



Appendix for Test Report

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.

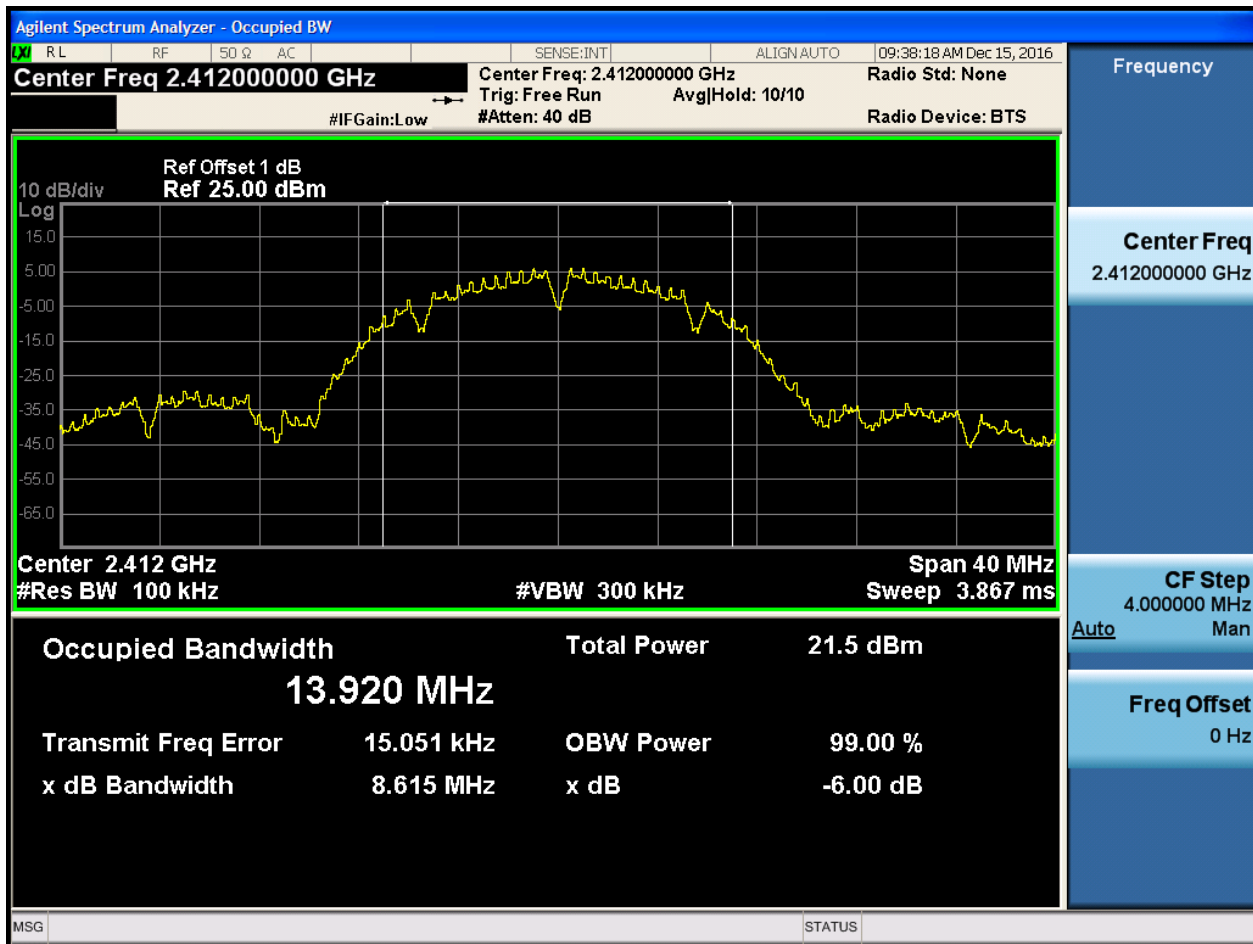
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	8.62	pass
11B	M	2437	Ant 1	9.06	pass
11B	H	2462	Ant 1	9.08	pass
11G	L	2412	Ant 1	15.12	pass
11G	M	2437	Ant 1	15.15	pass
11G	H	2462	Ant 1	15.15	pass
11N20	L	2412	Ant 1	13.90	pass
11N20	M	2437	Ant 1	15.11	pass
11N20	H	2462	Ant 1	15.16	pass



