



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

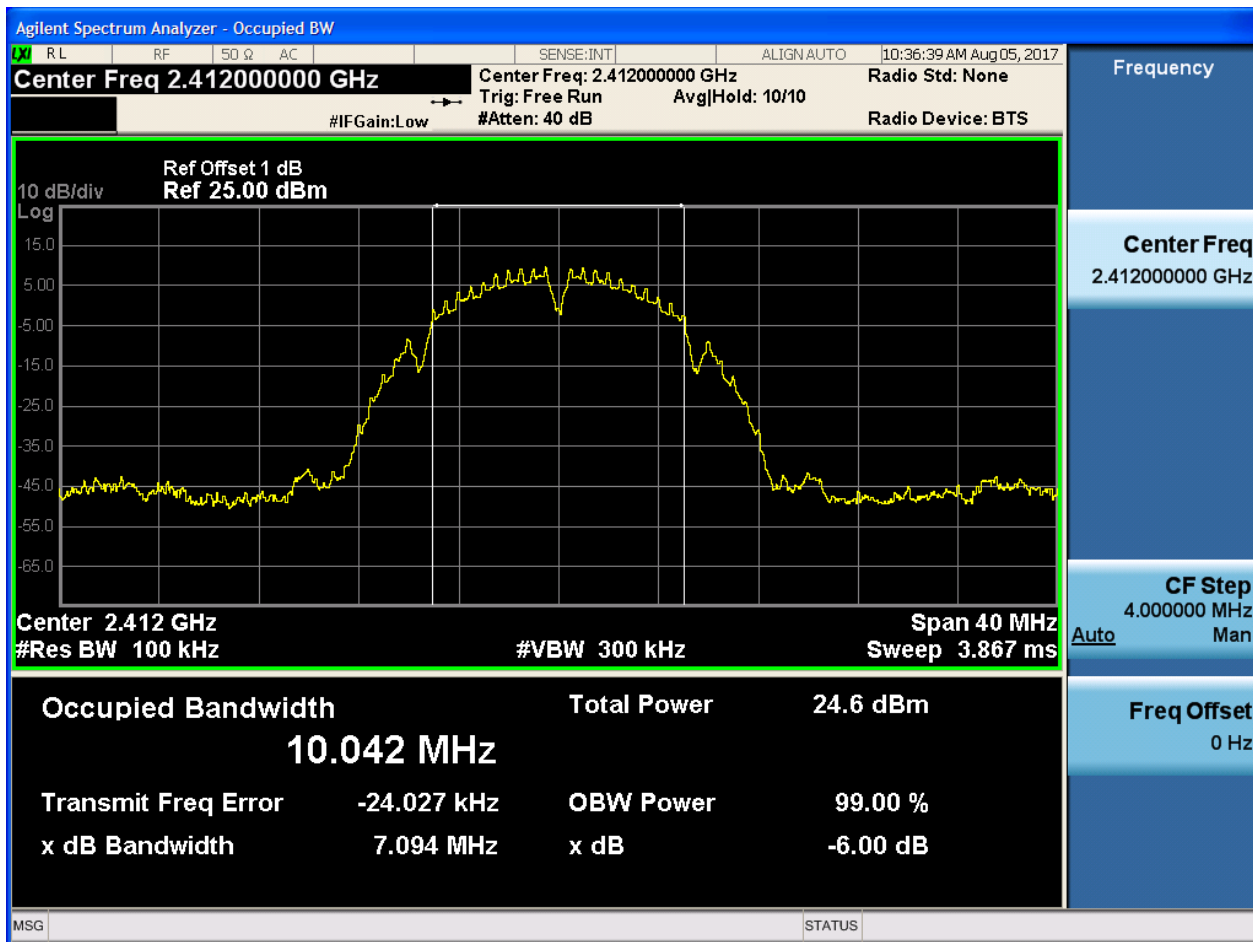
Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	7.09	pass
11B	L	2412	Ant 2	7.58	pass
11B	M	2437	Ant 1	7.08	pass
11B	M	2437	Ant 2	7.58	pass
11B	H	2462	Ant 1	7.09	pass
11B	H	2462	Ant 2	7.10	pass
11G	L	2412	Ant 1	16.36	pass
11G	L	2412	Ant 2	16.40	pass
11G	M	2437	Ant 1	16.36	pass
11G	M	2437	Ant 2	16.37	pass
11G	H	2462	Ant 1	16.42	pass
11G	H	2462	Ant 2	16.34	pass
11N20	L	2412	Ant 1	17.60	pass
11N20	L	2412	Ant 2	17.64	pass
11N20	M	2437	Ant 1	17.58	pass
11N20	M	2437	Ant 2	17.25	pass
11N20	H	2462	Ant 1	17.66	pass
11N20	H	2462	Ant 2	17.23	pass
11N20m	L	2412	Ant 1	17.62	pass
11N20m	L	2412	Ant 2	17.64	pass
11N20m	M	2437	Ant 1	17.61	pass
11N20m	M	2437	Ant 2	17.65	pass
11N20m	H	2462	Ant 1	17.64	pass
11N20m	H	2462	Ant 2	17.60	pass
11G CDD	L	2412	Ant 1	16.38	pass
11G CDD	L	2412	Ant 2	16.39	pass
11G CDD	M	2437	Ant 1	16.40	pass
11G CDD	M	2437	Ant 2	16.40	pass



Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11G CDD	H	2462	Ant 1	16.43	pass
11G CDD	H	2462	Ant 2	16.14	pass

