



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.

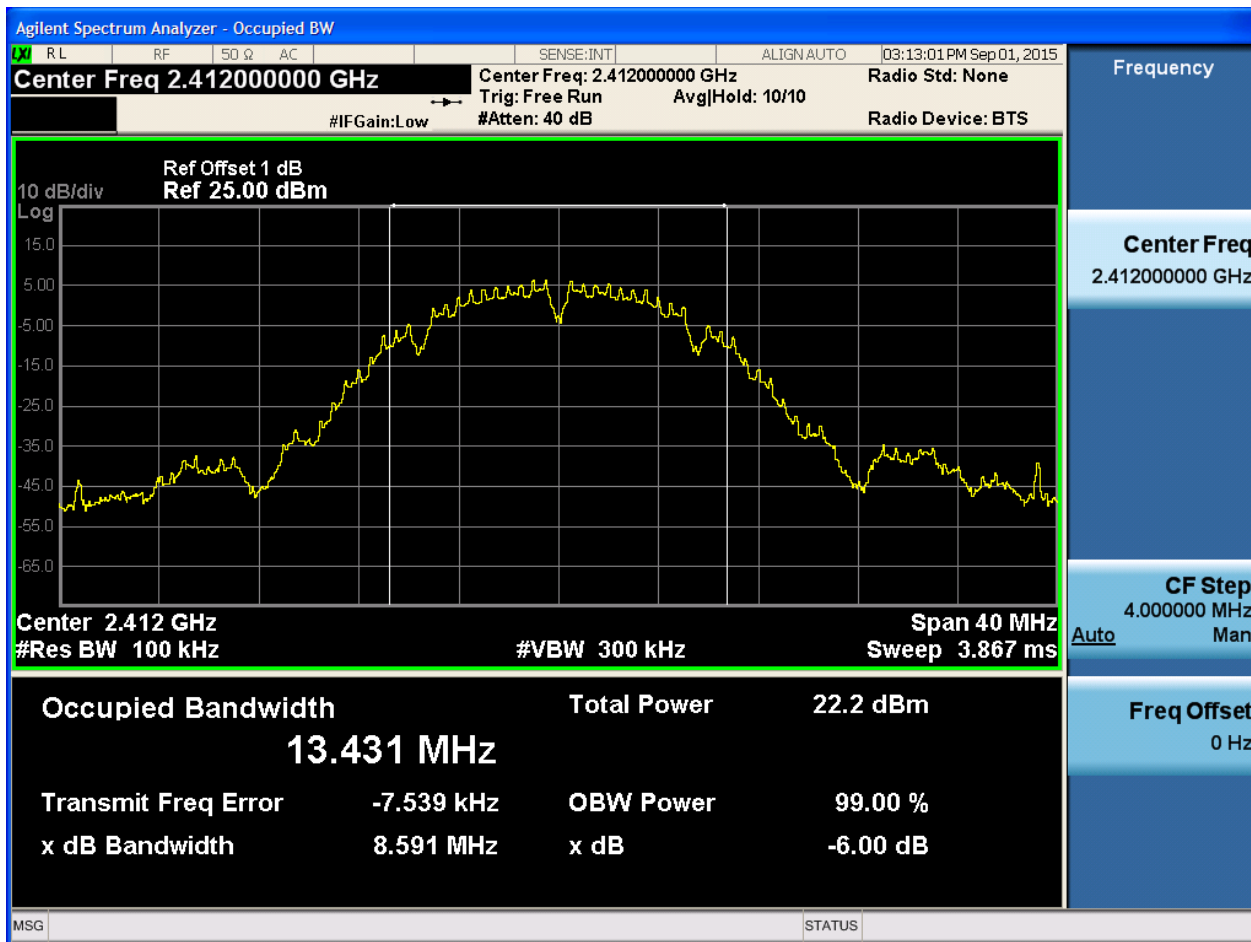
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	8.59	pass
11B	M	2437	Ant 1	8.60	pass
11B	H	2462	Ant 1	8.59	pass
11G	L	2412	Ant 1	16.42	pass
11G	M	2437	Ant 1	16.38	pass
11G	H	2462	Ant 1	16.37	pass
11N20	L	2412	Ant 1	17.66	pass
11N20	M	2437	Ant 1	17.35	pass
11N20	H	2462	Ant 1	17.36	pass

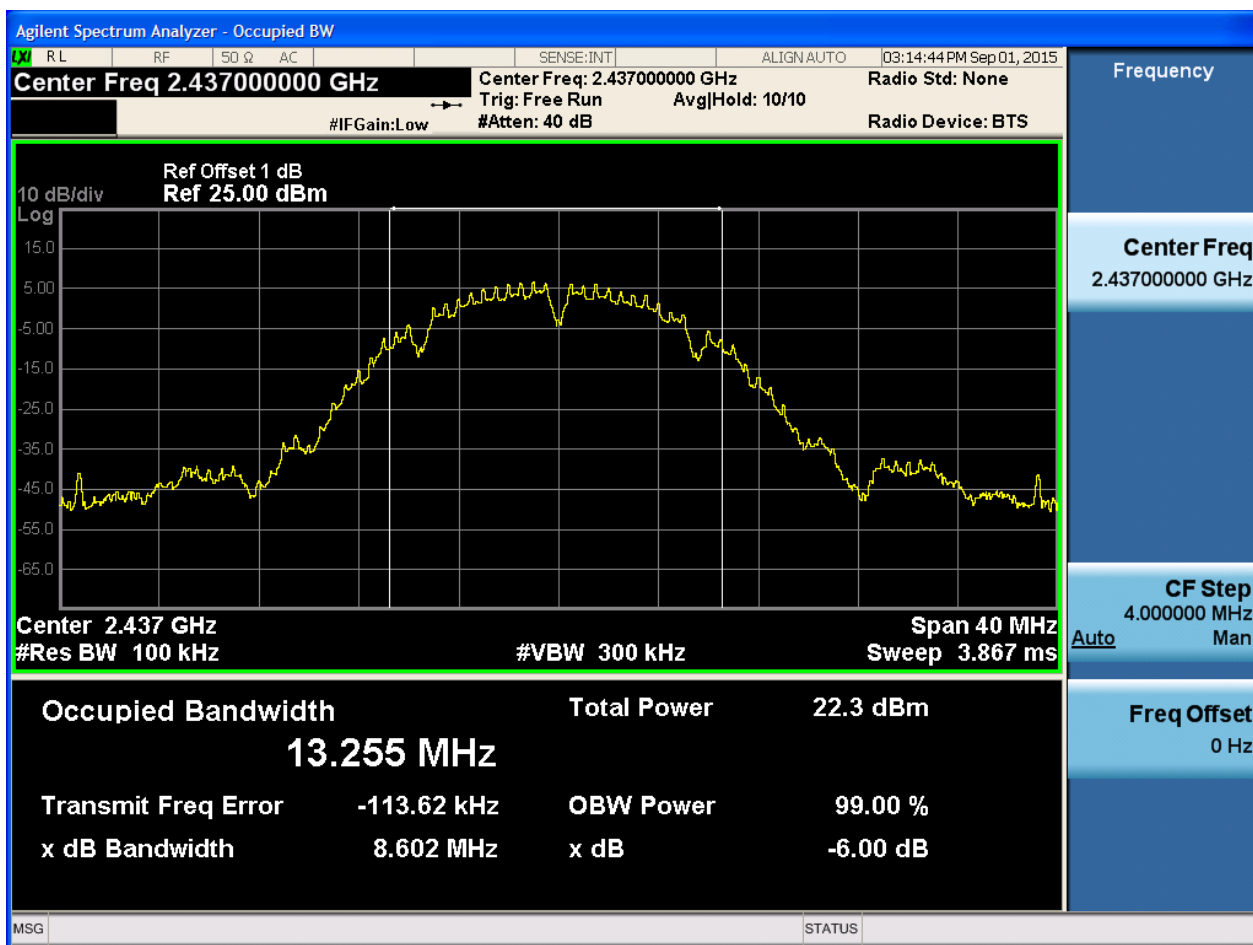
Part II - Test Plots

2.1 11B_L@Ant 1



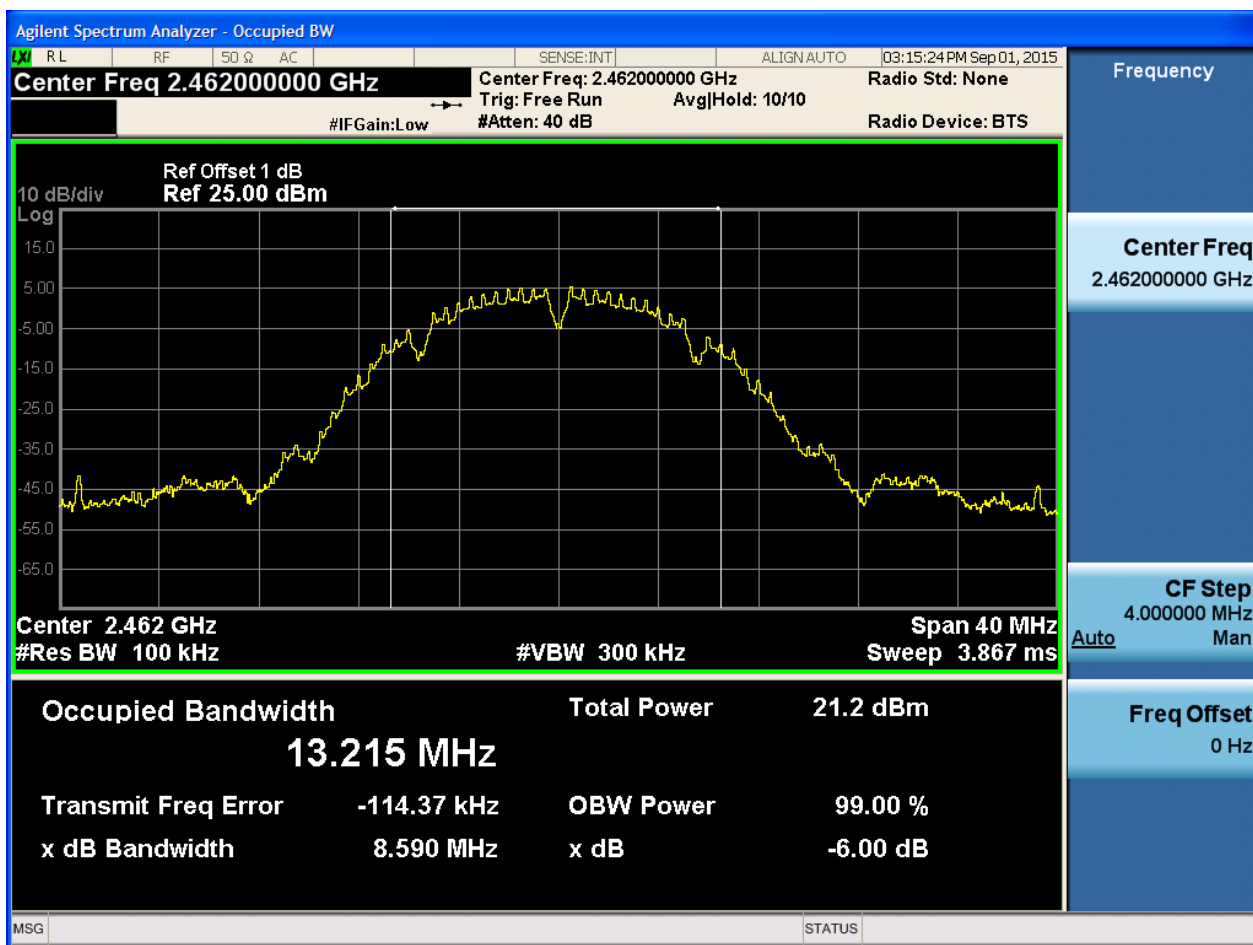


2.3 11B_M@Ant 1



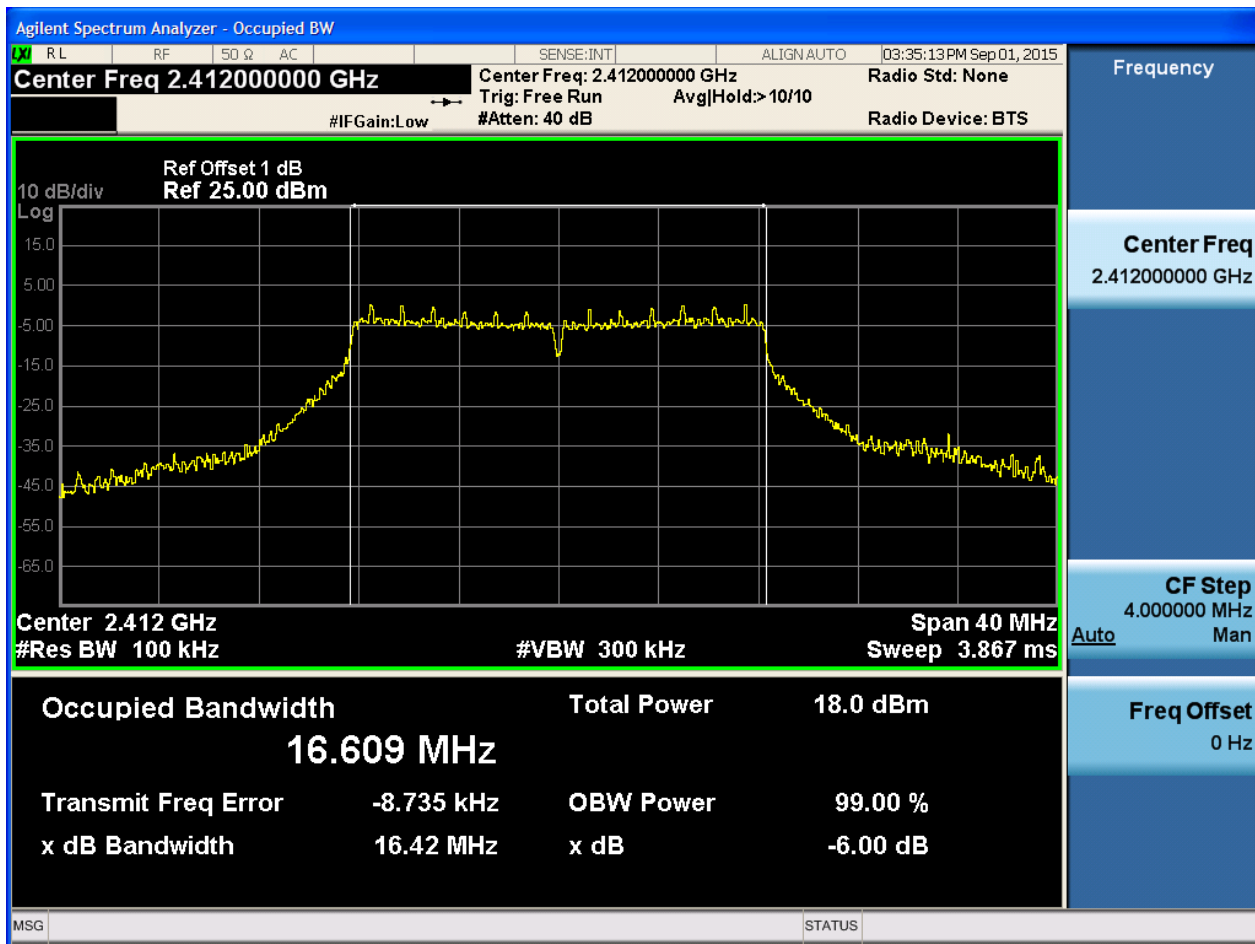


2.5 11B_H@Ant 1



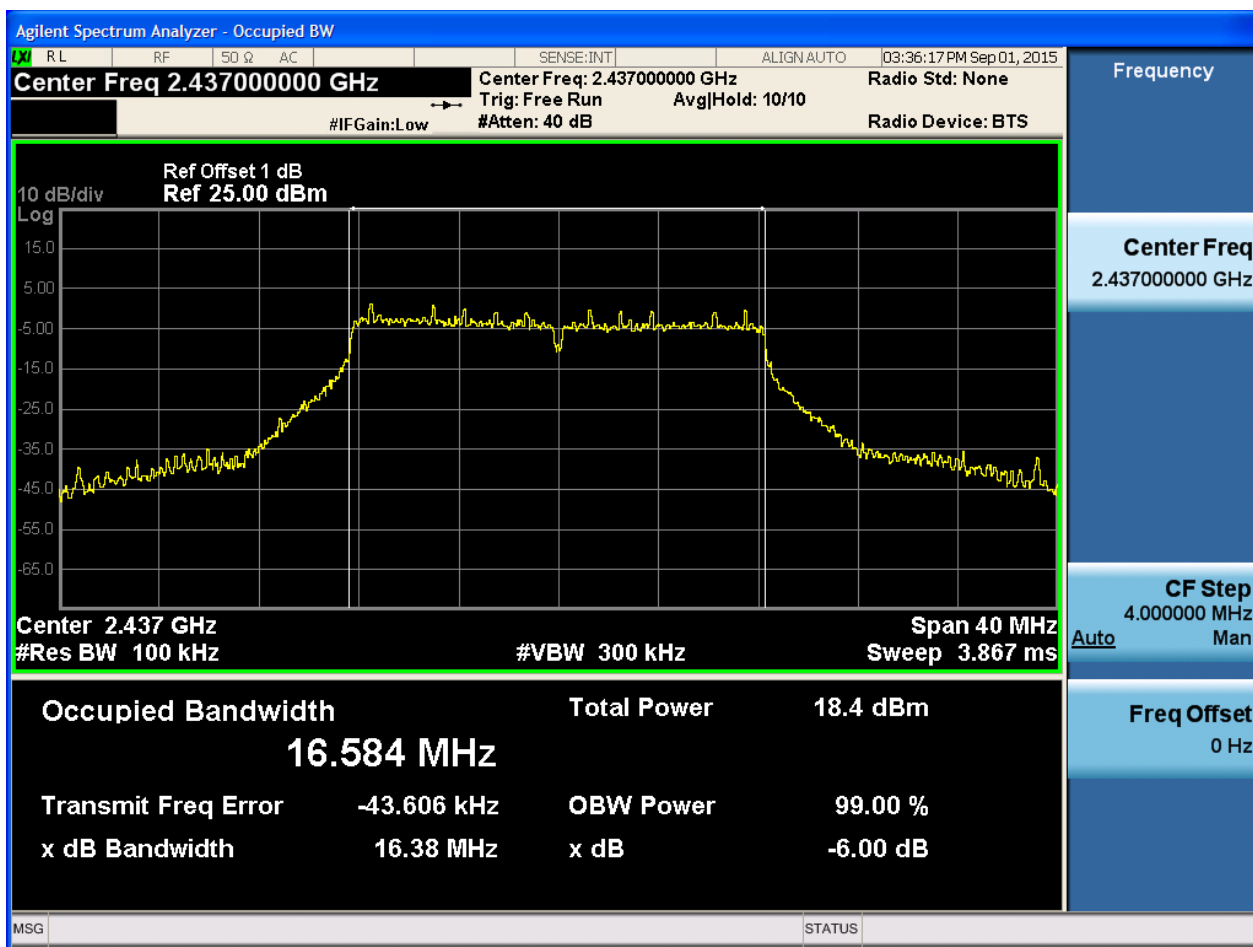


2.7 11G_L@Ant 1



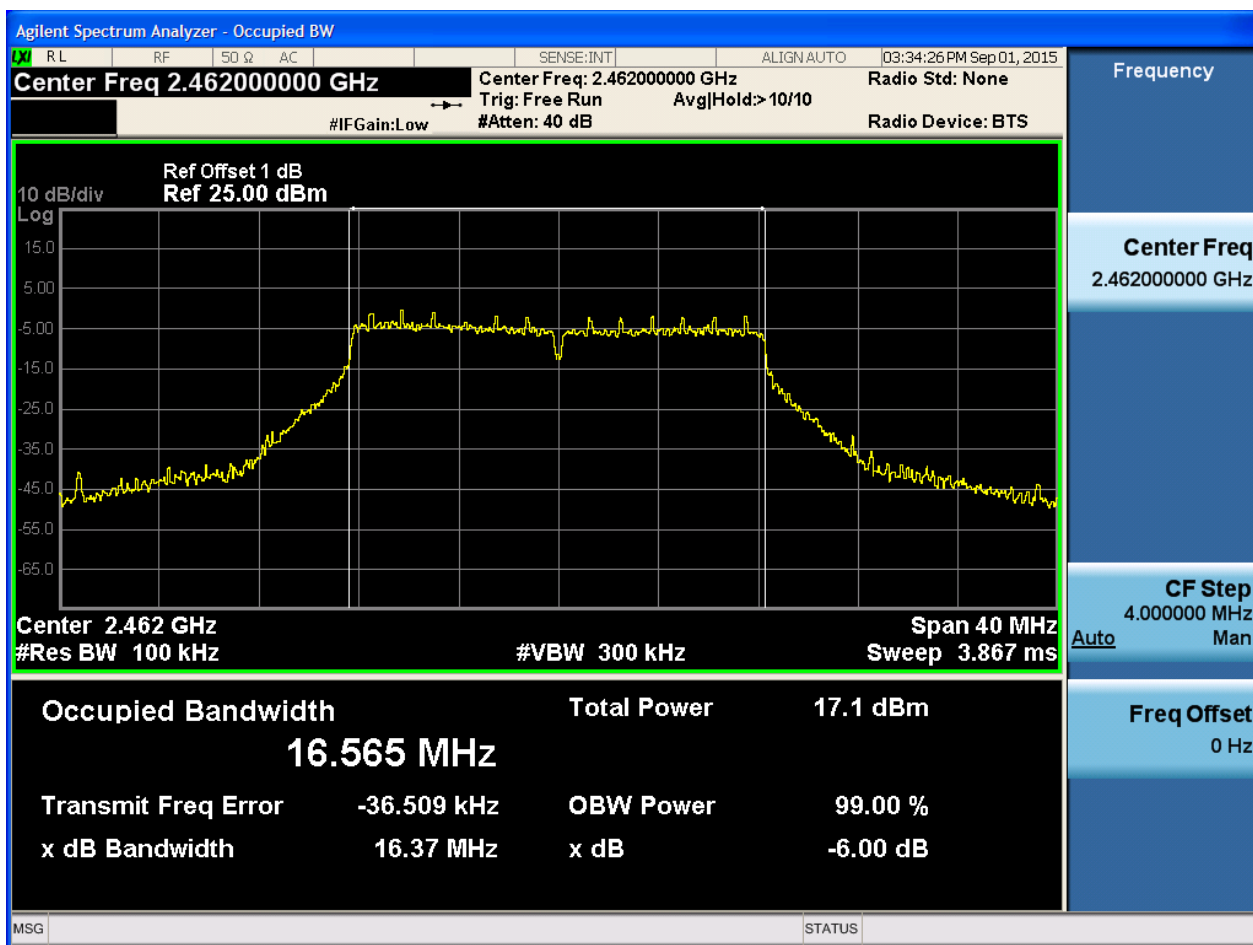


2.9 11G_M@Ant 1



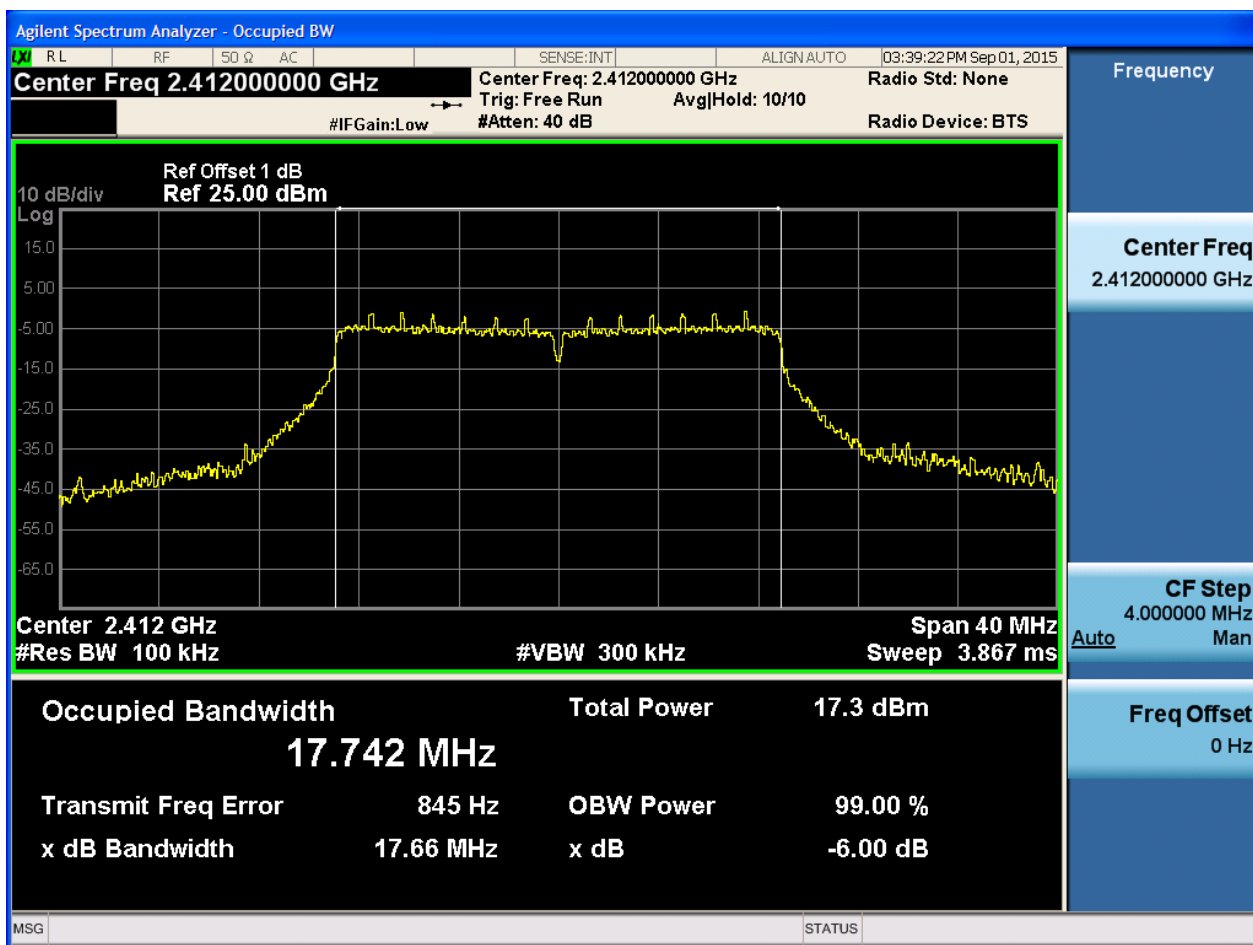


2.11 11G_H@Ant 1



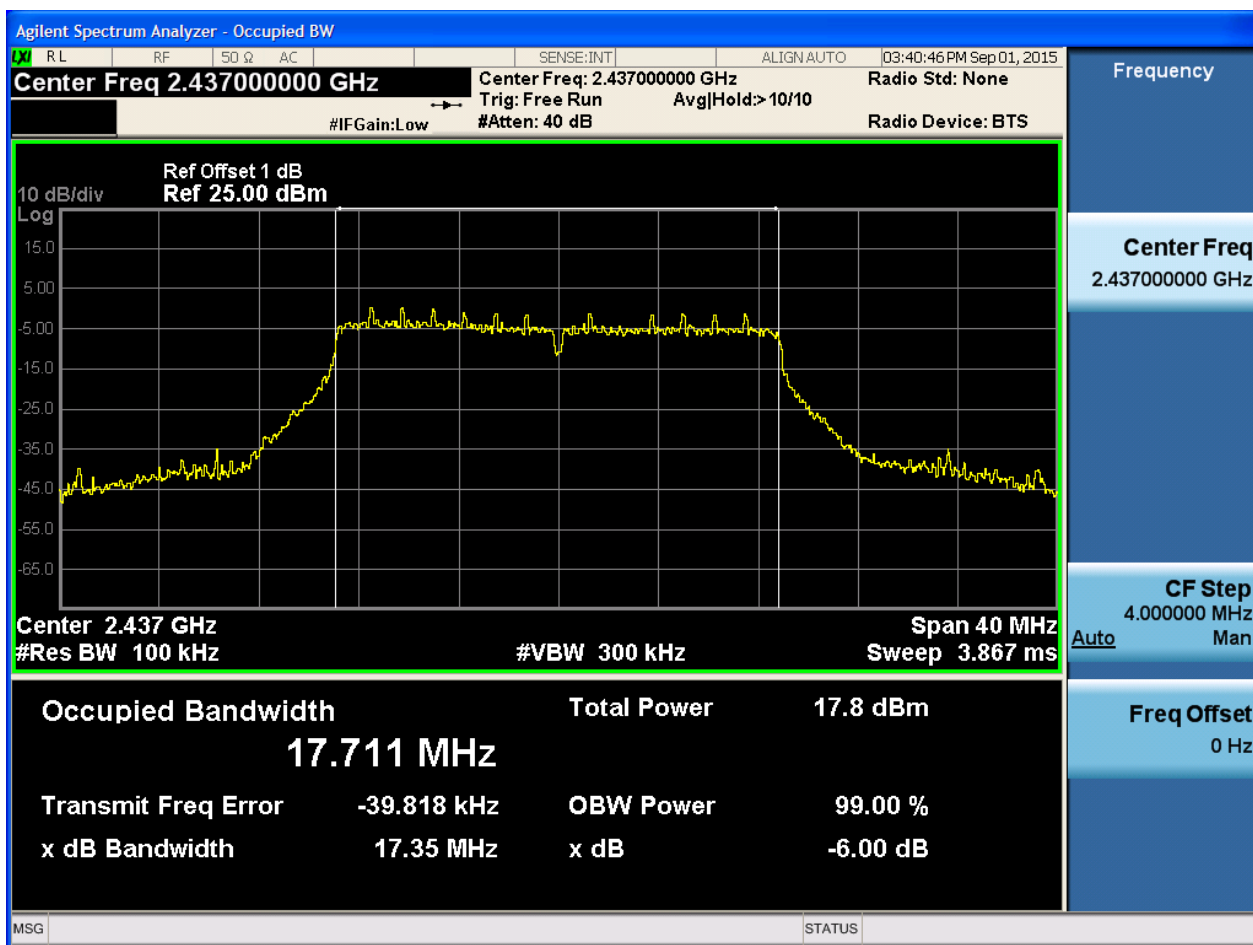


2.13 11N20_L@Ant 1



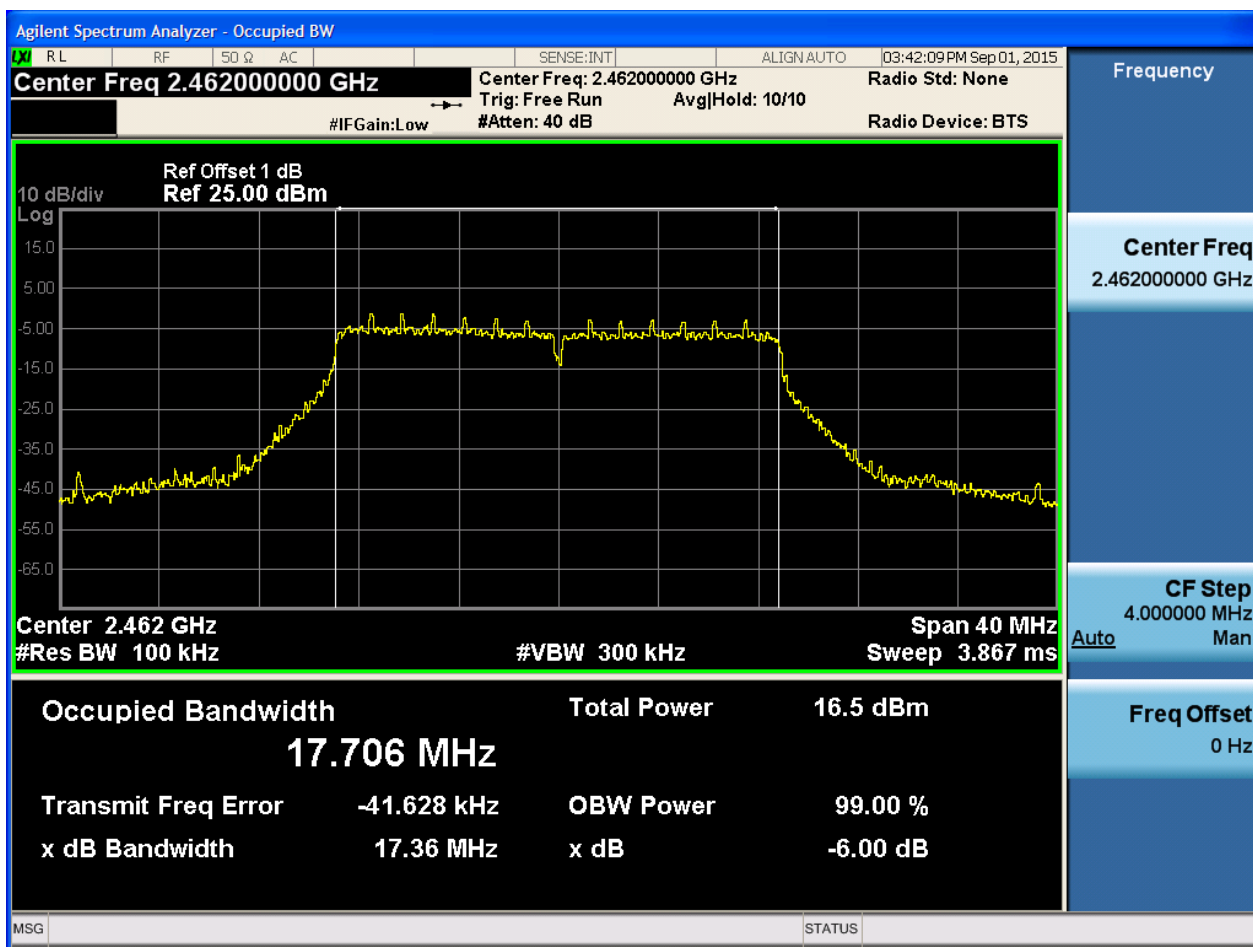


2.15 11N20_M@Ant 1





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.

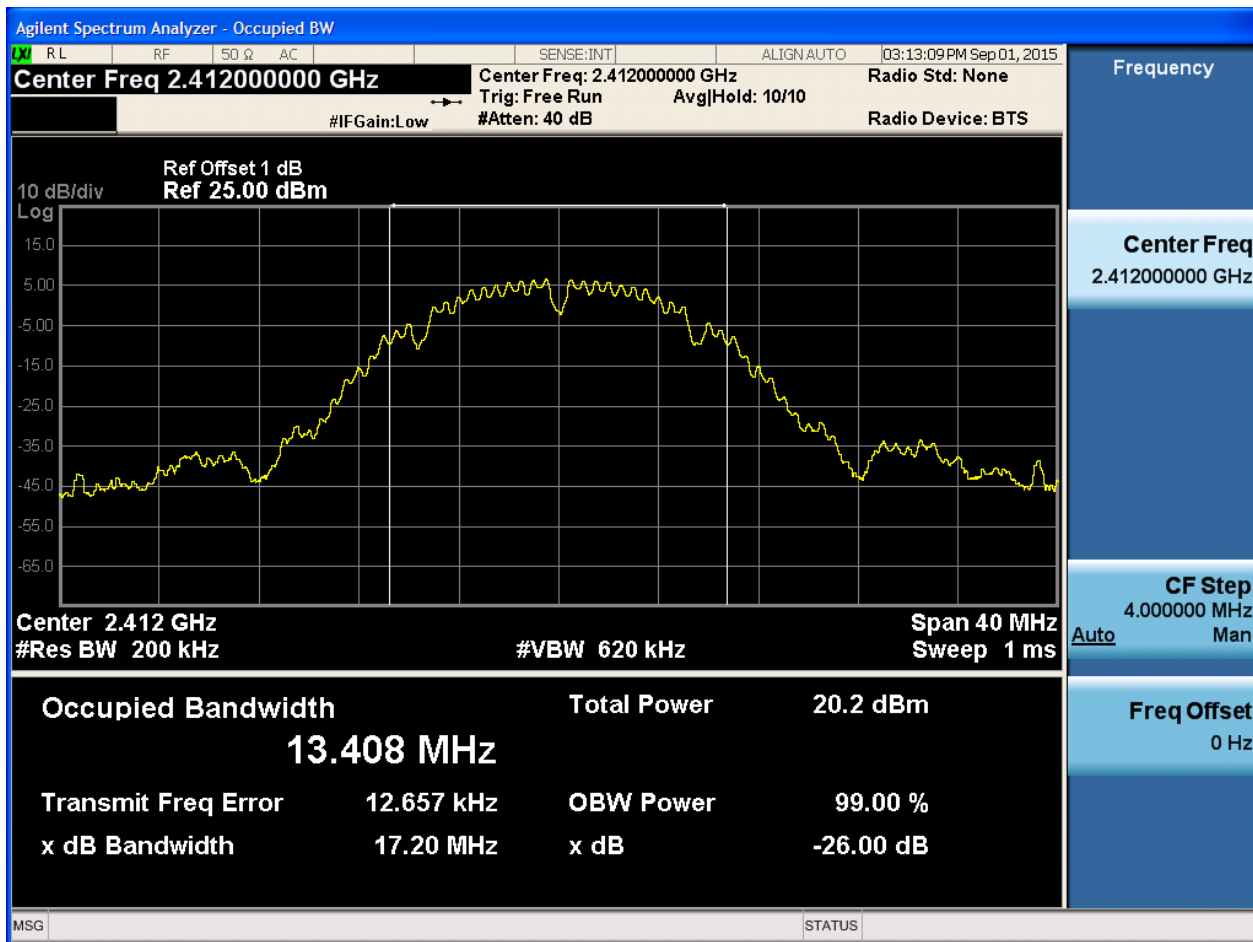
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	13.41	pass
11B	M	2437	Ant 1	13.31	pass
11B	H	2462	Ant 1	13.26	pass
11G	L	2412	Ant 1	16.92	pass
11G	M	2437	Ant 1	16.80	pass
11G	H	2462	Ant 1	16.80	pass
11N20	L	2412	Ant 1	17.91	pass
11N20	M	2437	Ant 1	17.87	pass
11N20	H	2462	Ant 1	17.89	pass



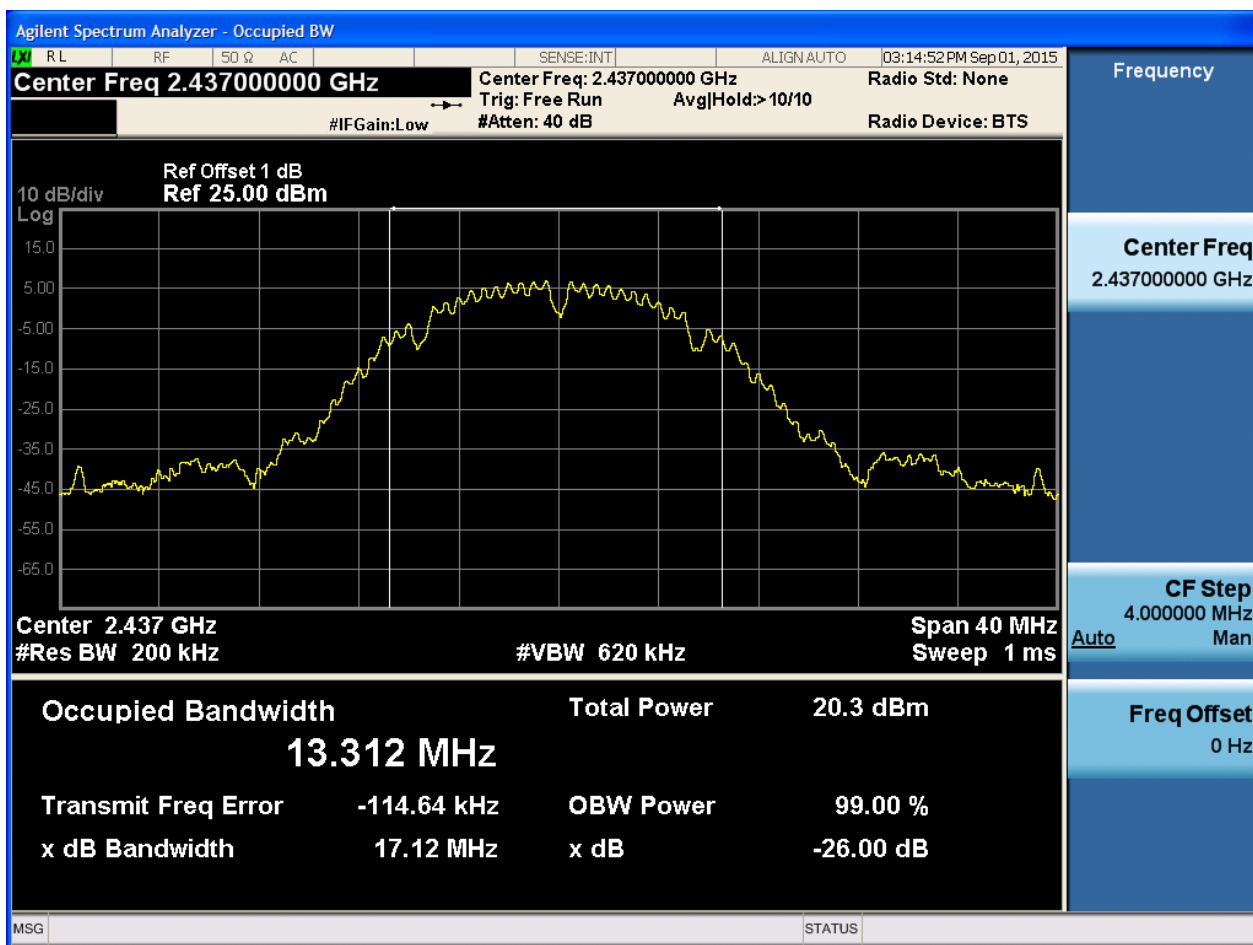
Part II - Test Plots

2.1 11B_L@Ant 1



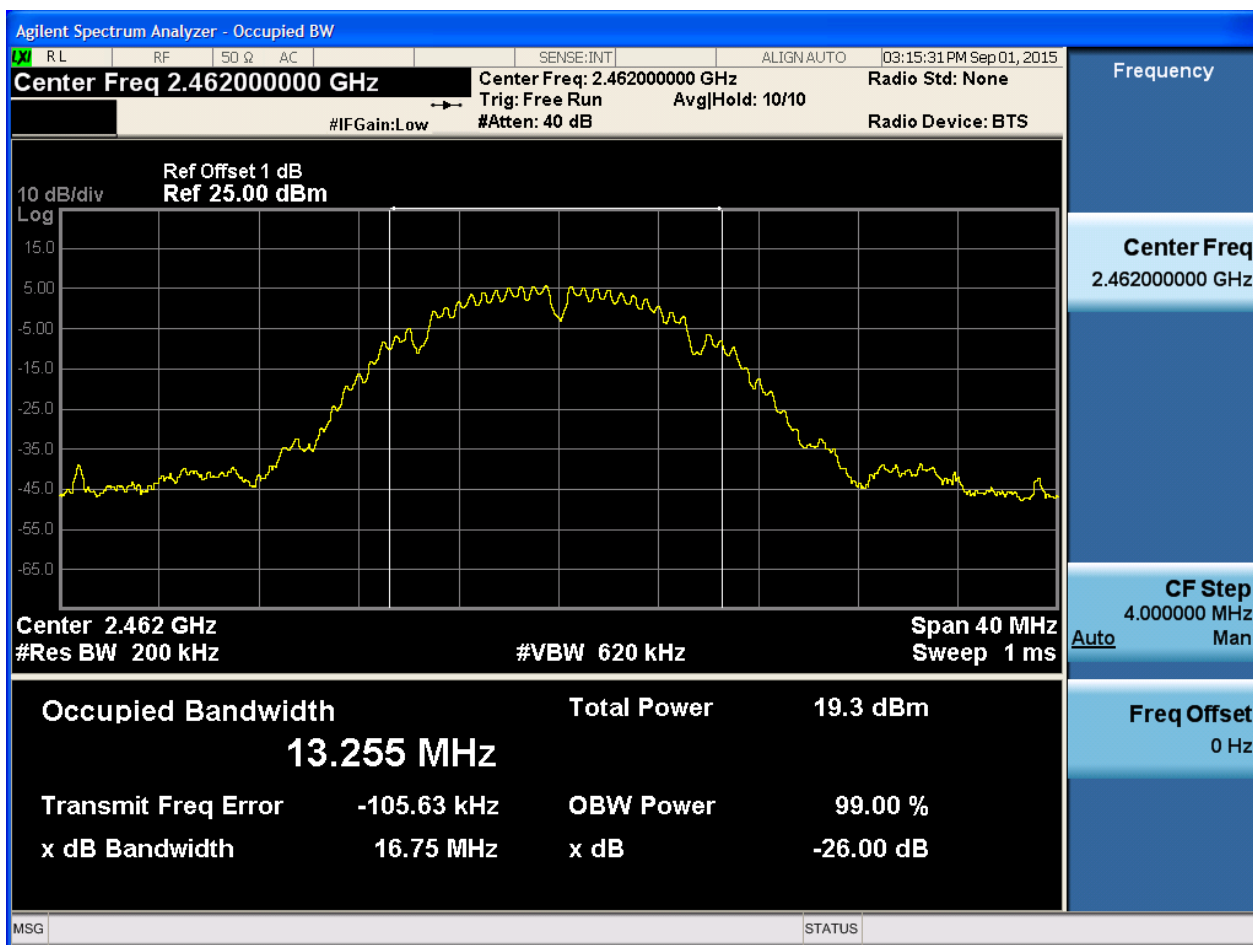


2.3 11B_M@Ant 1



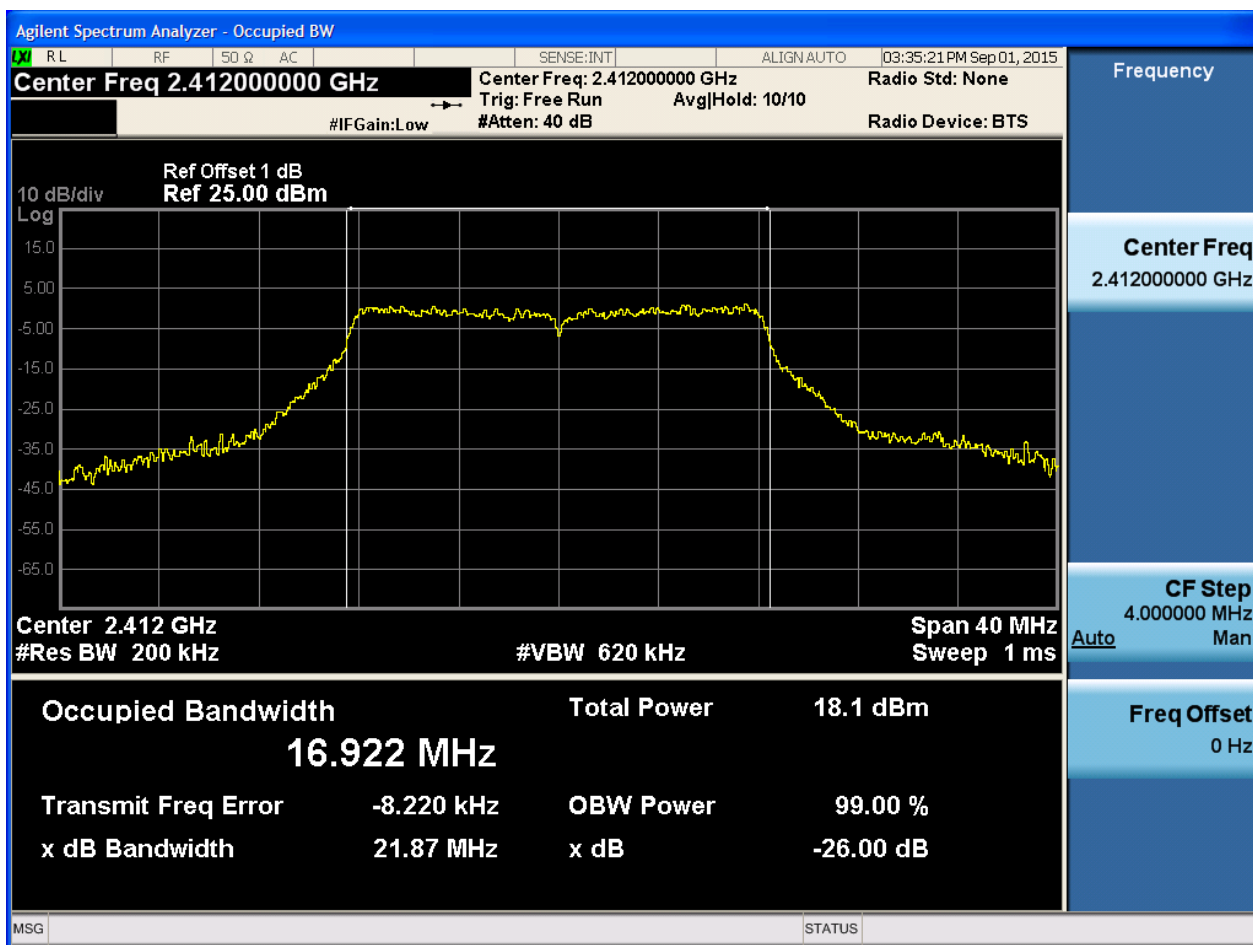


2.5 11B_H@Ant 1



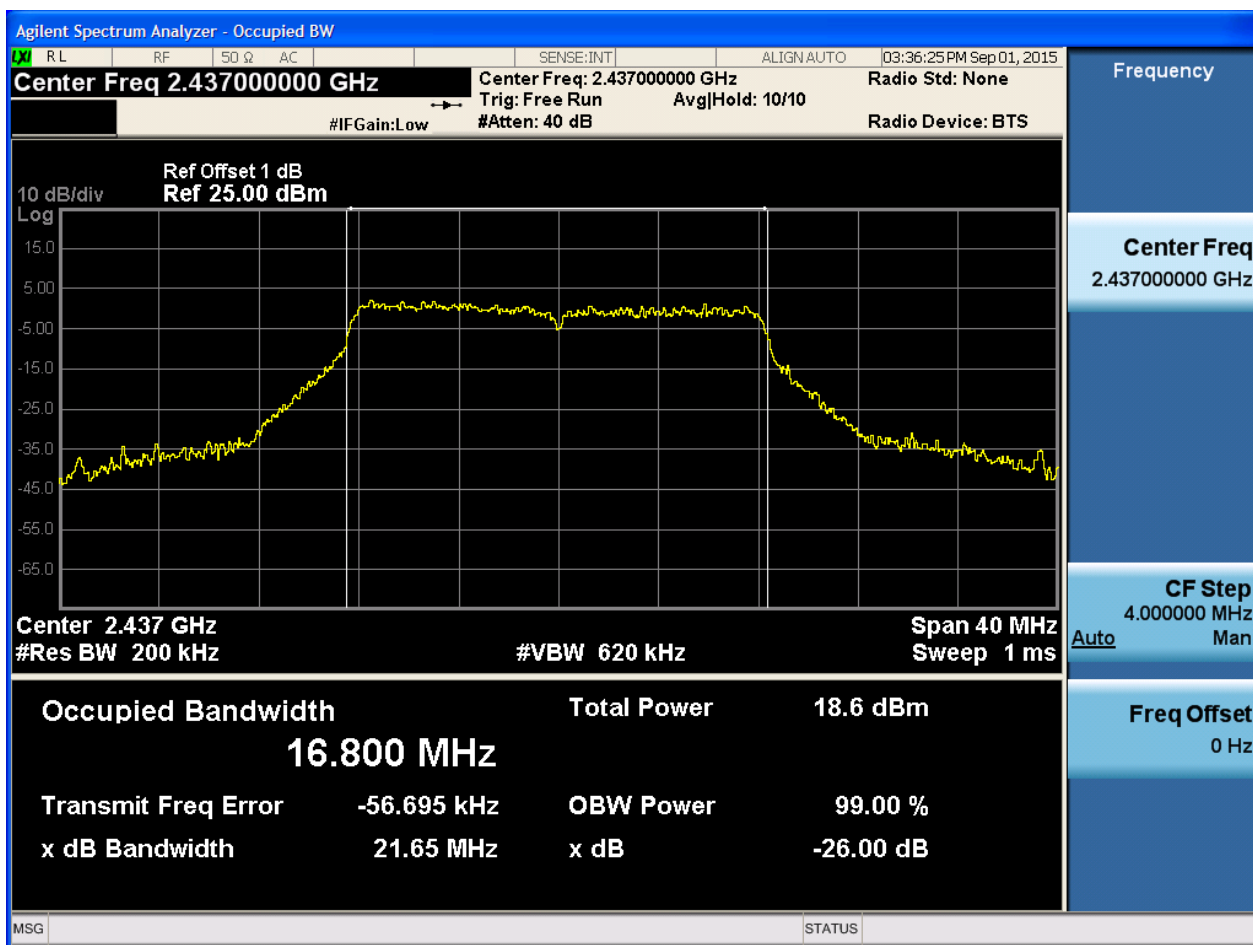


2.7 11G_L@Ant 1



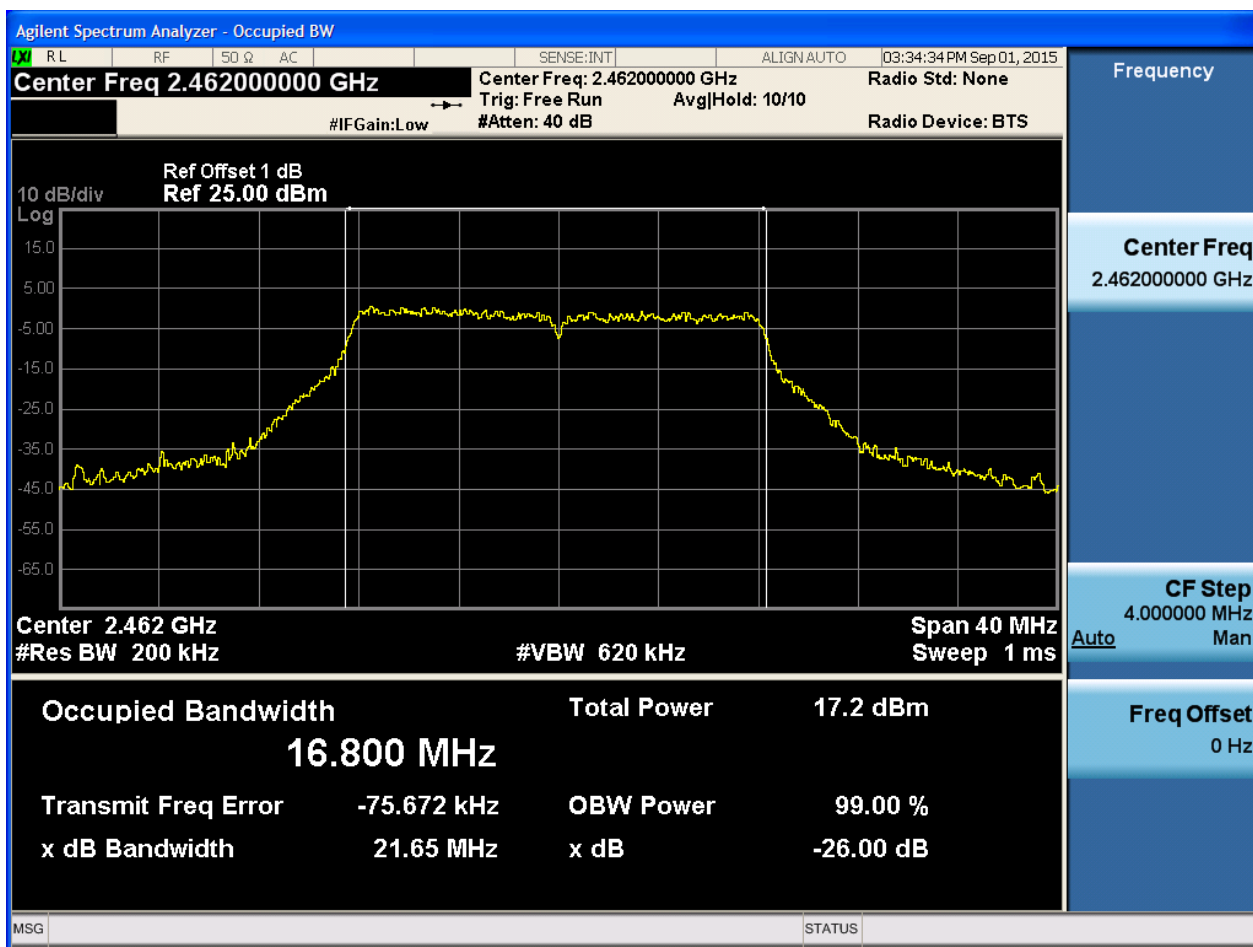


2.9 11G_M@Ant 1



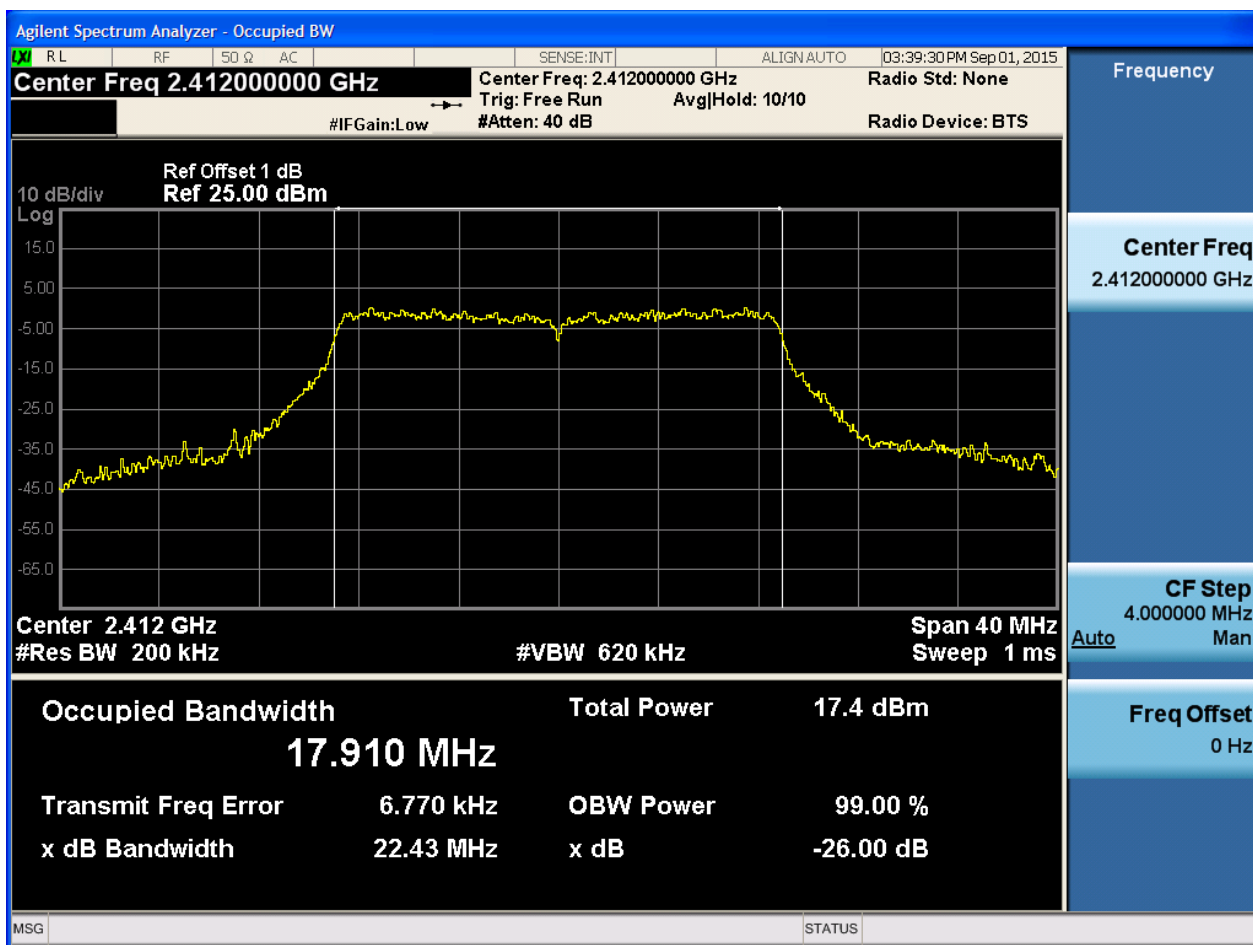


2.11 11G_H@Ant 1



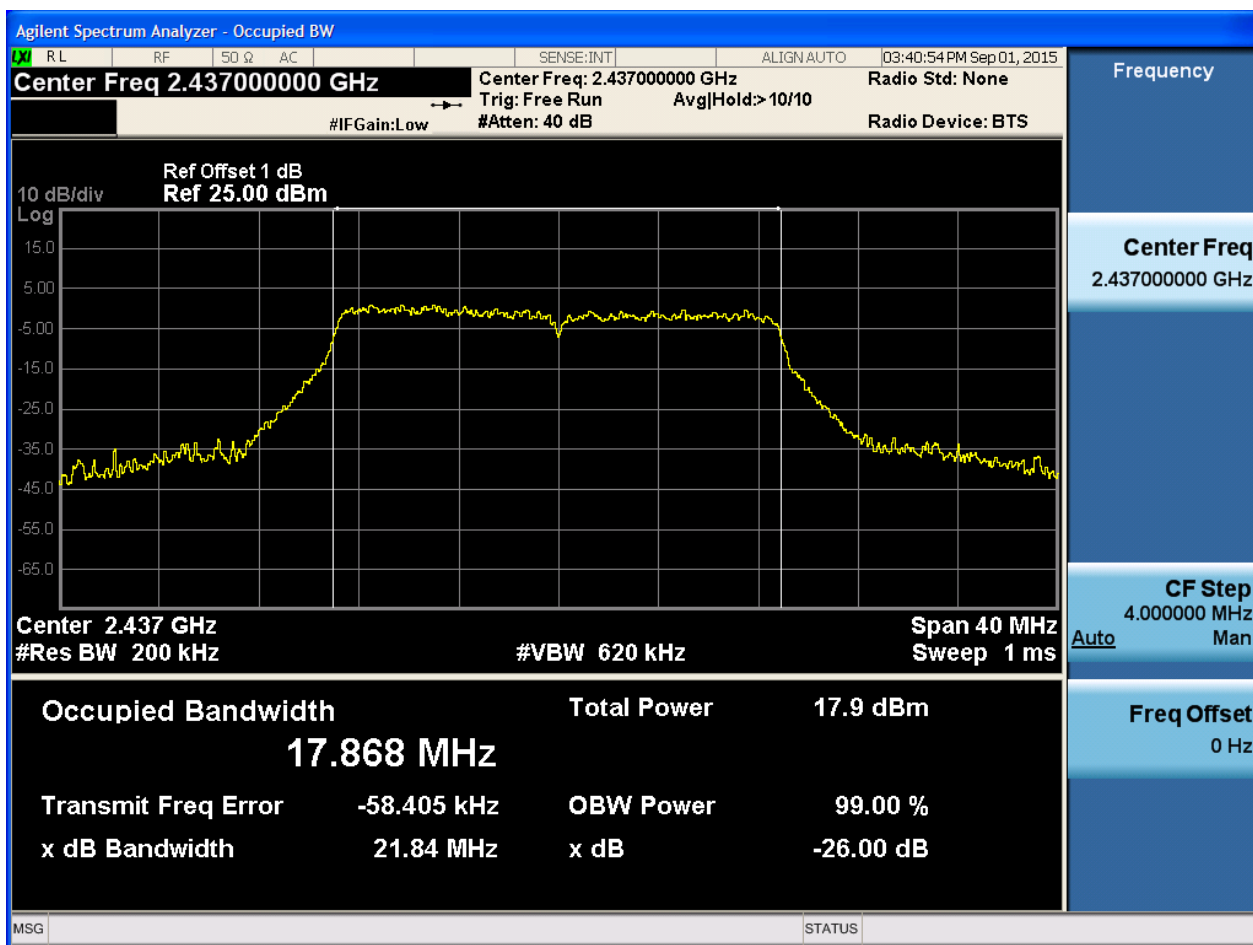


2.13 11N20_L@Ant 1



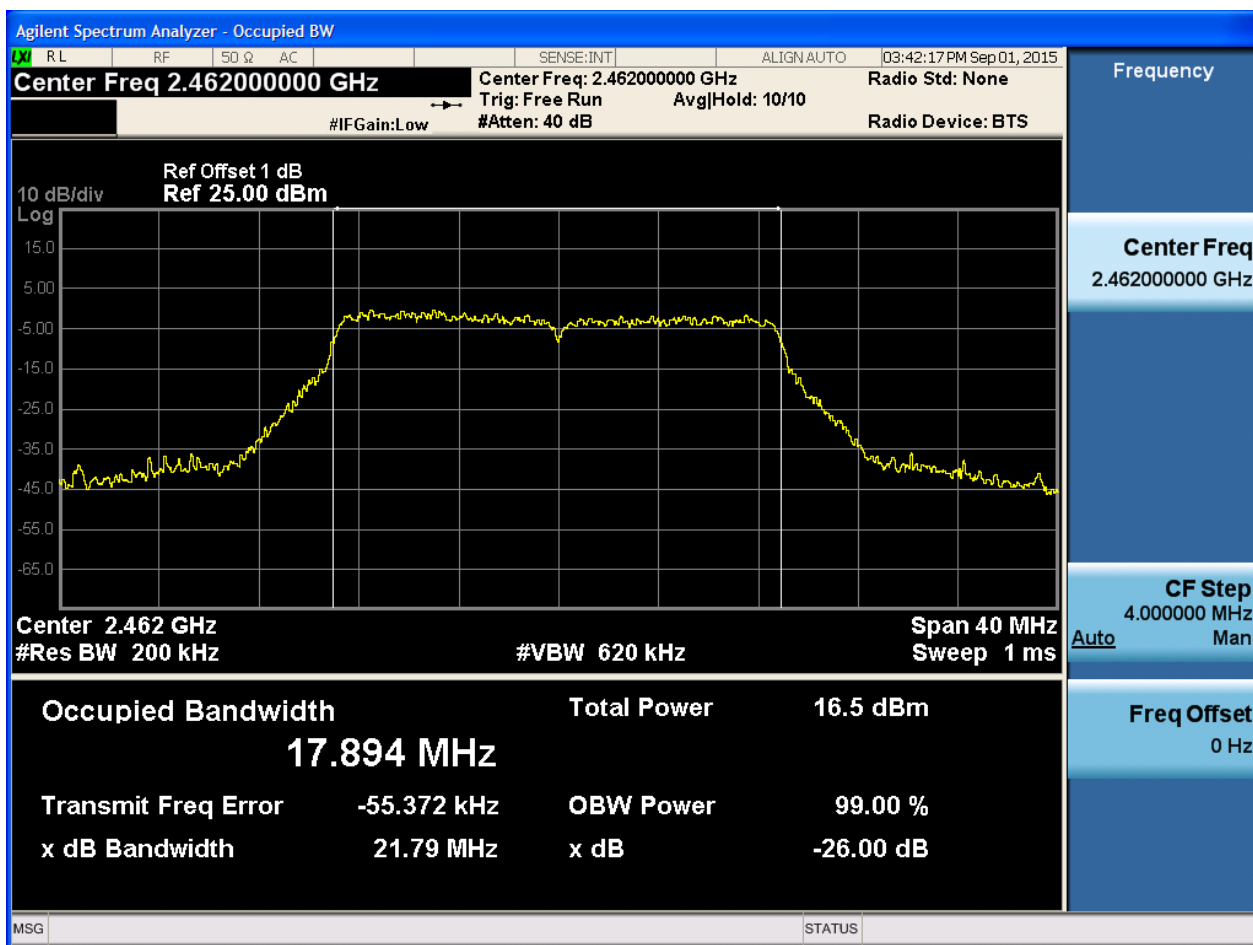


2.15 11N20_M@Ant 1





2.17 11N20_H@Ant 1





Appendix C: Duty Cycle

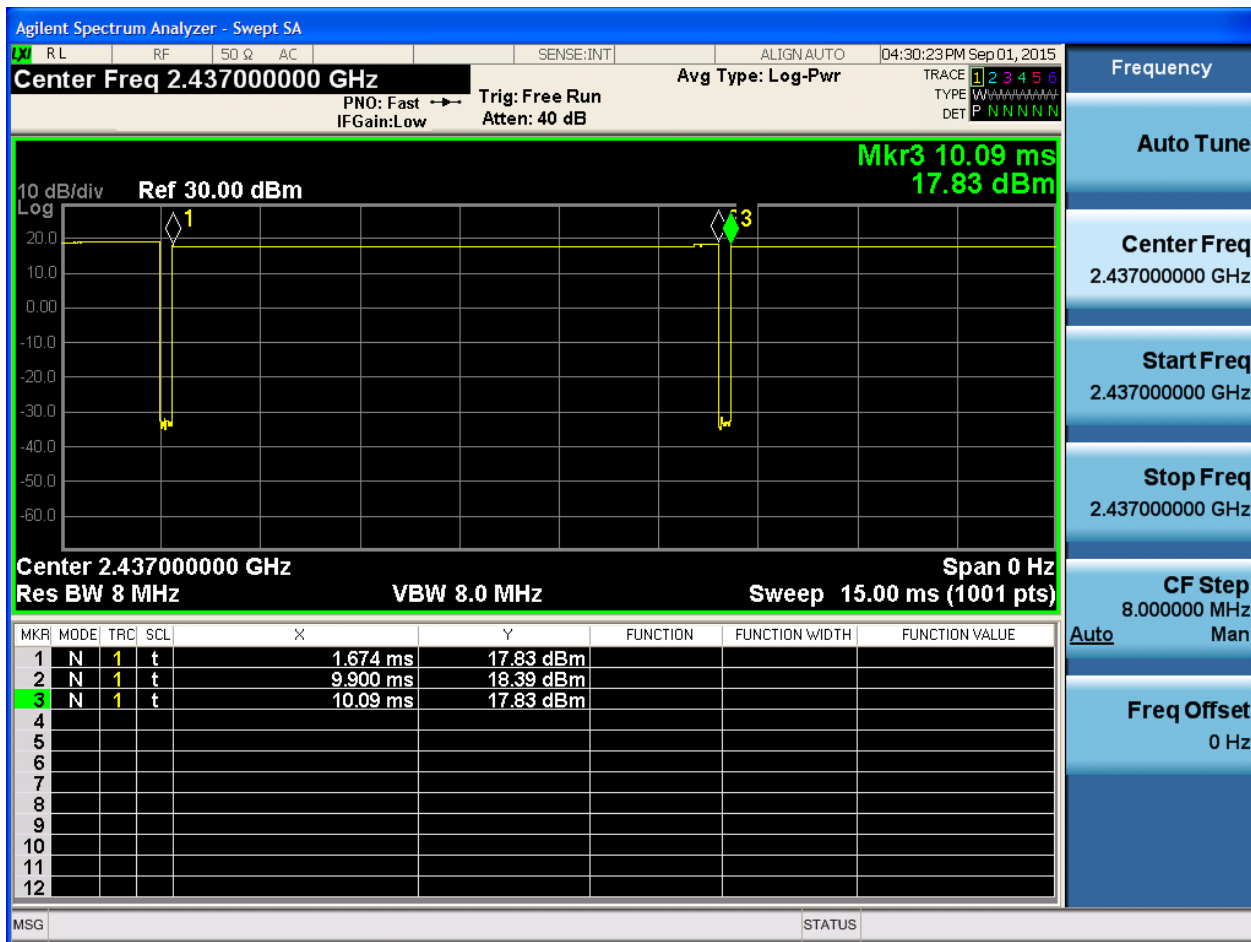
Part I - Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	Ant 1: CH1,CH6,CH11	98
11G	Ant 1: CH1,CH6,CH11	88
11N_20M_SISO	Ant 1: CH1,CH6,CH11	88

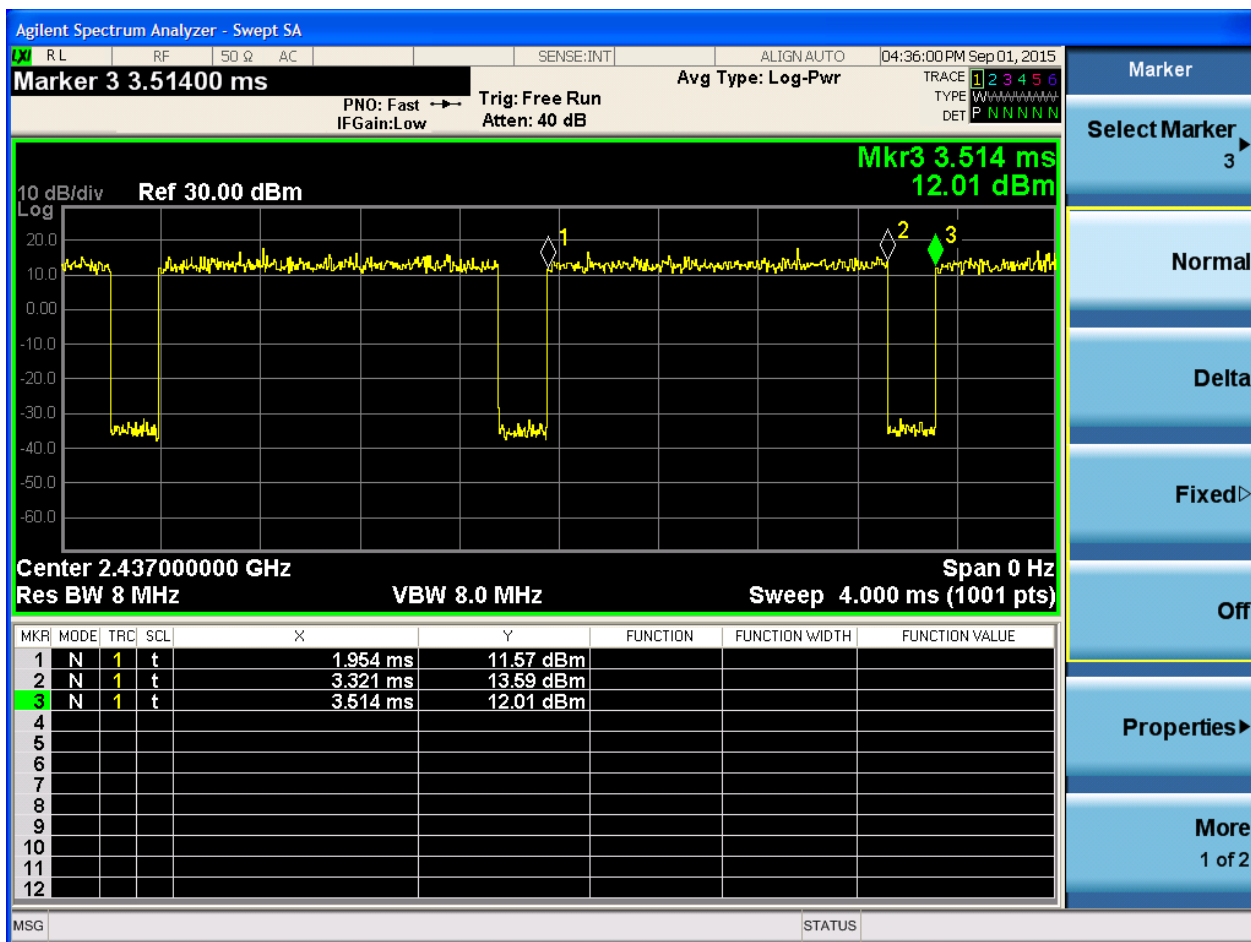


Part II - Test Plots

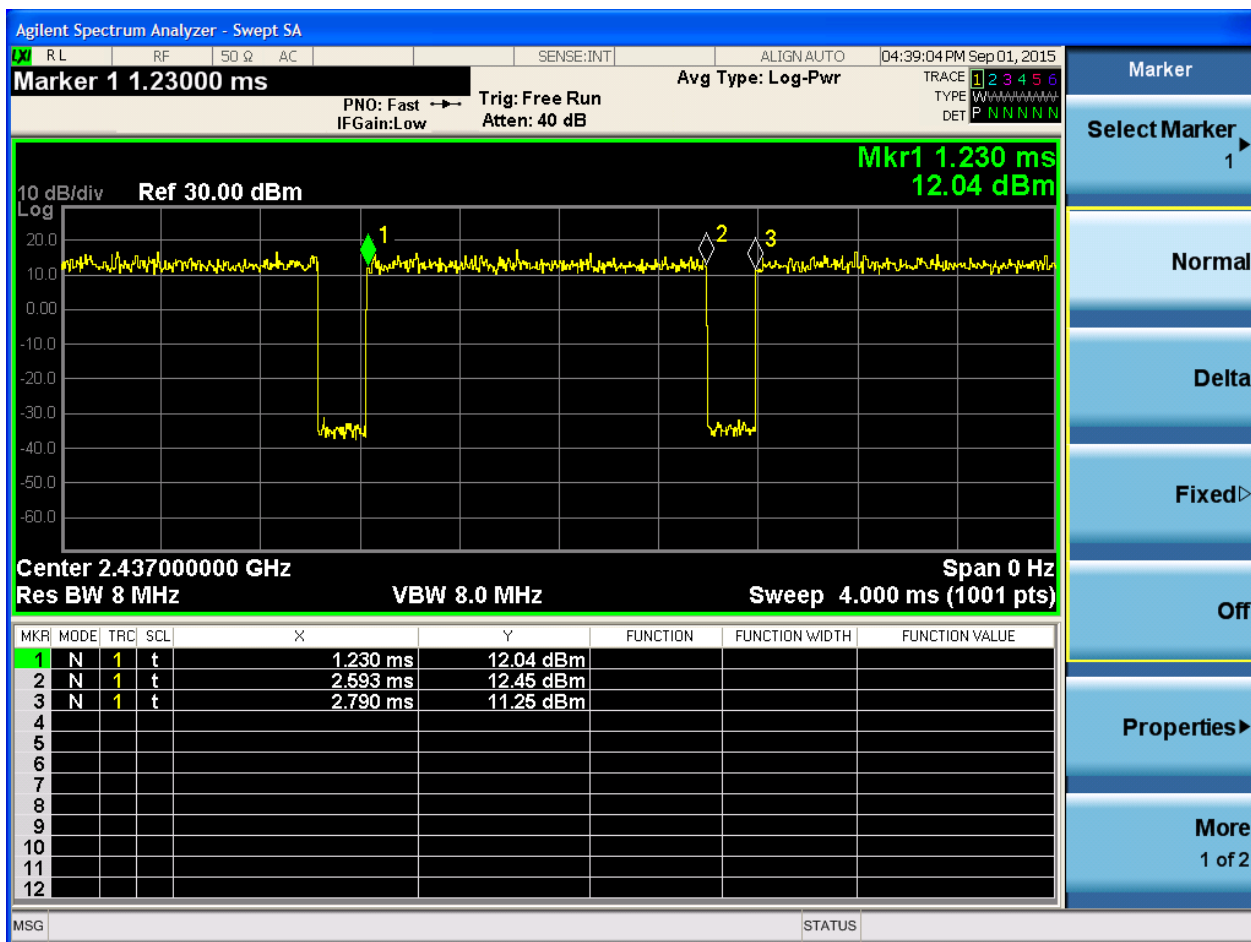
2.1 11B



2.2 11G



2.3 11N20



Appendix D: Maximum Conducted Average Output Power

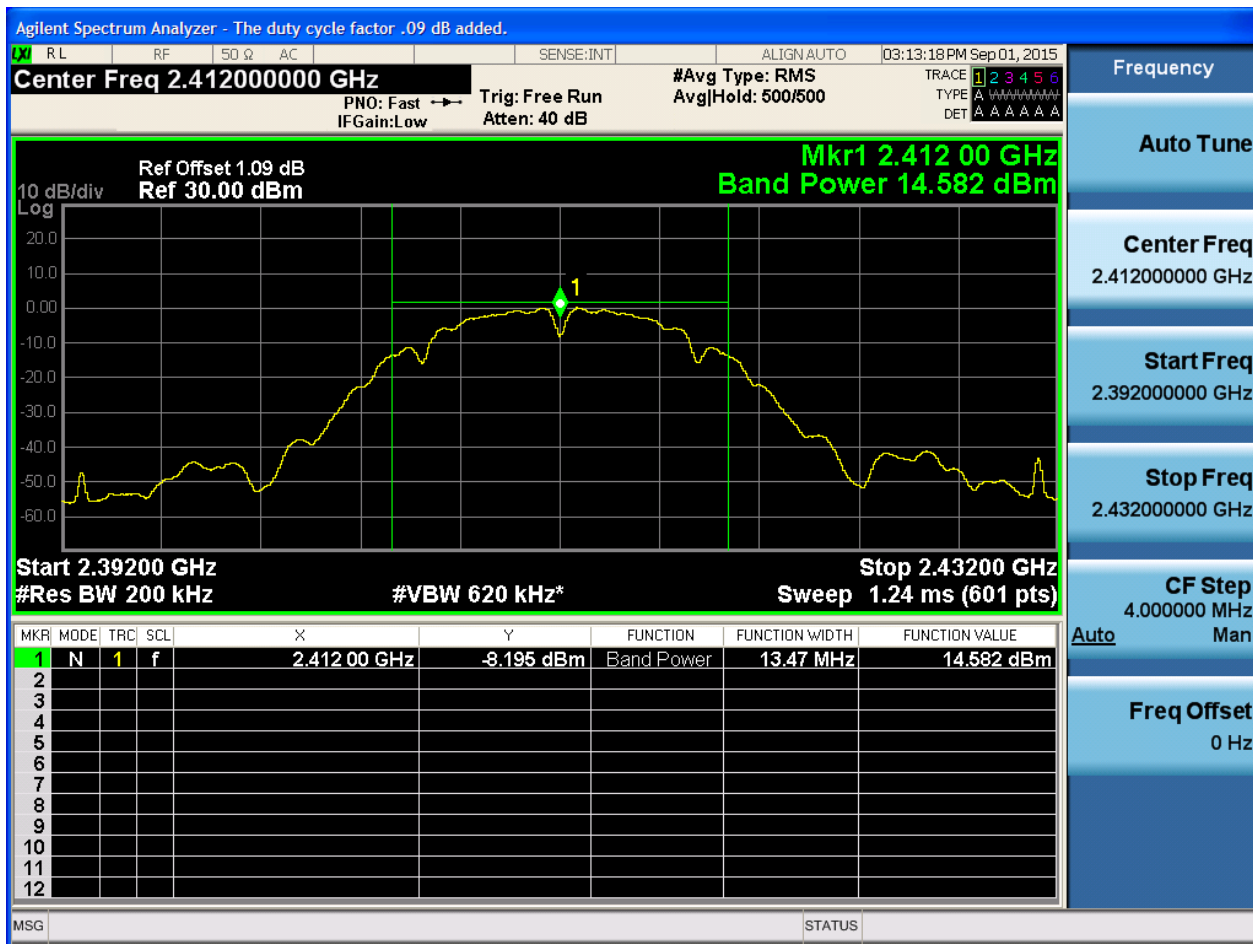
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
11B	L	2412	Ant 1	14.58	pass
11B	M	2437	Ant 1	14.72	pass
11B	H	2462	Ant 1	13.71	pass
11G	L	2412	Ant 1	10.84	pass
11G	M	2437	Ant 1	11.40	pass
11G	H	2462	Ant 1	10.01	pass
11N20	L	2412	Ant 1	10.01	pass
11N20	M	2437	Ant 1	10.46	pass
11N20	H	2462	Ant 1	9.24	pass



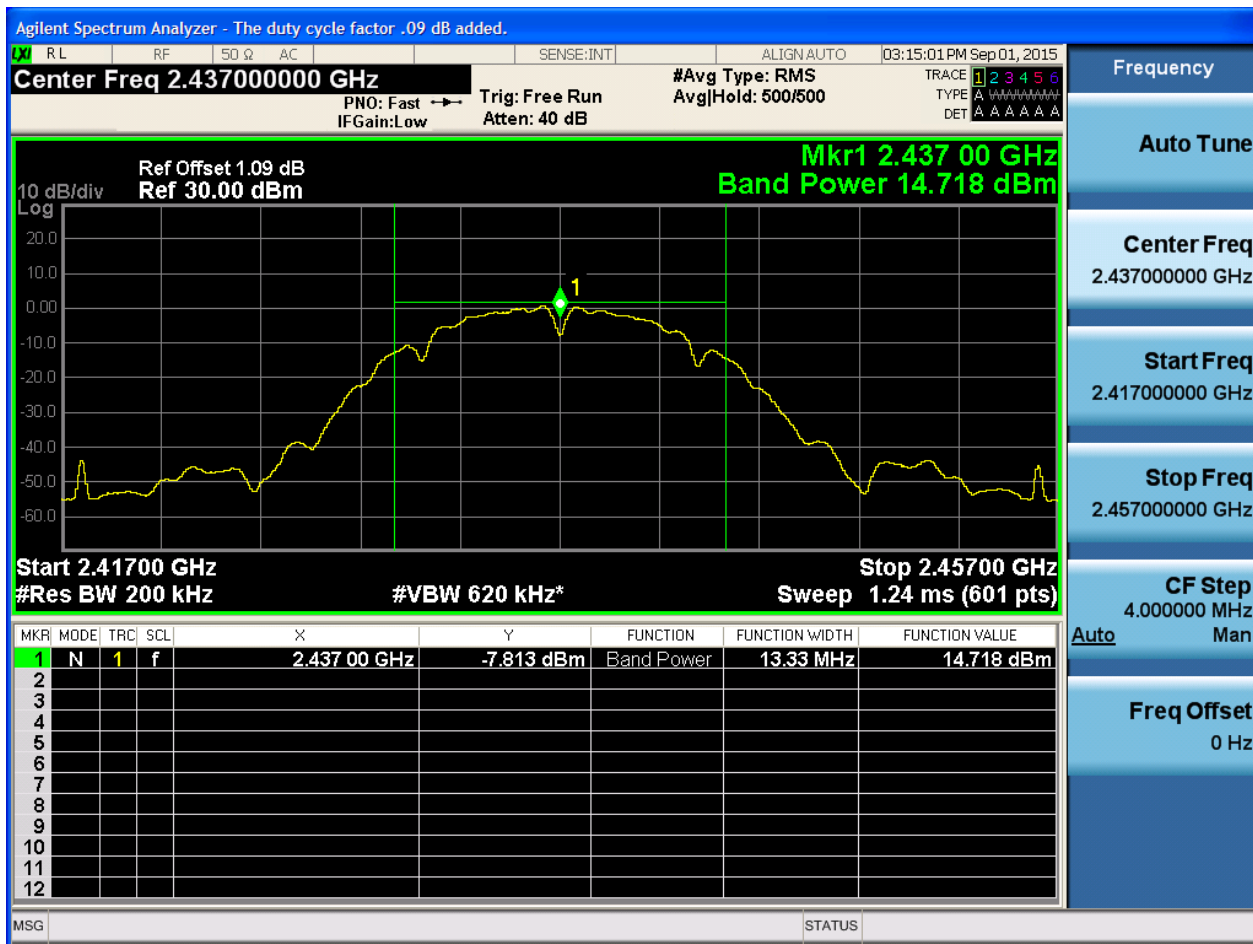
Part II - Test Plots

2.1 11B_L@Ant 1



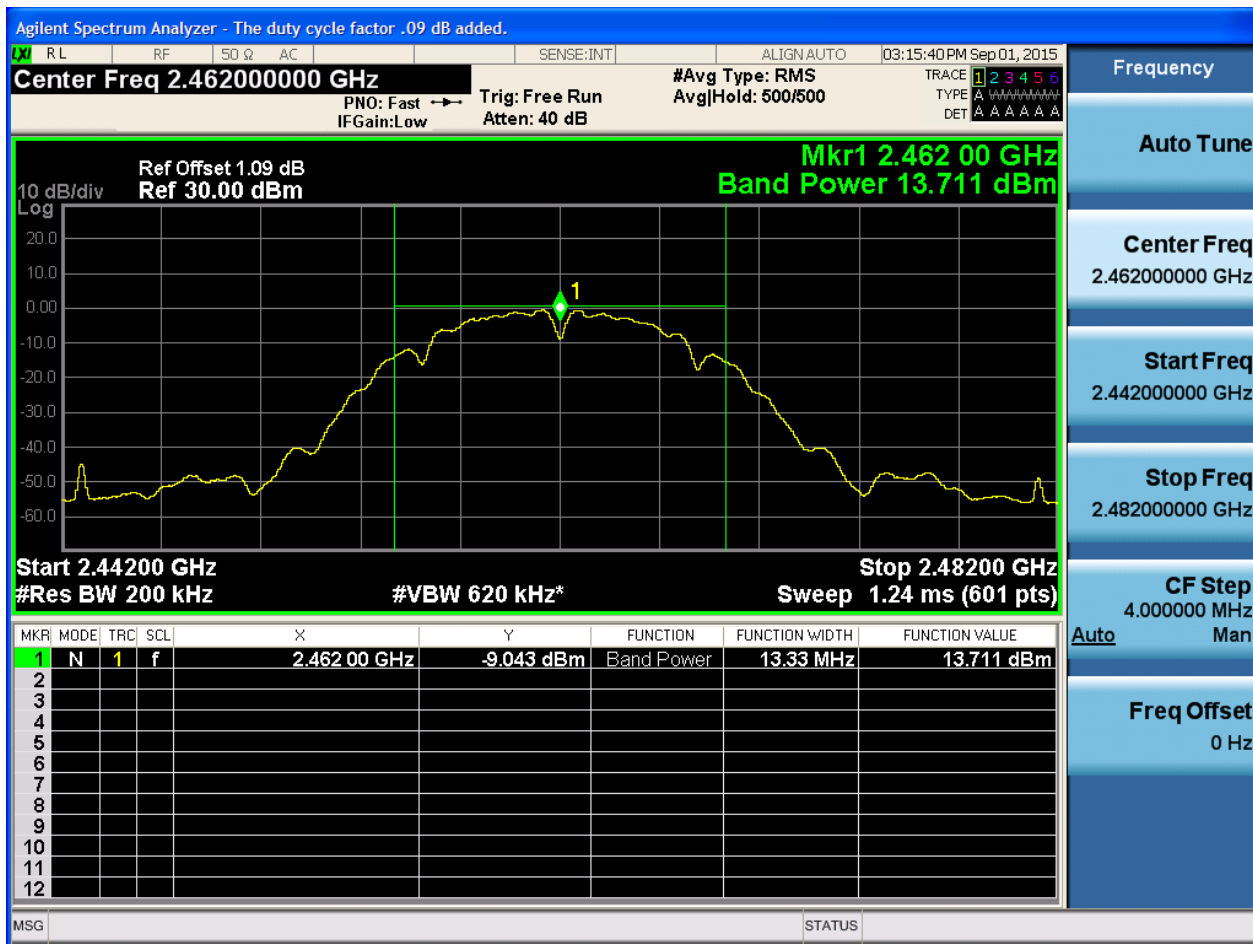


2.3 11B_M@Ant 1



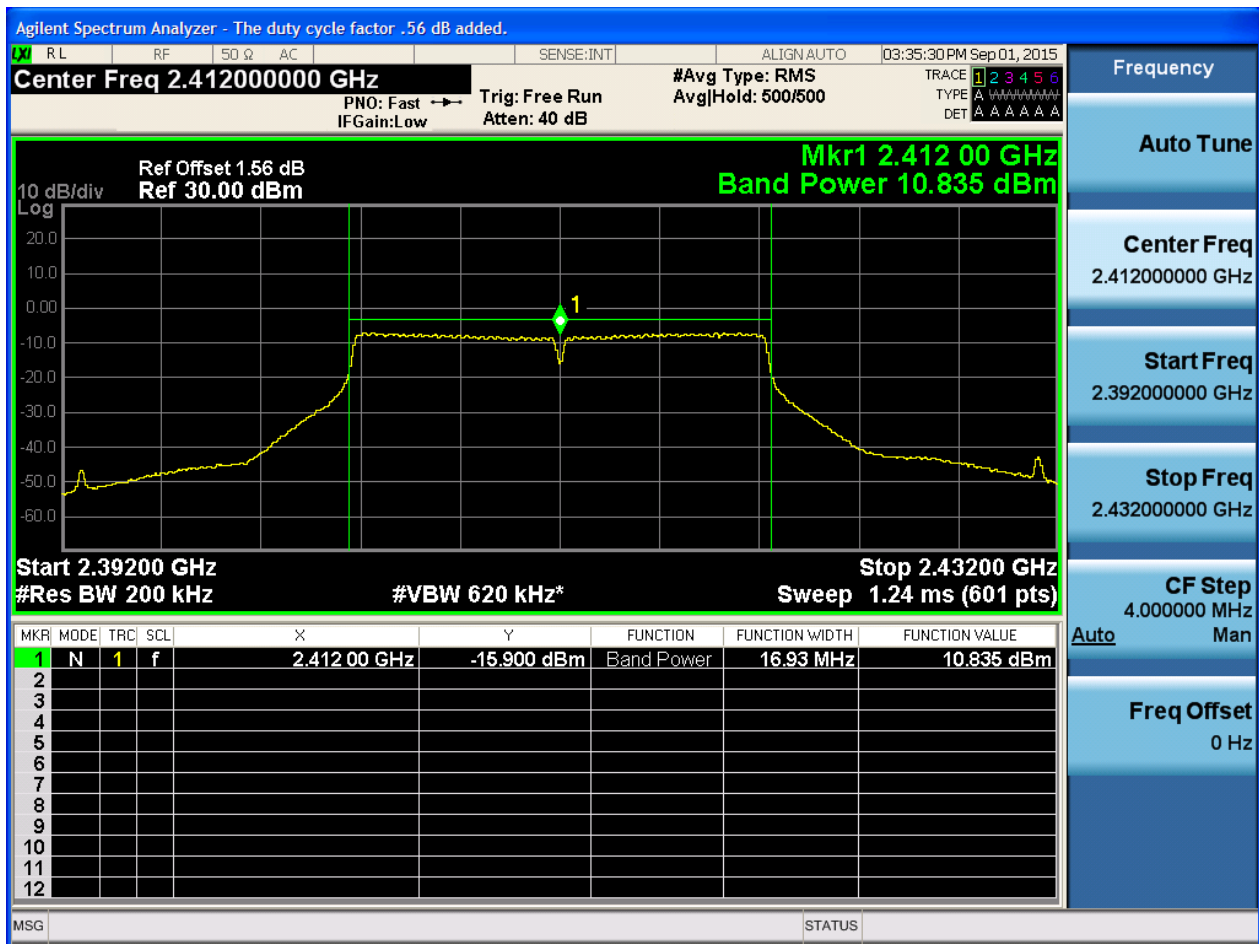


2.5 11B_H@Ant 1



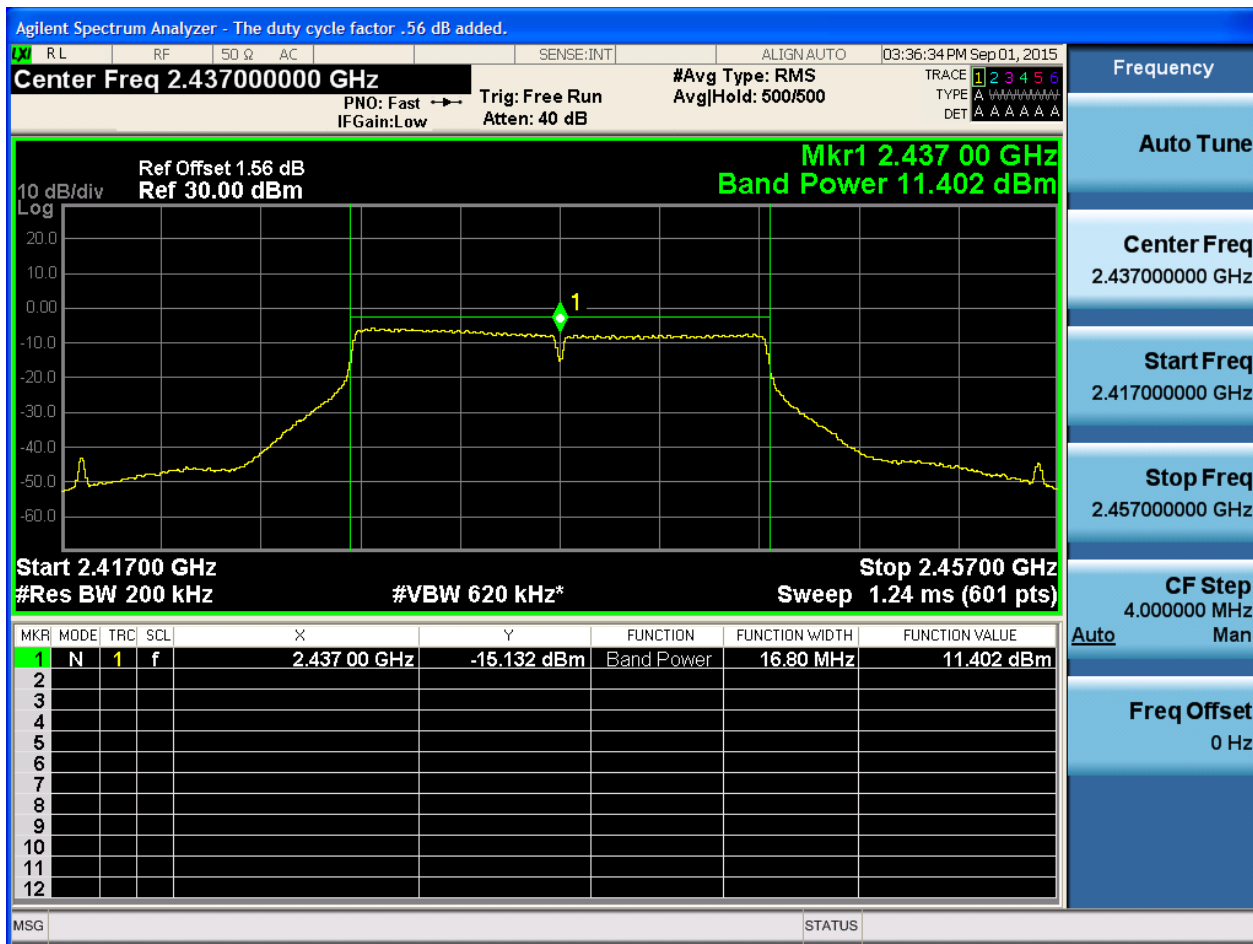


2.7 11G_L@Ant 1





2.9 11G_M@Ant 1





Agilent Spectrum Analyzer - The duty cycle factor .56 dB added.

Center Freq 2.46200000 GHz #Avg Type: Pwr(RMS) AvgHold: 500/500

Ref Offset 1.56 dB Ref 30.00 dBm

Mkr1 2.462 00 GHz Band Power 10.065 dBm

Start 2.44200 GHz Stop 2.48200 GHz

#Res BW 200 kHz #VBW 620 kHz* Sweep 1.24 ms (601 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.462 00 GHz	-16.136 dBm	Band Power	16.93 MHz	10.065 dBm
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

Frequency: 2.46200000 GHz

Auto Tune

Center Freq: 2.46200000 GHz

Start Freq: 2.44200000 GHz

Stop Freq: 2.48200000 GHz

CF Step: 4.000000 MHz Man

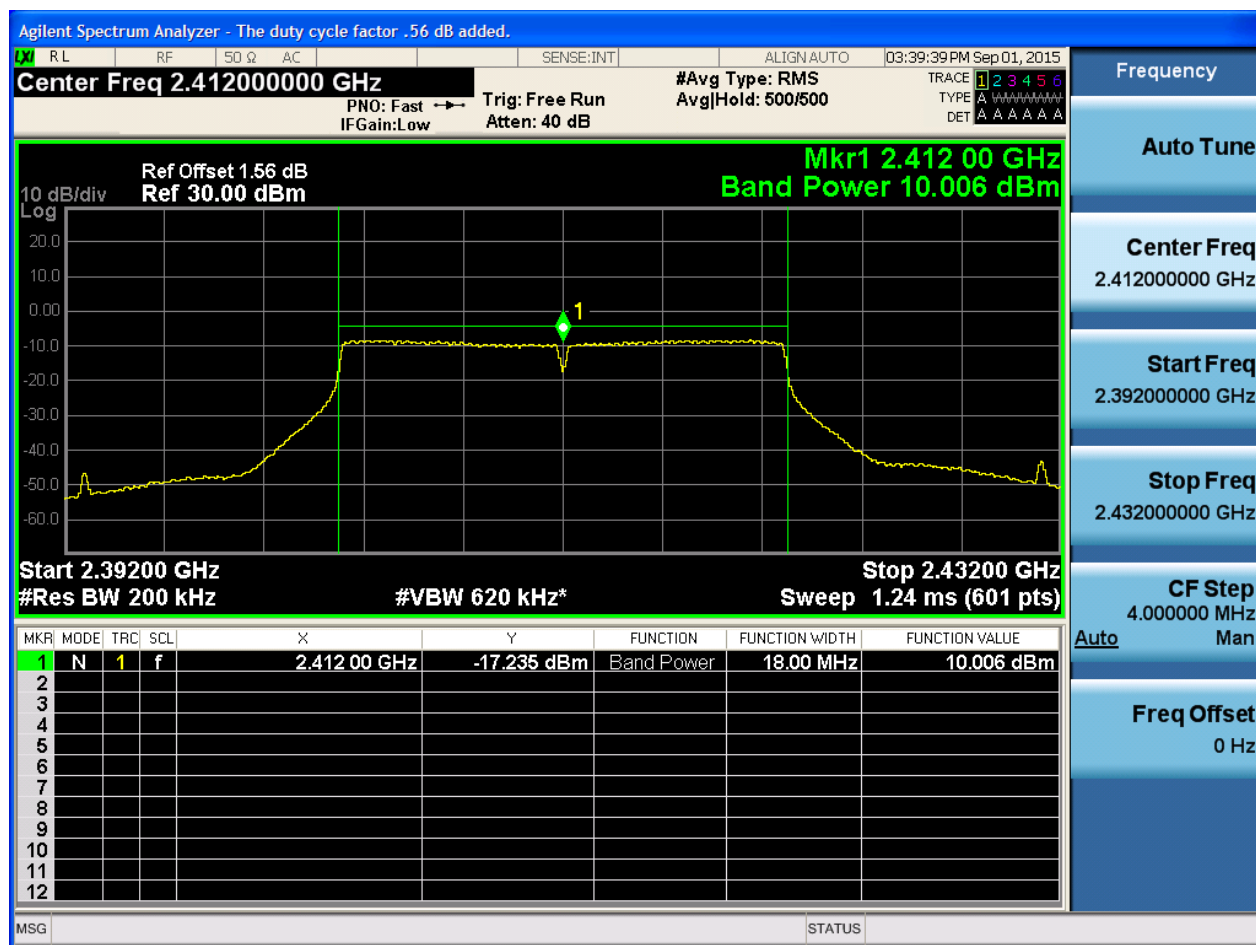
Freq Offset: 0 Hz

Auto

MSG STATUS

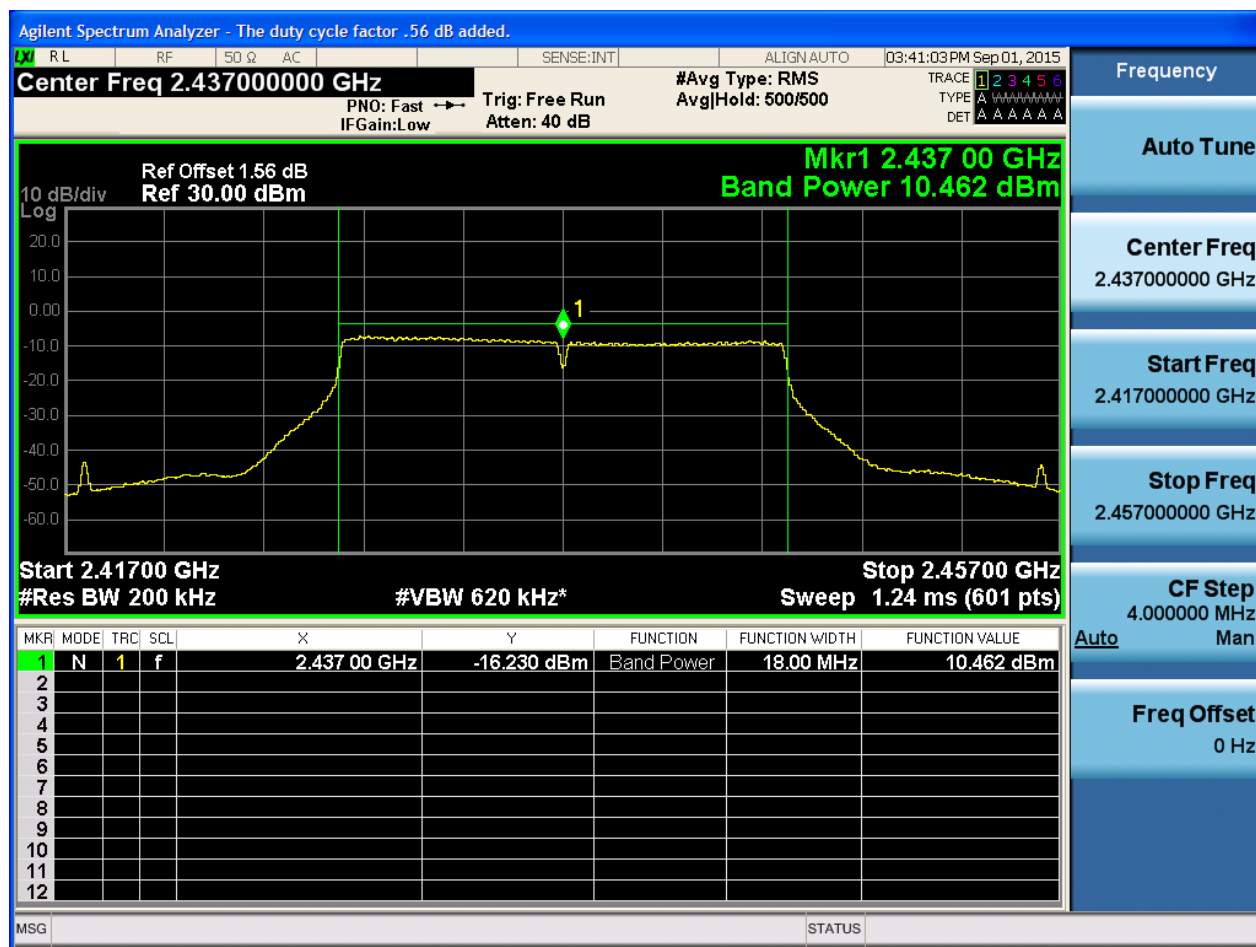


2.13 11N20_L@Ant 1



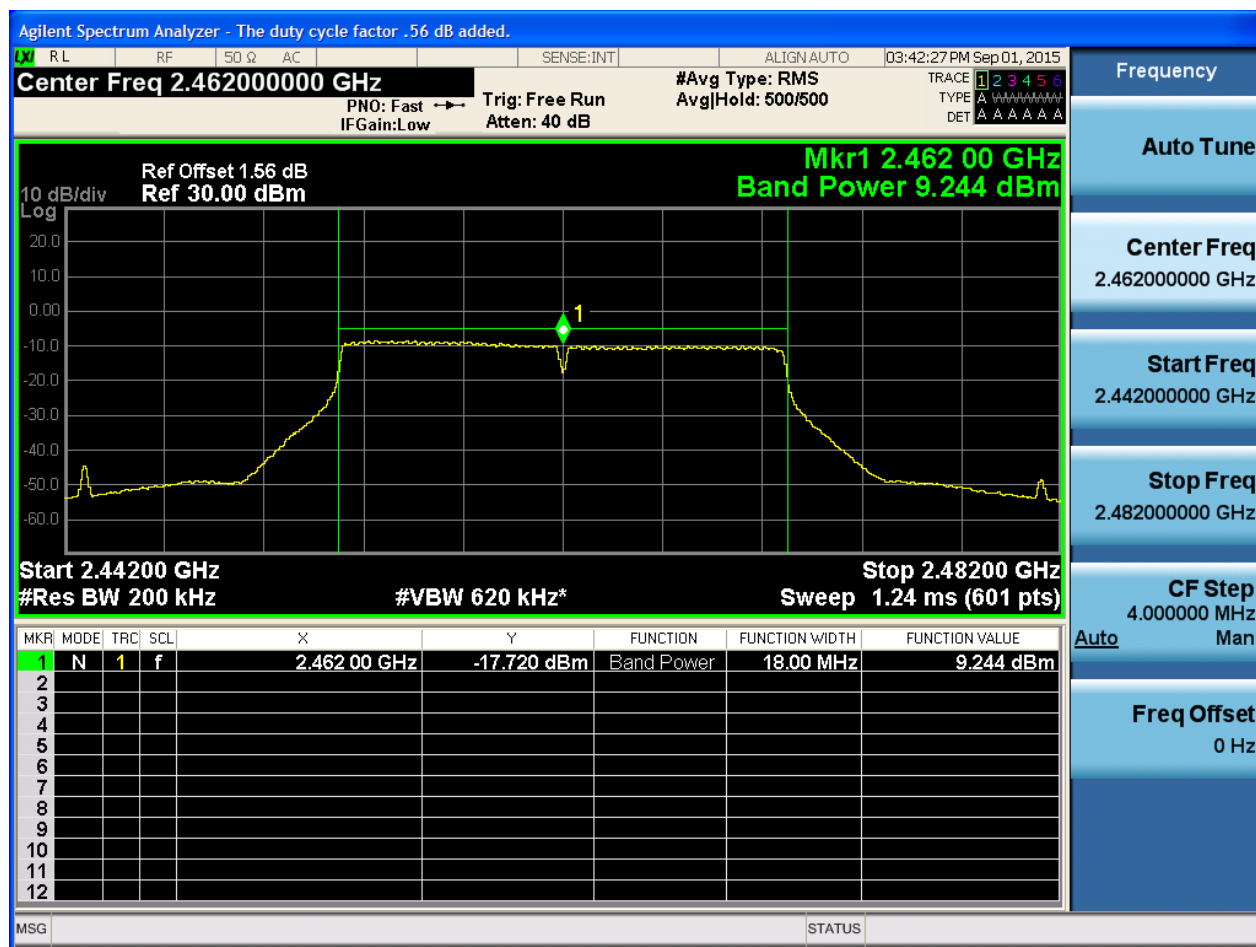


2.15 11N20_M@Ant 1





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	-12.40	pass
11B	M	2437	Ant 1	-12.09	pass
11B	H	2462	Ant 1	-13.27	pass
11G	L	2412	Ant 1	-18.72	pass
11G	M	2437	Ant 1	-17.97	pass
11G	H	2462	Ant 1	-19.22	pass
11N20	L	2412	Ant 1	-19.92	pass
11N20	M	2437	Ant 1	-19.27	pass
11N20	H	2462	Ant 1	-20.59	pass

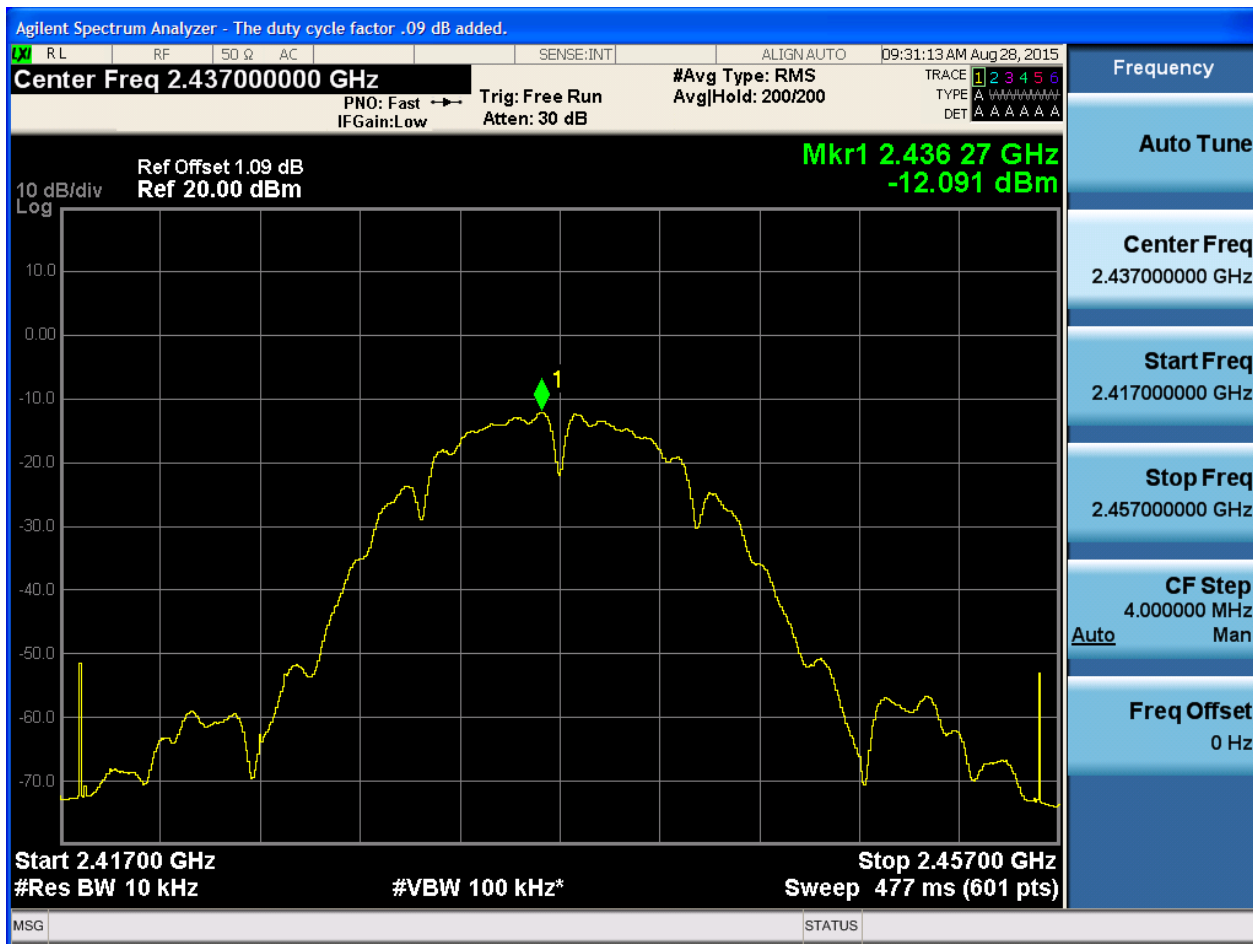
Part II - Test Plots

2.1 11B_L@Ant 1





2.3 11B_M@Ant 1





Agilent Spectrum Analyzer - The duty cycle factor .09 dB added.

Center Freq 2.462000000 GHz

Ref Offset 1.09 dB
Ref 20.00 dBm

Mkr1 2.462 73 GHz
-13.270 dBm

Start 2.44200 GHz
#Res BW 10 kHz

Stop 2.48200 GHz
Sweep 477 ms (601 pts)

#VBW 100 kHz*

10 dB/div
Log

1

Frequency

Auto Tune

Center Freq
2.462000000 GHz

Start Freq
2.442000000 GHz

Stop Freq
2.482000000 GHz

CF Step
4.000000 MHz
Man

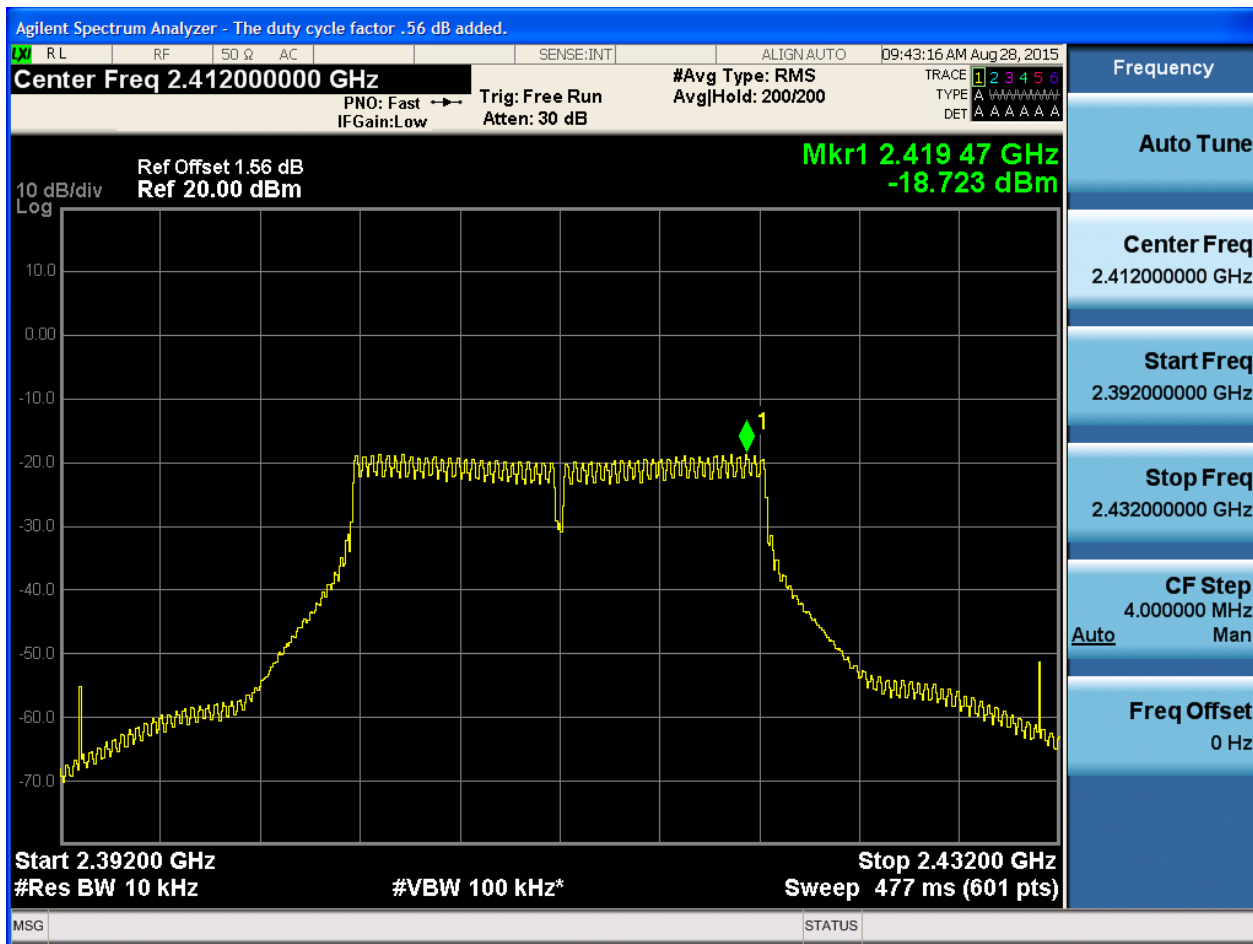
Freq Offset
0 Hz

MSG

STATUS

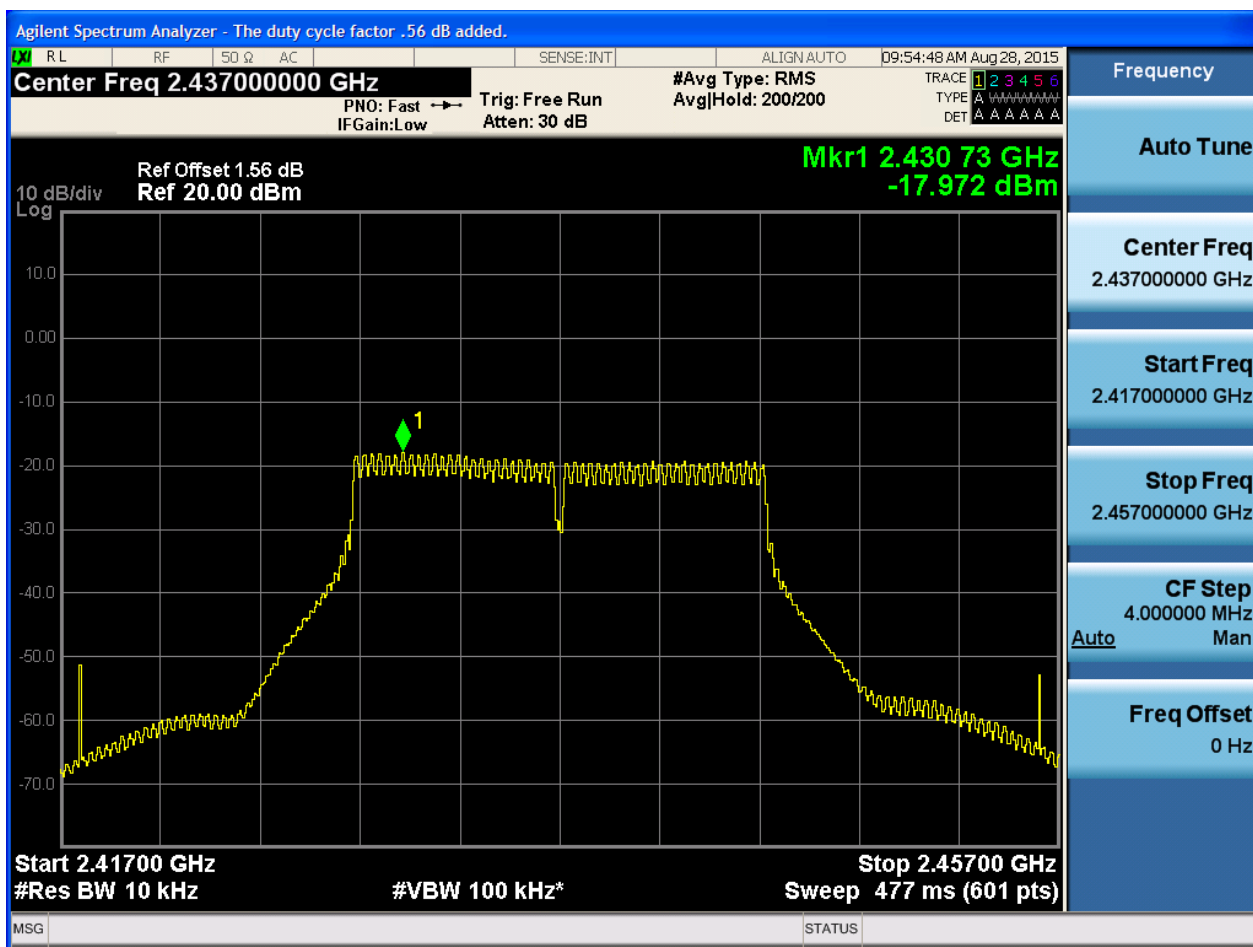


2.7 11G_L@Ant 1



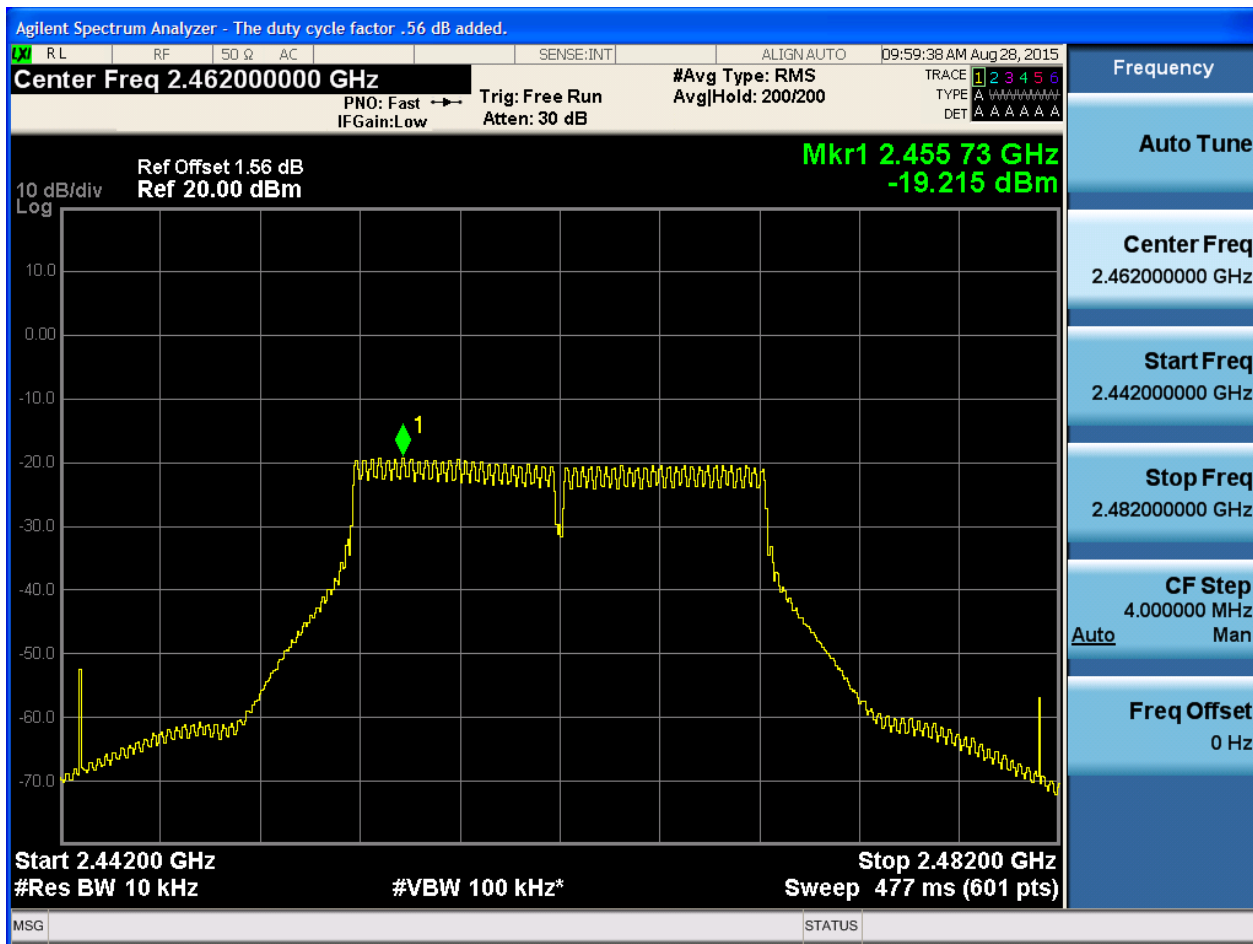


2.9 11G_M@Ant 1



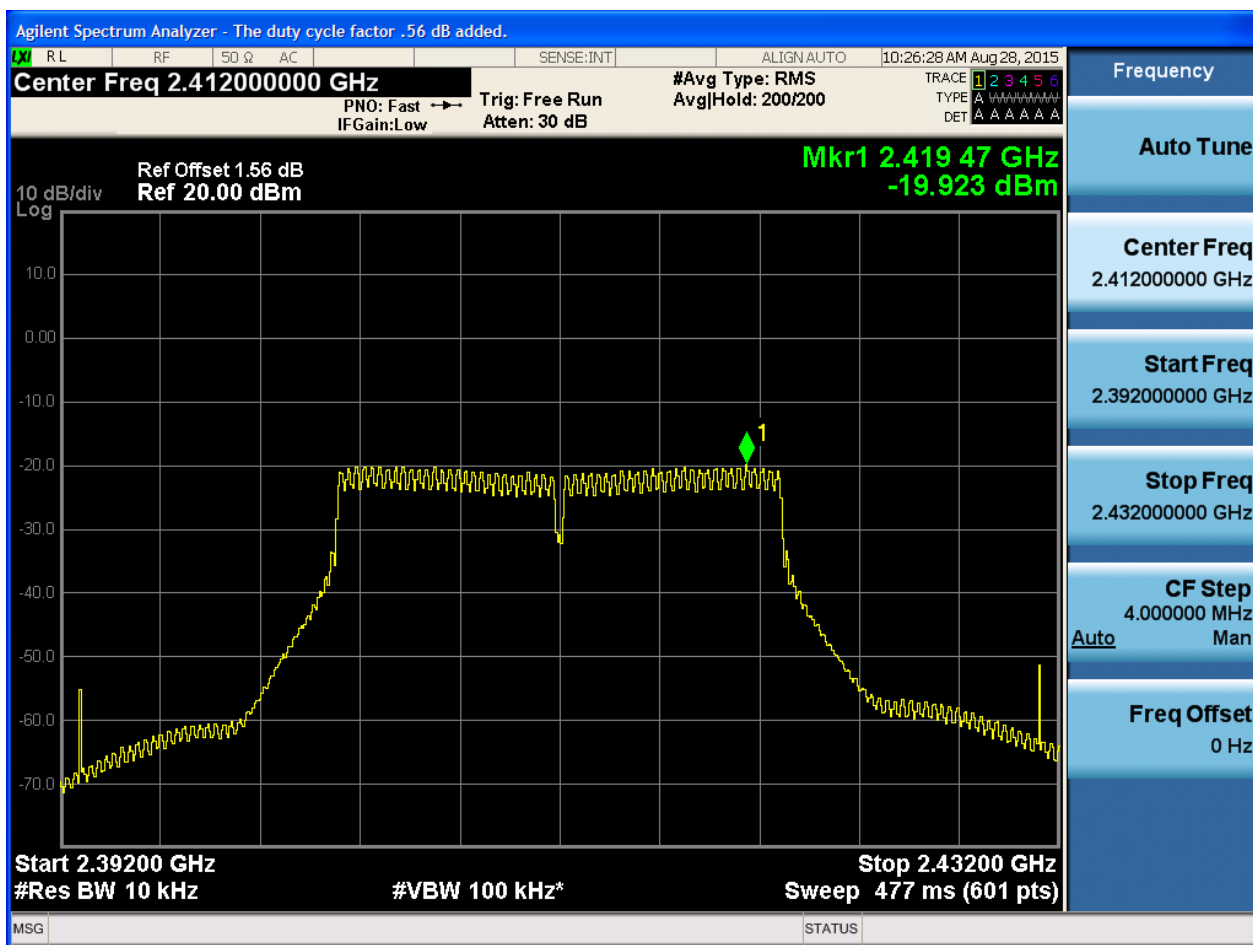


2.11 11G_H@Ant 1



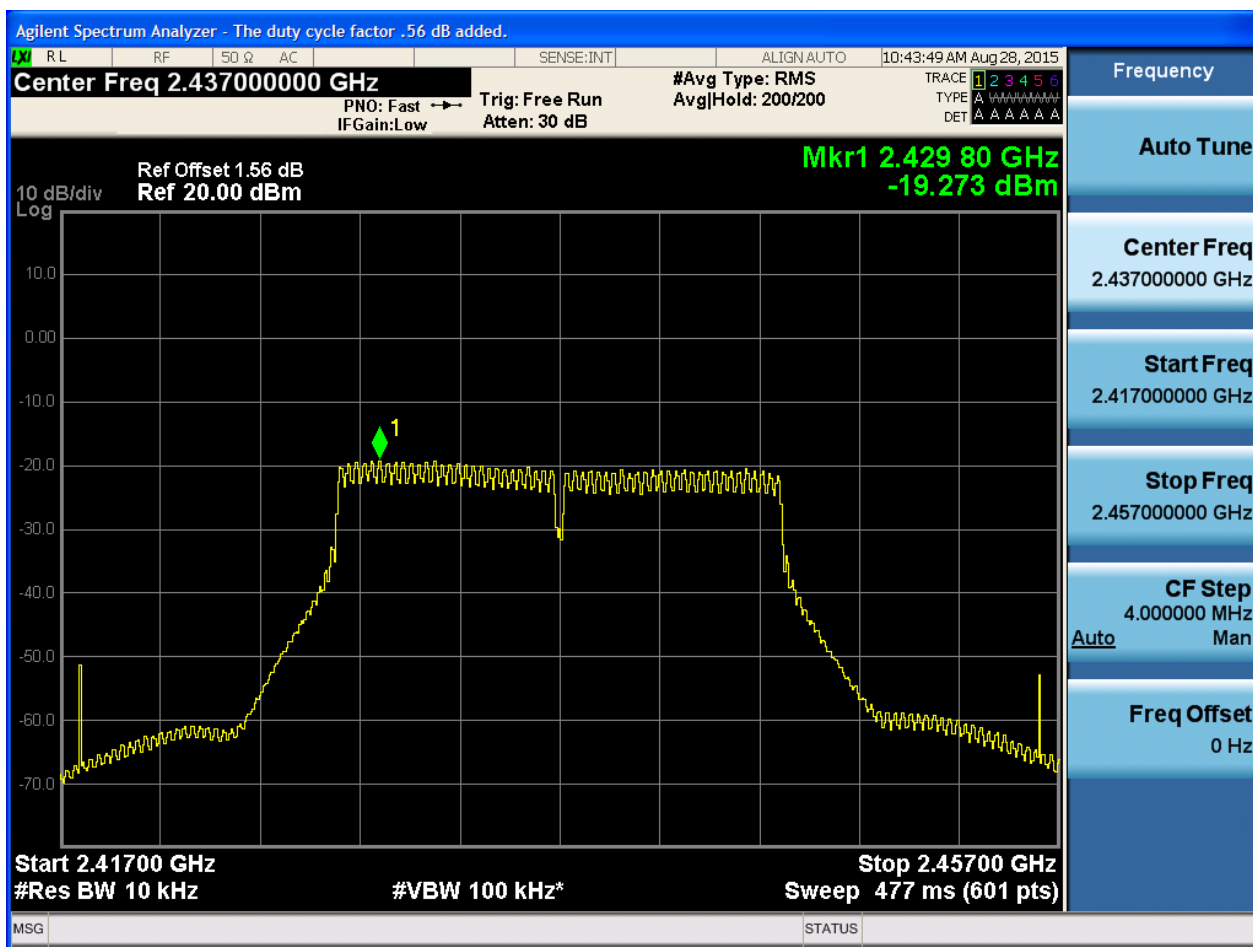


2.13 11N20_L@Ant 1



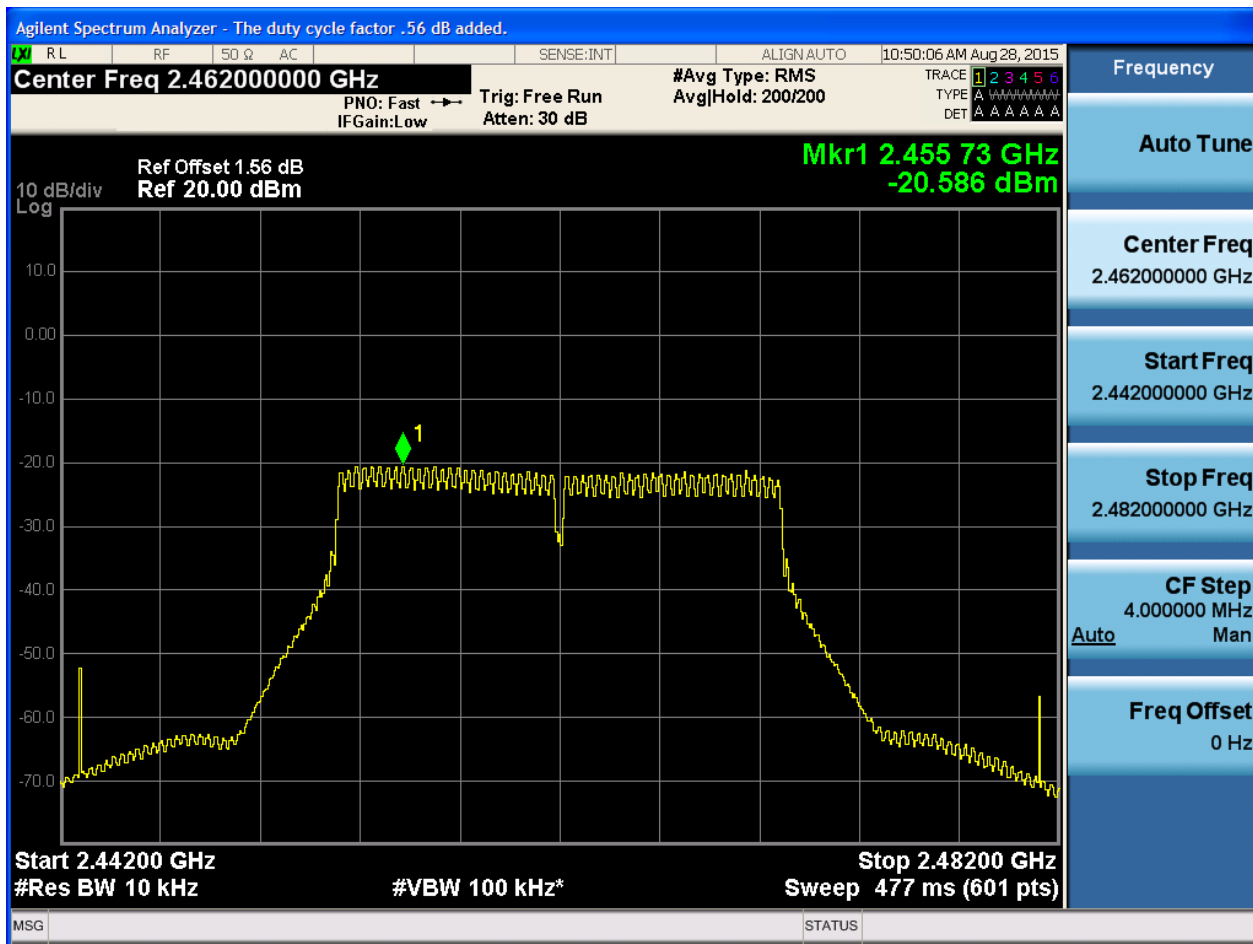


2.15 11N20_M@Ant 1





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	5.98	-50.43	pass
11B	H	2462	Ant 1	5.52	-49.56	pass
11G	L	2412	Ant 1	0.06	-49.53	pass
11G	H	2462	Ant 1	-0.58	-49.50	pass
11N20	L	2412	Ant 1	-1.02	-48.87	pass
11N20	H	2462	Ant 1	-1.49	-48.14	pass



Part II - Test Plots

2.1 11B_L@Ant 1



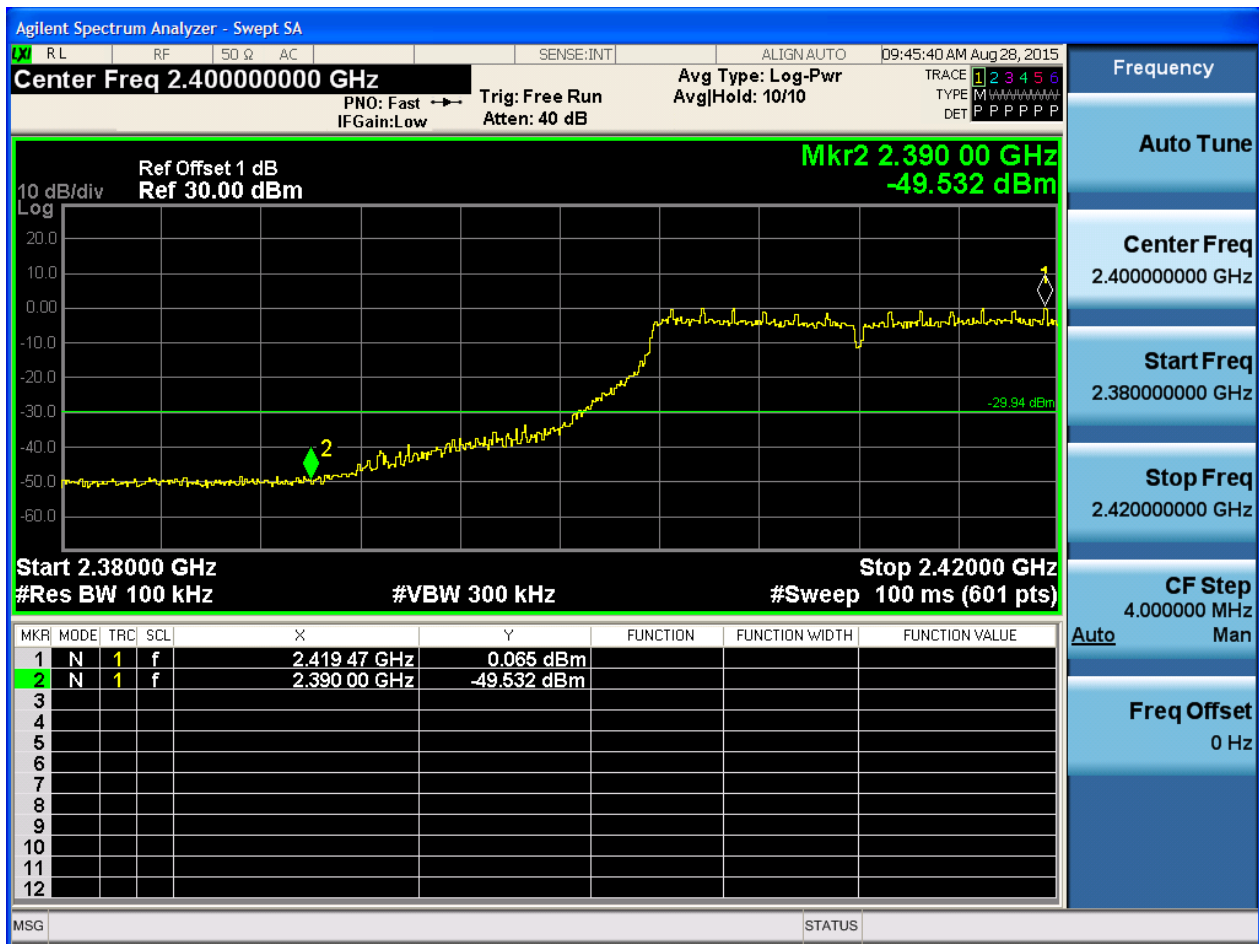


2.3 11B_H@Ant 1





2.5 11G_L@Ant 1



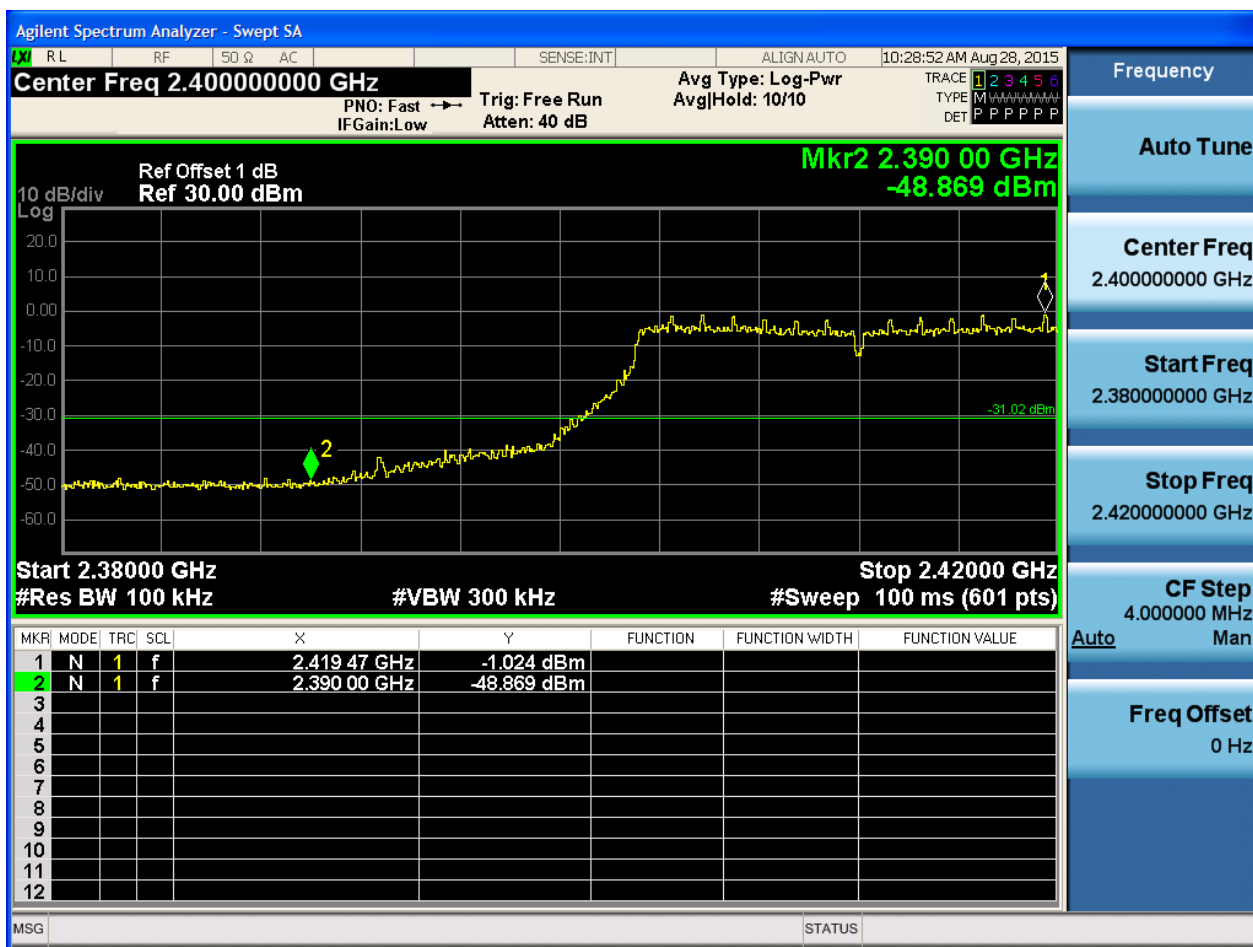


2.7 11G_H@Ant 1





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" refers 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 $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW} [kHz])$. 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".

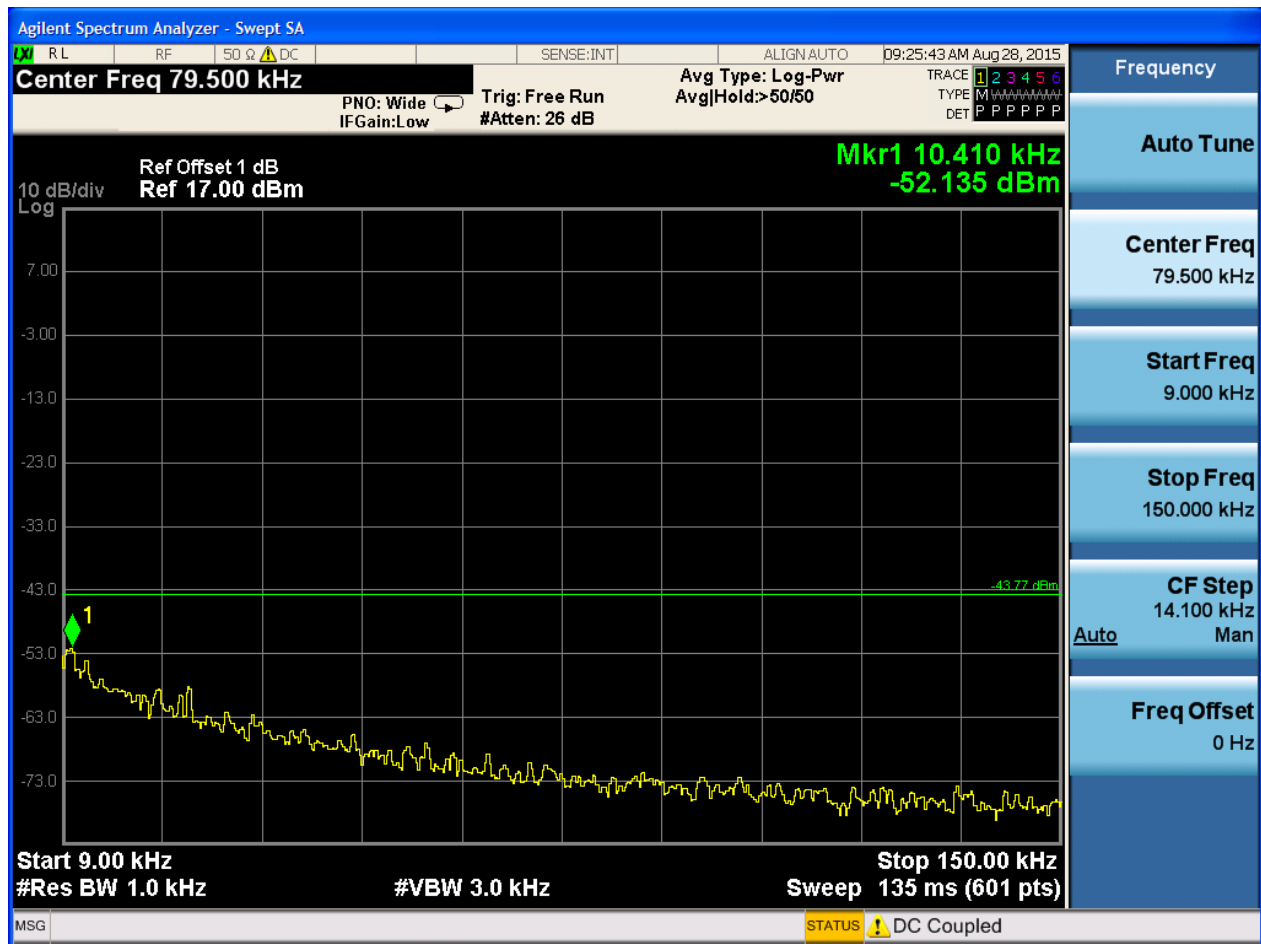
Part I - Test Results

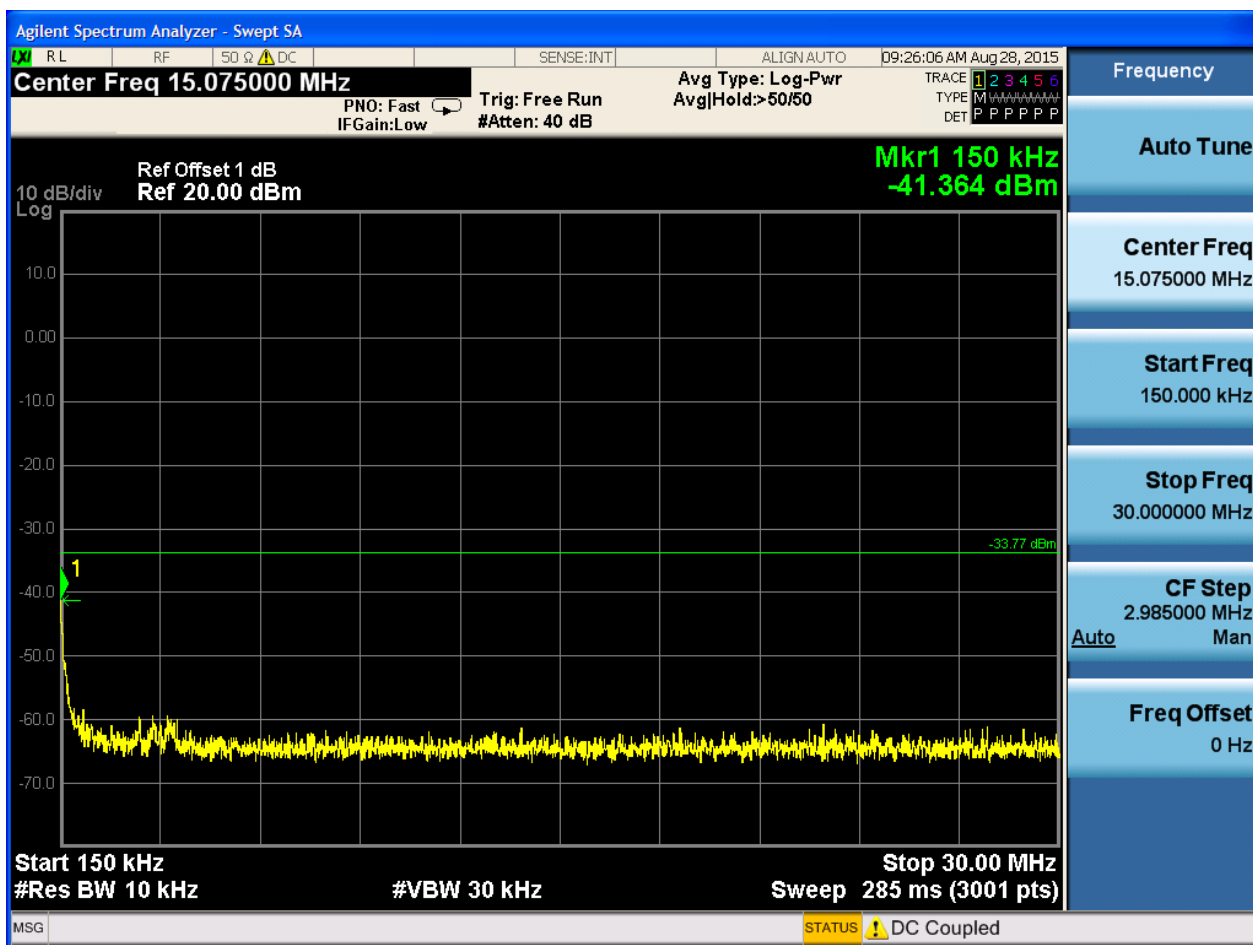
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	6.23	<limit	pass
11B	M	2437	Ant 1	6.83	<limit	pass
11B	H	2462	Ant 1	5.64	<limit	pass
11G	L	2412	Ant 1	0.40	<limit	pass
11G	M	2437	Ant 1	0.98	<limit	pass
11G	H	2462	Ant 1	-0.35	<limit	pass
11N20	L	2412	Ant 1	-0.73	<limit	pass
11N20	M	2437	Ant 1	0.01	<limit	pass
11N20	H	2462	Ant 1	-1.30	<limit	pass

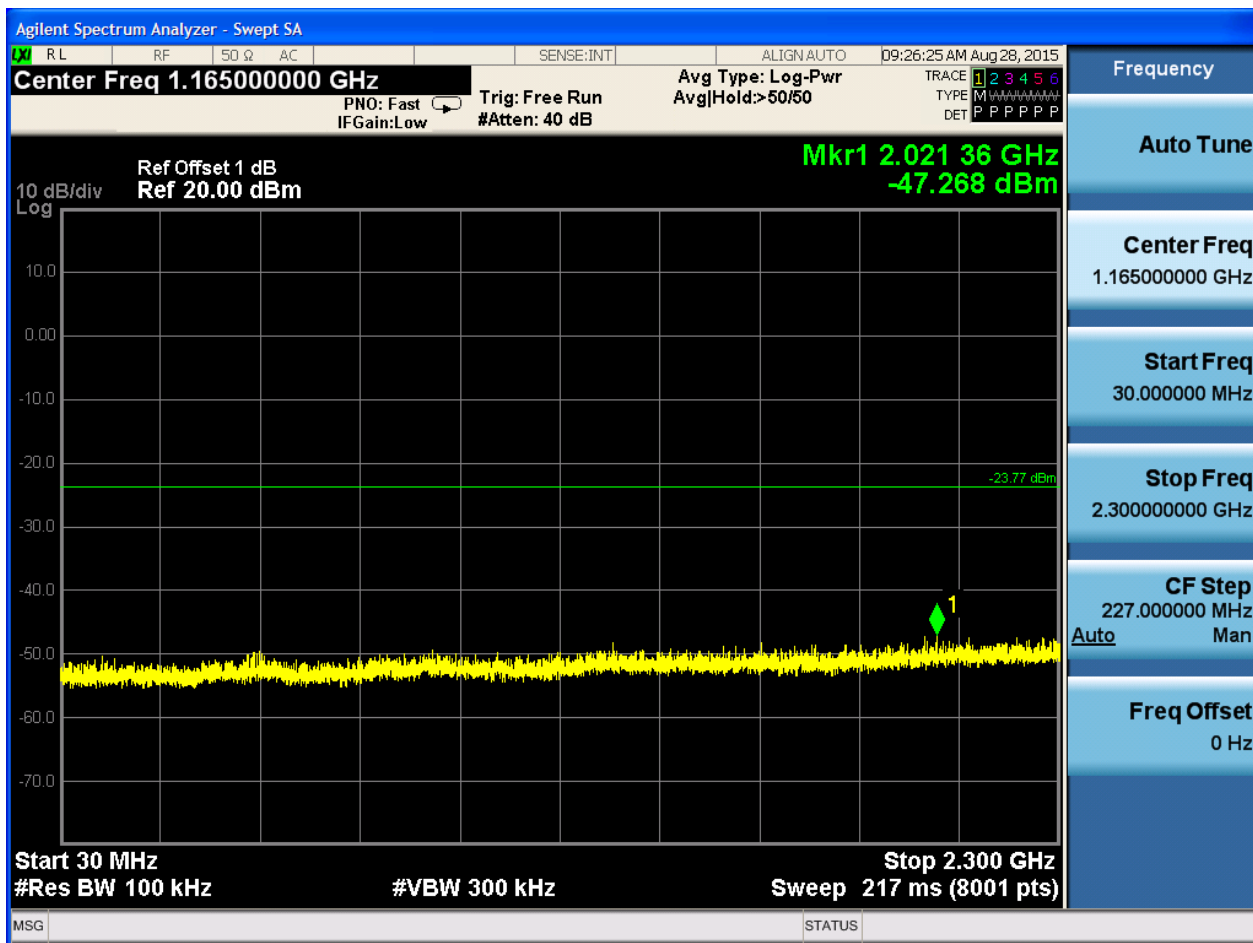


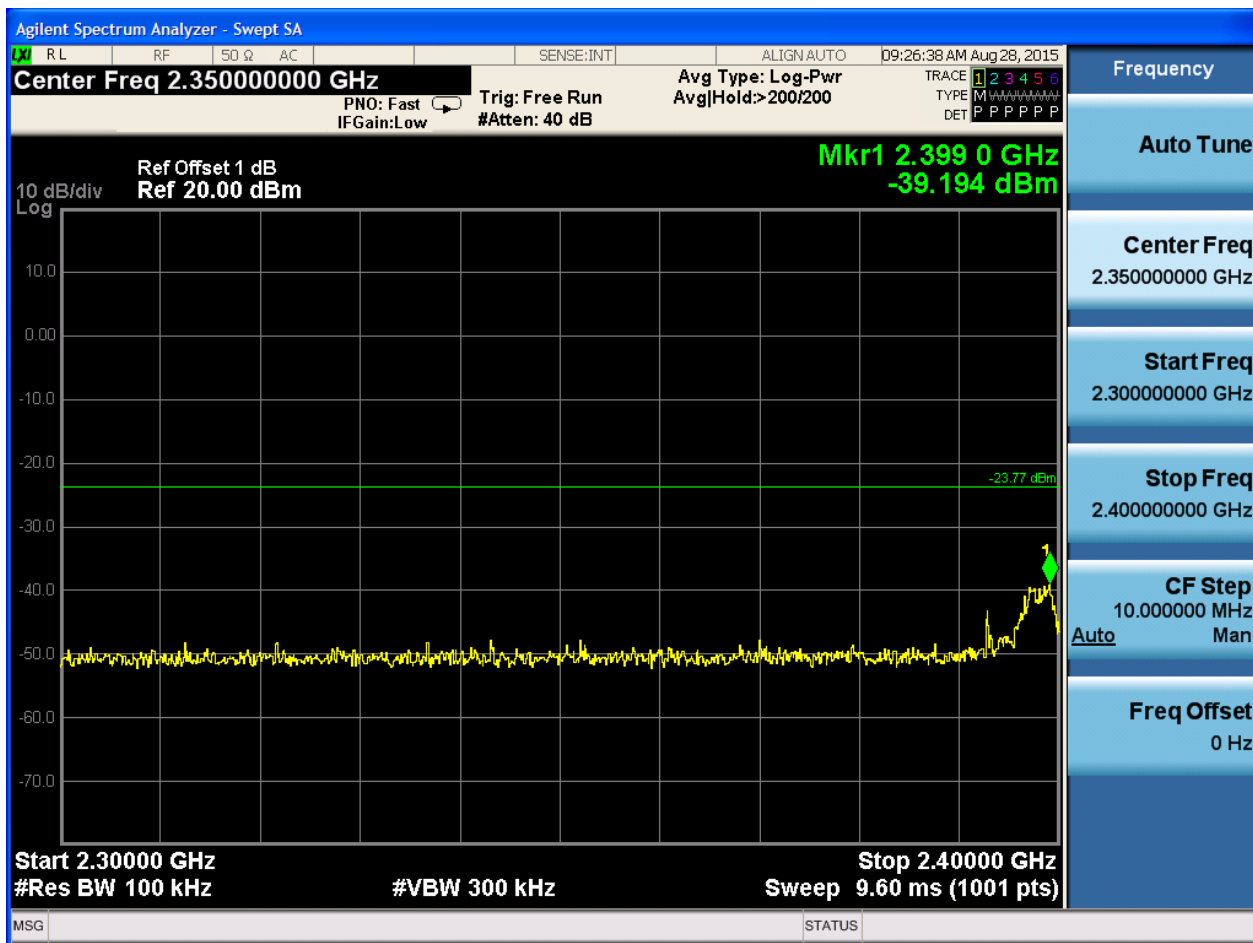


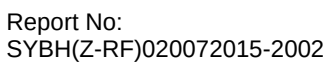
Puw:









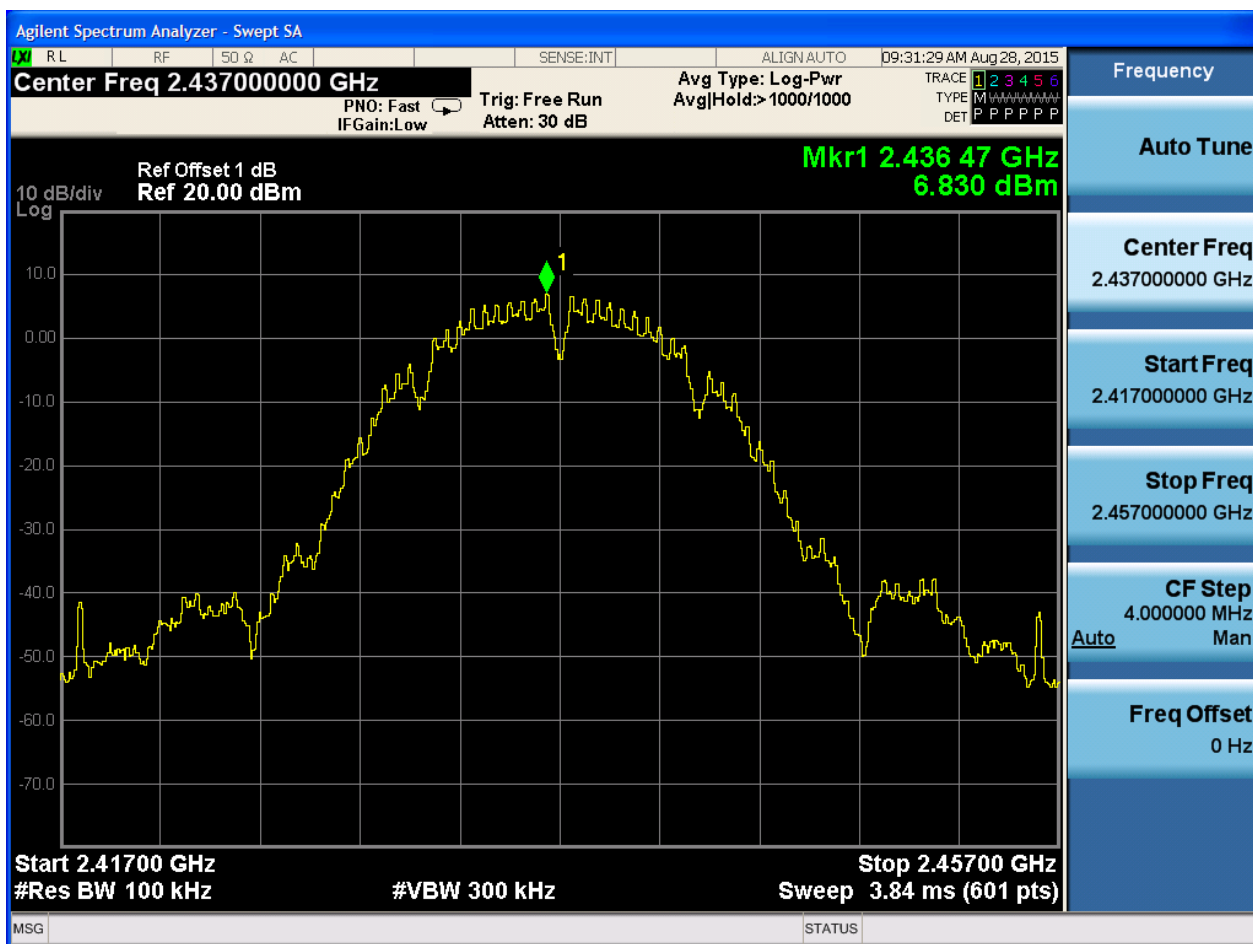






2.3 11B_M@Ant 1

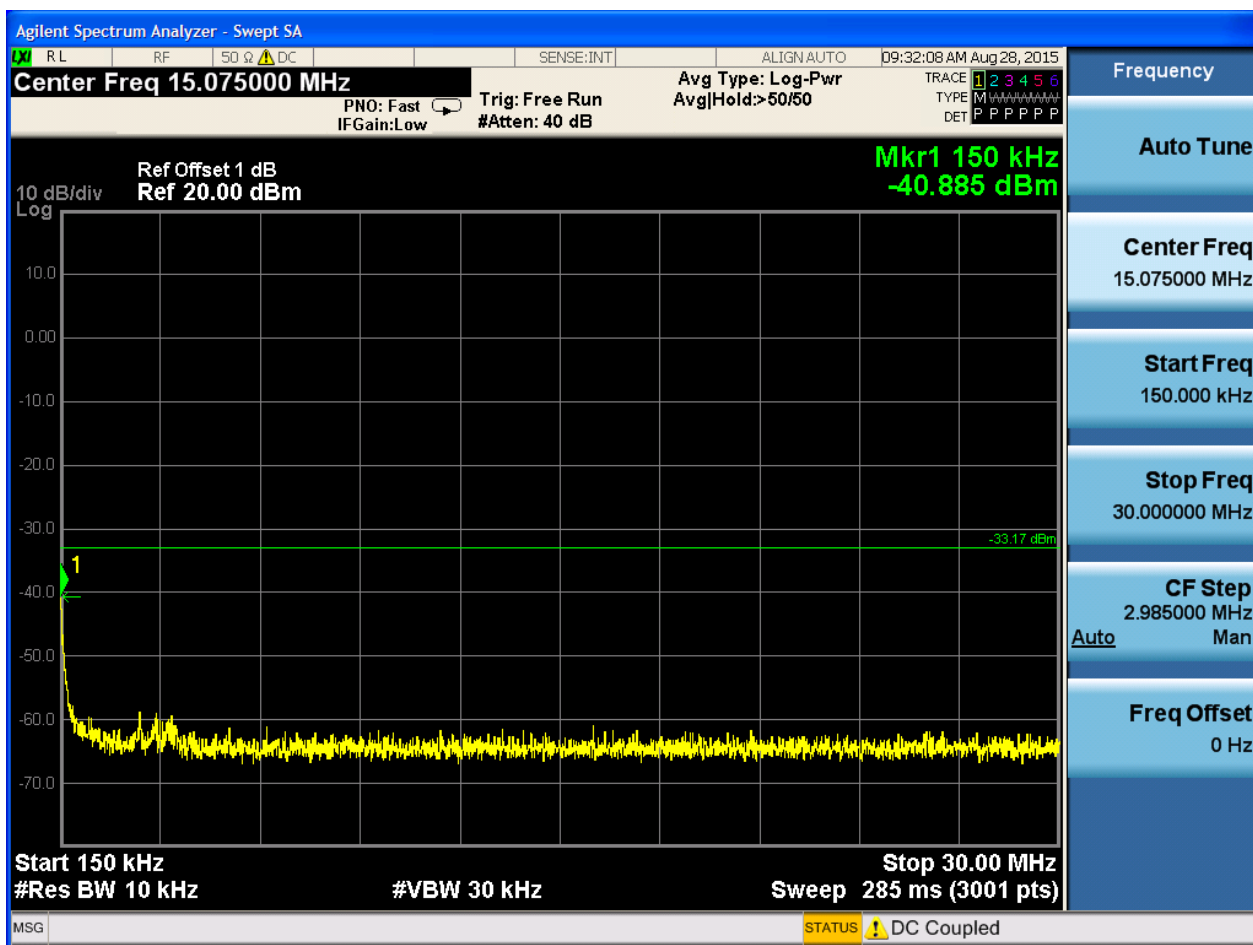
Pref:

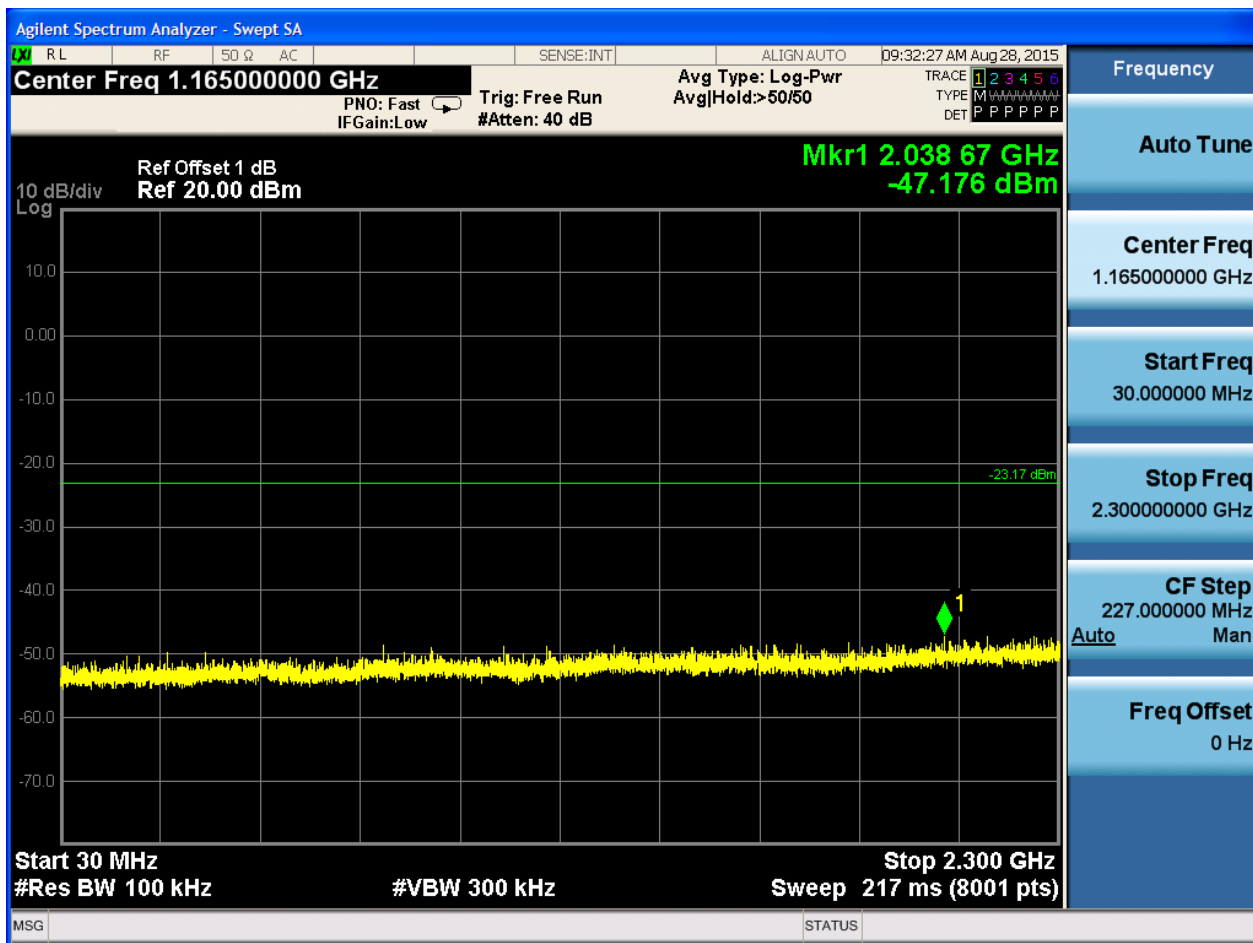


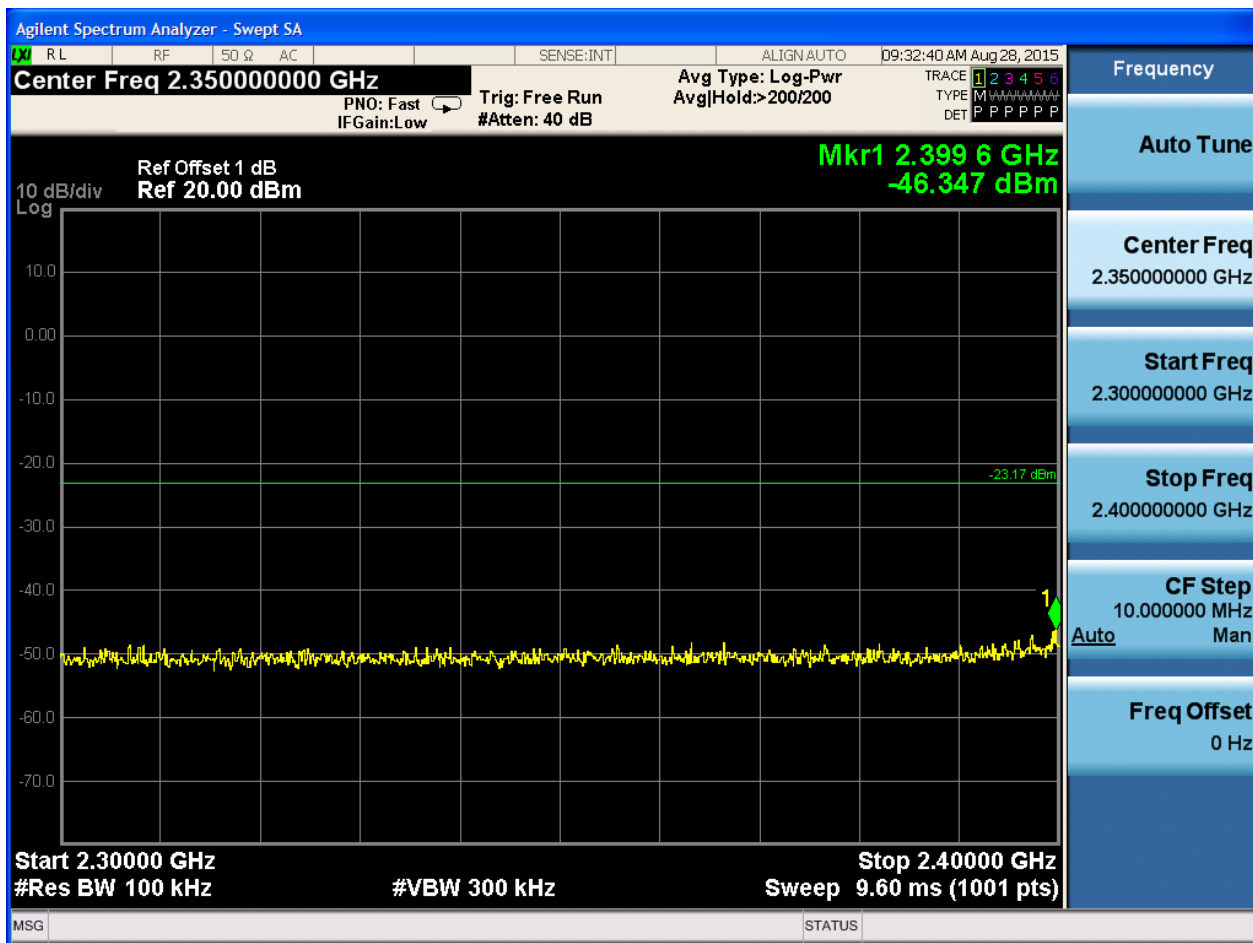


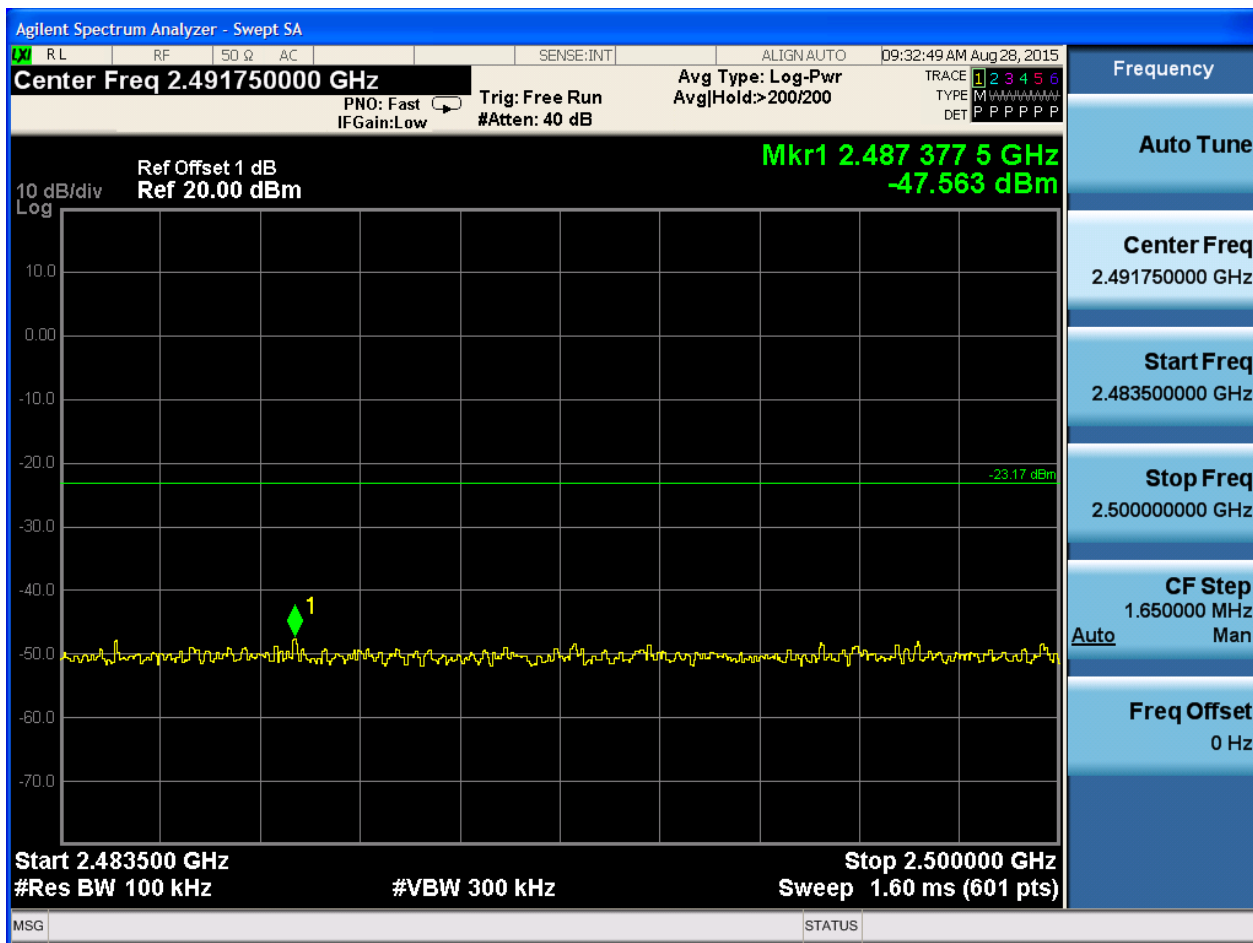
Puw:

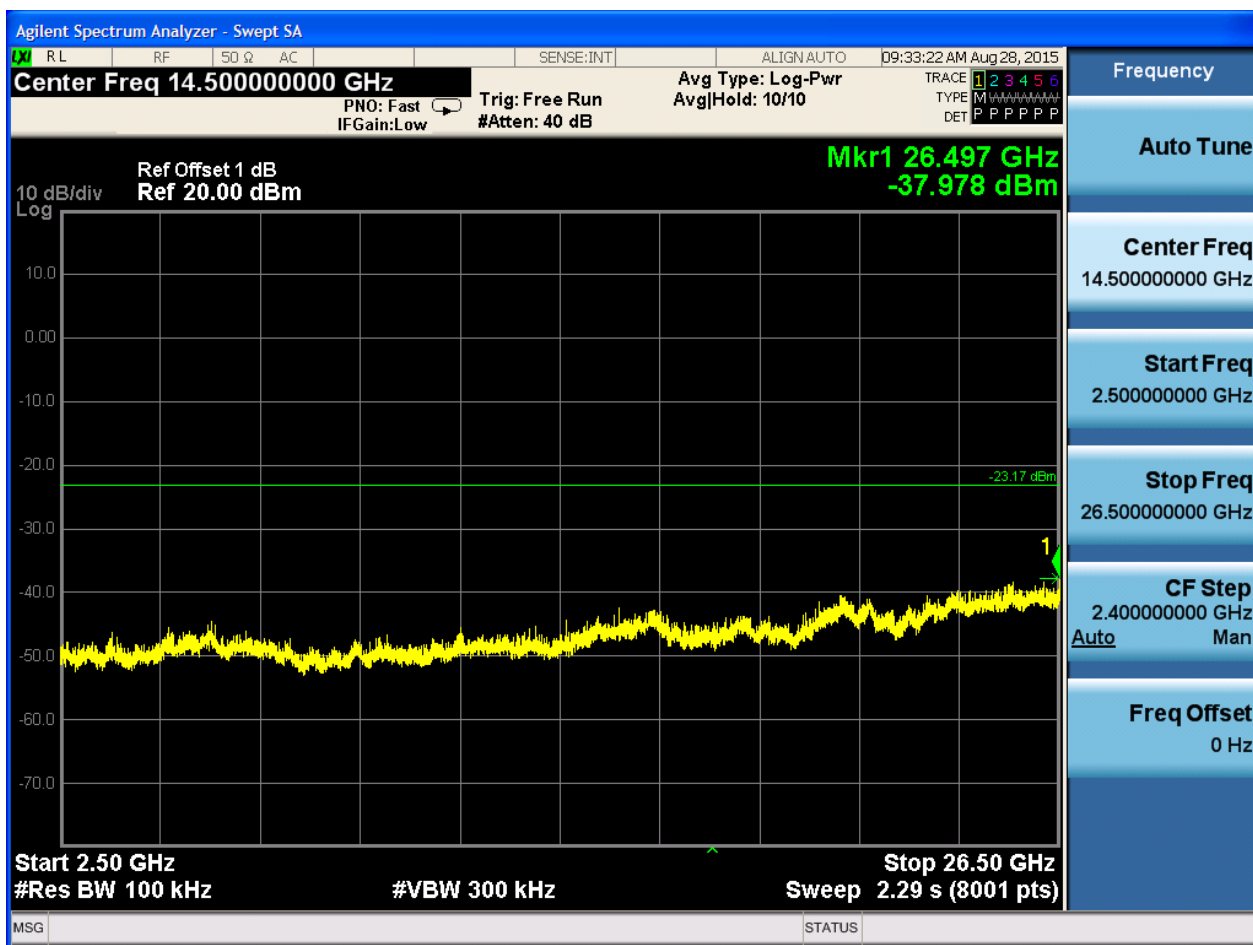








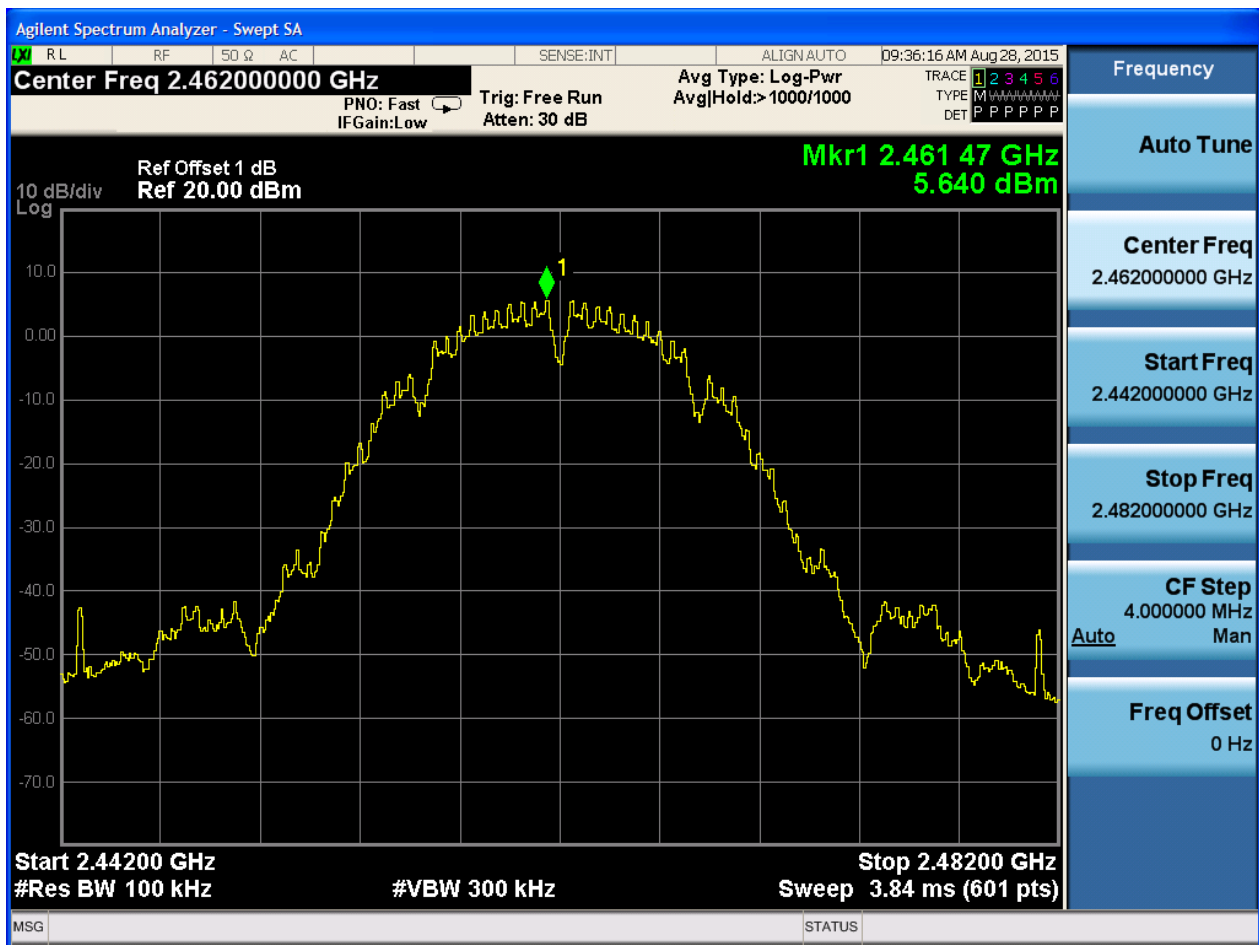






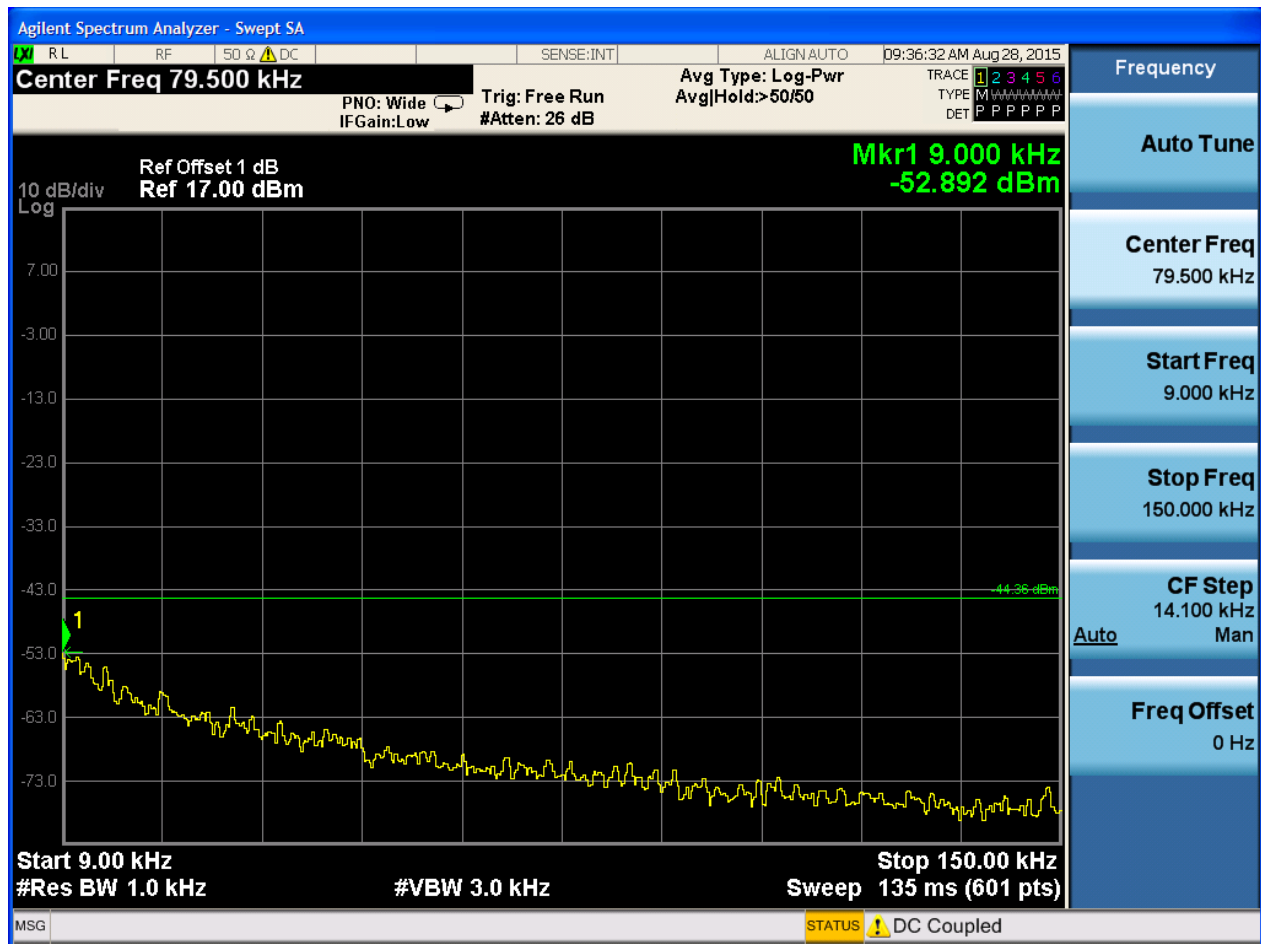
2.5 11B_H@Ant 1

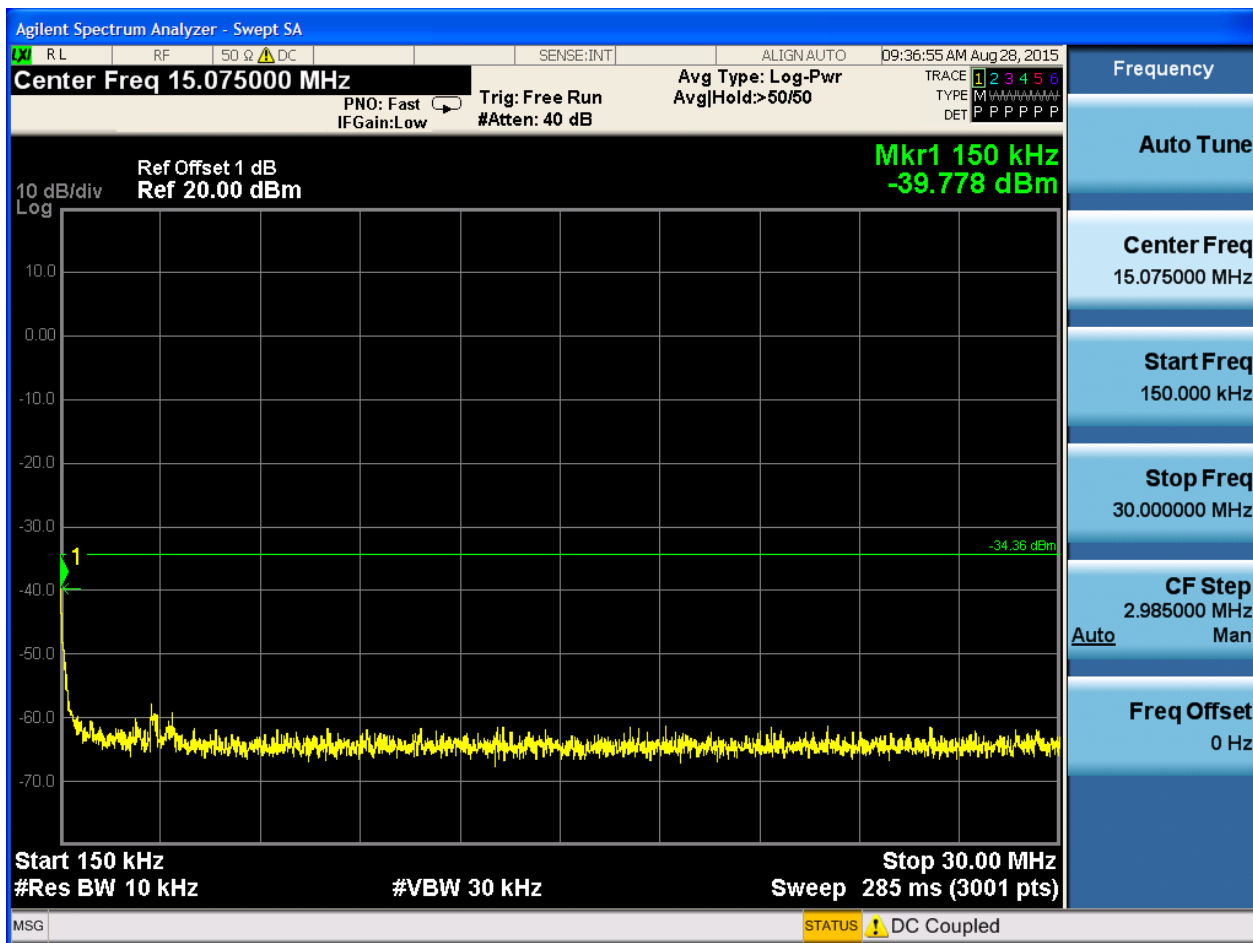
Pref:

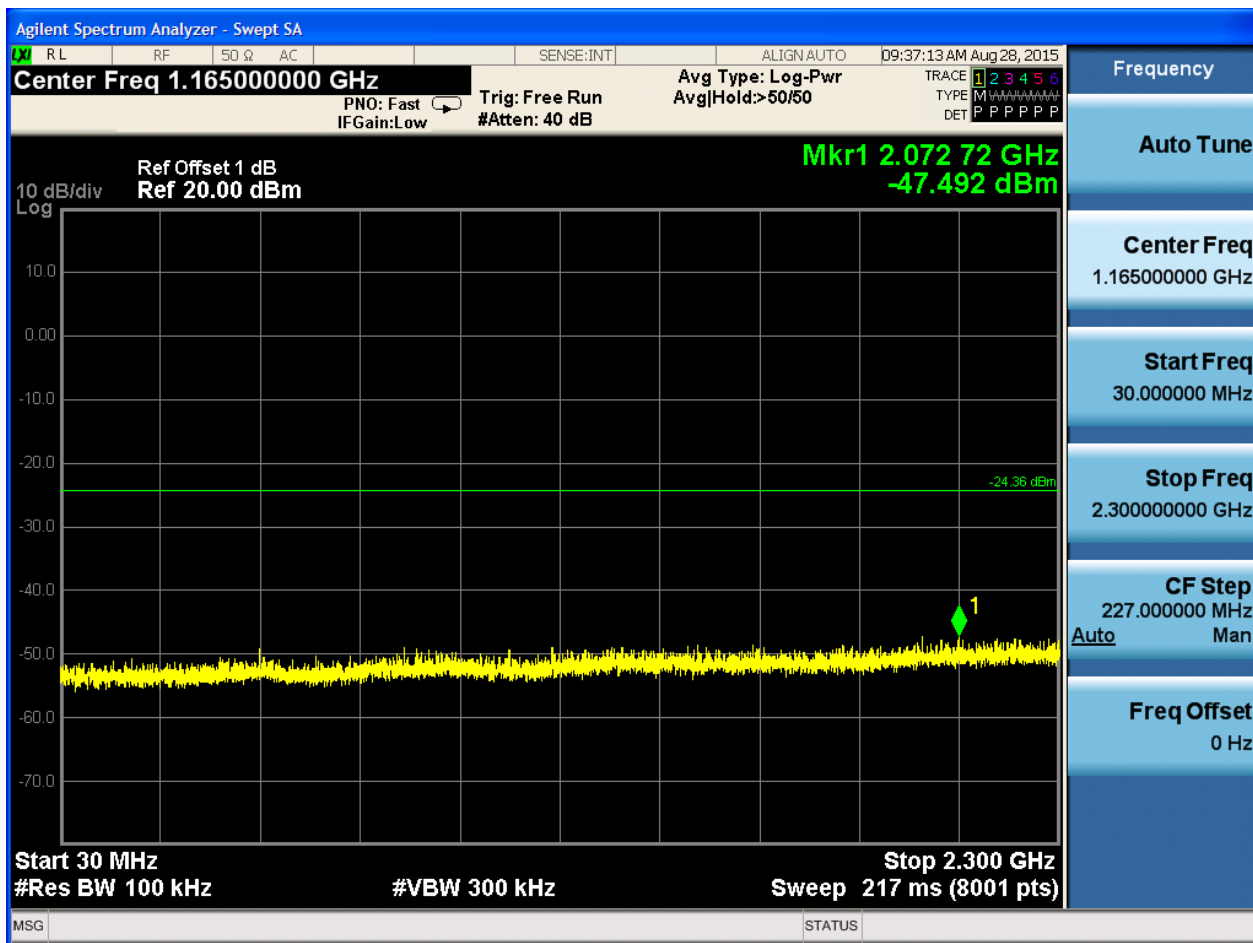


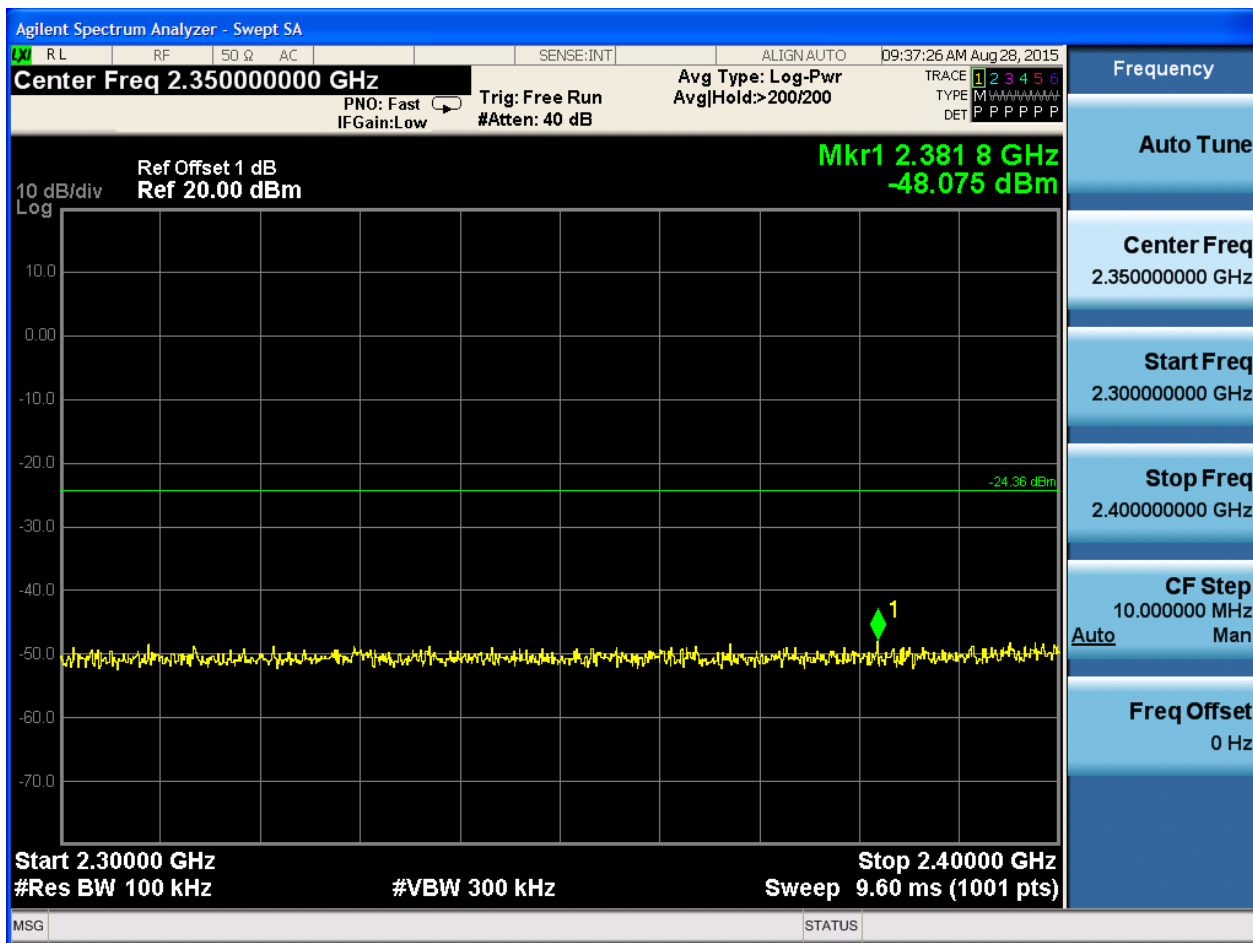


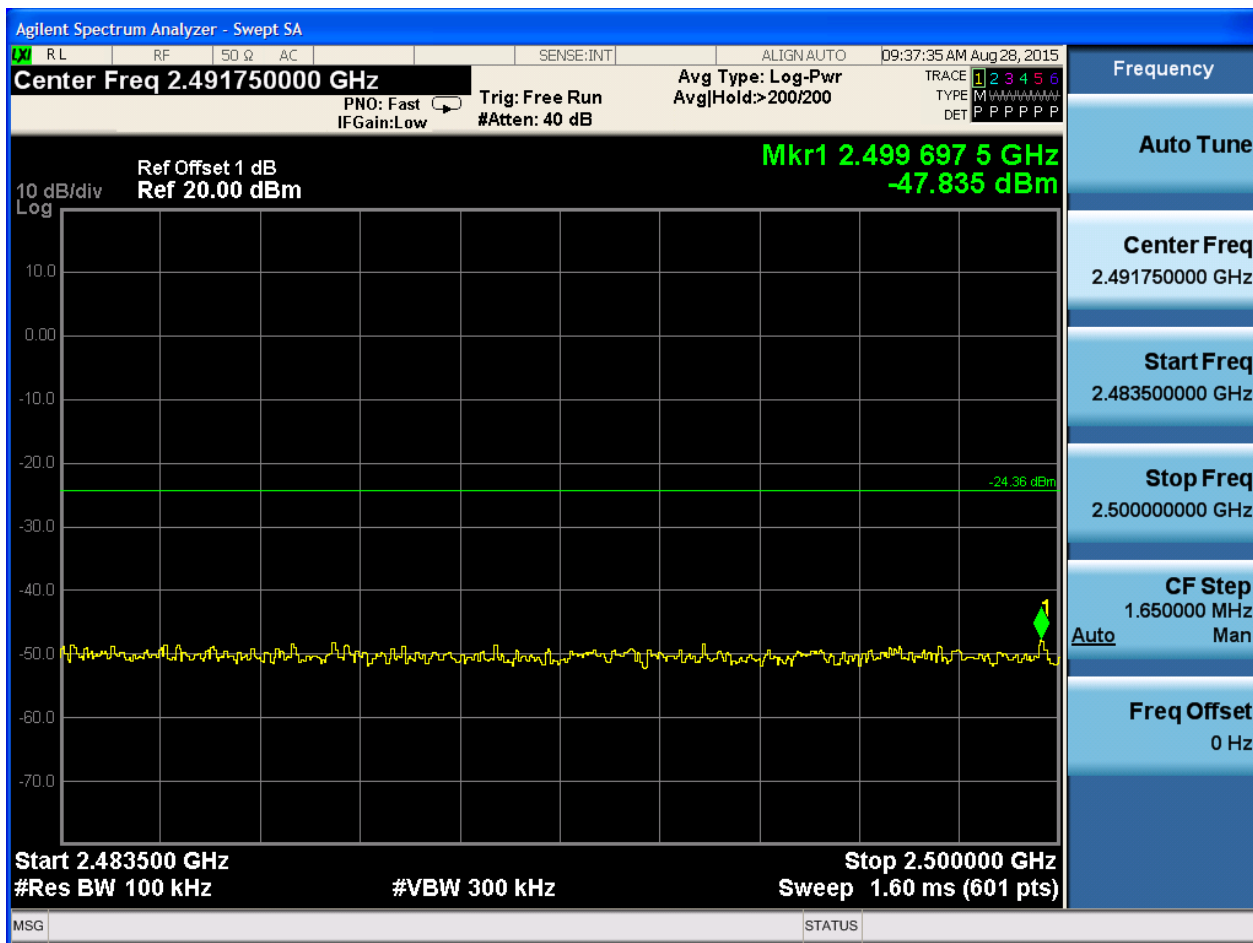
Puw:









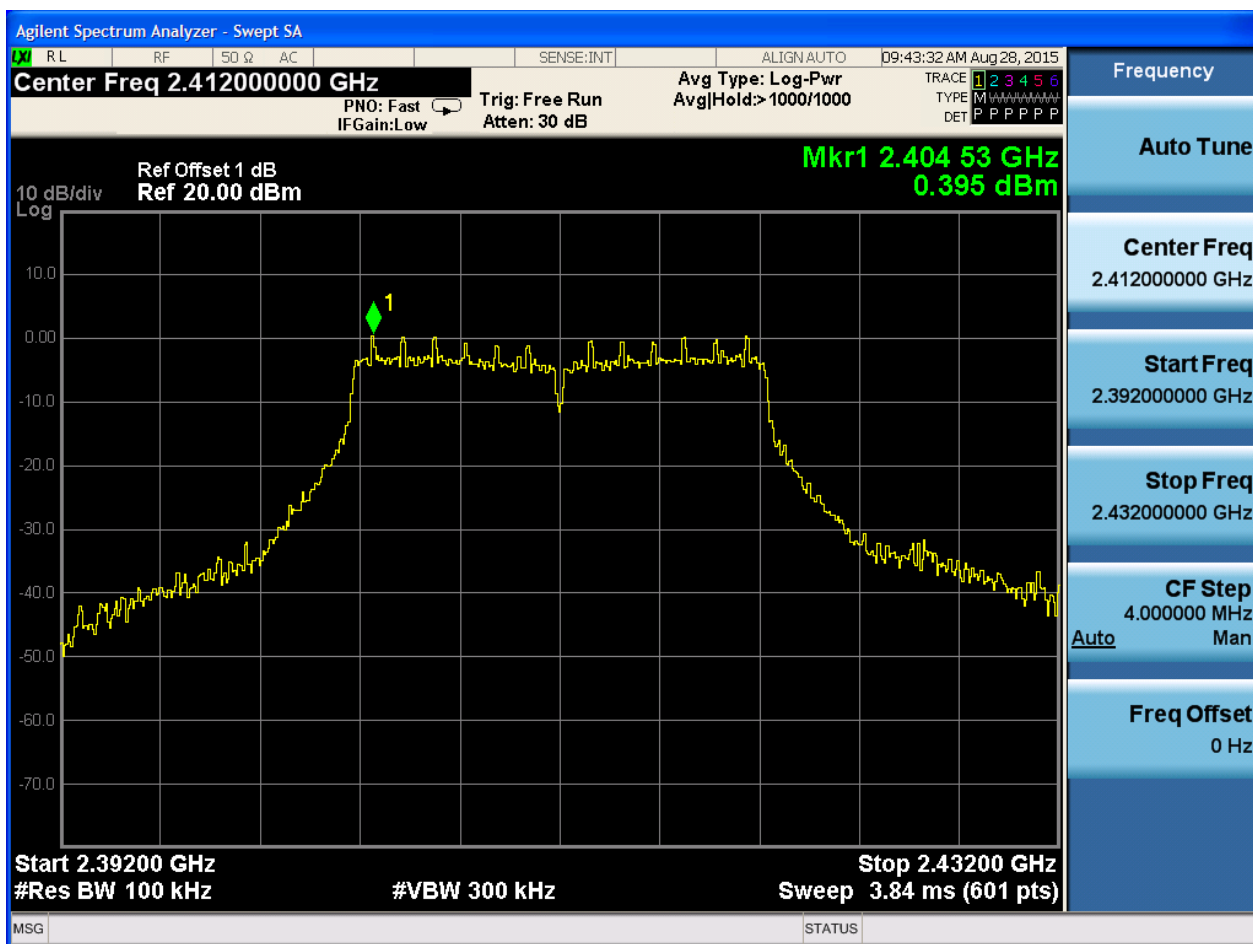






2.7 11G_L@Ant 1

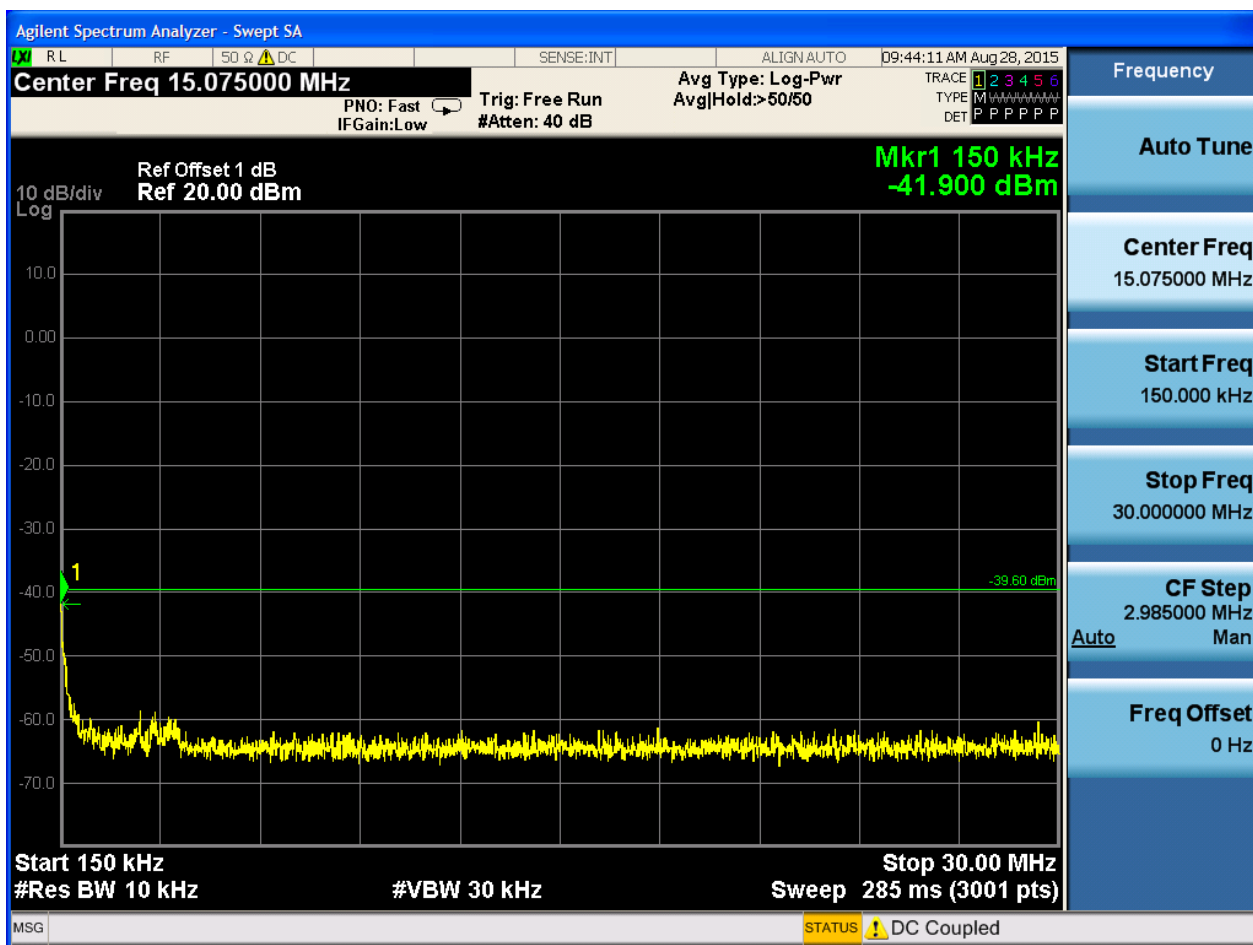
Pref:

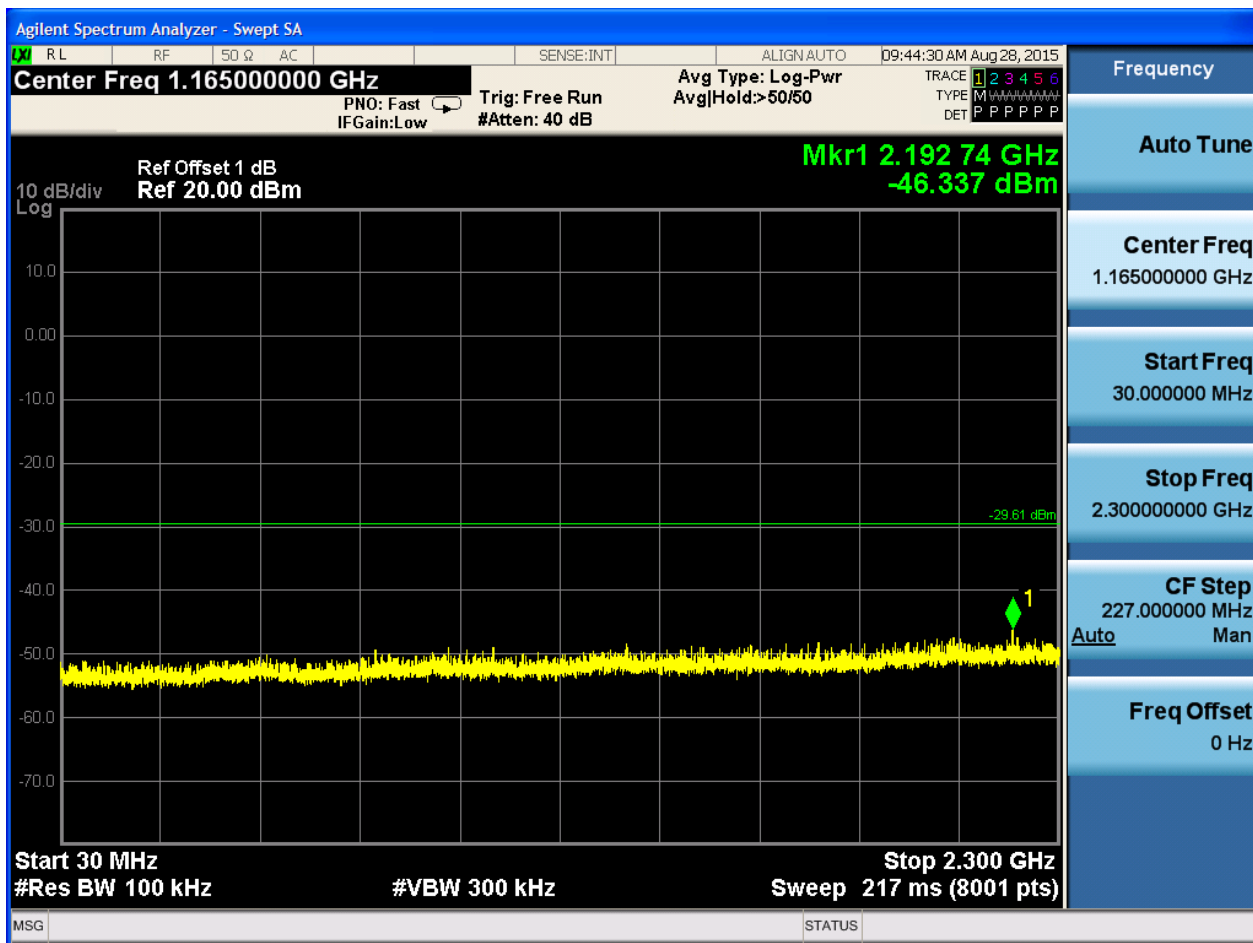


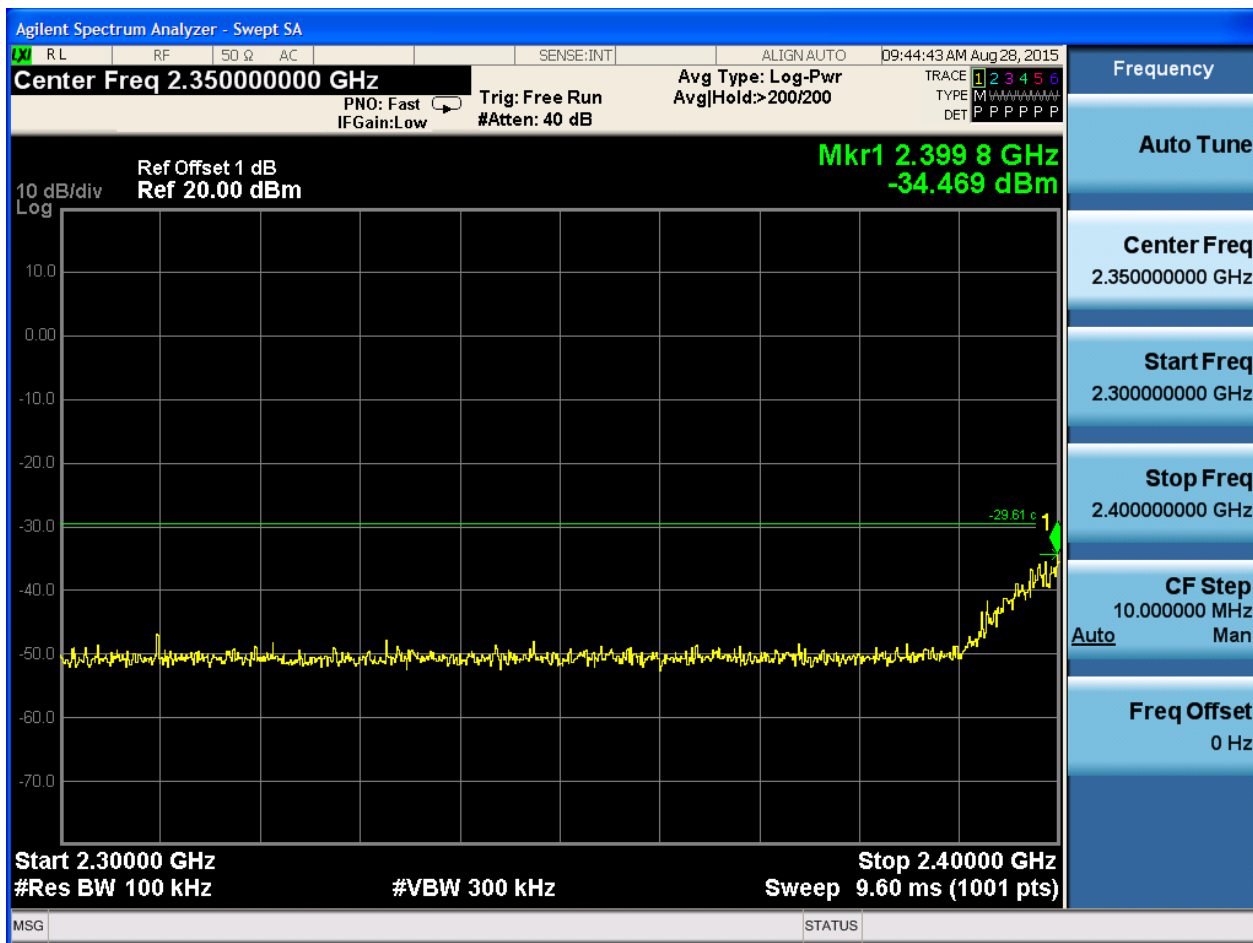


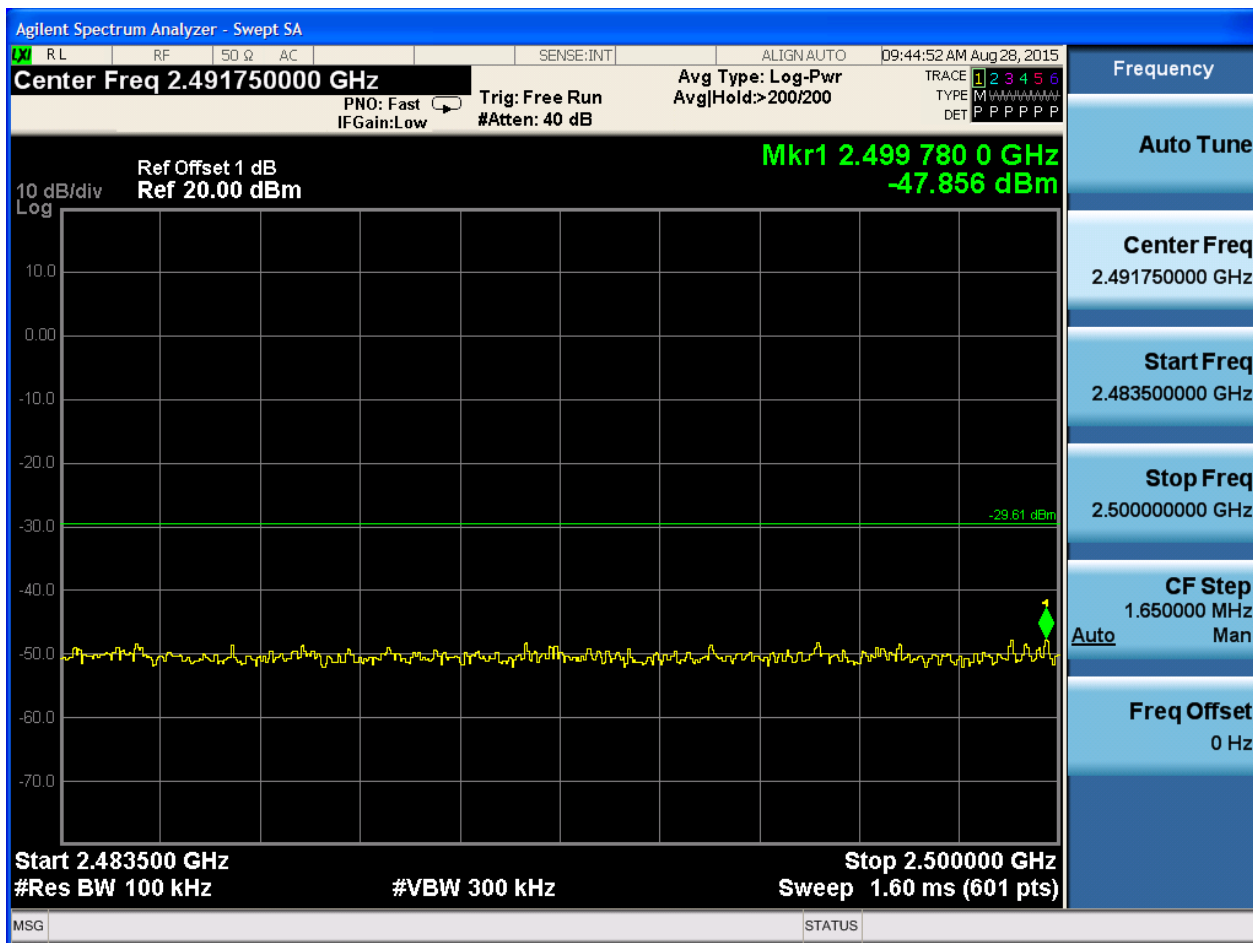
Puw:

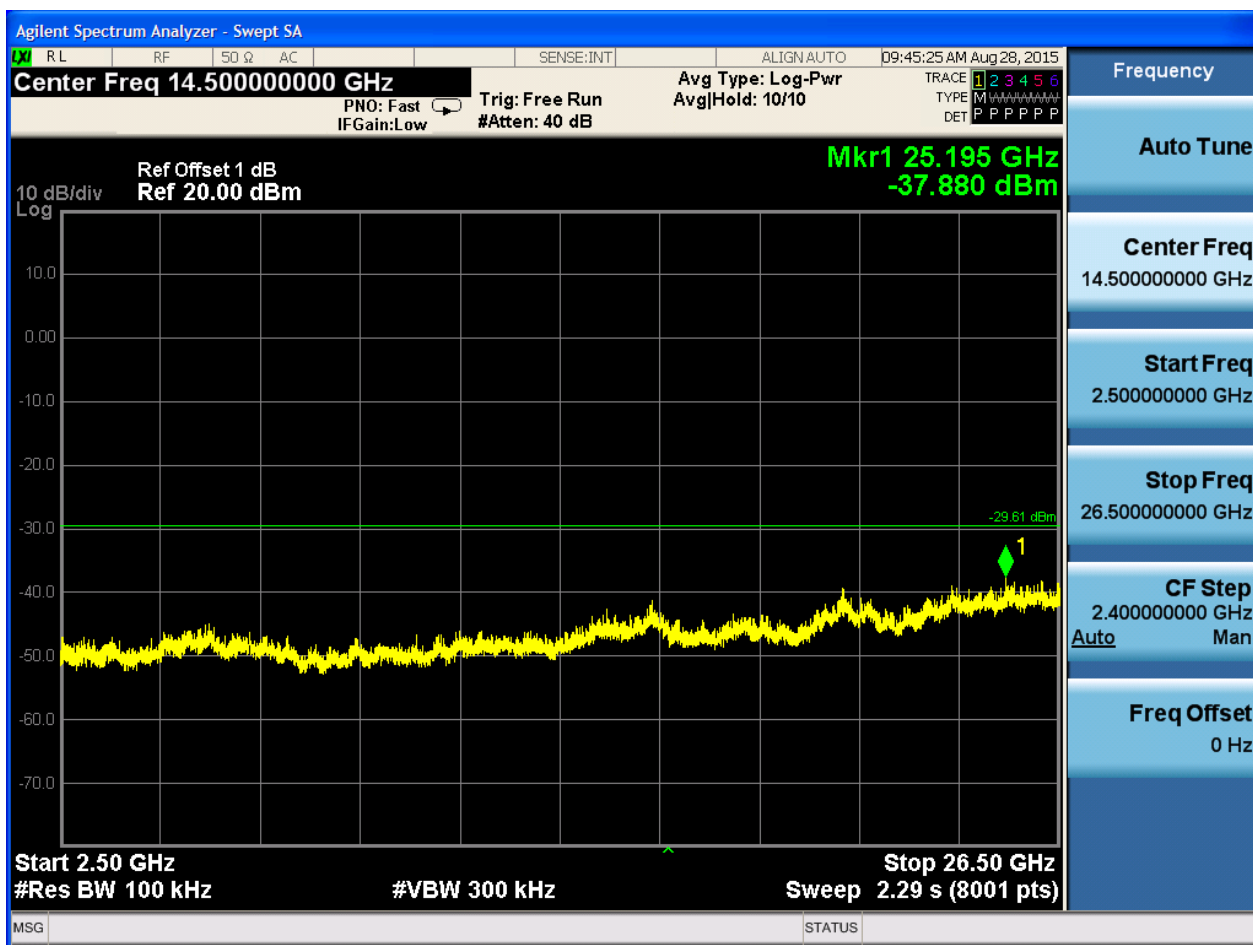






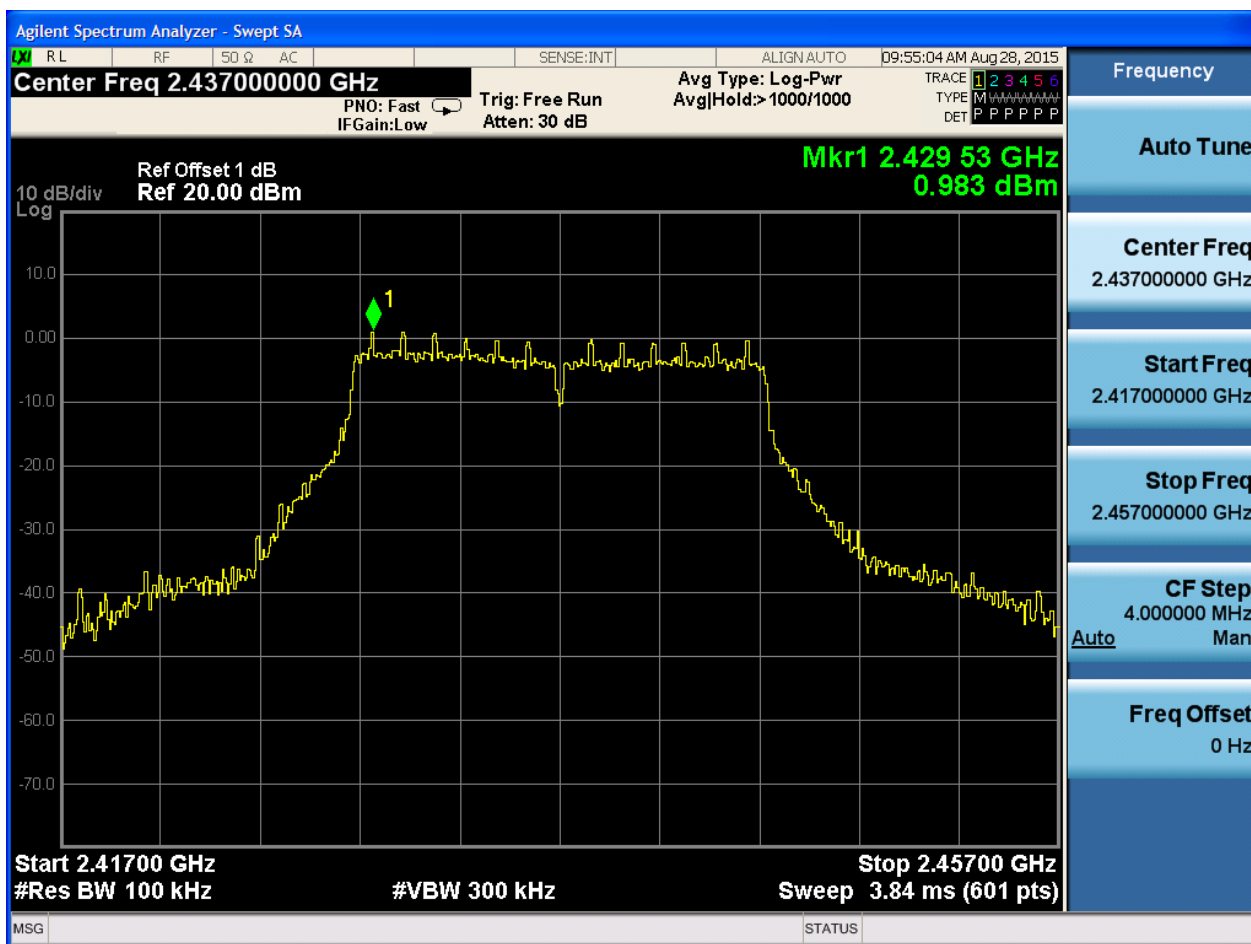






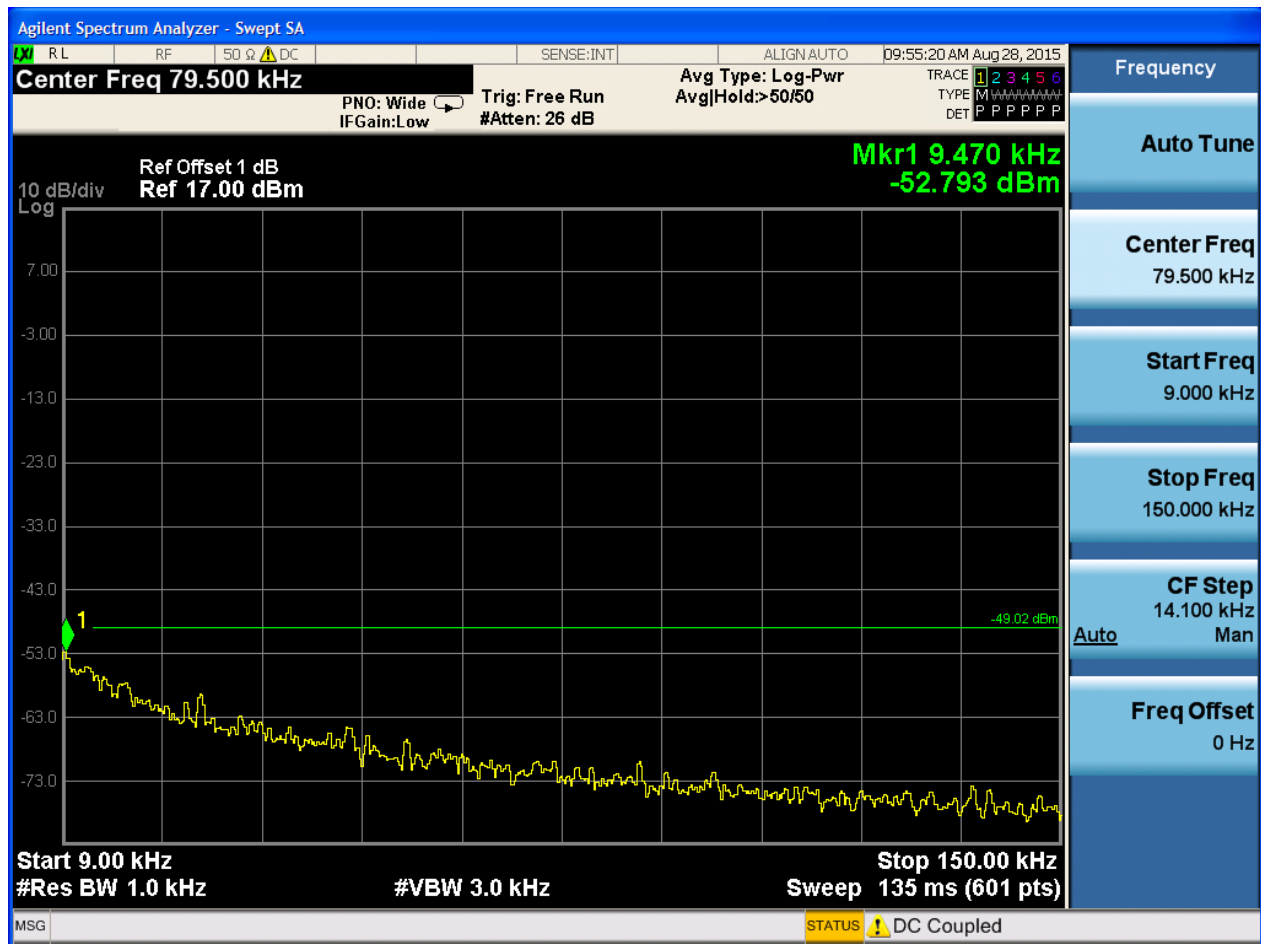
2.9 11G_M@Ant 1

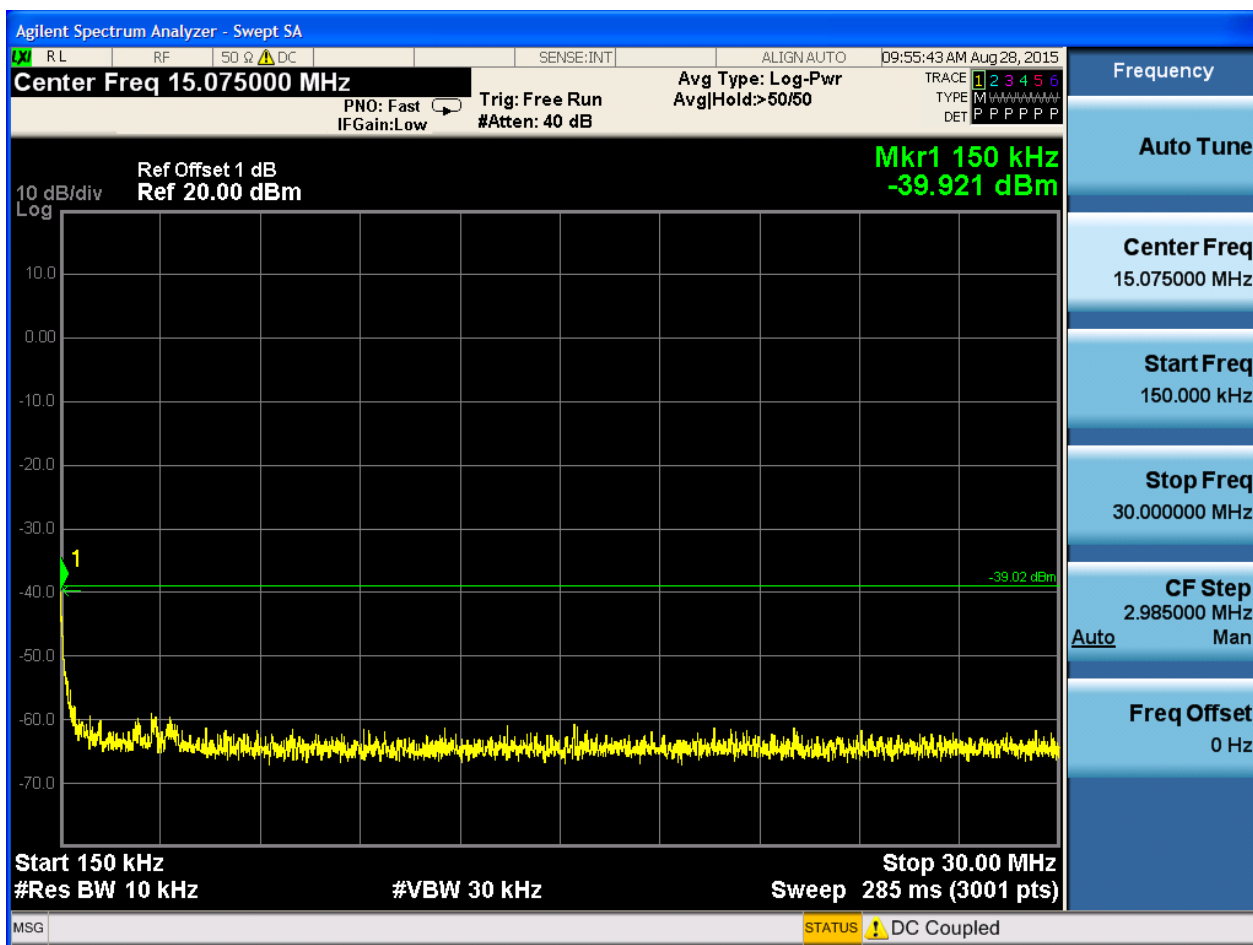
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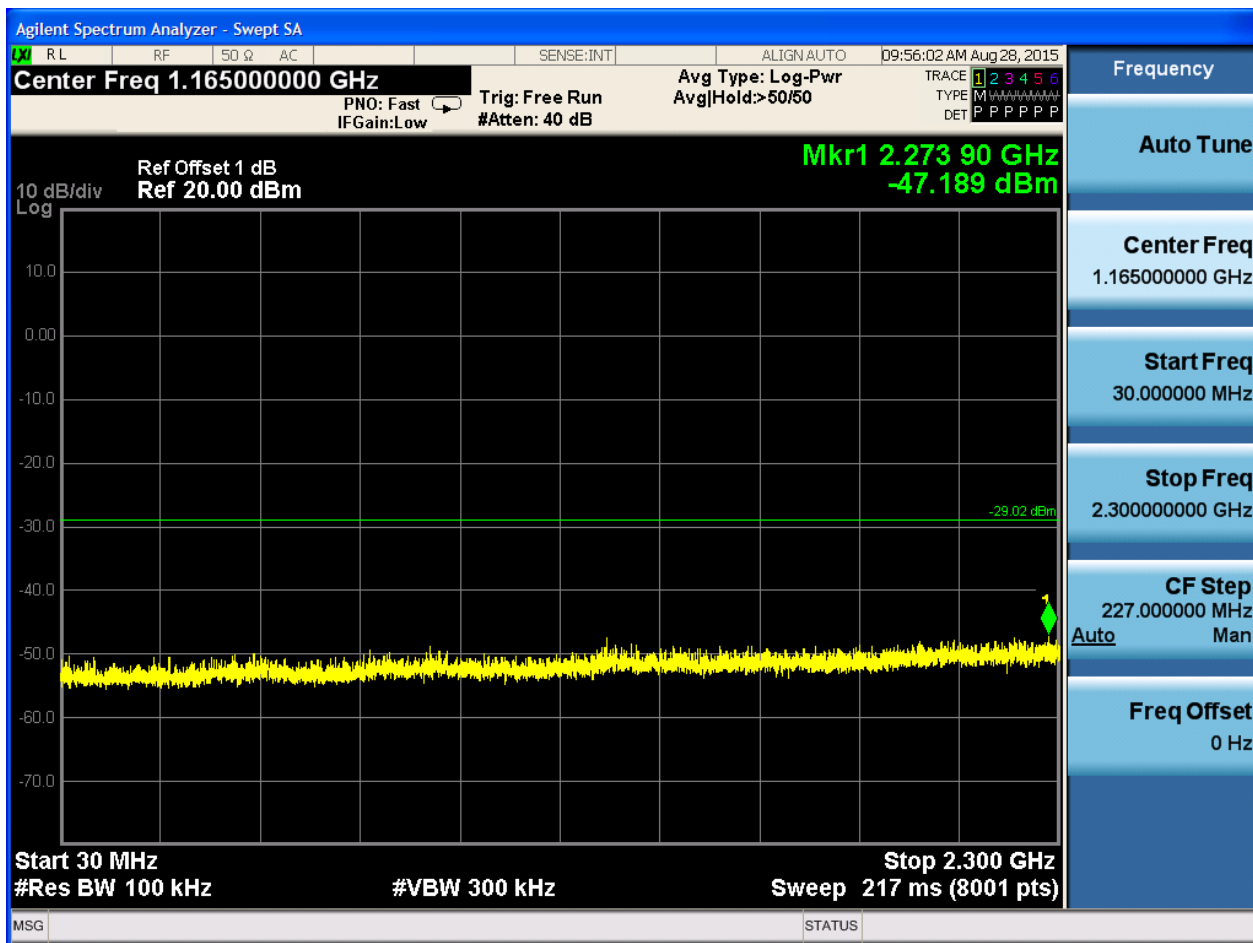


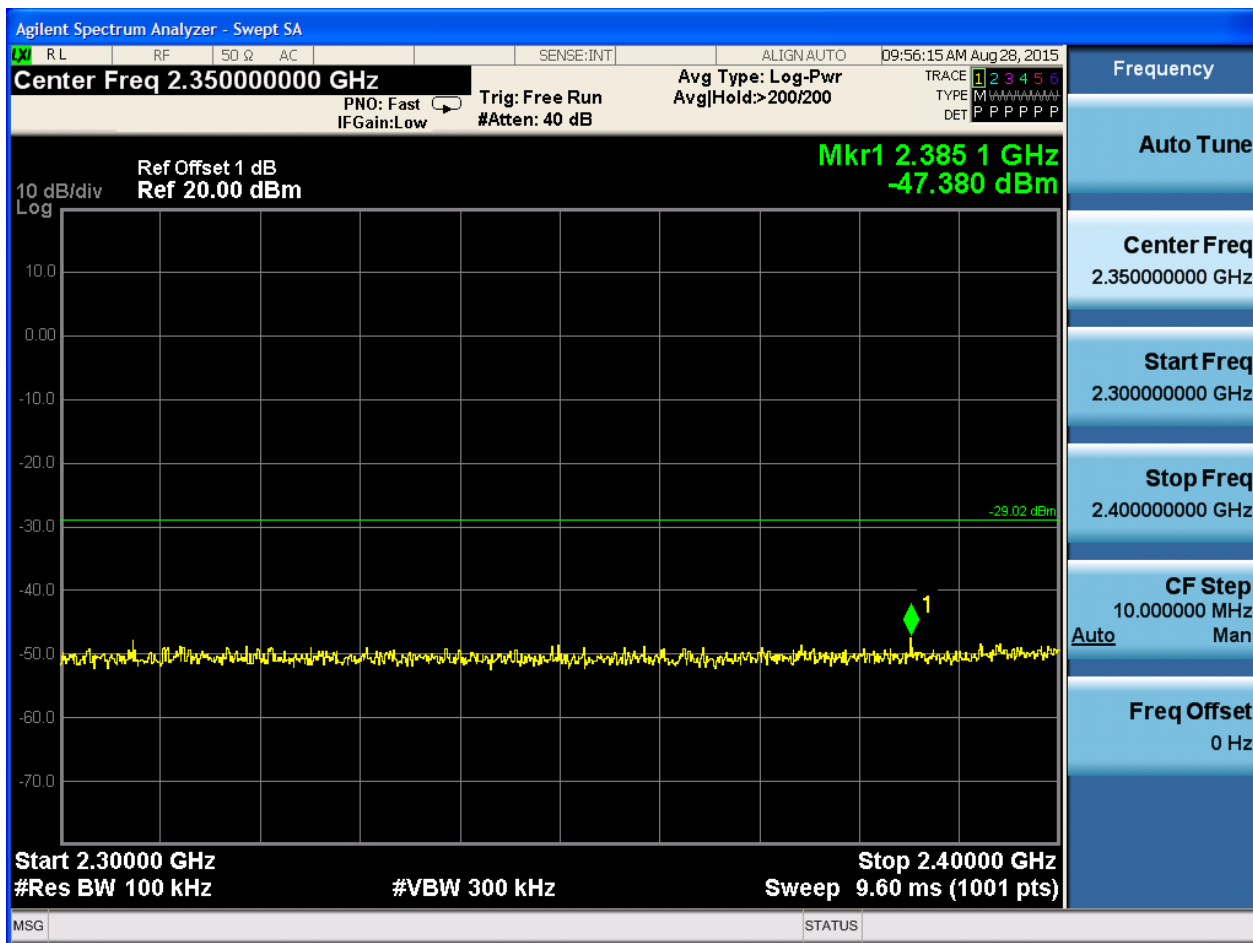


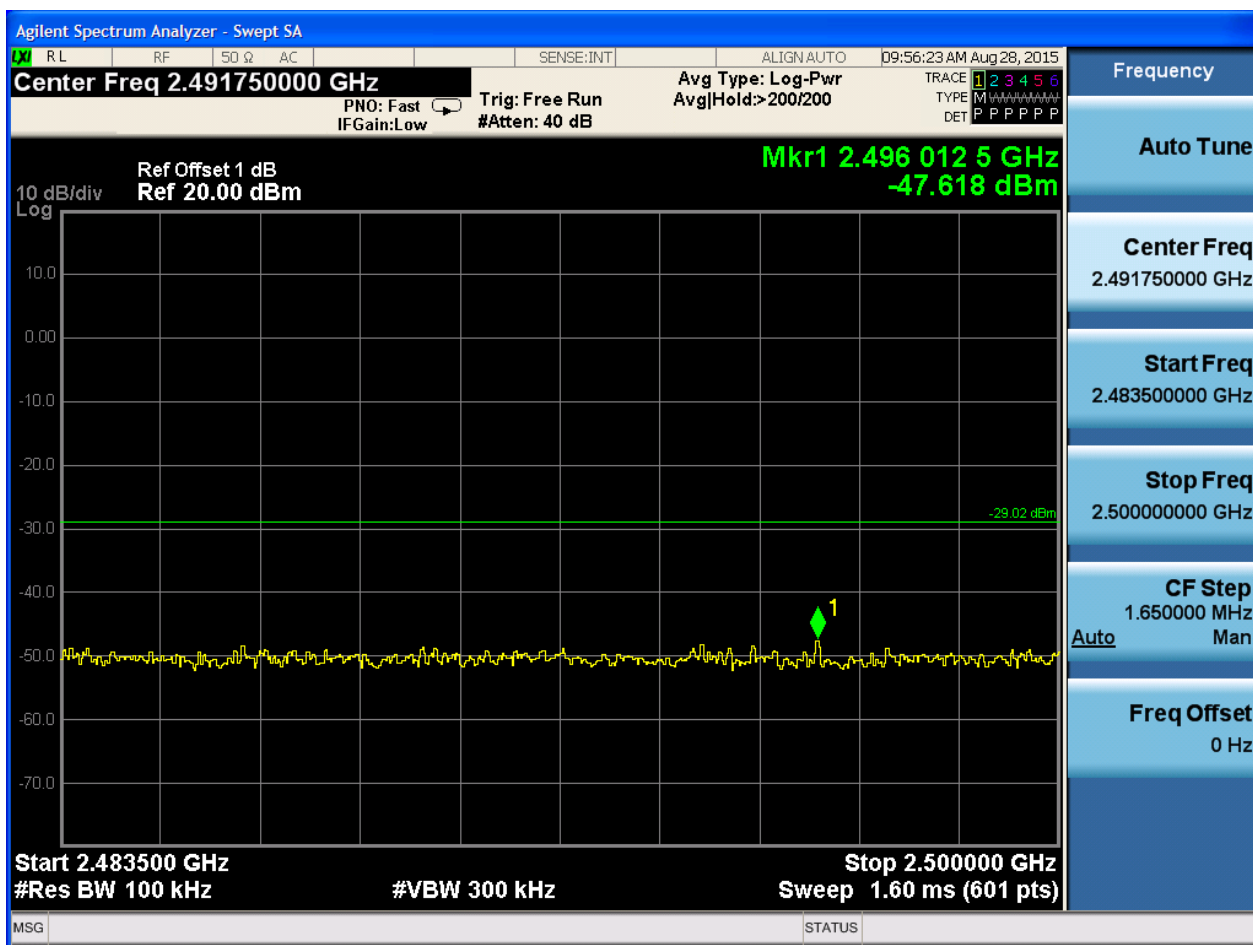
Puw:

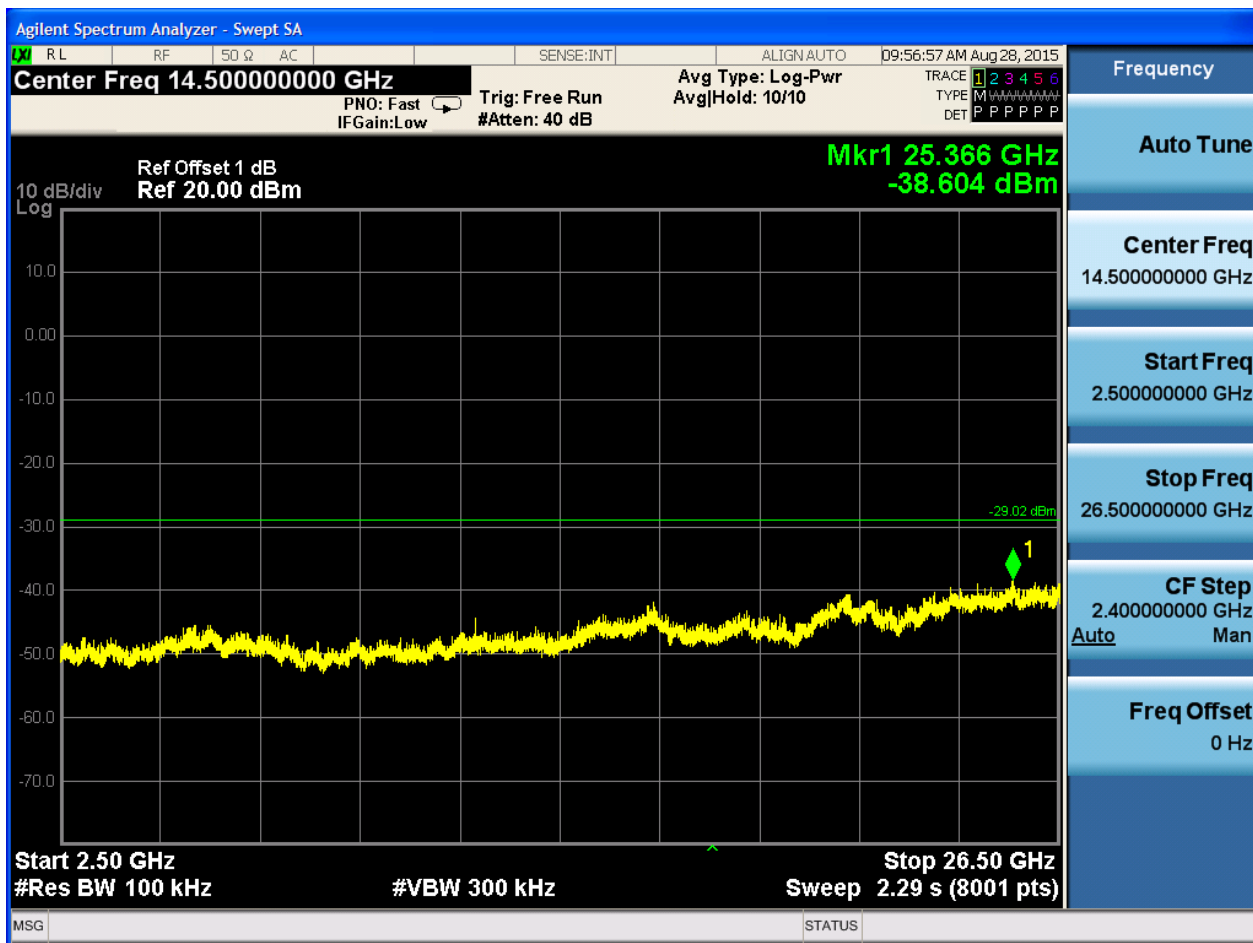








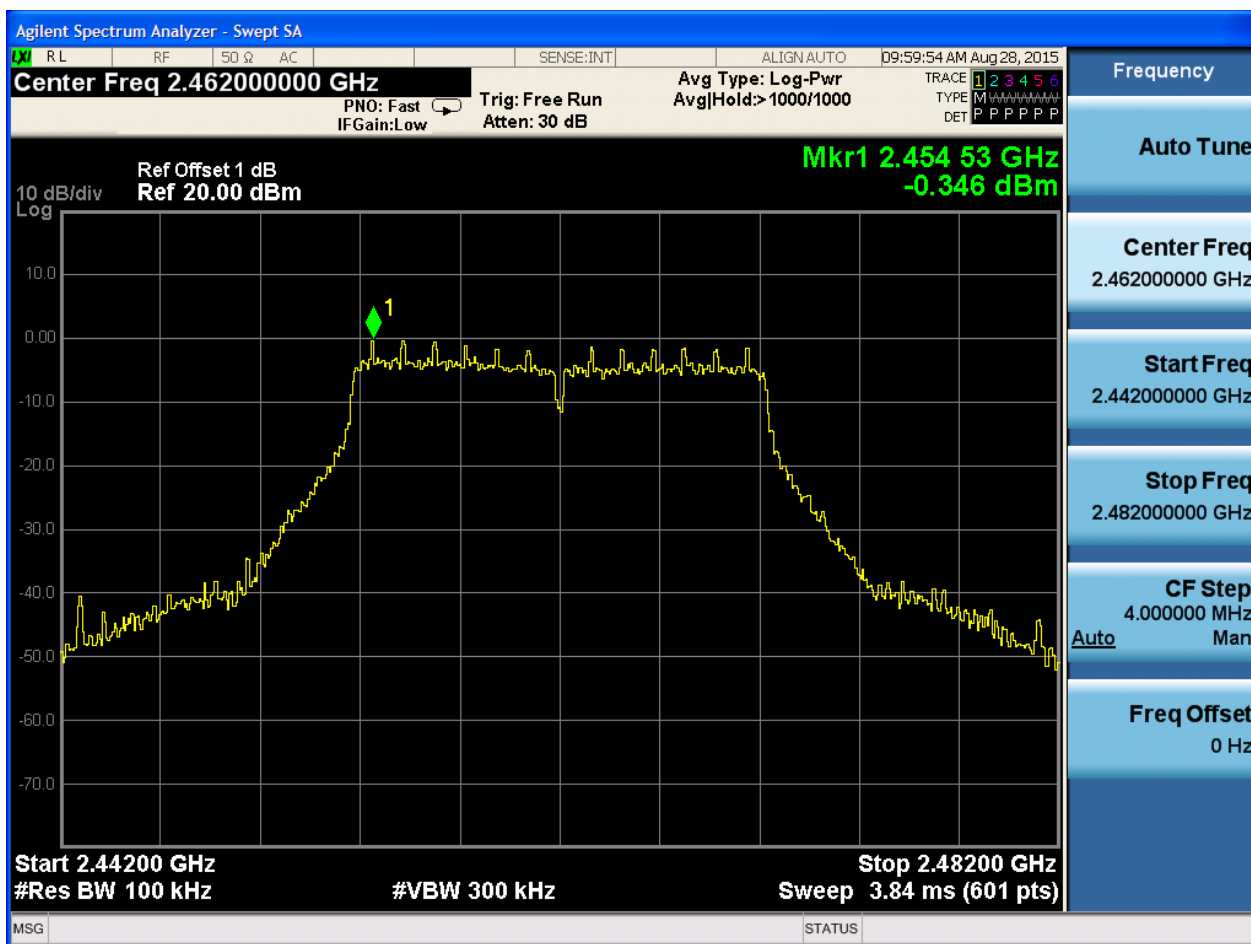






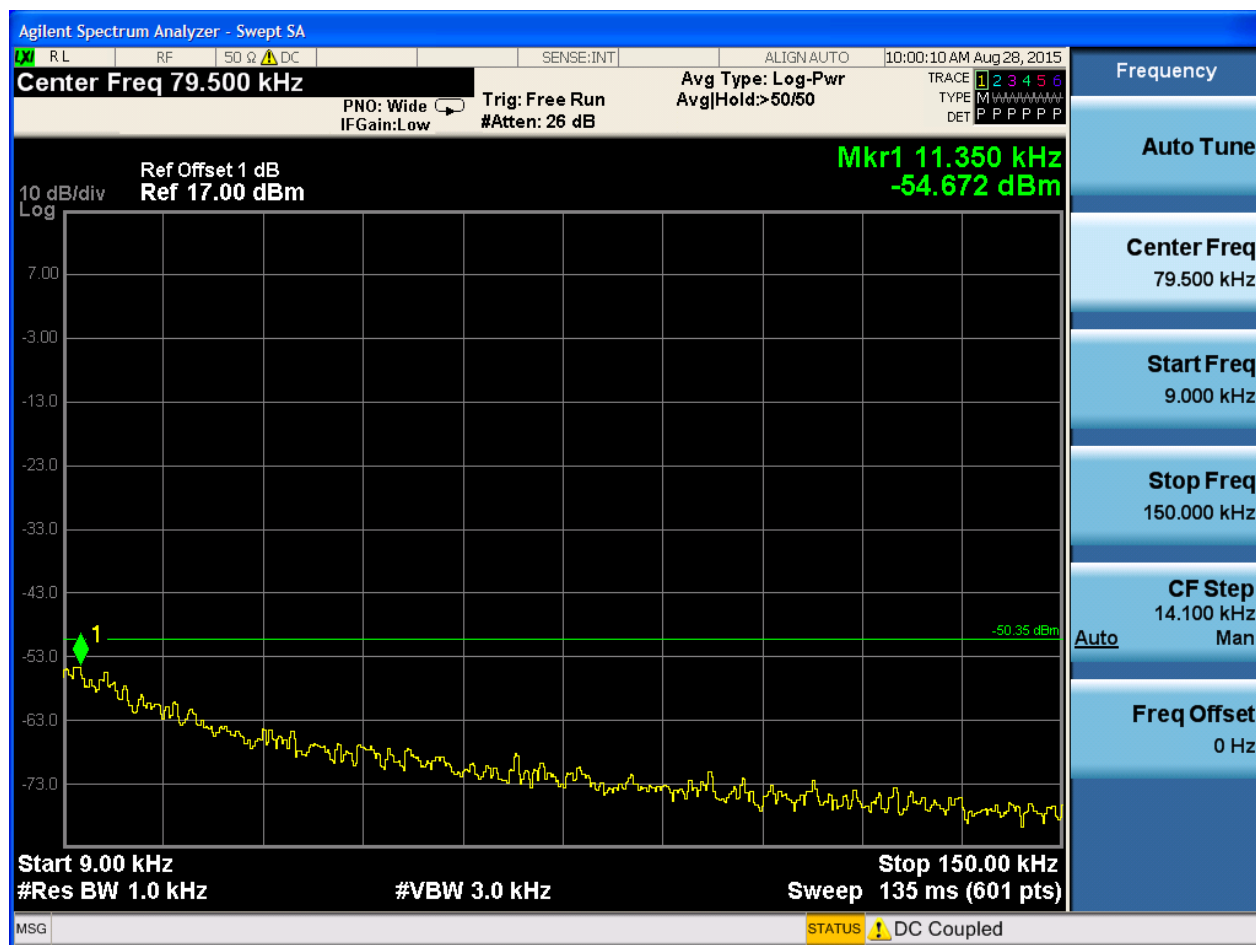
2.11 11G_H@Ant 1

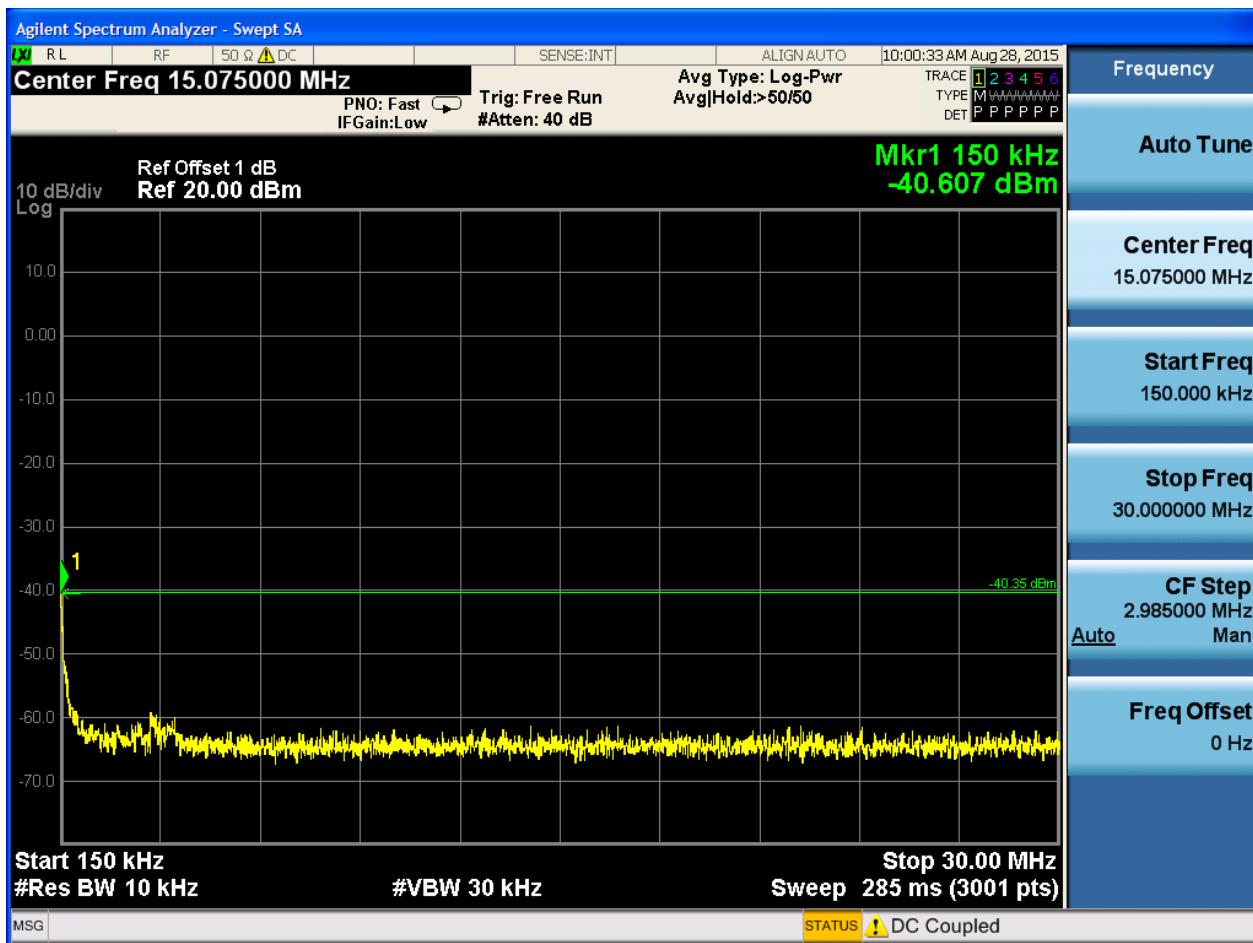
Pref:

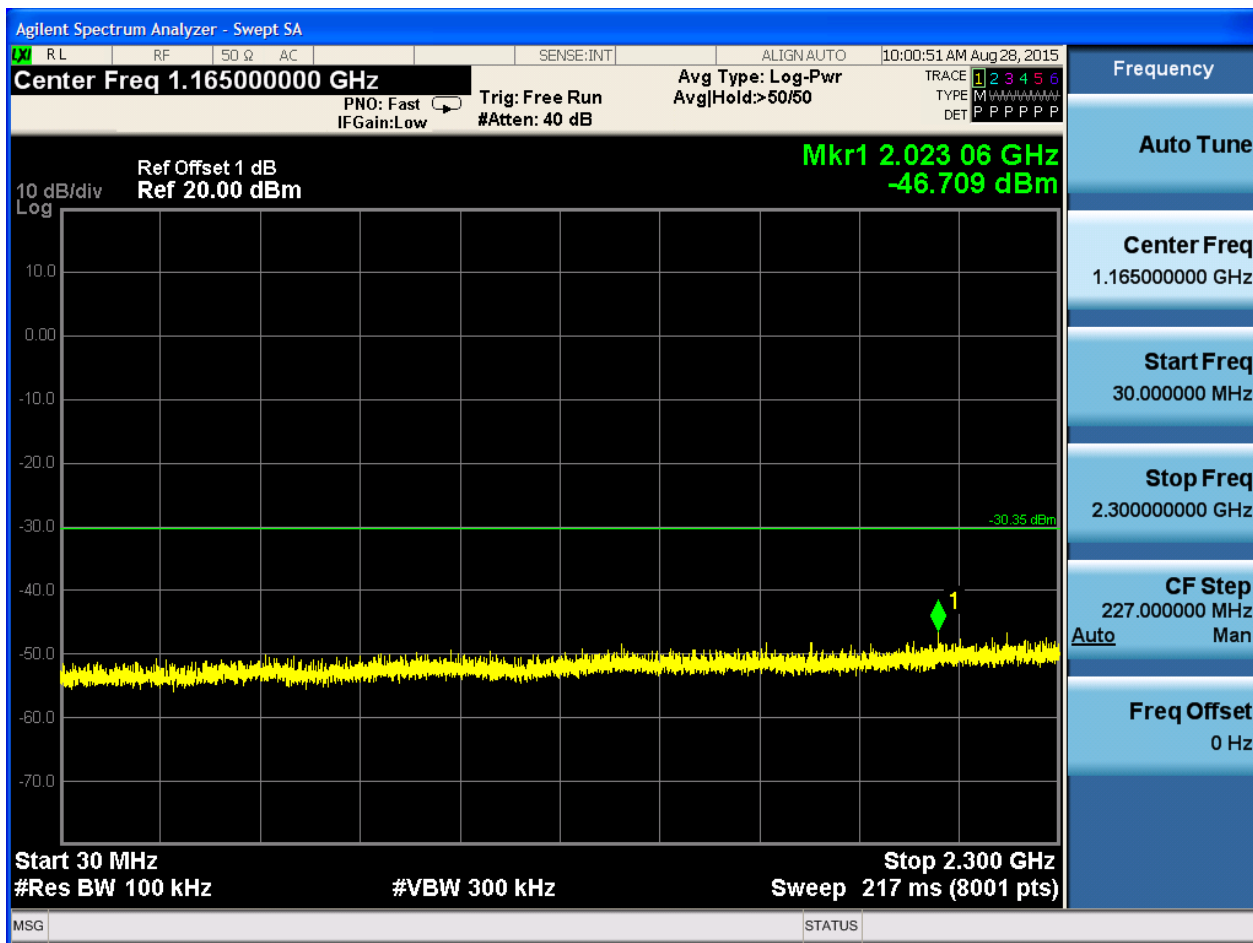


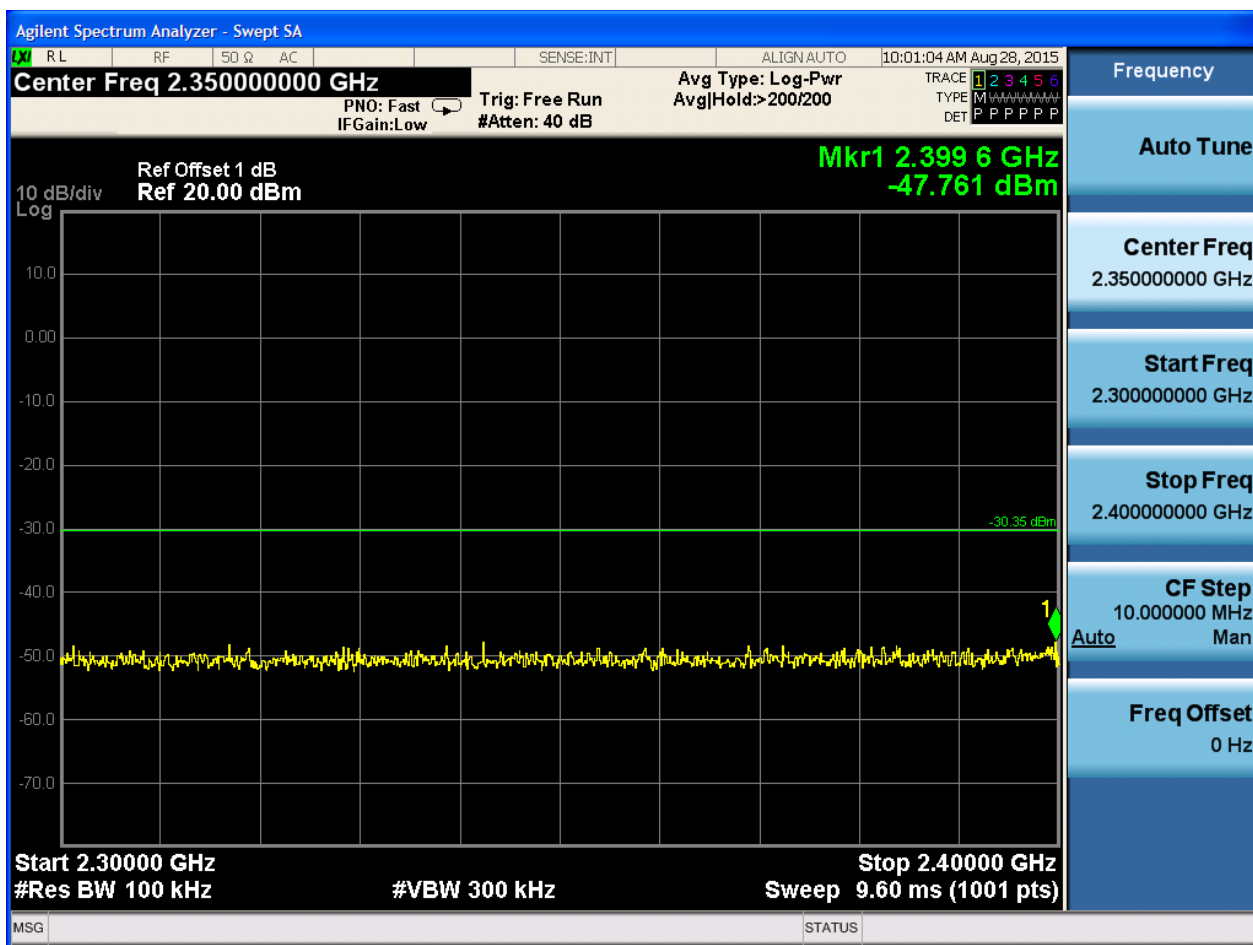


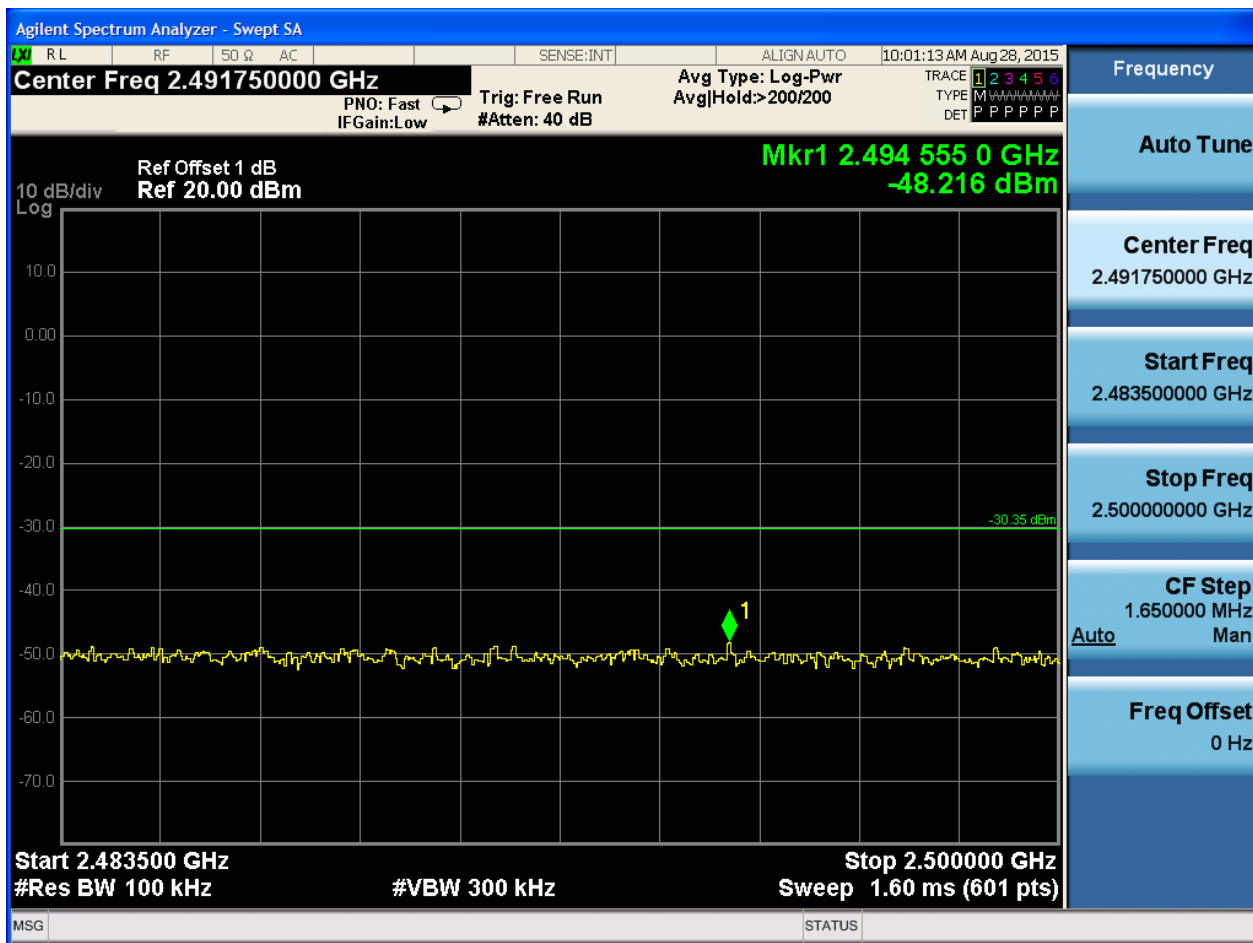
Puw:

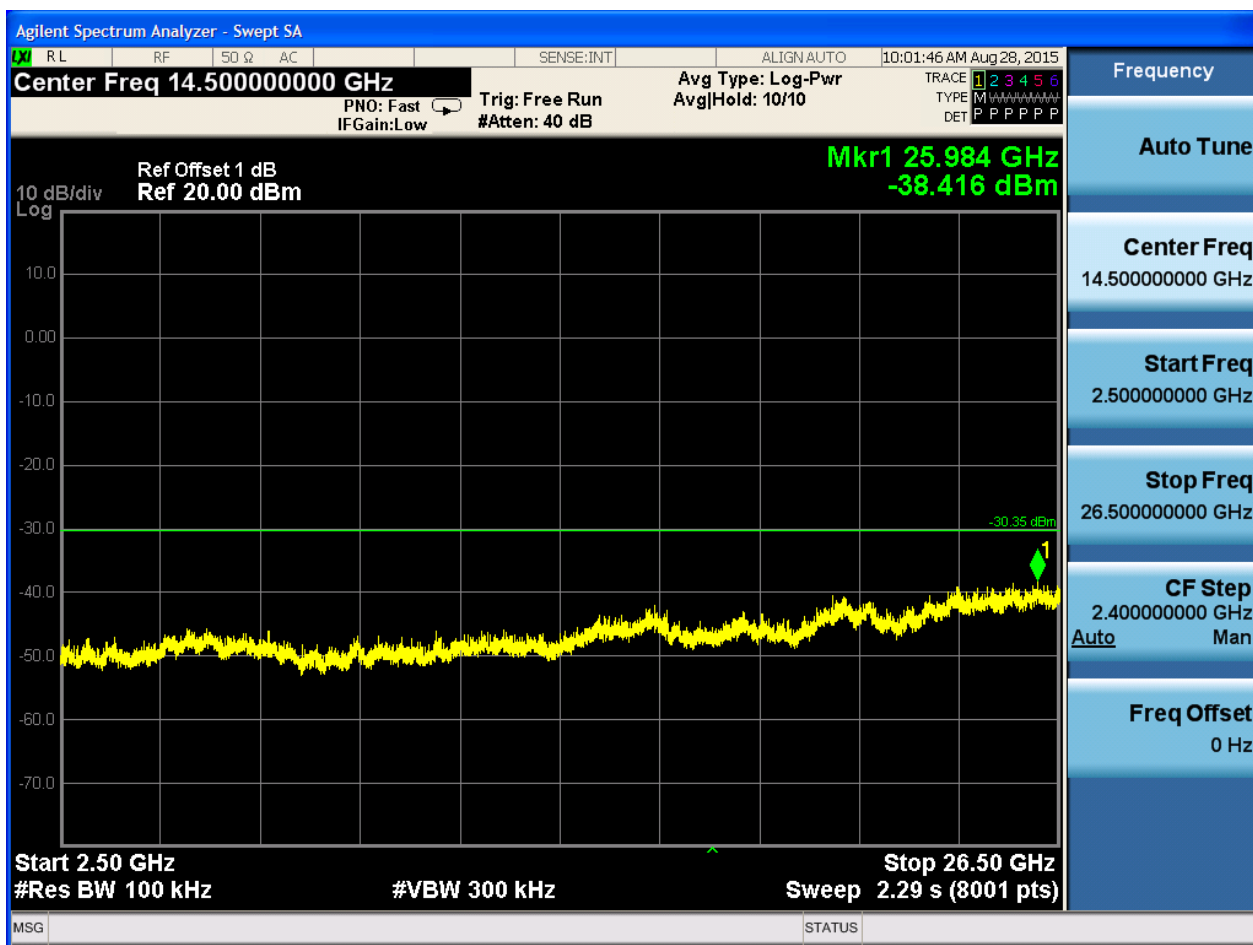






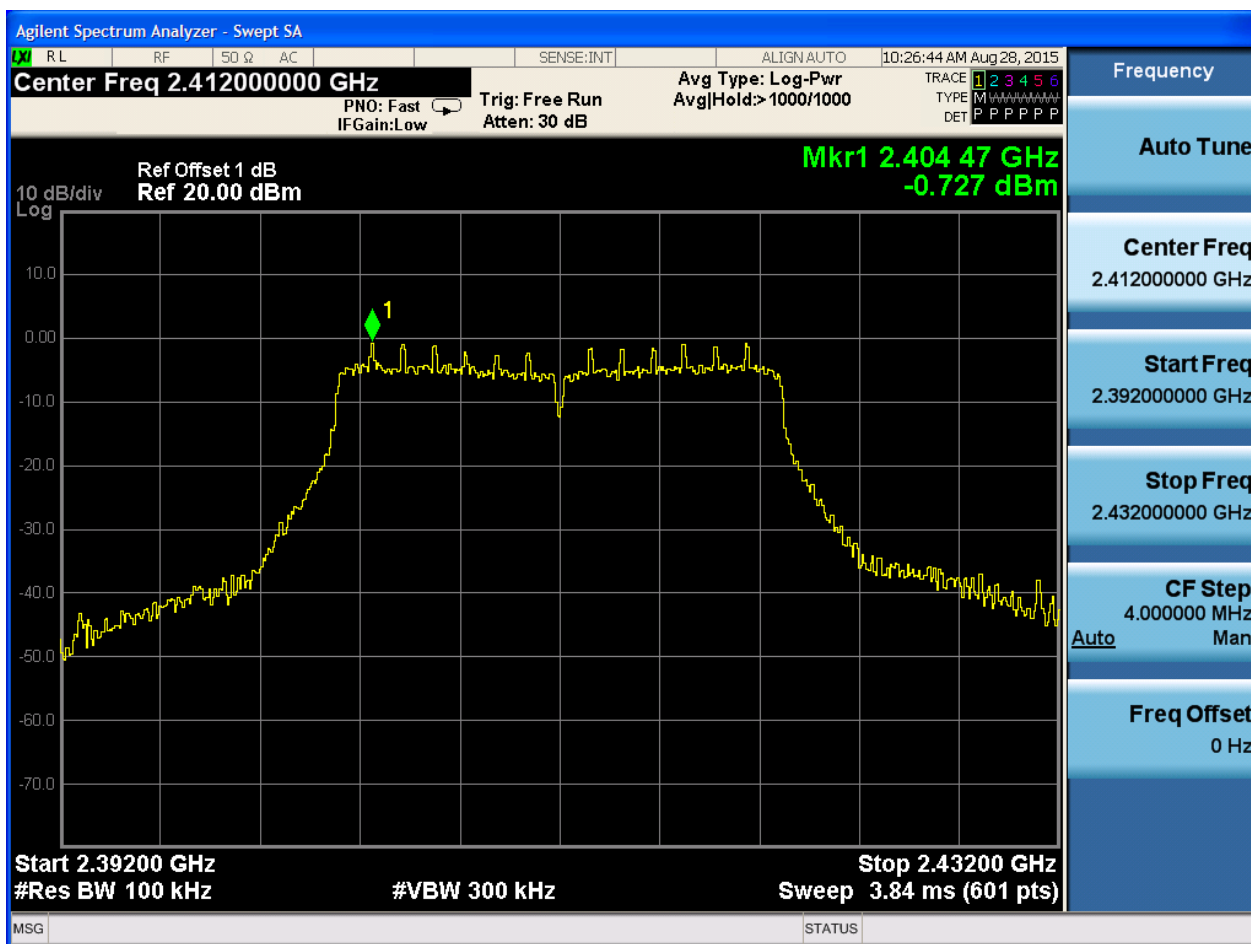






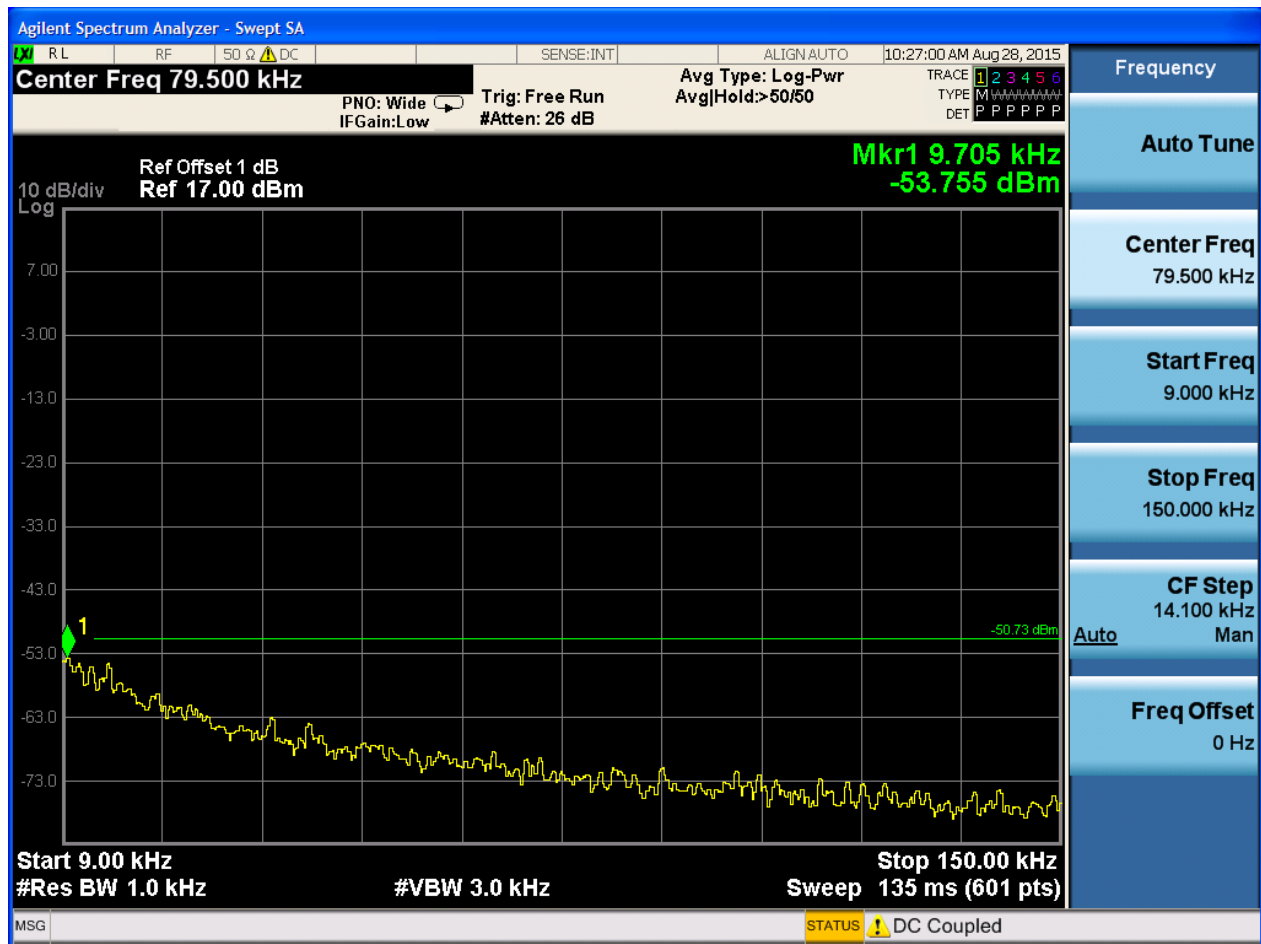
2.13 11N20_L@Ant 1

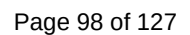
Pref:

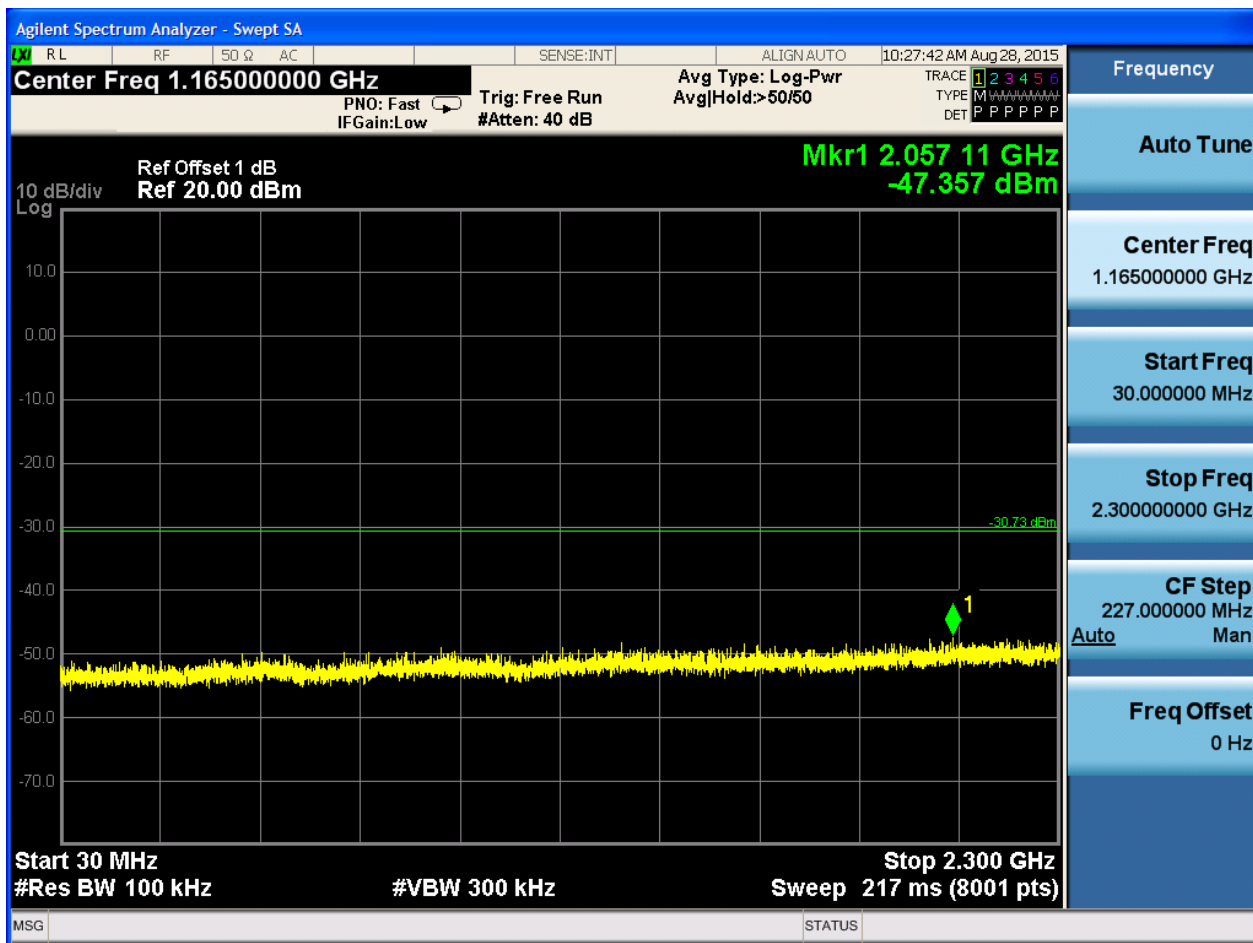


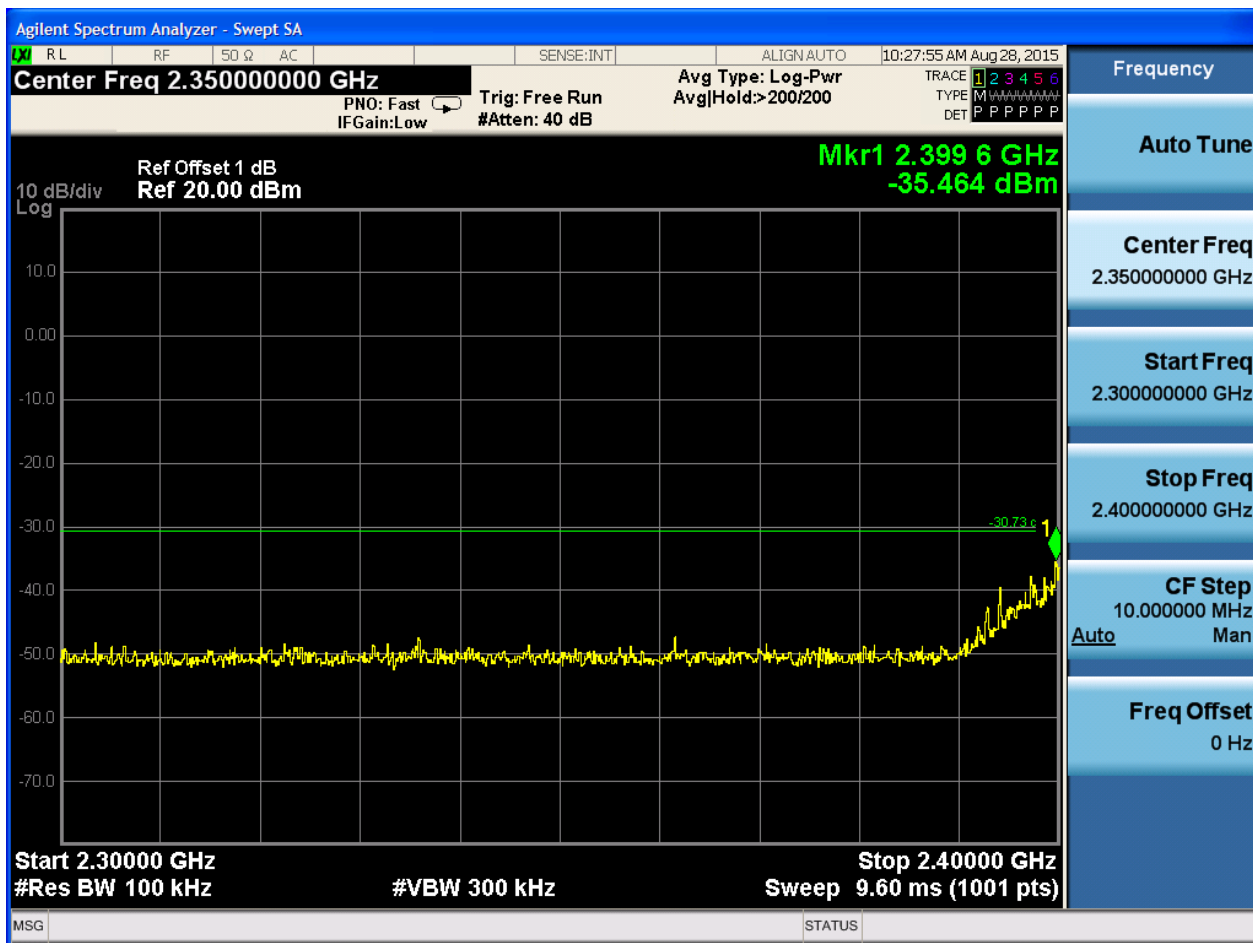


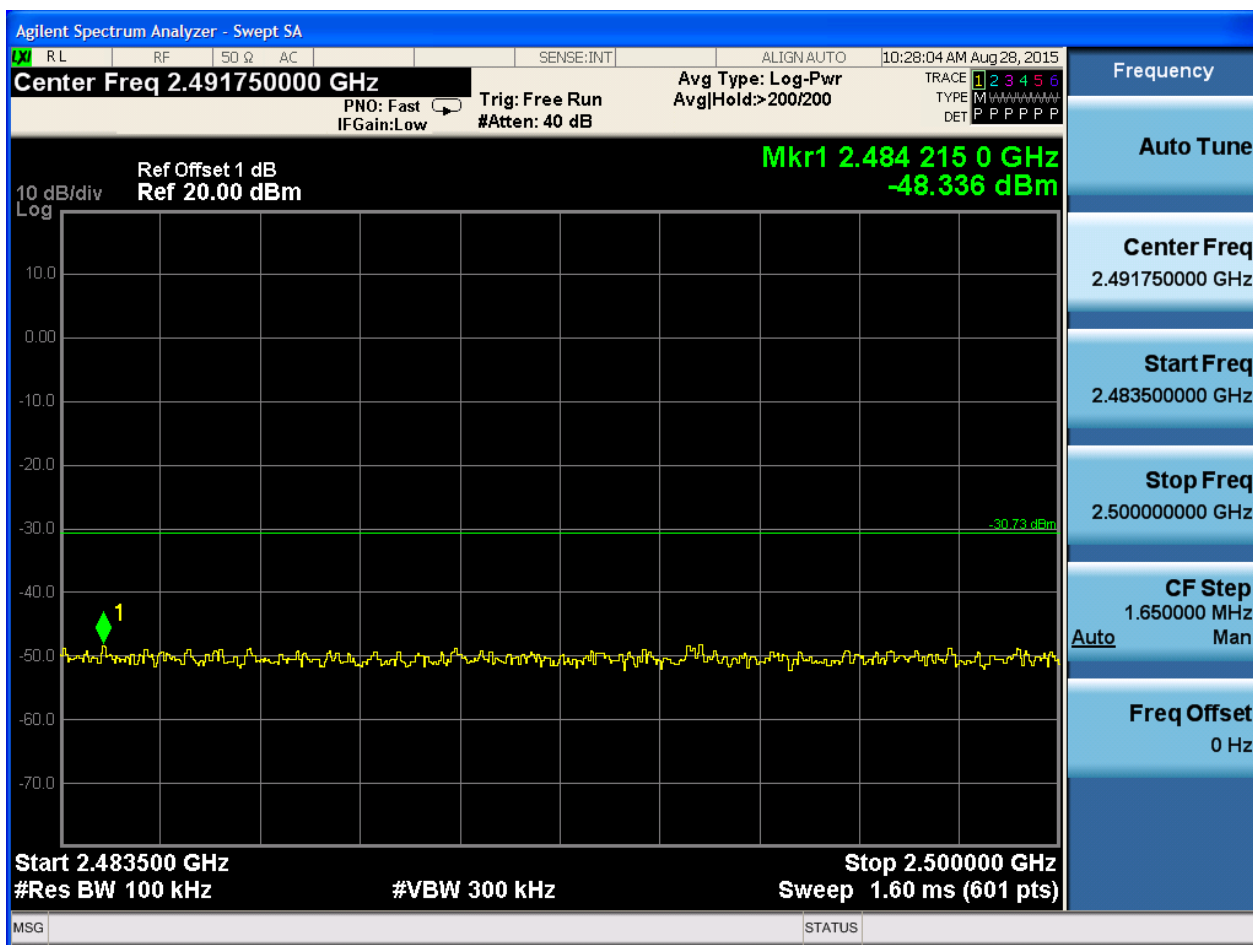
PuW:

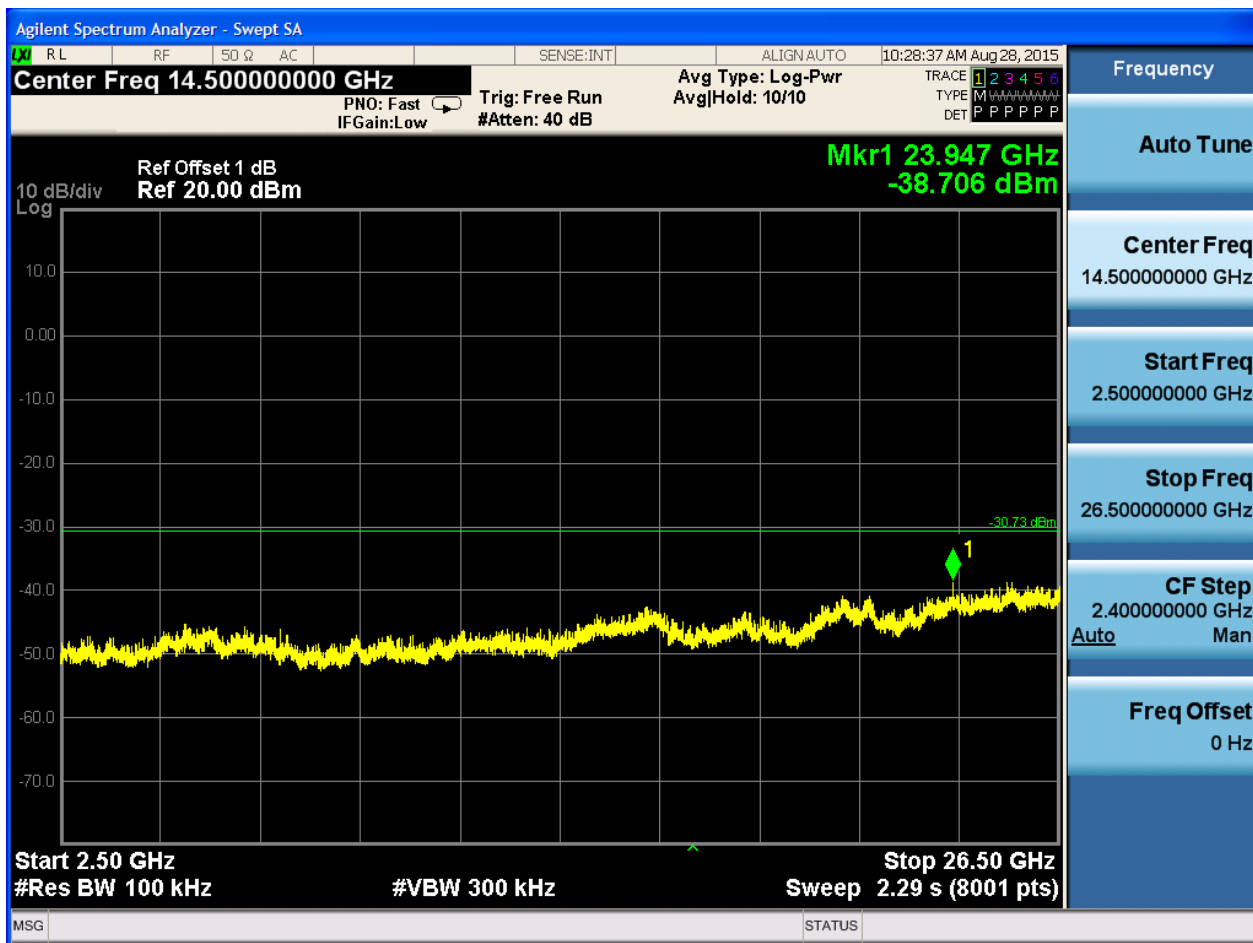








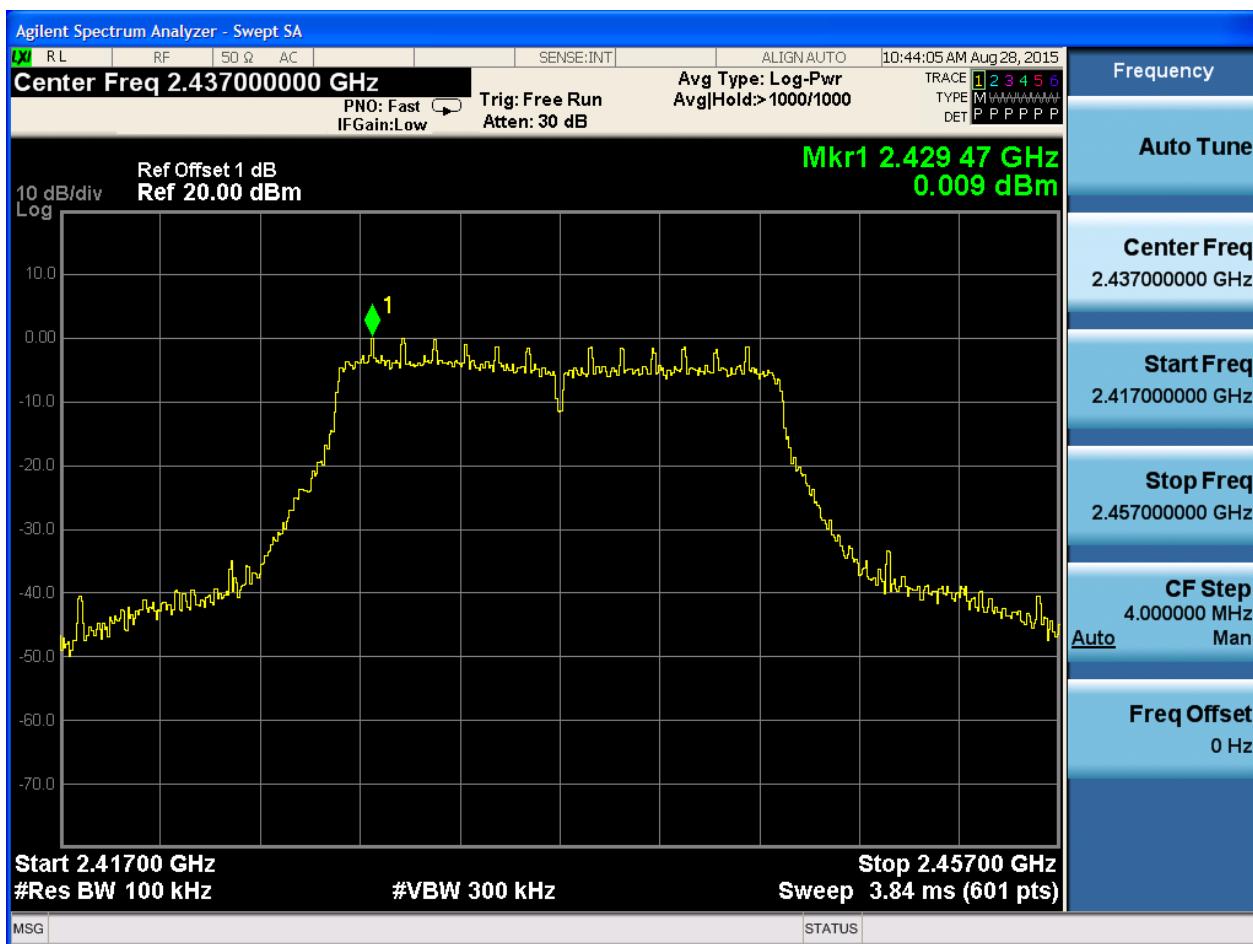






2.15 11N20_M@Ant 1

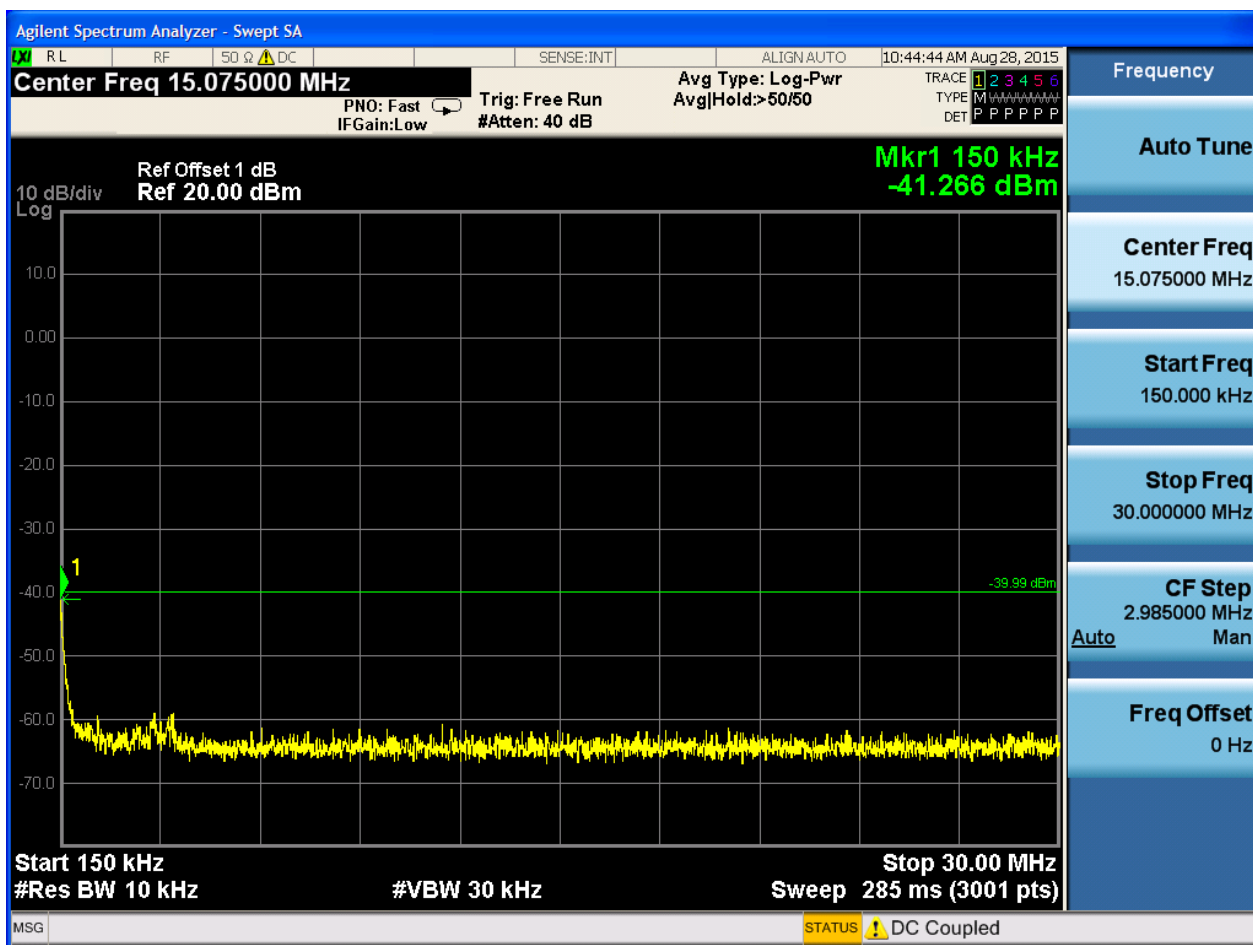
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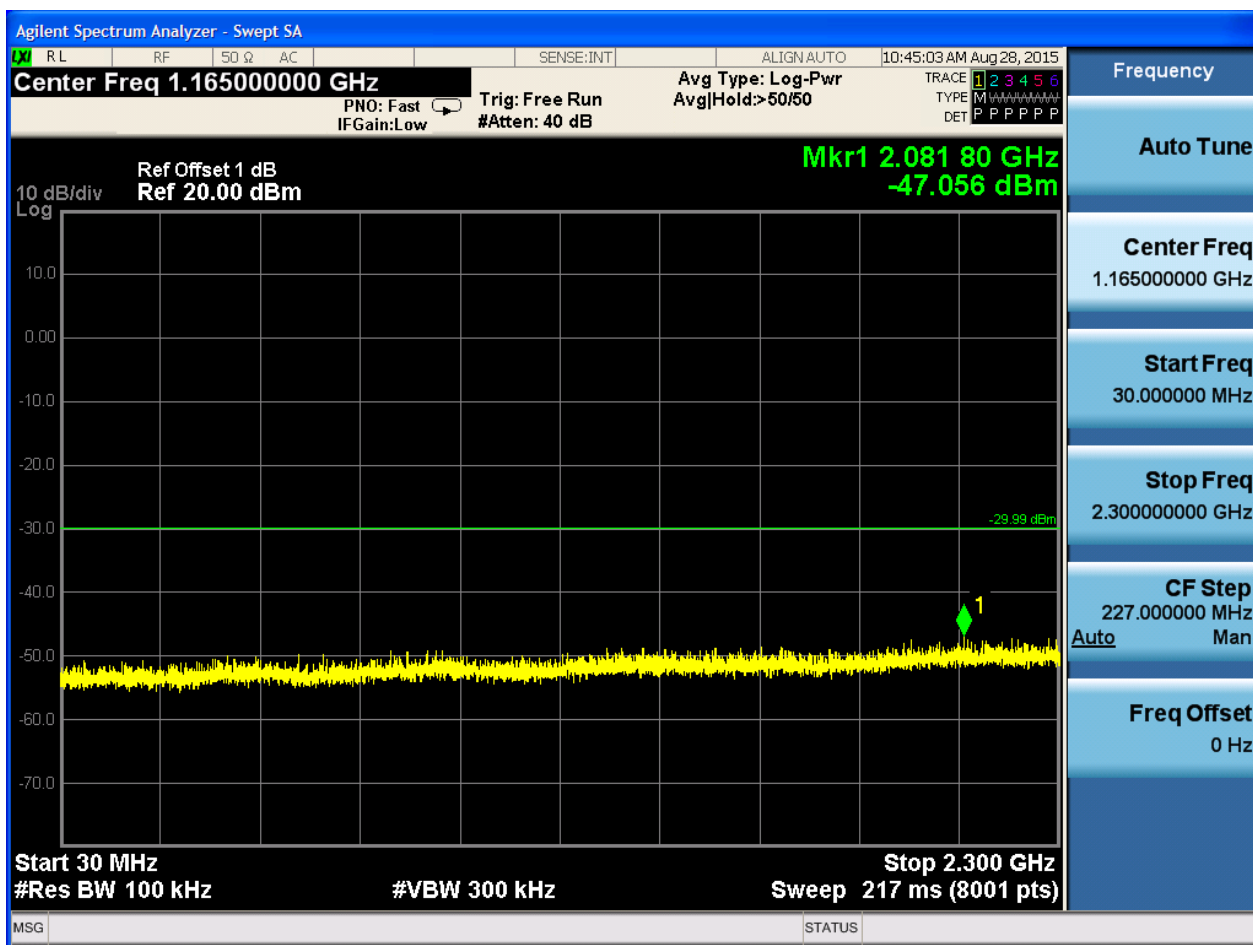


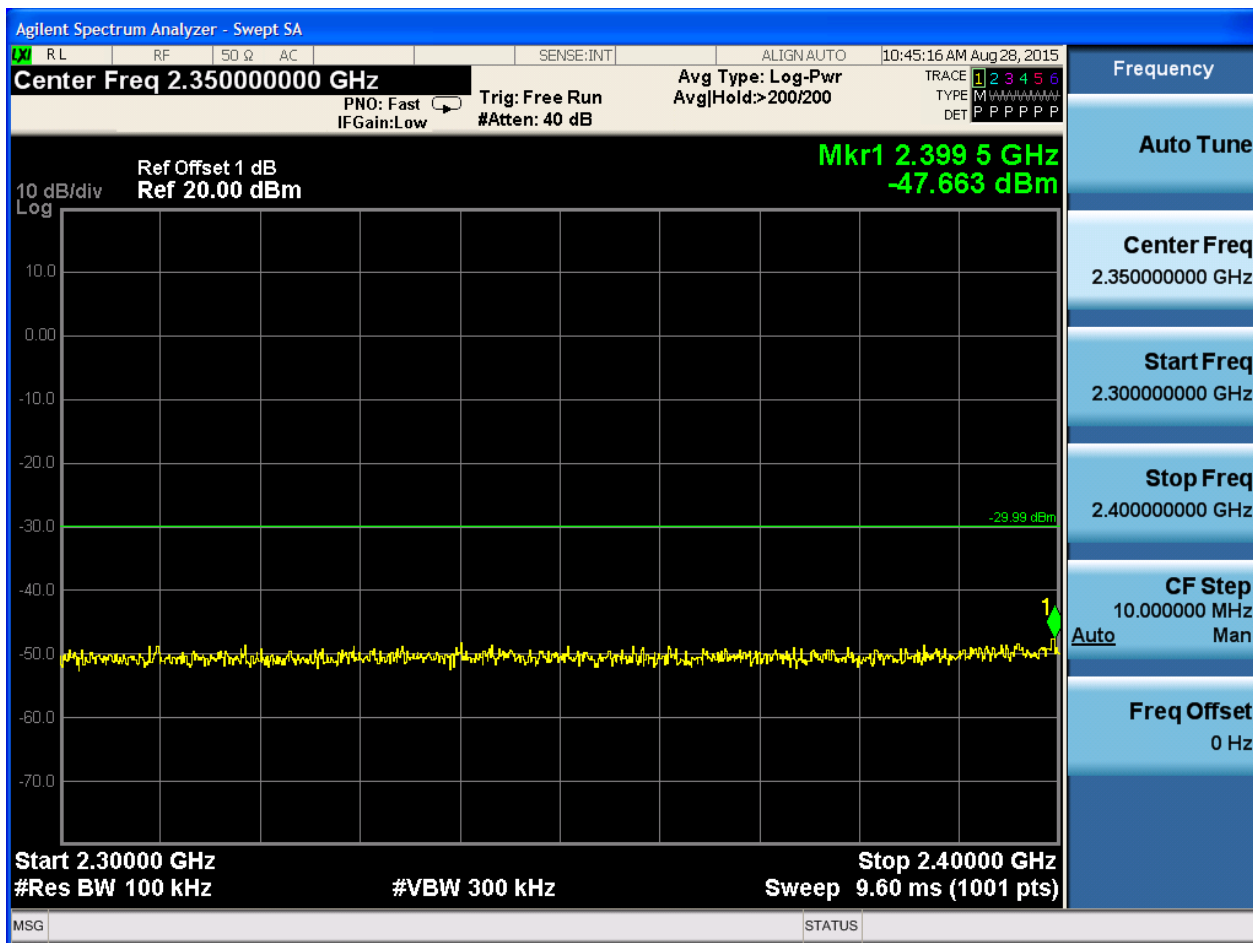


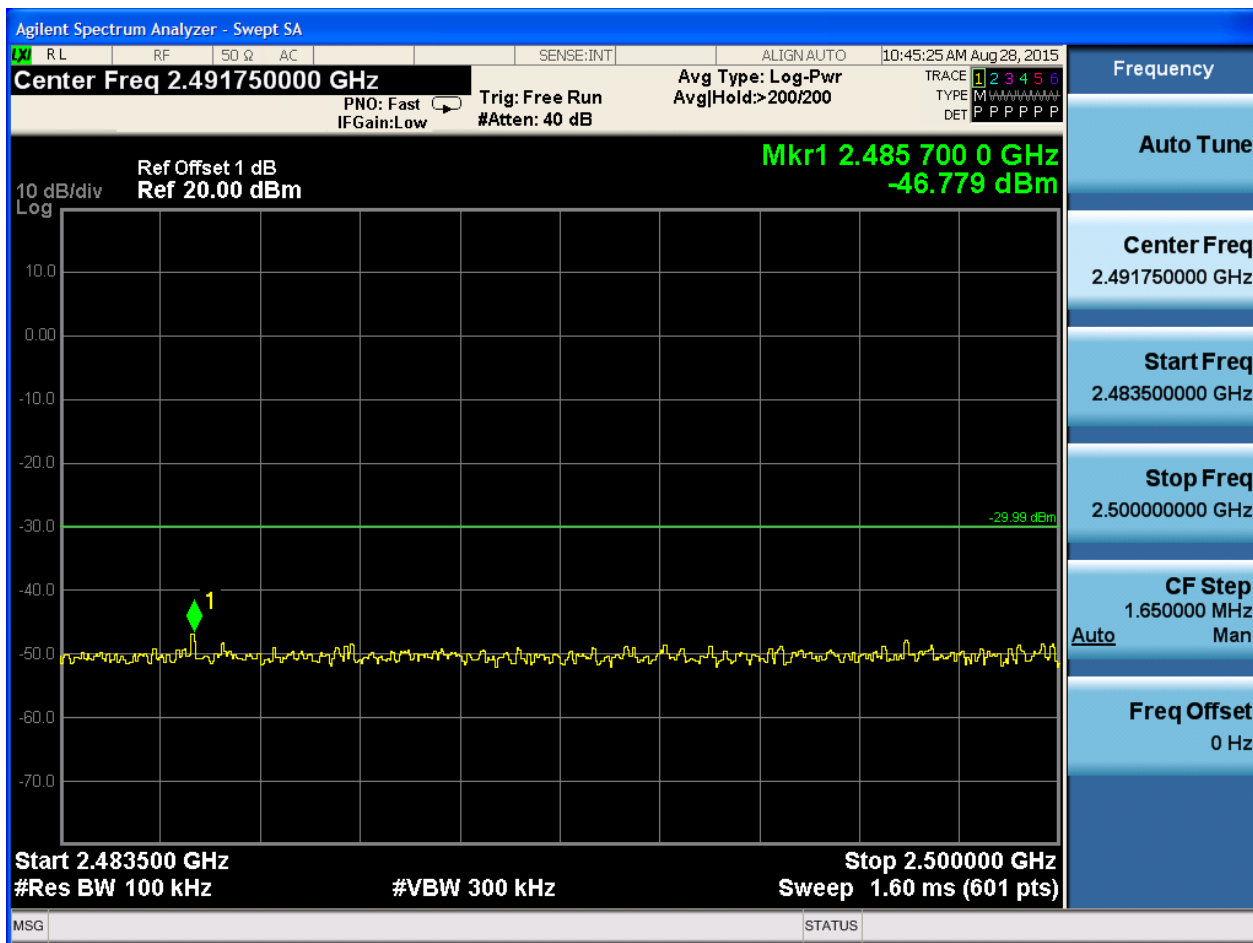
Puw:

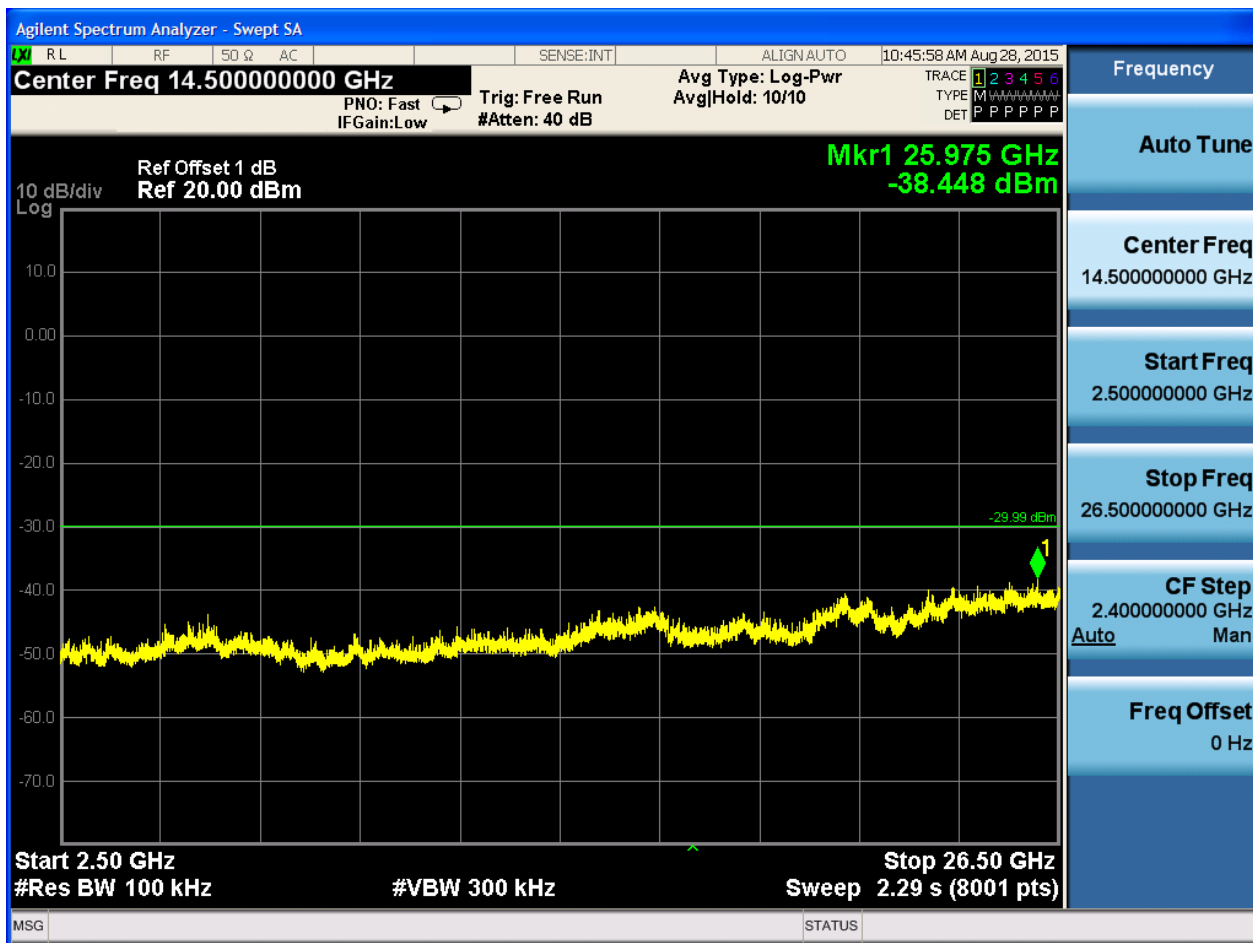








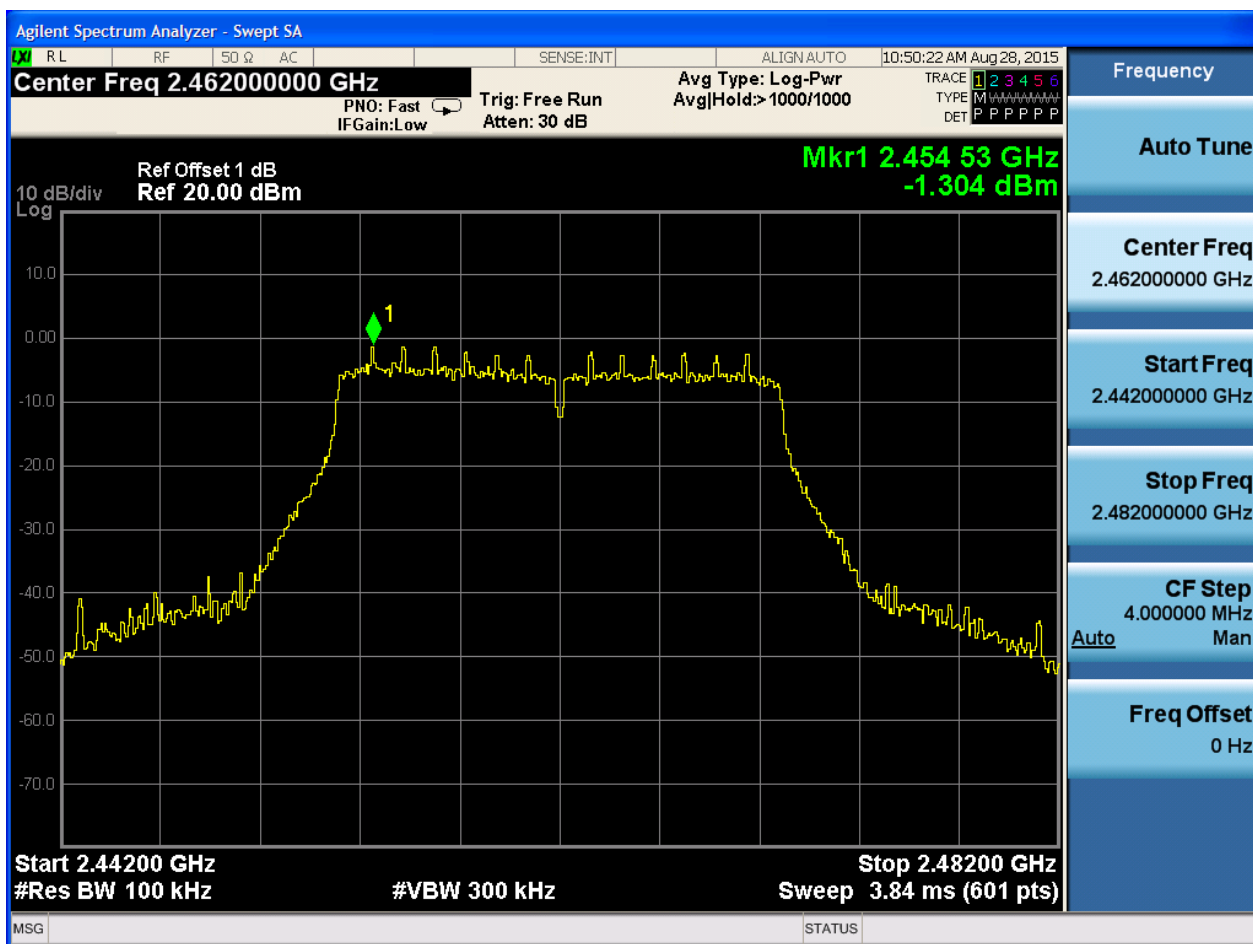






2.17 11N20_H@Ant 1

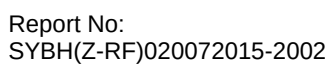
Pref:

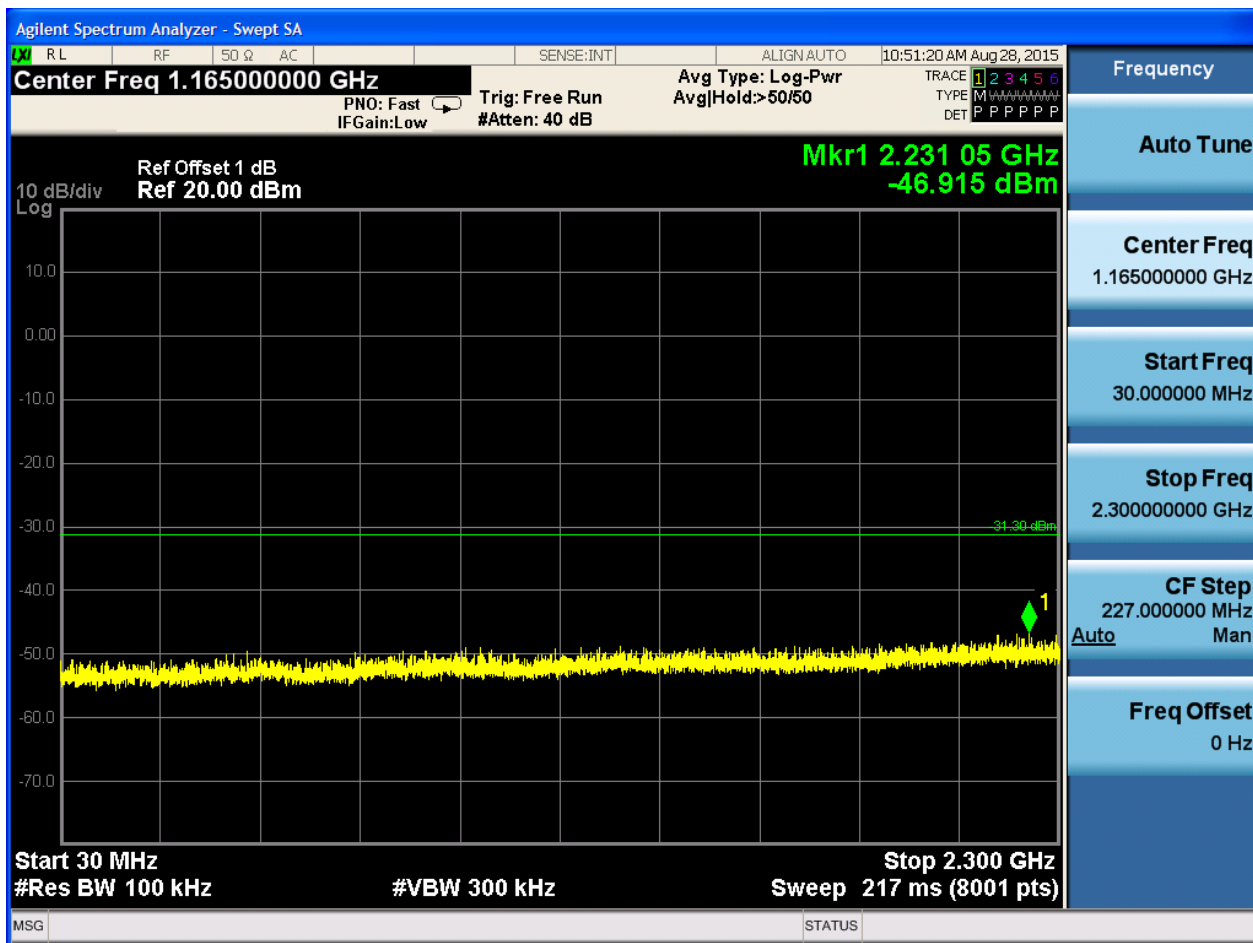


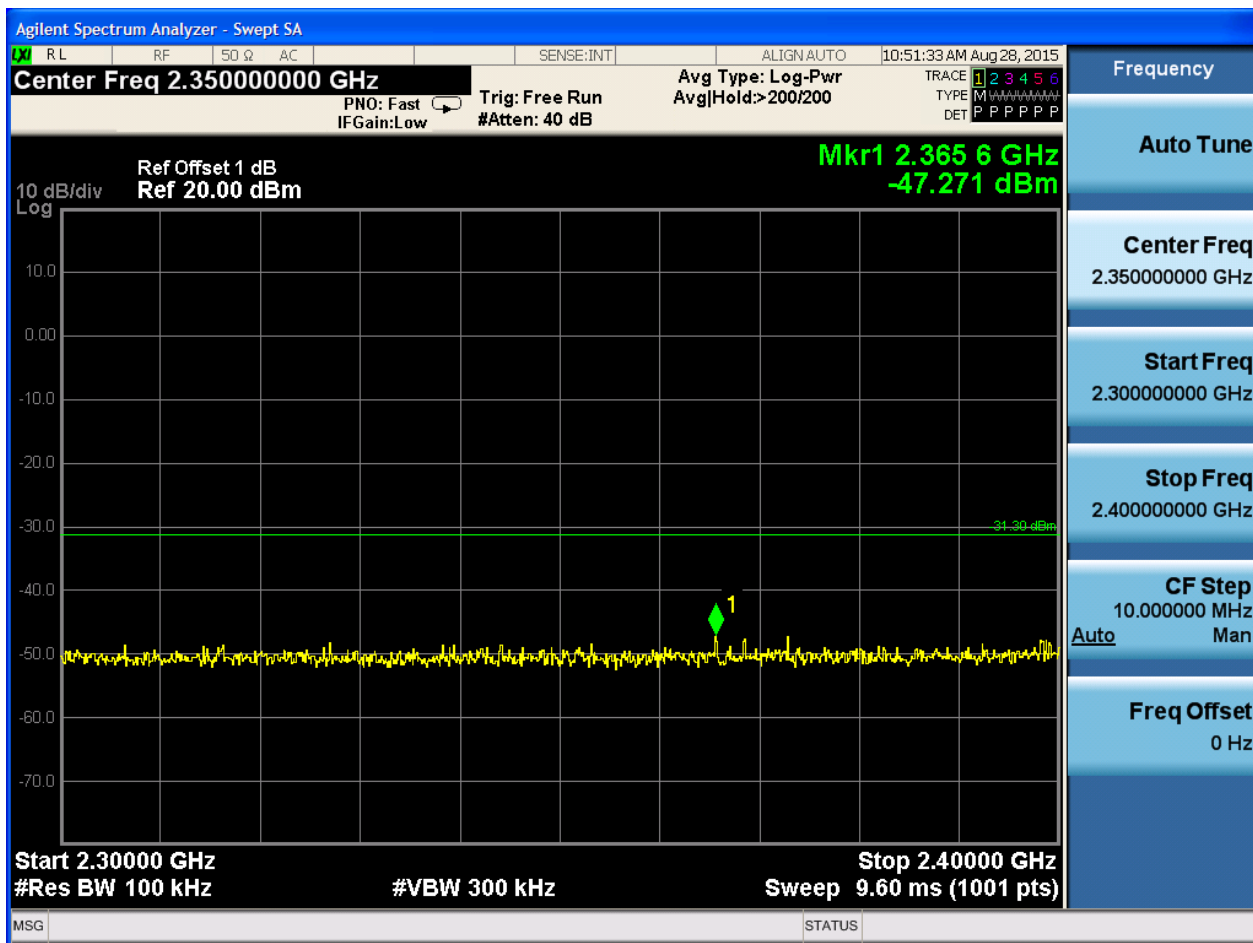


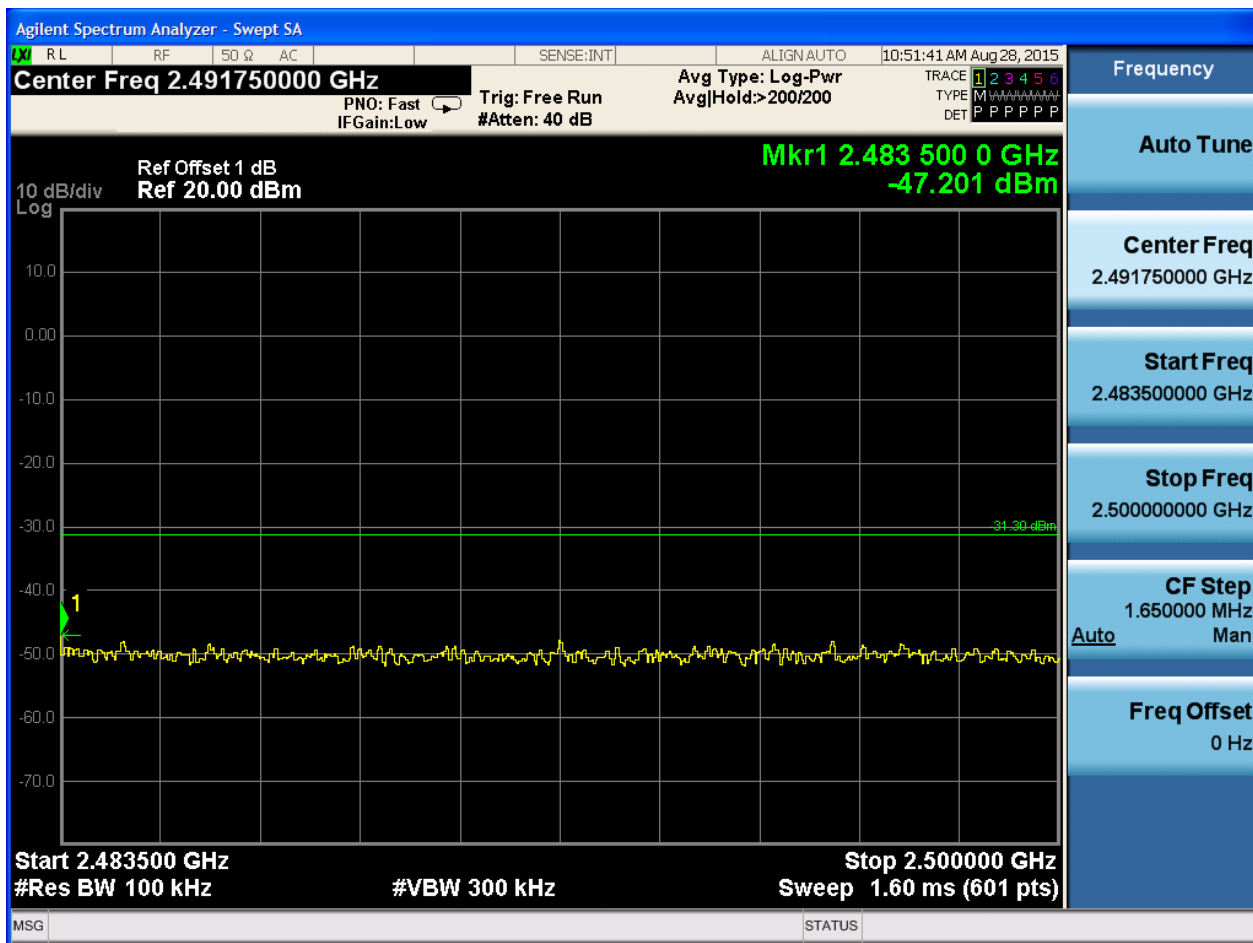
PuW:

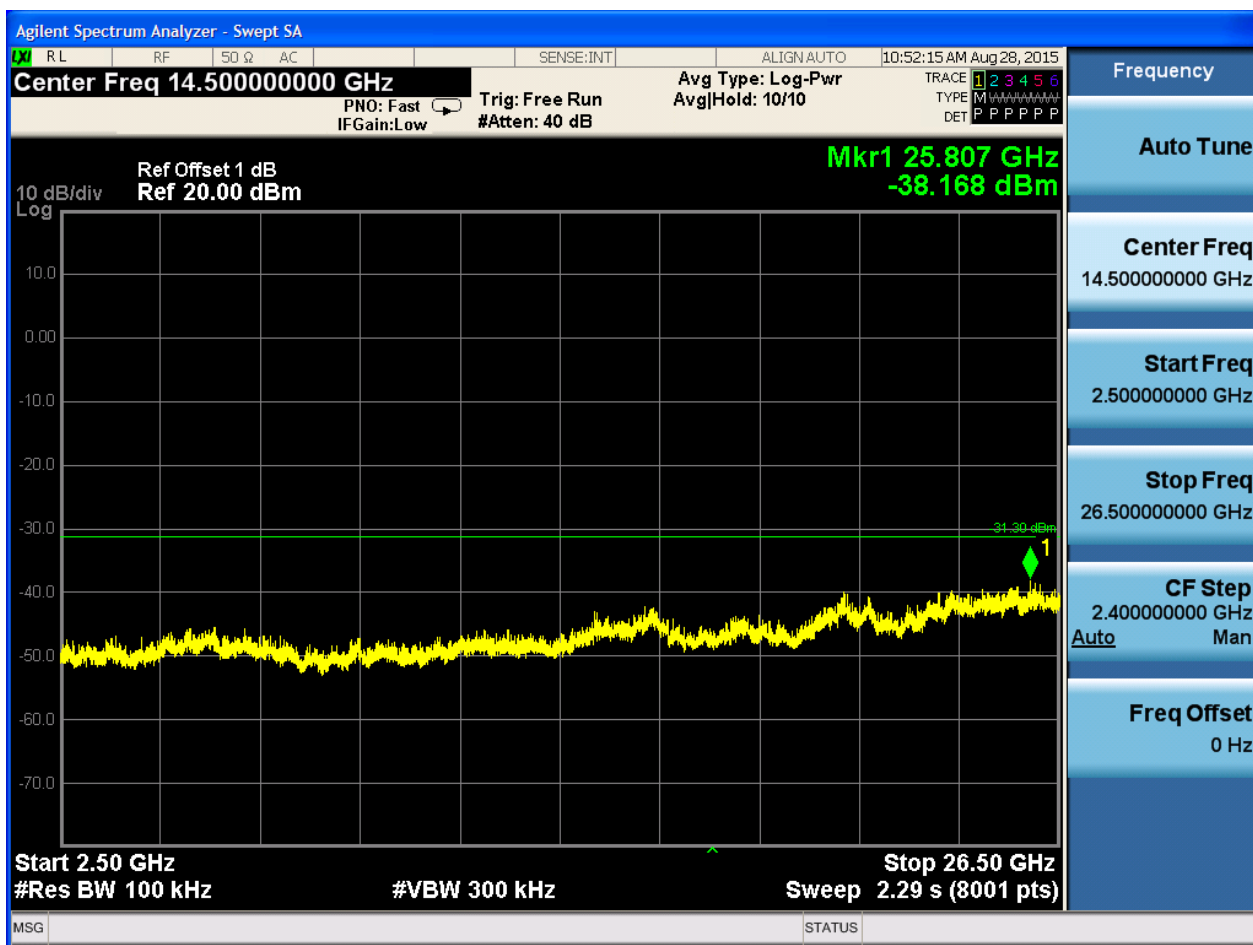












Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

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

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

The simultaneous transmission has been considered

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

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

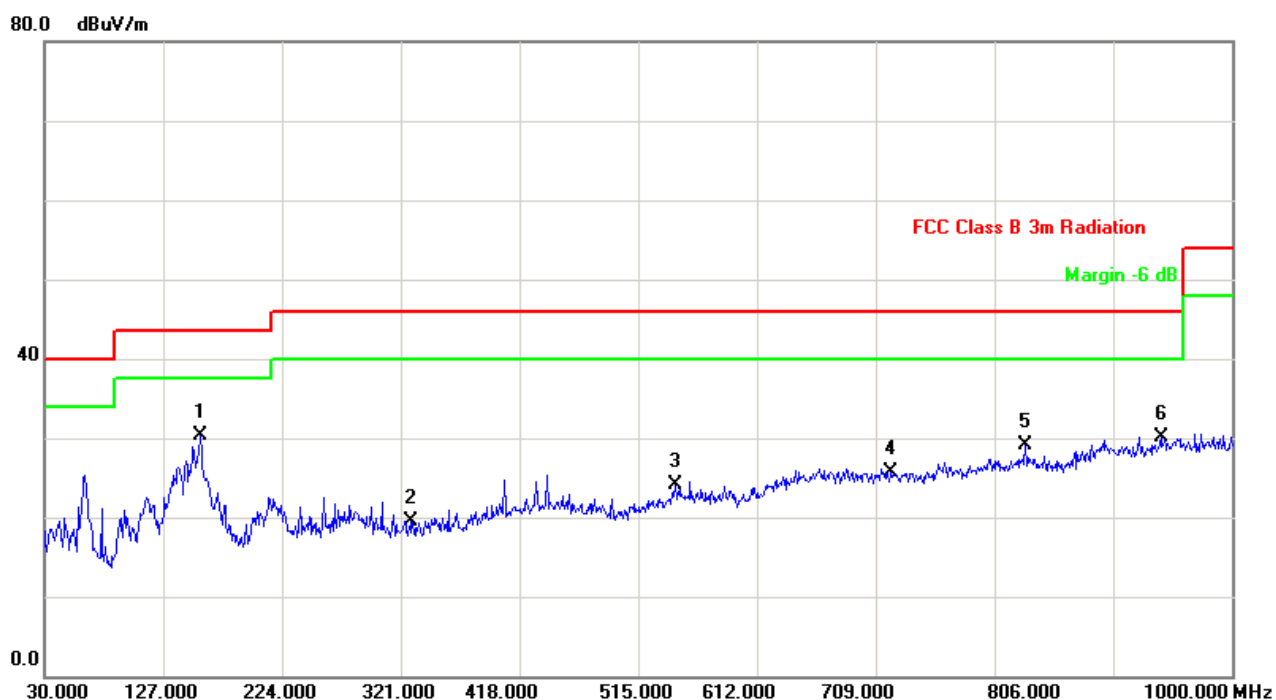
NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

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).

Horizontal



NO.KR.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	157.0700	42.43	-12.06	30.37	43.50	-13.13	QP
2	329.7300	29.39	-9.79	19.60	46.00	-26.40	QP
3	545.0700	28.95	-4.89	24.06	46.00	-21.94	QP
4	721.6100	27.17	-1.46	25.71	46.00	-20.29	QP
5	831.2200	29.03	0.14	29.17	46.00	-16.83	QP
6	941.8000	27.23	2.84	30.07	46.00	-15.93	QP



Part 3: Testing Range of “18 GHz to 26.5 GHz”

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

Part 4: Testing Range of “2.3GHz to 2.5GHz”

Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.

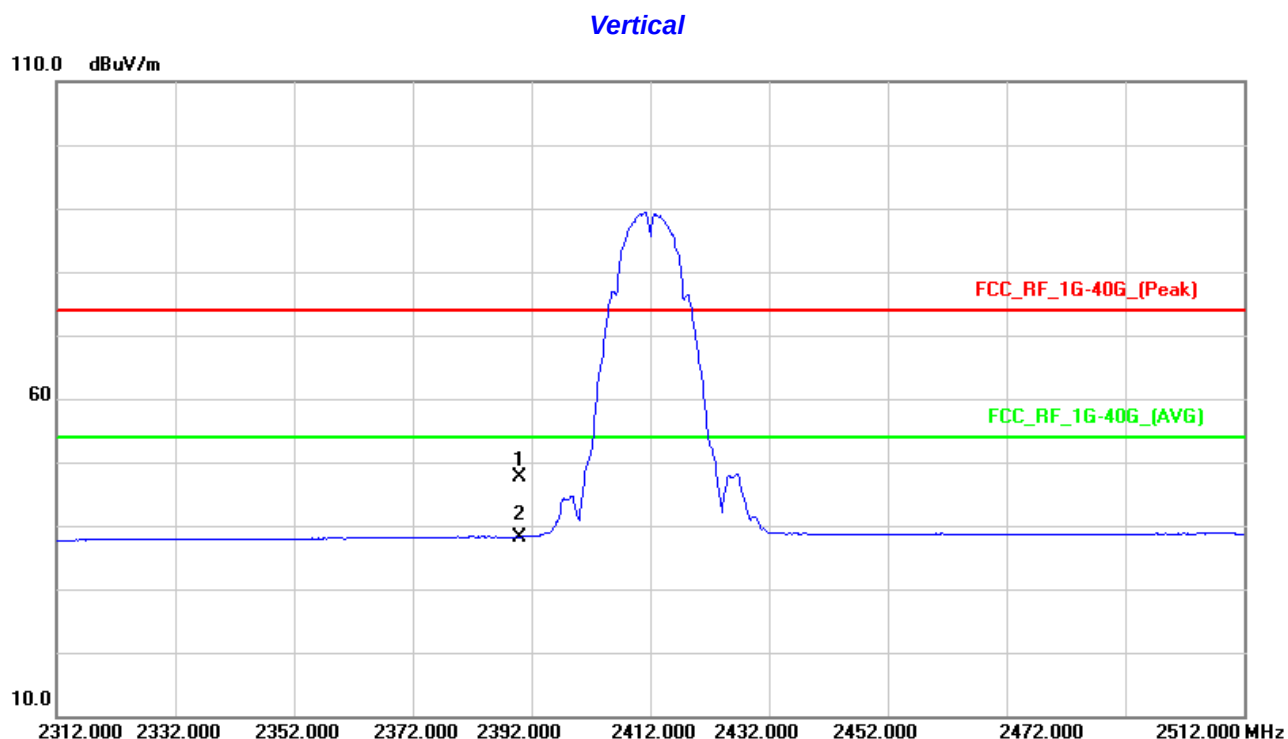
Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

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

Test Mode:

1Test Mode: 11B

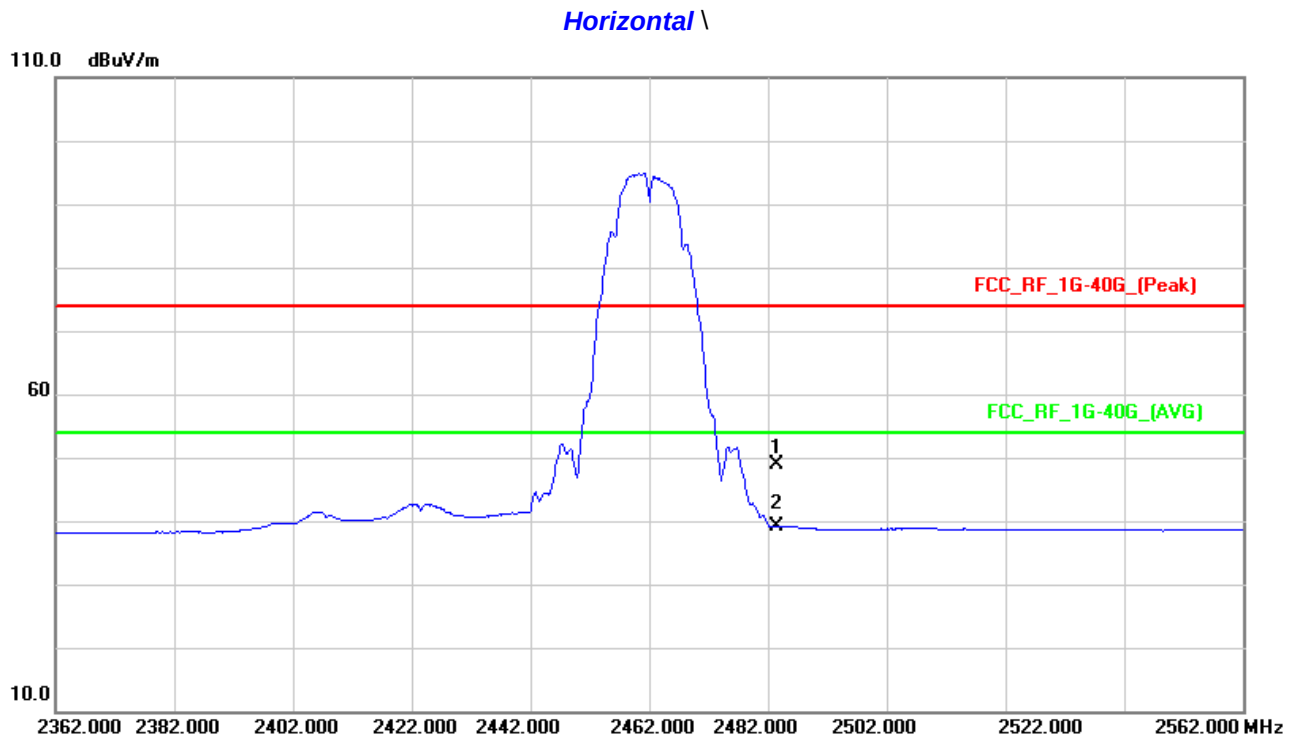
1.1Channel 1



Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2390.000	V	13.40	34.23	47.63	74.00	-26.37	peak
2390.000	V	4.01	34.23	38.24	54.00	-15.76	AVG

1.2 Channel 11



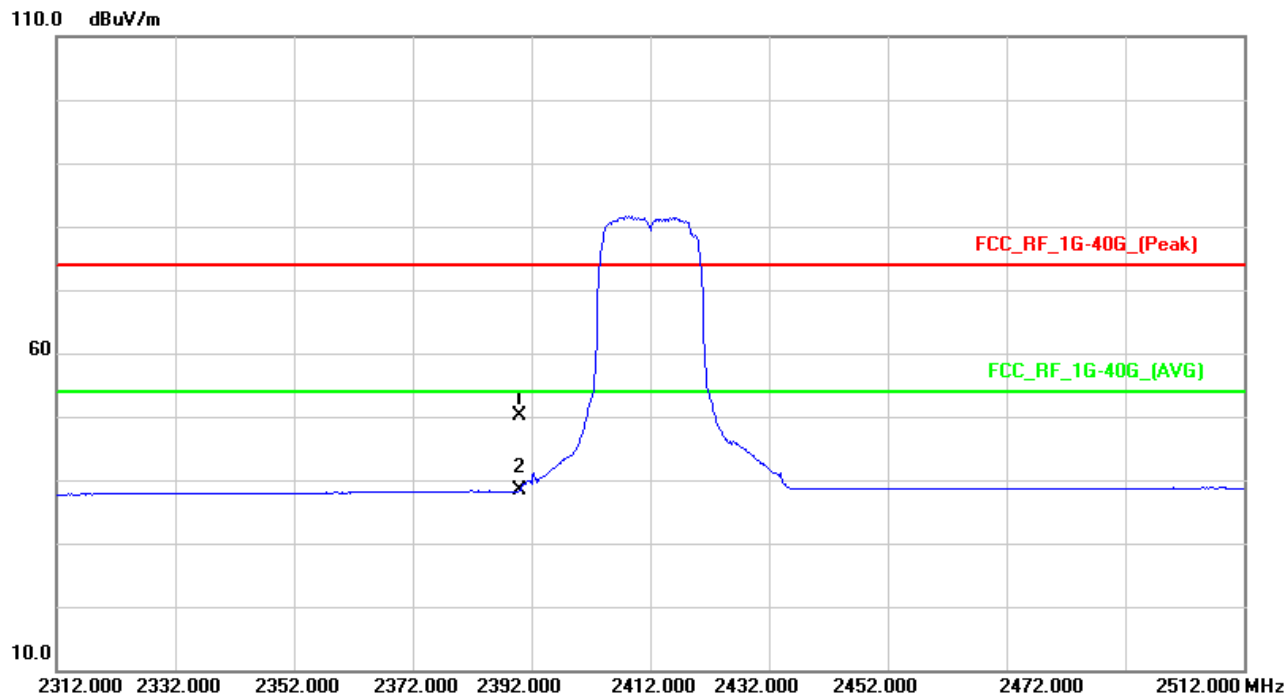
Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2483.500	H	14.02	34.78	48.80	74.00	-25.20	peak
2483.500	H	4.33	34.78	39.11	54.00	-14.89	AVG

1Test Mode: 11G

1.1Channel 1

Vertical

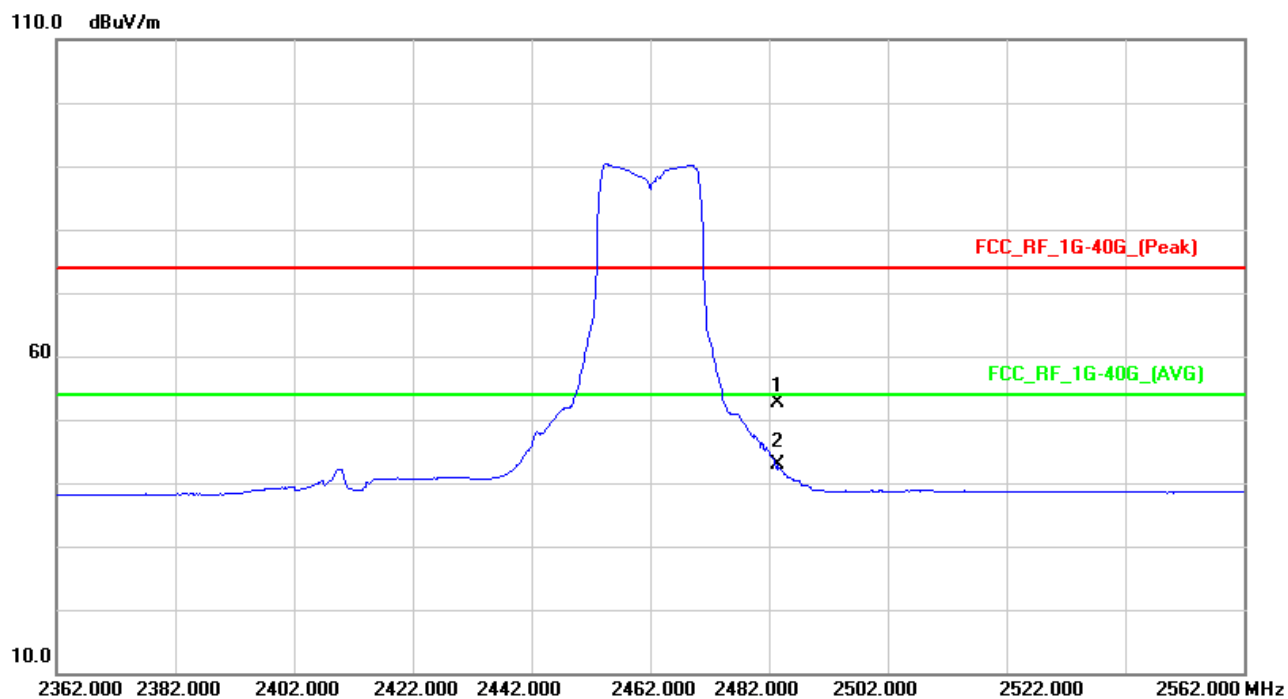


Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2390.000	V	15.93	34.23	50.16	74.00	-23.84	peak
2390.000	V	4.03	34.23	38.26	54.00	-15.74	AVG

1.2 Channel 11

Horizontal

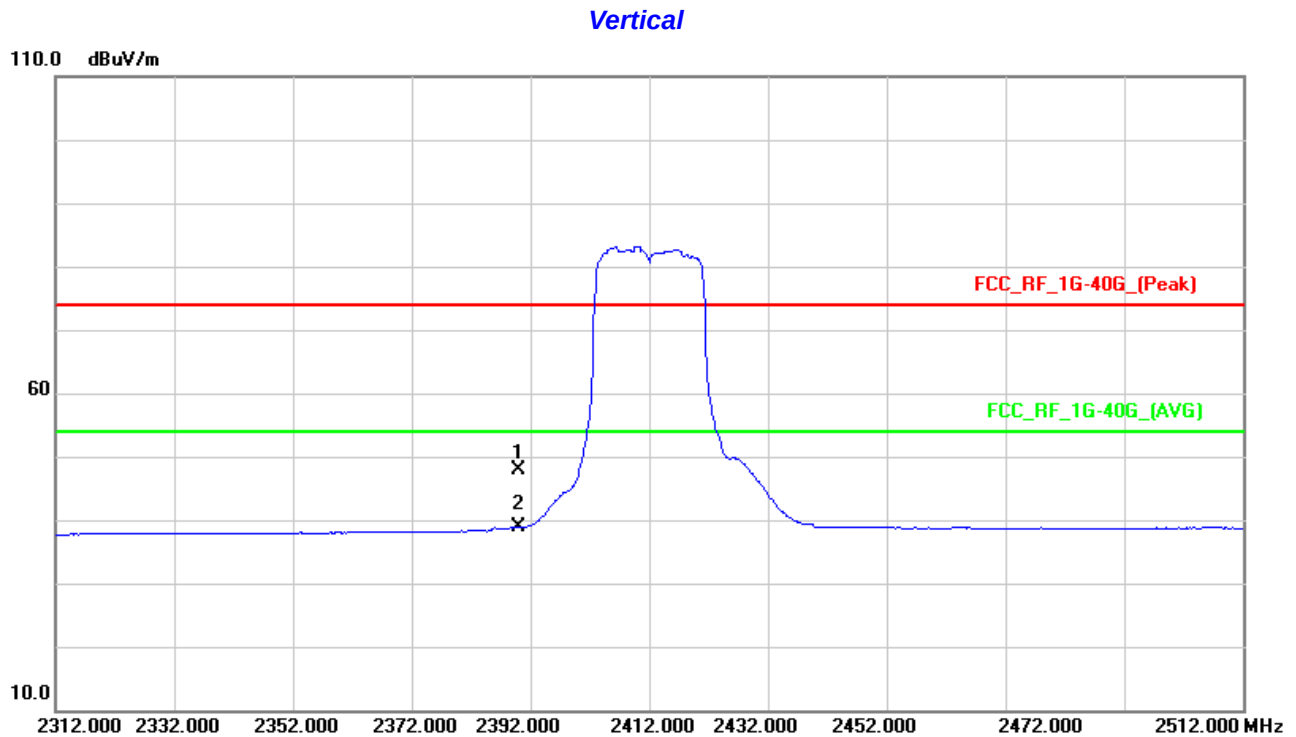


Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2483.500	H	17.91	34.78	52.69	74.00	-21.31	peak
2483.500	H	8.19	34.78	42.97	54.00	-11.03	AVG

1Test Mode: 11N

1.1Channel 1

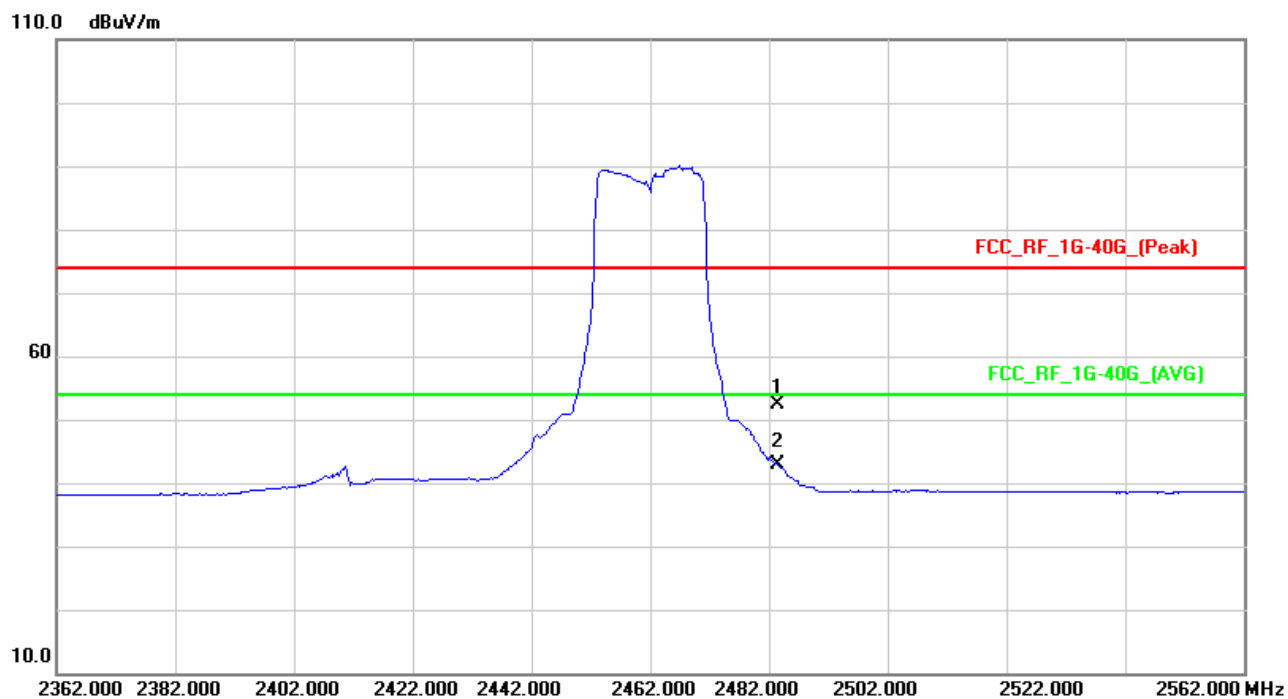


Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2390.000	V	13.61	34.23	47.84	74.00	-26.16	peak
2390.000	V	4.57	34.23	38.80	54.00	-15.20	AVG

1.2 Channel 11

Horizontal

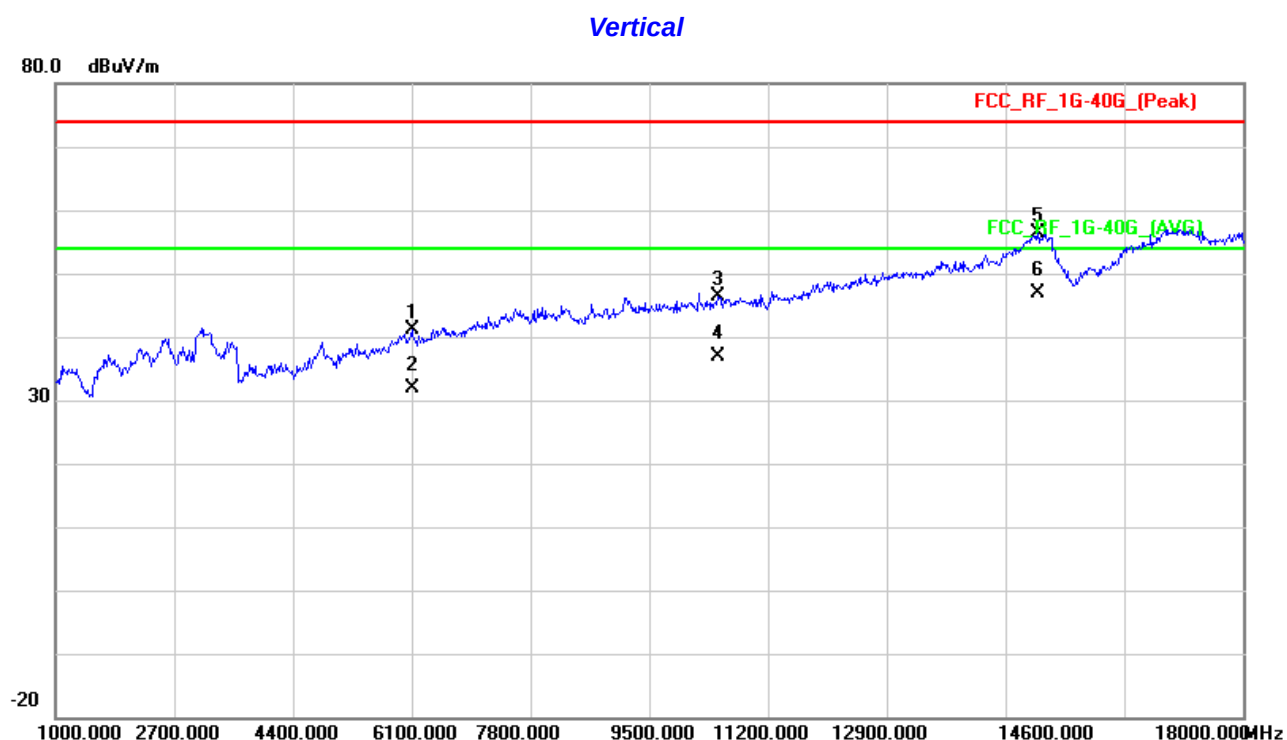


Note: The peak exceeds the limit line is carrier frequency.

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
2483.500	H	17.66	34.78	52.44	74.00	-21.56	peak
2483.500	H	8.04	34.78	42.82	54.00	-11.18	AVG

7.5Part 5: Testing Range of “1 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “1 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 “1 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 dB μ V/m) and Average Limit (54 dB μ V/m).

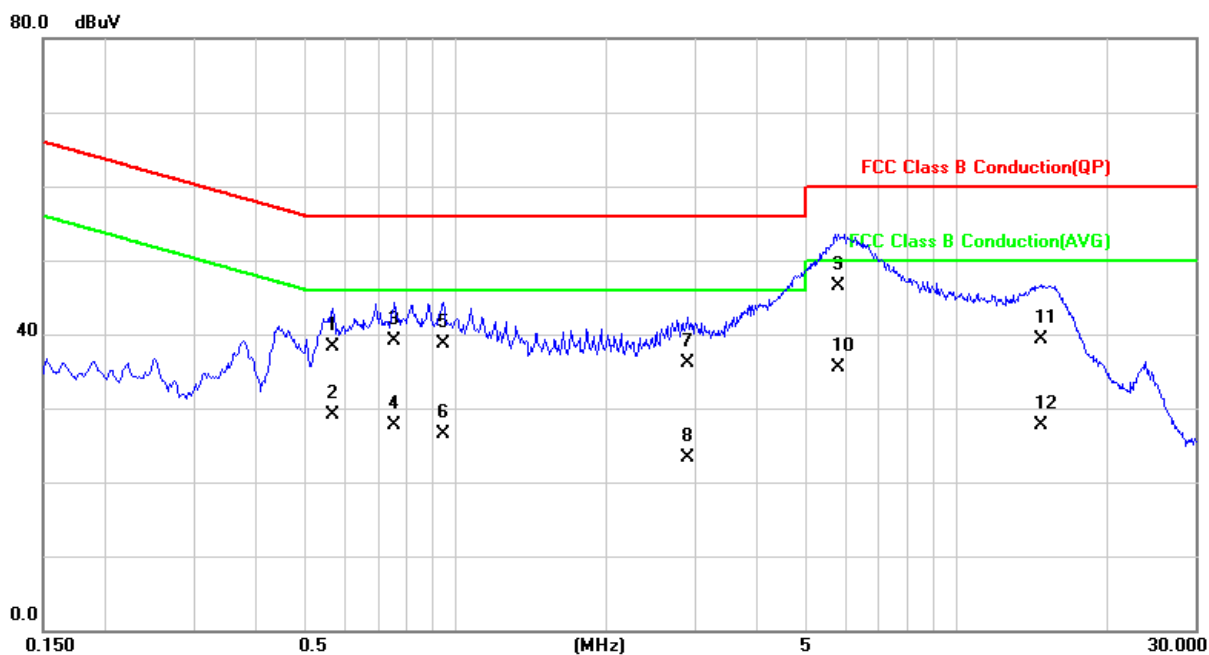


NO.KR.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	6110.625	31.12	9.92	41.04	74.00	-32.96	peak
2	6110.625	21.86	9.92	31.78	54.00	-22.22	AVG
3	10486.00	28.79	17.53	46.32	74.00	-27.68	peak
4	10486.00	19.37	17.53	36.90	54.00	-17.10	AVG
5	15059.00	31.91	24.41	56.32	74.00	-17.68	peak
6	15059.00	22.48	24.41	46.89	54.00	-7.11	AVG

Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

Channel 6



NO.KR.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Margin dB	Detector
1	0.5662	28.40	9.84	38.24	56.00	-17.76	QP
2	0.5662	19.20	9.84	29.04	46.00	-16.96	AVG
3	0.7552	29.20	9.92	39.12	56.00	-16.88	QP
4	0.7552	17.70	9.92	27.62	46.00	-18.38	AVG
5	0.9442	28.80	9.96	38.76	56.00	-17.24	QP
6	0.9442	16.60	9.96	26.56	46.00	-19.44	AVG
7	2.9018	26.30	9.84	36.14	56.00	-19.86	QP
8	2.9018	13.40	9.84	23.24	46.00	-22.76	AVG
9	5.7885	37.10	9.34	46.44	60.00	-13.56	QP
10	5.7885	26.20	9.34	35.54	50.00	-14.46	AVG
11	14.7300	29.10	10.26	39.36	60.00	-20.64	QP
12	14.7300	17.50	10.26	27.76	50.00	-22.24	AVG

Note: Level= Reading level+ Transd (cable loss + correction factor).The reading level is used to calculate by software which is not shown in the sheet.

END