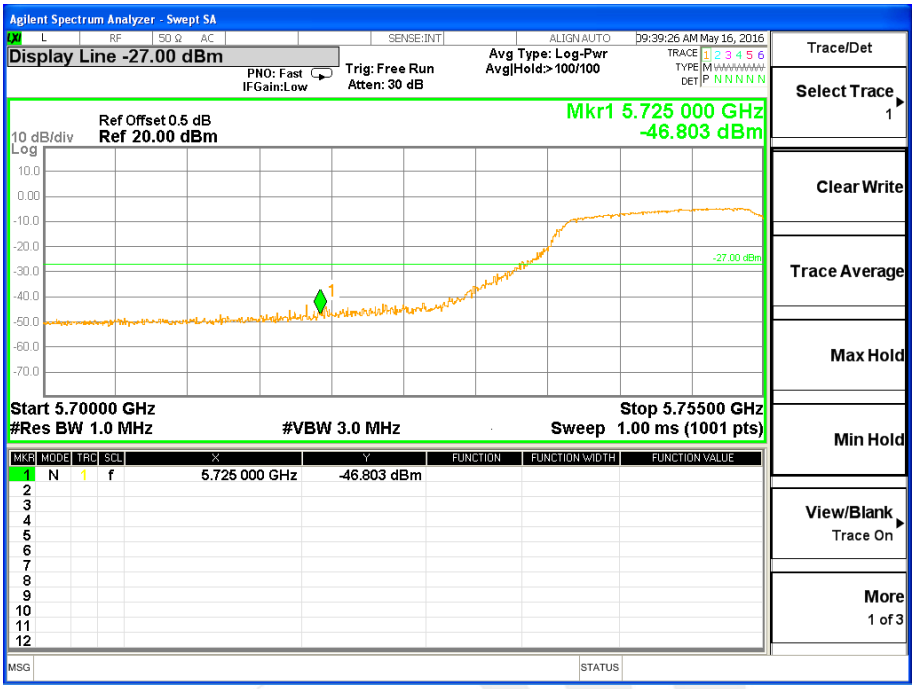
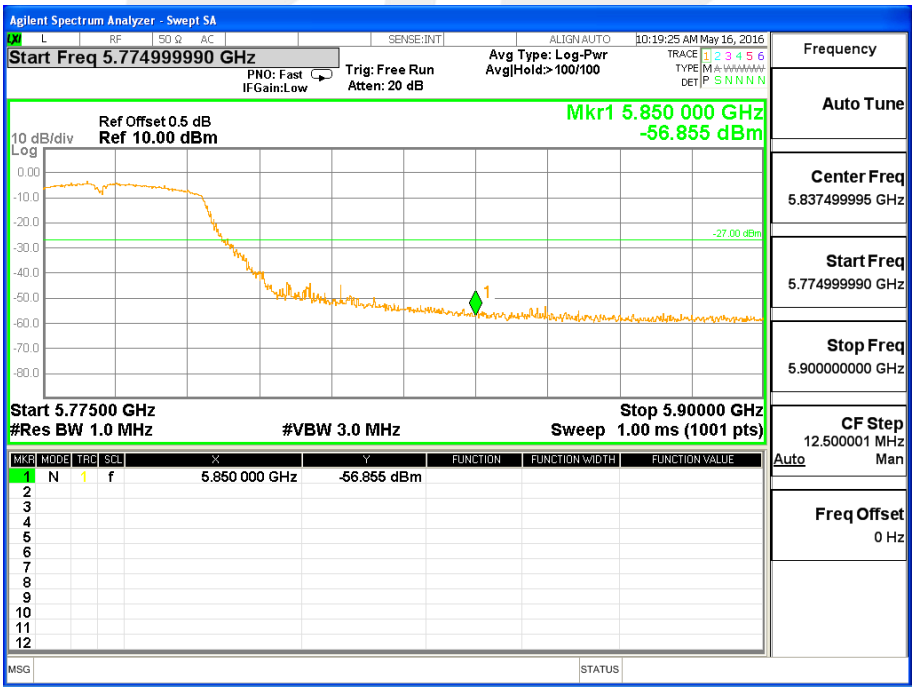
Band edge

TX Band edge /802.11n(HT40) Mode CH 151



TX Band edge /802.11n(HT40) Mode CH 149



5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

1. For mobile and portable client devices in the 5.15-5.25 GHz band, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

2.For the band 5.725-5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna directional gain is greater than 6 dBi, 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.

5.1.1 TEST PROCEDURE

1. The setting follows Method SA-1 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01.

For devices operating in the band, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (*i.e.,* 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/*T*, where *T* is defined in section II.B.l.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

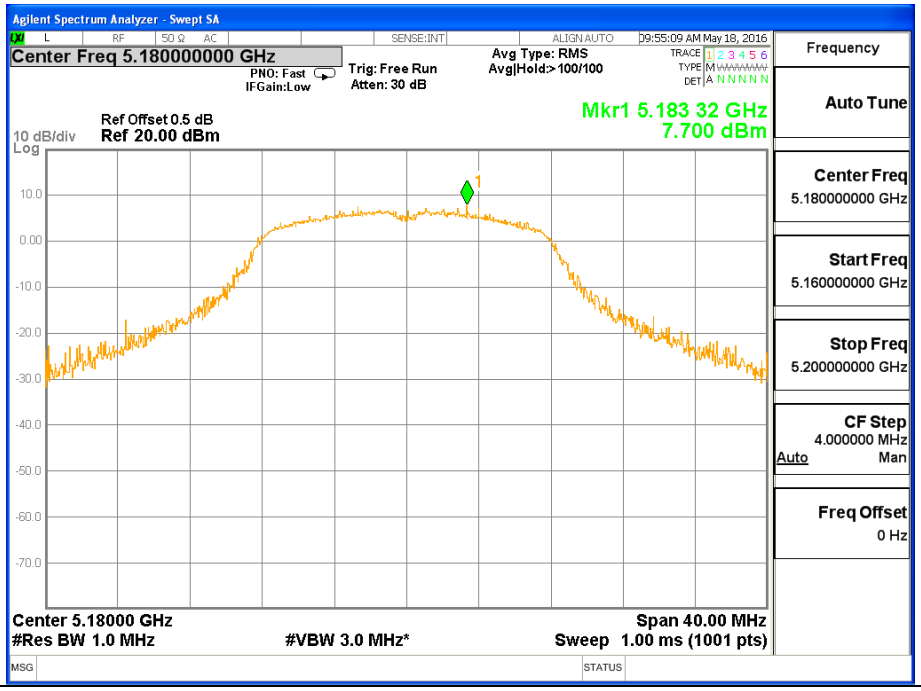
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

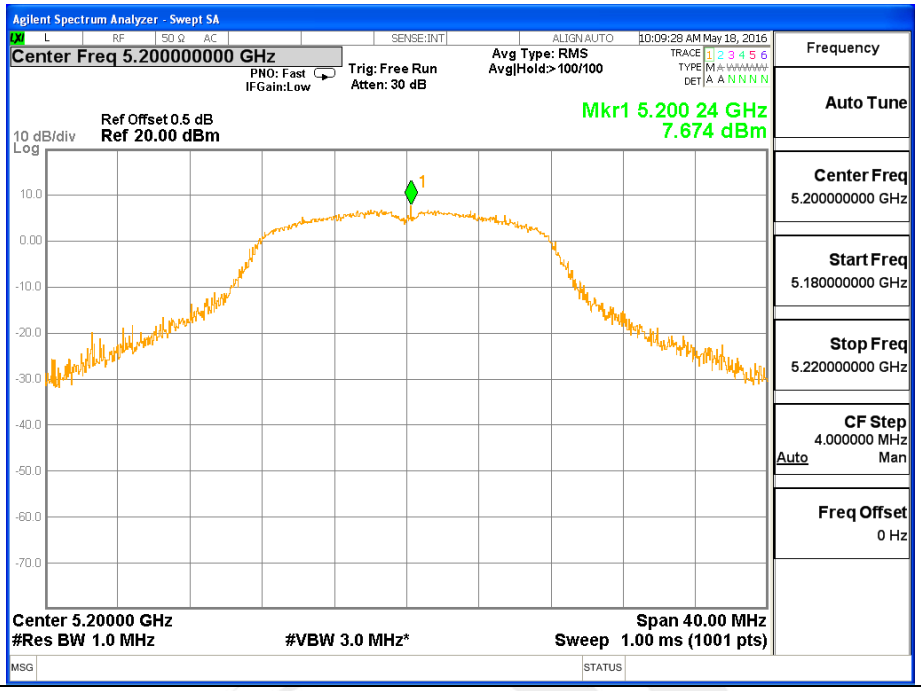
Band I (5.15-5.25GHz)802.11a

Frequency	Power Density (dBm)	Limit (dBm)	Result
5180	7.700	11	**PASS**
5200	7.674	11	**PASS**
5240	7.035	11	**PASS**

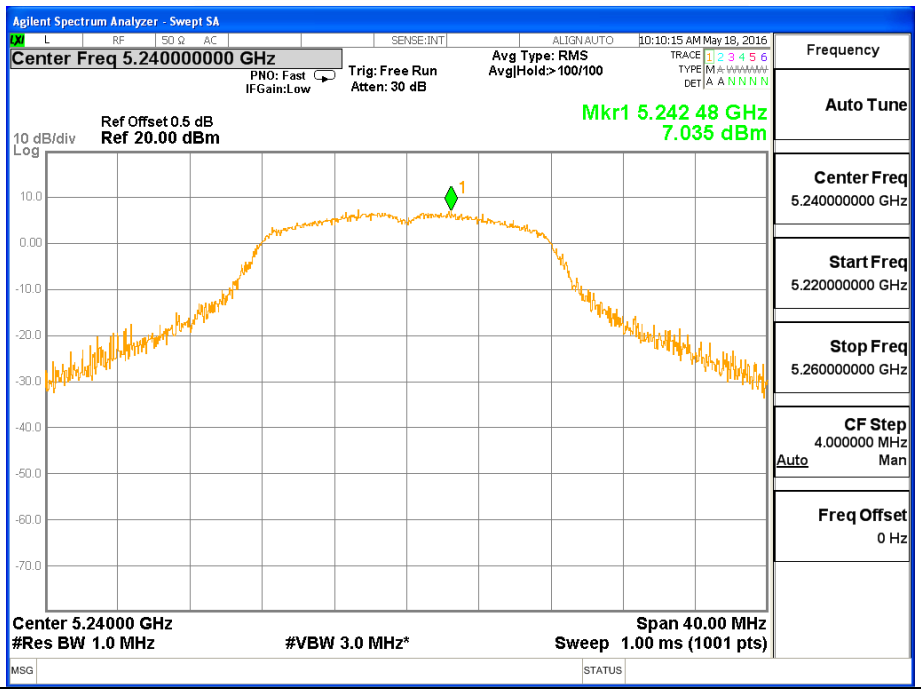
PSD 802.11a Channel 36



PSD 802.11a Channel 40



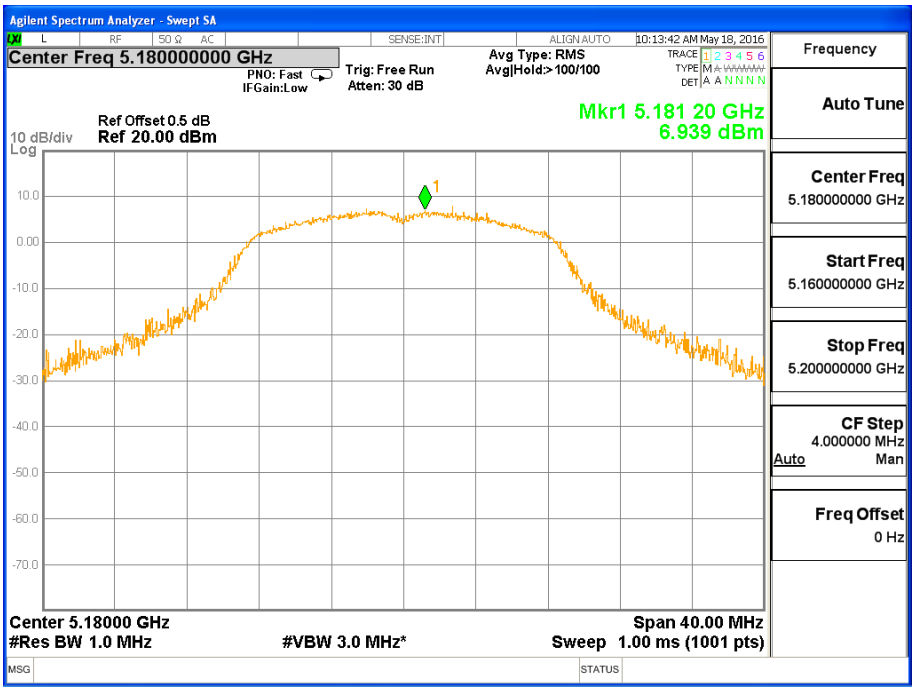
PSD 802.11a Channel 48



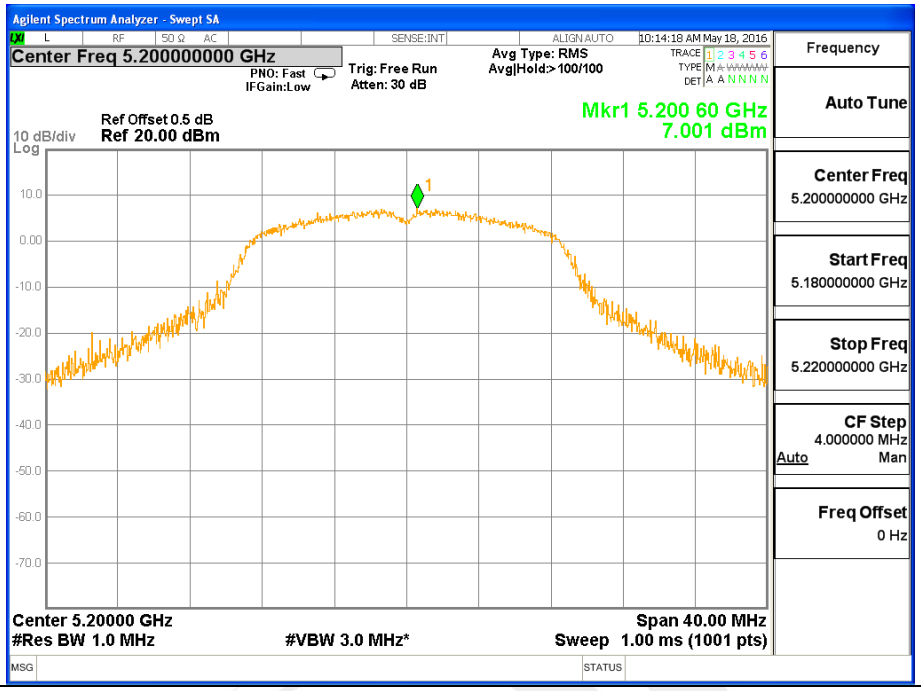
Band I (5.15-5.25GHz) 802.11n(HT20)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5180	6.939	11	**PASS**
5200	7.001	11	**PASS**
5240	7.735	11	**PASS**

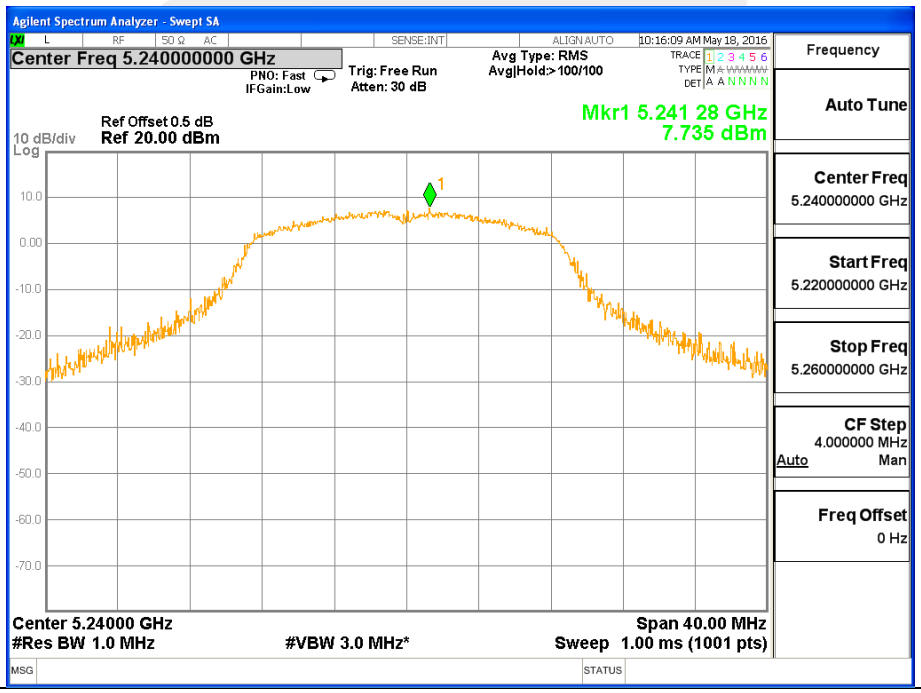
PSD 802.11n(HT20) Channel 36



PSD 802.11n(HT20) Channel 40



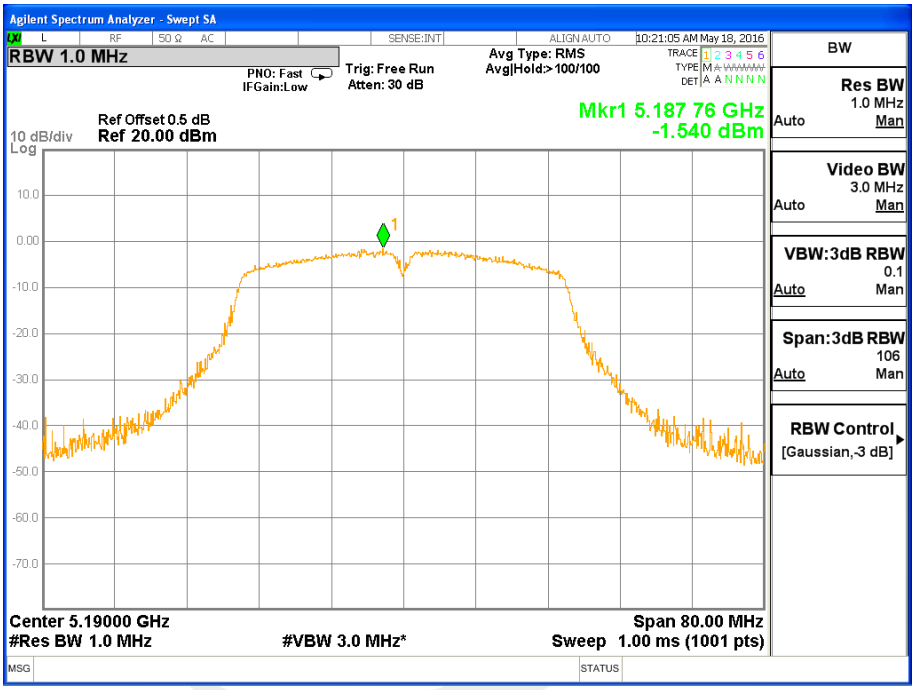
PSD 802.11n(HT20) Channel 48



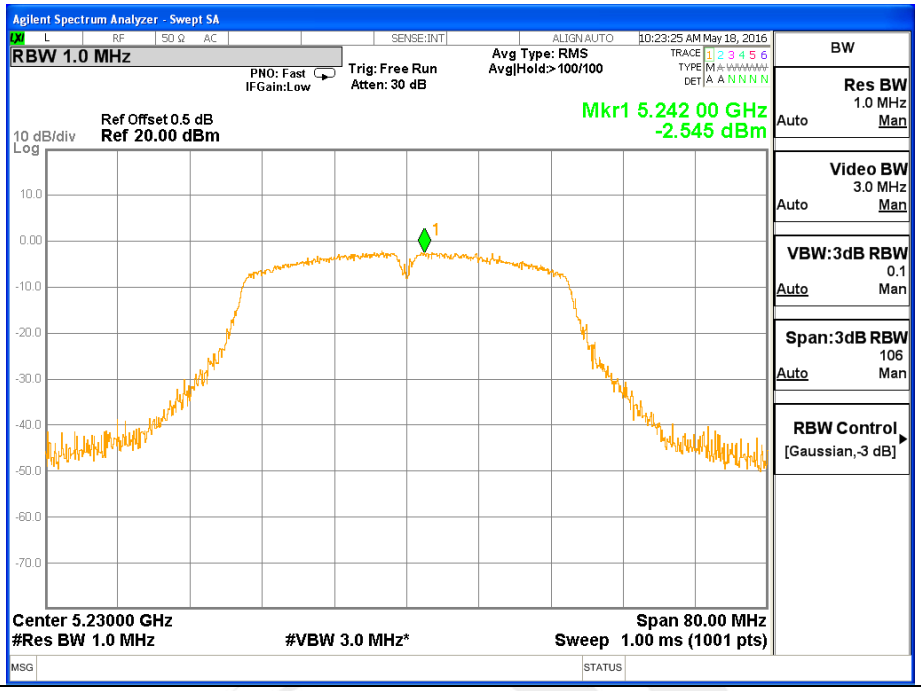
Band I (5.15-5.25GHz) 802.11n(HT40)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5190	-1.540	11	**PASS**
5230	-2.545	11	**PASS**