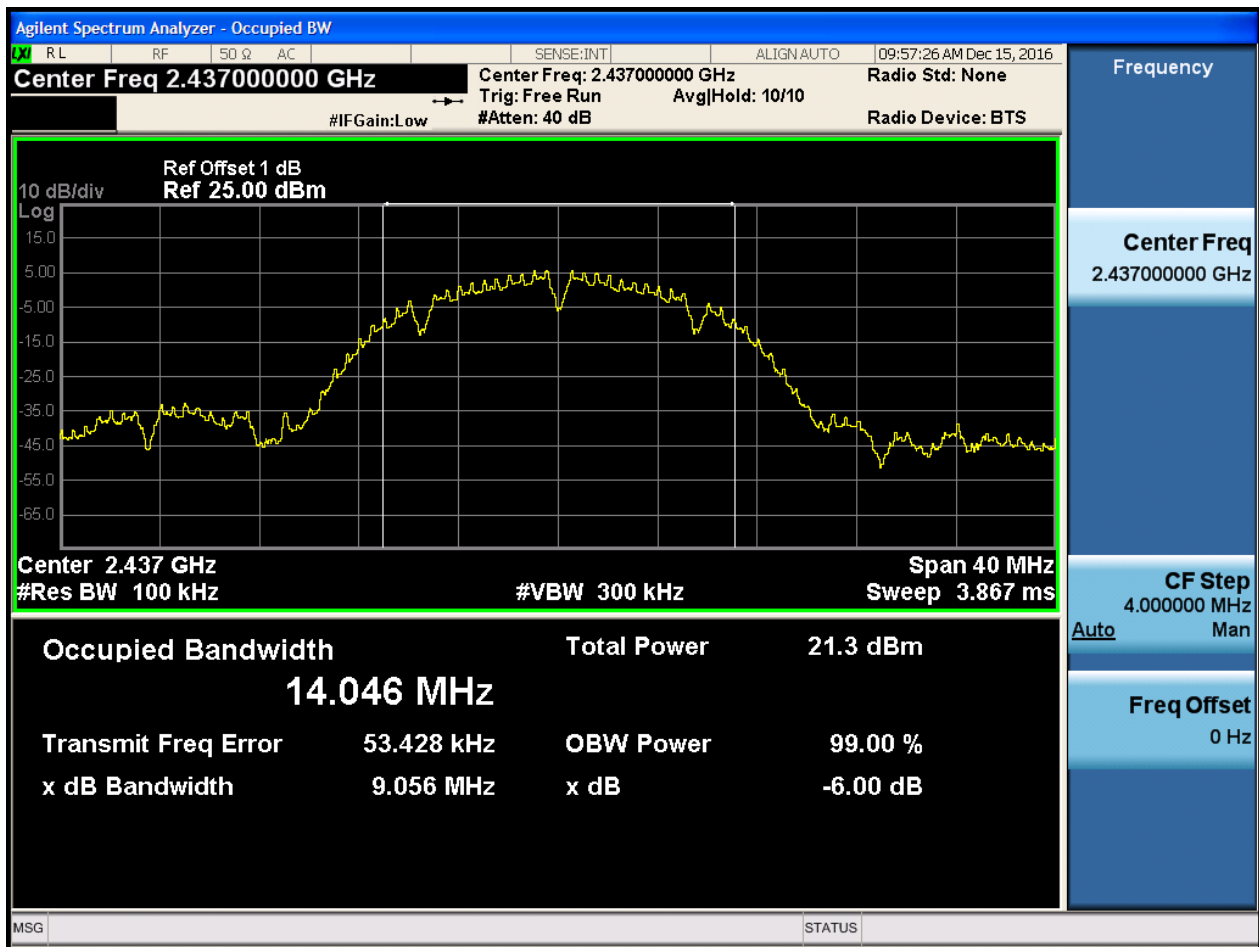
Part II - Test Plots

2.1 11B_L@Ant 1



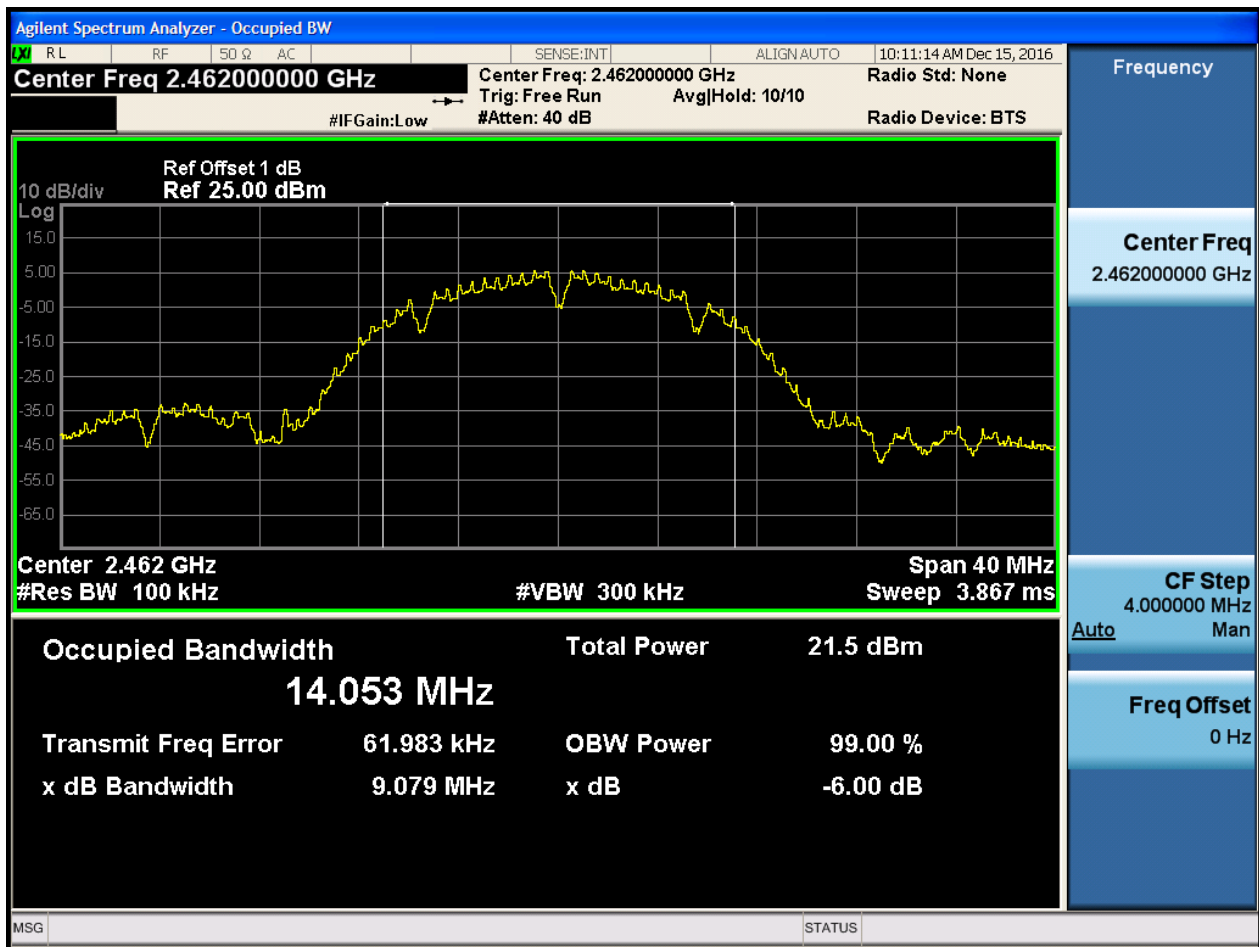


2.2 11B_M@Ant 1



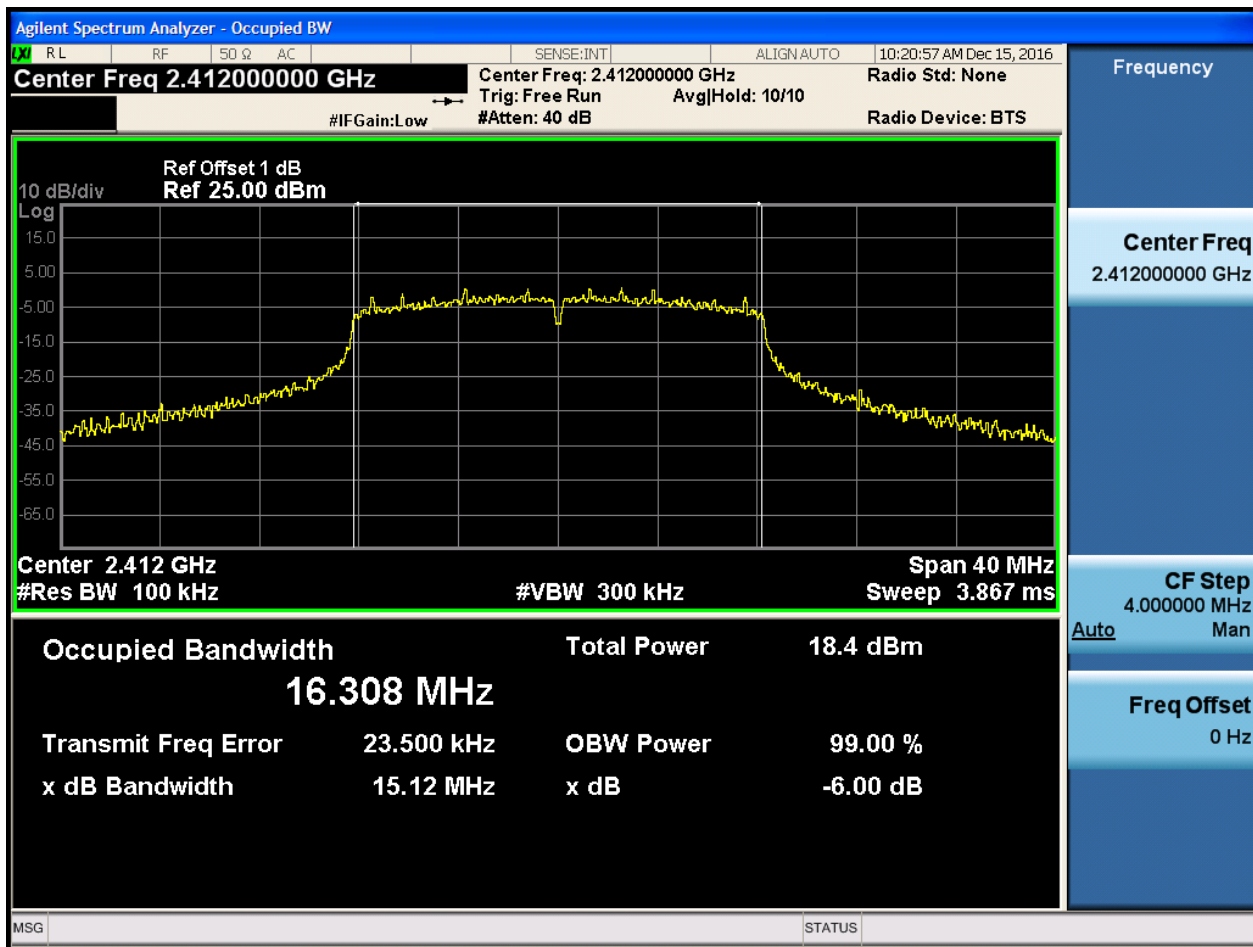


2.3 11B_H@Ant 1



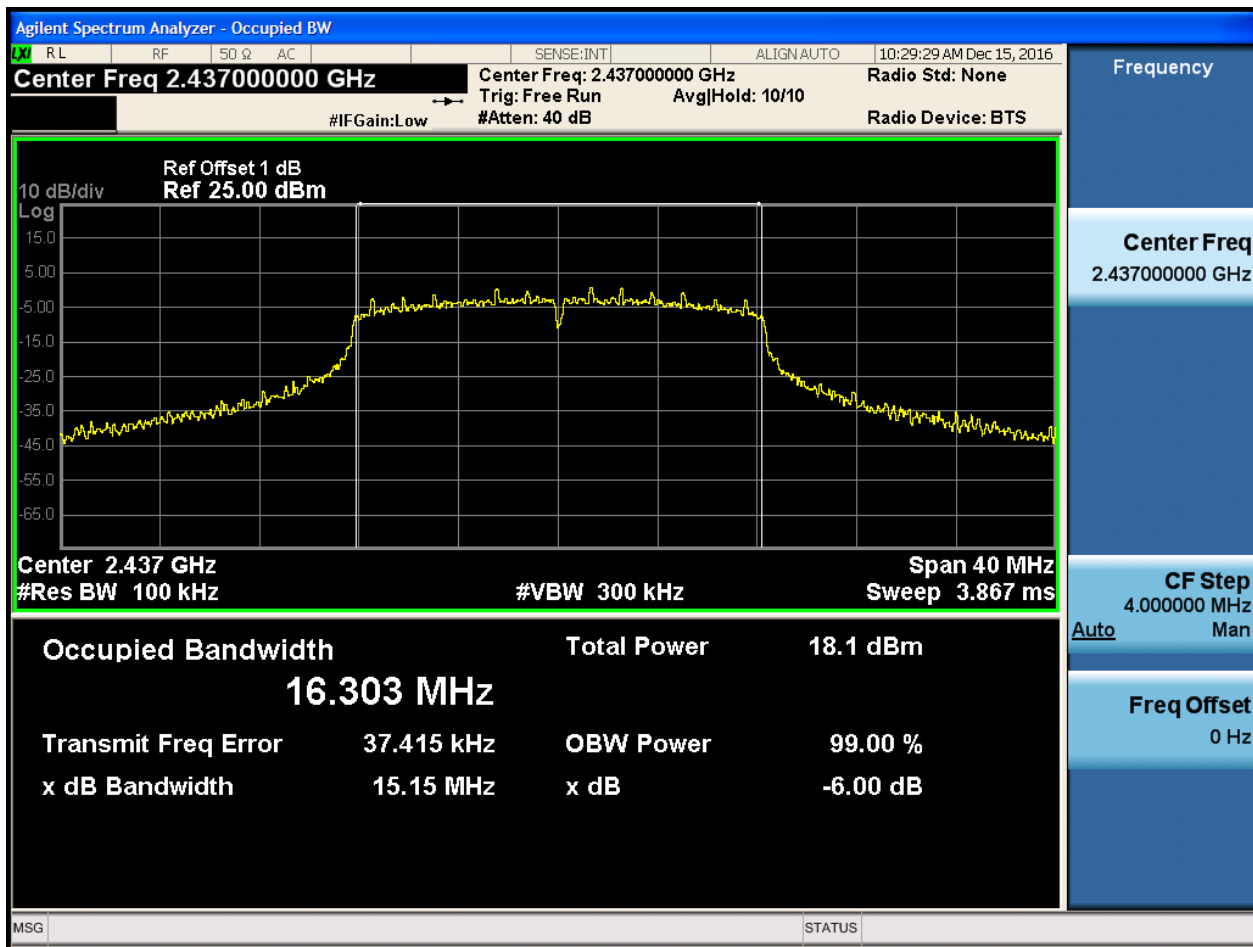


2.4 11G_L@Ant 1



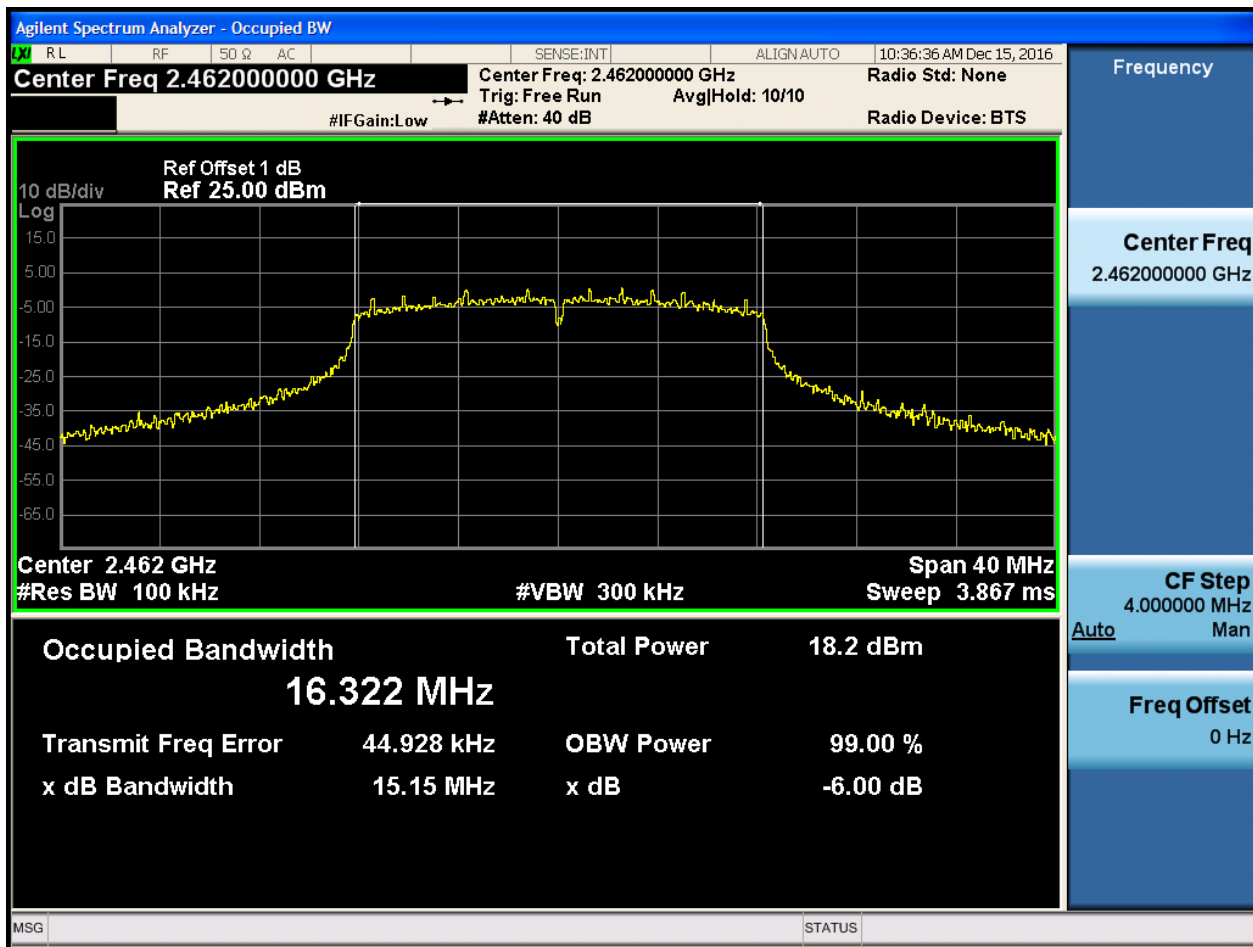


2.5 11G_M@Ant 1



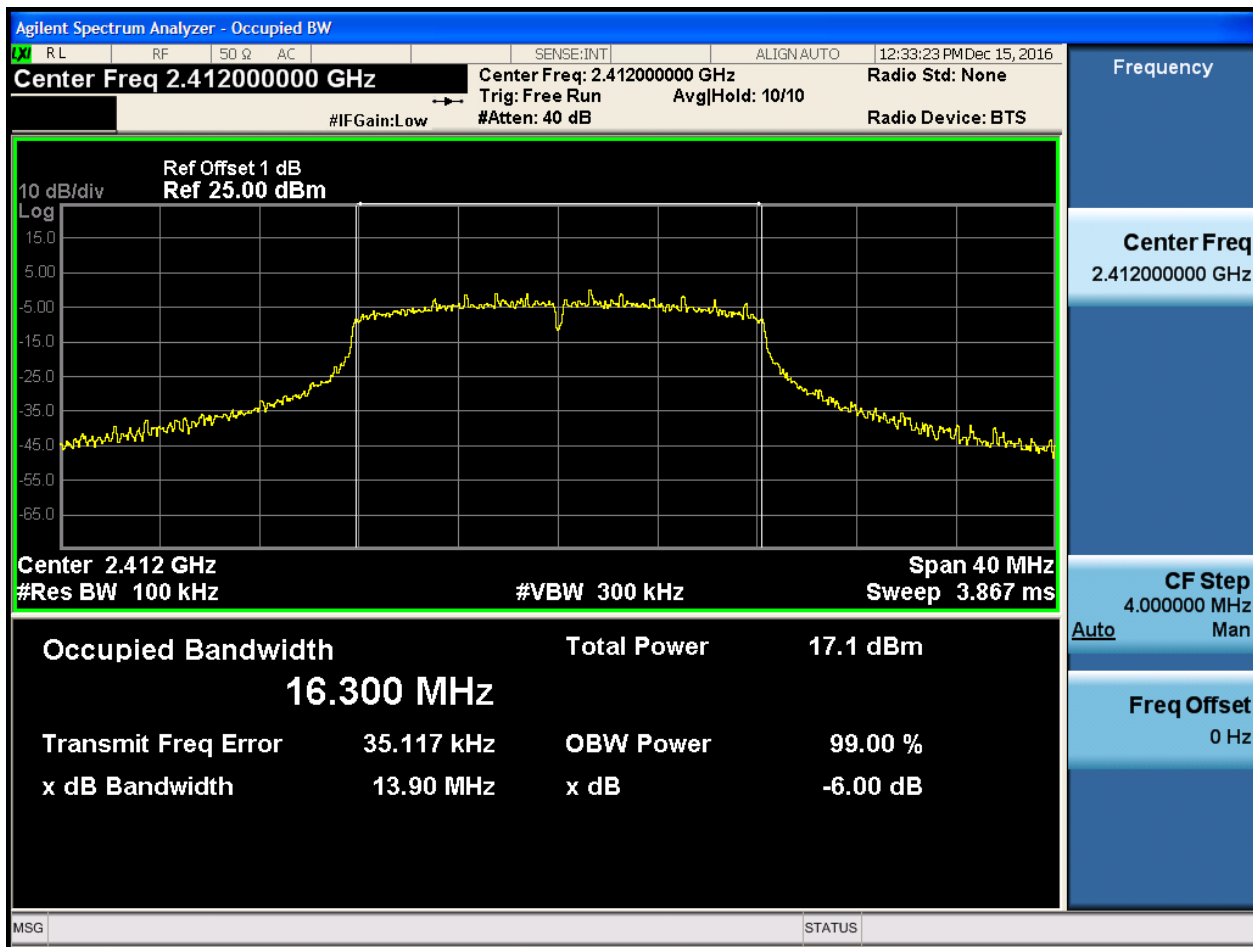


2.6 11G_H@Ant 1



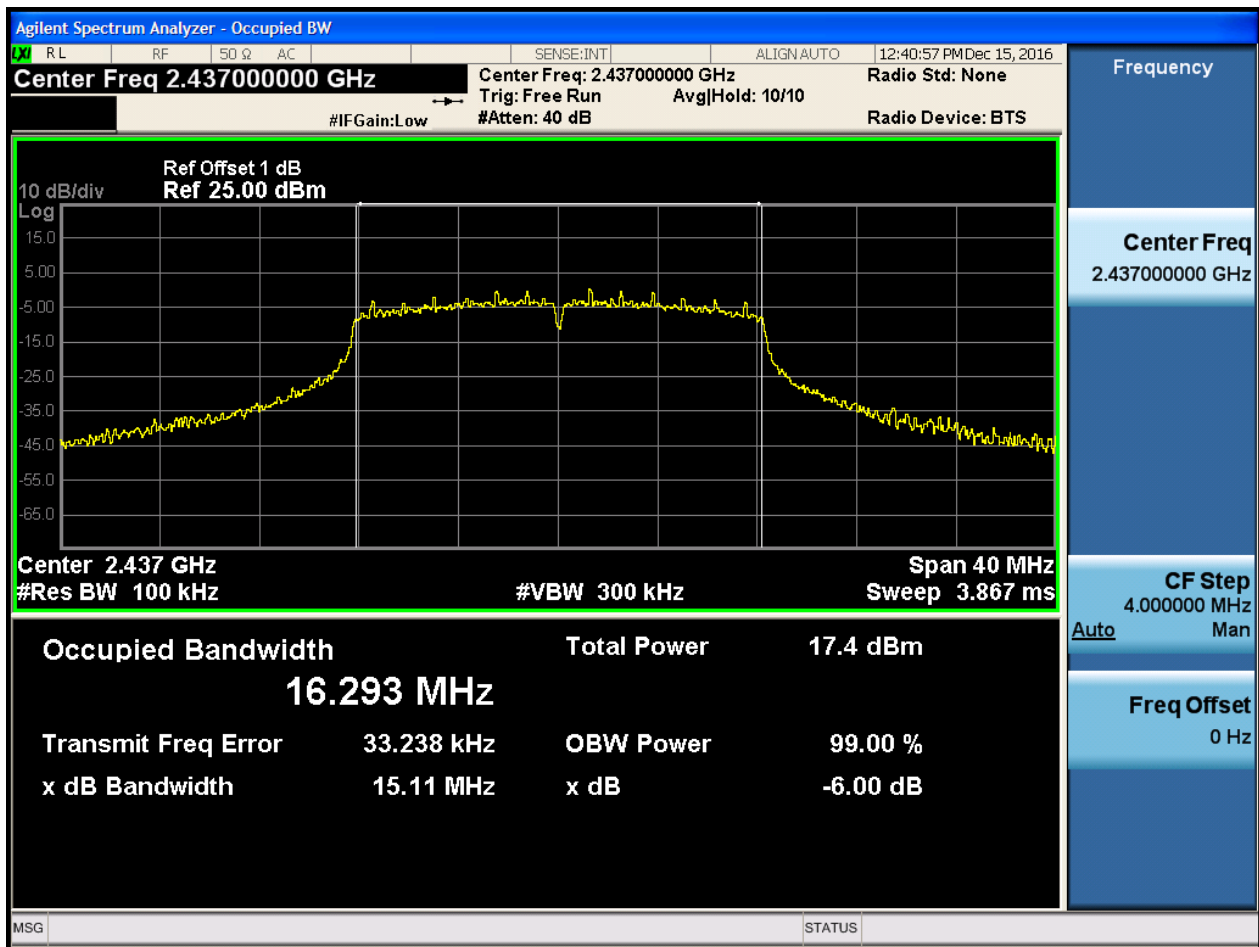


2.7 11N20_L@Ant 1



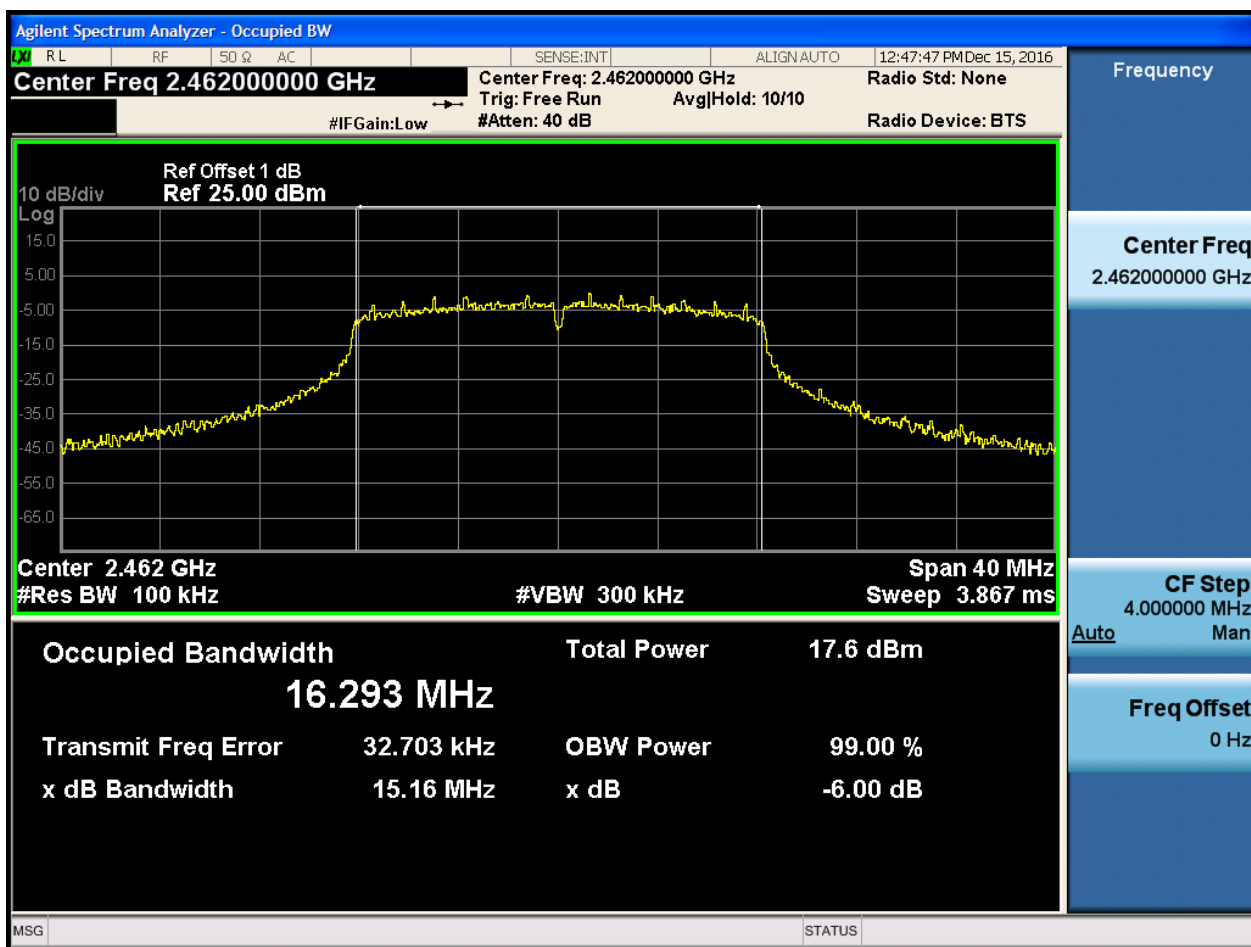


2.8 11N20_M@Ant 1





2.9 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.

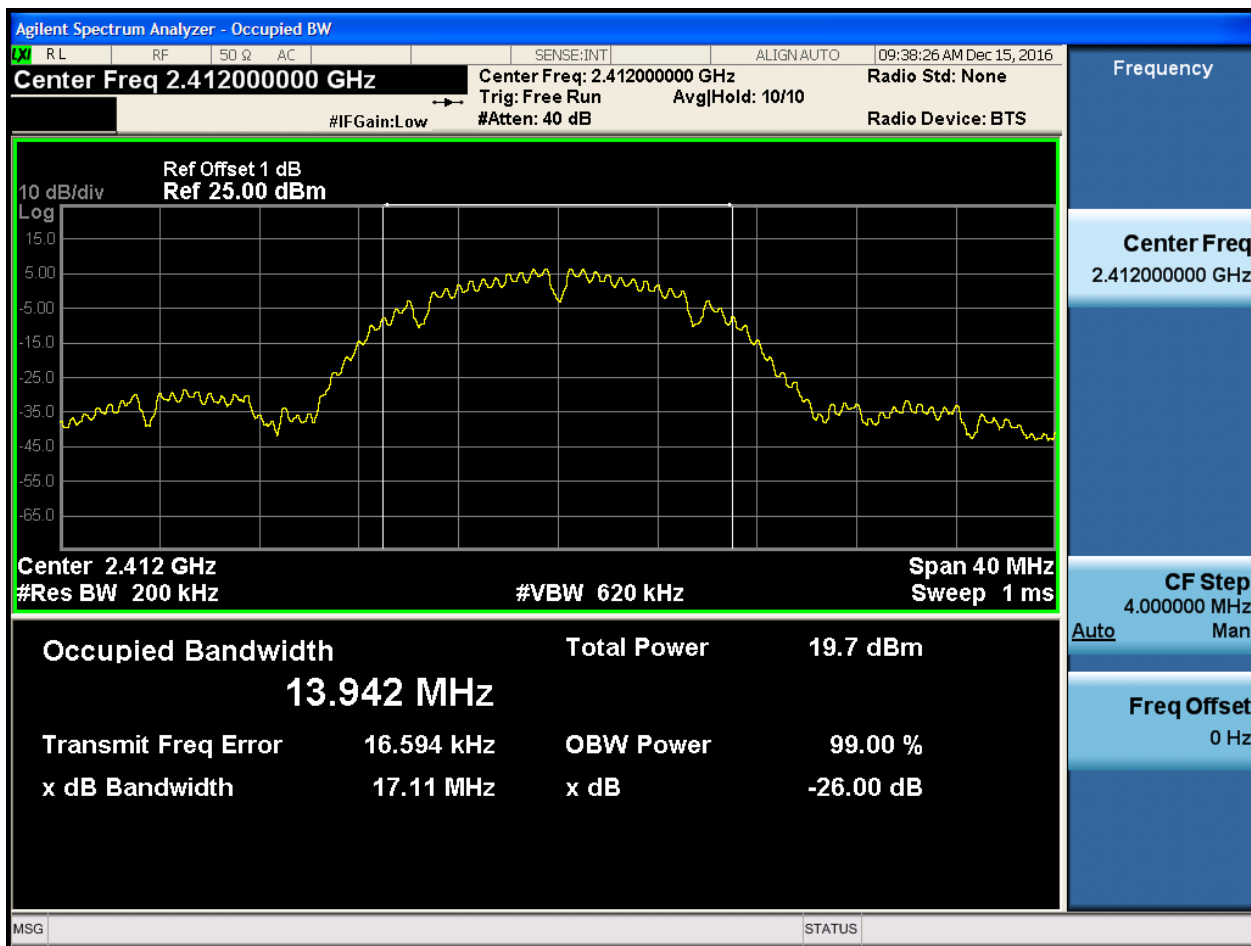
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	13.94	pass
11B	M	2437	Ant 1	14.11	pass
11B	H	2462	Ant 1	14.07	pass
11G	L	2412	Ant 1	16.35	pass
11G	M	2437	Ant 1	16.37	pass
11G	H	2462	Ant 1	16.35	pass
11N20	L	2412	Ant 1	16.35	pass
11N20	M	2437	Ant 1	16.34	pass
11N20	H	2462	Ant 1	16.32	pass



