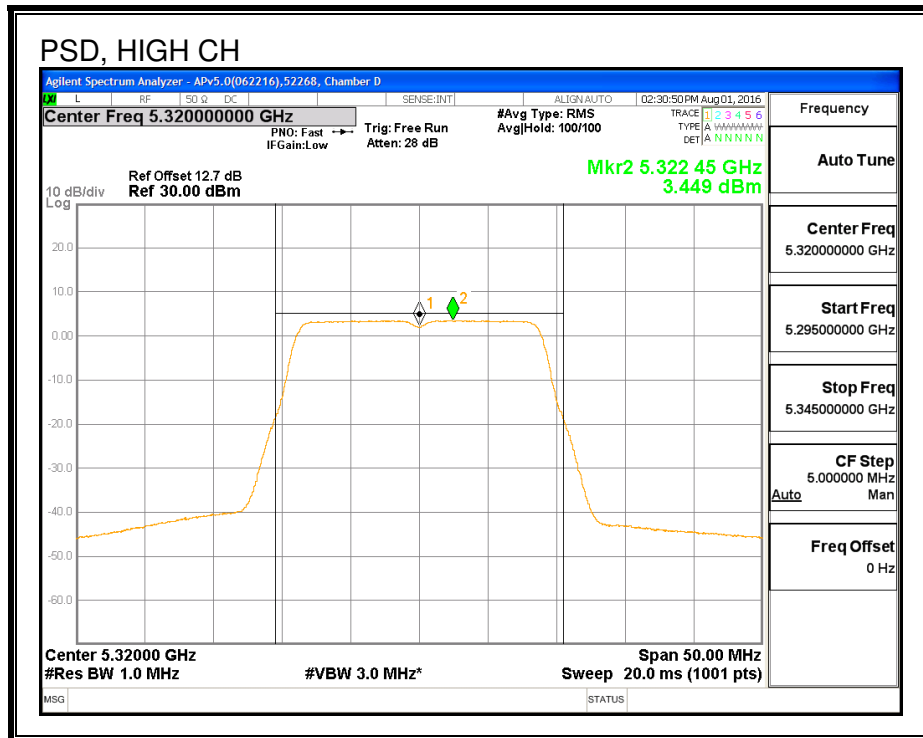
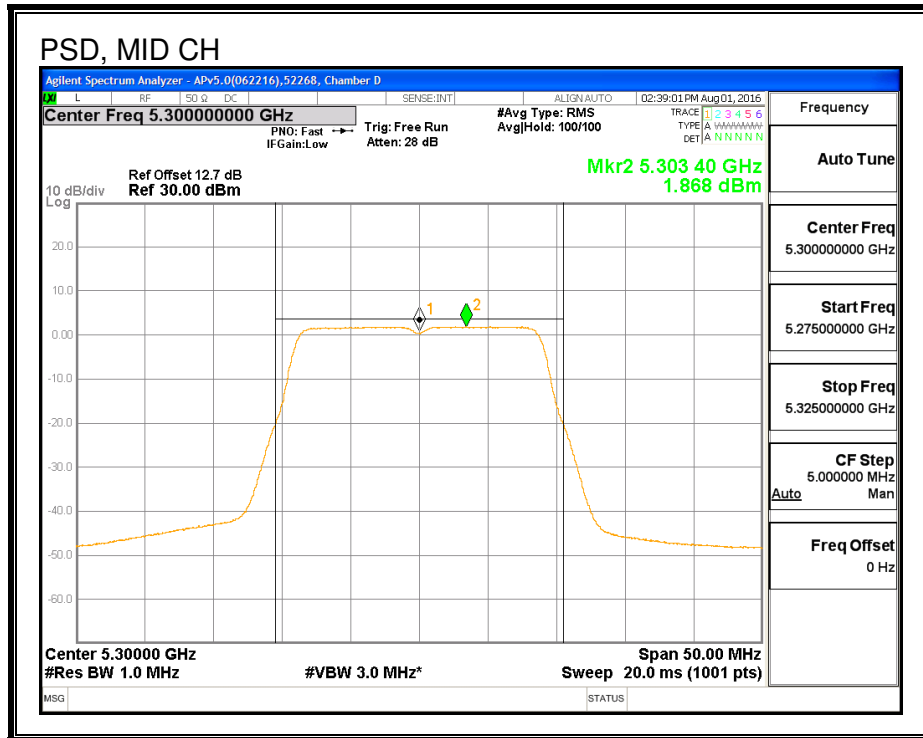
PSD, CHAIN 0





PSD, CHAIN 1





8.20. 802.11an VHT20 2Tx BEAM FORMING MODE IN THE 5.3 GHz BAND

8.20.1. 26 dB BANDWIDTH

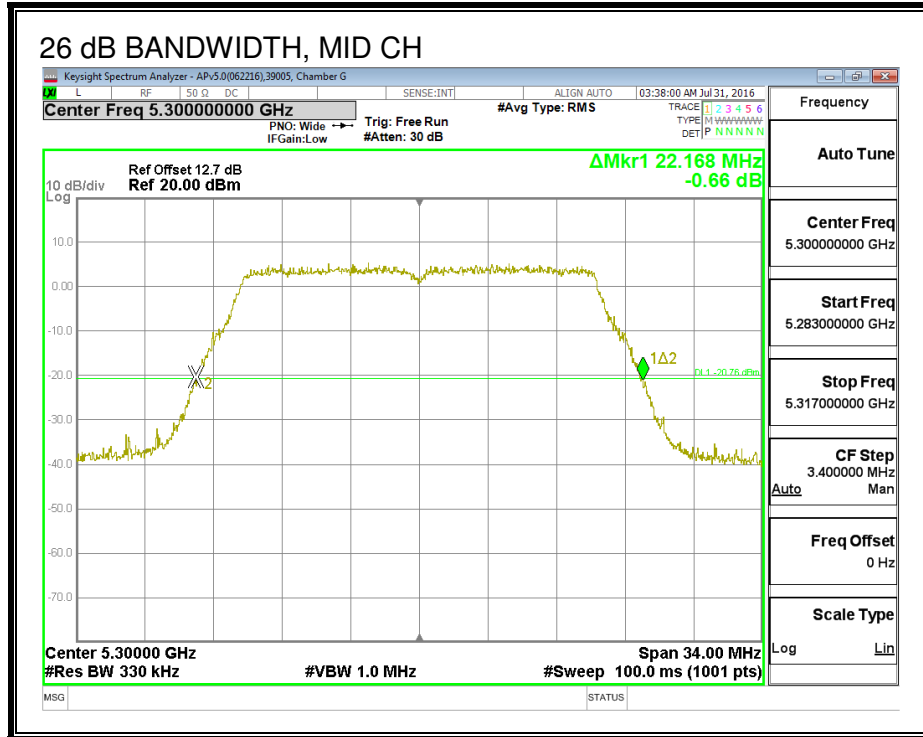
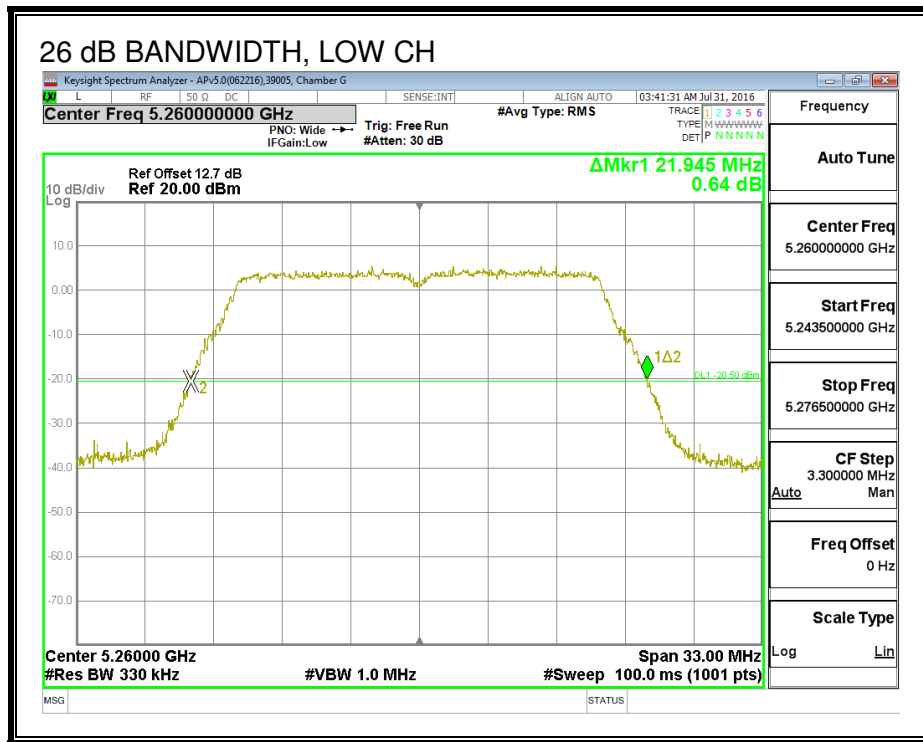
LIMITS

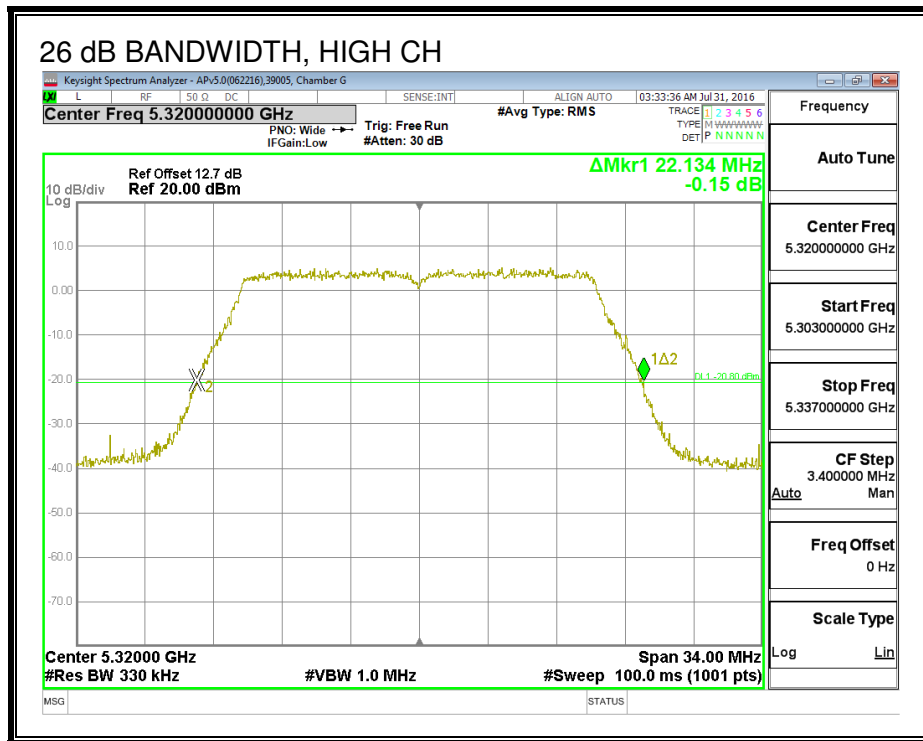
None; for reporting purposes only.

RESULTS

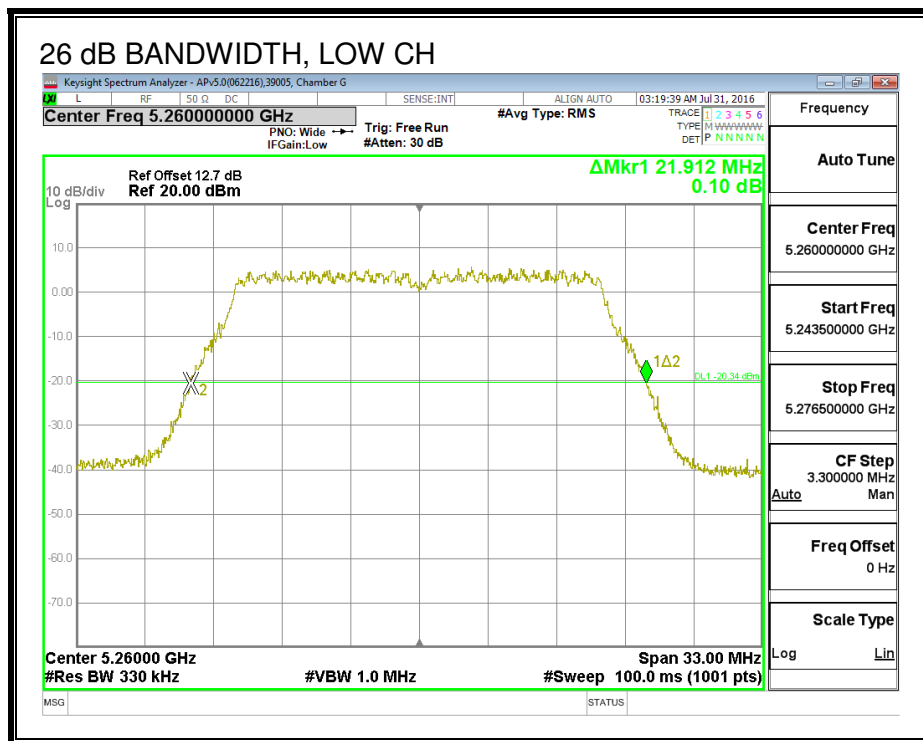
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	21.945	21.912
Mid	5300	22.168	21.912
High	5320	22.134	21.945

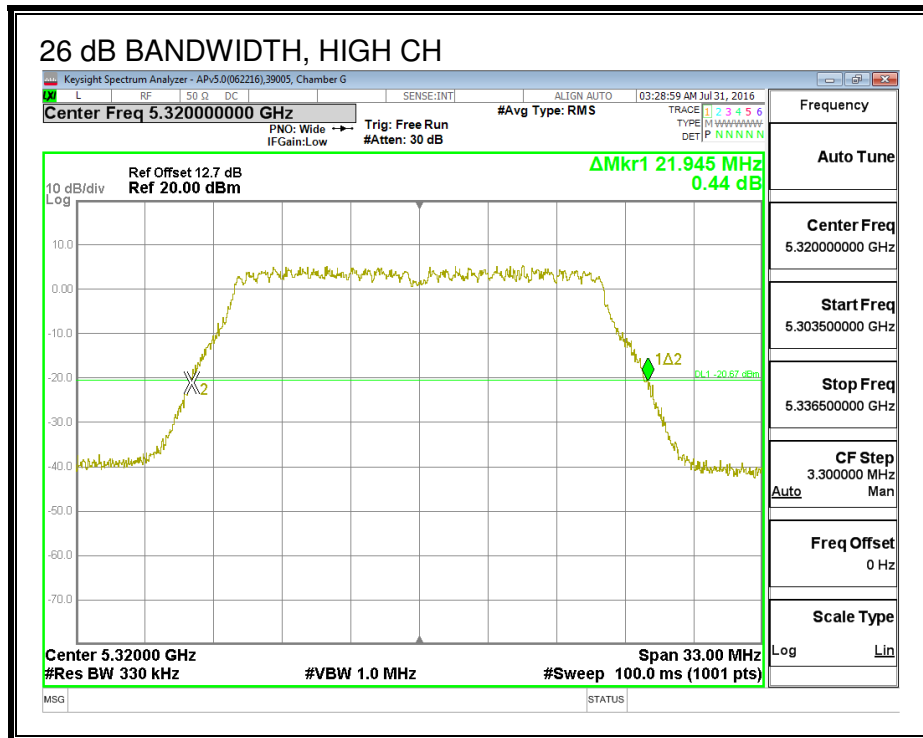
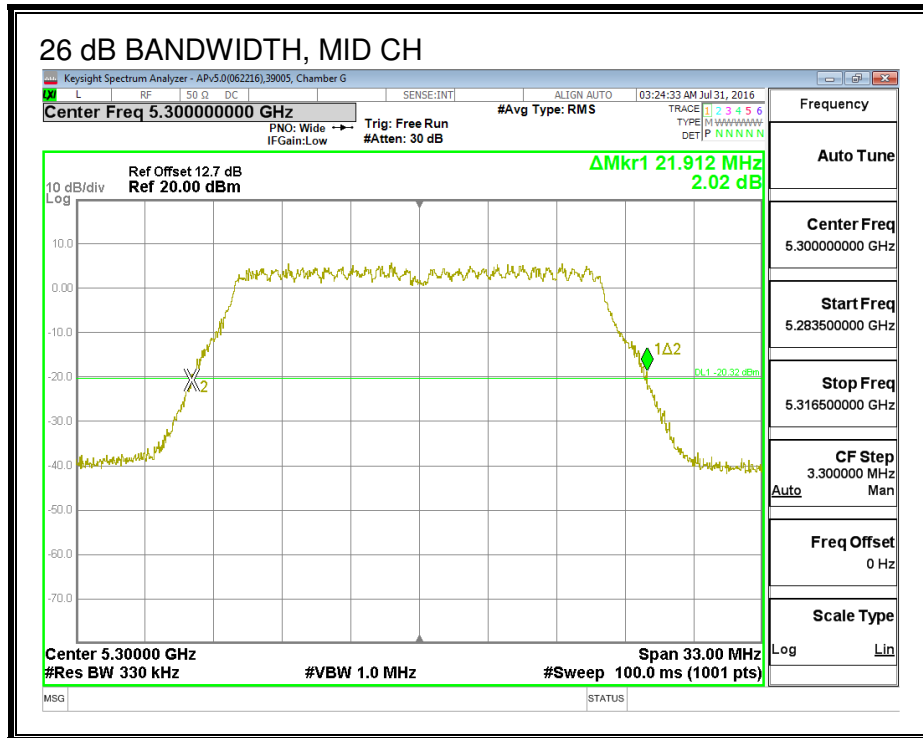
26 DB BANDWIDTH, CHAIN 0





26 DB BANDWIDTH, CHAIN 1





8.20.2. 99% BANDWIDTH

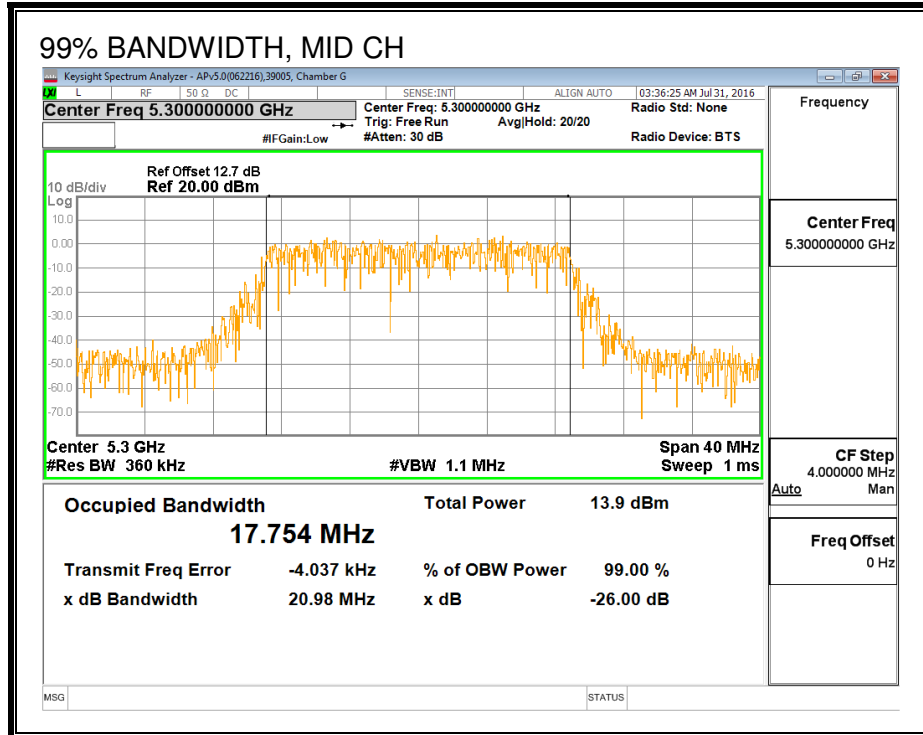
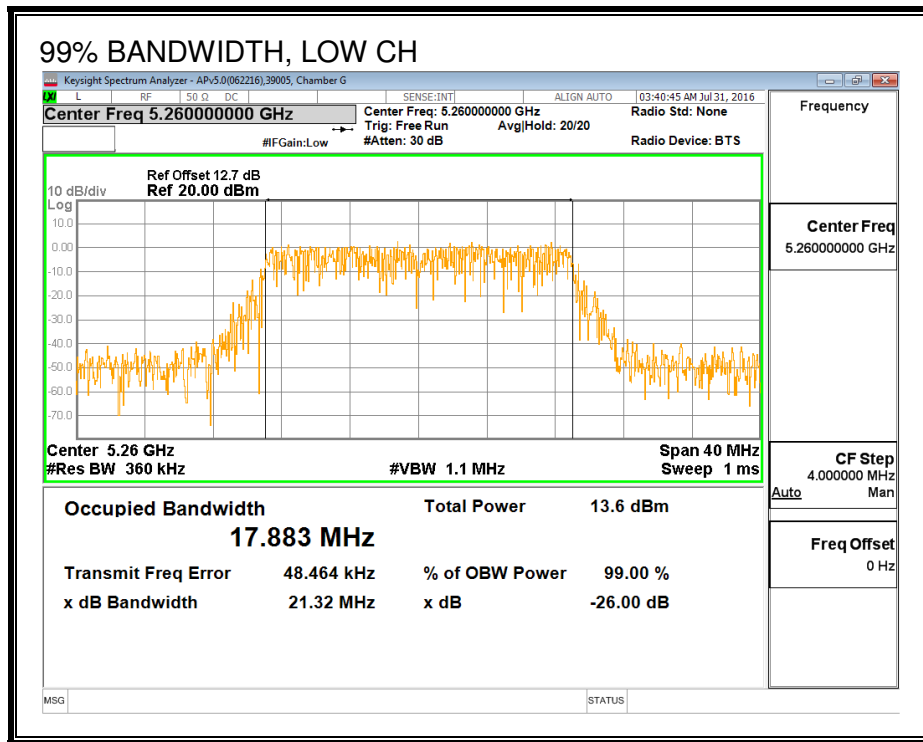
LIMITS

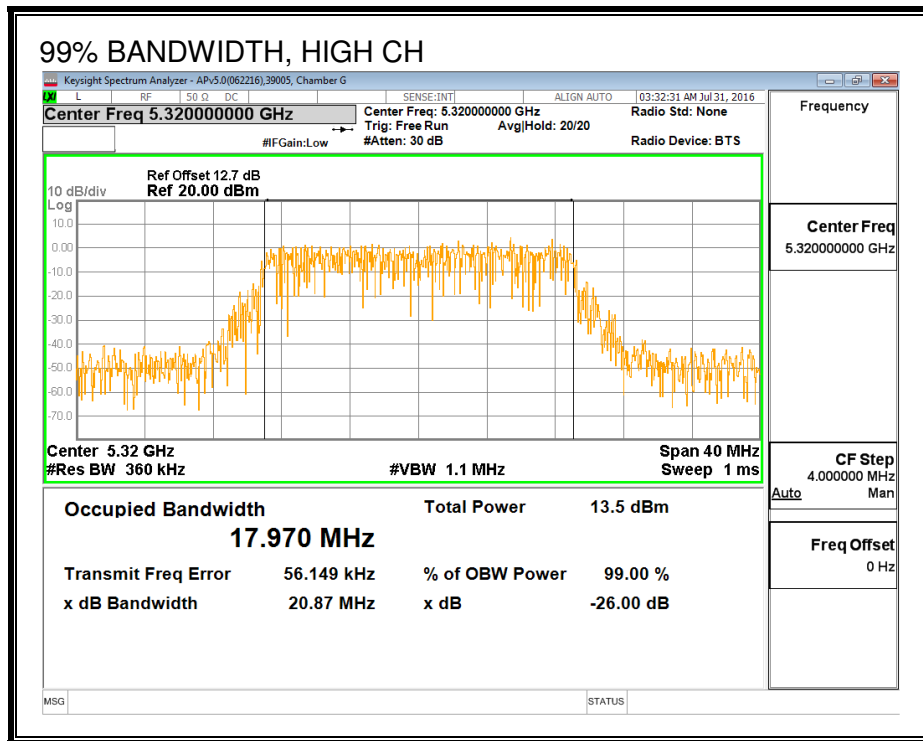
None; for reporting purposes only.