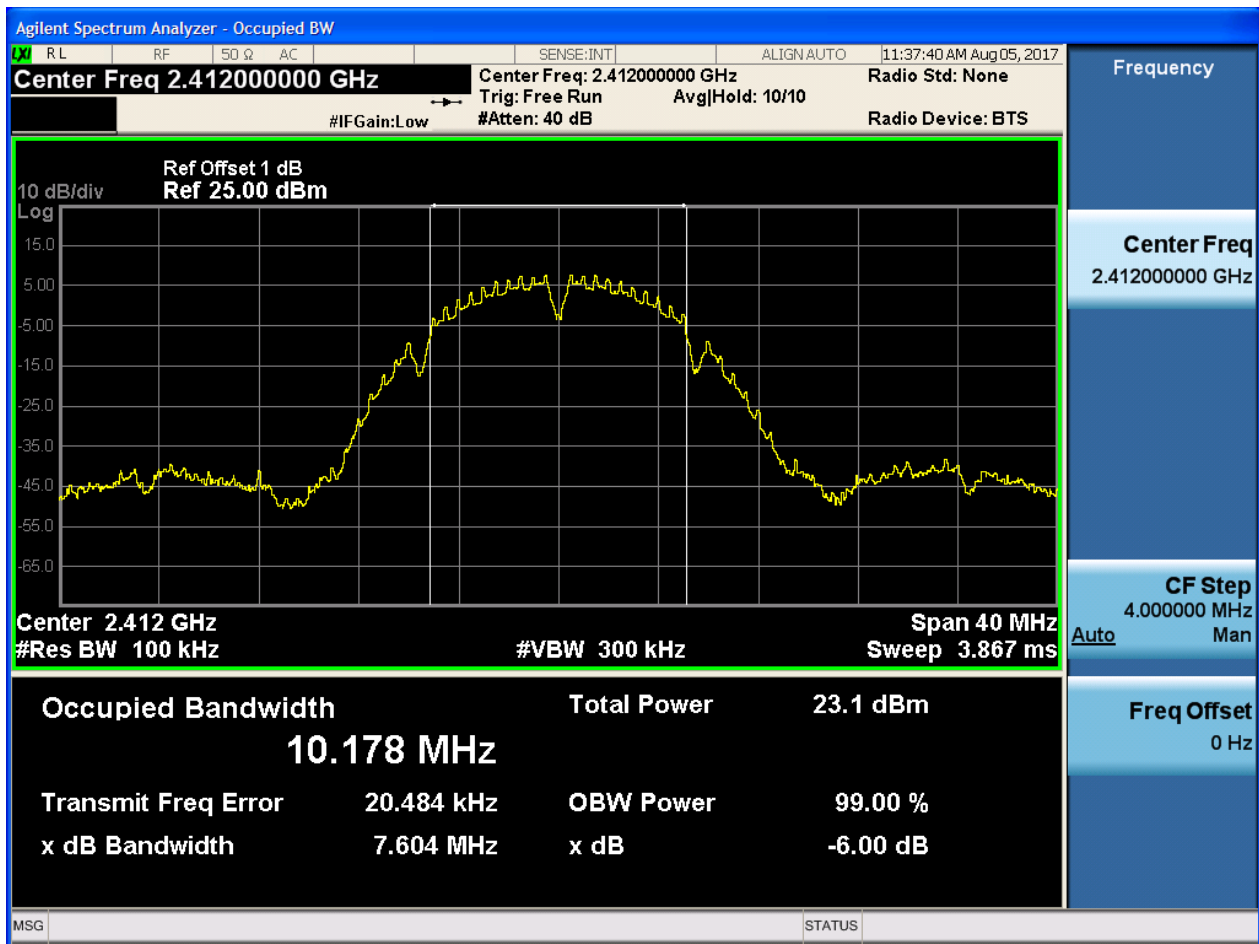
Part II - Test Plots

2.1 11B_L@Ant 1



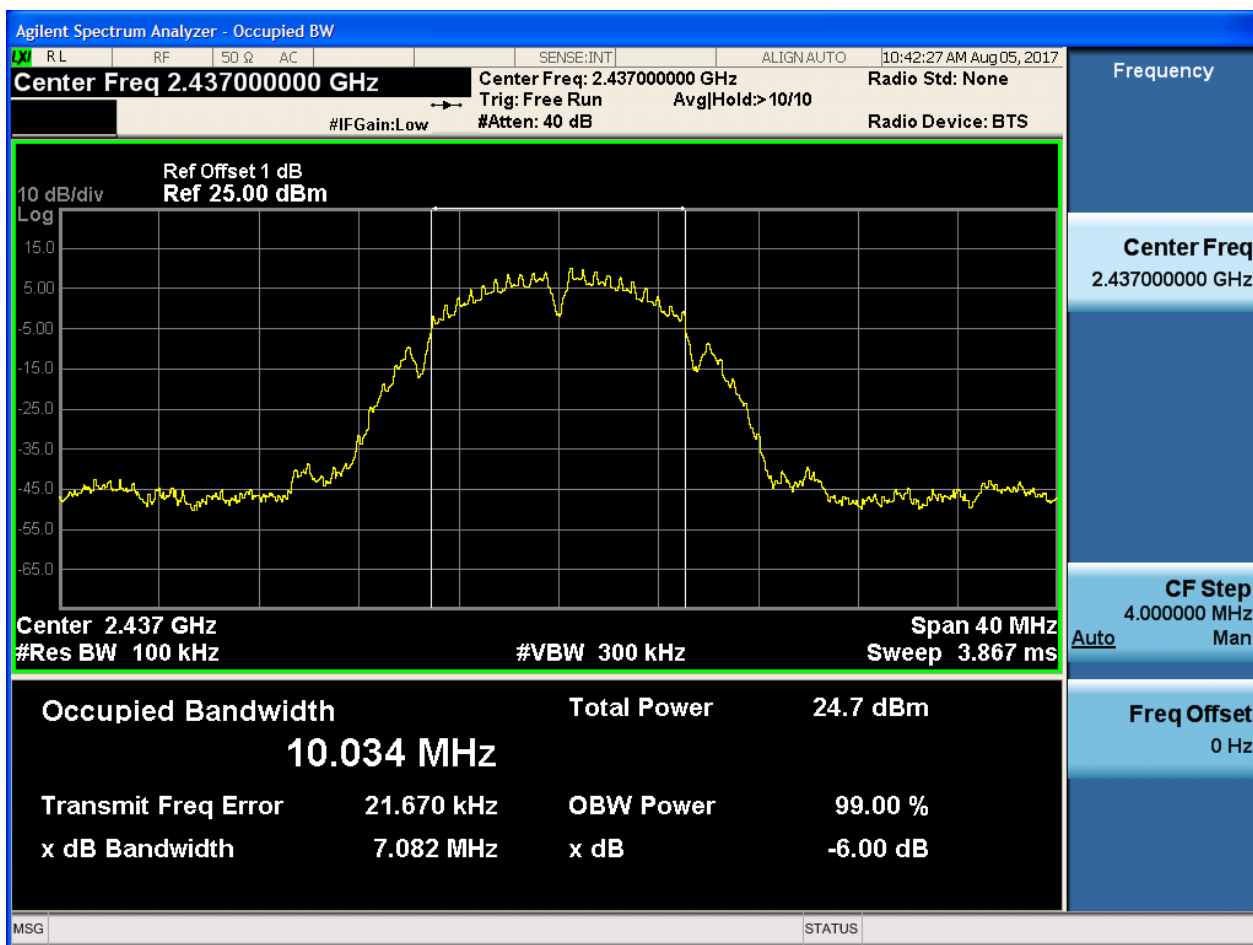


2.2 11B_L@Ant 2



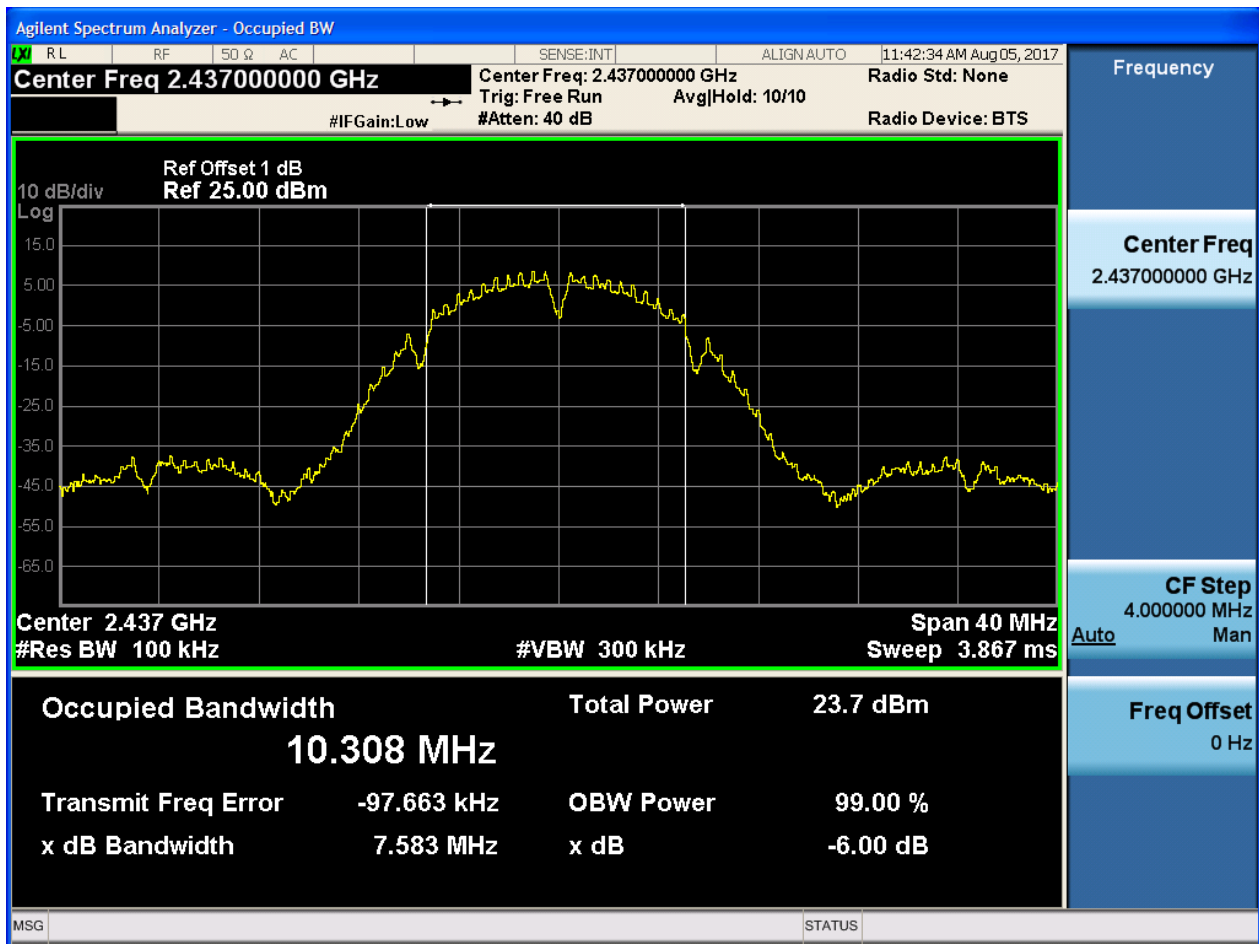


2.3 11B_M@Ant 1



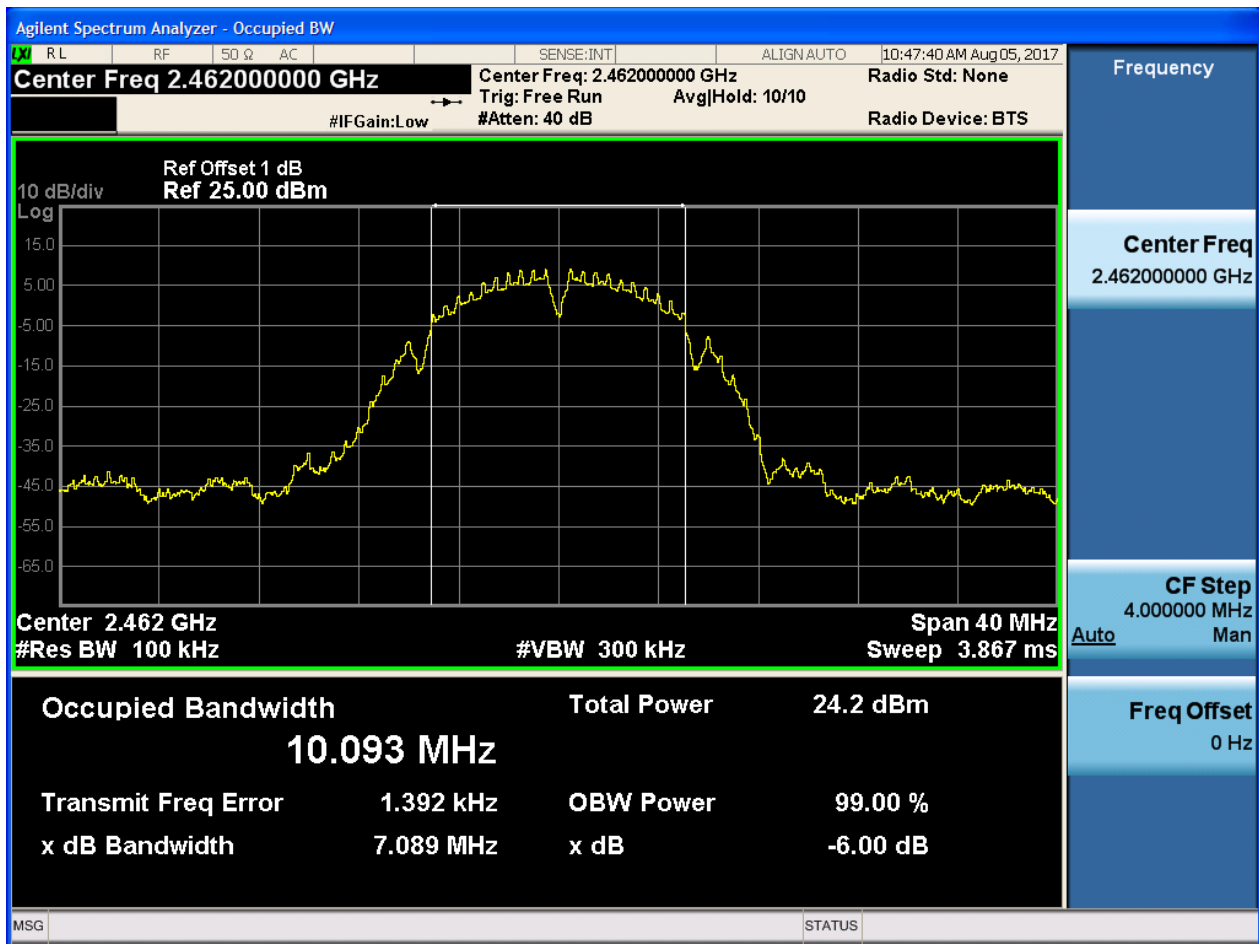


2.4 11B_M@Ant 2



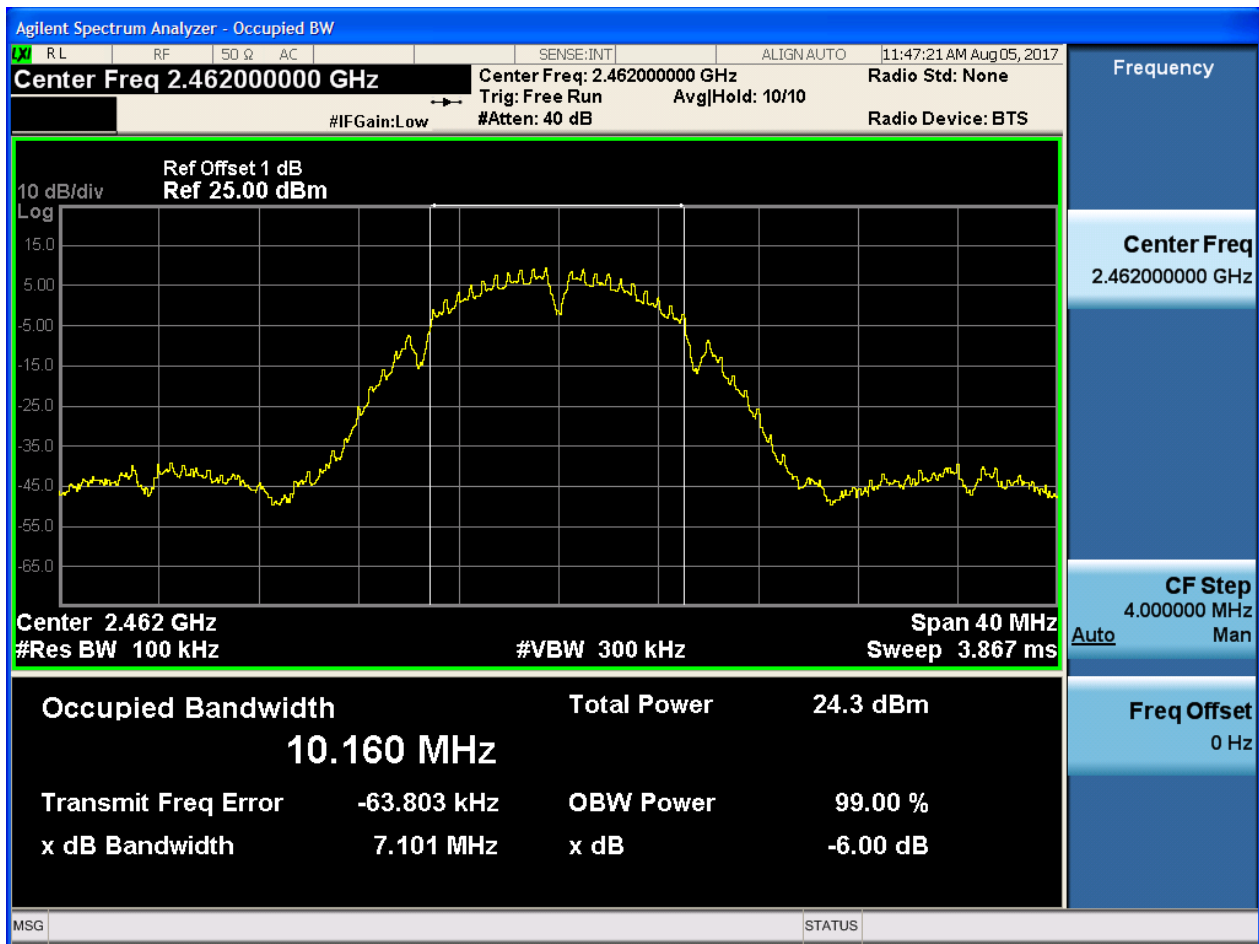


2.5 11B_H@Ant 1



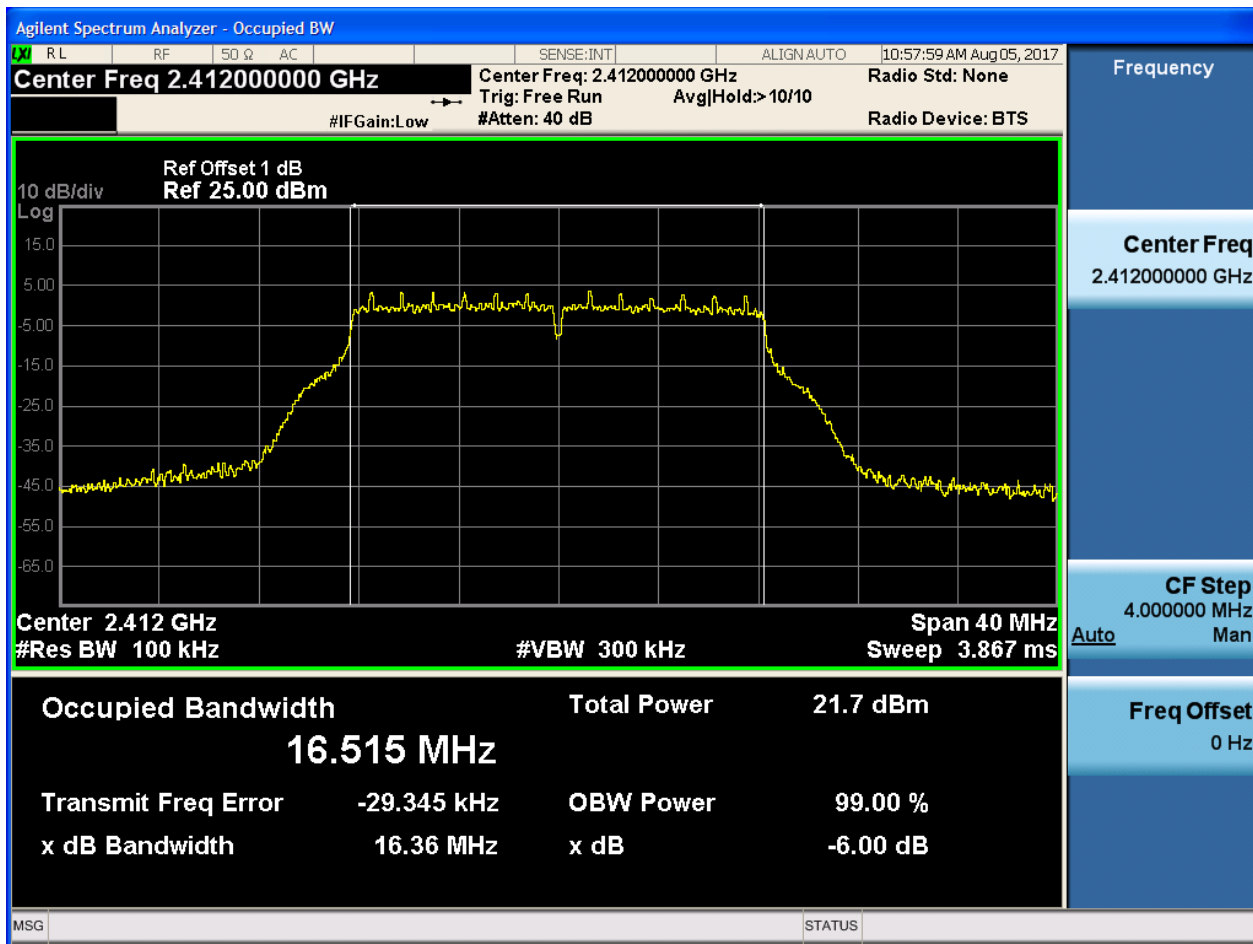


2.6 11B_H@Ant 2



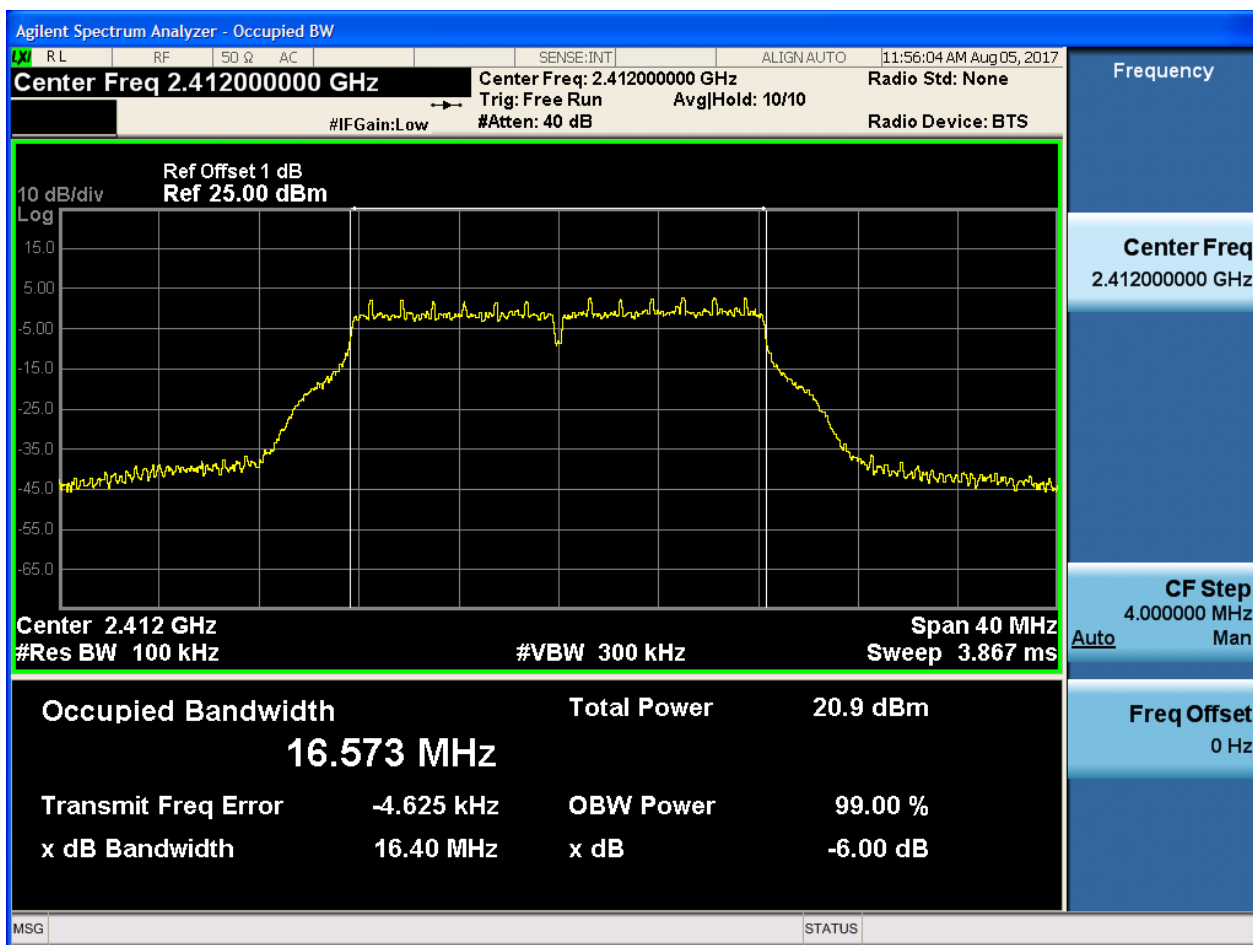


2.7 11G_L@Ant 1



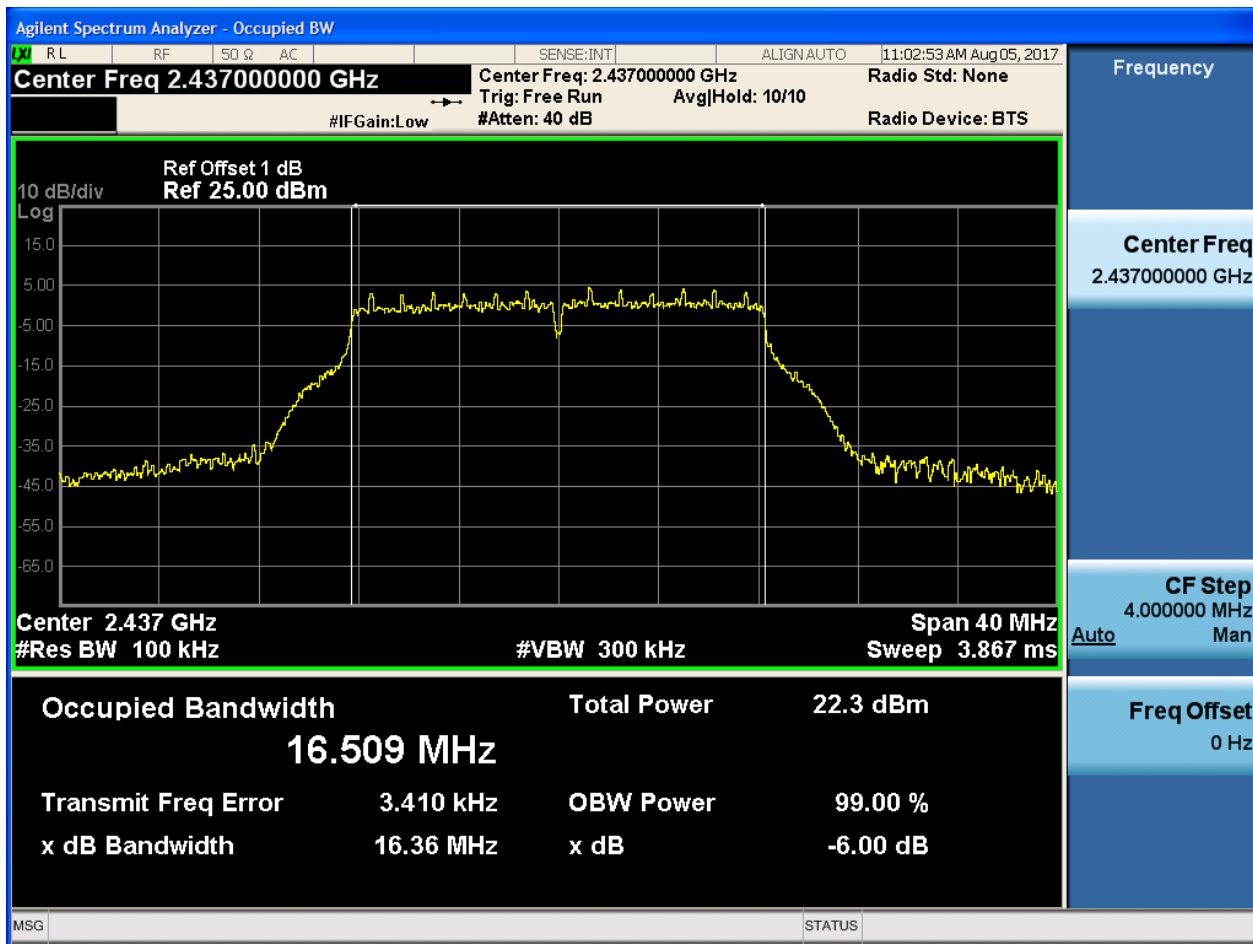


2.8 11G_L@Ant 2



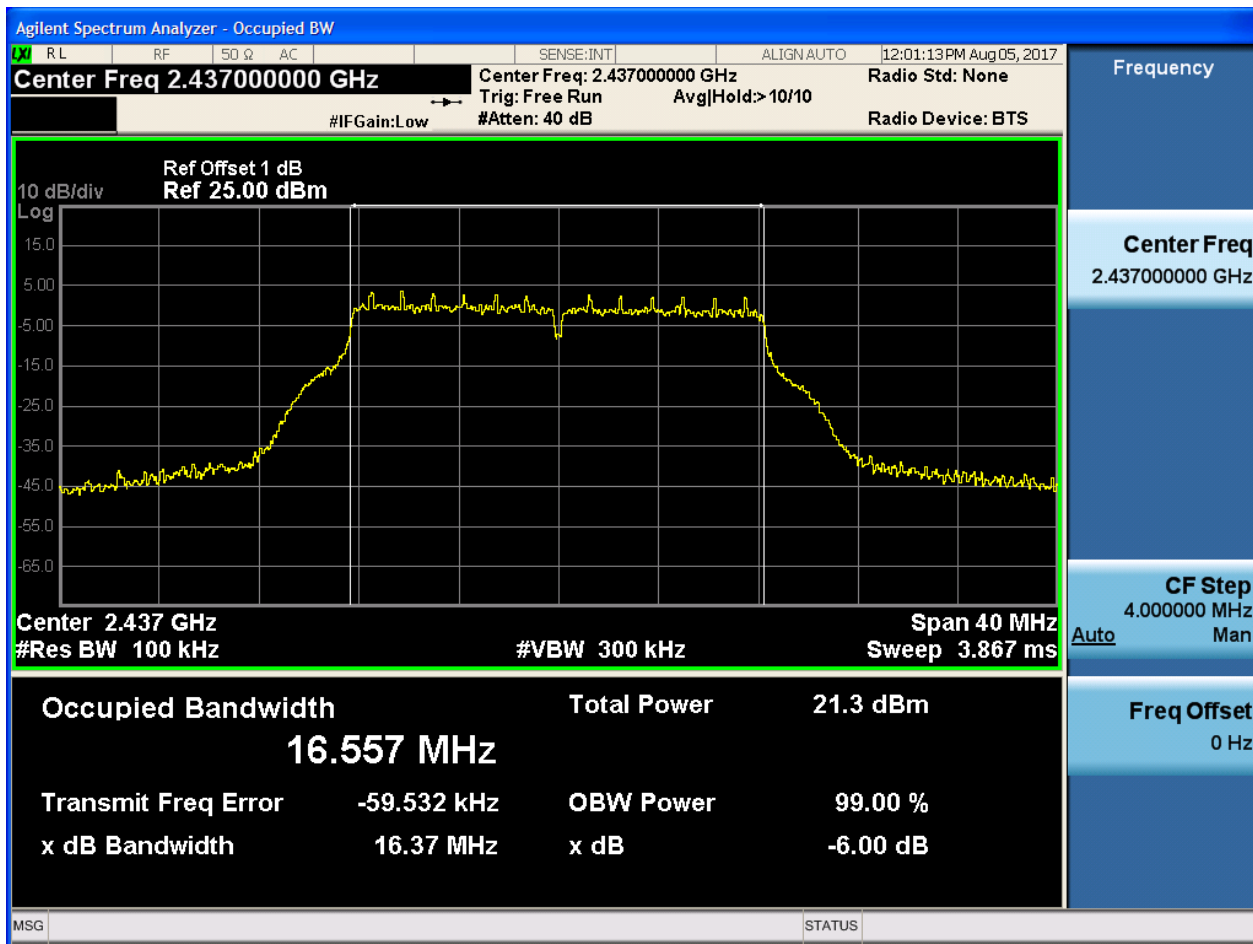


2.9 11G_M@Ant 1



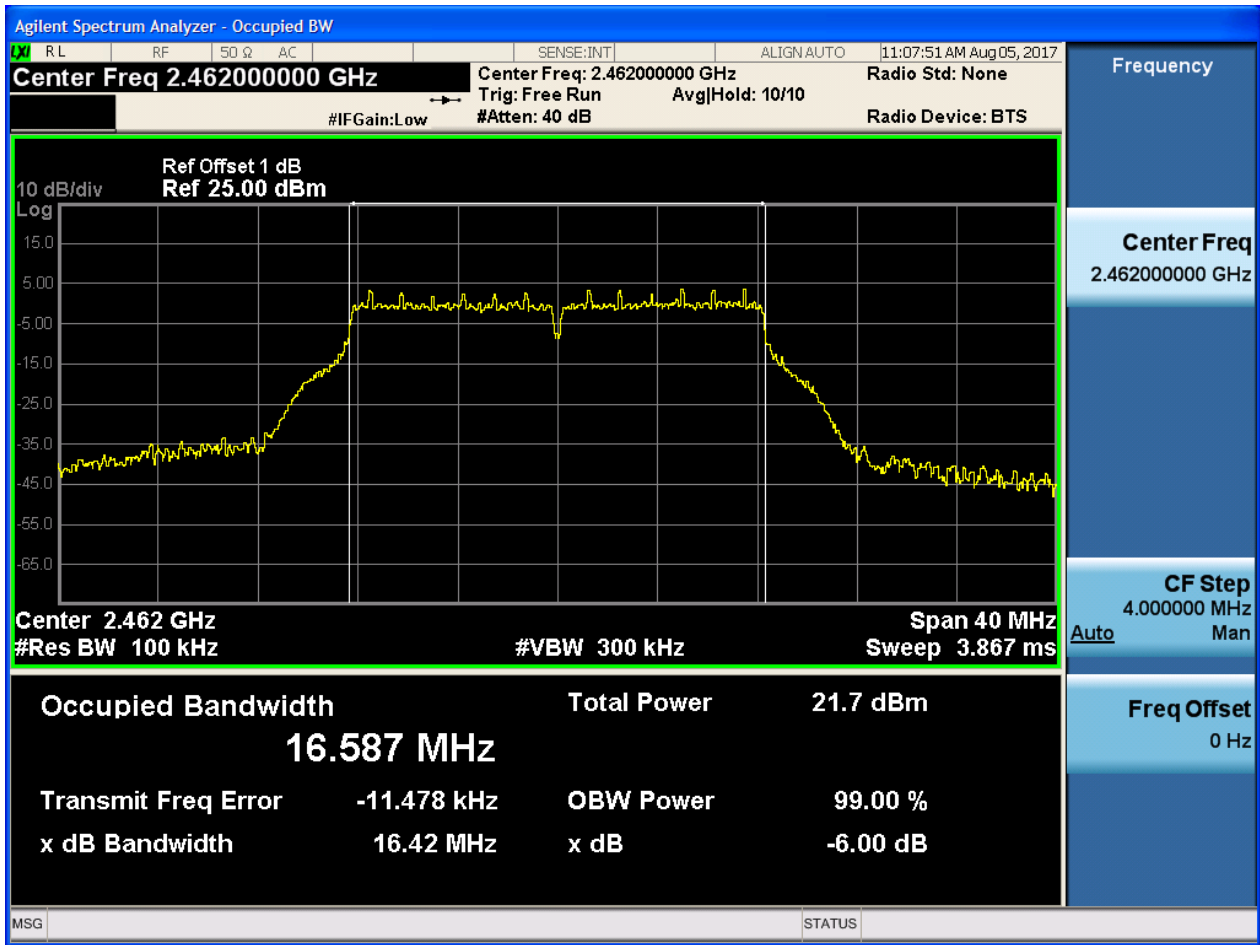


2.10 11G_M@Ant 2



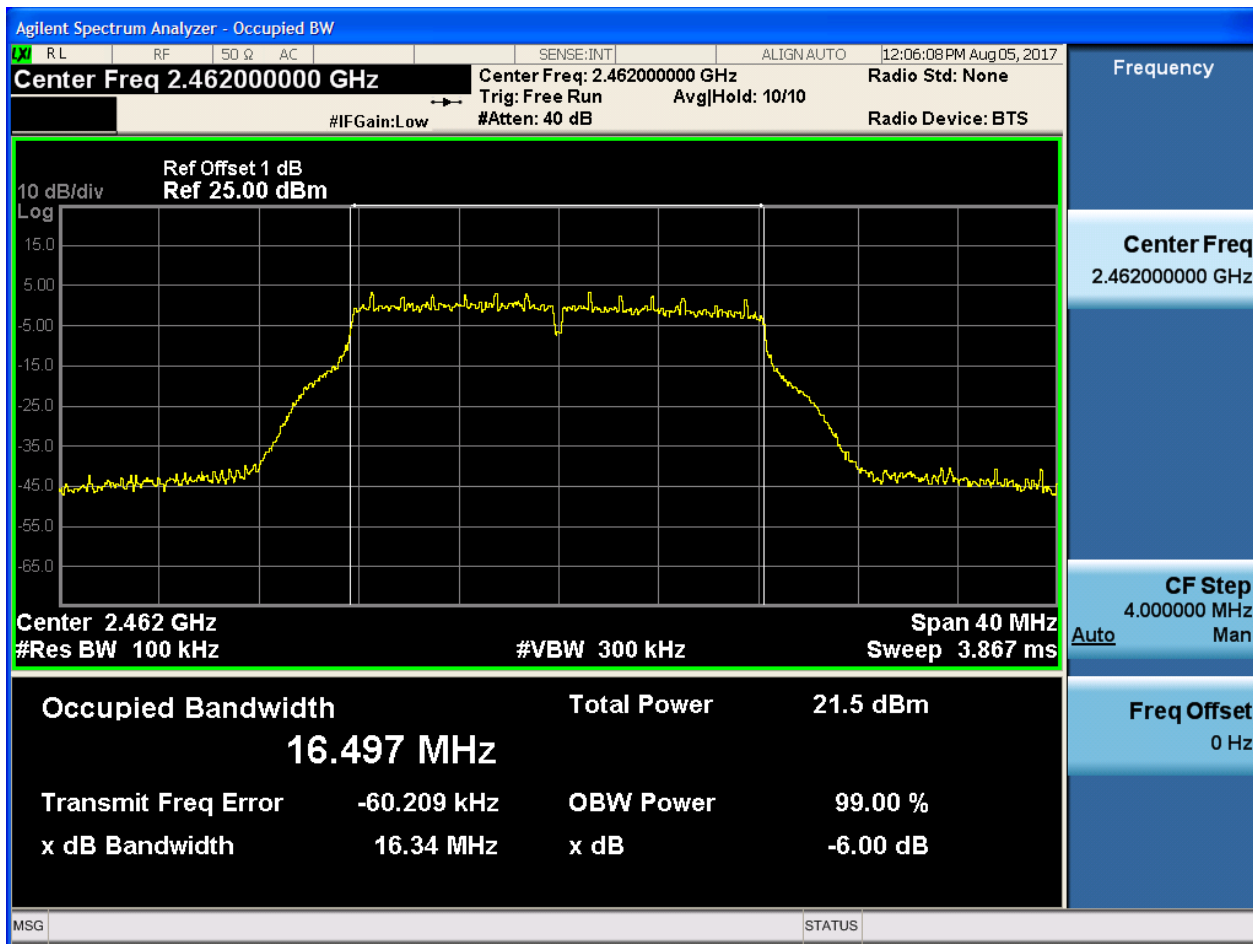


2.11 11G_H@Ant 1



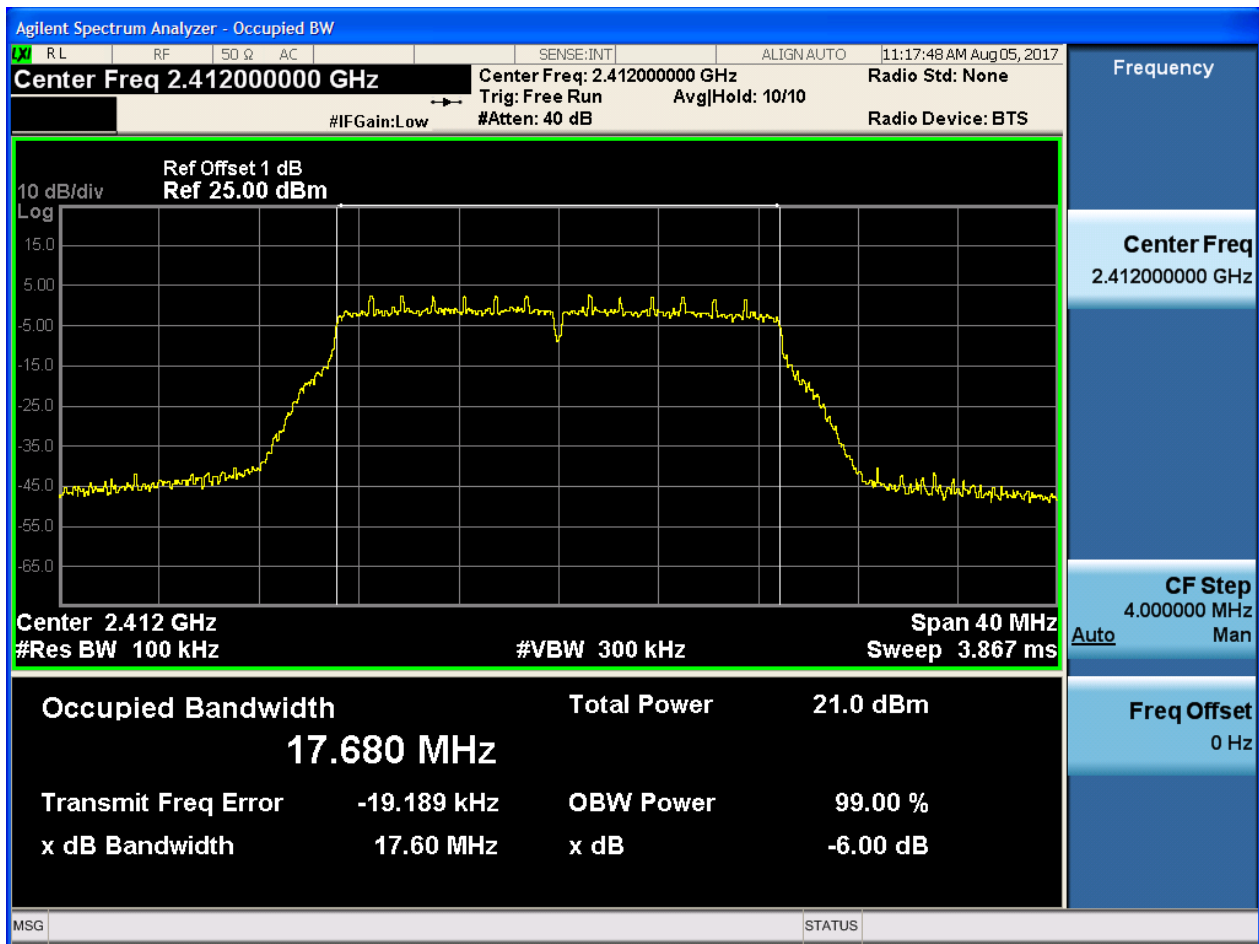


2.12 11G_H@Ant 2



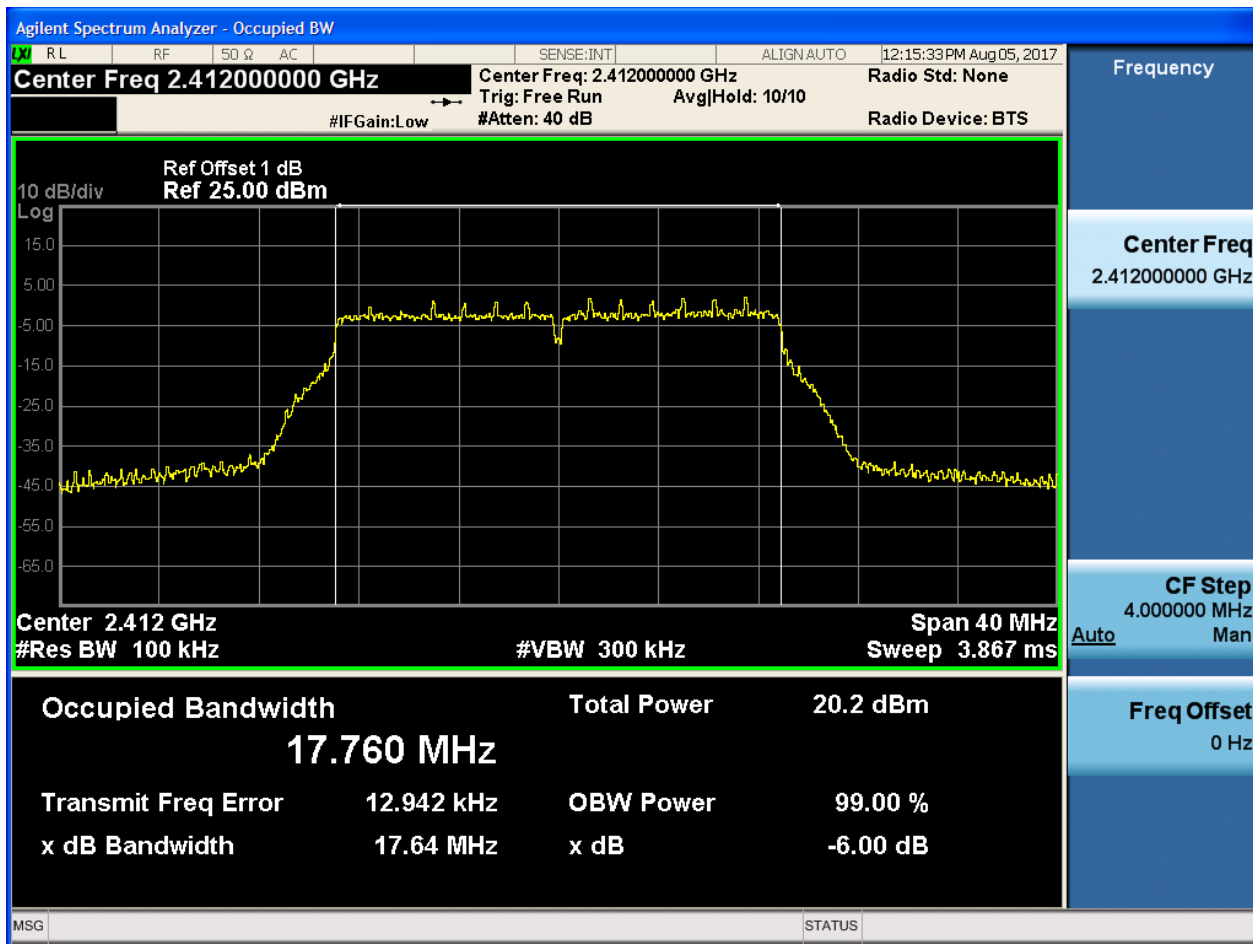


2.13 11N20_L@Ant 1



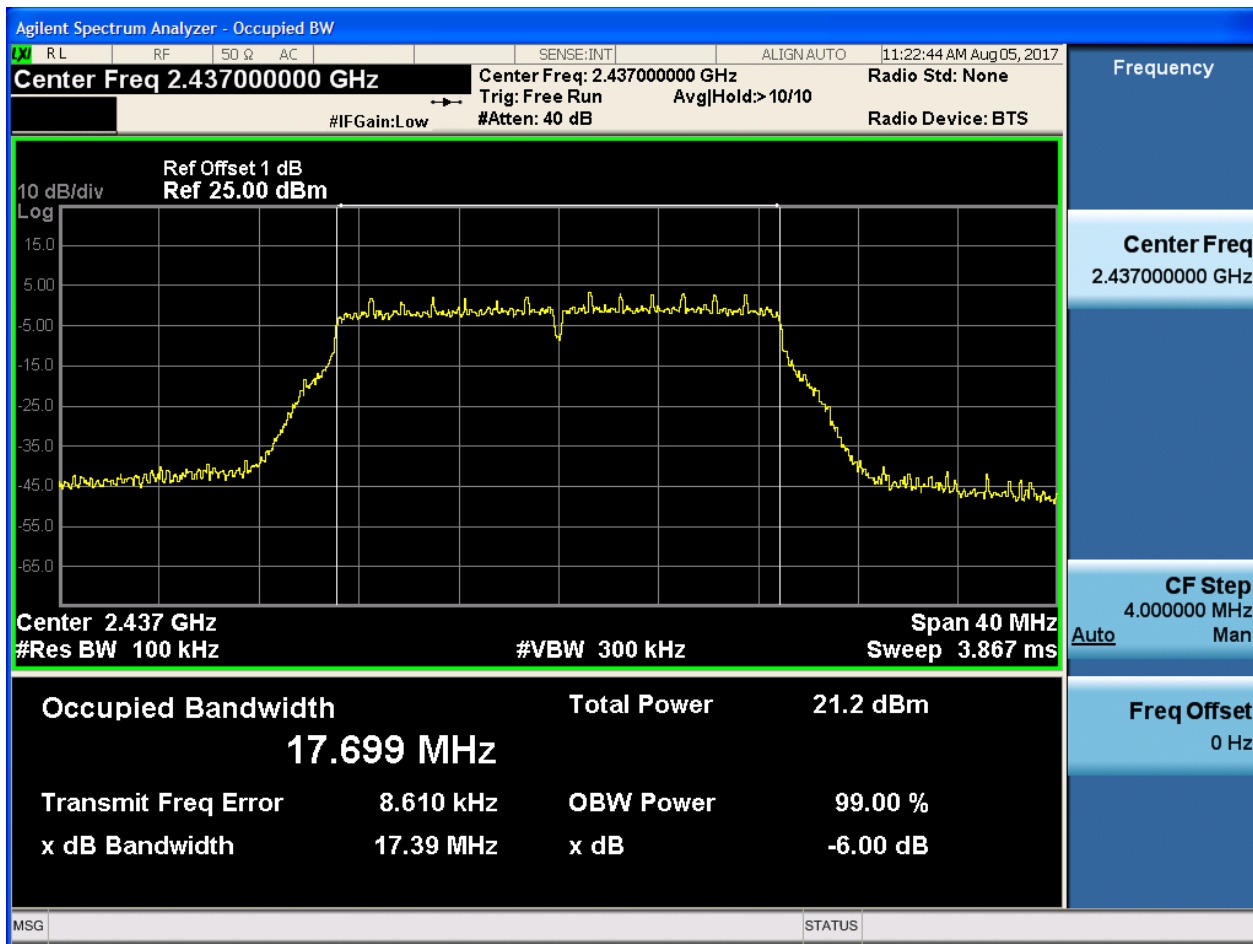


2.14 11N20_L@Ant 2



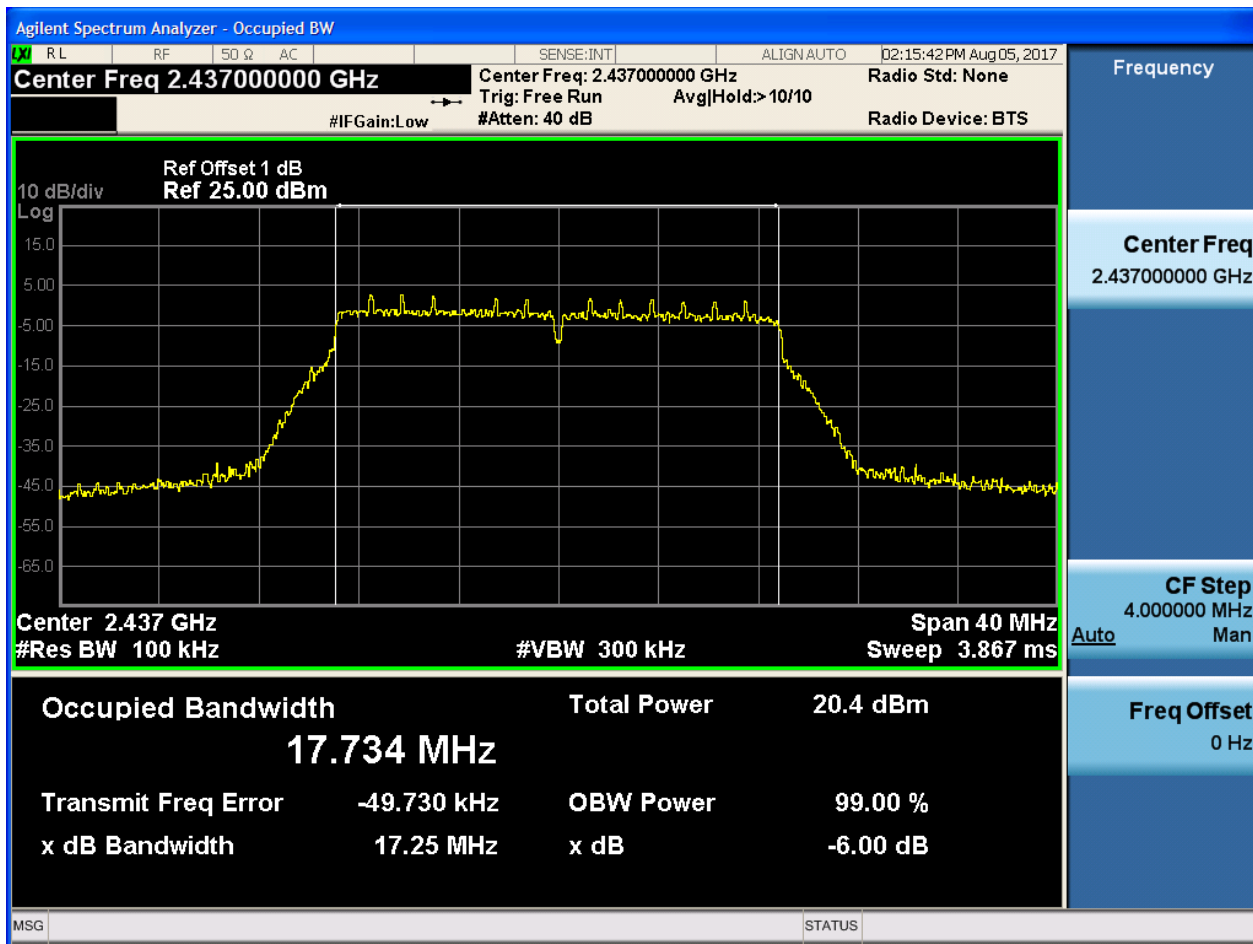


2.15 11N20_M@Ant 1



