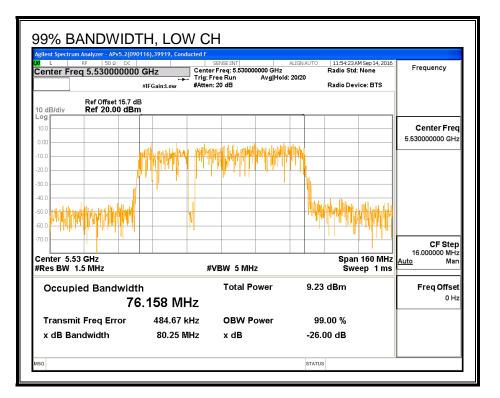
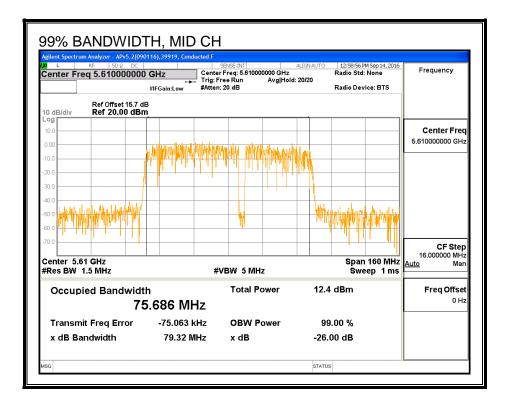
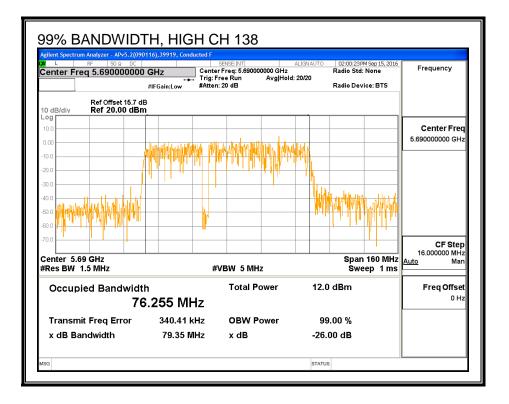
99% BANDWIDTH, CHAIN 0

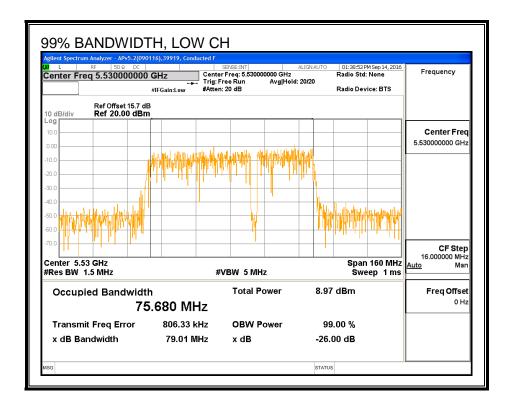




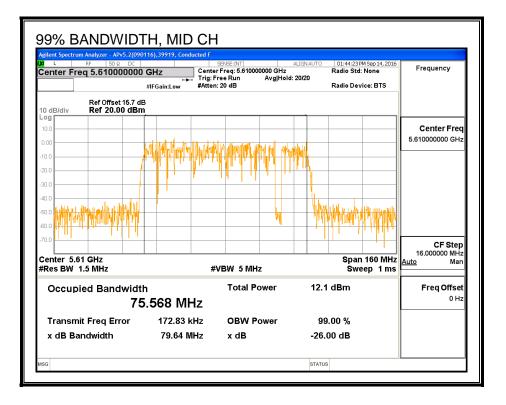
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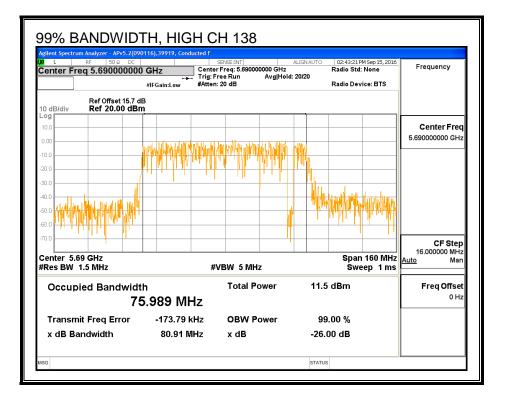


99% BANDWIDTH, CHAIN 1



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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	Chain 0	Chain 1	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(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

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8.100.4. OUTPUT POWER AND PSD

<u>LIMITS</u>

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.

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DIRECTIONAL ANTENNA GAIN

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

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

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<u>RESULTS</u>

	ID:	44366	Date:	9/14/16
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Bandwidth, Antenna Gain and Limits

Channel	Frequency	Min	Min	Directional	Directional	Power	PSD
		26 dB	99%	Gain	Gain	Limit	Limit
		BW	BW	for Power	for PSD		
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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

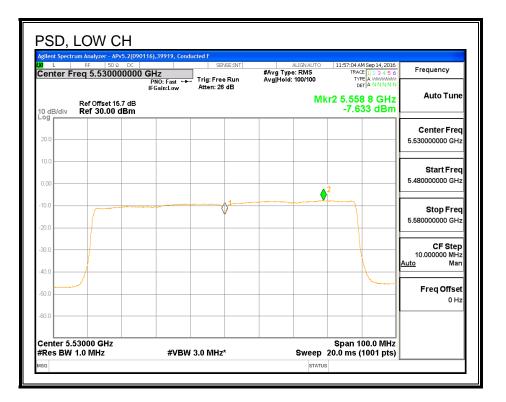
Output Power Results

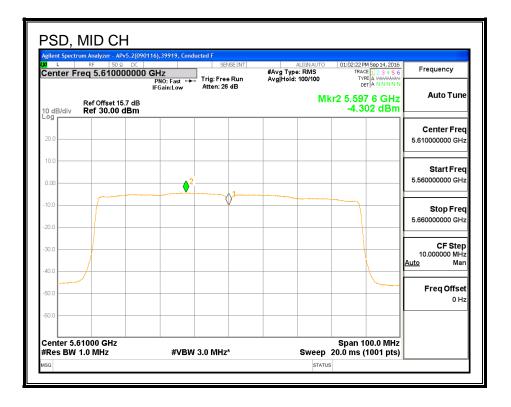
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	8.98	8.95	11.98	24.00	-12.02
High	5610	12.23	12.20	15.23	24.00	-8.77

PSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(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

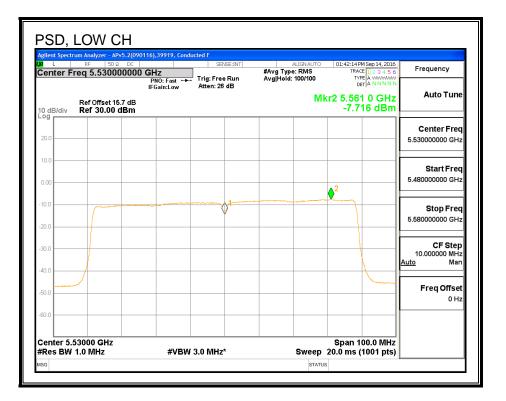
PSD, CHAIN 0

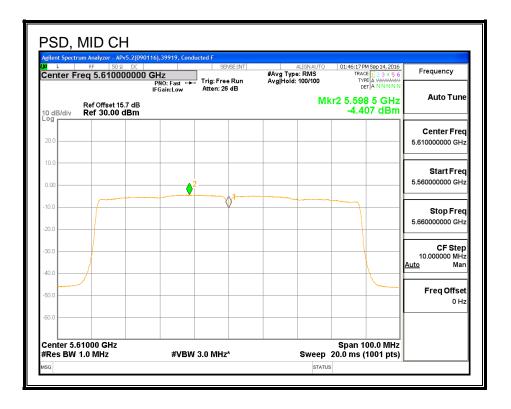




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PSD, CHAIN 1





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8.100.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional	Directional	Power	PSD
		26 dB	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
138	5690	76.63	9.25	9.25	20.75	7.75

Output Power Results

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

PSD Results

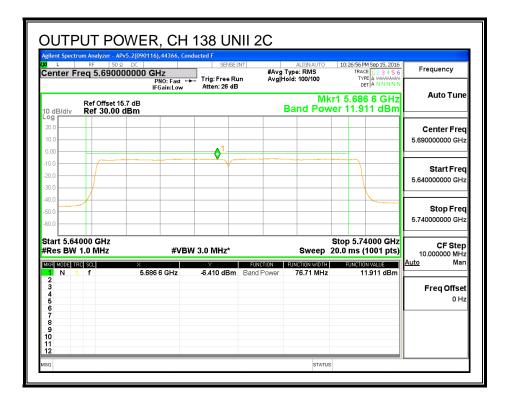
Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-5.71	-5.77	-2.01	7.75	-9.76

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OUTPUT POWER, CHAIN 0

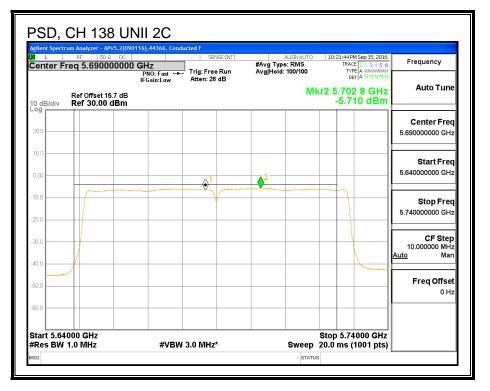
L	RF	er - APv5.2(0901 50 Ω DC 900000000		SENSE:	#Avg	ALIGN AUTO Type: RMS	33PM Sep 15, 2016 RACE 1 2 3 4 5 6	Frequency
			PNO: Fast ← IFGain:Low	Trig: Free Ru Atten: 26 dE		lold: 100/100	DET A NNNNN	• • • •
) dB/div		set 15.7 dB 0 .00 dBm				MI Band Pov	86 7 GHz .924 dBm	Auto Tune
20.0								Center Fred
0.0								5.69000000 GHz
.00				0 ¹				
0.0								Start Fred
0.0								5.640000000 GHz
0.0								
0.0	4							Stop Fred
0.0								5.740000000 GH
	4000 GH (1.0 MH		#VBI	W 3.0 MHz*		Sweep	.74000 GHz s (1001 pts)	CF Step 10.000000 MH
KR MODE	IRC SCL	×		Y		FUNCTION WIDTH	CTION VALUE	Auto Mar
1 N 2	1 f	5.6	86 7 GHz	-6.503 dBm	Band Power	76.63 MHz	11.924 dBm	
3 4								Freq Offsel
5 6								0 Hz
7 3								
9								
1								

