REPORT No.: SZ18050200W04

TEST REPORT

APPLICANT	:	Shenzhen Chainway Information Technology Co.,Ltd.
PRODUCT NAME	:	Mobile Data Terminal
MODEL NAME	:	C75
BRAND NAME	:	CHAINWAY
FCC ID	:	2AC6AC75
STANDARD(S)	:	47 CFR Part 15 Subpart E
TEST DATE	:	2018-06-08 to 2018-07-17
ISSUE DATE	:	2018-07-17

Tested by: Su Hang

Su Hang (Test Engineer)

Approved by: Andy Yeh

Andy Yeh (Technical Director)

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MORLAB

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Change History		
Issue	**Date**	**Reason for change**
1.0	2018-07-17	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Shenzhen Chainway Information Technology Co.,Ltd.
Applicant Address:	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen
Manufacturer:	Shenzhen Chainway Information Technology Co.,Ltd.
Manufacturer Address:	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen

1.2. Equipment Under Test (EUT) Description

Product Name:	Mobile Data Terminal
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	C70_MB_V11
Software Version:	C75A_MT6737_V1.2_AM_GITe4dc346_201805181532
Modulation Type:	OFDM
Modulation Mode:	802.11a, 802.11n(HT20), 802.11n(HT40)
Operating Frequency Range:	5.180 GHz- 5.240 GHz; 5.260 GHz -5.320 GHz ; 5.500 GHz -5.720 GHz ; 5.745GHz- 5.825GHz
Channel Number:	Refer to 1.3
Antenna Type:	PIFA Antenna
Antenna Gain:	0.29 dBi

Note 1: The U-NII band is applicable to this report, another bands of operation (2.4GHz) is documented in a separate report.

Note 2: WIFI hotspot does not support U-NII band.

Note 3: During test, the duty cycle of the EUT was setting to 100%.

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

Note 5: This test report is updated from report SZ18010063W04, based on the similarity between before, the model name, the software and hardware version, the antenna and the appearance of EUT are changed. And remove the RFID function. The changes only affect the test results of Antenna Requirement, Restricted Frequency Bands and Radiated Emission.

1.3. The channel number and frequency of EUT

Frequency Range: 5180-5240MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	**36**	**5180**	40	5200
	44	**5220**	**48**	**5240**
40MHz	**38**	**5190**	**46**	**5230**
Frequency Range: 5260-5320MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	**52**	**5260**	56	5280
	60	**5300**	**64**	**5320**
40MHz	**54**	**5270**	**62**	**5310**
Frequency Range: 5500-5720MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	**100**	**5500**	105	5520
	108	5540	112	5560
	116	5580	**120**	**5600**
	124	5620	128	5640
	132	5660	136	5680
	140	5700	**144**	**5720**
40MHz	**102**	**5510**	110	5550
	118	5590	**126**	**5630**
	134	5670	**142**	**5710**
Frequency Range: 5745-5805MHz				
Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	**149**	**5745**	153	5765
	157	**5785**	161	5805
	165	**5825**		
40MHz	**151**	**5775**	**159**	**5795**

Note 1: The black bold channels were selected for test.

1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart E (U-NII band) for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 15 (5-1-14 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result
1	15.203	Antenna Requirement	N/A	N/A	PASS
2	15.407(a)(e)	Emission Bandwidth	Apr 19, 2018 Jul 17, 2018	Su Hang	PASS Note1
3	15.407(a)	Maximum conducted output Power	Apr 19, 2018	Su Hang	PASS Note1
4	15.407(a)	Peak Power spectral density	May 16, 2018 Jul 17, 2018	Su Hang	PASS Note1
5	15.407(g)	Frequency Stability	Apr 19, 2018	Su Hang	PASS Note1
6	15.407(b)	Restricted Frequency Bands	Jun 08, 2018	Wu Zhognwen	PASS
7	15.207	Conducted Emission	Jun 08, 2018	Wu Zhognwen	PASS
8	15.407(b)	Radiated Emission	Jun 06, 2018	Wu Zhognwen	PASS
9	15.407(c)	Automatically discontinue transmission requirement	N/A	N/A	PASS

Note 1: The test results of these test items in this report refer to the test report (Report No.: SZ18010063W04).

Note 2: The DFS test report was documented in a separate report (Report No.: SZ18050200W05).

Note 3: The tests of Conducted Emission and Radiated Emission were performed according to the method of measurements prescribed in ANSI C63.10 2013.

Note 4: These RF tests were performed according to the method of measurements prescribed in KDB789033 D02 General UNII Test Procedures New Rules v01r03

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR Part 15C Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

2.1.2. 2.1.2 Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

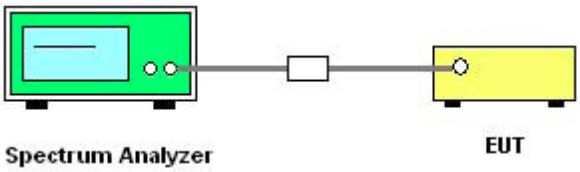
2.2. Emission Bandwidth

2.2.1. Requirement

For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement. Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

2.2.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Test Procedure

1. KDB 789033 Section C) 1) Emission Bandwidth was used in order to prove compliance

a) Set RBW = approximately 1% of the emission bandwidth.

b) Set the VBW > RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. KDB 789033 Section C) 2) minimum emission bandwidth for the band 5.725-5.85GHz was used in order to prove compliance.

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) ≥ 3 × RBW.

c) Detector = Peak.

d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

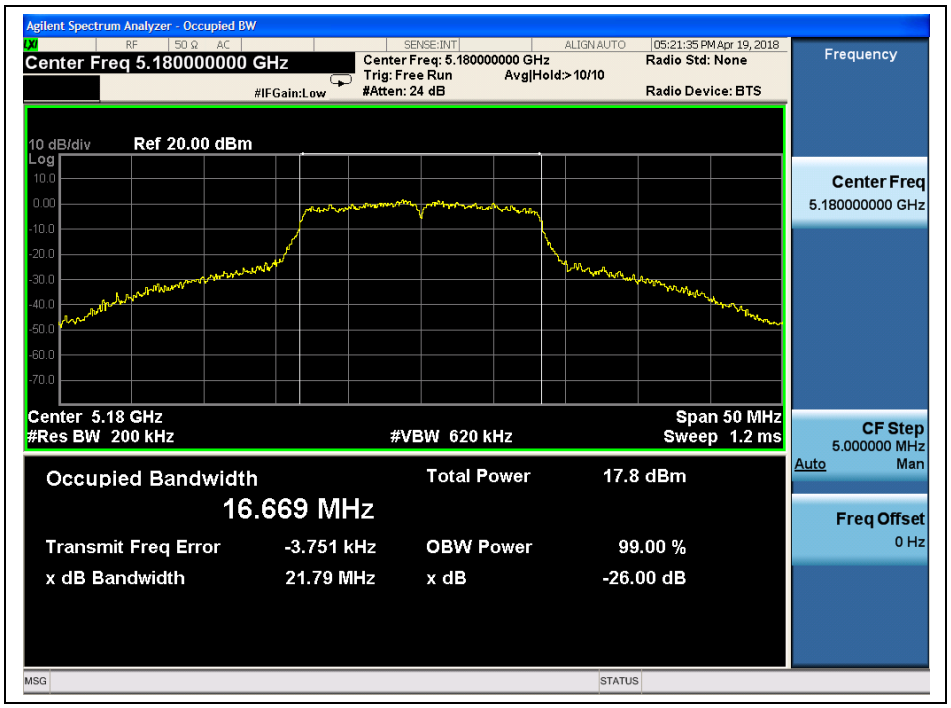
2.2.3. Test Result

802.11a Test mode

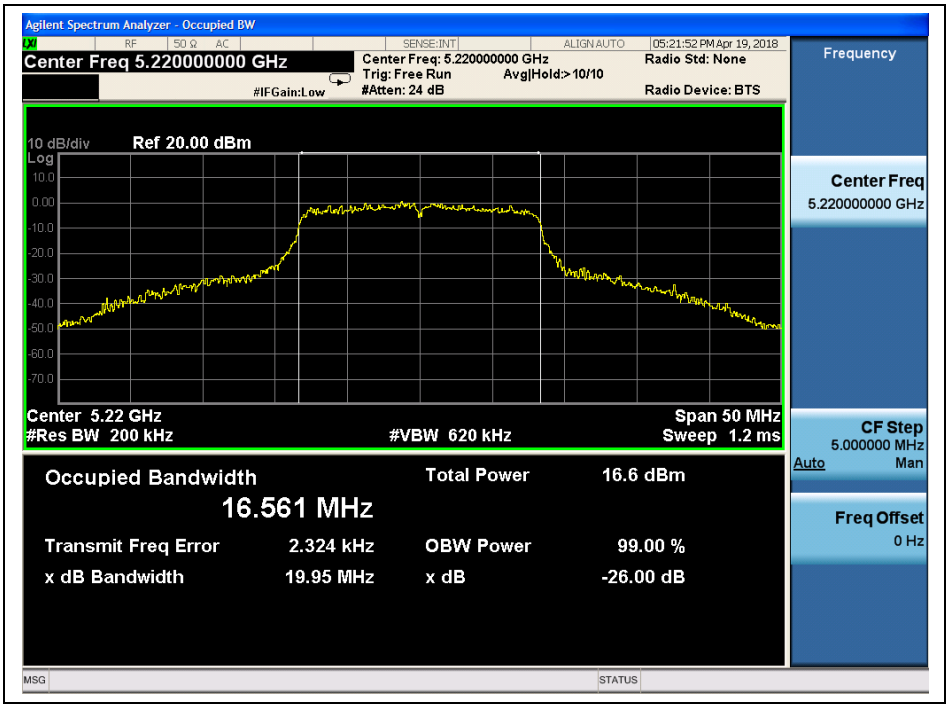
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	21.79
44	5220	19.95
48	5240	21.49 Note
52	5260	19.33
60	5300	19.49
64	5320	19.52
100	5500	20.11
120	5600	19.74
144	5720	22.09
Channel	**Frequency (MHz)**	**6dB Bandwidth (MHz)**
144	5720	15.77
149	5745	15.18
157	5785	15.34
165	5825	14.52
Note: The high frequency of the -26dB is 5249.9MHz which is out of the DFS frequency range, so there is no DFS testing requirement.		

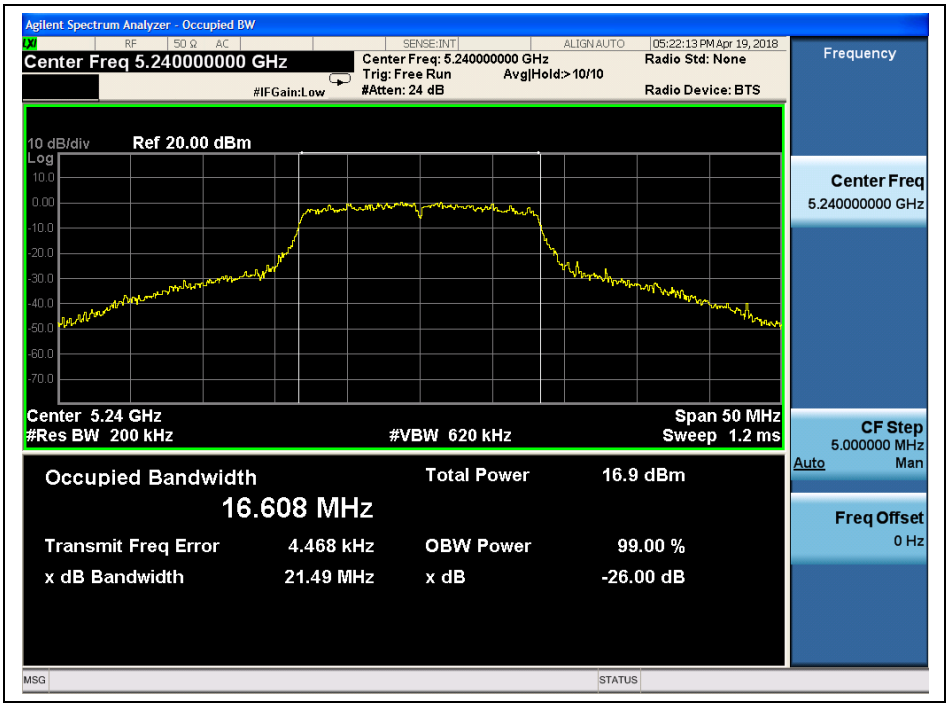
B. Test Plots



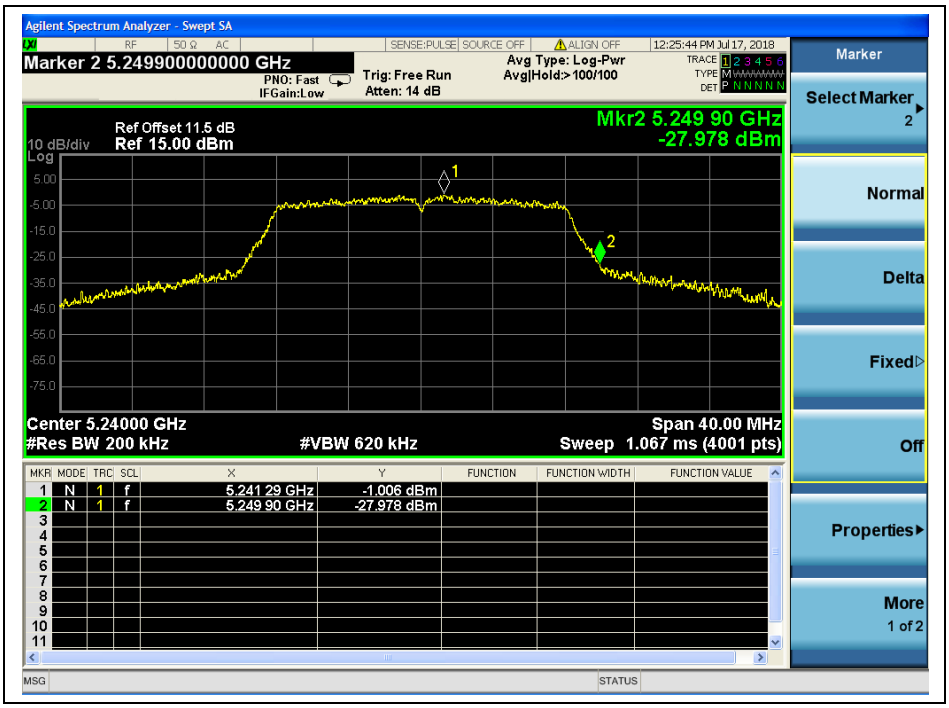
(Channel 36, 5180MHz, 802.11a,)



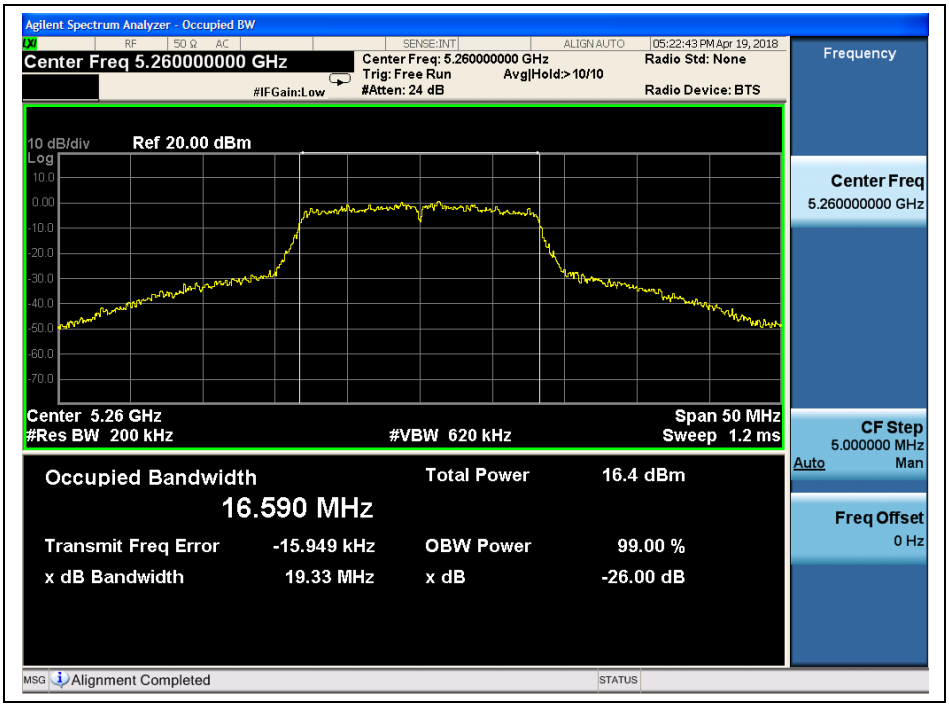
(Channel 44, 5220 MHz, 802.11a,)



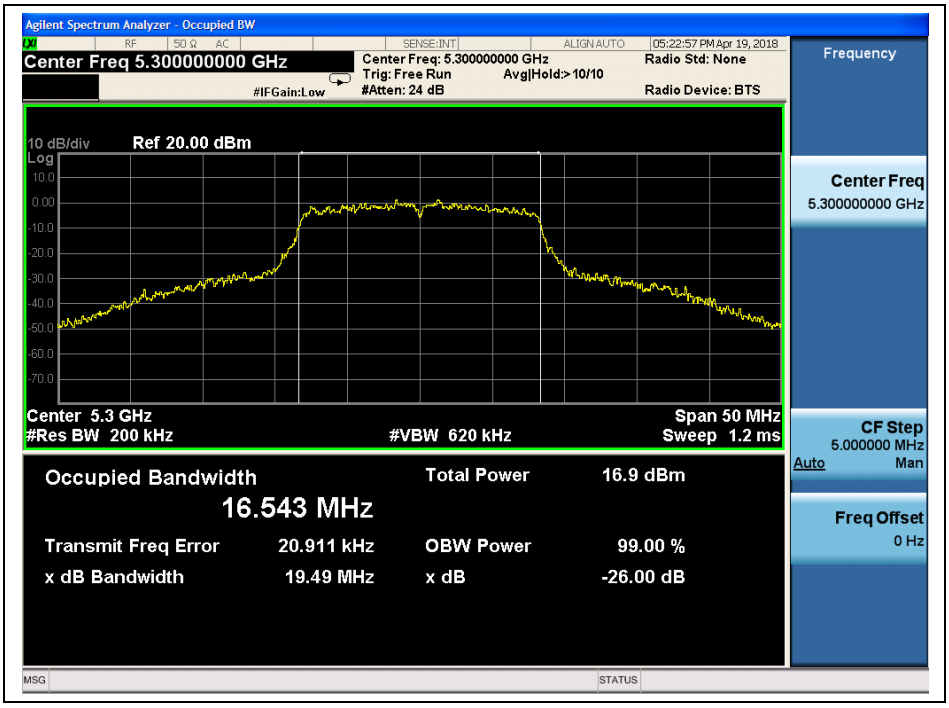
(Channel 48, 5240MHz, 802.11a,)



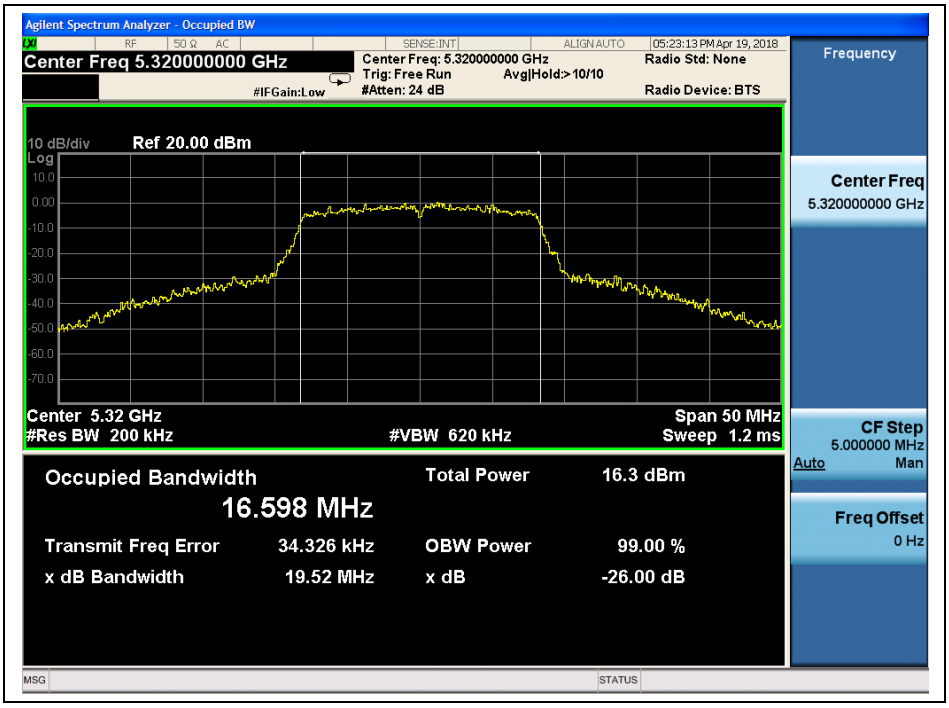
(Channel 48, 5240MHz,fh of -26dB, 802.11a,)



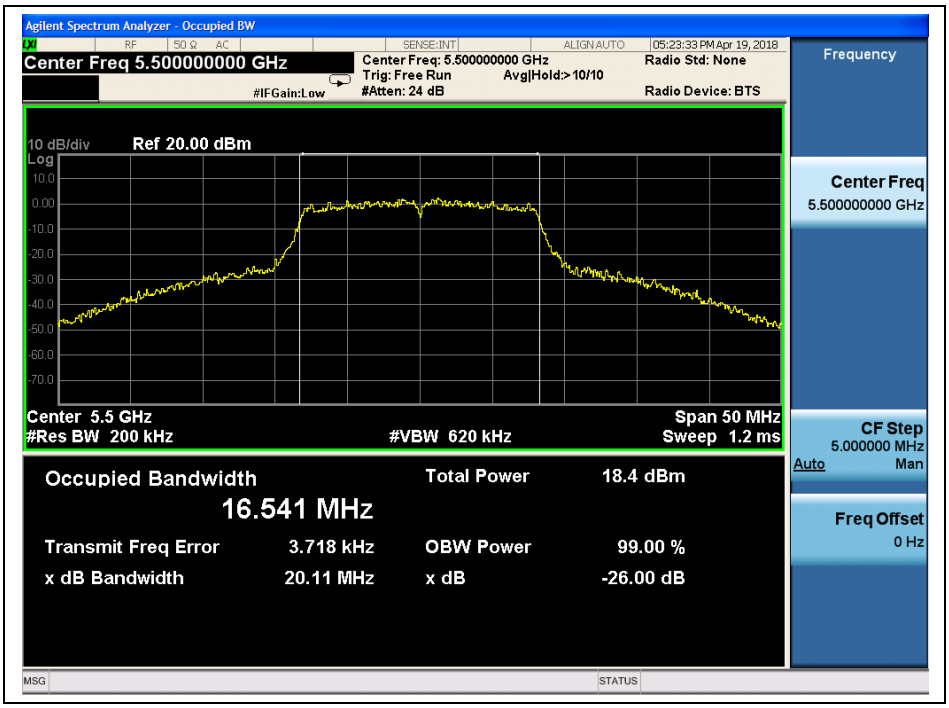
(Channel 52, 5260MHz, 802.11a,)



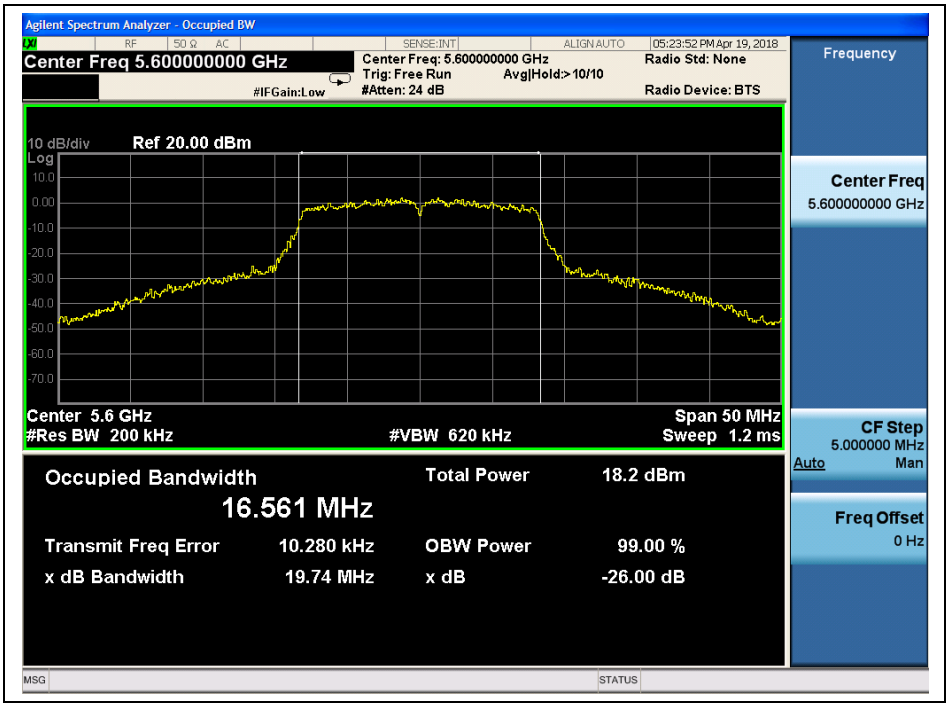
(Channel 60, 5300 MHz, 802.11a,)



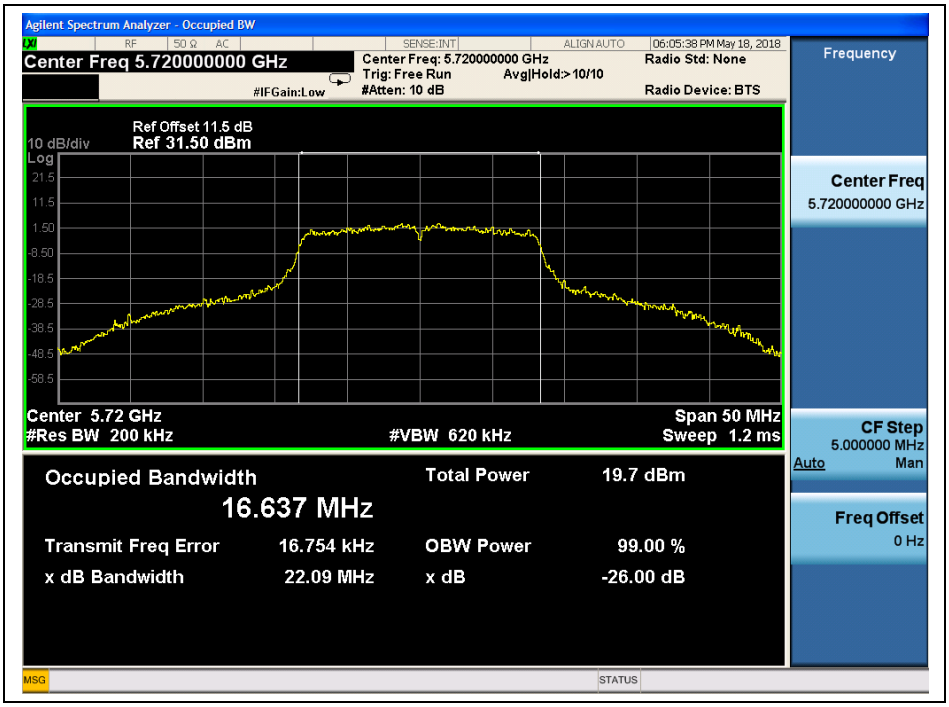
(Channel 64, 5320MHz, 802.11a,)



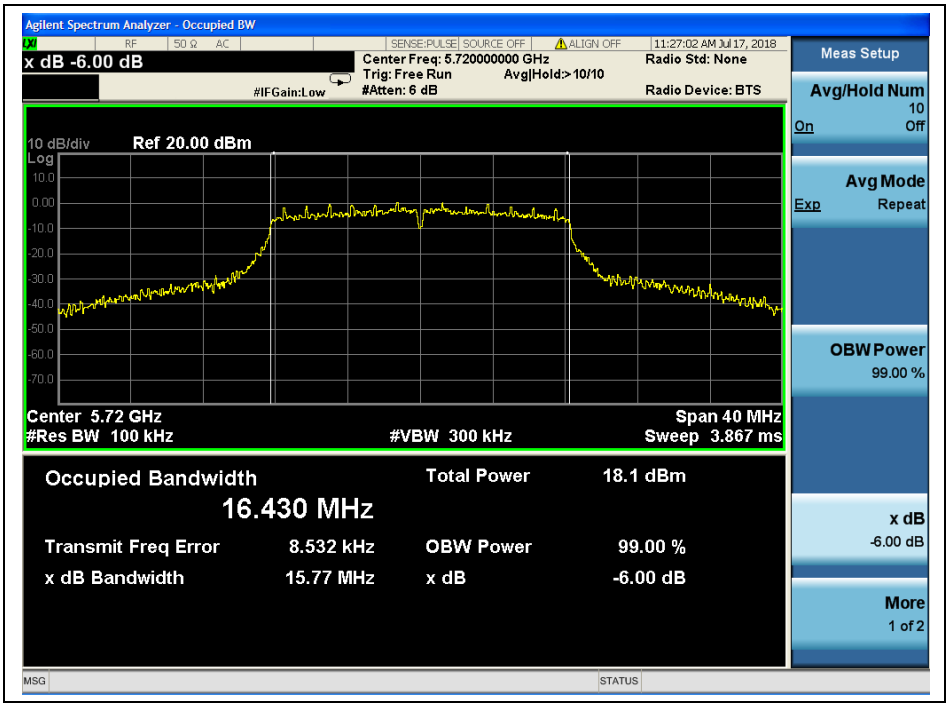
(Channel 100, 5500MHz, 802.11a,)



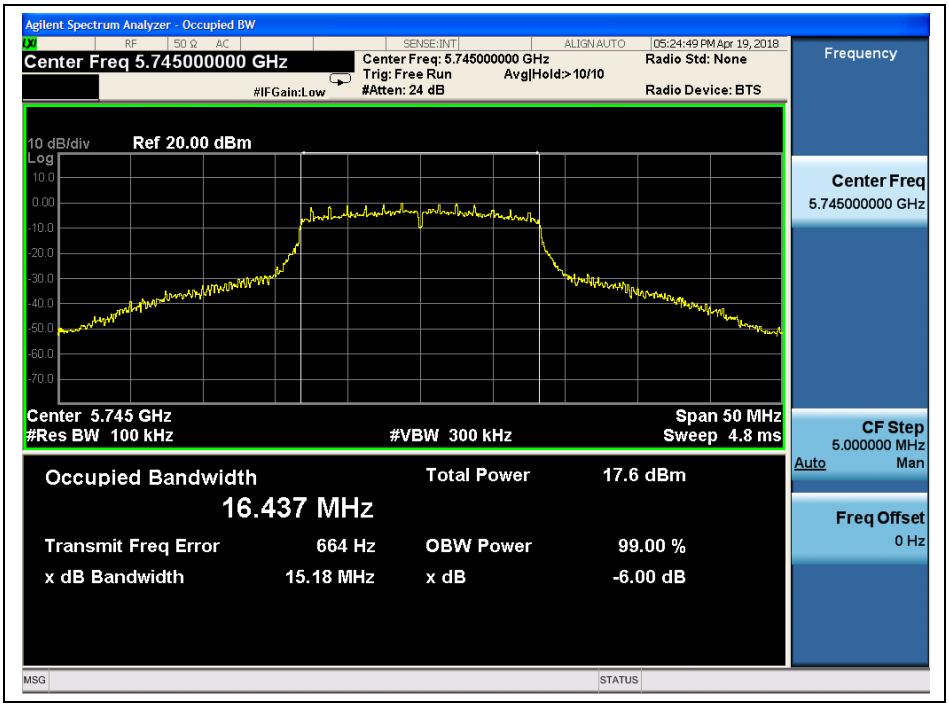
(Channel 120, 5600 MHz, 802.11a,)



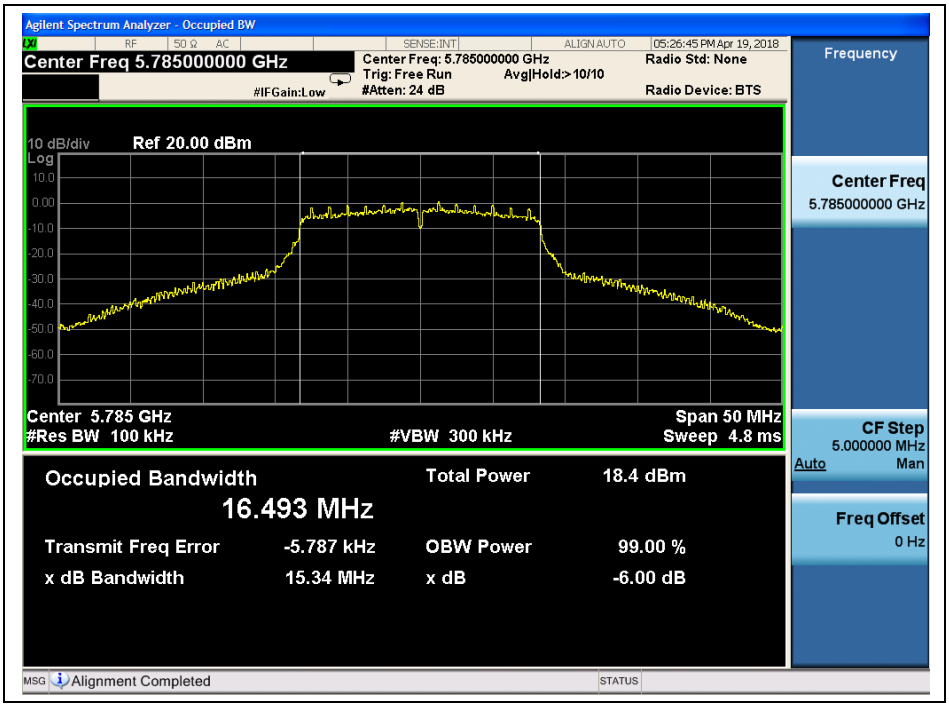
(Channel 144, 5720MHz, 802.11a,)



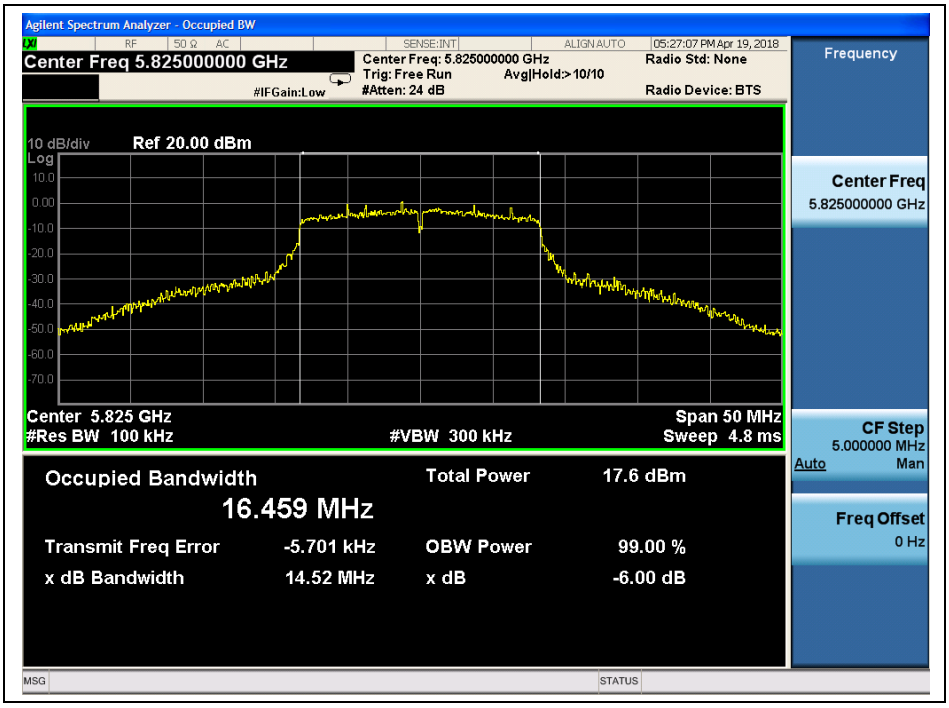
(Channel 144, 5720MHz, 802.11a)



(Channel 149, 5745MHz, 802.11a)



(Channel 157, 5785MHz, 802.11a)



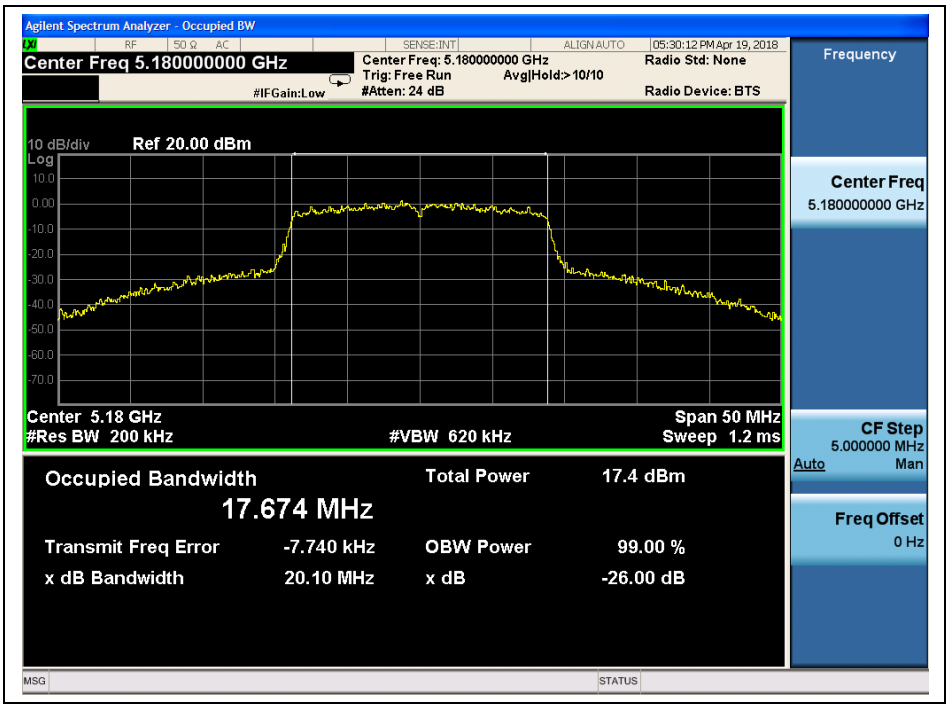
(Channel 165, 5825MHz, 802.11a)

802.11n (HT20) Test mode

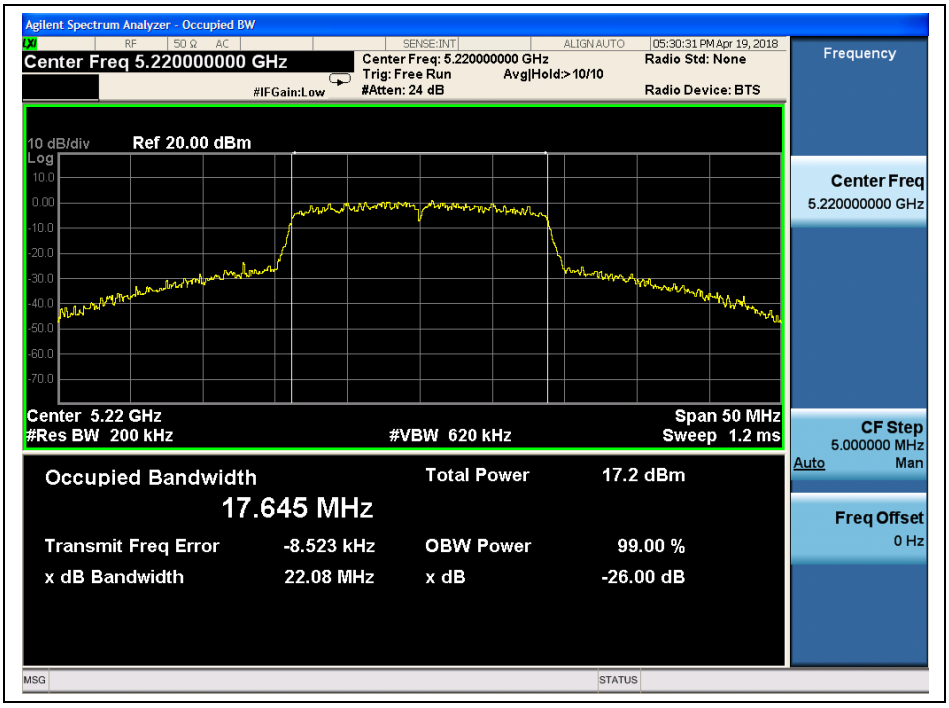
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
36	5180	20.10
44	5220	22.08
48	5240	19.74Note
52	5260	19.82
60	5300	19.82
64	5320	19.69
100	5500	19.81
120	5600	21.47
144	5720	23.61
Channel	**Frequency (MHz)**	**6dB Bandwidth (MHz)**
144	5720	15.17
149	5745	15.18
157	5785	15.14
165	5825	15.17
Note: The high frequency of the -26dB is 5249.8MHz which is out of the DFS frequency range, so there is no DFS testing requirement.		

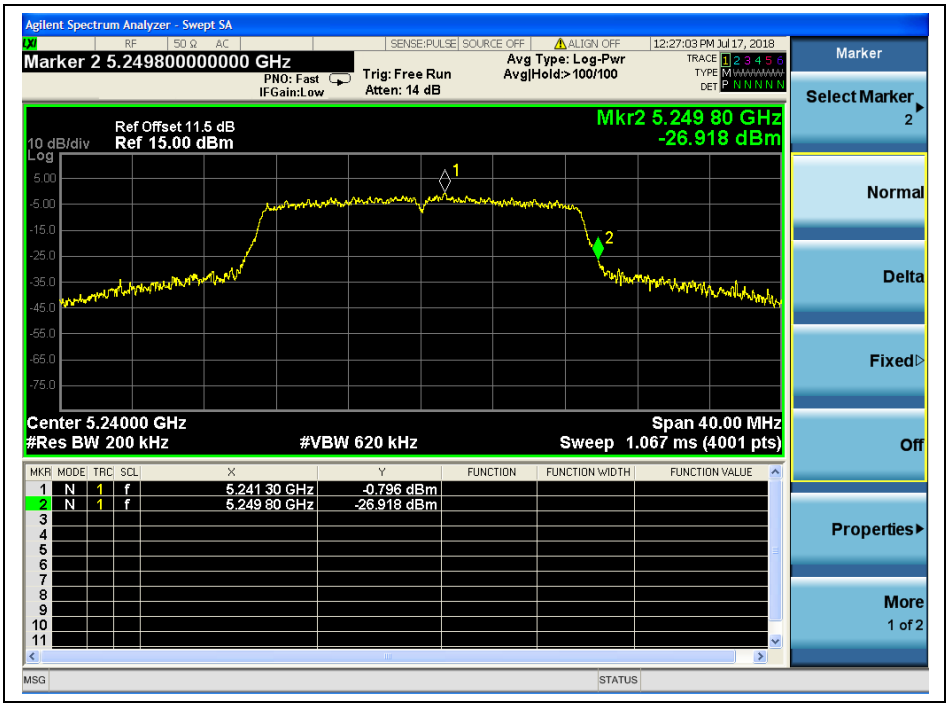
B. Test Plots



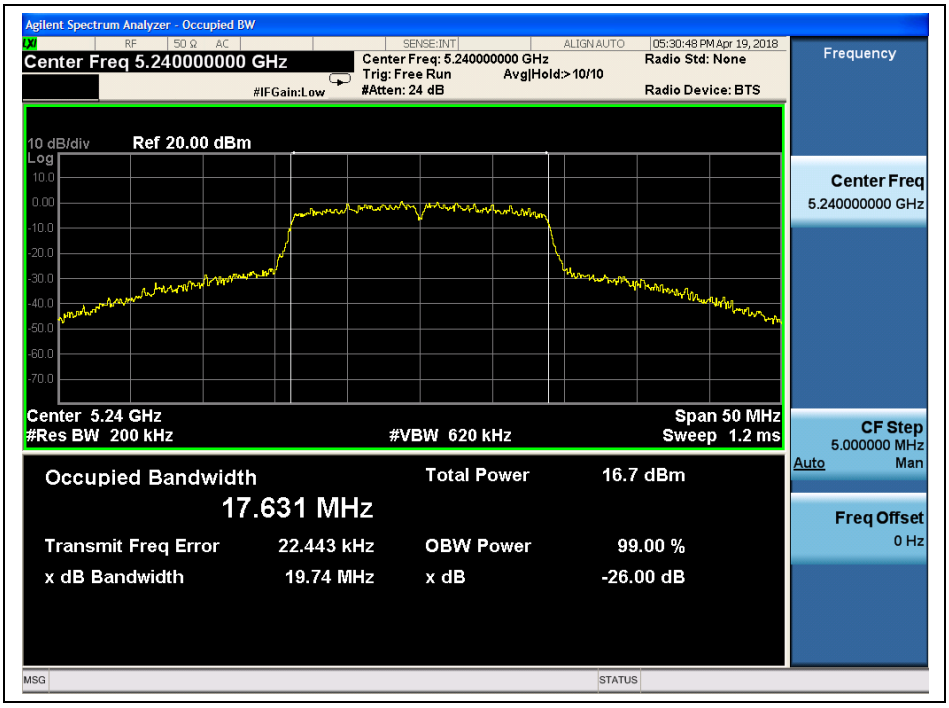
(Channel 36, 5180MHz, 802.11 n (HT20))



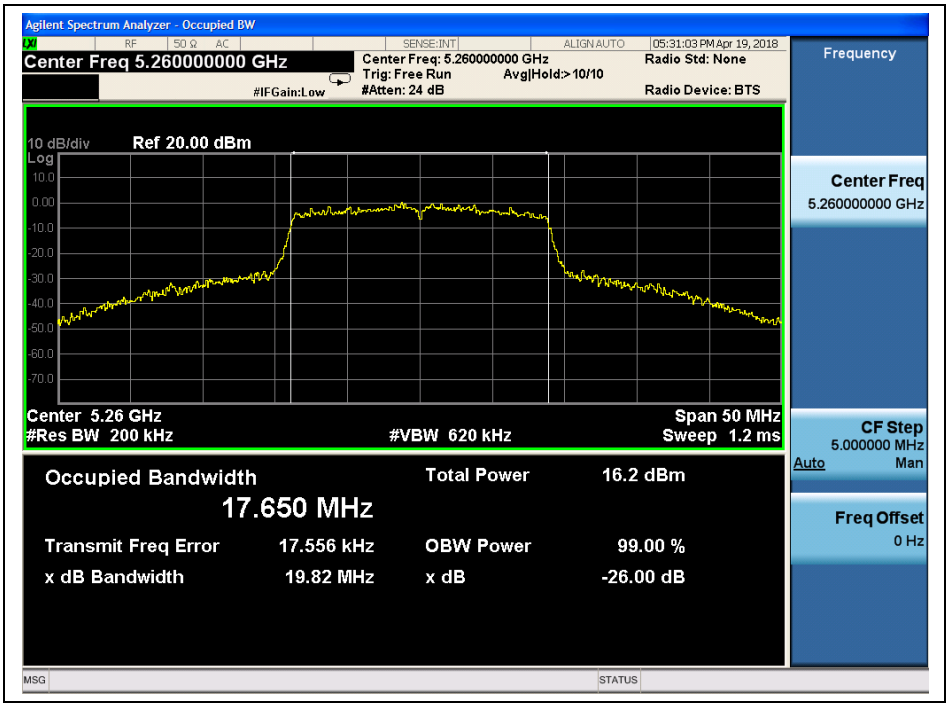
(Channel 44, 5220 MHz, 802.11 n (HT20))



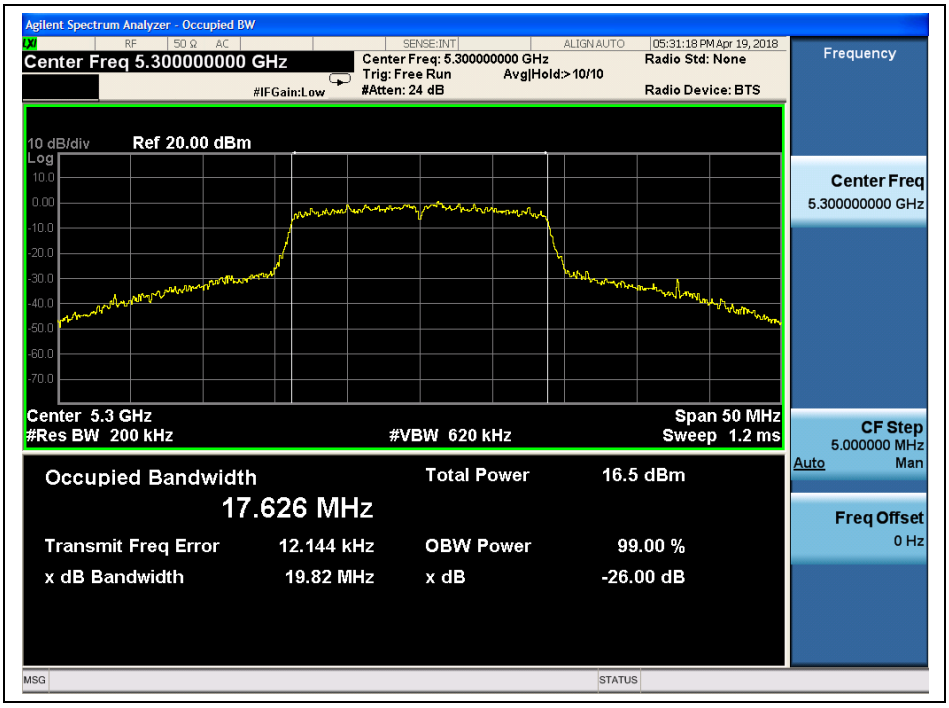
(Channel 48, 5240MHz, fh of -26dB, 802.11 n (HT20))



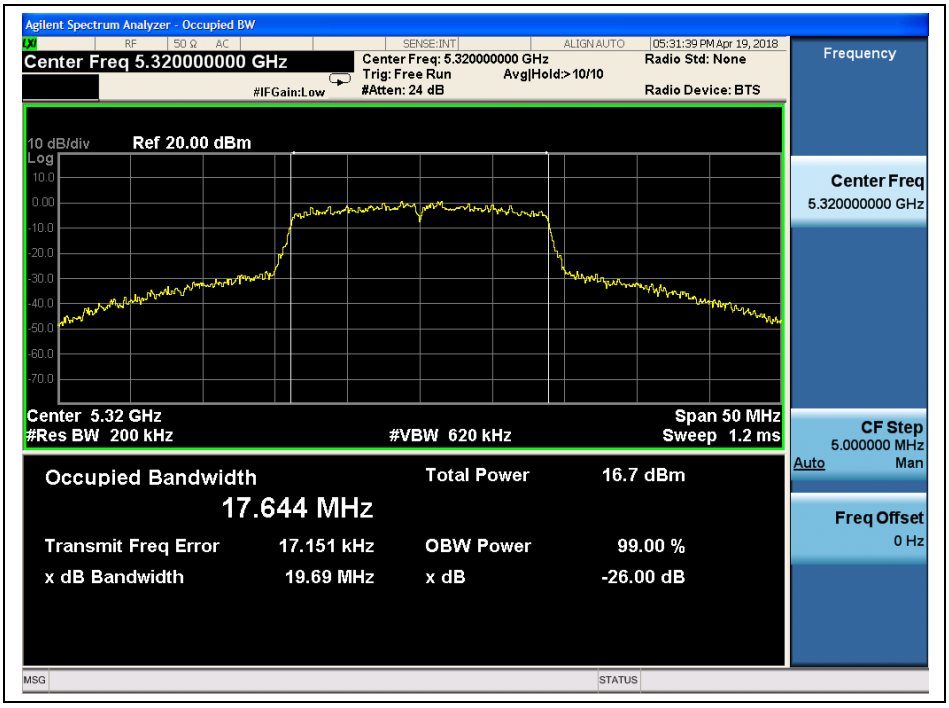
(Channel 48, 5240MHz, 802.11 n (HT20))



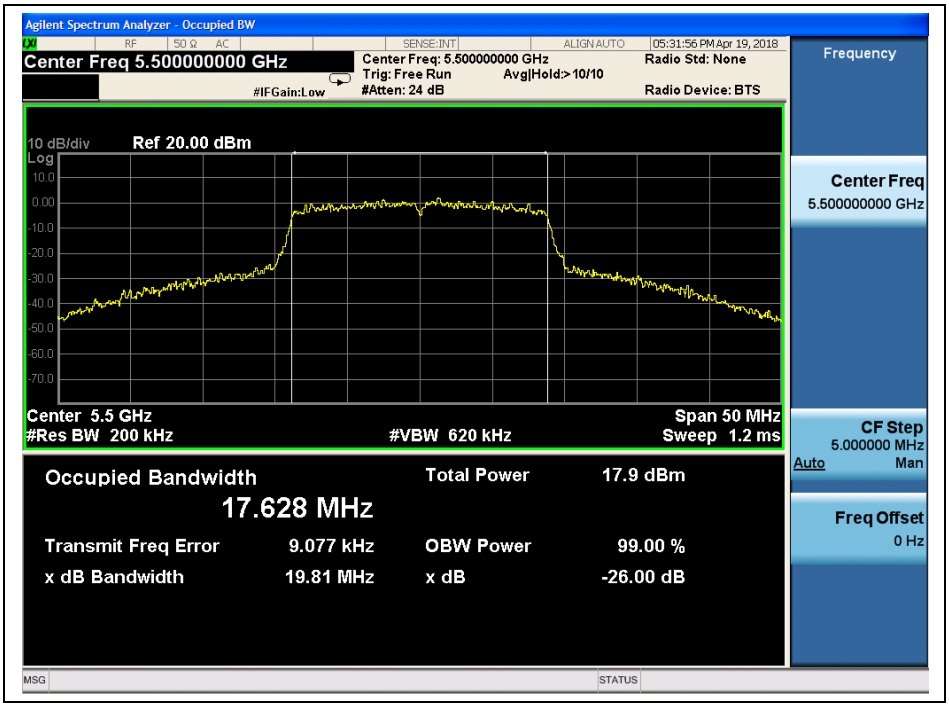
(Channel 52, 5260MHz, 802.11 n (HT20))



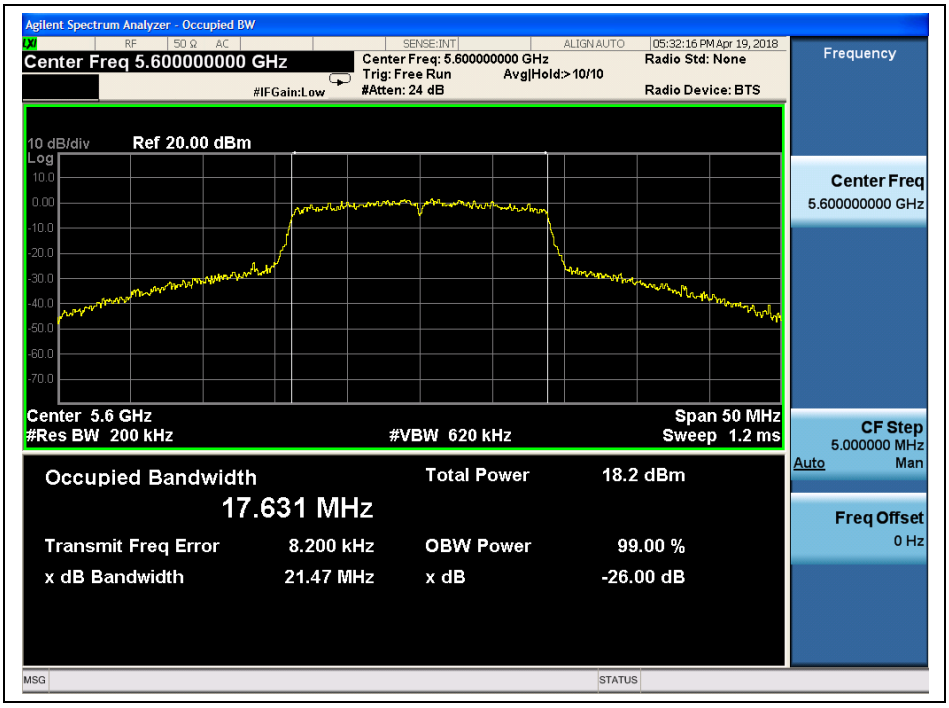
(Channel 60, 5300 MHz, 802.11 n (HT20))



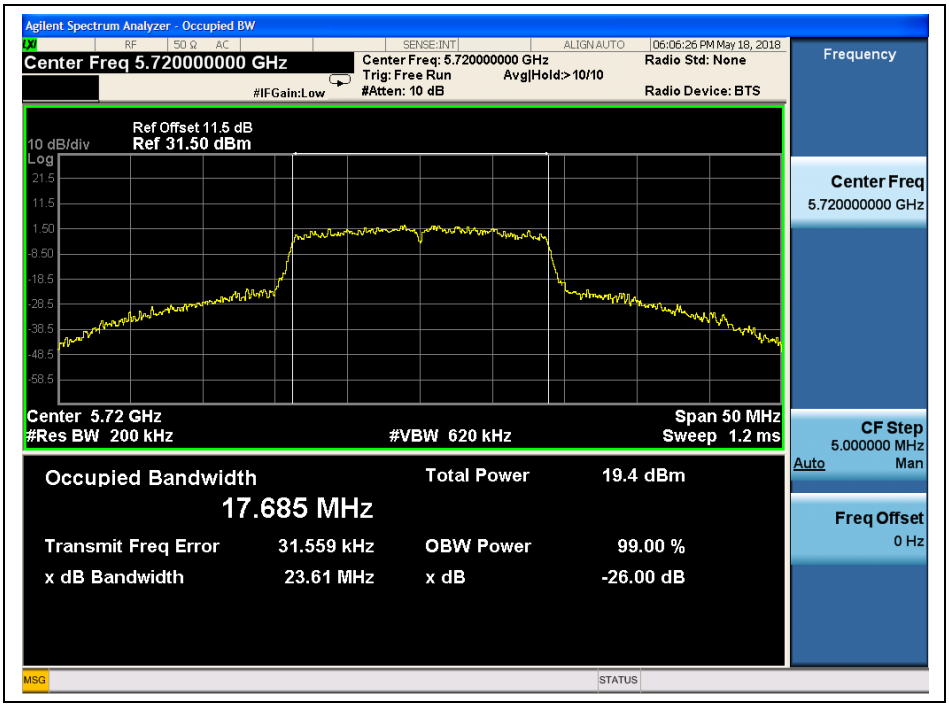
(Channel 64, 5320MHz, 802.11 n (HT20))



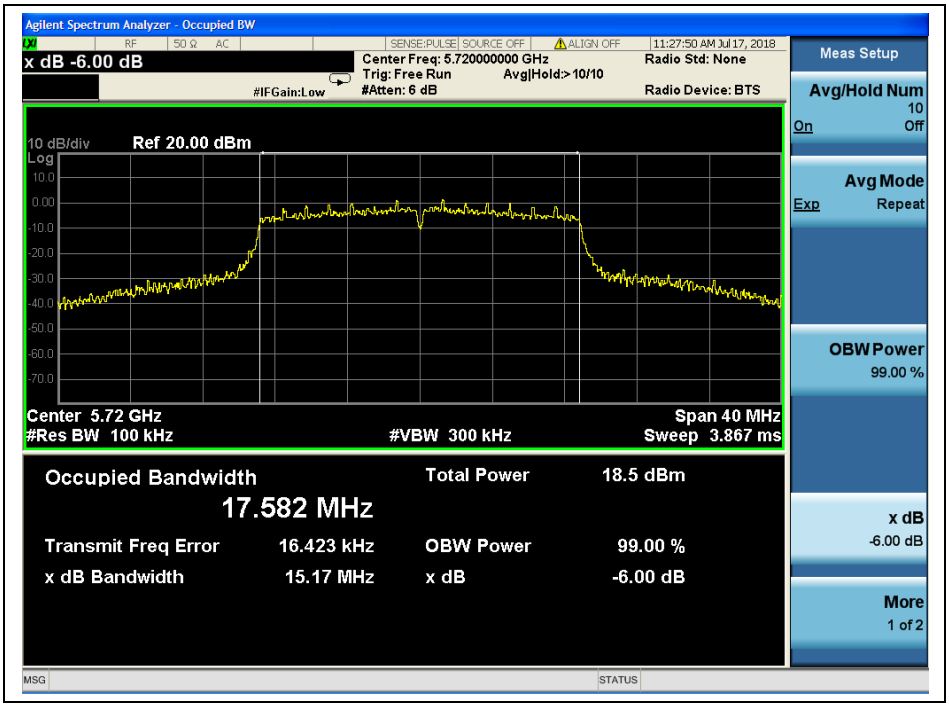
(Channel 100, 5500MHz, 802.11 n (HT20))



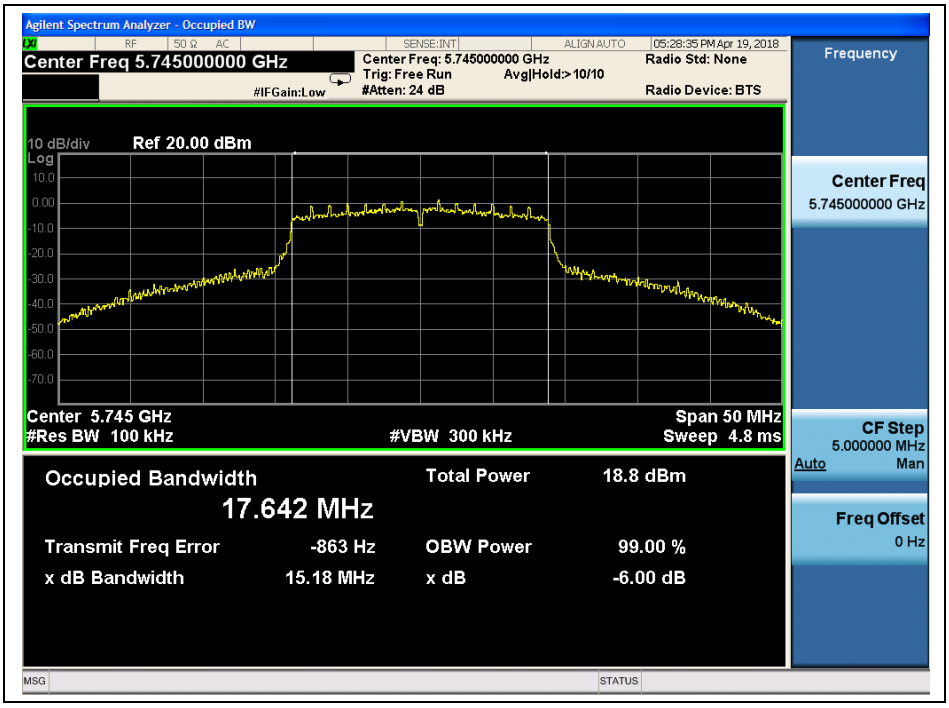
(Channel 120, 5600 MHz, 802.11 n (HT20))



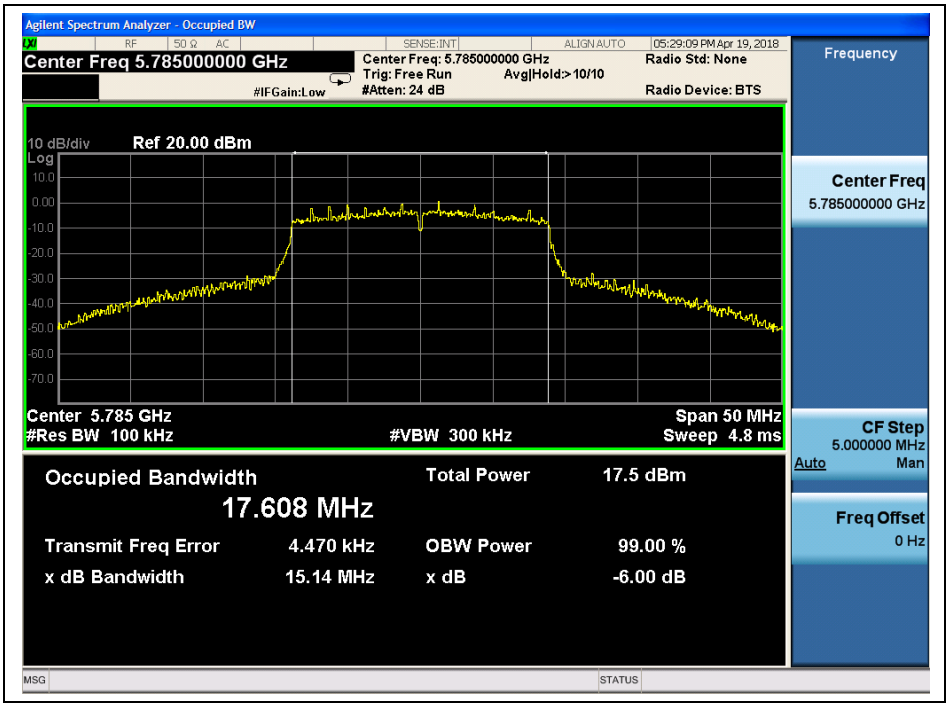
(Channel 144, 5720MHz, 802.11 n (HT20))



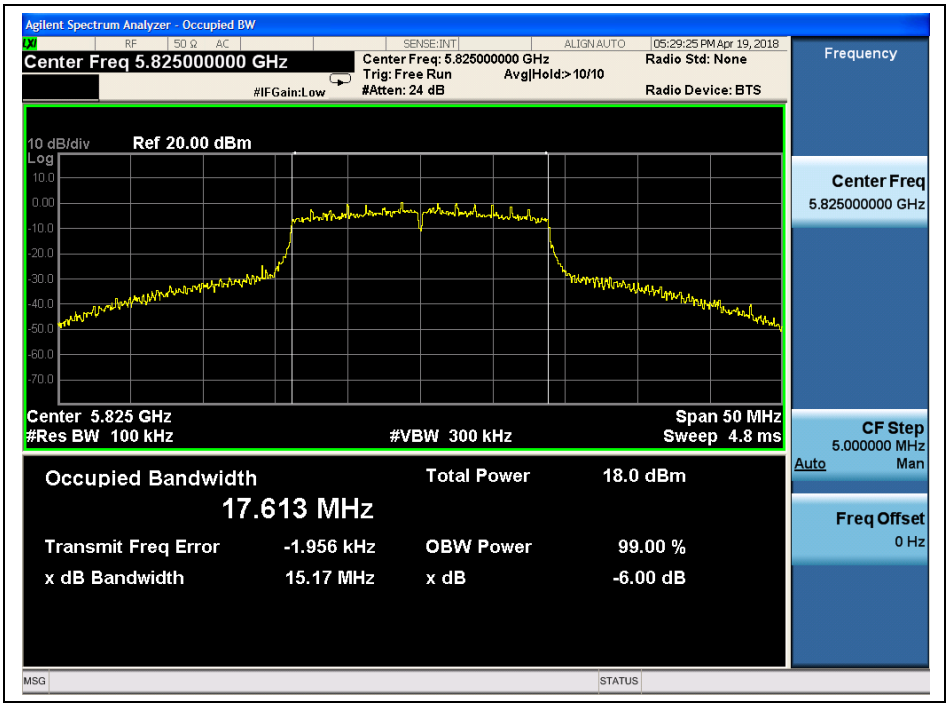
(Channel 144, 5720MHz, 802.11 n (HT20))



(Channel 149, 5745MHz, 802.11 n (HT20))



(Channel 157, 5785MHz, 802.11 n (HT20))



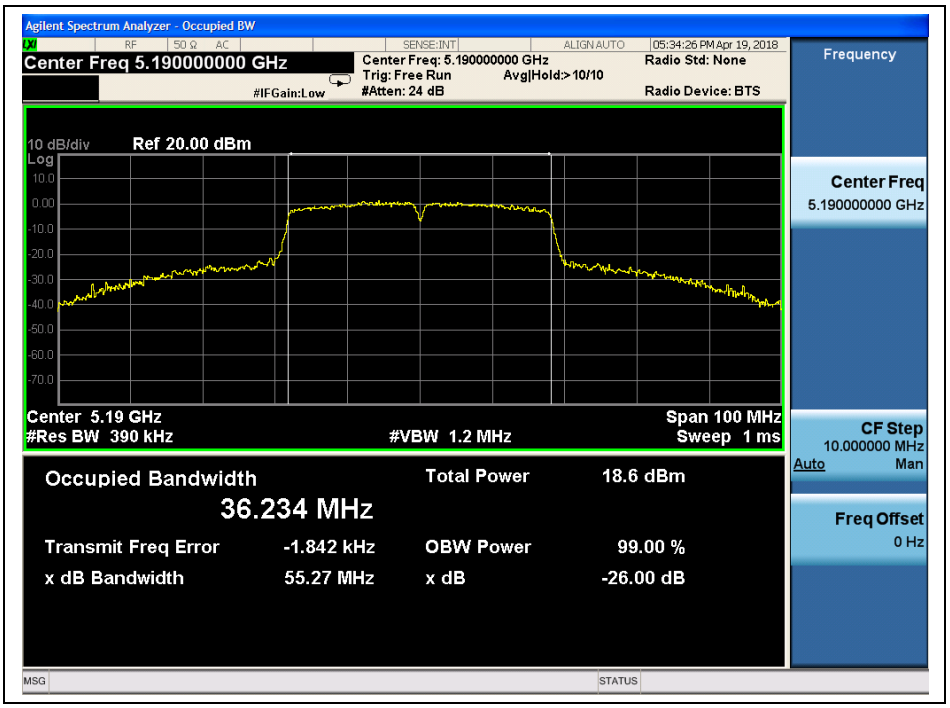
(Channel 165, 5825MHz, 802.11 n (HT20))

802.11n (HT40) Test mode

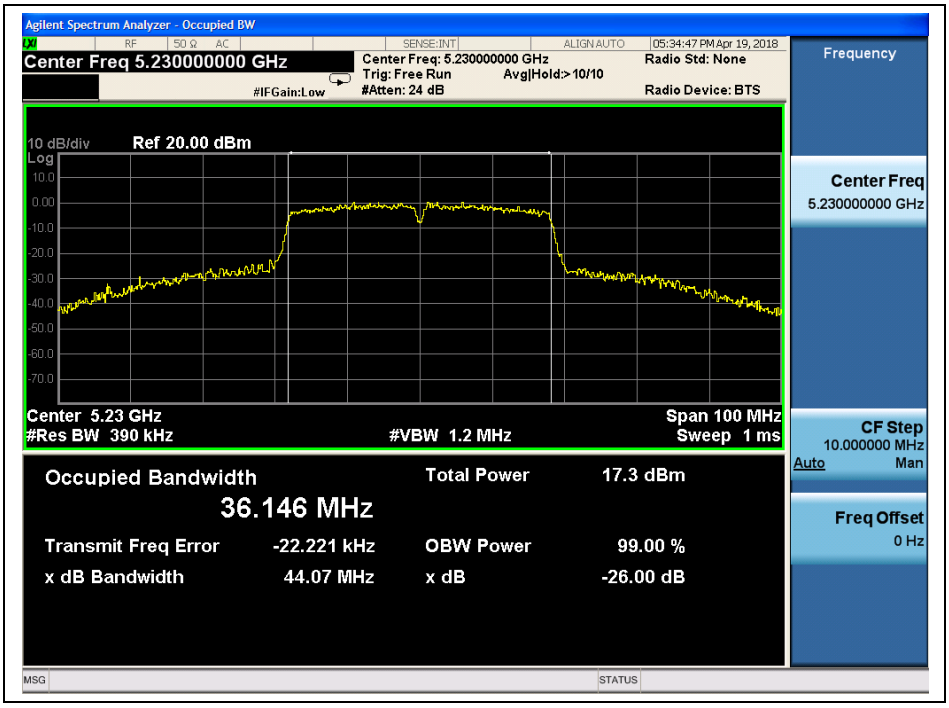
A. Test Verdict:

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
38	5190	55.27
46	5230	44.07 Note
54	5270	53.76
62	5310	45.48
102	5510	47.13
126	5630	42.02
142	5710	46.56
Channel	**Frequency (MHz)**	**6dB Bandwidth (MHz)**
142	5710	35.24
151	5755	35.27
159	5795	35.43
Note: The high frequency of the -26dB is 5249.86MHz which is out of the DFS frequency range, so there is no DFS testing requirement.		

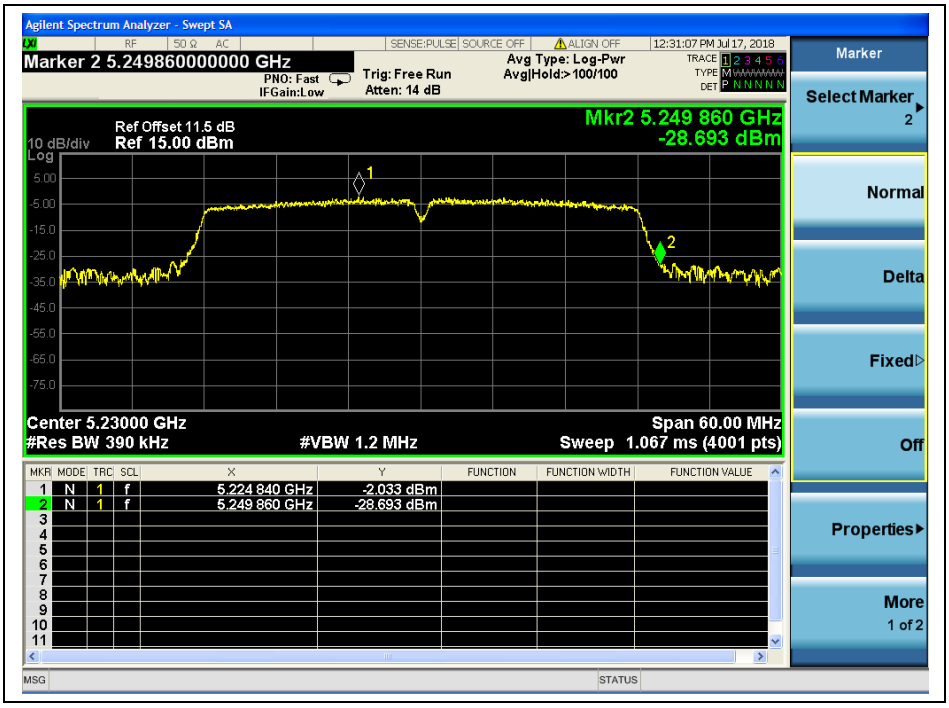
B. Test Plots



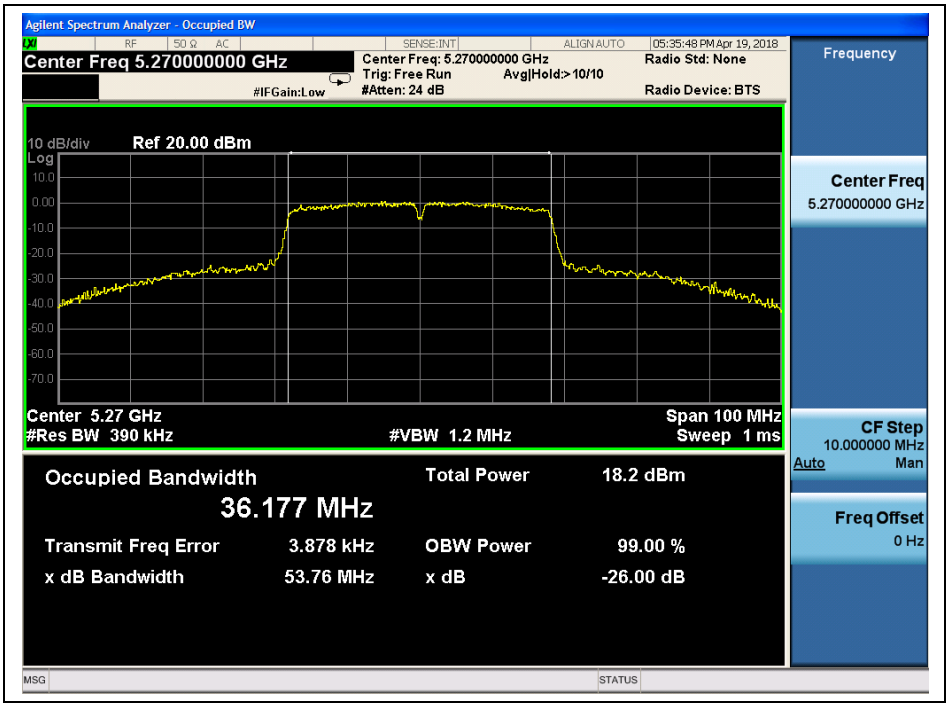
(Channel 38, 5190MHz, 802.11n (HT40))



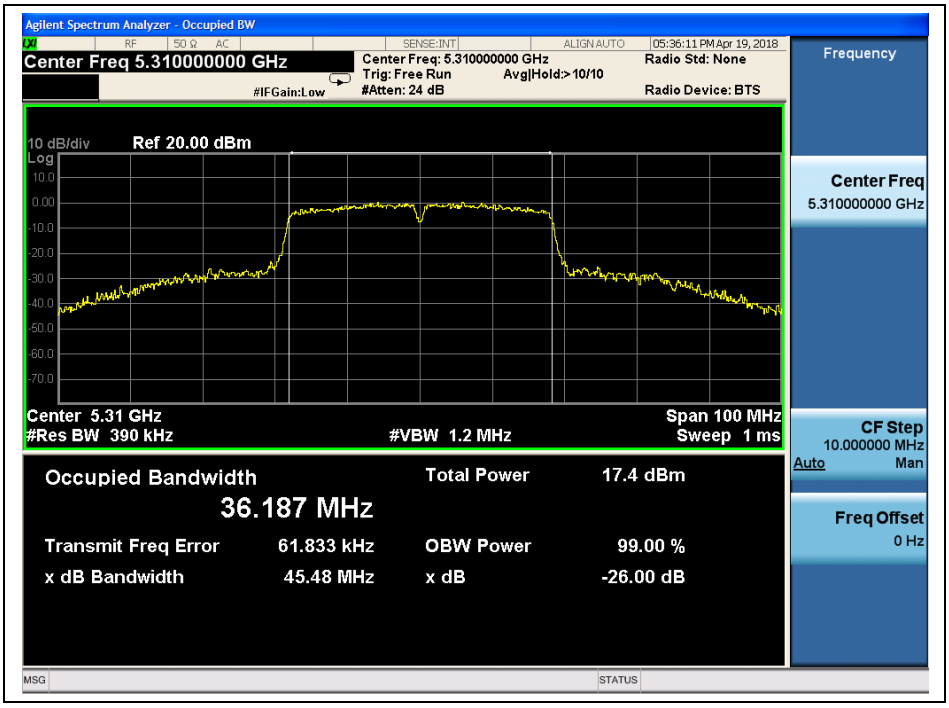
(Channel 46, 5230 MHz, 802.11n (HT40))



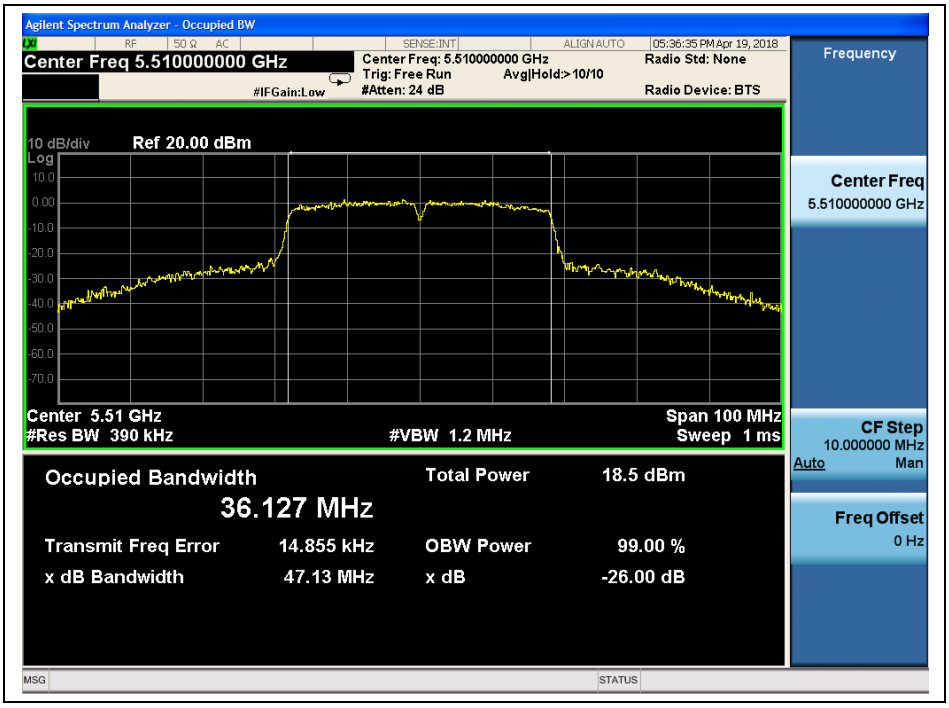
(Channel 46, 5230 MHz, fh of -26dB, 802.11n (HT40))



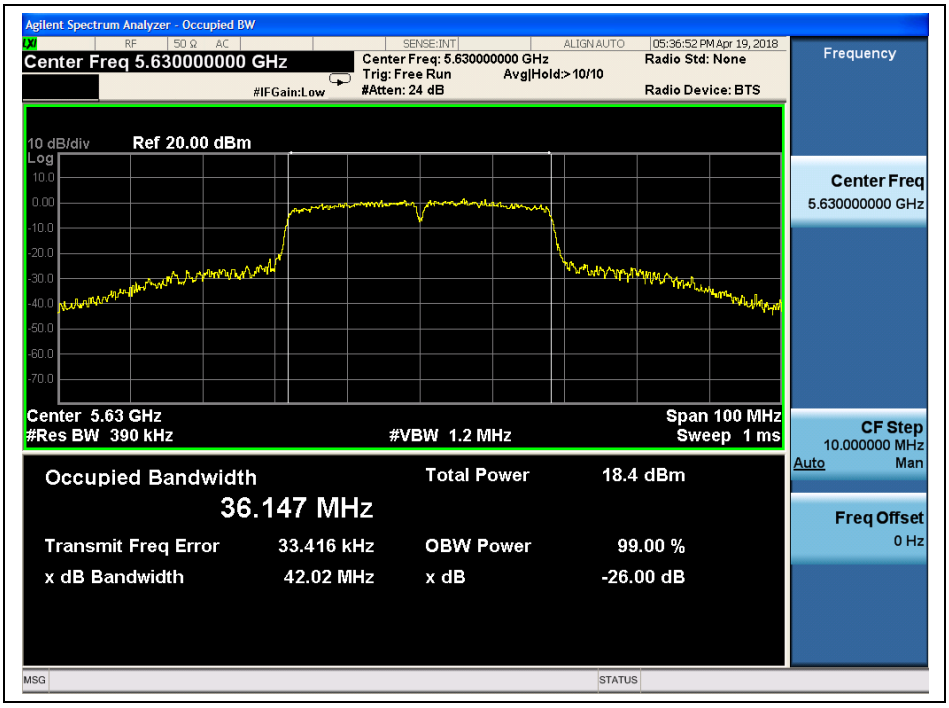
(Channel 54, 5270MHz, 802.11n (HT40))



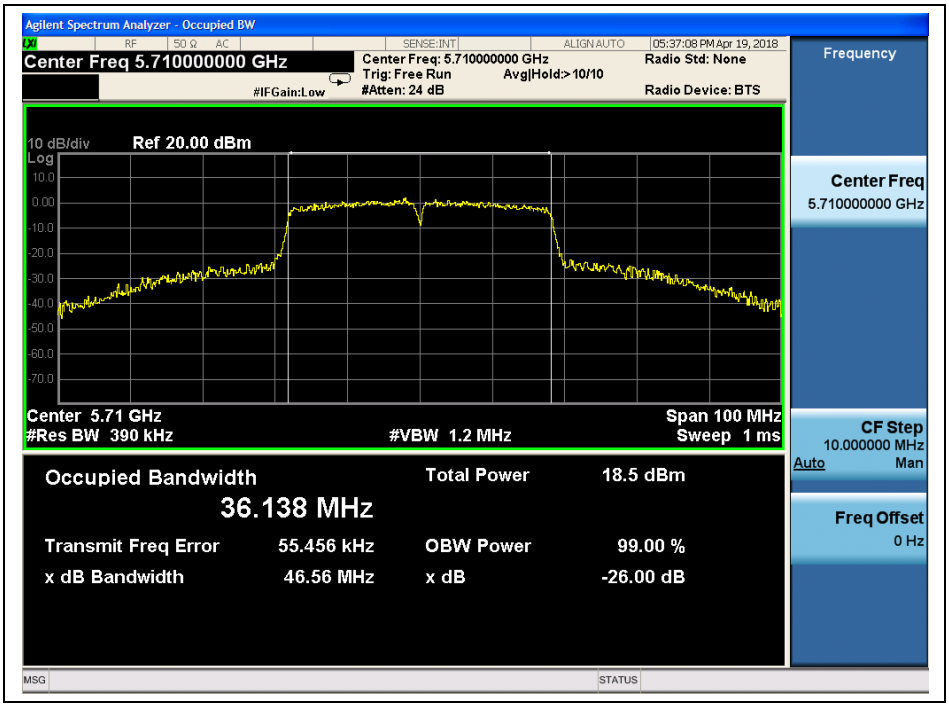
(Channel 62, 5310 MHz, 802.11n (HT40))



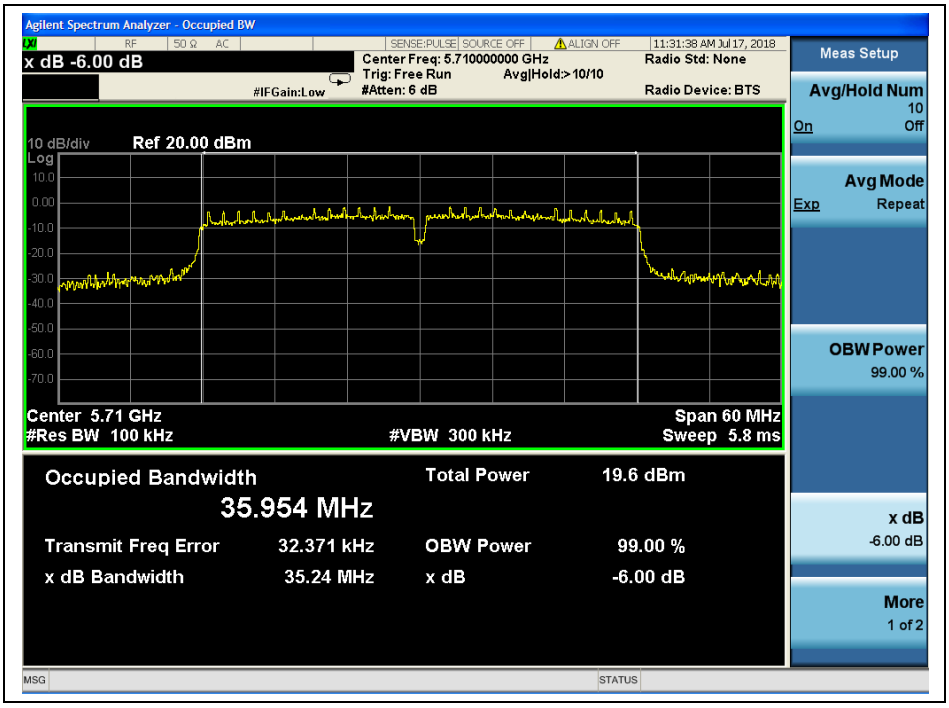
(Channel 102, 5510MHz, 802.11n (HT40))



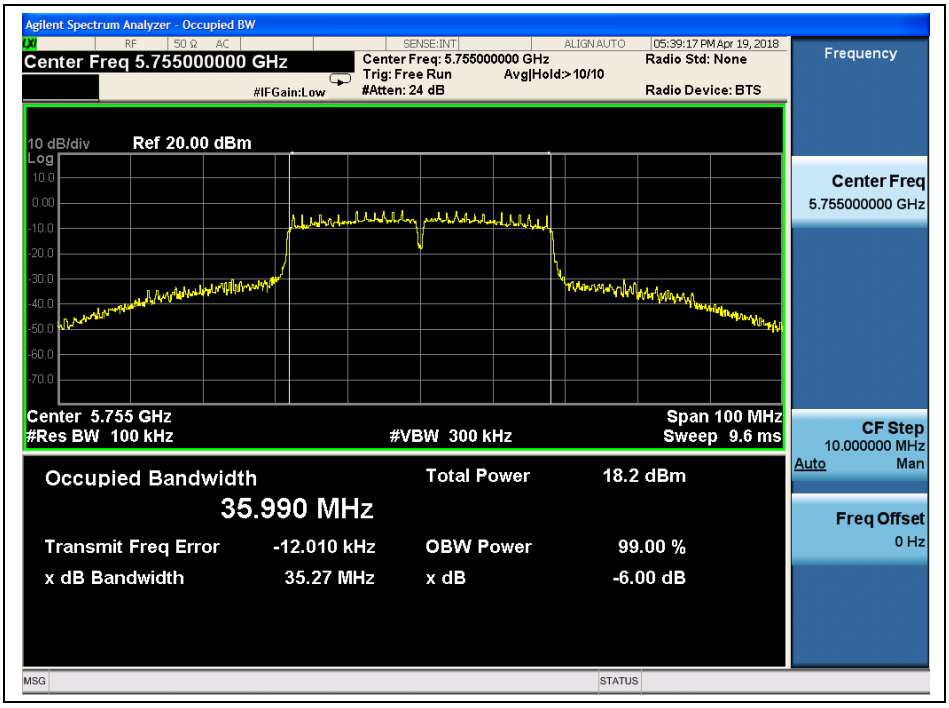
(Channel 126, 5630 MHz, 802.11n (HT40))



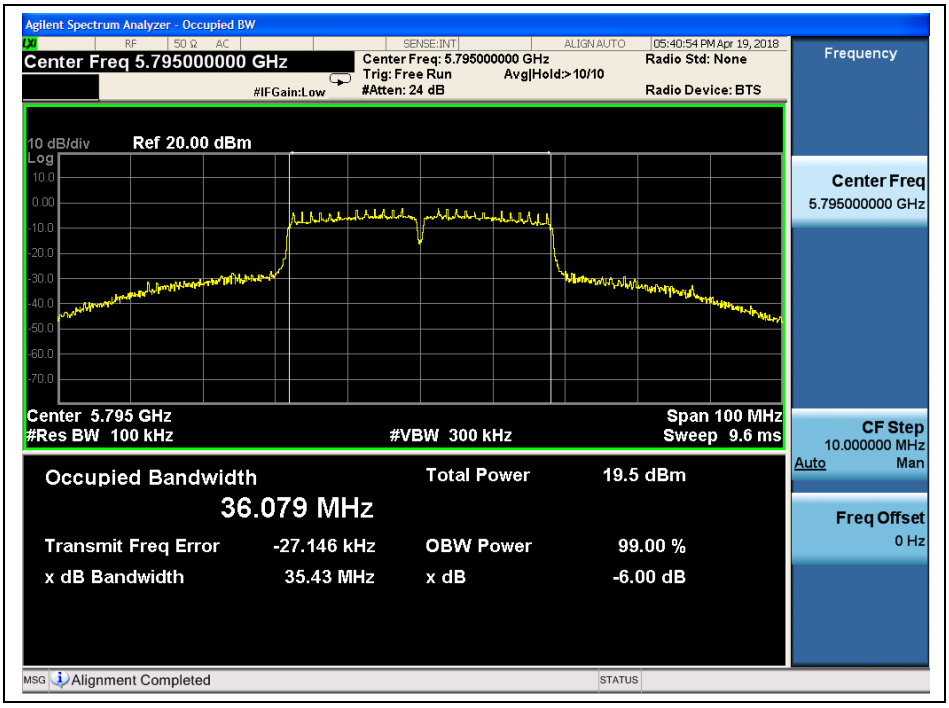
(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 151, 5755 MHz, 802.11n (HT40))



(Channel 159, 5795MHz, 802.11n (HT40))

2.3. Maximum conducted output power

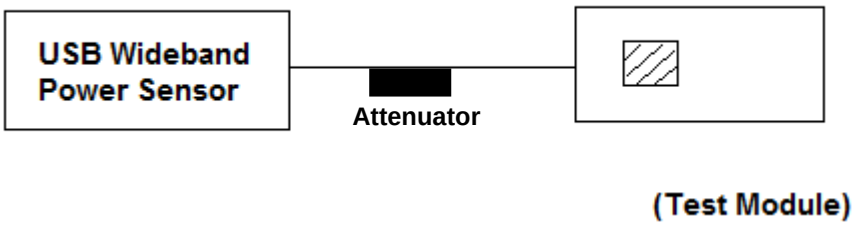
2.3.1. Requirement

(1) For 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.
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands 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 megahertz.
(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(4) According to KDB662911D01Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.
(5) According to KDB 662911 D01, the directional gain = G_{ANT} +10log(N_{ANT}) dBi, where G_{ANT} is the antenna gain in dBi, N_{ANT} is the number of outputs.

2.3.2. Test Description

Section E) 3) of KDB 789033 defines a methodology using a USB Wideband Power Sensor.

A. Test Setup:



The EUT (Equipment under the test) which is coupled to the USB Wideband Power Sensor; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in USB Wideband Power Sensor.

2.3.3. Test Result

802.11a Test mode

Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit (dBm)	Verdict
36	5180	20.47	24	PASS
44	5220	19.92		
48	5240	19.90		
52	5260	19.81		
60	5300	20.22		
64	5320	19.99		
100	5500	20.66		
120	5600	21.10		
144	5720	20.76		
149	5745	20.38	30	
157	5785	20.92		
165	5825	21.05		

Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
52	5260	19.81	23.86	PASS
60	5300	20.22	23.90	
64	5320	19.99	23.90	
100	5500	20.66	24.03	
120	5600	21.10	23.95	
144	5720	20.76	24.28	

Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit (dBm)	Verdict
36	5180	13.79	24	PASS
44	5220	13.14		
48	5240	13.83		
52	5260	13.08		
60	5300	13.84		
64	5320	13.61		
100	5500	14.60		
120	5600	14.46		
144	5720	14.80		
149	5745	13.23	30	
157	5785	12.88		
165	5825	13.49		

Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
52	5260	13.08	23.86	PASS
60	5300	13.84	23.90	
64	5320	13.61	23.90	
100	5500	14.60	24.03	
120	5600	14.46	23.95	
144	5720	14.80	24.28	

802.11n (HT20) Test mode

Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit (dBm)	Verdict
36	5180	20.17	24	PASS
44	5220	19.79		
48	5240	19.76		
52	5260	19.65		
60	5300	20.12		
64	5320	19.89		
100	5500	19.92		
120	5600	20.55		
144	5720	20.57		
149	5745	20.89	30	
157	5785	20.68		
165	5825	21.01		

Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
52	5260	19.65	23.97	PASS
60	5300	20.12	23.97	
64	5320	19.89	23.94	
100	5500	19.92	23.97	
120	5600	20.55	24.32	
144	5720	20.57	24.74	

Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit (dBm)	Verdict
36	5180	13.90	24	PASS
44	5220	13.91		
48	5240	13.18		
52	5260	13.56		
60	5300	12.94		
64	5320	13.65		
100	5500	14.03		
120	5600	14.57		
144	5720	14.26		
149	5745	13.28	30	
157	5785	13.36		
165	5825	12.90		

Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
52	5260	13.56	23.97	PASS
60	5300	12.94	23.97	
64	5320	13.65	23.94	
100	5500	14.03	23.97	
120	5600	14.57	24.32	
144	5720	14.26	24.74	

802.11n (HT40) Test mode

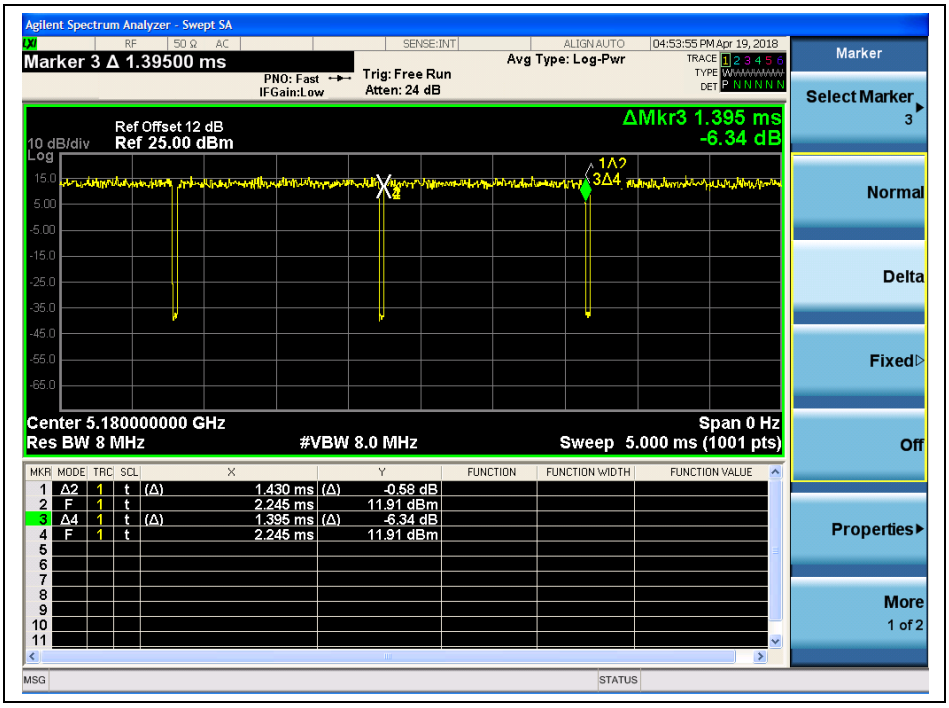
Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit (dBm)	Verdict
38	5190	21.49	24	PASS
46	5230	21.47		
54	5270	21.52		
62	5310	21.63		
102	5510	22.15		
126	5630	22.21		
142	5710	22.25		
151	5755	21.17	30	
159	5795	21.05		

Channel	Frequency (MHz)	Measured Peak Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
54	5270	21.52	28.30	PASS
62	5310	21.63	27.58	
102	5510	22.15	27.73	
126	5630	22.21	27.23	
142	5710	22.25	27.68	

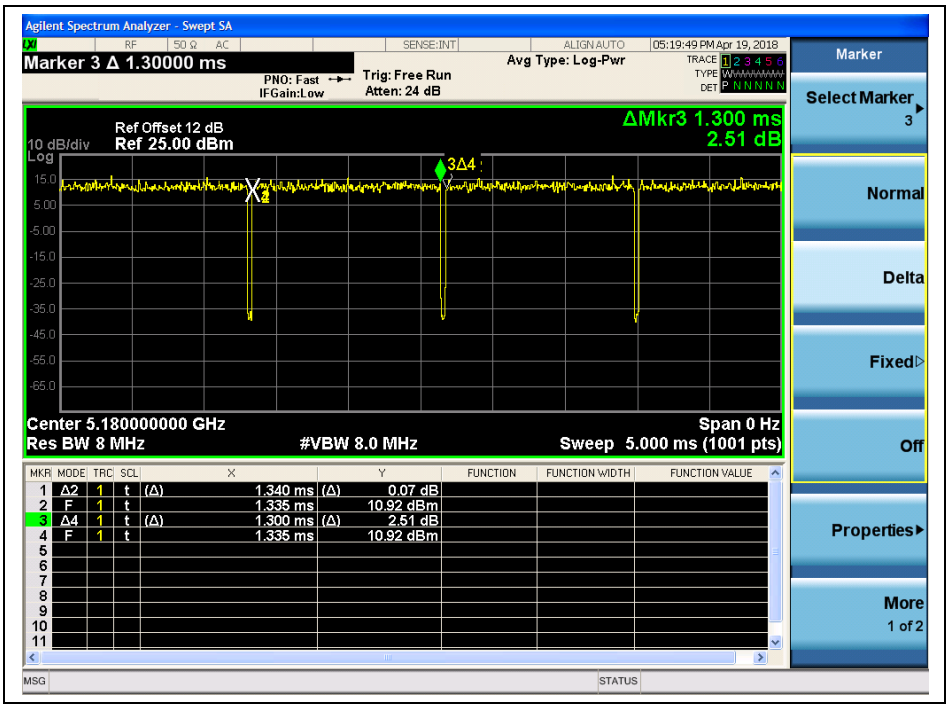
Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit (dBm)	Verdict
38	5190	13.52	24	PASS
46	5230	13.53		
54	5270	13.39		
62	5310	13.38		
102	5510	13.35		
126	5630	13.55		
142	5710	13.83		
151	5755	12.46	30	
159	5795	13.19		

Channel	Frequency (MHz)	Measured Average Power (dBm)	Limit 11 dBm + 10 log B (dBm)	Verdict
54	5270	13.39	28.30	PASS
62	5310	13.38	27.58	
102	5510	13.35	27.73	
126	5630	13.55	27.23	
142	5710	13.83	27.68	

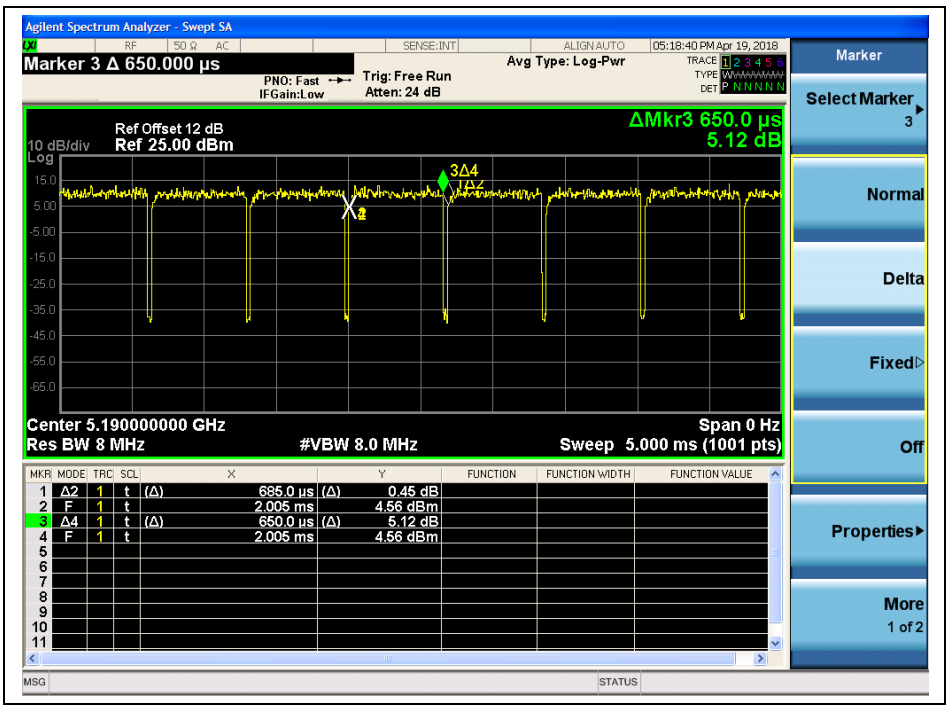
Plot for duty cycle



(Duty cycle for 802.11 a)



(Duty cycle for 802.11 n(HT20))



(Duty cycle for 802.11 n(HT40))

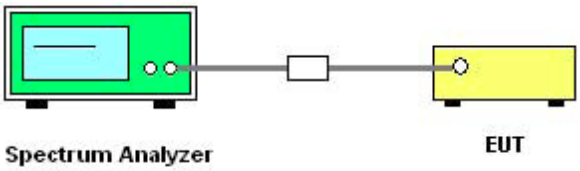
2.4. Peak Power spectral density

2.4.1. Requirement

(1) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.
(3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500KHz band.
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(4) According to KDB662911D01Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.
(5) According to KDB 662911 D01, the directional gain = G_{ANT} +10log(N_{ANT}) dBi, where G_{ANT} is the antenna gain in dBi, N_{ANT} is the number of outputs.

2.4.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Test Procedure

KDB 789033 Section F) Maximum Power Spectral Density (PSD) Method SA-1 was used in order to prove compliance

1) Set span to encompass the entire 26-dB emission bandwidth
2) Set RBW = 1 MHz. Set VBW ≥ 3 MHz.
3) Number of points in sweep ≥ 2 Span / RBW. Sweep time = auto.
4) Detector = RMS (i.e., power averaging)
5) Trace average at least 100 traces in power averaging (i.e., RMS) mode
6) Record the max value

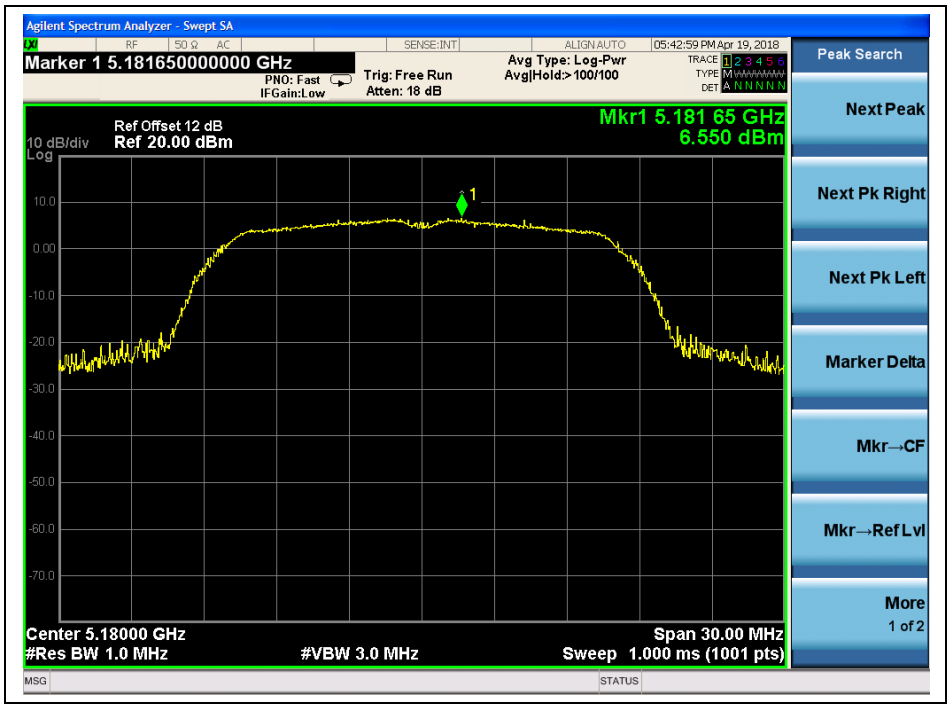
2.4.3. Test Result

802.11a Test mode

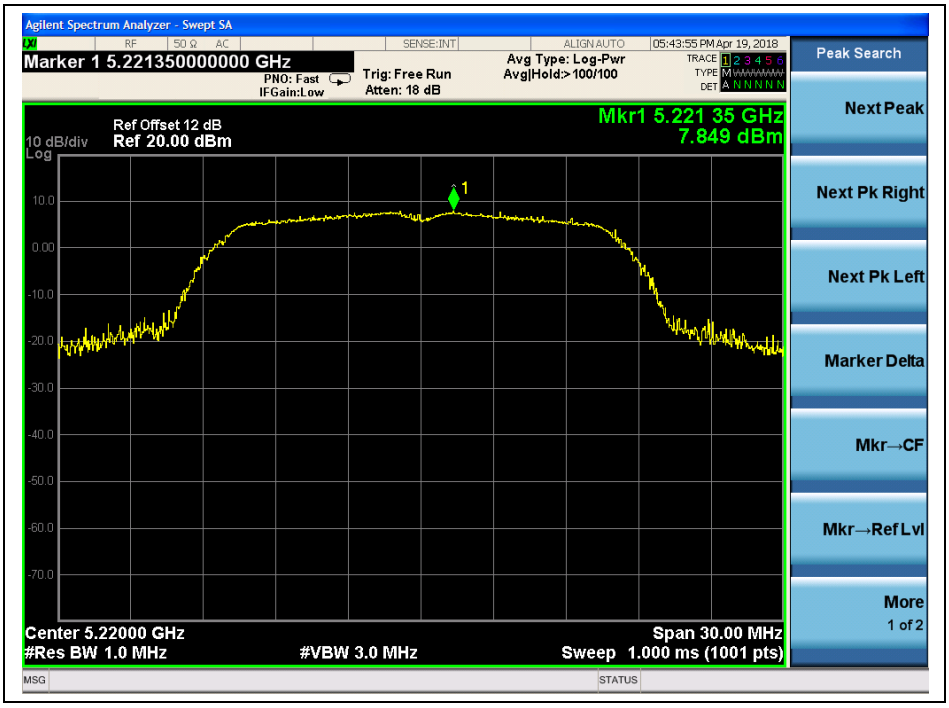
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
36	5180	6.55	11	PASS
44	5220	7.85		
48	5240	8.53		
52	5260	6.33		
60	5300	6.01		
64	5320	7.77		
100	5500	7.51		
120	5600	7.63		
144	5720	7.88		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
144	5270	4.05	30	PASS
149	5745	3.14		
157	5785	5.75		
165	5825	3.02		

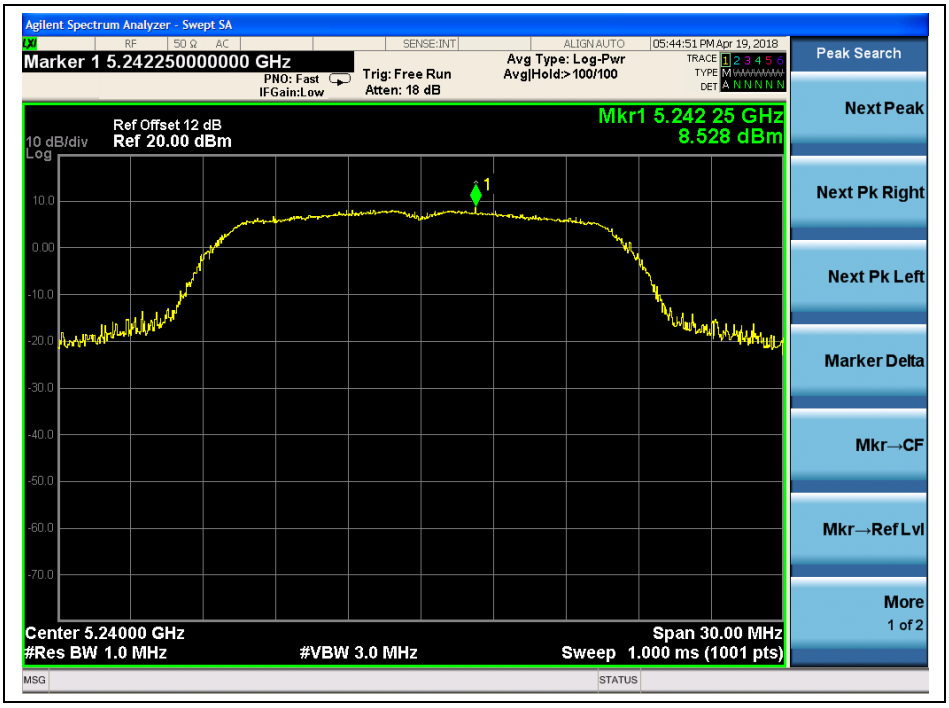
B. Test Plots



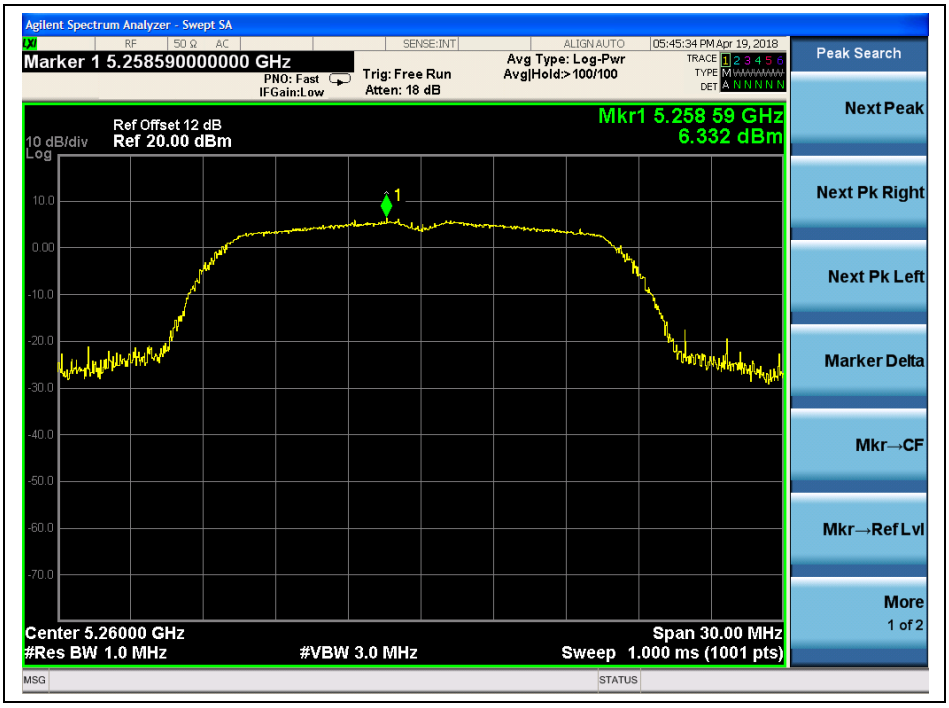
(Channel 36, 5180MHz, 802.11a,)



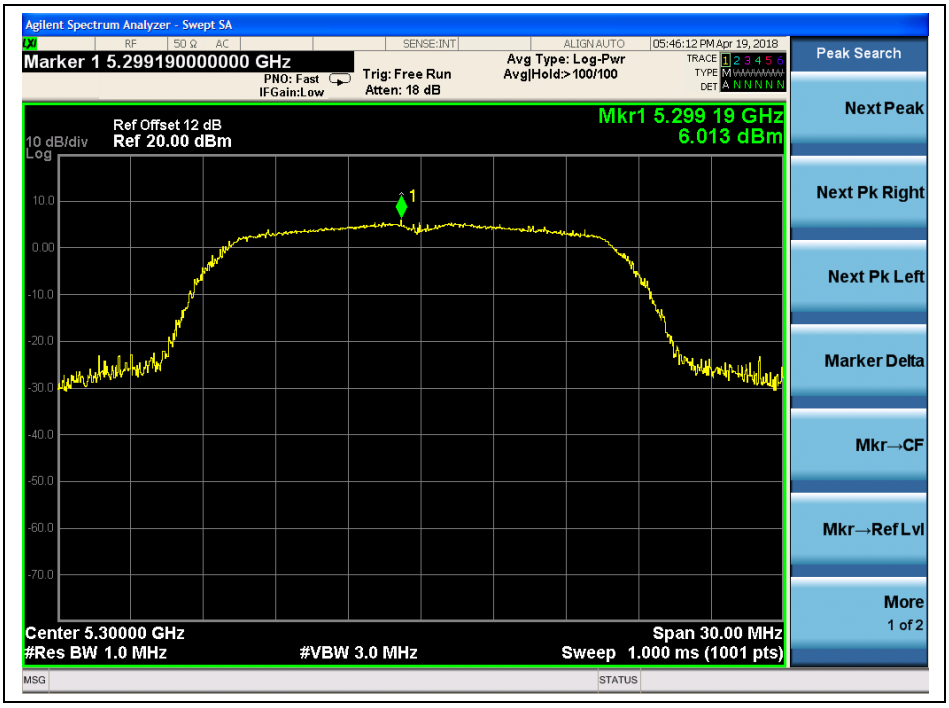
(Channel 44, 5220 MHz, 802.11a,)



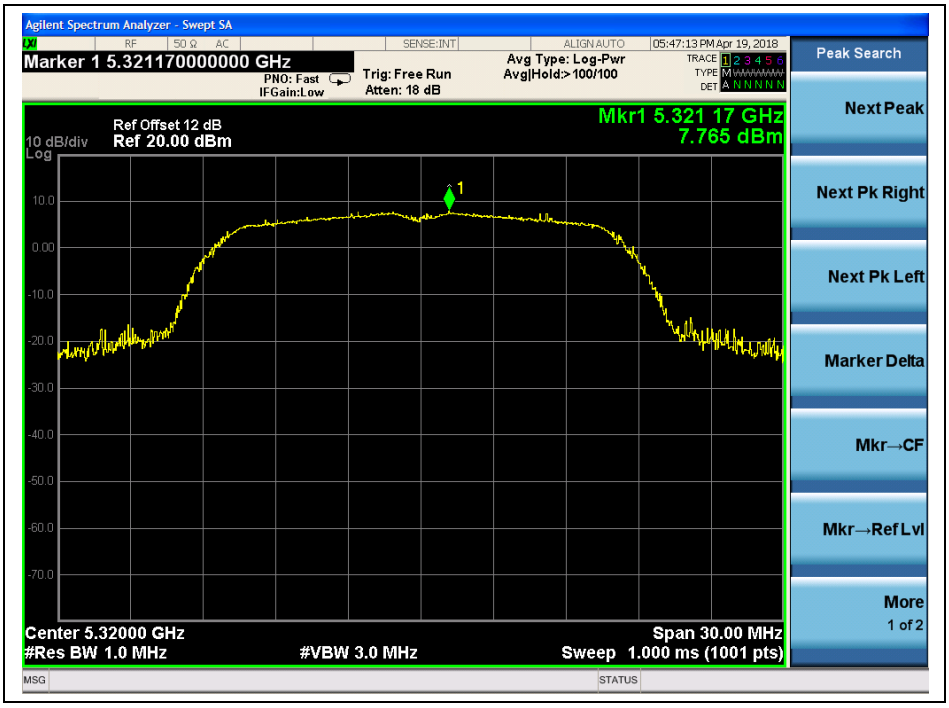
(Channel 48, 5240MHz, 802.11a,)



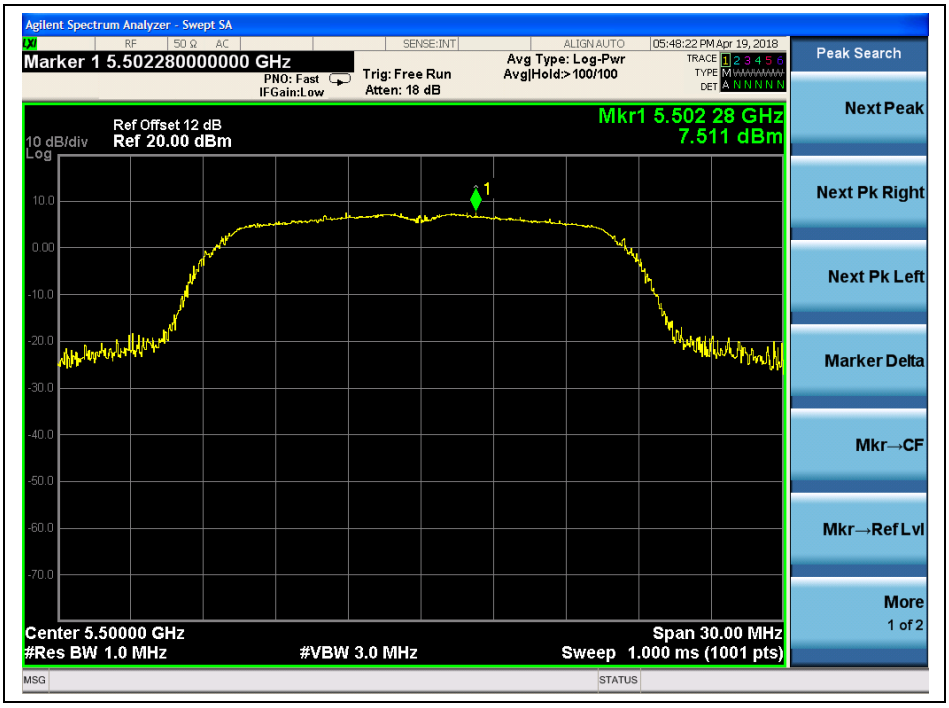
(Channel 52, 5260MHz, 802.11a,)



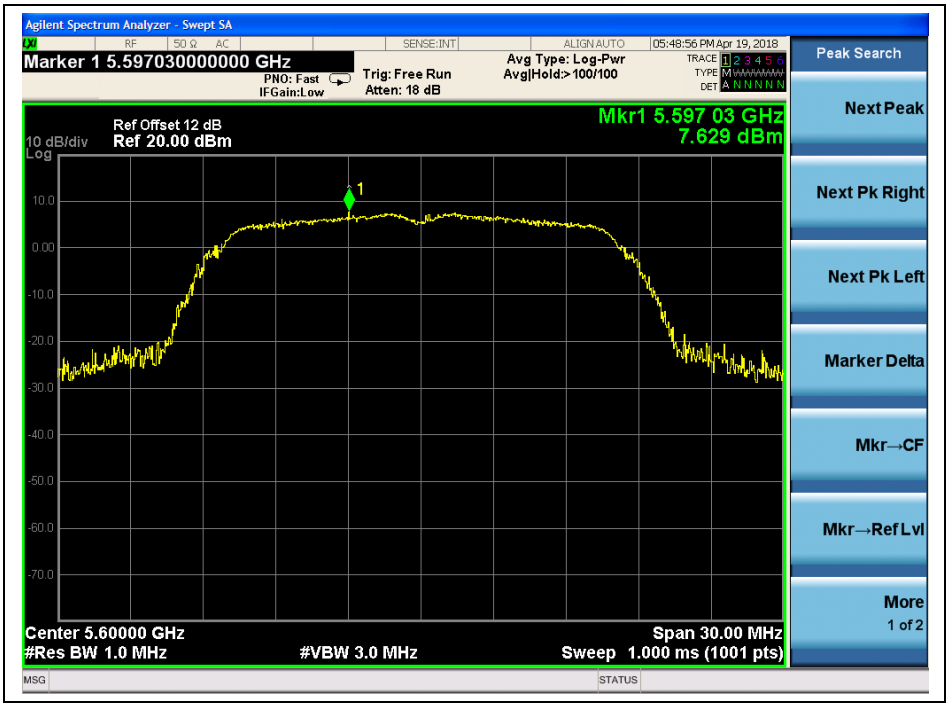
(Channel 60, 5300 MHz, 802.11a,)



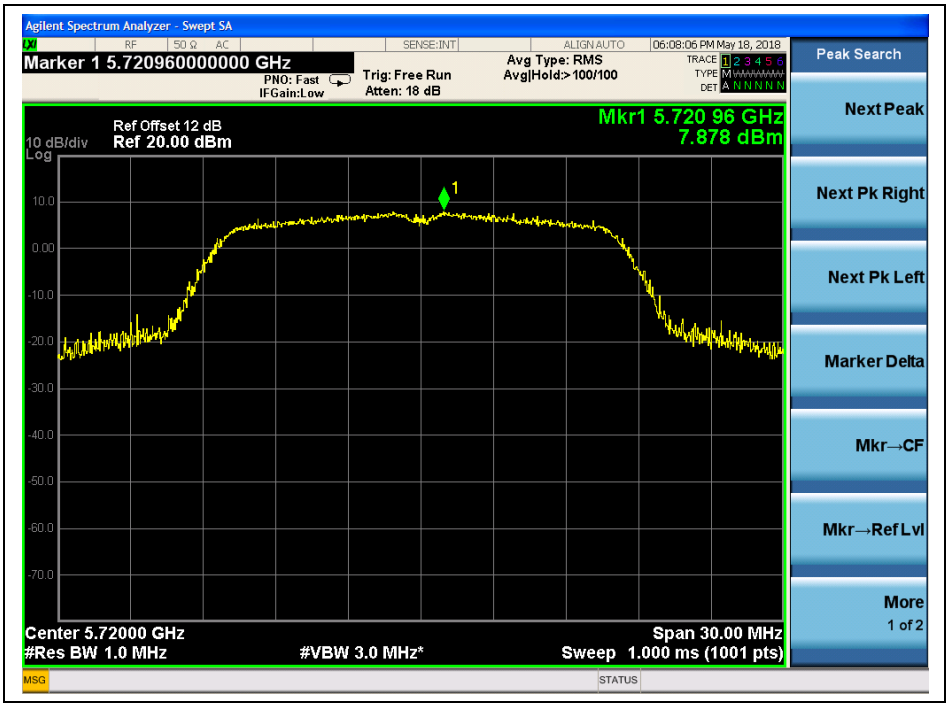
(Channel 64, 5320MHz, 802.11a,)



(Channel 100, 5500MHz, 802.11a,)

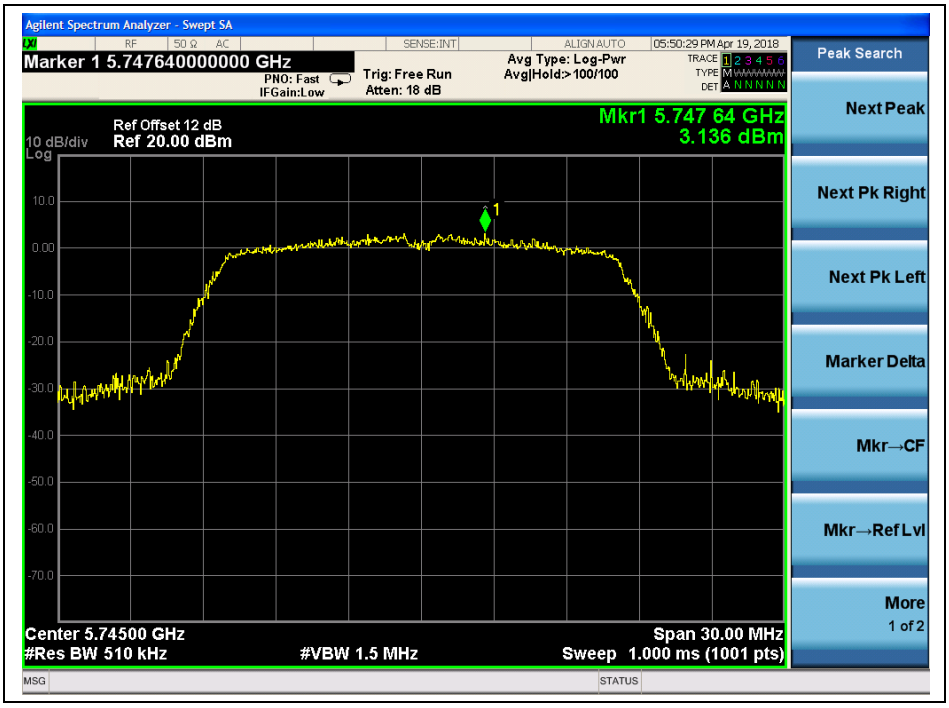


(Channel 120, 5600 MHz, 802.11a,)

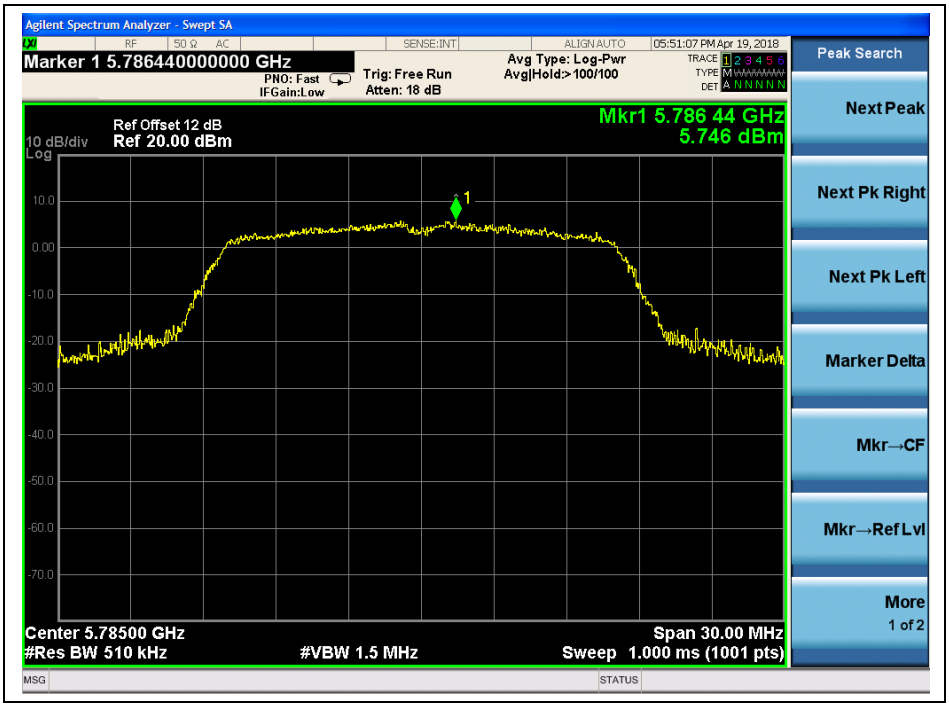


(Channel 144, 5720MHz, 802.11a,)

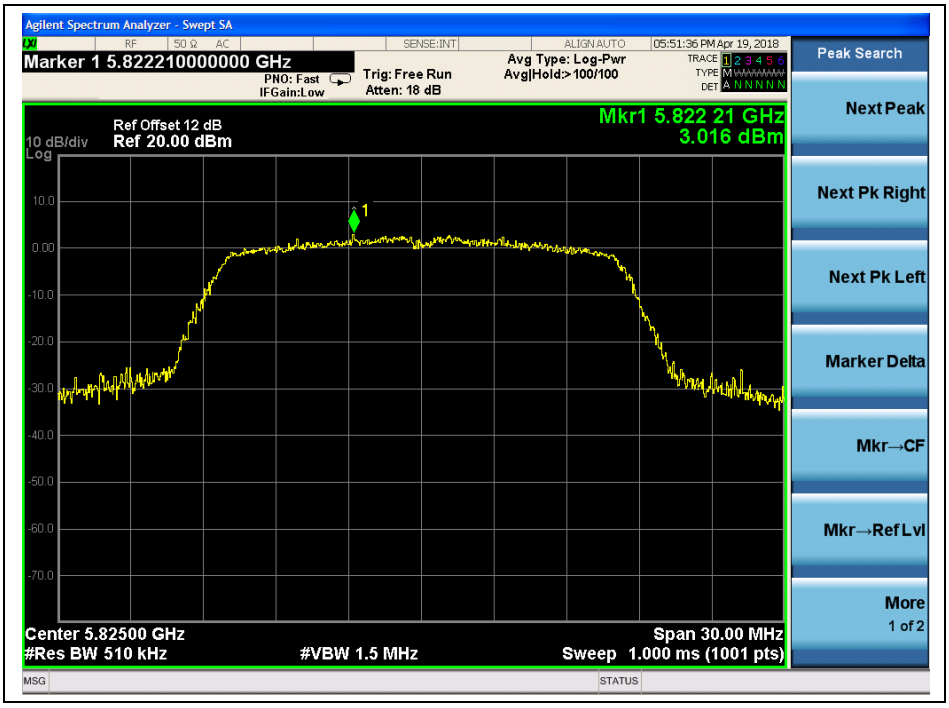
(Channel 144, 5720MHz, 802.11a,)



(Channel 149, 5745MHz, 802.11a)



(Channel 157, 5785MHz, 802.11a)



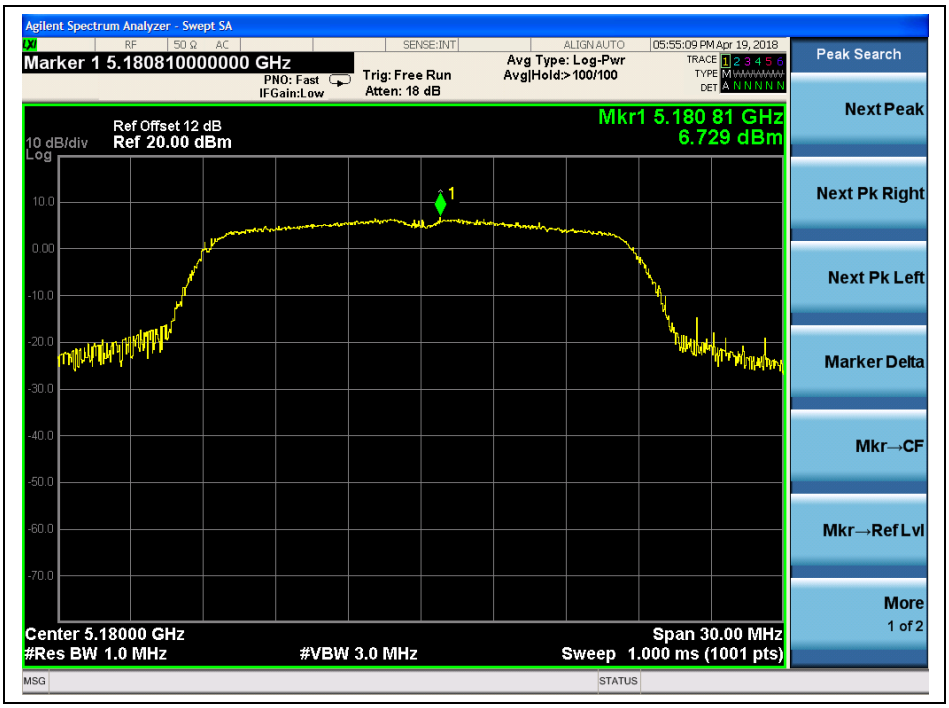
(Channel 165, 5825MHz, 802.11a)

802.11n (HT20) Test mode

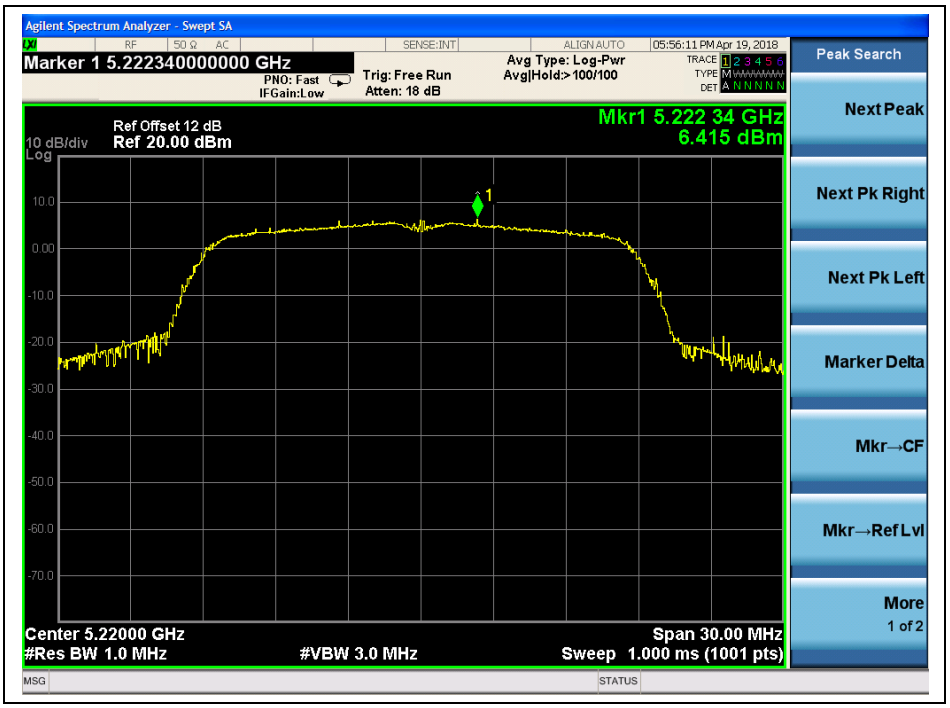
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
36	5180	6.73	11	PASS
44	5220	6.42		
48	5240	6.12		
52	5260	6.00		
60	5300	6.40		
64	5320	6.43		
100	5500	7.83		
116	5600	7.49		
144	5720	8.06		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
144	5720	4.04	30	PASS
149	5745	3.16		
157	5785	3.96		
165	5825	4.47		

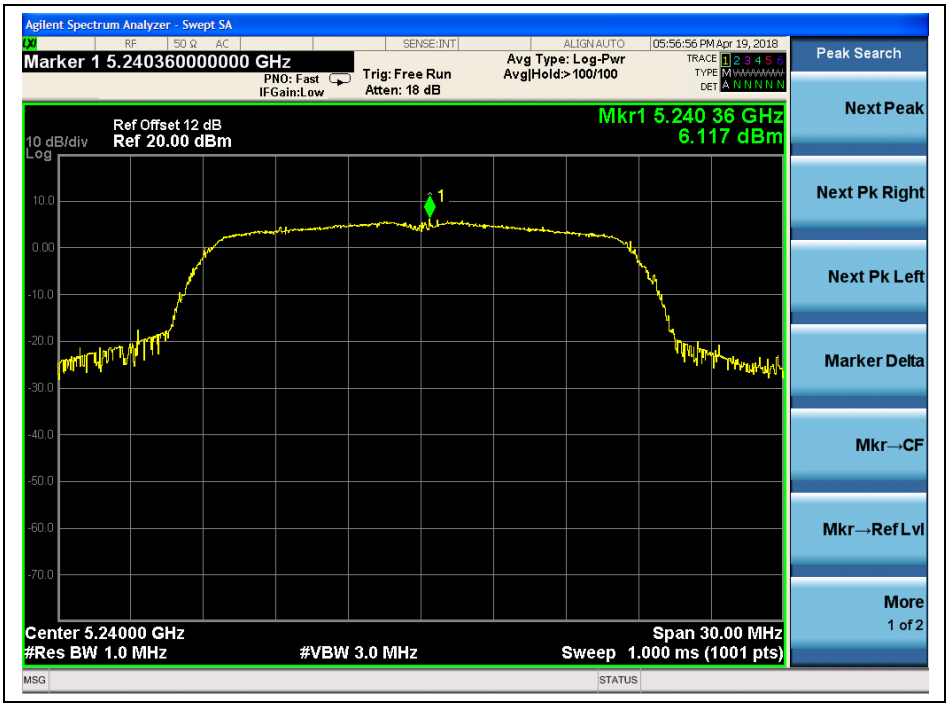
B. Test Plots



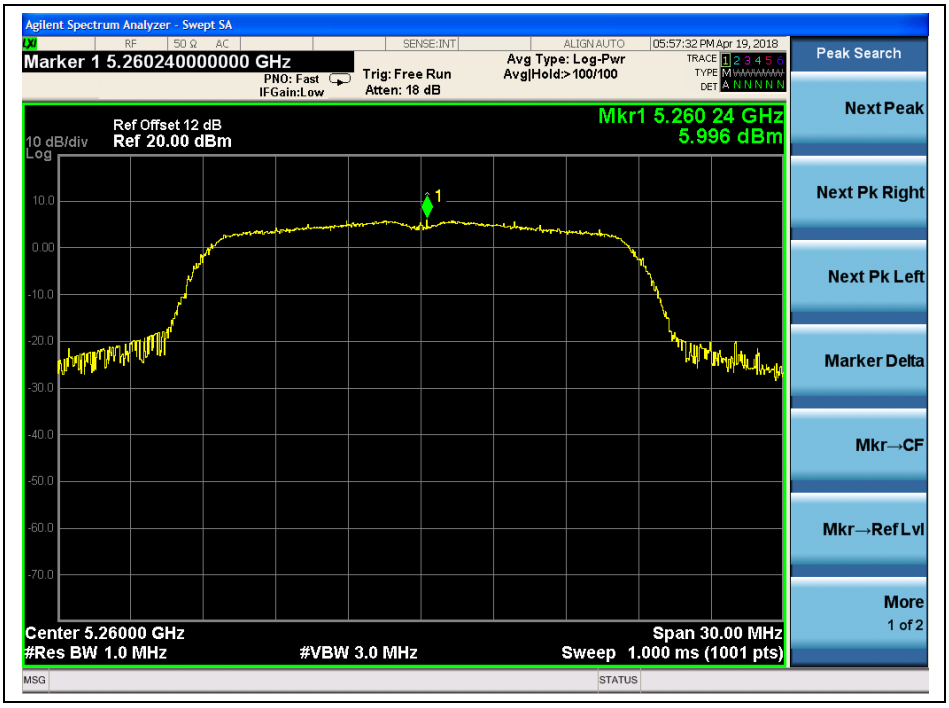
(Channel 36, 5180MHz, 802.11 n (HT20))



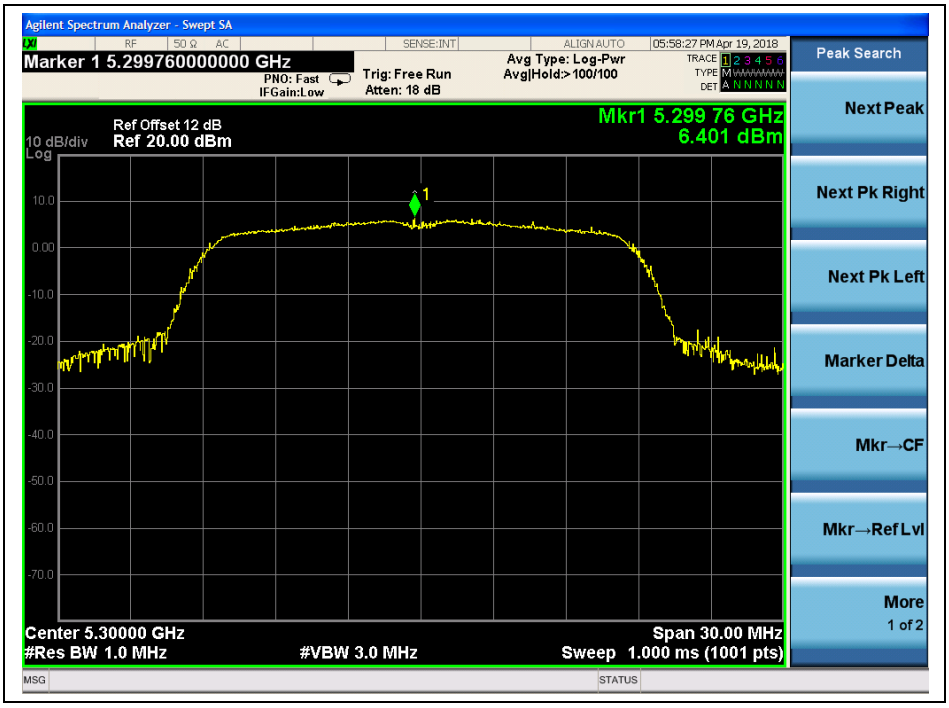
(Channel 44, 5220 MHz, 802.11 n (HT20))



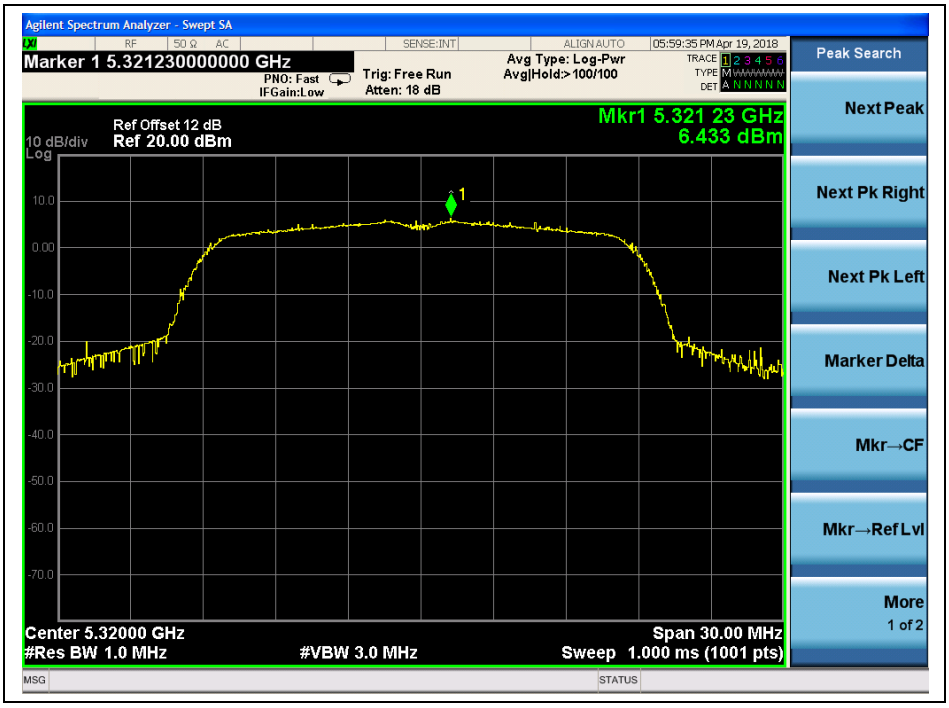
(Channel 48, 5240MHz, 802.11 n (HT20))



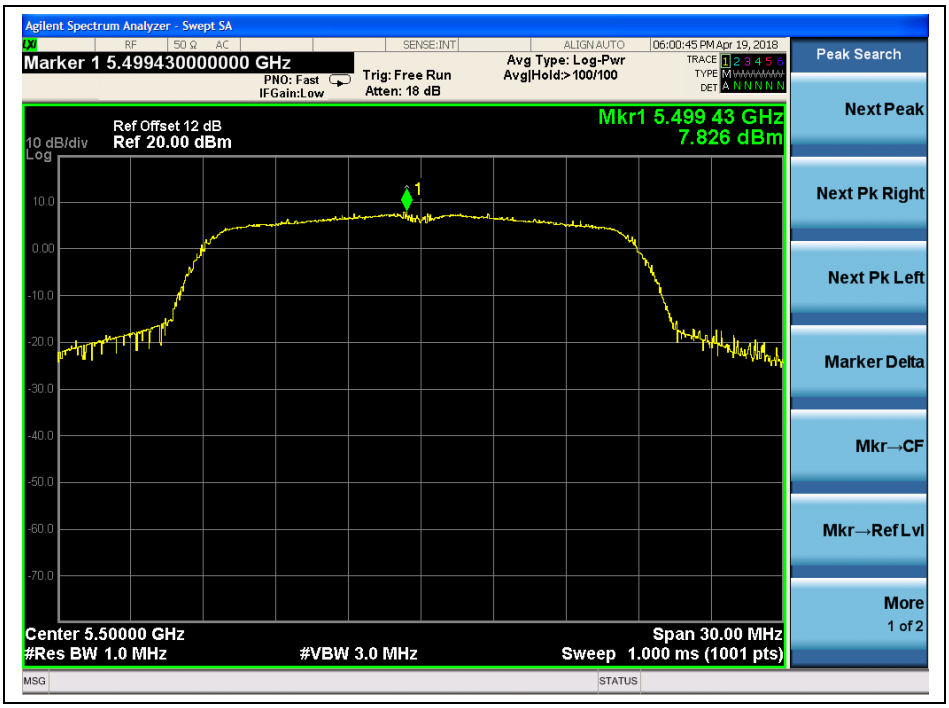
(Channel 52, 5260MHz, 802.11 n (HT20))



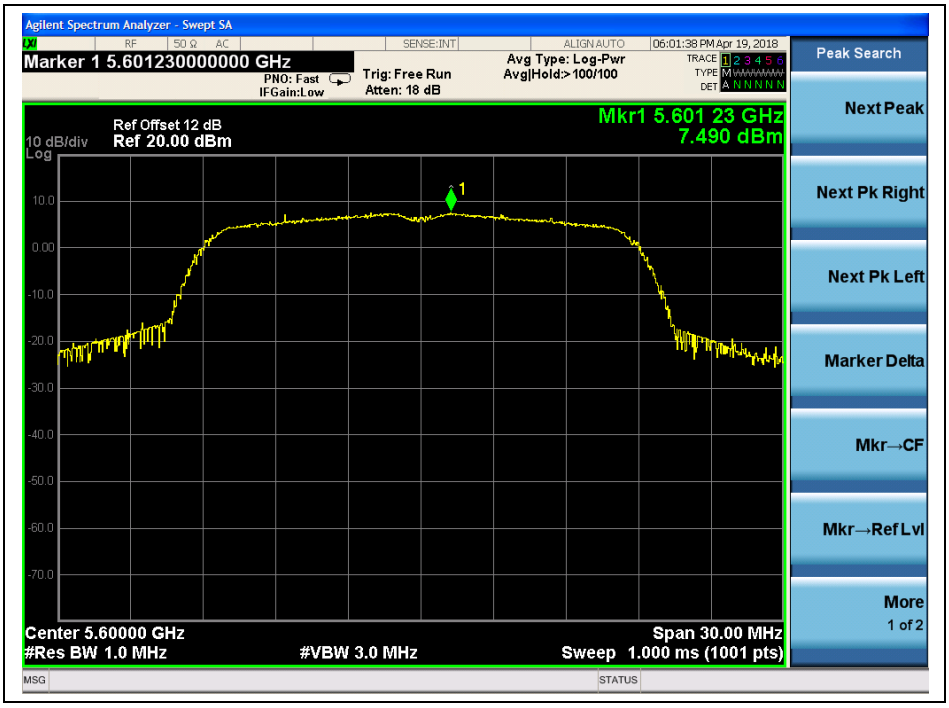
(Channel 60, 5300 MHz, 802.11 n (HT20))



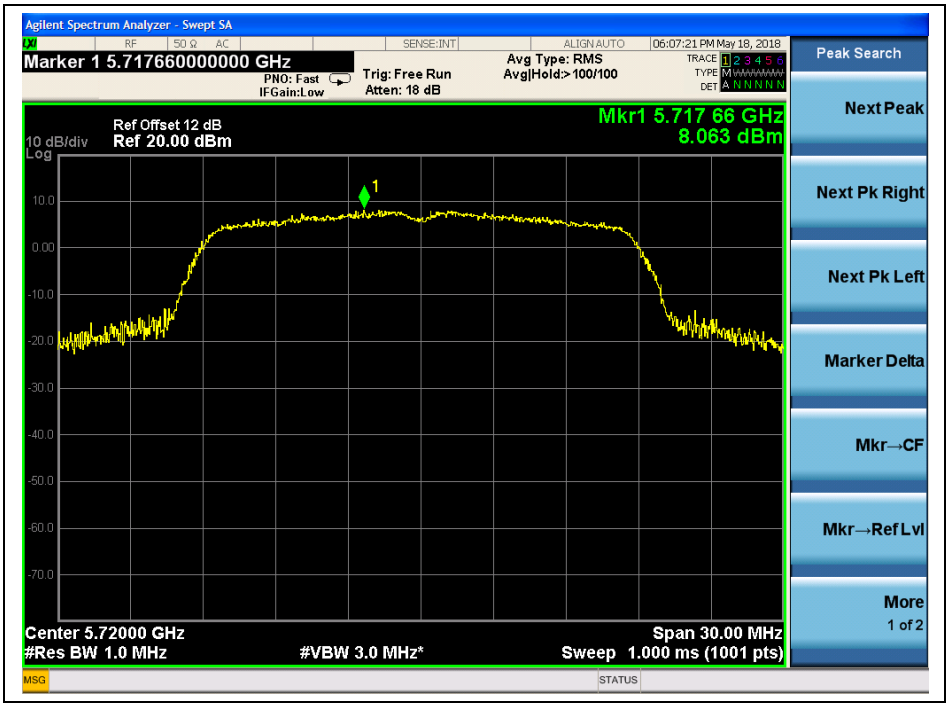
(Channel 64, 5320MHz, 802.11 n (HT20))



(Channel 100, 5500MHz, 802.11 n (HT20))



(Channel 120, 5600 MHz, 802.11 n (HT20))

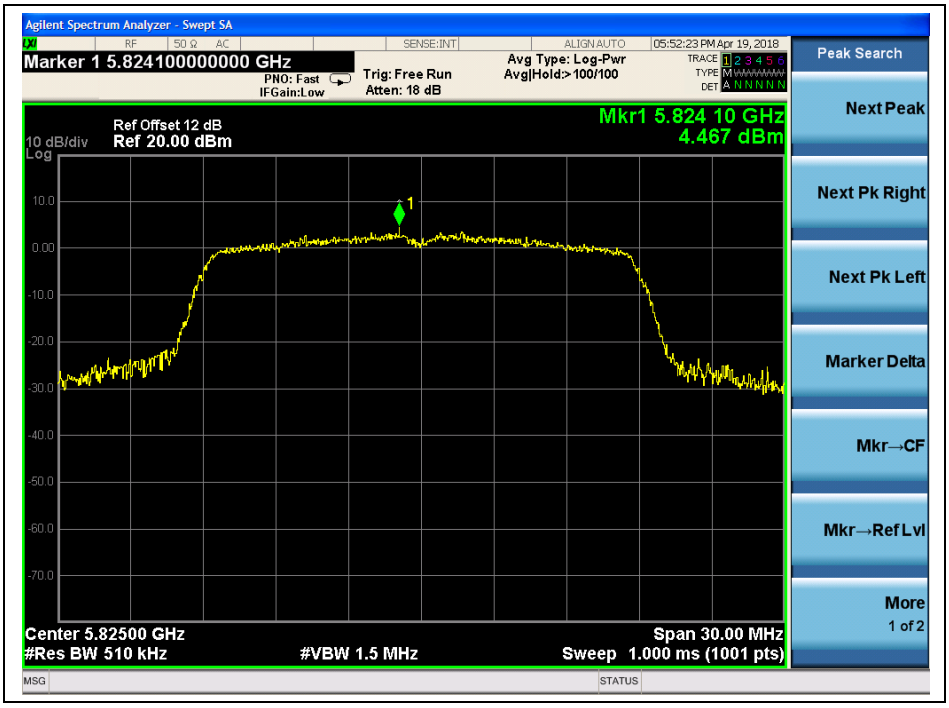


(Channel 144, 5720MHz, 802.11 n (HT20))

(Channel 144, 5720MHz, 802.11 n (HT20))

(Channel 149, 5745MHz, 802.11 n (HT20))

(Channel 157, 5785MHz, 802.11 n (HT20))



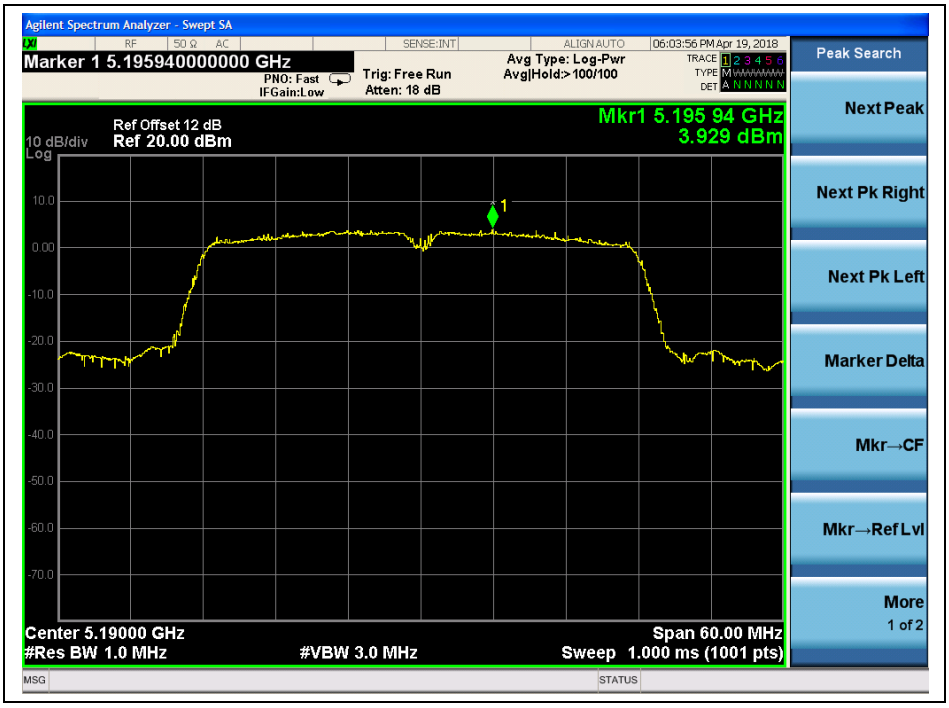
(Channel 165, 5825MHz, 802.11 n (HT20))

802.11n (HT40) Test mode

A. Test Verdict:

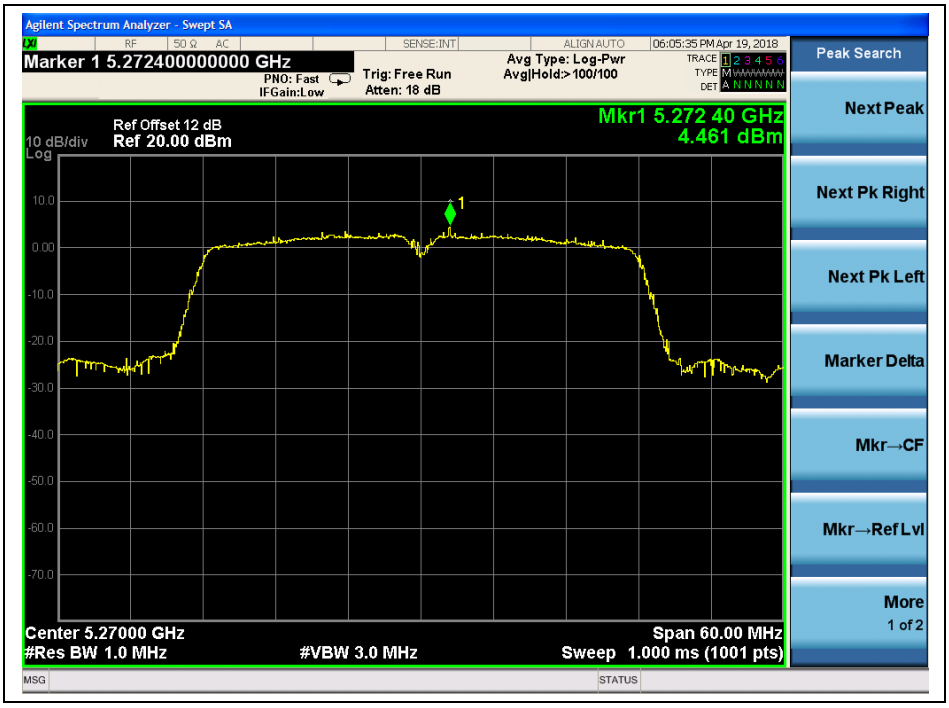
Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
38	5190	3.93	11	PASS
46	5230	3.43		
54	5270	4.46		
62	5310	3.05		
102	5510	4.63		
126	5630	5.92		
142	5710	4.08		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
142	5710	0.32	30	PASS
151	5755	0.93		
159	5795	1.47		

B. Test Plots



(Channel 38, 5190MHz, 802.11n (HT40))

(Channel 46, 5230 MHz, 802.11n (HT40))



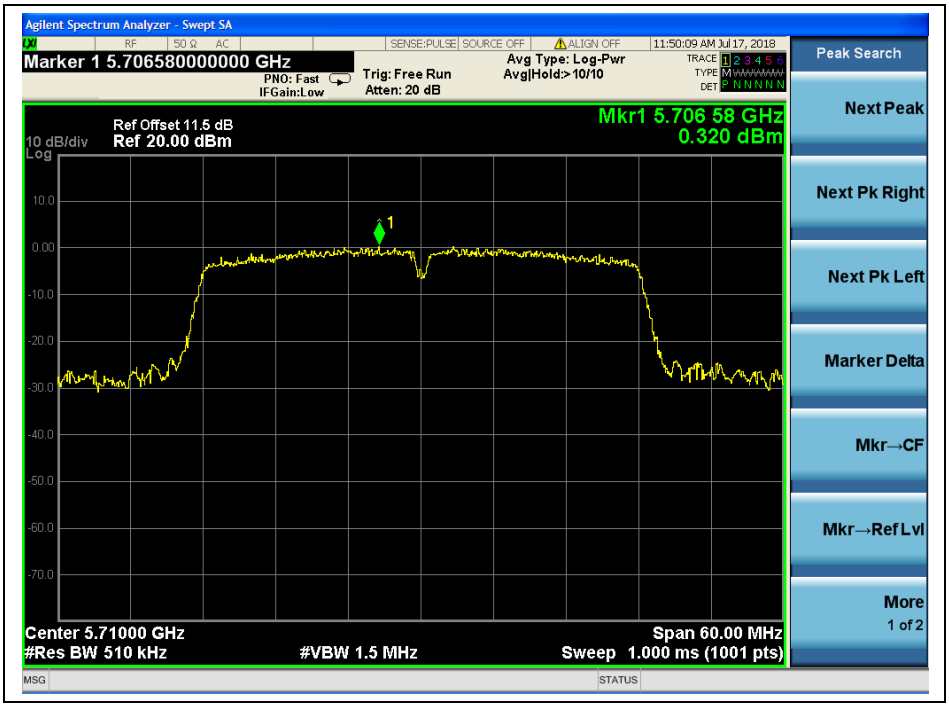
(Channel 54, 5270MHz, 802.11n (HT40))

(Channel 62, 5310 MHz, 802.11n (HT40))

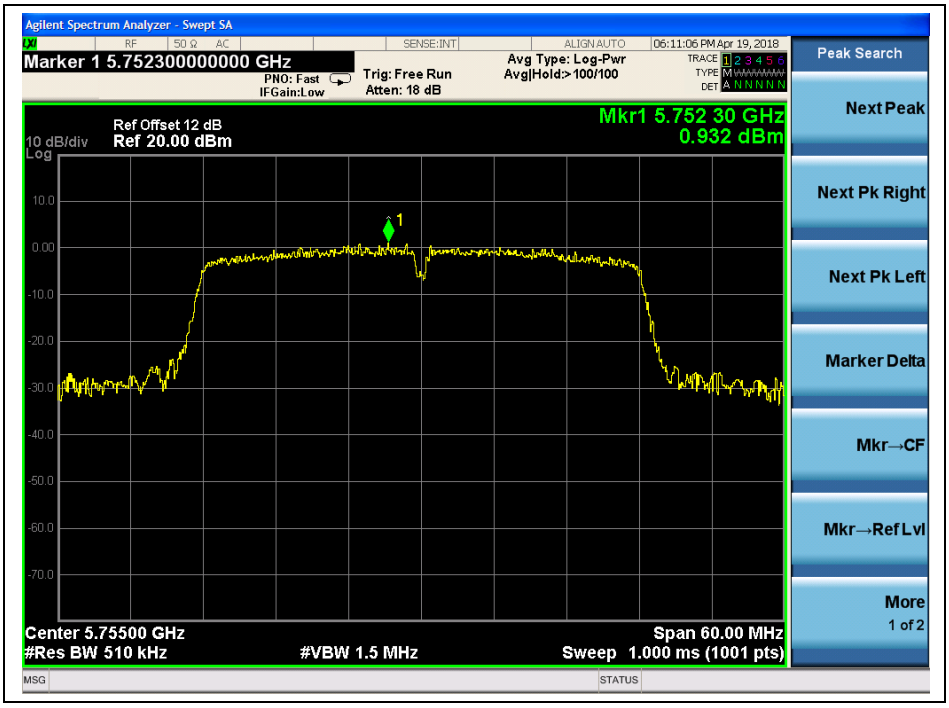
(Channel 102, 5510MHz, 802.11n (HT40))

(Channel 126, 5630 MHz, 802.11n (HT40))

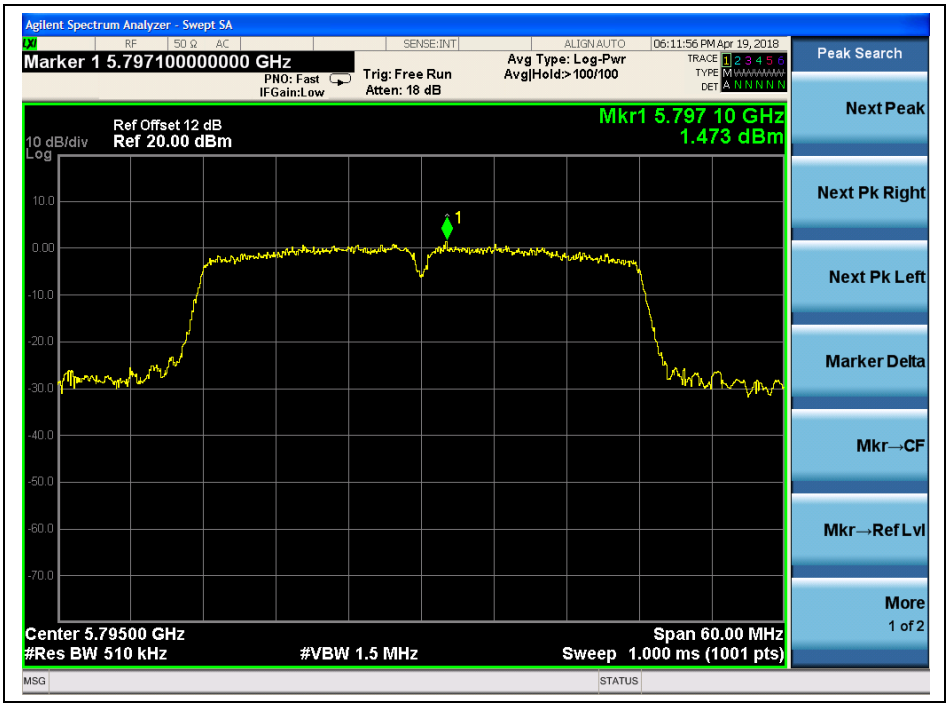
(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 151, 5755 MHz, 802.11n (HT40))



(Channel 159, 5795MHz, 802.11n (HT40))

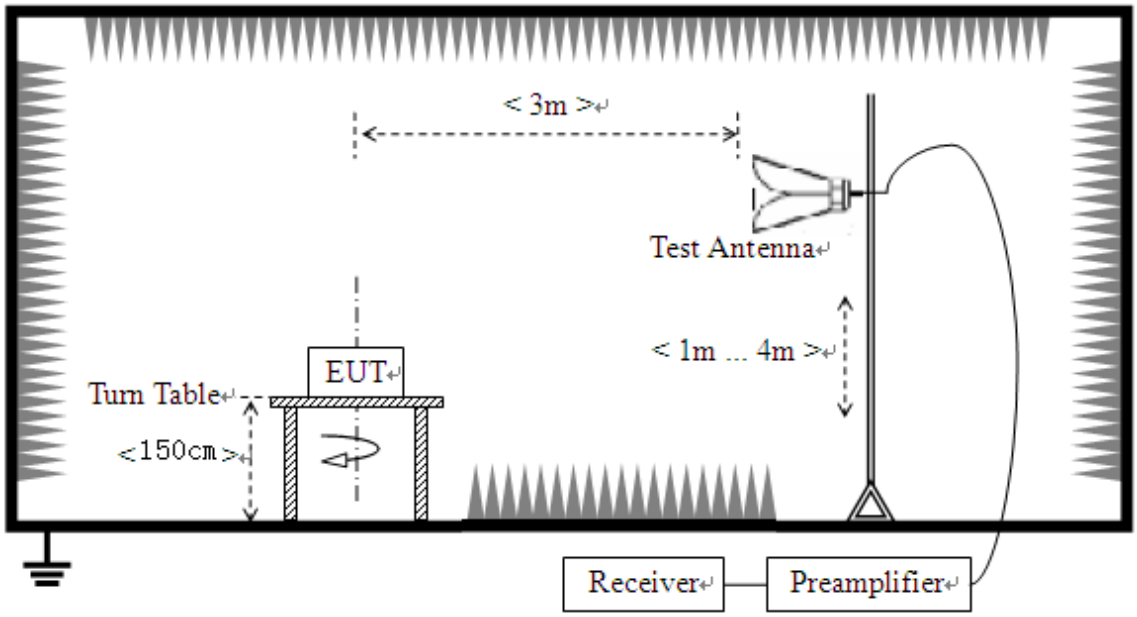
2.5. Restricted Frequency Bands

2.5.1. Requirement

According to FCC section 15.407(b)(7), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

2.5.2. Test Description

A. Test Setup



The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.
KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance
For the Test Antenna:
Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

2.5.3. Test Result

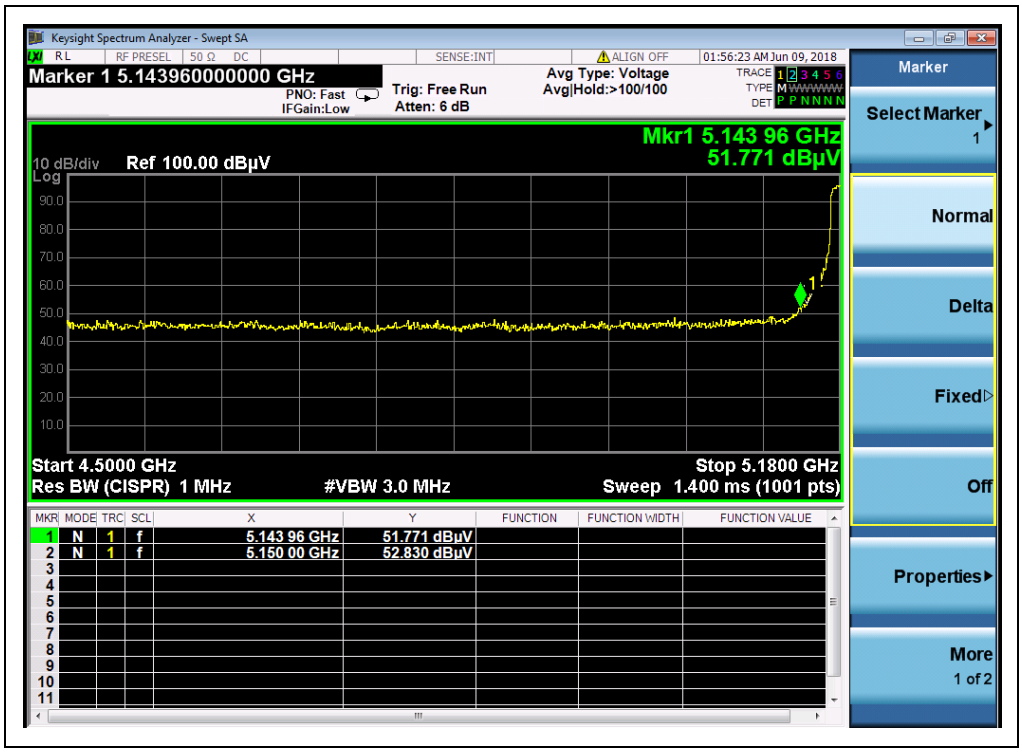
The lowest and highest channels are tested to verify Restricted Frequency Bands.
The measurement results are obtained as below:
E [dBμV/m] $=U_R + A_T + A_{Factor}$ [dB]; $A_T = L_{Cable\ loss}$ [dB]-G_{preamp} [dB]
A_T: Total correction Factor except Antenna; U_R: Receiver Reading
G_{preamp}: Preamplifier Gain; A_{Factor}: Antenna Factor at 3m
Note: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

802.11a Test mode

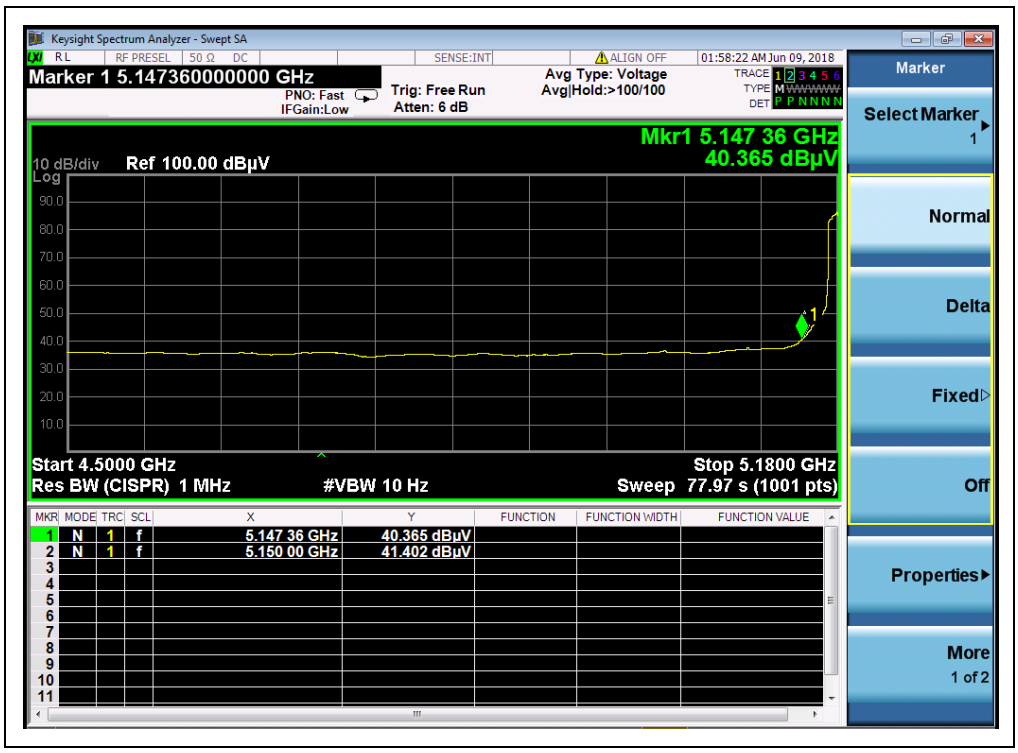
A. Test Verdict:

Channel	Frequency (MHz)	Detector PK/ AV	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
36	5143.96	PK	51.77	-50.65	32.11	33.23	74	PASS
36	5147.36	AV	40.37	-50.65	32.11	21.83	54	PASS
64	5350.43	PK	48.49	-50.65	32.11	29.95	74	PASS
64	5351.41	AV	35.54	-50.65	32.11	17.00	54	PASS
100	5466.50	PK	48.75	-50.65	32.11	30.21	68.23	PASS
100	5468.50	AV	35.85	-50.65	32.11	17.31	54	PASS
144	5726.70	PK	55.80	-50.65	32.11	37.26	68.23	PASS
144	5725.80	AV	43.21	-50.65	32.11	24.67	54	PASS
149	5720.00	PK	54.18	-50.65	32.11	35.64	110.83	PASS
149	5720.00	AV	43.81	-50.65	32.11	25.27	54	PASS
165	5855.00	PK	52.24	-50.65	32.11	33.70	110.83	PASS
165	5855.00	AV	38.71	-50.65	32.11	21.27	54	PASS

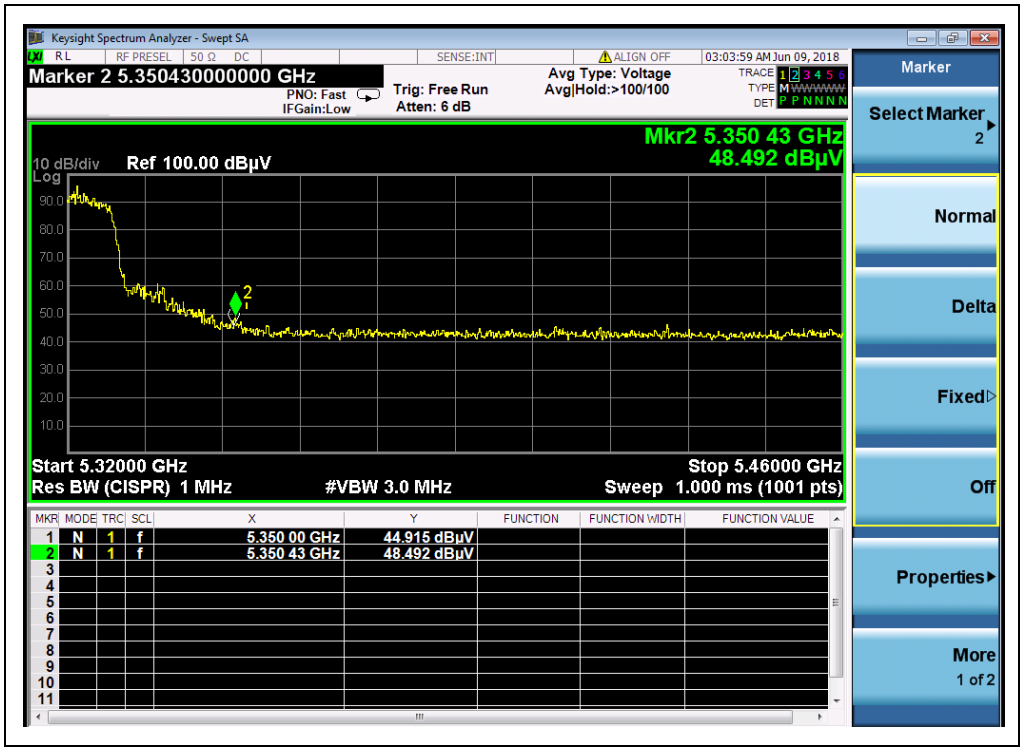
B. Test Plots:



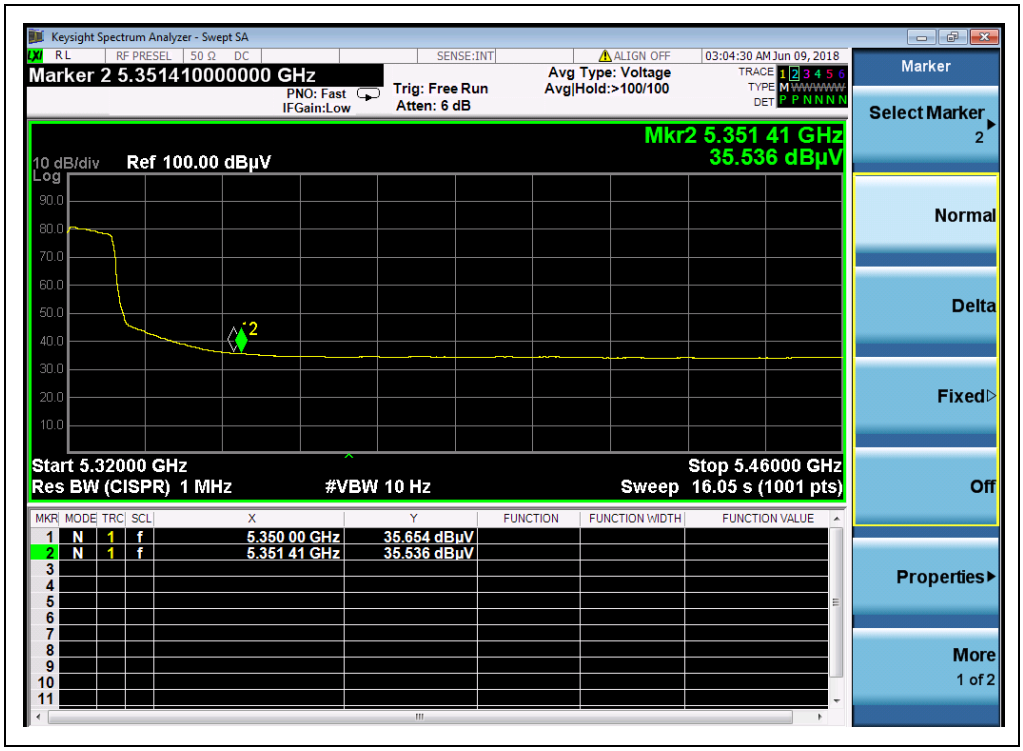
(Channel 36, PEAK, 802.11a)



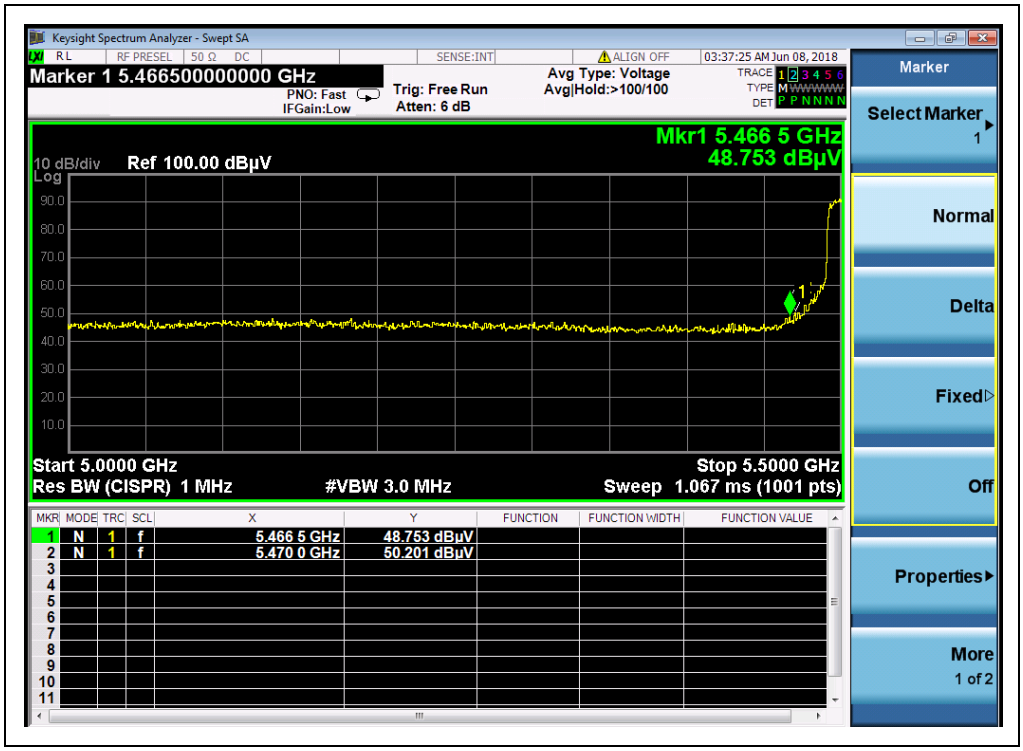
(Channel 36, AVG, 802.11a)



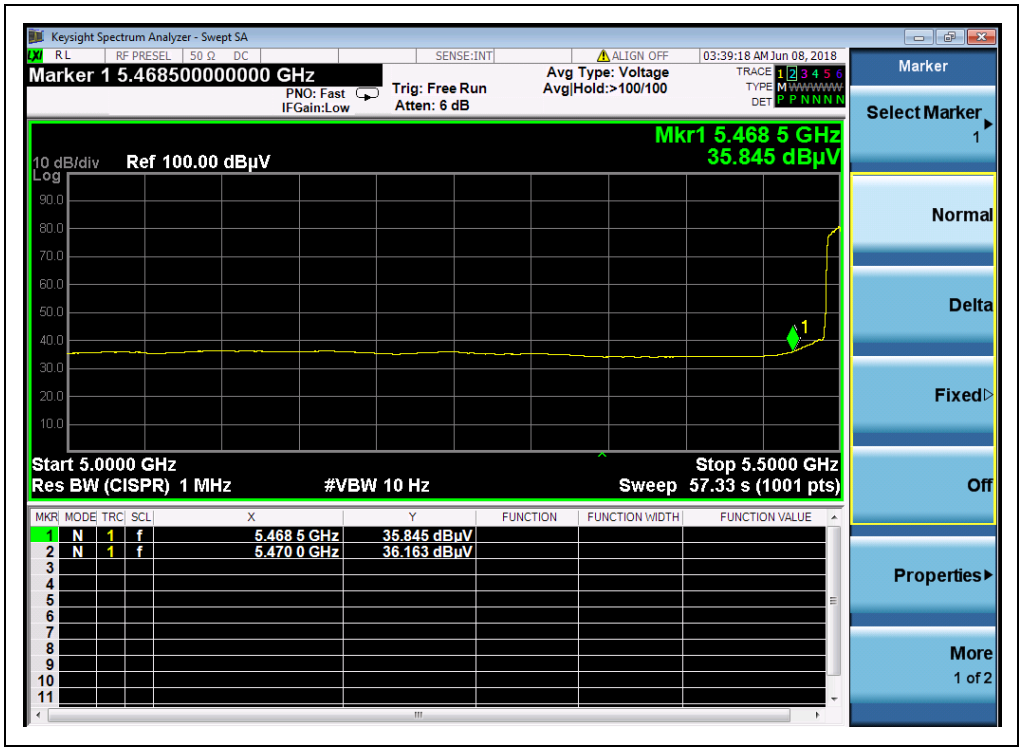
(Channel 64, PEAK, 802.11a)



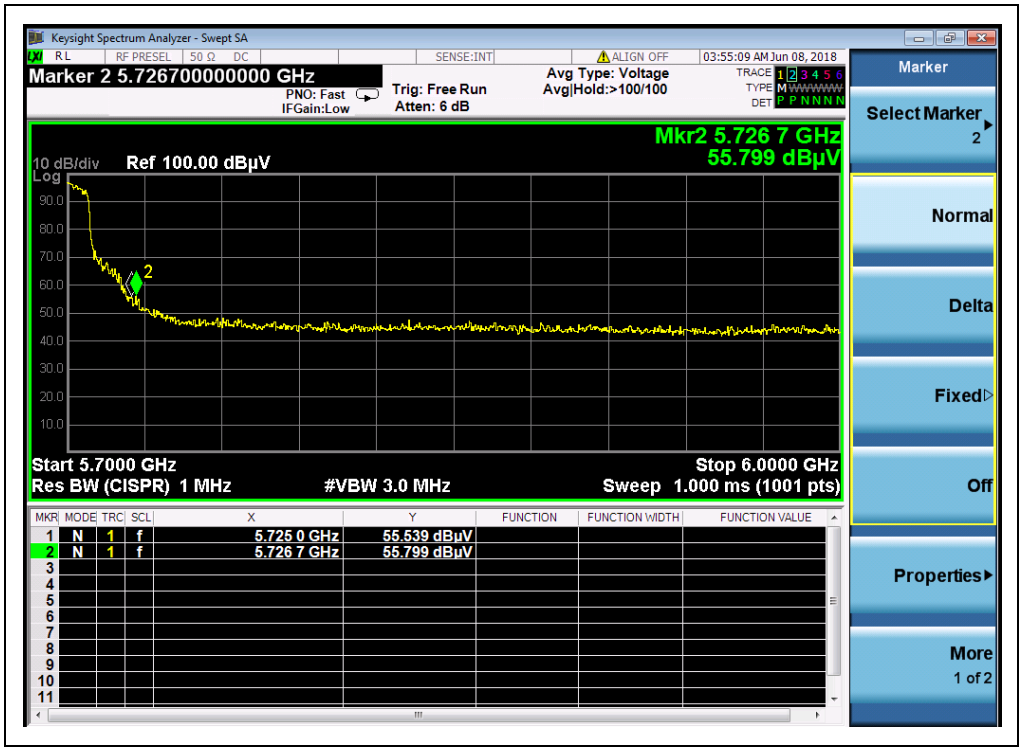
(Channel 64, AVG, 802.11a)



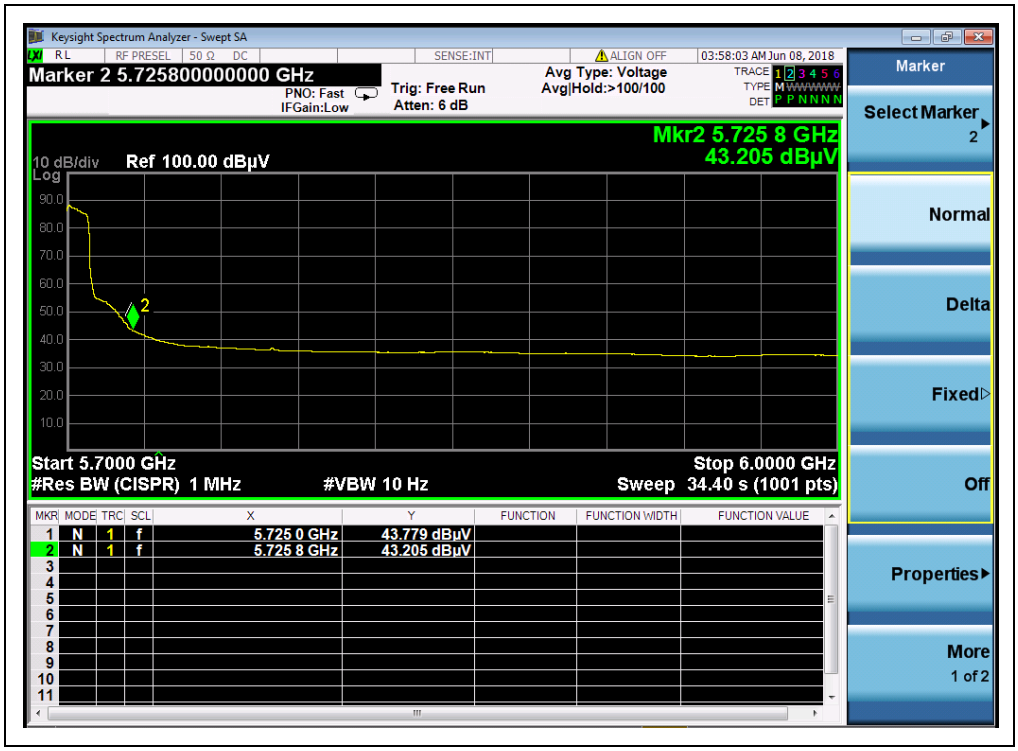
(Channel 100, PEAK, 802.11a)



(Channel 100, AVG, 802.11a)



(Channel 144, PEAK, 802.11a)



(Channel 144, AVG, 802.11a)