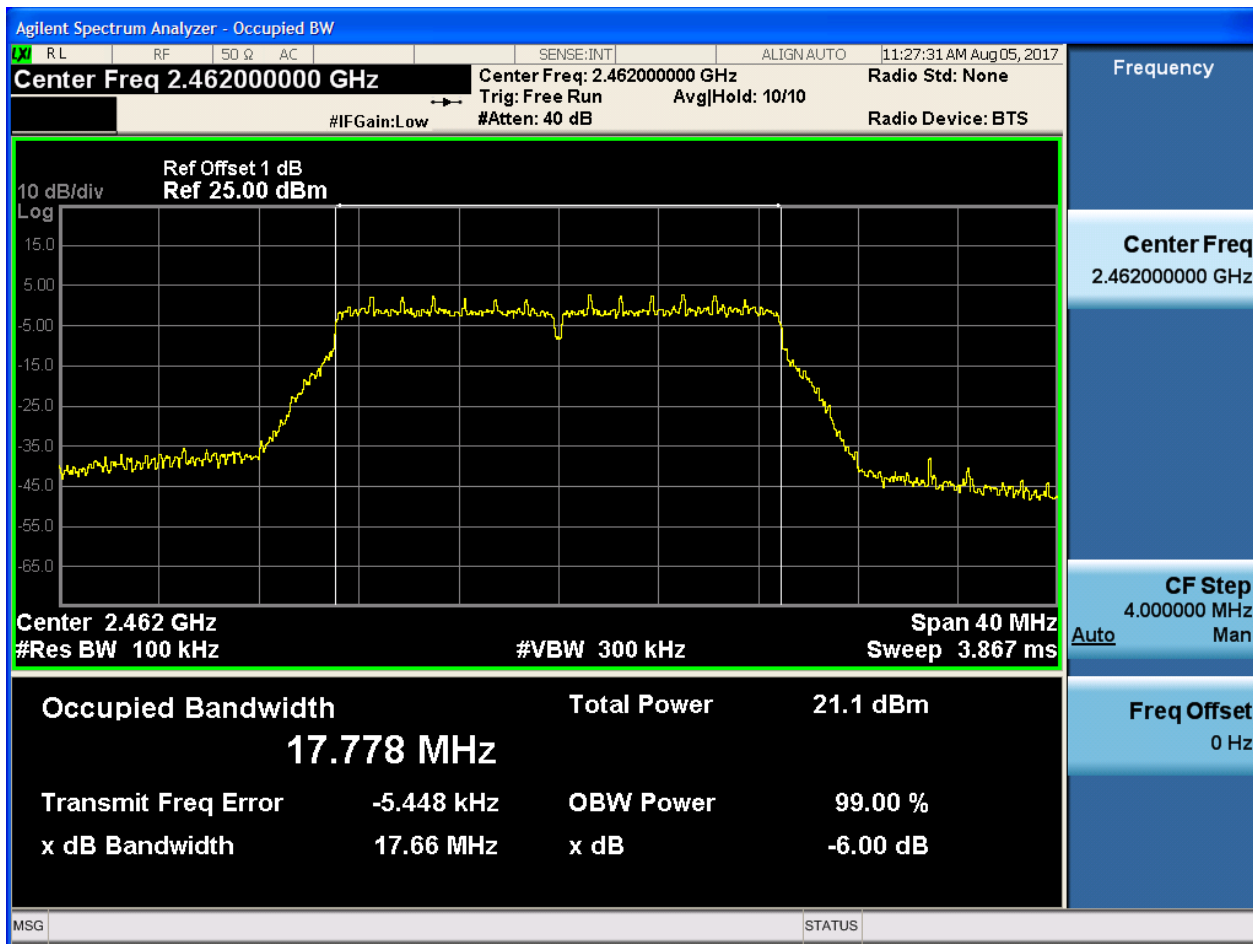


2.16 11N20_M@Ant 2



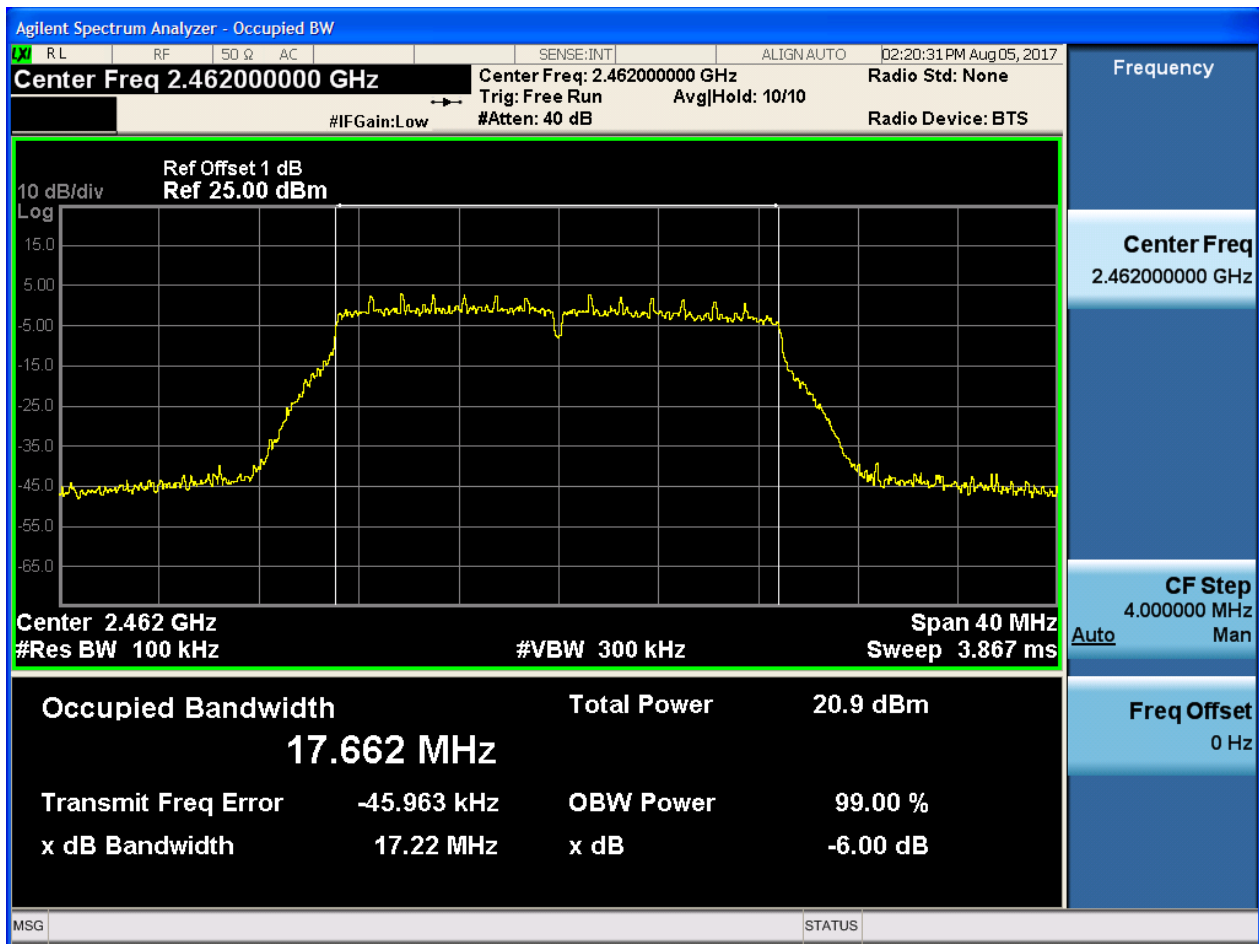


2.17 11N20_H@Ant 1



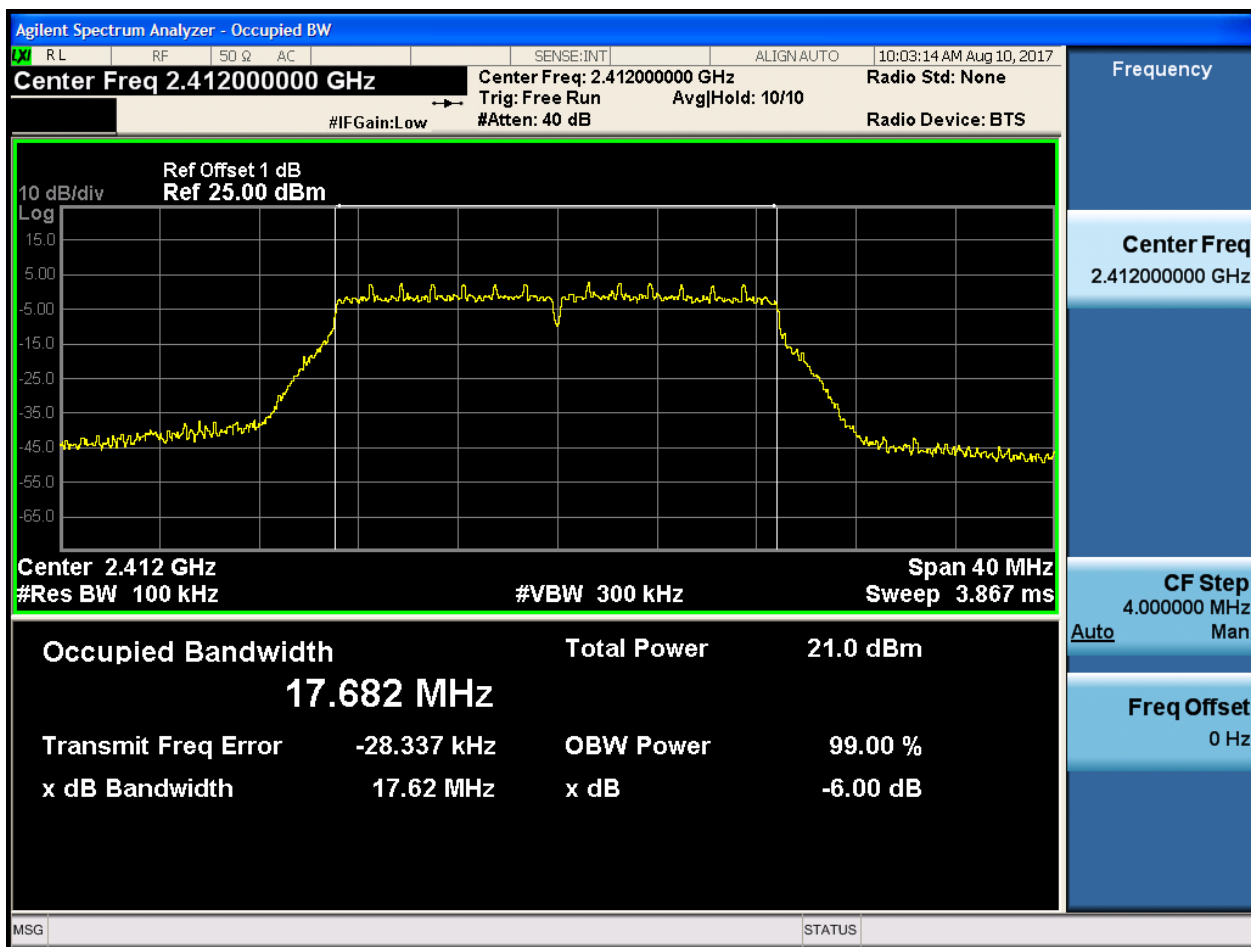


2.18 11N20_H@Ant 2



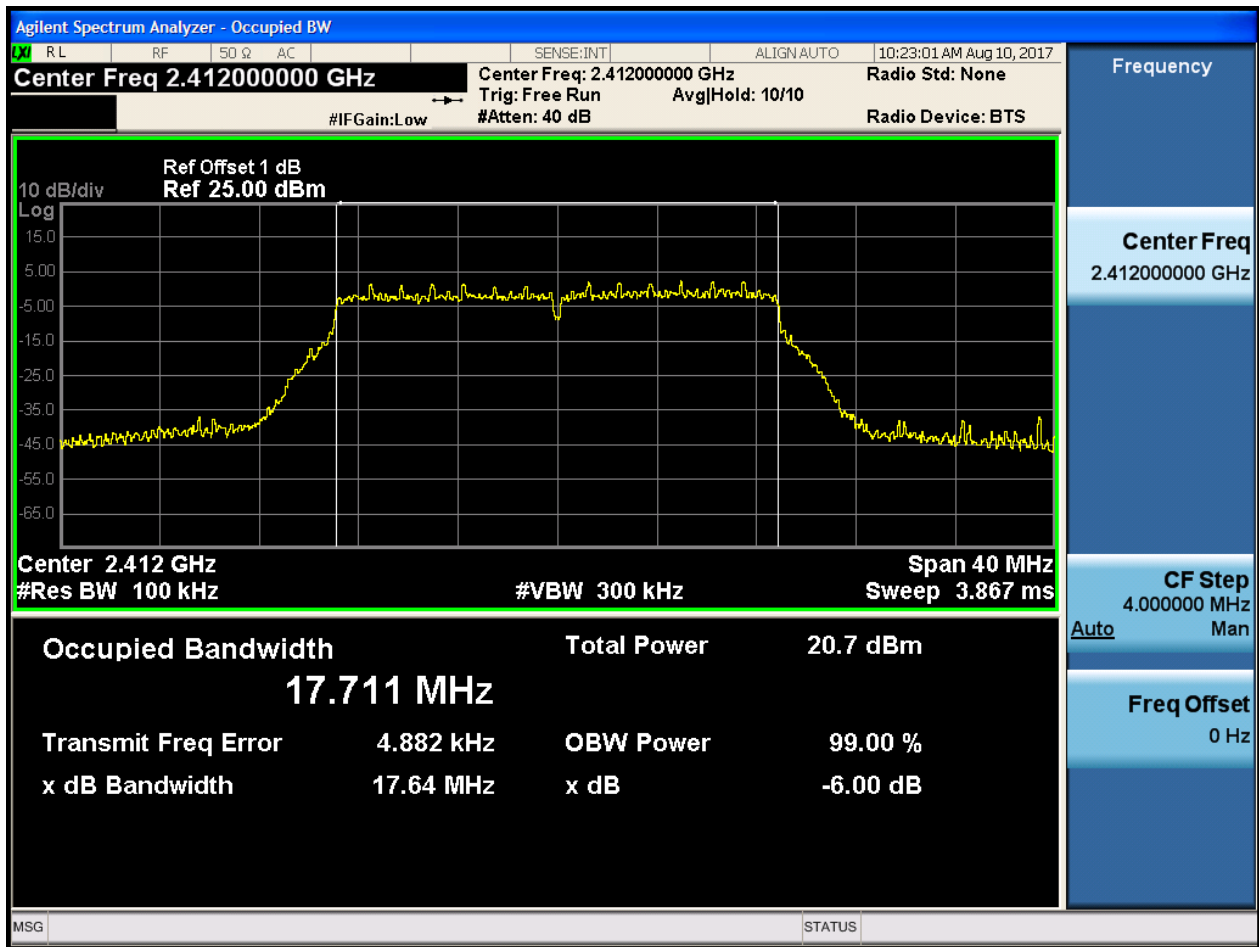


2.19 11N20m_L@Ant 1



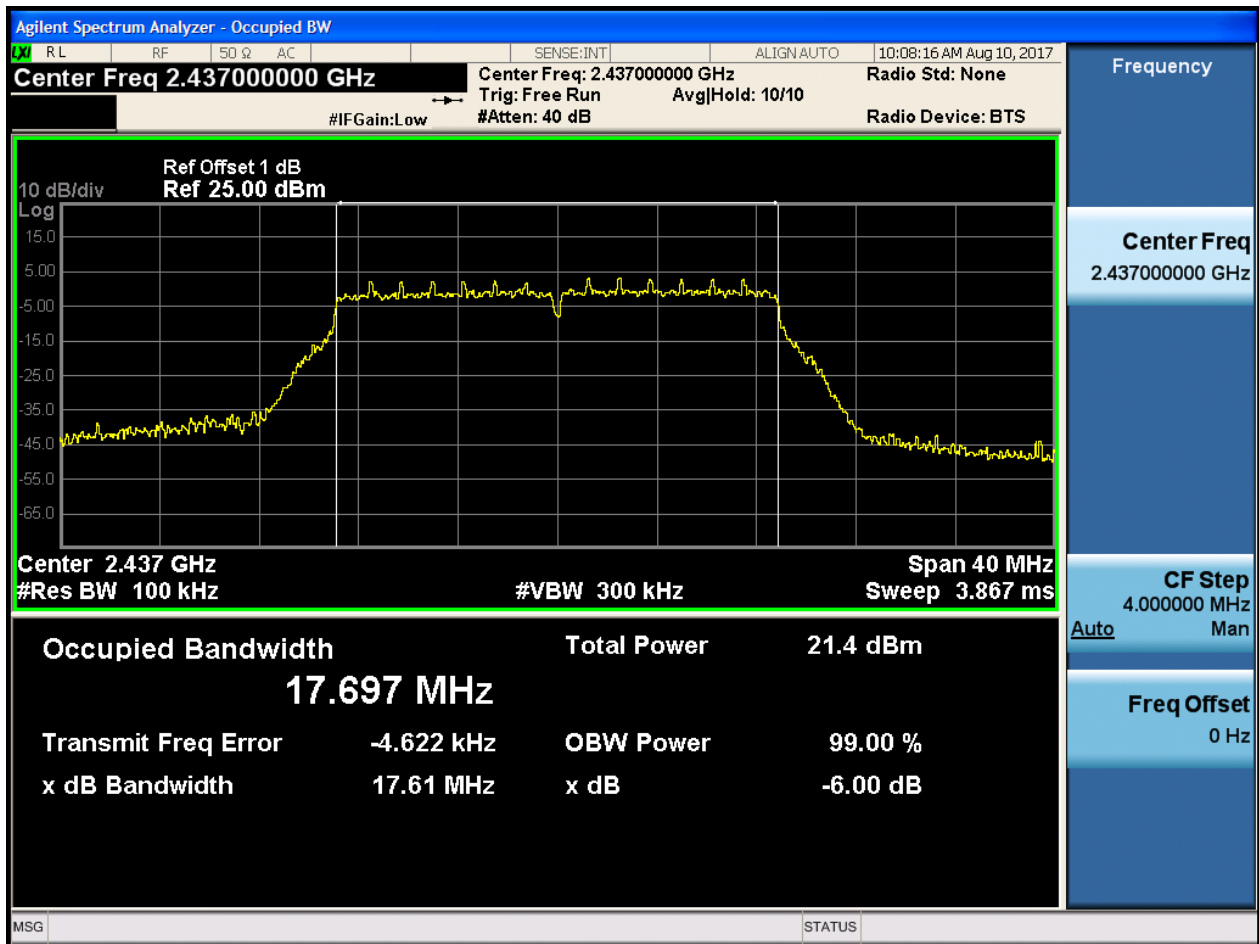


2.20 11N20m_L@Ant 2



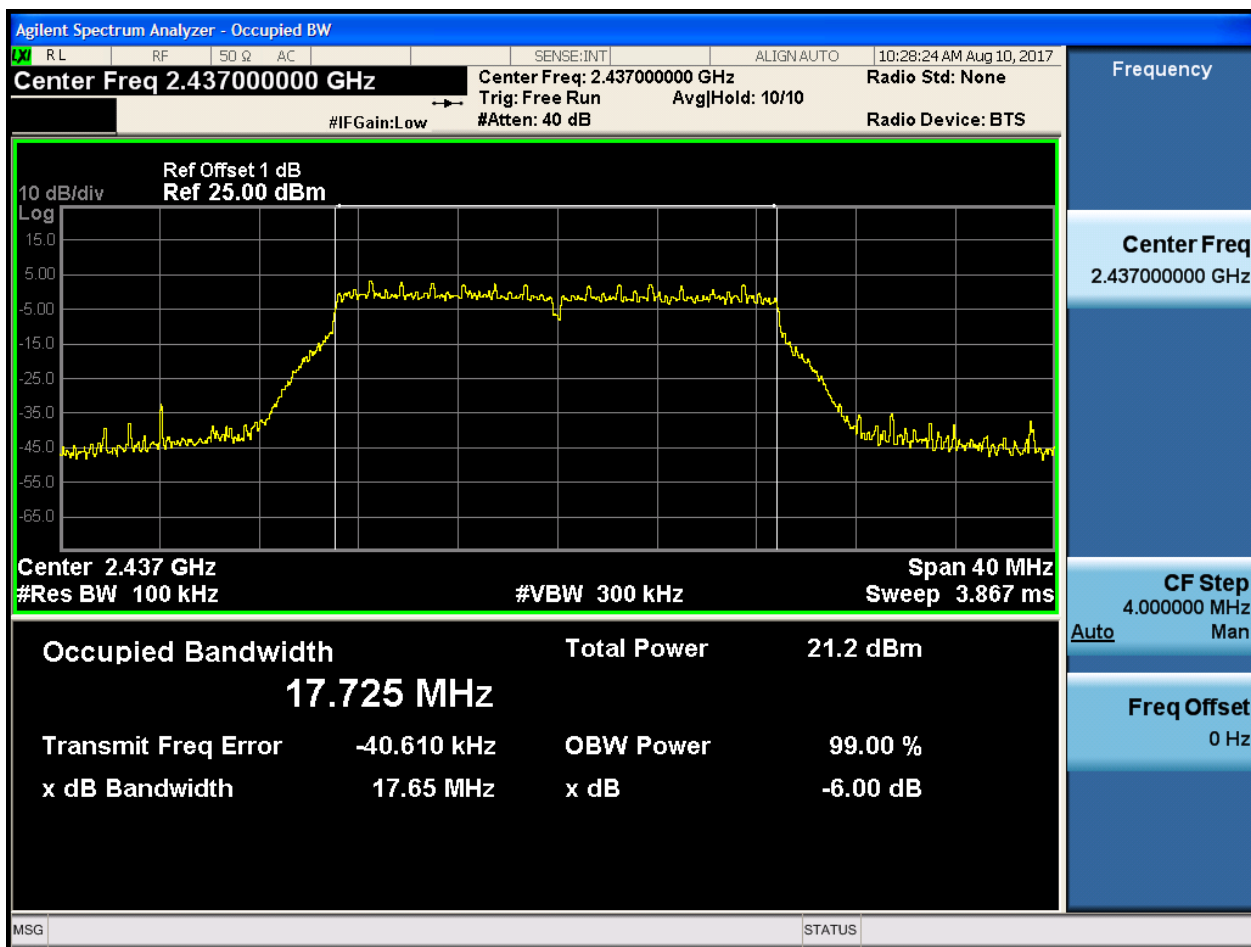


2.21 11N20m_M@Ant 1



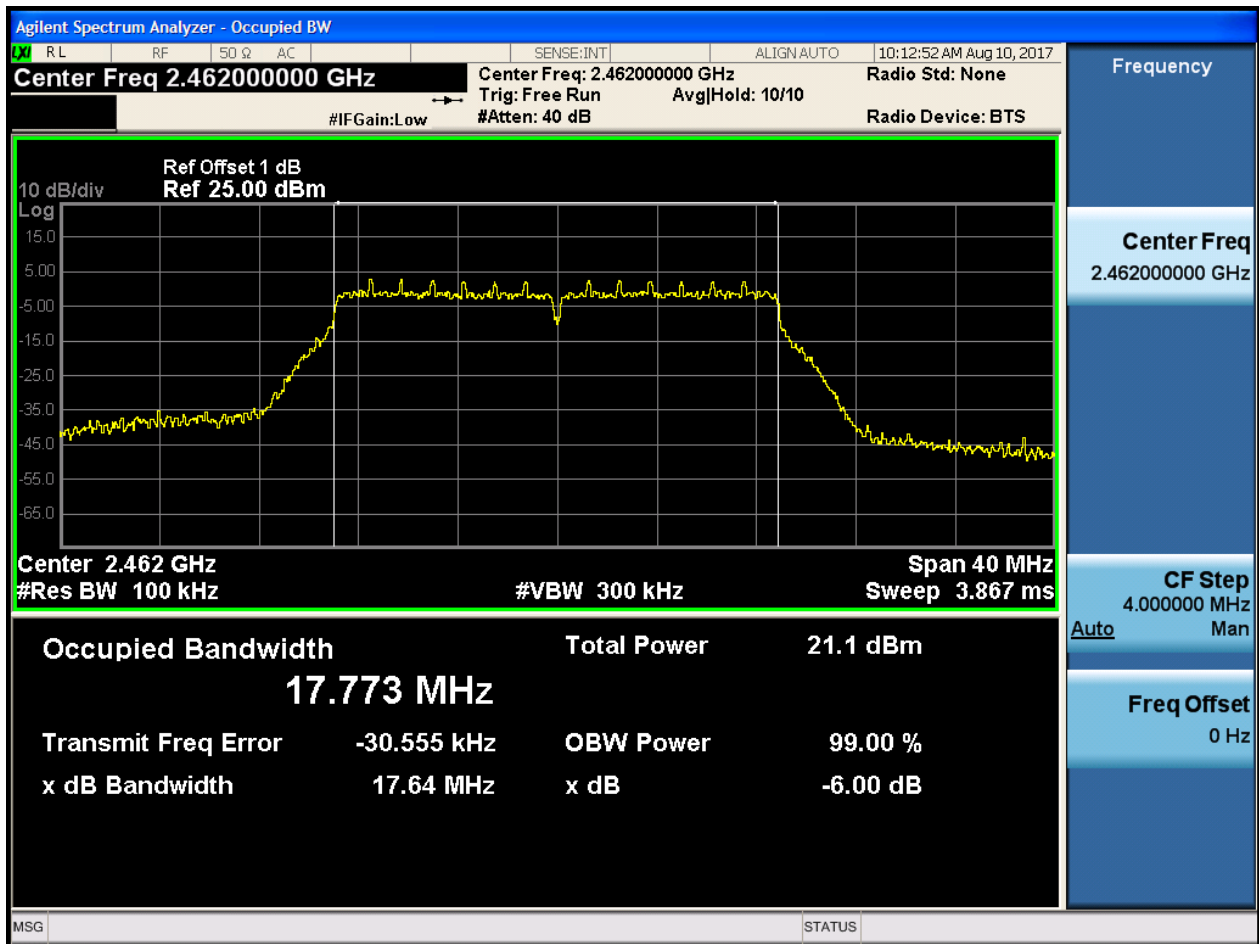


2.22 11N20m_M@Ant 2



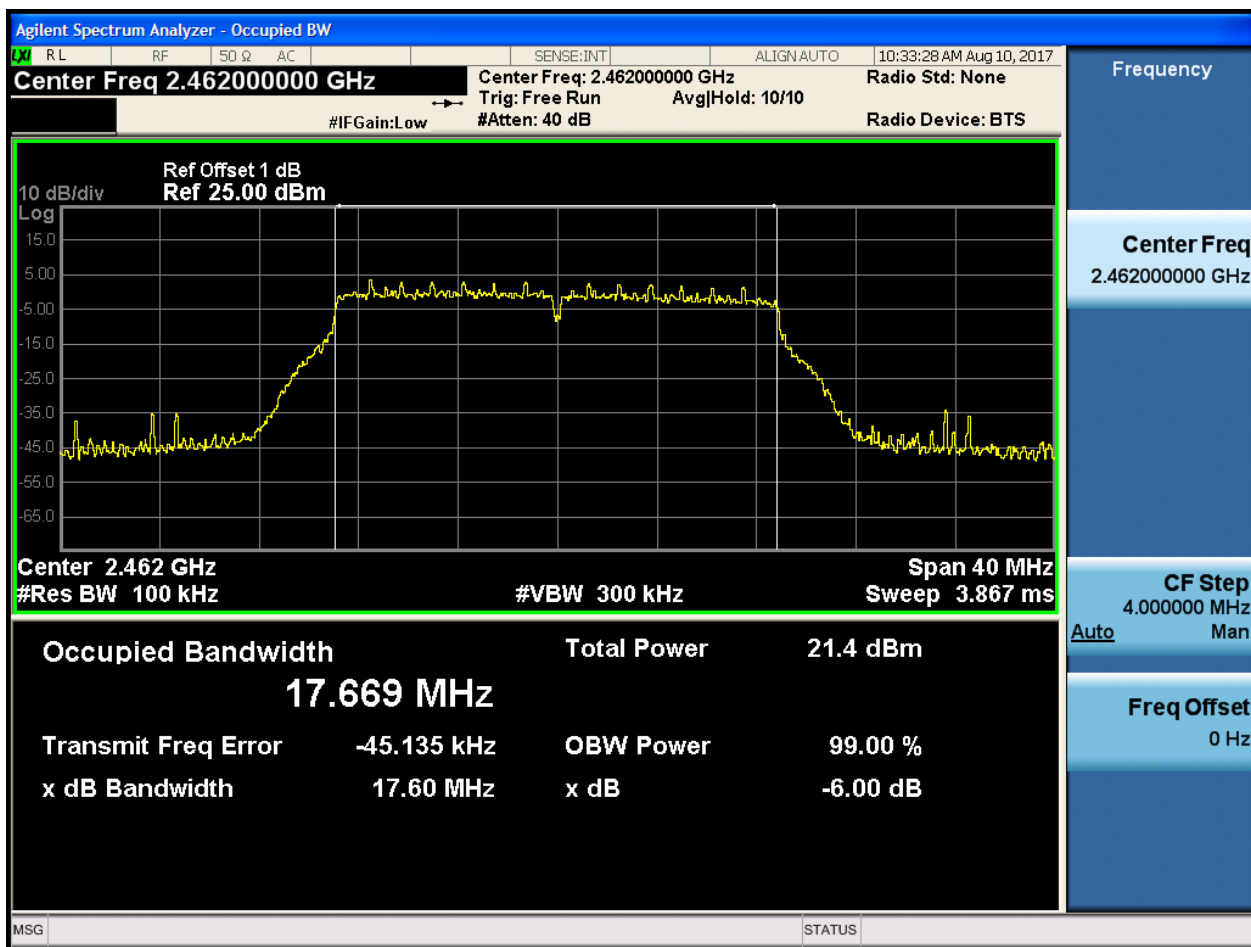


2.23 11N20m_H@Ant 1



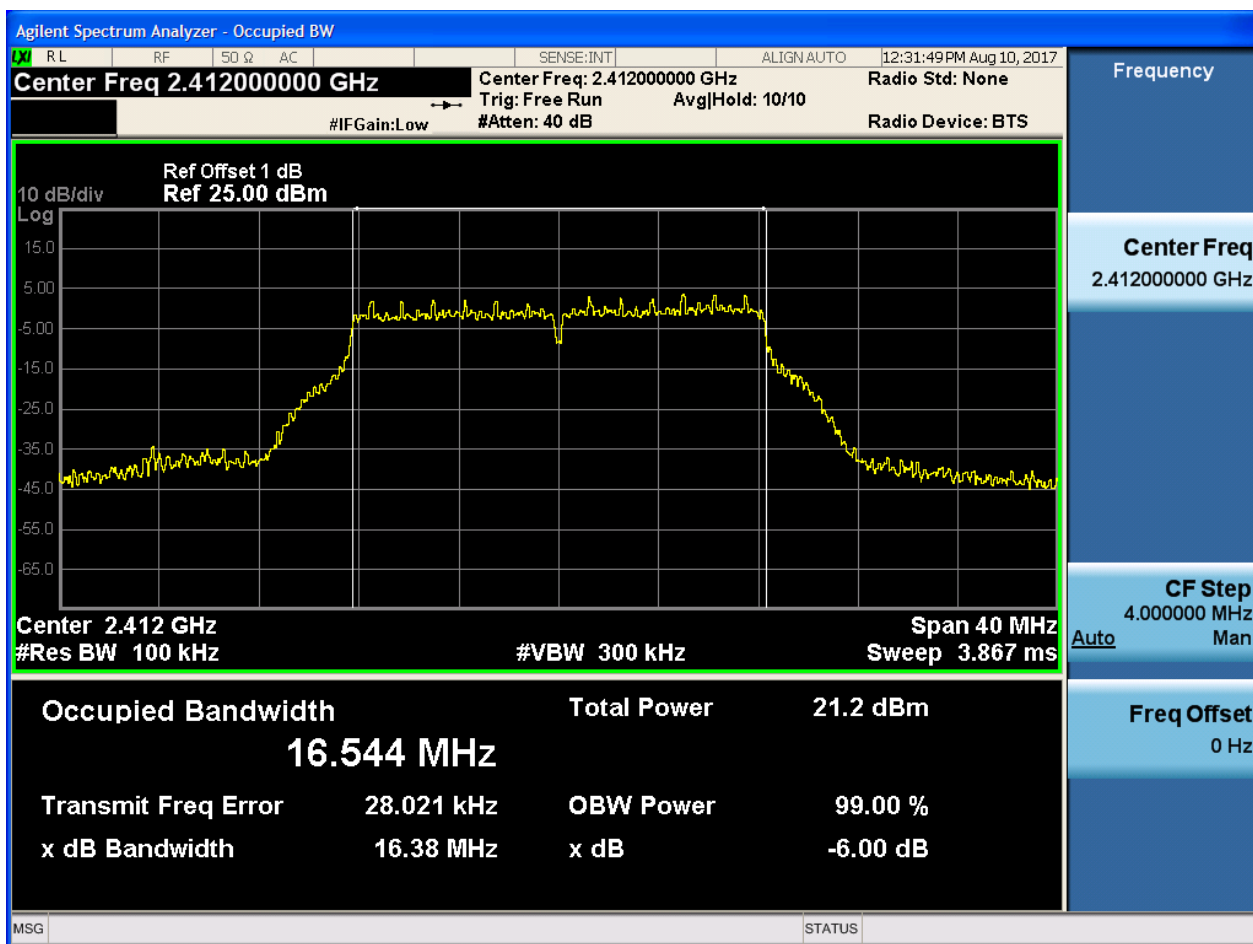


2.24 11N20m_H@Ant 2



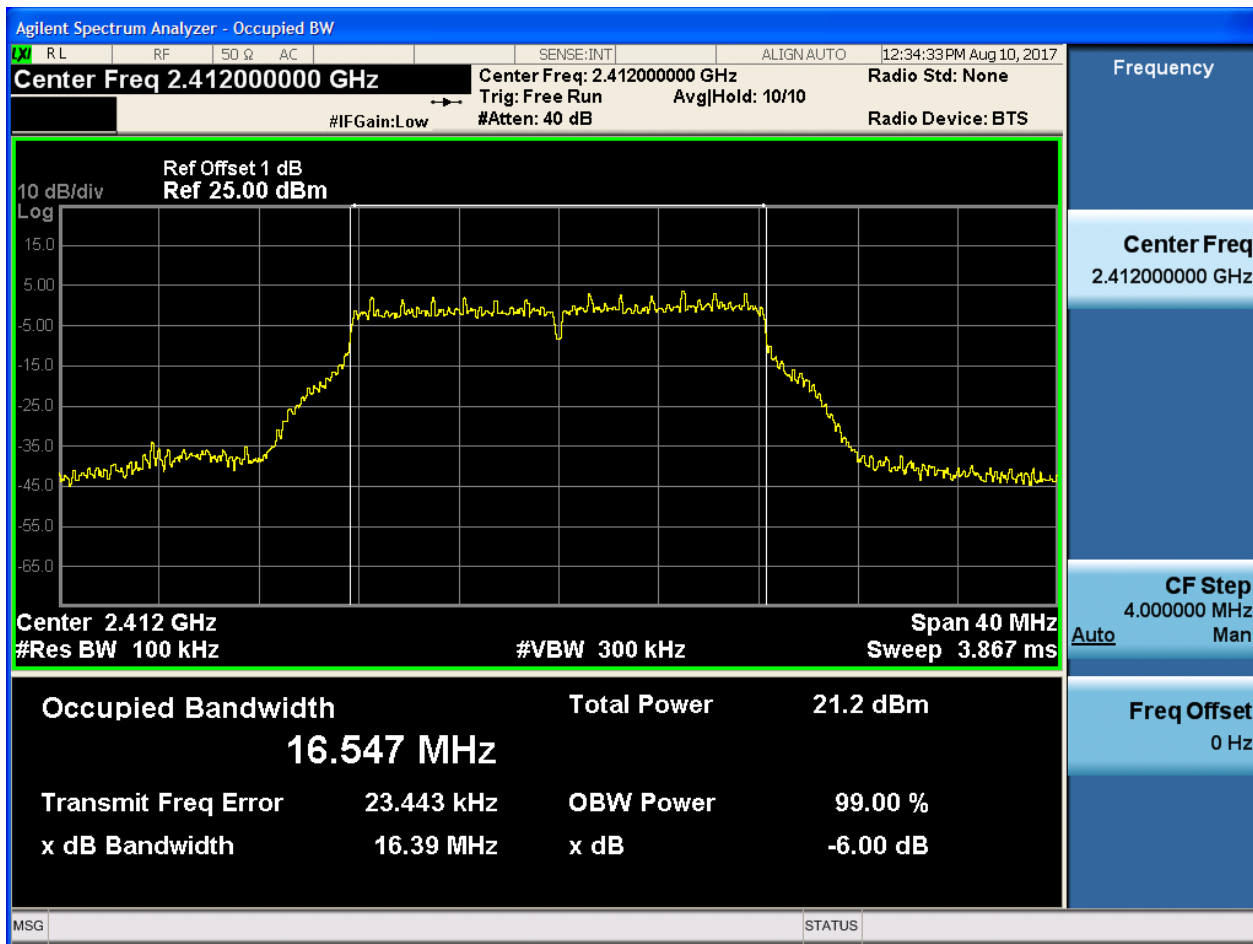


2.25 11G_CDD L@Ant 1



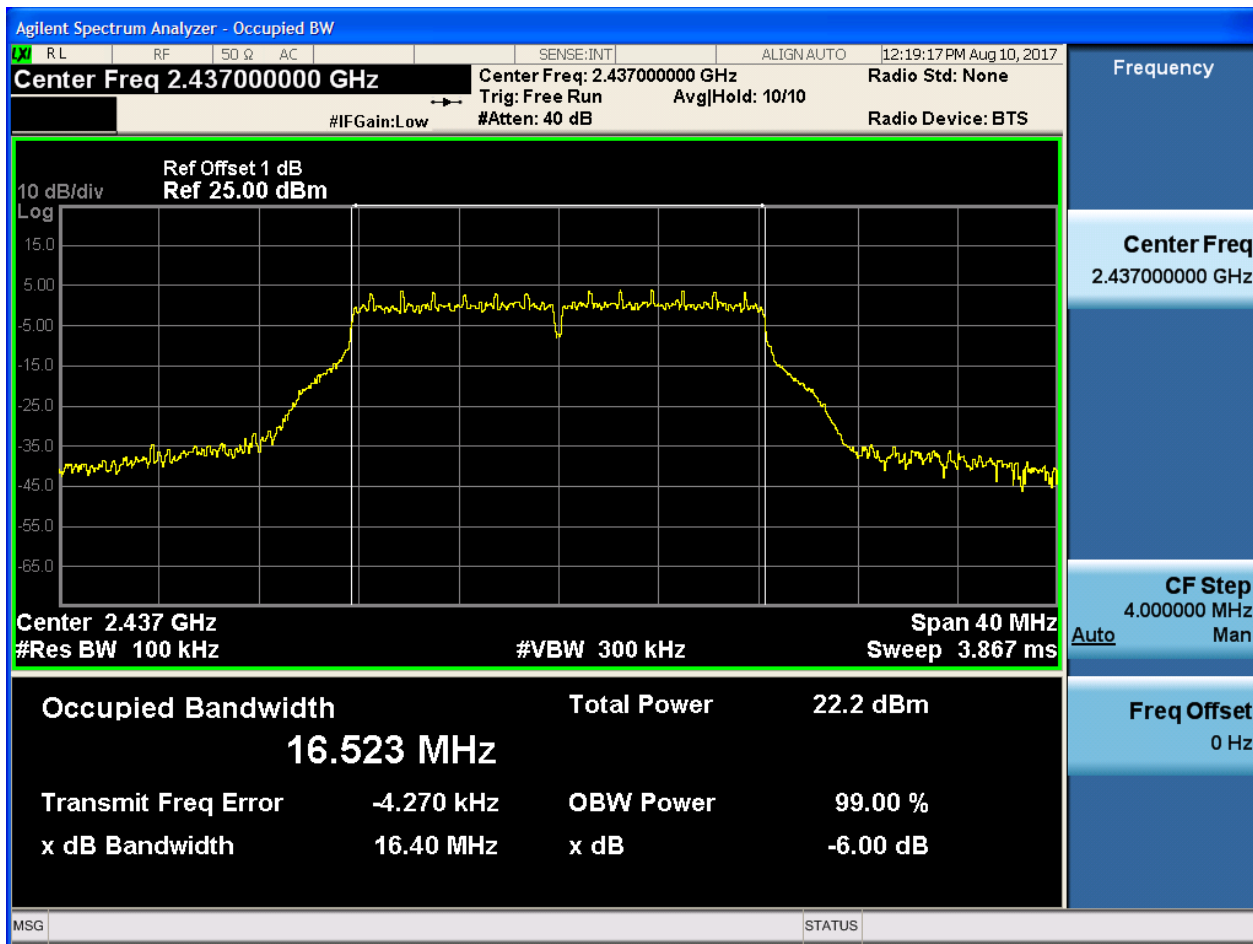


2.26 11G CDD L@Ant 2



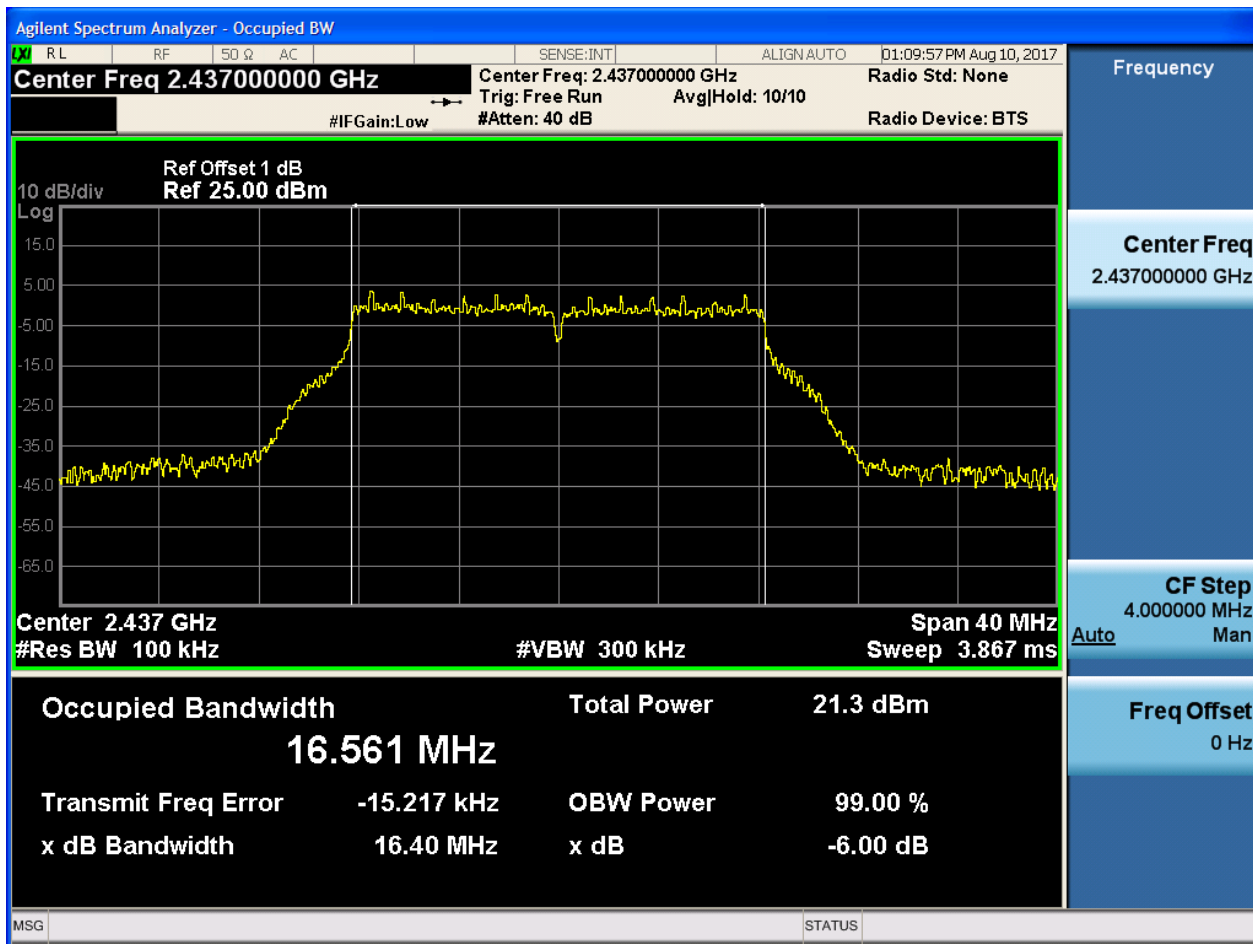


2.27 11G CDD M@Ant 1



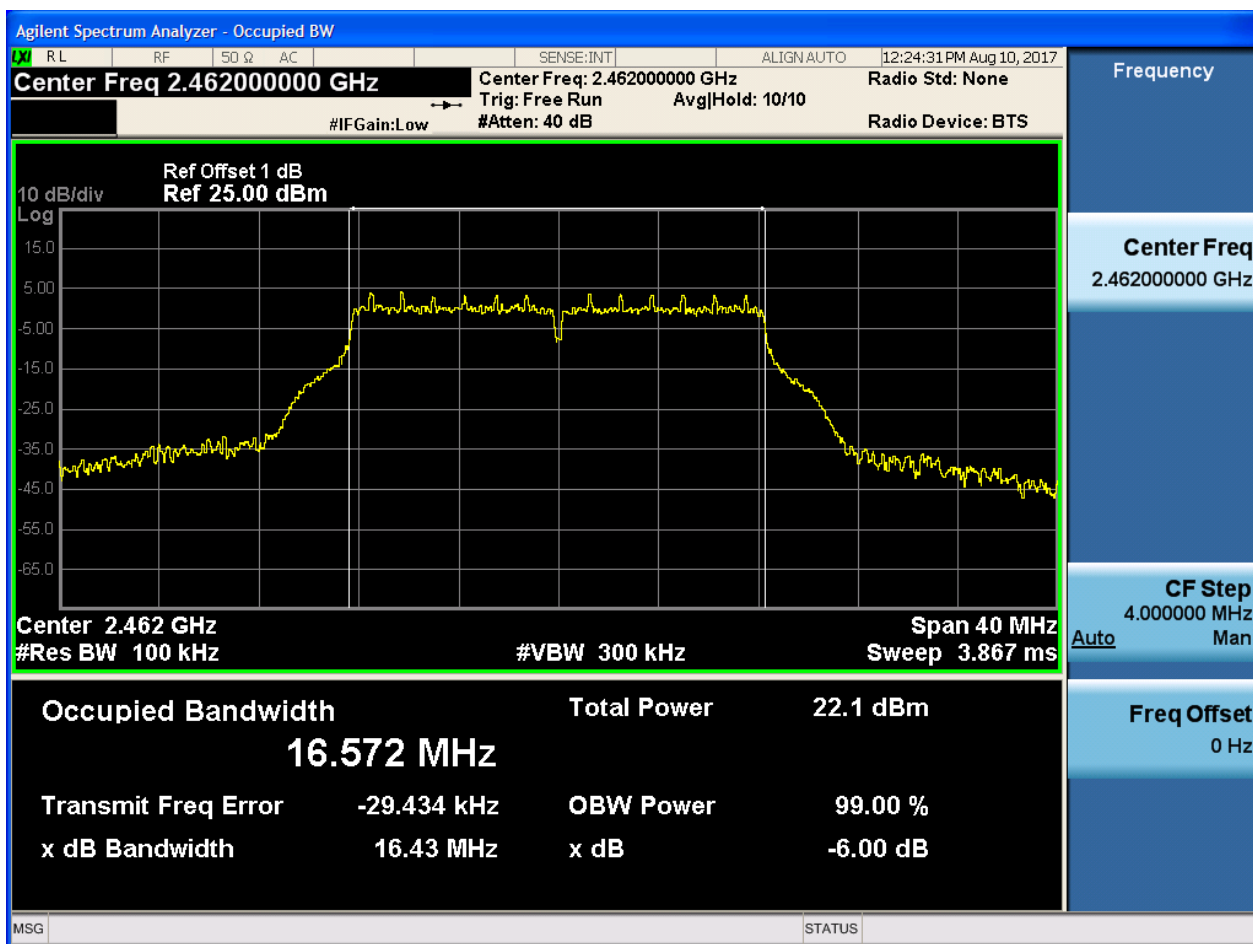


2.28 11G CDD M@Ant 2



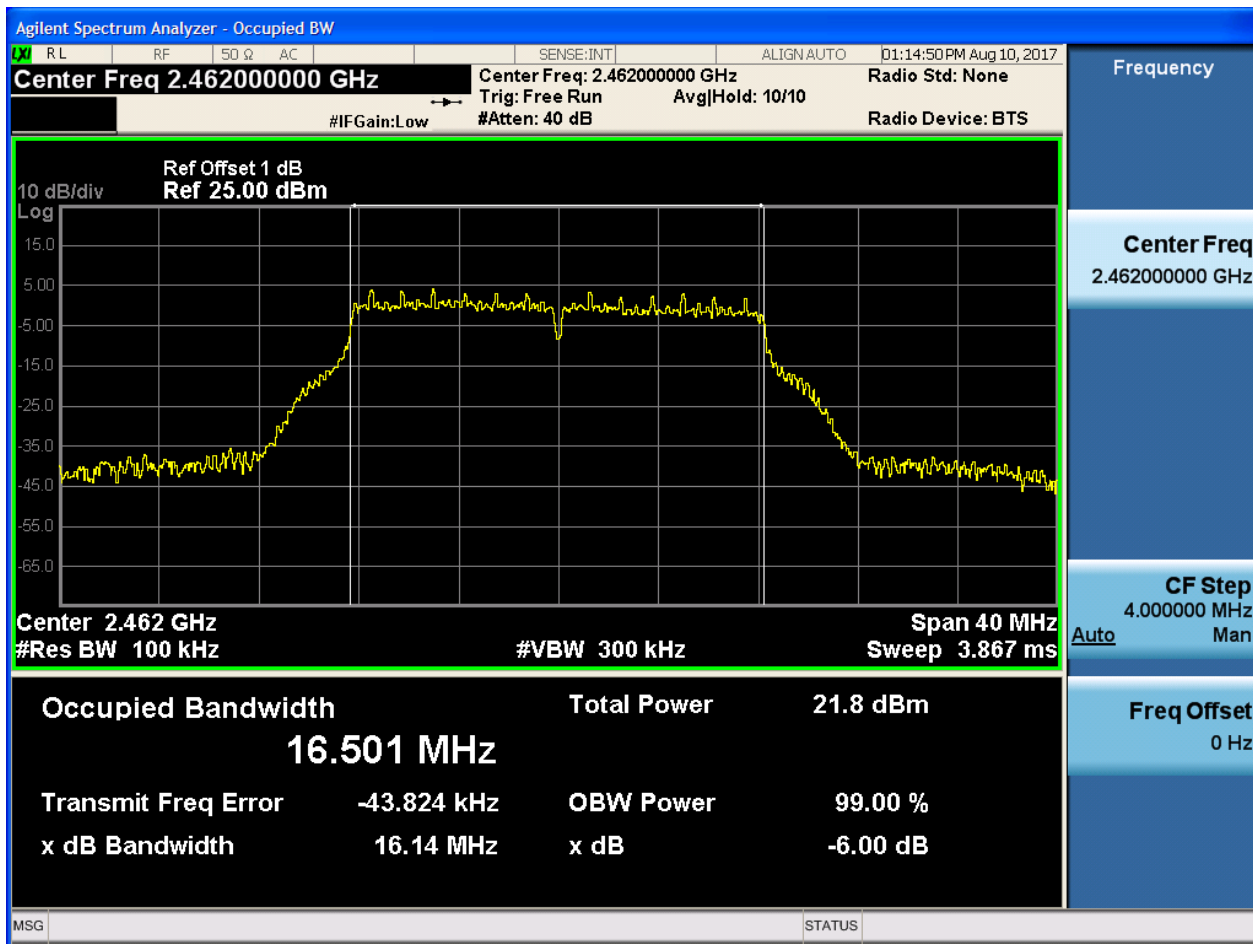


2.29 11G CDD H@Ant 1





2.30 11G CDD H@Ant 2



Appendix B: Occupied Bandwidth

