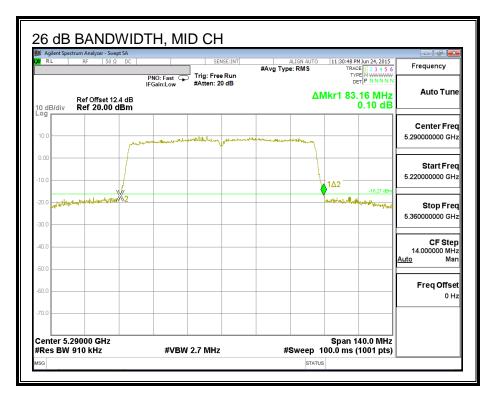
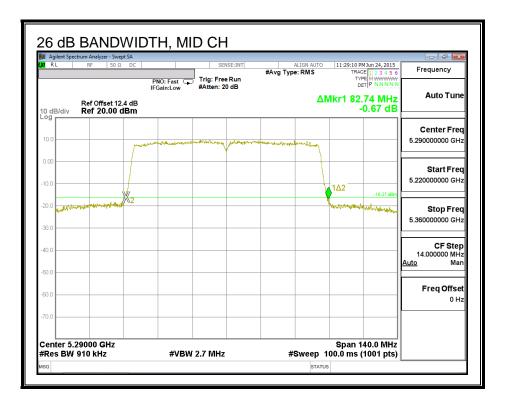
## 26 DB BANDWIDTH, CHAIN 0



### 26 DB BANDWIDTH, CHAIN 1



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## 8.23.2. 99% BANDWIDTH

## <u>LIMITS</u>

None; for reporting purposes only.

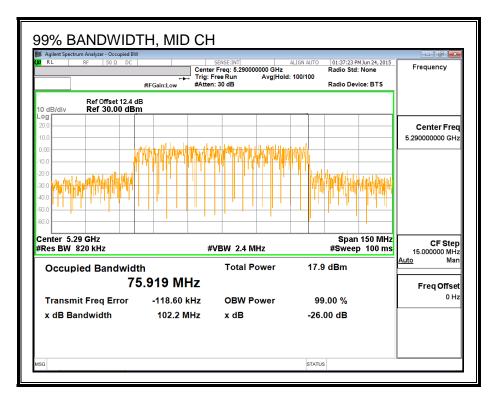
## **RESULTS**

Channel	Frequency	99% BW	99% BW	
		Chain 0	Chain 1	
	(MHz)	(MHz)	(MHz)	
Mid	5290	75.919	76.041	

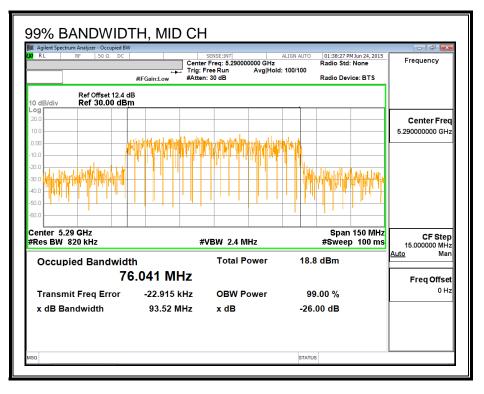
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### 99% BANDWIDTH, CHAIN 0



#### 99% BANDWIDTH, CHAIN 1



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## 8.23.3. AVERAGE POWER

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Total
		Power Power		Power
	(MHz)	(dBm) (dBm)		(dBm)
Mid	5290	13.81	13.75	16.79

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# 8.23.4. OUTPUT POWER AND PSD

## <u>LIMITS</u>

FCC §15.407 (a) (2)

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

IC RSS-247 (6.2.2) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 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.

## **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)
-2.15	1.89	0.32

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)
-2.15	1.89	3.11

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## **RESULTS**

## 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)
Mid	5290	83.16	76.041	0.32	3.11	6.05	11.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PSD
	•	

### **Output Power Results**

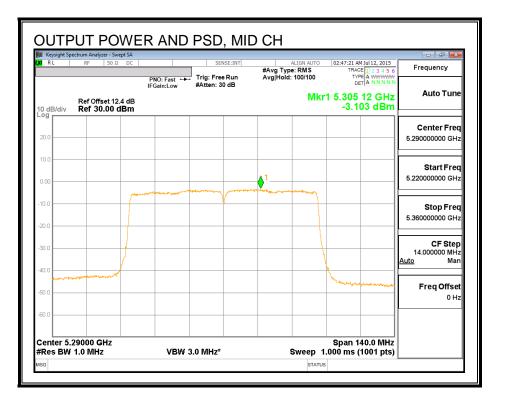
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Mid	5290	13.81	13.75	17.00	6.05	10.95

#### **PSD Results**

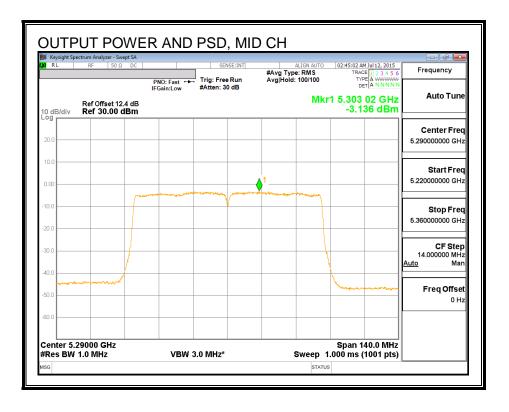
Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Mid	5290	-3.10	-3.14	0.10	11.00	-10.90

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## **OUTPUT POWER AND PSD, CHAIN 0**



## **OUTPUT POWER AND PSD, CHAIN 1**



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# 8.24. 802.11ac HT80 2Tx STBC MODE IN THE 5.3 GHz BAND

Note: Covered by 802.11ac VHT80 2Tx CDD MODE

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# 8.25. 802.11n HT20 CHAIN 0 MODE IN THE 5.6 GHz BAND

# 8.25.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

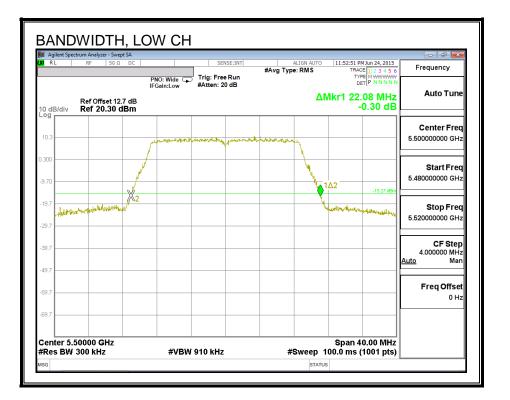
None; for reporting purposes only.

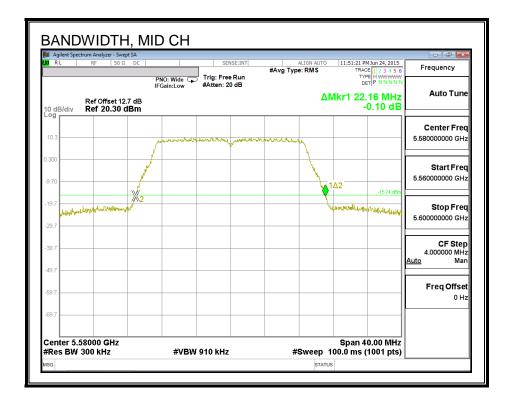
## **RESULTS**

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
Low	5500	22.08
Mid	5580	22.16
High	5700	22.12
144	5720	22.12

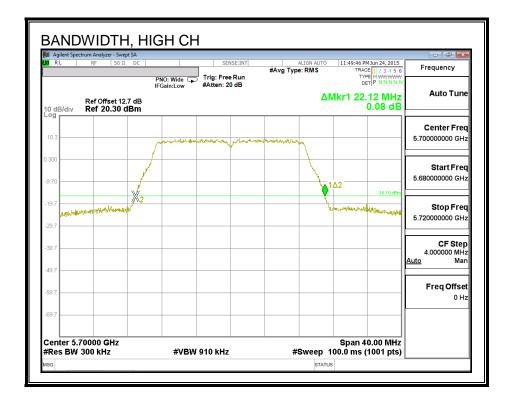
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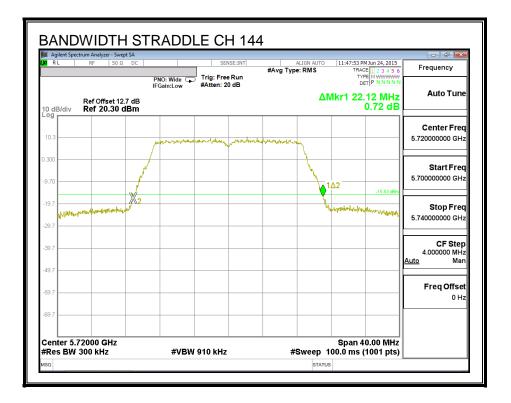
## 26 dB BANDWIDTH





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## 8.25.2. 99% BANDWIDTH

## <u>LIMITS</u>

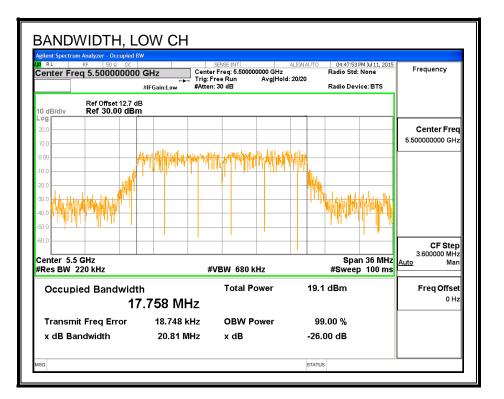
None; for reporting purposes only.

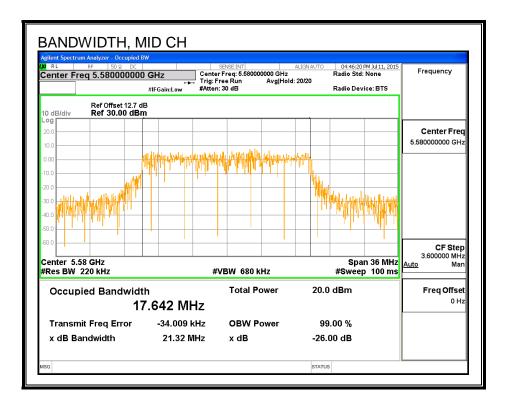
## <u>RESULTS</u>

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	5500	17.758
Mid	5580	17.642
High	5700	17.859
144	5720	17.686

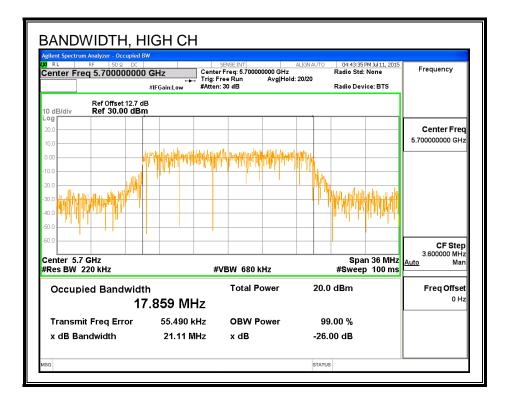
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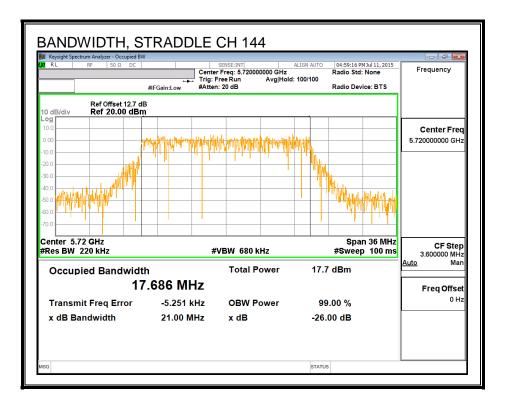
### 99% BANDWIDTH





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## 8.25.3. AVERAGE POWER

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	Power
	(MHz)	(dBm)
Low	5500	16.45
Mid	5580	17.97
High	5700	14.97
144	5720	17.92

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# 8.25.4. 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.

