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## UNII-3 BAND

#### Antenna Gain and Limit

Channel	Frequency	Min	Directional	Power	PSD
		99%	Gain	Limit	Limit
		BW			
	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
142	5710	3.233	5.20	30.00	30.00

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

#### **Output Power Results**

Channel	Frequency	Chain 2	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	1.09	1.09	30.00	-28.91

#### **PSD Results**

Channel	Frequency	Chain 2	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	-5.74	-5.74	30.00	-35.74

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	RF 50 Ω DC		SENSE:INT	ALIGN AUTO	10:30:09 PM Sep 12, 2016 TRACE 1 2 3 4 5 6	Frequency
enterr	1eq 3.7 1000000	PNO: Fast +	Trig: Free Run Atten: 28 dB	Avg Hold: 100/100	TYPE A WWWWW DET A N N N N N	
0 dB/div	Ref Offset 12.7 dB Ref 30.00 dBm			Mkr Band Pov	1 5.726 62 GHz wer 1.090 dBm	Auto Tune
og 20.0 10.0					▲1	Center Fred 5.710000000 GH;
20.0						Start Free 5.685000000 GH:
i0.0 i0.0						<b>Stop Free</b> 5.735000000 GH:
tart 5.68 Res BW	8500 GHz / 1.0 MHz	#VBV	V 3.0 MHz*	Sweep 1.	Stop 5.73500 GHz .000 ms (1001 pts)	CF Step 5.000000 MH
KR MODE T 1 N 2	RC SCL X 1 f 5.7	26 62 GHz	Y FU -3.356 dBm Bar	INCTION FUNCTION WIDTH ad Power 3.233 MHz	FUNCTION VALUE	<u>Auto</u> Mar
3 4 5 6 7 8 9					E	Freq Offse 0 H
i1					-	



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## 8.54.2. 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 Bandwidth
	(MHz)	(MHz)
142	5710	3.245

## 6 dB BANDWIDTH



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# 8.55. 802.11n HT40 2Tx (CHAIN 0 + CHAIN 1) CDD MODE IN THE 5.6 GHz BAND

## 8.55.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	26 dB BW	26 dB BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5510	40.734	40.382
Mid	5550	40.796	40.565
High	5670	40.920	40.321
142	5710	40.982	40.626

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## 26 dB BANDWIDTH, CHAIN 0





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## 26 dB BANDWIDTH, CHAIN 1





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## 8.55.2. 99% BANDWIDTH

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	99% BW	99% BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5510	36.279	36.350
Mid	5550	36.440	36.475
High	5670	36.409	36.287
142	5710	36.340	36.469

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## 99% BANDWIDTH, CHAIN 0





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## 99% BANDWIDTH, CHAIN 1





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## 8.55.3. AVERAGE POWER

## **LIMITS**

None; for reporting purposes only.

## TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### **RESULTS**

ID:	43573	Date:	9/7/16

#### Average Power Results

Channel	Frequency	Chain 0	Chain 1	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5510	12.22	12.21	15.23
Mid	5550	12.18	12.22	15.21
High	5670	12.23	12.19	15.22
142	5710	12.01	12.22	15.13

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## 8.55.4. 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 uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0	Chain 1	<b>Uncorrelated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
4.90	7.40	6.33

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

Chain 0	Chain 1	<b>Correlated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
4.90	7.40	9.25

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## <u>RESULTS</u>

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

0.00

## 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	5510	40.38	36.279	6.33	9.25	24.00	7.75
Mid	5550	40.57	36.44	6.33	9.25	24.00	7.75
High	5670	40.32	36.287	6.33	9.25	24.00	7.75

Duty Cycle CF (dB)

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	5510	12.22	12.21	15.23	24.00	-8.77
Mid	5550	12.18	12.22	15.21	24.00	-8.79
High	5670	12.23	12.19	15.22	24.00	-8.78

#### **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	5510	-2.012	-2.226	0.89	7.75	-6.86
Mid	5550	-2.322	-2.308	0.70	7.75	-7.05
High	5670	-2.398	-2.313	0.66	7.75	-7.09

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## PSD, CHAIN 0





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## PSD, CHAIN 1



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# 8.56. 802.11ac VHT40 2Tx (CHAIN 0 + CHAIN 1) CDD STRADDLE CHANNEL 142 RESULTS (FCC)

## 8.56.1. OUTPUT POWER AND PSD

#### 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)
142	5710	35.31	6.33	9.25	23.67	7.75

Duty Cycle CF (dB) 0.00	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)
142	5710	11.58	11.80	14.70	23.67	-8.97

#### **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)
142	5710	-2.50	-2.31	0.61	7.75	-7.14

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## OUTPUT POWER, CHAIN 0



#### **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	For Power	For PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
142	5710	5.31	6.33	9.25	29.67	26.75

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSI
	0.00	Included in Calculations of Coll & Fower & Fo

#### **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)
142	5710	1.38	1.58	4.49	29.67	-25.18

#### **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)
142	5710	-5.77	-5.68	-2.71	26.75	-29.46

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## OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 1**