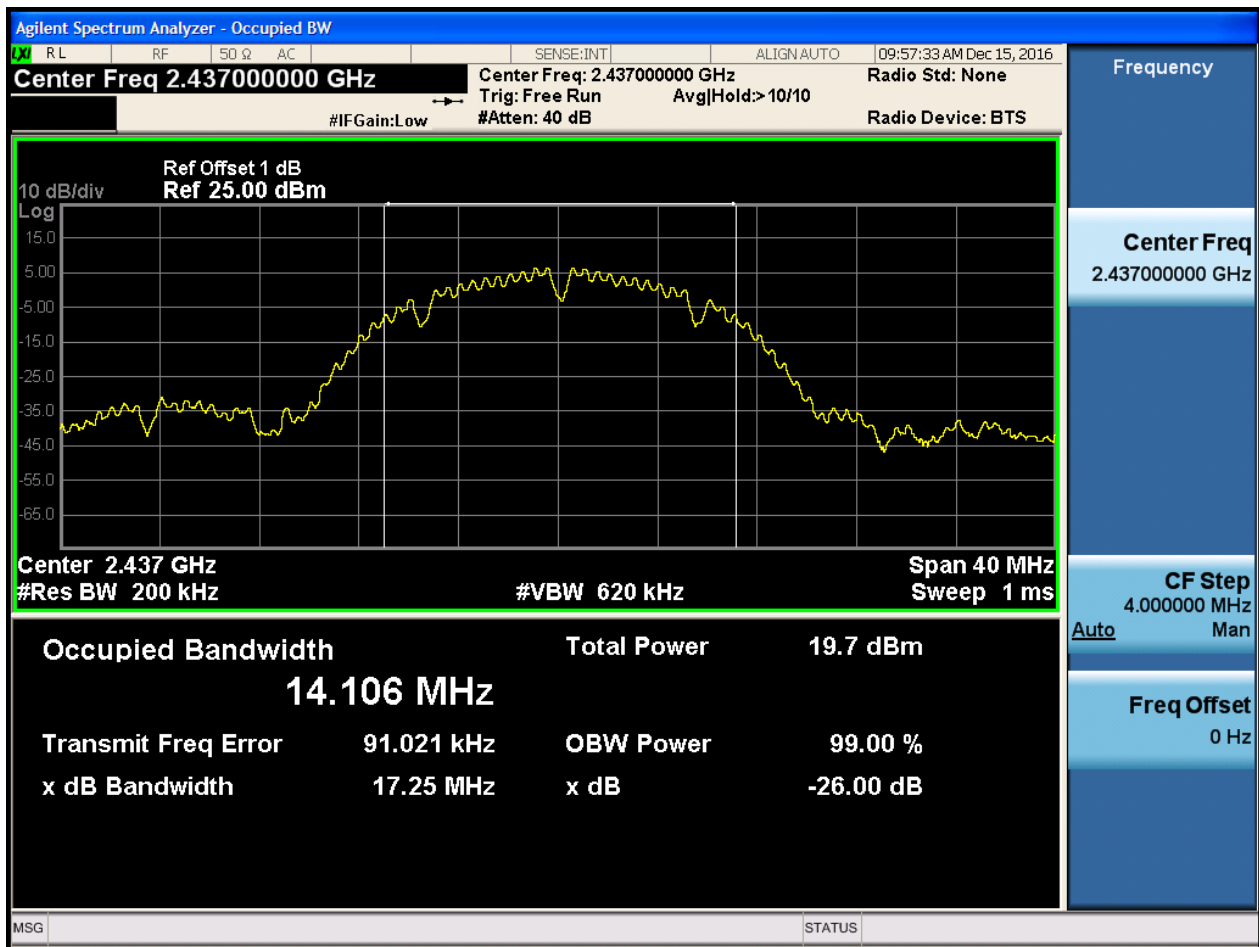
Part II - Test Plots

2.1 11B_L@Ant 1



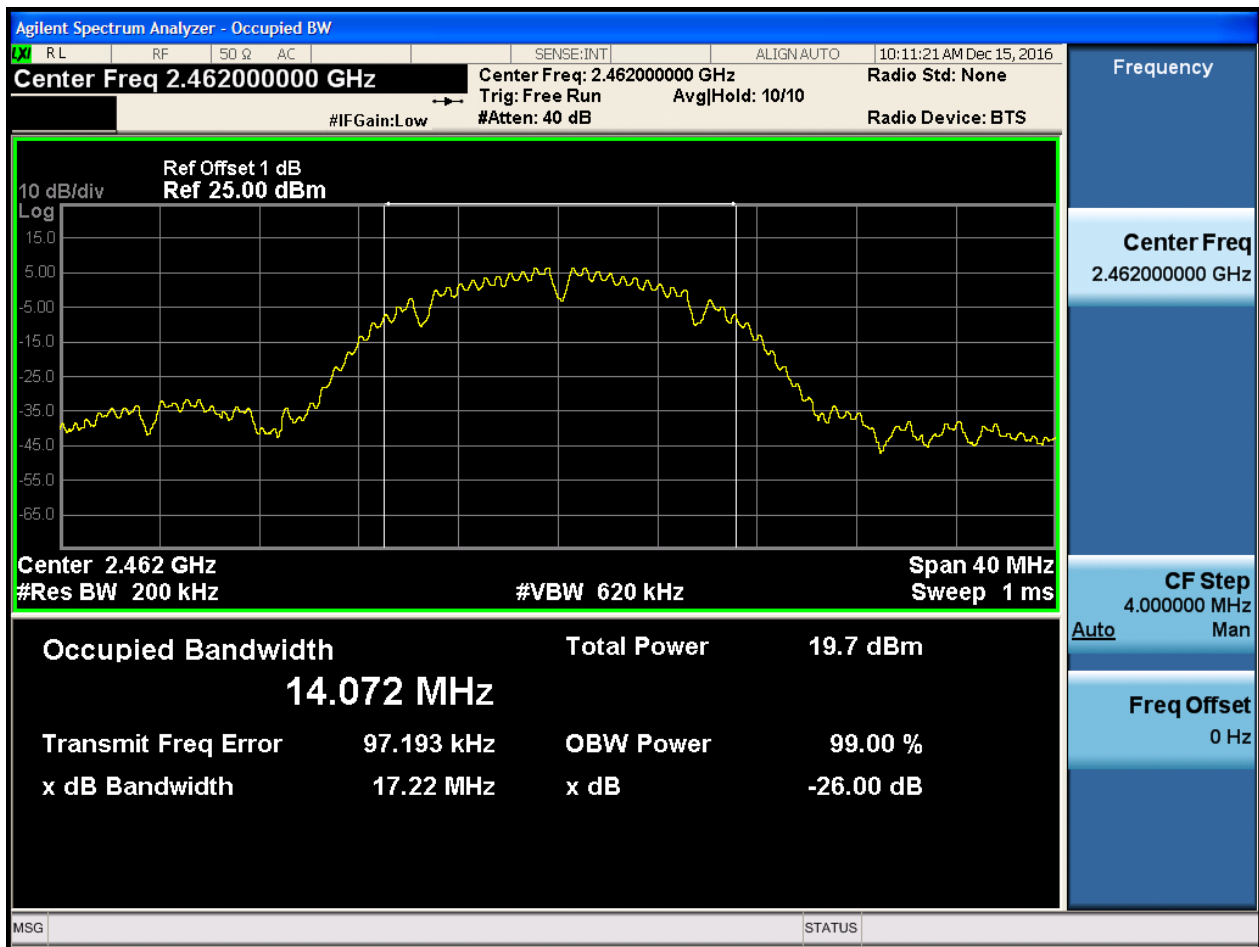


2.2 11B_M@Ant 1



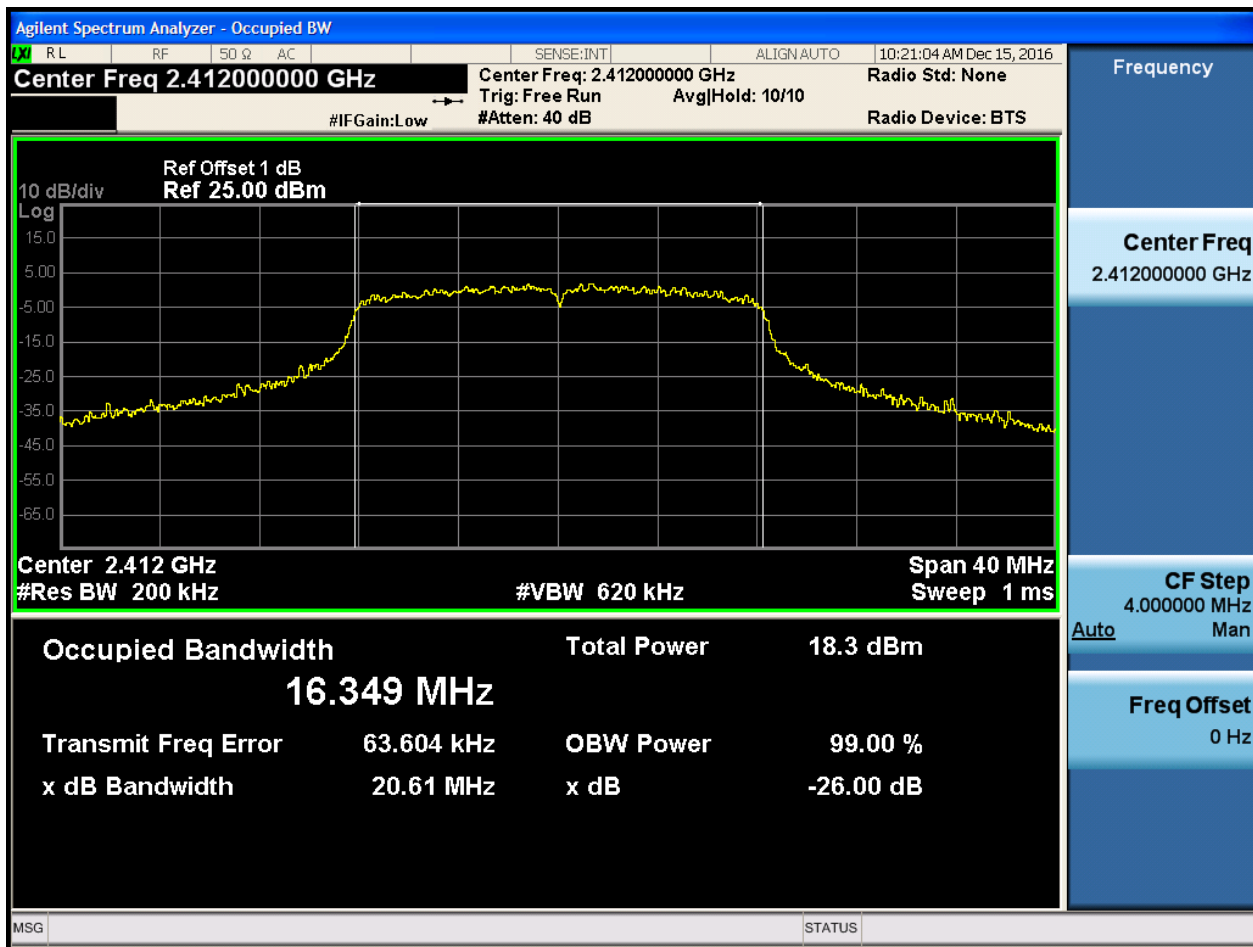


2.3 11B_H@Ant 1



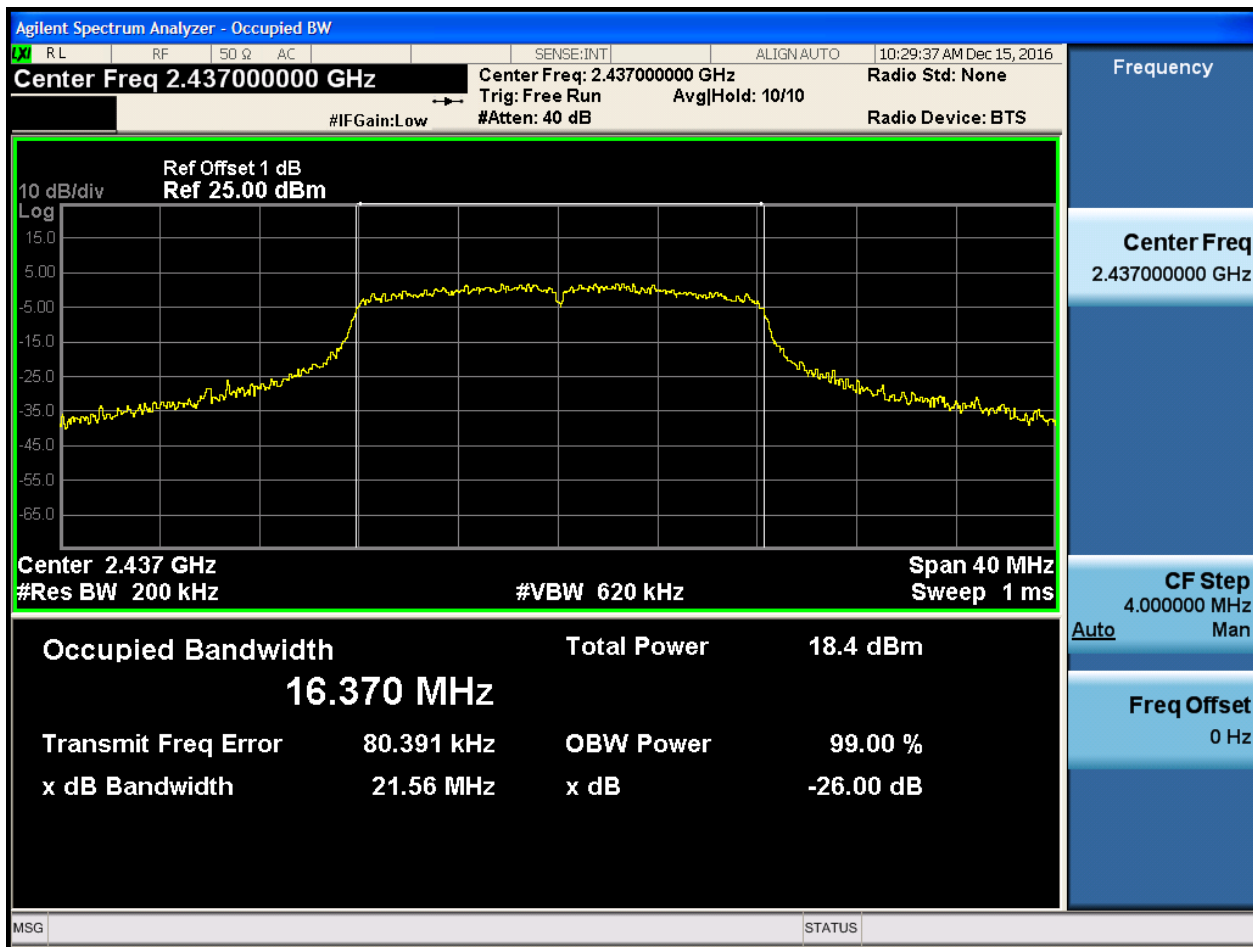


2.4 11G_L@Ant 1



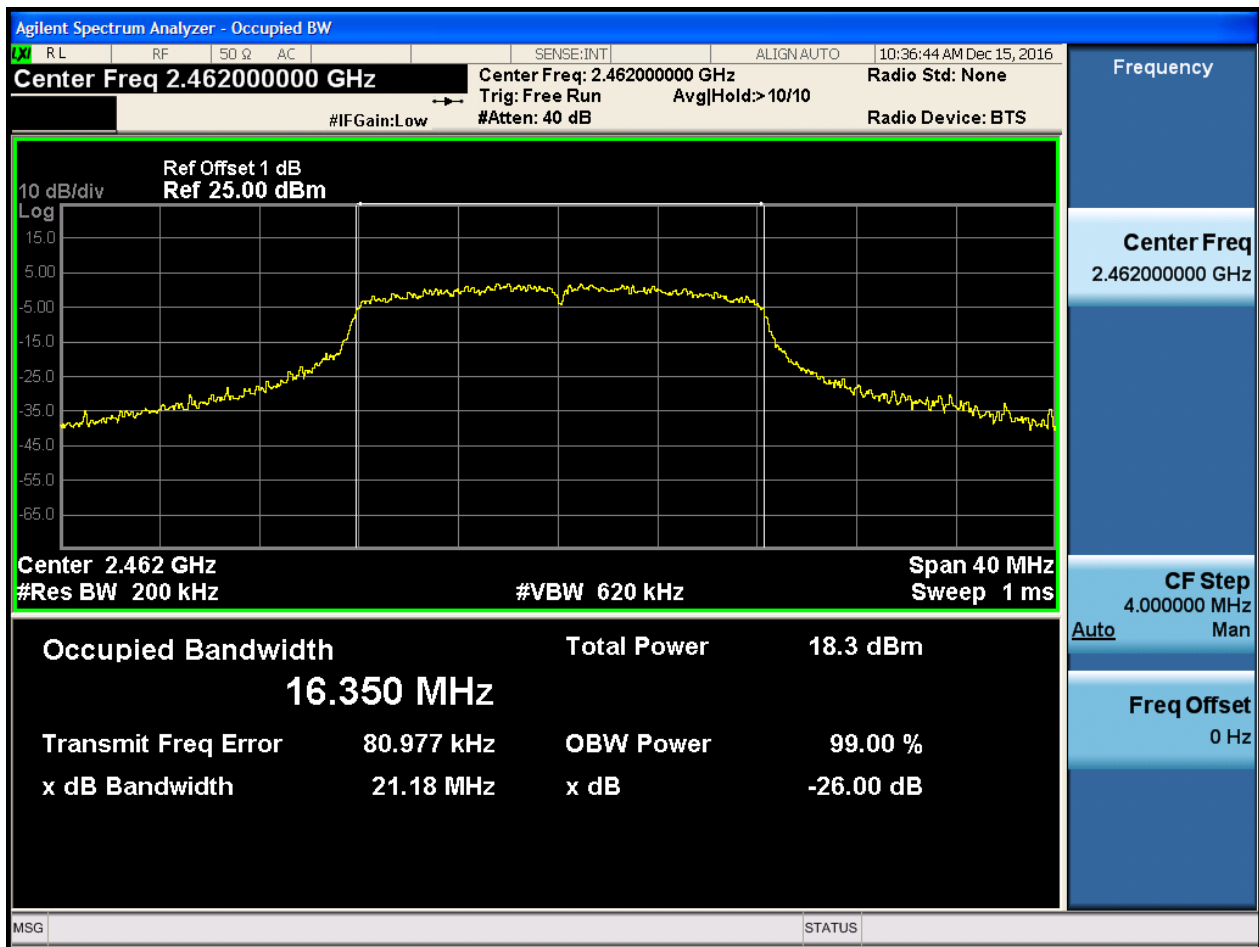


2.5 11G_M@Ant 1



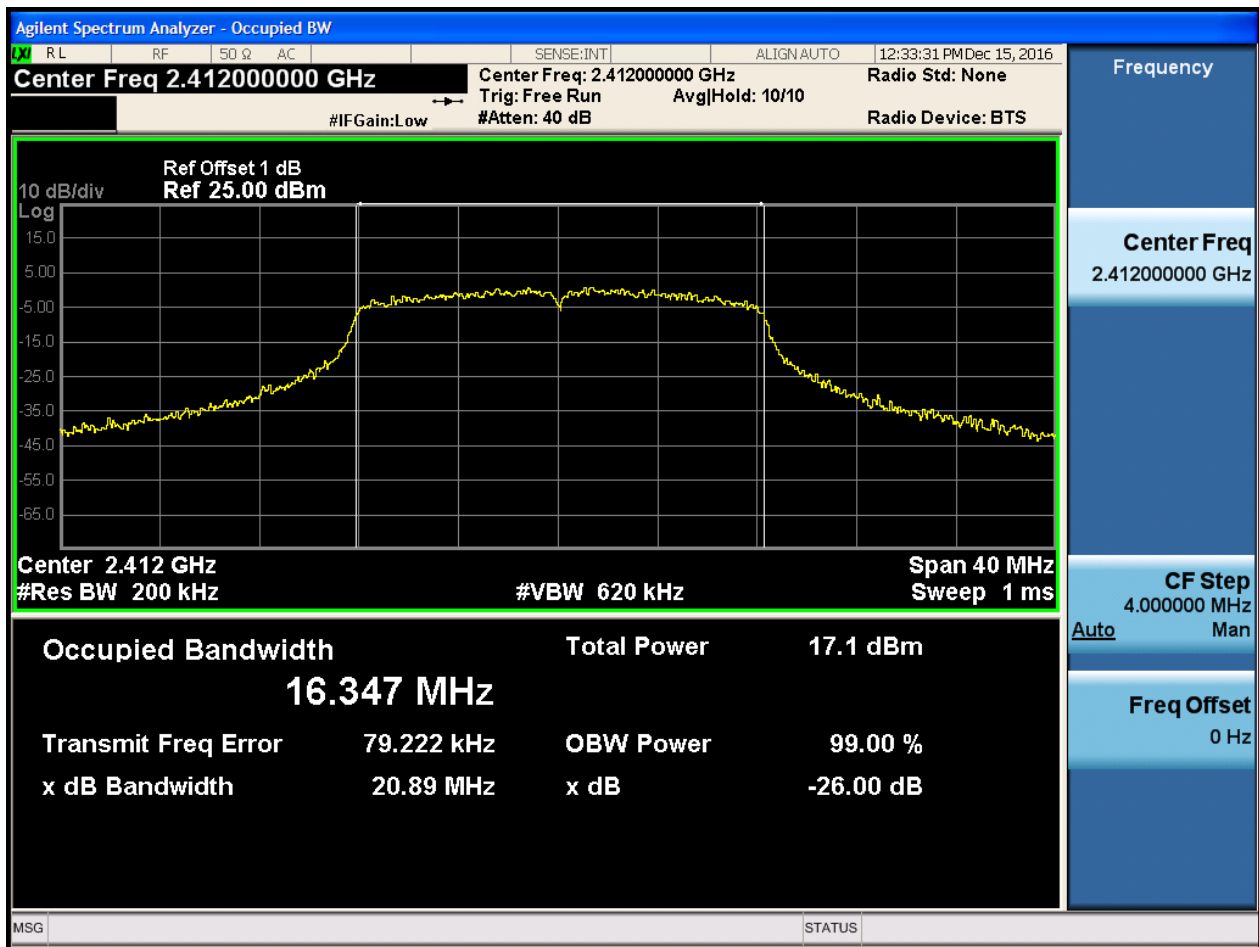


2.6 11G_H@Ant 1



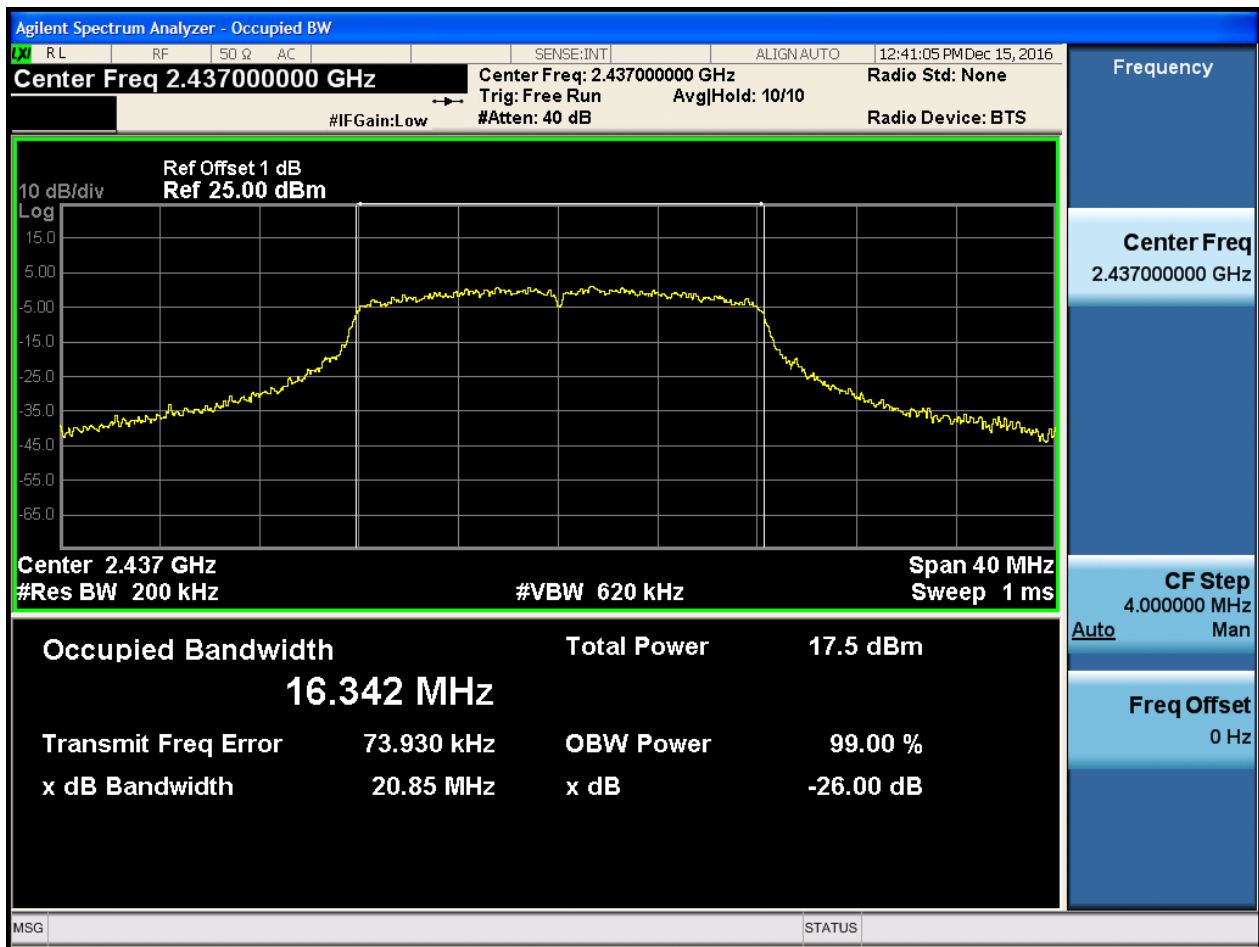


2.7 11N20_L@Ant 1



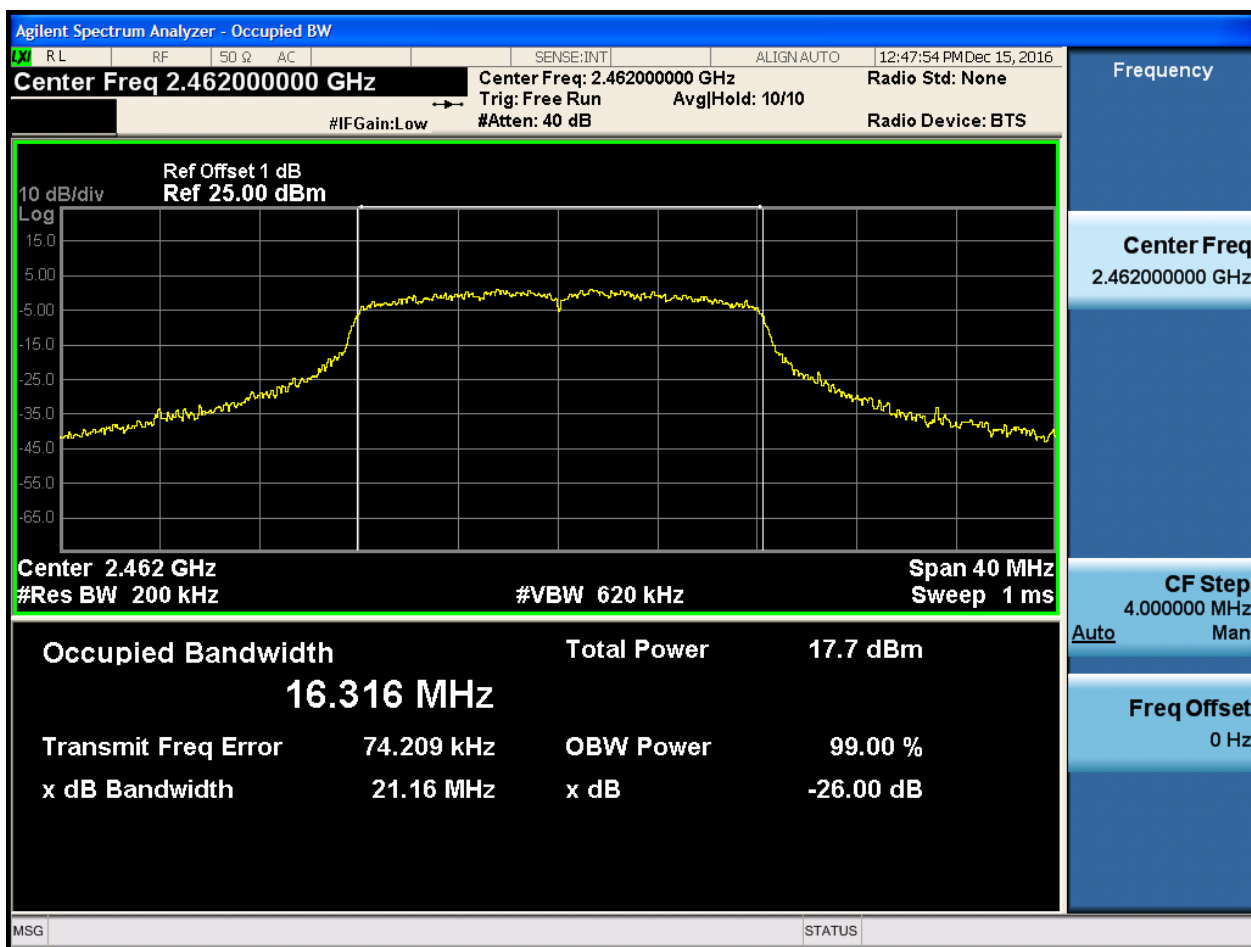


2.8 11N20_M@Ant 1





2.9 11N20_H@Ant 1



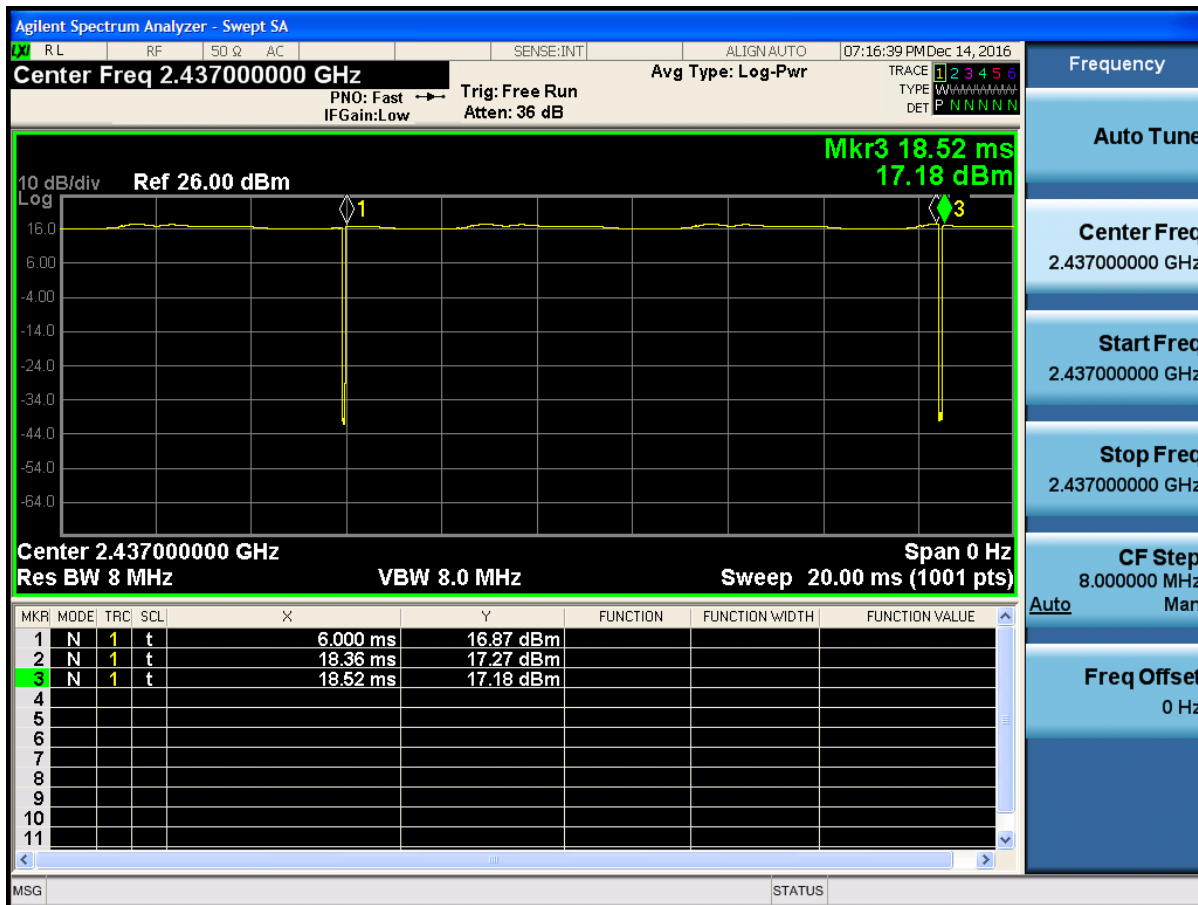
Appendix C: Duty Cycle

Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	Ant 1: CH1,CH6,CH11	99
11G	Ant 1: CH1,CH6,CH11	95
11N20M SISO	Ant 1: CH1,CH6,CH11	94



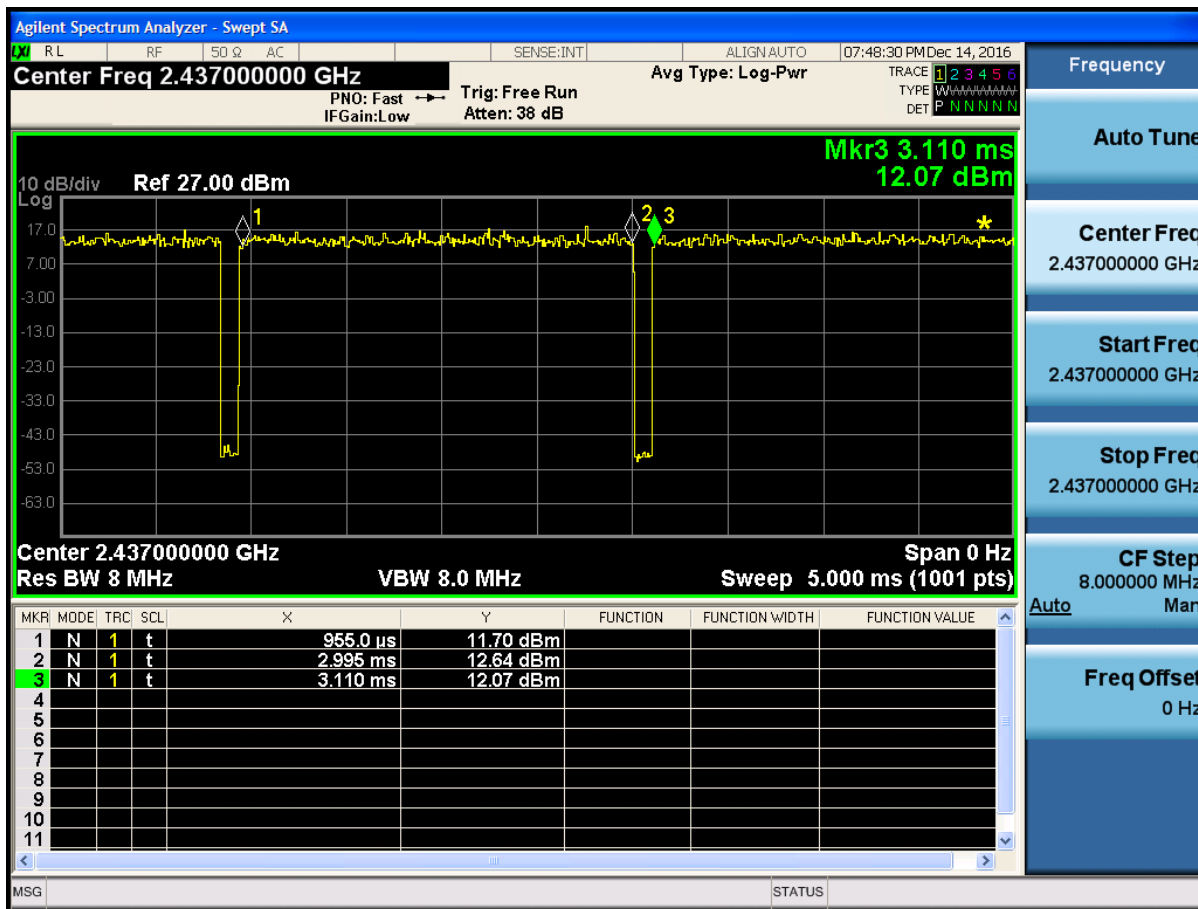
Part II - Test Plots

2.1 11B



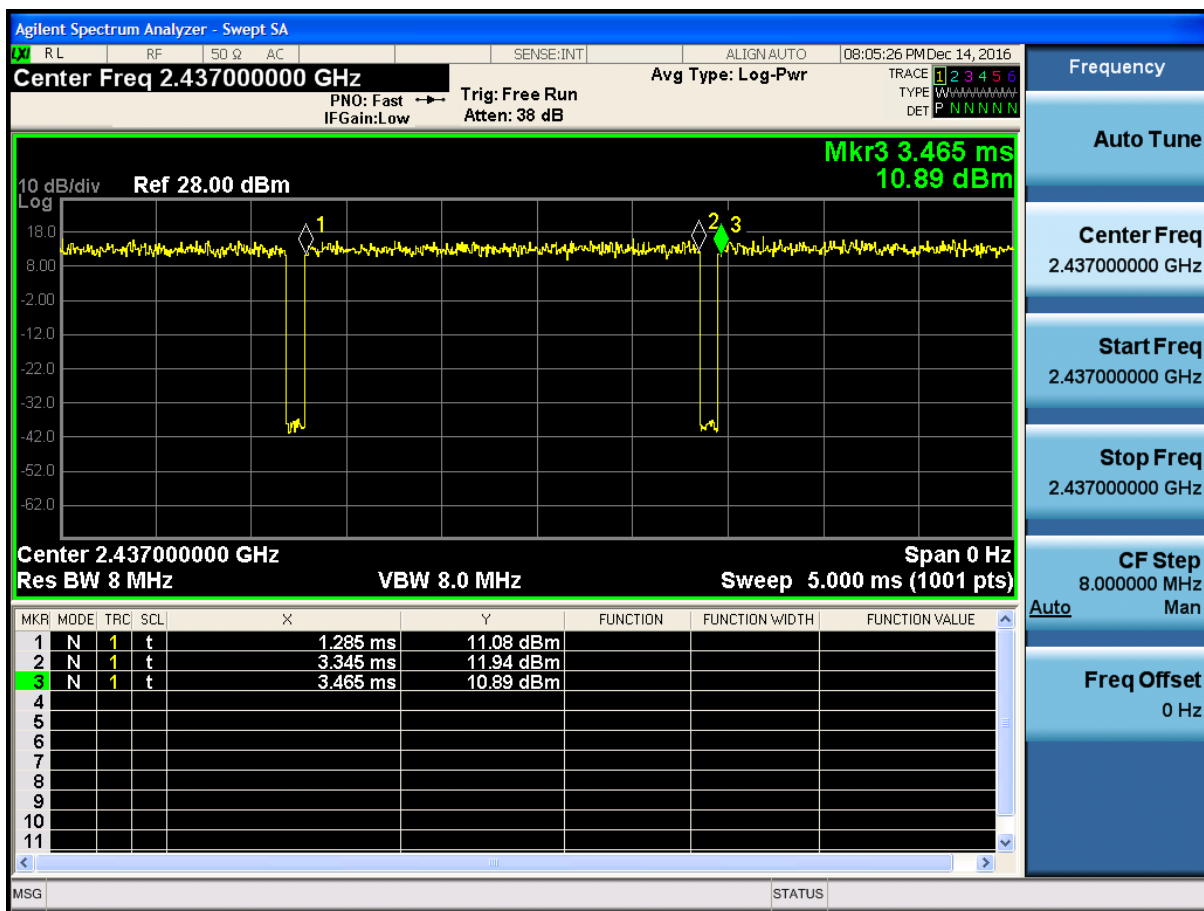


2.2 11G





2.3 11N20



Appendix D: Maximum Conducted Average Output Power

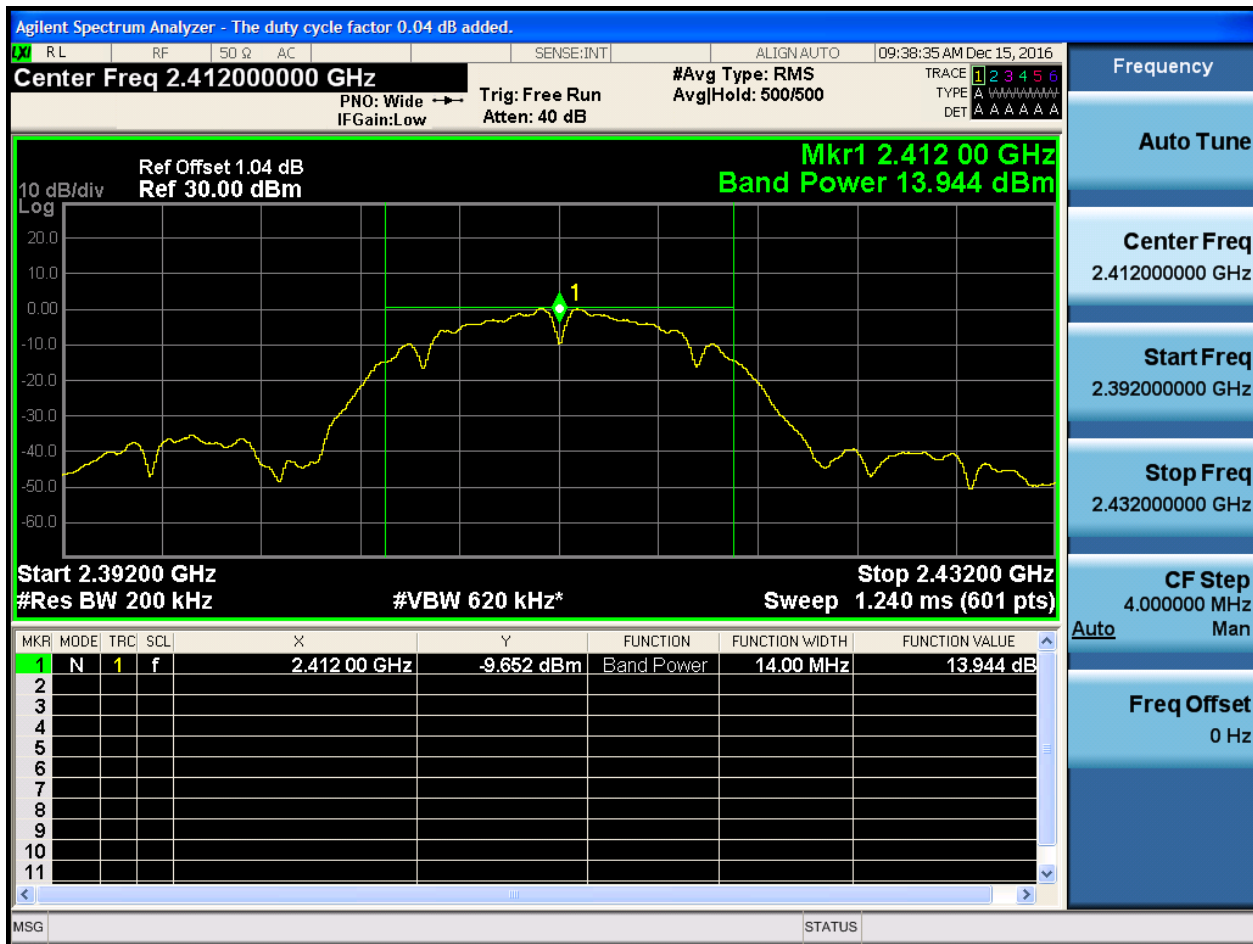
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
11B	L	2412	Ant 1	13.94	pass
11B	M	2437	Ant 1	13.91	pass
11B	H	2462	Ant 1	14.18	pass
11G	L	2412	Ant 1	11.01	pass
11G	M	2437	Ant 1	11.08	pass
11G	H	2462	Ant 1	11.29	pass
11N20	L	2412	Ant 1	10.21	pass
11N20	M	2437	Ant 1	10.44	pass
11N20	H	2462	Ant 1	10.62	pass



