

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, 12	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 output Power shall not exceed 1W(30dBm)

8.3. Test Procedure

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

8.4. Test Results

2.4G:

EUT: Tablet PC					
M/N: TOSHIBA WT8-A					
Test date: 2013-09-16		Pressure: 101.2±1.0kpa		Humidity: 51.4±3.0%	
Tested by: Kevin_Hu		Test site: RF site		Temperature: 22.9±0.6	
Cable loss: 1 dB			Attenuator loss: 20 dB		
Test Mode	CH	Peak output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Total	
11b	CH1	15.42	15.62	N/A	30
	CH6	15.63	15.71	N/A	30
	CH11	15.57	15.61	N/A	30
11g	CH1	19.13	18.26	N/A	30
	CH6	18.84	18.91	N/A	30
	CH11	19.03	18.92	N/A	30
11n HT20	CH1	17.52	16.97	20.26	30
	CH6	17.74	17.71	20.74	30
	CH11	17.39	17.51	20.46	30
11n HT40	CH1	17.84	17.92	20.89	30
	CH4	18.12	17.95	21.05	30
	CH7	17.87	17.74	20.82	30
Conclusion: PASS					

5.8G:

EUT: Tablet PC					
M/N:TOSHIBA WT8-A					
Test date: 2013-09-17		Pressure: 101.2±1.0kpa		Humidity: 52.6±3.0%	
Tested by: Kevin_Hu		Test site: RF site		Temperature: 23.1±0.6	
Cable loss: 1 dB			Attenuator loss: 20 dB		
Test Mode	Frequency (MHz)	Peak output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Total	
11a	5745	19.57	20.21	N/A	30
	5785	19.49	20.37	N/A	30
	5825	19.51	19.91	N/A	30
11n HT20	5745	18.15	18.22	21.20	29
	5785	17.82	17.89	20.87	29
	5825	17.68	17.76	20.73	29
11n HT40	5755	16.73	17.12	19.94	29
	5795	16.69	16.97	19.84	29
Conclusion: PASS					

Note: The Antenna gain of two antennas in 5745-5825 is 5.33dBi and 2.32dBi, the direction gain is 7dBi, so the power limit is 30-(7-6)dBi =29dBi.

9. POWER SPECTRAL DENSITY TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Oct.31, 12	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 level 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 chain'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: Tablet PC		
M/N:TOSHIBA WT8-A		
Test date: 2013-09-16	Pressure: 101.4±1.0kpa	Humidity: 51.8±3.0%
Tested by:Kevin_Hu	Test site: RF Site	Temperature : 21.6±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	-1.000	-1.714	N/A	8
	CH6	-0.522	-0.780	N/A	8
	CH11	-0.839	-0.165	N/A	8
11g	CH1	-5.879	-7.962	N/A	8
	CH6	-6.063	-7.145	N/A	8
	CH11	-7.038	-7.727	N/A	8
11n Mode					
Test Mode	CH	Power density (dBm/3KHz)			Limit (dBm/3KHz)
		ANT 0	ANT 1	Total	
11n HT20	CH1	-7.200	-6.686	-11.2	8
	CH6	-7.419	-5.471	-11.91	8
	CH11	-4.962	-5.331	-11.48	8
11n HT40	CH1	-11.756	-10.102	-12.83	8
	CH4	-10.812	-9.046	-13.18	8
	CH7	-10.553	-8.256	-13.33	8
Conclusion : PASS					

5.8G:

EUT: Tablet PC		
M/N:TOSHIBA WT8-A		
Test date:2013-09-13	Pressure:101.3±1.0kpa	Humidity:50.4±3.0%
Tested by: Kevin_Hu	Test site:RF Site	Temperature:21.4±0.6

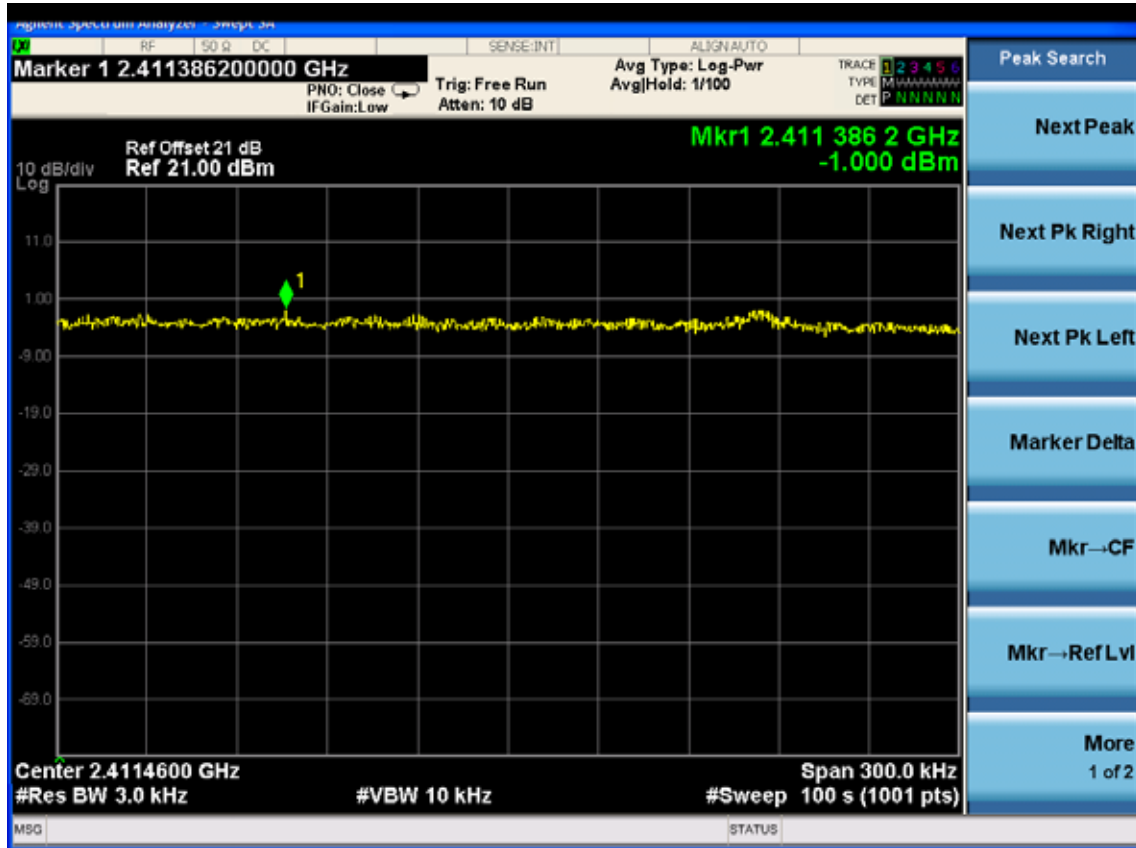
Cable loss: 1 dB		Attenuator loss: 20 dB			
Test Mode	CH	Power density (dBm/3KHz)			Limit (dBm/3KHz)
		ANT A	ANT B	Total	
11a	CH149	-17.04	-19.782	N/A	8
	CH157	-17.804	-21.033	N/A	8
	CH165	-16.497	-20.613	N/A	8
11n HT20	CH149	-18.702	-18.311	-15.49	8
	CH157	-19.307	-18.706	-15.99	8
	CH165	-18.145	-20.613	-16.2	8
11n HT40	CH151	-23.343	-21.145	-19.1	8
	CH159	-21.62	-23.625	-19.5	8
Conclusion : PASS					

2.4G:

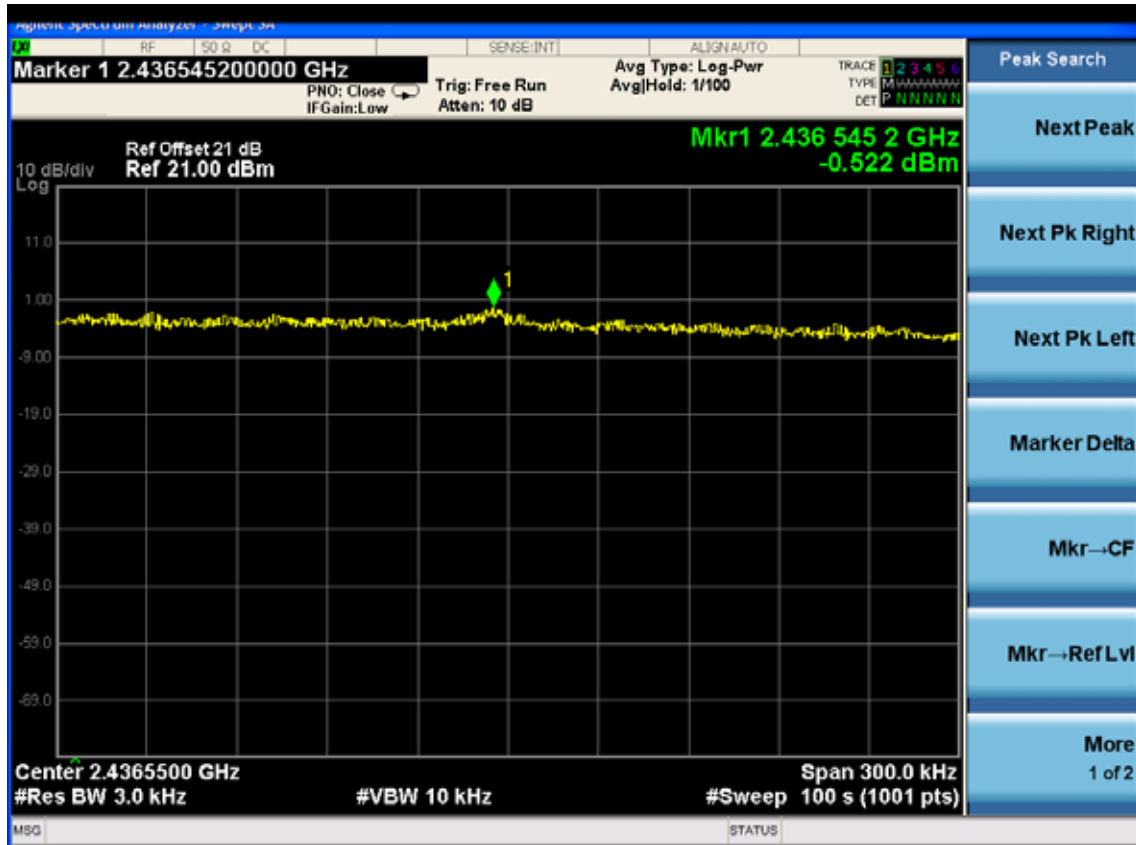
Chain 0:

Test Mode: IEEE 802.11b TX

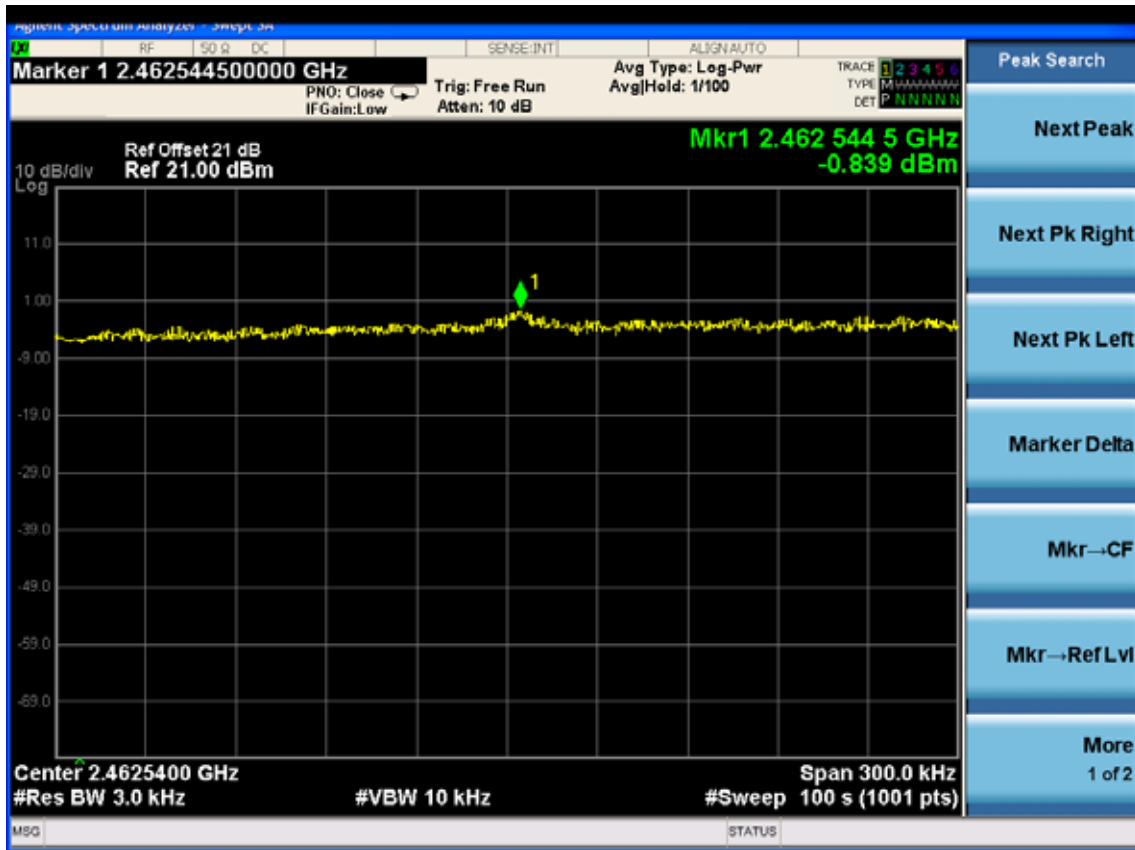
Test CH1: 2412MHz



Test CH6: 2437MHz

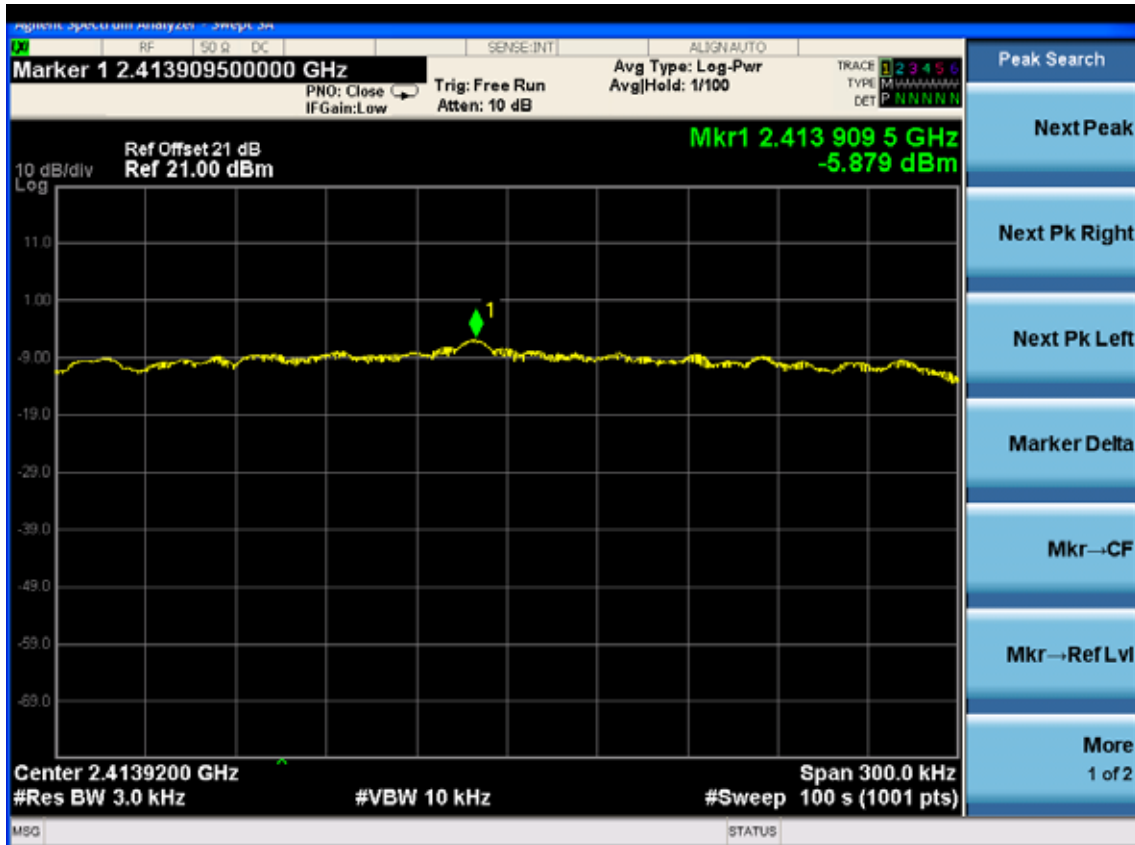


Test CH11: 2462MHz

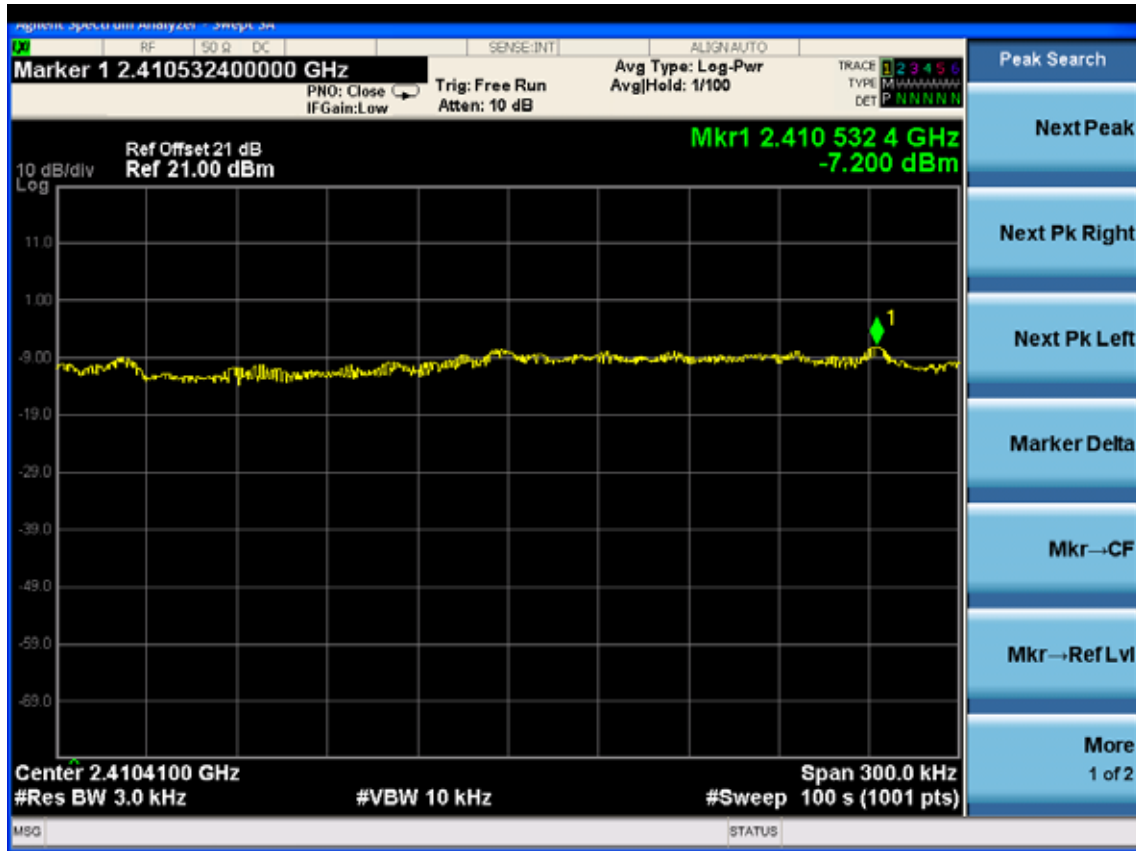


Test Mode: IEEE 802.11g TX

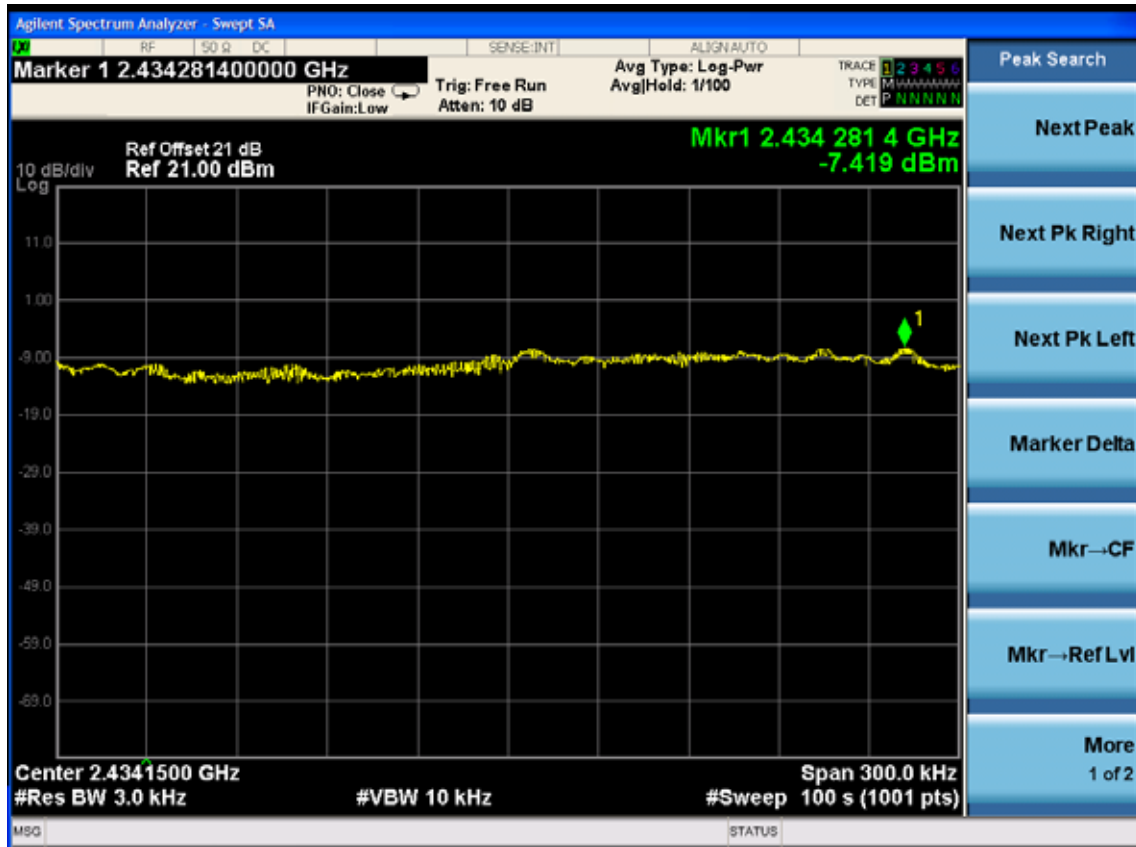
Test CH1: 2412MHz



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