## **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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0.00

## **RESULTS**

### Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Min	Directional	Power	PSD
		26 dB	99%	Gain	Limit	Limit
		BW	BW			
	(MHz)	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
Low	5500	22.08	17.758	-0.12	23.49	11.00
Mid	5580	22.16	17.642	-0.12	23.47	11.00
High	5700	22.12	17.859	-0.12	23.52	11.00

Duty Cycle CF (dB)

Included in Calculations of Corr'd Power & PSD

## **Output Power Results**

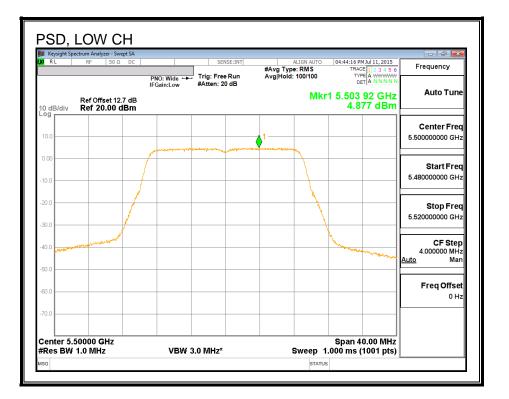
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	16.45	16.45	23.49	-7.04
Mid	5580	17.97	17.97	23.47	-5.50
High	5700	14.97	14.97	23.52	-8.55

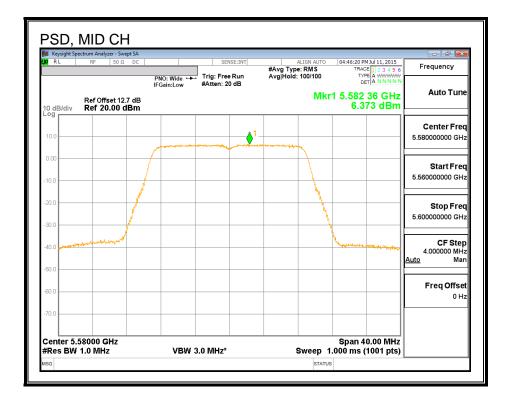
### **PSD** Results

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	4.88	4.88	11.00	-6.12
Mid	5580	6.37	6.37	11.00	-4.63
High	5700	3.56	3.56	11.00	-7.44

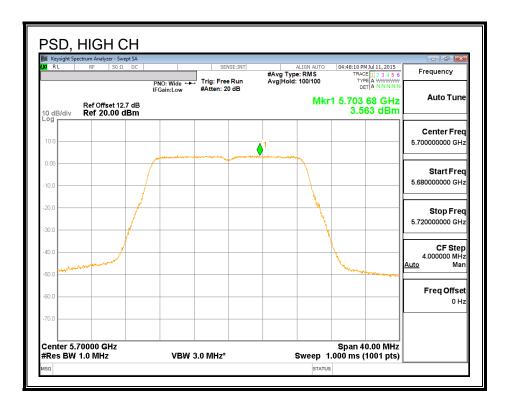
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## PSD





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## 8.25.5. STRADDLE CHANNEL 144 RESULTS

### 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)
144	5720	16.06	-0.12	-0.12	23.06	11.00

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

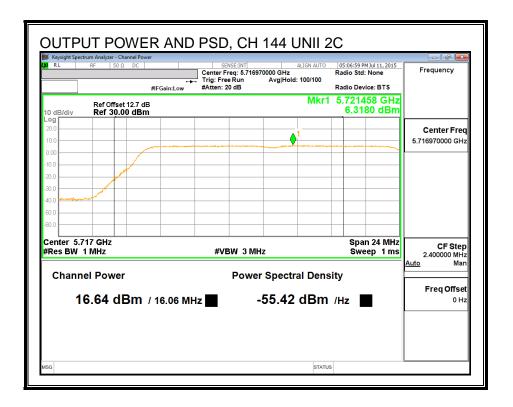
**Output Power Results** 

Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	16.64	16.64	23.06	-6.42

### **PSD Results**

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	6.32	6.32	11.00	-4.68

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## UNII-3 BAND

### Antenna Gain and Limit

Channel	Frequency	Min	Directional	Power	PSD
		26 dB	Gain	Limit	Limit
		BW			
	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
144	5720	22.12	-0.10	30.00	30.00

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

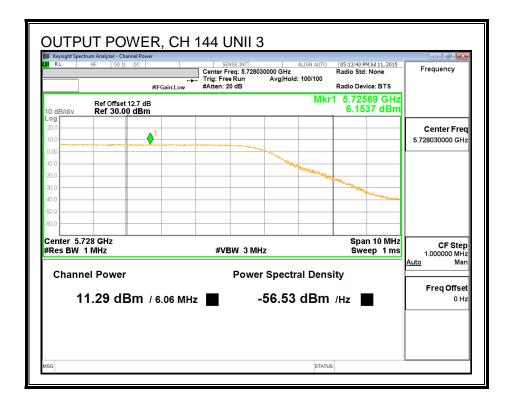
### **Output Power Results**

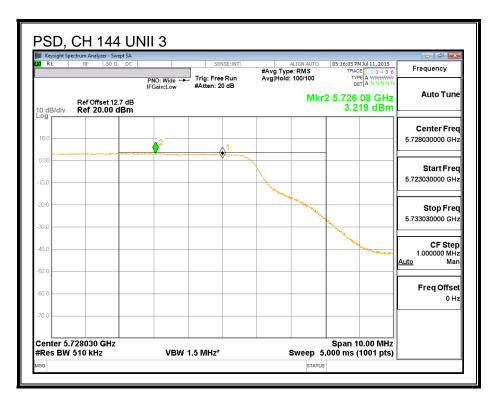
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	11.29	11.29	30.00	-18.71

#### **PSD** Results

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	3.22	3.22	30.00	-26.78

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## 8.25.6. 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**

R L	t Spectrum Anal RF	iyzer - swe 50 Ω	DC	IO: Wide 🔾	1		#Avg Typ	ALIGN AUTO e: RMS	TRAC	I Jul 11, 2015	Frequency
0 dB/di		fset 12.3 0.00 d	IF0 7 dB	Gain:Low	#Atten: 20			ΔN	/kr1 3.9	<sup>™</sup> 00 MHz 6.16 dB	Auto Tune
10.0	4	Λ		. 1							Center Freq 5.725000000 GHz
0.00 <b>M</b>	ปษาใการ์เทศไ	<sup>γ</sup> νγγγγ	1001947y4m	1 	ndratumpy	DAV-V-V-A-	hanna 1∆:			-2.06 dBm	Start Freq 5.712500000 GHz
0.0								NAN MANANA NANANA			Stop Freq 5.737500000 GHz
10.0									MALAN	ᠰ᠋ᡧ᠋ᠵᡢ᠋ᢇ	CF Step 2.500000 MHz <u>Auto</u> Man
0.0											Freq Offset 0 Hz
	5.72500 ( W 100 kH				300 kHz				Span 2: .000 ms (	5.00 MHz	

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# 8.26. 802.11n HT20 CHAIN 1 MODE IN THE 5.6 GHz BAND

# 8.26.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

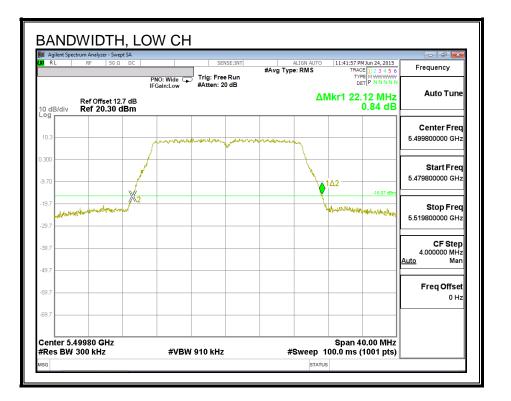
None; for reporting purposes only.

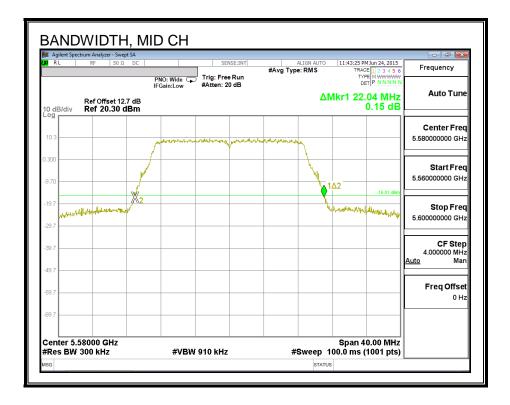
## **RESULTS**

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
Low	5500	22.12
Mid	5580	22.04
High	5700	22.08
144	5720	22.16

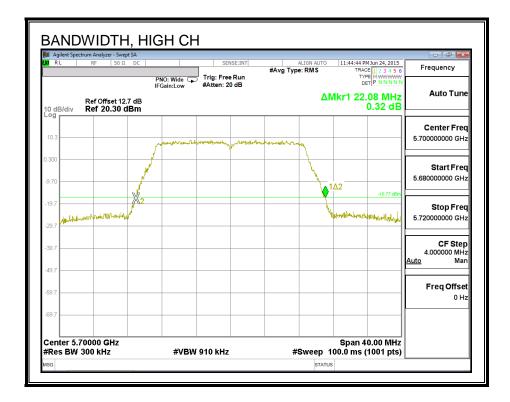
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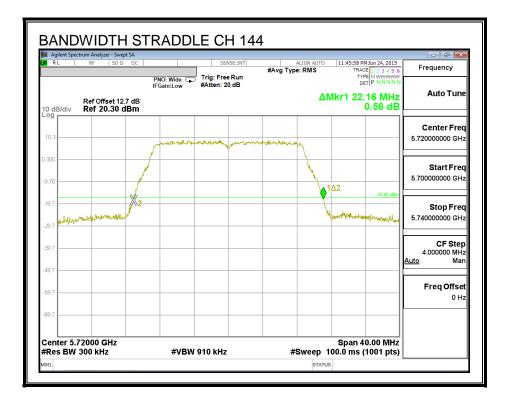
## 26 dB BANDWIDTH





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## 8.26.2. 99% BANDWIDTH

## <u>LIMITS</u>

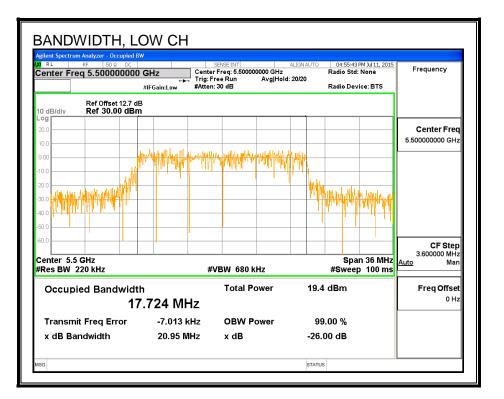
None; for reporting purposes only.