RESULTS

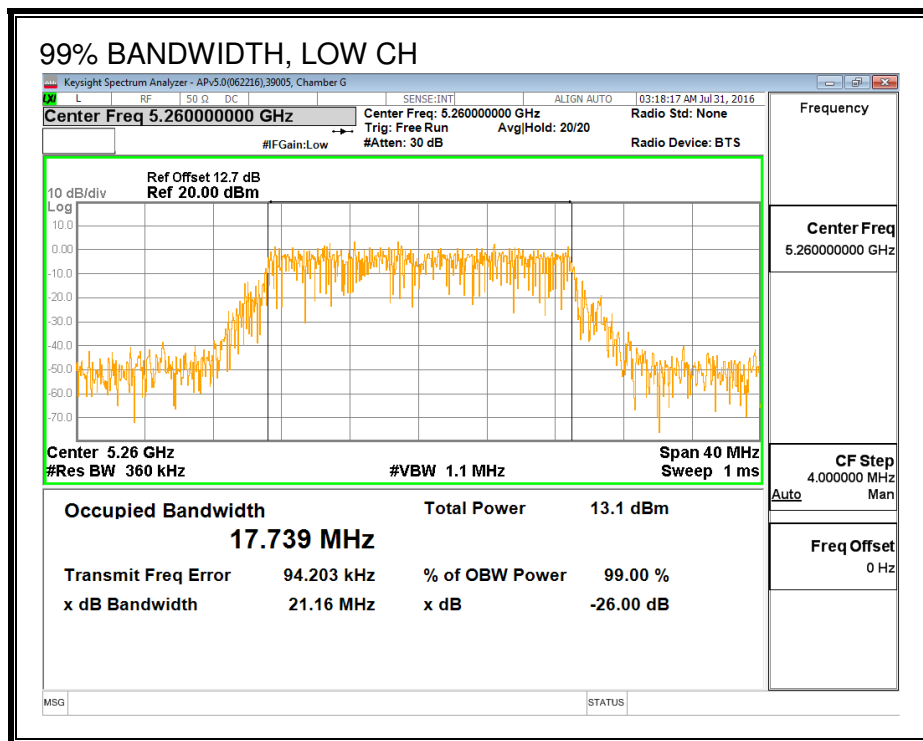
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5260	17.883	17.739
Mid	5300	17.754	17.767
High	5320	17.970	17.832

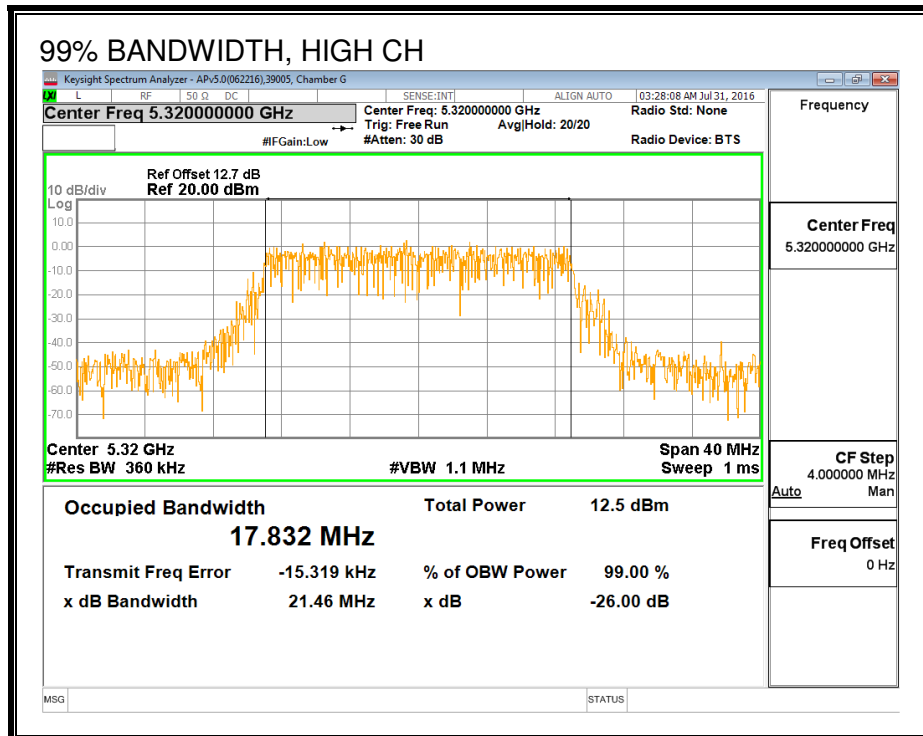
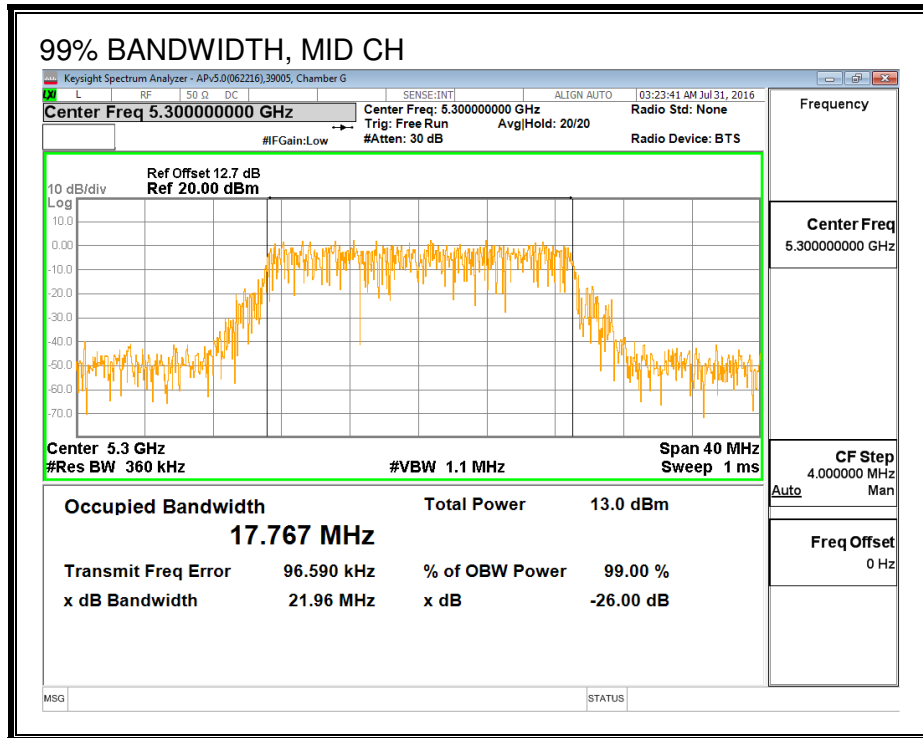
99% BANDWIDTH, CHAIN 0





99% BANDWIDTH, CHAIN 1





8.20.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5260	11.40	11.36	14.39
Mid	5300	11.43	11.39	14.42
High	5320	11.41	11.35	14.39

8.20.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)	Correlated Chains Directional Gain (dBi)
7.10	7.60	10.36

RESULTS

ID:	39004	Date:	9/2/16
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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	5260	21.91	17.74	10.36	10.36	19.13	6.64
Mid	5300	21.91	17.75	10.36	10.36	19.13	6.64
High	5320	21.95	17.83	10.36	10.36	19.15	6.64

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD
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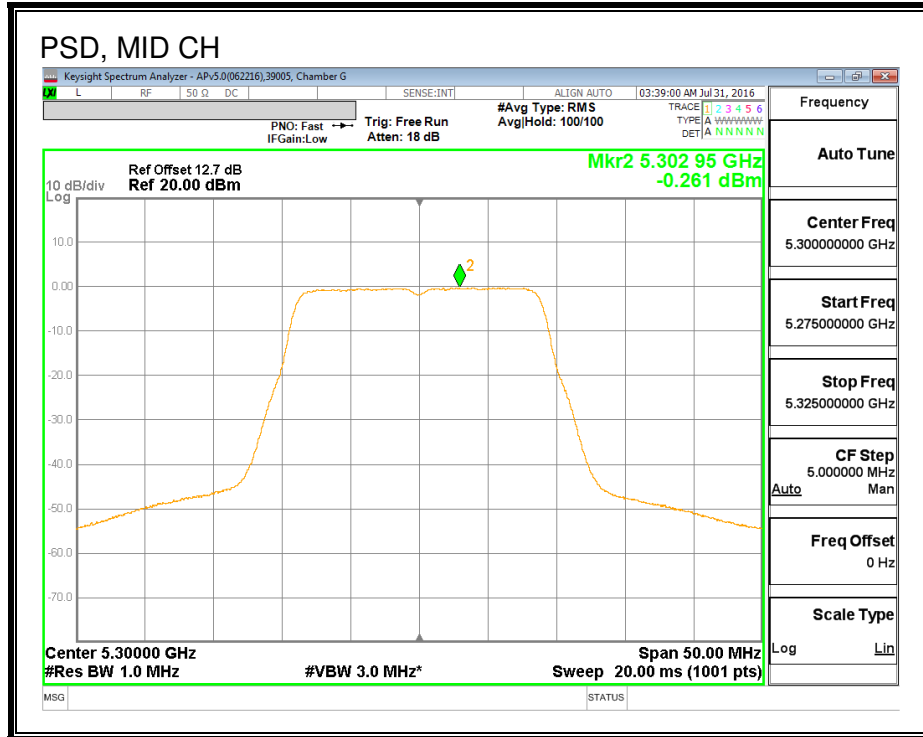
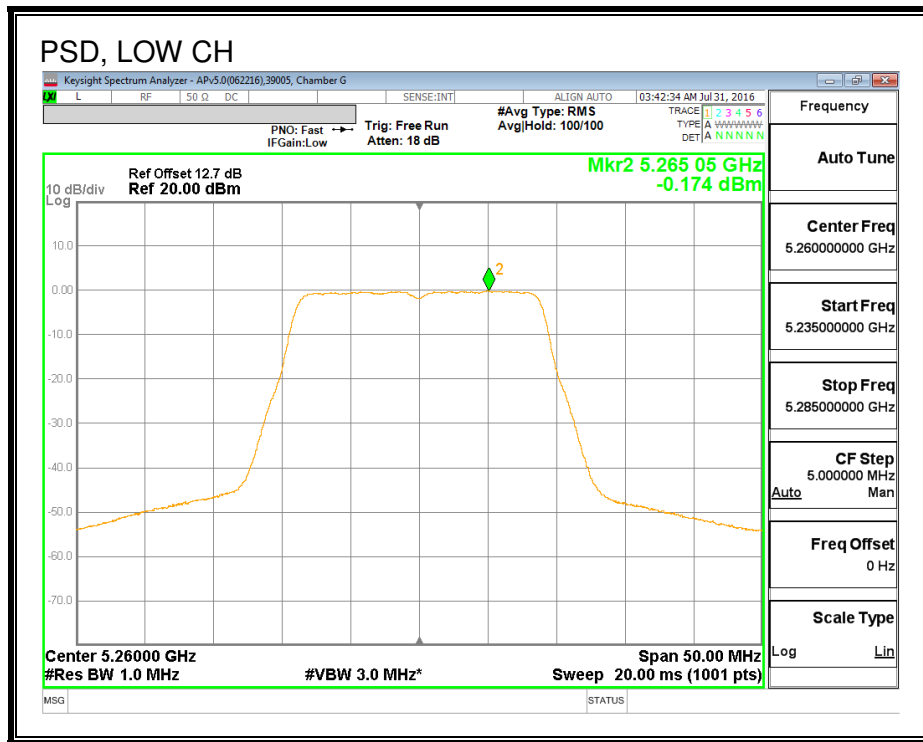
Output Power Results

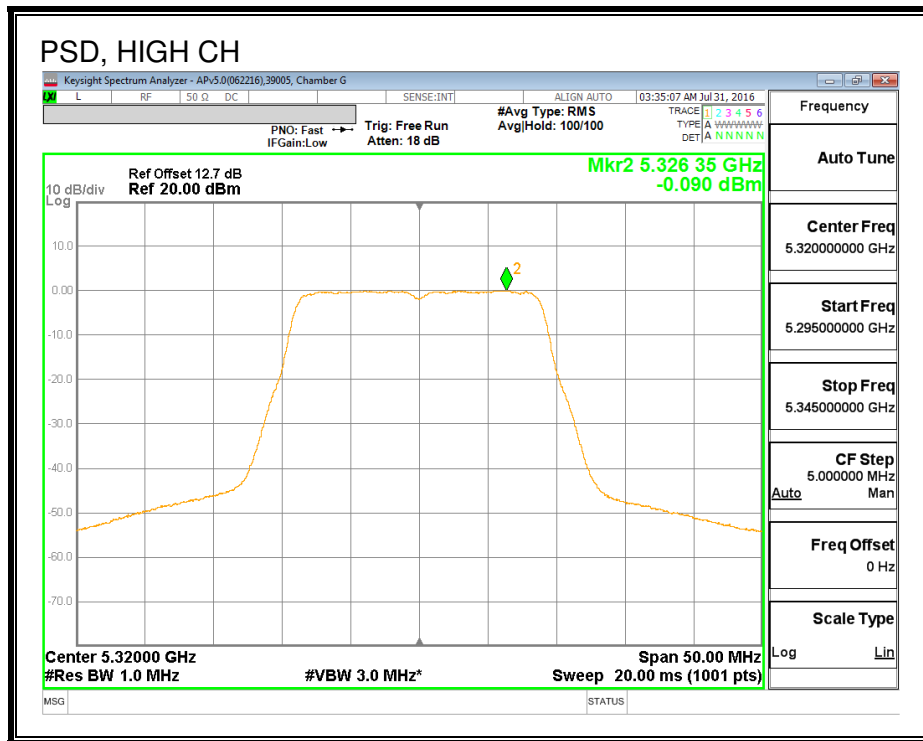
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	11.40	11.36	14.39	19.13	-4.74
Mid	5300	11.43	11.39	14.42	19.13	-4.71
High	5320	11.41	11.35	14.39	19.15	-4.76

PSD Results

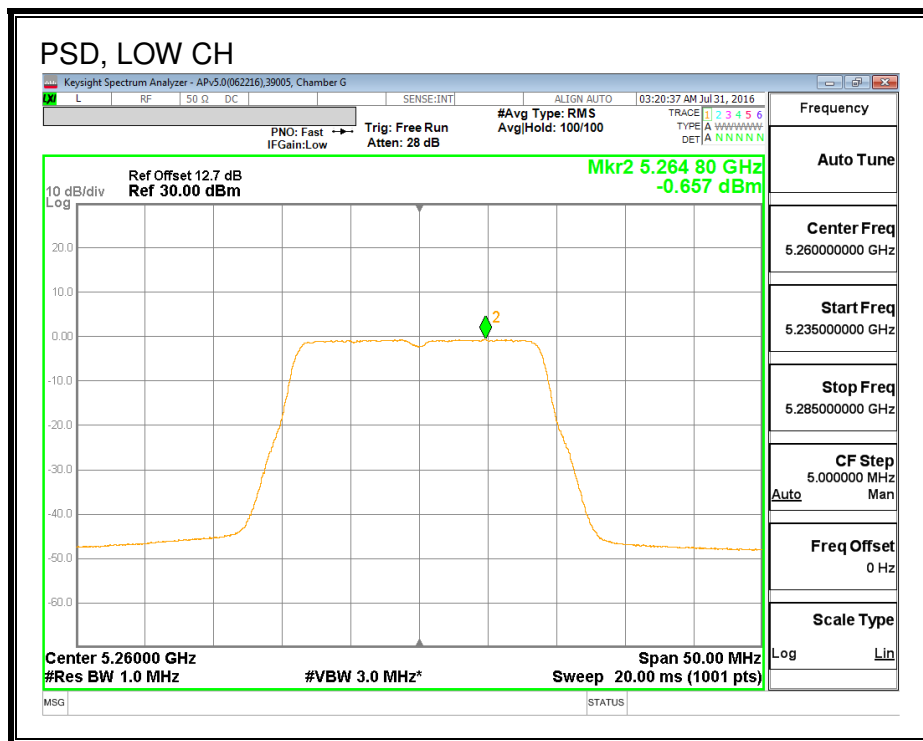
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-0.17	-0.66	2.70	6.64	-3.94
Mid	5300	-0.26	-0.71	2.63	6.64	-4.01
High	5320	-0.09	-0.57	2.79	6.64	-3.85

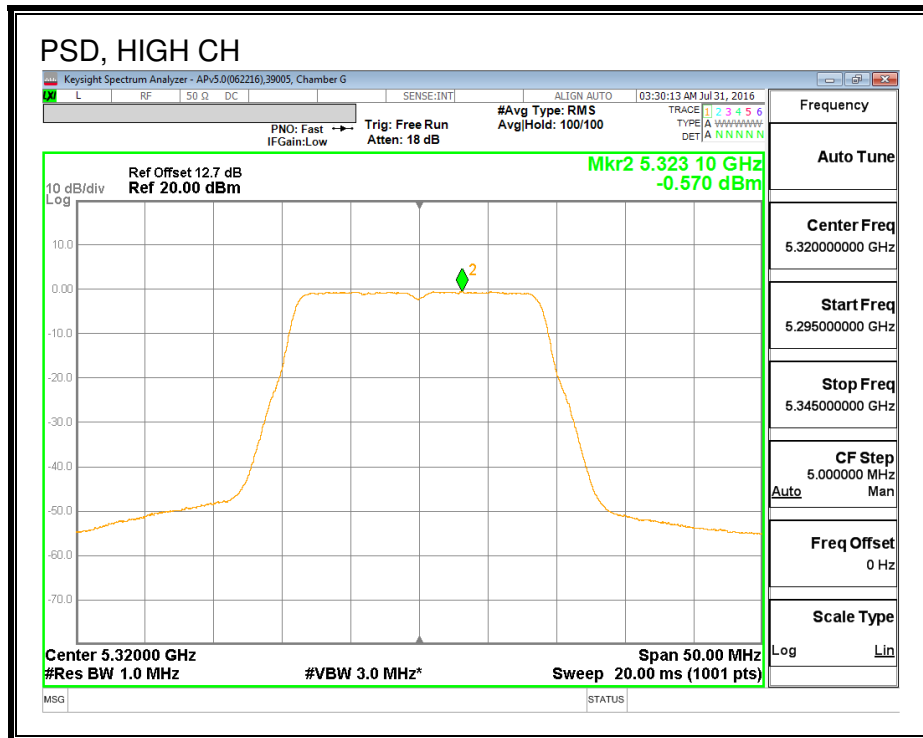
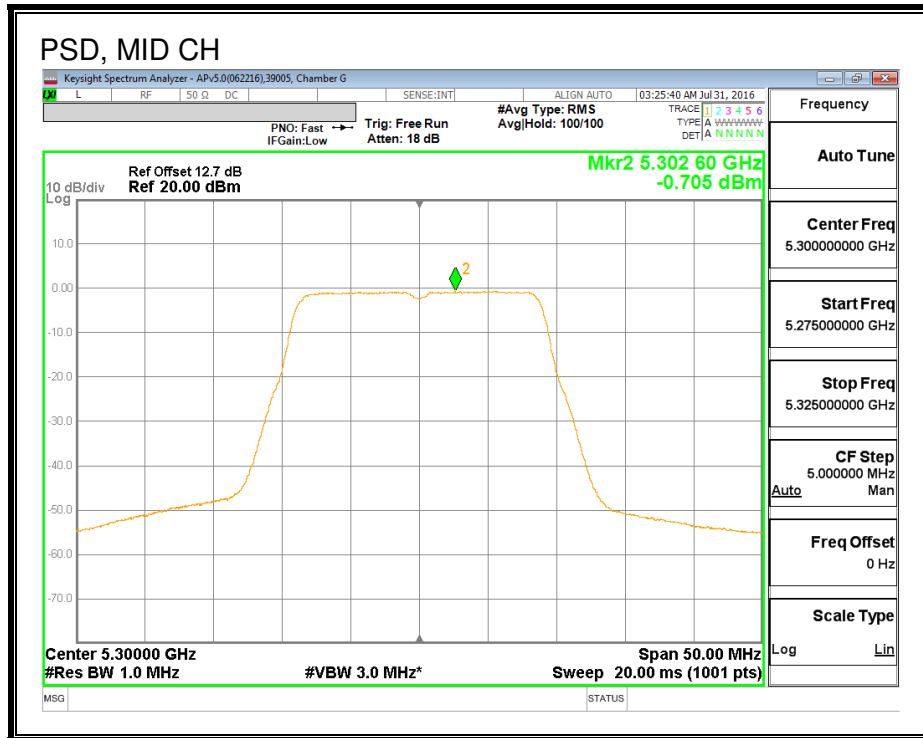
PSD, CHAIN 0





