

CERTIFICATION TEST REPORT

Report Number. : 11789904-E1V4

- Applicant : MICROSOFT CORP ONE MICROSOFT WAY REDMOND, WA 98052, U.S.A.
 - **Model :** 1782
 - FCC ID : C3K1782
 - **IC** : 3048A-1782
- **EUT Description** : PORTABLE COMPUTING DEVICE
- Test Standard(s) : FCC 47 CFR PART 15 SUBPART E INDUSTRY CANADA RSS - 247 ISSUE 2

Date Of Issue: December 20, 2017

Prepared by:

UL Verification Services Inc. 47173 Benicia Street Fremont, CA 94538, U.S.A. TEL: (510) 771-1000 FAX: (510) 661-0888



Revision History

Rev.	lssue Date	Revisions	Revised By
V1	7/07/17	Initial Issue	
V2	12/07/17	Added DFS data	F. de Anda
V3	12/13/17	Updated section 5.5	C. Susa
V4	12/20/17	Updated section 5.5, Added section 10.5	C. Susa

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	MICROSOFT CORP ONE MICROSOFT WAY REDMOND, WA 98052, U.S.A.
EUT DESCRIPTION:	PORTABLE COMPUTING DEVICE
MODEL:	1782
SERIAL NUMBER:	158395400000226
DATE TESTED:	June 16 th , 2017 – December 20 th , 2017

APPLICABLE STANDARDS		
STANDARD	TEST RESULTS	
CFR 47 Part 15 Subpart E	Pass	
INDUSTRY CANADA RSS-247 Issue 2	Pass	
INDUSTRY CANADA RSS-GEN Issue 4	Pass	

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For UL Verification Services Inc. By:

commer de luck

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Prepared By:

Clifford Susa Project Engineer UL Verification Services Inc.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 14-30, FCC KDB 662911 D01 v02r01, FCC KDB 905462 D02 v02/D03 v01r02/D06 v02, FCC KDB 789033 D02 v01r04, FCC KDB 644545 D03 v01, ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
Chamber A	Chamber D
Chamber B	Chamber E
🖂 Chamber C	🖂 Chamber F
	Chamber G
	Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration *#* 208313. Chambers A through C are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-3, respectively. Chambers D through H are covered under Industry Canada company address code 22541 with site numbers 22541 -1 through 22541-5, respectively.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://ts.nist.gov/standards/scopes/2000650.htm</u>.

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4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB - 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a portable computing device with 802.11 2x2, a/b/g/n/ac WLAN, Bluetooth, Bluetooth LE.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.2 GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)	
2ТХ				
5180 - 5240	802.11a	13.14	20.61	
5180 - 5240	802.11n HT20	13.09	20.37	
5190 - 5230	802.11n HT40	13.20	20.89	
5210	802.11ac VHT80	11.23	13.27	

5.3 GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)	
2ТХ				
5260 - 5320	802.11a	16.25	42.17	
5260 - 5320	802.11n HT20	16.18	41.50	
5270 - 5310	802.11n HT40	13.96	24.89	
5290	802.11ac VHT80	11.09	12.85	

5.6 GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2ТХ			
5500 - 5700	802.11a	15.74	37.50
5500 - 5700	802.11n HT20	15.68	36.98
5510 - 5670	802.11n HT40	13.85	24.27
5530 - 5610	802.11ac VHT80	12.59	18.16

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5.8 GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2TX			
5745 - 5825	802.11a	15.81	38.11
5745 - 5825	802.11n HT20	15.80	38.02
5755 - 5795	802.11n HT40	13.85	24.27
5775	802.11ac VHT80	12.75	18.84

List of test reduction

Antenna Port Testing					
Band	Mode	Covered by			
5 GHz band	802.11a 1TX	802.11a 2TX			
5 GHz band	802.11n HT20 1TX	802.11n HT20 2TX			
5 GHz band	802.11n HT40 1TX	802.11n HT40 2TX			
5 GHz band	802.11ac VHT 80 1TX	802.11ac VHT 80 2TX			

Note: 802.11n VHT20 and VHT40 modes are leveraged from 802.11n HT20 and HT40.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes integrated antennas, with a maximum gain as follows:

Frequency Band	Antenna Gain (dBi)		
(GHz)	Chain 0 (A)	Chain 1 (B)	
5.2	3.30	3.10	
5.3	3.50	3.80	
5.5	5.30	5.30	
5.8	4.40	4.50	

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5.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was v14.201.151

The test utility software used during testing was WiFi tool v2.7.6.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated with the display in 90° and 45° orientations, it was determined that 90° orientation was the worst-case orientation. Therefore, all final radiated testing was performed with the display EUT at 90° orientation.

Worst-case data rates as provided by the client were:

802.11a mode: 6 Mbps 802.11n HT20 mode: MCS0 802.11n HT40 mode: MCS0 802.11ac VHT80 mode: MCS0

802.11ac VHT20 and VHT40 mode are different from 802.11nHT20 and HT40 only in control messages and have the same power settings.

For MIMO modes, the 2TX emission testing was considered as a worst case scenario and was performed at power levels, per transmit chain, greater than or equal to the maximum power in any 1TX mode.

For simultaneous transmission of multiple channels in the BT/BLE and 5GHz bands, tests were conducted for various configurations having the highest power. No noticeable new emission was found.

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List					
Description Manufacturer Model Serial Number FCC ID					
Laptop AC/DC adapter	Lenovo	ADLX45NCC2A	11S36200281ZZ20059W0H5	NA	
Laptop	Lenovo	11e	LR-04N7BL	NA	
USB-Internet Adapter	linksys	USB3GIGV1	15710S08406242	NA	

I/O CABLES

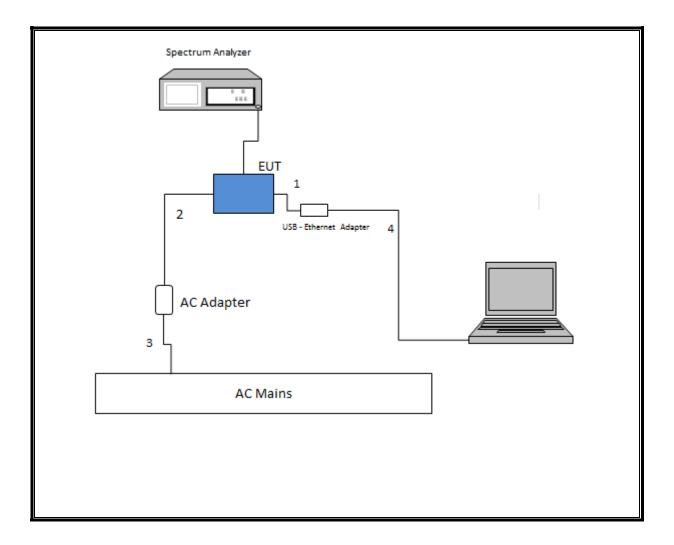
	I/O Cable List							
Cable	Port	# of identical	Connector	Cable Type	Cable	Remarks		
No		ports	Туре		Length (m)			
1	USB	1	USB	Un-Shielded	0.17			
2	DC	1	Proprietary	Un-Shielded	1.75			
3	AC	1	2-prong	Un-Shielded	0.5			
4	Ethernet	1	RJ45	Un-Shielded	2			

TEST SETUP

The EUT was tested connected to a support Laptop via RJ45/USB adapter. Test software exercised the radio.

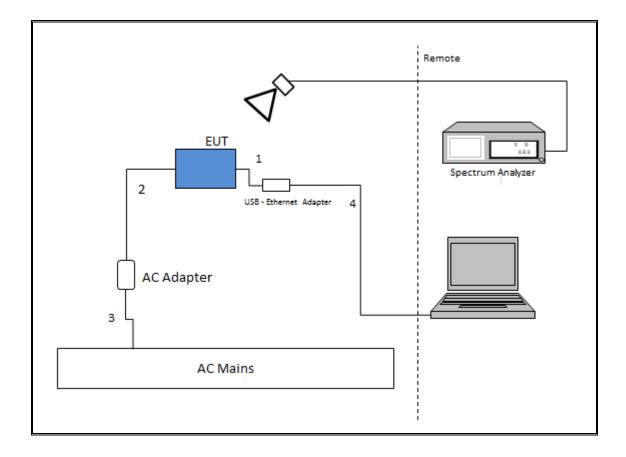
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SETUP DIAGRAM FOR ANTENNA PORT CONDUCTED TESTS



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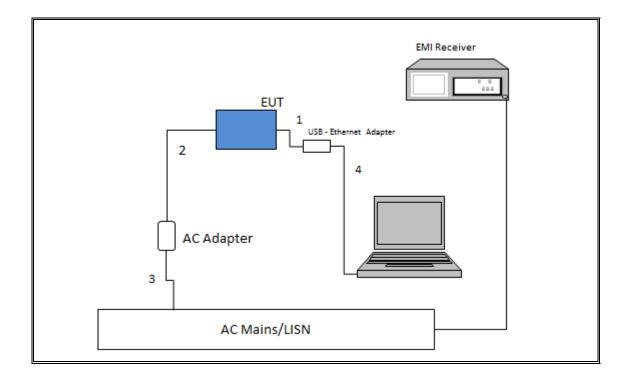
SETUP DIAGRAM FOR RADIATED TESTS



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SETUP DIAGRAM FOR AC LINE CONDUCTED TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

	TEST EQUIPMENT LIST						
Description	Manufacturer	Model	Asset	Cal Due			
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences Corp.	JB1	T130	09/23/17			
Antenna, Horn, 1-18GHz	ETS Lindgren	3117	T711	01/30/18			
Antenna, Horn, 1-18GHz	ETS Lindgren	3117	T712	01/30/18			
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	T481	08/01/17			
High Pass Filter 6GHz	Micro-Tronics	HPS17542	T484	08/01/17			
RF Preamplifier, 1 - 18GHz	Miteq	AFS42-00101800-25-S-					
		42	T1165	08/01/17			
RF Preamplifier, 1 - 7GHz	Amplical	AMP1G6-10-27	T1370	05/15/18			
RF Preamplifier, 1 - 7GHz	Miteq	AMF-4D-01000800-30-					
	2	29P	T1574	08/26/17			
RF Preamplifier, 10kHz - 1GHz	Sonoma	310N	T300	11/10/17			
Spectrum Analyzer	Agilent (Keysight) Technologies	E4440A	T199	07/27/17			
Spectrum Analyzer	Keysight	N9030A	T1466	04/11/18			
Spectrum Analyzer	Keysight	N9030A	T905	01/11/18			
LISN	Fischer Custom	FCC-LISN-50/250-25-2	T24	03/01/18			
	Communications						
EMI Receiver	Rohde & Schwarz	ESR	T1436	01/06/18			
Antenna, Horn, 18-26 GHz	ARA	MWH-1826/B	T447	06/30/17			
RF Preamplifier, 1 - 26GHz	Agilent	8449B	T404	07/05/17			
Spectrum Analyzer	HP	8564E	T106	09/07/17			
RF Preamplifier, 26 - 40GHz	Miteq	NSP4000-SP2	T88	04/29/18			
Antenna, Horn, 26-40 GHz	ARA	MWH-2640/B	T90	08/19/17			
Power Meter	Keysight	N1911A	T1269	03/29/18			
Power Sensor	Keysight	N1921A	T1224	03/29/18			
Antenna, Horn, 1-18GHz	ETS Lindgren	3117	T119	03/29/18			
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	T421	01/25/18			
High Pass Filter 6GHz	Micro-Tronics	HPS17542	T425	01/25/18			
Spectrum Analyzer	Keysight	N9030A	T340	12/15/18			
RF Preamplifier, 1 – 18GHz	Miteq	AFS42-00101800-25-S- 42	T742	01/25/18			
Filter, BRF, 5150-5350MHz	Micro-Tronics	BRC50703	T1518	11/29/18			

Test Software List					
Description	Manufacturer	Model	Version		
Radiated Software	UL	UL EMC	9.5, 12/01/16		
Antenna Port Software	UL	UL RF	6.9, 6/15/17		
Conducted Emissions Software	UL	UL EMC	9.5, 5/26/15		

7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 789033 D02 v01r04, Section B.

26 dB Emission BW: KDB 789033 D02 v01r04, Section C.

99% Occupied BW: KDB 789033 D02 v01r04, Section D.

<u>Conducted Output Power</u>: KDB 789033 D02 v01r04, Section E.3.b (Method PM-G) and KDB 789033 D02 v01r04, Section E.2.b (Method SA-1)

Power Spectral Density: KDB 789033 D02 v01r04, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v01r04, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v01r04, Sections G.3, G.4, and G.5.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

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8. ON TIME, DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

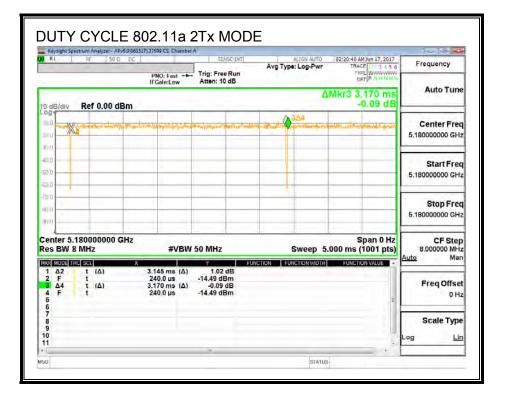
KDB 789033 Zero-Span Spectrum Analyzer Method.

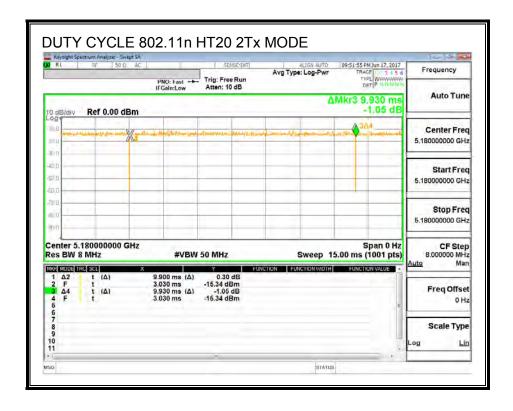
RESULTS

Mode	ON Time	Period	Duty Cycle	Duty	Duty Cycle	1/T
	В		x	Cycle	Correction Factor	Minimum VBW
	(msec)	(msec)	(linear)	(%)	(dB)	(kHz)
802.11a 2Tx	3.145	3.170	0.992	99.2%	0.00	0.010
802.11n HT20 2Tx	9.900	9.930	0.997	99.7%	0.00	0.010
802.11n HT40 2Tx	4.792	4.816	0.995	99.5%	0.00	0.010
802.11ac HT80 2Tx	2.235	2.260	0.989	98.9%	0.00	0.010

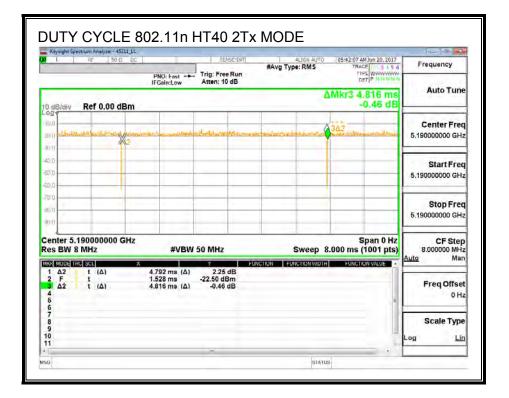
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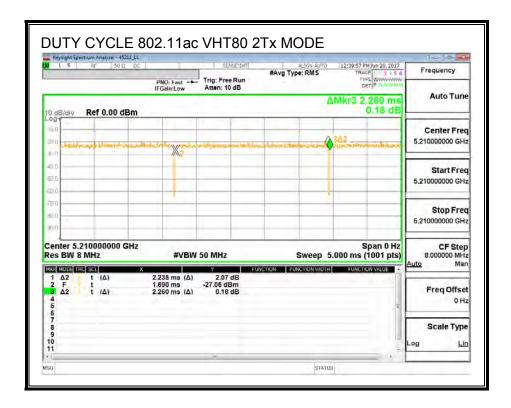
DUTY CYCLE PLOTS





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9. ANTENNA PORT TEST RESULTS

9.1. 11a 2TX MODE IN THE 5.2GHz BAND

9.1.1. 26 dB BANDWIDTH

<u>LIMITS</u>

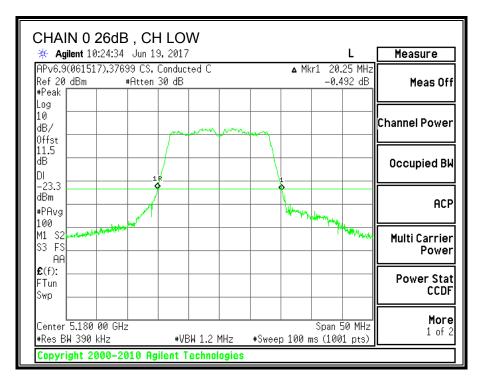
None; for reporting purposes only.

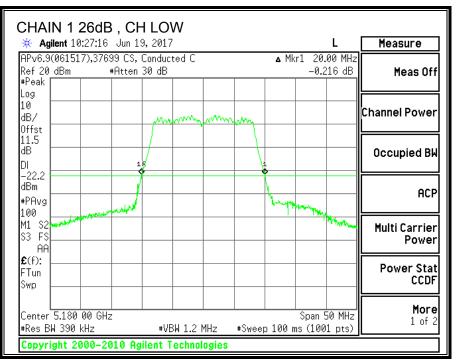
RESULTS

Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5180	20.25	20.00
Mid	5200	20.20	20.05
High	5240	20.25	20.05

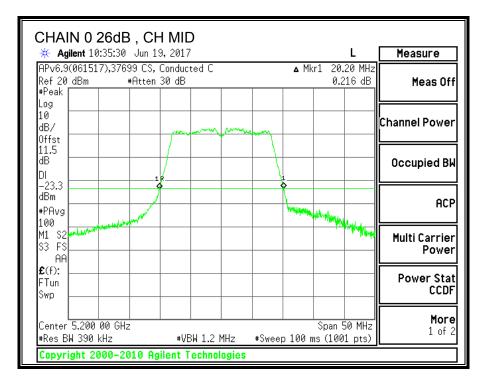
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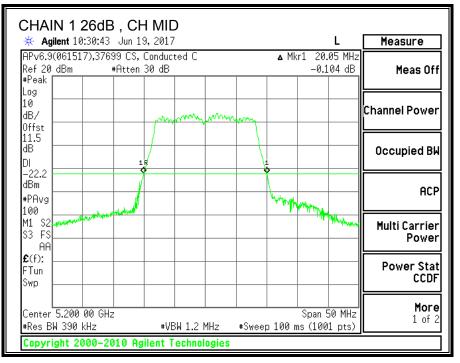
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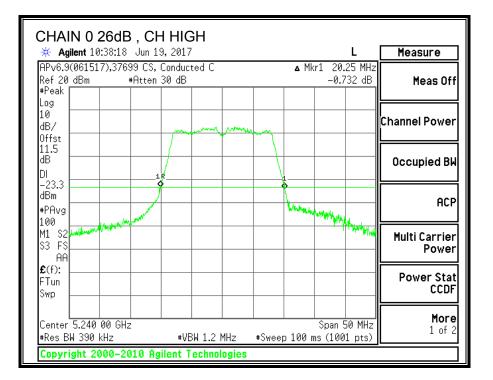


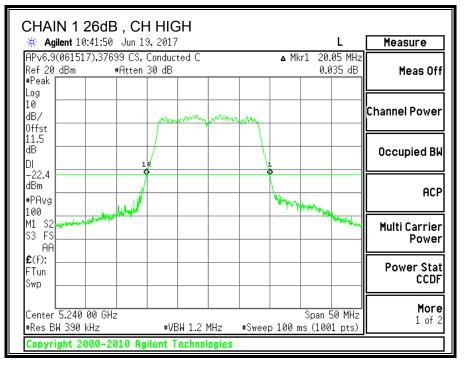
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9.1.2. 99% BANDWIDTH

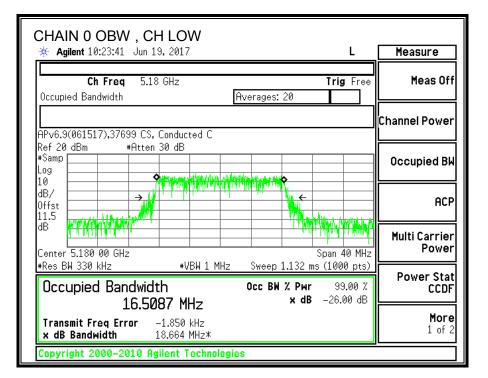
LIMITS

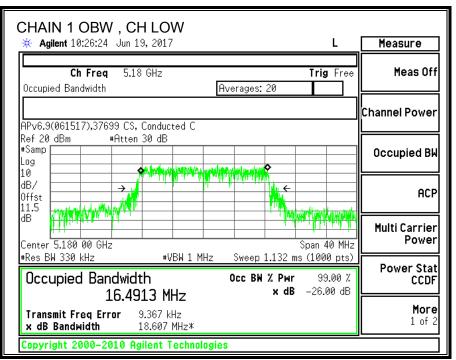
None; for reporting purposes only.

