



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.

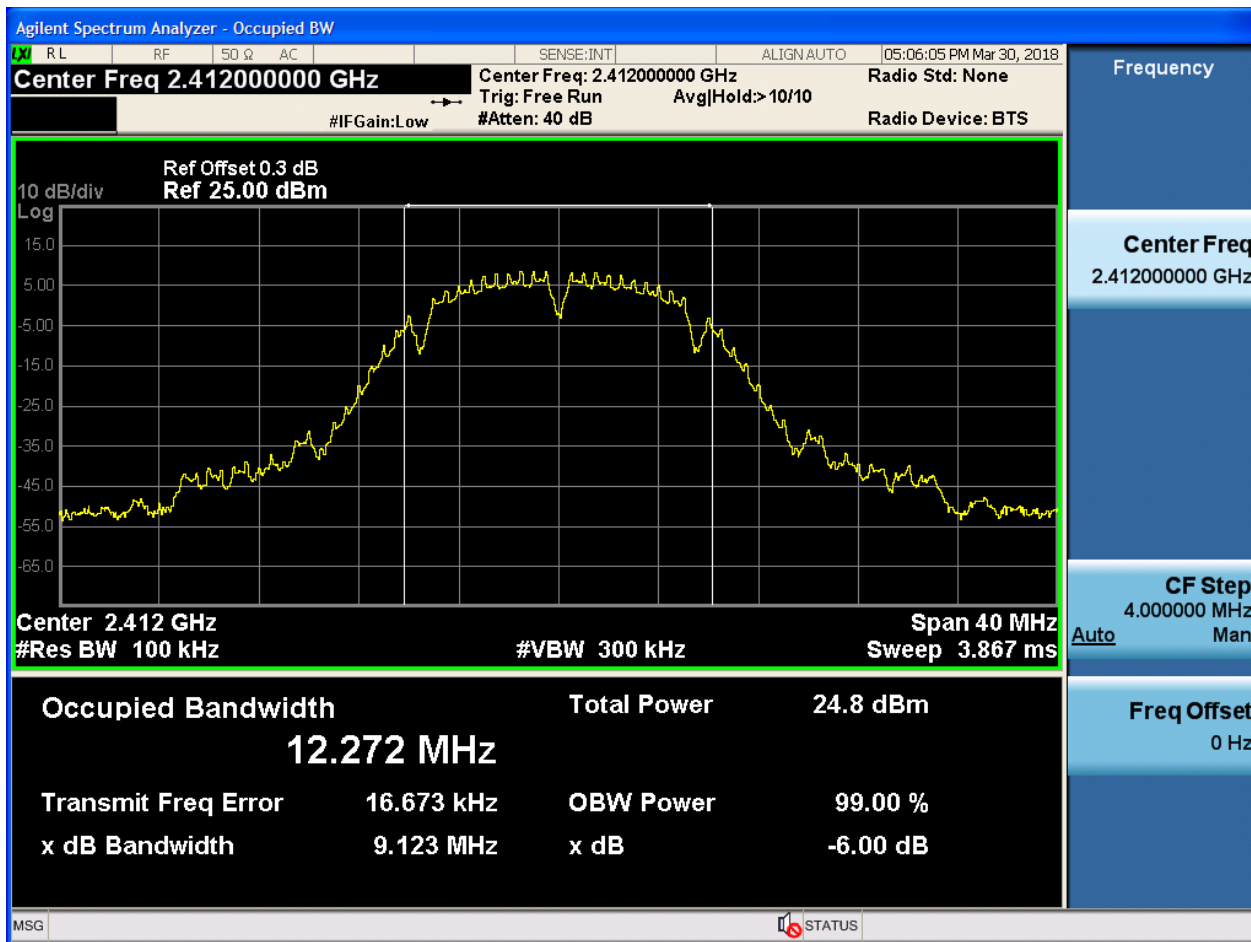
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	9.12	pass
11B	M	2437	Ant 1	9.60	pass
11B	H	2462	Ant 1	9.57	pass
11G	L	2412	Ant 1	15.09	pass
11G	L	2417	Ant 1	16.38	pass
11G	M	2437	Ant 1	15.50	pass
11G	H	2457	Ant 1	16.37	pass
11G	H	2462	Ant 1	15.69	pass
11N20	L	2412	Ant 1	15.14	pass
11N20	L	2417	Ant 1	17.52	pass
11N20	M	2437	Ant 1	16.13	pass
11N20	H	2457	Ant 1	17.51	pass
11N20	H	2462	Ant 1	16.11	pass
11N40	L	2422	Ant 1	35.25	pass
11N40	L	2427	Ant 1	36	pass
11N40	M	2437	Ant 1	35.44	pass
11N40	H	2447	Ant 1	35.51	pass
11N40	H	2452	Ant 1	35.14	pass

