

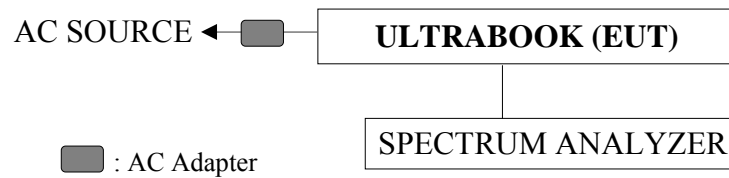
4. 26dB BANDWIDTH MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'

4.2. Block Diagram of Test Setup



4.3. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

4.4. Test Procedure

1. Set RBW=approximately 1% of the emission bandwidth.
2. Set the VBW>RBW
3. Detector=Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The measurement guideline was according to KDB789033 D01-v01r02

The measurement guideline was according to RSS-Gen.

4.5. Test Results

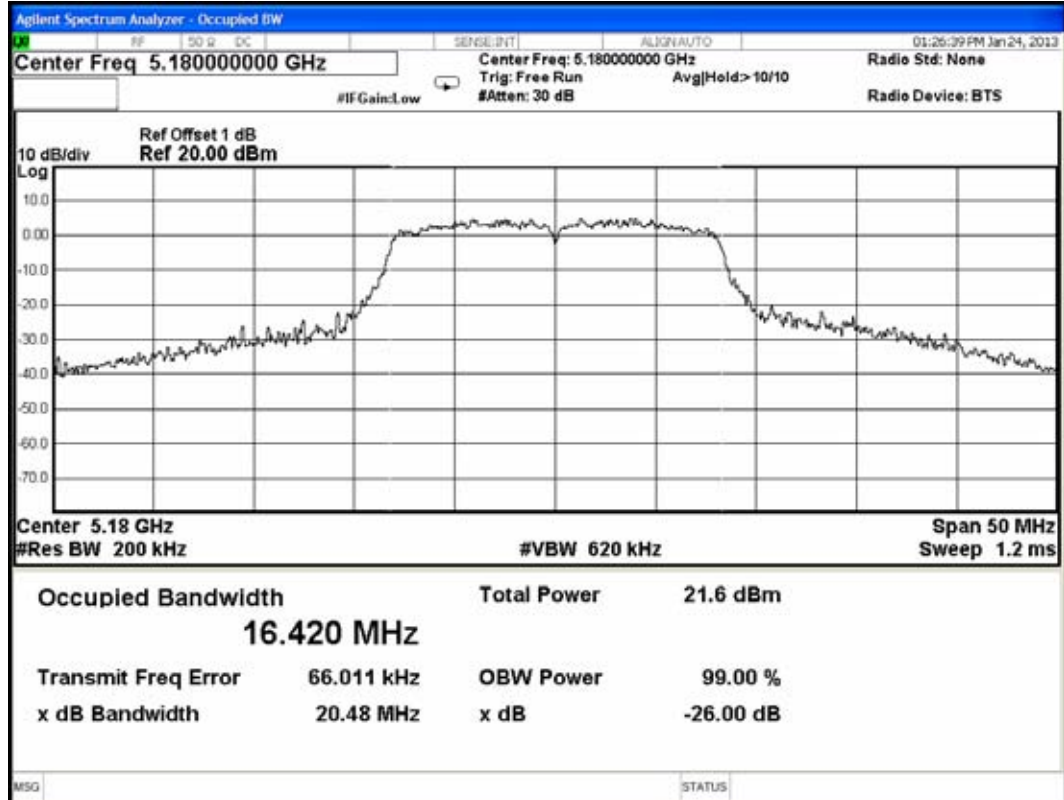
PASSED. All the test results are attached in next pages.

4.5.1. For 802.11a

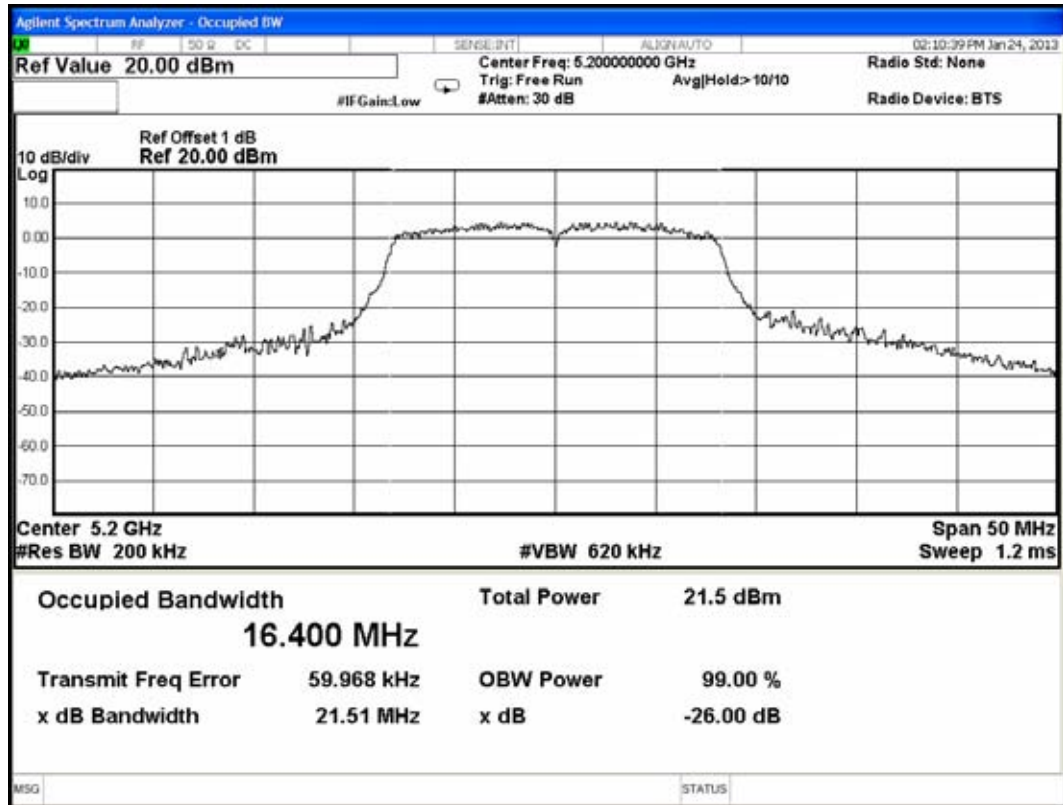
Test Date: Feb. 24, 2013 Temperature: 24 Humidity: 52%

Mode	UNII Band	Channel	Frequency	26dB Bandwidth
1.	UNII Band I	CH 36	5180MHz	20.48MHz
2.		CH 40	5200MHz	21.51MHz
3.		CH 48	5240MHz	19.06MHz
4.	UNII Band II	CH 52	5260MHz	21.84MHz
5.		CH 56	5280MHz	20.79MHz
6.		CH 64	5320MHz	21.24MHz
7.	UNII Band III	CH 100	5500MHz	20.79MHz
8.		CH 116	5580MHz	20.39MHz
9.		CH 140	5700MHz	20.11MHz

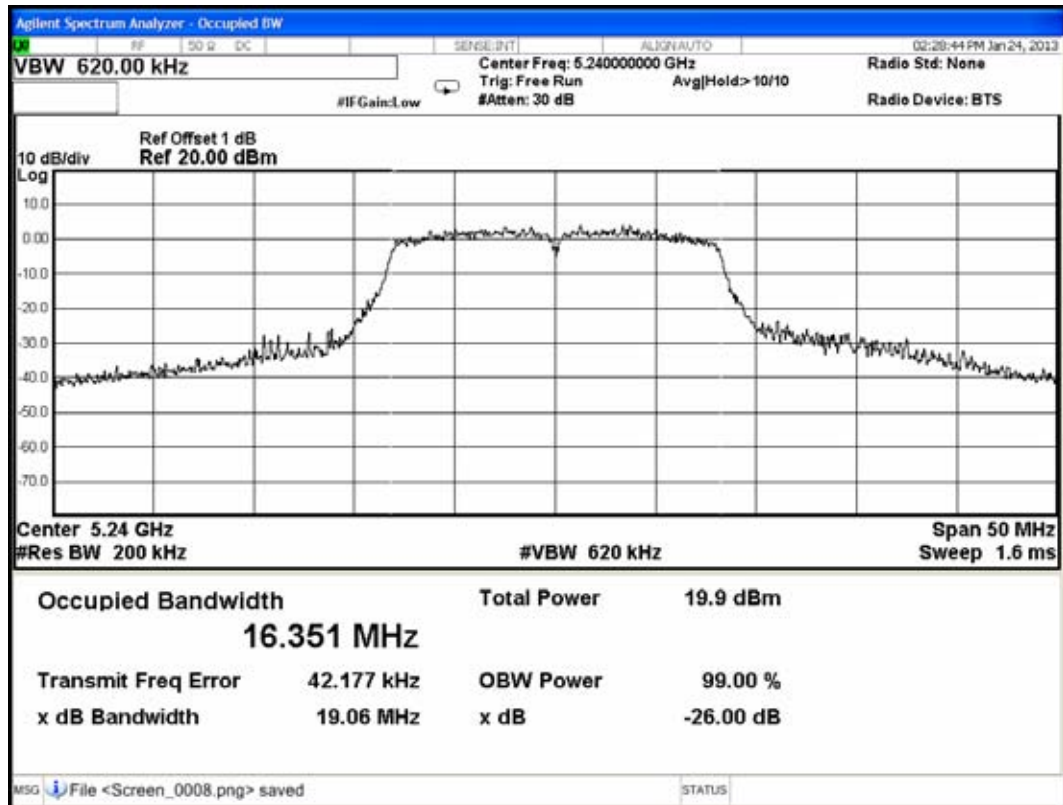
802.11a (UNII Band I), Frequency: 5180MHz



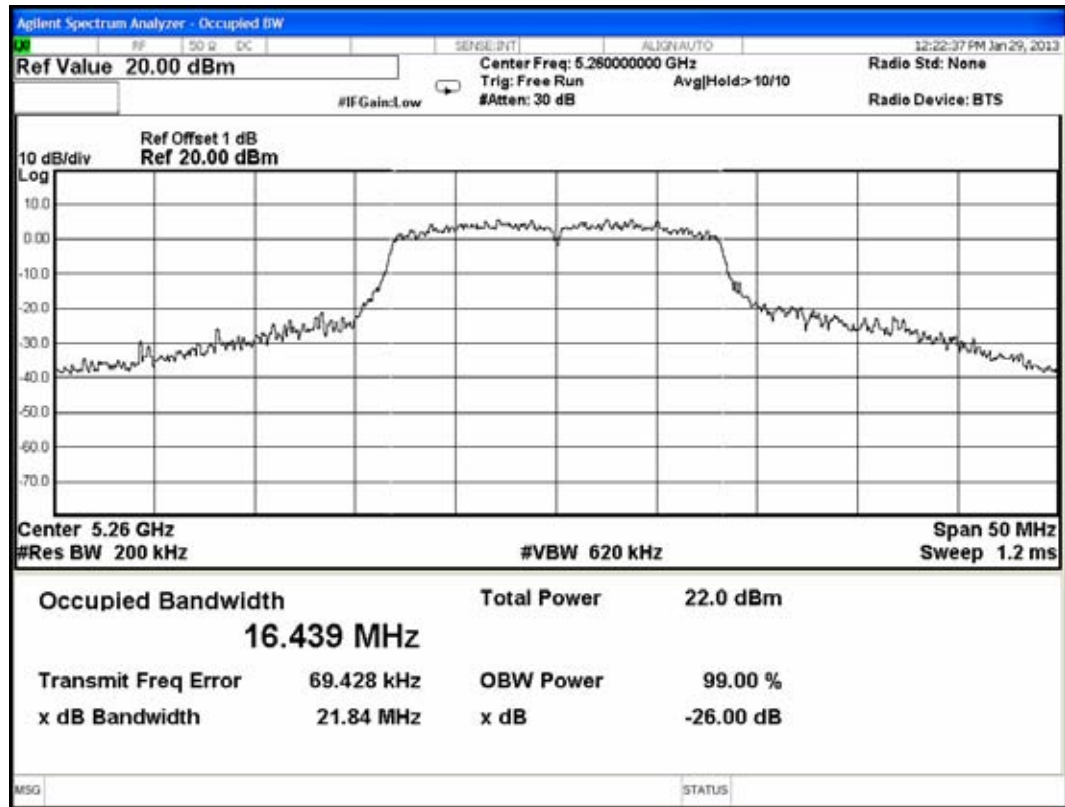
802.11a (UNII Band I), Frequency: 5200MHz



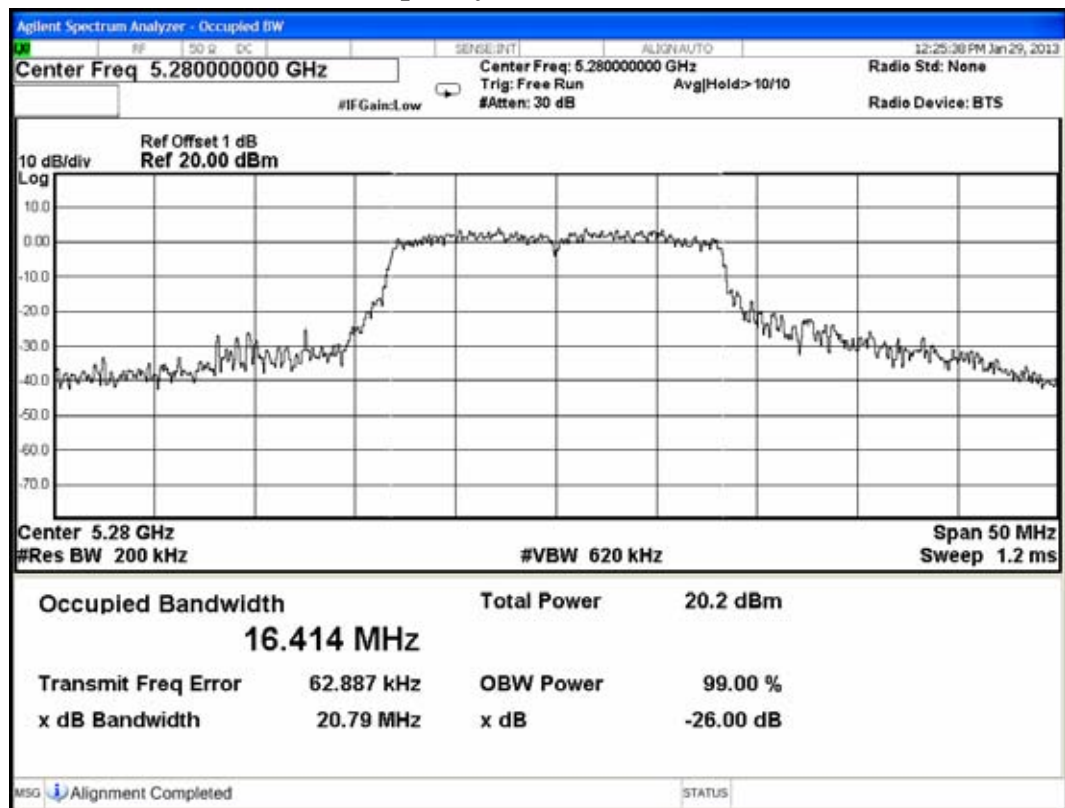
802.11a (UNII Band I), Frequency: 5240MHz



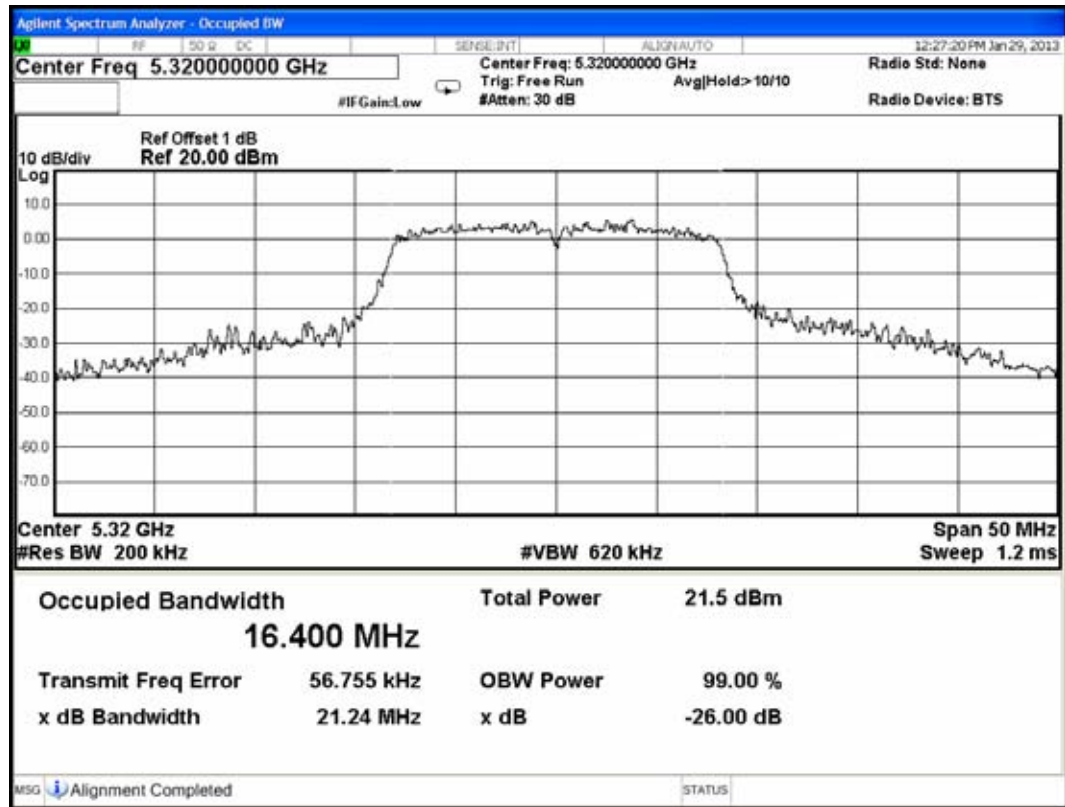
802.11a (UNII Band II), Frequency: 5260MHz



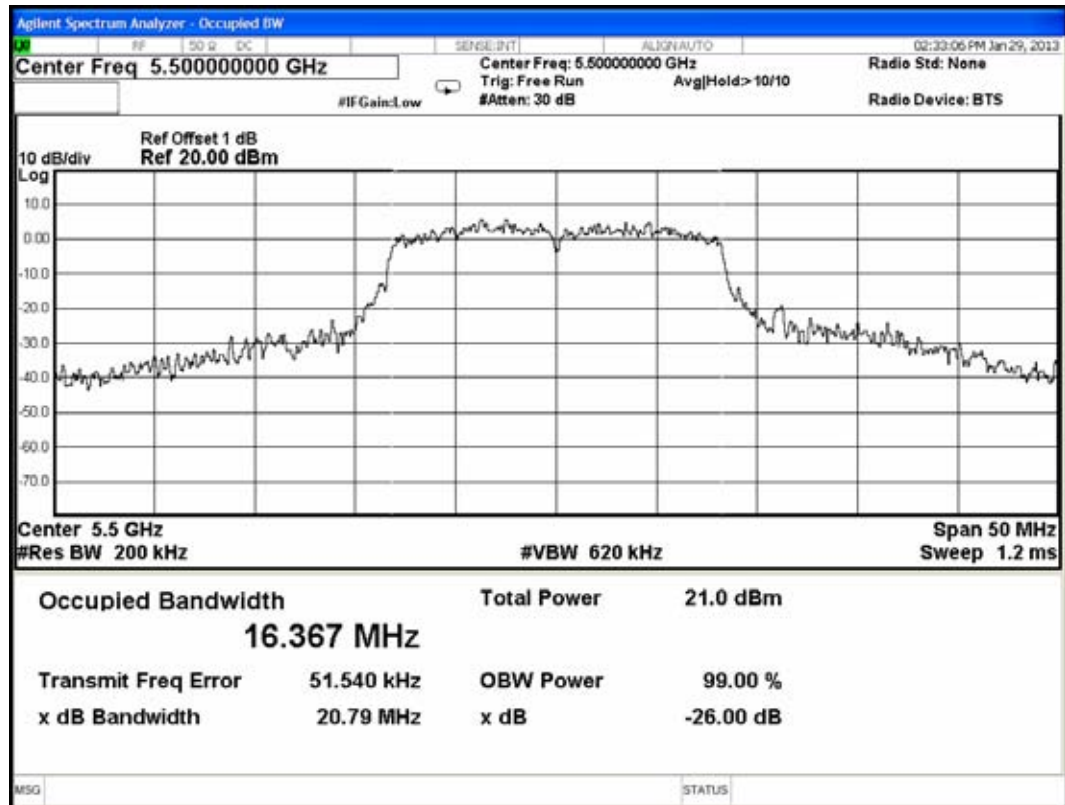
802.11a (UNII Band II), Frequency: 5280MHz



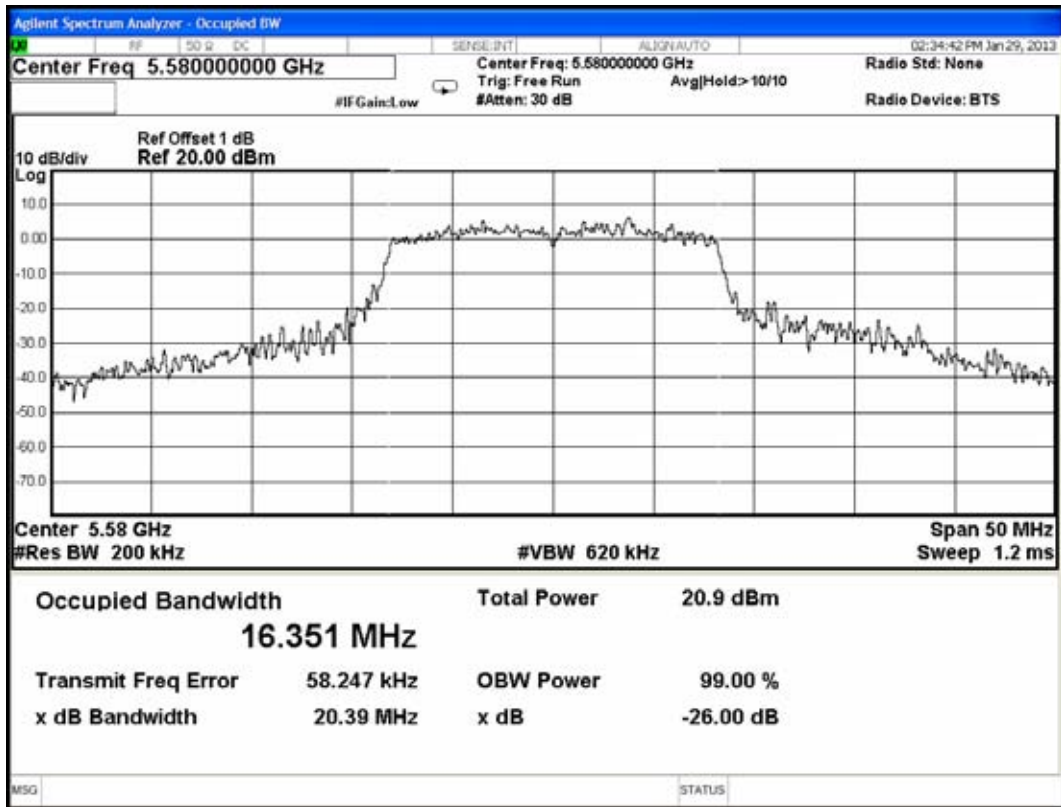
802.11a (UNII Band II), Frequency: 5320MHz



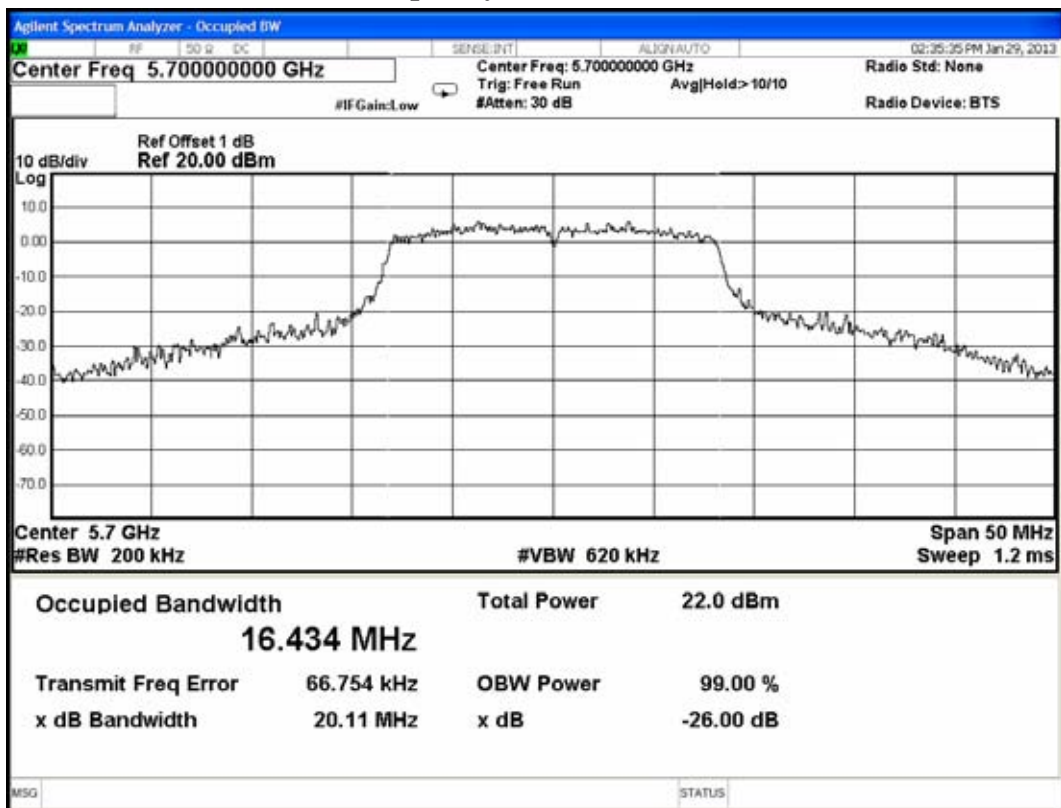
802.11a (UNII Band III), Frequency: 5500MHz



802.11a (UNII Band III), Frequency: 5580MHz



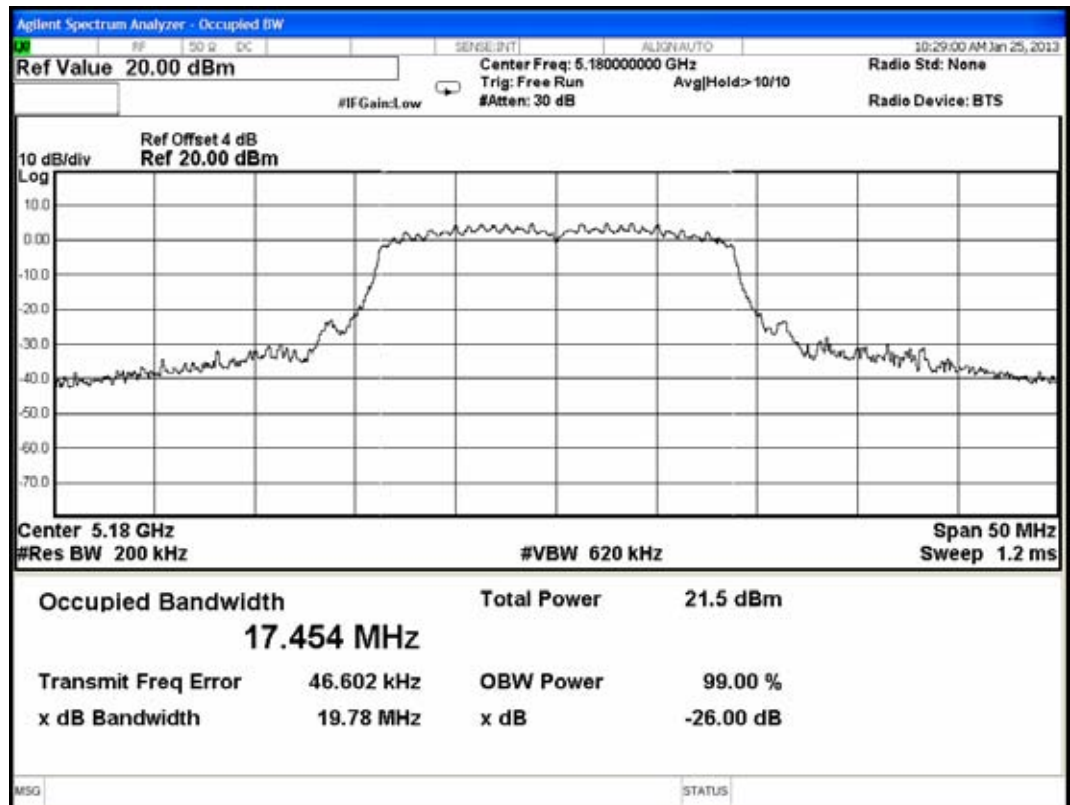
802.11a (UNII Band III), Frequency: 5700MHz



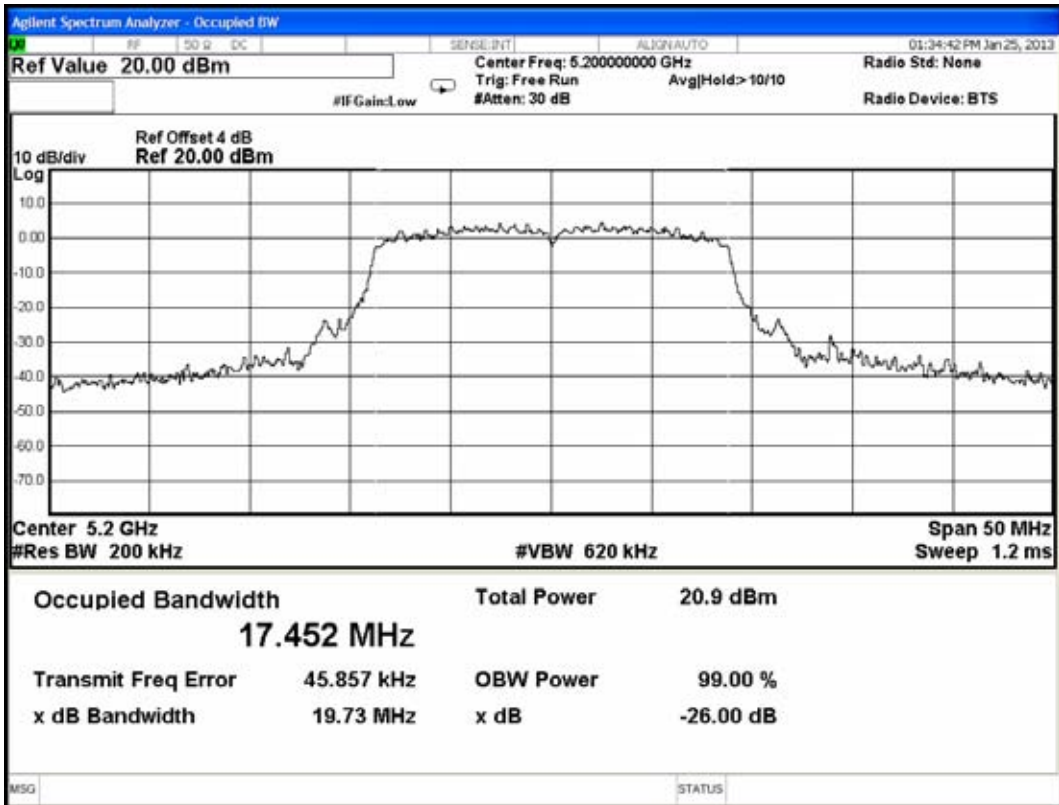
4.5.2.For 802.11n-HT20

Mode	UNII Band	Channel	Frequency	26dB Bandwidth
1.	UNII Band I	CH 36	5180MHz	19.78MHz
2.		CH 40	5200MHz	19.73MHz
3.		CH 48	5240MHz	19.89MHz
4.	UNII Band II	CH 52	5260MHz	19.14MHz
5.		CH 56	5280MHz	20.91MHz
6.		CH 64	5320MHz	19.03MHz
7.	UNII Band III	CH 100	5500MHz	20.82MHz
8.		CH 116	5580MHz	20.24MHz
9.		CH 140	5700MHz	19.54MHz

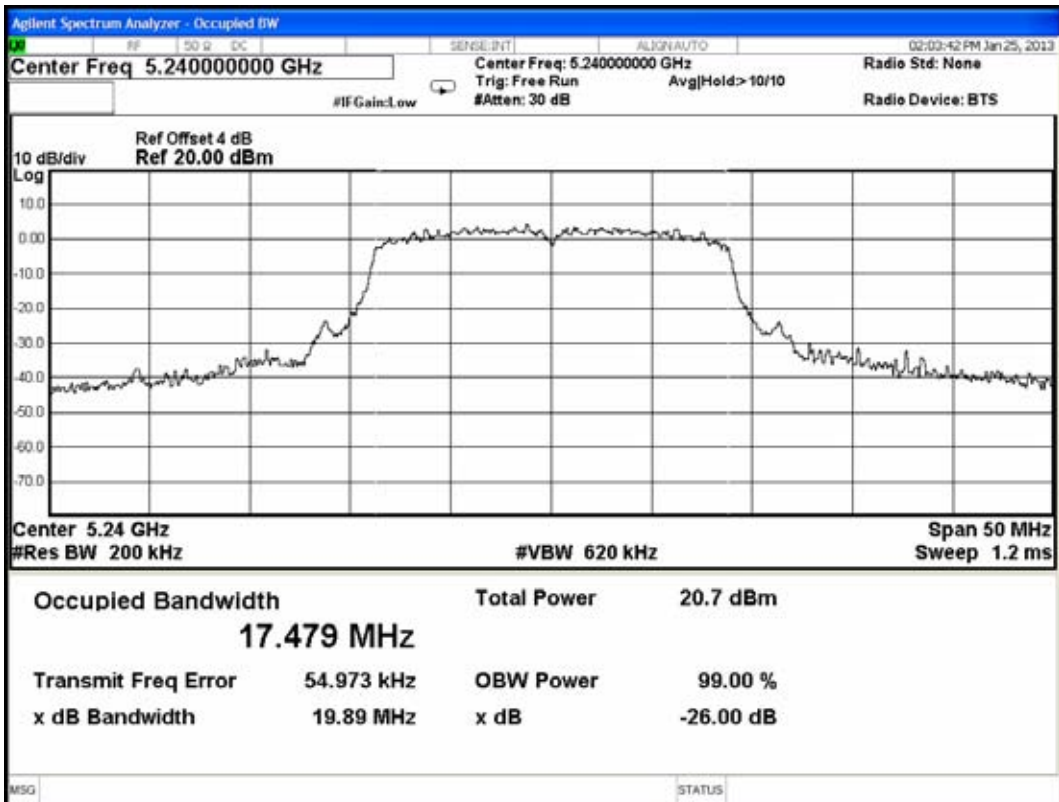
802.11n-HT20 (UNII Band I), Frequency: 5180MHz



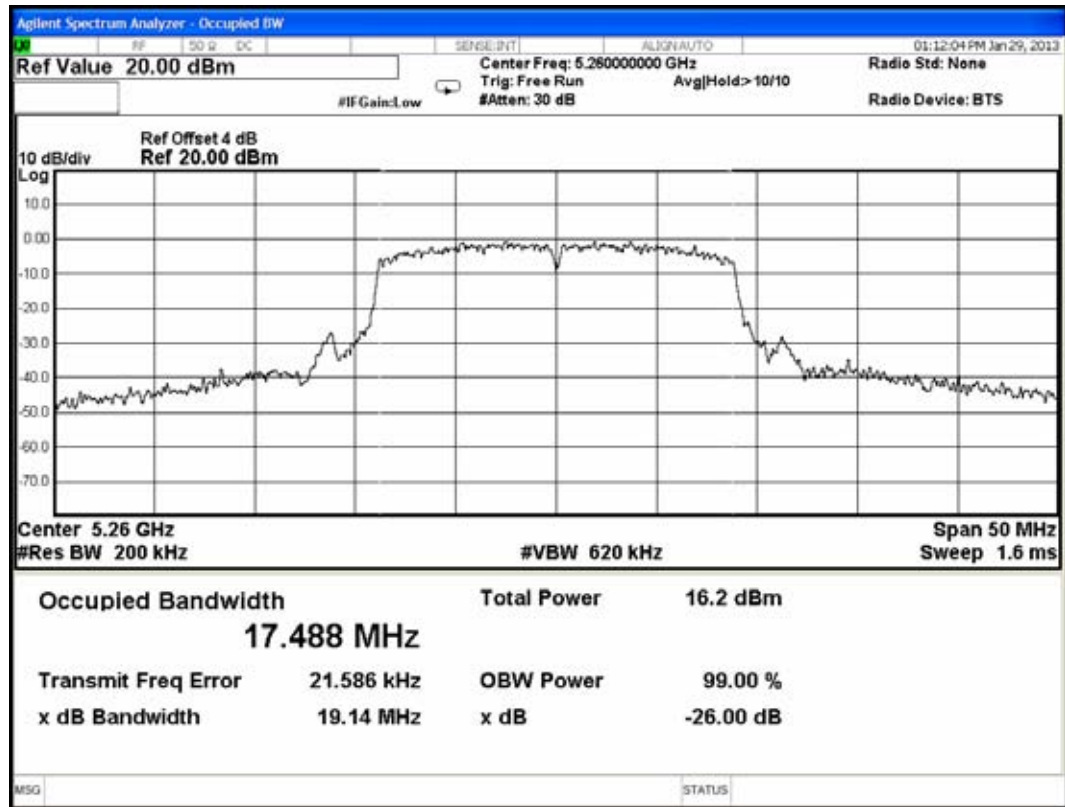
802.11n-HT20 (UNII Band I), Frequency: 5200MHz