PSD 802.11n(HT40) Channel 38



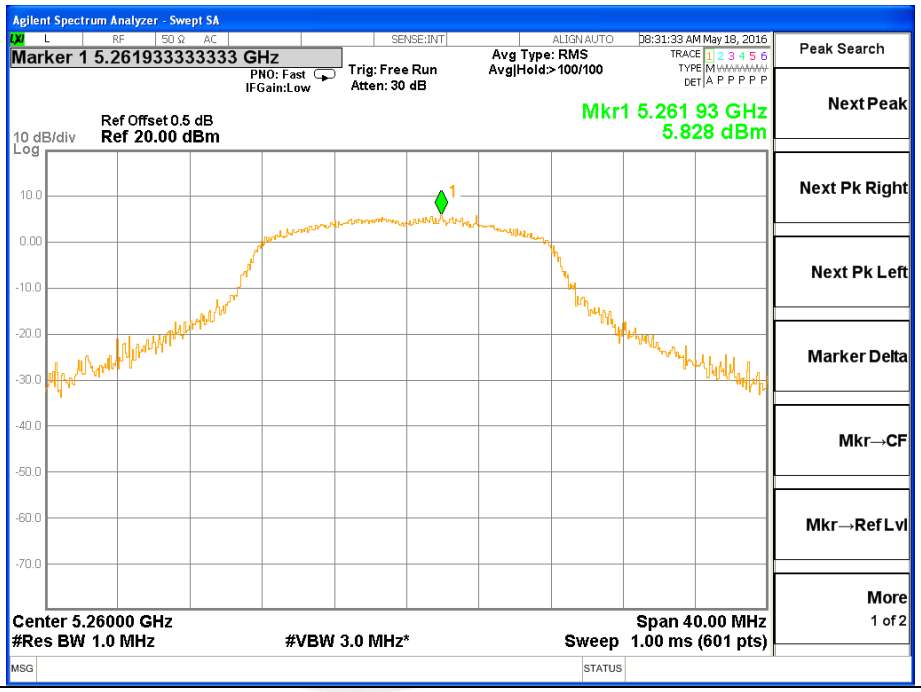
PSD 802.11n(HT40) Channel 46



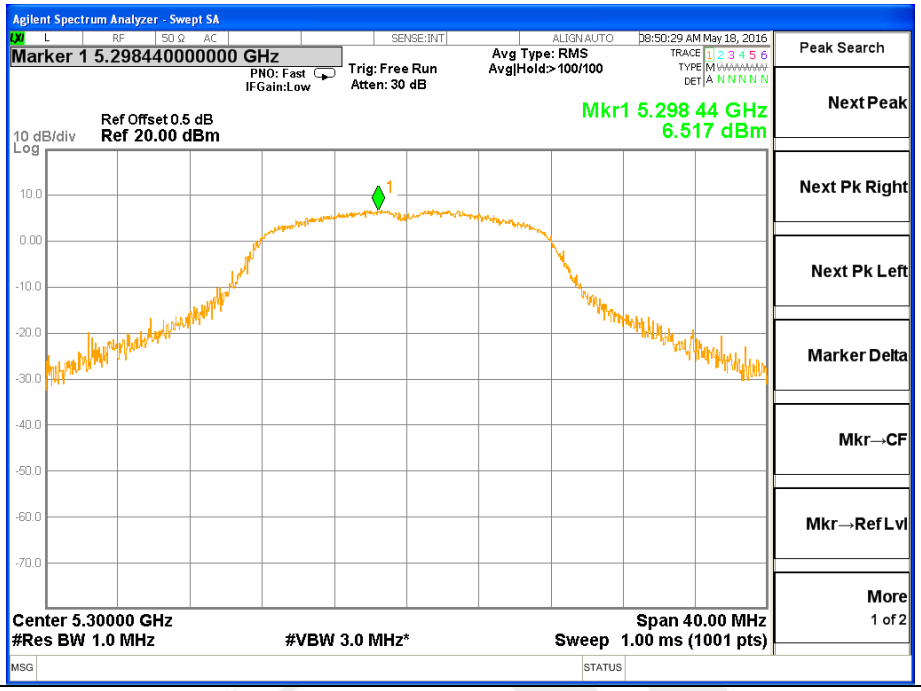
Band II (5.25-5.35GHz)802.11a

Frequency	Power Density (dBm)	Limit (dBm)	Result
5260	5.828	11	**PASS**
5300	6.517	11	**PASS**
5320	6.682	11	**PASS**

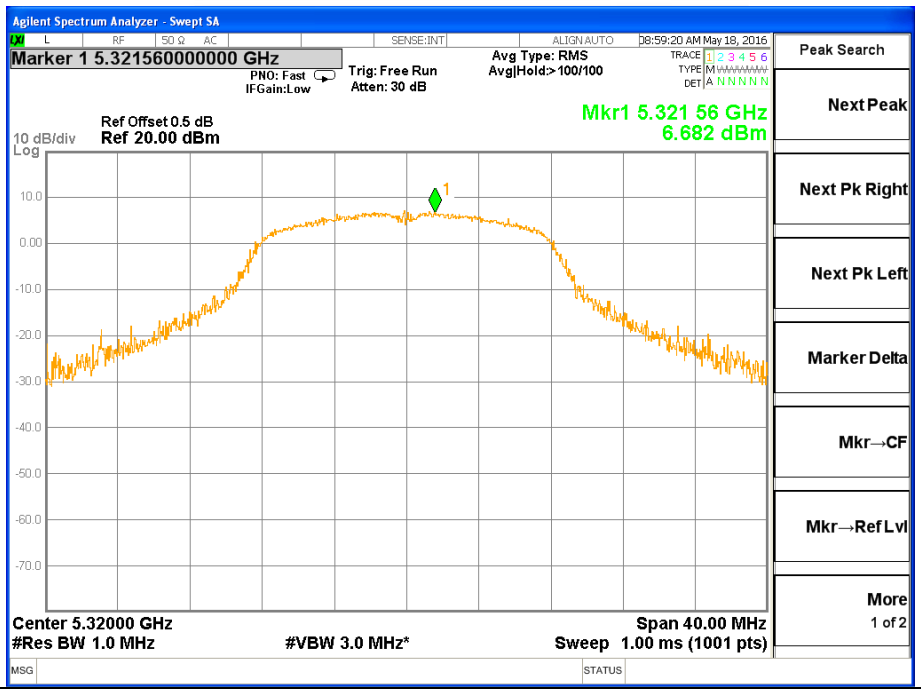
PSD 802.11a Channel 36



PSD 802.11a Channel 40



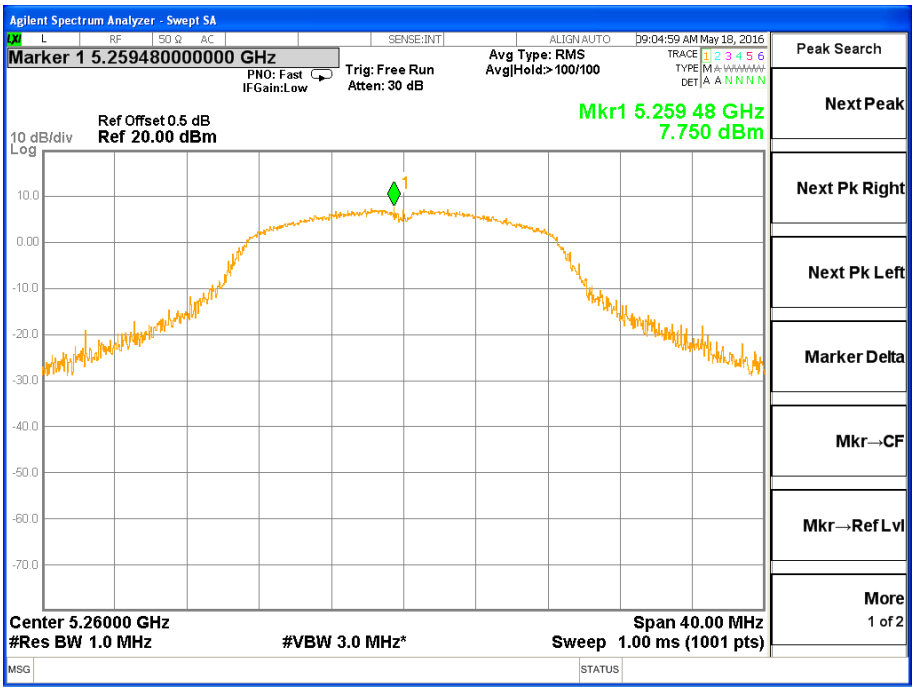
PSD 802.11a Channel 48



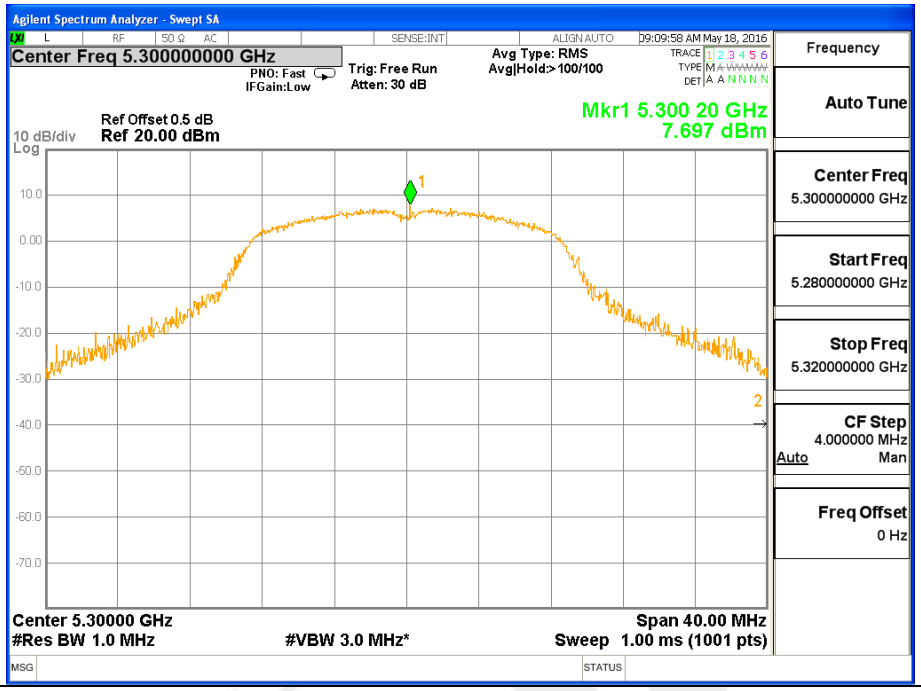
Band II (5.25-5.35GHz) 802.11n(HT20)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5260	7.750	11	**PASS**
5300	7.697	11	**PASS**
5320	7.272	11	**PASS**

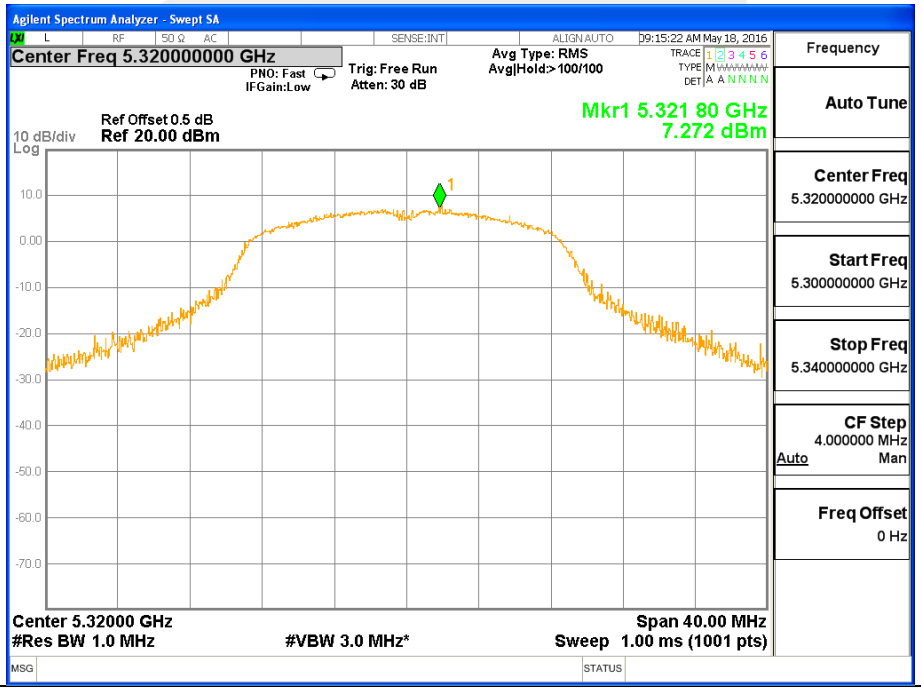
PSD 802.11n(HT20) Channel 36



PSD 802.11n(HT20) Channel 40



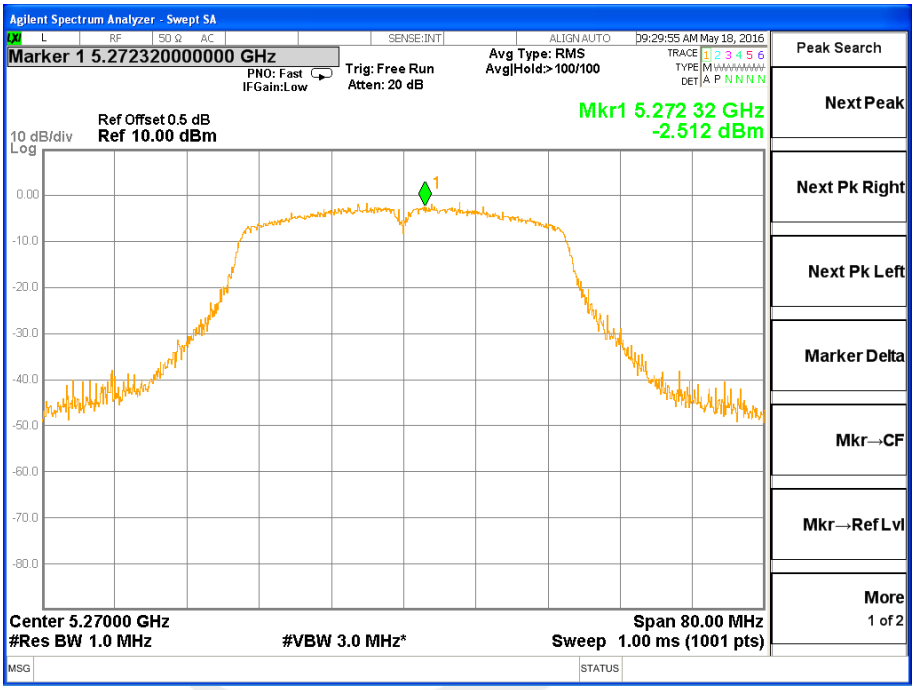
PSD 802.11n(HT20) Channel 48



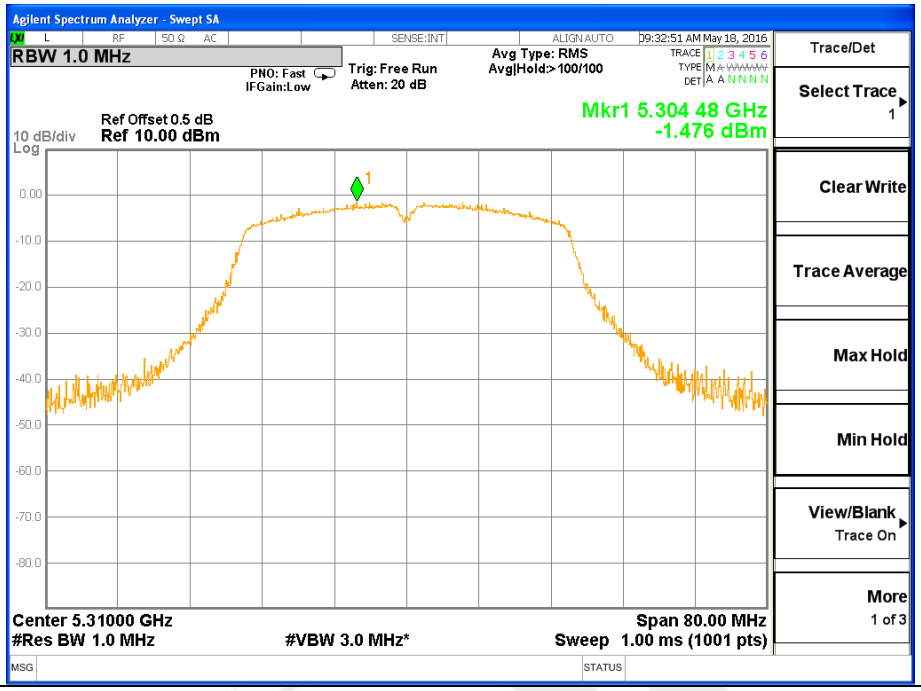
Band II (5.25-5.35GHz) 802.11n(HT40)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5270	-2.512	11	**PASS**
5210	-1.476	11	**PASS**

PSD 802.11n(HT40) Channel 38



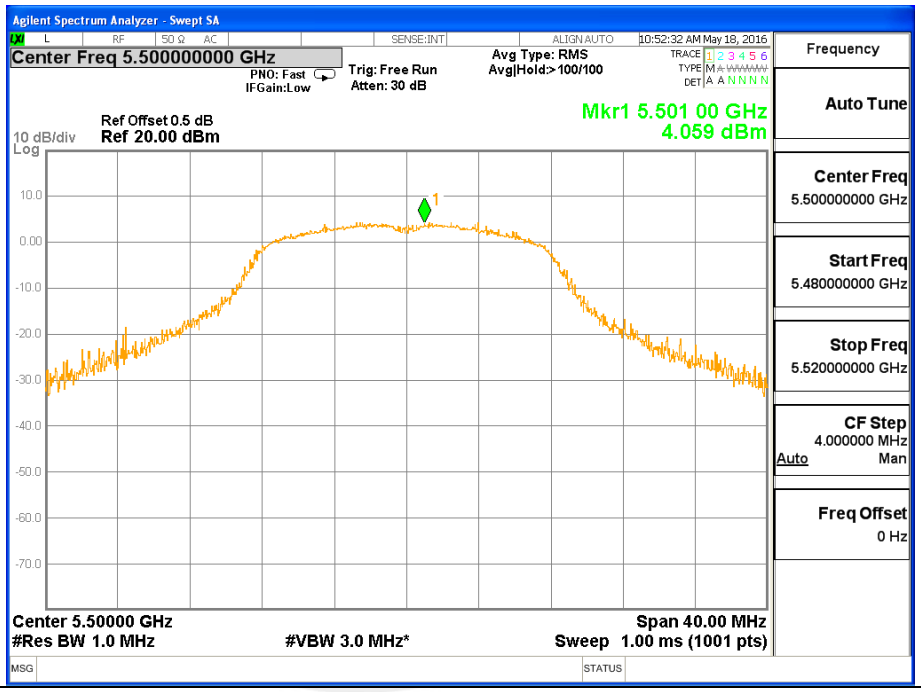
PSD 802.11n(HT40) Channel 46



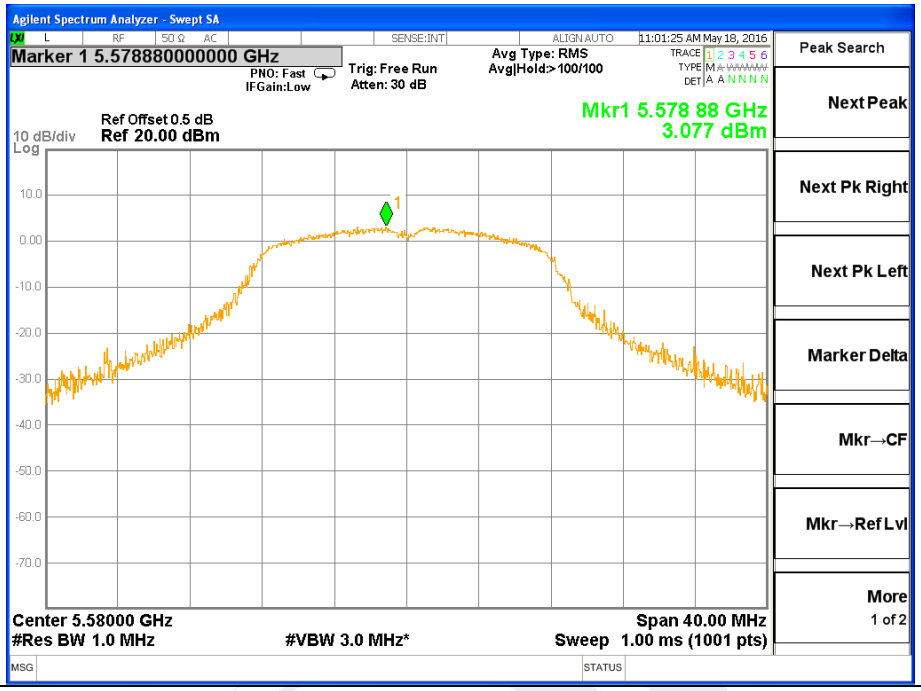
Band III (5.47-5.725GHz)802.11a

Frequency	Power Density (dBm)	Limit (dBm)	Result
5500	4.059	11	**PASS**
5580	3.077	11	**PASS**
5700	1.996	11	**PASS**