PSD, CHAIN 1





8.21. 802.11n HT40 CHAIN 0 MODE IN THE 5.3 GHz BAND

8.21.1. 26 dB BANDWIDTH

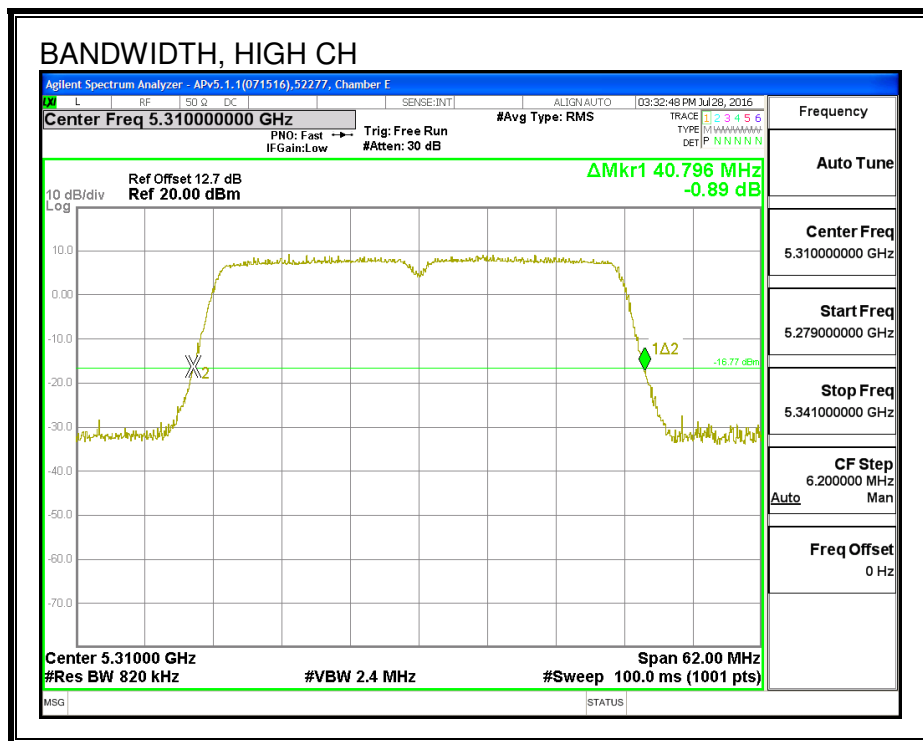
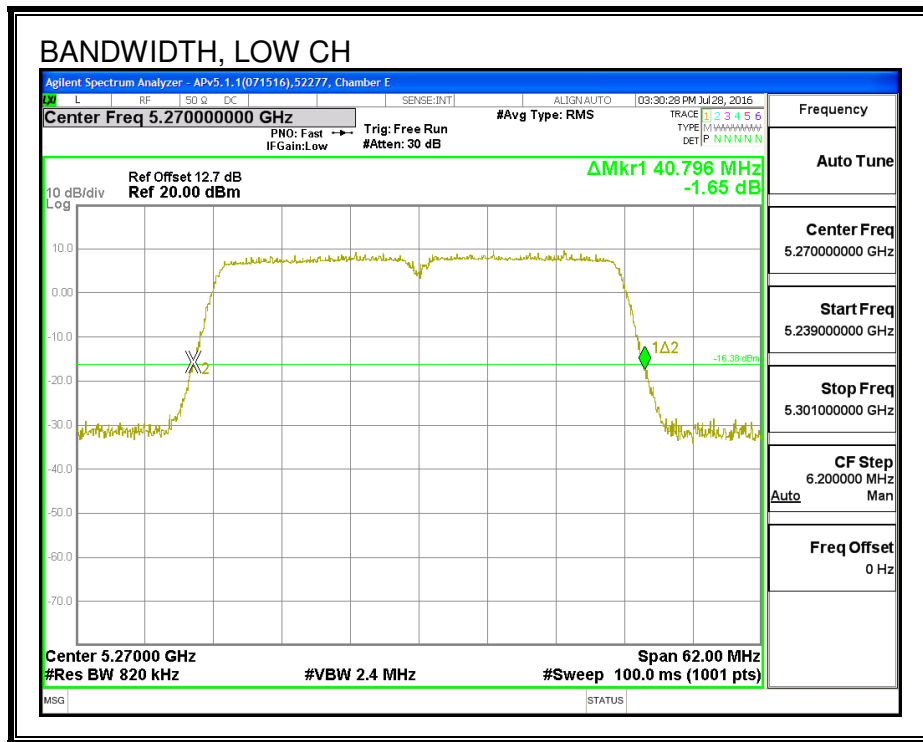
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.796
High	5310	40.796

26 dB BANDWIDTH



8.21.2. 99% BANDWIDTH

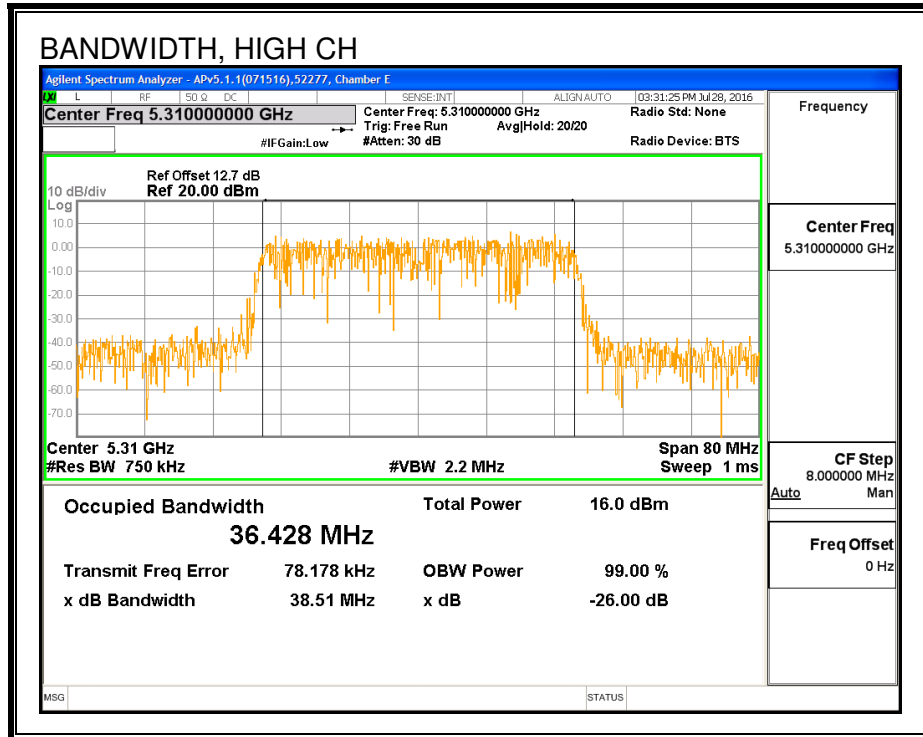
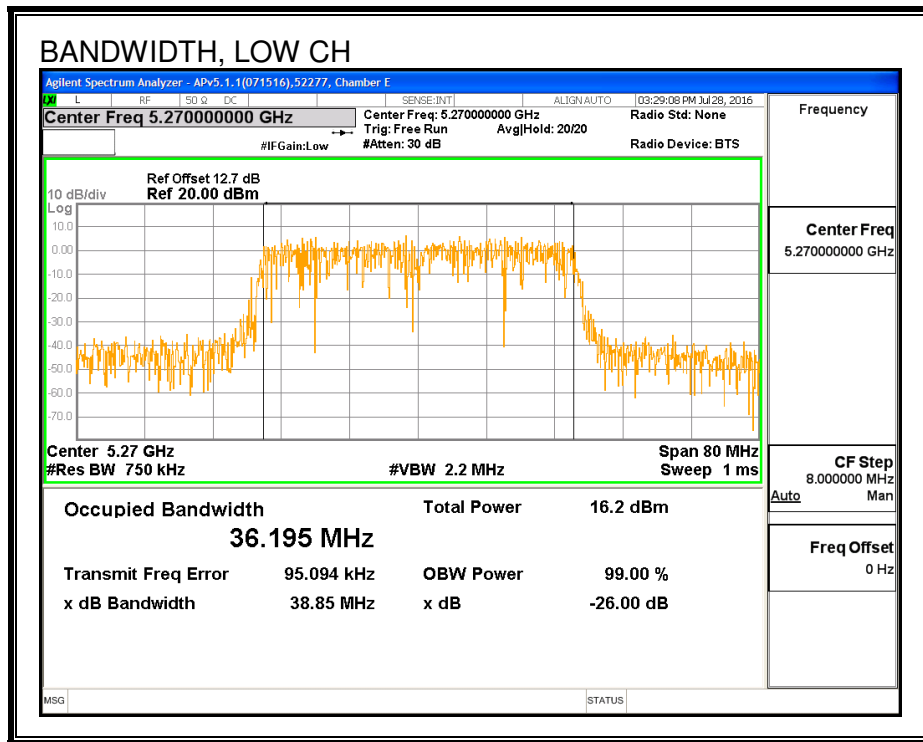
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.195
High	5310	36.428

99% BANDWIDTH



8.21.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Channel	Frequency (MHz)	Power (dBm)
Low	5270	12.44
High	5310	12.39

8.21.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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:	39004	Date:	9/2/16
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Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.80	36.20	7.10	24.00	9.90
High	5310	40.80	36.43	7.10	24.00	9.90

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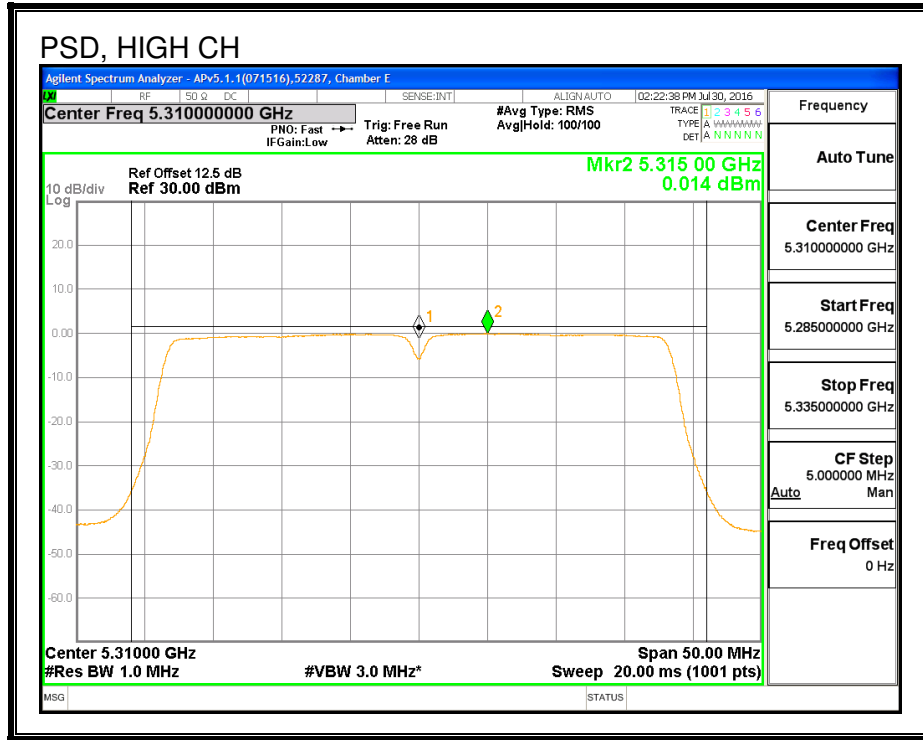
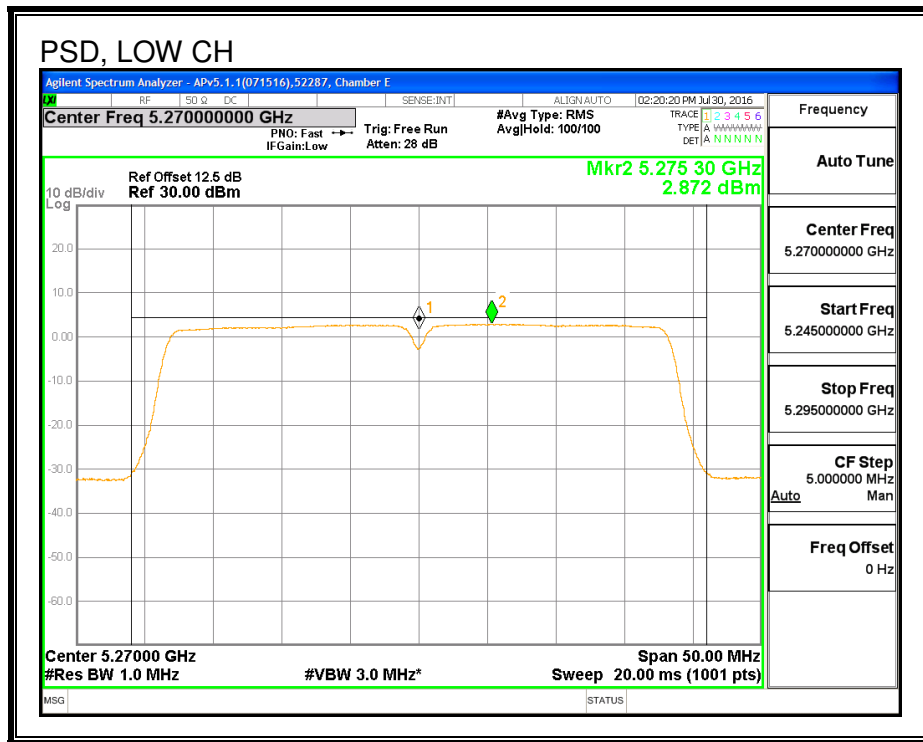
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.44	12.44	24.00	-11.56
High	5310	12.39	12.39	24.00	-11.61

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	2.87	2.87	9.90	-7.03
High	5310	0.01	0.01	9.90	-9.89

PSD



8.22. 802.11n HT40 CHAIN 1 MODE IN THE 5.3 GHz BAND

8.22.1. 26 dB BANDWIDTH

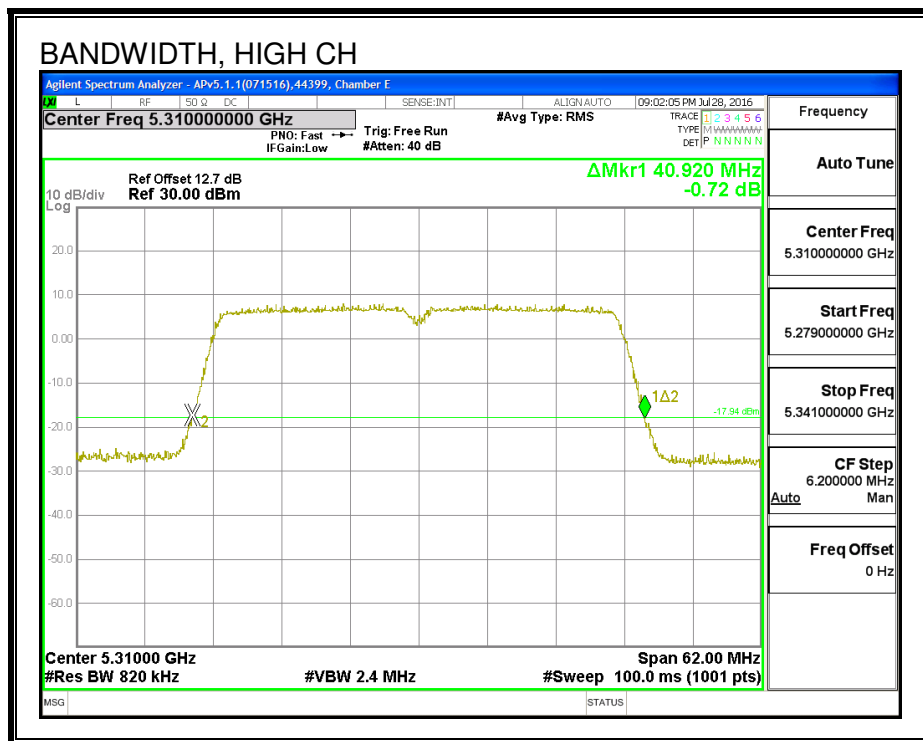
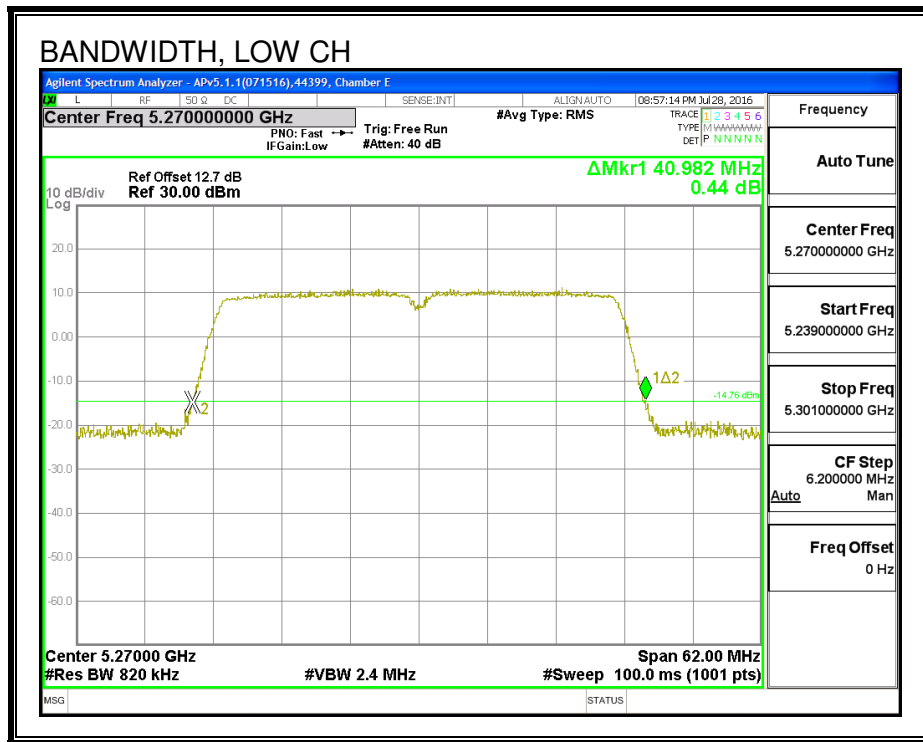
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5270	40.982
High	5310	40.920

26 dB BANDWIDTH



8.22.2. 99% BANDWIDTH

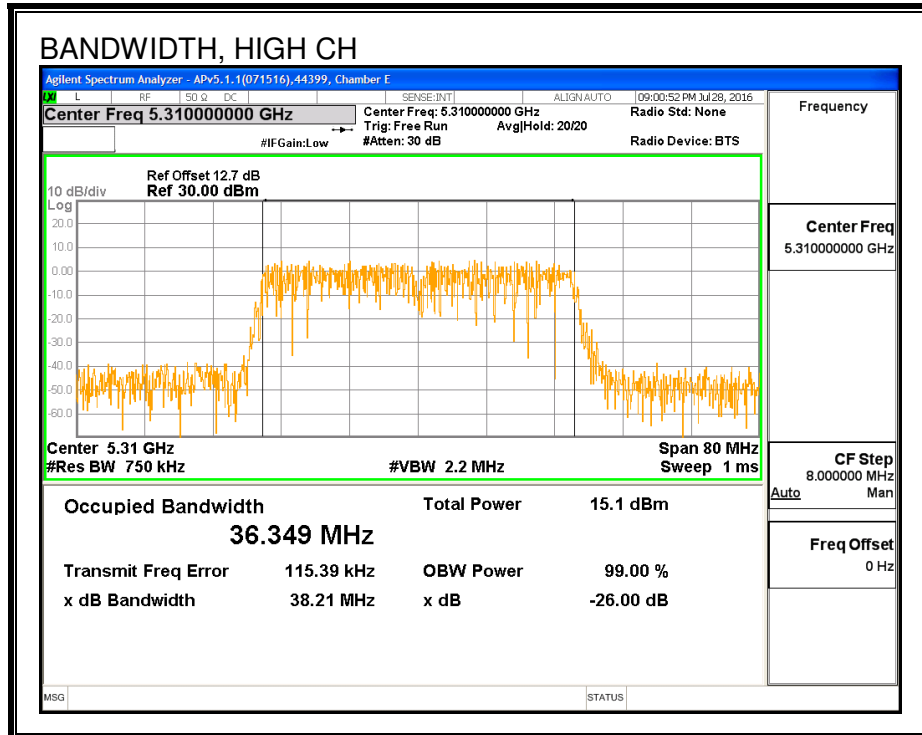
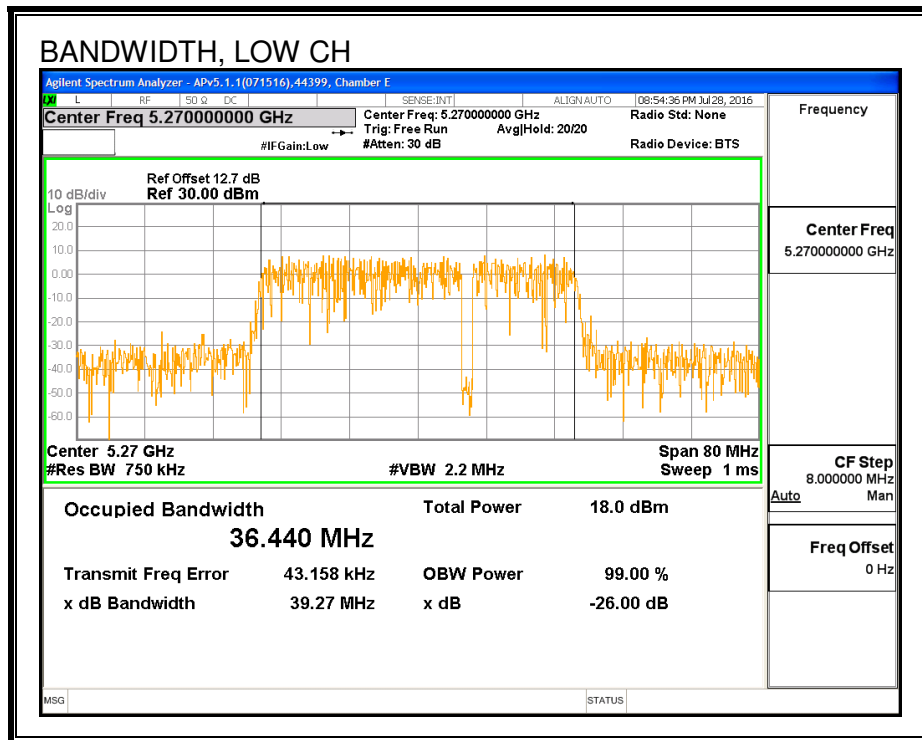
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5270	36.440
High	5310	36.349