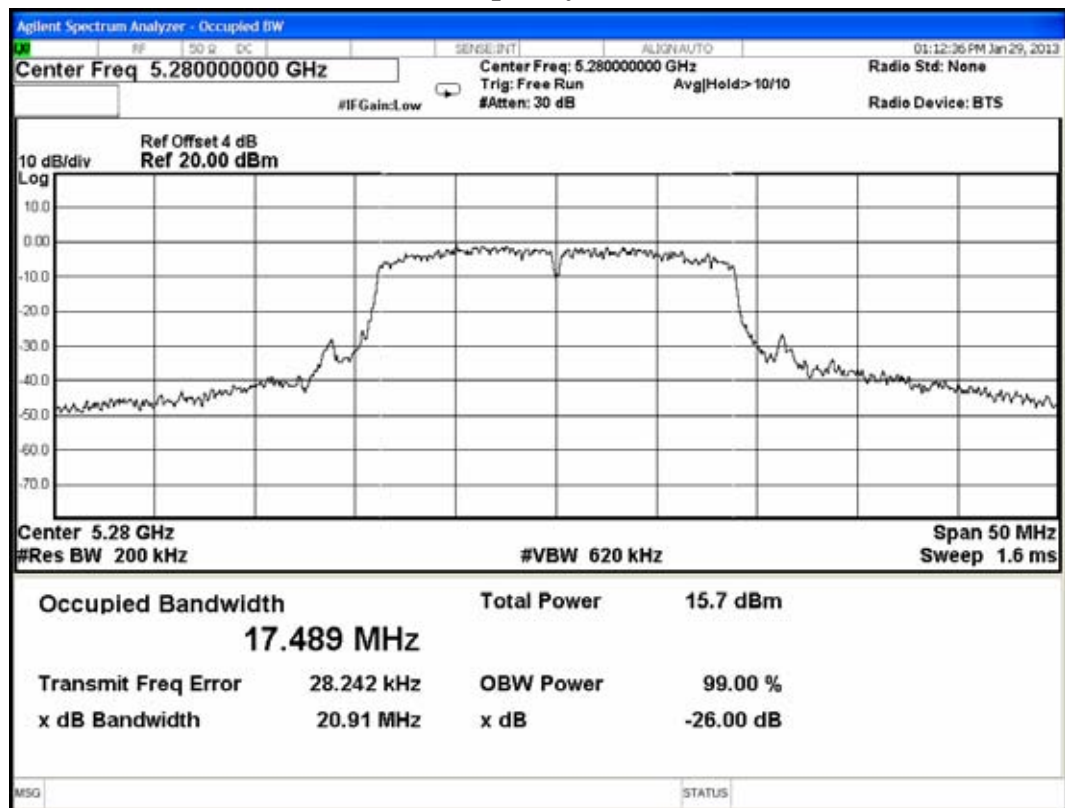
802.11n-HT20 (UNII Band I), Frequency: 5240MHz



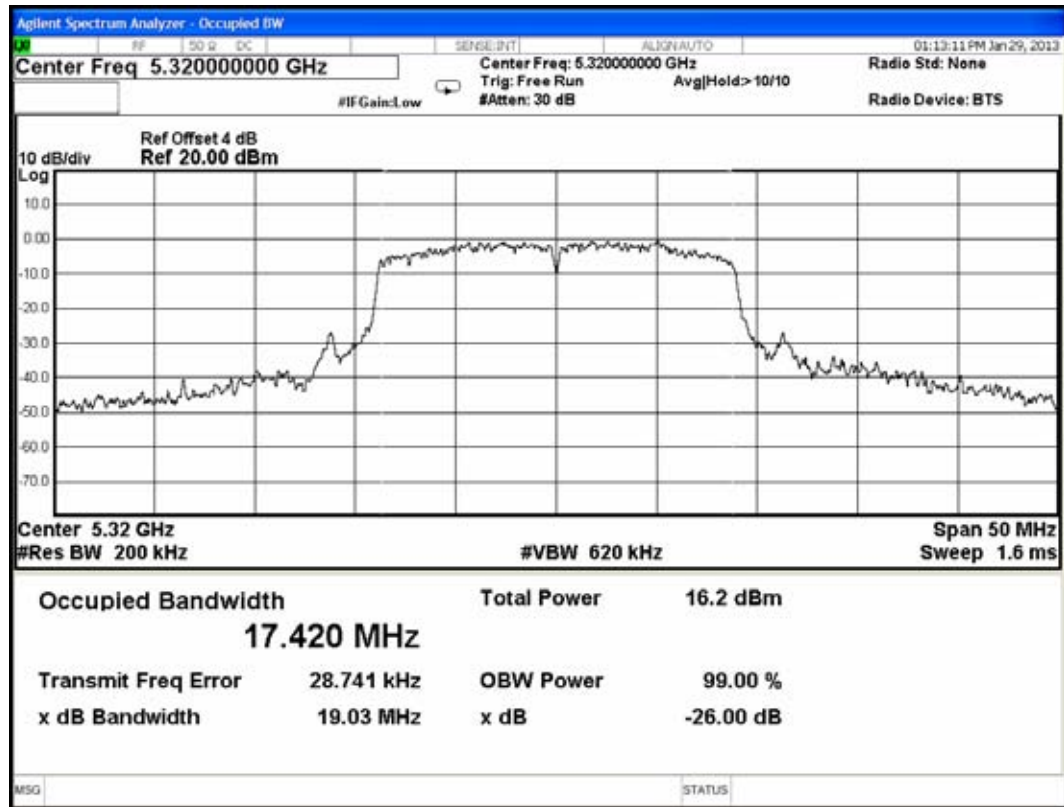
802.11n-HT20 (UNII Band II), Frequency: 5260MHz



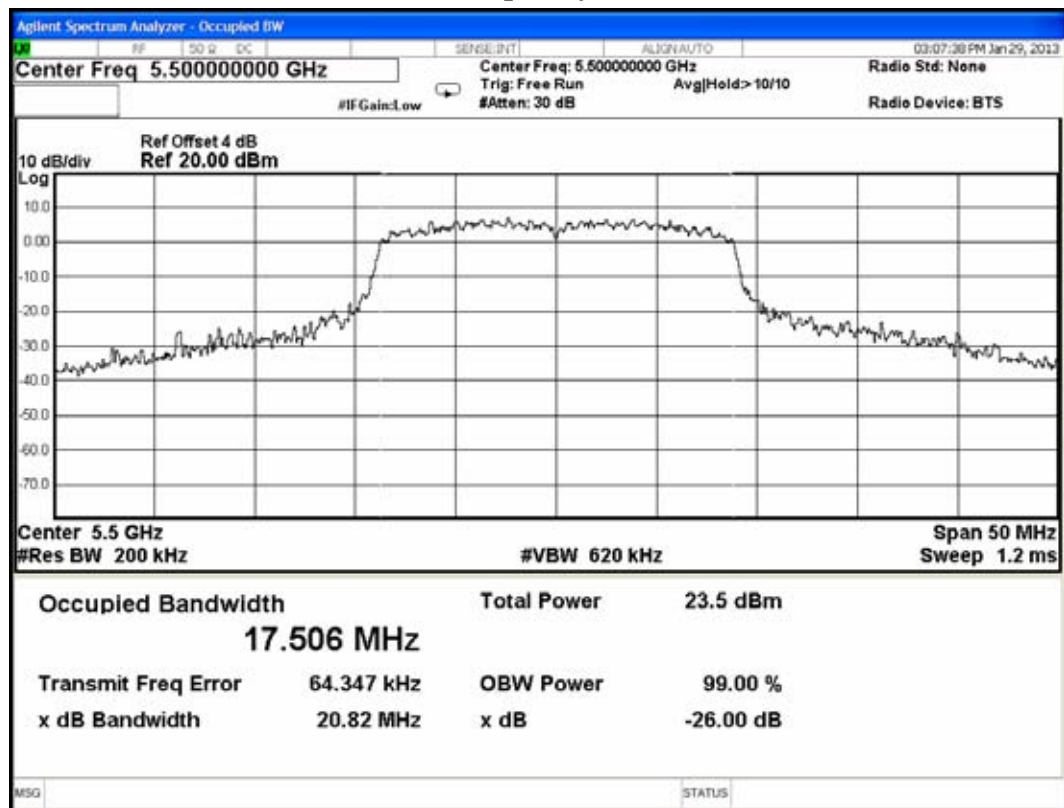
802.11n-HT20 (UNII Band II), Frequency: 5280MHz



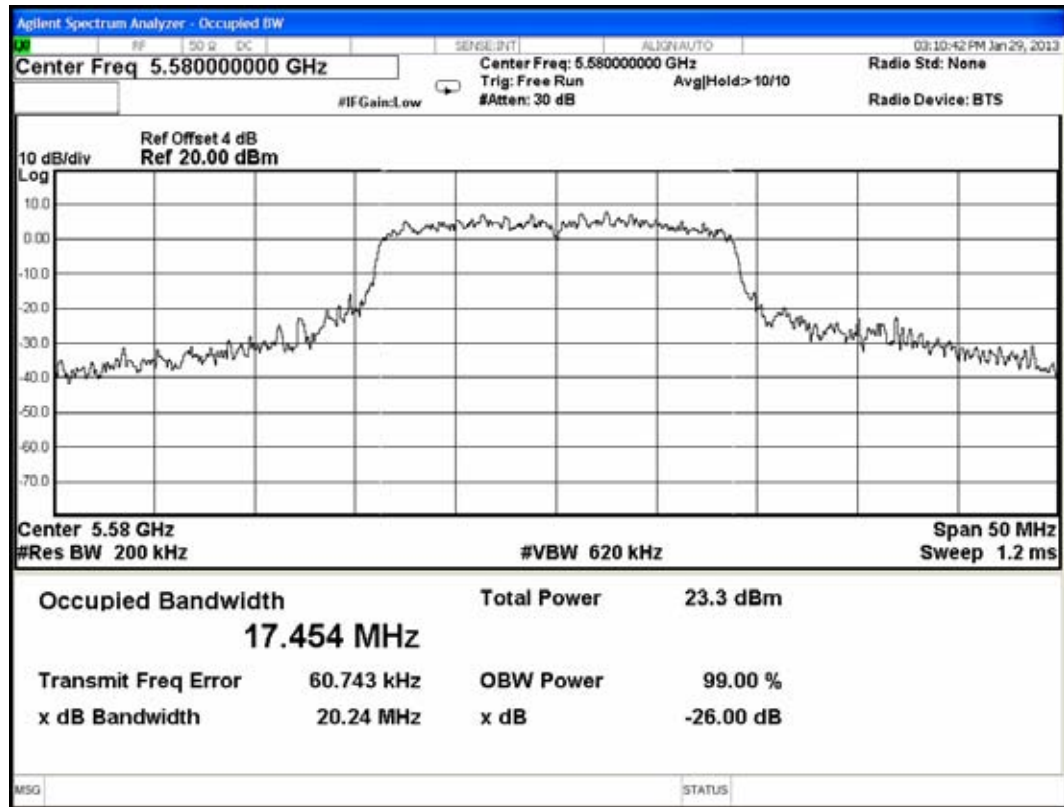
802.11n-HT20 (UNII Band II), Frequency: 5320MHz



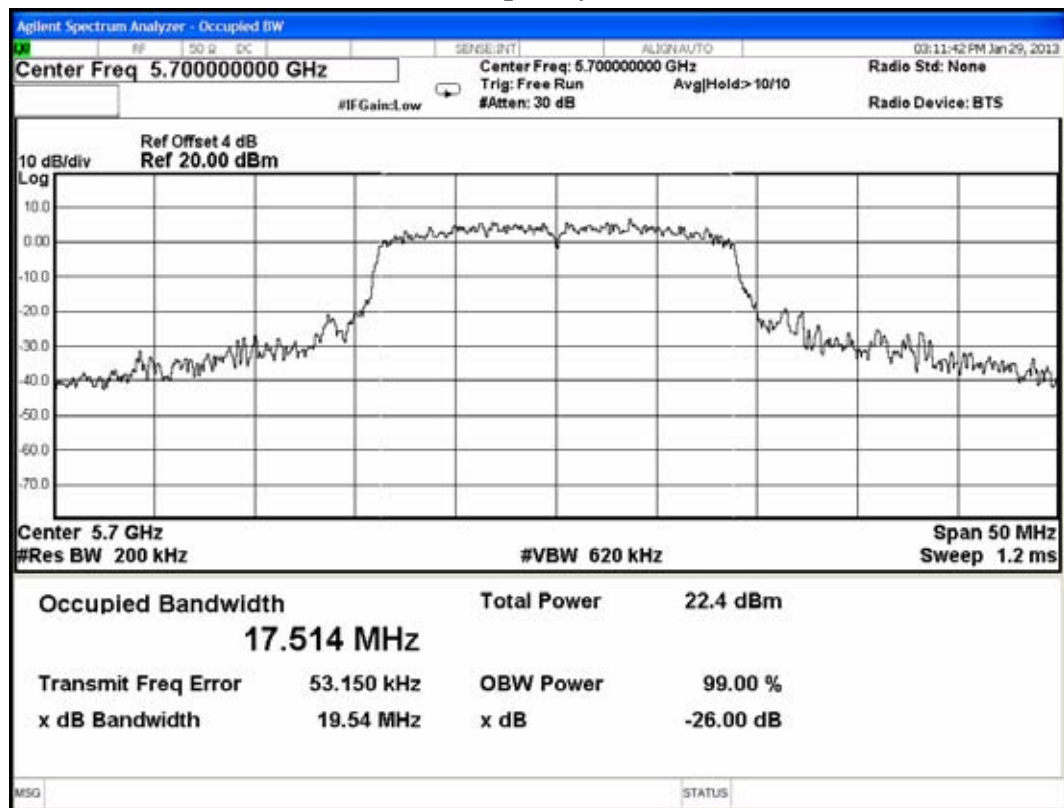
802.11n-HT20 (UNII Band III), Frequency: 5500MHz



802.11n-HT20 (UNII Band III), Frequency: 5580MHz



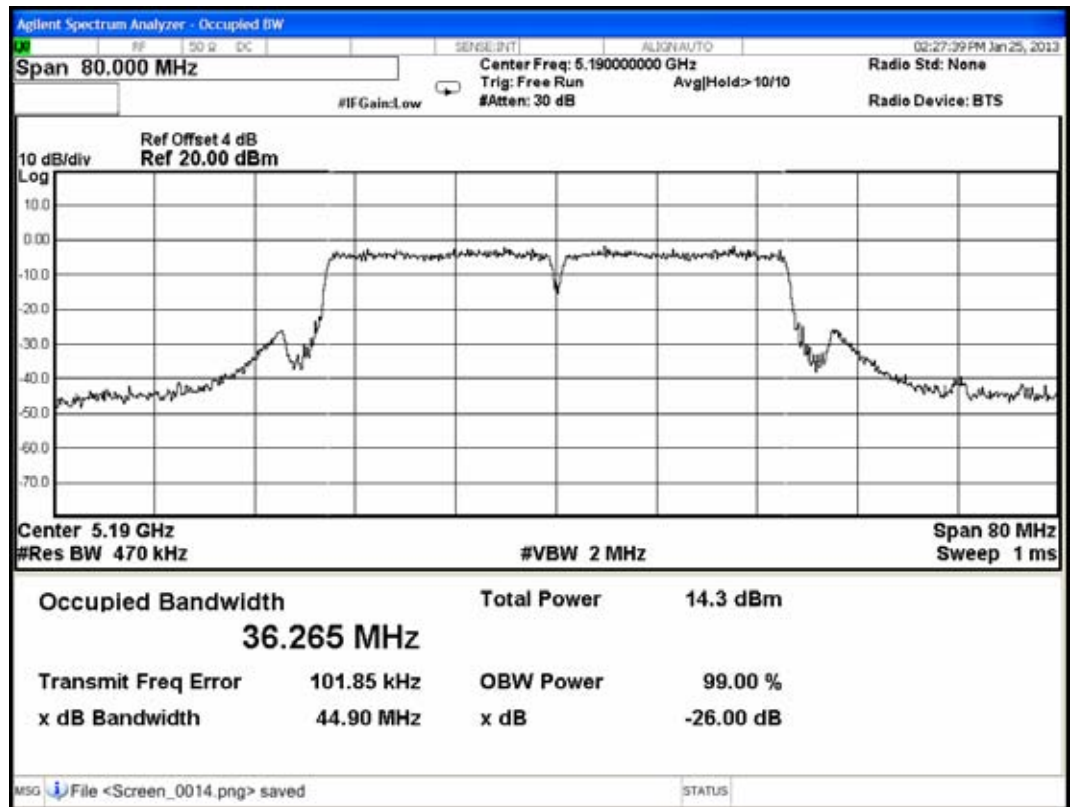
802.11n-HT20 (UNII Band III), Frequency: 5700MHz



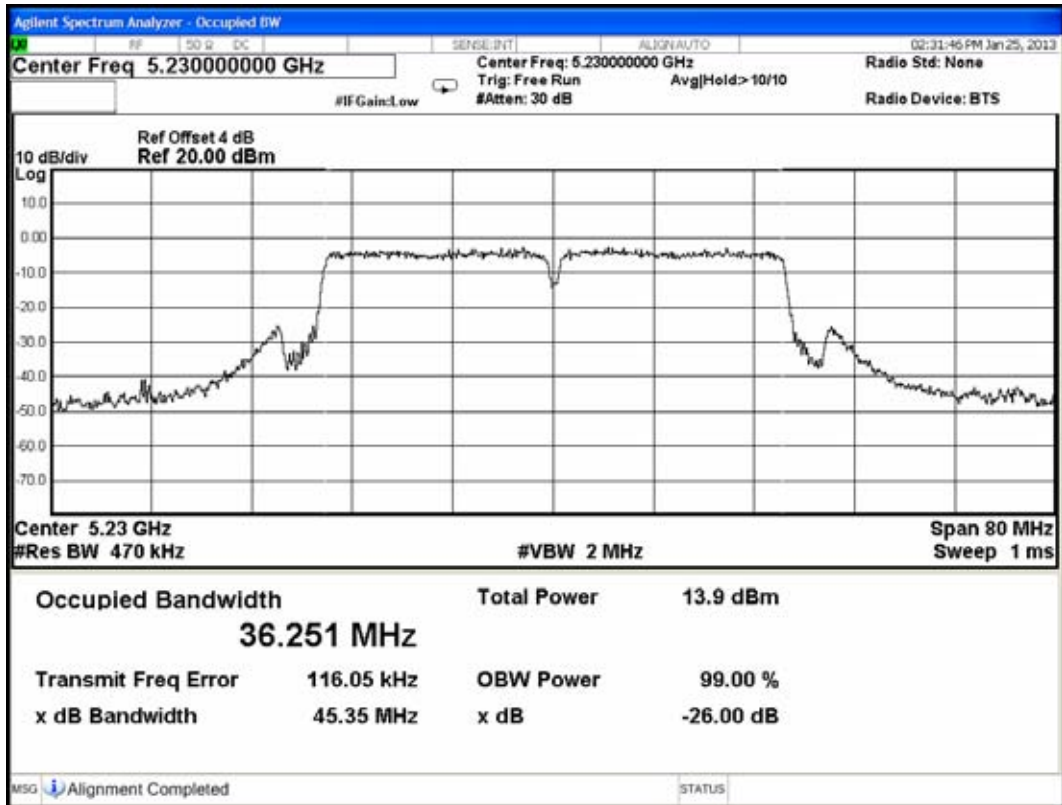
4.5.3.For 802.11n-HT40

Mode	UNII Band	Channel	Frequency	26dB Bandwidth
1.	UNII Band I	CH 38	5190MHz	44.90MHz
2.		CH 46	5230MHz	45.35MHz
3.	UNII Band II	CH 54	5270MHz	46.60MHz
4.		CH 62	5310MHz	44.43MHz
5.	UNII Band III	CH 102	5510MHz	45.43MHz
6.		CH 118	5590MHz	45.65MHz
7.		CH 134	5670MHz	44.70MHz

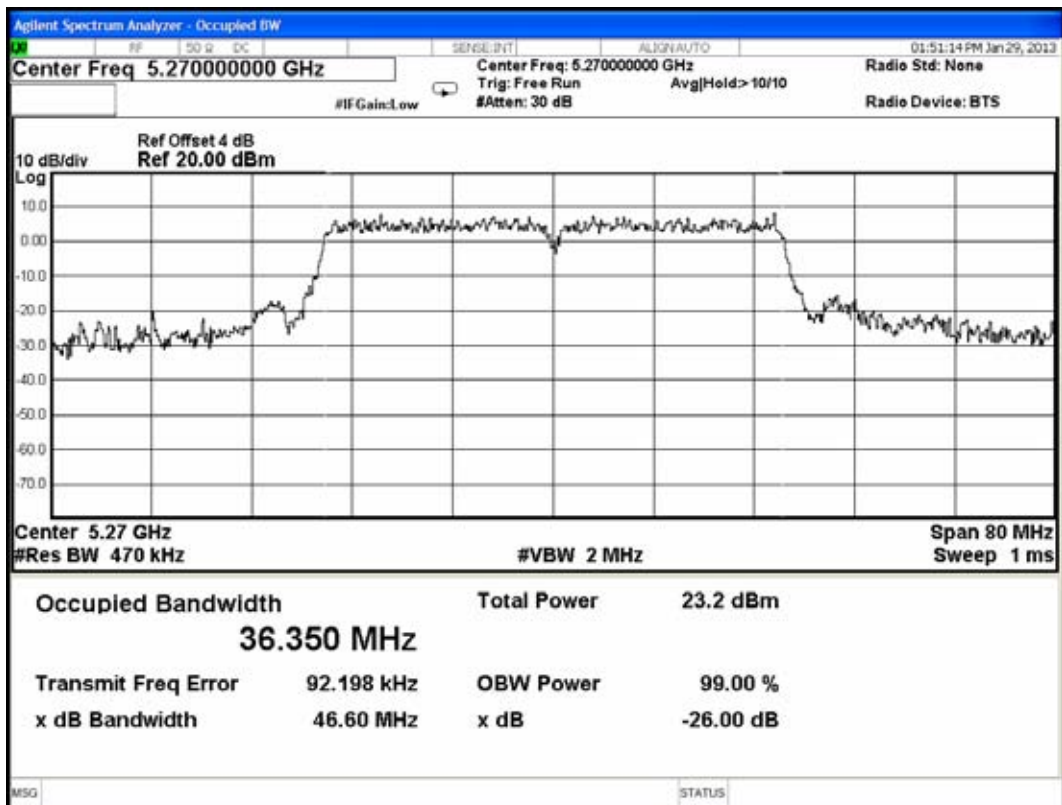
802.11n-HT40 (UNII Band I), Frequency: 5190MHz



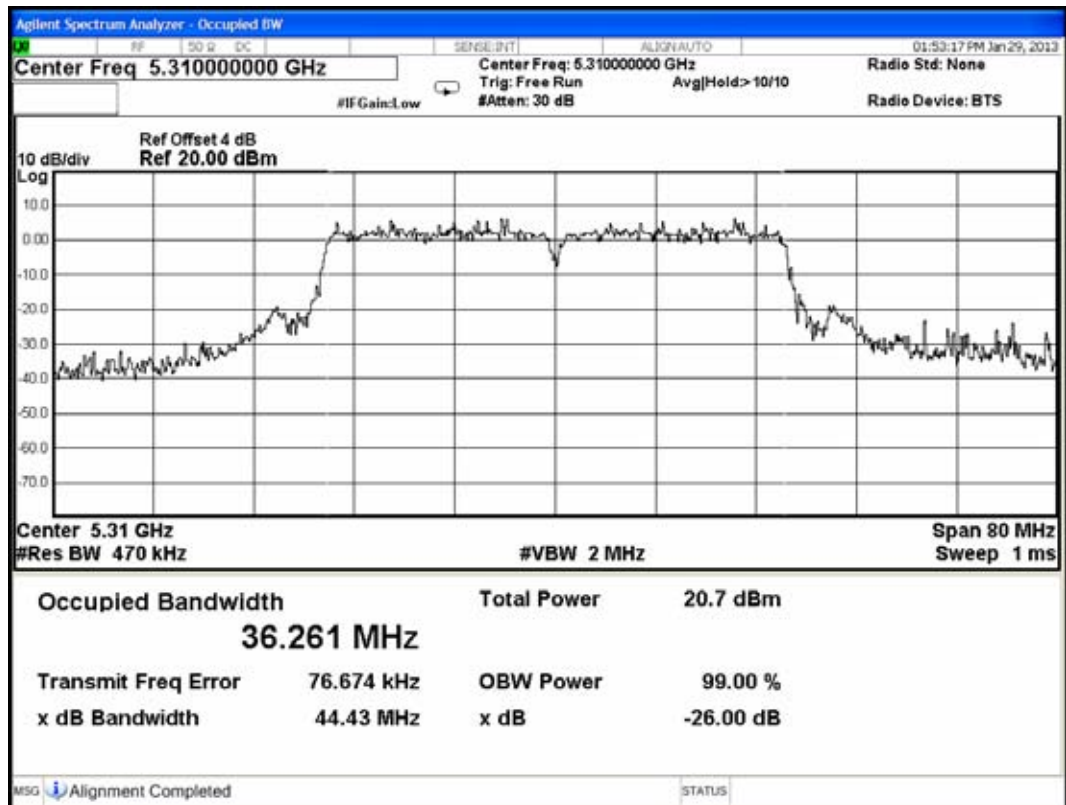
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



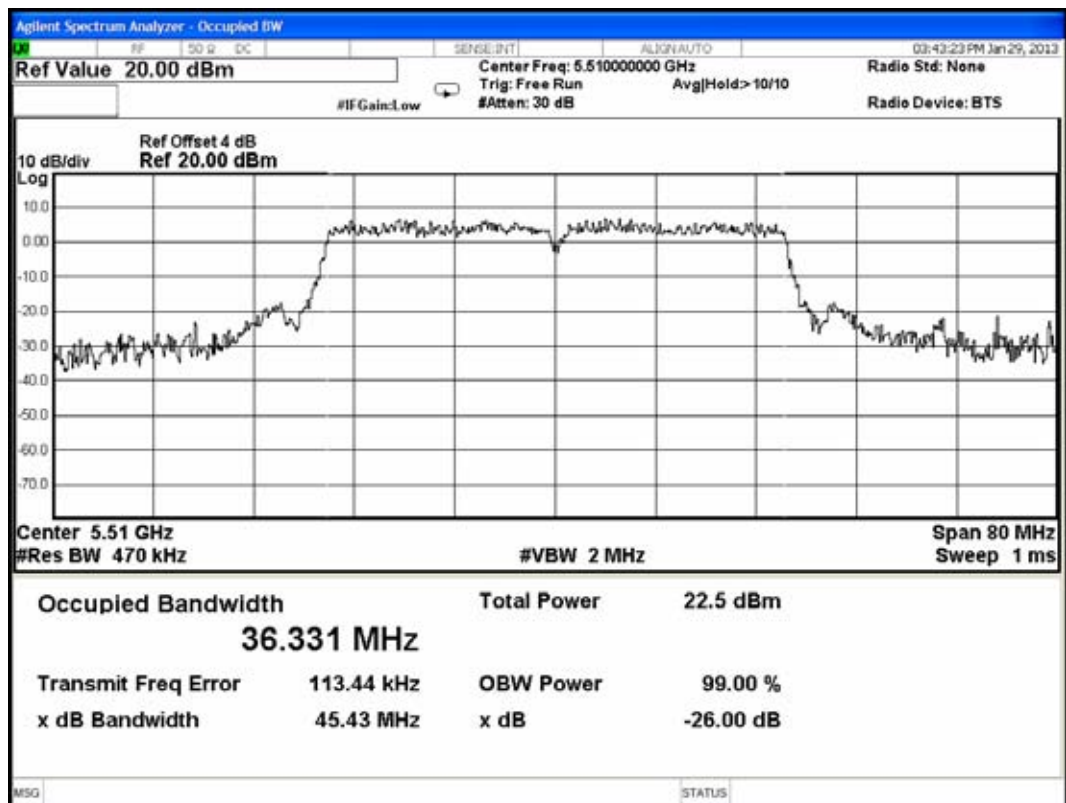
802.11n-HT40 (UNII Band II), Frequency: 5270MHz



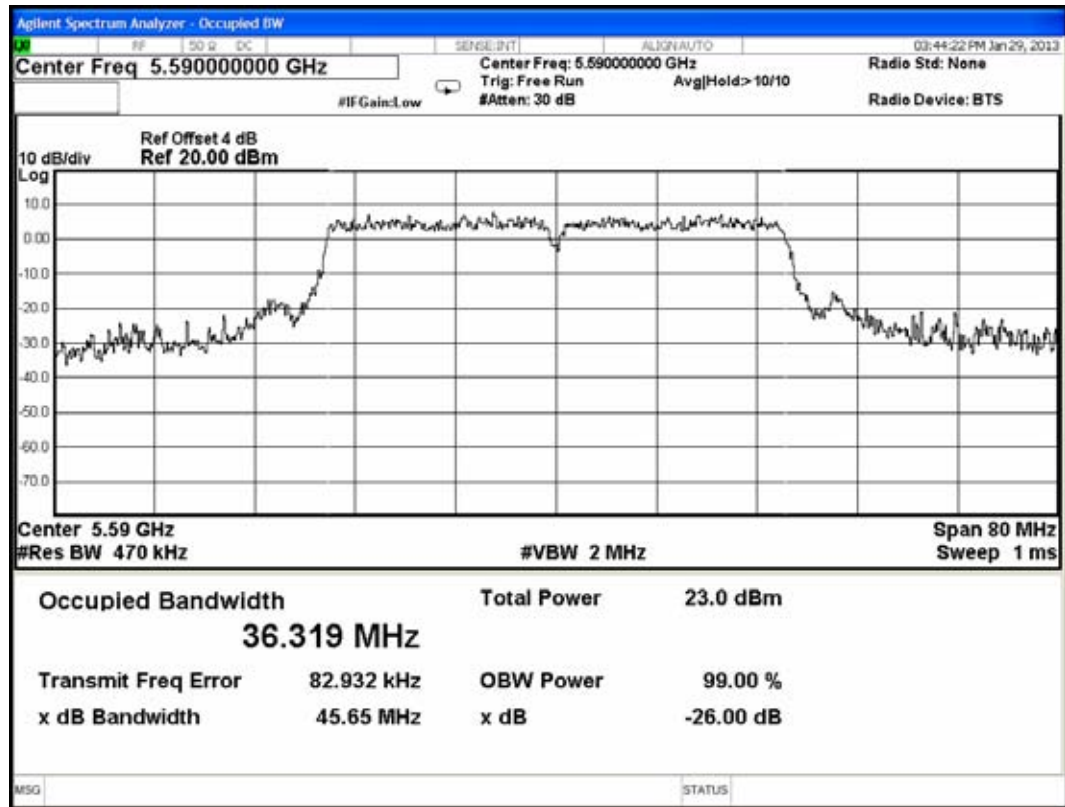
802.11n-HT40 (UNII Band II), Frequency: 5310MHz



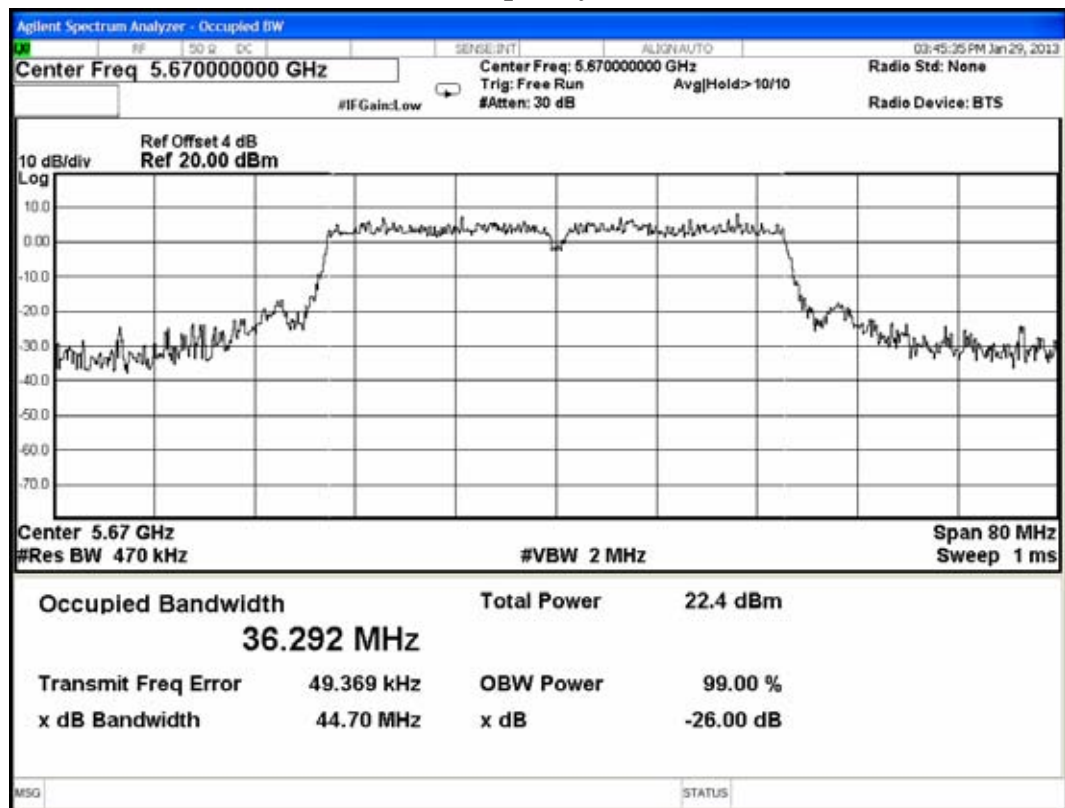
802.11n-HT40 (UNII Band III), Frequency: 5510MHz



802.11n-HT40 (UNII Band III), Frequency: 5590MHz



802.11n-HT40 (UNII Band III), Frequency: 5670MHz



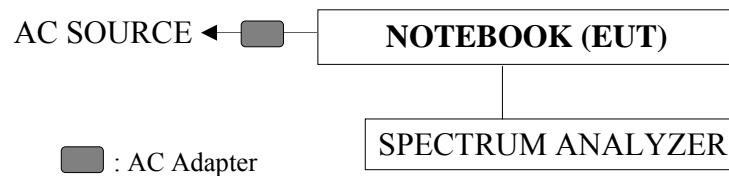
5. FOR DEMONSTRATING BE IN COMPLIANCE WITH REQUIREMENT IN 15.215

5.1. Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'

5.2. Block Diagram of Test Setup



5.3. Limit

The edge frequency shall be falling with operation band.
 5150MHz-5250MHz & 5250MHz-5350MHz & 5470MHz-5725MHz

5.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

5.5. Test Procedure

6. Set RBW=approximately 1% of the emission bandwidth.
7. Set the VBW>RBW
8. Detector=Peak.
9. Trace mode = max hold.
10. Measure the maximum width of the emission that is 20dB down from the peak of the emission. Compare this with RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

5.6. Test Results

Test Date: Feb. 05, 2013 Temperature: 24 Humidity: 52%

5.6.1. For 802.11a

UNII Band	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Edge frequency of BW (MHz)	Complaint
UNII Band I	CH 36	5180	20.48	N/A ^(Note 2)	5169.760	Yes
	CH 48	5240	19.06	N/A ^(Note 2)	5249.530	Yes
UNII Band II	CH 52	5260	21.84	17.86	5249.080	Yes
	CH 64	5320	21.24	N/A ^(Note 2)	5240.620	Yes
UNII Band III	CH 100	5500	20.79z	N/A ^(Note 2)	5489.605	Yes
	CH 140	5700	20.11	N/A ^(Note 2)	5710.055	Yes

5.6.2. For 802.11n-HT20

UNII Band	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Edge frequency of BW (MHz)	Complaint
UNII Band I	CH 36	5180	19.78	N/A ^(Note 2)	5170.110	Yes
	CH 48	5240	19.89	N/A ^(Note 2)	5249.945	Yes
UNII Band II	CH 52	5260	19.14	N/A ^(Note 2)	5250.430	Yes
	CH 64	5320	19.03	N/A ^(Note 2)	5329.515	Yes
UNII Band III	CH 100	5500	20.82	N/A ^(Note 2)	5489.590	Yes
	CH 140	5700	19.54z	N/A ^(Note 2)	5709.770	Yes

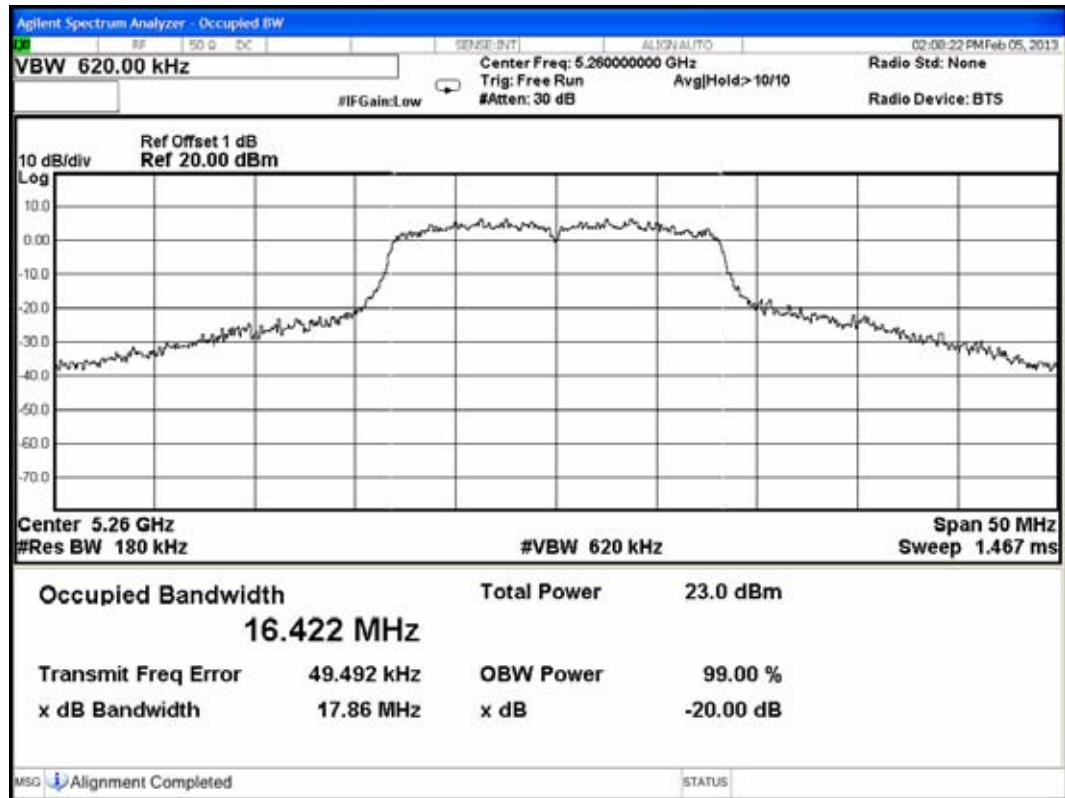
5.6.3. For 802.11n-HT40

UNII Band	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Edge frequency of BW (MHz)	Complaint
UNII Band I	CH 38	5190	44.90z	N/A ^(Note 2)	5167.550	Yes
	CH 46	5230	45.35	38.75	5252.675	Yes
UNII Band II	CH 54	5270	46.60	38.81	5246.700	Yes
	CH 62	5310	44.43	N/A ^(Note 2)	5332.215	Yes
UNII Band III	CH 100	5510	45.43	N/A ^(Note 2)	5487.285	Yes
	CH 116	5670	44.70	N/A ^(Note 2)	5692.350	Yes

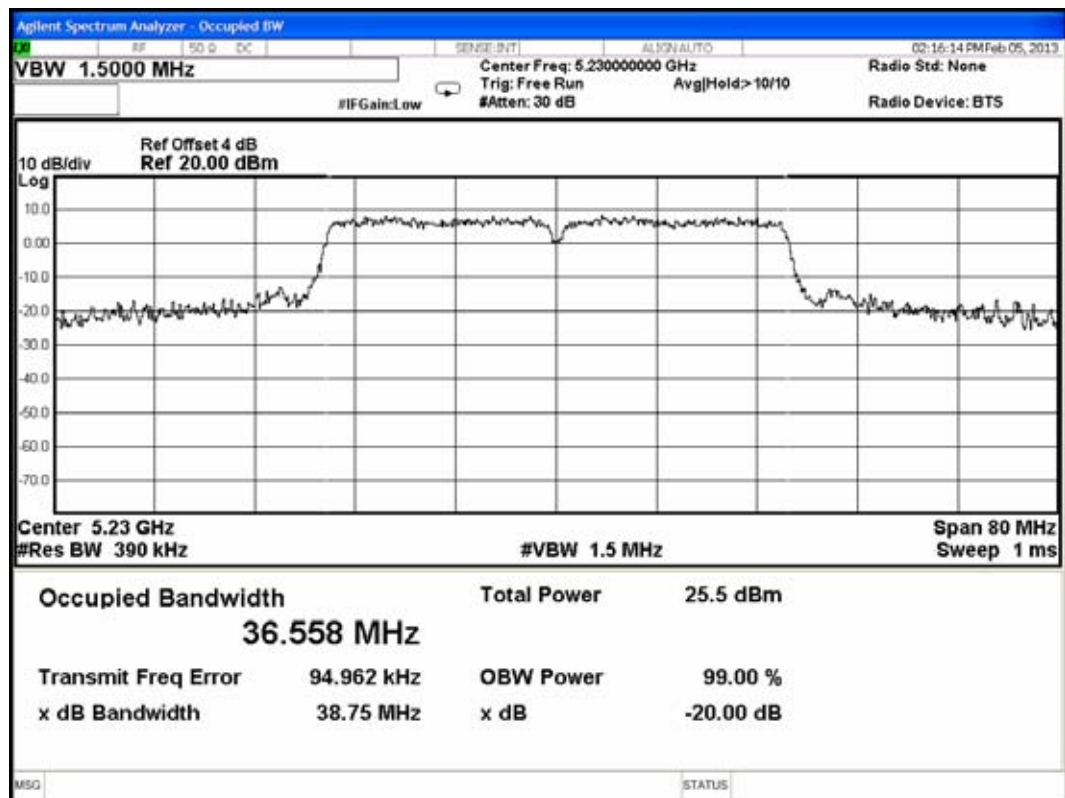
Note 1. The edge frequency is calculated from formula “centre frequency + 26dB BW/2, where 26 dB BW is instead by 20 dB BW while the edge frequency is not falling with operation band”.