OUTPUT POWER, CHAIN 1

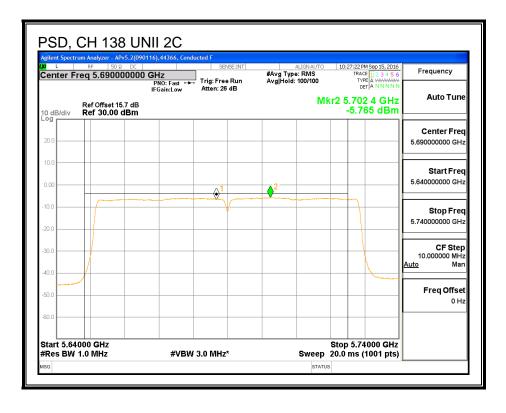


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PSD, CHAIN 0



PSD, CHAIN 1



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		26 dB	Gain	Gain	Limit	Limit
		BW				
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-1.58	-1.60	2.14	26.75	-24.61

PSD Results

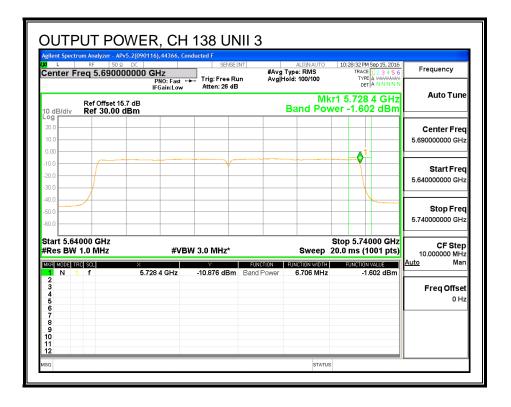
Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.09	-9.02	-5.33	26.75	-32.08

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OUTPUT POWER, CHAIN 0

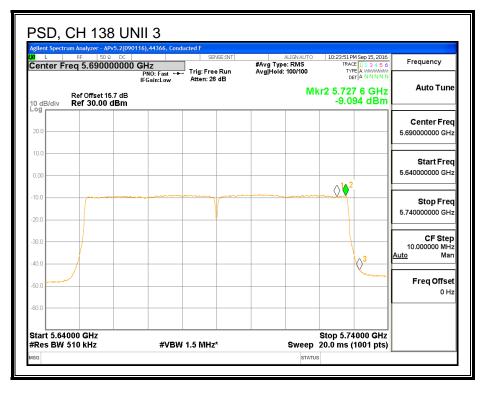
L enter F	RF 50 Ω DC Teq 5.69000000		SENSE:I	#Avg	ALIGNAUTO Type: RMS Iold: 100/100	10:22:04 PM Sep 15, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWWW	
) dB/div	Ref Offset 15.7 dB Ref 30.00 dBm	IFGain:Low	Atten: 26 dB			r1 5.728 3 GHz ver -1.575 dBm	A
29 0.0 0.0							Center Fre 5.690000000 GH
).0).0							Start Fre 5.640000000 GH
0.0 0.0 0.0							Stop Fre 5.740000000 GH
tes BW	4000 GHz 1.0 MHz	#VBW	/ 3.0 MHz*		Sweep	Stop 5.74000 GHz 20.0 ms (1001 pts)	10.000000 MH
Ten Model 1 N 2 3 4 5 6 6 6 7 8 9 0 0 1 2		5.728 3 GHz	¥ -9.914 dBm	FUNCTION Band Power	FUNCTION WIDTH	Functionwature -1.575 dBm	Auto Mai Freq Offse 0 H

OUTPUT POWER, CHAIN 1

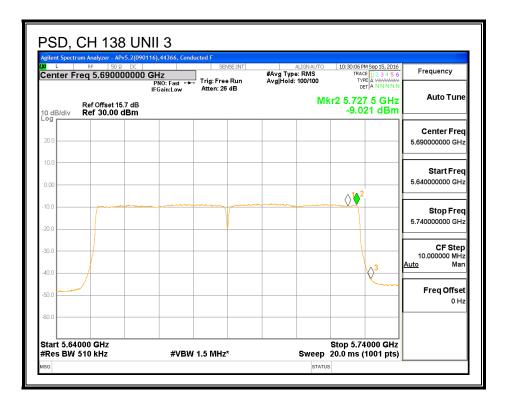


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PSD, CHAIN 0



PSD, CHAIN 1



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8.100.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional	Directional	Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
138	5690	72.990	9.25	9.25	20.75	7.75

Duty Cycle CF (dB) 0.7	'2 I	Included in Calculations of Corr'd Power & PSD
------------------------	------	--

Output Power Results

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

PSD Results

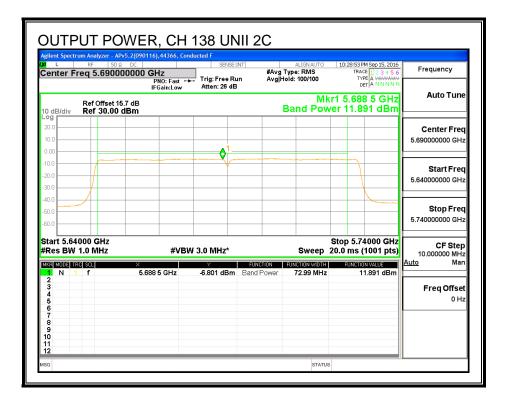
Γ	Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
			Meas	Meas	Corr'd	Limit	Margin
			PSD	PSD	PSD		
		(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
	138	5690	-5.71	-5.77	-2.01	7.75	-9.76

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OUTPUT POWER, CHAIN 0

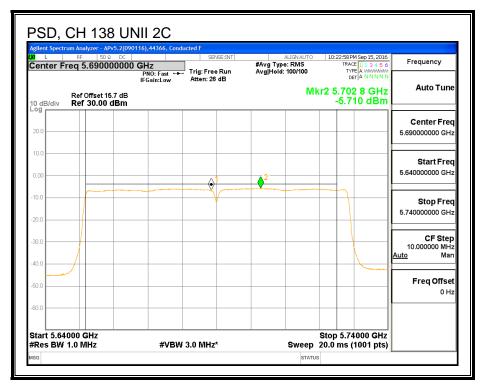
L	rum Analyzer - A RF 50 req 5.6900	Ω DC 100000 GI		SENSE	#Avg	ALIGN AUTO Type: RMS Hold: 100/100	TR	3PM Sep 15, 2016 ACE 1 2 3 4 5 6 FYPE A WWWWWW	Frequency
) dB/div	Ref Offset 1 Ref 30.00	1F 5.7 dB	Gain:Low	Atten: 26 dE	3 .	MI Band Pov	(r1 5.68	B8 4 GHz 910 dBm	Auto Tune
									Center Fred 5.69000000 GH
0.0				0 1		· · · · · · · · · · · · · · · · · · ·			Start Free
0.0									Stop Free
	4000 GHz 1.0 MHz		#\(B)	N 3.0 MHz*		Sween		74000 GHz (1001 pts)	5.740000000 GH2 CF Step
KR MODE 1 1 N		× 5.688	4 GHz	Y	FUNCTION Band Power	FUNCTION WOTH 73.13 MHz	FUNC	<u>, , ,</u>	10.000000 MHz <u>Auto</u> Mar
2 3 4 5 6 7									Freq Offset 0 Hz
8 9 0 1 2									

OUTPUT POWER, CHAIN 1

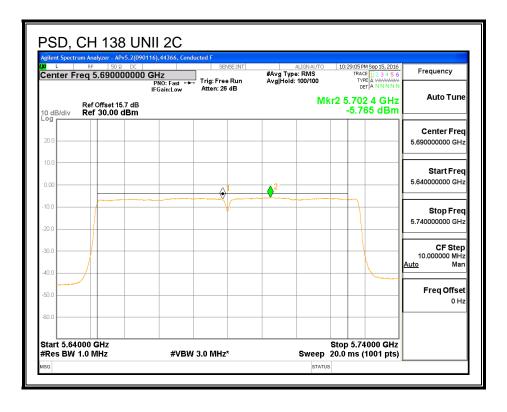


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PSD, CHAIN 0



PSD, CHAIN 1



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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
--

Output Power Results

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

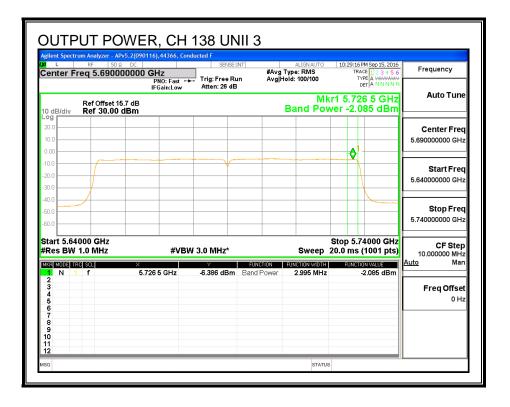
PSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.09	-9.02	-5.33	26.75	-32.08