99% BANDWIDTH



8.22.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Channel	Frequency (MHz)	Power (dBm)
Low	5270	12.39
High	5310	12.43

8.22.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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:	39004	Date:	9/2/16
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Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5270	40.98	36.44	7.60	24.00	9.40
High	5310	40.92	36.35	7.60	24.00	9.40

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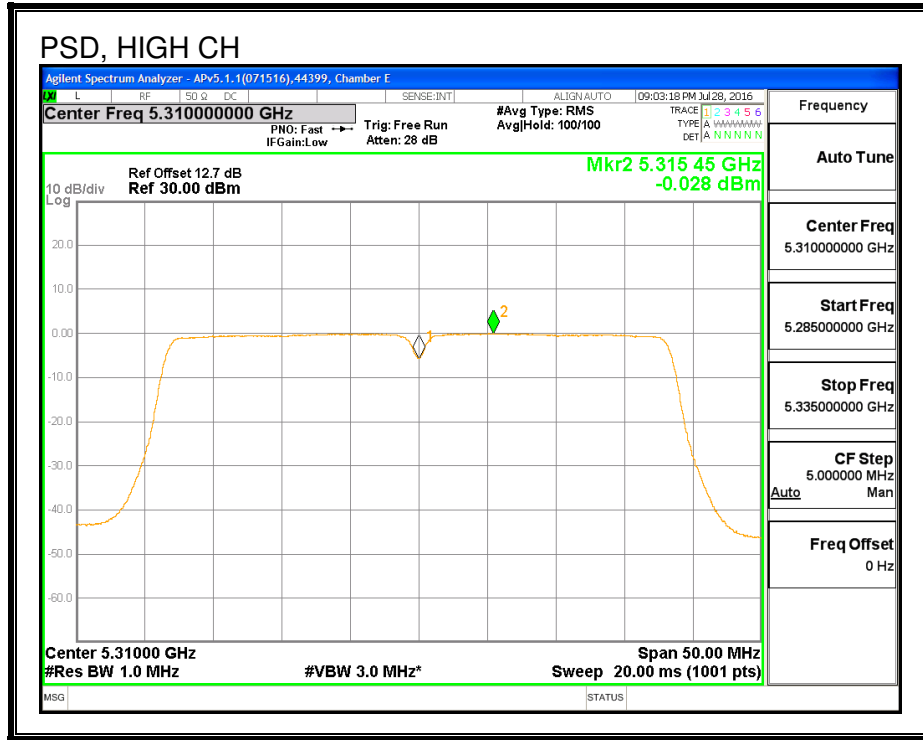
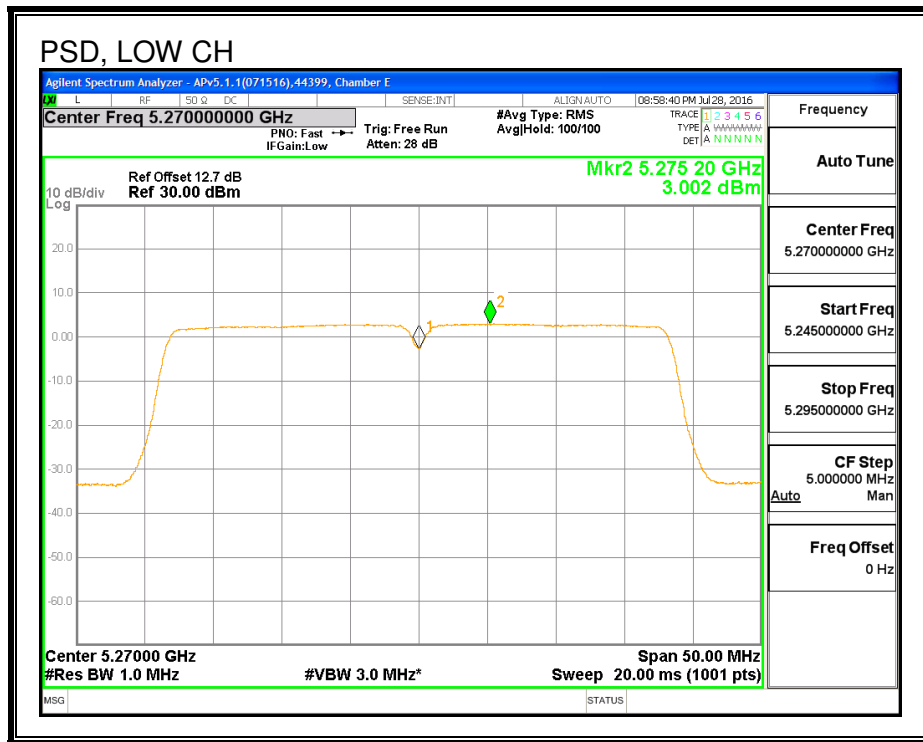
Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.39	12.39	24.00	-11.61
High	5310	12.43	12.43	24.00	-11.57

PSD Results

Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	3.00	3.00	9.40	-6.40
High	5310	-0.03	-0.03	9.40	-9.43

PSD



8.23. 802.11n HT40 2Tx CDD MODE IN THE 5.3 GHz BAND

8.23.1. 26 dB BANDWIDTH

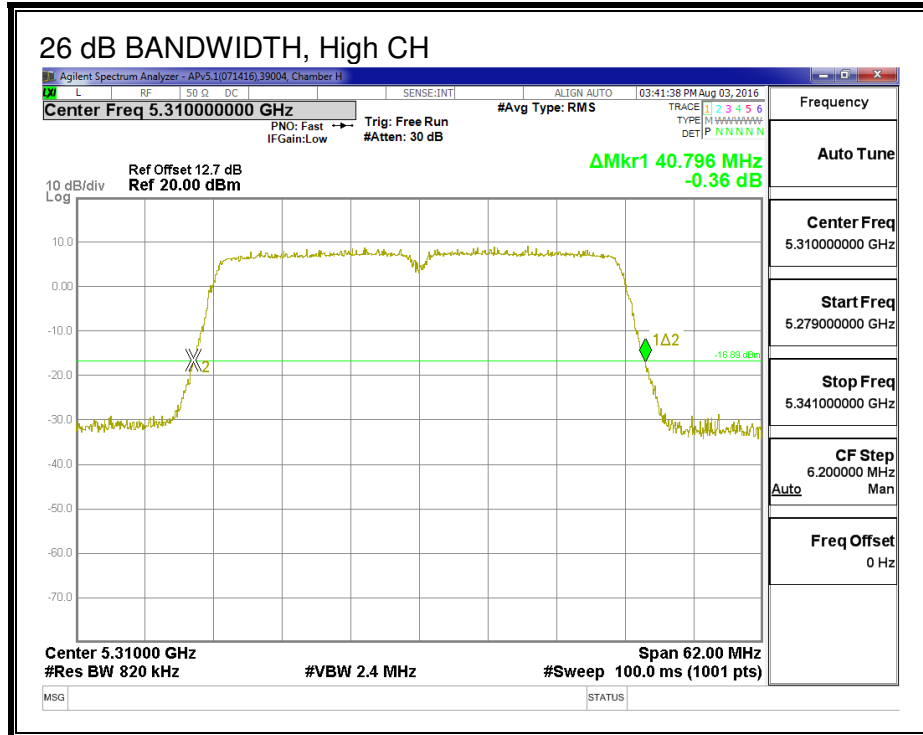
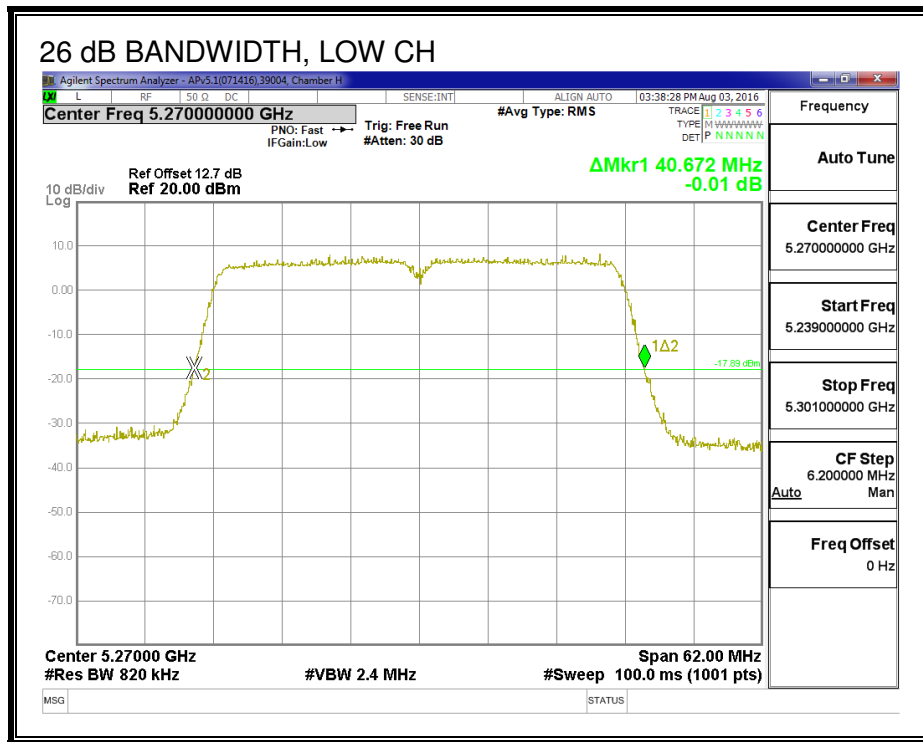
LIMITS

None; for reporting purposes only.

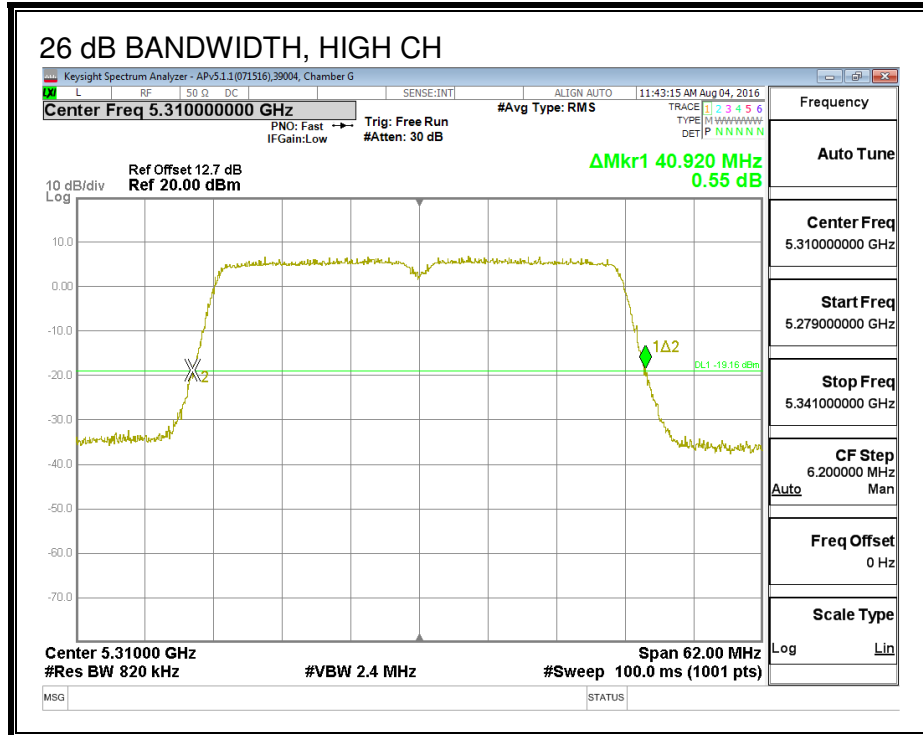
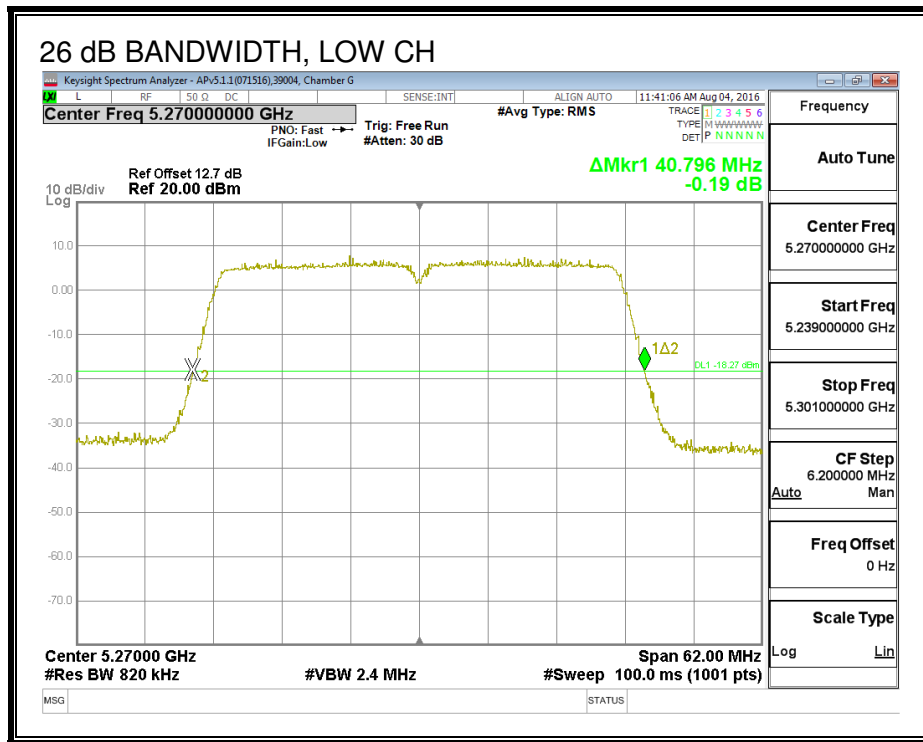
RESULTS

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

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 1



8.23.2. 99% BANDWIDTH

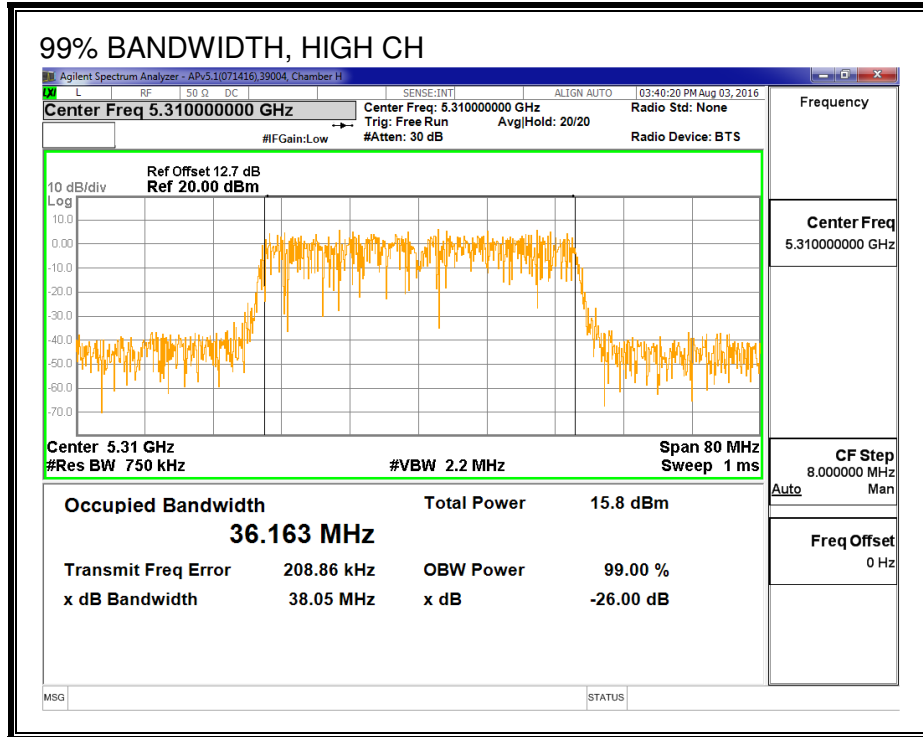
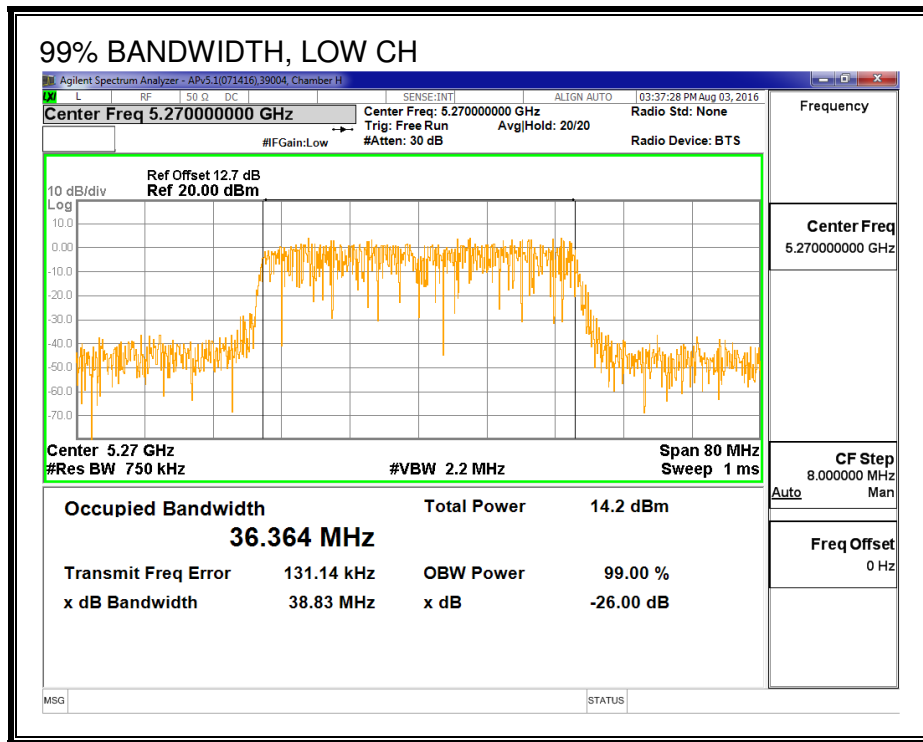
LIMITS

None; for reporting purposes only.