RESULTS

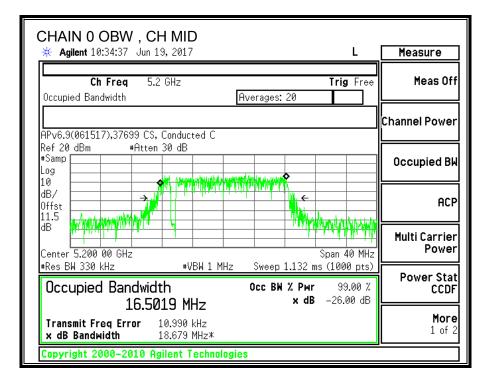
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5180	16.5087	16.4913
Mid	5200	16.5019	16.5018
High	5240	16.4914	16.4840

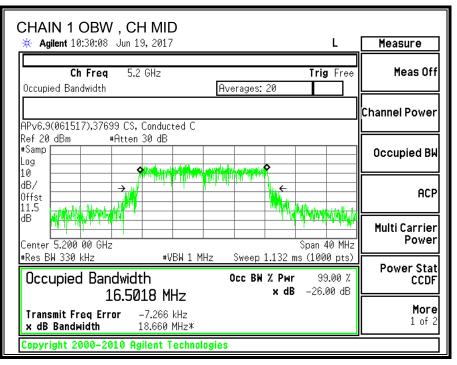
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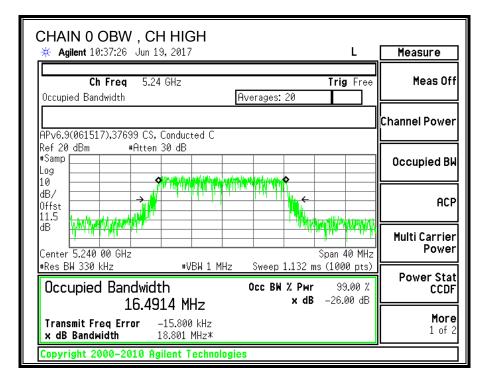


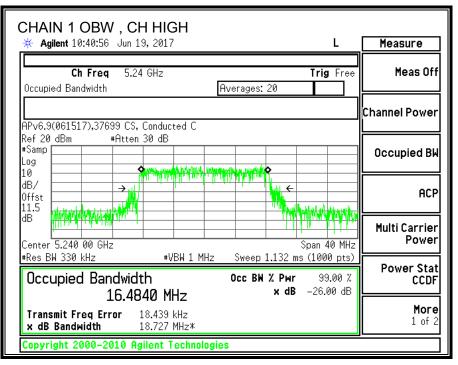
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9.1.3. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (1)

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 6.2.1(1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.30	3.10	3.20	6.21

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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)
Low	5180	20.00	16.49	3.20	6.21
Mid	5200	20.05	16.50	3.20	6.21
High	5240	20.05	16.48	3.20	6.21

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)						
Low	5180	24.00	22.17	18.97	18.97	10.79	10.00	3.79
Mid	5200	24.00	22.17	18.97	18.97	10.79	10.00	3.79
High	5240	24.00	22.17	18.97	18.97	10.79	10.00	3.79

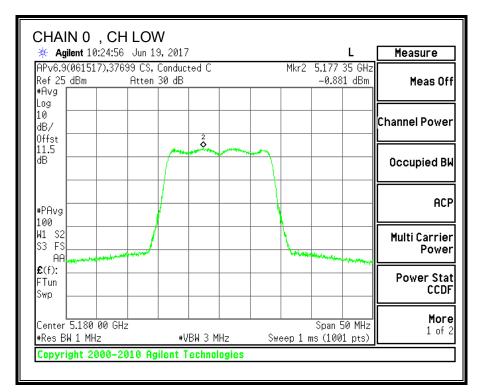
Output Power Results

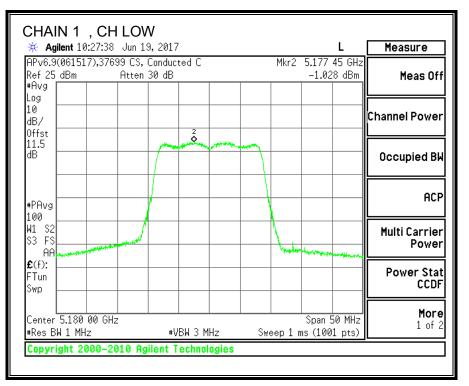
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas Meas		Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5180	9.87	10.38	13.14	18.97	-5.83
Mid	5200	9.62	10.37	13.02	18.97	-5.95
High	5240	9.89	10.15	13.03	18.97	-5.94

PPSD Results

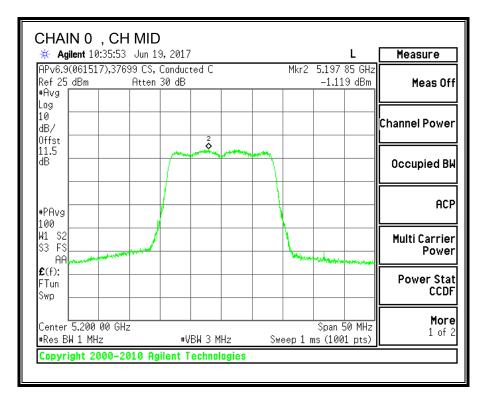
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas Meas		Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5180	-0.88	-1.03	2.06	3.79	-1.73
Mid	5200	-1.12	-0.90	2.00	3.79	-1.79
High	5240	-0.98	-1.03	2.00	3.79	-1.79

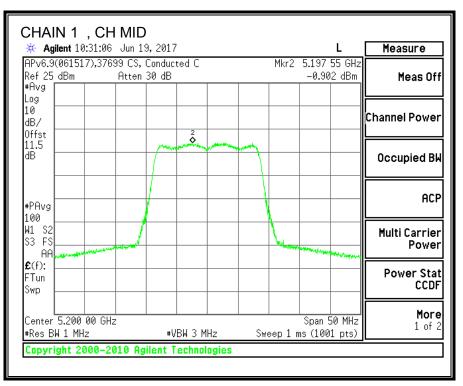
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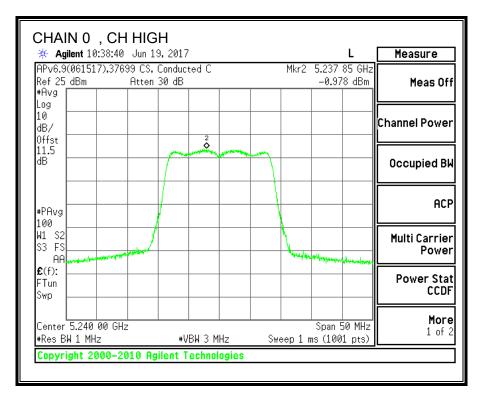


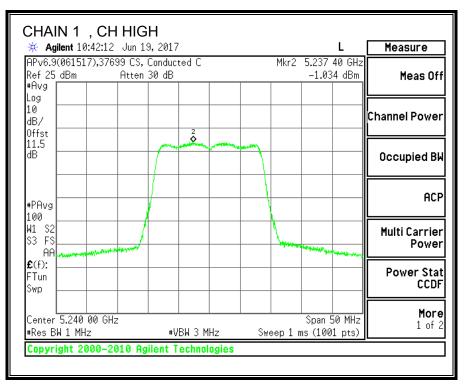
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9.2. 11n HT20 2TX MODE IN THE 5.2GHz BAND

9.2.1. 26 dB BANDWIDTH

<u>LIMITS</u>

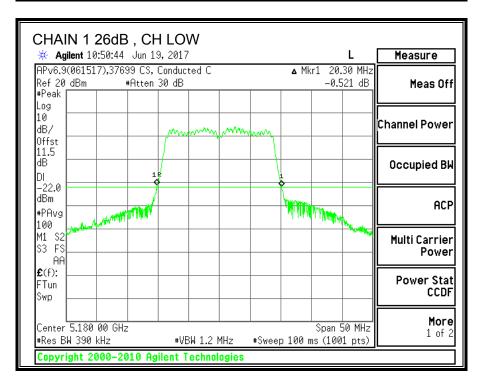
None; for reporting purposes only.

RESULTS

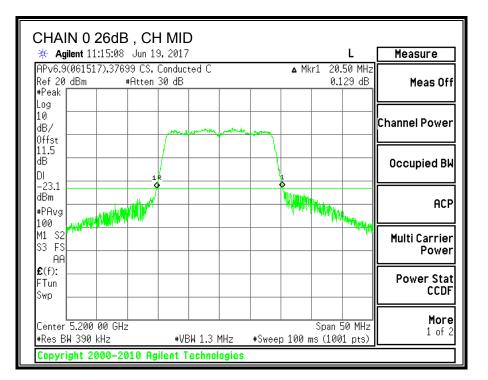
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5180	20.50	20.30
Mid	5200	20.5	20.35
High	5240	20.55	20.25

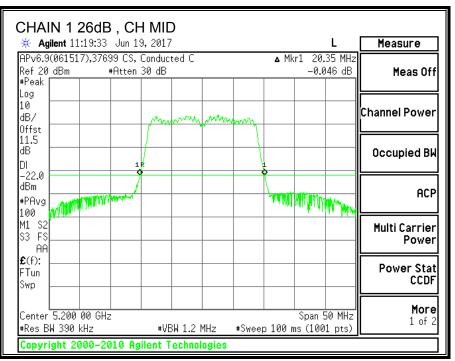
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CHAIN 0 26dB , CH I	LOW				
🔆 🔆 Agilent 10:54:11 🛛 Jun 19, 1	2017		L	Measure	
APv6.9(061517),37699 CS, Co Ref 20 dBm #Atten 30 #Peak		▲ Mkr1 20.50 MHz -0.757 dB		Meas Off	
Log 10 dB/ 0ffst	man	many		Channel Power	
11.5 dB DI 18				Occupied BW	
-23.0 dBm *PAvg 100 M1 \$2 \$3 E\$			ANY ALIAN WATCH	ACP	
M1 S2 S3 FS AA				Multi Carrier Power	
£(f): FTun Swp				Power Stat CCDF	
Center 5.180 00 GHz #Res BW 390 kHz	#VBW 1.3 MHz	#Sweep 100 r	Span 50 MHz ms (1001 pts)	More 1 of 2	
Copyright 2000–2010 Agilent Technologies					



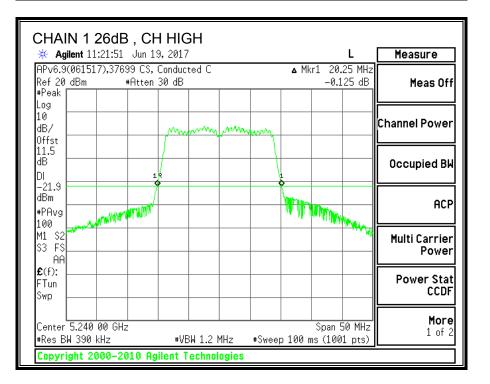
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CHAIN 0 26dB , C	H HIGH					
🔆 🔆 🔆 🔆 🔆 🔆 🔆 🔆 🔆	19,2017				L	Measure
#Peak	, Conducted C n 30 dB		▲ Mk		55 MHz 01 dB	Meas Off
Log 10 dB/ 0ffst	man	month and				Channel Power
11.5 dB DI	_1.R		1			Occupied BW
-23.2 dBm *PAvg 100 M1 \$2	/			WWW	(Theorem	ACP
AA				<u>, a i ai liùi</u> t.	THE WARNER	Multi Carrier Power
€(f): FTun Swp						Power Stat CCDF
Center 5.240 00 GHz #Res BW 430 kHz	#VBW 1.3 M	1Hz #Swee	ep 100 m		50 MHz 1 pts)	More 1 of 2
Copyright 2000-2010 A	Igilent Technol	ogies				



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9.2.2. 99% BANDWIDTH

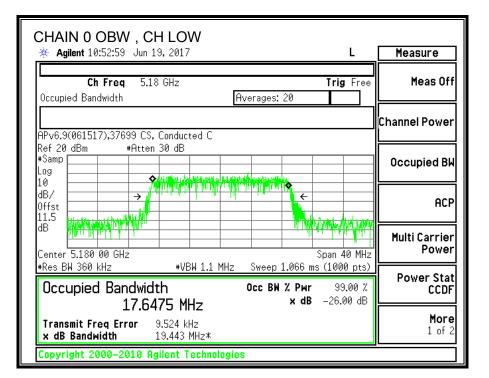
LIMITS

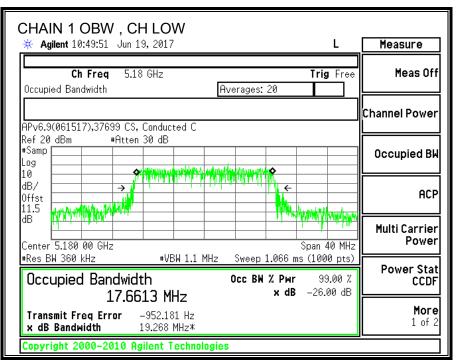
None; for reporting purposes only.

RESULTS

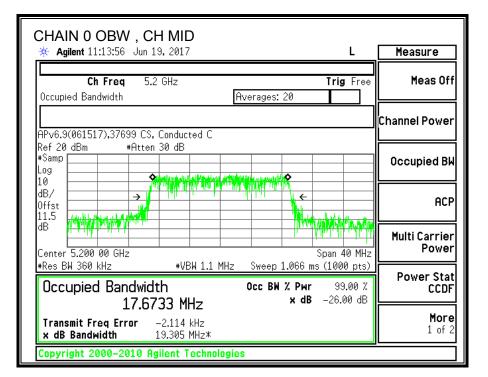
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)	
Low	5180	17.6475	17.6613	
Mid	5200	17.6733	17.6860	
High	5240	17.6635	17.6529	

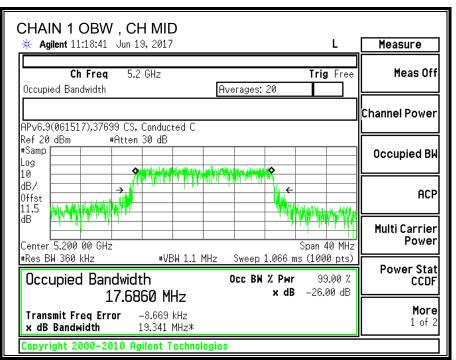
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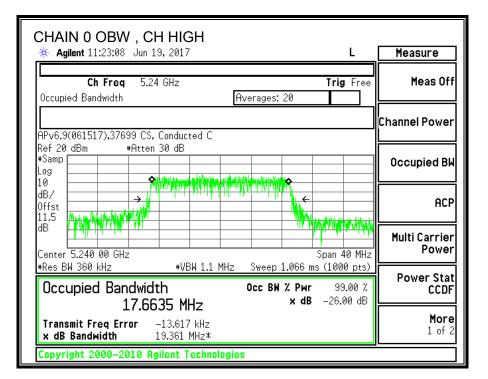


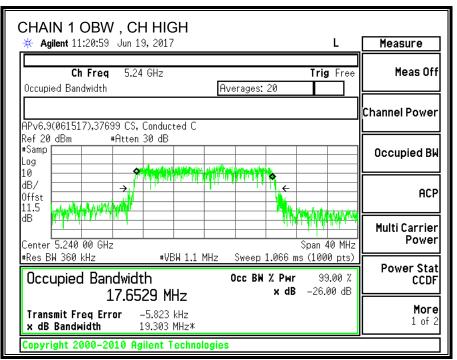
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9.2.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (1)

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 6.2.1(1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.30	3.10	3.20	6.21

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RESULTS

ID:	37699 CS	Date:	06/16/17	
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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)
Low	5180	20.30	17.65	3.20	6.21
Mid	5200	20.35	17.67	3.20	6.21
High	5240	20.25	17.65	3.20	6.21

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)						
Low	5180	24.00	22.47	19.27	19.27	10.79	10.00	3.79
Mid	5200	24.00	22.47	19.27	19.27	10.79	10.00	3.79
High	5240	24.00	22.47	19.27	19.27	10.79	10.00	3.79

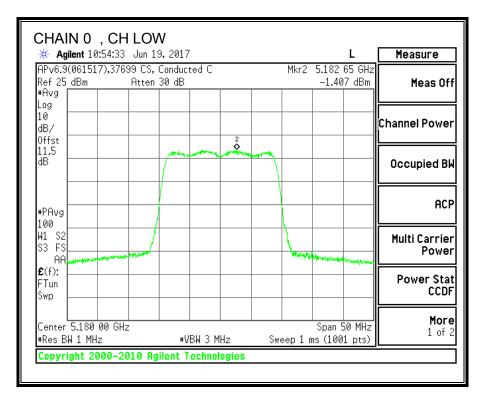
Output Power Results

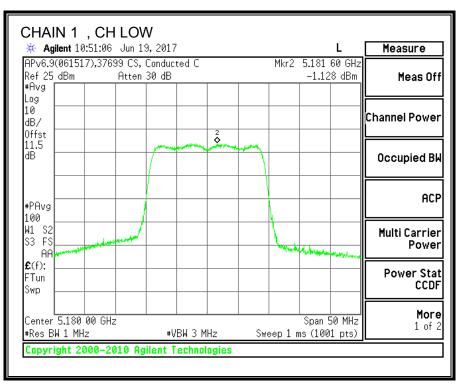
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5180	9.88	10.21	13.06	19.27	-6.21
Mid	5200	9.79	10.35	13.09	19.27	-6.18
High	5240	9.73	10.37	13.07	19.27	-6.20

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5180	-1.41	-1.13	1.75	3.79	-2.04
Mid	5200	-1.75	-1.39	1.45	3.79	-2.34
High	5240	-1.40	-1.08	1.77	3.79	-2.02

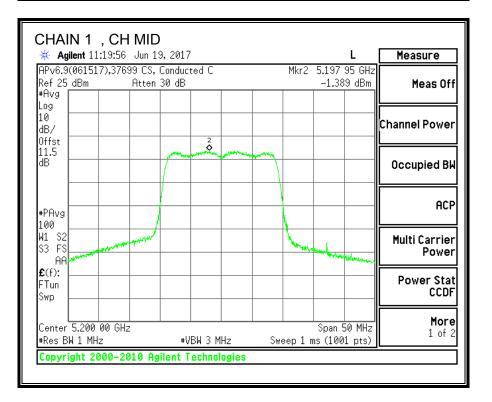
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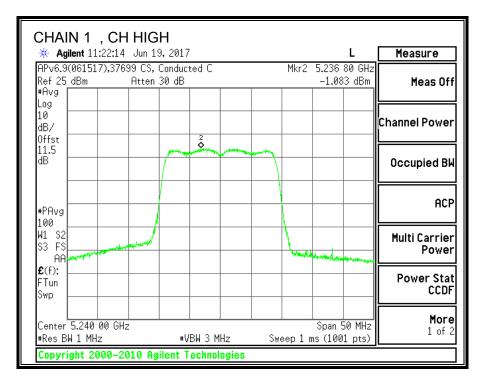
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🔆 Agilent 11:15:31 J	un 19, 2017			L	Measure
APv6.9(061517),37699 Ref 25 dBm At #Avg	CS, Conducted ten 30 dB	с — — — — —	Mkr2 5.203 -1.7	3 05 GHz 748 dBm	Meas Of
Log 10 dB/ Offst					Channel Power
dB		2 2			Occupied Bl
#PAvg					ACF
HI S2 S3 FS AA	~		hand	144 11-14 - 14 - 14 - 14 - 14 - 14 - 14	Multi Carrier Power
E(f): FTun Swp					Power Stat CCDF
Center 5.200 00 GHz #Res BW 1 MHz	#VBW 3		Span Span weep 1 ms (10	50 MHz 101 pts)	More 1 of 2



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CHAIN 0 , CH H			Maaauur
🌞 Agilent 11:24:41 Ju		L	Measure
APv6.9(061517),37699 (Ref 25 dBm At #Avg	CS, Conducted C ten 30 dB	Mkr2 5.242 20 G –1.400 dB	
Log 10 dB/ 0ffst	2		Channel Power
11.5 dB			Occupied BW
#PAvg			ACP
W1 S2 S3 FS AA			Multi Carrier Power
£ (f): FTun Swp			Power Stat CCDF
Center 5.240 00 GHz #Res BW 1 MHz	#VBW 3 MHz	Span 50 MH Sweep 1 ms (1001 pts	
Copyright 2000-2010) Agilent Technologie	S	



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9.3. 11n HT40 2TX MODE IN THE 5.2GHz BAND

9.3.1. 26 dB BANDWIDTH

<u>LIMITS</u>

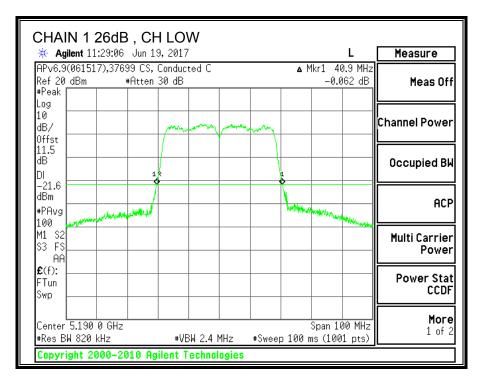
None; for reporting purposes only.

RESULTS

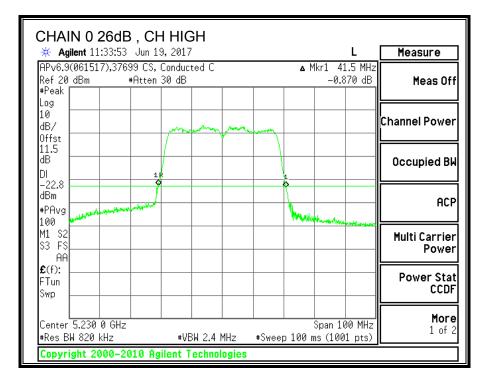
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5190	41.5	40.9
High	5230	41.5	40.9

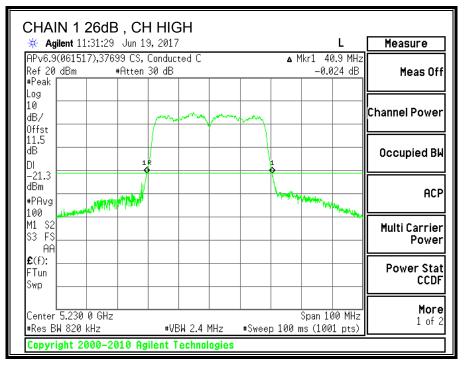
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СНАІМ 0 26dB, ∦ Agilent 11:26:41 Ju			1	Measure
			L	measure
APv6.9(061517),37699 Ref 20 dBm #At #Peak	CS, Conducted C ten 30 dB	1	Mkr1 41.5 MHz -0.184 dB	Meas Off
Log 10 dB/ 0ffst	many	man		Channel Power
11.5 dB DI	18			Occupied BW
-22.9 dBm #PAvg 100		- Vinni Li	-	ACP
M1 S2 S3 FS AA				Multi Carrier Power
£ (f): FTun Swp				Power Stat CCDF
Center 5.190 0 GHz #Res BW 820 kHz	#VBW 2.4 M	 1Hz #Sweep 100	Span 100 MHz ms (1001 pts)	More 1 of 2
Copyright 2000-2010) Agilent Technol	ogies		



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9.3.2. 99% BANDWIDTH

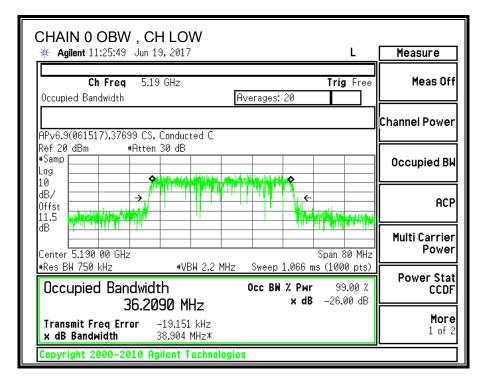
LIMITS

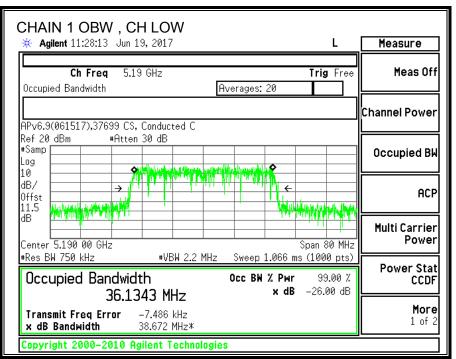
None; for reporting purposes only.

RESULTS

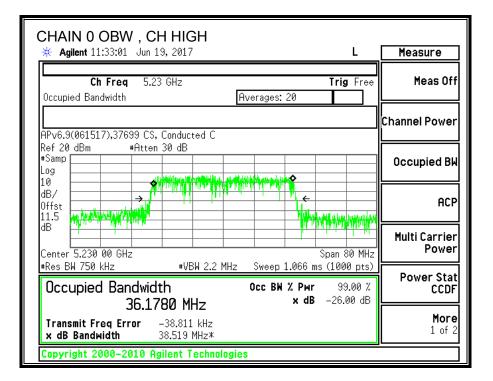
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5190	36.2090	36.1343
High	5230	36.1780	36.1380

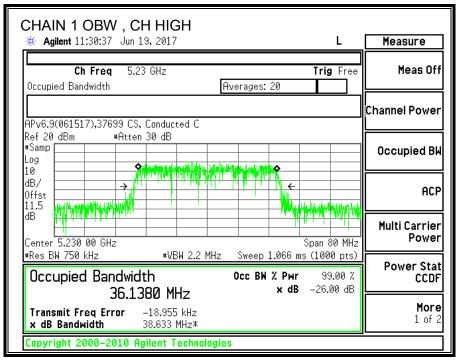
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9.3.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (1)

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 6.2.1(1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.30	3.10	3.20	6.21

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RESULTS

ID: 37699 CS **Date:** 06/16/17

Bandwidth and Antenna Gain

Channel	Frequency	Min	Min	Directional	Directional
		26 dB	99%	Gain	Gain
		BW	BW	for Power for PPS	
	(MHz)	(MHz)	(MHz)	(dBi)	(dBi)
	· · ·	()	()	()	()
Low	5190	40.90	36.13	3.20	6.21

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)						
Low	5190	24.00	23.00	19.80	19.80	10.79	10.00	3.79
High	5230	24.00	23.00	19.80	19.80	10.79	10.00	3.79

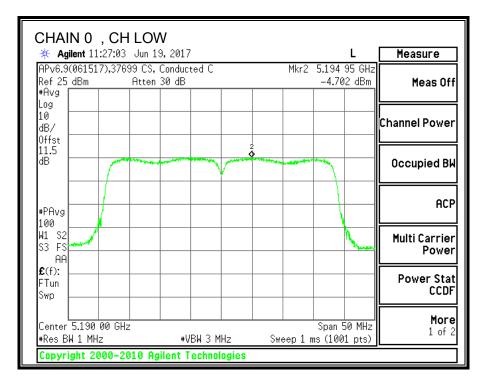
Output Power Results

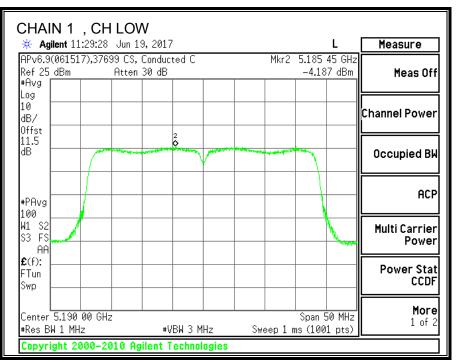
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5190	9.84	10.51	13.20	19.80	-6.60
High	5230	9.96	10.26	13.12	19.80	-6.68

PPSD Results

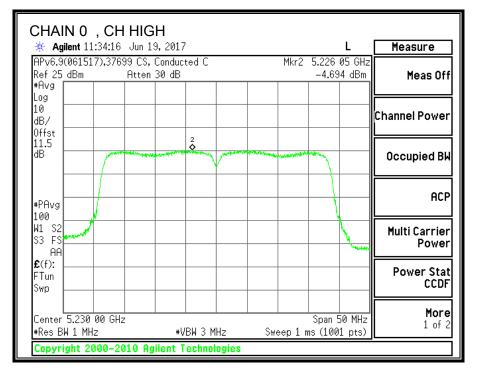
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
	((((((
Low	5190	-4.70	-4.19	-1.43	3.79	-5.22

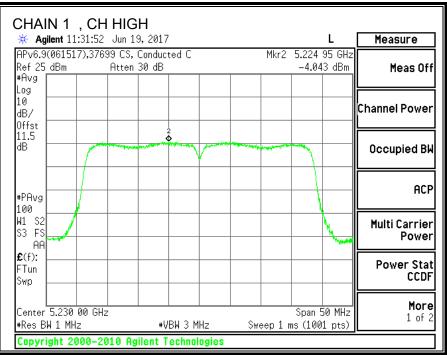
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9.4. 11ac VHT80 2TX MODE IN THE 5.2GHz BAND

9.4.1. 26 dB BANDWIDTH

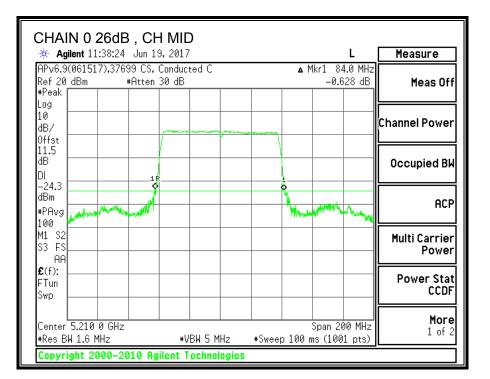
<u>LIMITS</u>

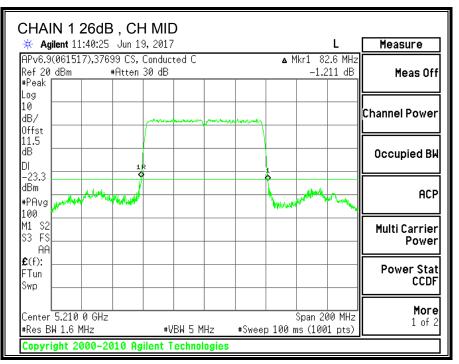
None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW CHAIN 0	26 dB BW CHAIN 1
		(MHz)	(MHz)
Mid	5210	84.00	82.6

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9.4.2. 99% BANDWIDTH

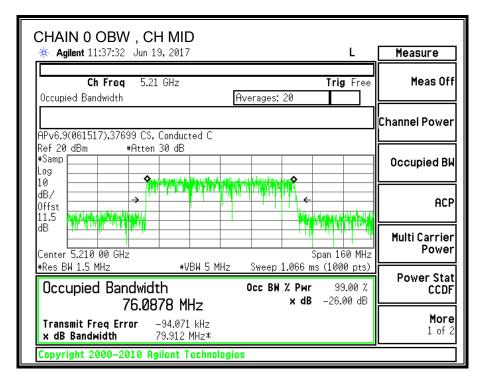
LIMITS

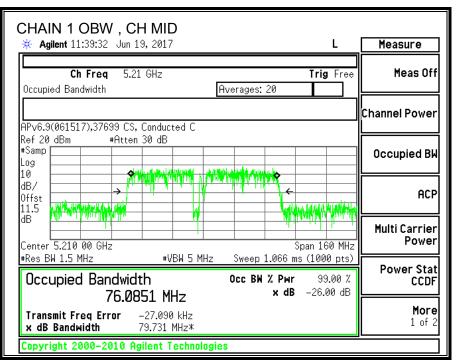
None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)	
Mid	5210	76.0878	76.0851	

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9.4.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (1)

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 6.2.1(1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.30	3.10	3.20	6.21

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RESULTS

```
ID: 37699 CS Date: 06/16/17
```

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)
Low	5210	82.60	76.09	2.57	5.57

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)						
Low	5210	24.00	23.00	20.43	20.43	11.00	10.00	4.43

Output Power Results

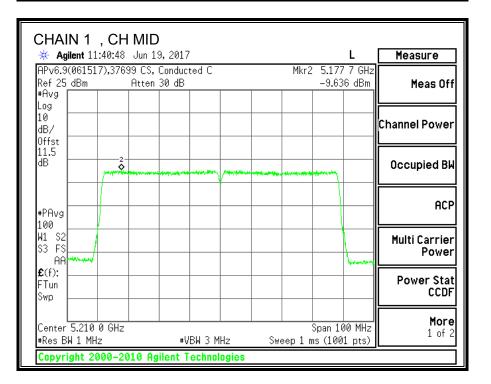
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5210	8.03	8.41	11.23	20.43	-9.20

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5210	-9.66	-9.64	-6.64	4.43	-11.07

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CHAIN 0 , CH MID					
Agilent 11:38:46 Ju		L	Measure		
#Avg	LS, Londucted L ten 30 dB	Mkr2 5.173 8 -9.657 d			
Log 10 dB/ Offst			Channel Power		
11.5 dB		••••••••••••••••••••••••••••••••••••••	Occupied BW		
#PAvg			- ACP		
W1 S2 S3 FS AA			Multi Carrier Power		
£ (f): FTun Swp			Power Stat CCDF		
Center 5.210 0 GHz #Res BW 1 MHz	#VBW 3 MHz	Span 100 № Sweep 1 ms (1001 p			
Copyright 2000–2010 Agilent Technologies					



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9.5. 11a 2TX MODE IN THE 5.3GHz BAND

9.5.1. 26 dB BANDWIDTH

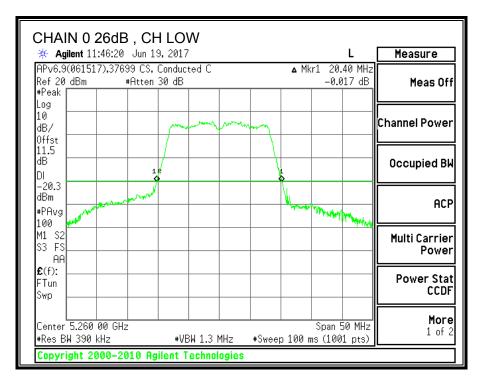
<u>LIMITS</u>

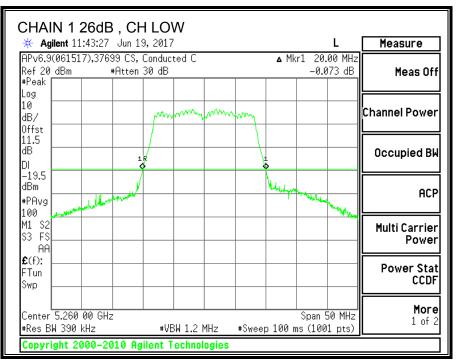
None; for reporting purposes only.

RESULTS

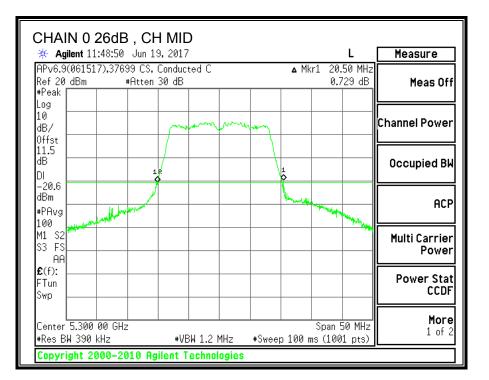
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5260	20.40	20.00
Mid	5300	20.50	20.00
High	5320	20.15	20.00

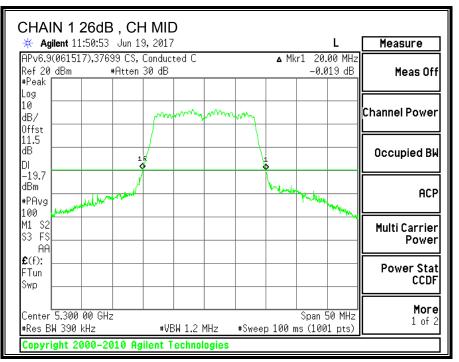
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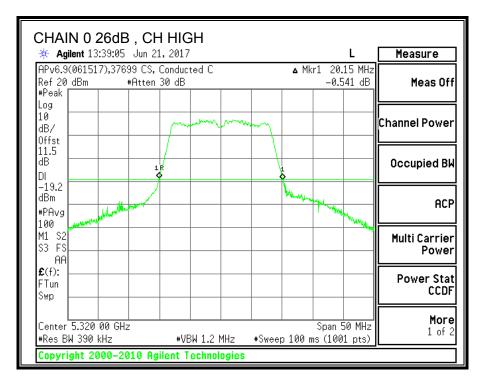


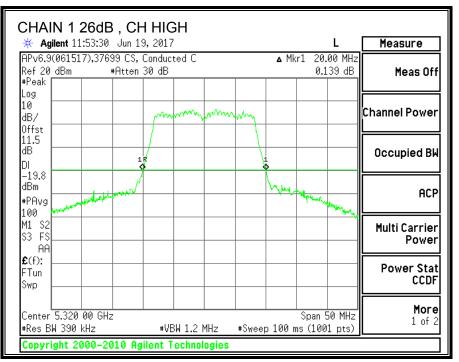
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9.5.2. 99% BANDWIDTH

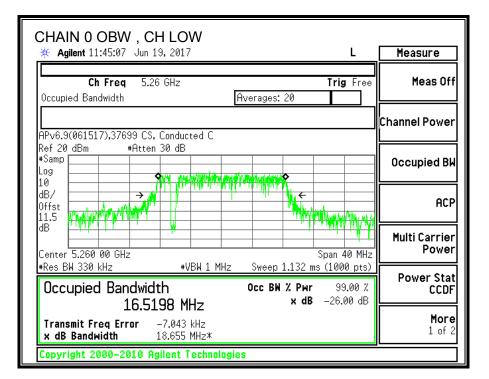
LIMITS

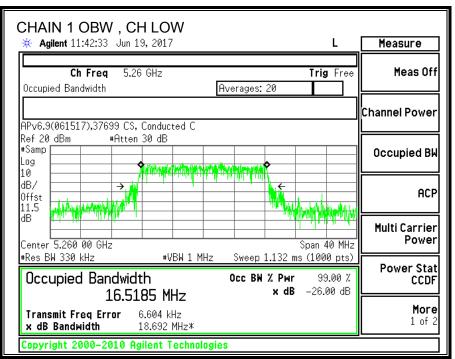
None; for reporting purposes only.

RESULTS

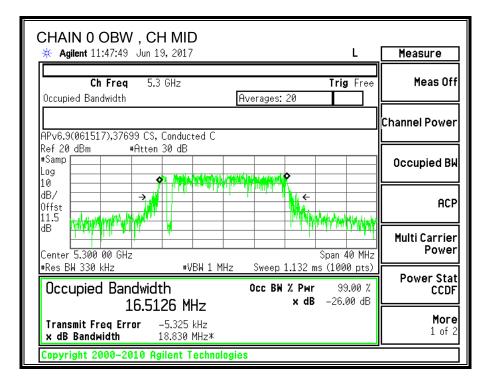
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5260	16.5198	16.5185
Mid	5300	16.5126	16.5225
High	5320	16.5229	16.5282

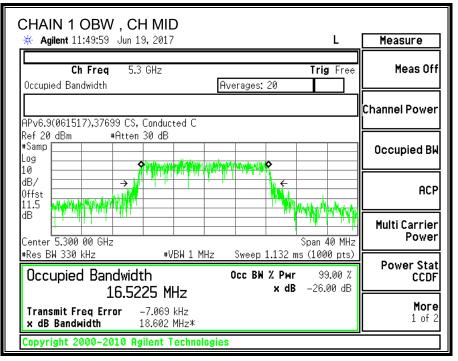
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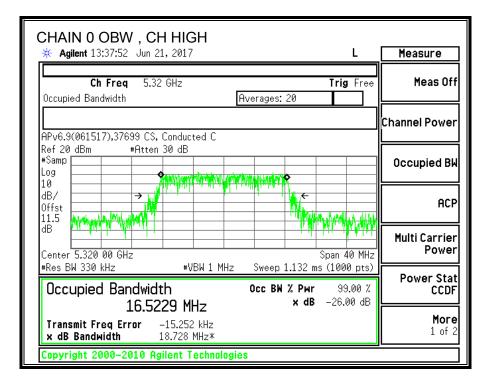


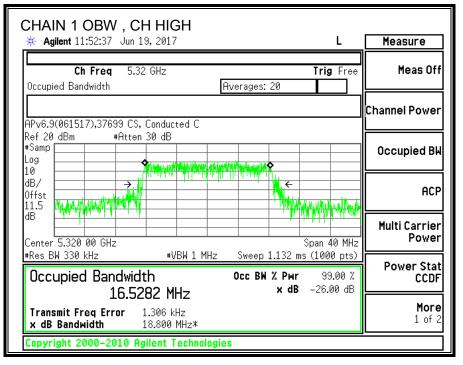
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9.5.3. OUTPUT POWER AND PPSD

<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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.50	3.80	3.65	6.66

RESULTS

ID: 37699 CS Date: 06/16/17

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)
Low	5260	20.00	16.52	3.65	6.66
Mid	5300	20.00	16.51	3.65	6.66
High	5320	20.00	16.52	3.65	6.66

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5260	24.00	23.18	27.00	23.18	10.34	11.00	10.34
Mid	5300	24.00	23.18	27.00	23.18	10.34	11.00	10.34
High	5320	24.00	23.18	27.00	23.18	10.34	11.00	10.34

Output Power Results

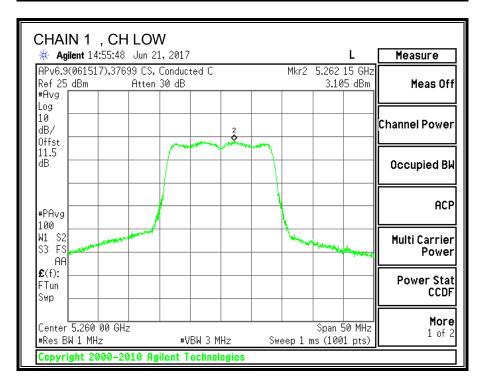
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5260	12.89	13.41	16.17	23.18	-7.01
Mid	5300	13.01	13.45	16.25	23.18	-6.93
High	5320	12.98	13.03	16.02	23.18	-7.17

PPSD Results

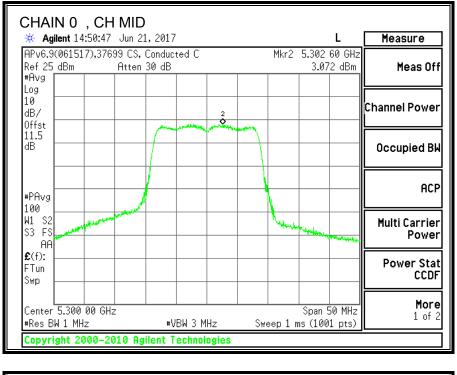
Channel	Frequency	Chain 0 Chain 1		Total	PPSD	PPSD
		Meas Meas		Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5260	2.75	3.11	5.94	10.34	-4.40
Mid	5300	3.07	3.14	6.11	10.34	-4.23
High	5320	3.16	3.09	6.14	10.34	-4.20

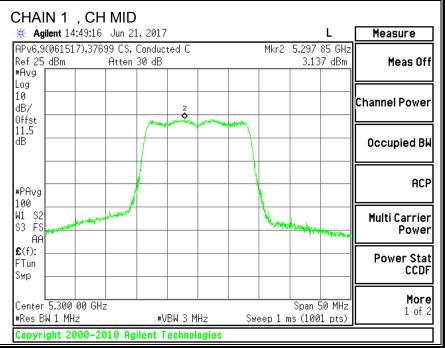
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CHAIN 0 , CH LOW		. –	
🔆 Agilent 14:53:46 Jun 21, 2017		L	Measure
APv6.9(061517),37699 CS, Conduct Ref 25 dBm Atten 30 dB #Avg	C Mkr2	5.262 55 GHz 2.752 dBm	Meas Off
Log 10 dB/ 0ffst	2	Ch	annel Power
dB			Occupied BW
#PAvg			ACP
W1 S2 S3 FS AA	- Internet	******	Multi Carrier Power
£ (f): FTun Swp			Power Stat CCDF
Center 5.260 00 GHz #Res BW 1 MHz #V		Span 50 MHz s (1001 pts)	More 1 of 2

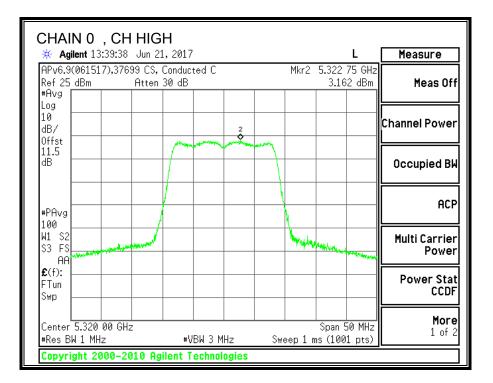


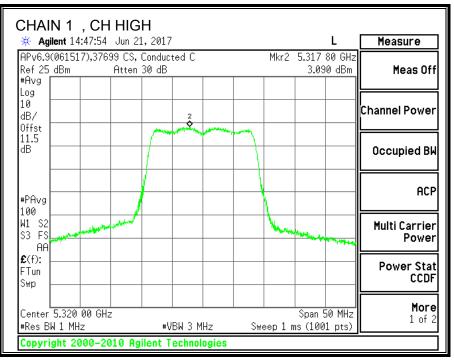
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9.6. 11n HT20 2TX MODE IN THE 5.3GHz BAND

9.6.1. 26 dB BANDWIDTH

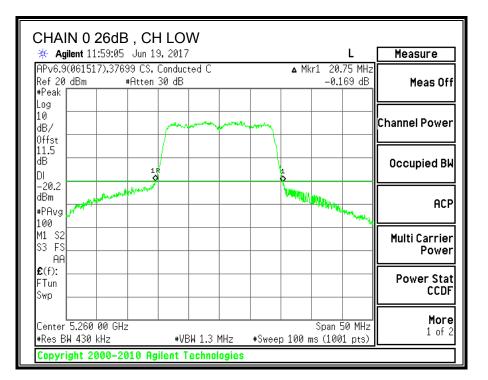
<u>LIMITS</u>

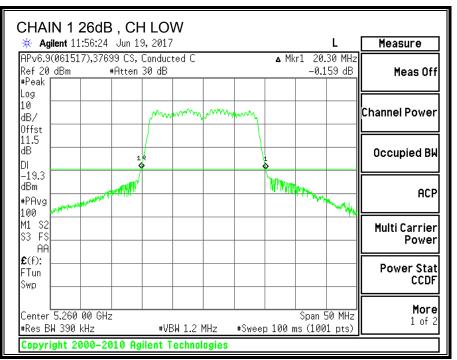
None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5260	20.75	20.30
Mid	5300	20.65	20.30
High	5320	20.70	20.30