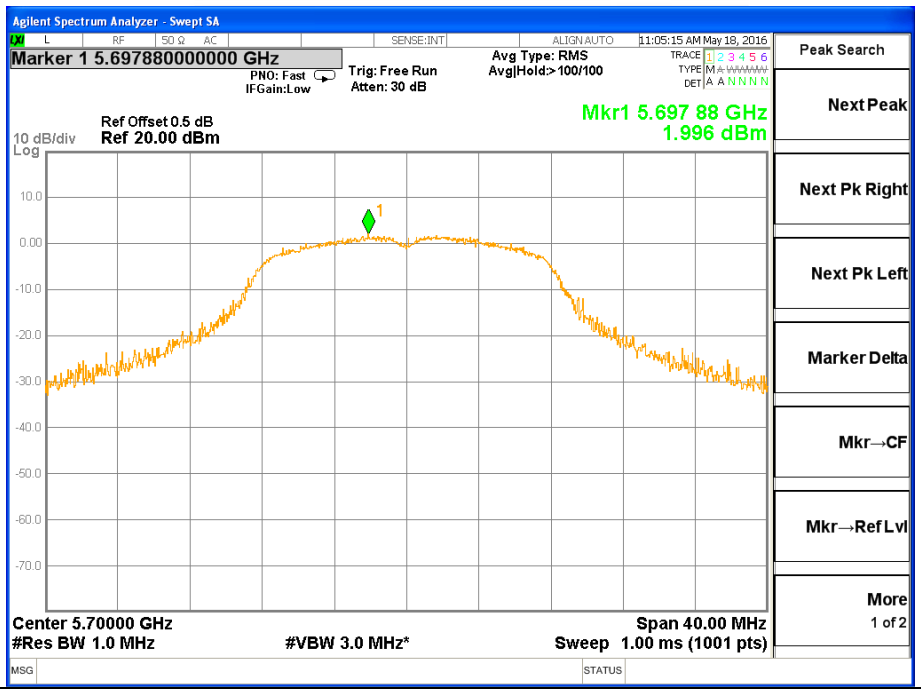
PSD 802.11a Channel 36



PSD 802.11a Channel 40



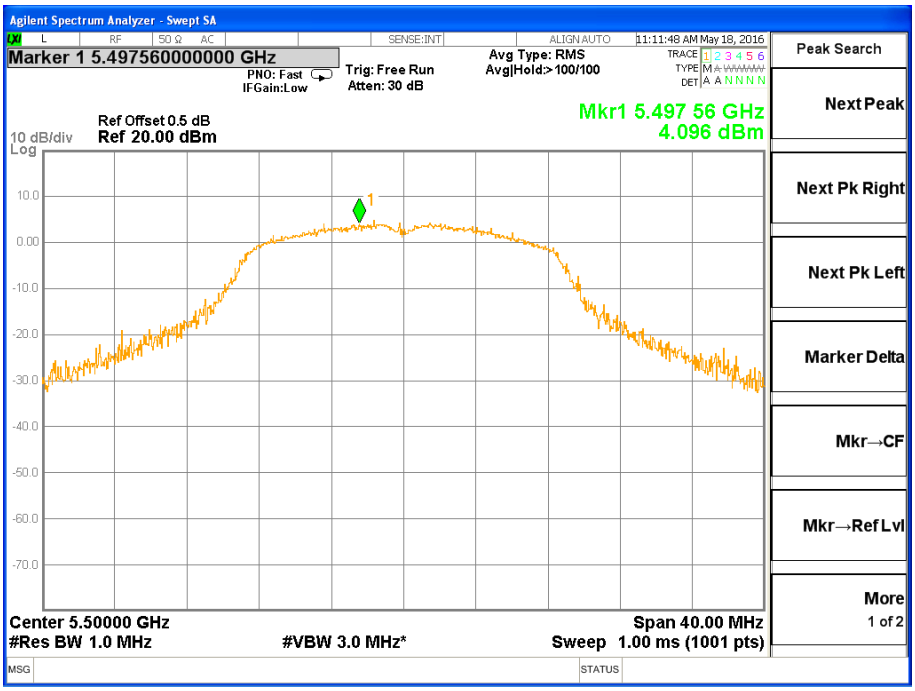
PSD 802.11a Channel 48



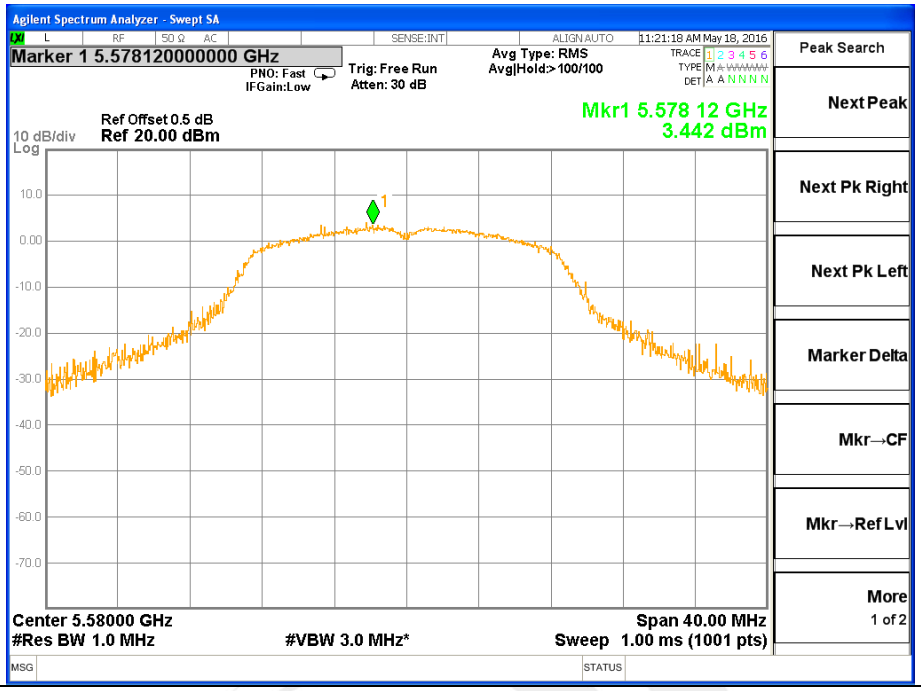
Band III (5.47-5.725GHz) 802.11n(HT20)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5500	4.096	11	**PASS**
5580	3.442	11	**PASS**
5700	1.844	11	**PASS**

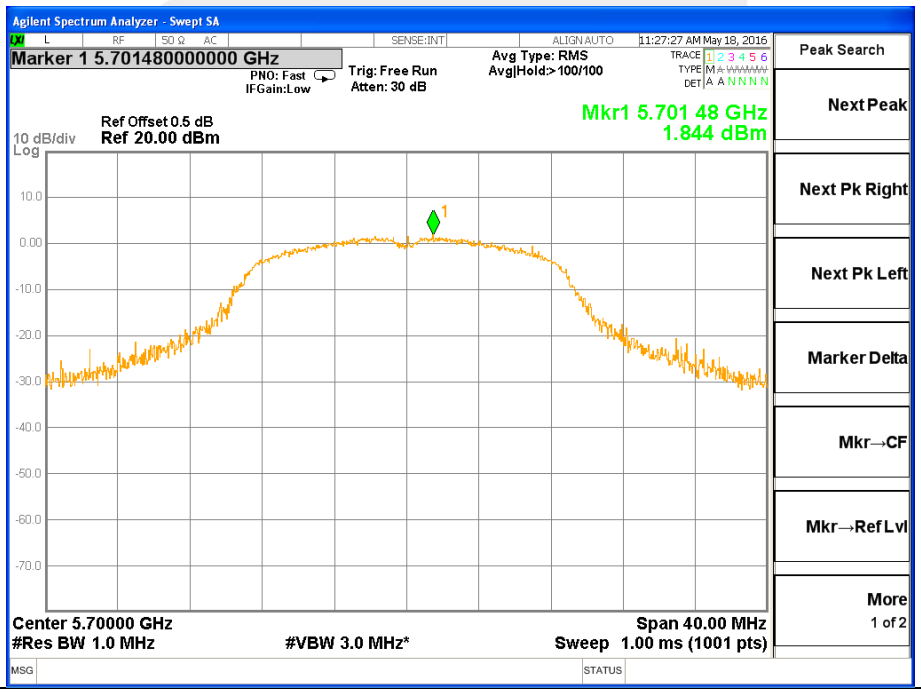
PSD 802.11n(HT20) Channel 36



PSD 802.11n(HT20) Channel 40



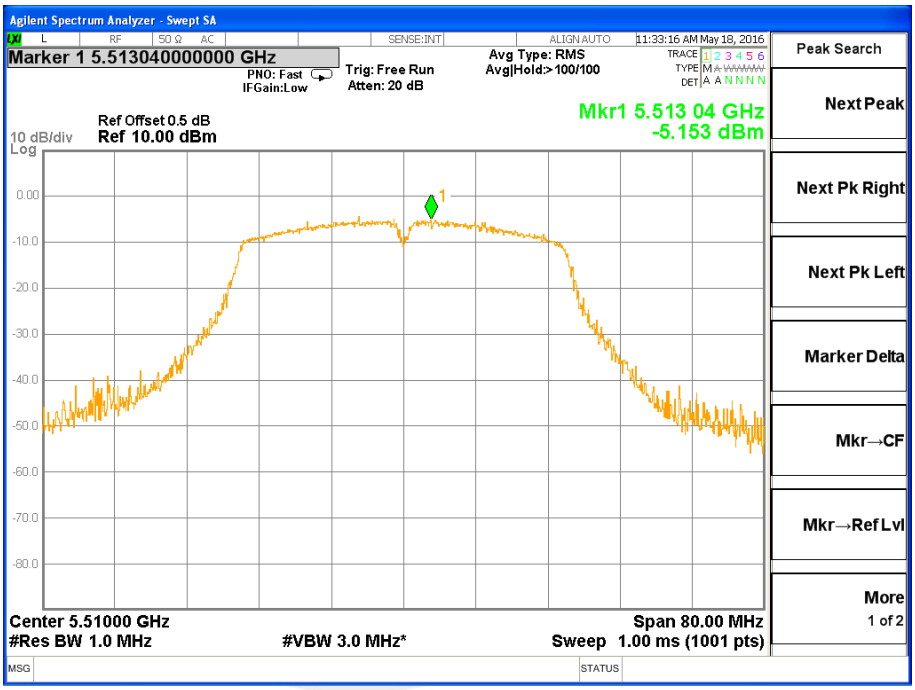
PSD 802.11n(HT20) Channel 48



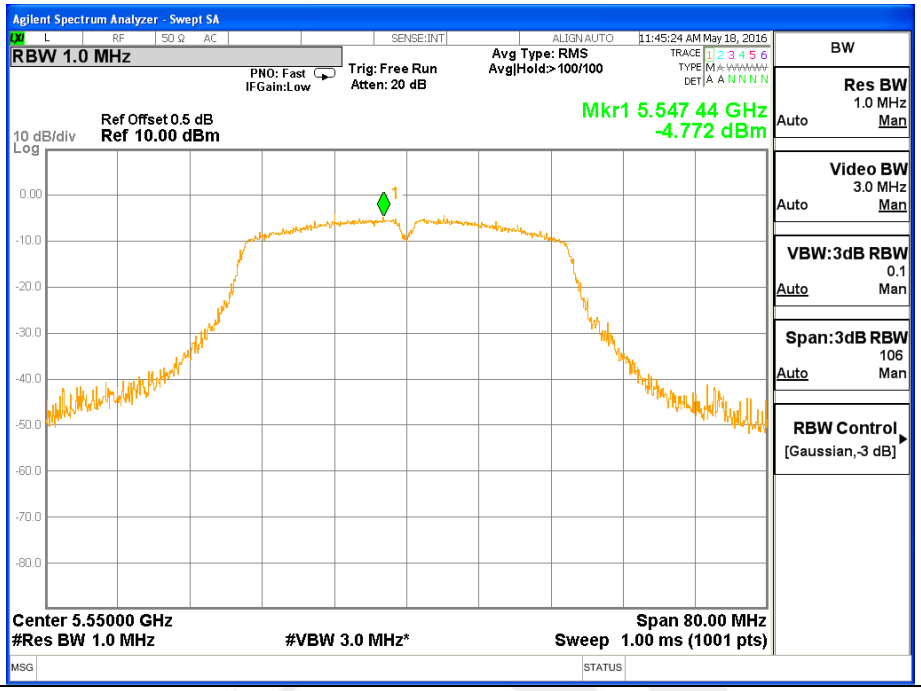
Band III (5.47-5.725GHz) 802.11n(HT40)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5510	-5.153	11	**PASS**
5550	-4.772	11	**PASS**
5670	-6.448	11	**PASS**

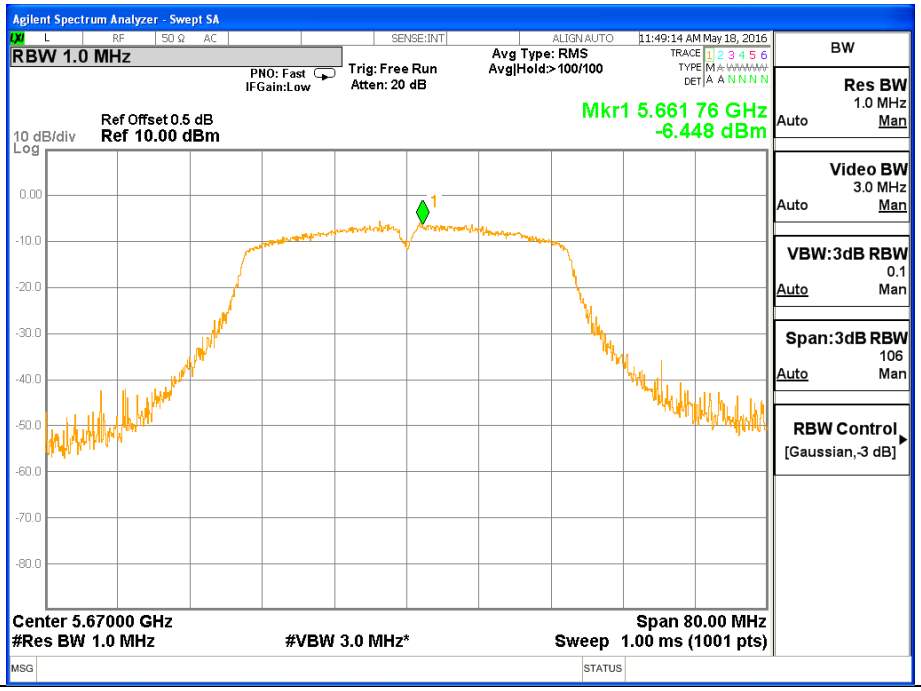
PSD 802.11n(HT40) Channel 38



PSD 802.11n(HT40) Channel 46



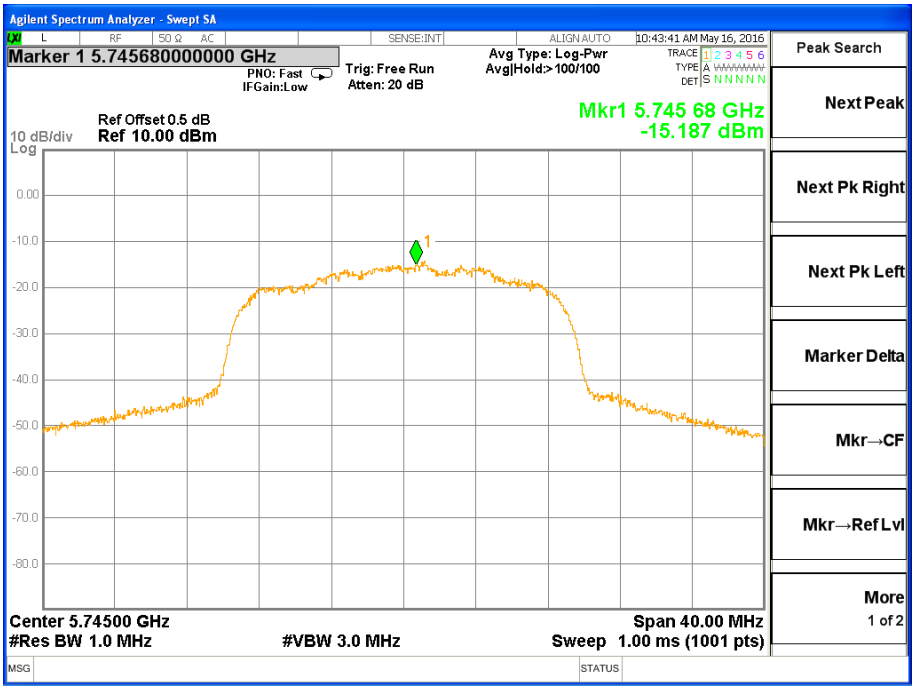
PSD 802.11n(HT40) Channel 46



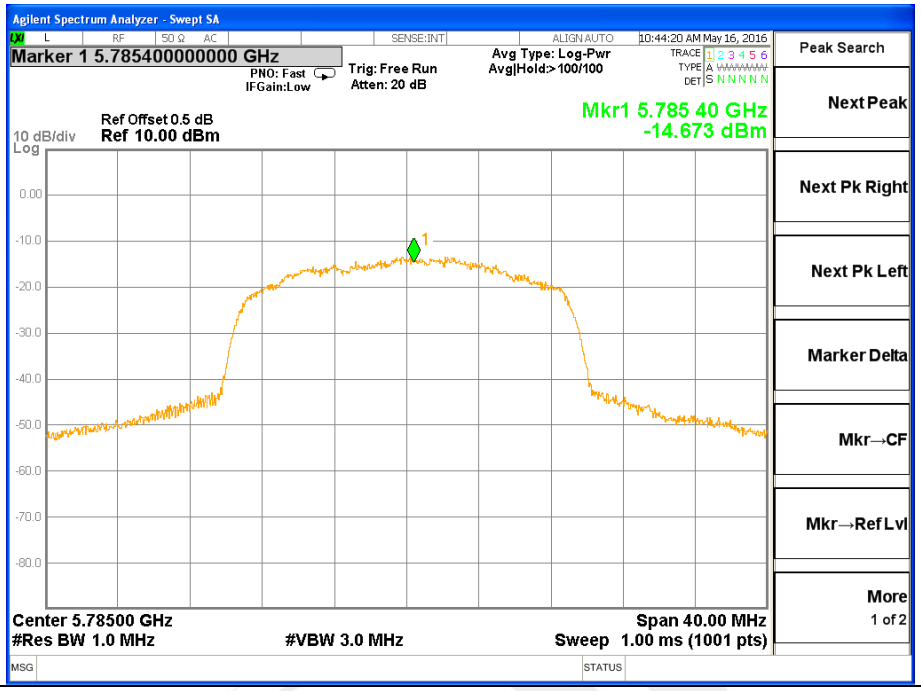
Band IV (5.725-5.850GHz)802.11a

Frequency	Power Density (dBm)	Limit (dBm)	Result
5745	-15.19	30	**PASS**
5785	-14.17	30	**PASS**
5825	-12.59	30	**PASS**

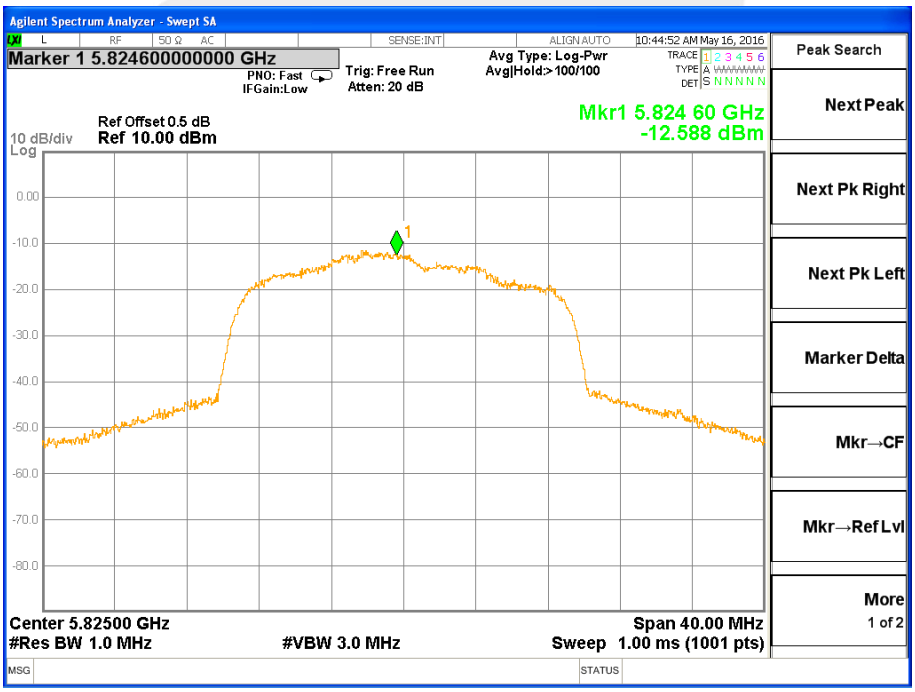
PSD 802.11a Channel 149



PSD 802.11a Channel 157



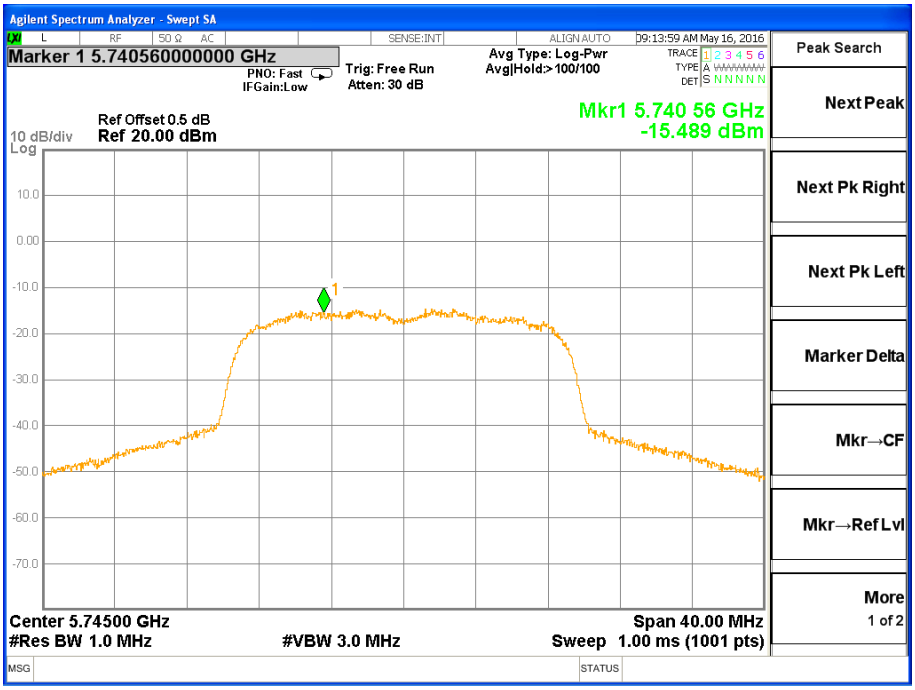
PSD 802.11a Channel 165



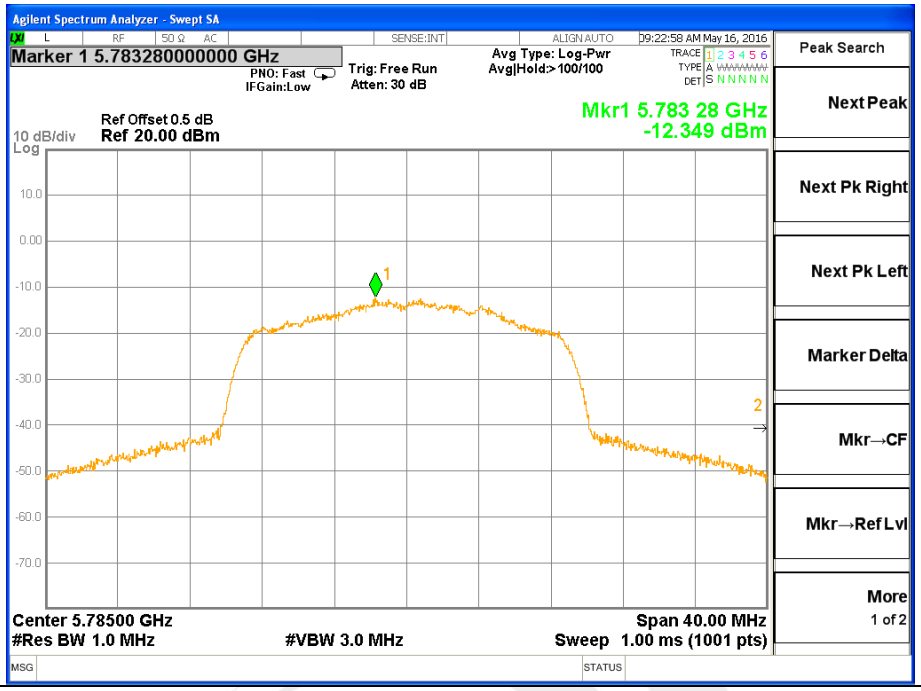
Band IV (5.725-5.850GHz)802.11n(HT20)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5745	-15.49	30	**PASS**
5785	-12.35	30	**PASS**
5825	-10.98	30	**PASS**

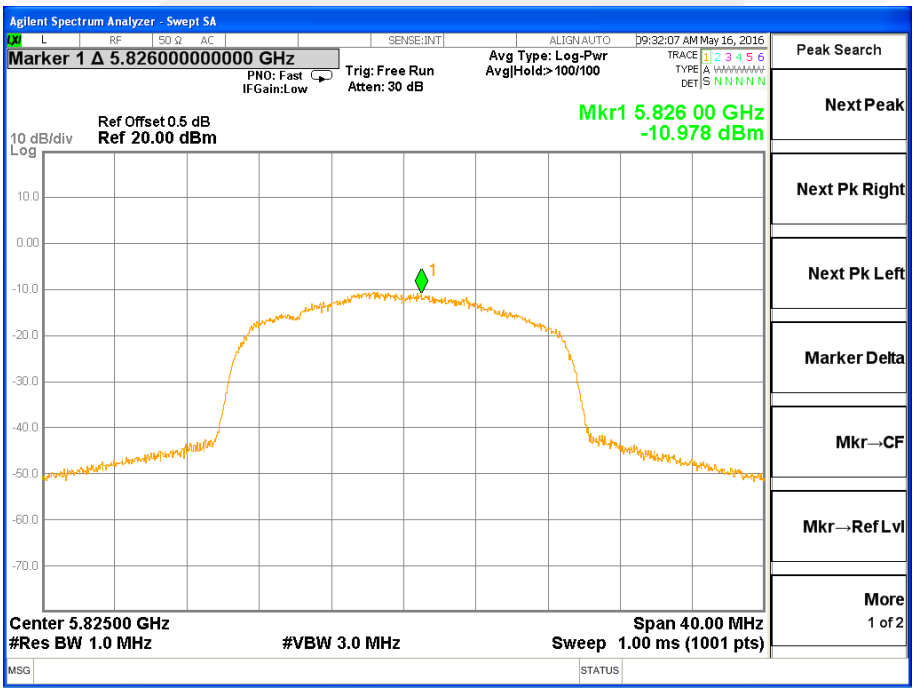
PSD 802.11n(HT20) Channel 149



PSD 802.11n(HT20) Channel 157



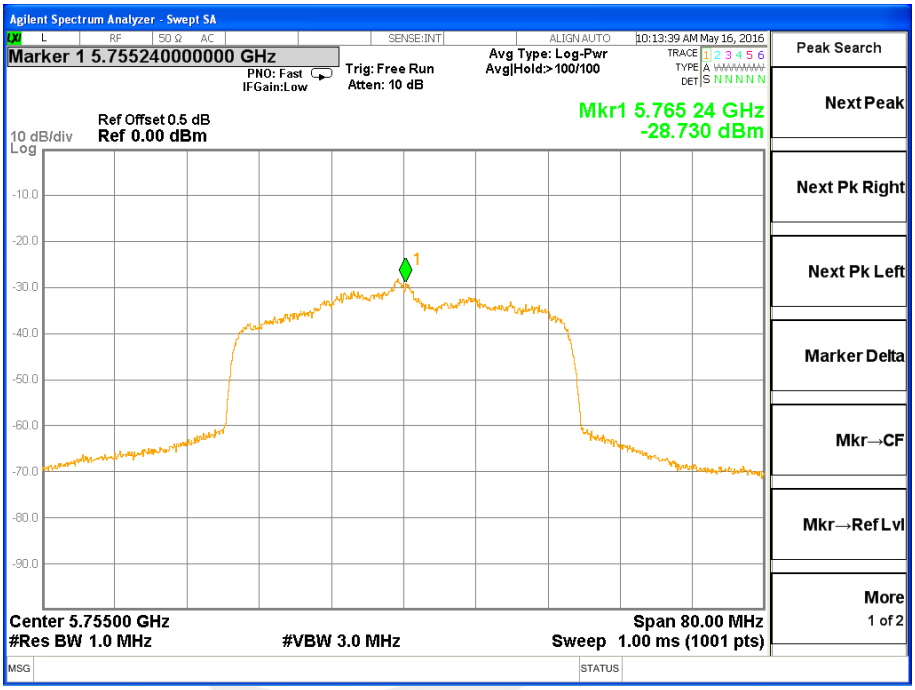
PSD 802.11n(HT20) Channel 165



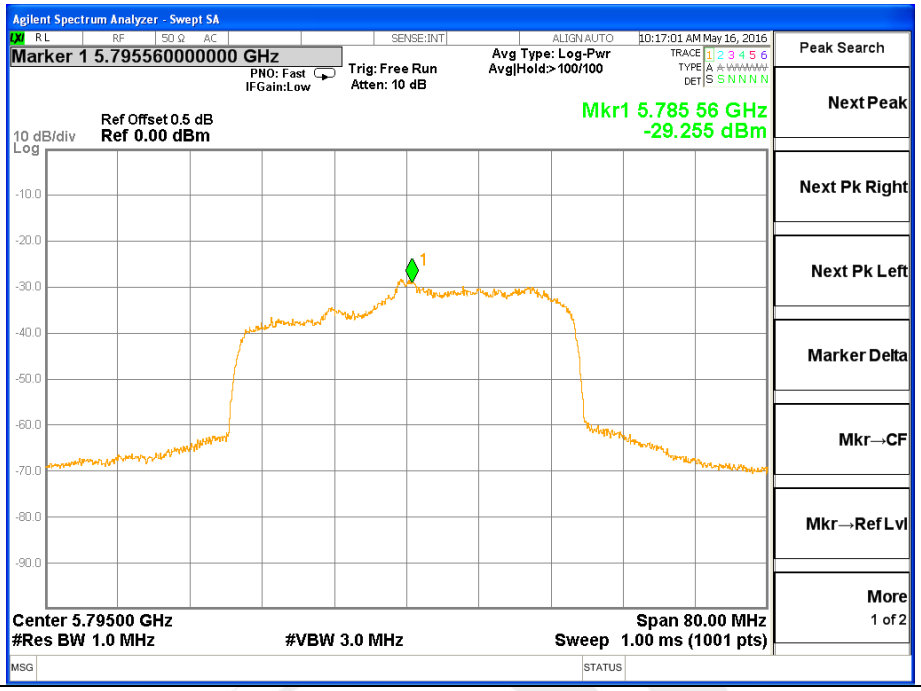
Band IV (5.725-5.850GHz)802.11n(HT40)

Frequency	Power Density (dBm)	Limit (dBm)	Result
5755	-28.730	30	**PASS**
5795	-29.255	30	**PASS**

PSD 802.11n(HT40) Channel 151



PSD 802.11n(HT40) Channel 157



6. BANDWIDTH MEASUREMENT

6.1 EMISSION BANDWIDTH (EBW) 26 BANDWID PROCEDURES / LIMIT

See list of measuring instruments of this test report.

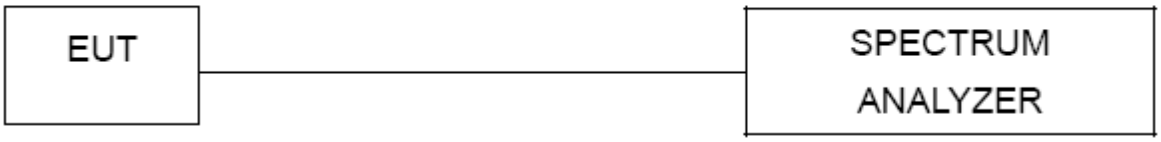
6.1.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > =RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. 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%.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

Band I (5.150-5.250GHz)

Frequency (MHz)	802.11a 26dB Bandwidth(MHz)	Pass/Fail
5180	25.25	N/A
5200	25.32	N/A
5240	23.14	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 26dB Bandwidth(MHz)	Pass/Fail
5180	23.83	N/A
5200	25.02	N/A
5240	24.40	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT40) 26dB Bandwidth(MHz)	Pass/Fail
5190	43.25	N/A
5230	43.17	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Band II (5.250-5.350GHz)

Frequency (MHz)	802.11a 26dB Bandwidth(MHz)	Pass/Fail
5260	22.97	N/A
5300	22.89	N/A
5320	23.70	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 26dB Bandwidth(MHz)	Pass/Fail
5260	25.00	N/A
5300	23.28	N/A
5320	23.49	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT40) 26dB Bandwidth(MHz)	Pass/Fail
5270	42.64	N/A
5310	42.61	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Band III (5.47-5.725GHz)

Frequency (MHz)	802.11a 26dB Bandwidth(MHz)	Pass/Fail
5500	22.95	N/A
5580	23.34	N/A
5700	25.57	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 26dB Bandwidth(MHz)	Pass/Fail
5500	2509	N/A
5580	24.12	N/A
5700	26.03	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT40) 26dB Bandwidth(MHz)	Pass/Fail
5510	43.37	N/A
5550	42.80	N/A
5670	42.52	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Band IV (5.725-5.850GHz)

Frequency (MHz)	802.11a 26dB Bandwidth(MHz)	Pass/Fail
5745	23.29	N/A
5785	25.94	N/A
5825	22.79	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 26dB Bandwidth(MHz)	Pass/Fail
5745	23.41	N/A
5785	24.92	N/A
5825	23.75	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT40) 26dB Bandwidth(MHz)	Pass/Fail
5755	42.69	N/A
5795	42.97	N/A

Note: N/A, 26 db bandwidth measurement limit only embodied in the report.

6.2 OCCUPIED BANDWIDTH (99%) TEST APPLIED PROCEDURES / LIMIT

The following procedure shall be used for measuring (99 %) power bandwidth:

6.2.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v01r01.
The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.

2. Set span = 1.5 times to 5.0 times the OBW.

3. Set RBW = 1 % to 5 % of the OBW

4. Set VBW ≥ 3 · RBW

5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

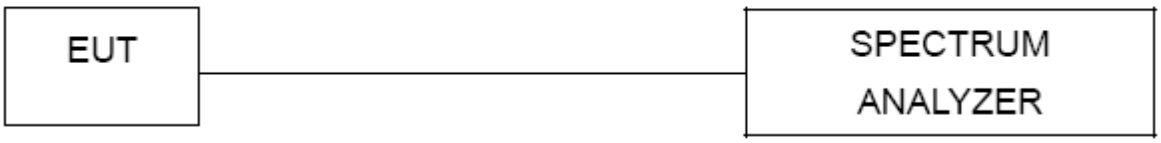
6. Use the 99 % power bandwidth function of the instrument (if available).

7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

6.2.2 DEVIATION FROM STANDARD

No deviation.

6.2.3 TEST SETUP



6.2.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.2.5 TEST RESULTS

Transmissions Level (dBm)=(Antenna A) Port. Antenna A Signal strength strongest.

Band I (5.150-5.250GHz)

Frequency (MHz)	802.11a 99% Bandwidth(MHz)	Pass/Fail
5180	16.616	N/A
5200	16.491	N/A
5240	16.531	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5180	17.640	N/A
5200	17.597	N/A
5240	17.645	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5190	36.013	N/A
5230	36.045	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Band II (5.250-5.350GHz)

Frequency (MHz)	802.11a 99% Bandwidth(MHz)	Pass/Fail
5260	16.566	N/A
5300	16.519	N/A
5320	16.483	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5260	17.609	N/A
5300	17.592	N/A
5320	17.617	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5270	35.991	N/A
5310	35.997	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Band III (5.470-5.725GHz)

Frequency (MHz)	802.11a 99% Bandwidth(MHz)	Pass/Fail
5500	16.531	N/A
5580	16.508	N/A
5700	16.613	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5500	17.629	N/A
5580	17.608	N/A
5700	17.705	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5510	36.056	N/A
5550	36.005	N/A
5670	36.001	

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Band IV (5.725-5.850GHz)

Frequency (MHz)	802.11a 99% Bandwidth(MHz)	Pass/Fail
5745	16.518	N/A
5785	16.593	N/A
5825	16.504	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5745	17.639	N/A
5785	17.663	N/A
5825	17.616	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

Frequency (MHz)	802.11n(HT20) 99% Bandwidth(MHz)	Pass/Fail
5755	36.002	N/A
5795	35.981	N/A

Note: N/A, 99% bandwidth measurement limit only embodied in the report.

6.3 MINIMUM EMISSION BANDWIDTH(6 DB) PROCEDURES / LIMIT

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

6.3.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v01r01.

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.

6.3.2 DEVIATION FROM STANDARD

No deviation.

6.3.3 TEST SETUP

6.3.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.3.5 TEST RESULTS

Band IV (5.725-5.850GHz)

Frequency (MHz)	802.11n(HT20) 6dB Bandwidth(MHz)	Pass/Fail
5745	15.14	>500KHz
5785	15.12	>500KHz
5825	15.14	>500KHz

Note: N/A, 6 db bandwidth measurement limit only embodied in the report

Frequency (MHz)	802.11n(HT20) 6dB Bandwidth(MHz)	Pass/Fail
5745	15.12	>500KHz
5785	15.12	>500KHz
5825	15.13	>500KHz

Note: N/A, 6 db bandwidth measurement limit only embodied in the report

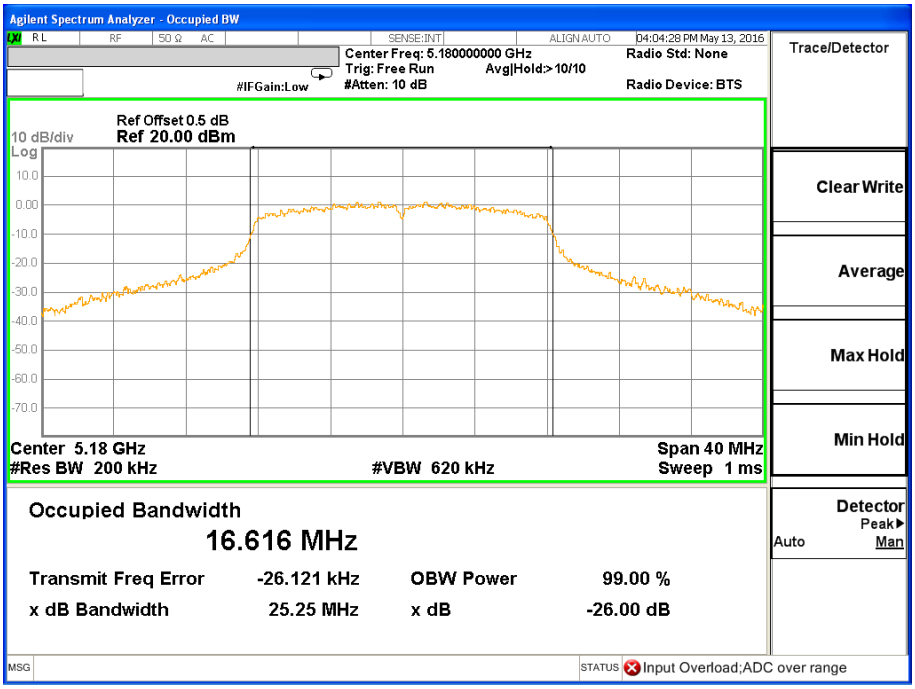
Frequency (MHz)	802.11n(HT40) 6dB Bandwidth(MHz)	Pass/Fail
5755	35.16	>500KHz
5795	35.17	>500KHz

Note: N/A, 6 db bandwidth measurement limit only embodied in the report

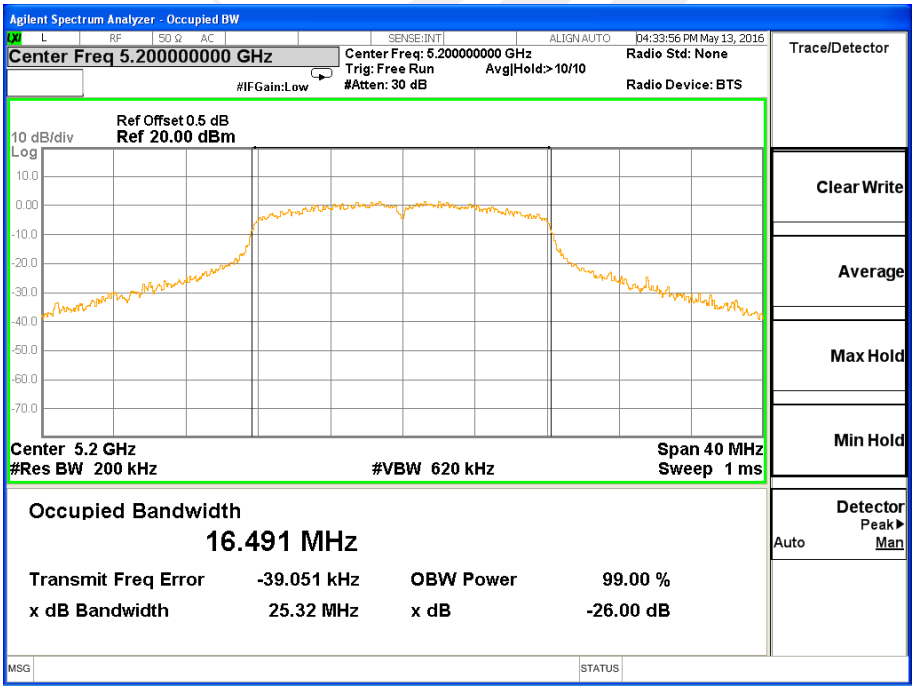
6.4 BANDWIDTH TEST POLT

Band I (5.150-5.250GHz)) 802.11a 26 dB &99% Bandwidth

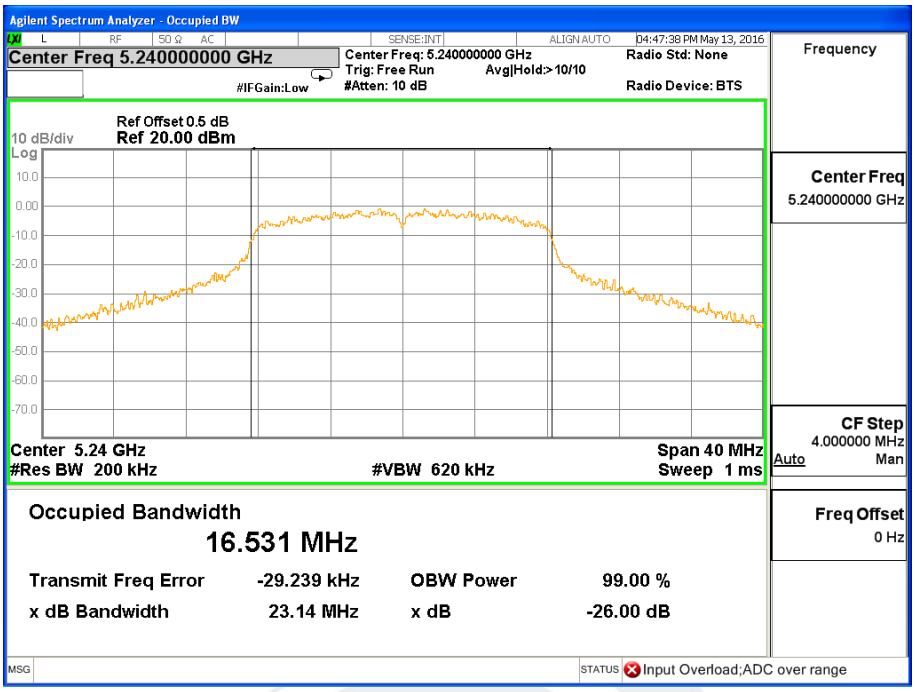
26 dB &99% Bandwidth 802.11a Channel 36



26 dB &99% Bandwidth 802.11a Channel 40

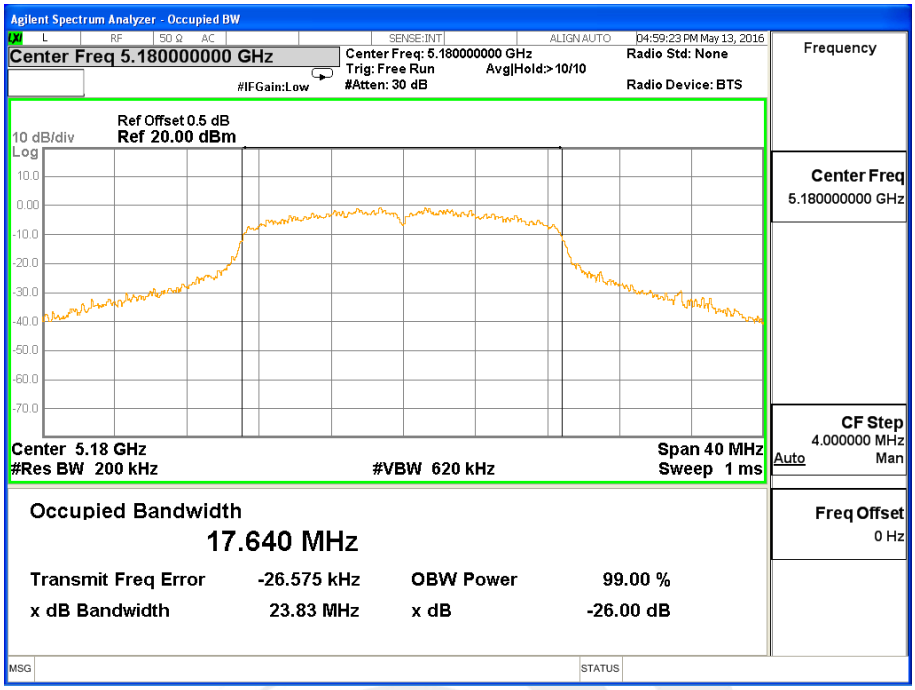


26 dB &99% Bandwidth 802.11a Channel 48

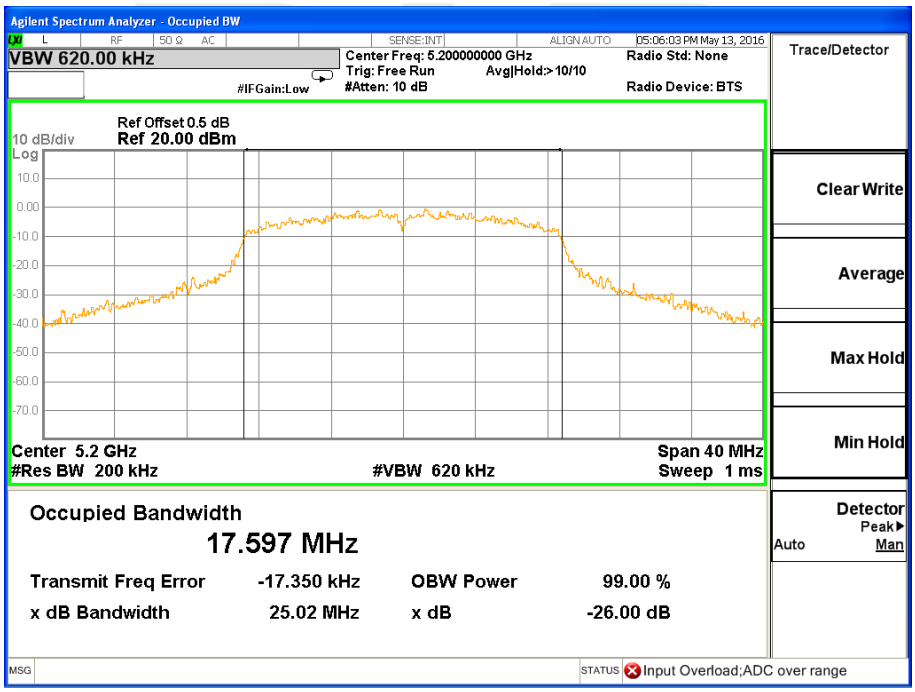


Band I (5.150-5.250GHz) 802.11n(HT20) 26 dB &99% Bandwidth

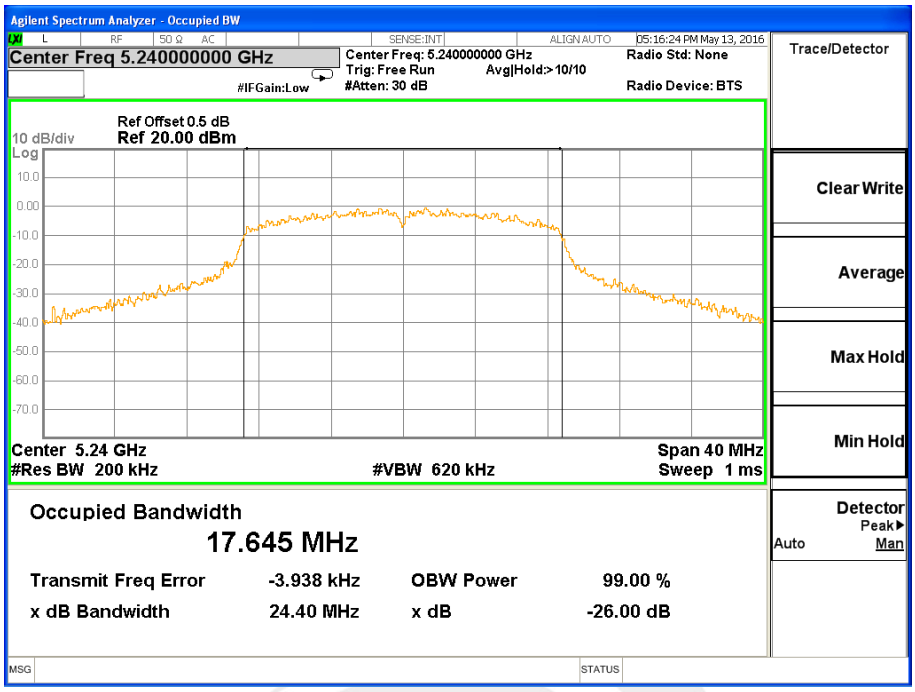
26 dB &99% Bandwidth 802.11n(HT20) Channel 36



26 dB &99% Bandwidth 802.11n(HT20) Channel 40

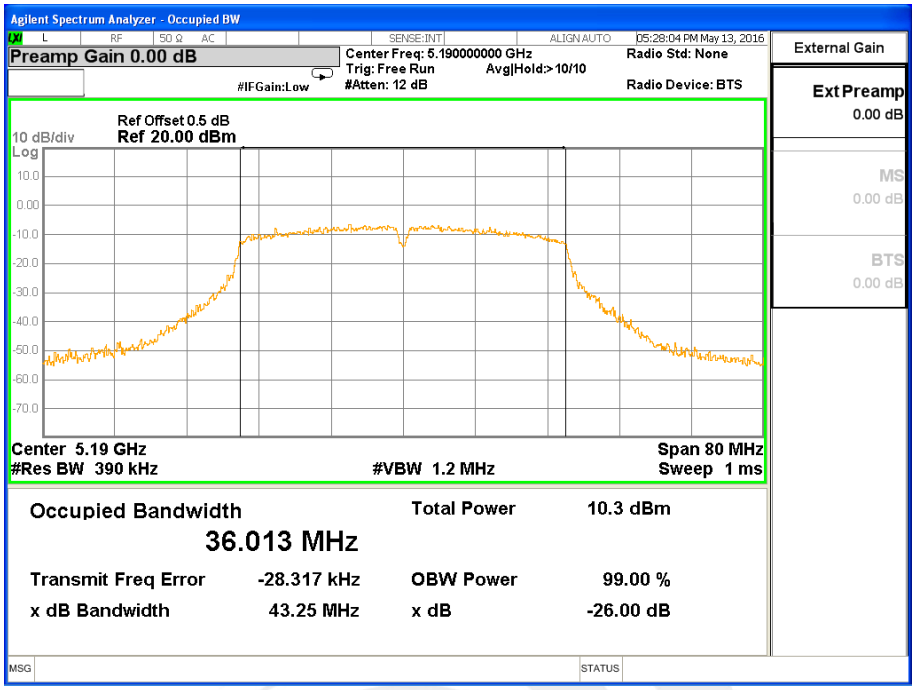


26 dB &99% Bandwidth 802.11n(HT20) Channel 48

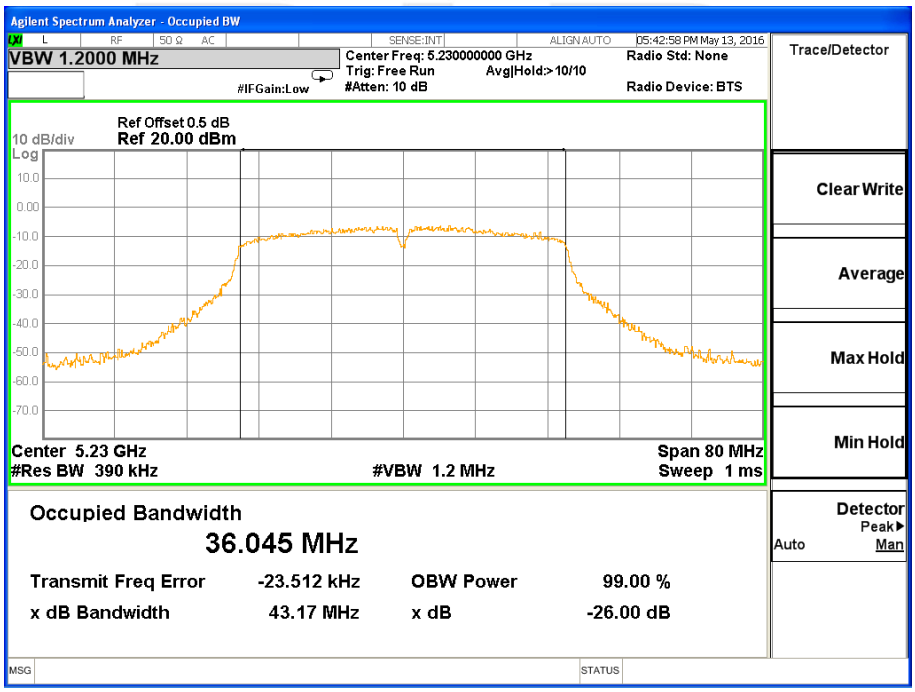


Band I (5.150-5.250GHz) 802.11n(HT40) 26 dB &99% Bandwidth

26 dB &99% Bandwidth 802.11n(HT40) Channel 38

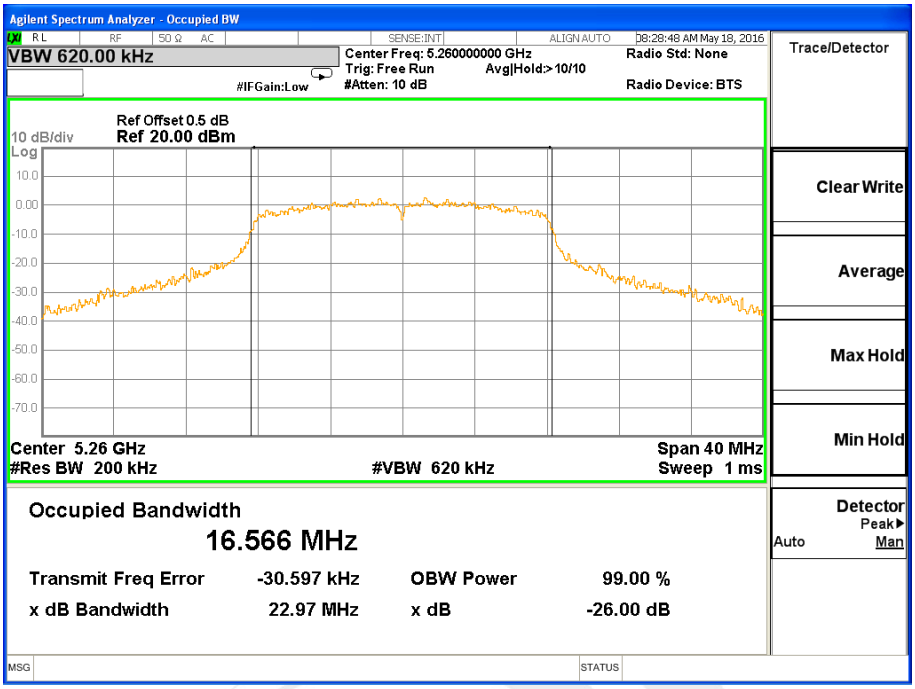


26 dB &99% Bandwidth 802.11n(HT40) Channel 46

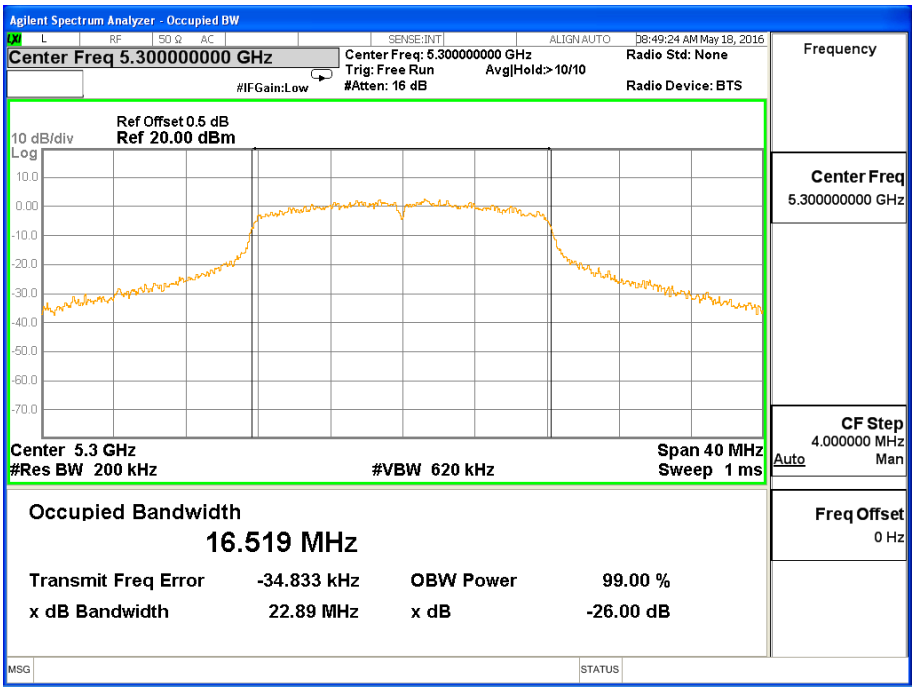


Band II (5.250-5.350GHz)) 802.11a 26 dB &99% Bandwidth

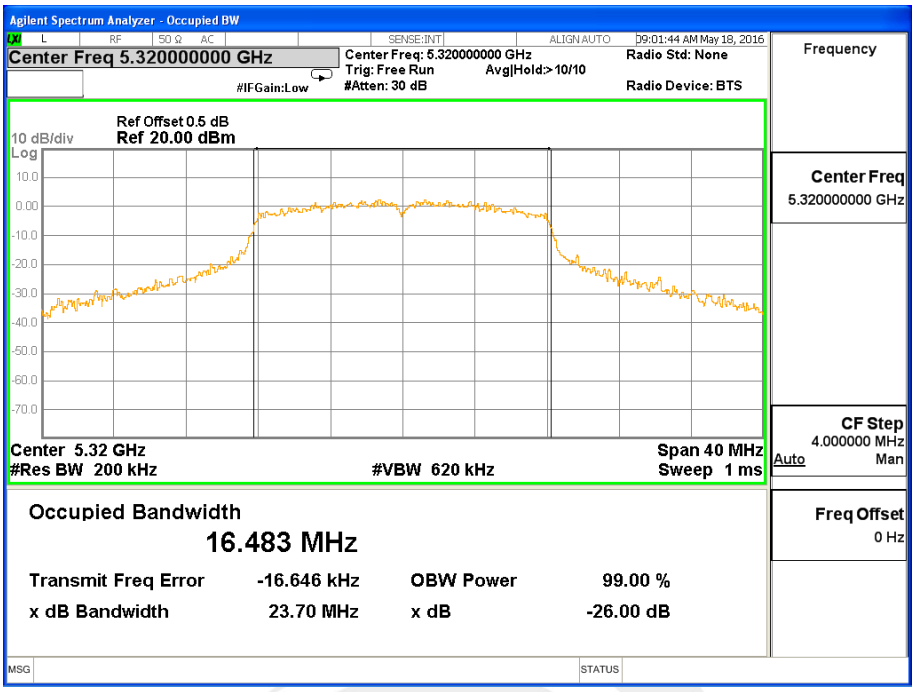
26 dB &99% Bandwidth 802.11a Channel 52



26 dB &99% Bandwidth 802.11a Channel 60

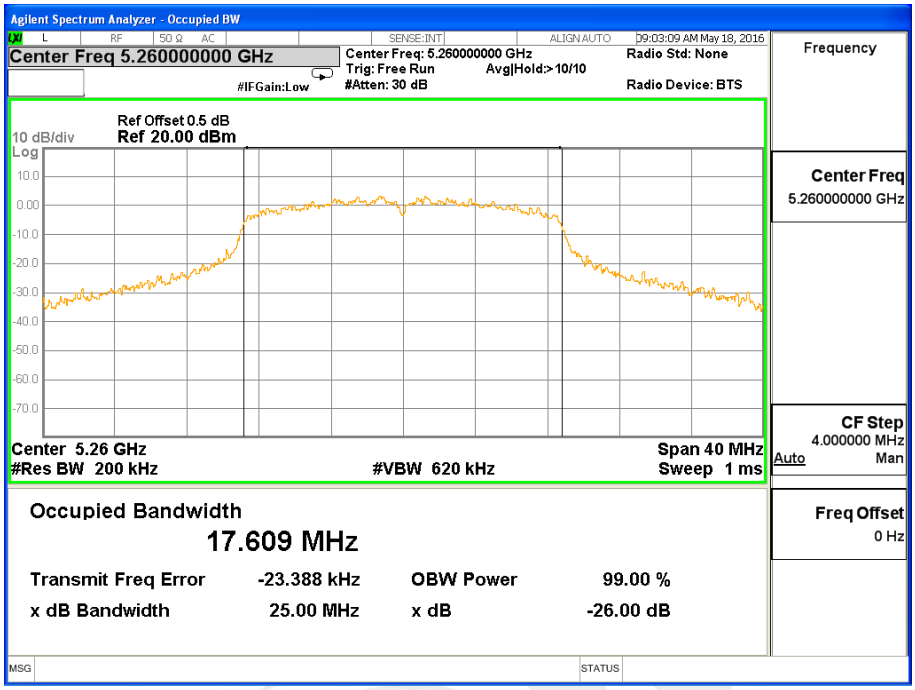


26 dB &99% Bandwidth 802.11a Channel 64

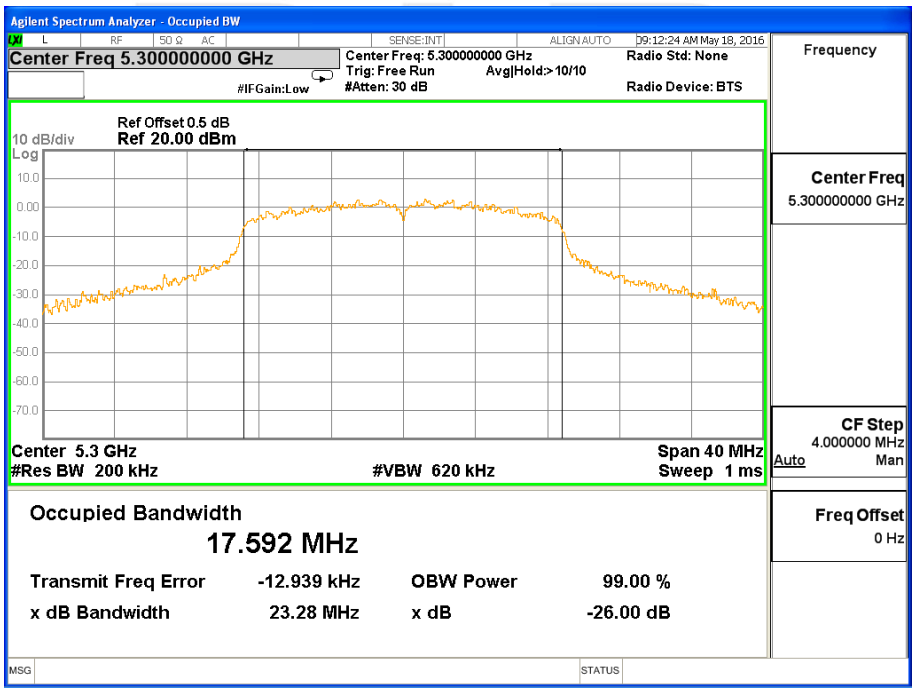


Band II (5.250-5.350GHz) 802.11n(HT20) 26 dB &99% Bandwidth

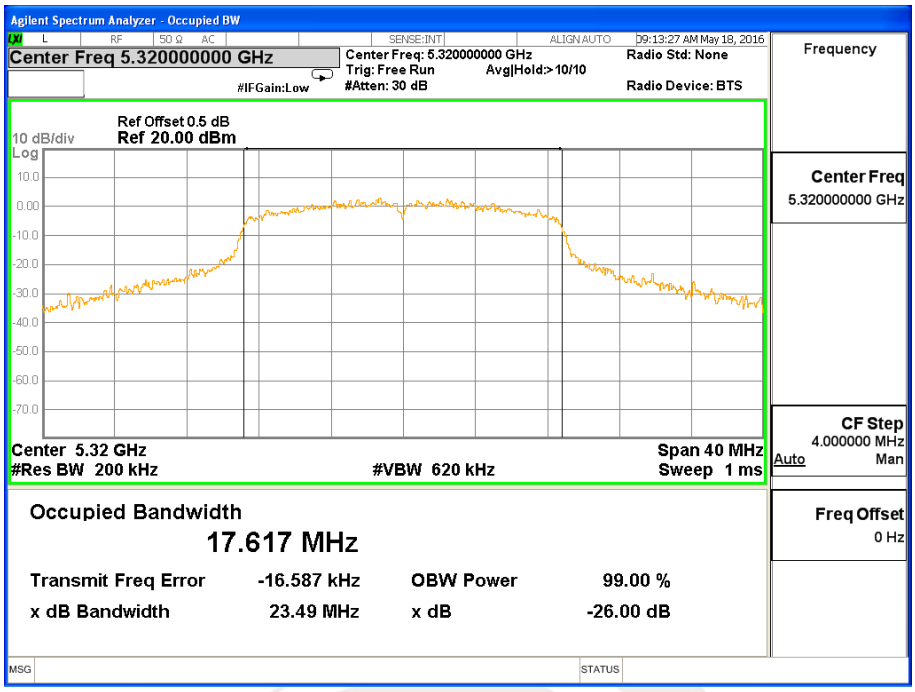
26 dB &99% Bandwidth 802.11n(HT20) Channel 52



26 dB &99% Bandwidth 802.11n(HT20) Channel 60

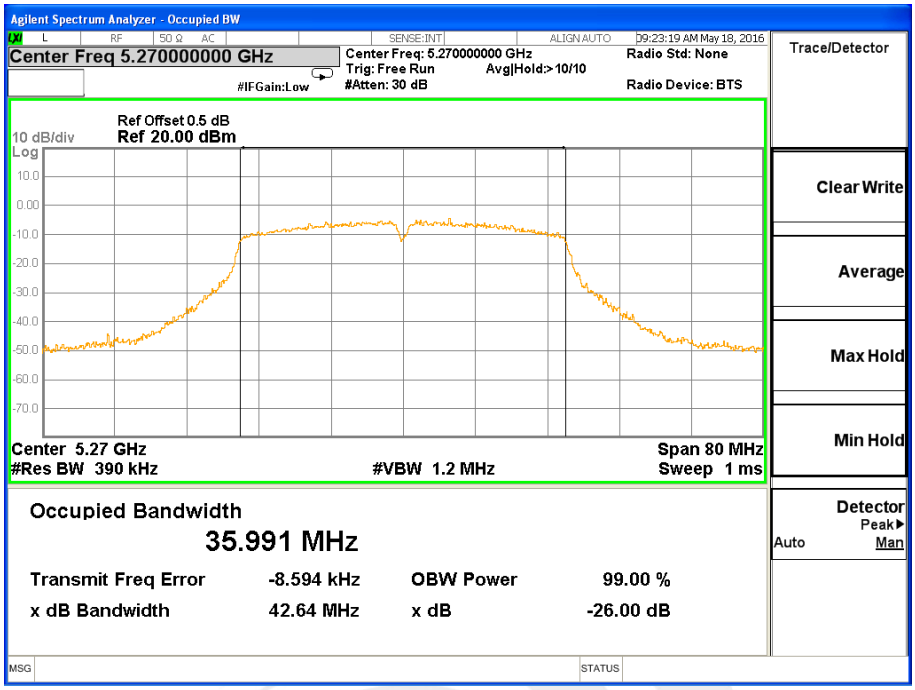


26 dB &99% Bandwidth 802.11n(HT20) Channel 64

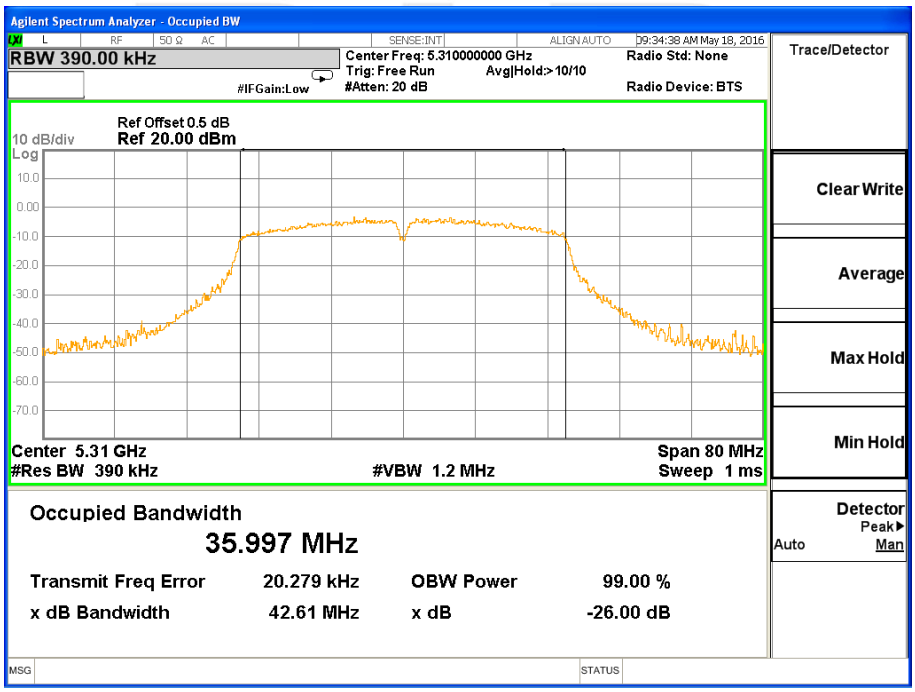


Band II (5.250-5.350GHz) 802.11n(HT40) 26 dB &99% Bandwidth

26 dB &99% Bandwidth 802.11n(HT40) Channel 52

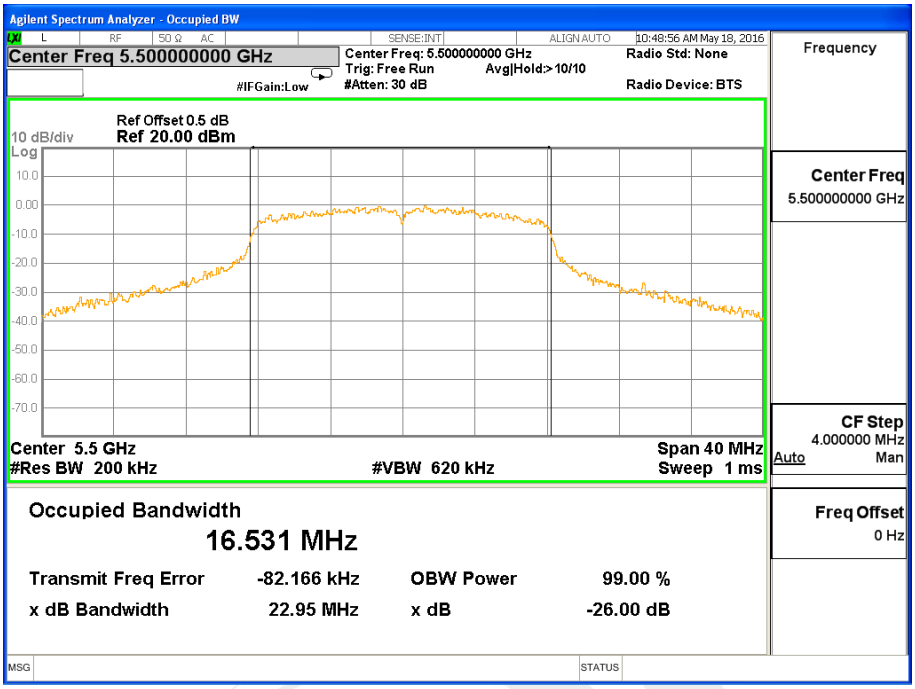


26 dB &99% Bandwidth 802.11n(HT40) Channel 64

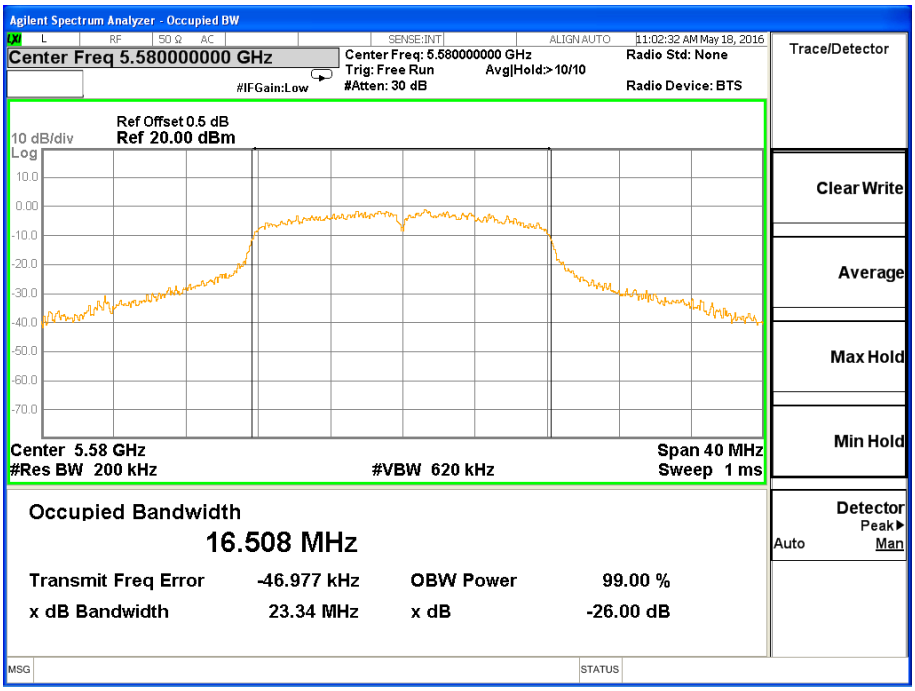


Band III (5.470-5.725GHz)) 802.11a 26 dB &99% Bandwidth

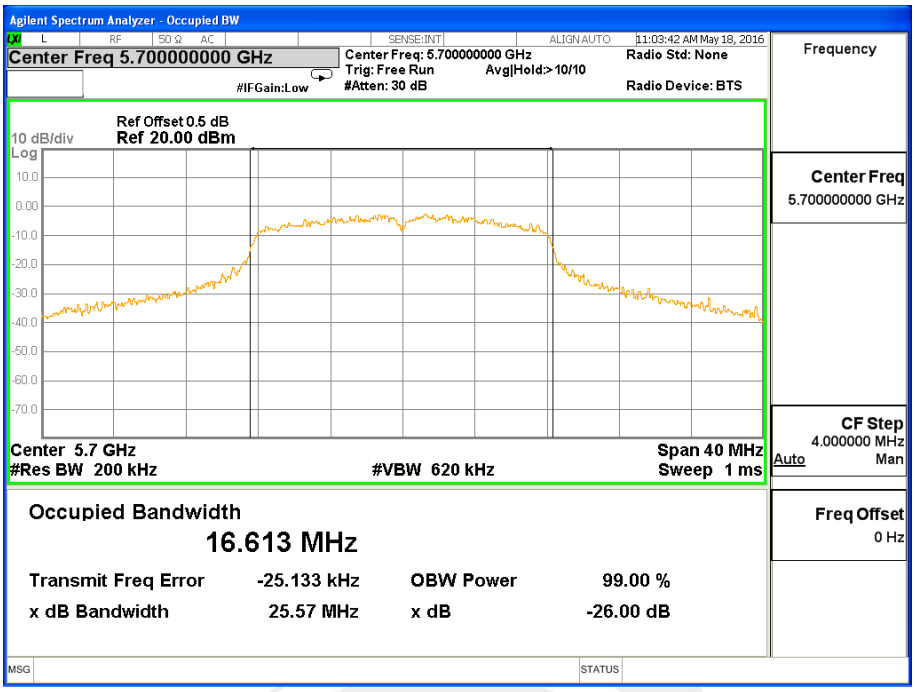
26 dB &99% Bandwidth 802.11a Channel 100



26 dB &99% Bandwidth 802.11a Channel 116

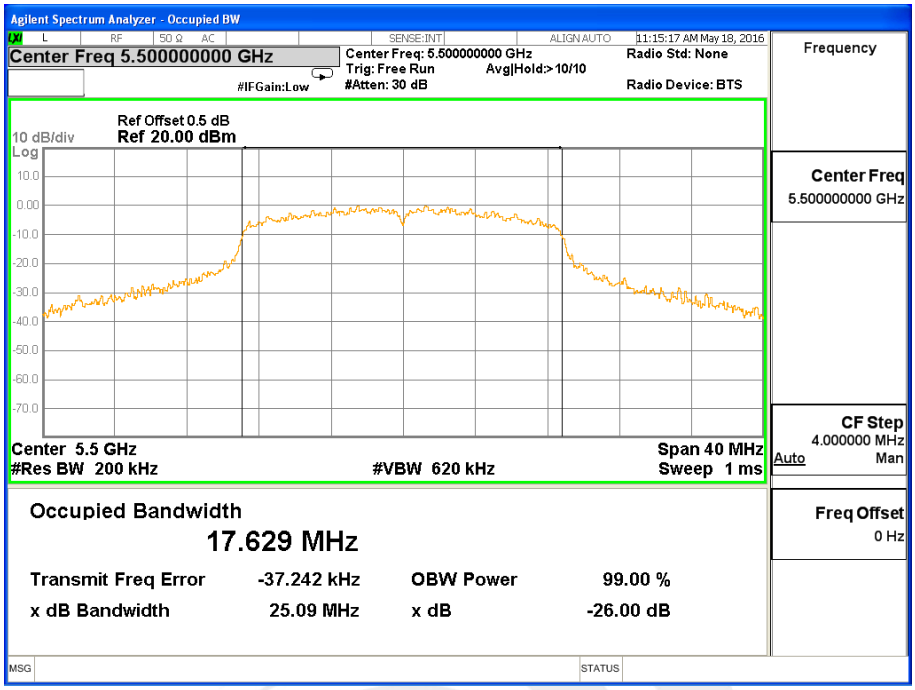


26 dB &99% Bandwidth 802.11a Channel 140

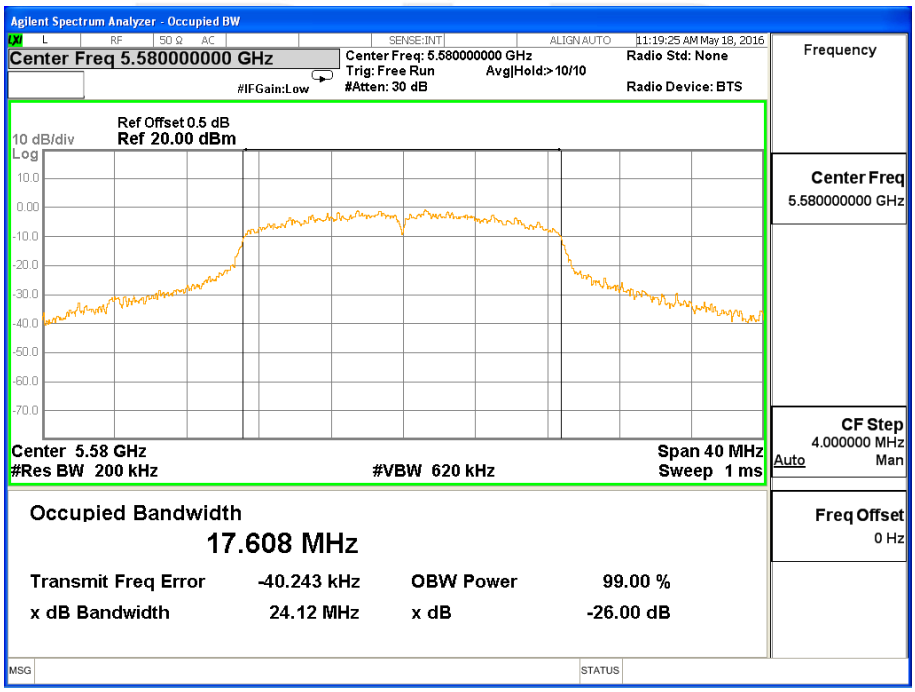


Band III (5.470-5.725GHz) 802.11n(HT20) 26 dB &99% Bandwidth

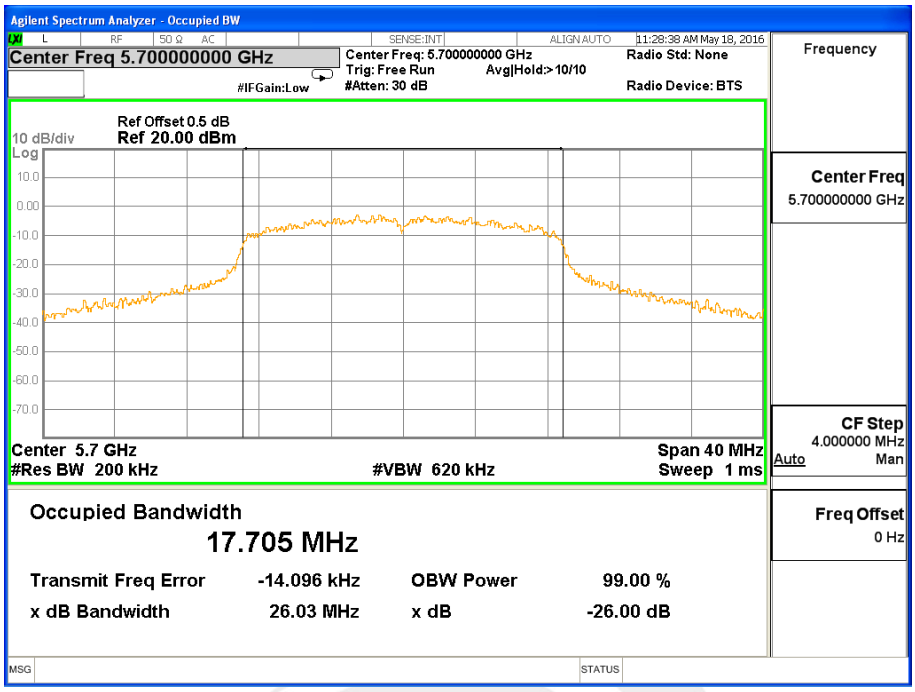
26 dB &99% Bandwidth 802.11n(HT20) Channel 100



26 dB &99% Bandwidth 802.11n(HT20) Channel 116

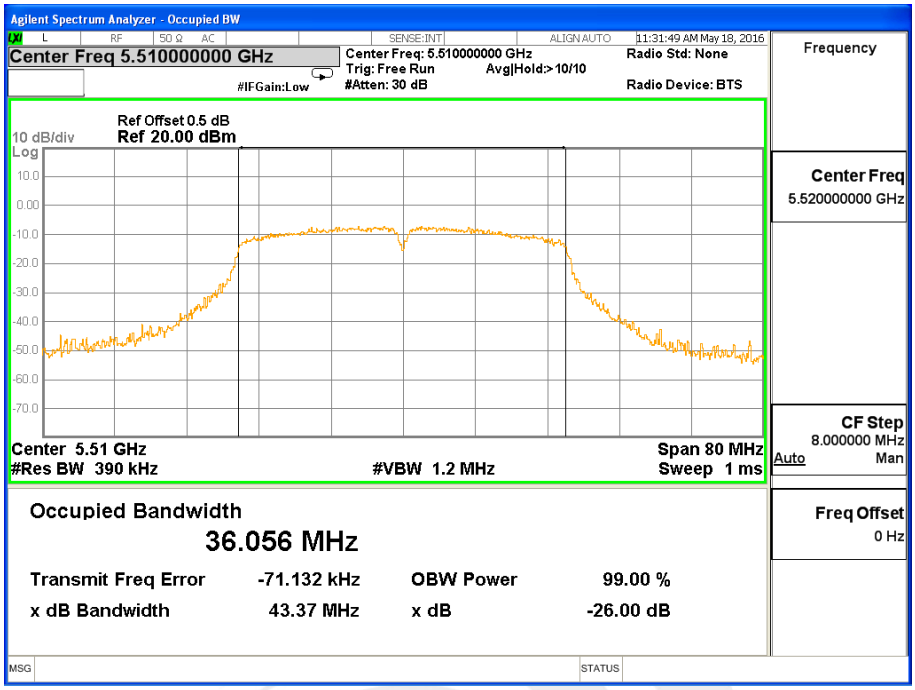


26 dB &99% Bandwidth 802.11n(HT20) Channel 140

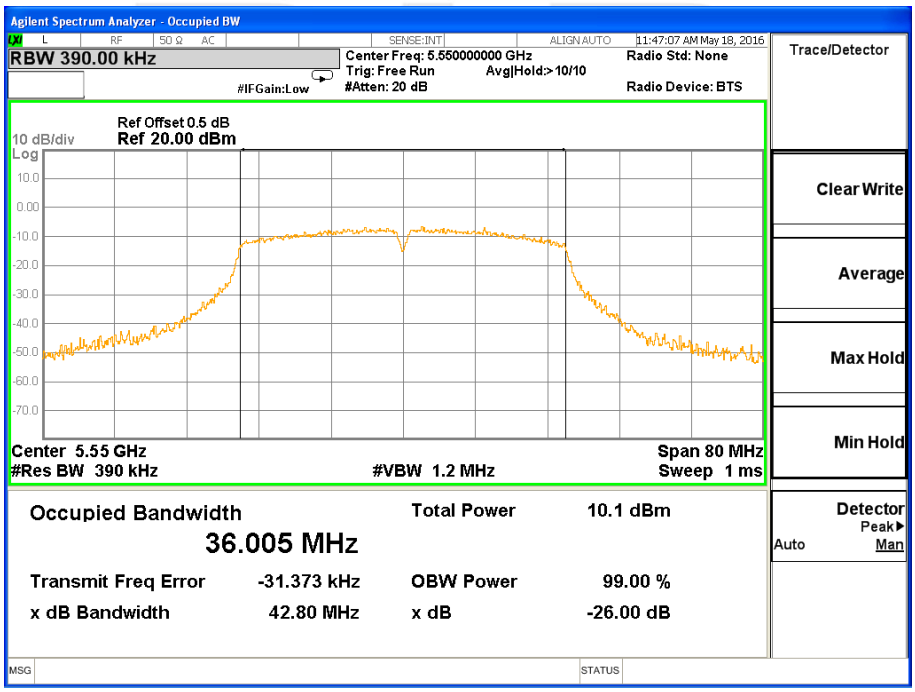


Band III (5.470-5.725GHz) 802.11n(HT40) 26 dB &99% Bandwidth

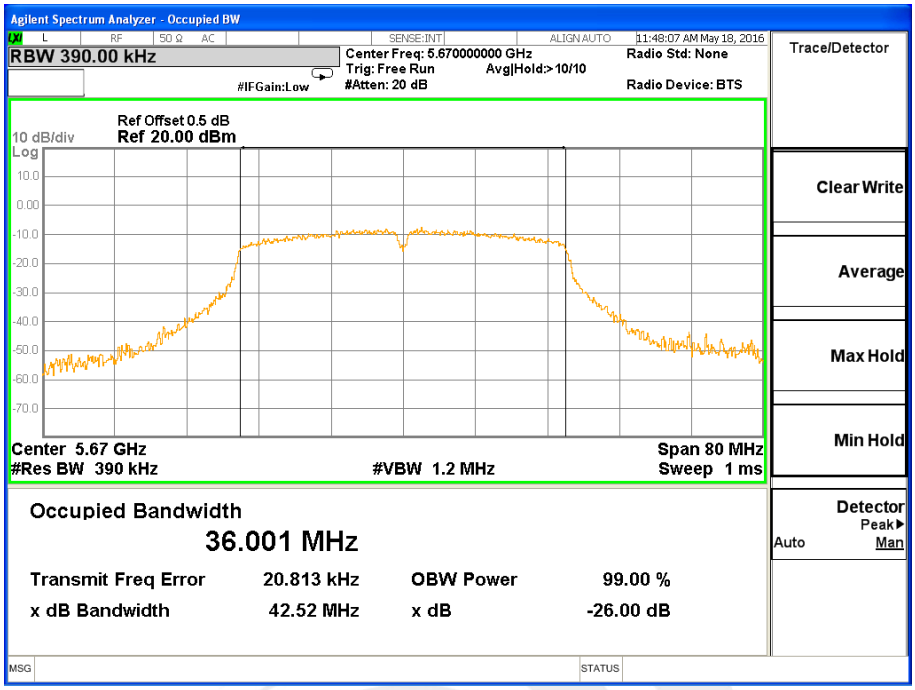
26 dB &99% Bandwidth 802.11n(HT40) Channel 102



26 dB &99% Bandwidth 802.11n(HT40) Channel 110

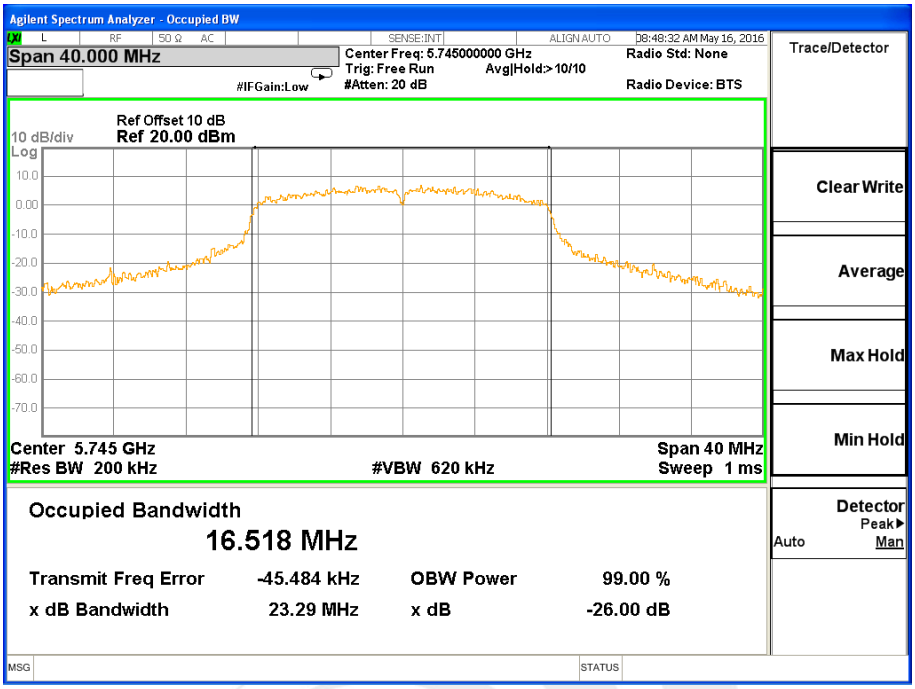


26 dB &99% Bandwidth 802.11n(HT40) Channel 134

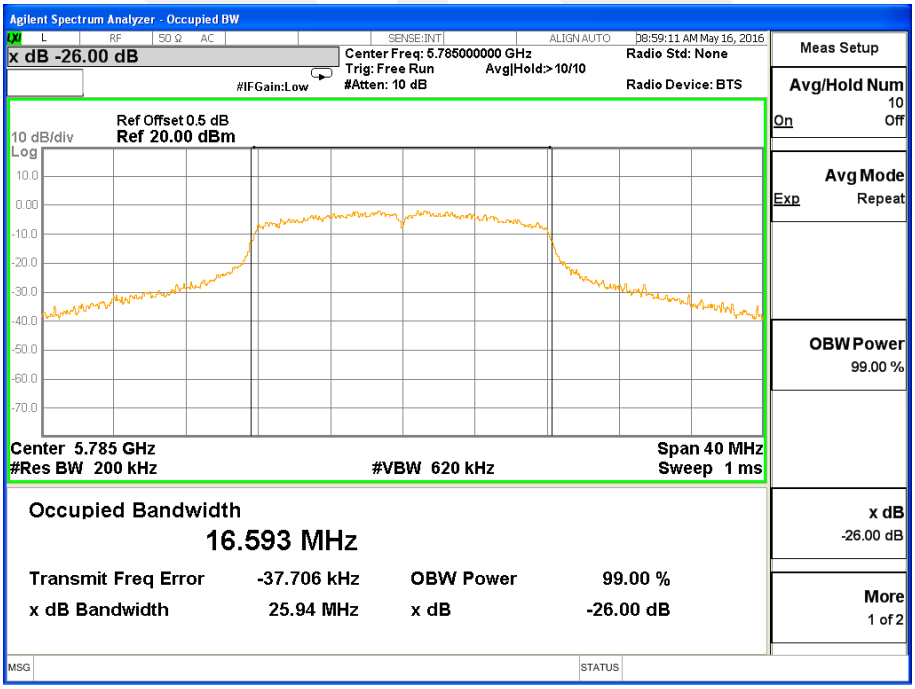


Band IV (5.725-5.850GHz) 802.11a, 26 dB &99% Bandwidth

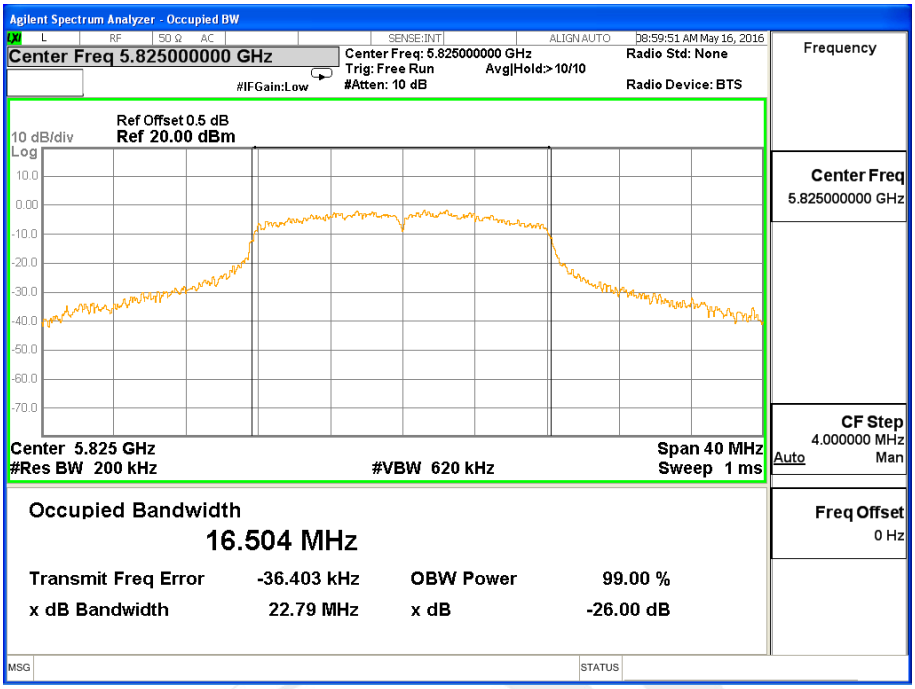
26 dB &99% Bandwidth 802.11a Channel 149



26 dB &99% Bandwidth 802.11a Channel 157

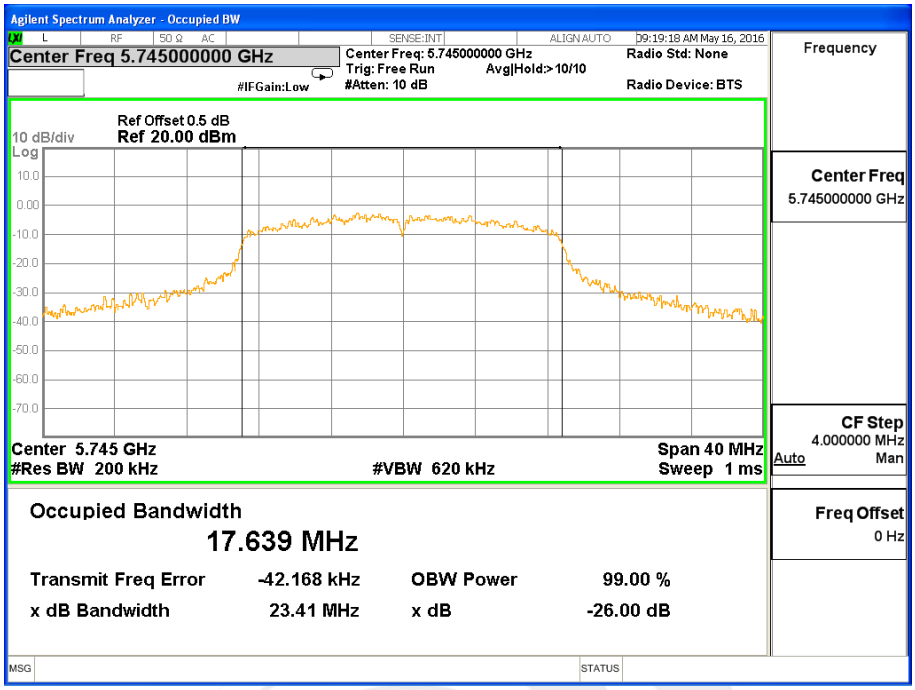


26 dB &99% Bandwidth 802.11a Channel 165

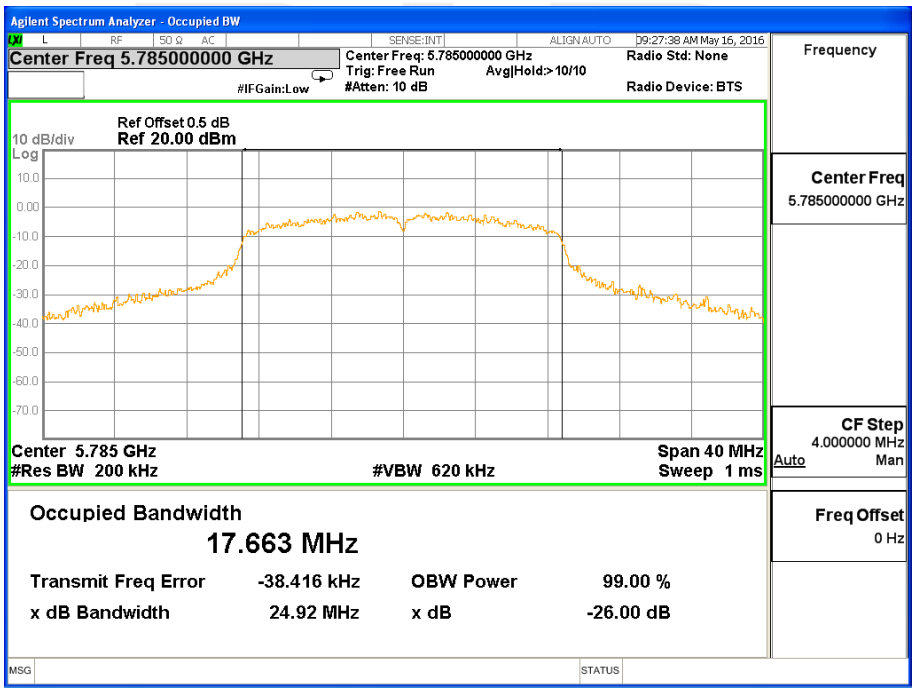


Band IV (5.725-5.850GHz) 802.11n(HT20) 26 dB &99% Bandwidth

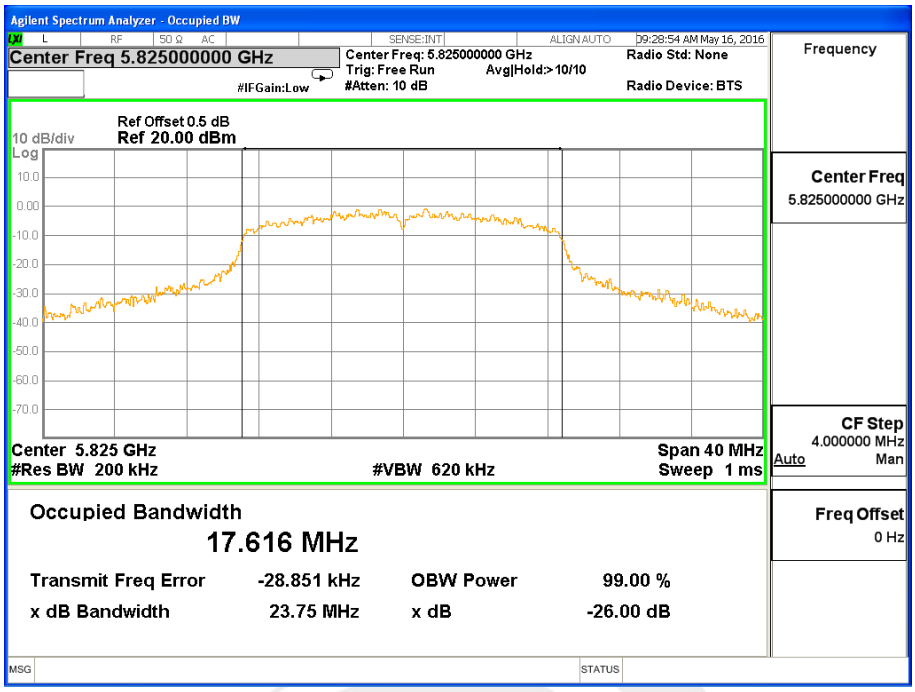
26 dB &99% Bandwidth 802.11n(HT20) Channel 149



26 dB &99% Bandwidth 802.11n(HT20) Channel 157

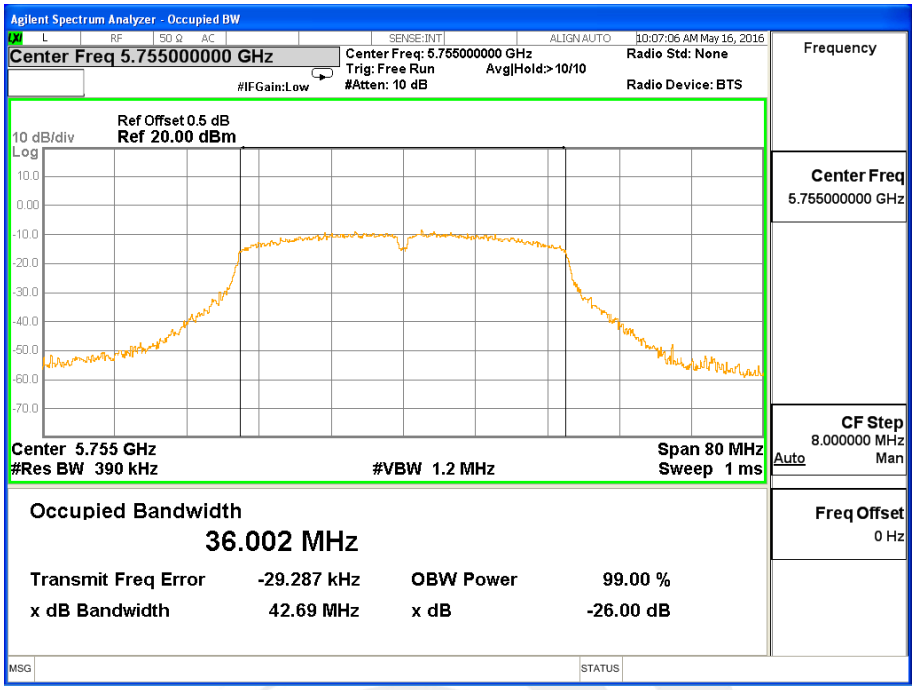


26 dB &99% Bandwidth 802.11n(HT20) Channel 165

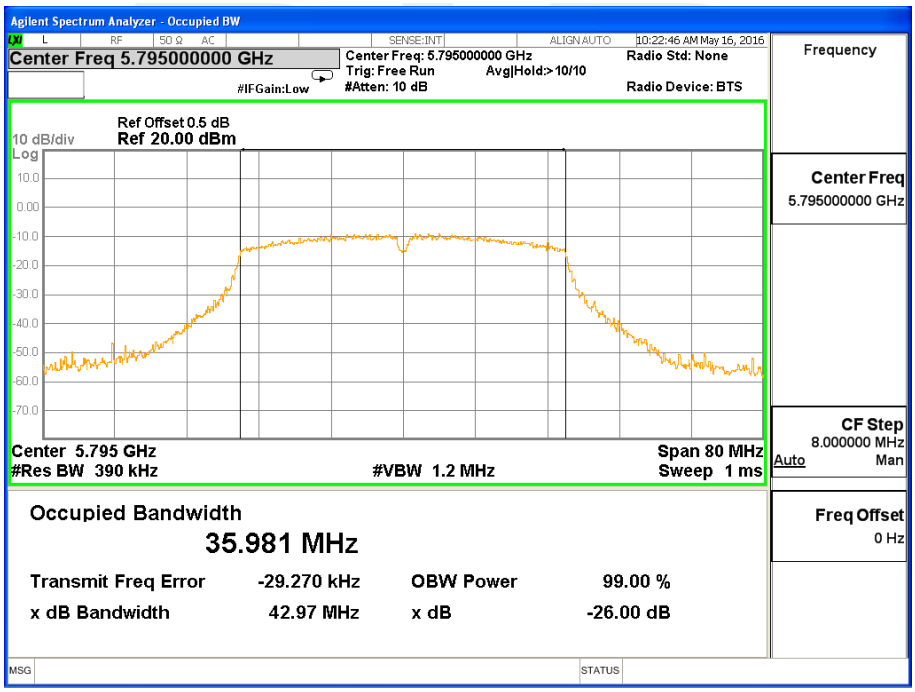


Band IV (5.725-5.850GHz) 802.11n(HT40) 26 dB &99% Bandwidth

26 dB &99% Bandwidth 802.11n(HT40) Channel 151

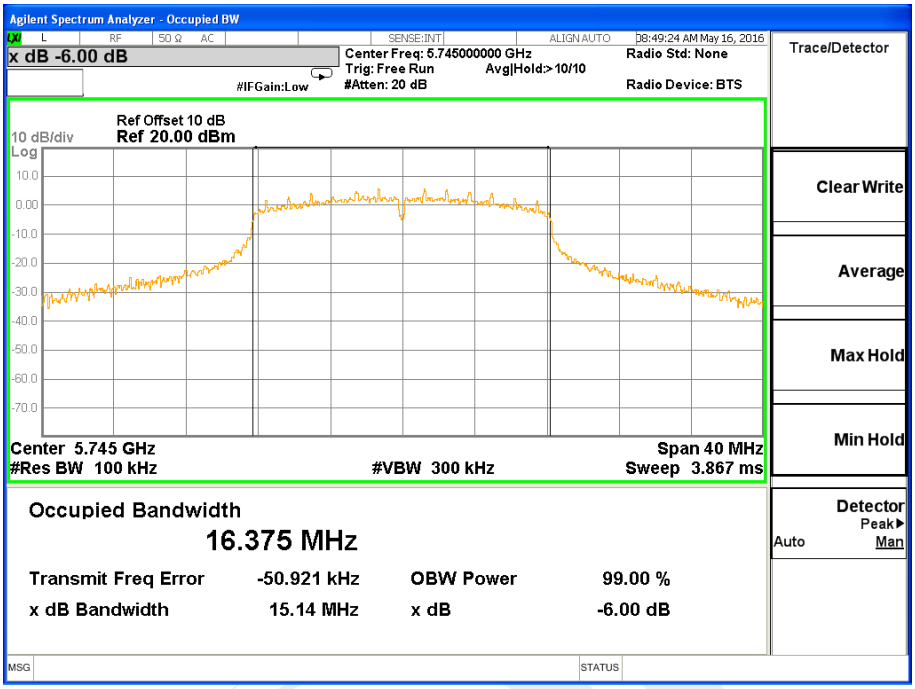


26 dB &99% Bandwidth 802.11n(HT40) Channel 159

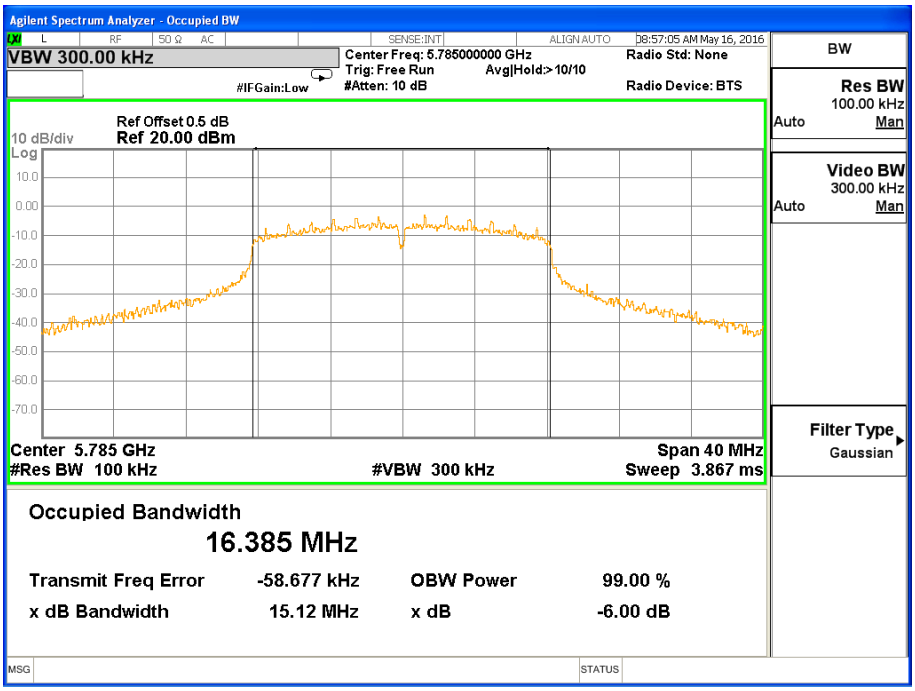


Band IV (5.725-5.850GHz) 802.11a, 6 dB Bandwidth

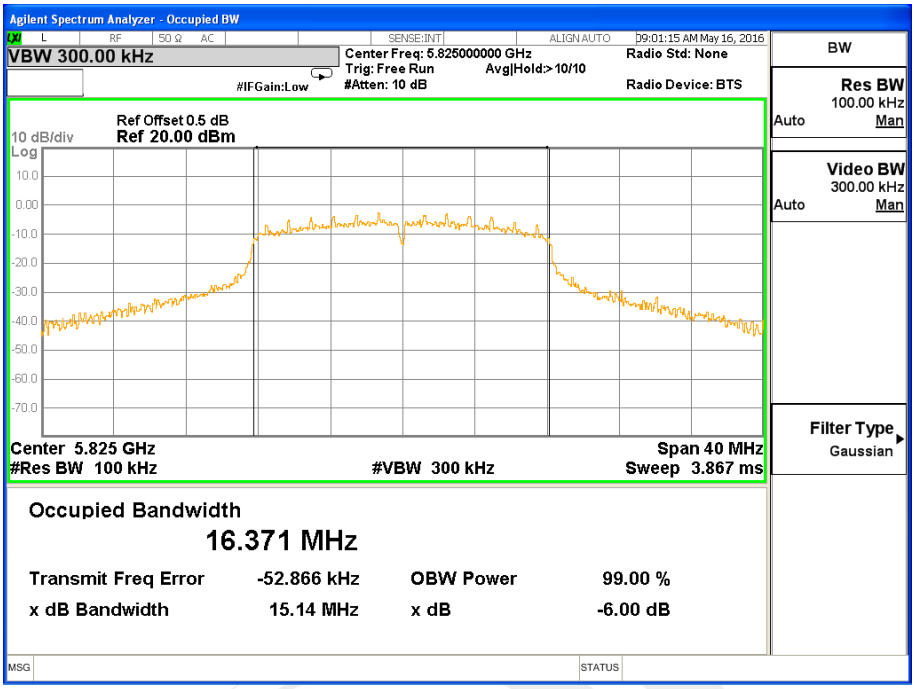
6 dB Bandwidth 802.11a Channel 149



6 dB Bandwidth 802.11a Channel 157

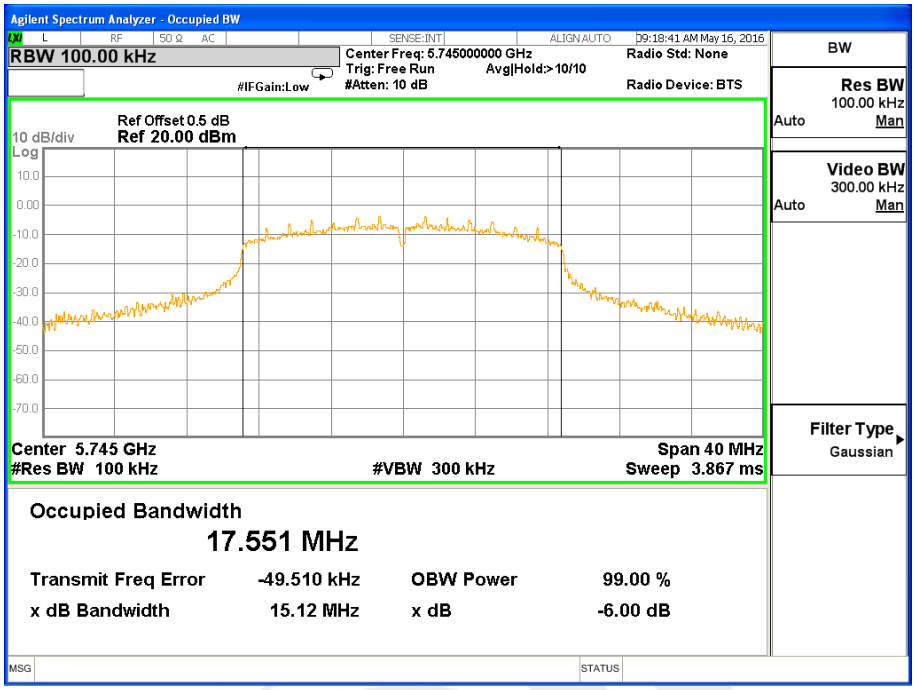


6 dB Bandwidth 802.11a Channel 165

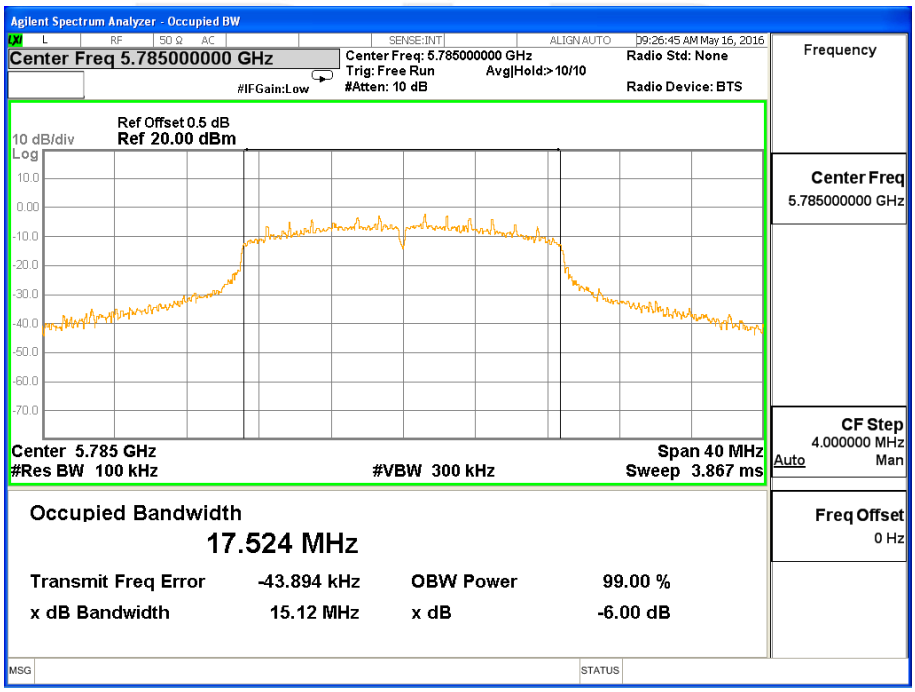


Band IV (5.725-5.850GHz) 802.11n(HT20) 6 dB Bandwidth

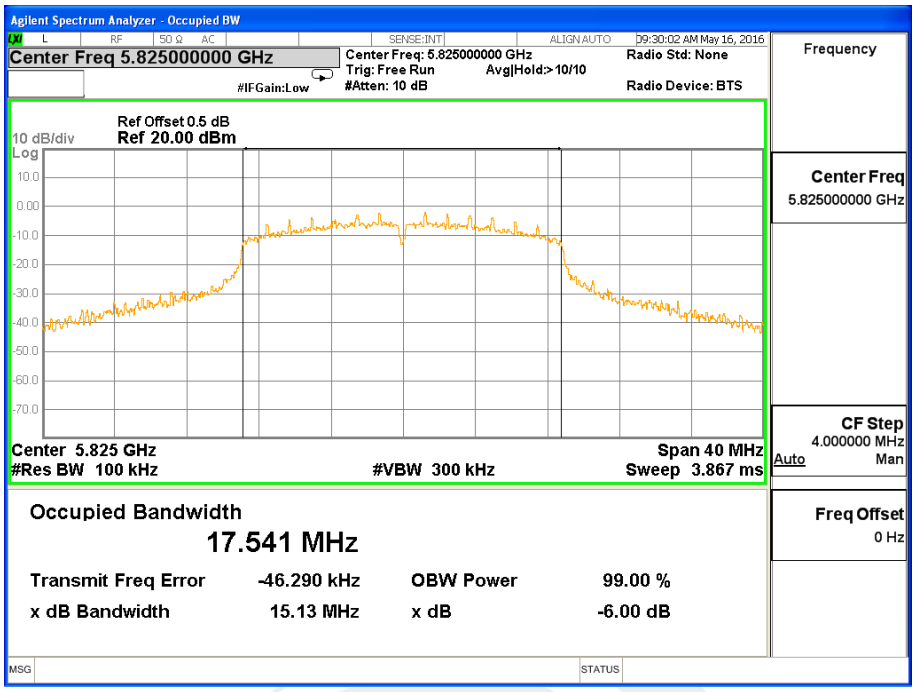
6 dB Bandwidth 802.11n(HT20) Channel 149



6 dB Bandwidth 802.11n(HT20) Channel 157

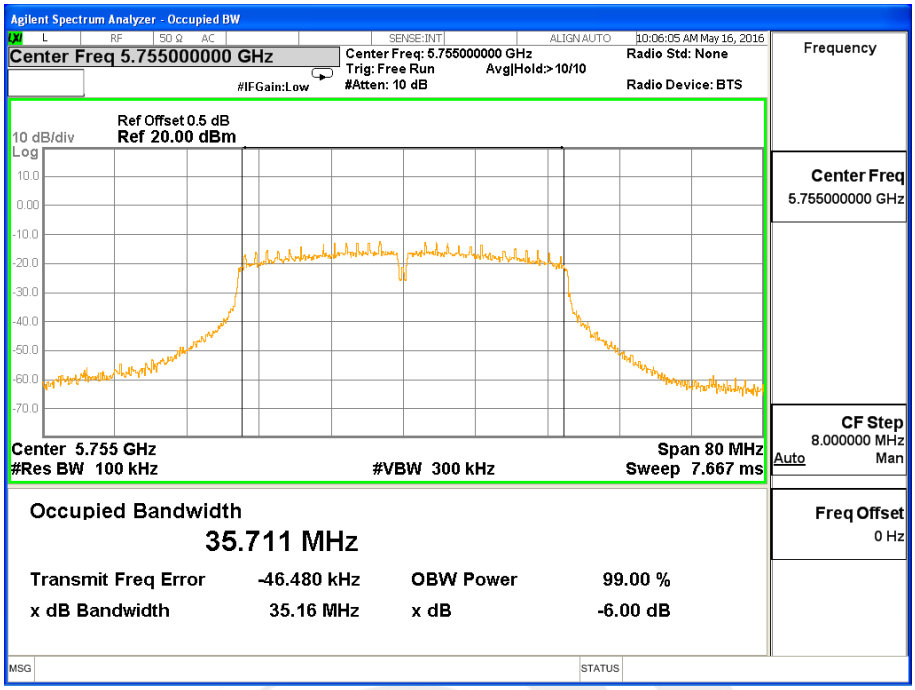


6 dB Bandwidth 802.11n(HT20) Channel 165

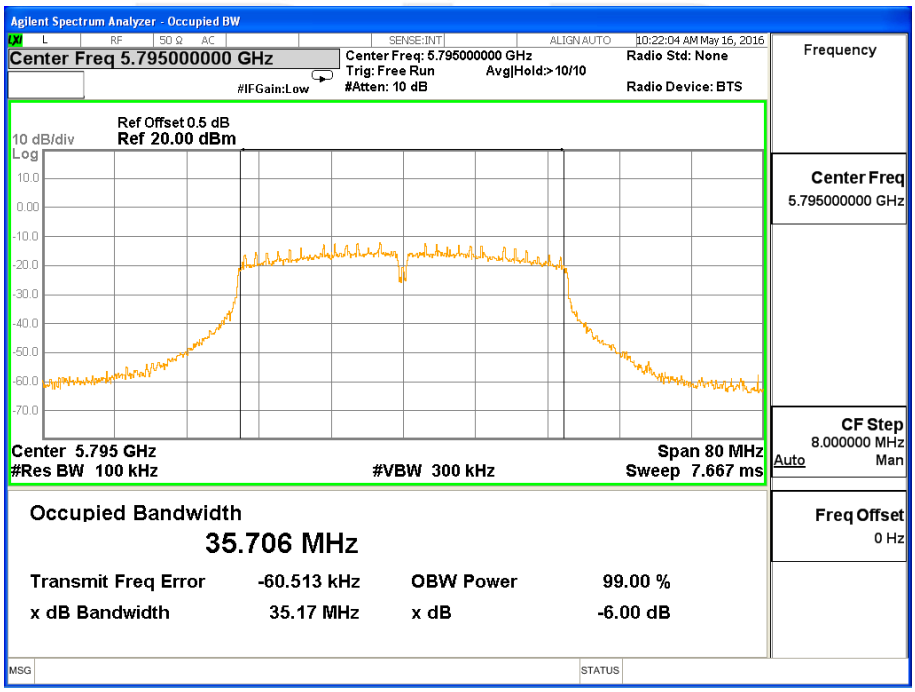


Band IV (5.725-5.850GHz) 802.11n(HT40) 6 dB Bandwidth

6 dB Bandwidth 802.11n(HT40) Channel 151



6 dB Bandwidth 802.11n(HT40) Channel 159



7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 APPLIED PROCEDURES / LIMIT

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.

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. 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.

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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

FCC Part15 (15.407) , Subpart E

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407(a) (1) (iv)	Peak Output Power	0.25 watt	5150-5250	PASS
		The lesser of 250 mW or 11 dBm + 10 log (26 dB emission bandwidth)	5250-5350 5470-5725	
15.407(a) (3)		1 watt	5725-5825	

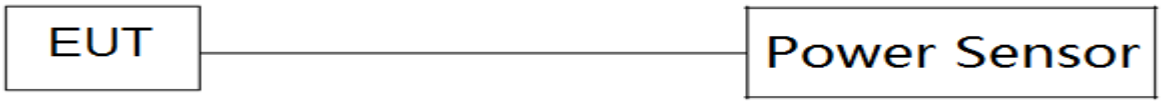
7.1.1 TEST PROCEDURE

The EUT was directly connected to the Power Sensor&PC

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 TEST RESULTS

Band I (5.15-5.25GHz)

Test Channel	Frequency(MHz)	Peak Power (dBm)	Average Power (dBm)	LIMIT (dBm)
802.11a				
36	5180	17.82	16.85	23.98
40	5200	17.63	16.66	23.98
48	5240	17.25	16.28	23.98
802.11n(HT20)				
36	5180	17.54	16.57	23.98
40	5200	17.62	16.65	23.98
48	5240	17.42	16.45	23.98
802.11n(HT40)				
38	5190	15.20	13.65	23.98
46	5230	15.24	13.69	23.98

Note:

1. 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 the lesser of 0.25 W.

Band II (5.25-5.35GHz)

Test Channel	Frequency(MHz)	Peak Power (dBm)	Average Power (dBm)	LIMIT (dBm)
802.11a				
52	5260	17.20	16.23	23.98
60	5300	17.23	16.26	23.98
64	5320	17.20	16.23	23.98
802.11n(HT20)				
52	5260	17.10	16.13	23.98
60	5300	17.15	16.18	23.98
64	5320	17.24	16.27	23.98
802.11n(HT40)				
54	5270	15.22	13.67	23.98
62	5310	15.23	13.68	23.98

Note:

1. For mobile and portable client devices in the 5.25-5.35 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 0.25 W.

Band III (5.47-5.725GHz)

Note:

Test Channel	Frequency(MHz)	Peak Power (dBm)	Average Power (dBm)	LIMIT (dBm)
802.11a				
100	5500	16.69	15.72	23.98
116	5580	16.58	15.61	23.98
140	5700	16.68	15.71	23.98
802.11n(HT20)				
100	5500	16.69	15.72	23.98
116	5580	16.58	15.61	23.98
140	5700	16.35	15.38	23.98
802.11n(HT40)				
102	5510	14.39	12.84	23.98
110	5550	14.38	12.83	23.98
134	5670	14.41	12.86	23.98

1. For mobile and portable client devices in the 5.47-5.725 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 0.25 W.

Band IV (5.725-5.85GHz)

Note:

Test Channel	Frequency (MHz)	Peak Power (dBm)	Average Power (dBm)	LIMIT (dBm)
802.11a				
149	5745	15.36	14.39	30
157	5785	15.25	14.28	30
161	5825	15.38	14.41	30
802.11n(HT21)				
149	5745	15.24	14.27	30
157	5785	15.39	14.42	30
161	5825	15.27	14.3	30
802.11n(HT21)				
151	5755	13.24	11.69	30
159	5795	13.25	11.7	30

1. For the band 5.745-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W.

8. FREQUENCY STABILITY MEASUREMENT

8.1 LIMIT OF FREQUENCY STABILITY

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an Emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

8.1.1 MEASURING INSTRUMENTS

See list of measuring instruments of this test report.

8.1.2 TEST PROCEDURES

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

8.1.3 TEST SETUP

8.1.4 TEST RESULTS

Voltage	Band I (5.15-5.25GHz)Measurement Frequency(MHz)
AC (V)	5200
108	5199.9598
120	5199.9316
132	5199.9321
Max.Deviation(MHz)	0.0684
Max.Deviation(ppm)	13.15

Temperature Vs. Frequency Stabilty:

Temperature	Measurement Frequency(MHz)
(^{o}C)	5200
-30	5199.9207
-20	5199.9261
-10	5199.9362
0	5199.9503
10	5199.9175
20	5199.9517
30	5199.9530
40	5199.9530
50	5199.9447
Max.Deviation(MHz)	0.0825
Max.Deviation(ppm)	15.87

Voltage	Band I (5.25-5.35GHz)Measurement Frequency(MHz)
AC (V)	5300
108	5299.9586
120	5299.9705
132	5299.9550
Max.Deviation(MHz)	0.0450
Max.Deviation(ppm)	8.49

Temperature Vs. Frequency Stabilty:

Temperature	Measurement Frequency(MHz)
(^{o}C)	5300
-30	5299.9931
-20	5299.9593
-10	5299.9647
0	5299.9580
10	5299.9475
20	5299.9541
30	5299.9486
40	5299.9587
50	5299.9896
Max.Deviation(MHz)	0.0525
Max.Deviation(ppm)	10.10

Voltage	Band I (5.47-5.725GHz)Measurement Frequency(MHz)
AC (V)	5580
108	5579.9647
120	5579.9580
132	5579.9431
Max.Deviation(MHz)	0.0569
Max.Deviation(ppm)	10.20

Temperature Vs. Frequency Stabilty:

Temperature	Measurement Frequency(MHz)
(^{o}C)	5580
-30	5579.9964
-20	5579.9655
-10	5579.9829
0	5579.9681
10	5579.9842
20	5579.9977
30	5579.9754
40	5579.9810
50	5579.9945
Max.Deviation(MHz)	0.0345
Max.Deviation(ppm)	6.63

Voltage	Band IV (5.725-5.85GHz) Measurement Frequency(MHz)
AC (V)	5785
108	5784.9643
120	5784.9441
132	5784.9441
Max.Deviation(MHz)	0.0516
Max.Deviation(ppm)	8.92

Temperature Vs. Frequency Stabilty:

Temperature	Measurement Frequency(MHz)
(^{o}C)	5785
-30	5784.9522
-20	5784.9830
-10	5784.9902
0	5784.9863
10	5784.9642
20	5784.9656
30	5784.9574
40	5784.9920
50	5784.9478
Max.Deviation(MHz)	0.0522
Max.Deviation(ppm)	10.05

9. AUTOMATICALLY DISCONTINUE TRANSMISSION

9.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

9.2 TEST RESULT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

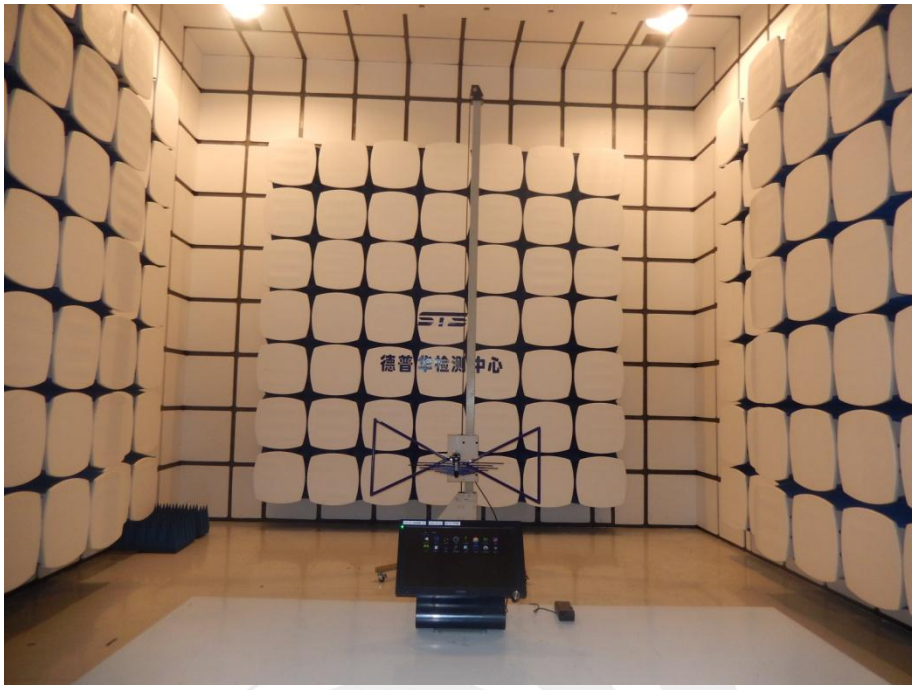
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

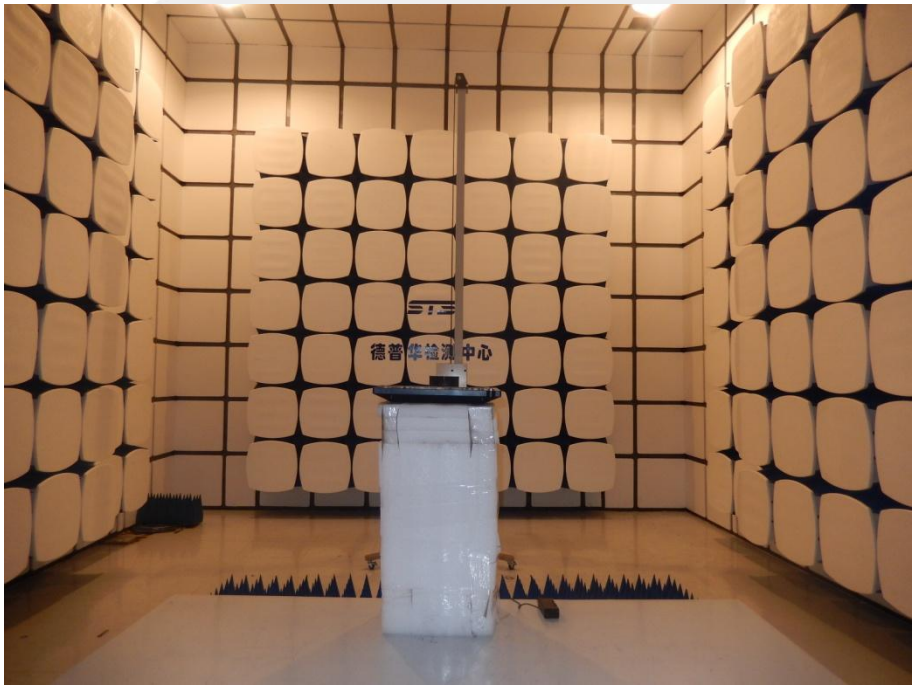
10.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.

APPENDIX - PHOTOS OF TEST SETUP

Radiated Measurement Photos





Conducted Measurement Photos