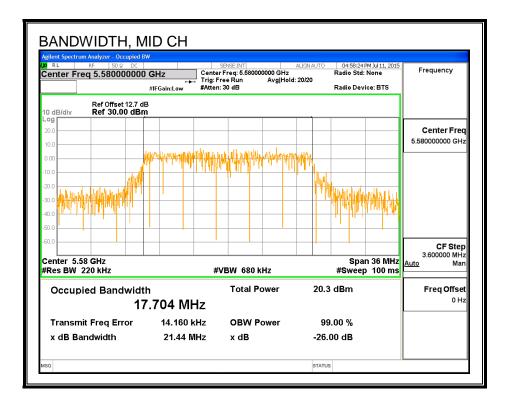
## <u>RESULTS</u>

Channel	Frequency	99% Bandwidth	
	(MHz)	(MHz)	
Low	5500	17.724	
Mid	5580	17.704	
High	5700	17.750	
144	5720	17.922	

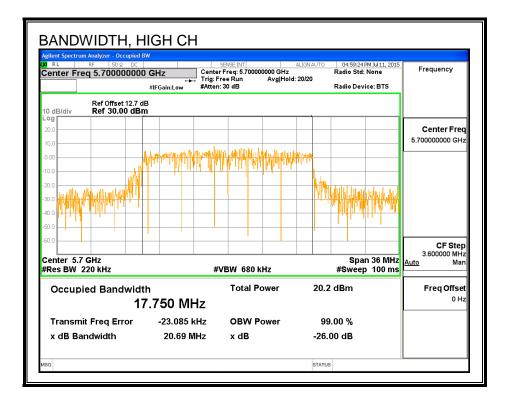
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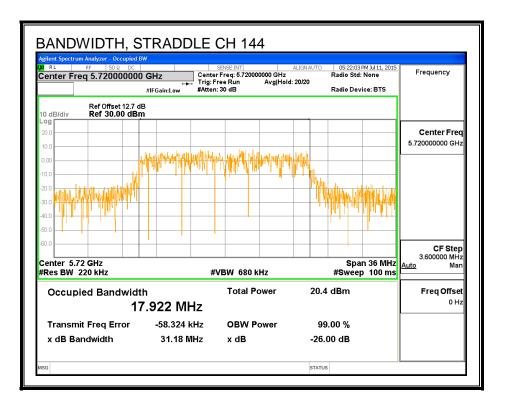
### 99% BANDWIDTH





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## 8.26.3. AVERAGE POWER

## <u>LIMITS</u>

None; for reporting purposes only.

## **RESULTS**

Channel	Frequency	Power
	(MHz)	(dBm)
Low	5500	16.45
Mid	5580	18.47
High	5700	14.91
144	5720	18.45

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# 8.26.4. 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.

## **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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## RESULTS

### Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Min	Directional	Power	PSD
		26 dB	99%	Gain	Limit	Limit
		BW	BW			
	(MHz)	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
Low	5500	22.12	17.724	0.27	23.49	11.00
Mid	5580	22.04	17.704	0.27	23.48	11.00
High	5700	22.08	17.750	0.27	23.49	11.00
Duty C	ycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD			

#### **Output Power Results**

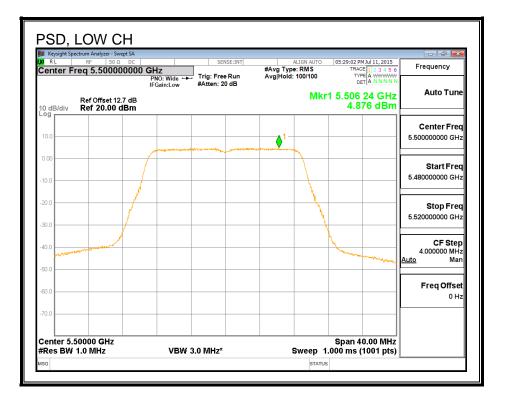
Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	16.45	16.45	23.49	-7.04
Mid	5580	18.47	18.47	23.48	-5.01
High	5700	14.91	14.91	23.49	-8.58

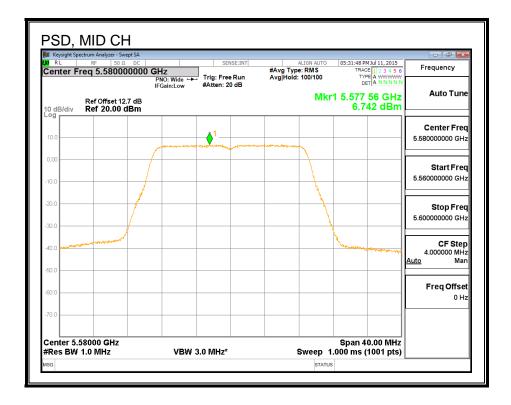
## **PSD** Results

Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	4.88	4.88	11.00	-6.12
Mid	5580	6.74	6.74	11.00	-4.26
High	5700	3.61	3.61	11.00	-7.39

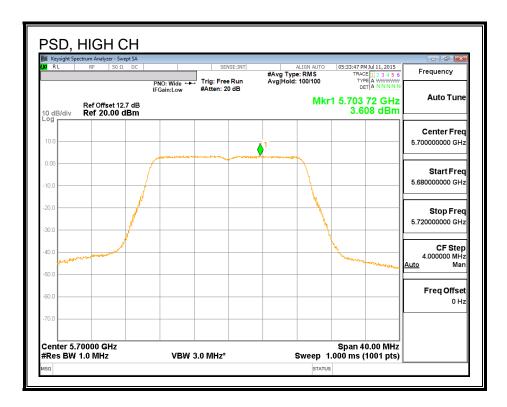
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## PSD





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## 8.26.5. STRADDLE CHANNEL 144 RESULTS

### 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)
144	5720	16.08	0.27	0.27	23.06	11.00

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

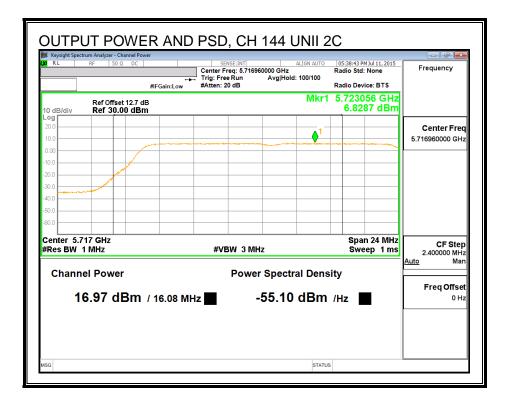
**Output Power Results** 

Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	16.97	16.97	23.06	-6.09

### **PSD Results**

Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	6.83	6.83	11.00	-4.17

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#### UNII-3 BAND

#### Antenna Gain and Limit

Channel	Frequency	Min	Directional	Power	PSD
		26 dB	Gain	Limit	Limit
		BW			
	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
144	5720	22.16	0.30	30.00	30.00

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

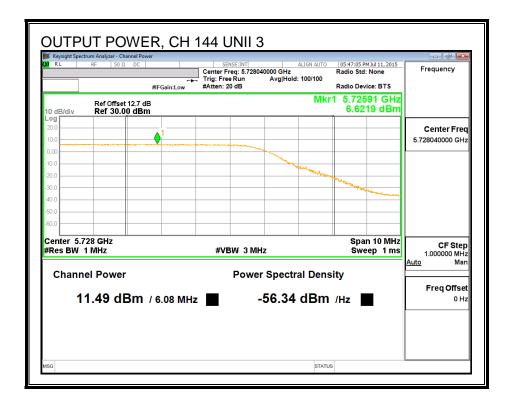
#### **Output Power Results**

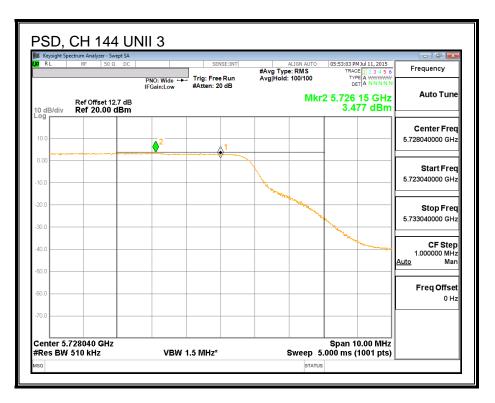
Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	11.49	11.49	30.00	-18.51

#### **PSD** Results

Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	3.48	3.48	30.00	-26.52

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## 8.26.6. 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**

RL		n Analyzer - Swi RF 50 Ω	DC		1		#Avg Type	ALIGN AUTO e: RMS	TRAC	4 Jul 11, 2015 E 1 2 3 4 5 6 E M WWW	Frequency
0 dB/		ef Offset 12 ef 20.00 c	IF4 .7 dB	NO: Wide 🕞 Gain:Low	#Atten: 20			ΔN	₀. 1kr1 3.9	00 MHz 6.36 dB	Auto Tune
10.0			l	warmeragen		//					Center Freq 5.725000000 GHz
0.00	war የባለዋ እ	prod prod how for all			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	NOP I WAR		2		-2.78 dBm	Start Freq 5.712500000 GHz
0.0							}	My by			Stop Freq 5.737500000 GHz
0.0								hy	Warder	ᡟᠬᠯᠬᠹᠯᡗᡟᠯ	CF Step 2.500000 MHz <u>Auto</u> Man
0.0											Freq Offset 0 Hz
	er 5.725 BW 100			VEM	300 kHz			Swoon 1		5.00 MHz 1001 pts)	

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# 8.27. 802.11n HT20 2Tx CDD MODE IN THE 5.6 GHz BAND

# 8.27.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

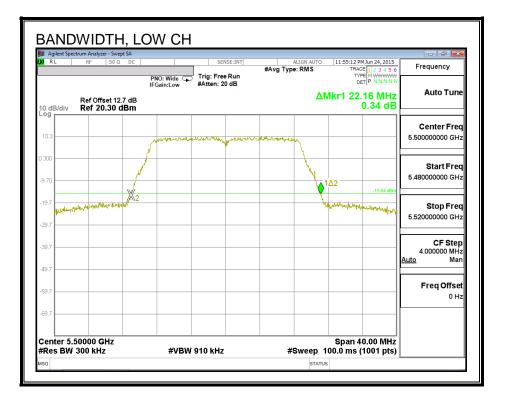
None; for reporting purposes only.