Part II - Test Plots

2.1 11B_L@Ant 1





2.2 11B_M@Ant 1



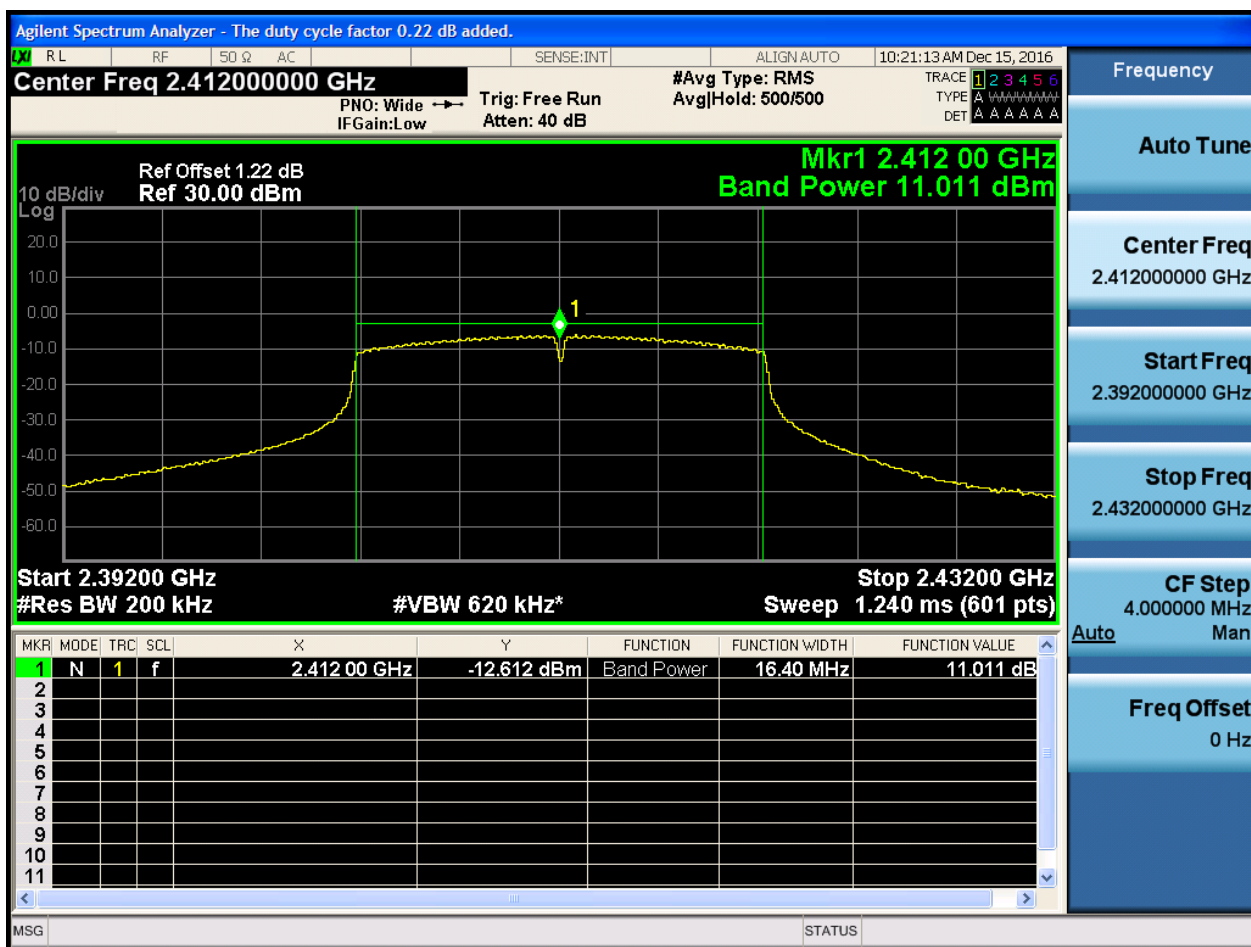


2.3 11B_H@Ant 1



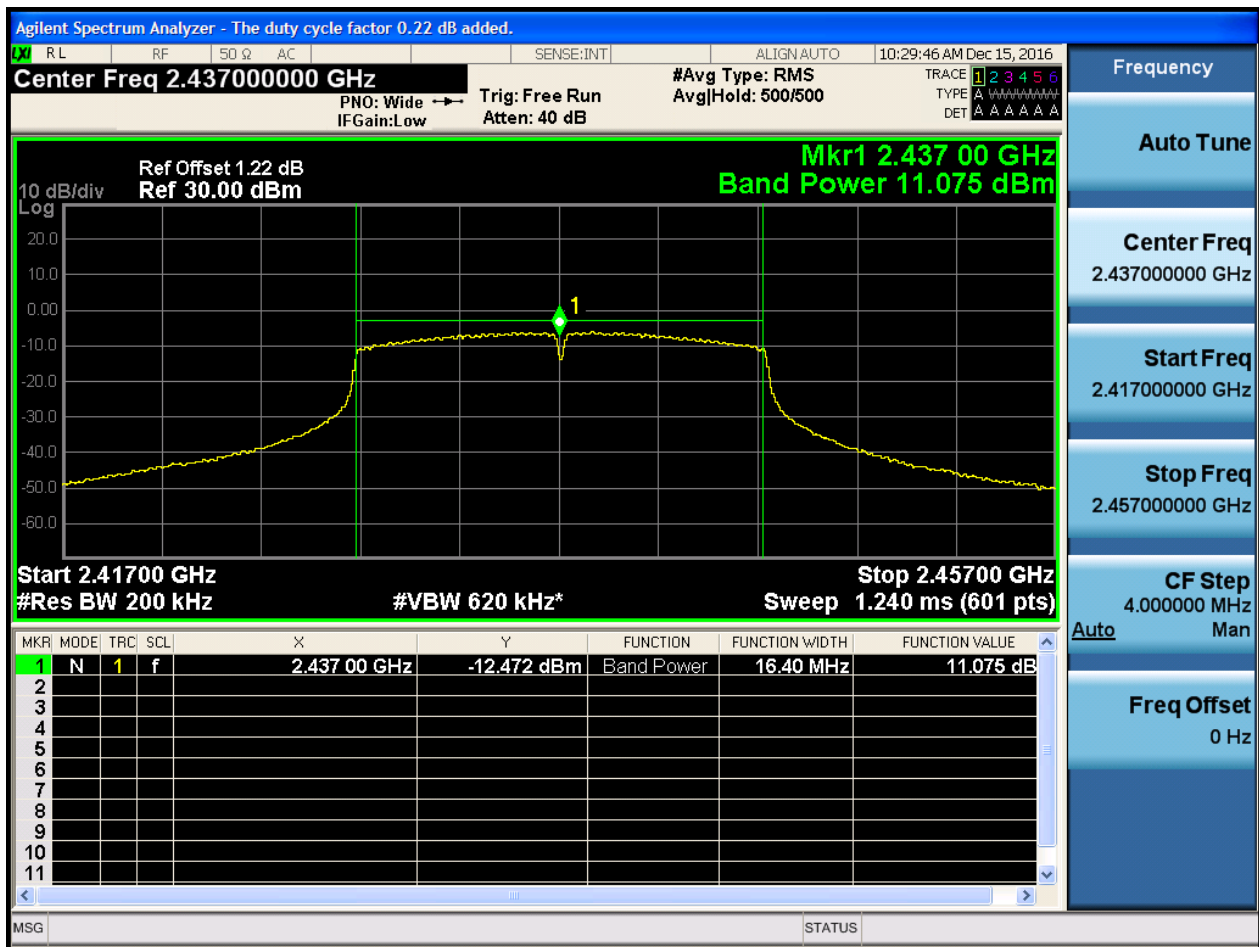


2.4 11G_L@Ant 1



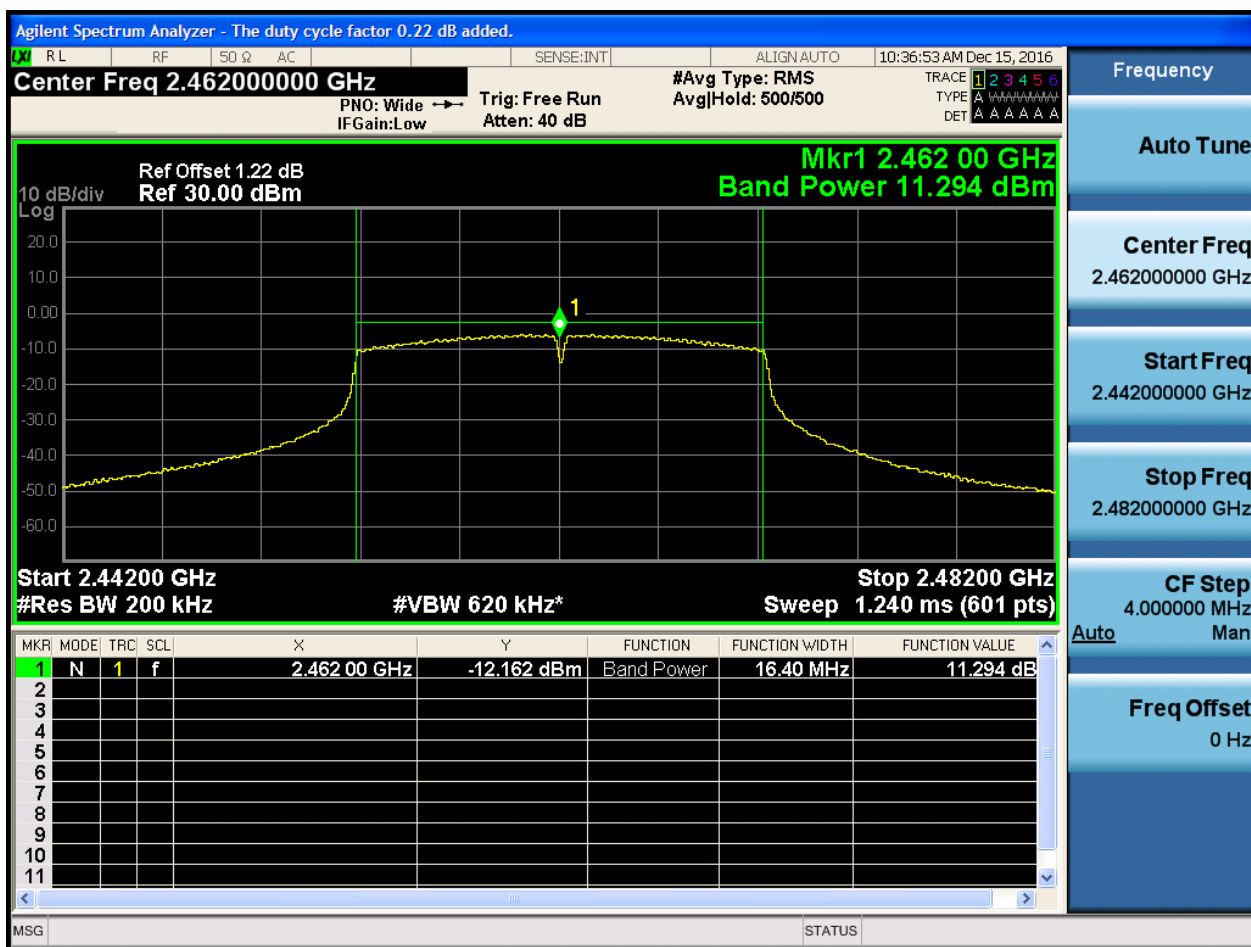


2.5 11G_M@Ant 1



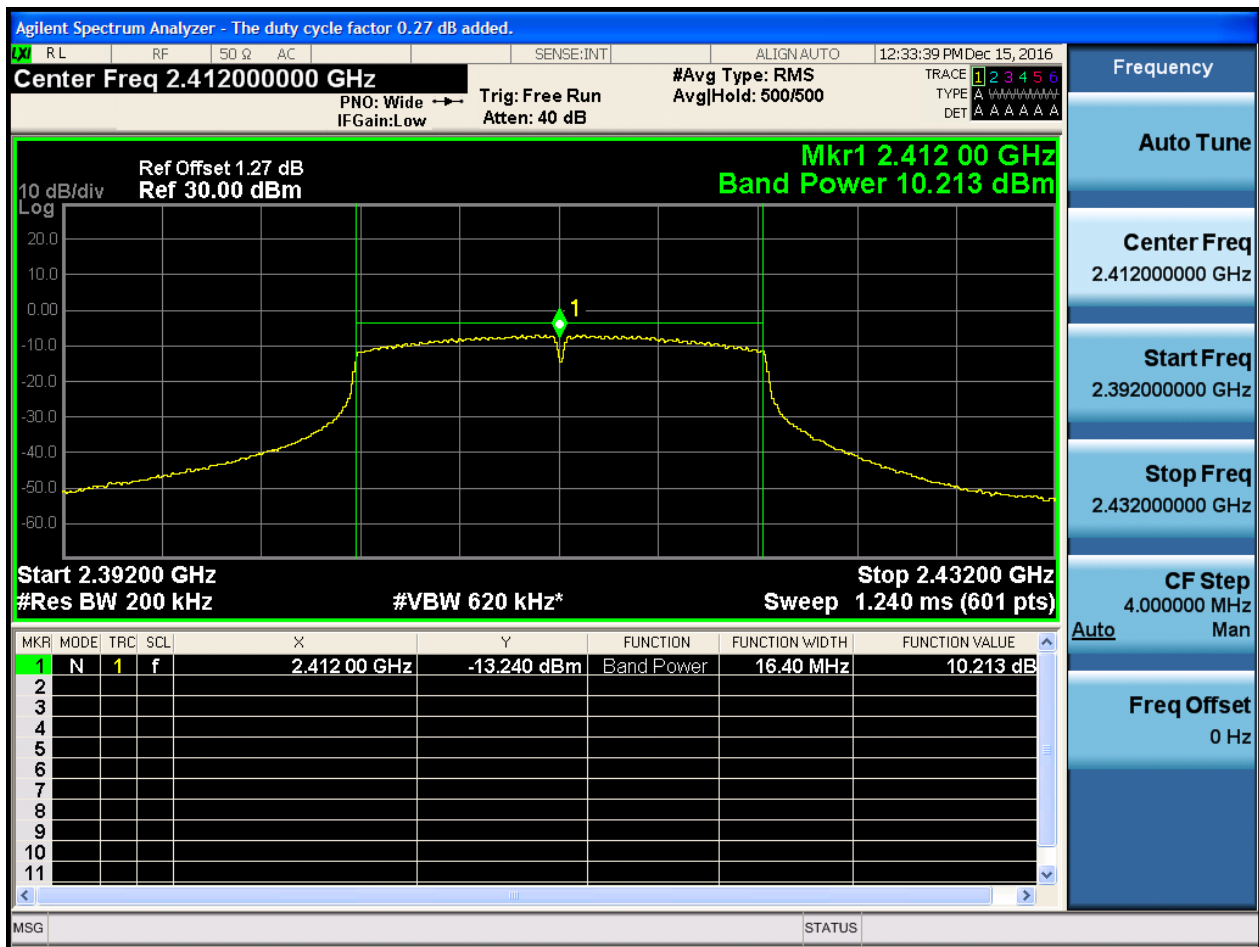


2.6 11G_H@Ant 1



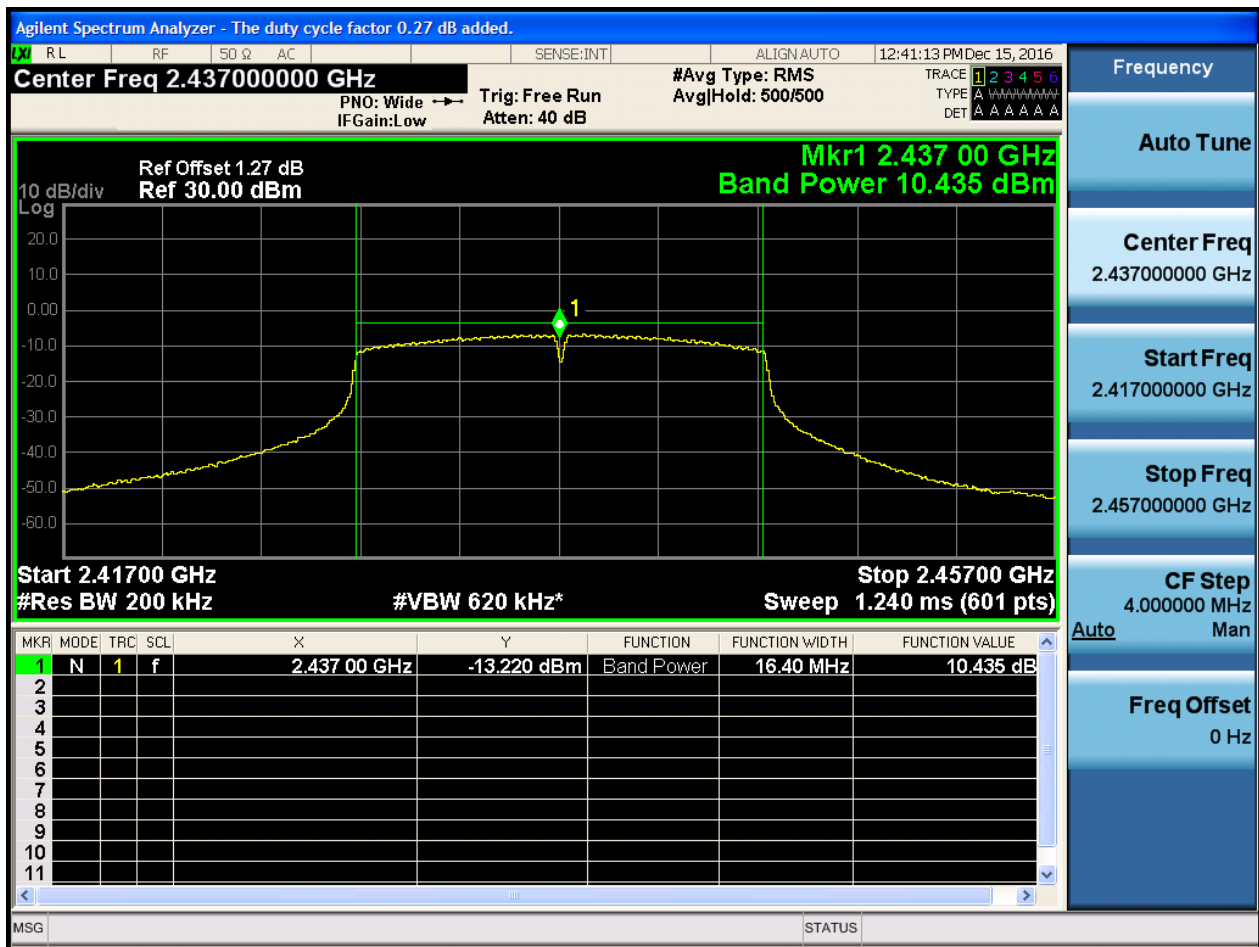


2.7 11N20_L@Ant 1



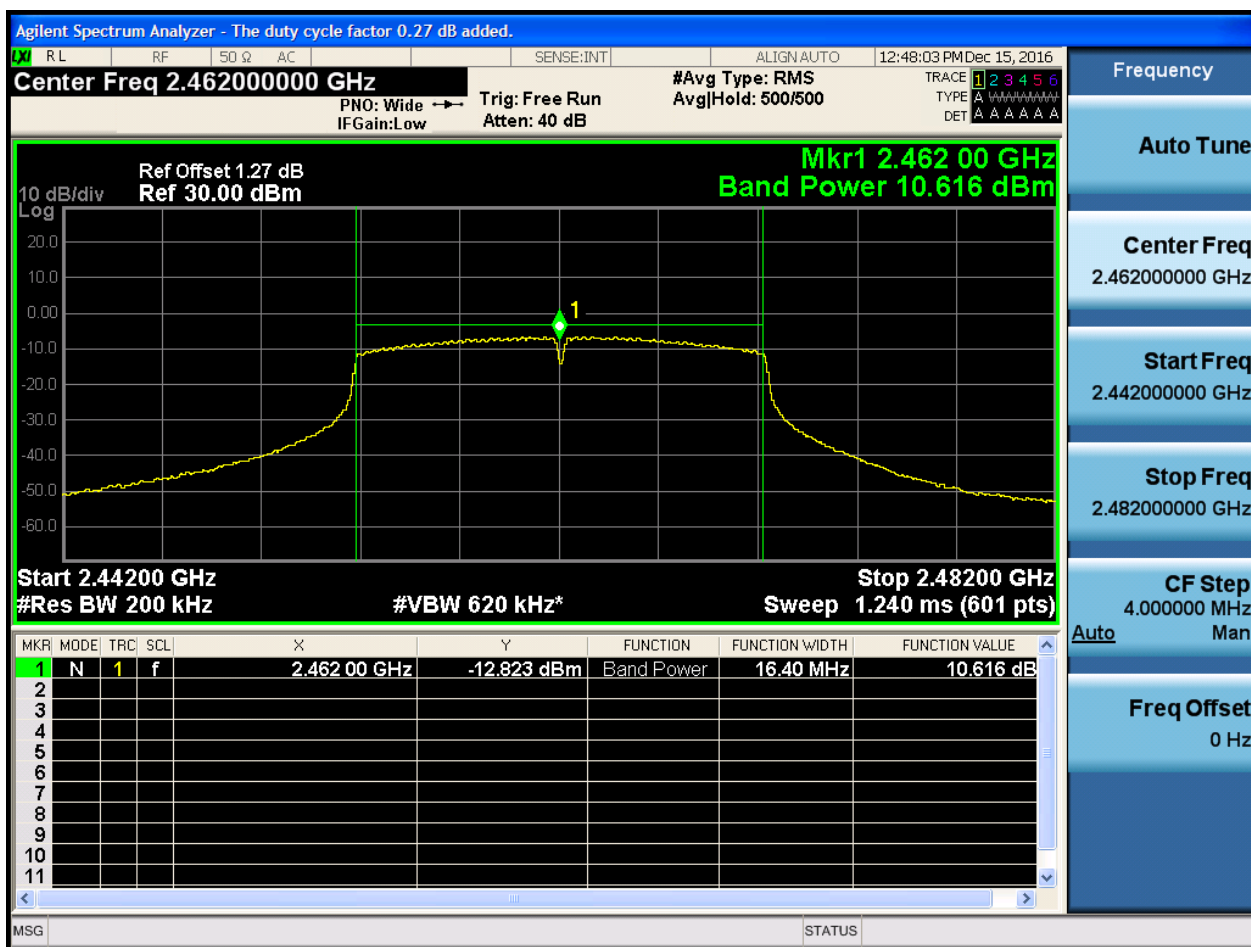


2.8 11N20_M@Ant 1





2.9 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	-12.70	pass
11B	M	2437	Ant 1	-12.65	pass
11B	H	2462	Ant 1	-12.58	pass
11G	L	2412	Ant 1	-18.04	pass
11G	M	2437	Ant 1	-18.15	pass
11G	H	2462	Ant 1	-17.79	pass
11N20	L	2412	Ant 1	-18.83	pass
11N20	M	2437	Ant 1	-18.72	pass
11N20	H	2462	Ant 1	-18.40	pass



Part II - Test Plots

2.1 11B_L@Ant 1





Agilent Spectrum Analyzer - The duty cycle factor 0.04 dB added.

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 09:59:27 AM Dec 15, 2016

Center Freq 2.437000000 GHz #Avg Type: RMS AvgHold: 200/200
PNO: Wide → Trig: Free Run
IFGain:Low Atten: 30 dB

TRACE 1 2 3 4 5 6
TYPE A A A A A A
DET A A A A A A

Ref Offset 1.04 dB
Ref 20.00 dBm

**Mkr1 2.436 33 GHz
-12.649 dBm**

10 dB/div
Log

Start 2.41700 GHz
#Res BW 10 kHz
#VBW 100 kHz*

Stop 2.45700 GHz
Sweep 476.6 ms (601 pts)

Frequency
Auto Tune
Center Freq
2.437000000 GHz
Start Freq
2.417000000 GHz
Stop Freq
2.457000000 GHz
CF Step
4.000000 MHz
Auto Man
Freq Offset
0 Hz

MSG STATUS



Agilent Spectrum Analyzer - The duty cycle factor 0.04 dB added.

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 10:13:15 AM Dec 15, 2016

Center Freq 2.462000000 GHz #Avg Type: RMS AvgHold: 200/200
PNO: Wide → Trig: Free Run
IFGain:Low Atten: 30 dB

TRACE 1 2 3 4 5 6
TYPE A A A A A A
DET A A A A A A

Ref Offset 1.04 dB
Ref 20.00 dBm

**Mkr1 2.462 73 GHz
-12.576 dBm**

10 dB/div
Log

Start 2.44200 GHz Stop 2.48200 GHz
#Res BW 10 kHz #VBW 100 kHz* Sweep 476.6 ms (601 pts)