OUTPUT POWER, CHAIN 0

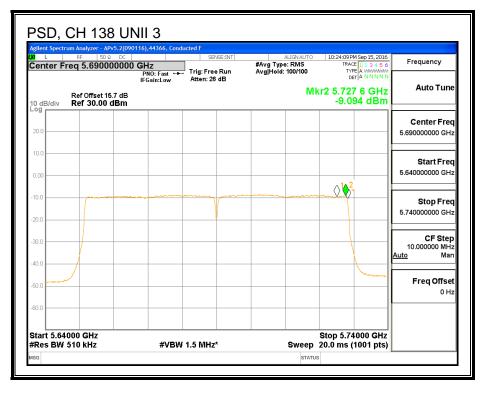
L enter F	RF 50 Ω	0000 GH		SENSE	#Av	ALIGNAUTO g Type: RMS	TF	8PM Sep 15, 2016 RACE 1 2 3 4 5 6 TYPE A WARMAN	Frequency
			0:Fast ↔ ain:Low	Trig: Free R Atten: 26 dl		Hold: 100/100		DET A NNNNN	
dB/div	Ref Offset 15.7 Ref 30.00 dl					M Band Po		26 6 GHz 926 dBm	Auto Tune
									Center Fred
0.0									5.69000000 GH
.00							•		
0.0									Start Free
0.0								1	5.64000000 GH
0.0									1
10									Stop Fred
0.0									5.740000000 GH
	4000 GHz / 1.0 MHz		#VB\	₩ 3.0 MHz*		Sweep		74000 GHz s (1001 pts)	CF Step 10.000000 MH
	RC SCL 1 f	× 5.726 6	GHz	ĭ -6.436 dBm	FUNCTION Band Power	FUNCTION WIDTH 3.127 MHz		-1.926 dBm	<u>Auto</u> Mar
2 3									Freq Offse
4 5									0 Ha
5 7									
3									
)									
1 2									

OUTPUT POWER, CHAIN 1

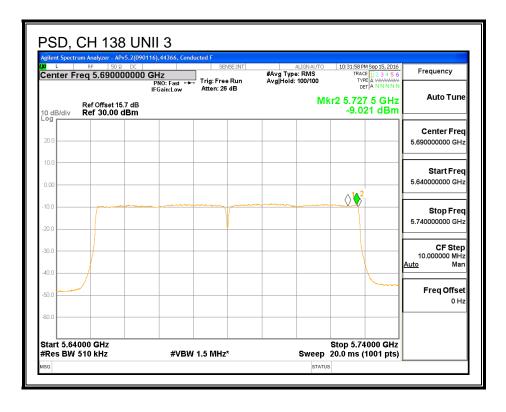


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PSD, CHAIN 0



PSD, CHAIN 1



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8.100.7.6 dB BANDWIDTH

<u>LIMITS</u>

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

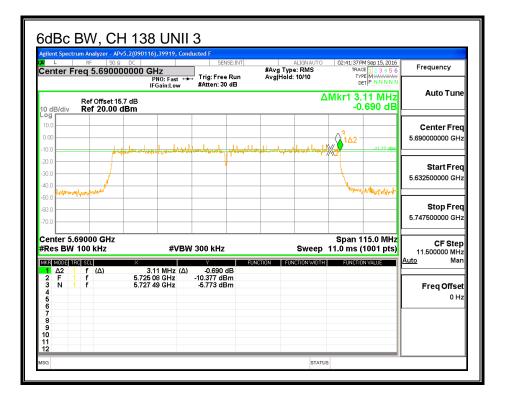
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

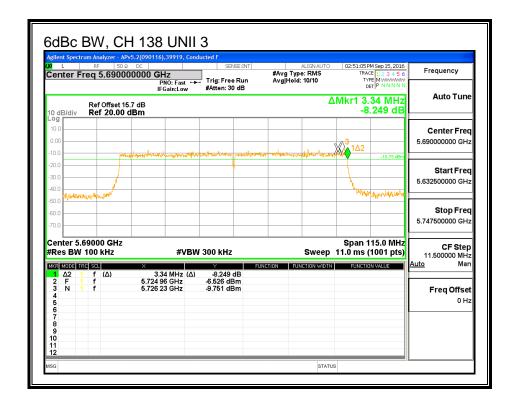
Channel	Frequency	6 dB BW	6 dB BW	
		Chain 0	Chain 1	
	(MHz)	(MHz)	(MHz)	
High	5690	3.11	3.34	

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CHAIN 0



CHAIN 1



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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

<u>LIMITS</u>

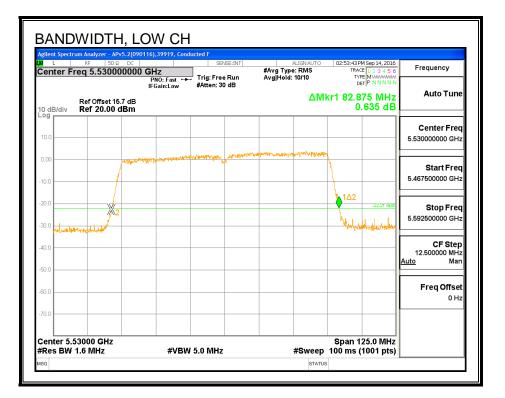
None; for reporting purposes only.

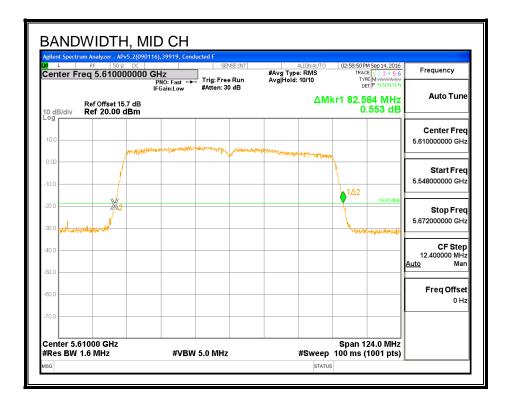
RESULTS

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

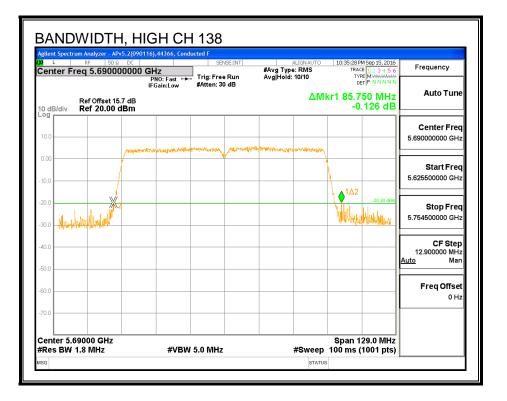
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26 dB BANDWIDTH, CHAIN 0

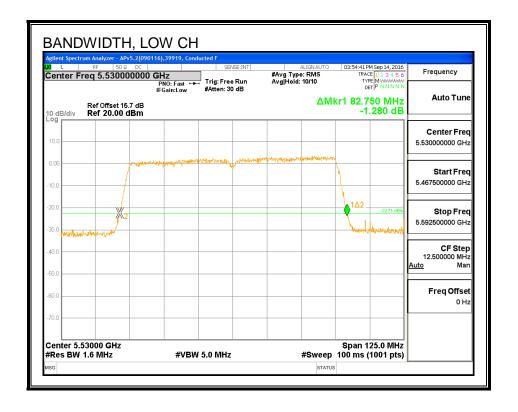




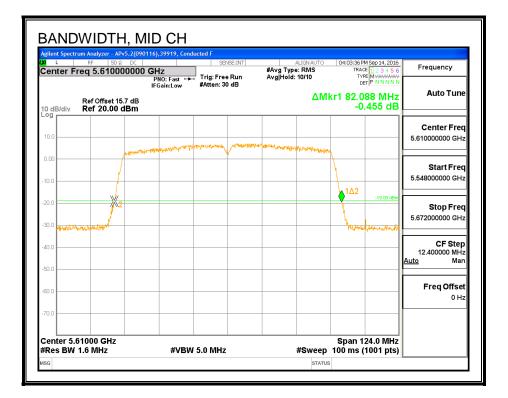
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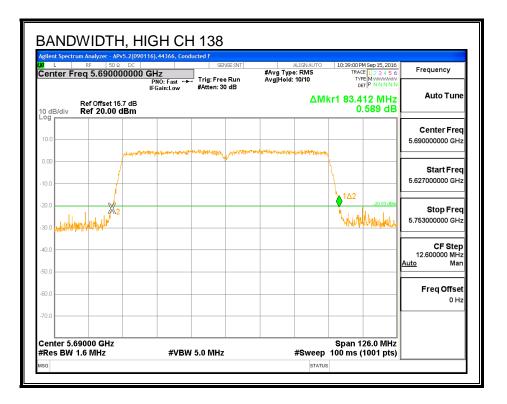


26 dB BANDWIDTH, CHAIN 2



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8.101.2.99% BANDWIDTH

<u>LIMITS</u>

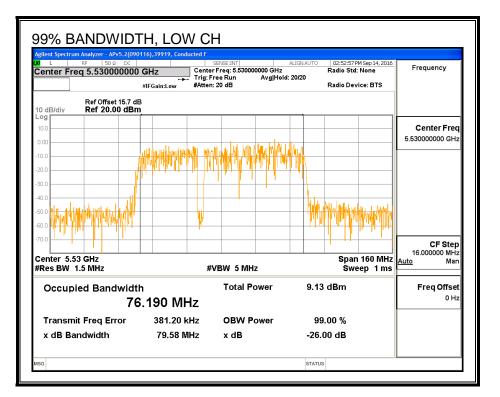
None; for reporting purposes only.

