8.97.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.3) (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.

Straddle channel power is measured using PXA spectrum analyzer, 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	7.40	6.33

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	5530	83.13	75.686	6.33	6.33	24.00	10.67
High	5610	82.75	75.575	6.33	6.33	24.00	10.67

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

Output Power Results

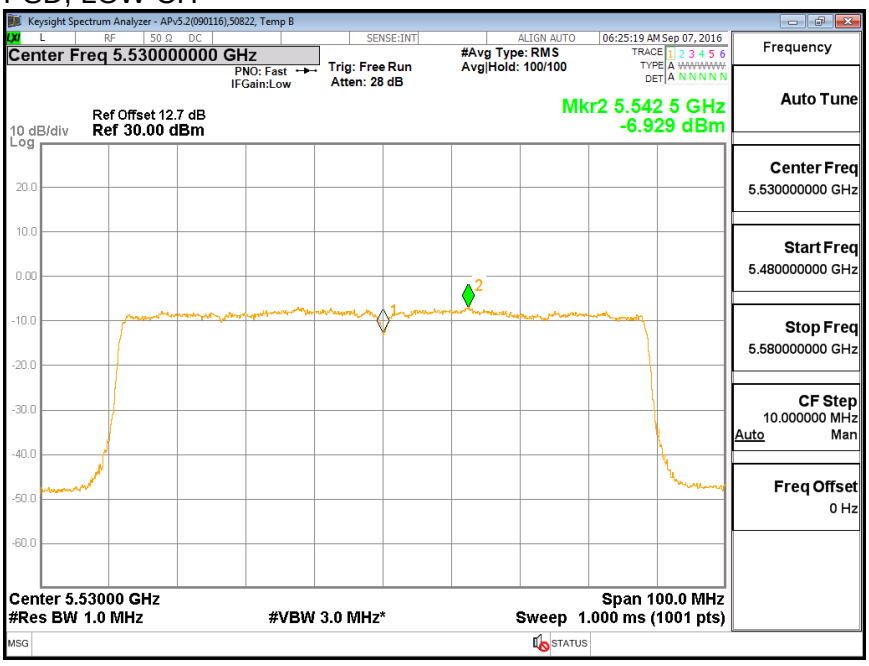
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.98	9.95	12.98	24.00	-11.02
High	5610	12.25	12.12	15.20	24.00	-8.80

PSD Results

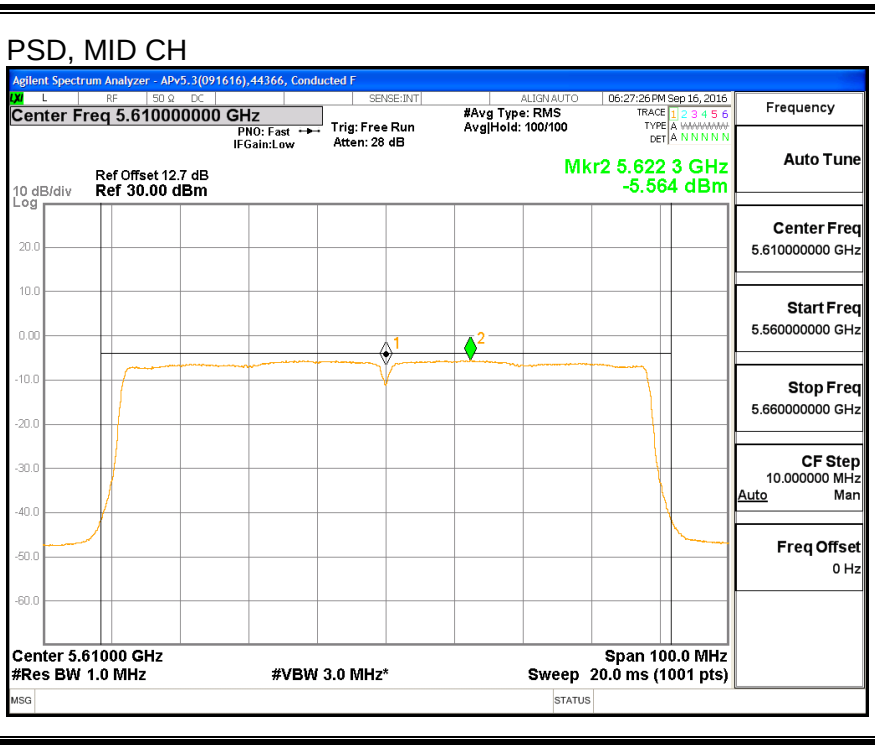
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-6.93	-7.06	-3.80	10.67	-14.47
High	5610	-5.56	-5.41	-2.29	10.67	-12.96

PSD, CHAIN 0

PSD, LOW CH

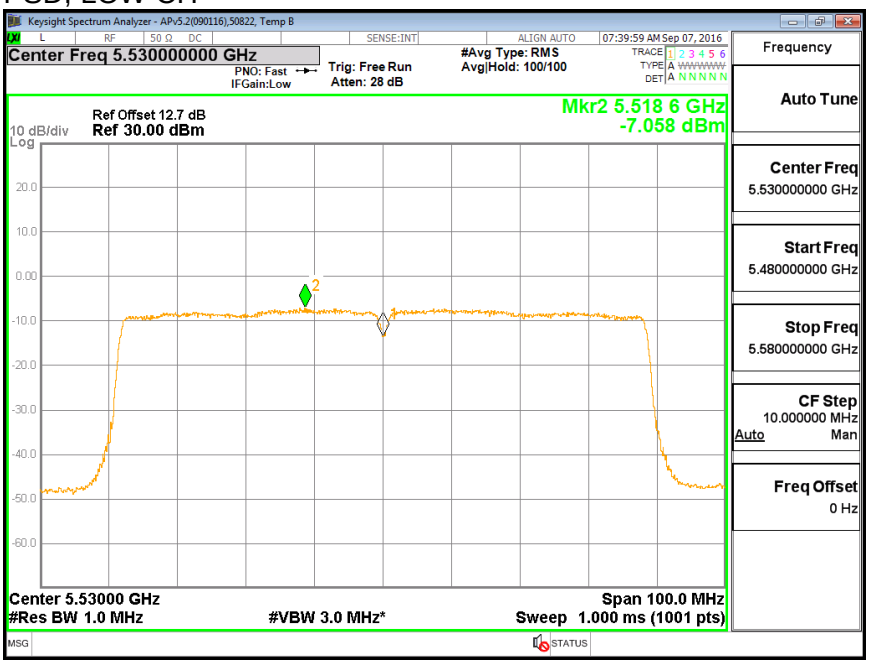


PSD, MID CH

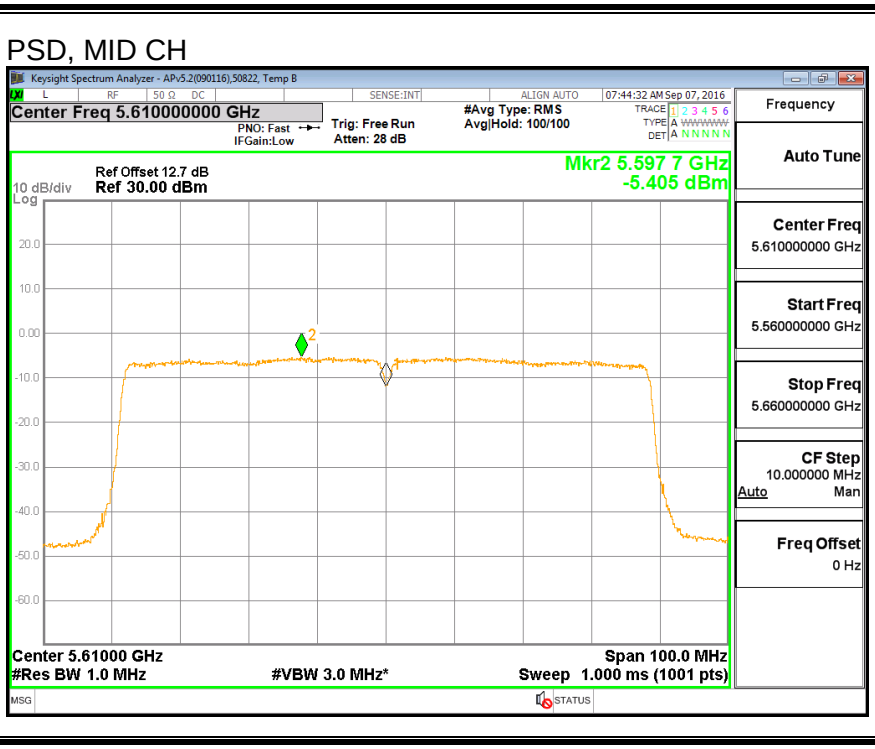


PSD, CHAIN 1

PSD, LOW CH



PSD, MID CH



8.97.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.50	6.33	6.33	23.67	10.67

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

Output Power Results

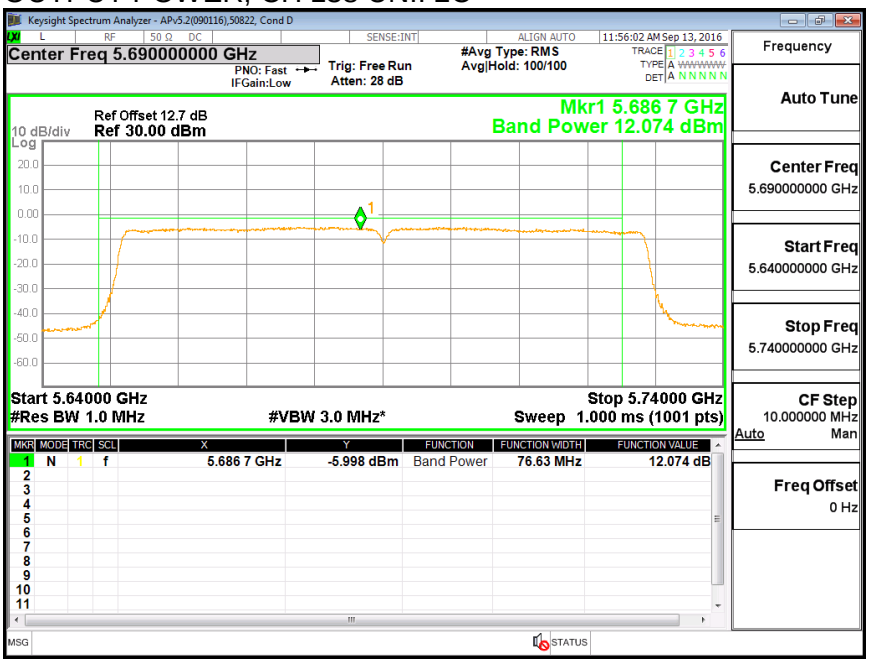
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	12.07	12.02	15.24	23.67	-8.43

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)
138	5690	-5.14	-5.11	-1.93	10.67	-12.60

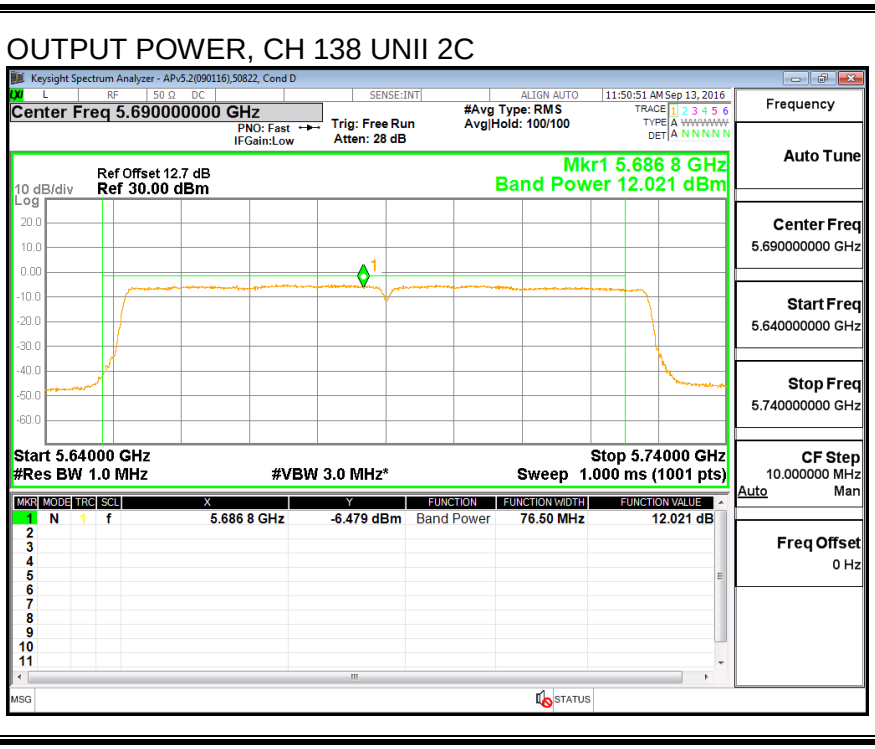
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



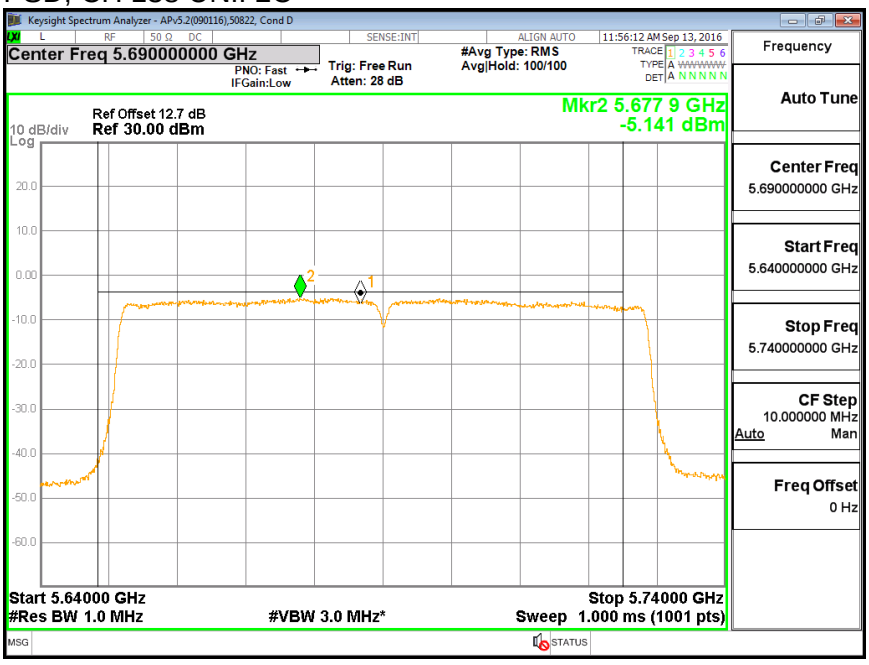
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



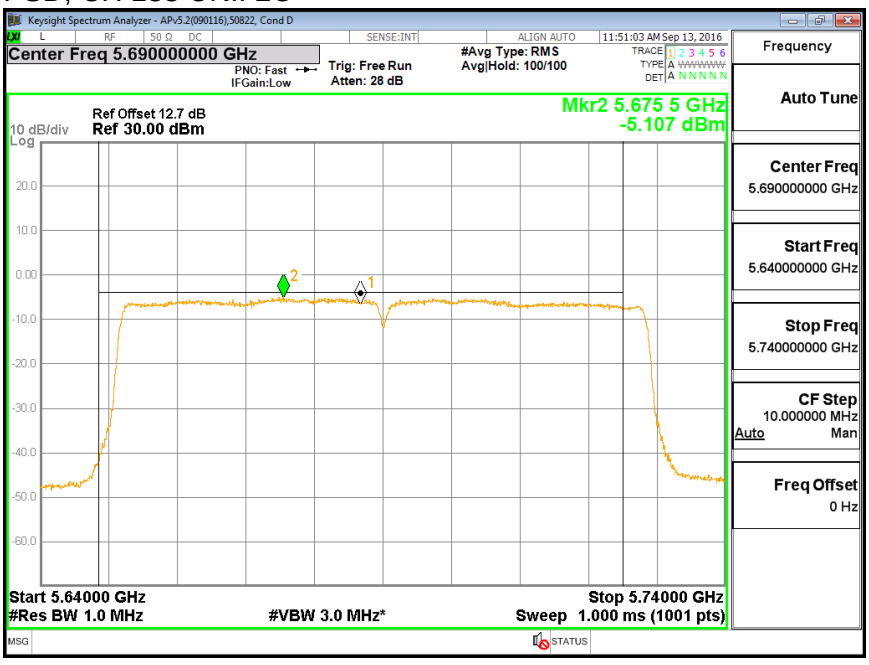
PSD, CHAIN 0

PSD, CH 138 UNII 2C



PSD, CHAIN 1

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.50	6.33	6.33	29.67	29.67

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

Output Power Results

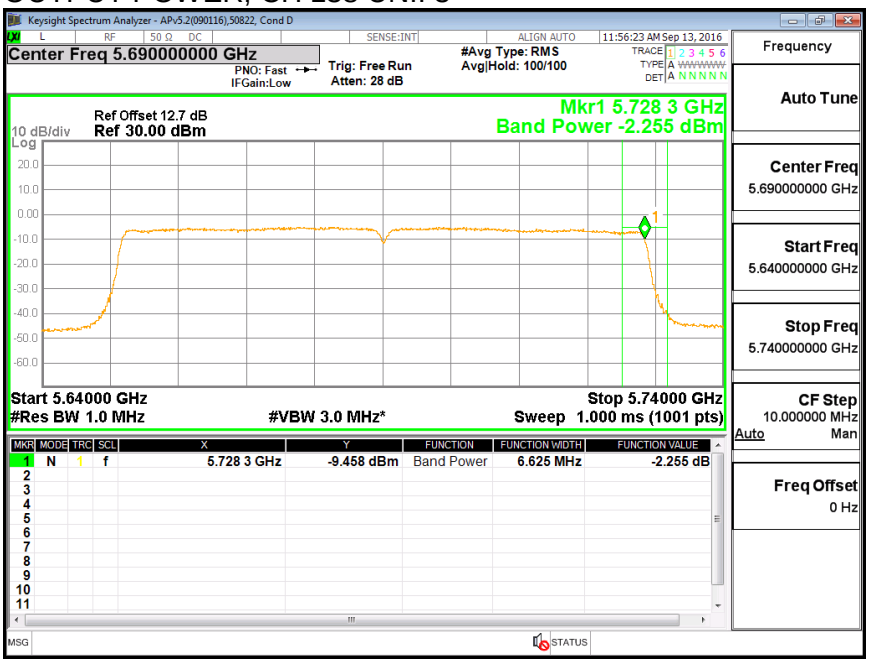
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.26	-2.34	0.89	29.67	-28.78

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)
138	5690	-9.20	-9.83	-6.31	29.67	-35.98

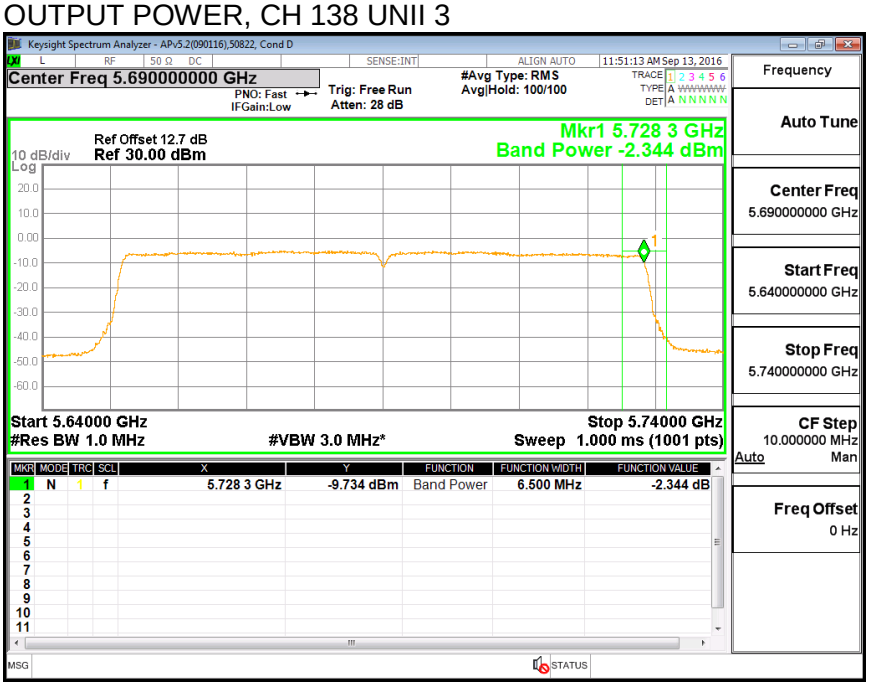
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



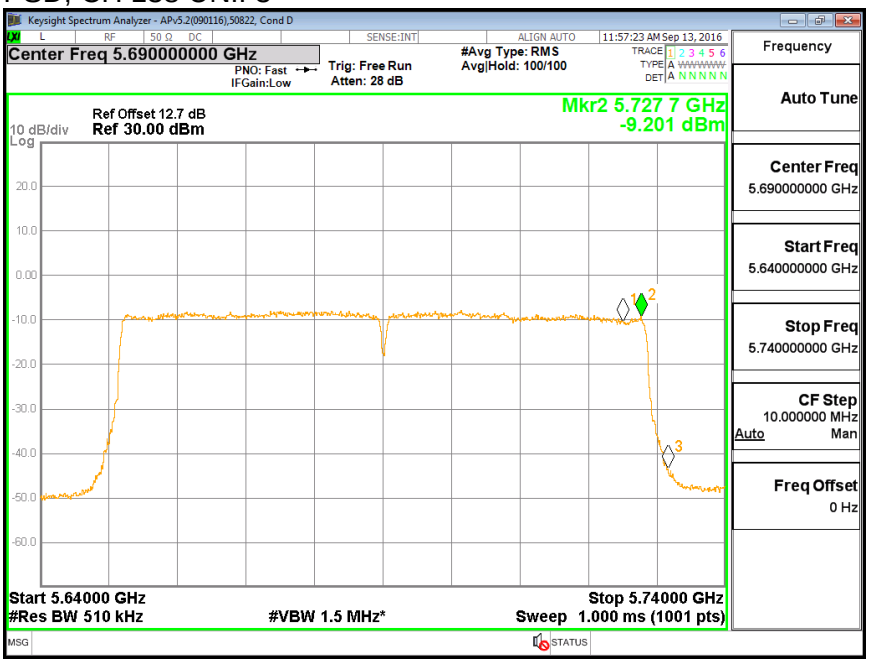
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



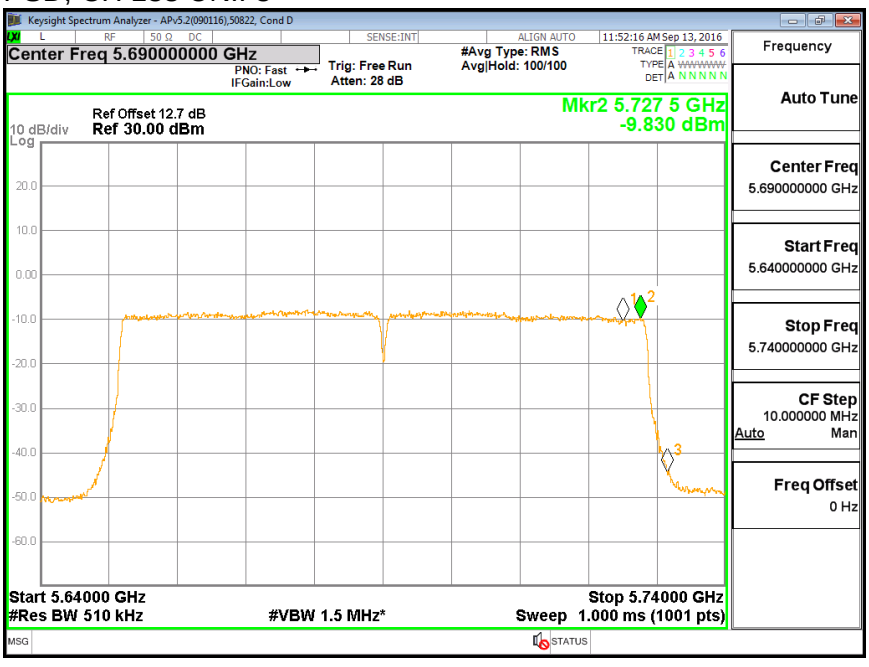
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 1