Note 2: N/A: The edge frequency calculated in 26 dB BW has been in compliance with 15.215, thus 20 dB BW is not required.

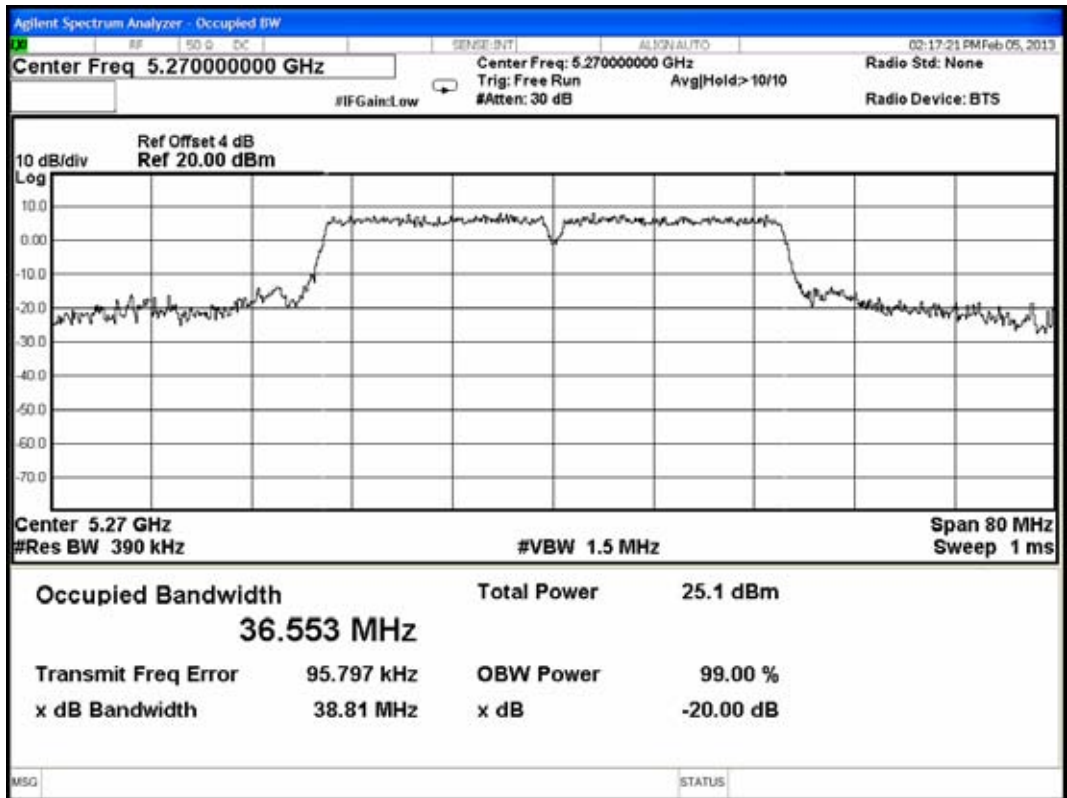
802.11a (UNII Band II), Frequency: 5260MHz



802.11n-HT40 (UNII Band I), Frequency: 5230MHz



802.11n-HT40 (UNII Band II), Frequency: 5270MHz



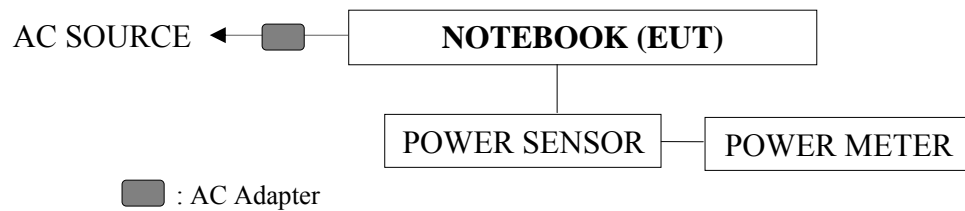
6. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Power Meter	Anritsu	ML2495A	1145008	Oct. 30, 12'	Oct. 29, 13'
2.	Power Sensor	Anritsu	MA2411B	1126096	Oct. 30, 12'	Oct. 29, 13'

6.2. Block Diagram of Test Setup



6.3. Specification Limits [§15.407(a)-(1)(2), RSS-210 A9.2 (1)(2)]

6.3.1. For 802.11a

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	17.33dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	24.39dBm
5470~5725MHz	250mW (24dBm)	24.18dBm

Remark: B= 26dB Bandwidth

6.3.2. For 802.11n-HT20

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	16.99dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	24.20dBm
5470~5725MHz	250mW (24dBm)	24.18dBm

Remark: B= 26dB Bandwidth

6.3.3.For 802.11n-HT40

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	20.57dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	27.68dBm
5470~5725MHz	250mW (24dBm)	27.59dBm

Remark: B= 26dB Bandwidth

6.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

6.5. Test Procedure

The EUT connected to power meter and sensor and record the average value

The measurement guideline was according to KDB789033 D01-v01r02

The measurement guideline was according to RSS-Gen.

6.6. Test Results

PASSED. All the test results are listed below.

Test Date: Feb. 04, 2013 Temperature: 23 Humidity: 63%

6.6.1. For 802.11a

UNII Band	Channel	Frequency (MHz)	Average Output Power (dBm)	Power Setting
UNII Band I	CH 36	5180	12.50	62
	CH 40	5200	12.64	62
	CH 48	5240	13.35	62
UNII Band II	CH 52	5260	15.53	72
	CH 56	5280	15.58	72
	CH 64	5320	14.91	72
UNII Band III	CH 100	5500	15.57	72
	CH 116	5580	15.88	72
	CH 140	5700	15.67	72

6.6.2. For 802.11n-HT20

UNII Band	Channel	Frequency (MHz)	Average Output Power (dBm)			Power Setting
			Chain 0	Chain 1	Total	
UNII Band I	CH 36	5180	11.34	10.66	14.02	54
	CH 40	5200	11.21	11.02	14.13	54
	CH 48	5240	11.39	11.73	14.57	54
UNII Band II	CH 52	5260	13.62	13.94	16.79	64
	CH 56	5280	13.66	13.79	16.74	64
	CH 64	5320	13.48	13.30	16.40	64
UNII Band III	CH 100	5500	13.74	13.90	16.83	64
	CH 116	5580	13.79	14.21	17.01	64
	CH 140	5700	13.26	14.07	16.69	64

6.6.3. For 802.11n-HT40

UNII Band	Channel	Frequency (MHz)	Average Output Power (dBm)			Power Setting
			Chain 0	Chain 1	Total	
UNII Band I	CH 38	5190	10.85	10.41	13.65	54
	CH 46	5230	11.07	10.92	14.01	54
UNII Band II	CH 54	5270	12.71	12.83	15.78	60
	CH 62	5310	12.48	12.34	15.42	60
UNII Band III	CH 102	5510	12.65	12.85	15.76	60
	CH 118	5590	12.54	13.27	15.93	60
	CH 134	5670	12.08	12.86	15.50	60

7. POWER SPECTRAL DENSITY MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'

7.2. Block Diagram of Test Setup

The same as section.4.2.

7.3. Specification Limits [§15.407(a)-(1)(2), RSS-210 A9.2 (1)(2)]

For the band 5.15-5.25GHz, the peak power spectral density shall not exceed 4dBm in any 1MHz band.

For the band 5.25-5.35GHz and 5.47-5.725GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

7.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

7.5. Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW=1MHz
3. Set VBW≥3MHz
4. Detector=RMS (i.e., power averaging), if available, Otherwise, use sample detector mode.
5. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
6. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.

The measurement guideline was according to KDB789033 D01-v01r02

The measurement guideline was according to RSS-Gen.

Pursuant to KDB 662911, we performed conducted tests for both antenna chains and submit test data measured on chain 0 as worse performance.

7.6. Test Results

PASSED. All the test results are attached in next pages.

Pursuant to KDB 662911, the test results of 802.11n-H20/H40 have been included 3 dB is calculated from $10\log(N)$, where N is the number of outputs.

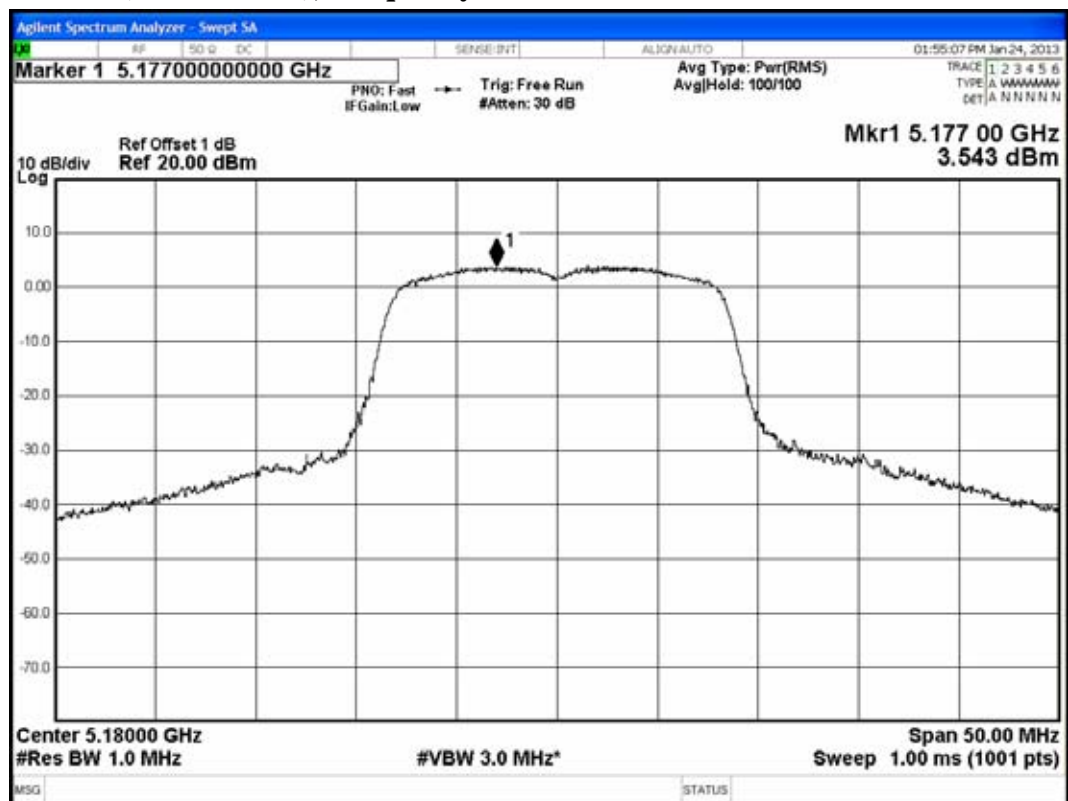
7.6.1. For 802.11a

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

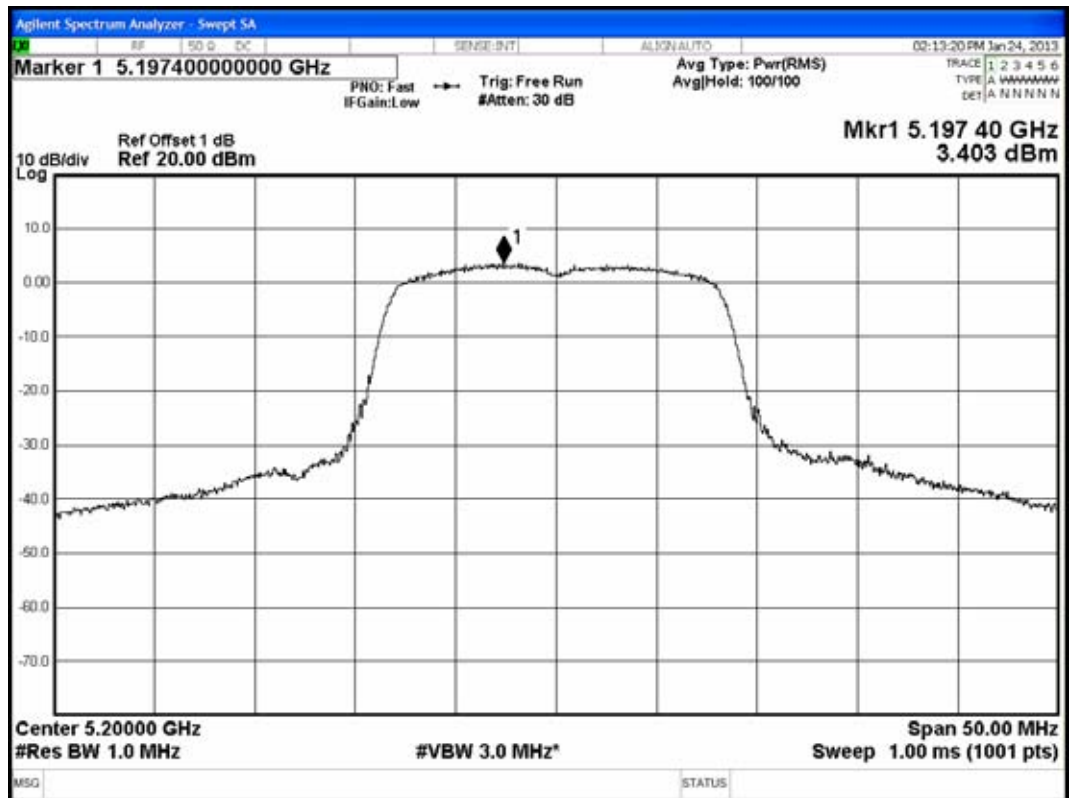
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 36	5180MHz	3.543	4
2.		CH 40	5200MHz	3.403	4
3.		CH 48	5240MHz	3.422	4
4.	UNII Band II	CH 52	5260MHz	4.644	11
5.		CH 56	5280MHz	4.598	11
6.		CH 64	5320MHz	4.707	11
7.	UNII Band III	CH 100	5500MHz	4.864	11
8.		CH 116	5580MHz	5.140	11
9.		CH 140	5700MHz	5.397	11

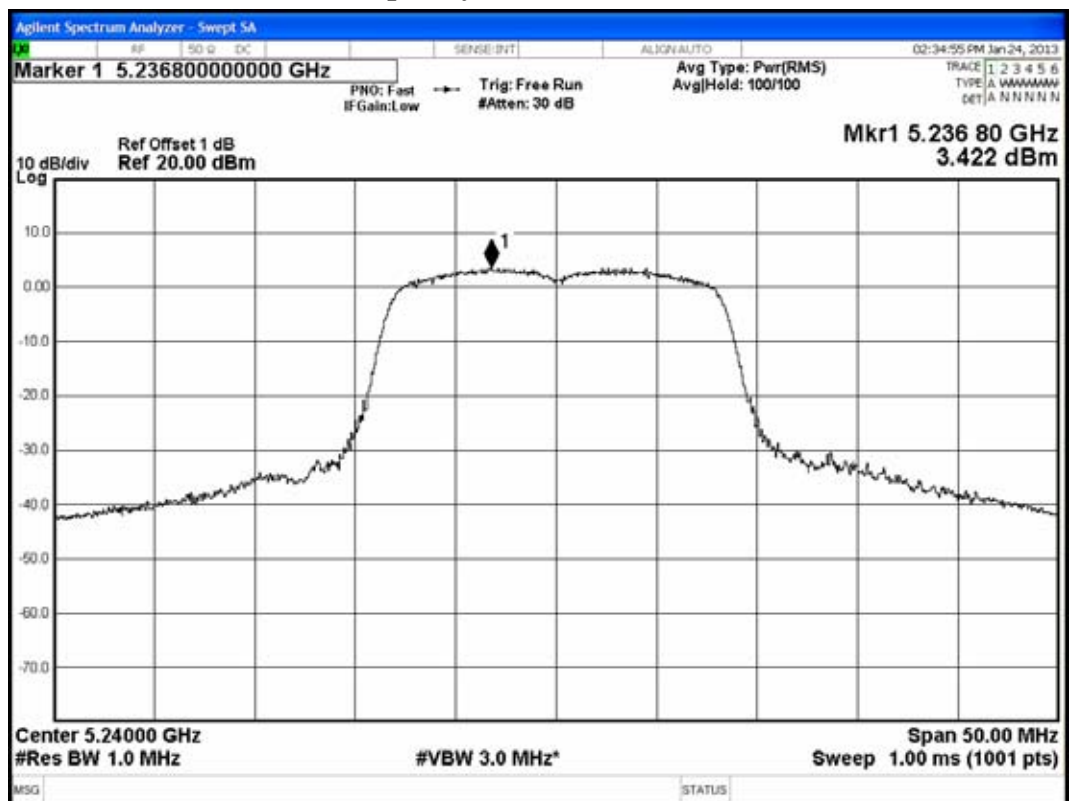
802.11a (UNII Band I), Frequency: 5180MHz



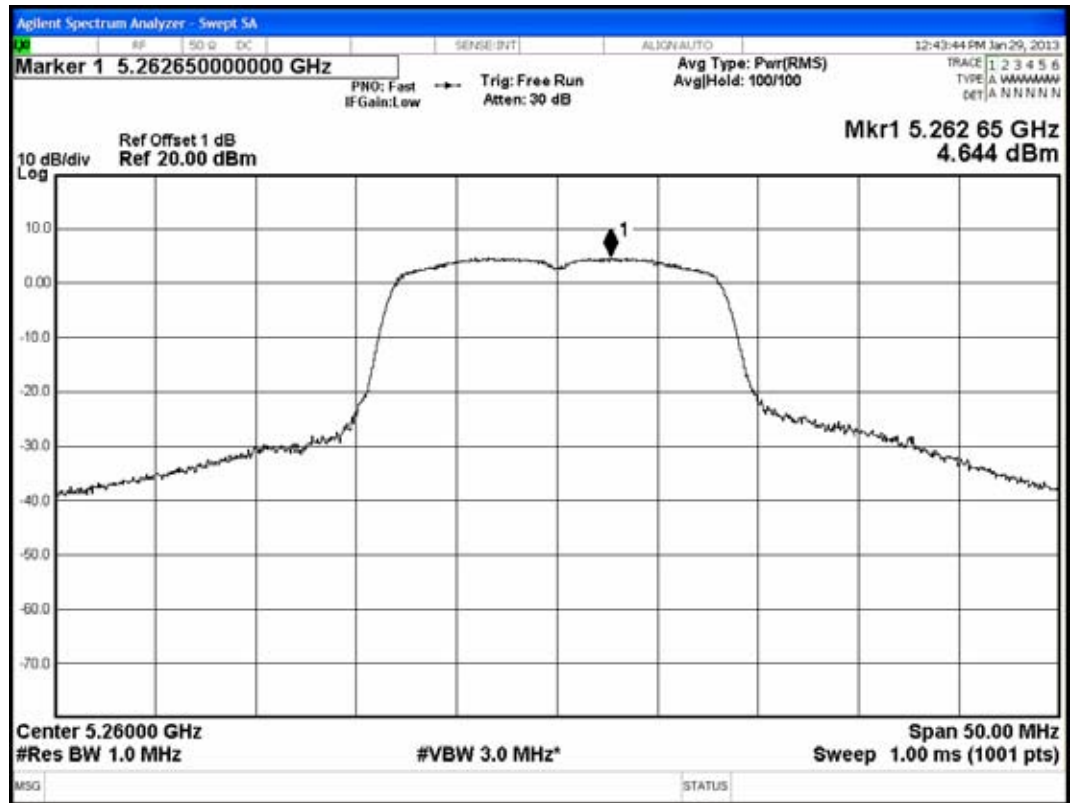
802.11a (UNII Band I), Frequency: 5200MHz



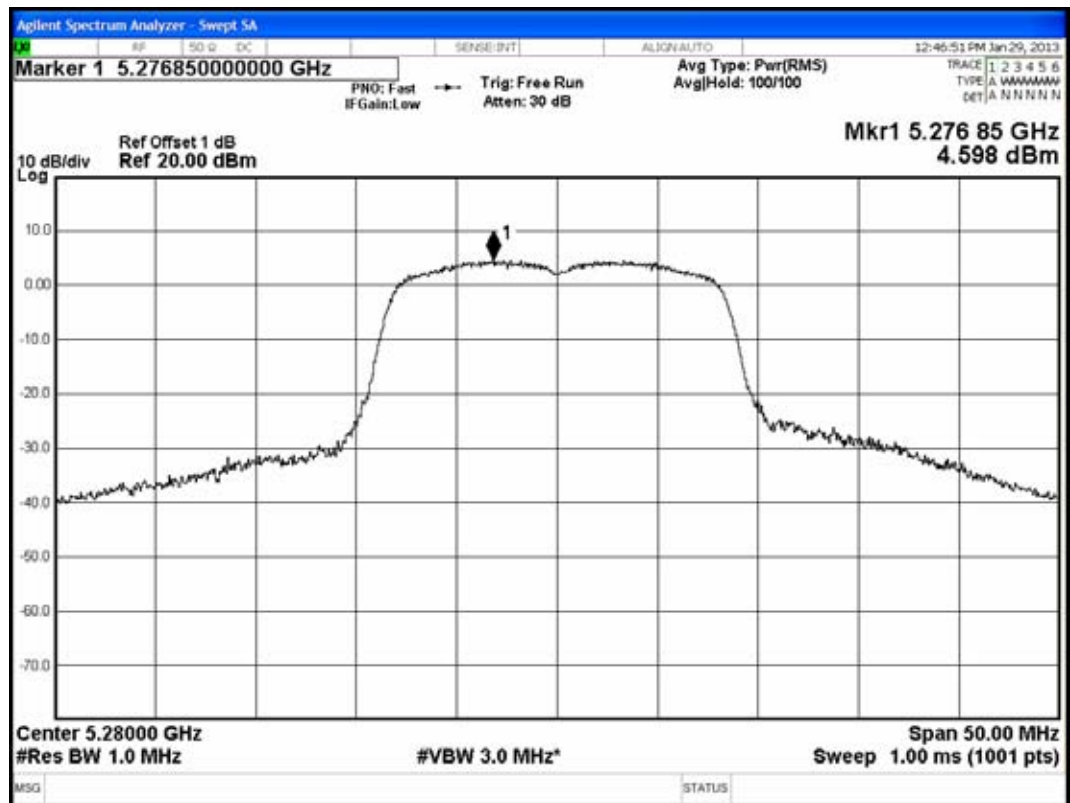
802.11a (UNII Band I), Frequency: 5240MHz



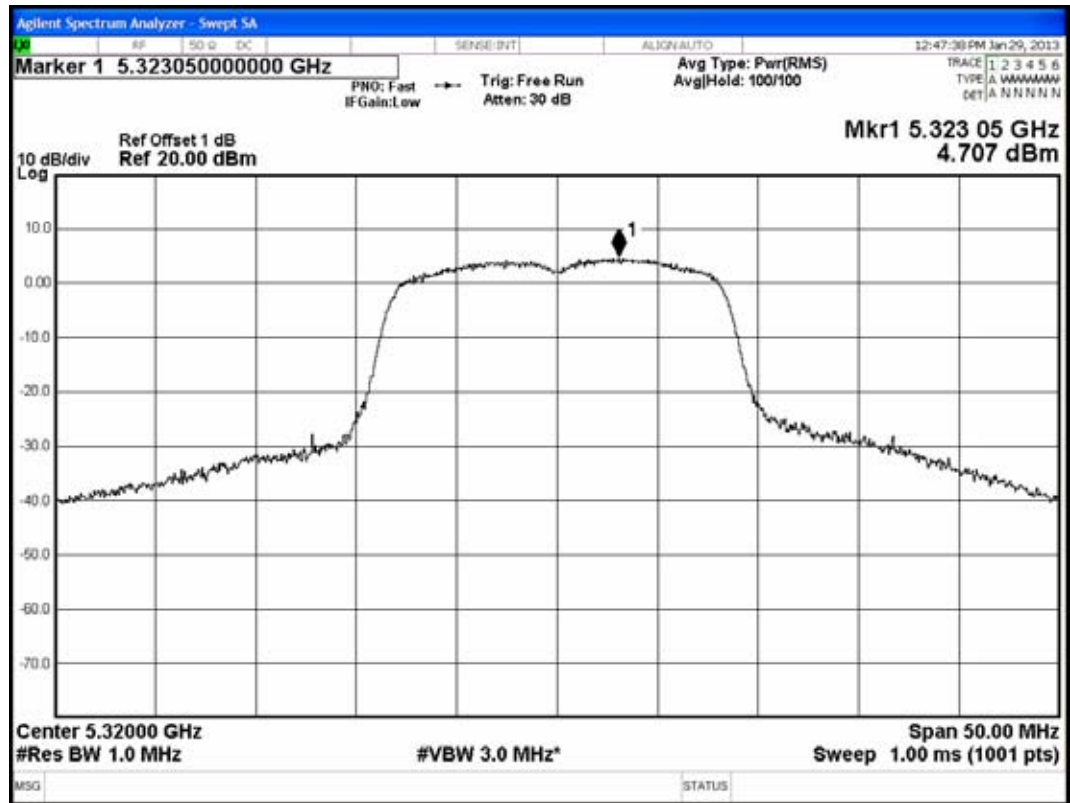
802.11a (UNII Band II), Frequency: 5260MHz



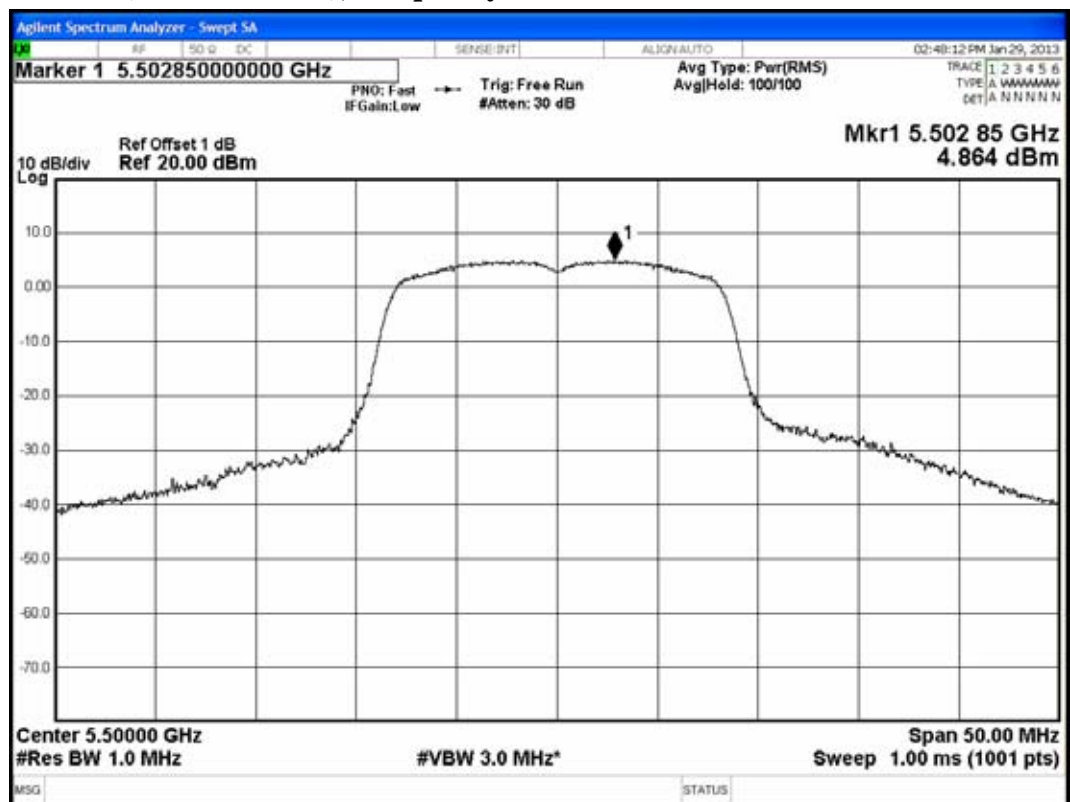
802.11a (UNII Band II), Frequency: 5280MHz



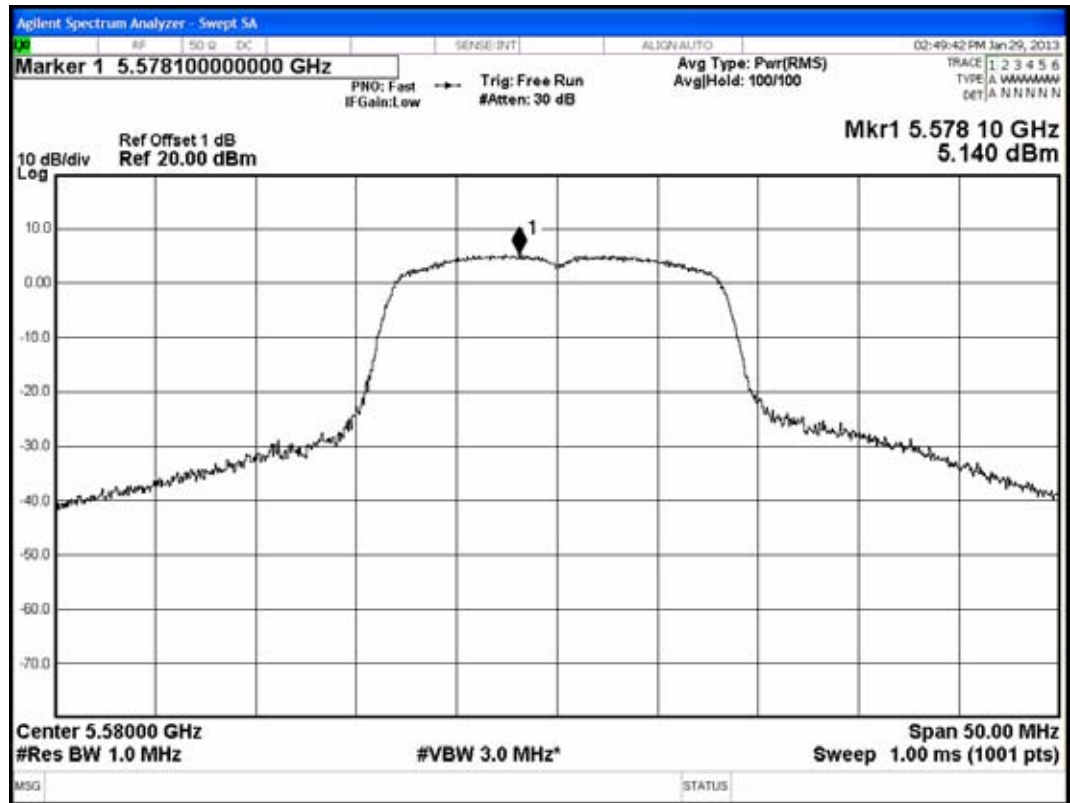
802.11a (UNII Band II), Frequency: 5320MHz



802.11a (UNII Band III), Frequency: 5500MHz



802.11a (UNII Band III), Frequency: 5580MHz



802.11a (UNII Band III), Frequency: 5700MHz



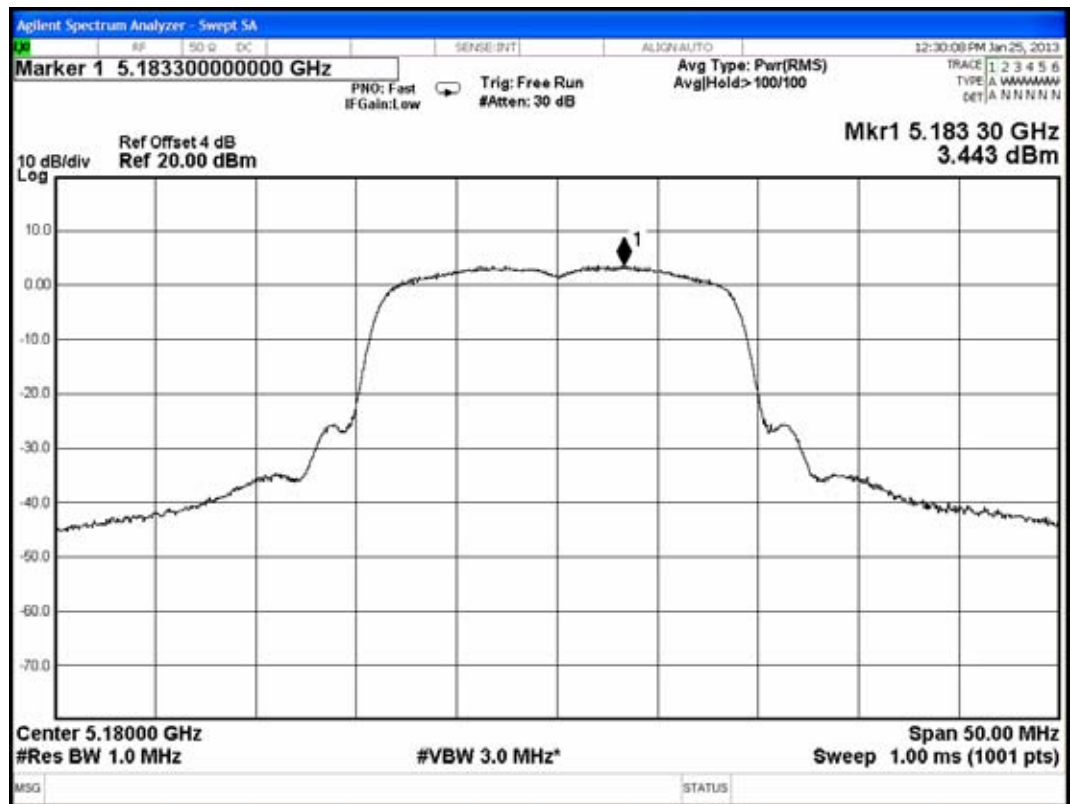
7.6.2.For 802.11n-HT20

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

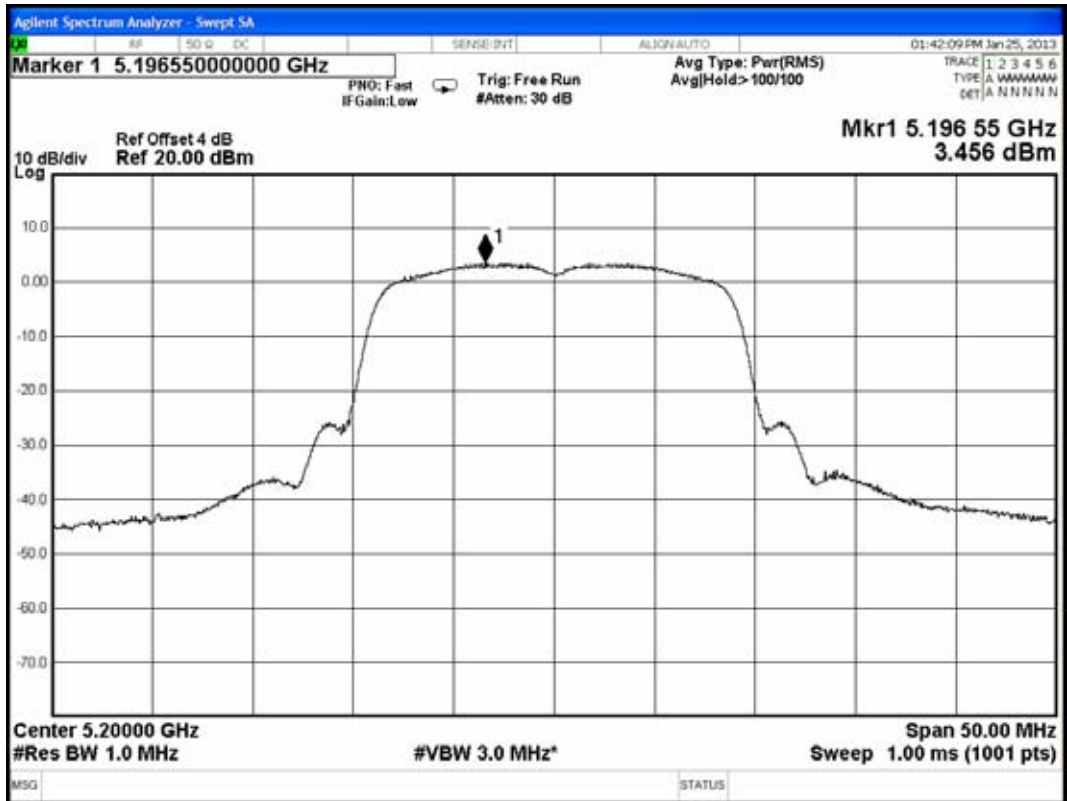
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 36	5180MHz	3.443	4
2.		CH 40	5200MHz	3.456	4
3.		CH 48	5240MHz	3.106	4
4.	UNII Band II	CH 52	5260MHz	5.742	11
5.		CH 56	5280MHz	5.639	11
6.		CH 64	5320MHz	5.339	11
7.	UNII Band III	CH 100	5500MHz	6.483	11
8.		CH 116	5580MHz	6.626	11
9.		CH 140	5700MHz	6.702	11

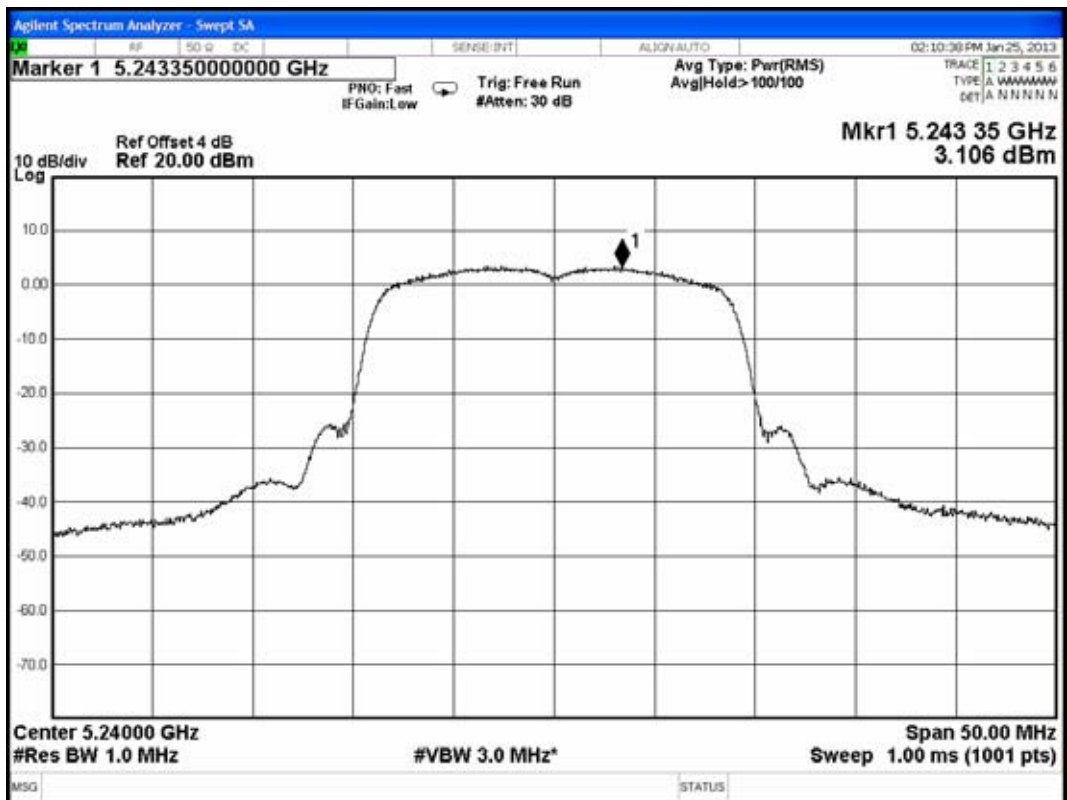
802.11n-HT20 (UNII Band I), Frequency: 5180MHz



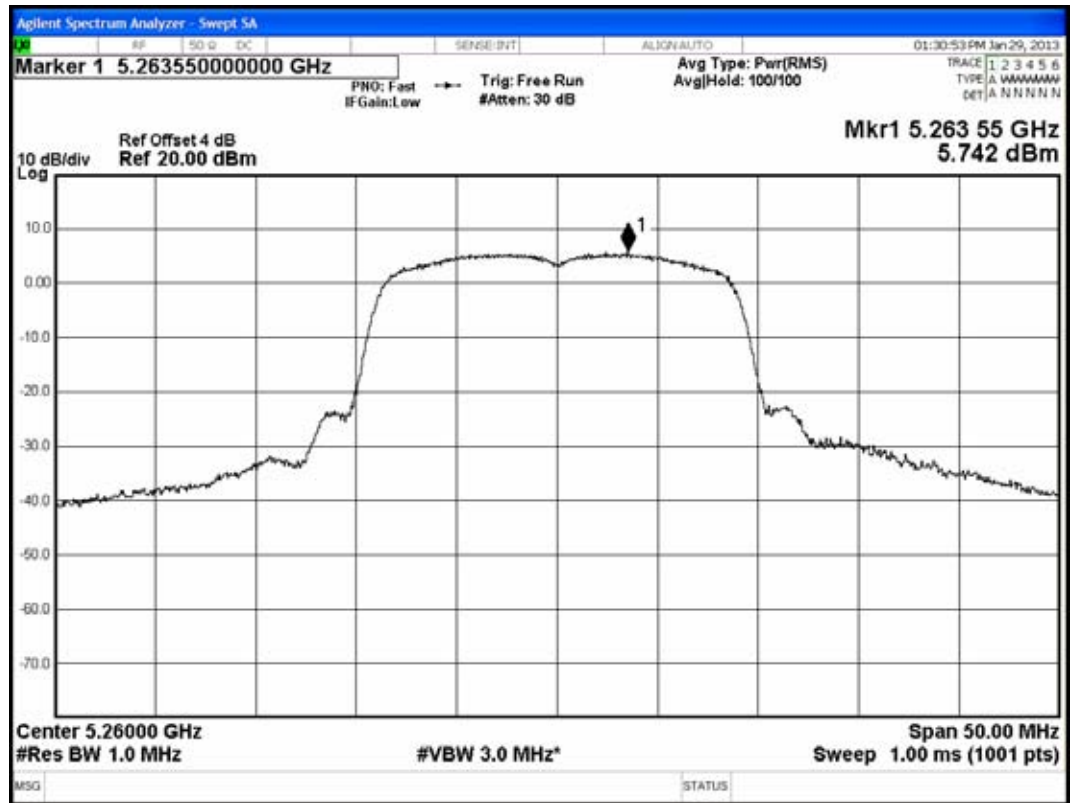
802.11n-HT20 (UNII Band I), Frequency: 5200MHz



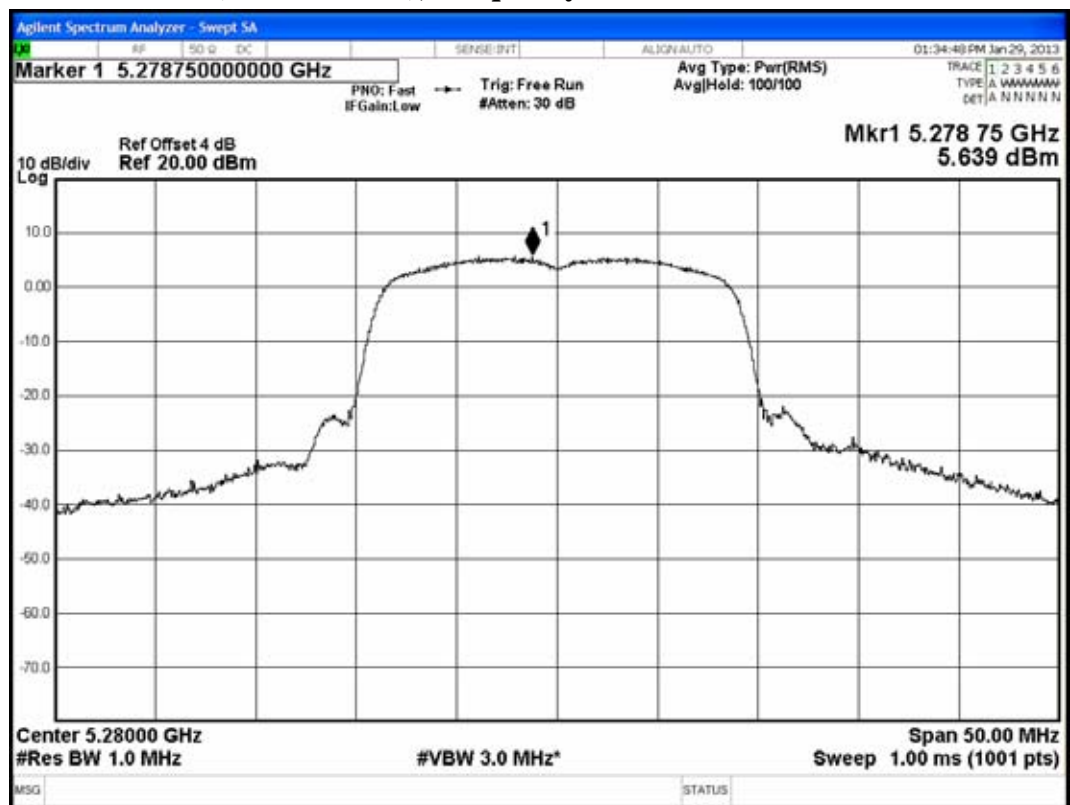
802.11n-HT20 (UNII Band I), Frequency: 5240MHz



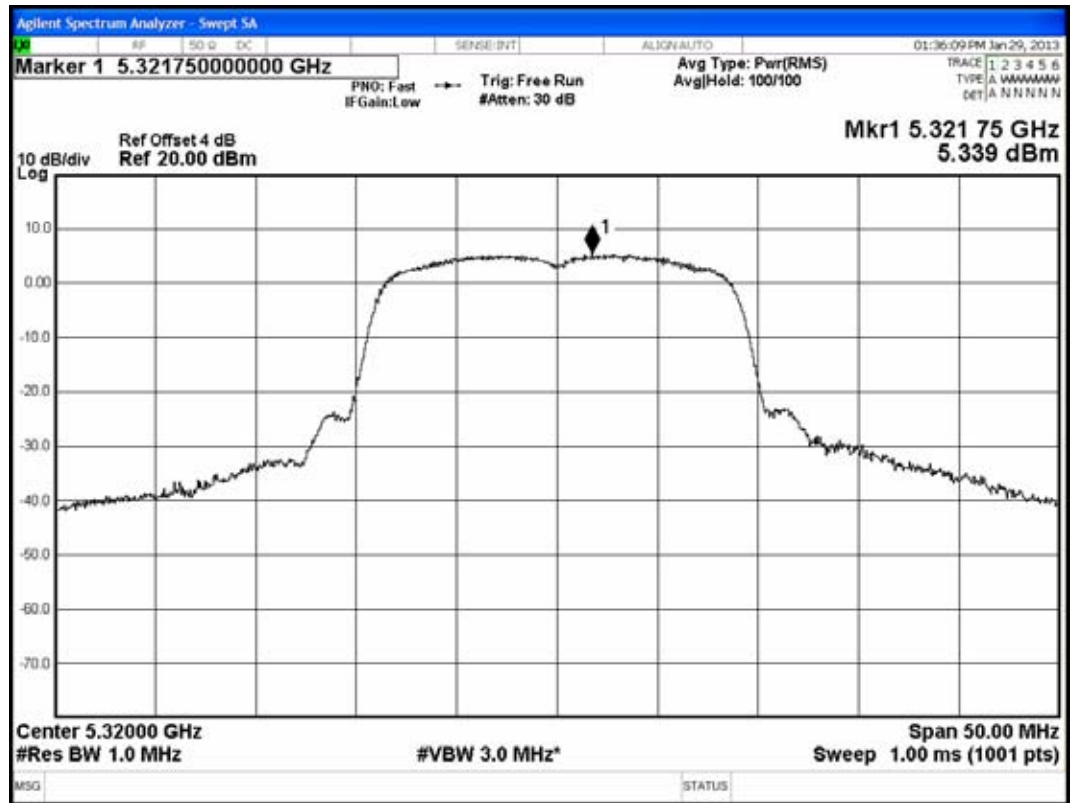
802.11n-HT20 (UNII Band II), Frequency: 5260MHz



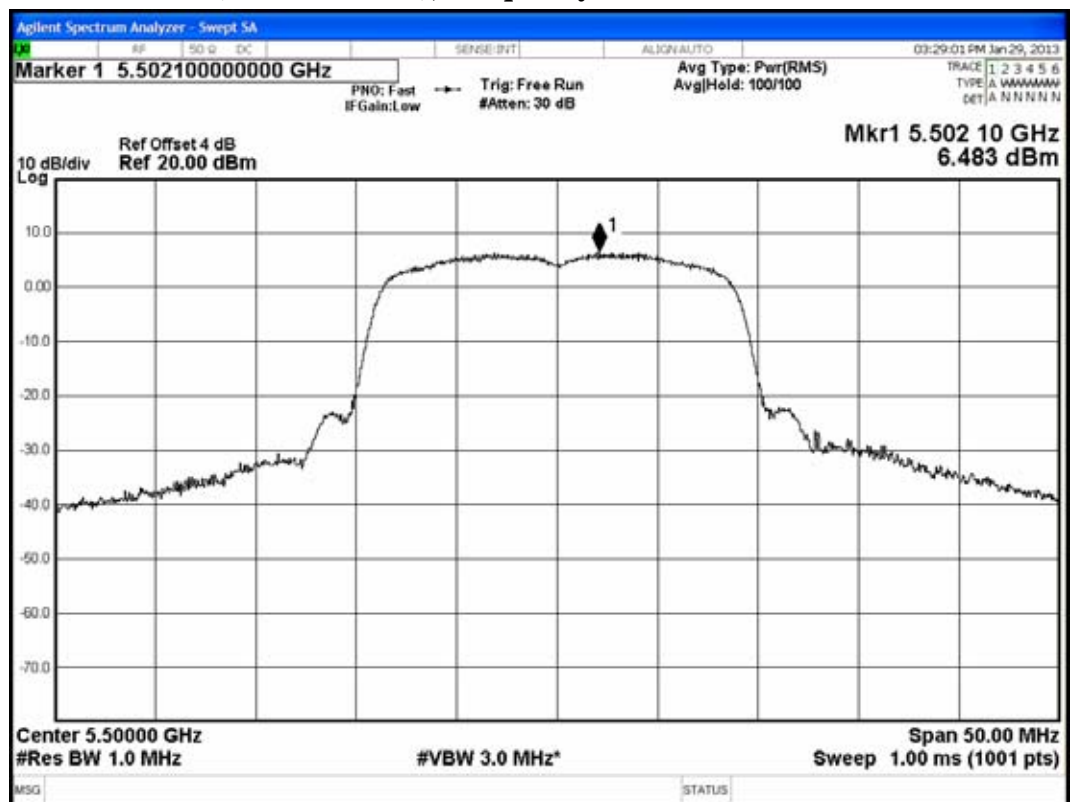
802.11n-HT20 (UNII Band II), Frequency: 5280MHz



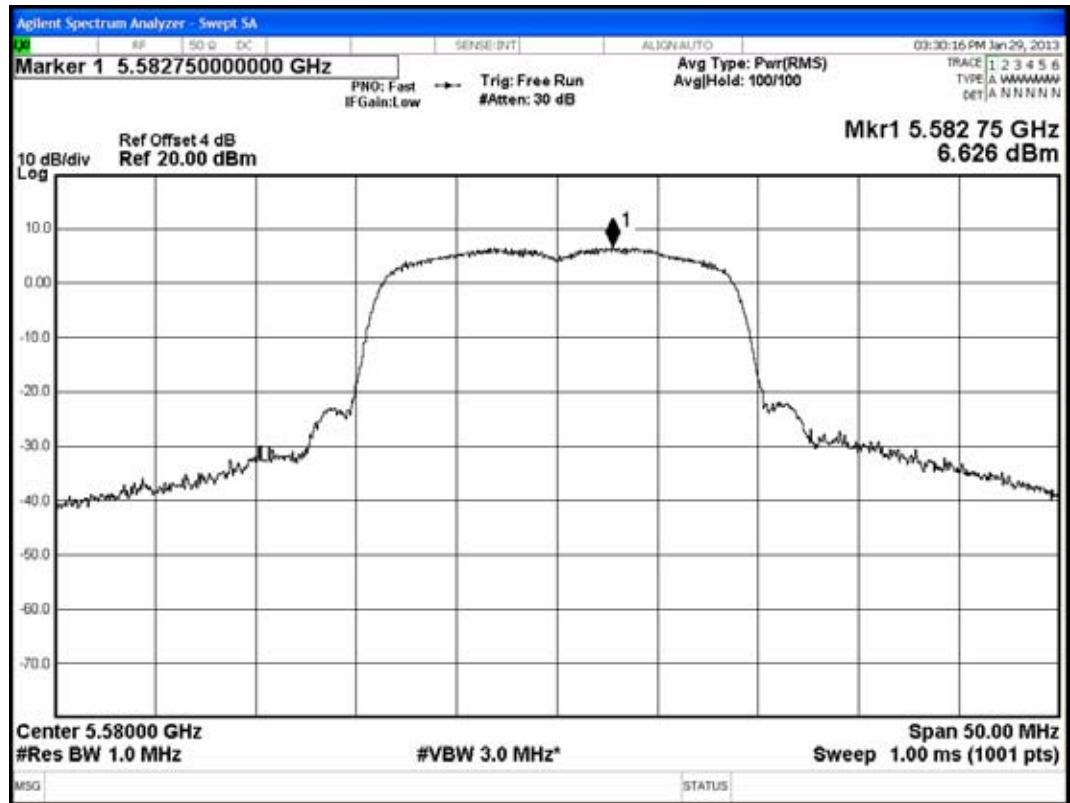
802.11n-HT20 (UNII Band II), Frequency: 5320MHz



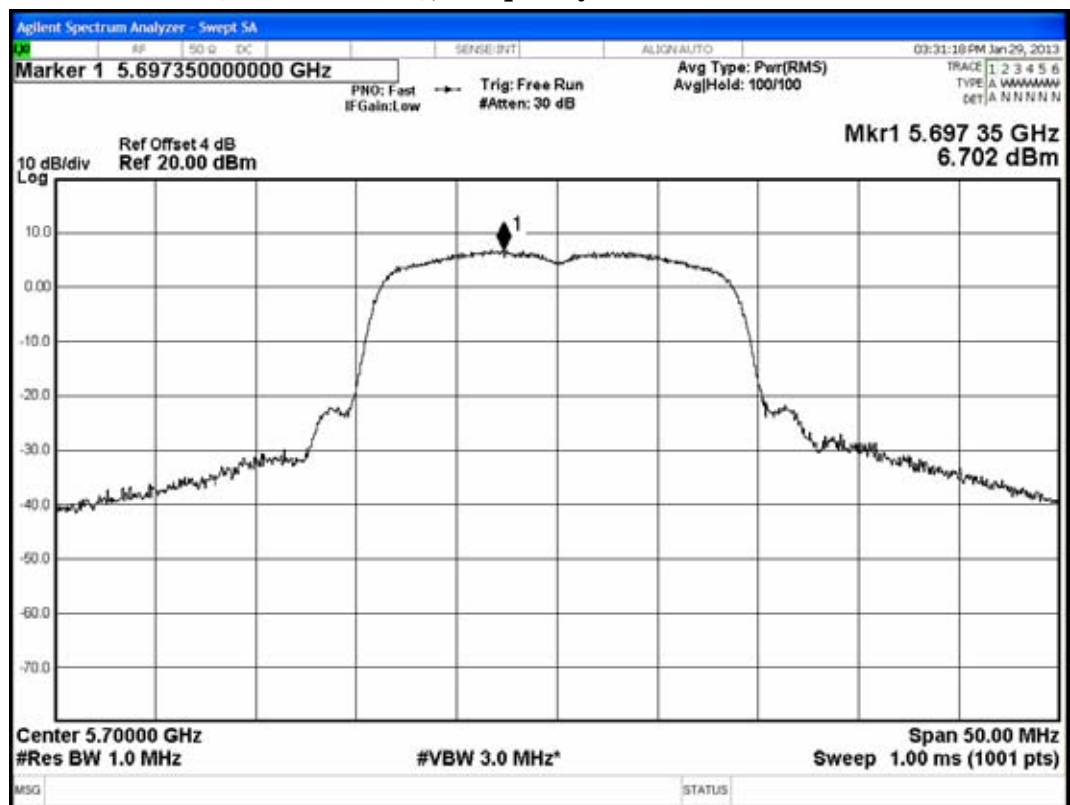
802.11n-HT20 (UNII Band III), Frequency: 5500MHz



802.11n-HT20 (UNII Band III), Frequency: 5580MHz



802.11n-HT20 (UNII Band III), Frequency: 5700MHz



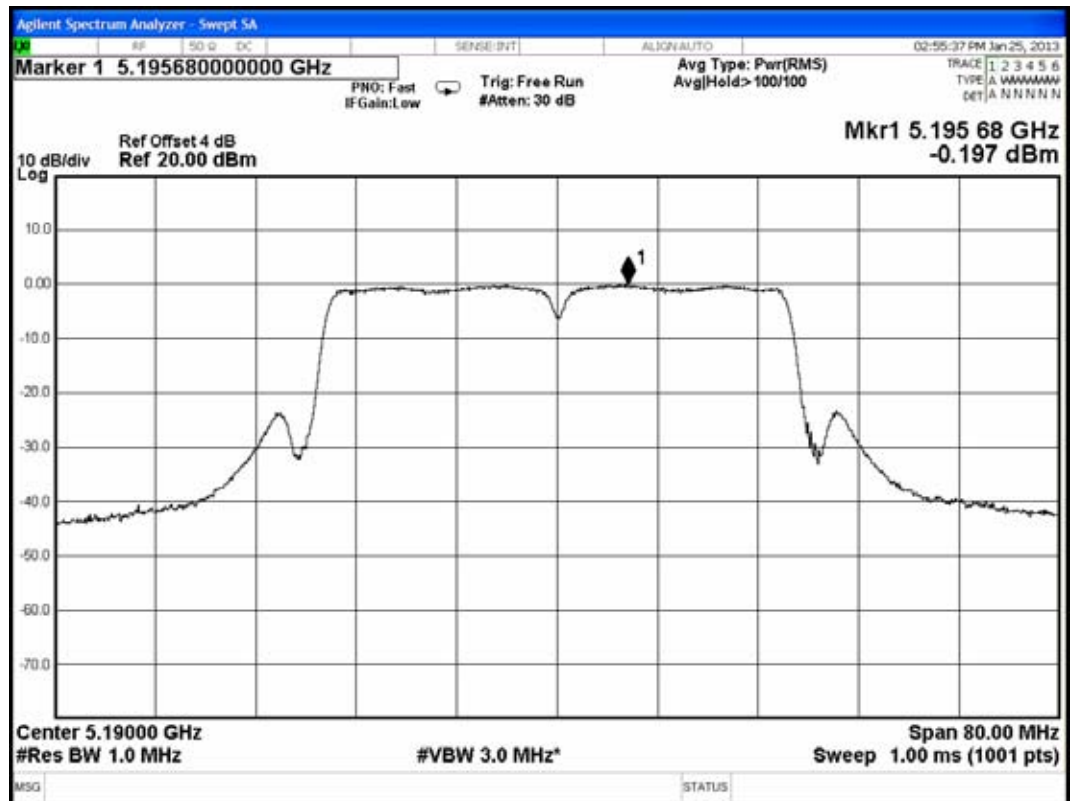
7.6.3.For 802.11n-HT40

Test Date : Jan. 25, 2013 Temperature : 22 Humidity : 50%

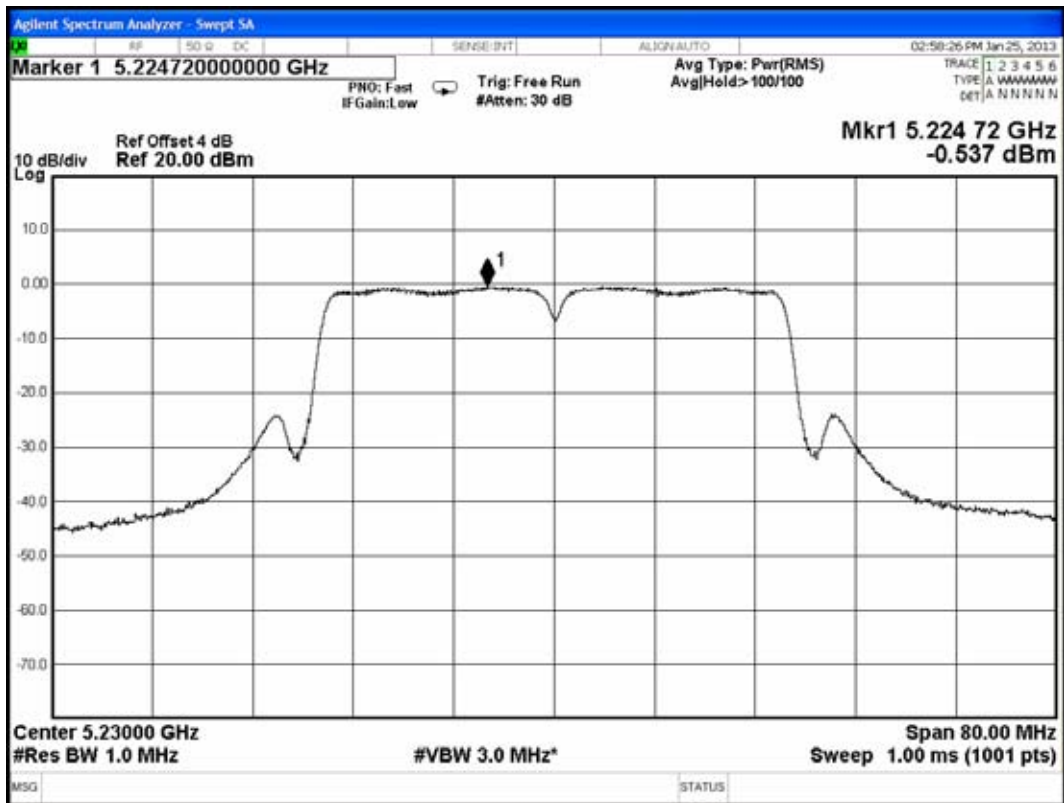
Test Date : Jan. 29, 2013 Temperature : 25 Humidity : 51%

Mode	UNII Band	Channel	Frequency	Power Spectral Density (dBm)	Limit (dBm)
1.	UNII Band I	CH 38	5190MHz	-0.197	4
2.		CH 46	5230MHz	-0.537	4
3.	UNII Band II	CH 54	5270MHz	0.913	11
4.		CH 62	5310MHz	0.981	11
5.	UNII Band III	CH 100	5510MHz	1.904	11
6.		CH 118	5590MHz	1.940	11
7.		CH 116	5670MHz	1.877	11

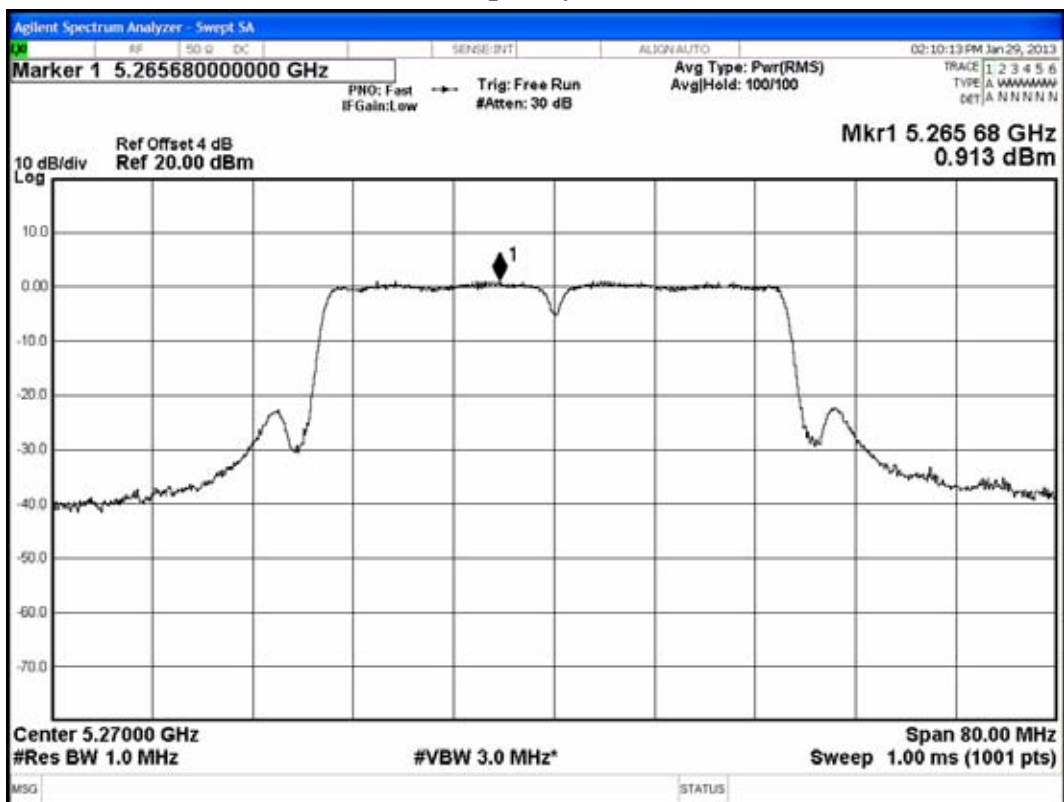
802.11n-HT40 (UNII Band I), Frequency: 5190MHz



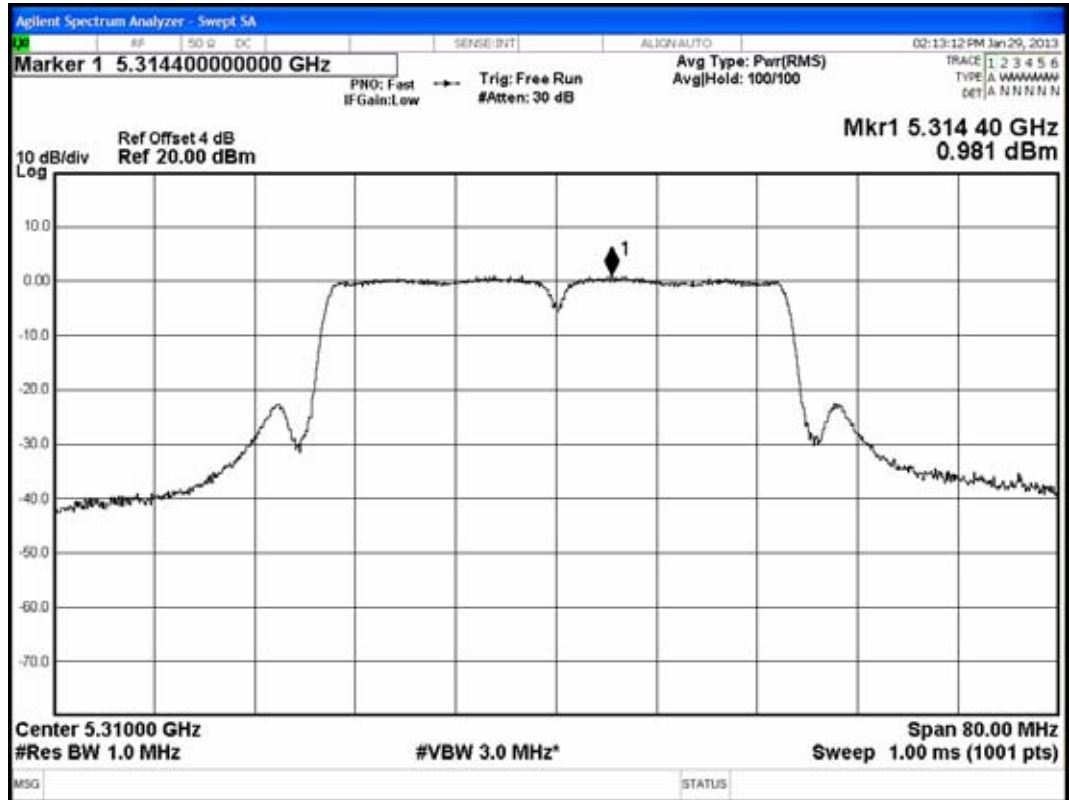
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



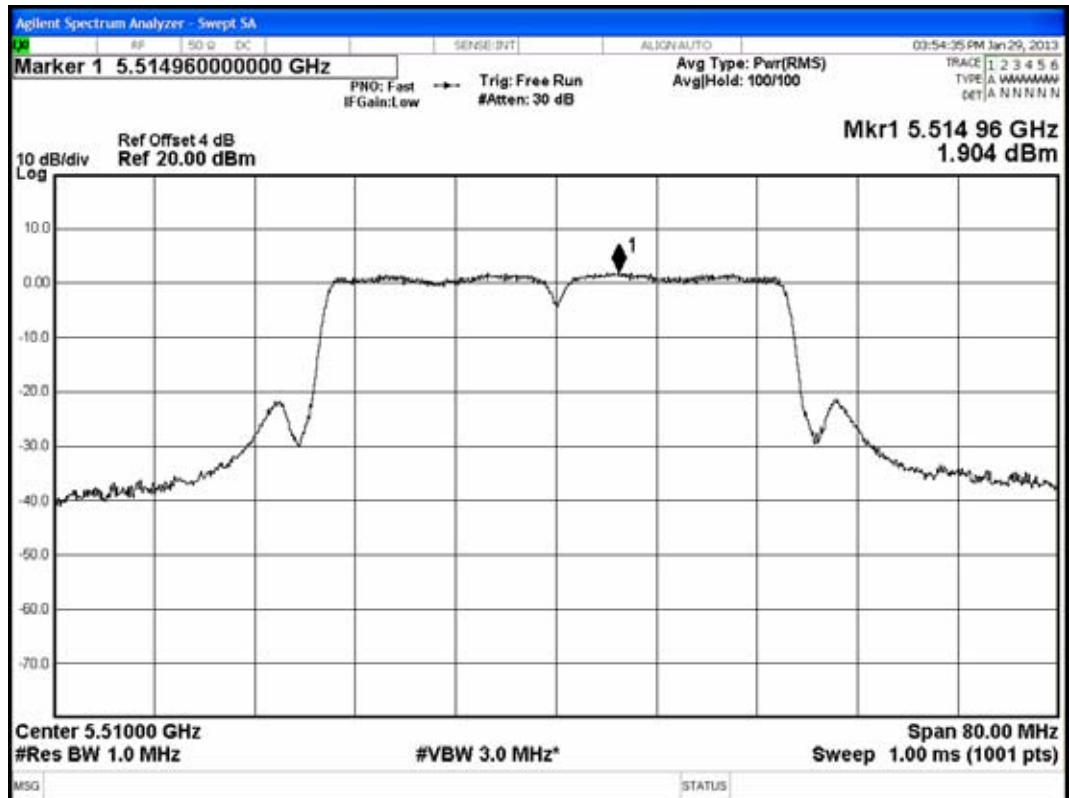
802.11n-HT40 (UNII Band II), Frequency: 5270MHz



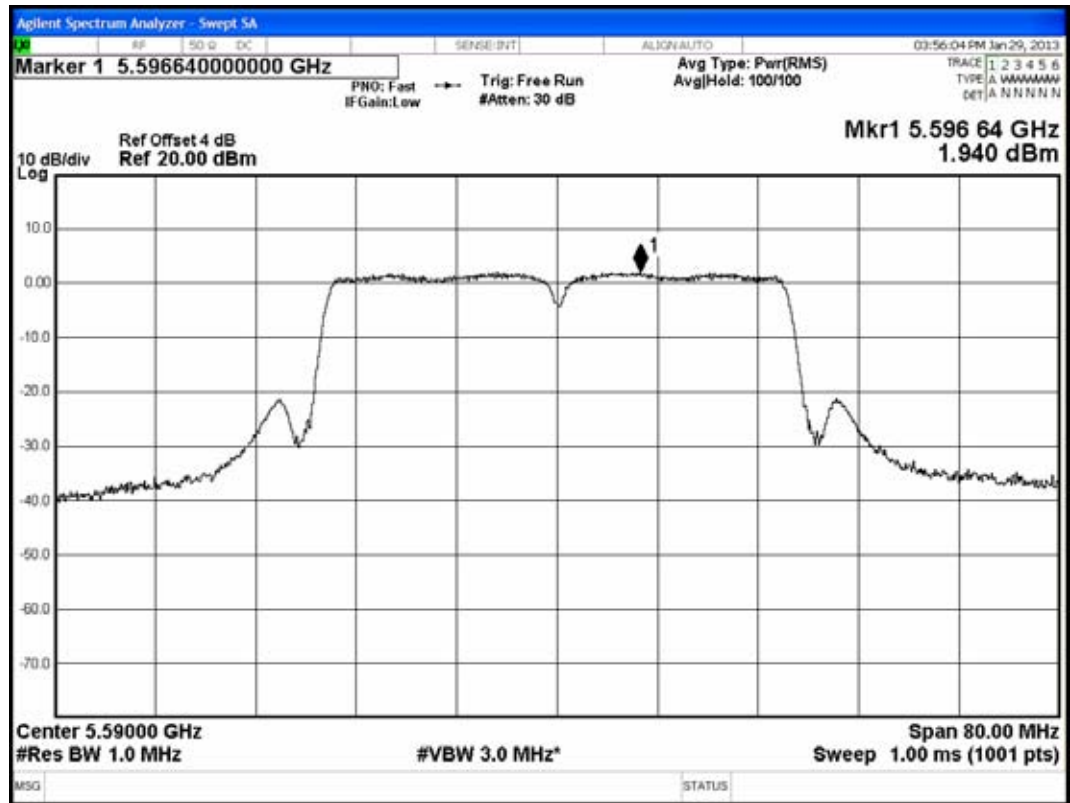
802.11n-HT40 (UNII Band II), Frequency: 5310MHz



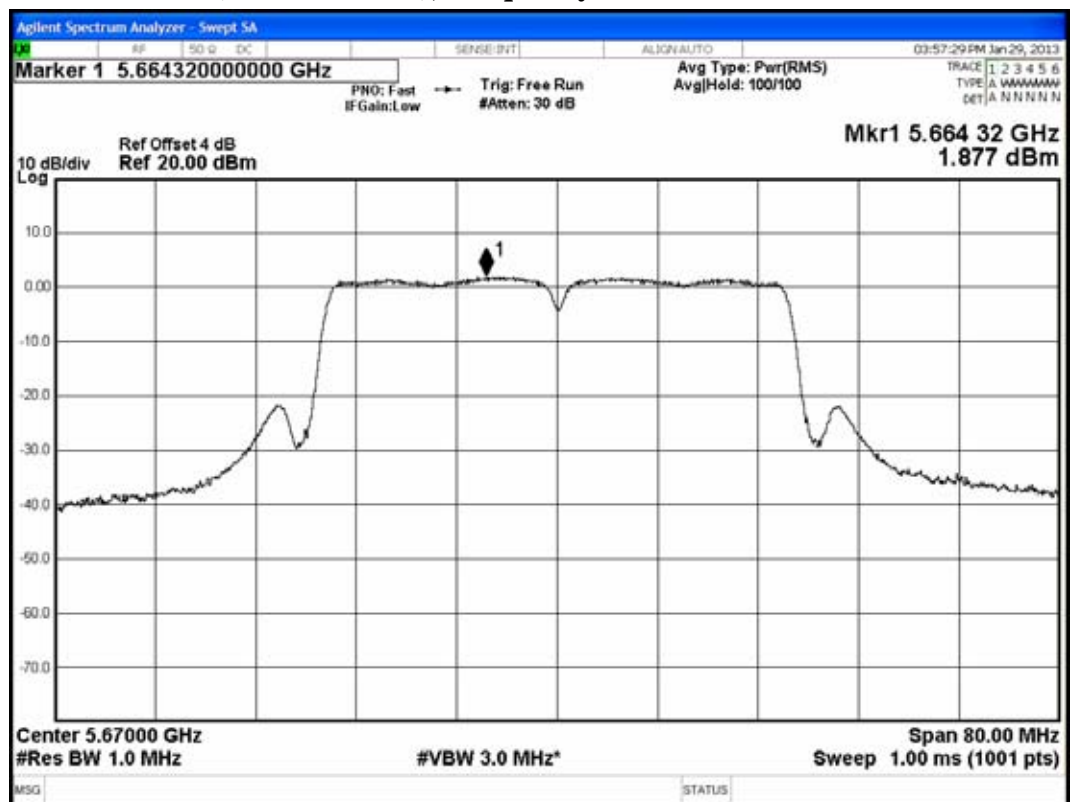
802.11n-HT40 (UNII Band III), Frequency: 5510MHz



802.11n-HT40 (UNII Band III), Frequency: 5590MHz



802.11n-HT40 (UNII Band III), Frequency: 5670MHz



8. PEAK POWER EXCURSION MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'

8.2. Block Diagram of Test Setup

The same as section.4.2.

8.3. Specification Limits (§15.407(a)-(6))

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13dB across any 1MHz bandwidth or the emission bandwidth whichever is less.

8.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

8.5. Test Procedure

For 1st trace:

Find the maximum of the peak-max-hold spectrum.

1. Set RBW=1MHz
2. Set VBW \leq 3MHz
3. Detector=peak.
4. Trace mode=max-hold.
5. Allow the sweeps to continue until the trace stabilizes.
6. Use the peak search function to find the peak of the spectrum.

For 2st trace:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW=1MHz
3. Set VBW \geq 3MHz
4. Detector=RMS (i.e., power averaging), if available, Otherwise, use sample detector mode.
5. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
6. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.

The measurement guideline was according to KDB789033 D01-v01r02

The measurement guideline was according to RSS-Gen.

Pursuant to KDB 662911, we performed conducted tests for both antenna chains and submit test data measured on chain 0 as worse performance.

8.6. Test Results

PASSED. All the test results are attached in next pages.

Pursuant to KDB 662911, the test results of 802.11n-H20/H40 have been included 3 dB is calculated from $10\log(N)$, where N is the number of outputs.

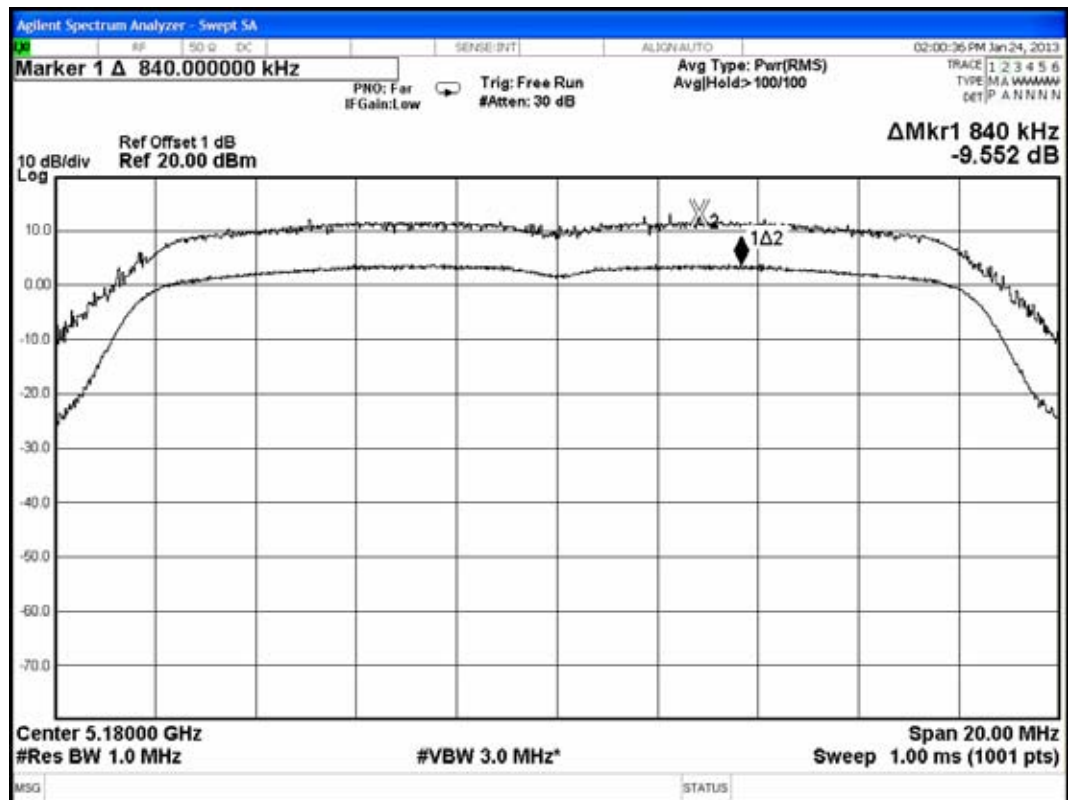
8.6.1. For 802.11a

Test Date: Jan. 24, 2013 Temperature: 24 Humidity: 52%

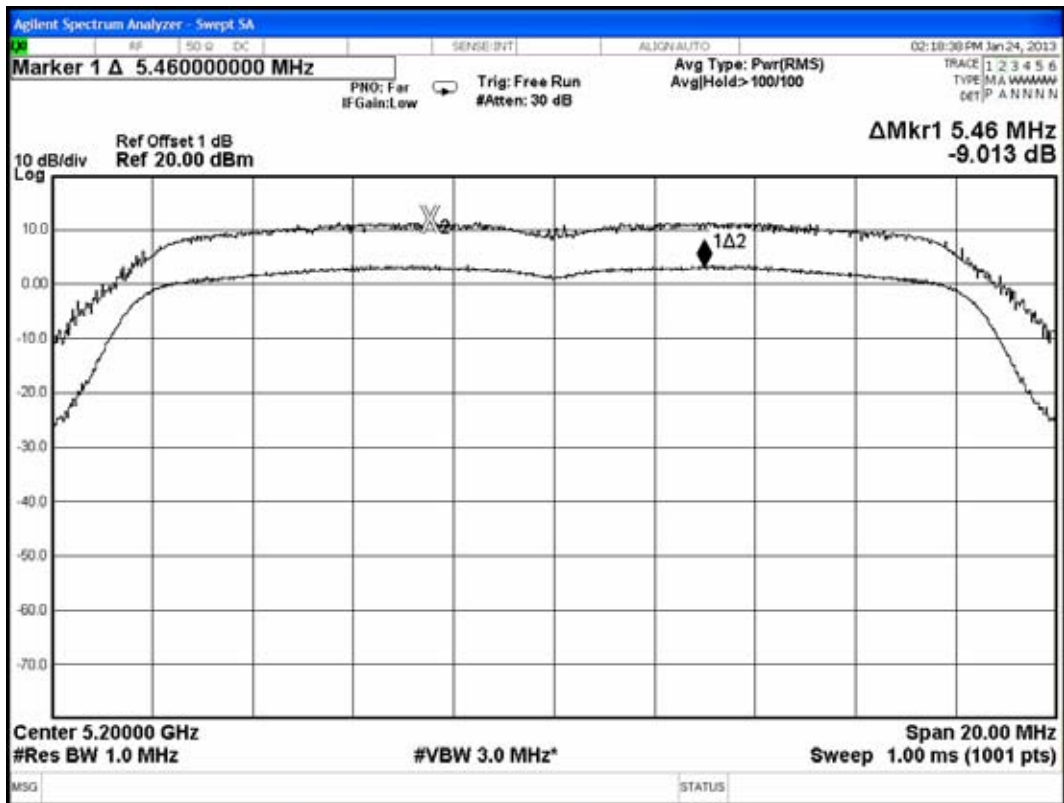
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Peak Power Excursion (dB)	Limit (dB)
1.	UNII Band I	CH 36	5180MHz	-9.552	13
2.		CH 40	5200MHz	-9.013	13
3.		CH 48	5240MHz	-9.015	13
4.	UNII Band II	CH 52	5260MHz	-8.742	13
5.		CH 56	5280MHz	-8.764	13
6.		CH 64	5320MHz	-8.786	13
7.	UNII Band III	CH 100	5500MHz	-8.691	13
8.		CH 116	5580MHz	-8.806	13
9.		CH 140	5700MHz	-7.849	13

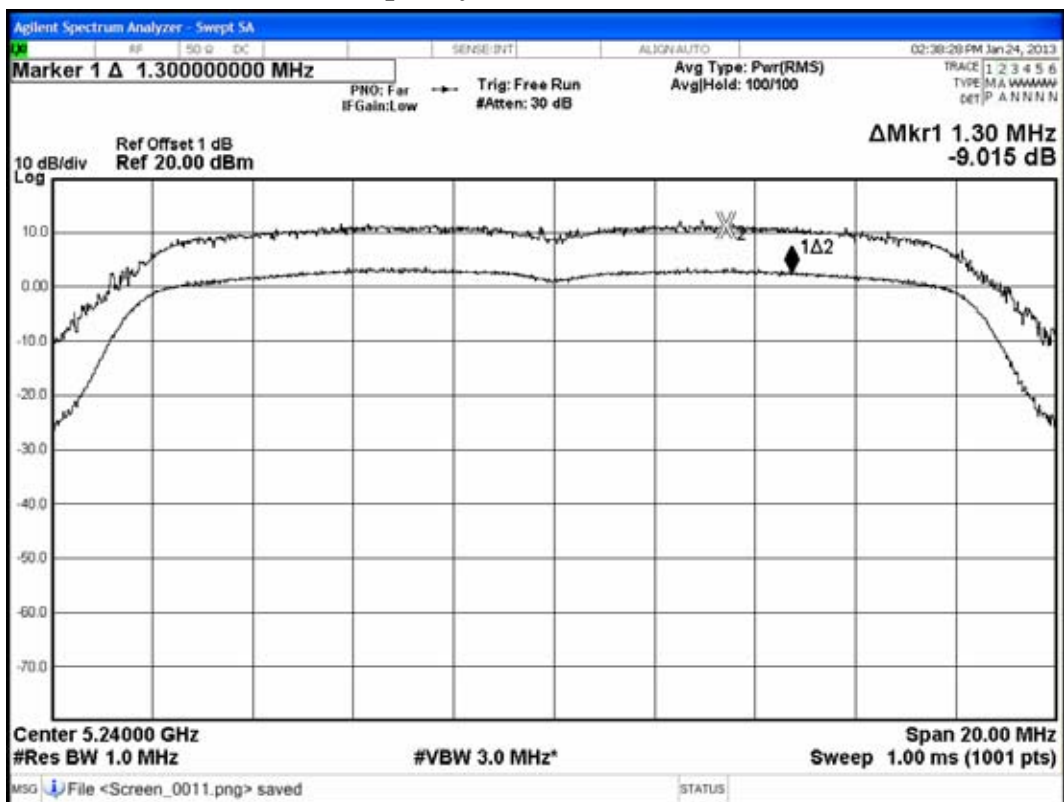
802.11a (UNII Band I), Frequency: 5180MHz



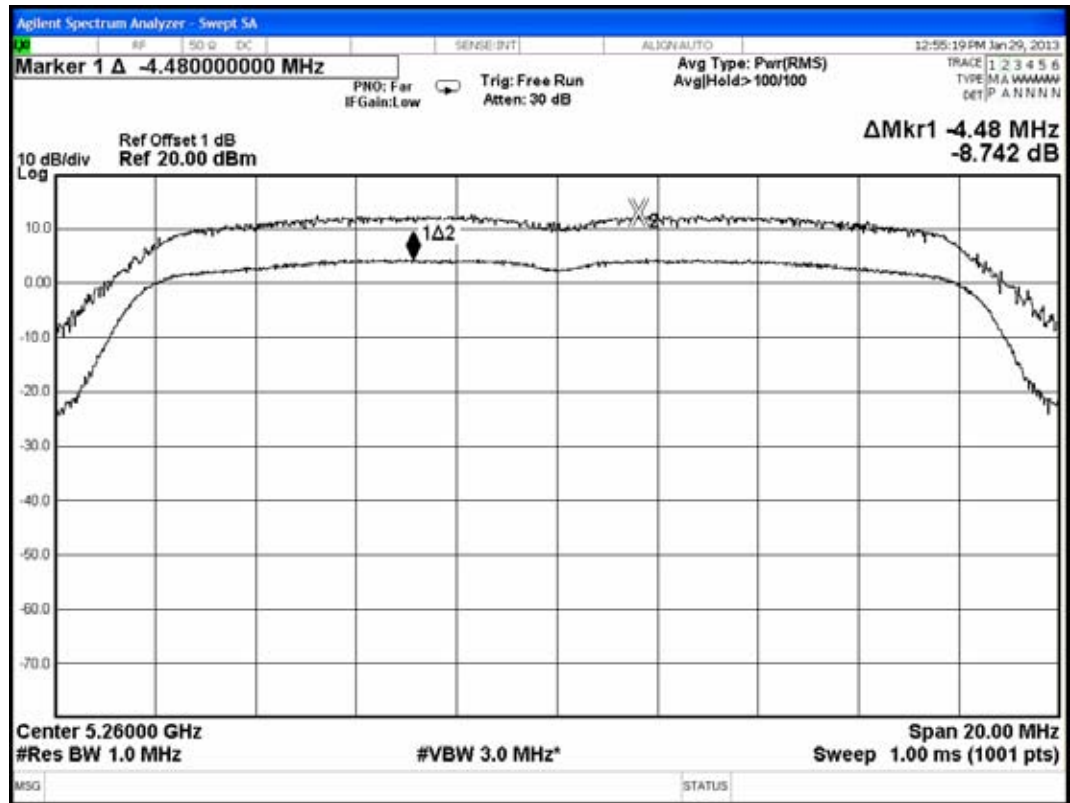
802.11a (UNII Band I), Frequency: 5200MHz



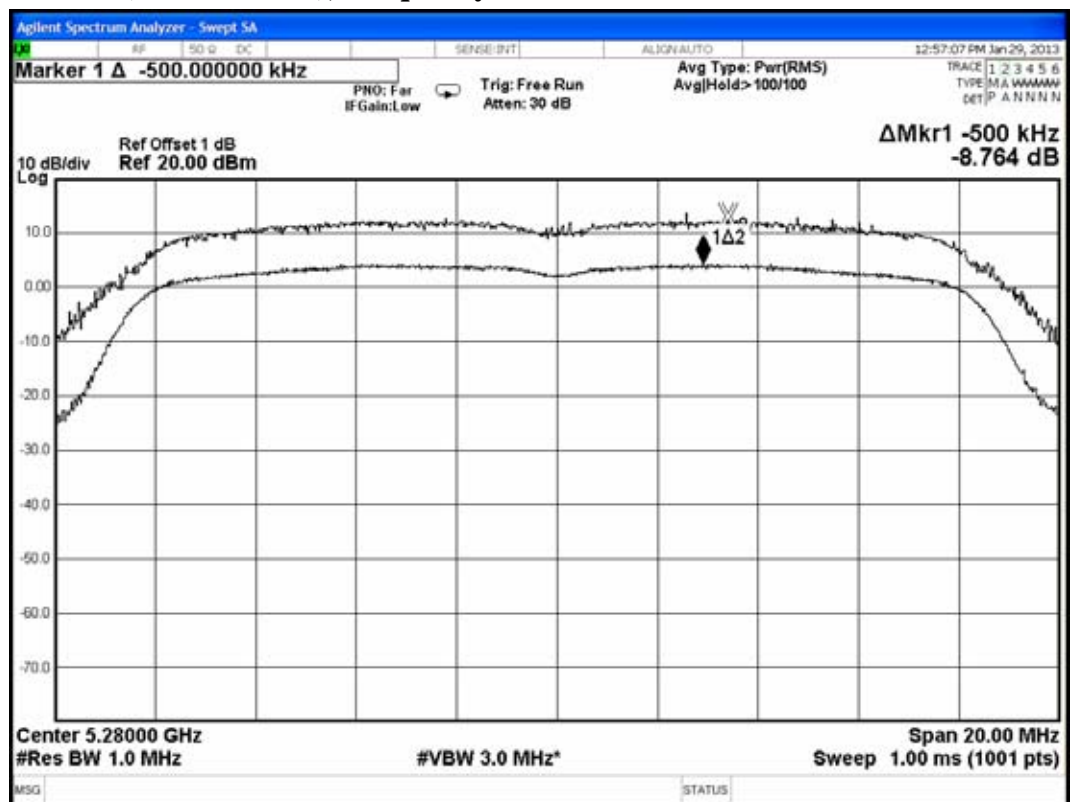
802.11a (UNII Band I), Frequency: 5240MHz



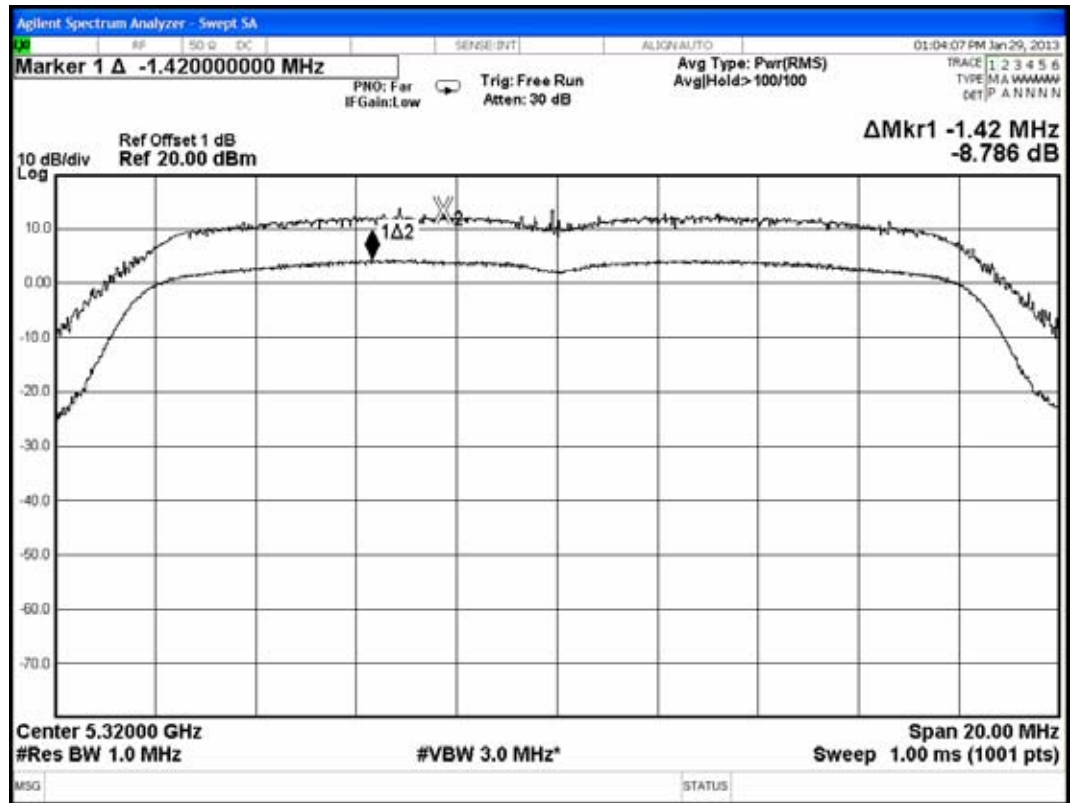
802.11a (UNII Band II), Frequency: 5260MHz



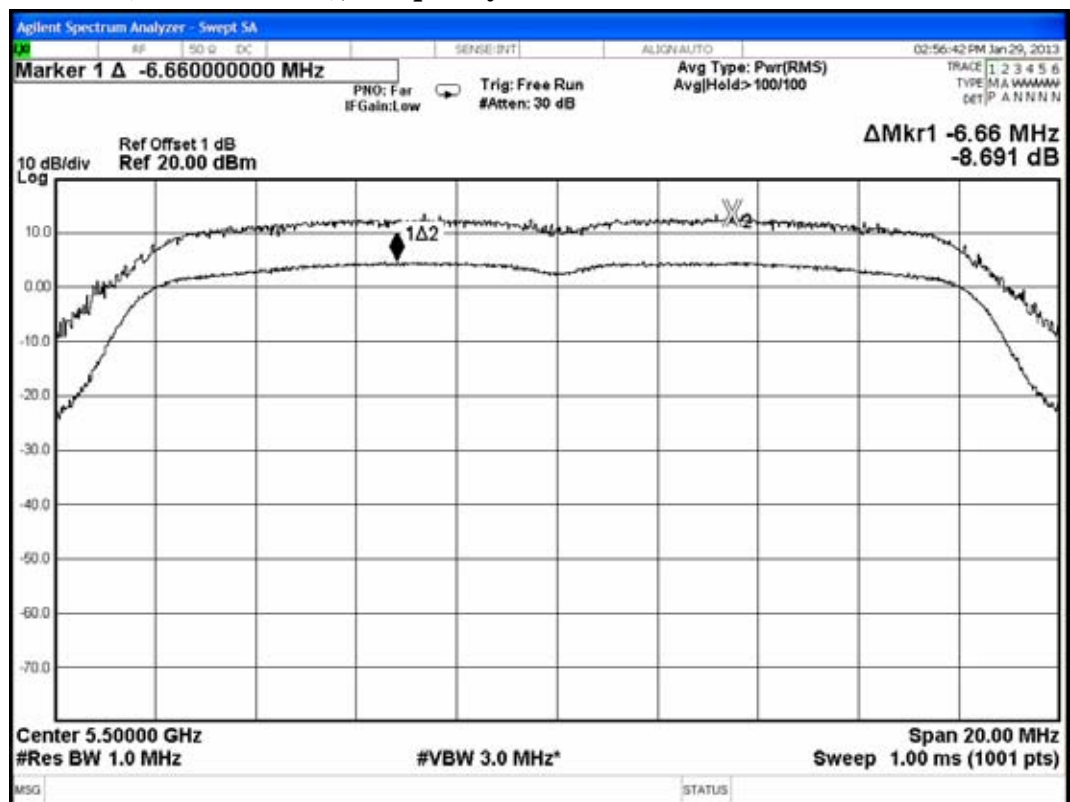
802.11a (UNII Band II), Frequency: 5280MHz



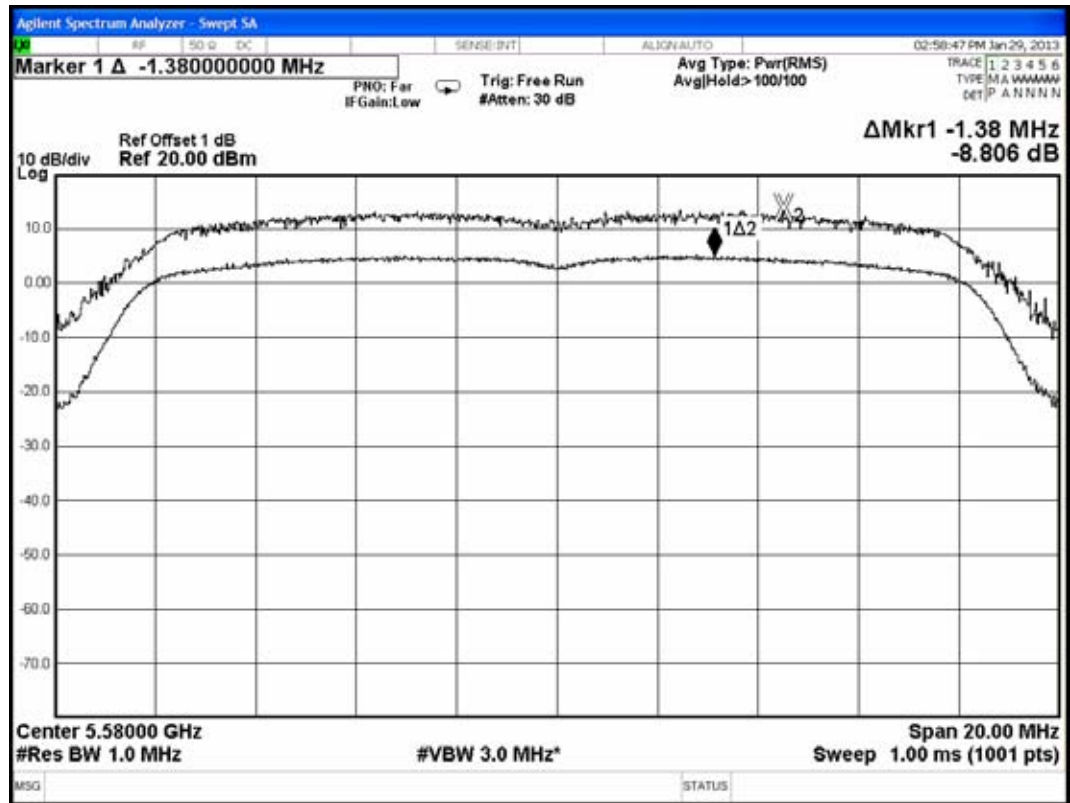
802.11a (UNII Band II), Frequency: 5320MHz



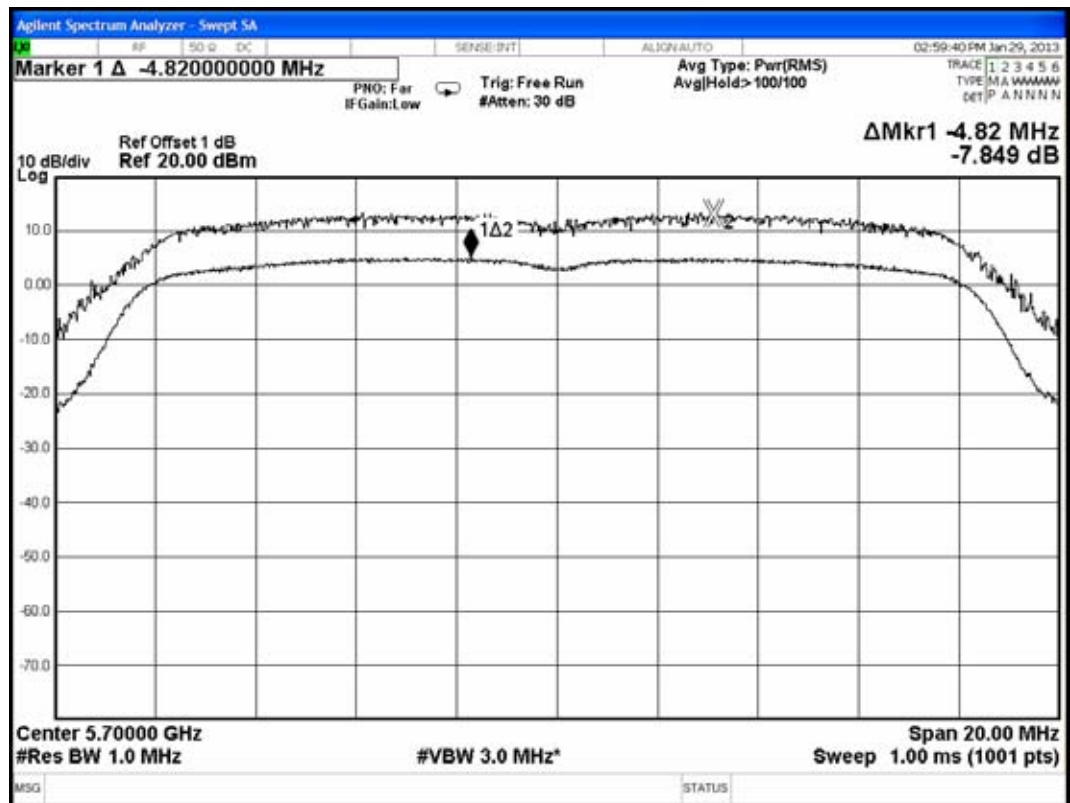
802.11a (UNII Band III), Frequency: 5500MHz



802.11a (UNII Band III), Frequency: 5580MHz



802.11a (UNII Band III), Frequency: 5700MHz



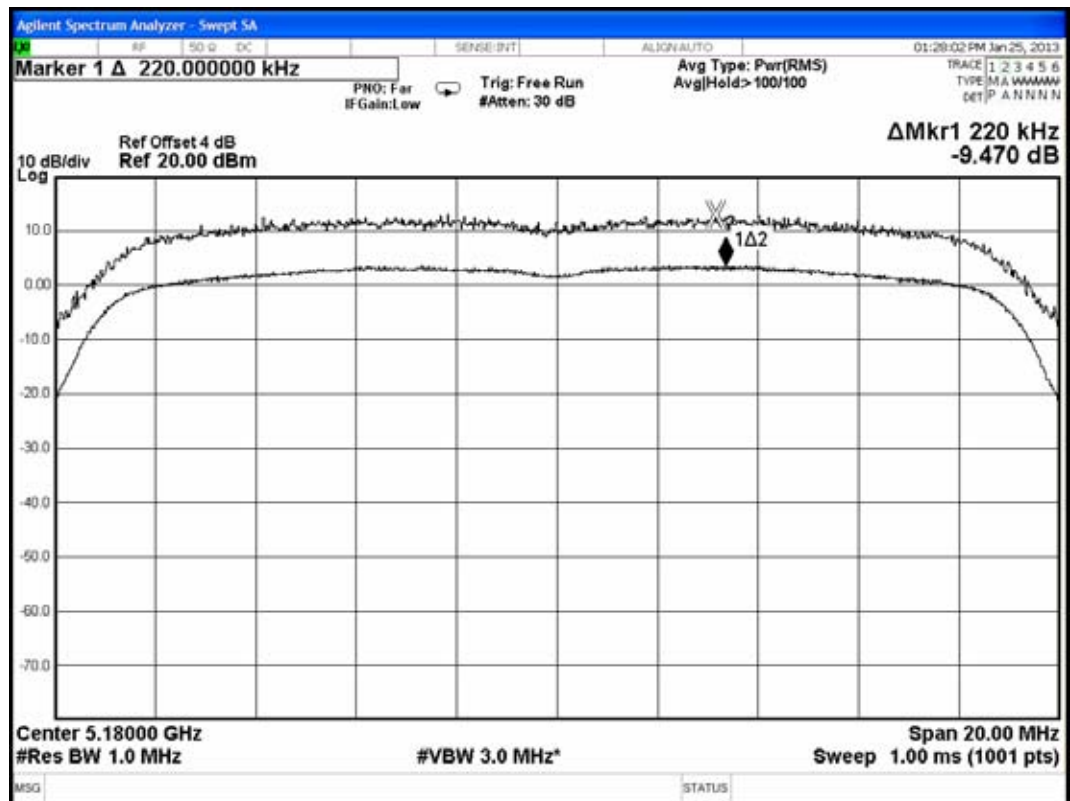
8.6.2.For 802.11n-HT20

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

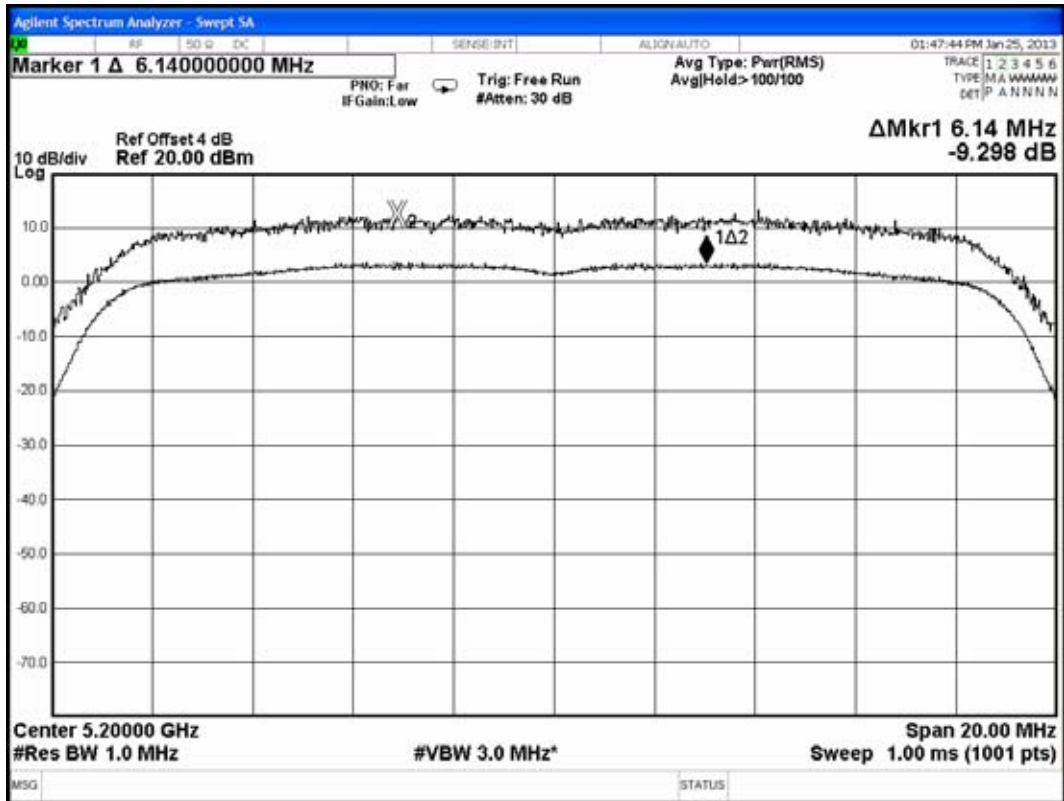
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Peak Power Excursion (dB)	Limit (dB)
1.	UNII Band I	CH 36	5180MHz	-9.470	13
2.		CH 40	5200MHz	-9.298	13
3.		CH 48	5240MHz	-9.048	13
4.	UNII Band II	CH 52	5260MHz	-8.902	13
5.		CH 56	5280MHz	-9.134	13
6.		CH 64	5320MHz	-8.930	13
7.	UNII Band III	CH 100	5500MHz	-9.385	13
8.		CH 116	5580MHz	-8.896	13
9.		CH 140	5700MHz	-9.069	13

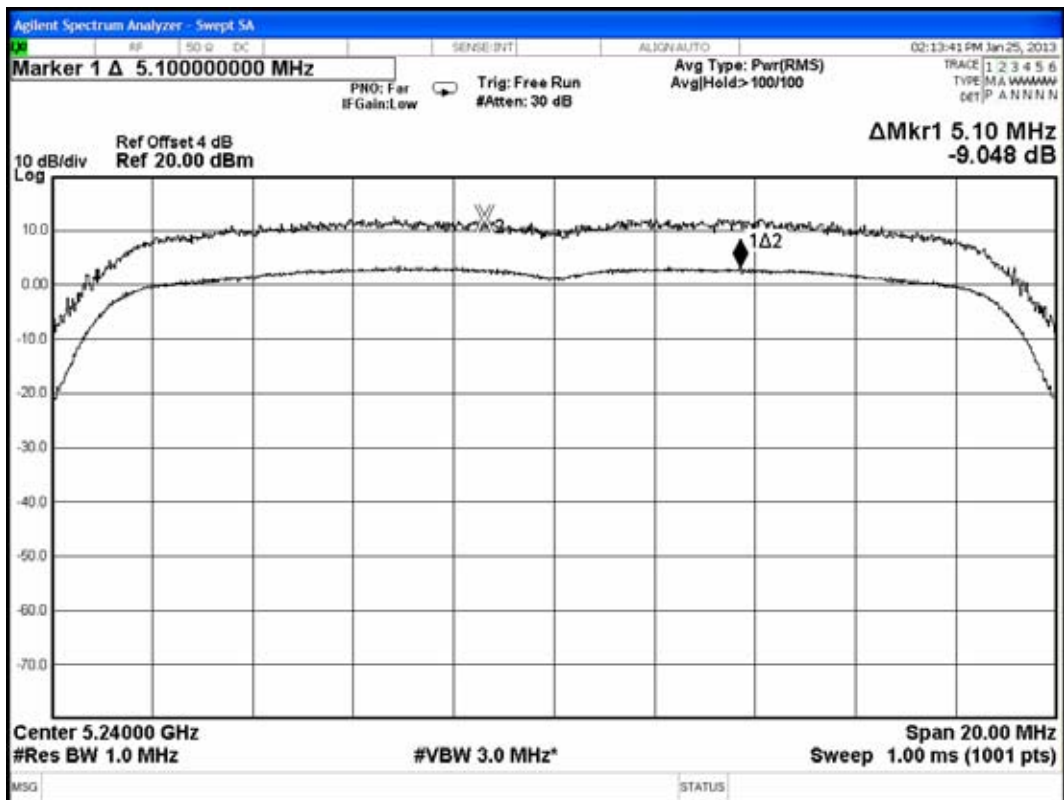
802.11n-HT20 (UNII Band I), Frequency: 5180MHz



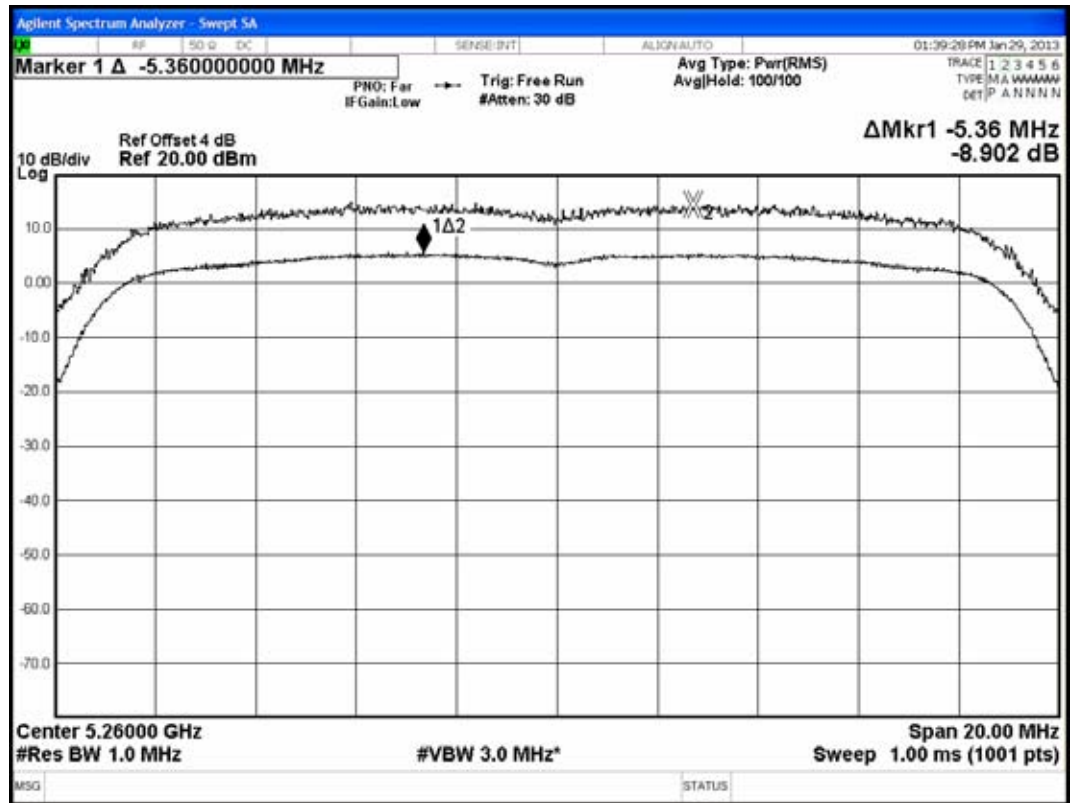
802.11n-HT20 (UNII Band I), Frequency: 5200MHz



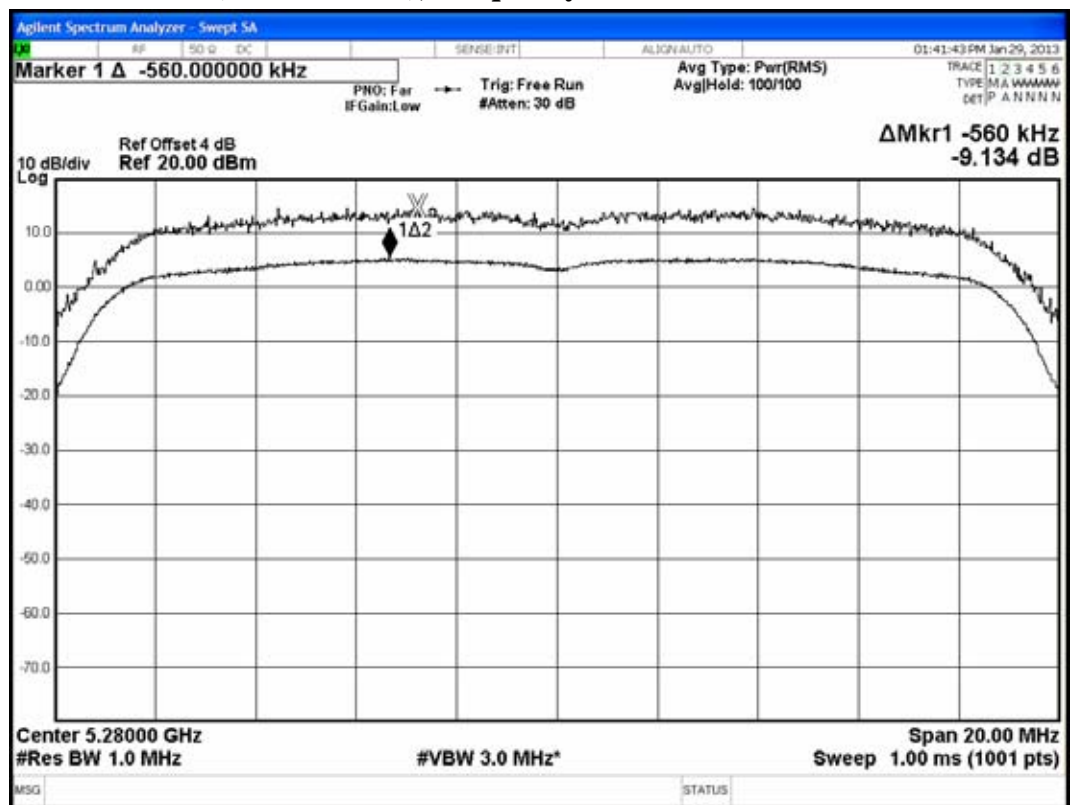
802.11n-HT20 (UNII Band I), Frequency: 5240MHz



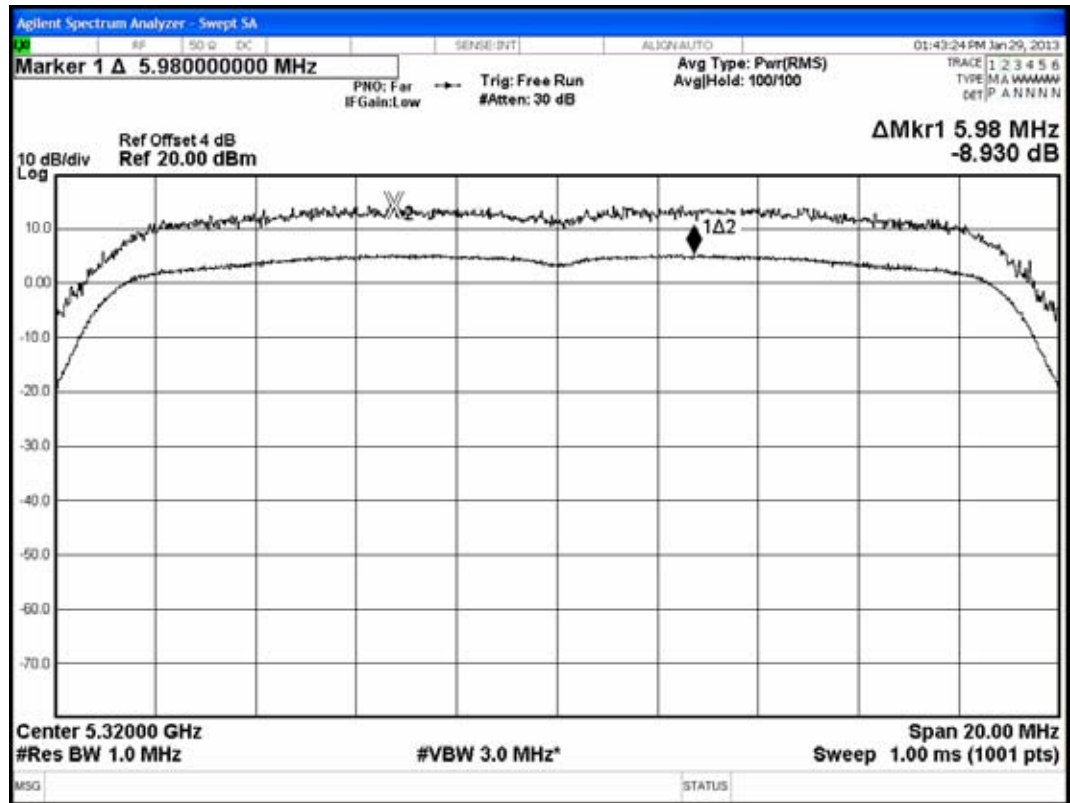
802.11n-HT20 (UNII Band II), Frequency: 5260MHz



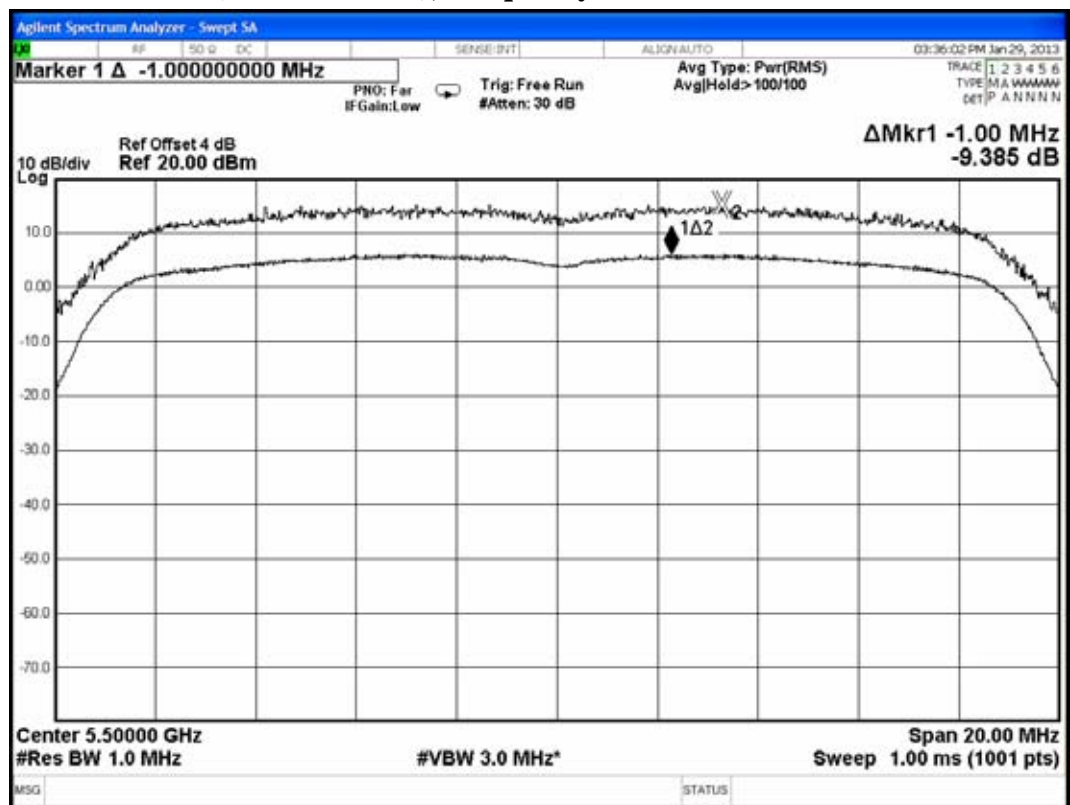
802.11n-HT20 (UNII Band II), Frequency: 5280MHz



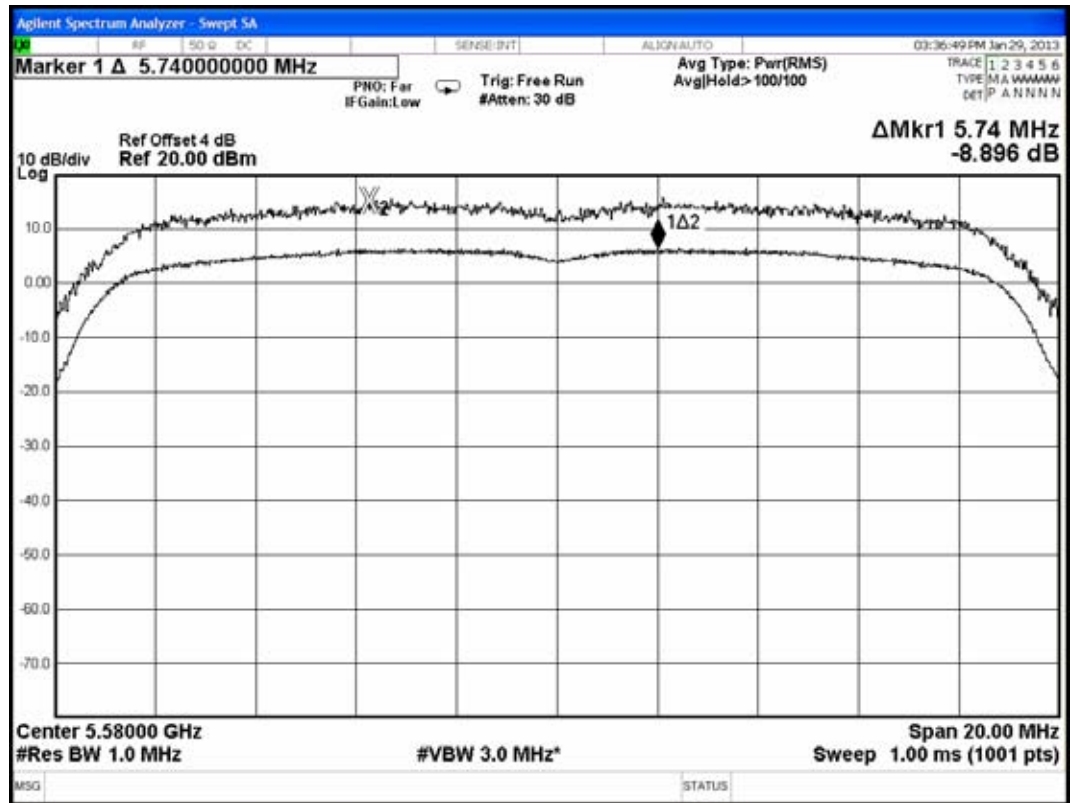
802.11n-HT20 (UNII Band II), Frequency: 5320MHz



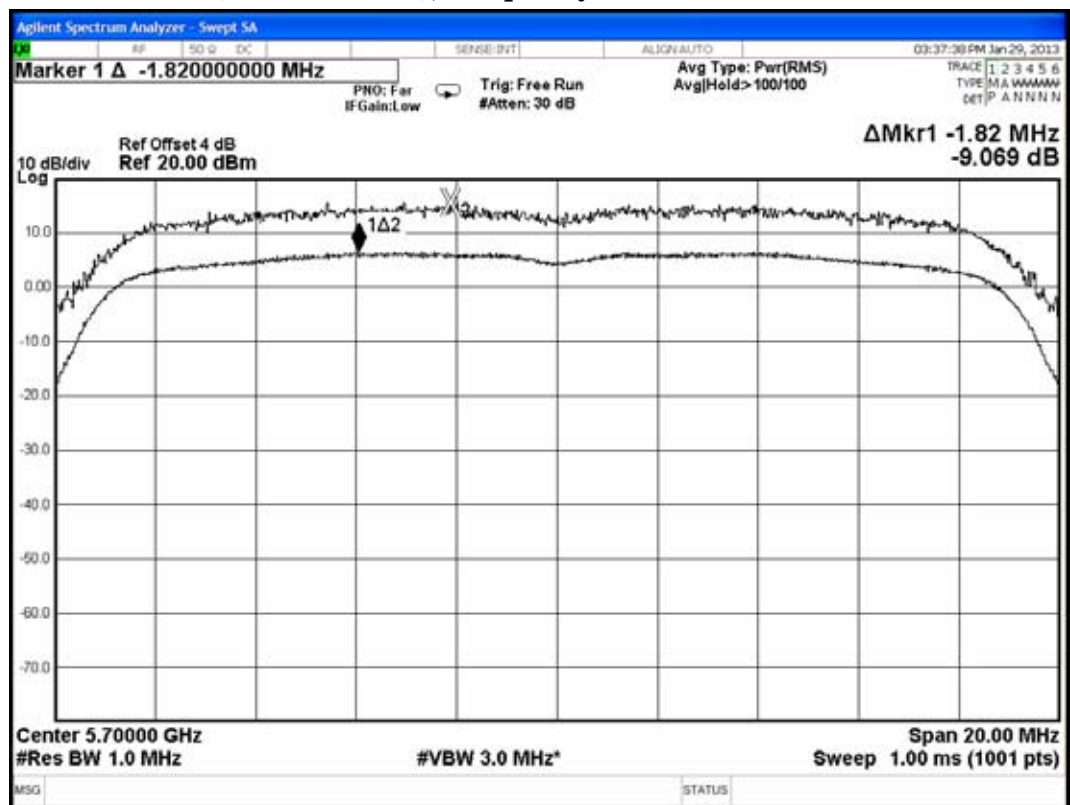
802.11n-HT20 (UNII Band III), Frequency: 5500MHz



802.11n-HT20 (UNII Band III), Frequency: 5580MHz



802.11n-HT20 (UNII Band III), Frequency: 5700MHz



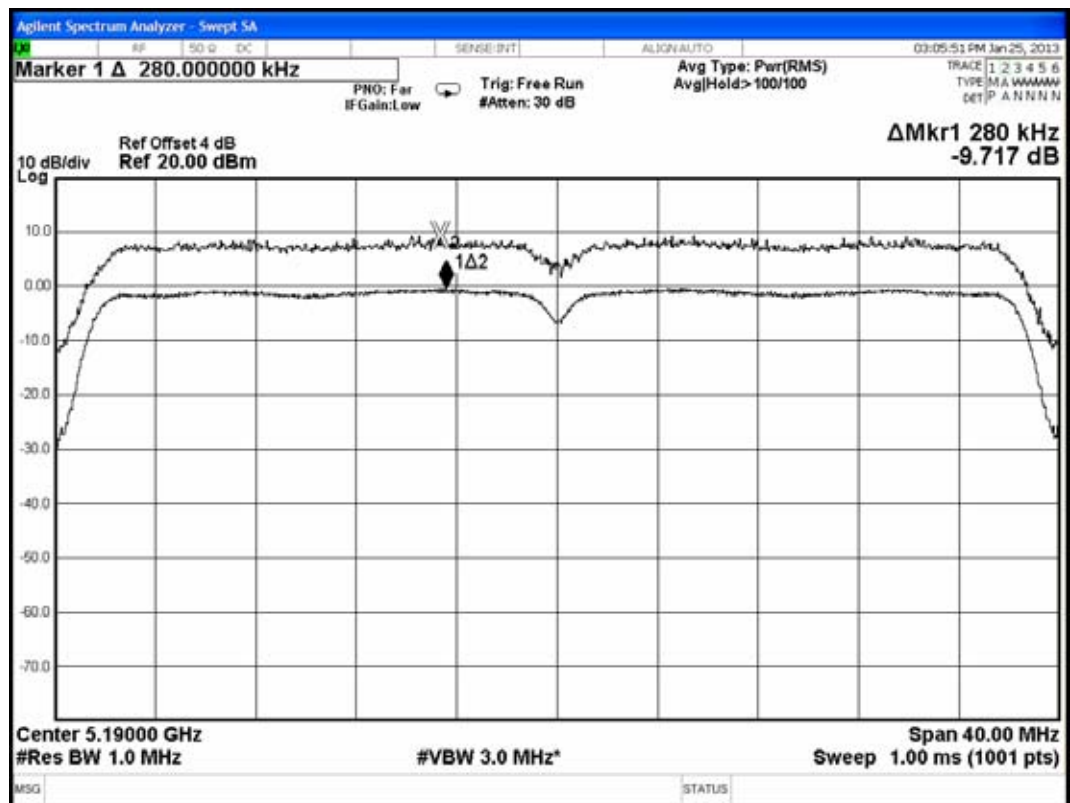
8.6.3.For 802.11n-HT40

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

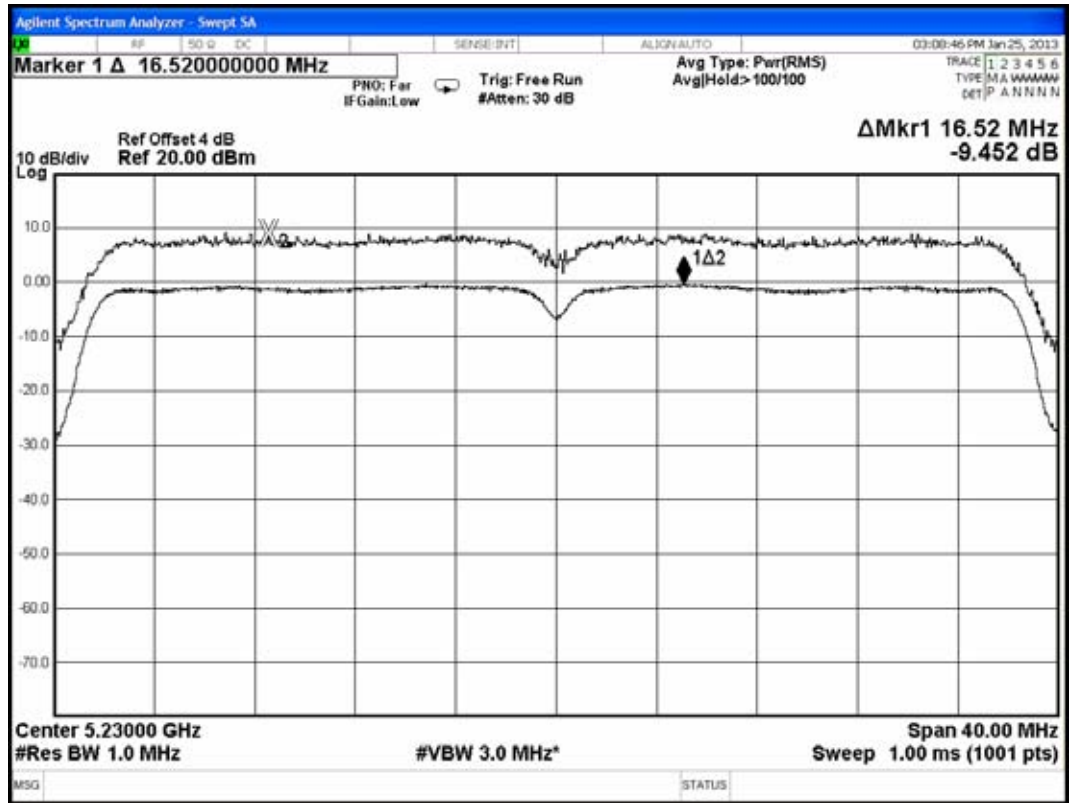
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Power Spectral Density (dB)	Limit (dB)
1.	UNII Band I	CH 38	5190MHz	-9.717	13
2.		CH 46	5230MHz	-9.452	13
3.	UNII Band II	CH 54	5270MHz	-9.389	13
4.		CH 62	5310MHz	-9.565	13
5.	UNII Band III	CH 100	5510MHz	-8.908	13
6.		CH 118	5590MHz	-8.939	13
7.		CH 116	5670MHz	-9.520	13

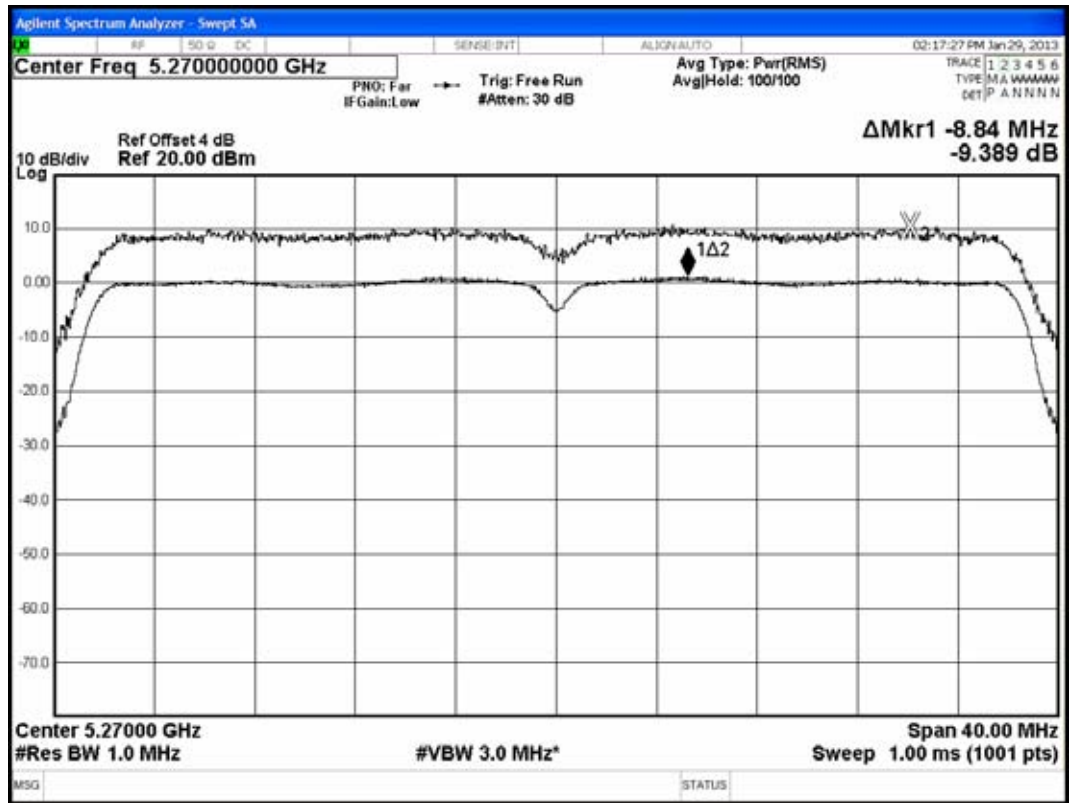
802.11n-HT40 (UNII Band I), Frequency: 5190MHz



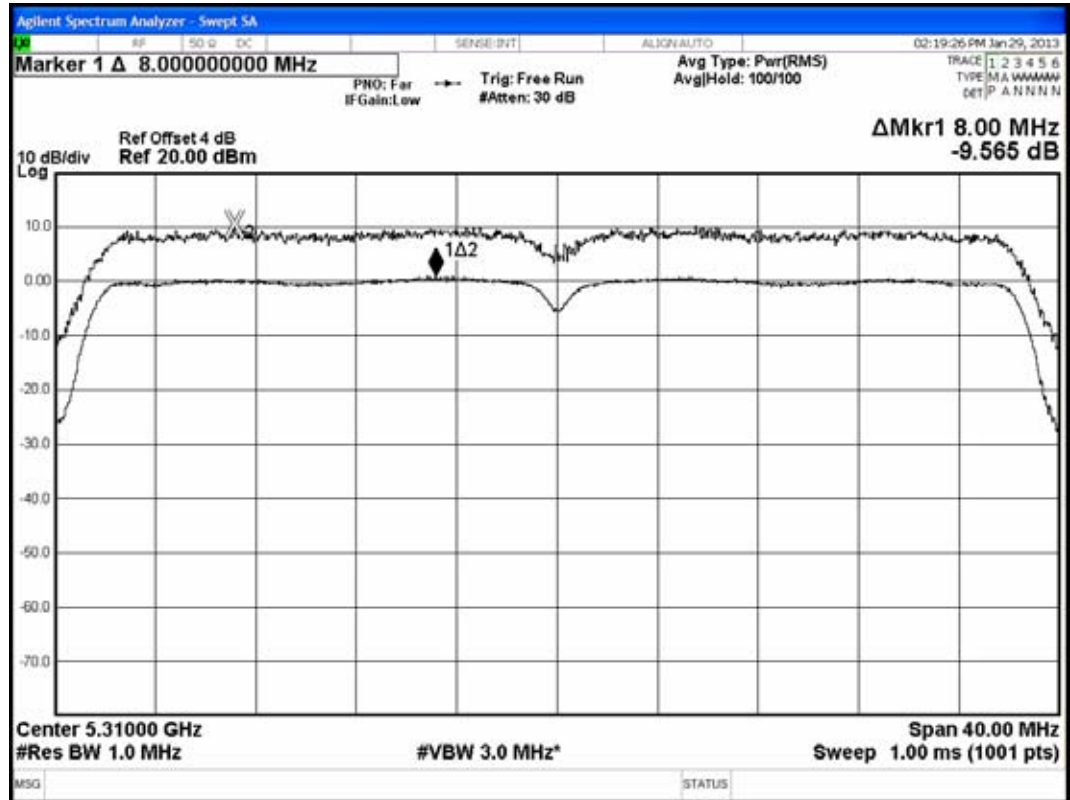
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



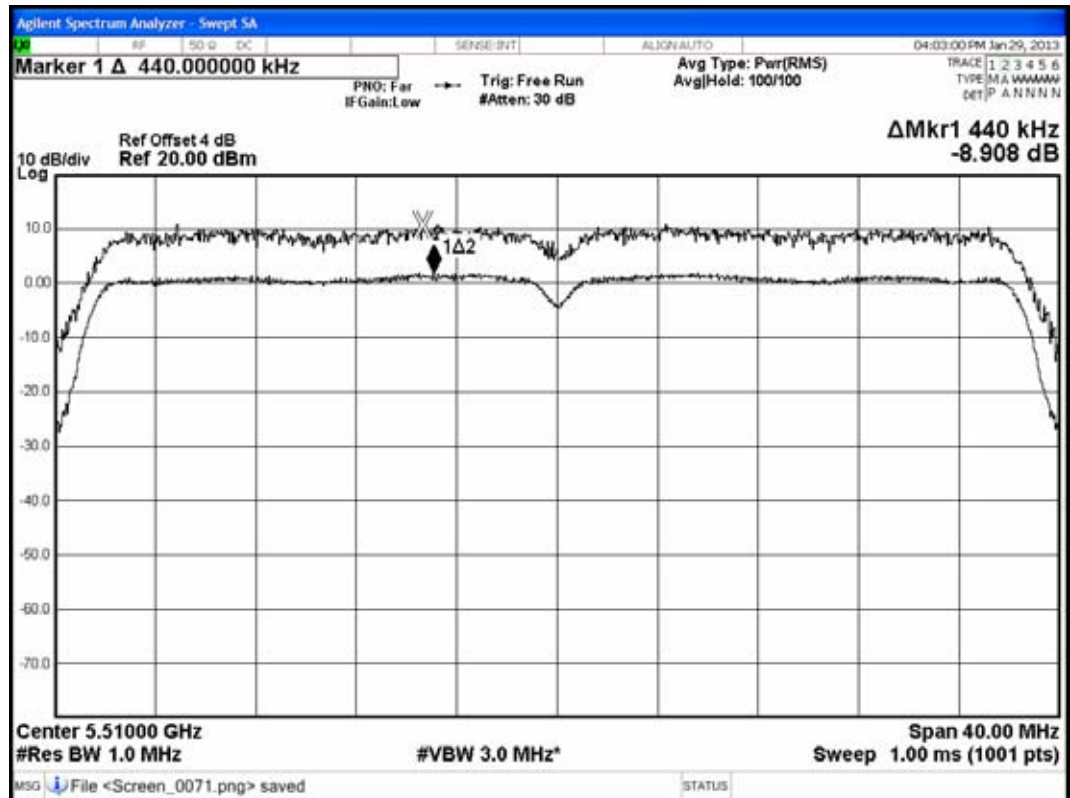
802.11n-HT40 (UNII Band II), Frequency: 5270MHz



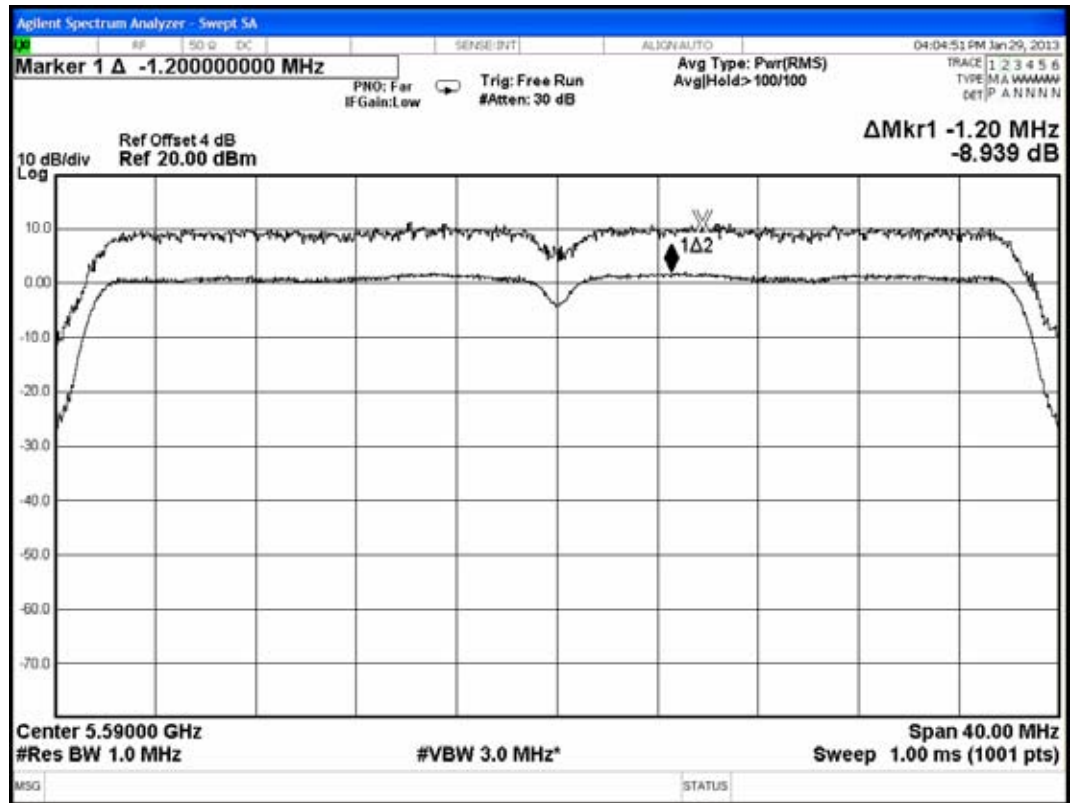
802.11n-HT40 (UNII Band II), Frequency: 5310MHz



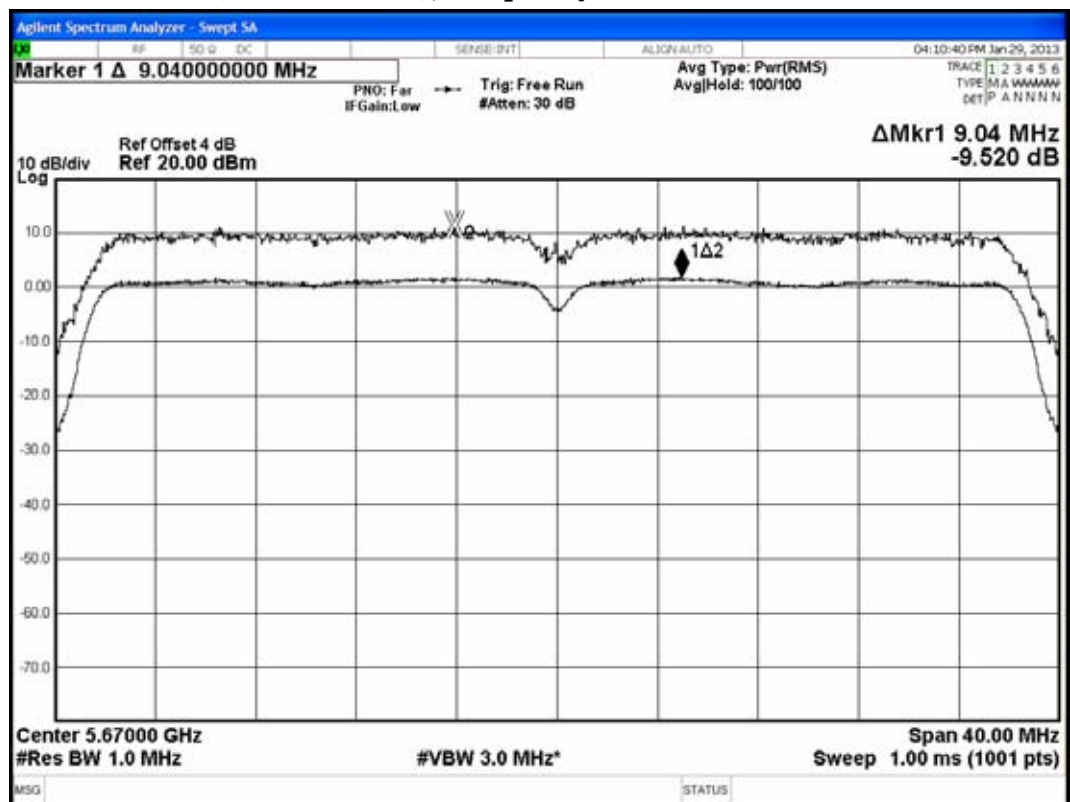
802.11n-HT40 (UNII Band III), Frequency: 5510MHz



802.11n-HT40 (UNII Band III), Frequency: 5590MHz



802.11n-HT40 (UNII Band III), Frequency: 5670MHz



9. OCCUPIED BANDWIDTH 99% POWER MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the occupied bandwidth 99% power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Oct. 17, 12'	Oct. 16, 13'

9.2. Block Diagram of Test Setup

The same as section.4.2.

9.3. Specification [RSS-Gen §4.6.1]

The emission bandwidth may be taken as the bandwidth within which is 99% of the transmitter output power. The 20 dB bandwidth may also be used instead, when the spectral density has decreased by 20 dB from the in band spectral density. For the determination of the 20 dB bandwidth, the measurement bandwidth should be in the order of 1.0% of the emission bandwidth and VBW=3 times RBW.

9.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

9.5. Test Procedure

The RF output of EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 20kHz RBW and 62kHz VBW, set span = 15MHz and sweep time = auto.

The measurement guideline was according to RSS-Gen.

9.6. Test Results

PASSED. All the test results are attached in next pages.

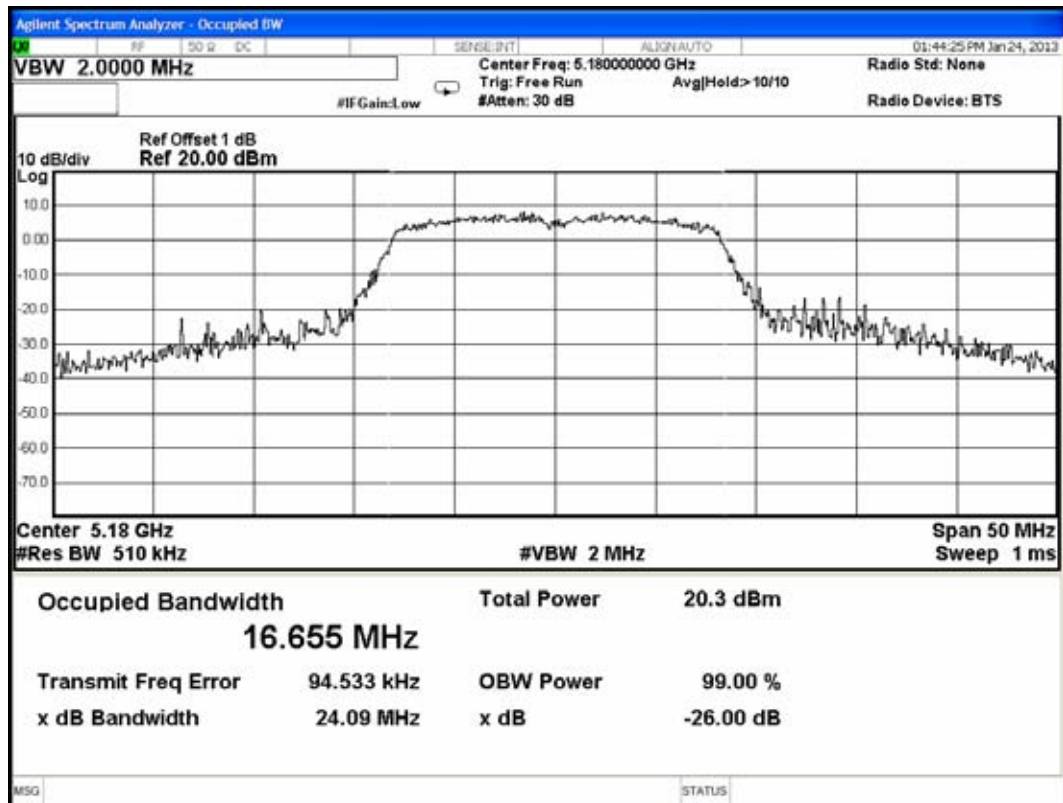
9.6.1. For 802.11a

Test Date: Jan. 24, 2013 Temperature: 24 Humidity: 52%

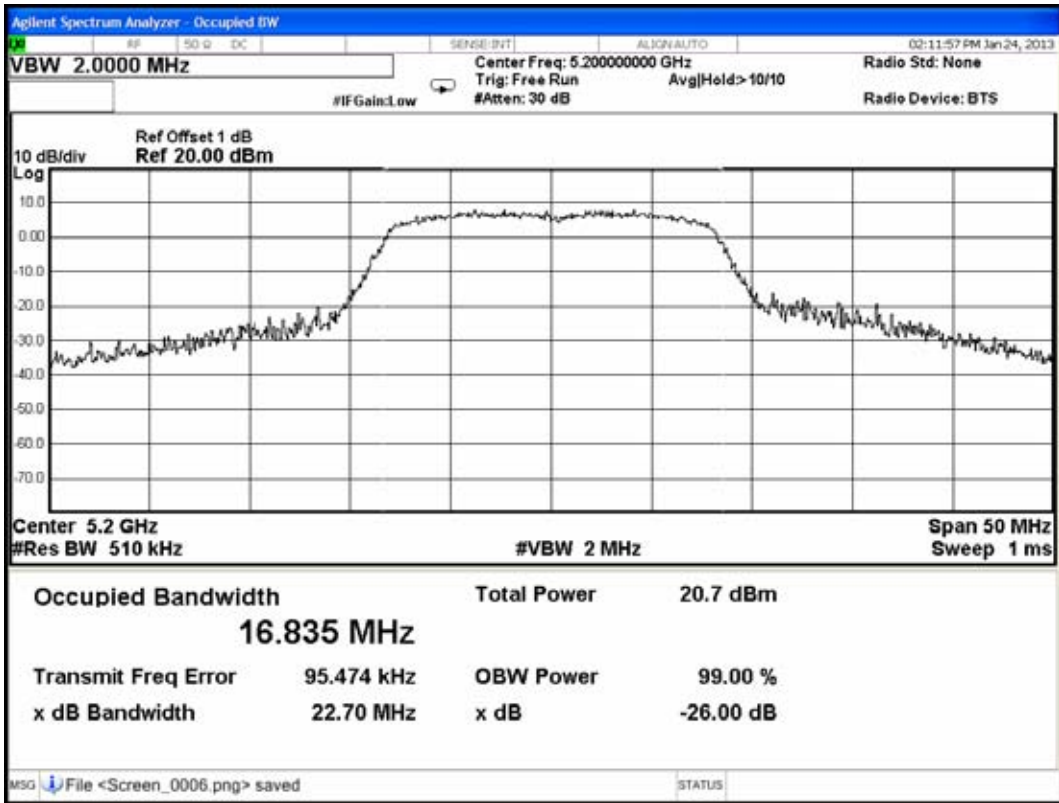
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Occupied Bandwidth (MHz)
1.	UNII Band I	CH 36	5180MHz	16.655
2.		CH 40	5200MHz	16.835
3.		CH 48	5240MHz	16.666
4.	UNII Band II	CH 52	5260MHz	16.682
5.		CH 56	5280MHz	16.713
6.		CH 64	5320MHz	16.688
7.	UNII Band III	CH 100	5500MHz	16.712
8.		CH 116	5580MHz	16.688
9.		CH 140	5700MHz	16.723

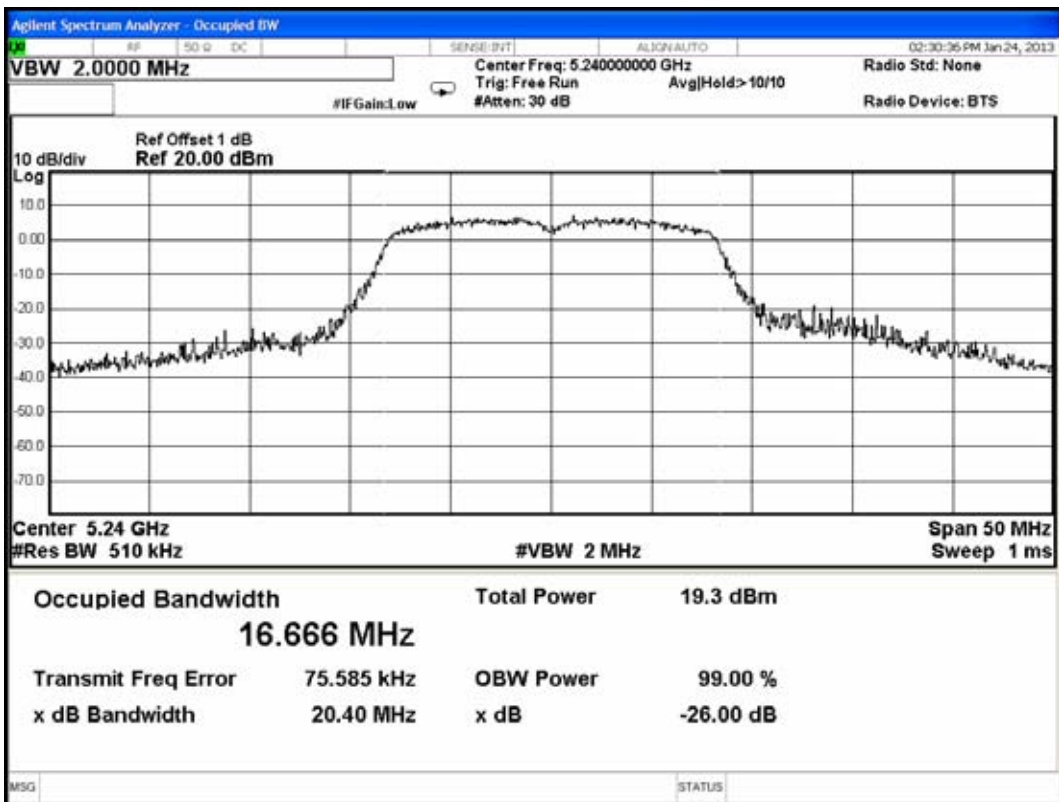
802.11a (UNII Band I), Frequency: 5180MHz



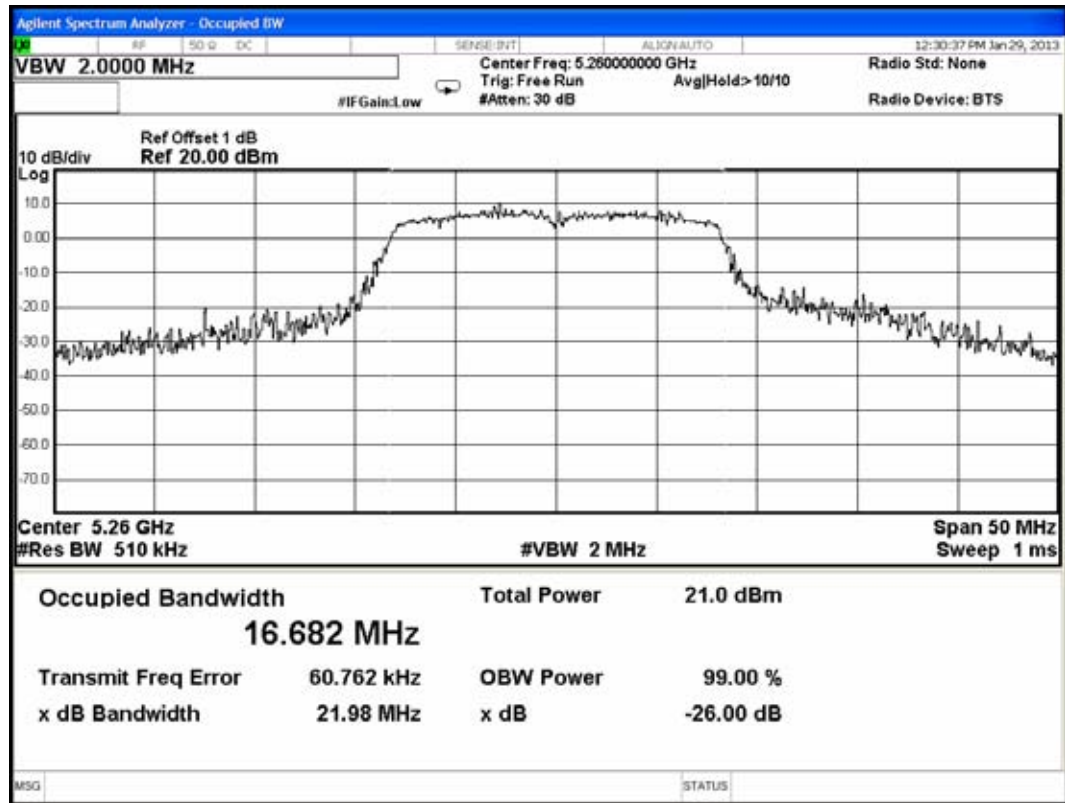
802.11a (UNII Band I), Frequency: 5200MHz



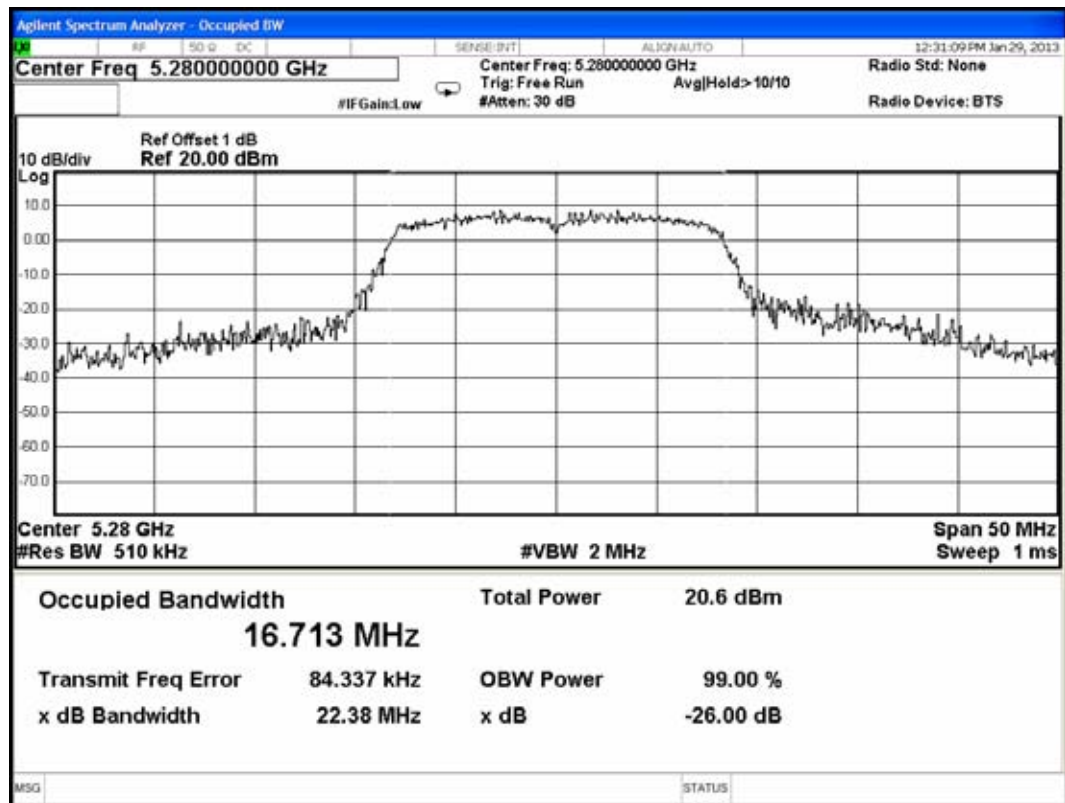
802.11a (UNII Band I), Frequency: 5240MHz



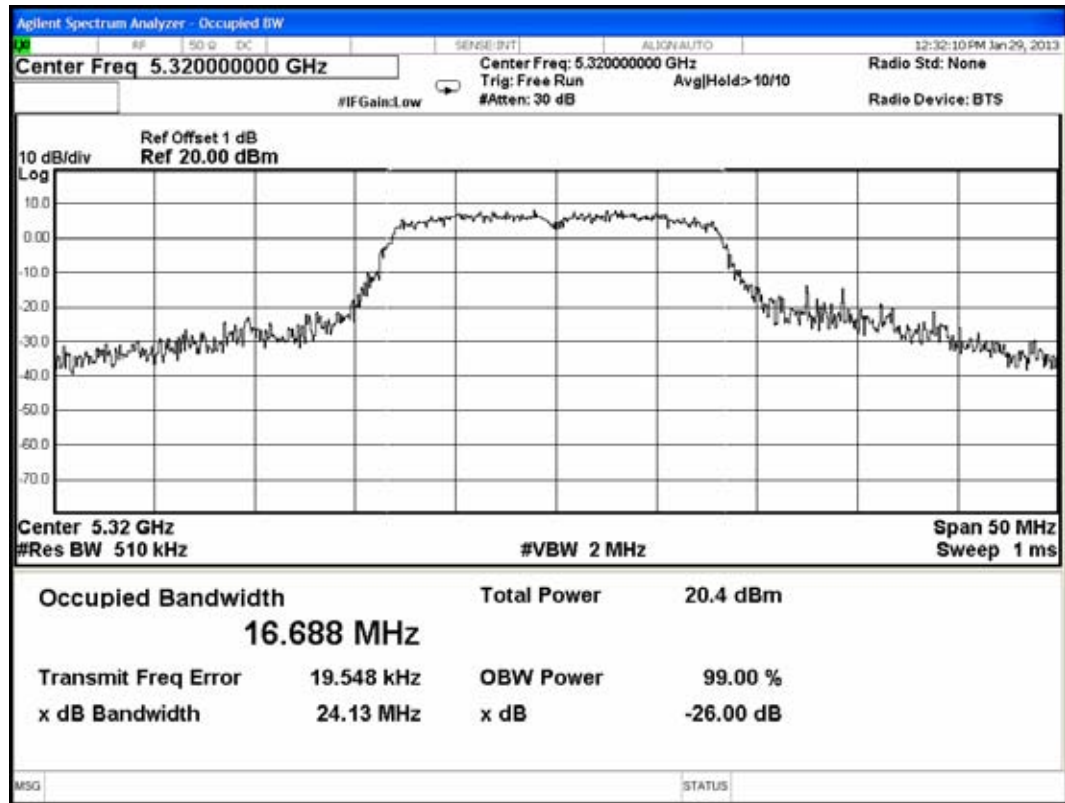
802.11a (UNII Band II), Frequency: 5260MHz



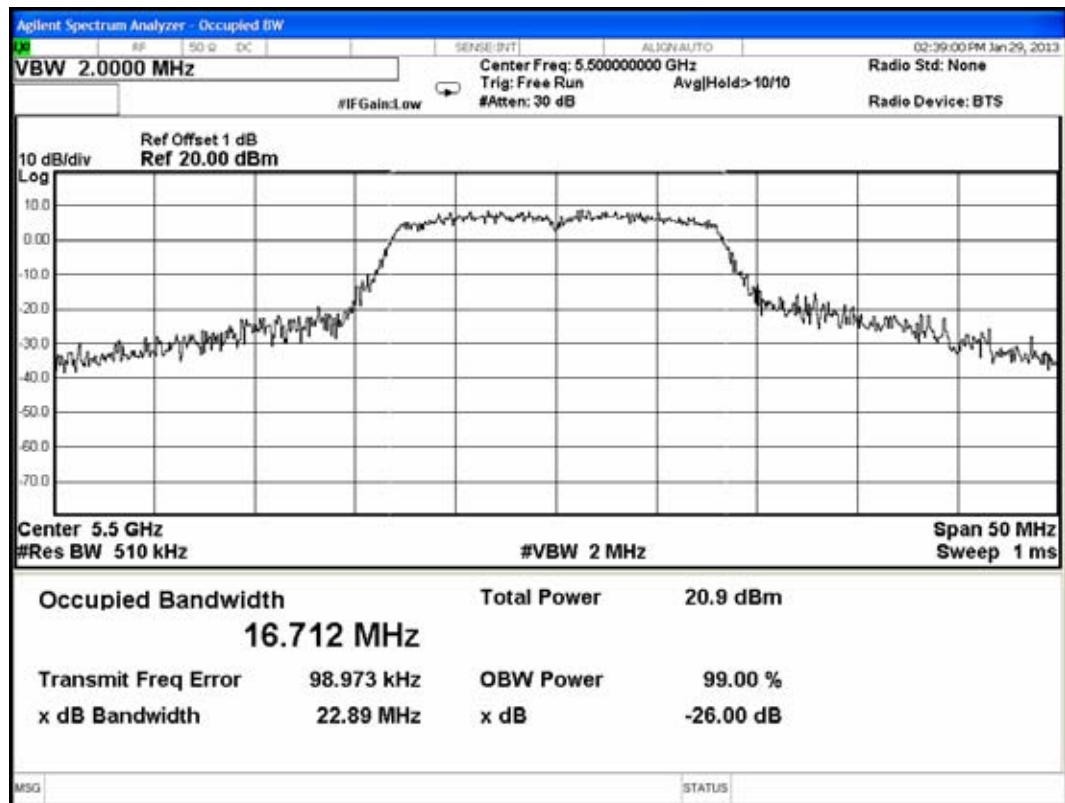
802.11a (UNII Band II), Frequency: 5280MHz



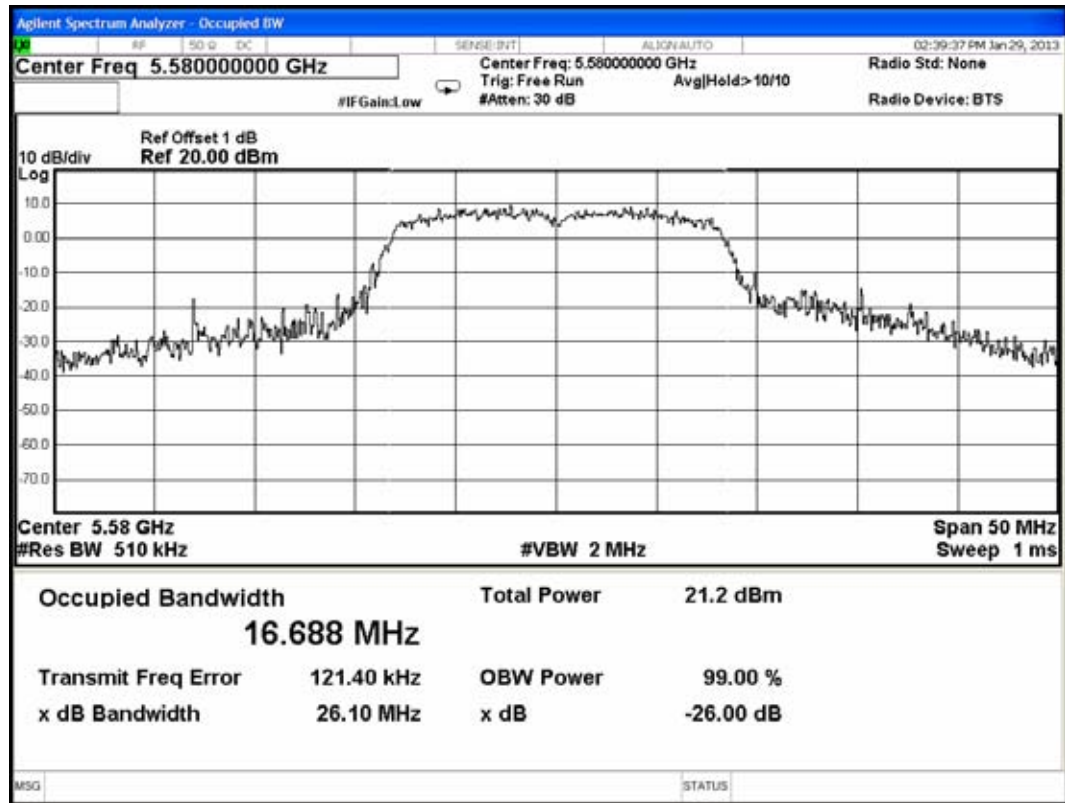
802.11a (UNII Band II), Frequency: 5320MHz



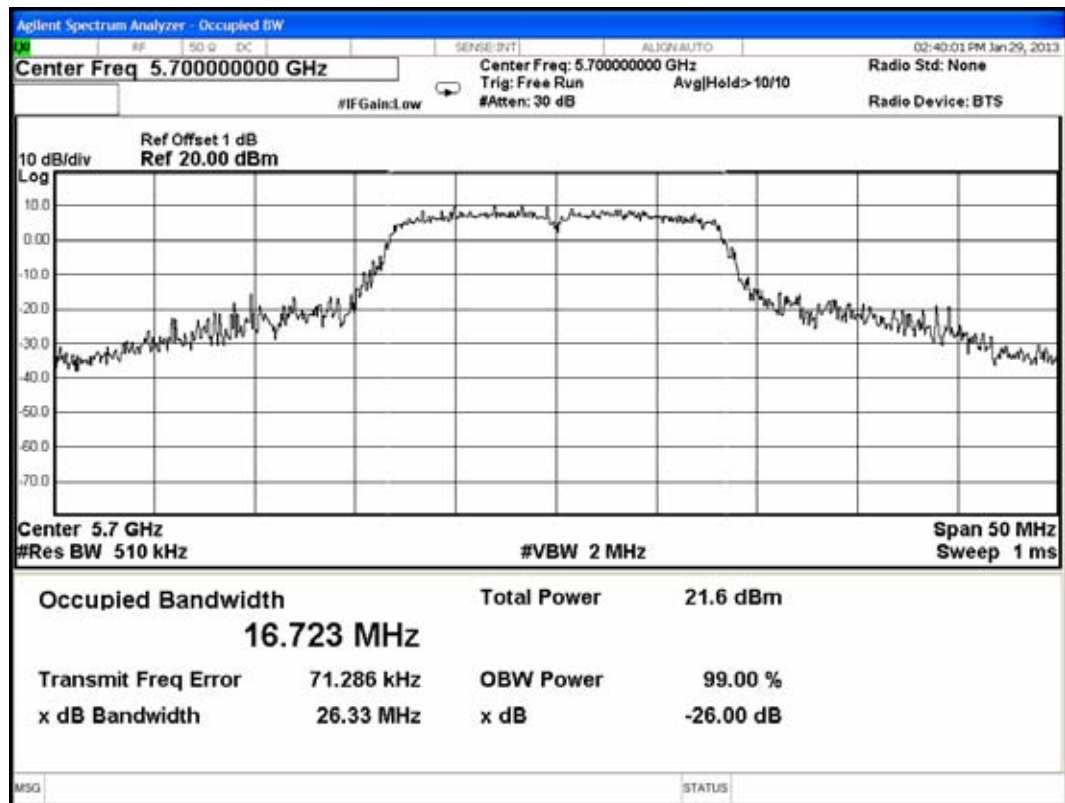
802.11a (UNII Band III), Frequency: 5500MHz



802.11a (UNII Band III), Frequency: 5580MHz



802.11a (UNII Band III), Frequency: 5700MHz



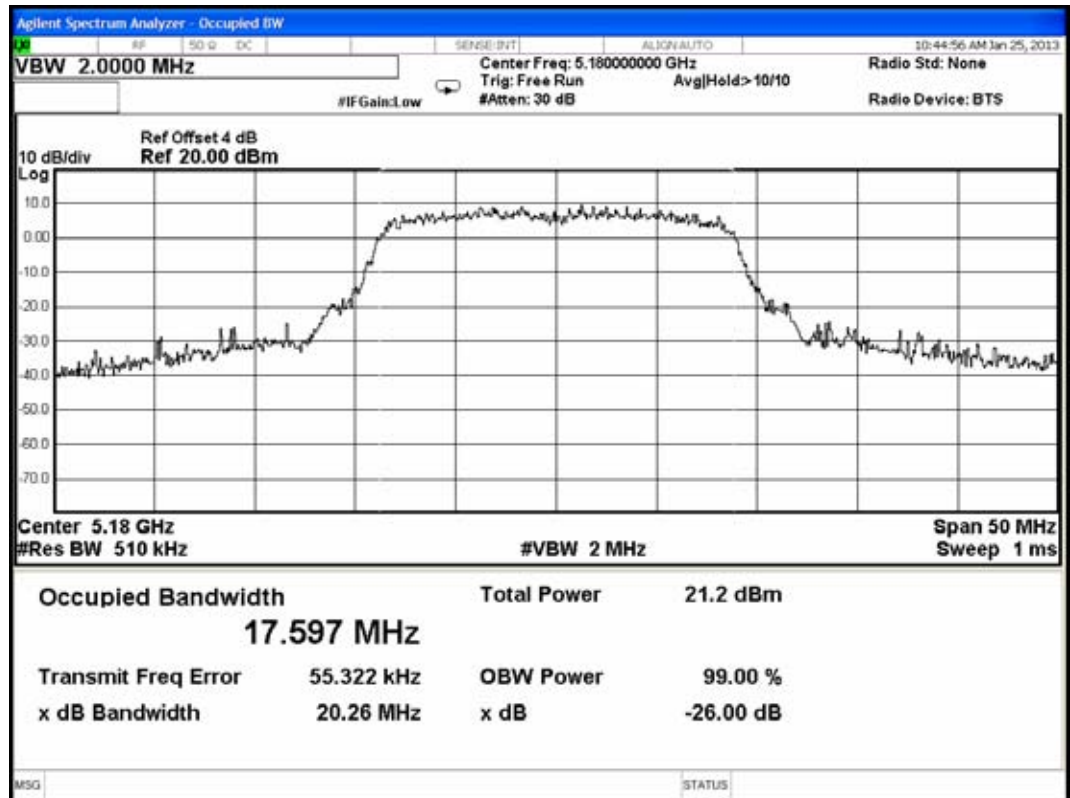
9.6.2.For 802.11n-HT20

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

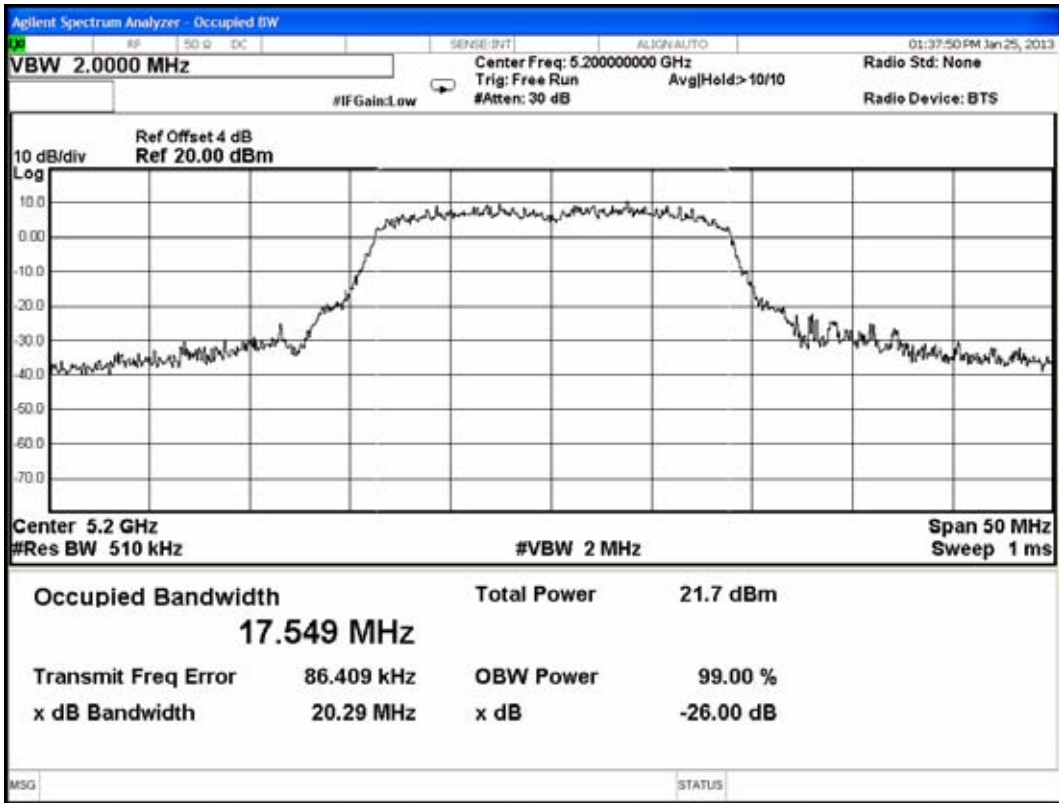
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Occupied Bandwidth (MHz)
1.	UNII Band I	CH 36	5180MHz	17.597
2.		CH 40	5200MHz	17.549
3.		CH 48	5240MHz	17.588
4.	UNII Band II	CH 52	5260MHz	17.557
5.		CH 56	5280MHz	17.567
6.		CH 64	5320MHz	17.548
7.	UNII Band III	CH 100	5500MHz	17.633
8.		CH 116	5580MHz	17.608
9.		CH 140	5700MHz	17.614

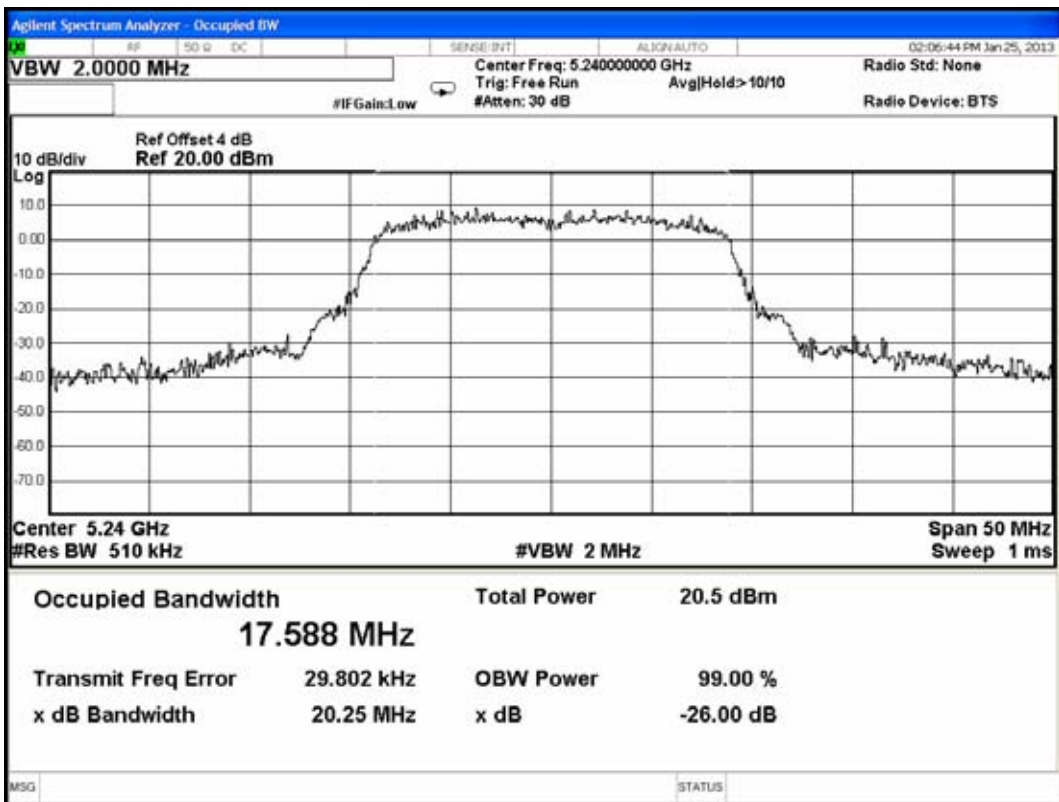
802.11n-HT20 (UNII Band I), Frequency: 5180MHz



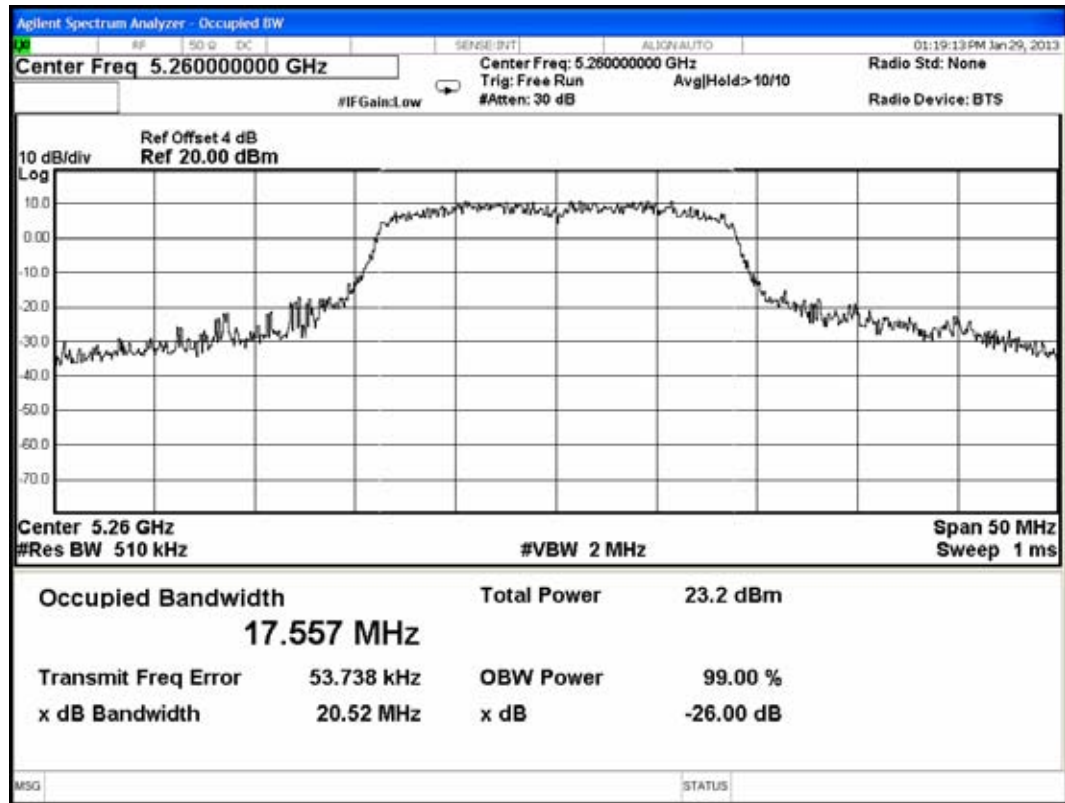
802.11n-HT20 (UNII Band I), Frequency: 5200MHz



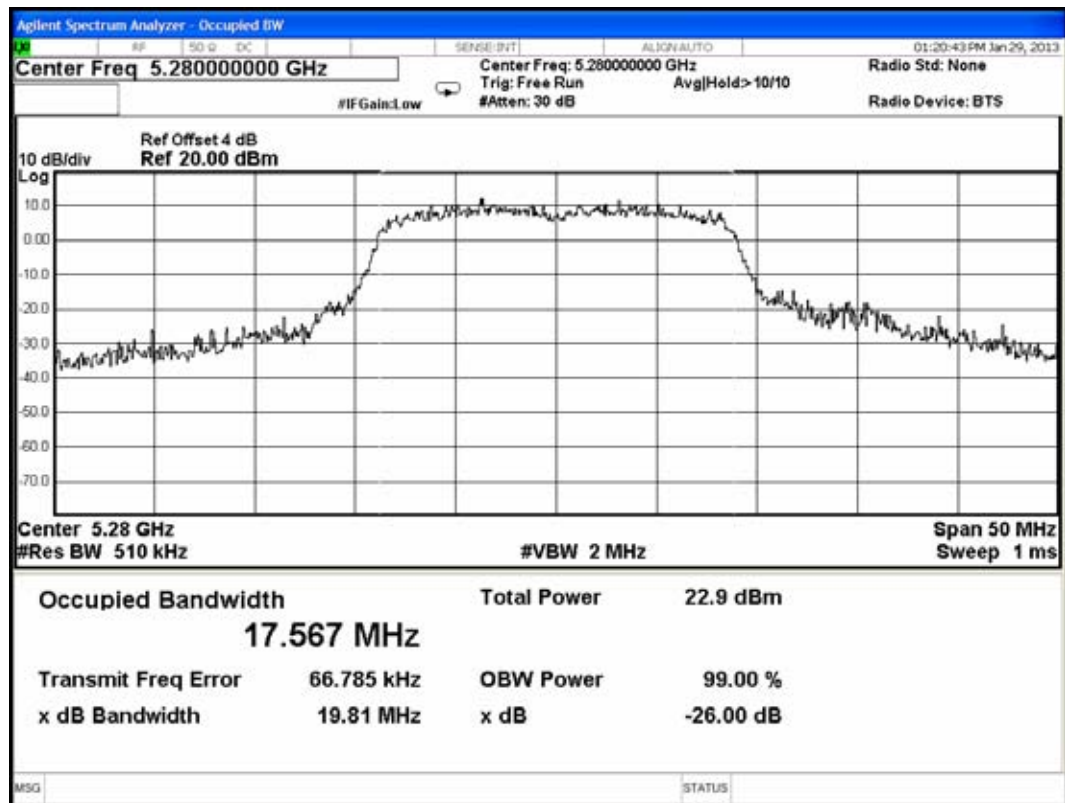
802.11n-HT20 (UNII Band I), Frequency: 5240MHz



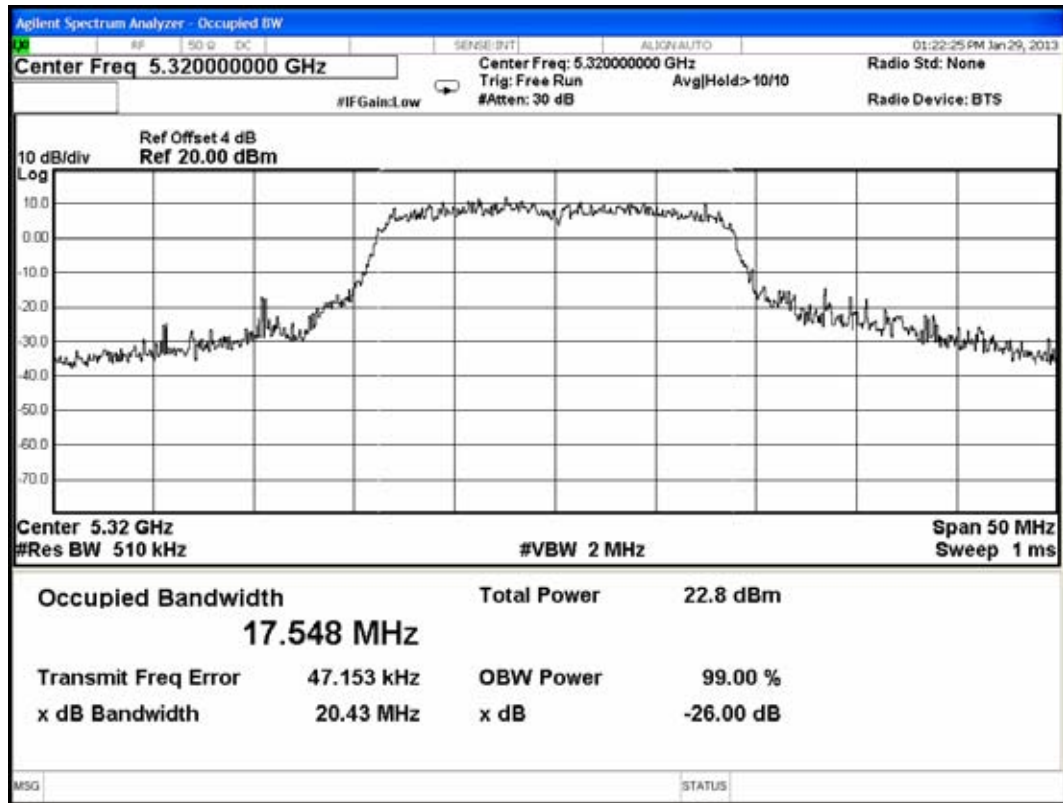
802.11n-HT20 (UNII Band II), Frequency: 5260MHz



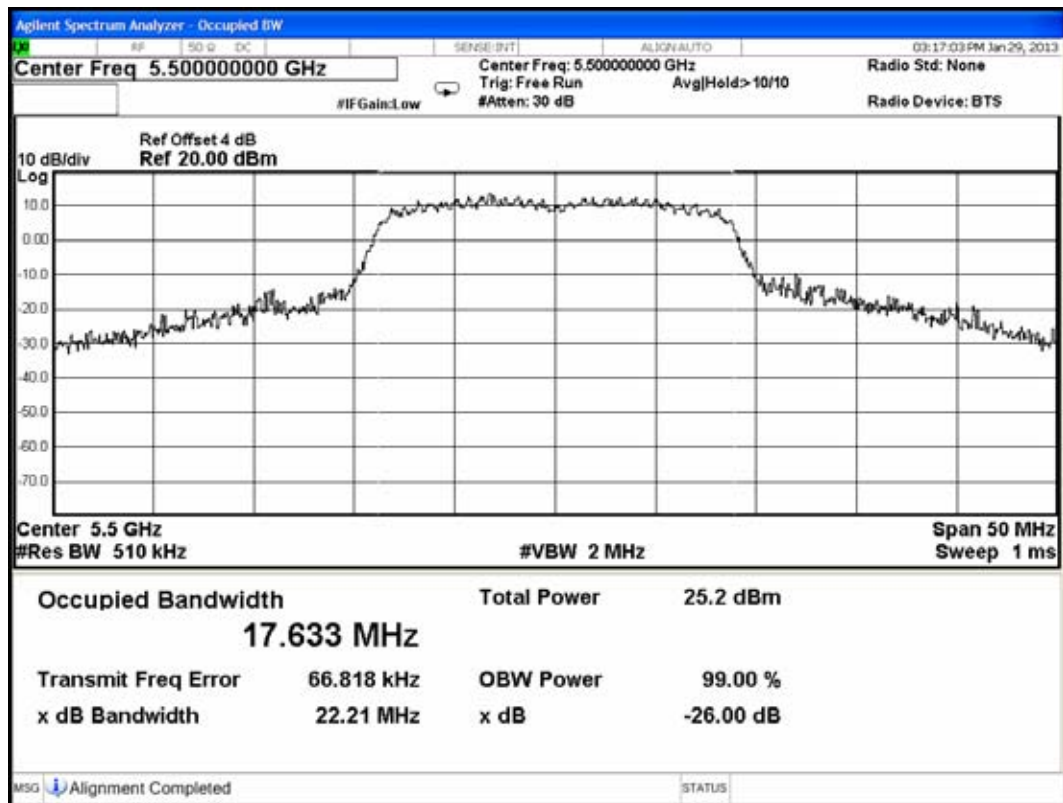
802.11n-HT20 (UNII Band II), Frequency: 5280MHz



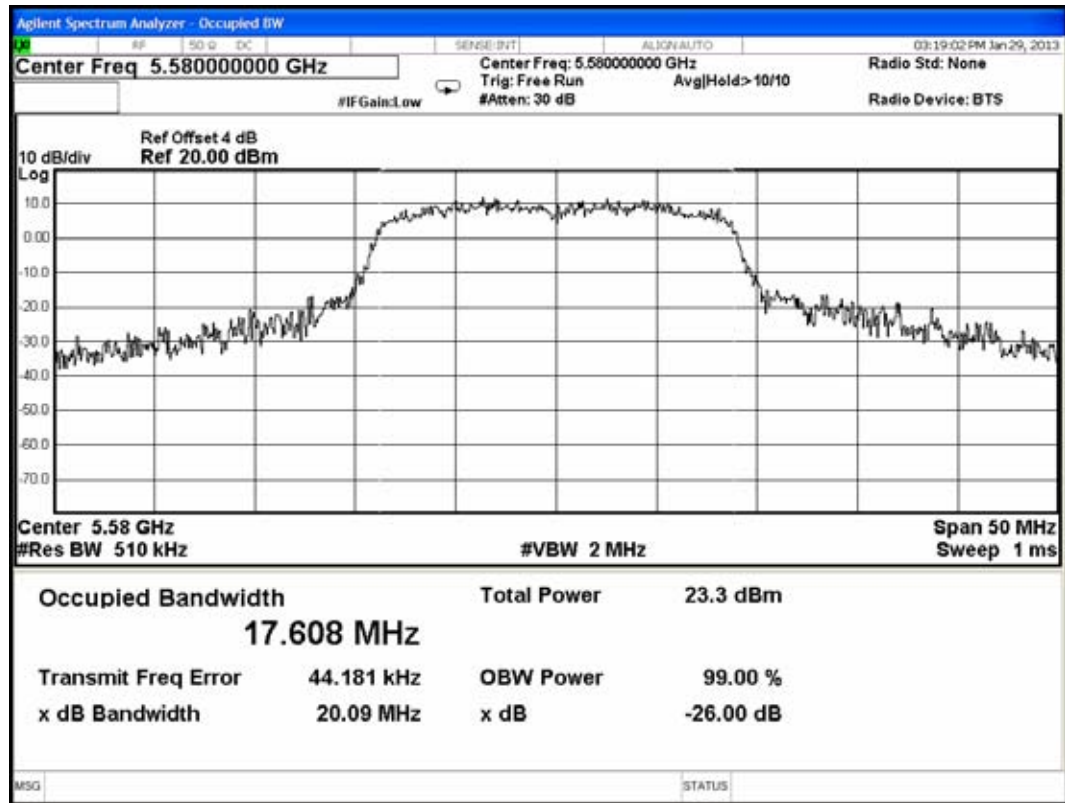
802.11n-HT20 (UNII Band II), Frequency: 5320MHz



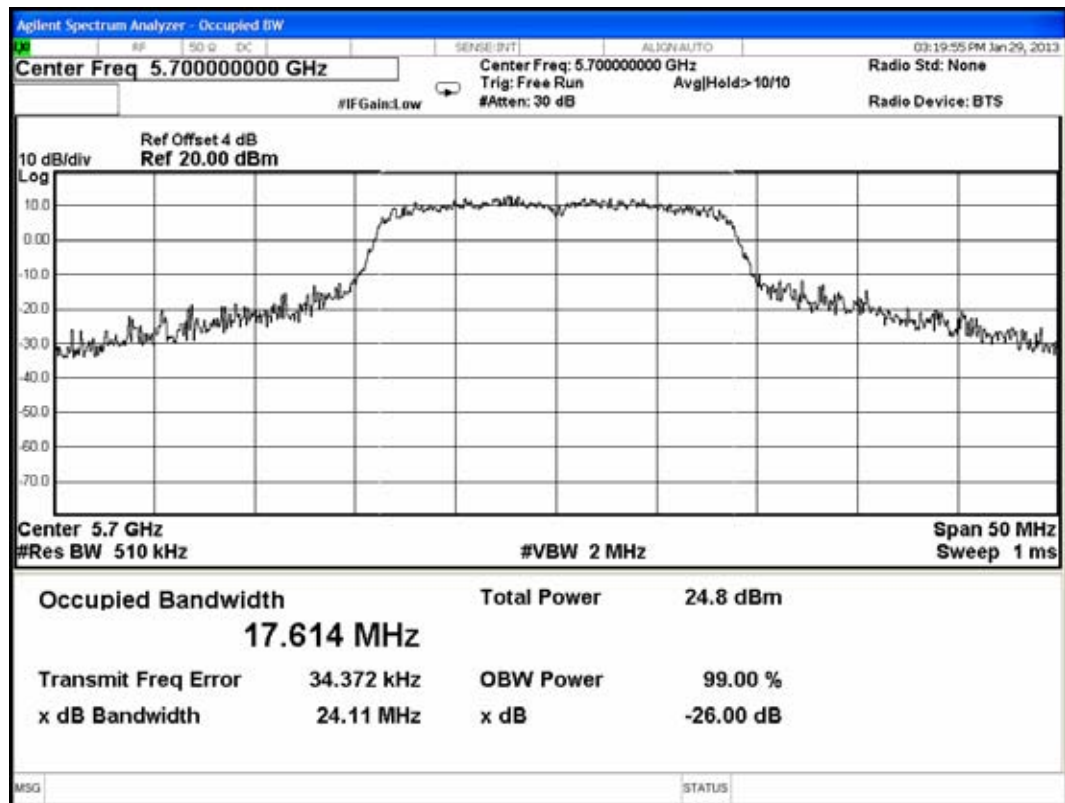
802.11n-HT20 (UNII Band III), Frequency: 5500MHz



802.11n-HT20 (UNII Band III), Frequency: 5580MHz



802.11n-HT20 (UNII Band III), Frequency: 5700MHz



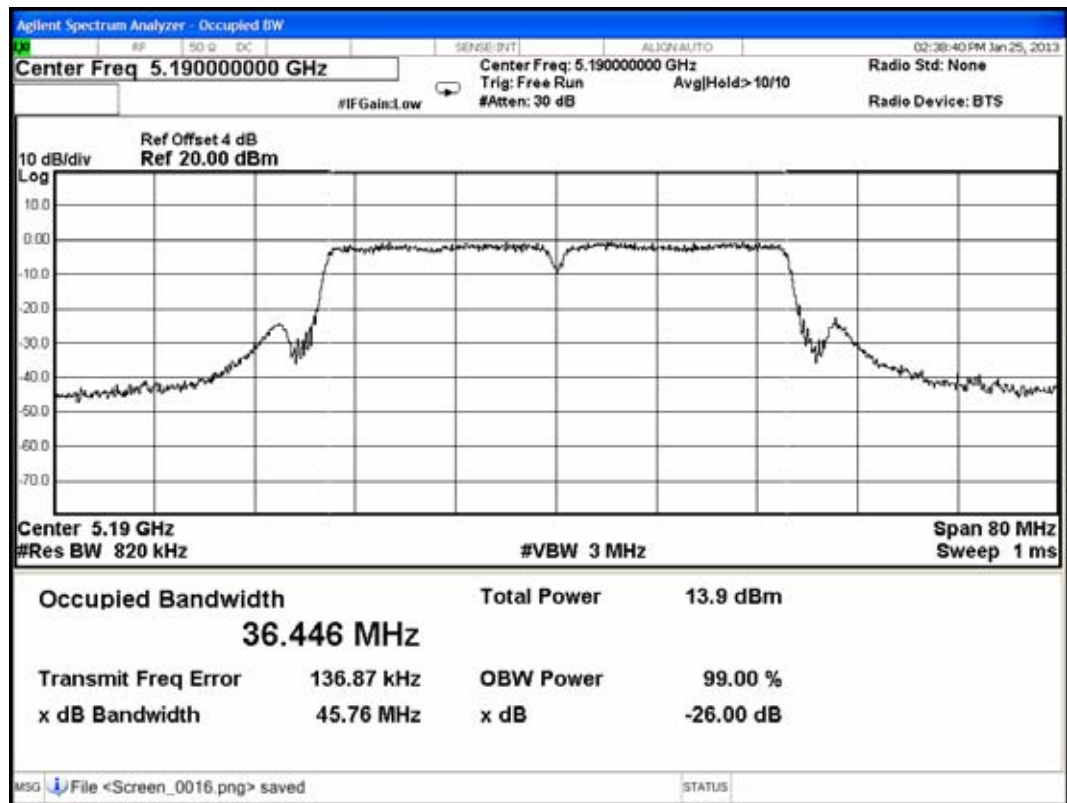
9.6.3.For 802.11n-HT40

Test Date: Jan. 25, 2013 Temperature: 22 Humidity: 50%

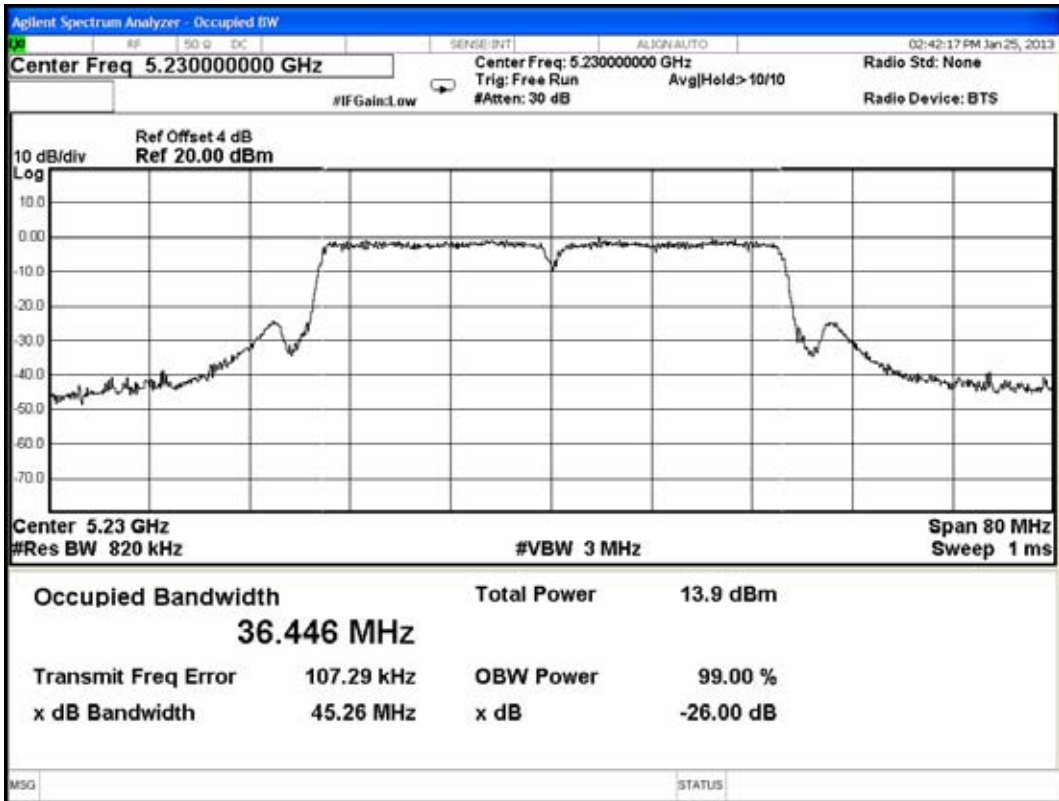
Test Date: Jan. 29, 2013 Temperature: 25 Humidity: 51%

Mode	UNII Band	Channel	Frequency	Occupied Bandwidth (MHz)
1.	UNII Band I	CH 38	5190MHz	36.446
2.		CH 46	5230MHz	36.446
3.	UNII Band II	CH 54	5270MHz	36.631
4.		CH 62	5310MHz	36.601
5.	UNII Band III	CH 100	5510MHz	36.512
6.		CH 118	5590MHz	36.469
7.		CH 116	5670MHz	36.391

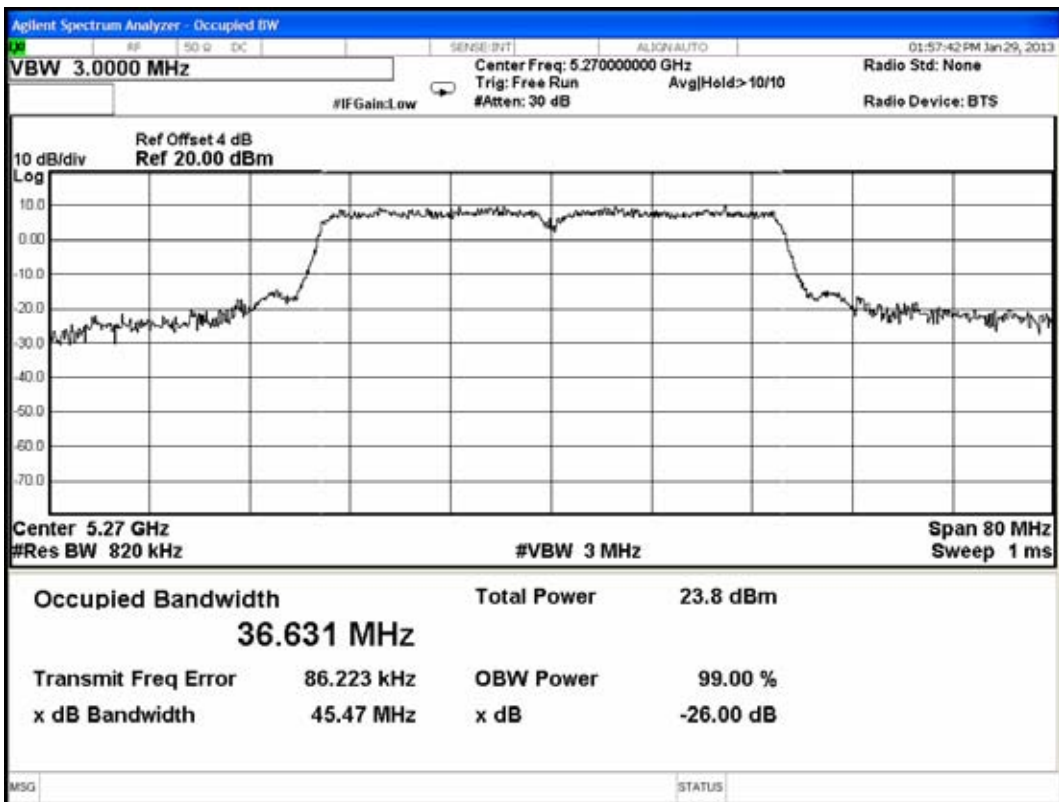
802.11n-HT40 (UNII Band I), Frequency: 5190MHz



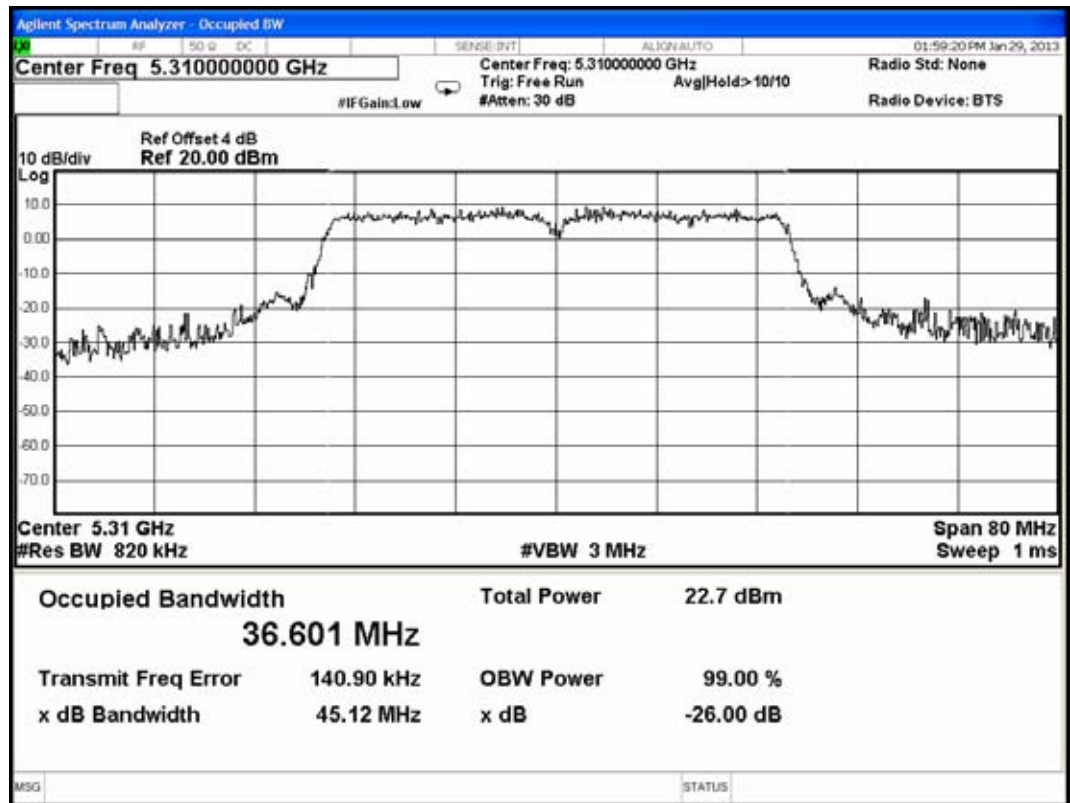
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



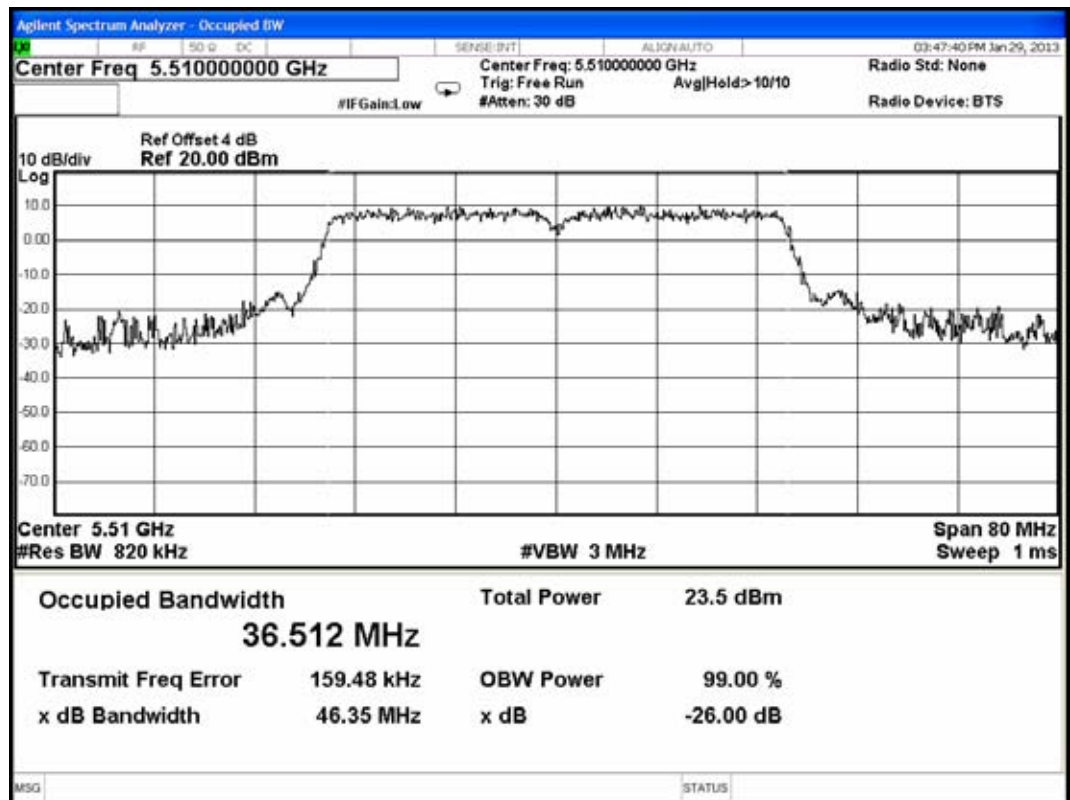
802.11n-HT40 (UNII Band II), Frequency: 5270MHz



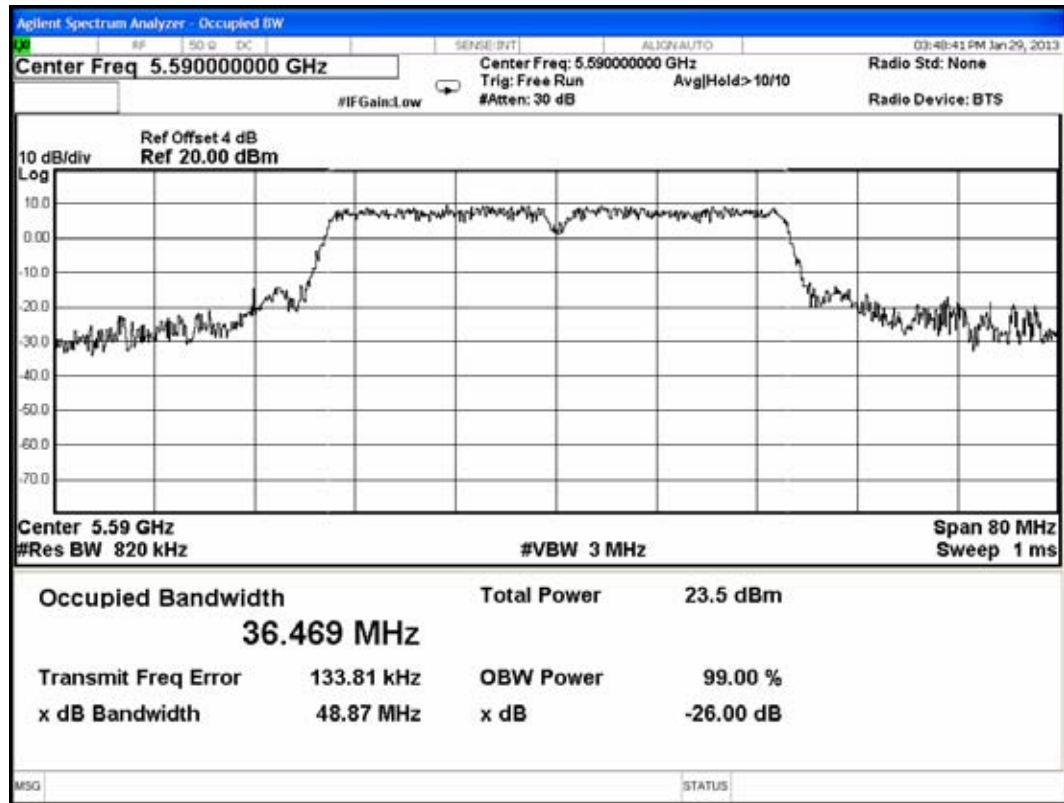
802.11n-HT40 (UNII Band II), Frequency: 5310MHz



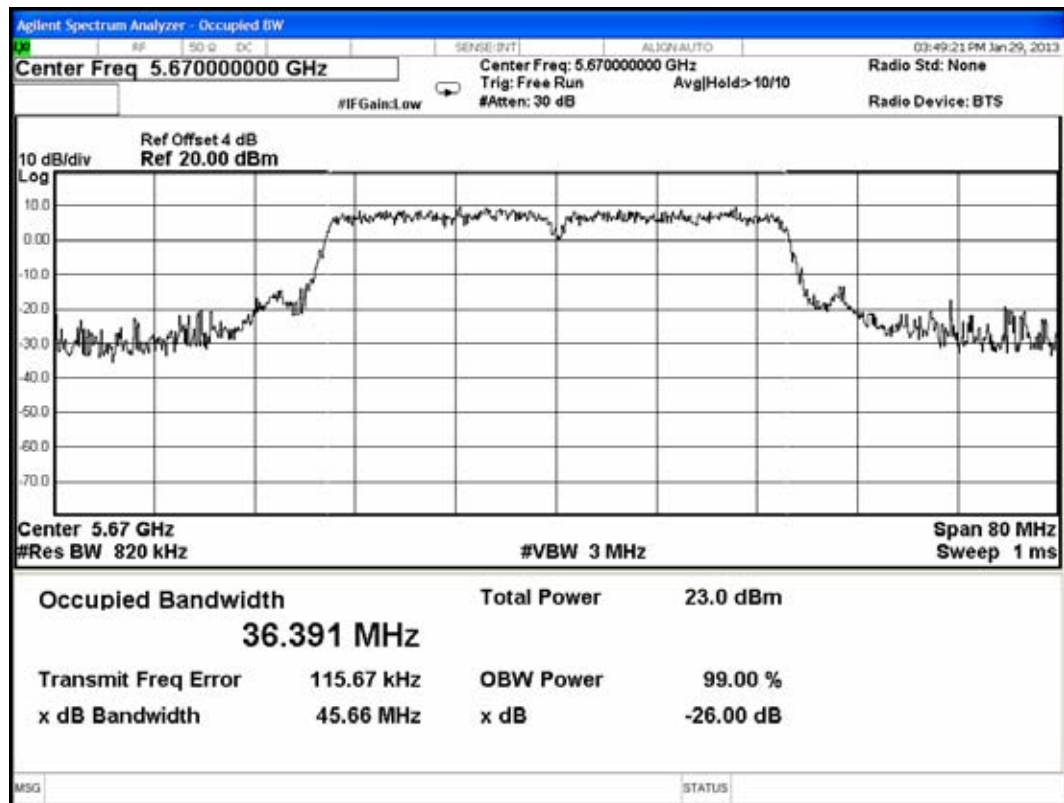
802.11n-HT40 (UNII Band III), Frequency: 5510MHz



802.11n-HT40 (UNII Band III), Frequency: 5590MHz



802.11n-HT40 (UNII Band III), Frequency: 5670MHz



10.DEVIATION TO TEST SPECIFICATIONS

【NONE】

11.PHOTOGRAPHS

11.1.Photos of Conducted Emission Measurement



FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

11.2.Photos of Radiated Measurement at Semi-Anechoic Chamber

11.2.1.Frequency Range 30MHz~1GHz



11.2.2.Frequency Above 1GHz



11.3.Photo of Section RF Conducted Measurement

