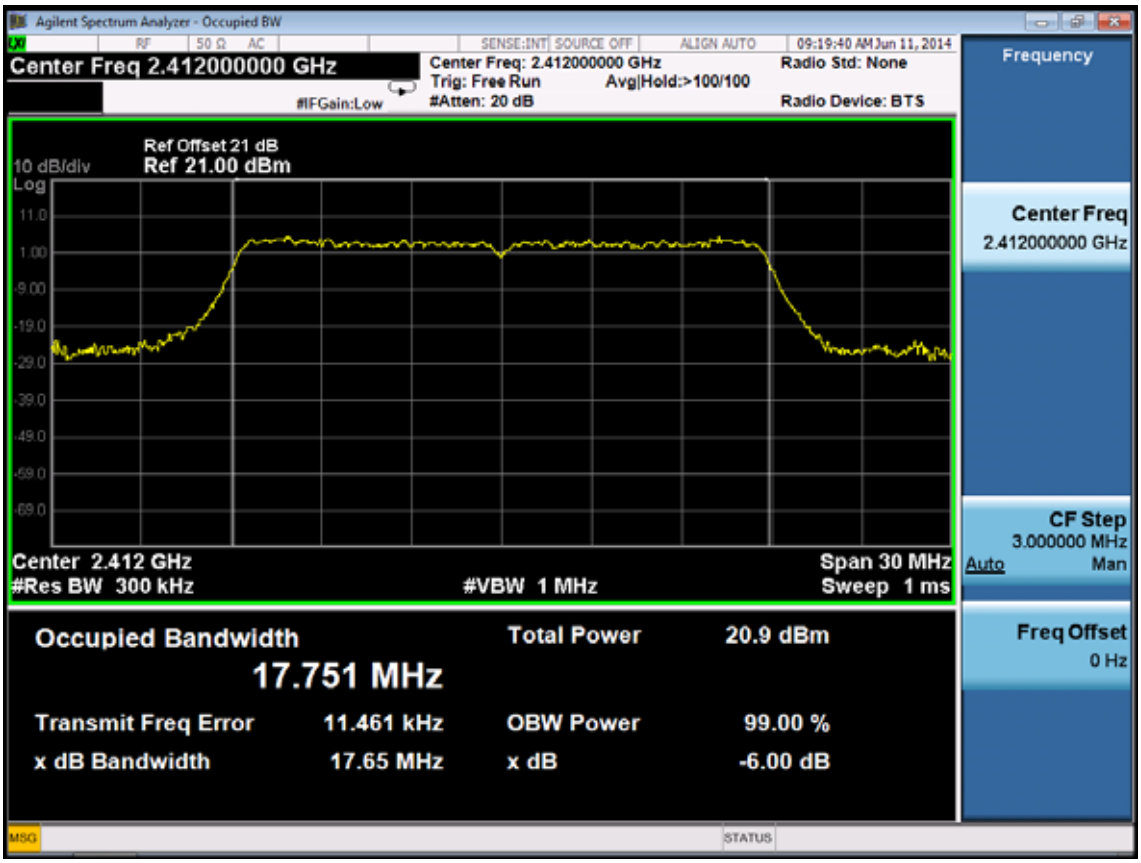
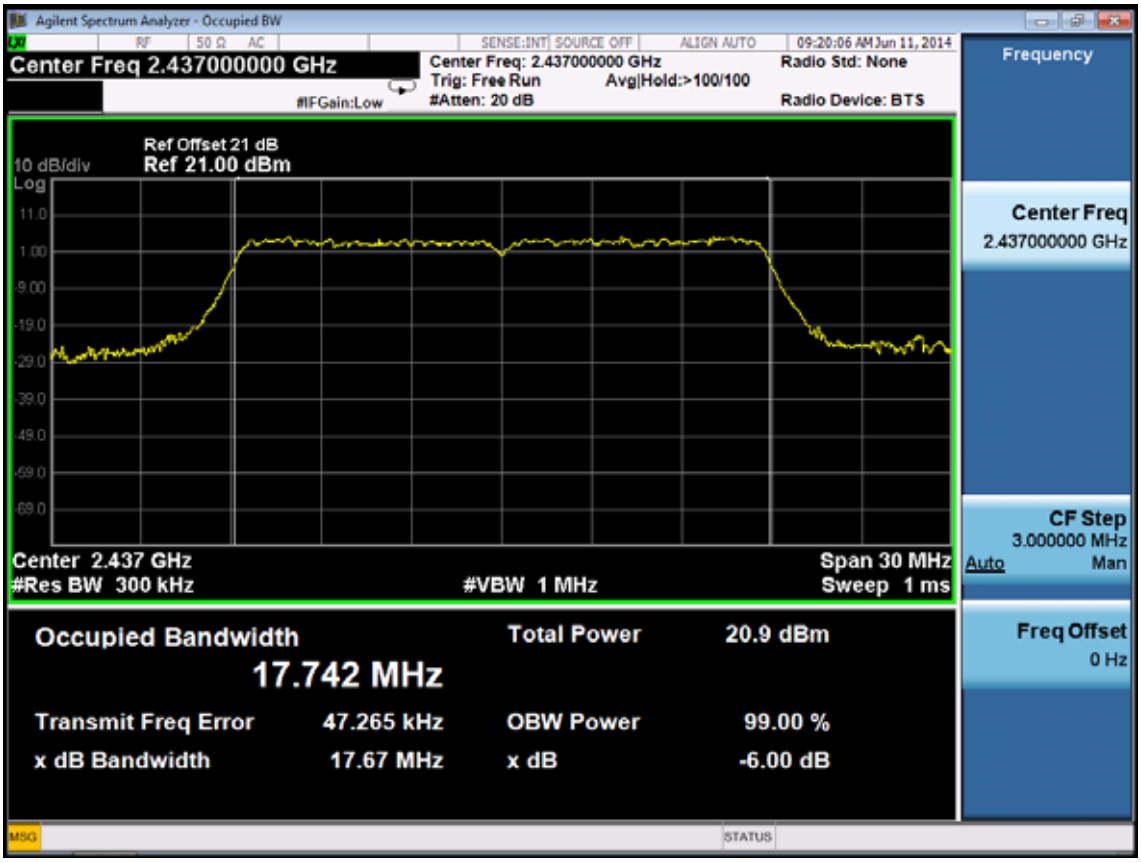
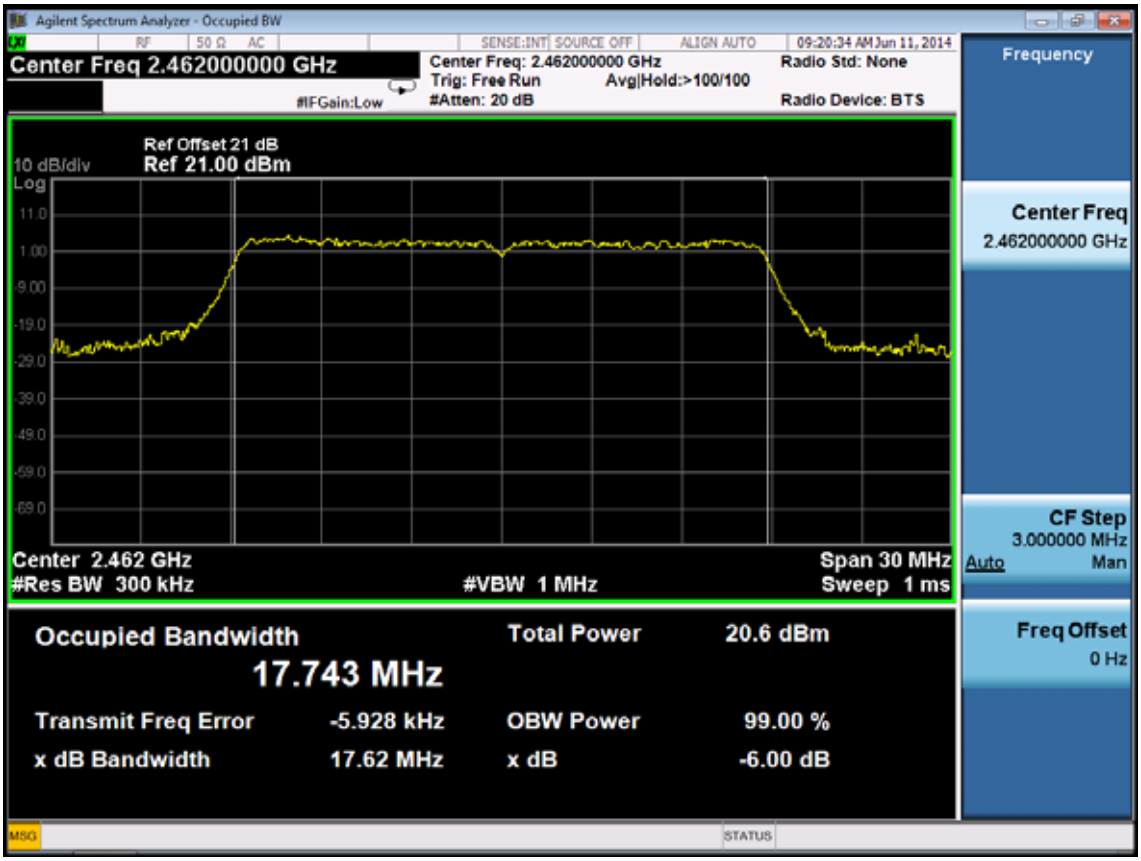
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



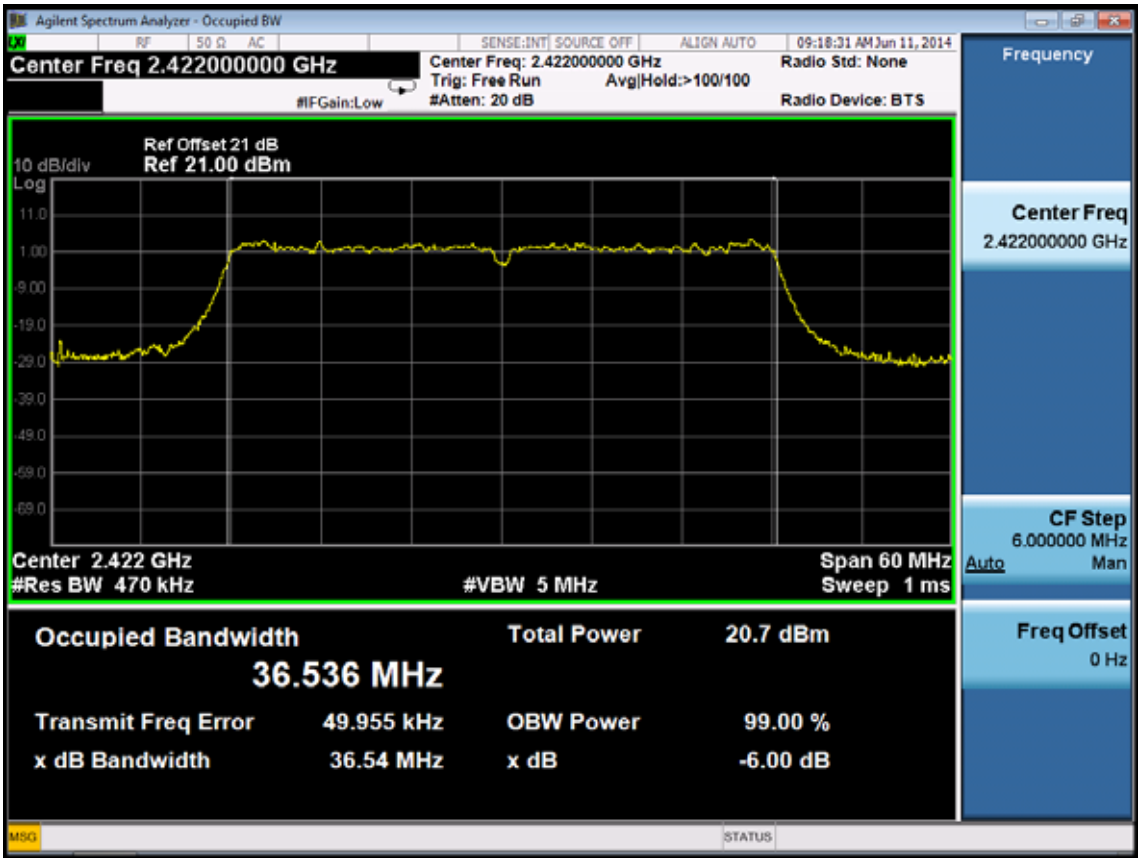
Test CH6: 2437MHz



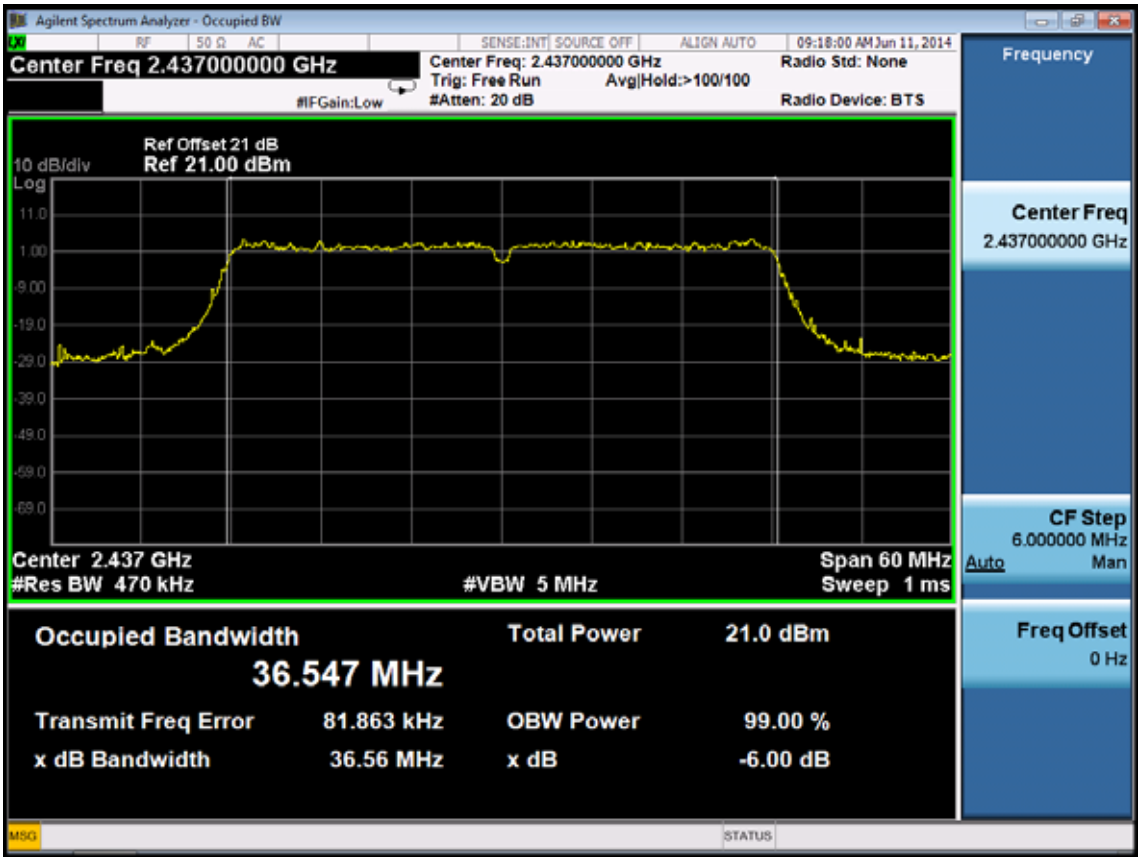
Test CH11: 2462MHz



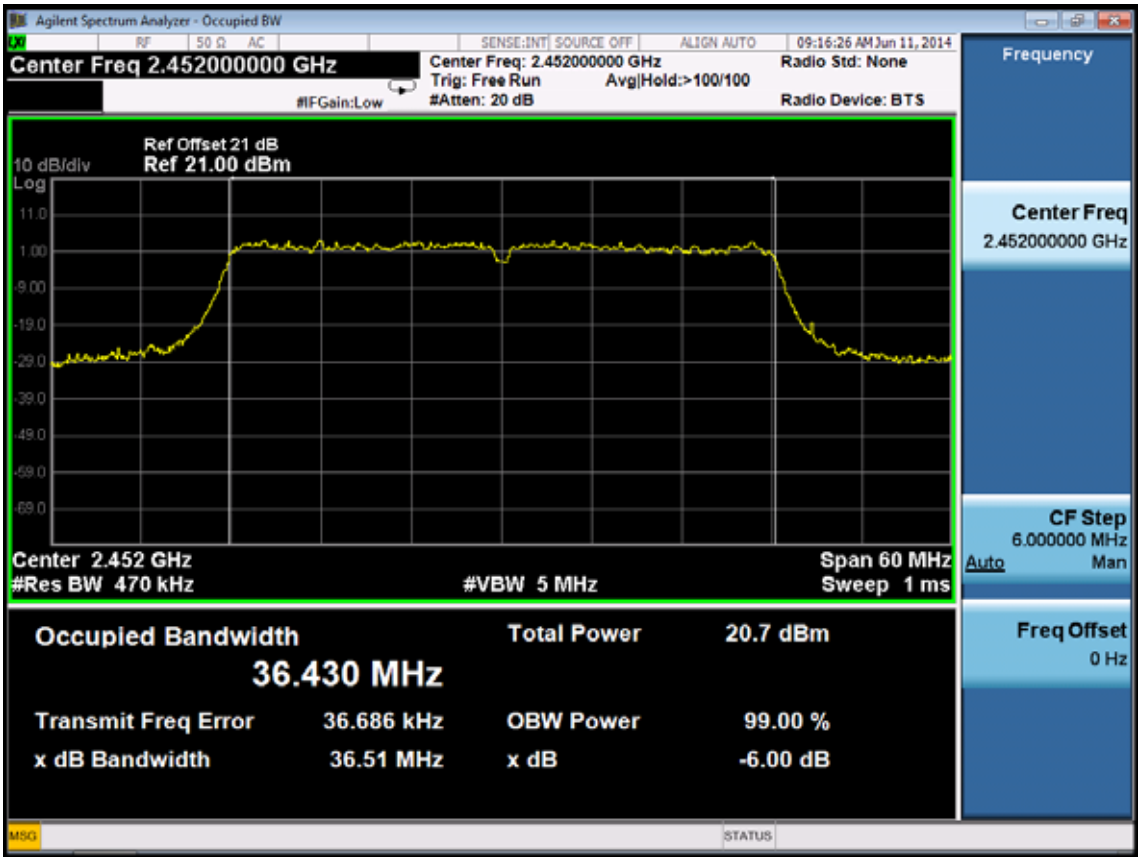
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



Test CH4: 2437MHz



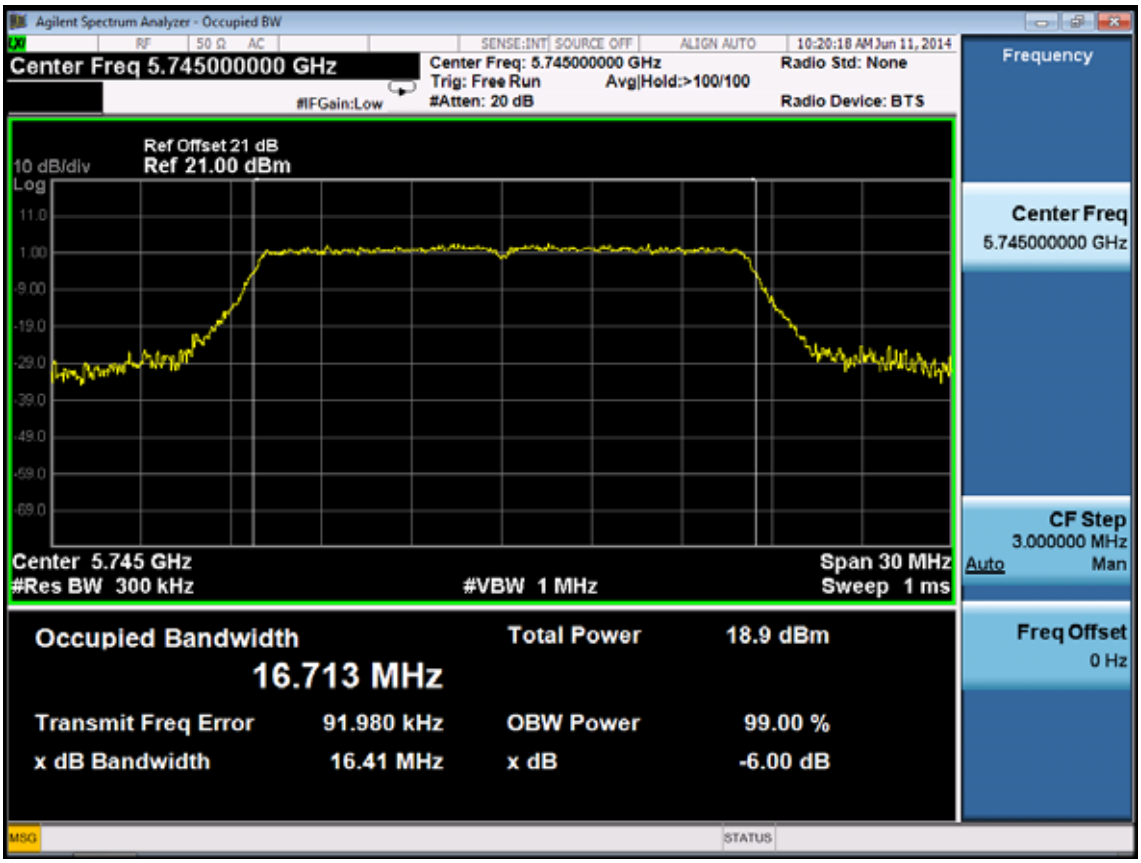
Test CH7: 2452MHz



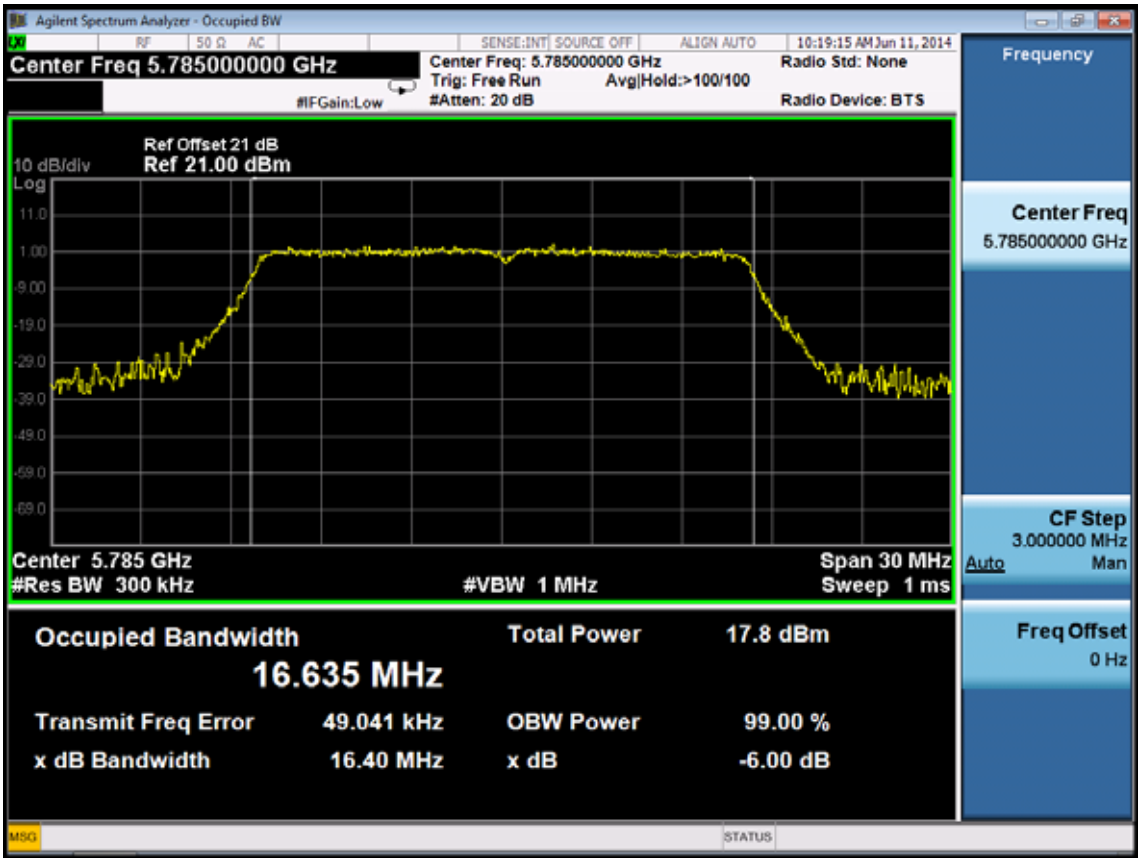
5 G:

Test Mode: IEEE 802.11a TX

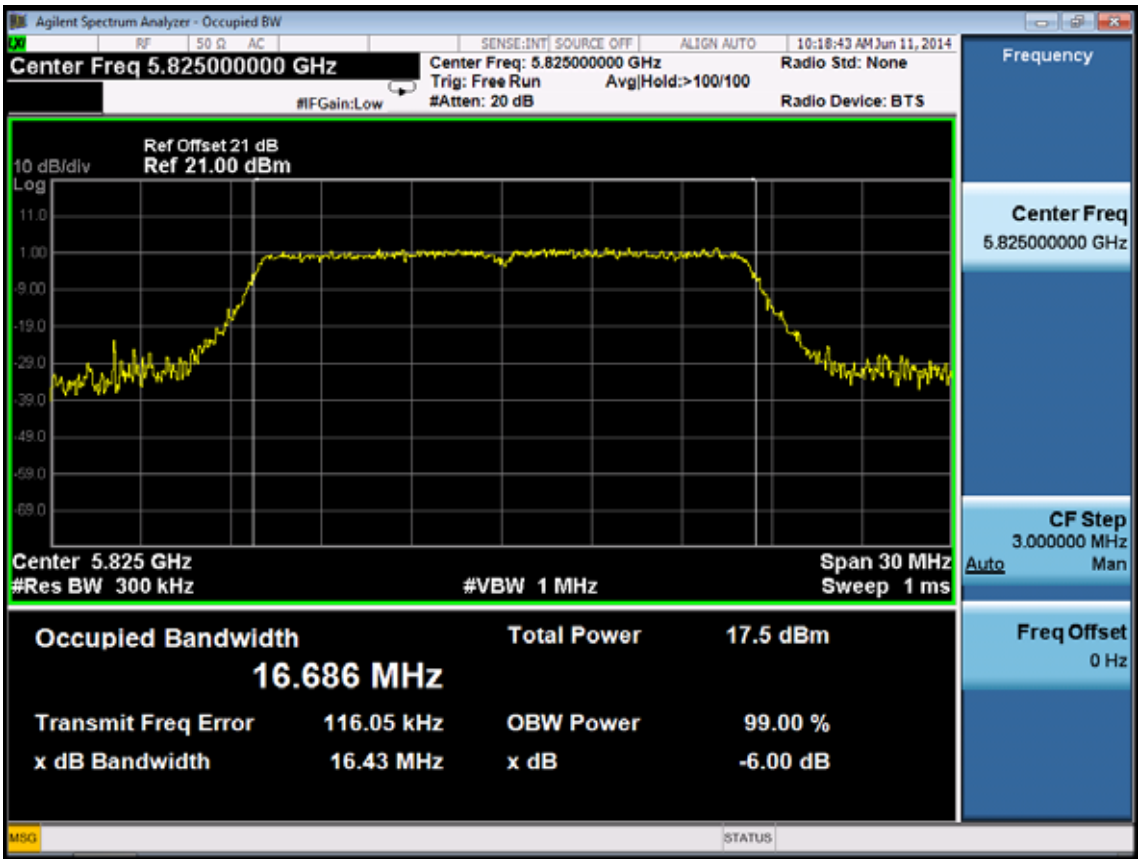
Test CH149: 5745MHz



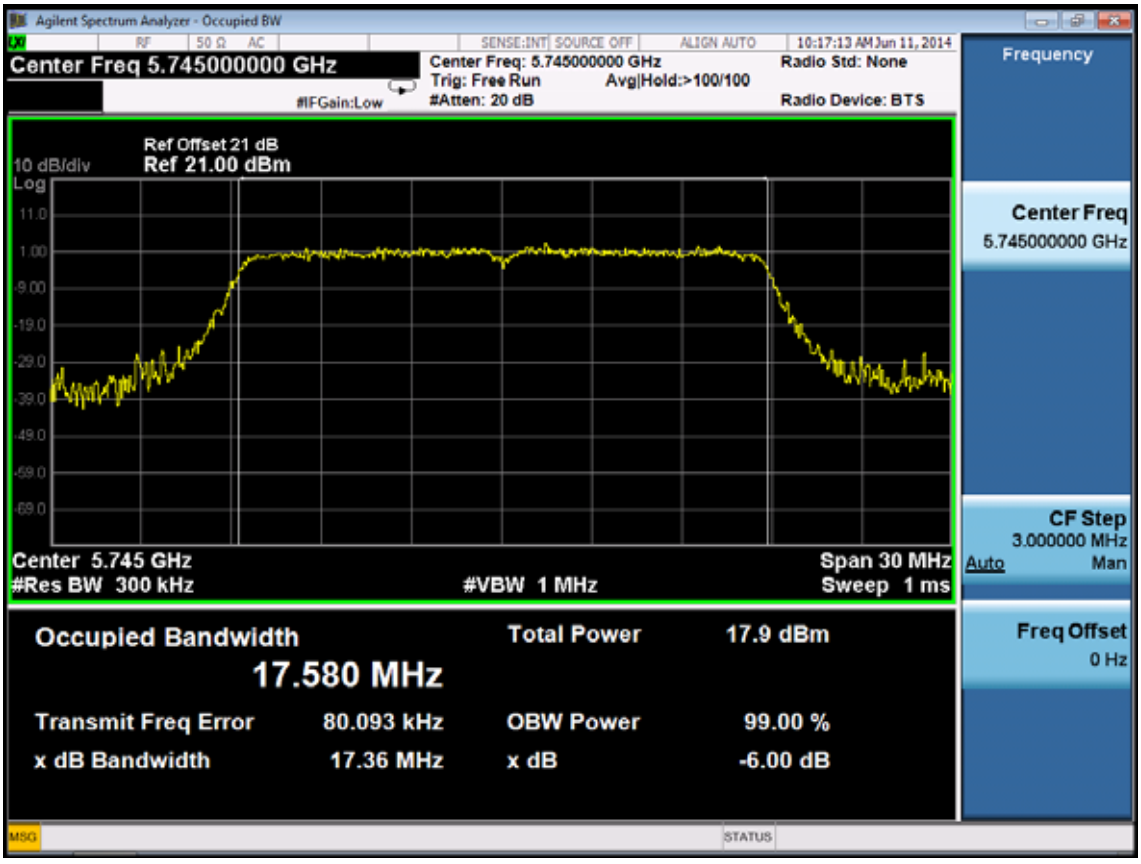
Test CH157: 5785MHz



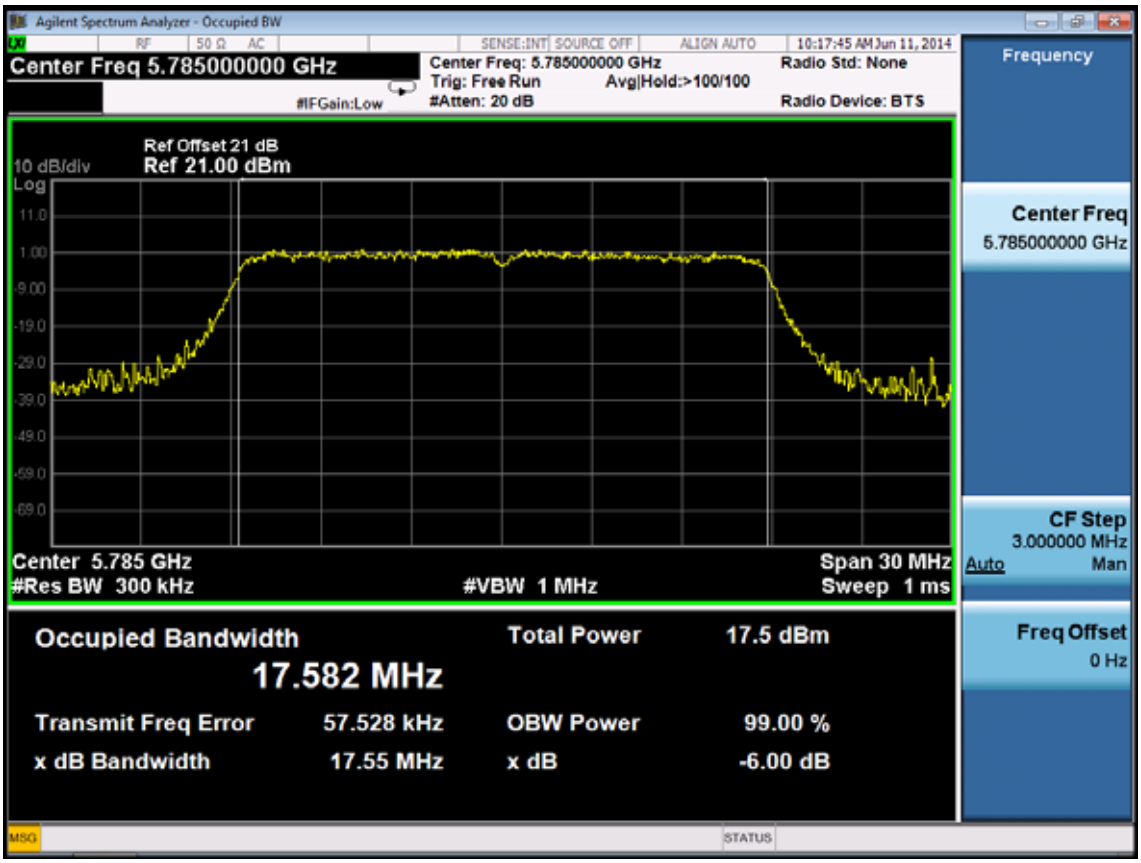
Test CH165: 5825MHz



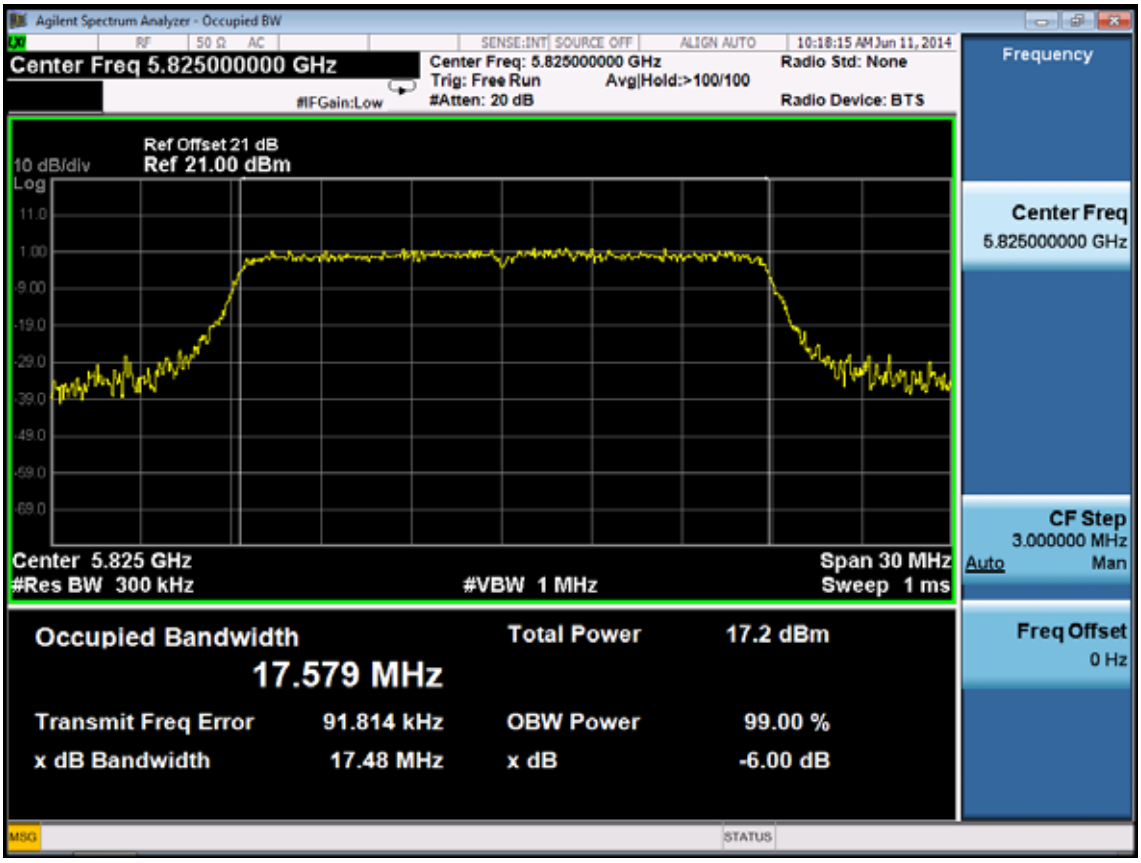
Test Mode: IEEE 802.11n HT20 TX
Test CH149: 5745MHz



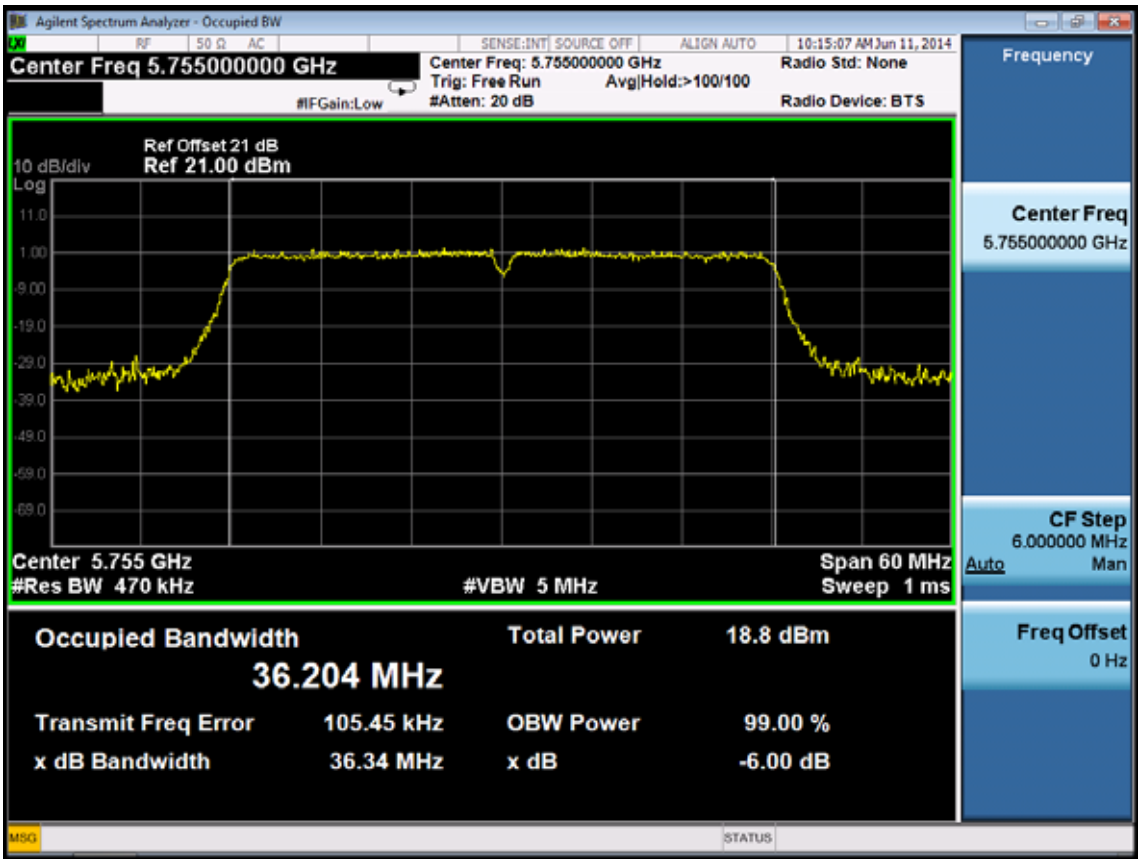
Test CH157: 5785MHz



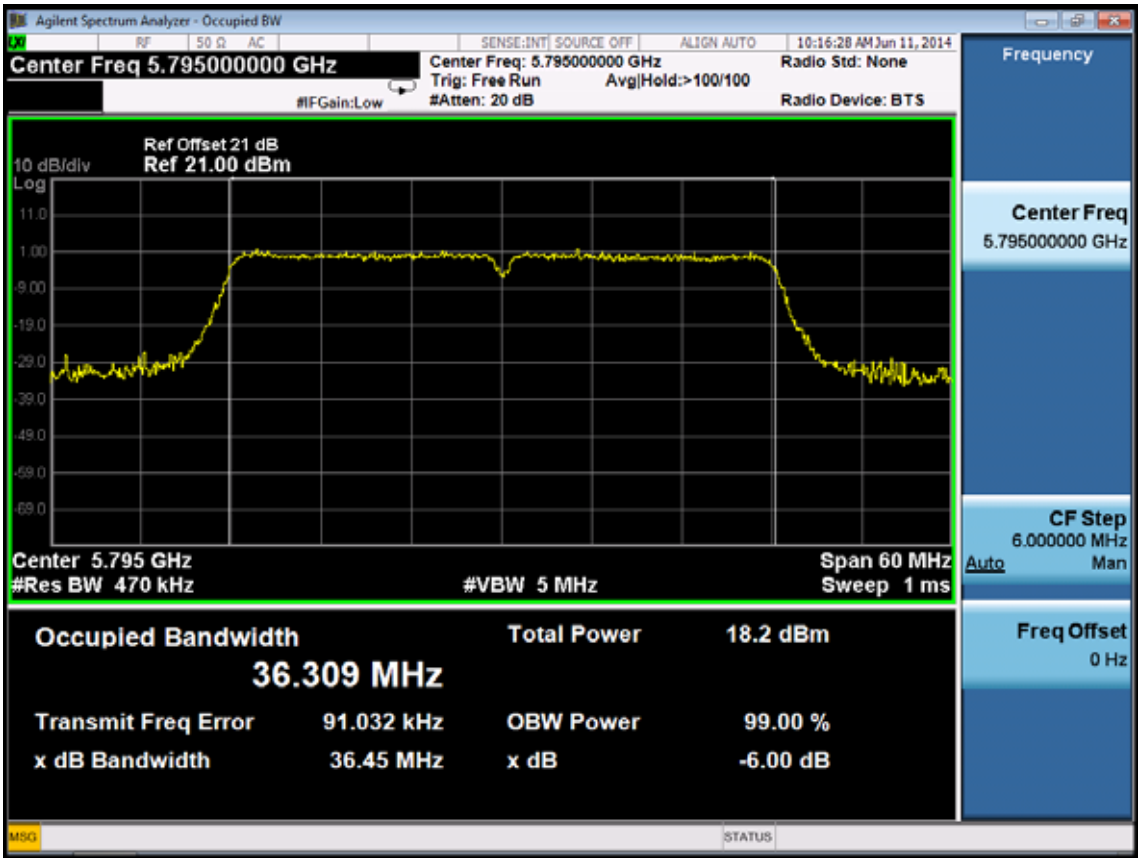
Test CH165: 5825MHz



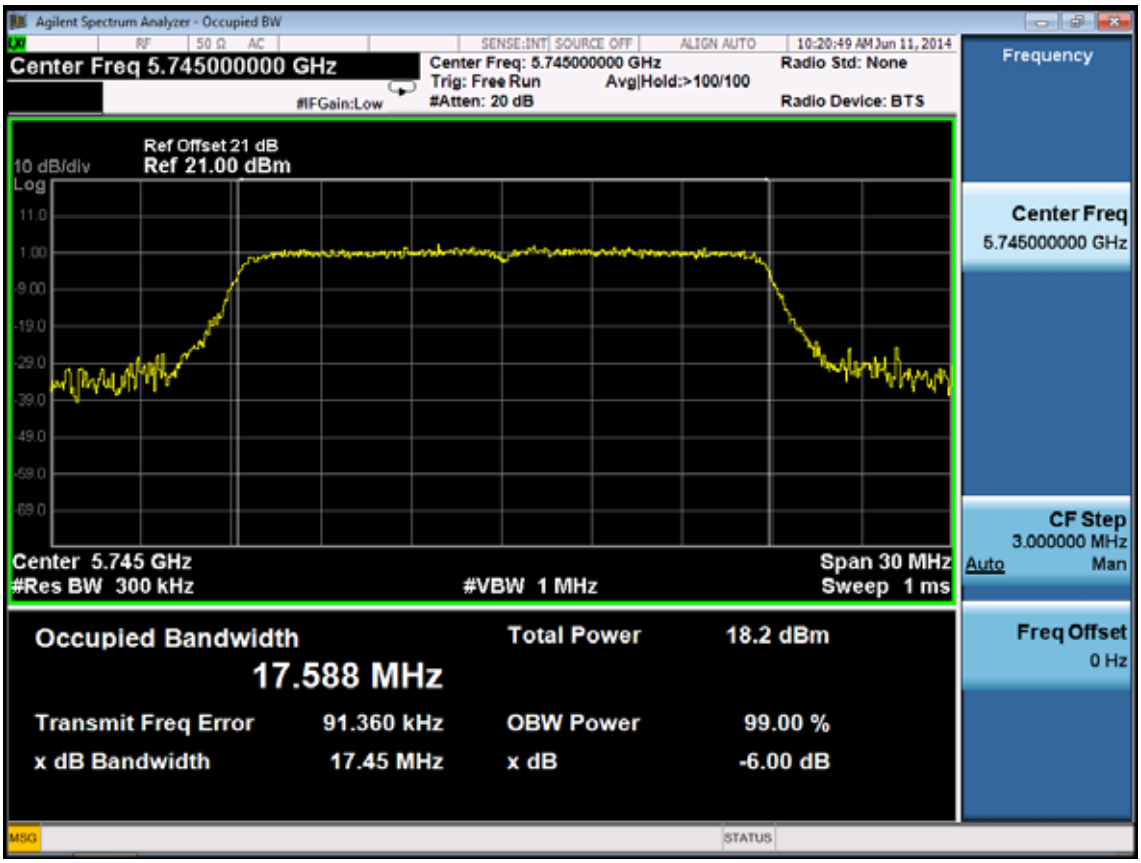
Test Mode: IEEE 802.11n HT40 TX
Test CH151: 5755MHz



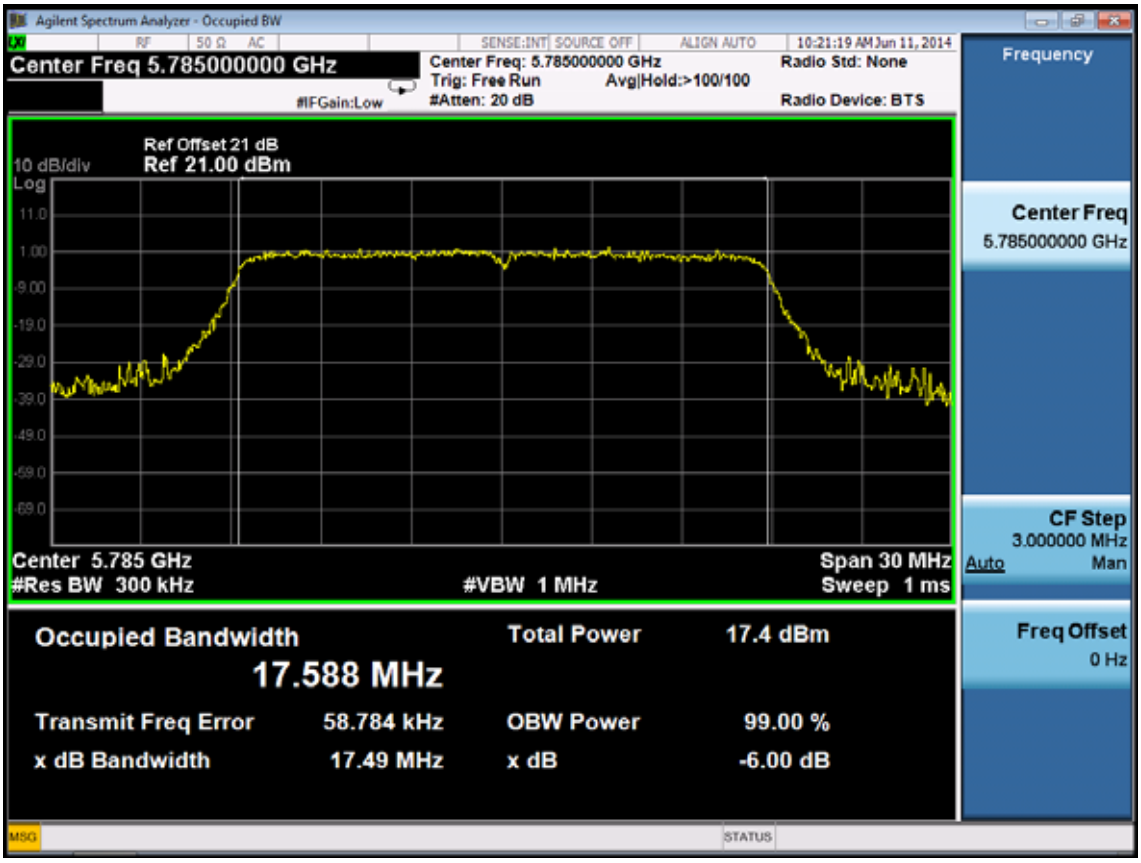
Test CH159: 5795MHz



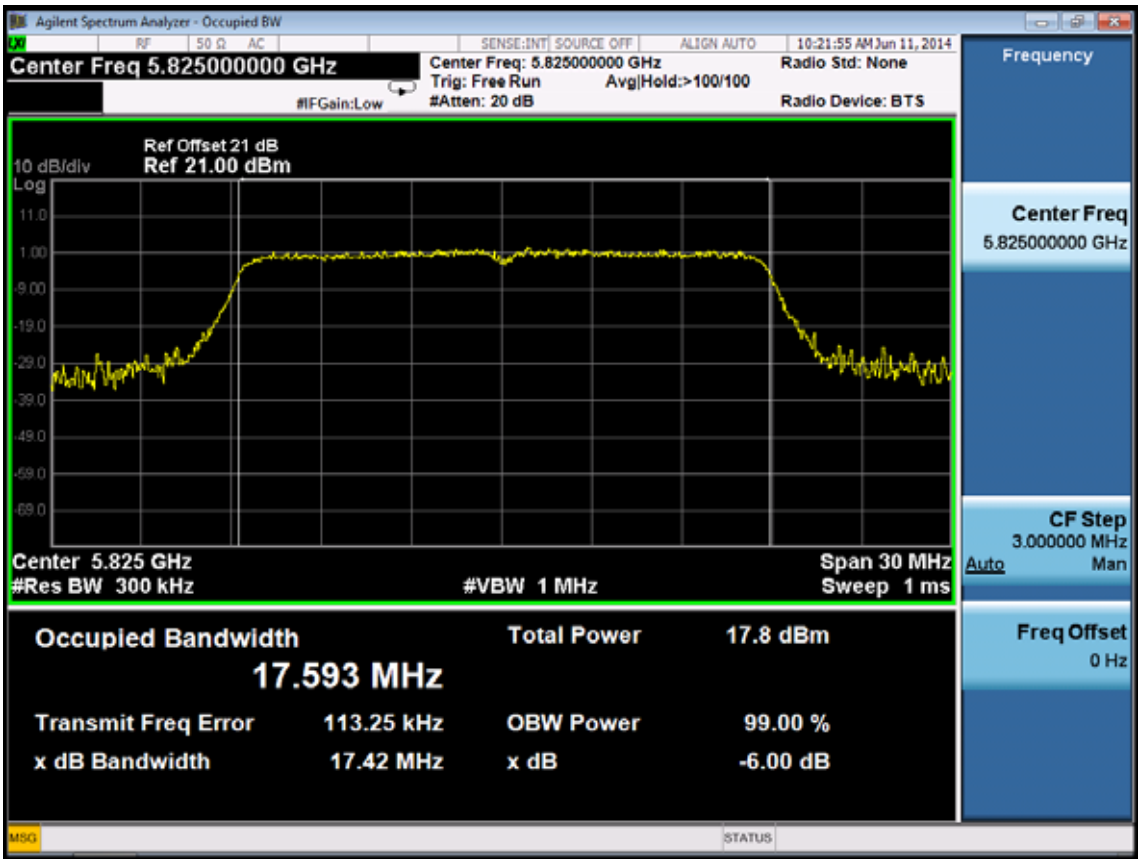
Test Mode: IEEE 802.11ac VHT20 TX
Test CH149: 5745MHz