PSD, CH 138 UNII 3



8.97.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	72.590	6.33	6.33	23.67	10.67

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

Output Power Results

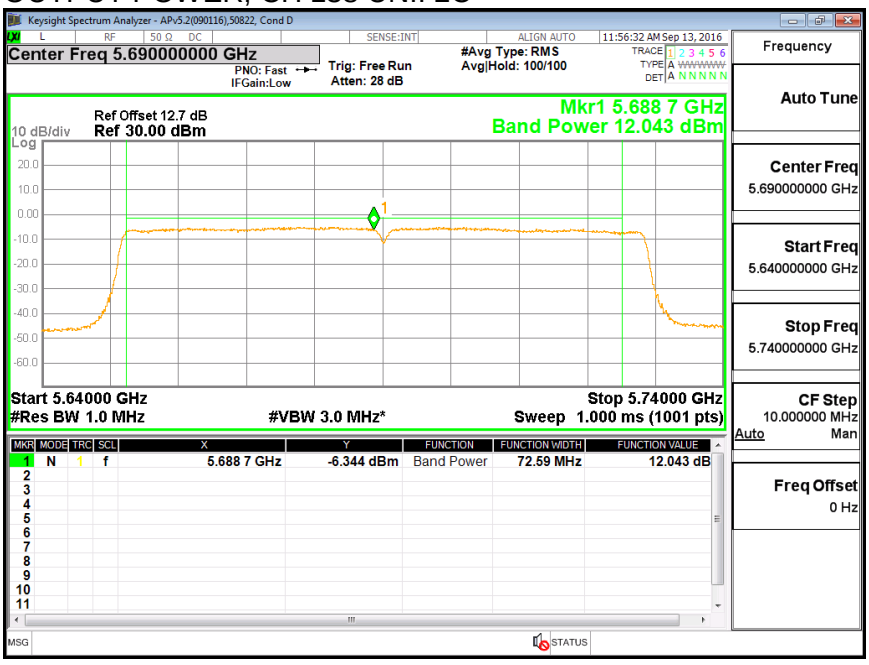
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	12.04	12.00	15.21	23.67	-8.46

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)
138	5690	-5.14	-5.11	-1.93	10.67	-12.60

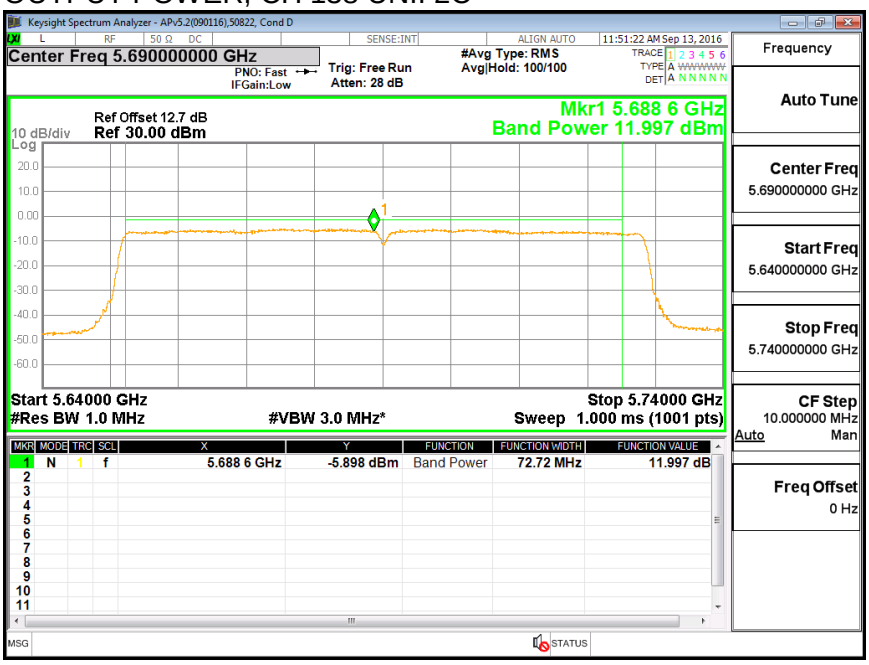
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



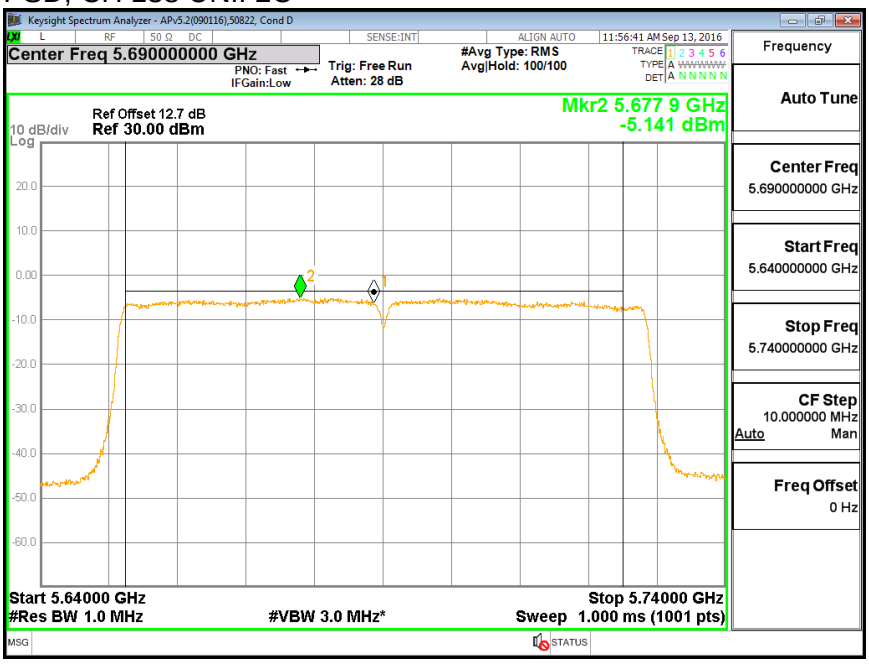
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



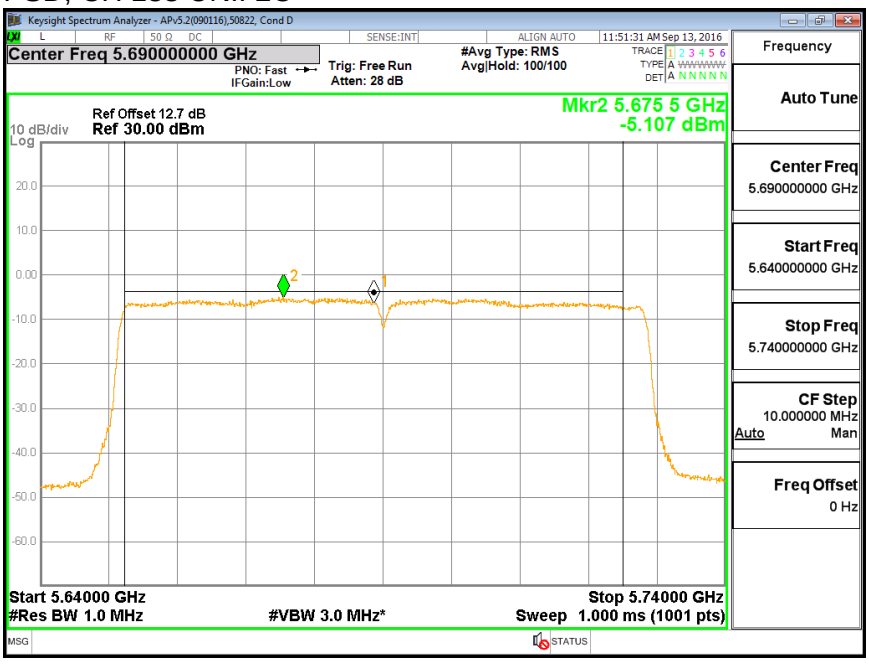
PSD, CHAIN 0

PSD, CH 138 UNII 2C



PSD, CHAIN 1

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	2.590	6.33	6.33	29.67	29.67

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

Output Power Results

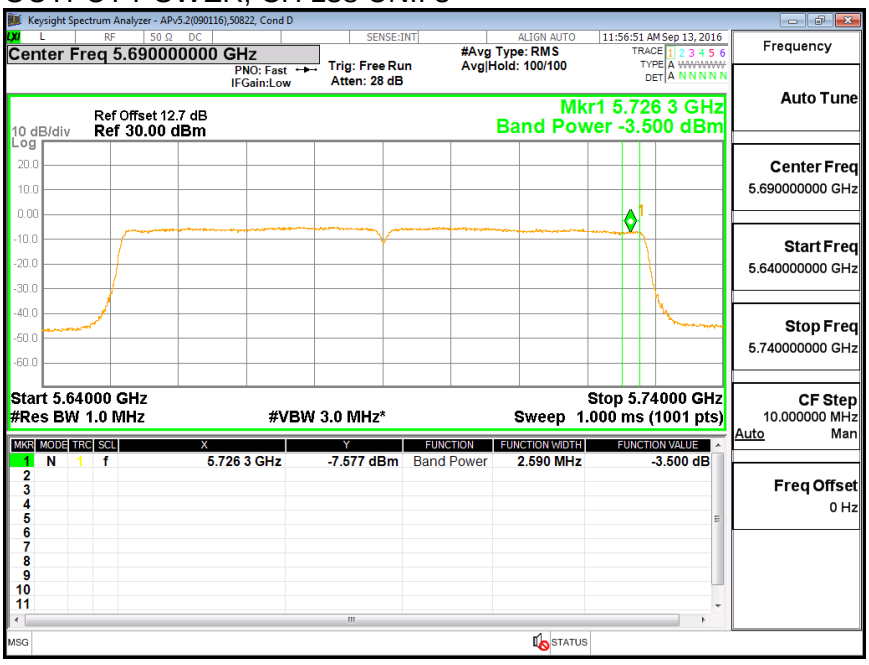
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-3.50	-3.34	-0.23	29.67	-29.90

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)
138	5690	-9.73	-9.83	-6.59	29.67	-36.26

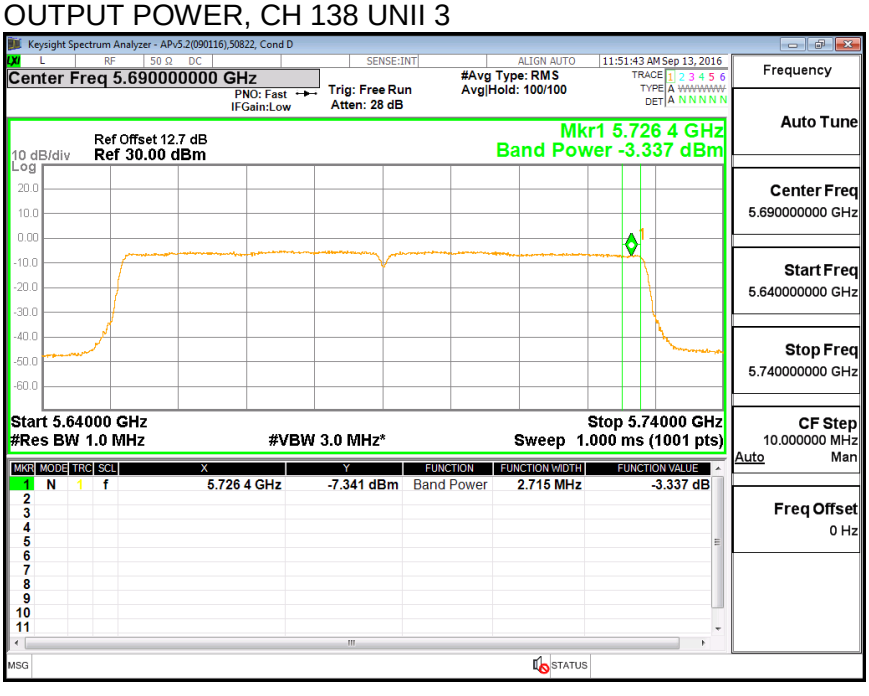
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



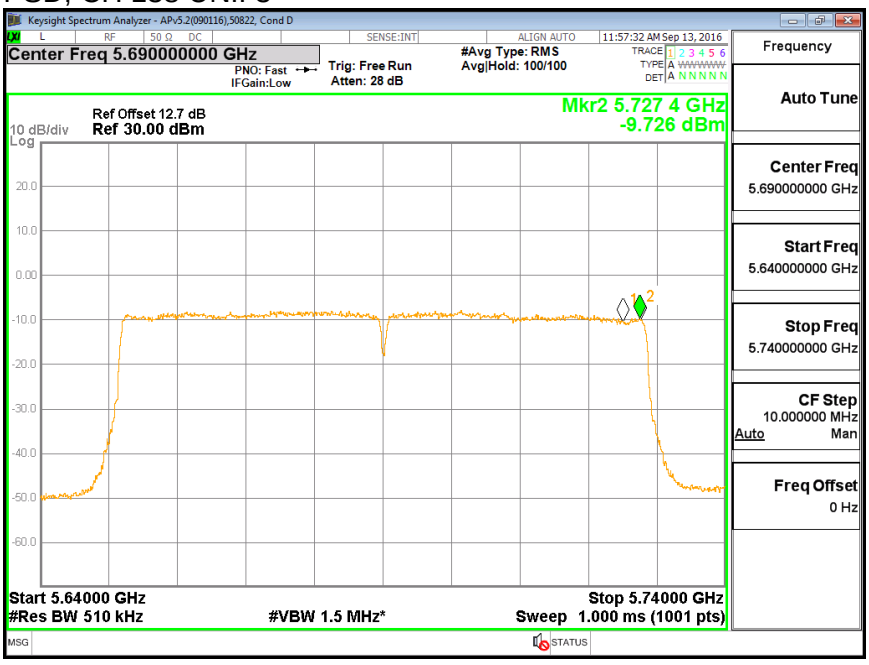
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



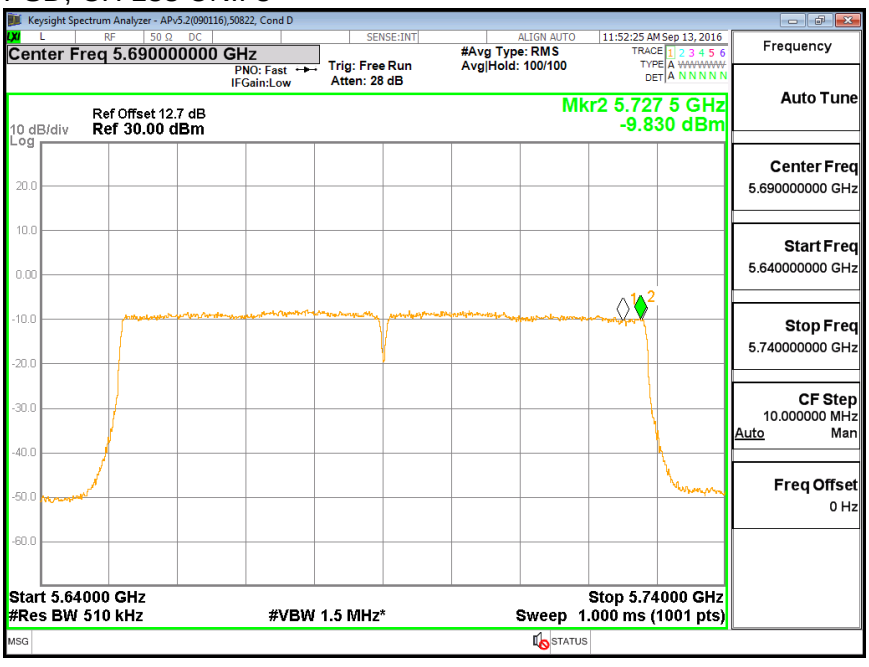
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 1

PSD, CH 138 UNII 3



8.97.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

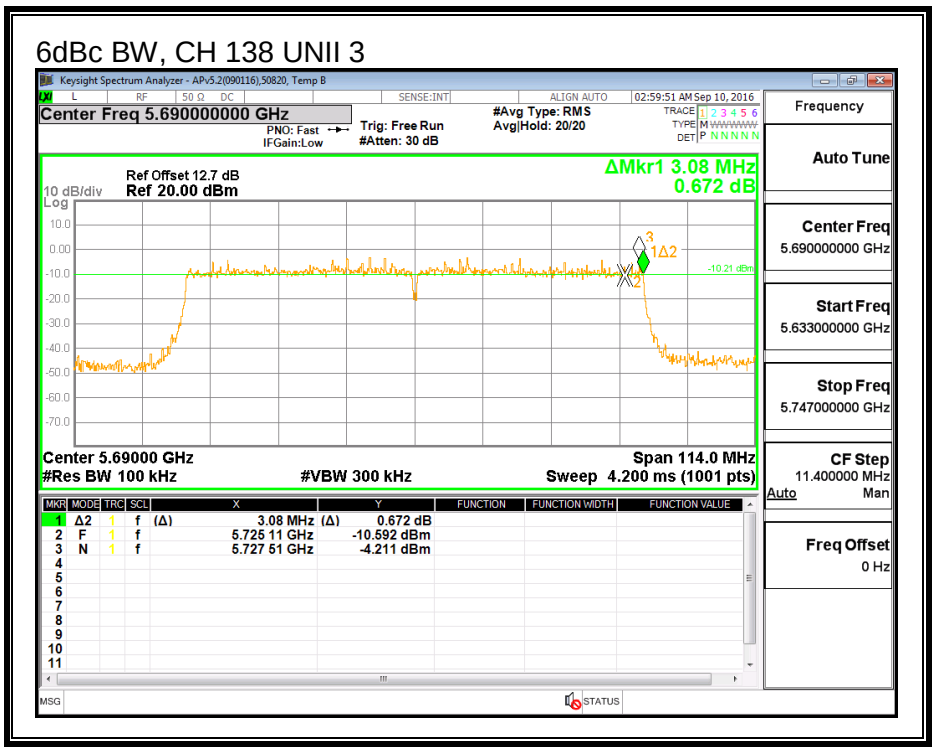
IC RSS-247 (6.2.4) (1)

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

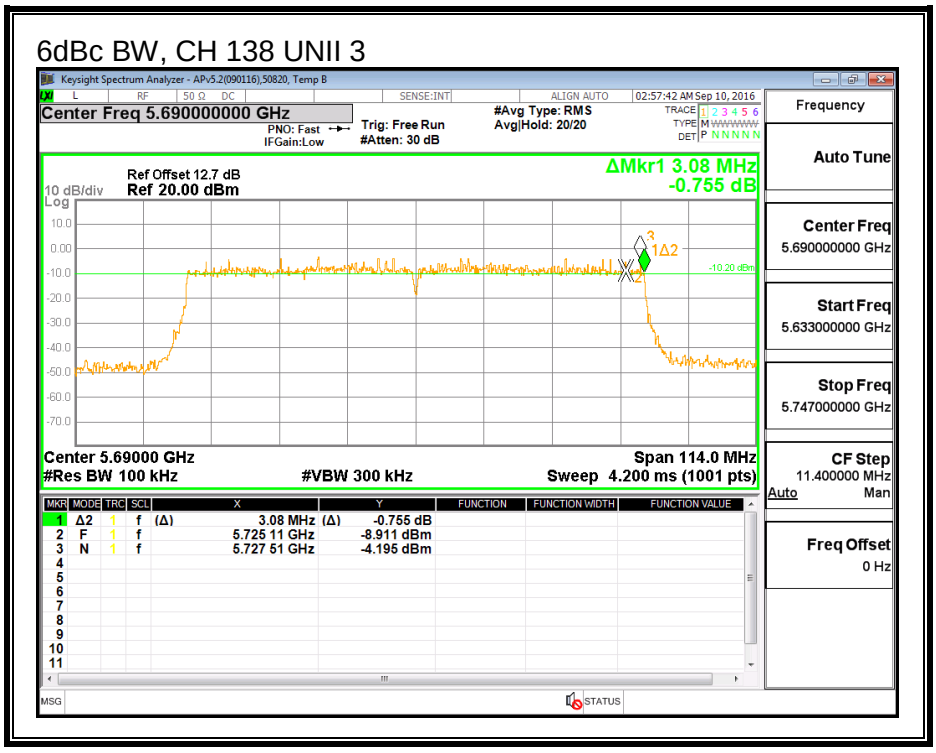
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)
High	5690	3.08	3.08

CHAIN 0



CHAIN 1



8.98. 802.11ac VHT80 2Tx (CHAIN 0 + CHAIN 2) STBC MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.98.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

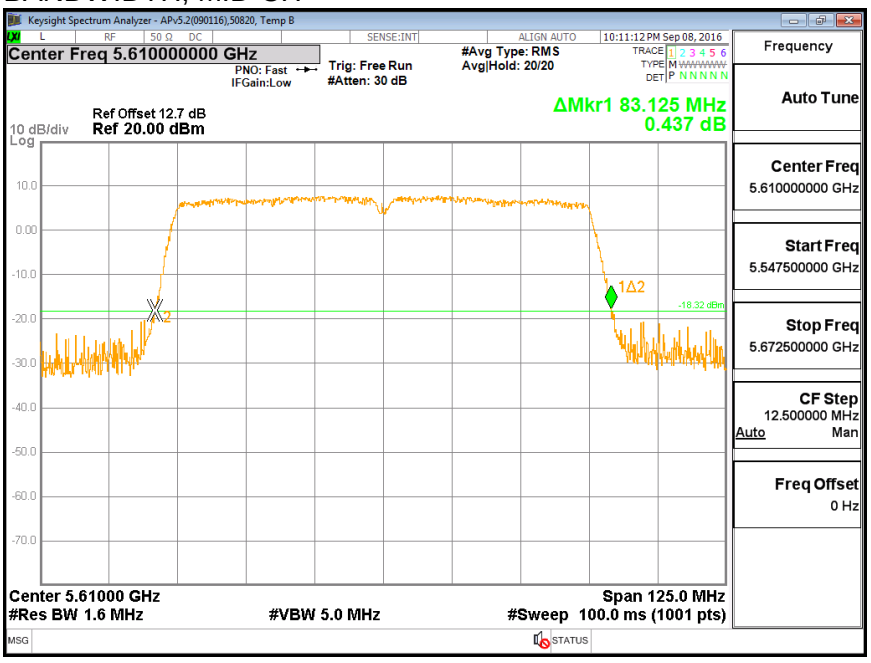
RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	83.000	83.250
Mid	5610	83.125	82.956
High	5690	83.250	83.000