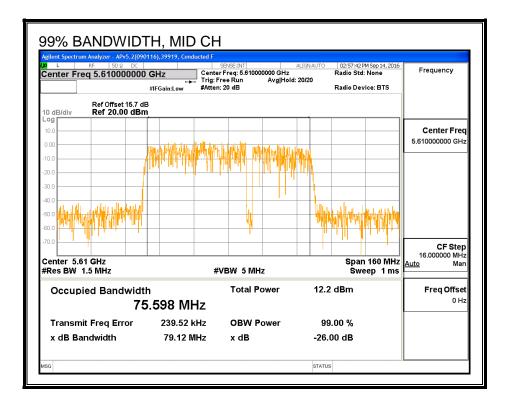
RESULTS

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

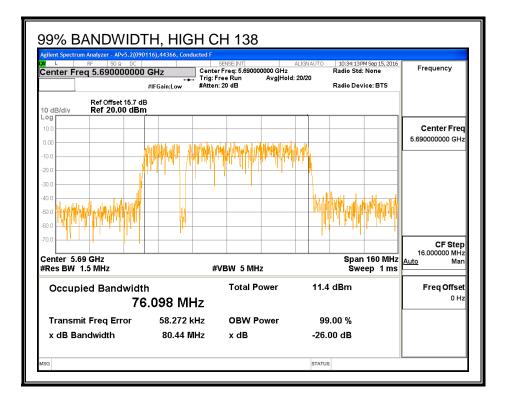
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99% BANDWIDTH, CHAIN 0

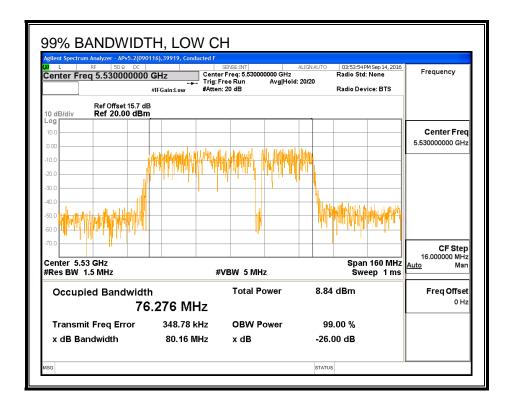




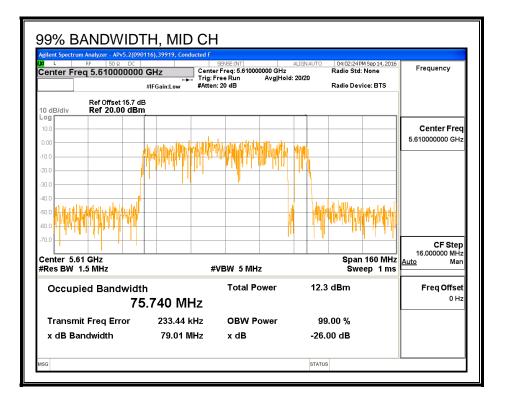
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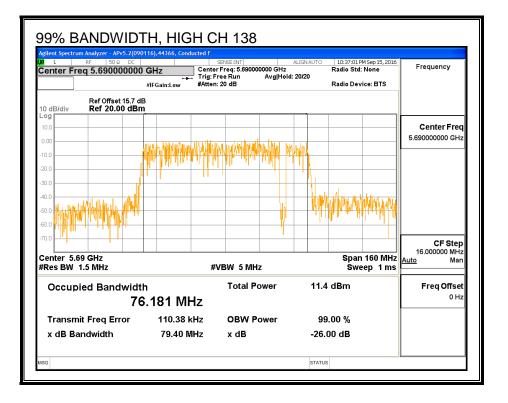


99% BANDWIDTH, CHAIN 2



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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	Chain 0	Chain 2	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(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

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8.101.4. OUTPUT POWER AND PSD

<u>LIMITS</u>

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.

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DIRECTIONAL ANTENNA GAIN

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

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

<u>RESULTS</u>

ID:	44366	Date:	9/14/16
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Bandwidth, Antenna Gain and Limits

Channel	Frequency	Min	Min	Directional	Directional	Power	PSD
		26 dB	99%	Gain	Gain	Limit	Limit
		BW	BW	for Power	for PSD		
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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

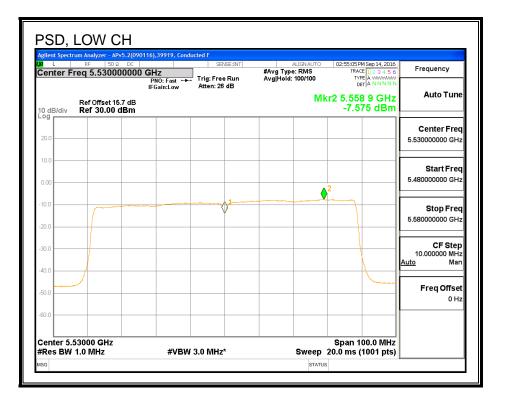
Channel	Frequency	Chain 0	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	8.88	8.79	11.85	24.00	-12.15
High	5610	12.14	12.21	15.19	24.00	-8.81

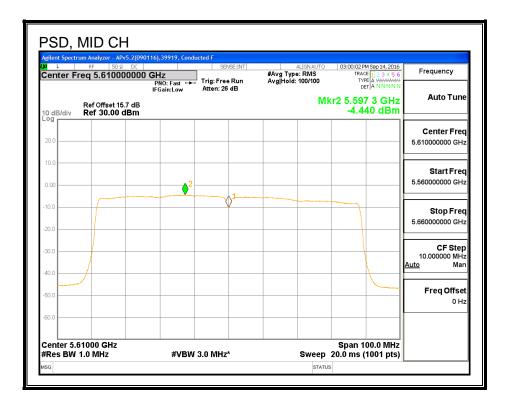
PSD Results

Channel	Frequency	Chain 0	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(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

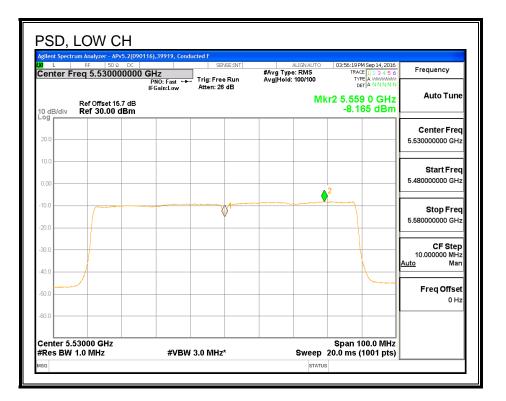
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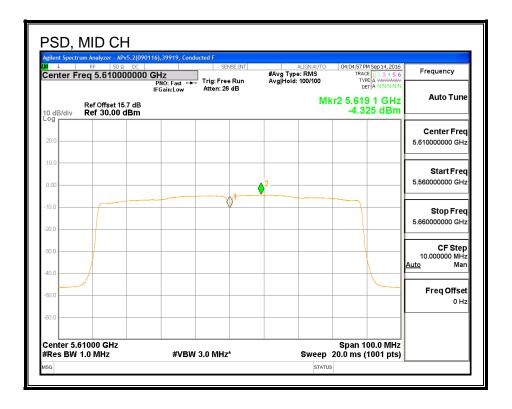
PSD, CHAIN 0





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8.101.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional Directional		Power	PSD
		26 dB	Gain Gain		Limit	Limit
		BW	for Power for PSD			
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 0	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	11.91	11.92	15.64	21.94	-6.30

PSD Results

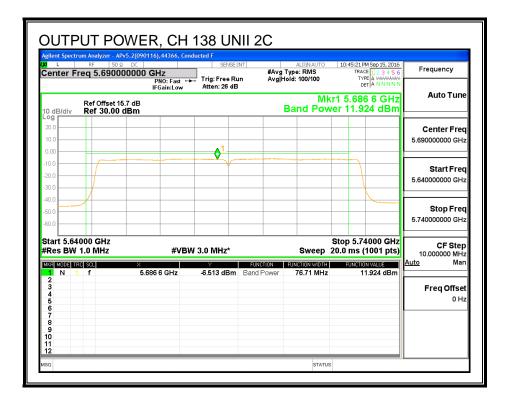
Channel	Frequency	Chain 0	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-5.76	-5.75	-2.02	8.94	-10.96

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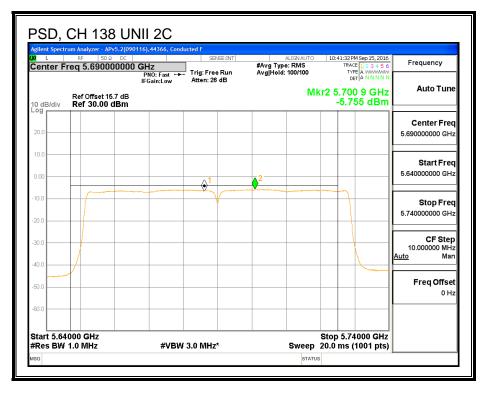
OUTPUT POWER, CHAIN 0

L Center F	RF 50 Ω DC req 5.6900000		SENSE:INT		ALIGN AUTO ype: RMS old: 100/100	10:41:18PM Sep 15, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
0 dB/div	Ref Offset 15.7 d Ref 30.00 dBn		Atten: 26 dB	E		1 5.686 1 GHz er 11.905 dBm	Auto Tune
og 20.0 10.0							Center Free 5.69000000 GH:
0.0							Start Free 5.640000000 GH:
0.0 0.0 0.0							Stop Fred 5.740000000 GH:
	4000 GHz 1.0 MHz	#VBV	V 3.0 MHz*	FUNCTION		Stop 5.74000 GHz 0.0 ms (1001 pts)	CF Step 10.000000 MH: Auto Mar
	no suti	5.686 1 GHz	-6.444 dBm B		77.88 MHz	11.905 dBm	Freq Offse

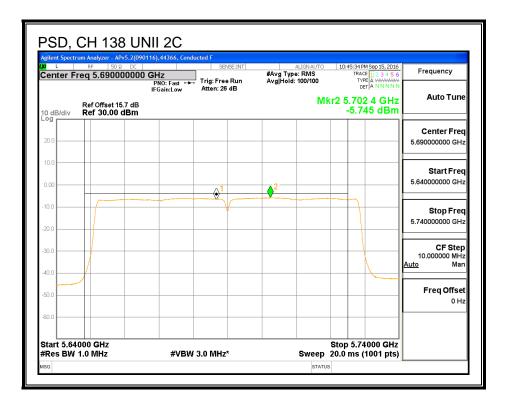
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		26 dB	Gain	Gain	Limit	Limit
		BW				
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 0	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-1.59	-1.59	2.14	27.94	-25.80