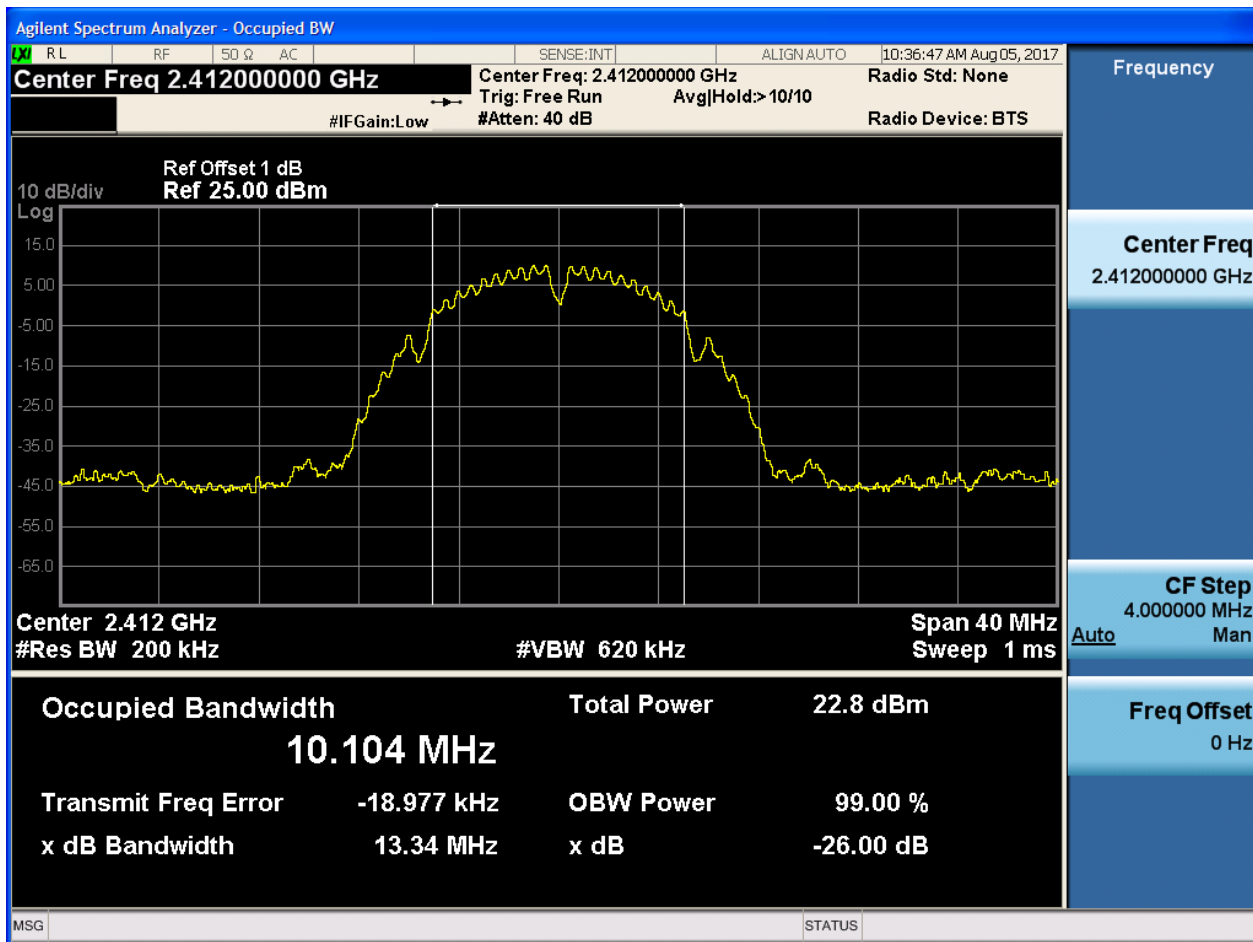
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	10.10	pass
11B	L	2412	Ant 2	10.25	pass
11B	M	2437	Ant 1	10.09	pass
11B	M	2437	Ant 2	10.35	pass
11B	H	2462	Ant 1	10.15	pass
11B	H	2462	Ant 2	10.22	pass
11G	L	2412	Ant 1	16.72	pass
11G	L	2412	Ant 2	16.85	pass
11G	M	2437	Ant 1	16.72	pass
11G	M	2437	Ant 2	16.82	pass
11G	H	2462	Ant 1	16.87	pass
11G	H	2462	Ant 2	16.69	pass
11N20	L	2412	Ant 1	17.86	pass
11N20	L	2412	Ant 2	18.00	pass
11N20	M	2437	Ant 1	17.88	pass
11N20	M	2437	Ant 2	17.97	pass
11N20	H	2462	Ant 1	18.02	pass
11N20	H	2462	Ant 2	17.82	pass
11N20m	L	2412	Ant 1	17.83	pass
11N20m	L	2412	Ant 2	17.86	pass
11N20m	M	2437	Ant 1	17.88	pass
11N20m	M	2437	Ant 2	17.91	pass
11N20m	H	2462	Ant 1	17.98	pass
11N20m	H	2462	Ant 2	17.78	pass
11G CDD	L	2412	Ant 1	16.87	pass
11G CDD	L	2412	Ant 2	16.85	pass
11G CDD	M	2437	Ant 1	16.77	pass
11G CDD	M	2437	Ant 2	16.82	pass
11G CDD	H	2462	Ant 1	16.85	pass
11G CDD	H	2462	Ant 2	16.72	pass

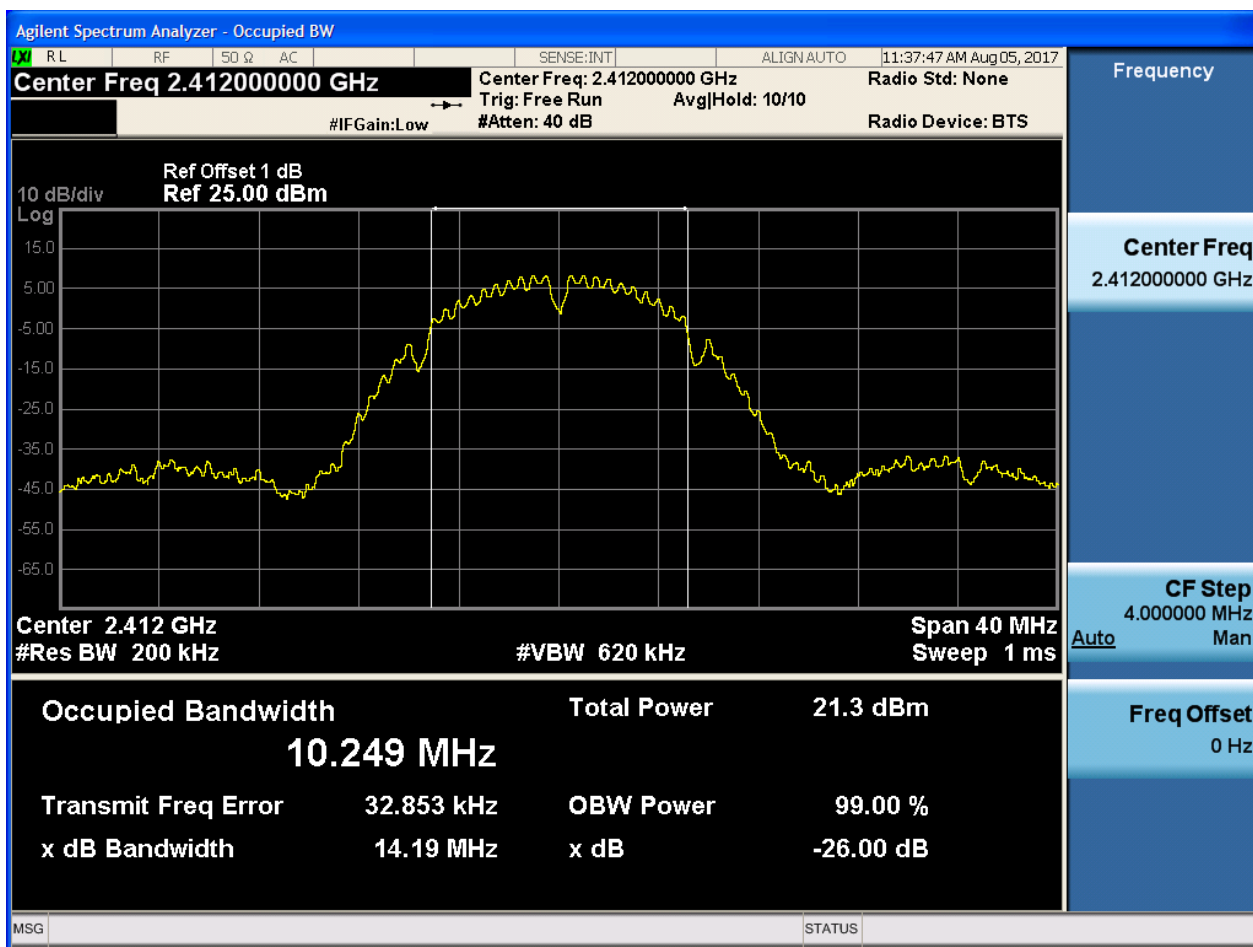
Part II - Test Plots

2.1 11B_L@Ant 1



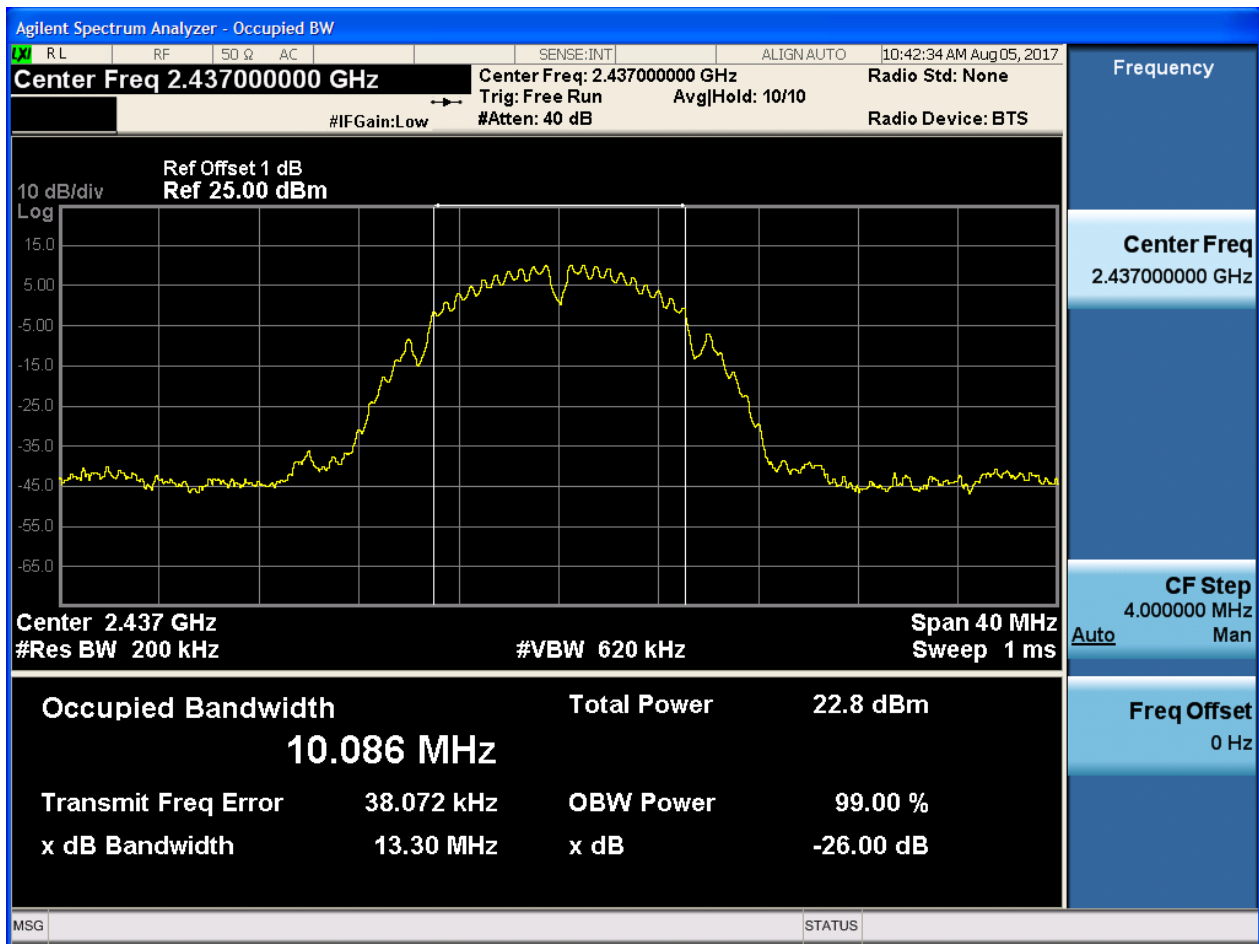


2.2 11B_L@Ant 2



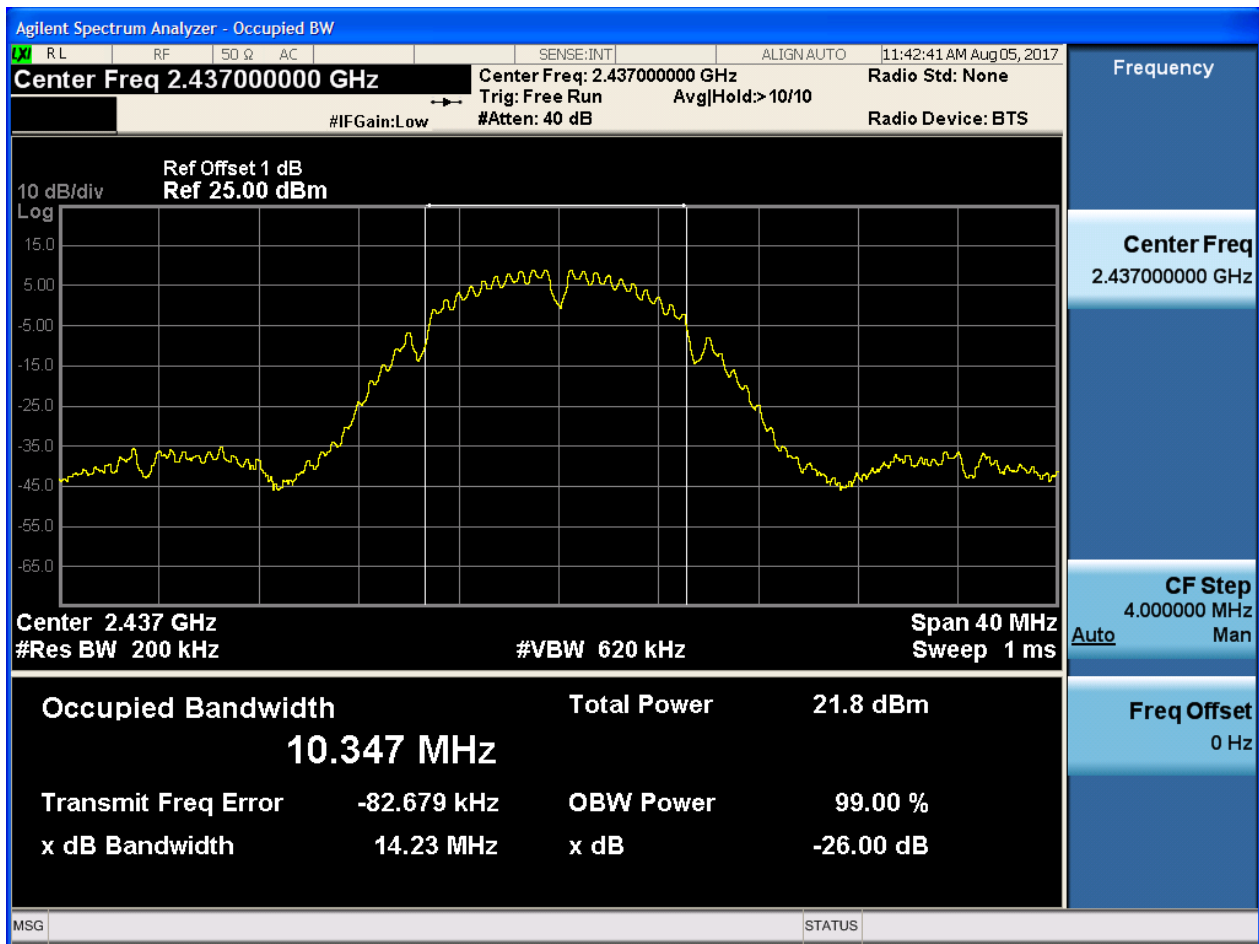


2.3 11B_M@Ant 1



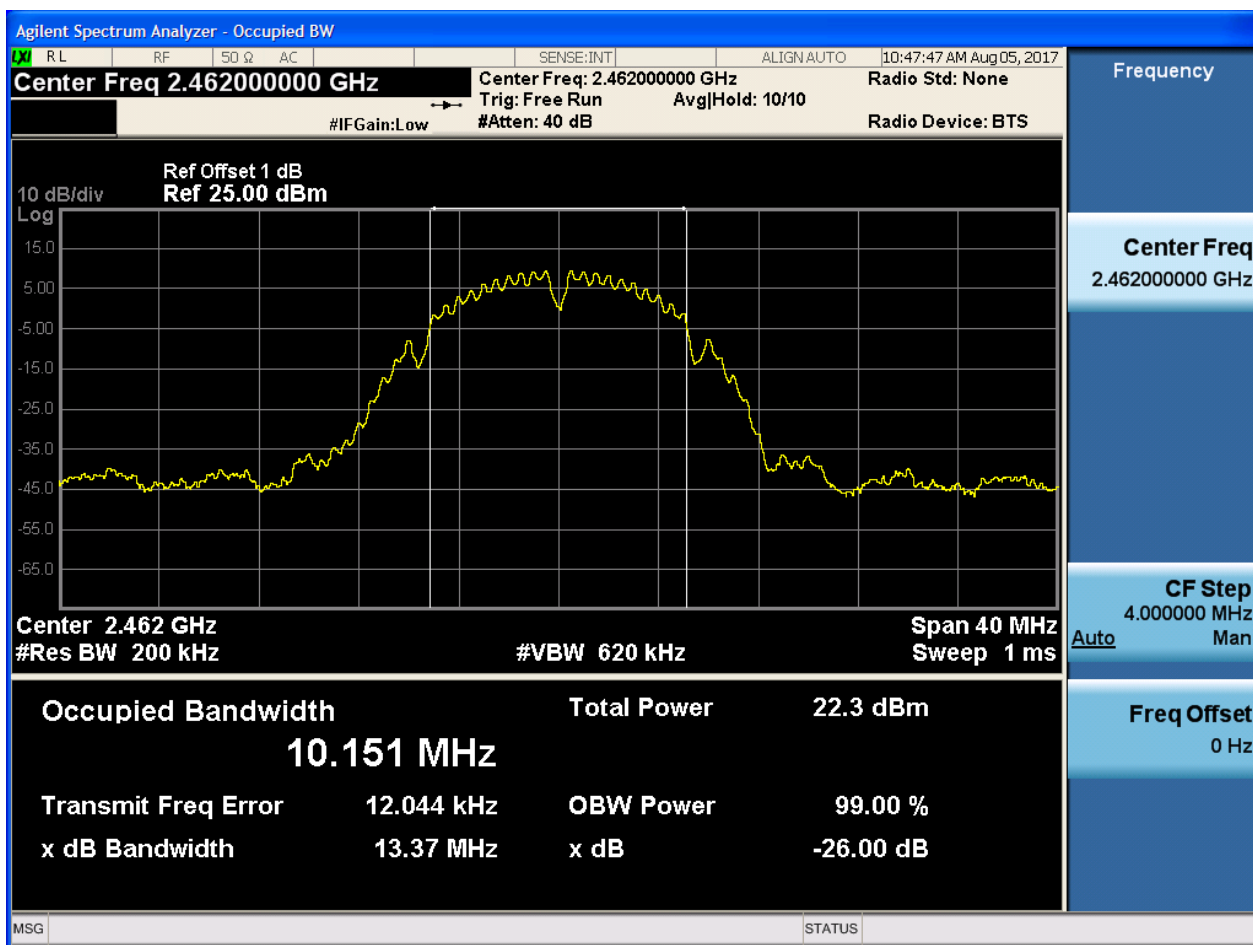


2.4 11B_M@Ant 2



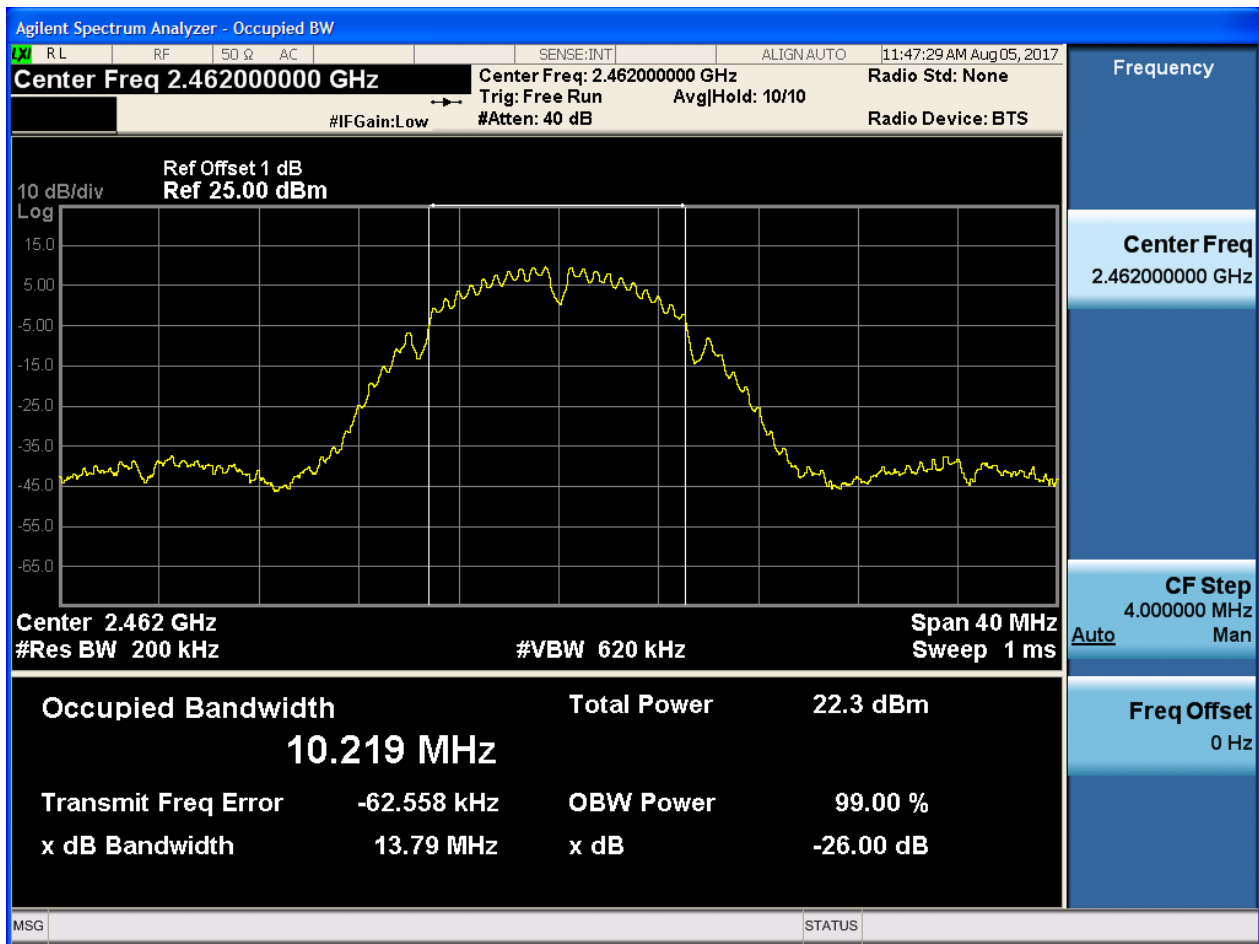


2.5 11B_H@Ant 1



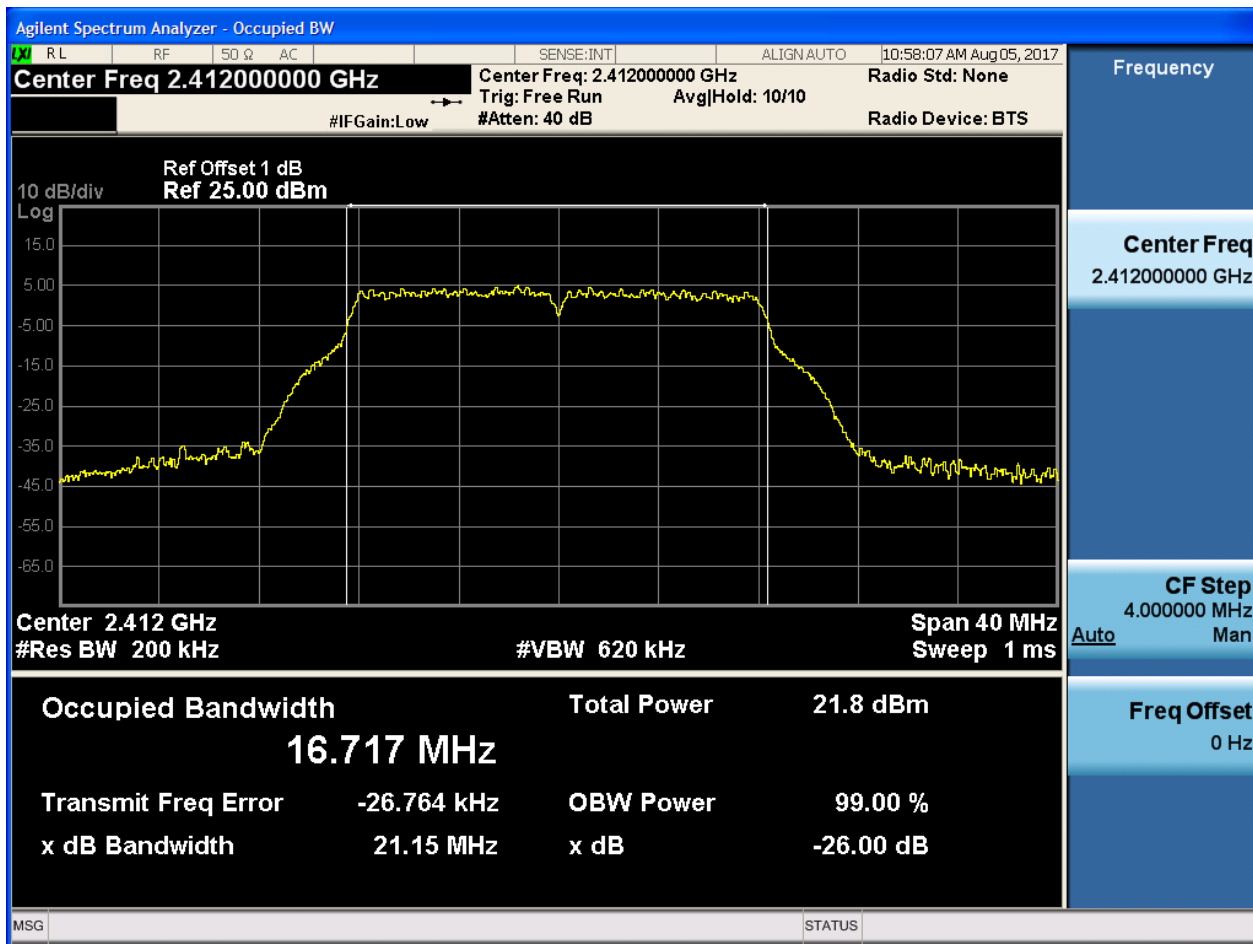


2.6 11B_H@Ant 2



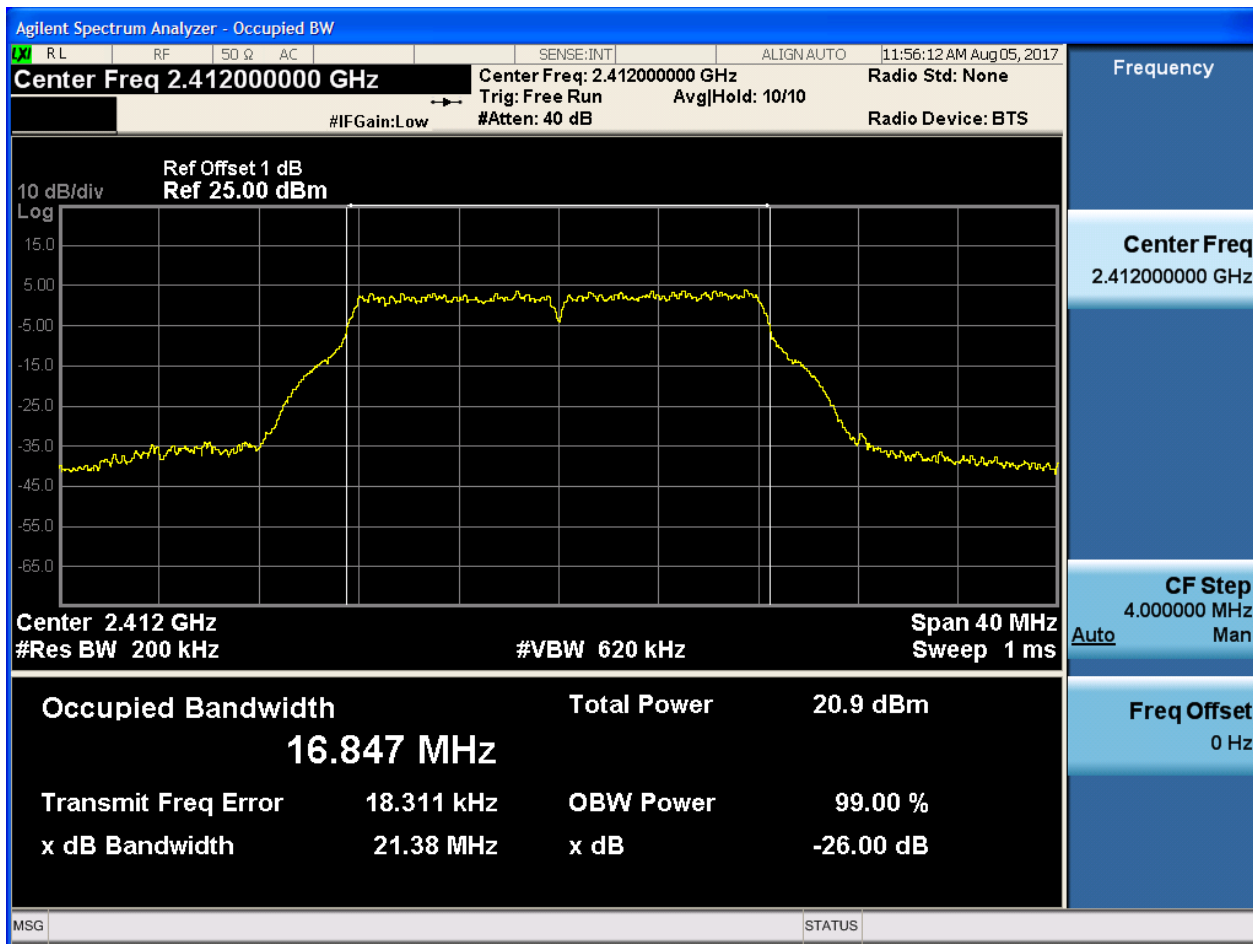


2.7 11G_L@Ant 1



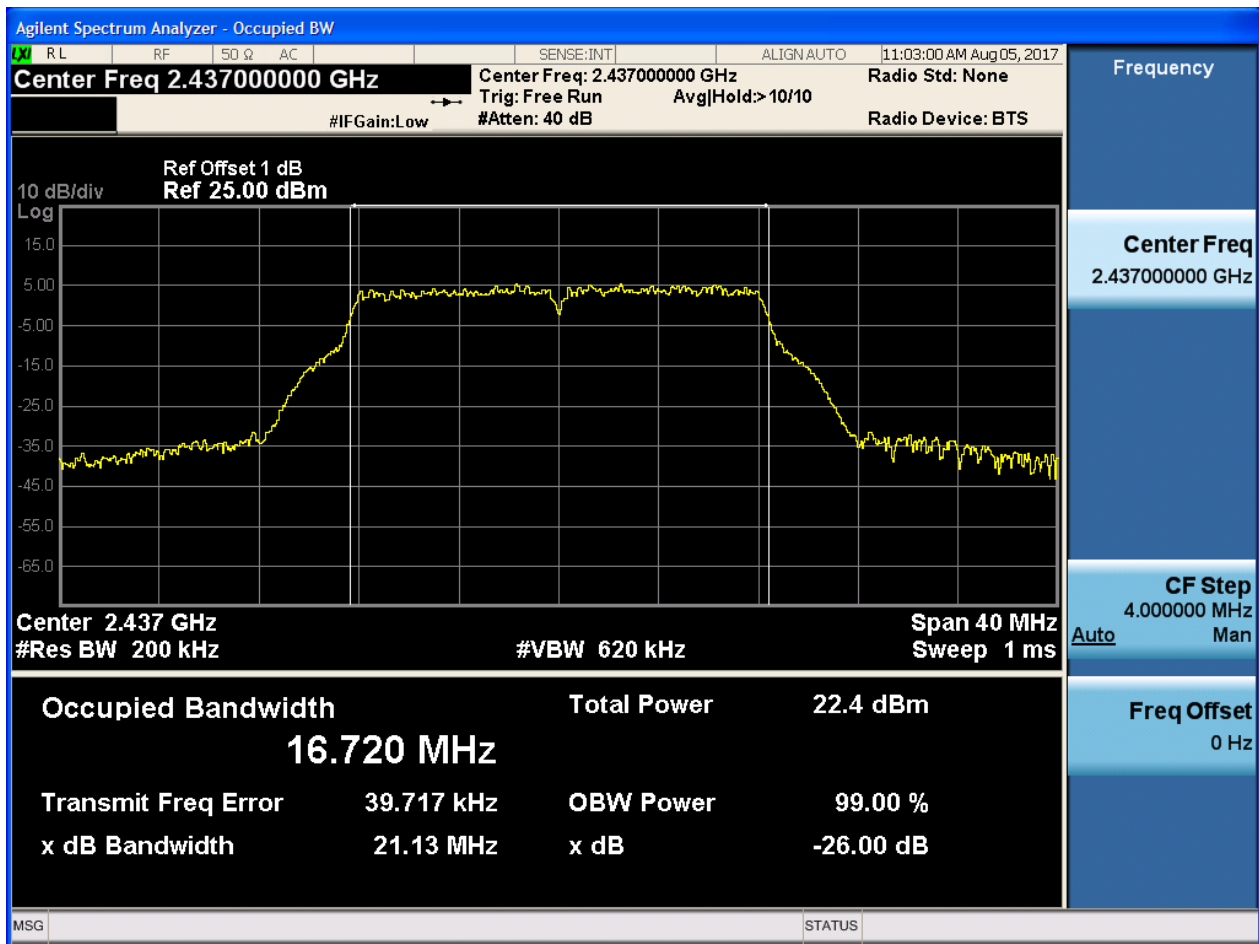


2.8 11G_L@Ant 2



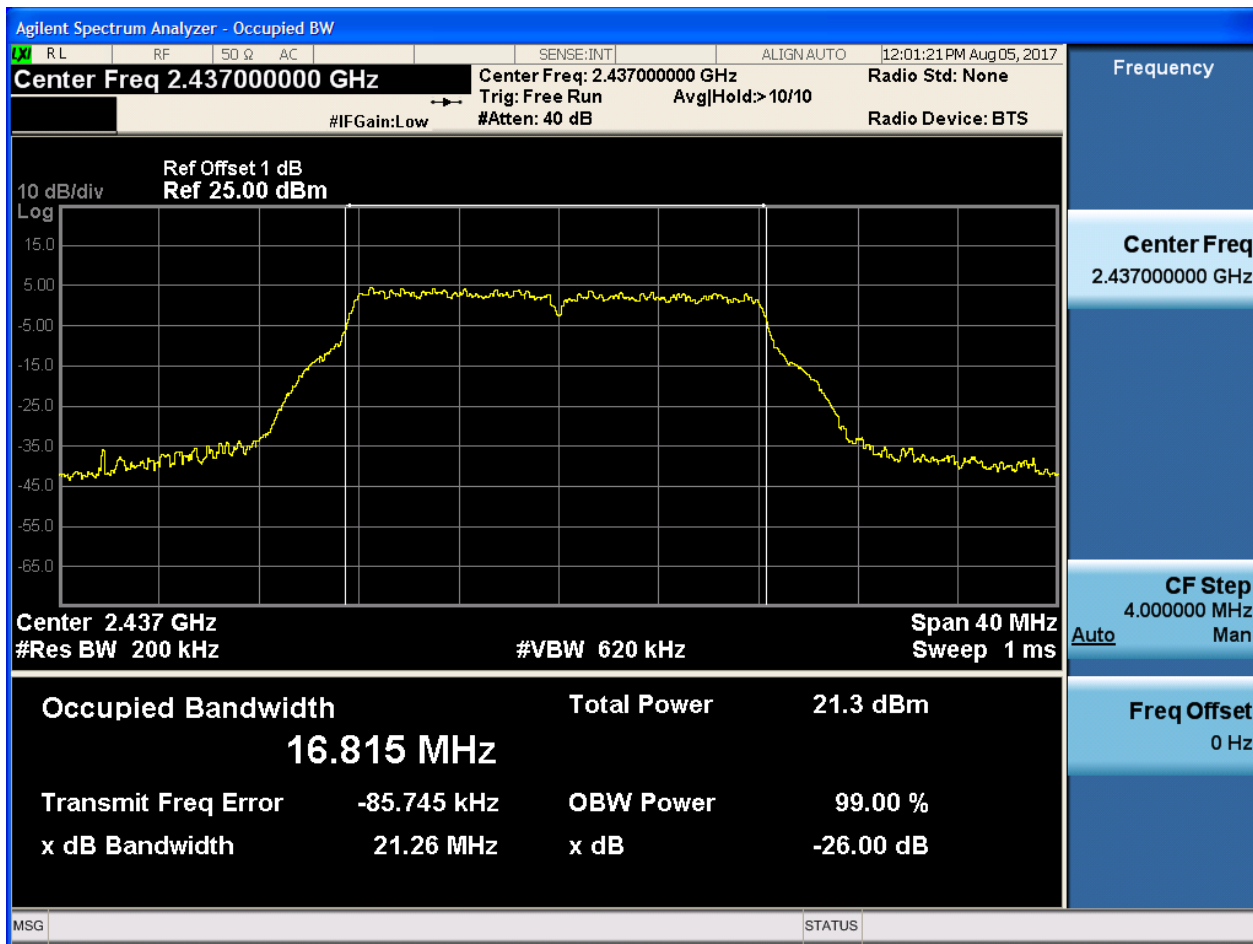


2.9 11G_M@Ant 1



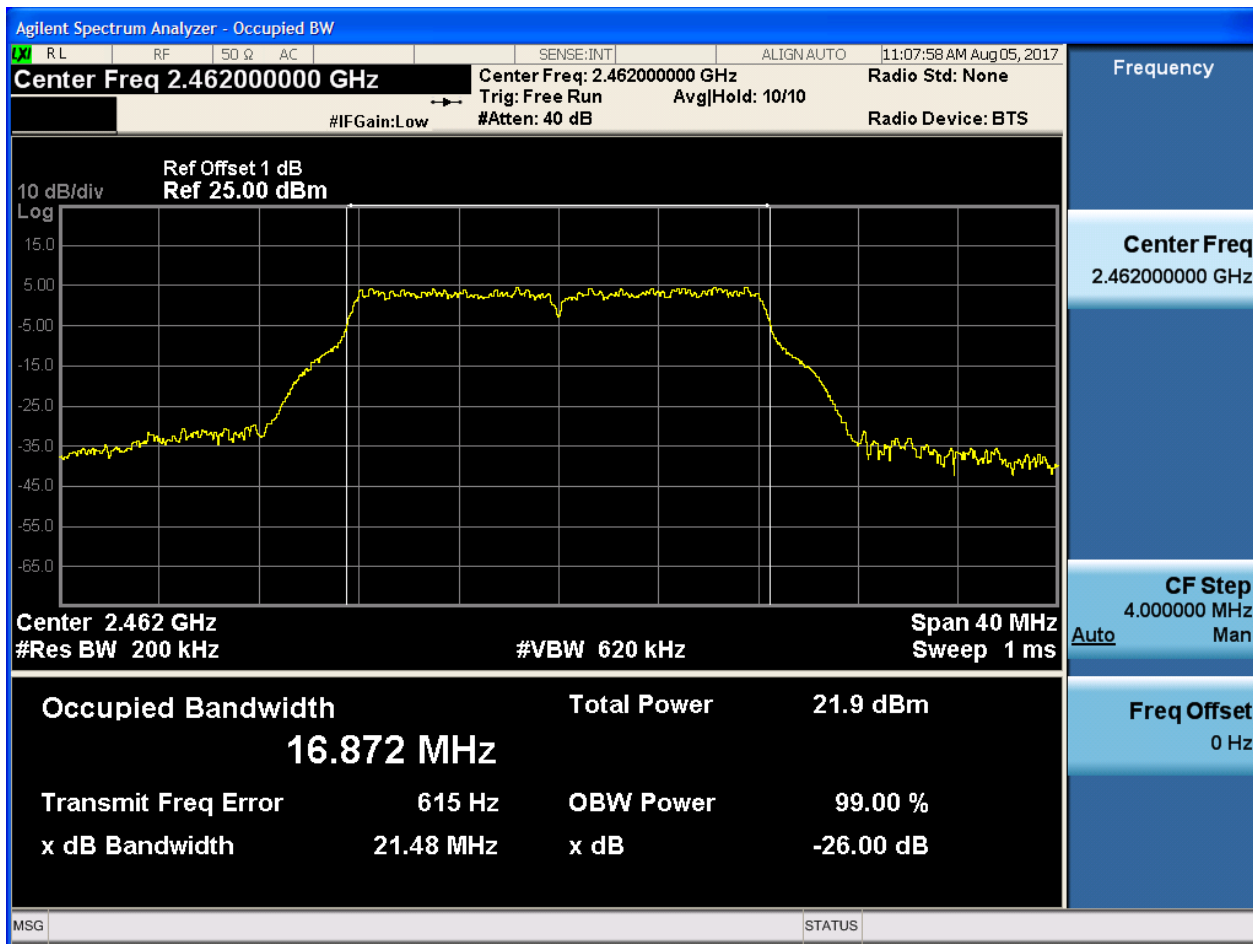


2.10 11G_M@Ant 2



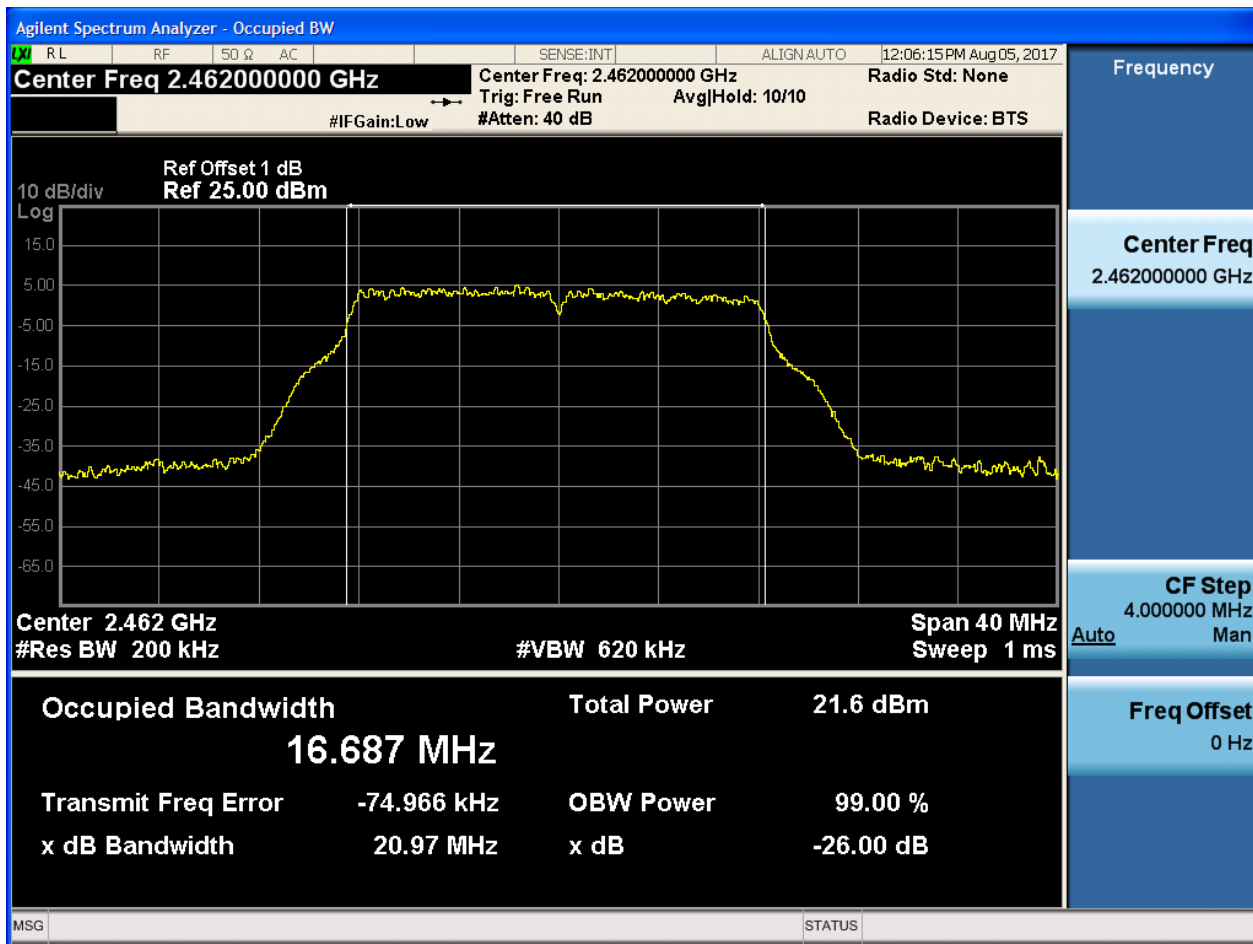


2.11 11G_H@Ant 1



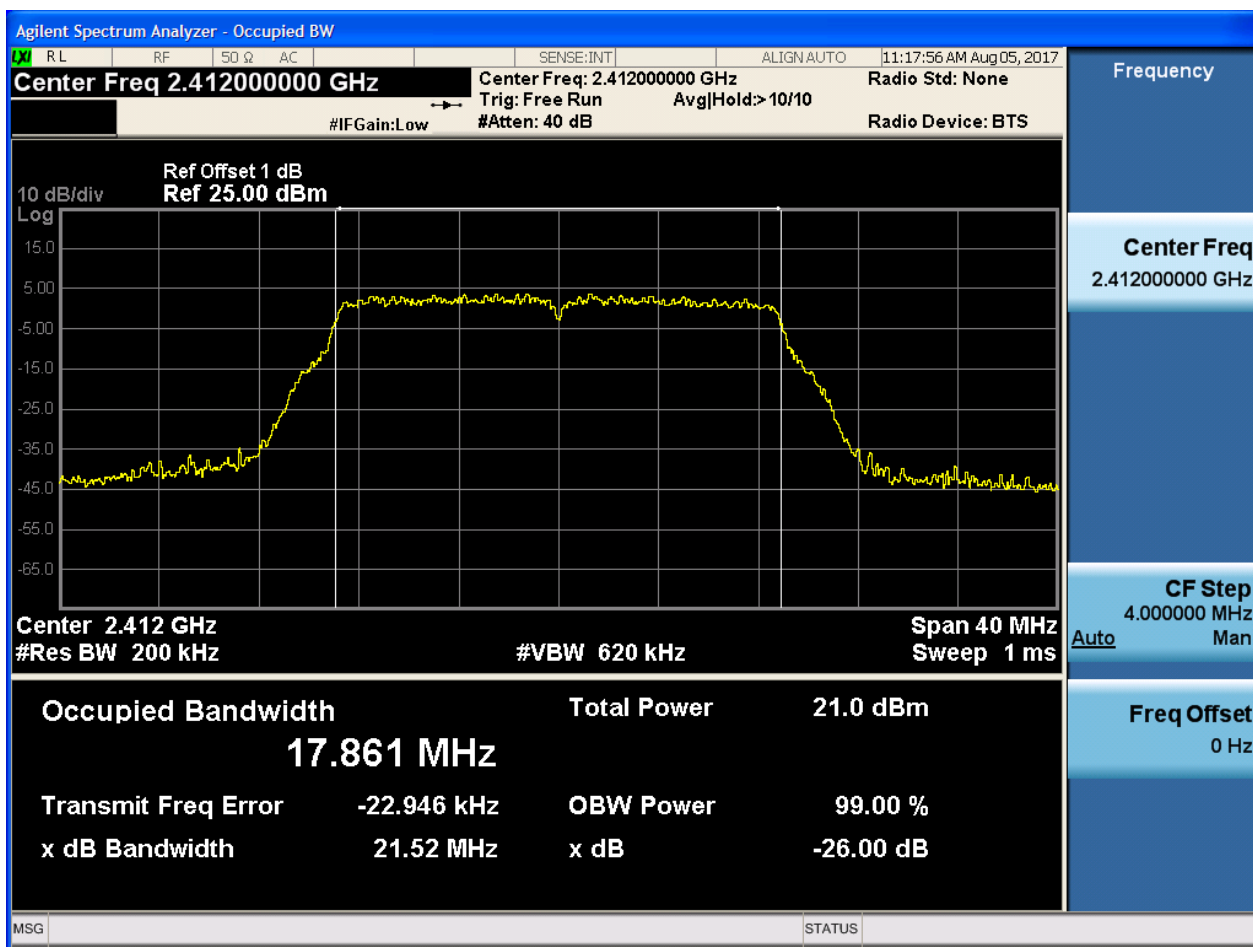


2.12 11G_H@Ant 2