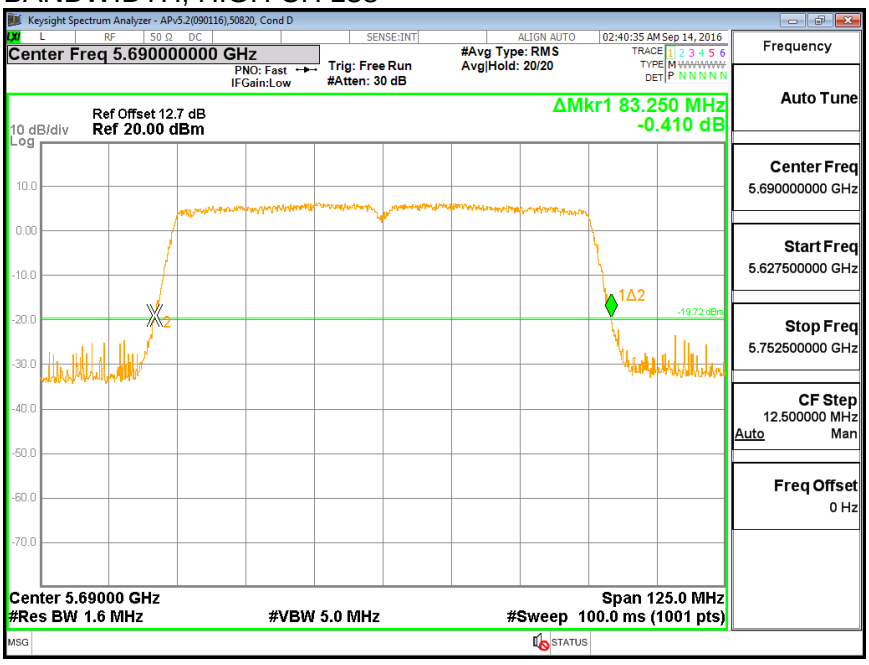
26 dB BANDWIDTH, CHAIN 0

BANDWIDTH, LOW CH

BANDWIDTH, MID CH

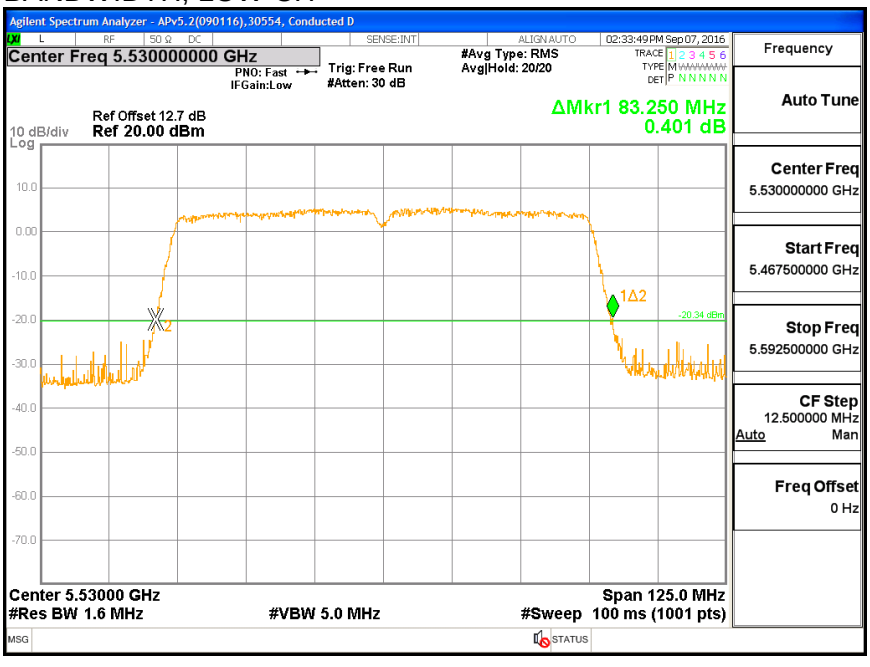


BANDWIDTH, HIGH CH 138

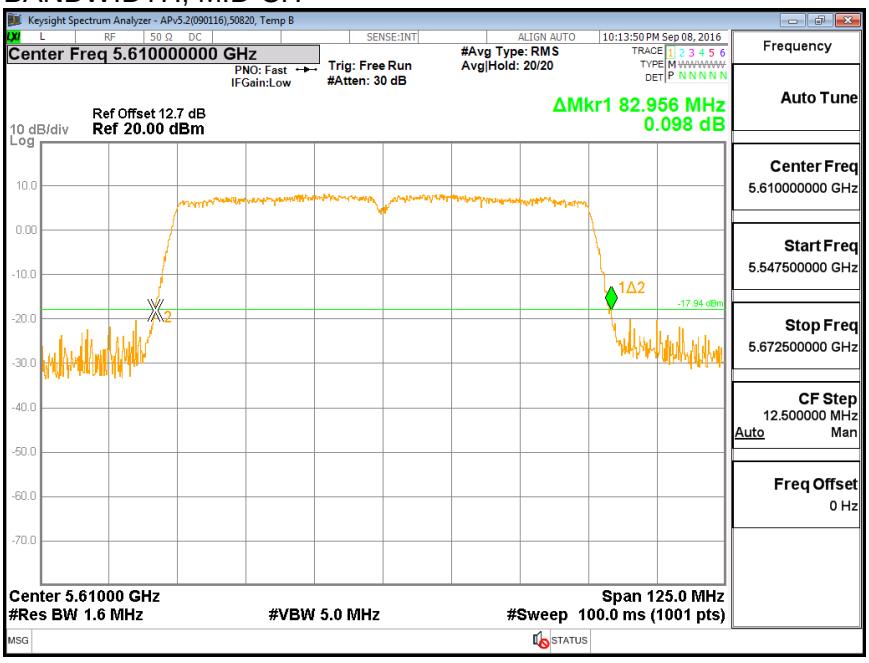


26 dB BANDWIDTH, CHAIN 2

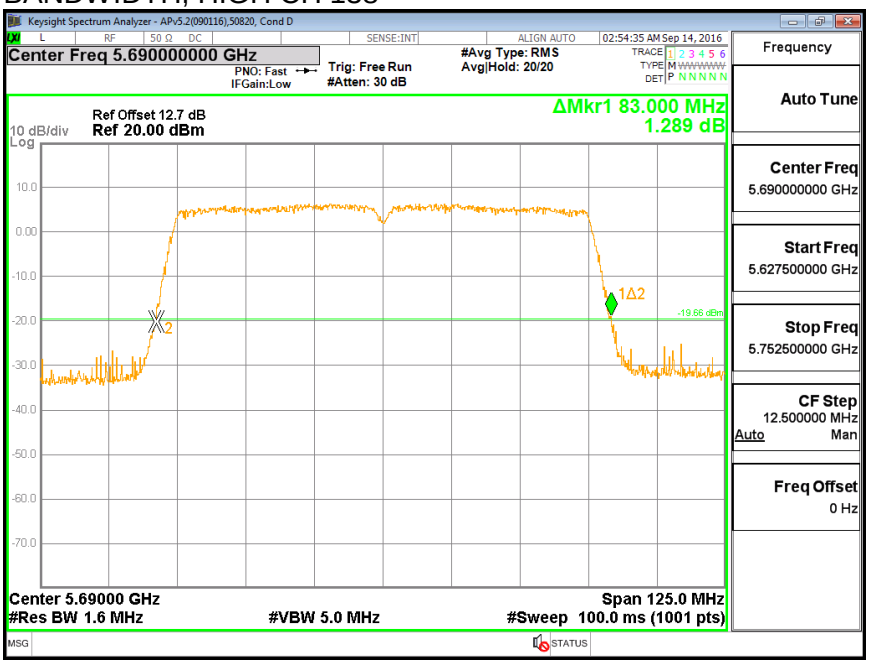
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138



8.98.2. **99% BANDWIDTH**

LIMITS

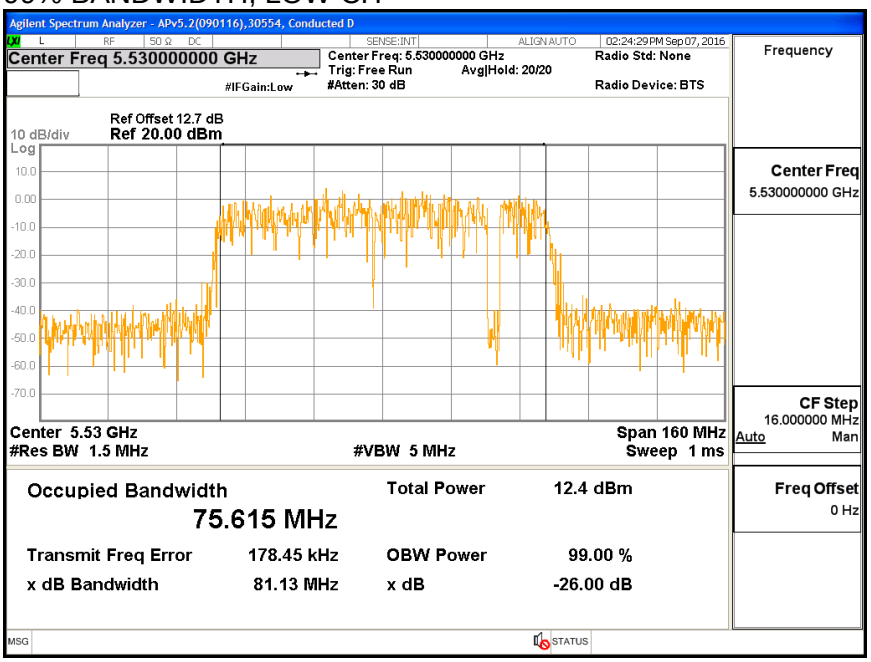
None; for reporting purposes only.

RESULTS

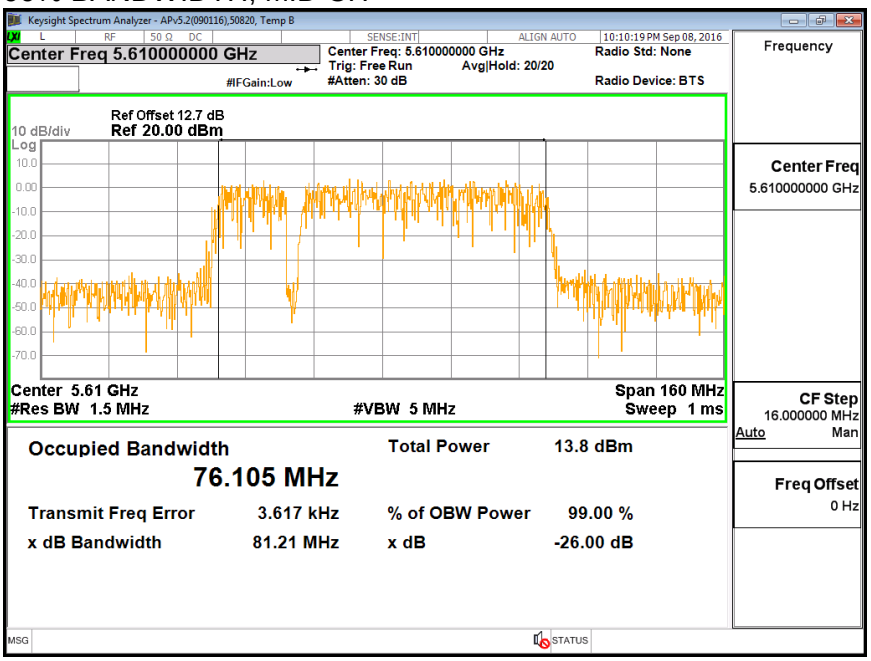
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 2 (MHz)
Low	5530	75.615	75.661
Mid	5610	76.105	75.551
High	5690	76.148	76.155

99% BANDWIDTH, CHAIN 0

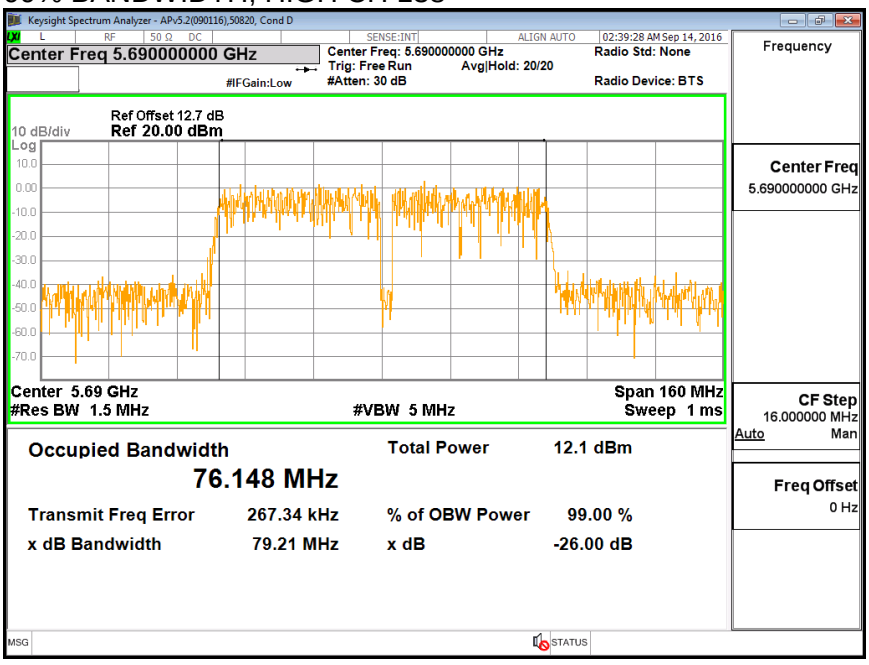
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

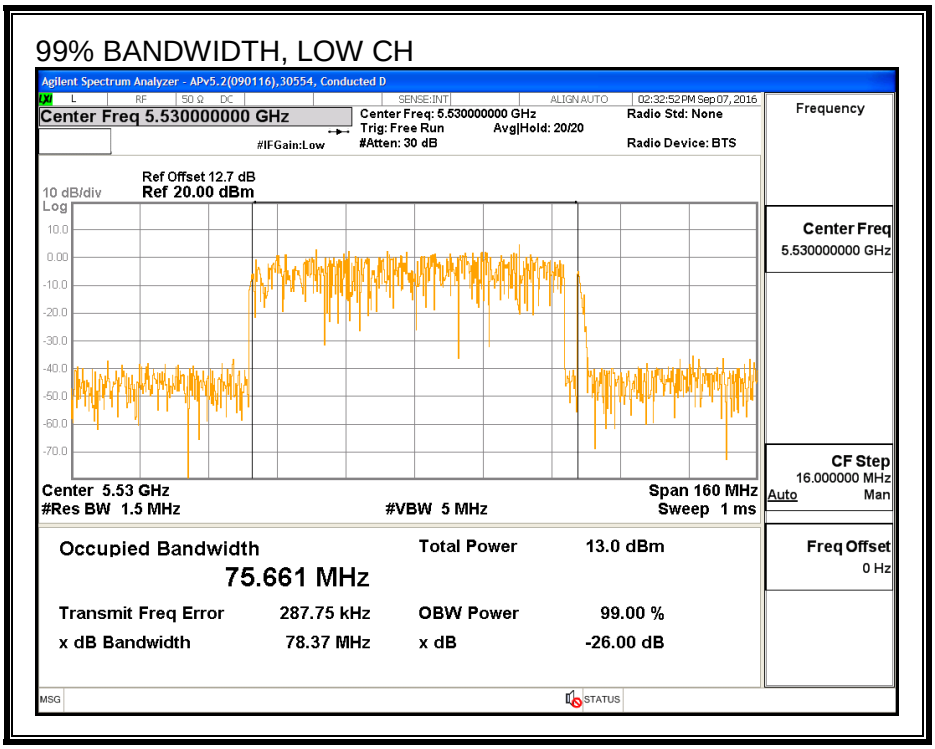


99% BANDWIDTH, HIGH CH 138

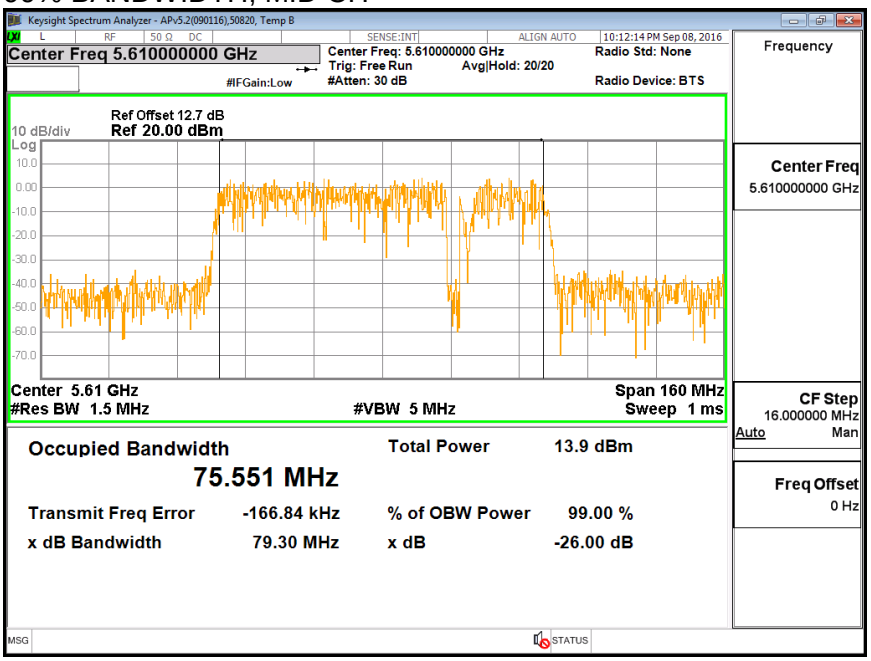


99% BANDWIDTH, CHAIN 2

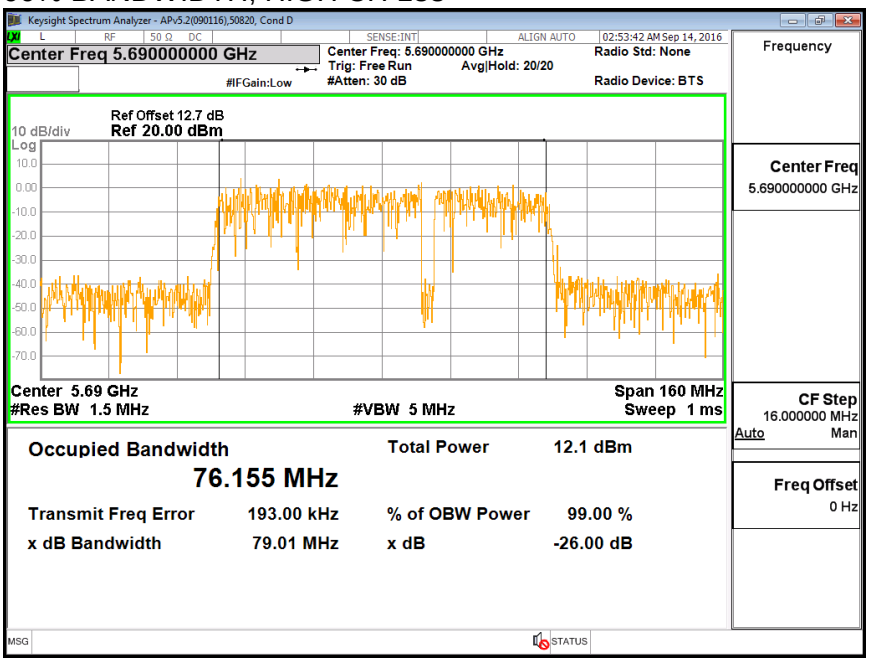
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.98.3. **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

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5530	9.94	10.00	12.98
Mid	5610	12.18	12.16	15.18
High	5690	12.18	12.23	15.22

8.98.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.3) (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.

Straddle channel power is measured using PXA spectrum analyzer, 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	5.20	5.05

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	5530	83.00	75.615	5.05	5.05	24.00	11.00
High	5610	82.96	75.551	5.05	5.05	24.00	11.00

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

Output Power Results

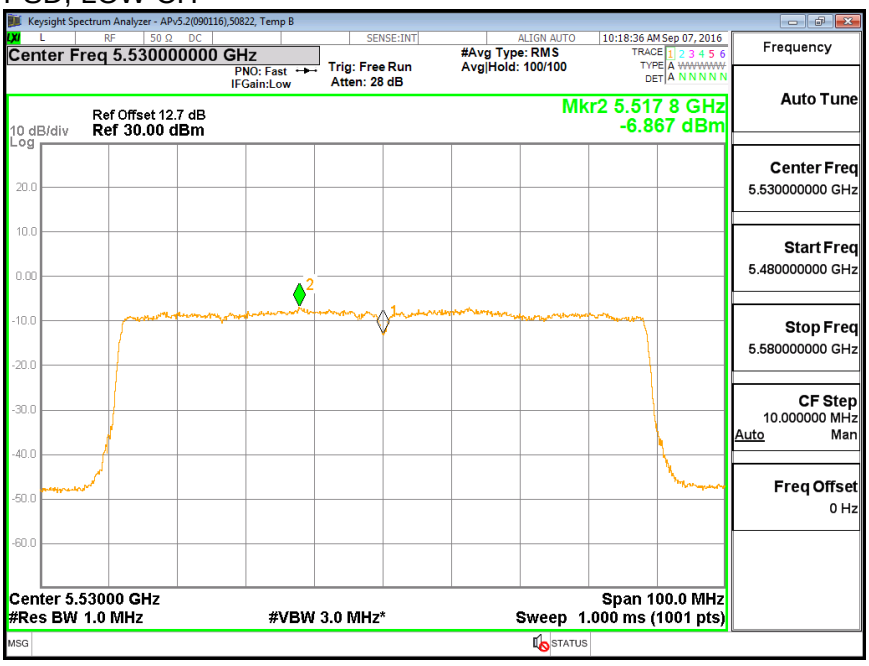
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.94	10.00	12.98	24.00	-11.02
High	5610	12.18	12.16	15.18	24.00	-8.82

PSD Results

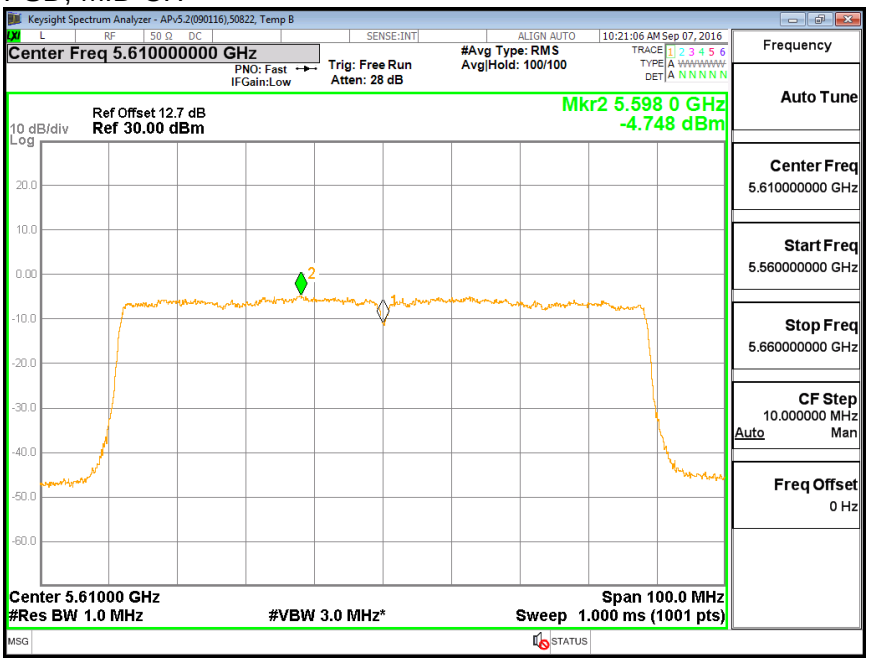
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-6.87	-7.26	-3.87	11.00	-14.87
High	5610	-4.75	-5.18	-1.77	11.00	-12.77

PSD, CHAIN 0

PSD, LOW CH

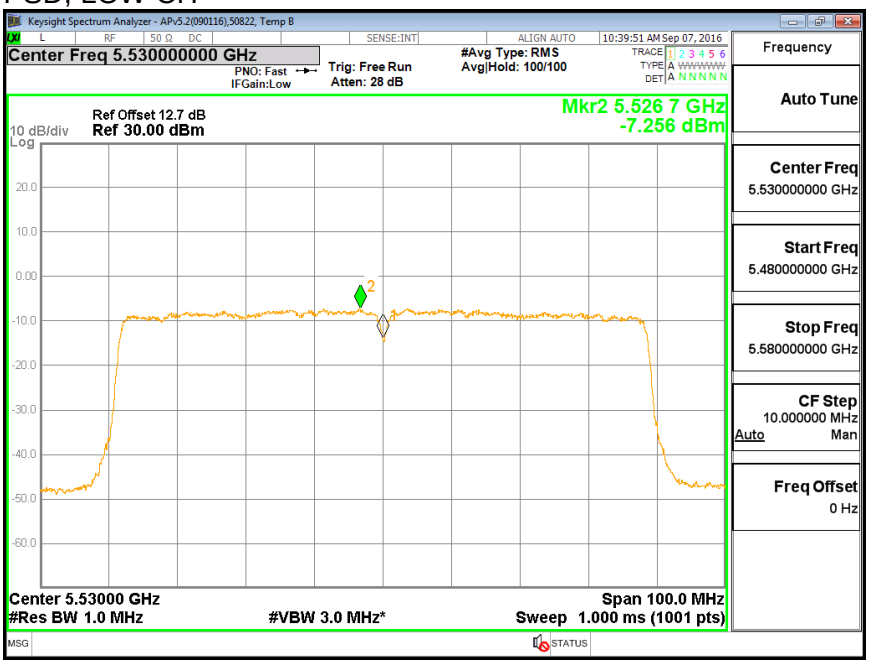


PSD, MID CH

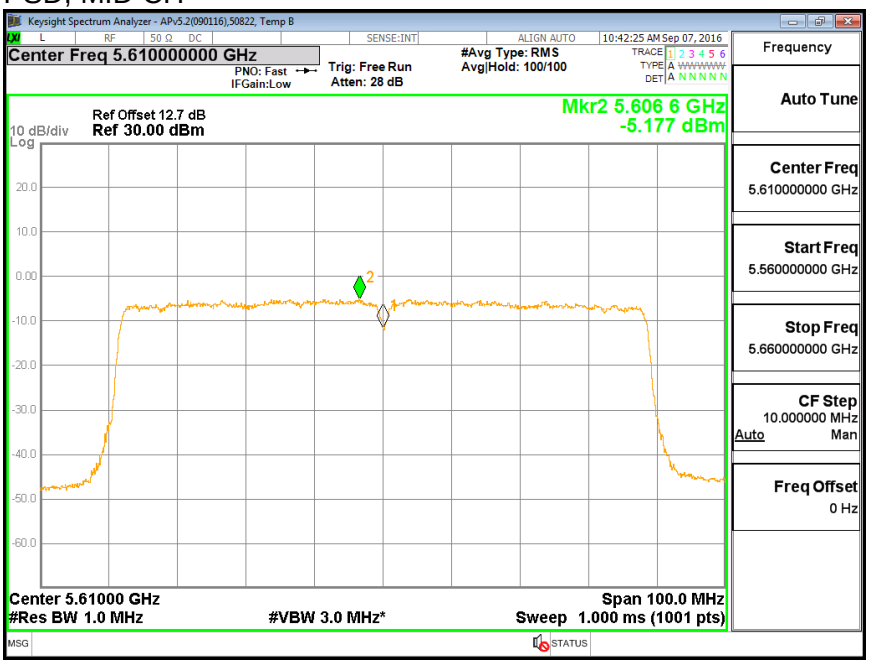


PSD, CHAIN 2

PSD, LOW CH



PSD, MID CH



8.98.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.50	5.05	5.05	24.00	11.00

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

Output Power Results

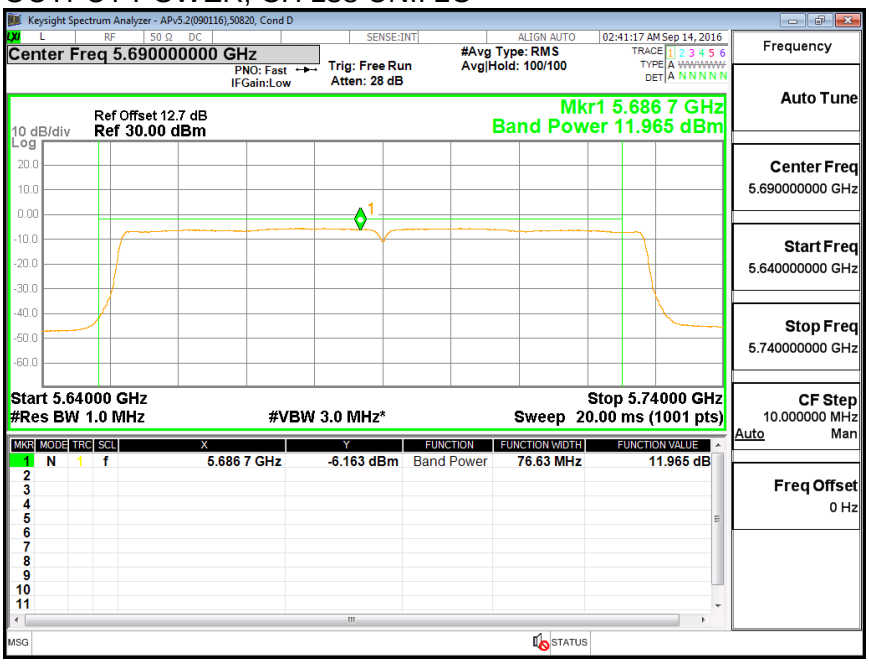
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.97	12.02	15.18	24.00	-8.82

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)
138	5690	-5.67	-5.58	-2.43	11.00	-13.43

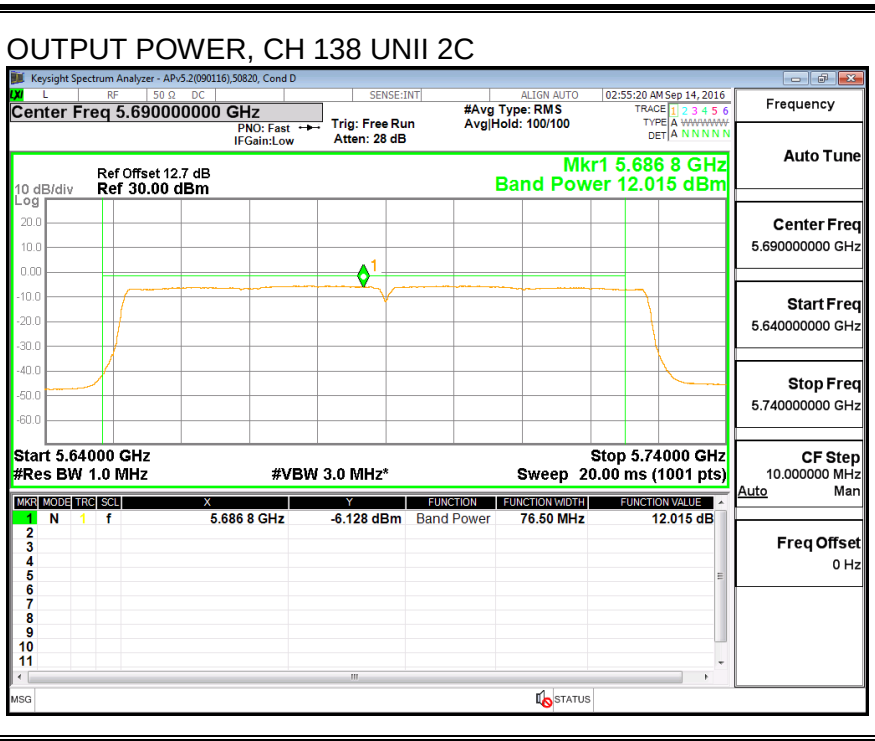
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



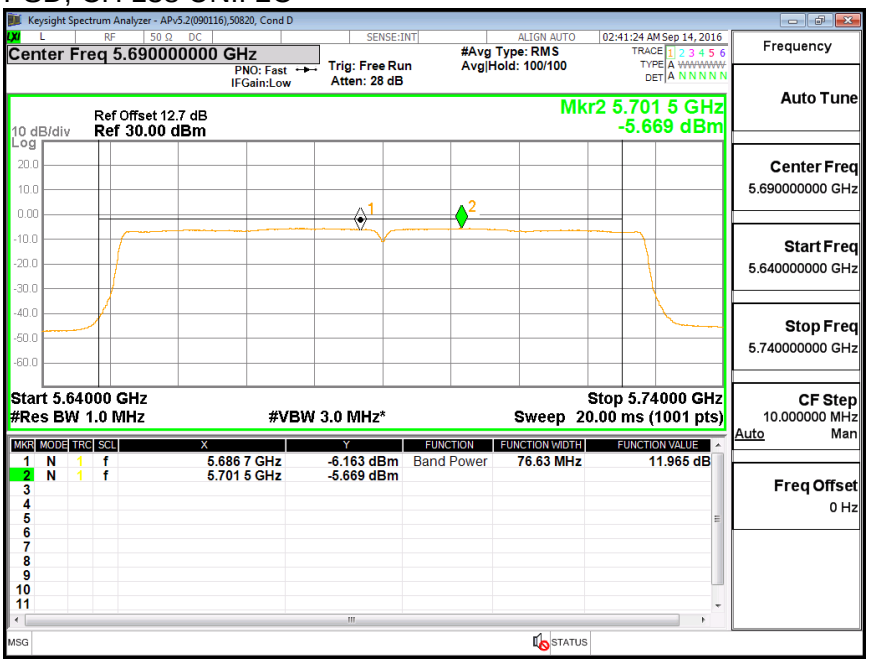
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



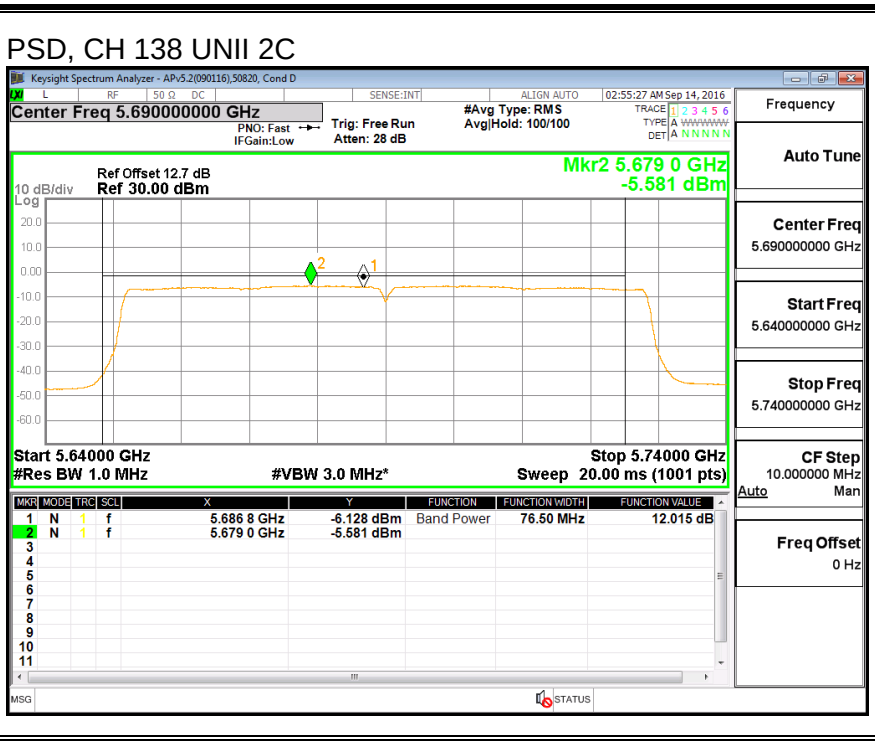
PSD, CHAIN 0

PSD, CH 138 UNII 2C



PSD, CHAIN 2

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.50	5.05	5.05	30.00	30.00

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

Output Power Results

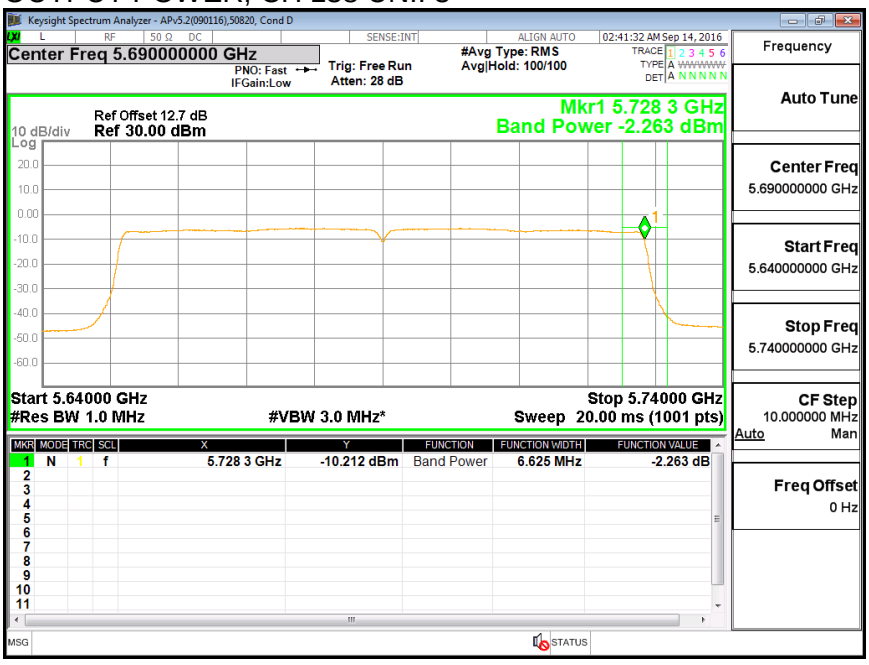
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.26	-2.20	0.96	30.00	-29.04

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)
138	5690	-9.76	-9.68	-6.53	30.00	-36.53

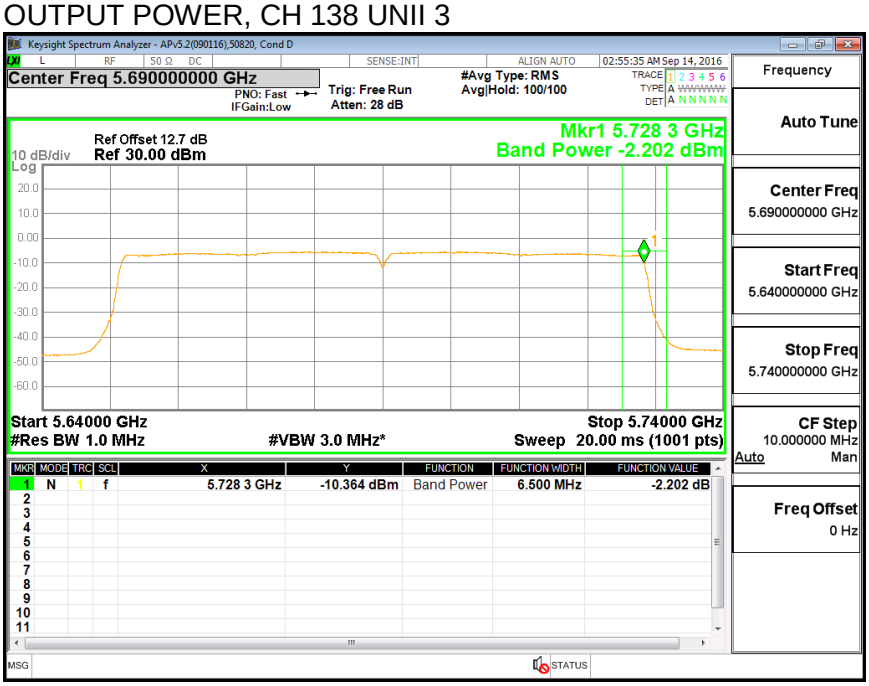
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



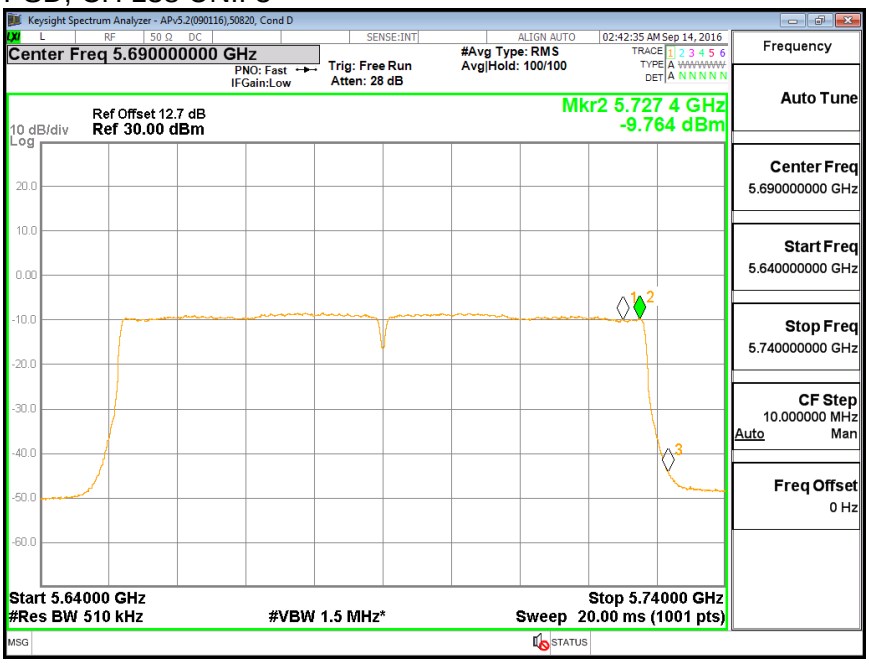
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



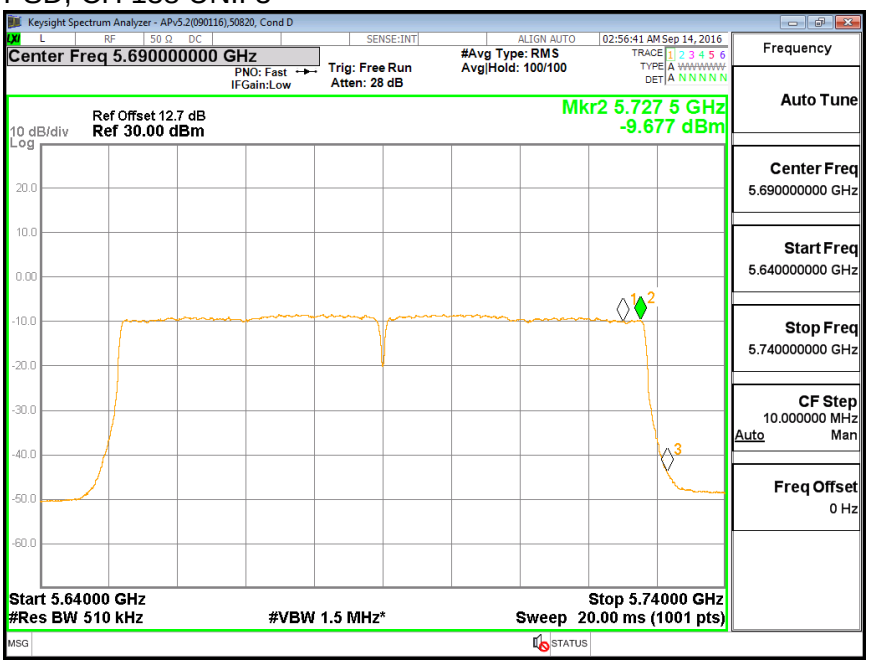
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.98.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	73.070	5.05	5.05	24.00	11.00

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

Output Power Results

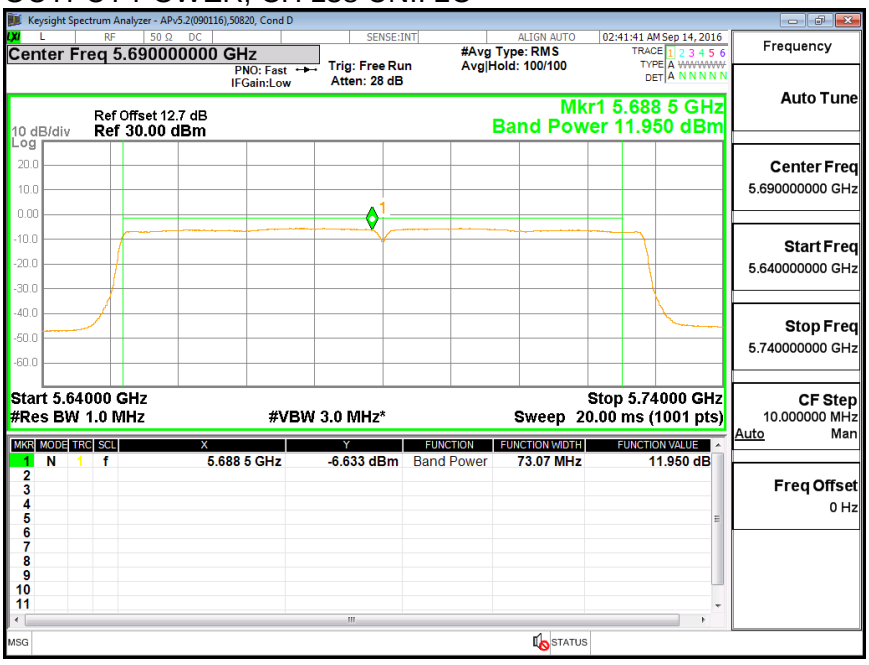
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.95	12.00	15.17	24.00	-8.83

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)
138	5690	-5.67	-5.58	-2.43	11.00	-13.43

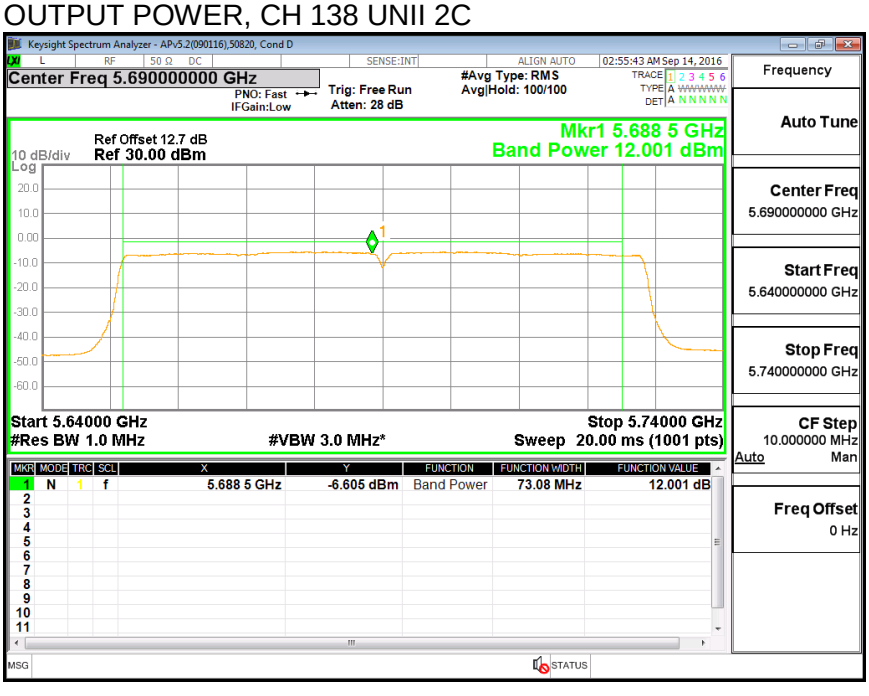
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



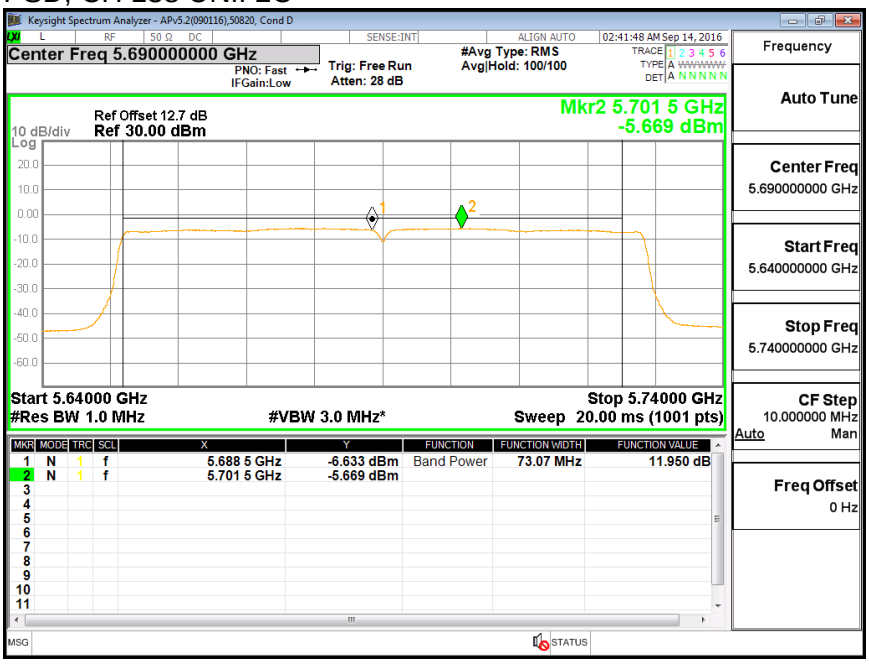
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