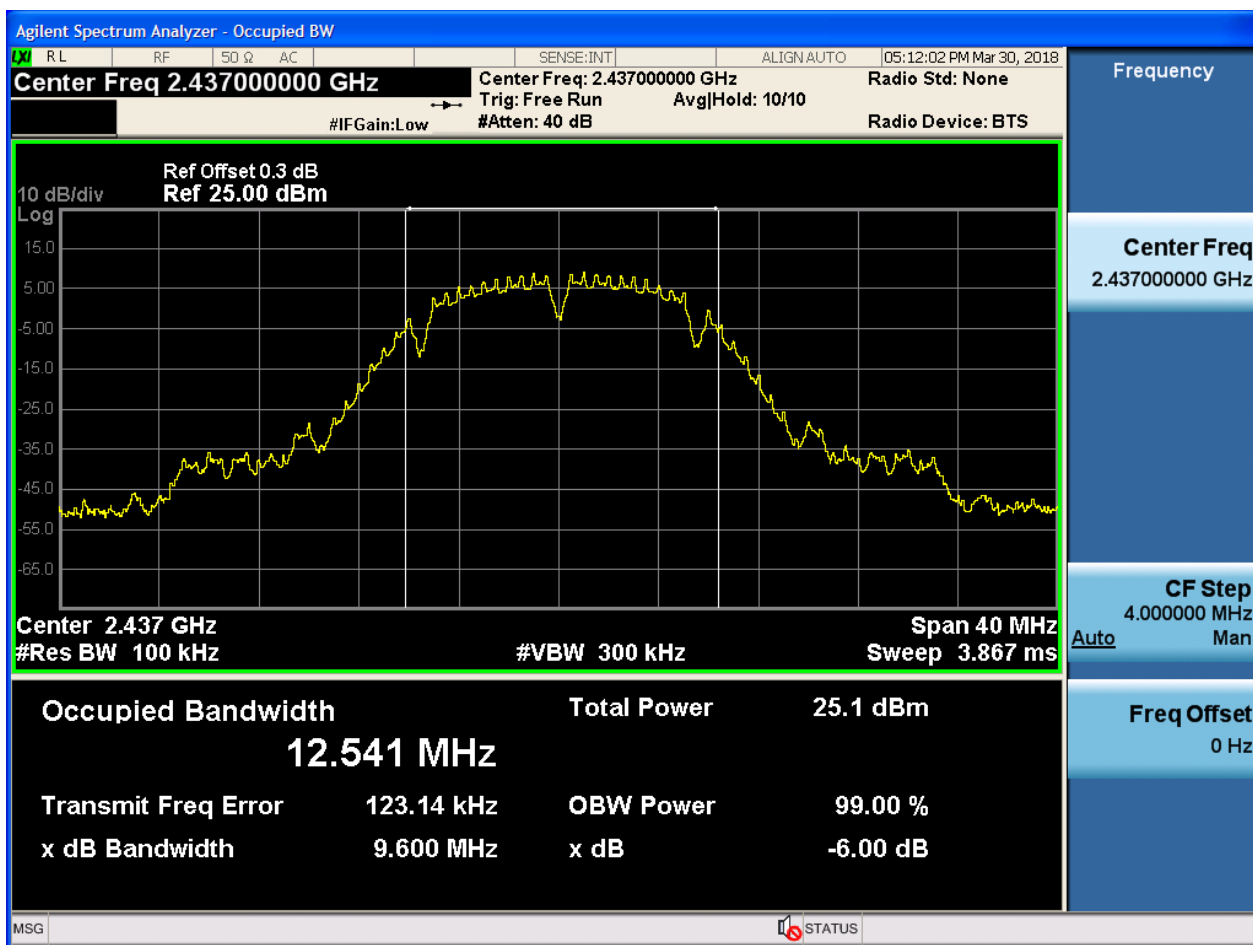
Part II - Test Plots

2.1 11B_L@Ant 1



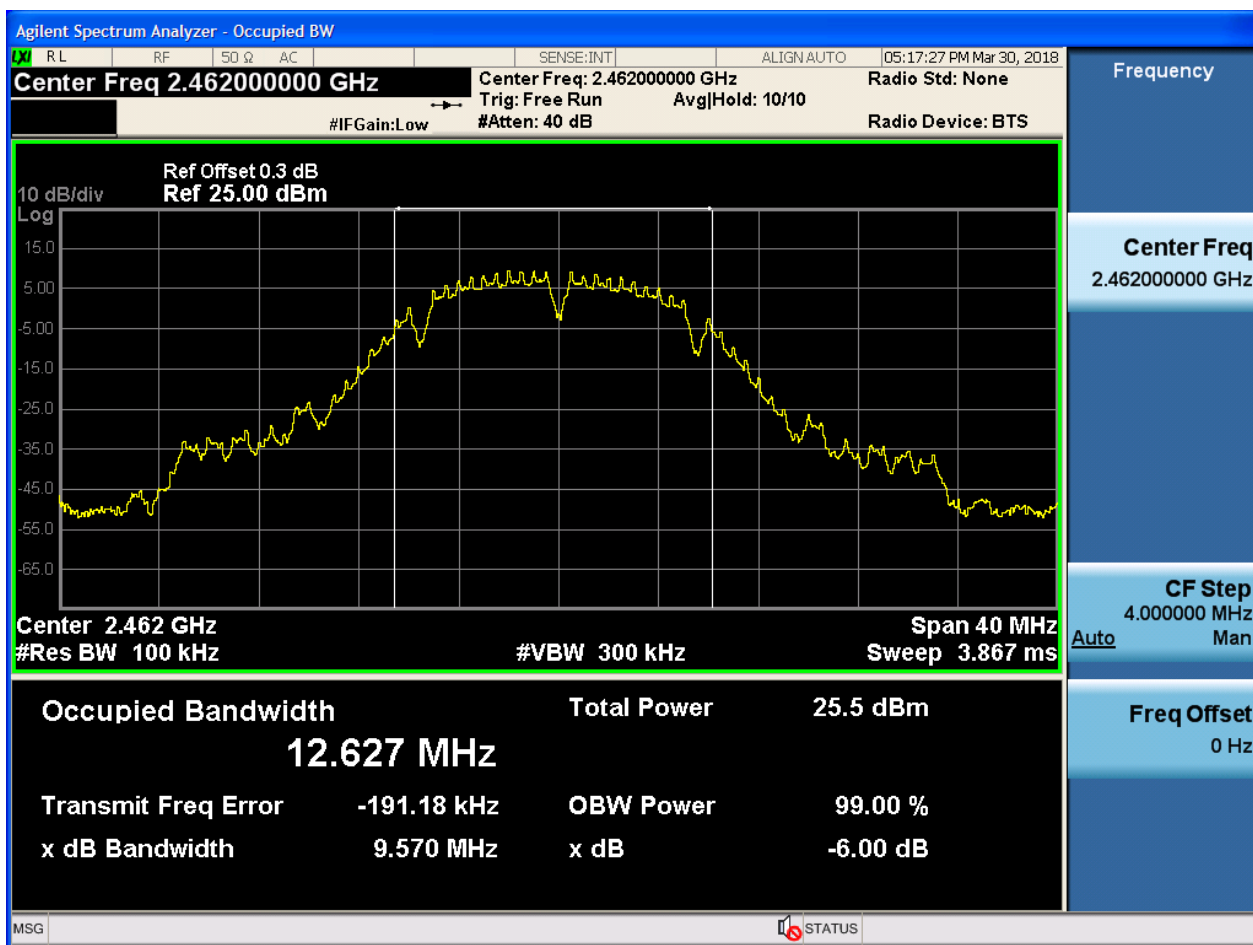


2.2 11B_M@Ant 1



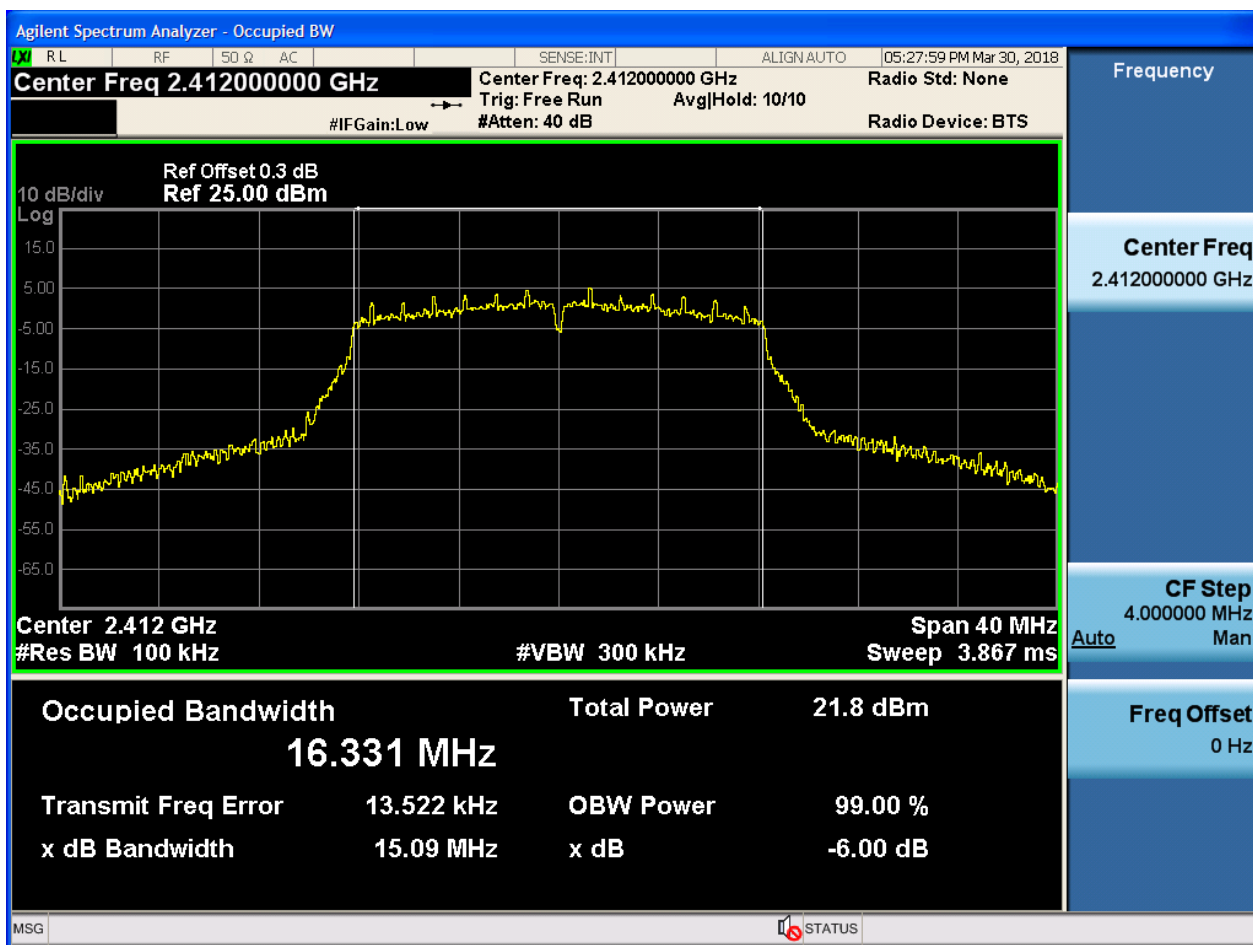


2.3 11B_H@Ant 1



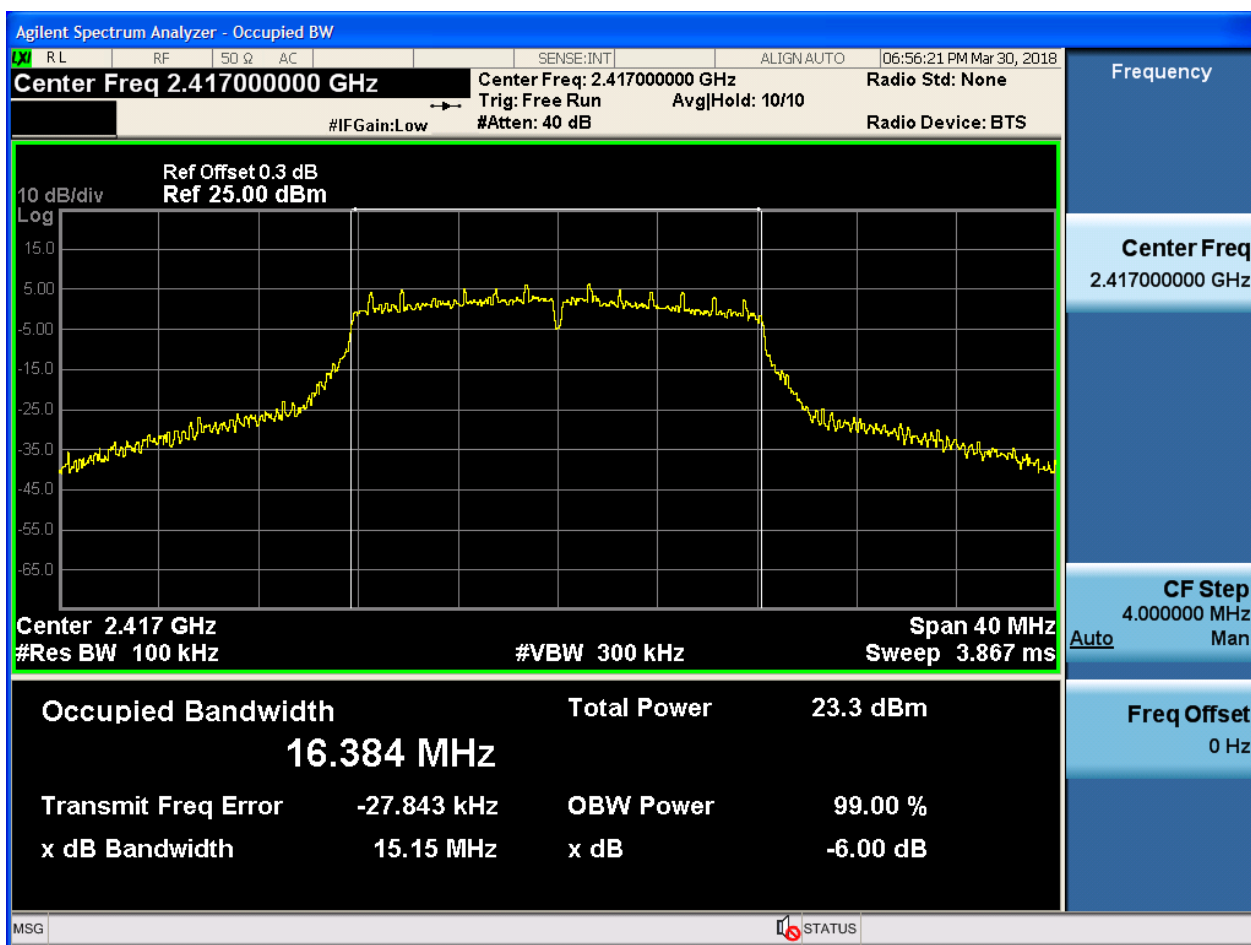


2.4 11G_L_2412@Ant 1



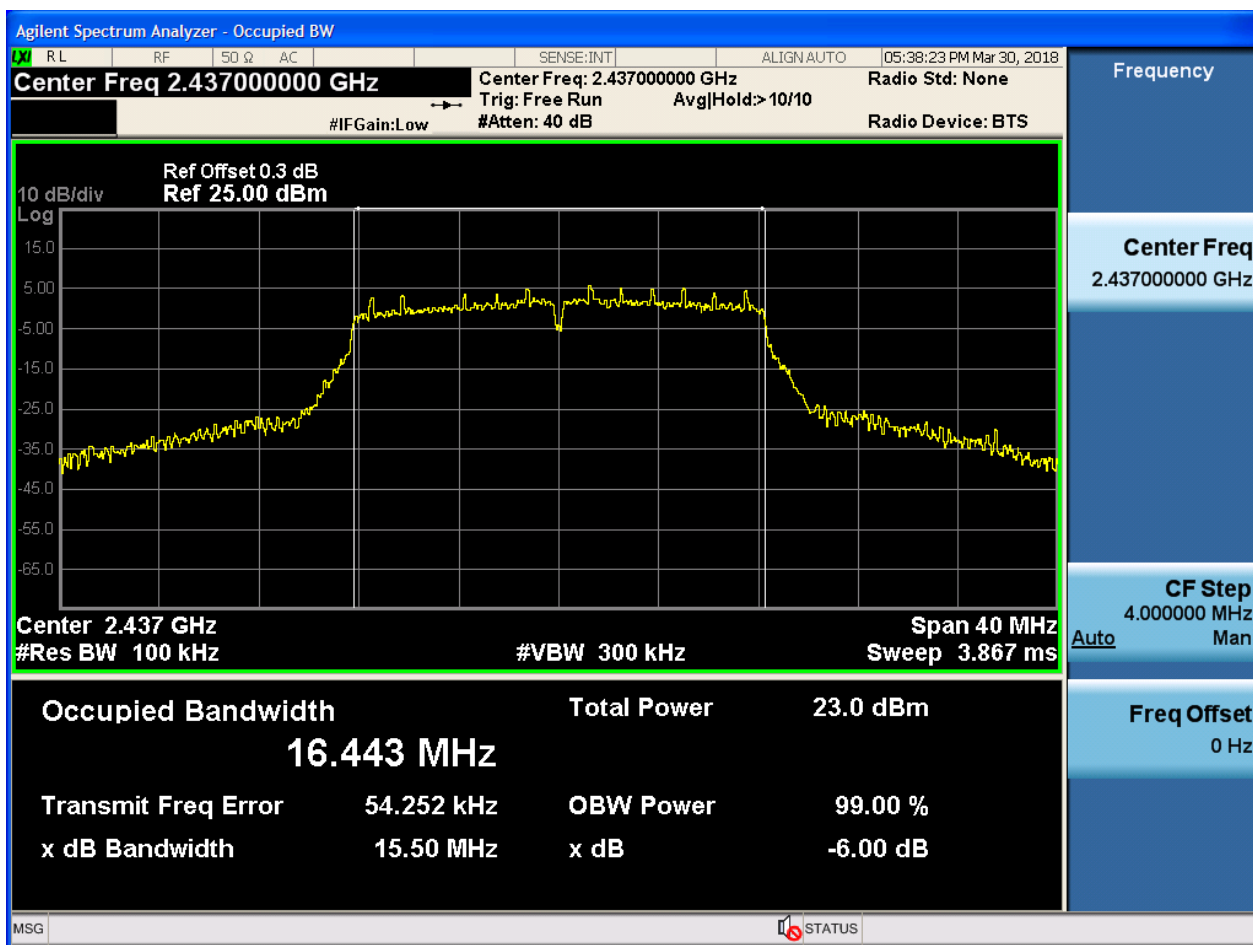


2.5 11G_L_2417@Ant 1



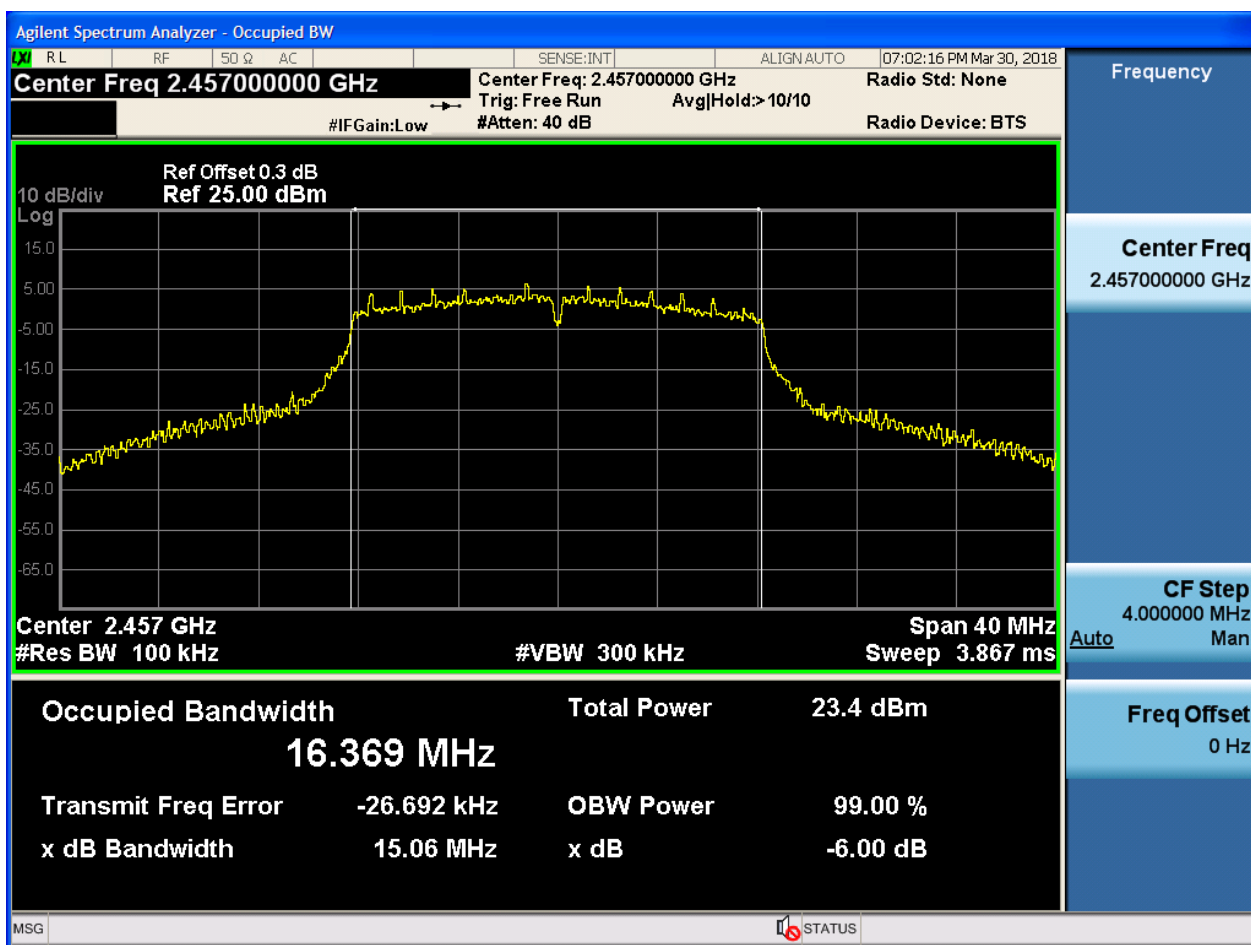


2.6 11G_M_2437@Ant 1



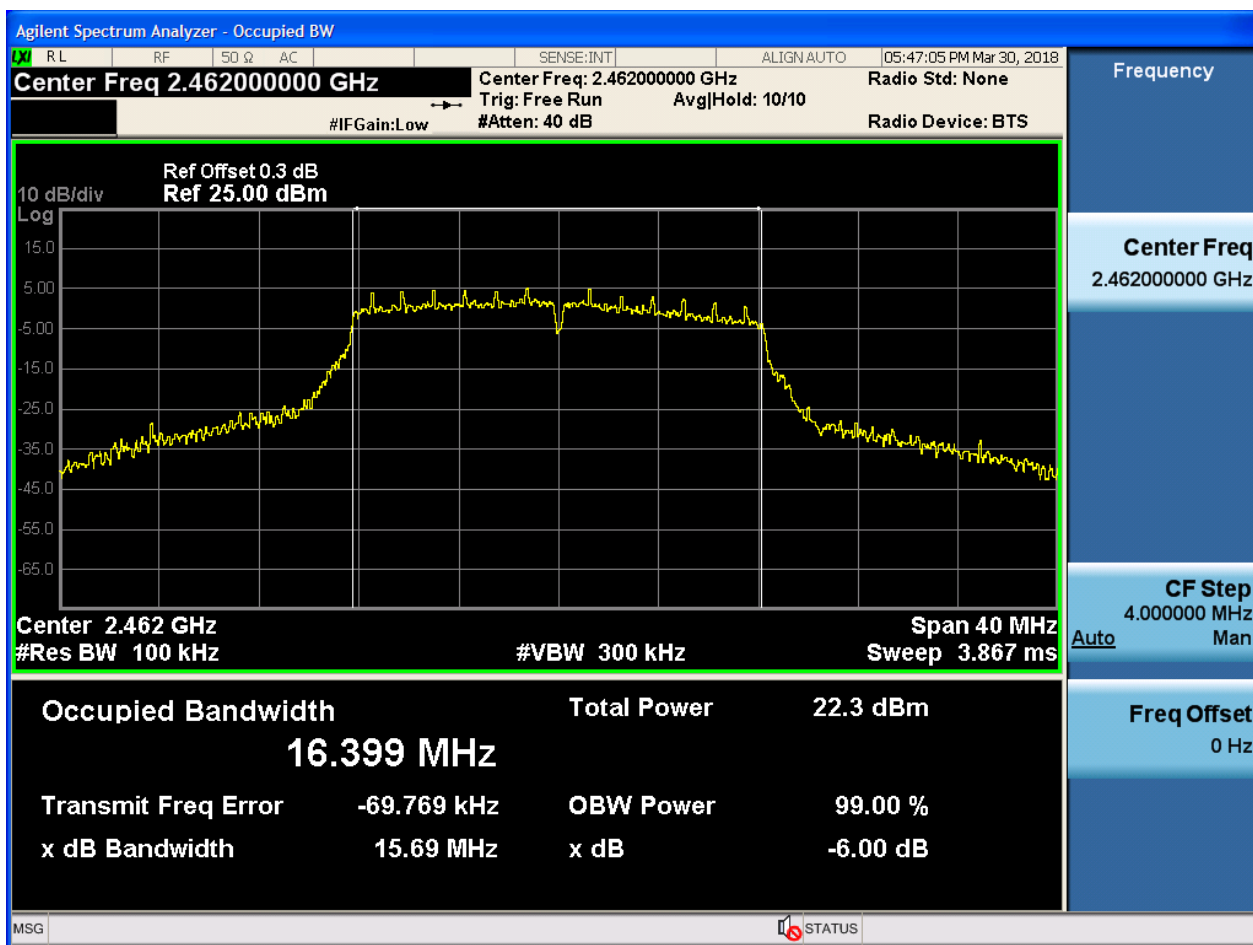


2.7 11G_H_2457@Ant 1



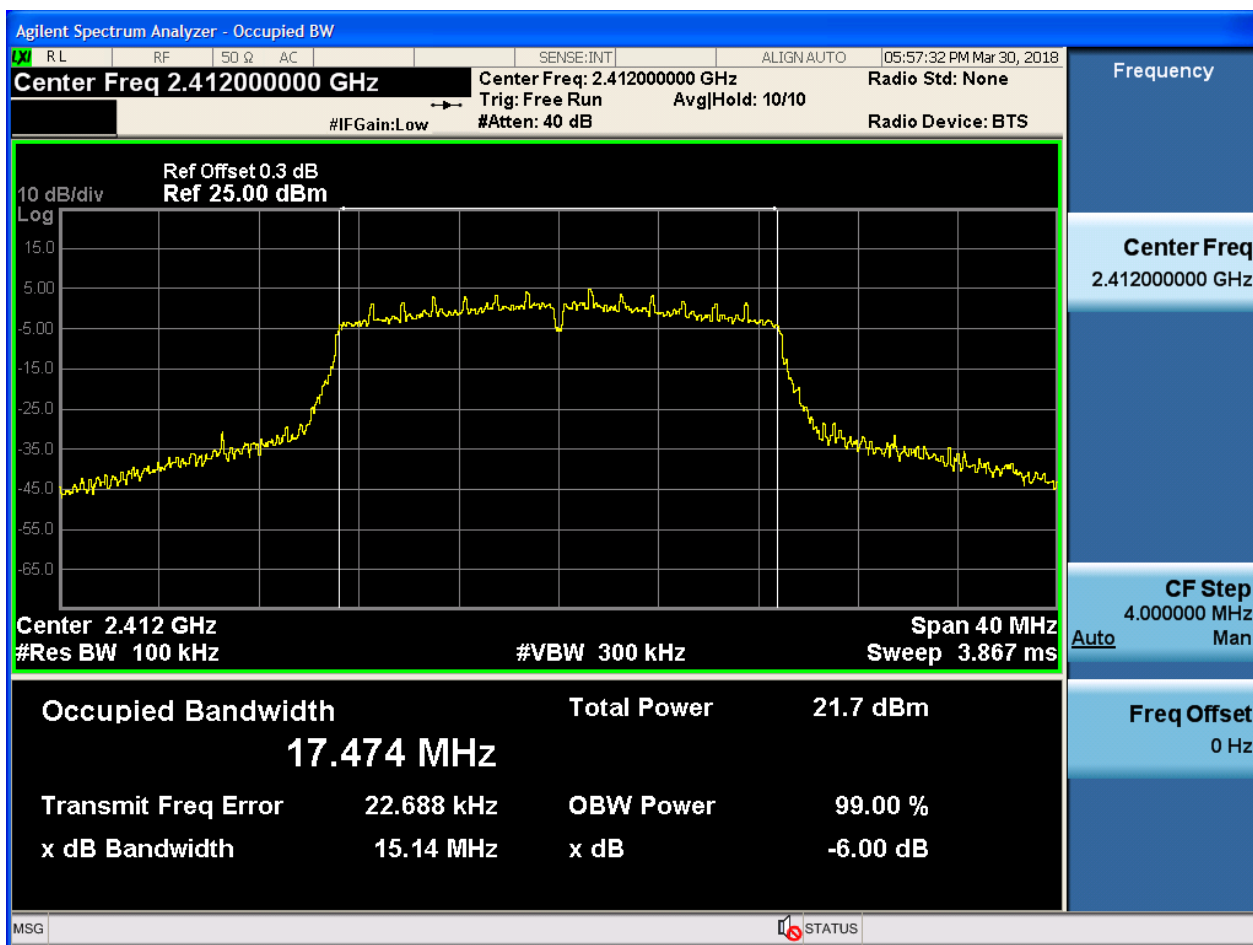


2.8 11G_H_2462@Ant 1



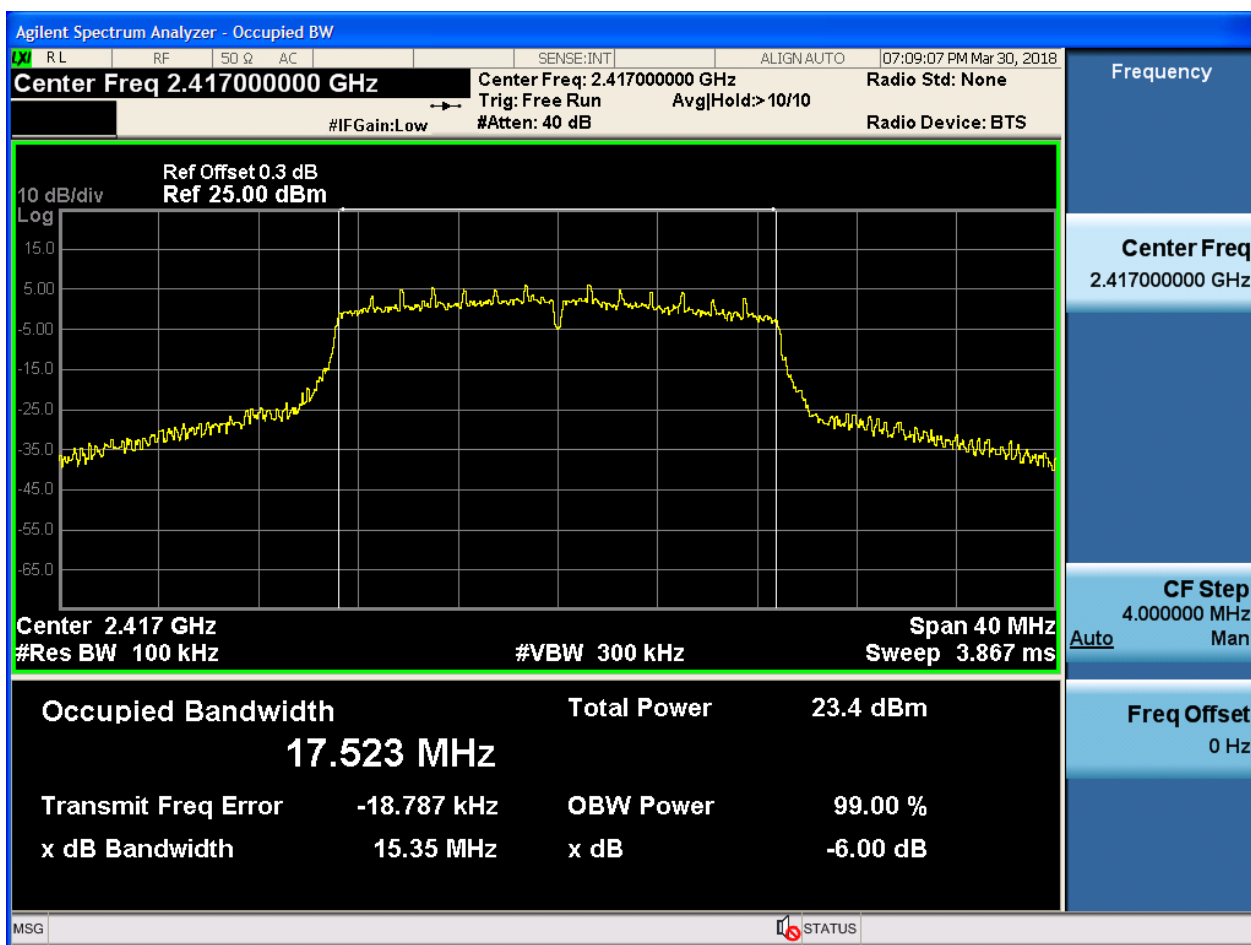


2.9 11N20_L_2412@Ant 1



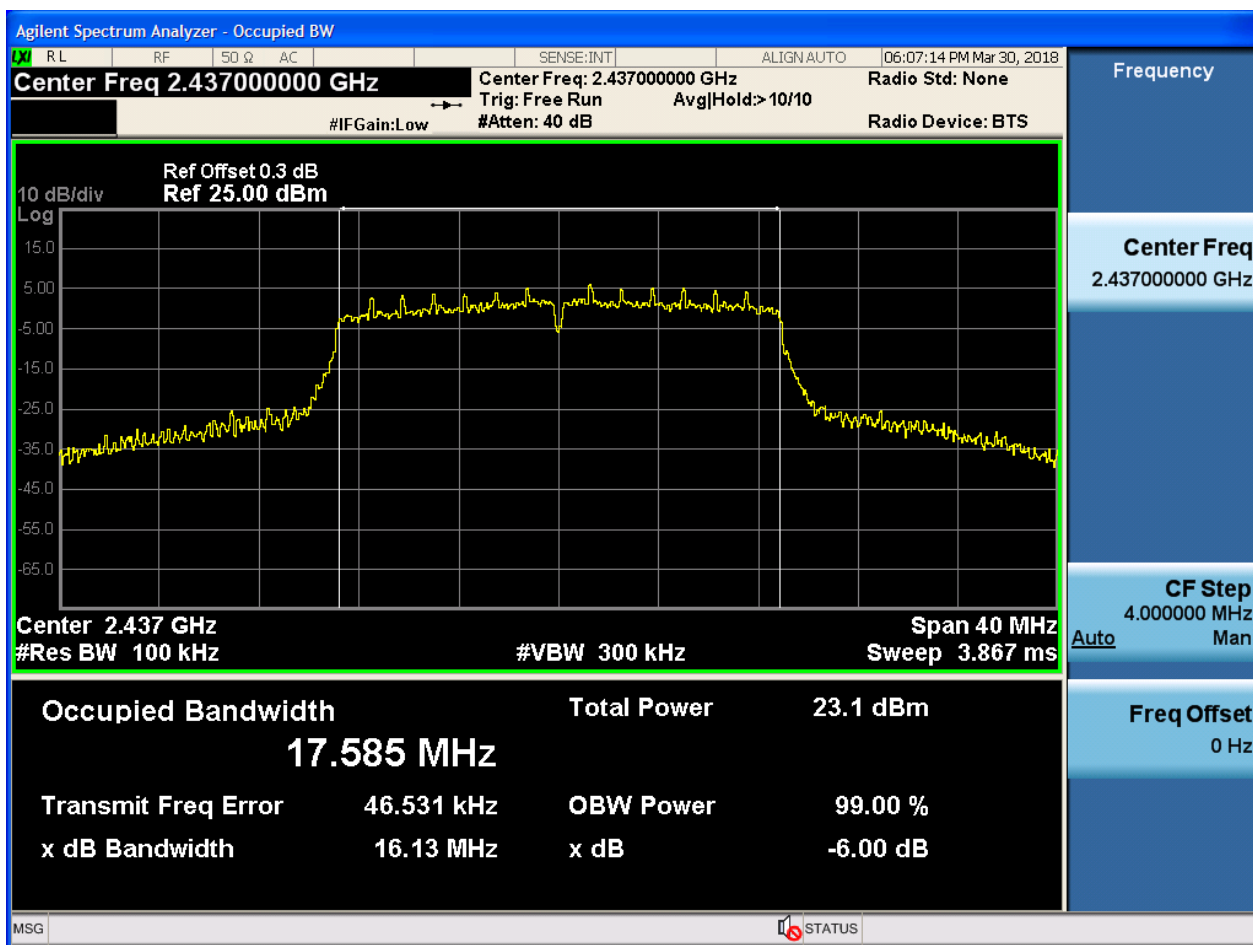


2.10 11N20_L_2417@Ant 1

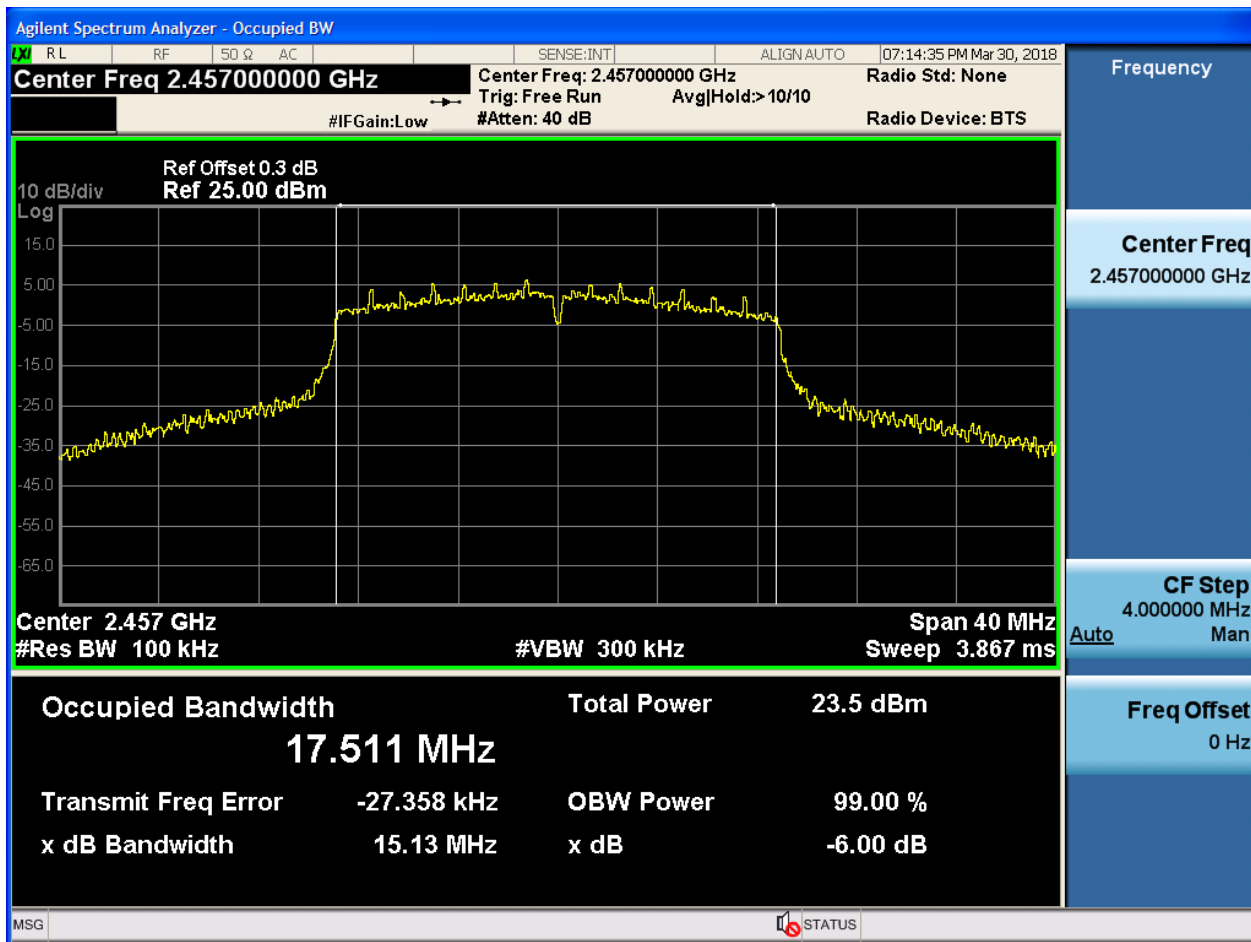




2.11 11N20_M_2437@Ant 1

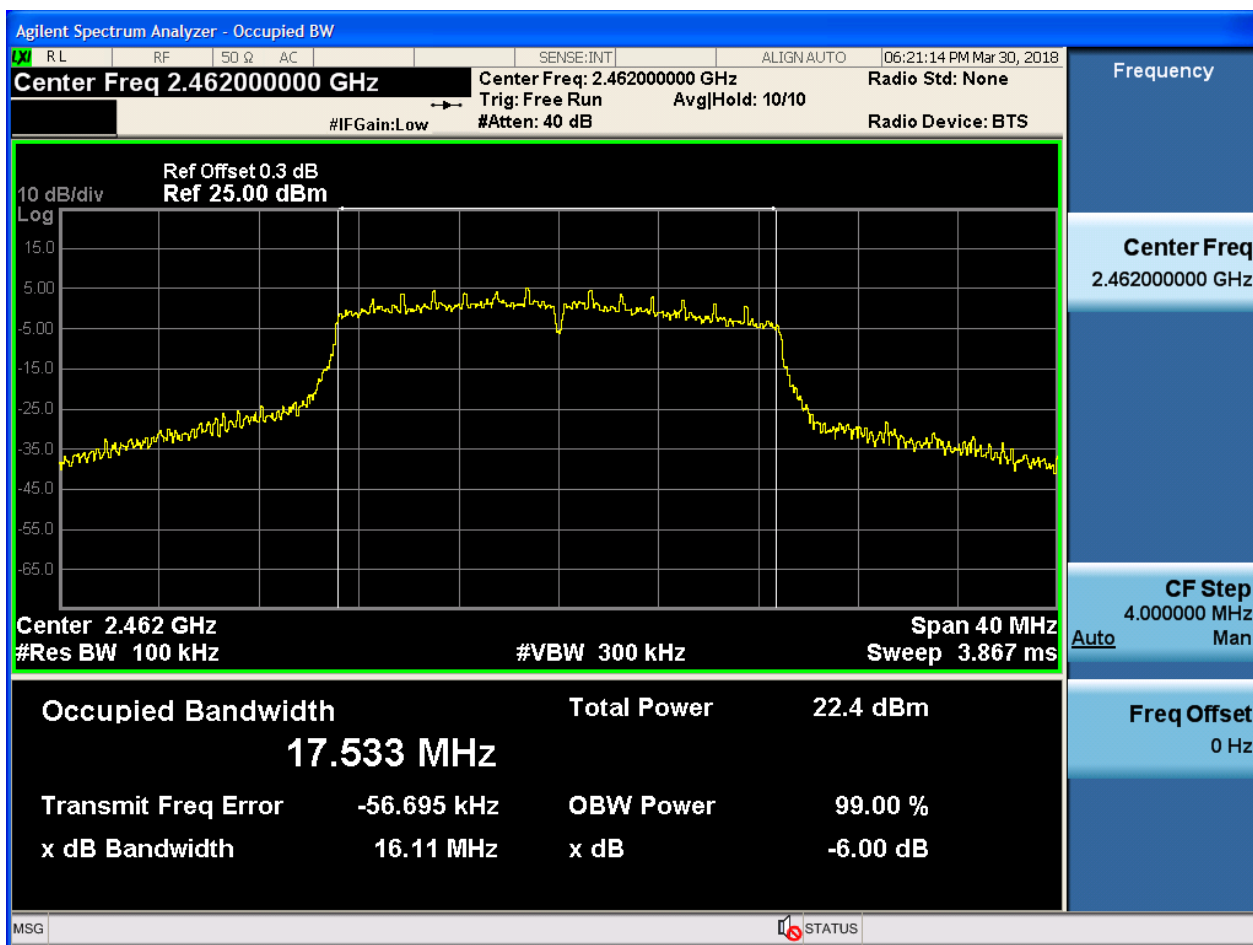


2.12 11N20_H_2457@Ant 1



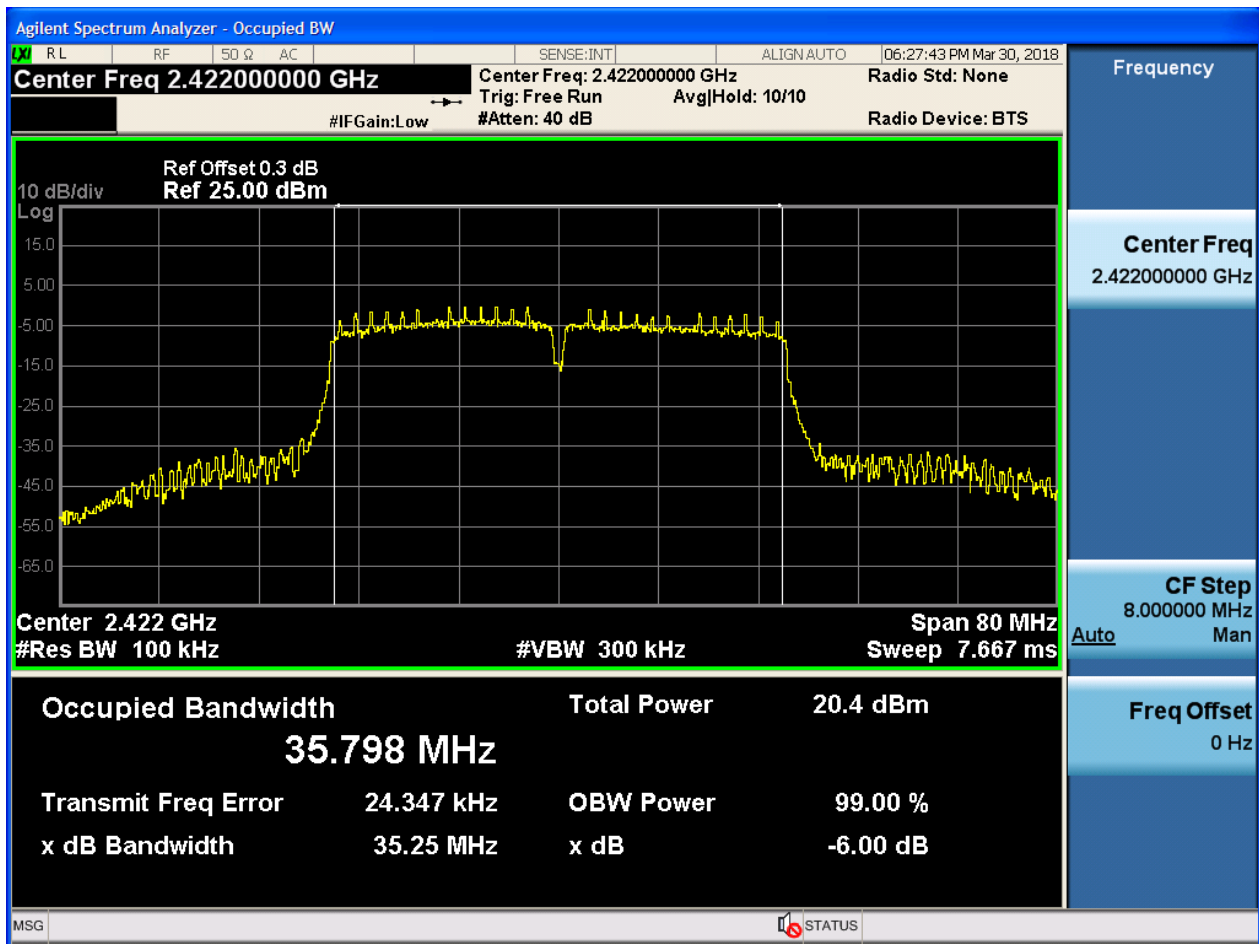


2.13 11N20_H_2462@Ant 1



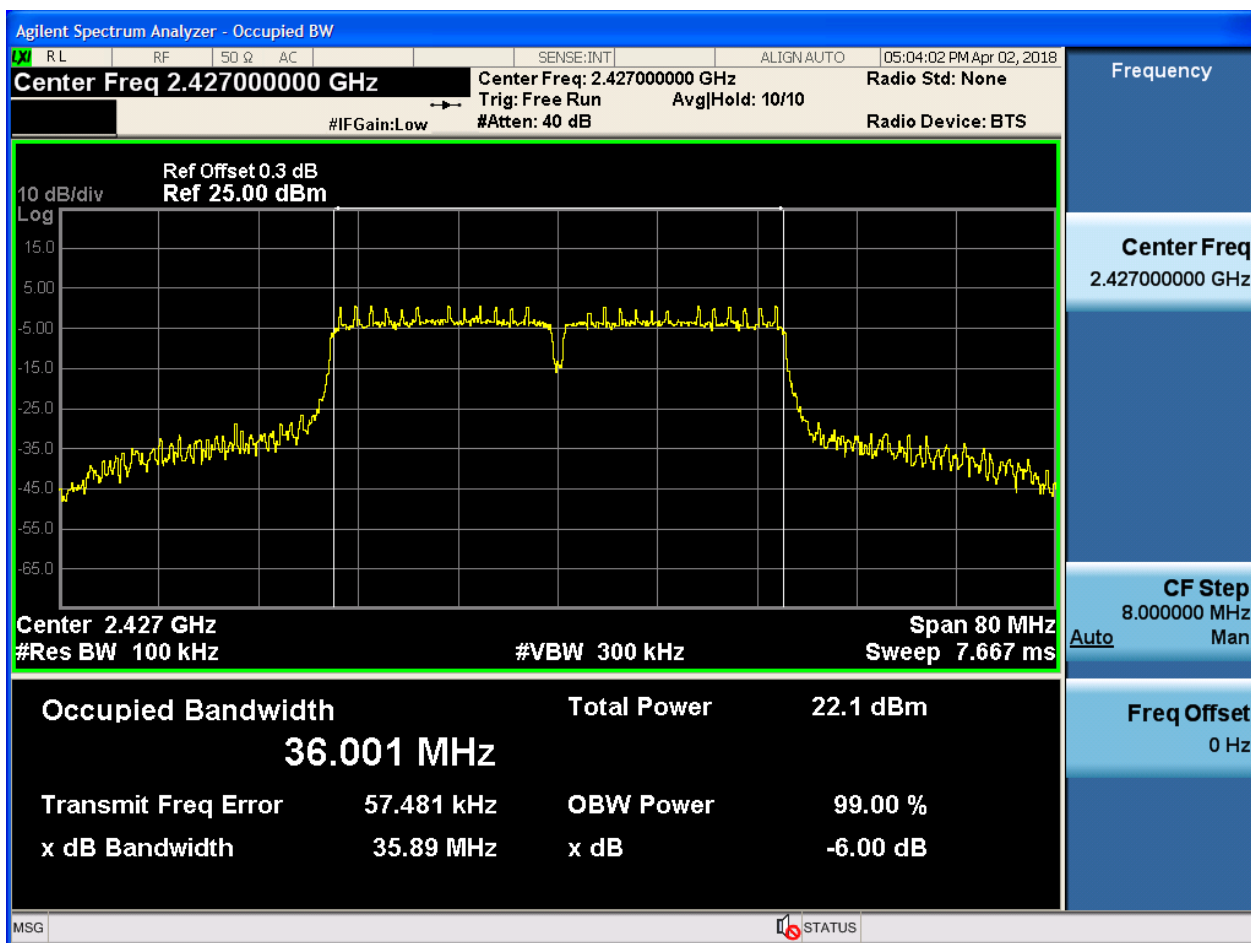


2.14 11N40_L_2422@Ant 1



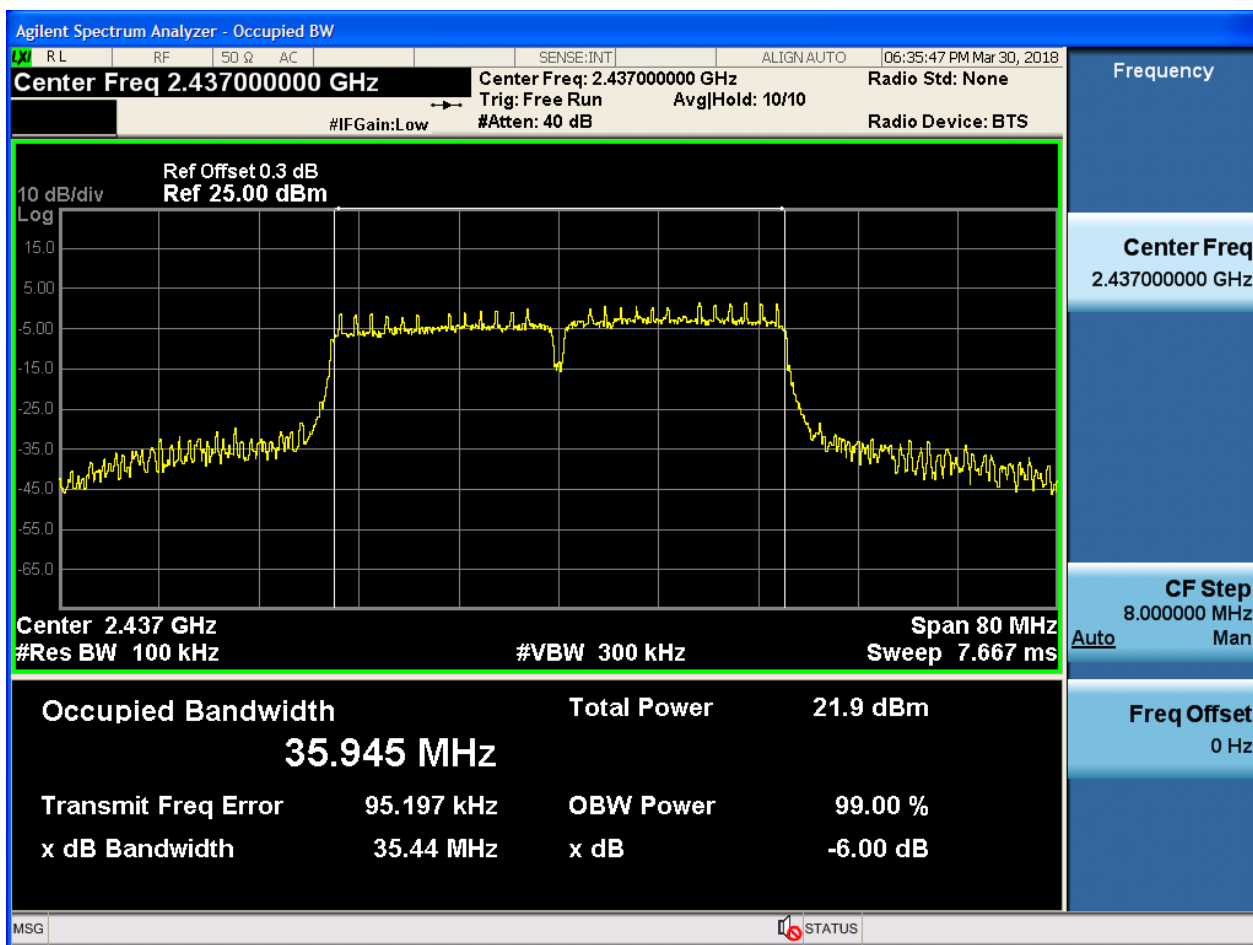


2.15 11N40_L_2427@Ant 1



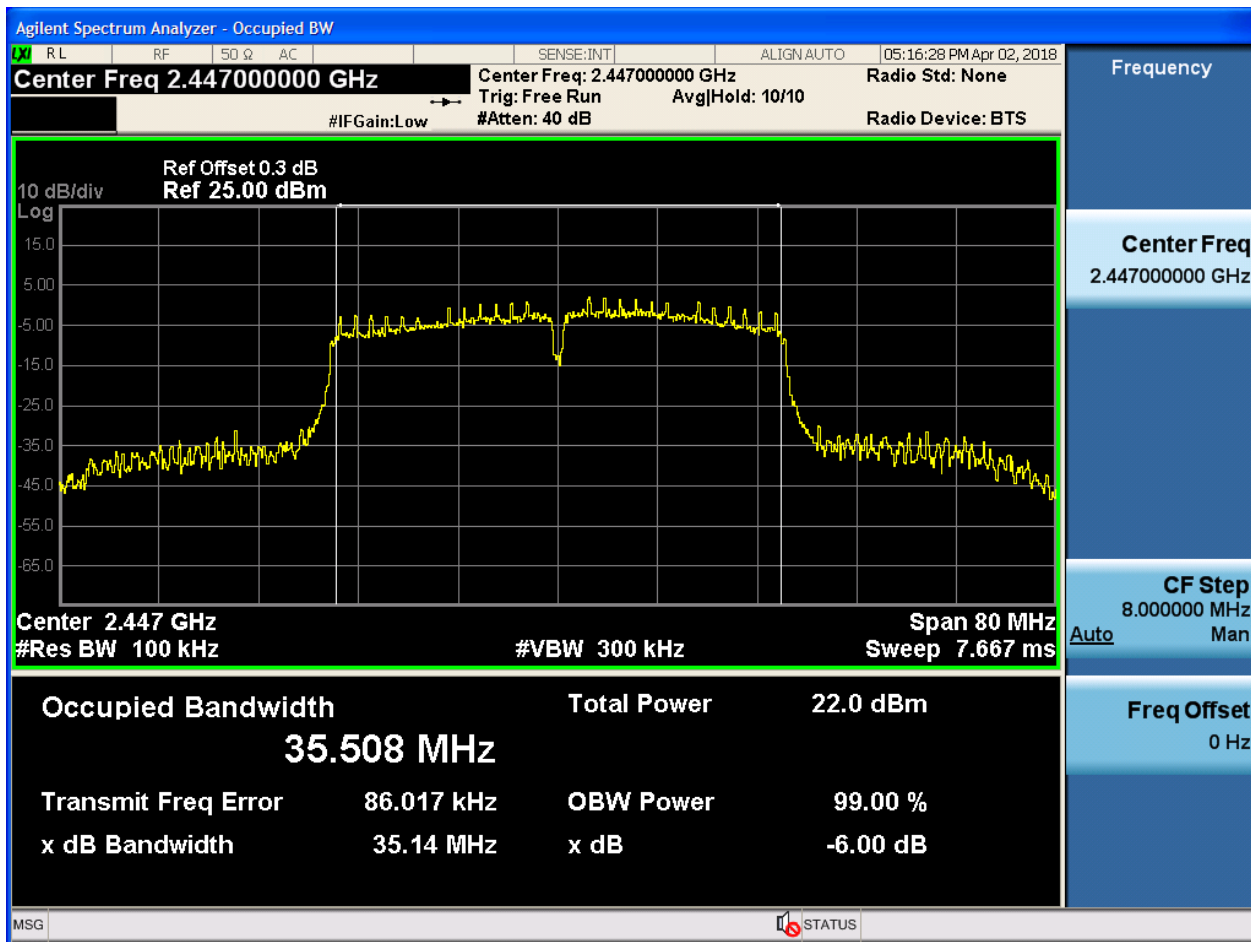


2.16 11N40_M_2437@Ant 1



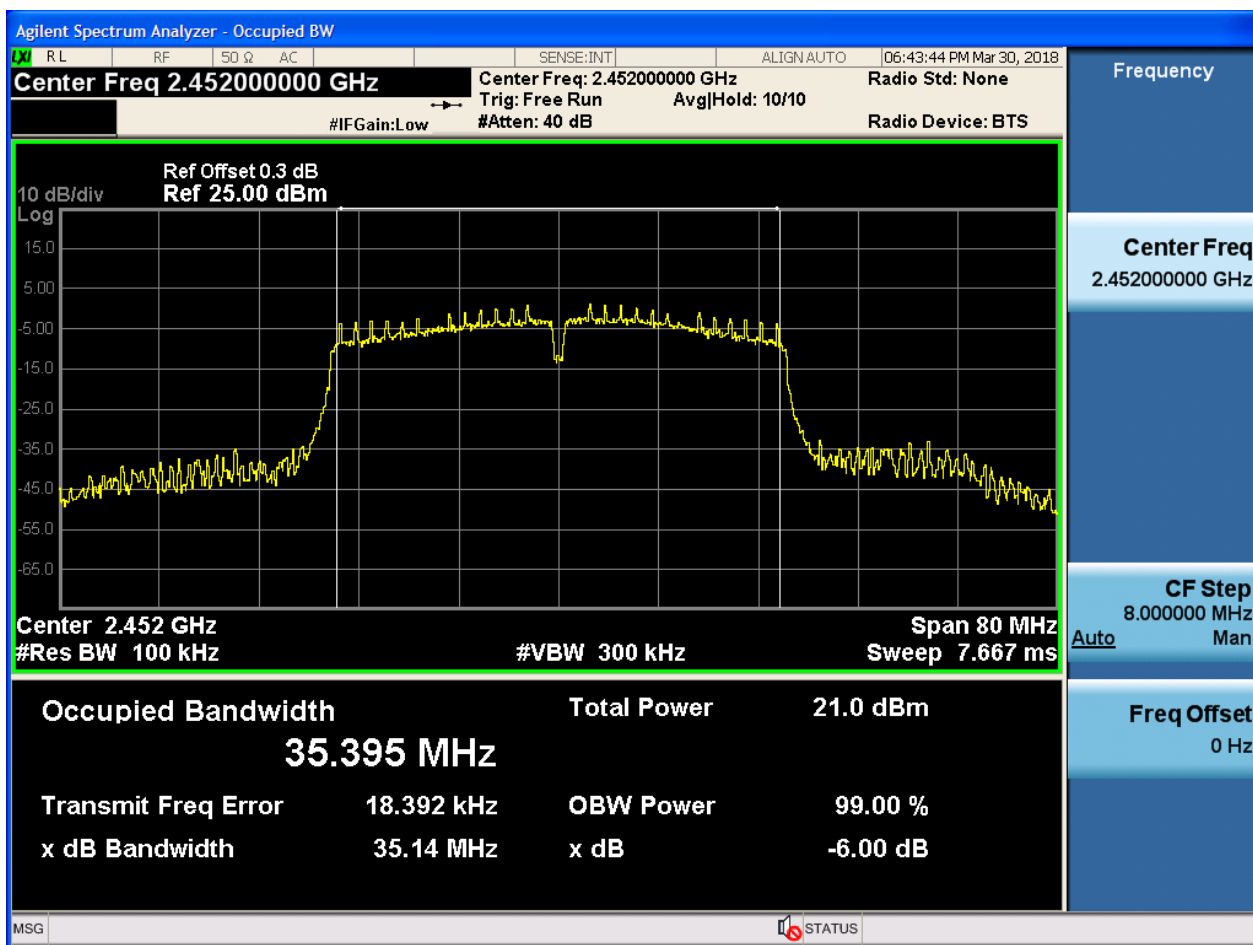


2.17 11N40_H_2447@Ant 1





2.18 11N40_H_2452@Ant 1



Appendix B: Occupied Bandwidth

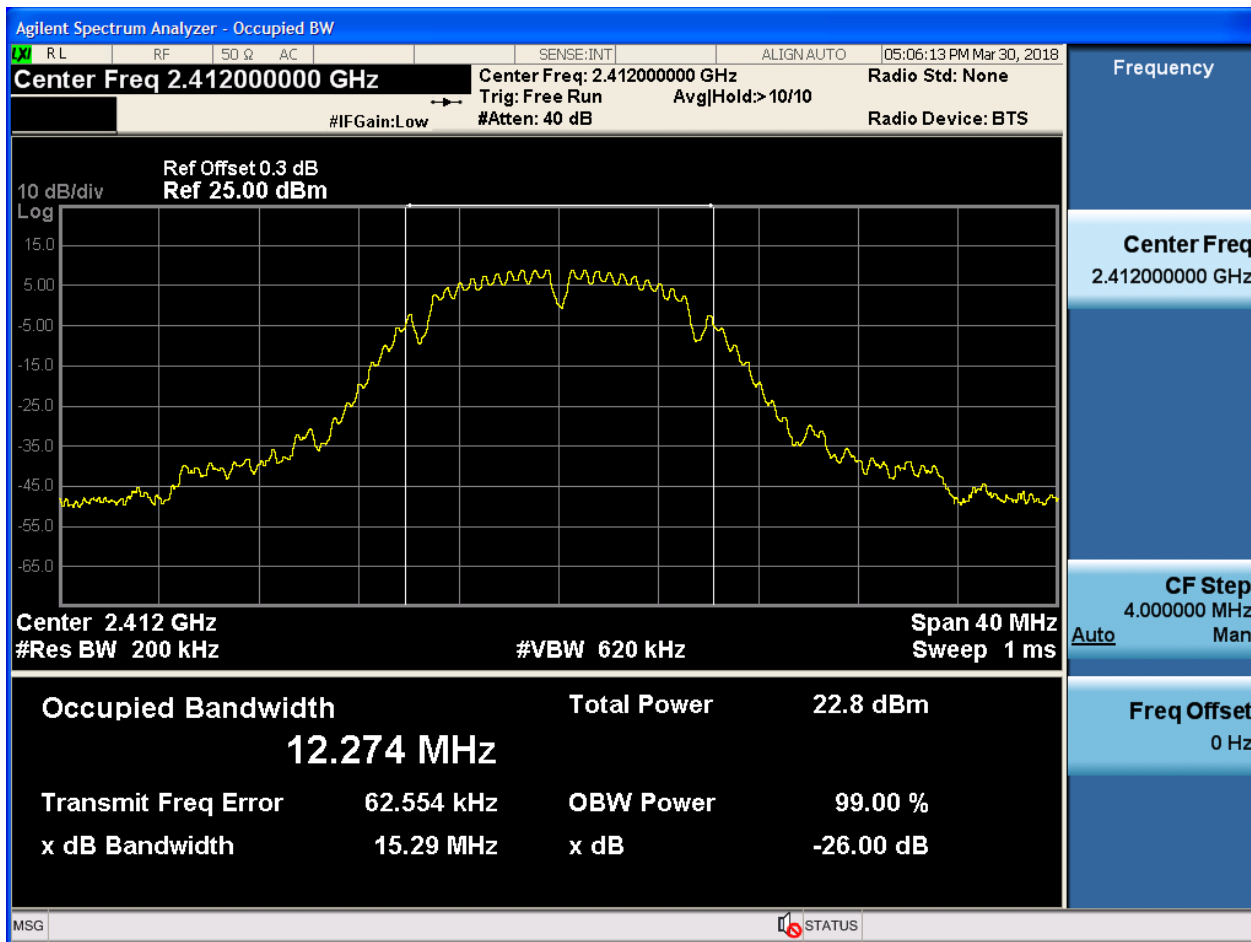
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	12.27	pass
11B	M	2437	Ant 1	12.57	pass
11B	H	2462	Ant 1	12.65	pass
11G	L	2412	Ant 1	16.42	pass
11G	L	2417	Ant 1	16.53	pass
11G	M	2437	Ant 1	16.63	pass
11G	H	2457	Ant 1	16.48	pass
11G	H	2462	Ant 1	16.52	pass
11N20	L	2412	Ant 1	17.47	pass
11N20	L	2417	Ant 1	17.6	pass
11N20	M	2437	Ant 1	17.68	pass
11N20	H	2457	Ant 1	17.54	pass
11N20	H	2462	Ant 1	17.58	pass
11N40	L	2422	Ant 1	35.98	pass
11N40	L	2427	Ant 1	36.23	pass
11N40	M	2437	Ant 1	36.17	pass
11N40	H	2447	Ant 1	35.67	pass
11N40	H	2452	Ant 1	35.62	pass

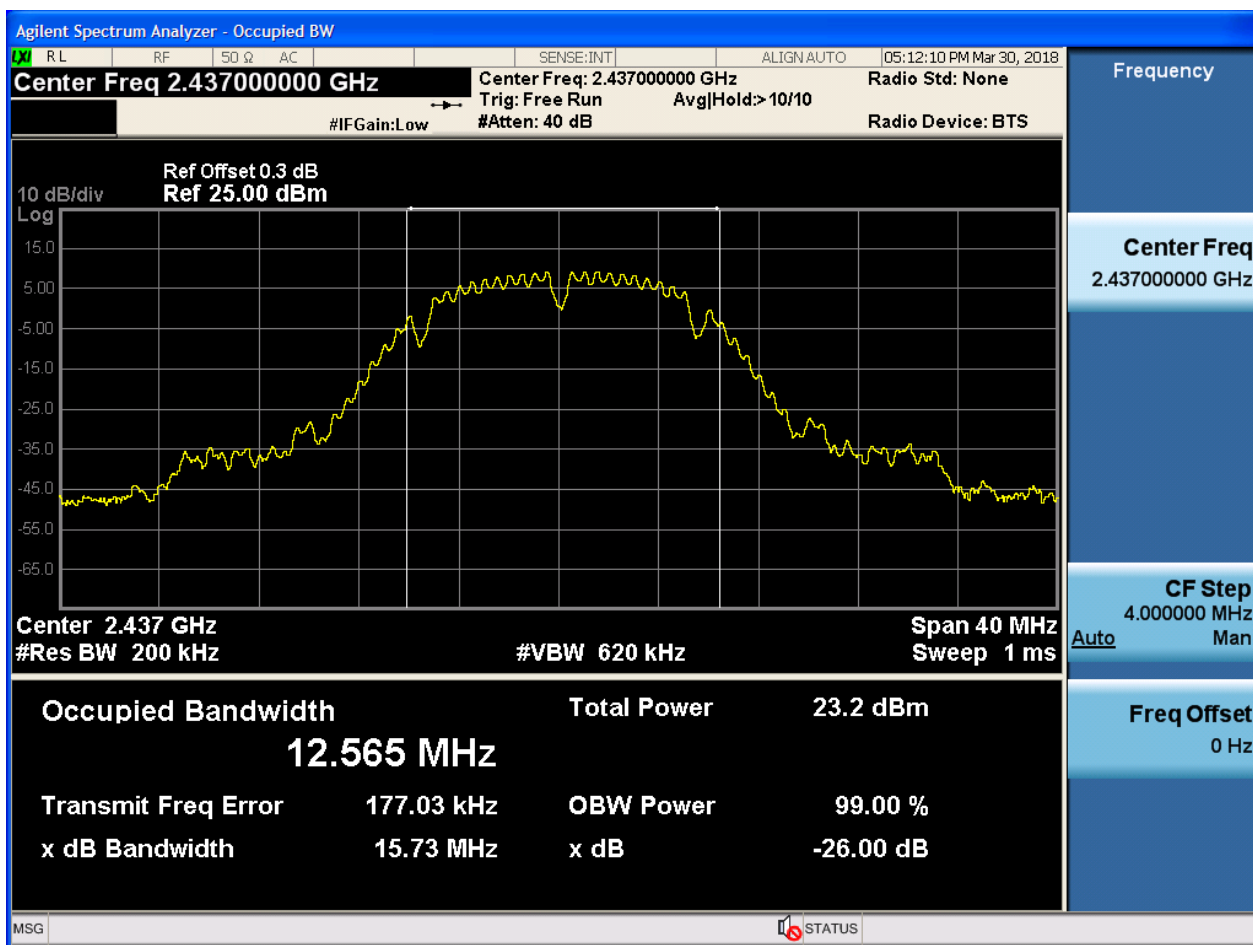
Part II - Test Plots

2.1 11B_L@Ant 1



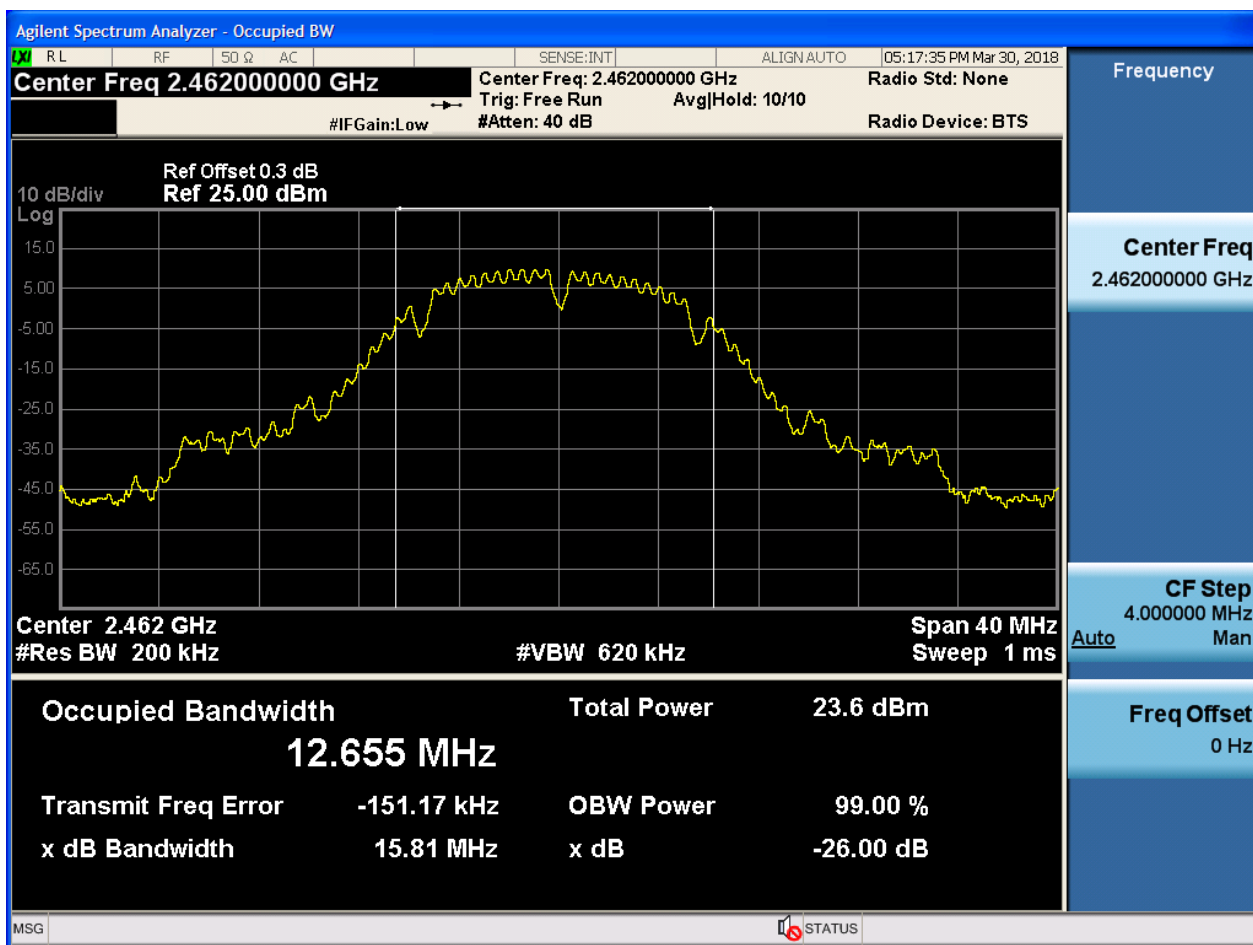


2.2 11B_M@Ant 1



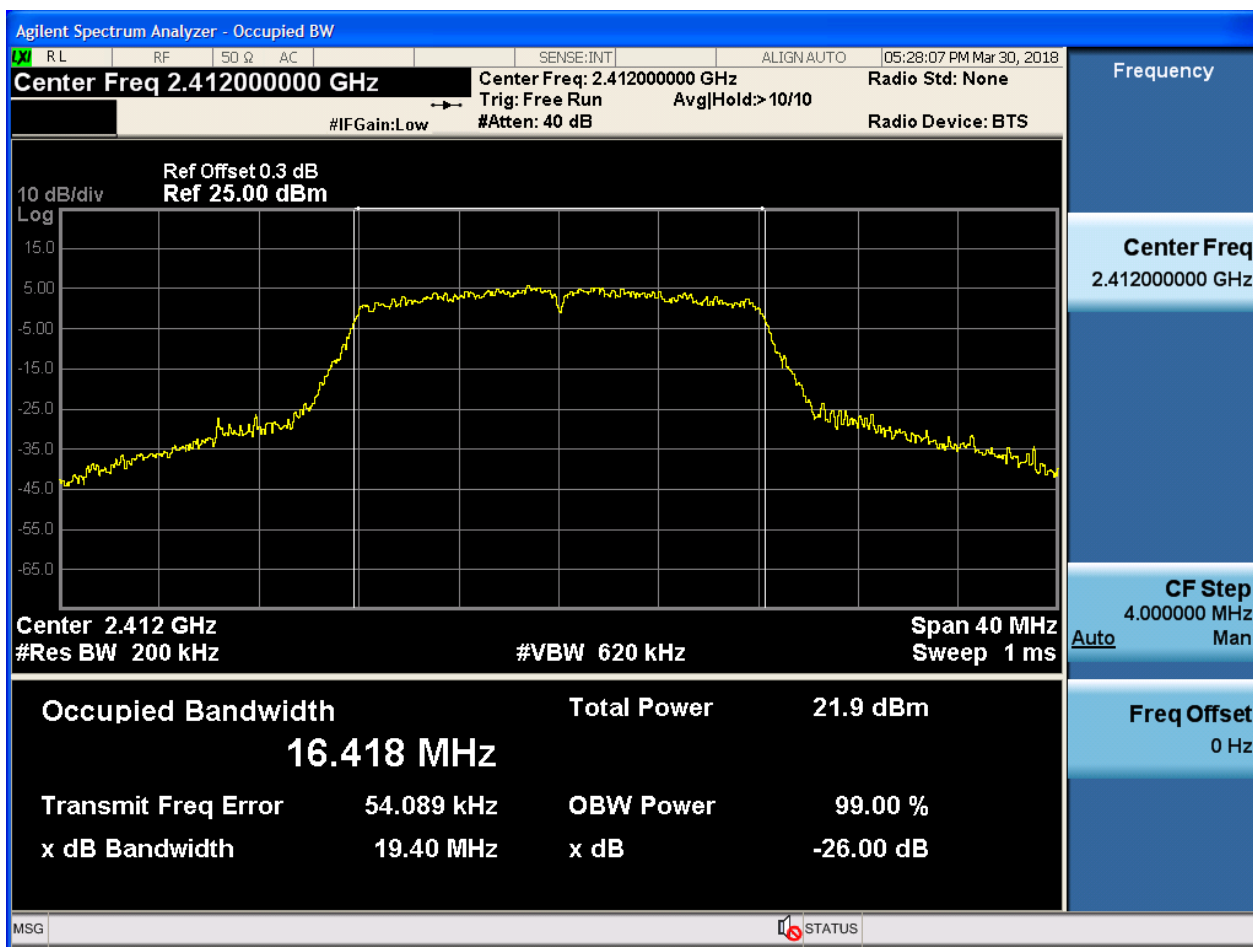


2.3 11B_H@Ant 1



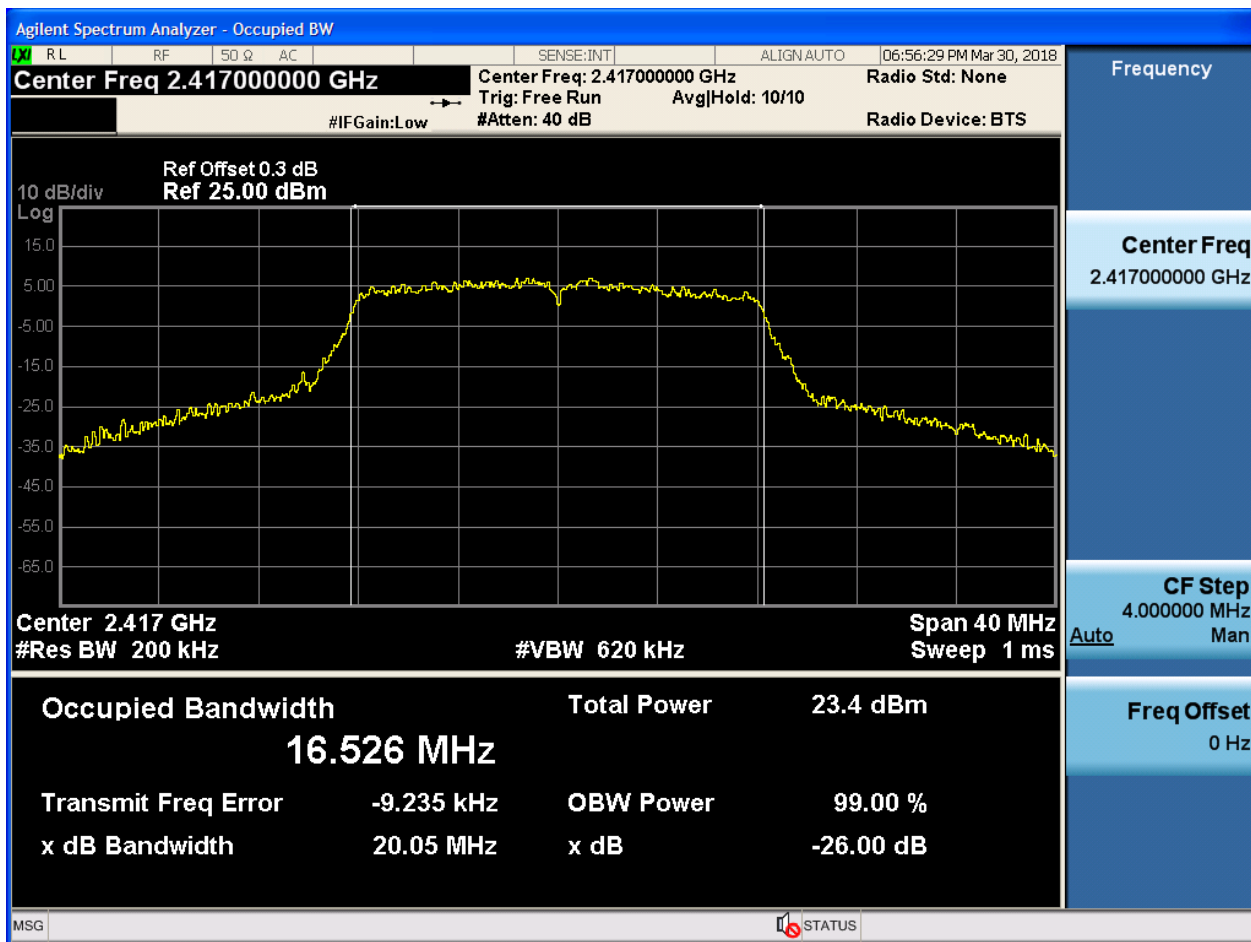


2.4 11G_L_2412@Ant 1



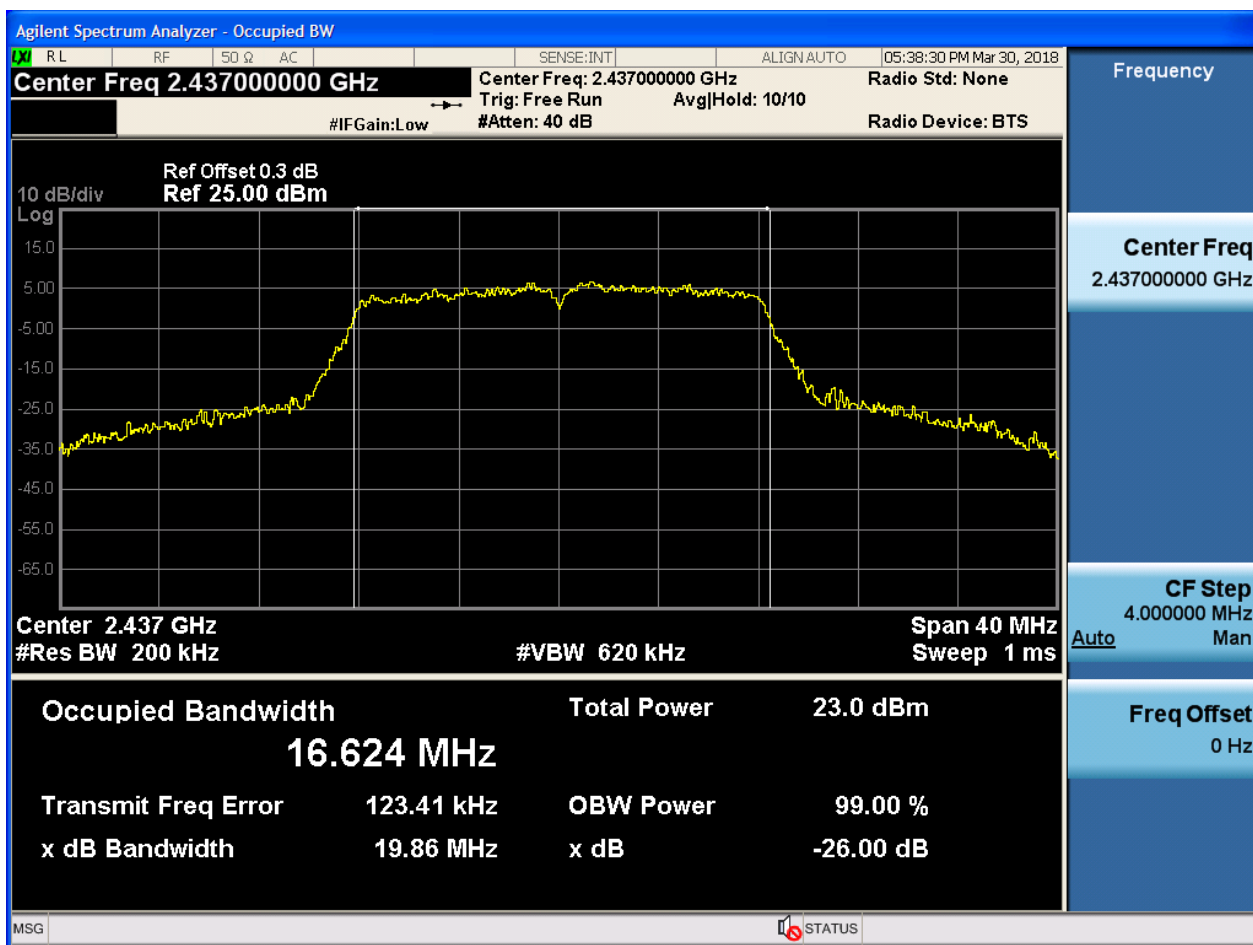


2.5 11G_L_2417@Ant 1



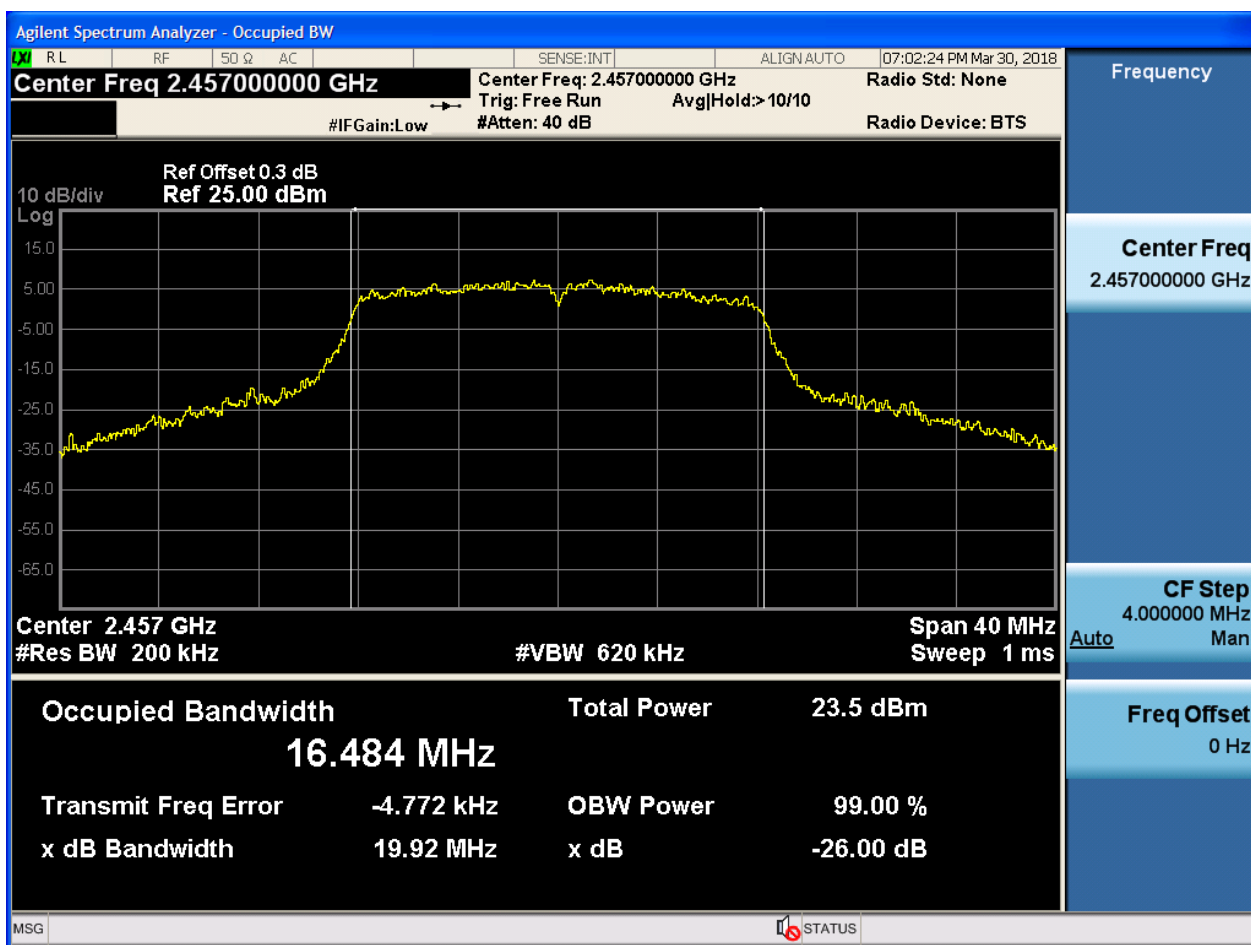


2.6 11G_M_2437@Ant 1



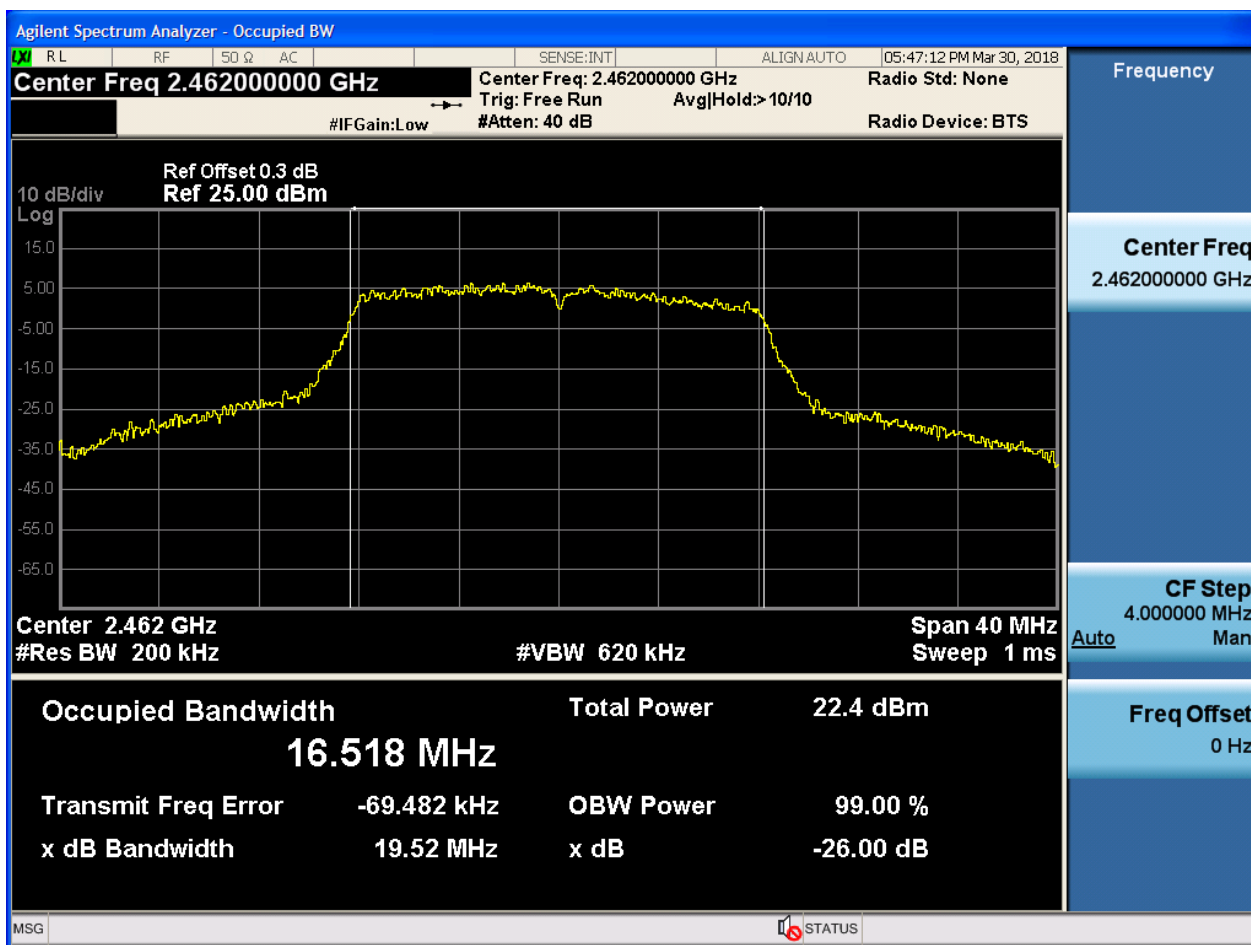


2.7 11G_H_2457@Ant 1



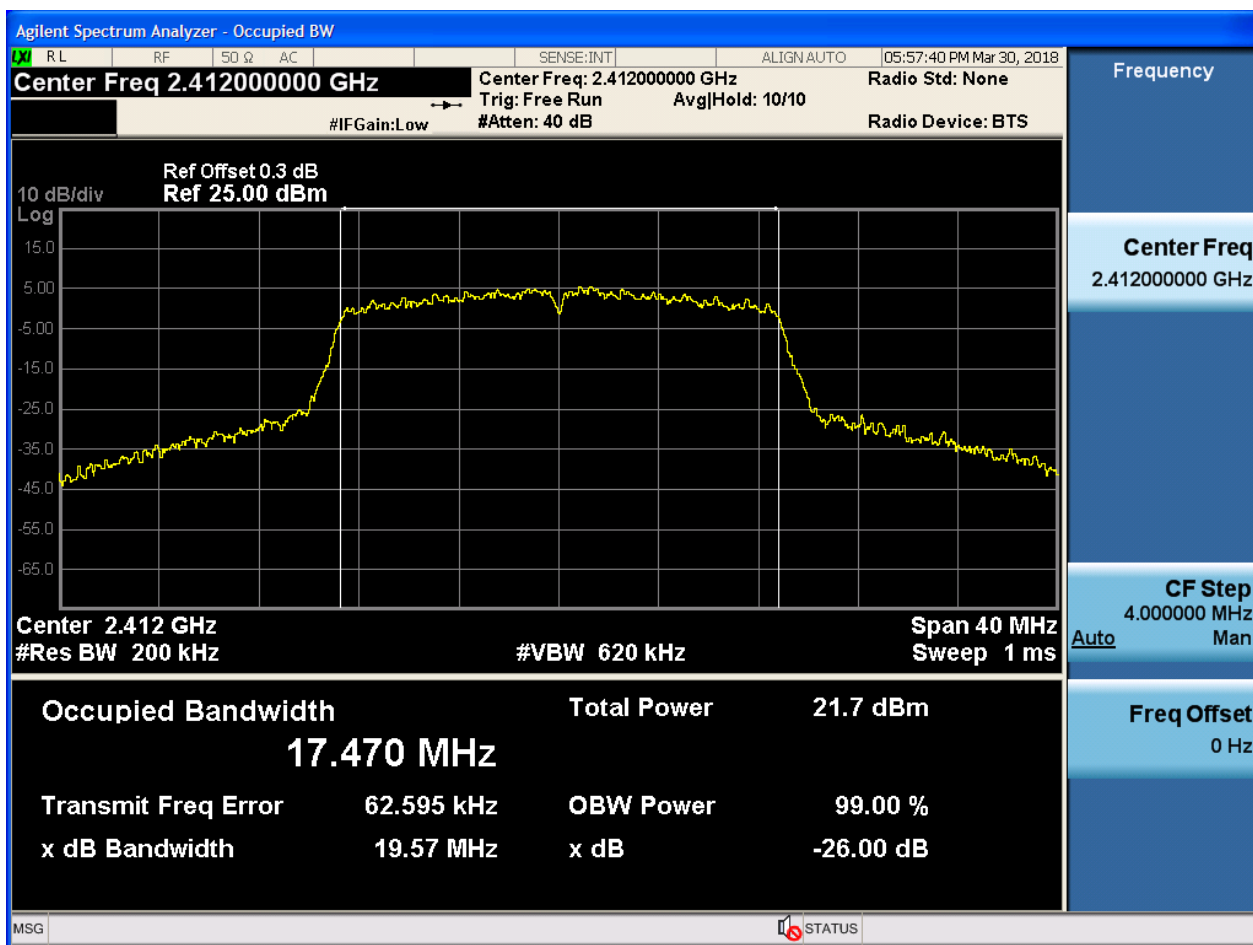


2.8 11G_H_2462@Ant 1



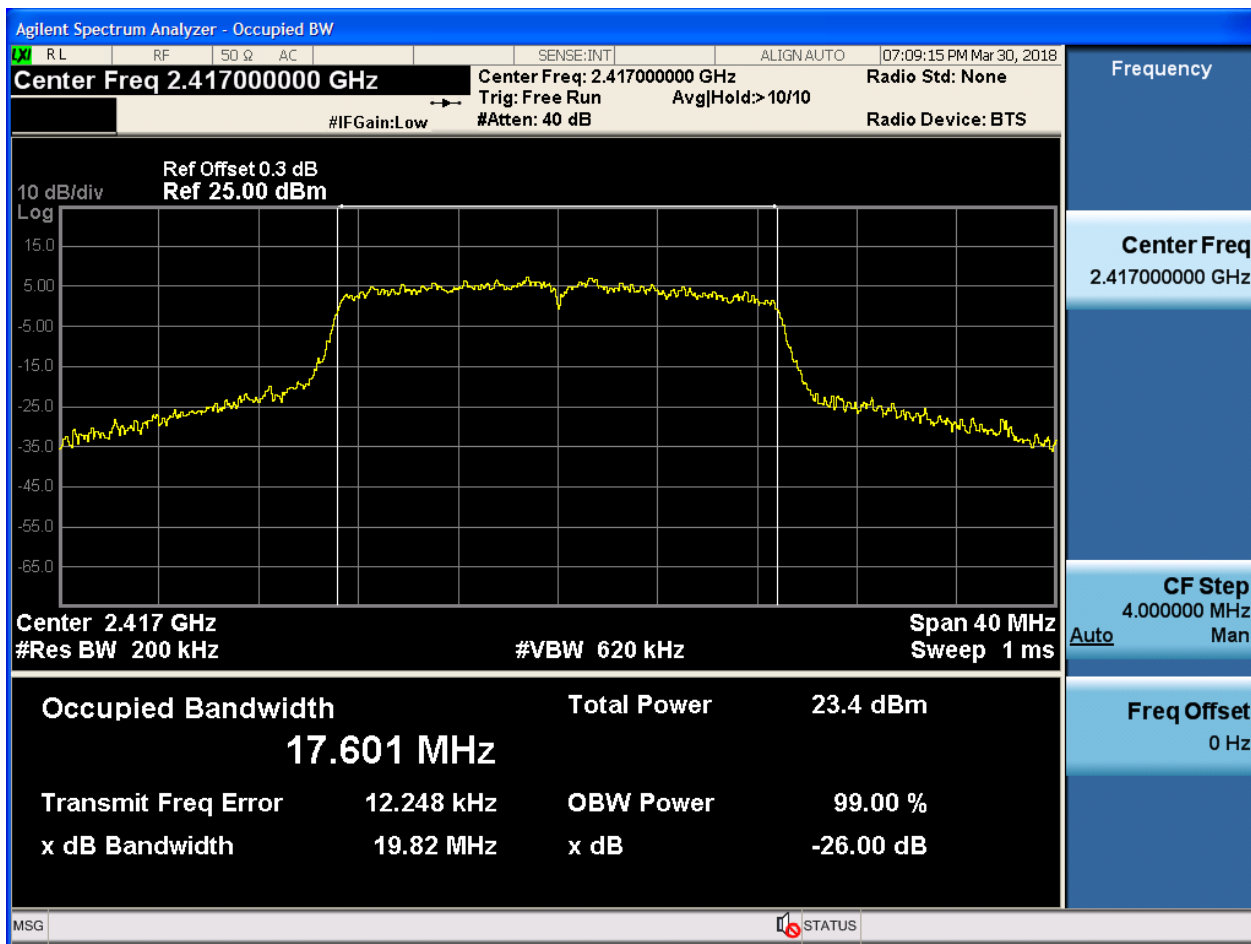


2.9 11N20_L_2412@Ant 1



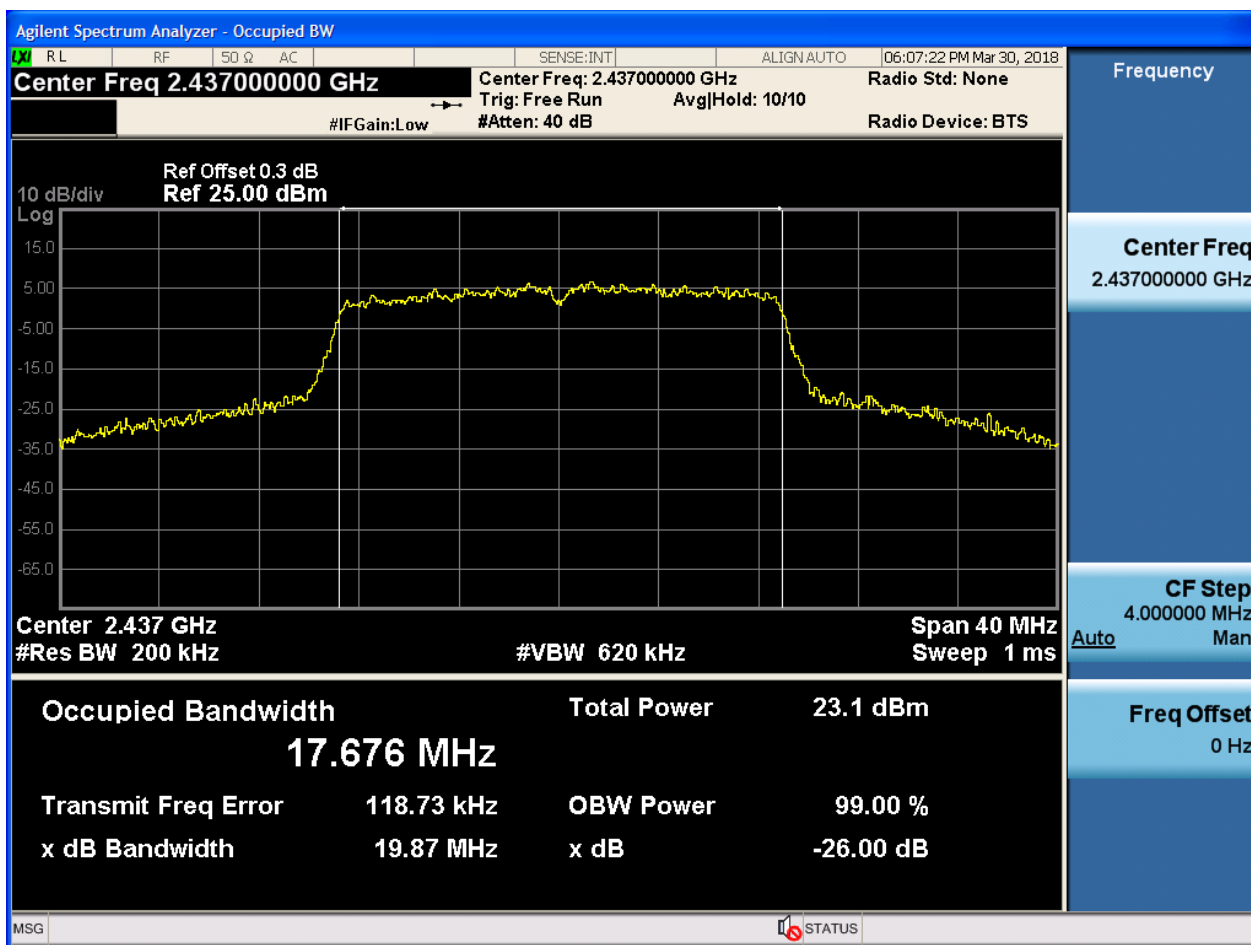


2.10 11N20_L_2417@Ant 1



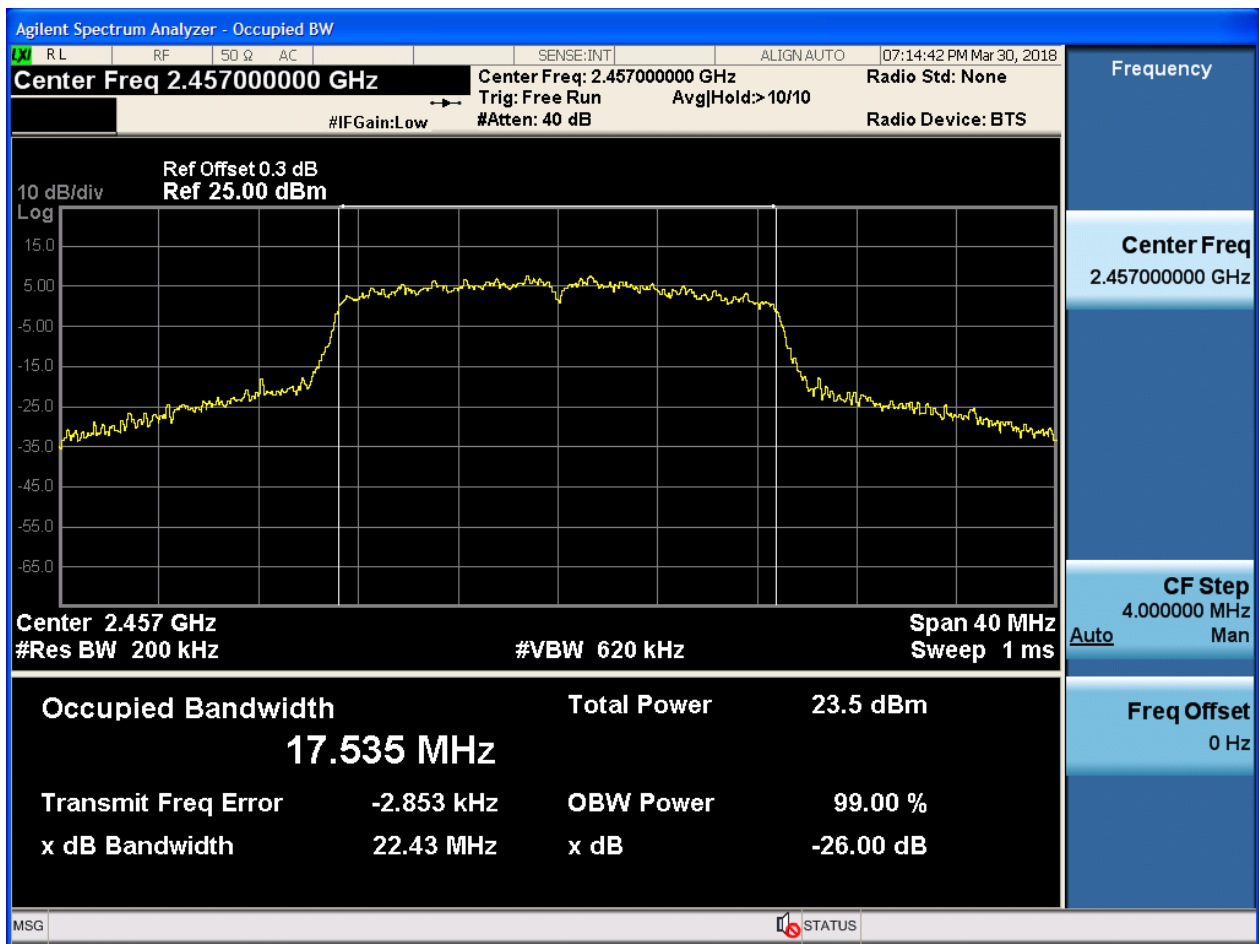


2.11 11N20_M_2437@Ant 1



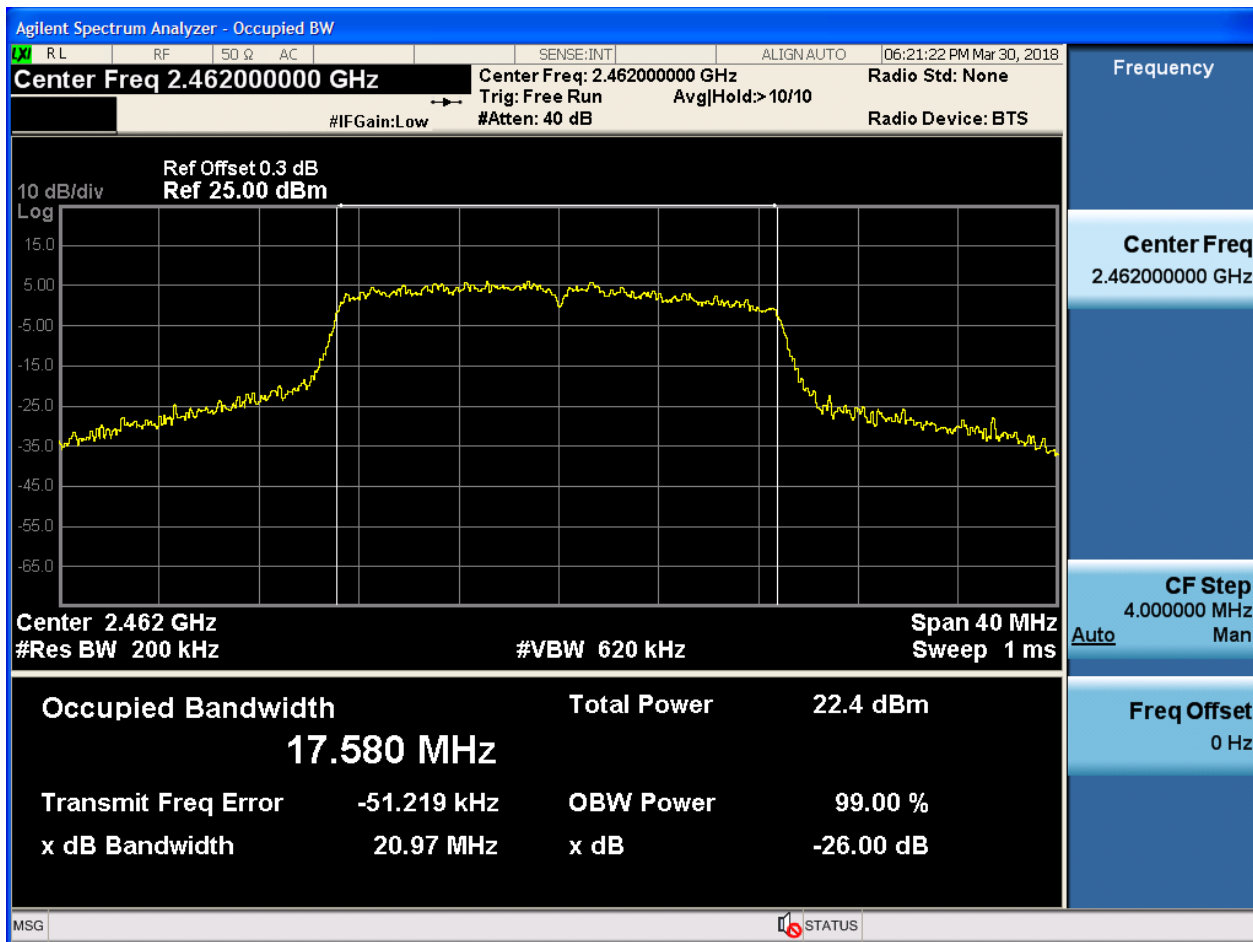


2.12 11N20_H_2457@Ant 1



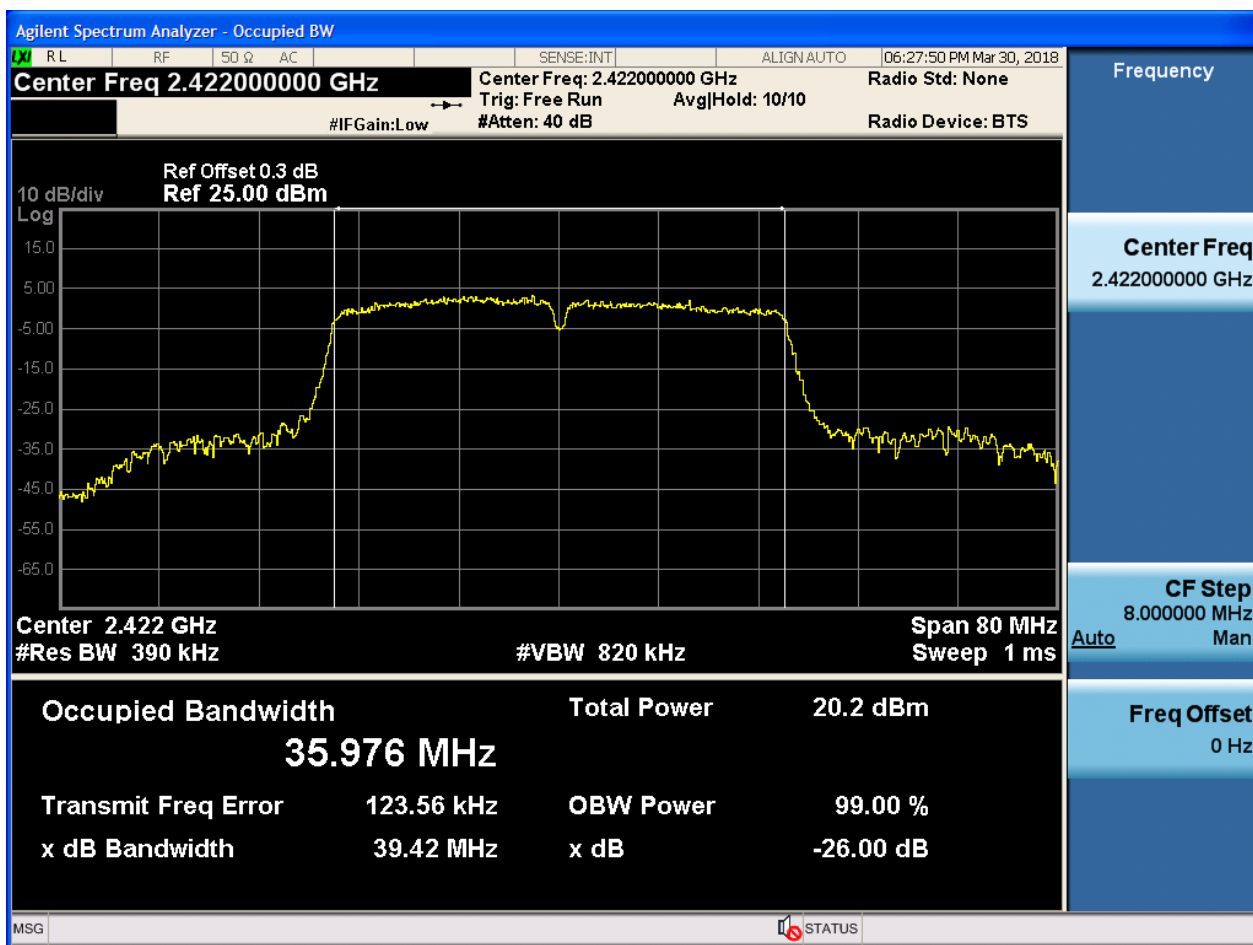


2.13 11N20_H_2462@Ant 1



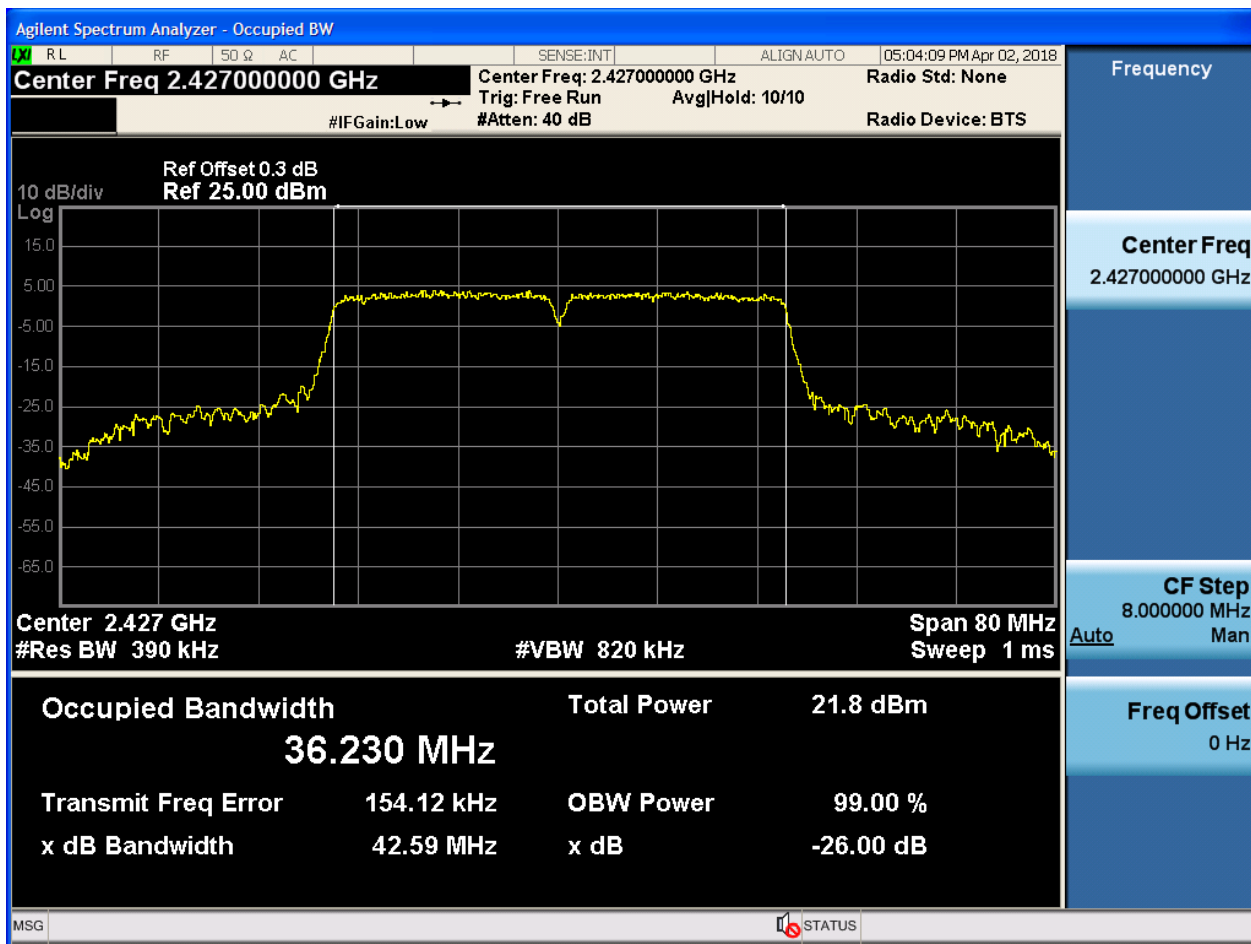


2.14 11N40_L_2422@Ant 1



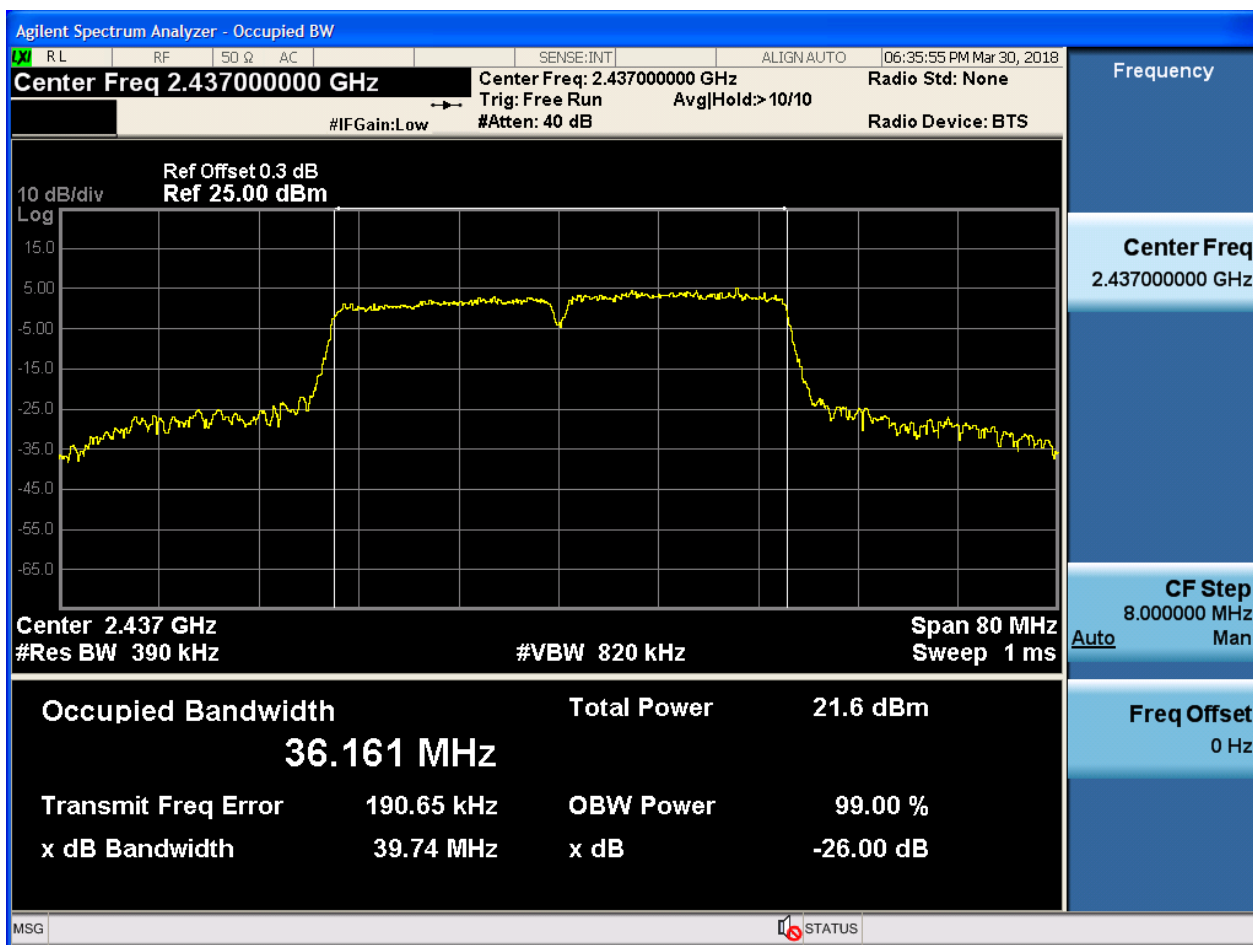


2.15 11N40_L_2427@Ant 1



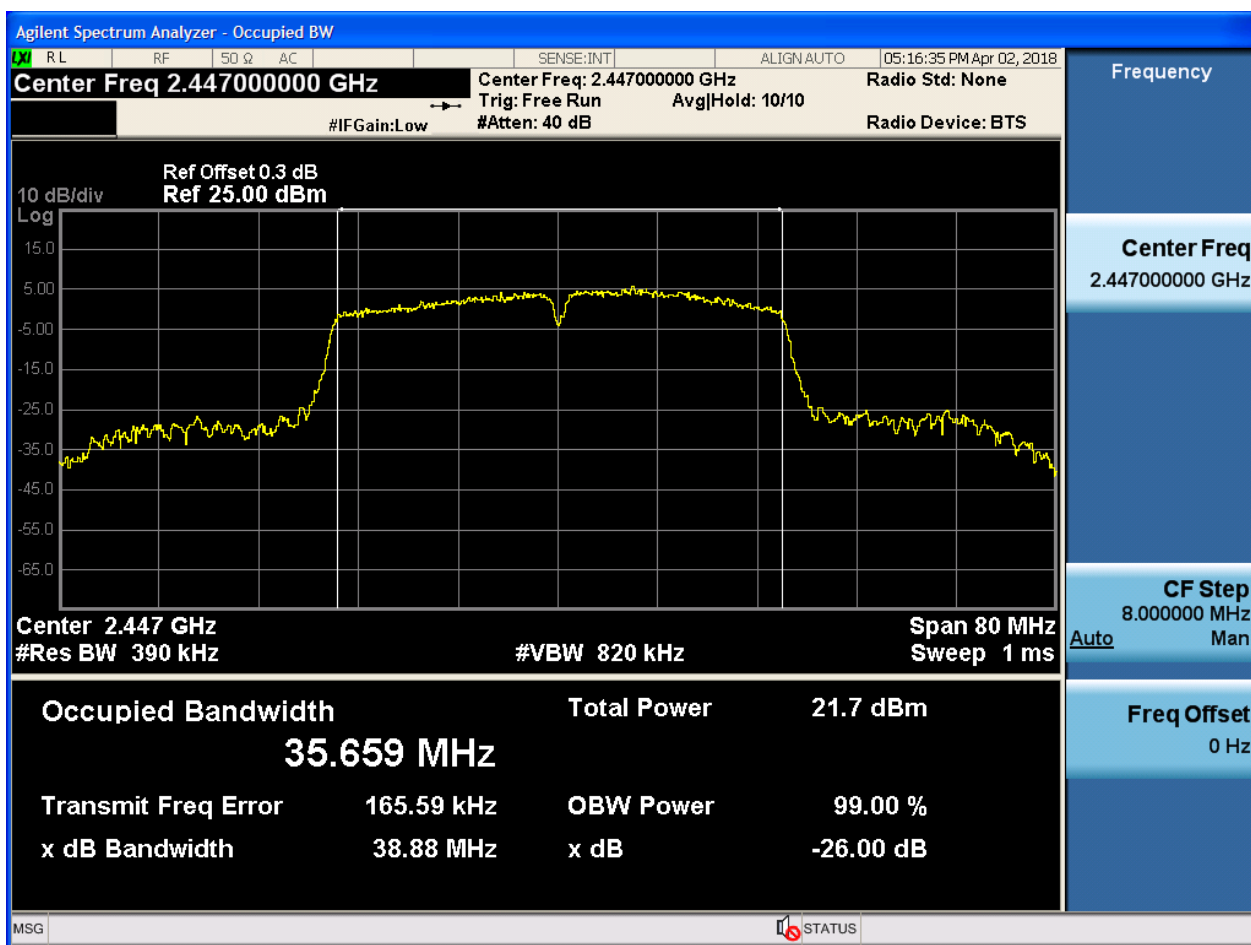


2.16 11N40_M_2437@Ant 1



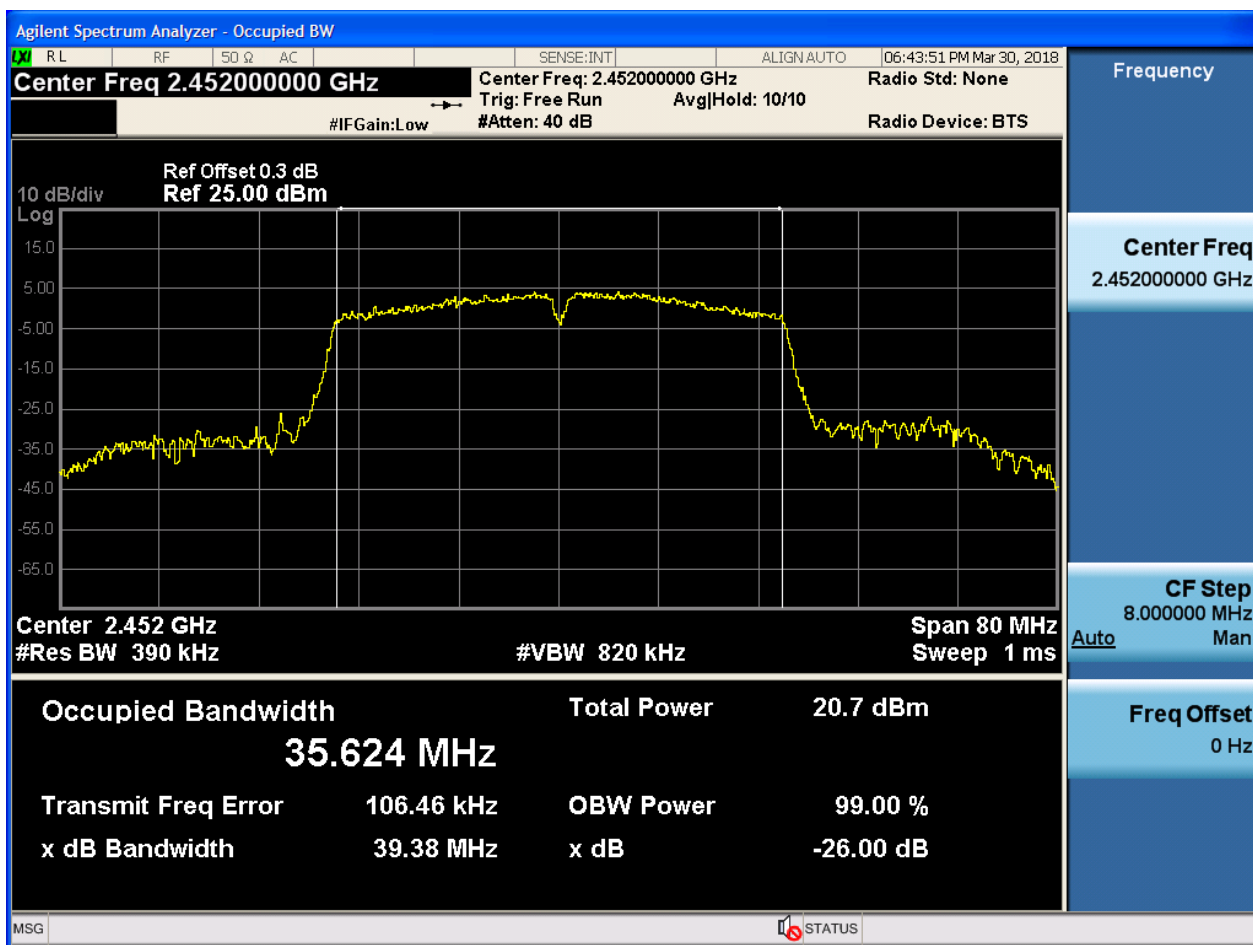


2.17 11N40_H_2447@Ant 1





2.18 11N40_H_2452@Ant 1



Appendix C: Duty Cycle

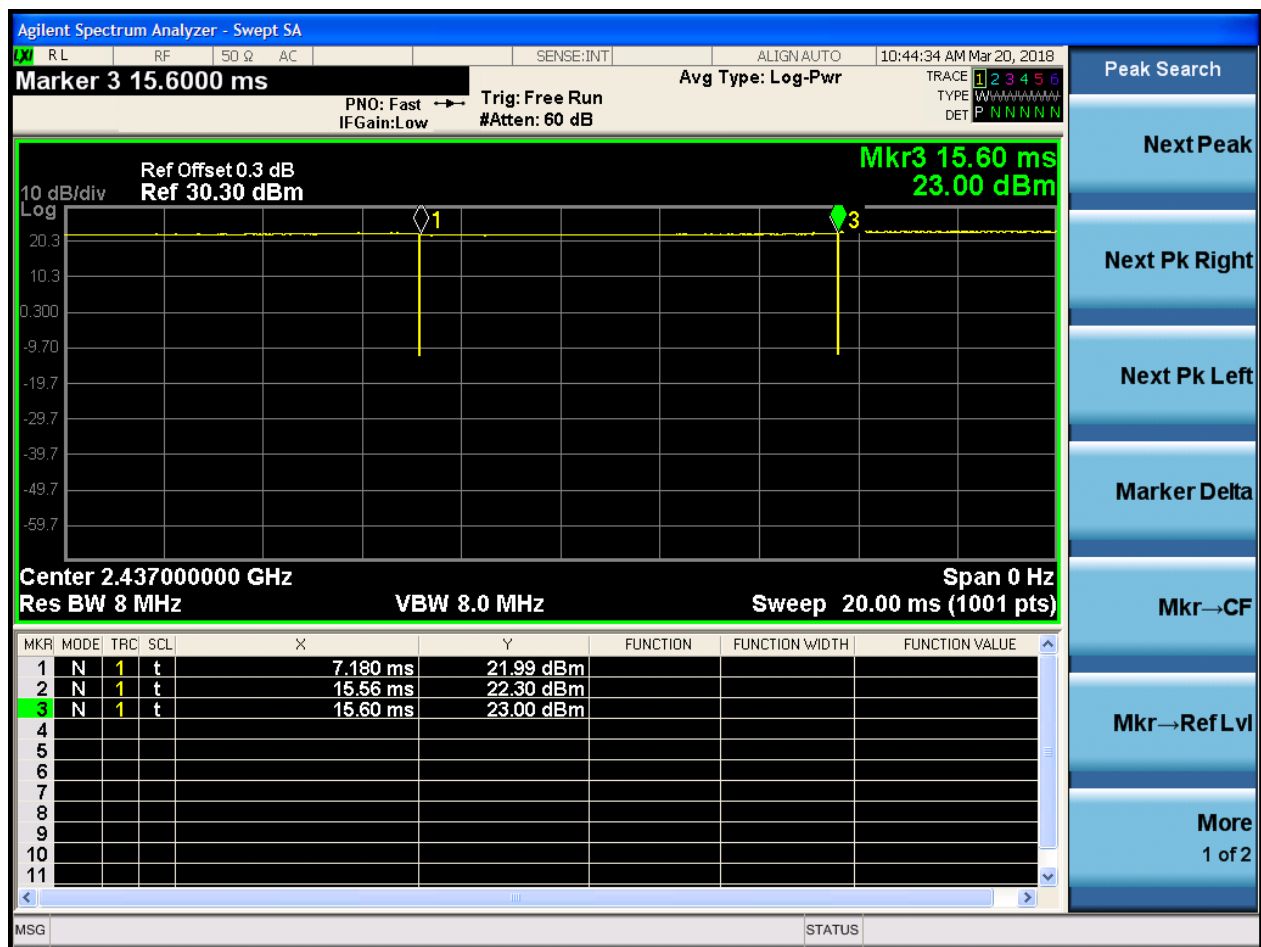
Part I - Test Results

Test Mode	TX Freq. [MHz]	Ant	Duty cycle [%]
11B	CH1,CH6,CH11	Ant 1	99.5
11G	CH1,CH2,CH6,CH10,CH11	Ant 1	97.5
11N20	CH1,CH2,CH6,CH10CH11	Ant 1	96.6
11N40	CH3,CH4,CH6,CH8,CH9	Ant 1	95



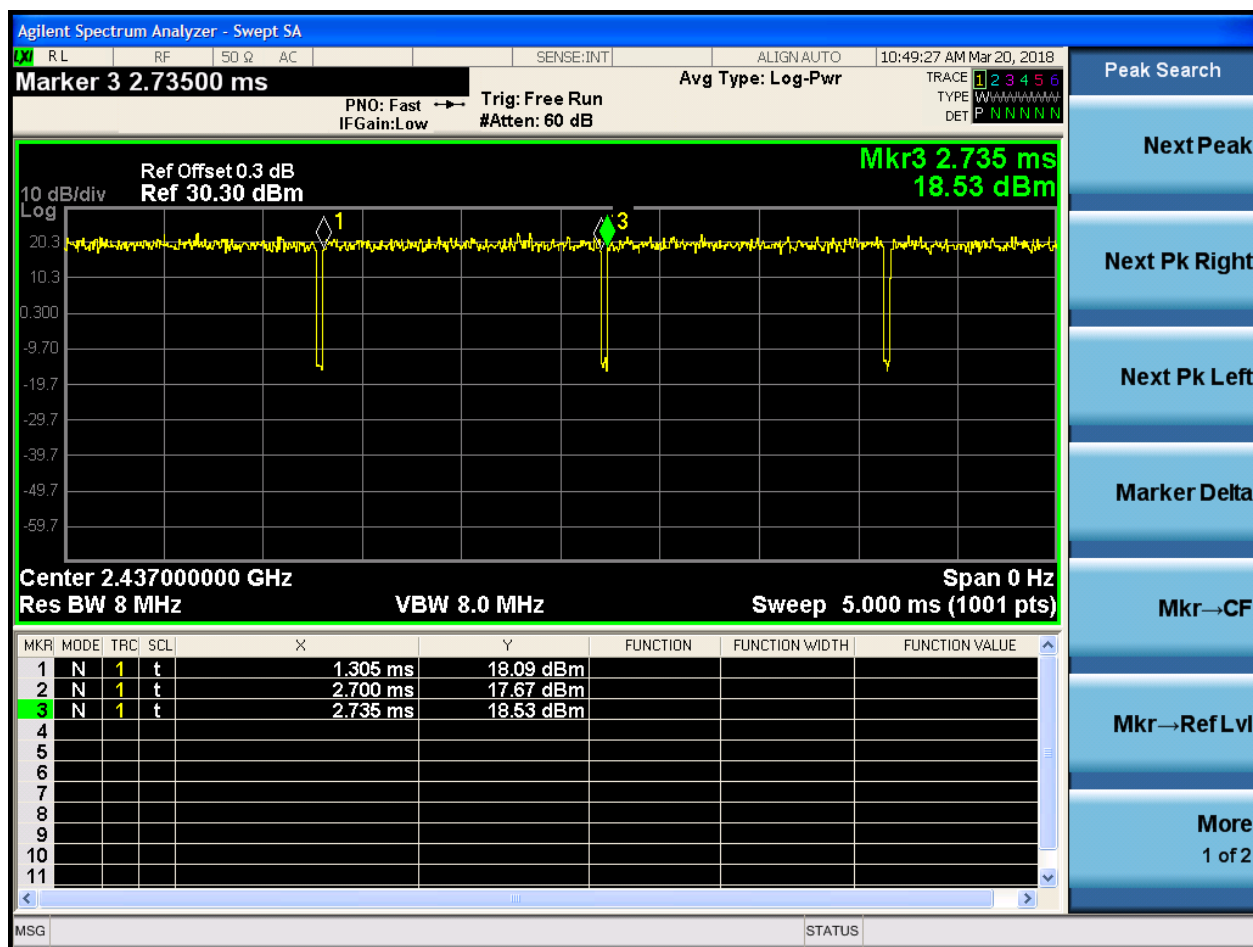
Part II - Test Plots

11B_ANT1

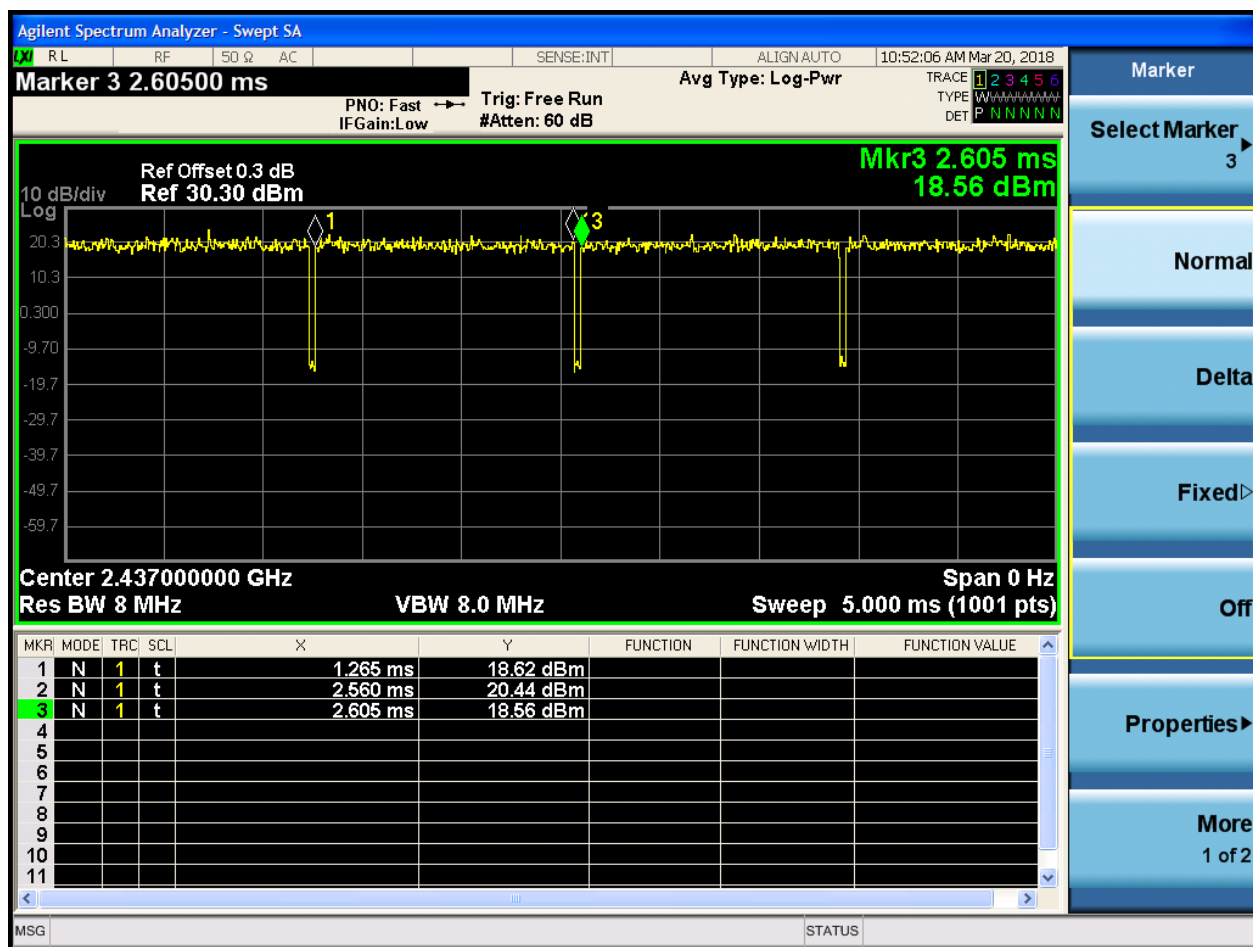




11G_ANT1

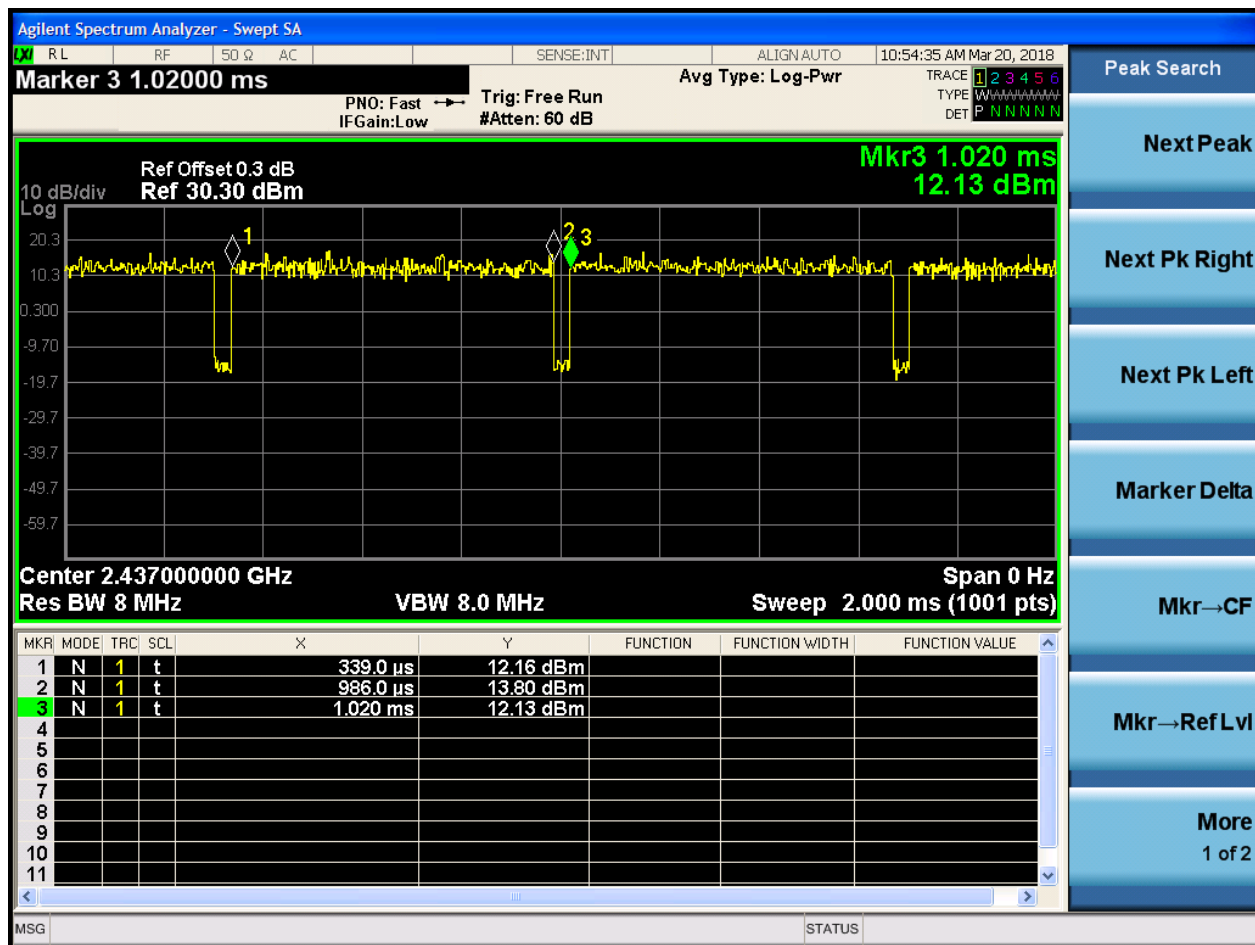


11N20_ANT1





11N40_ANT1



Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

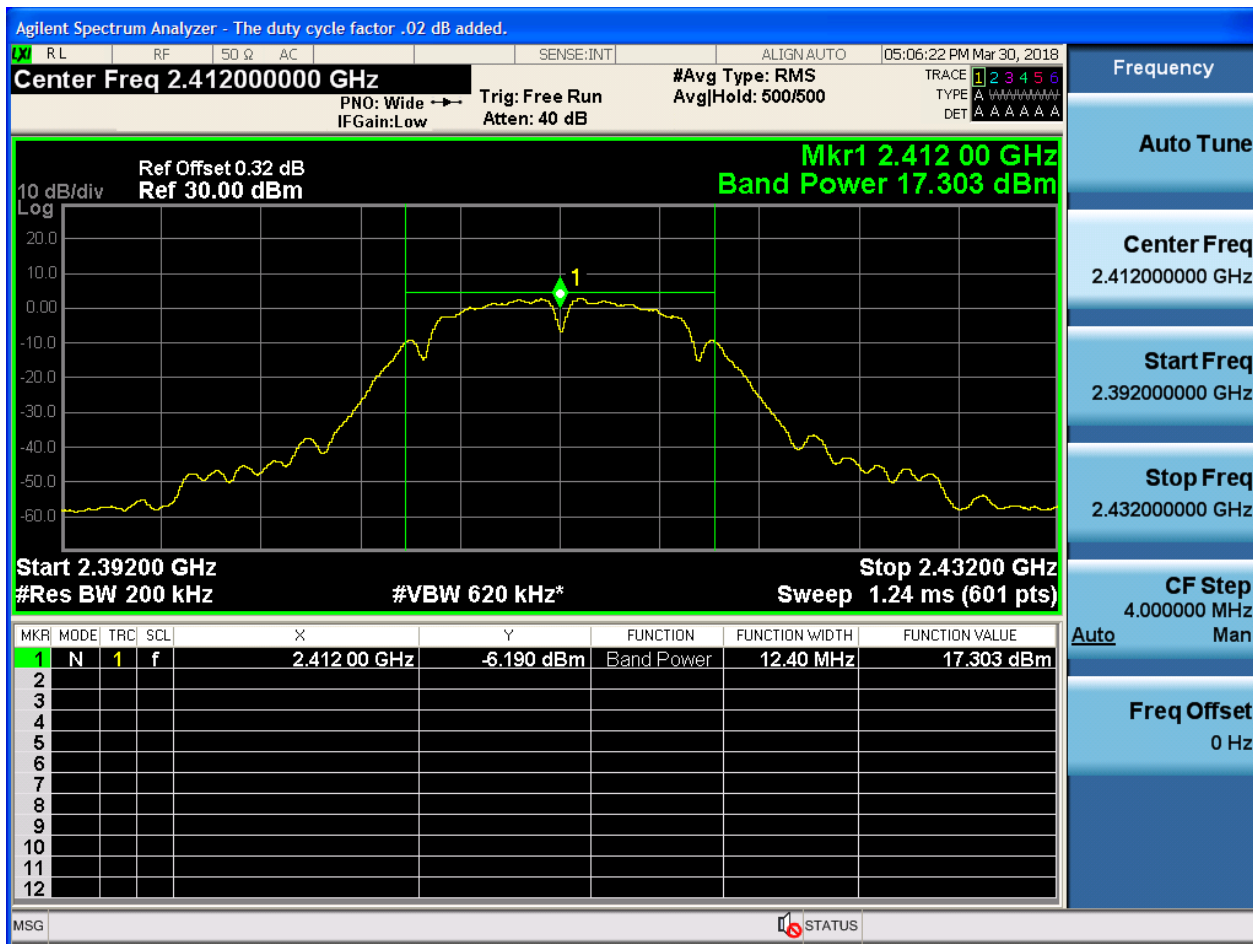
Test Mode	Test Channel	Frequency[MHz]	Ant	Duty Cycle [%]	Power[dBm]	Verdict
11B	L	2412	Ant 1	99.5	17.30	pass
11B	M	2437	Ant 1	99.5	17.71	pass
11B	H	2462	Ant 1	99.5	18.12	pass
11G	L	2412	Ant 1	97.5	14.76	pass
11G	L	2417	Ant 1	97.5	16.2	pass
11G	M	2437	Ant 1	97.5	15.88	pass
11G	H	2457	Ant 1	97.5	16.34	pass
11G	H	2462	Ant 1	97.5	15.21	pass
11N20	L	2412	Ant 1	96.6	14.57	pass
11N20	L	2417	Ant 1	96.6	16.23	pass
11N20	M	2437	Ant 1	96.6	15.91	pass
11N20	H	2457	Ant 1	96.6	16.31	pass
11N20	H	2462	Ant 1	96.6	15.18	pass
11N40	L	2422	Ant 1	95	13.01	pass
11N40	L	2427	Ant 1	95	14.62	pass

Test Mode	Test Channel	Frequency[MHz]	Ant	Duty Cycle [%]	Power[dBm]	Verdict
11N40	M	2437	Ant 1	95	14.44	pass
11N40	H	2447	Ant 1	95	14.49	pass
11N40	H	2452	Ant 1	95	13.59	pass



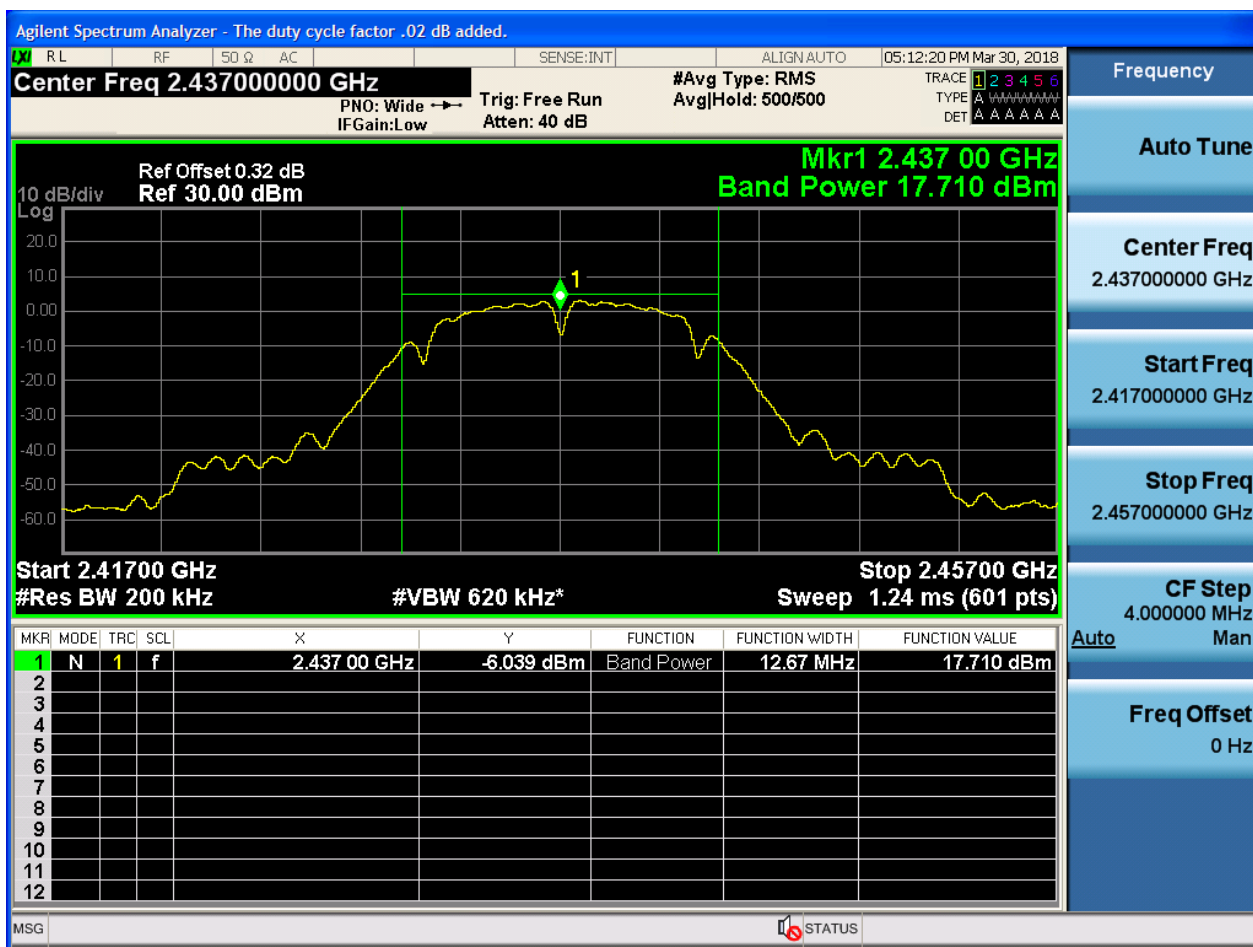
Part II - Test Plots

2.1 11B_L@Ant 1



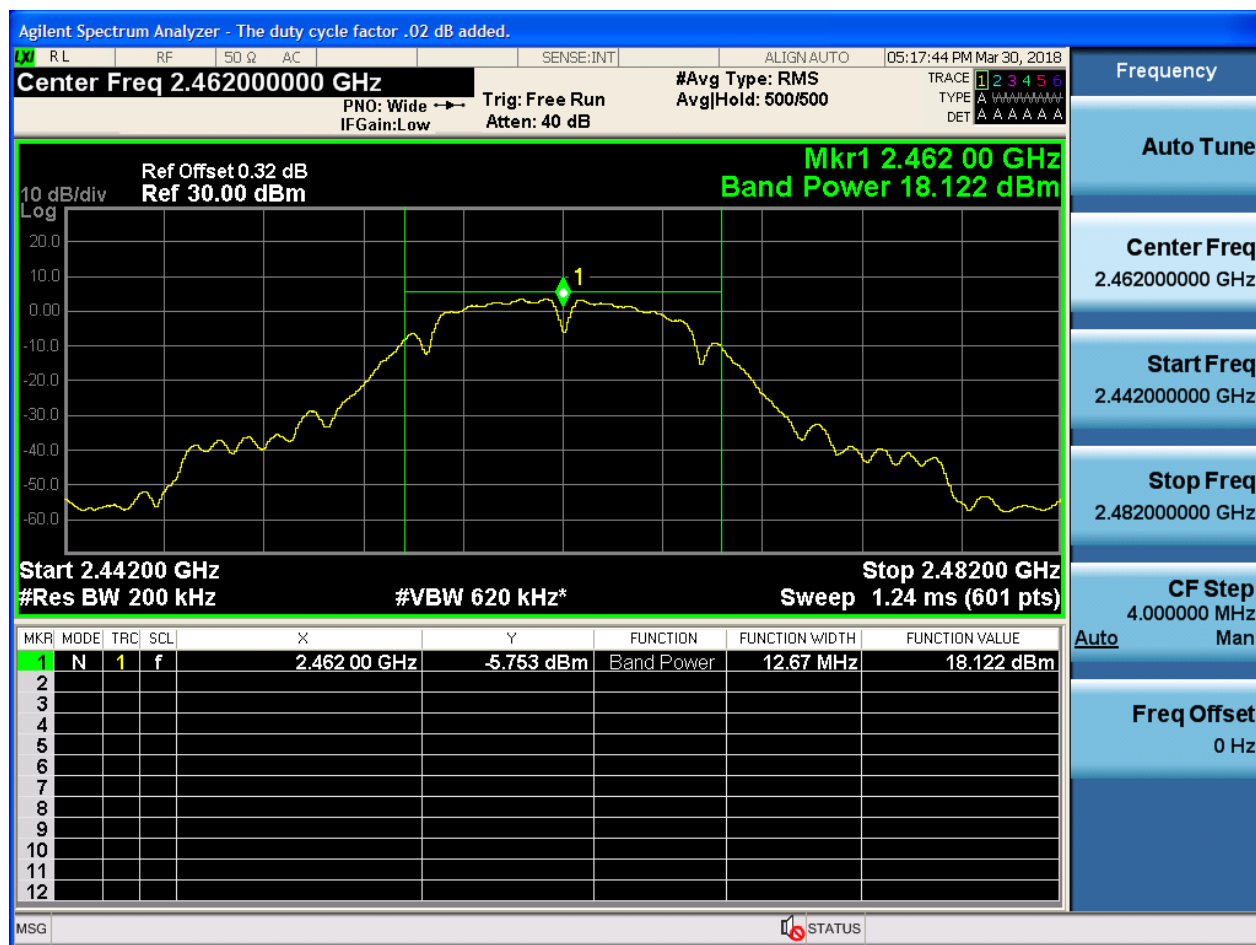


2.2 11B_M@Ant 1



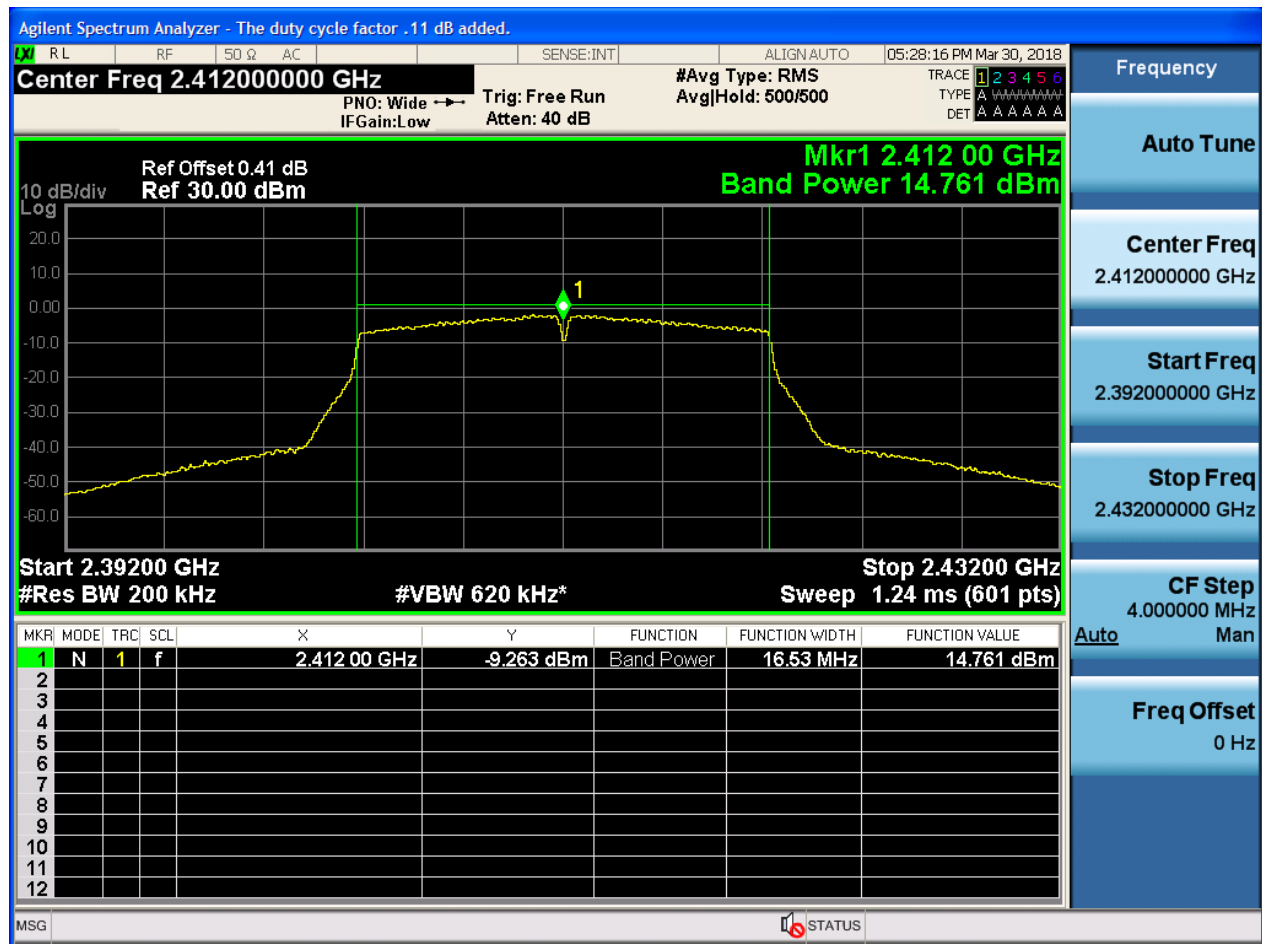


2.3 11B_H@Ant 1



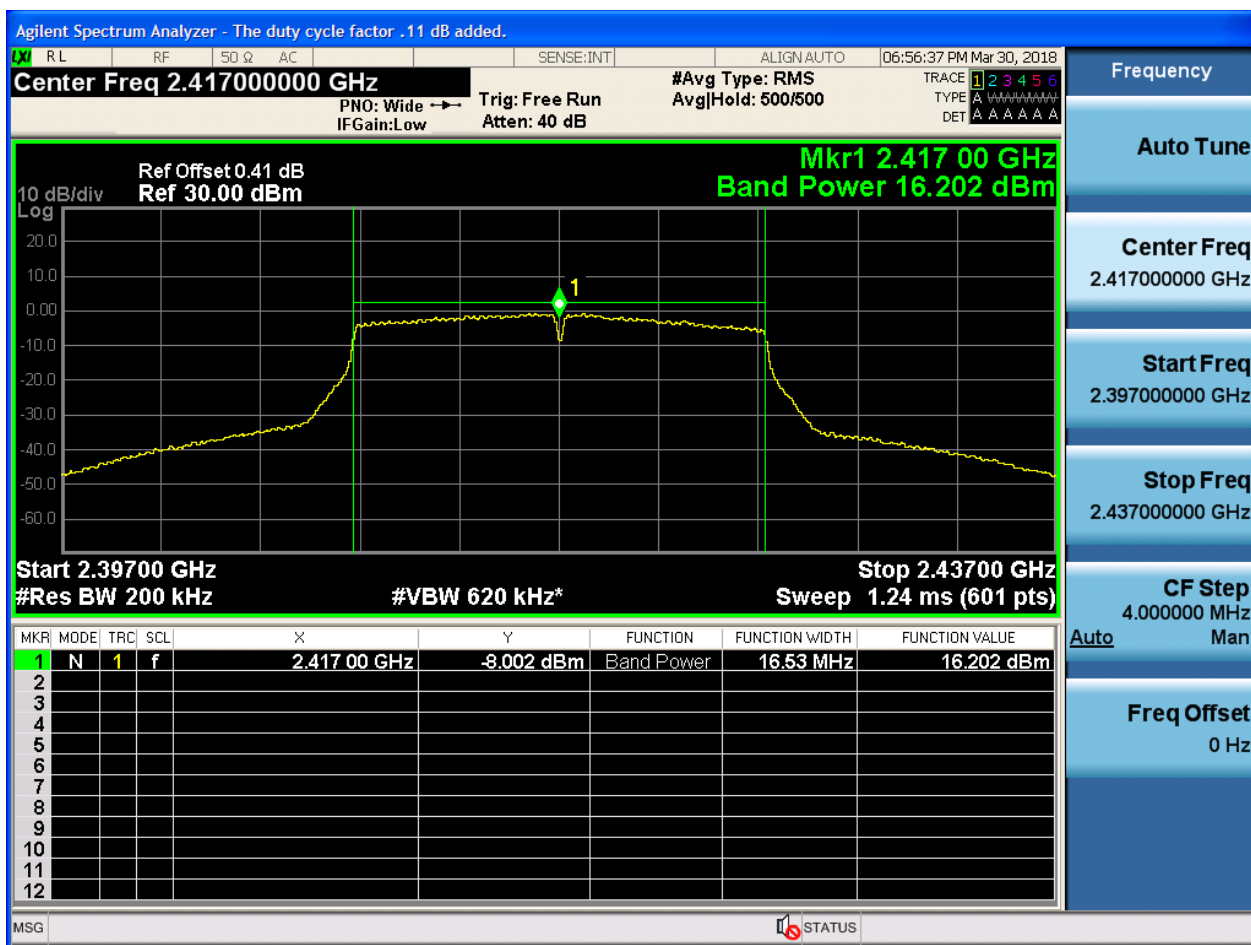


2.4 11G_L_2412@Ant 1



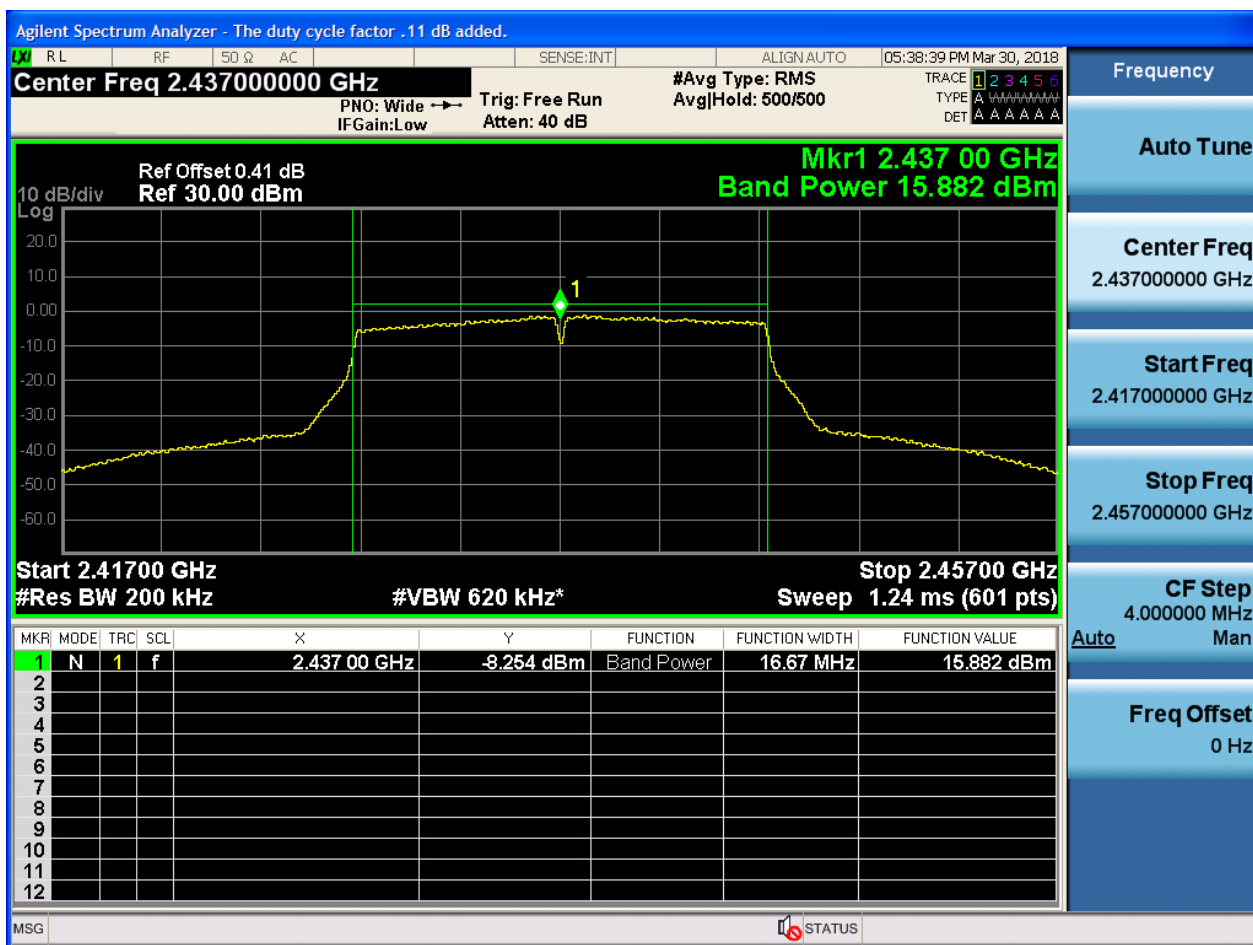


2.5 11G_L_2417@Ant 1



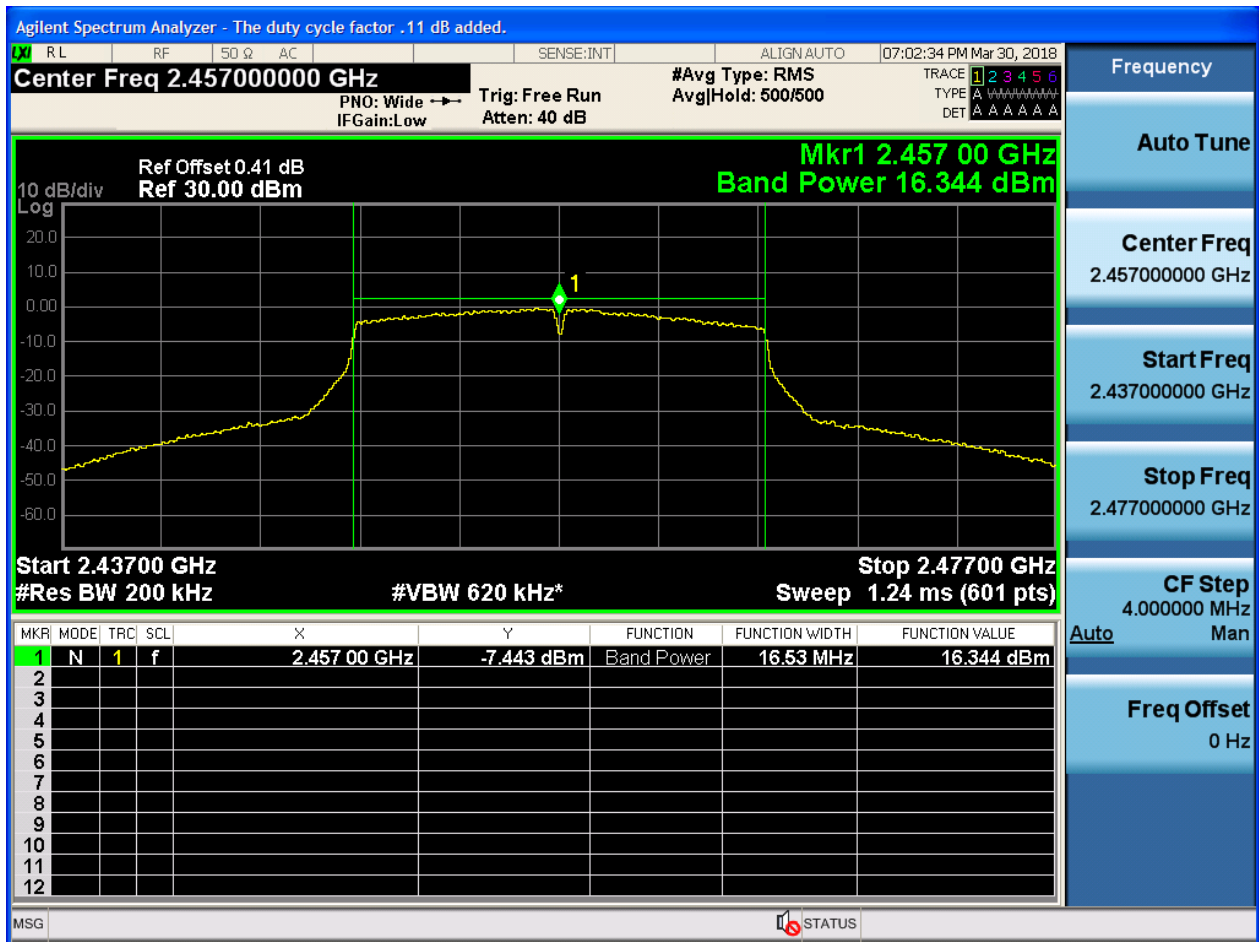


2.6 11G_M_2437@Ant 1



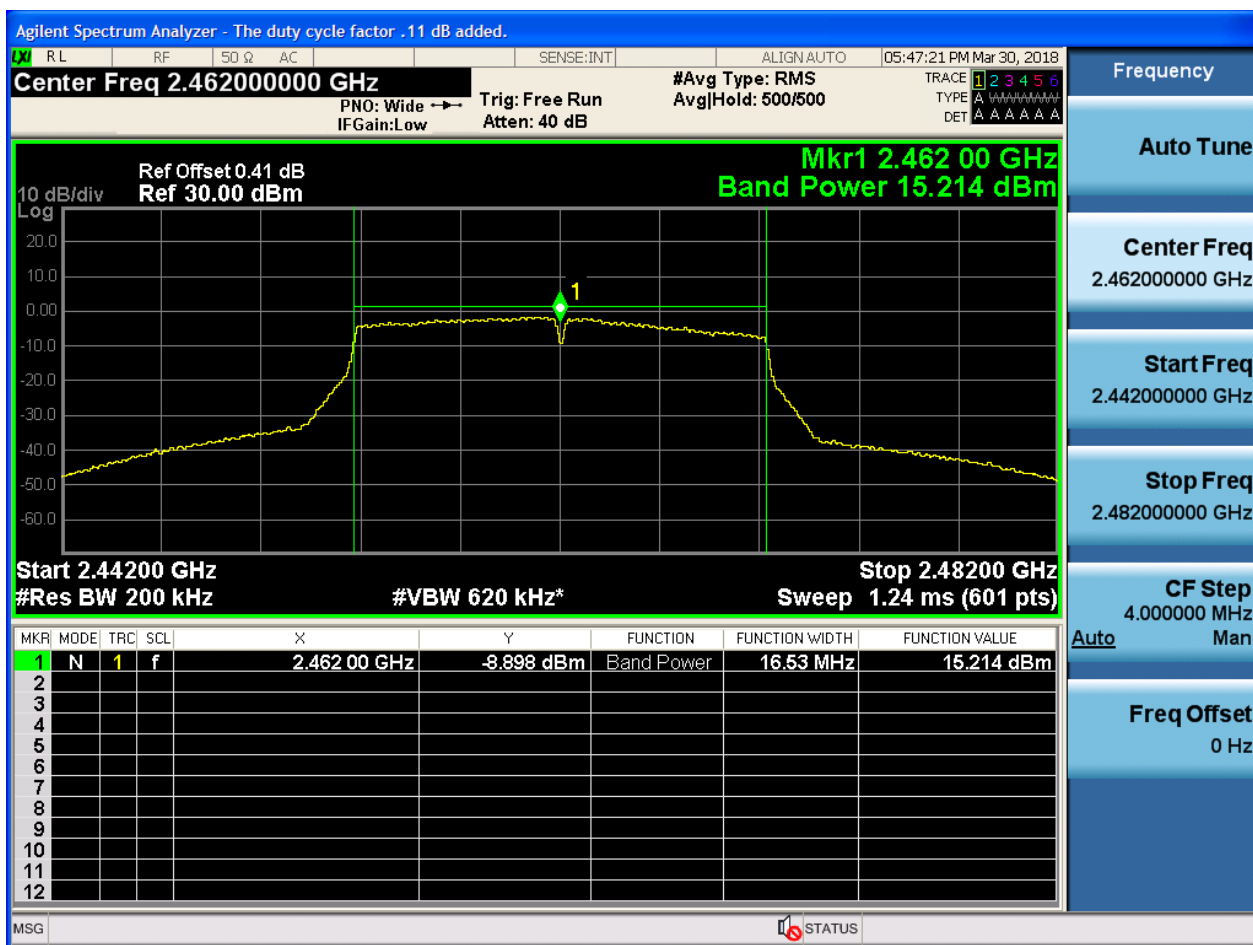


2.7 11G_H_2457@Ant 1



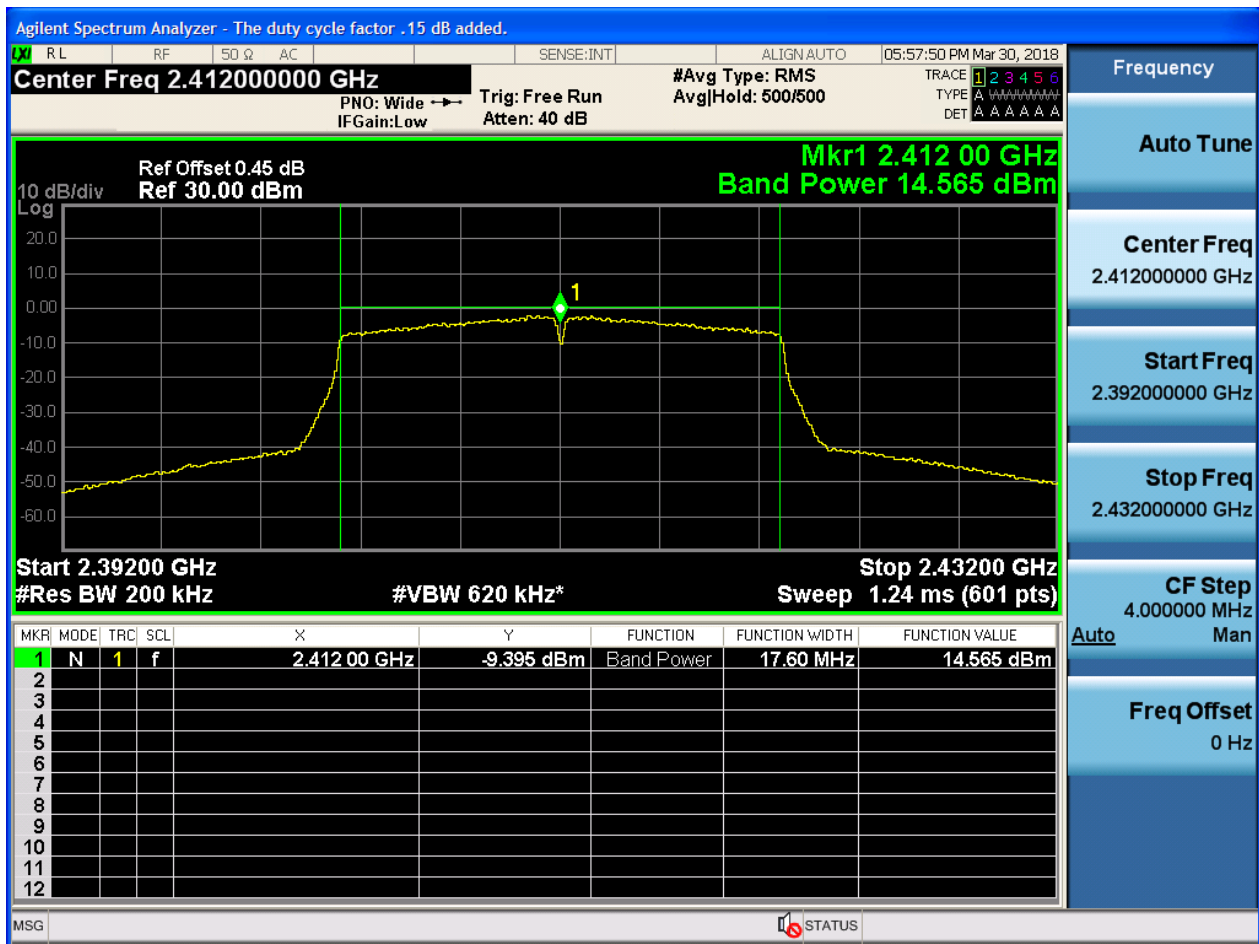


2.8 11G_H_2462@Ant 1



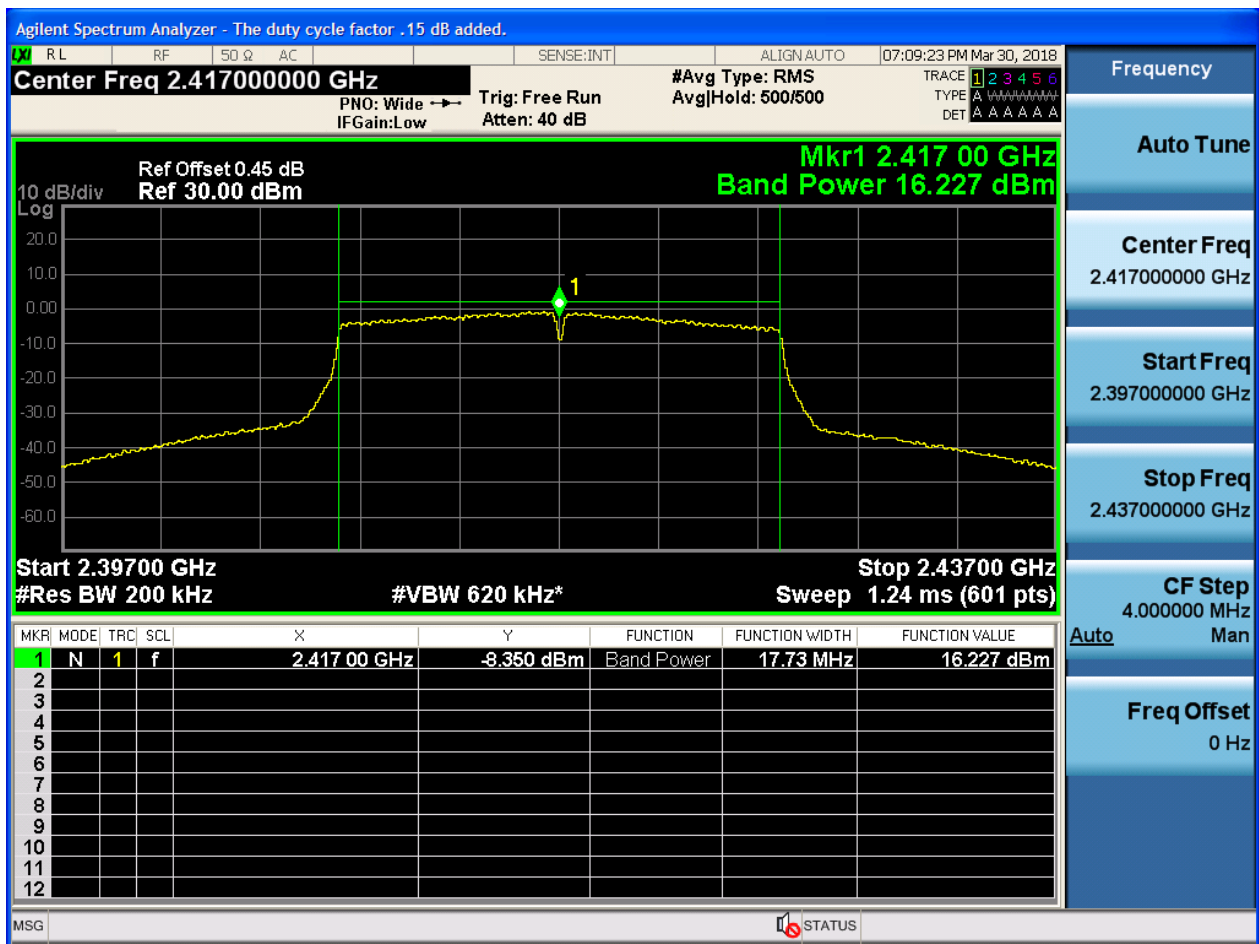


2.9 11N20_L_2412@Ant 1



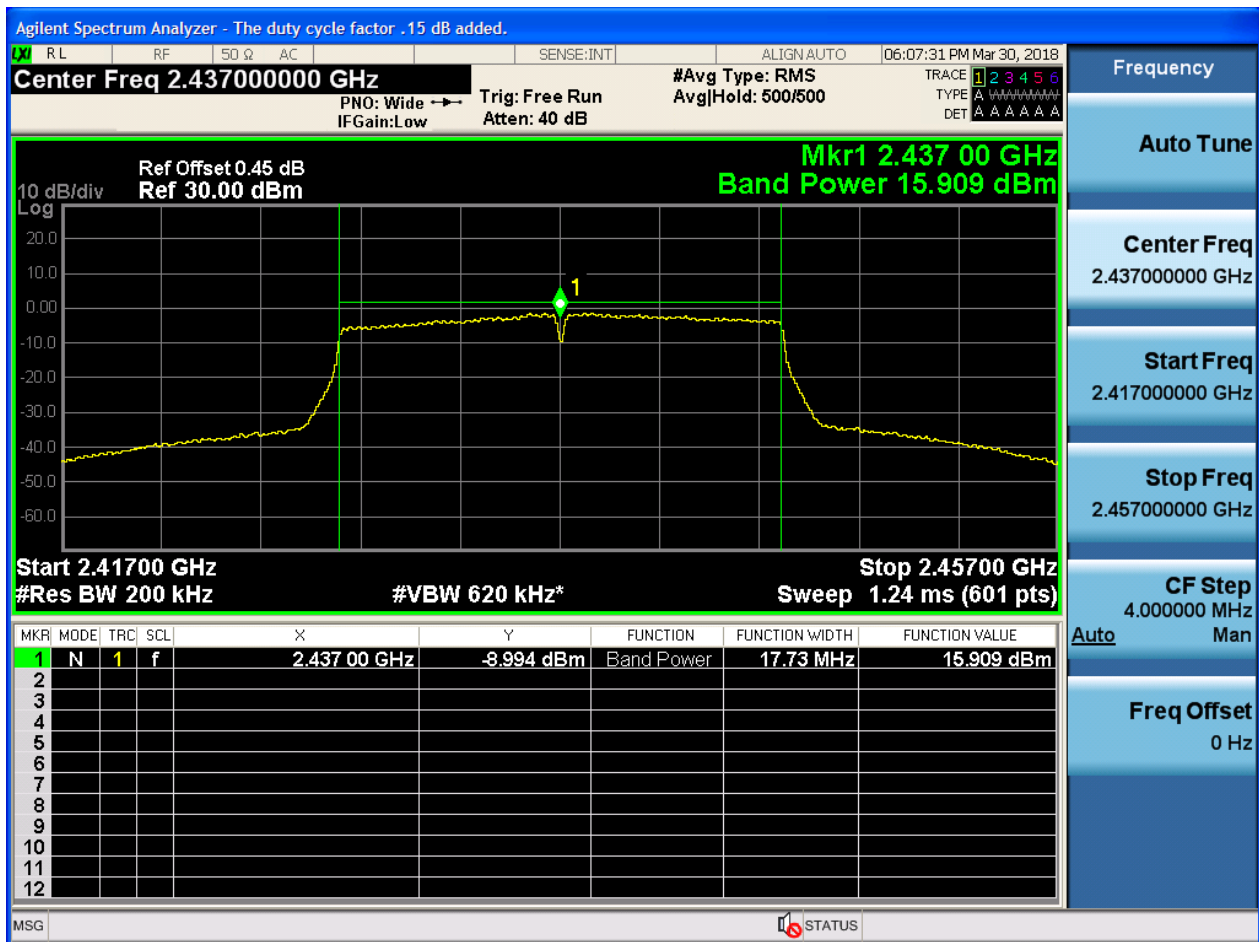


2.10 11N20_L_2417@Ant 1



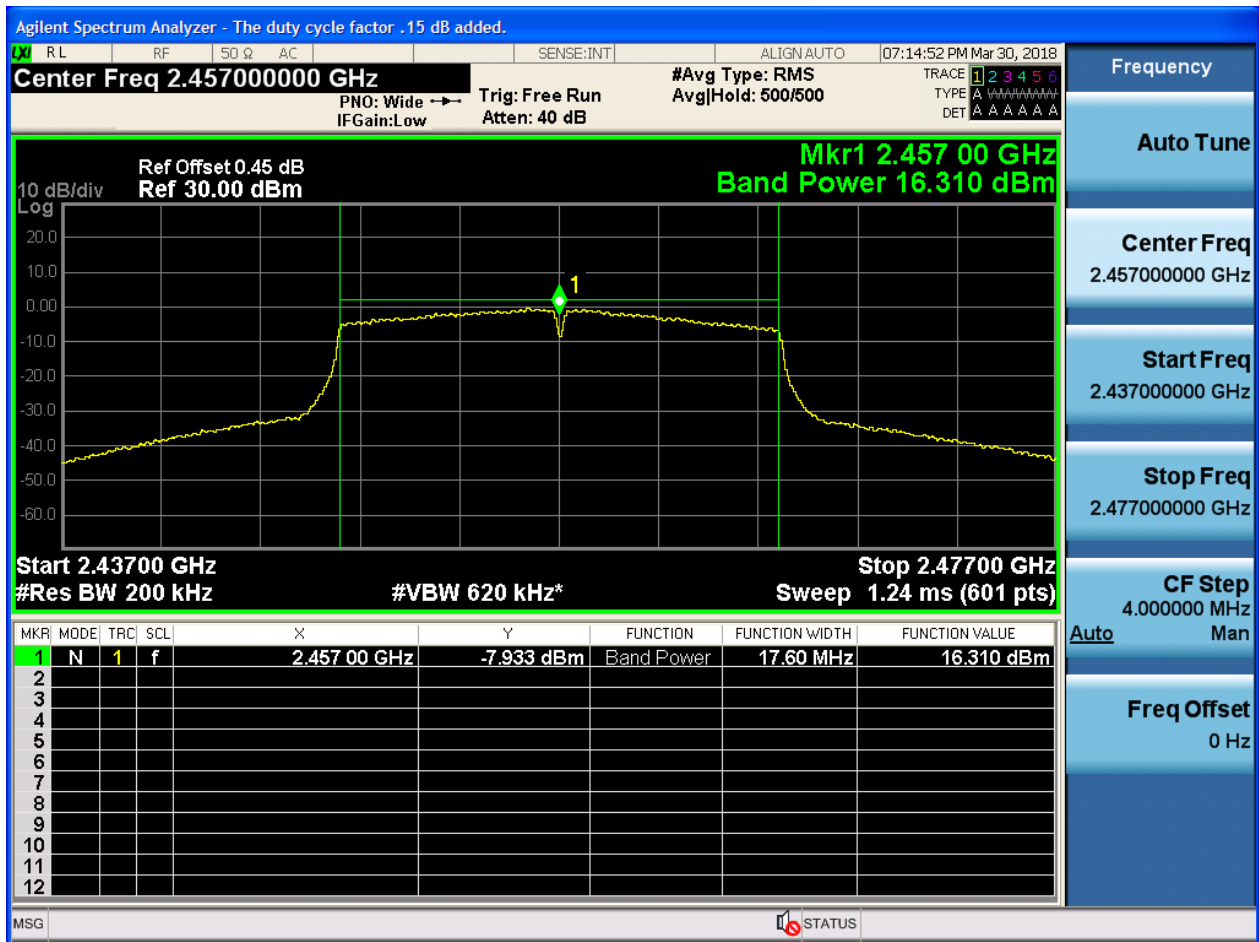


2.11 11N20_M_2437@Ant 1



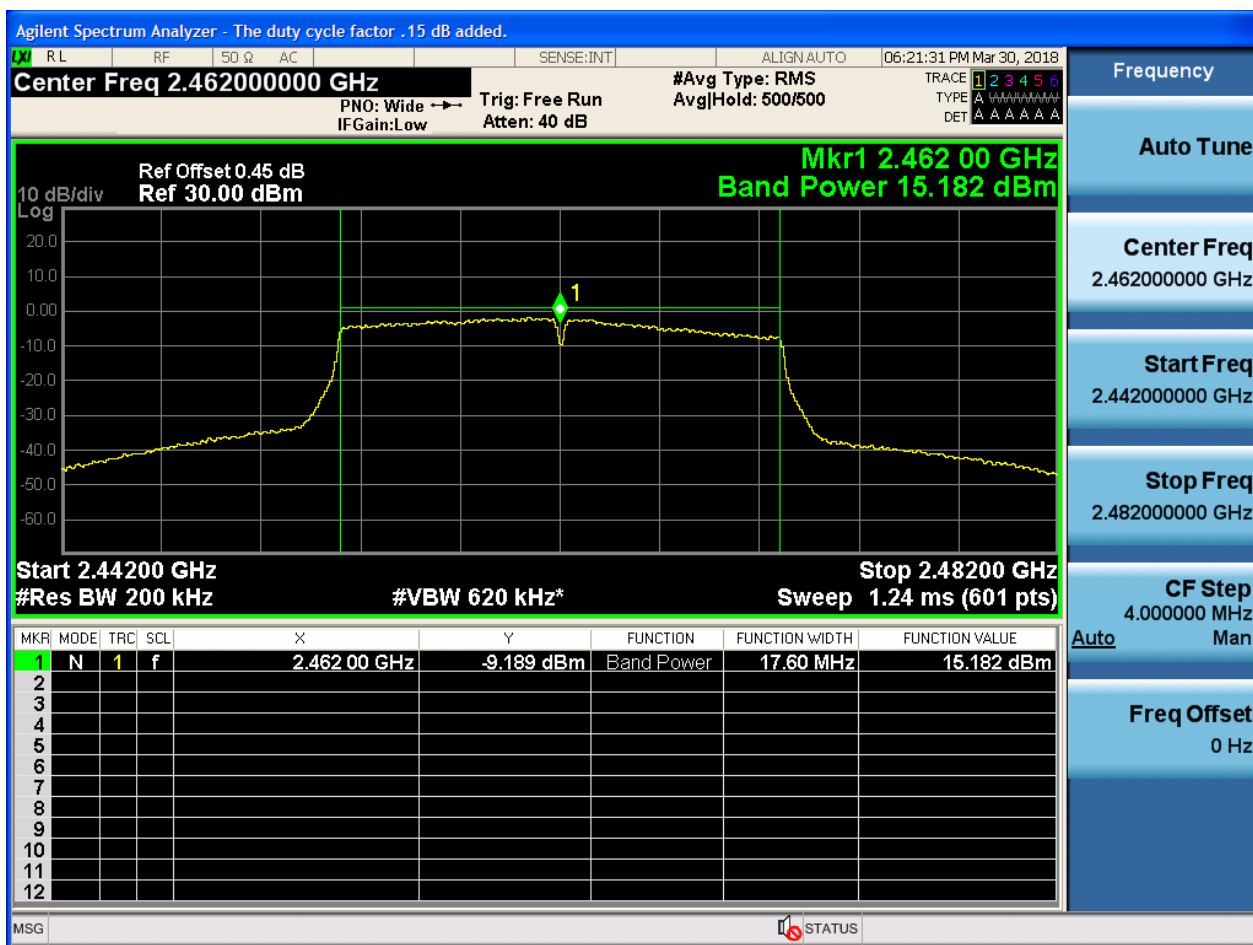


2.12 11N20_H_2457@Ant 1



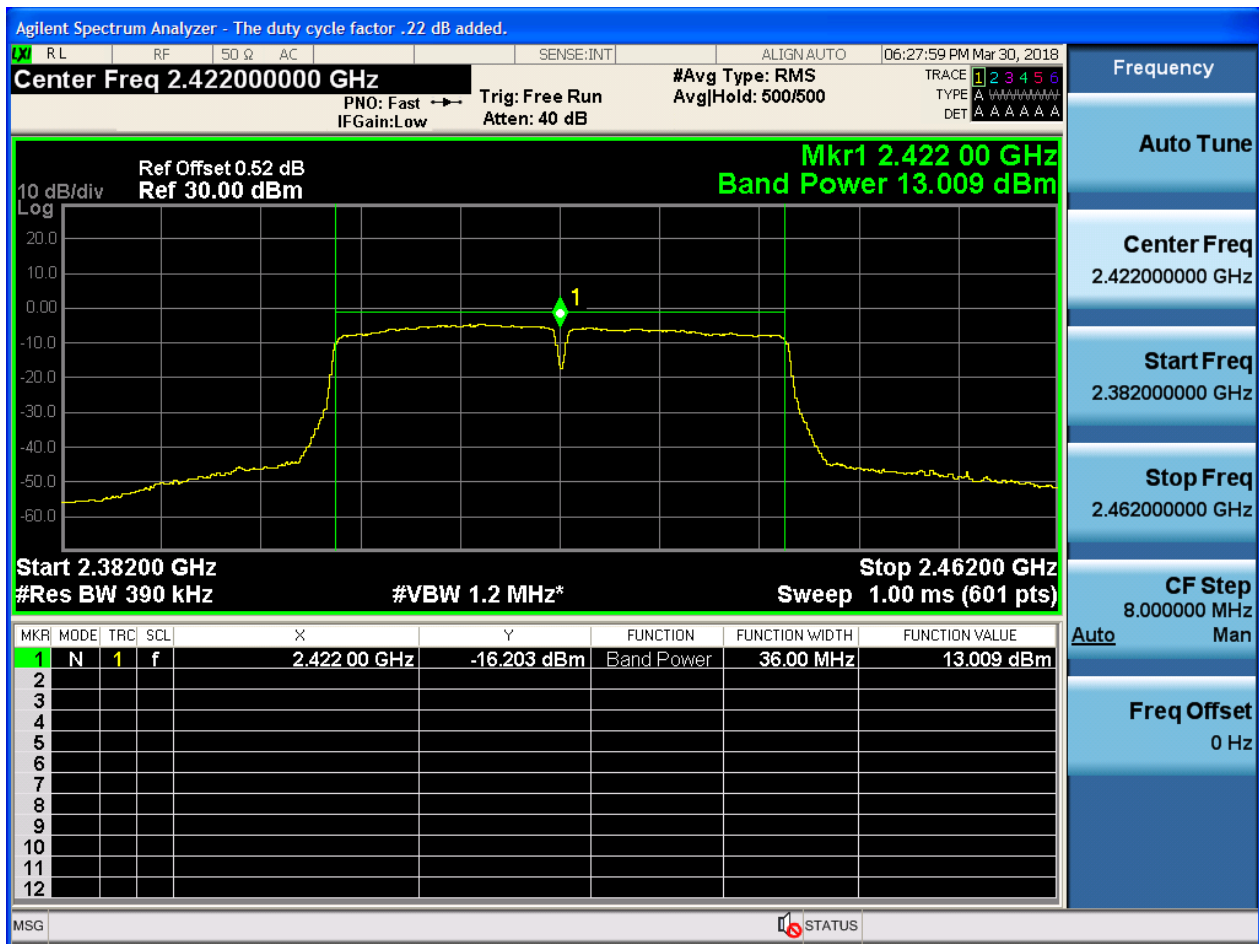


2.13 11N20_H_2462@Ant 1



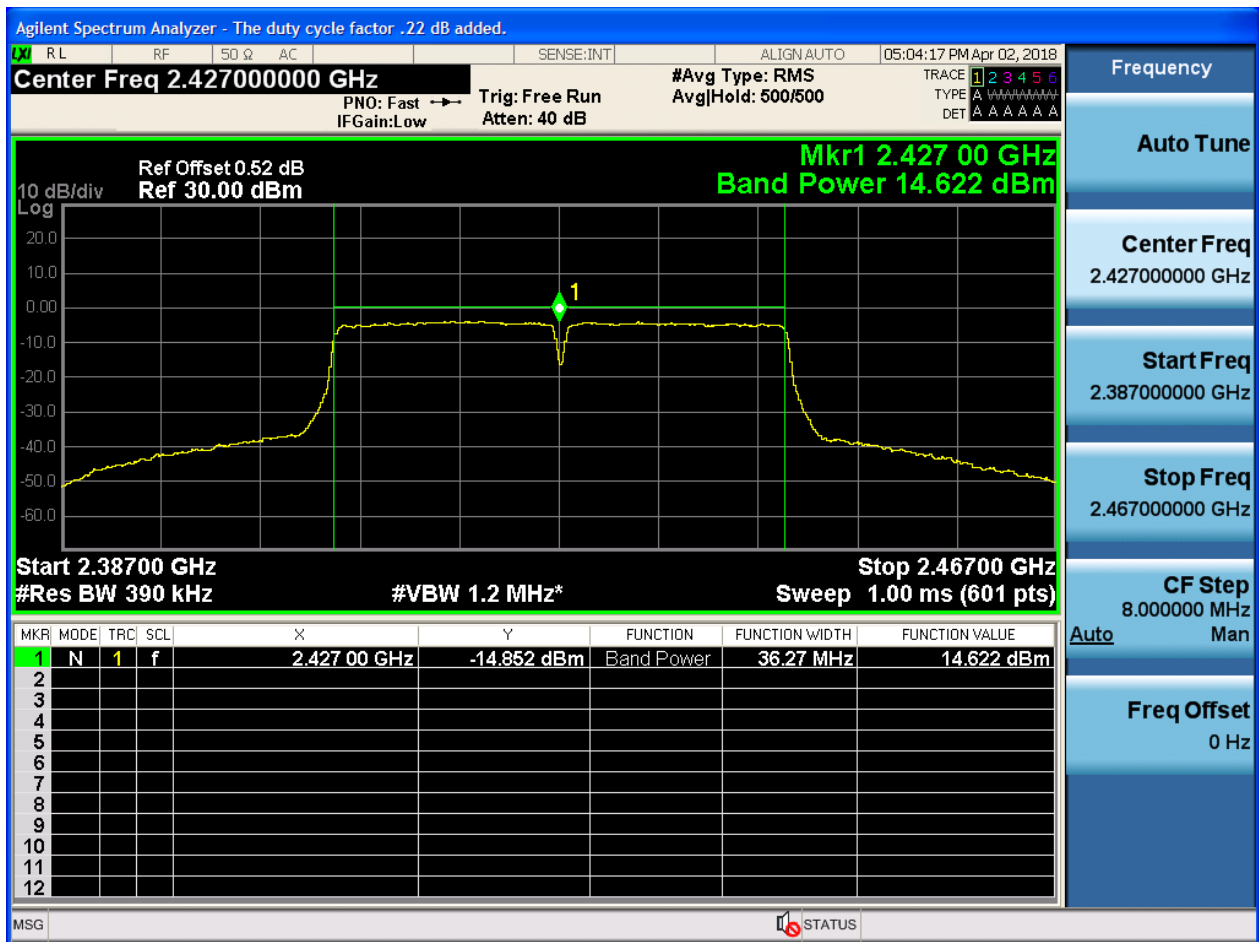


2.14 11N40_L_2422@Ant 1



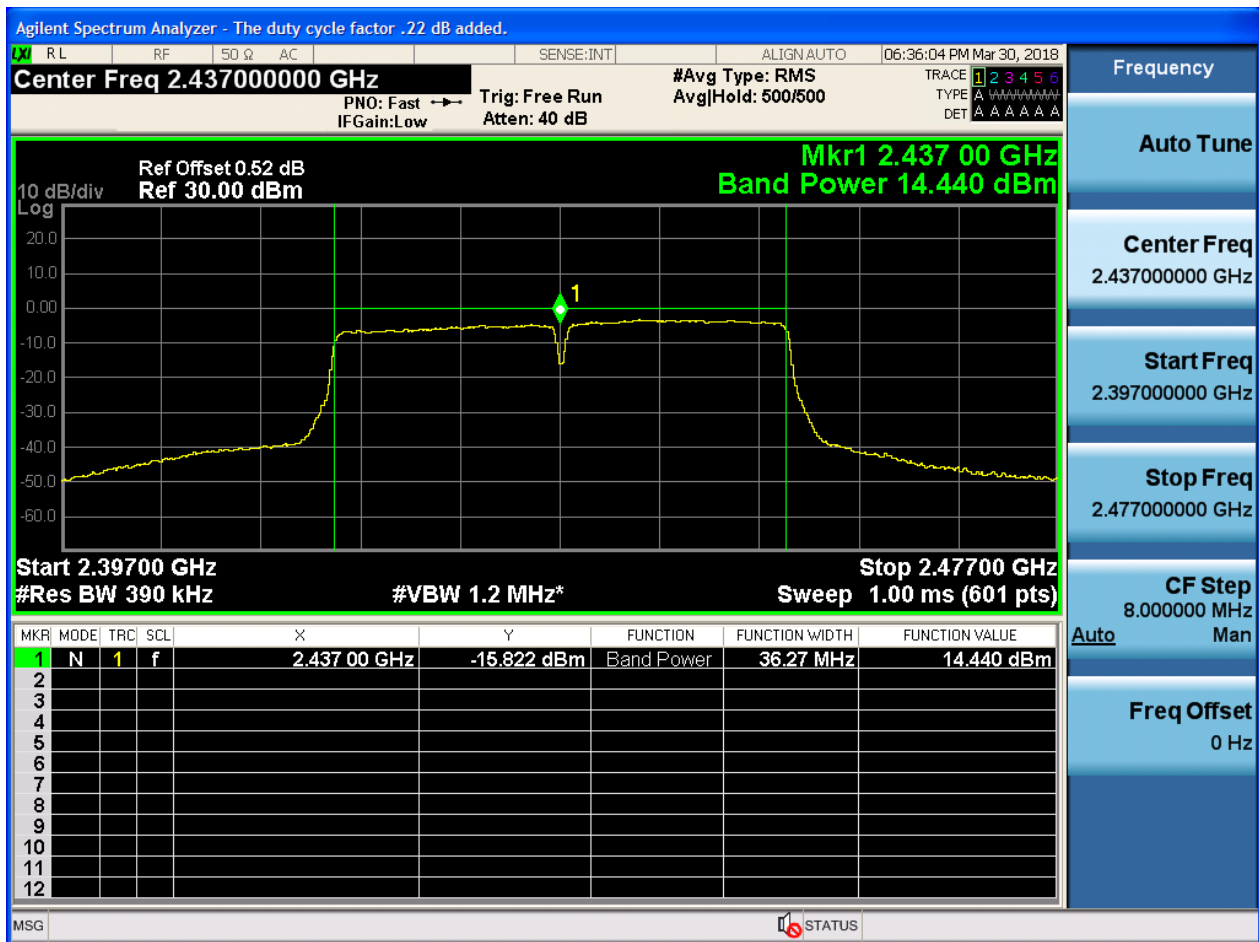


2.15 11N40_L_2427@Ant 1



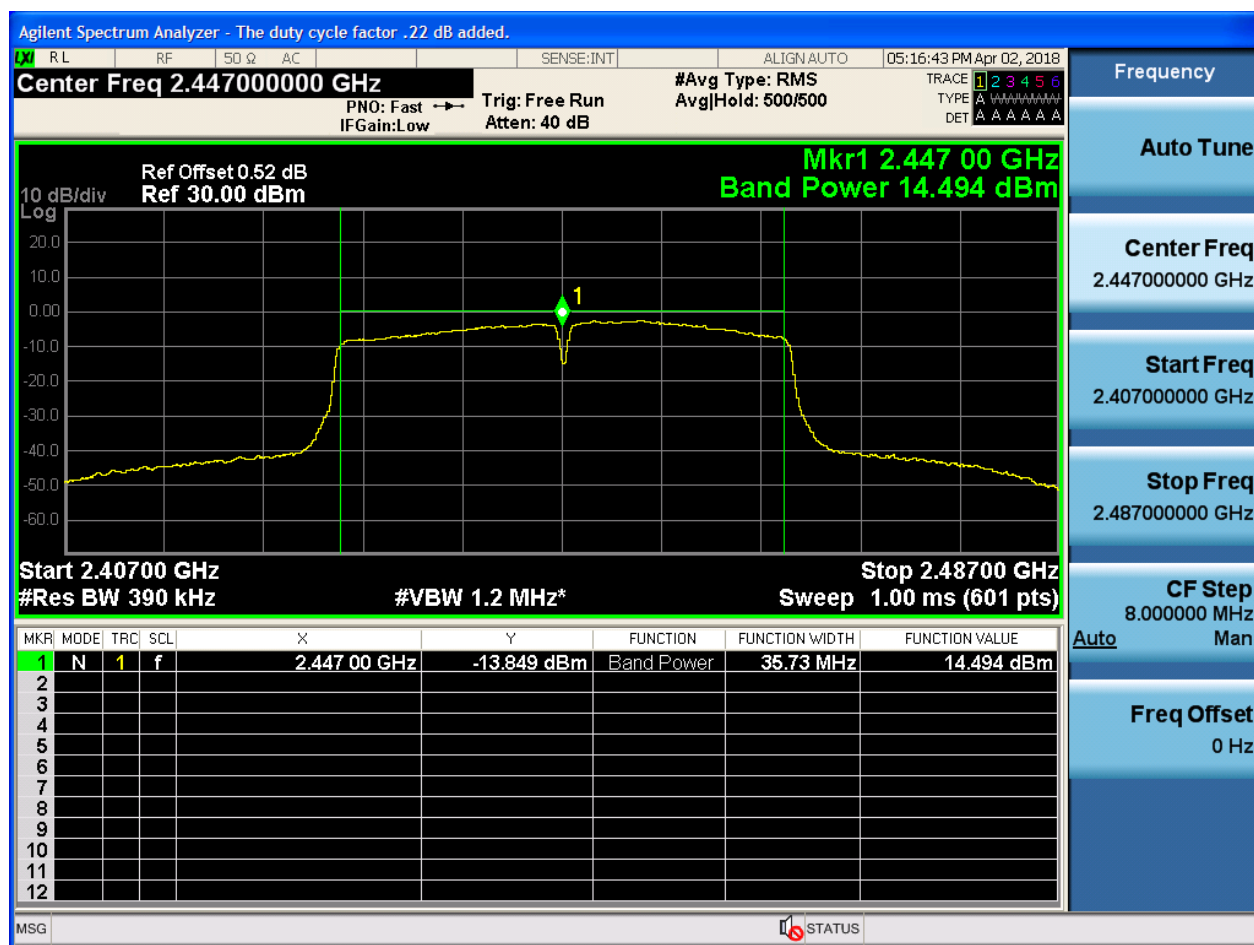


2.16 11N40_M_2437@Ant 1



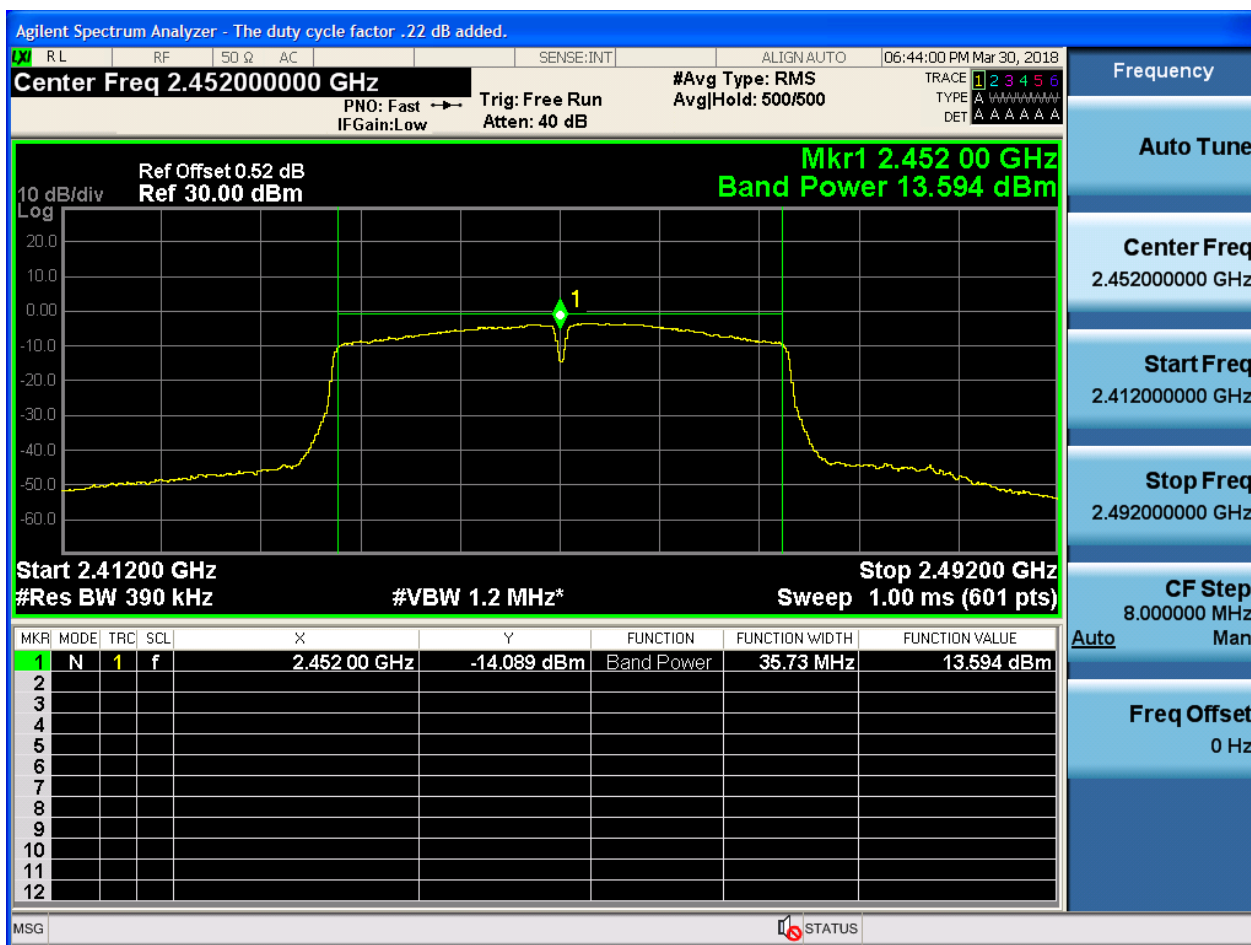


2.17 11N40_H_2447@Ant 1





2.18 11N40_H_2452@Ant 1



Appendix E: Maximum Power Spectral Density Level

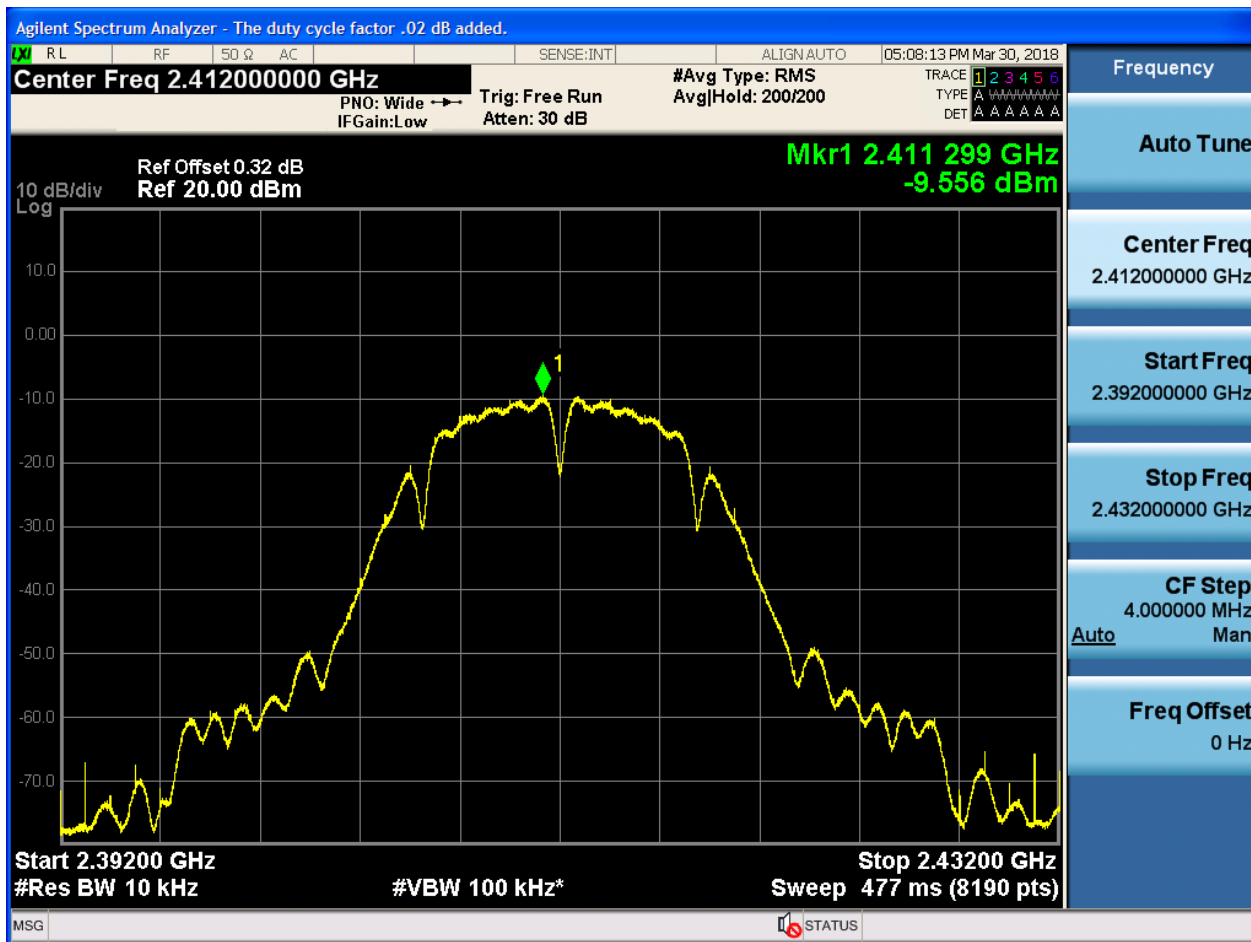
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Duty Cycle [%]	PSD[dBm/10 kHz]	Verdict
11B	L	2412	Ant 1	99.5	-9.56	pass
11B	M	2437	Ant 1	99.5	-9.08	pass
11B	H	2462	Ant 1	99.5	-8.87	pass
11G	L	2412	Ant 1	97.5	-13.47	pass
11G	L	2417	Ant 1	97.5	-12.08	pass
11G	M	2437	Ant 1	97.5	-12.85	pass
11G	H	2457	Ant 1	97.5	-11.75	pass
11G	H	2462	Ant 1	97.5	-13.17	pass
11N20	L	2412	Ant 1	96.6	-13.15	pass
11N20	L	2417	Ant 1	96.6	-11.95	pass
11N20	M	2437	Ant 1	96.6	-12.72	pass
11N20	H	2457	Ant 1	96.6	-11.55	pass
11N20	H	2462	Ant 1	96.6	-12.42	pass
11N40	L	2422	Ant 1	95	-18.23	pass
11N40	L	2427	Ant 1	95	-17.08	pass

Test Mode	Test Channel	Frequency[MHz]	Ant	Duty Cycle [%]	PSD[dBm/10 kHz]	Verdict
11N40	M	2437	Ant 1	95	-16.49	pass
11N40	H	2447	Ant 1	95	-15.68	pass
11N40	H	2452	Ant 1	95	-16.54	pass

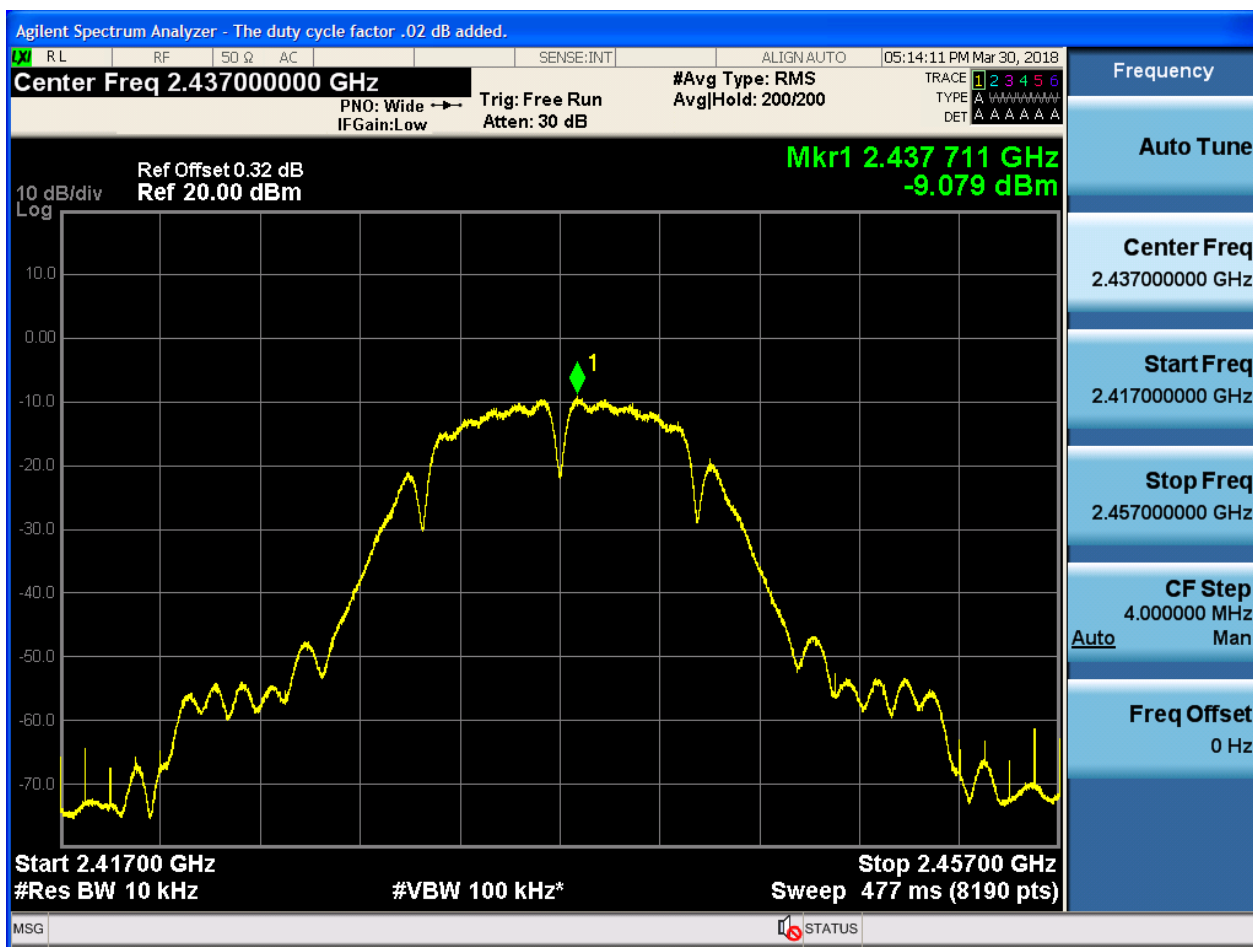
Part II - Test Plots

2.1 11B_L@Ant 1





2.2 11B_M@Ant 1



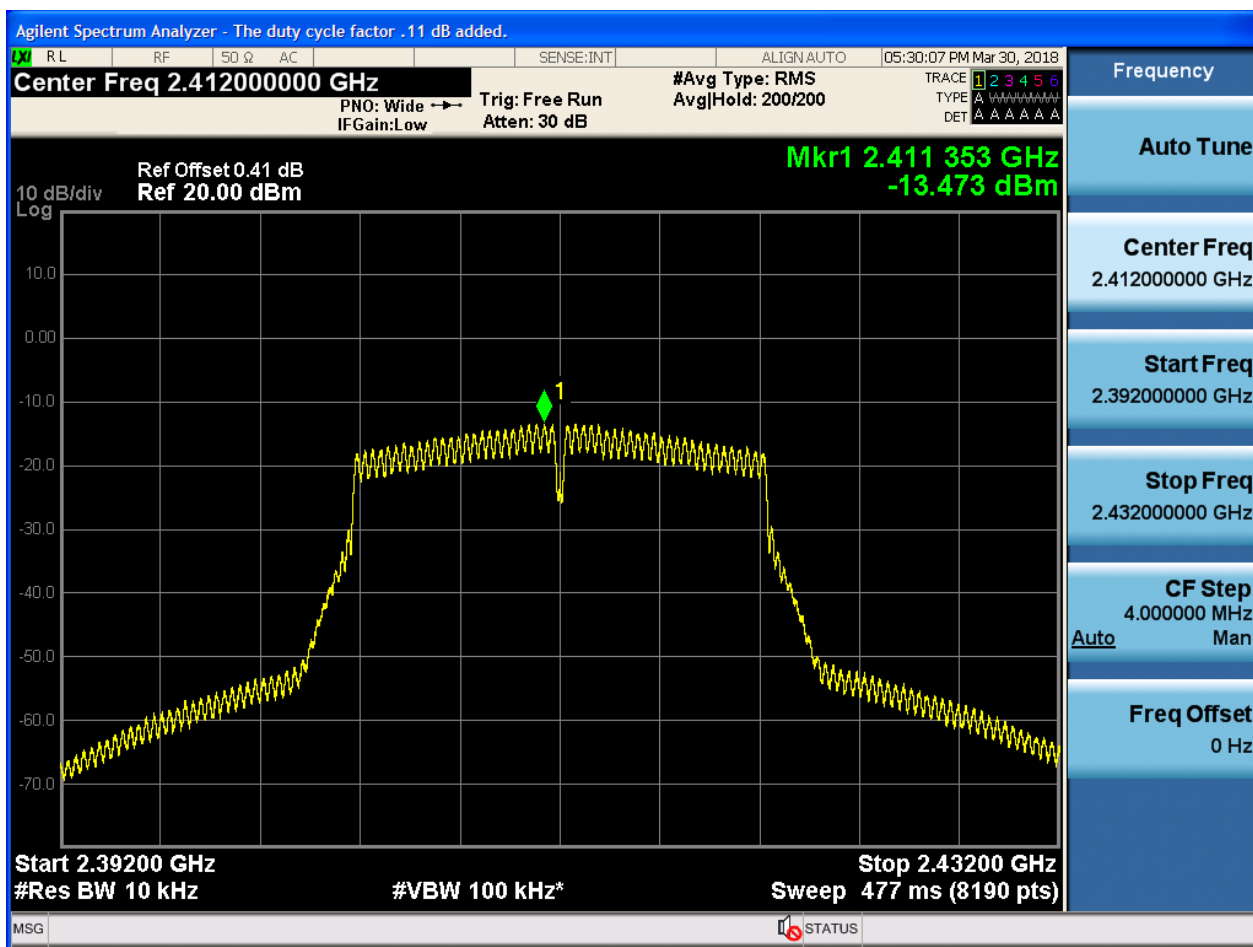


2.3 11B_H@Ant 1



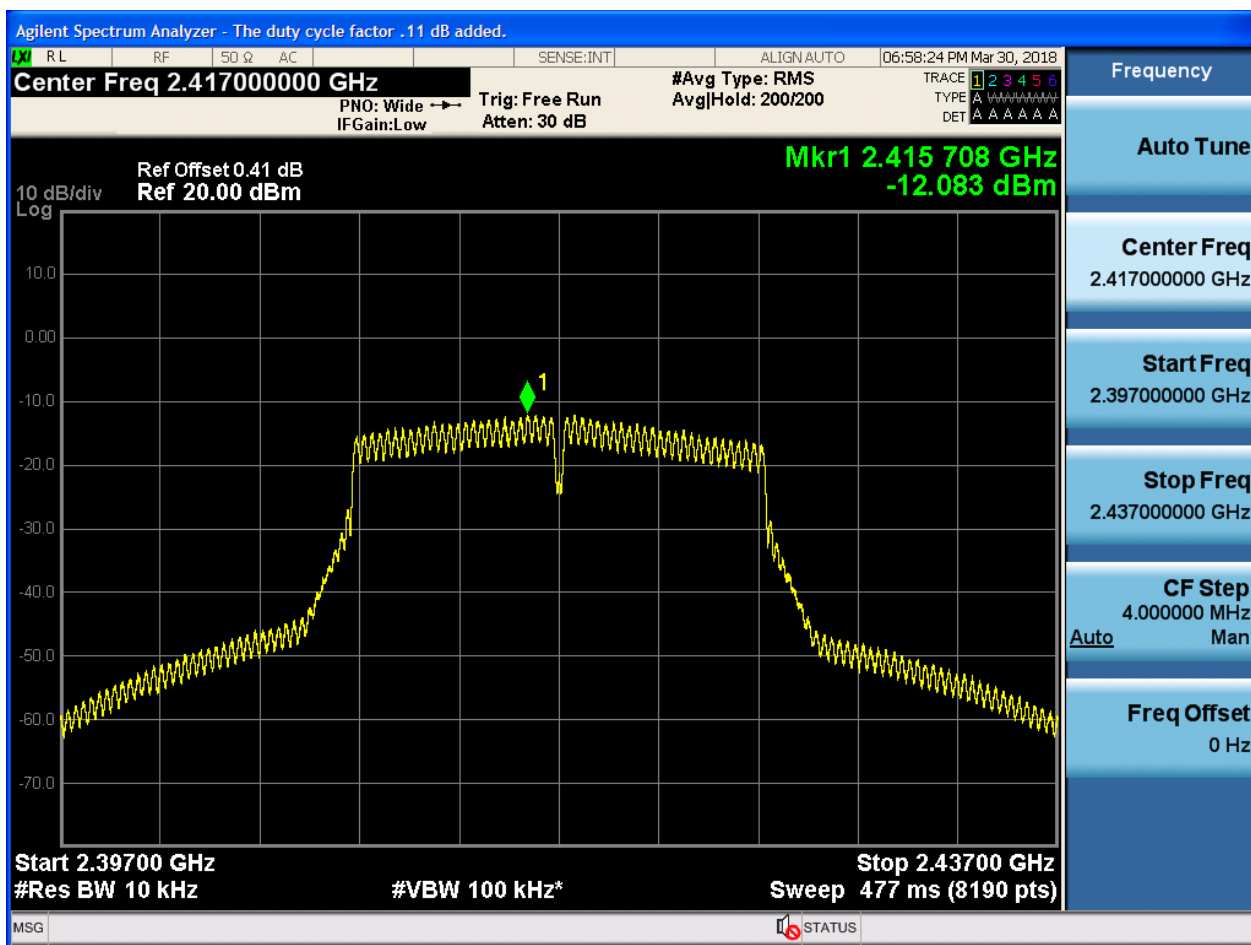


2.4 11G_L_2412@Ant 1



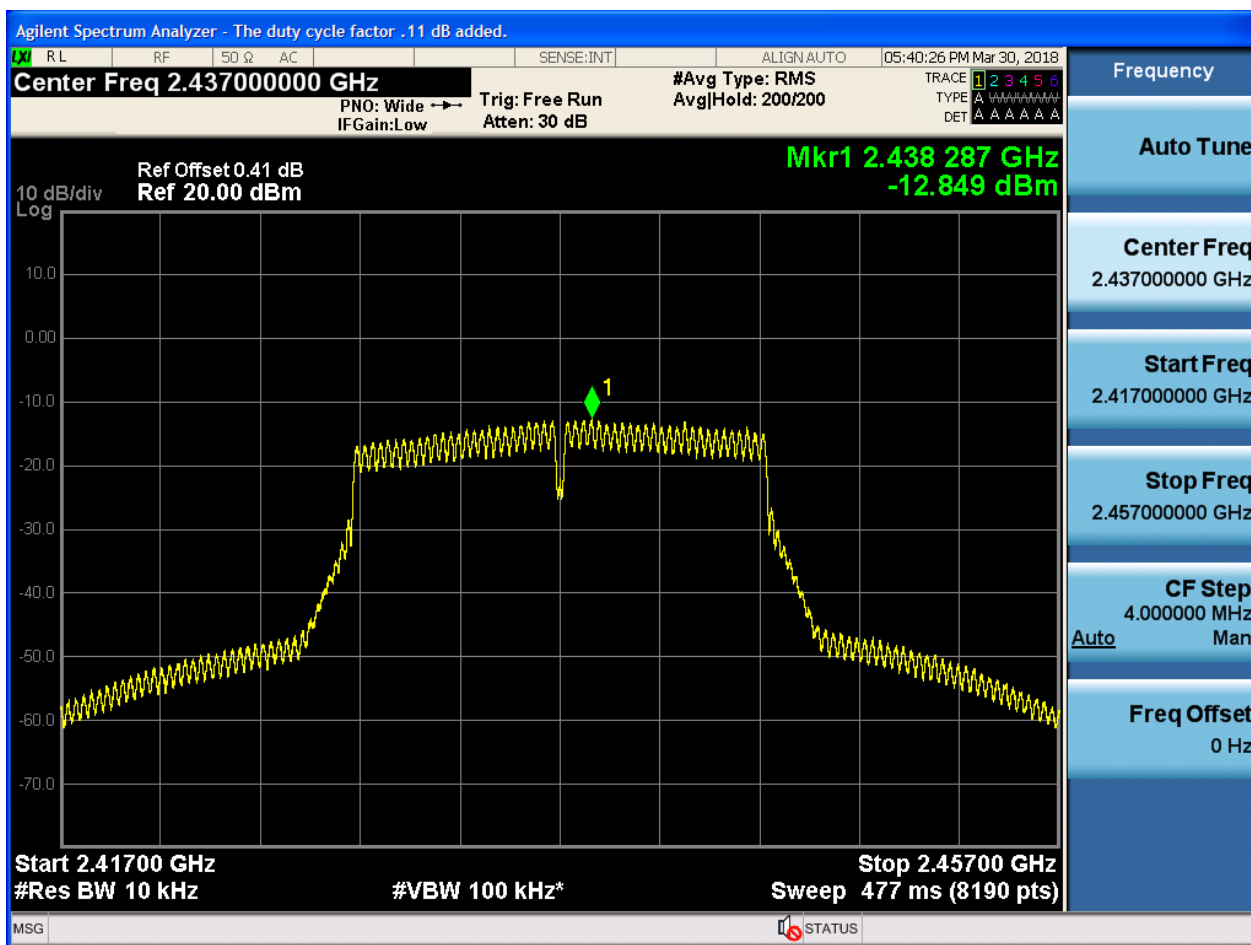


2.5 11G_L_2417@Ant 1



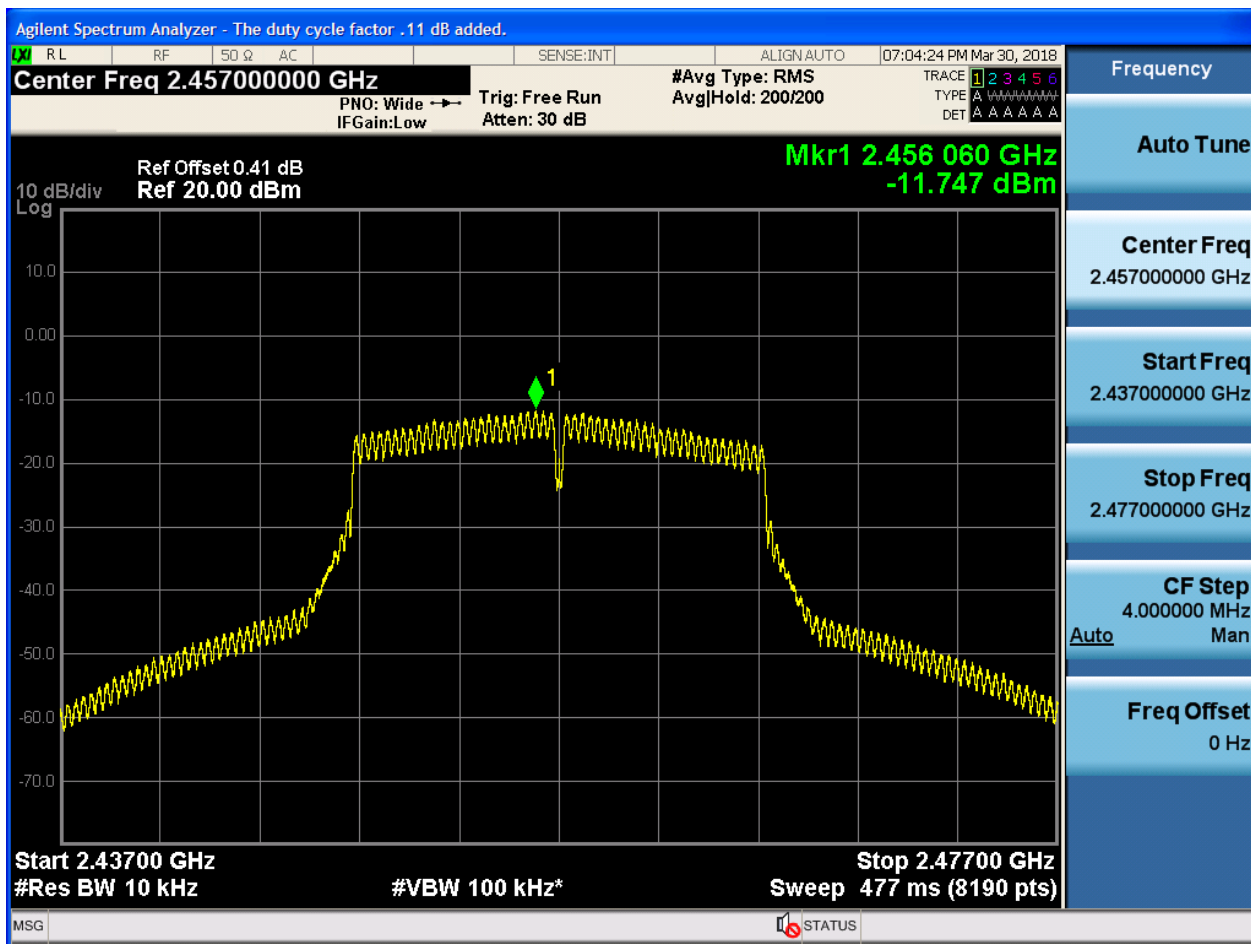


2.6 11G_M_2437@Ant 1



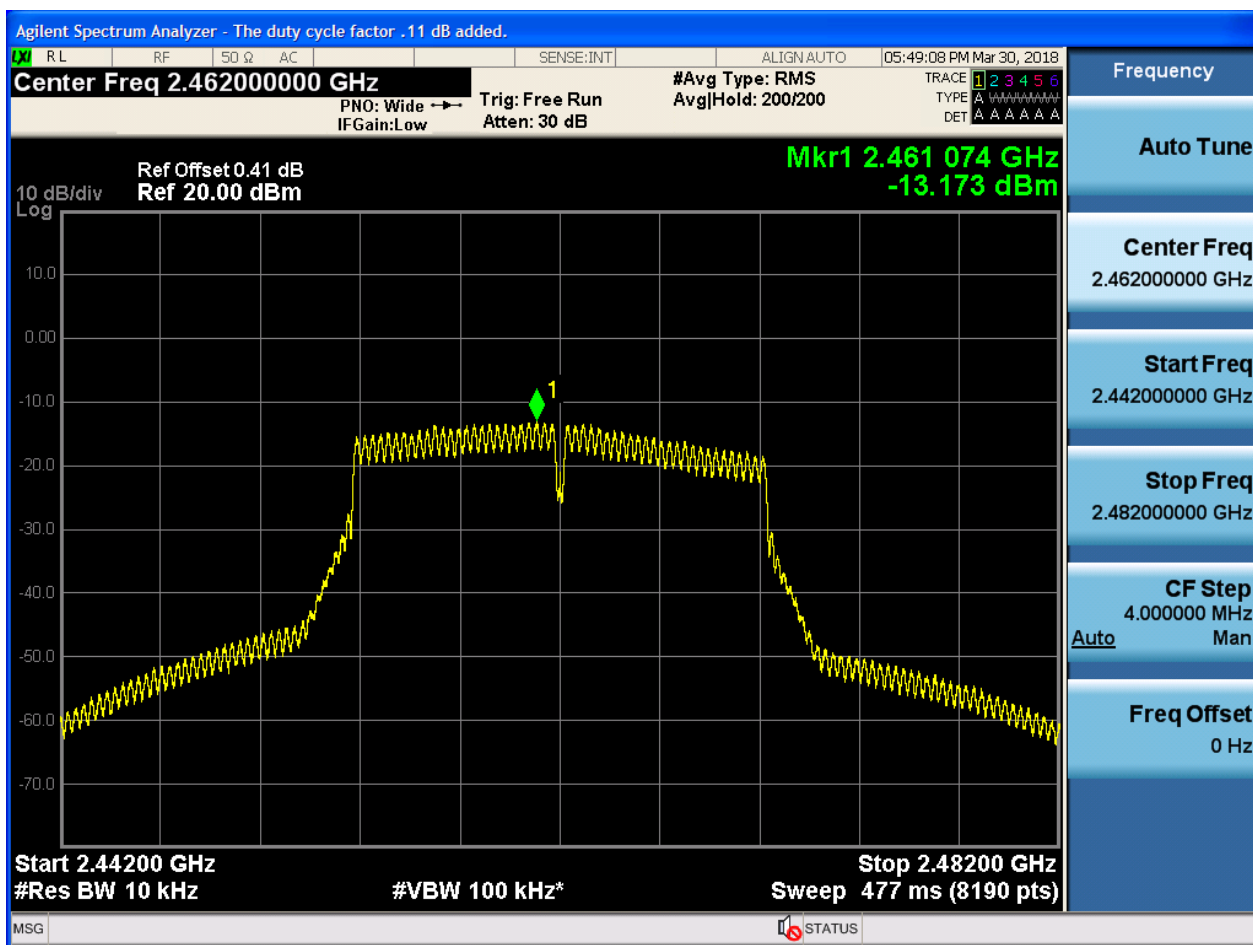


2.7 11G_H_2457@Ant 1



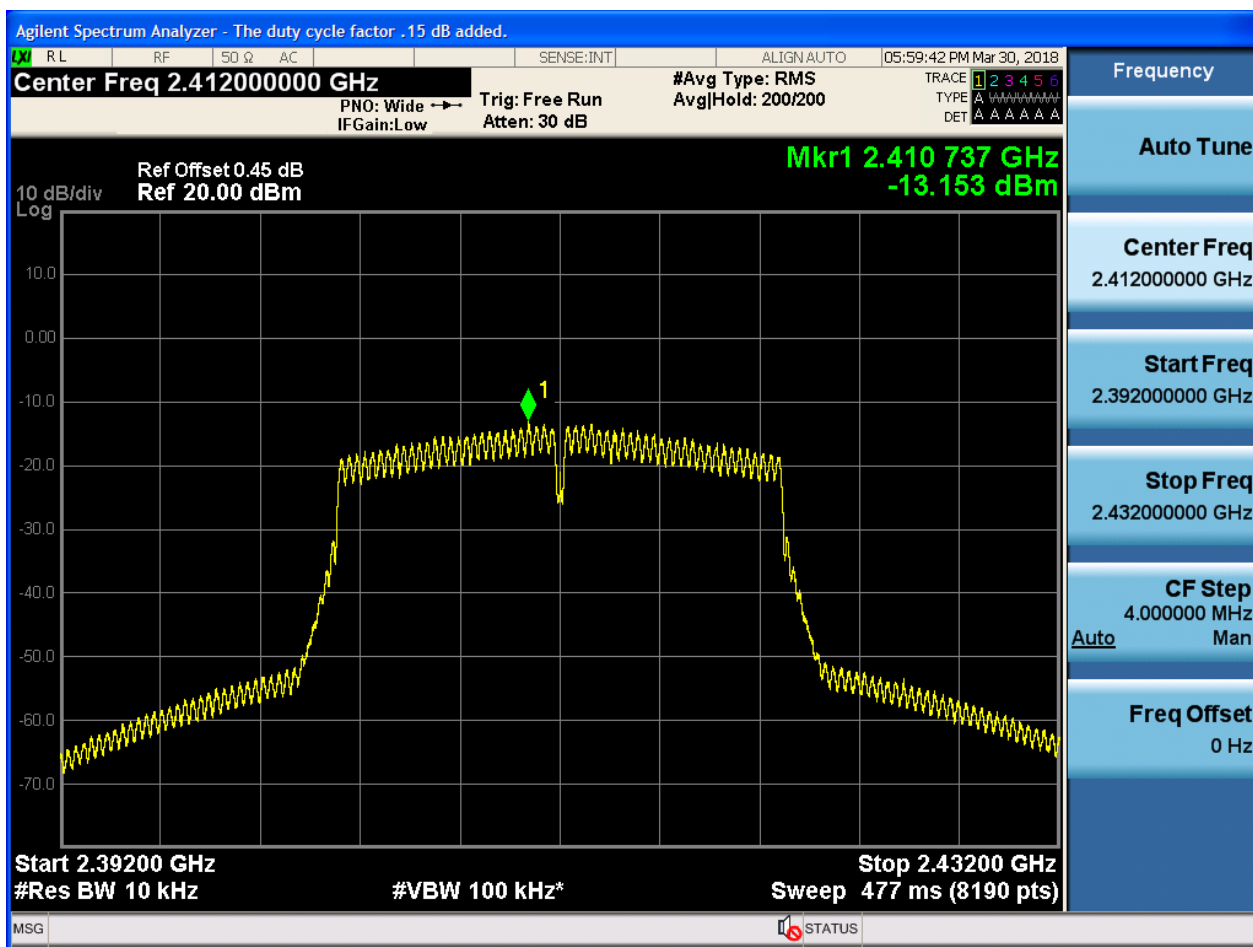


2.8 11G_H_2462@Ant 1



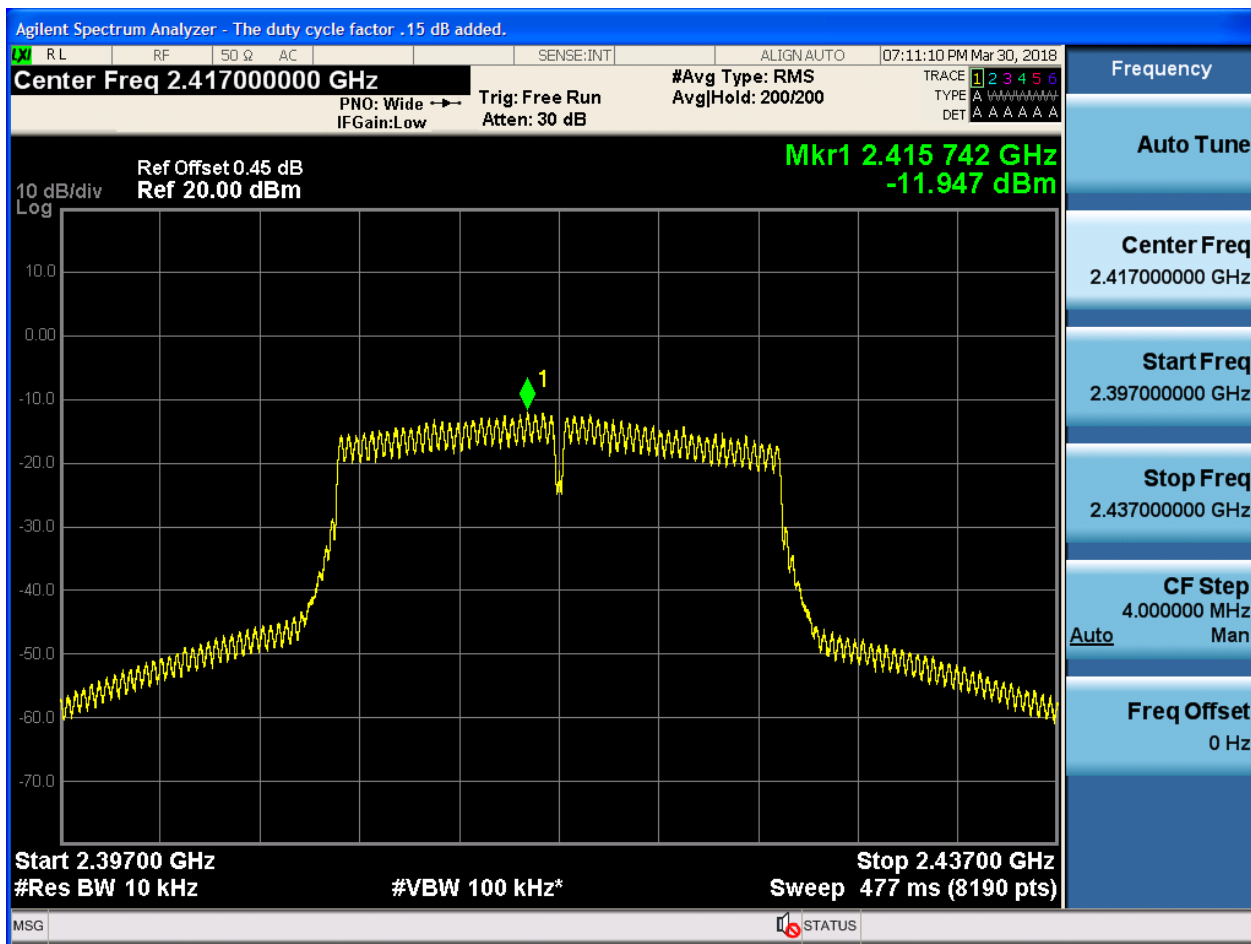


2.9 11N20_L_2412@Ant 1



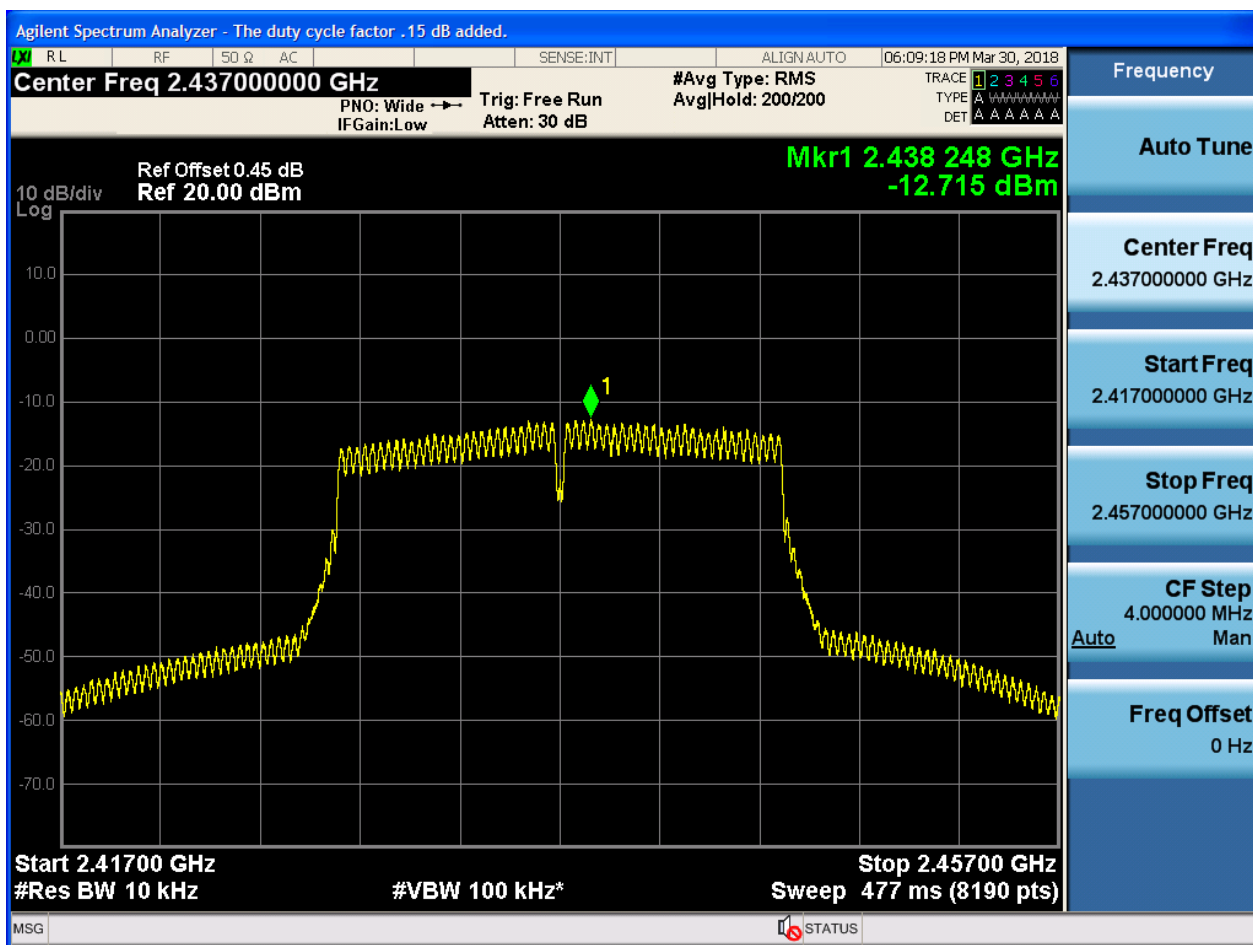


2.10 11N20_L_2417@Ant 1



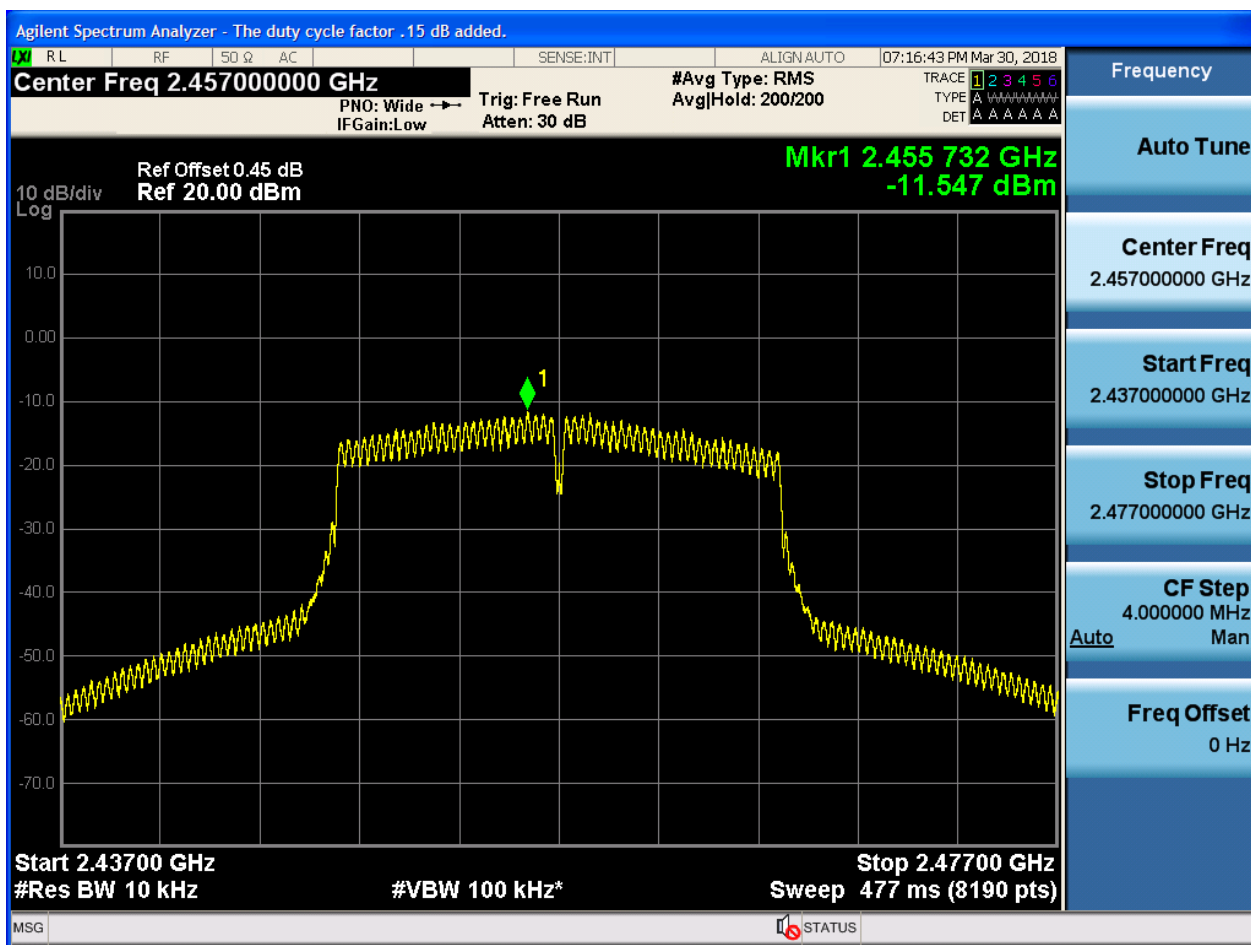


2.11 11N20_M_2437@Ant 1



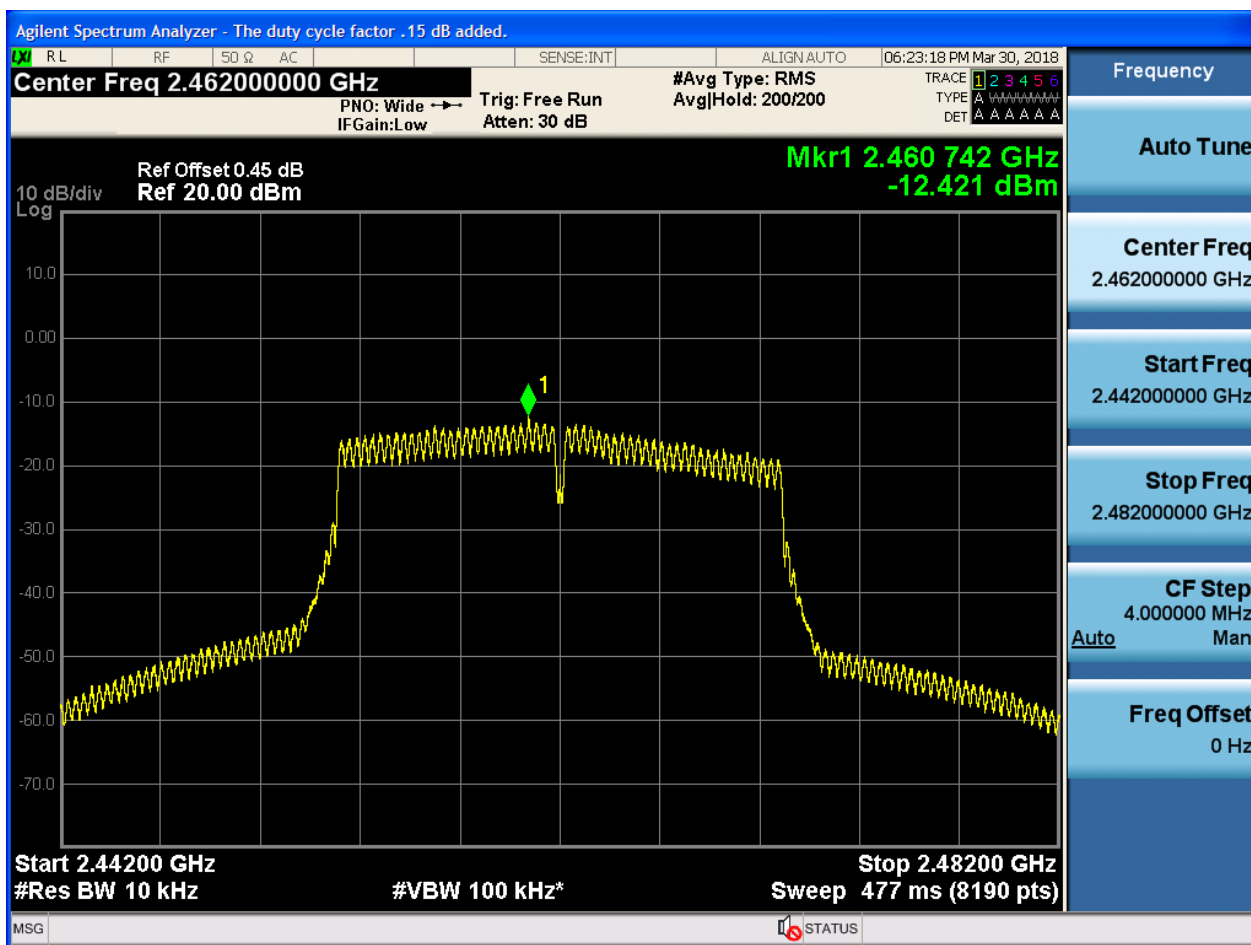


2.12 11N20_H_2457@Ant 1



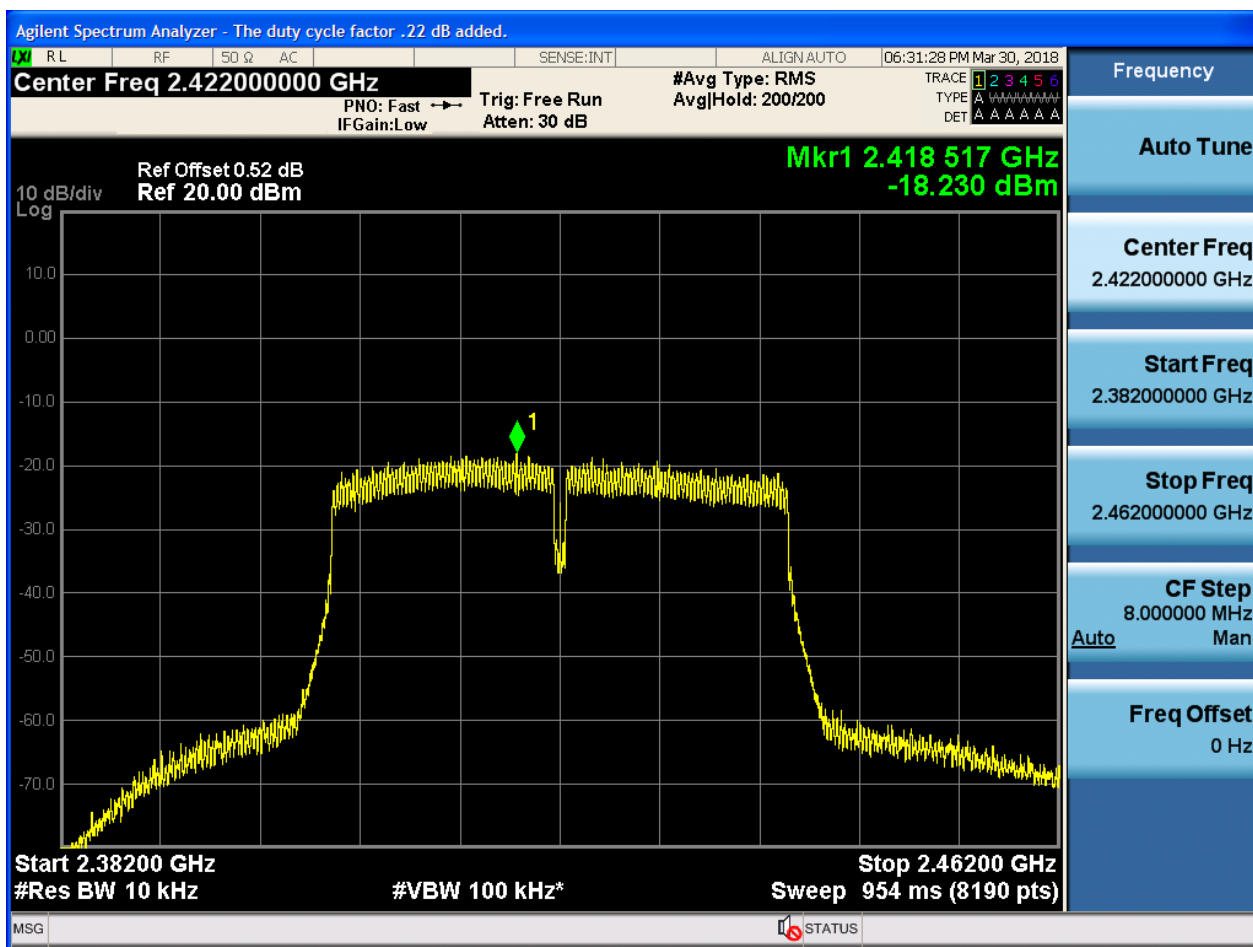


2.13 11N20_H_2462@Ant 1



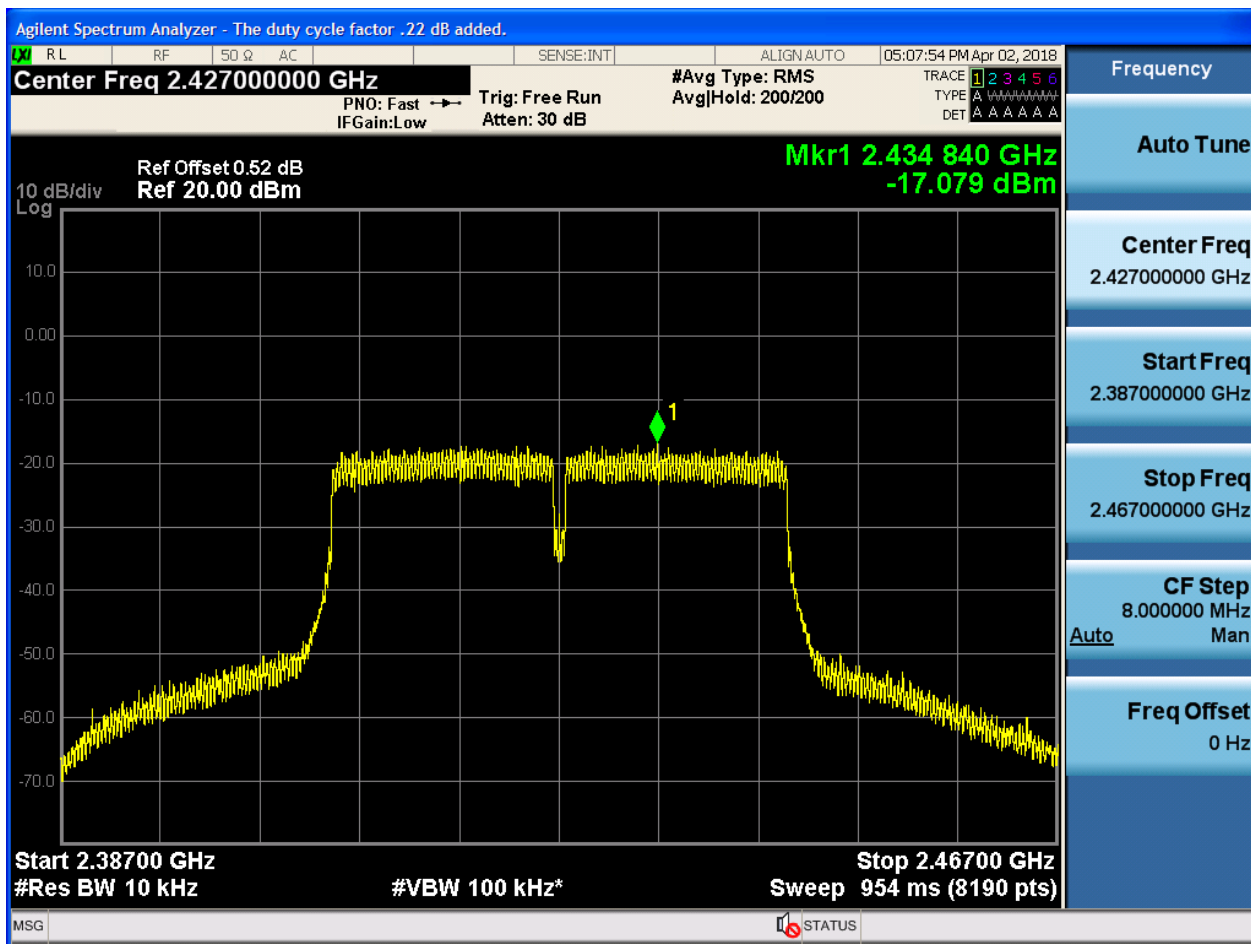


2.14 11N40_L_2422@Ant 1



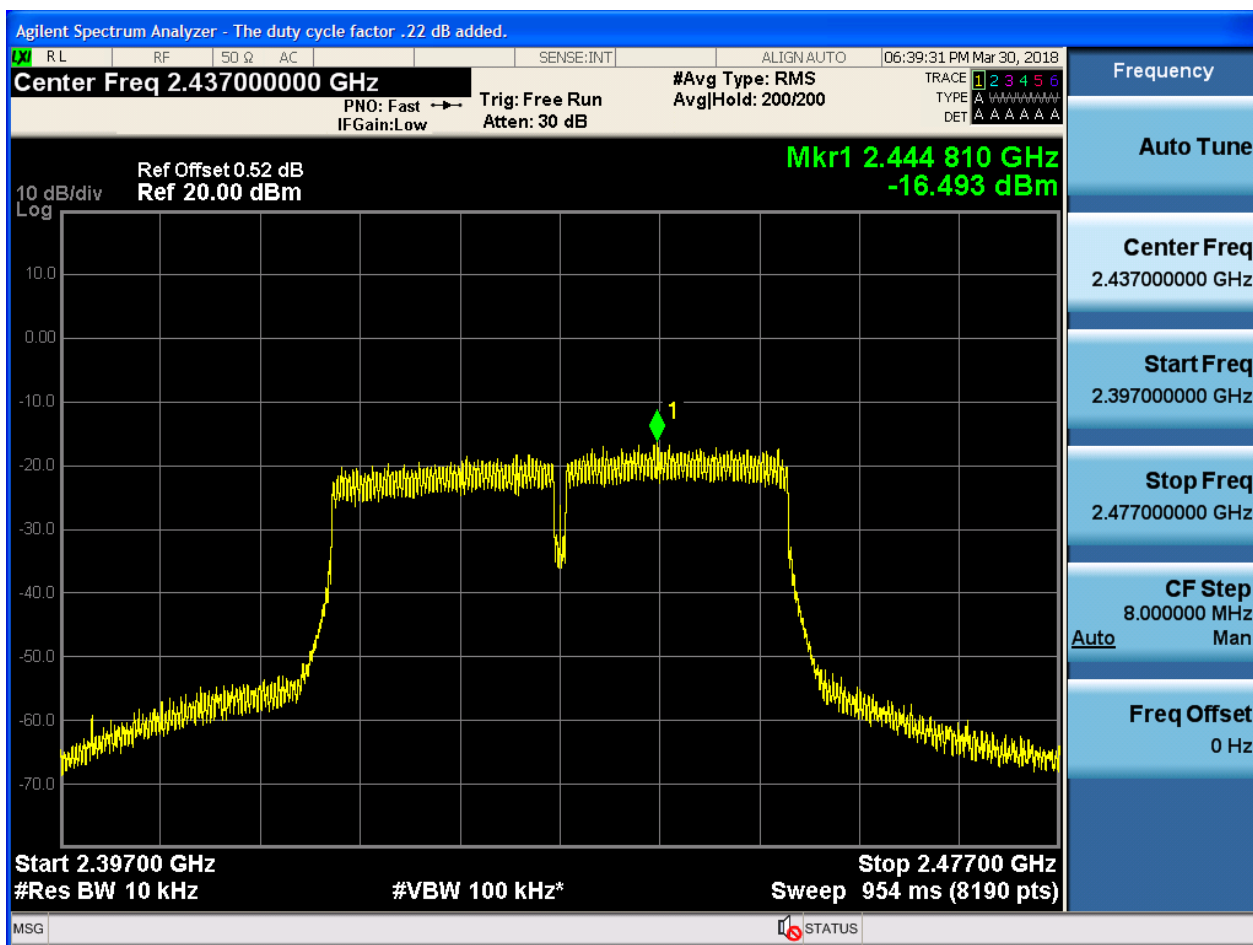


2.15 11N40_L_2427@Ant 1



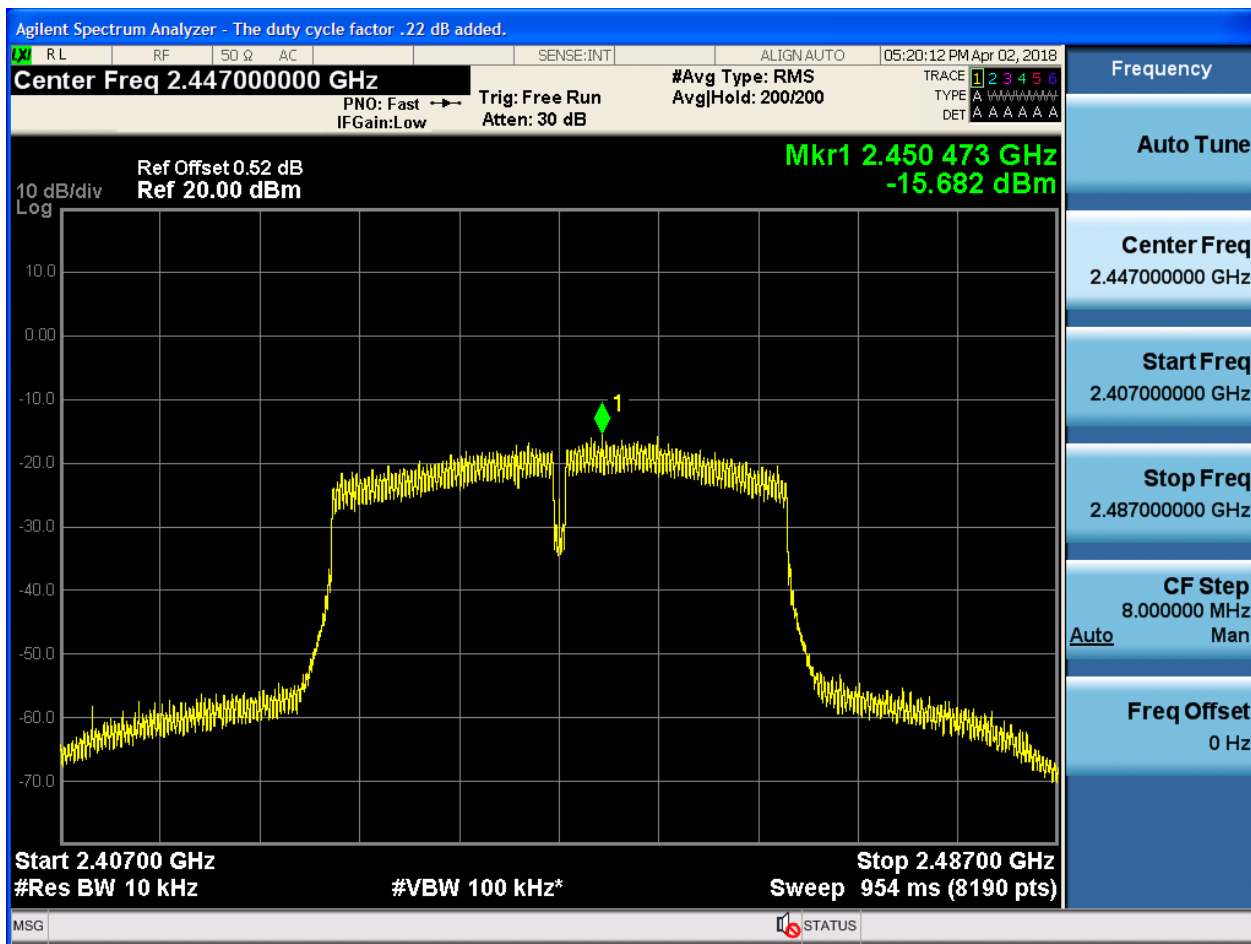


2.16 11N40_M_2437@Ant 1



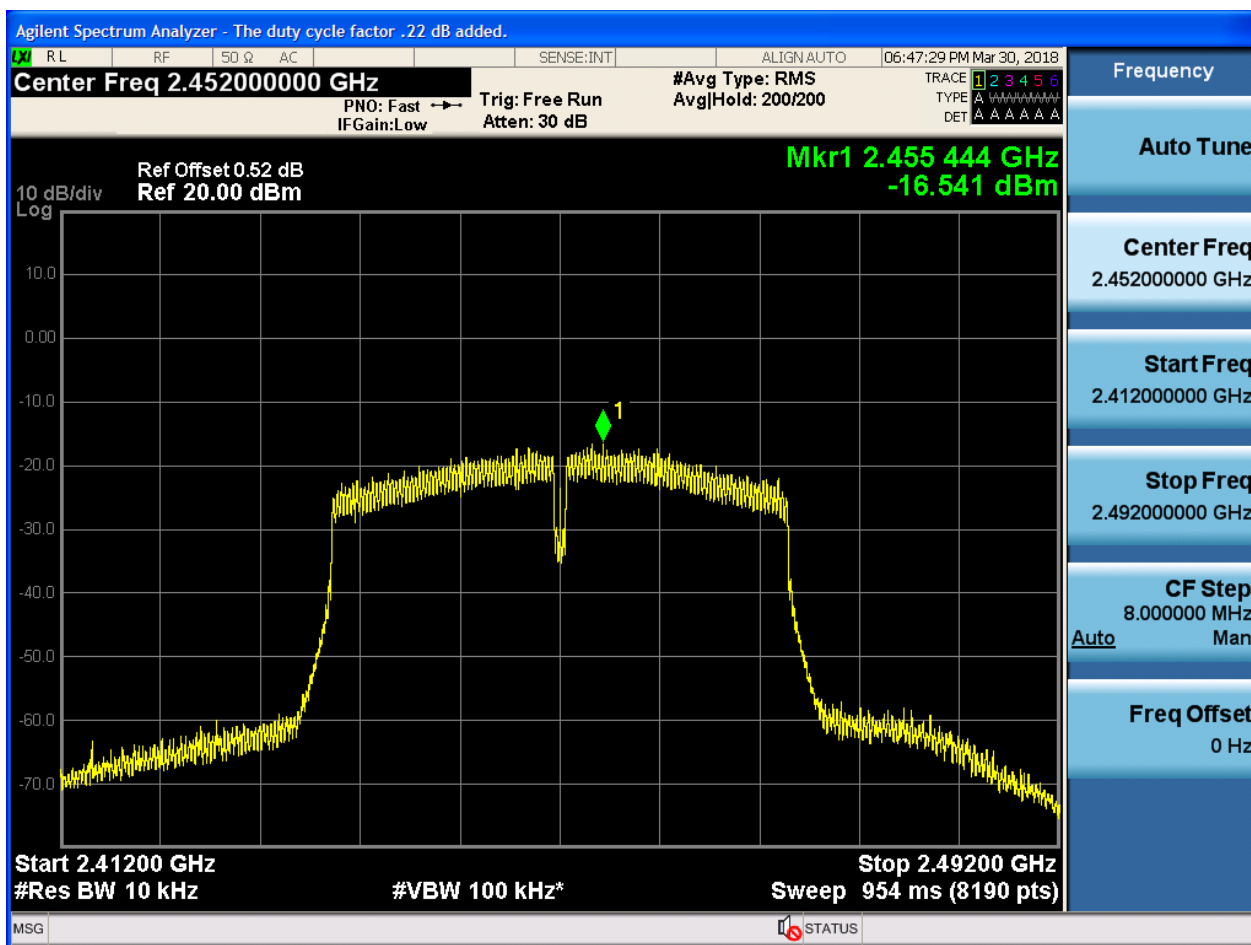


2.17 11N40_H_2447@Ant 1





2.18 11N40_H_2452@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	8.33	-40.54	pass
11B	H	2462	Ant 1	9.31	-47.65	pass
11G	L	2412	Ant 1	4.56	-34.04	pass
11G	L	2417	Ant 1	5.86	-35.83	pass
11G	H	2457	Ant 1	6.3	-47.66	pass
11G	H	2462	Ant 1	5.08	-43.90	pass
11N20	L	2412	Ant 1	4.62	-31.79	pass
11N20	L	2417	Ant 1	6.19	-34.11	pass
11N20	H	2457	Ant 1	6.39	-46.84	pass
11N20	H	2462	Ant 1	4.97	-41.41	pass
11N40	L	2422	Ant 1	-0.55	-38.67	pass
11N40	L	2427	Ant 1	-1.08	-44.75	pass
11N40	H	2447	Ant 1	1.79	-40.58	pass
11N40	H	2452	Ant 1	0.81	-40.02	pass



Part II - Test Plots

2.1 11B_L@Ant 1



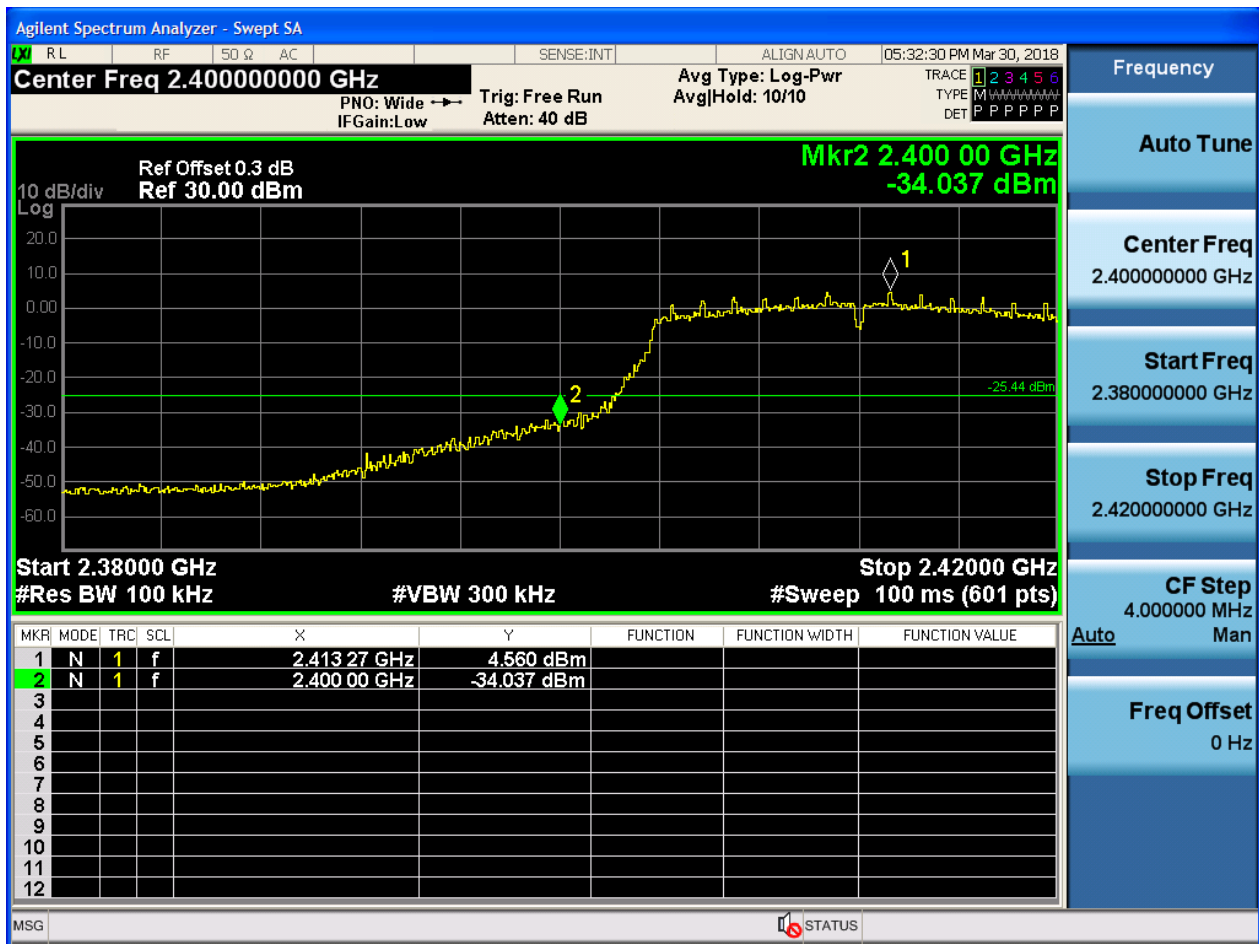


2.2 11B_H@Ant 1





2.3 11G_L_2412@Ant 1





2.4 11G_L_2417@Ant 1





2.5 11G_H_2457@Ant 1



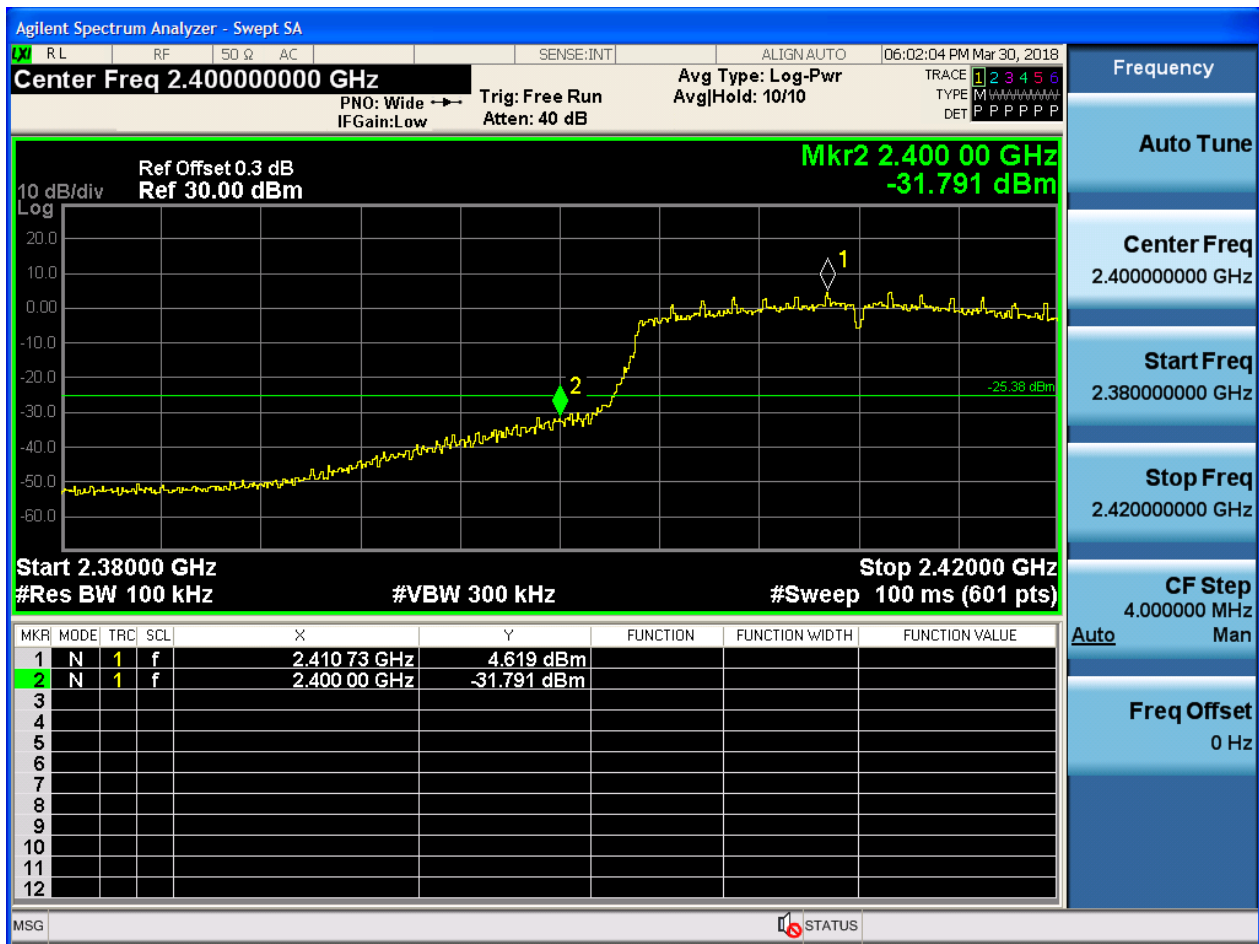


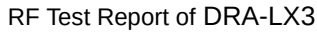
2.6 11G_H_2462@Ant 1





2.7 11N20_L_2412@Ant 1





Agilent Spectrum Analyzer - Swept SA

Center Freq 2.405000000 GHz

Ref Offset 0.3 dB
Ref 30.00 dBm

Mkr2 2.400 00 GHz
-34.106 dBm

Start 2.38000 GHz
#Res BW 100 kHz

Stop 2.43000 GHz
#Sweep 100 ms (1001 pts)

#VBW 300 kHz

Trig: Free Run
Atten: 40 dB

Avg Type: Log-Pwr
Avg/Hold: 10/10

Frequency

Auto Tune

Center Freq
2.405000000 GHz

Start Freq
2.380000000 GHz

Stop Freq
2.430000000 GHz

CF Step
5.000000 MHz
Man

Freq Offset
0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.415 75 GHz	6.192 dBm			
2	N	1	f	2.400 00 GHz	-34.106 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