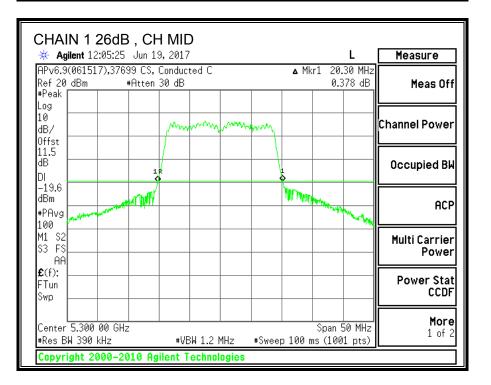
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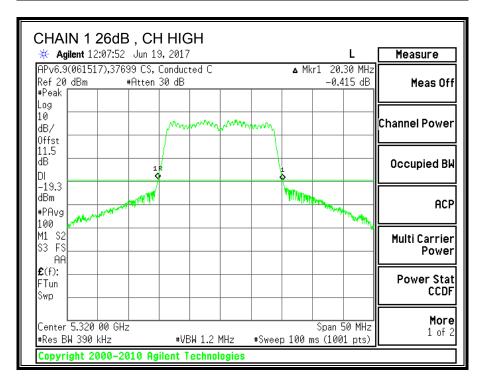
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CHAIN 0 26dB				
🔆 Agilent 12:02:57	Jun 19, 2017		L	Measure
#Peak	99 CS, Conducted C #Atten 30 dB	∆ Mł	<r1 20.65="" mhz<br="">0.552 dB</r1>	Meas Off
Log 10 dB/ Offst		and have a		Channel Power
11.5 dB DI -20.1	1R O	4		Occupied BW
-20.1 dBm #PAvg 100			Difference - and the	ACP
M1 S2 S3 FS AA				Multi Carrier Power
€(f): FTun Swp				Power Stat CCDF
Center 5.300 00 GHz #Res BW 430 kHz		 MHz #Sweep 100 r	Span 50 MHz ms (1001 pts)	More 1 of 2
Copyright 2000-20	10 Agilent Technol	ogies		



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	1 0 26dB									
🔆 Agile	ent 12:11:11	Jun 19,	,2017						L	Measure
Ref 20 dl #Peak	061517),3769 Bm 4	99 CS, C #Atten 3		ed C			∆ Mk		70 MHz 21 dB	Meas Off
Log 10 dB/ Offst			mu	******	and the second	many				Channel Power
11.5 dB DI		1 R	ł				1			Occupied BW
-20.1 dBm #PAvg / 100	James Marine	A CHANGE					MIN	MURTHA	And a grant of the	ACP
M1 S2 S3 FS AA										Multi Carrier Power
£(f): FTun Swp										Power Stat CCDF
Center 5. #Res BW	.320 00 GHz 430 kHz	2	#VB	W 1.3 M	1Hz	#Sweep	5 100 m	Span 5 ns (100	50 MHz 1 pts)	More 1 of 2
Copyrig	ht 2000-20	10 Agil	ent T	echnol	ogies					



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9.6.2. 99% BANDWIDTH

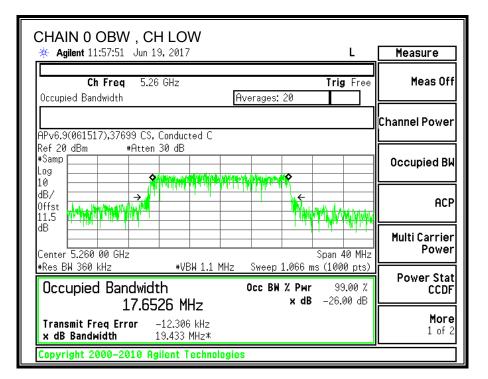
LIMITS

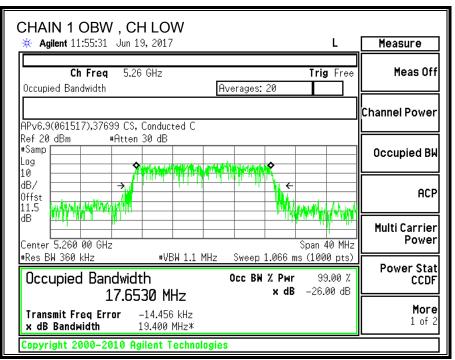
None; for reporting purposes only.

RESULTS

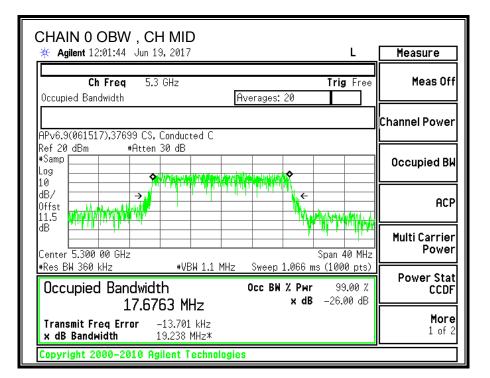
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5260	17.6526	17.6530
Mid	5300	17.6763	17.6559
High	5320	17.6419	17.6512

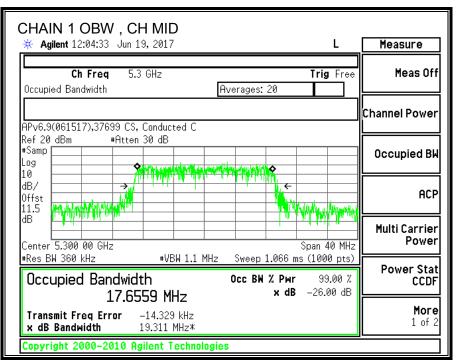
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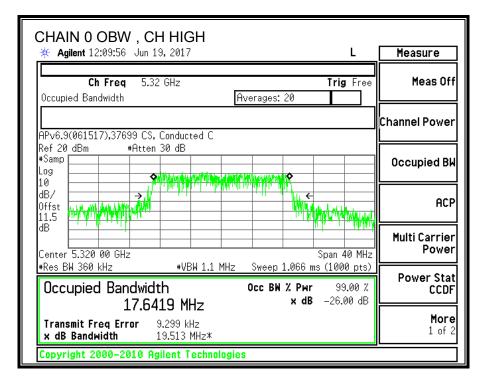


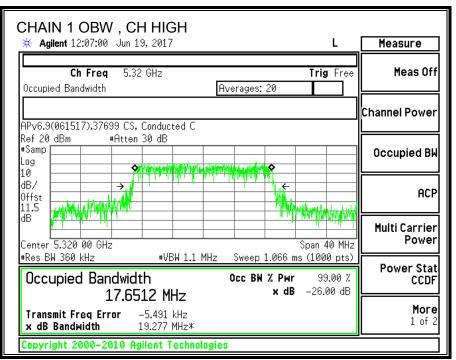
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9.6.3. OUTPUT POWER AND PPSD

<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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.50	3.80	3.65	6.66

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RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	5260	20.30	17.65	3.65	6.66
Mid	5300	20.30	17.66	3.65	6.66
High	5320	20.30	17.64	3.65	6.66

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5260	24.00	23.47	27.00	23.35	10.34	11.00	10.34
Mid	5300	24.00	23.47	27.00	23.35	10.34	11.00	10.34
High	5320	24.00	23.47	27.00	23.35	10.34	11.00	10.34

Output Power Results

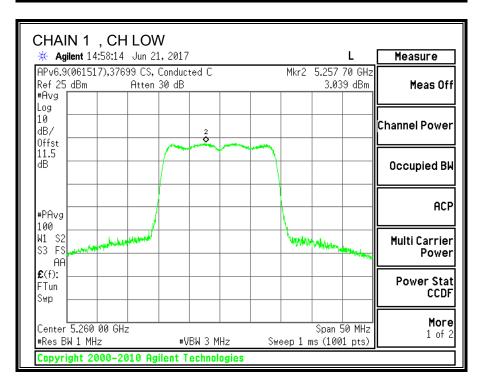
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5260	13.08	13.15	16.13	23.35	-7.22
Mid	5300	12.83	13.11	15.98	23.35	-7.37
High	5320	13.03	13.31	16.18	23.35	-7.17

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5260	2.58	3.04	5.82	10.34	-4.52
Mid	5300	2.55	3.54	6.08	10.34	-4.26
High	5320	2.88	2.81	5.86	10.34	-4.48

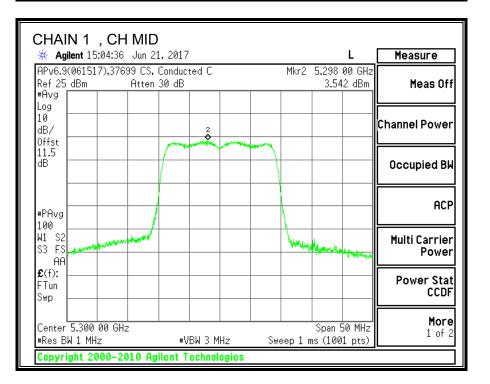
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CHAIN 0 , CH LOW			
🔆 🔆 Agilent 14:59:50 Jun 21, 2	017	L	Measure
APv6.9(061517),37699 CS, Con Ref 25 dBm Atten 30 #Avg		Mkr2 5.262 40 GHz 2.576 dBm	Meas Off
Log 10 dB/ 0ffst	2		Channel Power
dB			Occupied BW
#PAvg			ACP
W1 S2 S3 FS		Marriel Marriel and Marriel an	Multi Carrier Power
£ (f): FTun Swp			Power Stat CCDF
Center 5.260 00 GHz #Res BW 1 MHz	#VBW 3 MHz St	 Span 50 MHz weep 1 ms (1001 pts)	More 1 of 2
Copyright 2000-2010 Agiler	it Technologies		



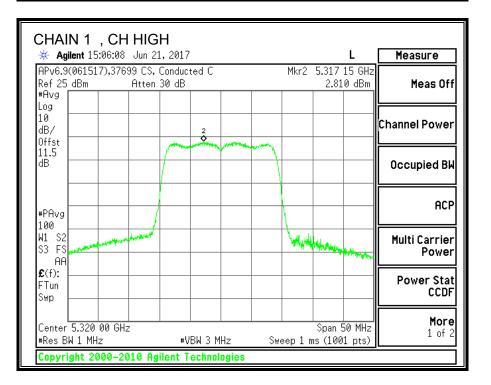
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CHAIN 0 , CH MID			
🛛 🔆 Agilent 15:03:08 🛛 Jun 21, 2	2017	L	Measure
APv6.9(061517),37699 CS, Cor Ref 25 dBm Atten 30 #Avg		Mkr2 5.297 75 GHz 2.547 dBm	Meas Off
Log 10 dB/ 0ffst	2		Channel Power
dB			Occupied BW
#PAvg			ACP
W1 S2 S3 FS AA		Vinner Voll and the second	Multi Carrier Power
£(f): FTun Swp			Power Stat CCDF
Center 5.300 00 GHz #Res BW 1 MHz	#VBW 3 MHz S	Span 50 MHz Sweep 1 ms (1001 pts)	More 1 of 2
Copyright 2000-2010 Agile	nt Technologies		



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CHAIN 0 , CH HIG	Н			
– 🔆 Agilent 15:07:40 Jun 2	1,2017		L	Measure
APv6.9(061517),37699 CS, Ref 25 dBm Atten #Avg		Mkr2 5.317 2.88	90 GHz 4 dBm	Meas Off
Log 10 dB/ Offst	2			Channel Power
dB				Occupied BW
*PAvg				ACP
100 W1 S2 S3 FS AA		mannahouse	and the second states	Multi Carrier Power
€(f): FTun Swp				Power Stat CCDF
Center 5.320 00 GHz #Res BW 1 MHz	#VBW 3 MHz	Span Span Span Span Sweep 1 ms (100	50 MHz 1 pts)	More 1 of 2
Copyright 2000-2010 Ag	ilent Technologies			



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9.7. 11n HT40 2TX MODE IN THE 5.3GHz BAND

9.7.1. 26 dB BANDWIDTH

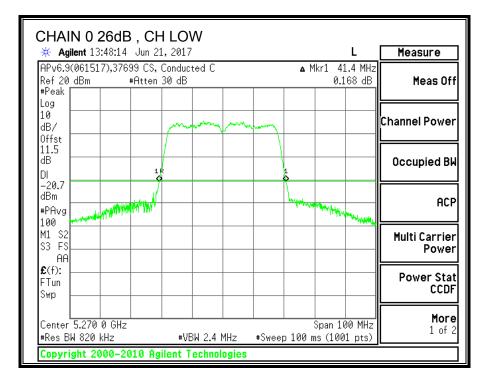
<u>LIMITS</u>

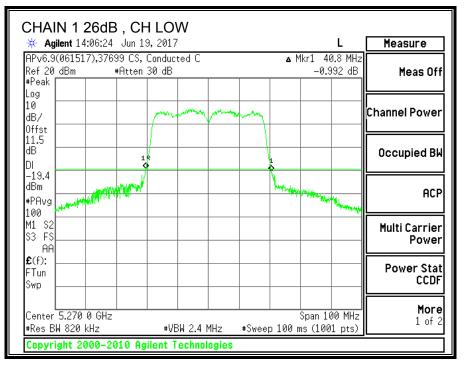
None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)	
Low	5270	41.40	40.80	
High	5310	41.70	40.90	

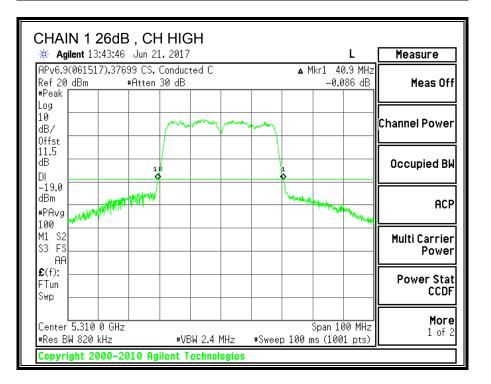
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CHAIN 0 26dB	,		L	Measure
APv6.9(061517),37699 Ref 20 dBm #f #Peak		▲ M	kr1 41.7 MHz -0.425 dB	Meas Off
Log 10 dB/ Offst	man	man		Channel Power
11.5 dB DI -21.1	18			Occupied BW
-21.1 dBm #PAvg		- Umwerthe	where we have here	ACP
M1 S2 S3 FS AA				Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.310 0 GHz #Res BW 820 kHz	#VBW 2.4 MI		Span 100 MHz Is (1001 pts)	More 1 of 2
Copyright 2000-201	LØ Agilent Technolo	gies		



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9.7.2. 99% BANDWIDTH

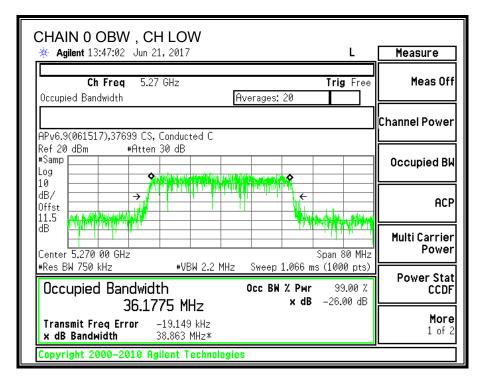
LIMITS

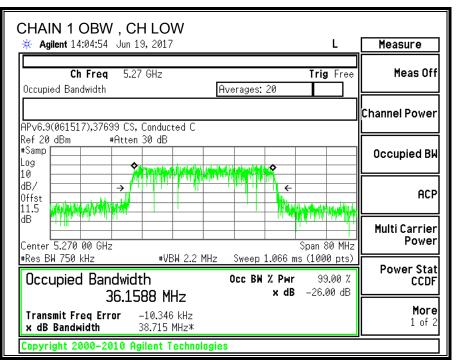
None; for reporting purposes only.

RESULTS

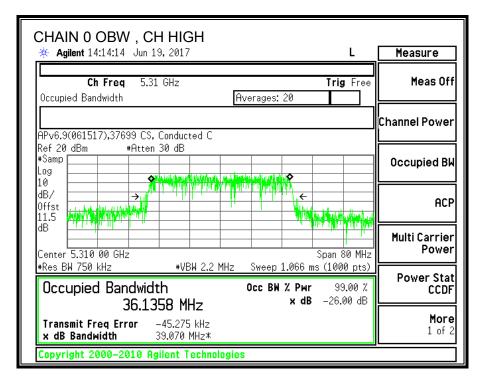
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)	
Low	5270	36.1775	36.1588	
High	5310	36.1358	36.1633	

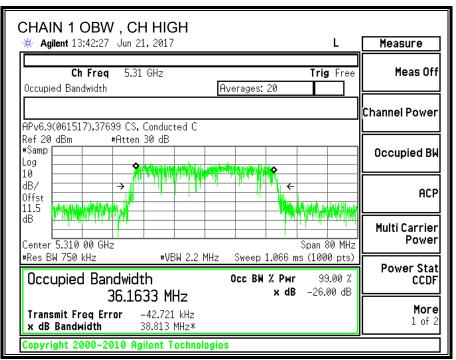
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9.7.3. OUTPUT POWER AND PPSD

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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.50	3.80	3.65	6.66

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RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	(MHz) 5270	(MHz) 40.80	(MHz) 36.16	(dBi) 3.65	(dBi) 6.66

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5270	24.00	24.00	30.00	24.00	10.34	11.00	10.34
High	5310	24.00	24.00	30.00	24.00	10.34	11.00	10.34

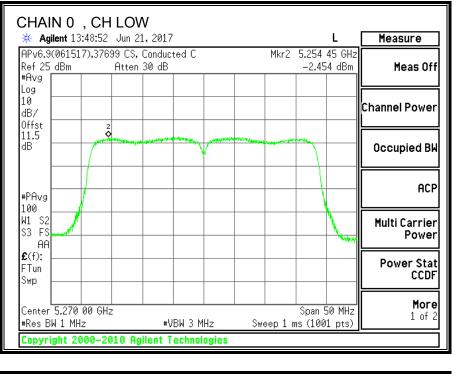
Output Power Results

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	5270	10.67	11.22	13.96	24.00	-10.04
High	5310	10.93	10.87	13.91	24.00	-10.09

PPSD Results

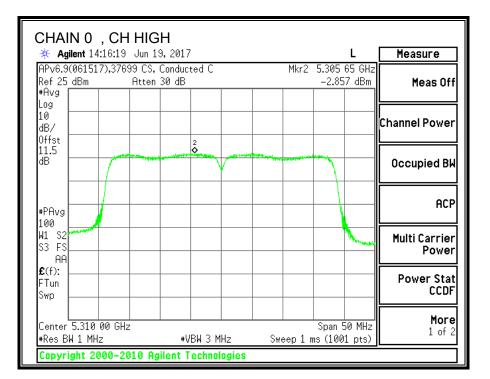
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5270	-2.45	-2.46	0.55	10.34	-9.79
High	5310	-2.86	-2.01	0.60	10.34	-9.74

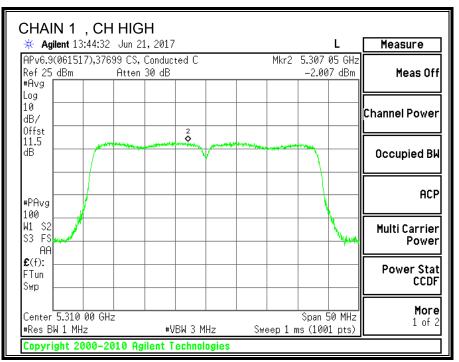
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9.8. 11ac VHT80 2TX MODE IN THE 5.3GHz BAND

9.8.1. 26 dB BANDWIDTH

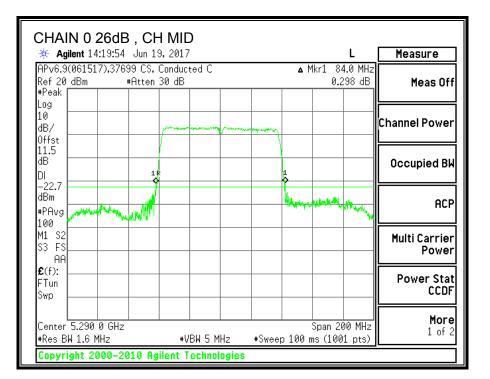
<u>LIMITS</u>

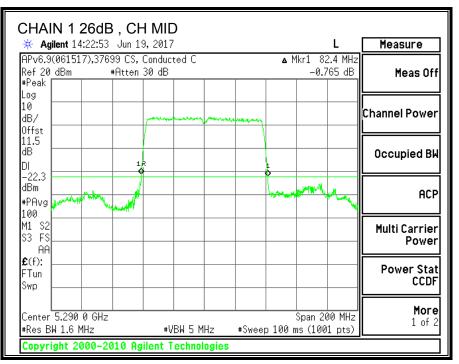
None; for reporting purposes only.

RESULTS

Channel	Channel Frequency		26 dB BW CHAIN 1 (MHz)	
		(MHz)	(101112)	
Mid	5290	84.0	82.4	

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9.8.2. 99% BANDWIDTH

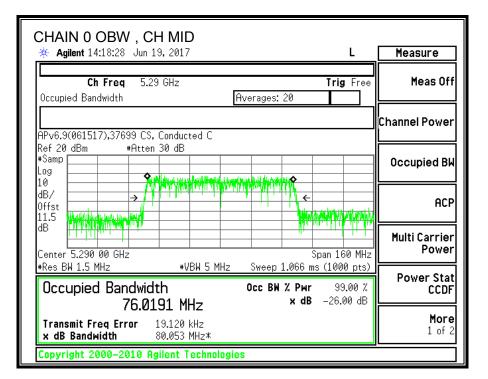
LIMITS

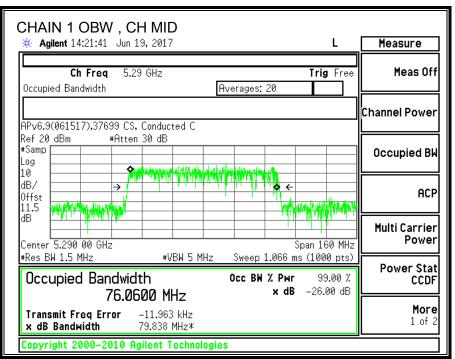
None; for reporting purposes only.

RESULTS

Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Mid	5290	76.0191	76.0600

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9.8.3. OUTPUT POWER AND PPSD

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.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
3.50	3.80	3.65	6.66

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RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	5530	82.40	76.02	3.65	6.66

Limits

	Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
			Power	Power	EIRP	Limit	PPSD	PSD	Limit
			Limit	Limit	Limit		Limit	Limit	
		(MHz)	(dBm)						
ĺ	Low	5530	24.00	24.00	30.00	24.00	10.34	11.00	10.34

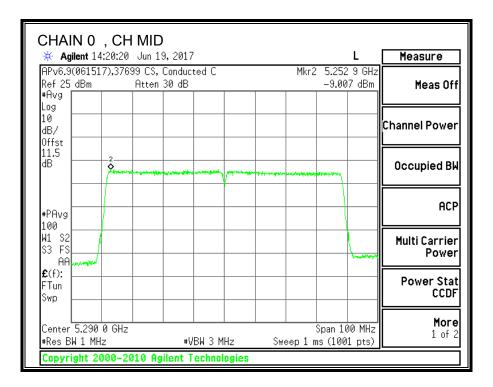
Output Power Results

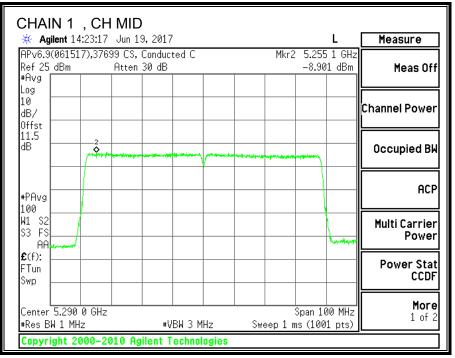
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	7.91	8.25	11.09	24.00	-12.91

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	-9.007	-8.901	-5.94	10.34	-16.28

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9.9. 11a 2TX MODE IN THE 5.6GHz BAND

9.9.1. 26 dB BANDWIDTH

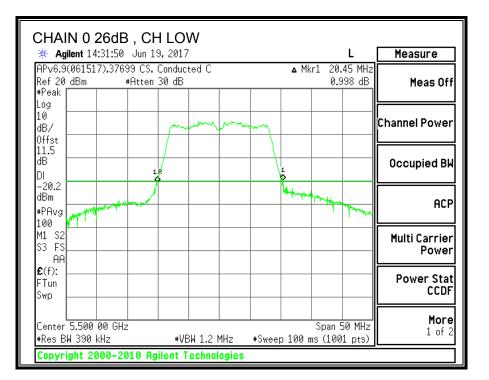
<u>LIMITS</u>

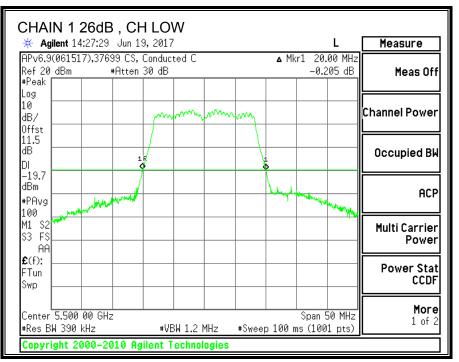
None; for reporting purposes only.

RESULTS

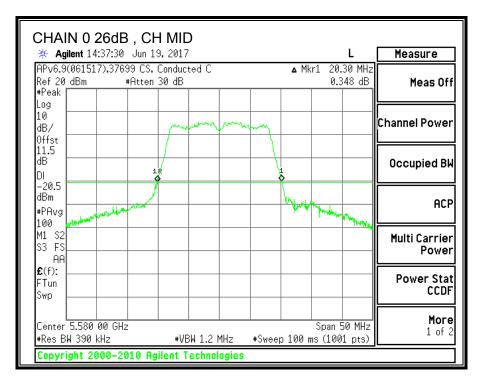
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5500	20.45	20.00
Mid	5580	20.30	20.15
High	5700	20.30	20.25

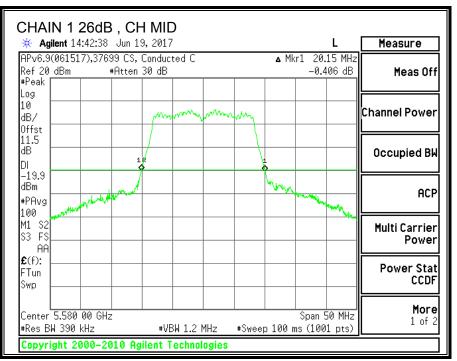
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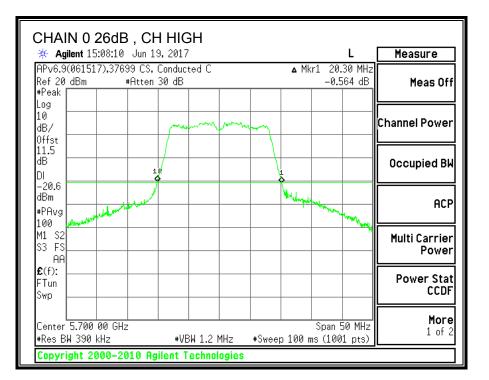


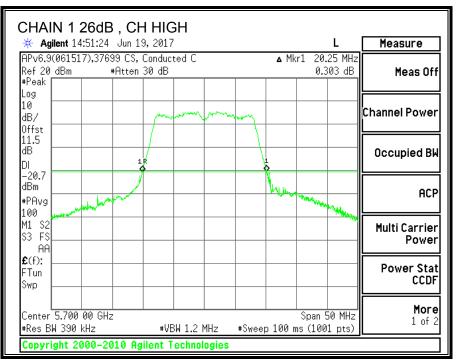
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9.9.2. 99% BANDWIDTH

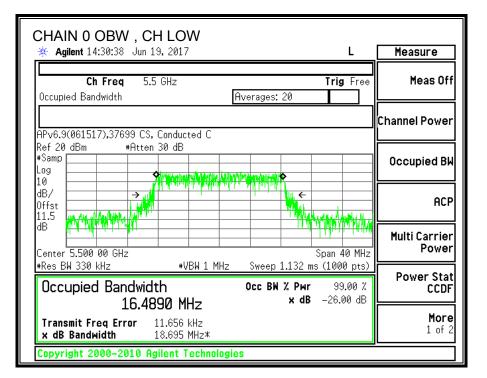
LIMITS

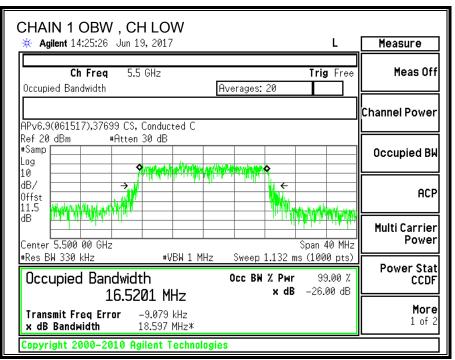
None; for reporting purposes only.

RESULTS

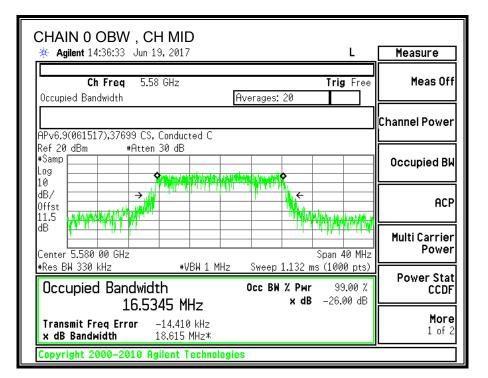
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5500	16.4890	16.5201
Mid	5580	16.5345	16.4746
High	5700	16.5011	16.4950

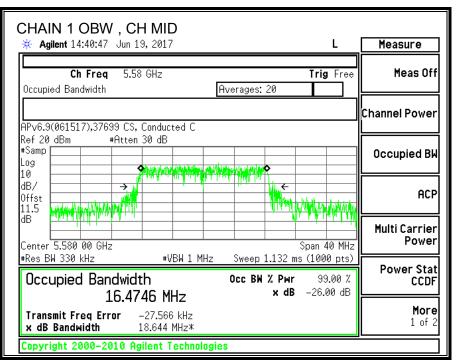
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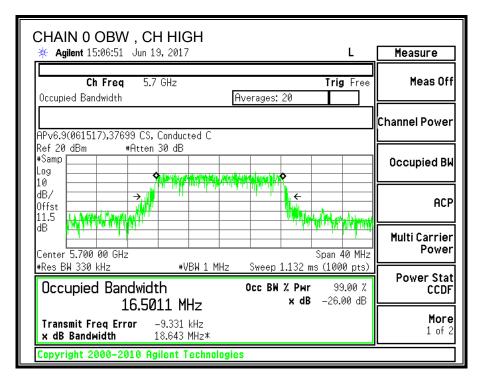


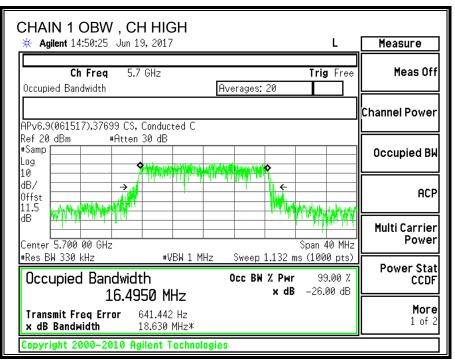
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9.9.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1– MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.3) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
5.30	5.30	5.30	8.31

RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	5500	20.00	16.49	5.30	8.31
Mid	5580	20.15	16.47	5.30	8.31
High	5700	20.25	16.50	5.30	8.31

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5500	24.00	23.17	27.00	21.70	8.69	11.00	8.69
Mid	5580	24.00	23.17	27.00	21.70	8.69	11.00	8.69
High	5700	24.00	23.17	27.00	21.70	8.69	11.00	8.69

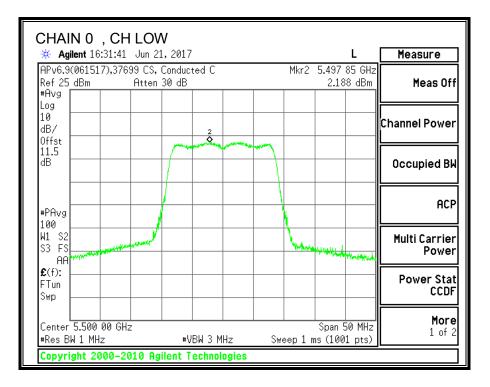
Output Power Results

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	12.61	12.81	15.72	21.70	-5.98
Mid	5580	12.73	12.72	15.74	21.70	-5.96
High	5700	12.47	12.56	15.53	21.70	-6.17

PPSD Results

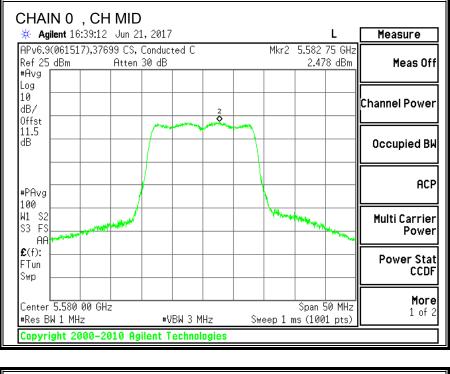
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	2.19	2.63	5.42	8.69	-3.27
Mid	5580	2.48	2.47	5.48	8.69	-3.21
High	5700	2.24	2.24	5.25	8.69	-3.44

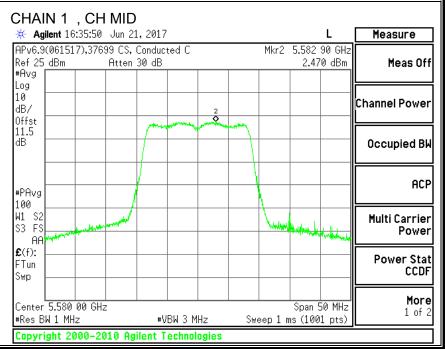
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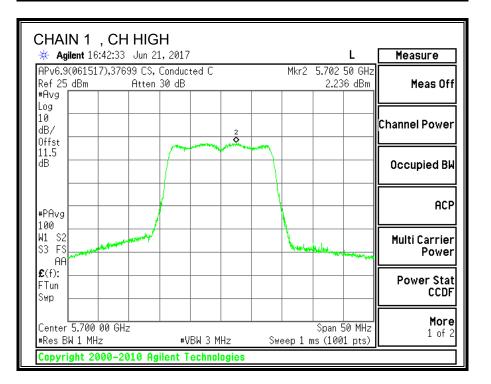
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CHAIN (0 , CH H	HIGH							
🔆 🗮 Agilent	:16:44:16 J	Jun 21, 2017	,					L	Measure
Ref 25 dBn #Avg	1517),37699 m A	CS, Conduc Itten 30 dB	ted C			Mkr2		35 GHz 8 dBm	Meas Off
Log 10 dB/ Offst			2						Channel Power
11.5 dB									Occupied BW
#PAvg		+				l			ACP
W1 S2 S3 FS AA	and the second	with a				Vielenante	where the second	in how for a grant	Multi Carrier Power
£(f): FTun Swp									Power Stat CCDF
Center 5.70 #Res BW 1			 BW 3 MF	łz	Sw	eep 1 m		50 MHz 1 pts)	More 1 of 2
Copyright	2000-201	0 Agilent T	echnolo	gies					



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9.10. 11n HT20 2TX MODE IN THE 5.6GHz BAND

9.10.1. 26 dB BANDWIDTH

<u>LIMITS</u>

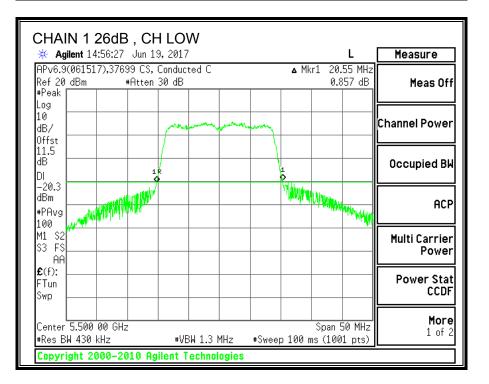
None; for reporting purposes only.

RESULTS

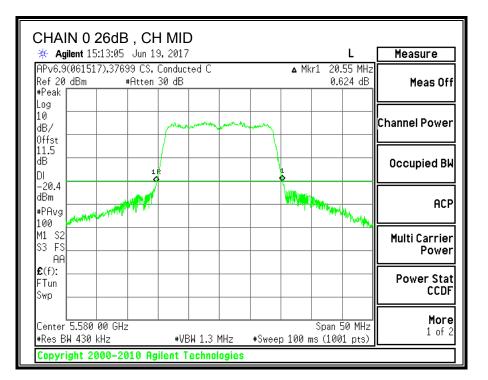
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5500	20.45	20.55
Mid	5580	20.55	20.40
High	5700	20.50	20.35

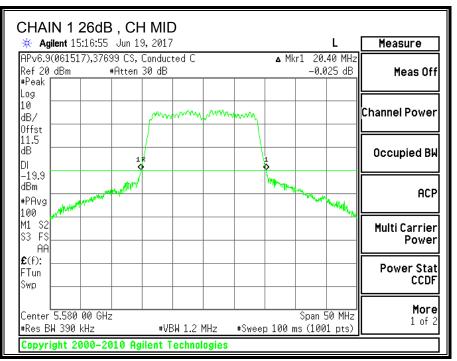
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CHAIN 0 26dB,Cl ※ Agilent 15:04:06 Jun 1			L	Measure
APv6.9(061517),37699 CS, Ref 20 dBm #Atten #Peak	Conducted C	▲ Mk	r1 20.45 MHz 1.376 dB	Meas Off
Log 10 dB/ 0ffst	m	unhung		Channel Power
11.5 dB DI -20.2	R C	1		Occupied BW
-20.2 dBm #PAvg 100			MARK ST WAR	ACP
M1 S2 S3 FS AA				Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.500 00 GHz #Res BW 390 kHz	#VBW 1.2 M		Span 50 MHz s (1001 pts)	More 1 of 2

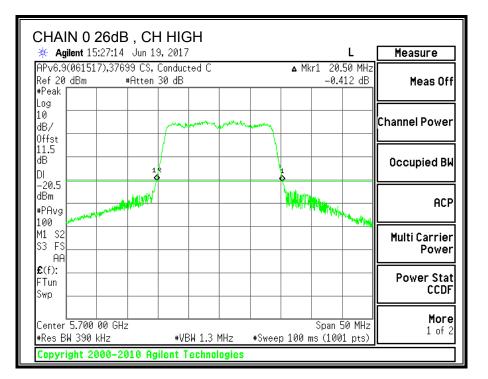


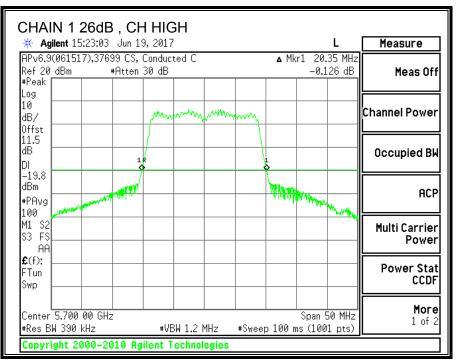
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9.10.2. 99% BANDWIDTH

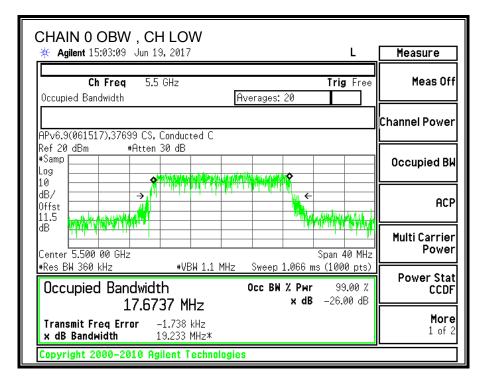
LIMITS

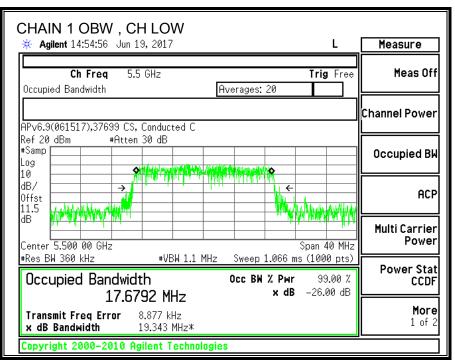
None; for reporting purposes only.

<u>RESULTS</u>

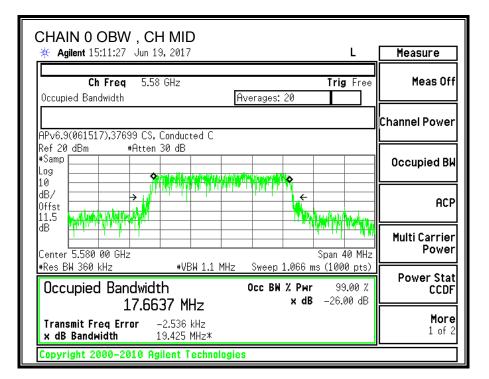
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5500	17.6737	17.6792
Mid	5580	17.6637	17.6732
High	5700	17.6772	17.6808

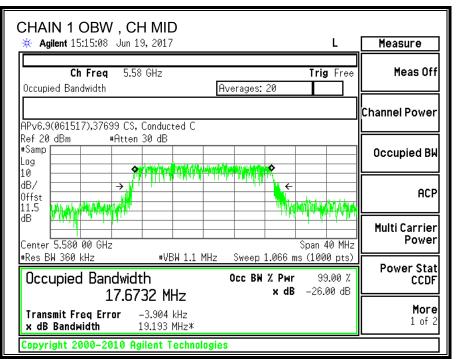
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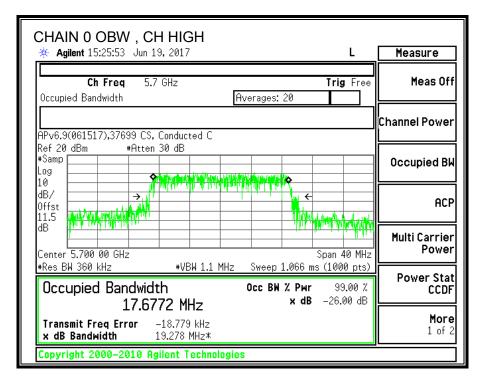


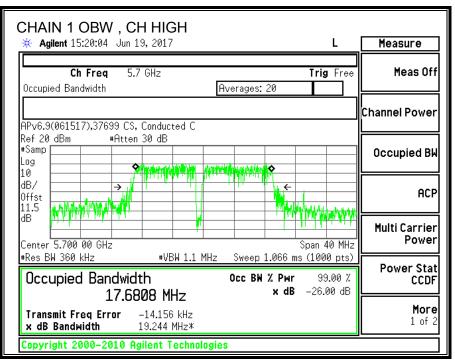
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9.10.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1– MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.3) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
5.30	5.30	5.30	8.31

RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	5500	20.45	17.67	5.30	8.31
Mid	5580	20.40	17.66	5.30	8.31
High	5700	20.35	17.68	5.30	8.31

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5500	24.00	23.47	27.00	21.70	8.69	11.00	8.69
Mid	5580	24.00	23.47	27.00	21.70	8.69	11.00	8.69
High	5700	24.00	23.47	27.00	21.70	8.69	11.00	8.69

Output Power Results

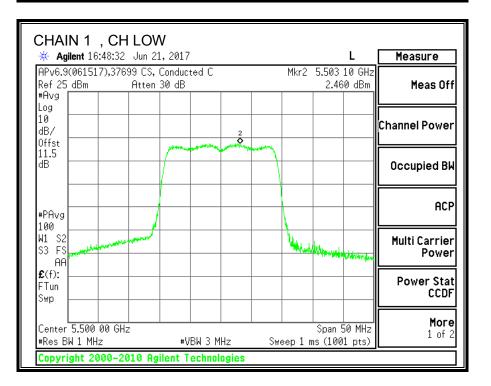
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	12.41	12.76	15.60	21.70	-6.10
Mid	5580	12.46	12.87	15.68	21.70	-6.02
High	5700	12.45	12.76	15.62	21.70	-6.08

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5500	1.98	2.46	5.24	8.69	-3.45
Mid	5580	1.67	1.96	4.83	8.69	-3.86
High	5700	1.71	2.49	5.13	8.69	-3.56

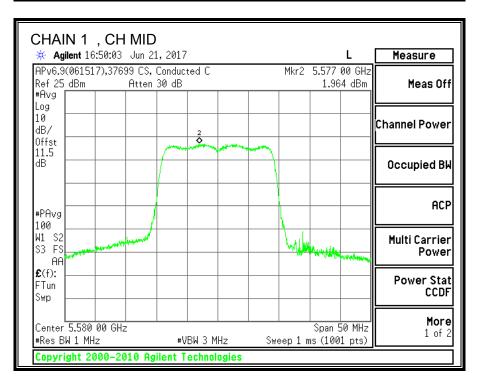
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CHAIN 0 , 0			
🔆 🔆 Agilent 16:46	:16 Jun 21, 2017	L	Measure
Ref 25 dBm #Avg	37699 CS, Conducted C Atten 30 dB	Mkr2 5.498 05 GHz 1.976 dBm	Meas Off
Log 10 dB/ Offst	2		Channel Power
11.5 dB			Occupied BW
#PAvg			ACP
W1 S2 S3 FS AA	na-angel	- Contraction of the second	Multi Carrier Power
£(f): FTun Swp			Power Stat CCDF
Center 5.500 00 #Res BW 1 MHz	GHz #VBW 3 MHz	Span 50 MHz Sweep 1 ms (1001 pts)	More 1 of 2
Copyright 2000	–2010 Agilent Technologies		



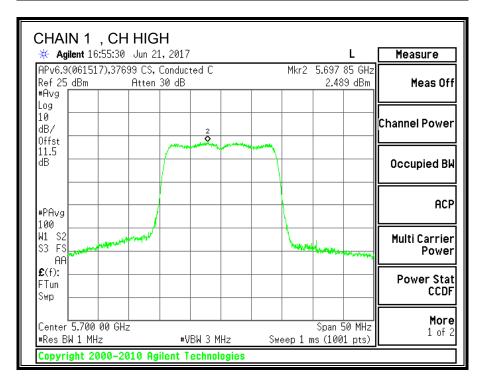
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CHAIN 0, CH	MID				
🔆 Agilent 16:52:08	Jun 21, 2017			L	Measure
APv6.9(061517),3769 Ref 25 dBm #Avg	99 CS, Conducted C Atten 30 dB		Mkr2 5.582 1.67	95 GHz 73 dBm	Meas Off
Log 10 dB/ Offst		2			Channel Power
11.5 dB					Occupied BW
#PAvg 100					ACP
W1 S2 S3 FS AA	white -		Werdenner		Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
Center 5.580 00 GHz #Res BW 1 MHz	: * *VBW 3 1	Hz Swe	Span 5 ep 1 ms (100	50 MHz 11 pts)	More 1 of 2
Copyright 2000-20	10 Agilent Techno	logies			



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CHAIN 0, CH HIGH	
🔆 Agilent 16:53:43 Jun 21, 2017	L Measure
APv6.9(061517),37699 CS, Conducted C Ref 25 dBm Atten 30 dB #Avg	Mkr2 5.698 35 GHz 1.713 dBm Meas Off
Log 10 dB/ 0ffst	Channel Power
11.5 dB	Occupied BW
#PAvg	ACP
W1 S2 S3 FS AA	Multi Carrier Power
£(f): FTun Swp	Power Stat CCDF
Center 5.700 00 GHz #Res BW 1 MHz #VBW 3 MHz	Span 50 MHz More Sweep 1 ms (1001 pts) 1 of 2
Copyright 2000–2010 Agilent Technologies	



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9.11. 11n HT40 2TX MODE IN THE 5.6GHz BAND

9.11.1. 26 dB BANDWIDTH

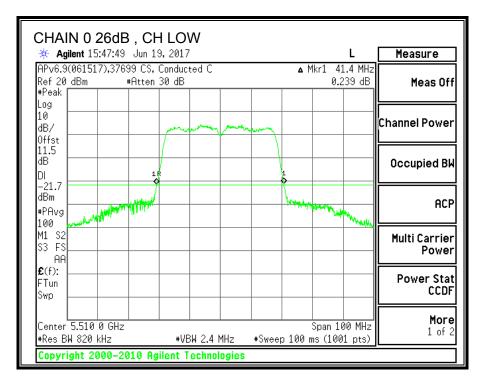
<u>LIMITS</u>

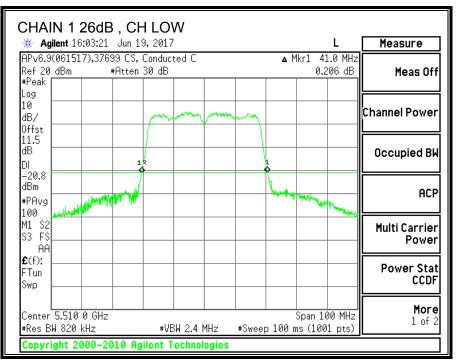
None; for reporting purposes only.

RESULTS

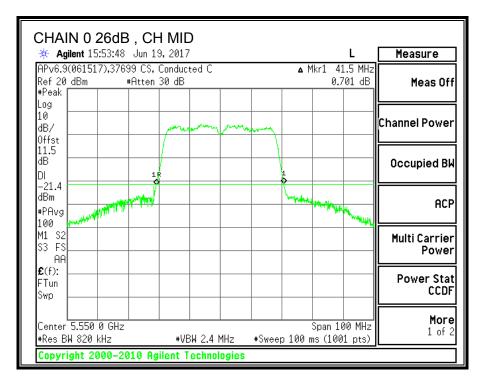
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5510	41.40	41.0
Mid	5550	41.50	40.90
High	5670	41.40	40.70

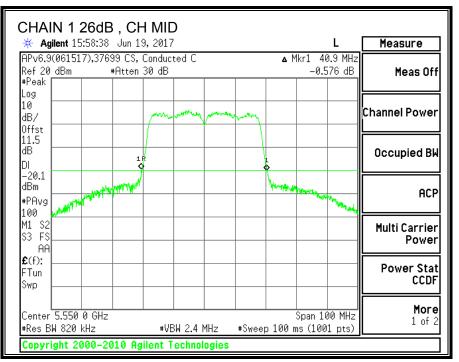
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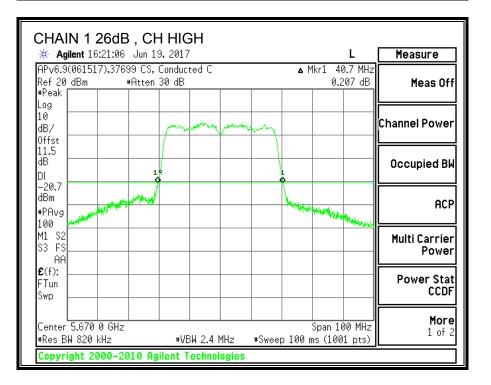
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CHAIN 0 26dB , CH HIGH	
✗ Agilent 13:52:13 Jun 21, 2017	L Measure
APv6.9(061517),37699 CS, Conducted C Ref 20 dBm #Atten 30 dB #Peak	▲ Mkr1 41.4 MHz 0.100 dB Meas Off
Log 10 dB/ 0ffst	Channel Power
11.5 dB DI -21.1	Occupied BW
PAvg 100	ACP
M1 S2 S3 FS AA	Multi Carrier Power
£(f):	Power Stat CCDF
Center 5.670 0 GHz #Res BW 820 kHz #VBW 2.4 MHz #Sweep	Span 100 MHz More 100 ms (1001 pts) 1 of 2
Copyright 2000–2010 Agilent Technologies	



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9.11.2. 99% BANDWIDTH

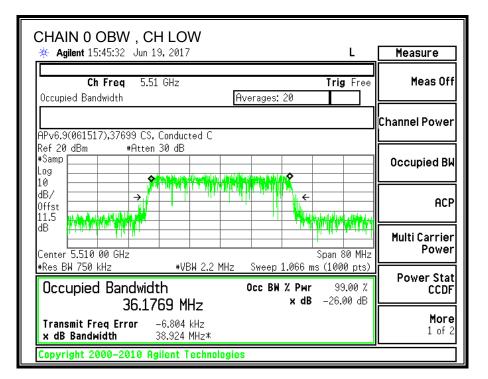
LIMITS

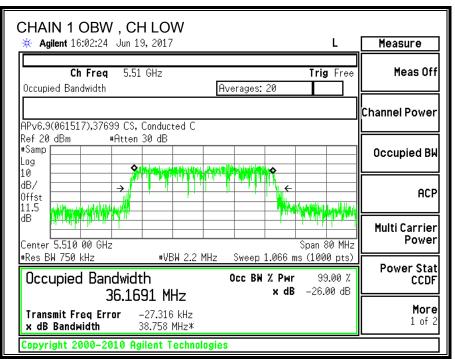
None; for reporting purposes only.

RESULTS

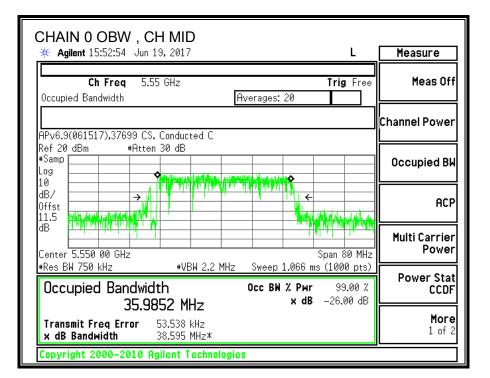
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5510	36.1769	36.1691
Mid	5550	35.9852	36.0974
High	5670	36.1512	36.1261

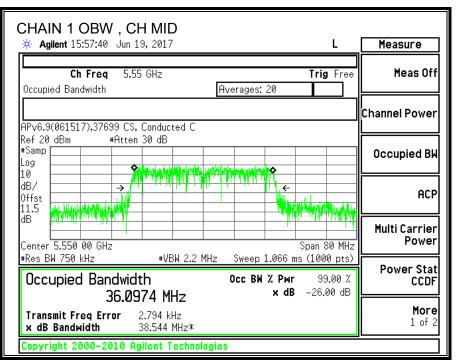
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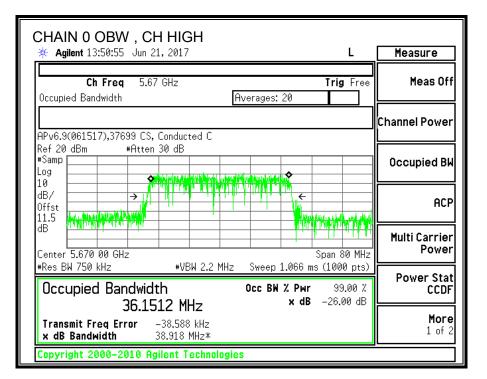


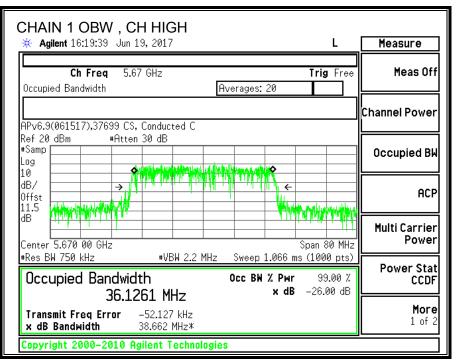
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9.11.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1– MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.3) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
5.30	5.30	5.30	8.31

RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
Low	5510	41.00	36.17	5.30	8.31
Mid	5550	40.90	35.99	5.30	8.31
High	5670	40.70	36.13	5.30	8.31

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5510	24.00	24.00	30.00	24.00	8.69	11.00	8.69
Mid	5550	24.00	24.00	30.00	24.00	8.69	11.00	8.69
High	5670	24.00	24.00	30.00	24.00	8.69	11.00	8.69

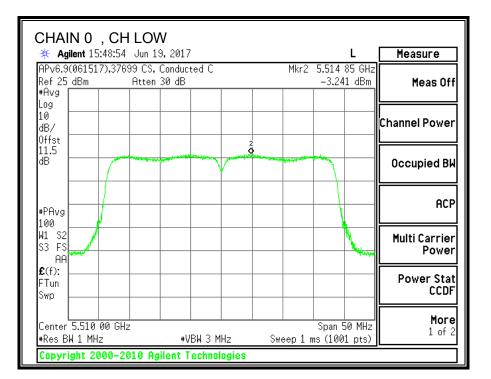
Output Power Results

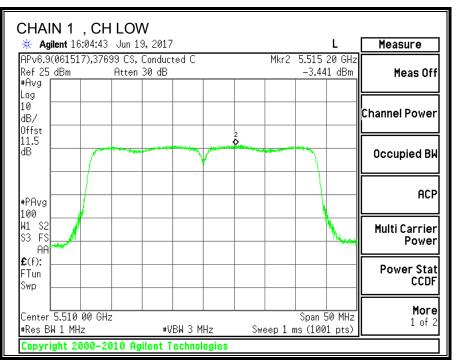
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	10.31	11.15	13.76	24.00	-10.24
Mid	5550	10.55	11.11	13.85	24.00	-10.15
High	5670	10.62	10.83	13.74	24.00	-10.26

PPSD Results

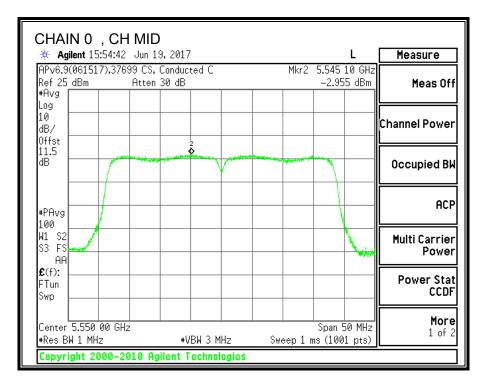
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5510	-3.24	-3.44	-0.33	8.69	-9.02
Mid	5550	-2.96	-3.19	-0.06	8.69	-8.75
High	5670	-2.75	-3.50	-0.10	8.69	-8.79

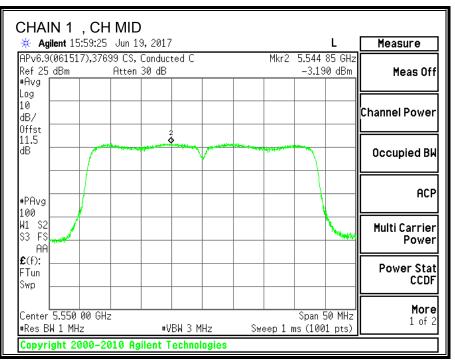
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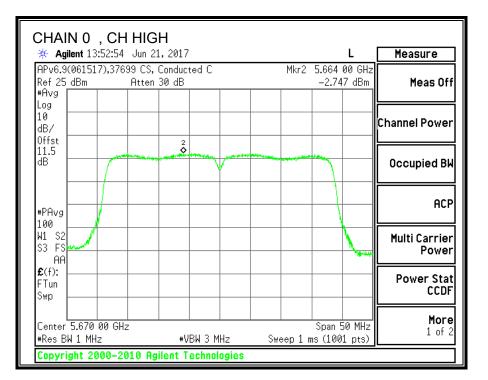


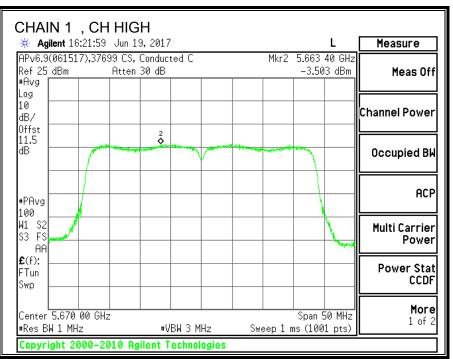
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9.12. 11ac VHT80 2TX MODE IN THE 5.6GHz BAND

9.12.1. 26 dB BANDWIDTH

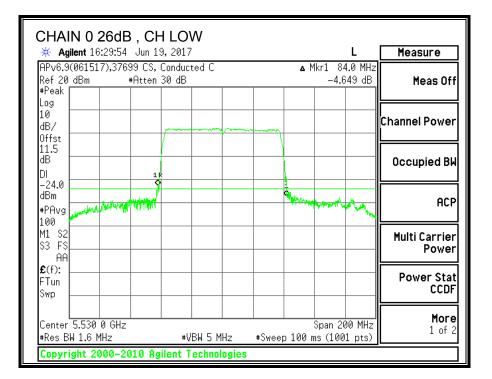
<u>LIMITS</u>

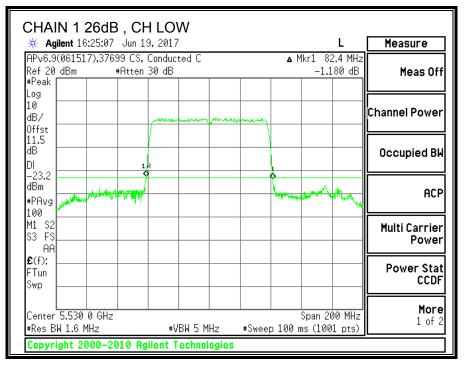
None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5530	84.0	82.40
High	5610	84.40	82.40

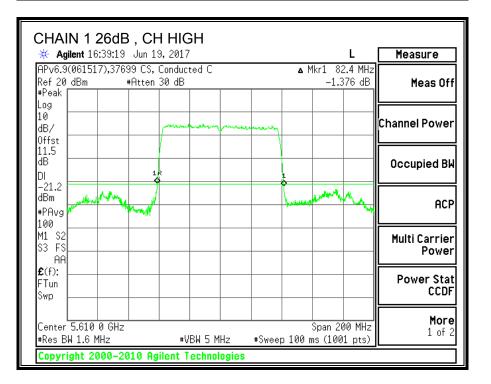
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CHAIN 0 26dB ,			L	Measure
APv6.9(061517),37699 Ref 20 dBm #A #Peak		M م ا	lkr1 84.4 MHz -0.972 dB	Meas Off
Log 10 dB/ Offst		~~~		Channel Power
11.5 dB DI -21.9	1R •			Occupied BW
-21.3 dBm #PAvg 100	**** [#]		work	ACP
M1 S2 S3 FS AA				Multi Carrier Power
£ (f): FTun Swp				Power Stat CCDF
Center 5.610 0 GHz #Res BW 1.6 MHz	#VBW 5 MF	Hz #Sweep100 n	Span 200 MHz ns (1001 pts)	More 1 of 2
Copyright 2000-201	0 Agilent Technol	ogies		



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9.12.2. 99% BANDWIDTH

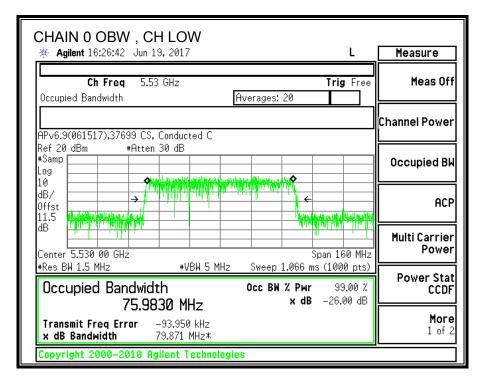
LIMITS

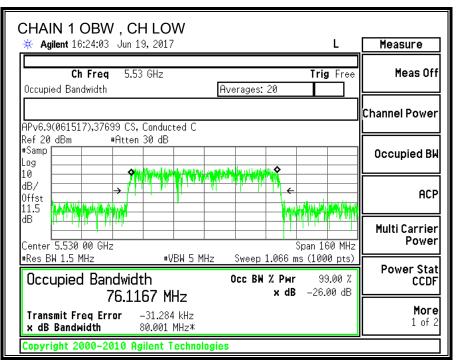
None; for reporting purposes only.

RESULTS

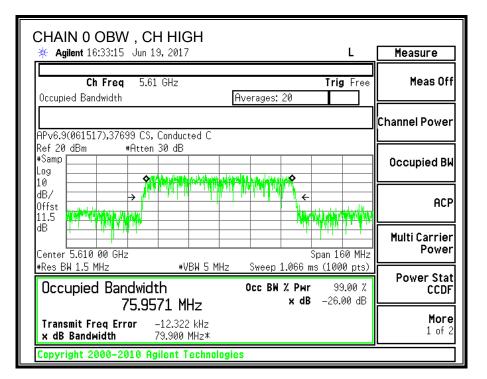
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)	
Low	5530	75.9830	76.1167	
High	5610	75.9571	76.0919	

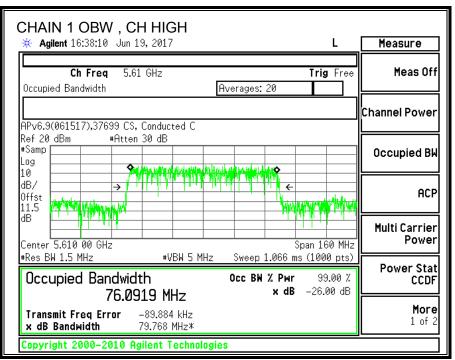
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9.12.3. OUTPUT POWER AND PPSD

<u>LIMITS</u>

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1– MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC RSS-247 (6.2.3) (1)

The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.Straddle channel power is measured using PXA spectrum analyzer, duty cycle correction factor is required.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
5.30	5.30	5.30	8.31

RESULTS

ID: 37699 CS **Date:** 06/16/17

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)
			(11112)		(ubi)
Low	5530	82.40	75.98	5.30	8.31

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5530	24.00	24.00	30.00	24.00	8.69	11.00	8.69
High	5610	24.00	24.00	30.00	24.00	8.69	11.00	8.69

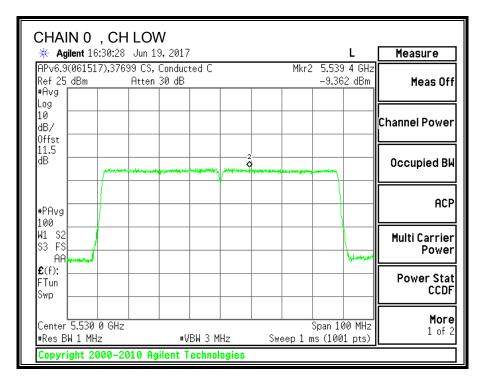
Output Power Results

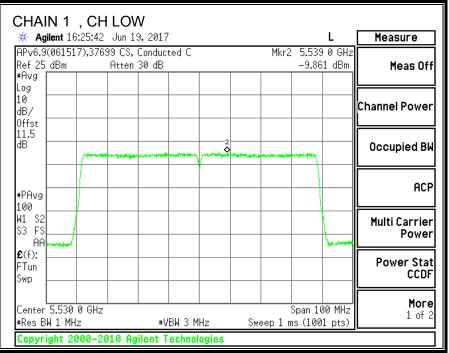
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5530	7.58	7.94	10.77	24.00	-13.23
High	5610	9.63	9.52	12.59	24.00	-11.41

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
	(10112)	(abiii)	(abiii)	(abiii)	(abiii)	
Low	5530	-9.36	-9.86	-6.59	8.69	-15.28

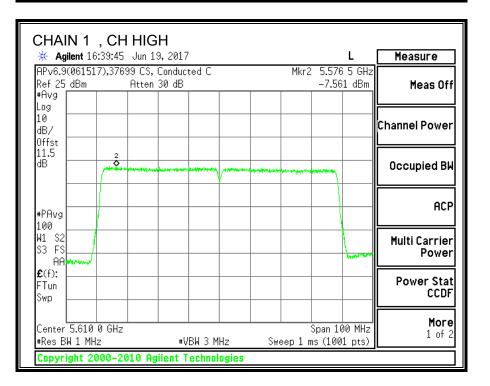
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CHA											
🔆 🔆 🛧	jilent 16	:36:10	Jun 19	9,2017						L	Measure
Ref 25 #Avg	dBm		99 CS, Atten		ted C			Mkr2		6 GHz 1 dBm	Meas Off
Log 10 dB/ Offst											Channel Power
11.5 dB		(¹⁾	*****	2			or af her star of the	n	*******		Occupied BW
#PAvg 100											ACP
W1 S2 S3 FS AA										Lauren	Multi Carrier Power
€(f): FTun Swp											Power Stat CCDF
	5.610 W 1 MH			 #V	ВЫ З М	Hz	Swe	eep 1 m	Span 10 ns (100		More 1 of 2
Copyr	ight 20	00-20	010 Ag	ilent T	echnol	ogies					



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9.13. 11a 2TX MODE IN THE 5.8GHz BAND

9.13.1. 6 dB BANDWIDTH

<u>LIMITS</u>

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

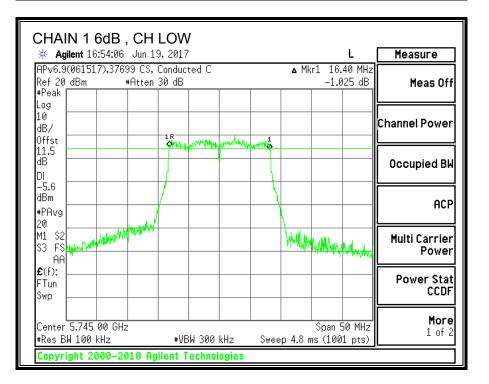
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

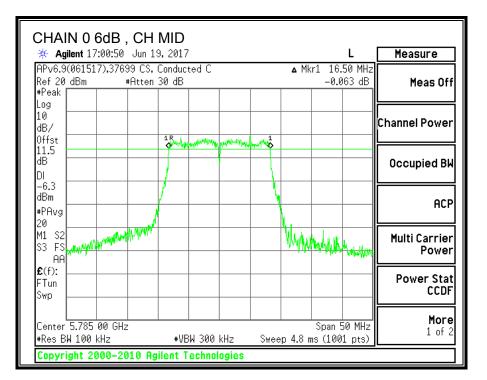
Channel	Frequency	(IVIHZ) (IVIHZ)		Minimum Limit (MHz)
Low	5745	16.40	16.40	0.5
Mid	5785	16.50	16.50	0.5
High	5825	16.55	16.40	0.5

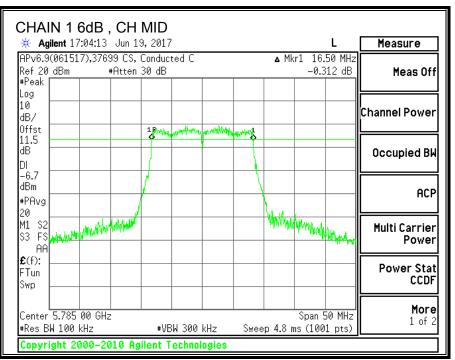
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CHAIN 0 6dE	3, CH LOW	1			
– 🔆 Agilent 16:57:3	36 Jun 19, 2017	,		L	Measure
APv6.9(061517),33 Ref 20 dBm #Peak	7699 CS, Conduc #Atten 30 dB	ted C	▲ Mi	kr1 16.40 MHz -1.022 dB	Meas Off
Log 10 dB/ Offst	15		1		Channel Power
11.5 dB DI		stephology aprilogy			Occupied BW
-5.4 dBm #PAvg 20			+		ACP
20 M1 S2 S3 FS , , , , , , , , , , , , , , , , , ,	w.Maradanin		Nitrivia	Manager	Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
Center 5.745 00 G #Res BW 100 kHz		 3W 300 kHz	Sweep 4.8	 Span 50 MHz ms (1001 pts)	
Copyright 2000-	2010 Agilent T	echnologies			



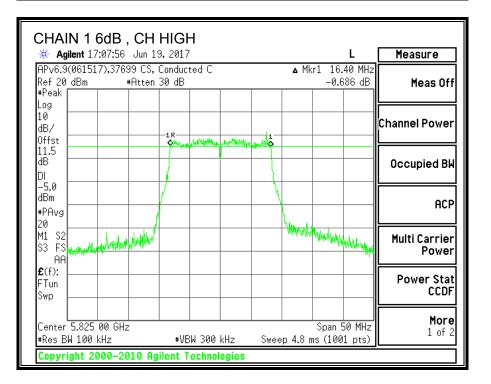
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CHAIN 0 6dB	, CH HIGH			
🛛 🔆 Agilent 17:11:22	Jun 19, 2017		L	Measure
#Peak	99 CS, Conducted C #Atten 30 dB		16.55 MHz 0.148 dB	Meas Off
Log 10 dB/ 0ffst	1 Part - combined			Channel Power
11.5 dB DI				Occupied BW
-7.3 dBm #PAvg 20				ACP
20 M1 S2 S3 FS July hydrodydd		Man Maria	ntriver water	Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.825 00 GHz #Res BW 100 kHz	z #VBW 300 k		an 50 MHz 1001 pts)	More 1 of 2
Copyright 2000-20	010 Agilent Technold	gies		



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9.13.2. 26 dB BANDWIDTH

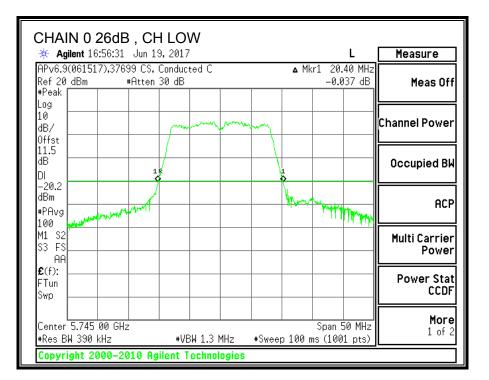
LIMITS

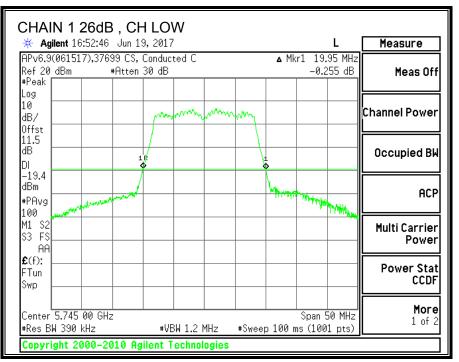
None; for reporting purposes only.

RESULTS

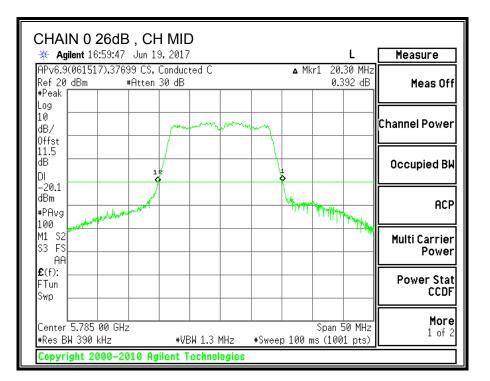
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5745	20.40	19.95
Mid	5785	20.30	20.00
High	5825	20.50	20.05

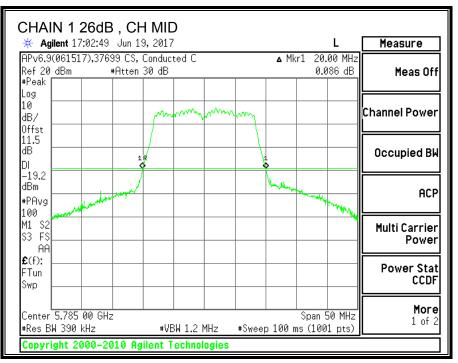
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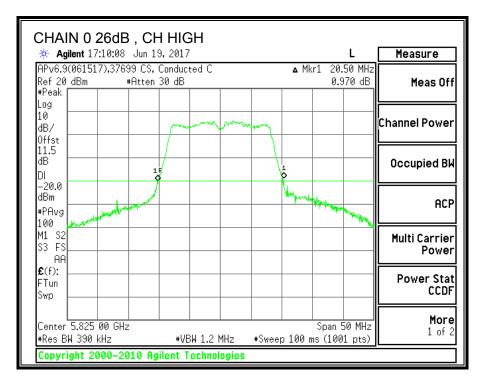


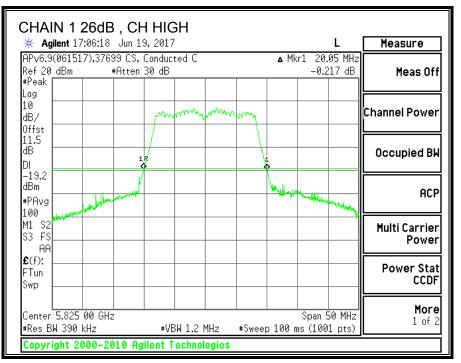
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9.13.3. 99% BANDWIDTH

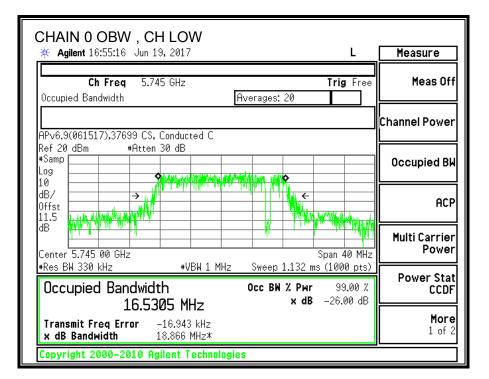
LIMITS

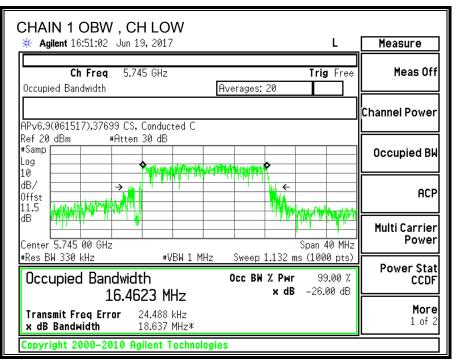
None; for reporting purposes only.

RESULTS

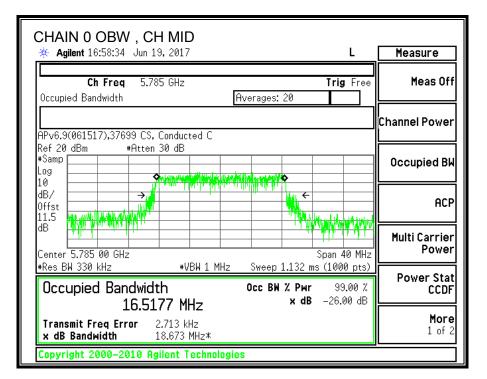
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5745	16.5305	16.4623
Mid	5785	16.5177	16.5264
High	5825	16.4770	16.5255

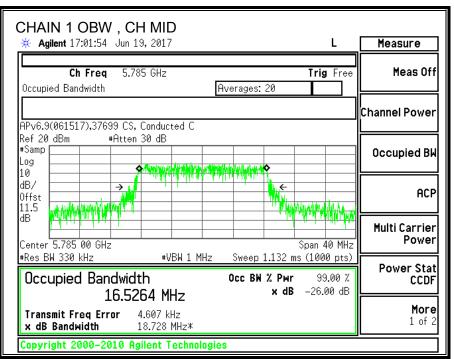
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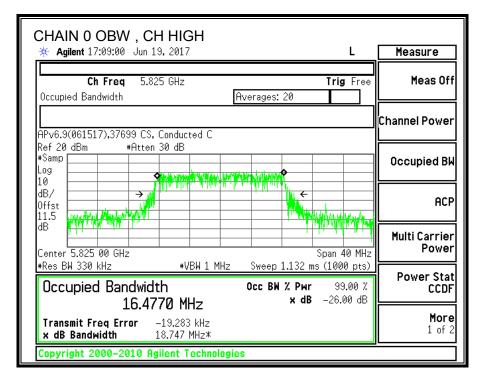


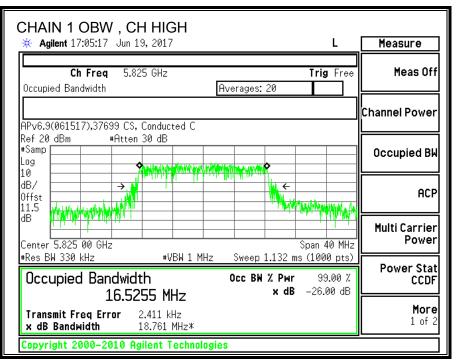
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9.13.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4) (1)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
4.40	4.50	4.45	7.46

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RESULTS

ID:	37699 CS	Date:	06/16/17				
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)		
Low	5745	19.95	16.46	4.45	7.46		
Mid	5785	20.00	16.52	4.45	7.46		
High	5805	20.05	16.48	4.45	7.46		

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5745	30.00	29.16	35.16	29.16	28.54	28.54	28.54
Mid	5785	30.00	29.18	35.18	29.18	28.54	28.54	28.54
High	5805	30.00	29.17	35.17	29.17	28.54	28.54	28.54

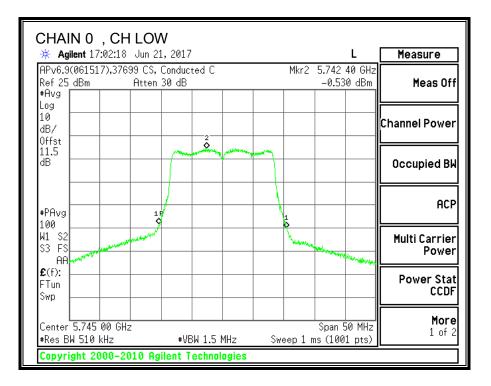
Output Power Results

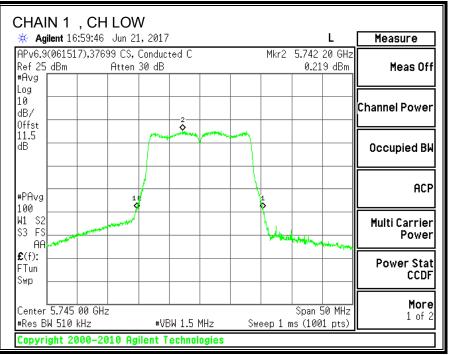
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	12.15	12.73	15.46	29.16	-13.70
Mid	5785	12.35	13.05	15.72	29.18	-13.46
High	5805	12.53	13.05	15.81	29.17	-13.36

PPSD Results

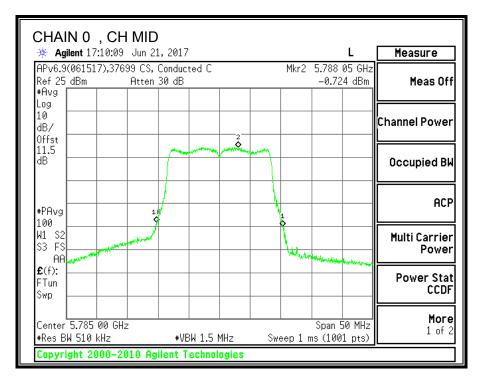
Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	-0.53	0.22	2.87	28.54	-25.67
Mid	5785	-0.72	0.40	2.88	28.54	-25.66
High	5805	-0.13	0.70	3.32	28.54	-25.22

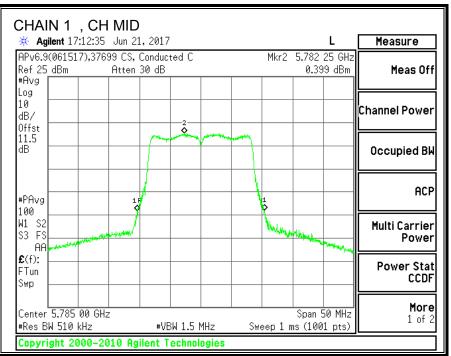
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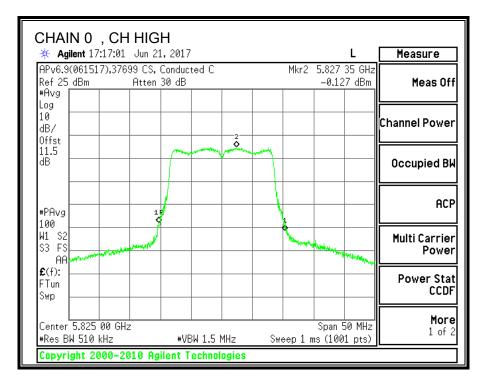


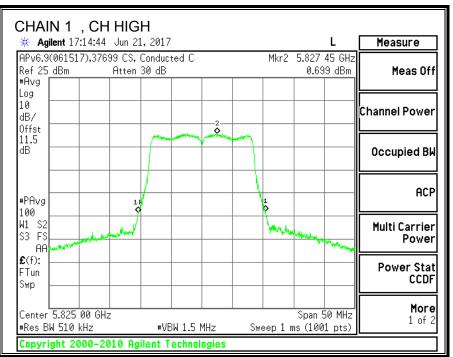
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9.14. 11n HT20 2TX MODE IN THE 5.8GHz BAND

9.14.1. 6 dB BANDWIDTH

<u>LIMITS</u>

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

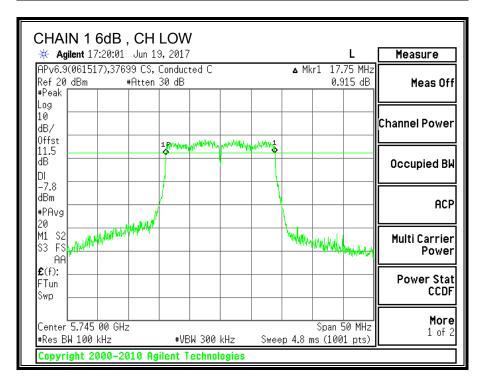
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

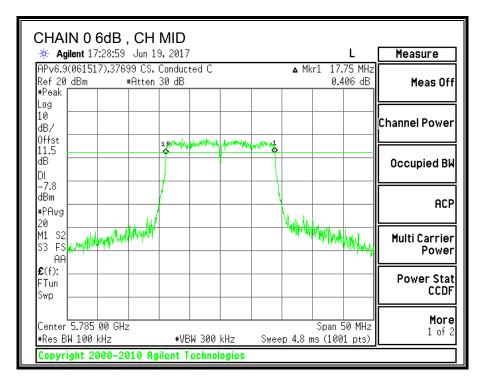
Channel	Frequency	6 dB BW CHAIN 0 (MHz)	6 dB BW CHAIN 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.70	17.75	0.5
Mid	5785	17.75	17.75	0.5
High	5825	17.70	17.65	0.5

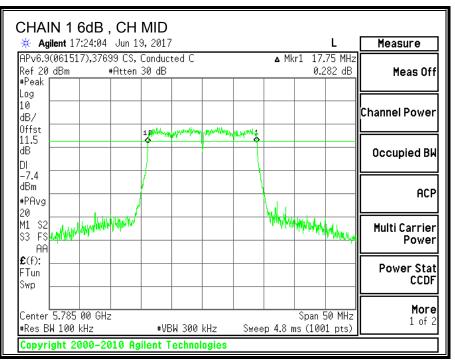
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CHAIN 0 6dB , CH	LOW			
🛛 🔆 Agilent 17:15:41 🛛 Jun 1	9,2017		L	Measure
APv6.9(061517),37699 CS, Ref 20 dBm #Atten #Peak			Mkr1 17.70 MHz -0.525 dB	Meas Off
Log 10 dB/ Offst				Channel Power
11.5 dB DI	1.5 may and miran			Occupied BW
-6.7 dBm #PAvg 20				ACP
M1 S2 S3 FS		- WW	M. William makes of	Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.745 00 GHz #Res BW 100 kHz	#VBW 300 k	Hz Sweep 4.8	Span 50 MHz ms (1001 pts)	More 1 of 2
Copyright 2000-2010 Ag	gilent Technolo	gies		_



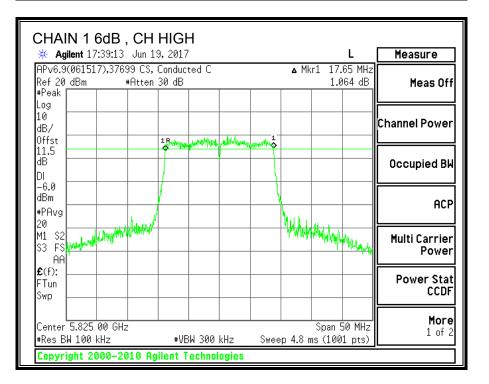
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CHAIN 0									
🗮 Agilent 1	7:34:23 Jun 1	9,201/						L	Measure
Ref 20 dBm #Peak	L7),37699 CS, #Atten		ted C			∆ Mk	r1 17. -0.1	70 MHz .64 dB	Meas Off
Log 10 dB/ 0ffst		1 P.L		-					Channel Power
11.5 dB DI		A NK-Myn	an a	pputroching					Occupied BW
-7.5 dBm #PAvg									ACP
20 M1 S2 S3 FS 444/4/M AA	Manan Ny MURANY					WWW	MMM		Multi Carrier Power
£(f): FTun Swp									Power Stat CCDF
Center 5.825 #Res BW 100		#VB	W 300	kHz	Swee) p 4.8 m		50 MHz 1 pts)	More 1 of 2
Copyright 2	000-2010 Aş	ilent T	echnol	ogies					



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9.14.2. 26 dB BANDWIDTH

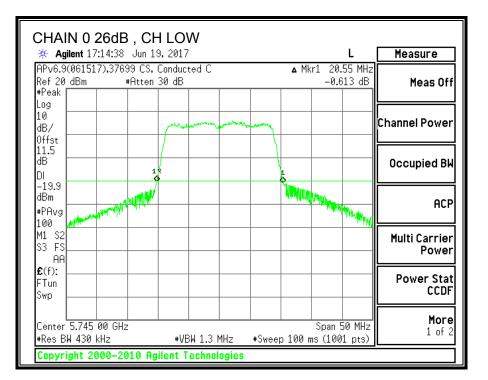
LIMITS

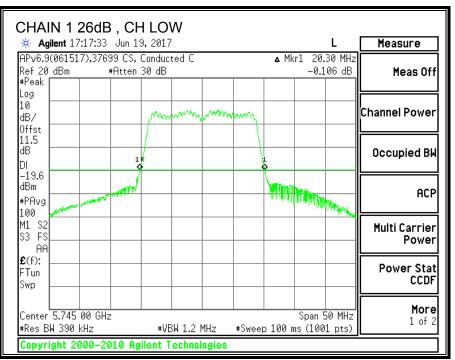
None; for reporting purposes only.

RESULTS

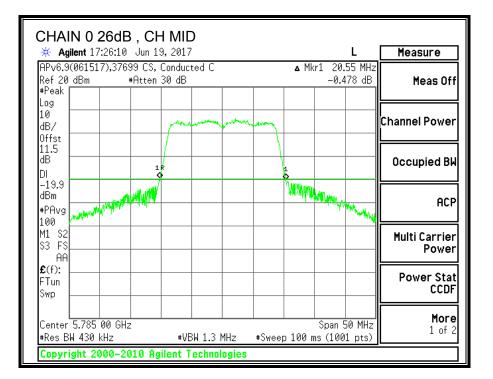
Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)	
Low	5745	20.55	20.30	
Mid	5785	20.55	20.30	
High	5825	20.45	20.30	

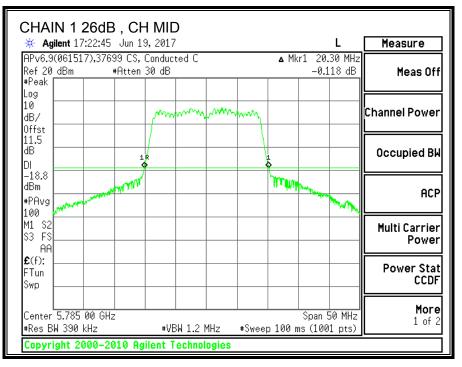
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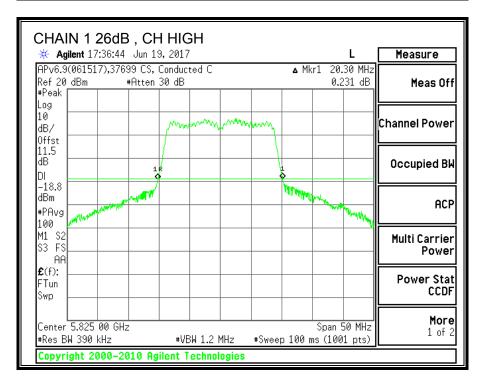
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CHAIN 0 26dB , CH				Macaura
Agilent 17:32:48 Jun 19, OD: 0 0(001 E1 7) 27000 CO. C.		▲ Mkr1 20		Measure
APv6.9(061517),37699 CS, C Ref 20 dBm #Atten 3 #Peak			0.45 MHz 747 dB	Meas Off
Log 10 dB/ Offst	man man			Channel Power
11.5 dB DI				Occupied BW
-20.0 dBm #PAvg 100		Whyter marping	WHY MANY	ACP
M1 S2 S3 FS AA				Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.825 00 GHz #Res BW 390 kHz	#VBW 1.2 MHz	Span #Sweep 100 ms (10	50 MHz 01 pts)	More 1 of 2
Copyright 2000-2010 Agil	lent Technologies			



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9.14.3. 99% BANDWIDTH

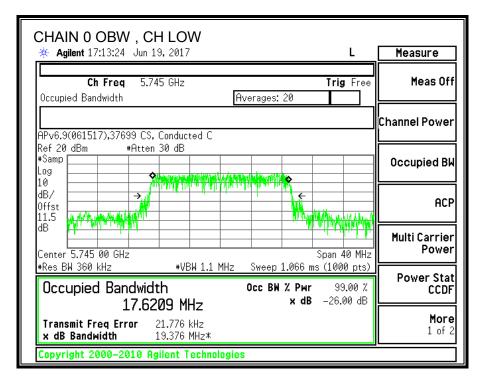
LIMITS

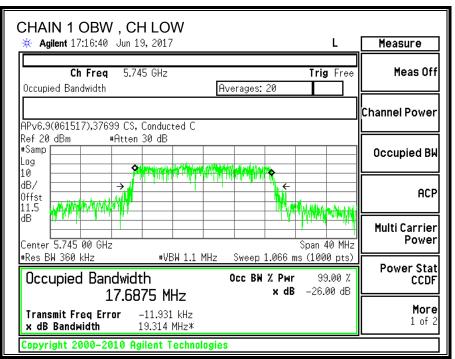
None; for reporting purposes only.

<u>RESULTS</u>

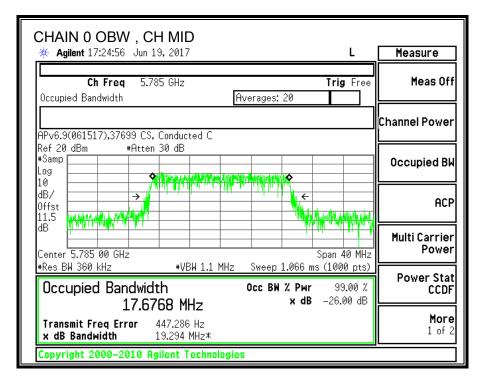
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5745	17.6209	17.6875
Mid	5785	17.6768	17.6809
High	5825	17.6565	17.6673

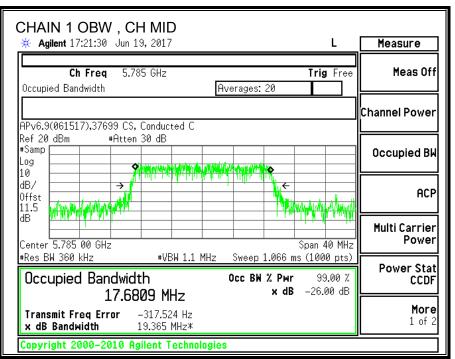
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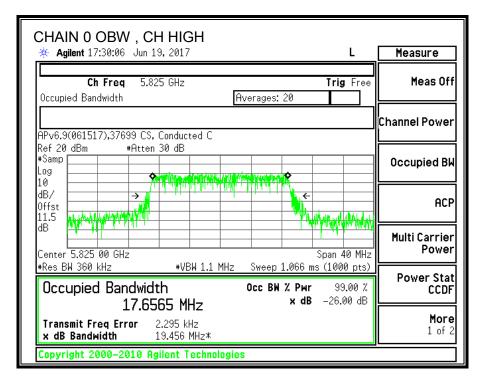


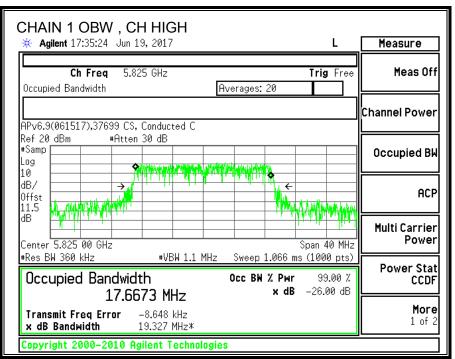
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9.14.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4) (1)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
4.40	4.50	4.45	7.46

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RESULTS

ID:	37699 CS	Date:	06/16/17				
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)		
Low	5745	20.30	17.62	4.45	7.46		
Mid	5785	20.30	17.68	4.45	7.46		
High	5805	20.30	17.66	4.45	7.46		

Limits

Channel	Frequency	FCC	IC	IC	Power	FCC	IC	PPSD
		Power	Power	EIRP	Limit	PPSD	PSD	Limit
		Limit	Limit	Limit		Limit	Limit	
	(MHz)	(dBm)						
Low	5745	30.00	29.46	35.46	29.46	28.54	28.54	28.54
Mid	5785	30.00	29.47	35.47	29.47	28.54	28.54	28.54
High	5805	30.00	29.47	35.47	29.47	28.54	28.54	28.54

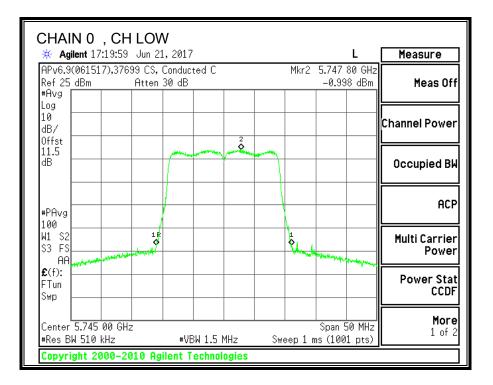
Output Power Results

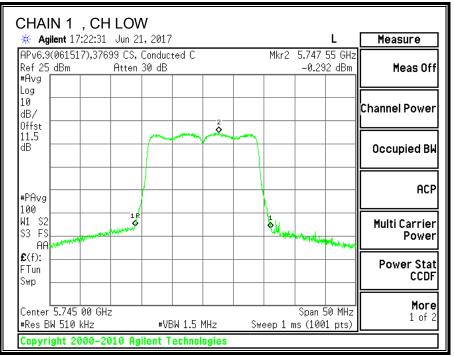
Channel	Frequency	Chain 0	Chain 1	Total	Power	Power
		Meas	Meas	Corr'd	Limit	Margin
		Power	Power	Power		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	12.22	12.64	15.45	29.46	-14.01
Mid	5785	12.43	12.78	15.62	29.47	-13.86
High	5805	12.28	13.25	15.80	29.47	-13.67

PPSD Results

Channel	Frequency	Chain 0	Chain 1	Total	PPSD	PPSD
		Meas	Meas	Corr'd	Limit	Margin
		PPSD	PPSD	PPSD		
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
Low	5745	-1.00	-0.29	2.38	28.54	-26.16
Mid	5785	-0.84	0.27	2.76	28.54	-25.78
High	5805	-0.57	0.17	2.83	28.54	-25.71

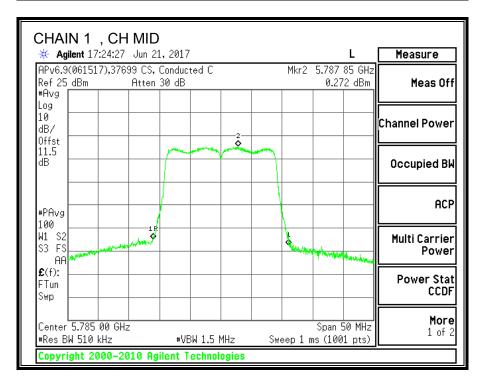
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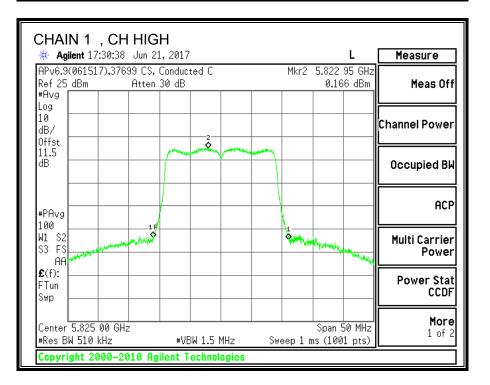
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CHAIN 0 , CH MID				
🛛 🔆 Agilent 17:26:32 🛛 Jun 21	,2017		L	Measure
APv6.9(061517),37699 CS, (Ref 25 dBm Atten 3 #Avg		Mkr2 5.787 -0.8	'10 GHz 43 dBm	Meas Off
Log 10 dB/ Offst				Channel Power
11.5 dB				Occupied BW
#PAvg 100 15				ACP
		11 Summer and the second	WWI AND AND	Multi Carrier Power
£ (f): FTun Swp				Power Stat CCDF
Center 5.785 00 GHz #Res BW 510 kHz	#VBW 1.5 MHz	Span Sweep 1 ms (10	50 MHz 01 pts)	More 1 of 2
Copyright 2000-2010 Agi	lent Technologies			



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CHAIN 0 , CH HIGI	Н			
🔆 🔆 Agilent 17:28:24 🛛 Jun 21	,2017		L	Measure
APv6.9(061517),37699 CS, (Ref 25 dBm Atten 3 #Avg		Mkr2 5.827 -0.56	80 GHz 66 dBm	Meas Off
Log 10 dB/ Offst	2			Channel Power
11.5 dB		••••		Occupied BW
#PAvg				ACP
W1 S2 18 S3 FS AA		Contraction of the second seco	and many	Multi Carrier Power
£(f): FTun Swp				Power Stat CCDF
Center 5.825 00 GHz #Res BW 510 kHz	#VBW 1.5 MHz	Span Sweep 1 ms (100	50 MHz 01 pts)	More 1 of 2
Copyright 2000-2010 Agi	ilent Technologies			



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9.15. 11n HT40 2TX MODE IN THE 5.8GHz BAND

9.15.1. 6 dB BANDWIDTH

<u>LIMITS</u>

FCC §15.407 (e)

IC RSS-247 (6.2.4) (1)

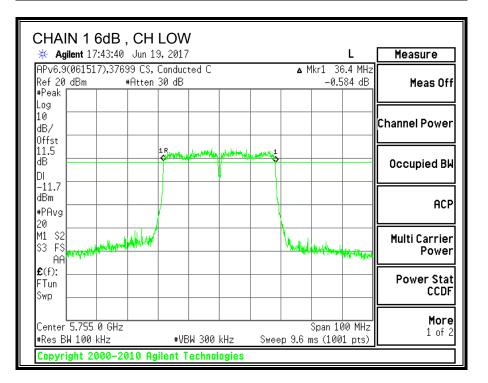
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency	6 dB BW CHAIN 0 (MHz)	6 dB BW CHAIN 1 (MHz)	Minimum Limit (MHz)
Low	5755	36.5	36.4	0.5
High	5795	36.4	36.4	0.5

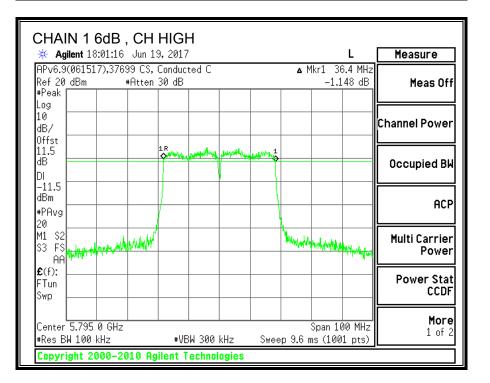
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CHAIN 0 6dB , CH	LOW					
🔆 🔆 Agilent 17:49:20 Jun 19	9,2017				L	Measure
APv6.9(061517),37699 CS, Ref 20 dBm #Atten #Peak			▲ Mk		.5 MHz 05 dB	Meas Off
Log 10 dB/ Offst						Channel Power
11.5 dB DI	1,52 + 144	with the second second				Occupied BW
-12.8 dBm #PAvg						ACP
20 M1 S2 S3 FS			Marin Marine	Mar Mary	rowby	Multi Carrier Power
£(f): FTun Swp						Power Stat CCDF
Center 5.755 0 GHz #Res BW 100 kHz	#VBW 300	kHz Swee		pan 10 3 (1001		More 1 of 2
Copyright 2000–2010 Ag	ilent Technol	ogies				



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CHAIN 0 6dB , CH	HIGH					
🛛 🔆 Agilent 17:54:41 🛛 Jun 19	9,2017			L	-	Measure
APv6.9(061517),37699 CS, Ref 20 dBm #Atten #Peak			▲ Mkr	r1 36.4 -1.209		Meas Off
Log 10 dB/ Offst						Channel Power
11.5 dB DI -11.4		per transferration				Occupied BW
dBm #PAvg 20						ACP
M1 S2 S3 FS AA			Markinderhalder	h-siquitailagu	Hathury	Multi Carrier Power
£ (f): FTun Swp						Power Stat CCDF
Center 5.795 0 GHz #Res BW 100 kHz	#VBW 300	kHz Swee	Sp 9.6 ms	can 100 (1001		More 1 of 2
Copyright 2000-2010 Ag	ilent Technol	ogies				



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9.15.2. 26 dB BANDWIDTH

LIMITS

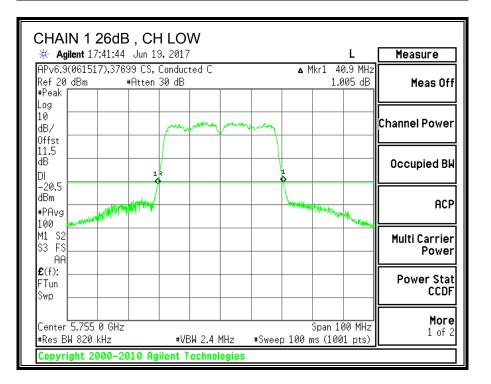
None; for reporting purposes only.

RESULTS

Channel	Frequency	26 dB BW CHAIN 0 (MHz)	26 dB BW CHAIN 1 (MHz)
Low	5755	41.40	40.90
High	5795	41.50	40.80

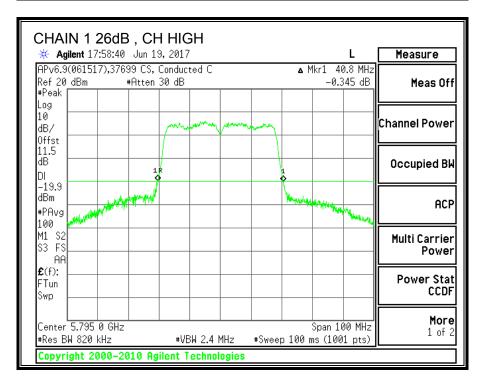
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CHAIN 0 26dE		V		L	Measure
APv6.9(061517),376 Ref 20 dBm #Peak		ed C		Mkr1 41.4 MHz 0.073 dB	Meas Off
Log 10 dB/ 0ffst		-			Channel Power
11.5 dB DI -21.3	1R				Occupied BW
-21.3 dBm #PAvg 100	-		- WANK	Mary Mary Mary Mary	ACP
M1 S2 S3 FS AA					Multi Carrier Power
£ (f): FTun Swp					Power Stat CCDF
Center 5.755 0 GHz #Res BW 820 kHz		↓ 2.4 MHz	#Sweep 100	Span 100 MHz ms (1001 pts)	More 1 of 2
Copyright 2000-2	010 Agilent Te	echnologies			



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CHAIN 0 26d		ł		L	Measure
APv6.9(061517),370 Ref 20 dBm #Peak			▲ M	kr1 41.5 MHz -0.037 dB	Meas Off
Log 10 dB/ 0ffst	- mar	mm	~~~		Channel Power
11.5 dB DI	18		1		Occupied BW
-21.6 dBm #PAvg 100				mand for all the second second	ACP
M1 S2 S3 FS AA					Multi Carrier Power
£(f): FTun Swp					Power Stat CCDF
Center 5.795 0 GHz #Res BW 820 kHz		2.4 MHz +		Span 100 MHz ns (1001 pts)	More 1 of 2
Copyright 2000–2010 Agilent Technologies					



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9.15.3. 99% BANDWIDTH

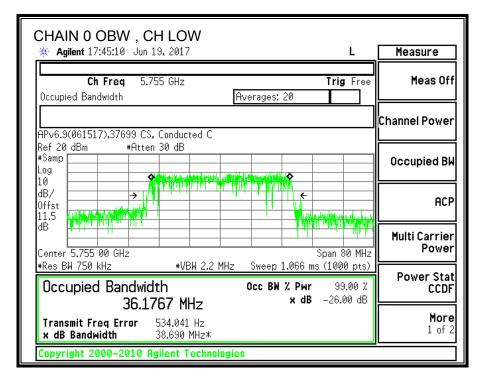
LIMITS

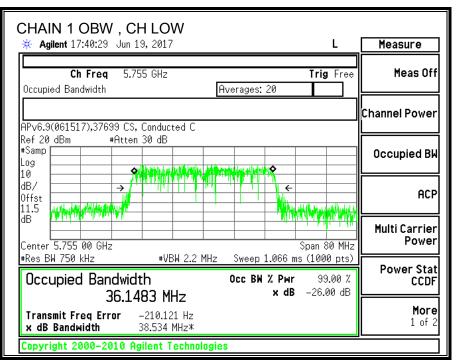
None; for reporting purposes only.

RESULTS

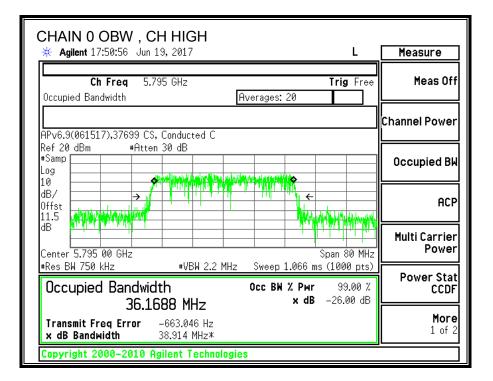
Channel	Frequency	99% BW CHAIN 0 (MHz)	99% BW CHAIN 1 (MHz)
Low	5755	36.1767	36.1483
High	5795	36.1688	36.1418

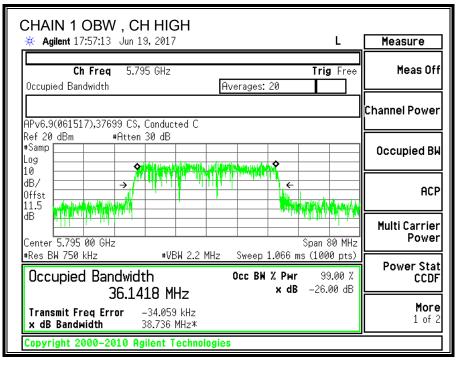
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9.15.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407 (a) (3)

IC RSS-247 (6.2.4) (1)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

Chain 0	Chain 1	Uncorrelated Chains	Correlated Chains
Antenna	Antenna	Directional	Directional
Gain	Gain	Gain	Gain
(dBi)	(dBi)	(dBi)	(dBi)
4.40	4.50	4.45	7.46

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