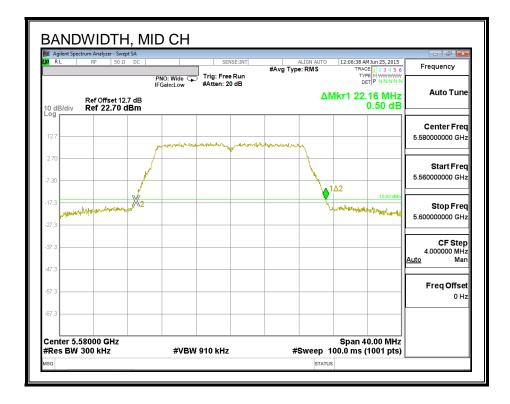
## **RESULTS**

Channel	Frequency	26 dB BW	26 dB BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5500	22.16	21.92
Mid	5580	22.16	21.88
High	5700	22.12	21.96
144	5720	22.20	21.76

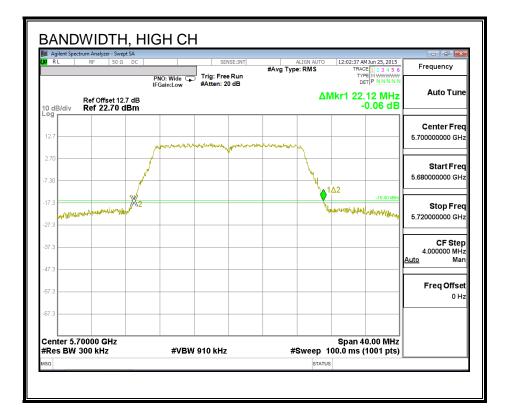
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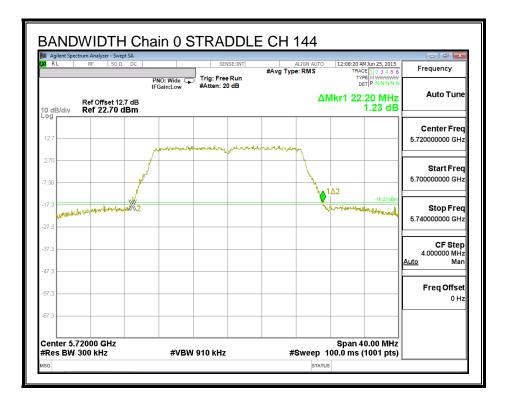
#### 26 dB BANDWIDTH, CHAIN 0





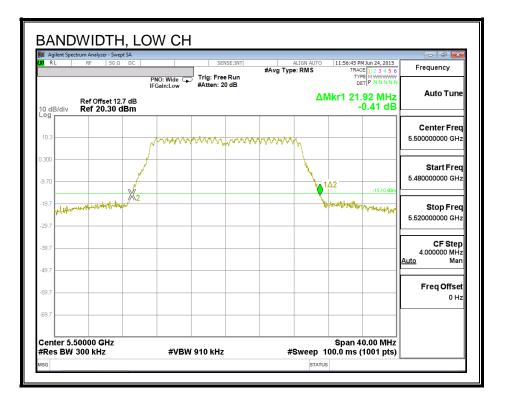
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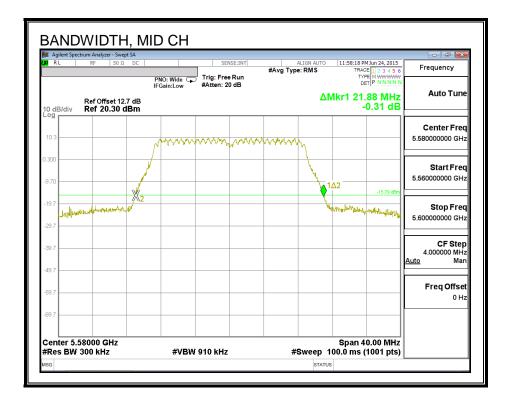




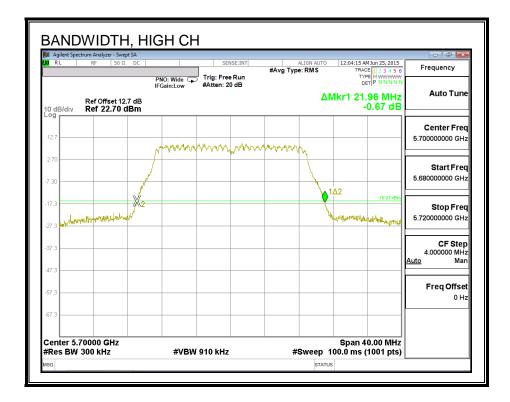
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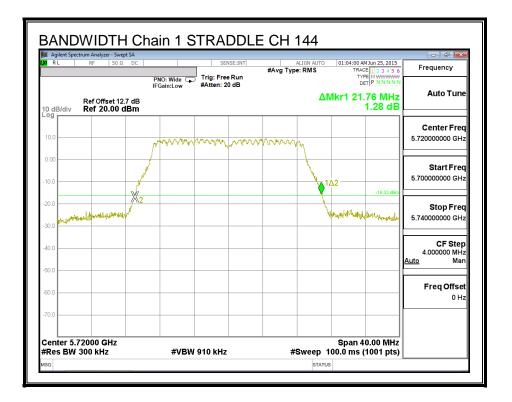
#### 26 dB BANDWIDTH, CHAIN 1





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## 8.27.2. 99% BANDWIDTH

## <u>LIMITS</u>

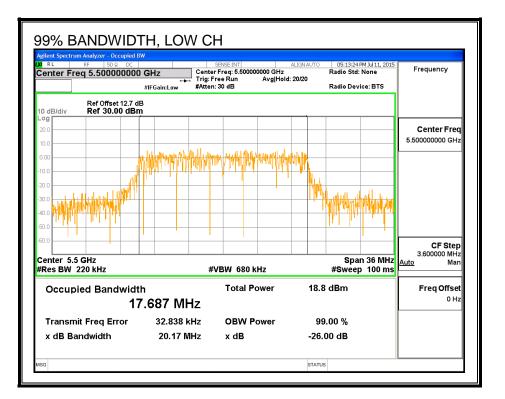
None; for reporting purposes only.

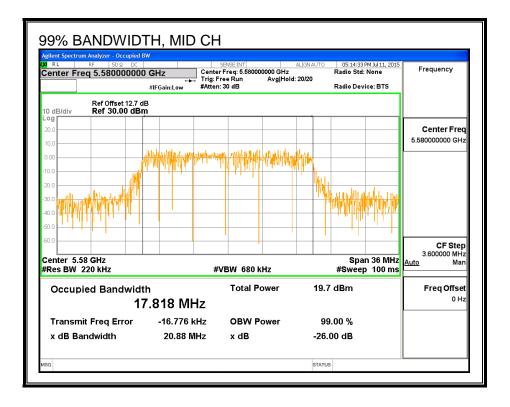
## **RESULTS**

Channel	Frequency	99% BW	99% BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5500	17.687	17.749
Mid	5580	17.818	17.883
High	5700	17.715	17.809
144	5720	17.794	17.862

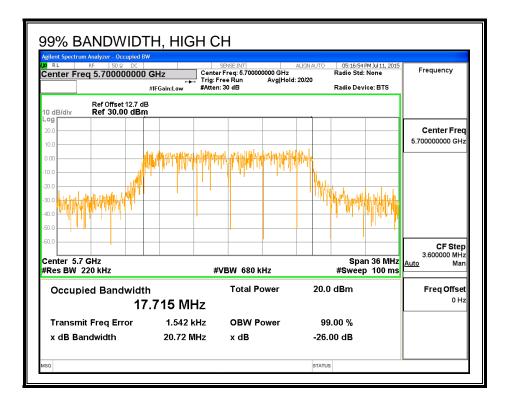
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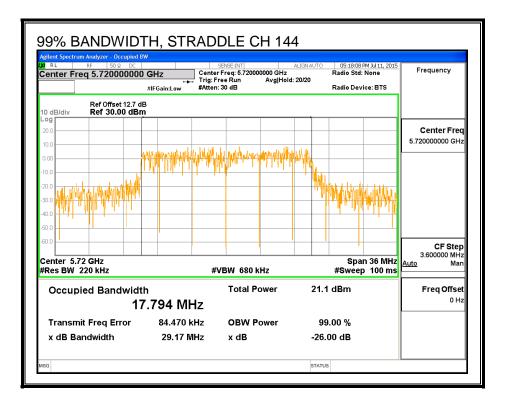
#### 99% BANDWIDTH, CHAIN 0





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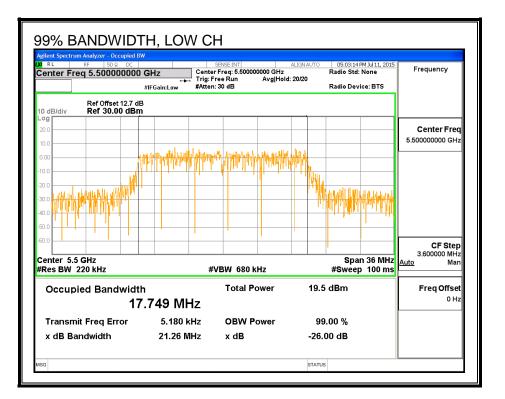


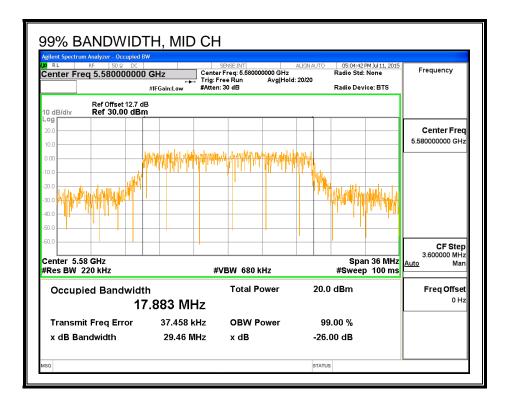


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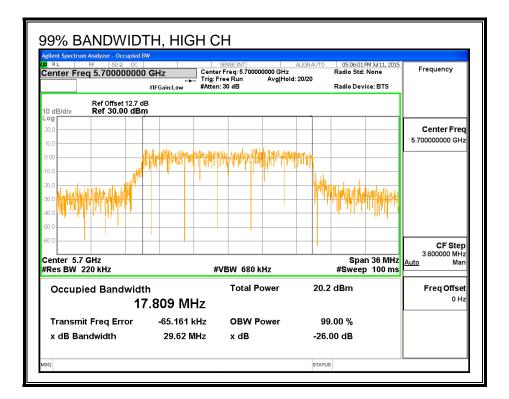
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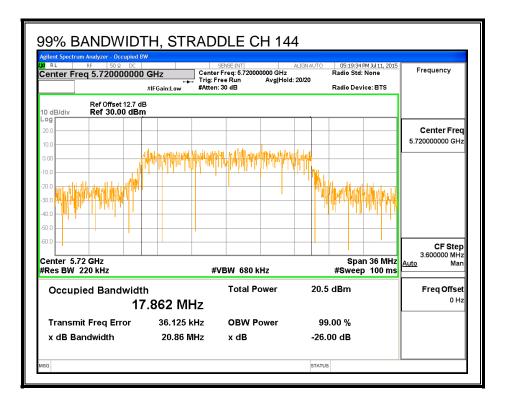
#### 99% BANDWIDTH, CHAIN 1





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## 8.27.3. AVERAGE POWER

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

None; for reporting purposes only.