MSG STATUS

Frequency

Auto Tune

Center Freq
2.462000000 GHz

Start Freq
2.442000000 GHz

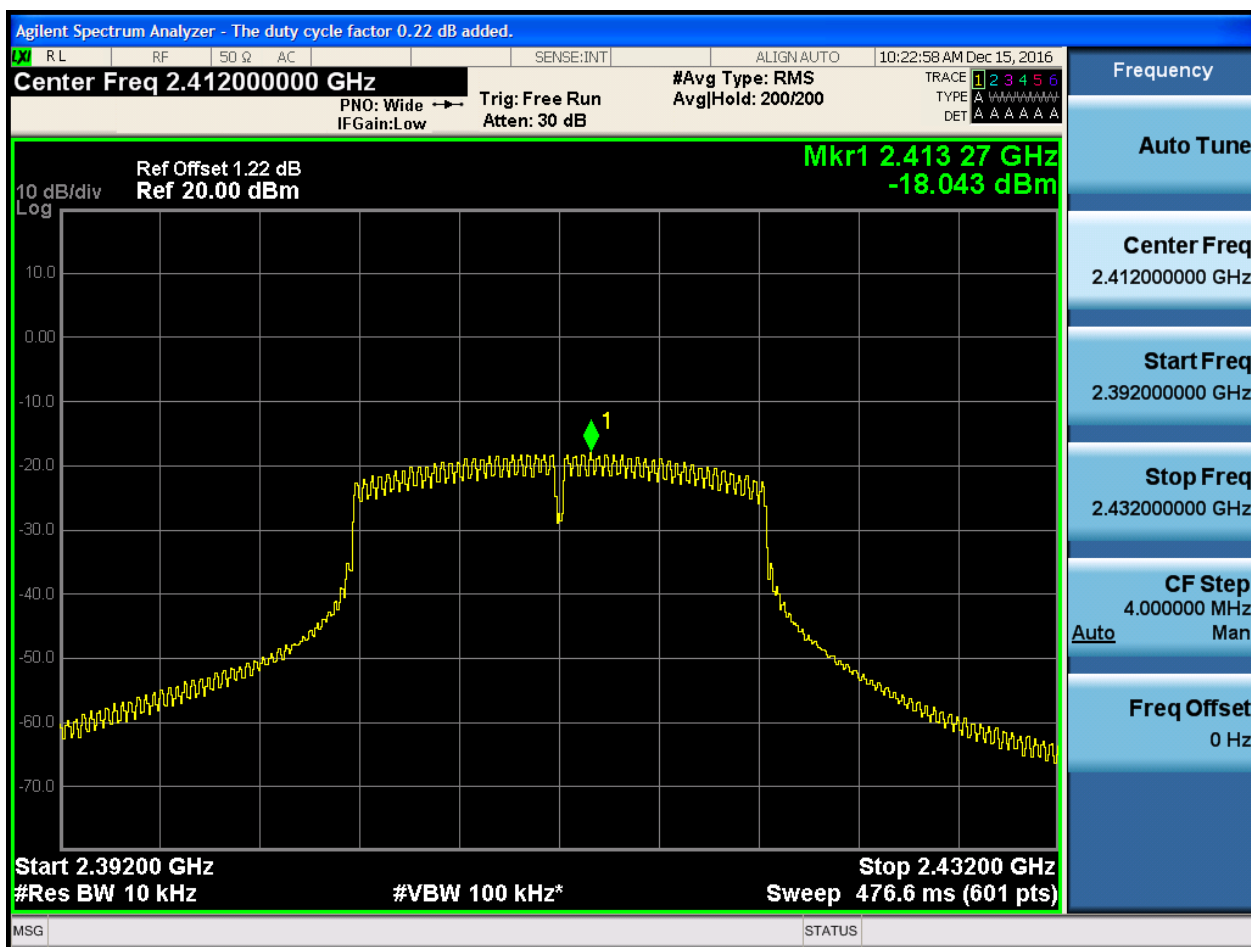
Stop Freq
2.482000000 GHz

CF Step
4.000000 MHz
Auto Man

Freq Offset
0 Hz

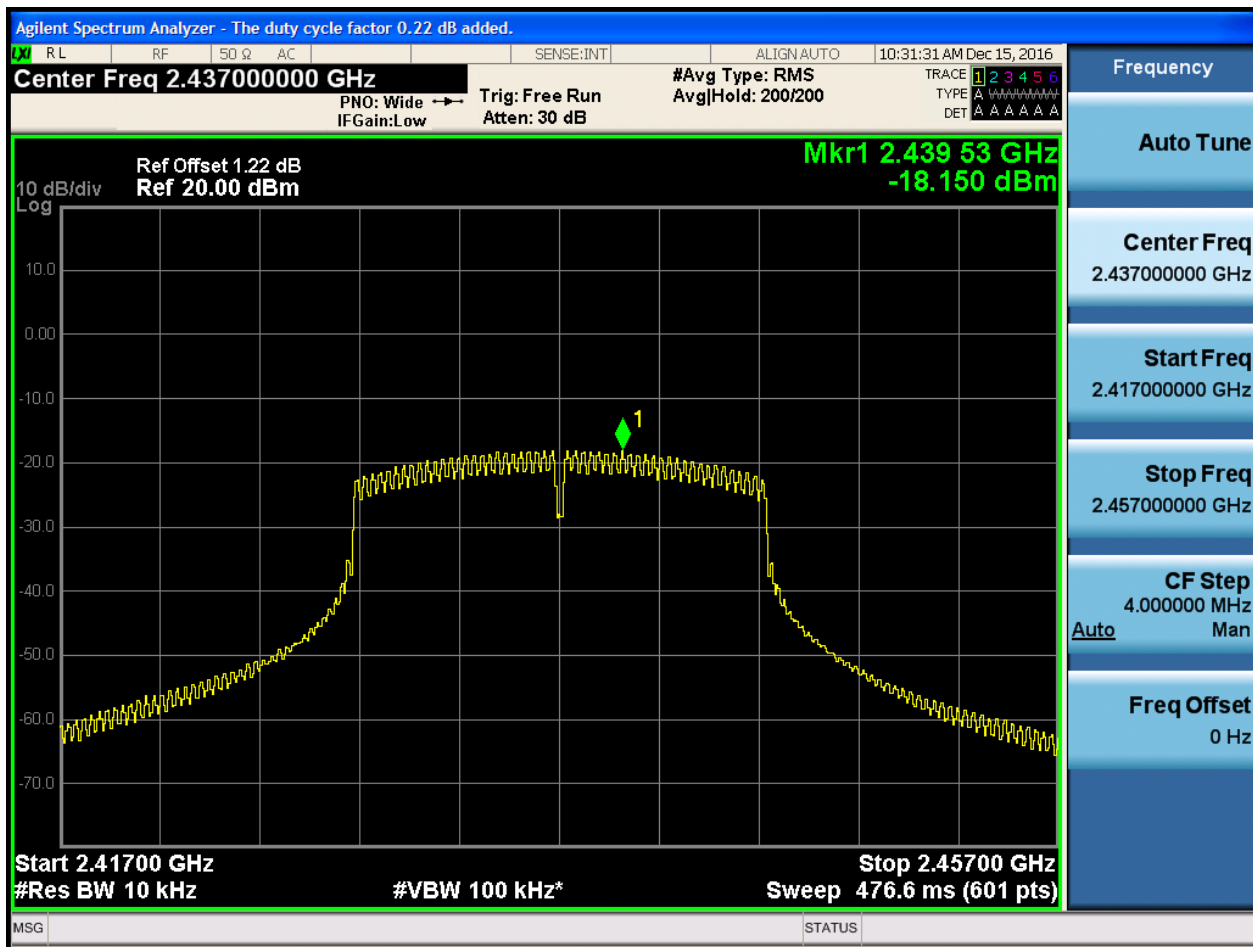


2.4 11G_L@Ant 1



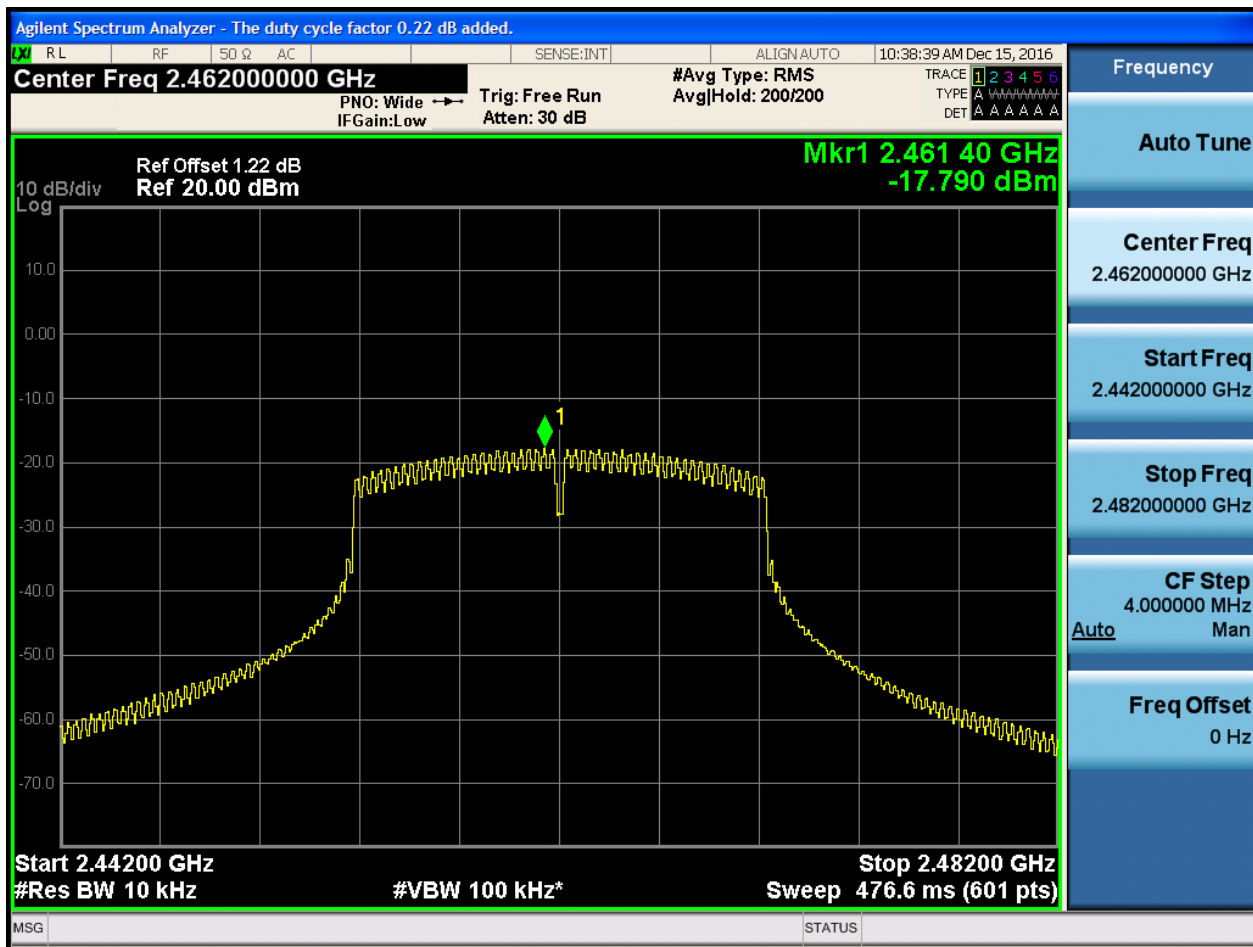


2.5 11G_M@Ant 1



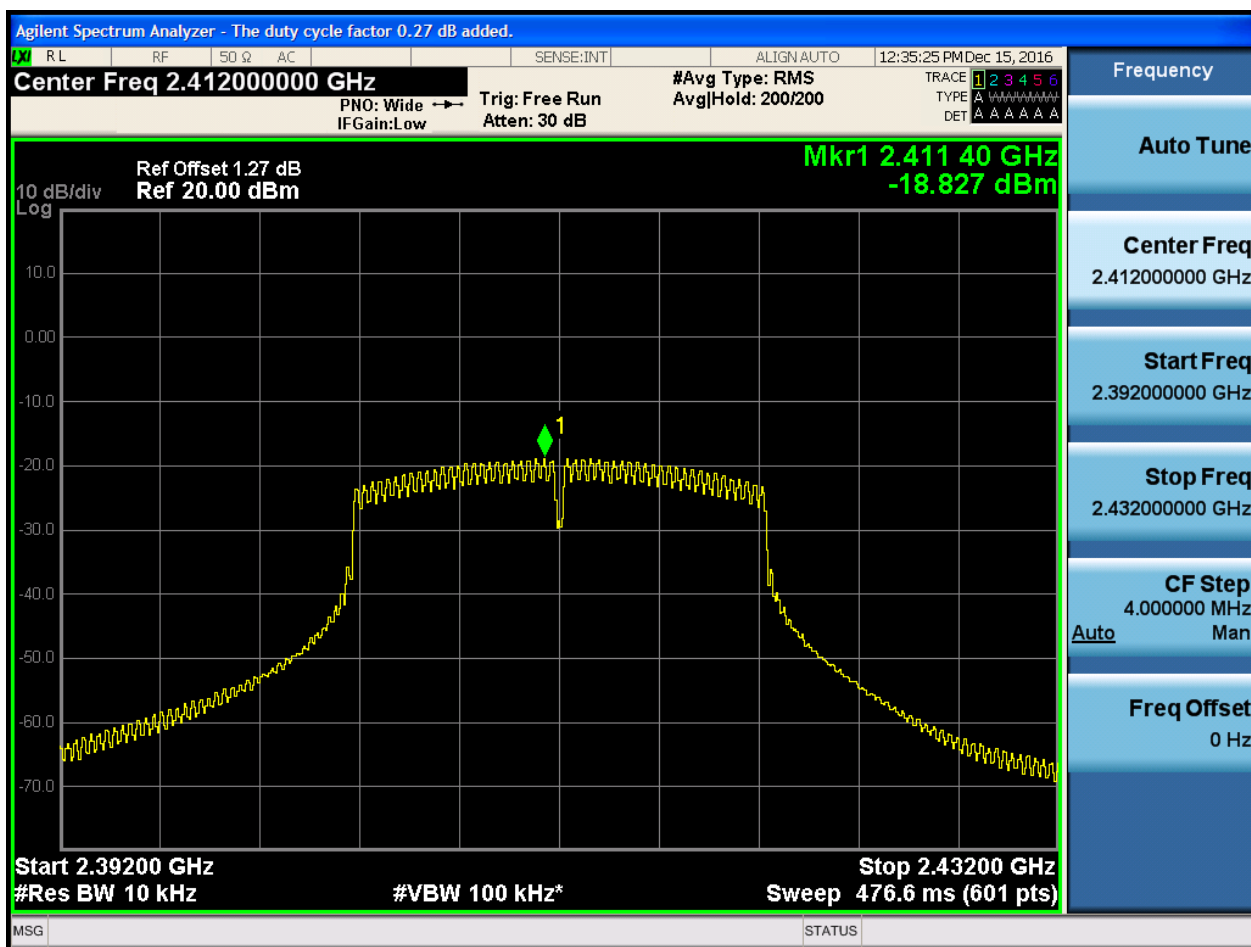


2.6 11G_H@Ant 1



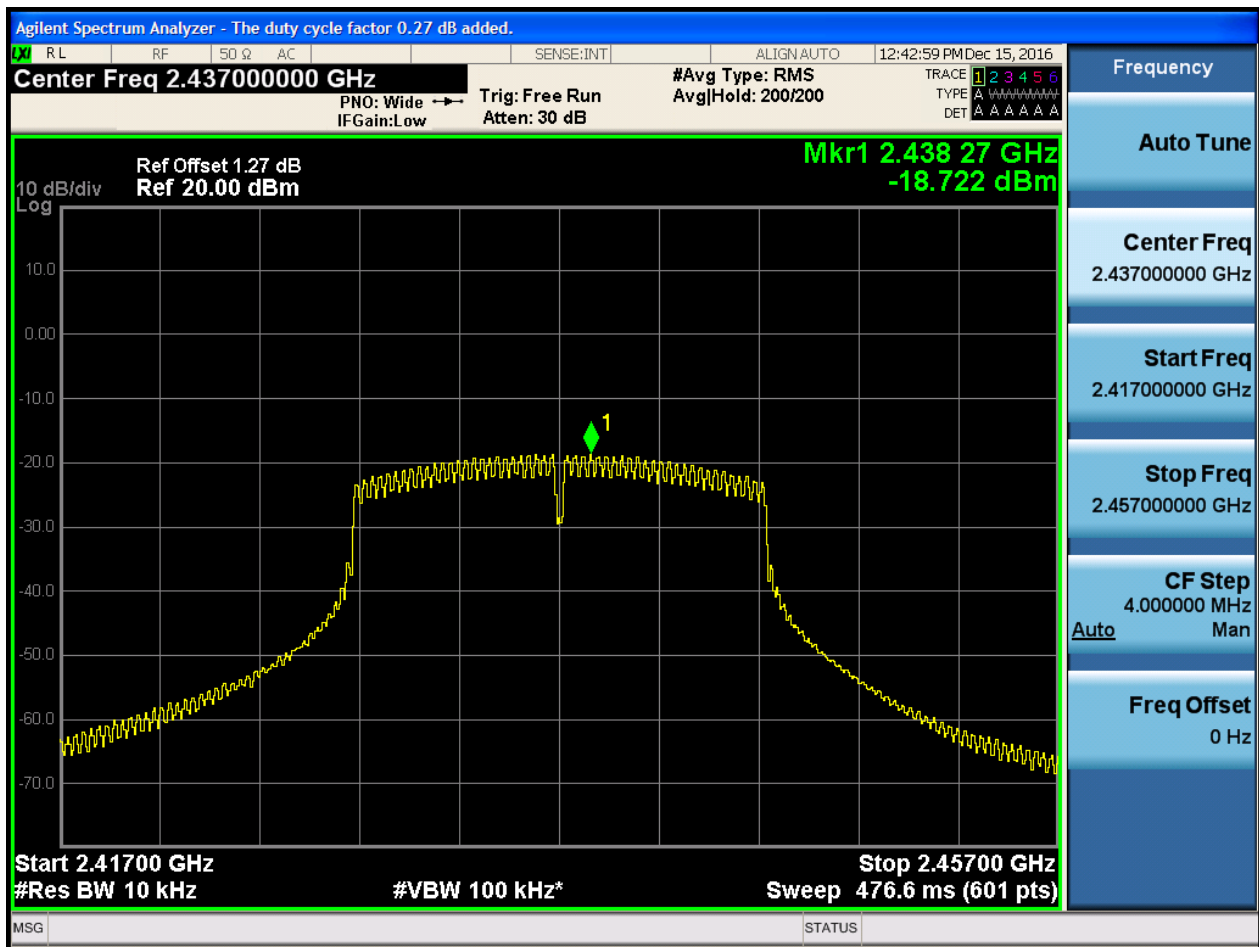


2.7 11N20_L@Ant 1



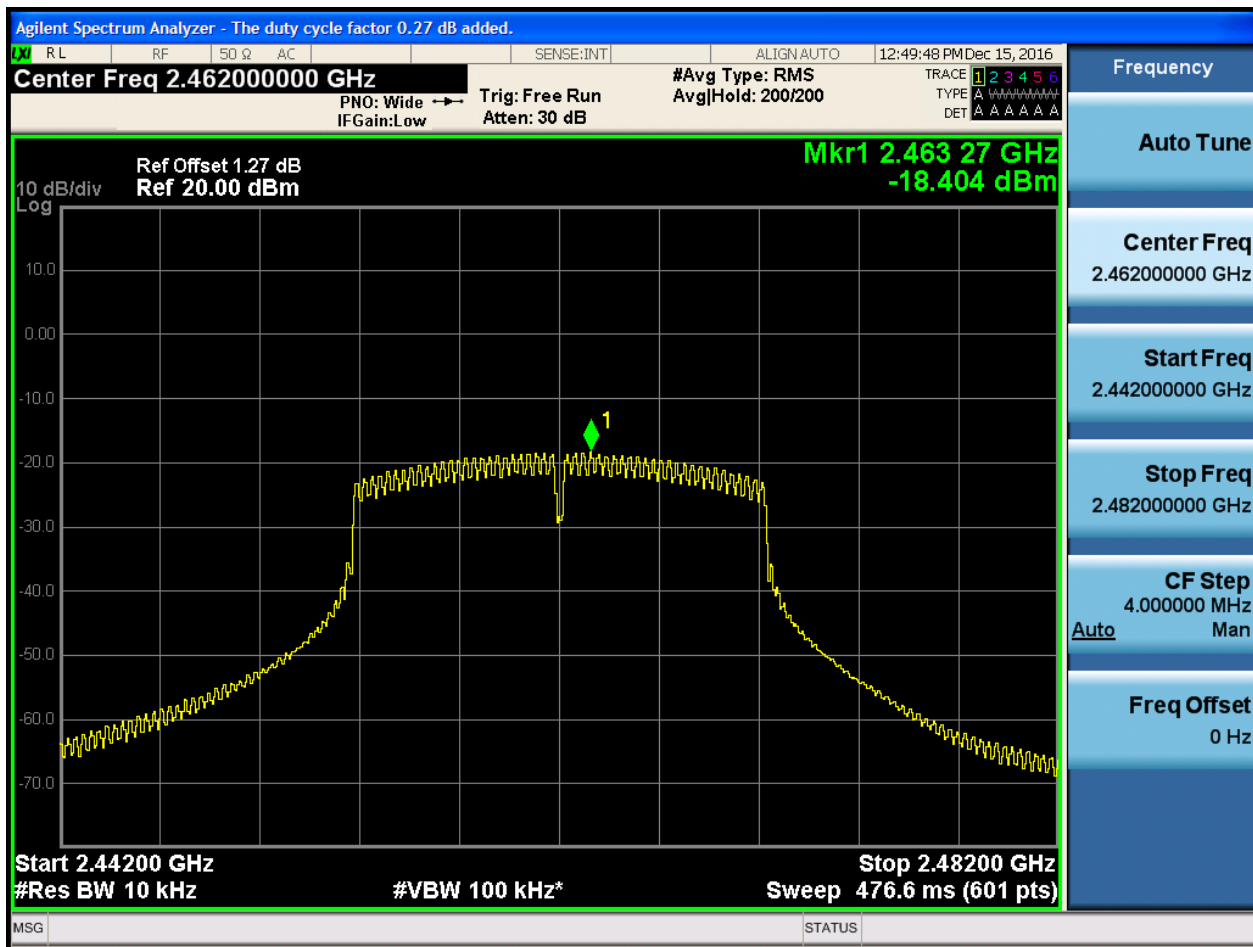


2.8 11N20_M@Ant 1





2.9 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	6.18	-45.65	pass
11B	H	2462	Ant 1	6.24	-49.50	pass
11G	L	2412	Ant 1	0.64	-42.09	pass
11G	H	2462	Ant 1	1.22	-43.46	pass
11N20	L	2412	Ant 1	-0.29	-47.06	pass
11N20	H	2462	Ant 1	0.24	-46.04	pass



Part II - Test Plots

2.1 11B_L@Ant 1





2.2 11B_H@Ant 1





2.3 11G_L@Ant 1



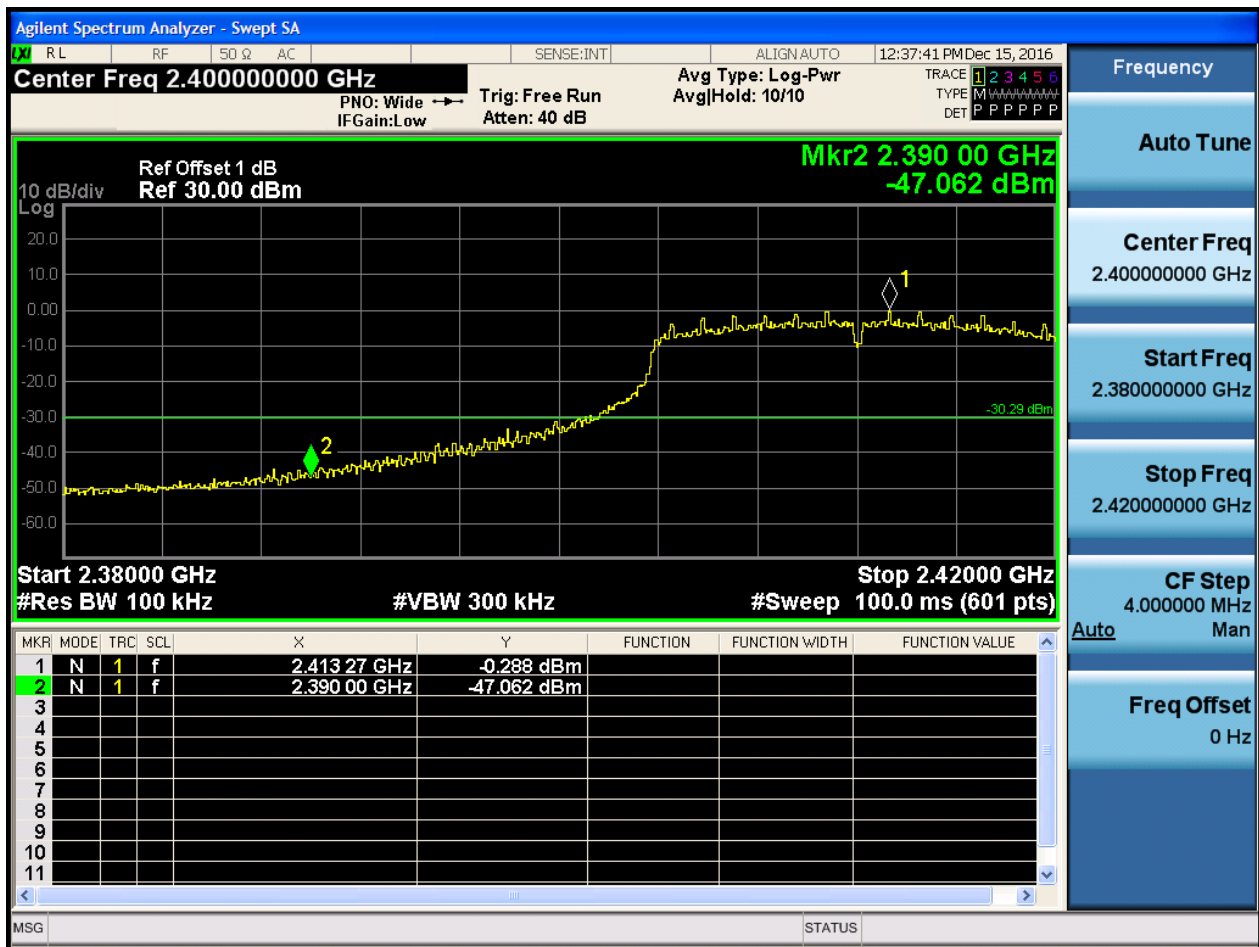


2.4 11G_H@Ant 1





2.5 11N20_L@Ant 1





2.6 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".

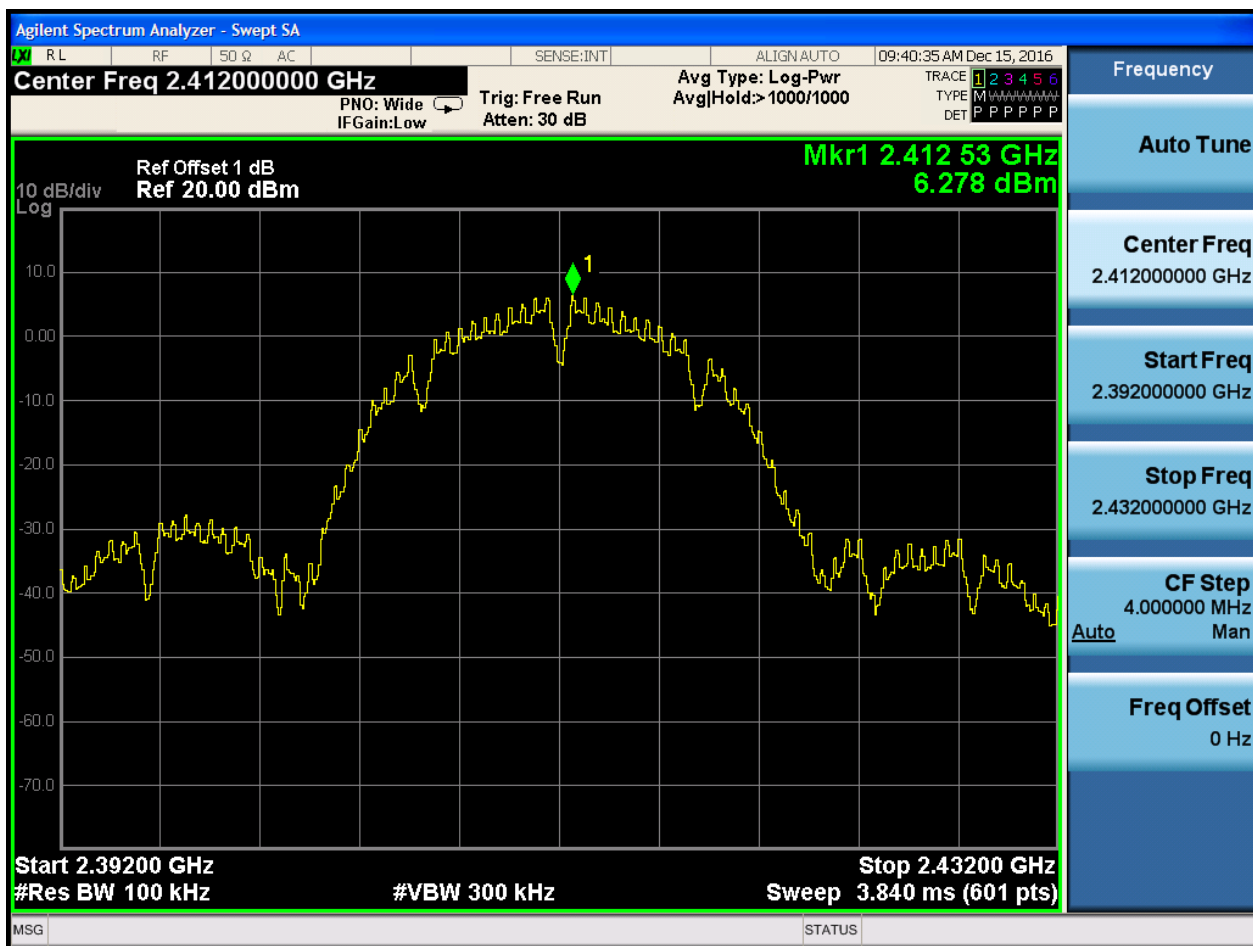
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	6.28	<limit	pass
11B	M	2437	Ant 1	6.26	<limit	pass
11B	H	2462	Ant 1	6.24	<limit	pass
11G	L	2412	Ant 1	1.11	<limit	pass
11G	M	2437	Ant 1	1.54	<limit	pass
11G	H	2462	Ant 1	1.40	<limit	pass
11N20	L	2412	Ant 1	-0.33	<limit	pass
11N20	M	2437	Ant 1	0.91	<limit	pass
11N20	H	2462	Ant 1	-0.08	<limit	pass

Part II - Test Plots

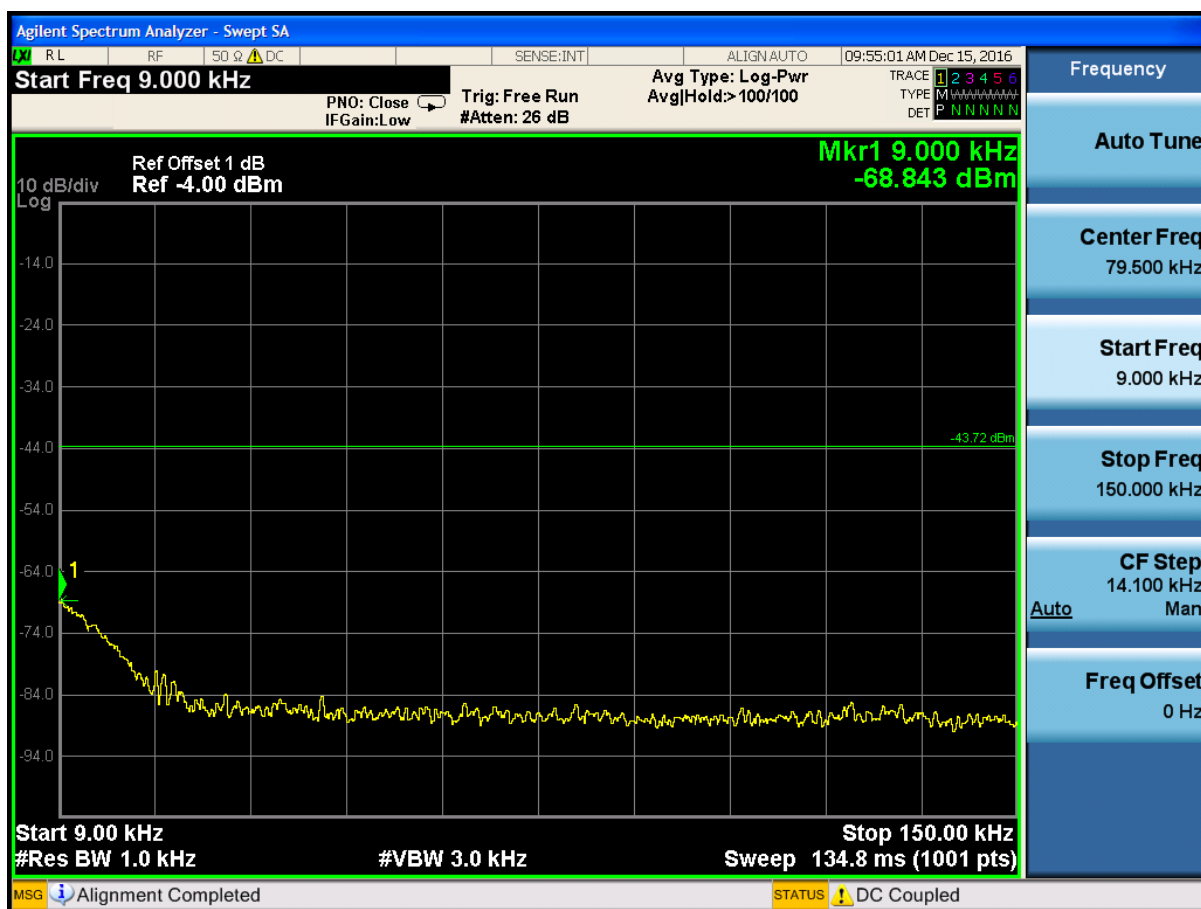
2.1 11B_L@Ant 1

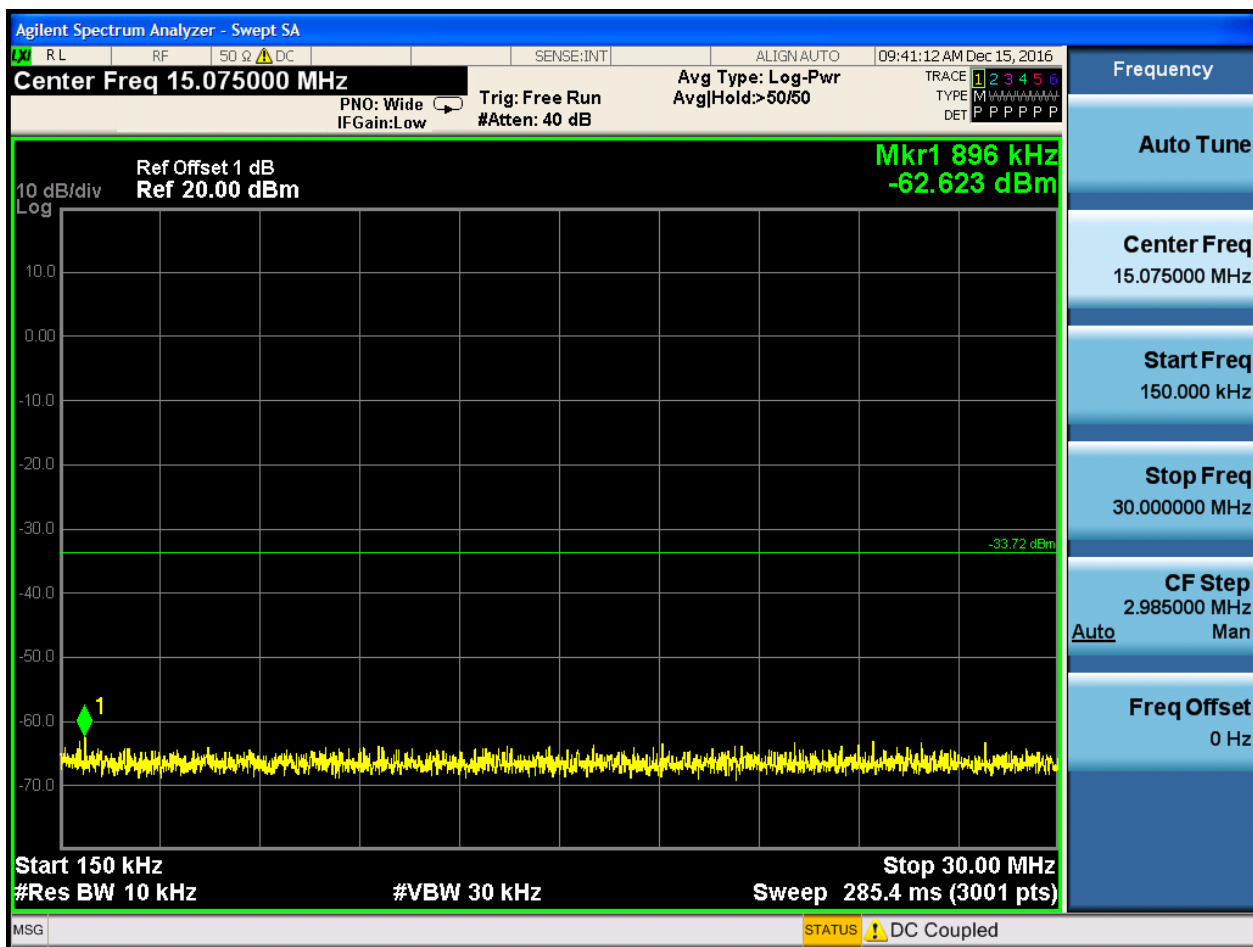
Pref:

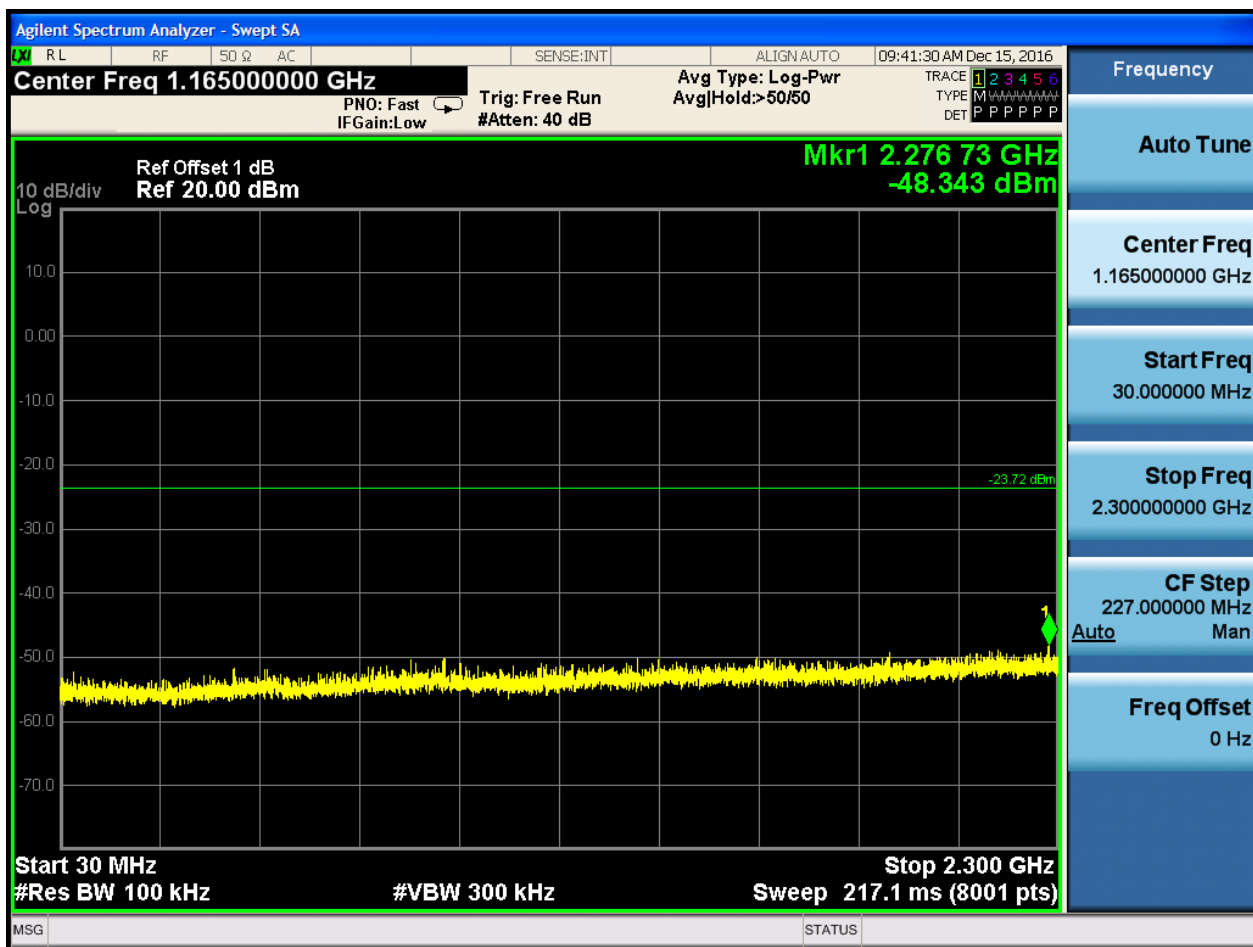


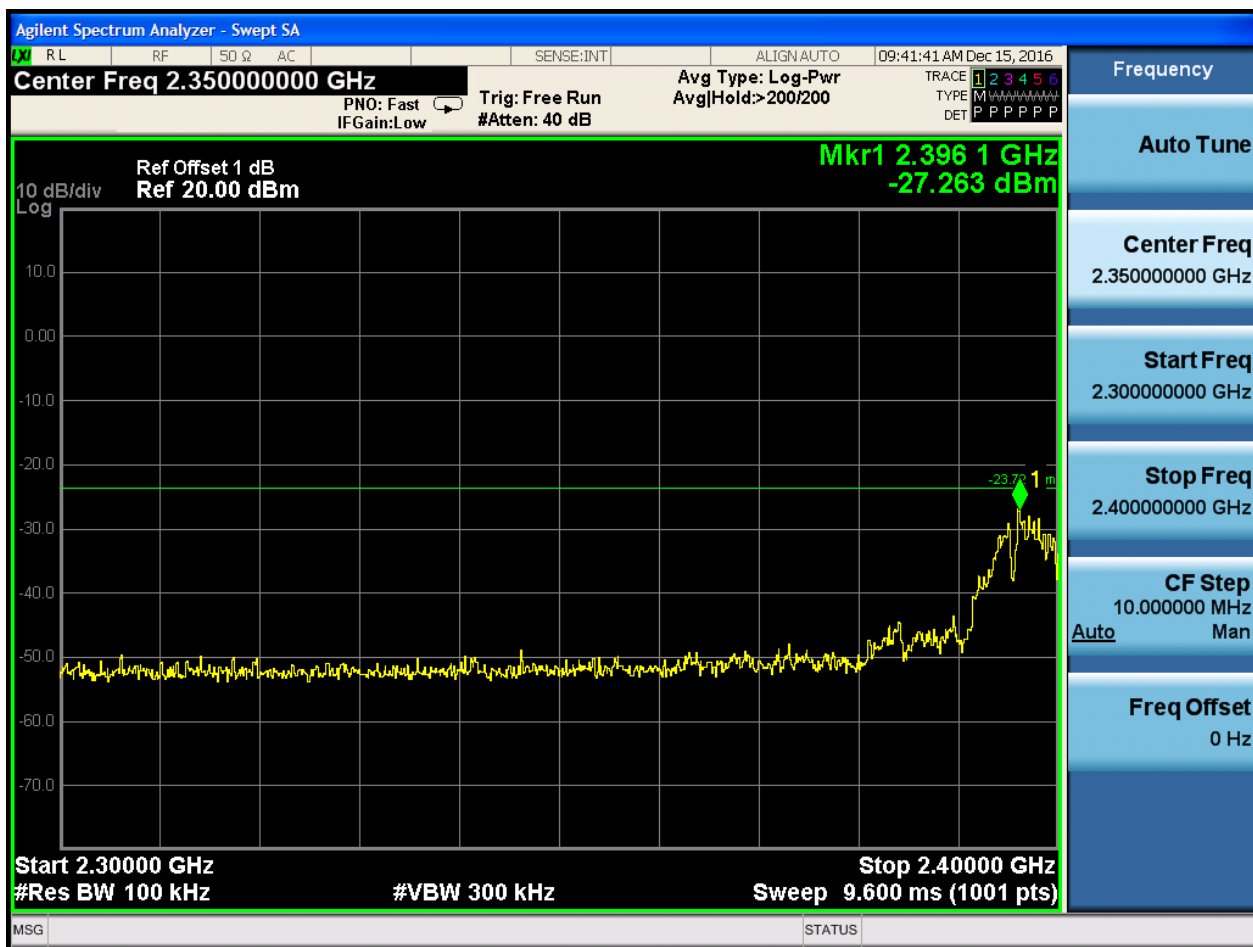


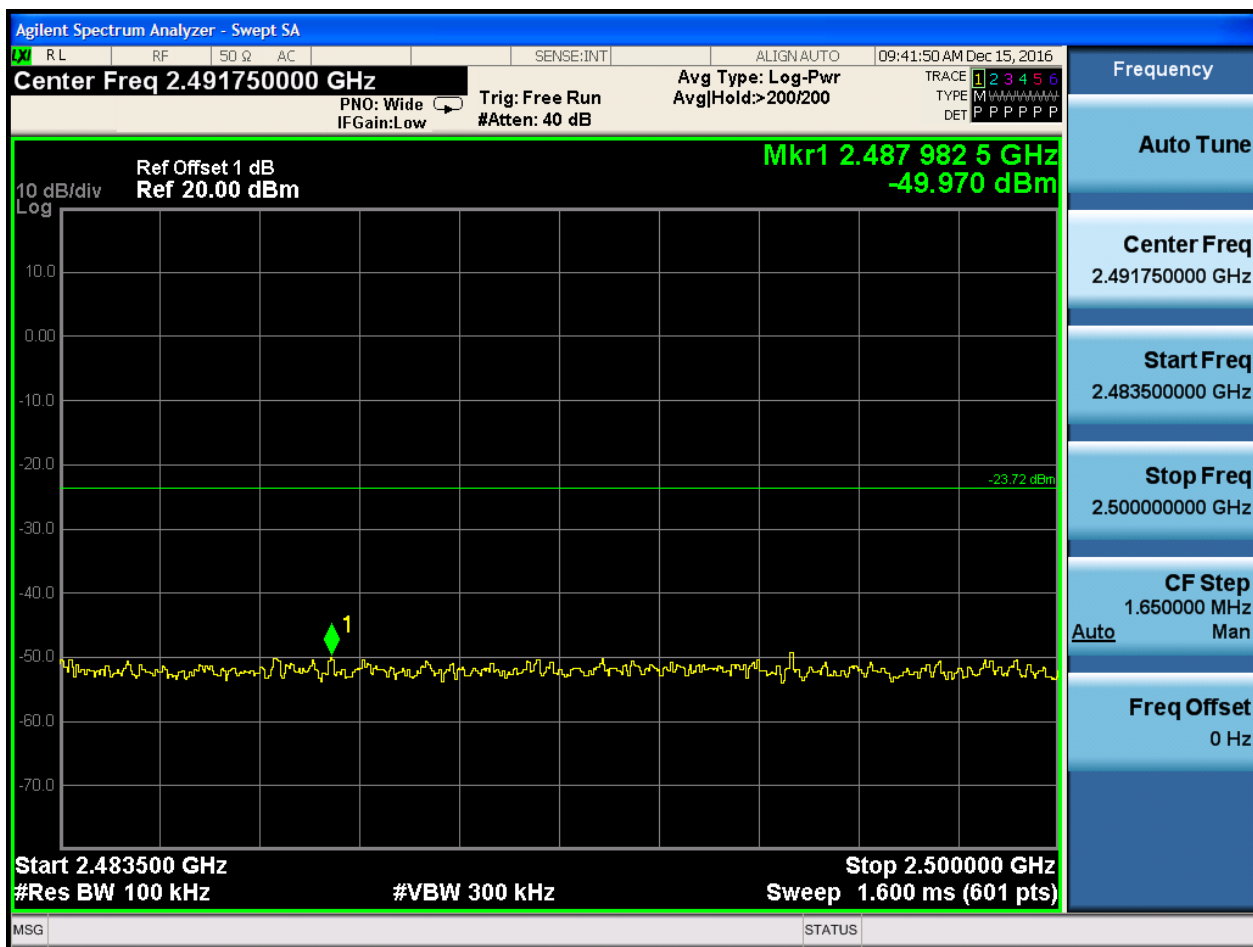
Puw:















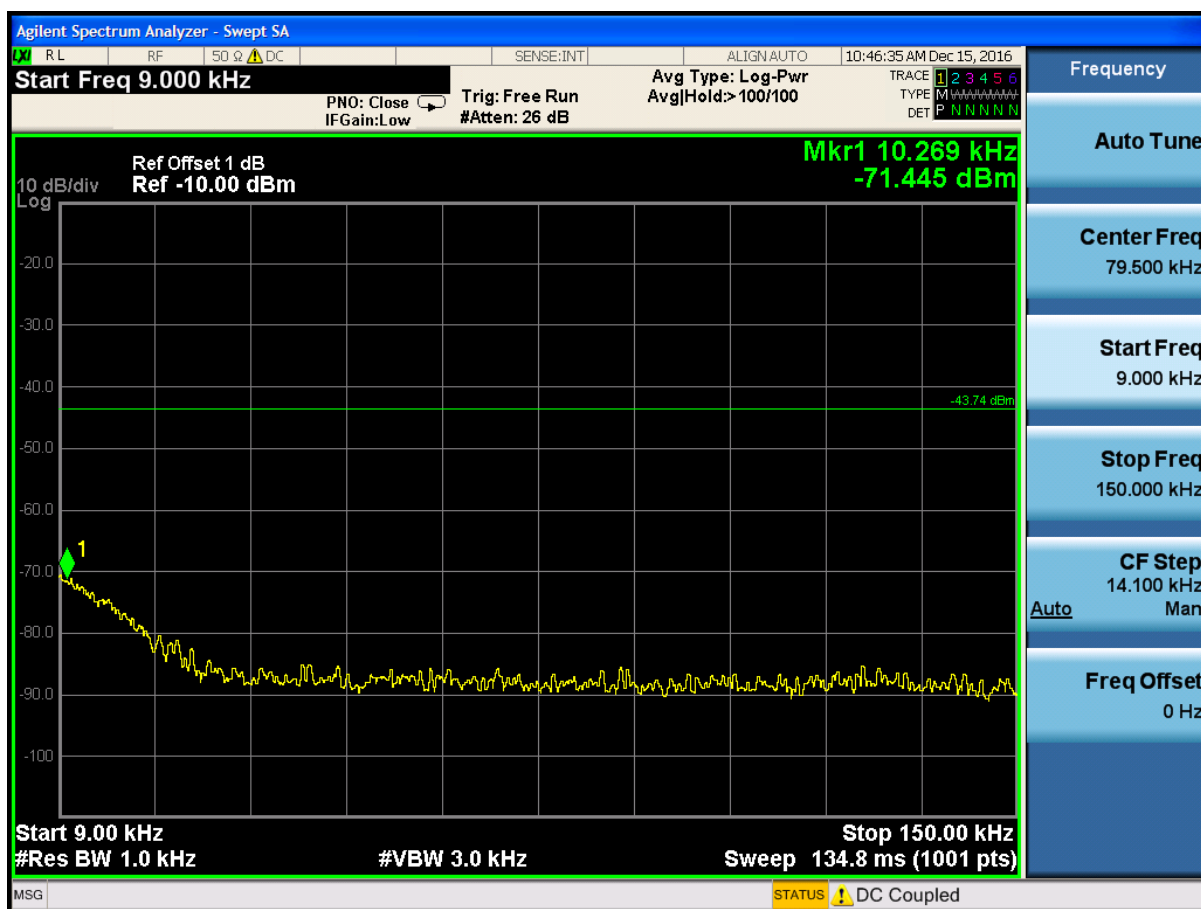
2.2 11B_M@Ant 1

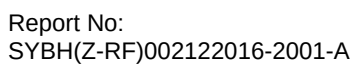
Pref:

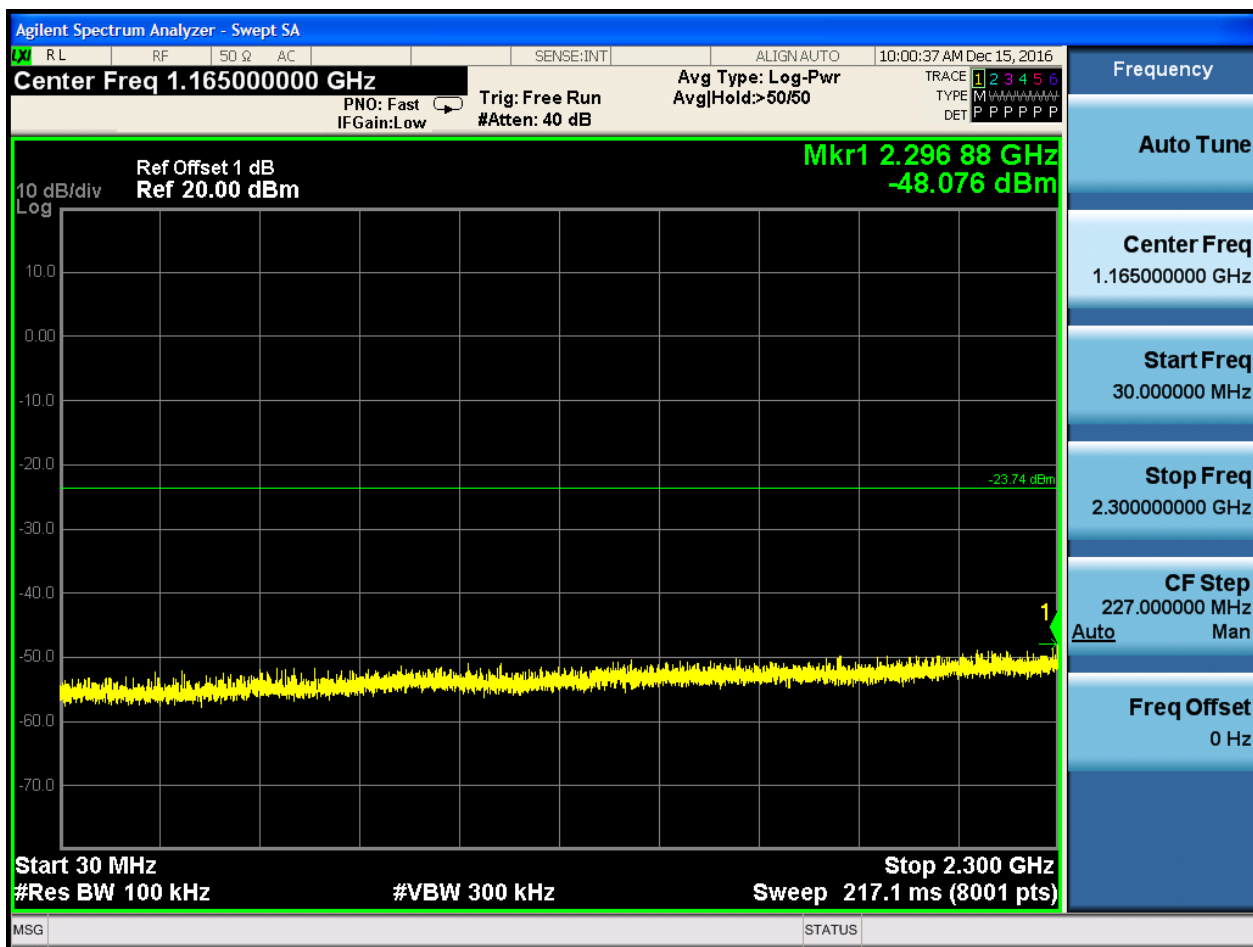


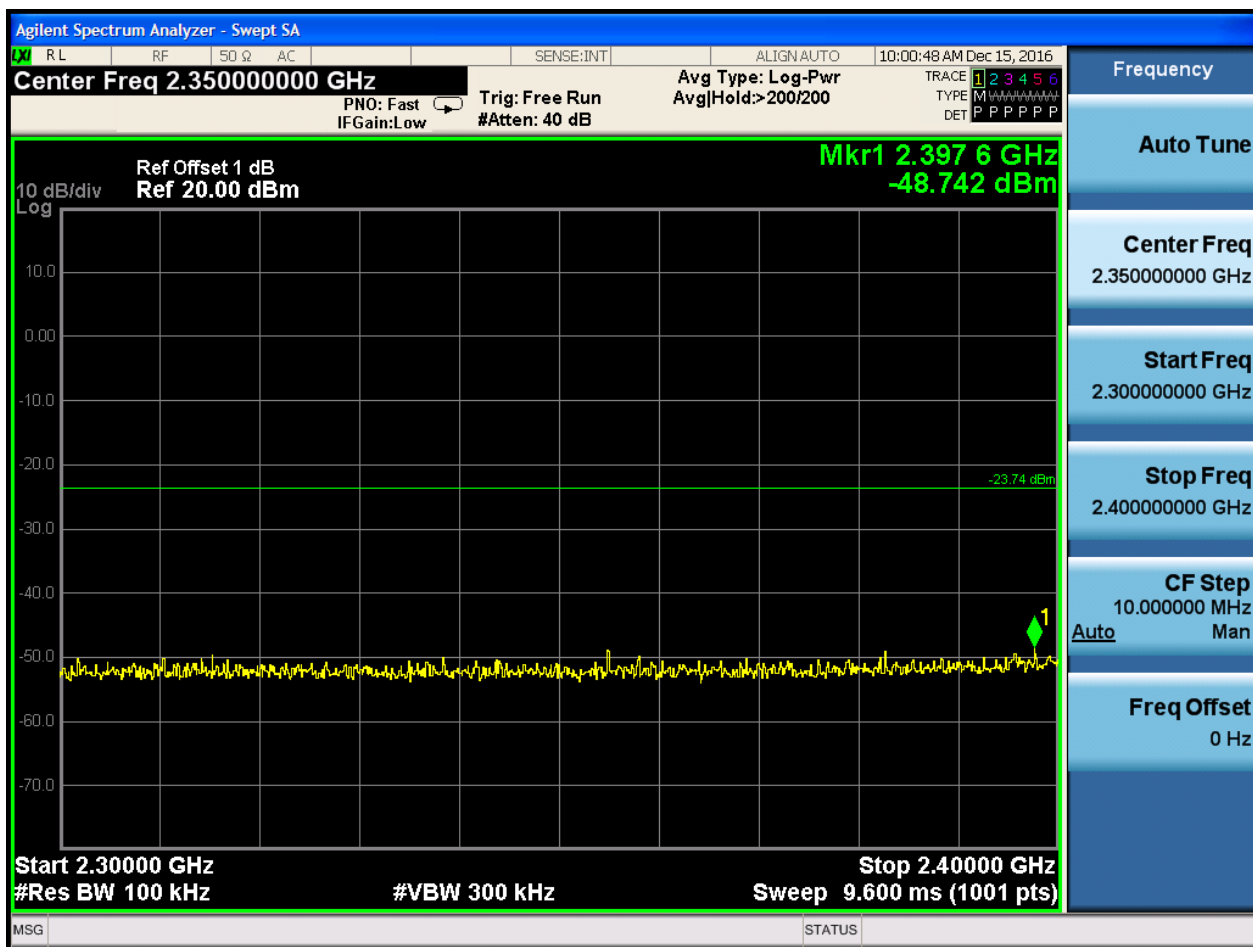


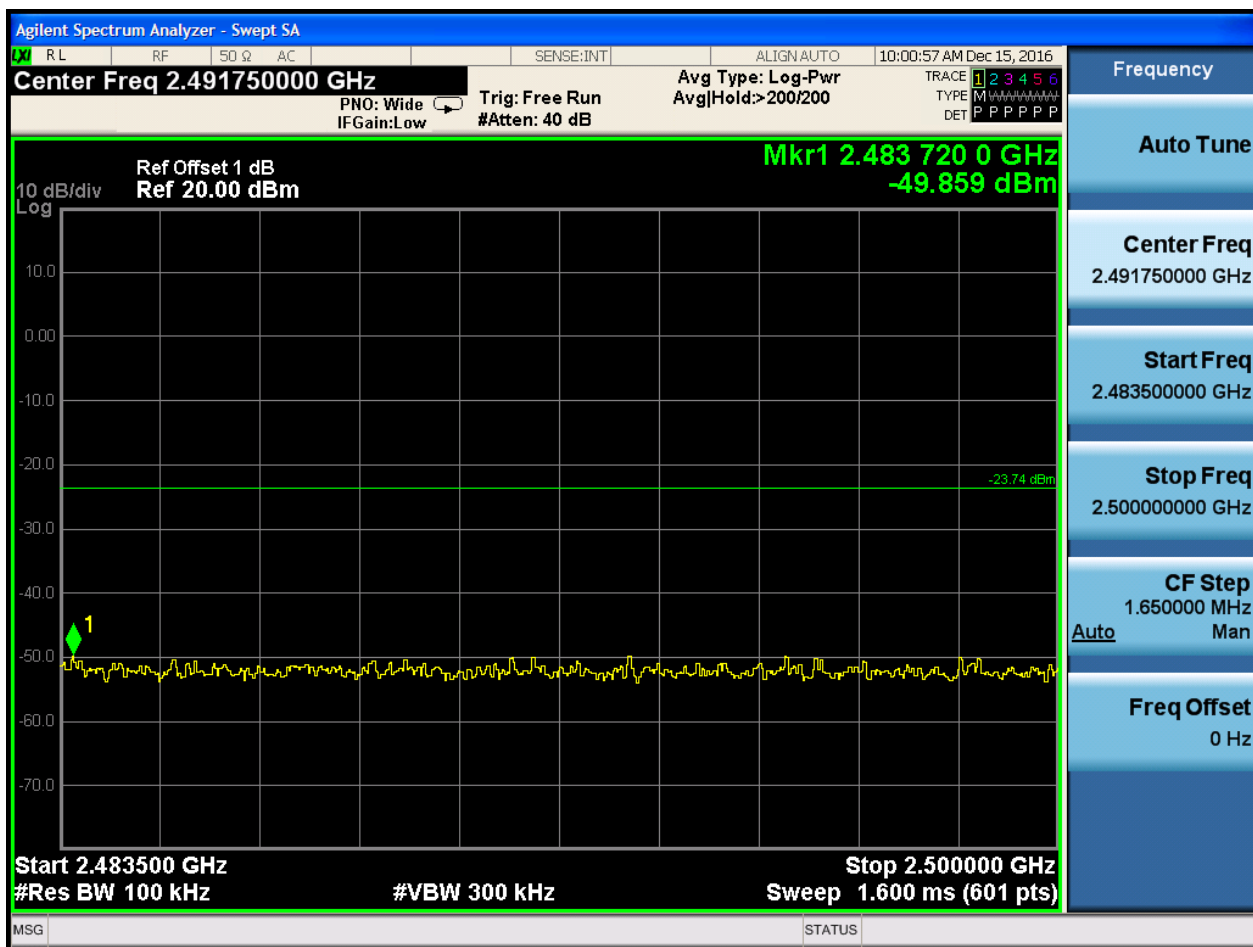
Puw:















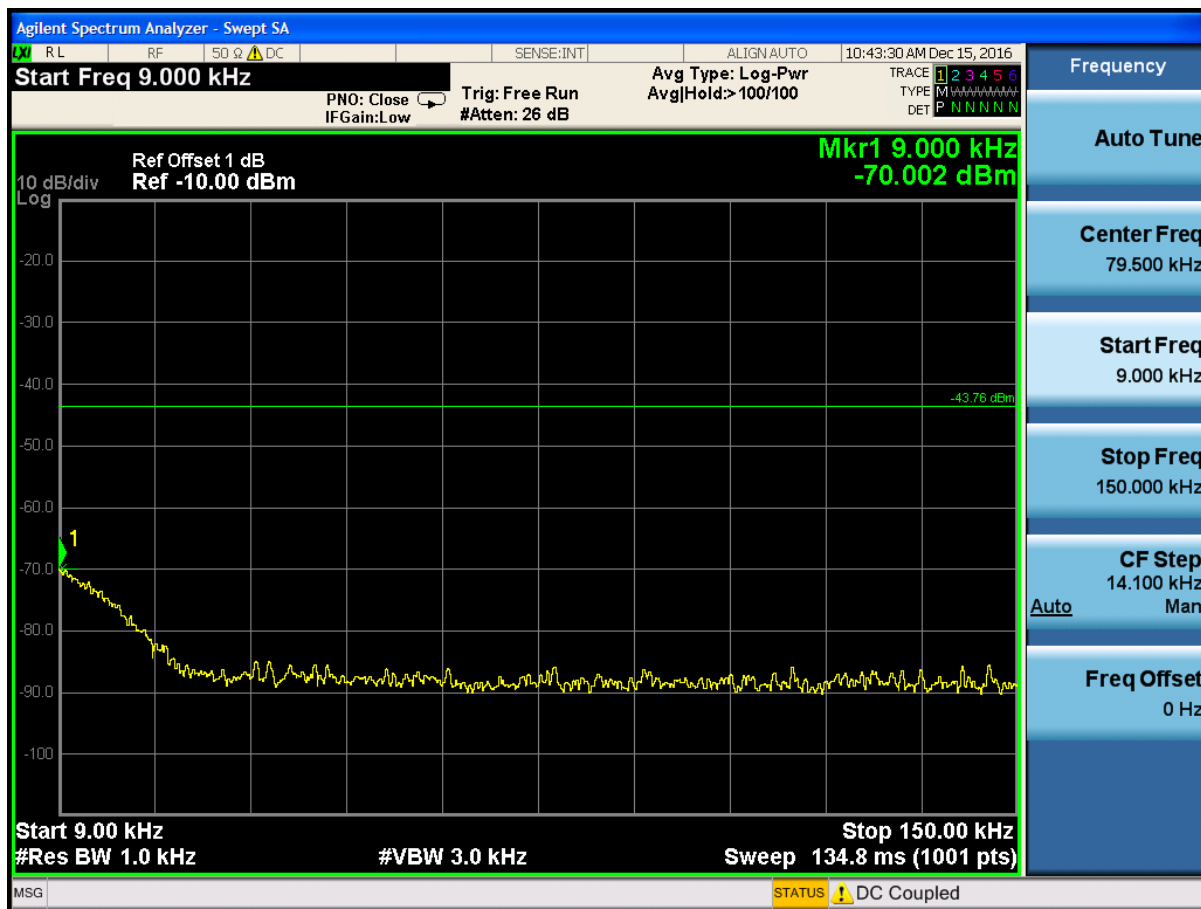
2.3 11B_H@Ant 1

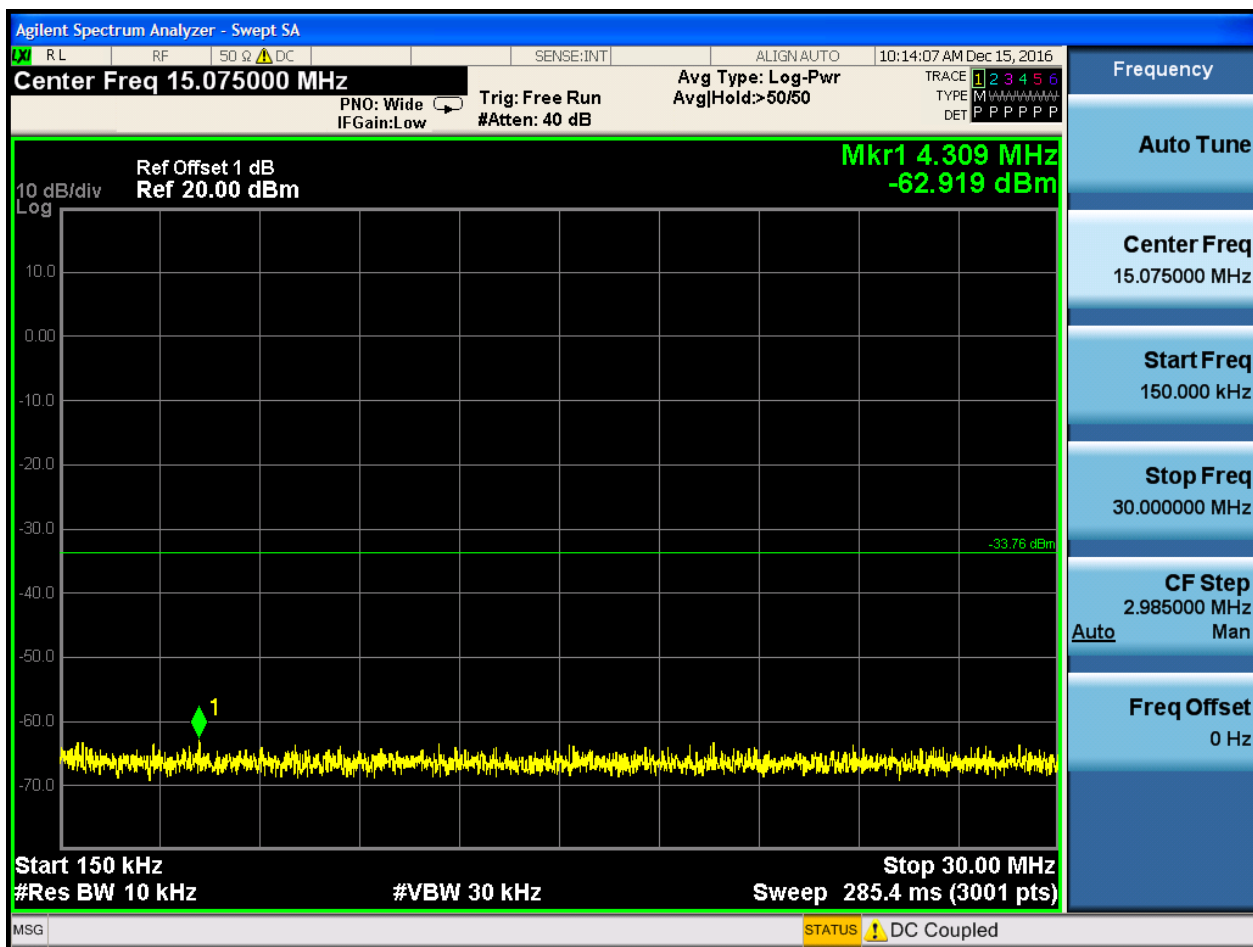
Pref:

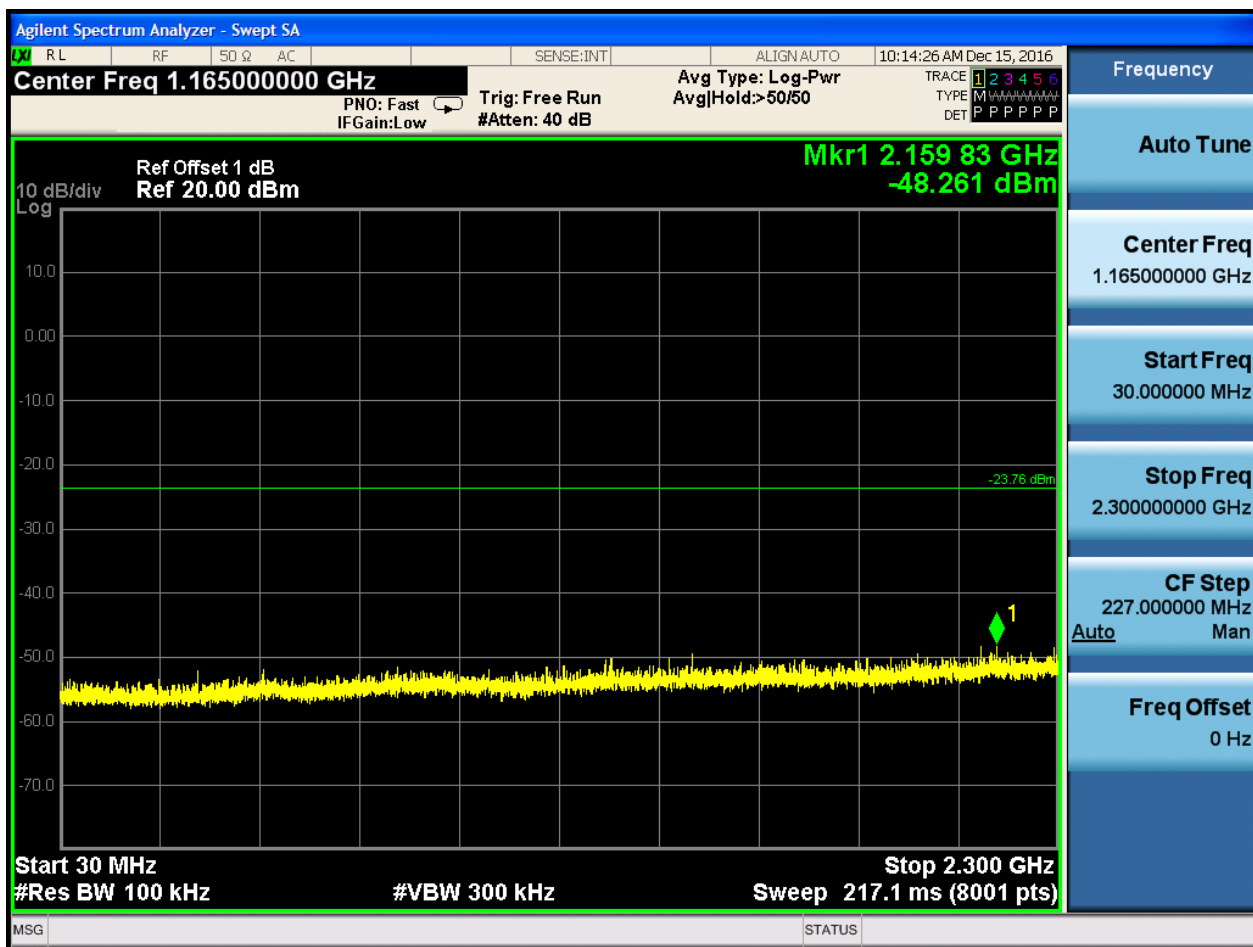


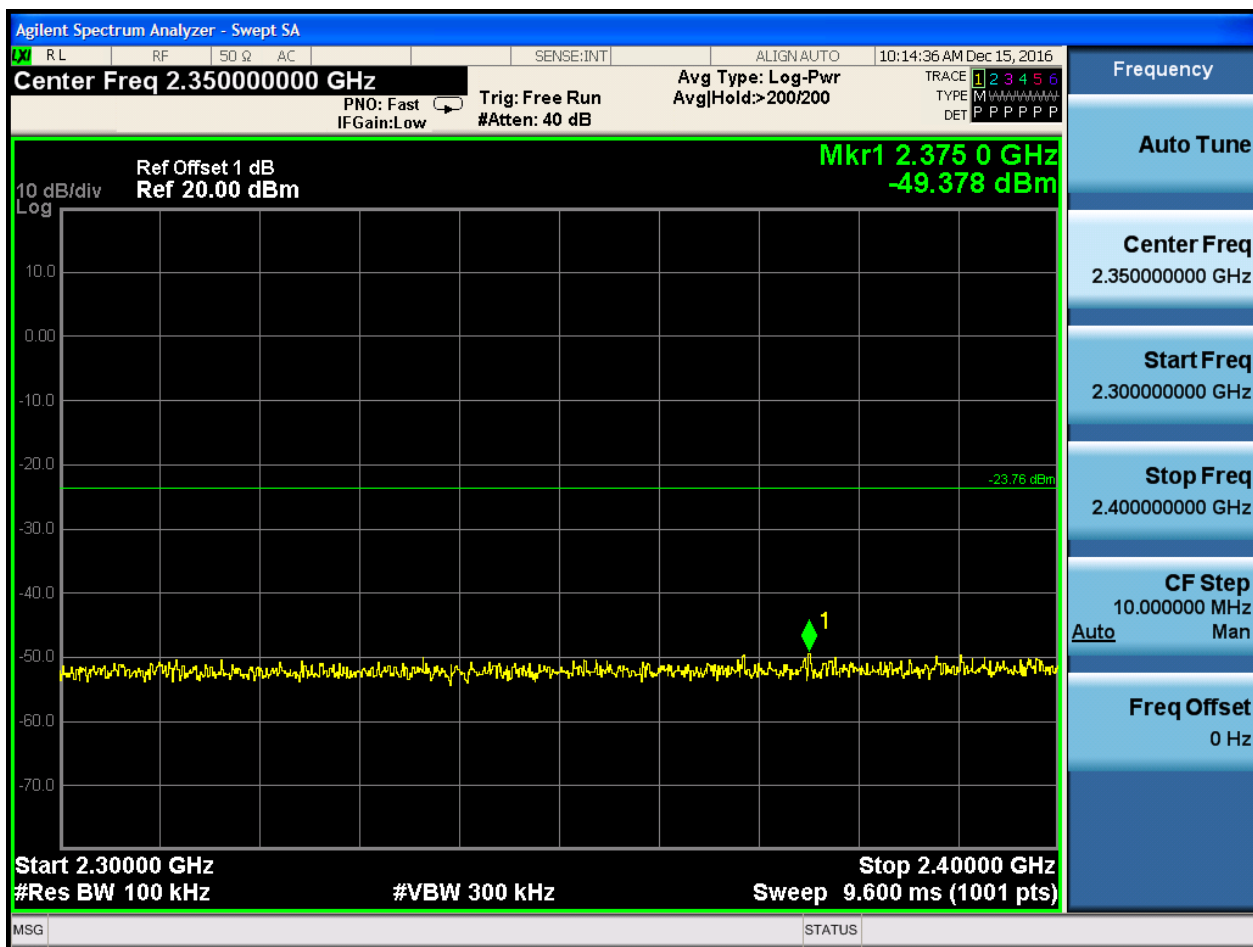


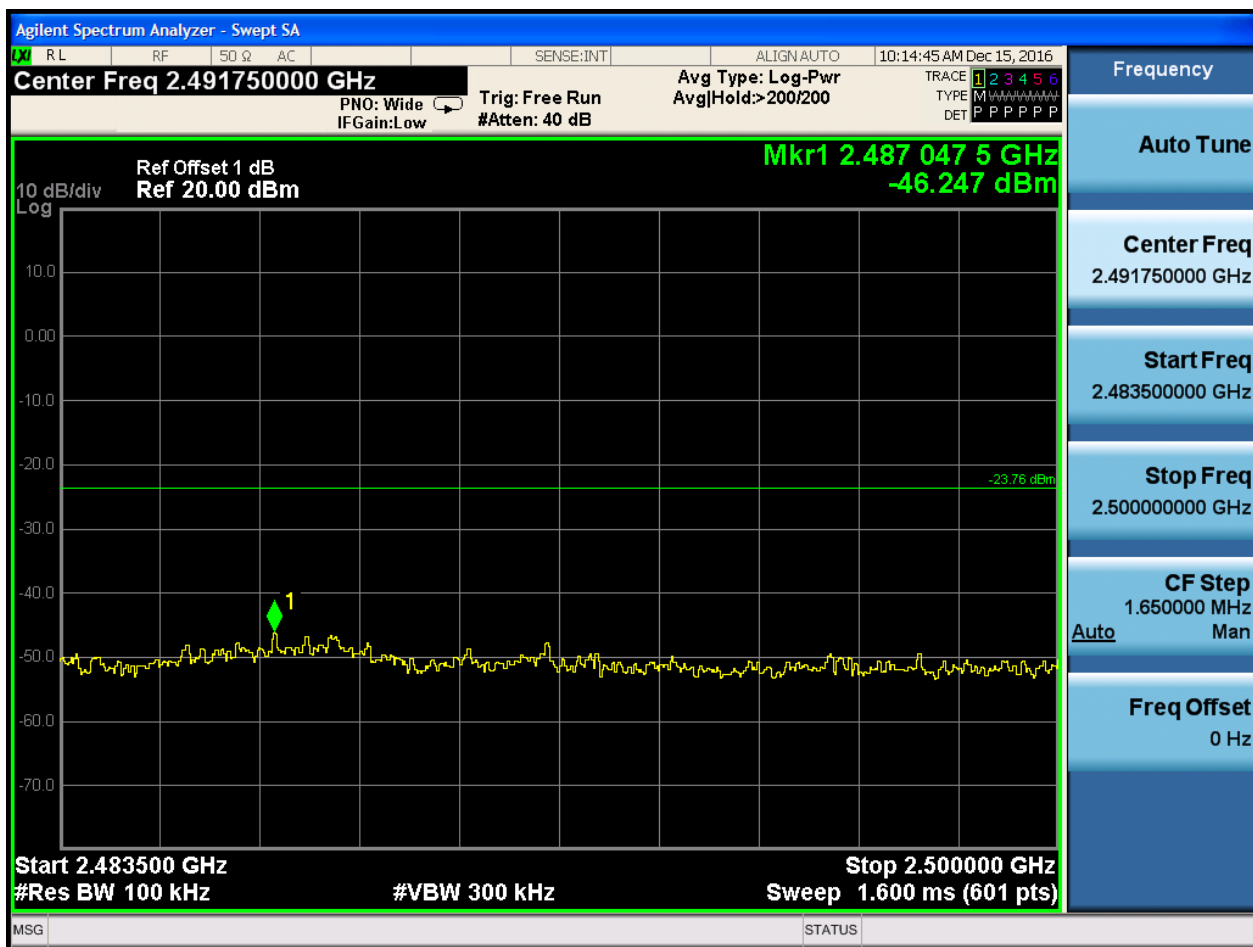
Puw:









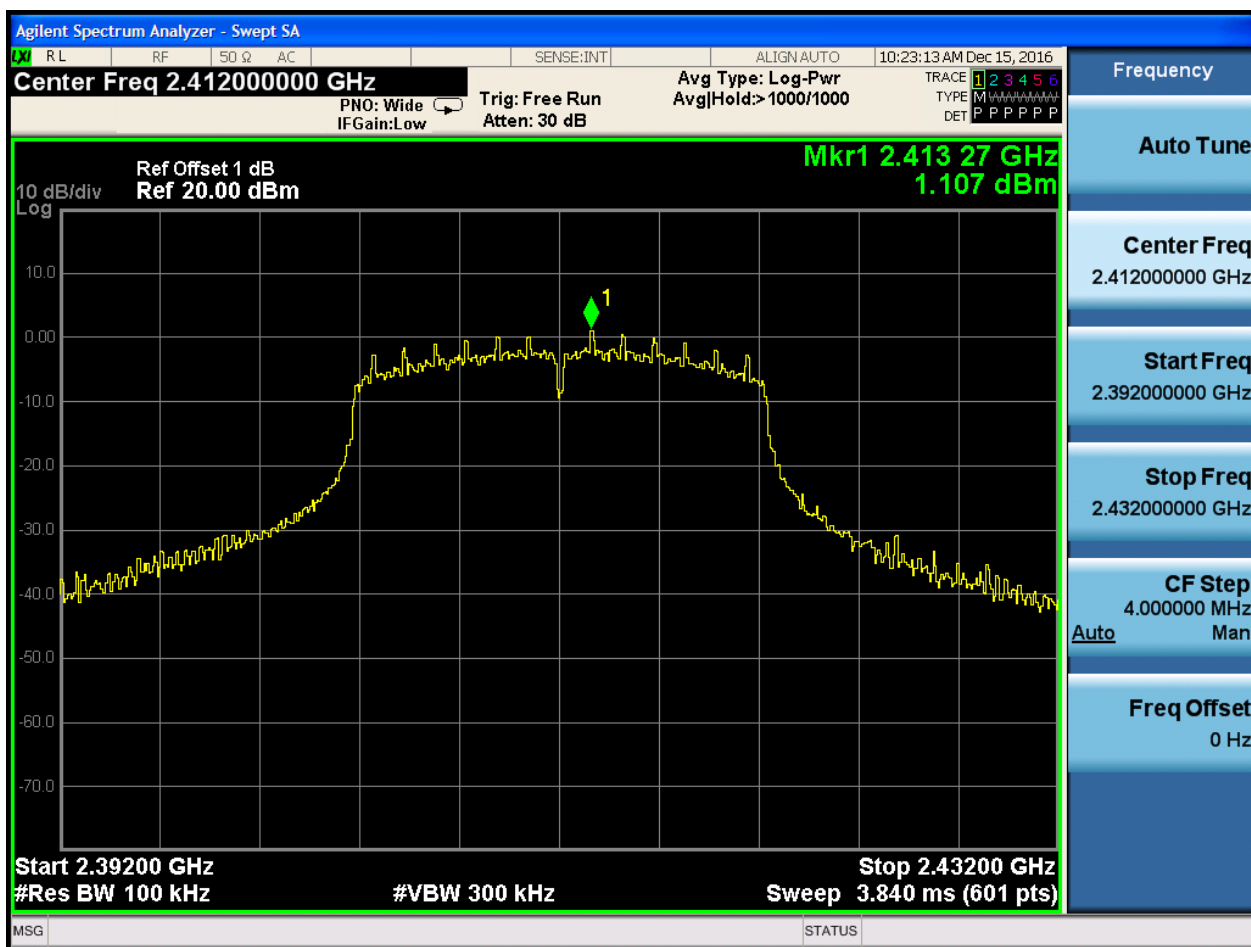






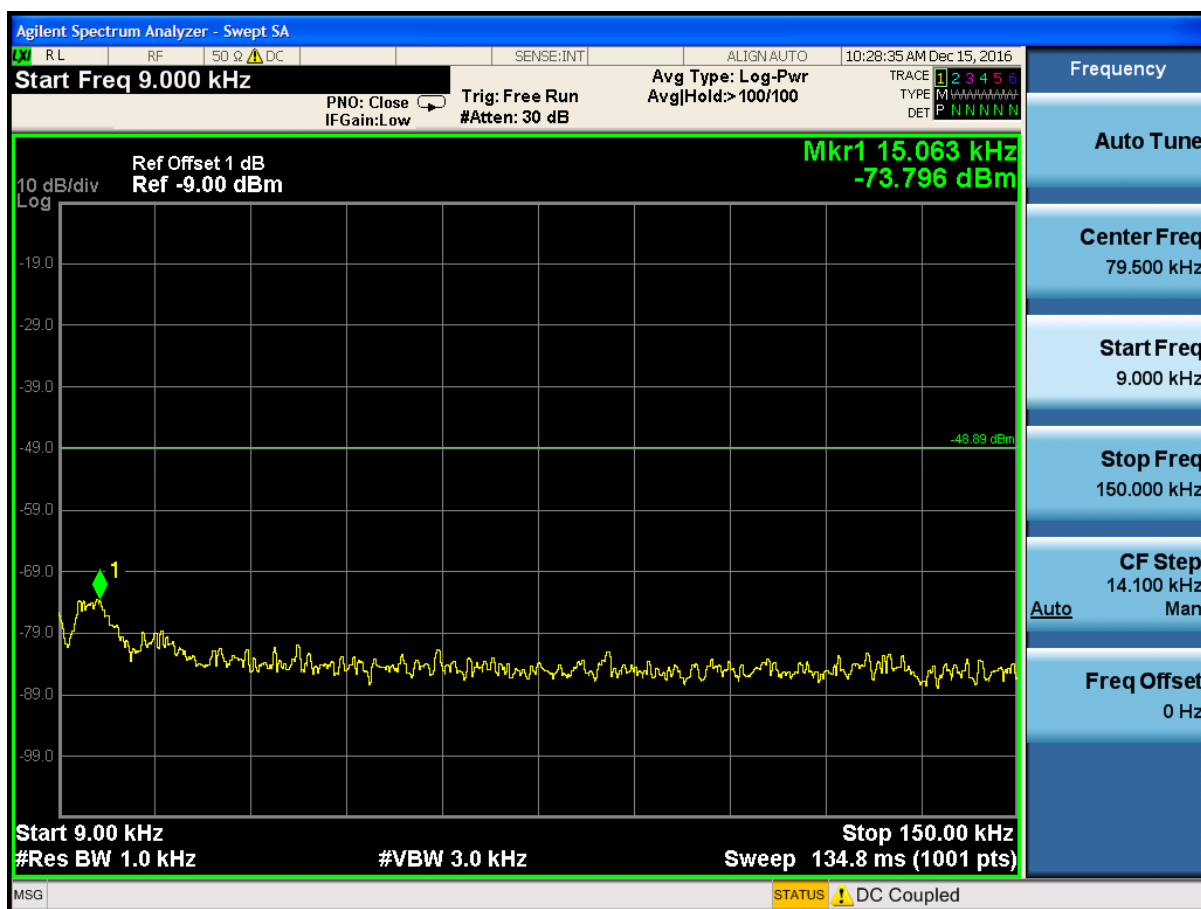
2.4 11G_L@Ant 1

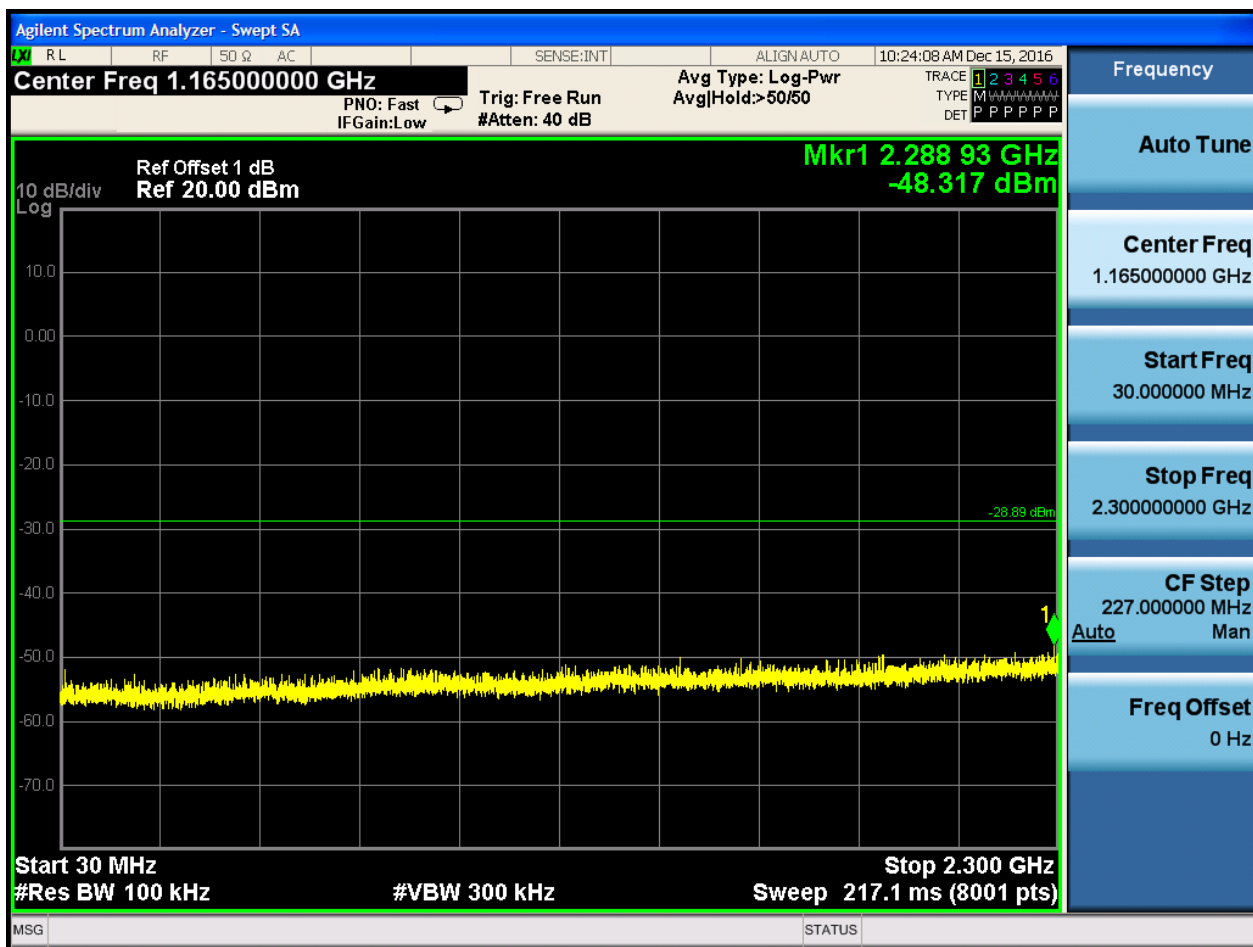
Pref:

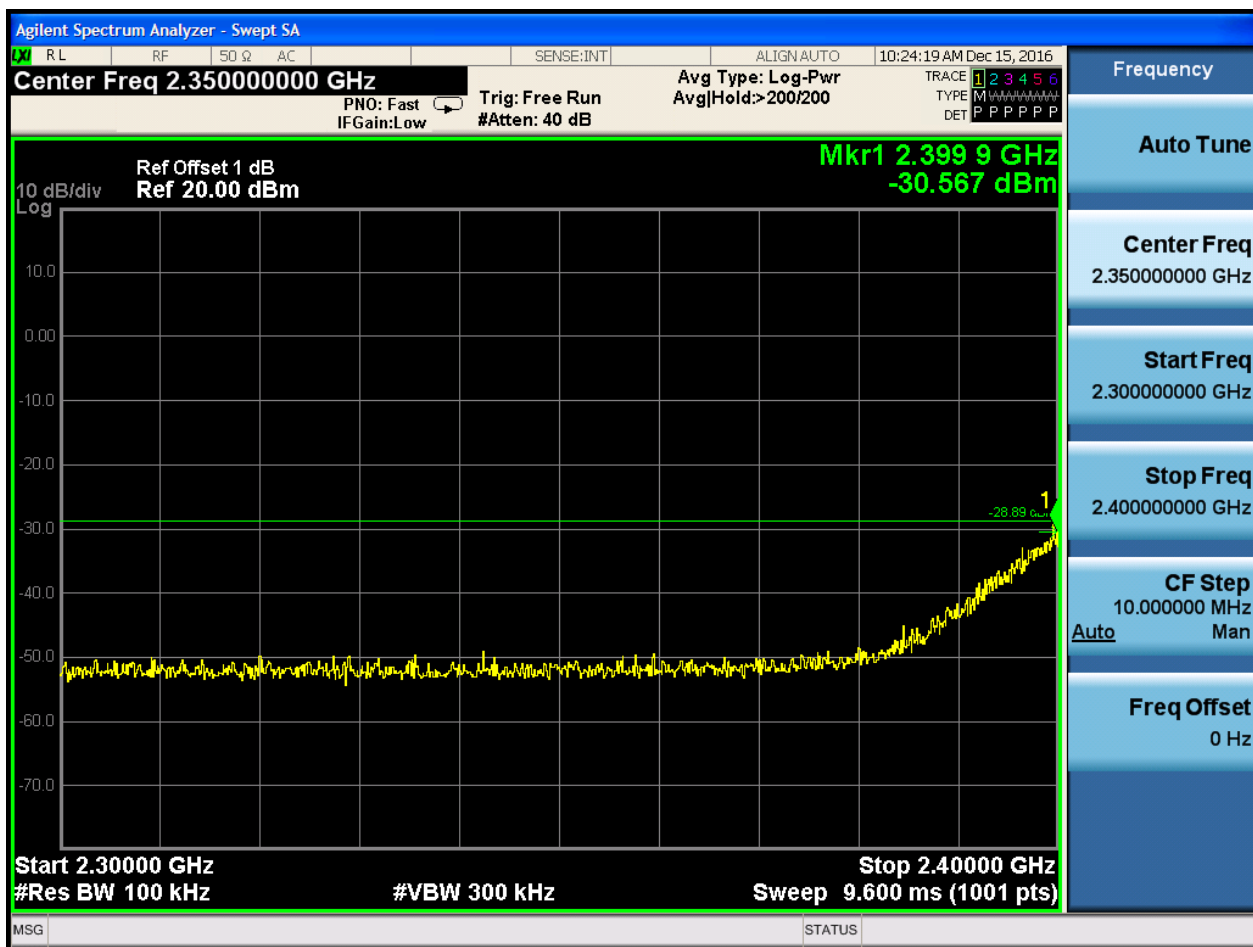


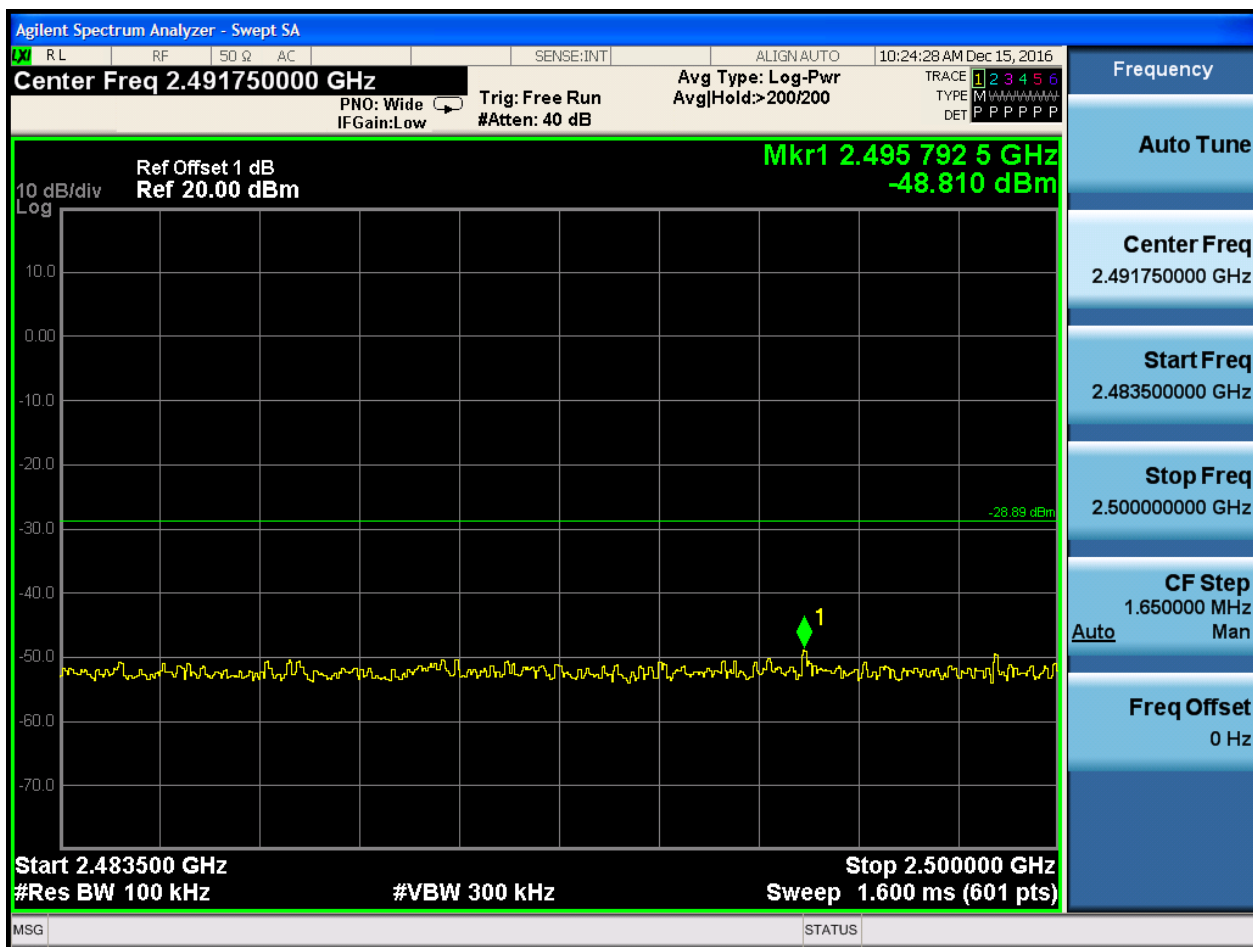


Puw:







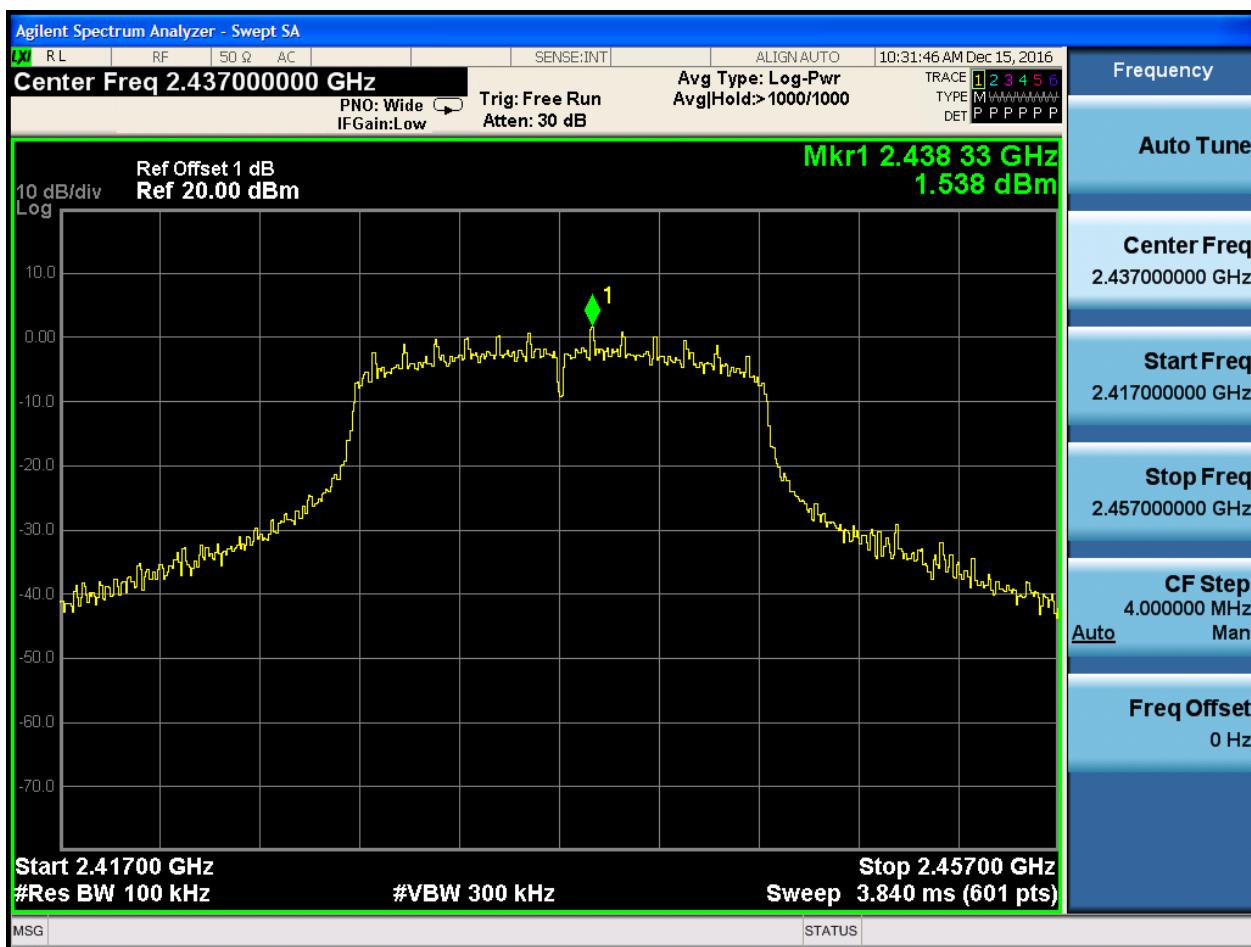






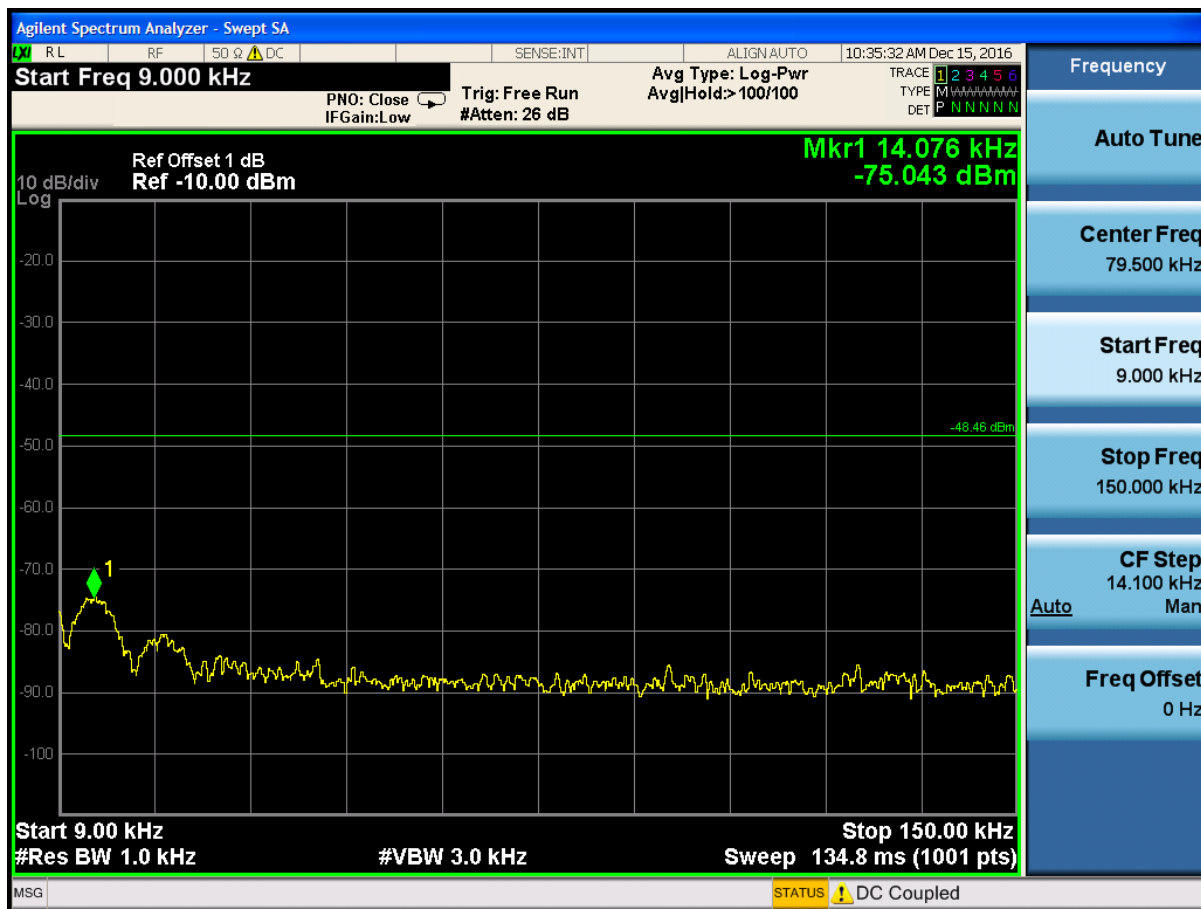
2.5 11G_M@Ant 1

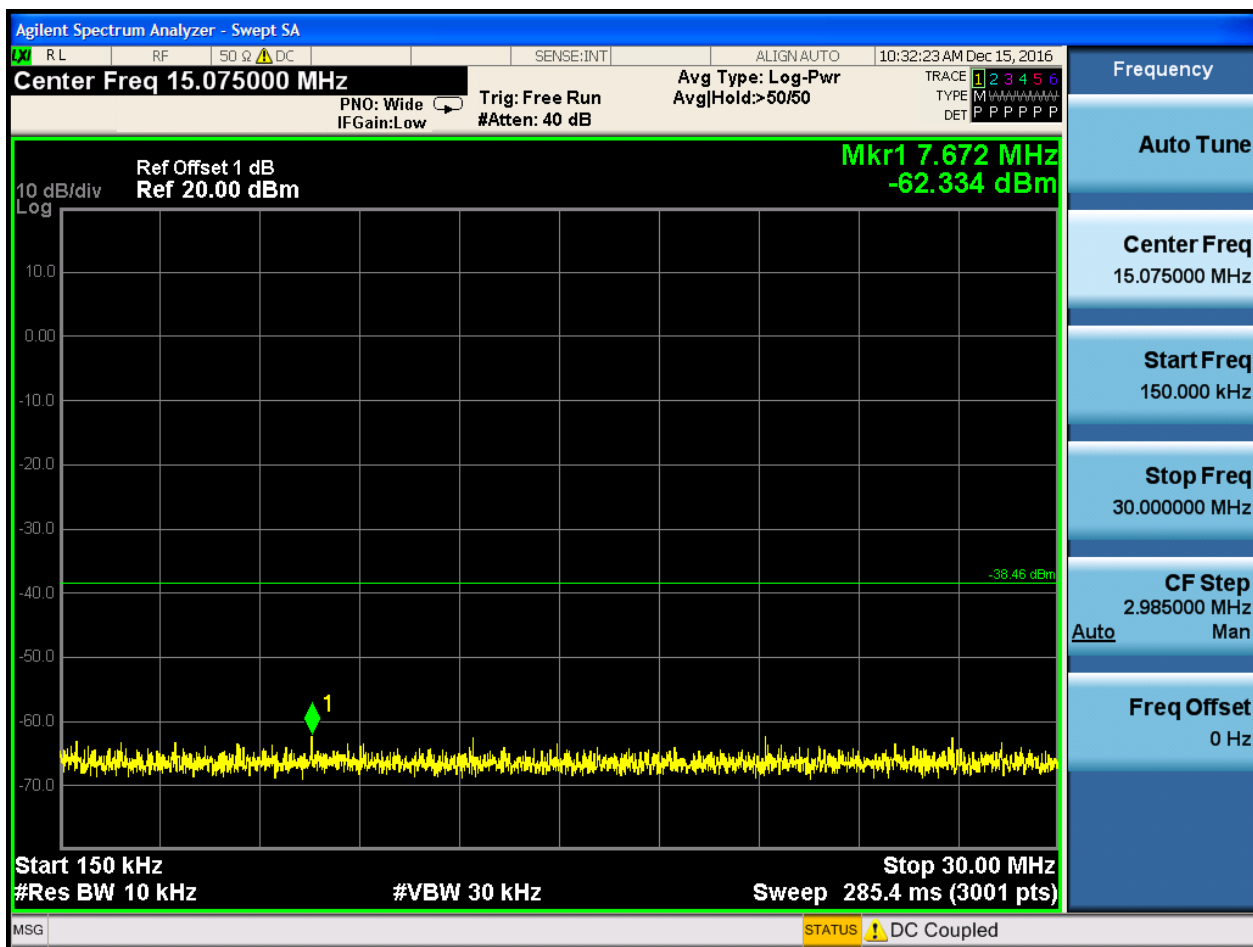
Pref:

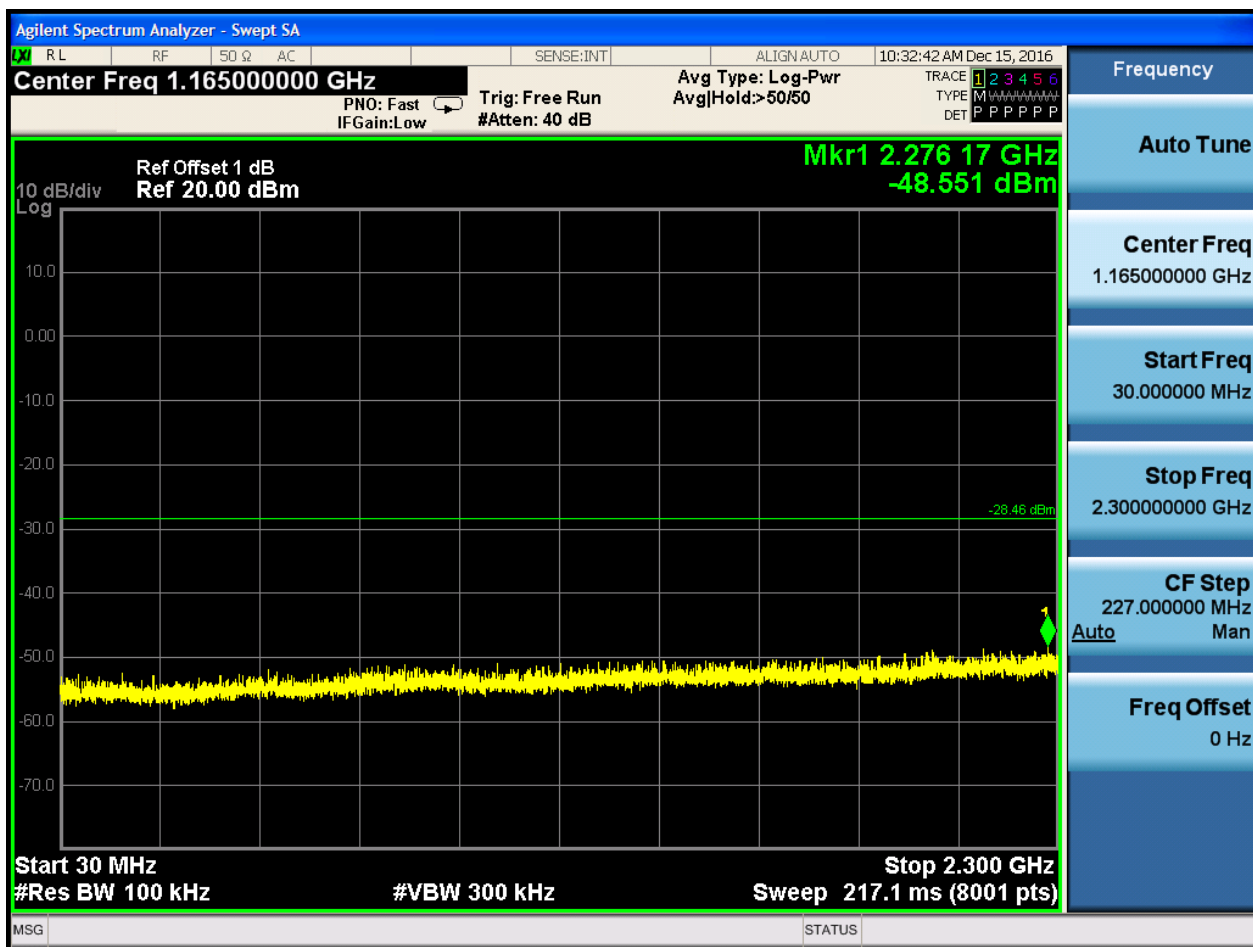


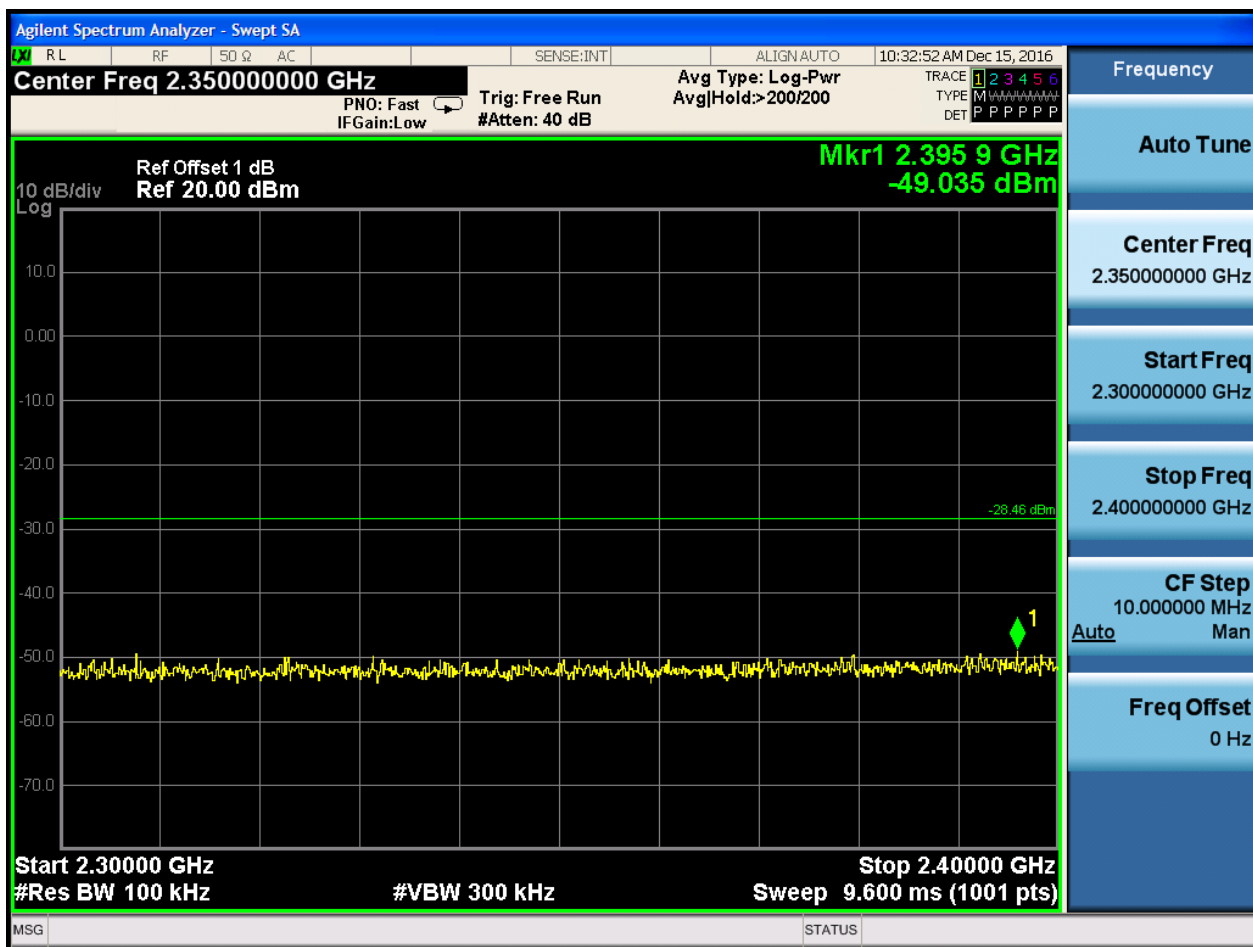


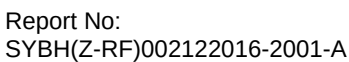
Puw:







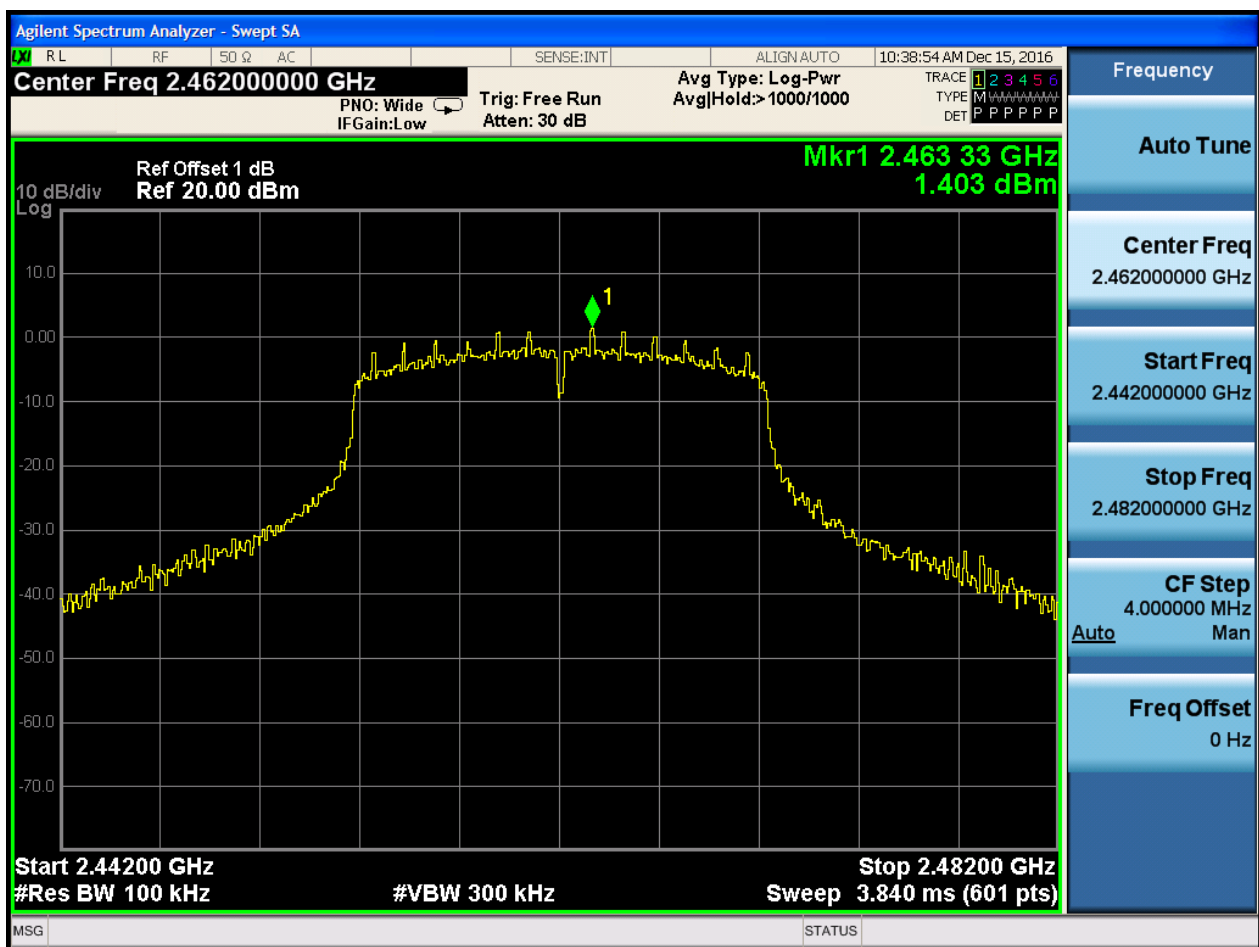






2.6 11G_H@Ant 1

Pref:





Puw:

