Appendix for Testreport

Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

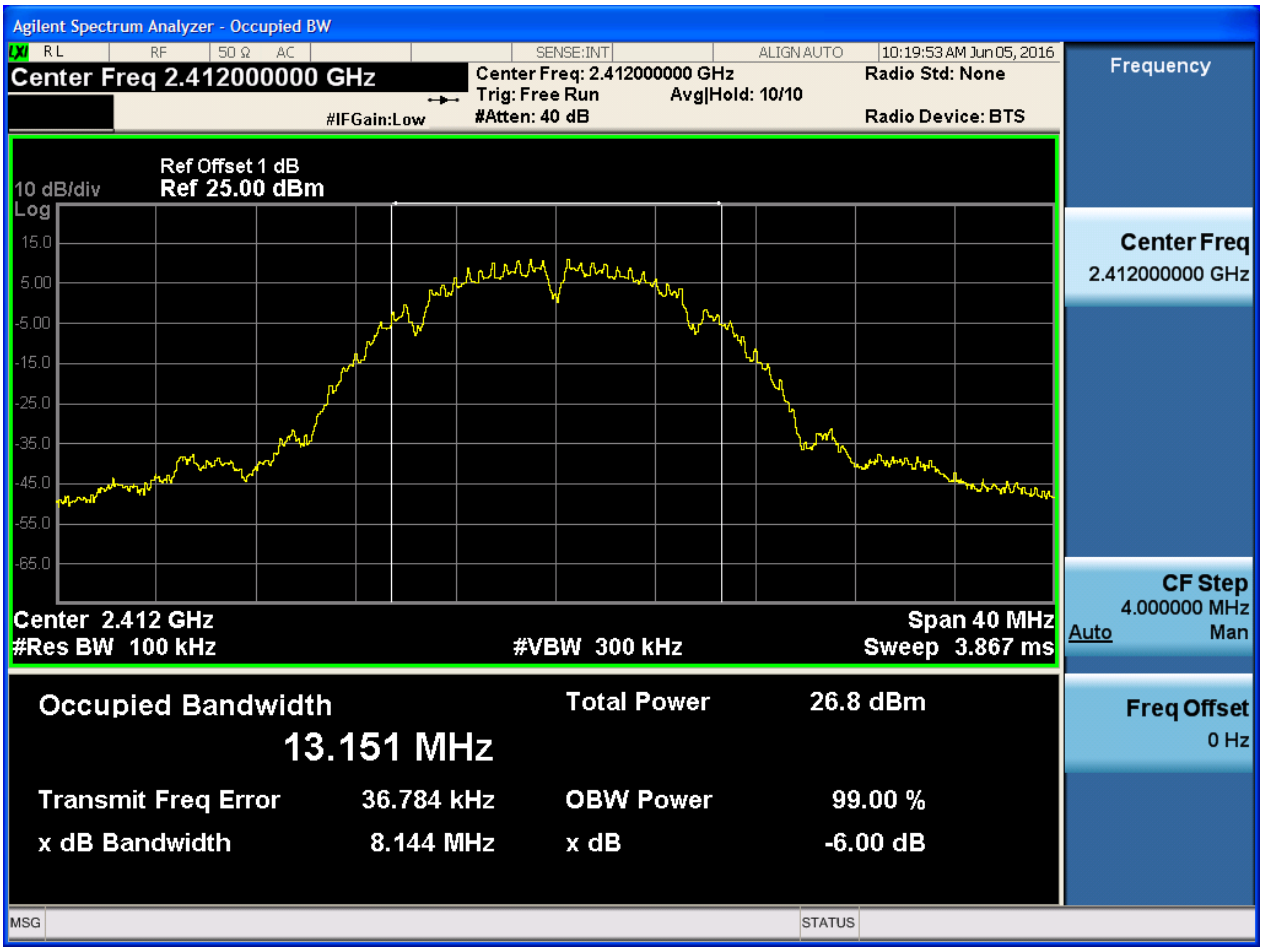
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

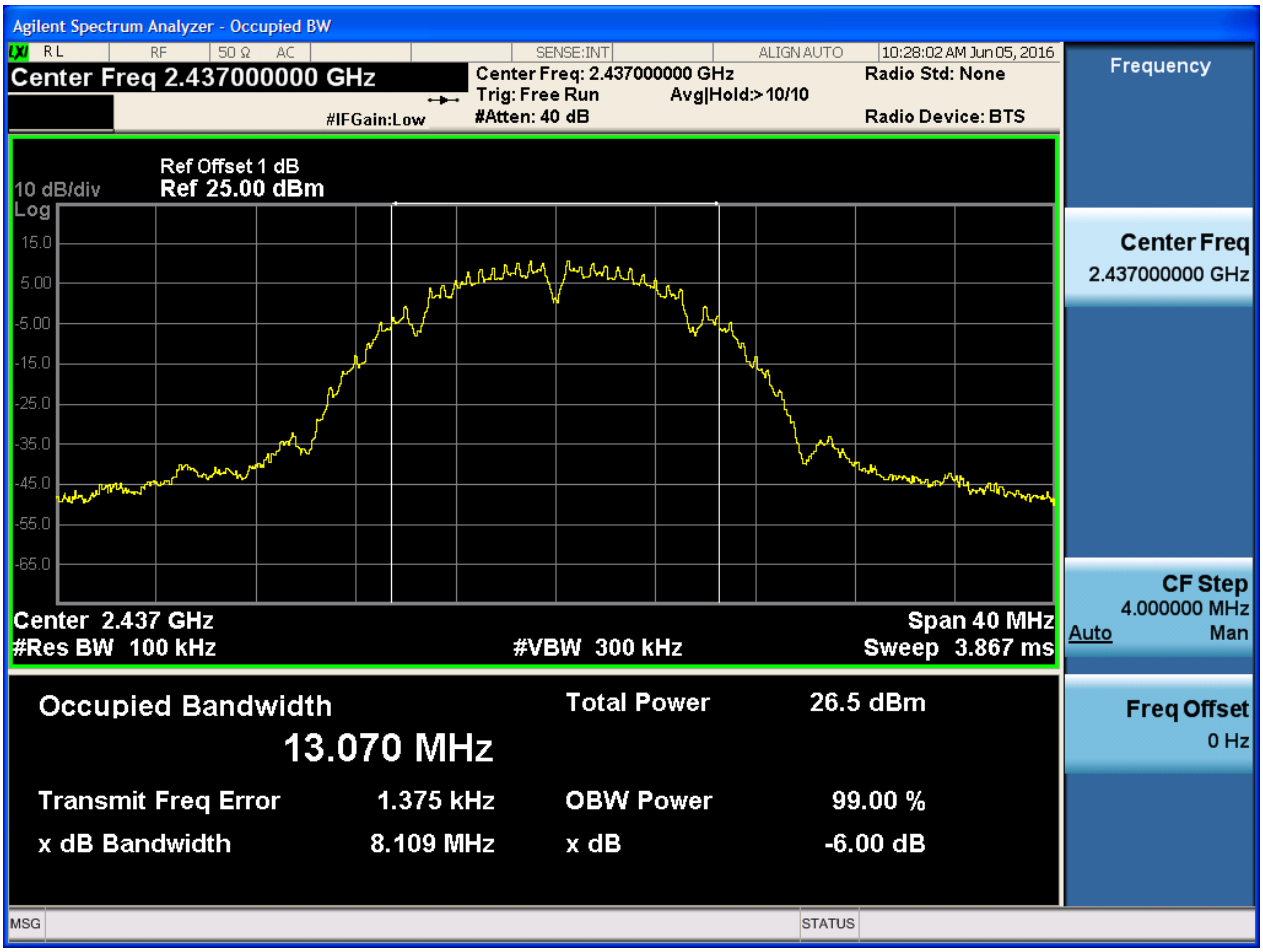
Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	8.14	pass
11B	M	2437	Ant 1	8.11	pass
11B	H	2462	Ant 1	8.12	pass
11G	L	2412	Ant 1	16.43	pass
11G	M	2437	Ant 1	16.44	pass
11G	H	2462	Ant 1	16.39	pass
11N20	L	2412	Ant 1	17.63	pass
11N20	M	2437	Ant 1	17.64	pass
11N20	H	2462	Ant 1	17.60	pass

Part II - Test Plots

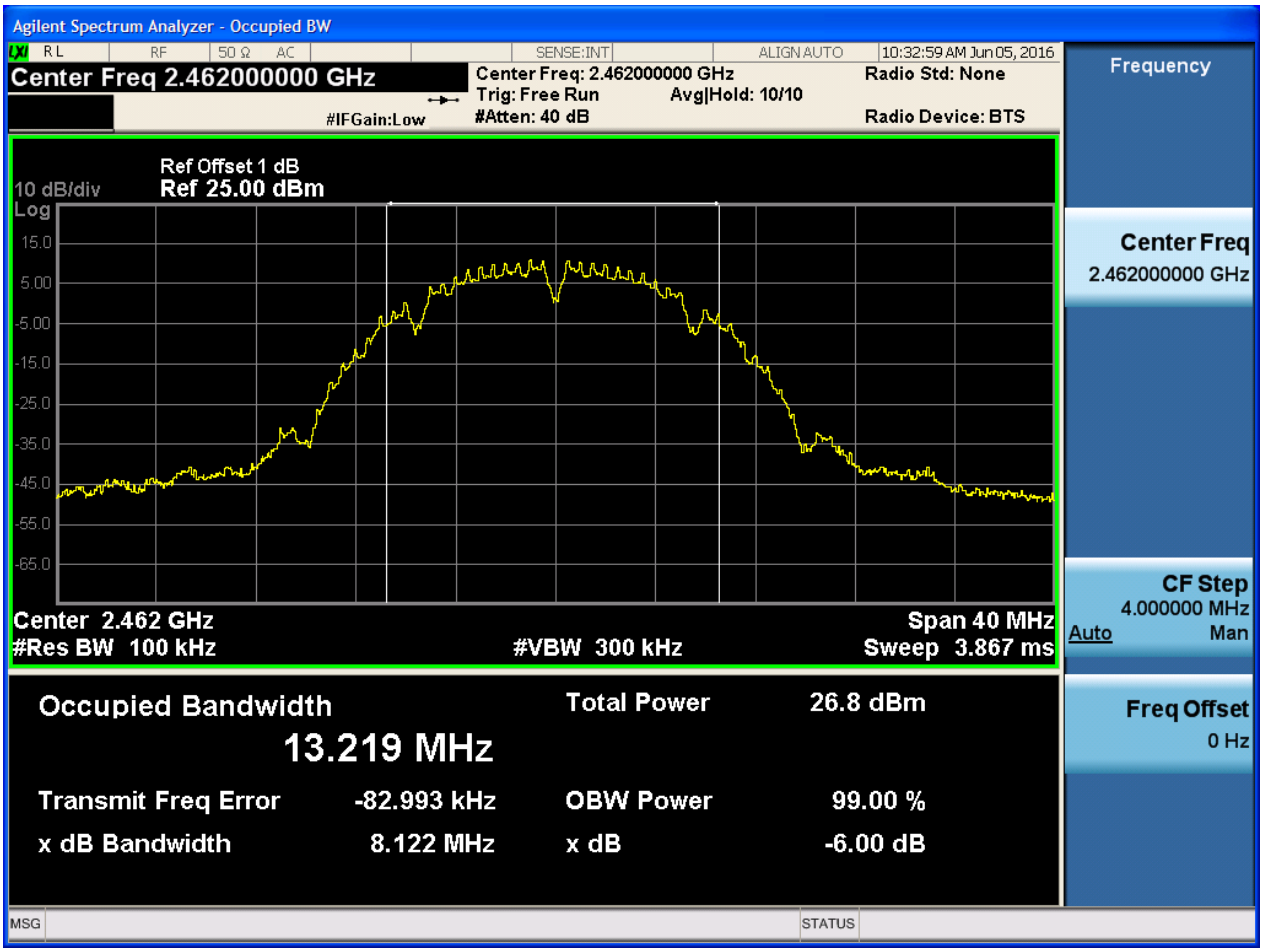
2.1 11B_L@Ant 1



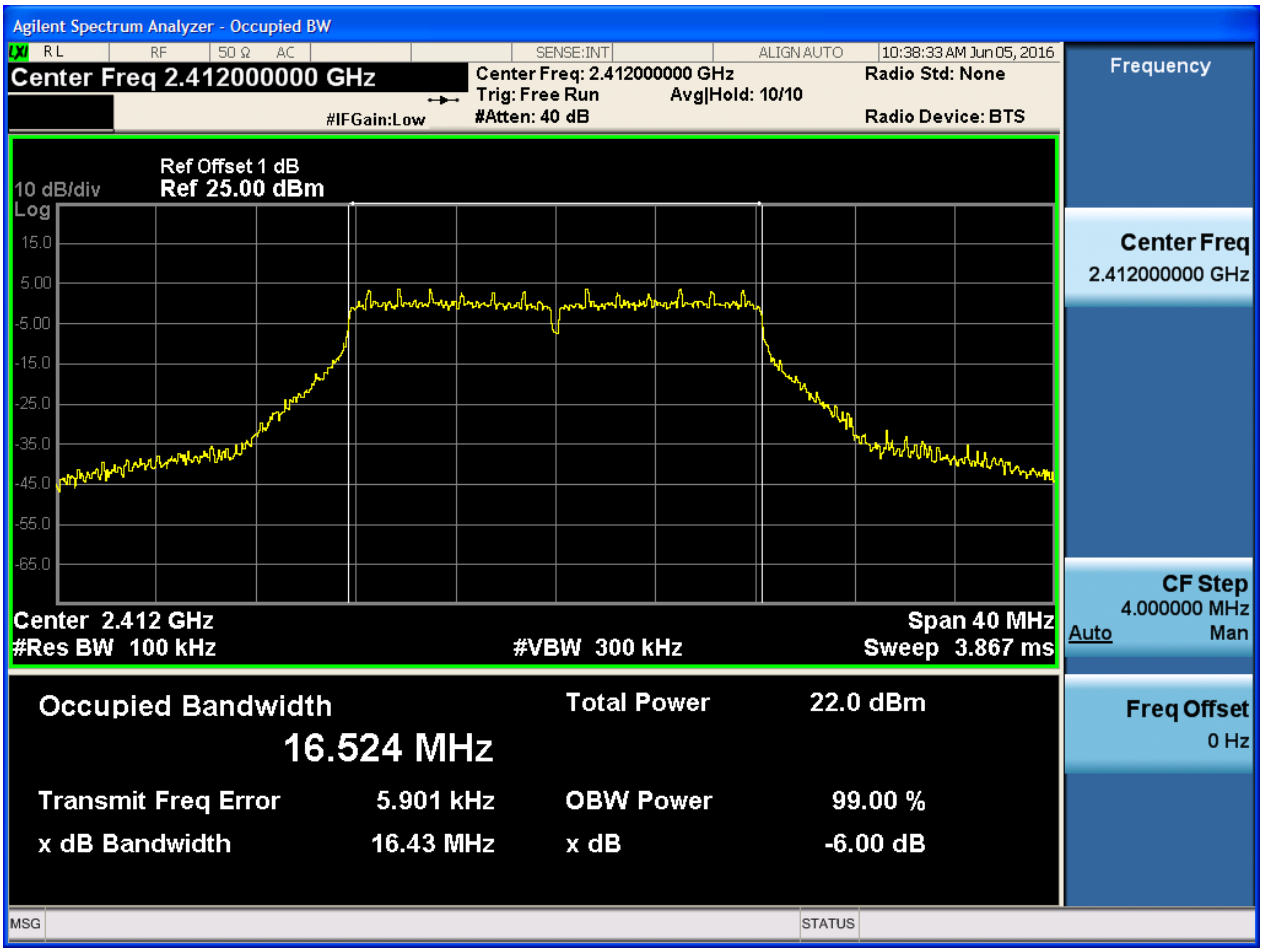
2.3 11B_M@Ant 1



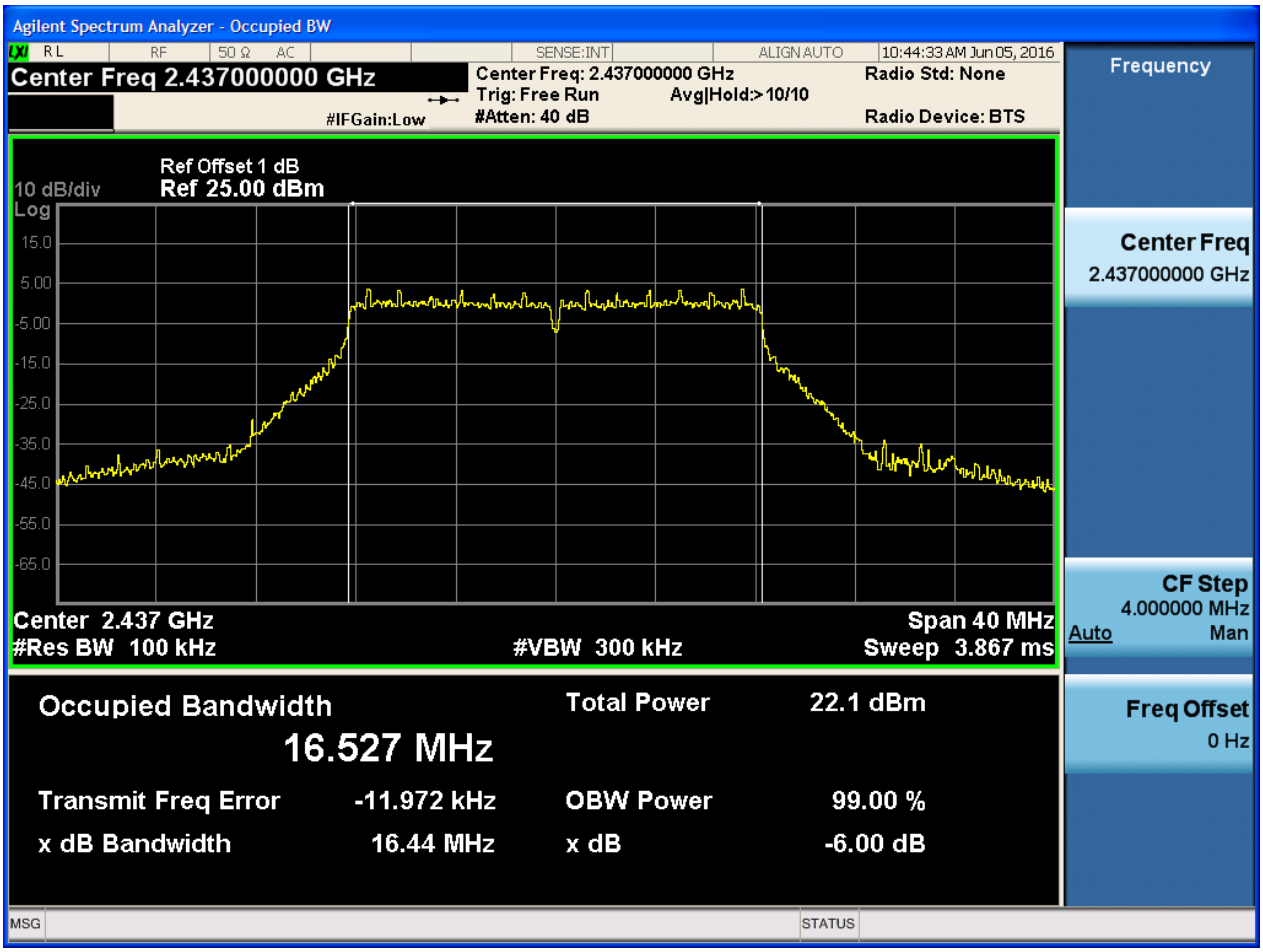
2.5 11B_H@Ant 1



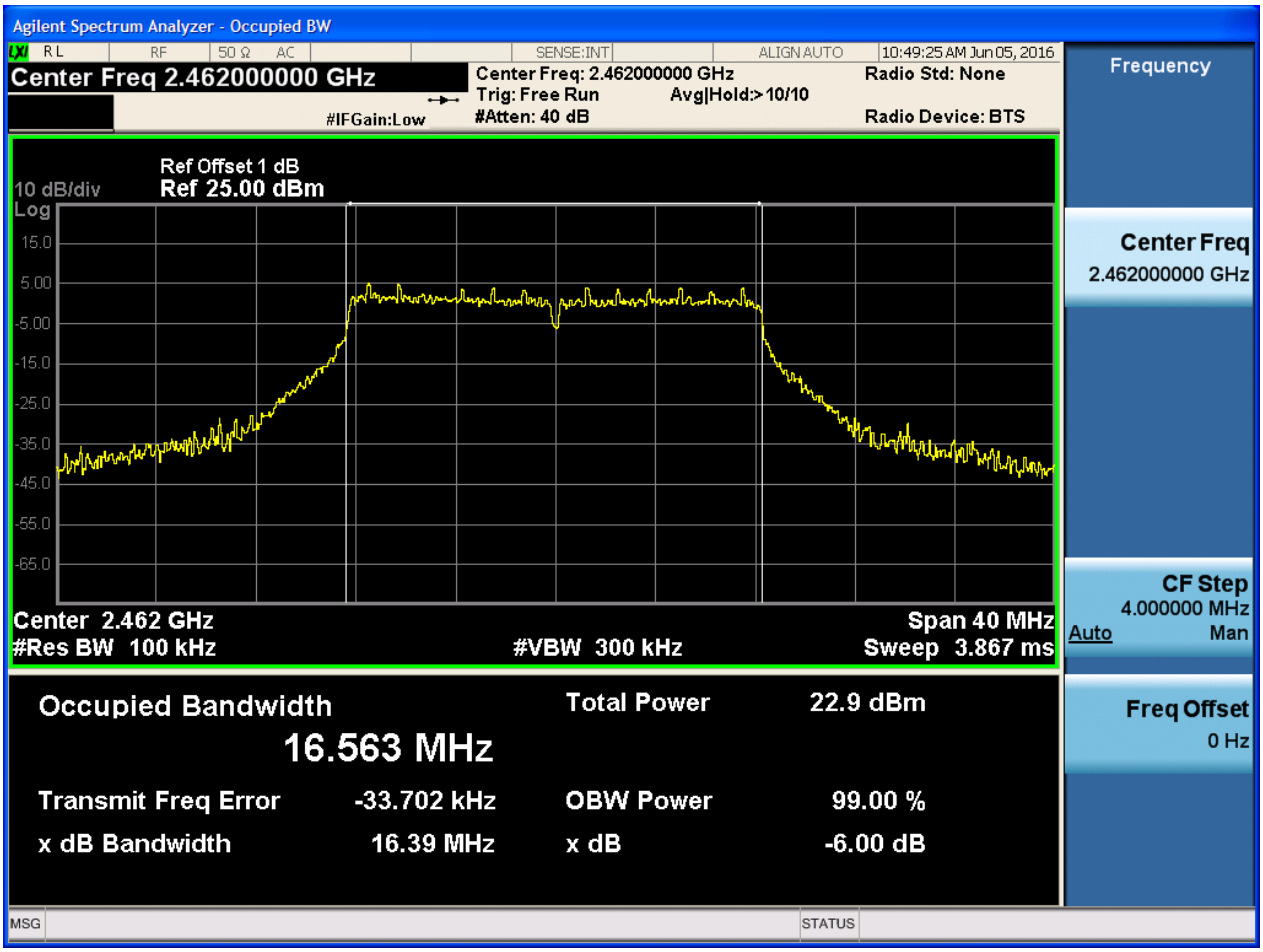
2.7 11G_L@Ant 1



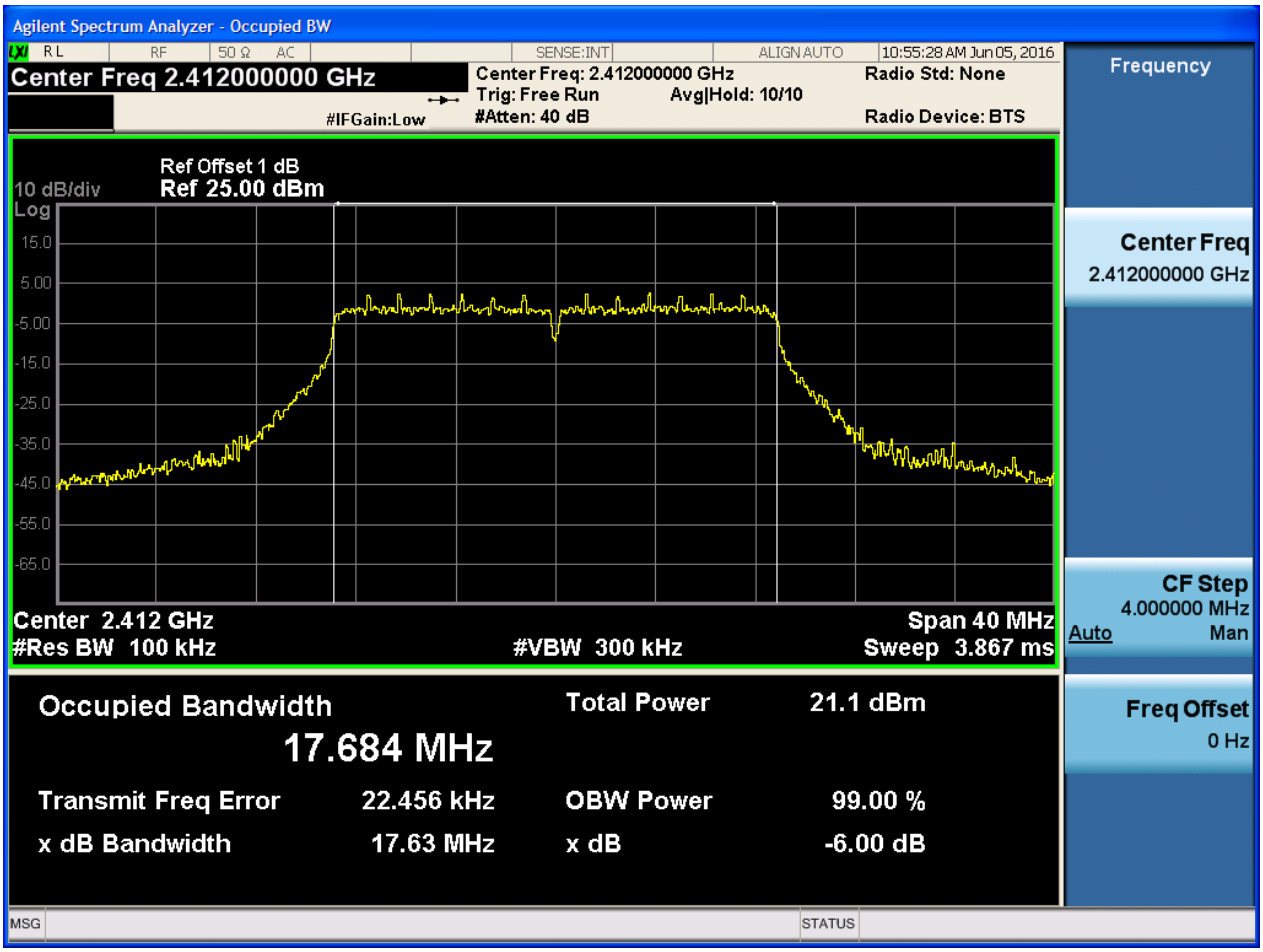
2.9 11G_M@Ant 1



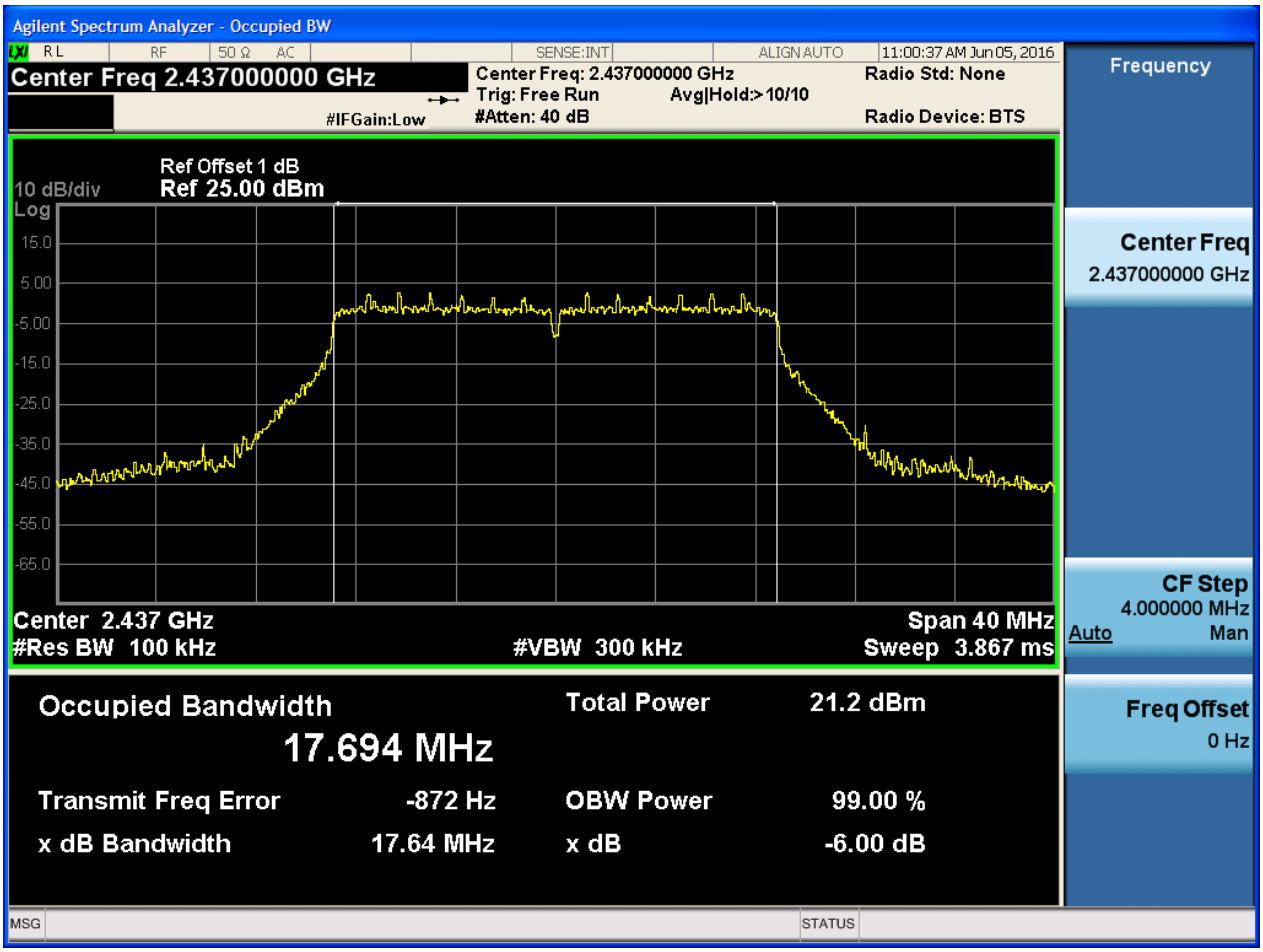
2.11 11G_H@Ant 1



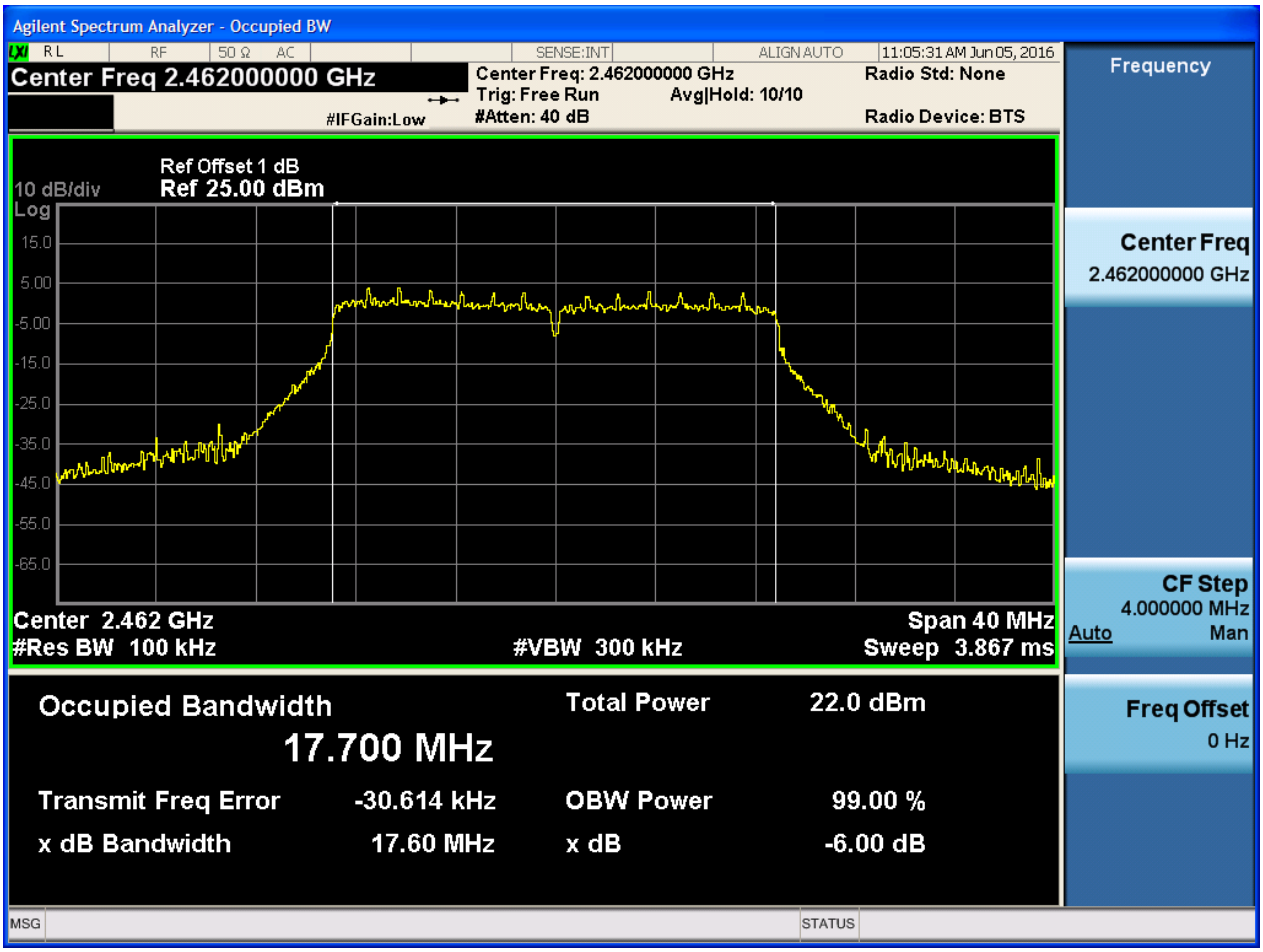
2.13 11N20_L@Ant 1



2.15 11N20_M@Ant 1



2.17 11N20_H@Ant 1



Appendix B: Occupied Bandwidth

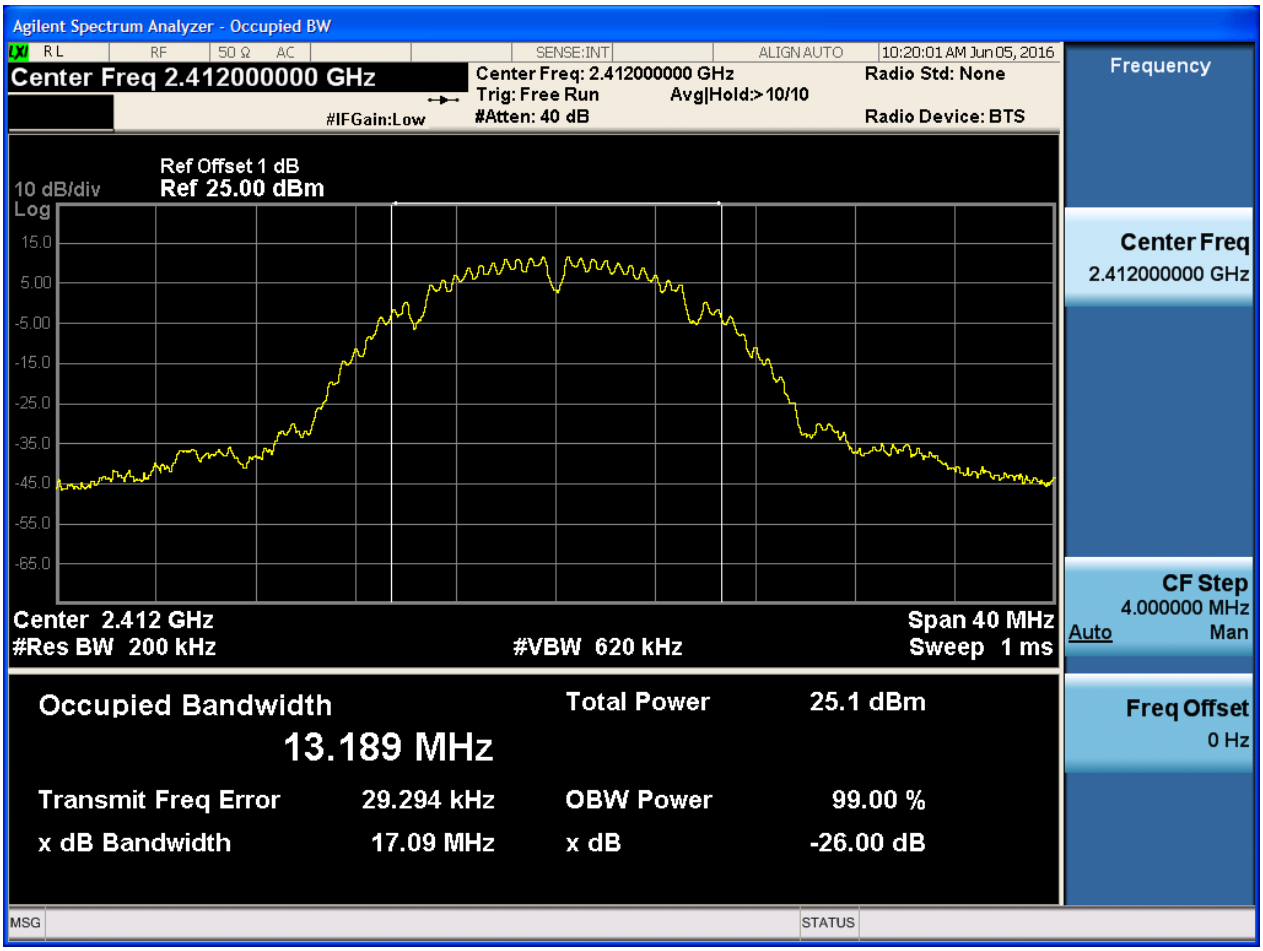
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

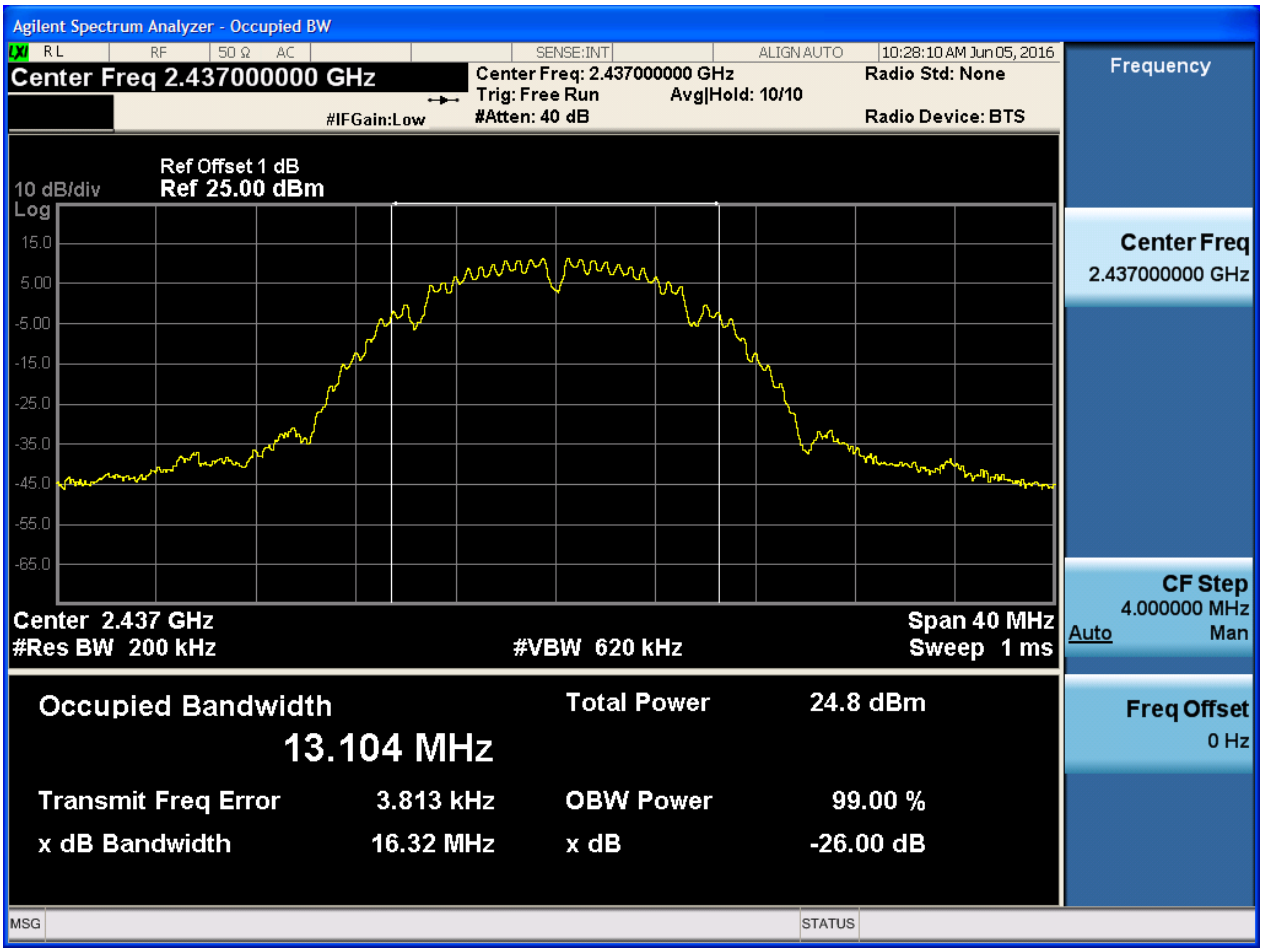
Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	13.19	pass
11B	M	2437	Ant 1	13.10	pass
11B	H	2462	Ant 1	13.27	pass
11G	L	2412	Ant 1	16.73	pass
11G	M	2437	Ant 1	16.77	pass
11G	H	2462	Ant 1	16.84	pass
11N20	L	2412	Ant 1	17.84	pass
11N20	M	2437	Ant 1	17.85	pass
11N20	H	2462	Ant 1	17.90	pass

Part II - Test Plots

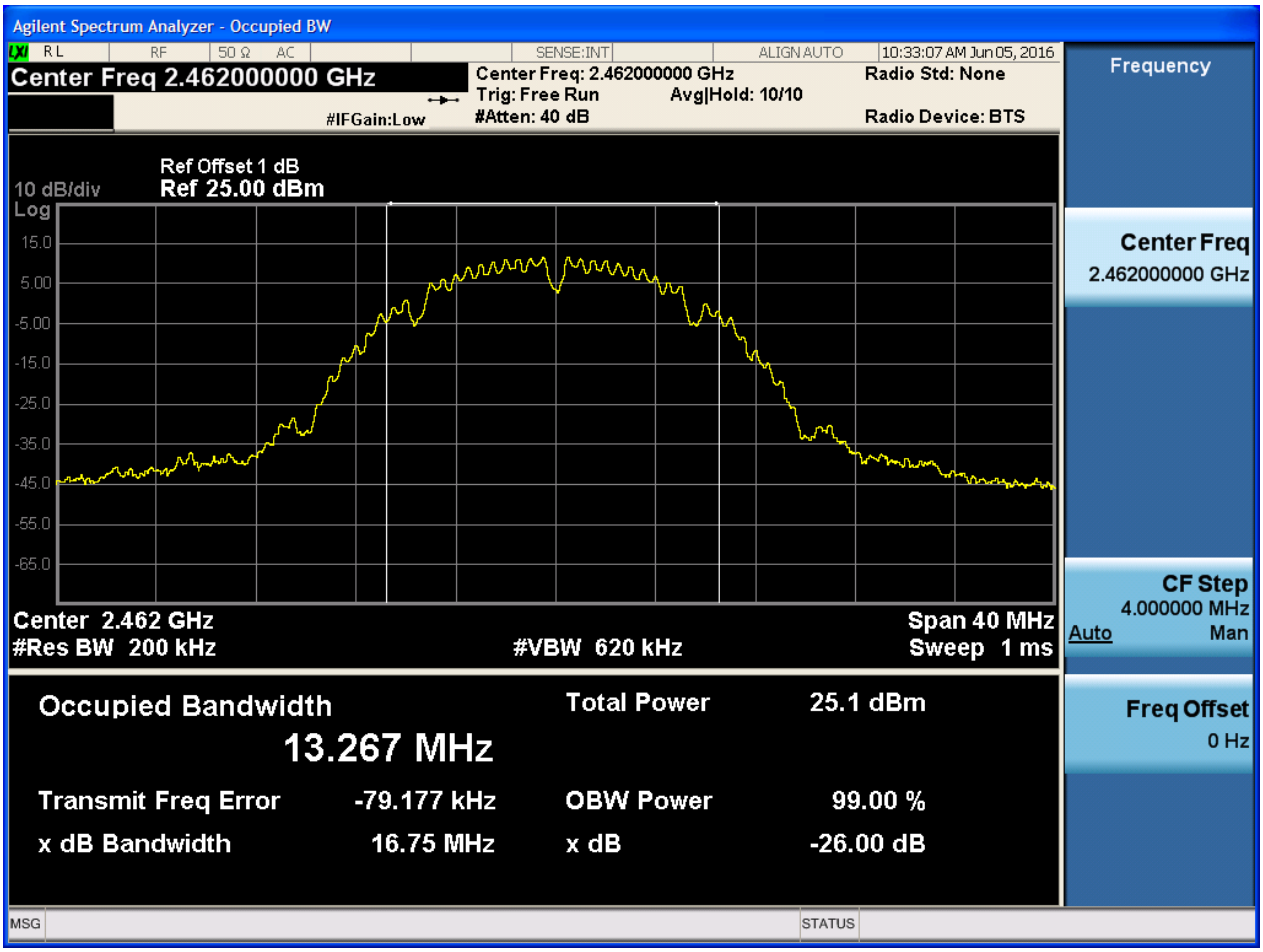
2.1 11B_L@Ant 1



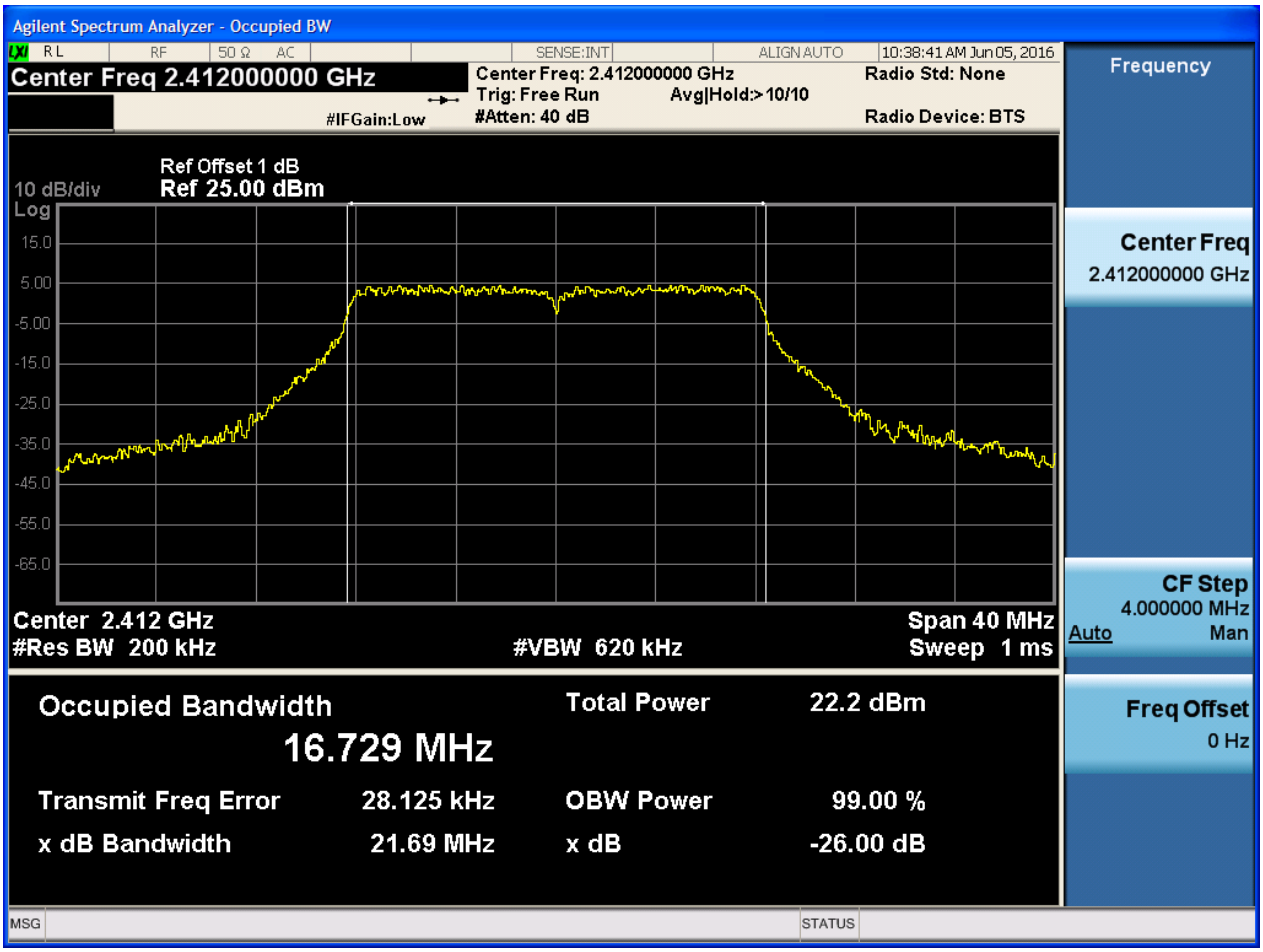
2.3 11B_M@Ant 1



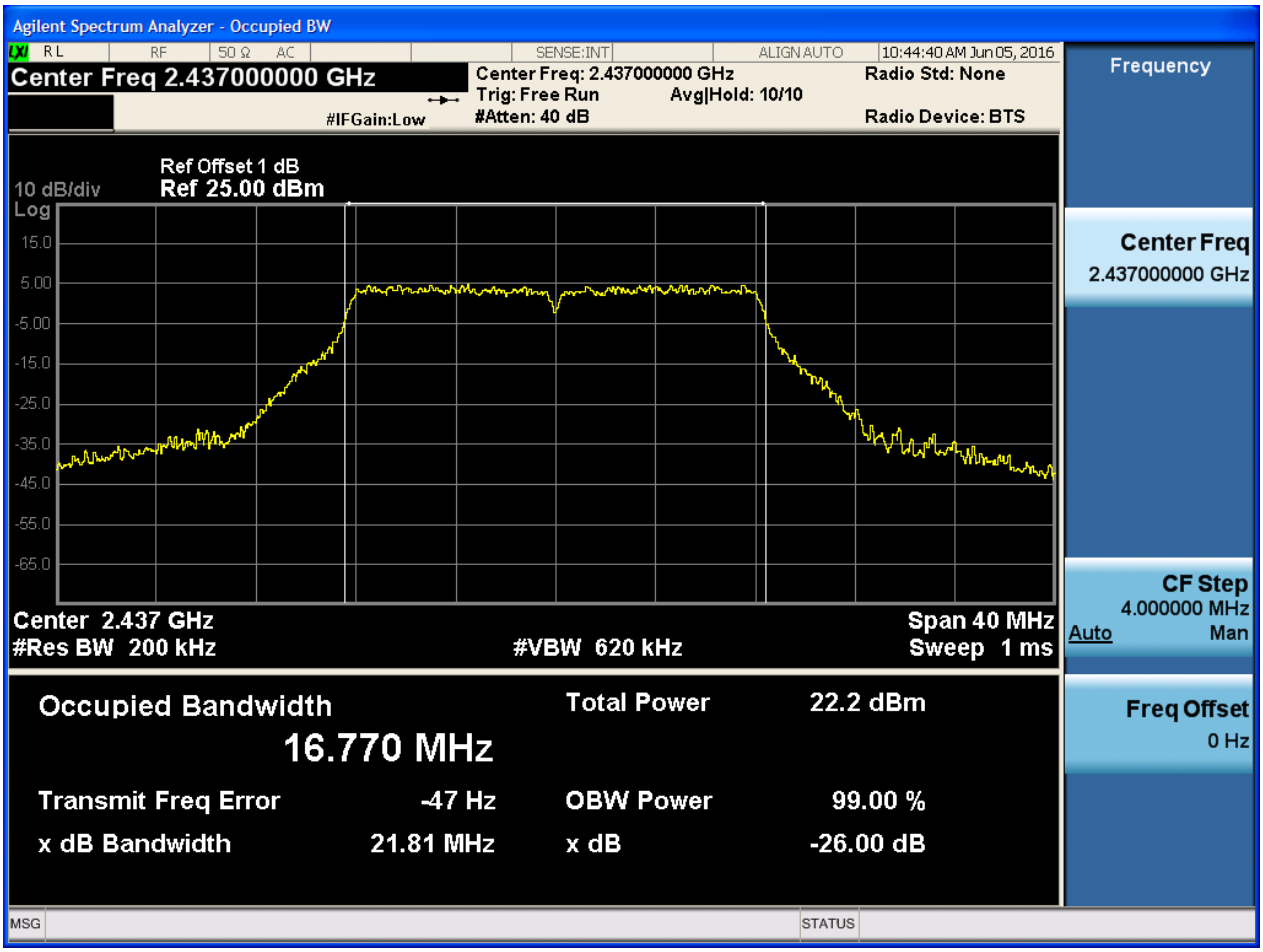
2.5 11B_H@Ant 1



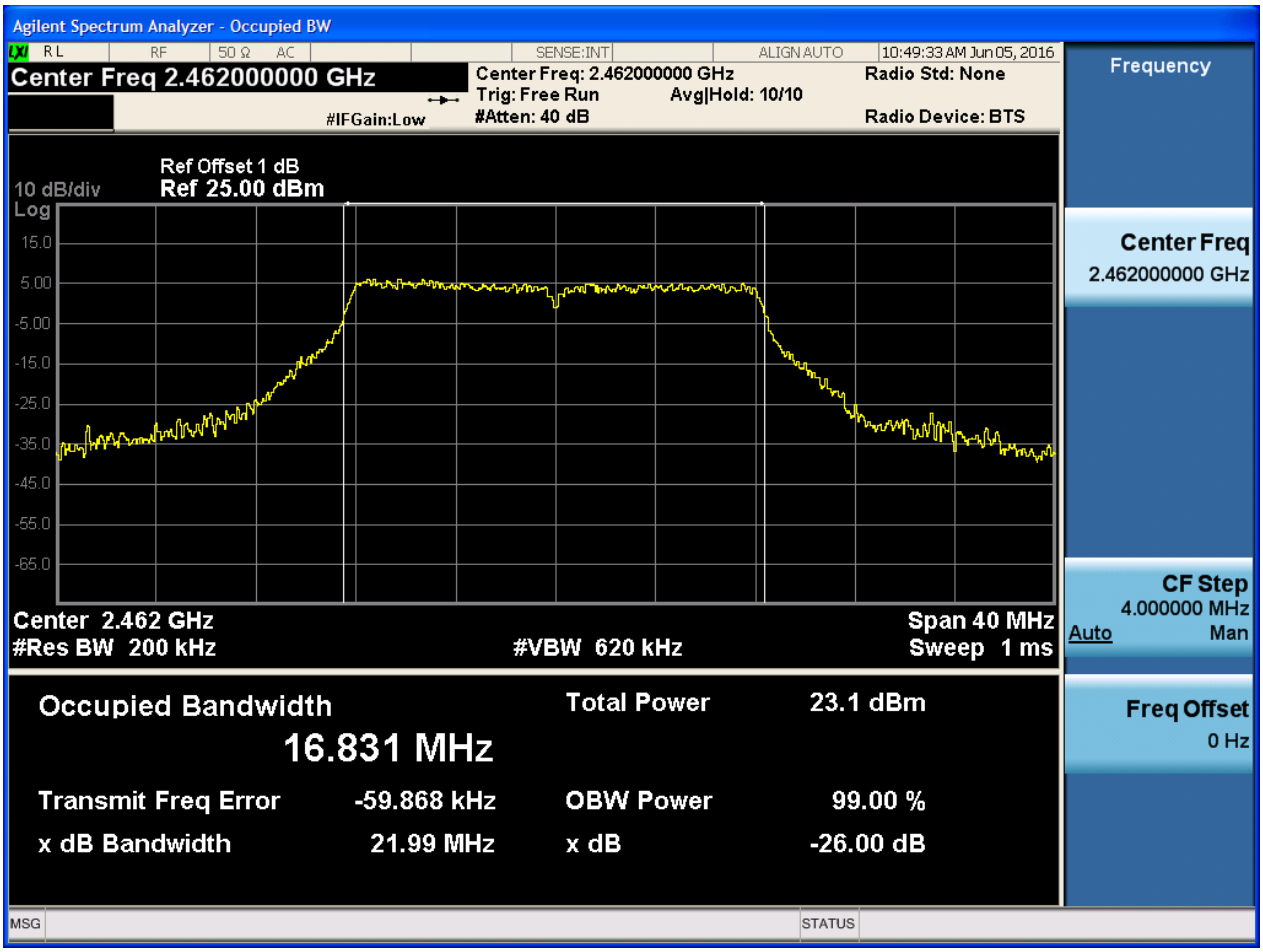
2.7 11G_L@Ant 1



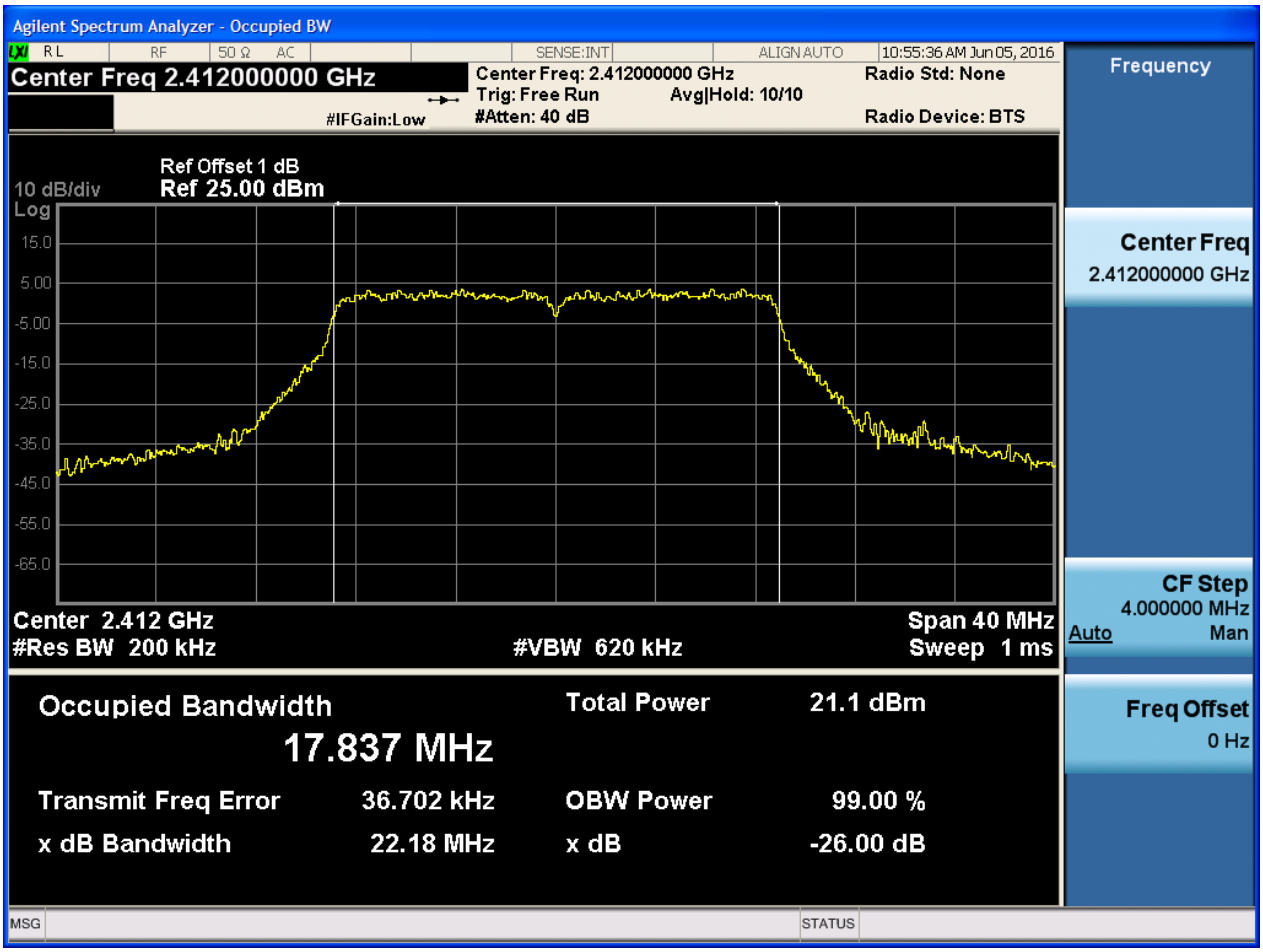
2.9 11G_M@Ant 1



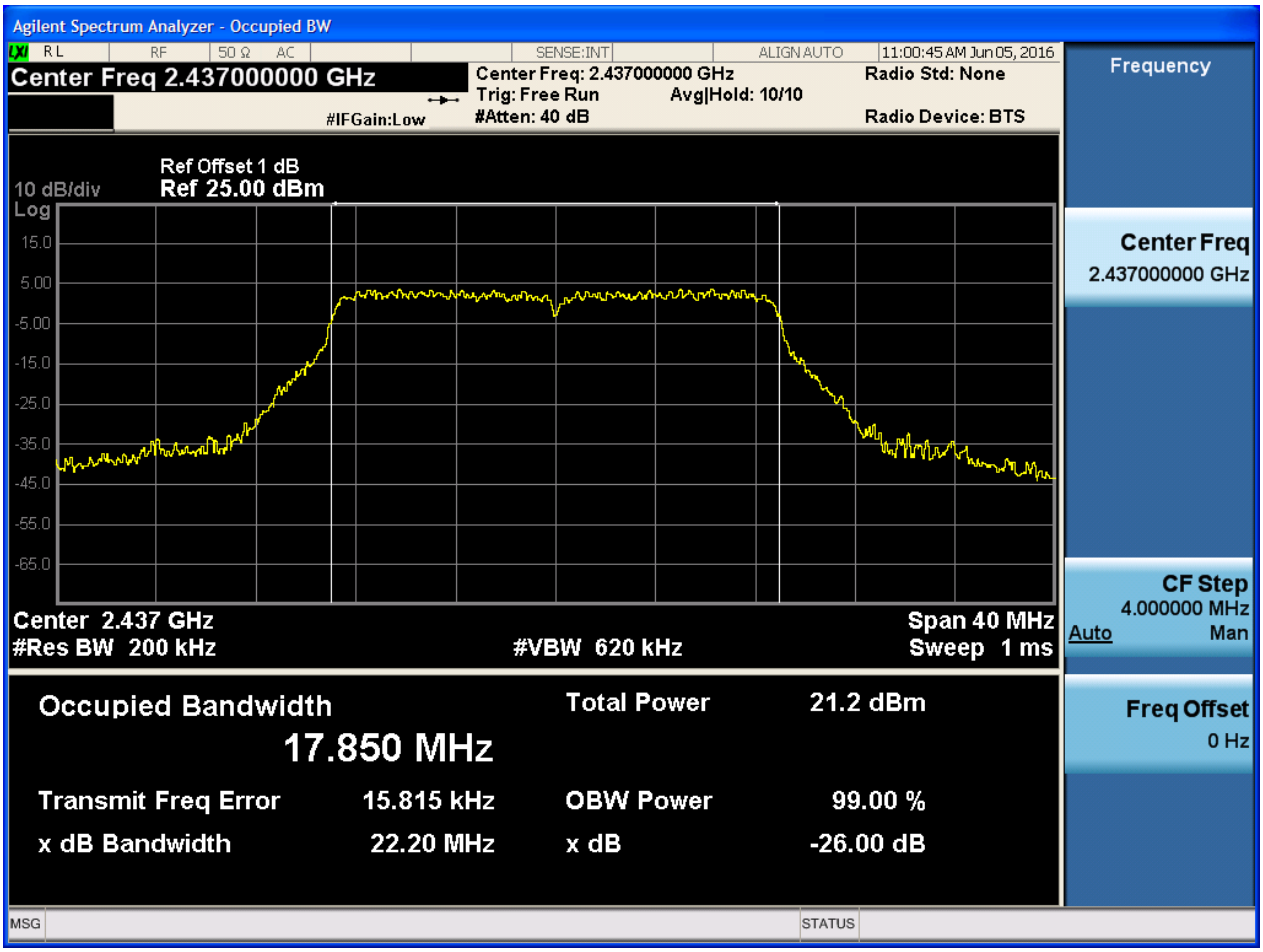
2.11 11G_H@Ant 1



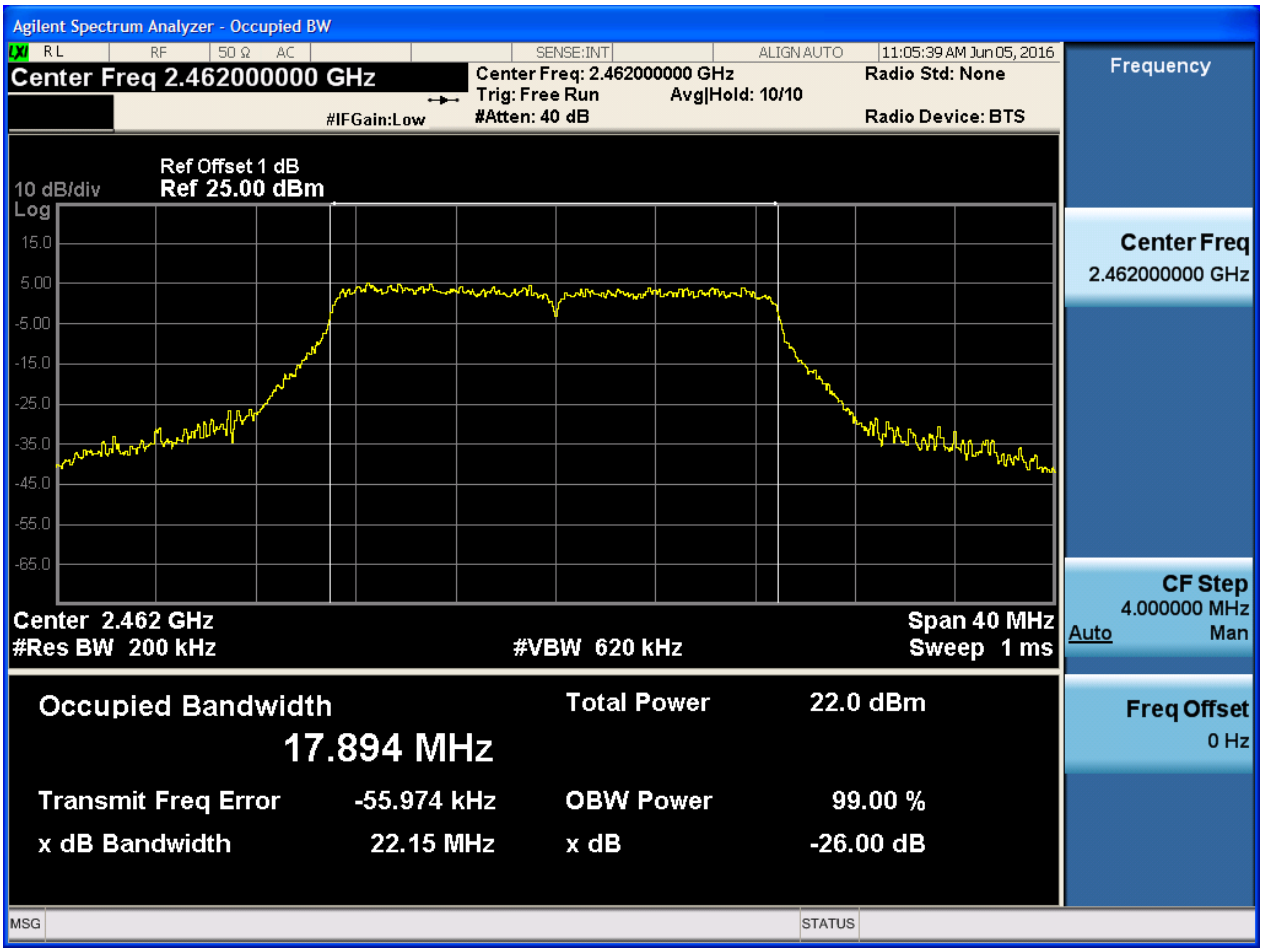
2.13 11N20_L@Ant 1



2.15 11N20_M@Ant 1



2.17 11N20_H@Ant 1



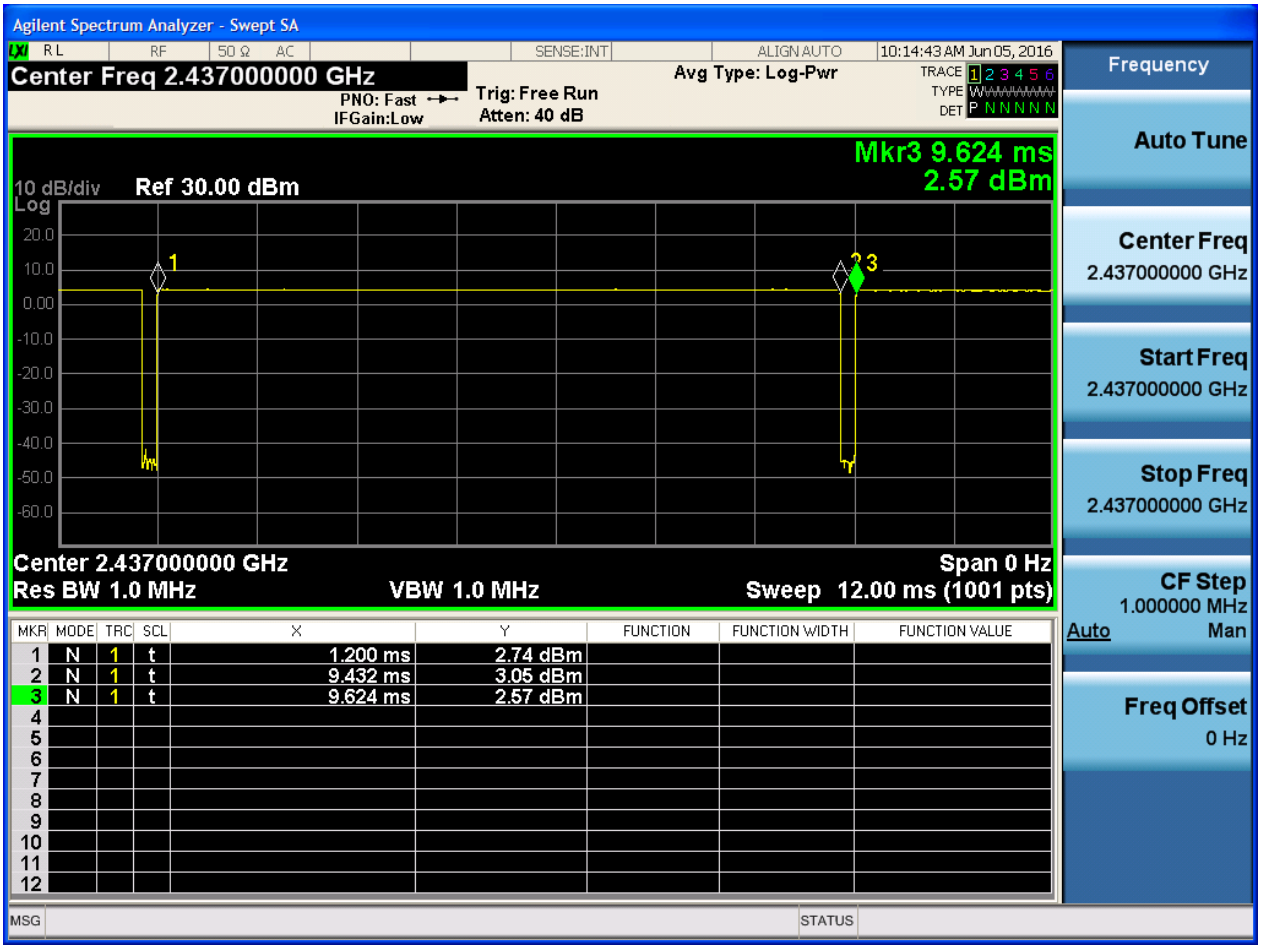
Appendix C: Duty Cycle

Part I - Test Results

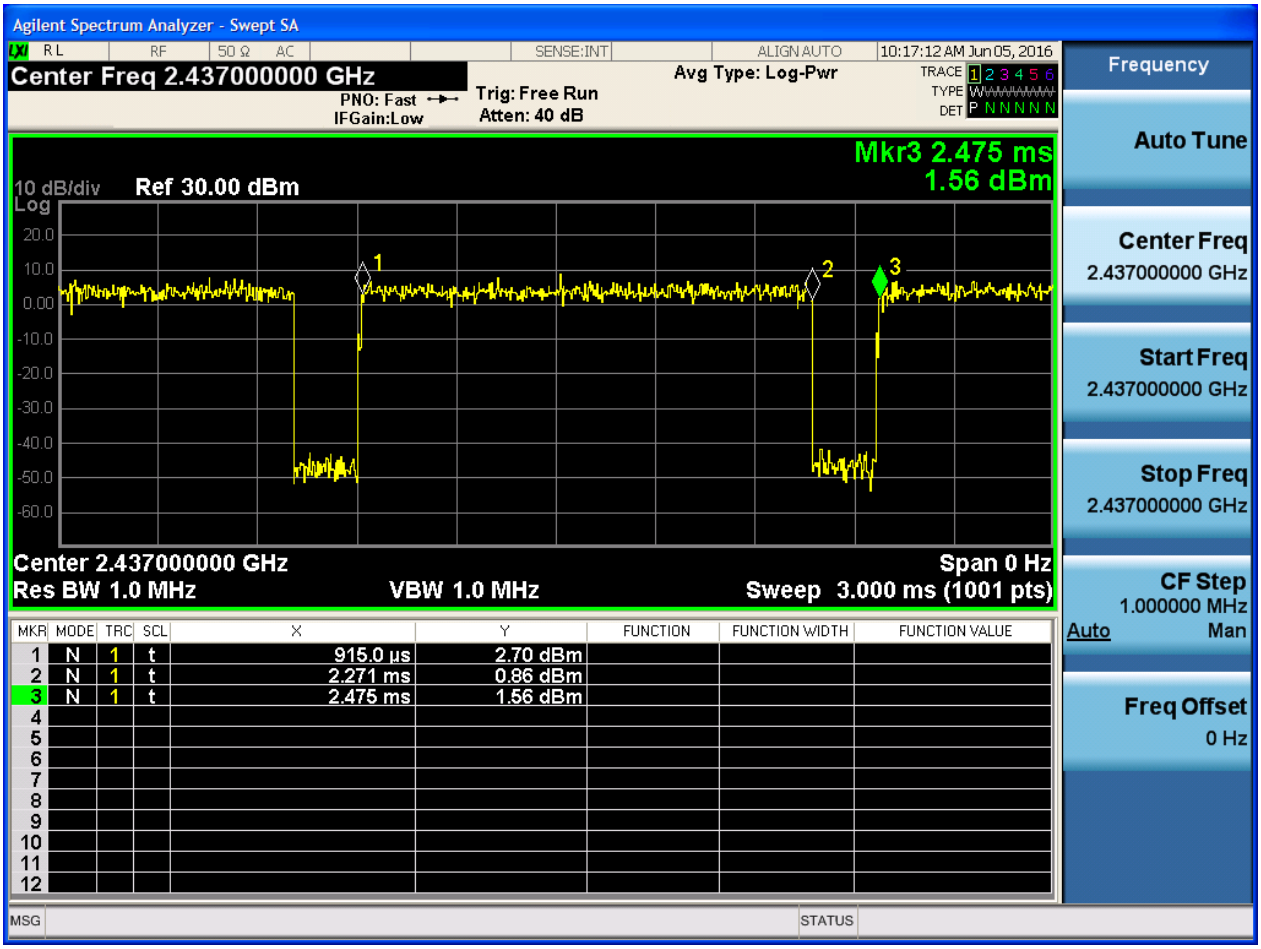
Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	Ant 1: CH1,CH6,CH11	98
11G	Ant 1: CH1,CH6,CH11	87
11N_20M_SISO	Ant 1: CH1,CH6,CH11	87

Part II - Test Plots

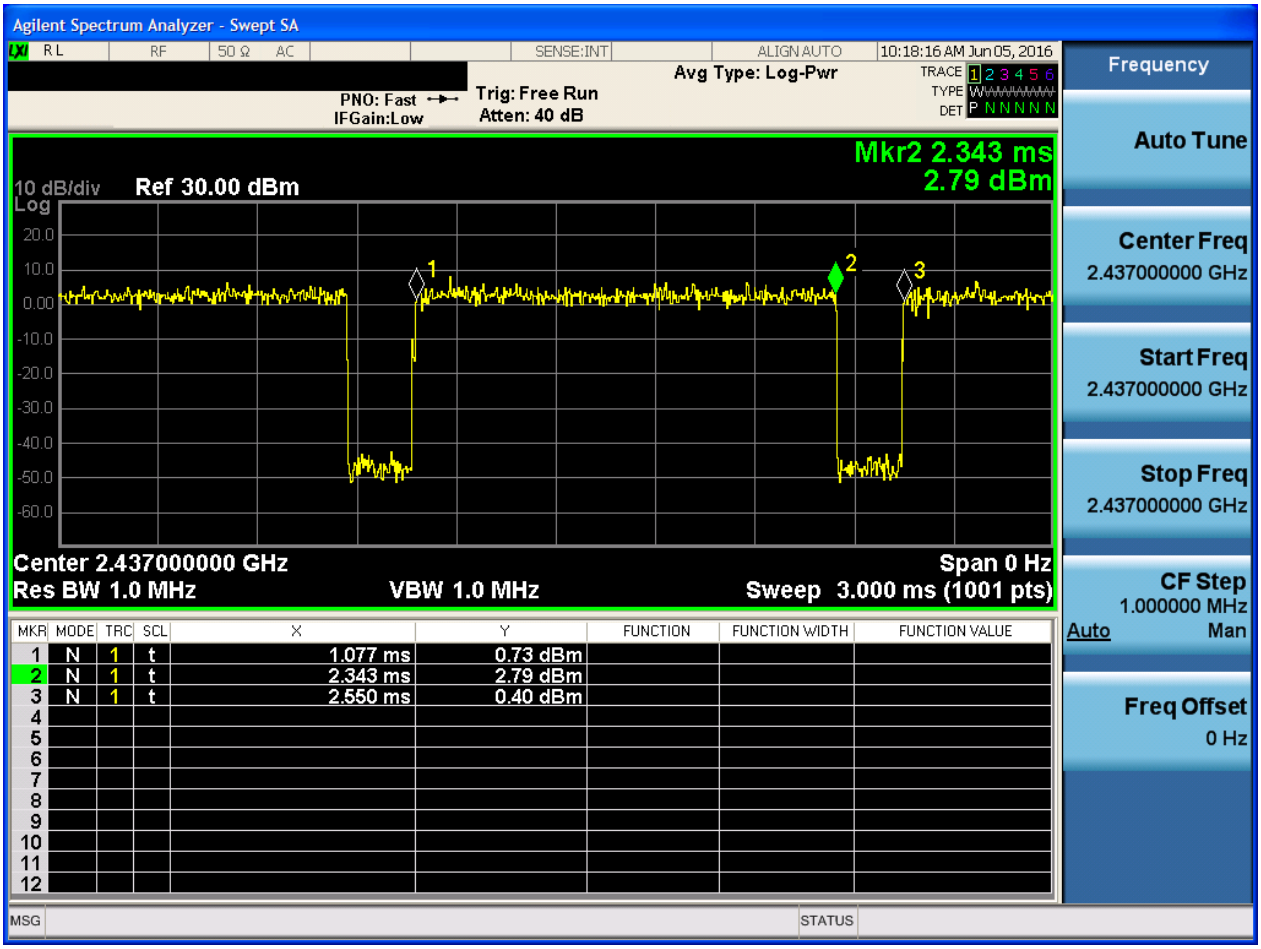
2.1 11B



2.2 11G



2.3 11N20



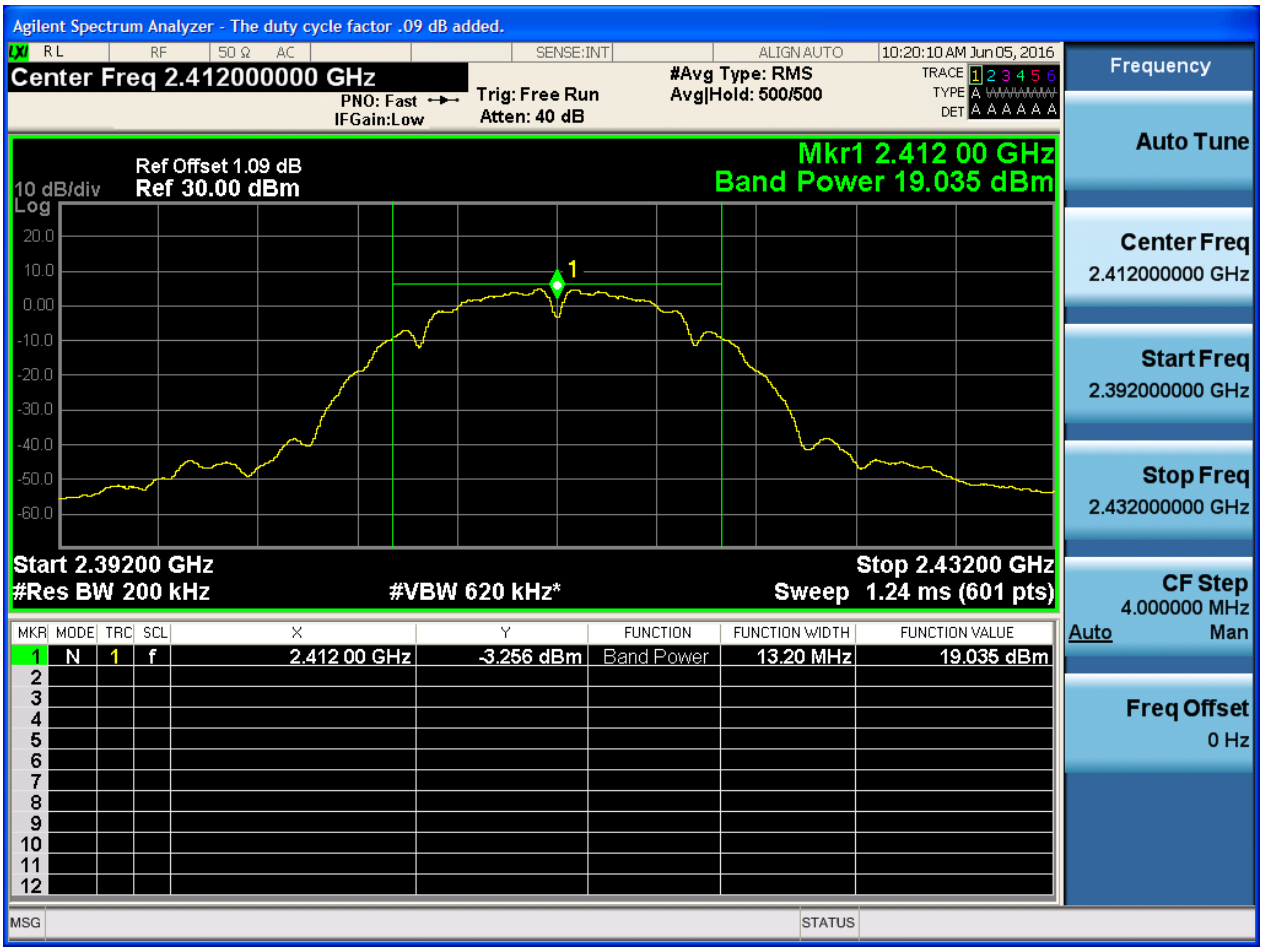
Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

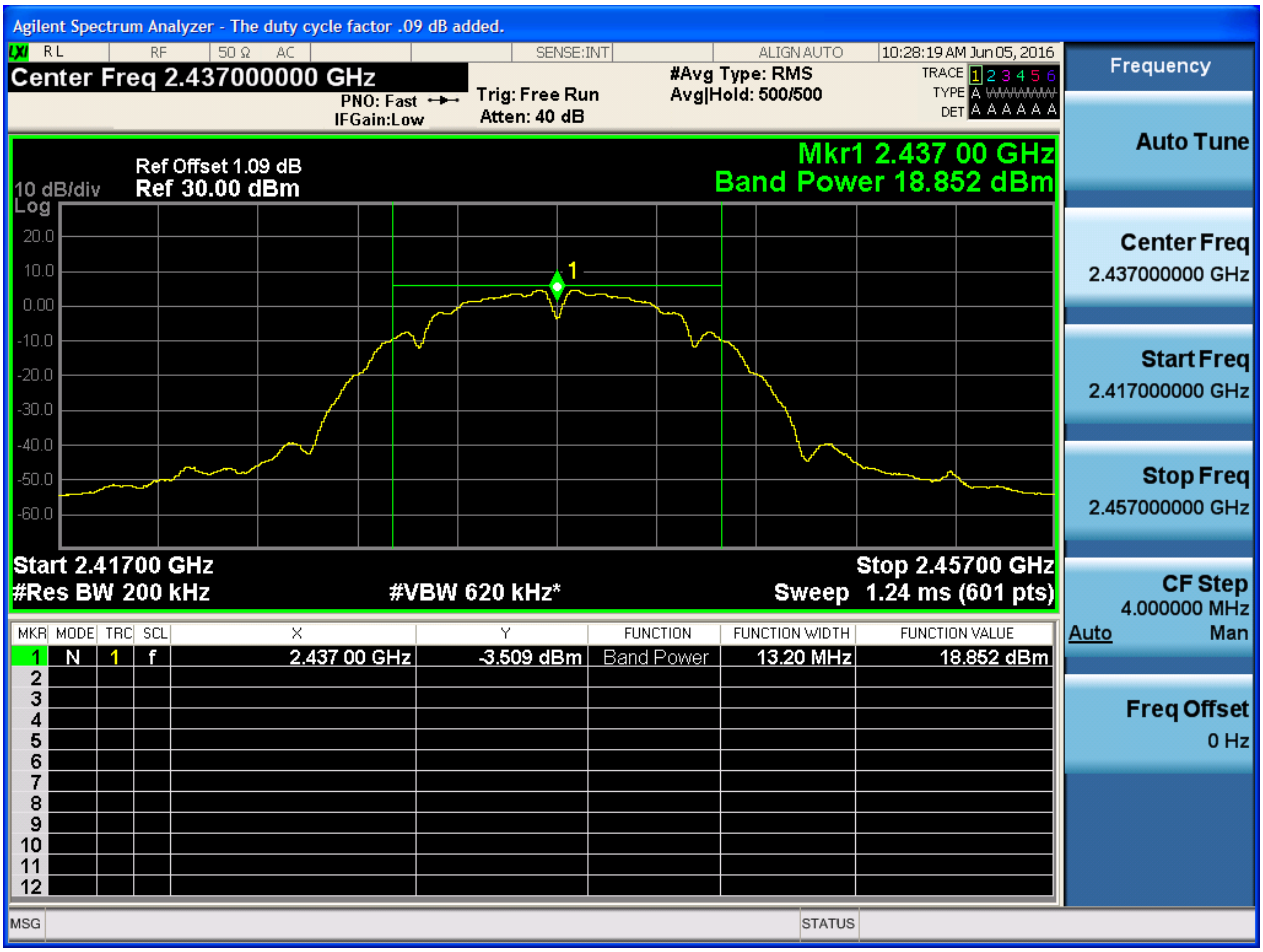
Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
11B	L	2412	Ant 1	19.04	pass
11B	M	2437	Ant 1	18.85	pass
11B	H	2462	Ant 1	19.21	pass
11G	L	2412	Ant 1	14.93	pass
11G	M	2437	Ant 1	15.07	pass
11G	H	2462	Ant 1	15.88	pass
11N20	L	2412	Ant 1	14.11	pass
11N20	M	2437	Ant 1	14.15	pass
11N20	H	2462	Ant 1	14.85	pass

Part II - Test Plots

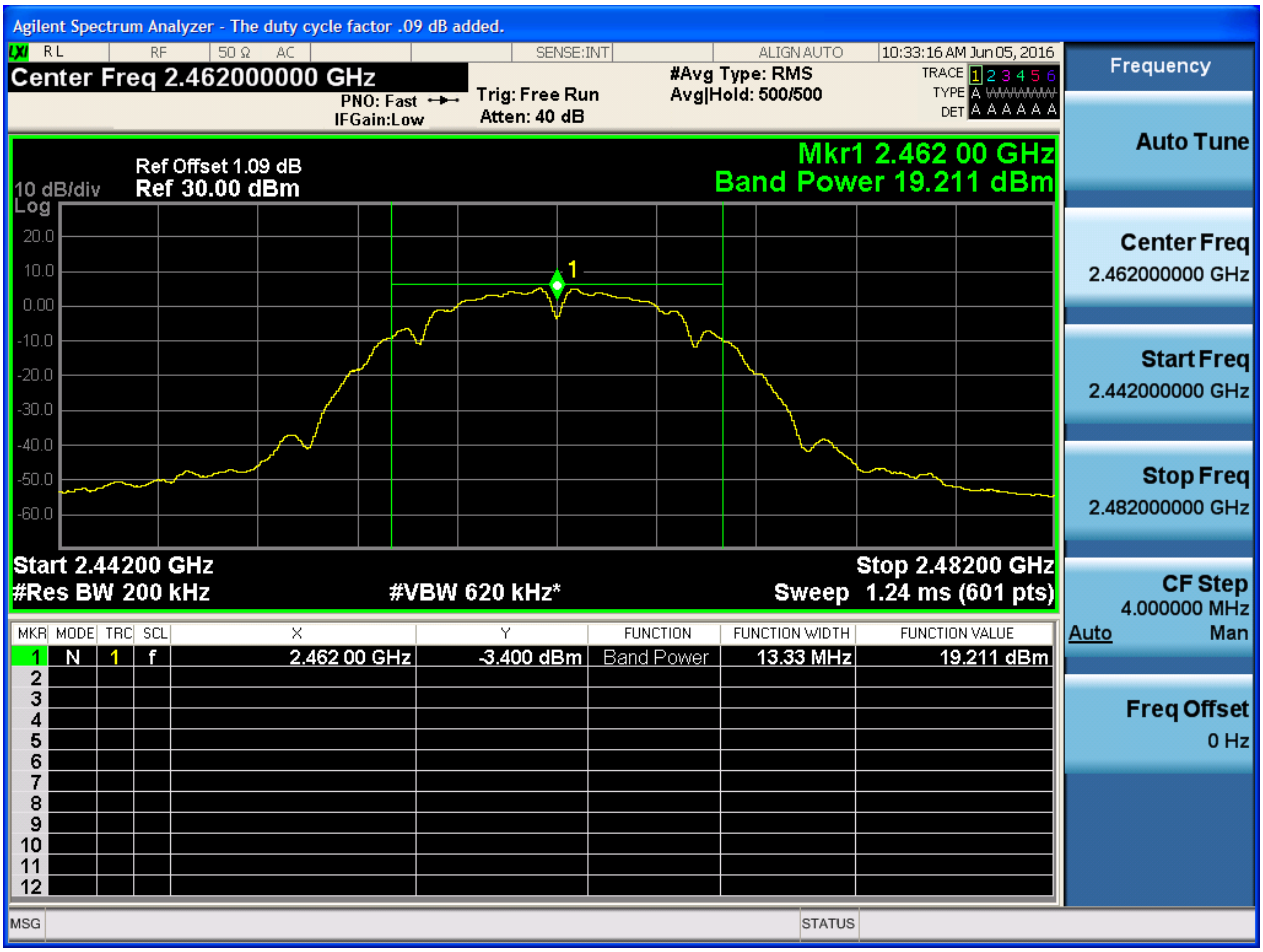
2.1 11B_L@Ant 1



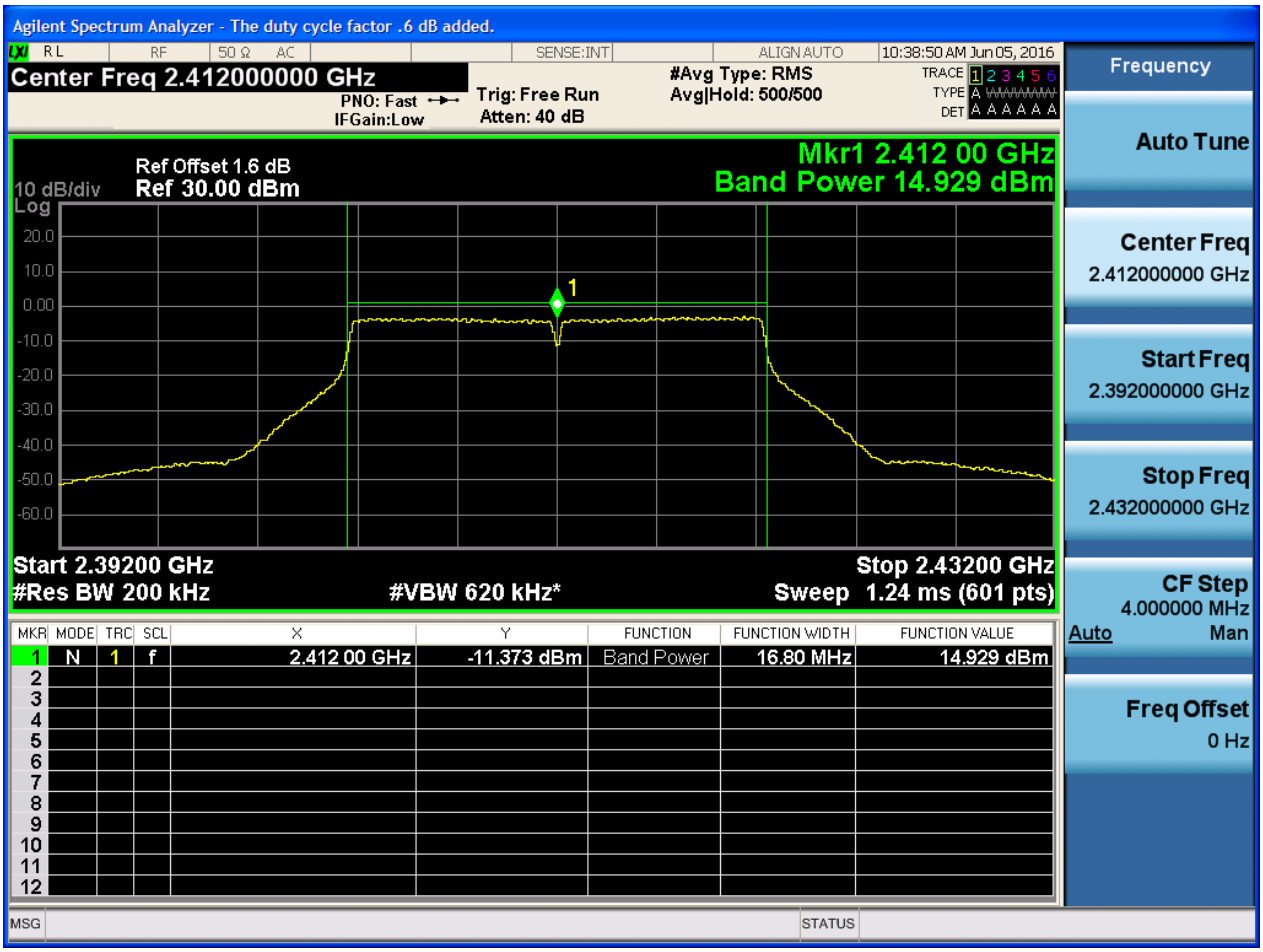
2.3 11B_M@Ant 1



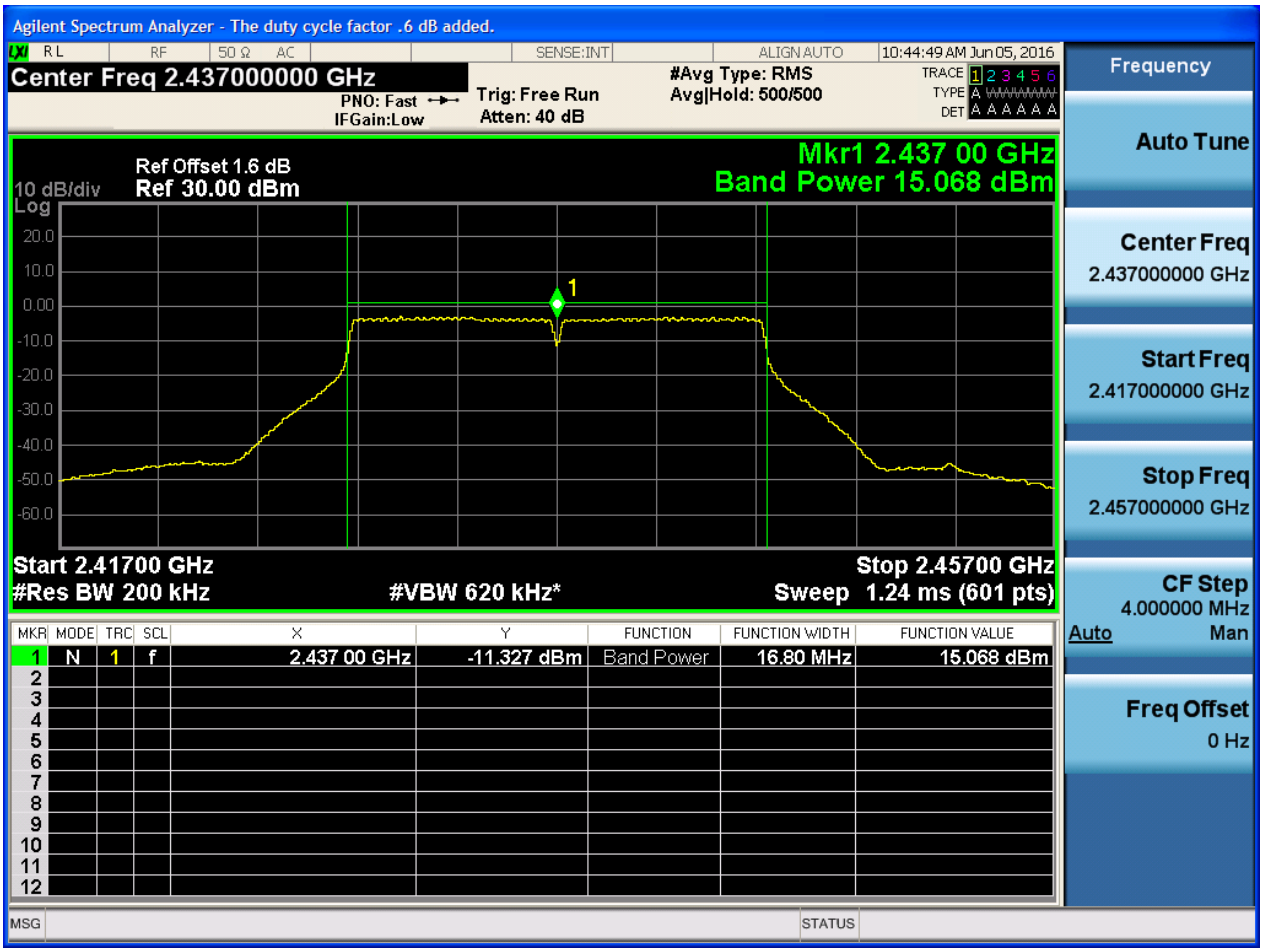
2.5 11B_H@Ant 1



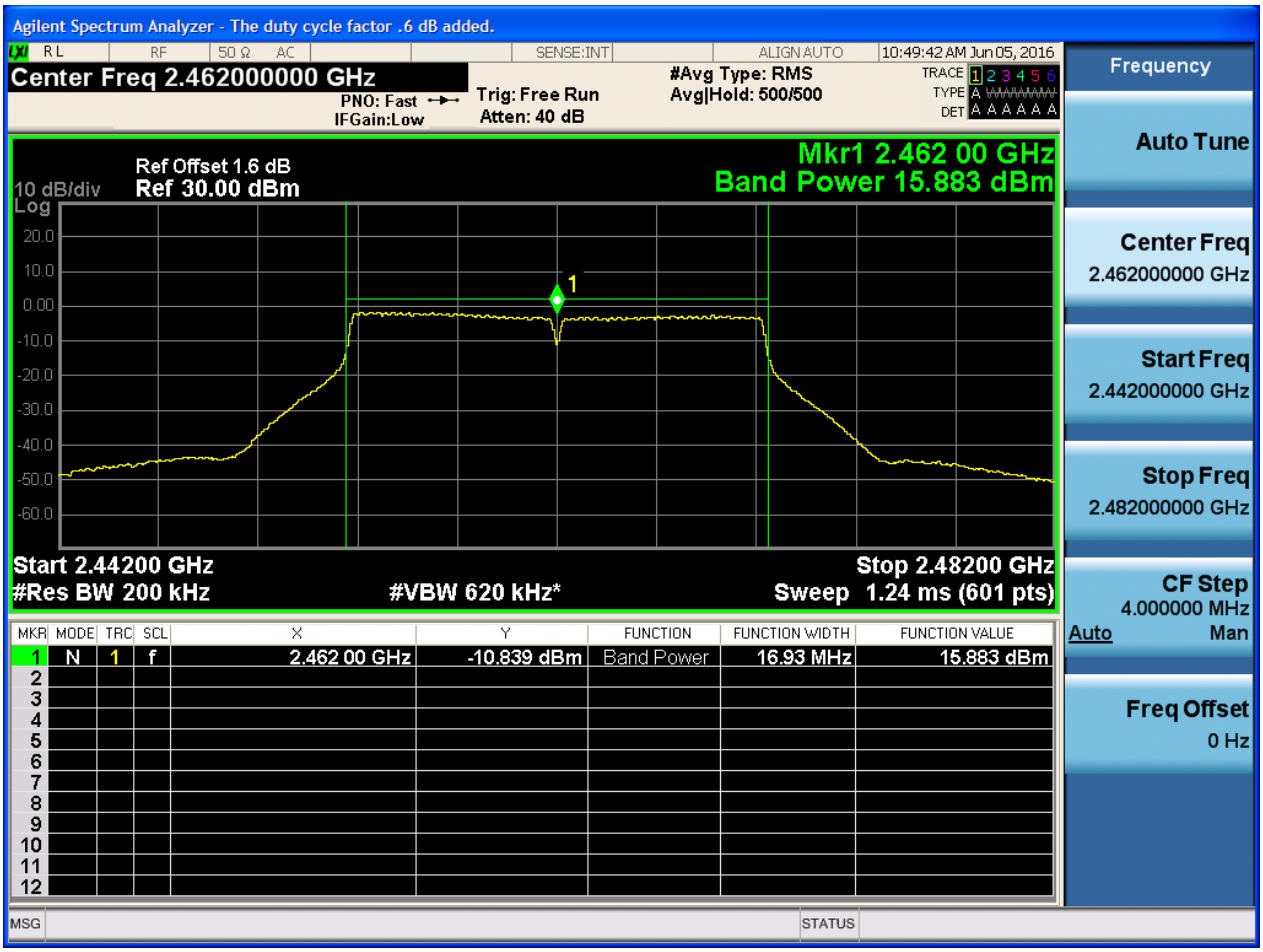
2.7 11G_L@Ant 1



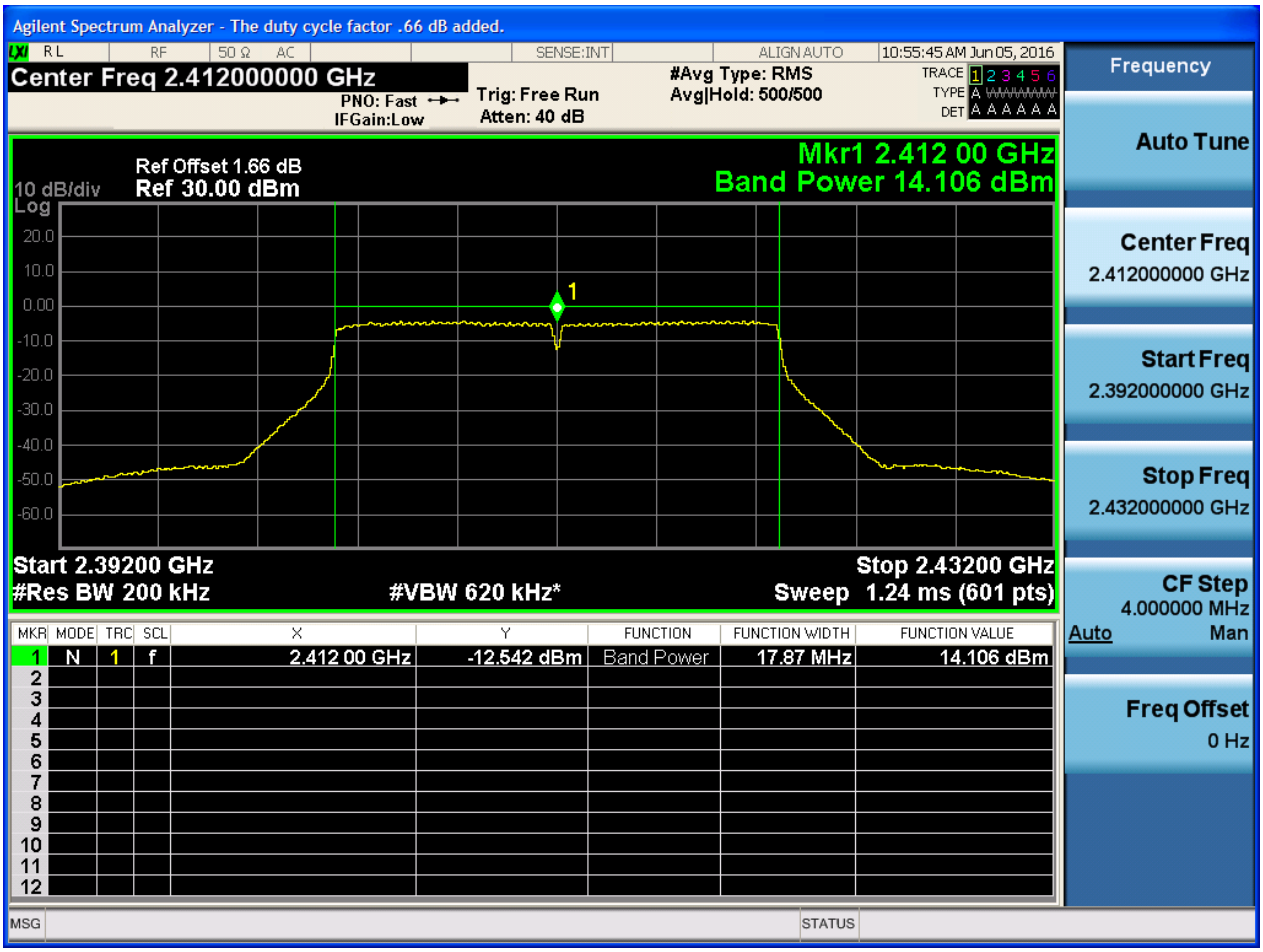
2.9 11G_M@Ant 1



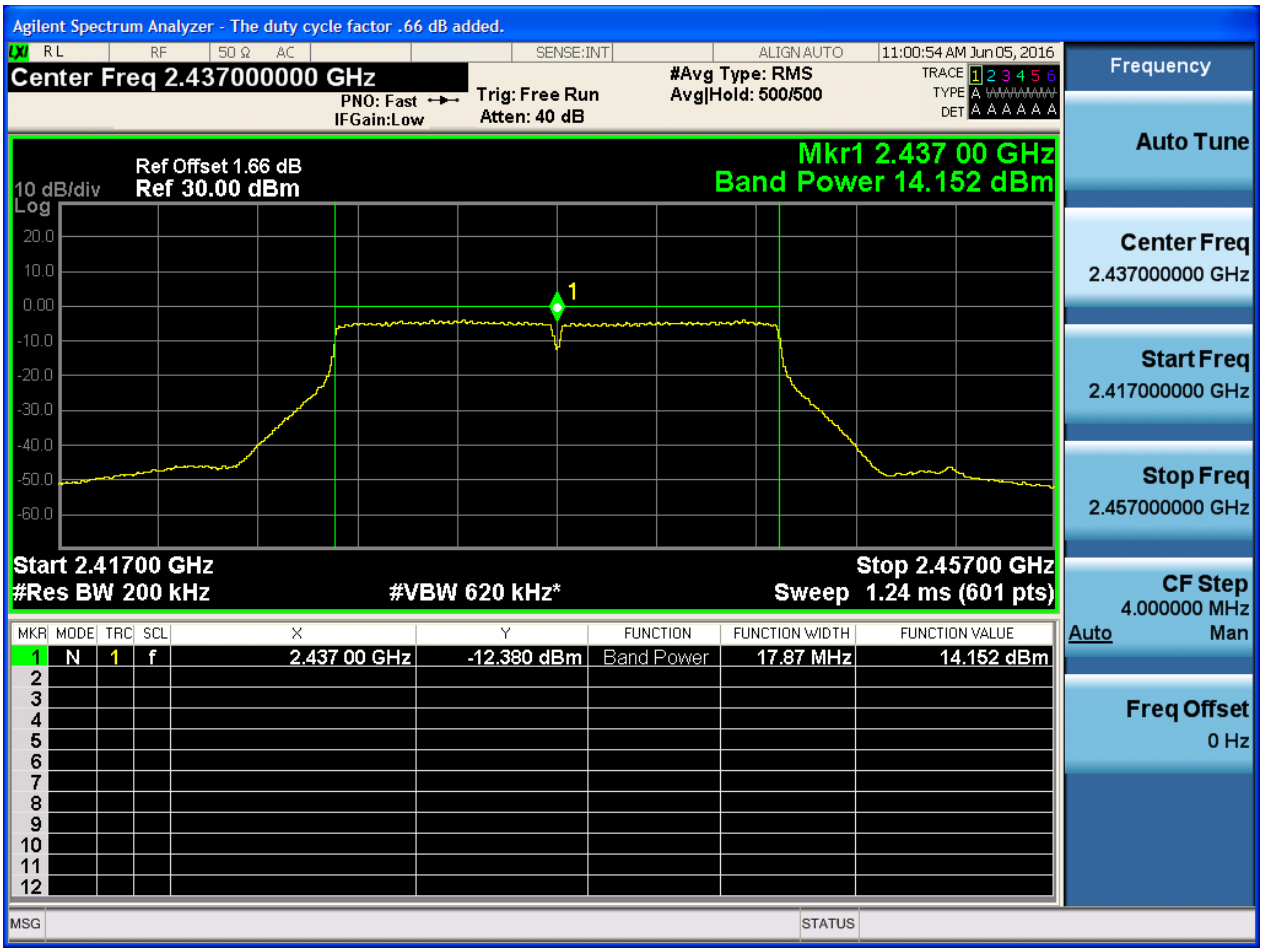
2.11 11G_H@Ant 1



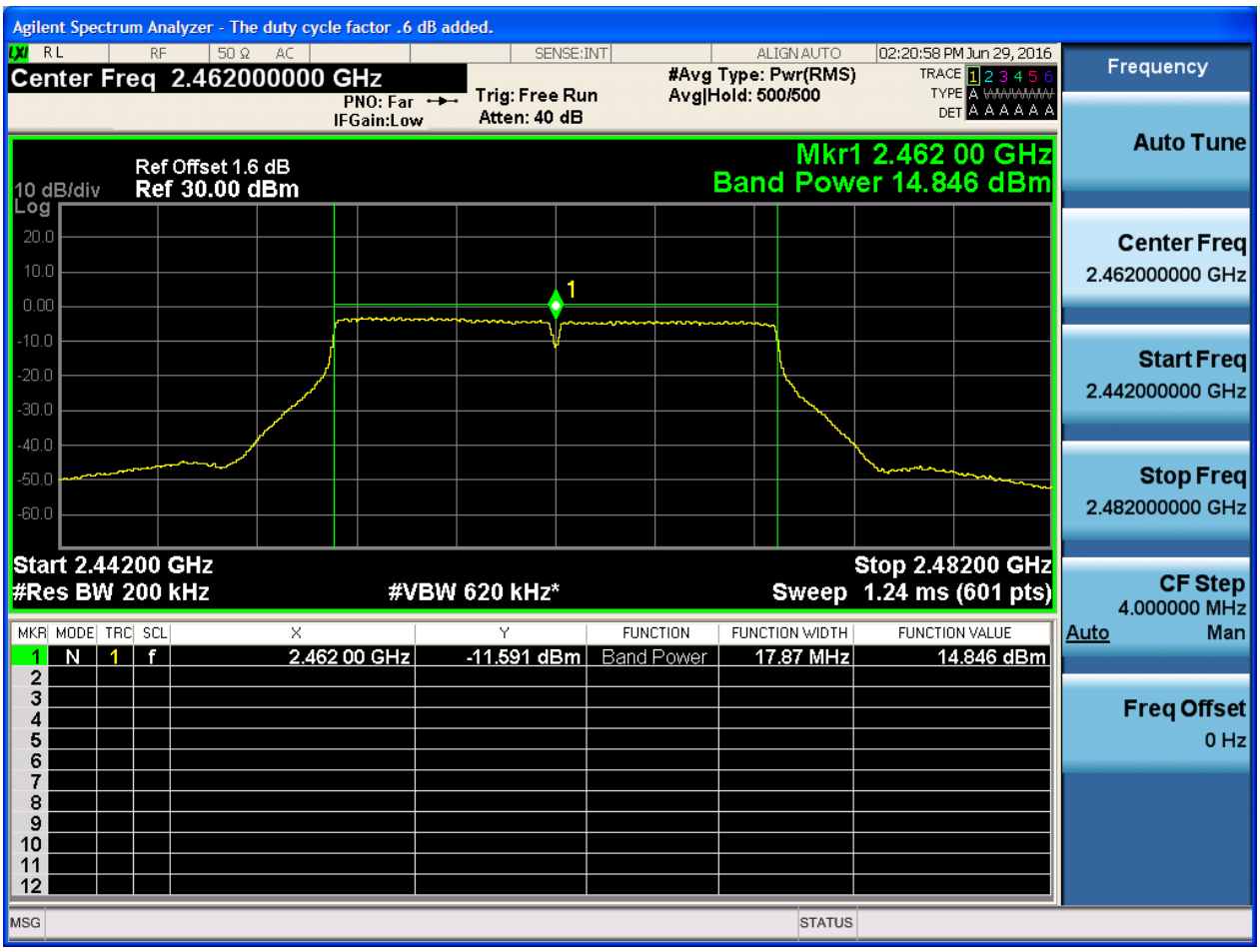
2.13 11N20_L@Ant 1



2.15 11N20_M@Ant 1



2.17 11N20_H@Ant 1



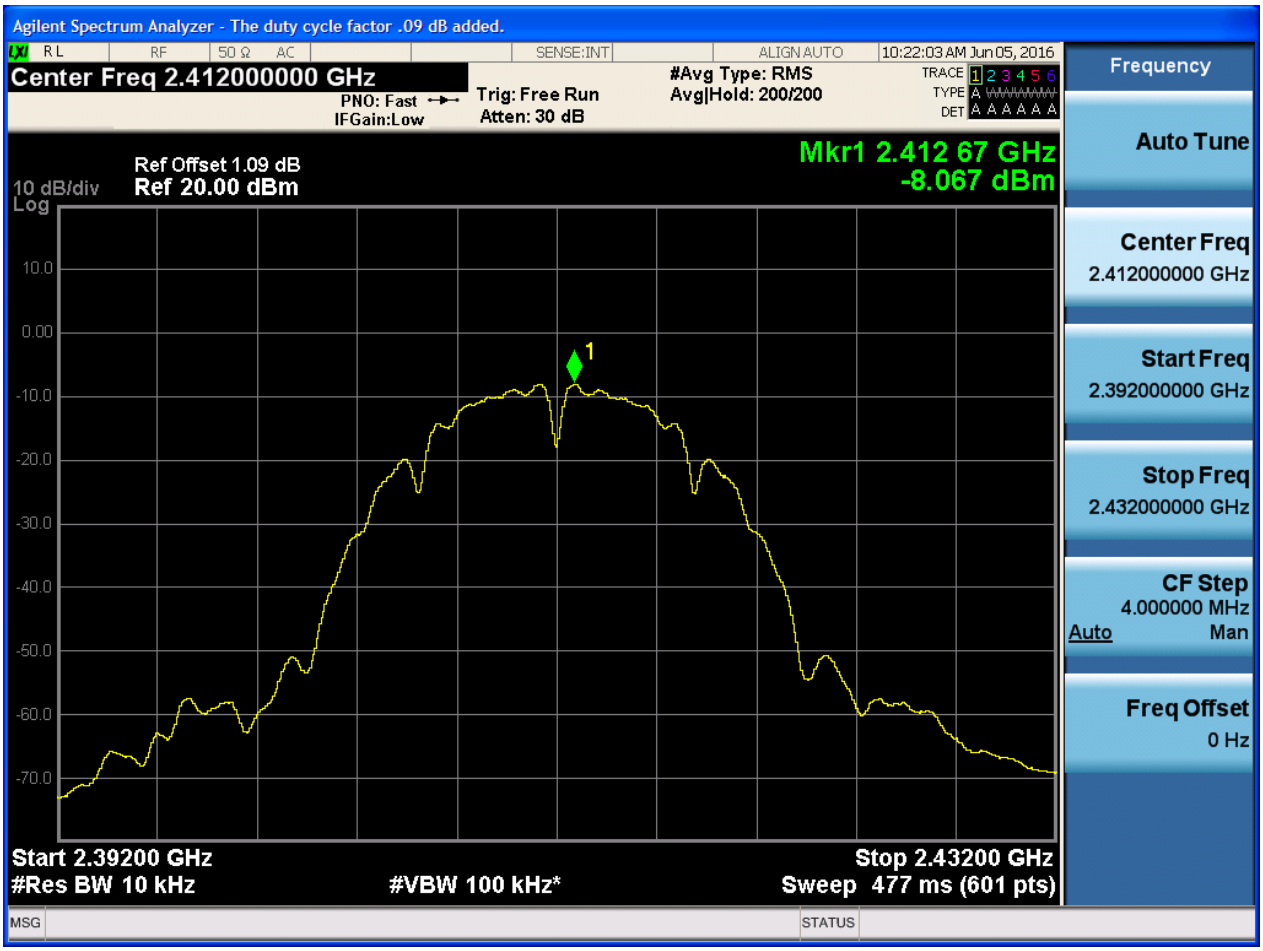
Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

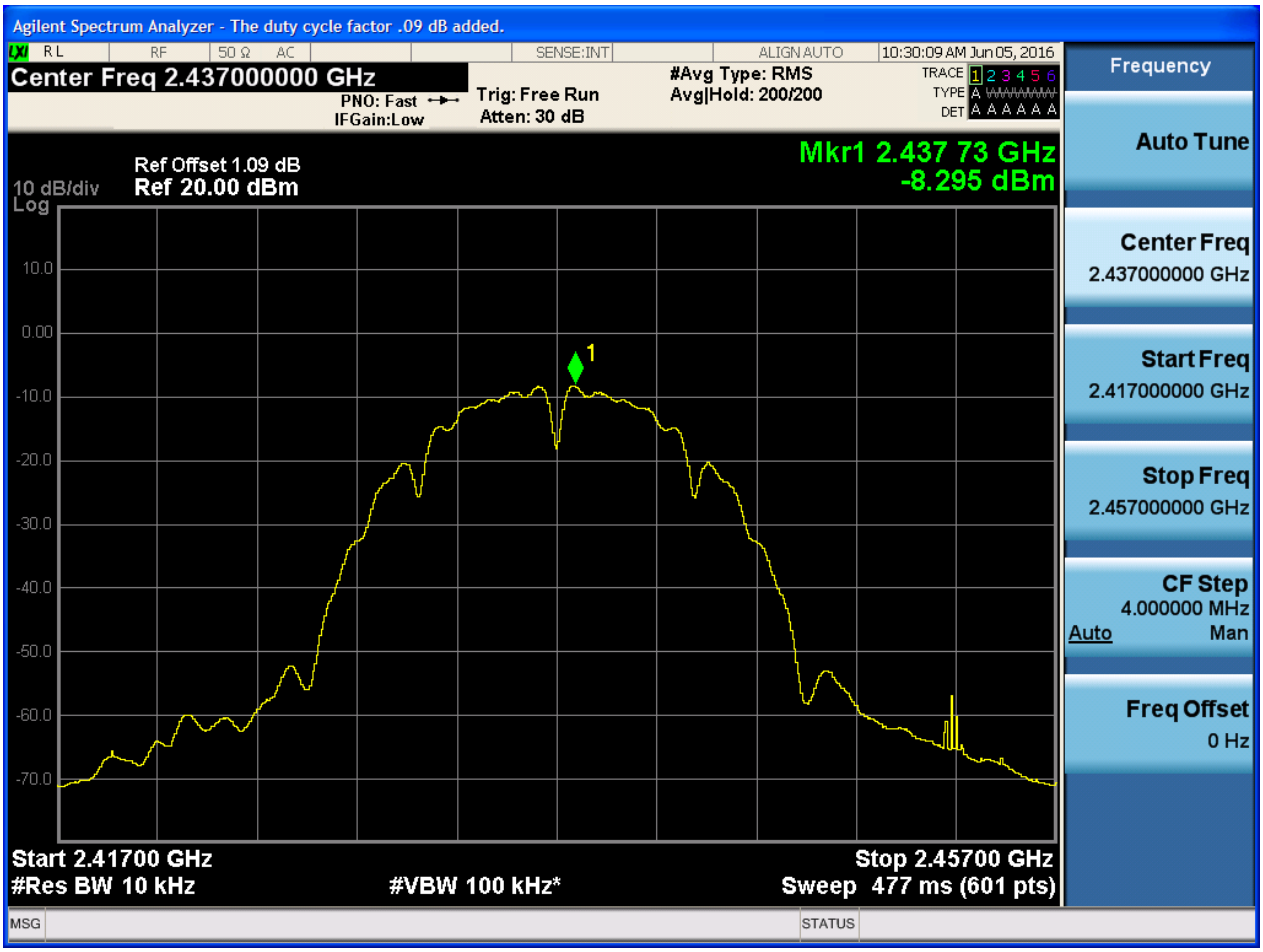
Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
11B	L	2412	Ant 1	-8.07	pass
11B	M	2437	Ant 1	-8.30	pass
11B	H	2462	Ant 1	-7.78	pass
11G	L	2412	Ant 1	-15.01	pass
11G	M	2437	Ant 1	-14.94	pass
11G	H	2462	Ant 1	-13.66	pass
11N20	L	2412	Ant 1	-16.18	pass
11N20	M	2437	Ant 1	-16.35	pass
11N20	H	2462	Ant 1	-14.95	pass

Part II - Test Plots

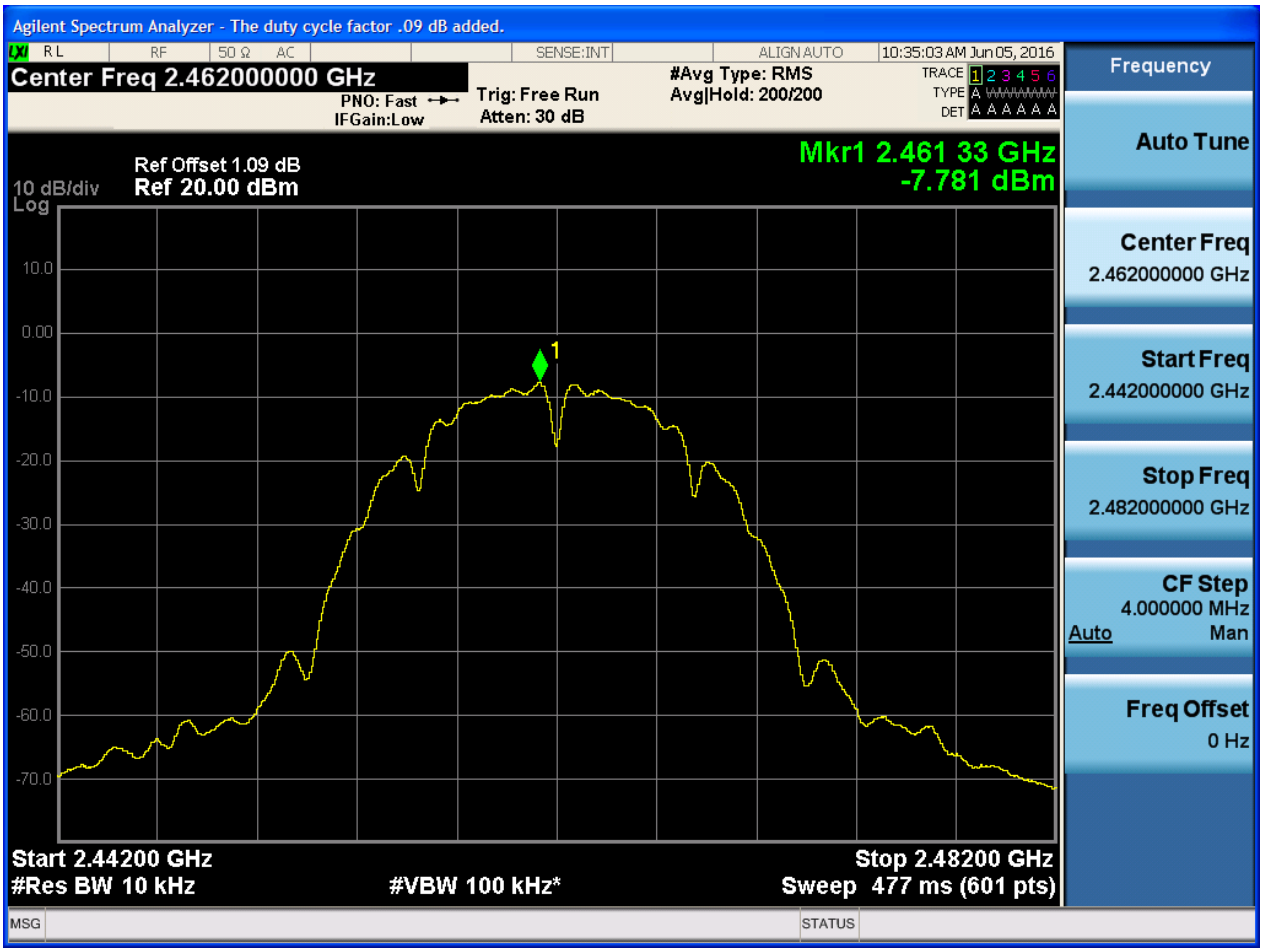
2.1 11B_L@Ant 1



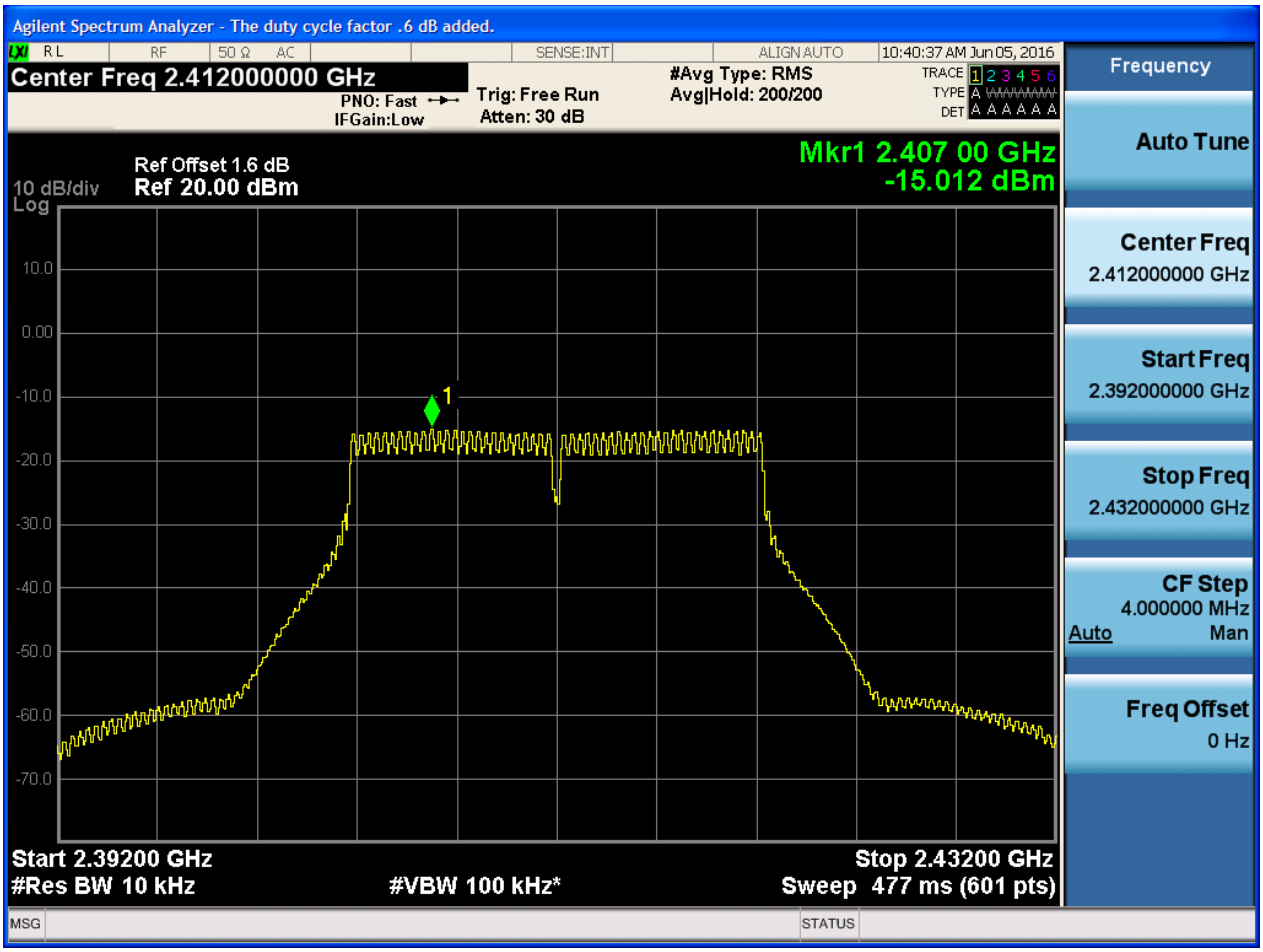
2.3 11B_M@Ant 1



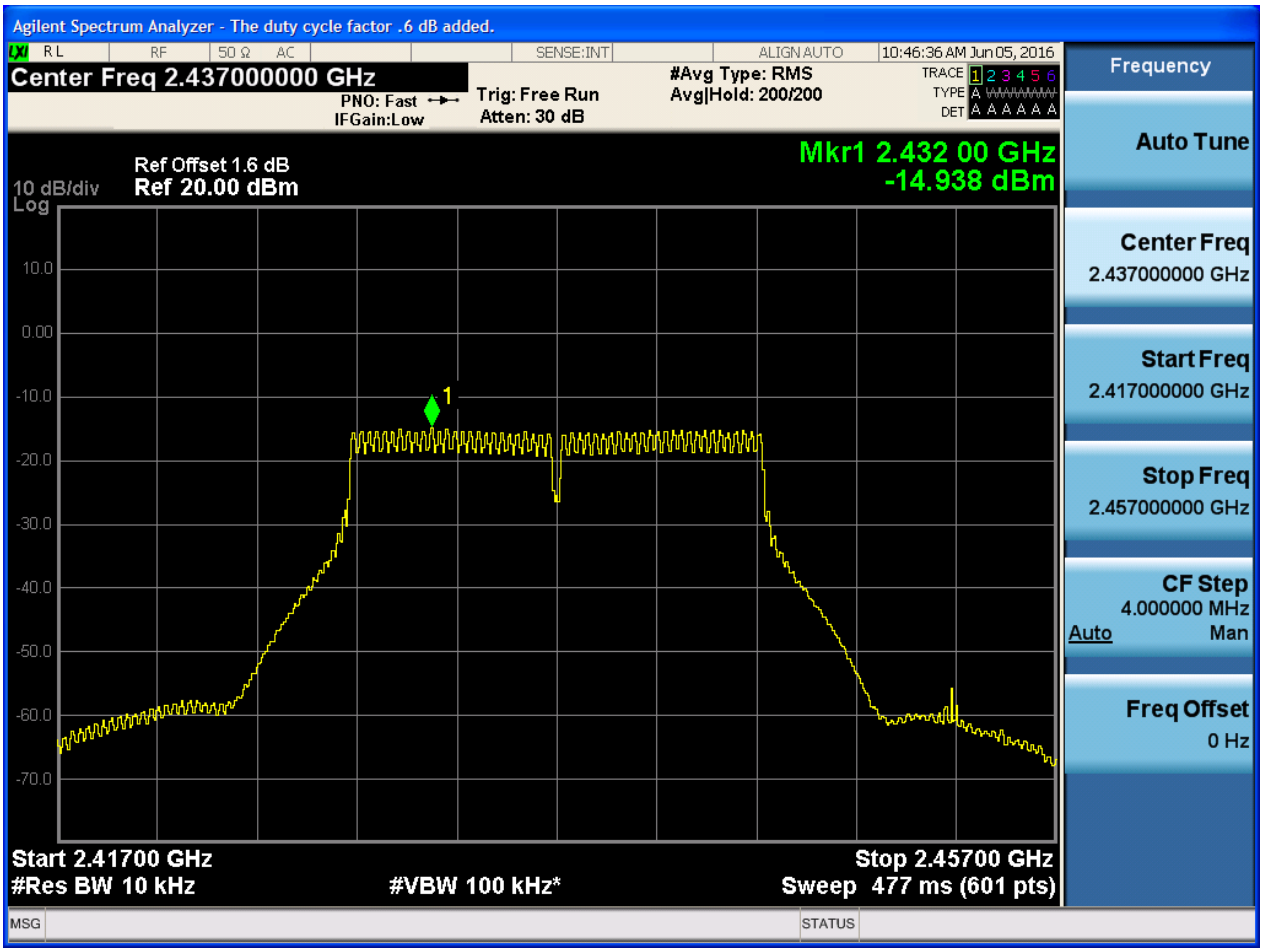
2.5 11B_H@Ant 1



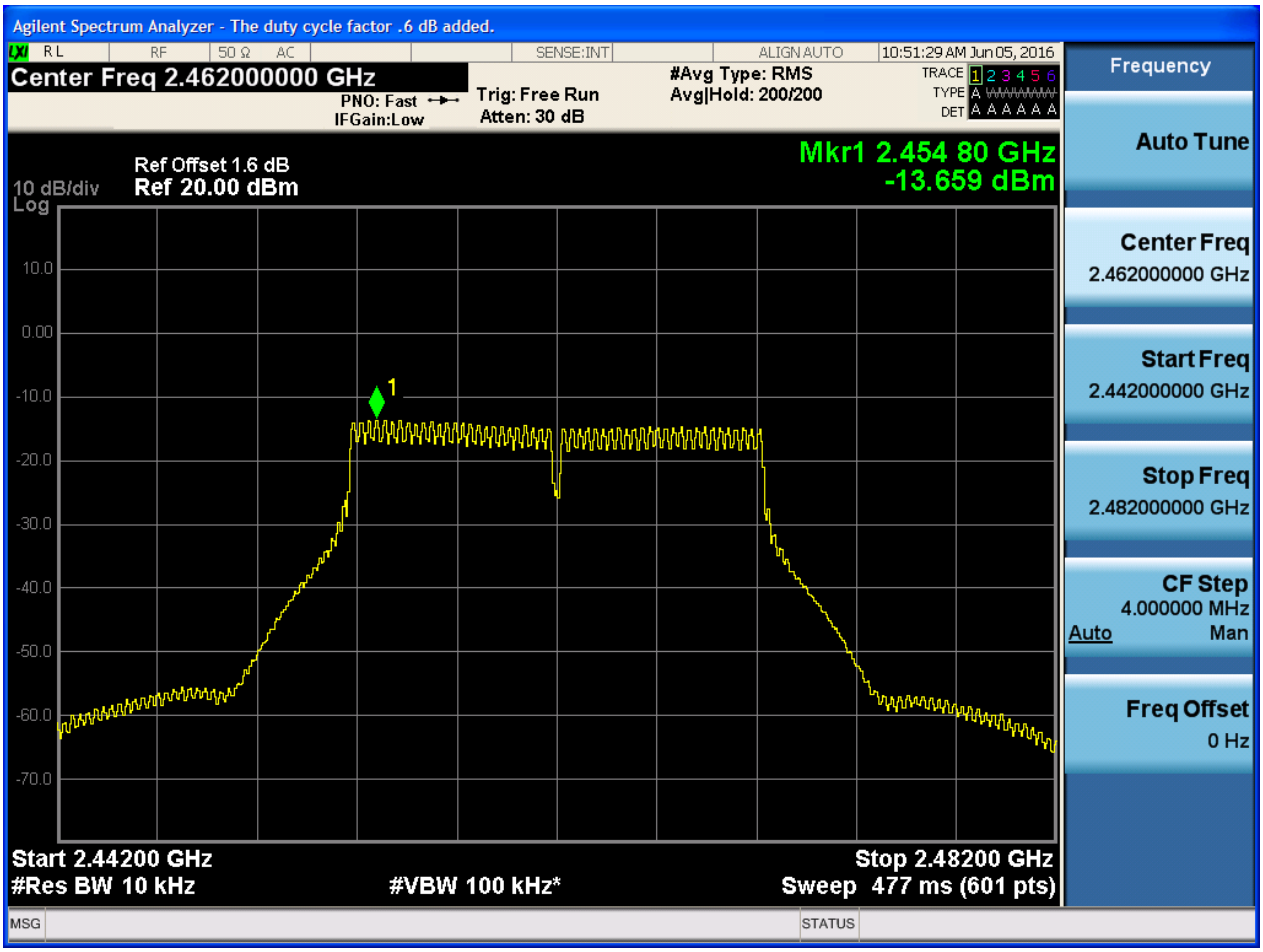
2.7 11G_L@Ant 1



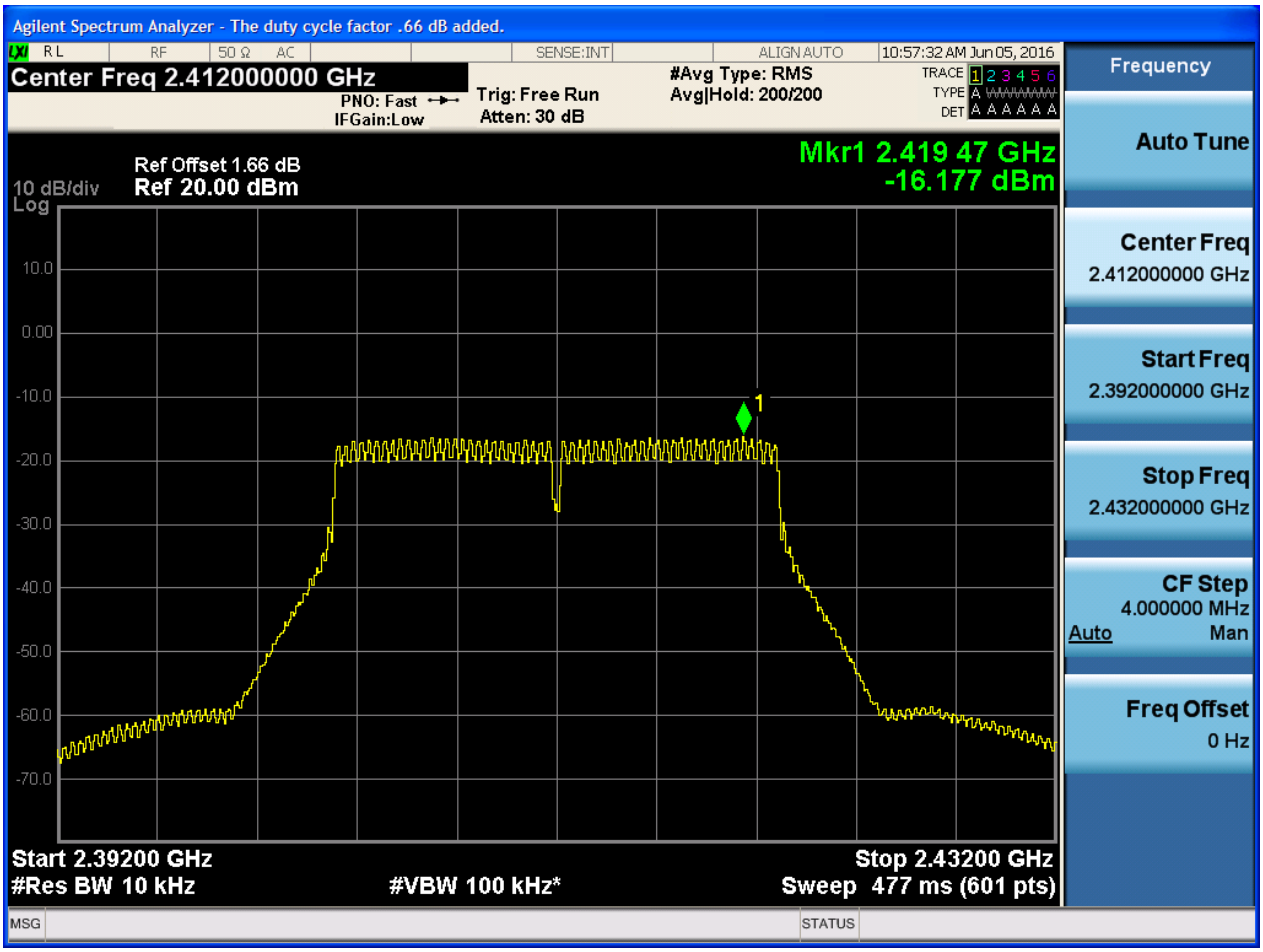
2.9 11G_M@Ant 1



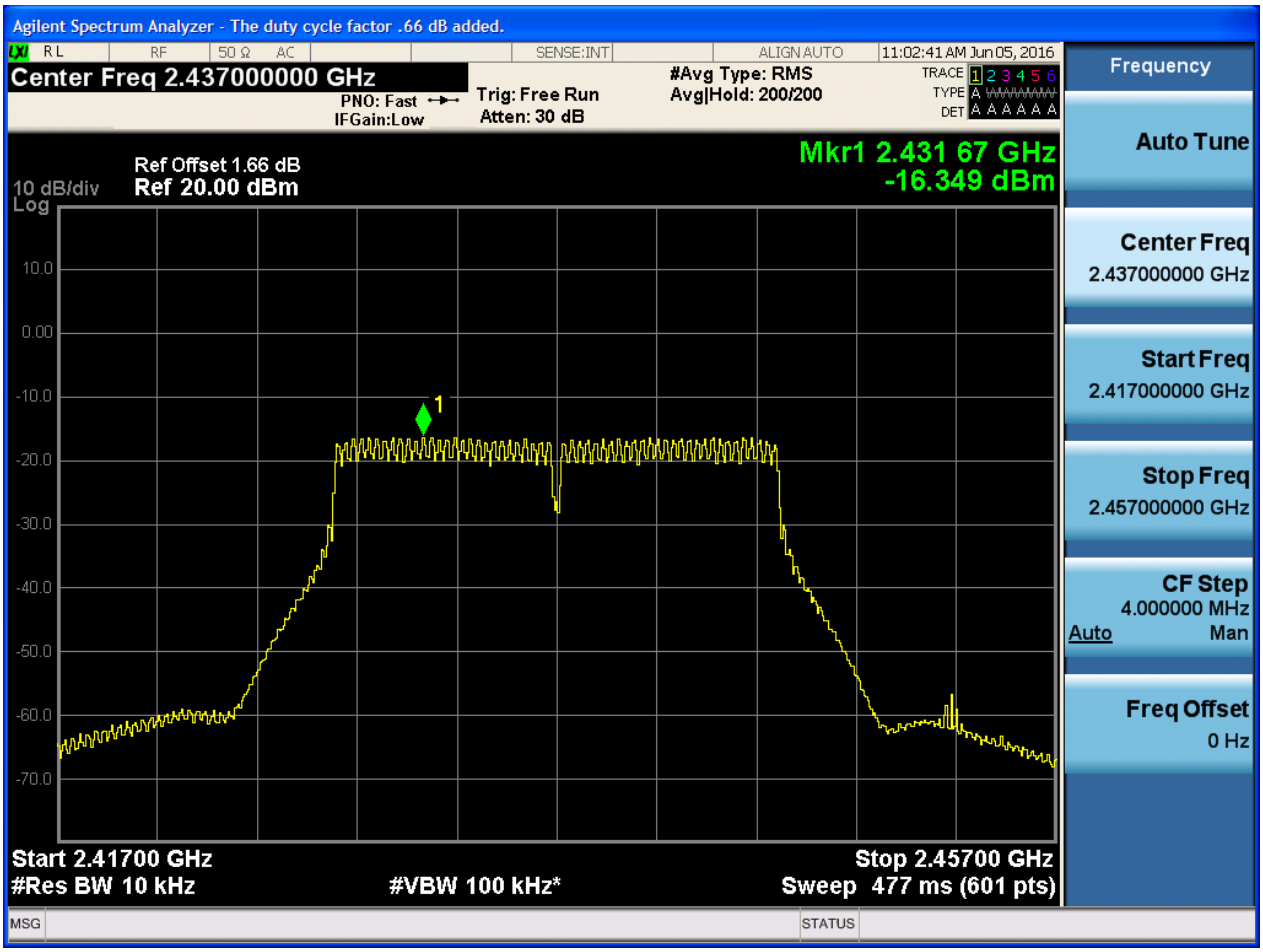
2.11 11G_H@Ant 1



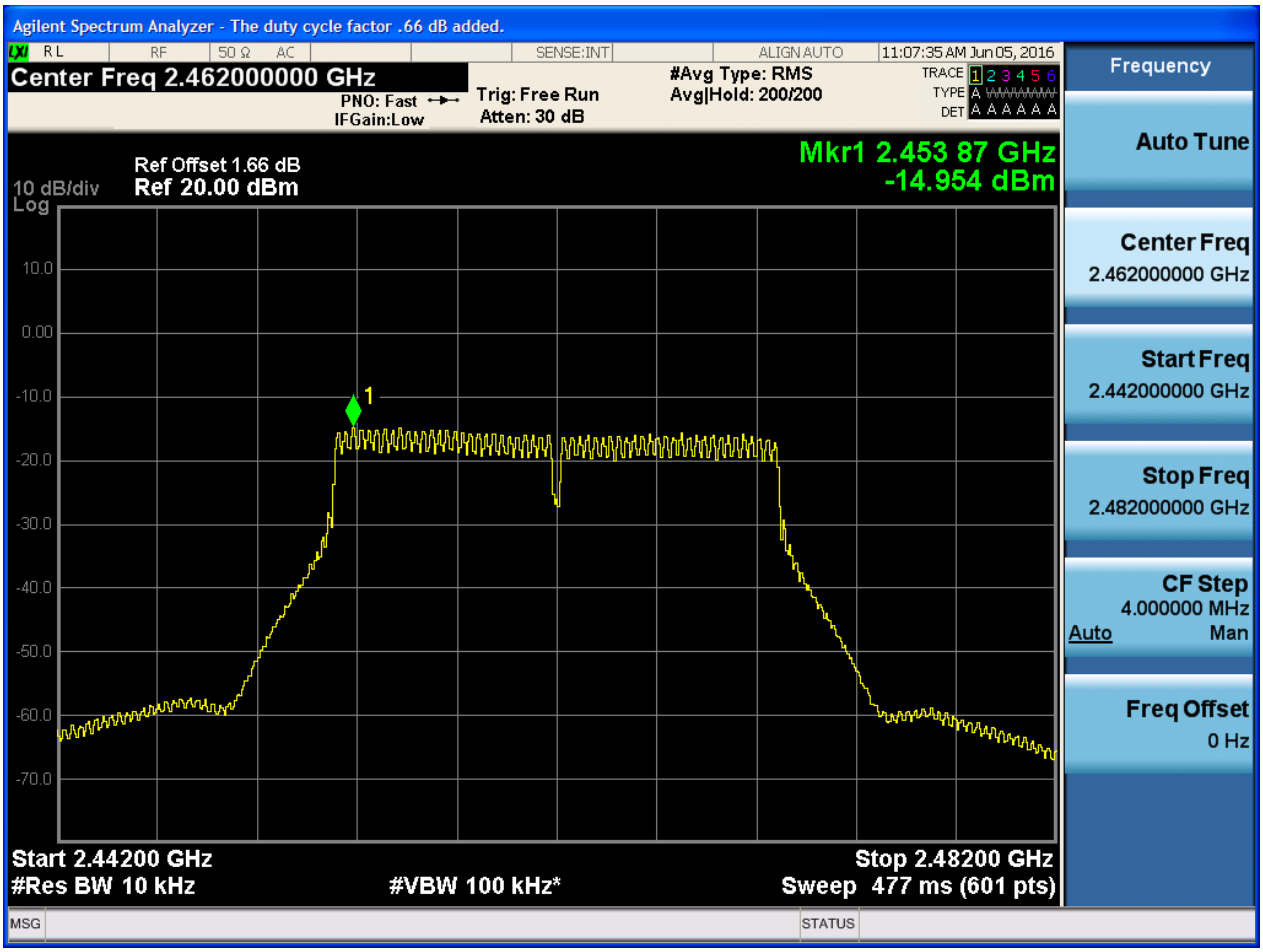
2.13 11N20_L@Ant 1



2.15 11N20_M@Ant 1



2.17 11N20_H@Ant 1



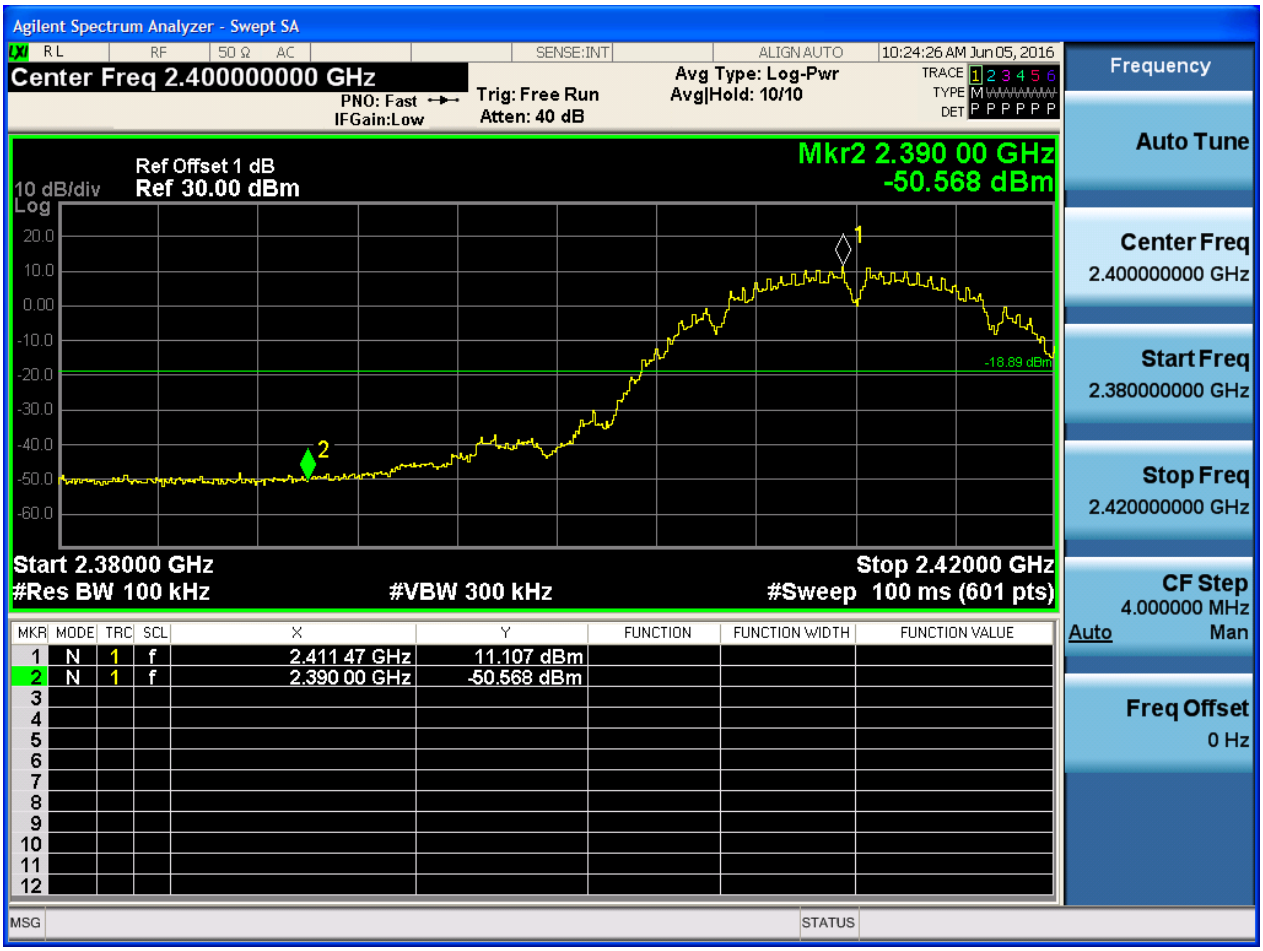
Appendix F: Band Edges Compliance

Part I - Test Results

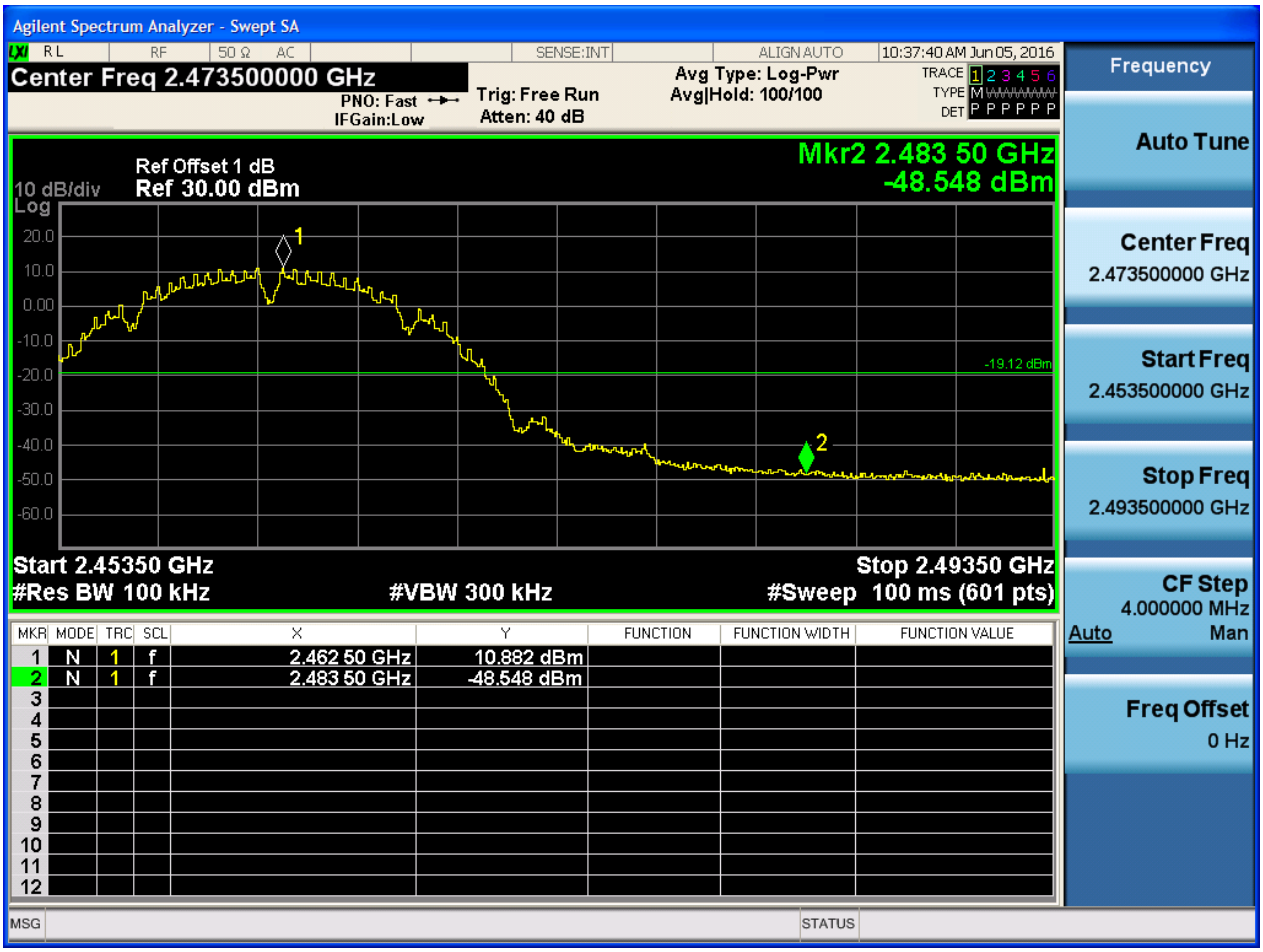
Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	Ant 1	11.11	-50.57	pass
11B	H	2462	Ant 1	10.88	-48.55	pass
11G	L	2412	Ant 1	3.65	-49.14	pass
11G	H	2462	Ant 1	5.21	-42.34	pass
11N20	L	2412	Ant 1	2.48	-49.53	pass
11N20	H	2462	Ant 1	4.07	-44.68	pass

Part II - Test Plots

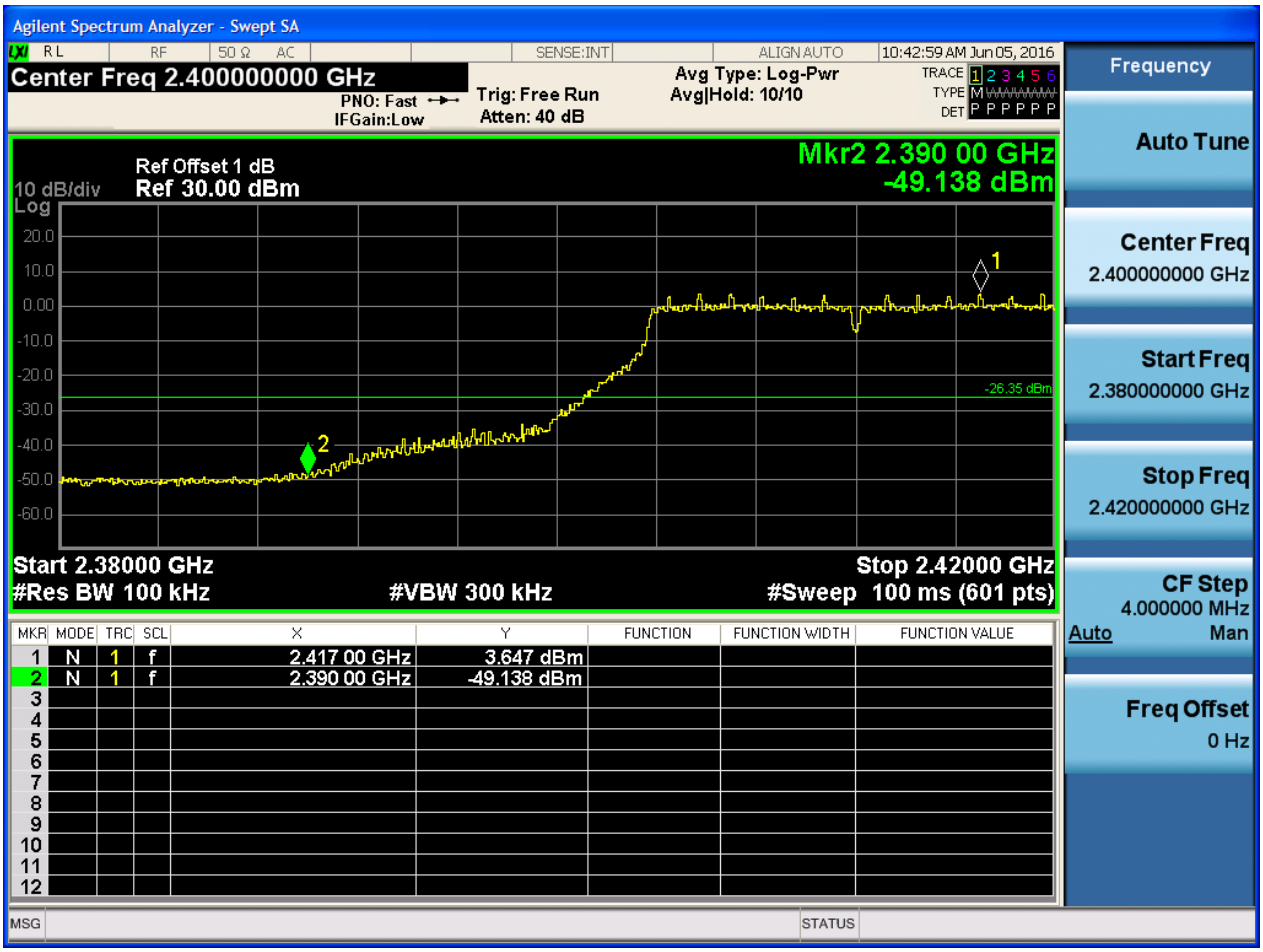
2.1 11B_L@Ant 1



2.3 11B_H@Ant 1

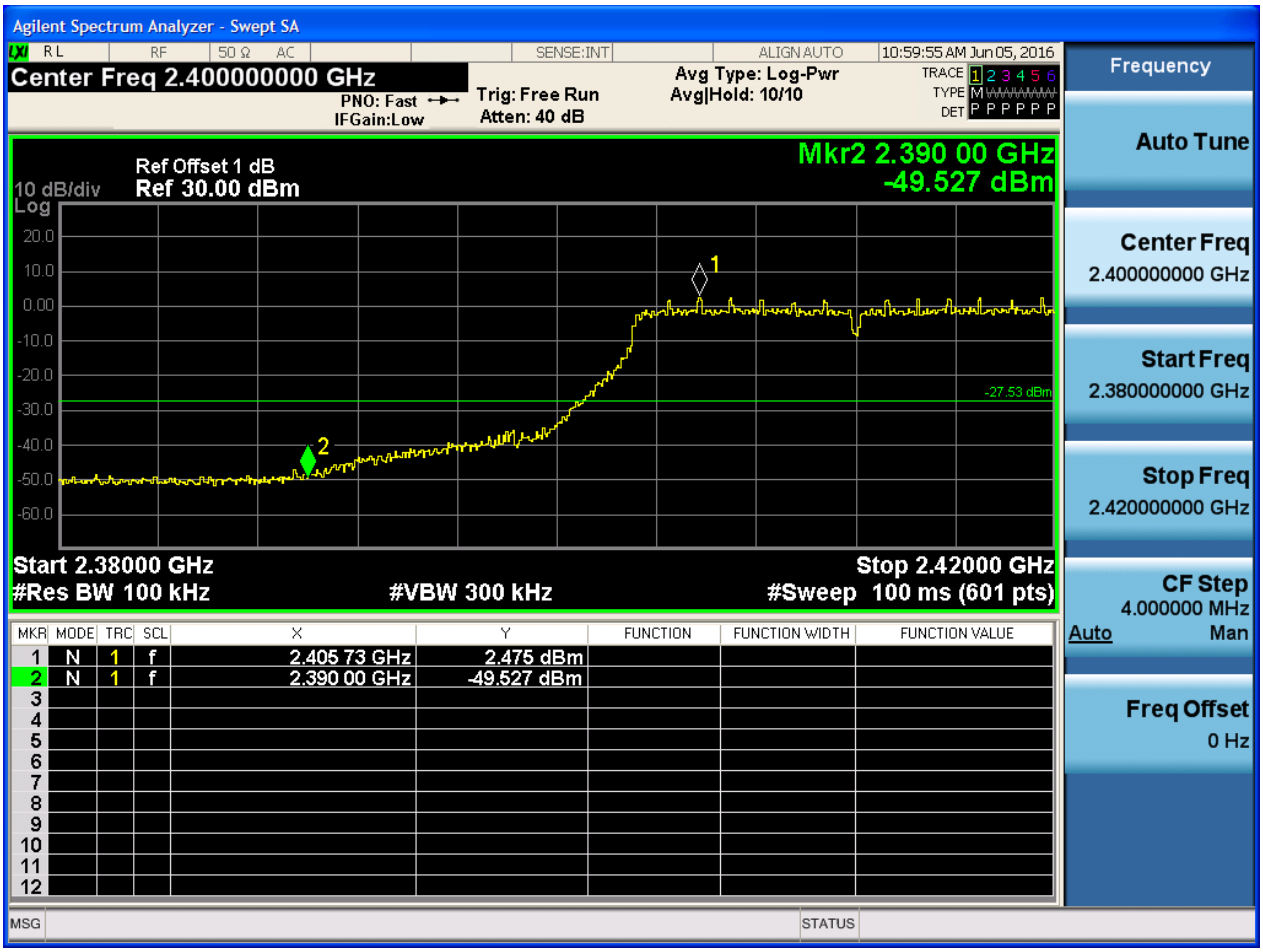


2.5 11G_L@Ant 1

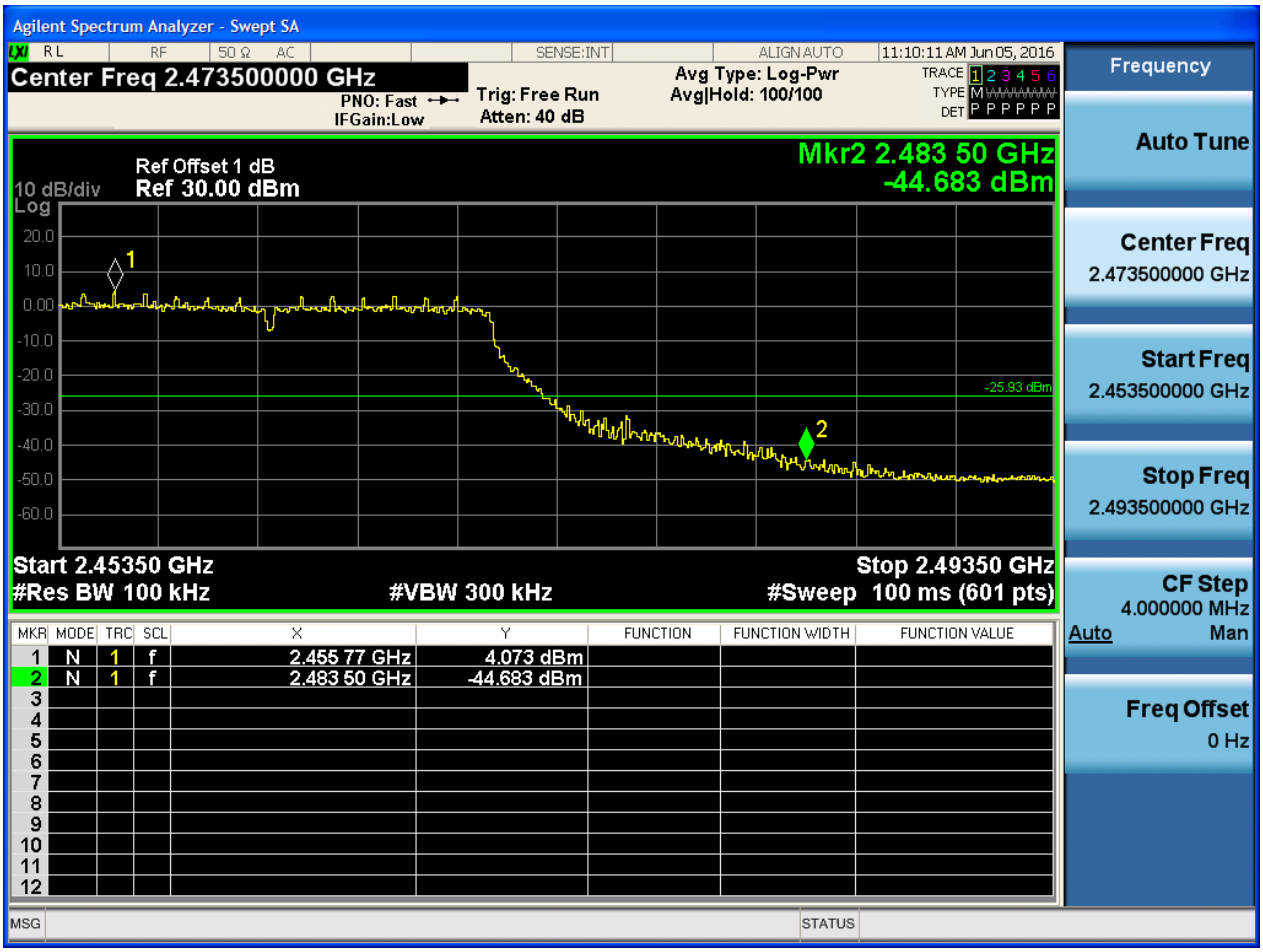


2.7 11G_H@Ant 1

2.9 11N20_L@Ant 1



2.11 11N20_H@Ant 1



Appendix G: Unwanted Emissions into Non-Restricted Frequency Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, the "Puw" referrers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated,a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] = 10 x lg(100 [kHz]/narrower RBW [kHz]). As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref[dBm]-30[dBm],see test plots for detailed".

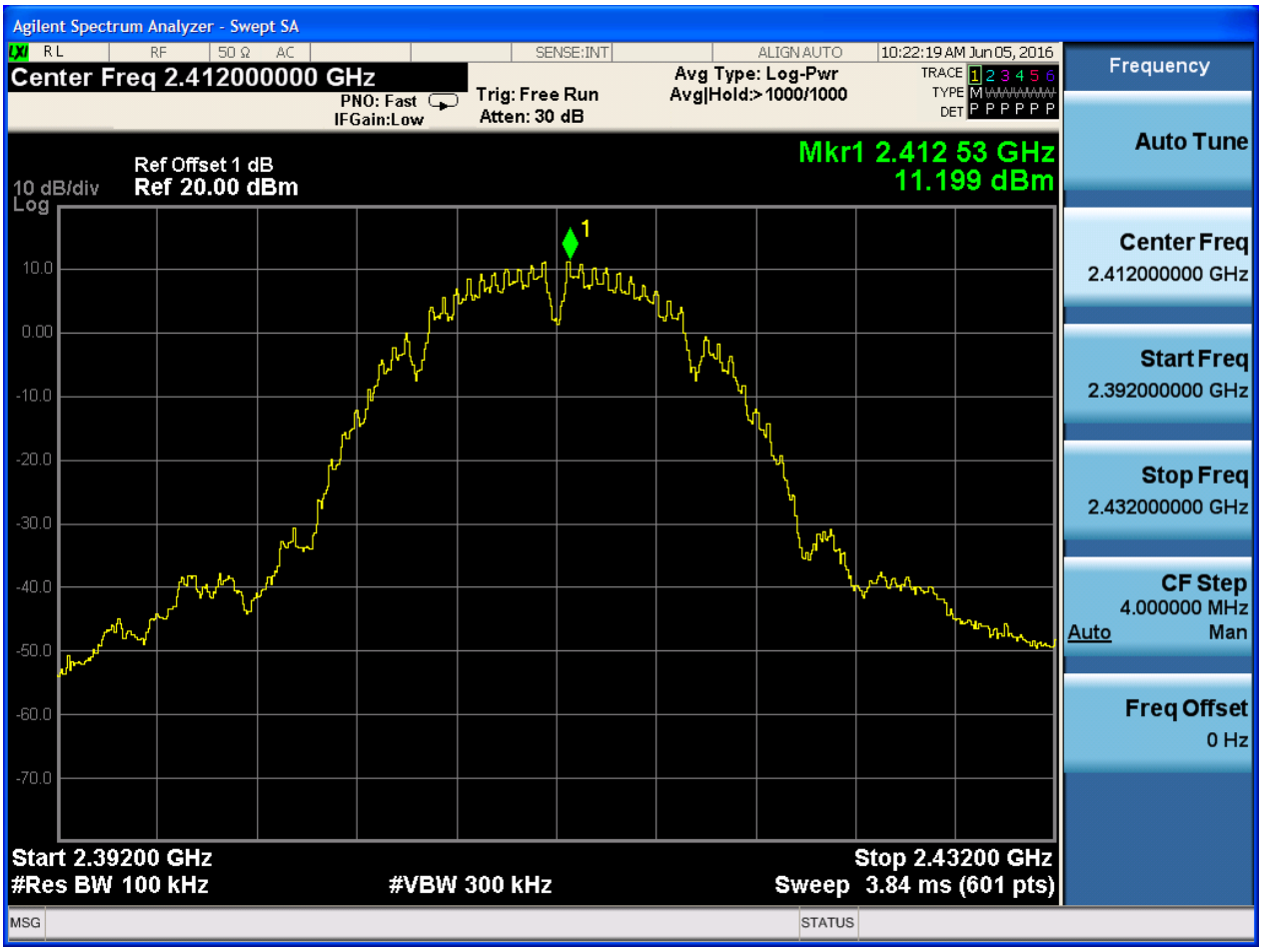
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	11.20	<limit	pass
11B	M	2437	Ant 1	11.03	<limit	pass
11B	H	2462	Ant 1	11.41	<limit	pass
11G	L	2412	Ant 1	3.70	<limit	pass
11G	M	2437	Ant 1	3.64	<limit	pass
11G	H	2462	Ant 1	5.18	<limit	pass
11N20	L	2412	Ant 1	2.60	<limit	pass
11N20	M	2437	Ant 1	2.51	<limit	pass
11N20	H	2462	Ant 1	4.03	<limit	pass

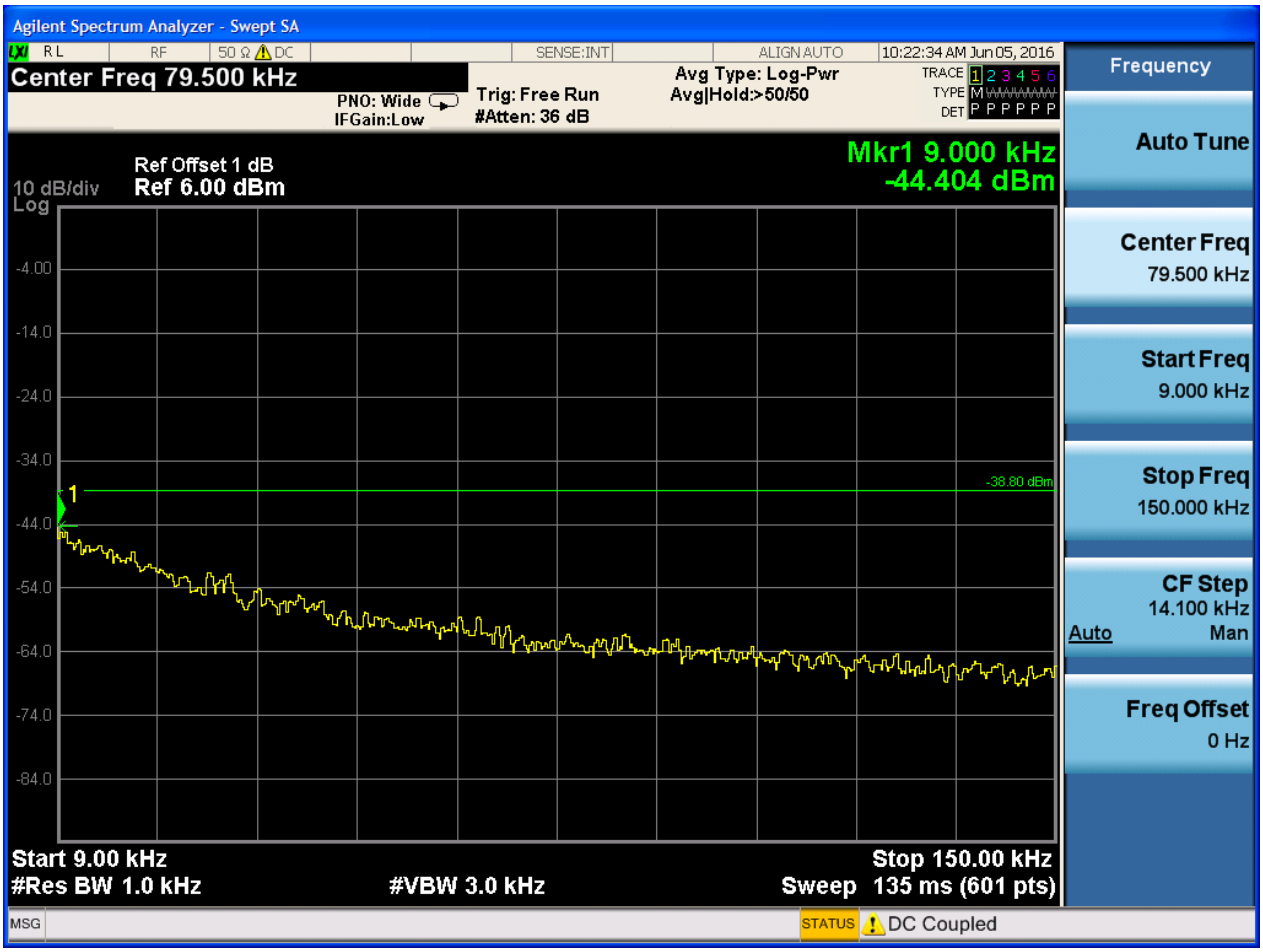
Part II - Test Plots

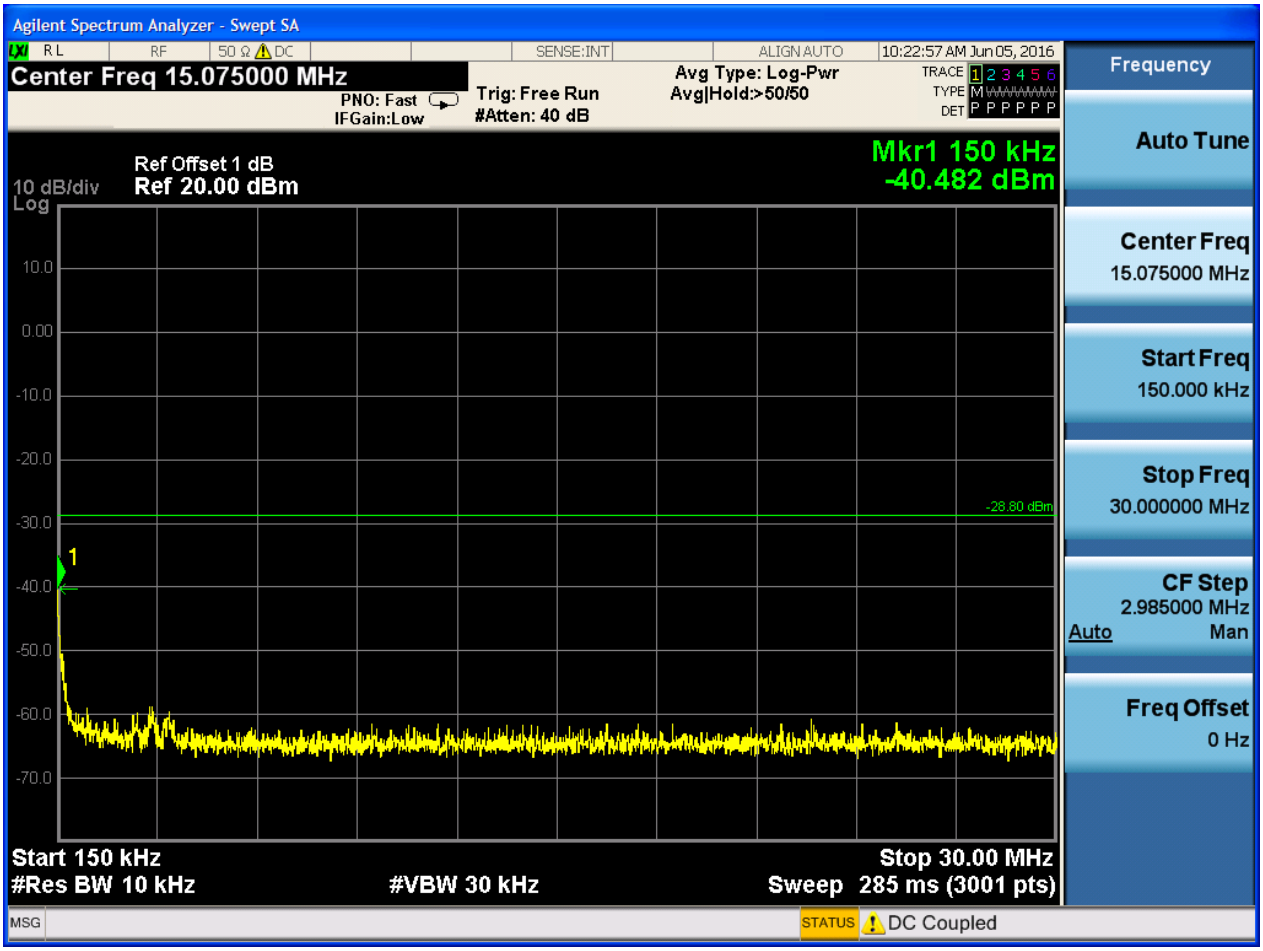
2.1 11B_L@Ant 1

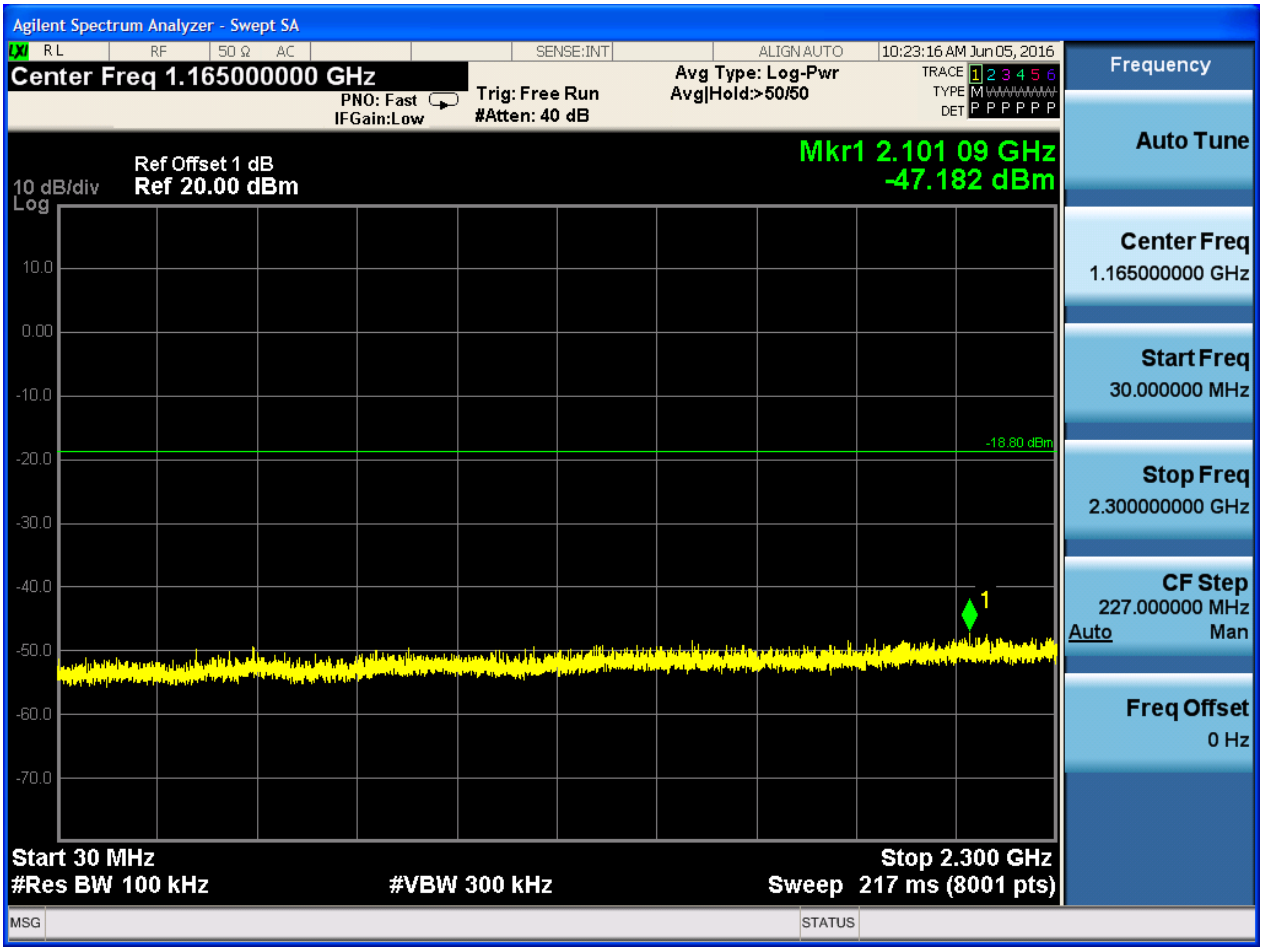
Pref:

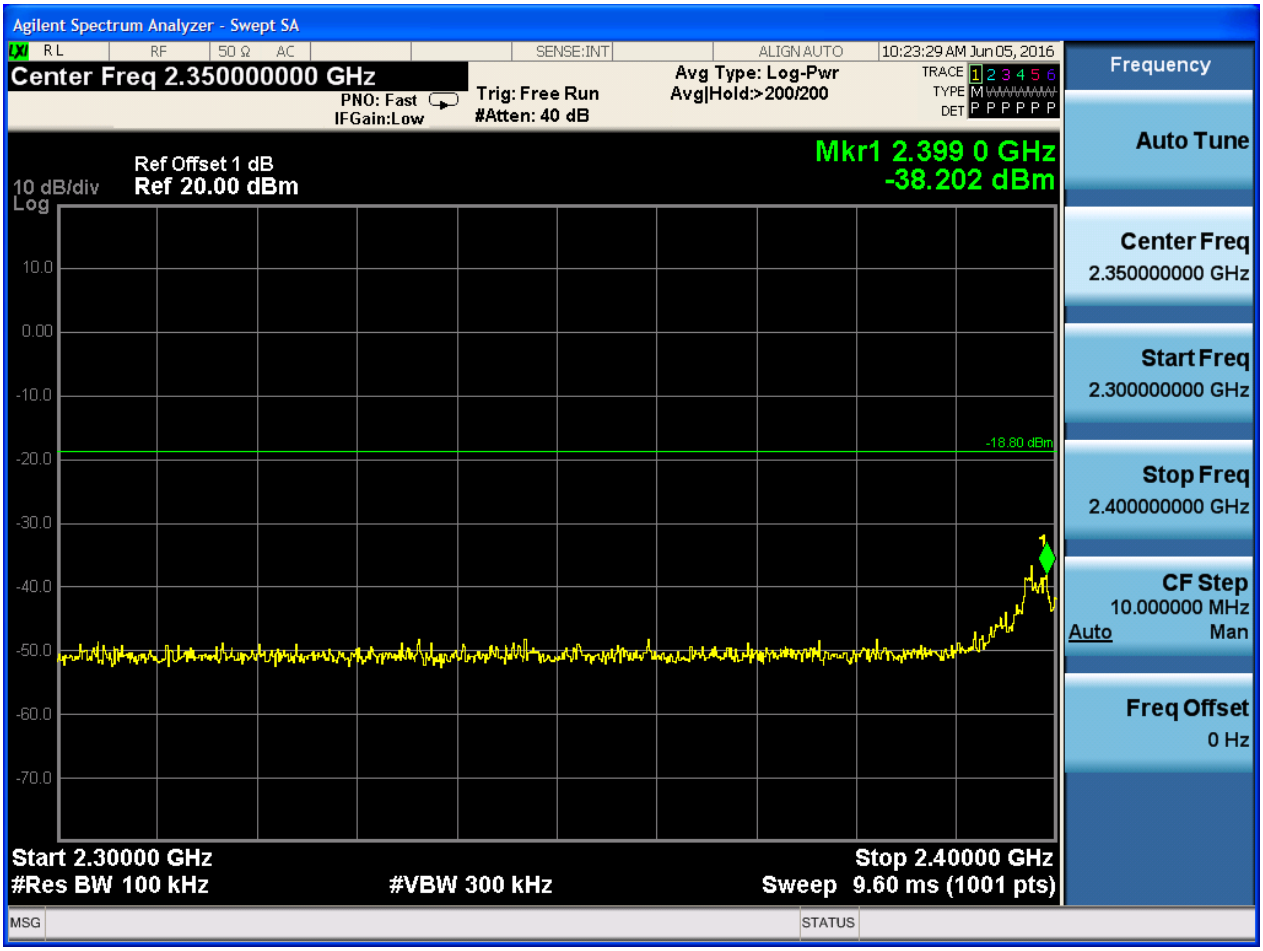


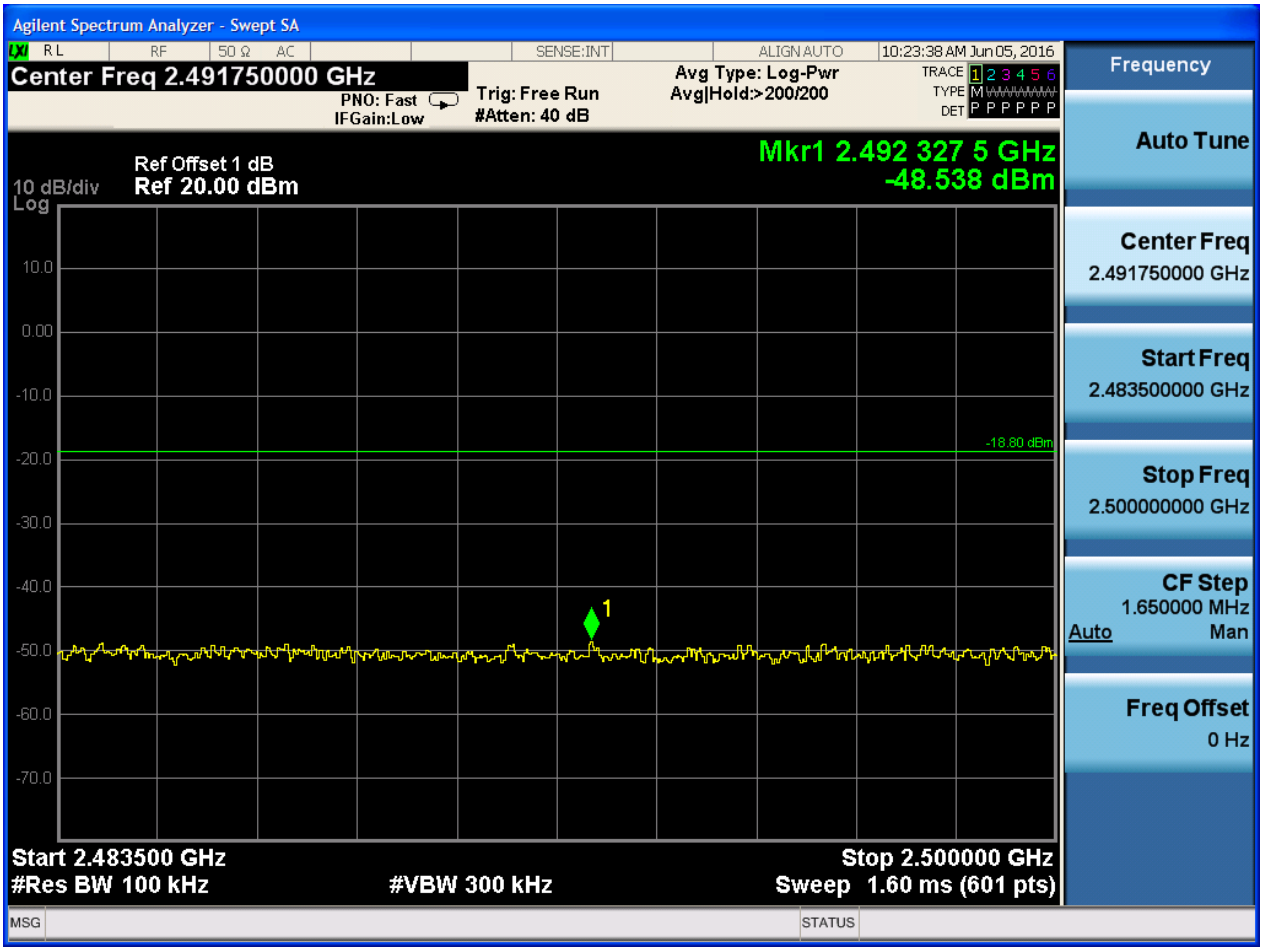
Puw:

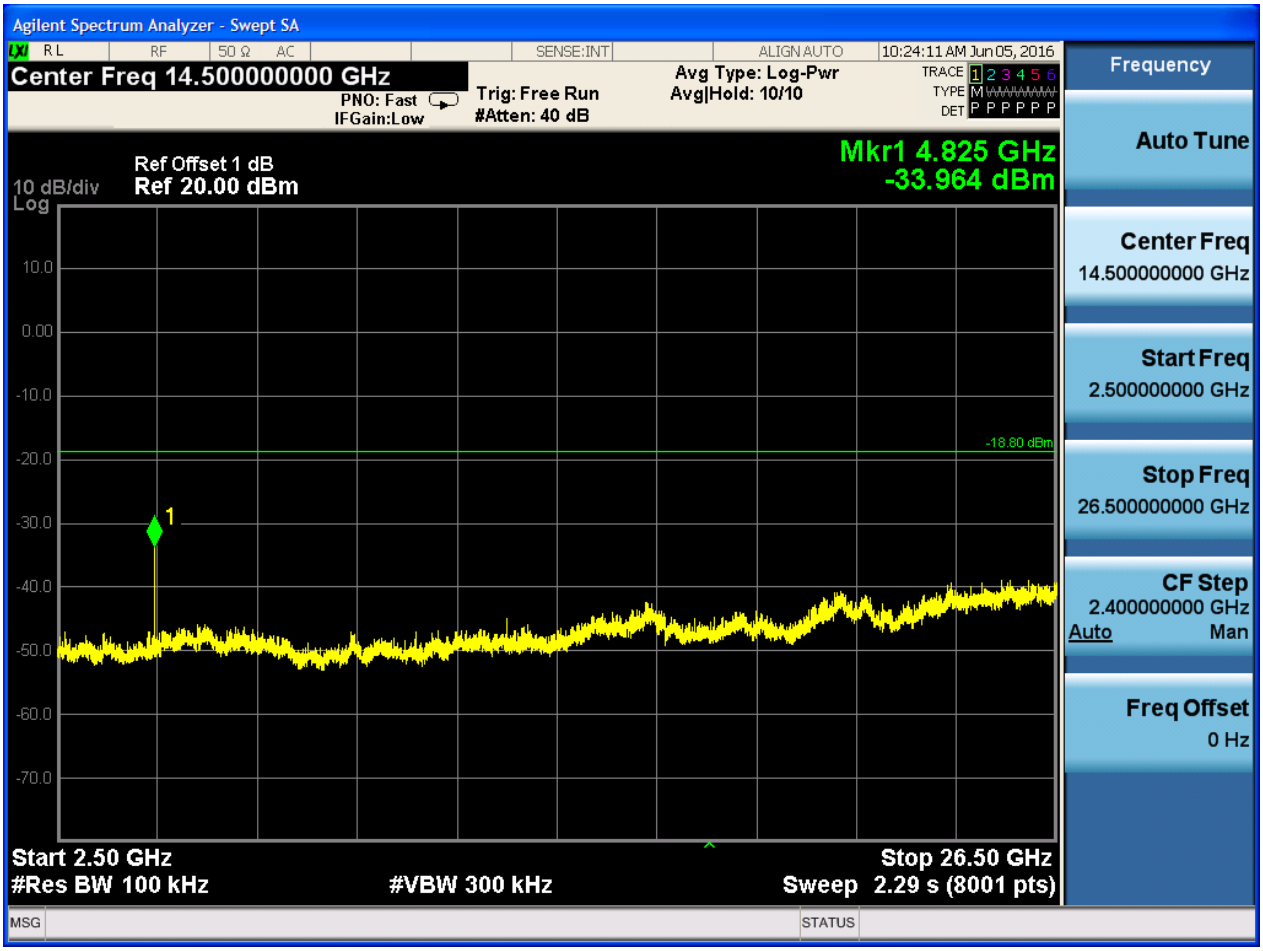












2.3 11B_M@Ant 1

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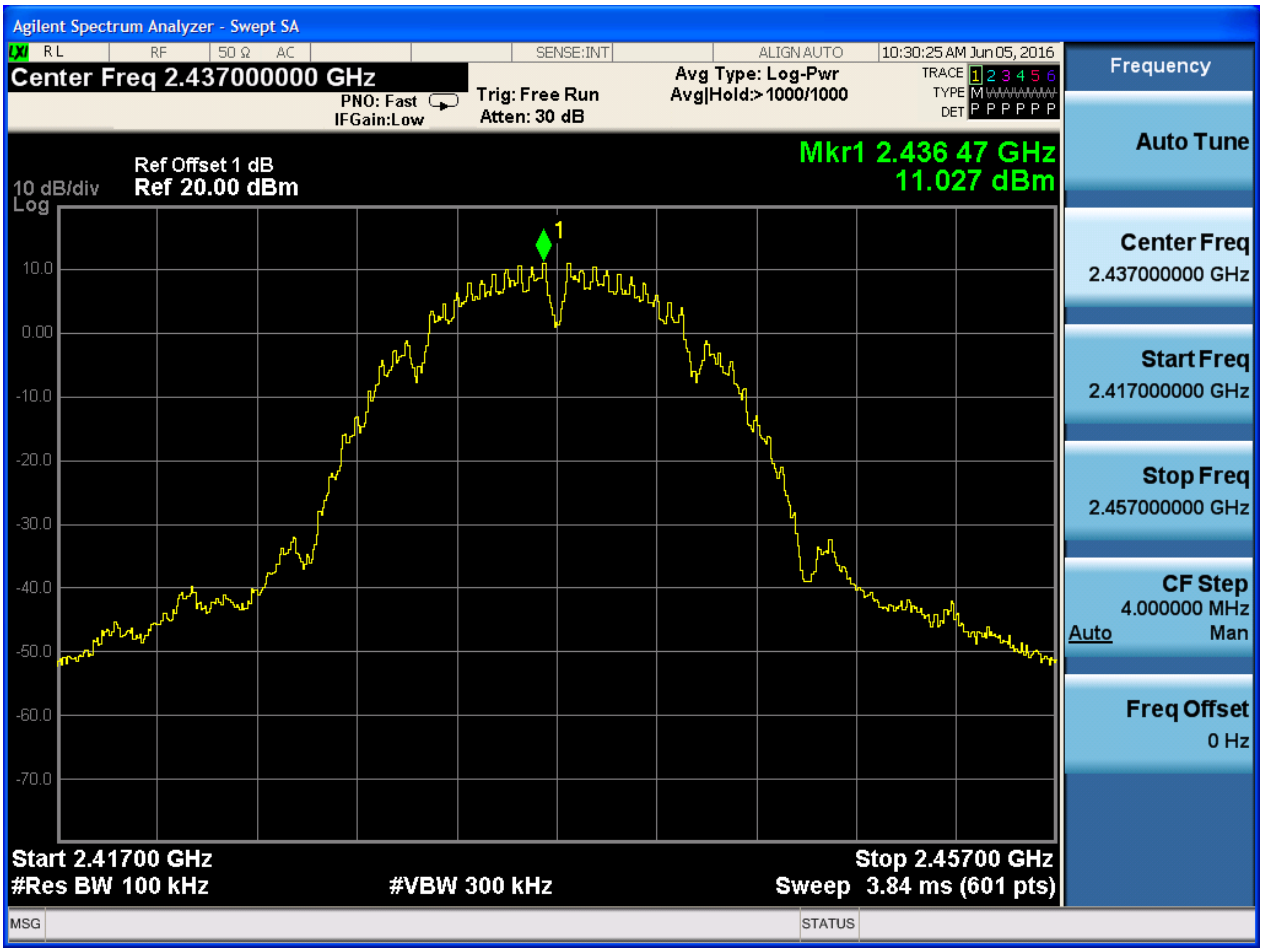

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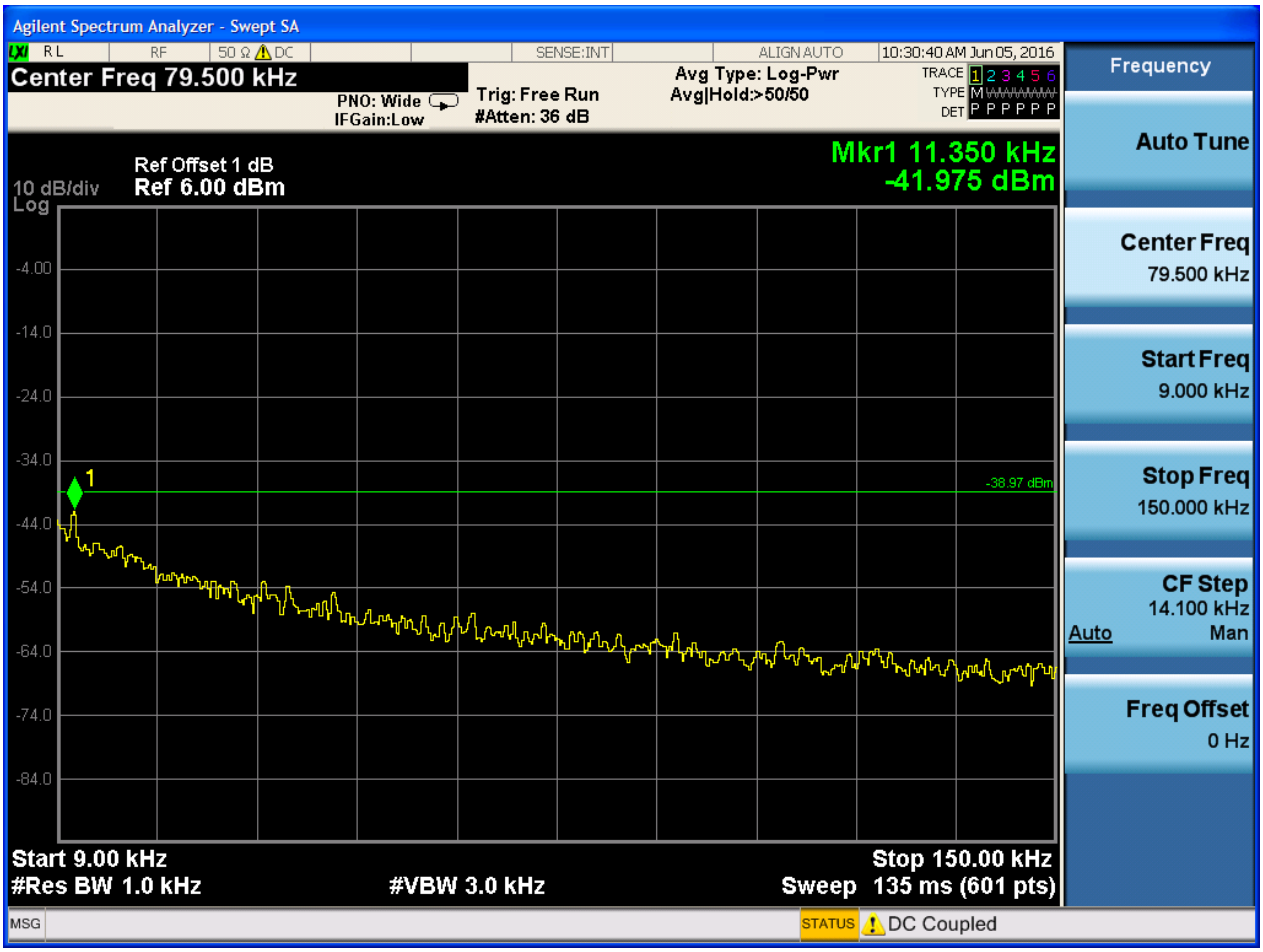

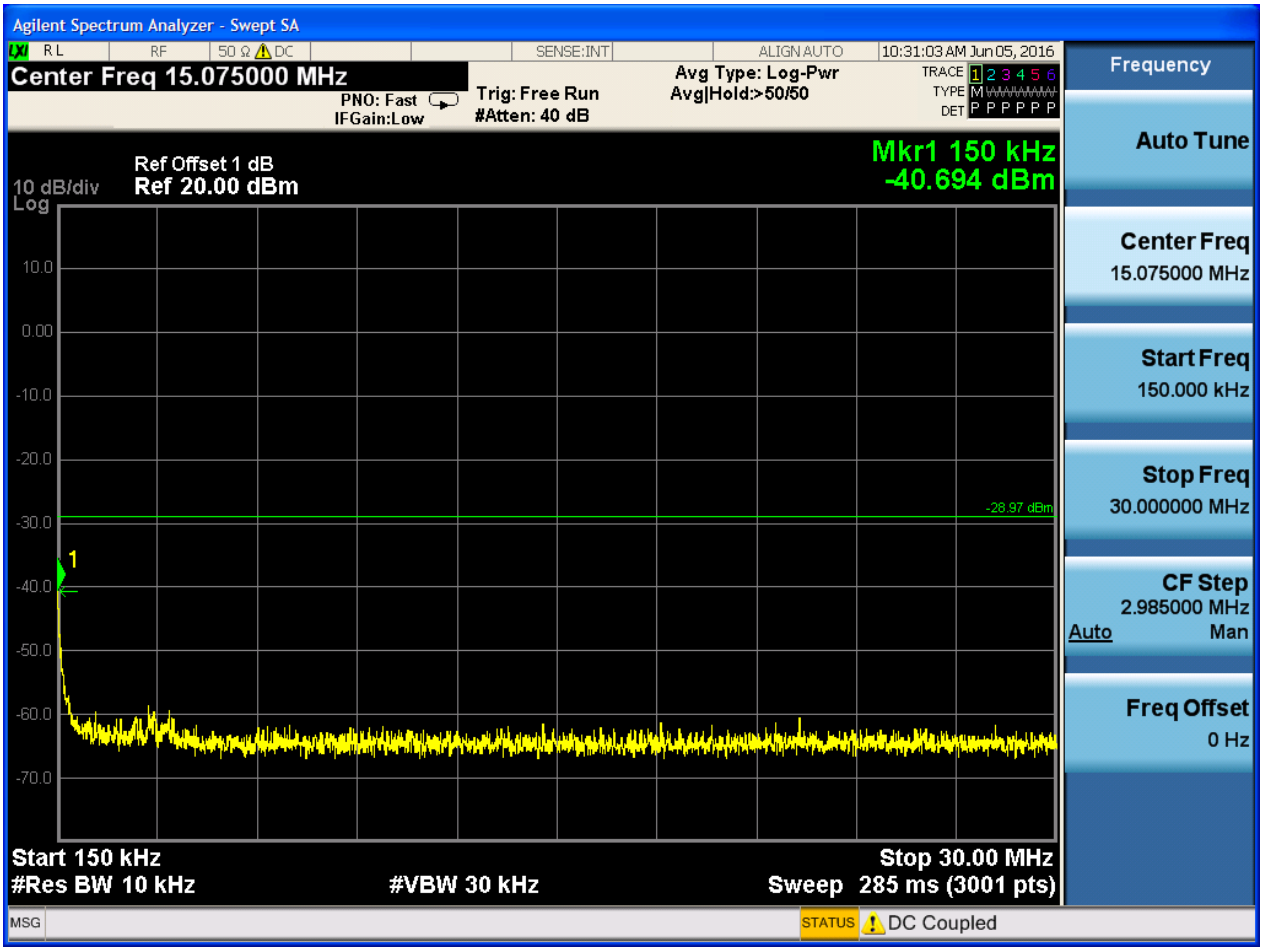

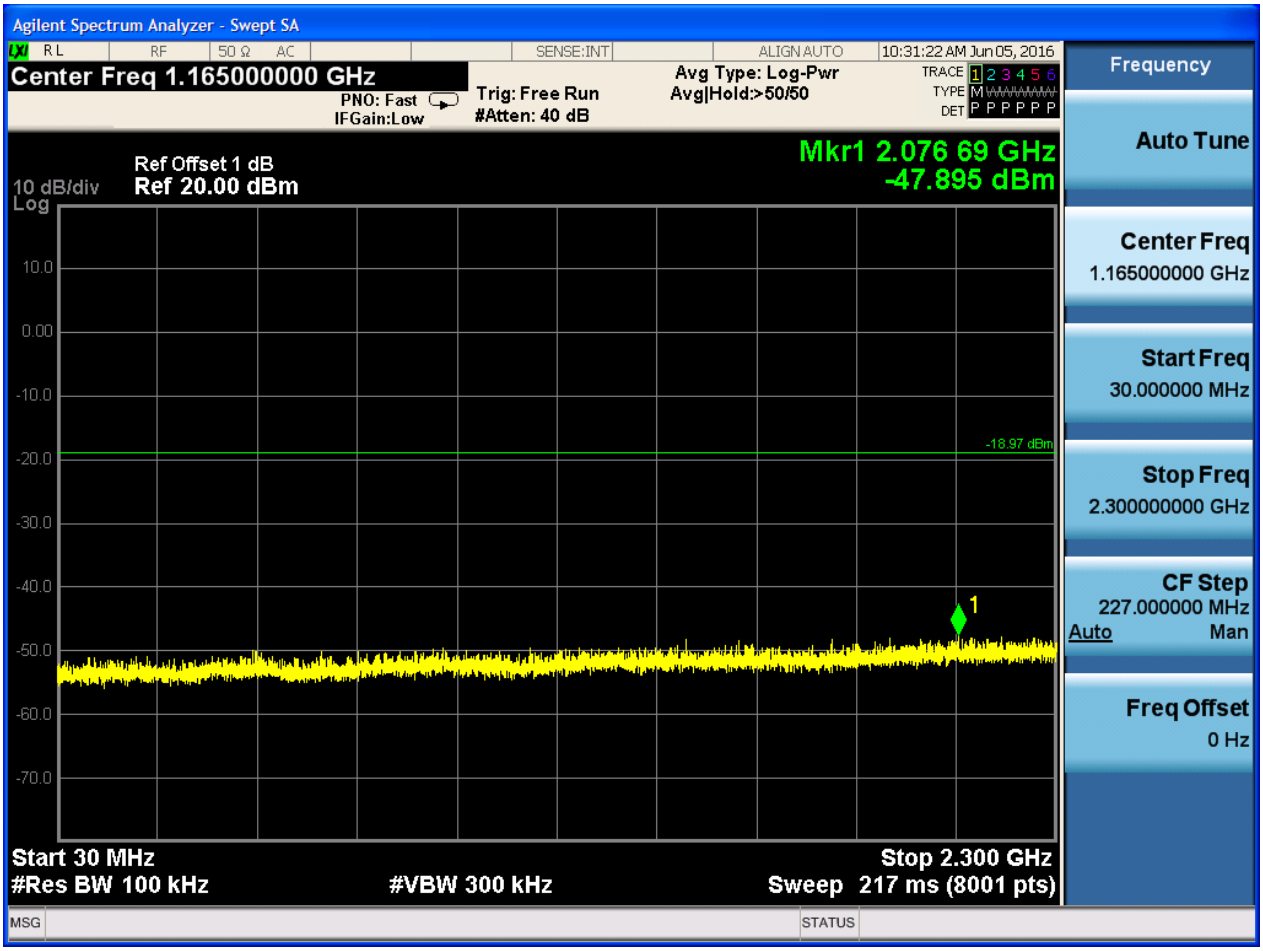

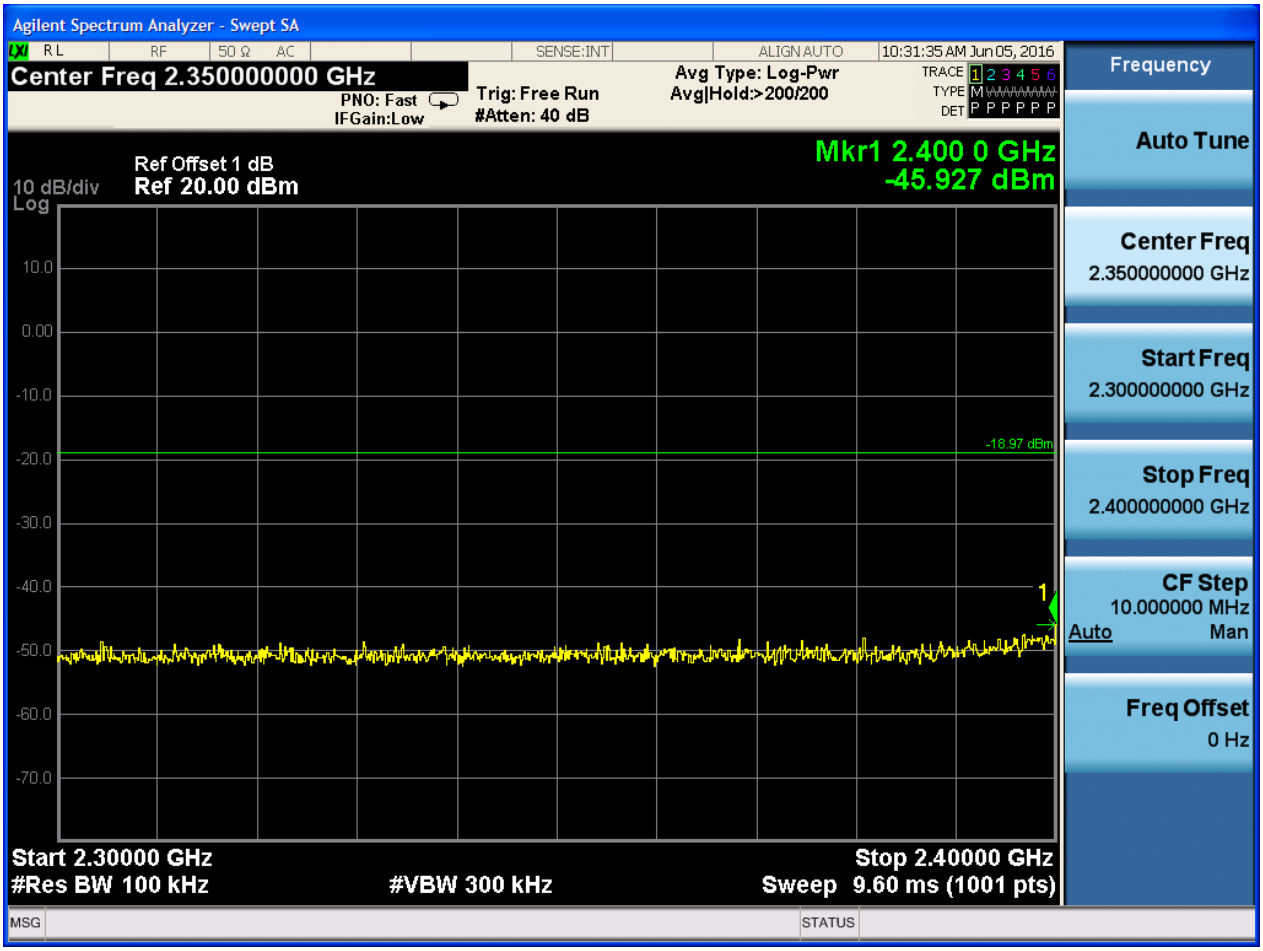

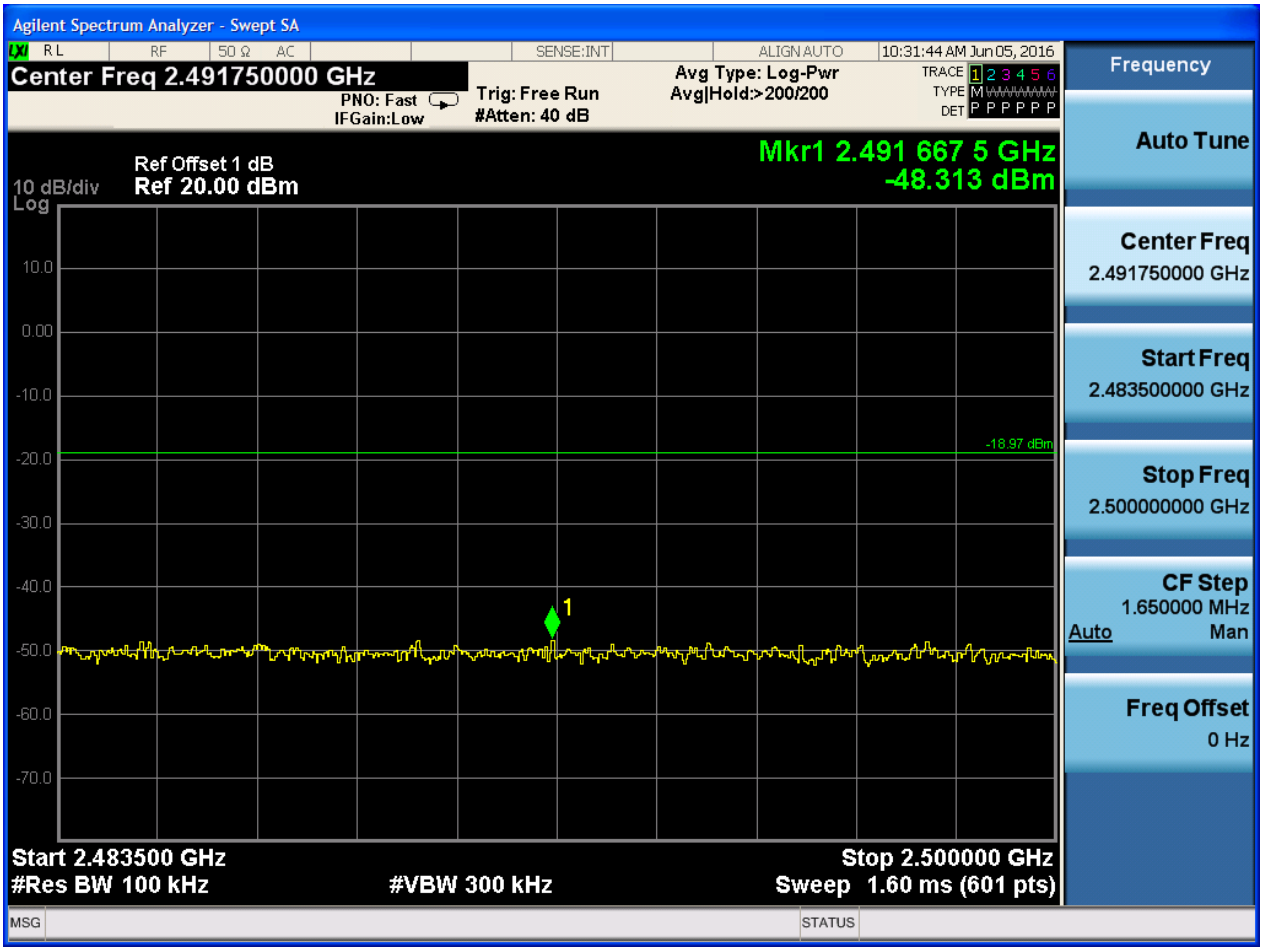

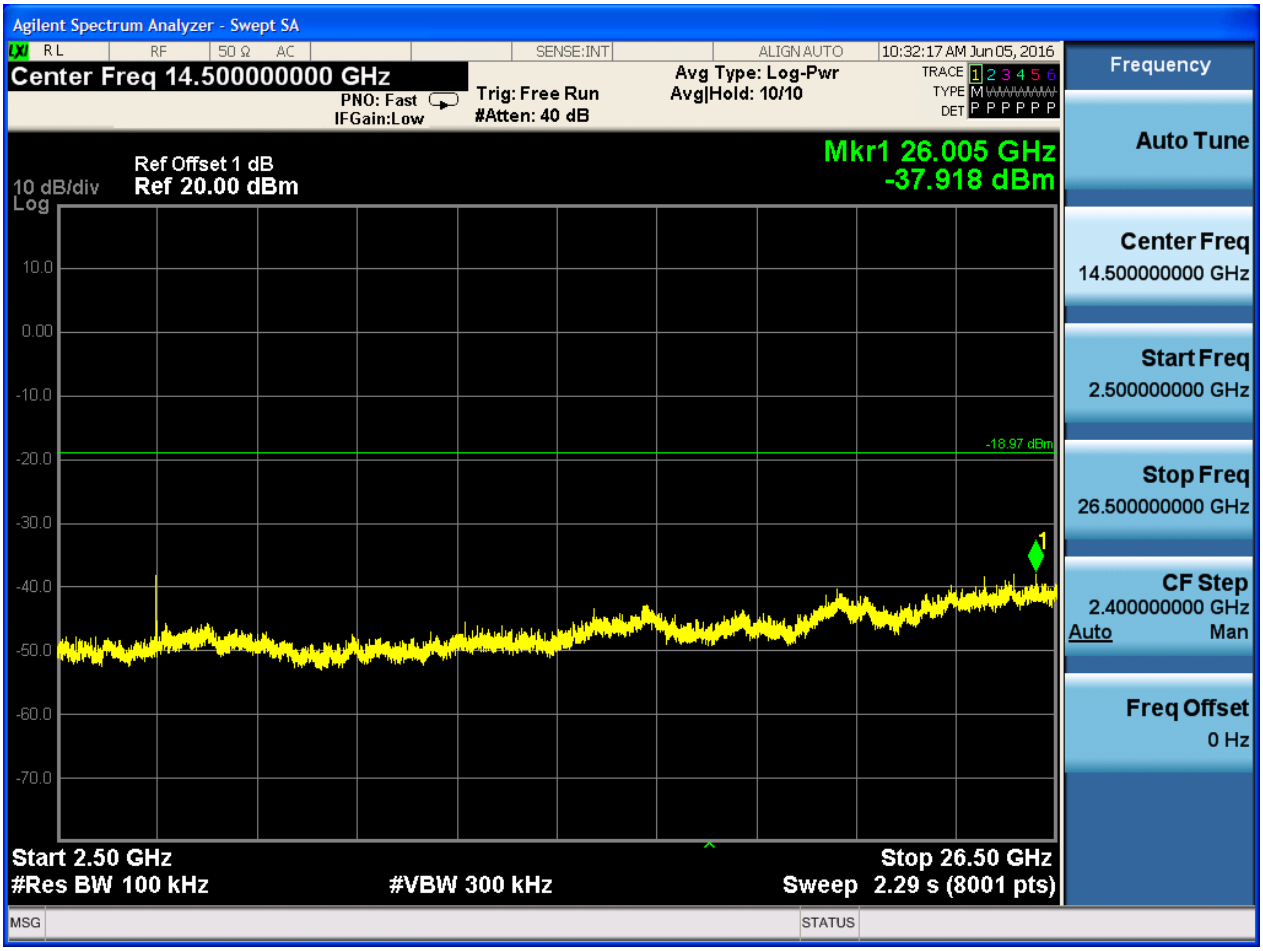

2.5 11B_H@Ant 1

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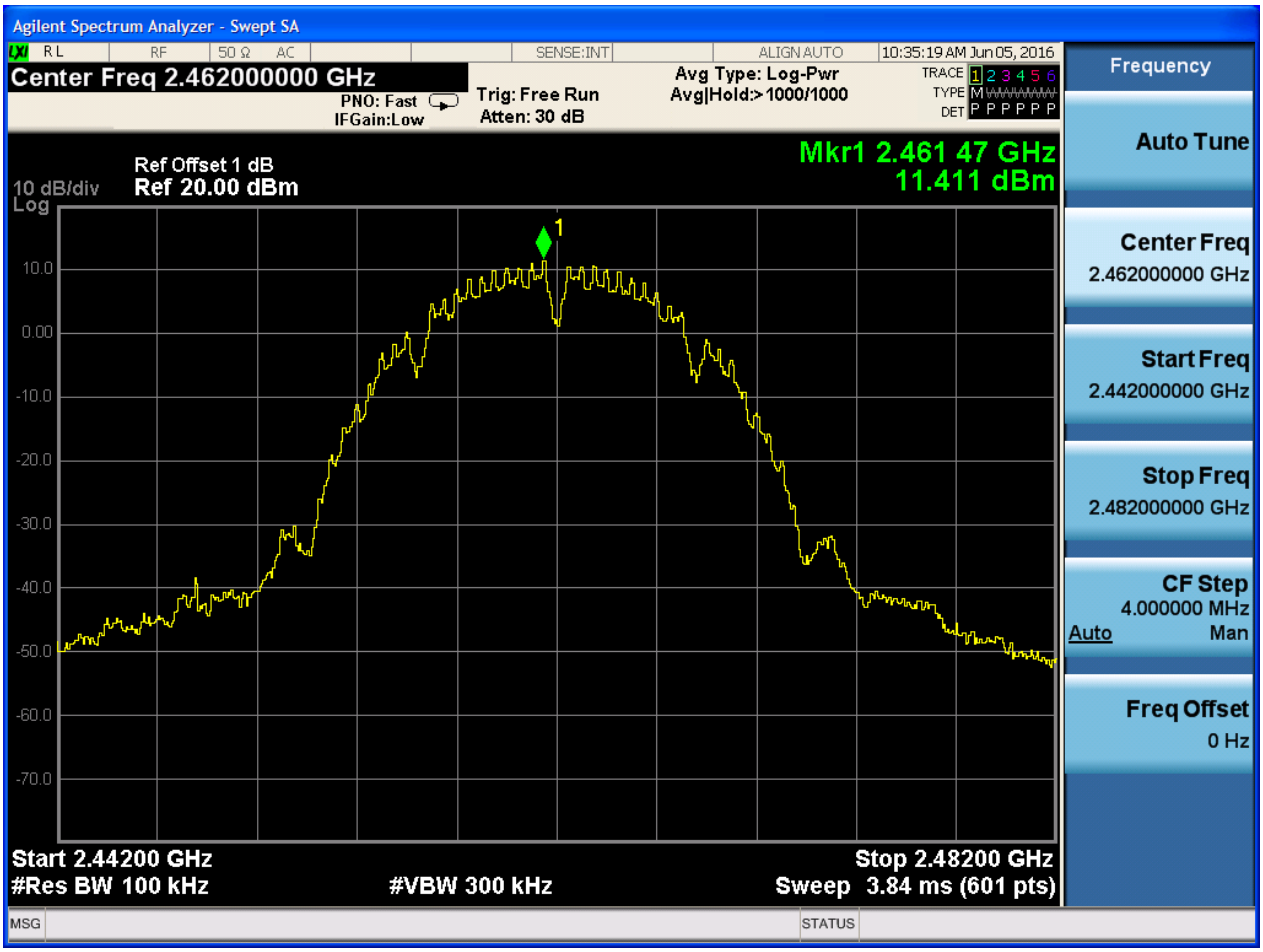

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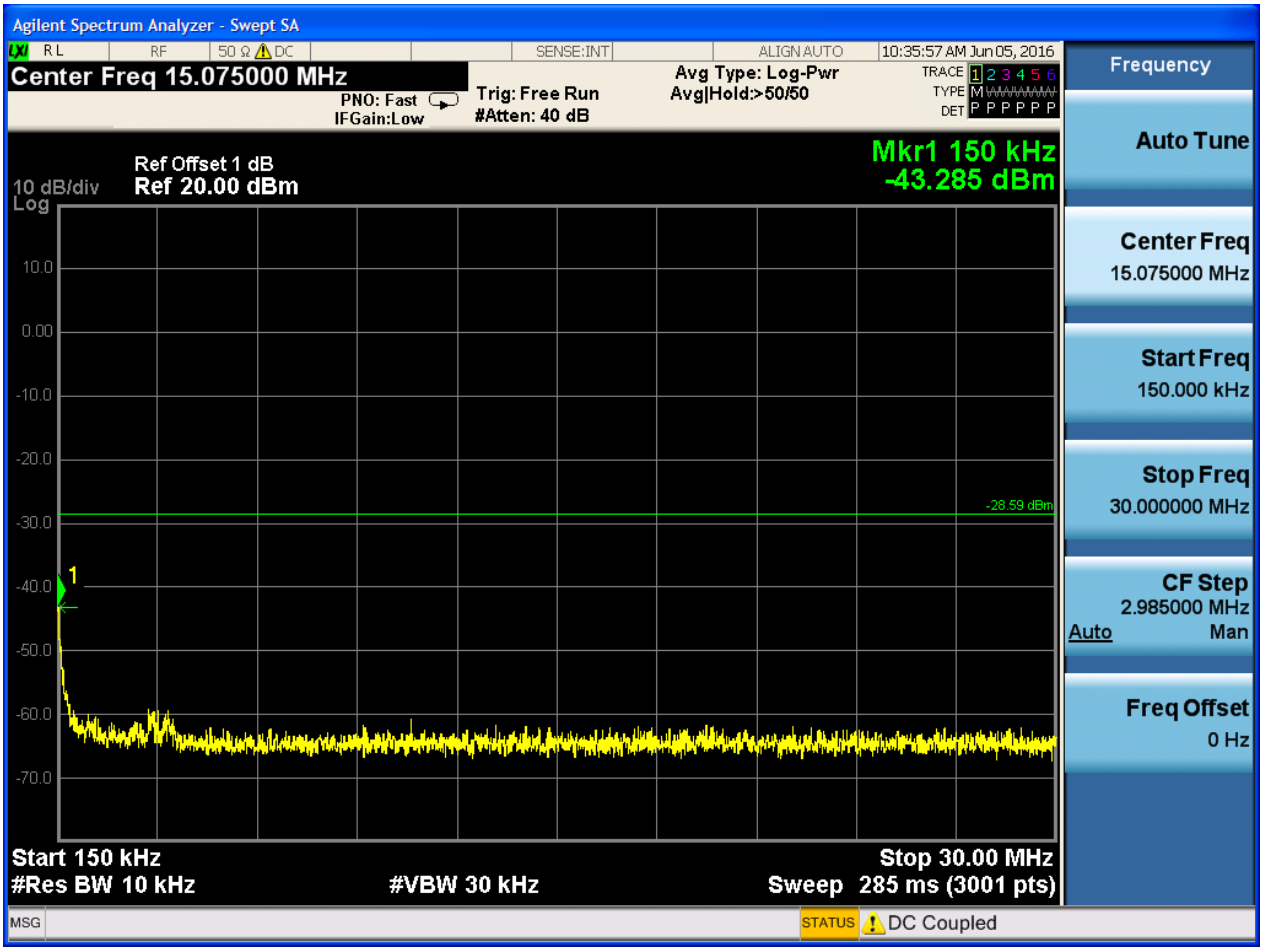

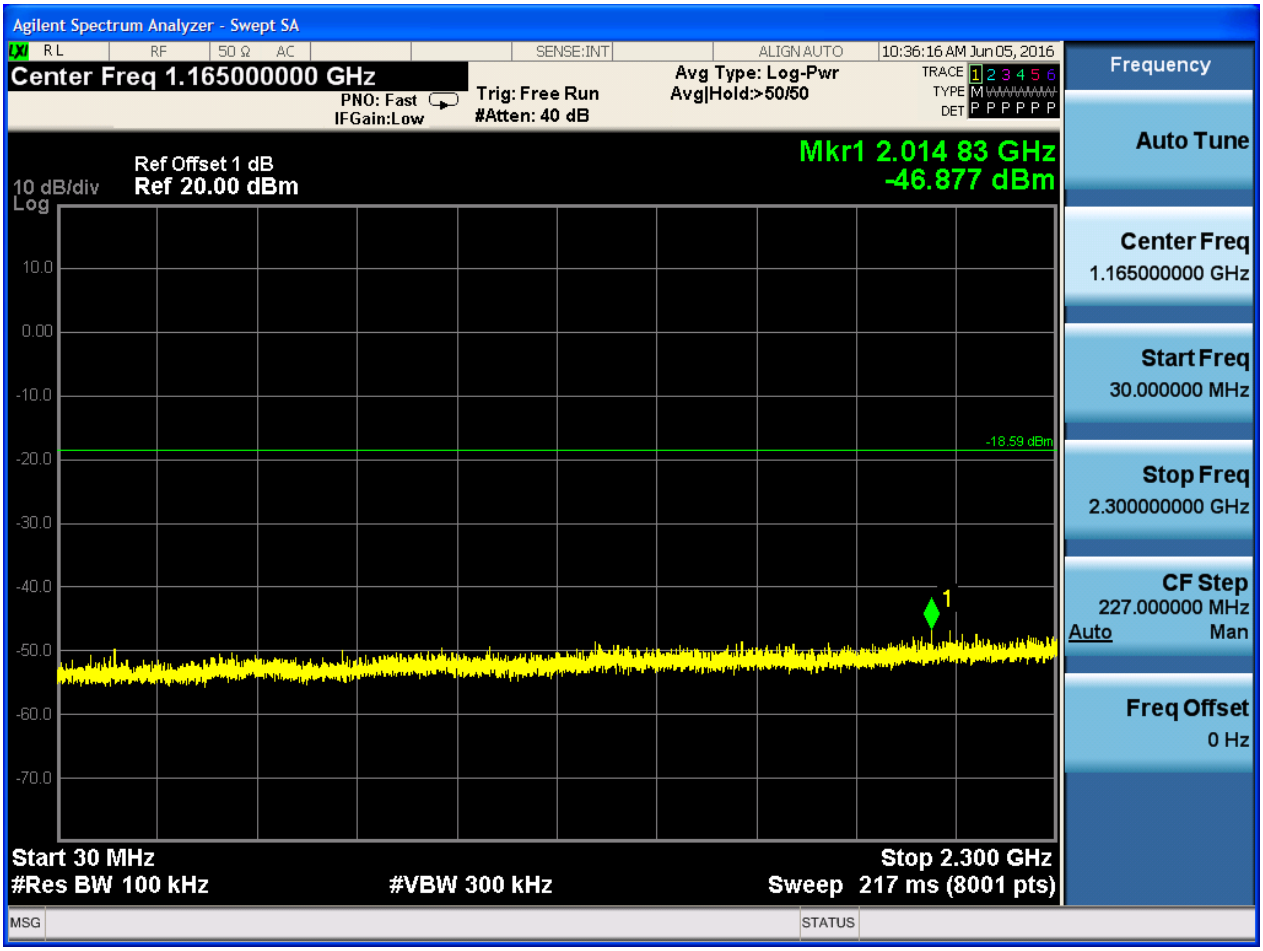

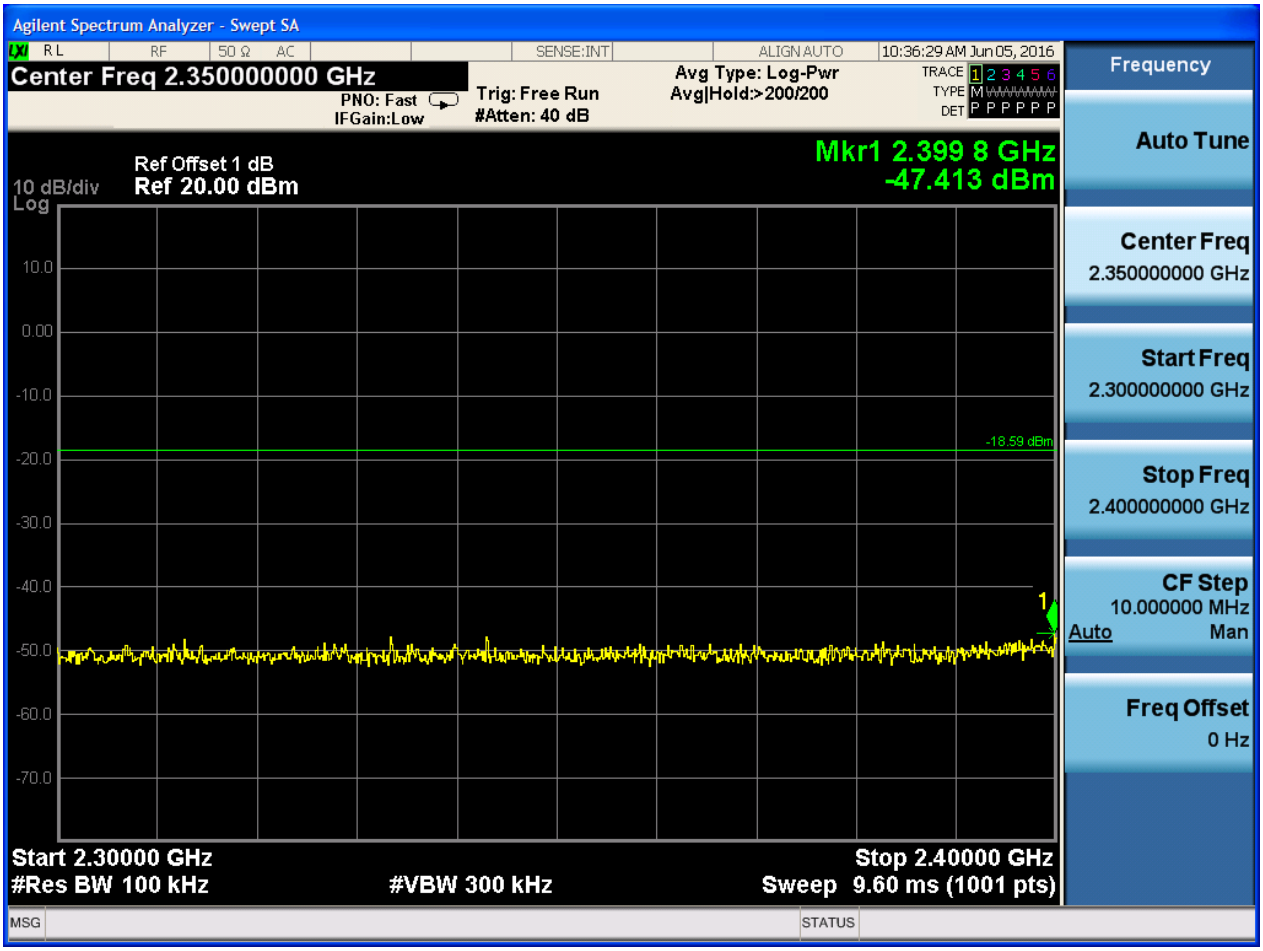

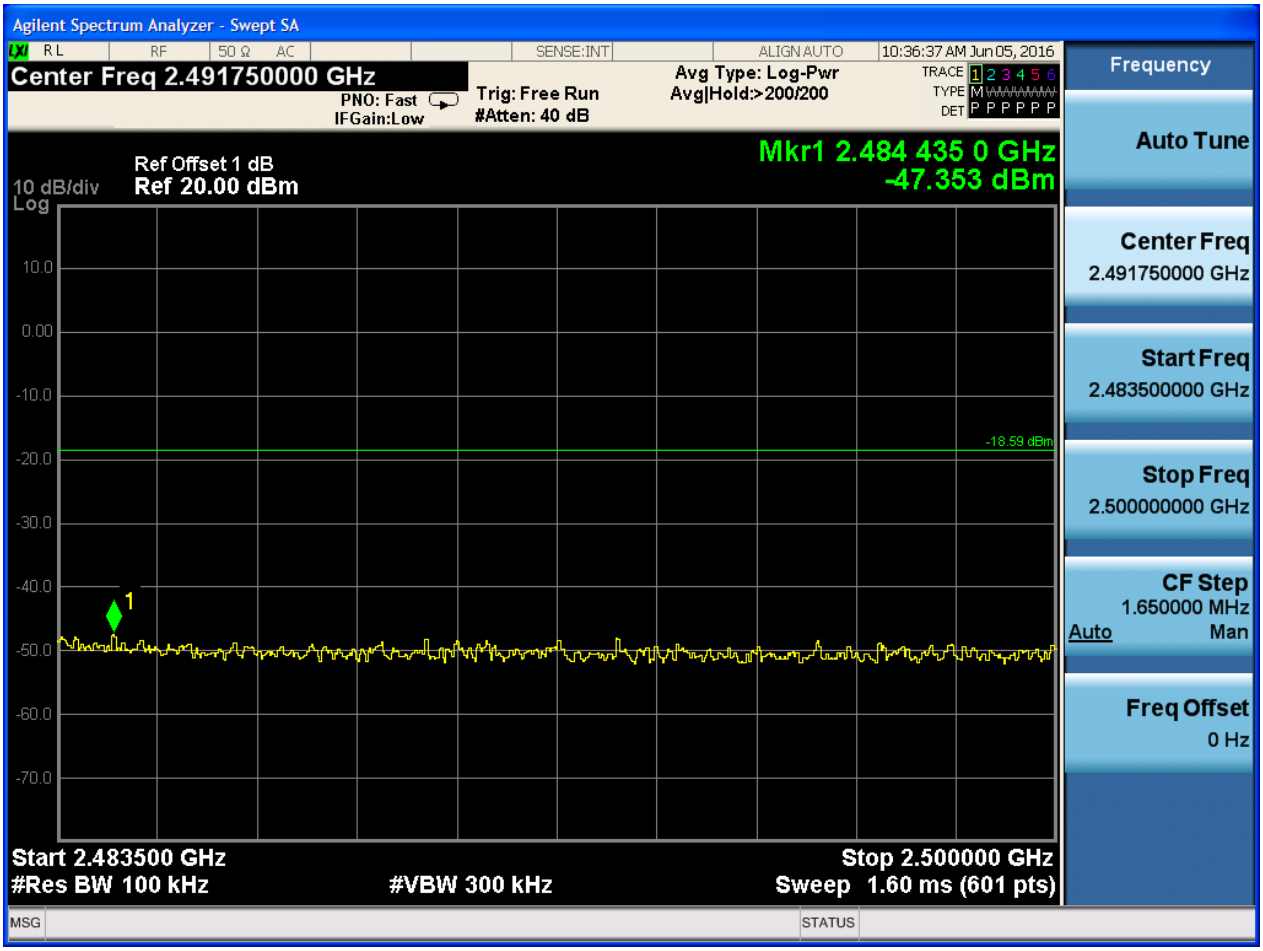

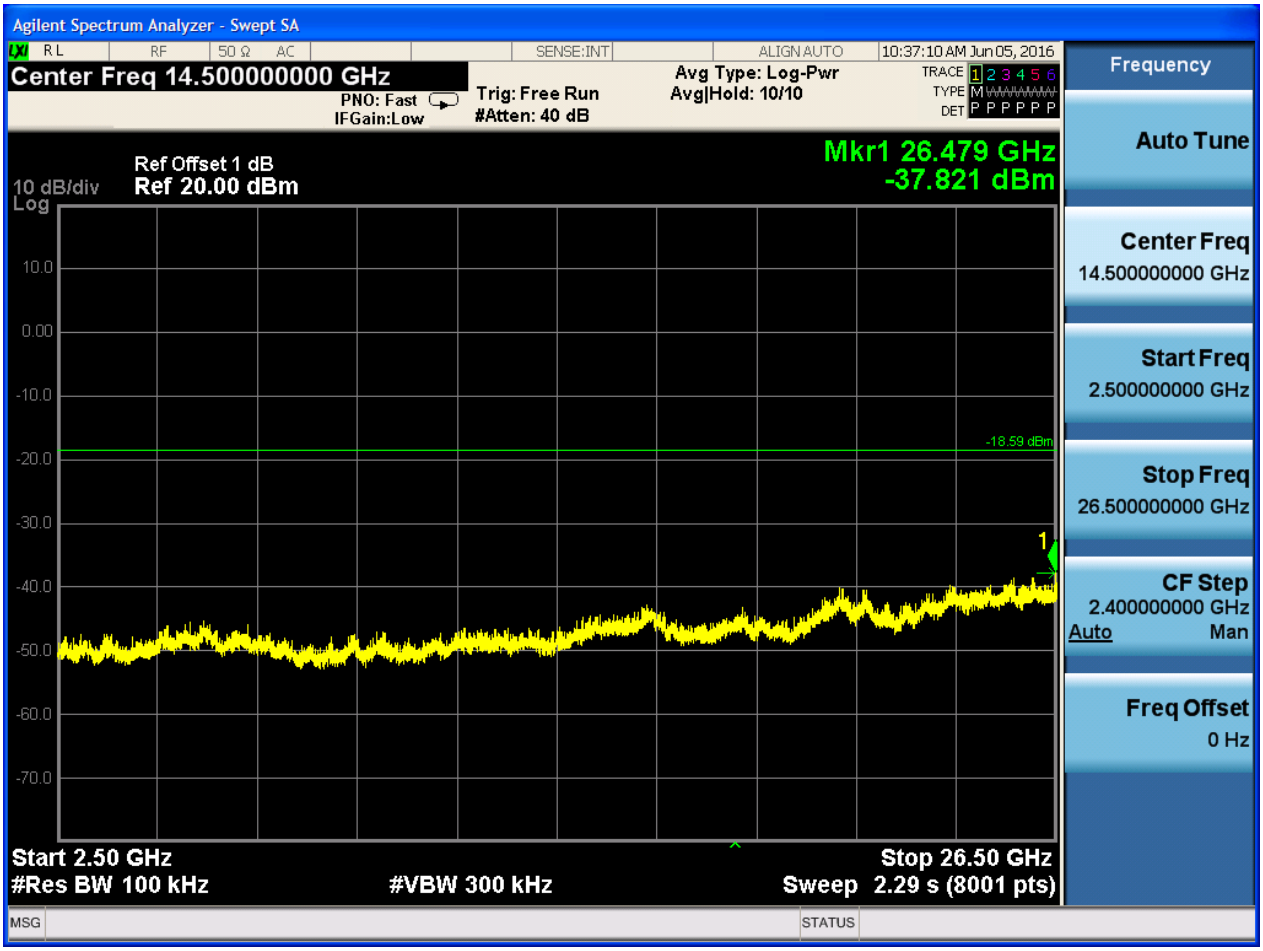

2.7 11G_L@Ant 1

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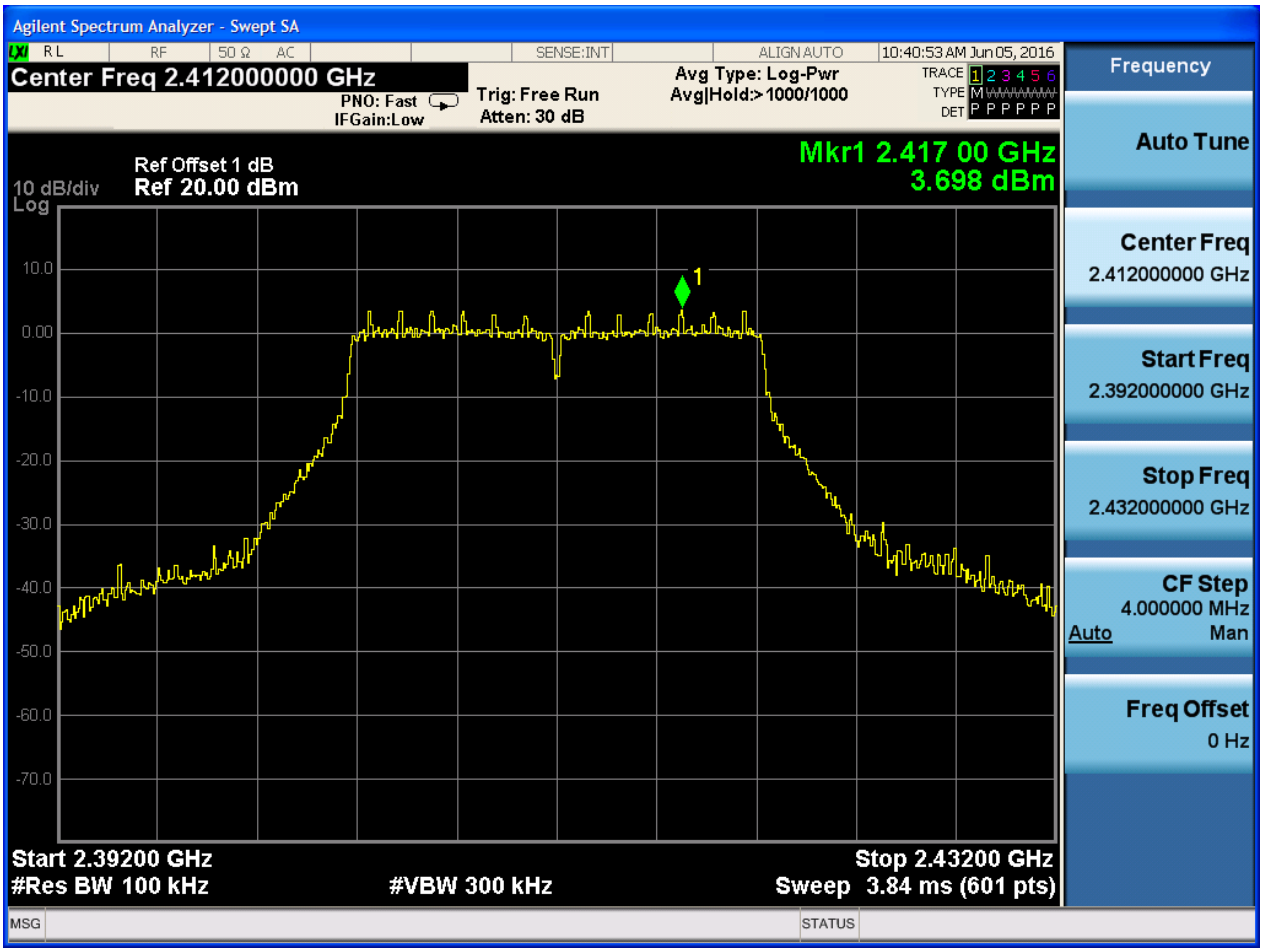

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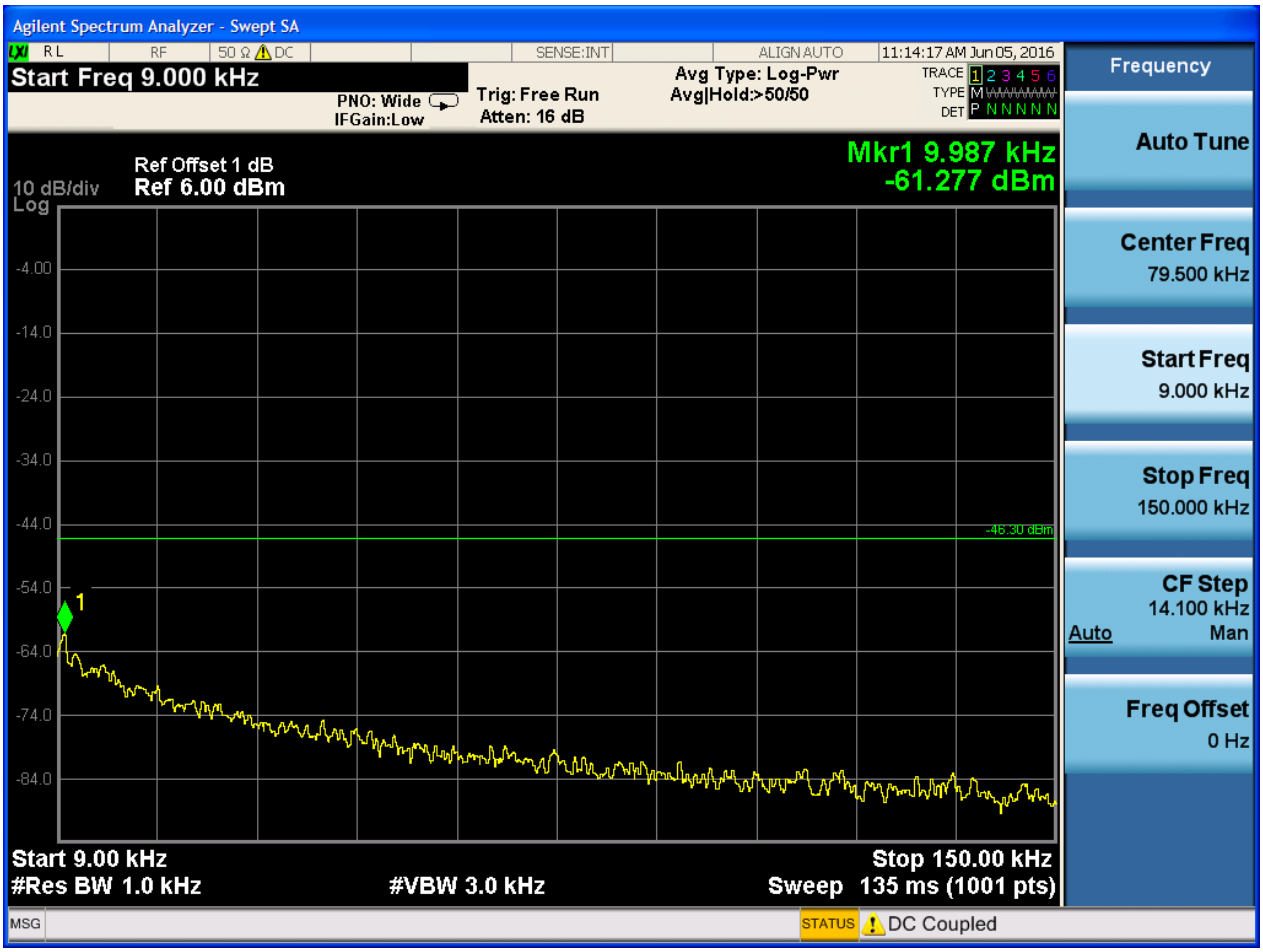

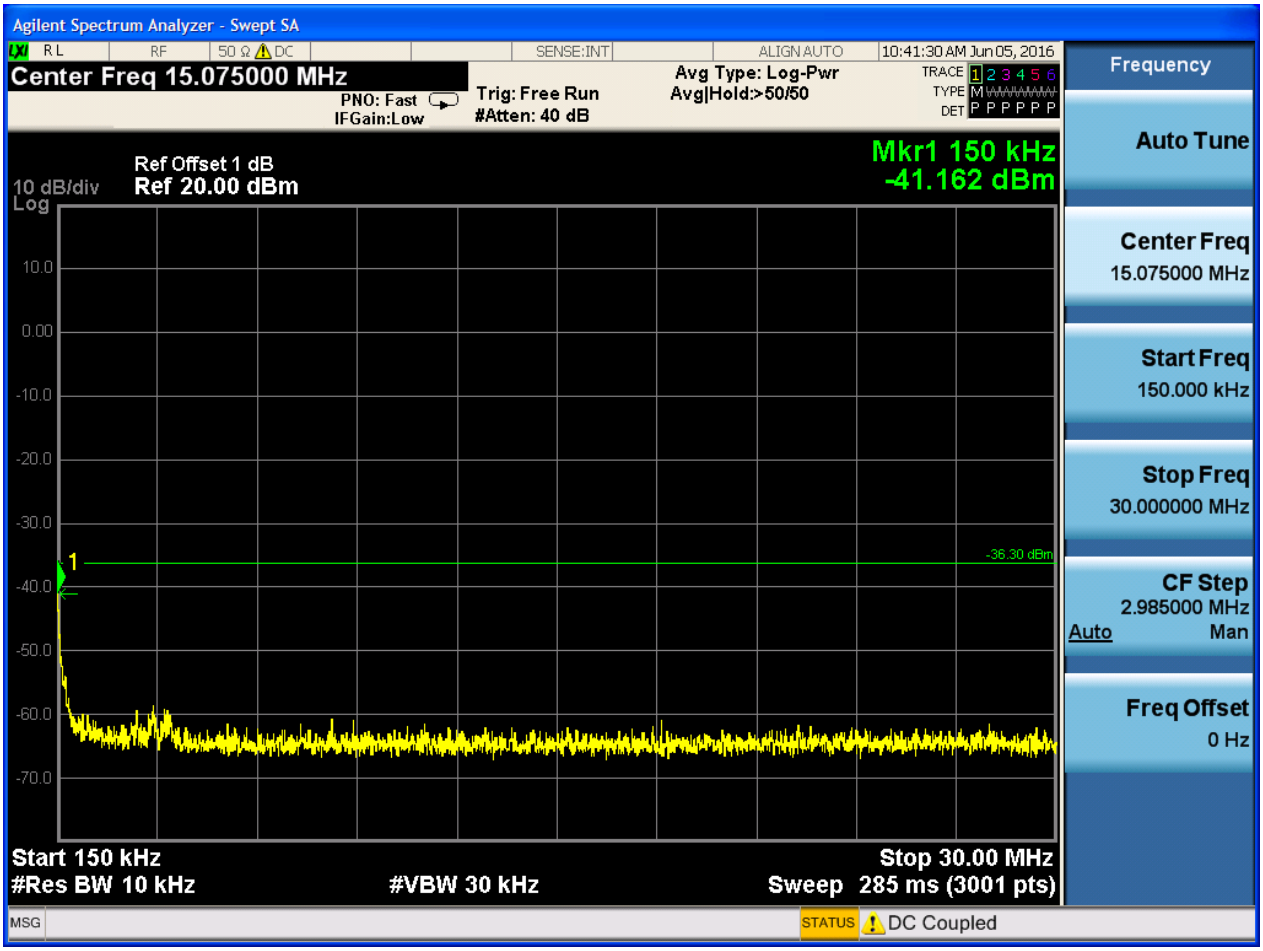

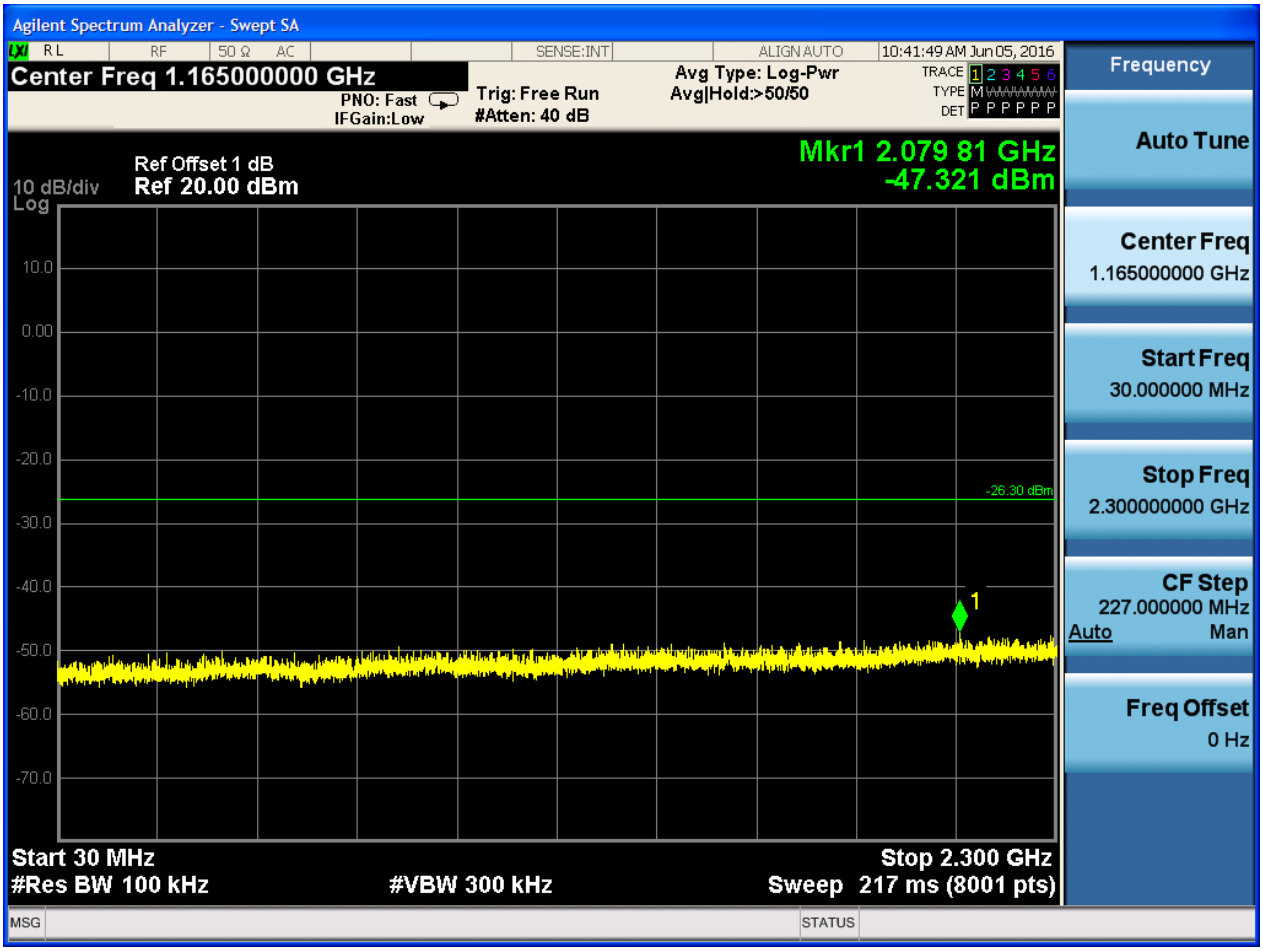

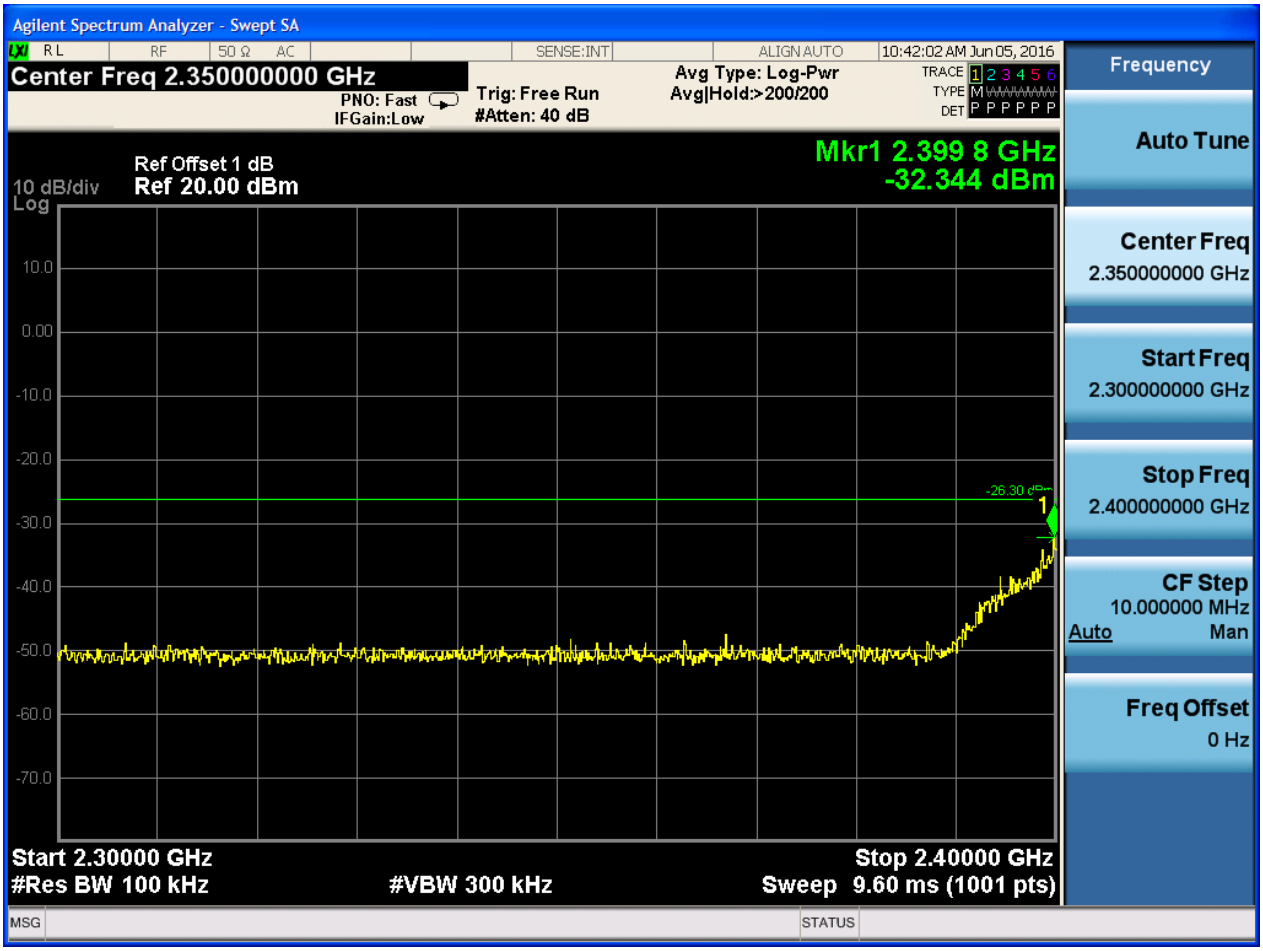

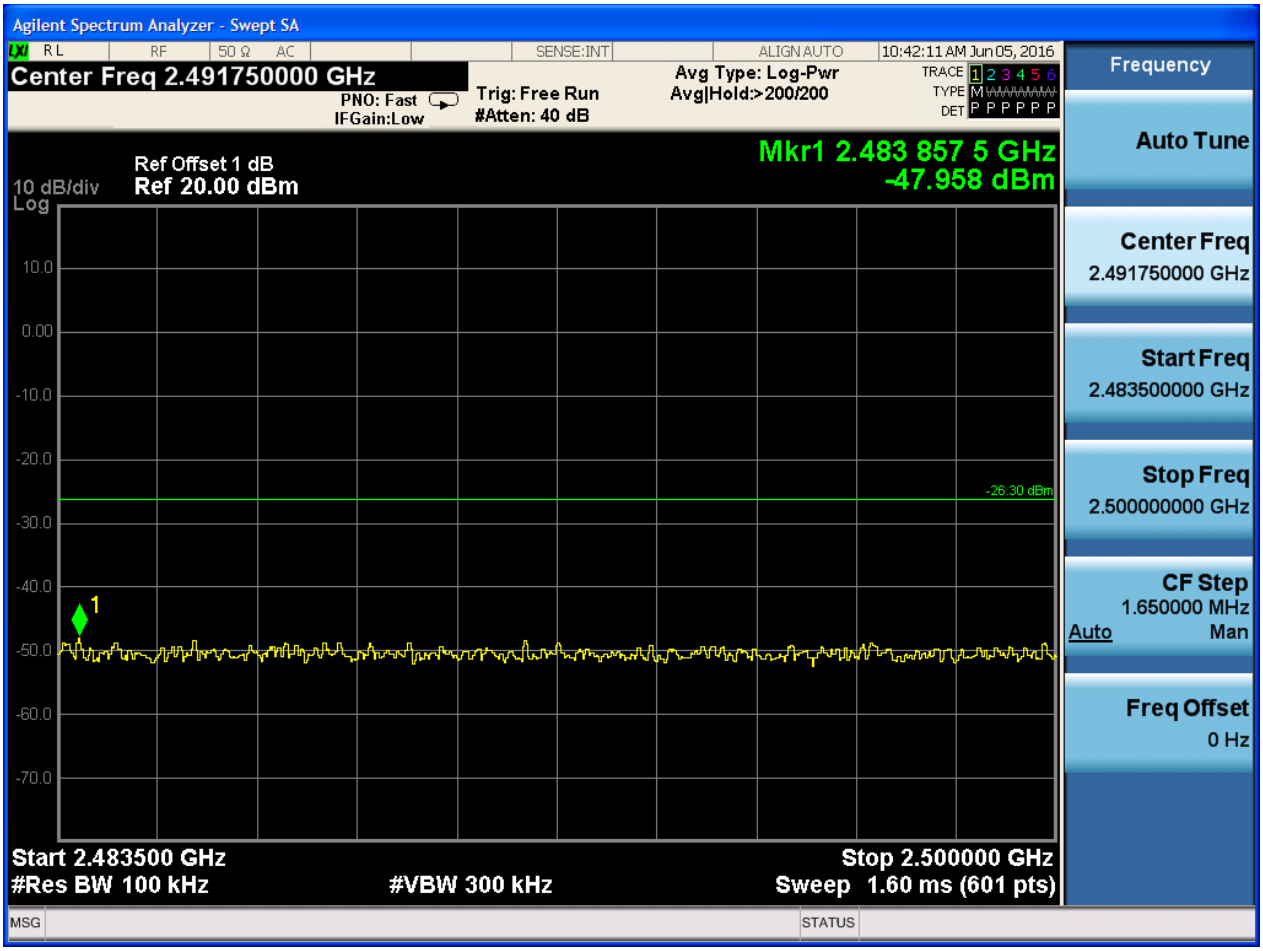

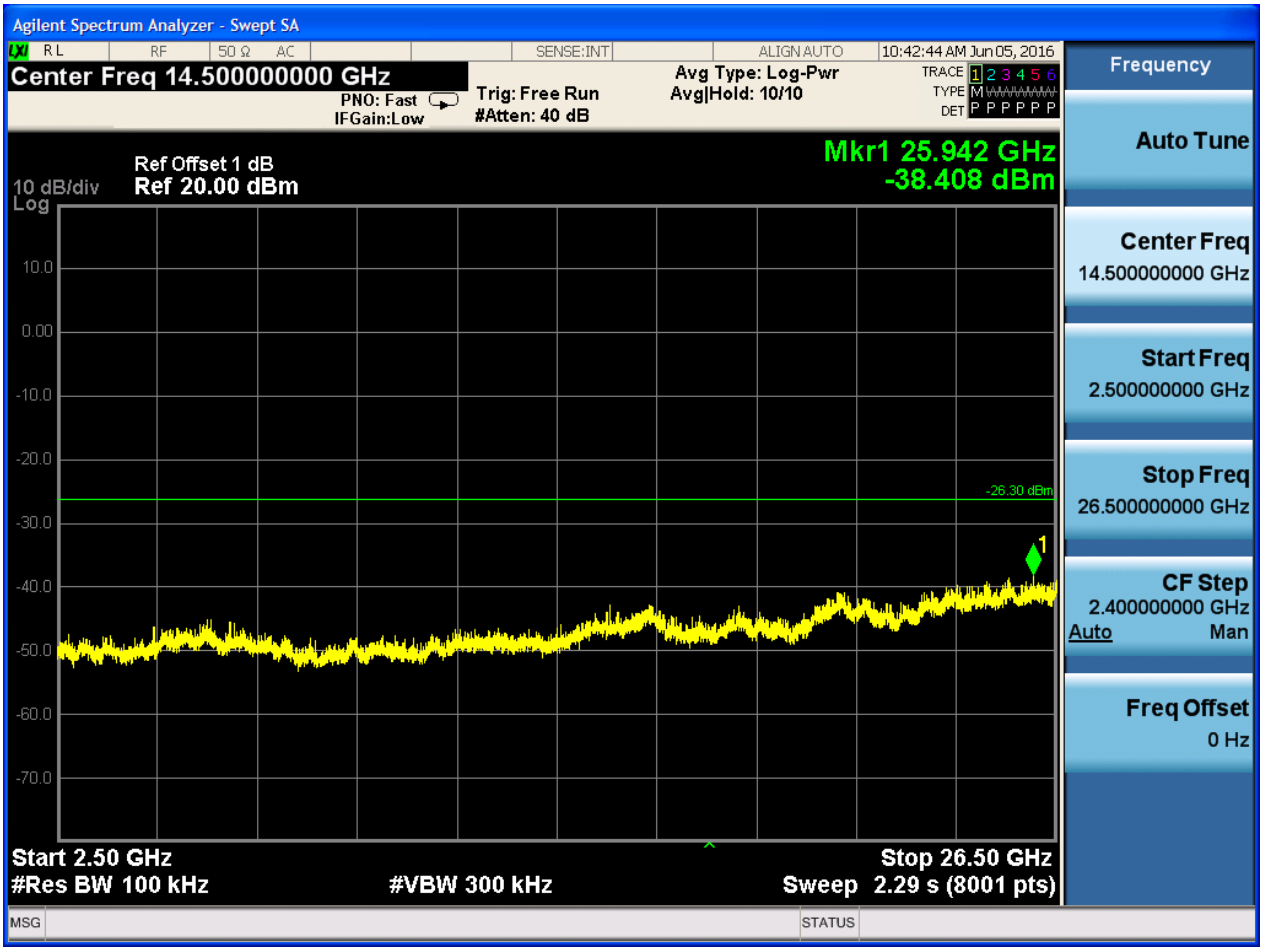

2.9 11G_M@Ant 1

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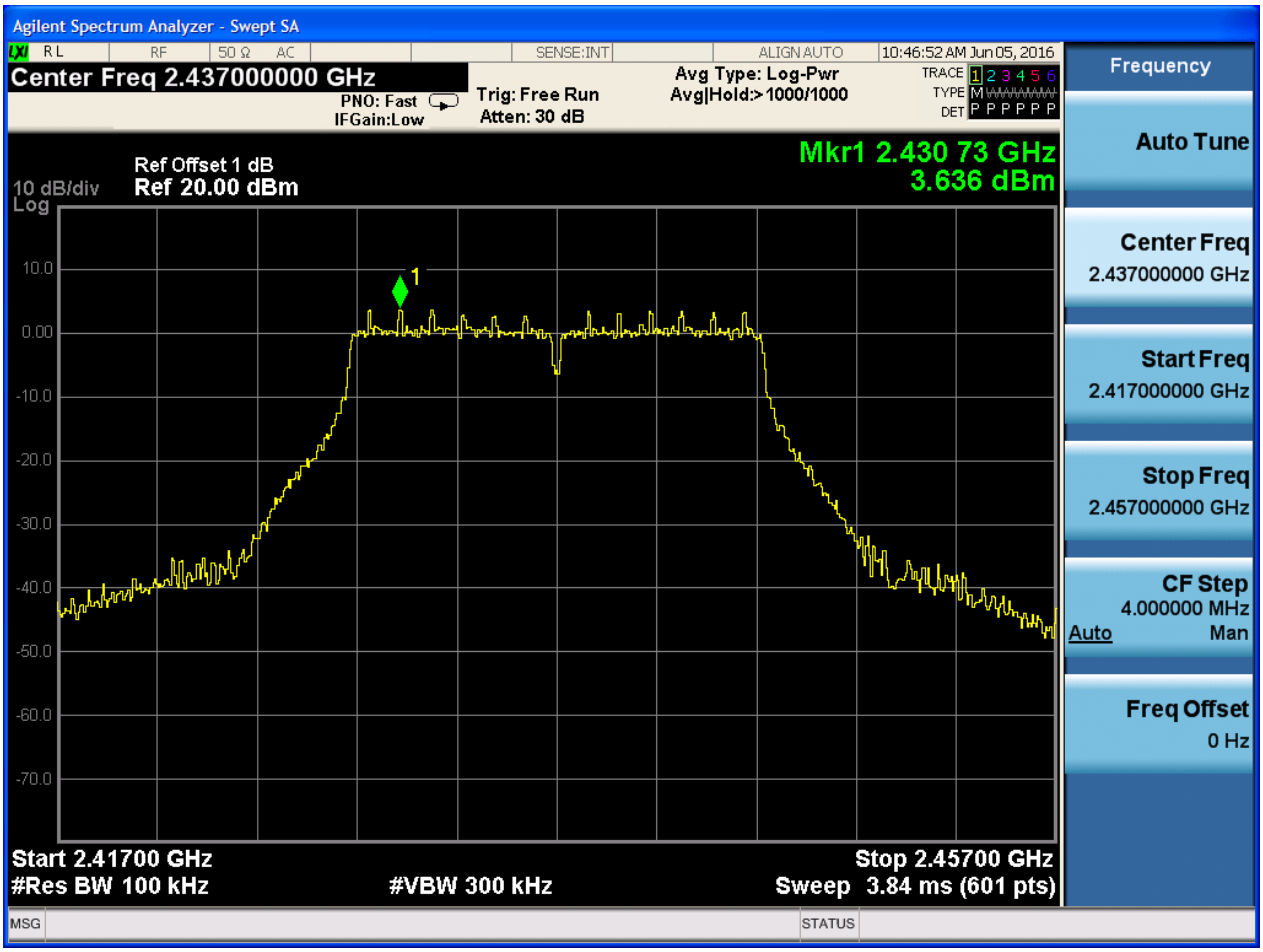

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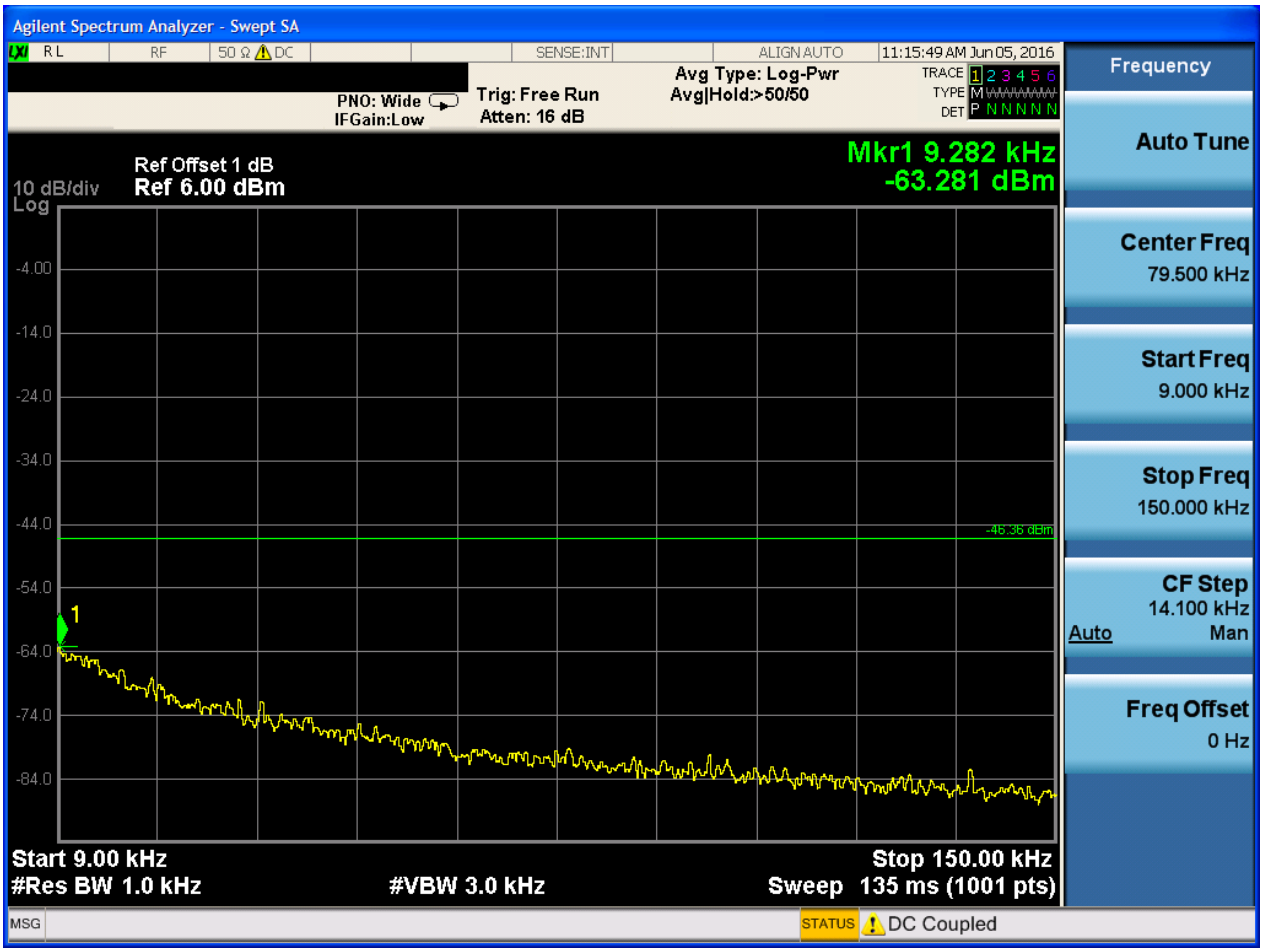
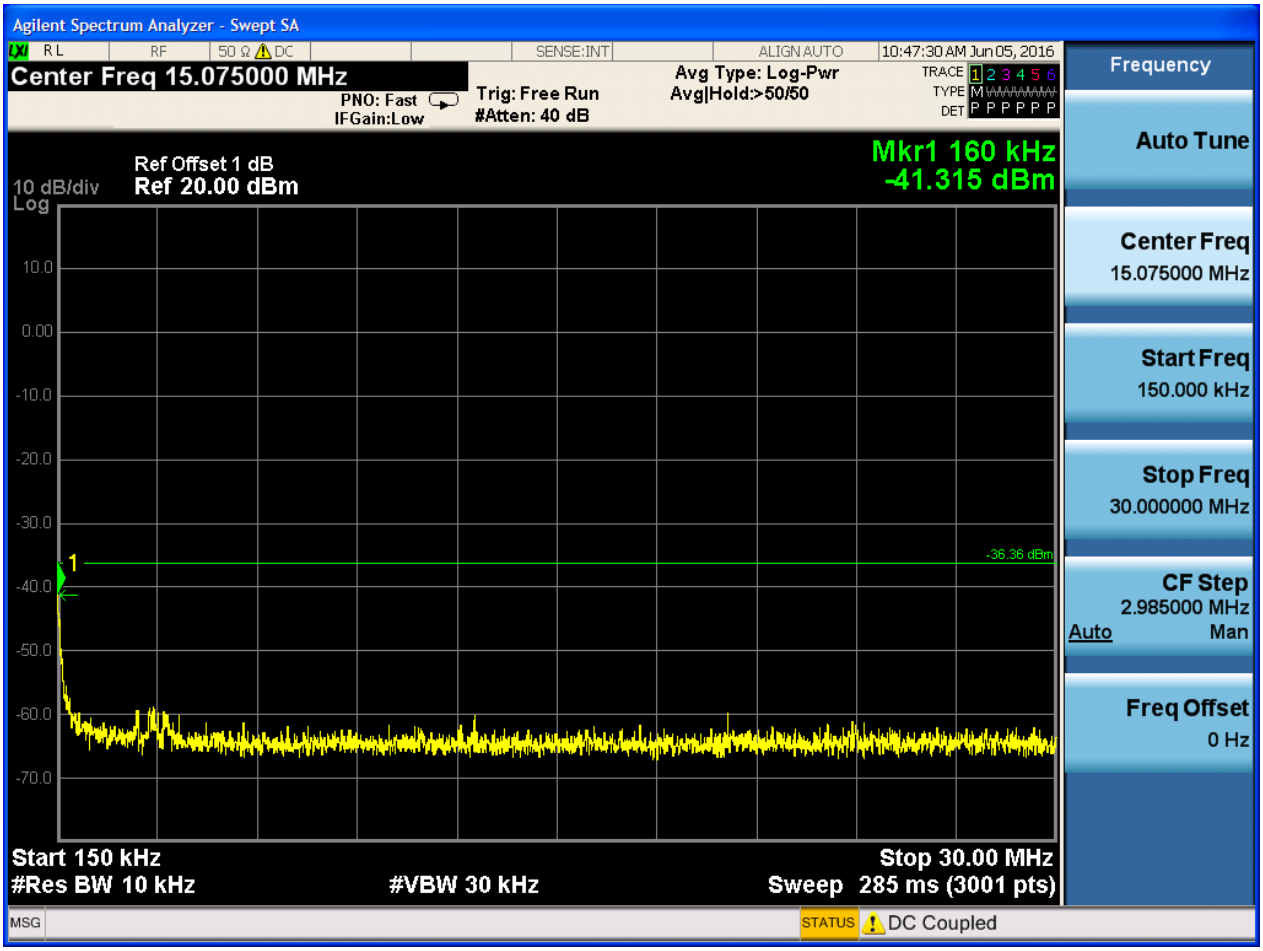
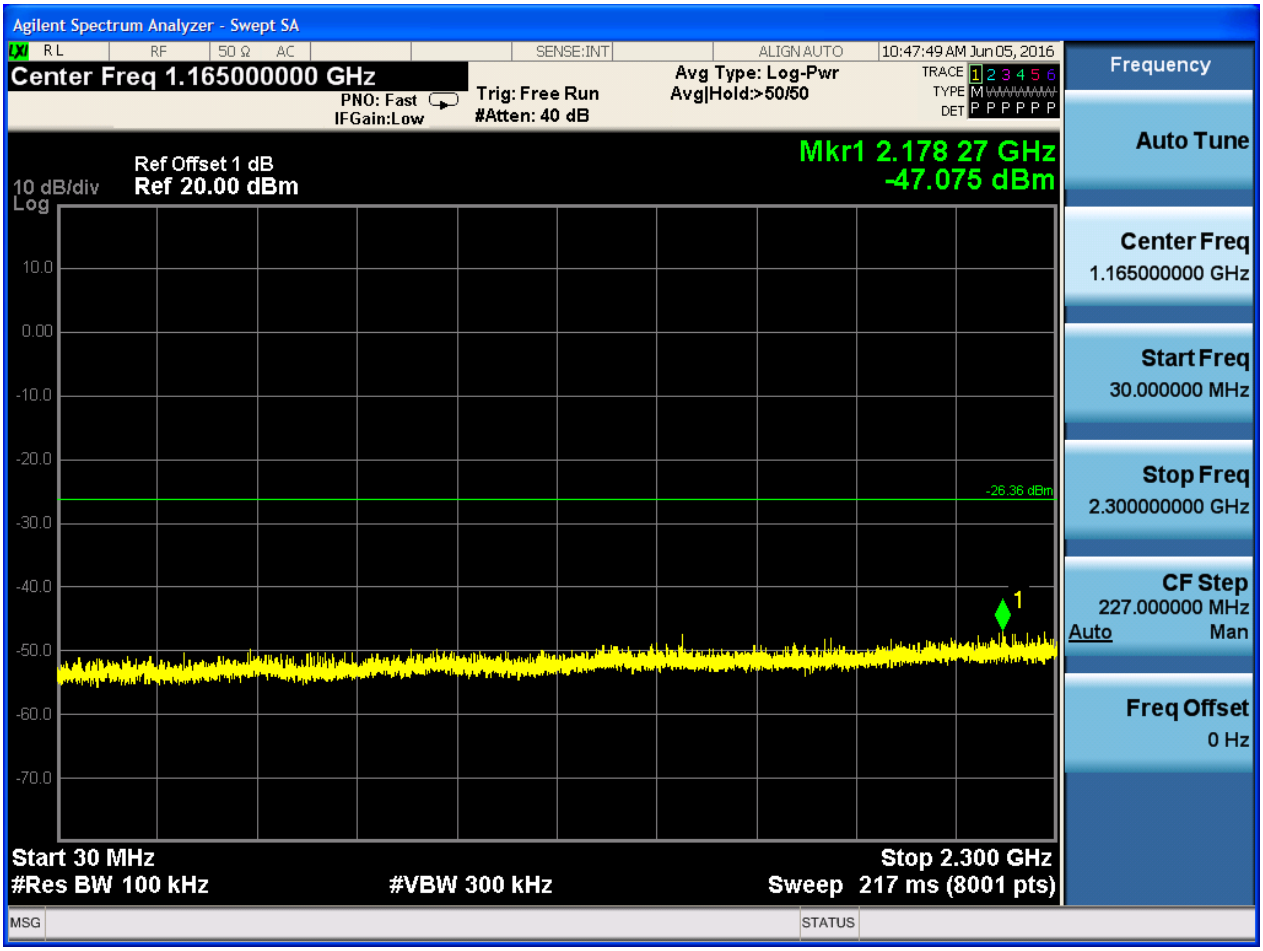
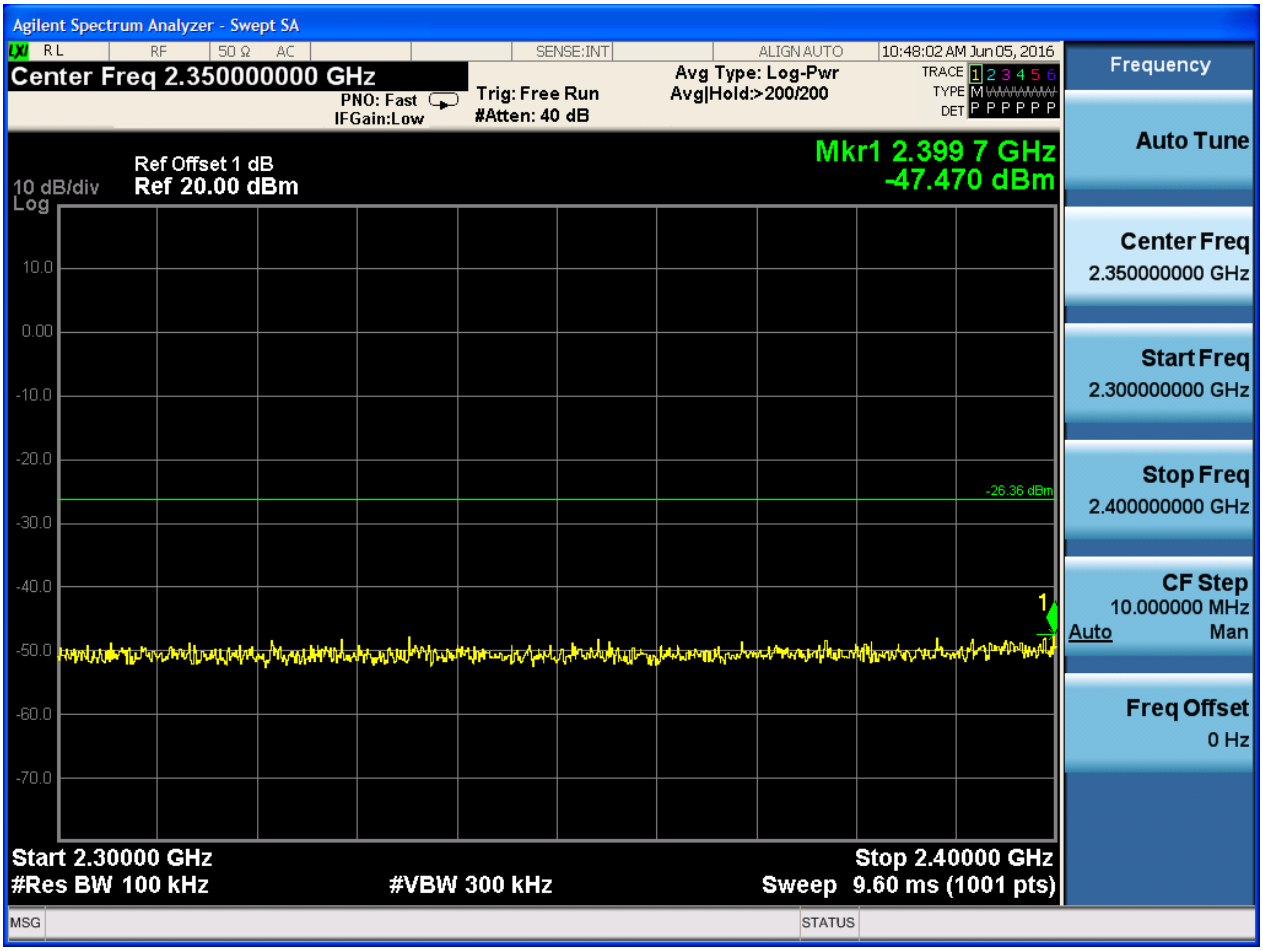
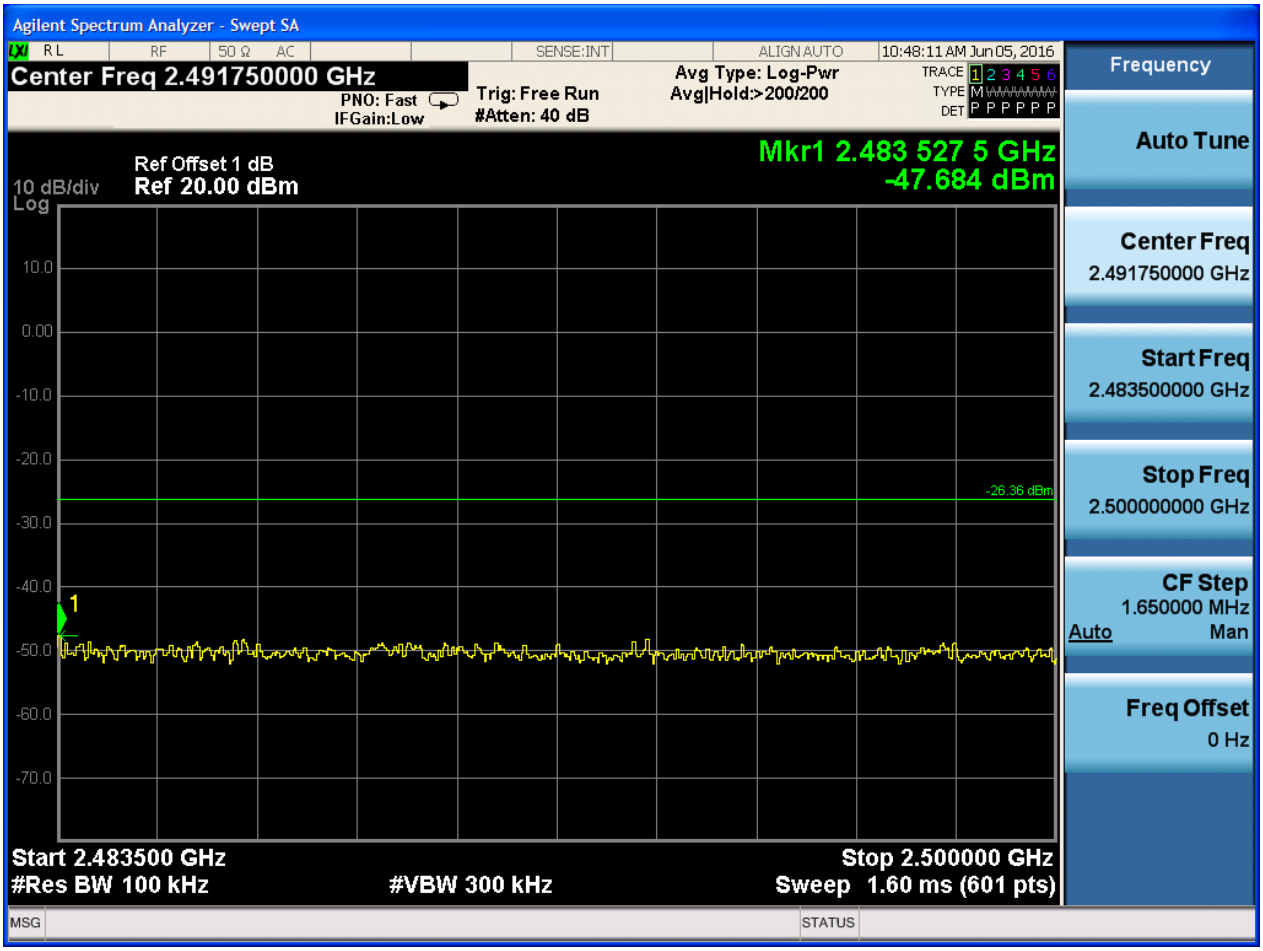
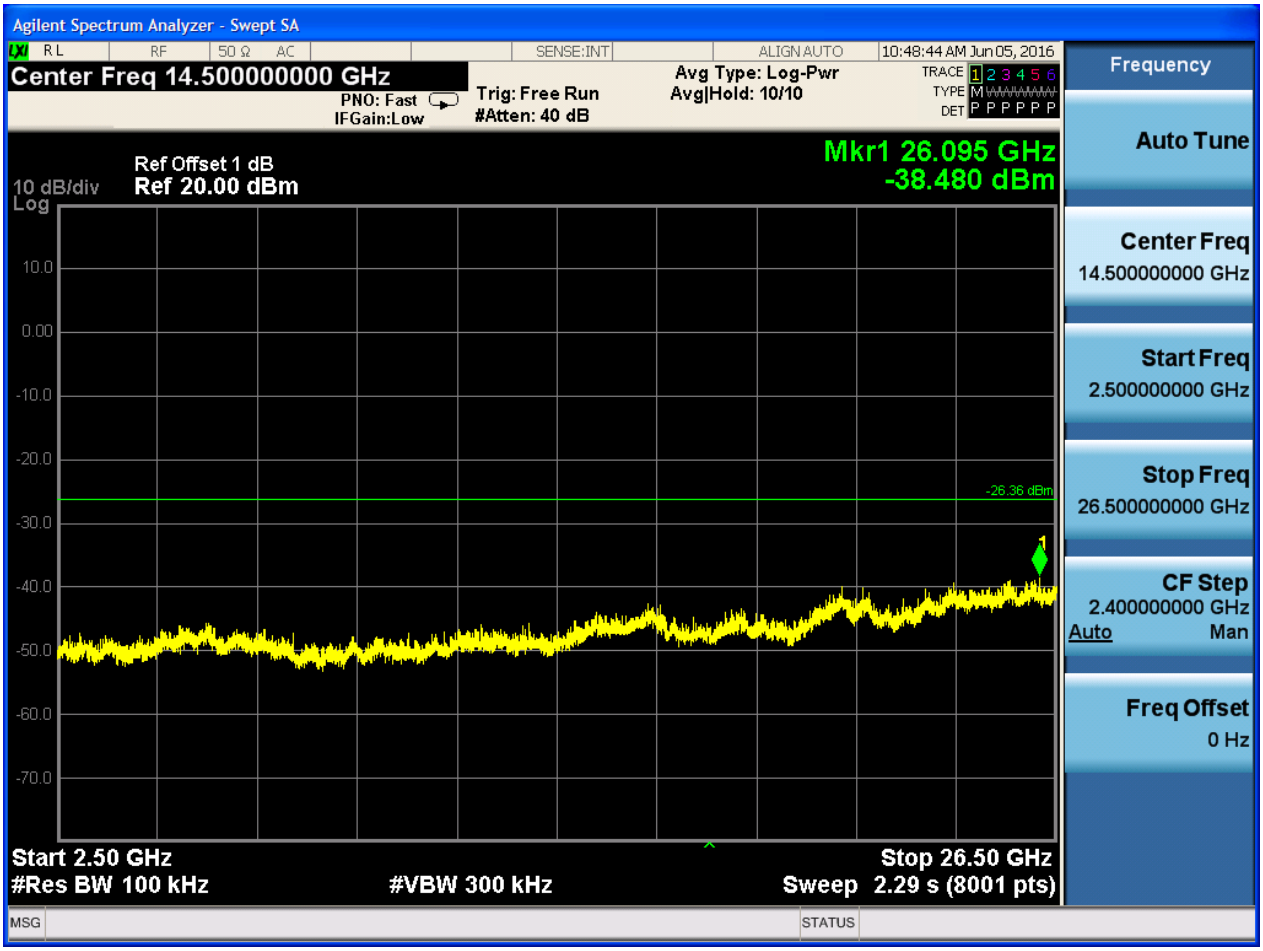






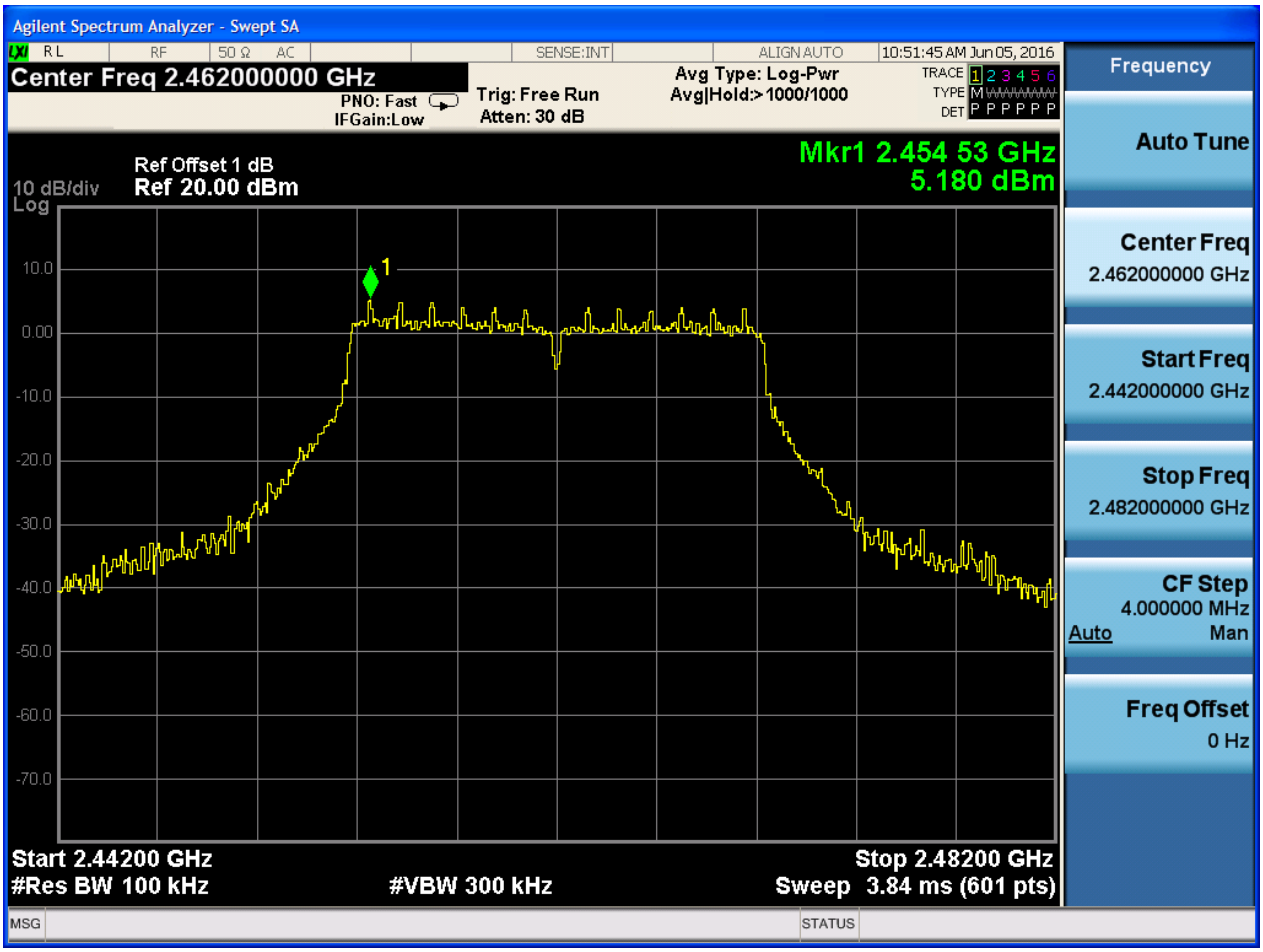




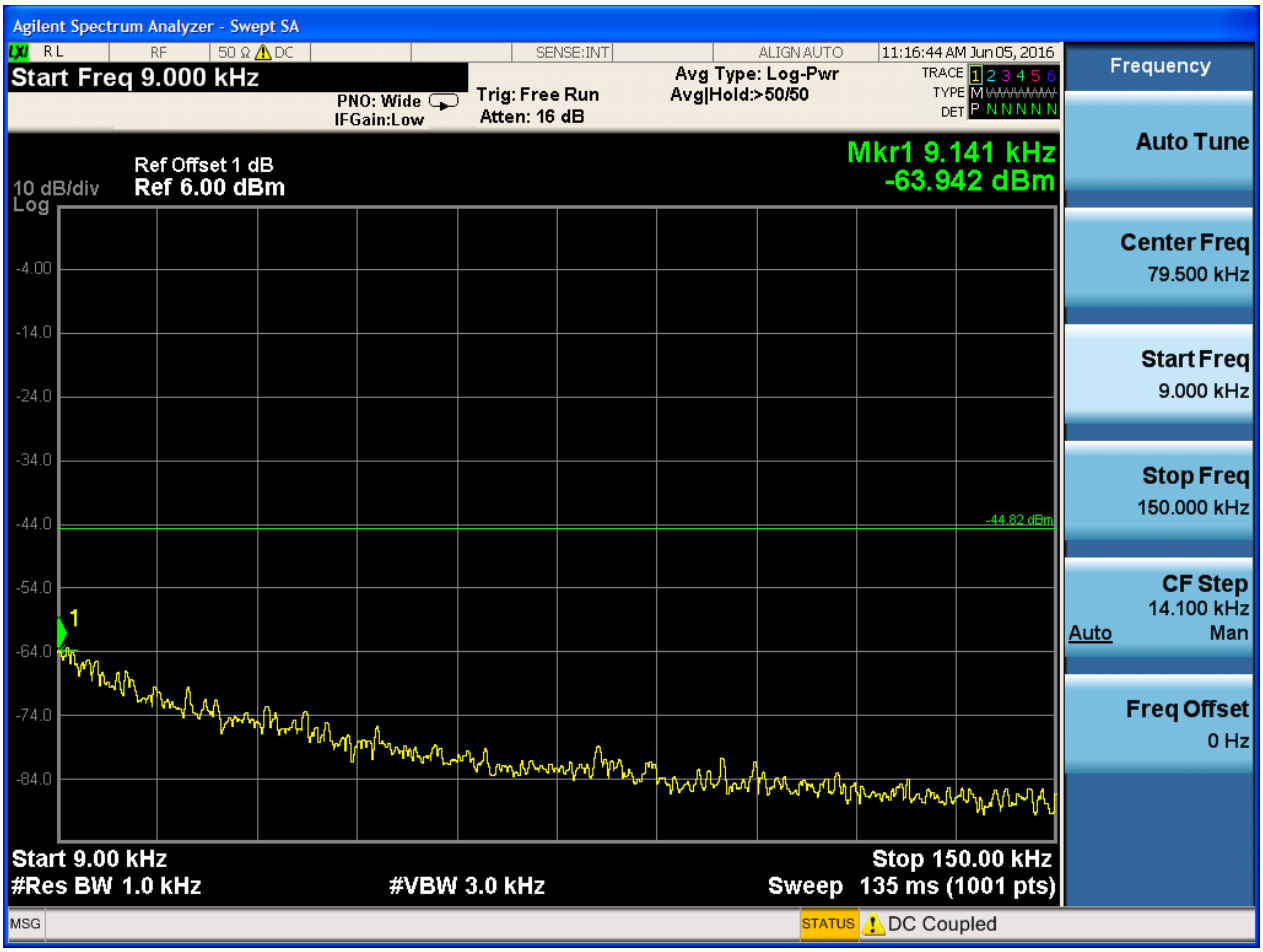


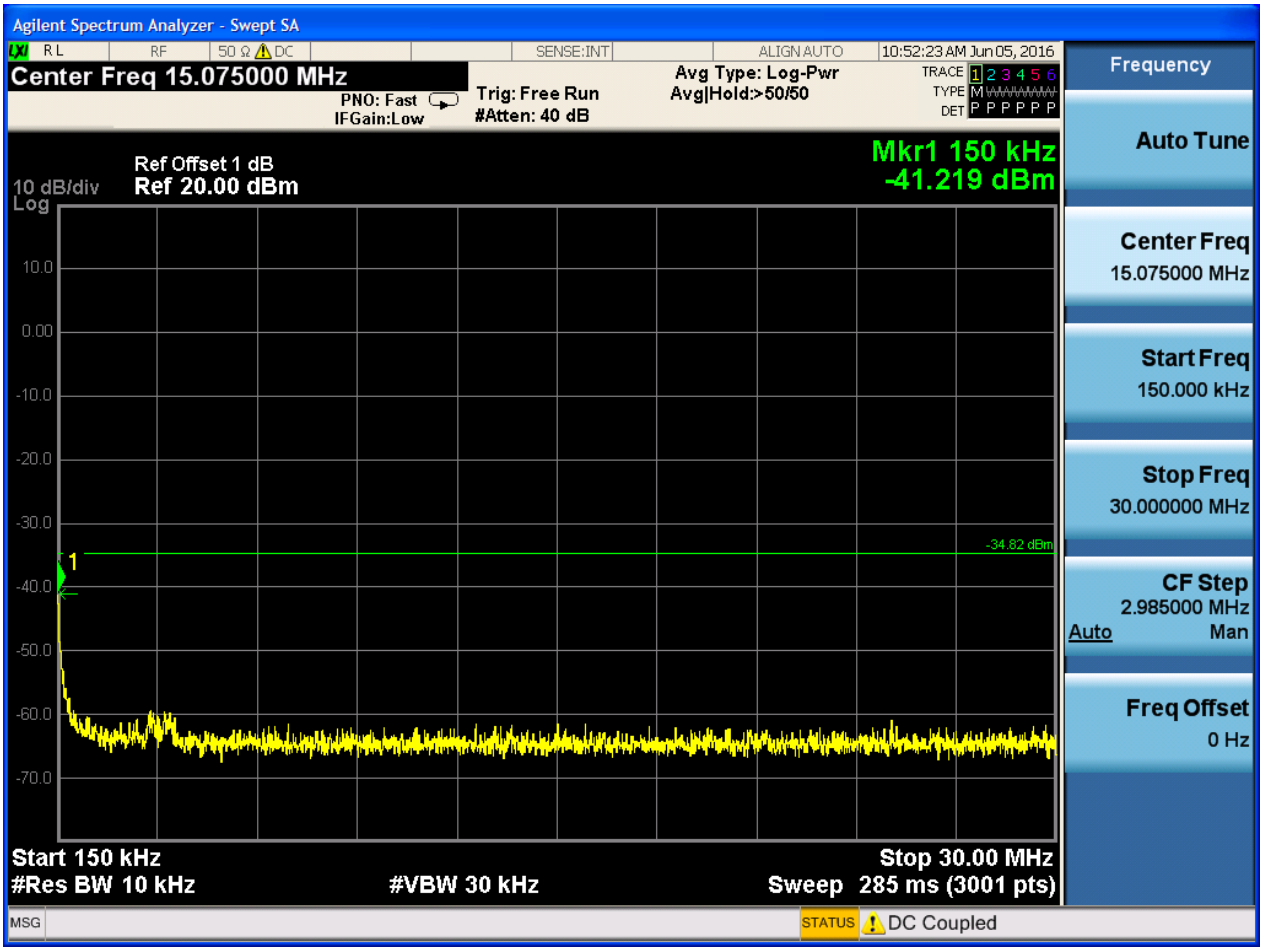
2.11 11G_H@Ant 1

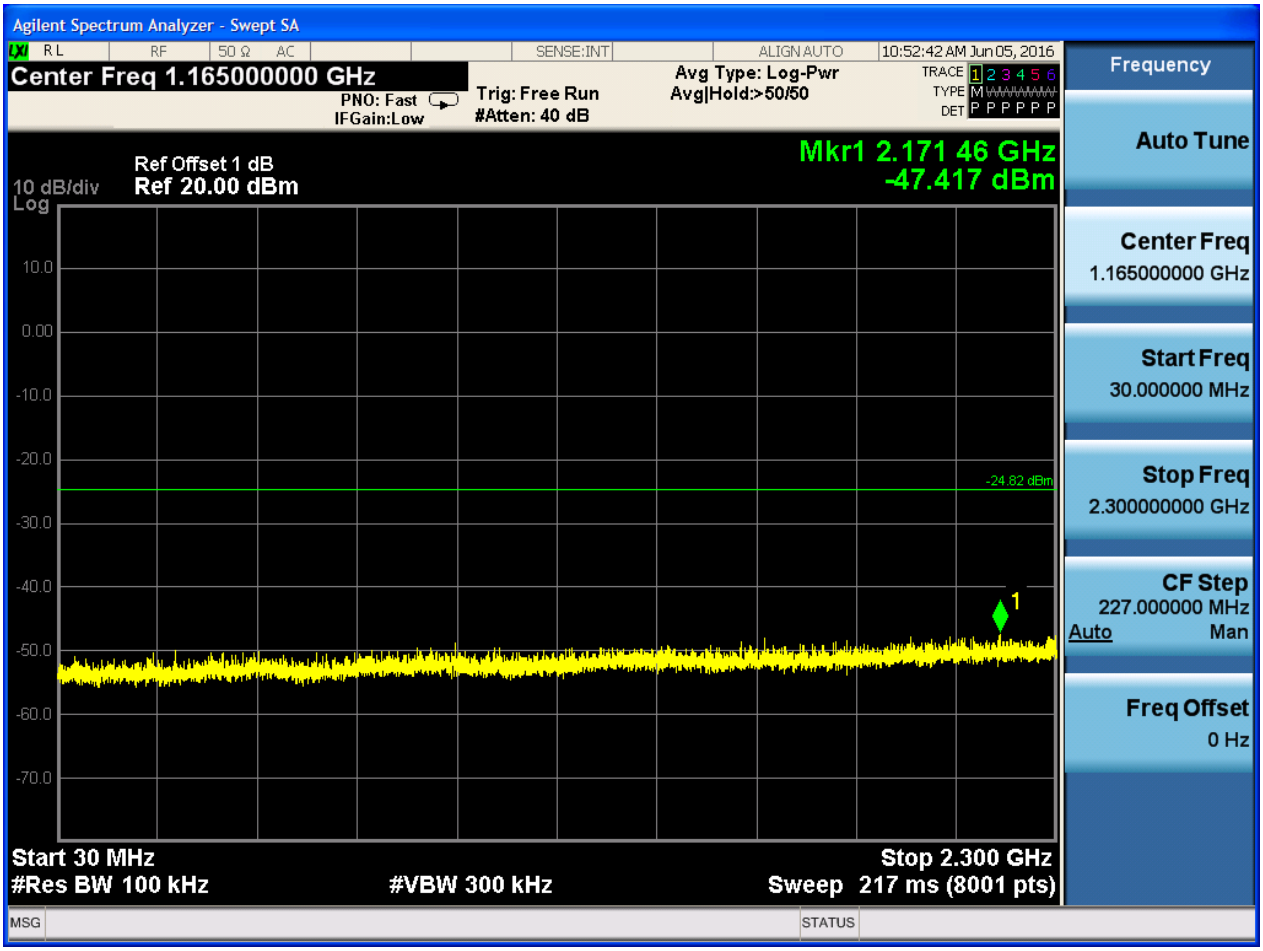
Pref:

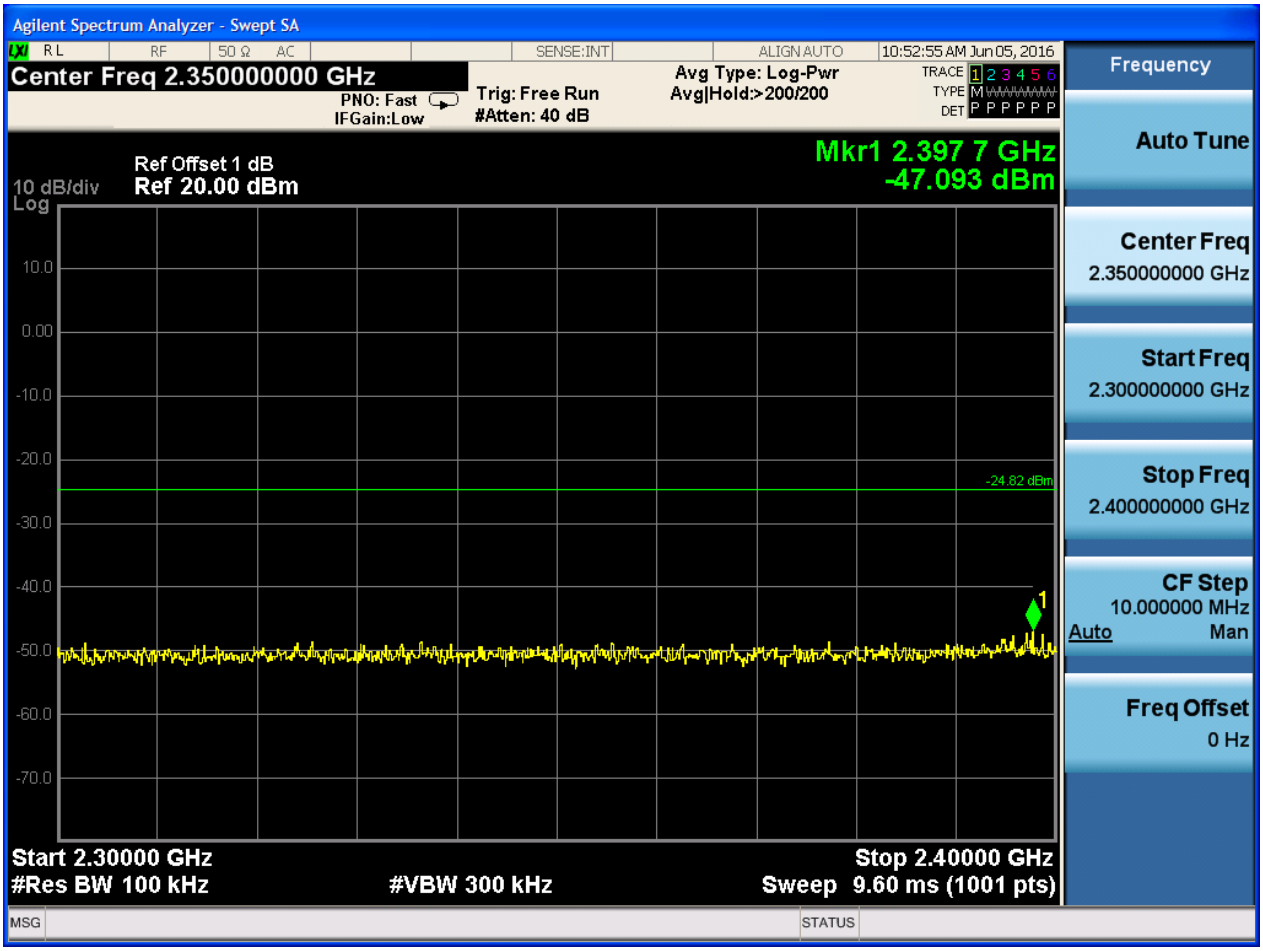


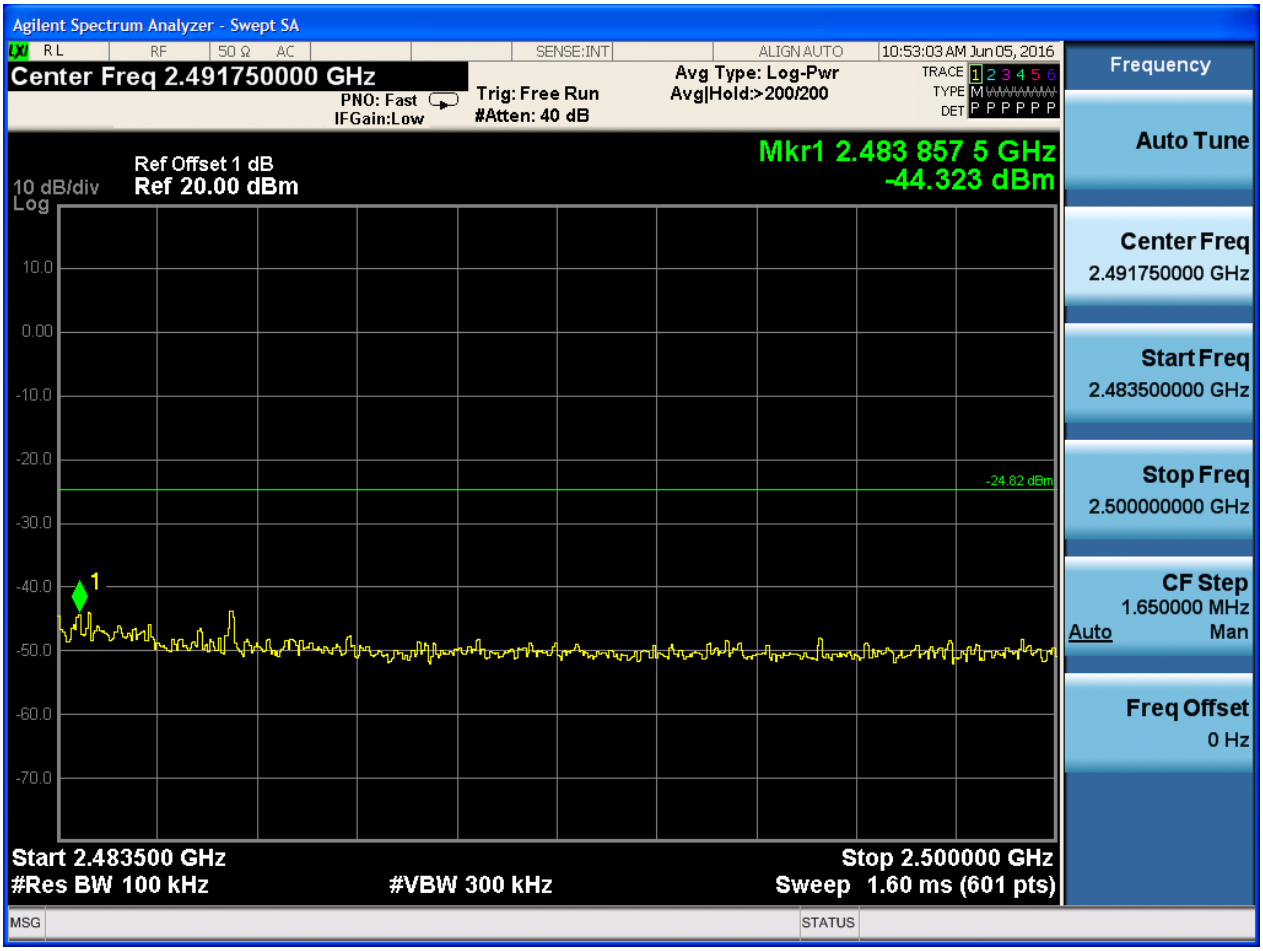
Puw:

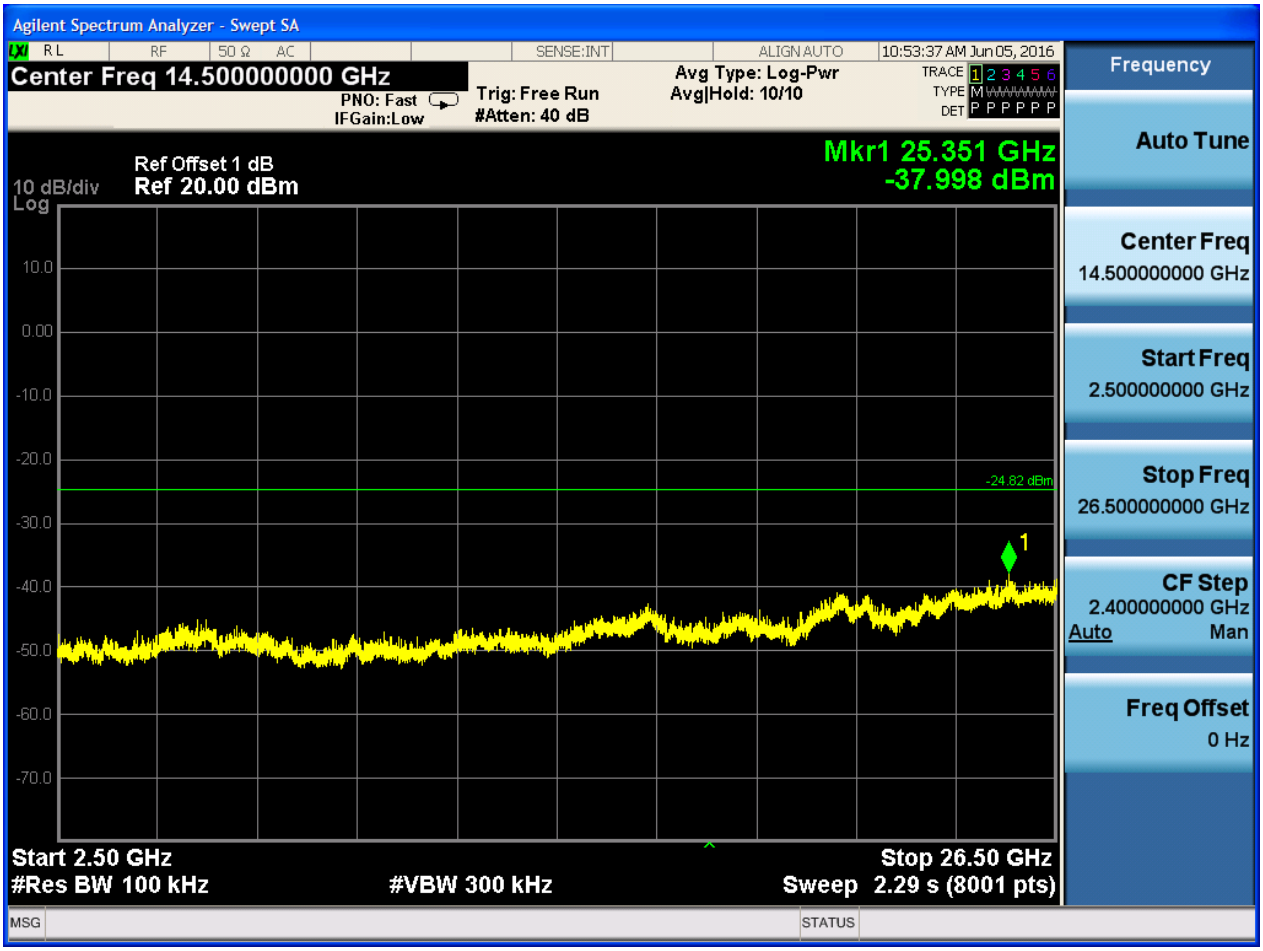












2.13 11N20_L@Ant 1

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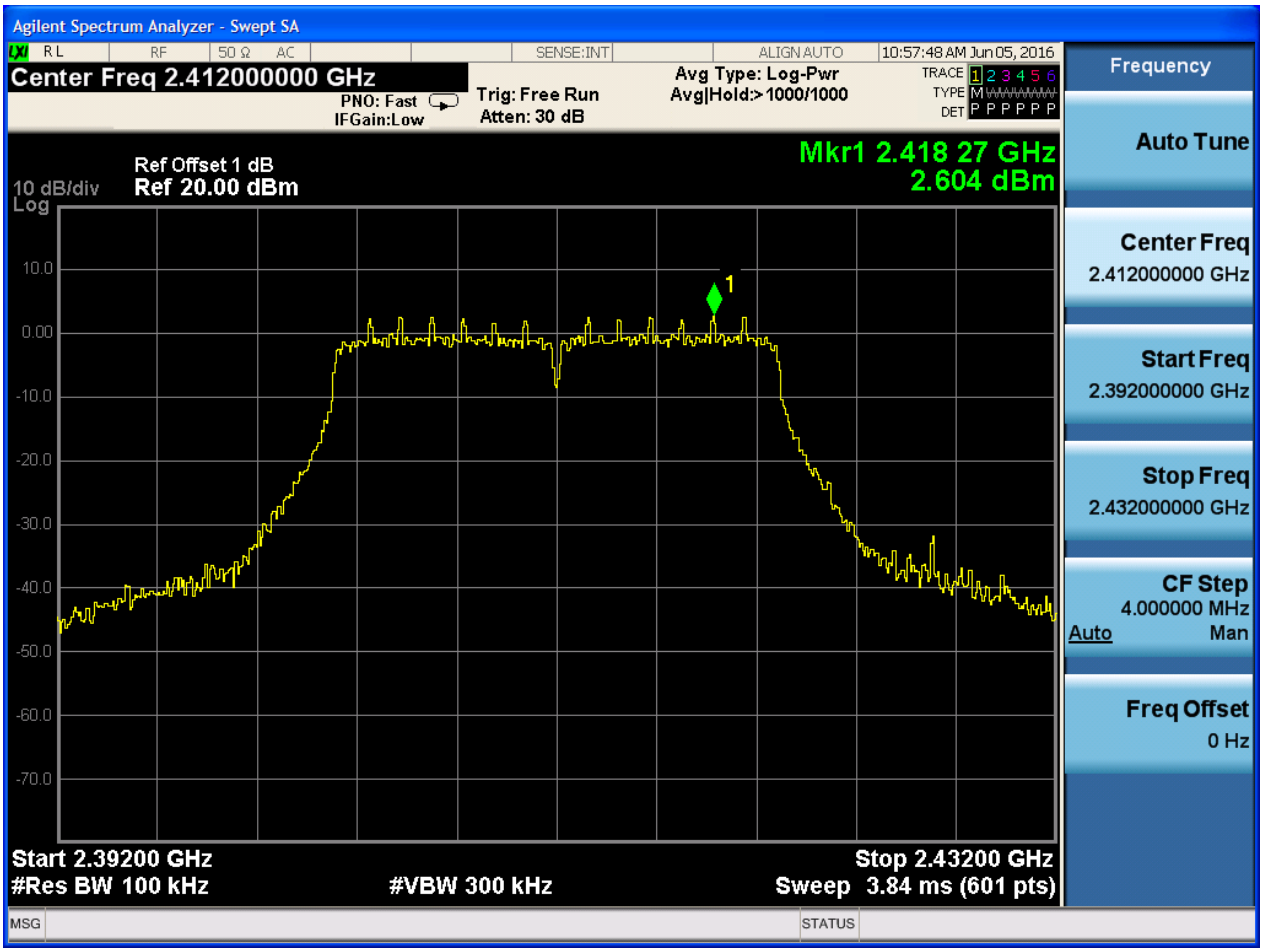

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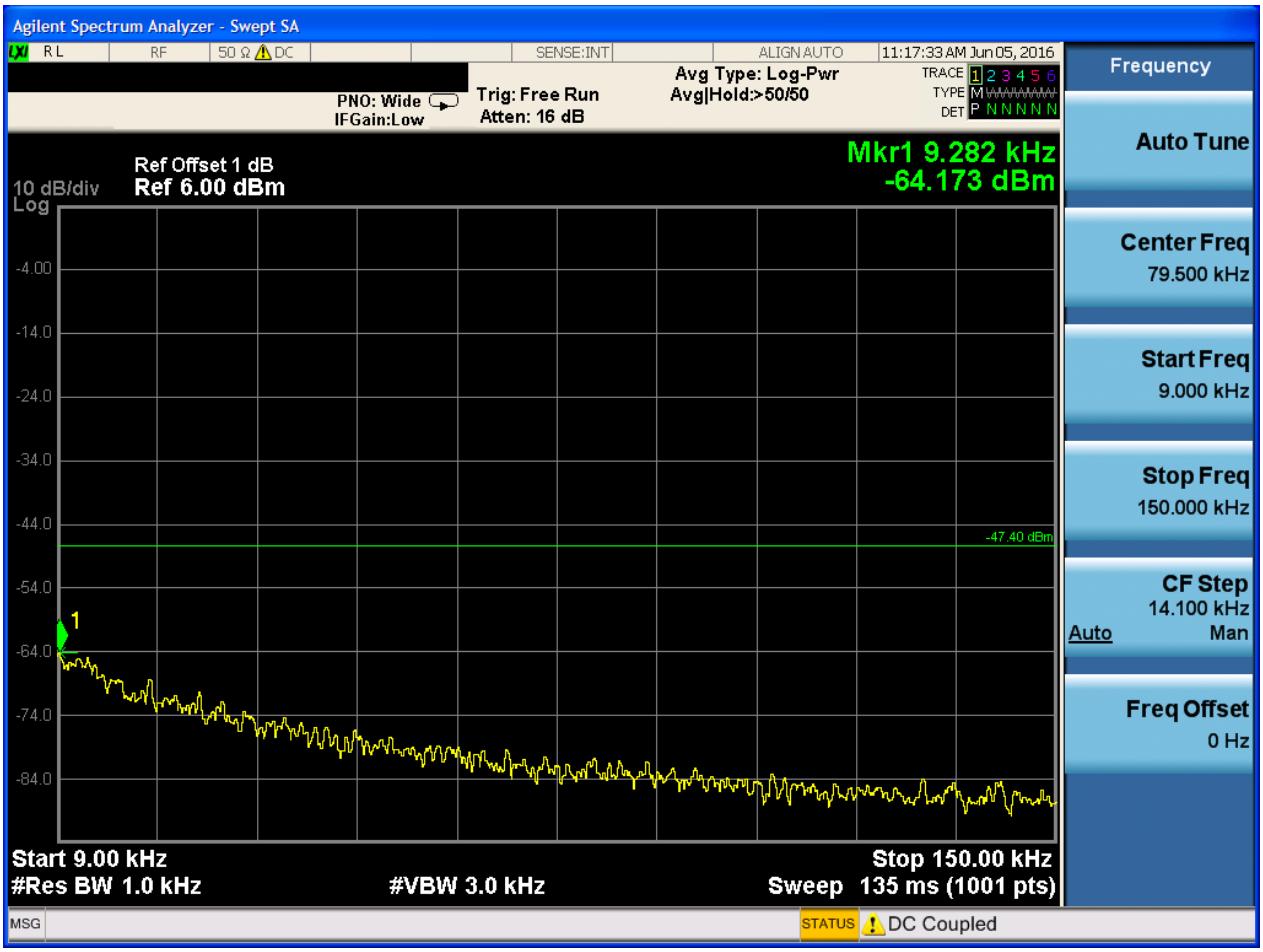

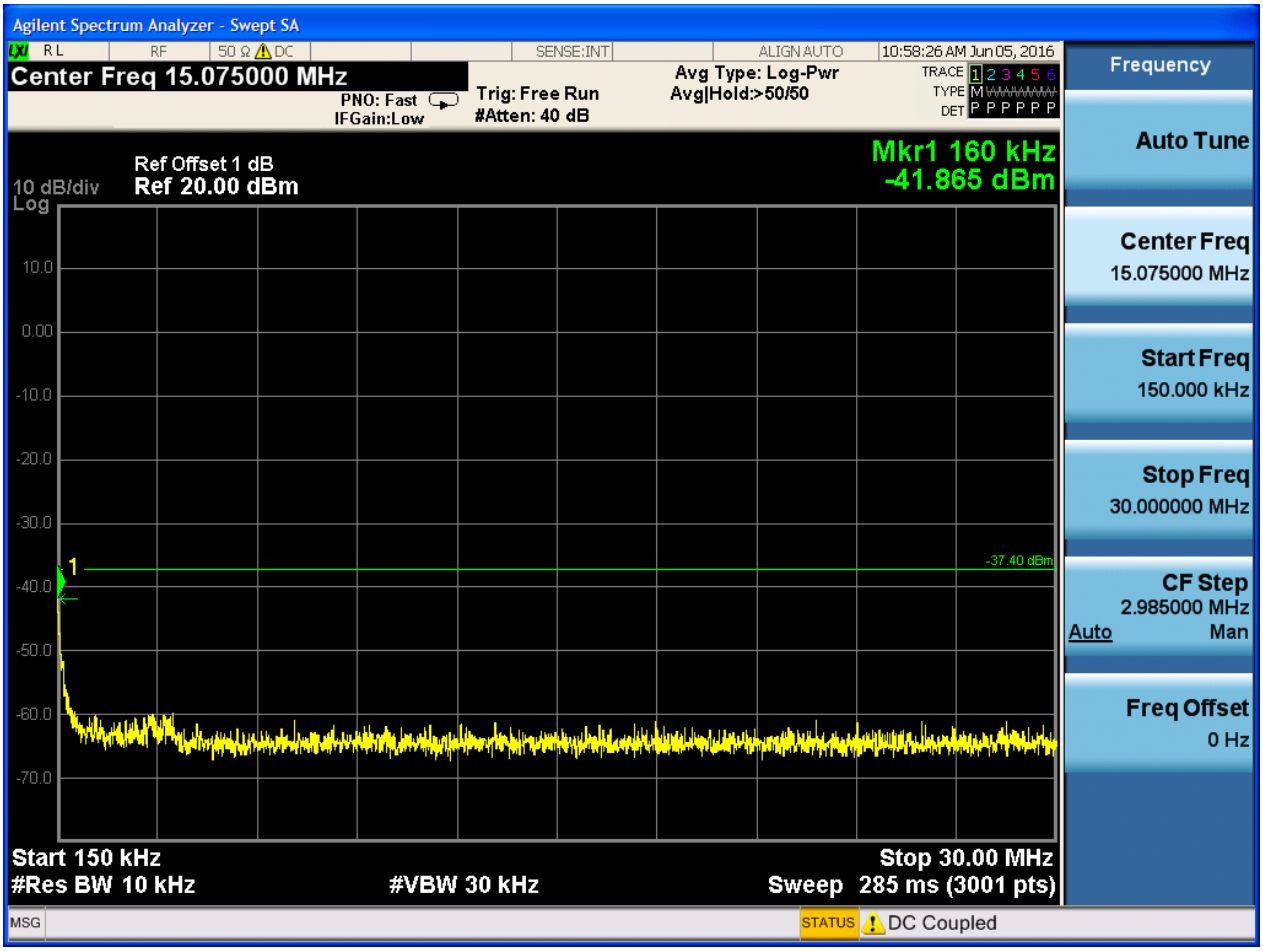

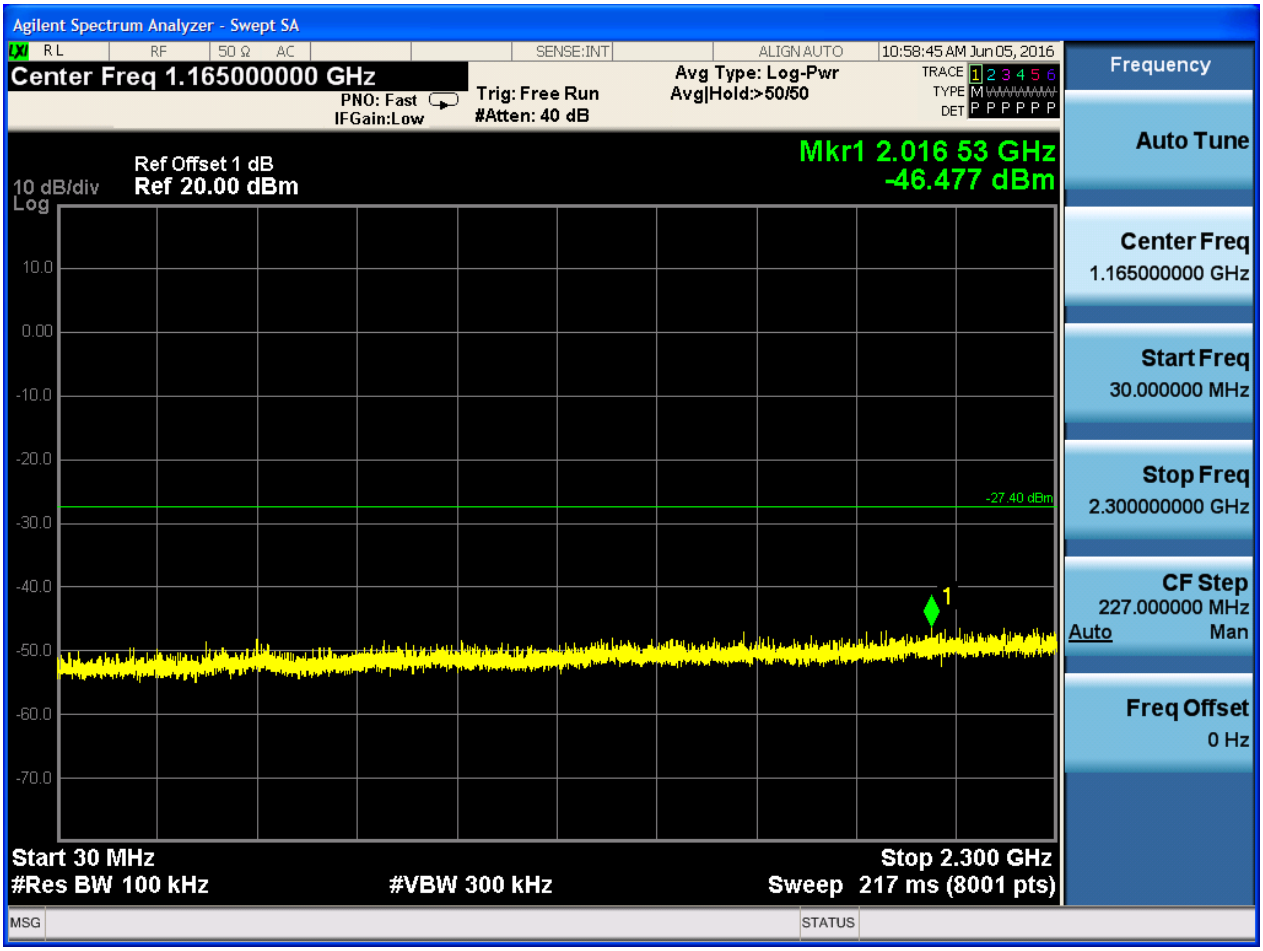

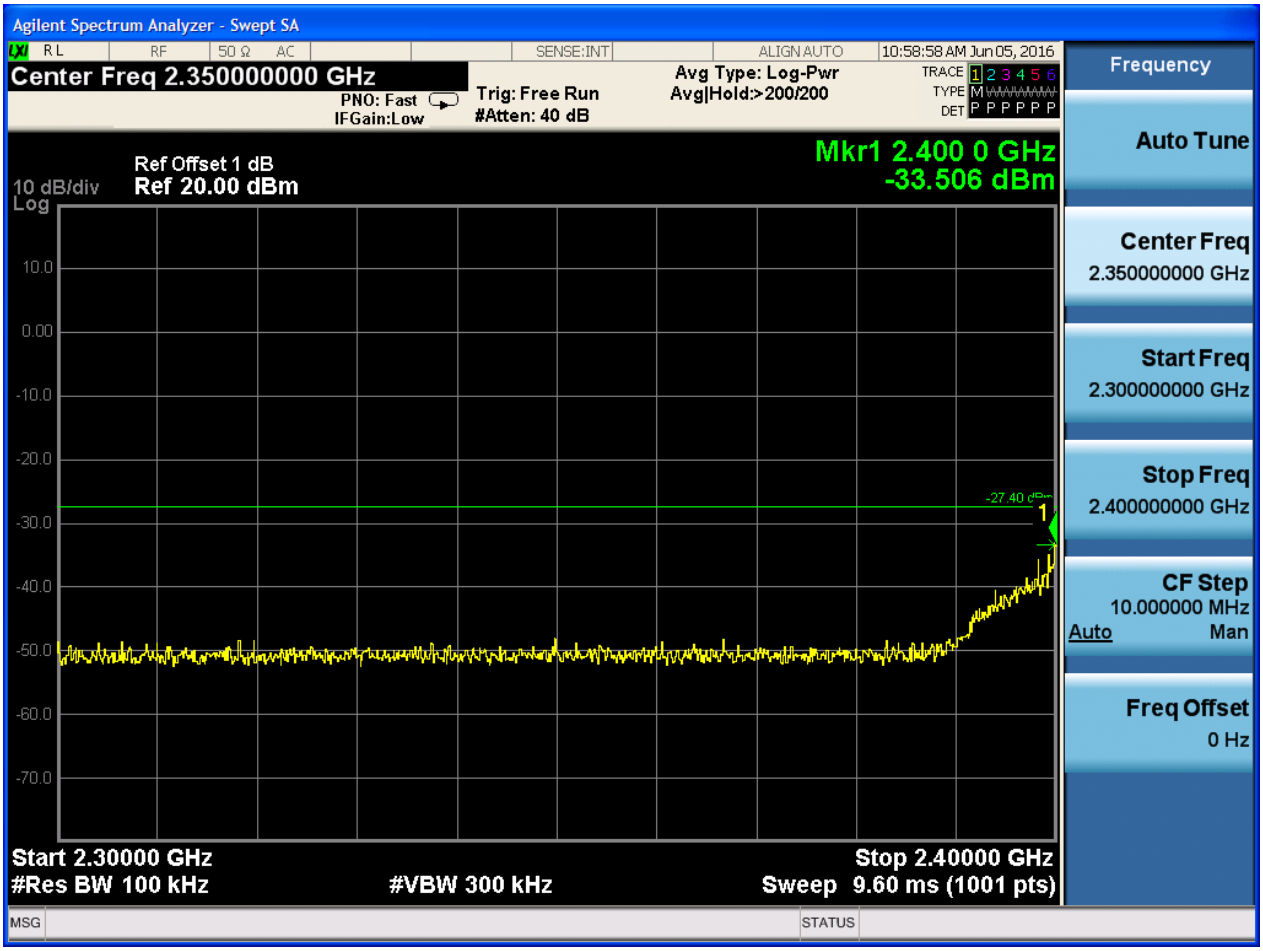

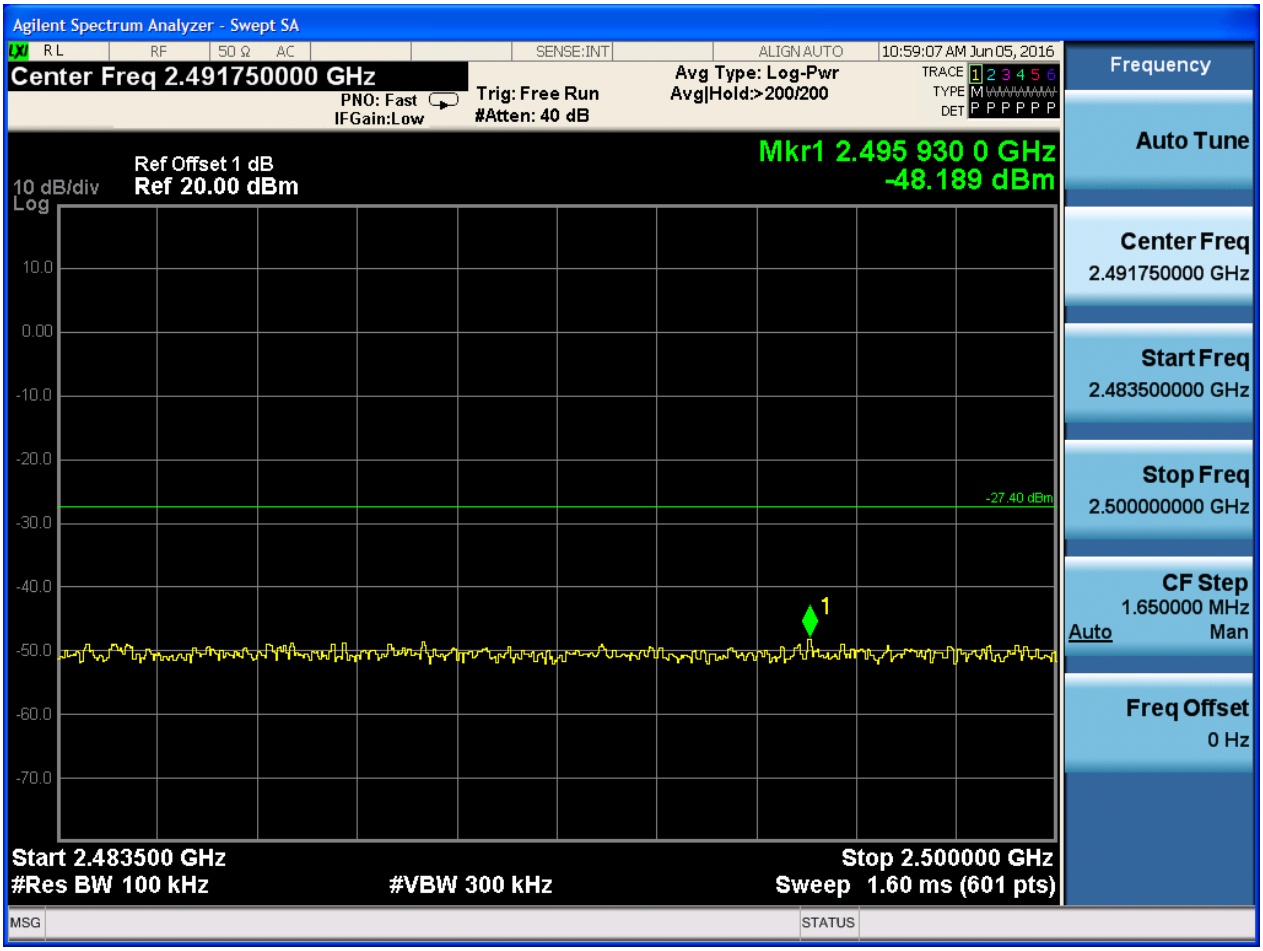

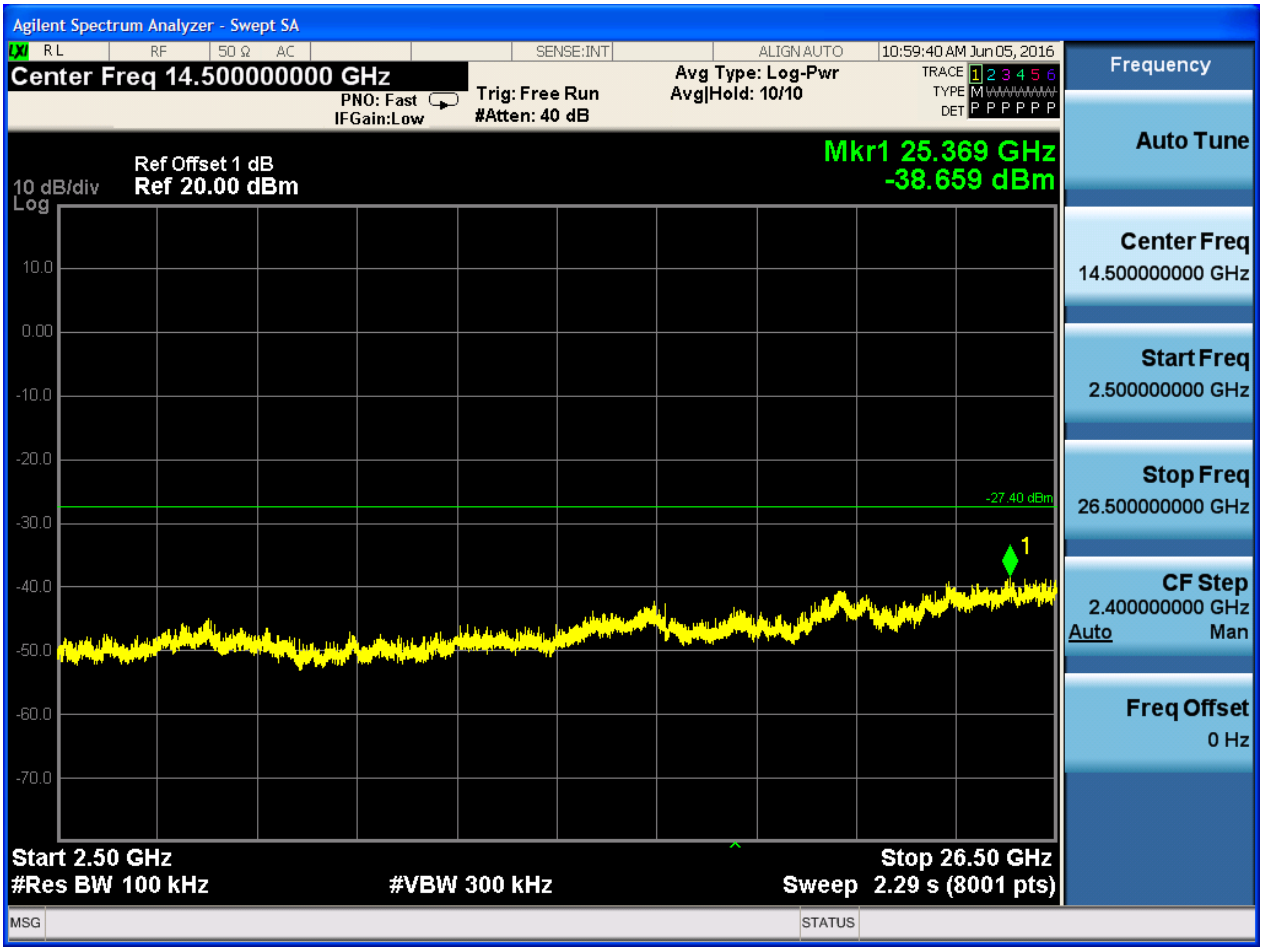

2.15 11N20_M@Ant 1

Pref:

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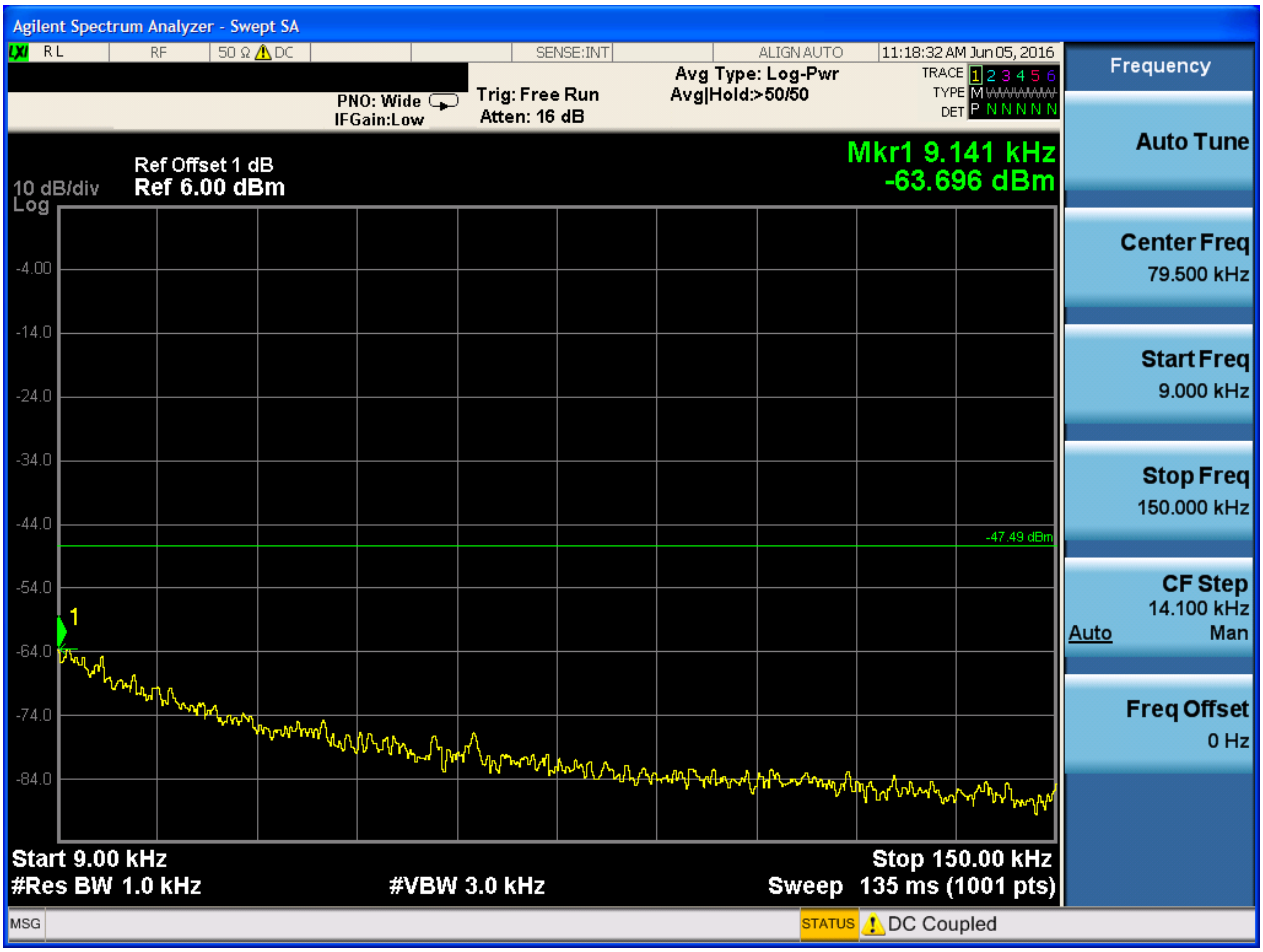
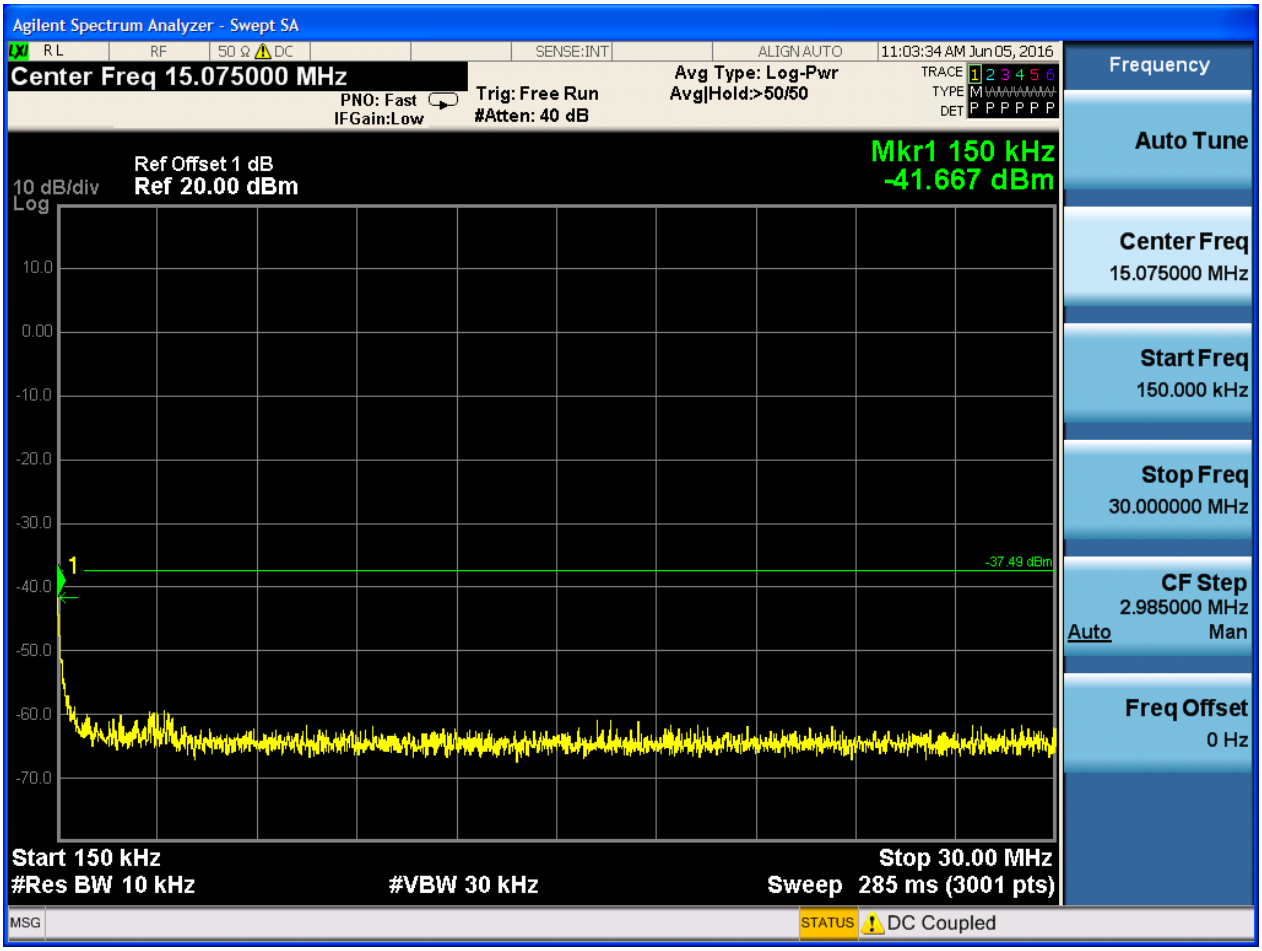
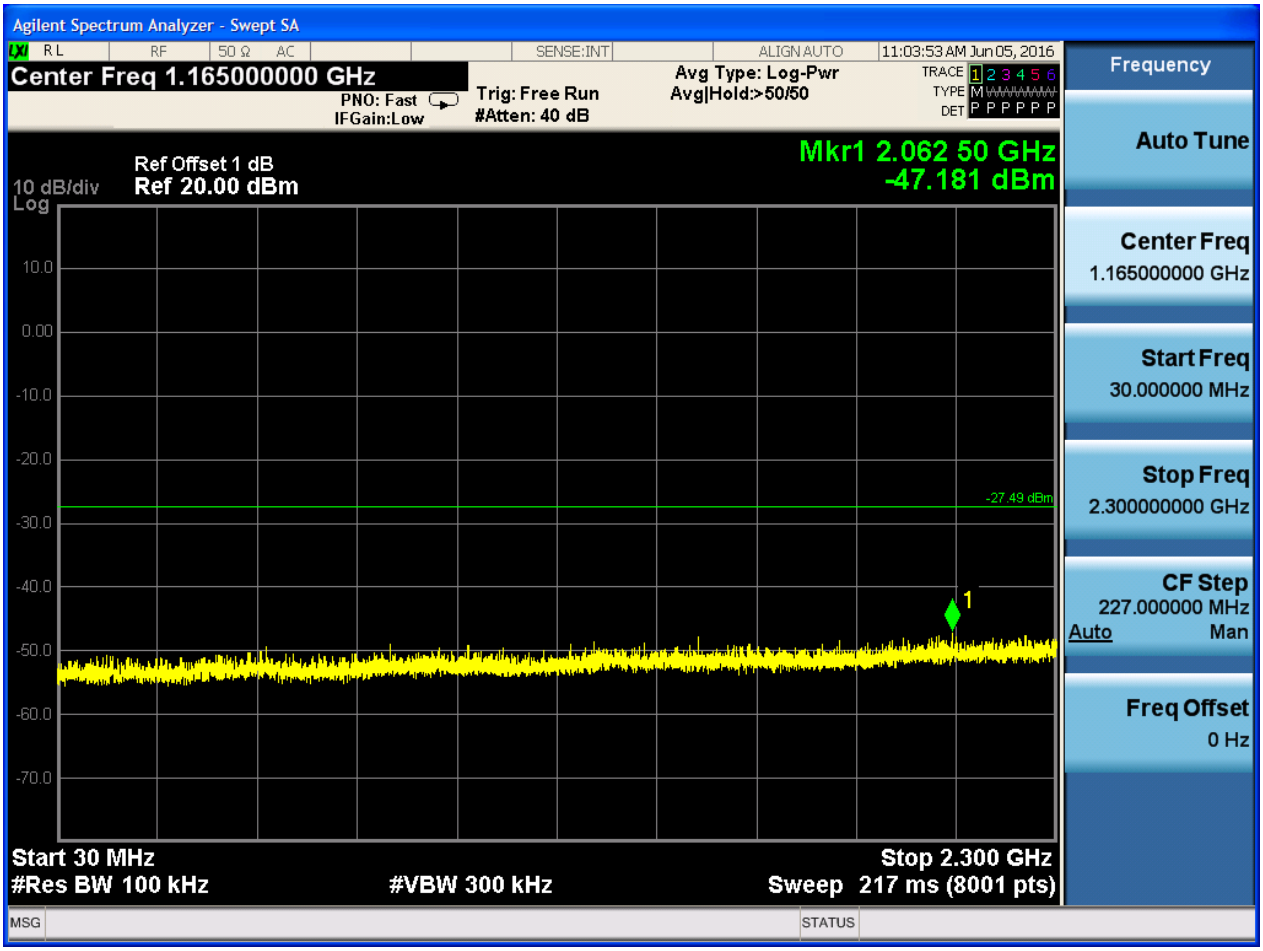
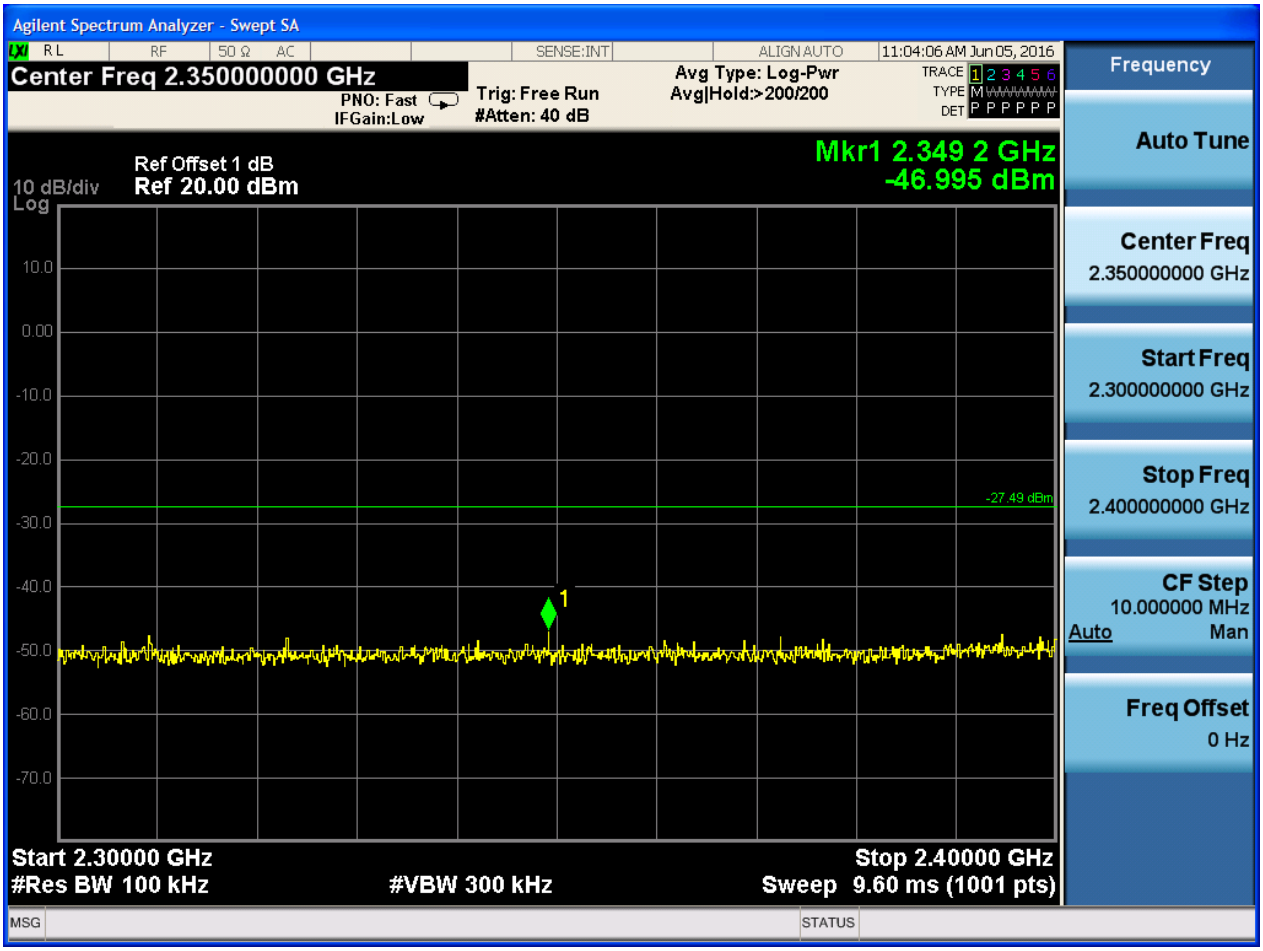
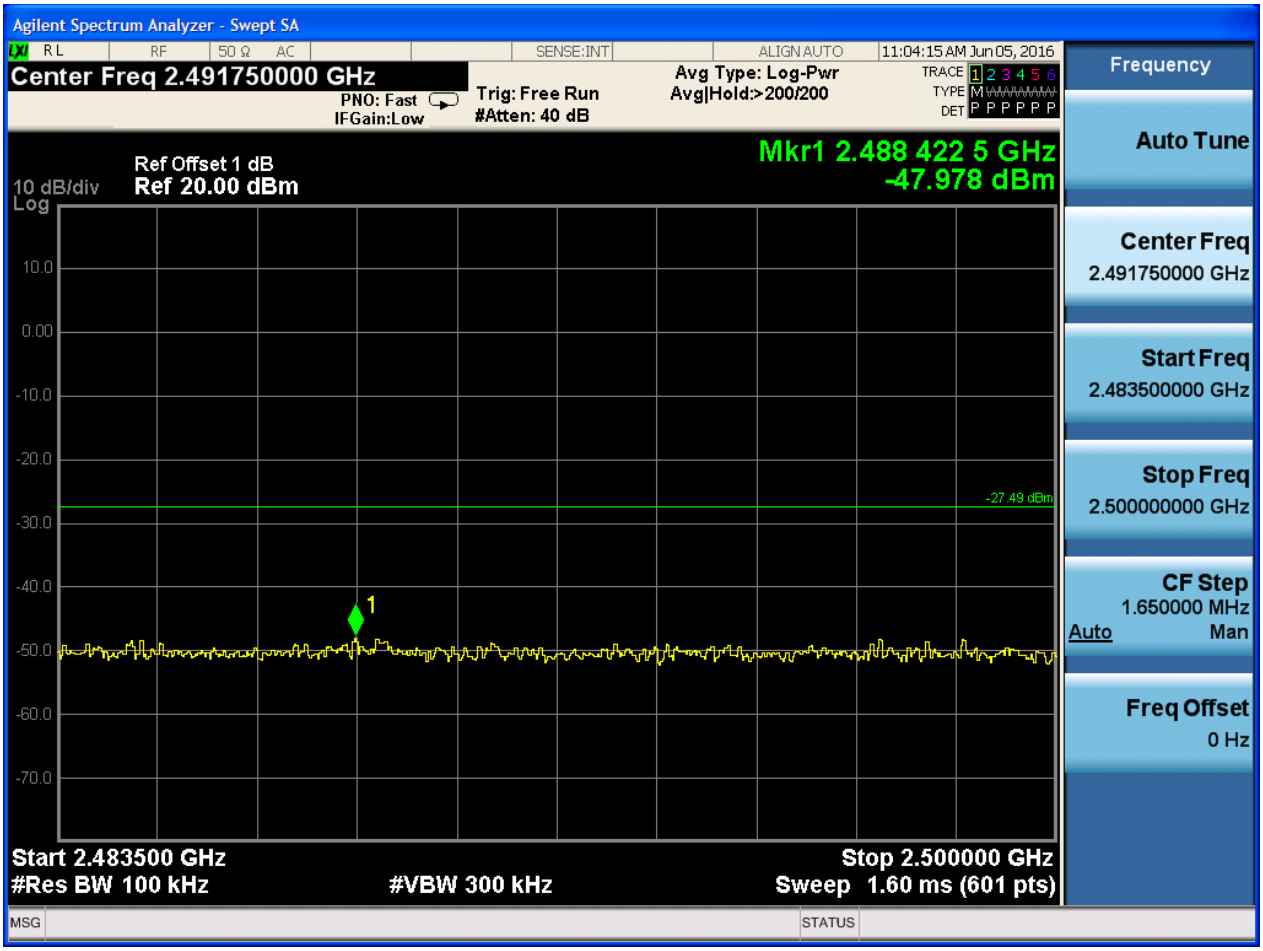
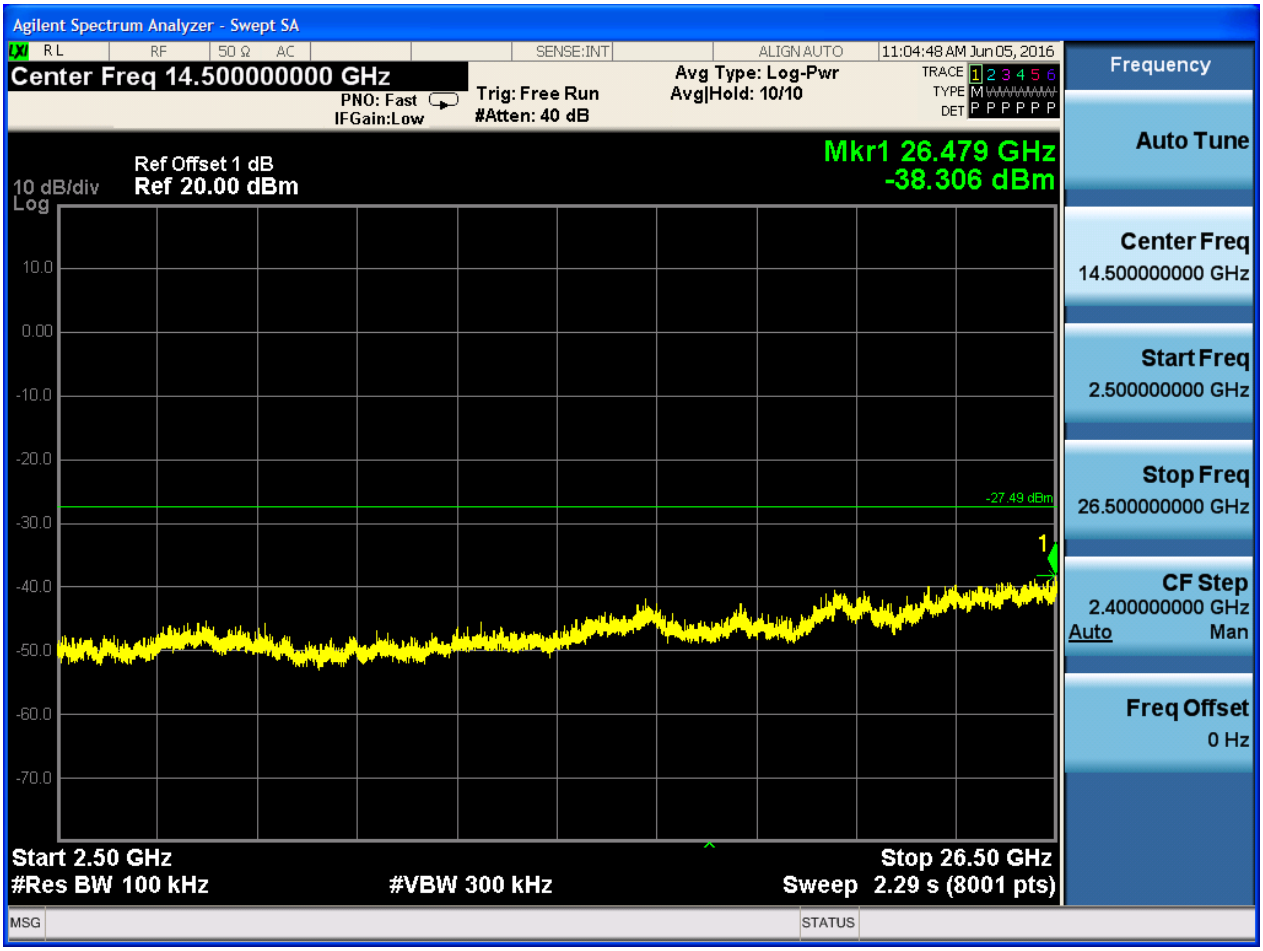






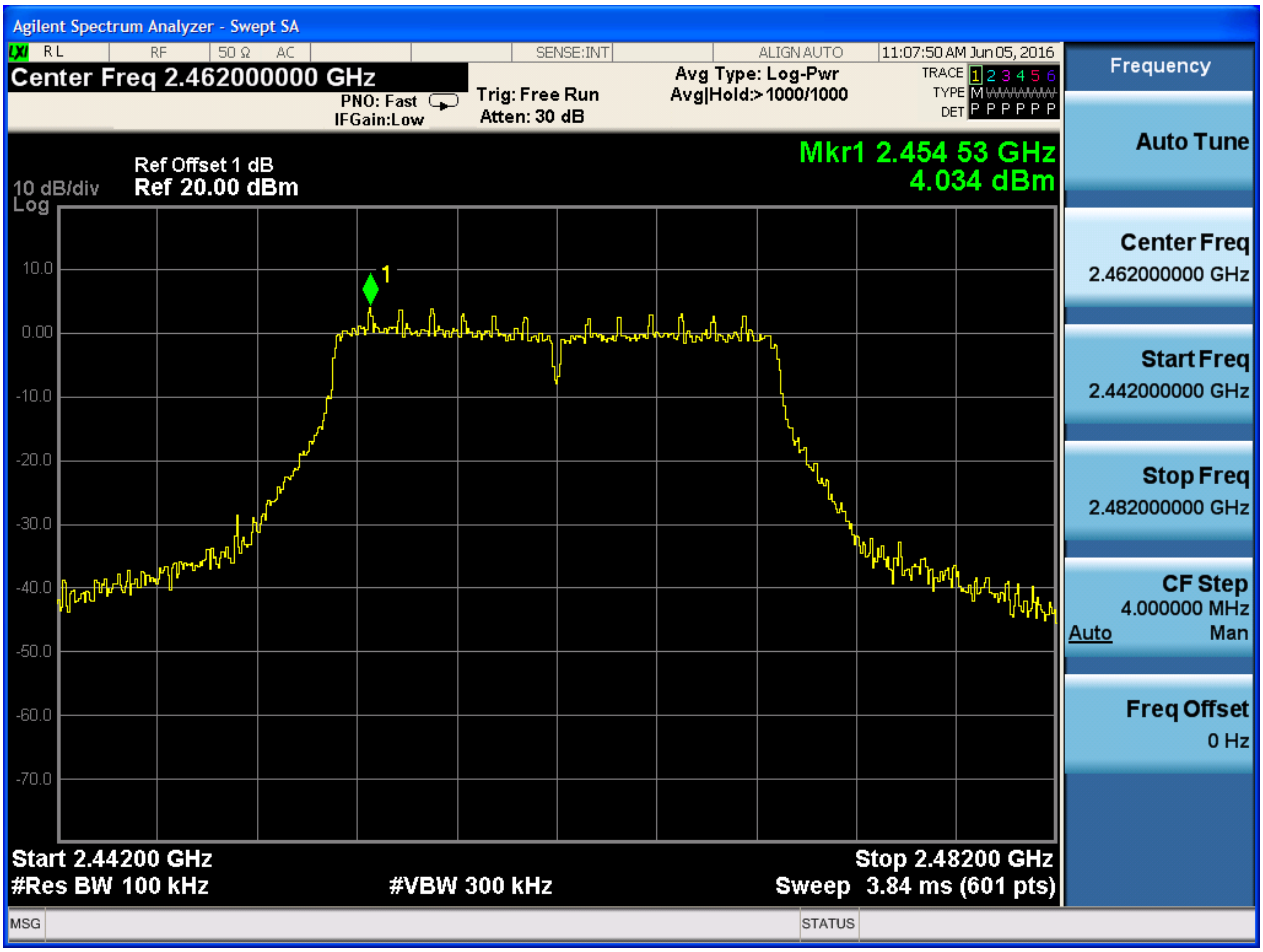






2.17 11N20_H@Ant 1

Pref:



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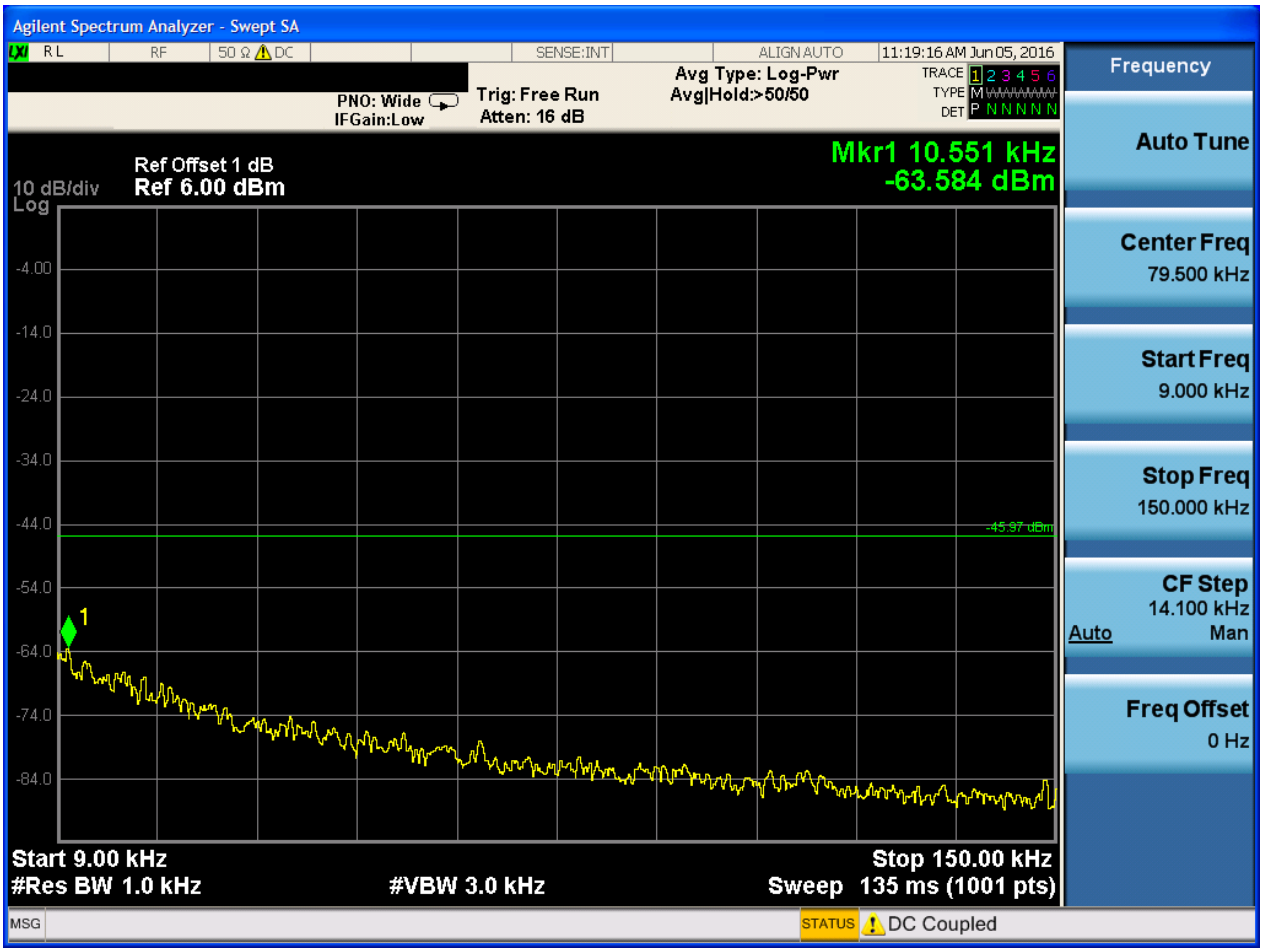
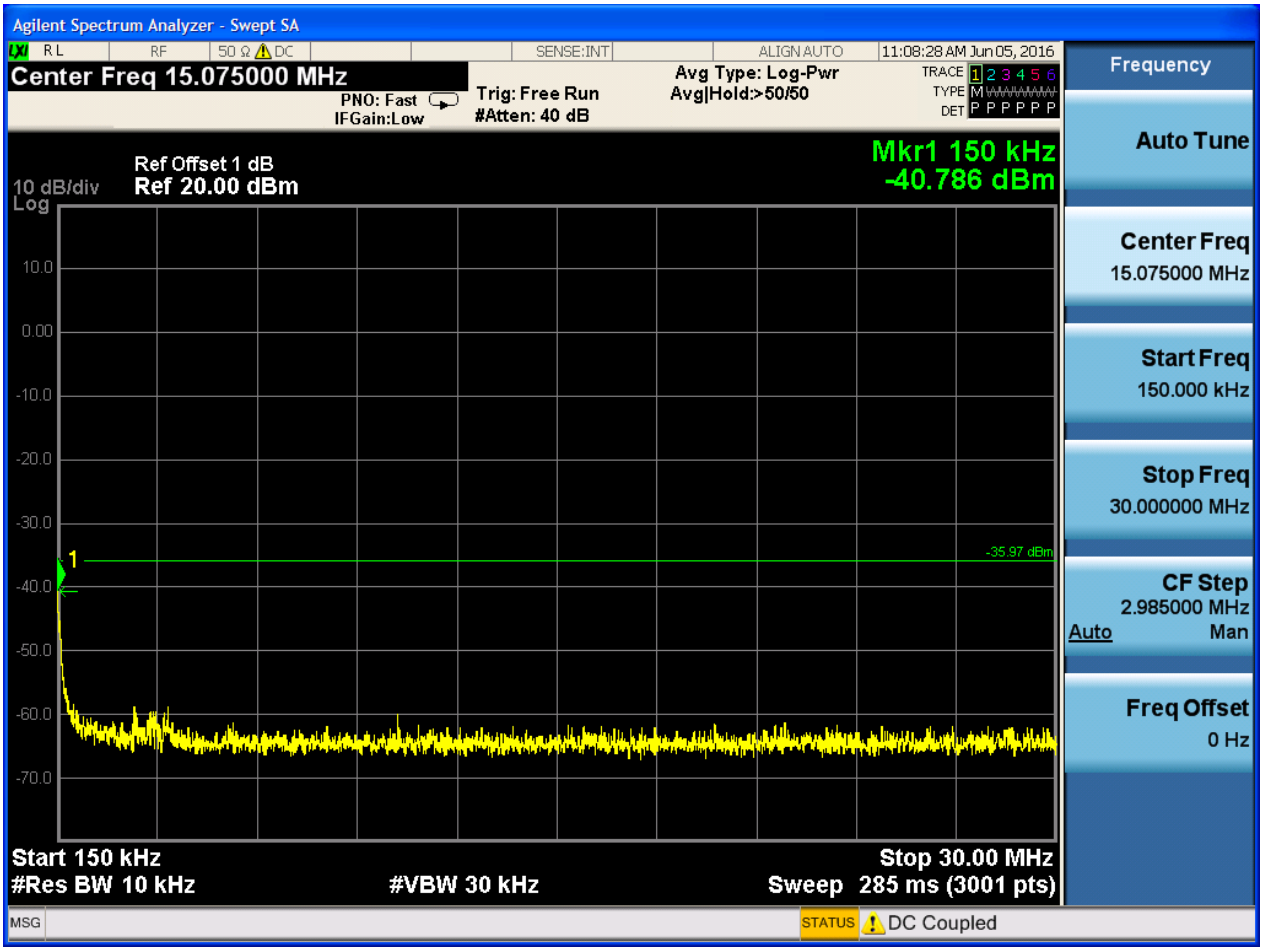
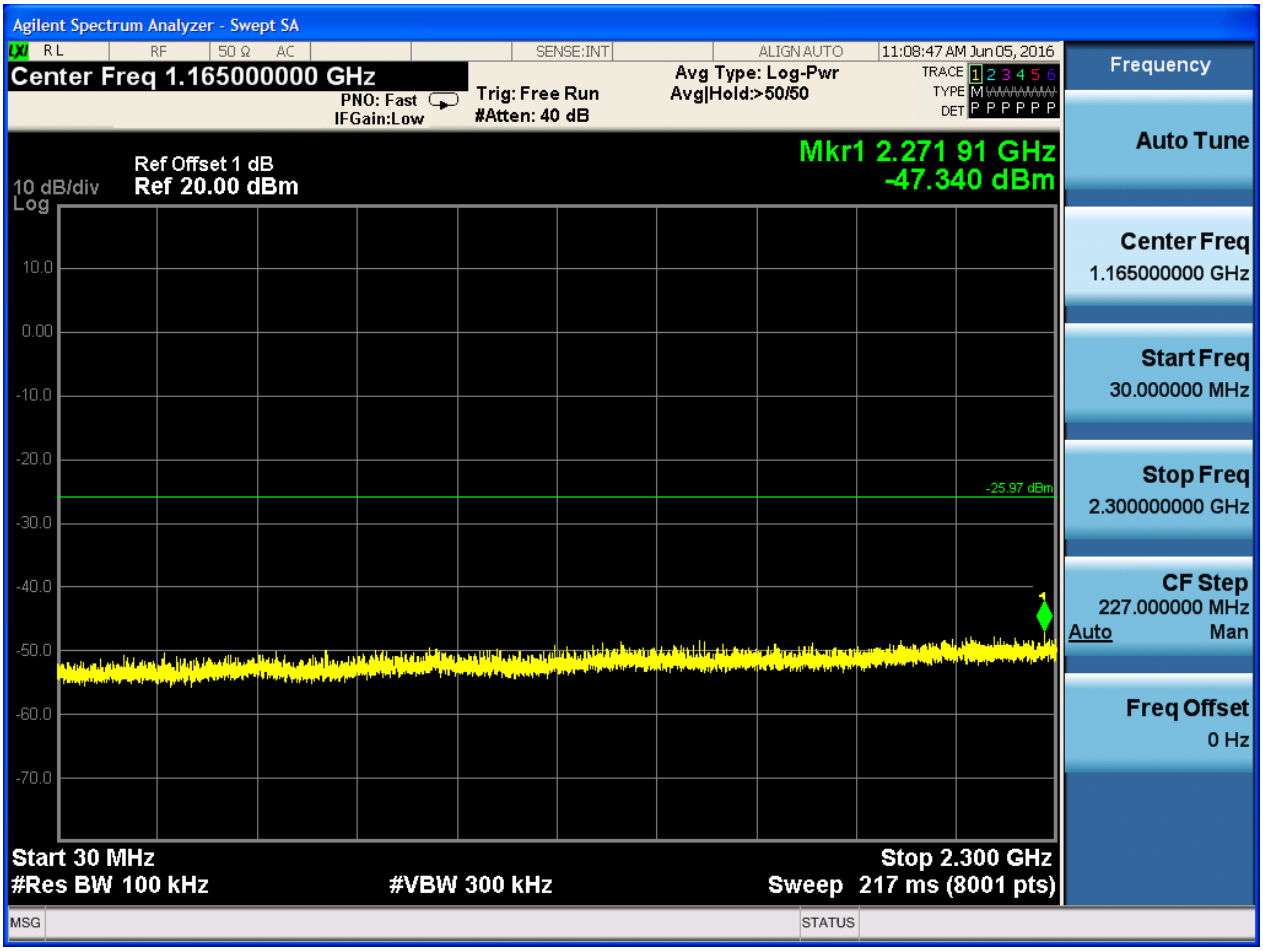
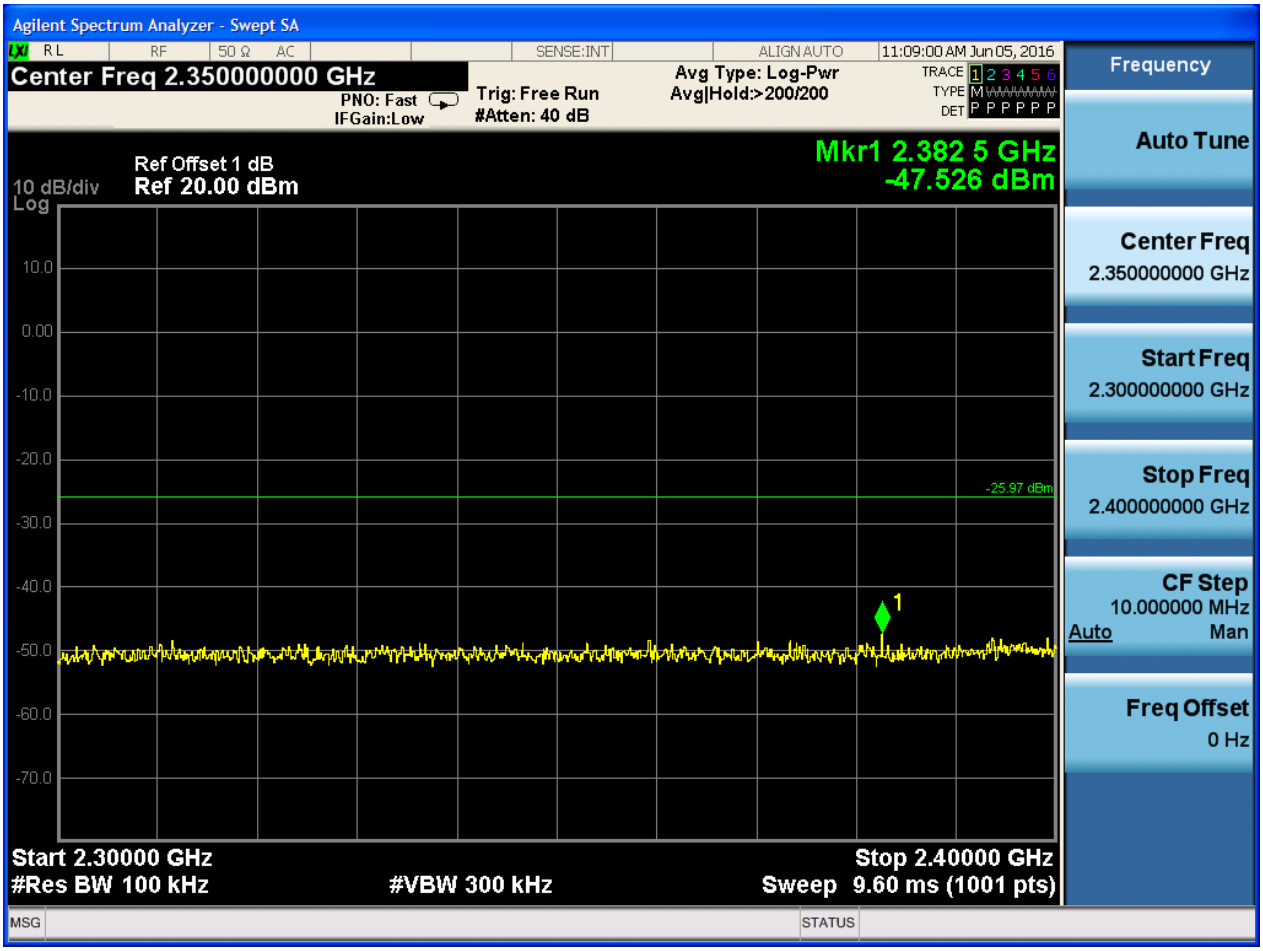
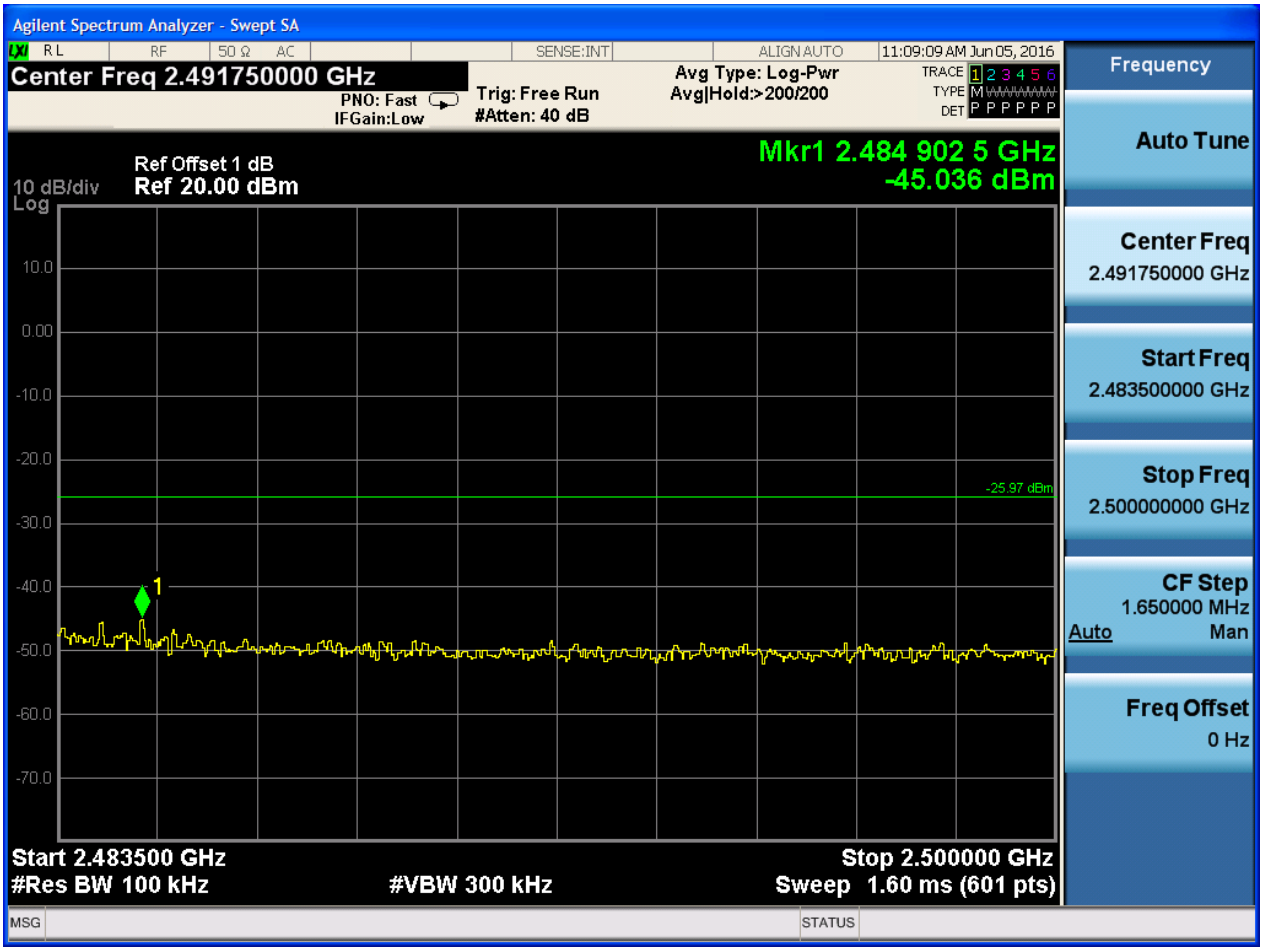
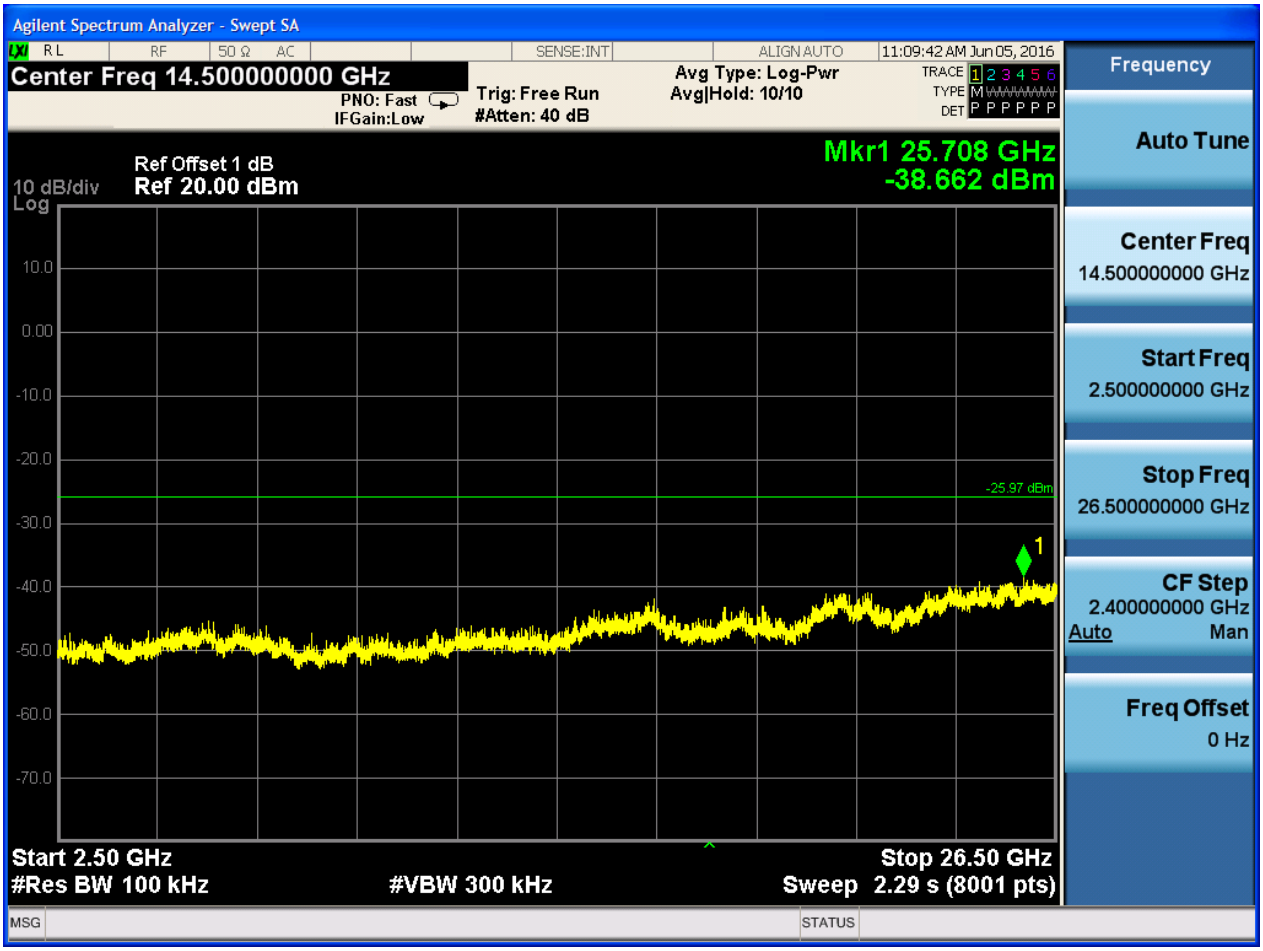












Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note: We tested all modes, but the data presented below is the worst case.

Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

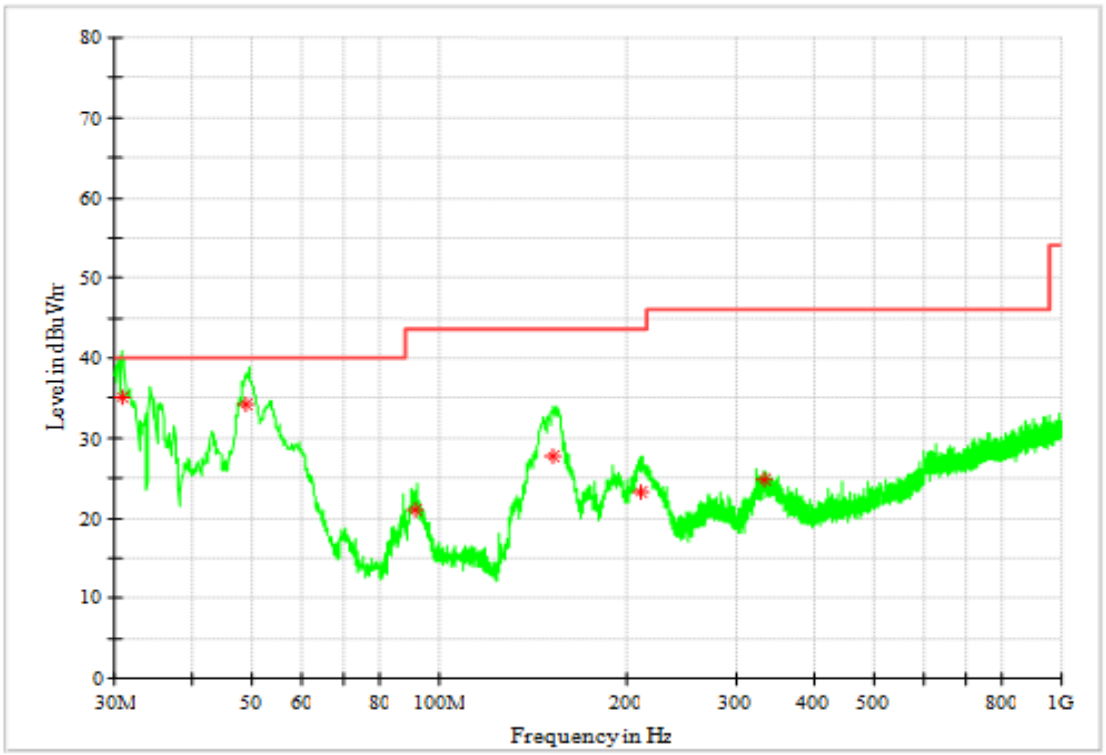
1.1 Part 1: Testing Range of “9 kHz to 30MHz”

NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

1.2 Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
30.894350	35.09	40.00	4.91	100.0	V	177.0	14.7
48.984650	34.19	40.00	5.81	100.0	V	6.0	15.2
91.500650	21.10	43.50	22.40	130.0	H	49.0	12.5
152.293700	27.76	43.50	15.74	100.0	V	157.0	10.3
210.644100	23.22	43.50	20.28	142.0	V	232.0	13.0
332.958650	24.70	46.00	21.30	100.0	H	341.0	16.7

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level .

1.3Part 3: Testing Range of “1 GHz to 3 GHz”

Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

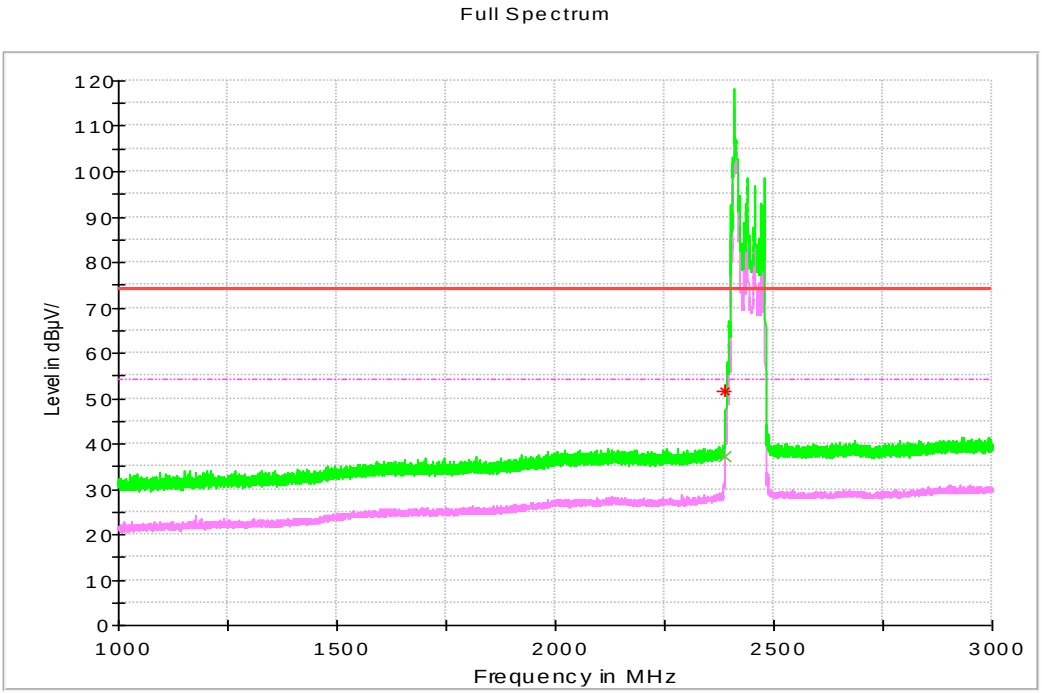
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBμV/m) and Average Limit (54 dBμV/m).

Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Test Mode:

1.4.1Test Mode: 11B

1.4.1.1 Channel 1 @Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390.000000	37.27	54.00	16.73	150.0	H	256.0	-7.6

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2390.000000	51.72	74.00	22.28	163.0	H	252.0	-7.6

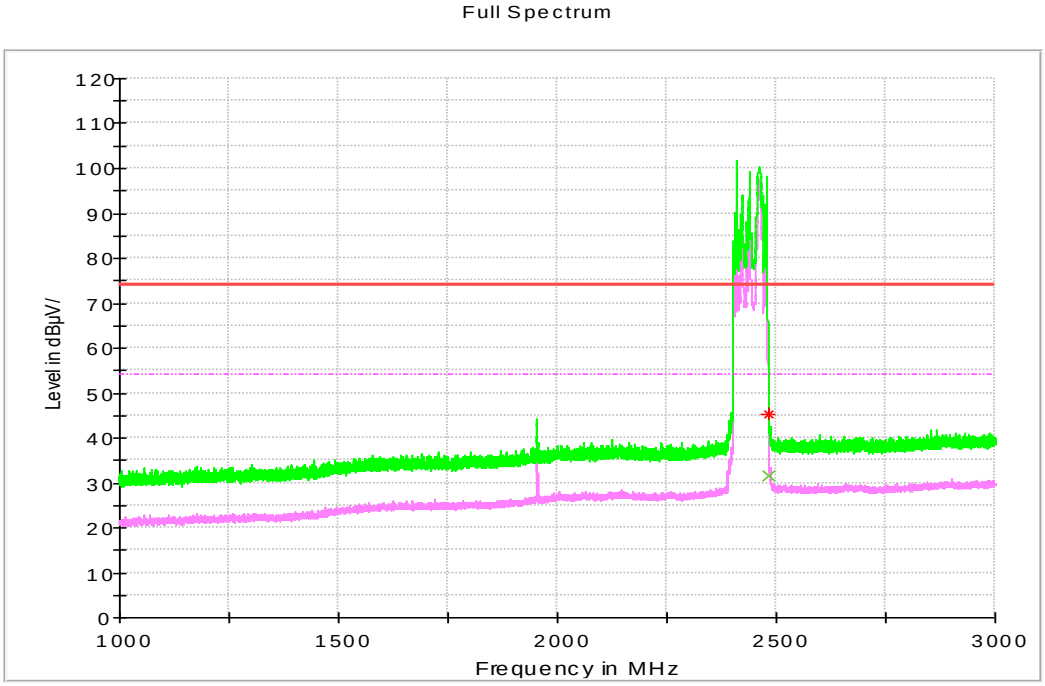
Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

1.4.1.2 Channel 11@Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.500000	31.65	54.00	22.35	187.0	H	89.0	-5.4

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.500000	45.43	74.00	28.57	150.0	V	92.0	-5.4

Note2:

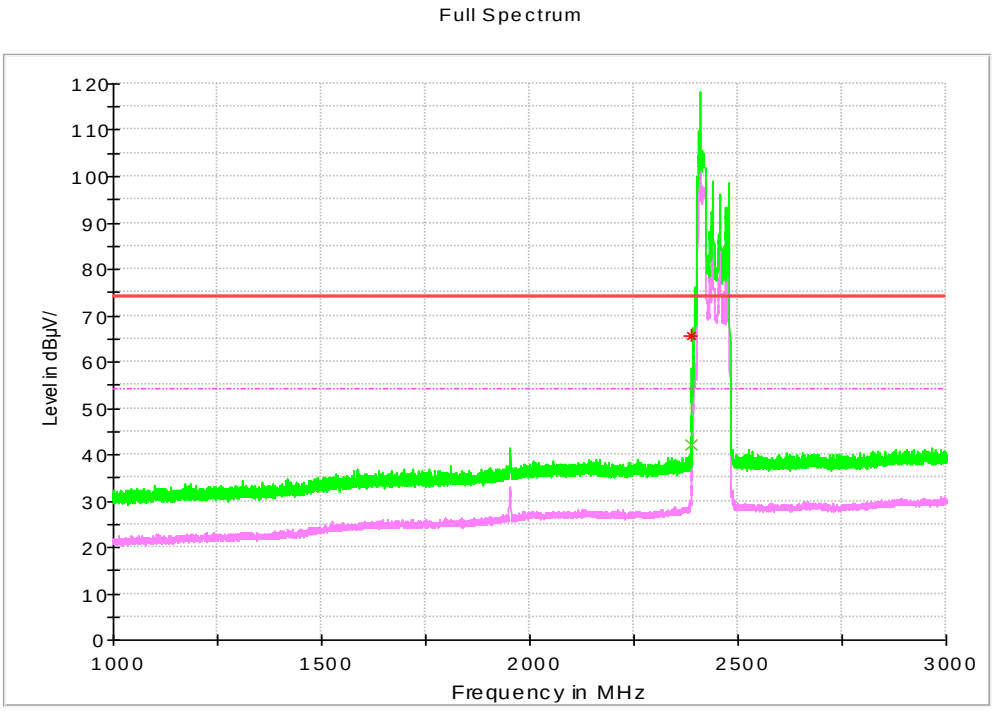
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

1.4.2Test Mode: 11G

1.4.2.1 Channel 1 @Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390.000000	42.13	54.00	11.87	100.0	H	259.0	-7.6

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2390.000000	65.76	74.00	8.24	100.0	H	257.0	-7.6

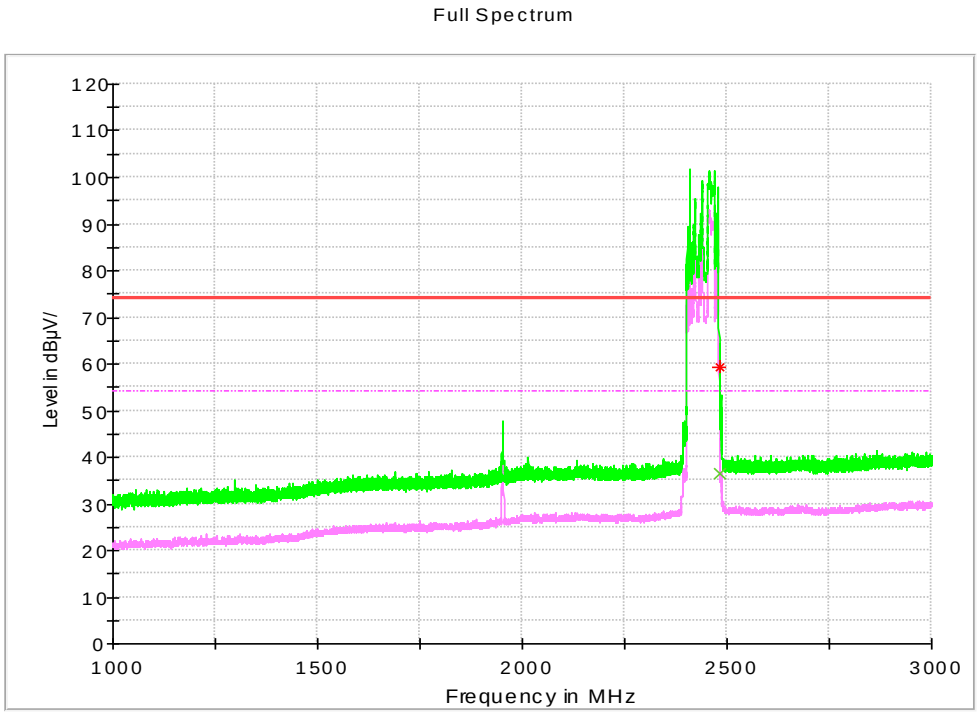
Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

1.4.2.2 Channel 11@Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.500000	36.34	54.00	17.66	169.0	H	88.0	-5.4

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.500000	59.37	74.00	14.63	150.0	H	252.0	-5.4

Note2:

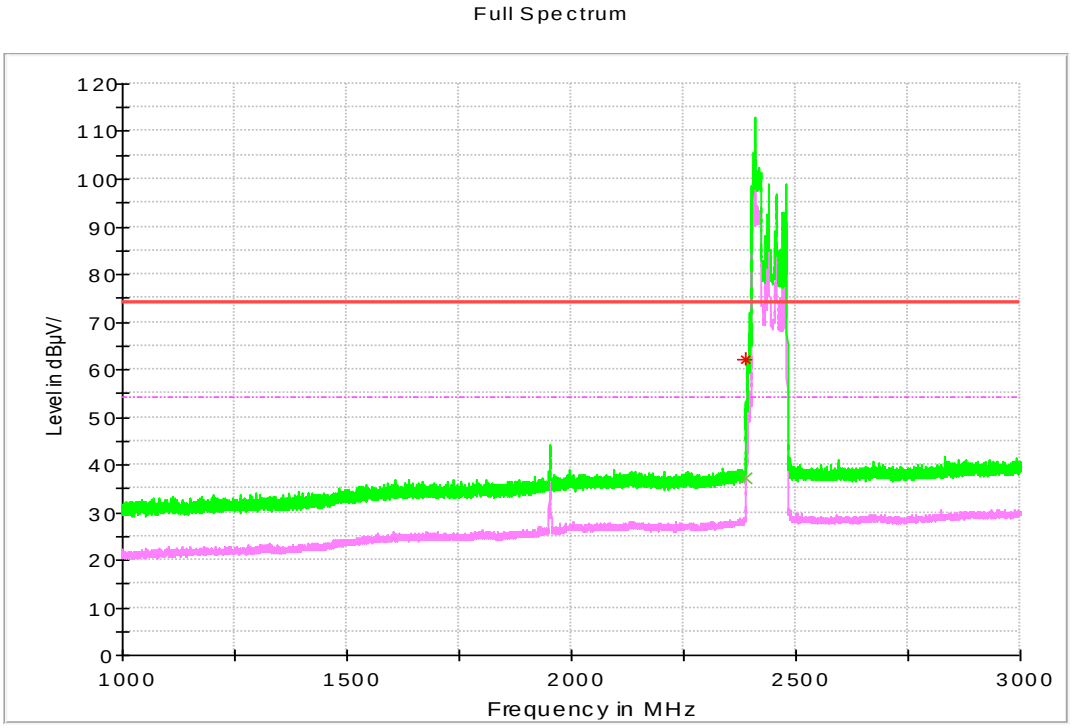
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

1.4.3Test Mode: 11N20

1.4.3.1 Channel 1 @Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2390.000000	37.18	54.00	16.82	150.0	V	55.0	-7.6

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2390.000000	62.20	74.00	11.80	166.0	H	309.0	-7.6

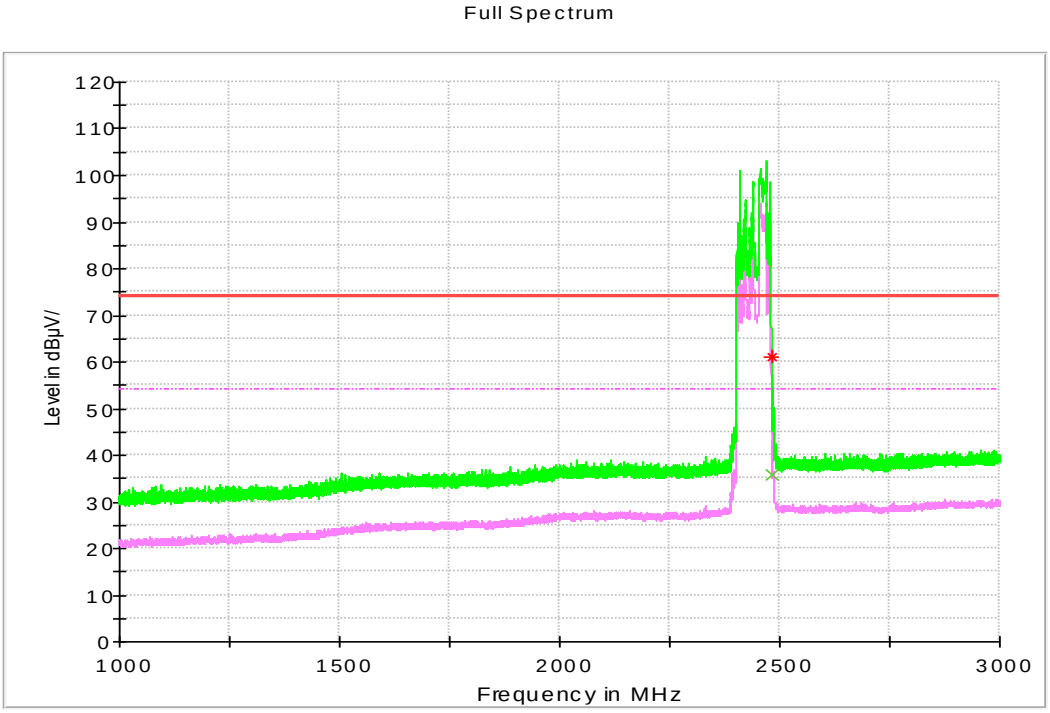
Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

1.4.3.2 Channel 11@Ant 1



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth	Transd. (dB)
2483.500000	35.91	54.00	18.09	139.0	H	210.0	-5.4

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Transd. (dB)
2483.500000	61.00	74.00	13.00	100.0	V	213.0	-5.6

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

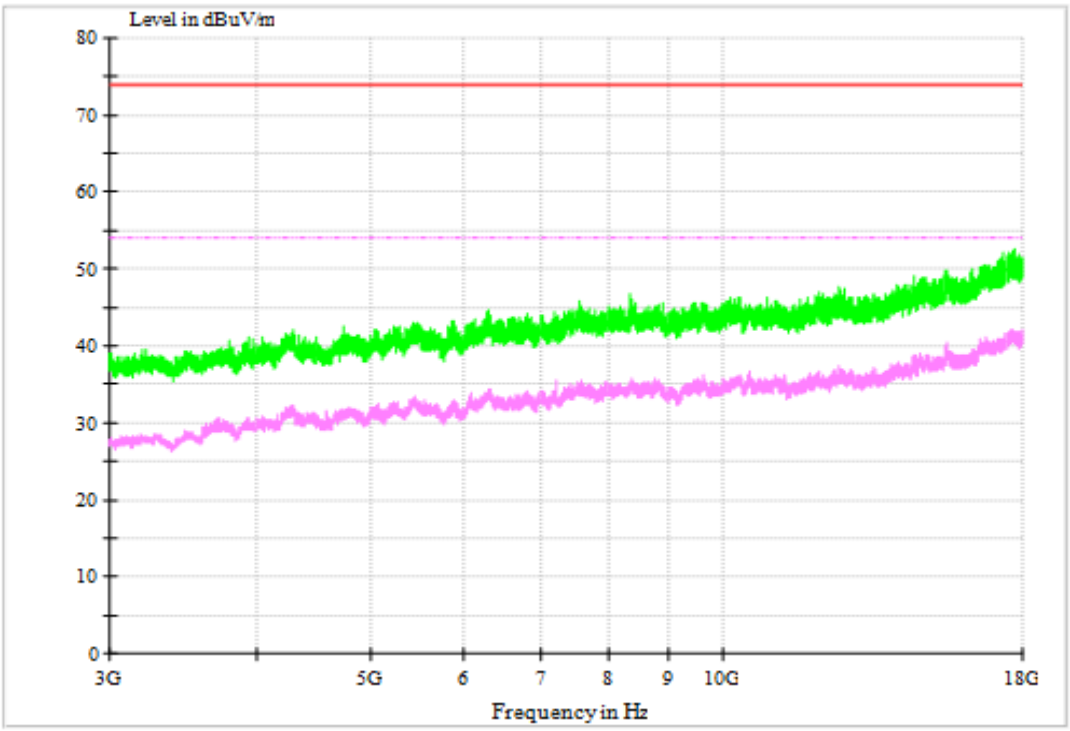
2, Margin=Limit - Level

1.4 Part 4: Testing Range of “3 GHz to 18 GHz”

Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBµV/m) and Average Limit (54 dBµV/m).

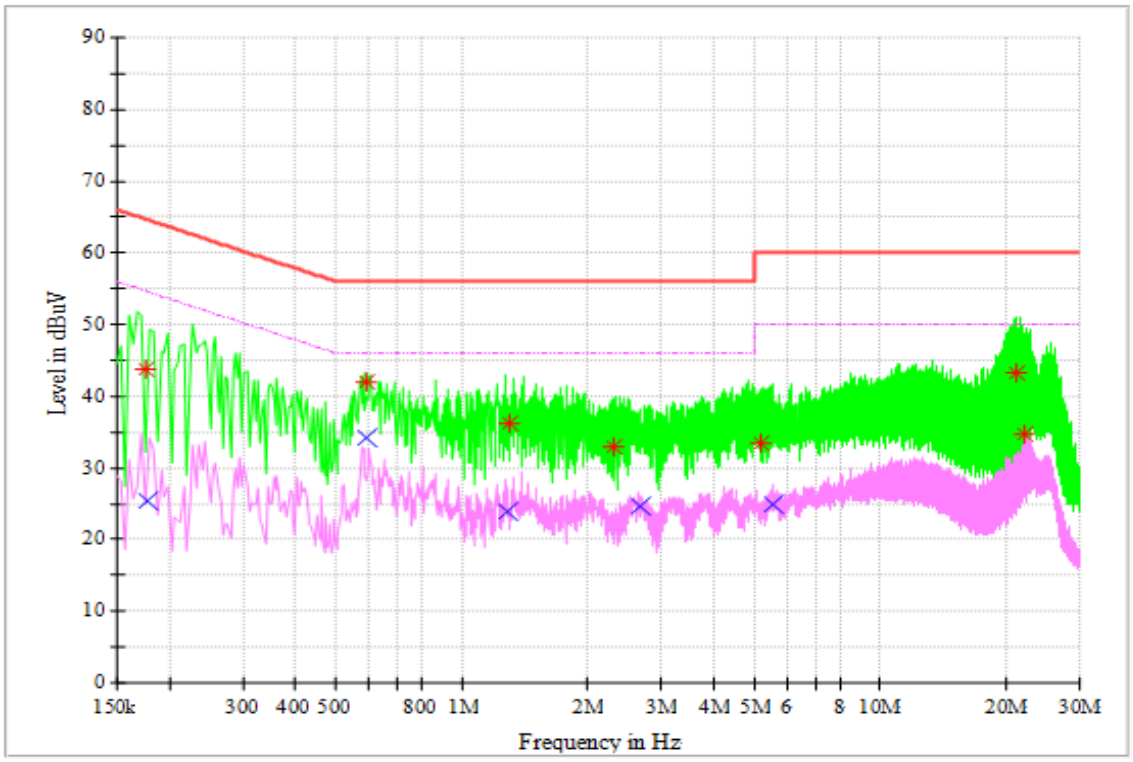


1.5 Part 5: Testing Range of “18 GHz to 26.5 GHz”

NOTE: No peak found in the Test Range of “18 GHz to 26.5GHz”

Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμ V)	Limit (dBμ V)	Transd. (dB)	Margin (dB)	Line	PE
0.178324	25.45	54.56	9.7	29.12	N	FLO
0.592818	34.16	46.00	9.7	11.84	L1	FLO
1.281106	23.89	46.00	9.7	22.11	N	FLO
2.659679	24.57	46.00	9.8	21.43	L1	FLO
5.551352	24.99	50.00	9.8	25.01	L1	FLO
22.232146	34.74	50.00	10.2	25.26	L1	FLO

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dBμ V)	Limit (dBμ V)	Transd. (dB)	Margin (dB)	Line	PE
0.175436	43.85	64.70	9.7	20.85	N	FLO
0.591596	42.10	56.00	9.7	13.90	L1	FLO
1.295626	36.09	56.00	9.7	19.91	N	FLO
2.320380	32.82	56.00	9.8	23.18	N	FLO
5.198725	33.32	60.00	9.8	26.68	N	FLO
21.114005	43.22	60.00	10.2	16.78	N	FLO

Note2:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

END