## **RESULTS**

#### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Total	
		Power	Power	Power	
	(MHz)	(dBm)	(dBm)	(dBm)	
Low	5500	15.95	15.89	18.93	
Mid	5580	16.97	16.94	19.97	
High	5700	13.41	13.44	16.44	
144	5720	16.93	16.95	19.95	

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# 8.27.4. 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.

## **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)	
-0.12	0.27	0.08	

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)	
-0.12	0.27	3.09	

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## **RESULTS**

#### 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	5500	22.16	17.749	0.08	3.09	23.49	11.00
Mid	5580	22.16	17.883	0.08	3.09	23.52	11.00
High	5700	22.12	17.809	0.08	3.09	23.51	11.00

#### Duty Cycle CF (dB) 0.00

Included in Calculations of Corr'd Power & PSD

## **Output Power Results**

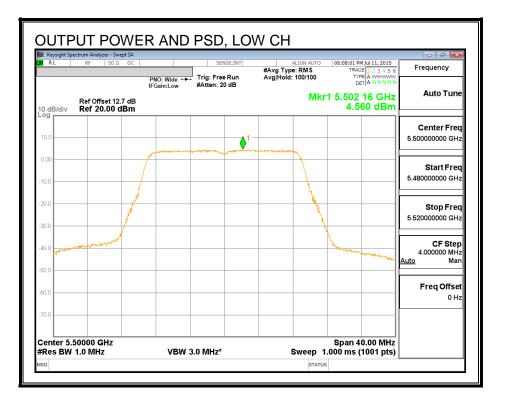
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	15.95	15.89	18.93	23.49	-4.56
Mid	5580	16.97	16.94	19.97	23.52	-3.56
High	5700	13.41	13.44	16.44	23.51	-7.07

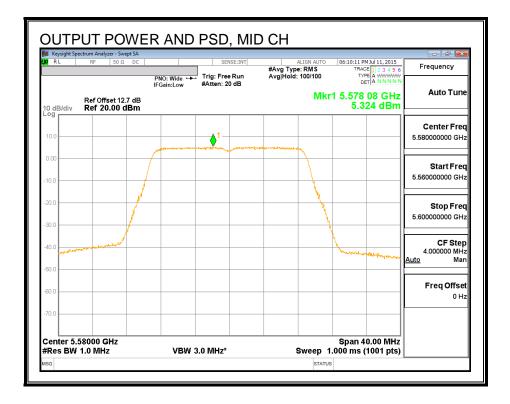
#### **PSD Results**

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	5500	4.56	4.45	7.52	11.00	-3.48
Mid	5580	5.32	5.25	8.29	11.00	-2.71
High	5700	2.07	2.15	5.12	11.00	-5.88

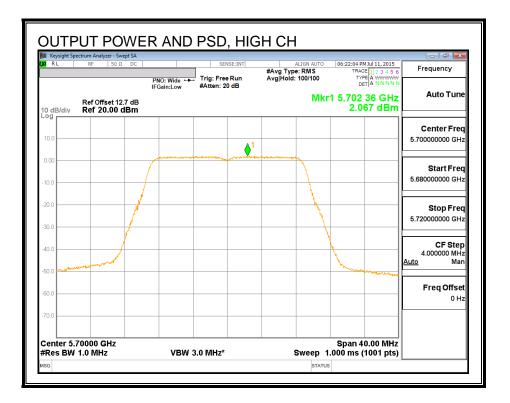
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## PSD, CHAIN 0

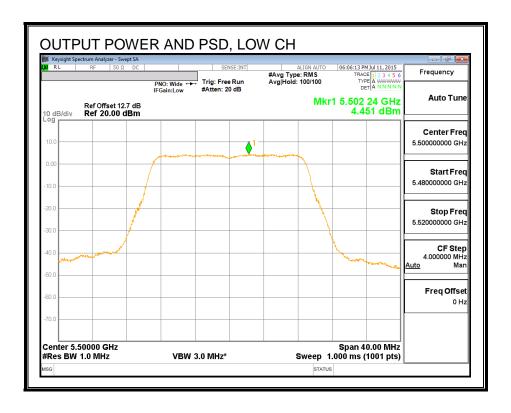




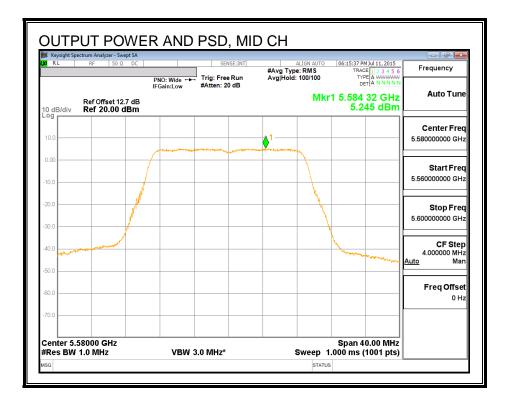
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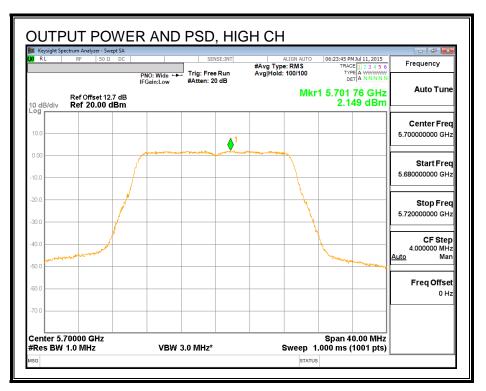


#### PSD, CHAIN 1



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## 8.27.5. STRADDLE CHANNEL 144 RESULTS

#### 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)
144	5720	16.10	0.08	3.09	23.07	11.00

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

#### **Output Power Results**

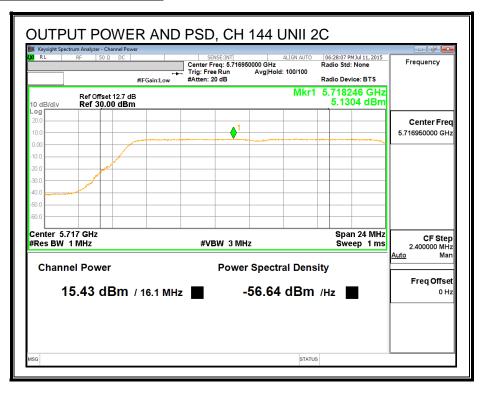
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	15.43	15.61	18.53	23.07	-4.54

#### **PSD** Results

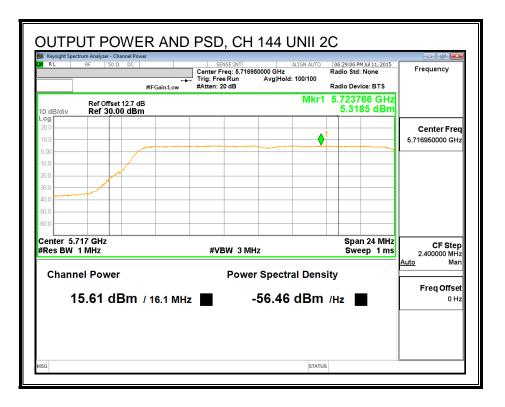
Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	5.13	5.32	8.24	11.00	-2.76

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## **OUTPUT POWER AND PSD, CHAIN 0**



#### **OUTPUT POWER AND 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)
144	5720	22.20	-0.10	0.30	30.00	30.00

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

#### **Output Power Results**

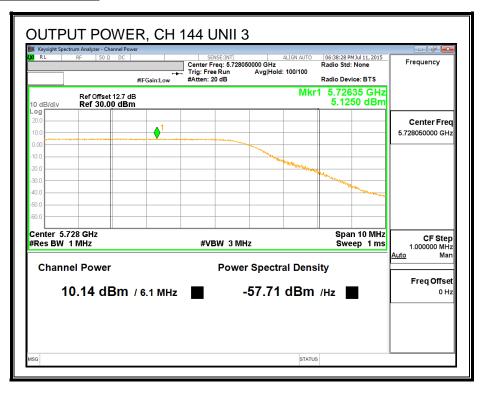
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	10.14	10.21	13.19	30.00	-16.81

#### **PSD** Results

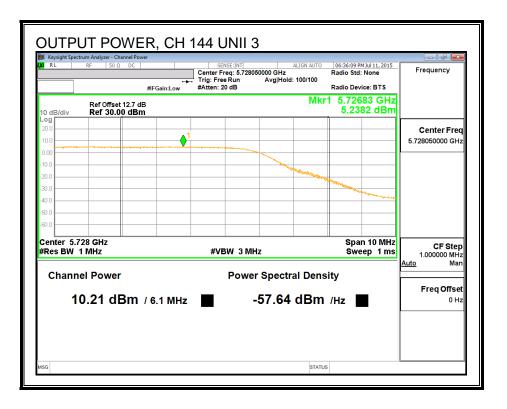
Channel	Frequency	Chain 0	Chain 1	Total	PSD	PSD
		Meas	Meas	Corr'd	Limit	Margin
		PSD	PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	1.93	2.09	5.02	30.00	-24.98

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#### **OUTPUT POWER, CHAIN 0**

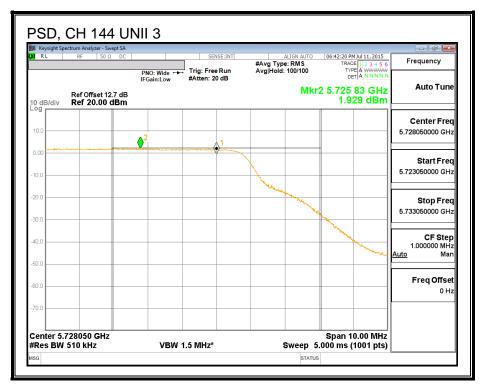


#### **OUTPUT POWER, CHAIN 1**

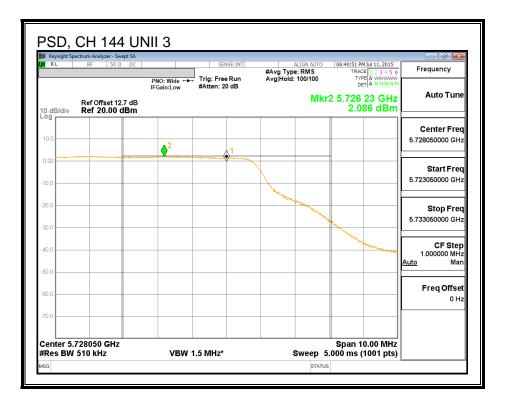


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#### PSD, CHAIN 0



#### PSD, CHAIN 1



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## 8.27.6. 6 dB BANDWIDTH

## **LIMITS**

FCC §15.407 (e)