Test CH6: 2437MHz

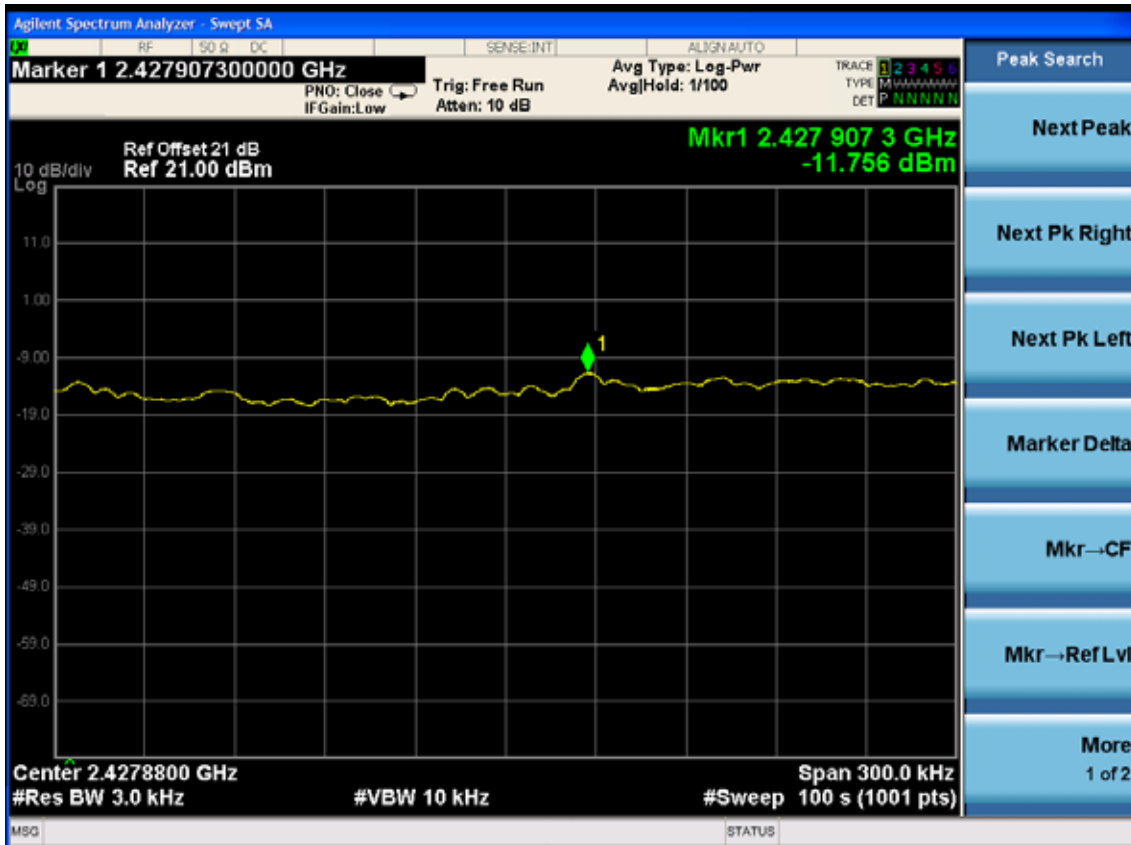


Test CH11: 2462MHz

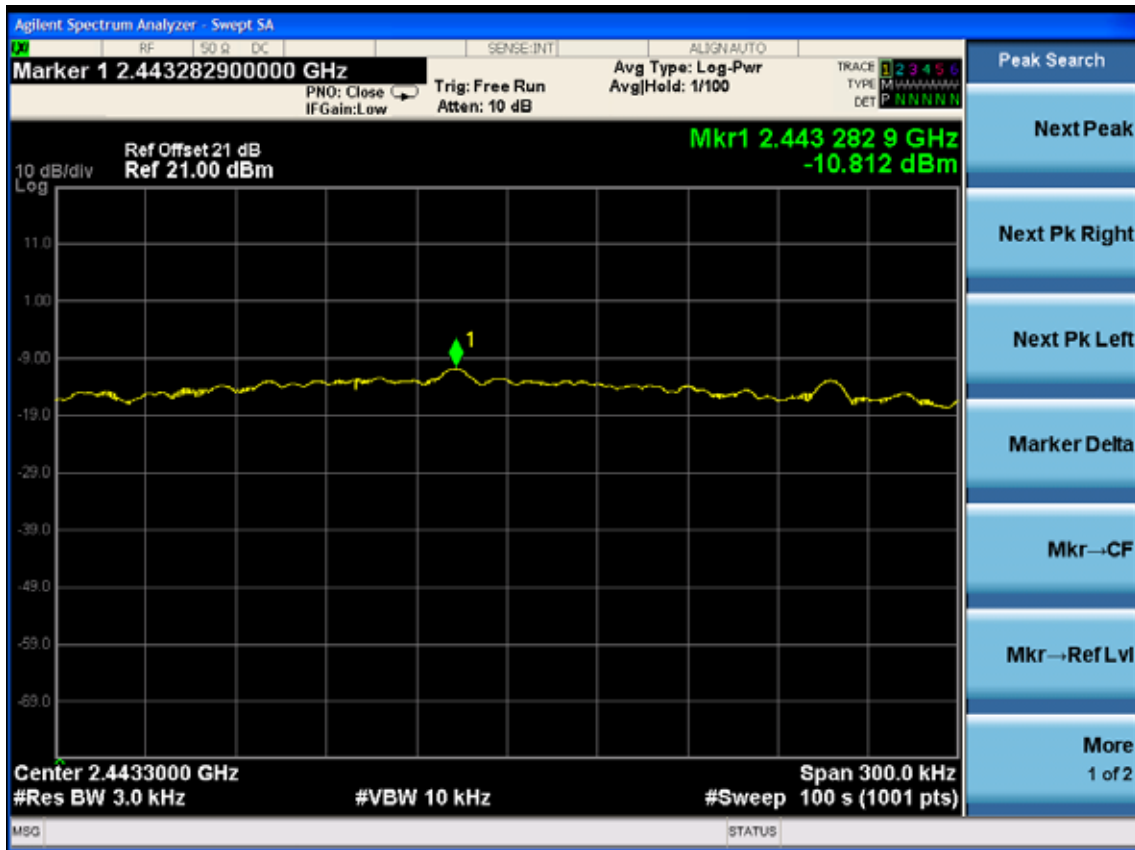


Test Mode: IEEE 802.11n HT40 TX

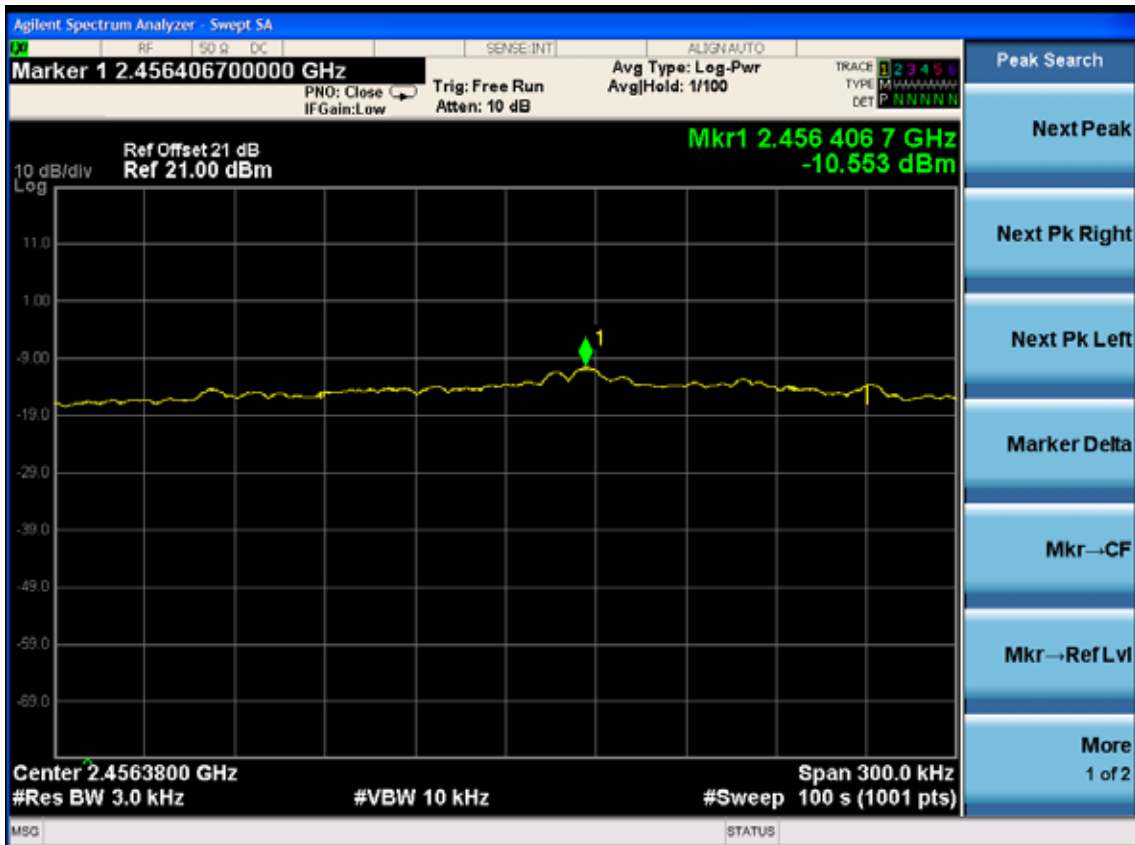
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



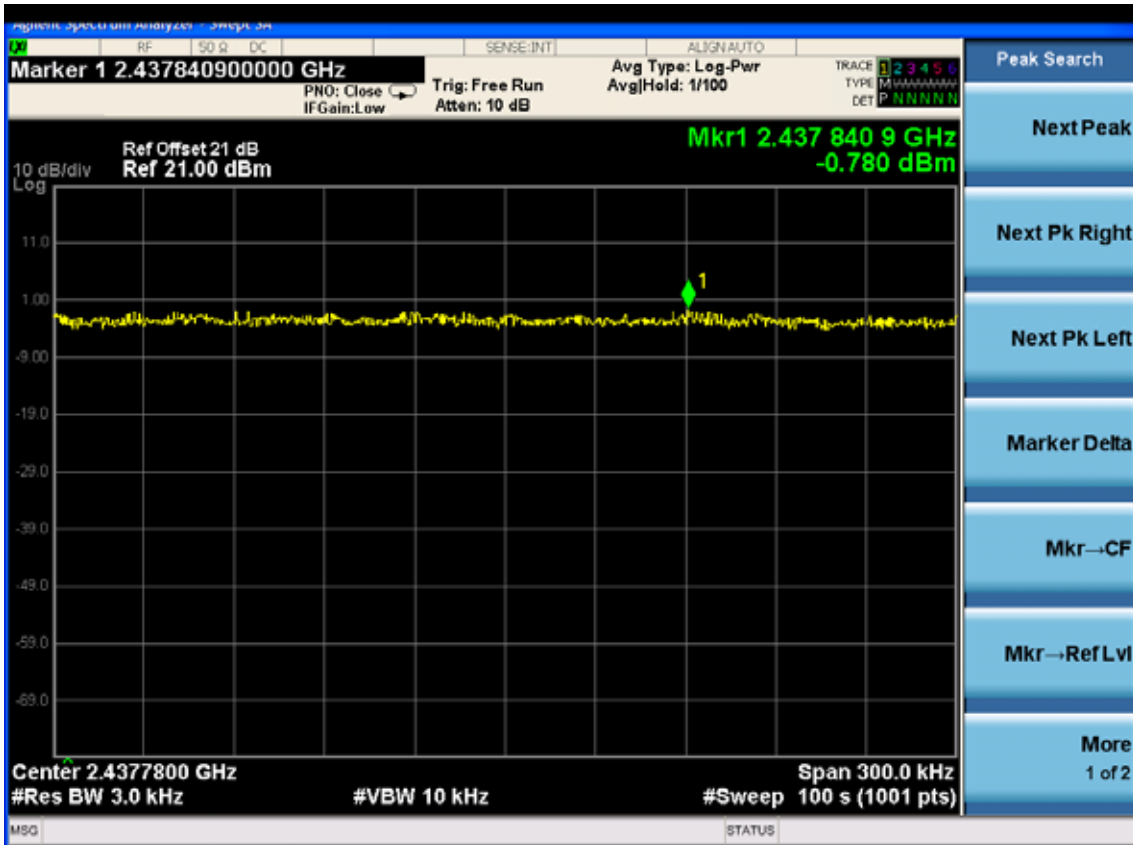
Chain 1:

Test Mode: IEEE 802.11b TX

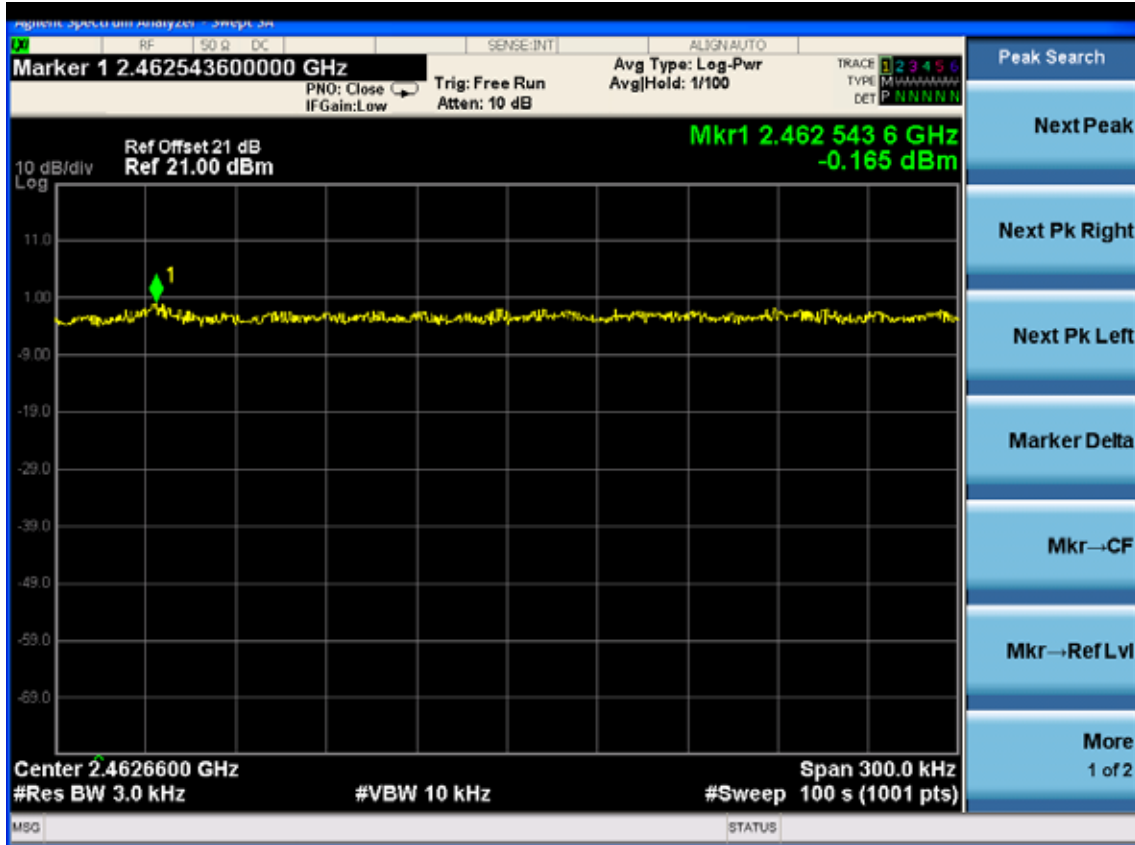
Test CH1: 2412MHz



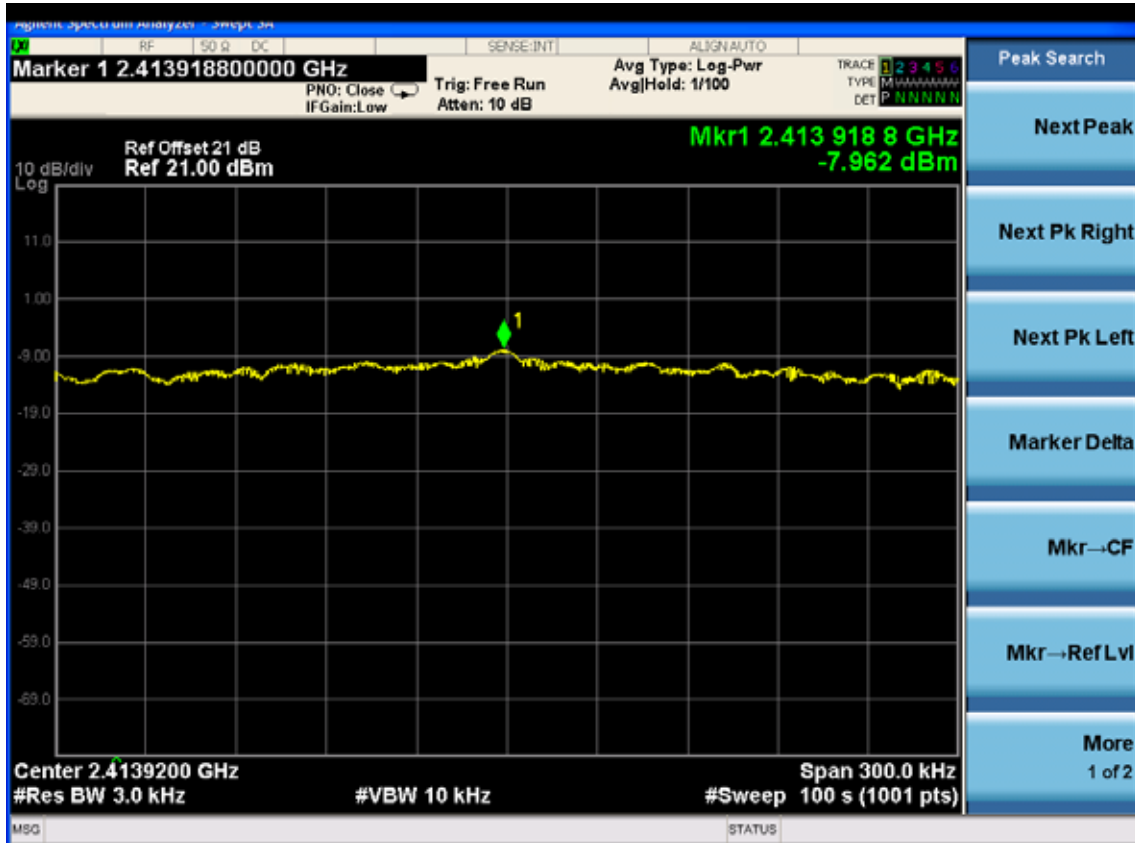
Test CH6: 2437MHz



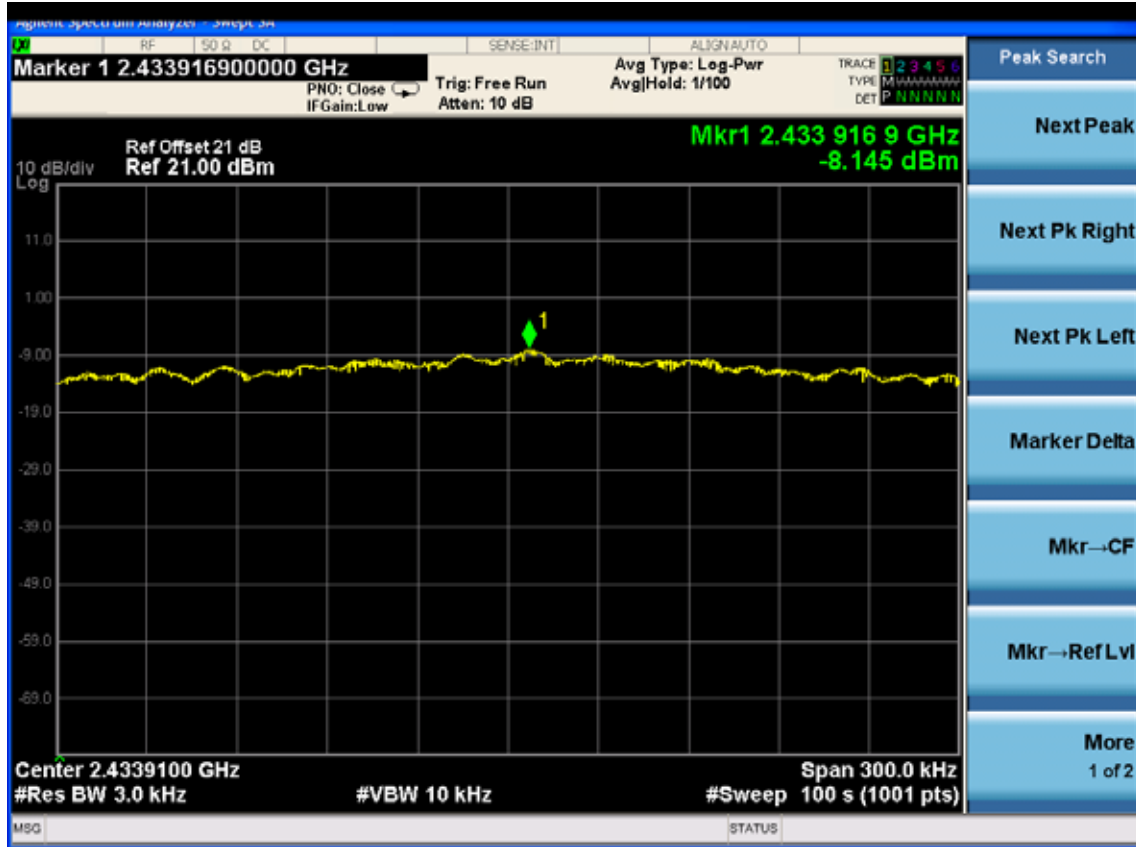
Test CH11: 2462MHz



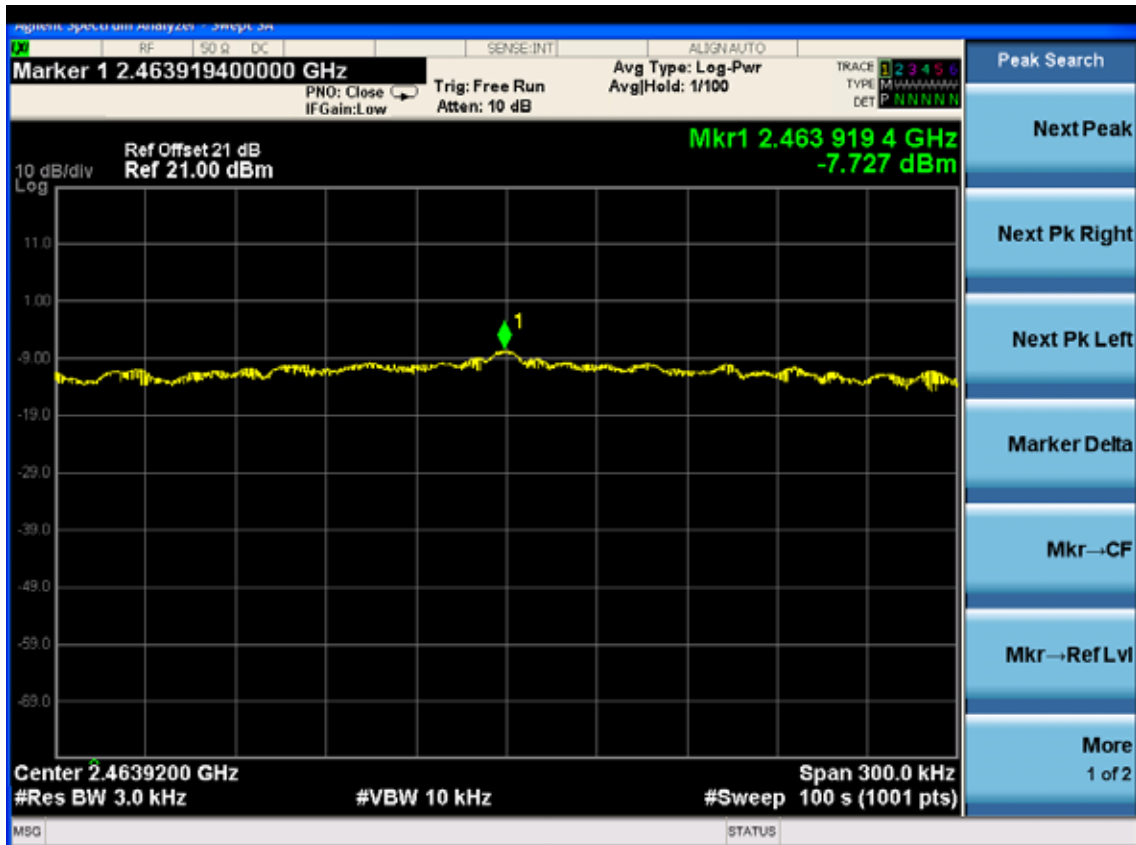
Test Mode: IEEE 802.11g TX
Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



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



Test CH6: 2437MHz

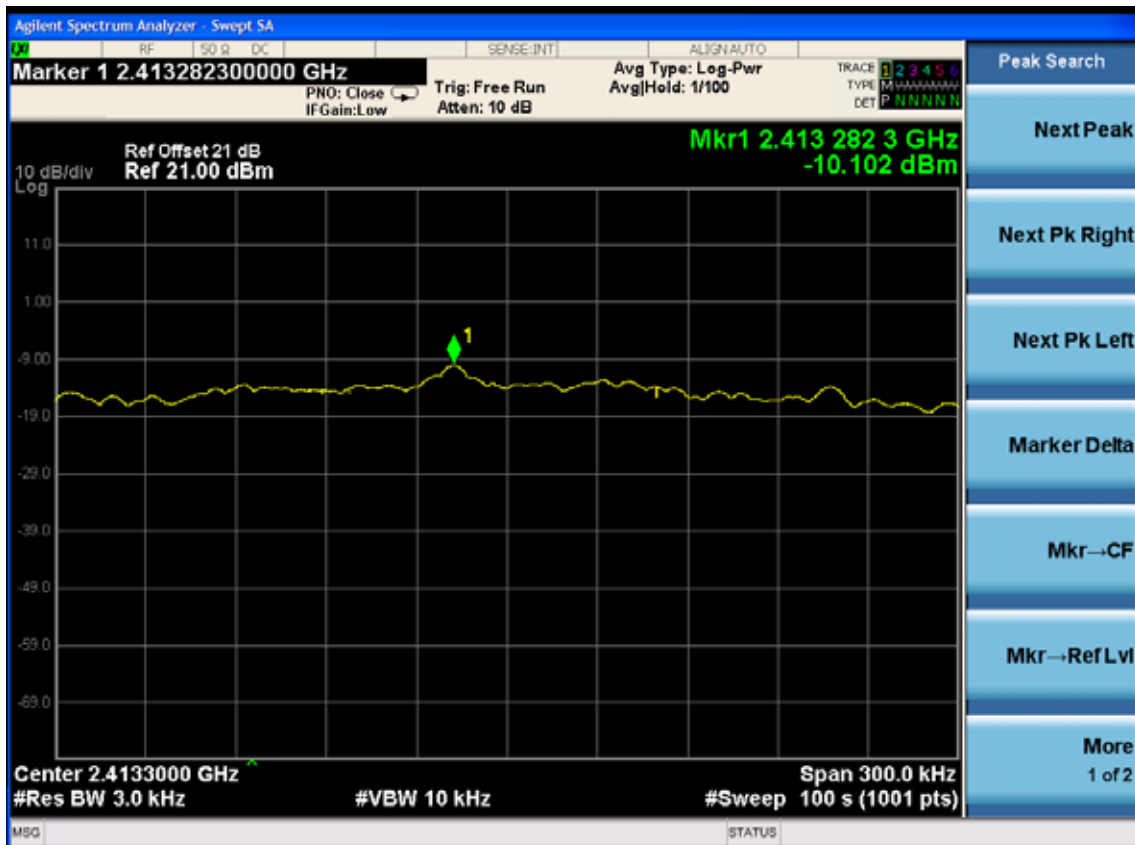


Test CH11: 2462MHz

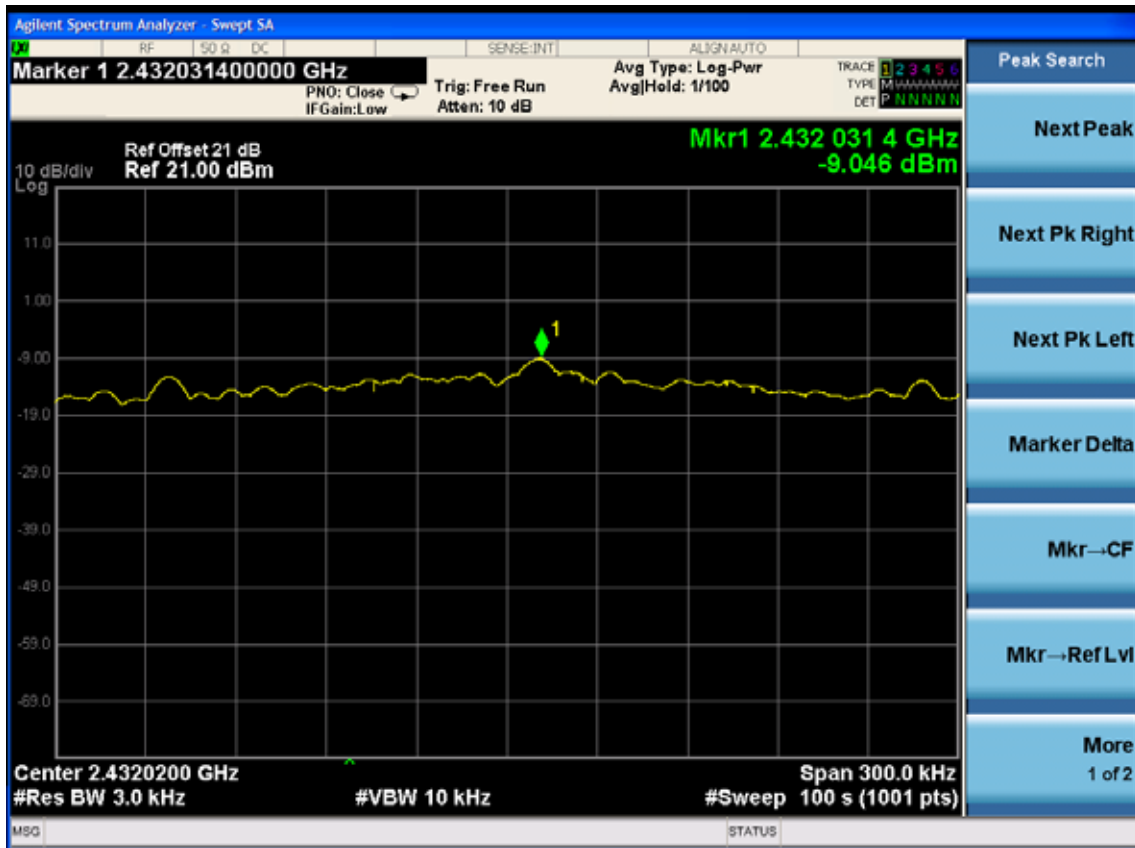


Test Mode: IEEE 802.11n HT40 TX

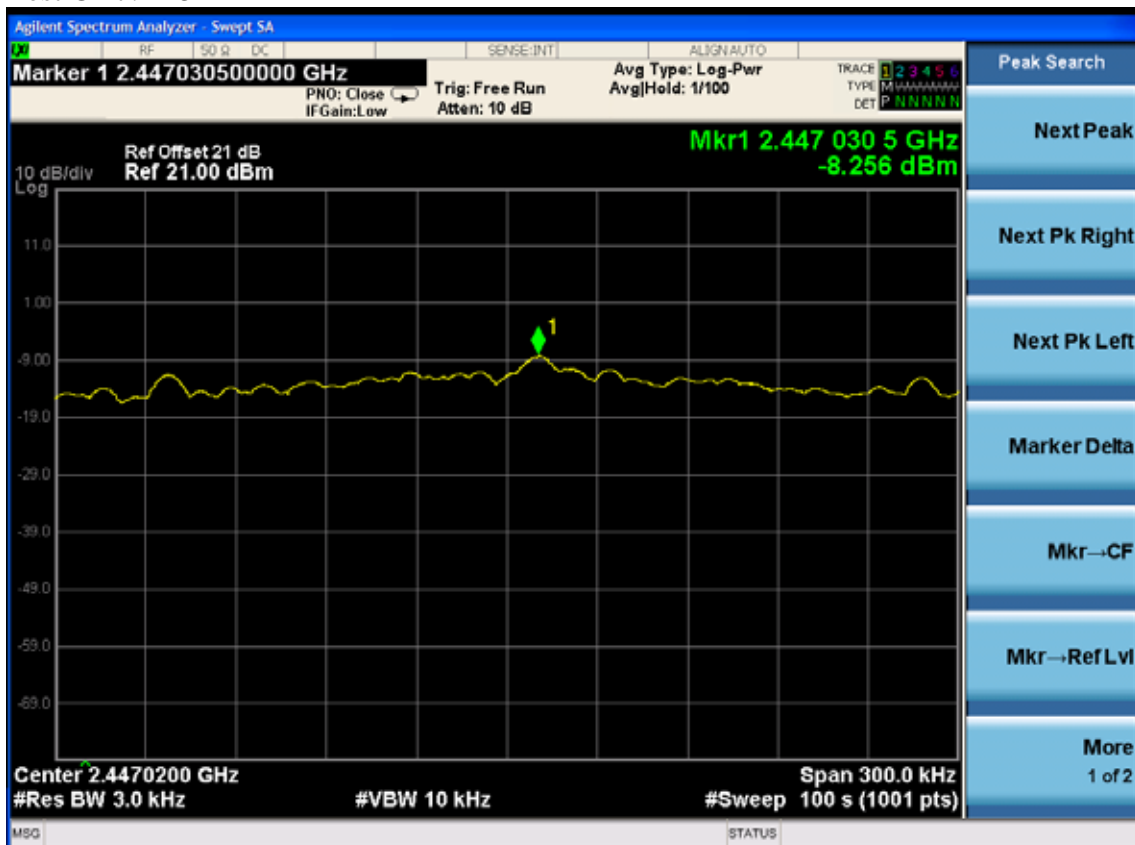
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz

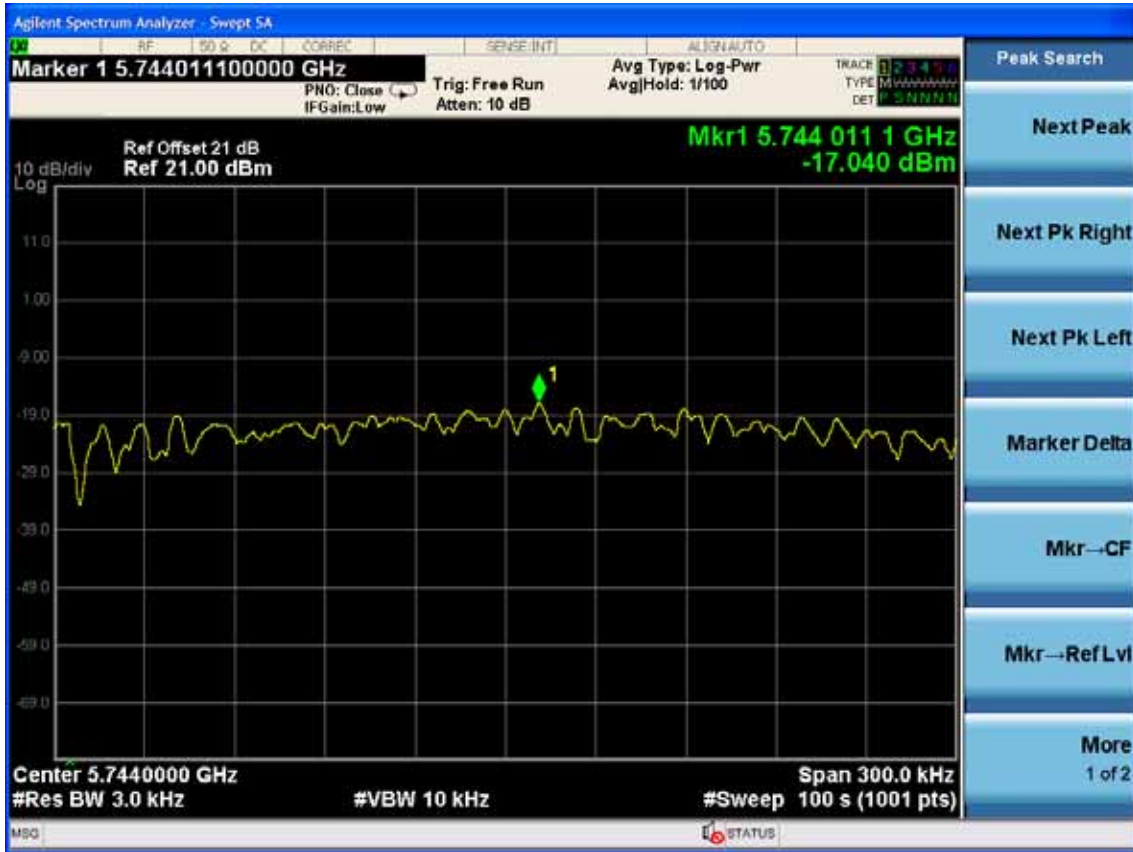


5.8G:

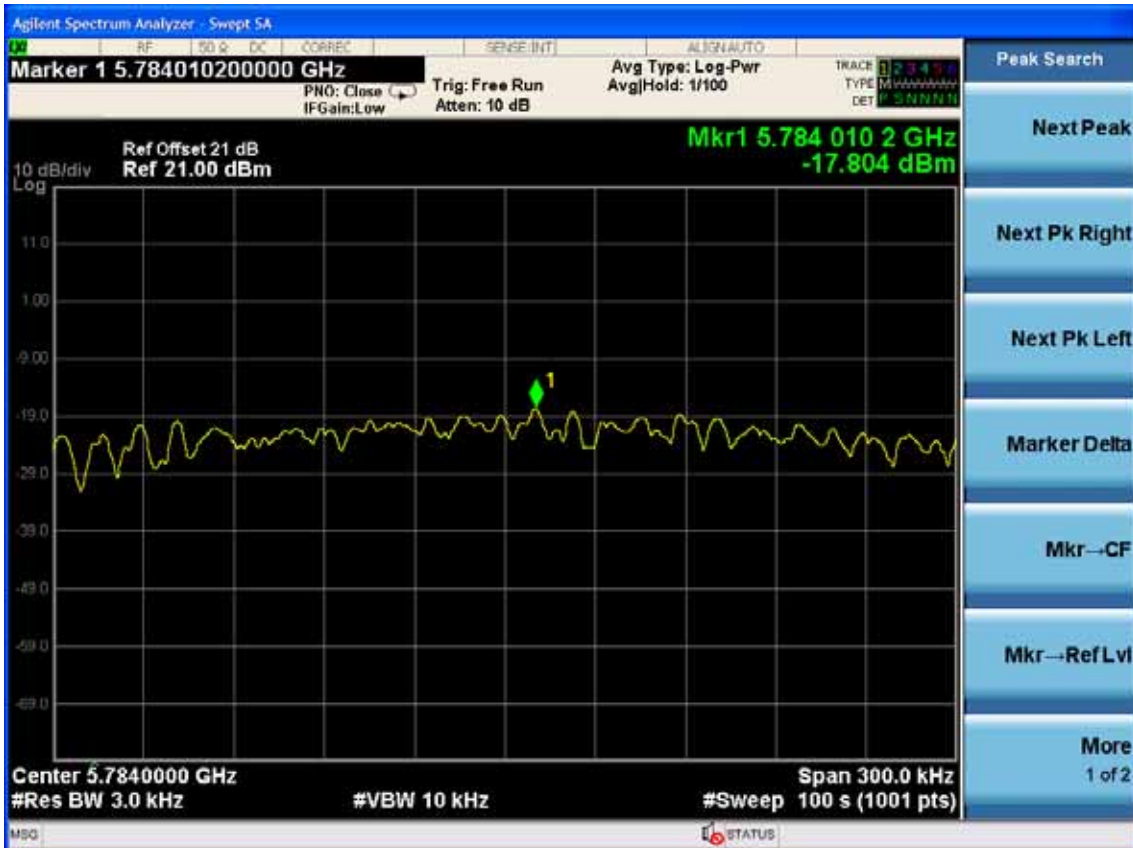
Chain 0:

Test Mode: IEEE 802.11a TX

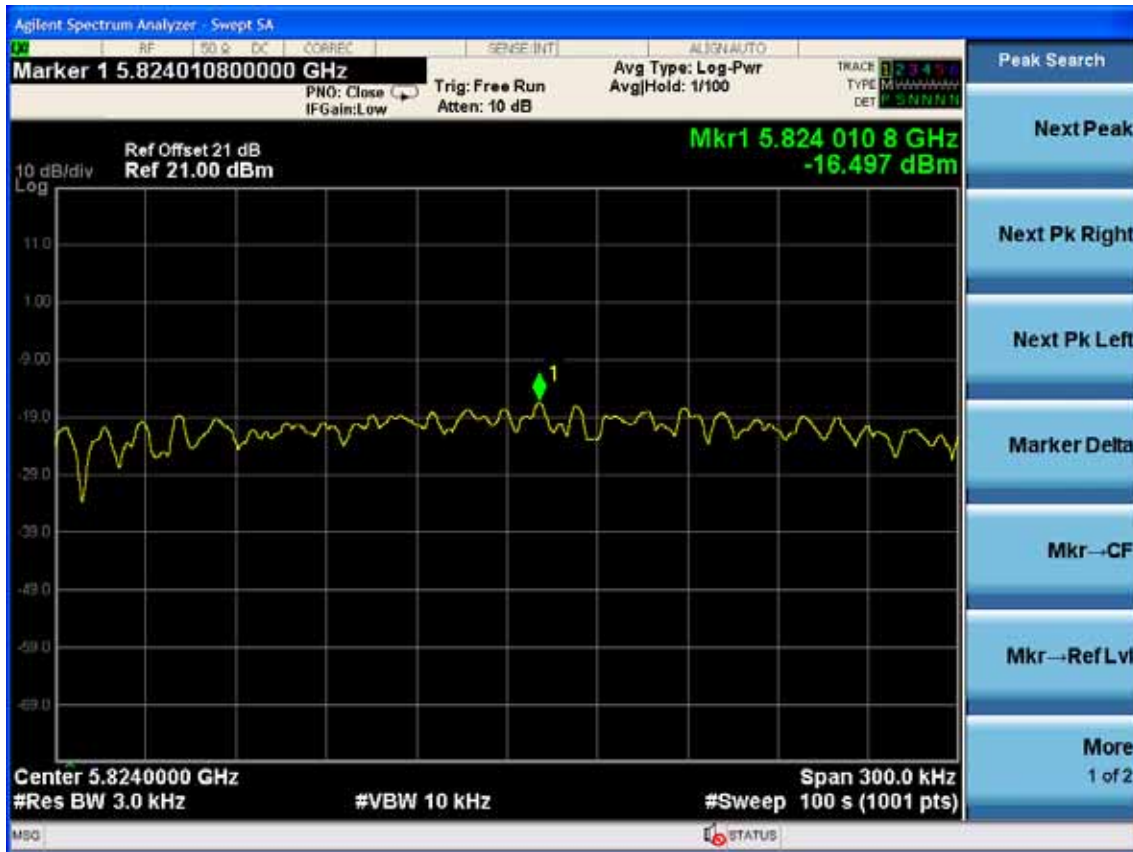
Test CH149: 5745MHz



Test CH157: 5785MHz



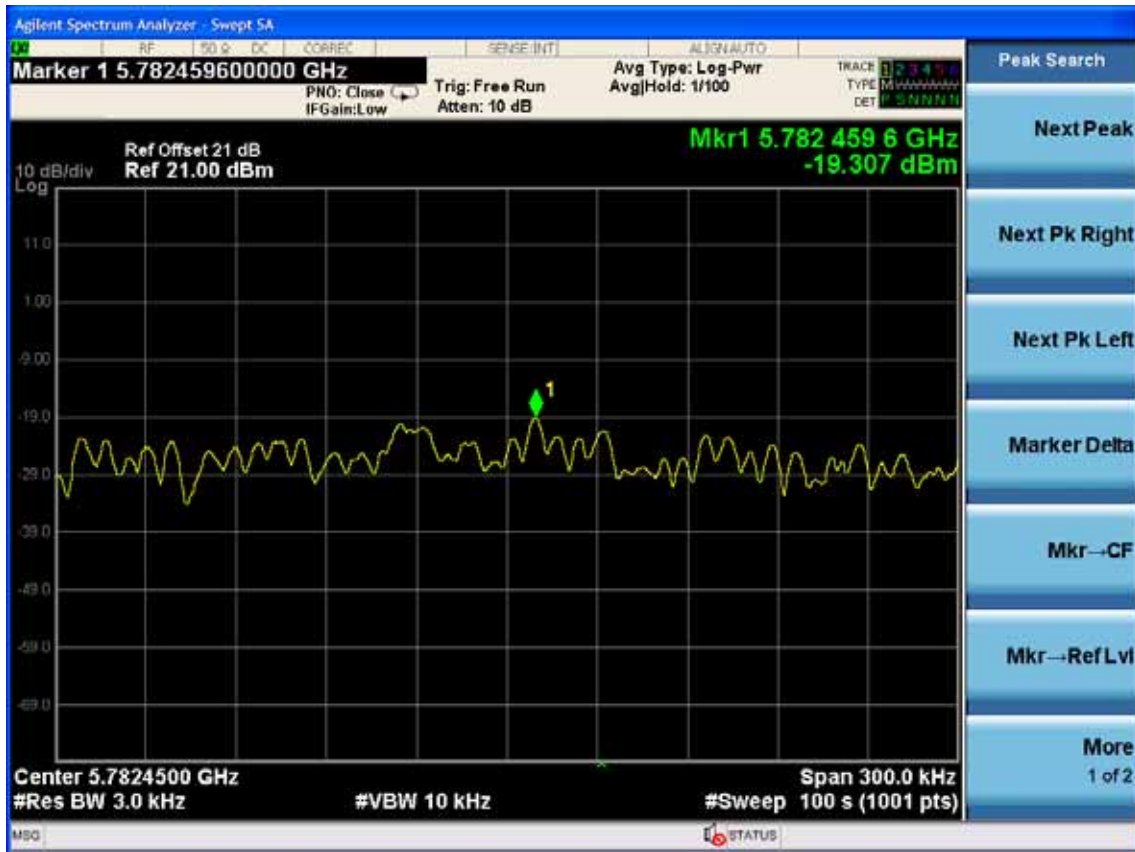
Test CH165: 5825MHz



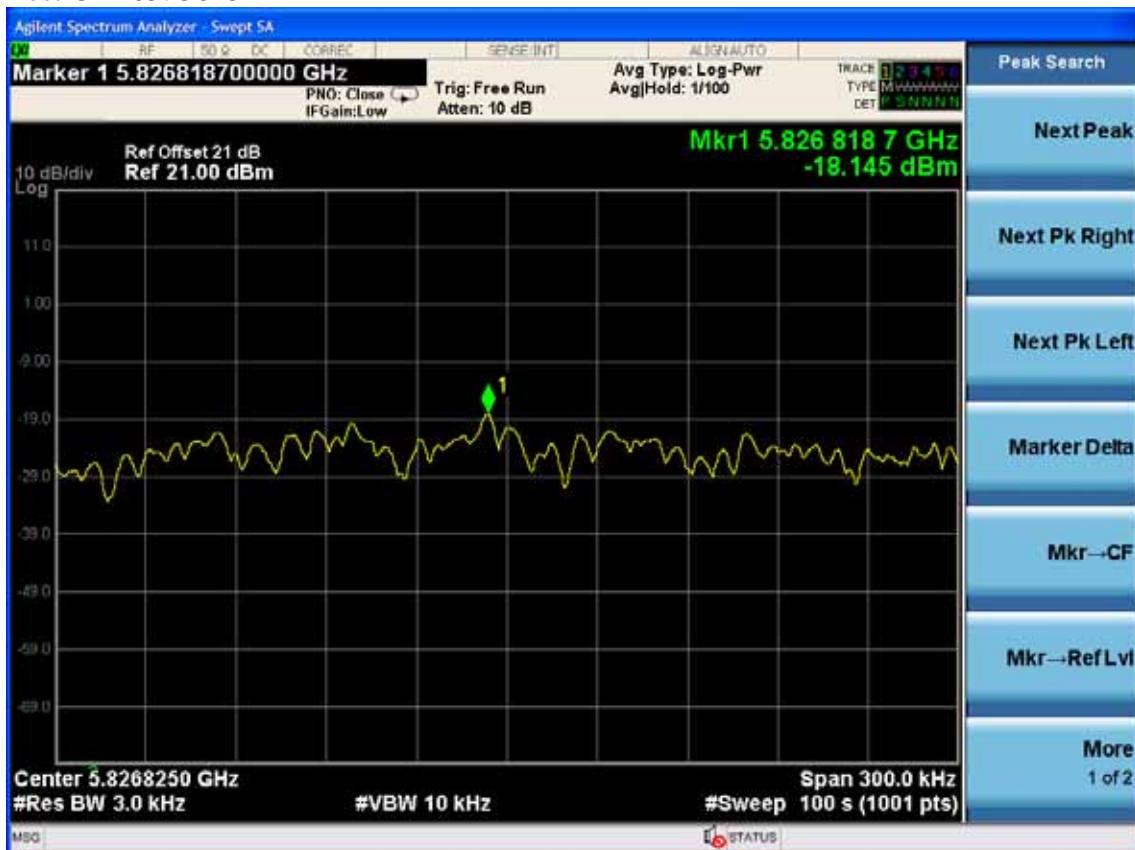
Test Mode: IEEE 802.11n HT20 TX
Test CH149: 5745MHz



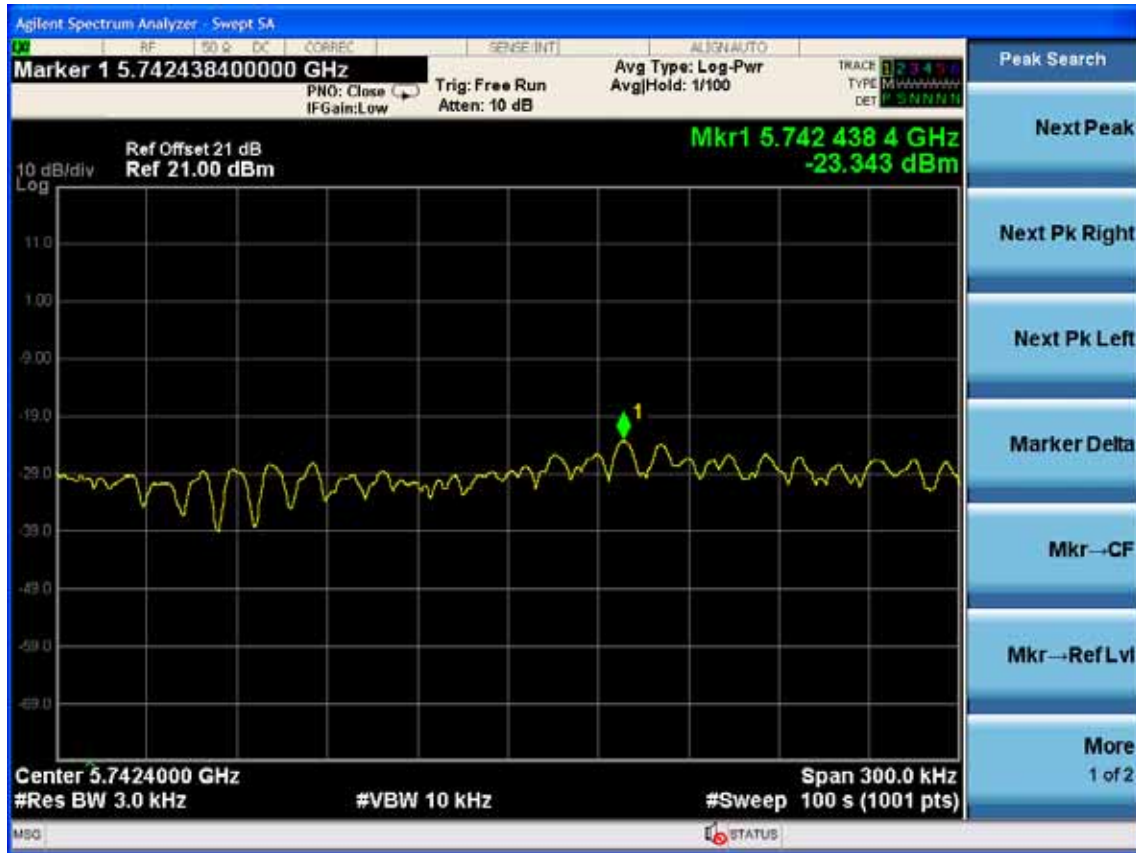
Test CH157: 5785MHz



Test CH165: 5825MHz



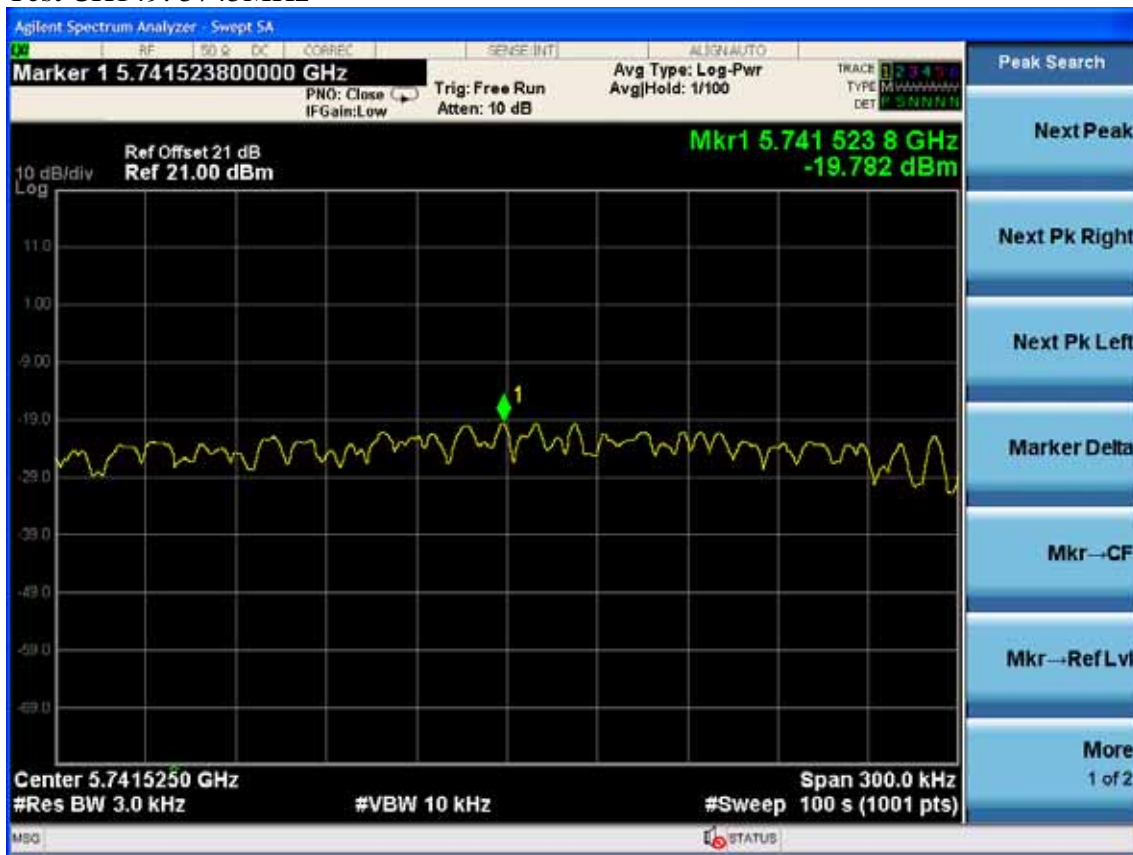
Test Mode: IEEE 802.11n HT40 TX
 Test CH151: 5755MHz



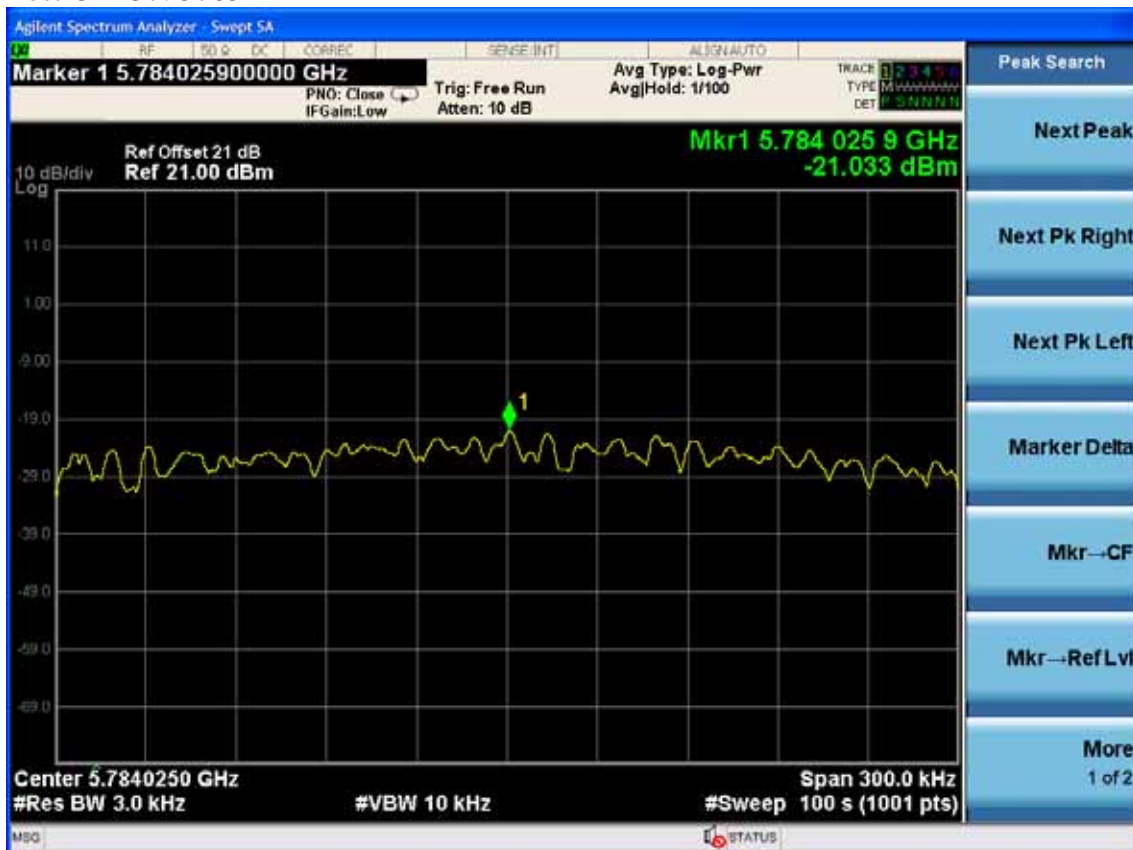
Test CH159: 5795MHz



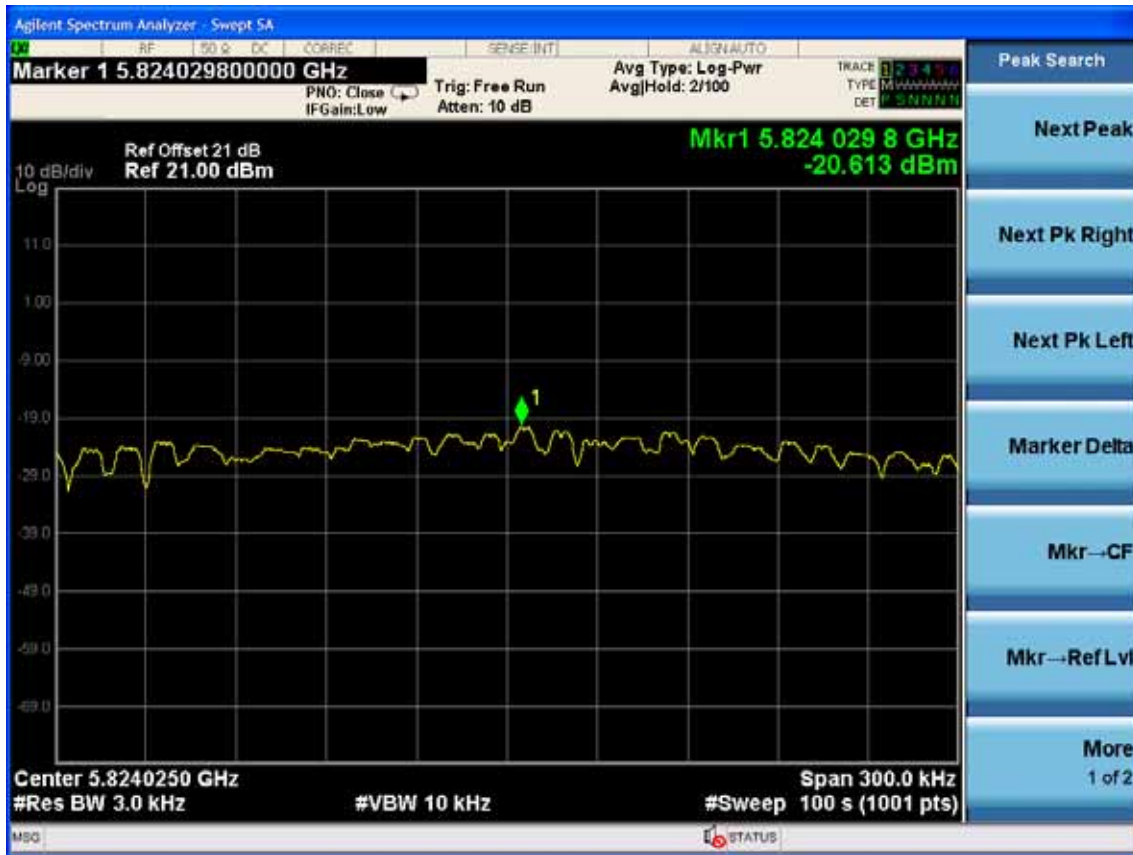
Chain 1:
 Test Mode: IEEE 802.11a TX
 Test CH149: 5745MHz



Test CH157: 5785MHz

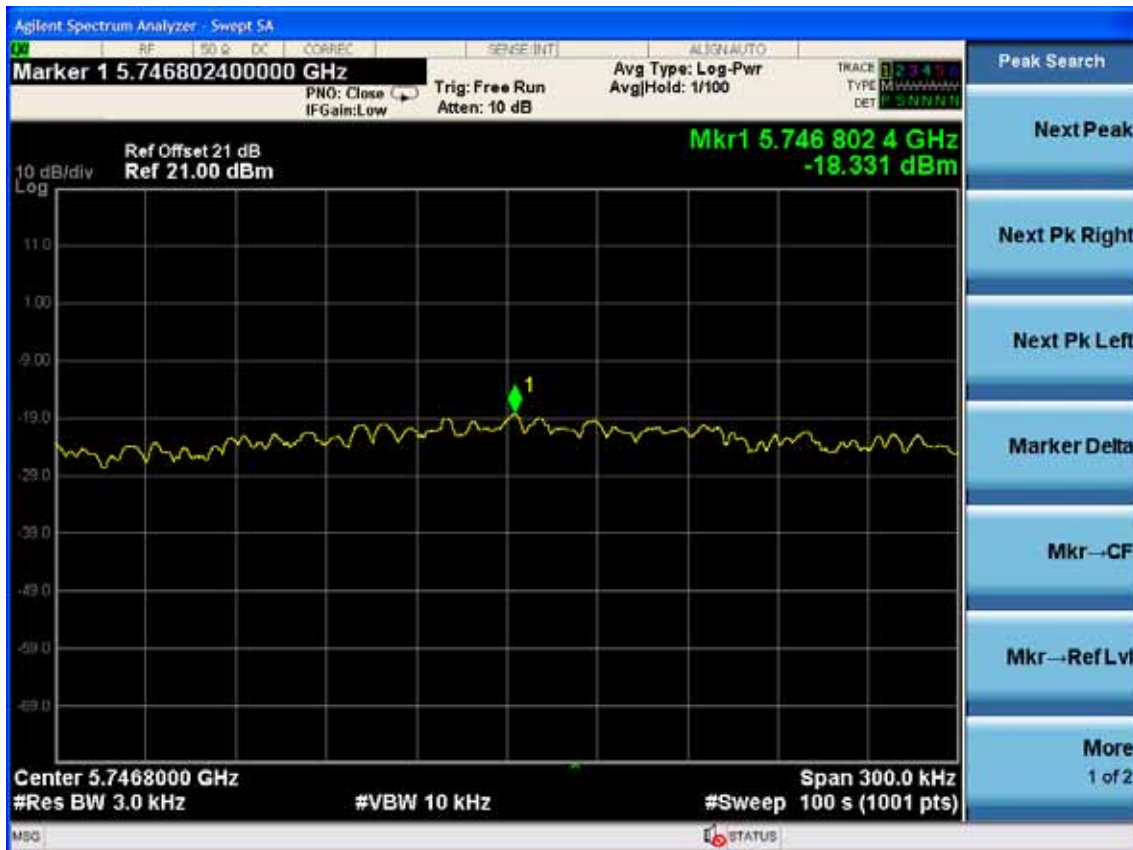


Test CH165: 5825MHz



Test Mode: IEEE 802.11n HT20 TX

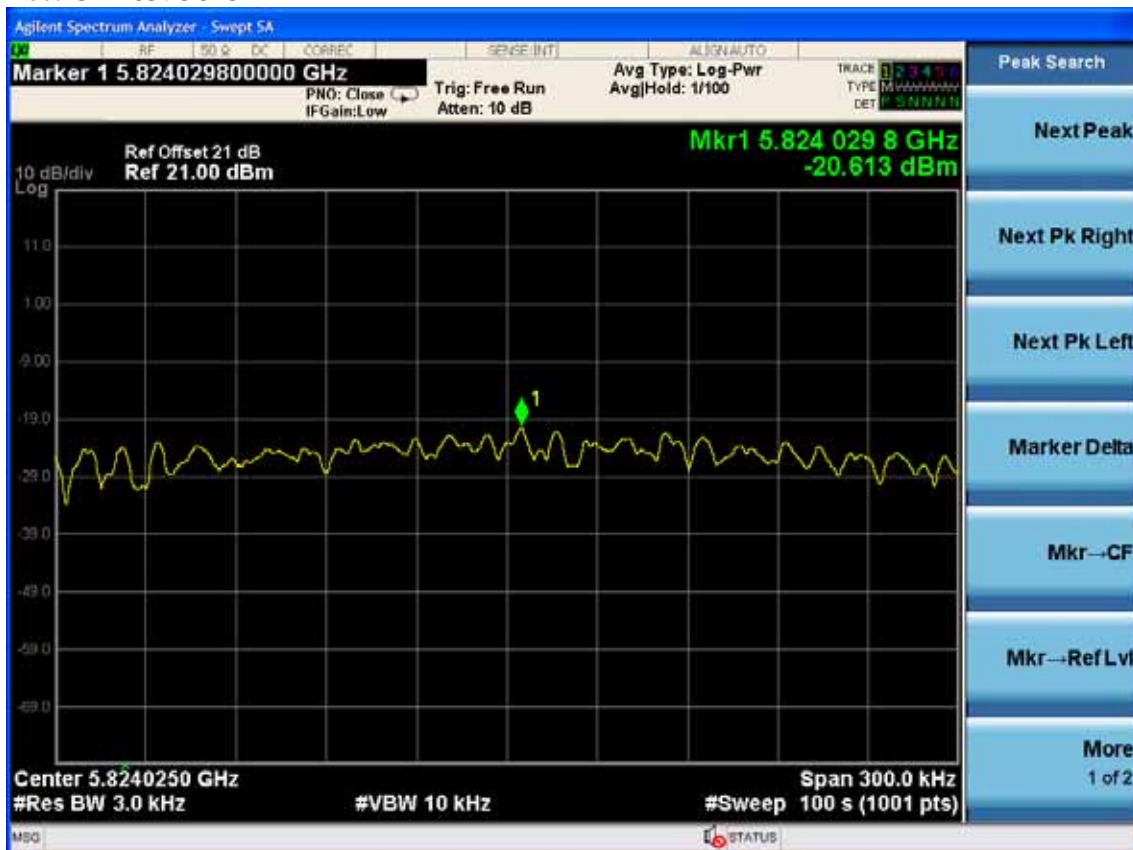
Test CH149: 5745MHz



Test CH157: 5785MHz



Test CH165: 5825MHz



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



Test CH159: 5795MHz



10. ANTENNA REQUIREMENT

10.1. 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.

10.2. ANTENNA CONNECTED CONSTRUCTION

The antennas used for this product are IFA 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 5.33dBi.

11.DEVIATION TO TEST SPECIFICATIONS

[NONE]