

FCC ID: DKNCR90

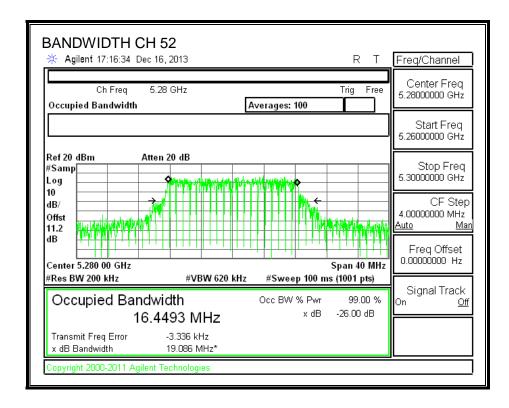
# 8.11.2. 99% BANDWIDTH

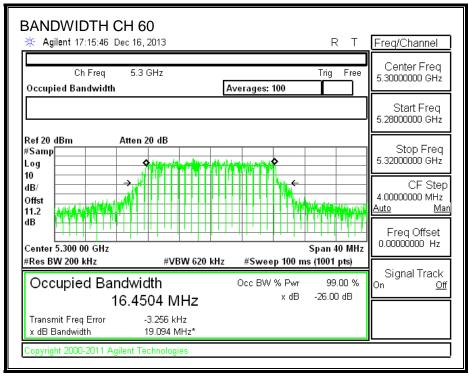
# **LIMITS**

None; for reporting purposes only.

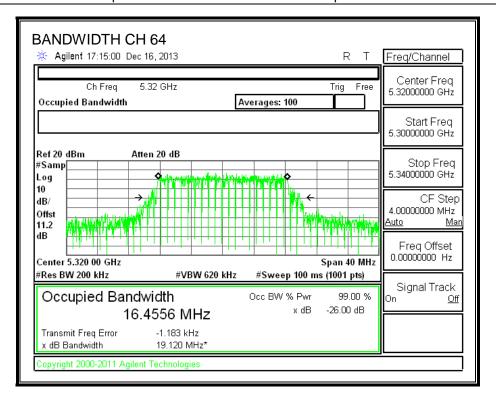
Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
52	5260	16.4493
60	5300	16.4504
64	5320	16.4556

### 99% BANDWIDTH





REPORT NO: 13U16571-2D DATE: FEBRUARY 19, 2014 FCC ID: DKNCR90



# 8.11.3. AVERAGE POWER

### **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power
	(MHz)	(dBm)
52	5260	20.52
60	5300	20.97
64	5320	19.77

### 8.11.4. OUTPUT POWER AND PPSD

### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

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

### **RESULTS**

# **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
52	5260	20.0	16.4	2.40
60	5300	20.1	16.5	2.40
64	5320	20.2	16.5	2.40

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
52	5260	24.00	23.16	29.16	23.16	11.00	11.00	11.00
60	5300	24.00	23.16	29.16	23.16	11.00	11.00	11.00
64	5320	24.00	23.16	29.16	23.16	11.00	11.00	11.00

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & PPSD
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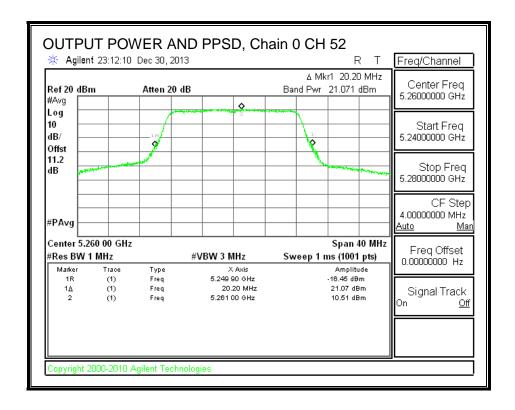
# **Output Power Results**

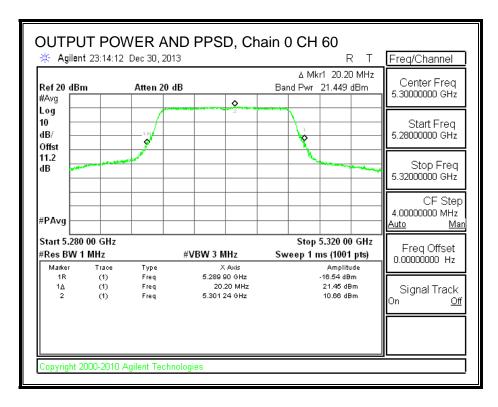
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	21.07	21.29	23.16	-1.87
60	5300	21.45	21.67	23.16	-1.49
64	5320	20.72	20.94	23.16	-2.22

### **PPSD Results**

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	10.51	10.73	11.00	-0.27
60	5300	10.66	10.88	11.00	-0.12
64	5320	9.41	9.63	11.00	-1.37

# **OUTPUT POWER AND PPSD, Chain 0**





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# 8.12. 802.11n HT20 1TX SISO MODE IN THE 5.3 GHz BAND

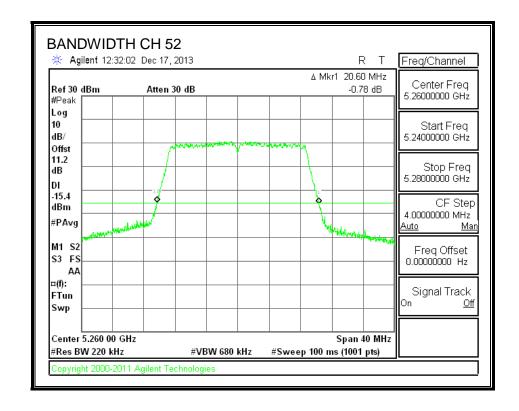
# 8.12.1. 26 dB BANDWIDTH

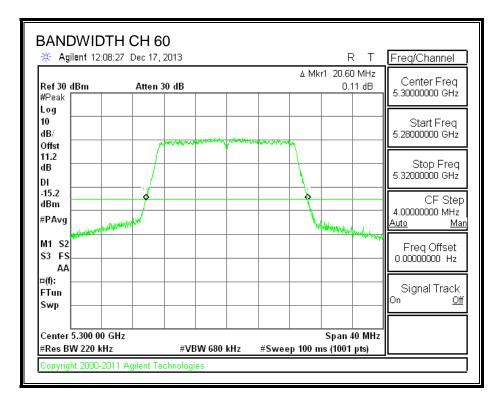
# **LIMITS**

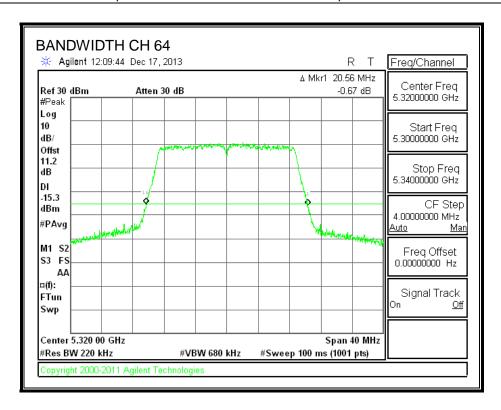
None; for reporting purposes only.

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
52	5260	20.60
60	5300	20.60
64	5320	20.56

# **26 dB BANDWIDTH**







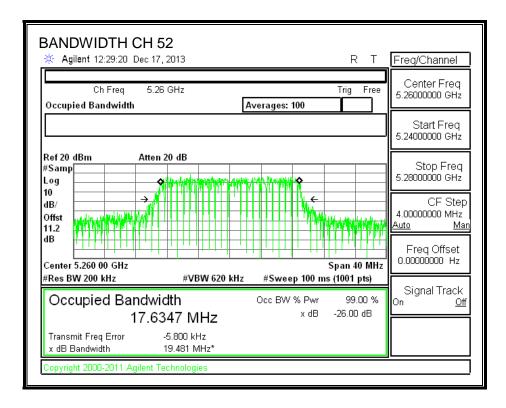
# 8.12.2. 99% BANDWIDTH

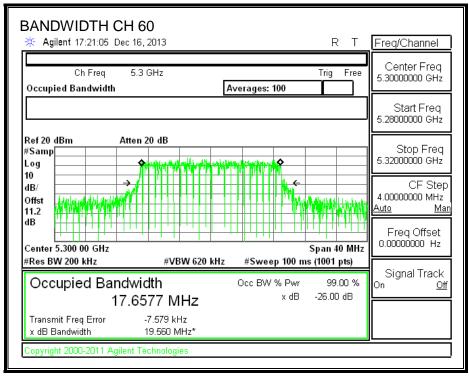
# **LIMITS**

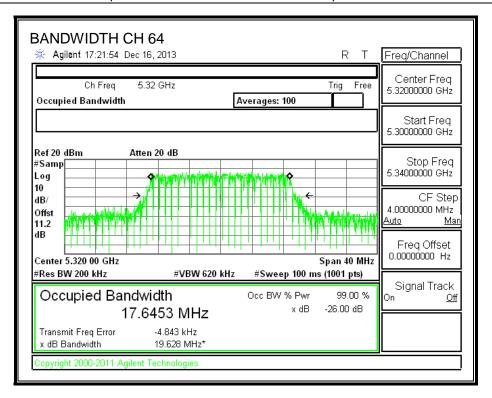
None; for reporting purposes only.

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
52	5260	17.6347
60	5300	17.6577
64	5320	17.6453

### 99% BANDWIDTH







#### **AVERAGE POWER** 8.12.3.

### **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power
	(MHz)	(dBm)
52	5260	20.05
60	5300	20.90
64	5320	19.96

#### 8.12.4. **OUTPUT POWER AND PPSD**

### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

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

Antenna
Gain
(dBi)
2.40

### **RESULTS**

### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
52	5260	20.6	17.6	2.40
60	5300	20.6	17.7	2.40
64	5320	20.6	17.6	2.40

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
52	5260	24.00	23.46	29.46	23.46	11.00	11.00	11.00
60	5300	24.00	23.47	29.47	23.47	11.00	11.00	11.00
64	5320	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & PPSD
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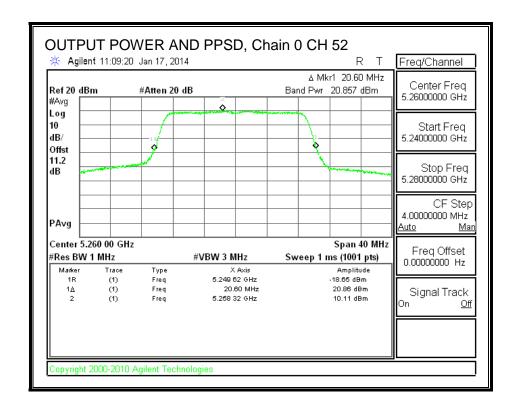
# **Output Power Results**

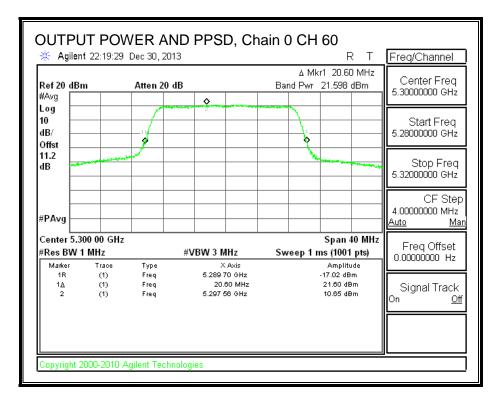
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	20.86	21.08	23.46	-2.39
60	5300	21.60	21.82	23.47	-1.65
64	5320	20.67	20.89	23.47	-2.57

#### **PPSD Results**

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	10.11	10.33	11.00	-0.67
60	5300	10.65	10.87	11.00	-0.13
64	5320	9.18	9.40	11.00	-1.60

# **OUTPUT POWER AND PPSD, Chain 0**





OUTPUT POWER AND PPSD, Chain 0 CH 64 \* Agilent 12:12:12 Dec 17, 2013 Marker Fctn Δ Mkr1 20.56 MHz Select Marker Ref 30 dBm Atten 30 dB Band Pwr 20.672 dBm 2 3 #Avg Log Marker Noise dB/ Offst 11.2 Band/Intvl dΒ Power #PAvg Center 5.320 00 GHz Span 40 MHz #Res BW 1 MHz Function Off #VBW 3 MHz #Sweep 100 ms (1001 pts) Amplitude X Axis Marker Туре 5.309 72 GHz 20.56 MHz Freq -16.70 dBm (1) (1) (1) 20.67 dBm 1∆ Freq 5.318 84 GHz 9.18 dBm Freq Marker Count opyright 2000-2011 Agilent Technologie:

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# 8.13. 802.11n HT20 3TX CDD MODE IN THE 5.3 GHz BAND

# 8.13.1. 26 dB BANDWIDTH

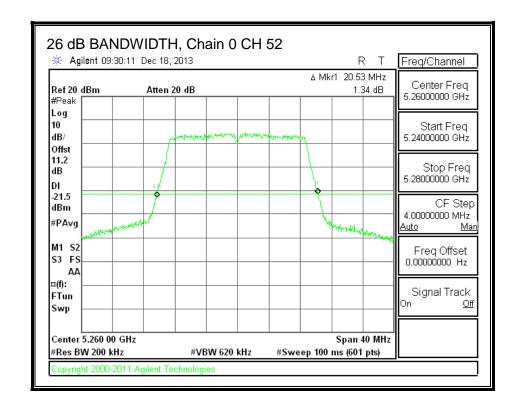
# **LIMITS**

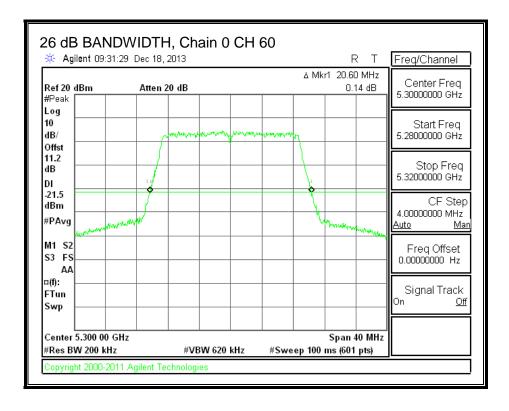
None; for reporting purposes only.