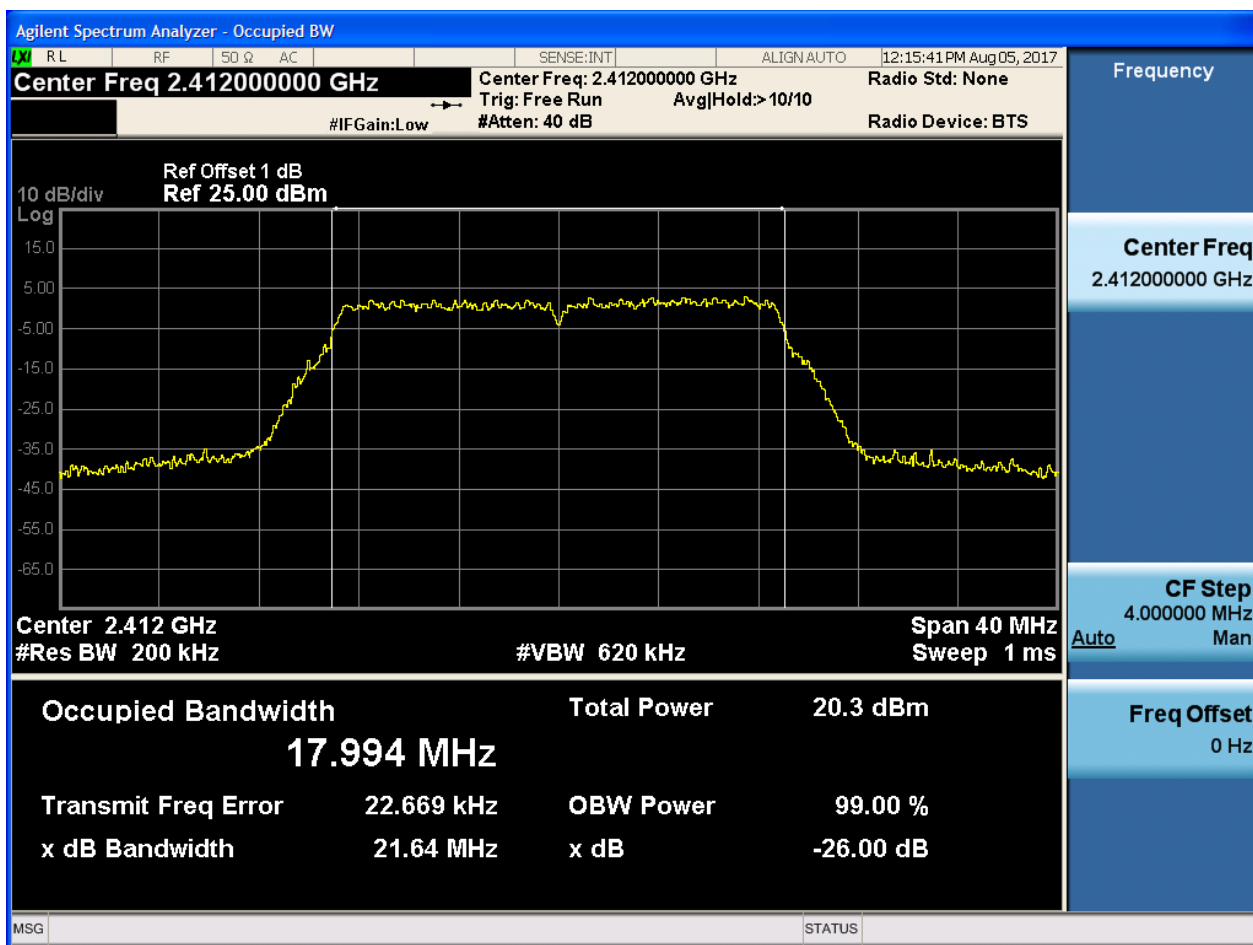


2.13 11N20_L@Ant 1



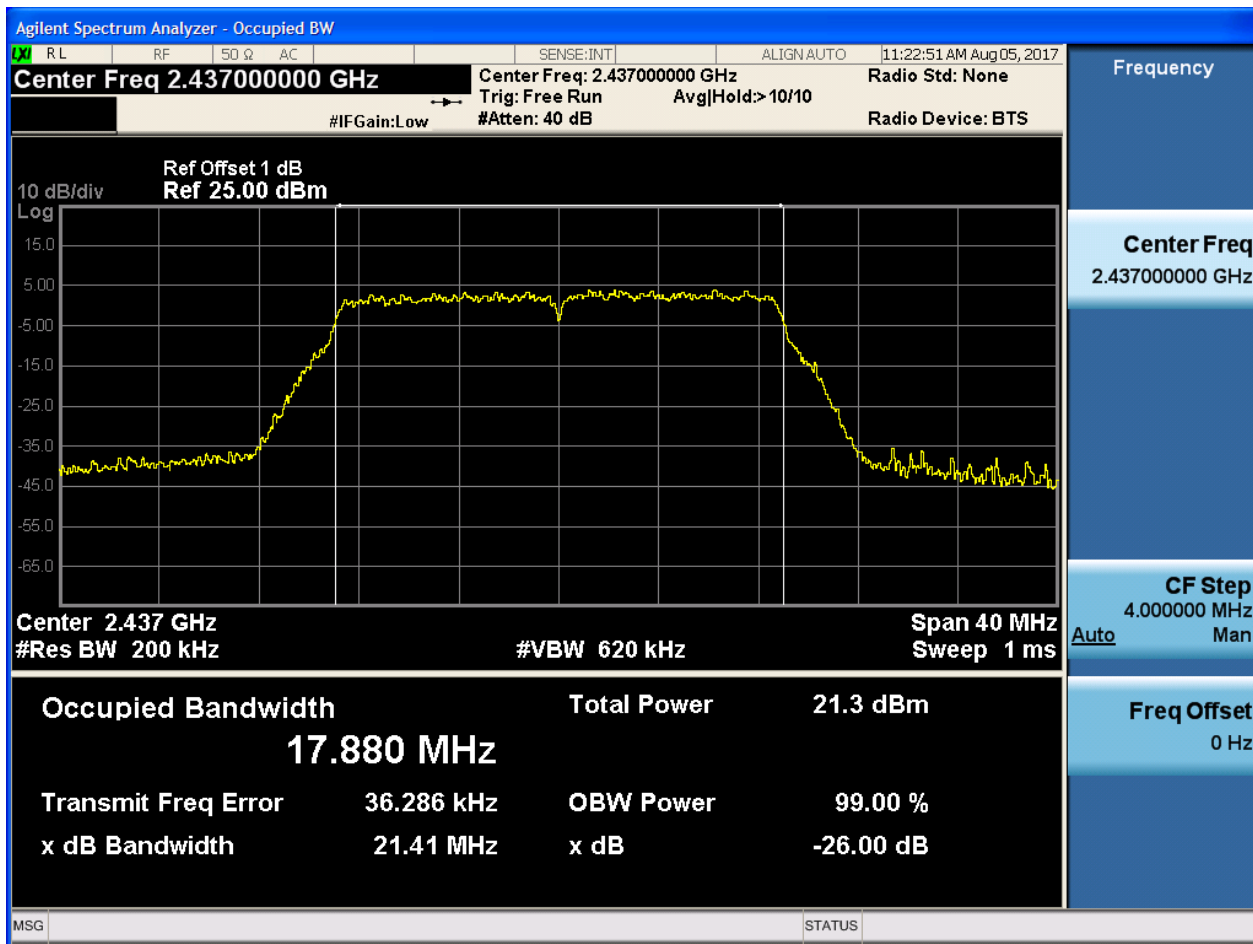


2.14 11N20_L@Ant 2



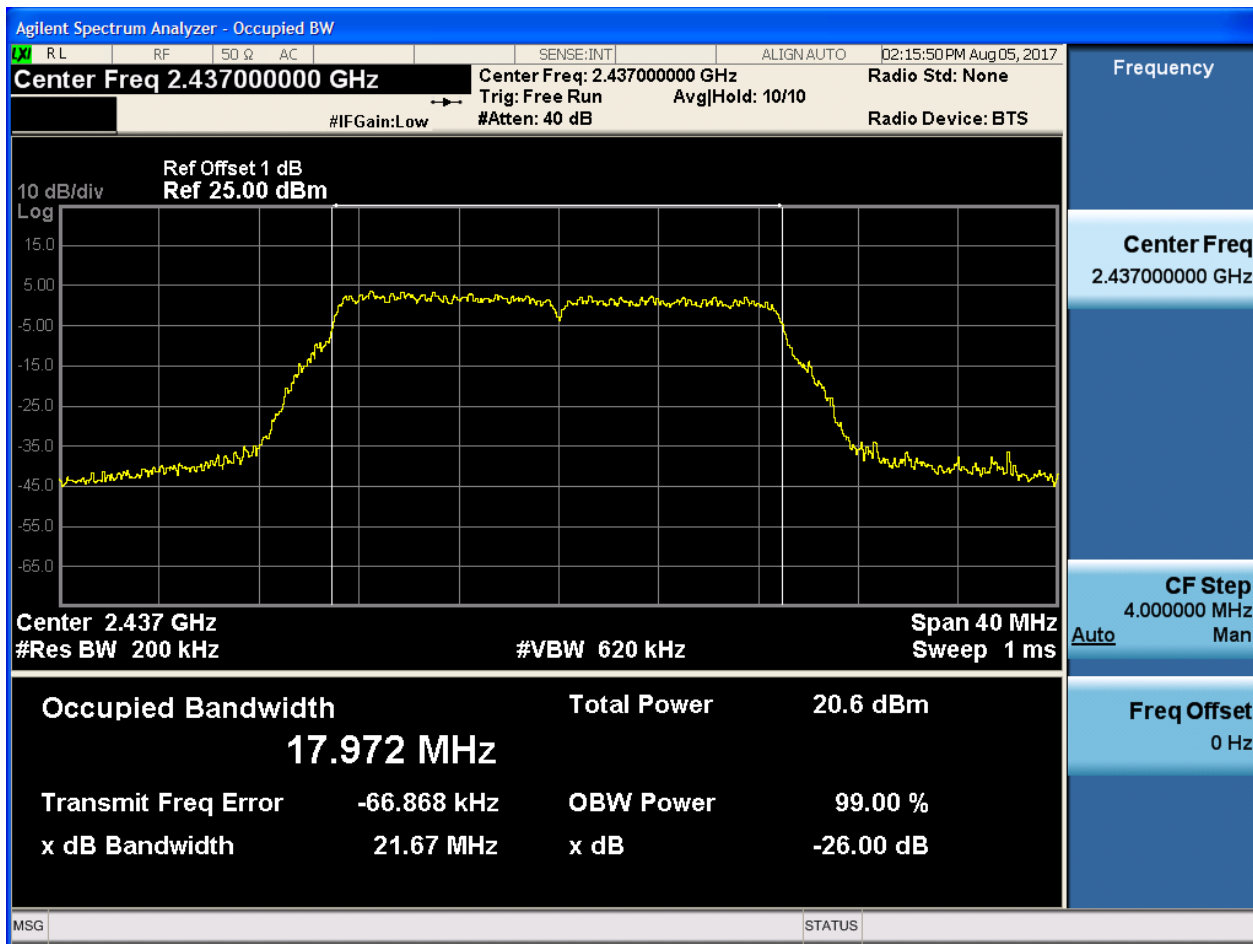


2.15 11N20_M@Ant 1



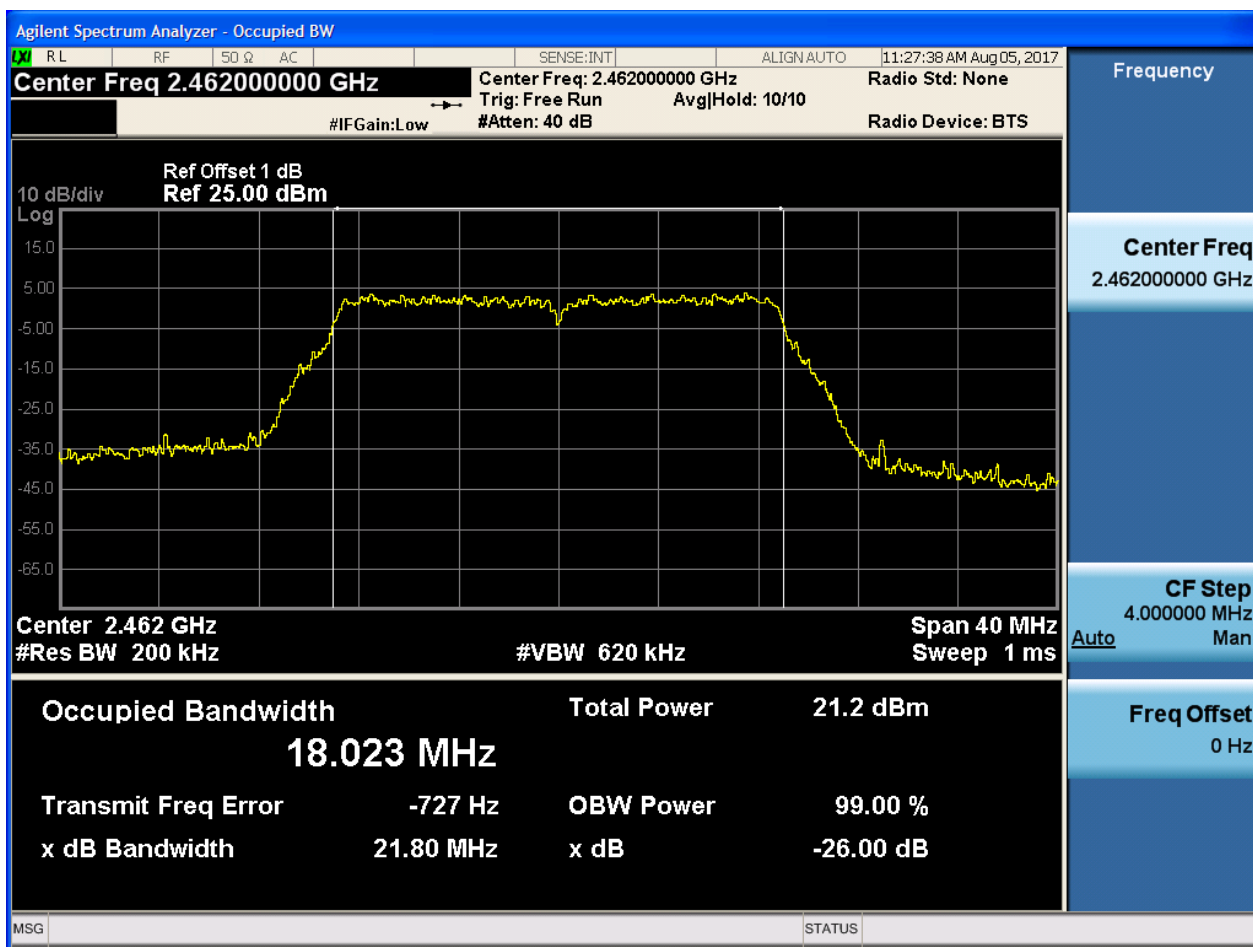


2.16 11N20_M@Ant 2



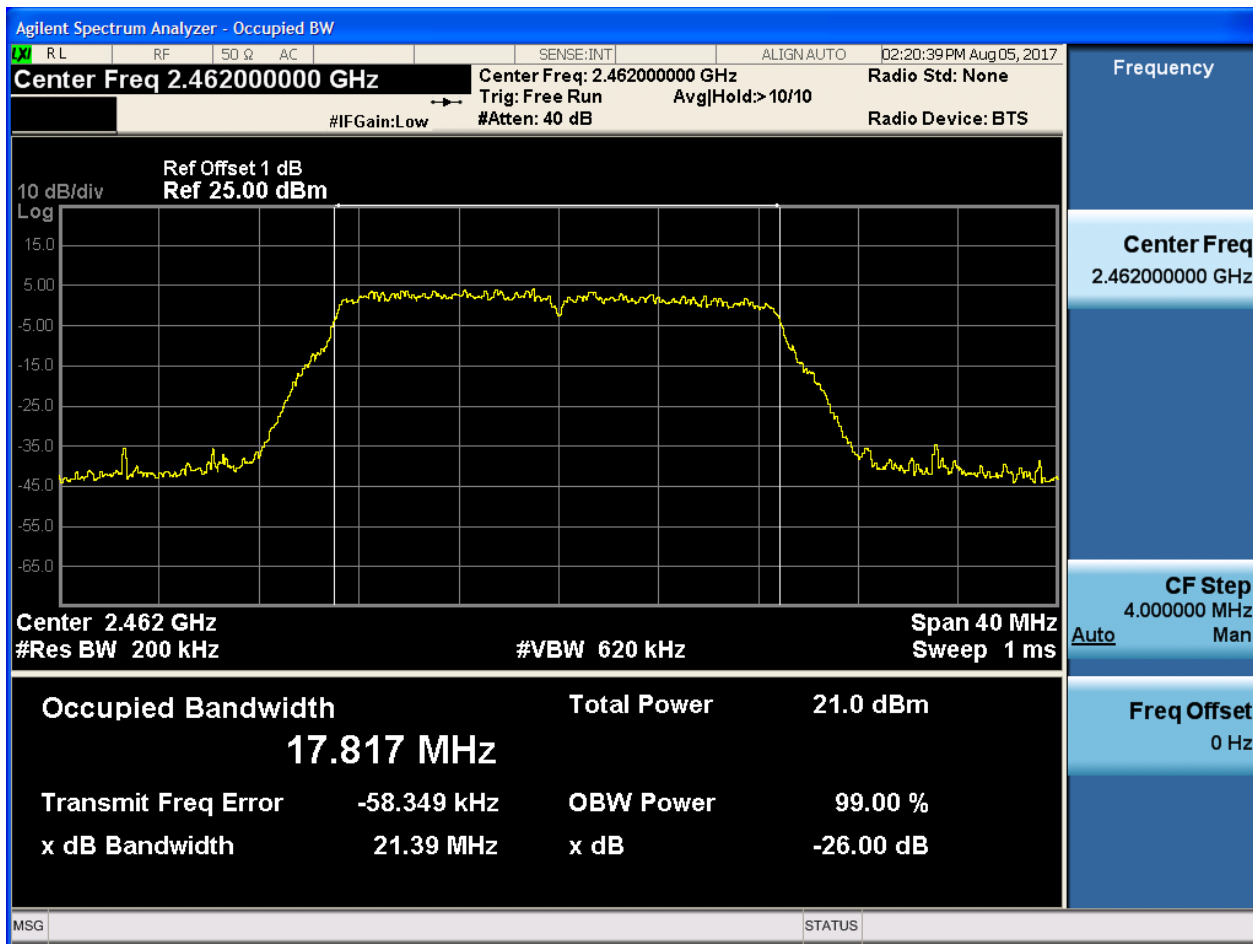


2.17 11N20_H@Ant 1



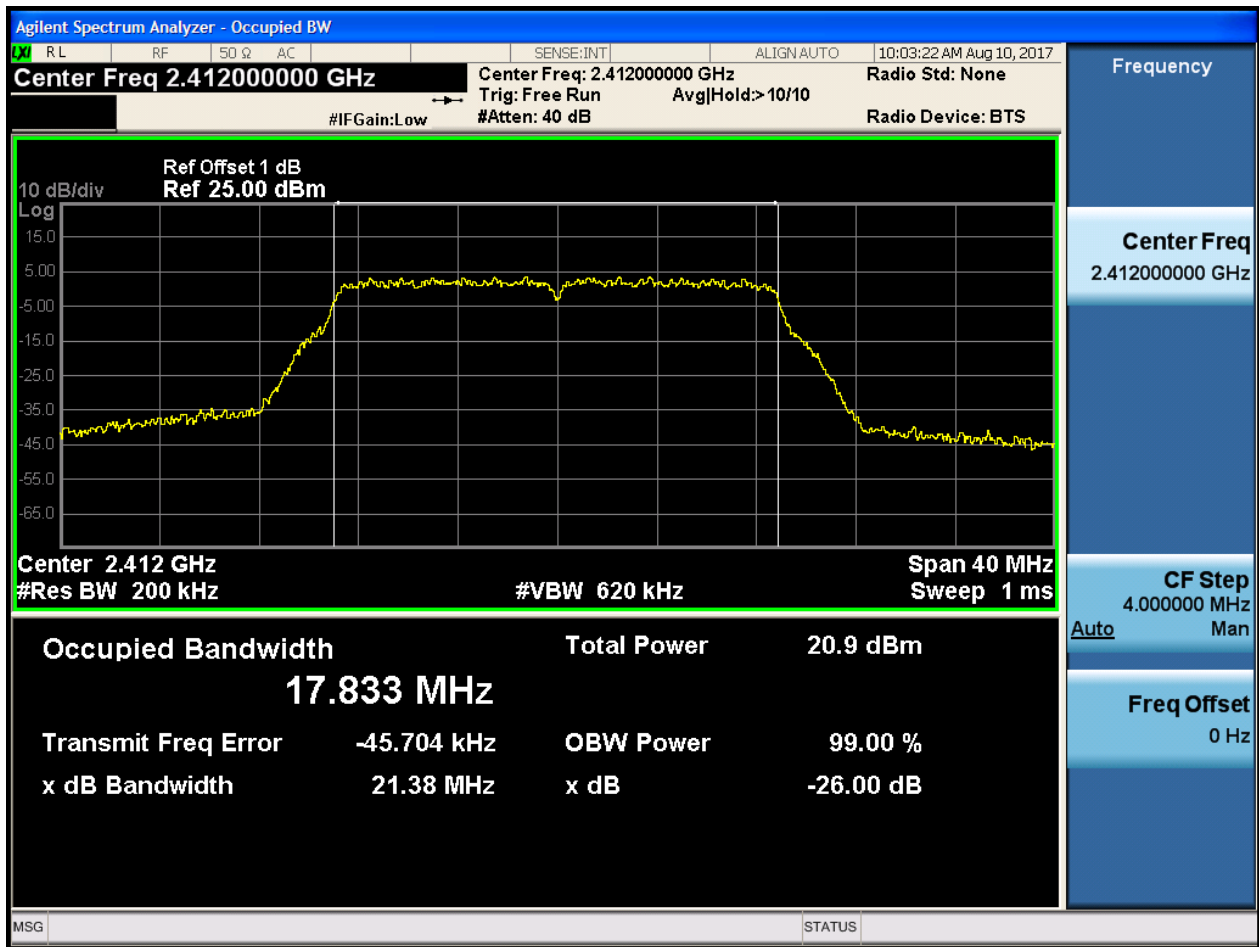


2.18 11N20_H@Ant 2



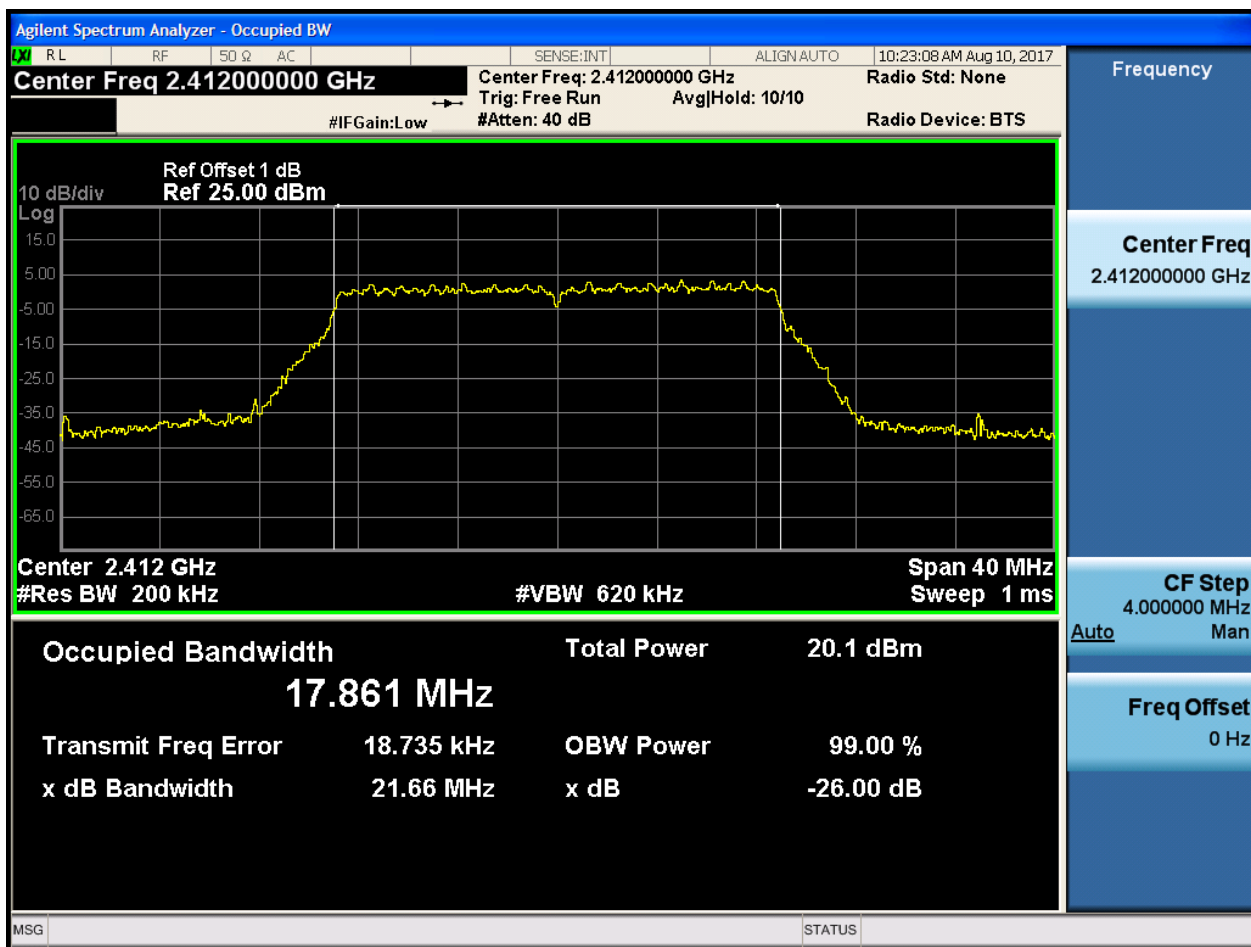


2.19 11N20m_L@Ant 1



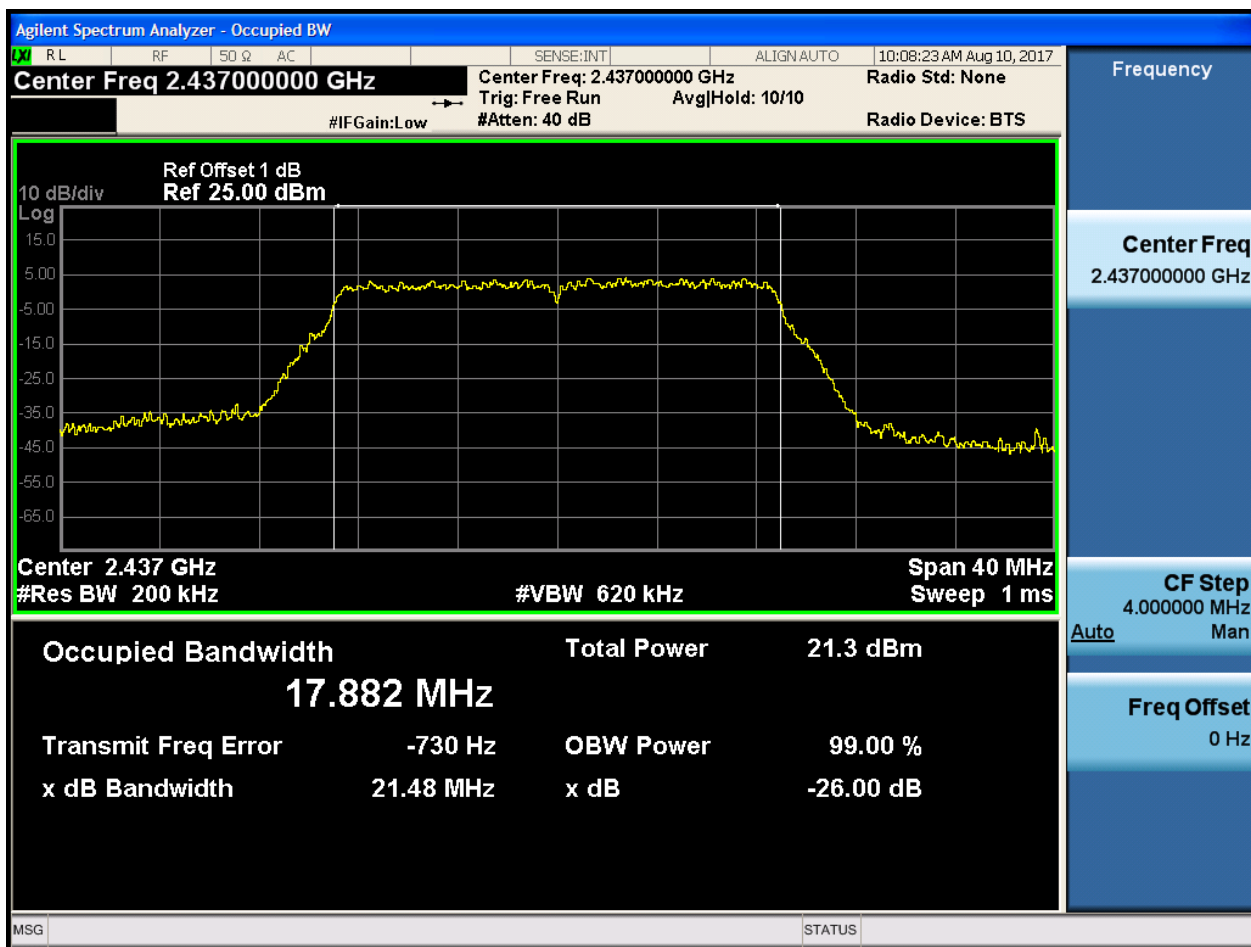


2.20 11N20m_L@Ant 2



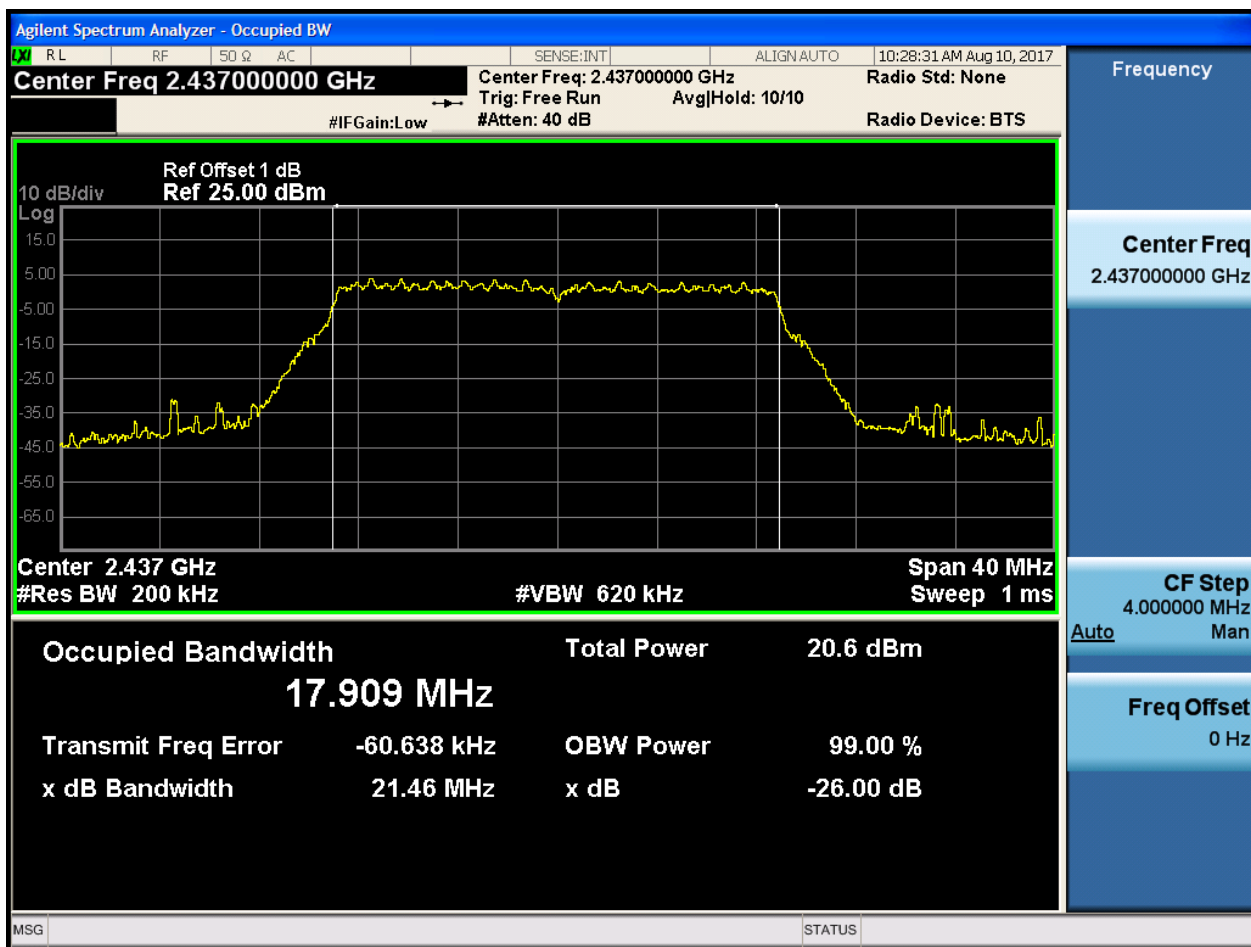


2.21 11N20m_M@Ant 1



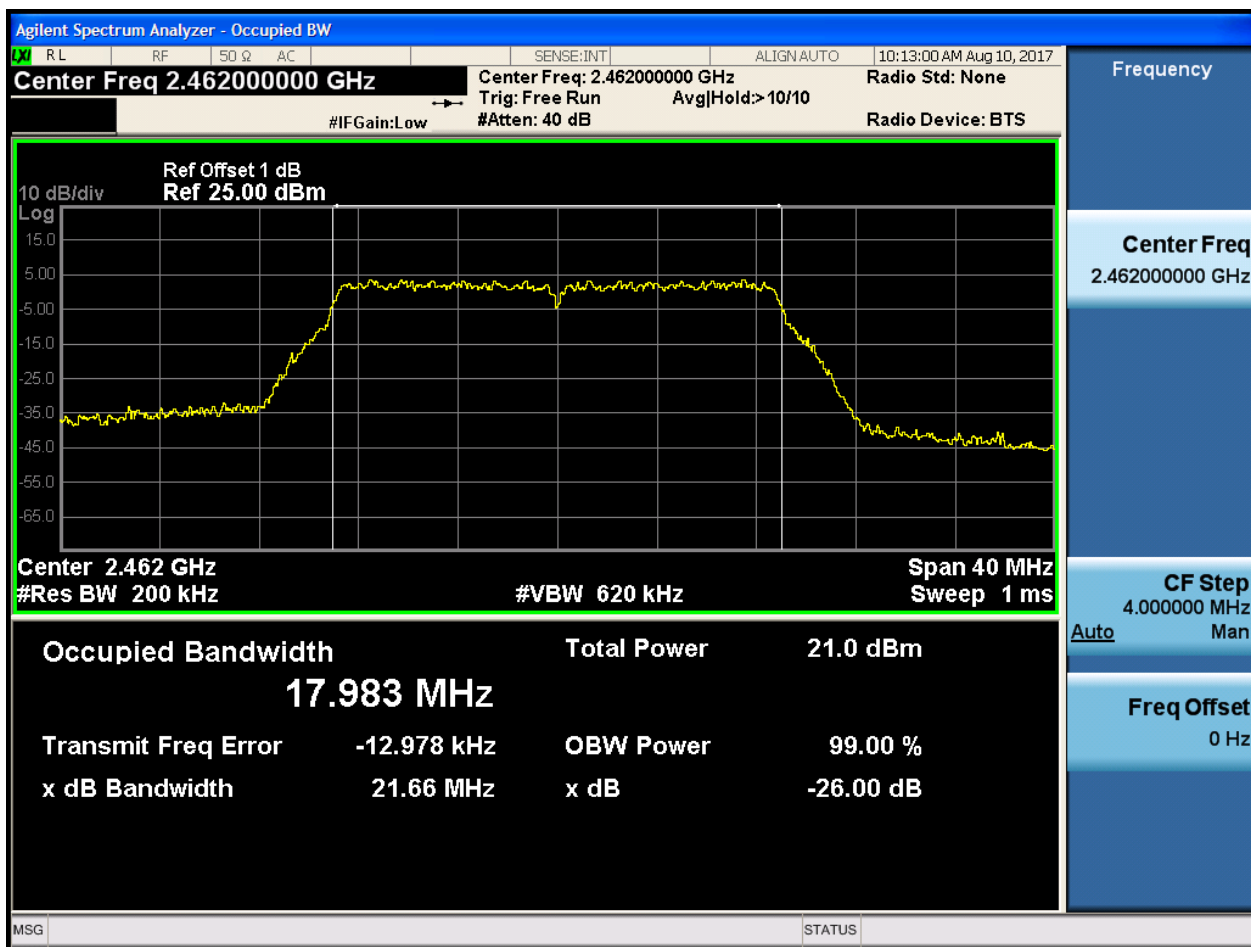


2.22 11N20m_M@Ant 2



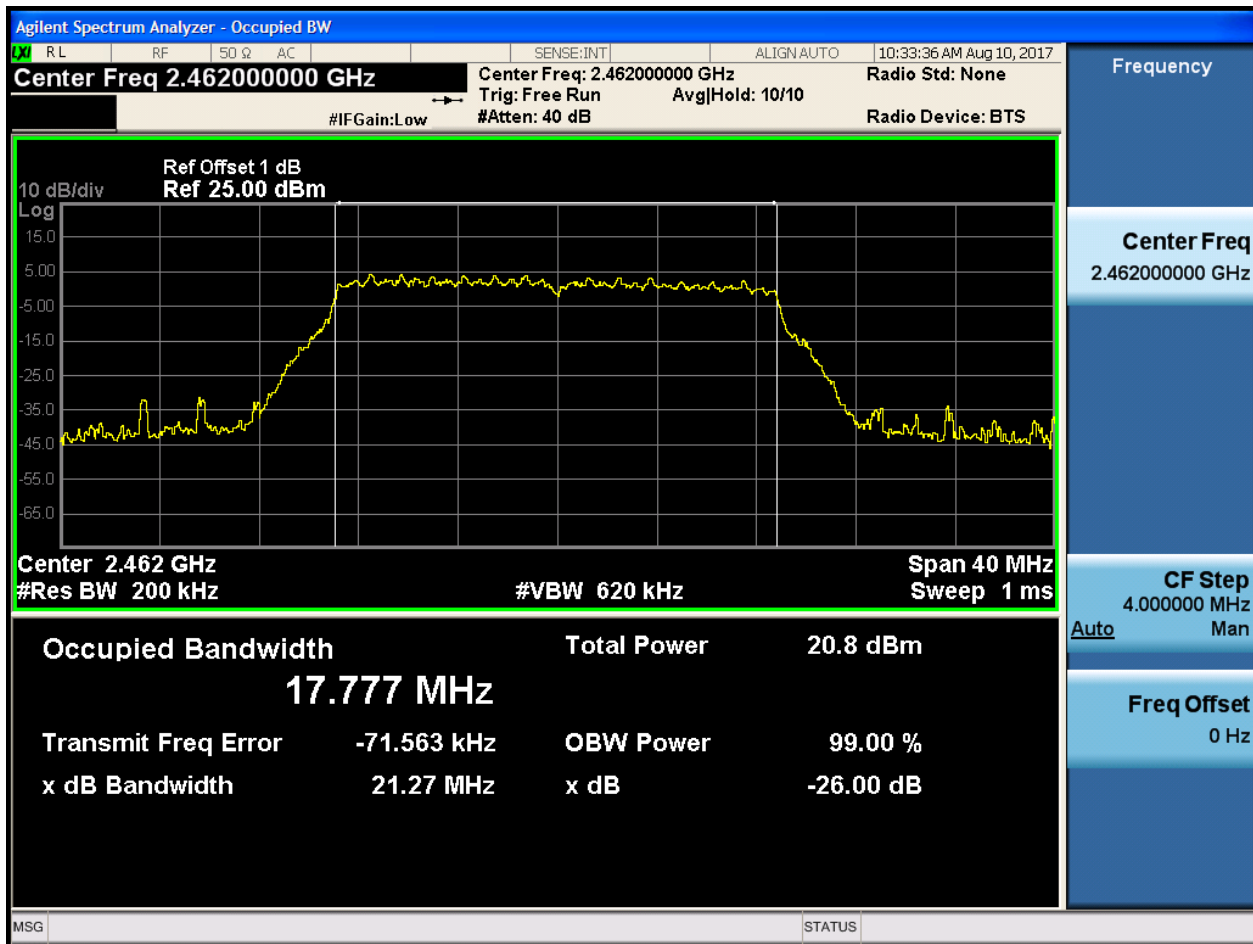


2.23 11N20m_H@Ant 1



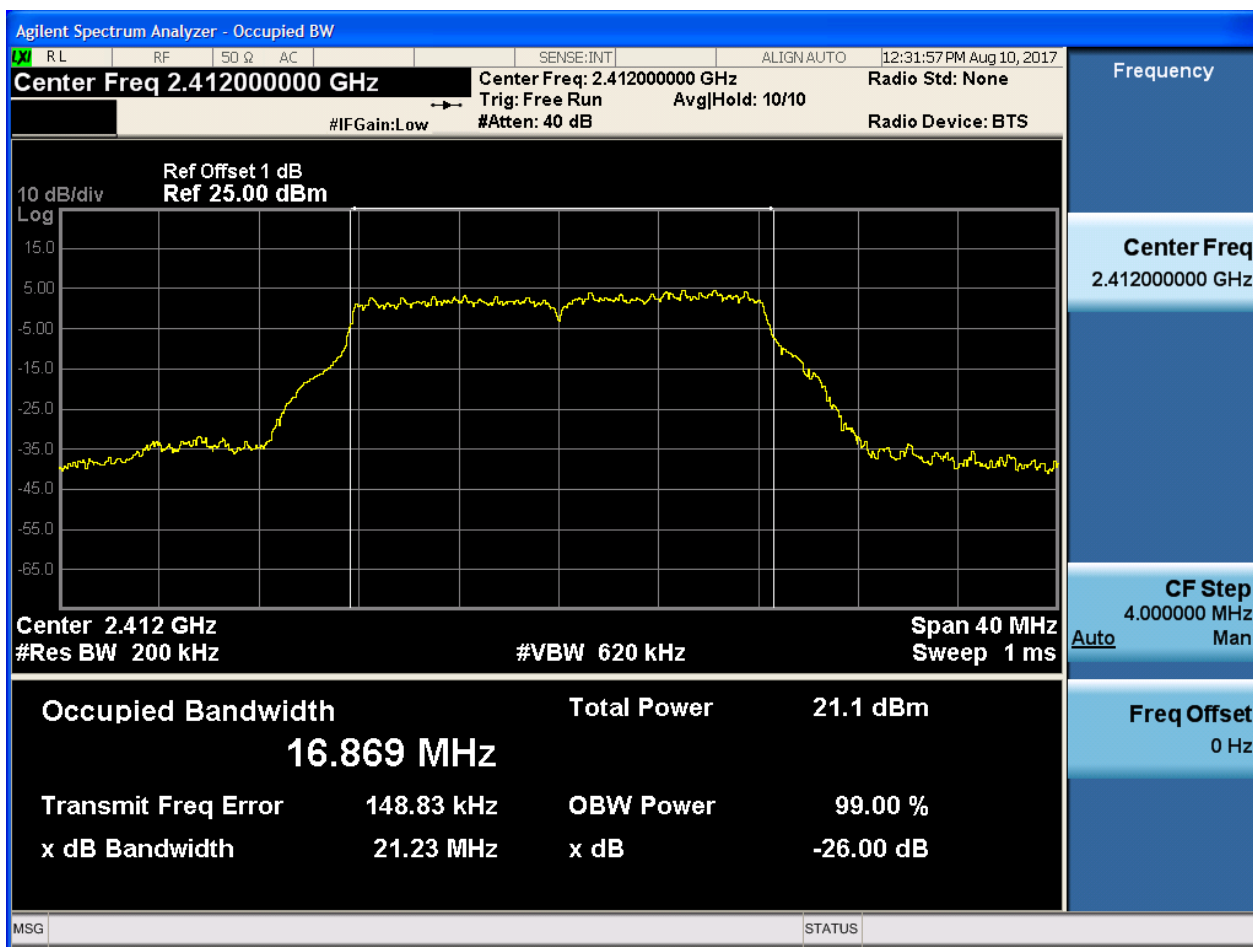


2.24 11N20m_H@Ant 2



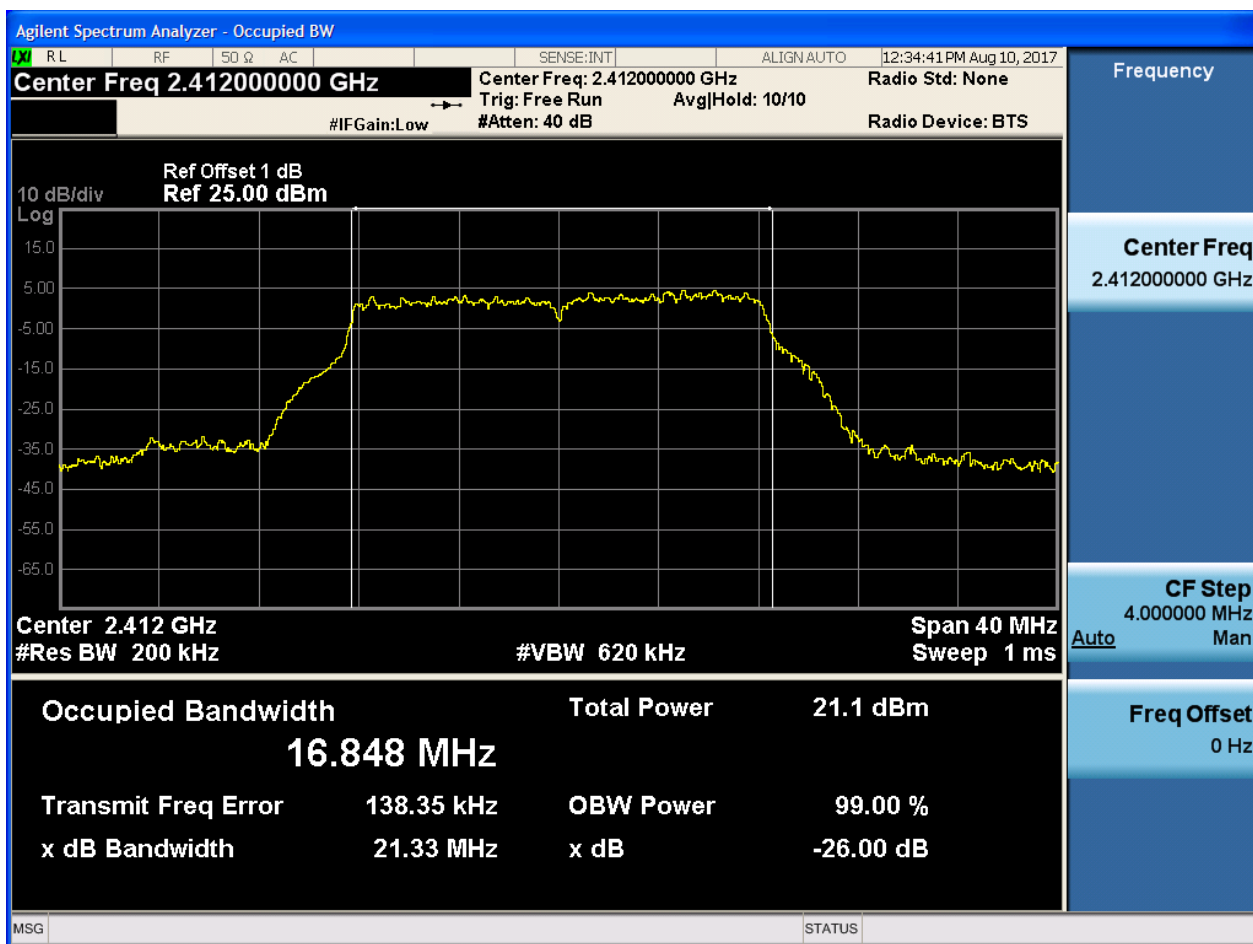


2.25 11G CDD_L@Ant 1



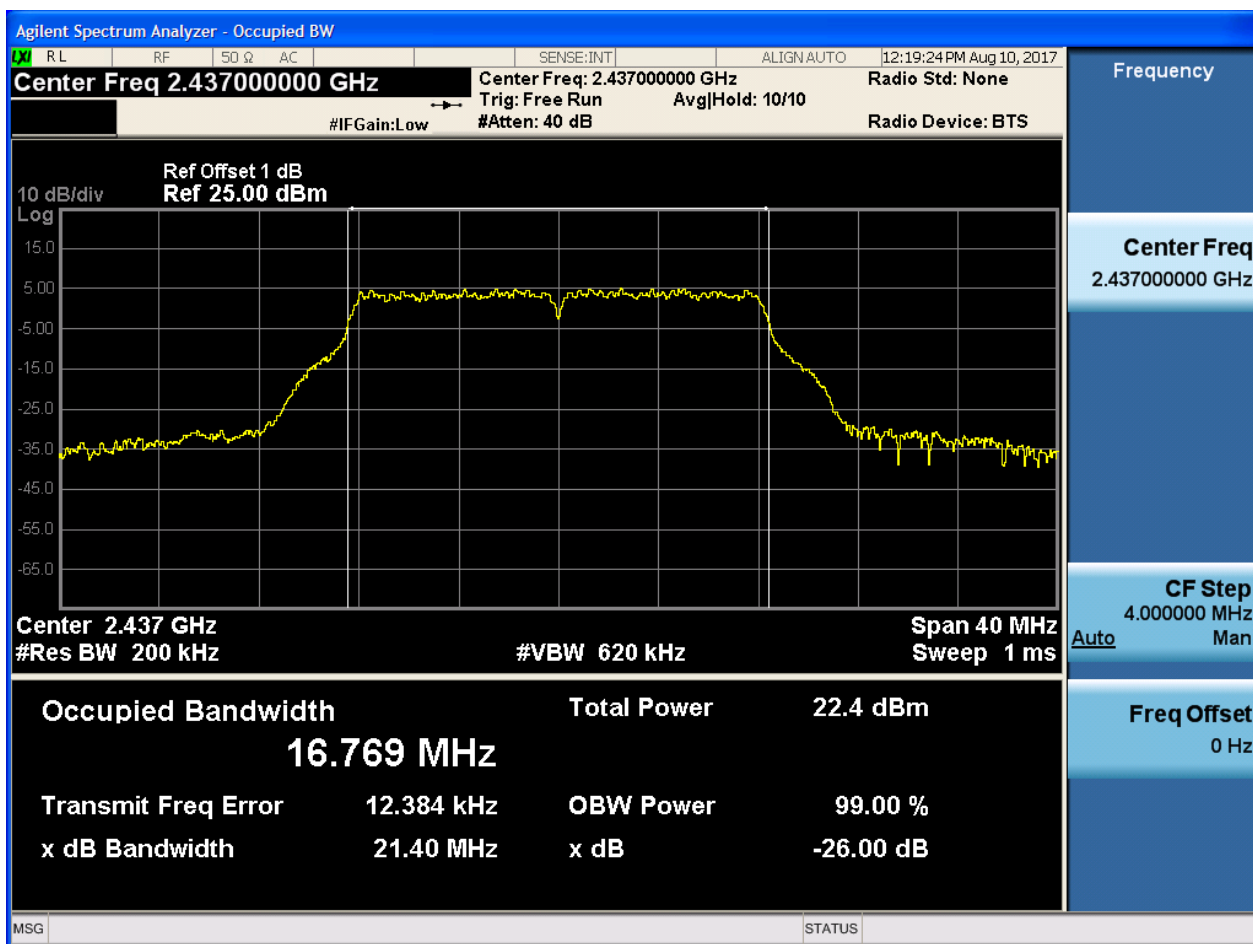


2.26 11G CDD_L@Ant 2



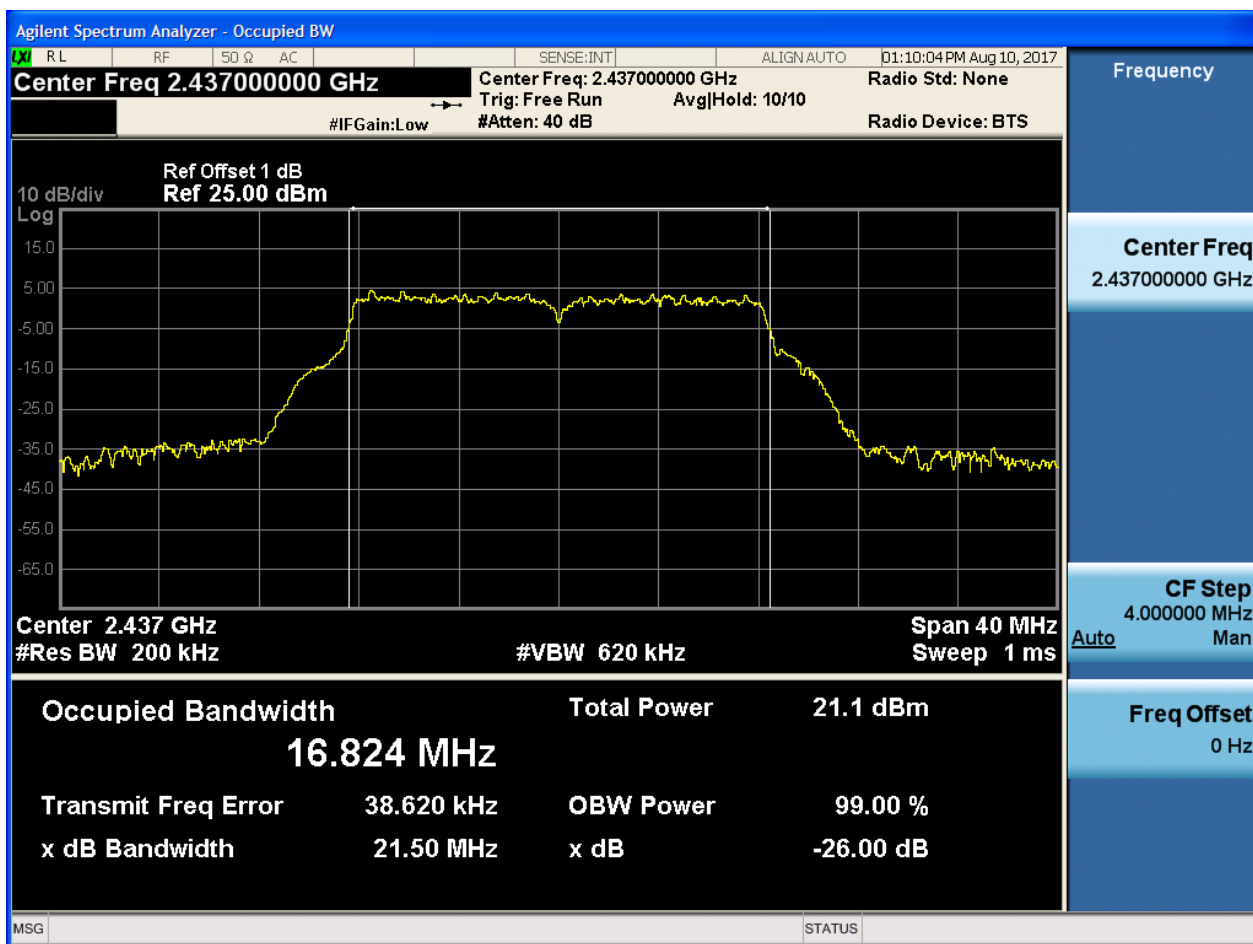


2.27 11G CDD_M@Ant 1



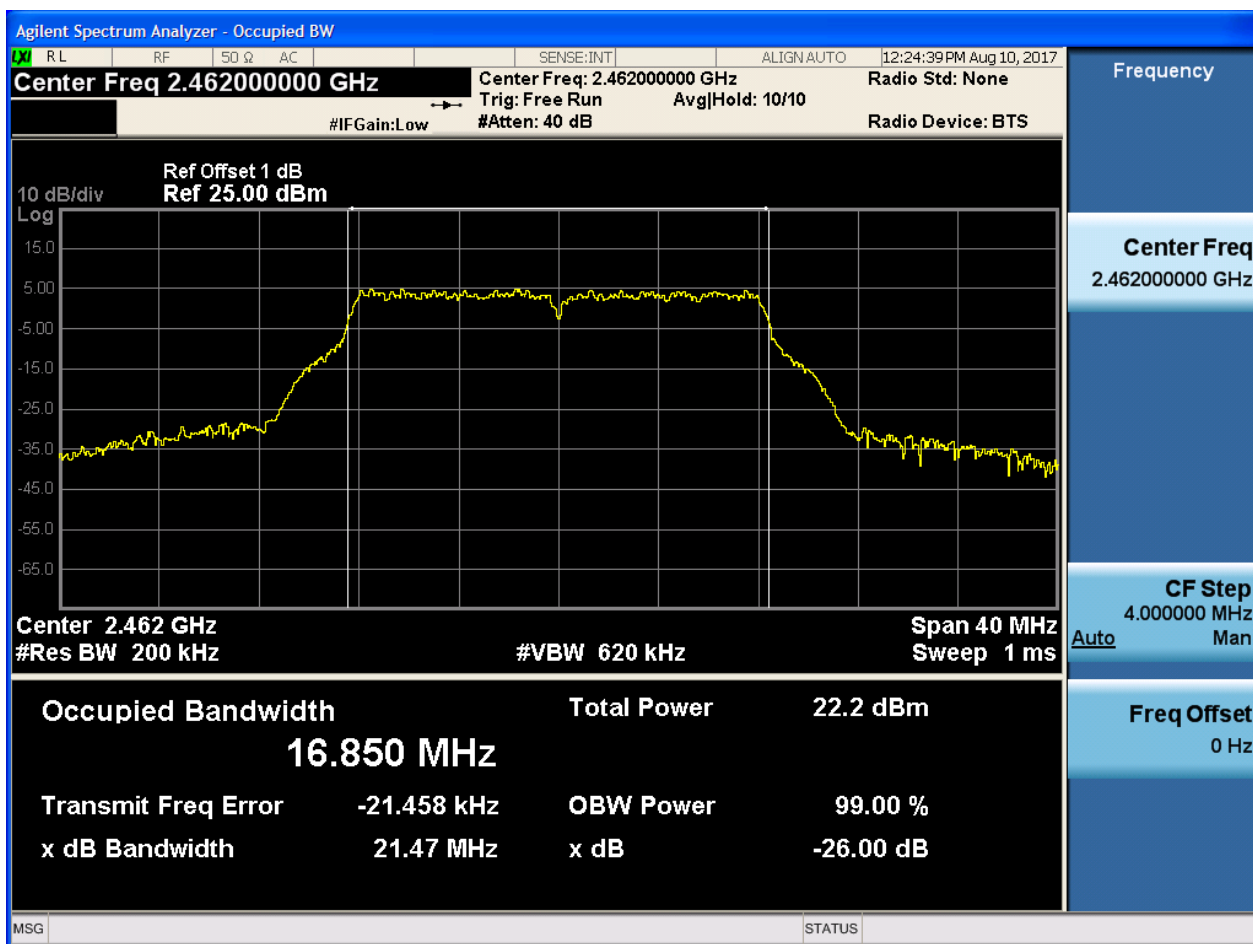


2.28 11G CDD_M@Ant 2



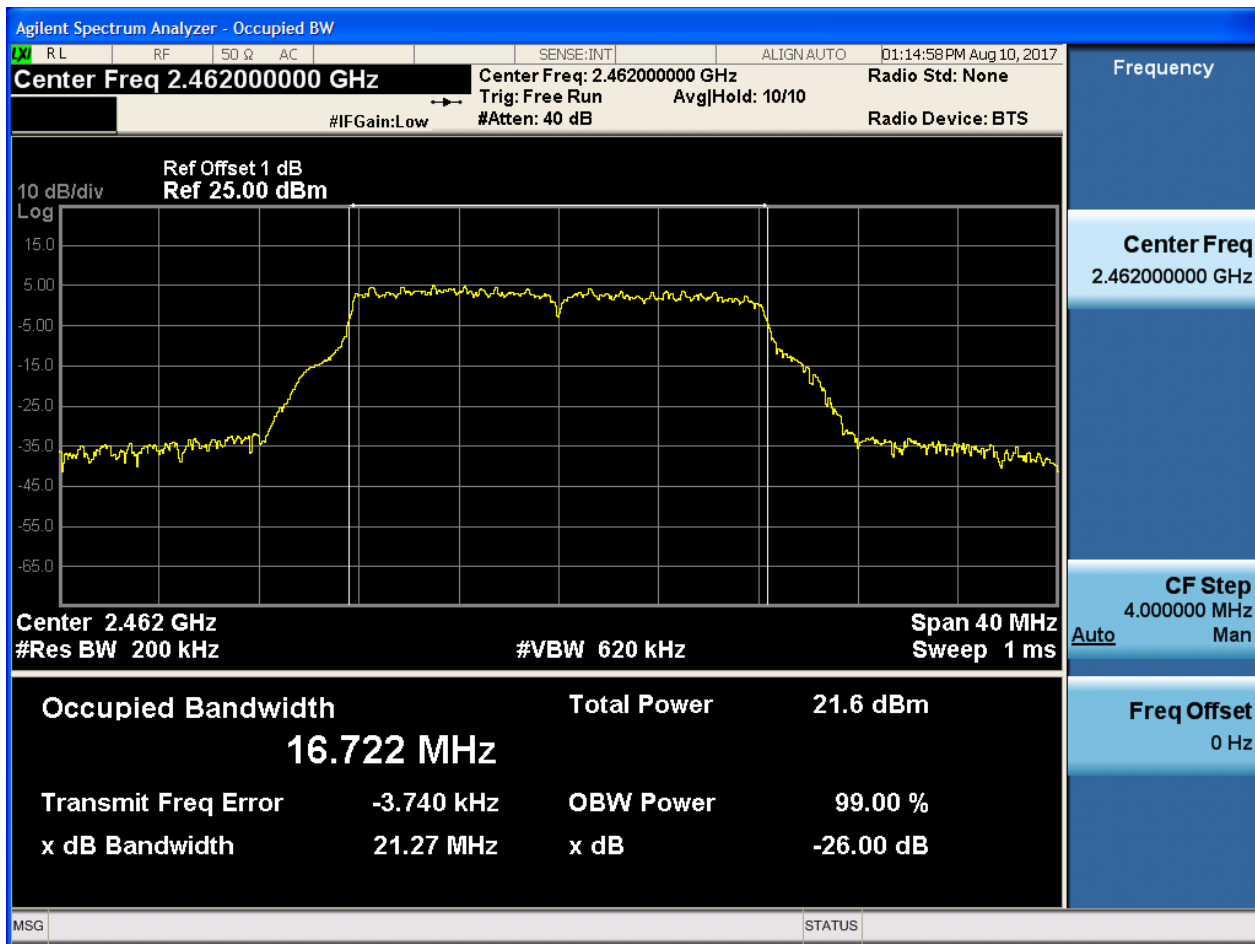


2.29 11G CDD_H@Ant 1





2.30 11G CDD_H@Ant 2



Appendix C: Duty Cycle

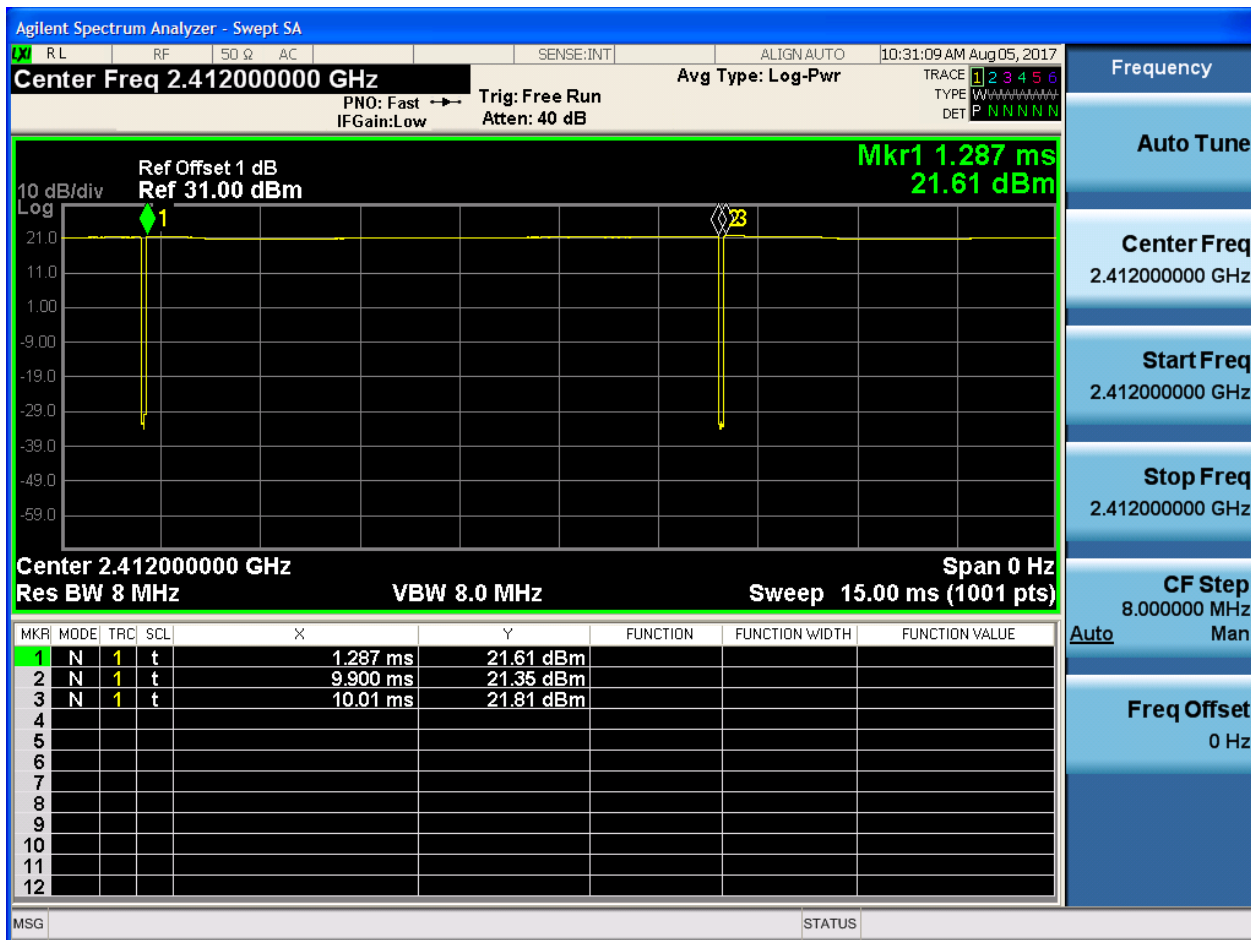
Part I - Test Results

Test Mode	TX Freq. [MHz]	Ant	Duty cycle [%]
11B	CH1,CH6,CH11	Ant 1	99
11B	CH1,CH6,CH11	Ant 2	99
11G/11G CDD	CH1,CH6,CH11	Ant 1	93
11G/11G CDD	CH1,CH6,CH11	Ant 2	93
11N20SISO	CH1,CH6,CH11	Ant 1	93
11N20SISO	CH1,CH6,CH11	Ant 2	93
11N20MIMO	CH1,CH6,CH11	Ant 1	86
11N20MIMO	CH1,CH6,CH11	Ant 2	87