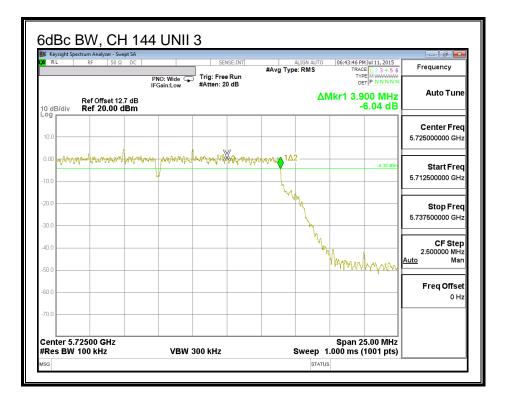
IC RSS-247 (6.2.4) (1)

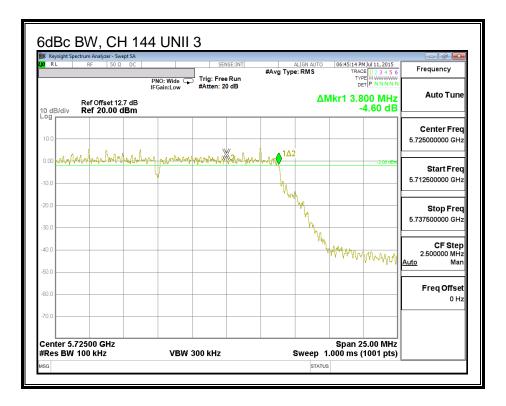
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### **RESULTS**

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# 8.28. 802.11n HT20 2Tx STBC MODE IN THE 5.6 GHz BAND

Note: Covered by 802.11n HT20 2Tx CDD MODE

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# 8.29. 802.11n HT40 CHAIN 0 MODE IN THE 5.6 GHz BAND

# 8.29.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

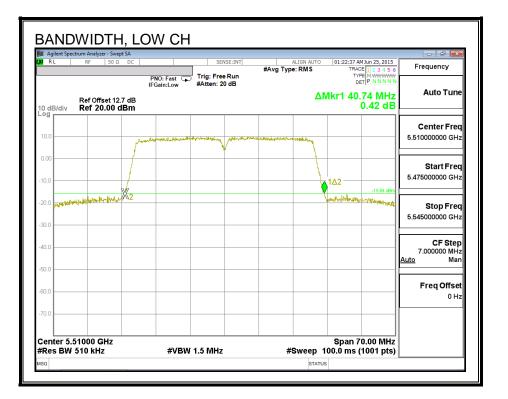
None; for reporting purposes only.

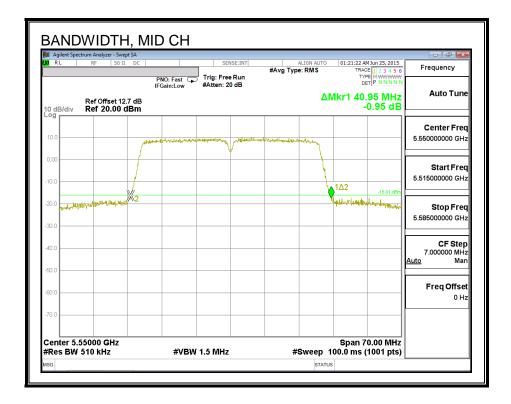
## **RESULTS**

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
Low	5510	40.74
Mid	5550	40.95
High	5670	40.60
142	5710	40.67

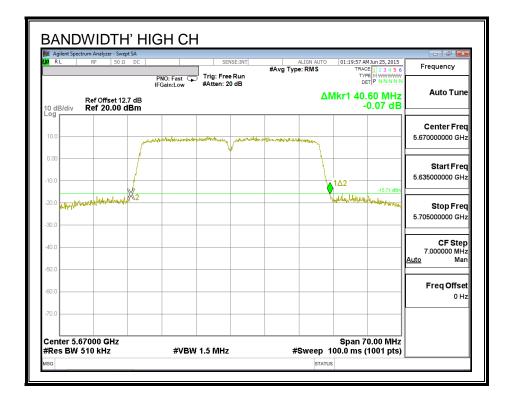
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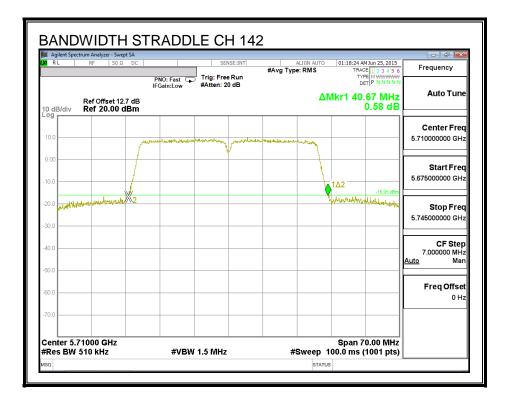
## 26 dB BANDWIDTH





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## 8.29.2. 99% BANDWIDTH

## <u>LIMITS</u>

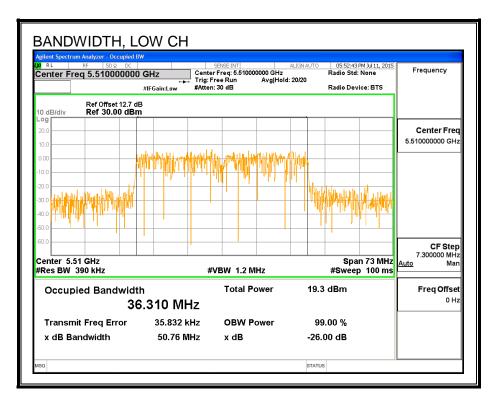
None; for reporting purposes only.

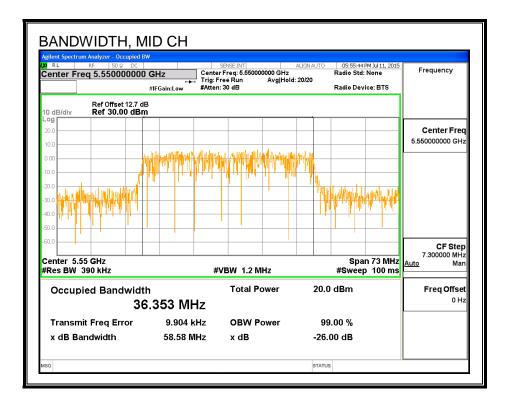
## <u>RESULTS</u>

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	5510	36.310
Mid	5550	36.353
High	5670	36.361
142	5710	36.354

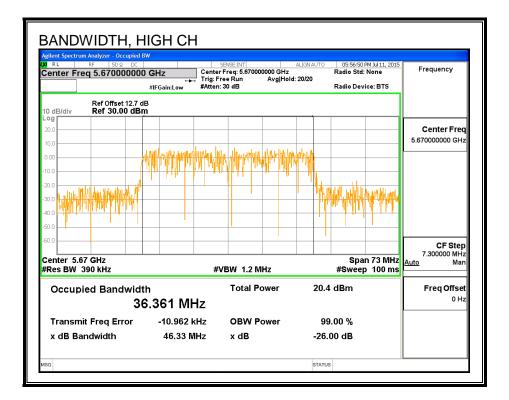
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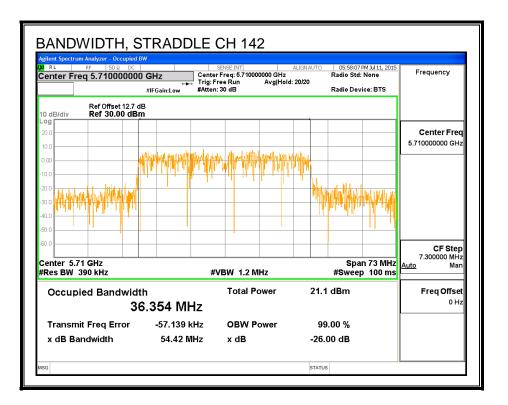
#### 99% BANDWIDTH





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## 8.29.3. AVERAGE POWER

## <u>LIMITS</u>

None; for reporting purposes only.

## <u>RESULTS</u>

Channel	Frequency	Power
	(MHz)	(dBm)
Low	5510	14.48
Mid	5550	17.48
High	5670	15.95
142	5710	17.47

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# 8.29.4. 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 peak 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.

## **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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## RESULTS

#### Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Min	Directional	Power	PSD
		26 dB	99%	Gain	Limit	Limit
		BW	BW			
	(MHz)	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
Low	5510	40.74	36.31	-0.12	24.00	11.00
Mid	5550	40.95	36.35	-0.12	24.00	11.00
High	5670	40.60	36.36	-0.12	24.00	11.00

Duty Cycle CF (dB)

Included in Calculations of Corr'd Power & PSD

0.00

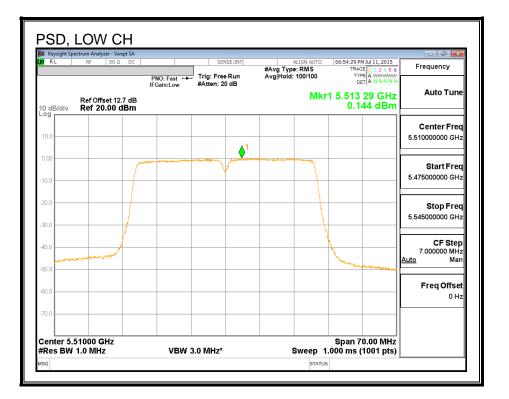
Output Po	Output Power Results							
Channel	Frequency	Chain 0	Total	Power	Power			
		Meas	Corr'd	Limit	Margin			
		Power	Power					
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)			
Low	5510	1 1 10	14.48	24.00	-9.52			
LOW	5510	14.48	14.40	24.00	-9.52			
Mid	5550	14.48	17.48	24.00	-9.52 -6.52			

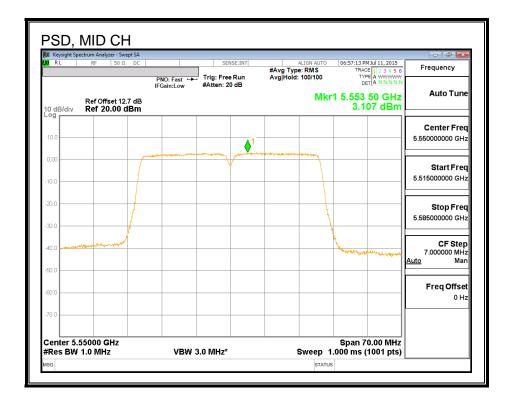
## **PSD** Results

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	0.14	0.14	11.00	-10.86
Mid	5550	3.11	3.11	11.00	-7.89
High	5670	1.58	1.58	11.00	-9.42

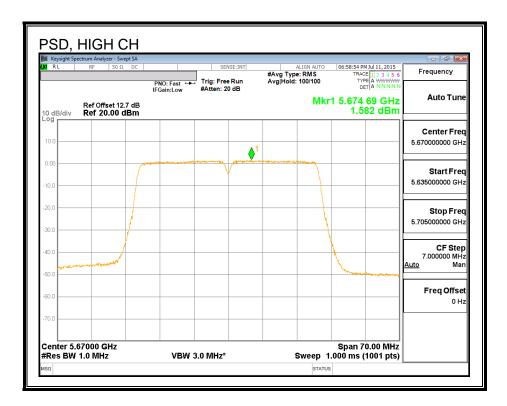
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## PSD,





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## 8.29.5. STRADDLE CH 142 RESULTS

#### 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	35.34	-0.12	-0.12	24.00	11.00

Duty Cycle CF (dB) 0.00

Included in Calculations of Corr'd Power & PSD

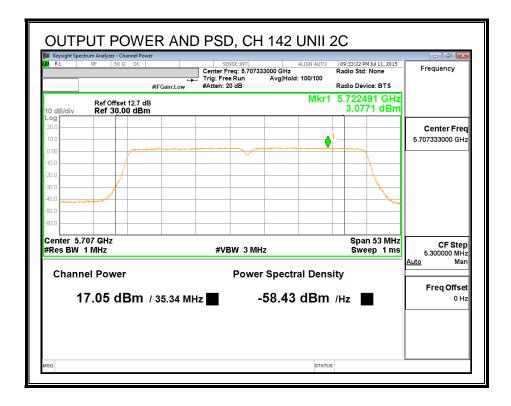
## **Output Power Results**

Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	17.05	17.05	24.00	-6.95

#### **PSD Results**

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	3.08	3.08	11.00	-7.92

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### UNII-3 BAND

#### Antenna Gain and Limit

Channel	Frequency	Min	Directional	Power	PSD
		26 dB	Gain	Limit	Limit
		BW			
	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
142	5710	40.67	-0.10	30.00	30.00

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

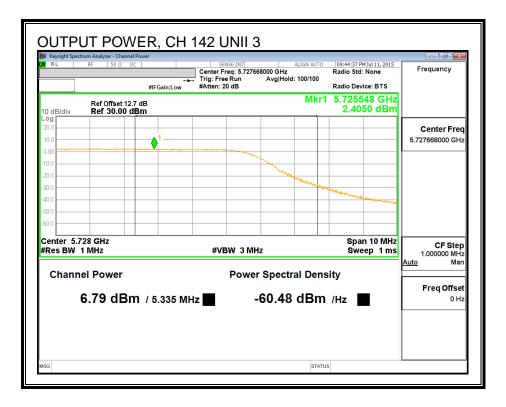
#### **Output Power Results**

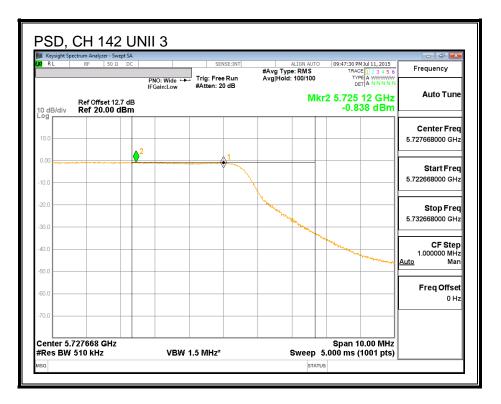
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	6.79	6.79	30.00	-23.21

#### **PSD Results**

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	-0.84	-0.84	30.00	-30.84

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## 8.29.6. 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**

Keysight Spectrum Analyzer - Sw RL RF 50 S	PNO: Wi		ALIGN AUTO #Avg Type: RMS	10:18:07 PMJul 11, 2015 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N N	Frequency
Ref Offset 12		ow #Atten: 20 dB	ΔΝ	/kr1 3.300 MHz -6.10 dB	Auto Tune
10.0					Center Freq 5.725000000 GHz
0.00	hummhaphym	nmmhmhmkingunn	μηνημη 1Δ2	-6.85 dBm	Start Fred 5.712500000 GHz
20.0			- i hou		Stop Frec 5.737500000 GHz
40.0			WWW	William	CF Step 2.500000 MHz <u>Auto</u> Mar
60.0					Freq Offse 0 H;
20.0 Center 5.72500 GHz Res BW 100 kHz		/BW 300 kHz		Span 25.00 MHz .000 ms (1001 pts)	

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# 8.30. 802.11n HT40 CHAIN 1 MODE IN THE 5.6 GHz BAND

# 8.30.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

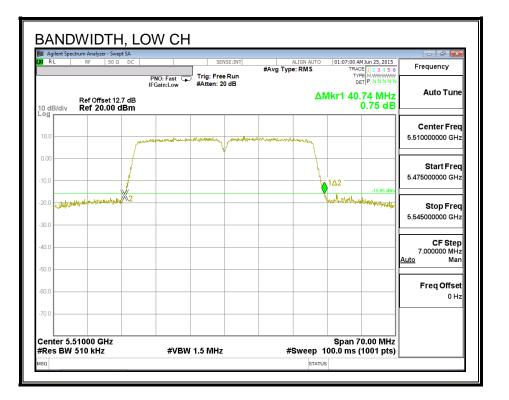
None; for reporting purposes only.

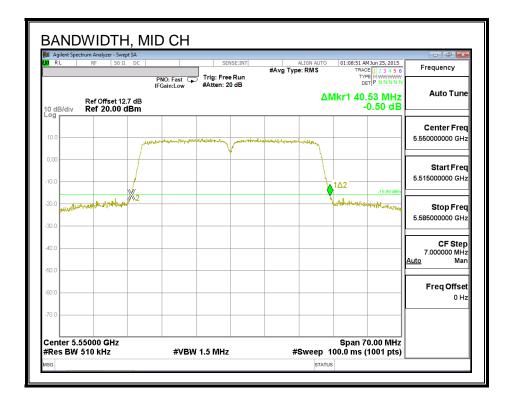
## **RESULTS**

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
Low	5510	40.74
Mid	5550	40.53
High	5670	40.74
142	5710	40.67

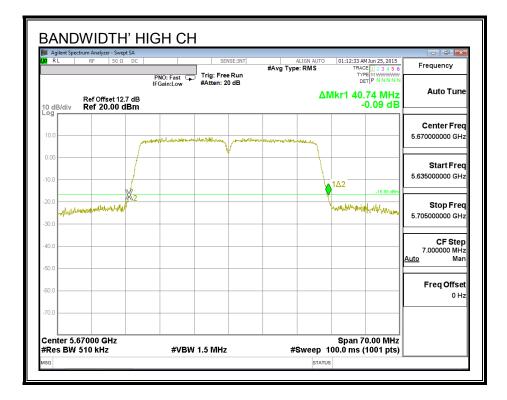
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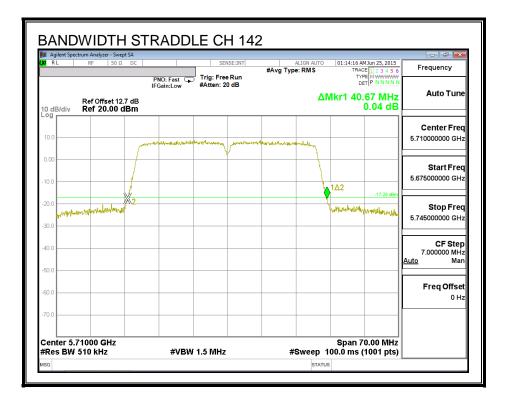
## 26 dB BANDWIDTH





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## 8.30.2. 99% BANDWIDTH

### <u>LIMITS</u>

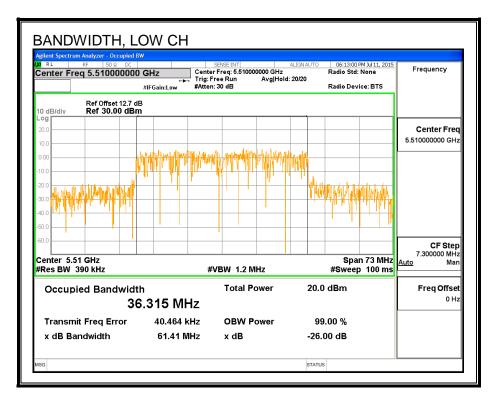
None; for reporting purposes only.

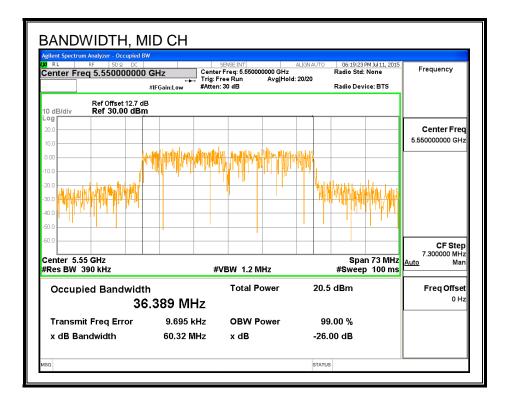
## <u>RESULTS</u>

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	5510	36.315
Mid	5550	36.389
High	5670	36.421
142	5710	36.401

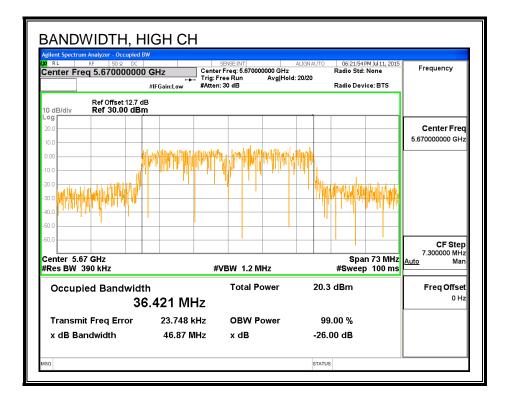
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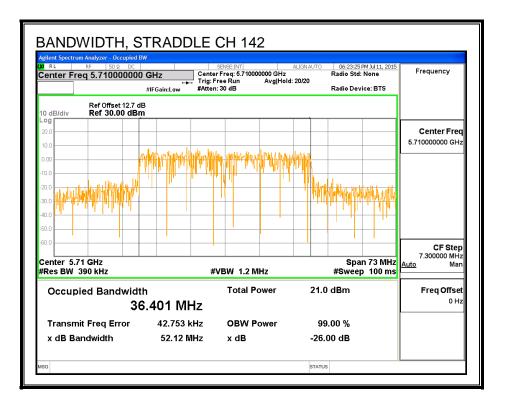
#### 99% BANDWIDTH





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## 8.30.3. AVERAGE POWER

## <u>LIMITS</u>

None; for reporting purposes only.

## <u>RESULTS</u>

Channel	Frequency	Power
	(MHz)	(dBm)
Low	5510	14.45
Mid	5550	17.98
High	5670	15.93
142	5710	17.97

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## 8.30.4. 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 peak 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.

## **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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## **RESULTS**

#### Bandwidth, Antenna Gain, and Limits

Channel	Frequency	Min	Min	Directional	Power	PSD
		26 dB	99%	Gain	Limit	Limit
		BW	BW			
	(MHz)	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
Low	5510	40.74	36.315	0.27	24.00	11.00
Mid	5550	40.53	36.389	0.27	24.00	11.00
High	5670	40.74	36.421	0.27	24.00	11.00

#### Duty Cycle CF (dB) 0.00

Included in Calculations of Corr'd Power & PSD

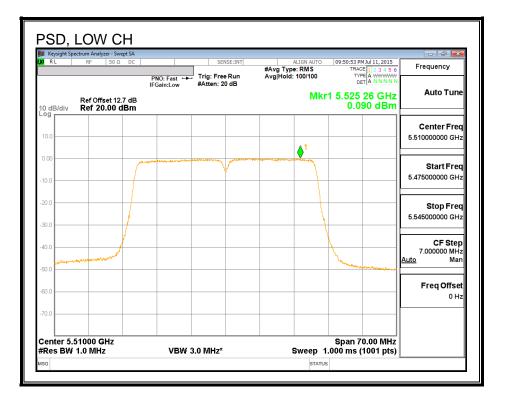
## Output Power Results

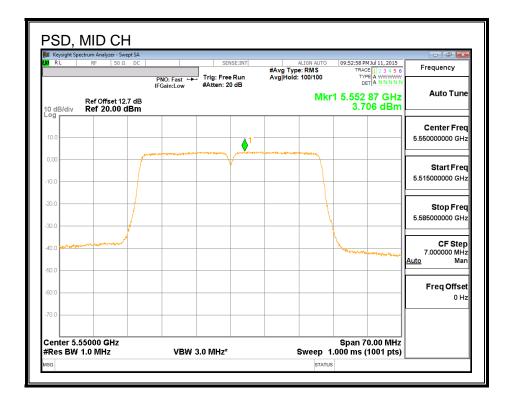
Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	14.45	14.45	24.00	-9.55
Mid	5550	17.98	17.98	24.00	-6.02
High	5670	15.93	15.93	24.00	-8.07

### **PSD** Results

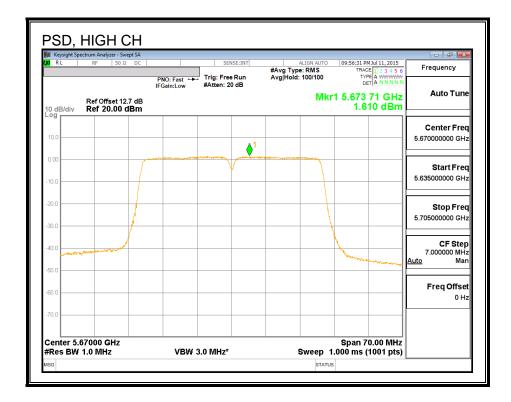
Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	0.09	0.09	11.00	-10.91
Mid	5550	3.71	3.71	11.00	-7.29
High	5670	1.61	1.61	11.00	-9.39

## PSD,





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## 8.30.5. STRADDLE CH 142 RESULTS

#### 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	35.34	0.27	0.27	24.00	11.00

Duty Cycle CF (dB) 0.00 Inc

Included in Calculations of Corr'd Power & PSD

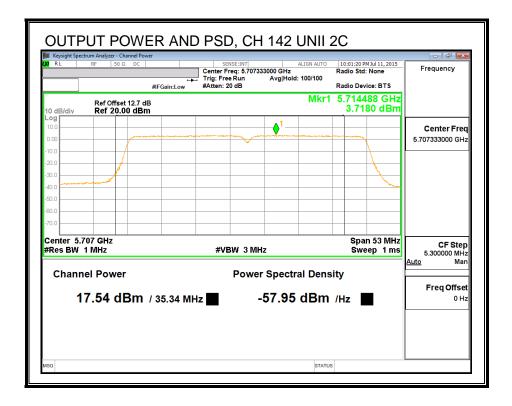
## **Output Power Results**

Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	17.54	17.54	24.00	-6.46

#### **PSD Results**

Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	3.72	3.72	11.00	-7.28

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### UNII-3 BAND

#### Antenna Gain and Limit

Channel	Frequency	Min	Directional	Power	PSD
		26 dB	Gain	Limit	Limit
		BW			
	(MHz)	(MHz)	(dBi)	(dBm)	(dBm)
142	5710	5.34	0.30	30.00	30.00

	Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSE
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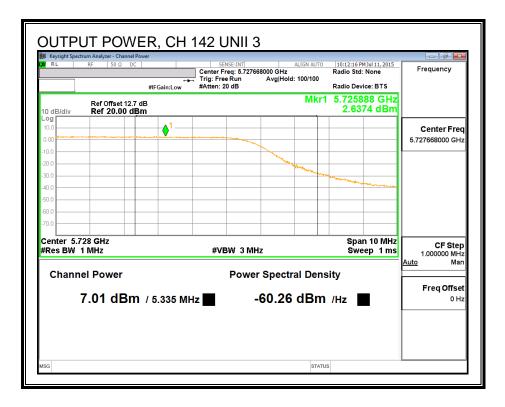
#### **Output Power Results**

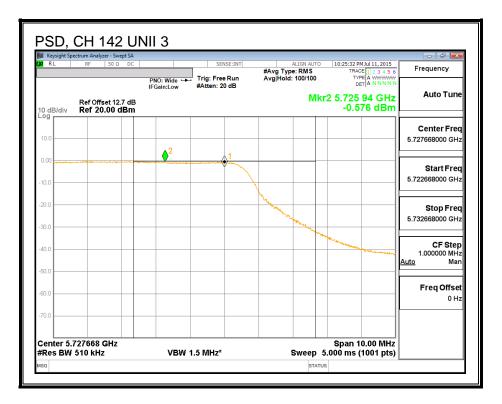
Channel	Frequency	Chain 1	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	7.01	7.01	30.00	-22.99

#### **PSD Results**

Channel	Frequency	Chain 1	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
142	5710	-0.58	-0.58	30.00	-30.58

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## 8.30.6. 6 dB BANDWIDTH

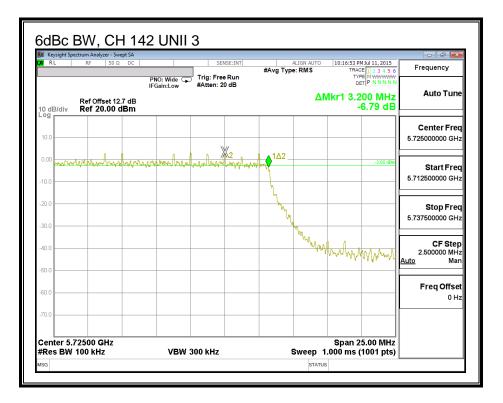
## **LIMITS**

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

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

## **RESULTS**



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# 8.31. 802.11n HT40 2Tx CDD MODE IN THE 5.6 GHz BAND

# 8.31.1. 26 dB BANDWIDTH

## **LIMITS**

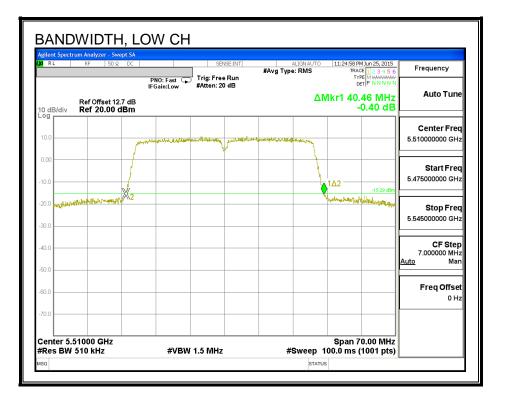
None; for reporting purposes only.

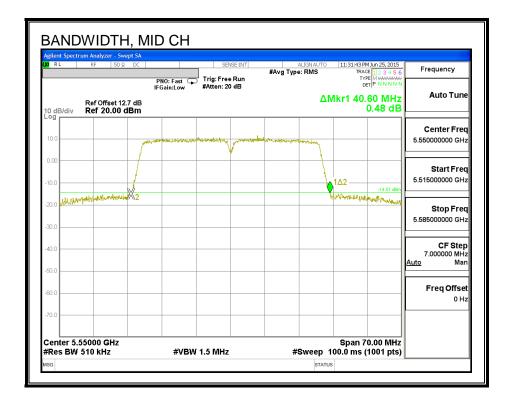
## **RESULTS**

Channel	Frequency	26 dB BW	26 dB BW
		Chain 0	Chain 1
	(MHz)	(MHz)	(MHz)
Low	5510	40.46	40.11
Mid	5550	40.60	40.18
High	5670	40.32	40.04
142	5710	39.90	39.83

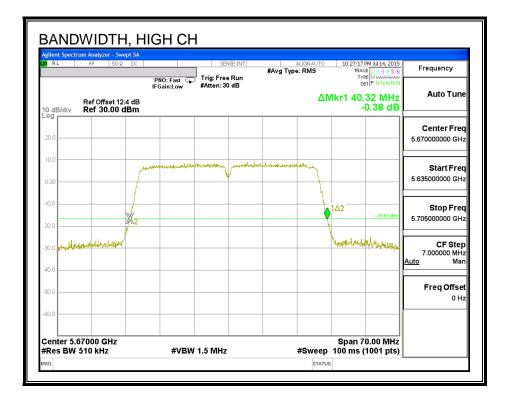
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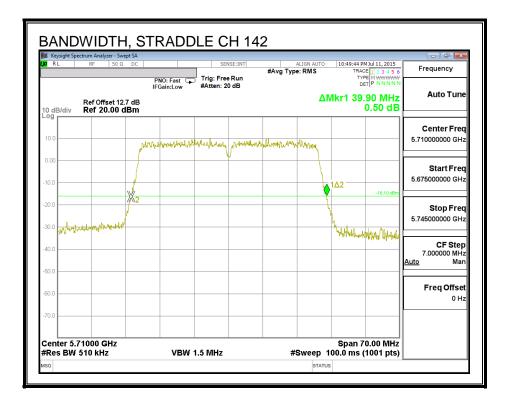
#### 26 dB BANDWIDTH, CHAIN 0





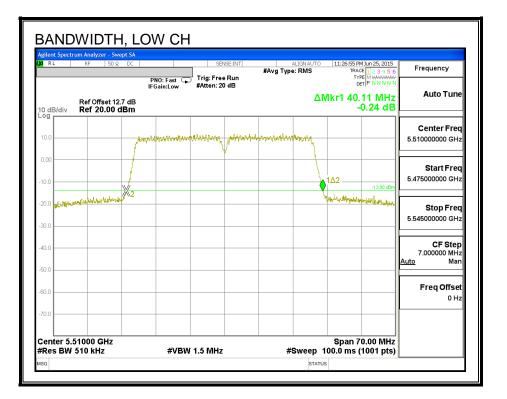
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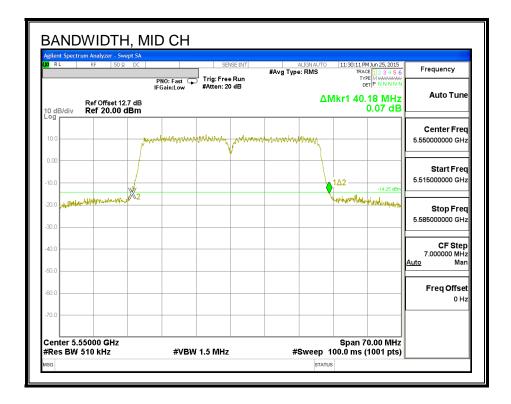




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#### 26 dB BANDWIDTH, CHAIN 1





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