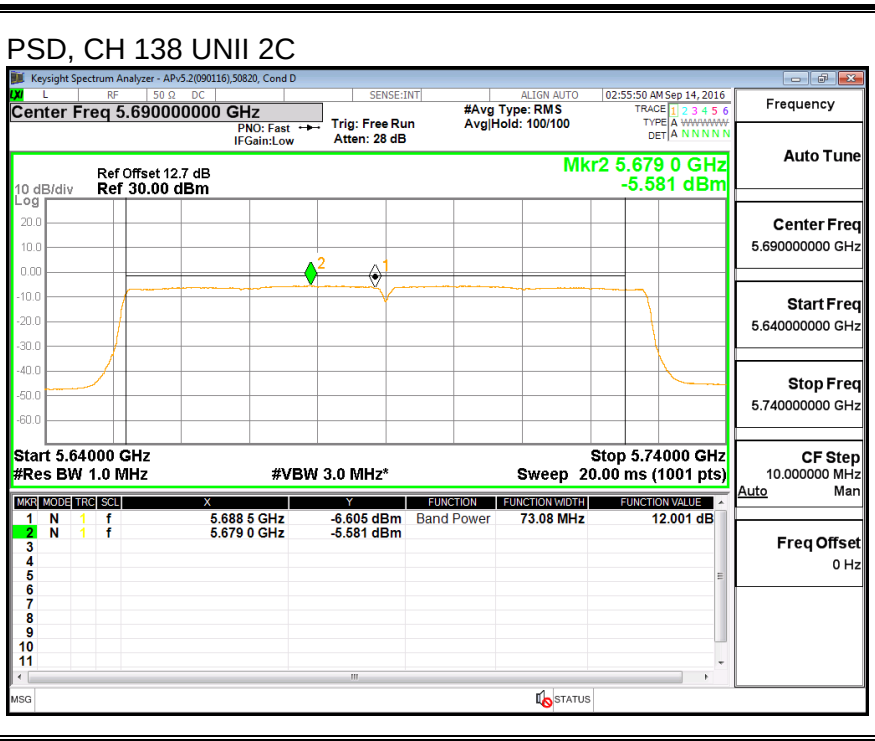
PSD, CHAIN 0

PSD, CH 138 UNII 2C



PSD, CHAIN 2

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	3.074	5.05	5.05	30.00	30.00

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

Output Power Results

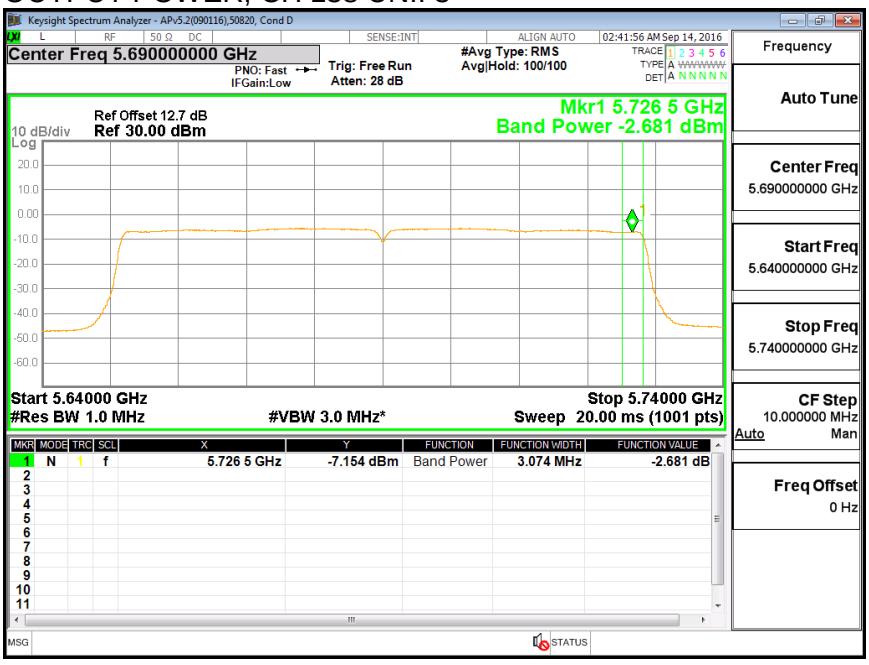
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.68	-2.62	0.54	30.00	-29.46

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)
138	5690	-9.76	-9.68	-6.53	30.00	-36.53

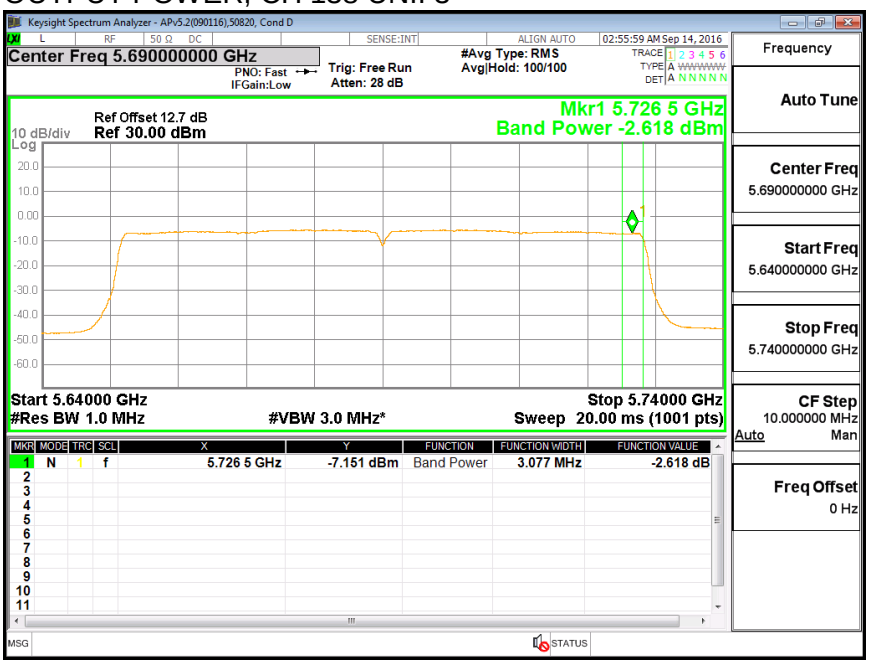
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



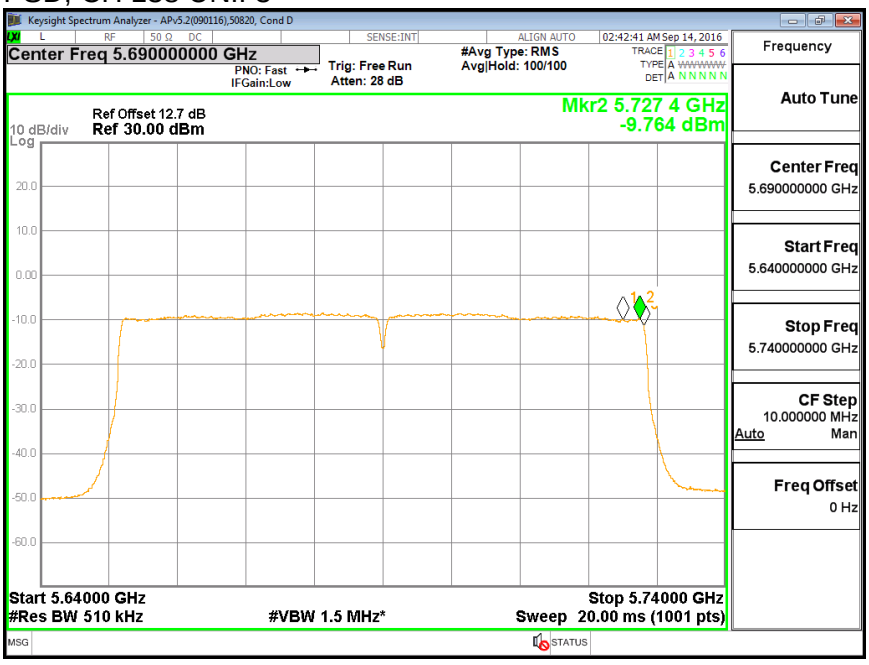
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



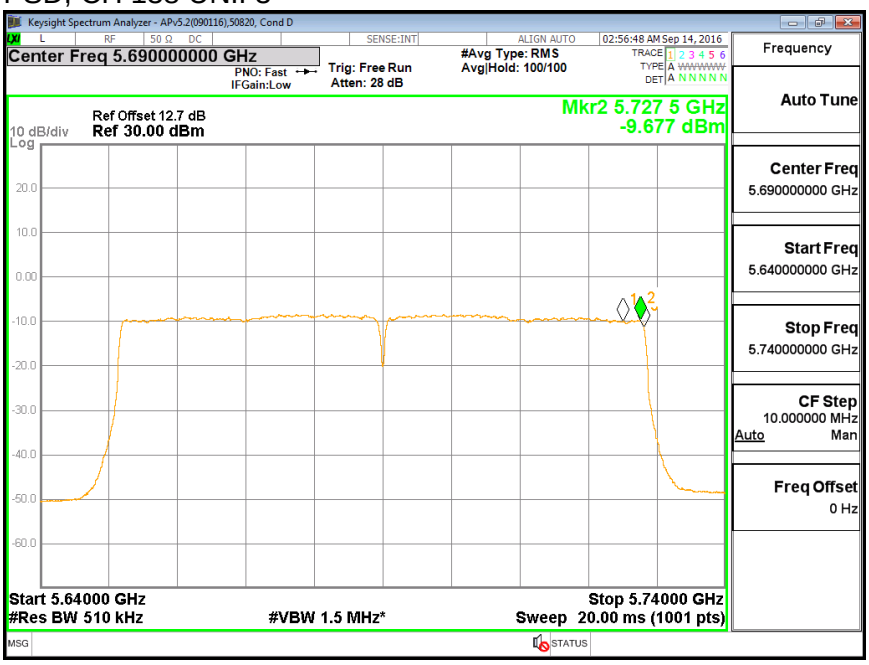
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.98.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

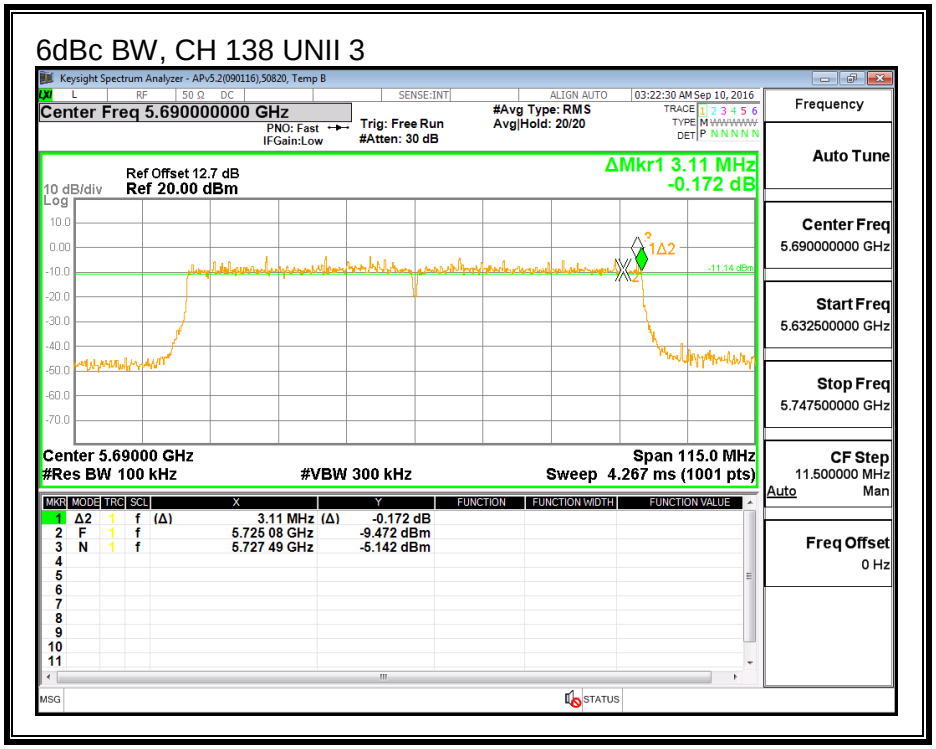
IC RSS-247 (6.2.4) (1)

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

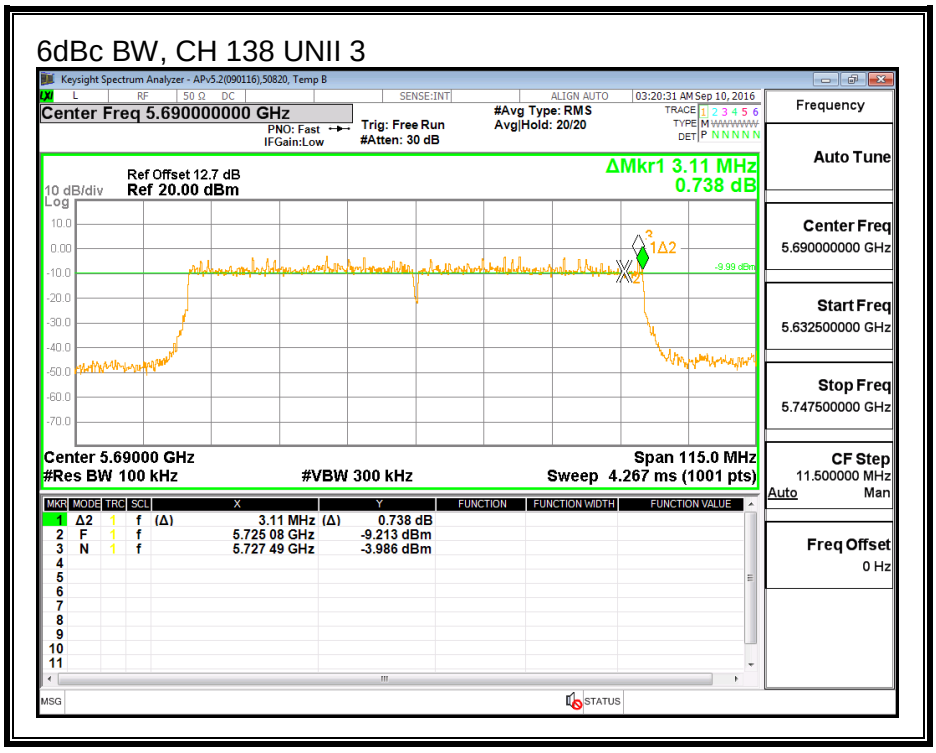
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 2 (MHz)
High	5690	3.11	3.11

CHAIN 0



CHAIN 2



8.99. 802.11ac VHT80 2Tx (CHAIN 1 + CHAIN 2) STBC MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.99.1. 26 dB BANDWIDTH

LIMITS

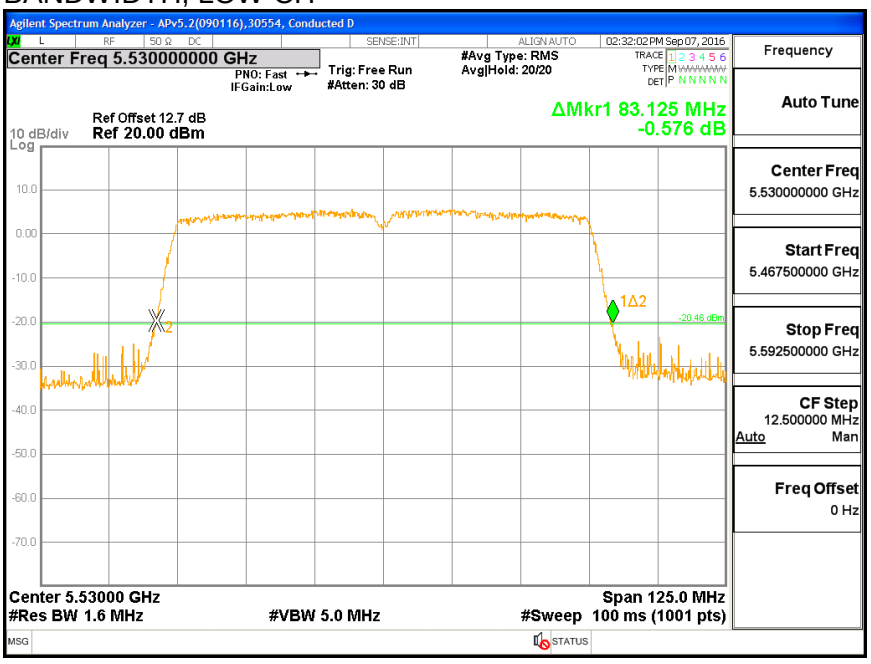
None; for reporting purposes only.

RESULTS

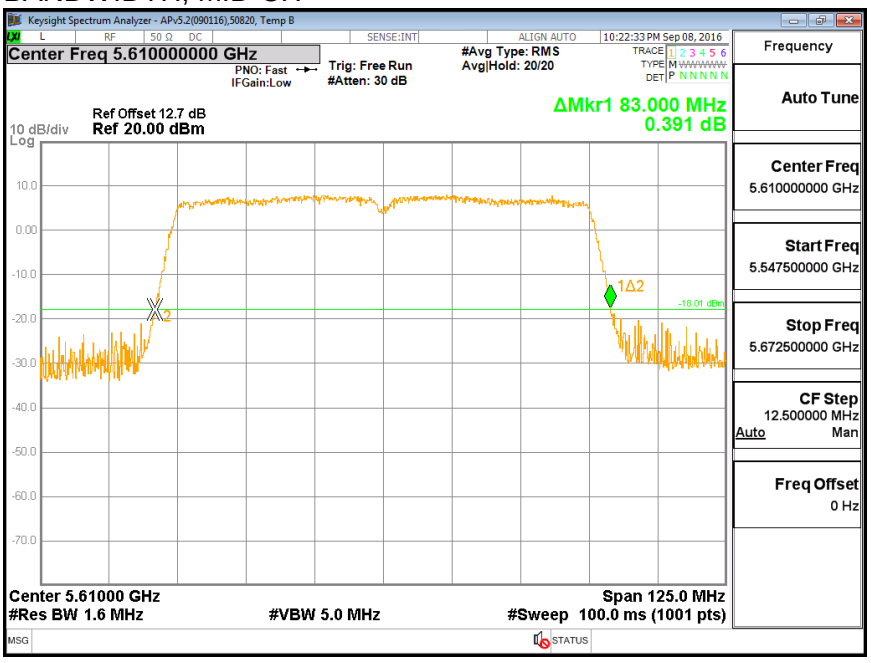
Channel	Frequency (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	83.125	83.250
Mid	5610	83.000	83.000
High	5690	83.125	83.125

26 dB BANDWIDTH, CHAIN 1

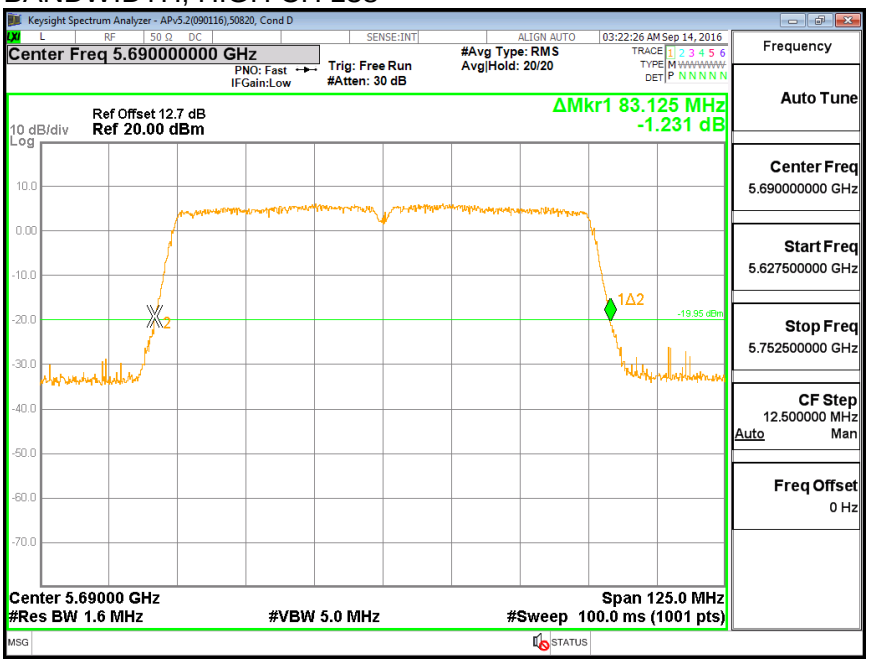
BANDWIDTH, LOW CH



BANDWIDTH, MID CH

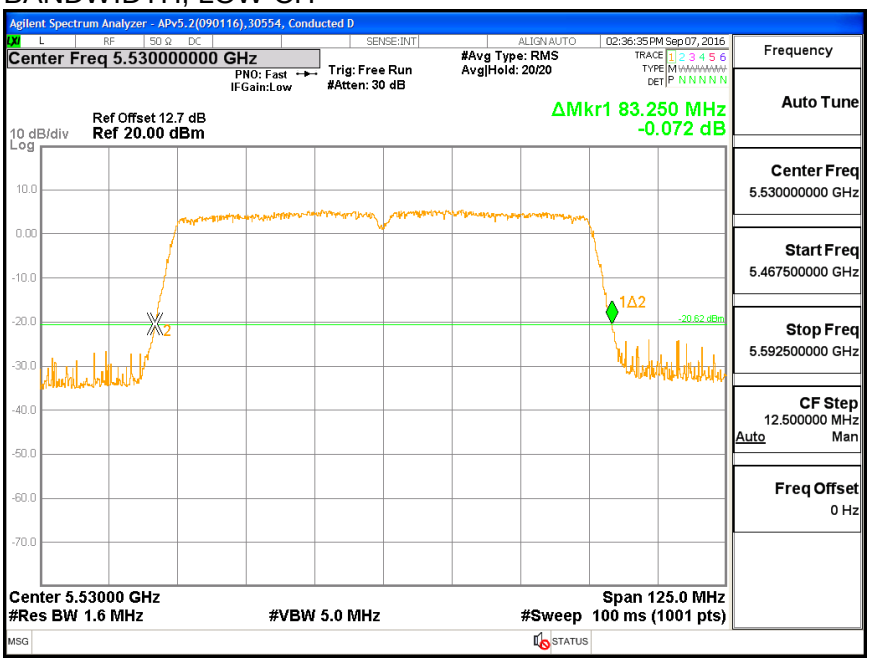


BANDWIDTH, HIGH CH 138

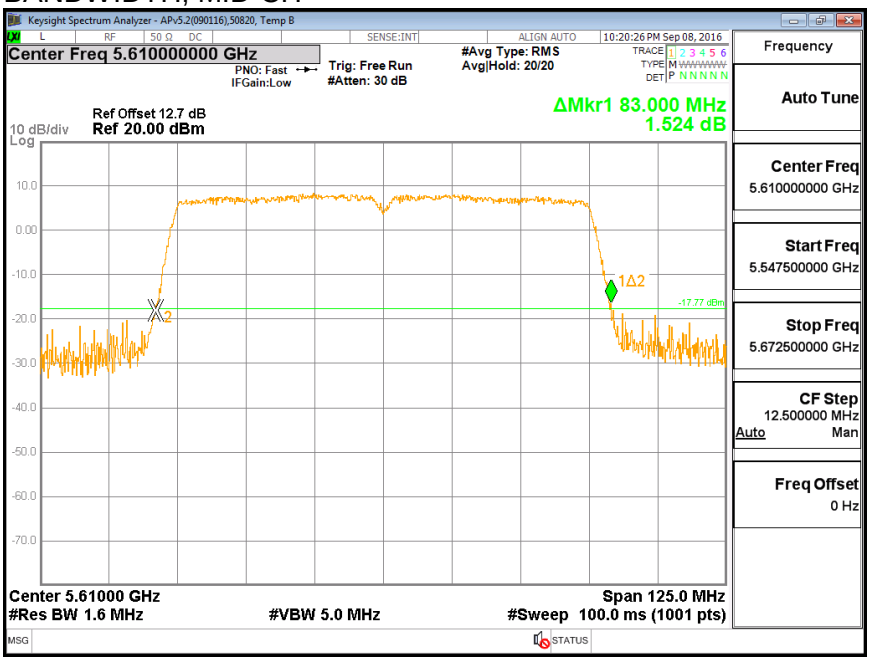


26 dB BANDWIDTH, CHAIN 2

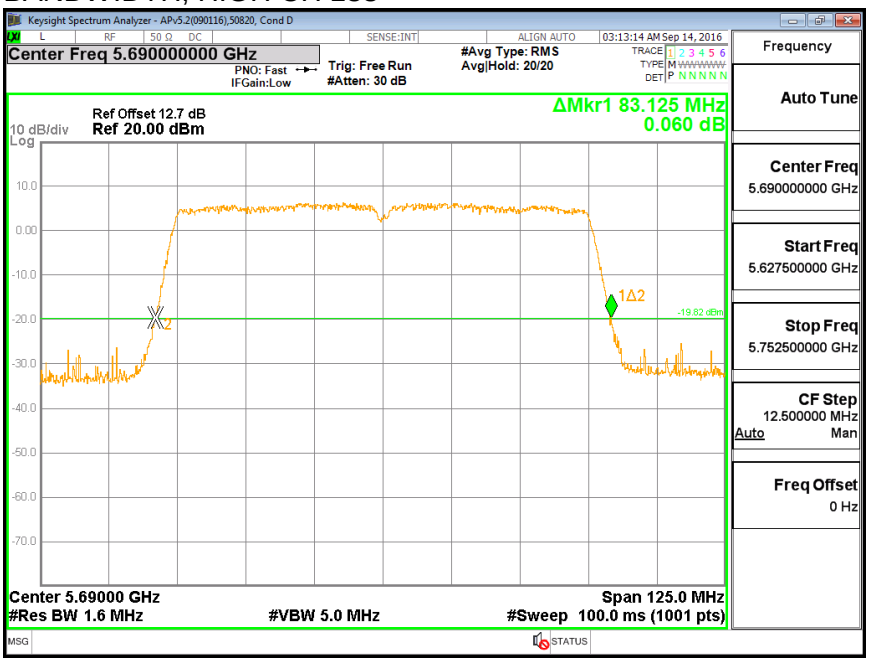
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138



8.99.2. **99% BANDWIDTH**

LIMITS

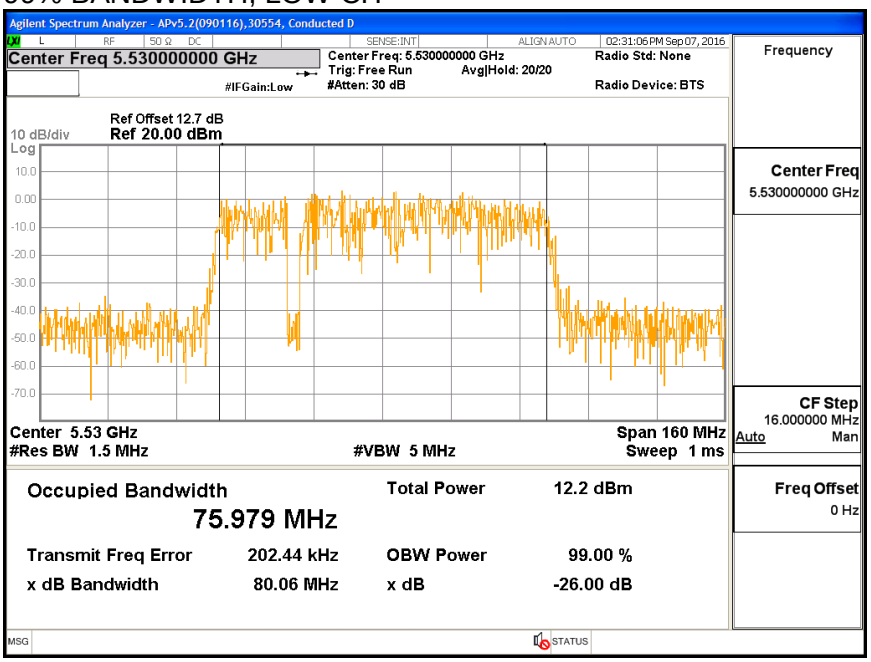
None; for reporting purposes only.

RESULTS

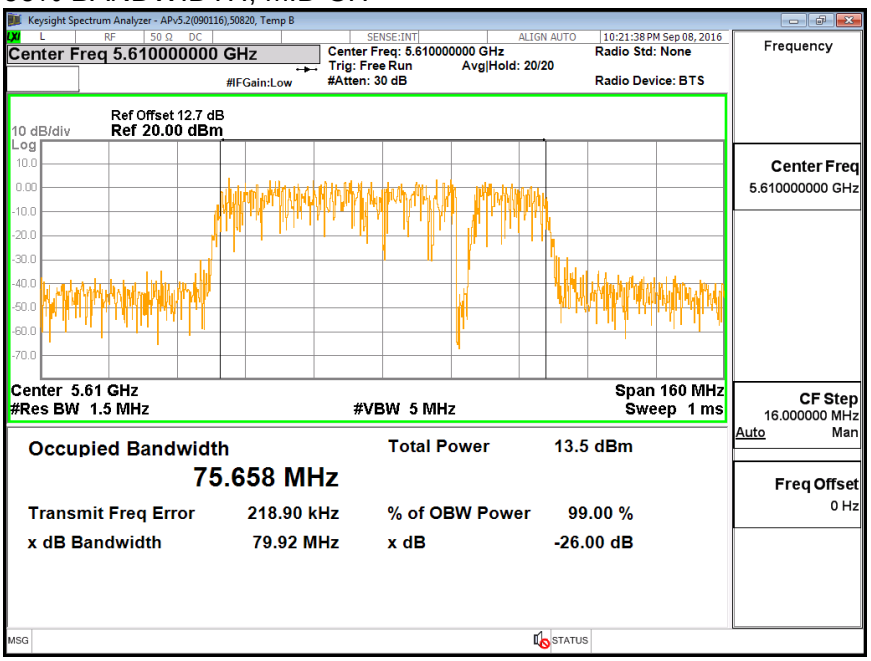
Channel	Frequency (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5530	75.979	76.196
Mid	5610	75.658	75.984
High	5690	76.177	76.297

99% BANDWIDTH, CHAIN 1

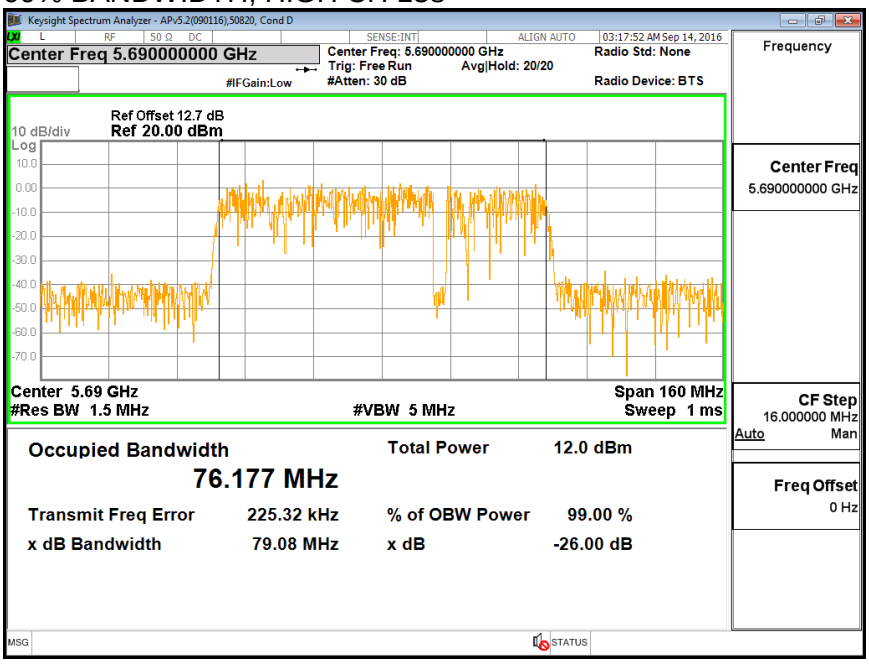
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

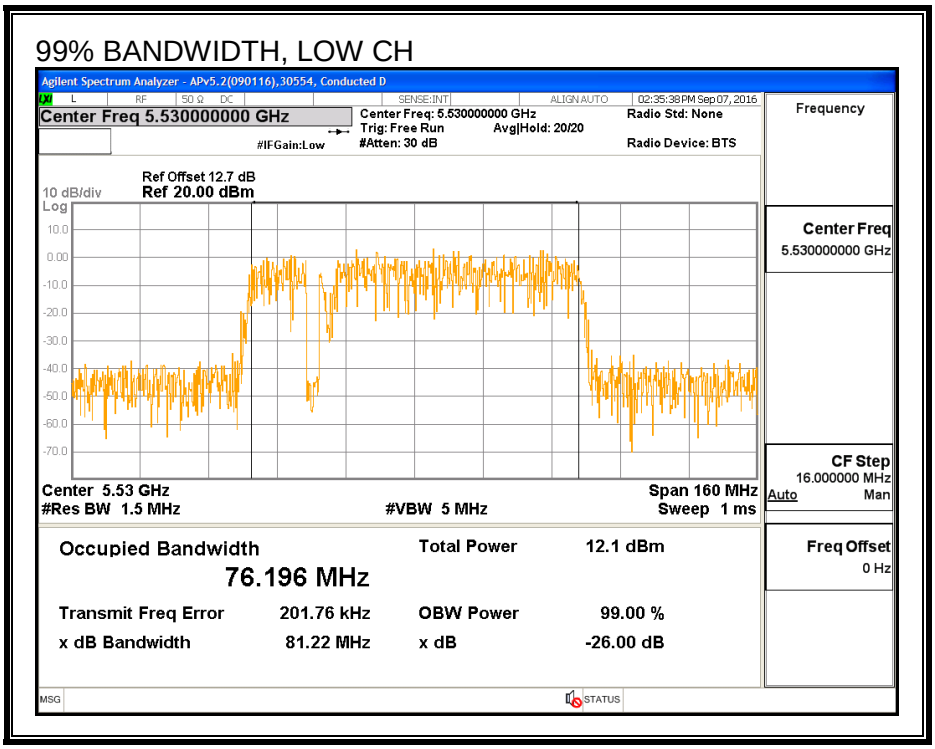


99% BANDWIDTH, HIGH CH 138

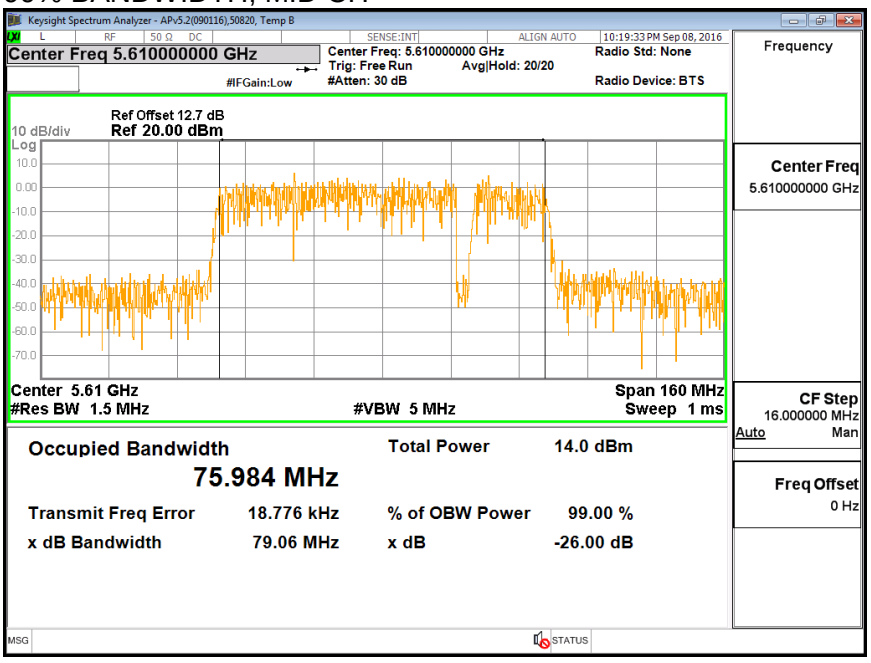


99% BANDWIDTH, CHAIN 2

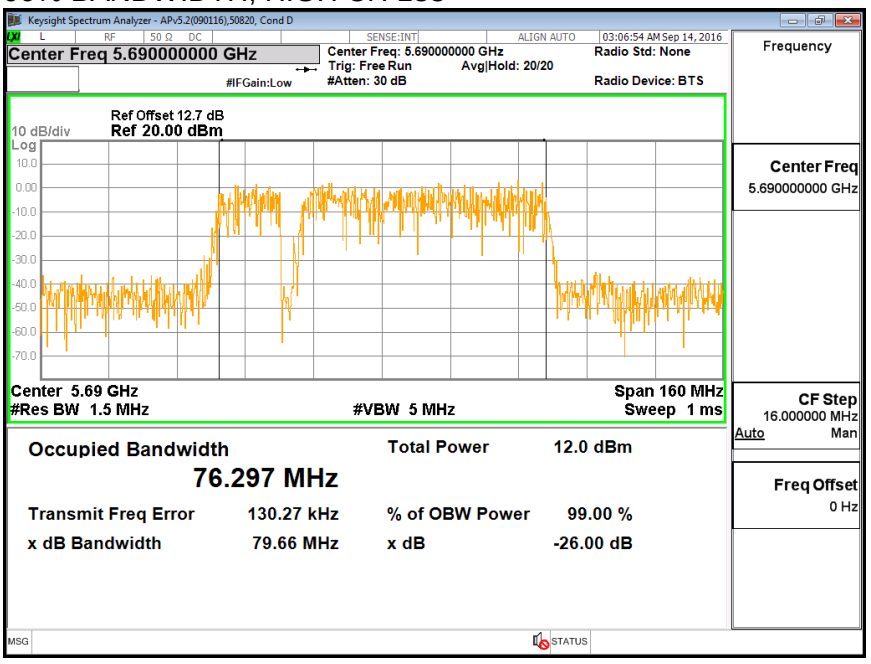
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.99.3. **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

Channel	Frequency (MHz)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5530	9.94	9.92	12.94
Mid	5610	12.13	12.22	15.19
High	5690	11.88	12.13	15.02

8.99.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.3) (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.

Straddle channel power is measured using PXA spectrum analyzer, 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 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
7.40	5.20	6.44

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	5530	83.13	75.979	6.44	6.44	24.00	10.56
High	5610	83.00	75.658	6.44	6.44	24.00	10.56

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

Output Power Results

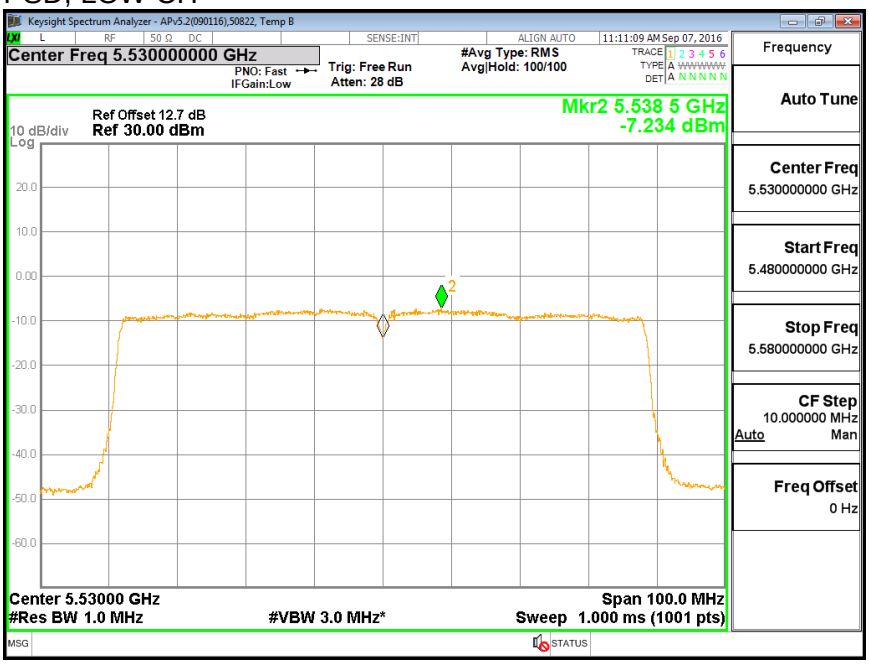
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	9.94	9.92	12.94	24.00	-11.06
High	5610	12.13	12.22	15.19	24.00	-8.81

PSD Results

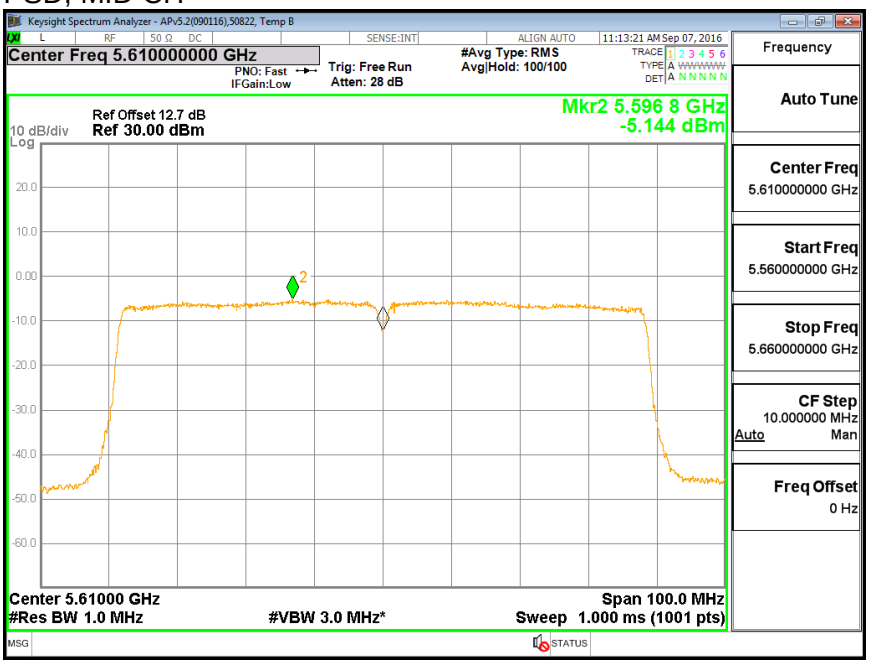
Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-7.23	-7.18	-4.02	10.56	-14.58
High	5610	-5.14	-4.89	-1.82	10.56	-12.38

PSD, CHAIN 1

PSD, LOW CH

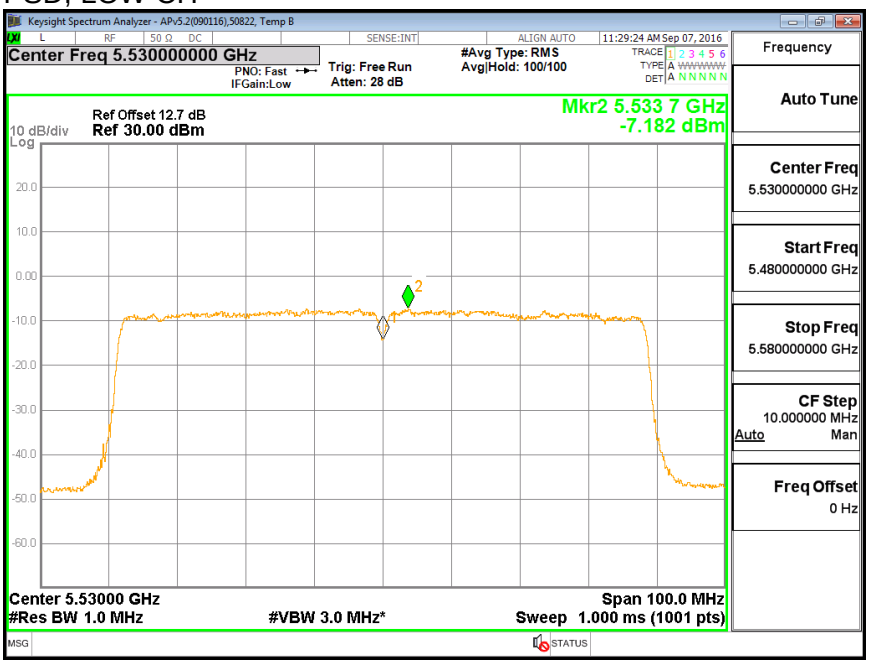


PSD, MID CH

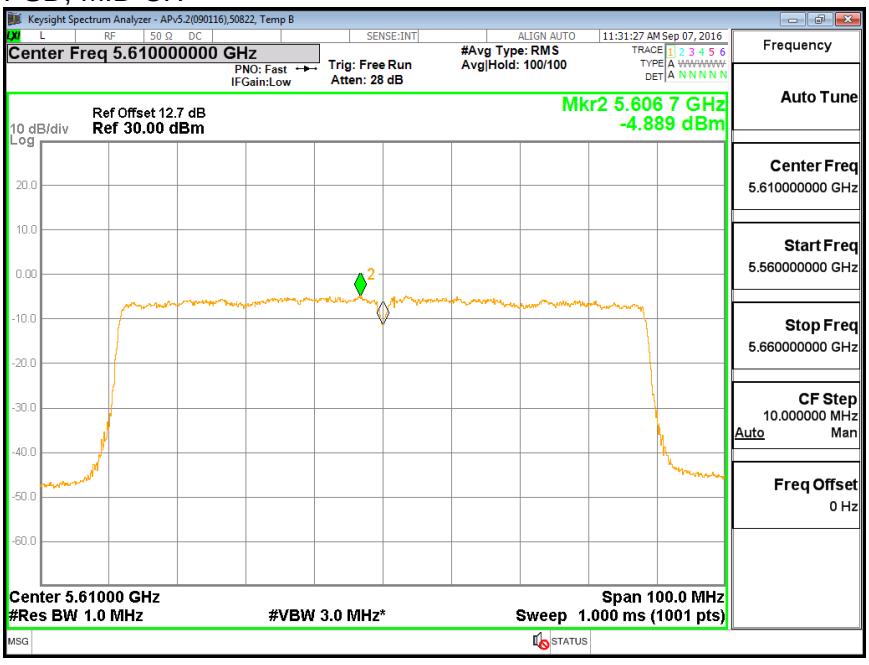


PSD, CHAIN 2

PSD, LOW CH



PSD, MID CH



8.99.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	76.56	6.44	6.44	23.56	10.56

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

Output Power Results

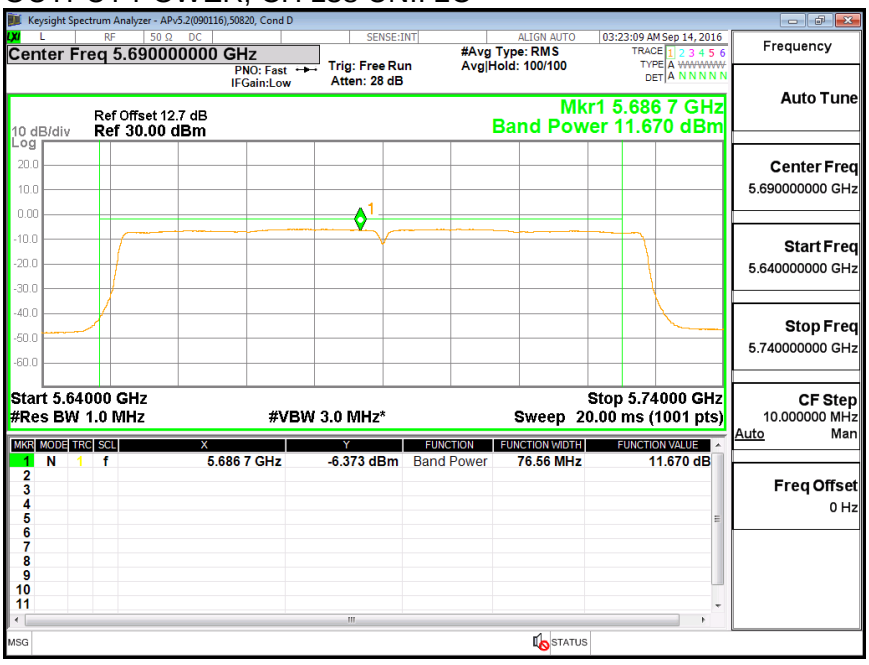
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.67	11.92	14.99	23.56	-8.57

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)
138	5690	-5.94	-5.68	-2.61	10.56	-13.17

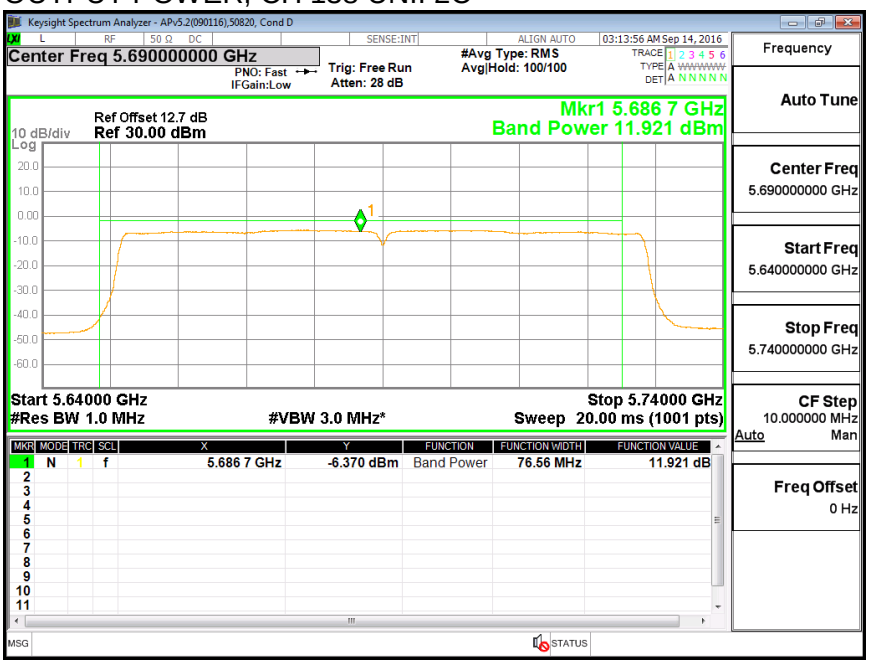
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



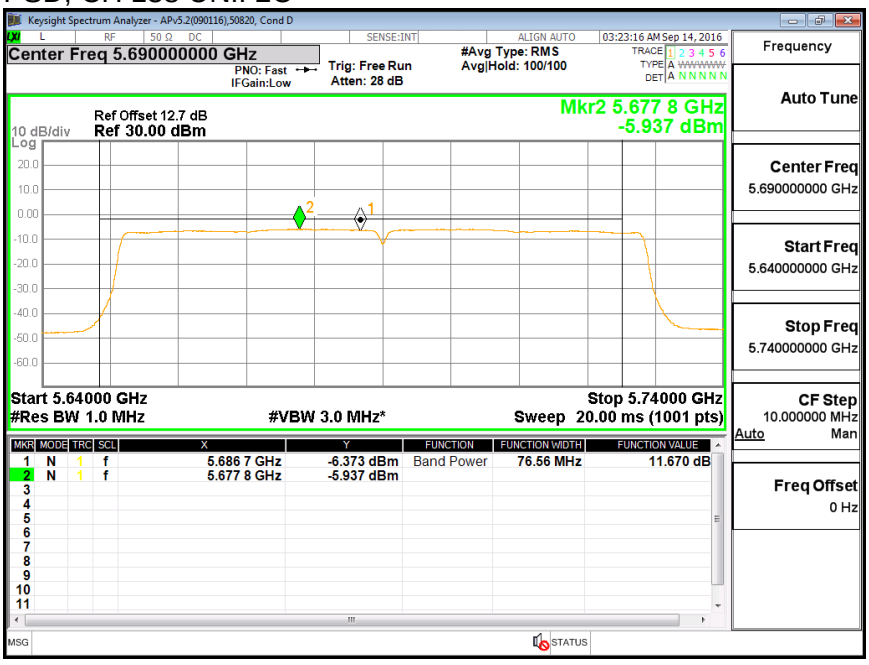
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



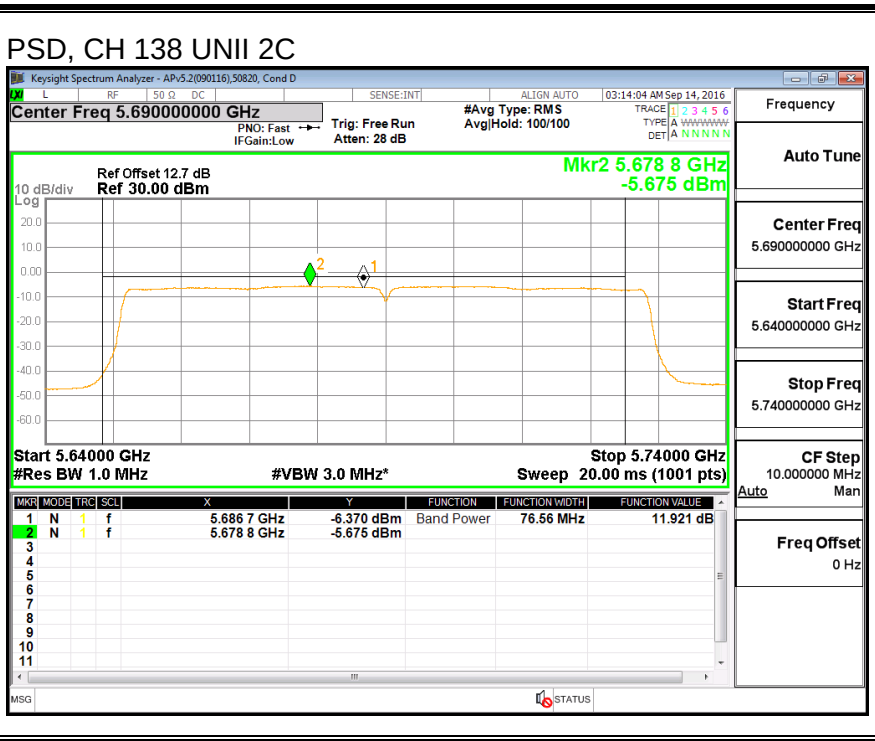
PSD, CHAIN 1

PSD, CH 138 UNII 2C



PSD, CHAIN 2

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Directional Gain (dBi)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	6.56	6.44	6.44	29.56	29.56

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

Output Power Results

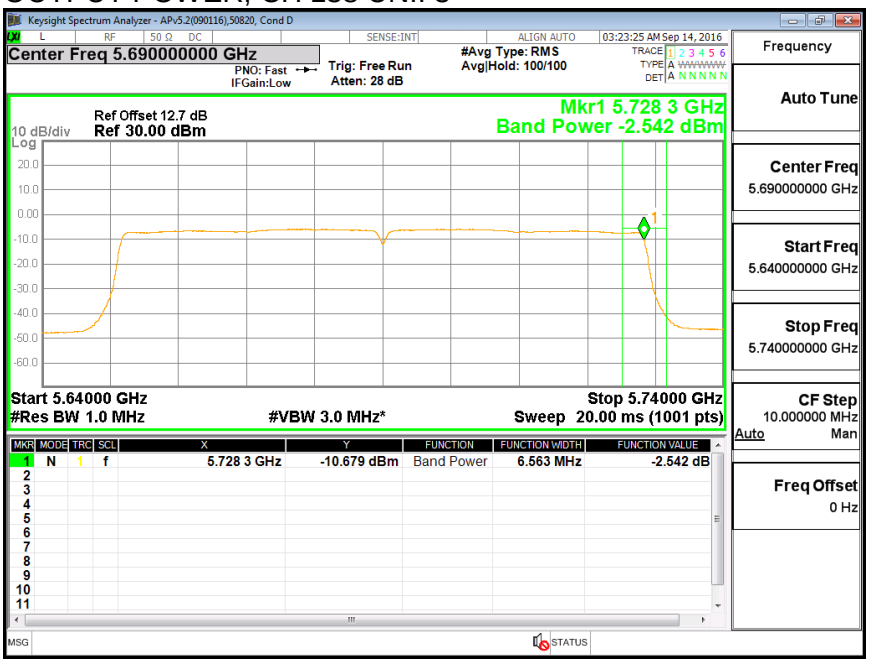
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.54	-2.30	0.77	29.56	-28.79

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)
138	5690	-9.98	-9.70	-6.65	29.56	-36.21

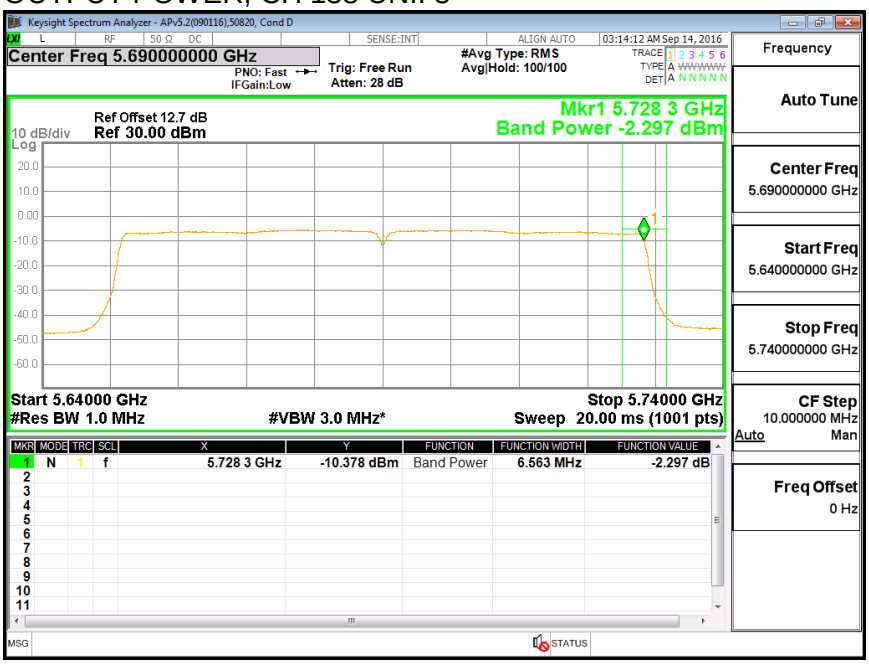
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3

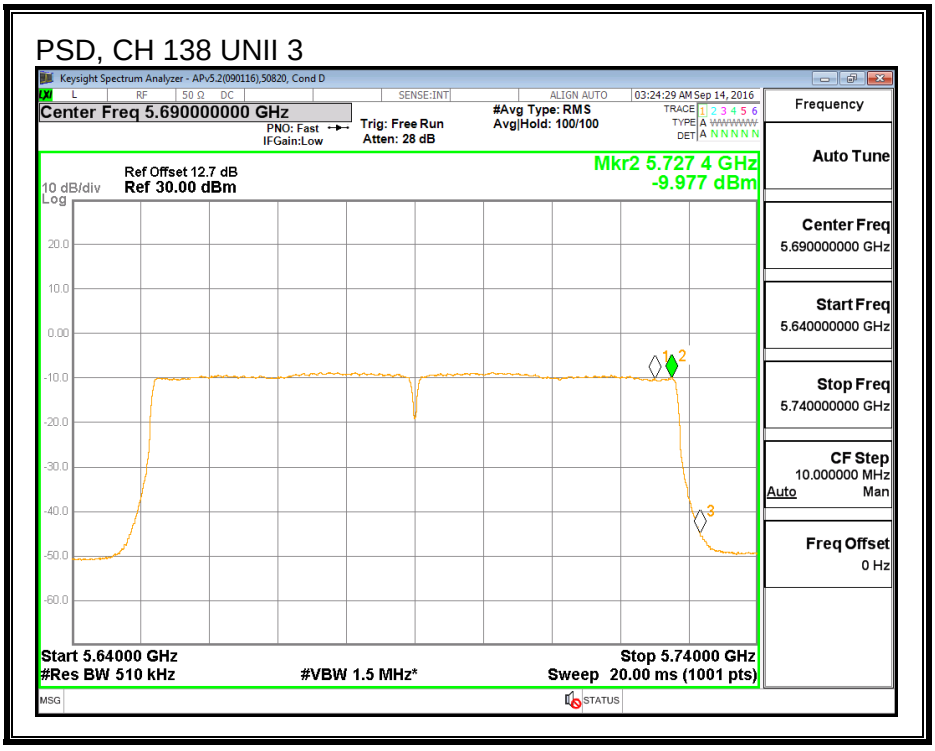


OUTPUT POWER, CHAIN 2

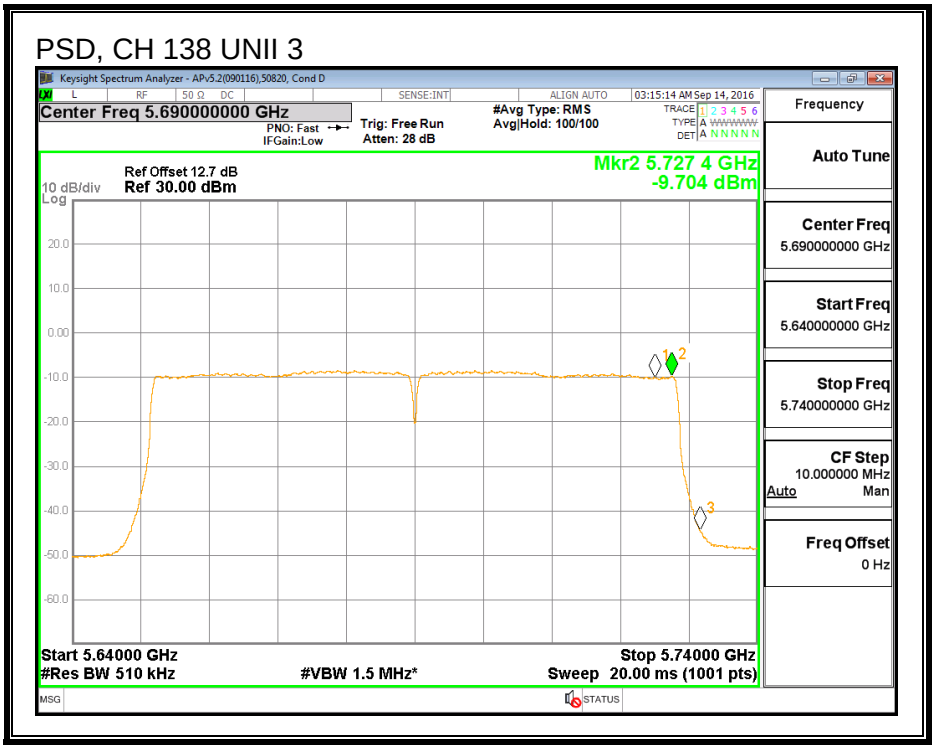
OUTPUT POWER, CH 138 UNII 3



PSD, CHAIN 1



PSD, CHAIN 2



8.99.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	73.090	6.44	6.44	23.56	10.56

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

Output Power Results

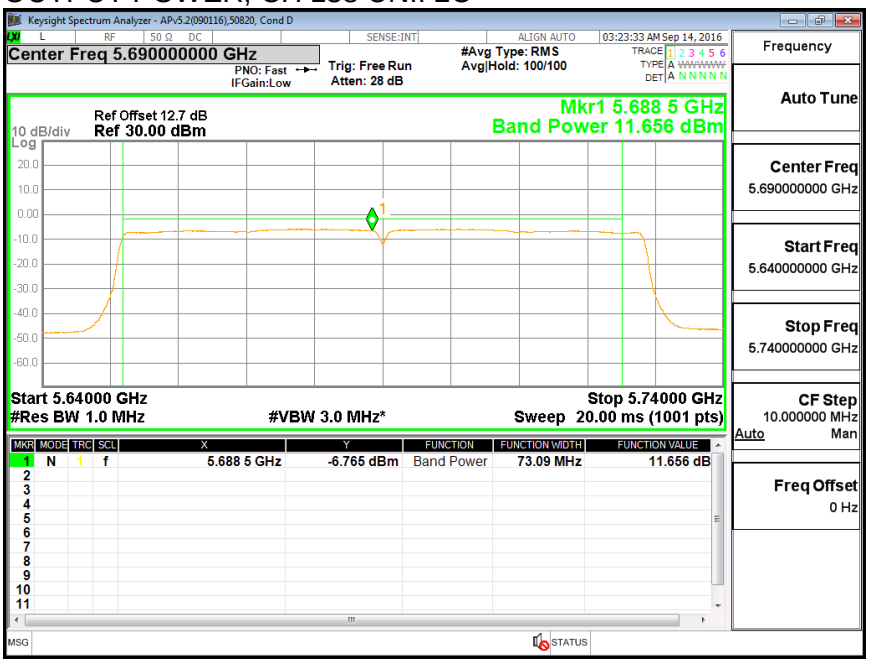
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.66	11.91	14.97	23.56	-8.59

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)
138	5690	-5.94	-5.68	-2.61	10.56	-13.17

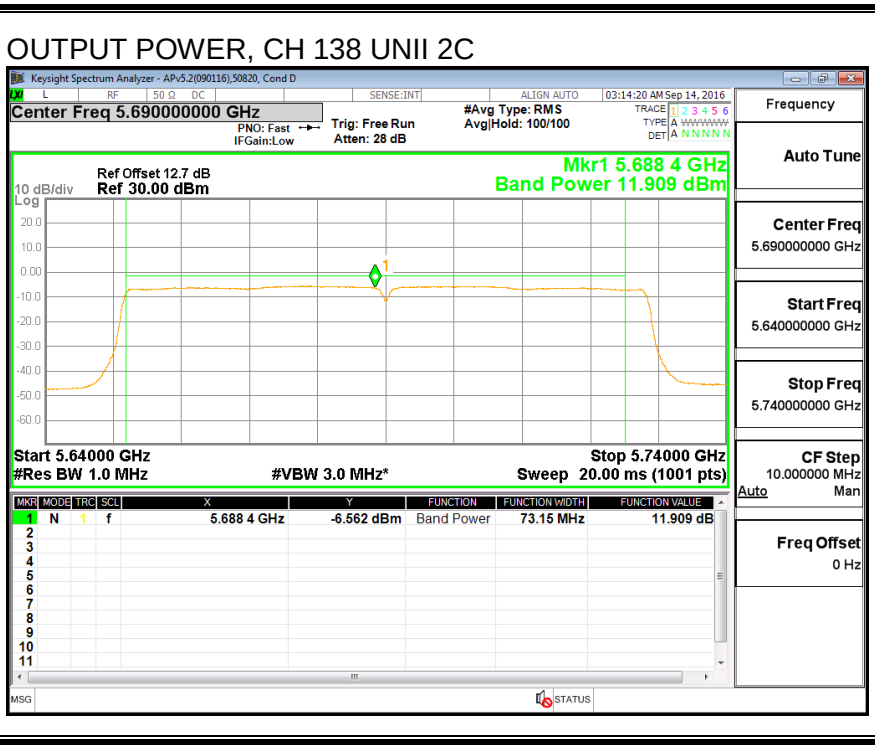
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



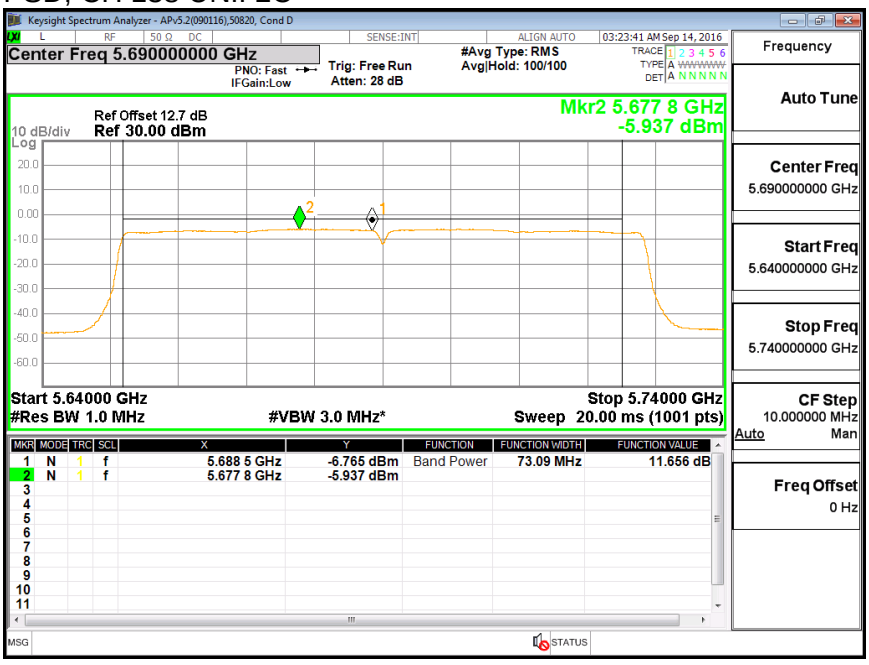
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



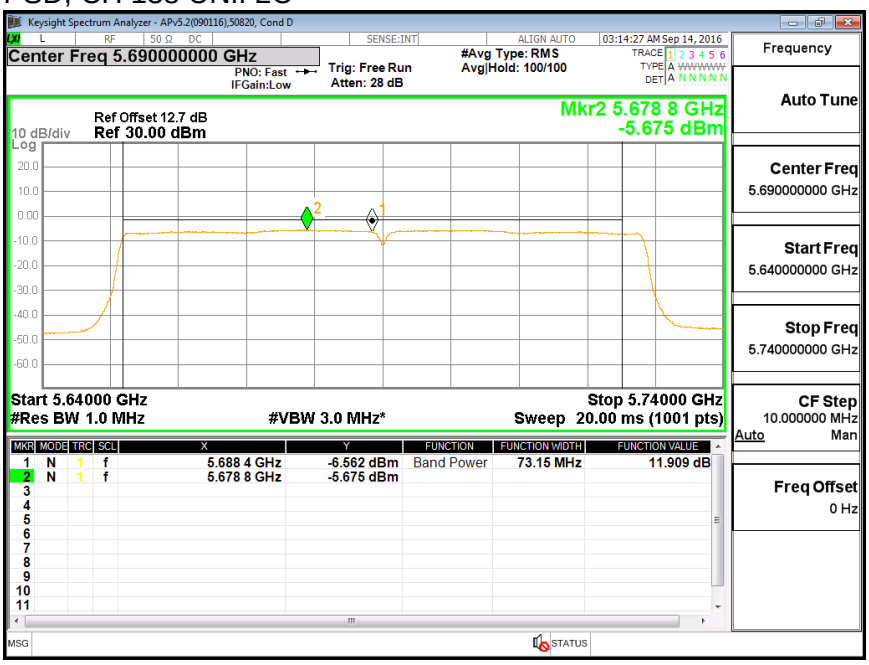
PSD, CHAIN 1

PSD, CH 138 UNII 2C



PSD, CHAIN 2

PSD, CH 138 UNII 2C



UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
138	5690	3.088	6.44	6.44	29.56	29.56

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

Output Power Results

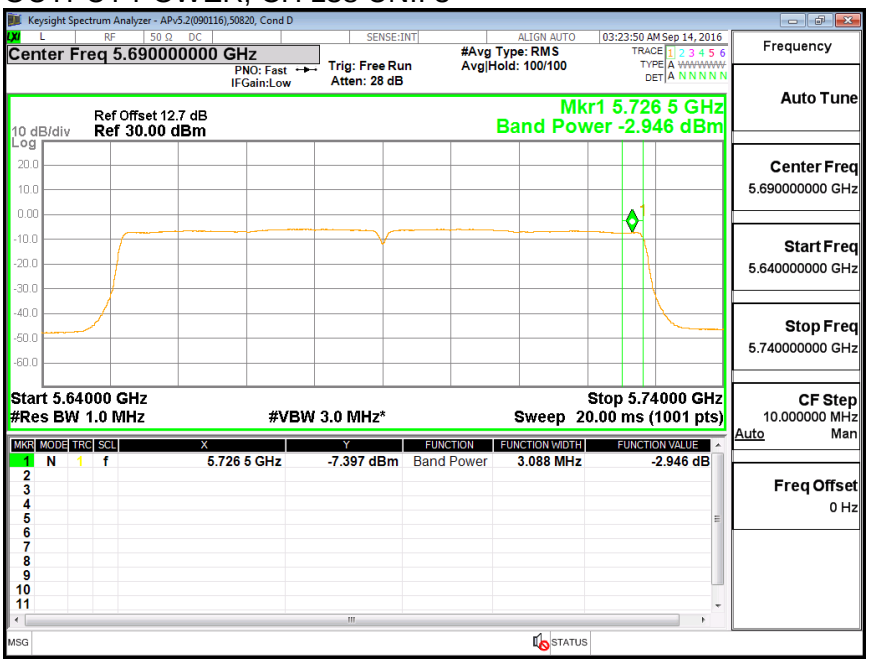
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.95	-2.65	0.40	29.56	-29.16

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)
138	5690	-9.98	-9.70	-6.65	29.56	-36.21

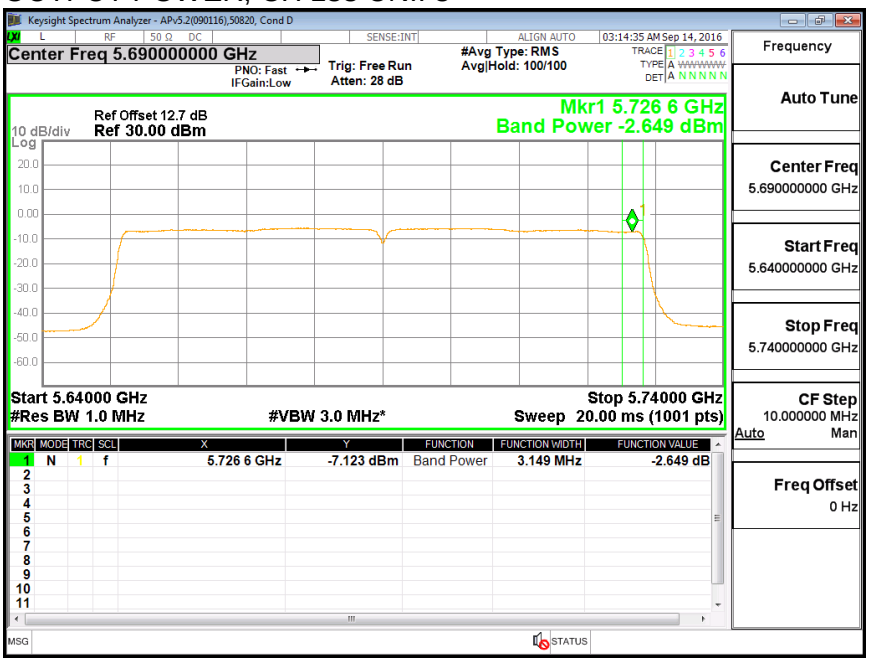
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3

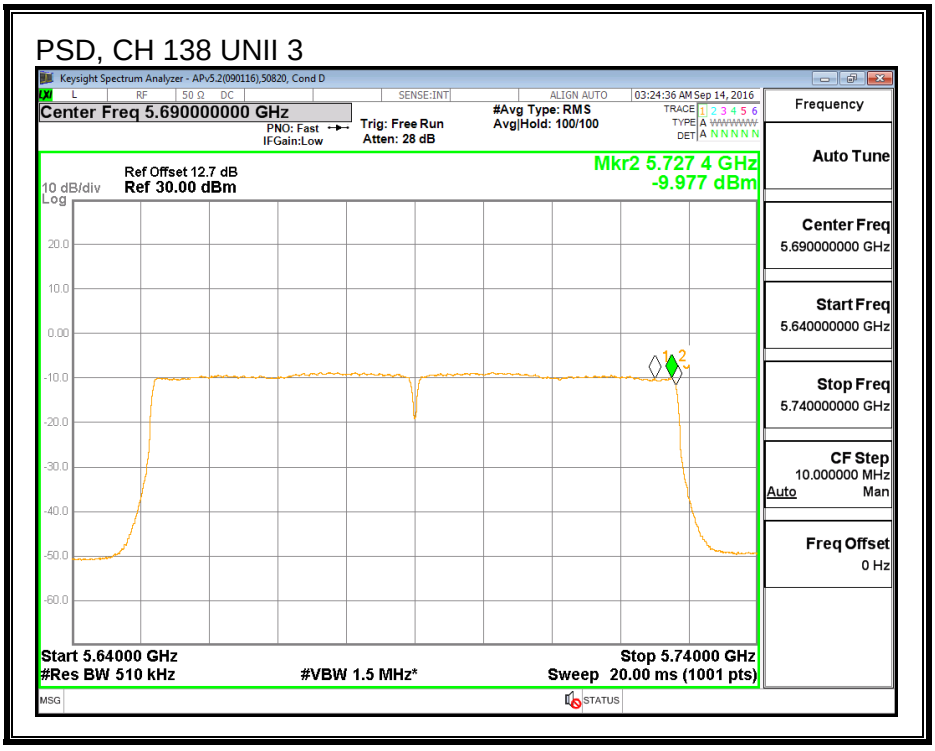


OUTPUT POWER, CHAIN 2

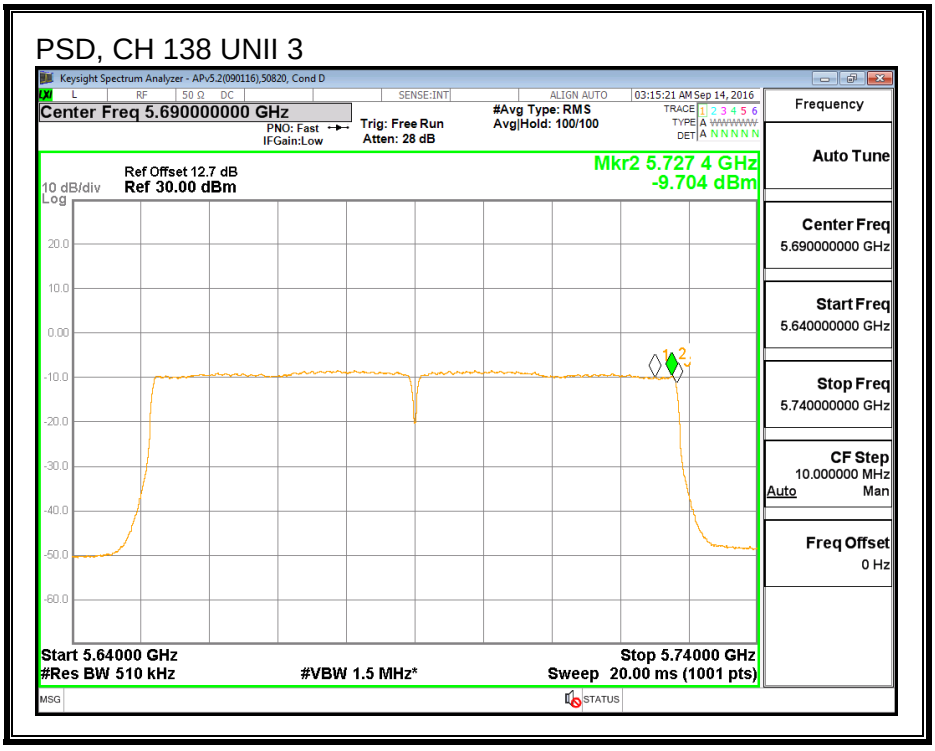
OUTPUT POWER, CH 138 UNII 3



PSD, CHAIN 1



PSD, CHAIN 2



8.99.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

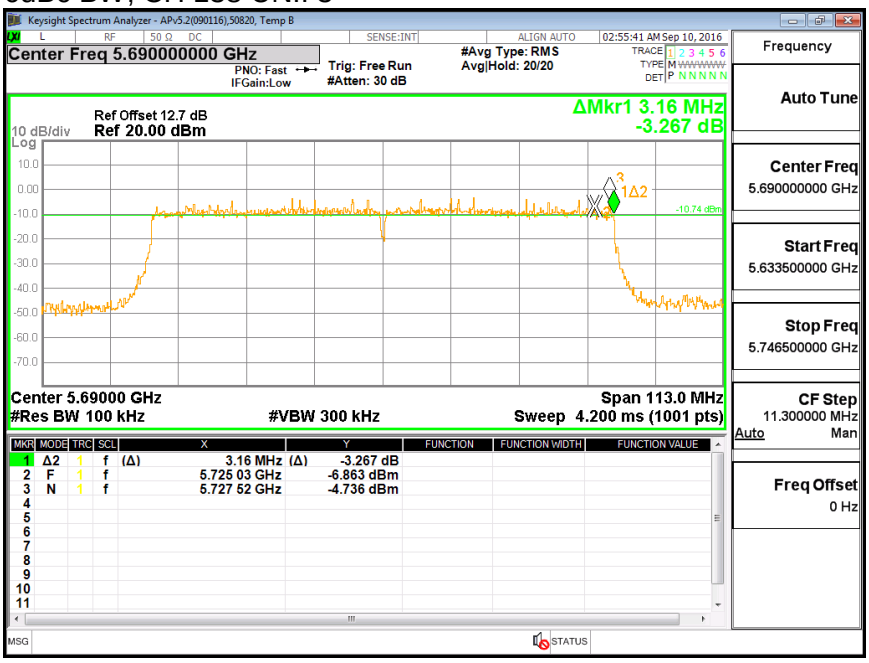
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)
High	5690	3.16	3.08

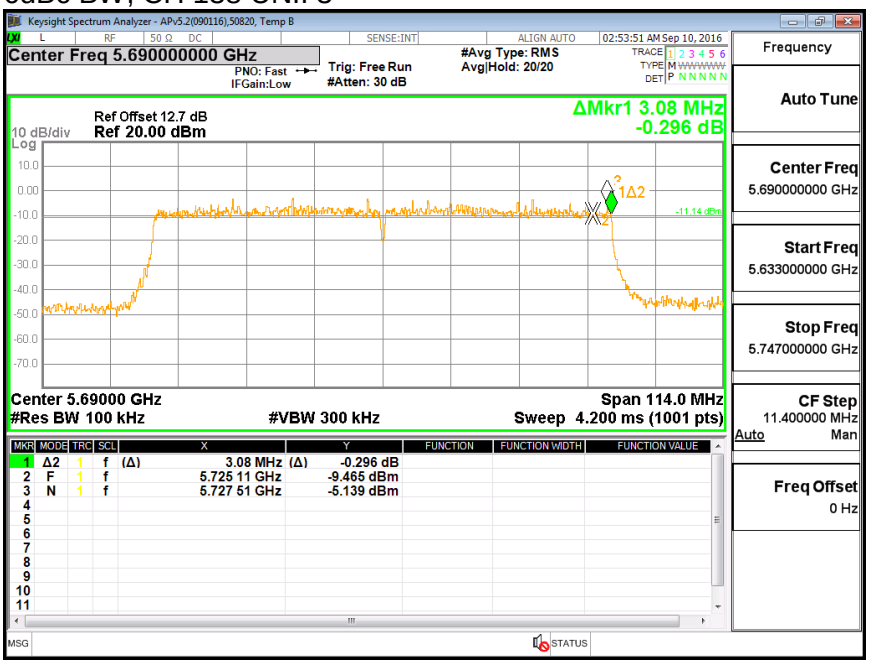
CHAIN 1

6dBc BW, CH 138 UNII 3



CHAIN 2

6dBc BW, CH 138 UNII 3



8.100. 802.11ac VHT80 2Tx (CHAIN 0 + CHAIN 1) BEAM FORMING MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.100.1. 26 dB BANDWIDTH

LIMITS

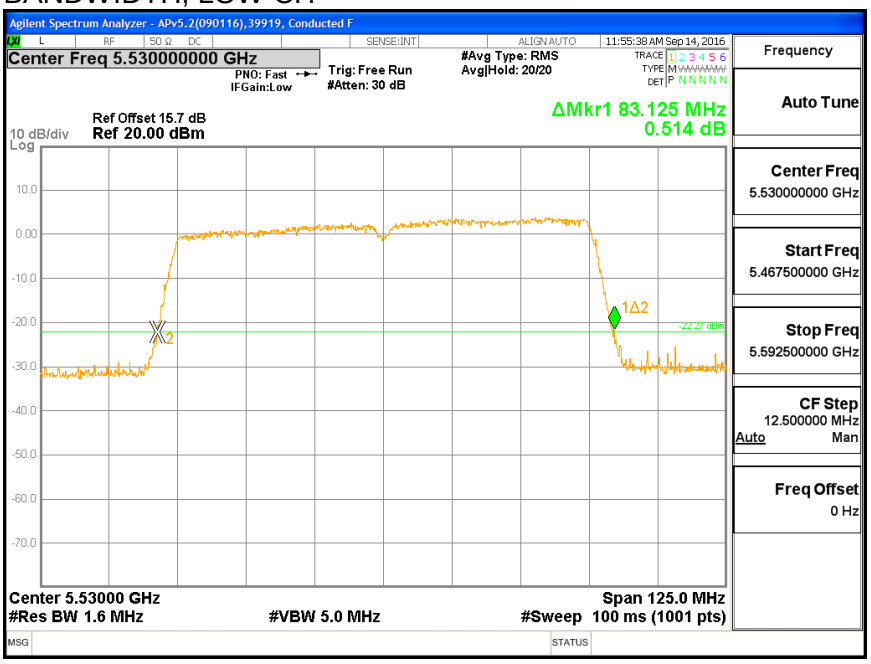
None; for reporting purposes only.

RESULTS

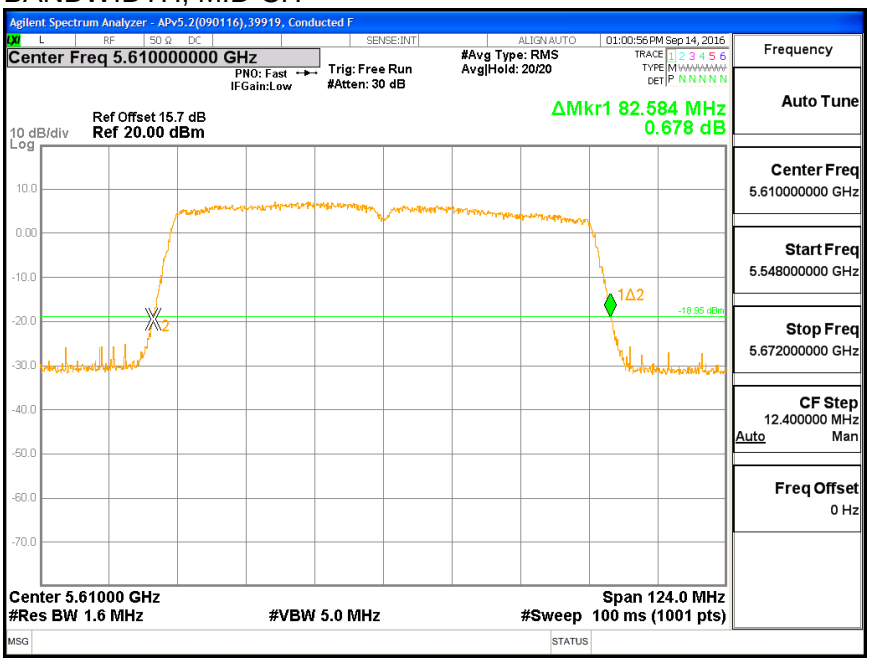
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	83.125	82.750
Mid	5610	82.584	82.212
High	5690	83.250	83.412

26 dB BANDWIDTH, CHAIN 0

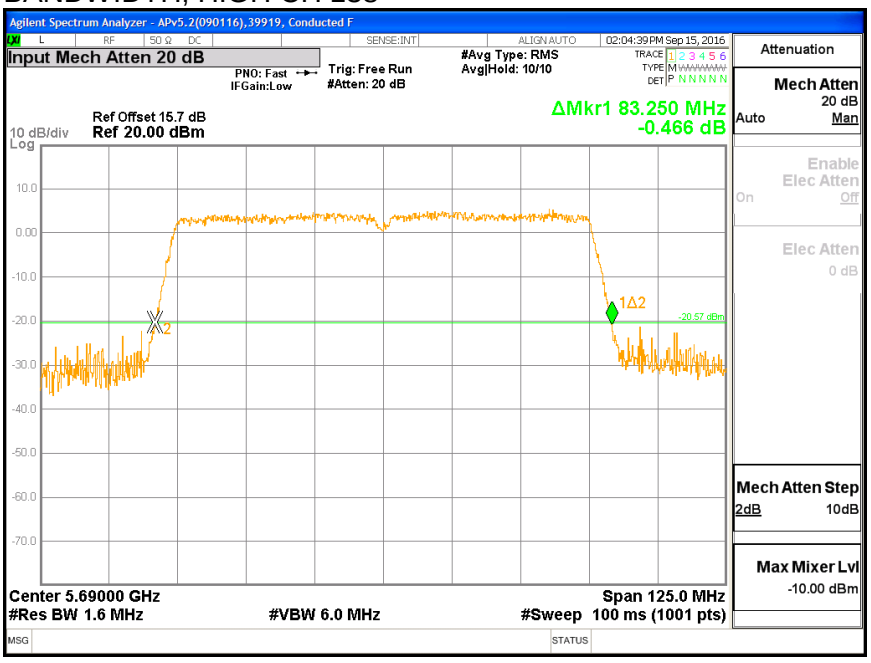
BANDWIDTH, LOW CH



BANDWIDTH, MID CH

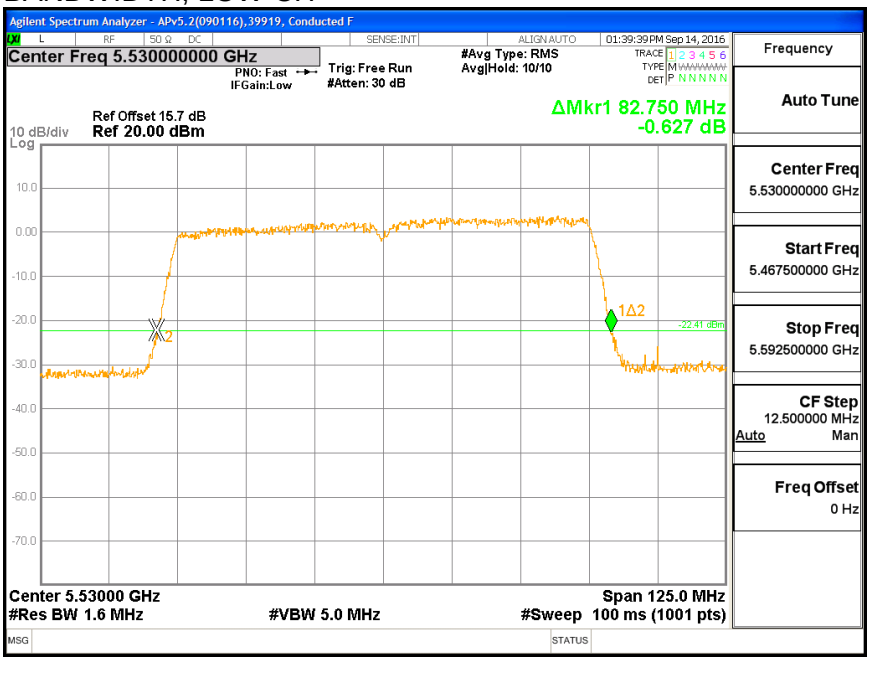


BANDWIDTH, HIGH CH 138

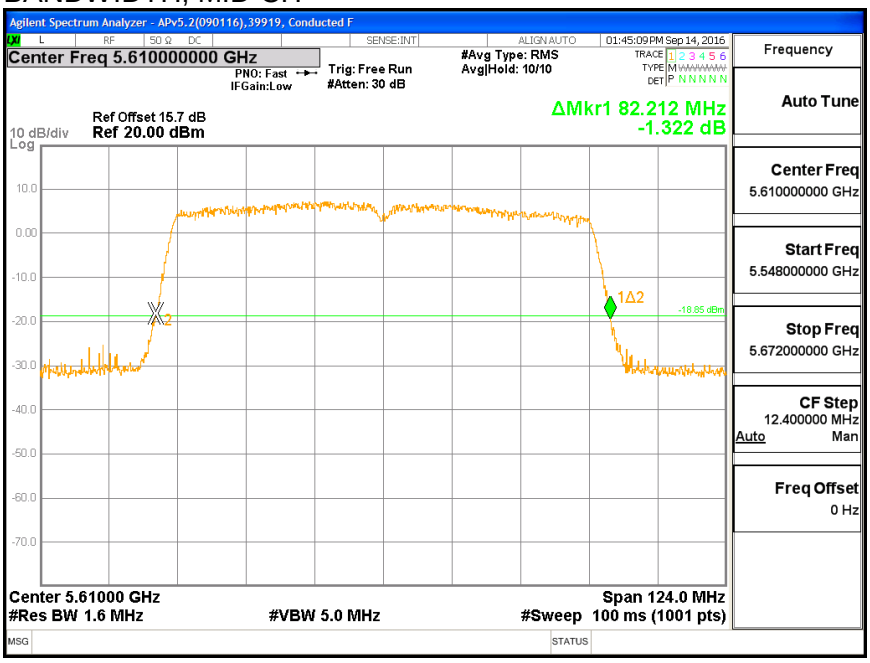


26 dB BANDWIDTH, CHAIN 1

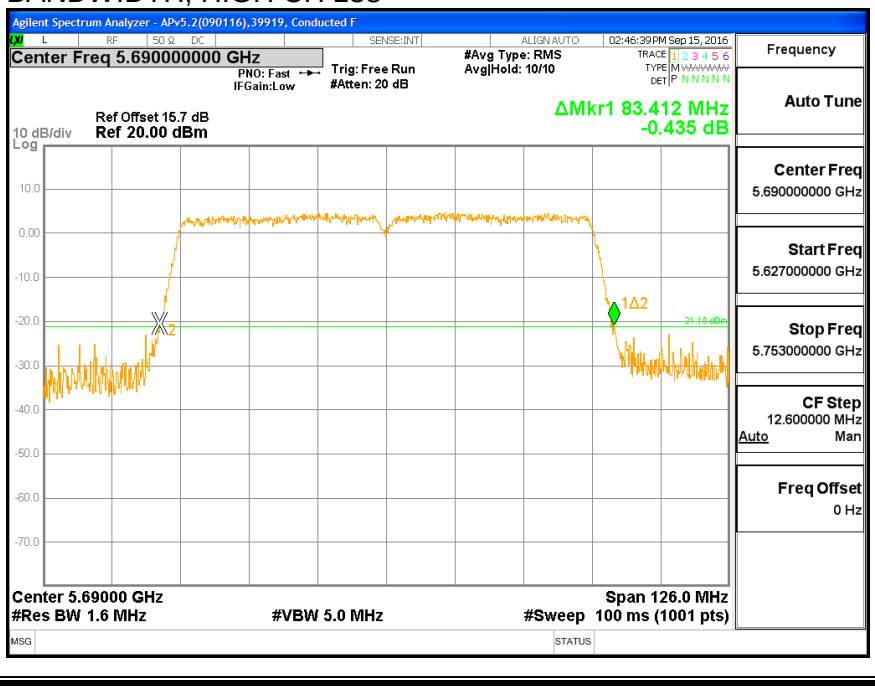
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138



8.100.2. **99% BANDWIDTH**

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	76.158	75.680
Mid	5610	75.686	75.568
High	5690	76.255	75.989