Channel	Frequency	26 dB BW	26 dB BW	26 dB BW	
		Chain 0	Chain 1	Chain 2	
	(MHz)	(MHz)	(MHz)	(MHz)	
52	5260	20.53	20.40	20.53	
60	5300	20.60	20.60	20.60	
64	5320	20.53	20.53	20.60	

### **26 dB BANDWIDTH**

### 26 dB BANDWIDTH, Chain 0





#VBW 620 kHz

# 26 dB BANDWIDTH, Chain 1

M1 S2

S3 FS

FTun

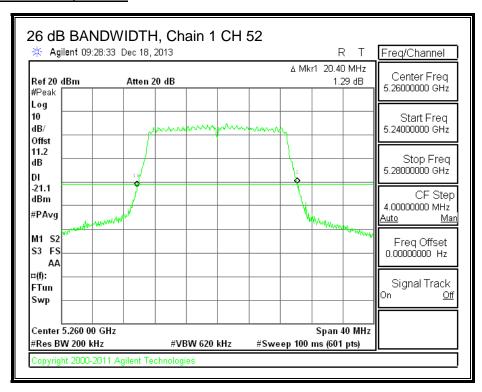
Swp

AA ⊐(f):

Center 5.320 00 GHz

opyright 2000-2011 Agilent Technologies

#Res BW 200 kHz



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Freq Offset

Signal Track

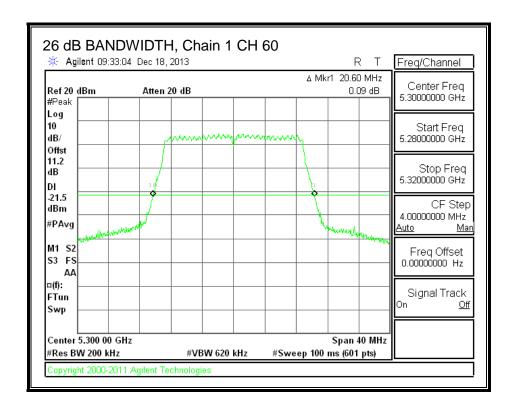
Span 40 MHz

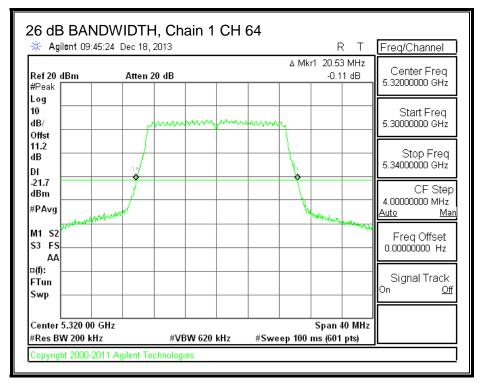
#Sweep 100 ms (601 pts)

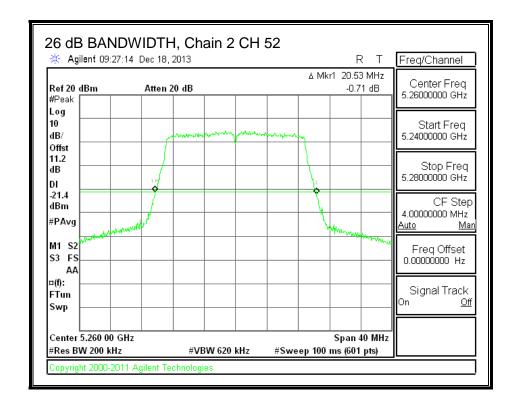
<u>Off</u>

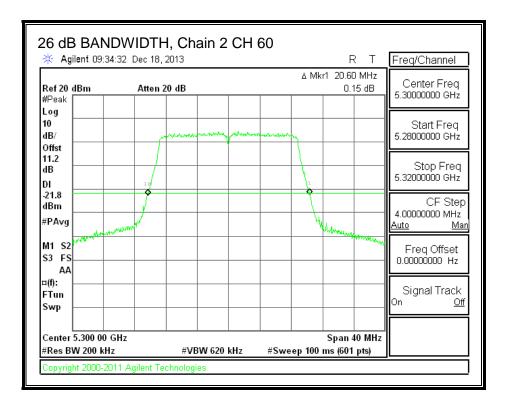
0.000000000 Hz

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# 8.13.2. 99% BANDWIDTH

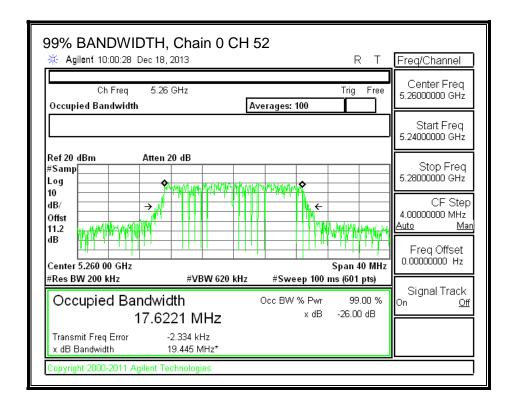
# **LIMITS**

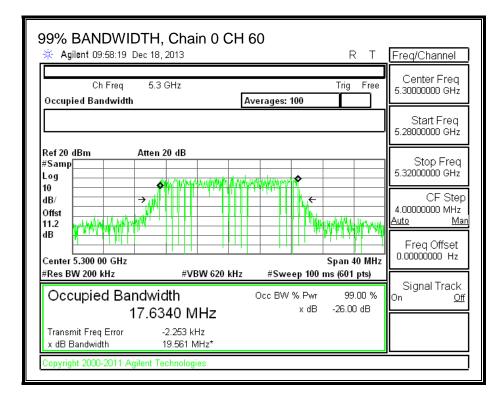
None; for reporting purposes only.

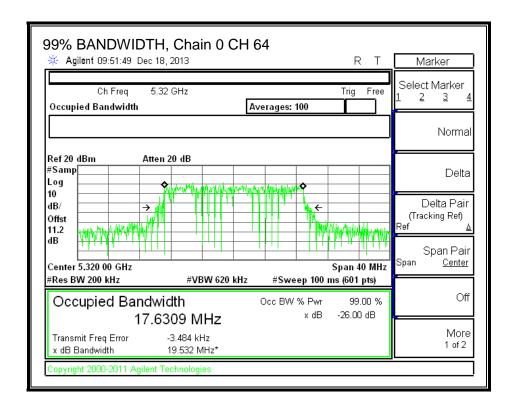
Channel	Frequency	99% BW	99% BW	99% BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
52	5260	17.6221	17.6195	17.6252
60	5300	17.6340	17.6435	17.6368
64	5320	17.6309	17.6391	17.6283

### 99% BANDWIDTH

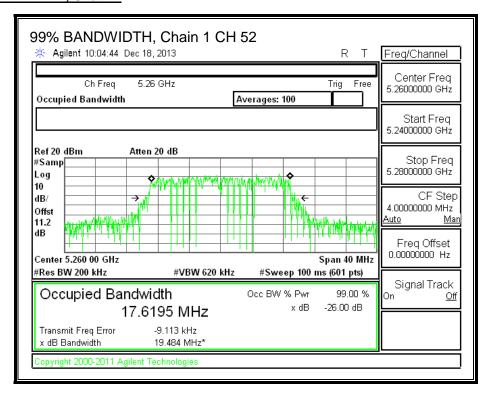
### 99% BANDWIDTH, Chain 0

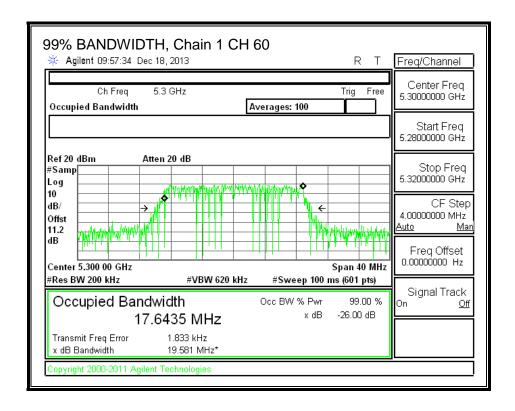


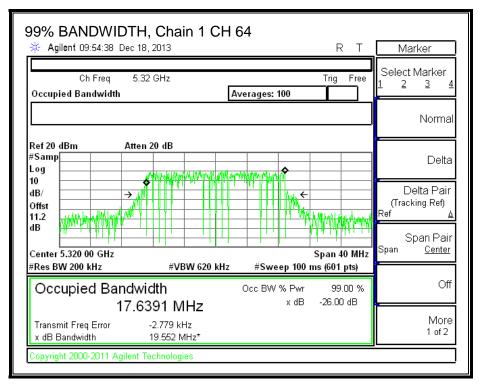




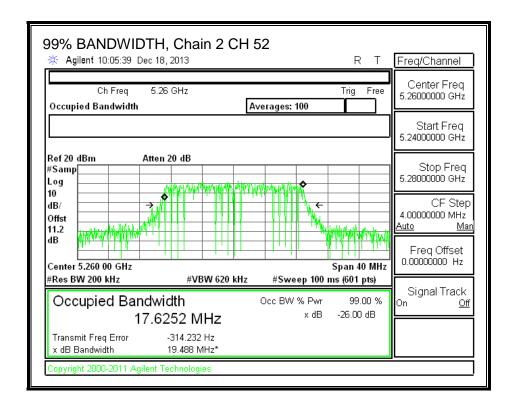
### 99% BANDWIDTH, Chain 1

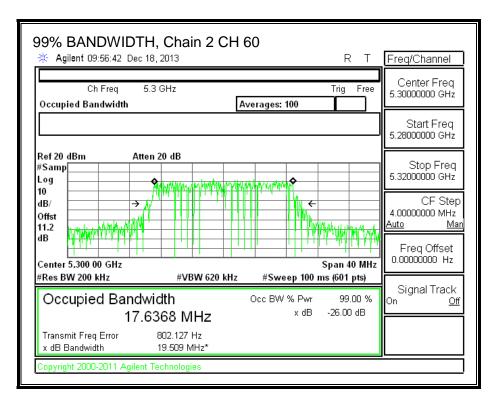


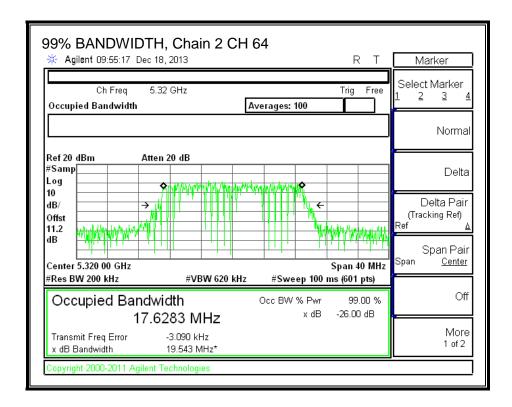




# 99% BANDWIDTH, Chain 2







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# 8.13.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

# **RESULTS**

### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
52	5260	13.87	14.26	14.33	18.93
60	5300	14.83	15.05	15.36	19.86
64	5320	14.02	14.24	14.25	18.94

### 8.13.4. OUTPUT POWER AND PPSD

### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

Antenna	10 * Log (3 chains)	<b>Correlated Chains</b>		
Gain		Directional Gain		
(dBi)	(dB)	(dBi)		
2.40	4.77	7.17		

### **RESULTS**

### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
52	5260	20.40	17.6195	2.40	7.17
60	5300	20.60	17.6340	2.40	7.17
64	5320	20.53	17.6283	2.40	7.17

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
52	5260	24.00	23.46	29.46	23.46	9.83	11.00	9.83
60	5300	24.00	23.46	29.46	23.46	9.83	11.00	9.83
64	5320	24.00	23.46	29.46	23.46	9.83	11.00	9.83

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & PPSD
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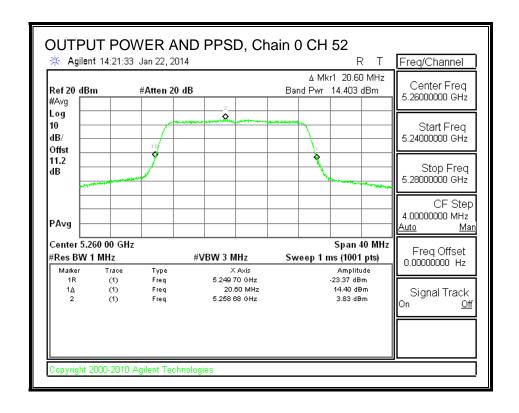
### **Output Power Results**

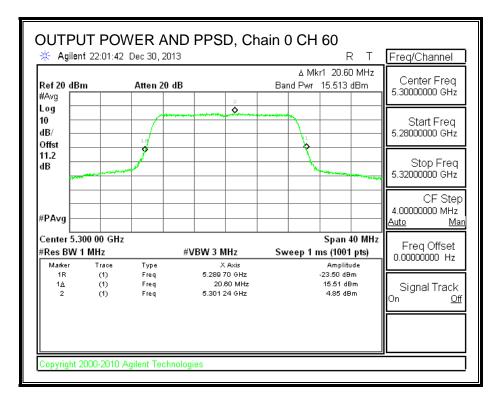
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power			
		Meas	Meas	Meas	Corr'd	Limit	Margin			
		Power	Power	Power	Power					
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)			
52	5260	14.40	14.55	14.75	19.56	23.46	-3.90			
60	5300	15.51	15.58	16.01	20.70	23.46	-2.77			
64	5320	14.67	15.04	15.14	19.95	23.46	-3.52			

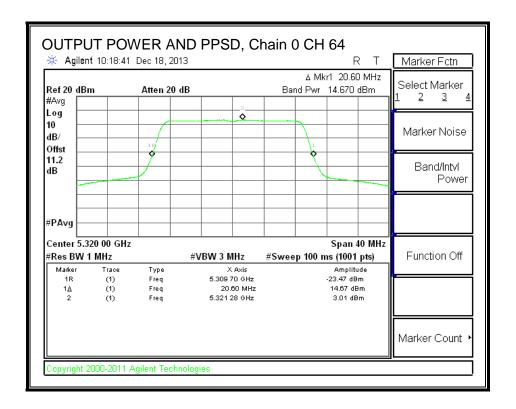
### **PPSD Results**

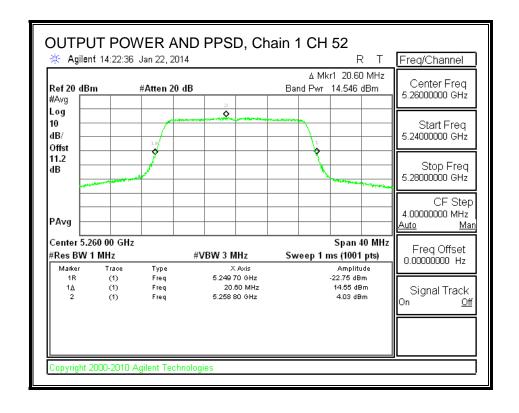
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	PPSD	PPSD
		Meas	Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	3.83	4.03	4.27	9.04	9.83	-0.79
60	5300	4.85	4.76	4.74	9.78	9.83	-0.05
64	5320	3.01	3.46	3.59	8.35	9.83	-1.48

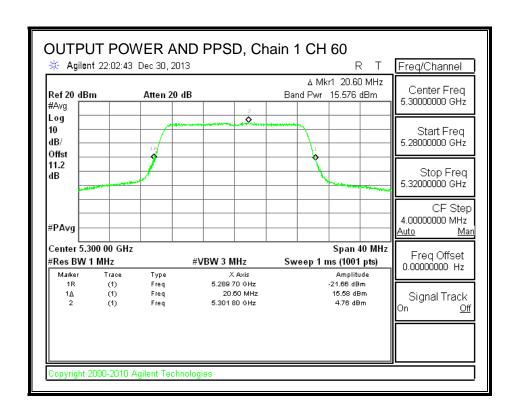
# **OUTPUT POWER AND PPSD, Chain 0**

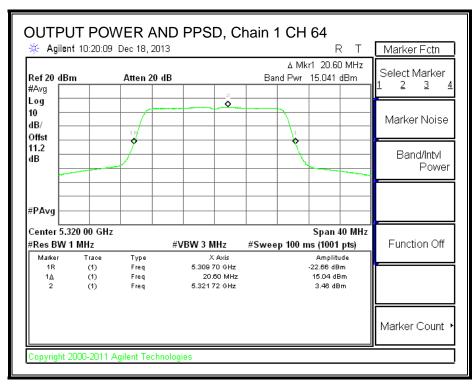


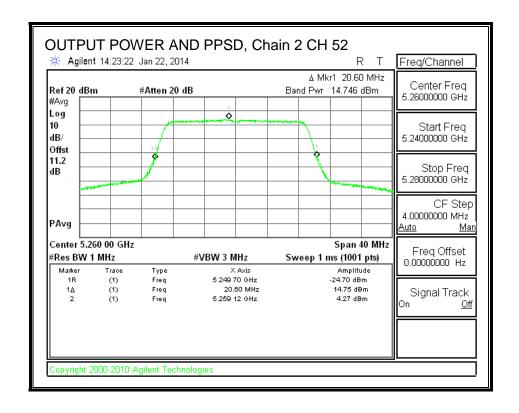


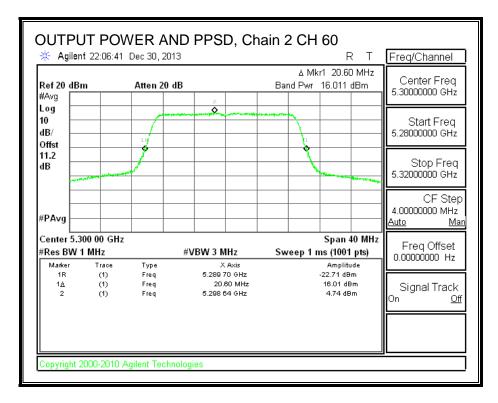












OUTPUT POWER AND PPSD, Chain 2 CH 64 \* Agilent 10:21:09 Dec 18, 2013 R Т Marker Fctn Δ Mkr1 20.60 MHz Select Marker Ref 20 dBm Atten 20 dB Band Pwr 15.141 dBm 2 #Avg Log **\$** 10 Marker Noise dB/ Offst 11.2 Band/Intvl dΒ Power ⊭PAvg Center 5.320 00 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Function Off #Sweep 100 ms (1001 pts) Amplitude Marker Trace Туре X Axis 5.309 70 GHz -23.05 dBm (1) Freq 20.60 MHz 5.318 64 GHz 15.14 dBm 3.59 dBm (1) Freq (1) Freq Marker Count opyright 2000-2011 Agilent Technologies

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# 8.14. 802.11n HT20 3TX SDM MODE IN THE 5.3 GHz BAND

# 8.14.1. 26 dB BANDWIDTH

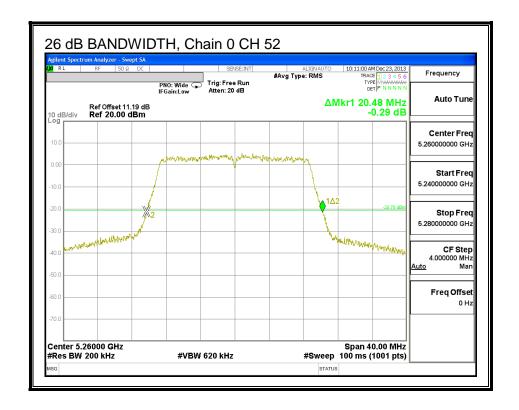
# **LIMITS**

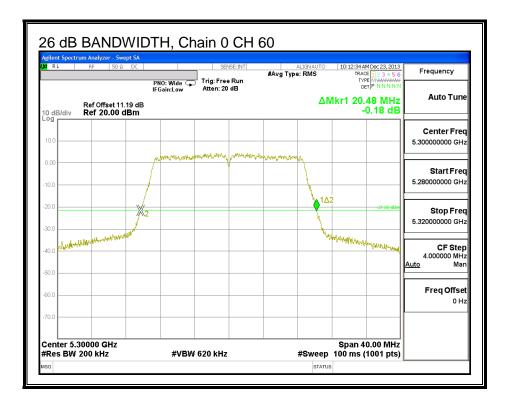
None; for reporting purposes only.

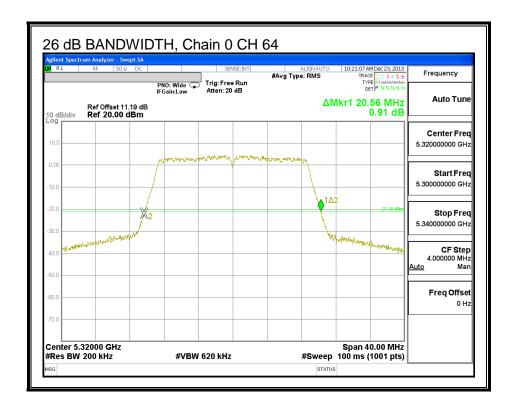
# **RESULTS**

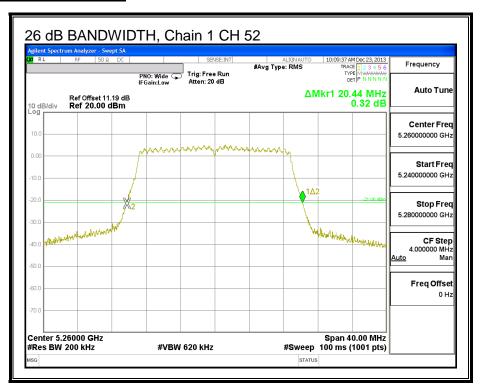
Channel	el Frequency 26 dB		26 dB BW	26 dB BW	
		Chain 0	Chain 1	Chain 2	
	(MHz)	(MHz)	(MHz)	(MHz)	
52	5260	20.48	20.44	20.36	
60	5300	20.48	20.44	20.40	
64	5320	20.56	20.44	20.40	

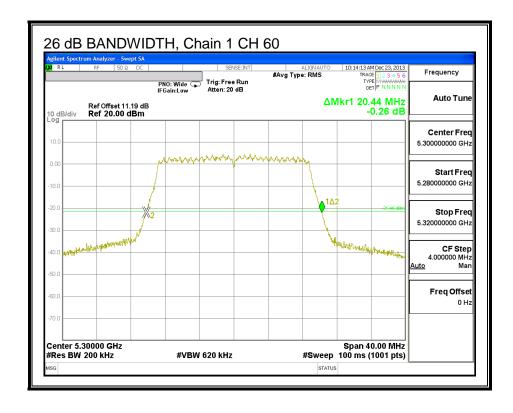
#### **26 dB BANDWIDTH**

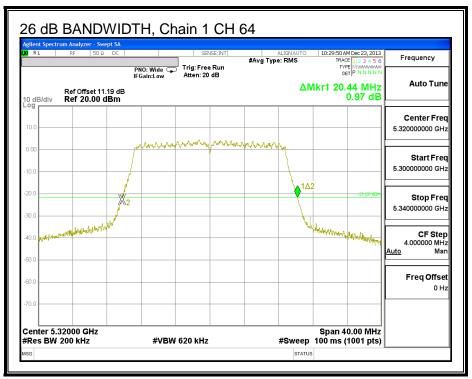


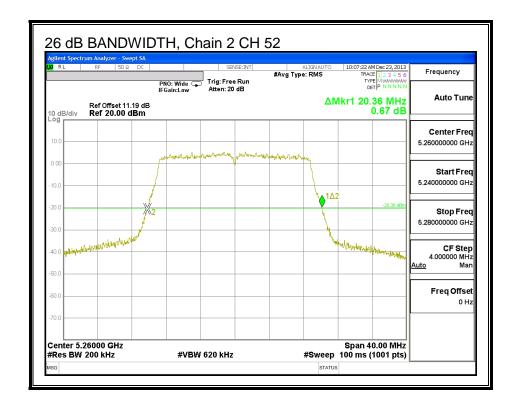


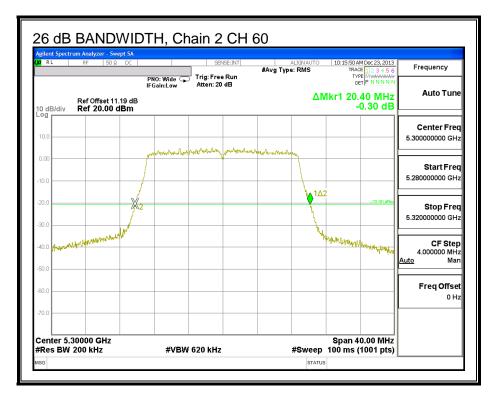












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#### 8.14.2. 99% BANDWIDTH

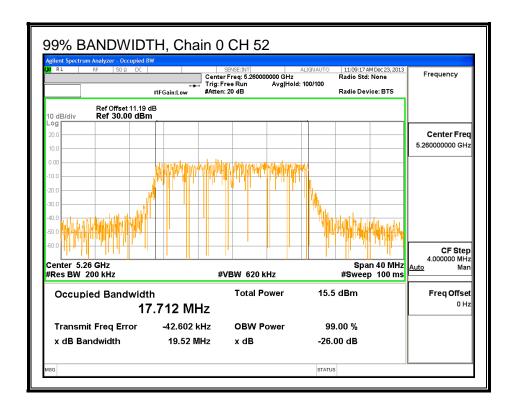
# **LIMITS**

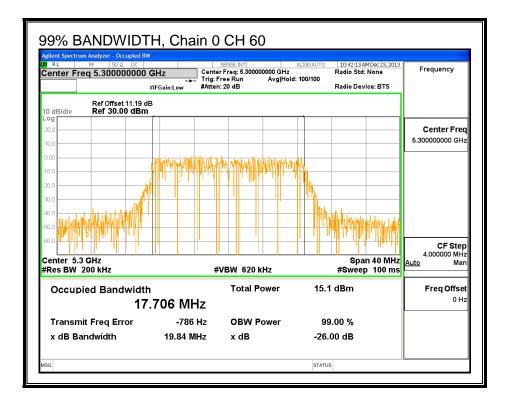
None; for reporting purposes only.

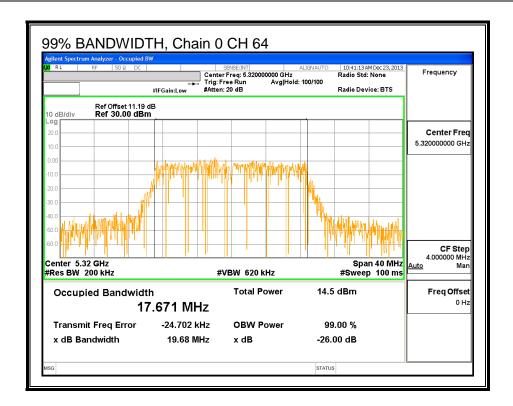
# **RESULTS**

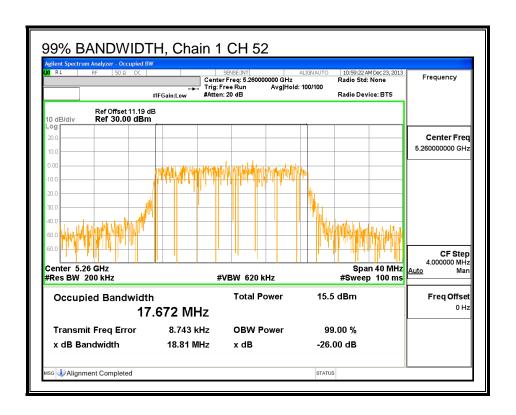
Channel Frequency		99% BW   99% BW		99% BW	
		Chain 0	Chain 0 Chain 1		
	(MHz)	(MHz)	(MHz)	(MHz)	
52	5260	17.712	17.672	17.761	
60	5300	17.706	17.739	17.661	
64	5320	17.671	17.653	17.683	

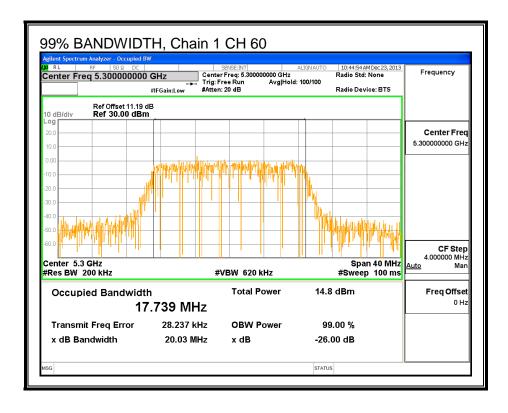
#### 99% BANDWIDTH

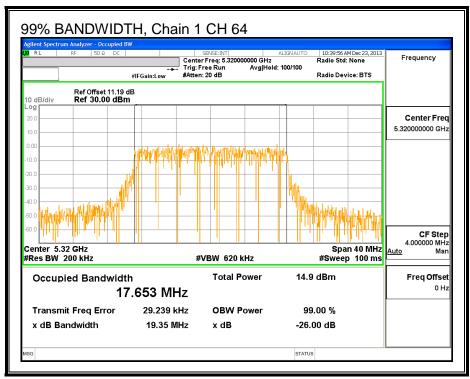




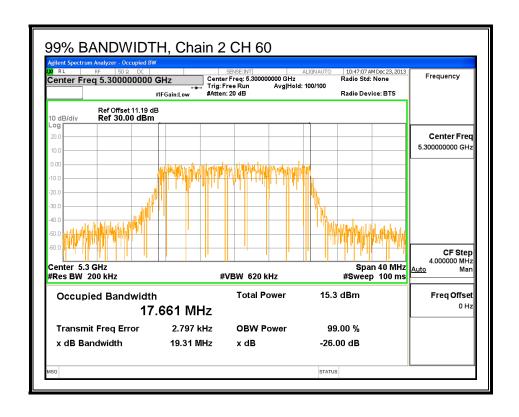








#### 99% BANDWIDTH, Chain 2 CH 52 Frequency Center Freq: 5.260000000 GHz Trig: Free Run Avg|Hol #Atten: 20 dB Avg|Hold: 100/100 Radio Device: BTS #IFGain:Low Ref Offset 11.19 dB Ref 30.00 dBm Center Freq **CF Step** 4.000000 MHz Span 40 MHz Center 5.26 GHz #Res BW 200 kHz **#VBW** 620 kHz #Sweep 100 ms Occupied Bandwidth **Total Power** 15.9 dBm Freq Offset 0 Hz 17.761 MHz -5.795 kHz **Transmit Freq Error OBW Power** 99.00 % x dB Bandwidth 19.96 MHz x dB -26.00 dB STATUS



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#### **AVERAGE POWER** 8.14.3.

## **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

# **RESULTS**

#### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
52	5260	16.01	16.22	16.63	21.07
60	5300	15.96	16.08	16.40	20.92
64	5320	15.53	15.48	15.88	20.40

#### 8.14.4. OUTPUT POWER AND PPSD

#### **LIMITS**

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 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.

#### **DIRECTIONAL ANTENNA GAIN**

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Antenna
Gain
(dBi)
2.40

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# **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
52	5260	20.36	17.6720	2.40	2.40
60	5300	20.40	17.6610	2.40	2.40
64	5320	20.40	17.6530	2.40	2.40

#### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
52	5260	24.00	23.47	29.47	23.47	11.00	11.00	11.00
60	5300	24.00	23.47	29.47	23.47	11.00	11.00	11.00
64	5320	24.00	23.47	29.47	23.47	11.00	11.00	11.00

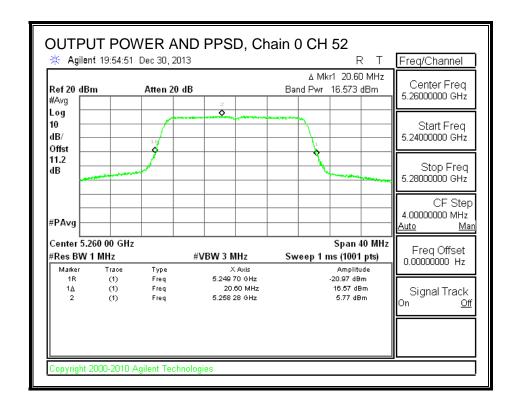
Duty Cycle CF (dB) 0.17	Included in Calculations of Corr'd Power & PPSD
-------------------------	---

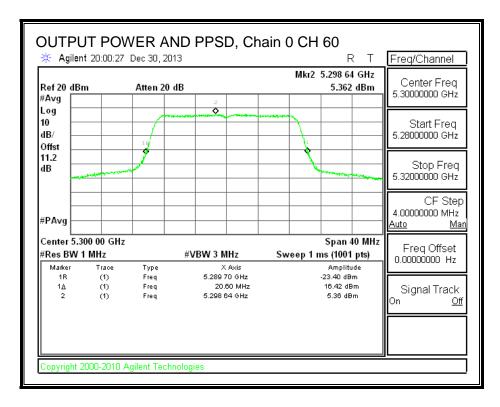
# **Output Power Results**

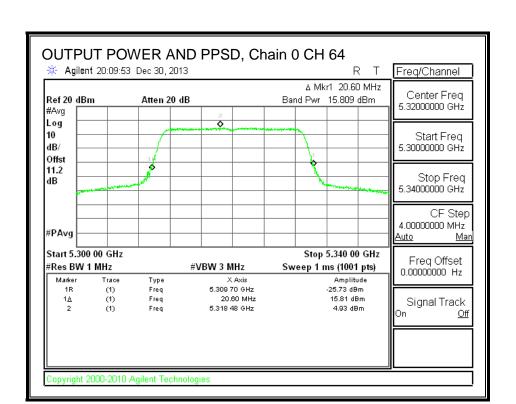
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	16.57	16.65	16.94	21.66	23.47	-1.81
60	5300	16.42	16.62	16.84	21.57	23.47	-1.90
64	5320	15.81	15.82	16.42	20.97	23.47	-2.50

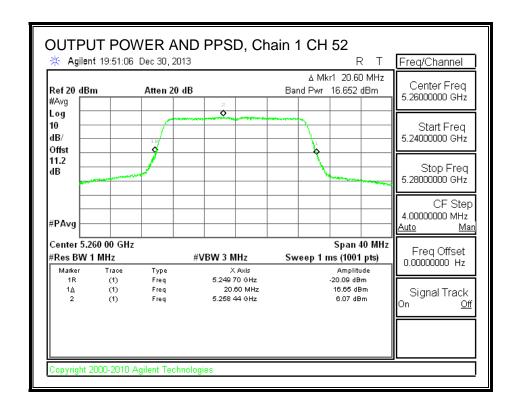
#### **PPSD Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	PPSD	PPSD
		Meas	Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
52	5260	5.77	6.07	5.89	10.85	11.00	-0.15
60	5300	5.36	5.78	5.91	10.63	11.00	-0.37
64	5320	4.93	5.11	5.50	10.13	11.00	-0.87



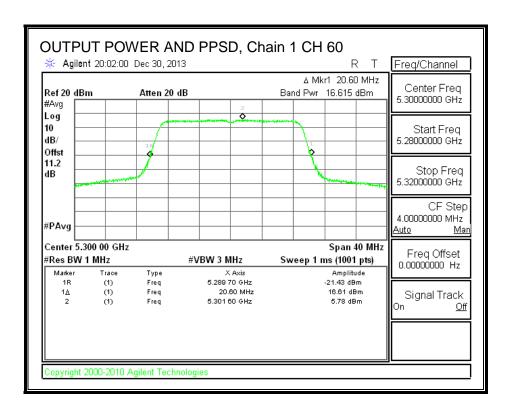


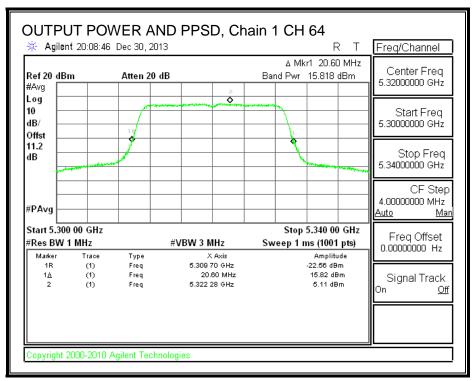


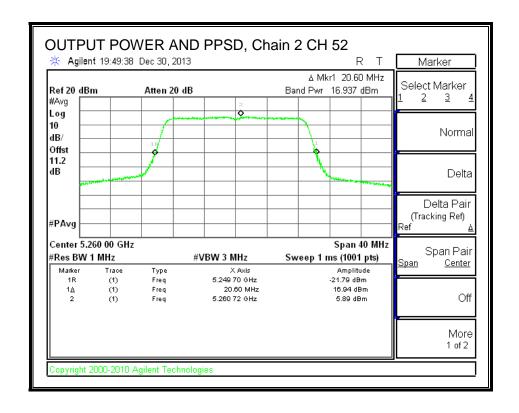


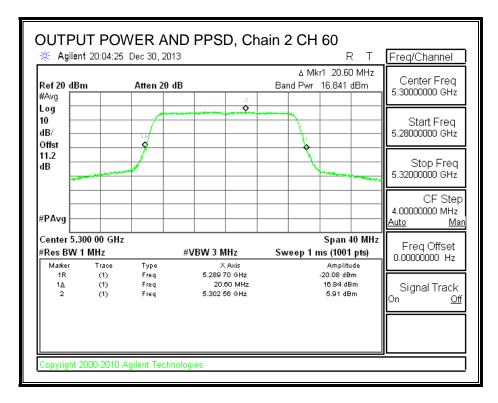
DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90









OUTPUT POWER AND PPSD, Chain 2 CH 64 \* Agilent 20:07:33 Dec 30, 2013 R Freq/Channel Т Δ Mkr1 20.60 MHz Center Freq Band Pwr 16.417 dBm Ref 20 dBm Atten 20 dB 5.32000000 GHz #Avg Log 10 Start Freq dB/5.30000000 GHz Offst 11.2 Stop Freq dΒ 5.34000000 GHz CF Step 4.00000000 MHz ⊭PAvg Auto Man Start 5.300 00 GHz Stop 5.340 00 GHz Freq Offset #Res BW 1 MHz #VBW 3 MHz Sweep 1 ms (1001 pts) 0.000000000 Hz Marker Type Amplitude X Axis 5.309 70 GHz -23.33 dBm (1) Freq (1) 20.60 MHz 16.42 dBm Signal Track (1) Freq 5.318 28 GHz 5.50 dBm <u>Off</u>

DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

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# 8.15. 802.11n HT40 1TX SISO MODE IN THE 5.3 GHz BAND

# 8.15.1. 26 dB BANDWIDTH

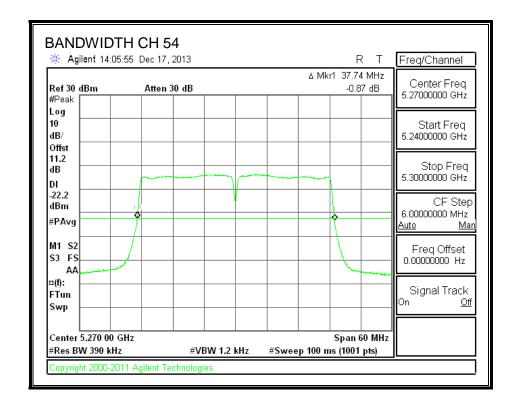
# **LIMITS**

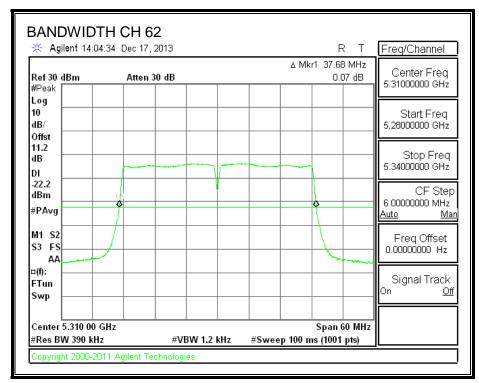
None; for reporting purposes only.

# **RESULTS**

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
54	5270	37.74
62	5310	37.68

### 26 dB BANDWIDTH





#### 8.15.2. 99% BANDWIDTH

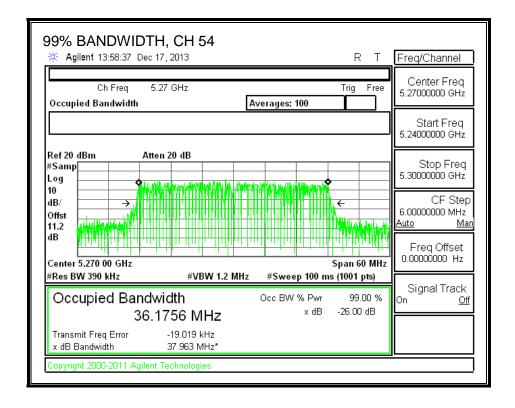
# **LIMITS**

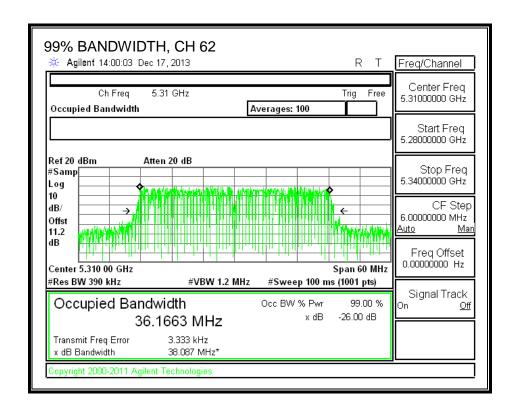
None; for reporting purposes only.

# **RESULTS**

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
54	5270	36.1756
62	5310	36.1663

#### 99% BANDWIDTH





# 8.15.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

# **RESULTS**

#### **Average Power Results**

Channel	Frequency	Chain 0
		Power
	(MHz)	(dBm)
54	5270	17.50
62	5310	12.81

#### 8.15.4. OUTPUT POWER AND PPSD

#### **LIMITS**

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 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.

#### **DIRECTIONAL ANTENNA GAIN**

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

Antenna
Gain
(dBi)
2.40

### **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
54	5270	37.7	36.2	2.40
62	5310	37.7	36.2	2.40

#### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
54	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
62	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB) 0.42 Included in Calculations of Corr'd Power & PPSD	rr'd Power & PPSD
---	-------------------

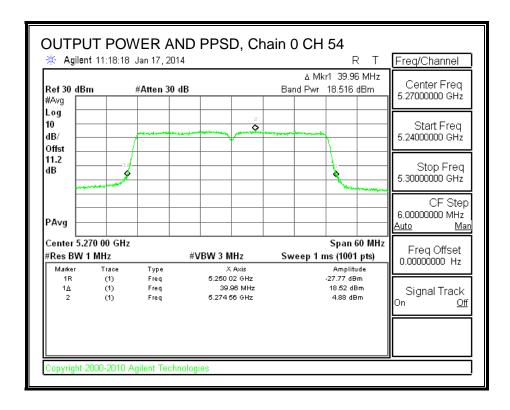
#### **Output Power Results**

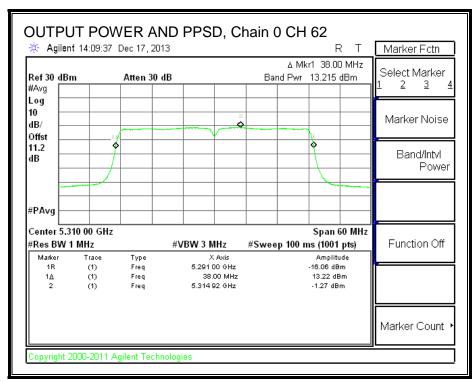
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
54	(MHz) 5270	(dBm) 18.52	( <b>dBm</b> ) 18.94	(dBm) 24.00	( <b>dB</b> ) -5.06

# **PPSD Results**

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
54	<b>(MHz)</b> 5270	(dBm) 4.88	(dBm) 5.30	(dBm) 11.00	( <b>dB</b> ) -5.70

<sup>\*</sup> Note Channel 62 Peak power low due to BE results





# 8.16. 802.11n HT40 3TX CDD MODE IN THE 5.3 GHz BAND

# 8.16.1. 26 dB BANDWIDTH

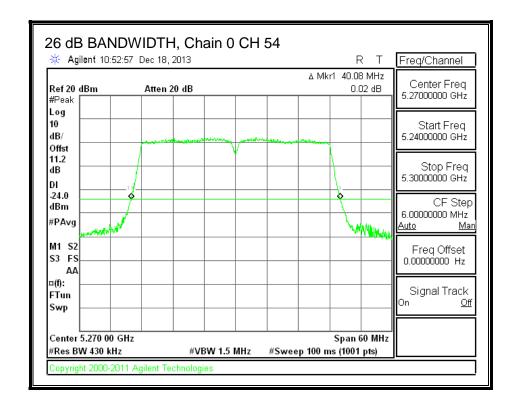
# **LIMITS**

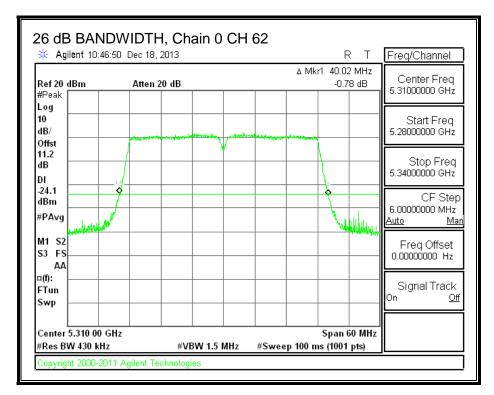
None; for reporting purposes only.

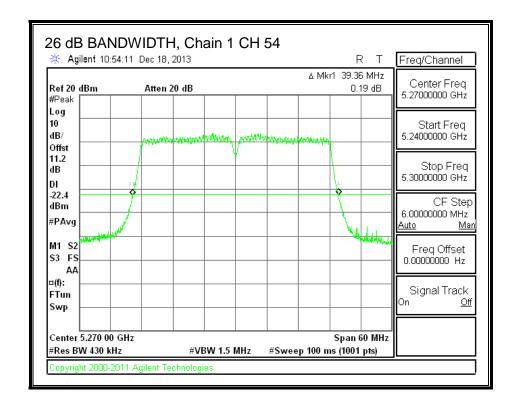
# **RESULTS**

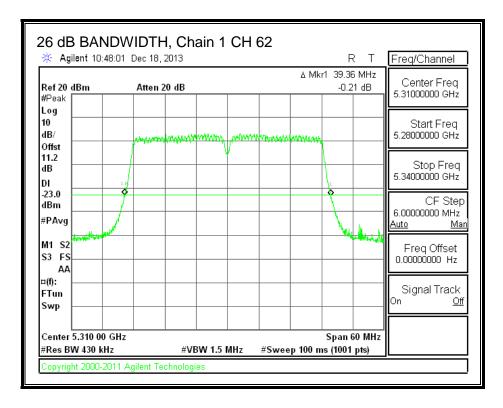
Channel	Frequency	26 dB BW	26 dB BW	26 dB BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
54	5270	40.08	39.36	39.54
62	5310	40.02	39.36	39.42

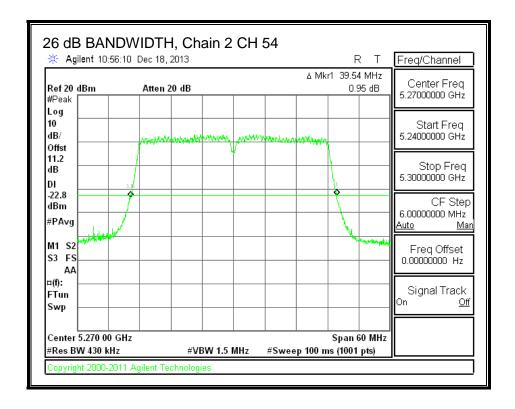
#### **26 dB BANDWIDTH**

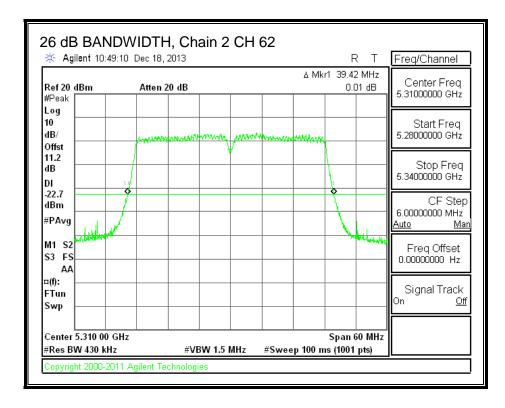












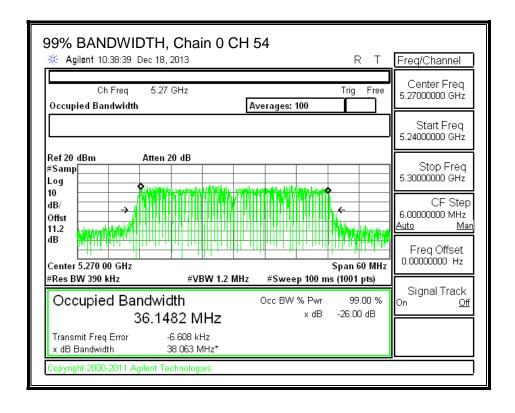
## 8.16.2. 99% BANDWIDTH

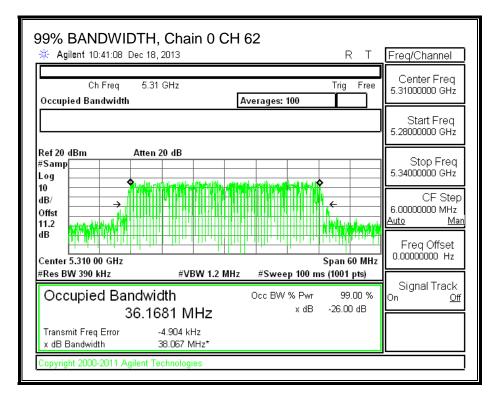
# **LIMITS**

None; for reporting purposes only.

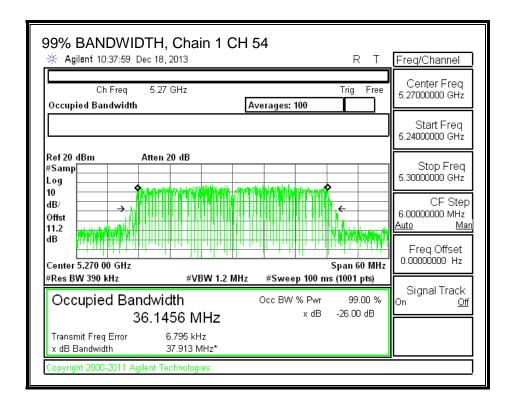
Channel	Frequency	99% BW	99% BW	99% BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
54	5270	36.1482	36.1456	36.1351
62	5310	36.1681	36.1494	36.1480

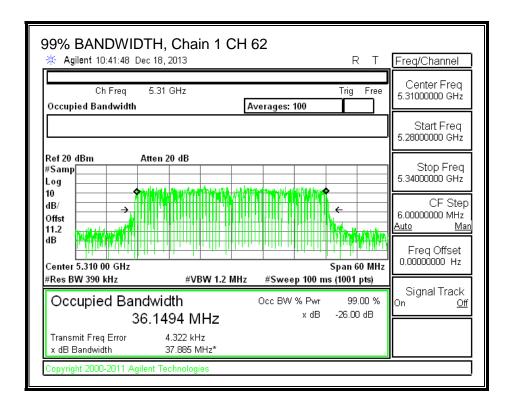
#### 99% BANDWIDTH





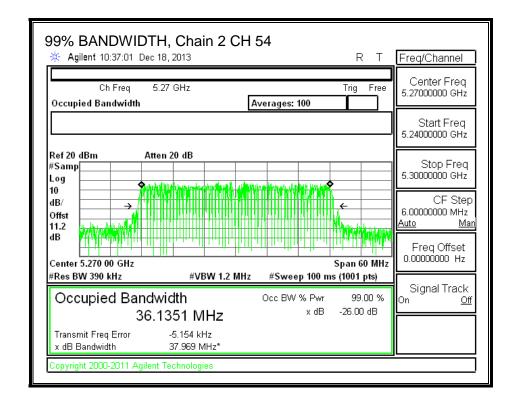
### 99% BANDWIDTH, Chain 1

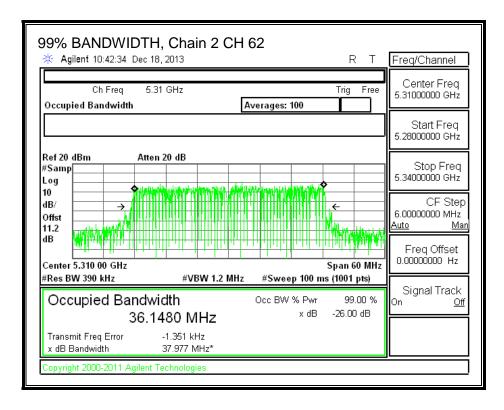




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### 99% BANDWIDTH, Chain 2





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FCC ID: DKNCR90

## 8.16.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

## **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

## **RESULTS**

### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
54	5270	12.61	12.90	13.11	17.65
62	5310	10.26	10.00	10.68	15.09

#### 8.16.4. **OUTPUT POWER AND PPSD**

#### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

Antenna	10 * Log (3 chains)	<b>Correlated Chains</b>
Gain		Directional Gain
(dBi)	(dB)	(dBi)
2.40	4.77	7.17

### **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
54	5270	39.36	36.1351	2.40	7.17
62	5310	39.42	36.1480	2.40	7.17

#### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
54	5270	24.00	24.00	30.00	24.00	9.83	11.00	9.83
62	5310	24.00	24.00	30.00	24.00	9.83	11.00	9.83

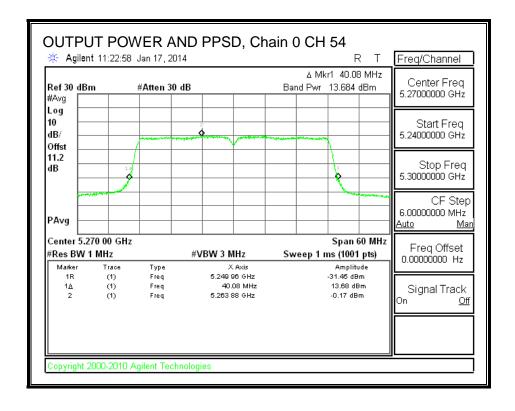
Duty Cycle CF (dB) 0.14	Included in Calculations of Corr'd Power & PPSD
-------------------------	---

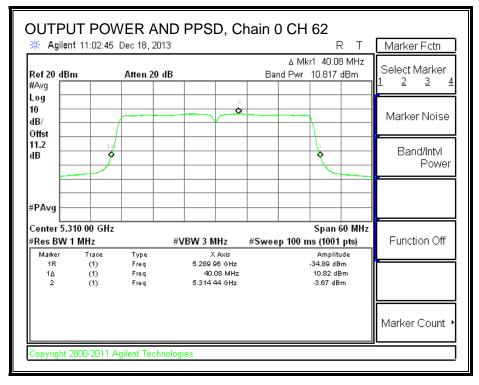
### **Output Power Results**

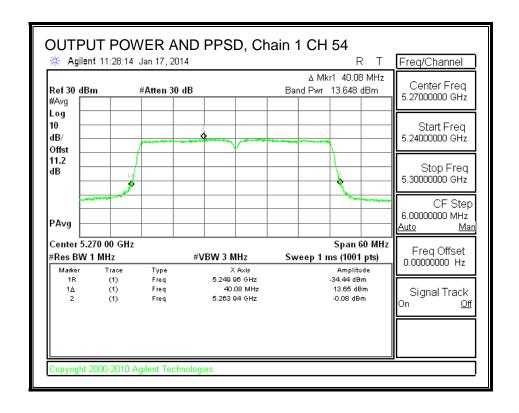
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
	(1411 12)	(ubiii)	(ubiii)	(abiii)	(abiii)	(abiii)	(ub)
54	5270	13.68	13.65	14.09	18.72	24.00	-5.28

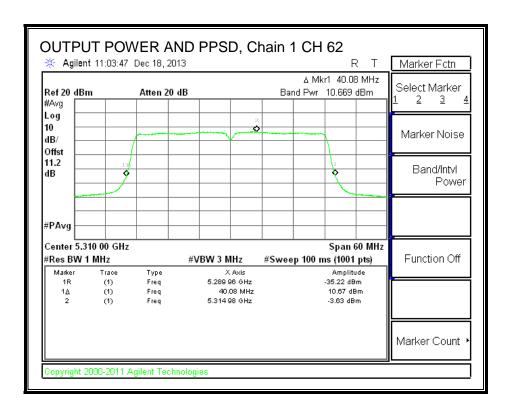
### **PPSD Results**

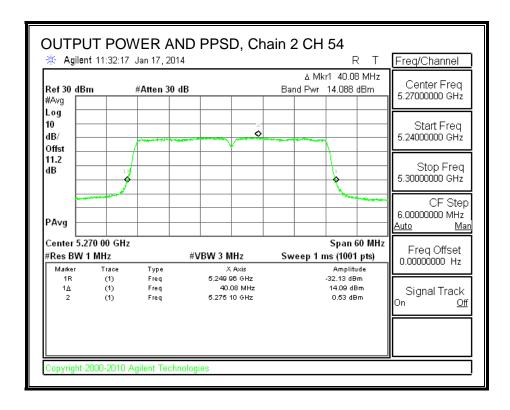
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	PPSD	PPSD
		Meas	Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
54	5270	-0.17	-0.08	0.53	5.02	9.83	-4.81
62	5310	-3.67	-3.63	-3.07	1.46	9.83	-8.37

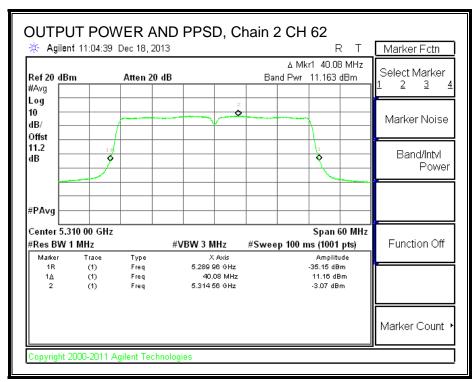












## 8.17. 802.11n HT40 3TX SDM MODE IN THE 5.3 GHz BAND

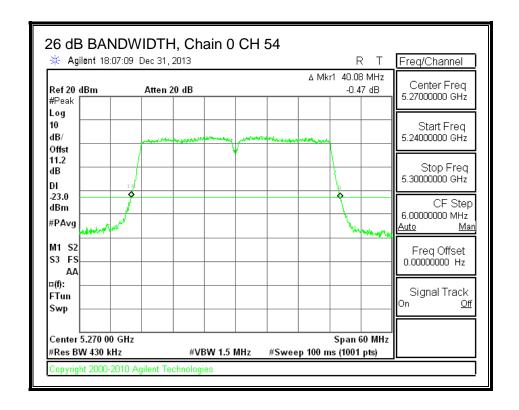
## 8.17.1. 26 dB BANDWIDTH

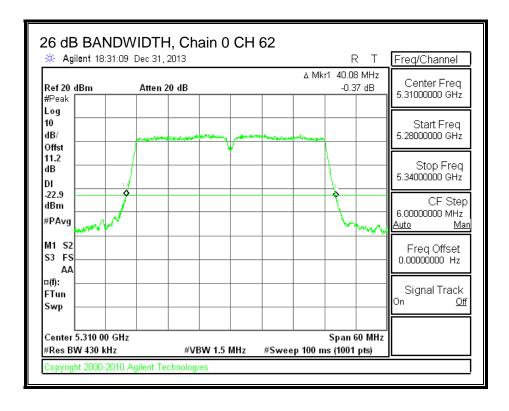
## **LIMITS**

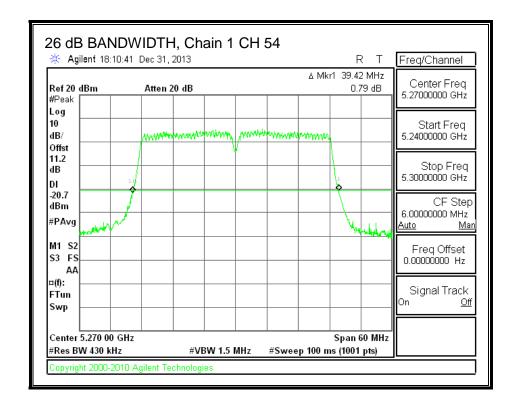
None; for reporting purposes only.

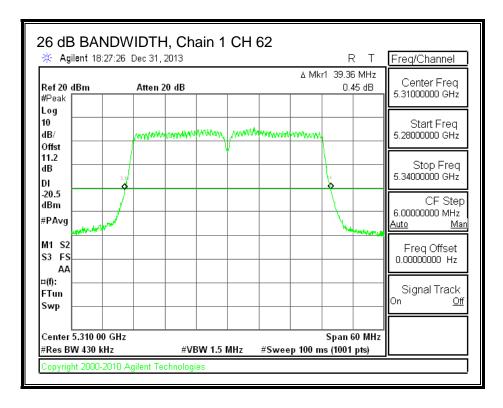
Channel	Frequency	26 dB BW	26 dB BW	26 dB BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
54	5270	40.08	39.42	39.60
62	5310	40.08	39.36	39.52

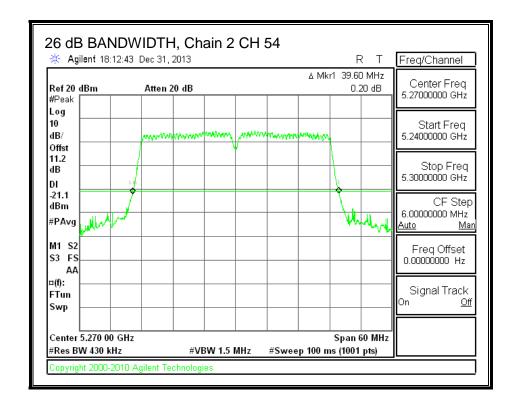
#### **26 dB BANDWIDTH**

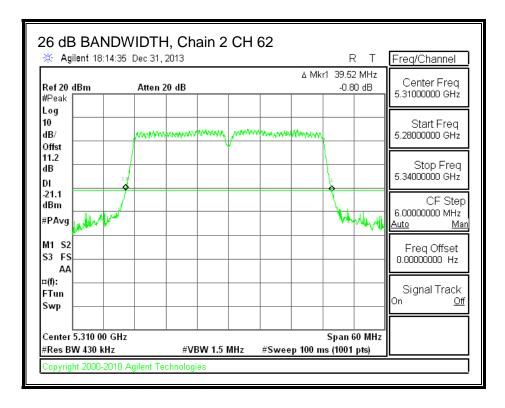












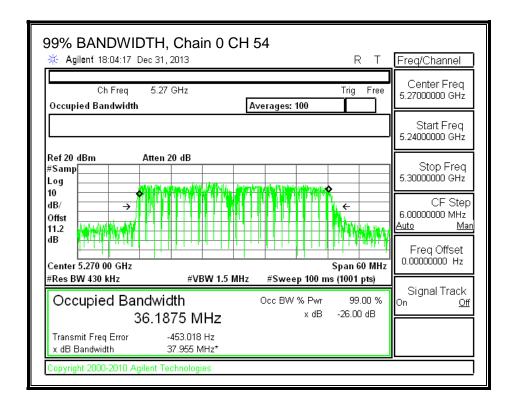
# 8.17.2. 99% BANDWIDTH

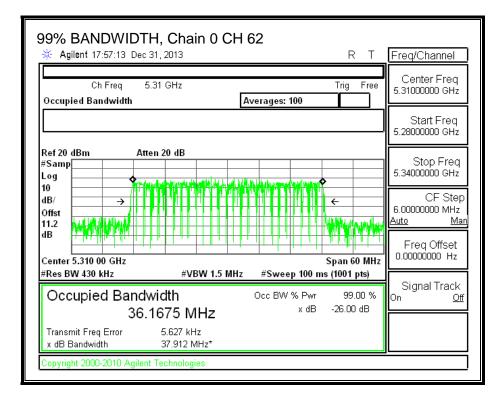
# **LIMITS**

None; for reporting purposes only.

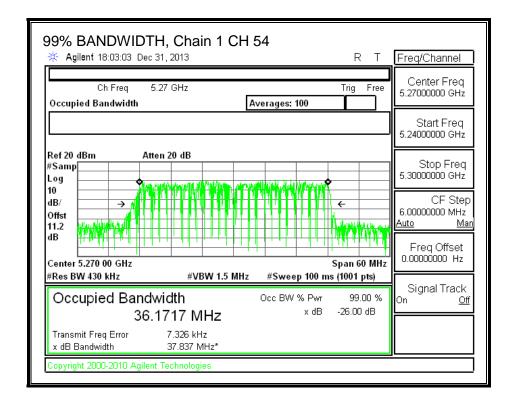
Channel	Frequency	99% BW	99% BW	99% BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
54	5270	36.1875	36.1717	36.1561
62	5310	36.1675	36.1642	36.1619

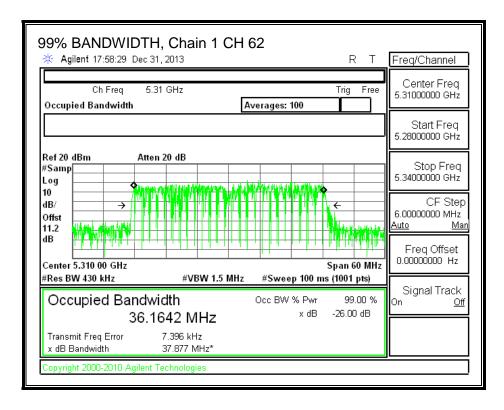
#### 99% BANDWIDTH





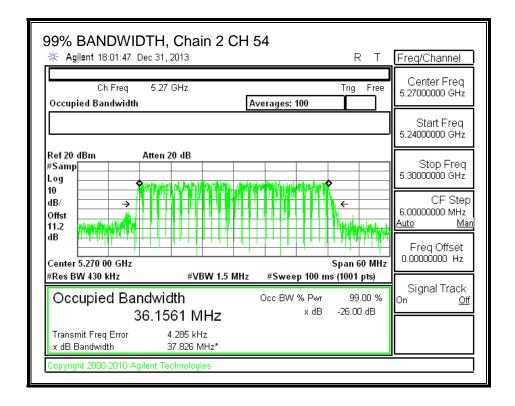
### 99% BANDWIDTH, Chain 1

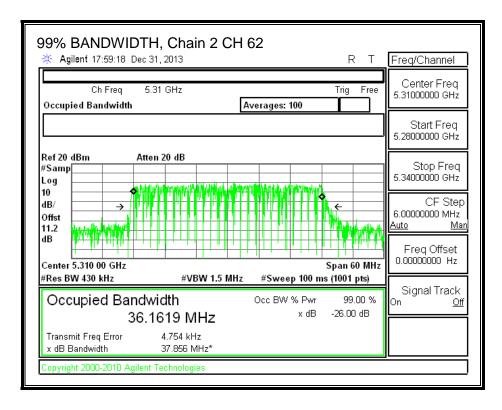




FCC ID: DKNCR90

### 99% BANDWIDTH, Chain 2





FCC ID: DKNCR90

## 8.17.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

## **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.19 dB (including 10 dB pad and 1.19 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

## **RESULTS**

### **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
54	5270	15.82	15.84	16.10	20.69
62	5310	12.01	12.13	12.34	16.93

### 8.17.4. OUTPUT POWER AND PPSD

#### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Antenna
Gain
(dBi)
2.40

### **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
54	5270	39.42	36.1561	2.40	2.40
62	5310	39.36	36.1619	2.40	2.40

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
54	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
62	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

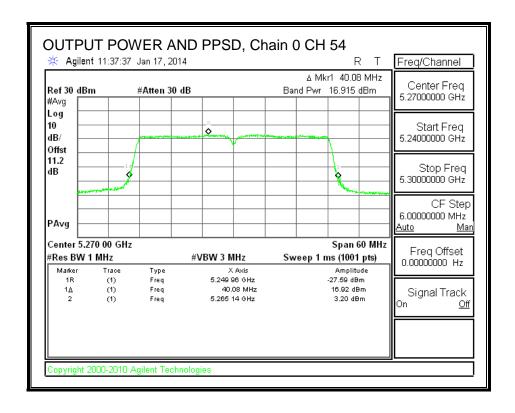
Duty Cycle CF (dB) 0.34	Included in Calculations of Corr'd Power & PPSD
-------------------------	---

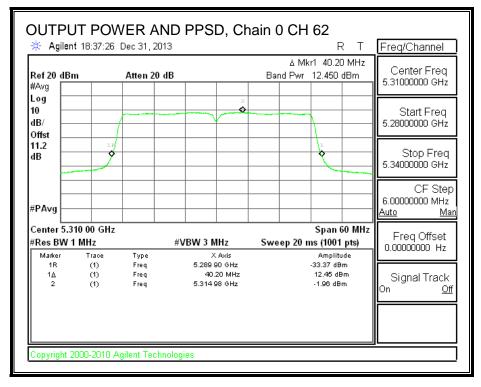
#### **Output Power Results**

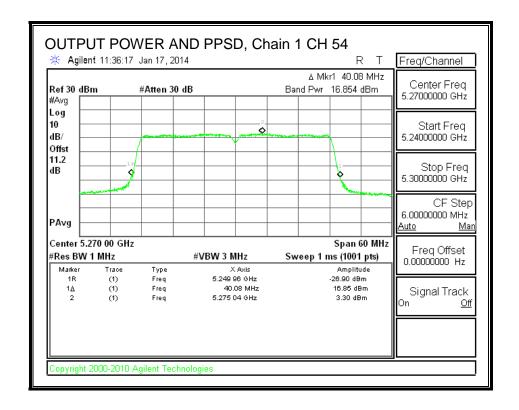
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
	, ,	(31—111)	( )	(abiii)	( )	(~)	(42)
54	5270	16.92	16.85	17.25	22.12	24.00	-1.88

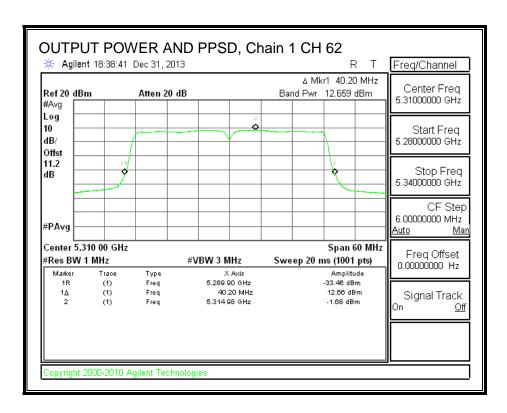
### **PPSD Results**

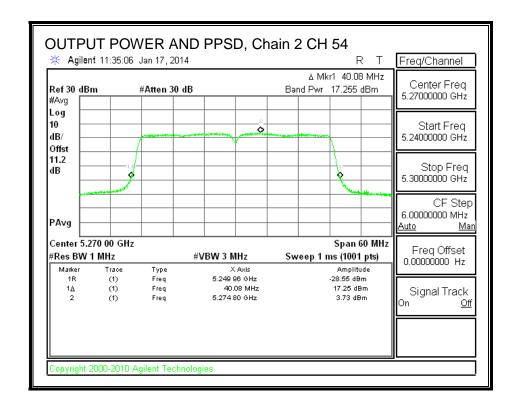
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	PPSD	PPSD
		Meas	Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD	PPSD		
	<b>/</b> .		/ · \				
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
54	(MHz) 5270	(dBm) 3.20	3.30	(dBm) 3.73	(dBm) 8.53	(dBm) 11.00	(dB) -2.47

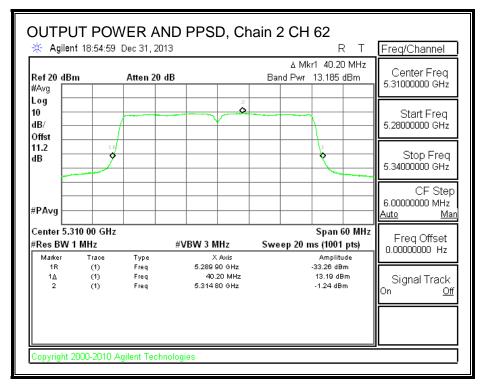












## 8.18. 802.11ac 80MHz 1TX SISO MODE IN THE 5.3 GHz BAND

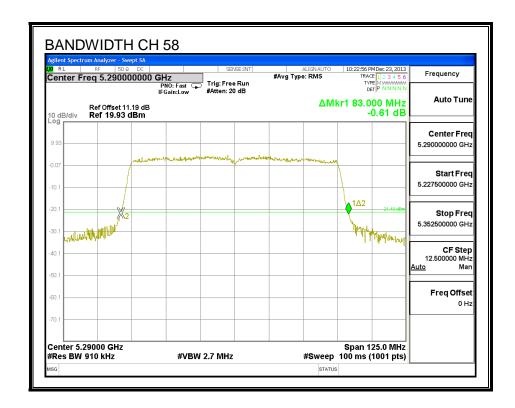
## 8.18.1. 26 dB BANDWIDTH

## **LIMITS**

None; for reporting purposes only.

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
58	5290	83.00

### **26 dB BANDWIDTH**



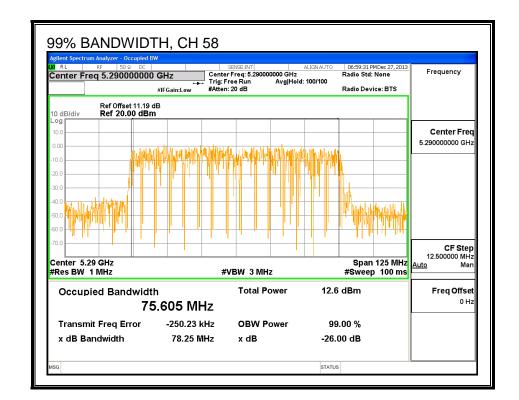
# 8.18.2. 99% BANDWIDTH

# **LIMITS**

None; for reporting purposes only.

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
58	5210	75.605

## 99% BANDWIDTH



## 8.18.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

## **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.26 dB (including 10 dB pad and 1.26 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power	
	(MHz)	(dBm)	
58	5290	13.18	

### 8.18.4. OUTPUT POWER AND PPSD

#### **LIMITS**

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 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
58	5290	83.0	75.5	2.40

#### Limits

Channel	Frequency	FCC	IC	Max	Power	FCC	IC	PPSD
		Power	EIRP	IC	Limit	PPSD	eirp	Limit
		Limit	Limit	Power		Limit	PSD	
							Limit	
	(MHz)	(dBm)						
58	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB) 0.27 Included in Calculations of Corr'd Po	ower & PPSD
---	-------------

## **Output Power Results**

Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
58	5290	13.22	13.49	24.00	-10.51

## **PPSD Results**

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
58	5290	-3.97	-3.70	11.00	-14.70

### OUTPUT POWER AND PPSD, Chain 0 CH 58 Center Freq 5.290000000 GHz Avg Type: RMS Trig: Free Run #Atten: 20 dB DET A NNNN Mkr2 5.290 000 GHz Band Power 13.218 dBm **Auto Tune** Ref Offset 11.19 dB Ref 20.00 dBm Center Freq Start Freq 5.227500000 GHz Stop Freq 5.352500000 GHz Center 5.29000 GHz #Res BW 1.0 MHz Span 125.0 MHz Sweep 1.00 ms (1001 pts) CF Step 12.500000 MHz #VBW 3.0 MHz MKRI MODEL TRCI SCLI 1 N 1 f 2 N 1 f 5.282 625 GHz 5.290 000 GHz -3.968 dBm -9.998 dBm Band Power 83.00 MHz 13.218 dBm Freq Offset 0 Hz STATUS

## 8.19. 802.11ac 80MHz 3TX CDD MODE IN THE 5.3 GHz BAND

## 8.19.1. 26 dB BANDWIDTH

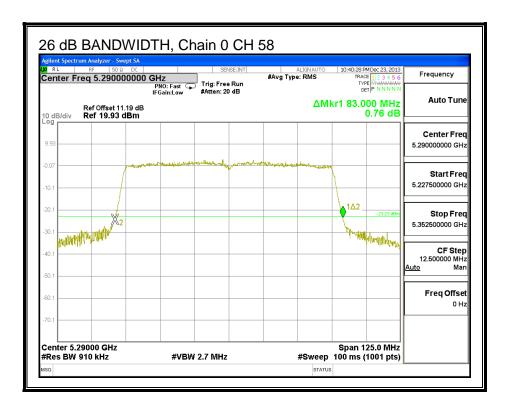
## **LIMITS**

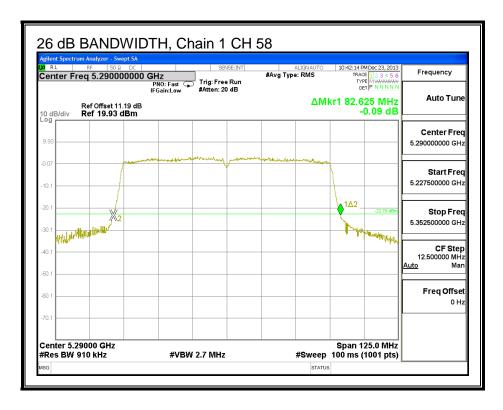
None; for reporting purposes only.

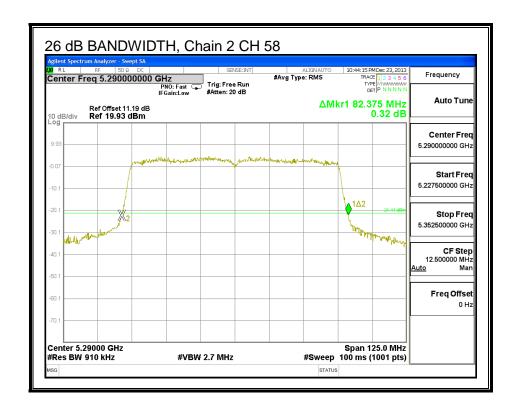
Channel	Frequency	26 dB BW	26 dB BW	26 dB BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
58	5290	83.00	82.63	82.38

#### **26 dB BANDWIDTH**

### 26 dB BANDWIDTH, Chain 0







#### 8.19.2. 99% BANDWIDTH

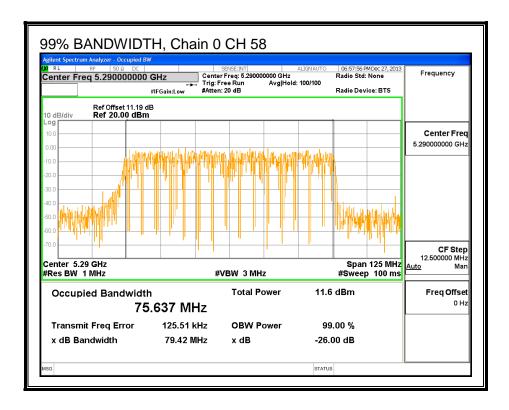
# **LIMITS**

None; for reporting purposes only.

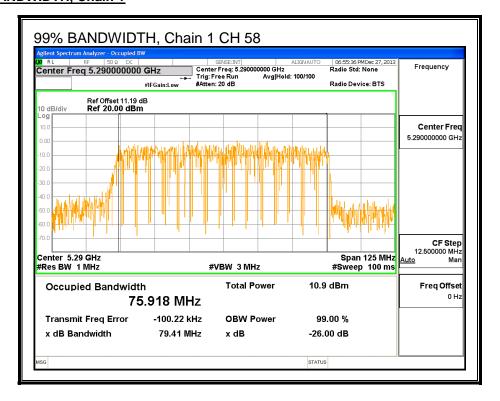
Channel	Frequency	99% BW	99% BW	99% BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
58	5290	75.637	75.918	75.549

#### 99% BANDWIDTH

#### 99% BANDWIDTH, Chain 0

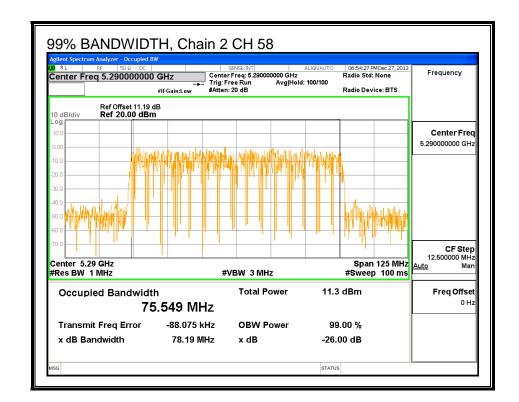


### 99% BANDWIDTH, Chain 1



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# 99% BANDWIDTH, Chain 2



### 8.19.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.26 dB (including 10 dB pad and 1.26 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

# **RESULTS**

# **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
42	5210	9.89	10.22	10.81	15.09

#### 8.19.4. OUTPUT POWER AND PPSD

#### **LIMITS**

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 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.

#### **DIRECTIONAL ANTENNA GAIN**

The TX chains are correlated and the antenna gain is the same for each chain. The directional gain is:

Antenna	10 * Log (3 chains)	<b>Correlated Chains</b>
Gain		Directional Gain
(dBi)	(dB)	(dBi)
2.40	4.77	7.17

#### **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
58	5290	82.56	75.5680	2.25	7.02

#### Limits

Channel	Frequency	FCC	IC	Max	Power	FCC	IC	PPSD
		Power	EIRP	IC	Limit	PPSD	eirp	Limit
		Limit	Limit	Power		Limit	PSD	
							Limit	
	(MHz)	(dBm)						
58	5290	24.00	24.00	30.00	24.00	9.98	11.00	9.98

Duty Cycle CF (dB)	0.26	Included in Calculations of Corr'd Power & PPSD
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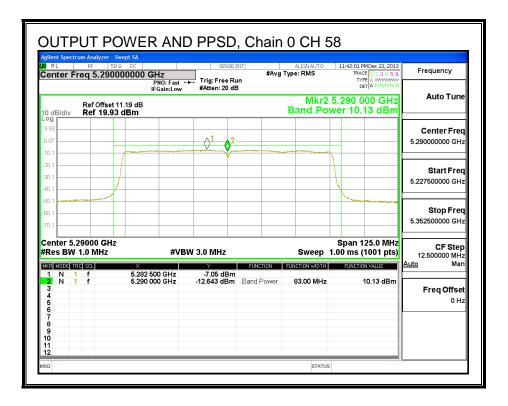
# **Output Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power
		Meas	Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
58	5290	10.13	10.24	11.18	15.58	24.00	-8.42

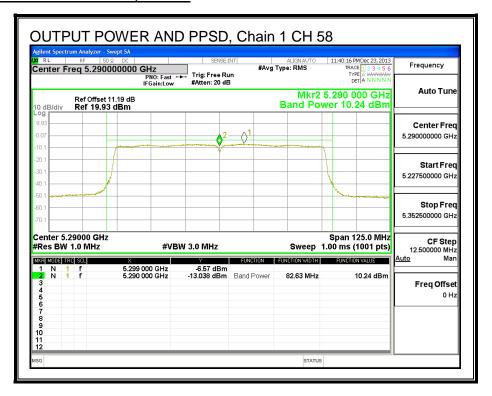
#### **PPSD Results**

I I OD INC	11 Ob Results								
Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	PPSD	PPSD		
		Meas	Meas	Meas	Corr'd	Limit	Margin		
		PPSD	PPSD	PPSD	PPSD				
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)		
58	5290	-7.05	-6.57	-6.05	-1.51	9.98	-11.49		

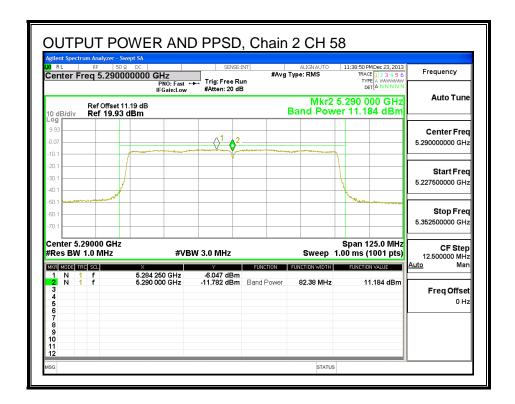
### **OUTPUT POWER AND PPSD, Chain 0**



#### **OUTPUT POWER AND PPSD, Chain 1**



# **OUTPUT POWER AND PPSD, Chain 2**



# 8.20. 802.11ac 80MHz 3TX SDM MODE IN THE 5.3 GHz BAND

# 8.20.1. 26 dB BANDWIDTH

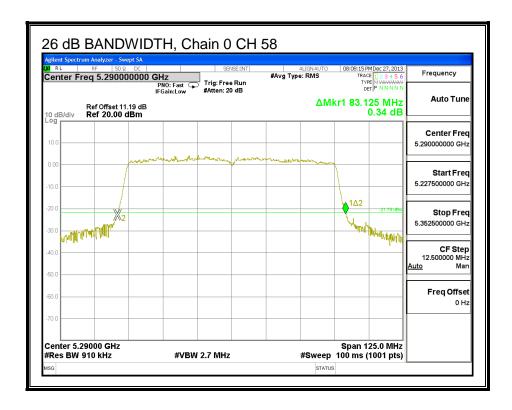
# **LIMITS**

None; for reporting purposes only.

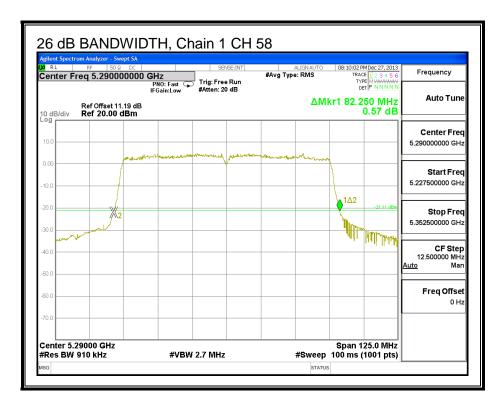
Channel	Frequency	26 dB BW	26 dB BW	26 dB BW	
		Chain 0	Chain 1	Chain 2	
	(MHz)	(MHz)	(MHz)	(MHz)	
58	5290	83.13	82.25	82.13	

#### **26 dB BANDWIDTH**

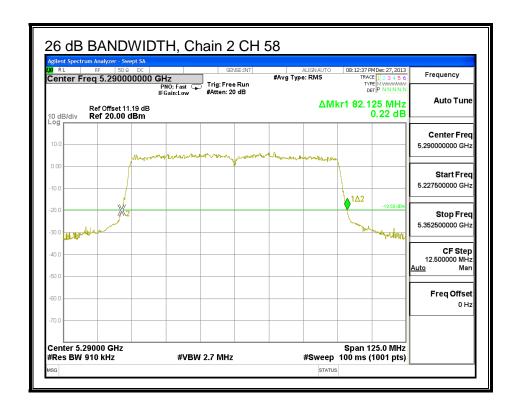
#### 26 dB BANDWIDTH, Chain 0



### 26 dB BANDWIDTH, Chain 1



# 26 dB BANDWIDTH, Chain 2



# 8.20.2. 99% BANDWIDTH

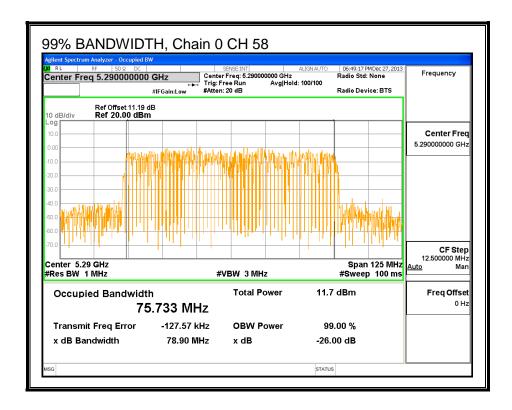
# **LIMITS**

None; for reporting purposes only.

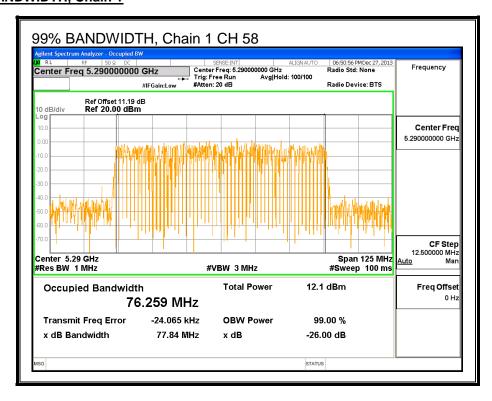
Channel	Frequency	99% BW	99% BW	99% BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
58	5290	75.7330	76.2590	74.5540

#### 99% BANDWIDTH

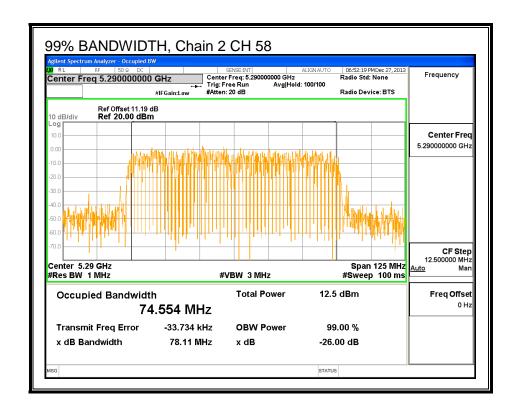
#### 99% BANDWIDTH, Chain 0



# 99% BANDWIDTH, Chain 1



# 99% BANDWIDTH, Chain 2



### 8.20.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.26 dB (including 10 dB pad and 1.26 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

# **RESULTS**

# **Average Power Results**

Channel	Frequency	Chain 0	Chain 1	Chain 2	Total
		Power	Power	Power	Power
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)
58	5210	11.27	10.91	11.61	16.04

#### 8.20.4. **OUTPUT POWER AND PPSD**

#### **LIMITS**

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 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.

#### **DIRECTIONAL ANTENNA GAIN**

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Antenna
Gain
(dBi)
2.40

#### **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power	for PPSD
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
58	5290	83.14	76.2590	2.40	2.40

#### Limits

	Channel	Frequency	FCC	IC	Max	Power	FCC	IC	PPSD
ı			Power	EIRP	IC	Limit	PPSD	eirp	Limit
			Limit	Limit	Power		Limit	PSD	
								Limit	
		(MHz)	(dBm)						
Ī	58	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

Duty Cycle CF (dB) 0.60	Included in Calculations of Corr'd Power & PPSD
-------------------------	---

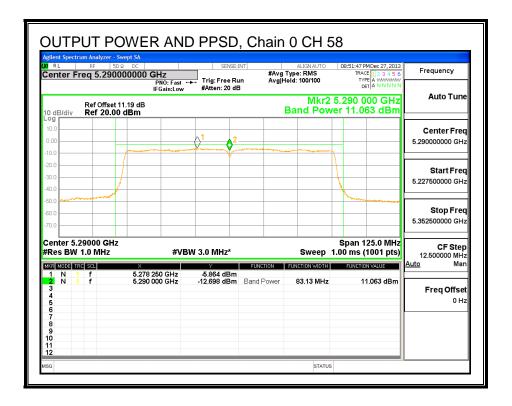
#### **Output Power Results**

	Channel	Frequency	Chain 0	Chain 1	Chain 2	Total	Power	Power
ı			Meas	Meas	Meas	Corr'd	Limit	Margin
ı			Power	Power	Power	Power		
ı		(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Ī	58	5290	11.06	11.36	11.97	16.85	24.00	-7.15

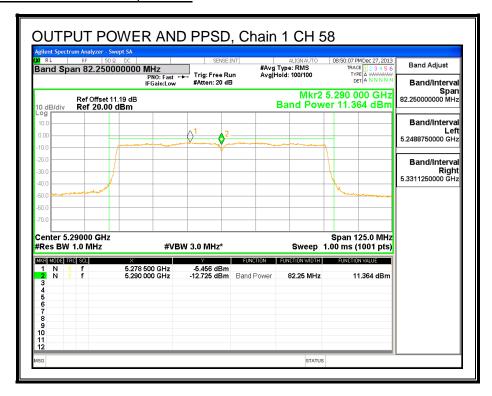
#### **PPSD Results**

Channel	Frequency	quency Chain 0		Frequency Chain 0 Chain 1 Chain 2		Total	PPSD	PPSD
		Meas	Meas	Meas	Corr'd	Limit	Margin	
		PPSD	PPSD	PPSD	PPSD			
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)	
58	5290	-5.86	-5.46	-5.05	-0.07	11.00	-11.07	

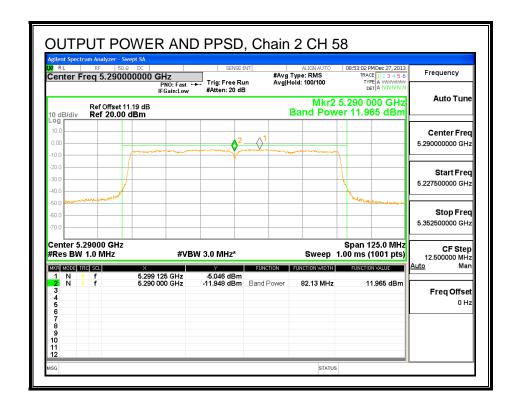
### **OUTPUT POWER AND PPSD, Chain 0**



#### **OUTPUT POWER AND PPSD, Chain 1**



# **OUTPUT POWER AND PPSD, Chain 2**



# 8.21. 802.11a 1TX SISO MODE IN THE 5.6 GHz BAND

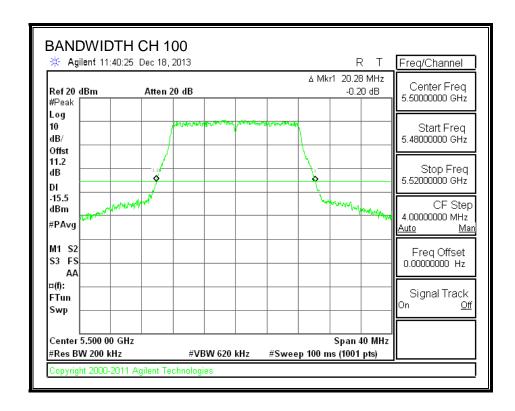
# 8.21.1. 26 dB BANDWIDTH

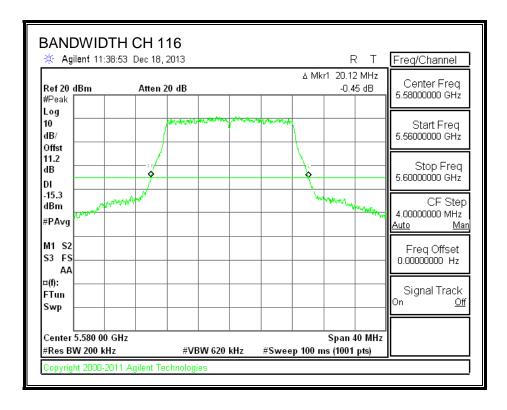
# **LIMITS**

None; for reporting purposes only.

Channel	Frequency	26 dB Bandwidtl		
	(MHz)	(MHz)		
100	5500	20.28		
116	5580	20.12		
140	5700	20.24		

### **26 dB BANDWIDTH**





DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

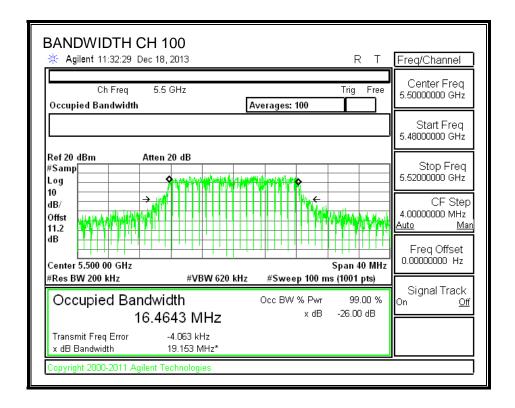
# 8.21.2. 99% BANDWIDTH

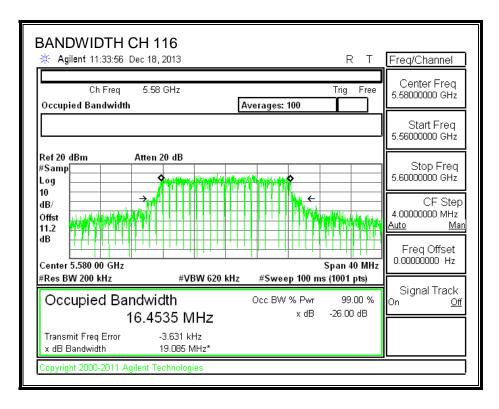
# **LIMITS**

None; for reporting purposes only.

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
100	5500	16.4643
116	5580	16.4535
140	5700	16.4480

#### 99% BANDWIDTH





19.061 MHz\*

x dB Bandwidth

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DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

# 8.21.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.21 dB (including 10 dB pad and 1.21 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power	
	(MHz)	(dBm)	
100	5500	20.22	
116	5580	19.56	
140	5700	17.95	

#### 8.21.4. OUTPUT POWER AND PPSD

#### **LIMITS**

FCC §15.407 (a) (2)

For the band 5.5–5.7 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.

#### **DIRECTIONAL ANTENNA GAIN**

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

Antenna
Gain
(dBi)
2.40

# **RESULTS**

#### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
100	5500	20.28	16.4643	2.82
116	5580	20.12	16.4535	2.82
140	5700	20.24	16.4480	2.82

#### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
100	5500	24.00	23.17	29.17	23.17	11.00	11.00	11.00
116	5580	24.00	23.16	29.16	23.16	11.00	11.00	11.00
140	5700	24.00	23.16	29.16	23.16	11.00	11.00	11.00

Duty Cycle CF (dB)	0.22	Included in Calculations of Corr'd Power & PPSD
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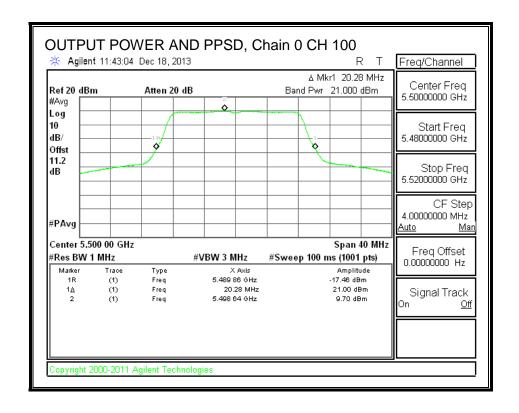
### **Output Power Results**

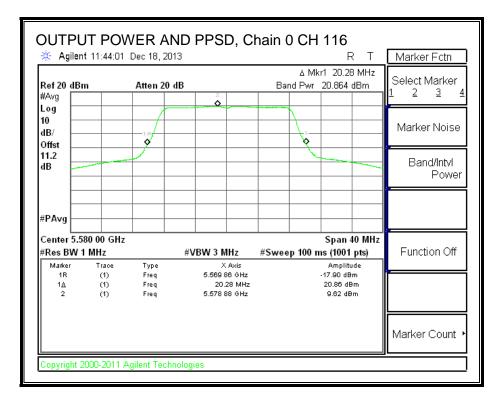
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
100	5500	21.00	21.22	23.17	-1.95
116	5580	20.86	21.08	23.16	-2.08
140	5700	19.04	19.26	23.16	-3.90

#### **PPSD Results**

Channel	Frequency	Chain 0	Total	PPSD	PPSD
		Meas	Corr'd	Limit	Margin
		PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
100	5500	9.70	9.92	11.00	-1.08
116	5580	9.62	9.84	11.00	-1.16
140	5700	7.76	7.98	11.00	-3.02

### **OUTPUT POWER AND PPSD, Chain 0**





DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

# 8.22. 802.11n HT20 1TX SISO MODE IN THE 5.6 GHz BAND

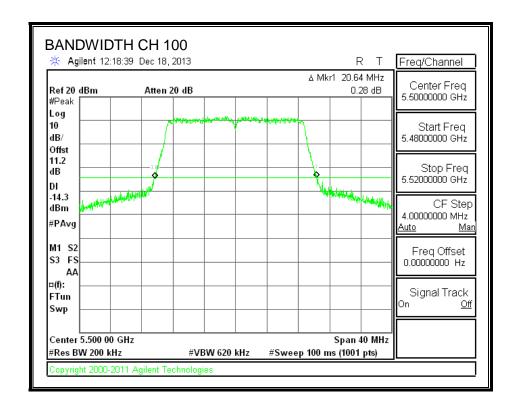
# 8.22.1. 26 dB BANDWIDTH

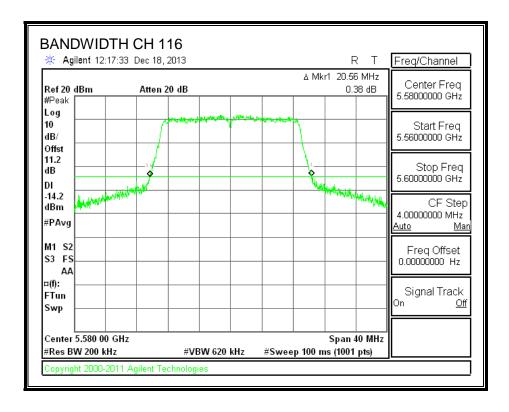
# **LIMITS**

None; for reporting purposes only.

Channel	Frequency	26 dB Bandwidth	
	(MHz)	(MHz)	
100	5500	20.64	
116	5580	20.56	
140	5700	20.60	

### **26 dB BANDWIDTH**





DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

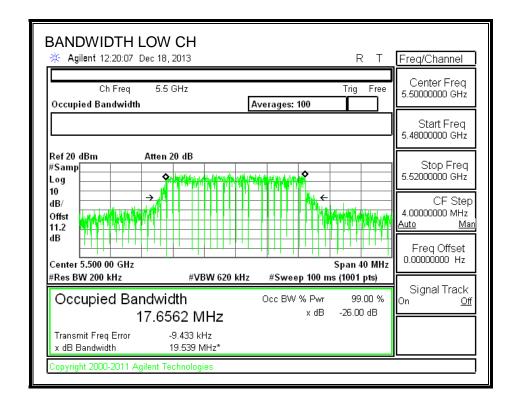
# 8.22.2. 99% BANDWIDTH

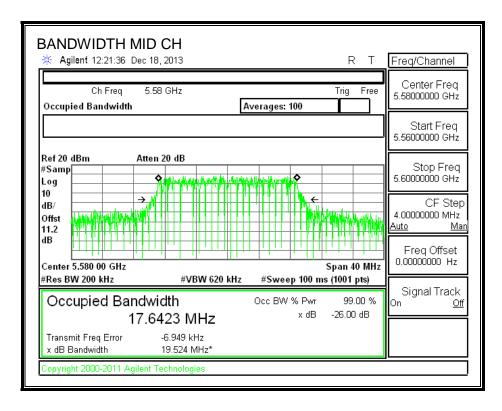
# **LIMITS**

None; for reporting purposes only.

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
100	5500	17.6562
116	5580	17.6423
140	5700	17.6592

#### 99% BANDWIDTH





19.577 MHz\*

Transmit Freq Error x dB Bandwidth

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DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

# 8.22.3. AVERAGE POWER

# **LIMITS**

None; for reporting purposes only.

# **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11.21 dB (including 10 dB pad and 11.21 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency	Power			
	(MHz)	(dBm)			
100	5500	21.26			
116	5580	21.17			
140	5700	19.84			

### 8.22.4. OUTPUT POWER AND PPSD

### **LIMITS**

FCC §15.407 (a) (2)

For the band 5.5–5.7 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.

### **DIRECTIONAL ANTENNA GAIN**

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

Antenna
Gain
(dBi)
2.82

### **RESULTS**

### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
100	5500	20.6	17.7	2.82
116	5580	20.6	17.6	2.82
140	5700	20.6	17.7	2.82

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
100	5500	24.00	23.47	29.47	23.47	11.00	11.00	11.00
116	5580	24.00	23.47	29.47	23.47	11.00	11.00	11.00
140	5700	24.00	23.47	29.47	23.47	11.00	11.00	11.00

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & P	PSD
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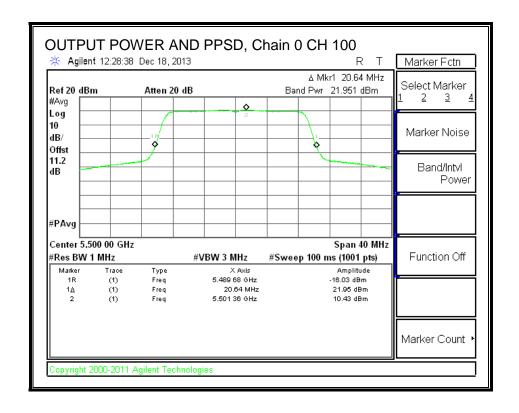
### **Output Power Results**

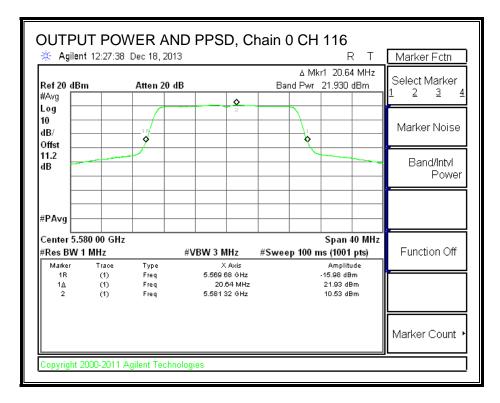
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
100	5500	21.95	22.17	23.47	-1.30
116	5580	21.93	22.15	23.47	-1.32
140	5700	19.07	19.29	23.47	-4.18

### **PPSD Results**

I I OD ING	11 Ob Results								
Channel	Frequency	Chain 0	Total	PPSD	PPSD				
		Meas	Corr'd	Limit	Margin				
		PPSD	PPSD						
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)				
100	5500	10.43	10.65	11.00	-0.35				
116	5580	10.53	10.75	11.00	-0.25				
140	5700	7.40	7.62	11.00	-3.38				

### **OUTPUT POWER AND PPSD, Chain 0**





DATE: FEBRUARY 19, 2014

FCC ID: DKNCR90

### 8.22.5. PEAK EXCURSION

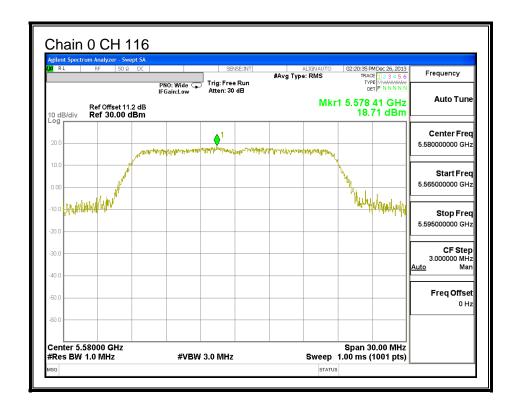
### **LIMITS**

FCC §15.407 (a) (6)

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Channel	Frequency	PK Level	PSD	DCCF	Peak Excursion	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)	(dB)	(dB)	(dB)
116	5580	18.71	10.53	0.22	7.96	13	-5.04

### DATE: FEBRUARY 19, 2014 FCC ID: DKNCR90



# 8.23. 802.11ac 20MHz LEGACY 1TX MODE, CHANNEL 144, 5.6 GHz BAND

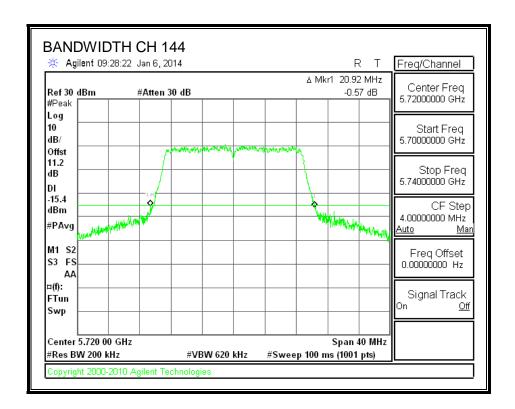
## 8.23.1. 26 dB BANDWIDTH

### **LIMITS**

None; for reporting purposes only.

Channel	Frequency	26 dB Bandwidth
	(MHz)	(MHz)
144	5720	20.92

### **26 dB BANDWIDTH**



FCC ID: DKNCR90

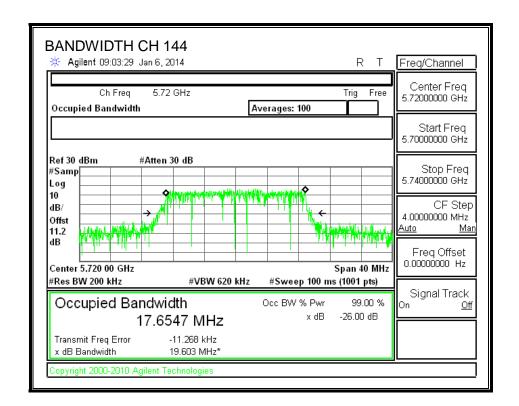
## 8.23.2. 99% BANDWIDTH

### **LIMITS**

None; for reporting purposes only.

Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
144	5720	17.6547

### 99% BANDWIDTH



### 8.23.3. **OUTPUT POWER AND PSD**

### **LIMITS**

FCC §15.407 (a) (2)

For the band 5.5–5.7 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.

### **DIRECTIONAL ANTENNA GAIN**

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

Antenna
Gain
(dBi)
2.82

### **RESULTS**

## Limits (FCC), portion in UNII 2 ext band

### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
144	5720	15.46	13.8274	2.82

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PSD
		Power	Power	EIRP	Limit	PSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
144	5720	22.89	22.41	28.41	22.41	11.00	11.00	11.00

### **Output Power Results**

Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	19.58	19.80	22.41	-2.61

### **PSD Results**

Channel	Frequency	Chain 0	Total	PSD	PSD			
		Meas	Corr'd	Limit	Margin			
		PSD	PSD					
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)			
144	5720	8.900	9.12	11.00	-1.88			

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & PPSD
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### **Bandwidth and Antenna Gain**

Channel	Frequency	Min	Min	Directional
		26 dB	99%	Gain
		BW	BW	
	(MHz)	(MHz)	(MHz)	(dBi)
144	5720	5.46	3.8274	2.82

### Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PSD
		Power	Power	EIRP	Limit	PSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
144	5720	18.37	16.83	22.83	16.83	11.00	11.00	11.00

### **Output Power Results**

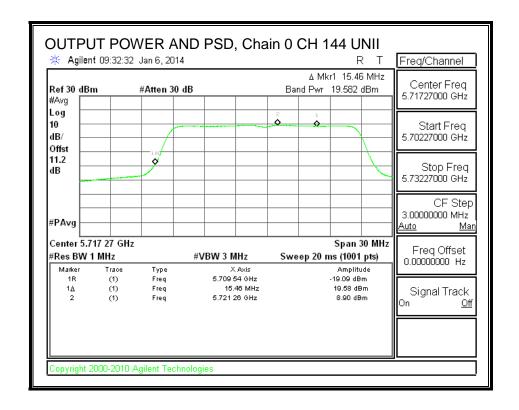
Channel	Frequency	Chain 0	Total	Power	Power
		Meas	Corr'd	Limit	Margin
		Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	14.03	14.25	16.83	-2.58

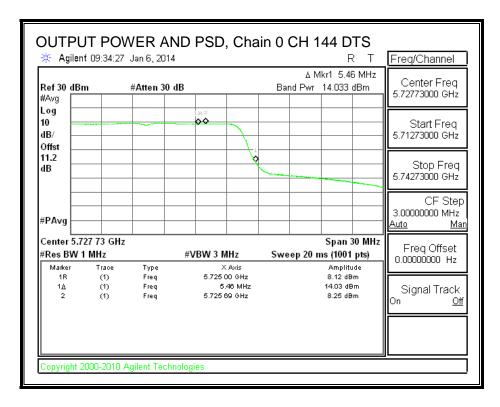
### **PSD Results**

Channel	Frequency	Chain 0	Total	PSD	PSD
		Meas	Corr'd	Limit	Margin
		PSD	PSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dB)
144	5720	8.250	8.47	11.00	-2.53

Duty Cycle CF (dB) 0.22	Included in Calculations of Corr'd Power & PPSD
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### **OUTPUT POWER AND PSD, Chain 0**





### 8.24. 802.11n HT20 3TX CDD MODE IN THE 5.6 GHz BAND

### 8.24.1. 26 dB BANDWIDTH

### **LIMITS**

None; for reporting purposes only.

Channel	Frequency	26 dB BW	26 dB BW	26 dB BW
		Chain 0	Chain 1	Chain 2
	(MHz)	(MHz)	(MHz)	(MHz)
100	5500	20.46	20.46	20.55
116	5580	20.49	20.37	20.40
140	5700	20.67	20.46	20.61

### **26 dB BANDWIDTH**

### 26 dB BANDWIDTH, Chain 0