MSG

STATUS



2.9 11N20_H_2457@Ant 1



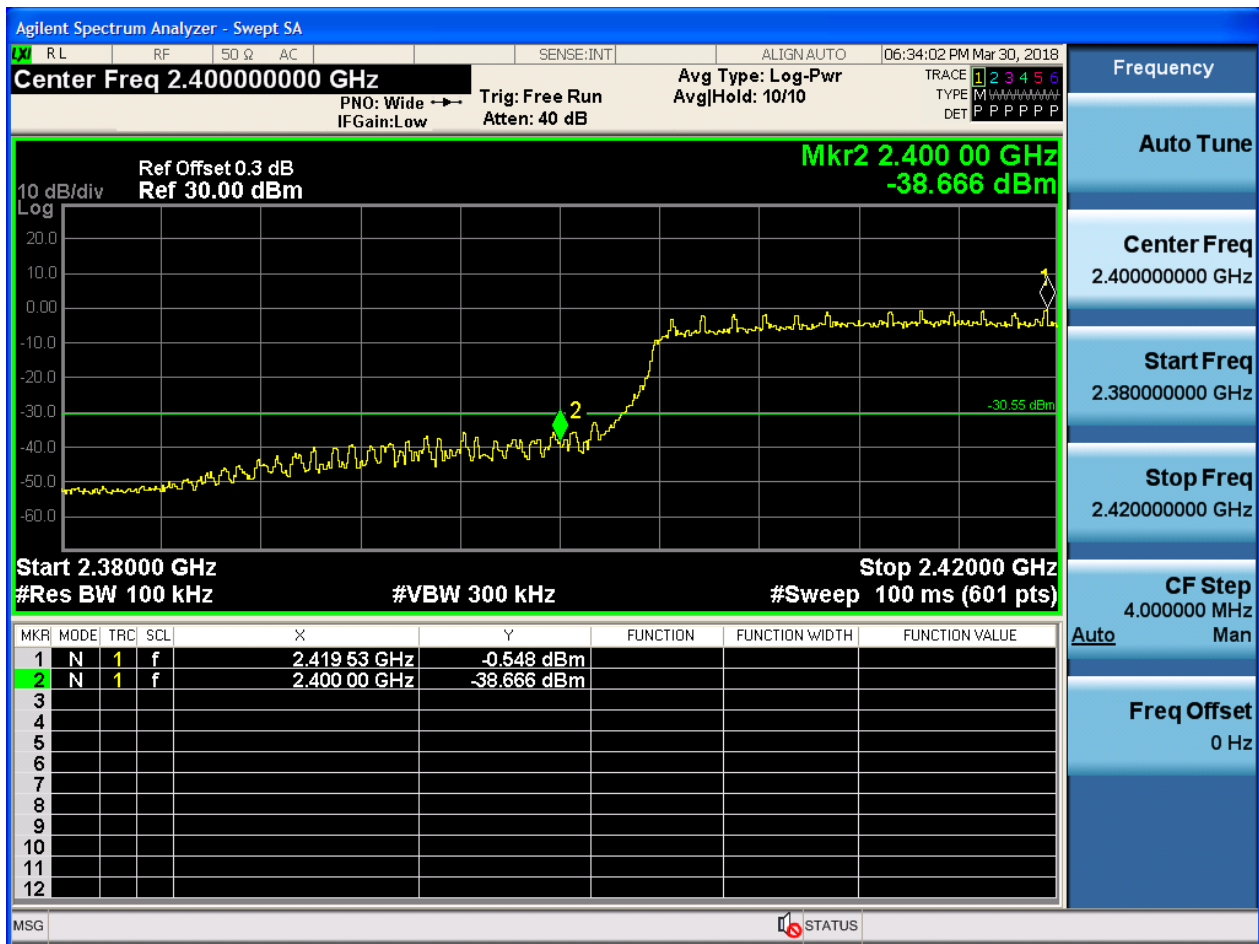


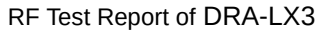
2.10 11N20_H_2462@Ant 1





2.11 11N40_L_2422@Ant 1





Agilent Spectrum Analyzer - Swept SA

RL

RF

50 Ω

AC

SENSE:INT

ALIGN:AUTO

10:22:50 AM Mar 21, 2018

Display Line -31.08 dBm

PNO: Fast

IFGain:Low

Trig: Free Run

#Atten: 26 dB

Avg Type: Log-Pwr

AvgHold:> 100/100

TRACE 1 2 3 4 5 6

TYPE M

DET P N N N N N

10 dB/div

Ref 12.00 dBm

Mkr2 2.400 0 GHz

-44.749 dBm

Center 2.40000 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 100.0 MHz

Sweep 9.600 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.444 5 GHz	-1.078 dBm			
2	N	1	f	2.400 0 GHz	-44.749 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

Display

Annotation

Title

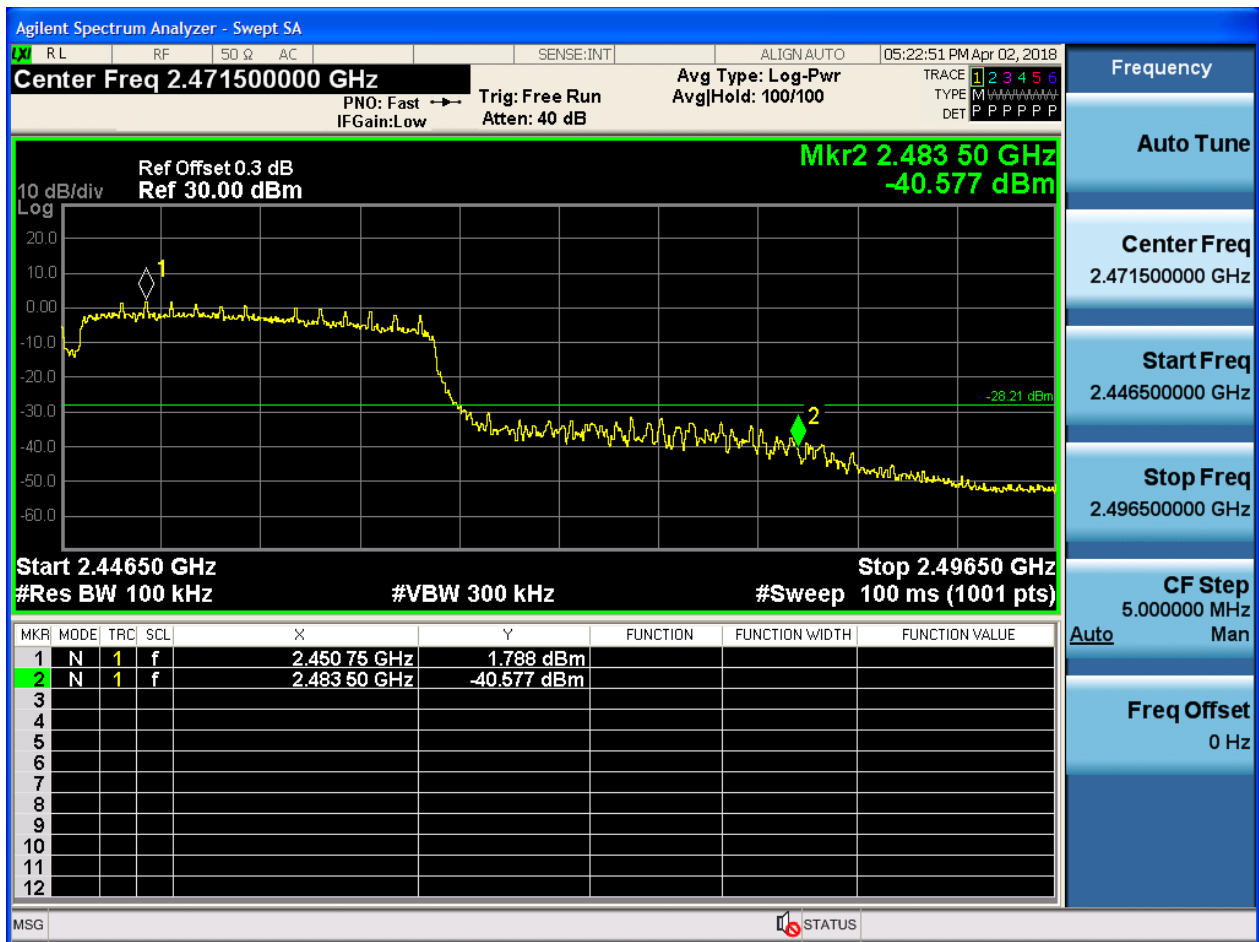
Graticule

Display Line

System Display Settings

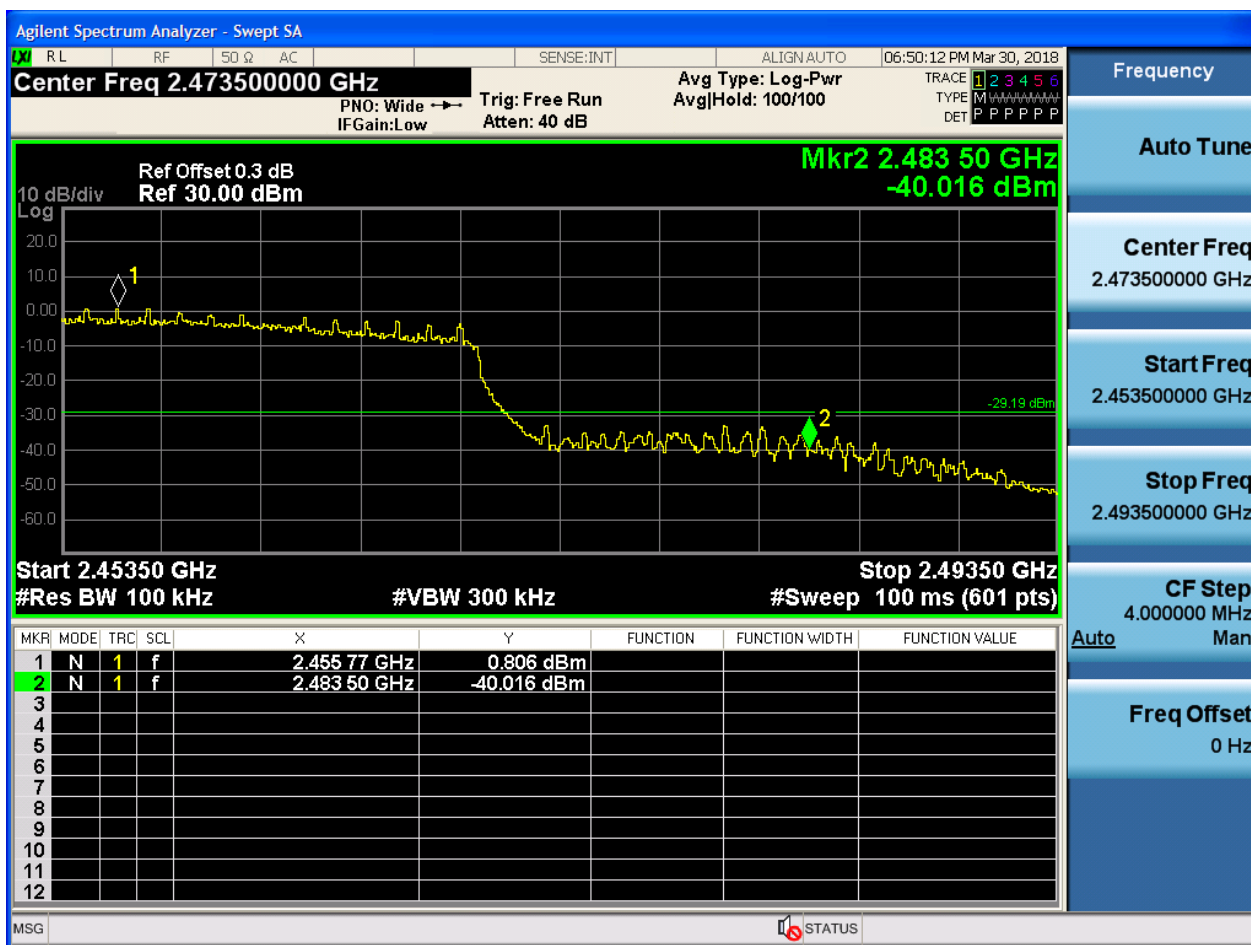


2.13 11N40_H_2447@Ant 1





2.14 11N40_H_2452@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

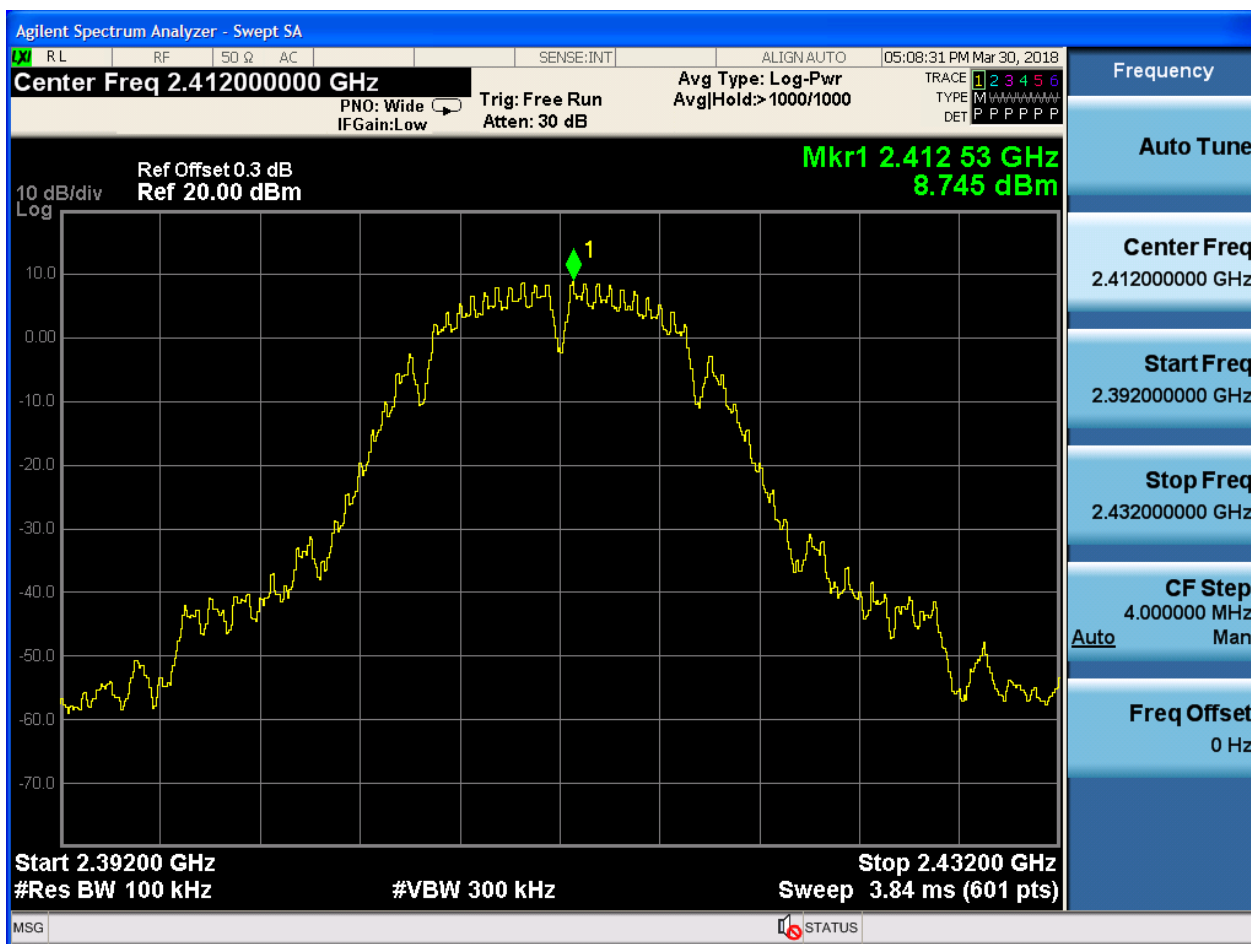
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	8.74	<limit	pass
11B	M	2437	Ant 1	9.04	<limit	pass
11B	H	2462	Ant 1	9.56	<limit	pass
11G	L	2412	Ant 1	5.22	<limit	pass
11G	L	2417	Ant 1	6.23	<limit	pass
11G	M	2437	Ant 1	6.02	<limit	pass
11G	H	2457	Ant 1	6.56	<limit	pass

Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11G	H	2462	Ant 1	5.07	<limit	pass
11N20	L	2412	Ant 1	5.22	<limit	pass
11N20	L	2417	Ant 1	6.52	<limit	pass
11N20	M	2437	Ant 1	6.04	<limit	pass
11N20	H	2457	Ant 1	6.66	<limit	pass
11N20	H	2462	Ant 1	5.01	<limit	pass
11N40	L	2422	Ant 1	-0.33	<limit	pass
11N40	L	2427	Ant 1	0.86	<limit	pass
11N40	M	2437	Ant 1	1.48	<limit	pass
11N40	H	2447	Ant 1	1.93	<limit	pass
11N40	H	2452	Ant 1	1.16	<limit	pass

Part II - Test Plots

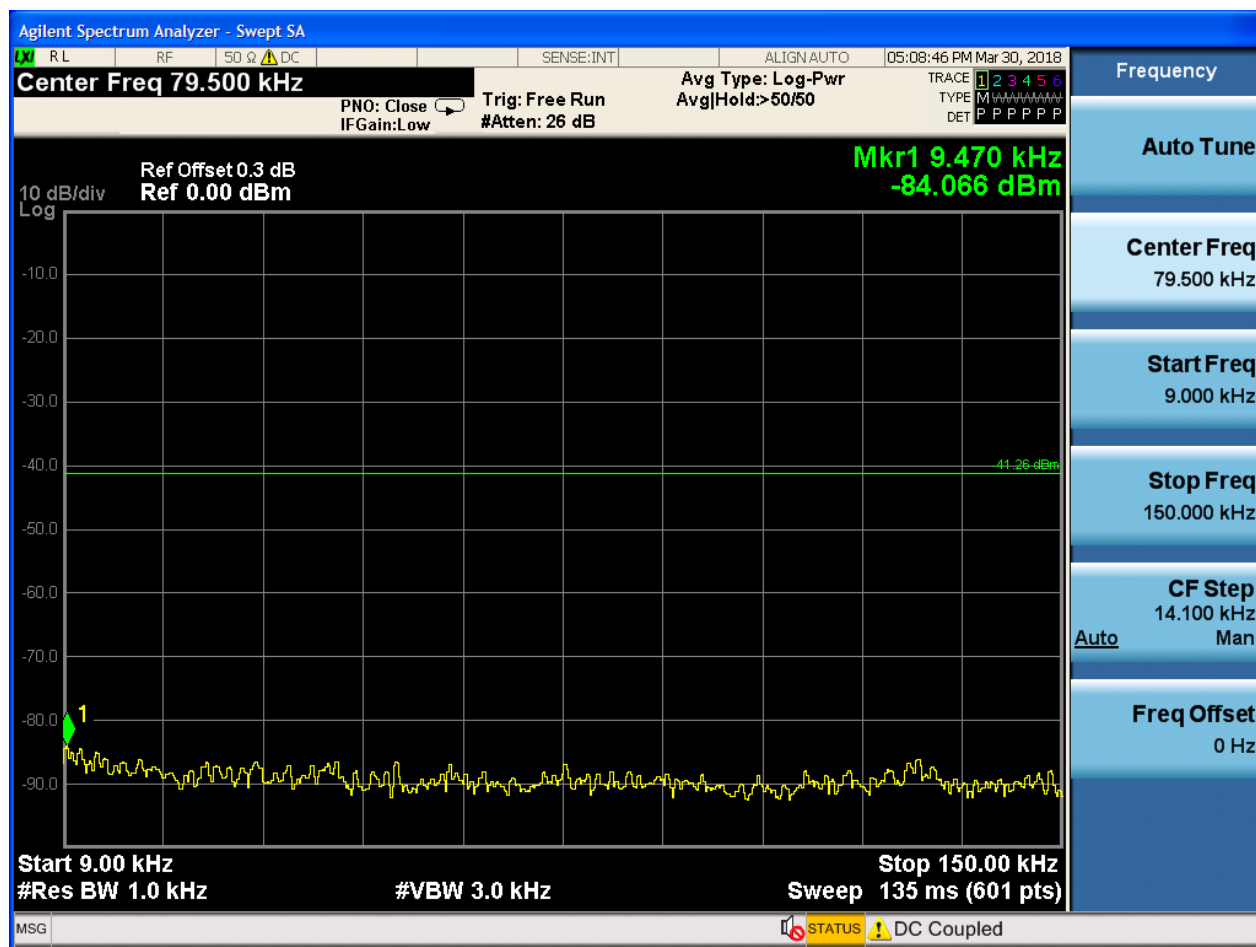
2.1 11B_L@Ant 1

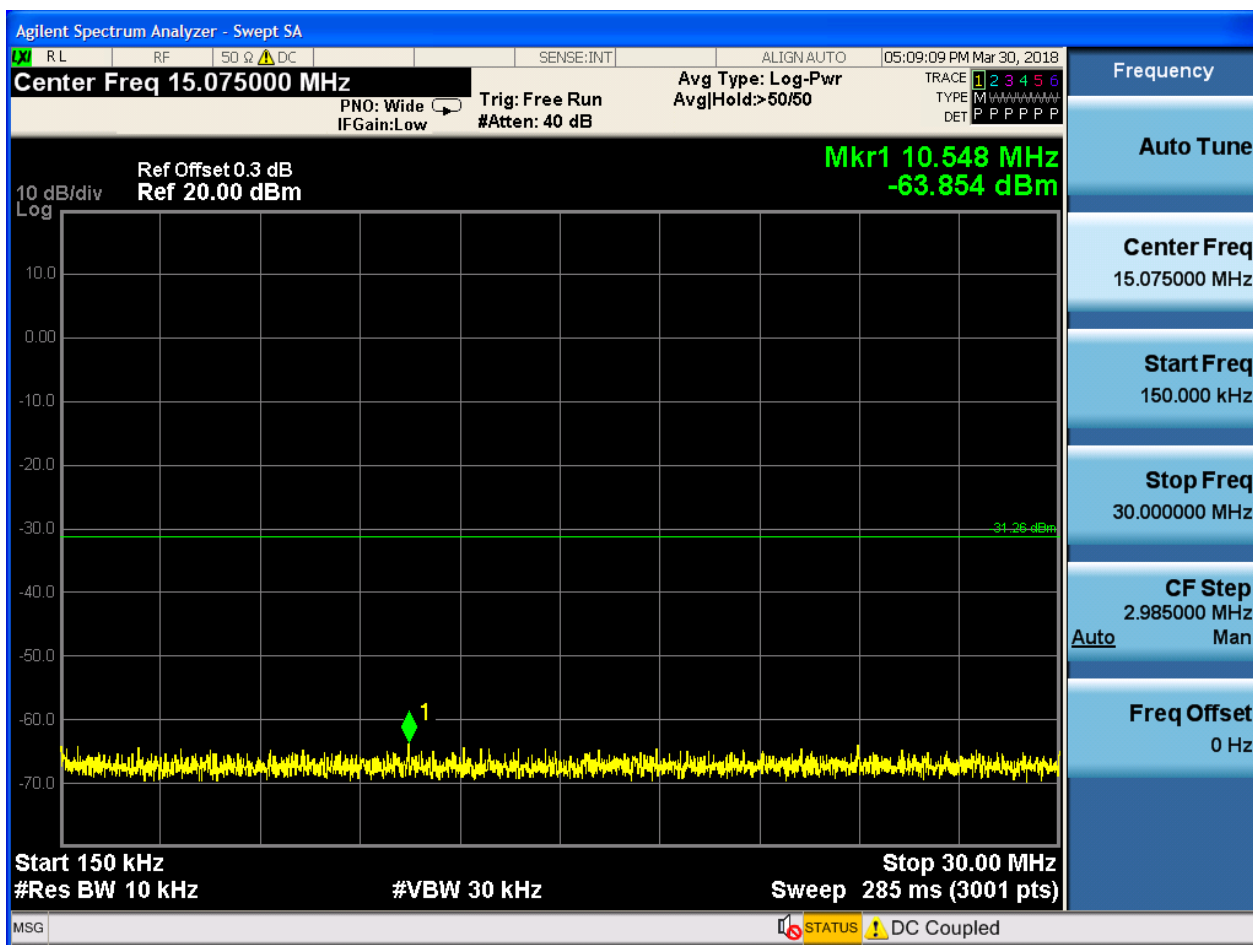
Pref:

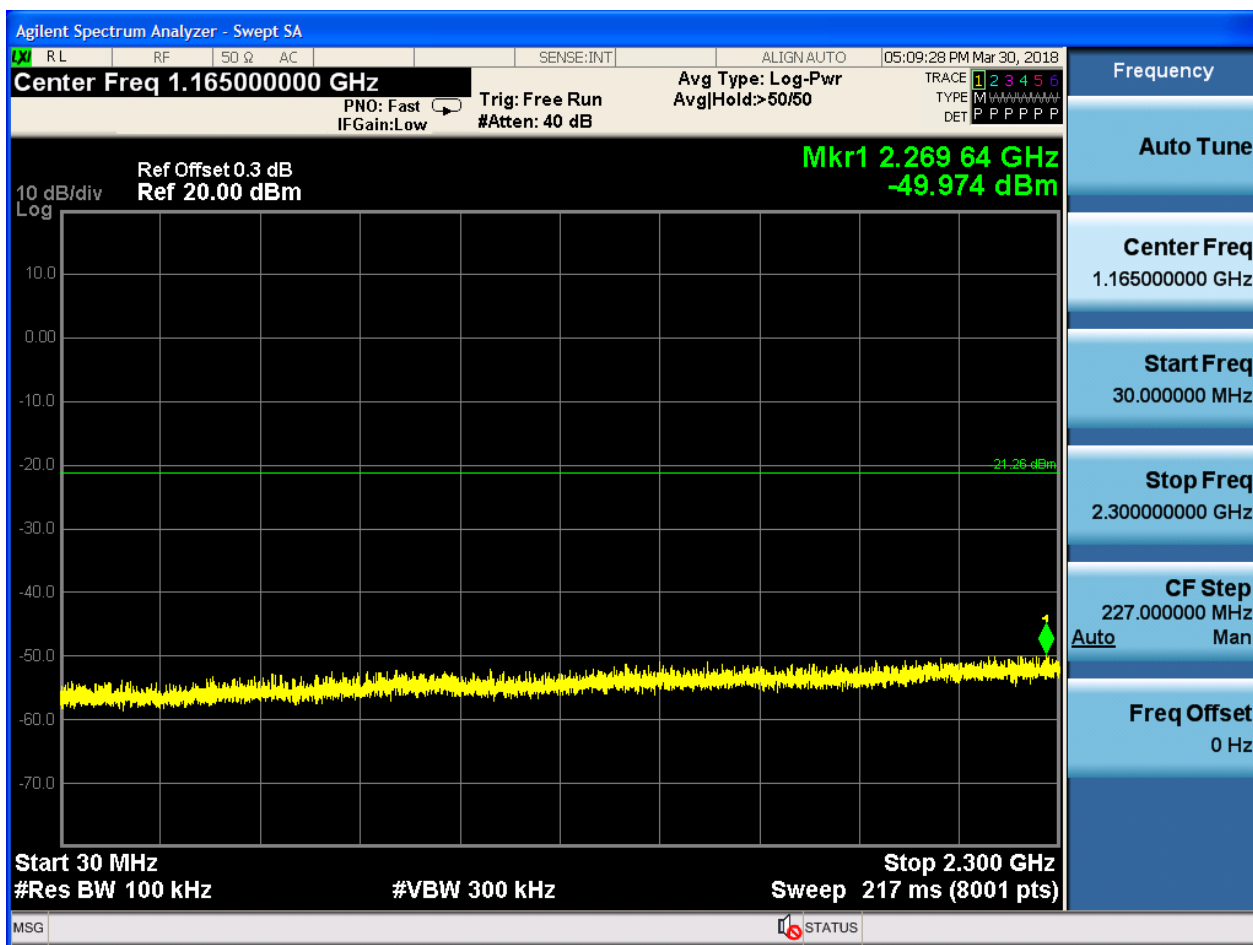


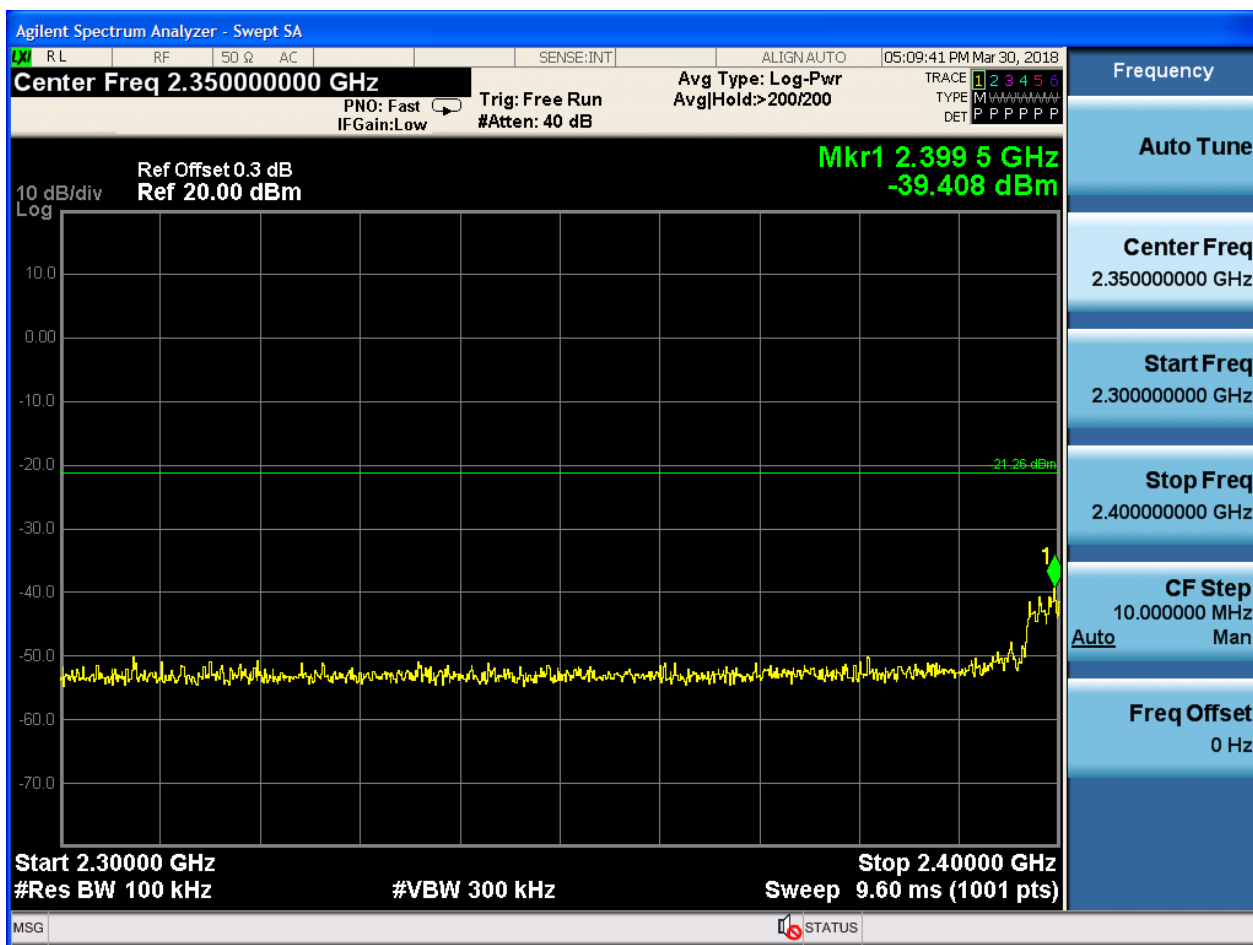


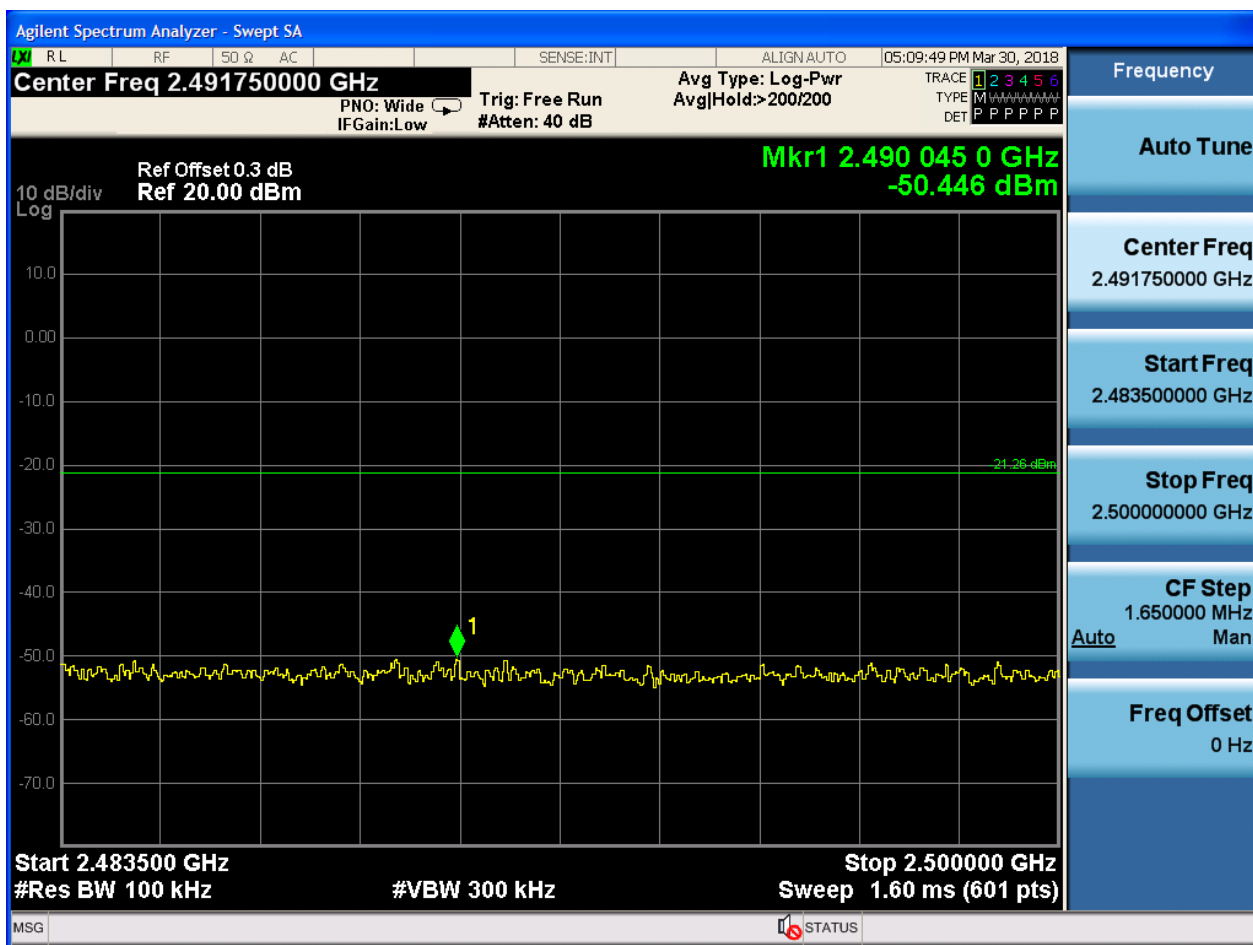
Puw:

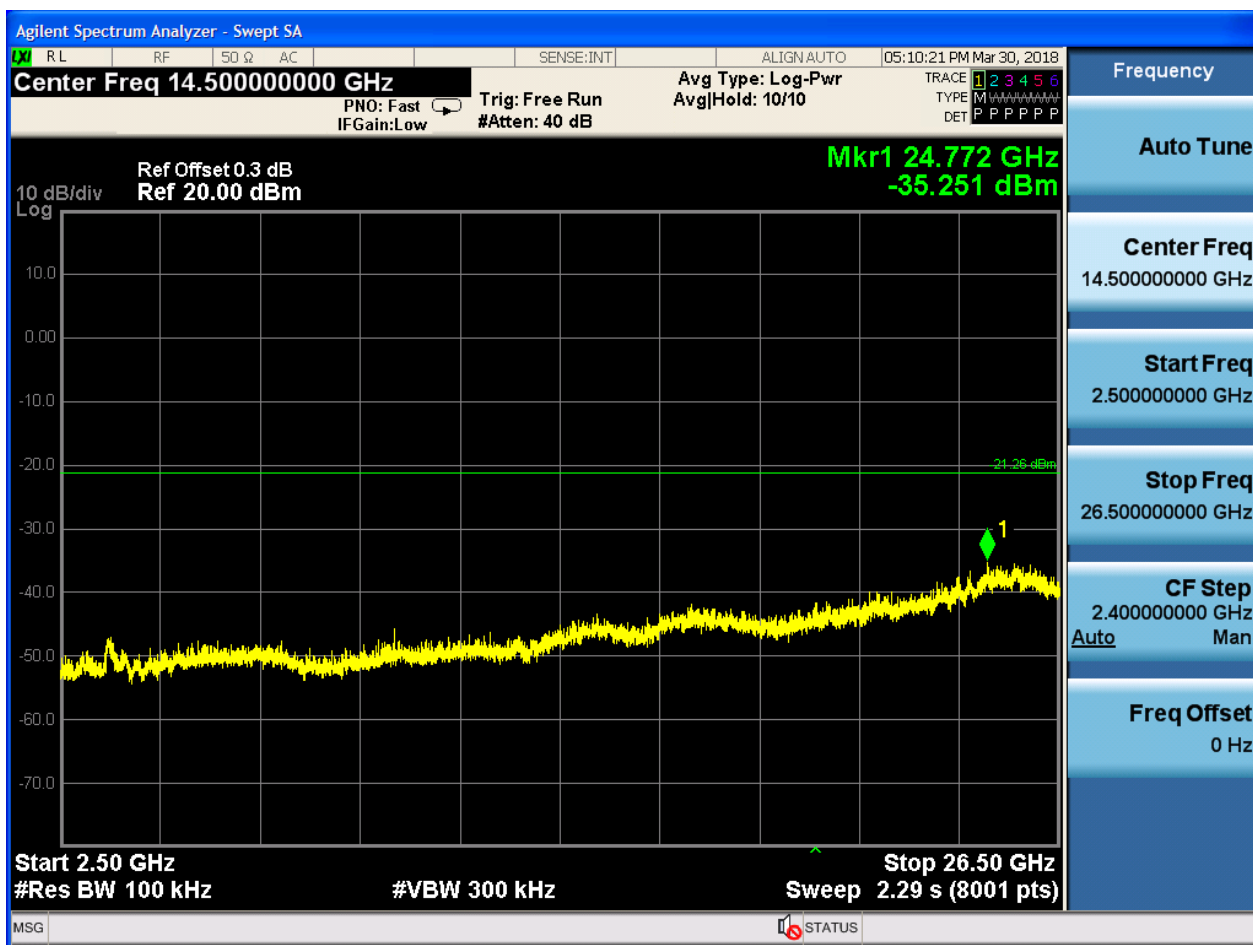






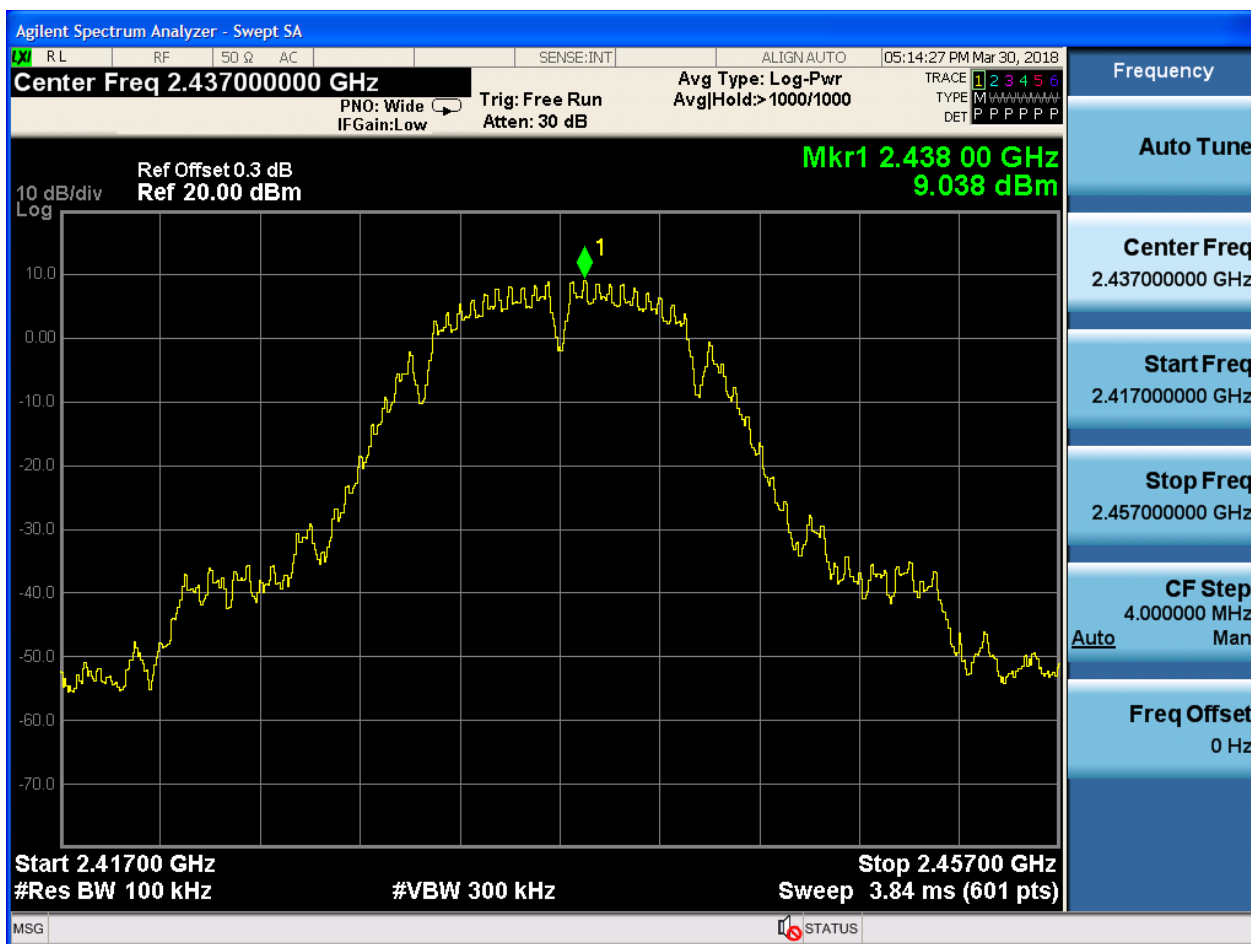






2.2 11B_M@Ant 1

Pref:





Puw:

