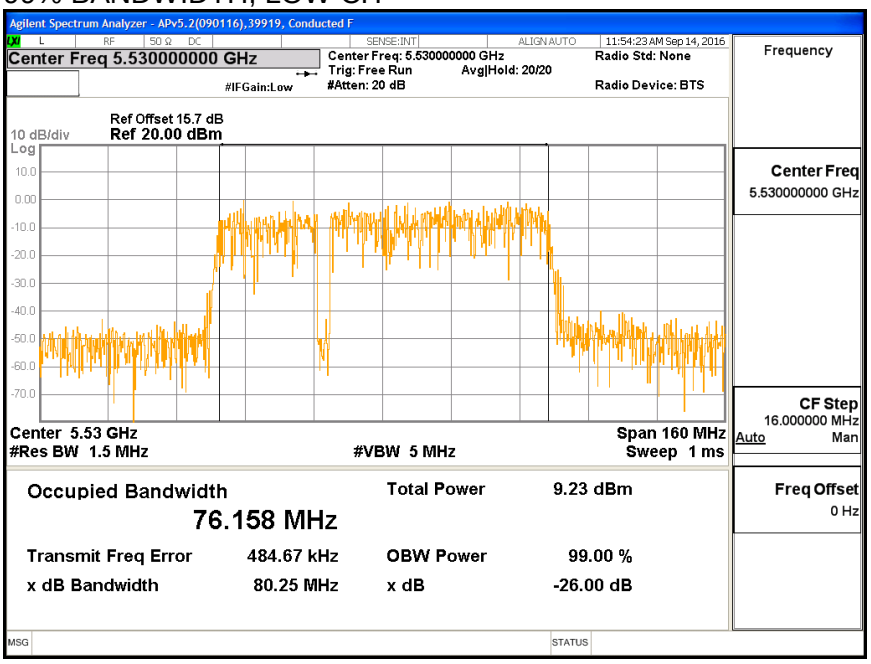
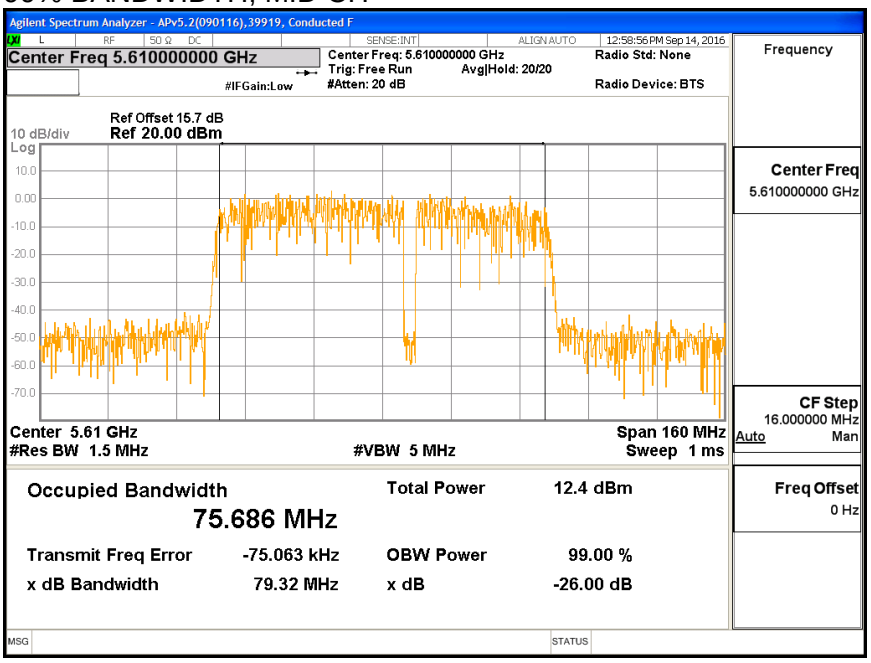
99% BANDWIDTH, CHAIN 0

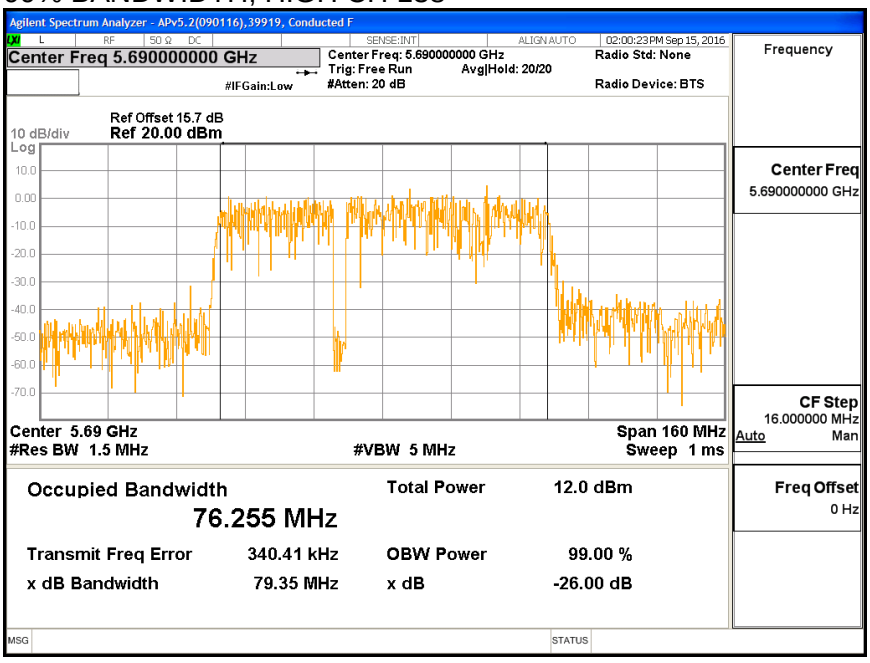
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

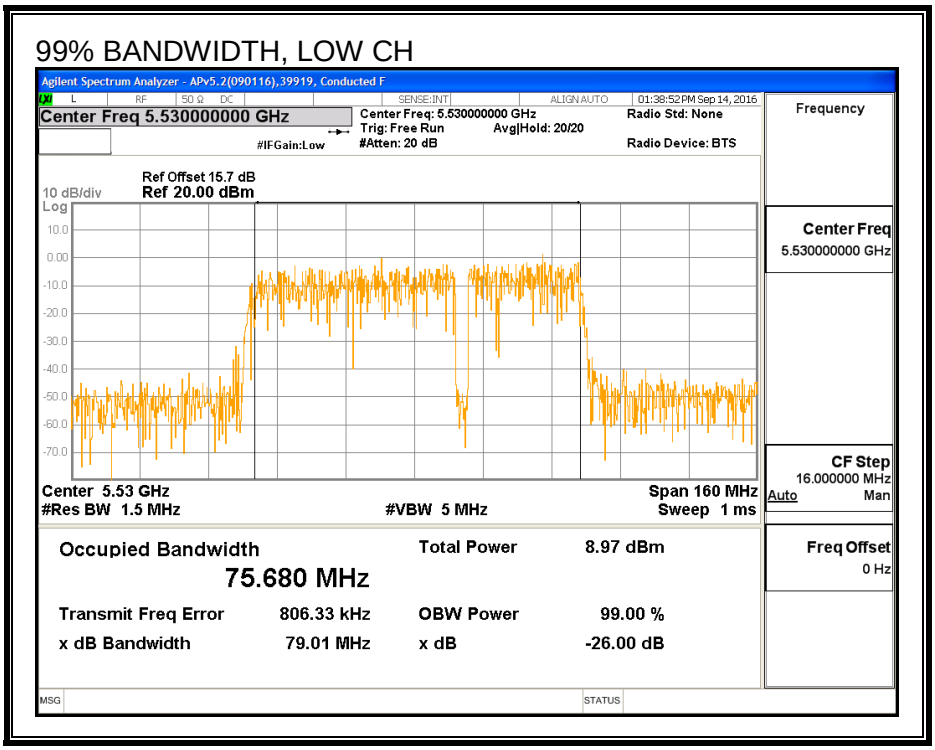


99% BANDWIDTH, HIGH CH 138

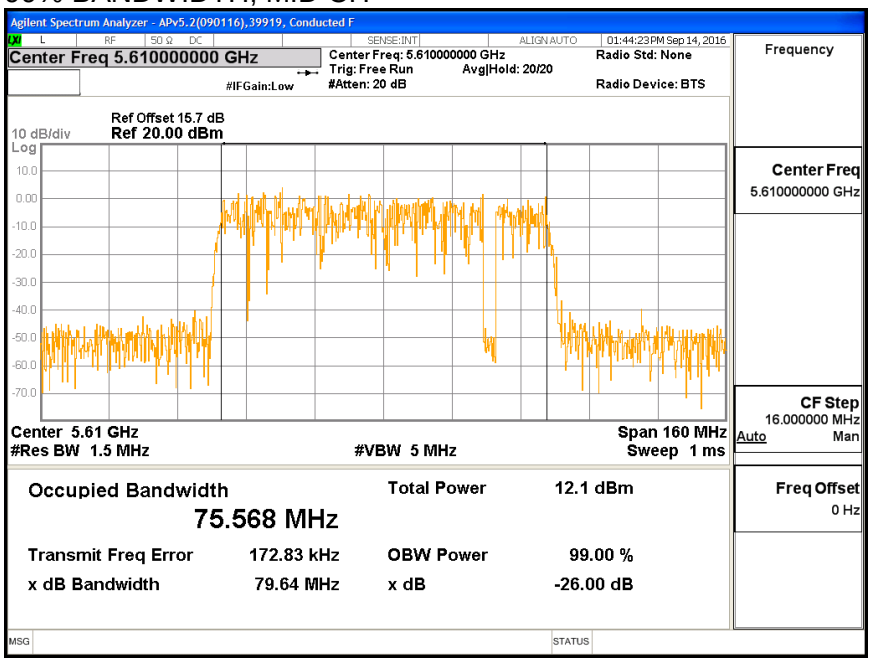


99% BANDWIDTH, CHAIN 1

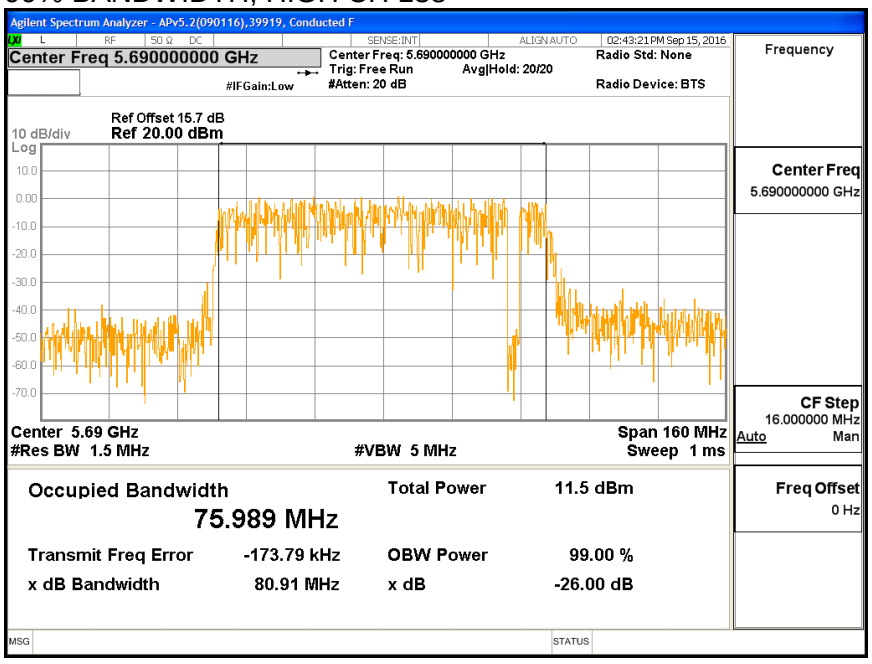
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.100.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	44366	Date:	9/14/16

Average Power Results

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5530	8.98	8.95	11.98
Mid	5610	12.23	12.20	15.23
High	5690	12.18	12.16	15.18

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

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.90	7.40	9.25

RESULTS

ID:	44366	Date:	9/14/16

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	82.75	75.680	9.25	9.25	24.00	7.75
High	5610	82.21	75.568	9.25	9.25	24.00	7.75

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd PSD

Output Power Results

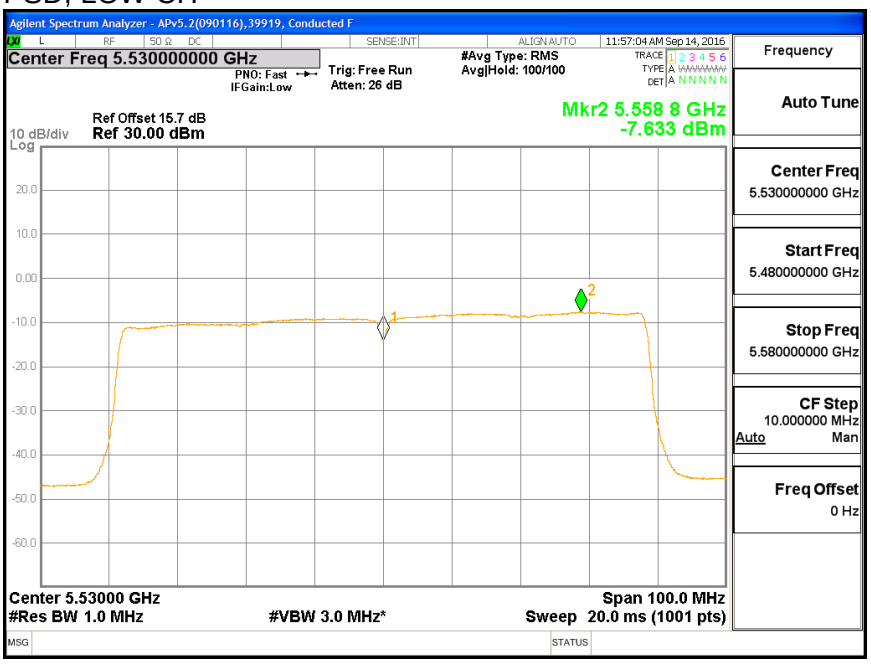
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	8.98	8.95	11.98	24.00	-12.02
High	5610	12.23	12.20	15.23	24.00	-8.77

PSD Results

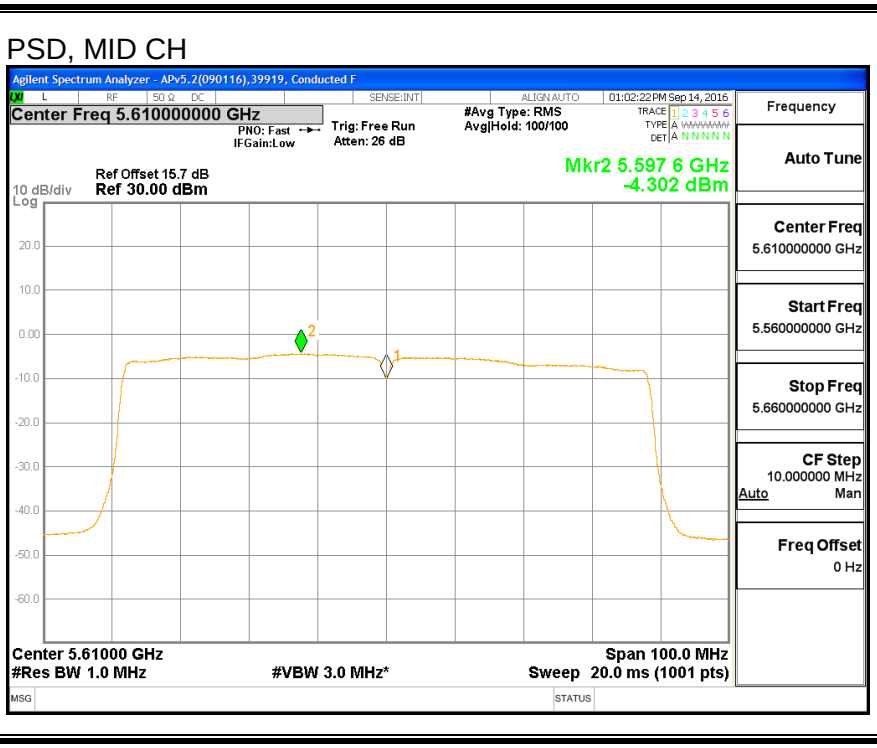
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-7.63	-7.72	-3.94	7.75	-11.69
High	5610	-4.30	-4.41	-0.62	7.75	-8.37

PSD, CHAIN 0

PSD, LOW CH

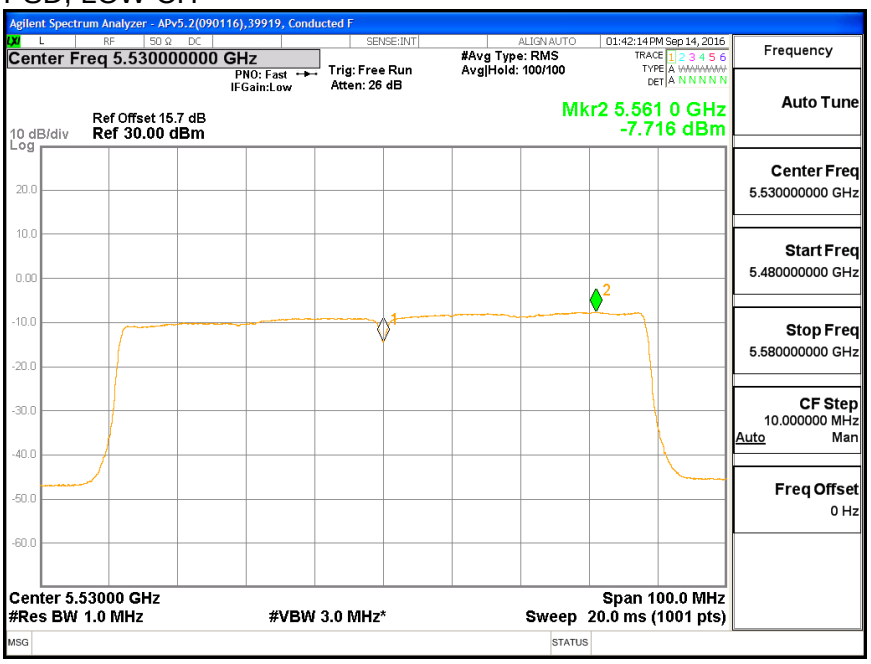


PSD, MID CH

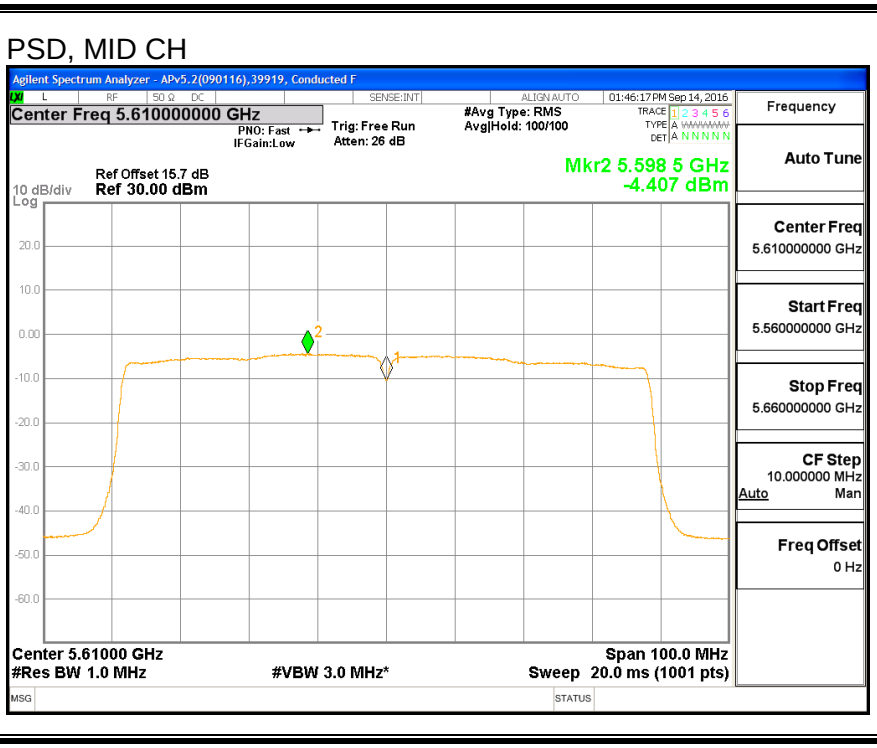


PSD, CHAIN 1

PSD, LOW CH



PSD, MID CH



8.100.5. 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	76.63	9.25	9.25	20.75	7.75

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

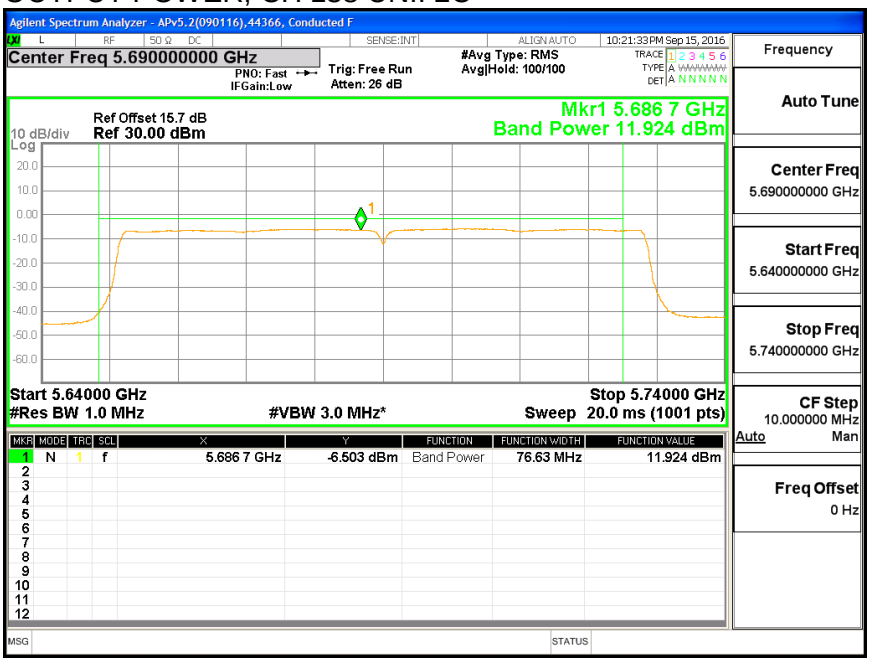
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.92	11.91	15.65	20.75	-5.10

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	-5.71	-5.77	-2.01	7.75	-9.76

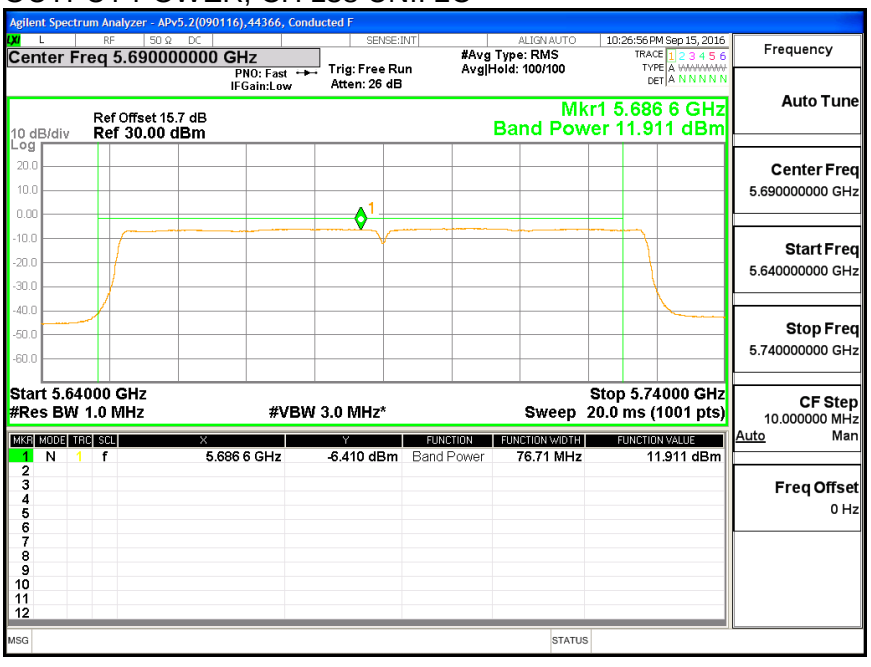
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



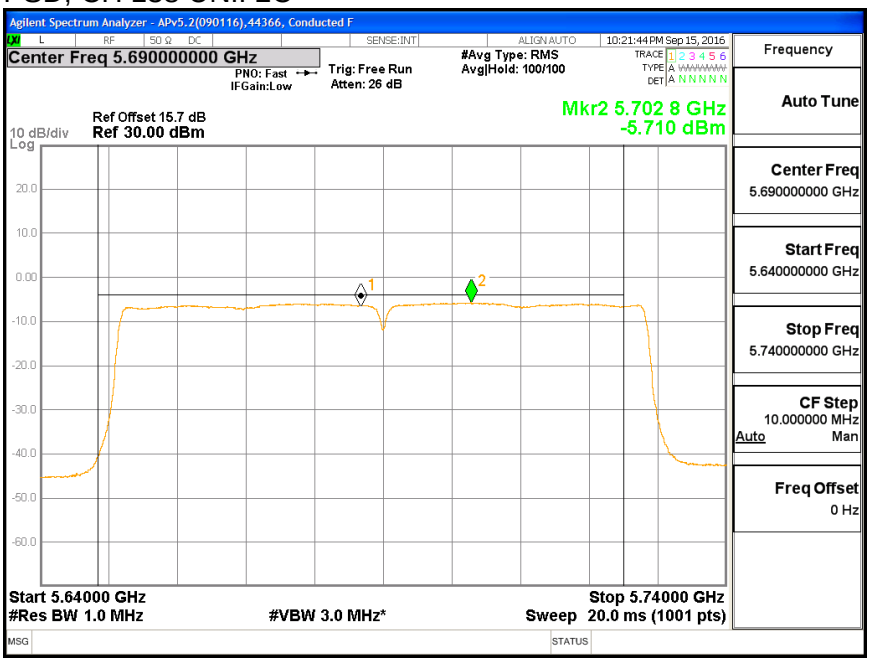
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



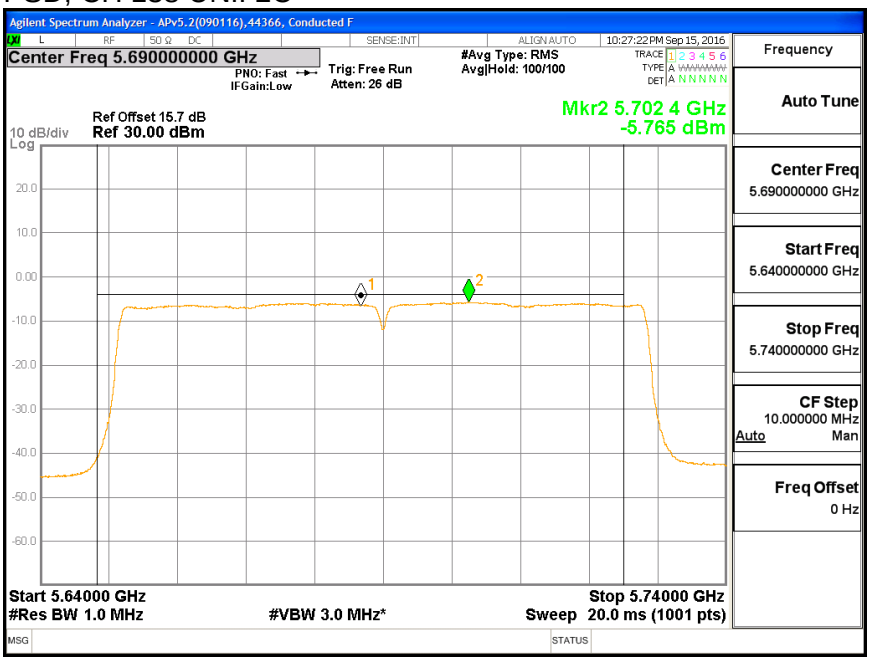
PSD, CHAIN 0

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	6.63	9.25	9.25	26.75	26.75

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

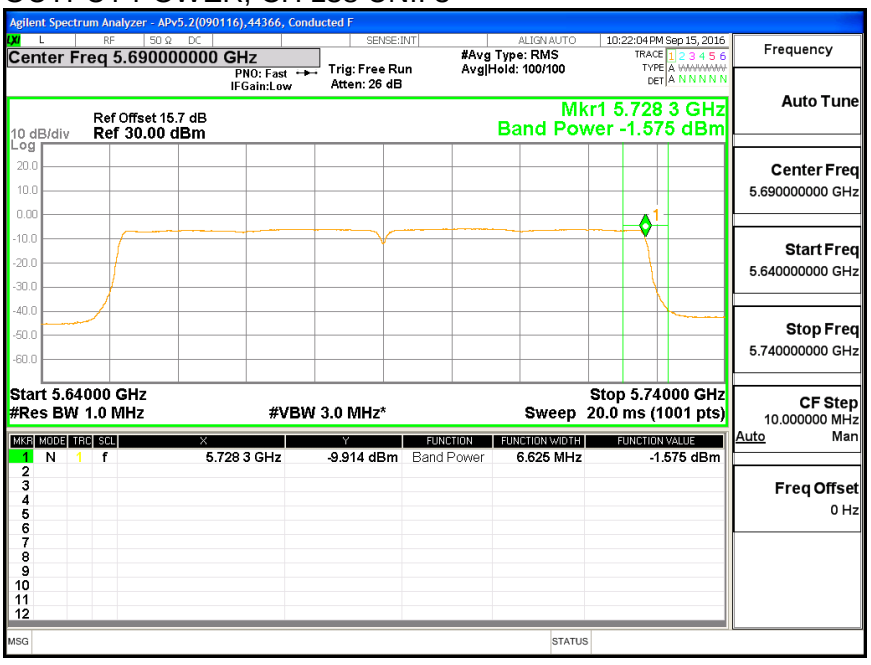
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-1.58	-1.60	2.14	26.75	-24.61

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	-9.09	-9.02	-5.33	26.75	-32.08

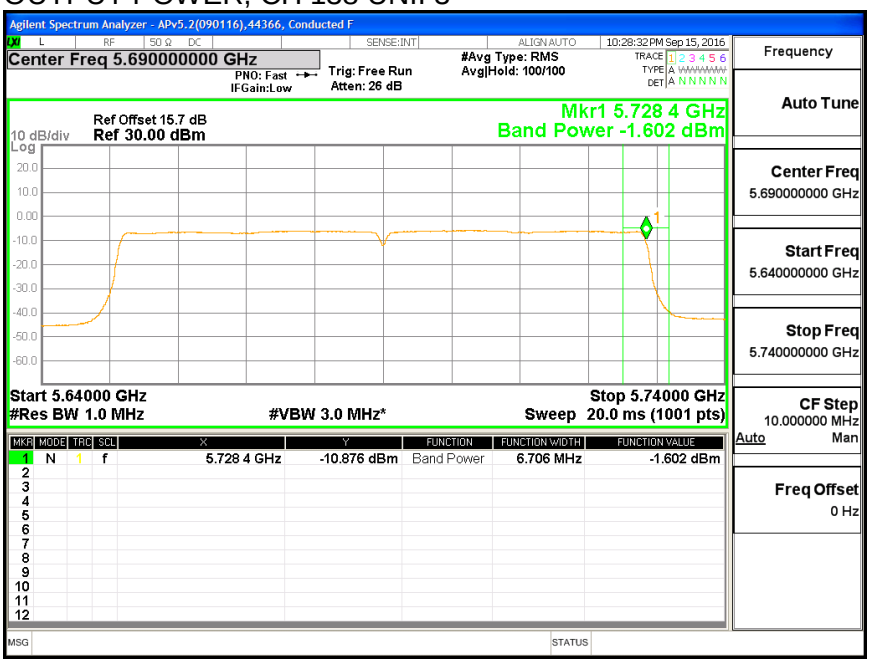
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



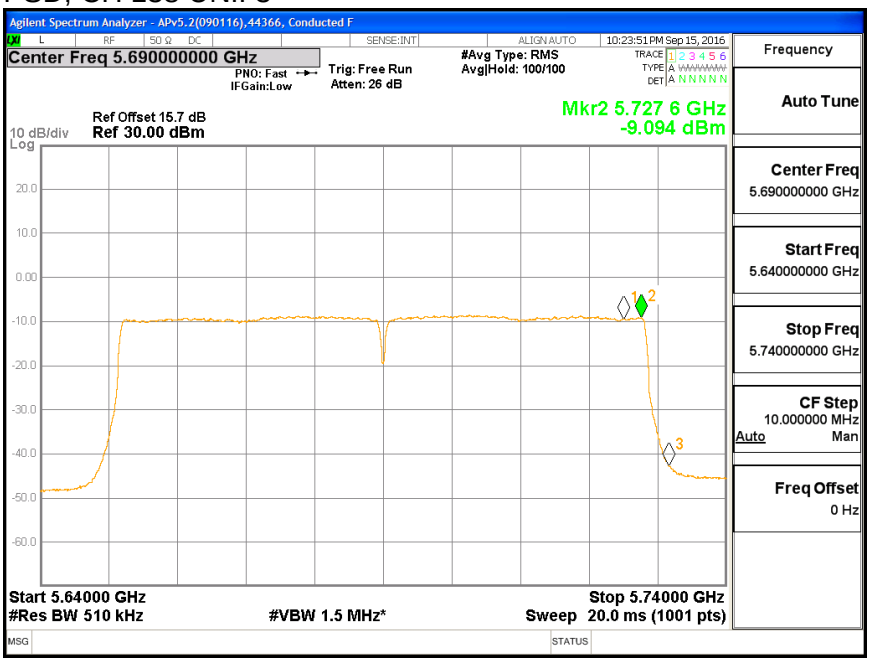
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



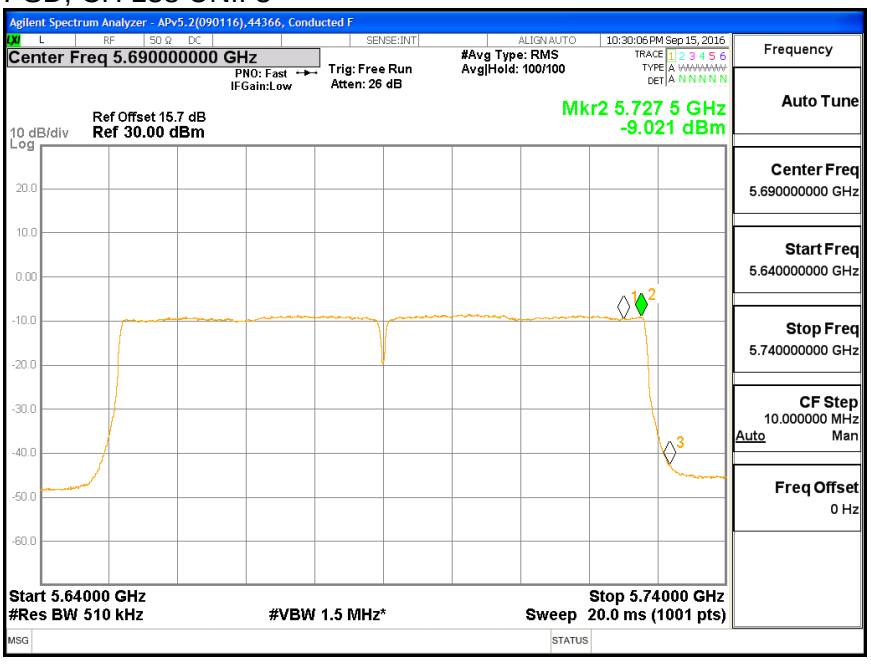
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 1

PSD, CH 138 UNII 3



8.100.6. 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	72.990	9.25	9.25	20.75	7.75

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

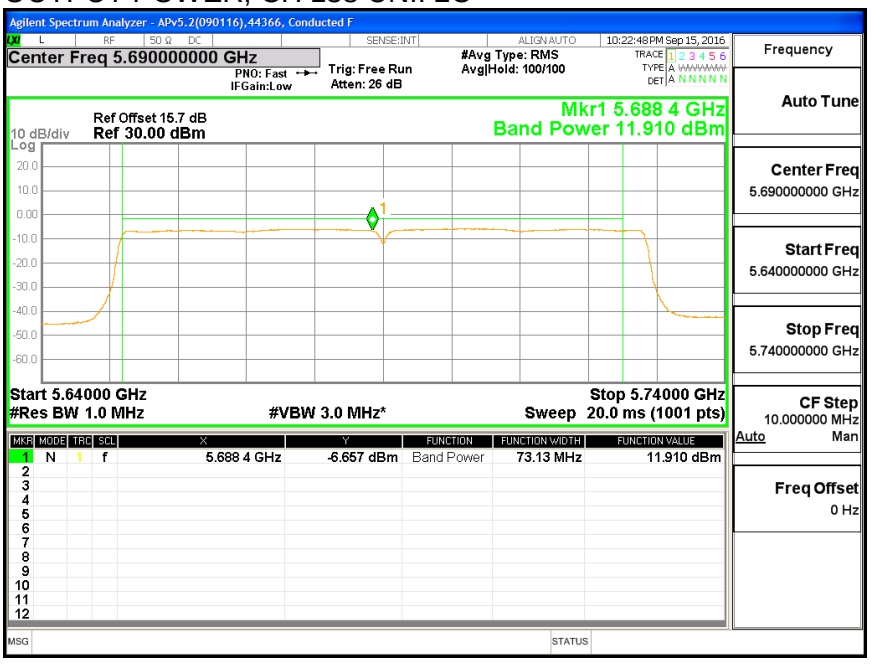
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.91	11.89	15.63	20.75	-5.12

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	-5.71	-5.77	-2.01	7.75	-9.76

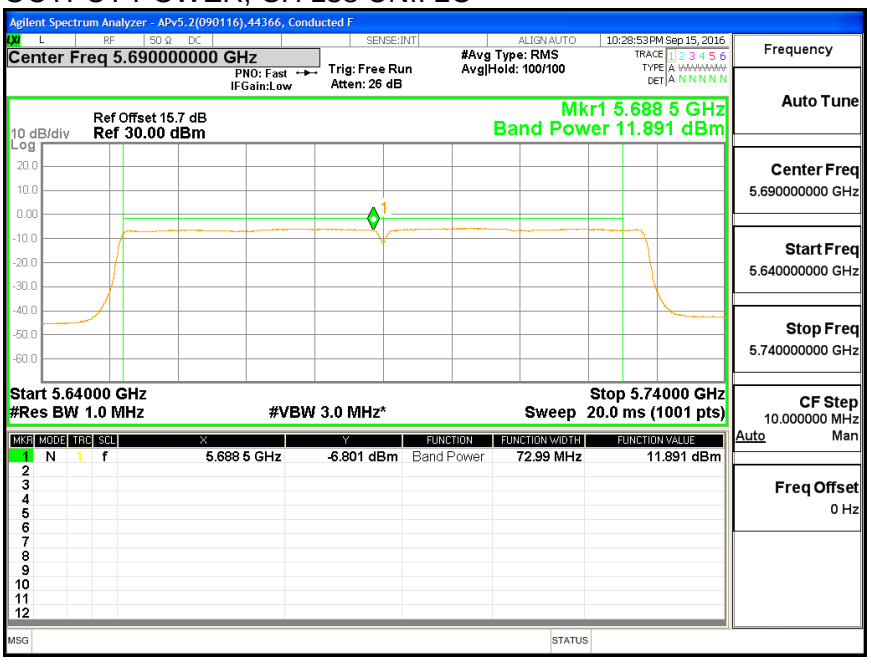
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



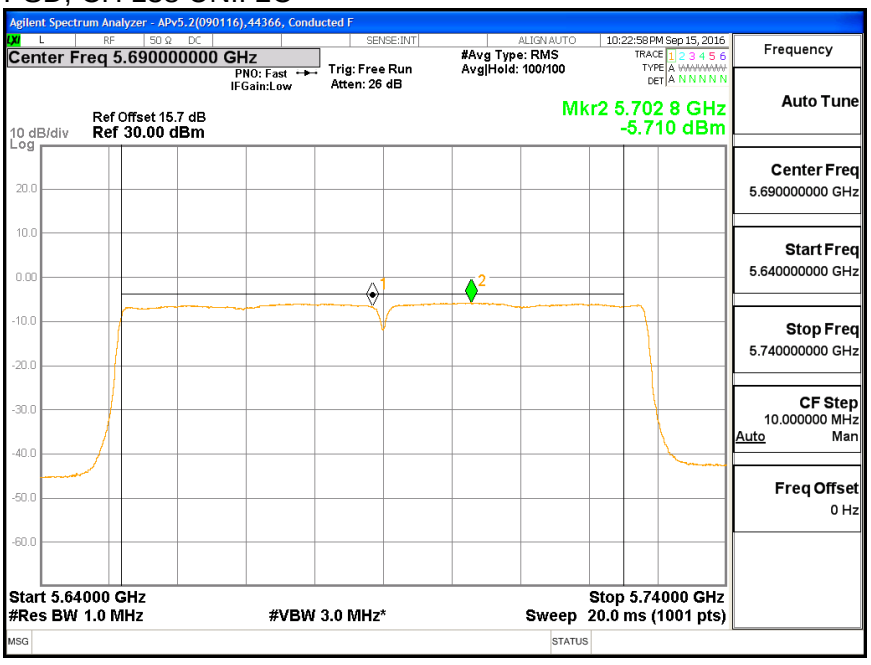
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



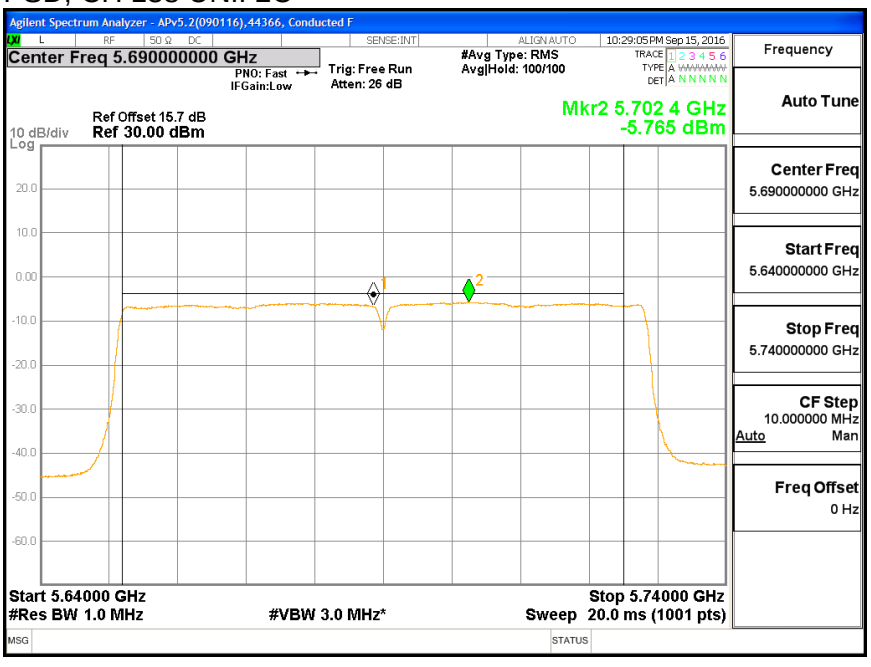
PSD, CHAIN 0

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	2.995	9.25	9.25	26.75	26.75

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

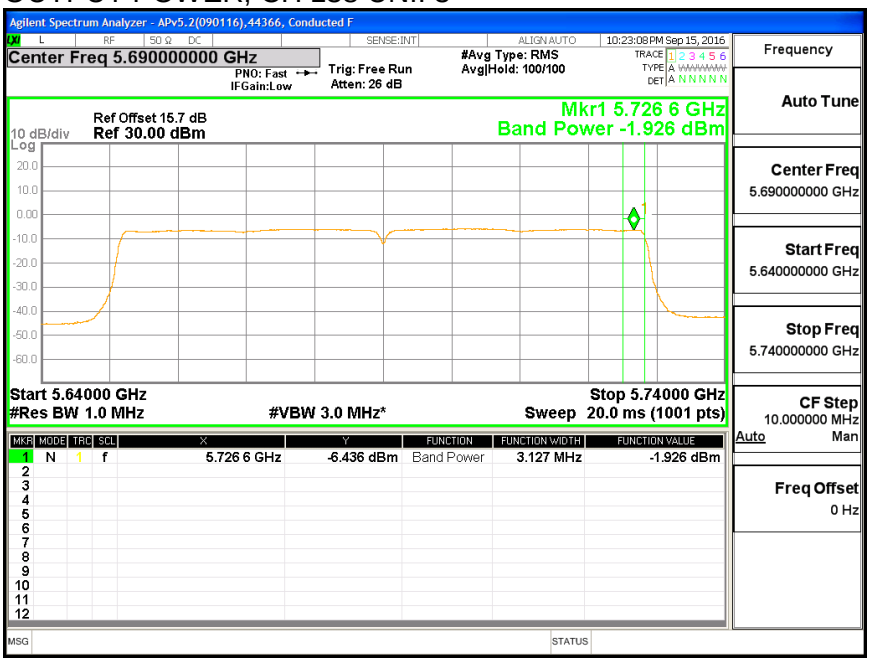
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-1.93	-2.09	1.73	26.75	-25.02

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	-9.09	-9.02	-5.33	26.75	-32.08

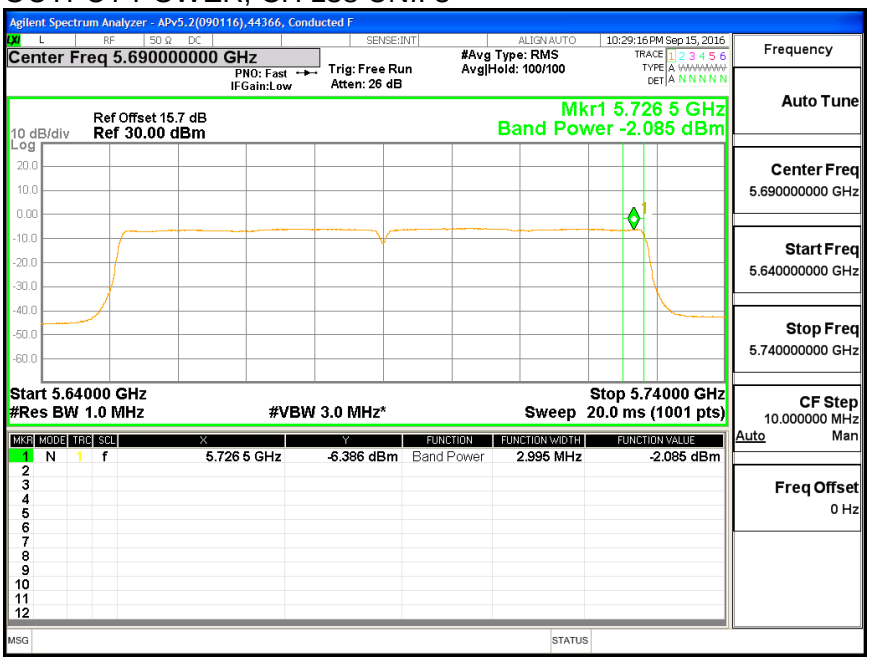
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



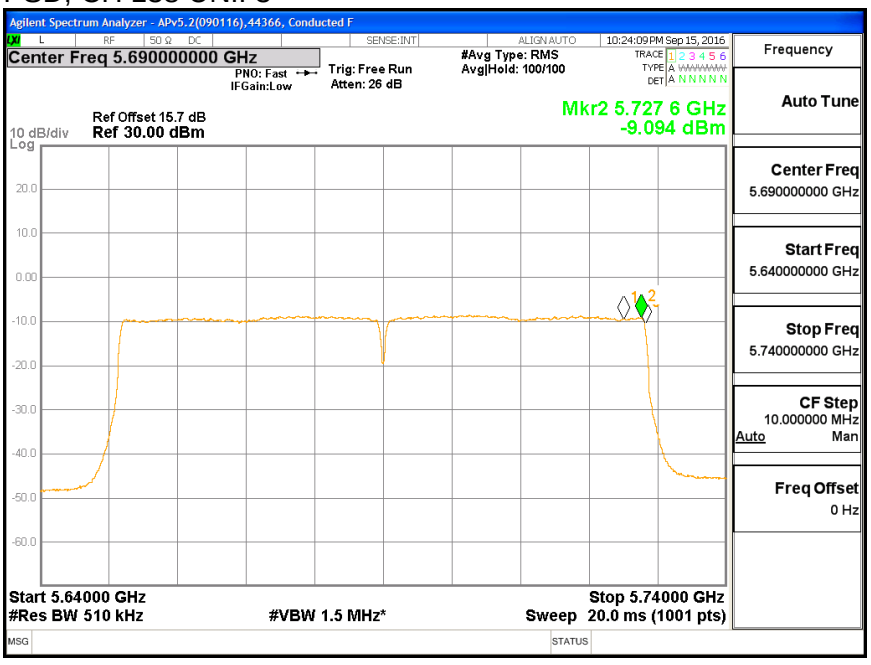
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



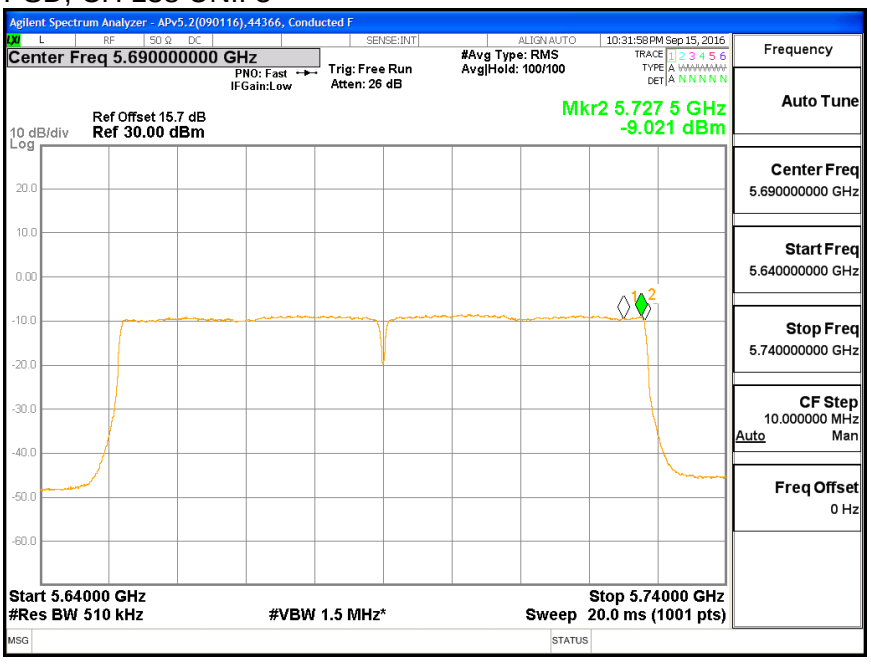
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 1

PSD, CH 138 UNII 3



8.100.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

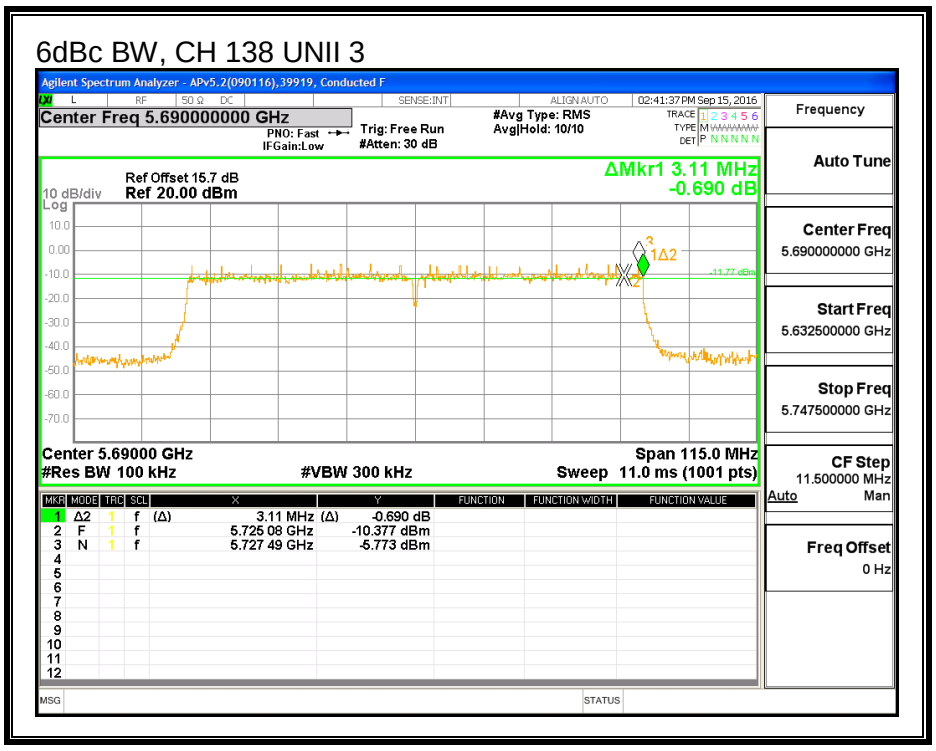
IC RSS-247 (6.2.4) (1)

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

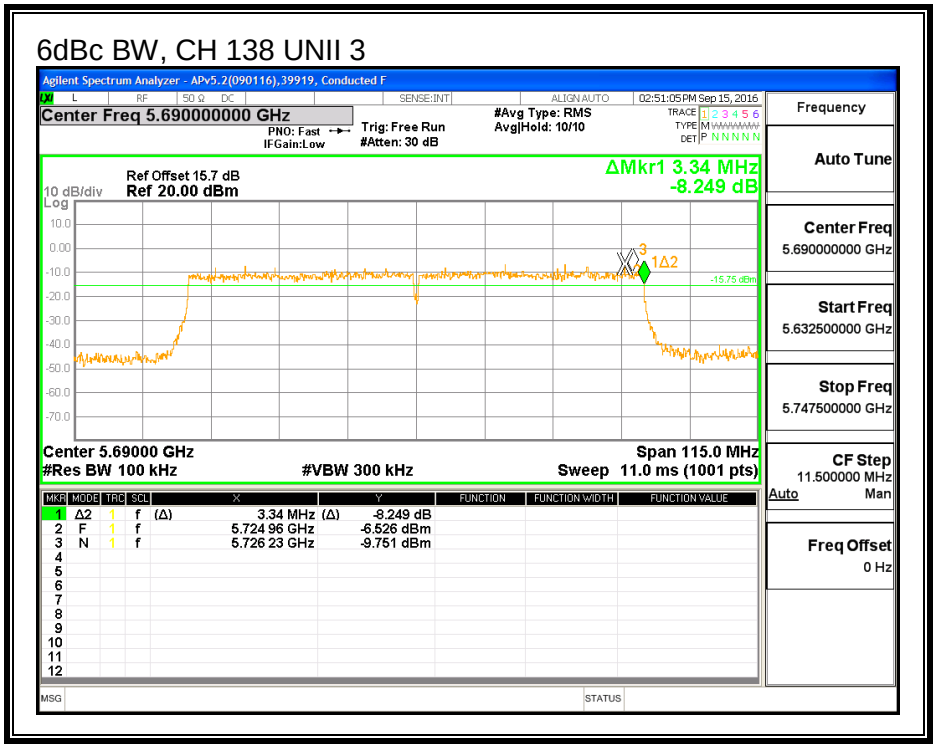
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)
High	5690	3.11	3.34

CHAIN 0



CHAIN 1



8.101. 802.11ac VHT80 2Tx (CHAIN 0 + CHAIN 2) BEAM FORMING MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.101.1. 26 dB BANDWIDTH

LIMITS

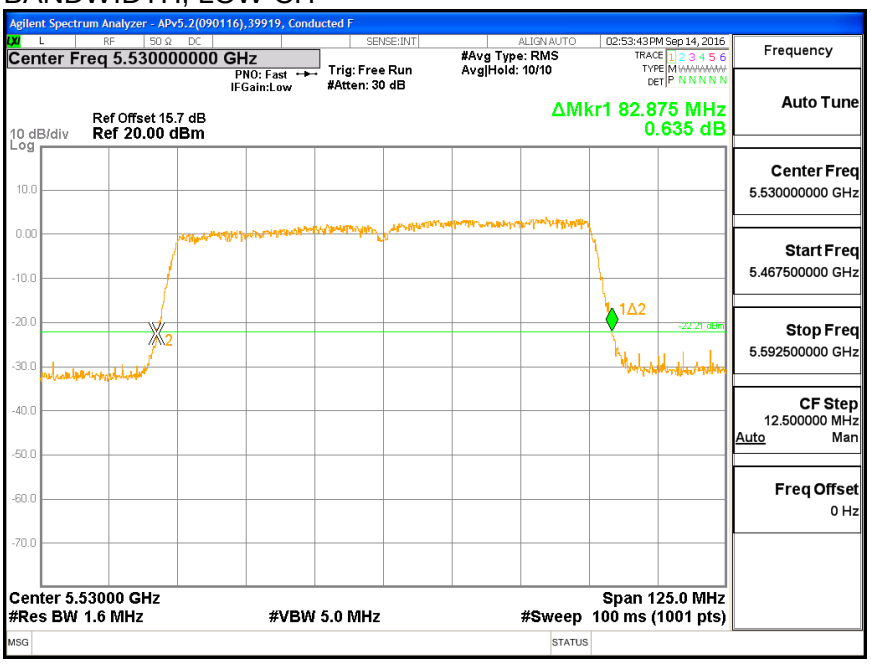
None; for reporting purposes only.

RESULTS

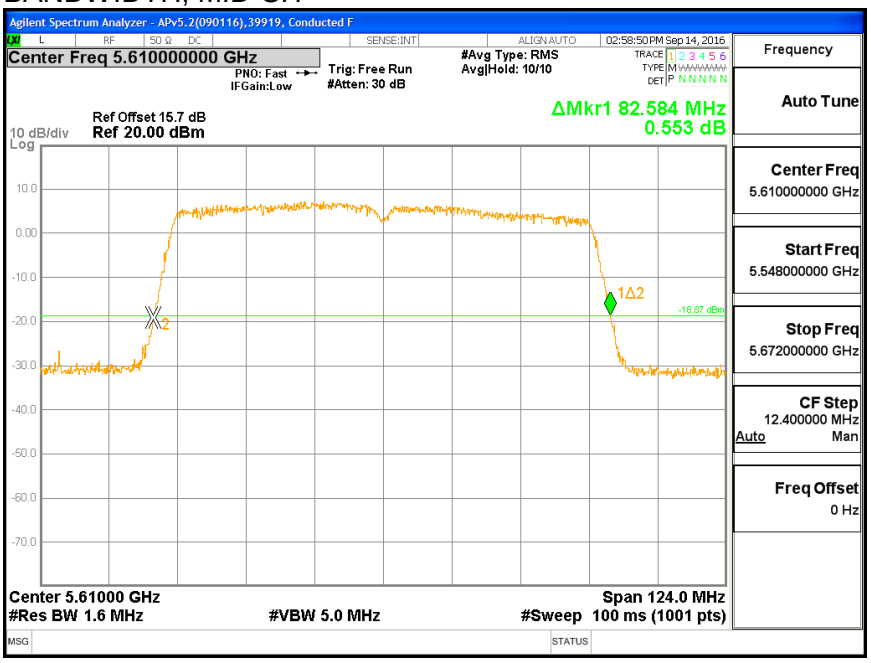
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	82.875	82.750
Mid	5610	82.854	82.088
High	5690	85.750	83.412

26 dB BANDWIDTH, CHAIN 0

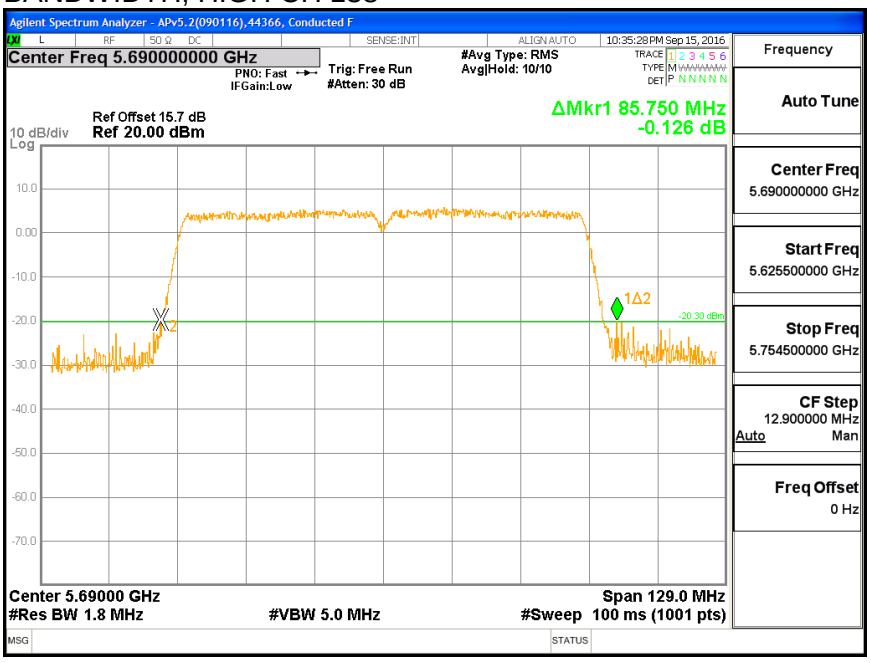
BANDWIDTH, LOW CH



BANDWIDTH, MID CH

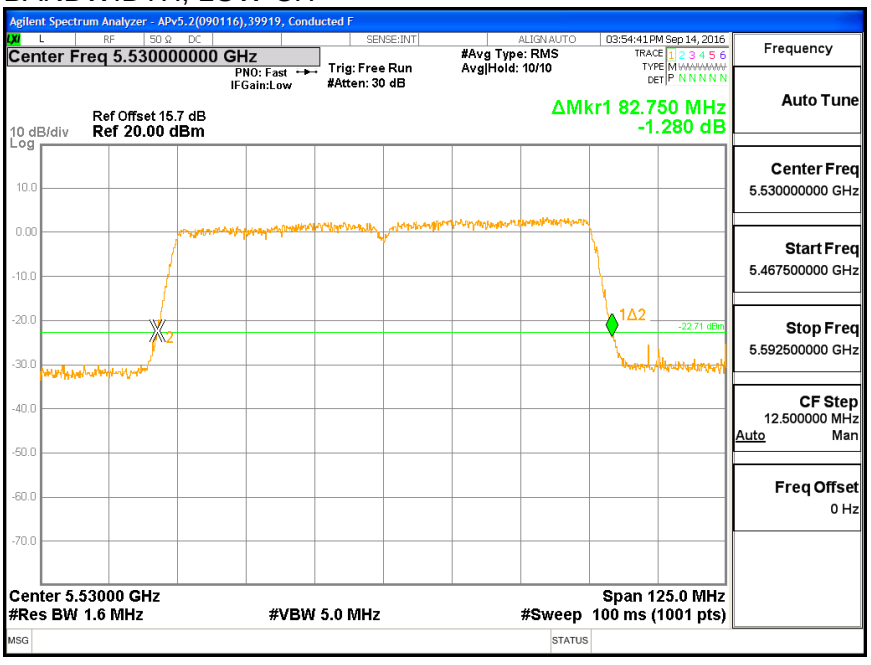


BANDWIDTH, HIGH CH 138

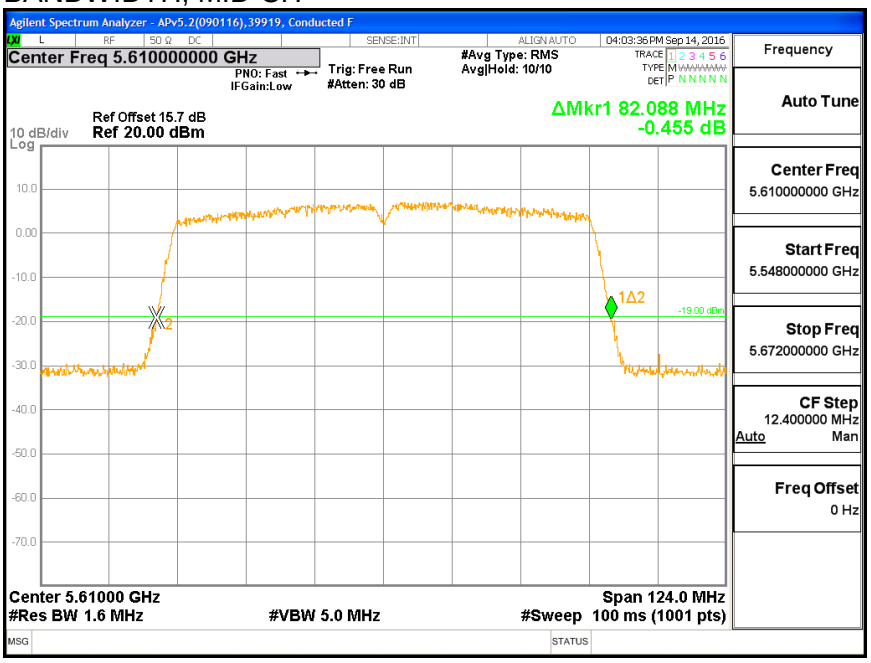


26 dB BANDWIDTH, CHAIN 2

BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138

8.101.2. **99% BANDWIDTH**

LIMITS

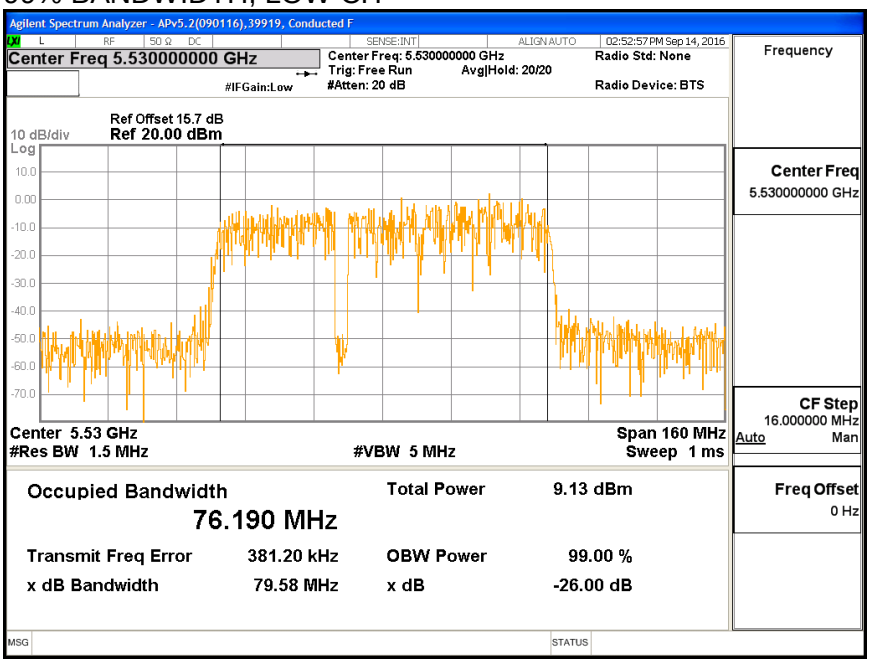
None; for reporting purposes only.

RESULTS

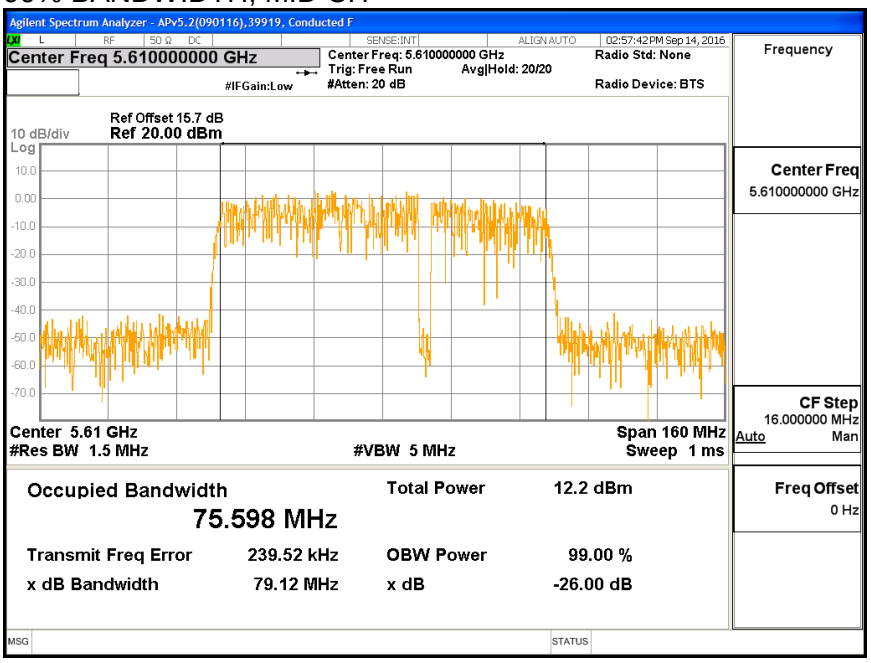
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 2 (MHz)
Low	5530	76.190	76.276
Mid	5610	75.598	75.740
High	5690	76.098	76.181

99% BANDWIDTH, CHAIN 0

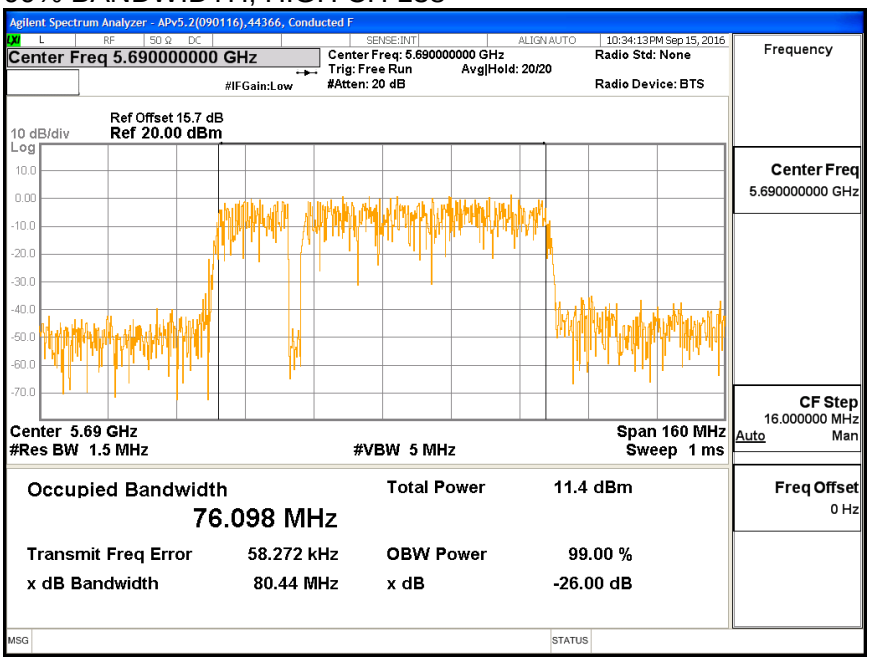
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

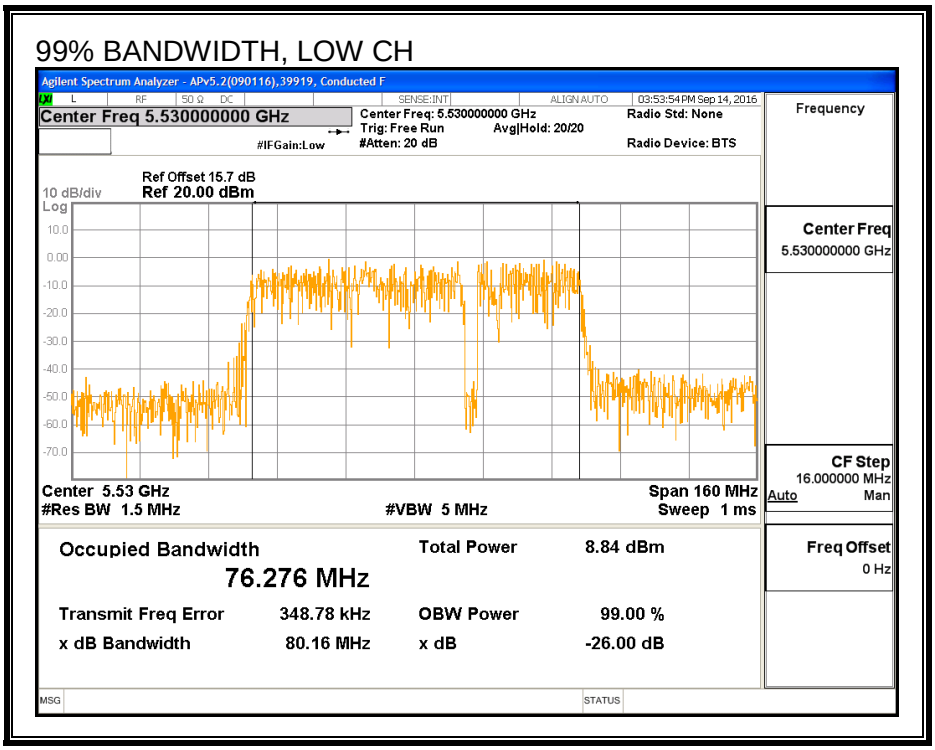


99% BANDWIDTH, HIGH CH 138

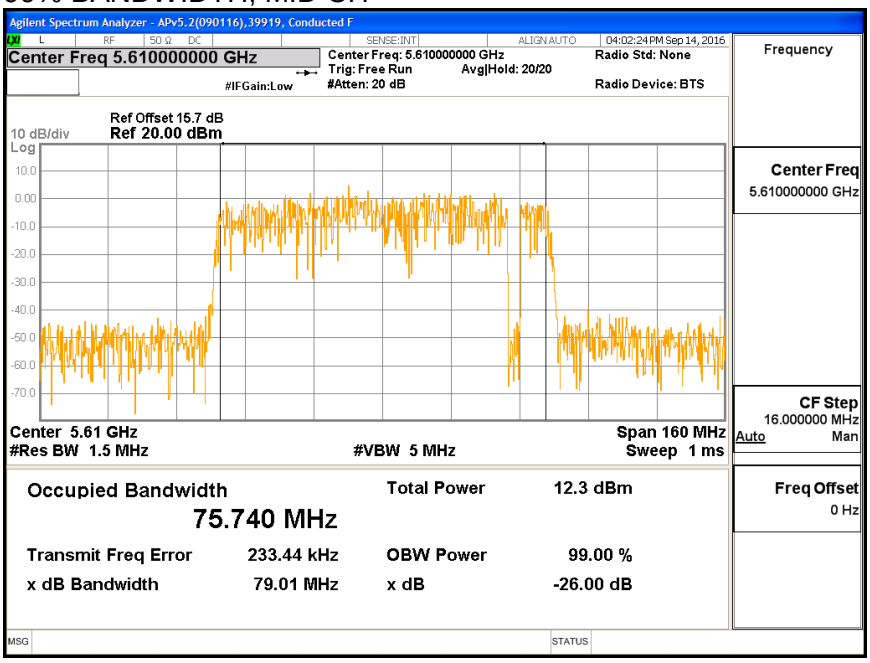


99% BANDWIDTH, CHAIN 2

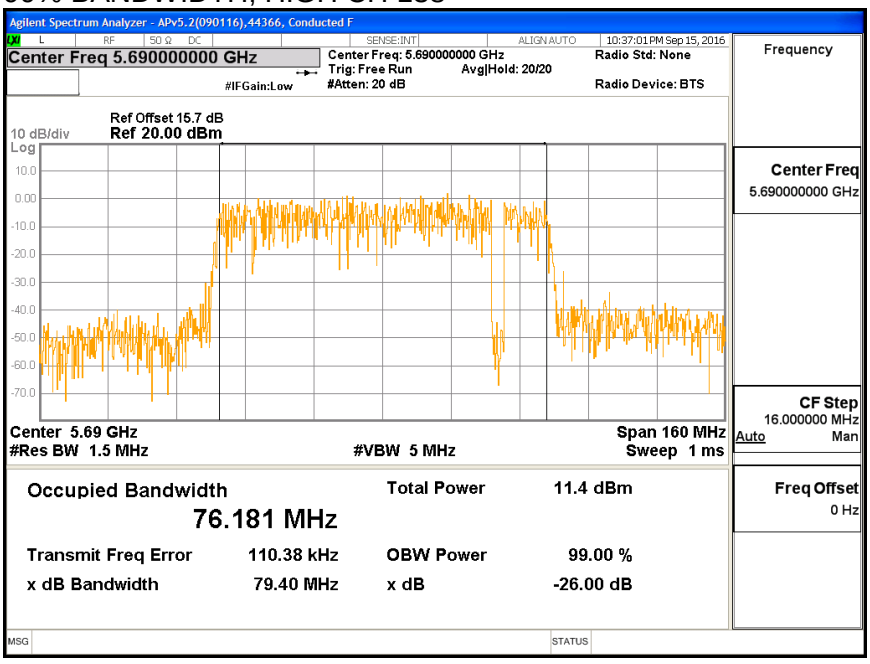
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.101.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	44366	Date:	9/14/16

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5530	8.88	8.79	11.85
Mid	5610	12.14	12.21	15.19
High	5690	12.15	12.17	15.17

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

Chain 0 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
4.90	5.20	8.06

RESULTS

ID:	44366	Date:	9/14/16

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	82.75	76.190	8.06	8.06	24.00	8.94
High	5610	82.09	75.740	8.06	8.06	24.00	8.94

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd PSD

Output Power Results

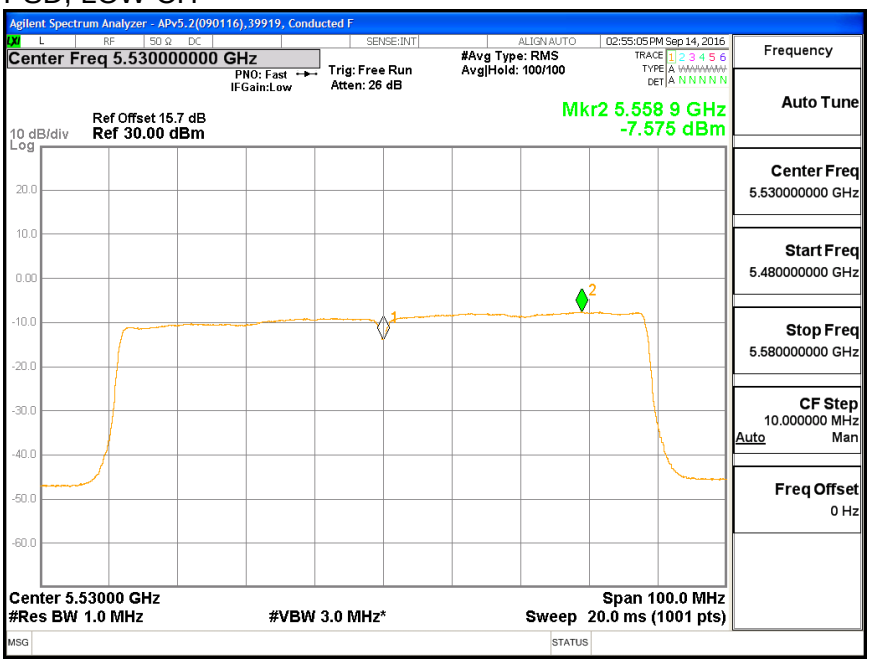
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	8.88	8.79	11.85	24.00	-12.15
High	5610	12.14	12.21	15.19	24.00	-8.81

PSD Results

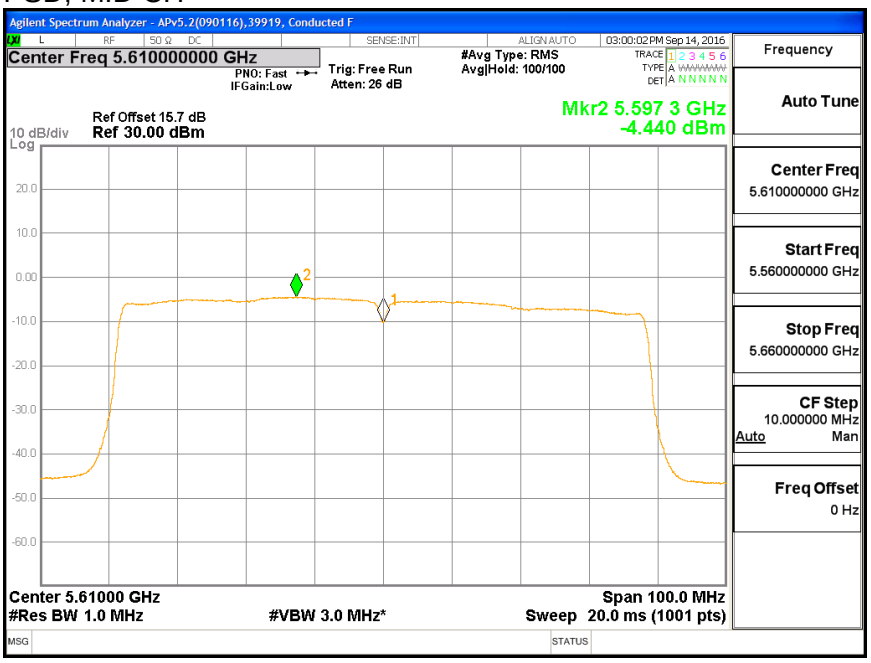
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-7.58	-8.17	-4.13	8.94	-13.07
High	5610	-4.44	-4.33	-0.65	8.94	-9.59

PSD, CHAIN 0

PSD, LOW CH

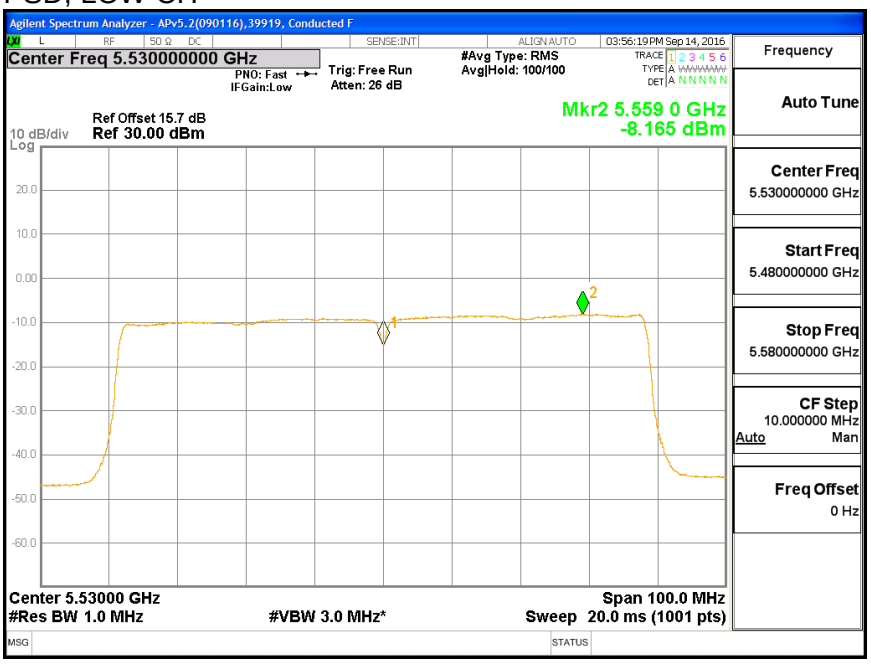


PSD, MID CH

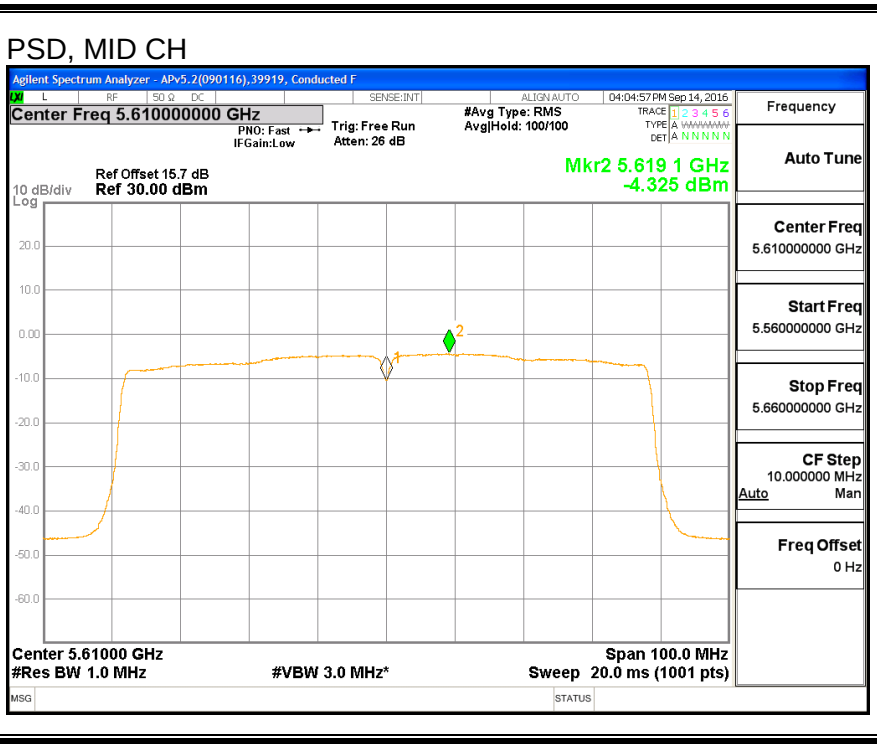


PSD, CHAIN 2

PSD, LOW CH



PSD, MID CH



8.101.5. 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	76.71	8.06	8.06	21.94	8.94

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

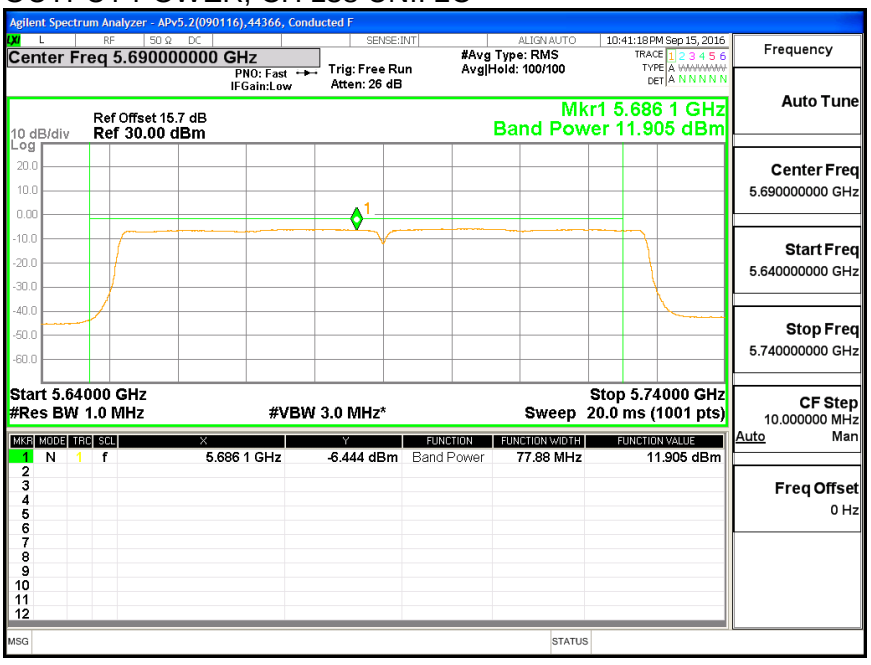
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.91	11.92	15.64	21.94	-6.30

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	-5.76	-5.75	-2.02	8.94	-10.96

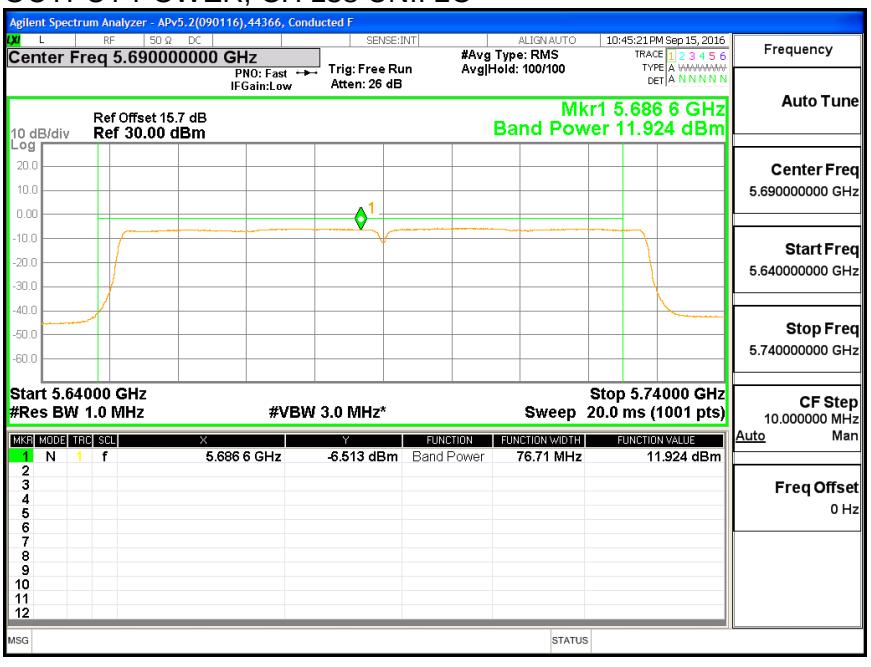
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C

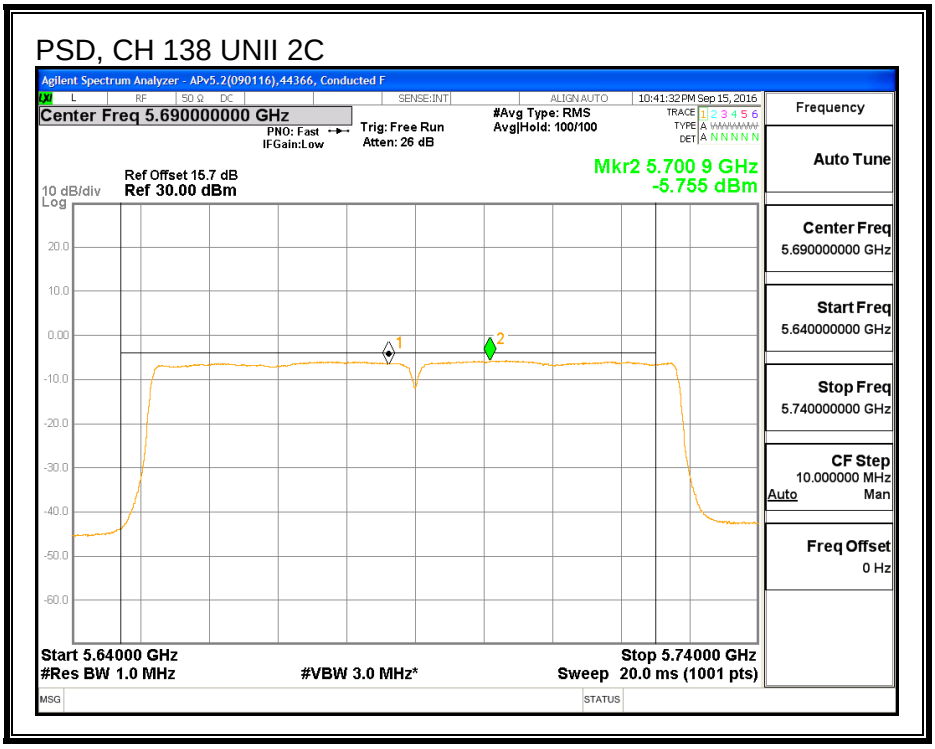


OUTPUT POWER, CHAIN 2

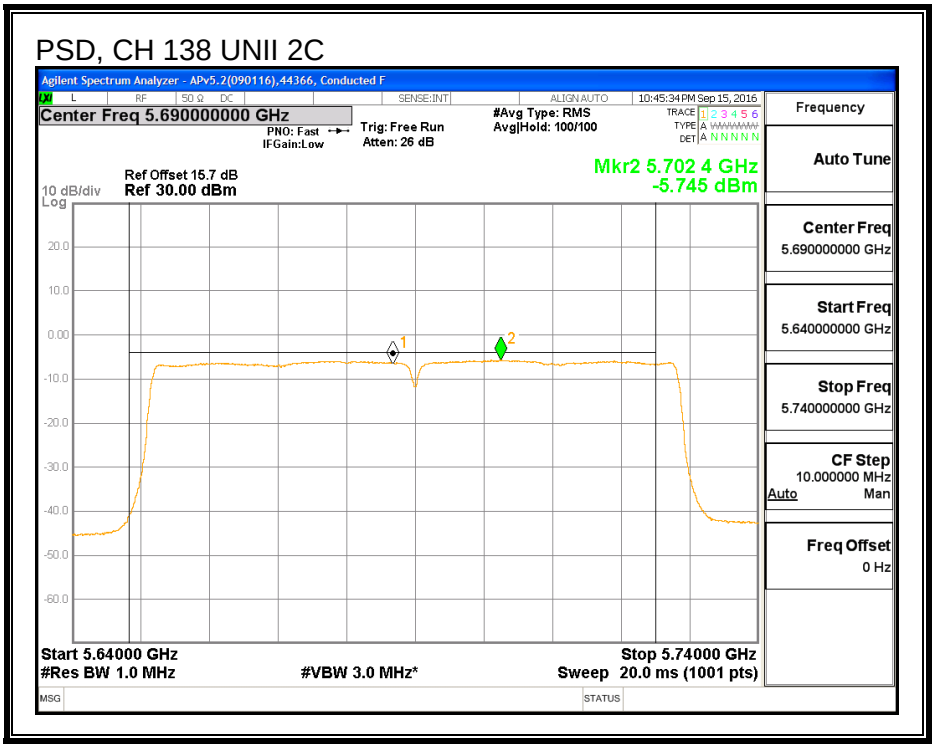
OUTPUT POWER, CH 138 UNII 2C



PSD, CHAIN 0



PSD, CHAIN 2



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	6.71	8.06	8.06	27.94	27.94

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

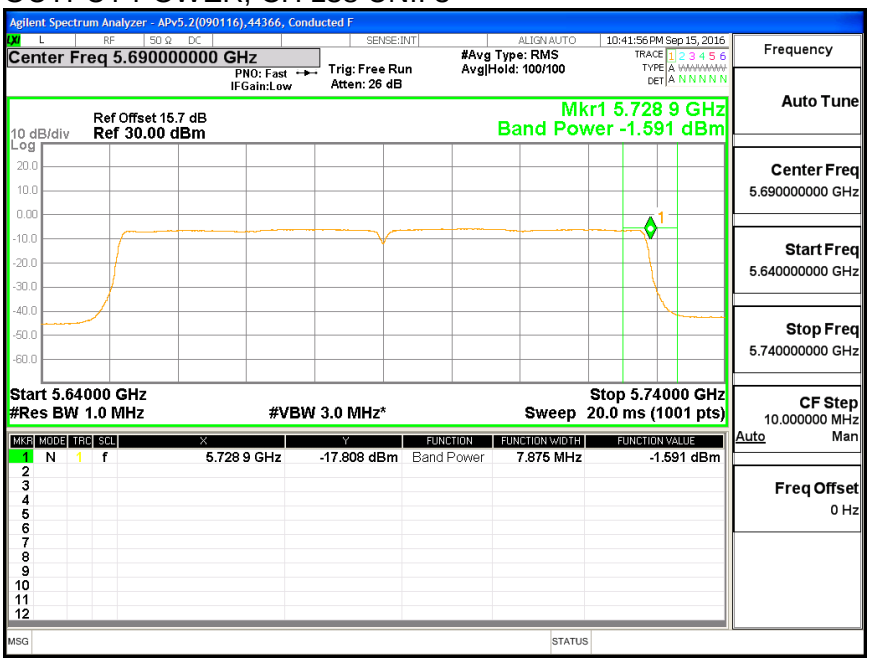
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-1.59	-1.59	2.14	27.94	-25.80

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	-9.10	-9.05	-5.34	27.94	-33.28

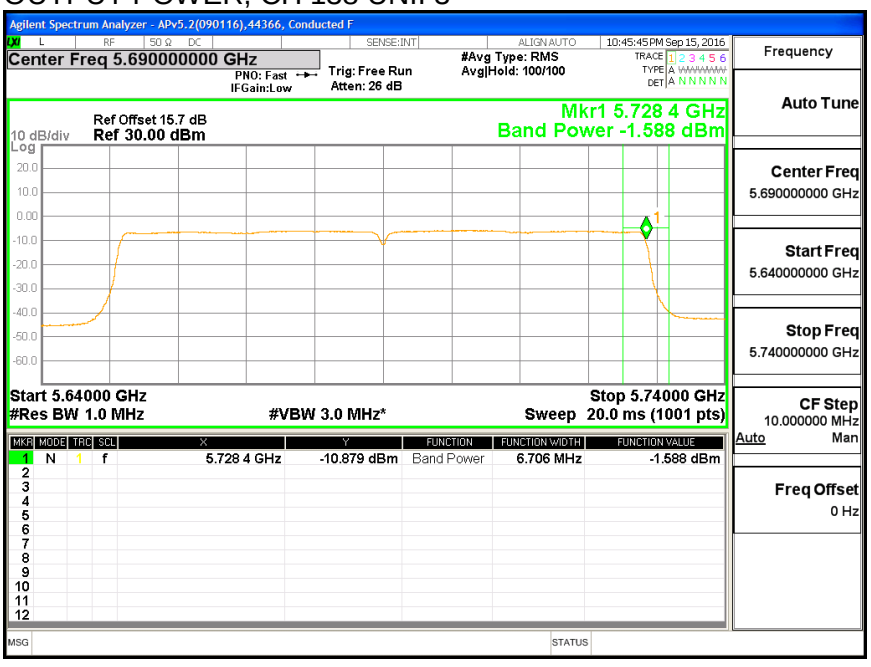
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



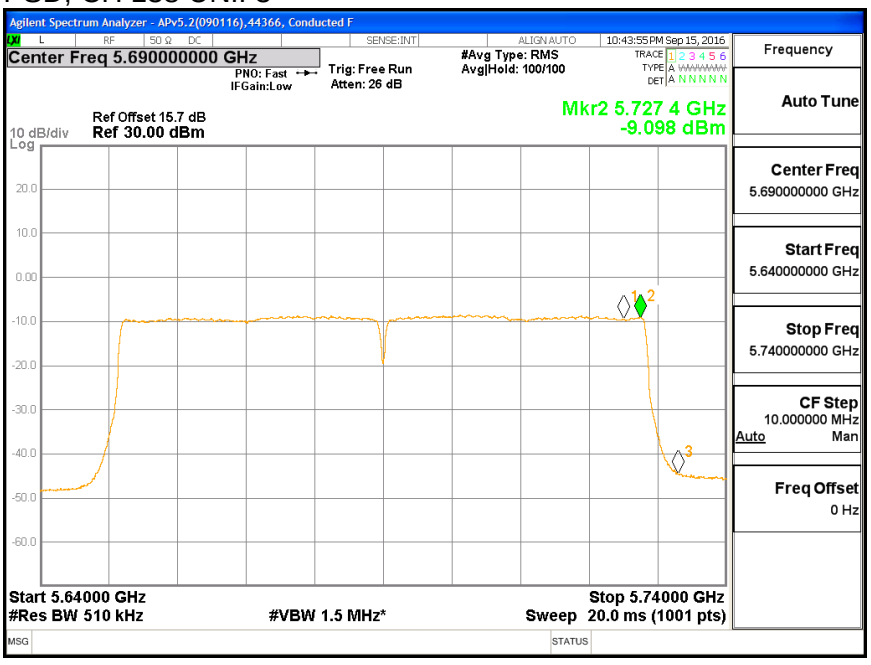
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



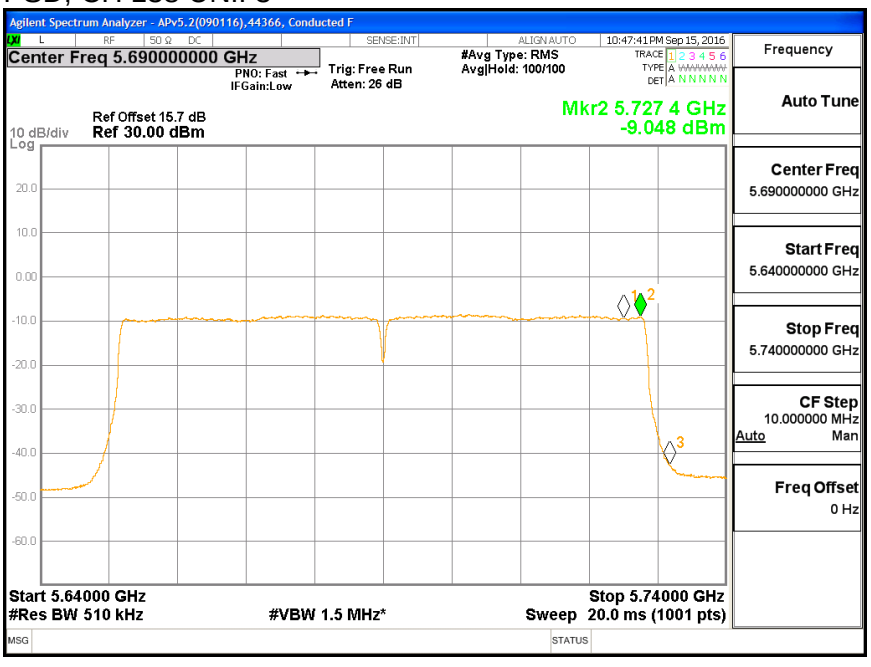
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.101.6. 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	73.050	8.06	8.06	21.94	8.94

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

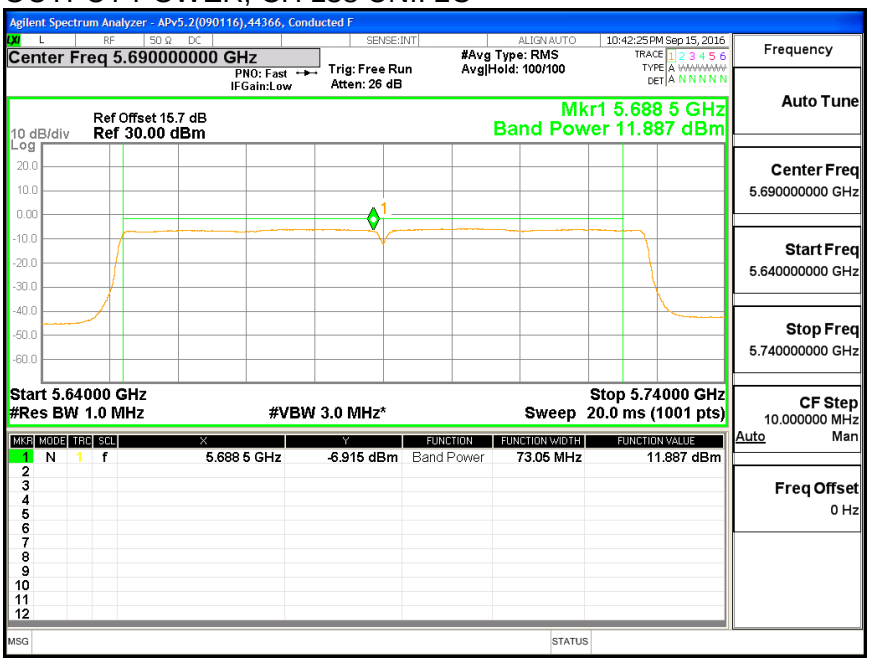
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.89	11.91	15.63	21.94	-6.31

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	-5.76	-5.75	-2.02	8.94	-10.96

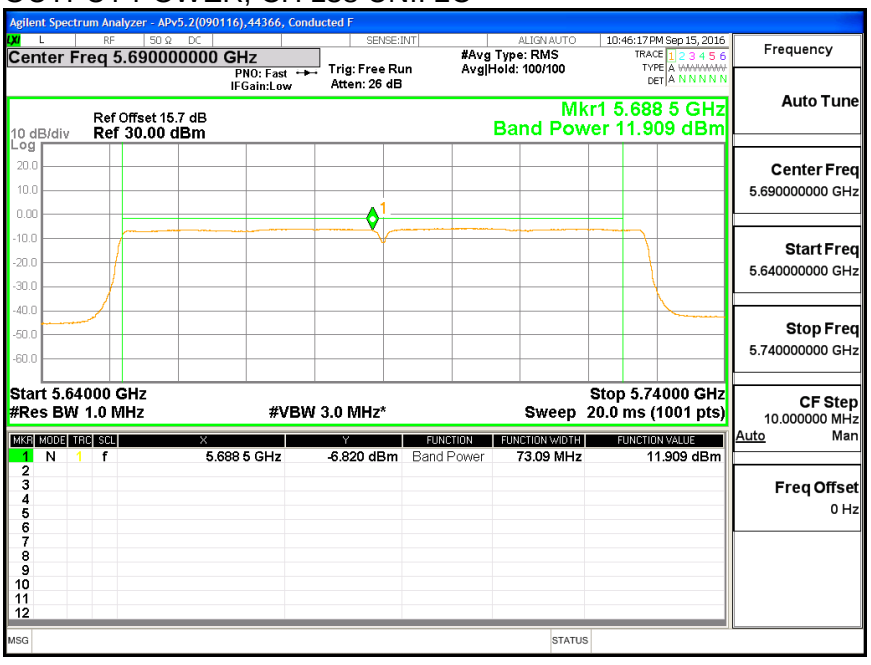
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 2C



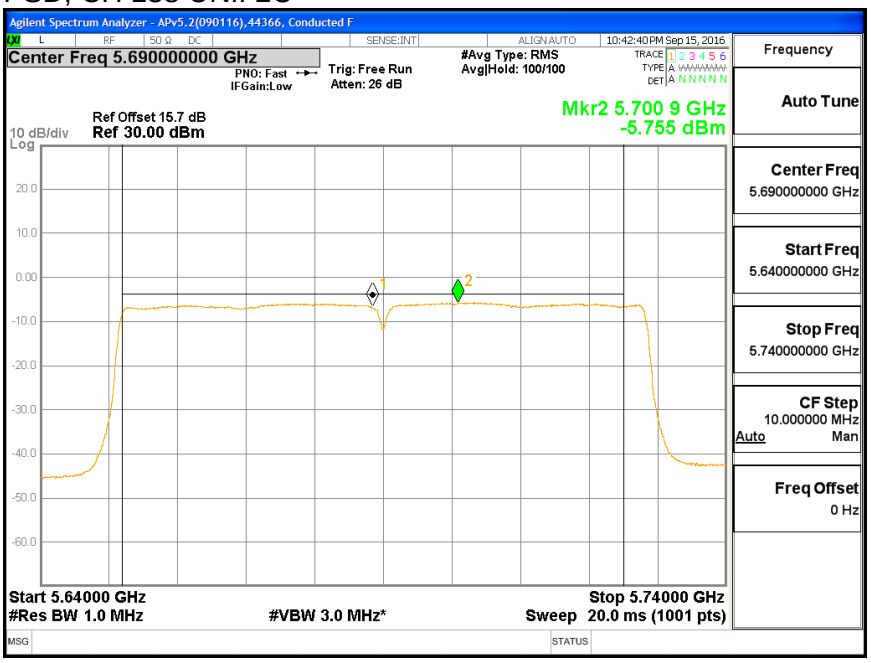
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



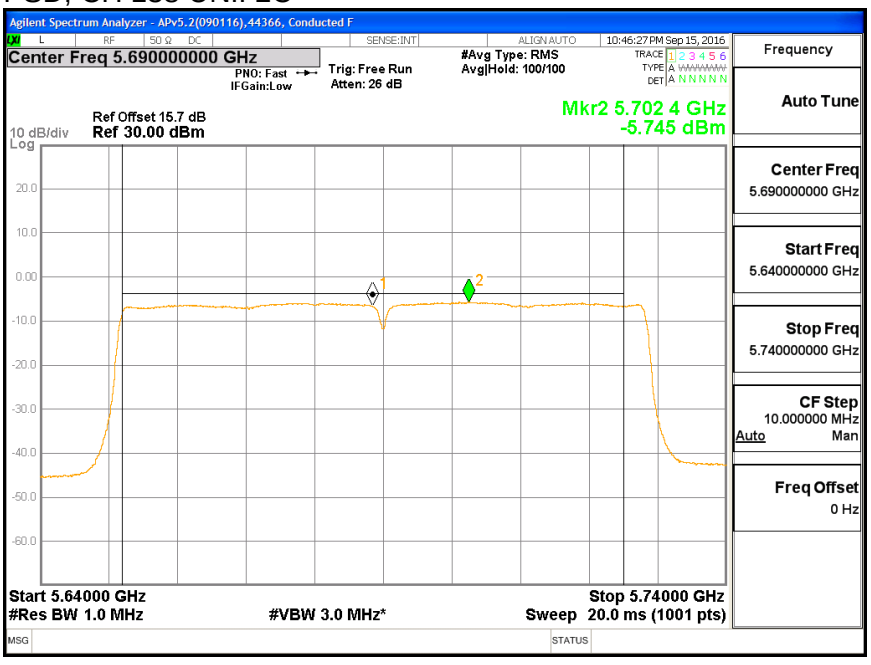
PSD, CHAIN 0

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	3.049	8.06	8.06	27.94	27.94

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

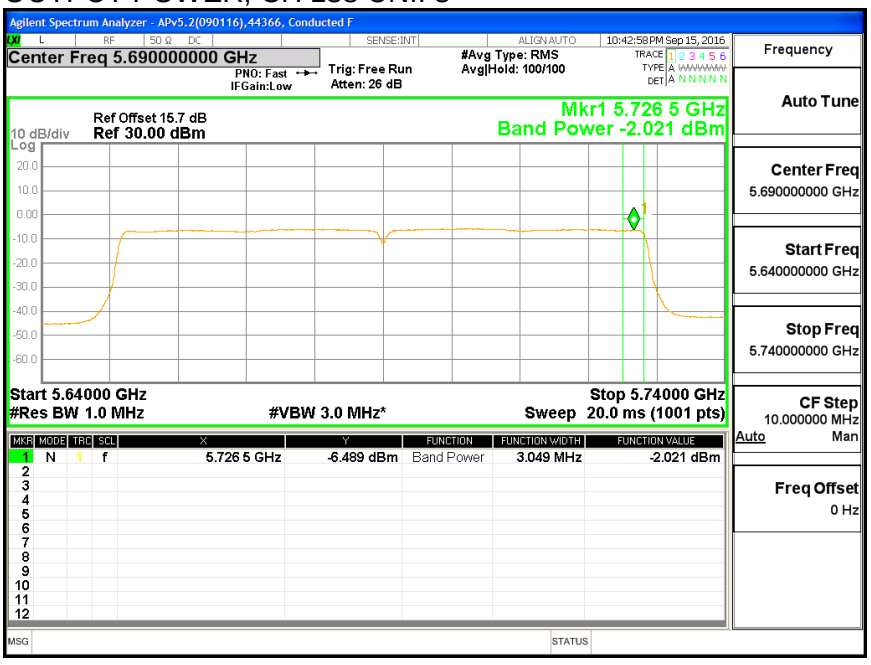
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.02	-1.98	1.73	27.94	-26.21

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	-9.10	-9.05	-5.34	27.94	-33.28

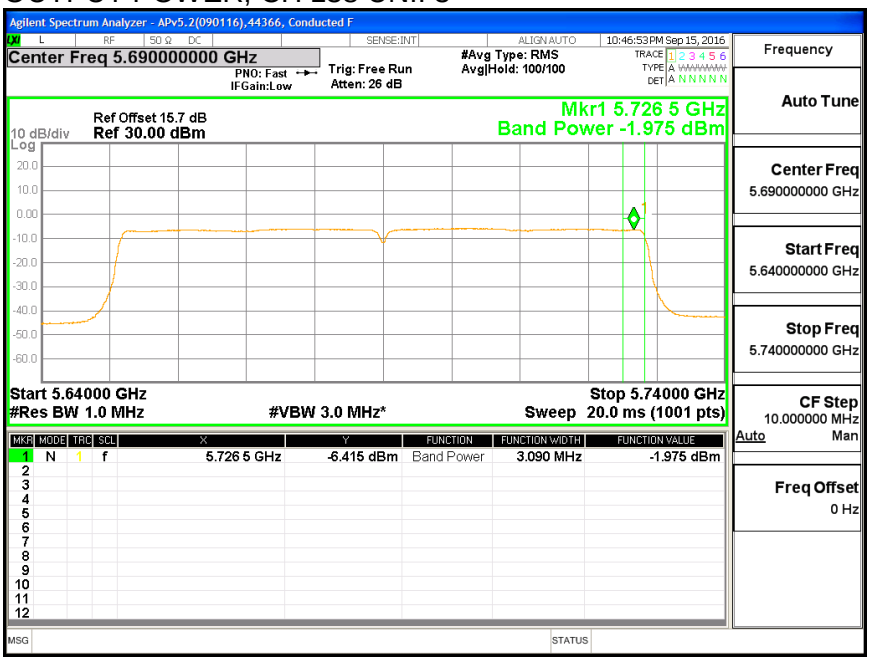
OUTPUT POWER, CHAIN 0

OUTPUT POWER, CH 138 UNII 3



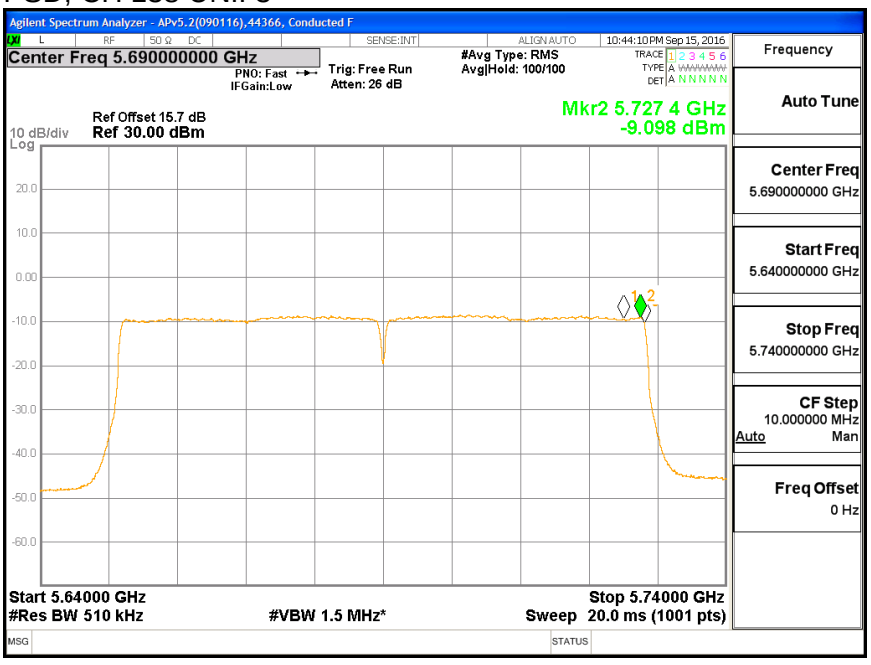
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



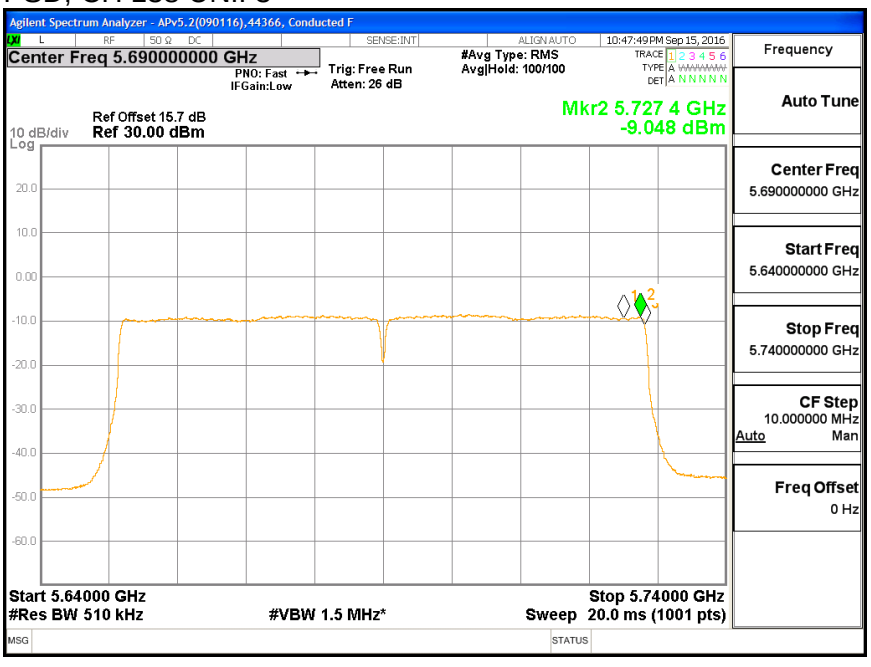
PSD, CHAIN 0

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.101.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

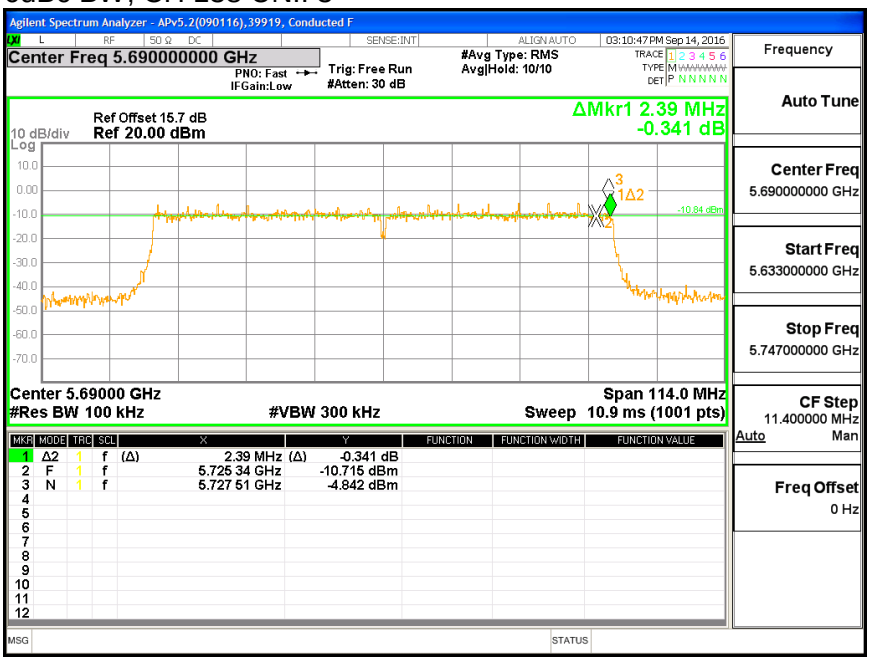
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 2 (MHz)
High	5690	2.39	3.22

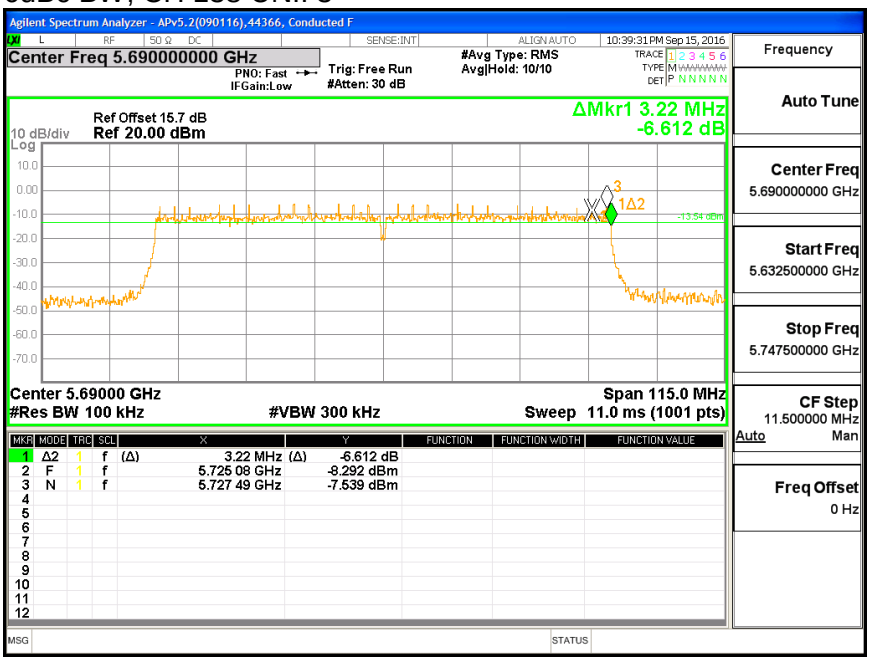
CHAIN 0

6dBc BW, CH 138 UNII 3



CHAIN 2

6dBc BW, CH 138 UNII 3



8.102. 802.11ac VHT80 2Tx (CHAIN 1 + CHAIN 2) BEAM FORMING MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.102.1. 26 dB BANDWIDTH

LIMITS

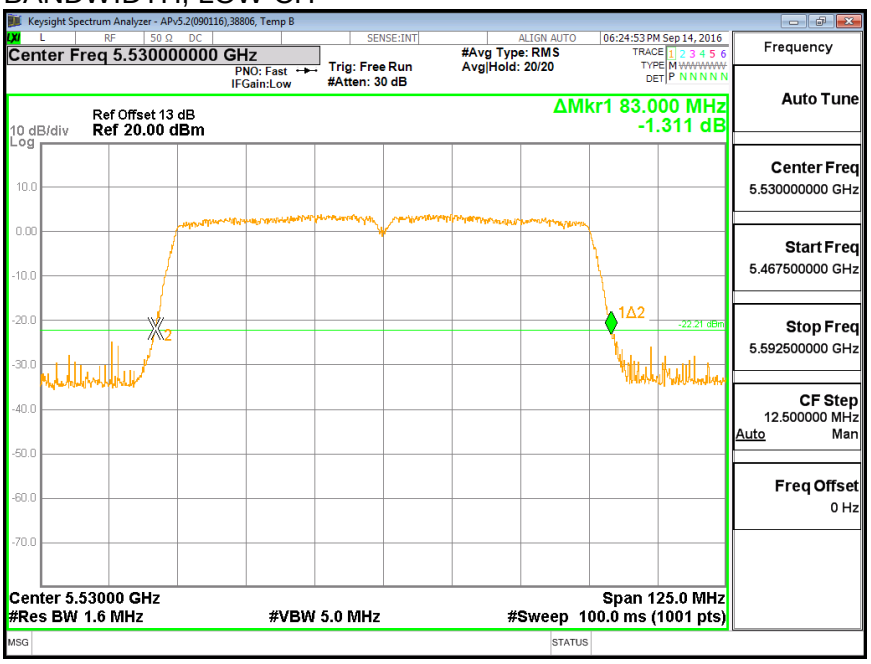
None; for reporting purposes only.

RESULTS

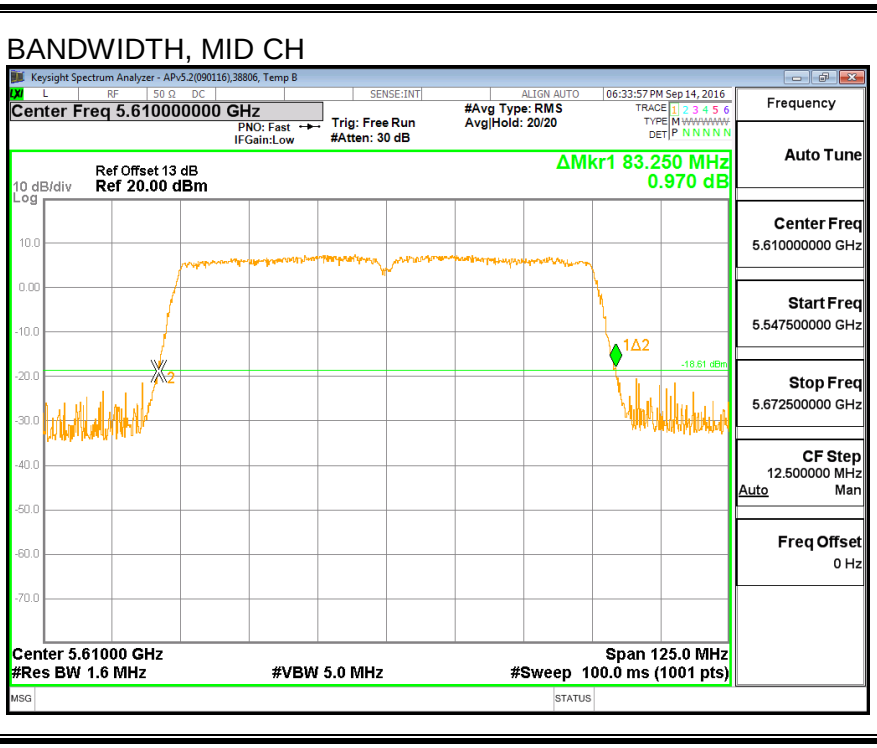
Channel	Frequency (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	83.000	83.125
Mid	5610	83.250	83.000
High	5690	83.412	82.875

26 dB BANDWIDTH, CHAIN 1

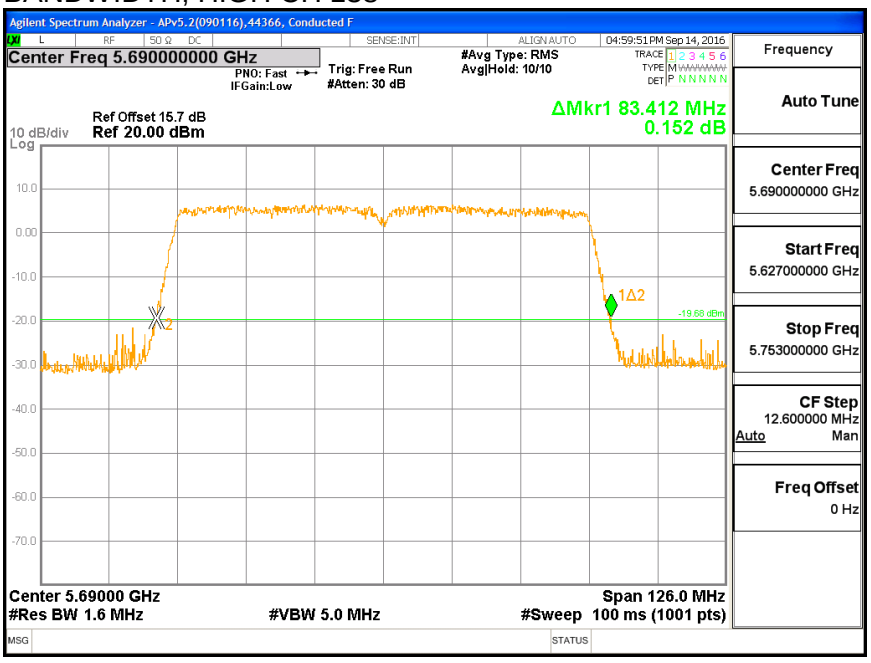
BANDWIDTH, LOW CH



BANDWIDTH, MID CH

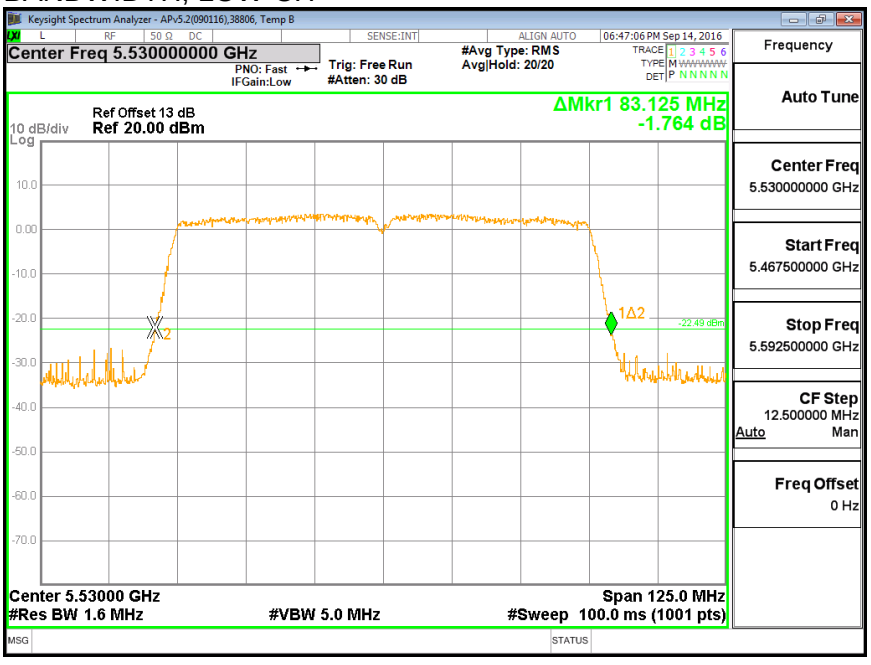


BANDWIDTH, HIGH CH 138

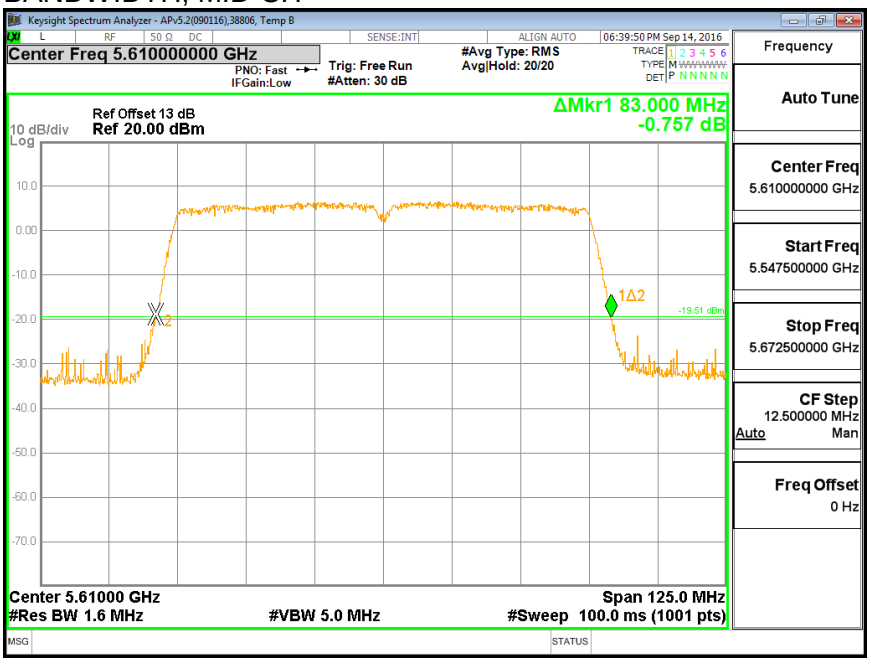


26 dB BANDWIDTH, CHAIN 2

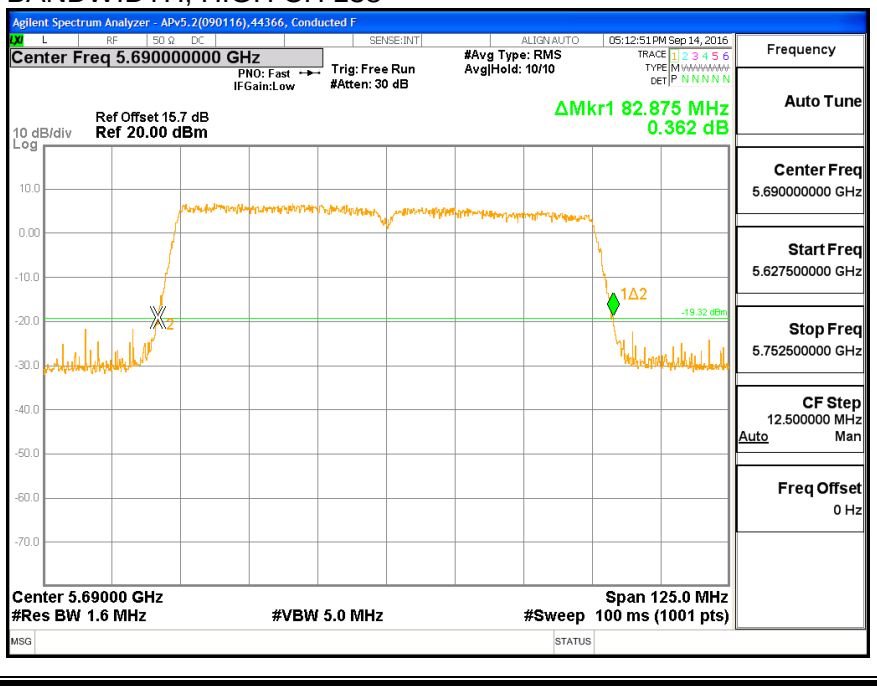
BANDWIDTH, LOW CH



BANDWIDTH, MID CH



BANDWIDTH, HIGH CH 138



8.102.2. **99% BANDWIDTH**

LIMITS

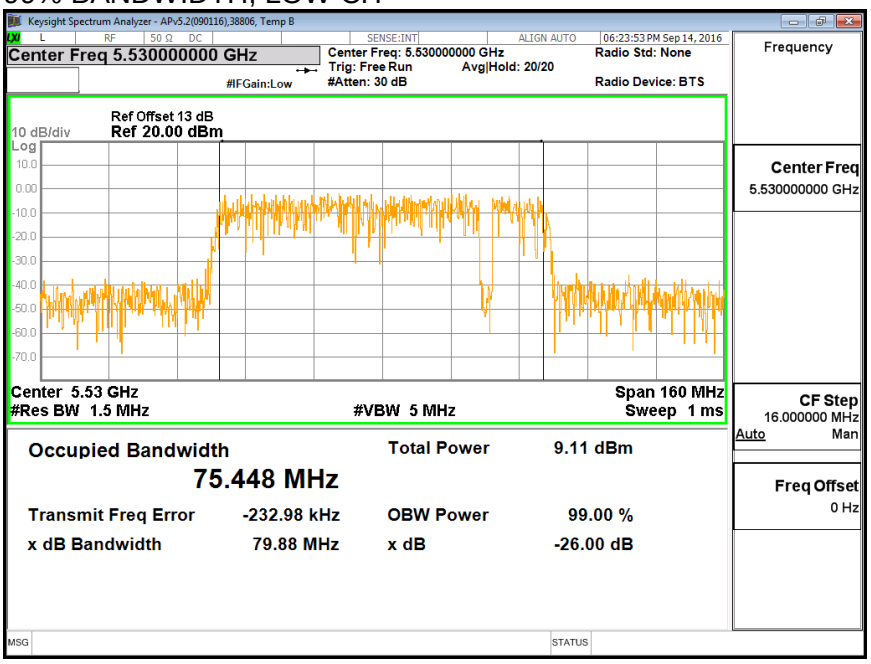
None; for reporting purposes only.

RESULTS

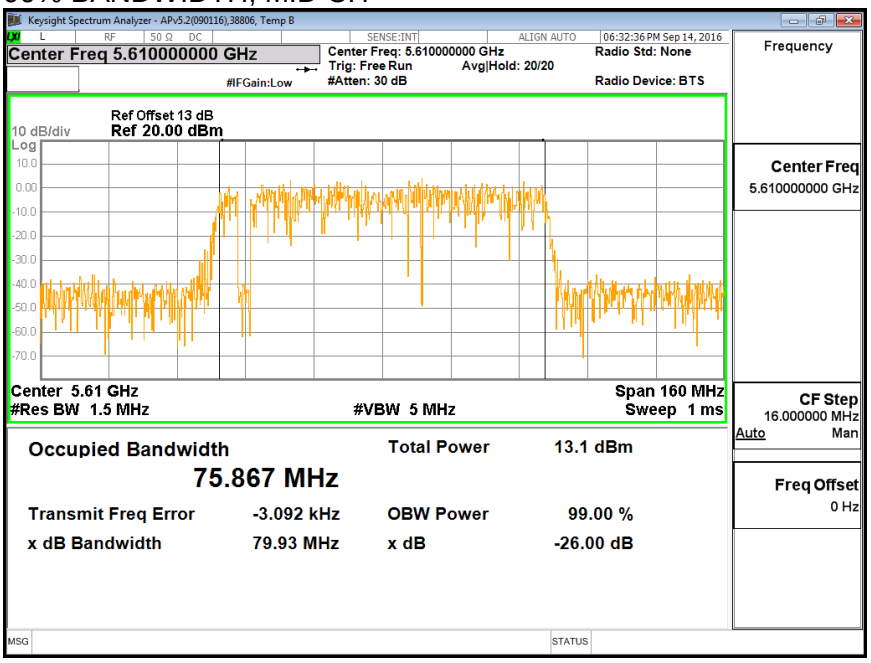
Channel	Frequency (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	5530	75.448	75.989
Mid	5610	75.867	75.826
High	5690	75.828	75.962

99% BANDWIDTH, CHAIN 1

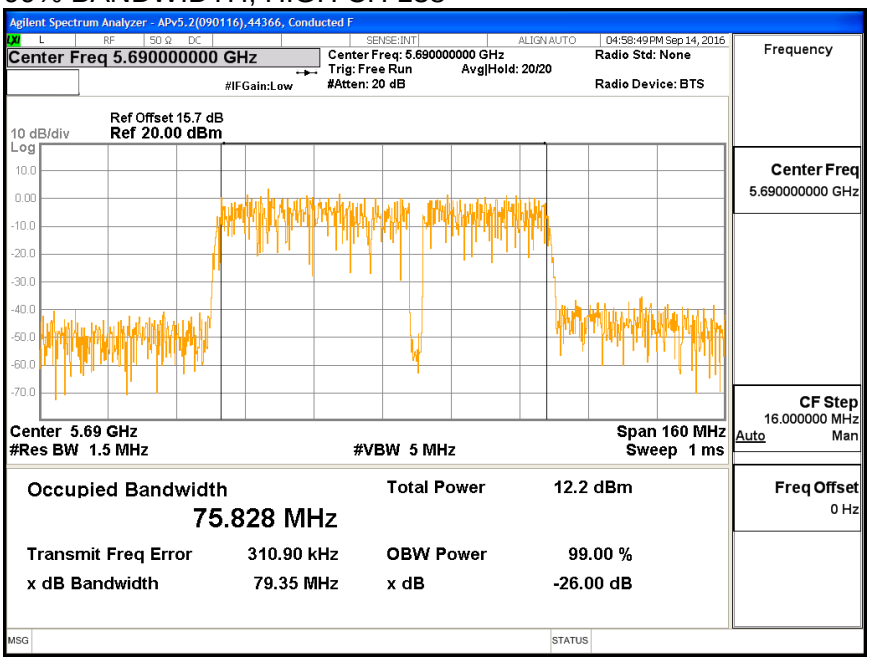
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH

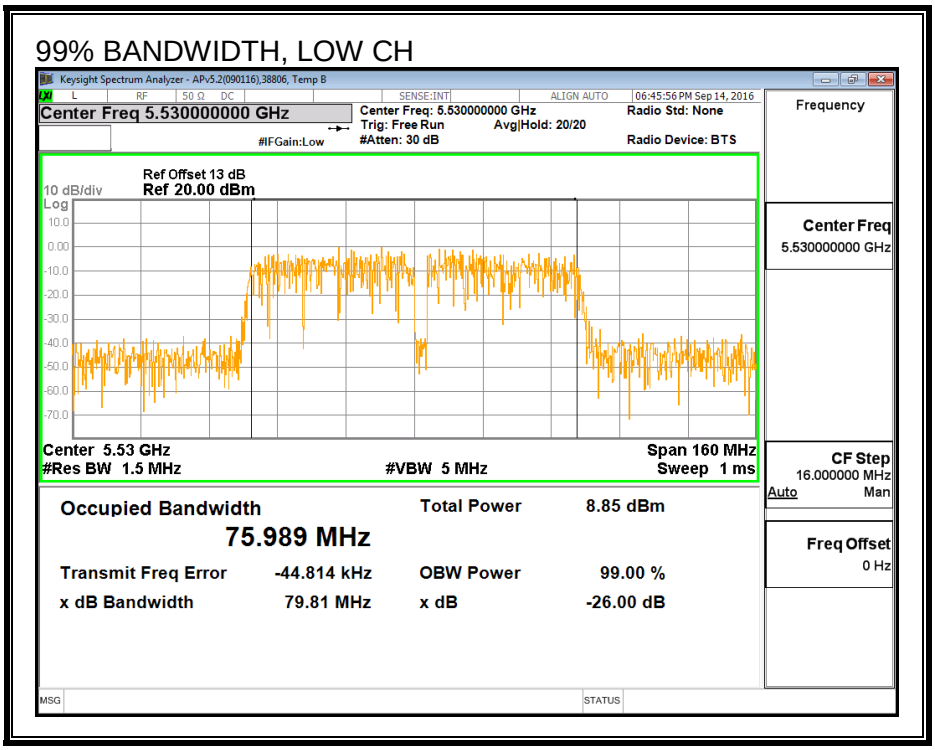


99% BANDWIDTH, HIGH CH 138

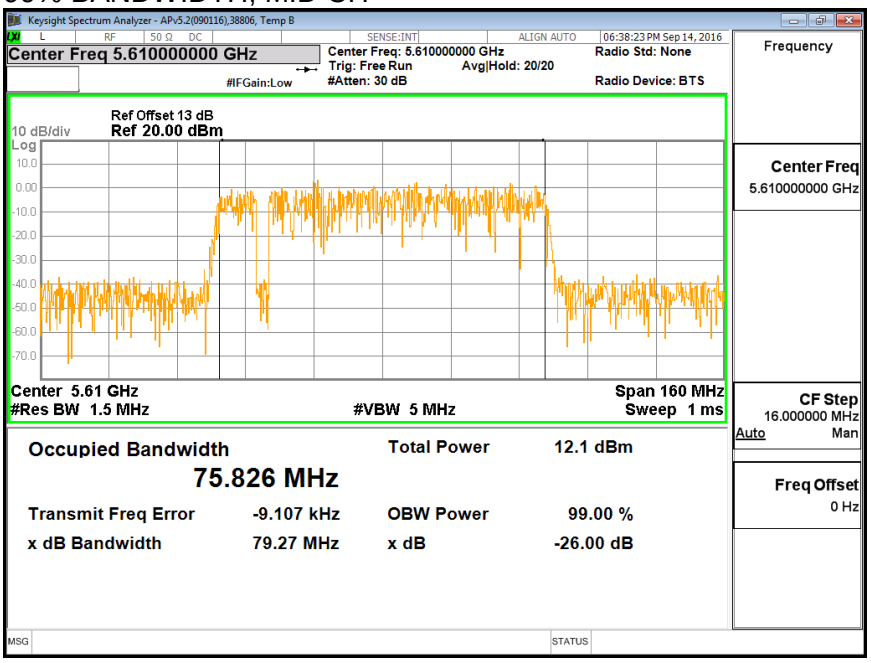


99% BANDWIDTH, CHAIN 2

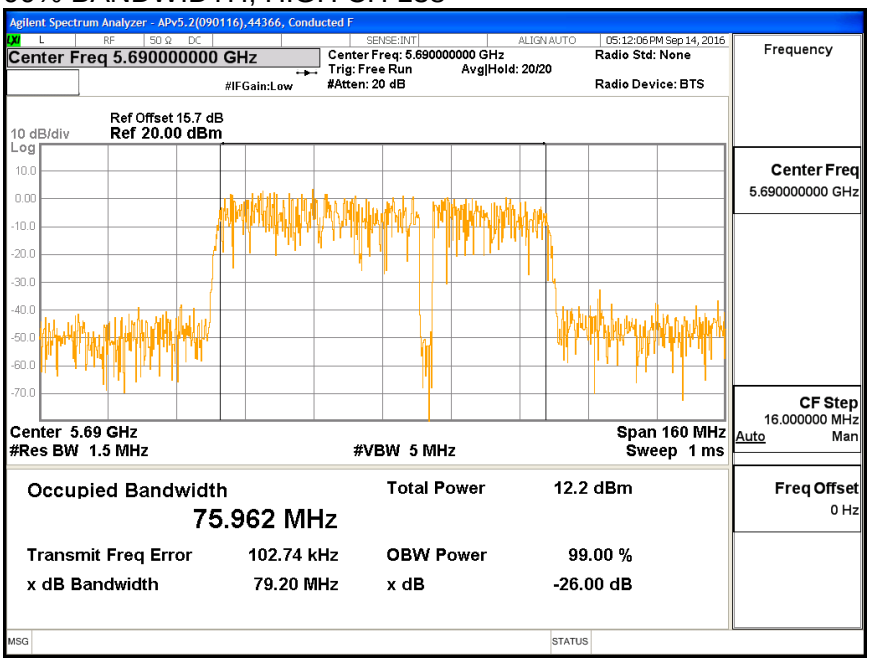
99% BANDWIDTH, LOW CH



99% BANDWIDTH, MID CH



99% BANDWIDTH, HIGH CH 138



8.102.3. **AVERAGE POWER**

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

RESULTS

ID:	44366	**Date:**	9/14/16

Channel	Frequency (MHz)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low	5530	8.74	8.76	11.76
Mid	5610	12.14	12.21	15.19
High	5690	12.19	12.20	15.21

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

Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
7.40	5.20	9.38

RESULTS

ID:	44366	Date:	9/14/16

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	75.448	9.38	9.38	24.00	7.62
High	5610	83.00	75.826	9.38	9.38	24.00	7.62

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd PSD

Output Power Results

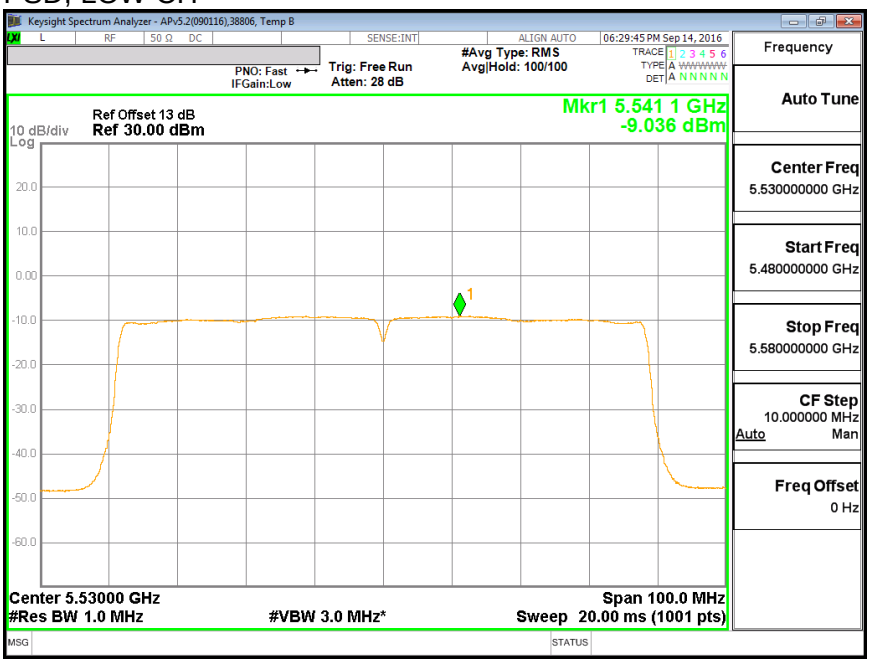
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	8.74	8.76	11.76	24.00	-12.24
High	5610	12.14	12.21	15.19	24.00	-8.81

PSD Results

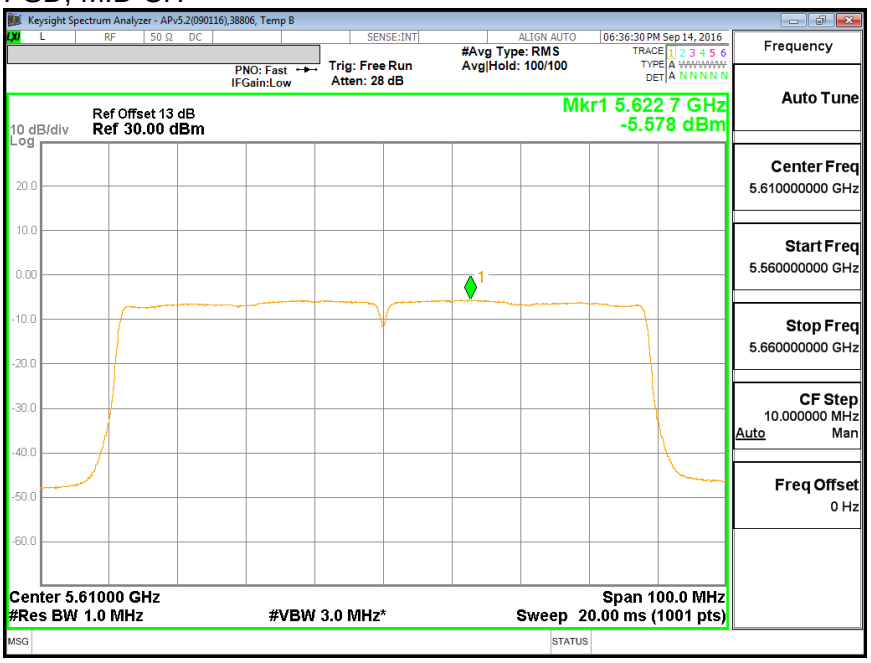
Channel	Frequency (MHz)	Chain 1 Meas PSD (dBm)	Chain 2 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-9.04	-8.93	-5.25	7.62	-12.87
High	5610	-5.58	-5.58	-1.85	7.62	-9.47

PSD, CHAIN 1

PSD, LOW CH

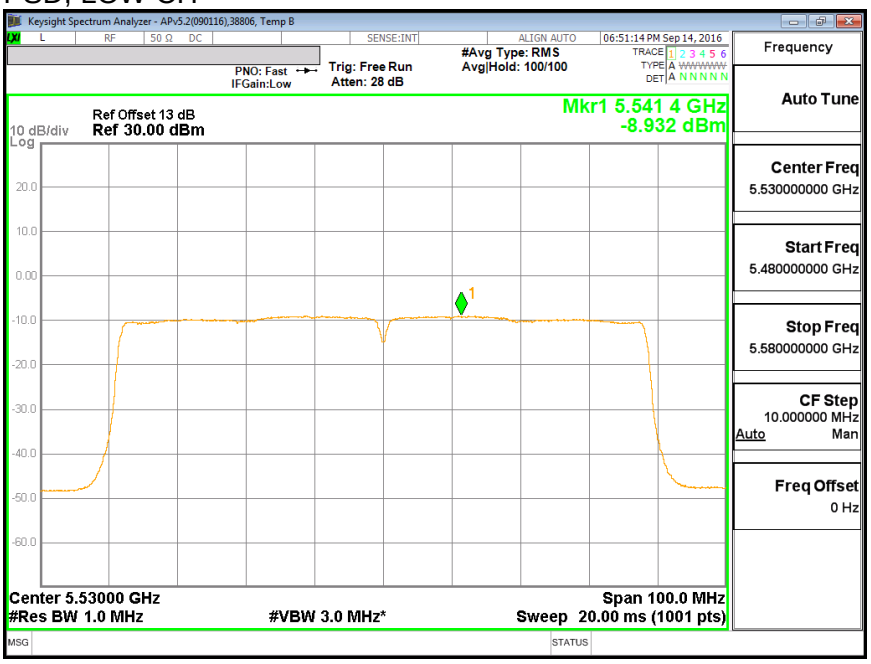


PSD, MID CH

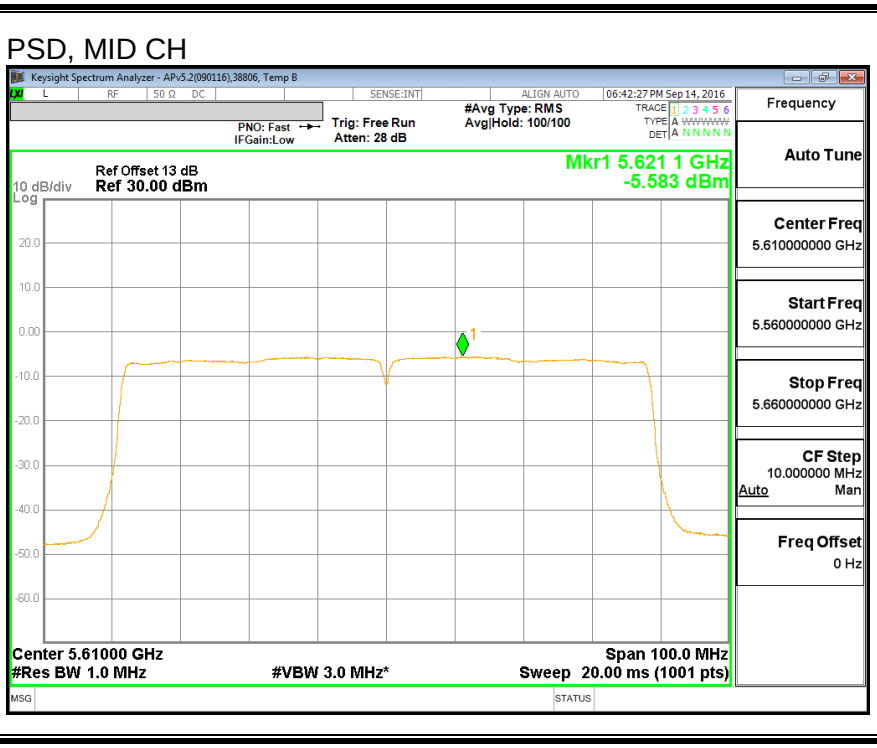


PSD, CHAIN 2

PSD, LOW CH



PSD, MID CH



8.102.5. 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	76.44	9.38	9.38	20.62	7.62

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

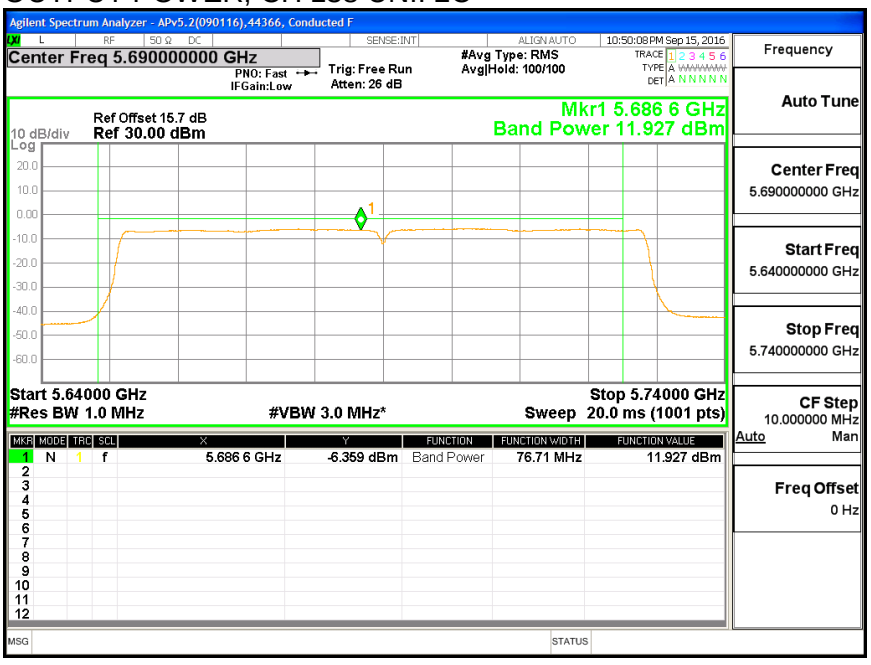
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.93	11.94	15.66	20.62	-4.96

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	-5.74	-5.69	-1.99	7.62	-9.61

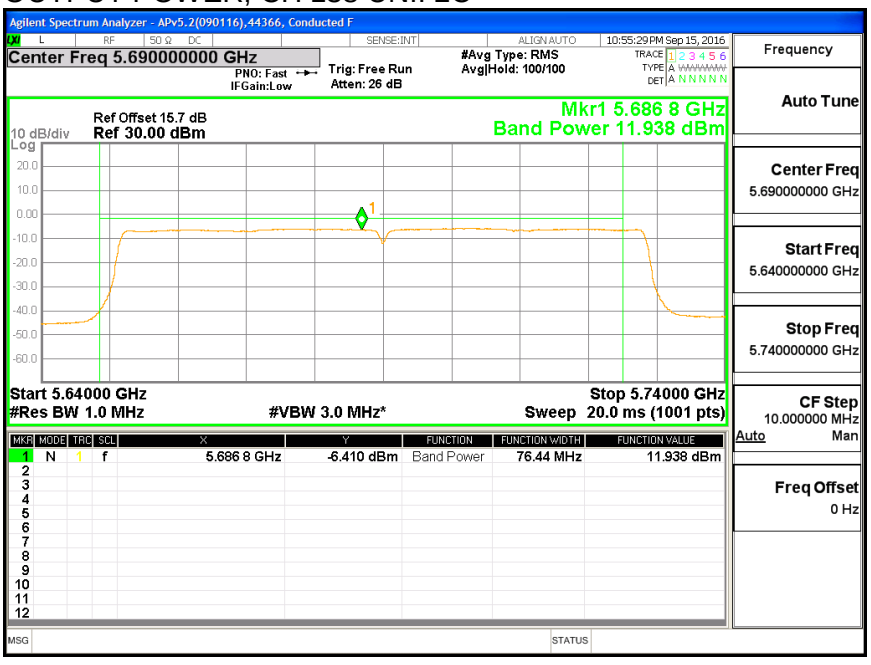
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



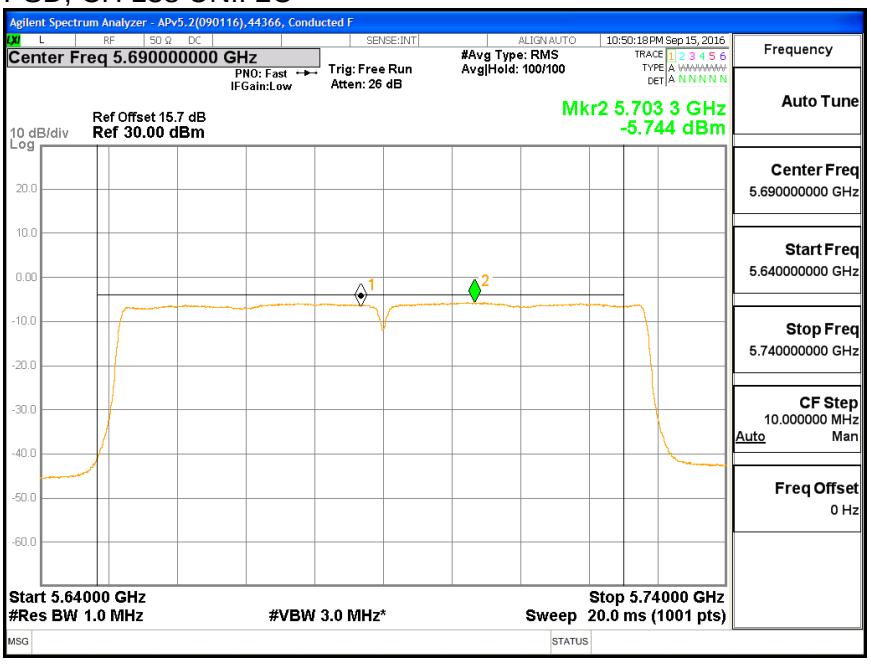
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



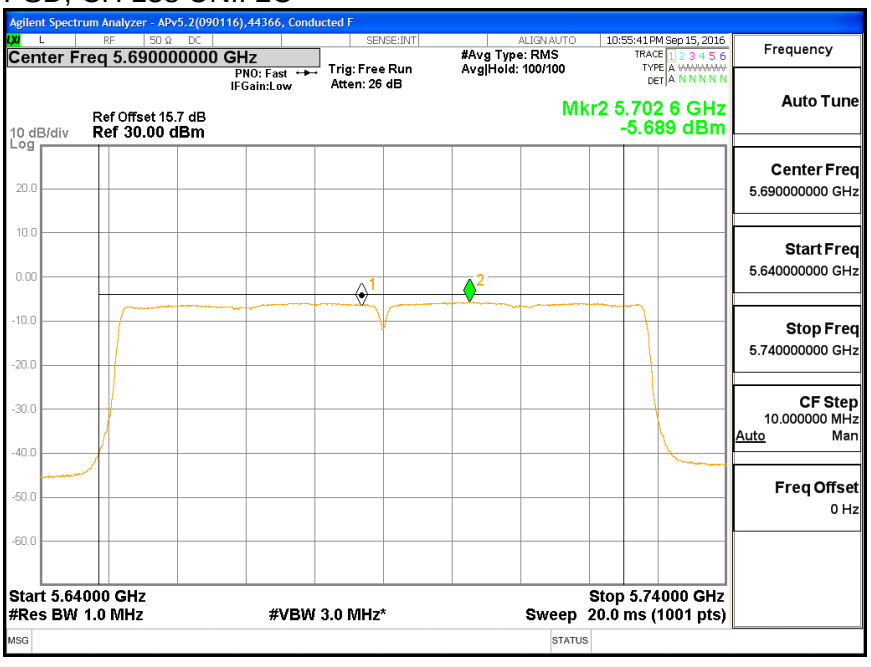
PSD, CHAIN 1

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	6.44	9.38	9.38	26.62	26.62

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

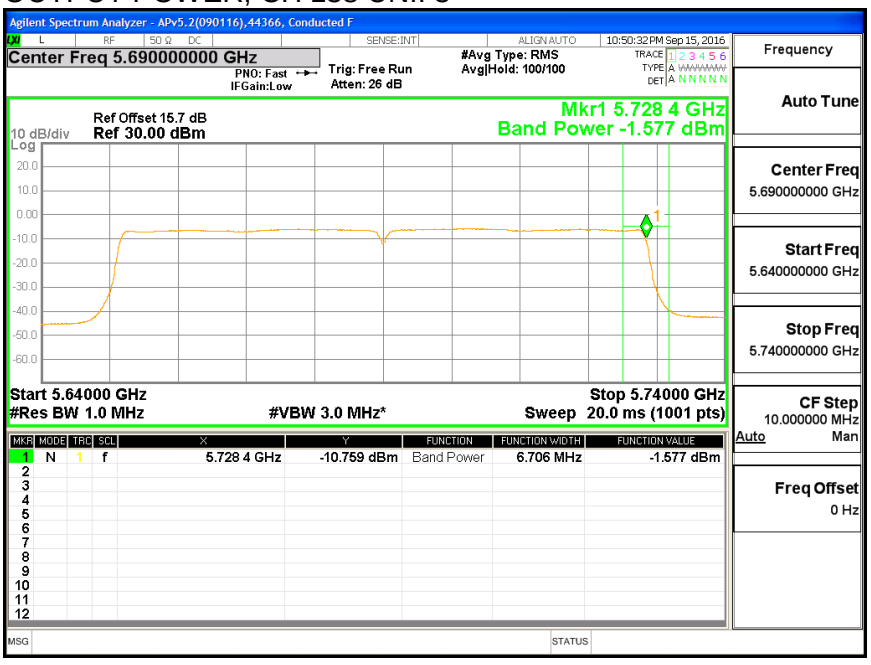
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-1.58	-1.56	2.16	26.62	-24.46

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	-9.08	-8.98	-5.30	26.62	-31.92

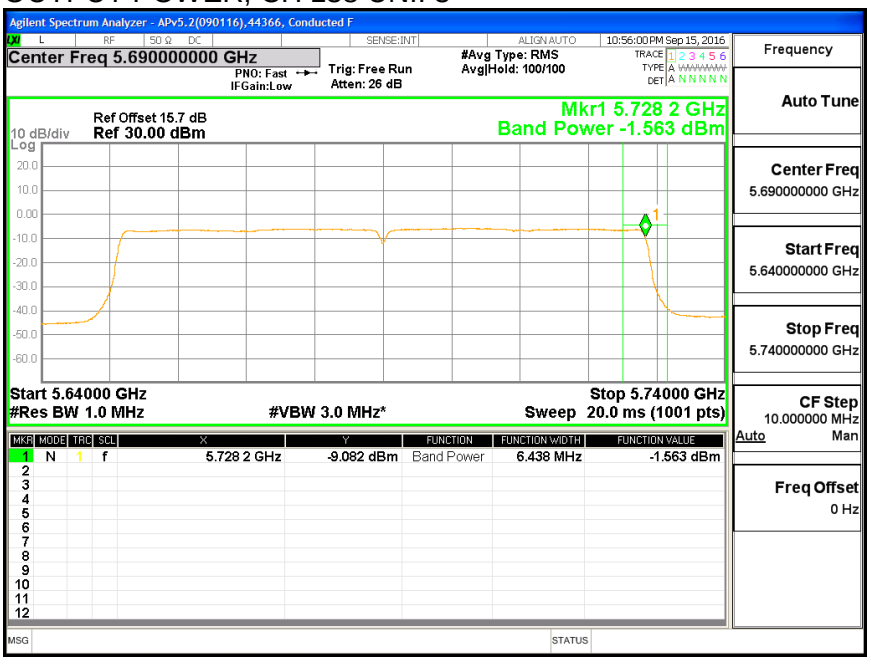
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



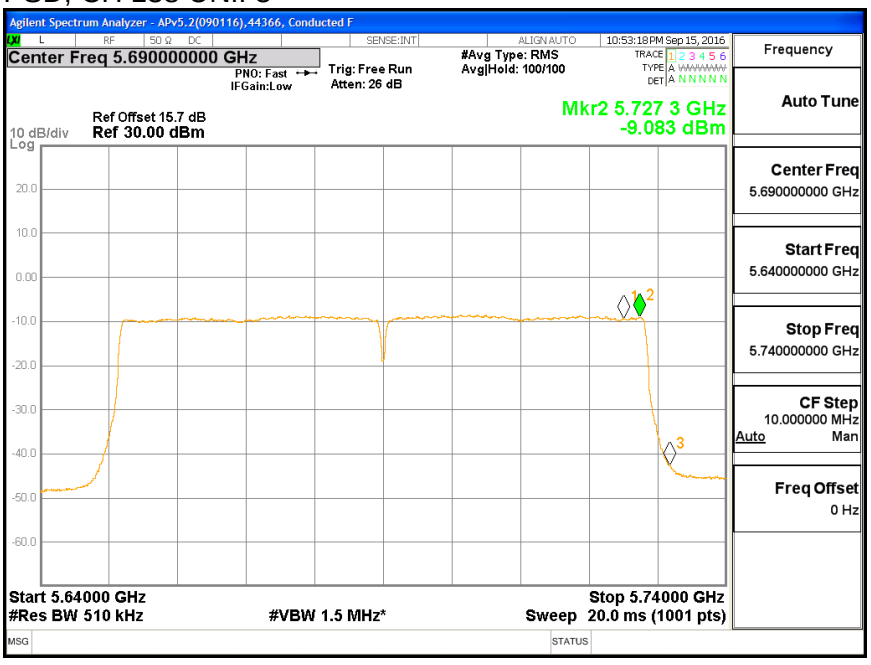
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



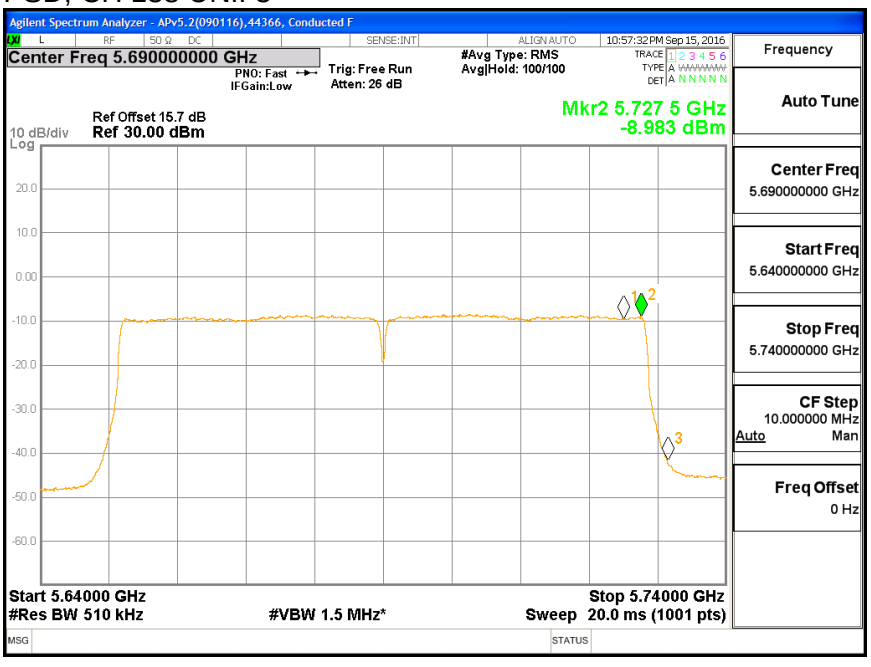
PSD, CHAIN 1

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.102.6. 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	72.910	9.38	9.38	20.62	7.62

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

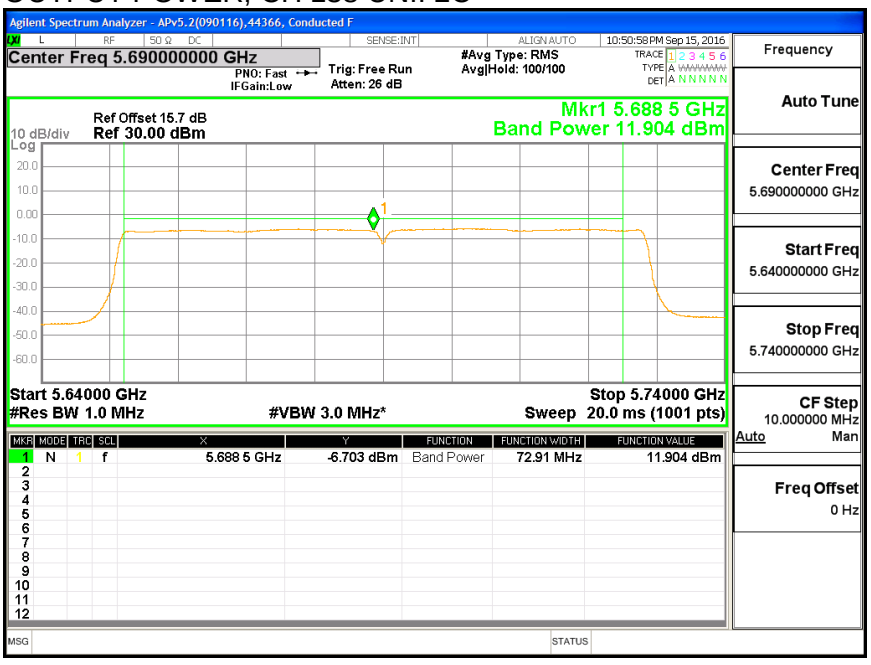
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	11.90	11.92	15.64	20.62	-4.98

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	-5.74	-5.69	-1.99	7.62	-9.61

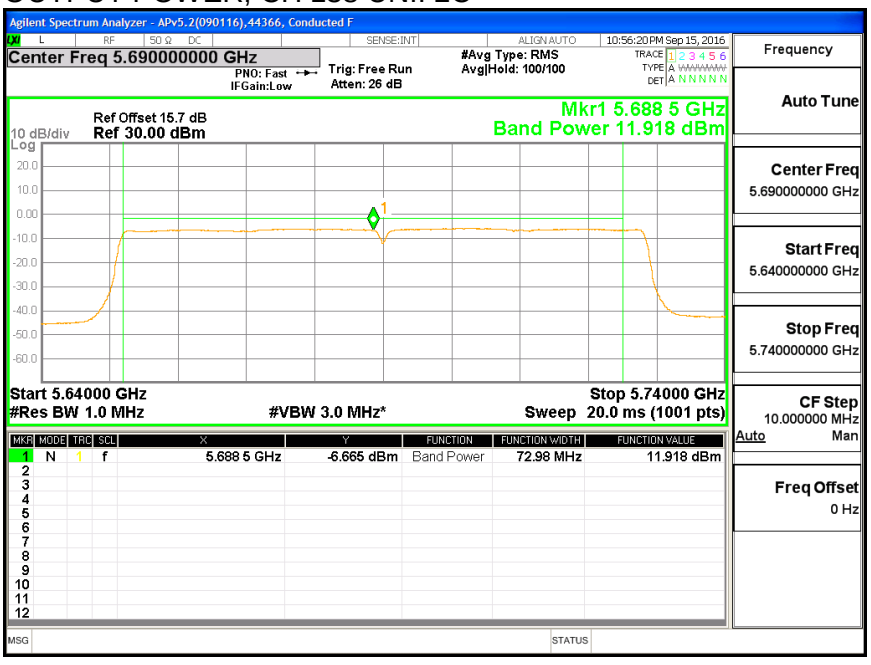
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 2C



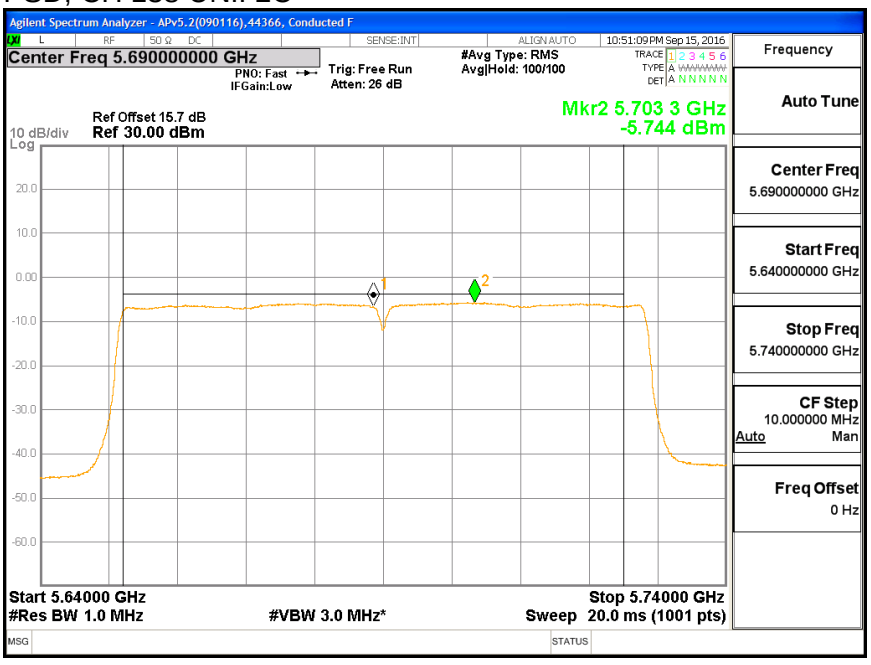
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 2C



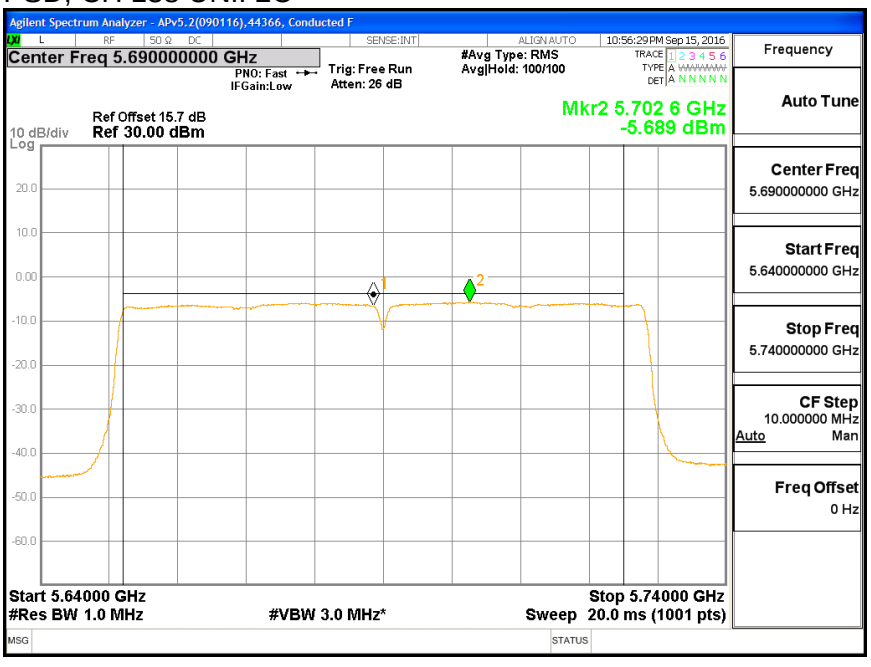
PSD, CHAIN 1

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	2.899	9.38	9.38	26.62	26.62

Duty Cycle CF (dB)	0.72	Included in Calculations of Corr'd Power & PSD

Output Power Results

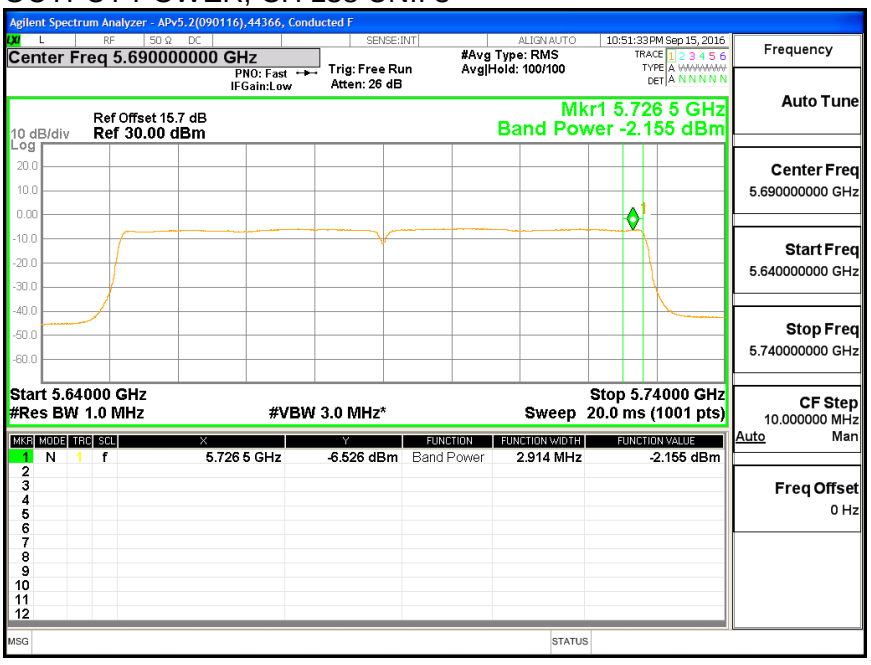
Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
138	5690	-2.16	-2.05	1.63	26.62	-24.99

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	-9.08	-8.98	-5.30	26.62	-31.92

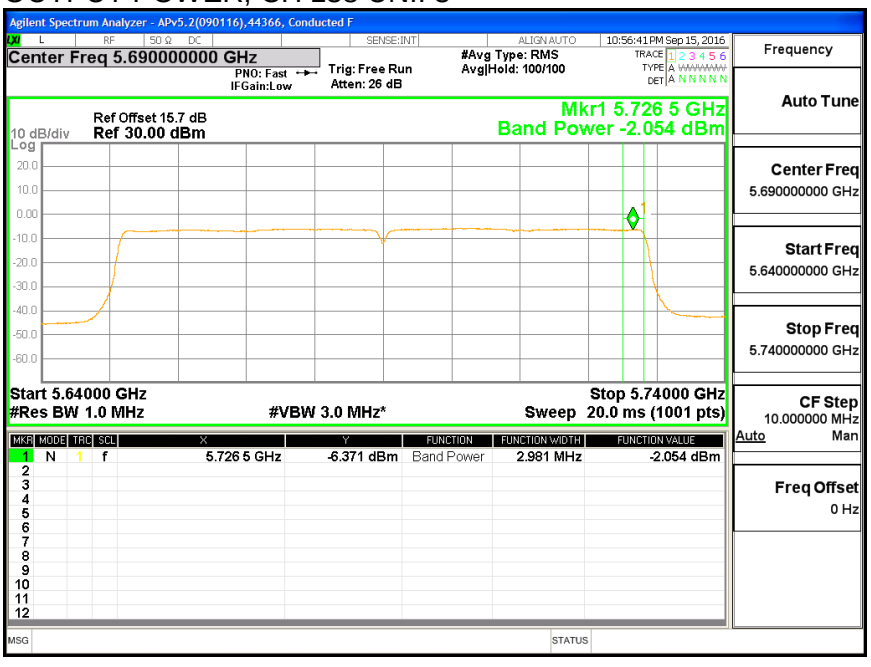
OUTPUT POWER, CHAIN 1

OUTPUT POWER, CH 138 UNII 3



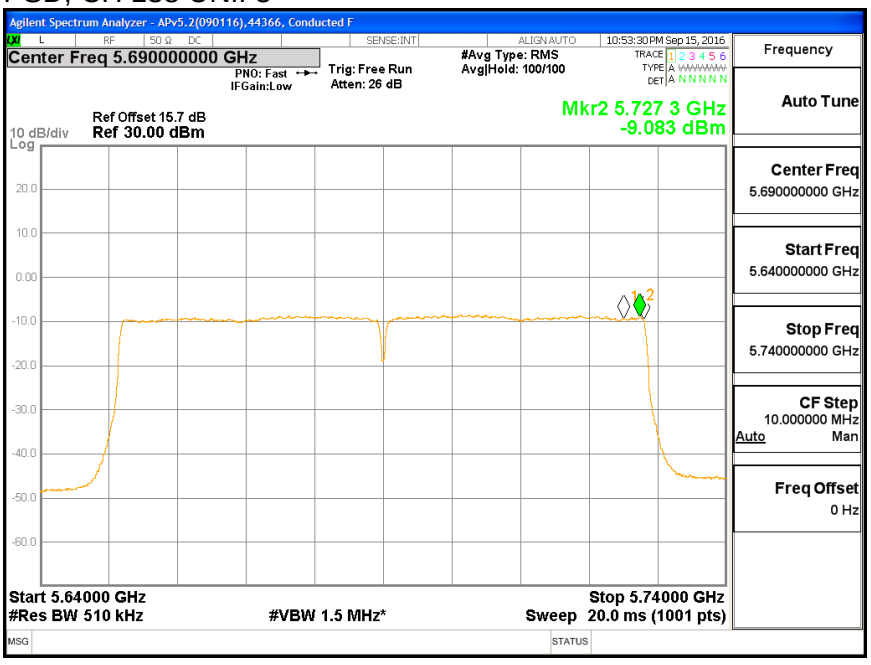
OUTPUT POWER, CHAIN 2

OUTPUT POWER, CH 138 UNII 3



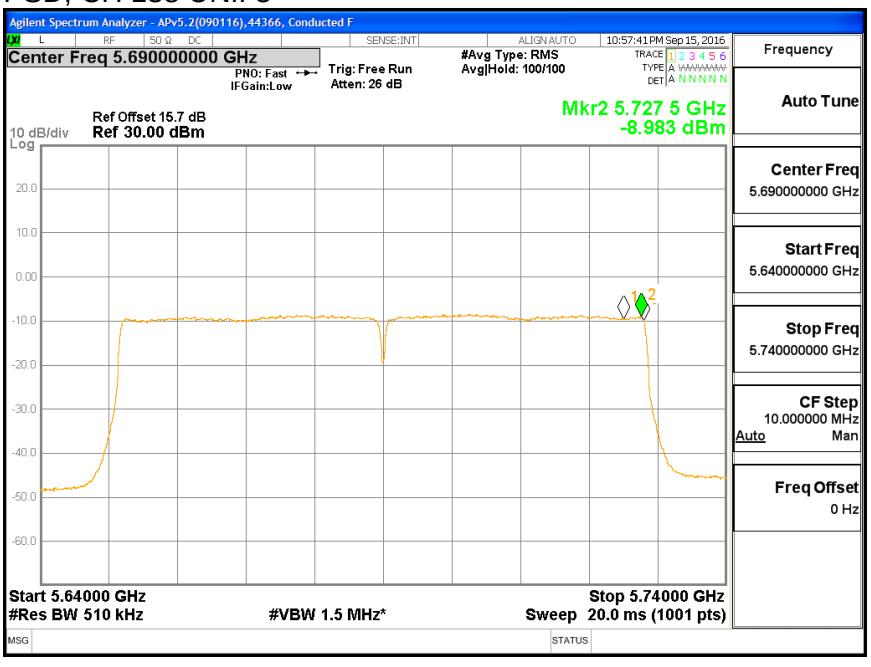
PSD, CHAIN 1

PSD, CH 138 UNII 3



PSD, CHAIN 2

PSD, CH 138 UNII 3



8.102.7. **6 dB BANDWIDTH**

LIMITS

FCC §15.407 (e)

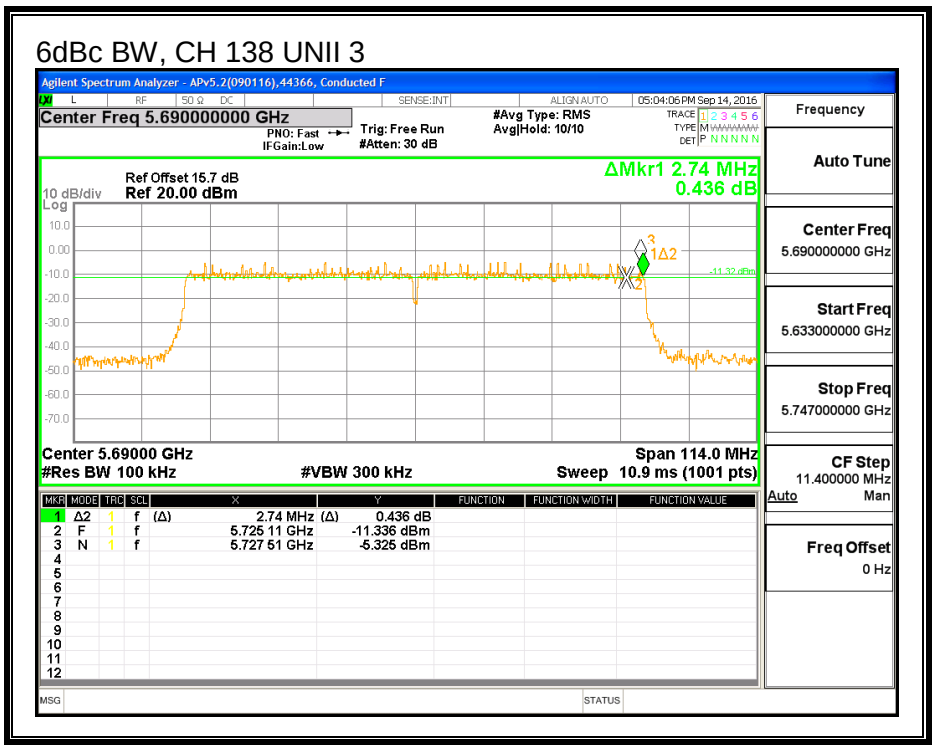
IC RSS-247 (6.2.4) (1)

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

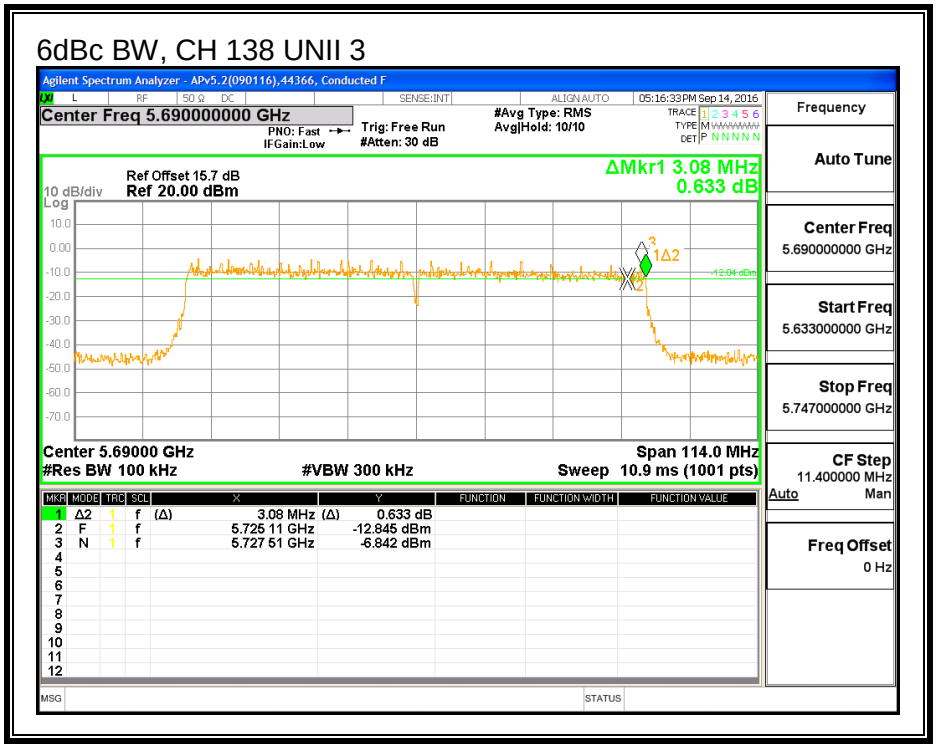
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)
High	5690	2.74	3.08

CHAIN 1



CHAIN 2



8.103. 802.11ac VHT80 3Tx CDD MODE IN THE 5.6 GHz BAND (5610MHz for FCC only)

8.103.1. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)	26 dB BW Chain 2 (MHz)
Low	5530	83.125	83.000	83.000
Mid	5610	83.125	83.250	83.125
High	5690	83.125	83.125	83.250