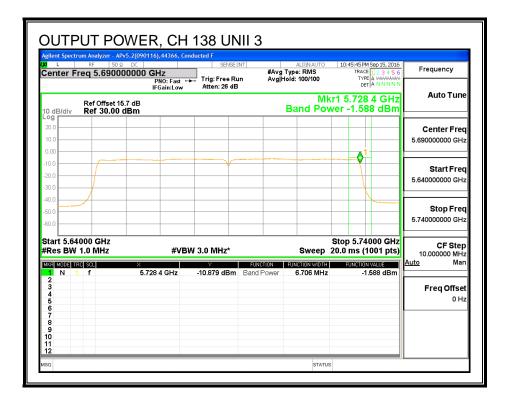
PSD Results

Channel	Frequency	Chain 0	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.10	-9.05	-5.34	27.94	-33.28

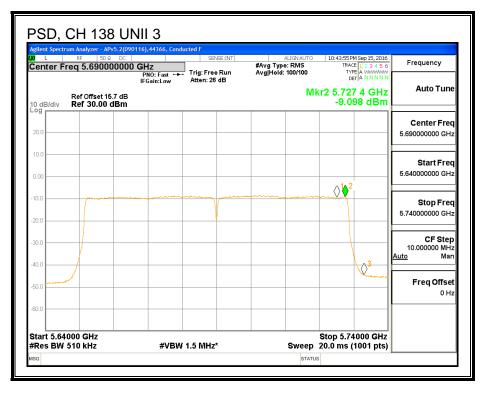
OUTPUT POWER, CHAIN 0

enter F	RF 50 Ω DC Freq 5.69000000	0 GHz PN0: Fast ↔	SENSE:IF	#Avg	ALIGN AUTO Type: RMS old: 100/100	TRACE	1 Sep 15, 2016 1 2 3 4 5 6 A WWWWWW A N N N N N	Frequency
dB/div	Ref Offset 15.7 dB Ref 30.00 dBm	IFGain:Low	Atten: 26 dB		Mk Band Pov	r1 5.728	9 GHz	Auto Tun
9 0.0 0.0								Center Fre 5.69000000 GH
0.0 0.0 0.0								Start Free 5.640000000 GH
0.0 0.0 0.0							<u> </u>	Stop Fre 5.740000000 GH
tes BW	4000 GHz / 1.0 MHz	#VBV	V 3.0 MHz*			Stop 5.74 20.0 ms (1	001 pts)	CF Stej 10.000000 MH Auto Mai
G MODE 1 N 2 3 4 5 5 6 7 3 9 0 1 2 2		5.728 9 GHz	-17.808 dBm		7.875 MHz		.591 dBm	Freq Offse

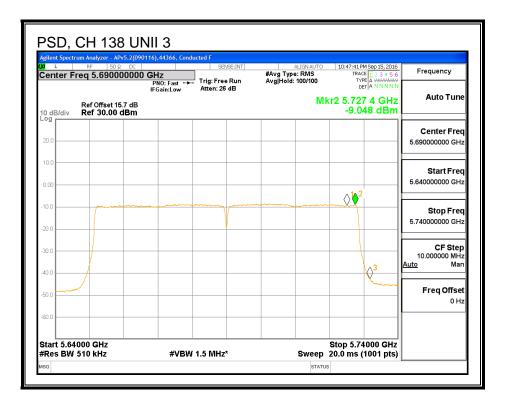
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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8.101.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional Directional		Power	PSD
		99%	Gain Gain		Limit	Limit
		BW	for Power for PSD			
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
138	5690	73.050	8.06	8.06	21.94	8.94

Output Power Results

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

PSD Results

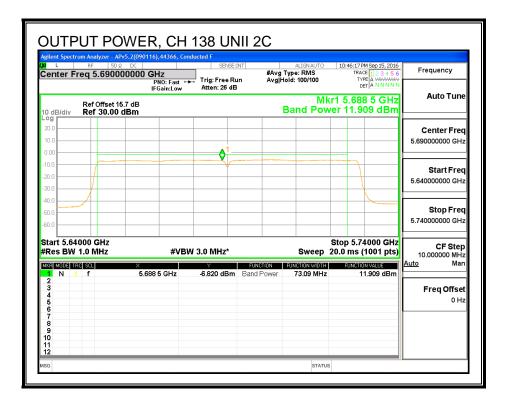
Channel	Frequency	Chain 0	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-5.76	-5.75	-2.02	8.94	-10.96

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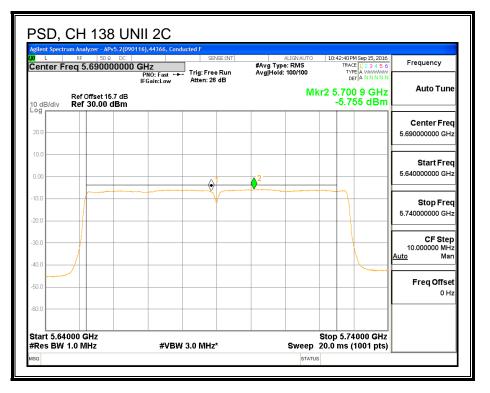
OUTPUT POWER, CHAIN 0

enter F	RF 50 Ω Freq 5.690000		SENSE:IF	#Avg	ALIGN AUTO Type: RMS Iold: 100/100	TRAC	M Sep 15, 2016 2E 1 2 3 4 5 6 PE A WWWWWW	Frequency
0 dB/div	Ref Offset 15.7 Ref 30.00 dl	IFGain:Low	Atten: 26 dB		Mi Band Pov	(r1 5.68	8 5 GHz 87 dBm	Auto Tune
0.0 0.0								Center Fred 5.69000000 GHz
0.0 0.0 0.0								Start Fred 5.640000000 GHz
0.0								Stop Freq 5.740000000 GHz
Res BW	4000 GHz 1.0 MHz	#VE	W 3.0 MHz*	CUNCTION		20.0 ms (4000 GHz 1001 pts)	CF Step 10.000000 MHz Auto Mar
KE MODE 1 N 2 3 4 5 5 6 7 8 9 9 0 1 2	HU SUL	× 5.688 5 GHz	-6.915 dBm	FUNCTION Band Power	FUNCTION WIDTH 73.05 MHz		1.887 dBm	Freq Offsel 0 Hz

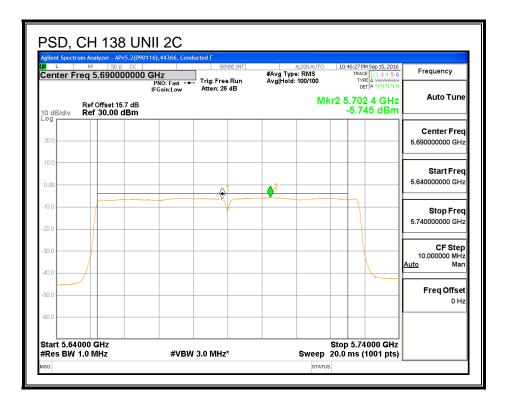
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 0	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-2.02	-1.98	1.73	27.94	-26.21

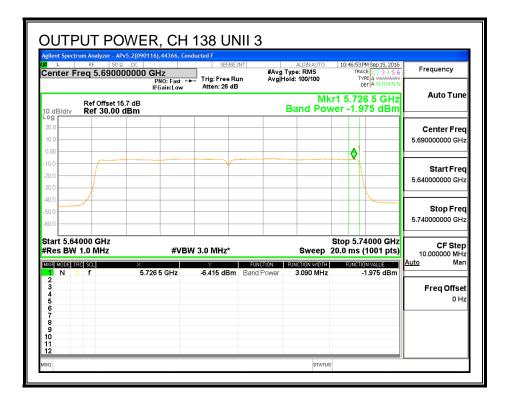
PSD Results

Channel	Frequency	Chain 0	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.10	-9.05	-5.34	27.94	-33.28

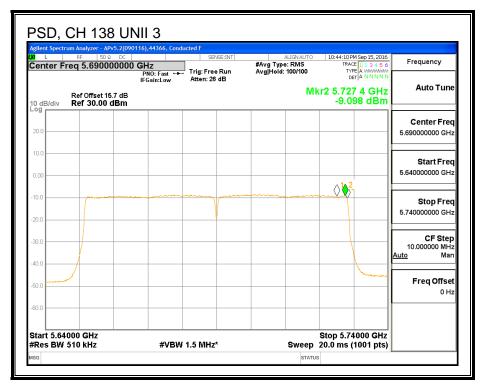
OUTPUT POWER, CHAIN 0

enter F	RF 50 ହ Di Treq 5.6900000	00 GHz	SENSE:IN	#Avg	ALIGN AUTO Type: RMS Iold: 100/100	TR	ACE 1 2 3 4 5 6	Frequency
		PNO: Fast ↔ IFGain:Low	Atten: 26 dB	n viðlu			DET A N N N N N	Auto Tune
) dB/div	Ref Offset 15.7 d Ref 30.00 dBr				Mk Band Pov		26 5 GHz 021 dBm	Auto Tune
								Center Free
0.0								5.69000000 GH
.00						-		
0.0								Start Free
0.0								5.64000000 GH
1.0								
1.0								Stop Free
0.0								5.74000000 GH
art 5.6	4000 GHz					Stop 5	74000 GHz	
	1.0 MHz	#VBV	V 3.0 MHz*				(1001 pts)	CF Step 10.000000 MH
R MODE 1		×	Y		FUNCTION WIDTH		IOIT TALOC	<u>Auto</u> Mar
2	1 f	5.726 5 GHz	-6.489 dBm	Band Power	3.049 MHz		-2.021 dBm	
3								Freq Offse
5 5 7								0 H:
7 3								
a D								

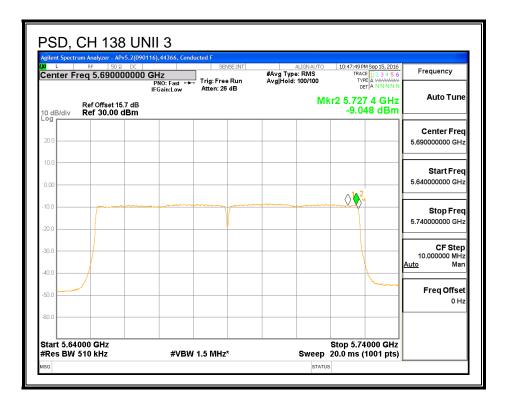
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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8.101.7.6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