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## PSD, CHAIN 0



#### PSD, CHAIN 1



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# 8.57. 802.11ac VHT40 2Tx (CHAIN 0 + CHAIN 1 ) CDD STRADDLE CHANNEL 142 RESULTS (IC)

## 8.57.1. OUTPUT POWER AND PSD

## UNII-2C BAND

## Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Min Directional		Power	PSD
		99%	Gain	Gain	Limit	Limit
		BW	for Power	for PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
142	5710	33.170	6.33	9.25	23.67	7.75

Duty Cycle CF (dB)	0.00	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)
142	5710	11.55	11.77	14.67	23.67	-9.00

#### **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)
142	5710	-2.50	-2.31	0.61	7.75	-7.14

## OUTPUT POWER, CHAIN 0



#### **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)
142	5710	3.170	6.33	9.25	29.67	26.75

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PS
	0.00	

#### **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)
142	5710	1.04	1.30	4.18	29.67	-25.49

#### **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)
142	5710	-5.77	-5.68	-2.71	26.75	-29.46

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## OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 1**



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## PSD, CHAIN 0



#### PSD, CHAIN 1



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## 8.57.2. 6 dB BBANDWIDTH

## 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 1	
	(MHz)	(MHz)	(MHz)	
142	5710	3.300	3.300	

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## CHAIN 0

enter Fre	RF 50 Ω 2 <b>q 5.71000</b>	DC D000 GHz PNO: Fas IFGain:Lo	t ↔ Trig: Fre w #Atten: \$	NSE:INT e Run 0 dB	ALIGN AUTO #Avg Type: RMS Avg Hold: 20/20	0 11:13:45 PM TRAC TYF DE	4 Sep 09, 2016 E 1 2 3 4 5 6 E M WWWWW ET P N N N N N	Frequency
) dB/div	Ref Offset 12. Ref 20.00 d	7 dB IBM			Δ	Mkr1 3.3 -3.	00 MHz .635 dB	Auto Tune
<b>) g</b> 0.0 .00		award same	mandala	man antabel for	and with the market	Δ <sup>3</sup> 1Δ2 -		Center Fred 5.710000000 GHz
0.0 0.0 0.0								Start Fred 5.682500000 GH;
0.0 <mark>lah-Yal</mark> 0.0						"\\.	Marytown	<b>Stop Fred</b> 5.737500000 GH:
enter 5.7' Res BW 1	1000 GHz 00 kHz	#\	/BW 300 kHz		Sweep	Span 5 2.067 ms (	5.00 MHz 1001 pts)	<b>CF Ster</b> 5.500000 MH: Auto Mai
R     MODEFINE       4     Δ2     1       2     F     1       3     N     1       4     5     5	f (Δ) f f	3.300 MHz 5.725 015 GHz 5.725 675 GHz	(Δ) -3.635 -5.638 df -3.456 dl	dB Bm Bm		TH		Freq Offse
6 7 8 9								

#### CHAIN 1



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# 8.58. 802.11n HT40 2Tx (CHAIN 0 + CHAIN 2) CDD MODE IN THE 5.6 GHz BAND

## 8.58.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	26 dB BW	26 dB BW
		Chain 0	Chain 2
	(MHz)	(MHz)	(MHz)
Low	5510	40.920	40.565
Mid	5550	40.734	40.443
High	5670	40.858	40.504
142	5710	40.858	40.504

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### 26 dB BANDWIDTH, CHAIN 0





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### 26 dB BANDWIDTH, CHAIN 2





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## 8.58.2. 99% BANDWIDTH

#### <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	99% BW	99% BW	
		Chain 0	Chain 2	
	(MHz)	(MHz)	(MHz)	
Low	5510	36.259	36.282	
Mid	5550	36.420	36.406	
High	5670	36.473	36.384	
142	5710	36.340	36.270	

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### 99% BANDWIDTH, CHAIN 0





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### 99% BANDWIDTH, CHAIN 2





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# 8.58.3. AVERAGE POWER

#### **LIMITS**

None; for reporting purposes only.

#### TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### **RESULTS**

ID:	43573	Date:	9/7/16

#### Average Power Results

Channel	Frequency	Chain 0 Chain 2		Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5510	12.11	12.18	15.16
Mid	5550	12.24	12.22	15.24
High	5670	12.21	12.20	15.22
142	5710	12.21	12.12	15.18

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# 8.58.4. 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 uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0	Chain 2	<b>Uncorrelated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
4.90	5.20	5.05

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

Chain 0	Chain 2	<b>Correlated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
4.90	5.20	8.06

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### <u>RESULTS</u>

ID: 43573	Date:	9/7/16
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0.00

#### 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	5510	40.57	36.259	5.05	8.06	24.00	8.94
Mid	5550	40.44	36.406	5.05	8.06	24.00	8.94
High	5670	40.50	36.384	5.05	8.06	24.00	8.94

Duty Cycle CF (dB)