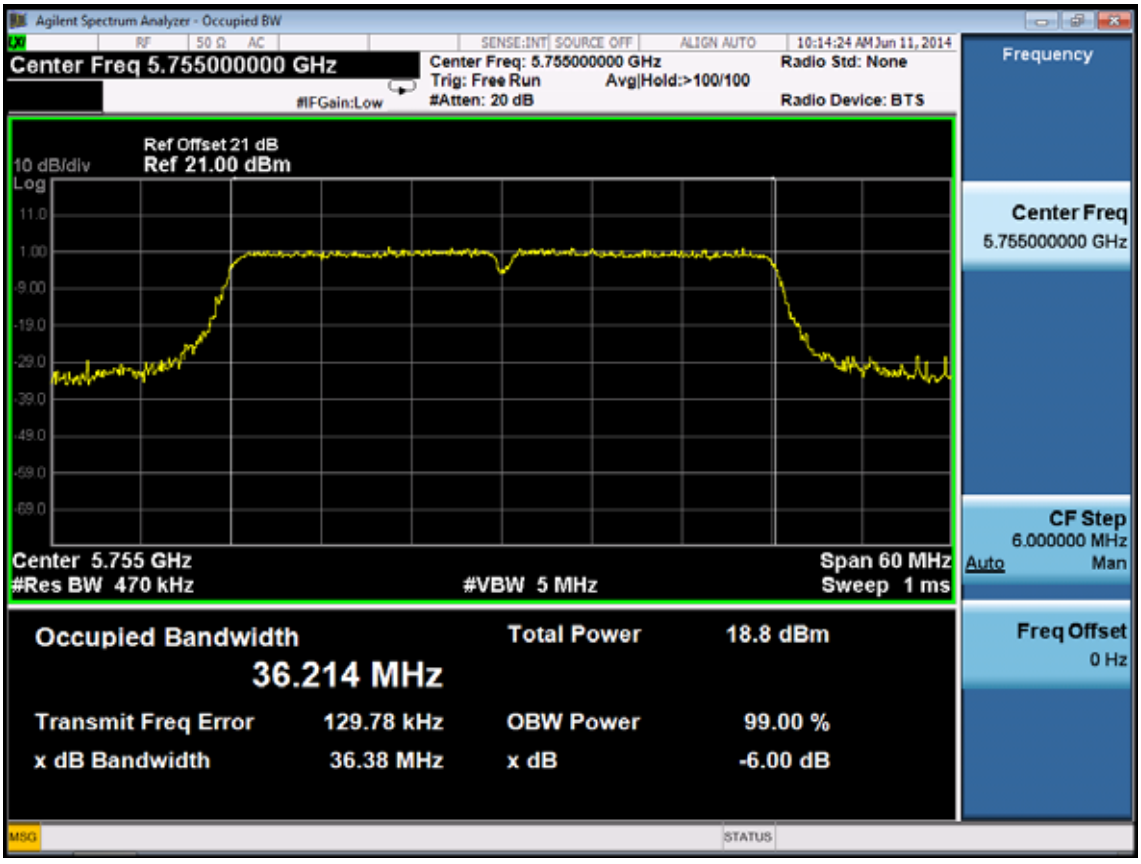
Test CH157: 5785MHz



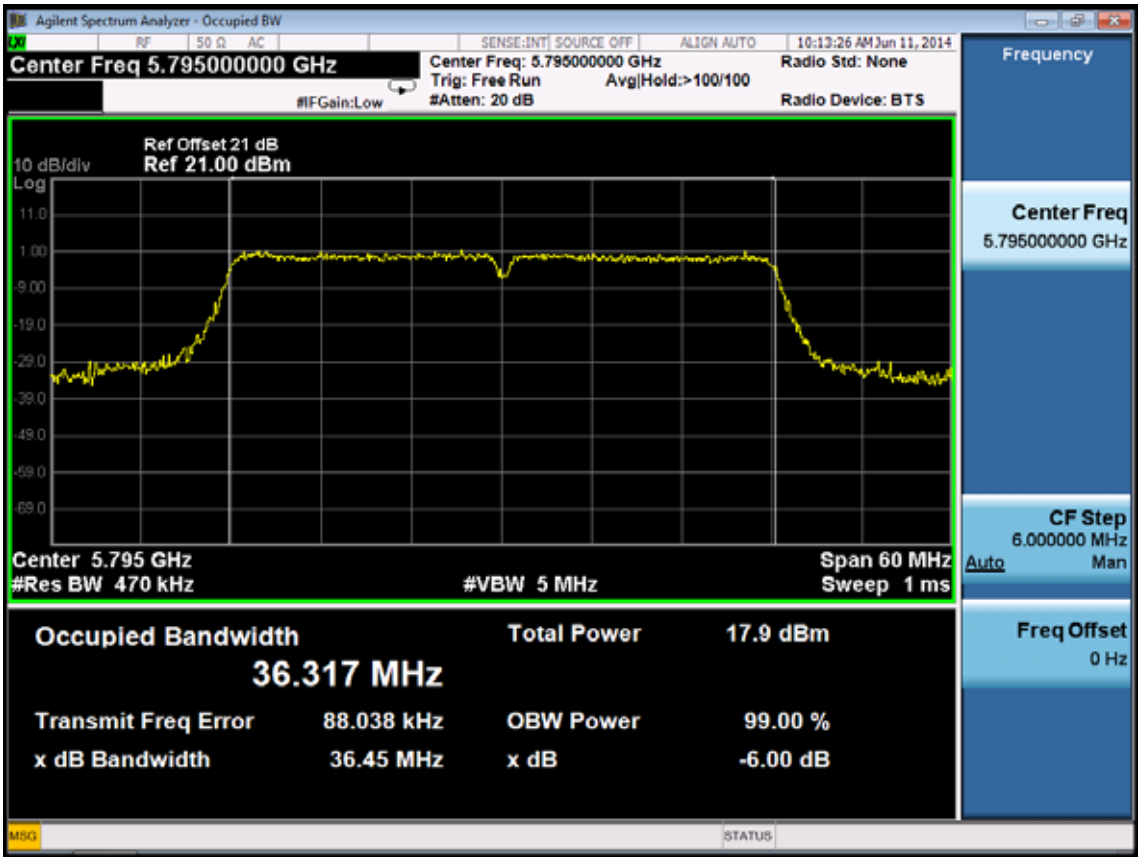
Test CH165: 5825MHz



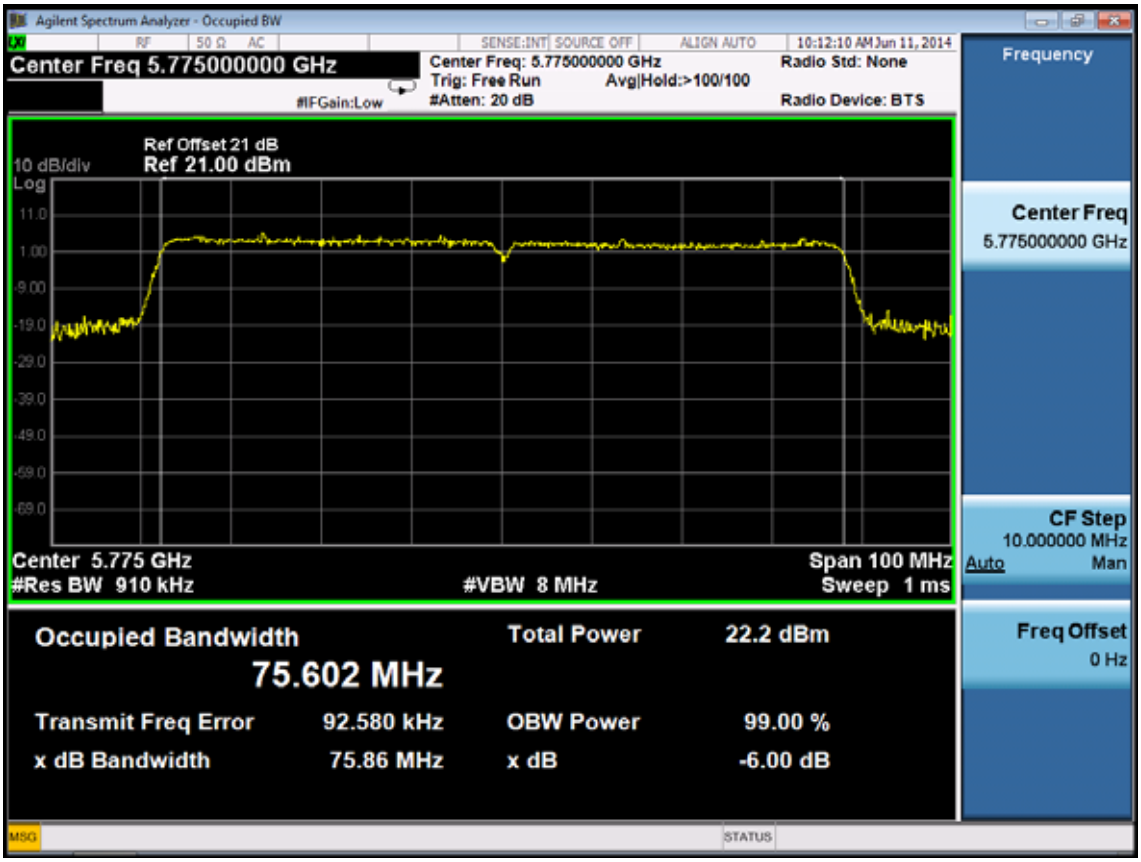
Test Mode: IEEE 802.11ac VHT40 TX
Test CH151: 5755MHz



Test CH159: 5795MHz



Test Mode: IEEE 802.11ac VHT80 TX
Test CH155: 5775MHz



8. OUTPUT POWER TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9607-4877	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 13	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 13	1Year

8.2. Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, 5725-5850MHz, The Peak out put Power shall not exceed 1W(30dBm)

8.3. Test Procedure

1, Connected the EUT's antenna port to measure device by 26dB attenuator.

2, For IEEE 802.11b/g and IEEE802.11n HT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB bandwidth of signal to measure out each test modes' PK output power.

3, For IEEE802.11n HT40 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor ML2491A. So use the test method described in KDB558074 clause 9.1.2.

1) Set the RBW=1MHz and VBW =3MHz
2) Set the span to a value that is 5-30% greater than EBW
3) Detector = peak
4) Sweep time = auto couple
5) Trace Mode = max hold
6) allow trace to fully stabilize
7) use the spectrum amalyser's integrated band power measurement function with band limits set equal to the EBW band edges.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

2.4G:

EUT:AC750 Wireless Dual Band Gigabit Router					
M/N:PW-AC4573R					
Test date: 2014-05-09		Pressure: 101.2±1.0 kpa		Humidity: 51.7±3.0%	
Tested by: Kevin_Hu		Test site: RF site		Temperature:22.3±0.6 ℃	
Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH	Peak output Power (dBm)			Limit (dBm)
		ANT 0	ANT 1	Total	
11b	CH1	21.59	22.51	25.08	30
	CH6	21.25	20.43	23.87	30
	CH11	20.68	19.93	23.33	30
11g	CH1	23.29	23.95	26.64	30
	CH6	24.18	23.09	26.68	30
	CH11	21.66	21.28	24.48	30
11n HT20	CH1	23.16	23.45	26.32	30
	CH6	22.54	21.79	25.19	30
	CH11	20.89	21.05	23.98	30
11n HT40	CH1	21.89	21.83	24.87	30
	CH4	21.96	21.43	24.71	30
	CH7	21.13	21.45	24.30	30
Conclusion: PASS					
Note: IEEE 802.11b/g/n use CDD mode according to KDB662911, the directional, Gain=G_{ANT}+ Array gain (Array Gain=10log (N_{ANT}/N_{SS})dB. Then get the directional gain=5dBi<6dBi.					

5.8G:

EUT:AC750 Wireless Dual Band Gigabit Router		
M/N:PW-AC4573R		
Test date: 2014-05-09	Pressure: 101.3±1.0 kpa	Humidity: 52.6±3.0%
Tested by: Kevin_Hu	Test site: RF site	Temperature:22.3±0.6 ℃

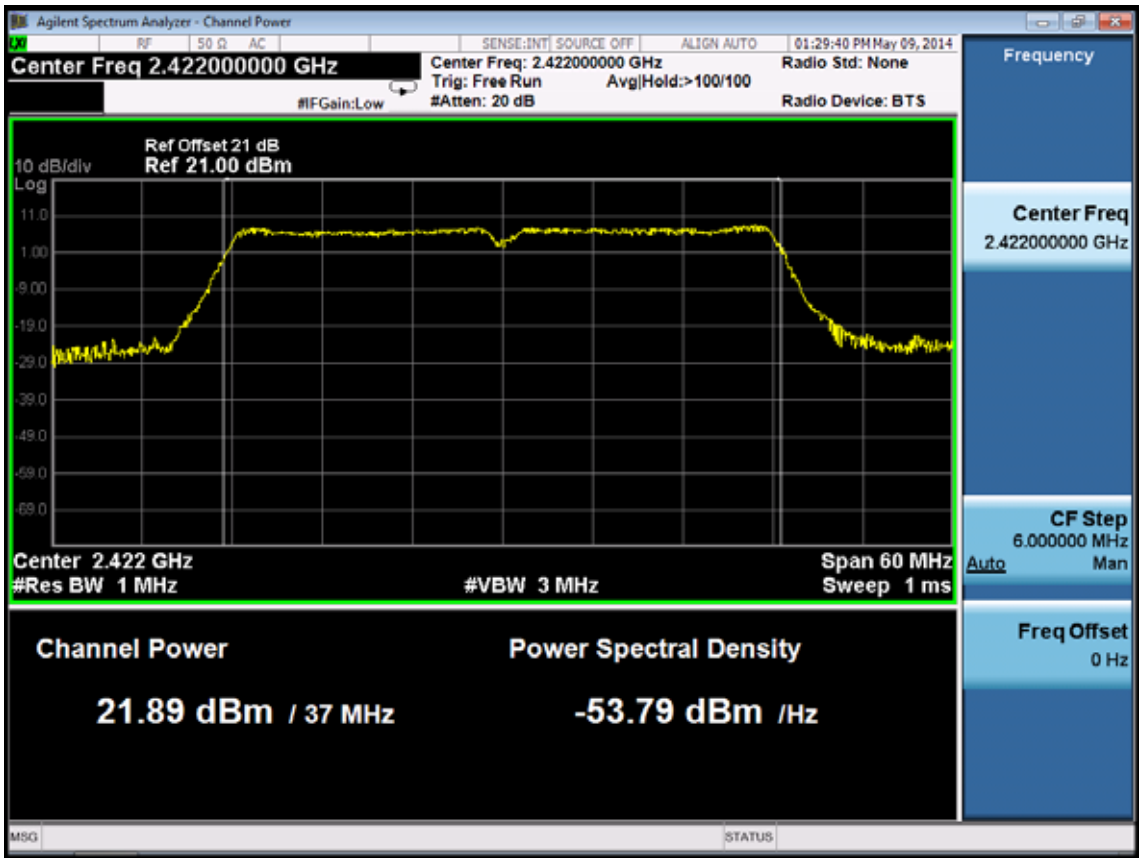
Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	Frequency (MHz)	Peak output Power (dBm)	Limit (dBm)
		ANT 0	
11a	5745	24.33	30
	5785	24.31	30
	5825	24.49	30
11n HT20	5745	24.25	30
	5785	24.18	30
	5825	24.45	30
11n HT40	5755	24.48	30
	5795	24.41	30
11ac VHT20	5745	24.23	30
	5785	24.16	30
	5825	24.49	30
11ac VHT40	5755	24.46	30
	5795	24.41	30
11ac VHT80	5775	24.47	30
Conclusion: PASS			

2.4G:

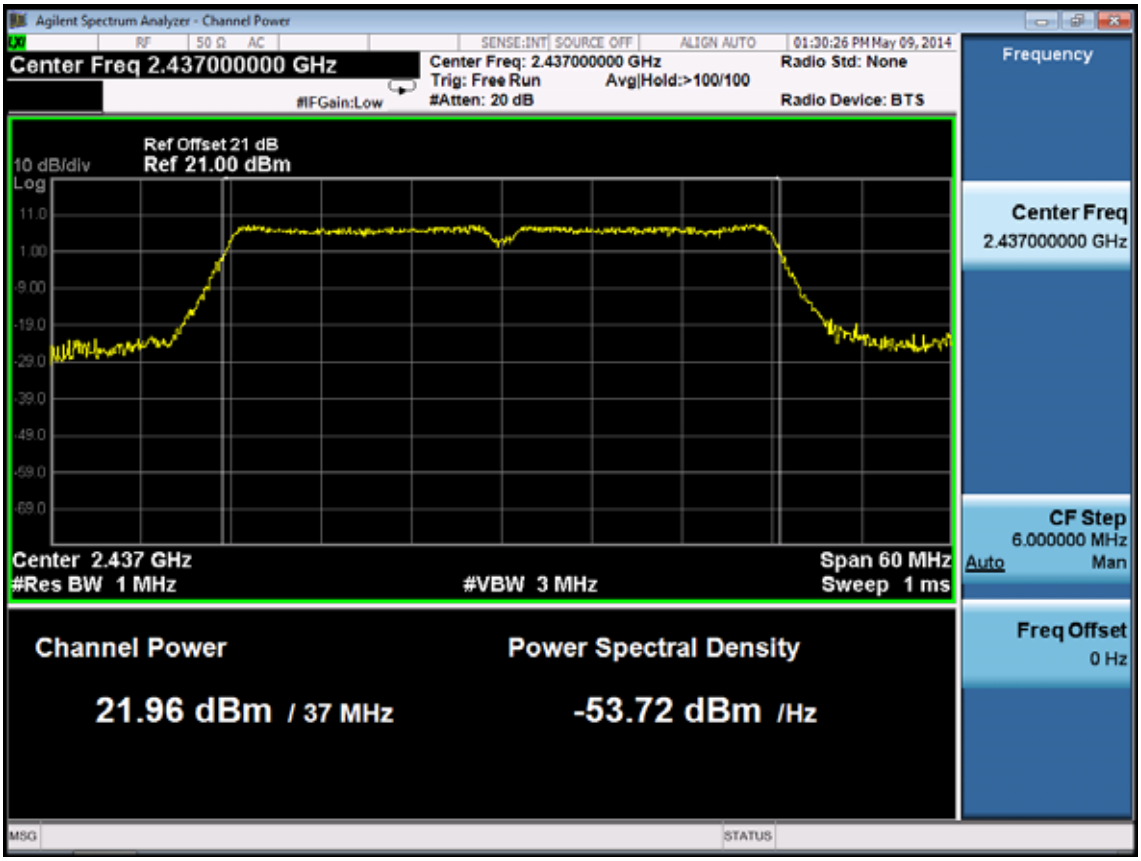
ANT 0:

Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz



Test CH4: 2437MHz

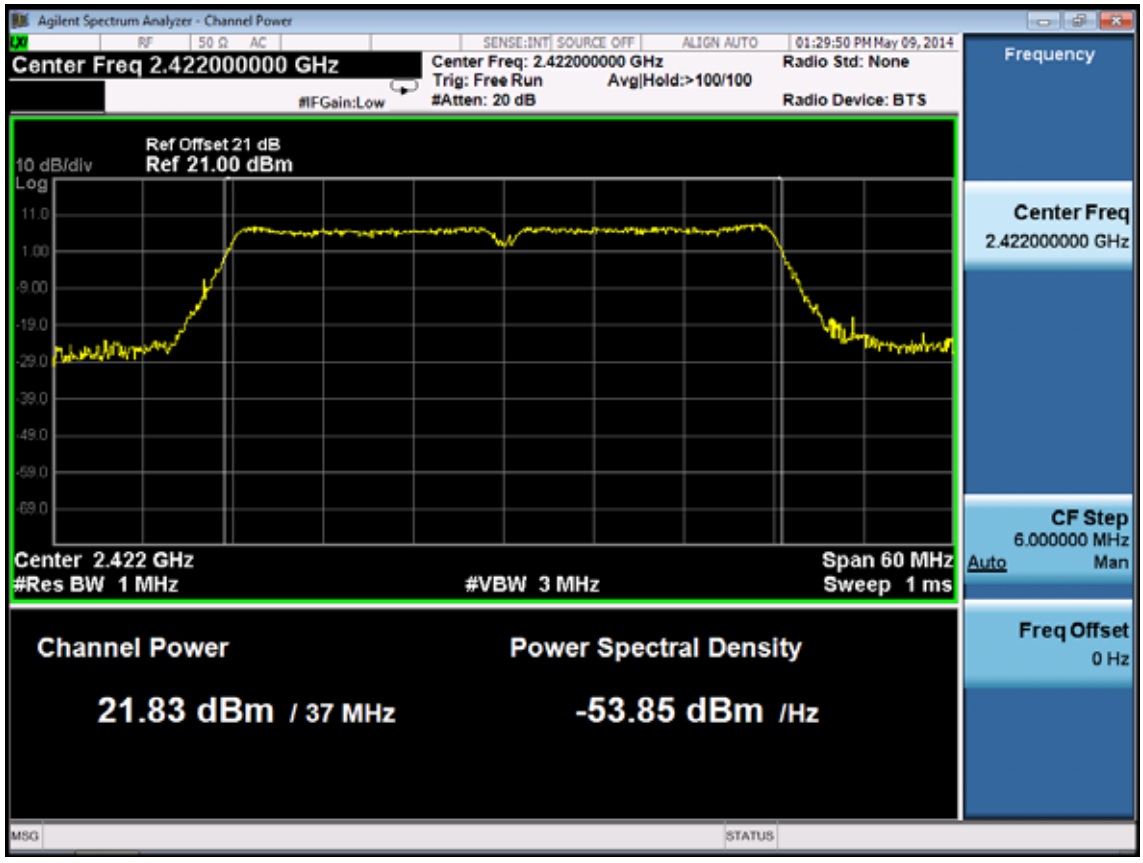


Test CH7: 2452MHz

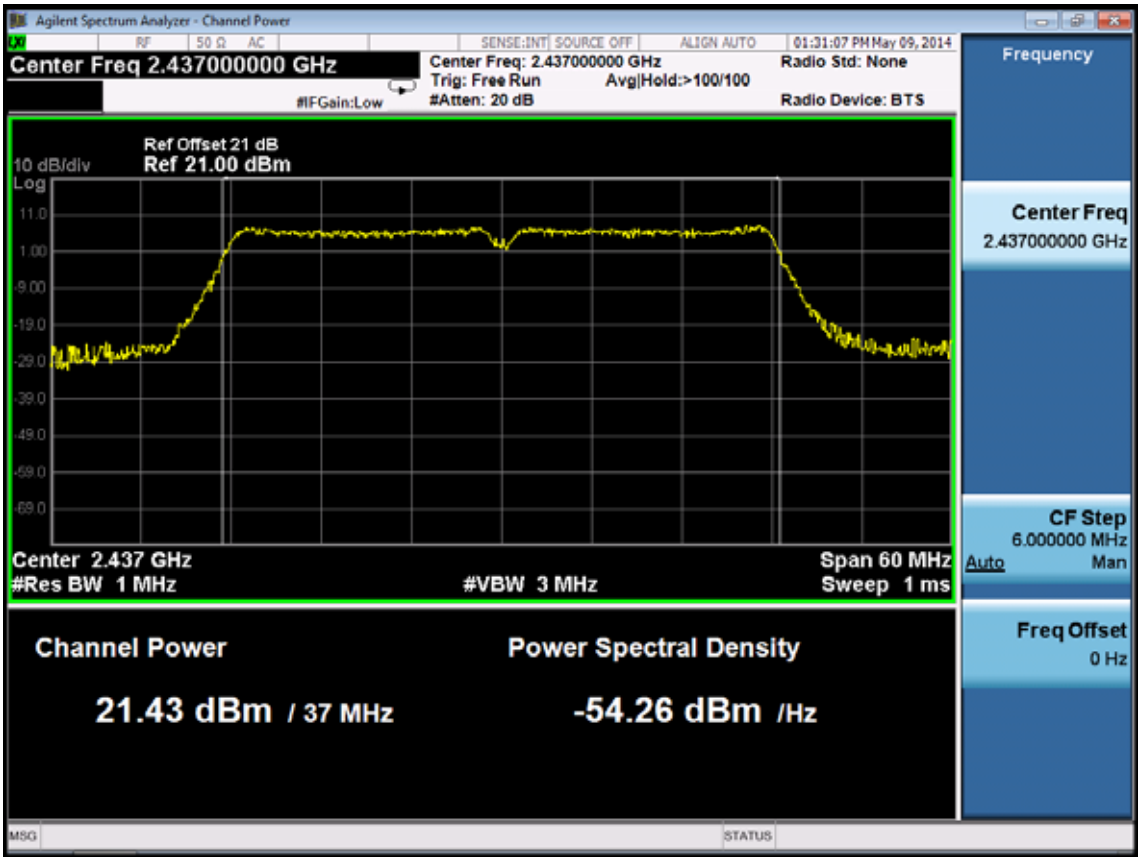
ANT 1:

Test Mode: IEEE 802.11n HT40 TX

Test CH1: 2422MHz

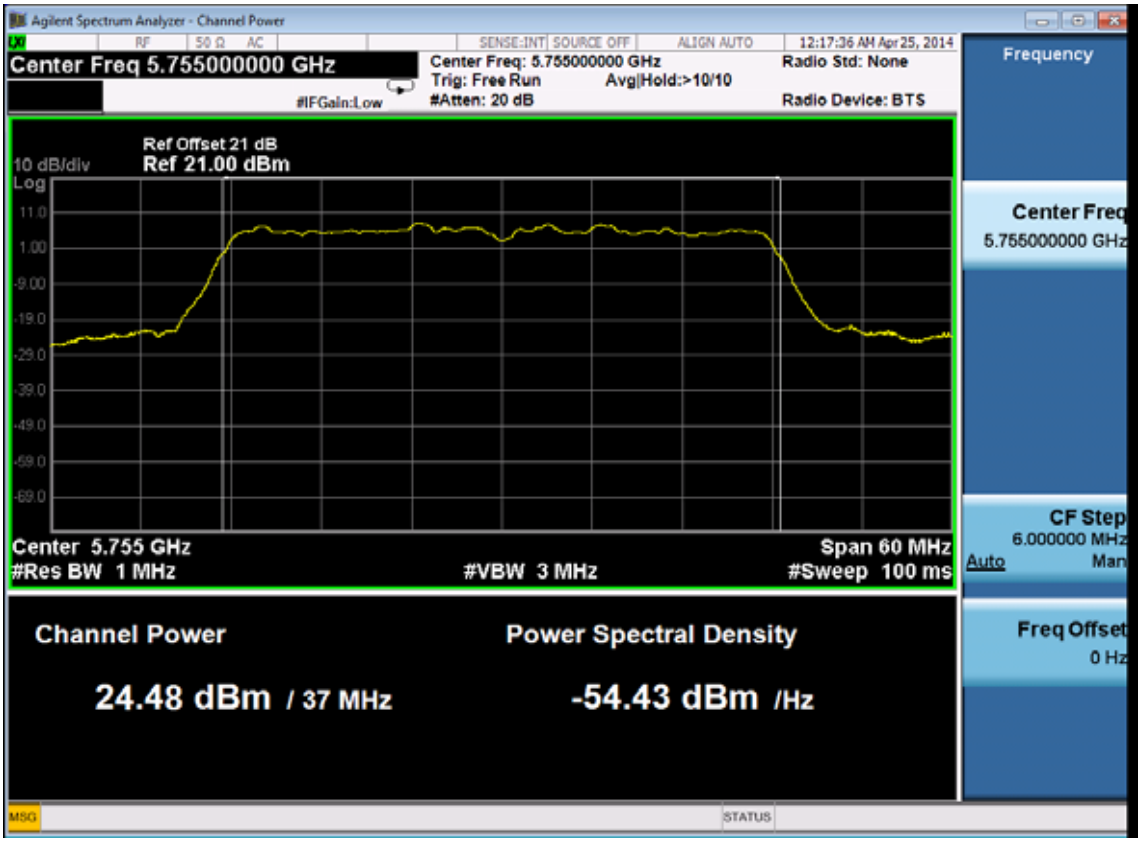


Test CH4: 2437MHz

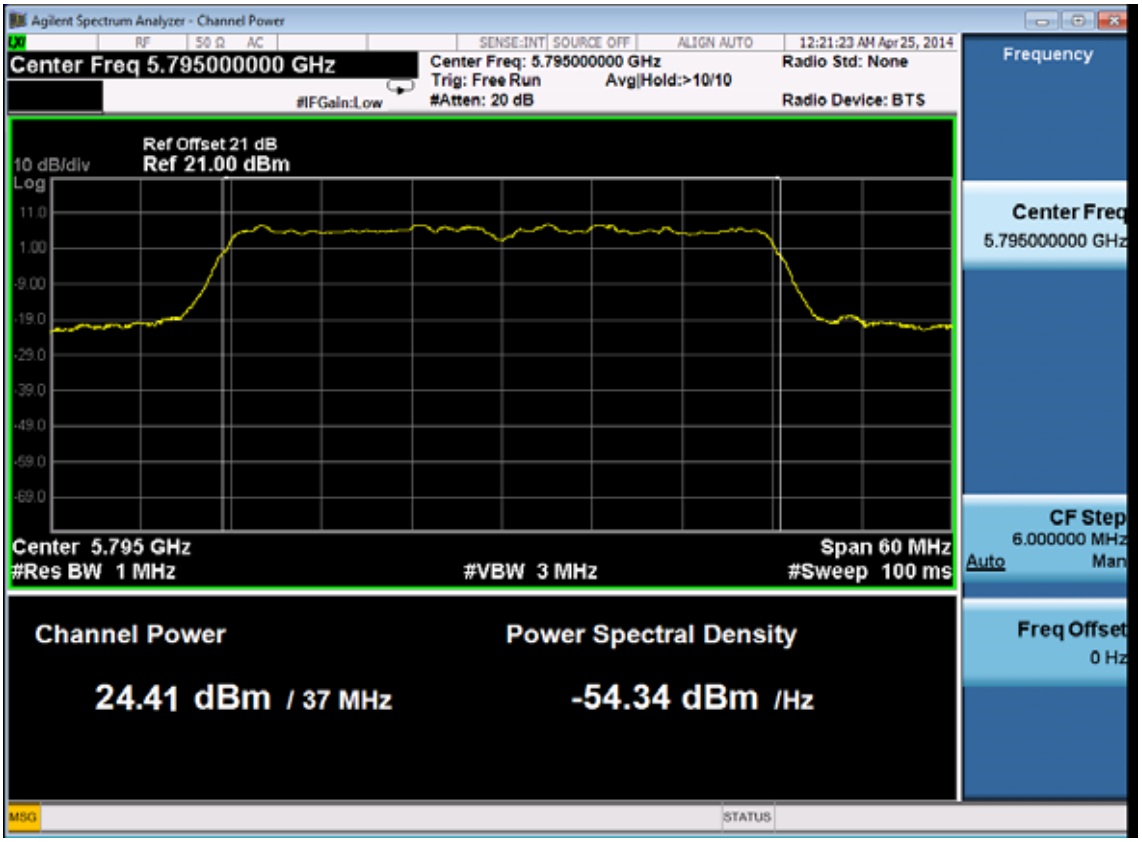


Test CH7: 2452MHz

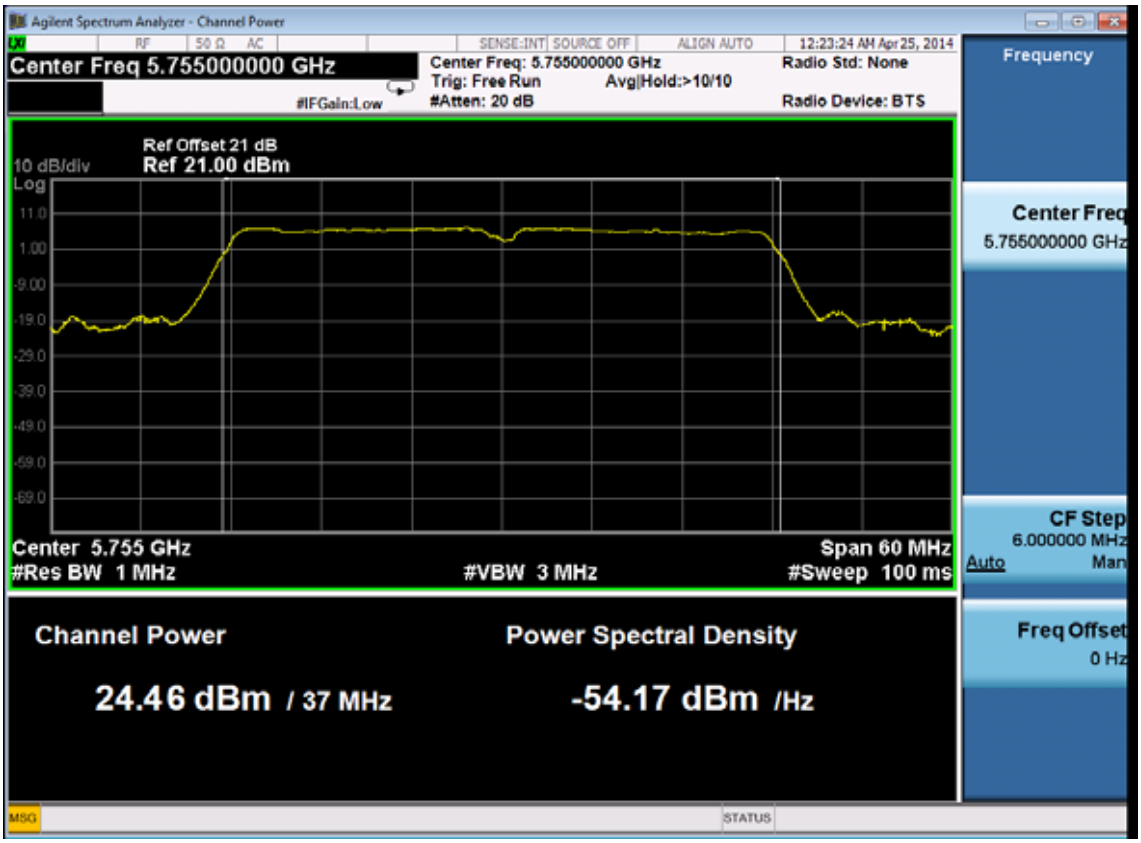
5.8G:
ANT 0:
Test Mode: IEEE 802.11n HT40 TX
5755MHz

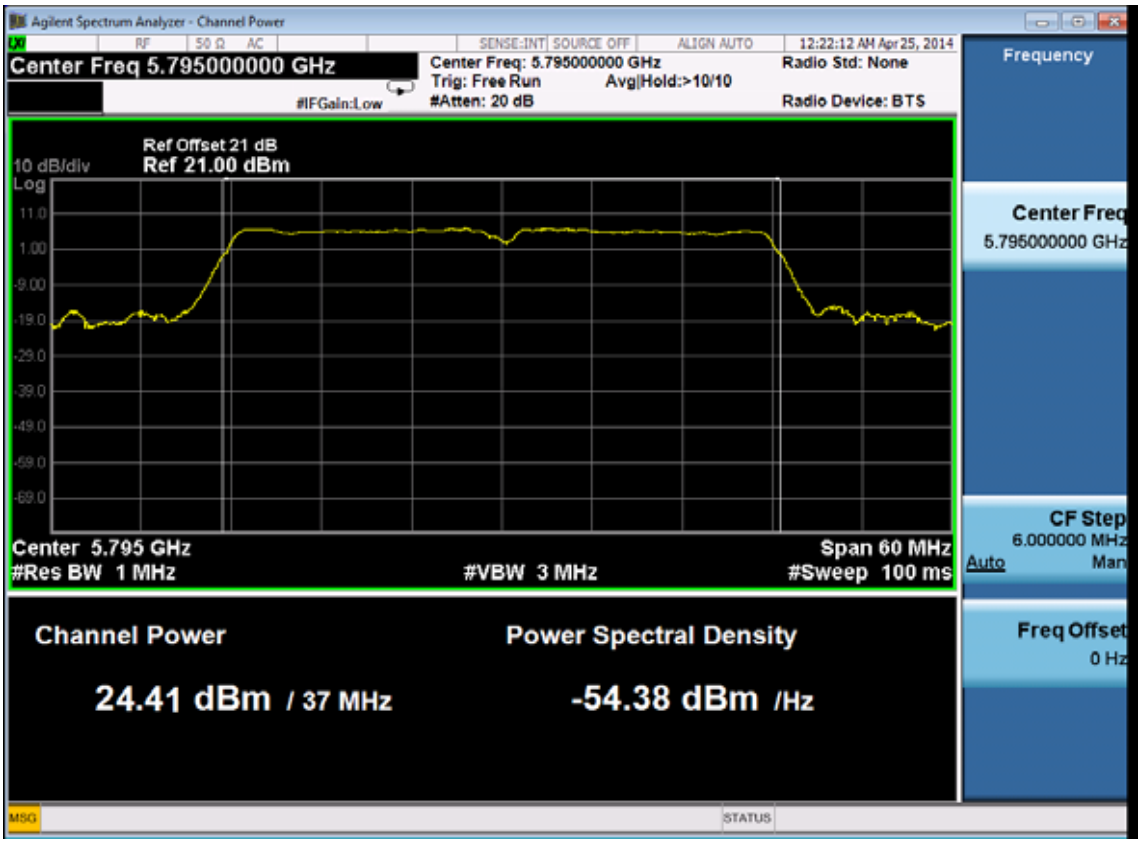


5795MHz

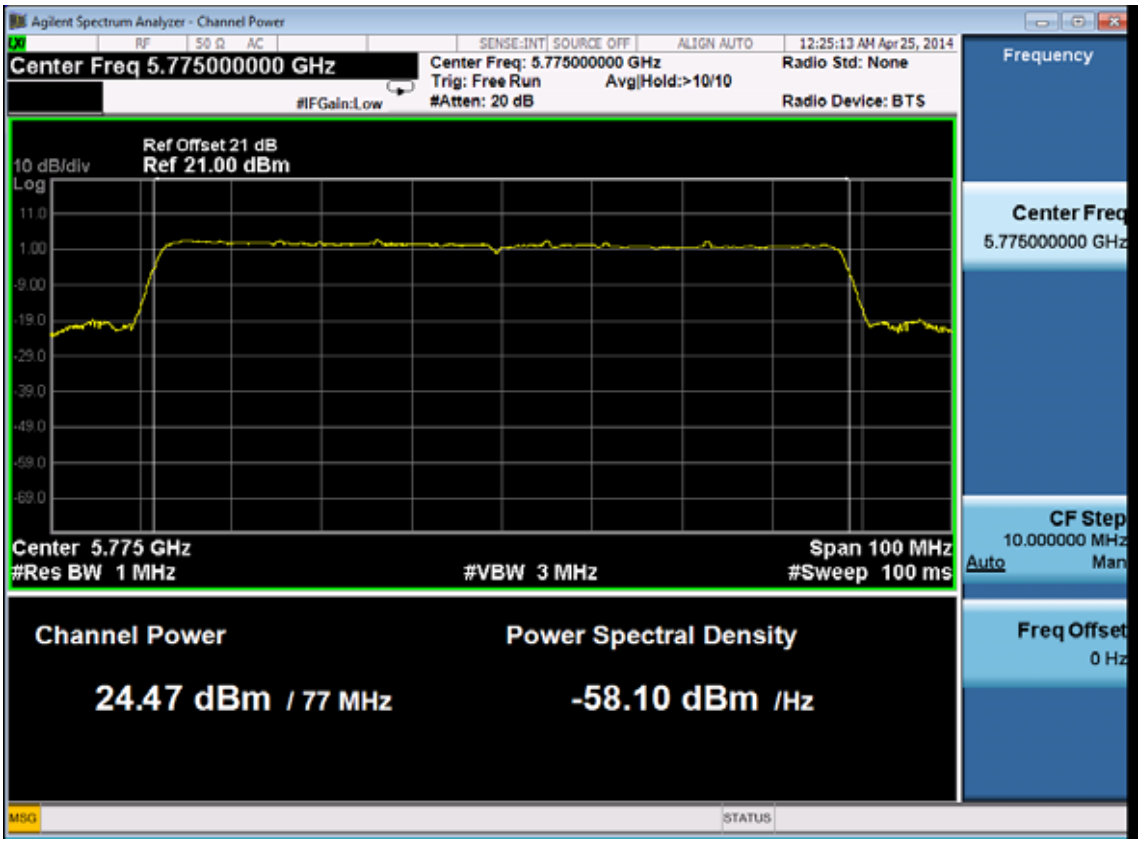


Test Mode: IEEE 802.11ac VHT40 TX
5755MHz





Test Mode: IEEE 802.11ac VHT80 TX
5775MHz



9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	Oct.31, 13	1 Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9607-4877	Aug.28, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year

9.2.Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

9.3.Test Procedure

1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.

2. Set the test frequency as center frequency,Set RBW=3KHz,VBW=10KHz,Span large enough capture the entire frequency,Read out maximum peak leval frequency

3. Set the frequency read from produce 2 as center frequency,then set the span= 300KHz, Sweep time=Span/RBW,Then Max hold,read out each mode and each ANT's Power density.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude

9.4.Test Results

2.4G:

EUT:AC750 Wireless Dual Band Gigabit Router		
M/N:PW-AC4573R		
Test date: 2014-04-16	Pressure: 101.2±1.0 kpa	Humidity: 51.2±3.0%
Tested by:Kevin_Hu	Test site: RF Site	Temperature：21.3±0.6℃

Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH	Power density（dBm/3KHz）			Limit (dBm/3KHz)
		ANT 0	ANT 1	Total	
11b	CH1	-8.59	-5.21	-3.57	8
	CH6	-8.30	-6.89	-4.53	8
	CH11	-9.16	-7.64	-5.32	8
11g	CH1	-12.52	-11.85	-9.16	8
	CH6	-19.47	-11.99	-11.28	8
	CH11	-13.85	-14.56	-11.18	8
11n Mode					
Test Mode	CH	Power density（dBm/3KHz）			Limit (dBm/3KHz)
		ANT 0	ANT 1	Total	
11n HT20	CH1	-13.01	-10.32	-8.45	8
	CH6	-10.65	-14.59	-9.18	8
	CH11	-13.85	-13.64	-10.73	8
11n HT40	CH1	-16.53	-16.78	-13.64	8
	CH4	-19.55	-18.33	-15.89	8
	CH7	-16.75	-18.08	-14.35	8
Conclusion：PASS					
Note: IEEE 802.11b/g/n use CDD mode, according KDB662911, N_{ANT} ≦4, so array gain=0dB, so direction gain=2dBi<6dBi.					

5.8G:

EUT:AC750 Wireless Dual Band Gigabit Router		
M/N:PW-AC4573R		
Test date: 2014-04-17	Pressure: 101.3±1.0 kpa	Humidity:52.6±3.0%
Tested by:Kevin_Hu	Test site: RF site	Temperature:22.7±0.6 ℃

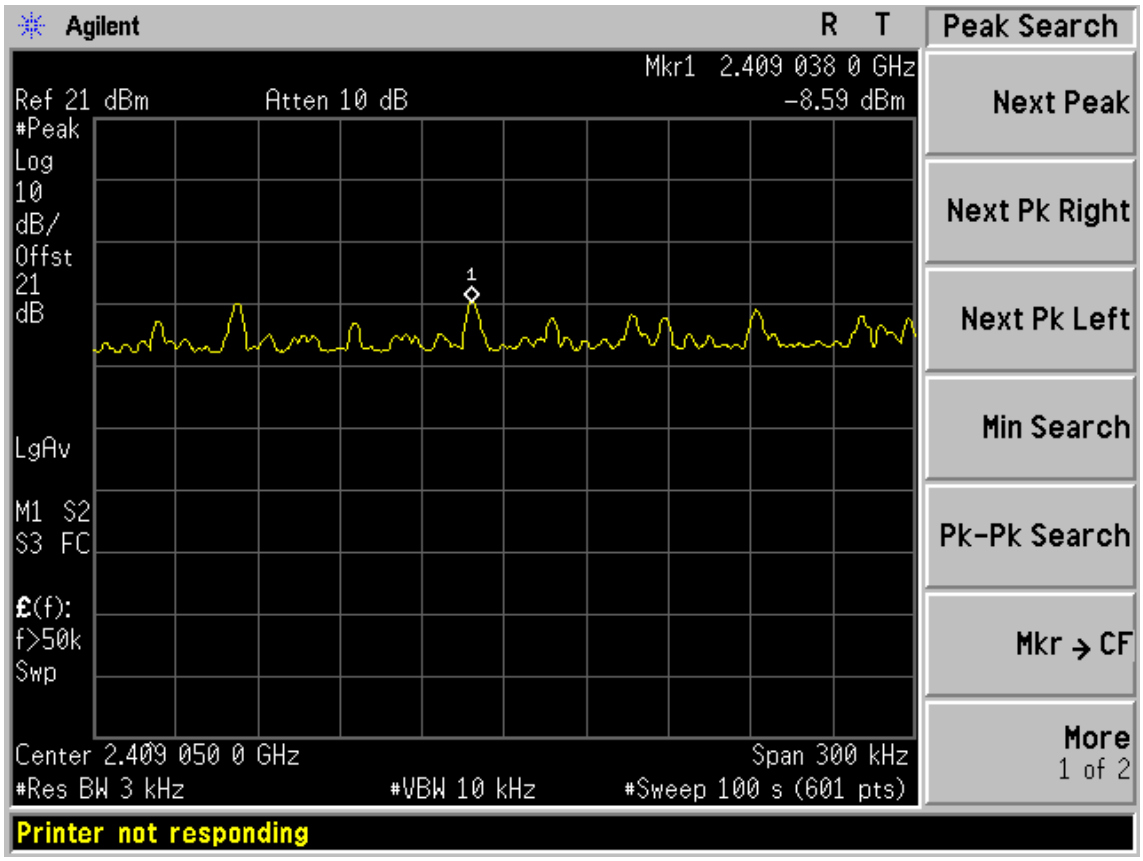
Cable loss: 1 dB		Attenuator loss: 20 dB	
Test Mode	Frequency（MHz）	Chain 0 (dBm/MHz)	Limit （dBm/MHz）
11a	5745	-14.64	8
	5785	-14.56	8
	5825	-15.44	8
11n HT20	5745	-15.57	8
	5785	-16.28	8
	5825	-16.03	8
11n HT40	5755	-20.14	8
	5795	-18.78	8
11ac VHT20	5745	-16.17	8
	5785	-15.44	8
	5825	-16.08	8
11ac VHT40	5755	-20.68	8
	5795	-21.94	8
11ac VHT80	5775	-24.97	8
Conclusion: PASS			

2.4G:

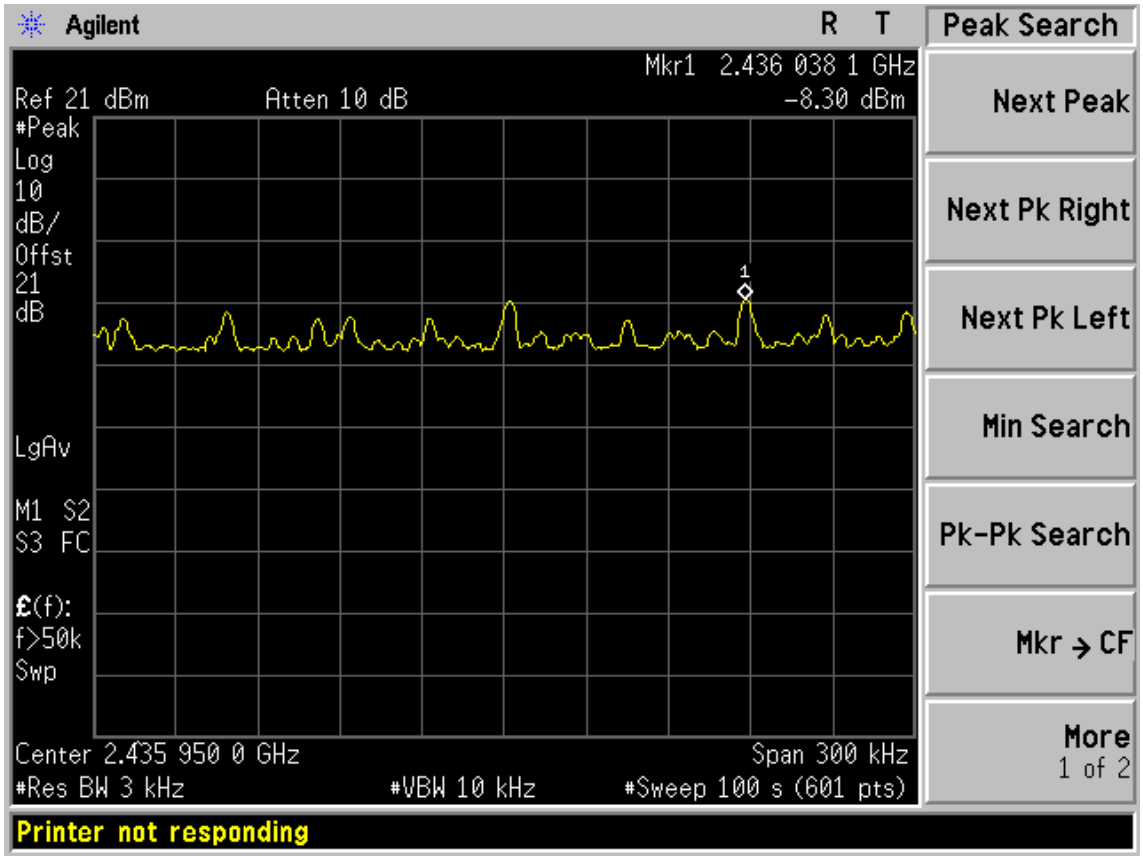
ANT 0:

Test Mode: IEEE 802.11b TX

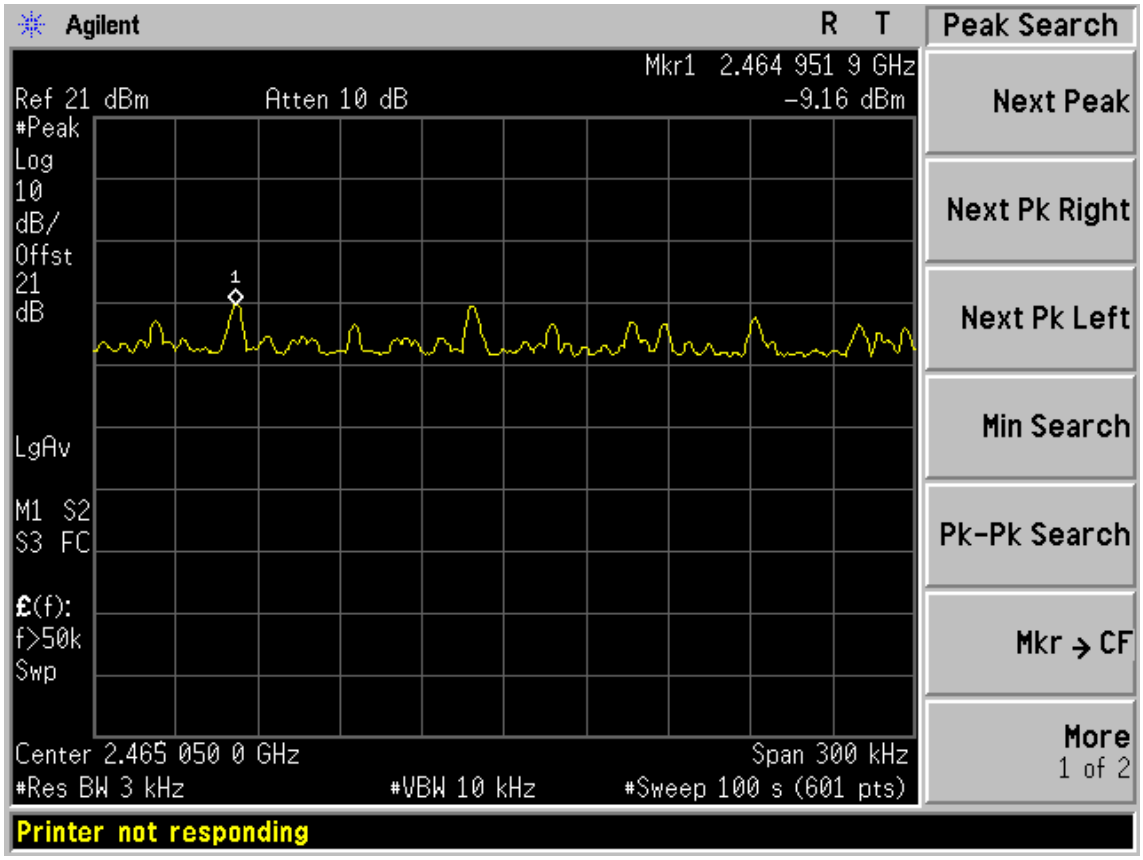
Test CH1: 2412MHz



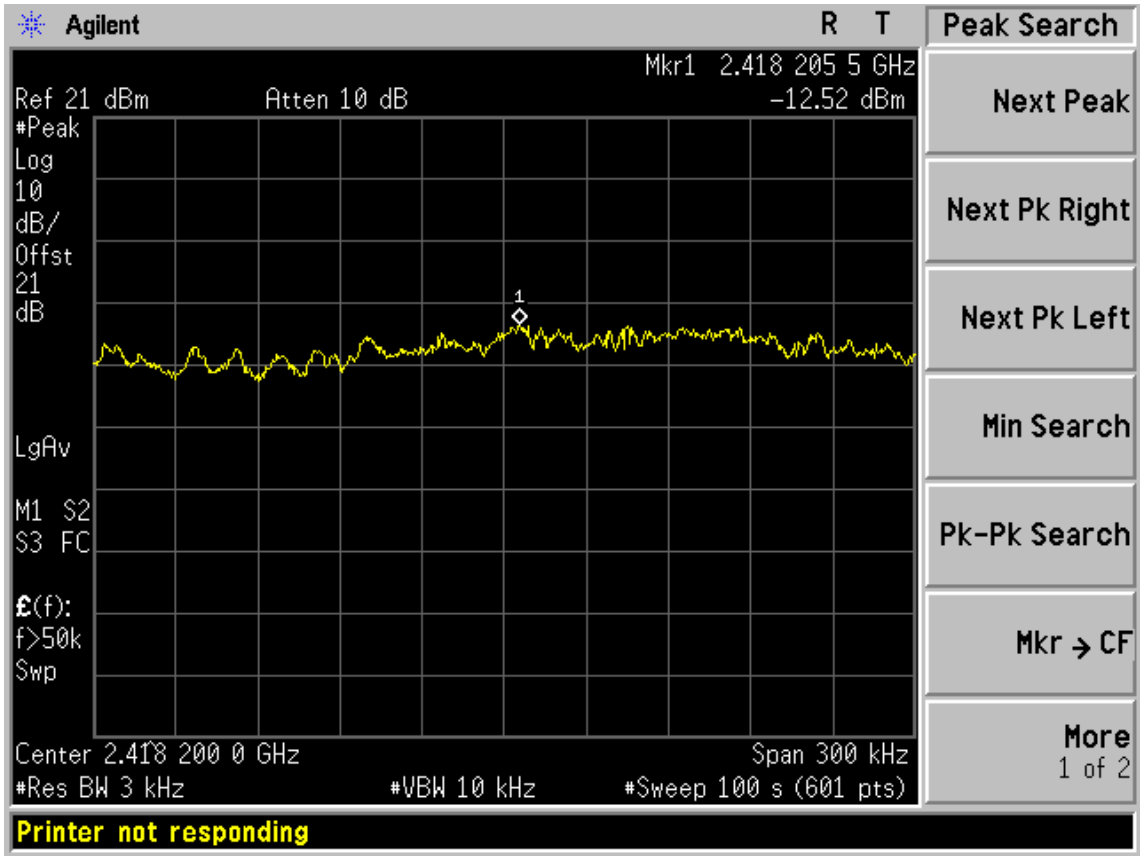
Test CH6: 2437MHz



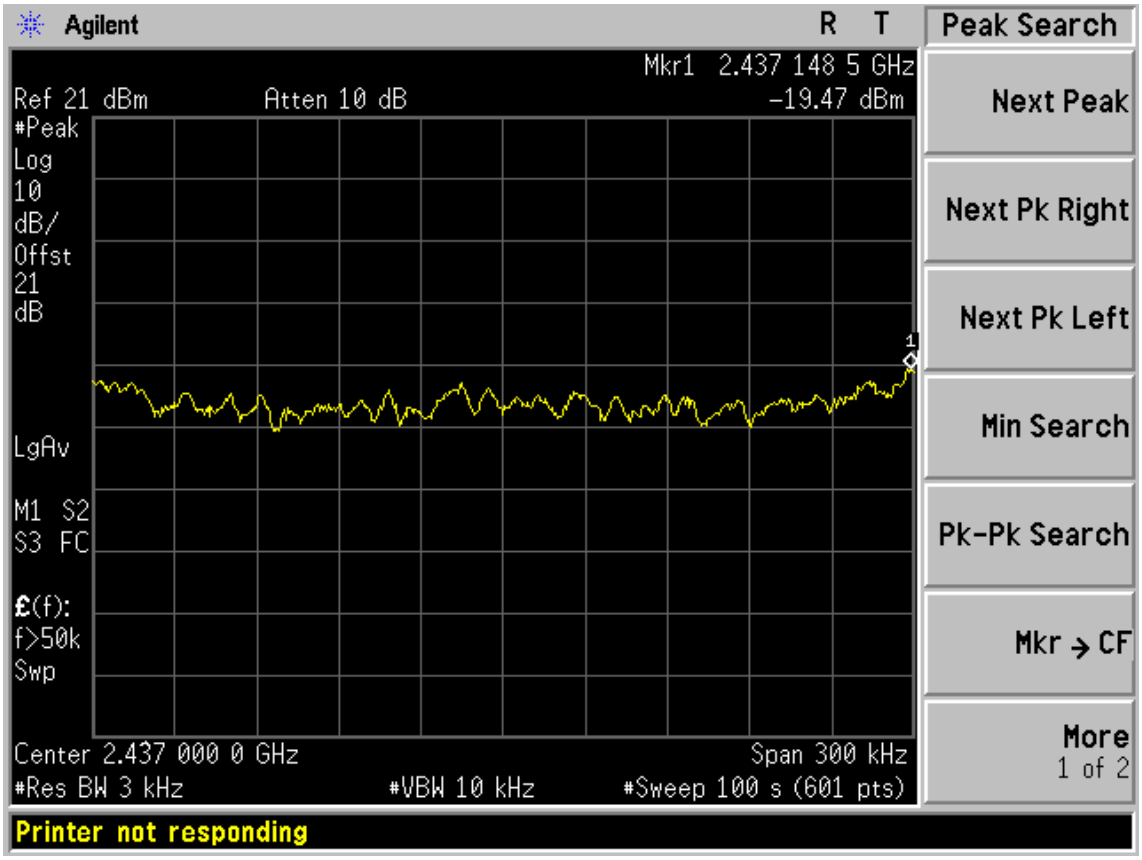
Test CH11: 2462MHz



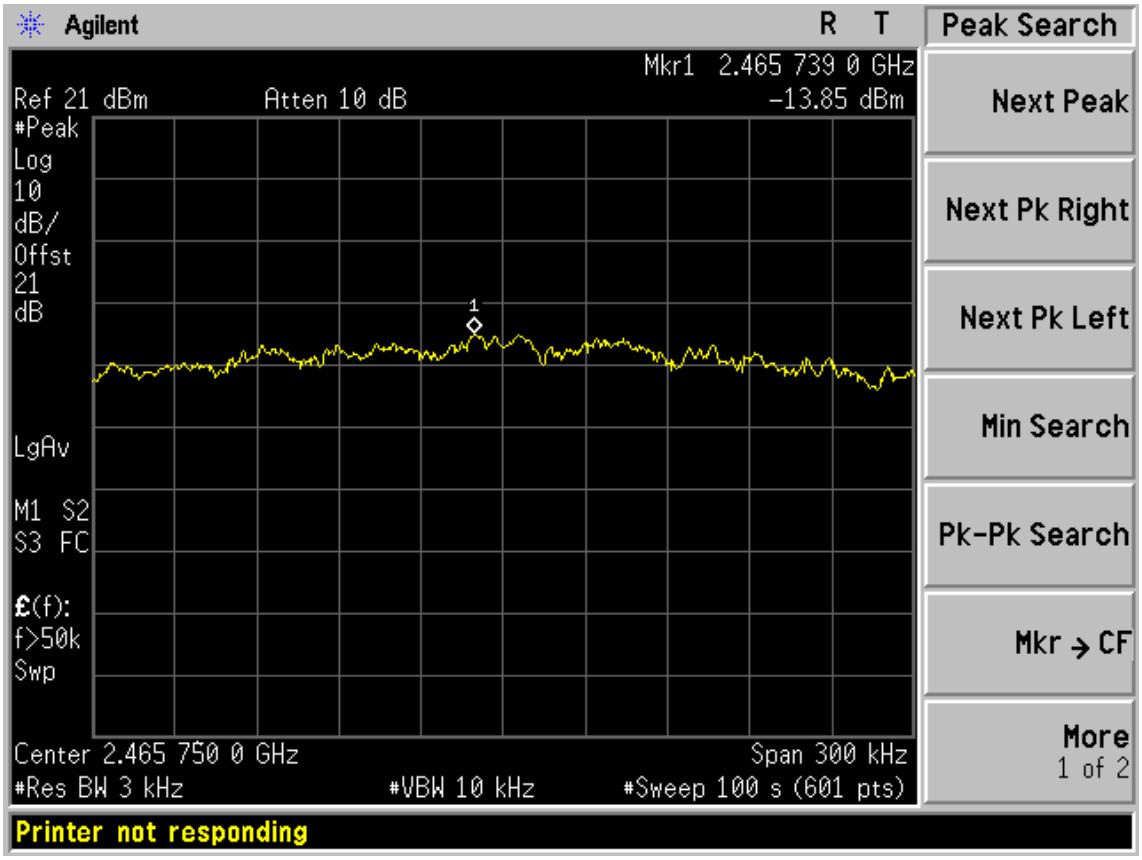
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz



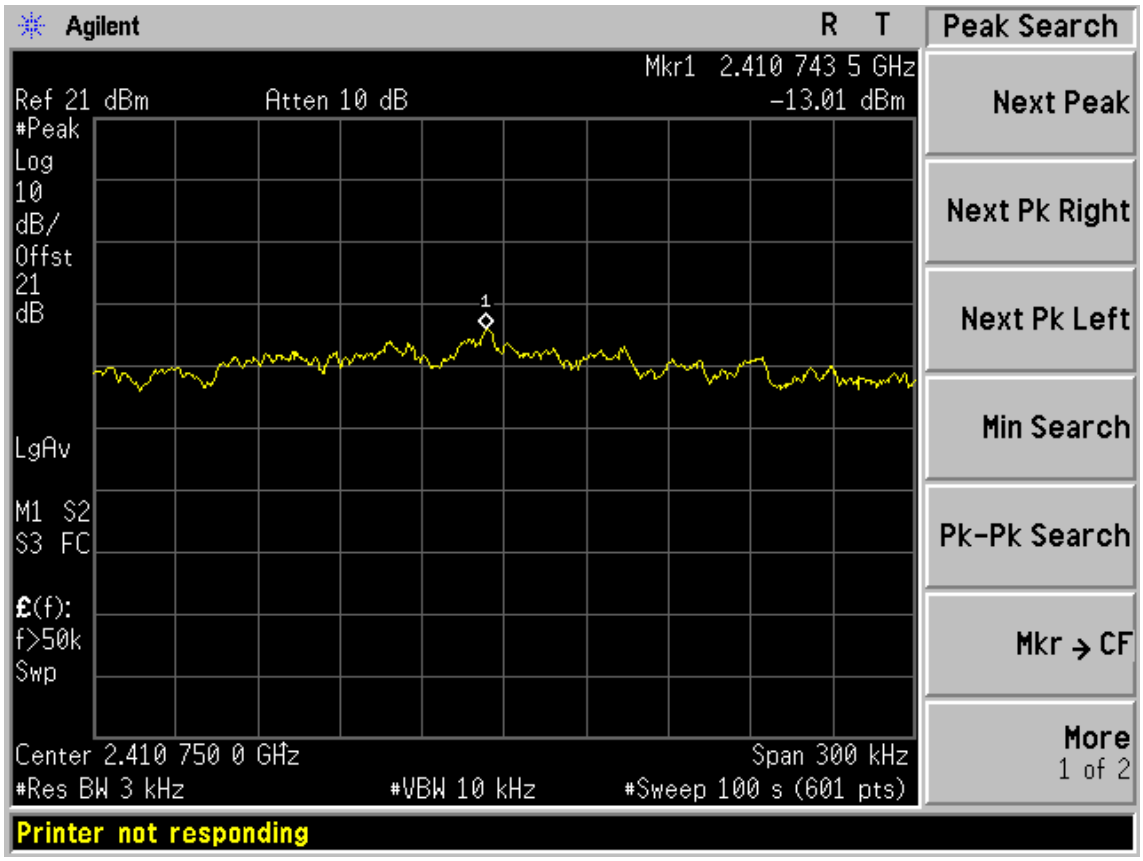
Test CH6: 2437MHz



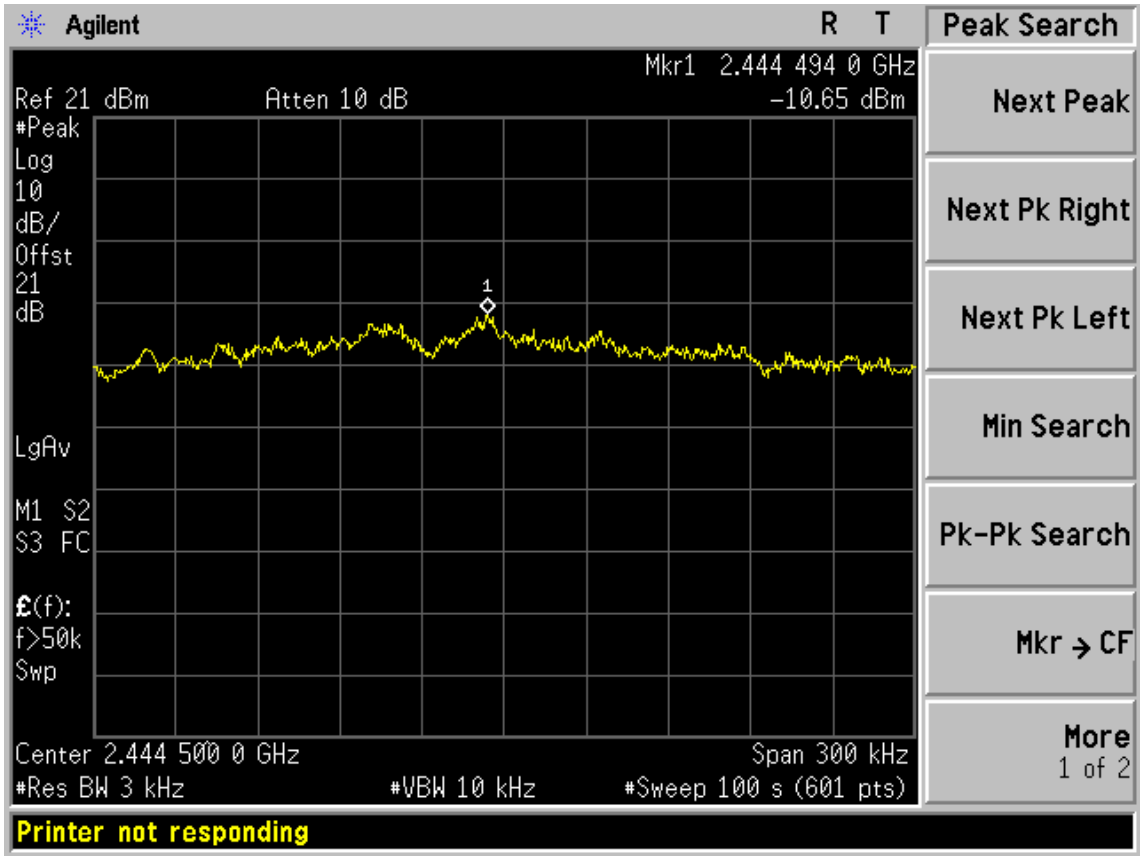
Test CH11: 2462MHz



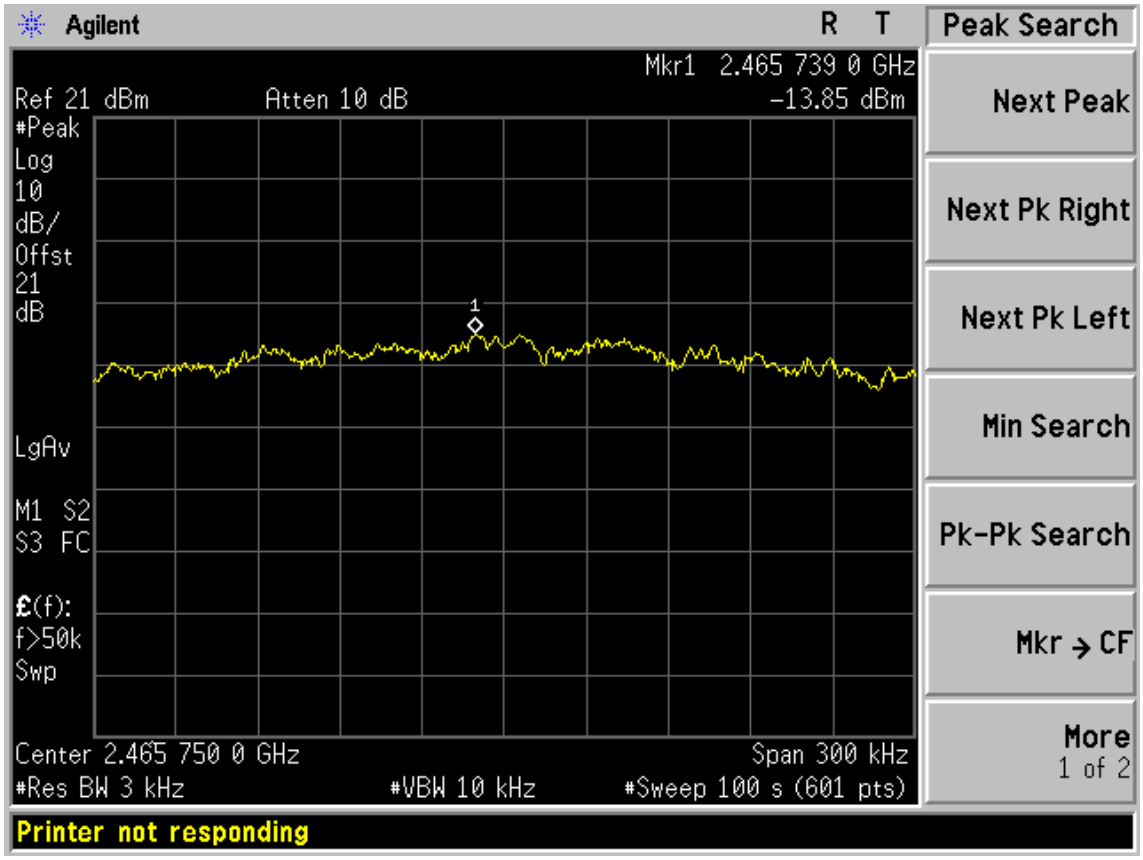
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



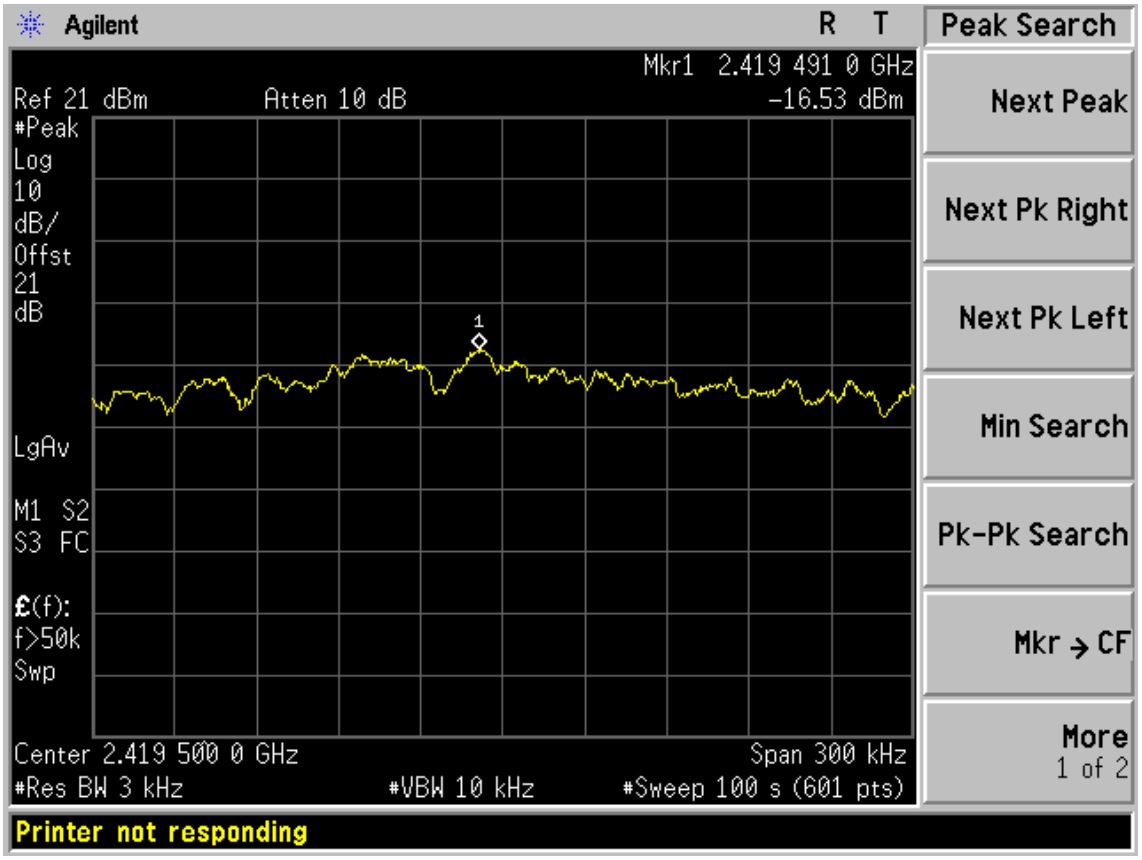
Test CH6: 2437MHz



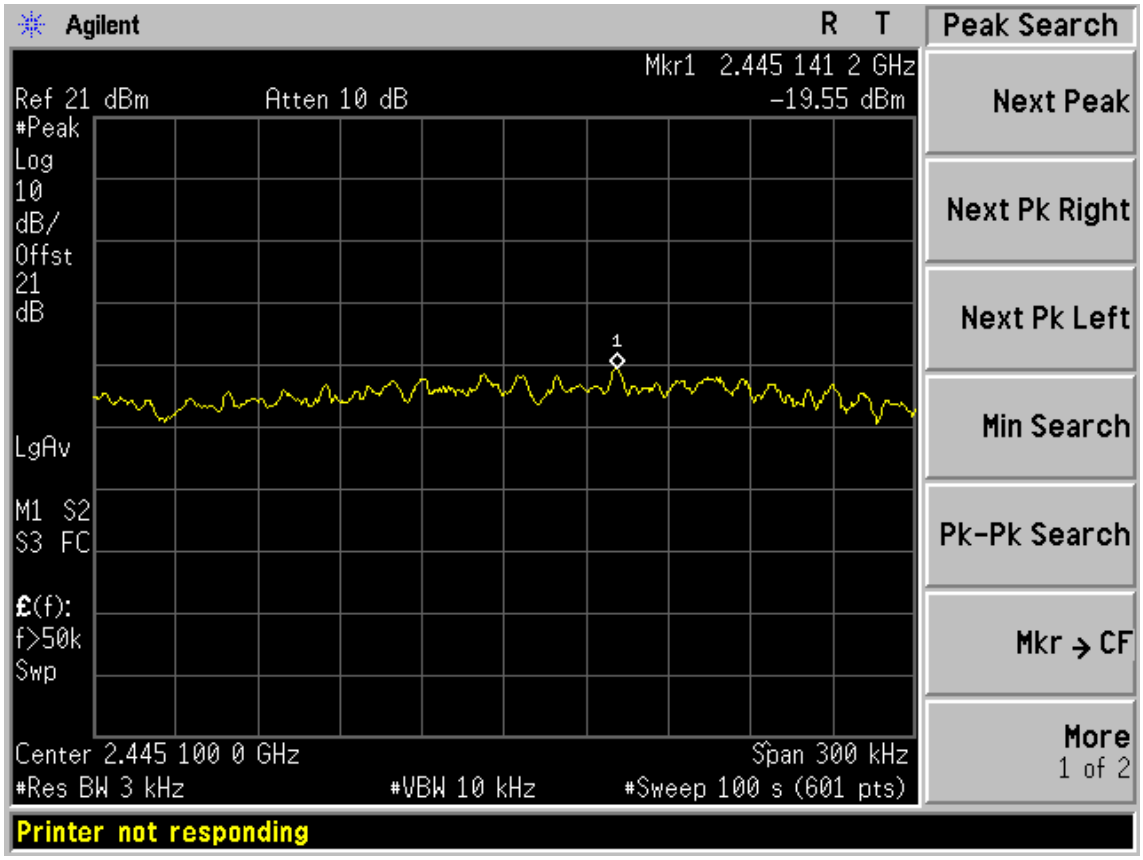
Test CH11: 2462MHz



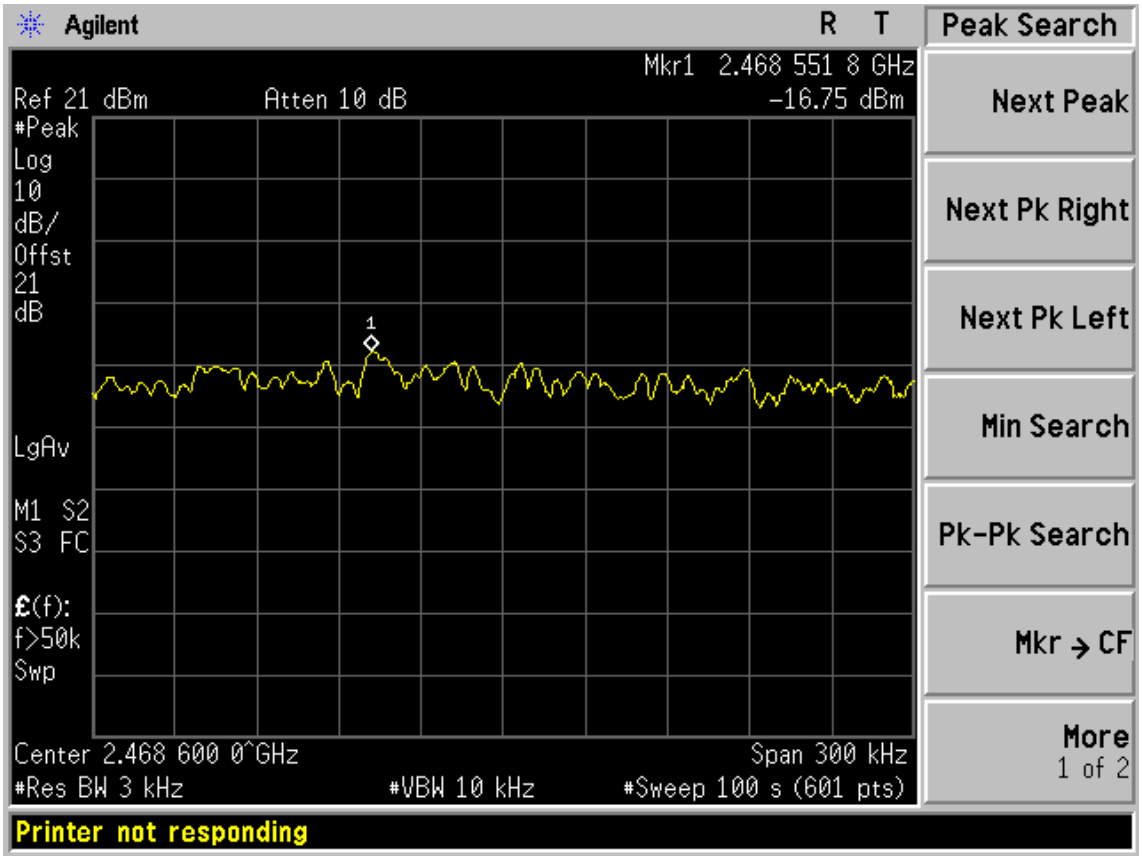
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



Test CH4: 2437MHz



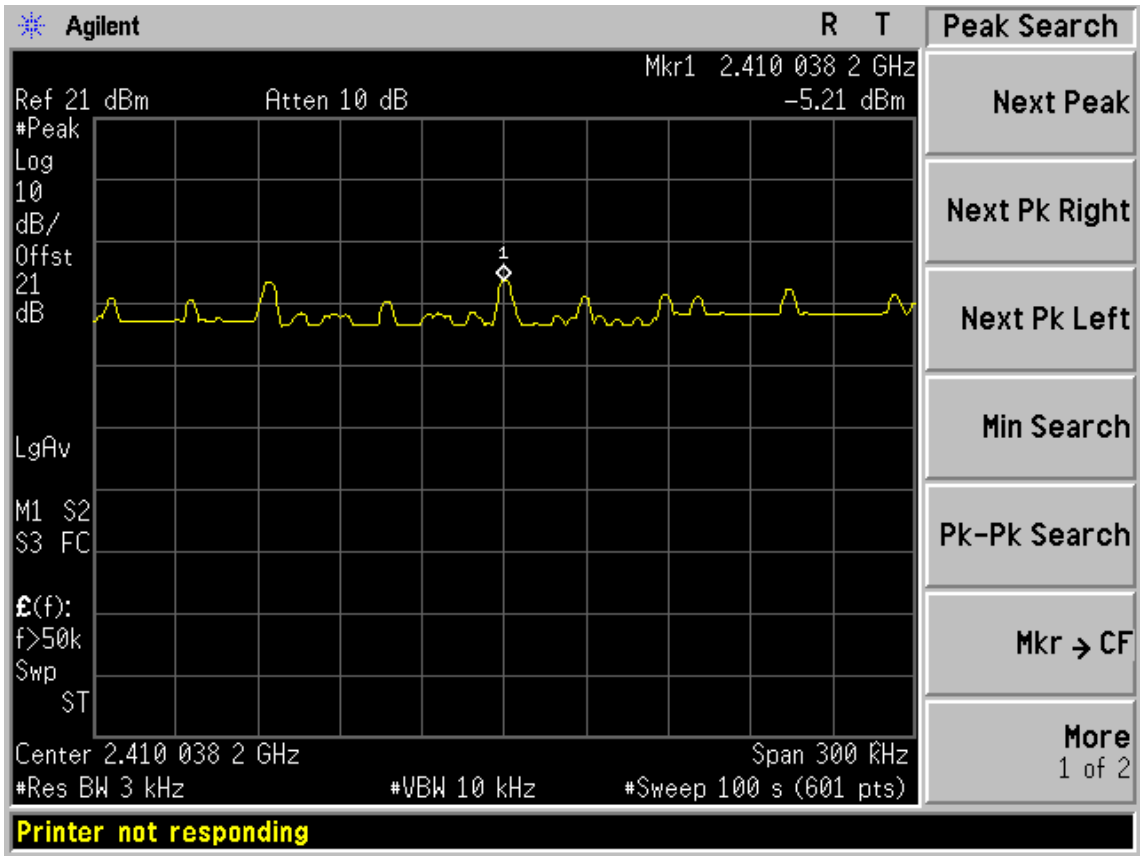
Test CH7: 2452MHz



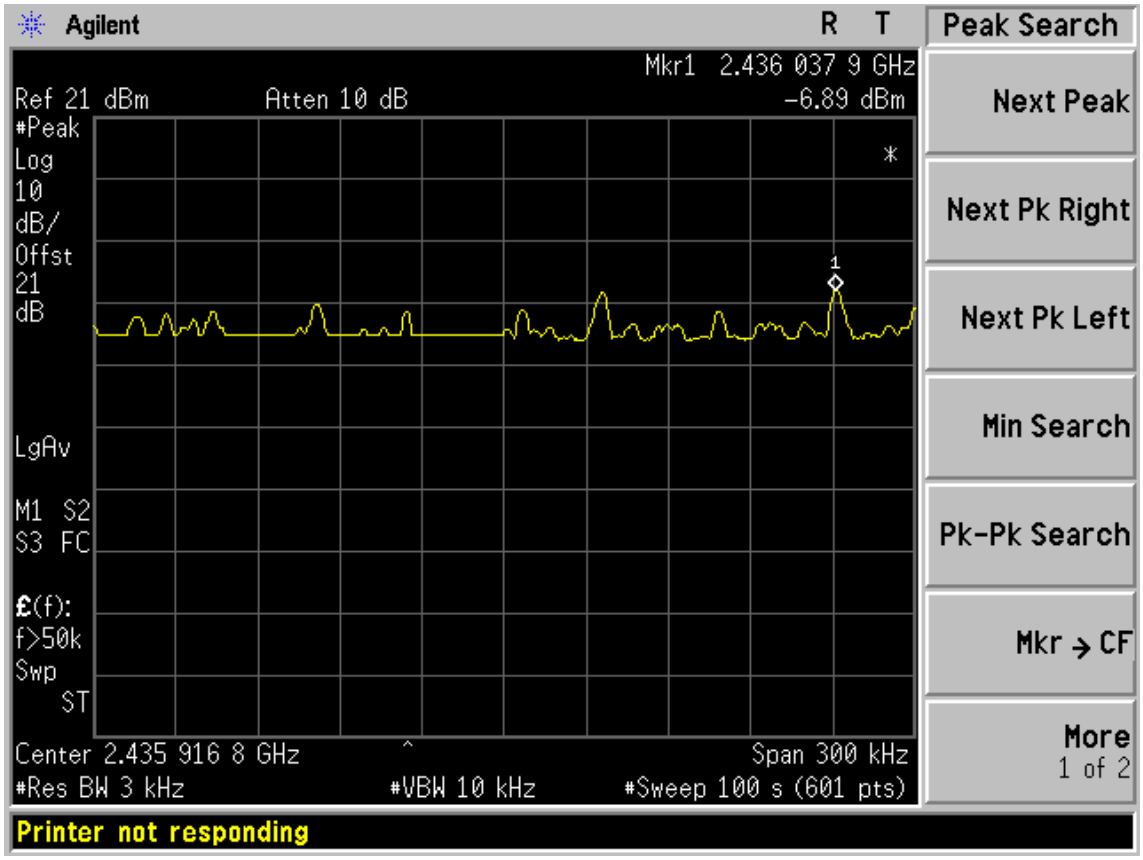
ANT 1:

Test Mode: IEEE 802.11b TX

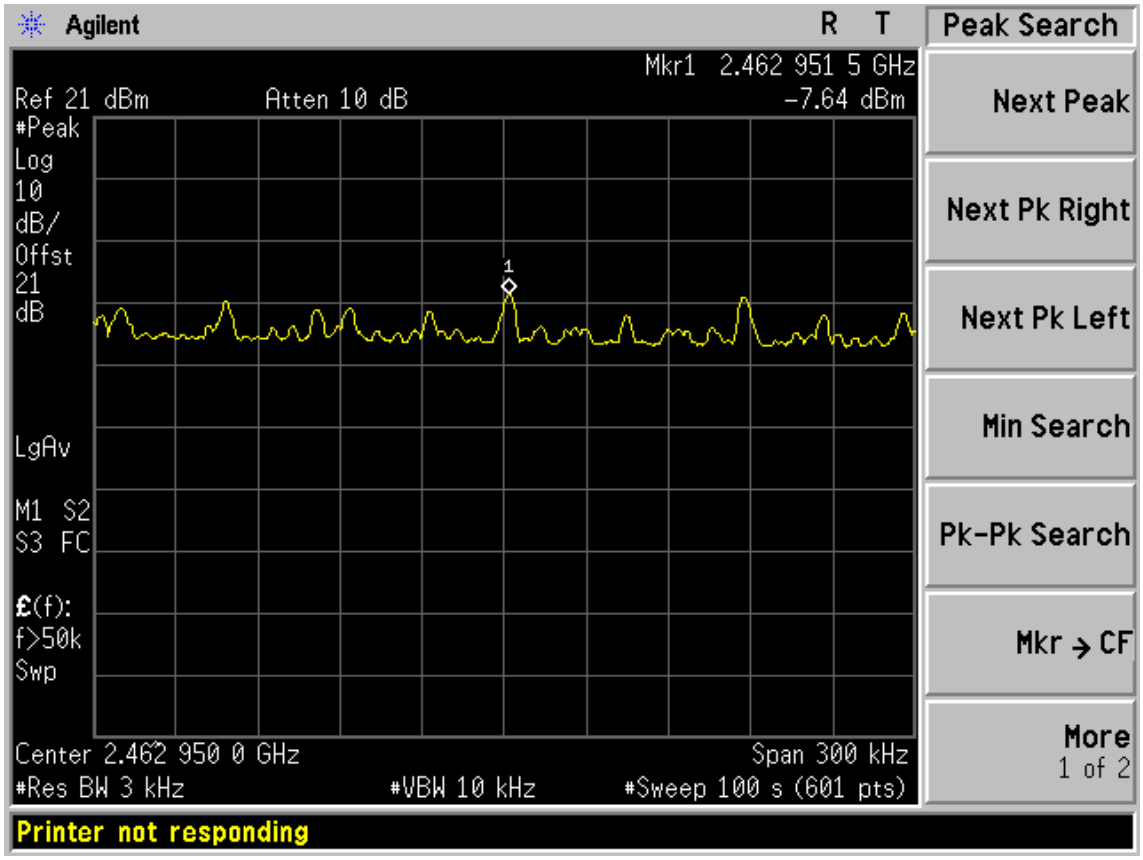
Test CH1: 2412MHz



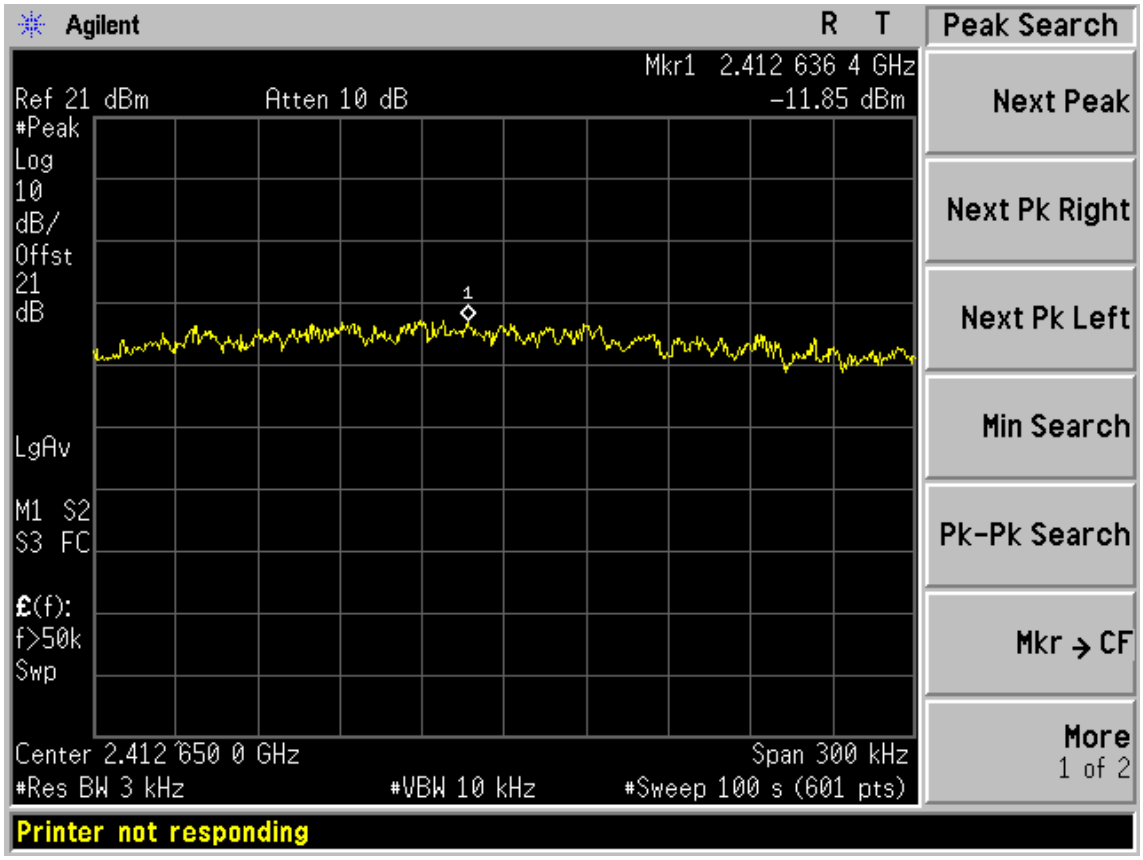
Test CH6: 2437MHz



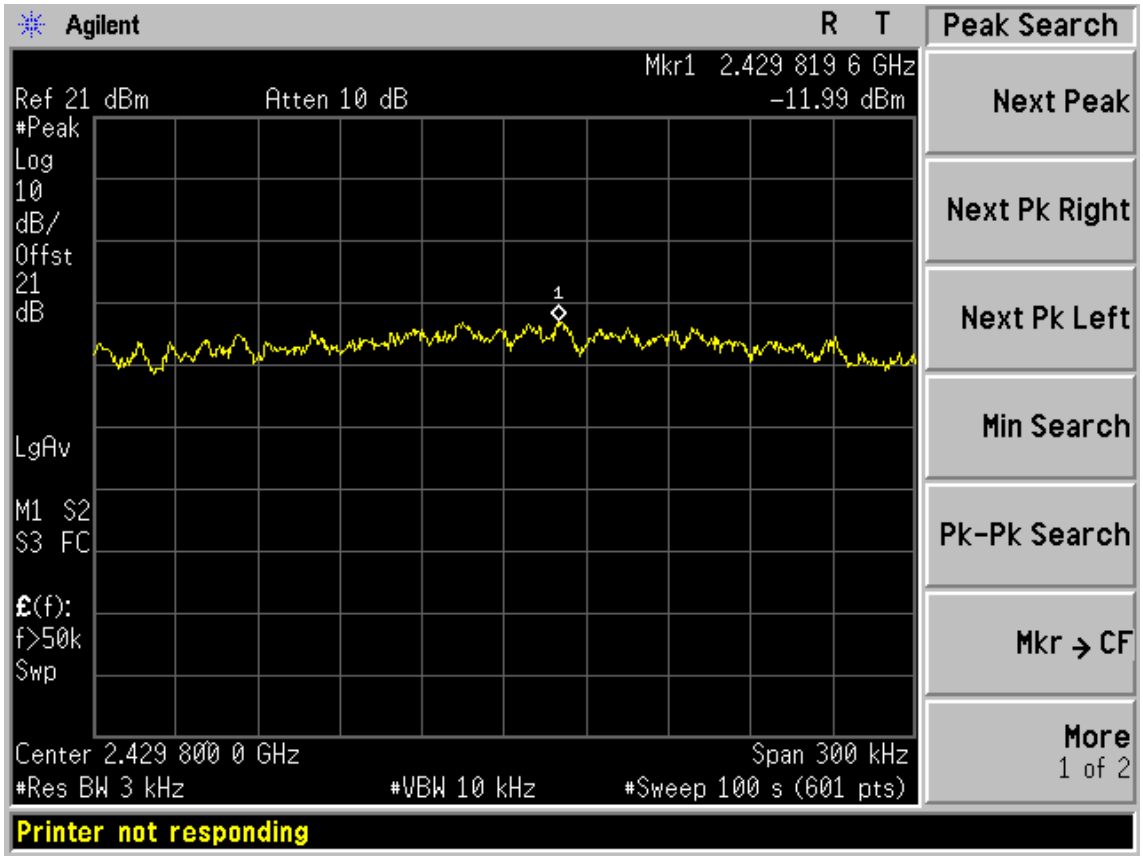
Test CH11: 2462MHz



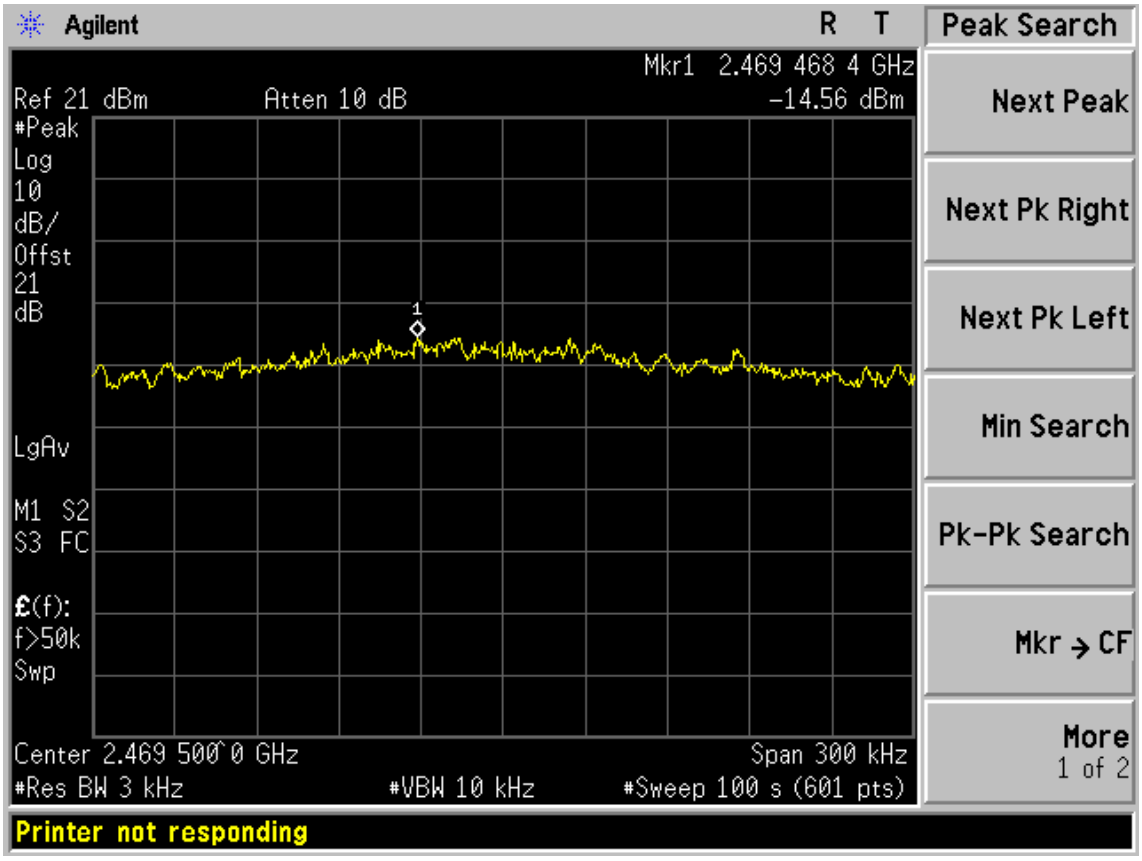
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz



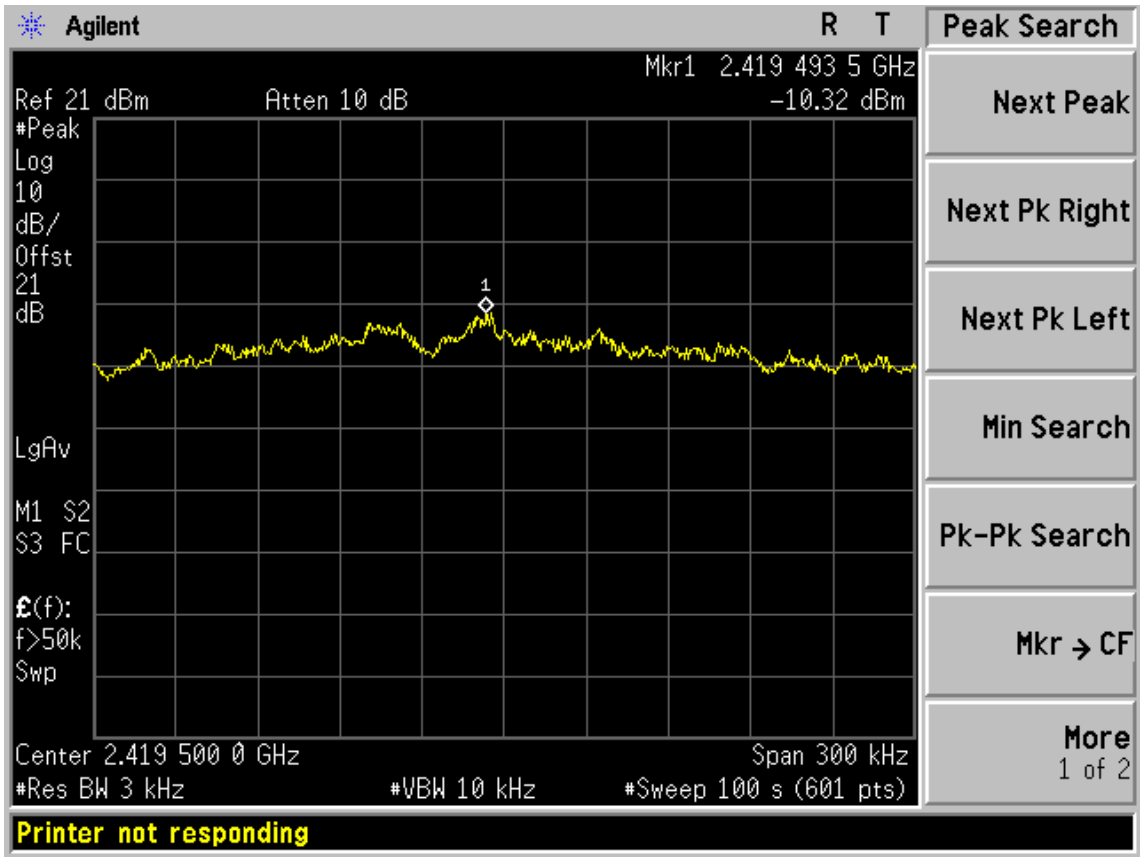
Test CH6: 2437MHz



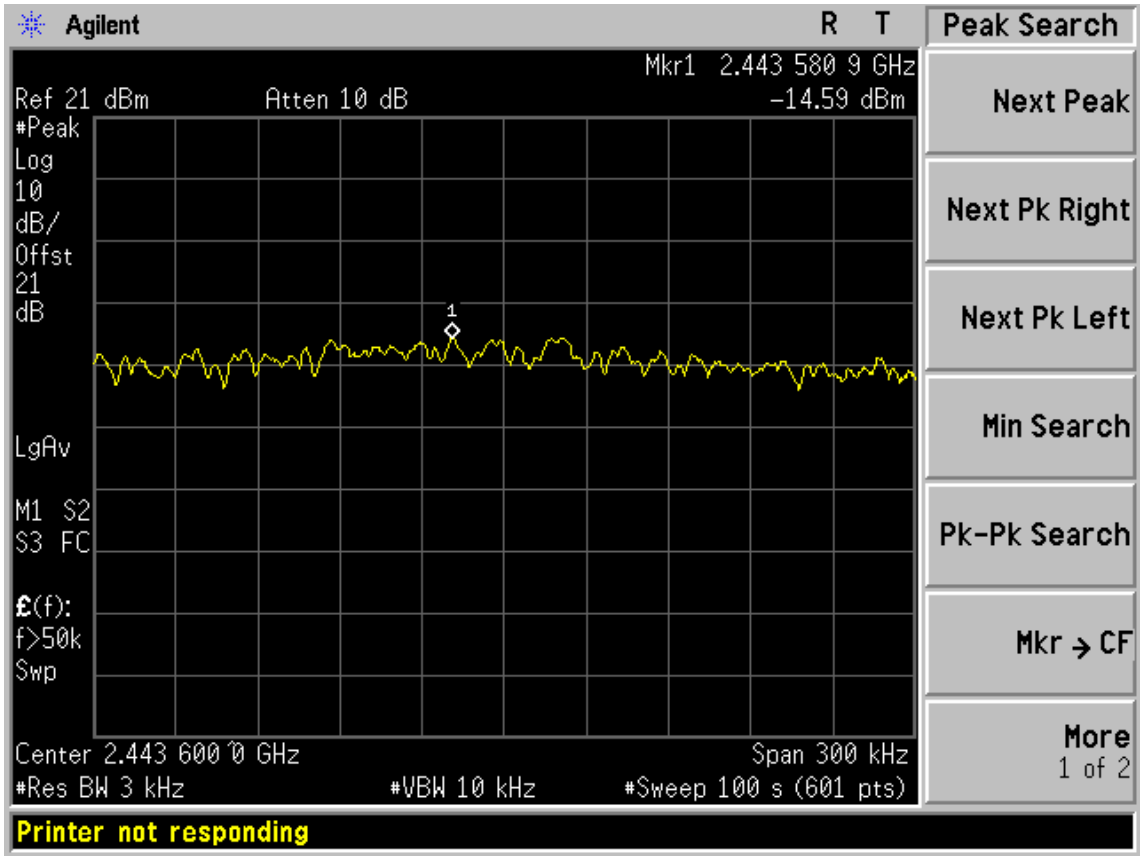
Test CH11: 2462MHz



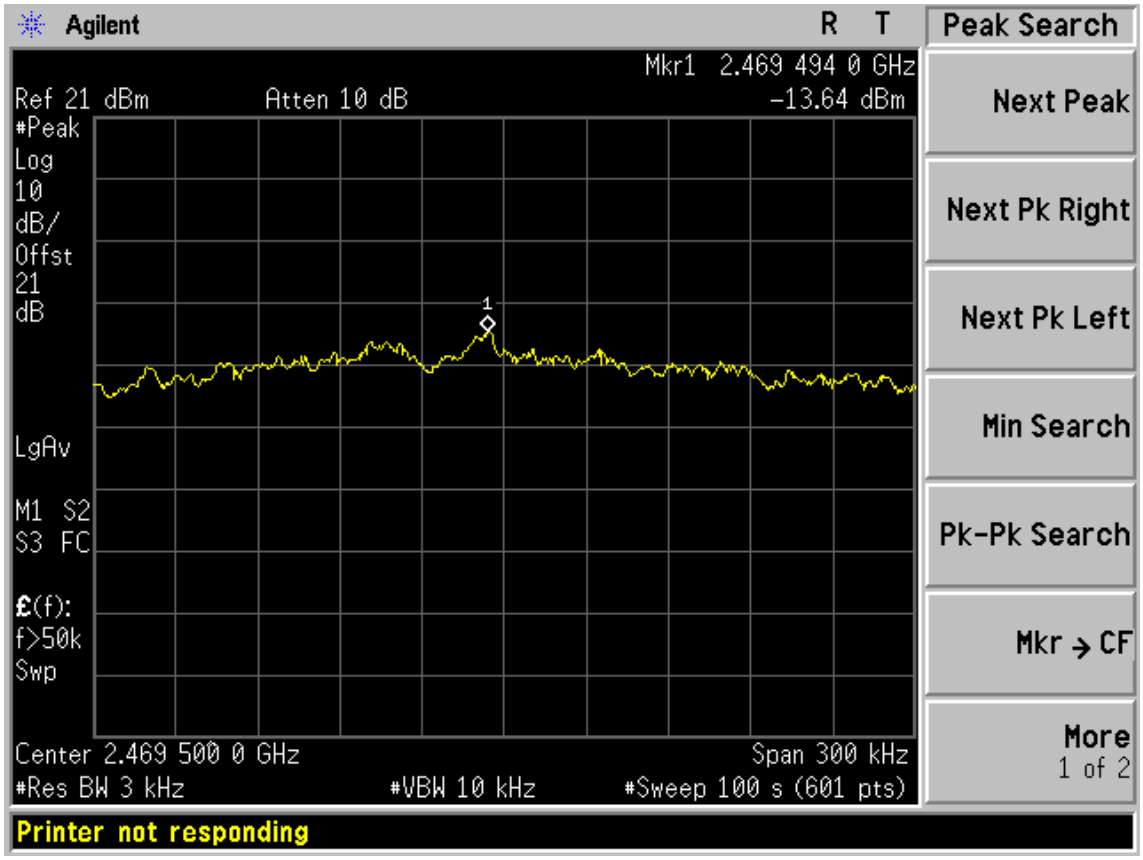
Test Mode: IEEE 802.11n HT20 TX
Test CH1: 2412MHz



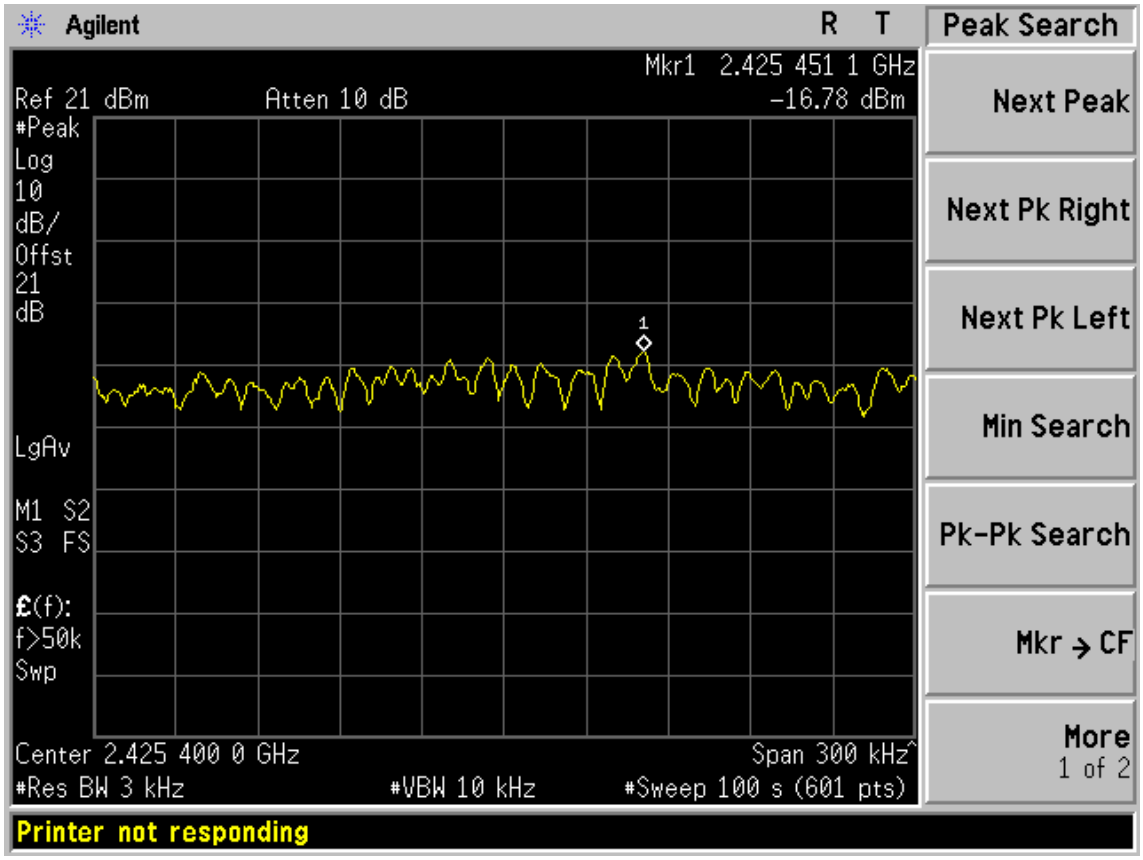
Test CH6: 2437MHz



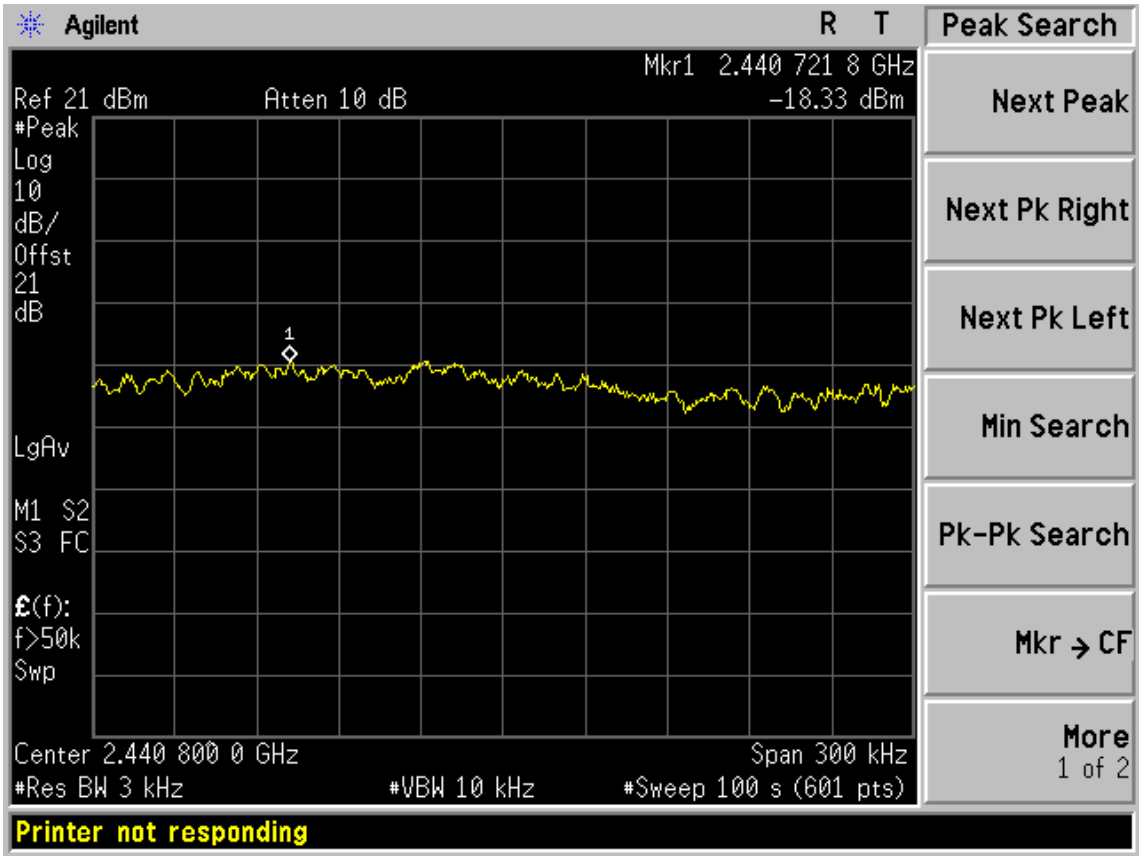
Test CH11: 2462MHz



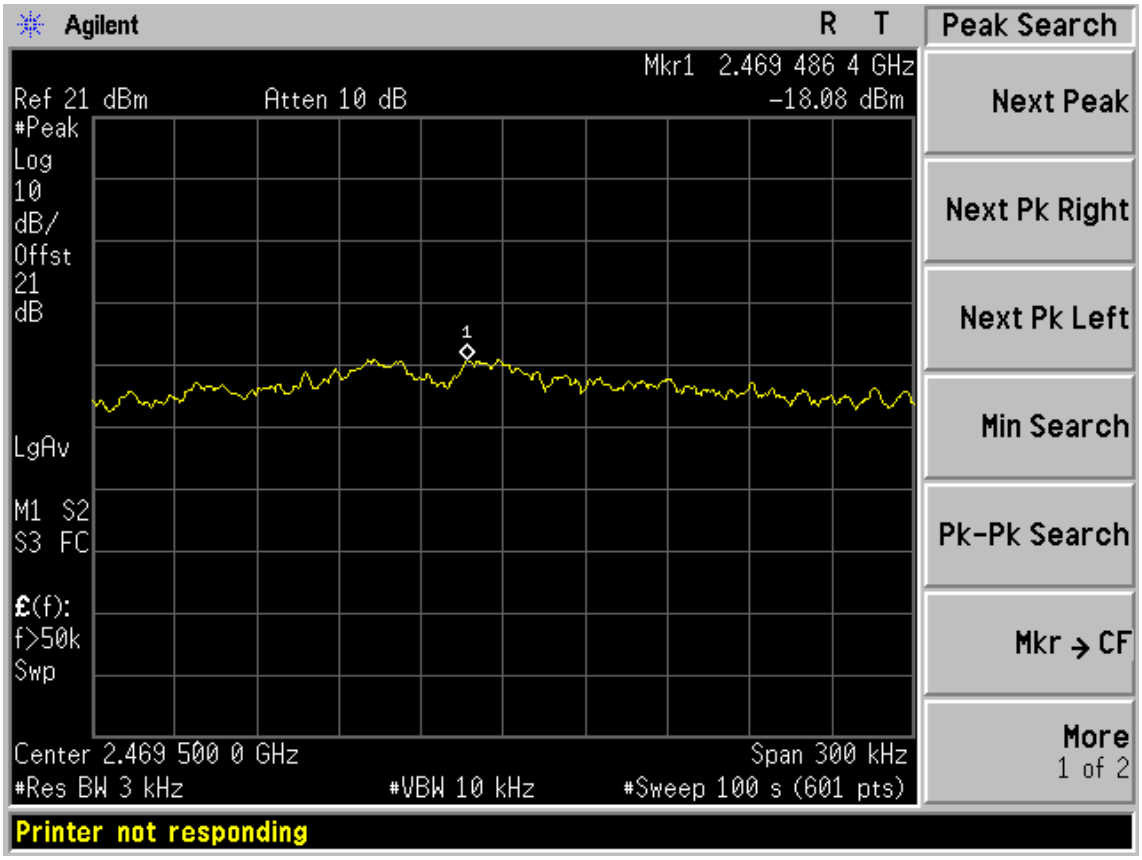
Test Mode: IEEE 802.11n HT40 TX
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz

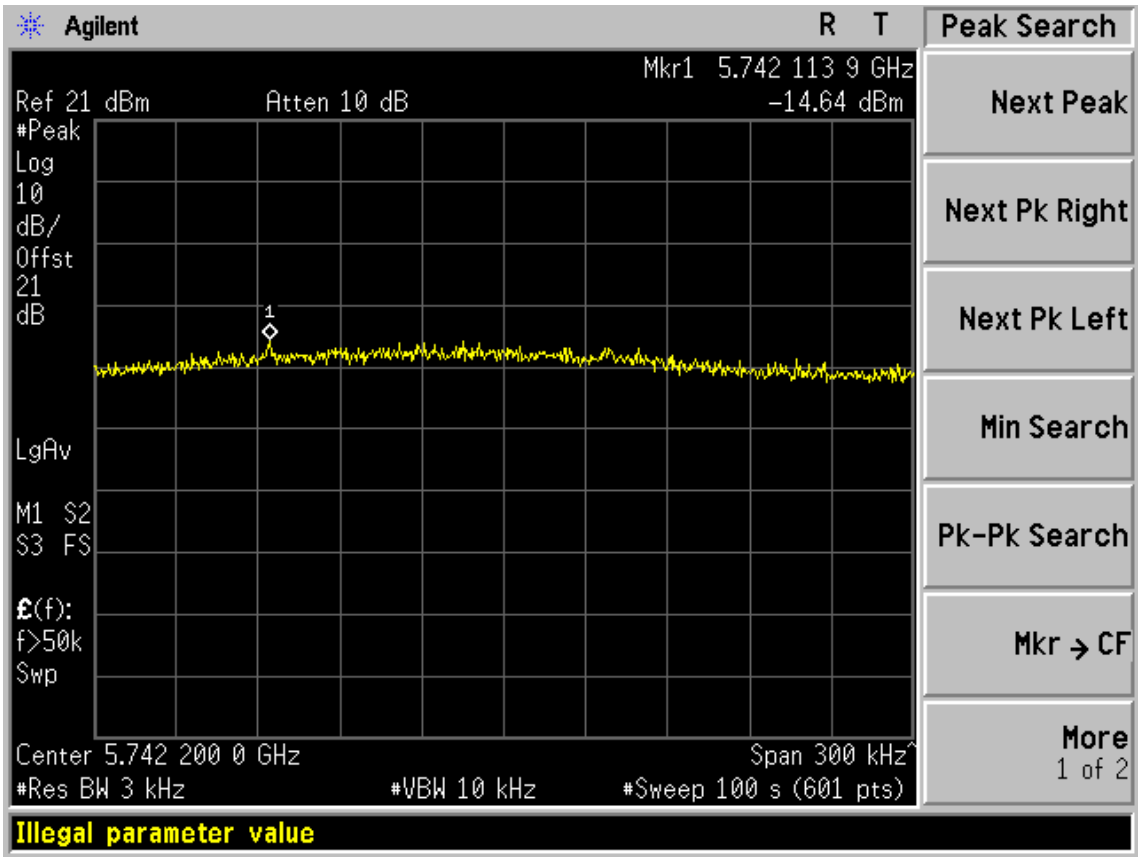


5.8G:

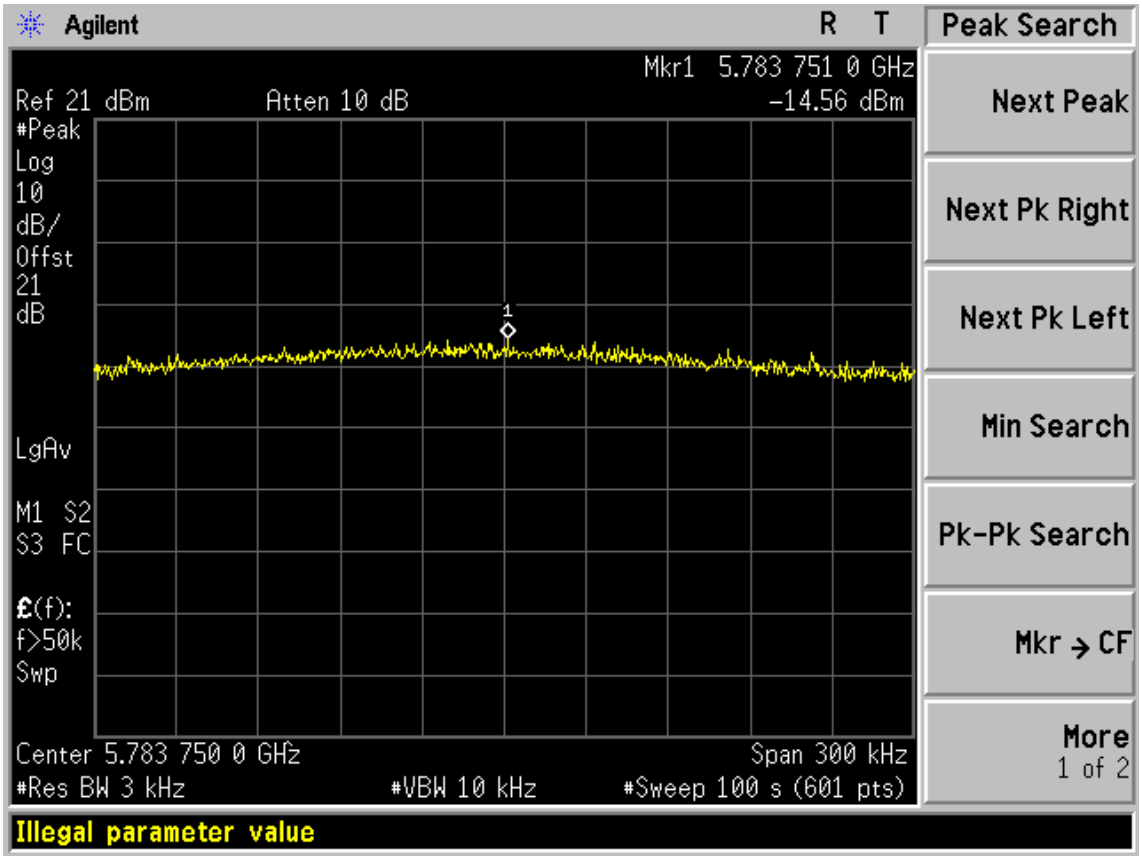
ANT 0:

Test Mode: IEEE 802.11a TX

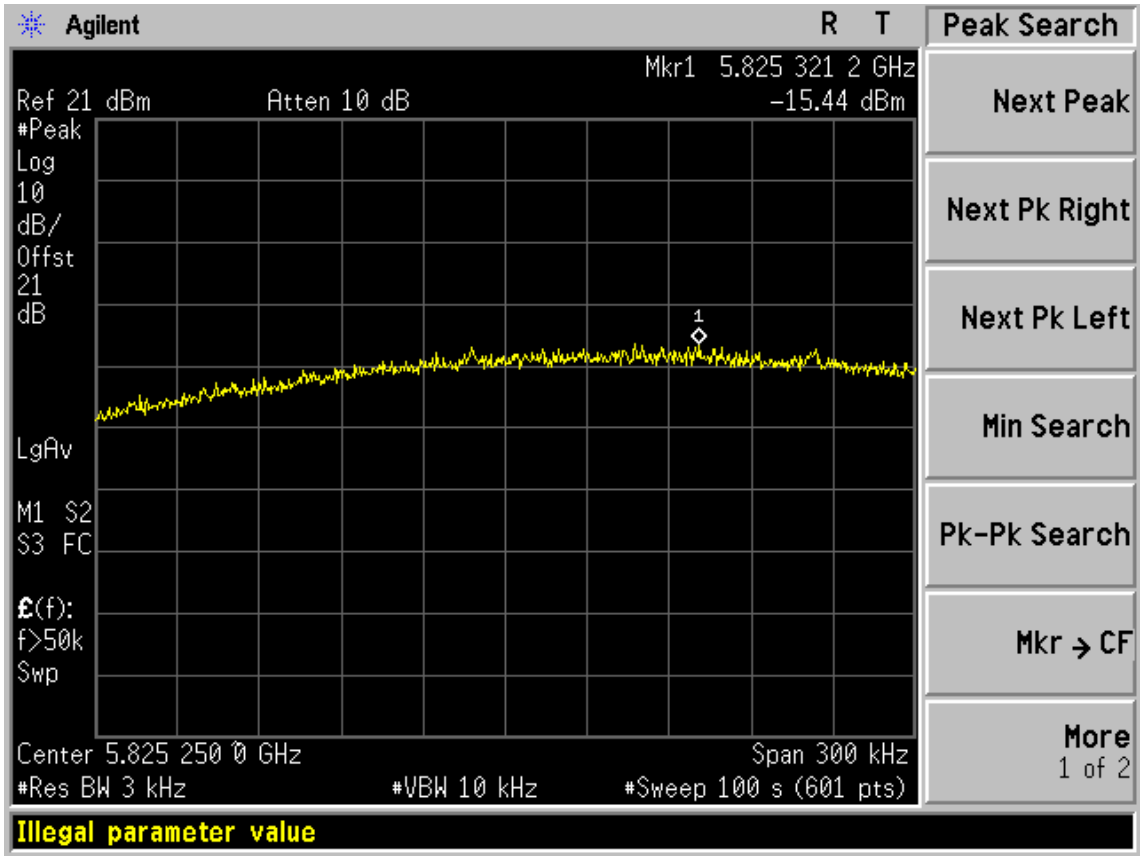
Test CH149: 5745MHz



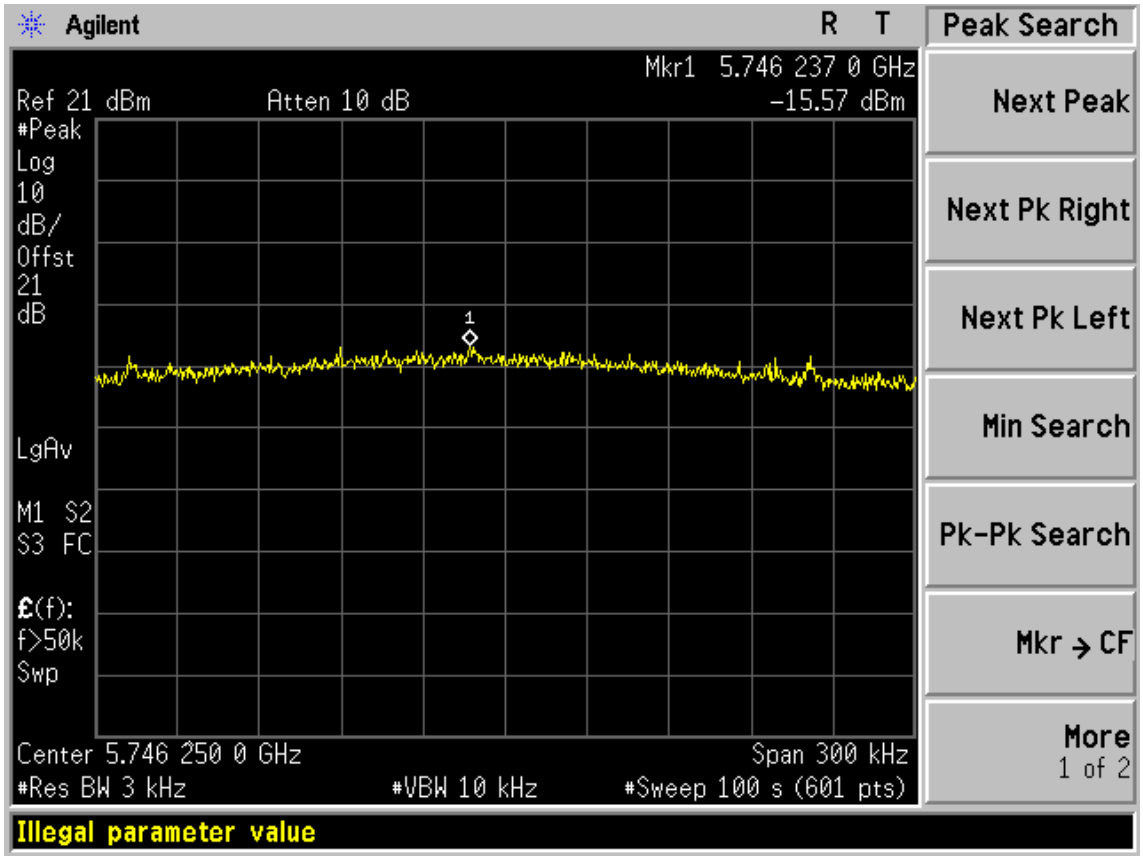
Test CH157: 5785MHz



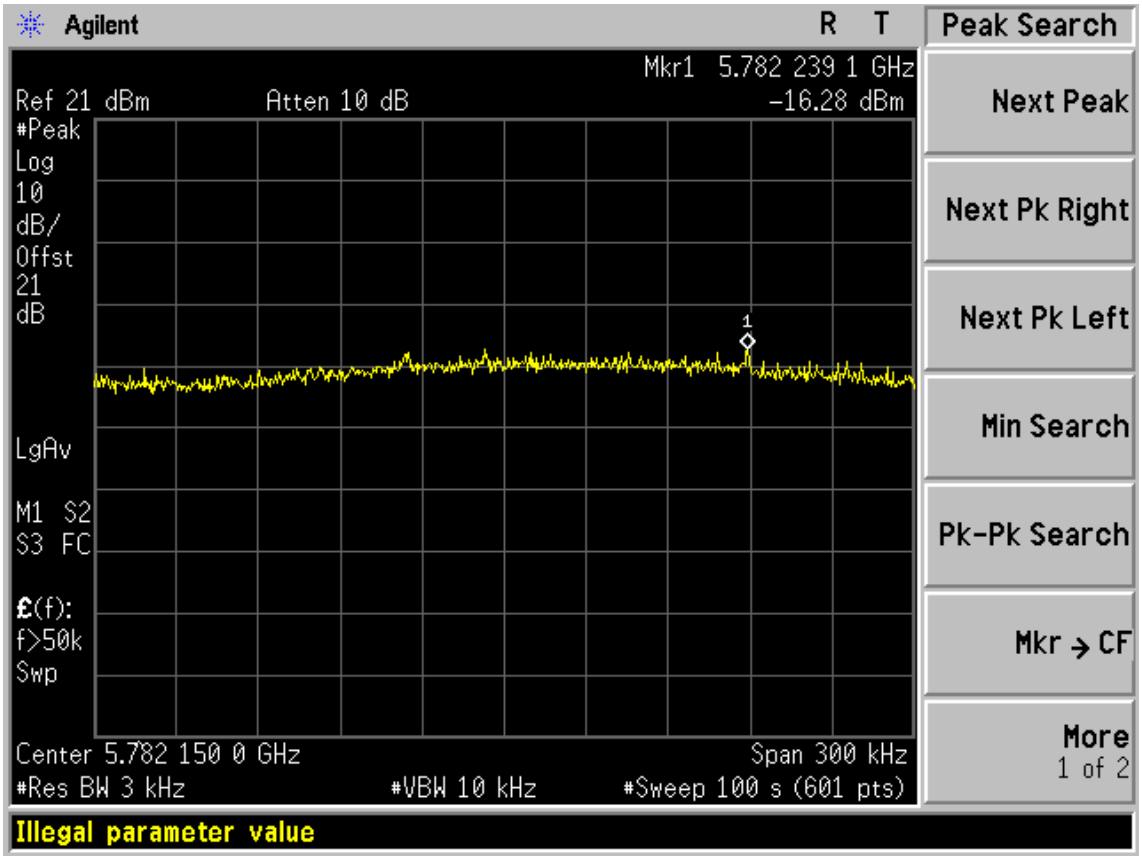
Test CH165: 5825MHz



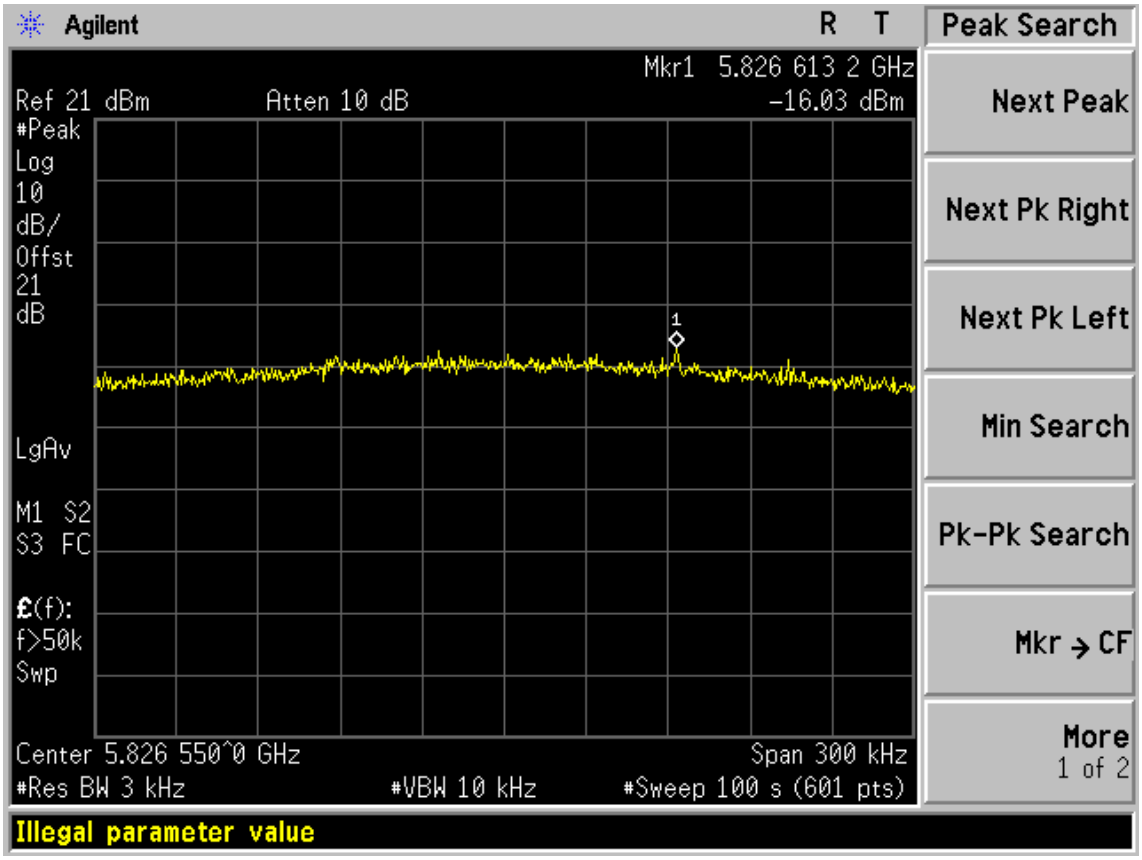
Test Mode: IEEE 802.11n HT20 TX
Test CH149: 5745MHz



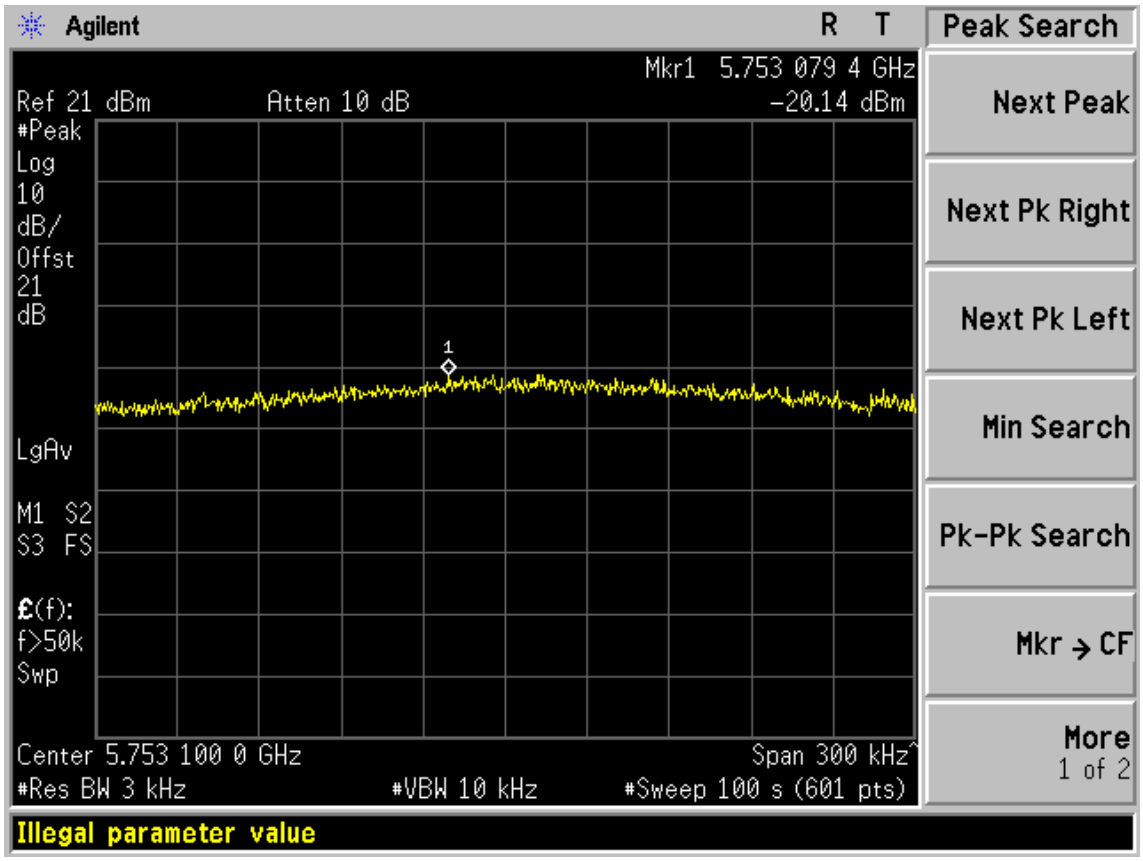
Test CH157: 5785MHz



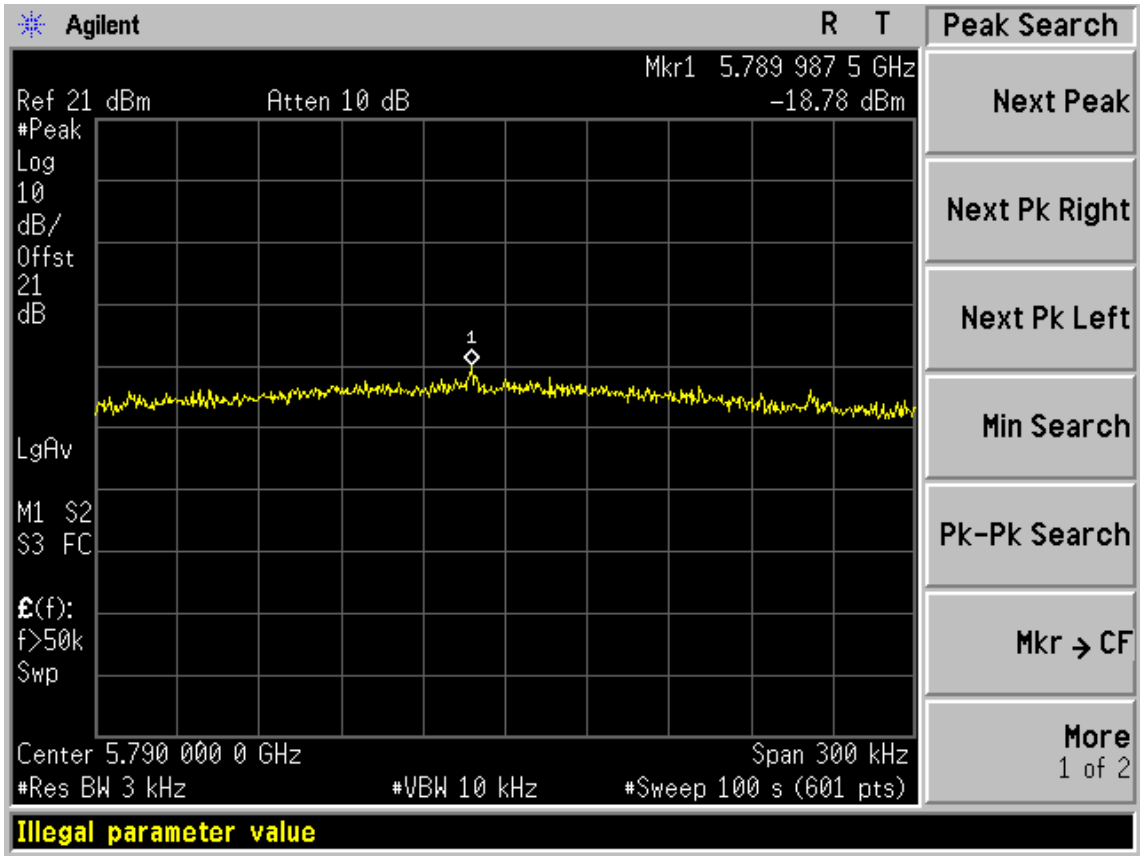
Test CH165: 5825MHz



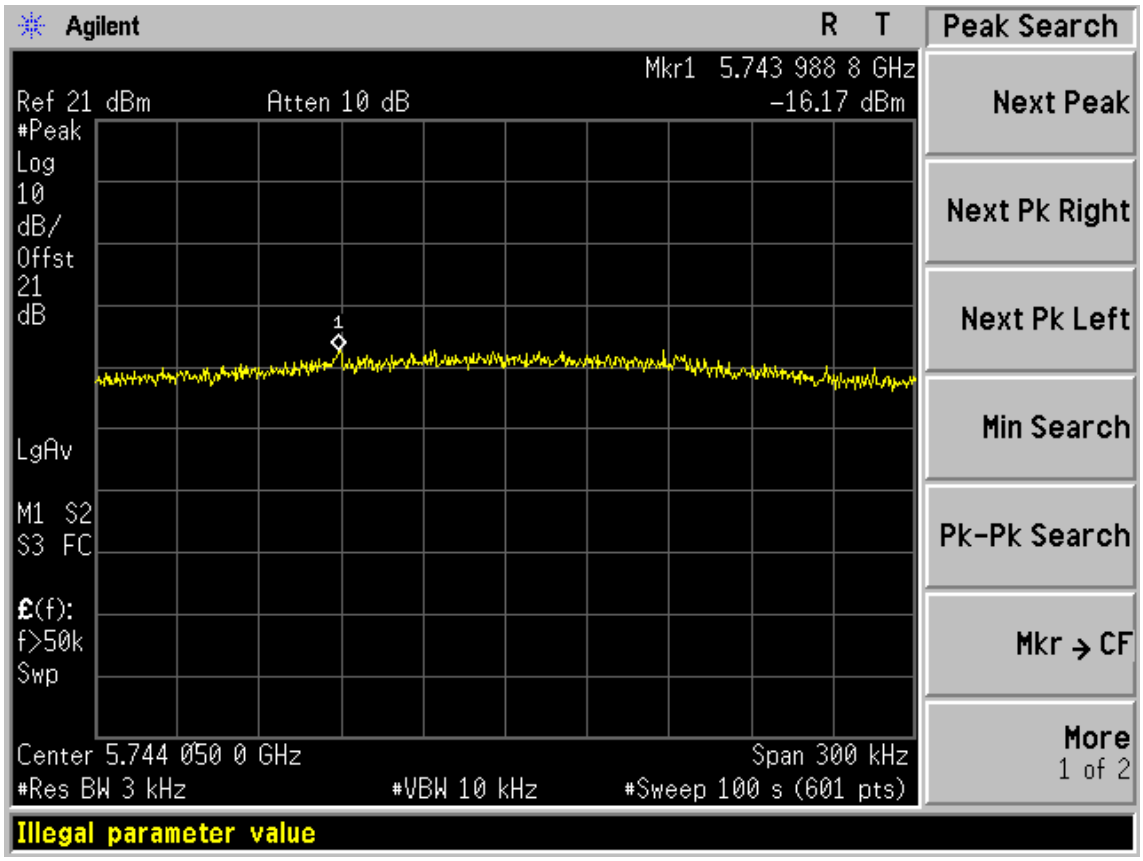
Test Mode: IEEE 802.11n HT40 TX
Test CH151: 5755MHz



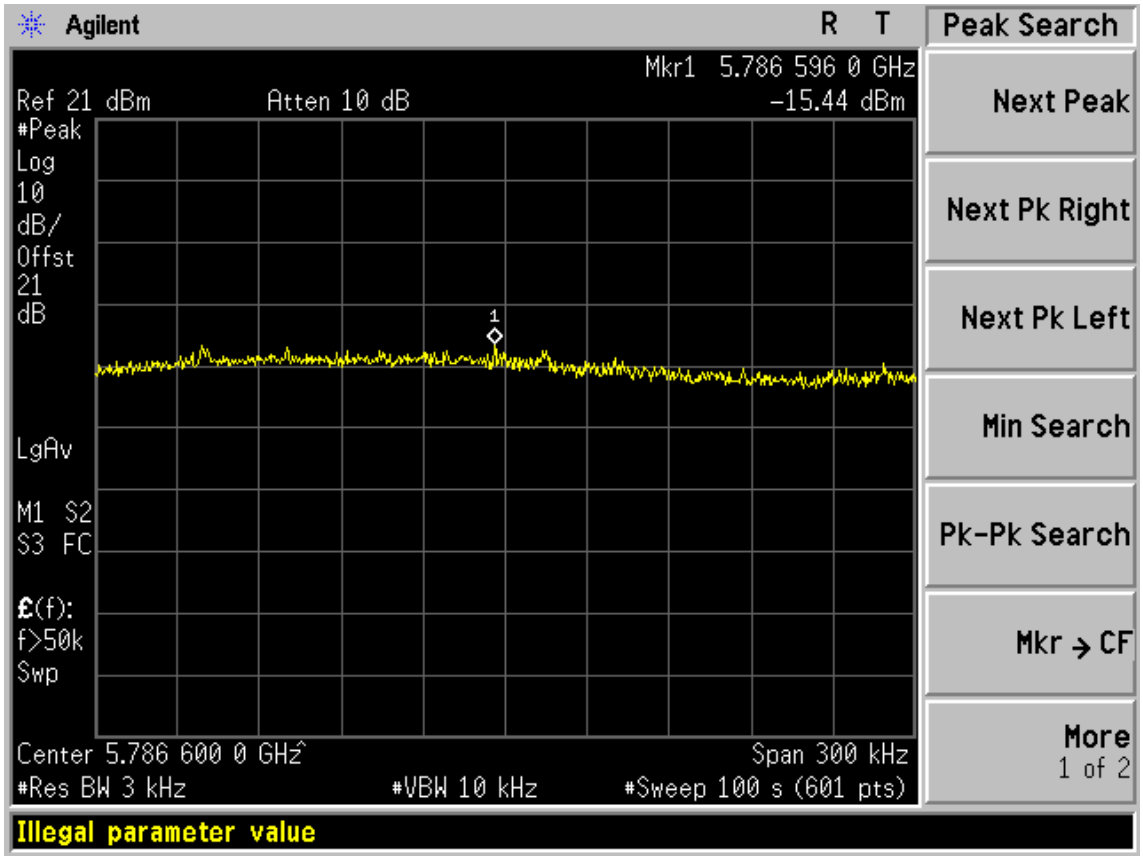
Test CH159: 5795MHz



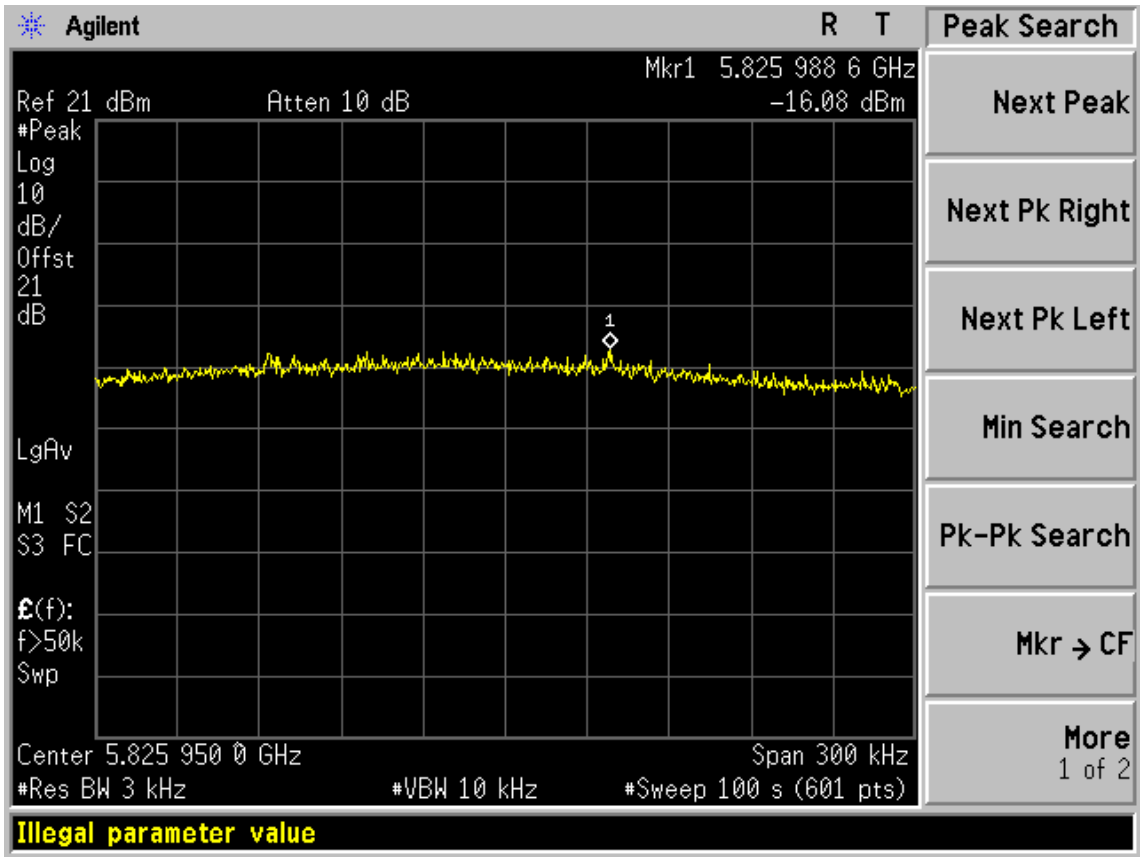
Test Mode: IEEE 802.11ac VHT20 TX
Test CH149: 5745MHz



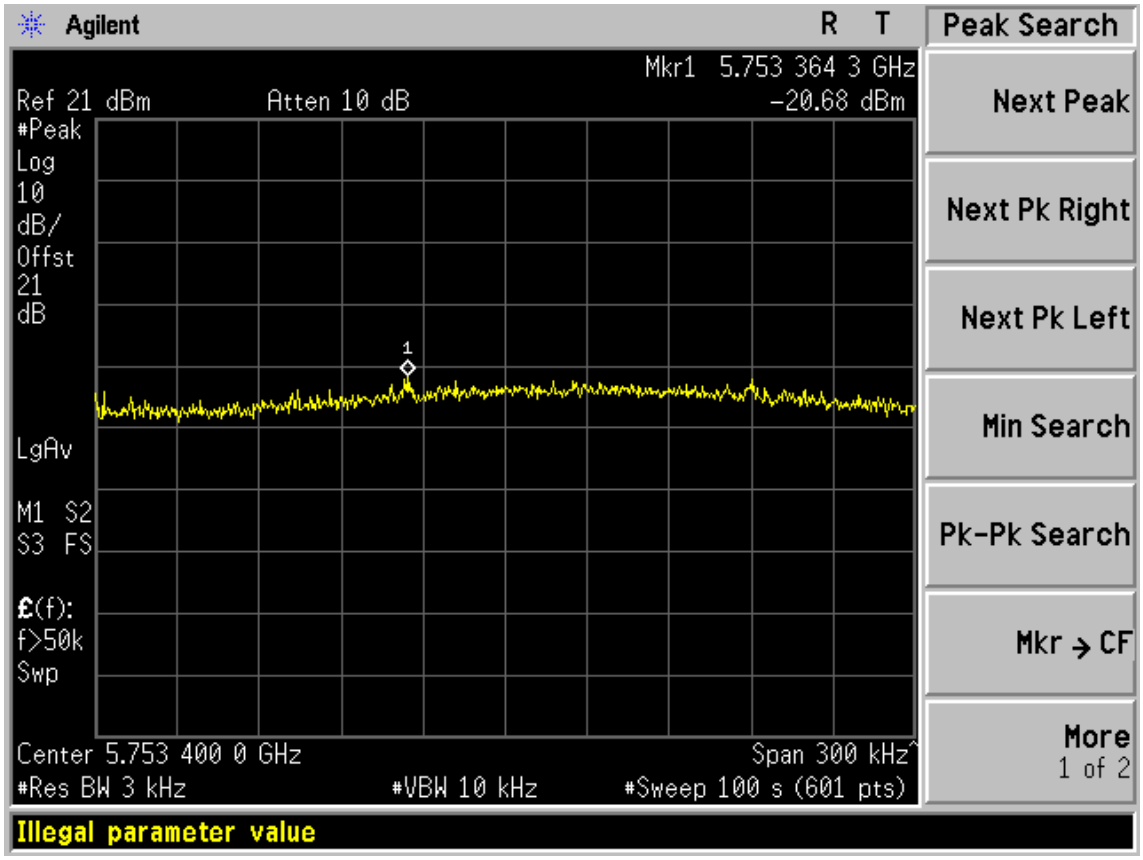
Test CH157: 5785MHz



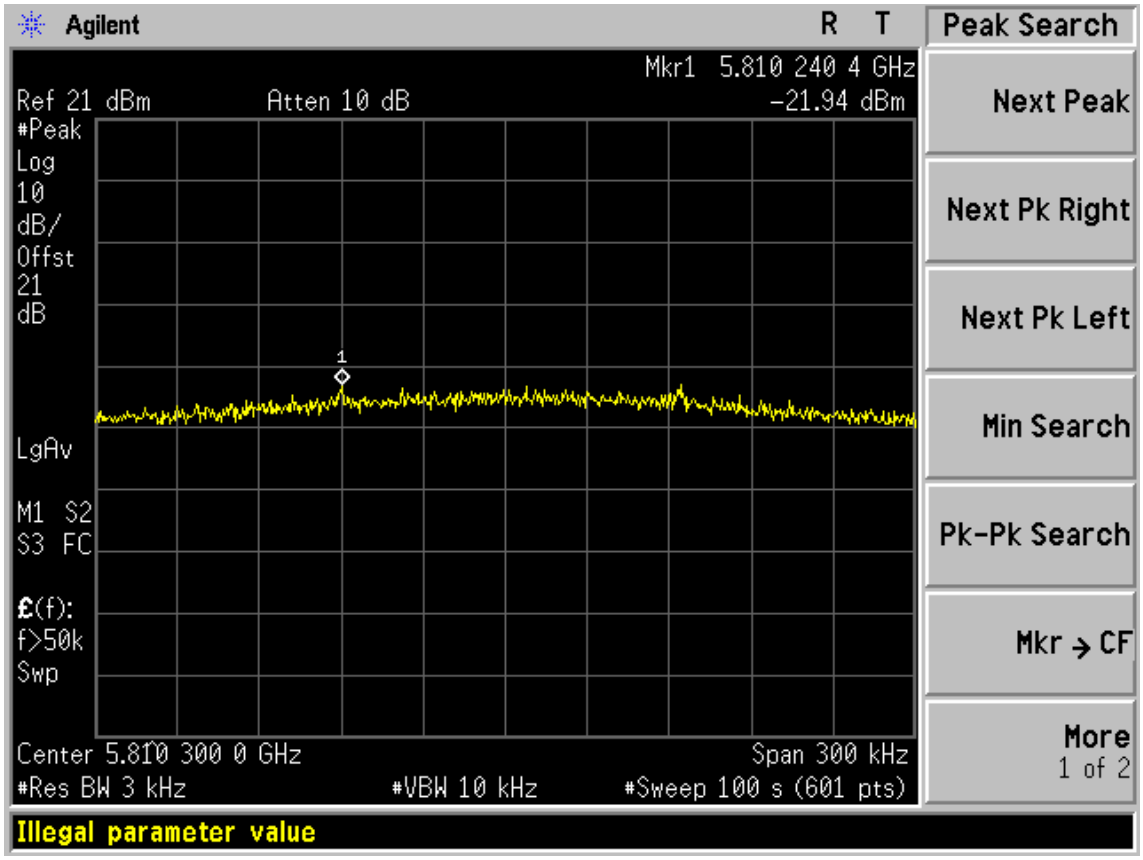
Test CH165: 5825MHz



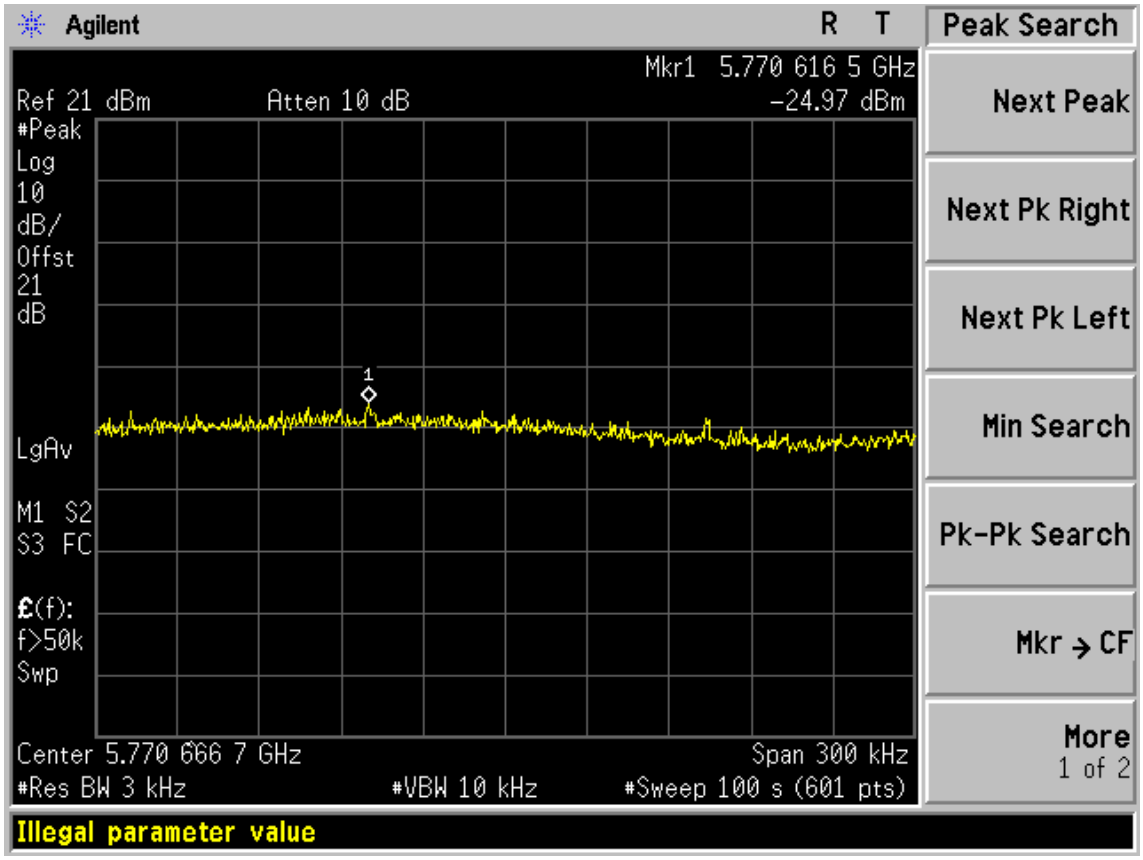
Test Mode: IEEE 802.11ac VHT40TX
Test CH151: 5755MHz



Test CH159: 5795MHz



Test Mode: IEEE 802.11ac VHT80TX
Test CH155: 5775MHz



10.MPE ESTIMATION

10.1.Limit for General Population/ Uncontrolled Exposures

Frequency	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Frequency(MHz)	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
2412	1	30
2437	1	30
2462	1	30

Note: F= Frequency in MHz

10.2. Estimation Result

2.4GHz

EUT:AC750 Wireless Dual Band Gigabit Router		
M/N:PW-AC4573R		
Test date: 2014-05-09	Pressure: 101.2±1.0 kpa	Humidity: 48.4±3.0%
Tested by: Kevin_Hu	Test site: RF site	Temperature:20.7±0.6 ℃

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 2dBi	
Test Mode	CH	Frequency（MHz）	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	25.08	322.11	2	1.58	0.1016
	CH6	2437	23.87	243.78	2	1.58	0.0769
	CH11	2462	23.33	215.28	2	1.58	0.0679
11g	CH1	2412	26.64	461.32	2	1.58	0.1455
	CH6	2437	26.68	465.59	2	1.58	0.1469
	CH11	2462	24.48	280.54	2	1.58	0.0885
11n HT20	CH1	2412	26.32	428.55	2	1.58	0.1352
	CH6	2437	25.19	330.37	2	1.58	0.1042
	CH11	2462	23.98	250.03	2	1.58	0.0789
11n HT40	CH1	2422	24.87	306.90	2	1.58	0.0942
	CH4	2437	24.71	295.80	2	1.58	0.0889
	CH7	2452	24.30	269.15	2	1.58	0.0837

$$MPE=\frac{PG}{4\Pi R^2} \quad (R=20cm)$$

5.8GHz

EUT:AC750 Wireless Dual Band Gigabit Router		
M/N:PW-AC4573R		
Test date: 2014-05-09	Pressure: 101.6±1.0 kpa	Humidity: 48.4±3.0%
Tested by: Kevin_Hu	Test site: RF site	Temperature:22.7±0.6 ℃

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 3dBi	
Test Mode	CH	Frequency（MHz）	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11a	CH149	5745	24.33	271.02	3	2.00	0.1076
	CH157	5785	24.31	269.77	3	2.00	0.1071
	CH165	5825	24.49	281.19	3	2.00	0.1117
11n HT20	CH149	5745	24.25	266.07	3	2.00	0.1057
	CH157	5785	24.18	261.82	3	2.00	0.1040
	CH165	5825	24.45	278.61	3	2.00	0.1106
11n HT40	CH151	5755	24.48	280.54	3	2.00	0.1114
	CH159	5795	24.41	276.06	3	2.00	0.1096
11ac VHT20	CH149	5745	24.23	264.85	3	2.00	0.1052
	CH157	5785	24.16	260.62	3	2.00	0.1035
	CH165	5825	24.49	281.19	3	2.00	0.1117
11ac VHT40	CH151	5755	24.46	279.25	3	2.00	0.1109
	CH159	5795	24.41	276.06	3	2.00	0.1096
11ac VHT80	CH155	5775	24.47	279.90	3	2.00	0.1112

11. ANTENNA REQUIREMENT

11.1. STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are dipole antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 3dBi.

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]