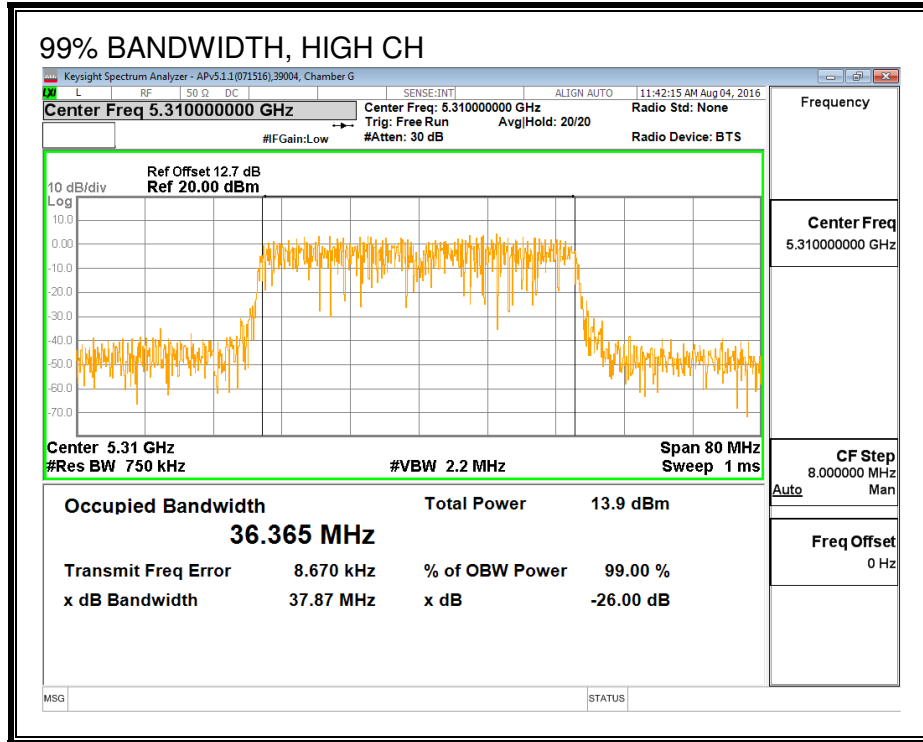
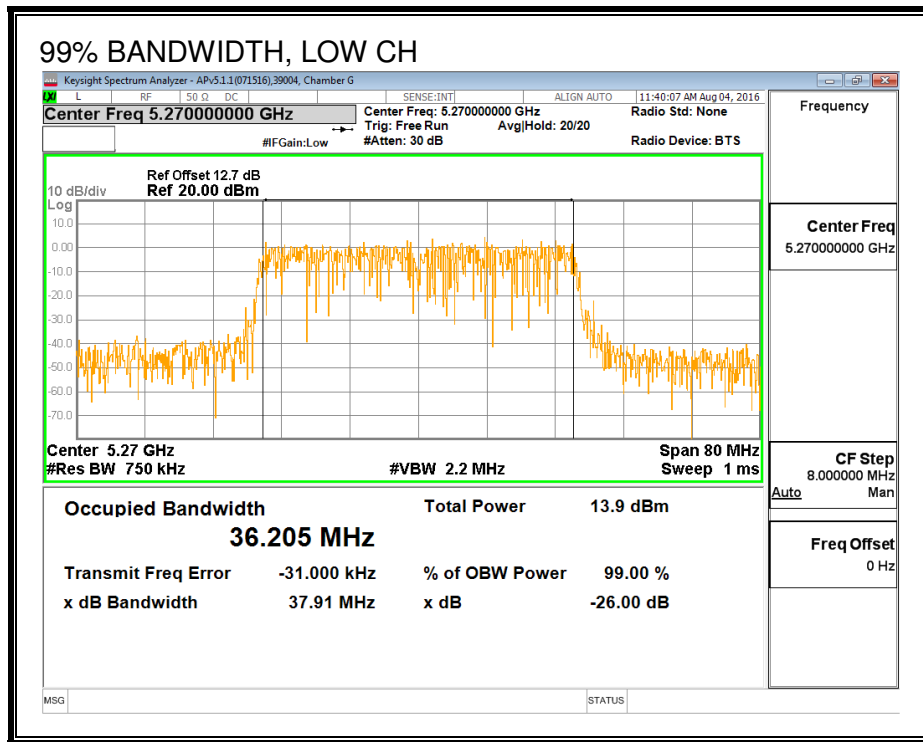
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.364	36.205
High	5310	36.163	36.365

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



8.23.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5270	12.37	12.34	15.37
High	5310	12.39	12.41	15.41

8.23.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)
7.10	7.60	7.36

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)
7.10	7.60	10.36

RESULTS

ID:	39004	Date:	9/2/16
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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	36.21	7.36	10.36	24.00	6.64
High	5310	40.80	36.37	7.36	10.36	24.00	6.64

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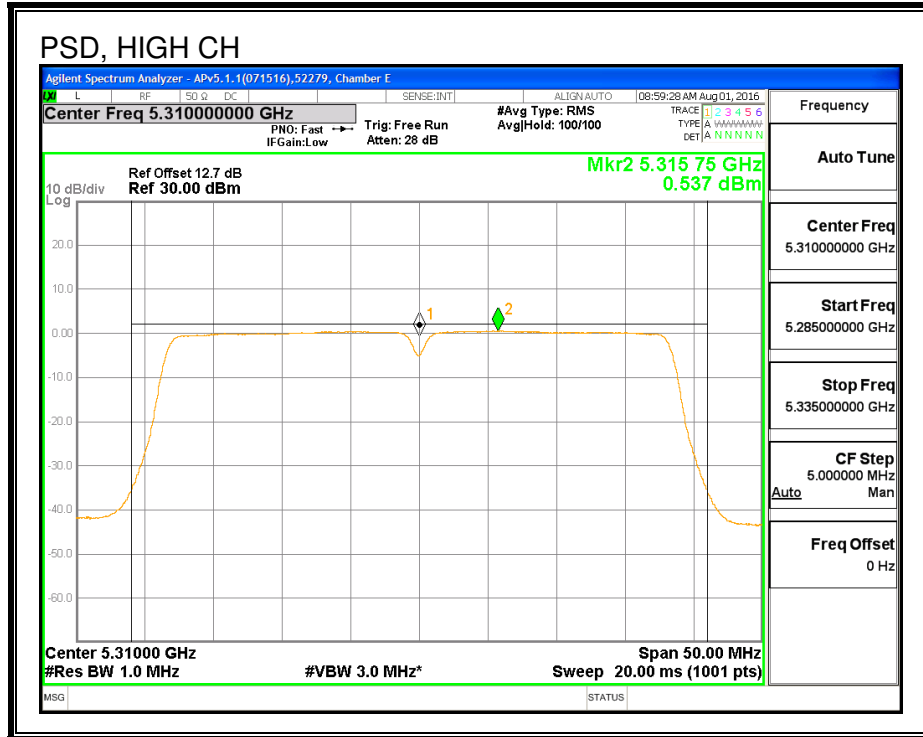
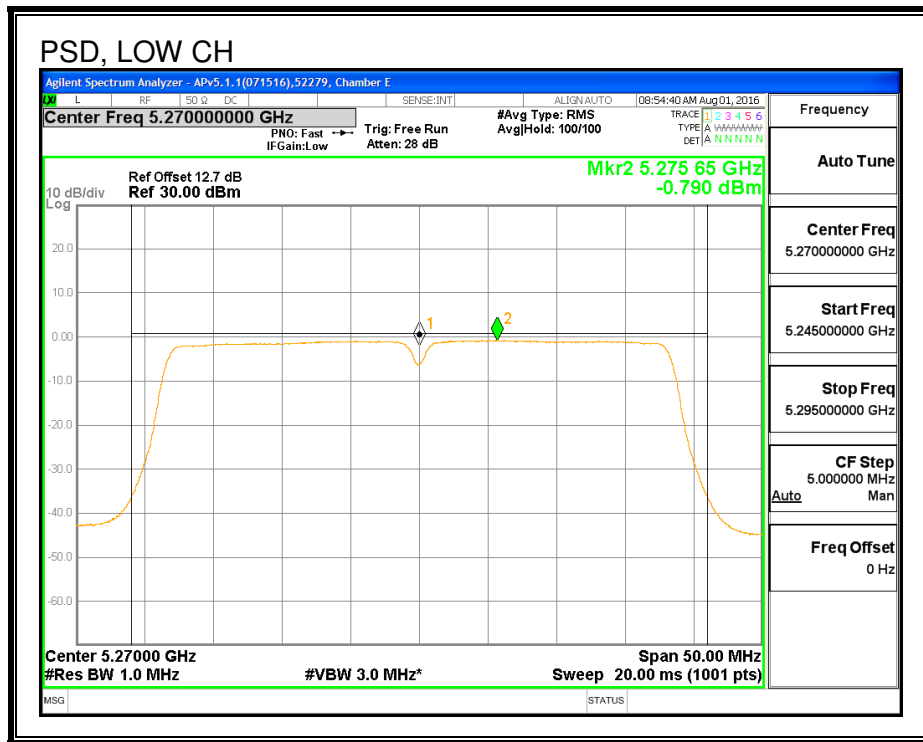
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.37	12.34	15.37	24.00	-8.63
High	5310	12.39	12.41	15.41	24.00	-8.59

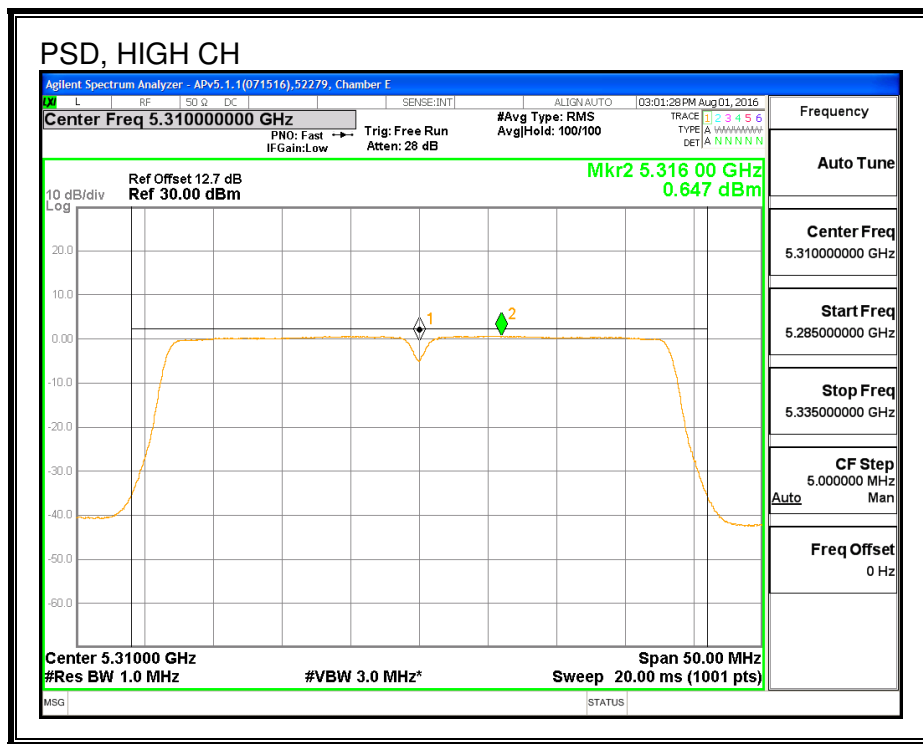
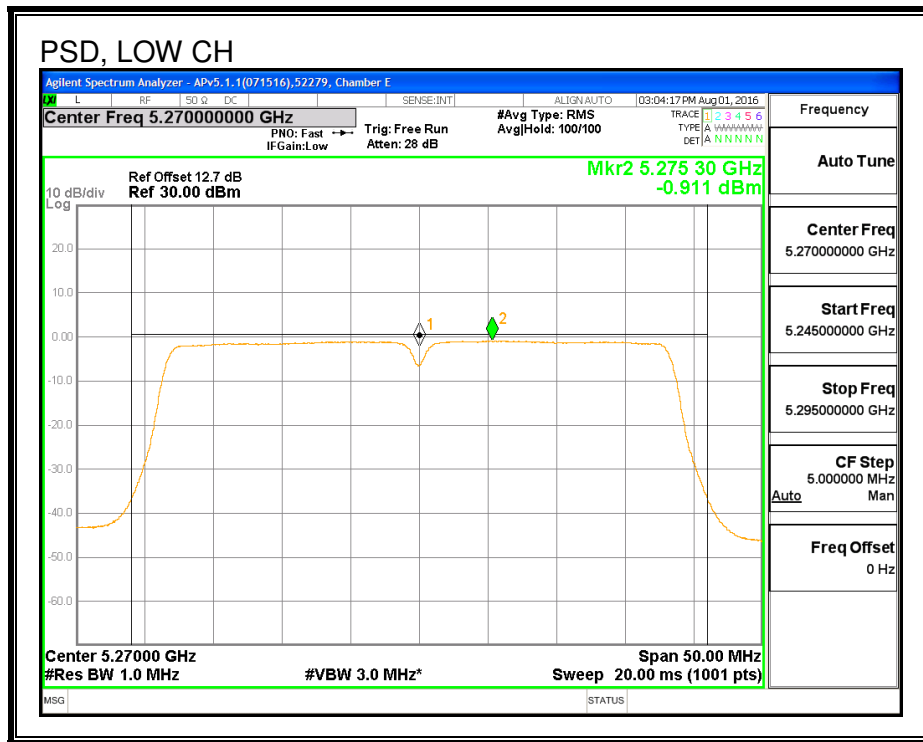
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-0.79	-0.91	2.16	6.64	-4.48
High	5310	0.54	0.65	3.60	6.64	-3.04

PSD, CHAIN 0



PSD, CHAIN 1



8.24. 802.11n HT40 2Tx STBC MODE IN THE 5.3 GHz BAND

8.24.1. 26 dB BANDWIDTH

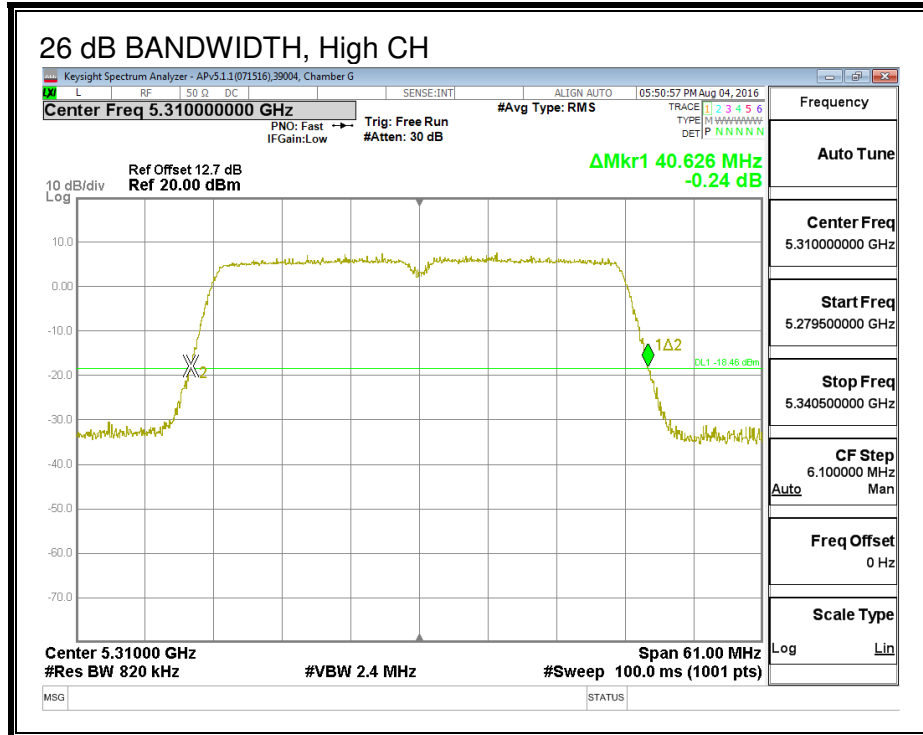
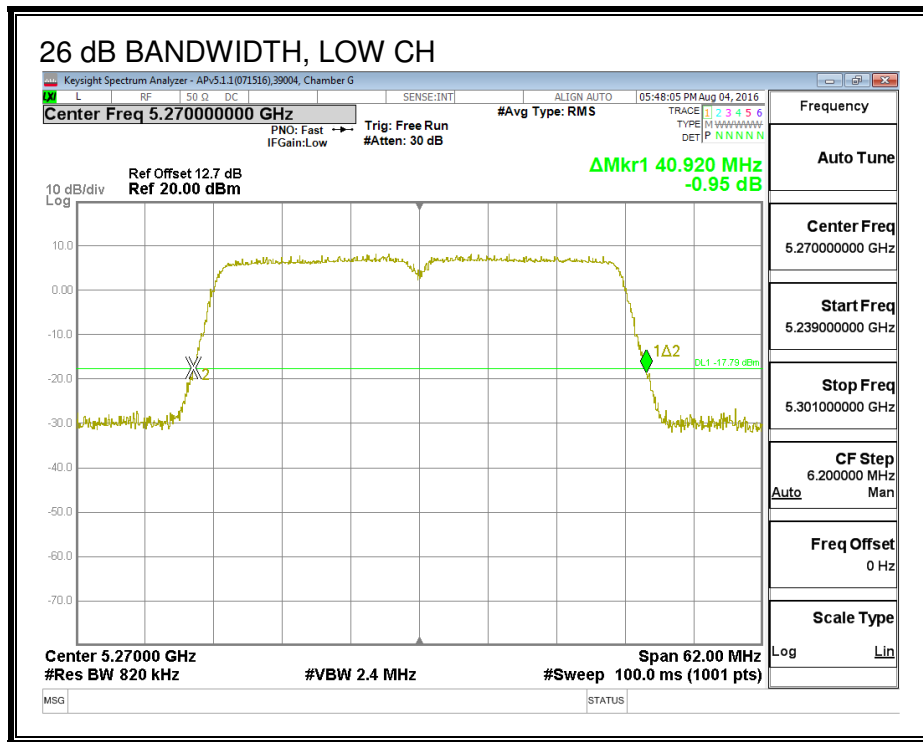
LIMITS

None; for reporting purposes only.

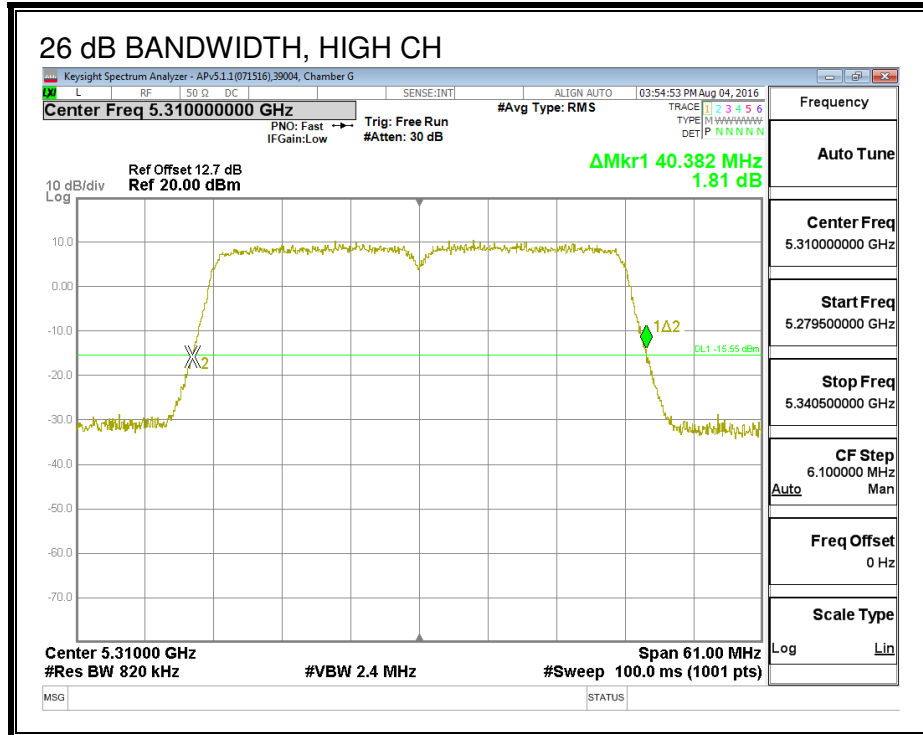
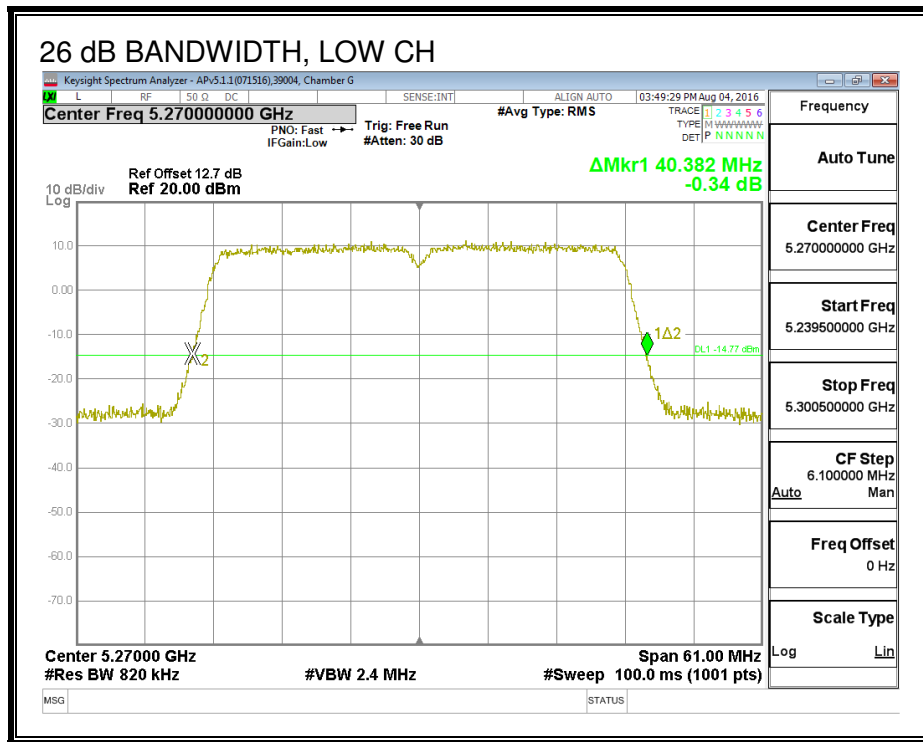
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.92	40.38
High	5310	40.63	40.38

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 1



8.24.2. 99% BANDWIDTH

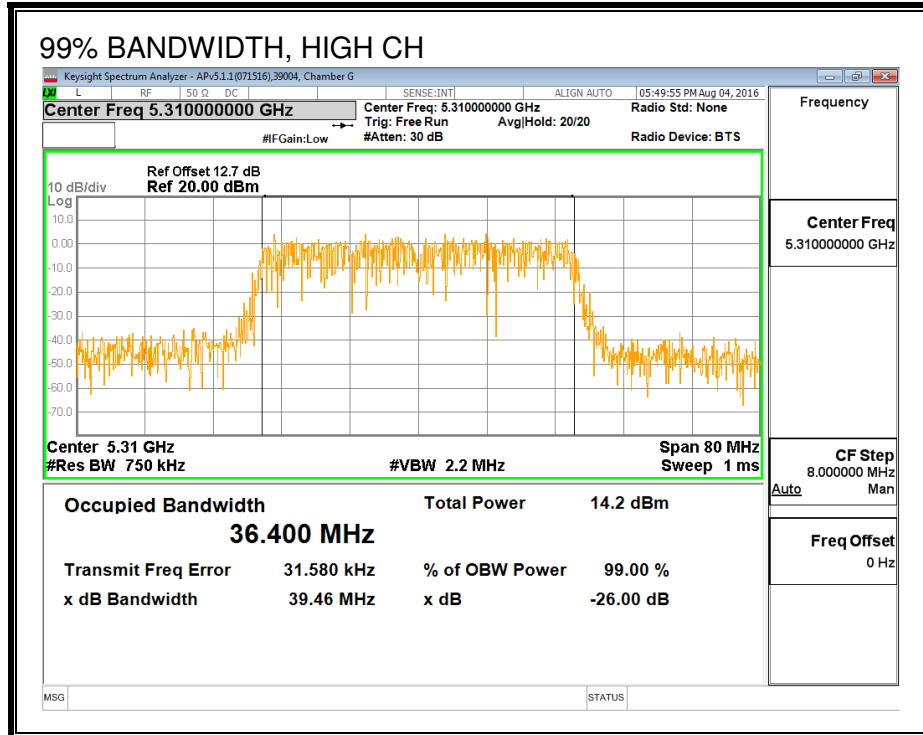
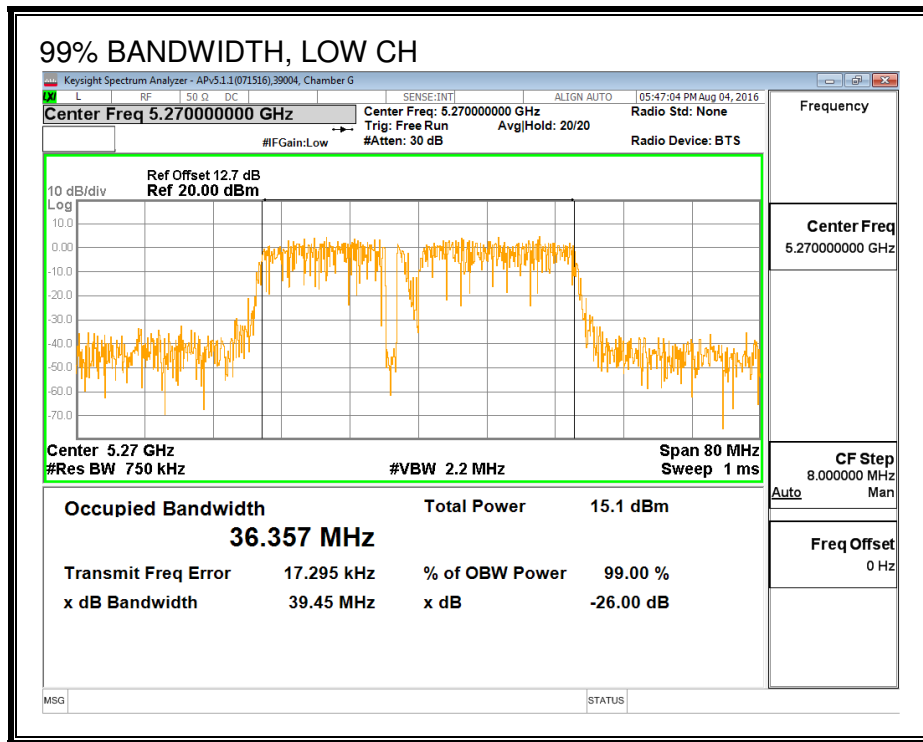
LIMITS

None; for reporting purposes only.

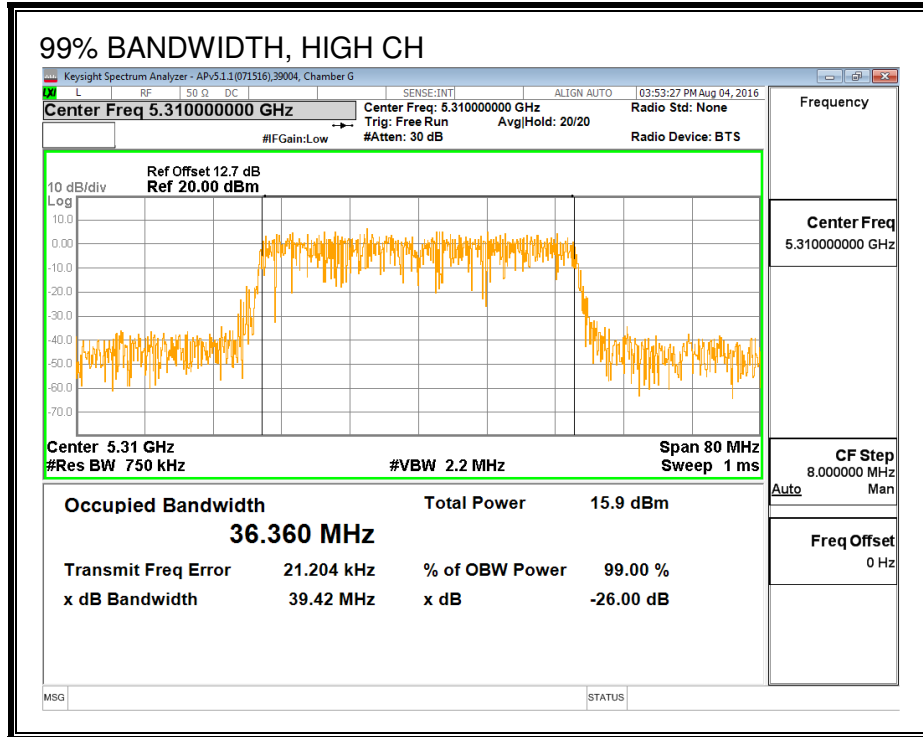
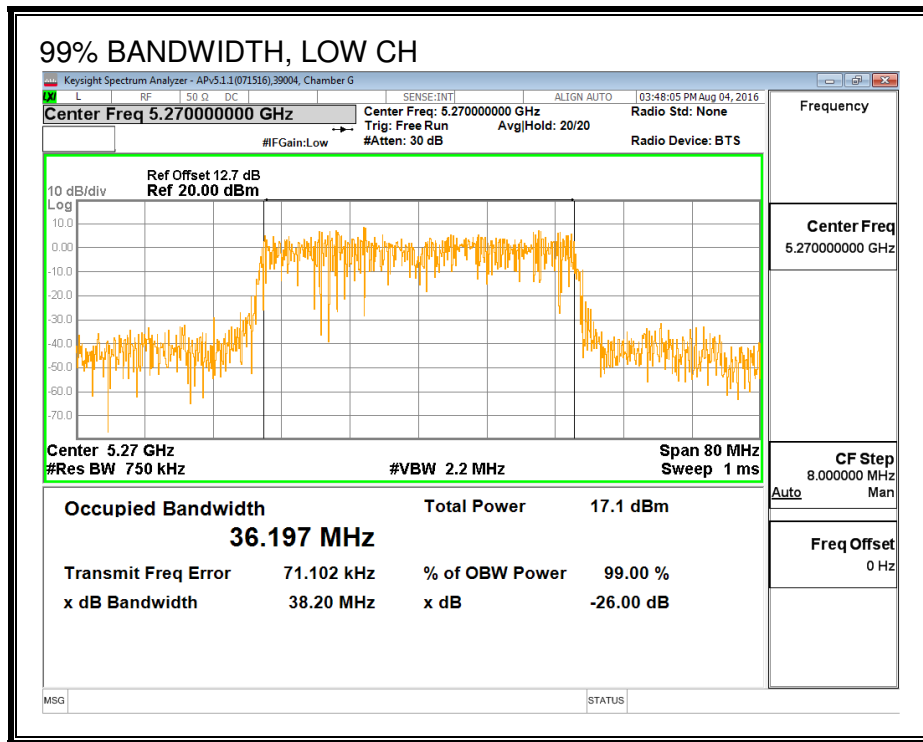
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.357	36.197
High	5310	36.400	36.360

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



8.24.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5270	12.44	12.21	15.34
High	5310	12.27	12.26	15.28

8.24.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)
7.10	7.60	7.36

RESULTS

ID:	39004	Date:	9/2/16
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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	40.38	36.20	7.36	7.36	24.00	9.64
High	5310	40.38	36.36	7.36	7.36	24.00	9.64

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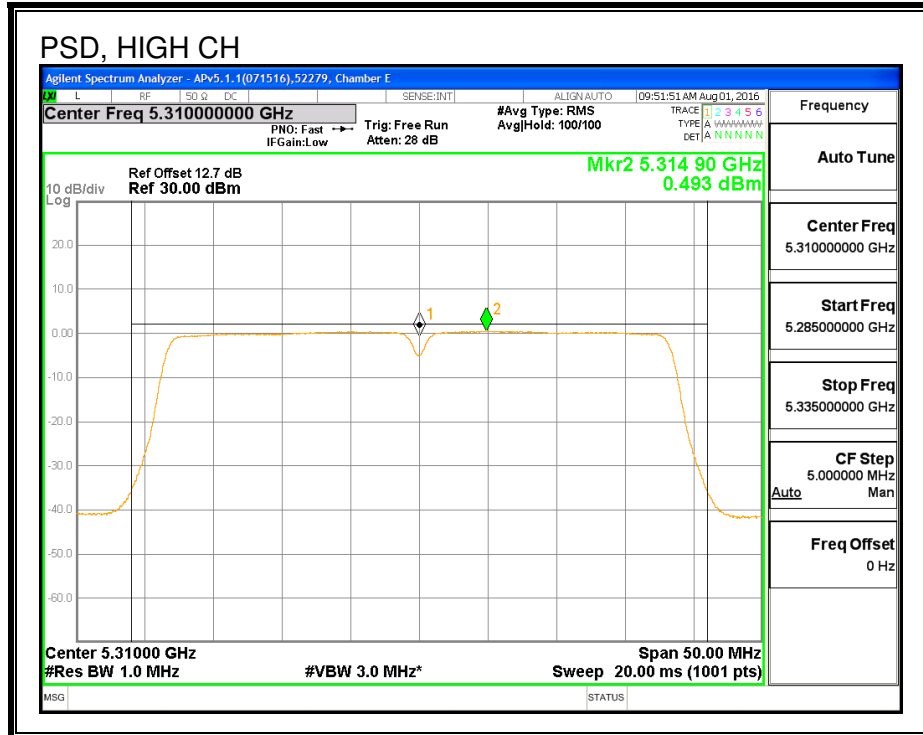
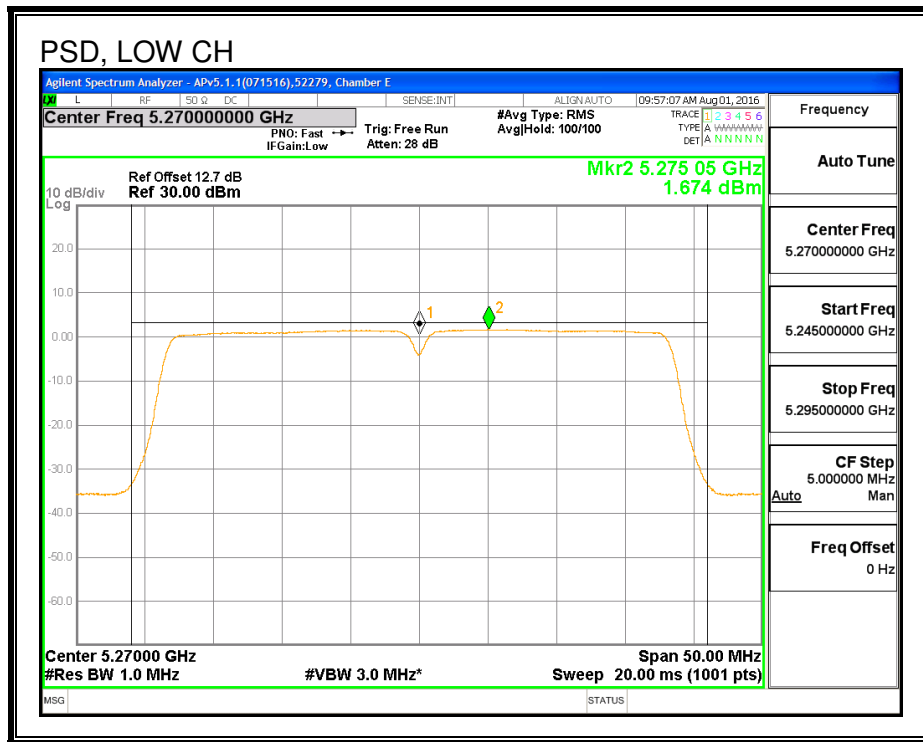
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.44	12.21	15.34	24.00	-8.66
High	5310	12.27	12.26	15.28	24.00	-8.72

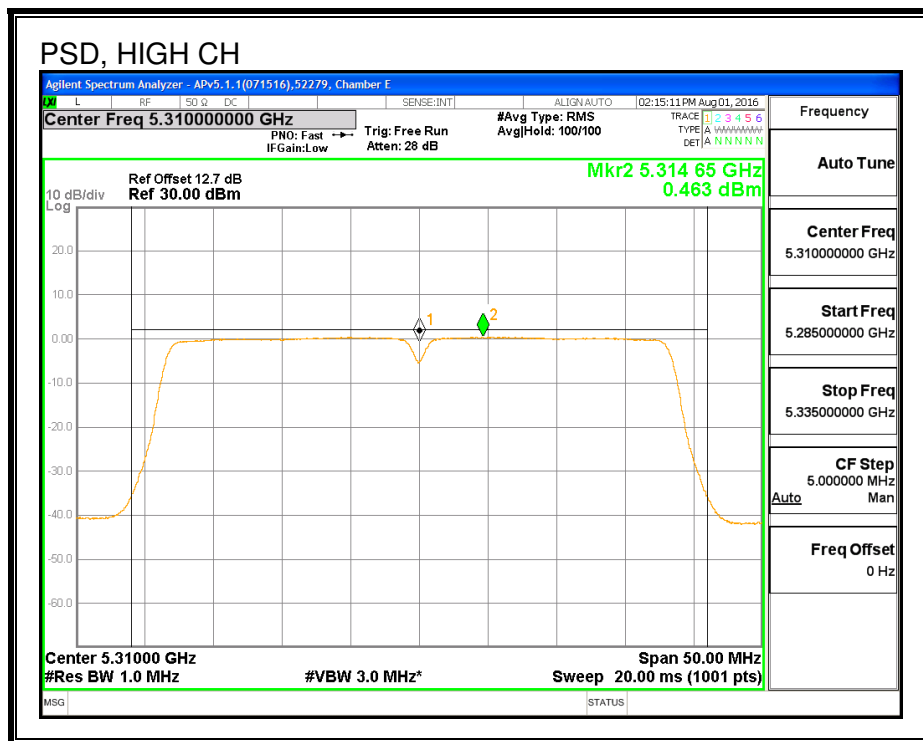
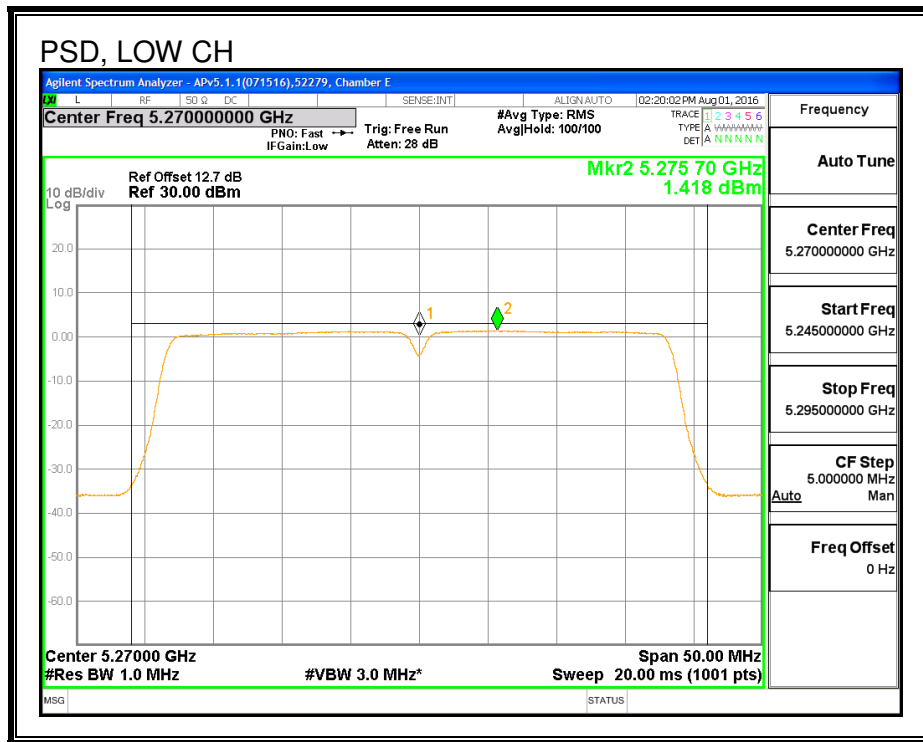
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	1.67	1.42	4.56	9.64	-5.08
High	5310	0.49	0.46	3.49	9.64	-6.15

PSD, CHAIN 0



PSD, CHAIN 1



8.25. 802.11an VHT40 2Tx BEAM FORMING MODE IN THE 5.3 GHz BAND

8.25.1. 26 dB BANDWIDTH

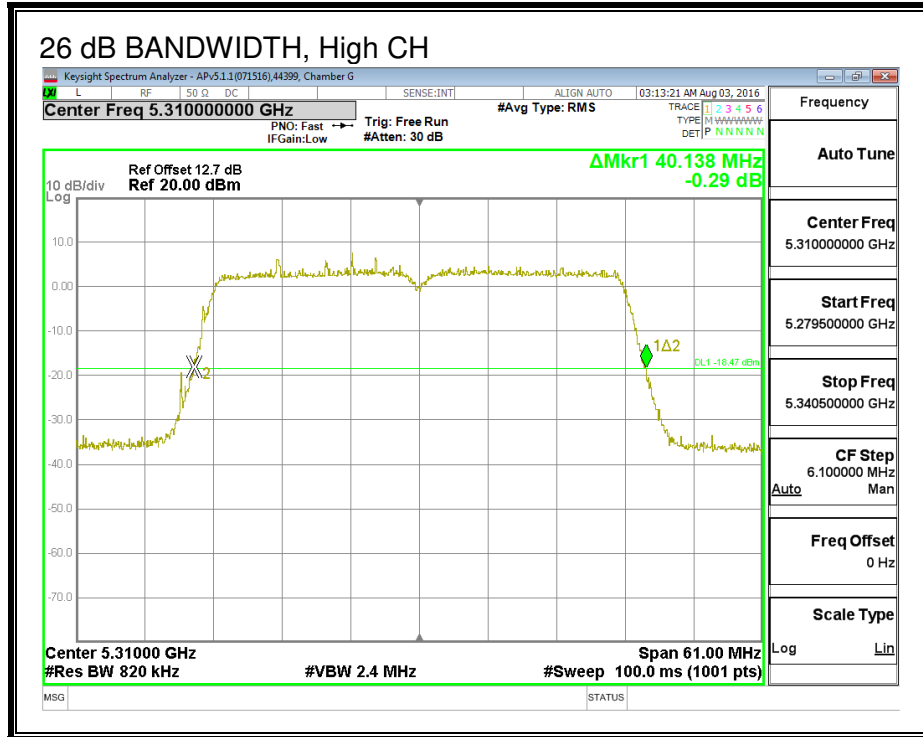
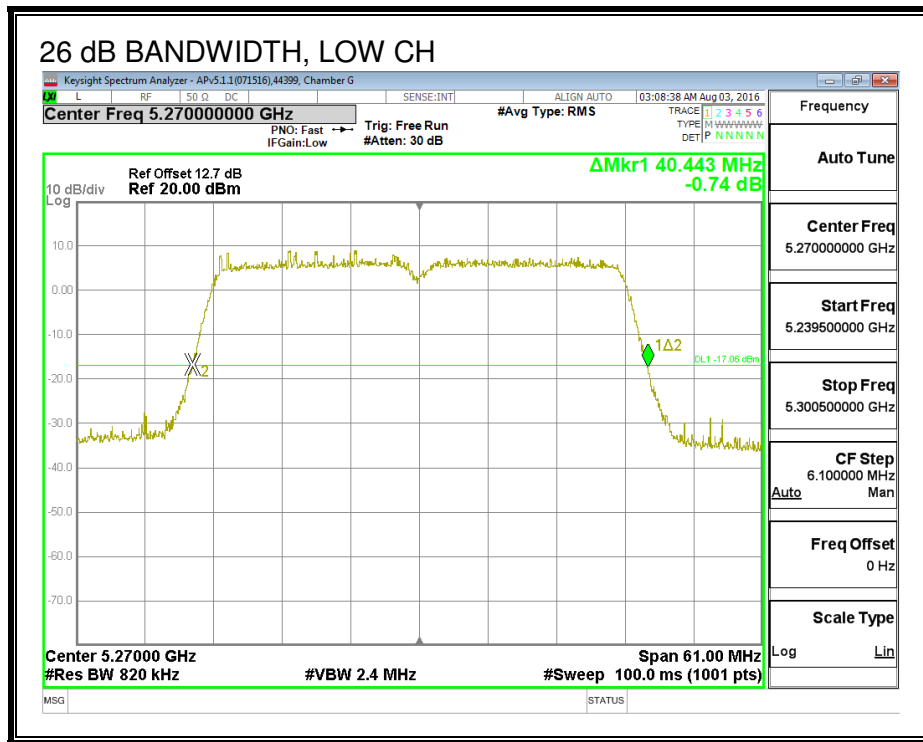
LIMITS

None; for reporting purposes only.

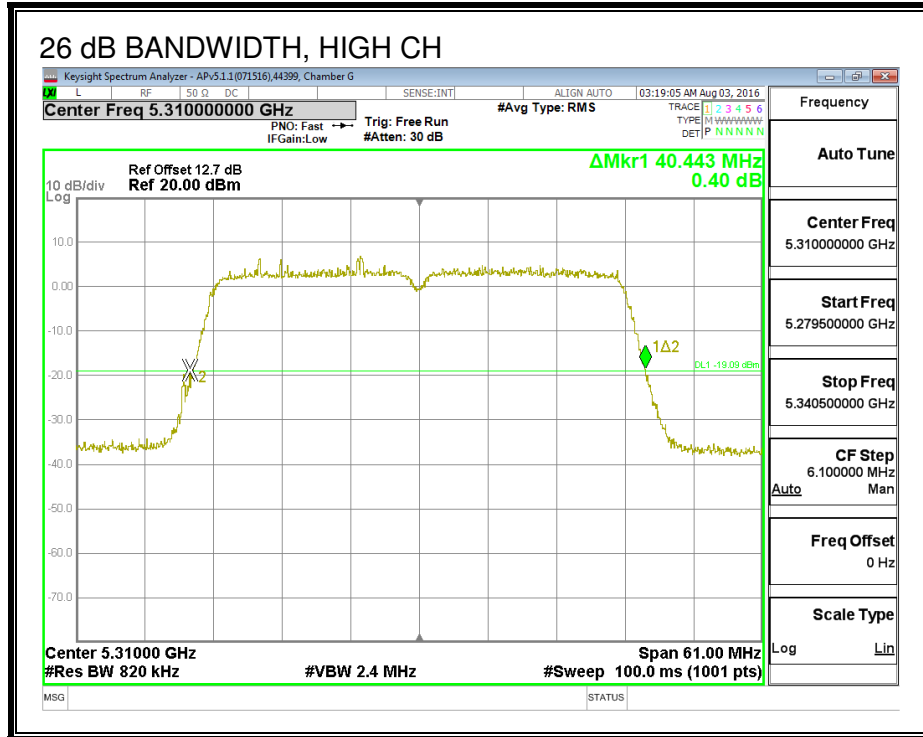
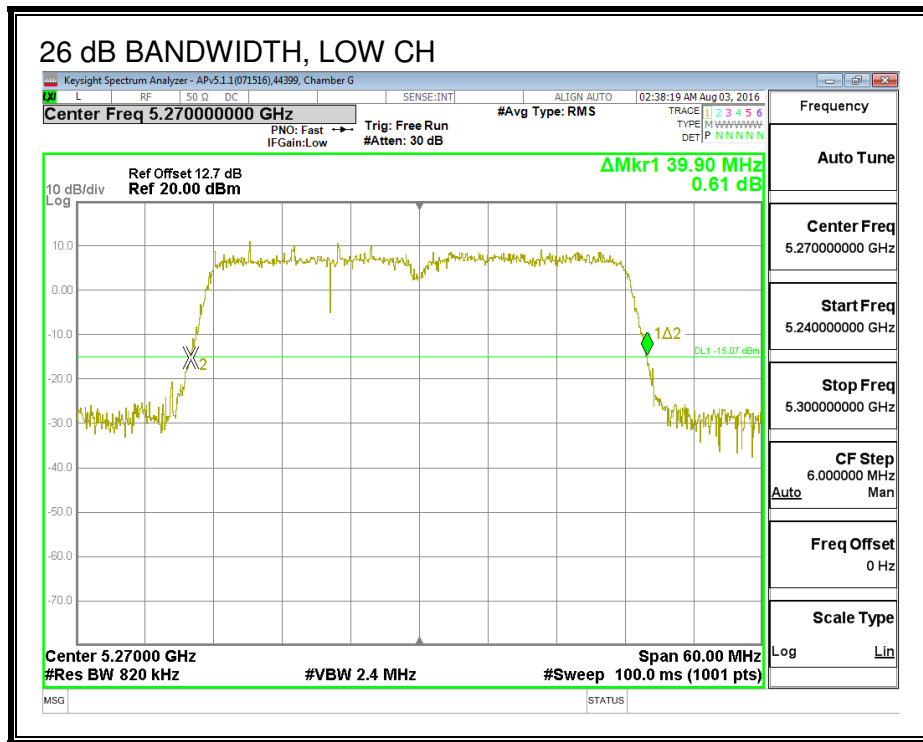
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.443	39.900
High	5310	40.138	40.443

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 1



8.25.2. 99% BANDWIDTH

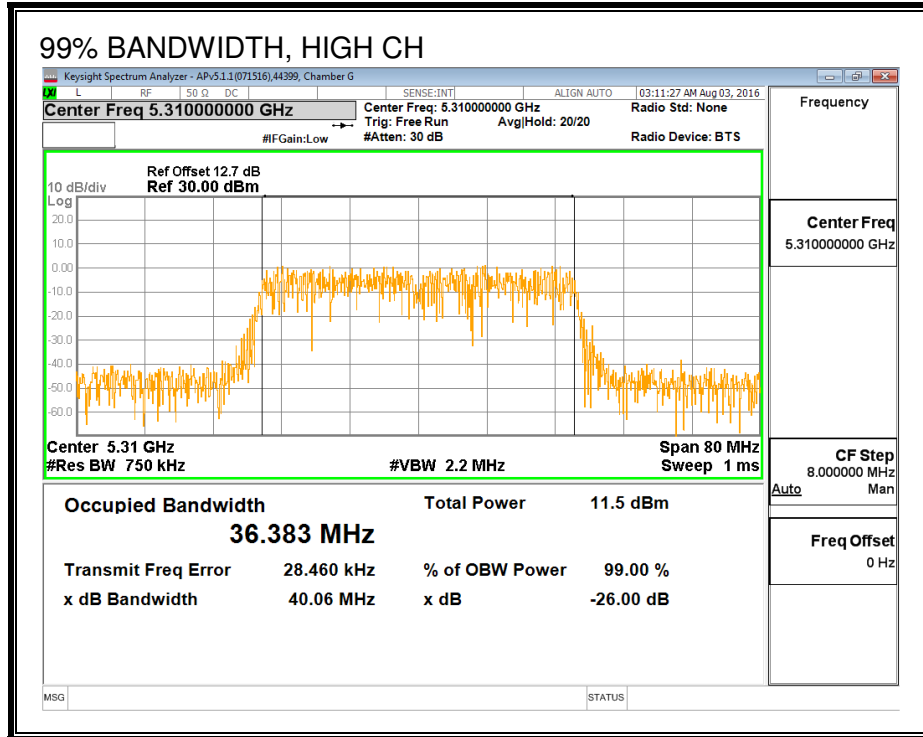
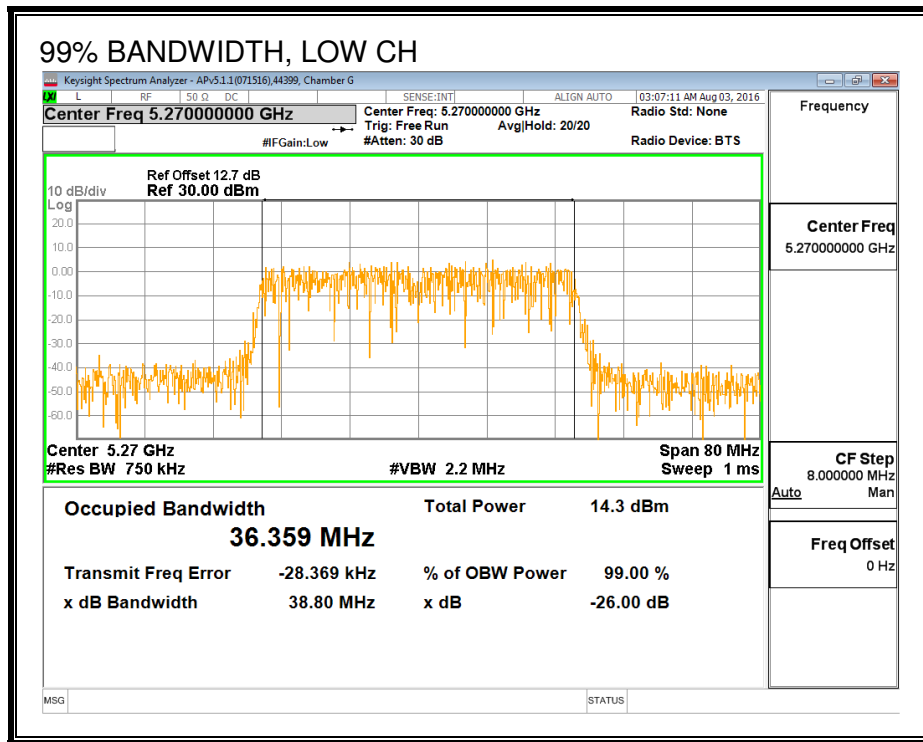
LIMITS

None; for reporting purposes only.

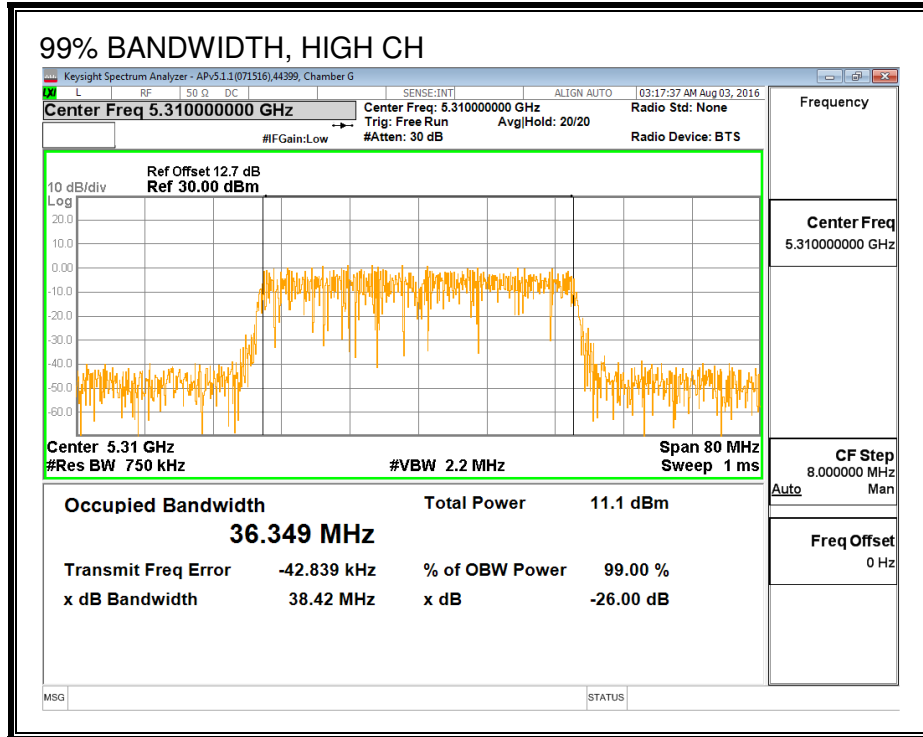
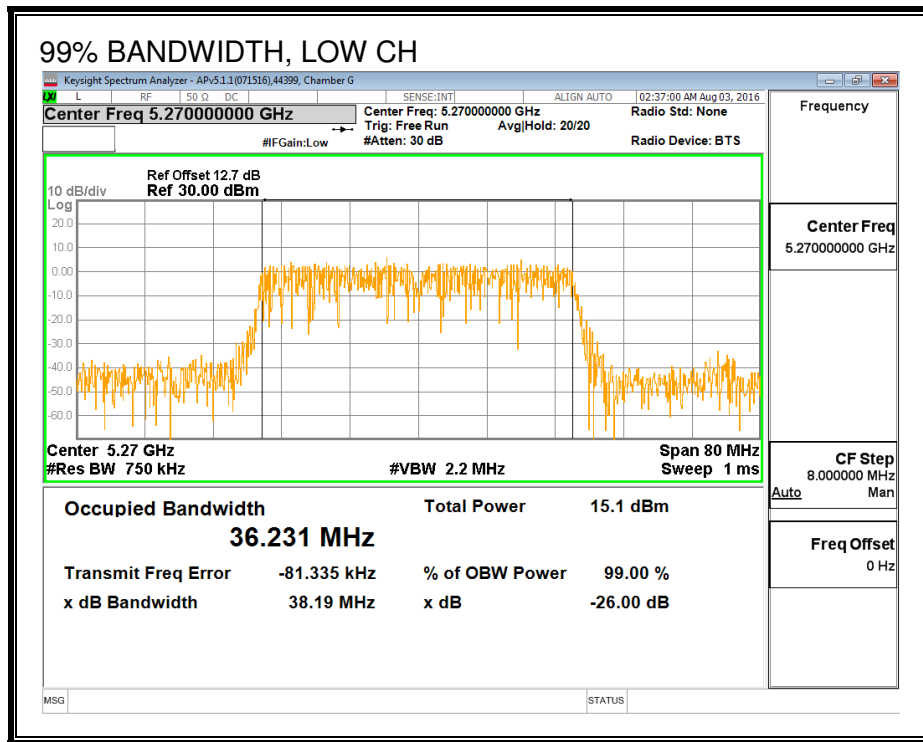
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5270	36.359	36.231
High	5310	36.383	36.349

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



8.25.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5270	12.46	12.35	15.42
High	5310	12.37	12.34	15.37

8.25.4. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)	Correlated Chains Directional Gain (dBi)
7.10	7.60	10.36

RESULTS

ID:	39004	Date:	9/2/16
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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	39.90	36.23	10.36	10.36	22.23	6.64
High	5310	40.14	36.35	10.36	10.36	22.24	6.64

Duty Cycle CF (dB)	0.12	Included in Calculations of Corr'd PSD
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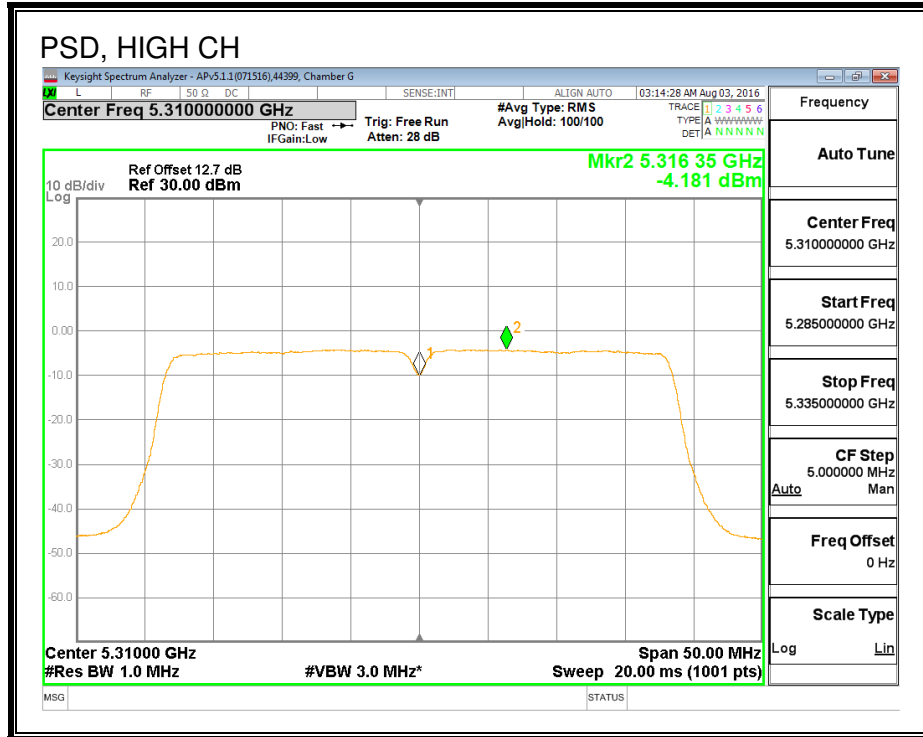
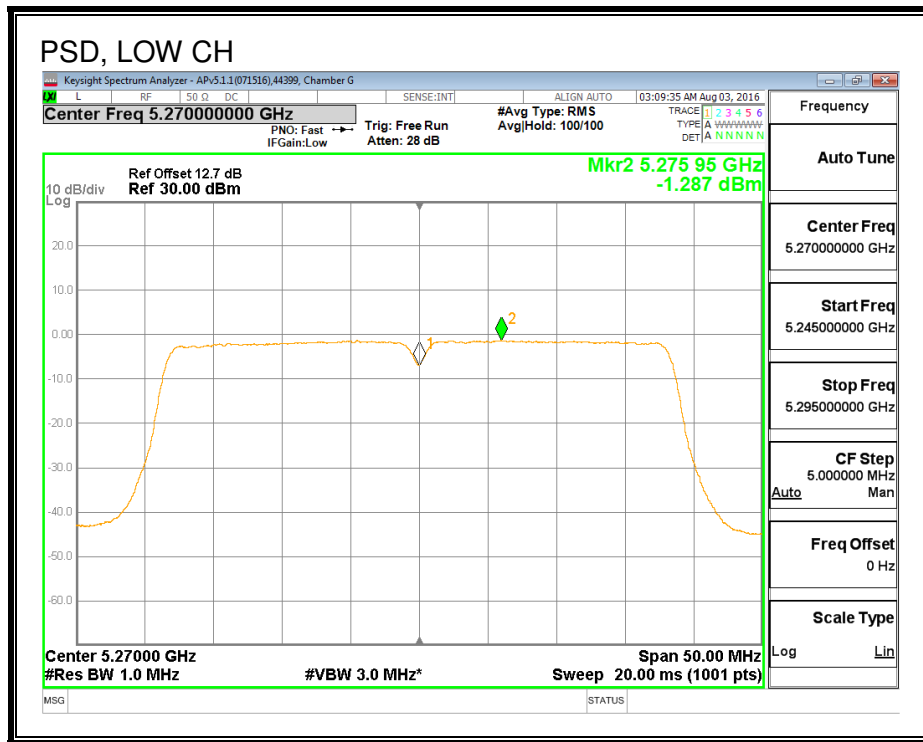
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	12.46	12.35	15.42	22.23	-6.82
High	5310	12.37	12.34	15.37	22.24	-6.88

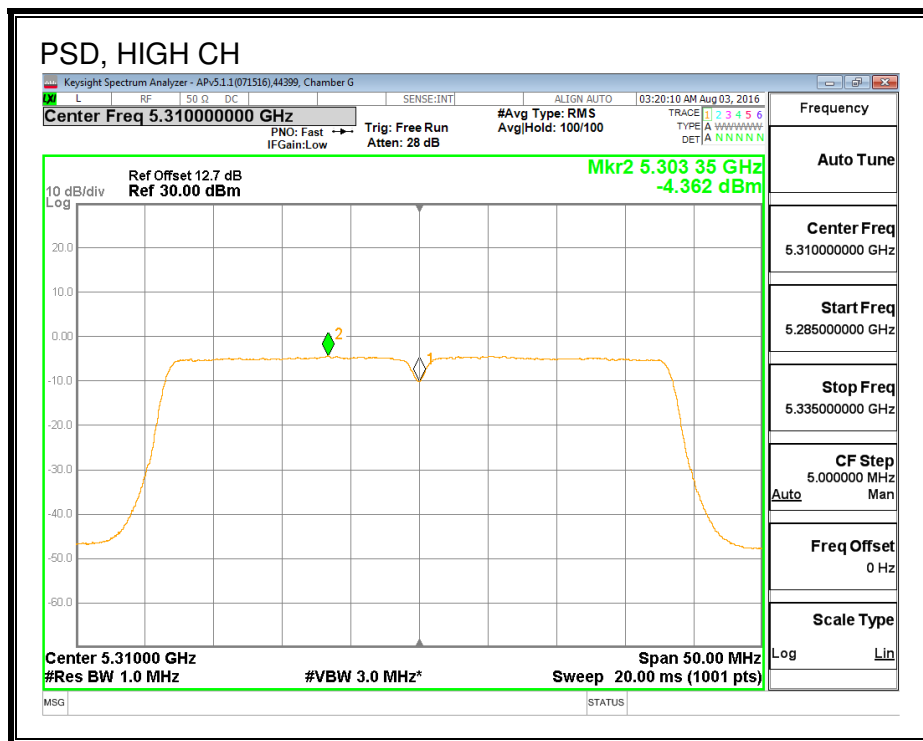
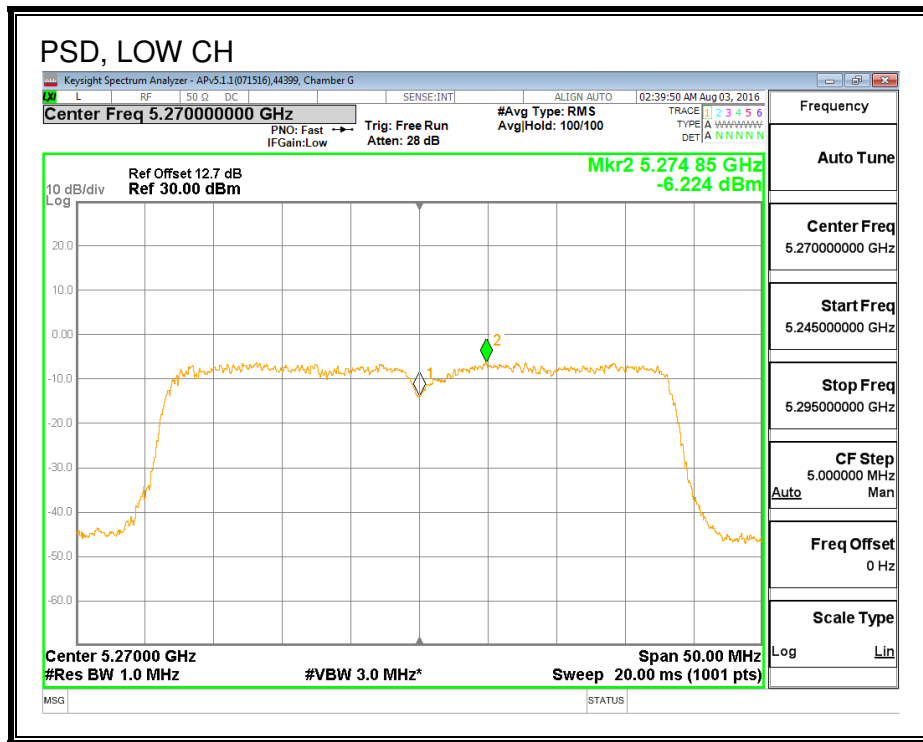
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-1.29	-6.22	0.04	6.64	-6.60
High	5310	-4.18	-4.36	-1.14	6.64	-7.78

PSD, CHAIN 0



PSD, CHAIN 1



8.26. 802.11ac VHT80 CHAIN 0 MODE IN THE 5.3 GHz BAND

8.26.1. 26 dB BANDWIDTH

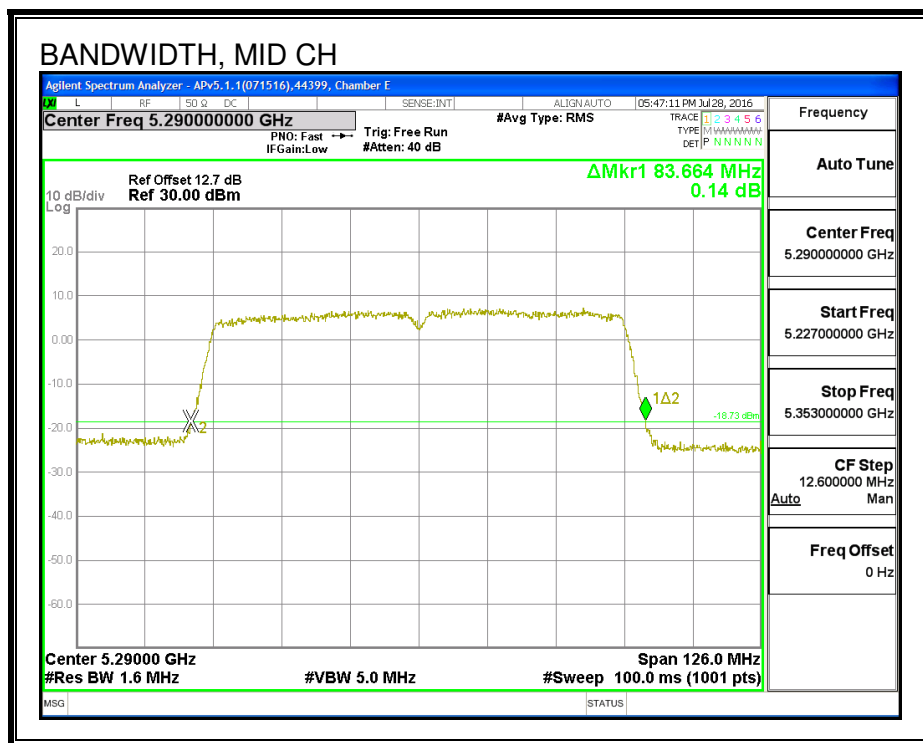
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Mid	5290	83.664

26 dB BANDWIDTH



8.26.2. 99% BANDWIDTH

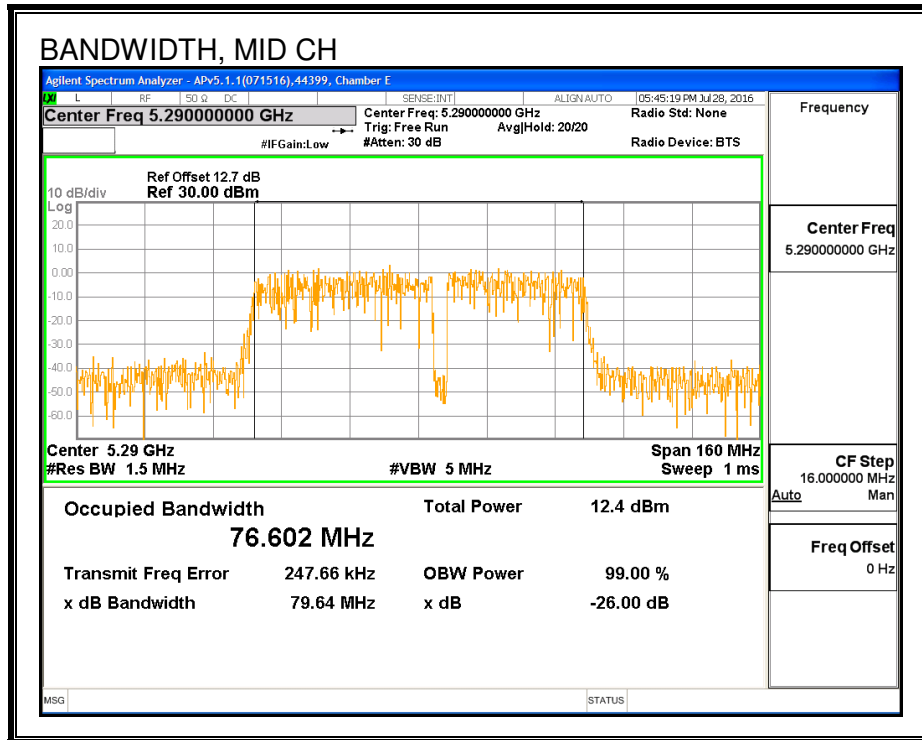
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5290	76.602

99% BANDWIDTH



8.26.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Channel	Frequency (MHz)	Power (dBm)
Mid	5290	12.40

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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:	39004	Date:	9/2/16
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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	83.66	76.60	7.10	24.00	9.90

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd PSD
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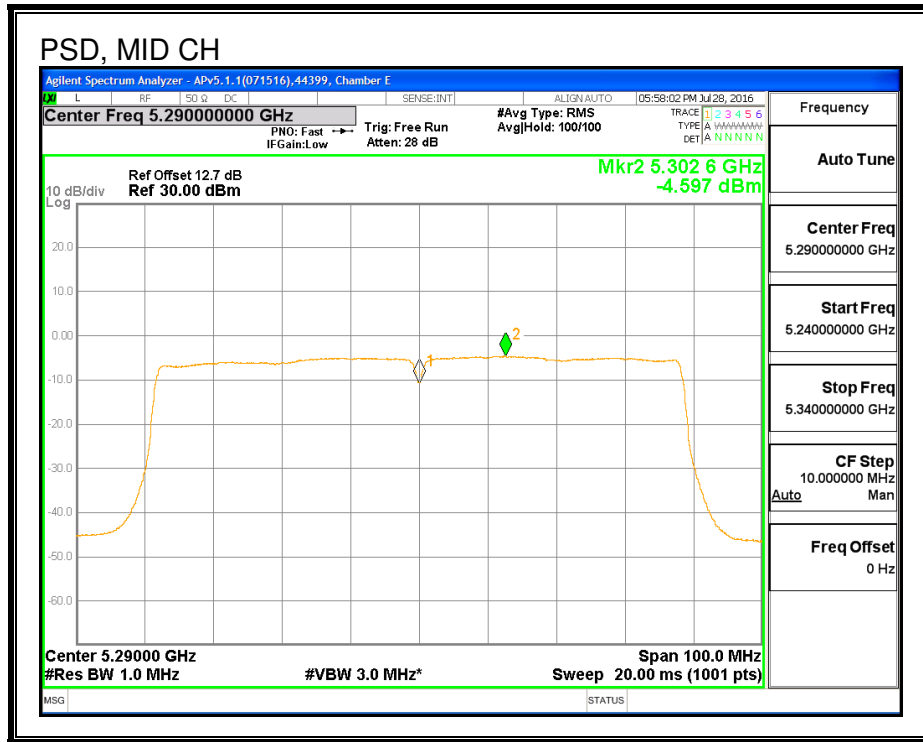
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.40	12.40	24.00	-11.60

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-4.60	-4.38	9.90	-14.28

PSD



8.27. 802.11ac VHT80 CHAIN 1 MODE IN THE 5.3 GHz BAND

8.27.1. 26 dB BANDWIDTH

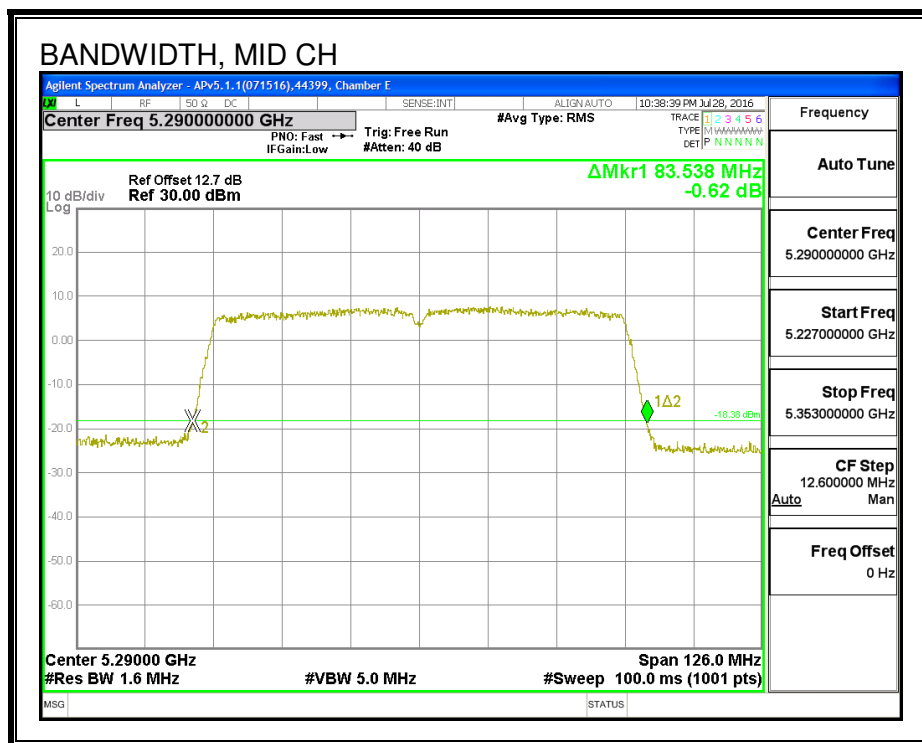
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Mid	5290	83.538

26 dB BANDWIDTH



8.27.2. 99% BANDWIDTH

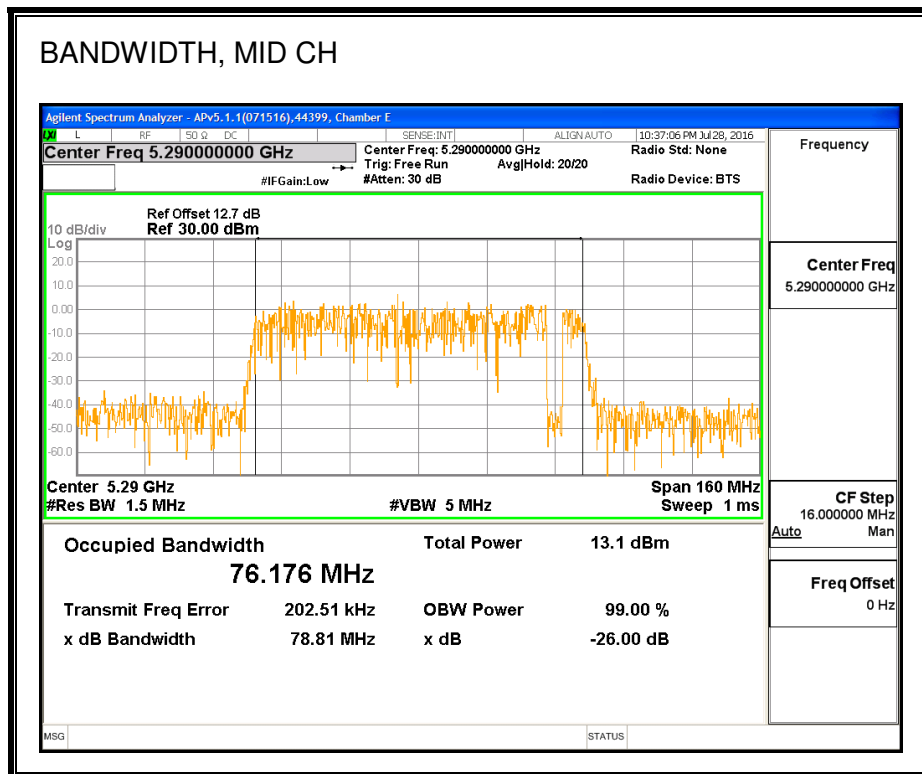
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Mid	5290	76.176

99% BANDWIDTH



8.27.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Channel	Frequency (MHz)	Power (dBm)
Mid	5290	12.39

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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:	39004	Date:	9/2/16
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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	83.54	76.18	7.60	24.00	9.40

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd PSD
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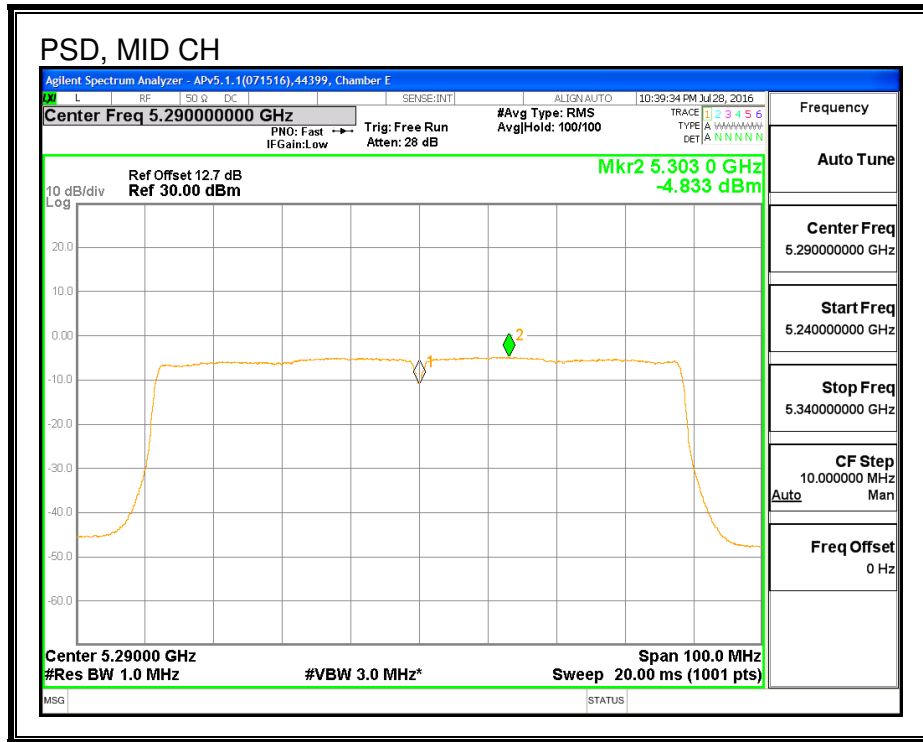
Output Power Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	12.39	12.39	24.00	-11.61

PPSD Results

Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	-4.83	-4.61	9.40	-14.01

PSD



8.28. 802.11ac VHT80 2Tx CDD MODE IN THE 5.3 GHz BAND

8.28.1. 26 dB BANDWIDTH

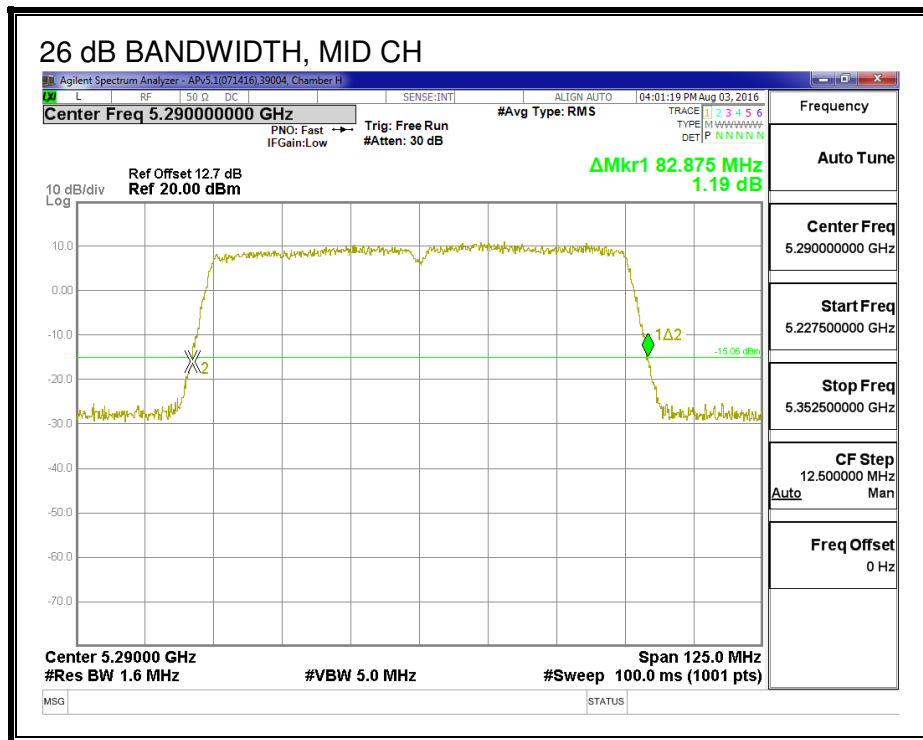
LIMITS

None; for reporting purposes only.

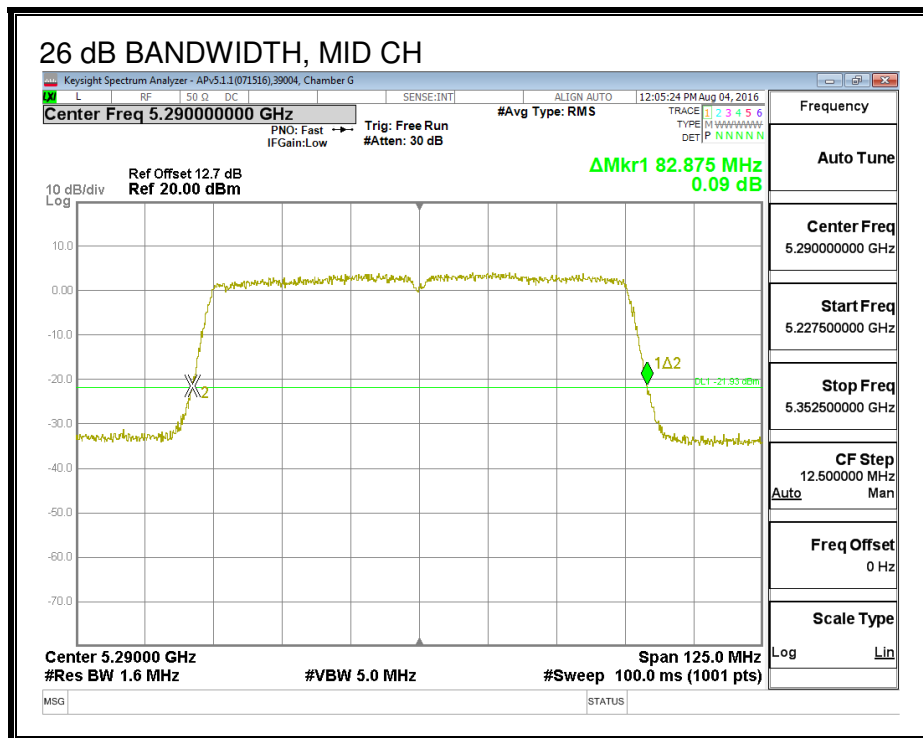
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5290	82.875	82.875

26 DB BANDWIDTH, CHAIN 0



26 DB BANDWIDTH, CHAIN 1



8.28.2. 99% BANDWIDTH

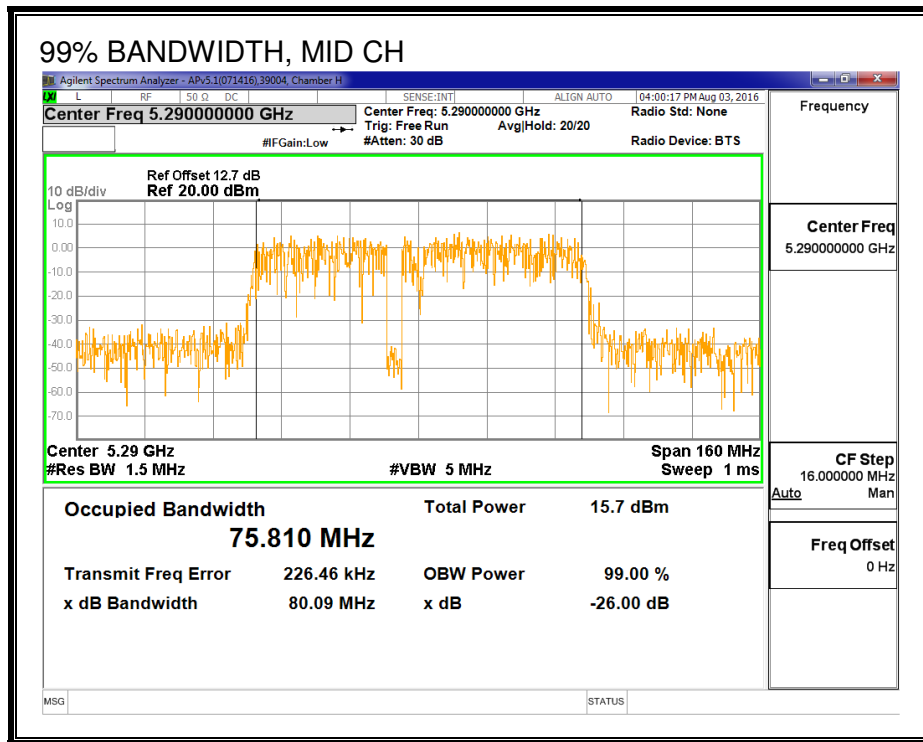
LIMITS

None; for reporting purposes only.

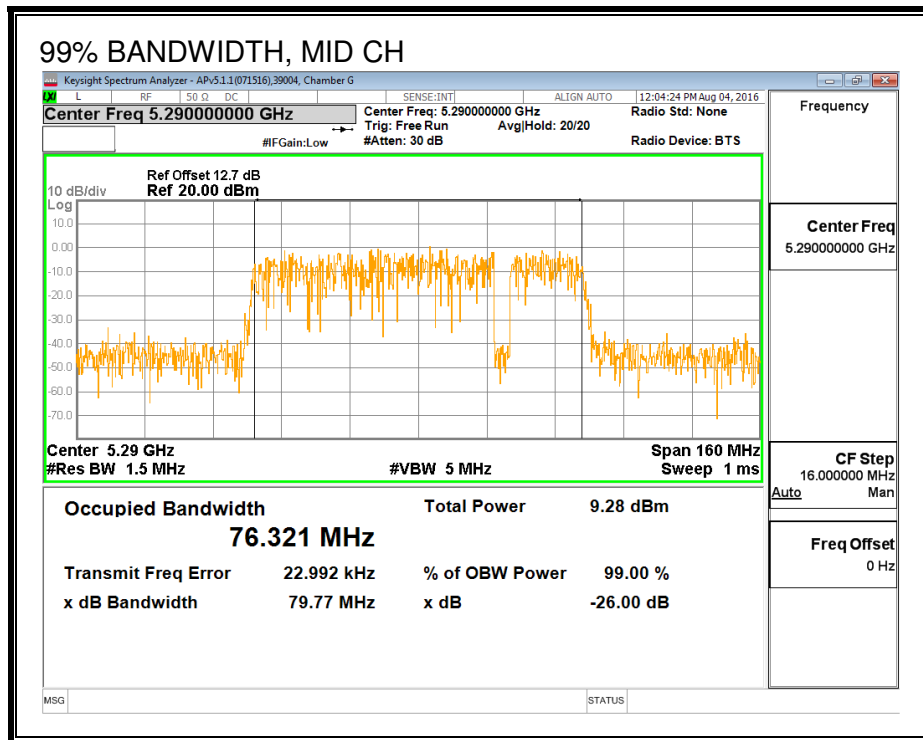
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5290	75.810	76.321

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



8.28.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	39004	Date:	9/2/16
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Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Mid	5290	8.93	8.89	11.92

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, 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 $17 + 10 \log_{10} B$, 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)
7.10	7.60	7.36

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)
7.10	7.60	10.36