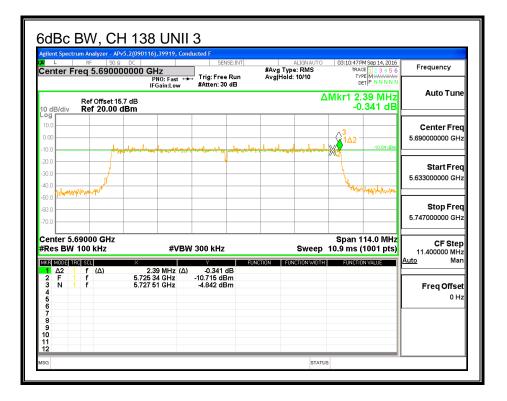
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

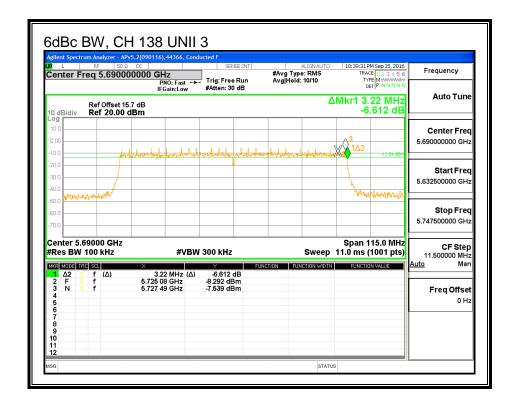
Channel	Frequency	6 dB BW	6 dB BW
		Chain 0	Chain 2
	(MHz)	(MHz)	(MHz)
High	5690	2.39	3.22

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CHAIN 0



CHAIN 2



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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

<u>LIMITS</u>

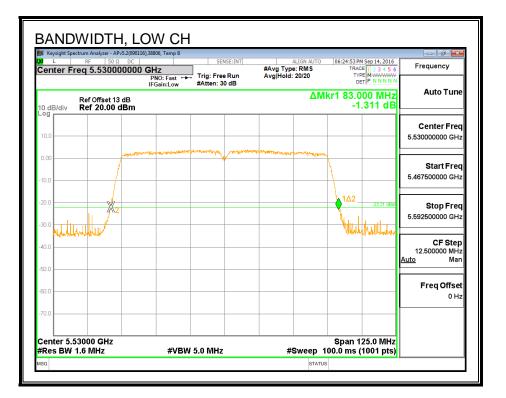
None; for reporting purposes only.

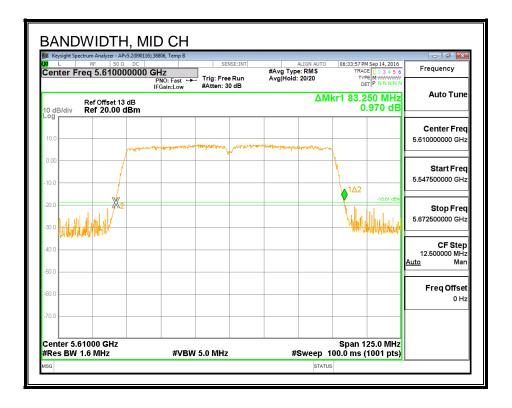
RESULTS

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

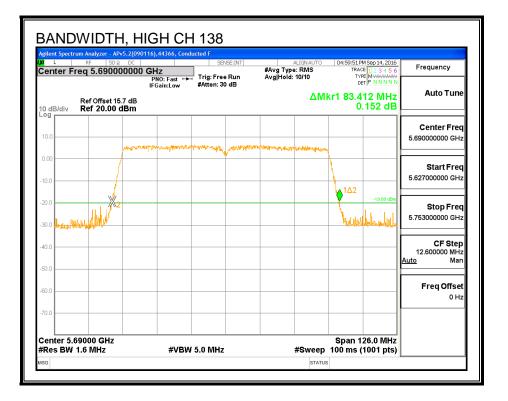
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26 dB BANDWIDTH, CHAIN 1

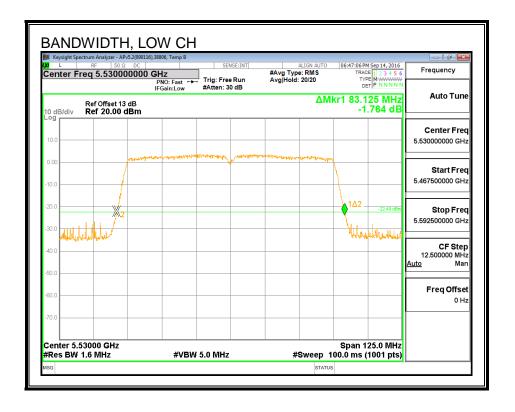




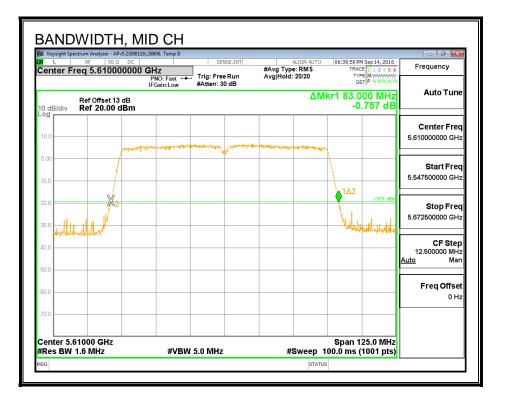
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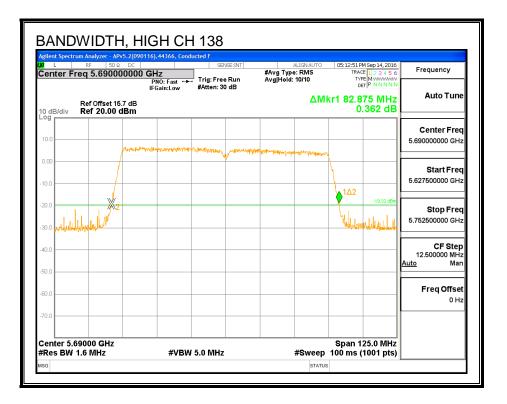


26 dB BANDWIDTH, CHAIN 2



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8.102.2.99% BANDWIDTH

<u>LIMITS</u>

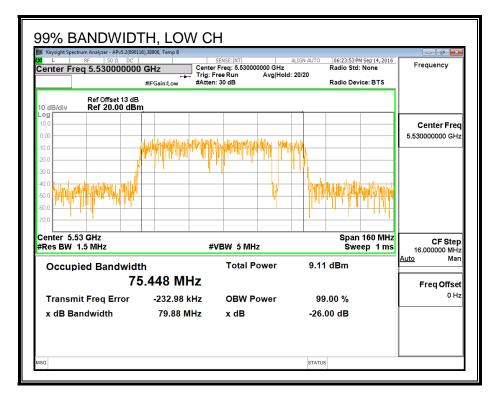
None; for reporting purposes only.

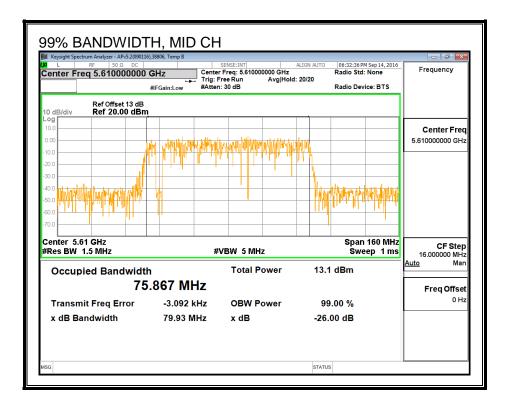
RESULTS

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

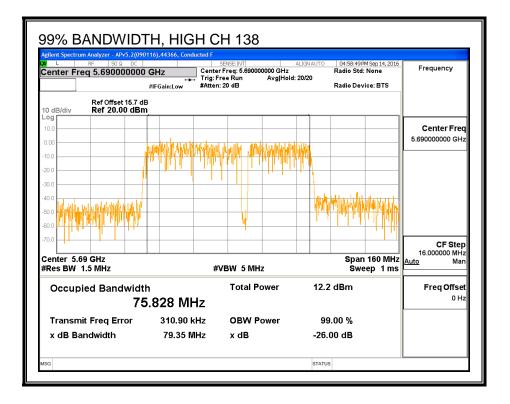
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99% BANDWIDTH, CHAIN 1

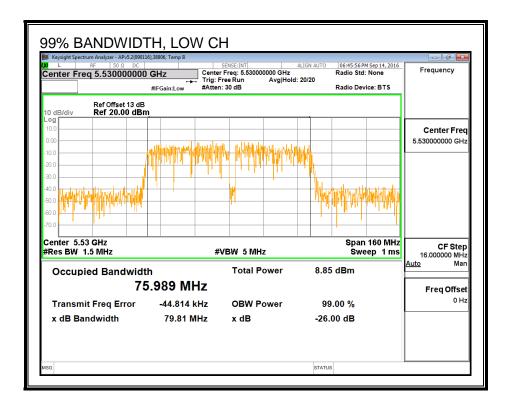




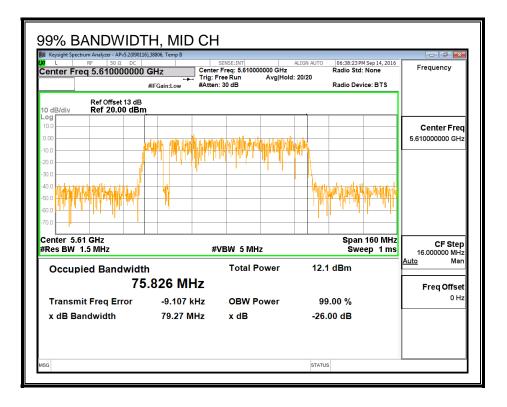
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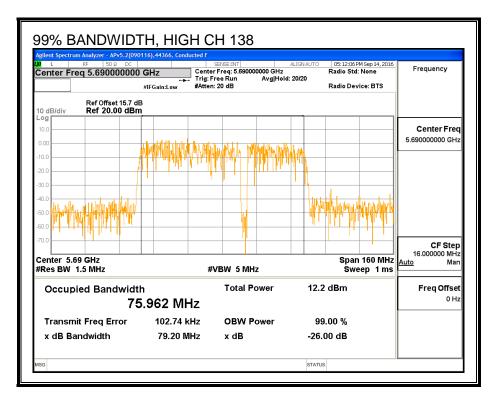


99% BANDWIDTH, CHAIN 2



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8.102.3. AVERAGE POWER

<u>LIMITS</u>

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	Chain 1	Chain 2	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(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

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8.102.4. OUTPUT POWER AND PSD

<u>LIMITS</u>

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.

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DIRECTIONAL ANTENNA GAIN

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

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

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RESULTS

	ID:	44366	Date:	9/14/16
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Bandwidth, Antenna Gain and Limits

Channel	Frequency	Min	Min Direction		Directional	Power	PSD
		26 dB	99%	Gain	Gain	Limit	Limit
		BW	BW	for Power	for PSD		
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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

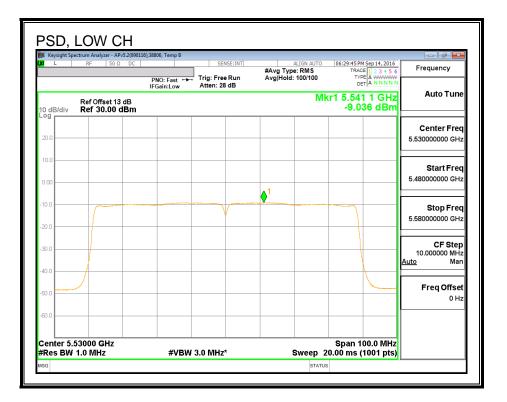
Duty Cycle CF (dB) 0.72 Included in Calculations of Corr'd PSD

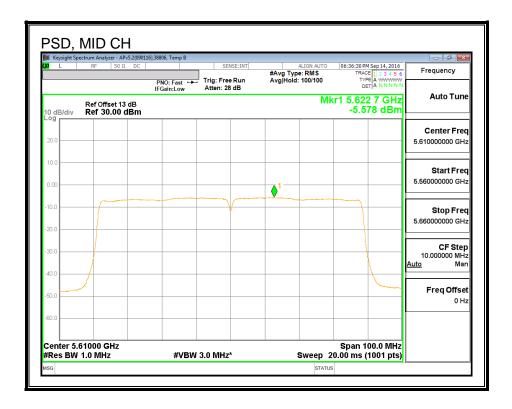
Output Power Results

Channel	Frequency	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(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

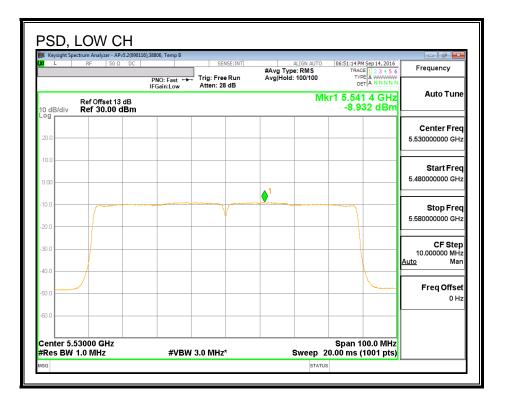
PSD Results

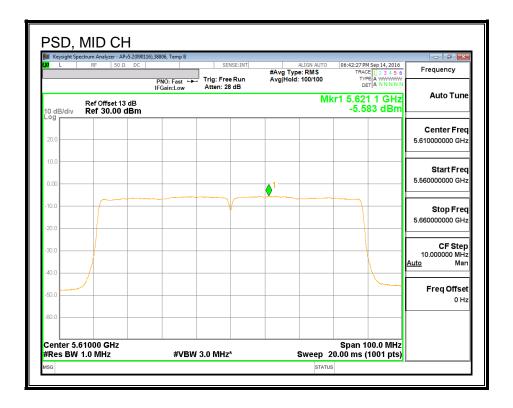
Channel	Frequency	Chain 1	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	-9.04	-8.93	-5.25	7.62	-12.87
High	5610	-5.58	-5.58	-1.85	7.62	-9.47





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8.102.5. STRADDLE CHANNEL 138 RESULTS (FCC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional	Directional	Power	PSD
		26 dB	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	11.93	11.94	15.66	20.62	-4.96

PSD Results

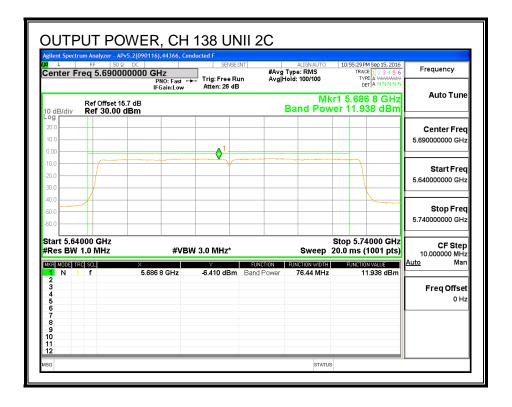
Channel	Frequency	Chain 1	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-5.74	-5.69	-1.99	7.62	-9.61

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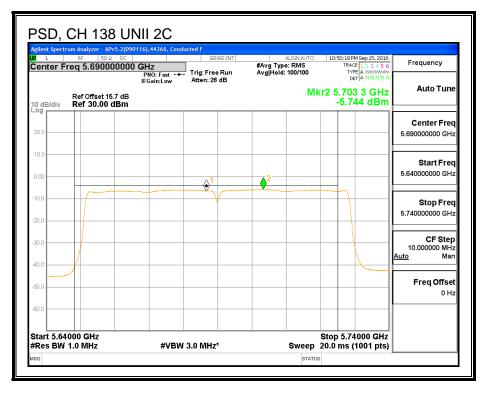
OUTPUT POWER, CHAIN 1

enter F	RF 50 Ω req 5.69000	0000 GHz	ast +++	SENSE: Trig: Free Ri	#Av un Avg	ALIGN AUTO g Type: RMS Hold: 100/100	10:5	D:08 PM Sep 15, 2016 TRACE 1 2 3 4 5 6 TYPE A WWWWW	
) dB/div	Ref Offset 15. Ref 30.00 d		Low	Atten: 26 dE	1			686 6 GHz 1.927 dBm	A
0.0 0.0 0.0				A ¹ .					Center Free 5.69000000 GH
0.0 0.0 0.0		• • • • • • • • • • • • • • • • • • •							Start Free 5.640000000 GH
0.0 0.0									Stop Free 5.740000000 GH
Res BW	1000 GHz 1.0 MHz		#VBW	3.0 MHz*			20.0 n	5.74000 GHz ns (1001 pts)	CF Step 10.000000 MH Auto Mar
MODE T 1 N 2 3 4 5 6 7 8 9 0 1 2 2 2 2		× 5.686 6 GH		-6.359 dBm	FUNCTION Band Power			NCTION VALUE	Freq Offse 0 H

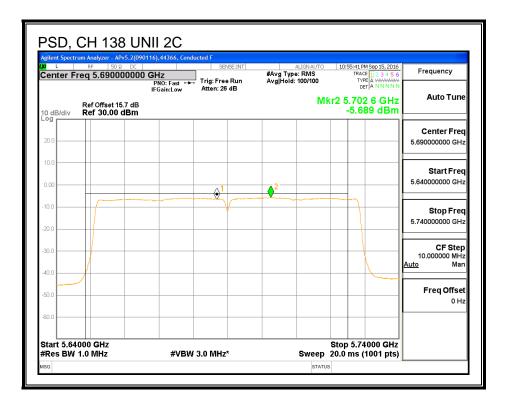
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		26 dB	Gain	Gain	Limit	Limit
		BW				
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas Corr'd		Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-1.58	-1.56	2.16	26.62	-24.46

PSD Results

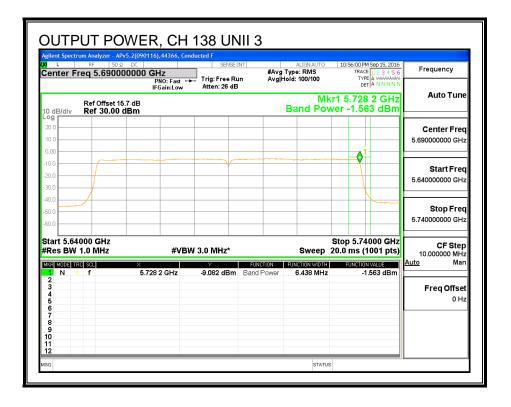
Channel	Frequency	Chain 1	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.08	-8.98	-5.30	26.62	-31.92

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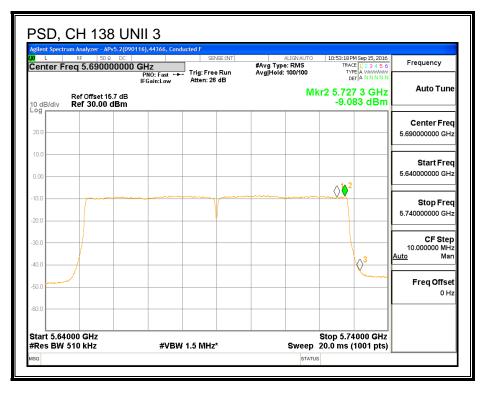
OUTPUT POWER, CHAIN 1

L enter		F 50Ω 5.69000	0000 G			SE:INT		ALIGN AUTO Type: RMS old: 100/100	10:	TRACE	Sep 15, 2016	Frequency
				PNO: Fast + FGain:Low	Atten: 26		Avgin			DET	ANNNN	Auto Tune
) dB/div		of Offset 15. ef 30.00 d						M Band Po			4 GHz 7 dBm	
0.0												Center Fred
0.0				_								5.69000000 GH
										0		
0.0						ſ				T		Start Free
0.0		/										5.640000000 GH
0.0	/											
0.0				_								Stop Free
0.0				_								5.740000000 GH
tart 5.0											000 GHz	CF Step
Res Bl	N 1.0	MHz		#VB	W 3.0 MHz	:		Sweep		· ·	001 pts)	10.000000 MH
	TRC SO		× 5.72	8 4 GHz	۲ -10.759 dE			FUNCTION WOTH 6.706 MHz		UNCTION -1	.577 dBm	<u>Auto</u> Mar
2 3												Freq Offse
4 5												0 на
6 7												
8 9												
0												
2												

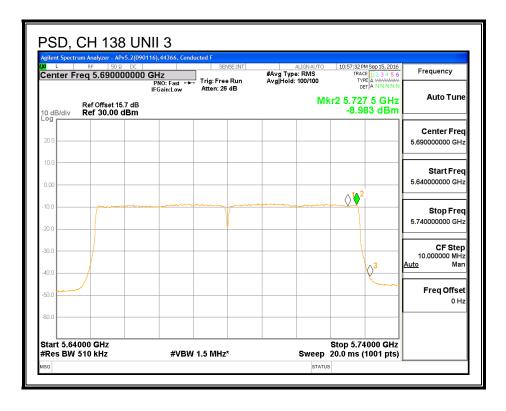
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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8.102.6. STRADDLE CHANNEL 138 RESULTS (IC)

UNII-2C BAND

Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Directional	Directional	Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	11.90	11.92	15.64	20.62	-4.98

PSD Results

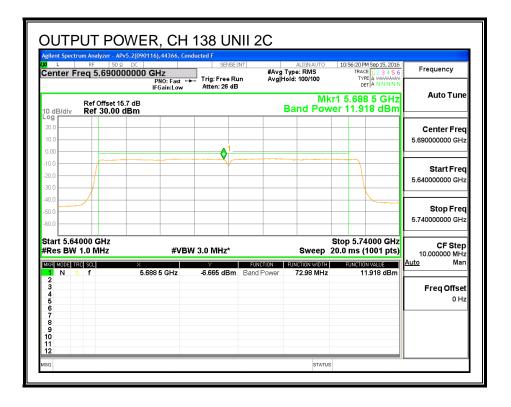
Channel	Frequency	Chain 1	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-5.74	-5.69	-1.99	7.62	-9.61

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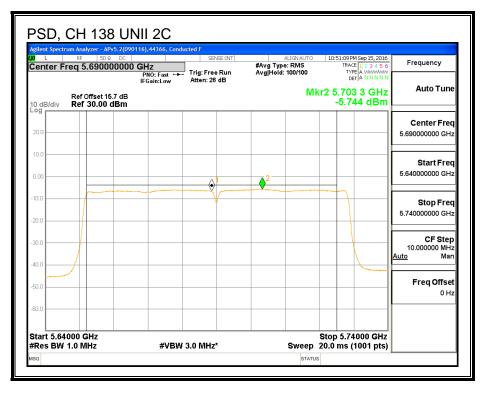
OUTPUT POWER, CHAIN 1

enter F	RF 50 Ω Freq 5.69000			ee Run		ALIGNAUTO ype: RMS old: 100/100	TR/	PM Sep 15, 2016 ACE 1 2 3 4 5 6 YPE A WWWWWW	Frequency
dB/div	Ref Offset 15 Ref 30.00 (IFGain		26 dB		Mk Band Pow	r1 5.68	8 5 GHz 04 dBm	Auto Tune
29 0.0 0.0 .00				6 ¹					Center Fred 5.69000000 GH:
0.0 0.0 0.0									Start Free 5.640000000 GH:
0.0 0.0 0.0									Stop Free 5.740000000 GH
	4000 GHz / 1.0 MHz	×	#VBW 3.0 MH		NCTION		20.0 ms	74000 GHz (1001 pts)	CF Step 10.000000 MH <u>Auto</u> Mar
		5.688 5 GI	Hz -6.703	dBm Band		72.91 MHz		11.904 dBm	Freq Offse 0 H

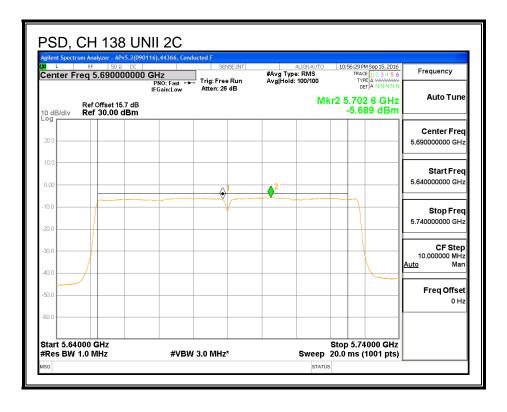
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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UNII-3 BAND

Antenna Gain and Limit

Channel	Frequency	Min	Directional	Directional	Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(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	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-2.16	-2.05	1.63	26.62	-24.99

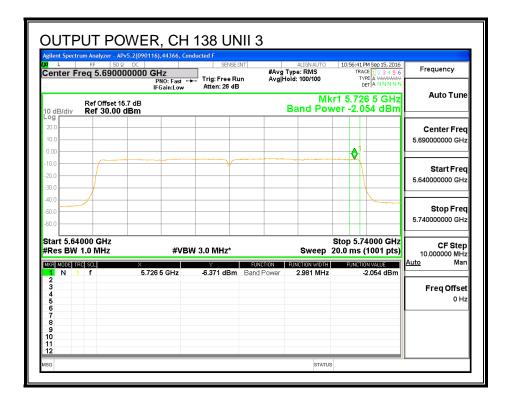
PSD Results

Channel	Frequency	Chain 1	Chain 2	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
138	5690	-9.08	-8.98	-5.30	26.62	-31.92

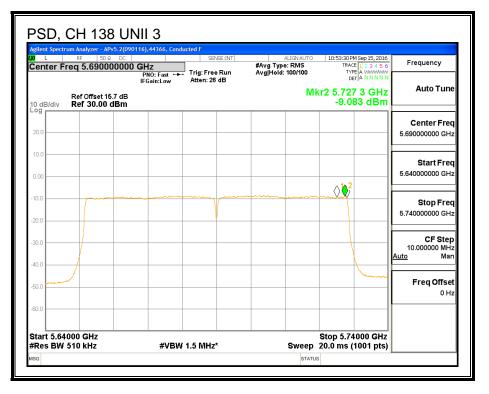
OUTPUT POWER, CHAIN 1

L enter F		50Ω DC 00000000		SENSE:	#Avg	ALIGNAUTO Type: RMS	TF	3PM Sep 15, 2016 RACE 1 2 3 4 5 6	Frequency
			PNO: Fast ↔ IFGain:Low	Trig: Free Ru Atten: 26 dE		lold: 100/100		DET A NNNNN	A
) dB/div		et 15.7 dB 00 dBm				Mi Band Pov		26 5 GHz 155 dBm	Auto Tune
0.0									Center Free
0.0									5.69000000 GH
1.00									
0.0									Start Free
0.0								1	5.640000000 GH
D.O									
0.0	-								Stop Free
0.0									5.74000000 GH
							0 1	74000 011	
	4000 GHz 1.0 MHz		#VB۱	N 3.0 MHz*		Sweep		74000 GHz (1001 pts)	CF Step 10.000000 MH
KR MODE 1	RC SCL	×		Ÿ		FUNCTION WIDTH	FUNC	TION VALUE	Auto Mar
1 N 2	1 f	5.7	26 5 GHz	-6.526 dBm	Band Power	2.914 MHz		-2.155 dBm	
3									Freq Offse
5									0 H
6 7 8									
9									
0									

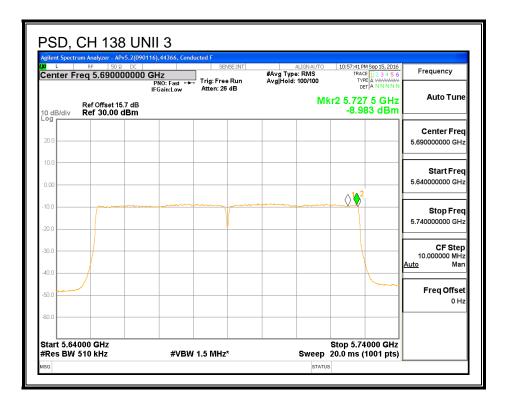
OUTPUT POWER, CHAIN 2



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PSD, CHAIN 2



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8.102.7.6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

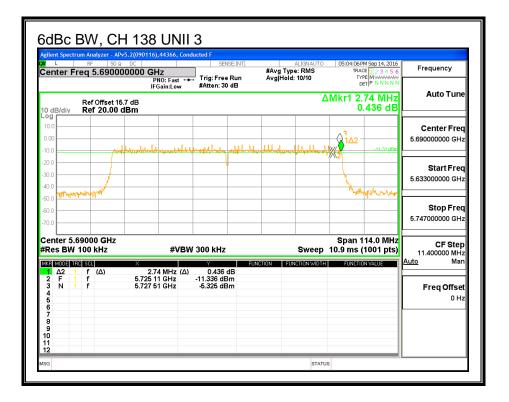
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

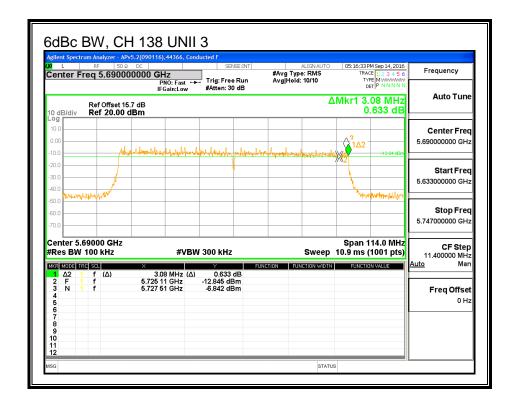
Channel Frequency		6 dB BW	6 dB BW	
		Chain 1	Chain 2	
	(MHz)	(MHz)	(MHz)	
High	5690	2.74	3.08	

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CHAIN 1



CHAIN 2



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

8.103.1.26 dB BANDWIDTH

<u>LIMITS</u>

None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW	26 dB BW	26 dB BW	
		Chain 0	Chain 1	Chain 2	
	(MHz)	(MHz)	(MHz)	(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	

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