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	5510	12.11	12.18	15.16	24.00	-8.84
Mid	5550	12.24	12.22	15.24	24.00	-8.76
High	5670	12.21	12.20	15.22	24.00	-8.78

### **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	5510	-2.207	-2.191	0.81	8.94	-8.13
Mid	5550	-2.385	-2.227	0.71	8.94	-8.23
High	5670	-2.32	-2.514	0.59	8.94	-8.35

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### PSD, CHAIN 0





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### PSD, CHAIN 2



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# 8.59. 802.11ac VHT40 2Tx (CHAIN 0 + CHAIN 2) CDD STRADDLE CHANNEL 142 RESULTS (FCC)

# 8.59.1. OUTPUT POWER AND PSD

#### 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)
142	5710	35.25	5.05	8.06	24.00	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)
142	5710	11.79	11.62	14.71	24.00	-9.29

#### 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)
142	5710	-2.24	-2.50	0.64	8.94	-8.30

### OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 2**



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### PSD, CHAIN 0



#### 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	For Power	For PSD		
	(MHz)	(MHz)	(dBi)	(dBi)	(dBm)	(dBm)
142	5710	5.25	5.05	8.06	30.00	27.94

Duty Cycle CF (db) 0.00 Included in Calculations of Corr d Power & Pa	Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSI
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#### **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)
142	5710	1.62	1.47	4.55	30.00	-25.45

#### **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)
142	5710	-5.58	-5.84	-2.70	27.94	-30.64

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### OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 2**



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### PSD, CHAIN 0



#### PSD, CHAIN 2



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# 8.60. 802.11ac VHT40 2Tx (CHAIN 0 + CHAIN 2 ) CDD STRADDLE CHANNEL 142 RESULTS (IC)

# 8.60.1. OUTPUT POWER AND PSD

#### 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)
142	5710	33.140	5.05	8.06	24.00	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)
142	5710	11.76	11.59	14.68	24.00	-9.32

#### **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)
142	5710	-2.24	-2.50	0.64	8.94	-8.30

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### OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 2**



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### PSD, CHAIN 0



#### 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)
142	5710	3.135	5.05	8.06	30.00	27.94

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PS
	0.00	included in Calculations of Cont d Power & F3

#### **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)
142	5710	1.27	1.09	4.19	30.00	-25.81

#### **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)
142	5710	-5.58	-5.84	-2.70	27.94	-30.64

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### OUTPUT POWER, CHAIN 0



#### **OUTPUT POWER, CHAIN 2**



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### PSD, CHAIN 0



#### PSD, CHAIN 2



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# 8.60.2. 6 dB BBANDWIDTH

## 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)	
142	5710	3.190	3.355	

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### CHAIN 0



#### CHAIN 2



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# 8.61. 802.11n HT40 2Tx (CHAIN 1 + CHAIN 2) CDD MODE IN THE 5.6 GHz BAND

# 8.61.1. 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	5510	40.796	40.443
Mid	5550	41.044	40.504
High	5670	40.734	40.504
142	5710	40.734	40.504

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### 26 dB BANDWIDTH, CHAIN 1





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### 26 dB BANDWIDTH, CHAIN 2





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## 8.61.2. 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	5510	36.266	36.360	
Mid	5550	36.499	36.374	
High	5670	36.395	36.342	
142	5710	36.375	36.380	

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# 99% BANDWIDTH, CHAIN 1





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# 99% BANDWIDTH, CHAIN 2





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# 8.61.3. **AVERAGE POWER**

## <u>LIMITS</u>

None; for reporting purposes only.

## TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.

#### **RESULTS**

ID:	43573	Date:	9/7/16

#### Average Power Results

Channel	Frequency	Chain 1	Chain 2	Total
		Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)
Low	5510	12.12	12.18	15.16
Mid	5550	12.18	12.19	15.20
High	5670	12.17	12.20	15.20
142	5710	12.09	12.07	15.09

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# 8.61.4. 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 uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 1	Chain 2	<b>Uncorrelated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
7.40	5.20	6.44

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

Chain 1	Chain 2	<b>Correlated Chains</b>
Antenna	Antenna	Directional
Gain	Gain	Gain
(dBi)	(dBi)	(dBi)
7.40	5.20	9.38

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# <u>RESULTS</u>

ID:	43573	Date:	9/7/16
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0.00

# 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	5510	40.44	36.266	6.44	9.38	24.00	7.62
Mid	5550	40.50	36.374	6.44	9.38	24.00	7.62
High	5670	40.50	36.342	6.44	9.38	24.00	7.62

Duty Cycle CF (dB)

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	5510	12.12	12.18	15.16	24.00	-8.84
Mid	5550	12.18	12.19	15.20	24.00	-8.80
High	5670	12.17	12.20	15.20	24.00	-8.80

#### **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	5510	-2.11	-2.05	0.93	7.62	-6.69
Mid	5550	-2.19	-1.94	0.95	7.62	-6.67
High	5670	-2.04	-2.03	0.98	7.62	-6.64

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