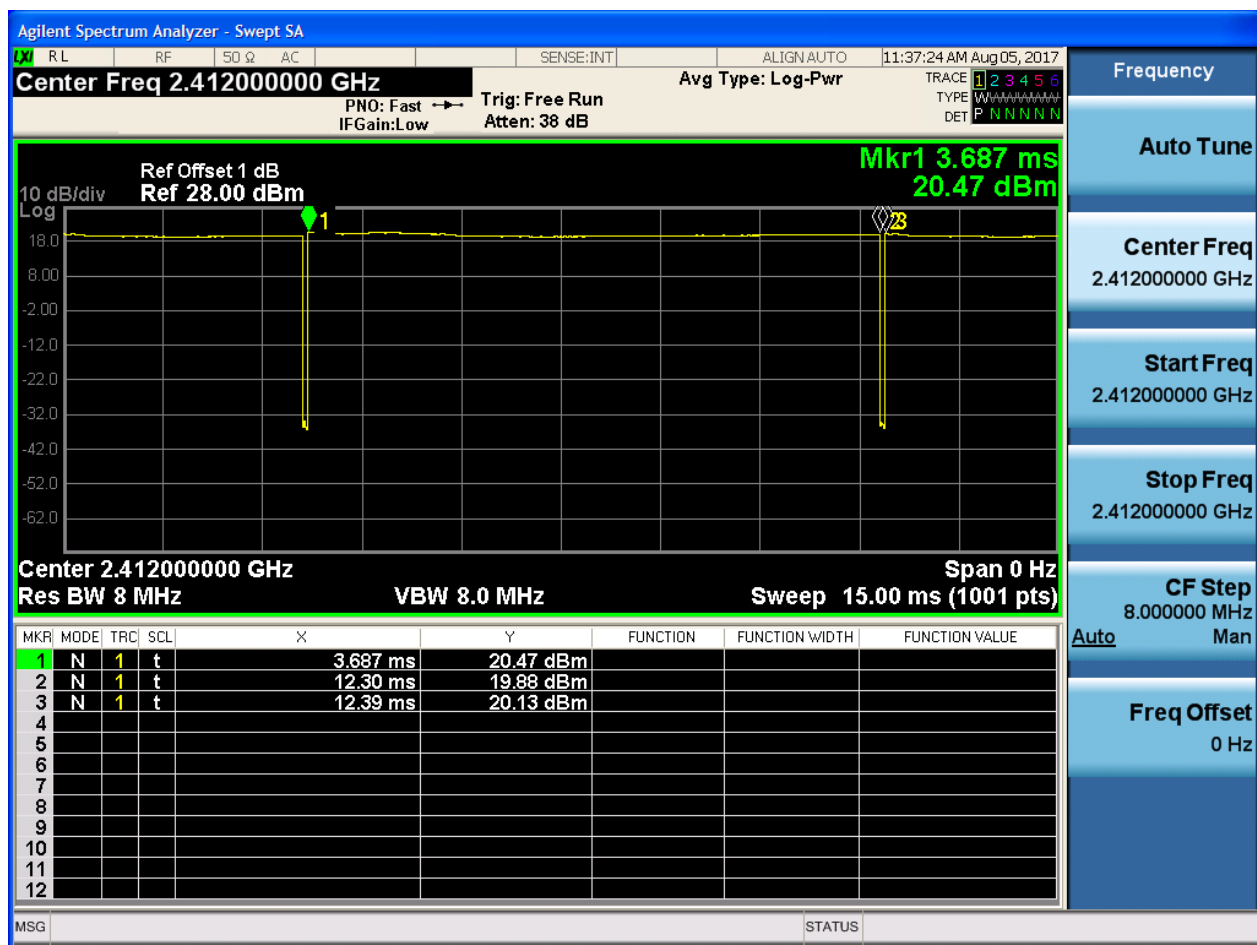
Part II - Test Plots

11B_ANT1



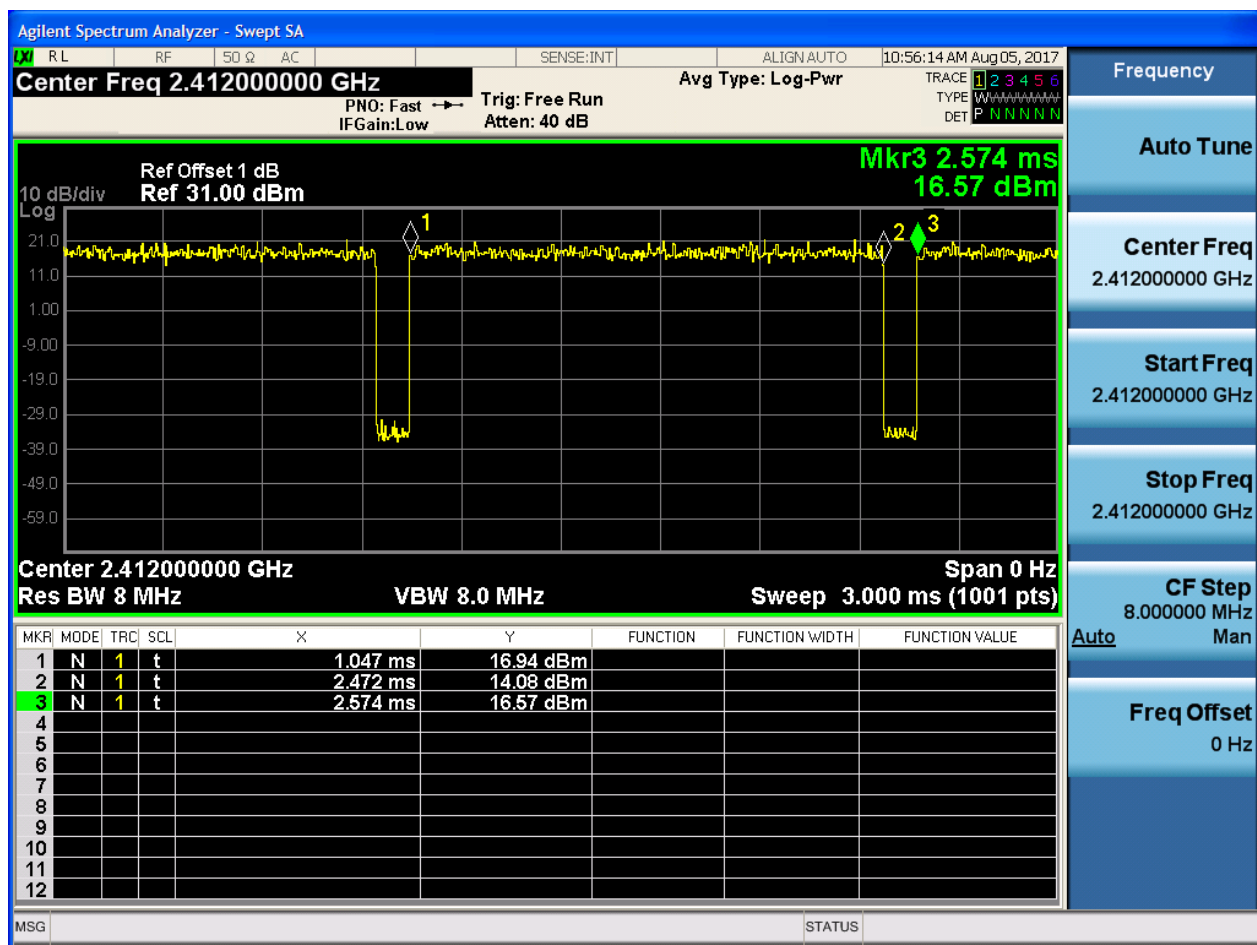


11B_ANT2



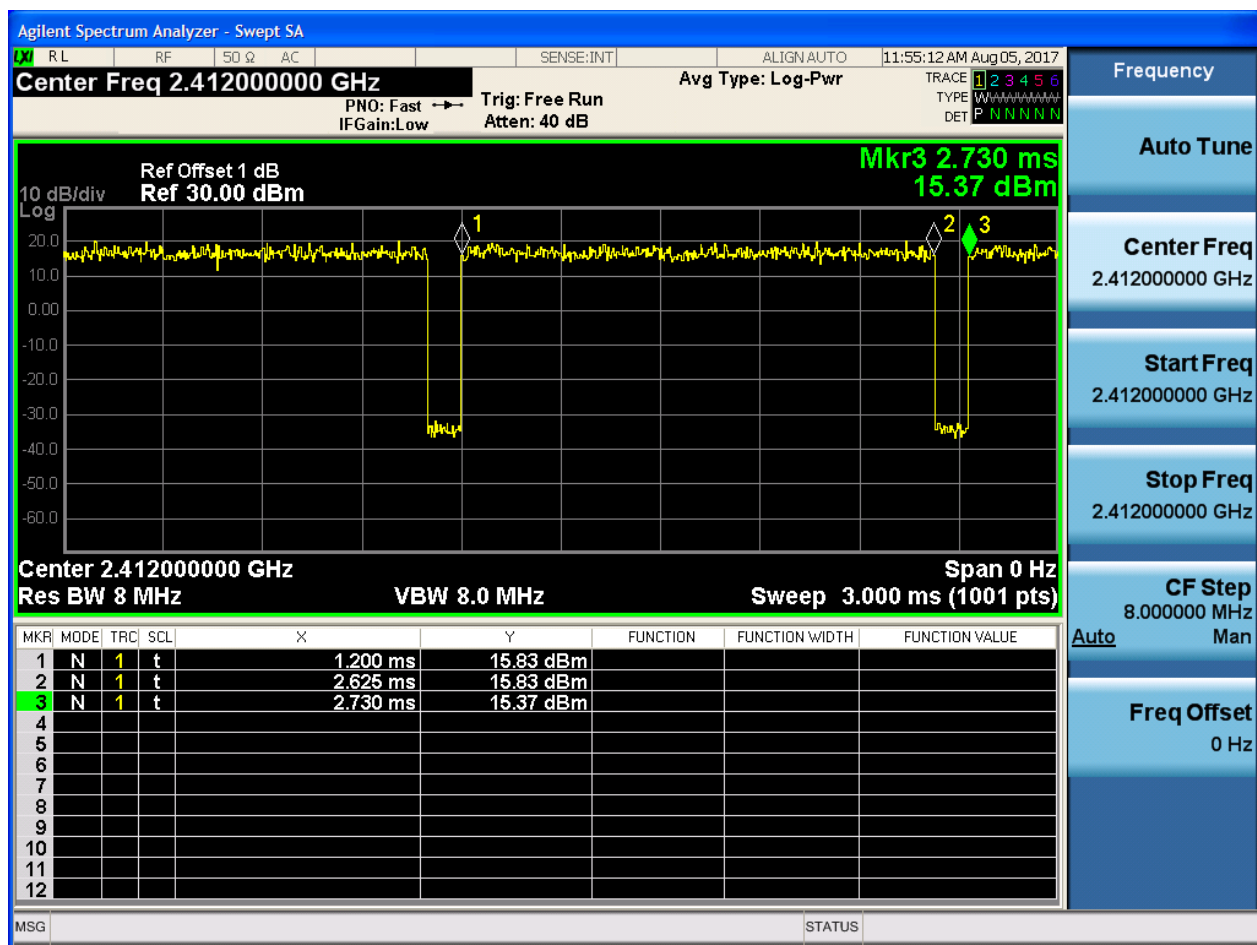


11G/11GCDD_ANT1



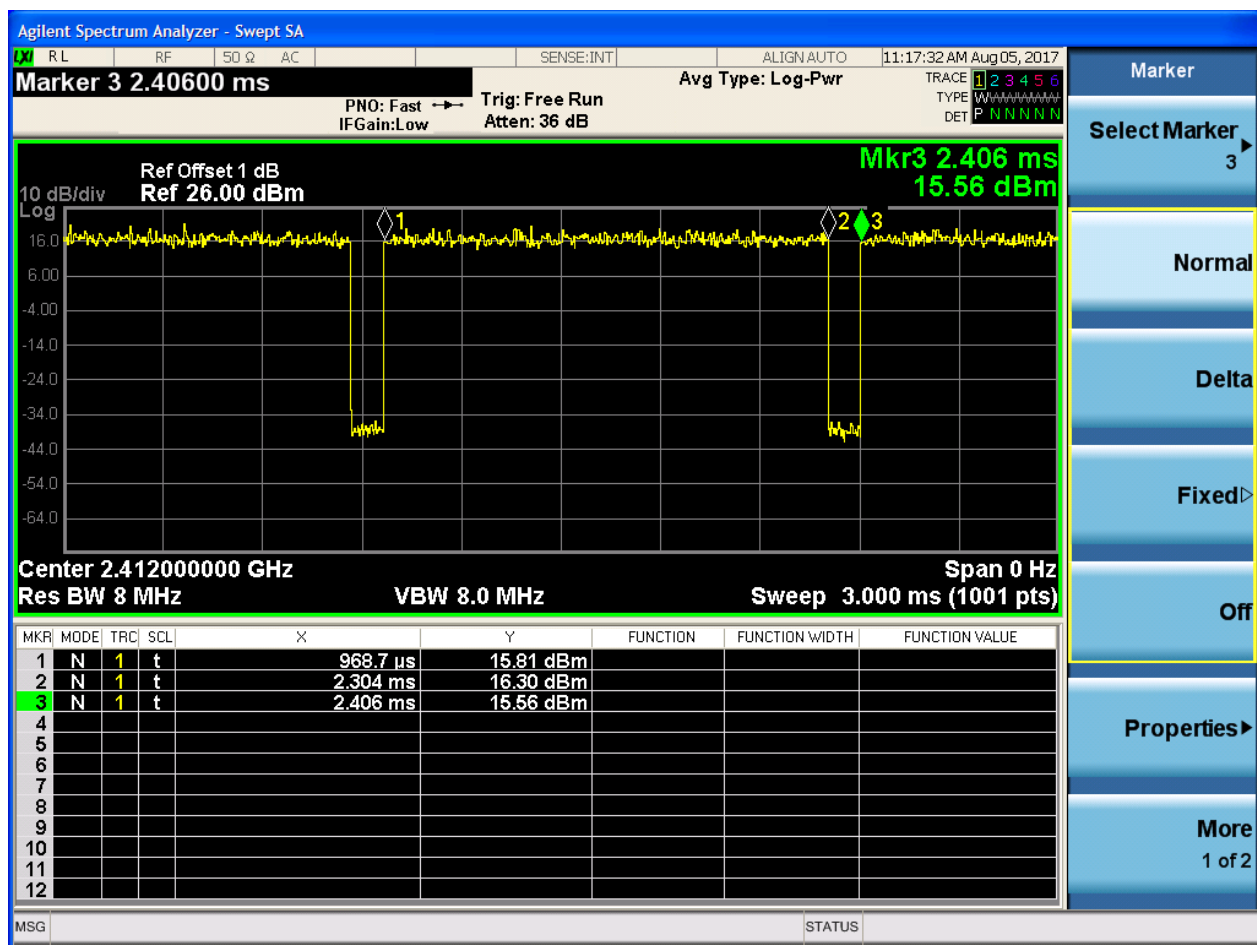


11G/11GCDD_ANT2



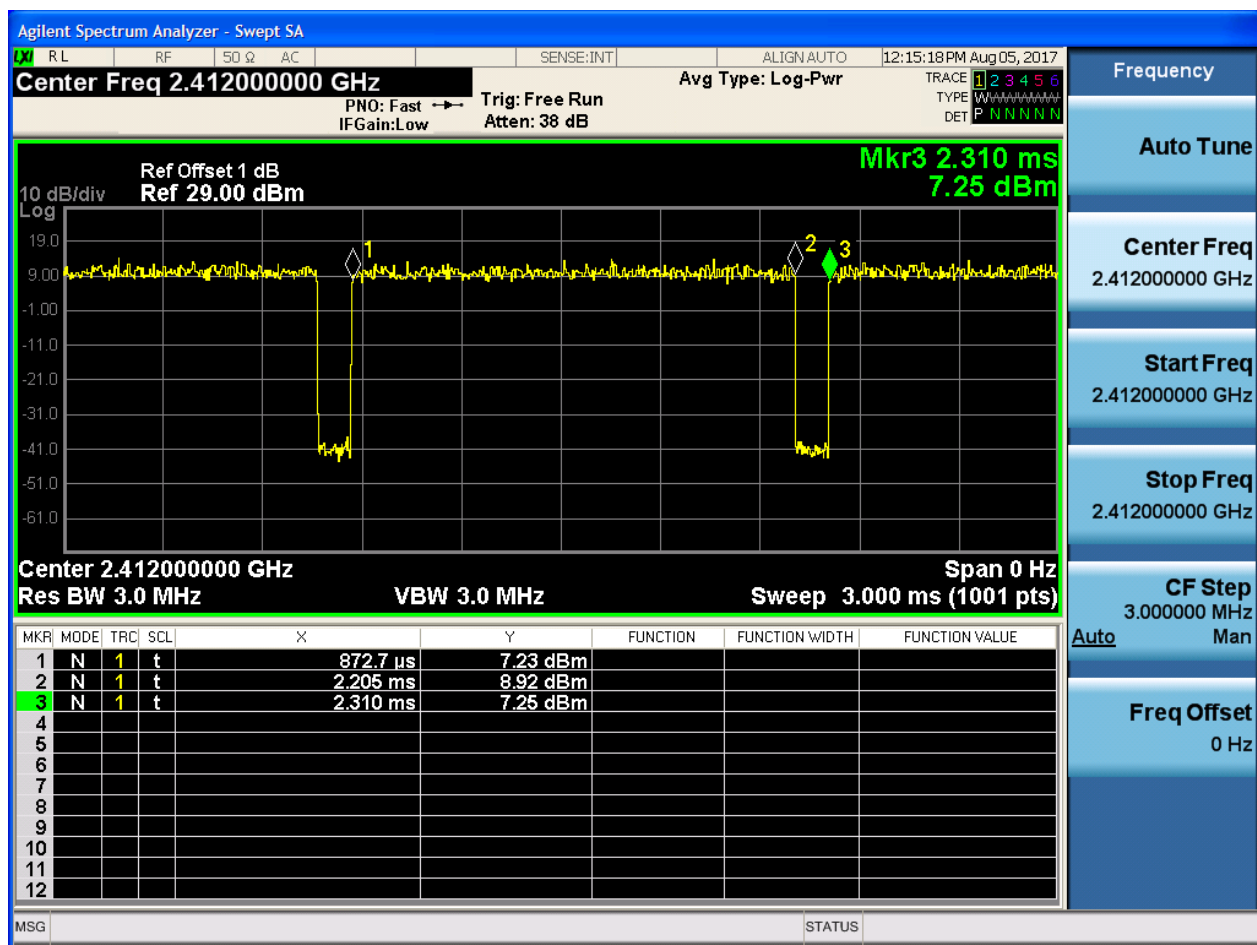


11N20SISO_ANT1



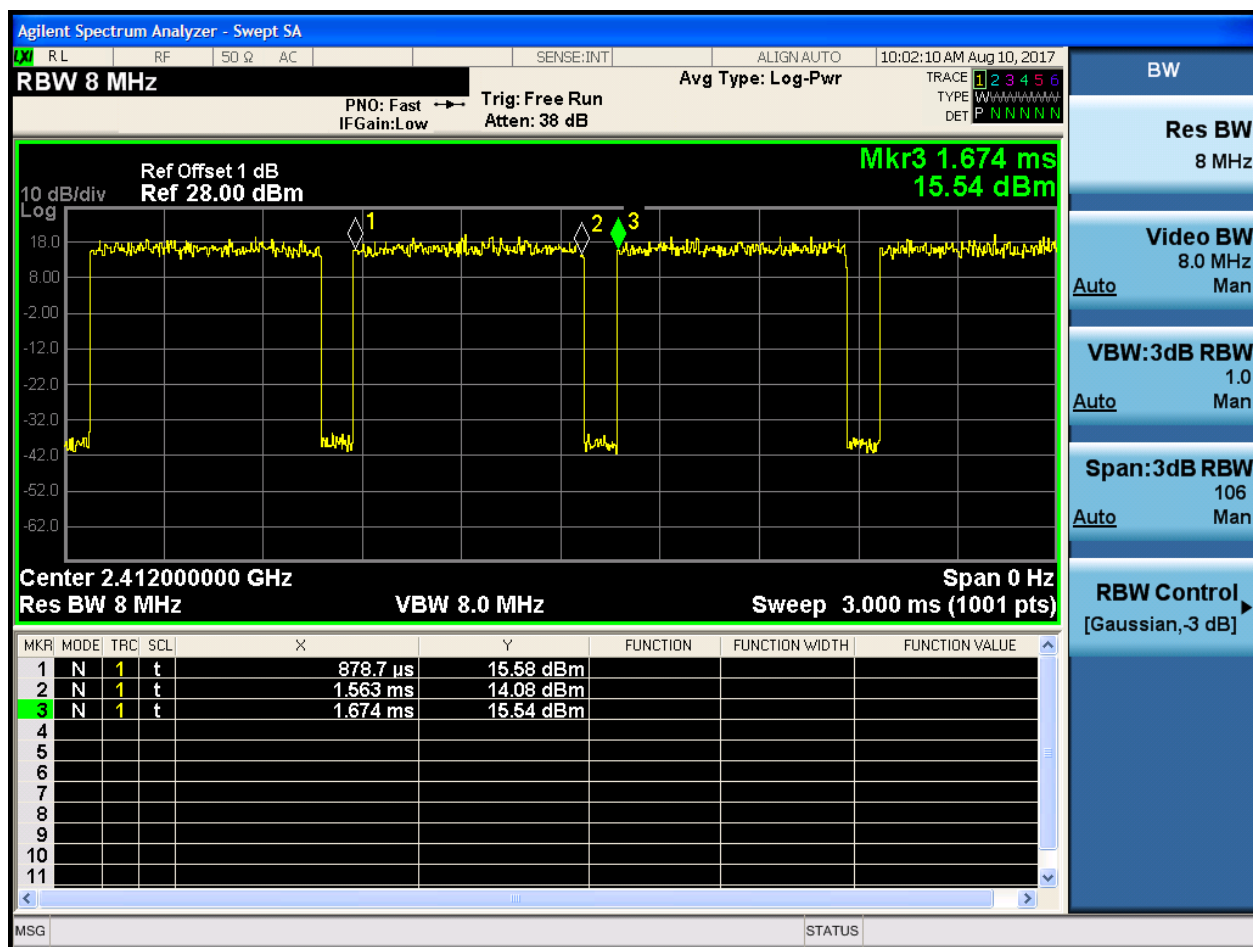


11N20SISO_ANT2



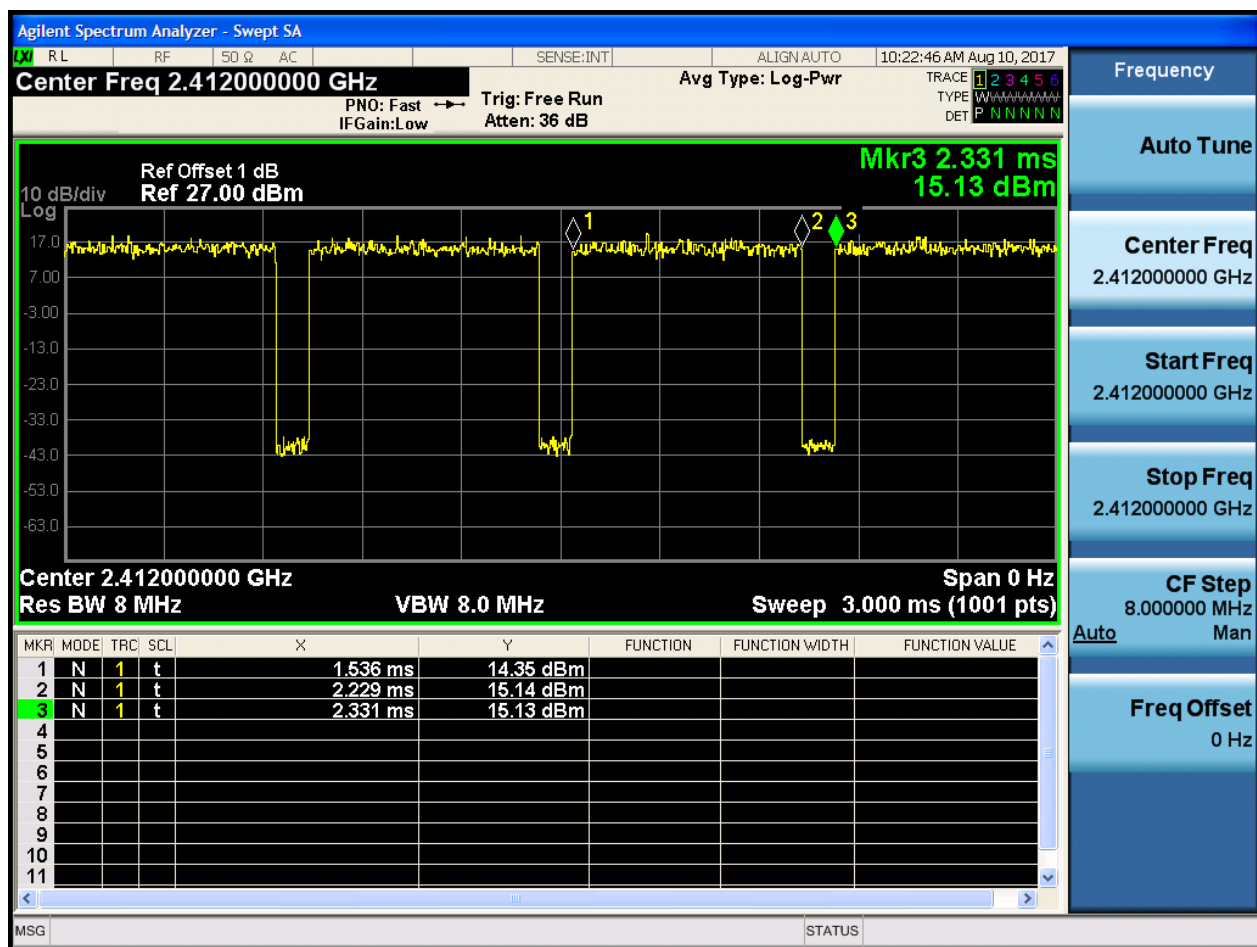


11N20MIMO_ANT1





11N20MIMO_ANT2



Appendix D: Maximum Conducted Average Output Power

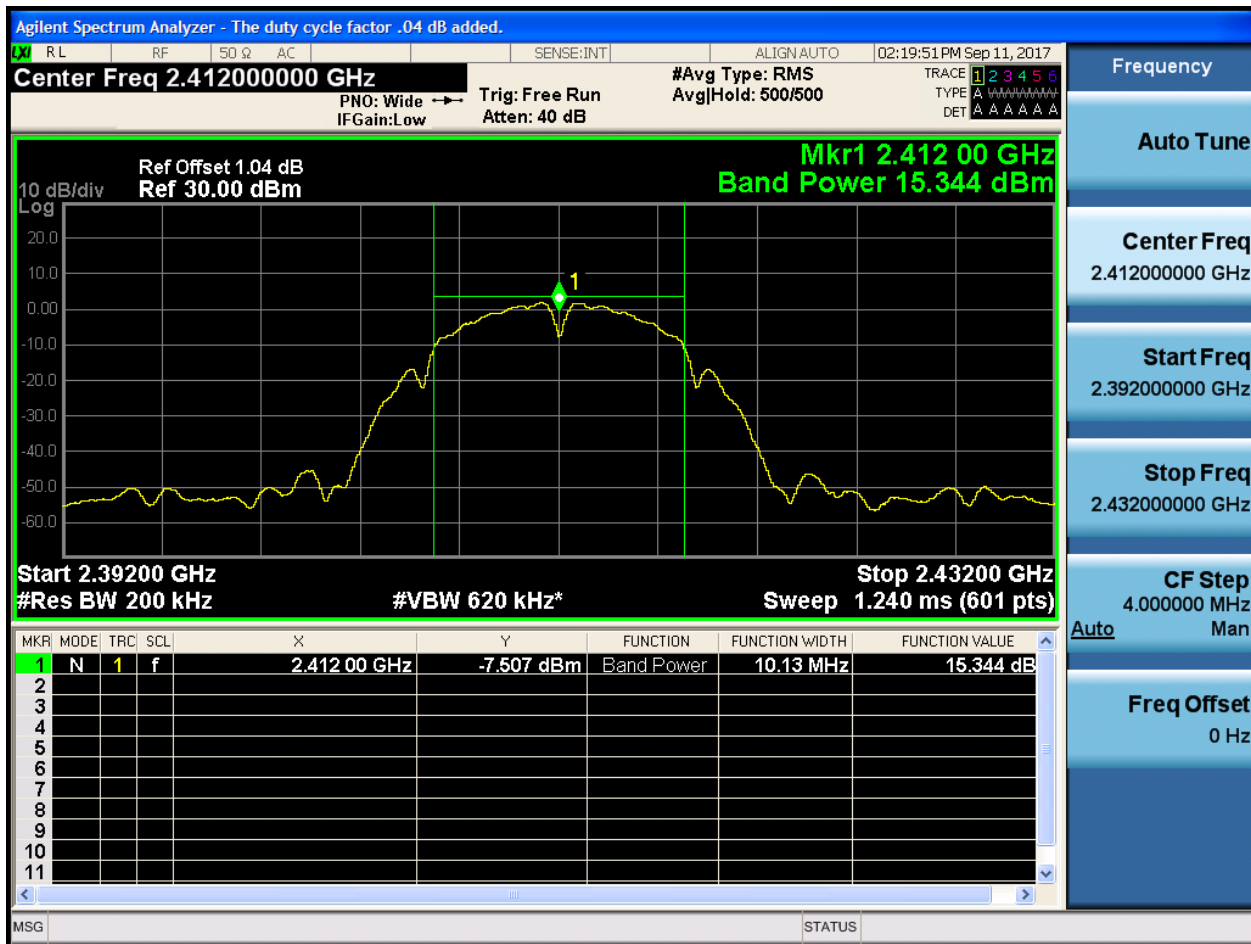
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
11B	L	2412	Ant 1	15.34	pass
11B	L	2412	Ant 2	14.52	pass
11B	M	2437	Ant 1	15.39	pass
11B	M	2437	Ant 2	14.90	pass
11B	H	2462	Ant 1	15.12	pass
11B	H	2462	Ant 2	15.24	pass
11G	L	2412	Ant 1	14.69	pass
11G	L	2412	Ant 2	13.93	pass
11G	M	2437	Ant 1	15.20	pass
11G	M	2437	Ant 2	14.33	pass
11G	H	2462	Ant 1	14.85	pass
11G	H	2462	Ant 2	14.64	pass
11N20	L	2412	Ant 1	13.83	pass
11N20	L	2412	Ant 2	13.05	pass
11N20	M	2437	Ant 1	14.11	pass
11N20	M	2437	Ant 2	13.29	pass
11N20	H	2462	Ant 1	13.90	pass
11N20	H	2462	Ant 2	13.83	pass
11N20m	L	2412	Ant 1	13.92	pass
11N20m	L	2412	Ant 2	13.40	pass
11N20m	L	2412	SUM	16.68	pass
11N20m	M	2437	Ant 1	14.31	pass
11N20m	M	2437	Ant 2	13.90	pass
11N20m	M	2437	SUM	17.12	pass
11N20m	H	2462	Ant 1	13.99	pass
11N20m	H	2462	Ant 2	14.09	pass
11N20m	H	2462	SUM	17.05	pass
11G CDD	L	2412	Ant 1	14.28	pass
11G CDD	L	2412	Ant 2	14.25	pass
11G CDD	L	2412	SUM	17.28	pass
11G CDD	M	2437	Ant 1	15.29	pass
11G CDD	M	2437	Ant 2	14.30	pass
11G CDD	M	2437	SUM	17.83	pass
11G CDD	H	2462	Ant 1	15.14	pass
11G CDD	H	2462	Ant 2	14.84	pass
11G CDD	H	2462	SUM	18.00	pass



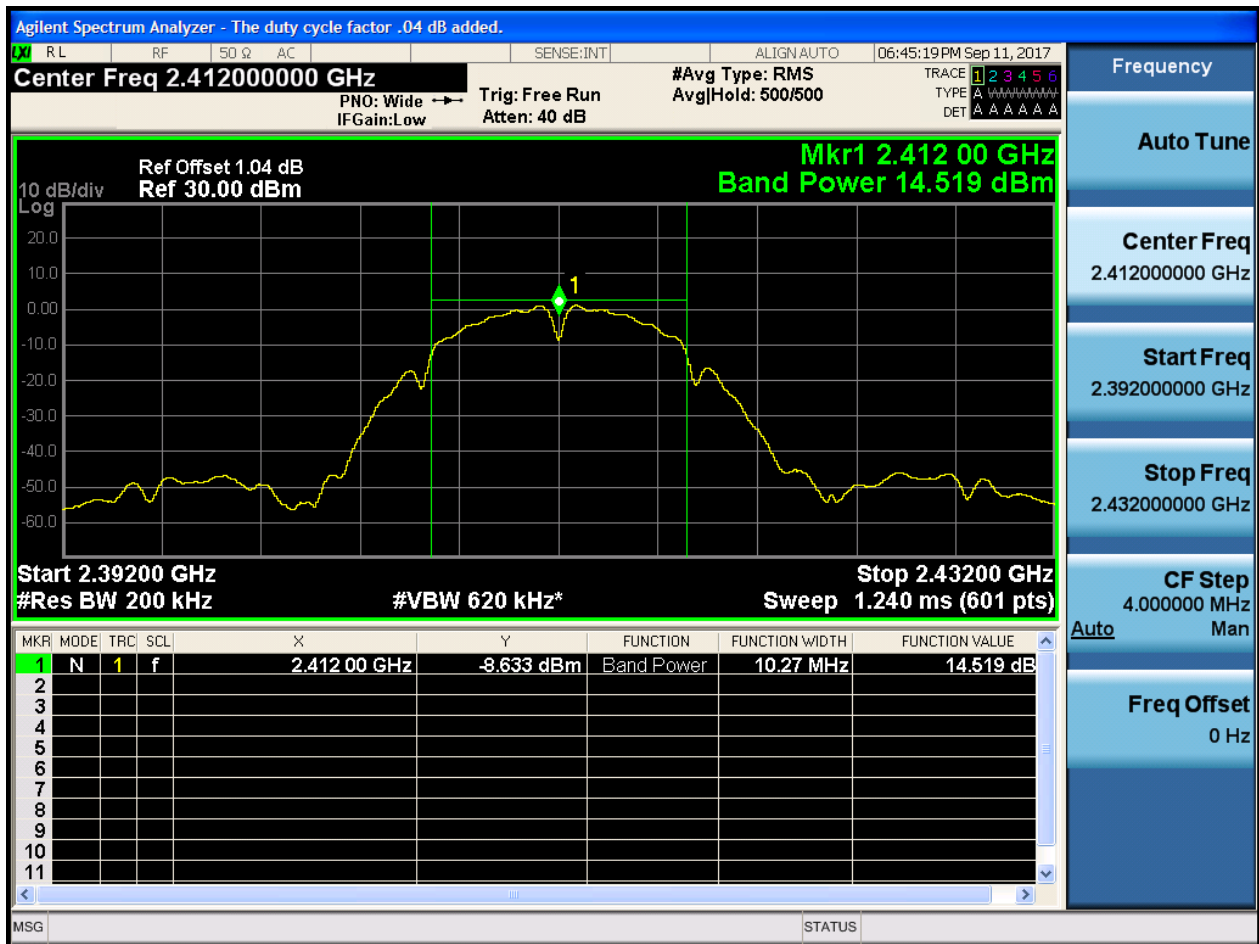
Part II - Test Plots

2.1 11B_L@Ant 1



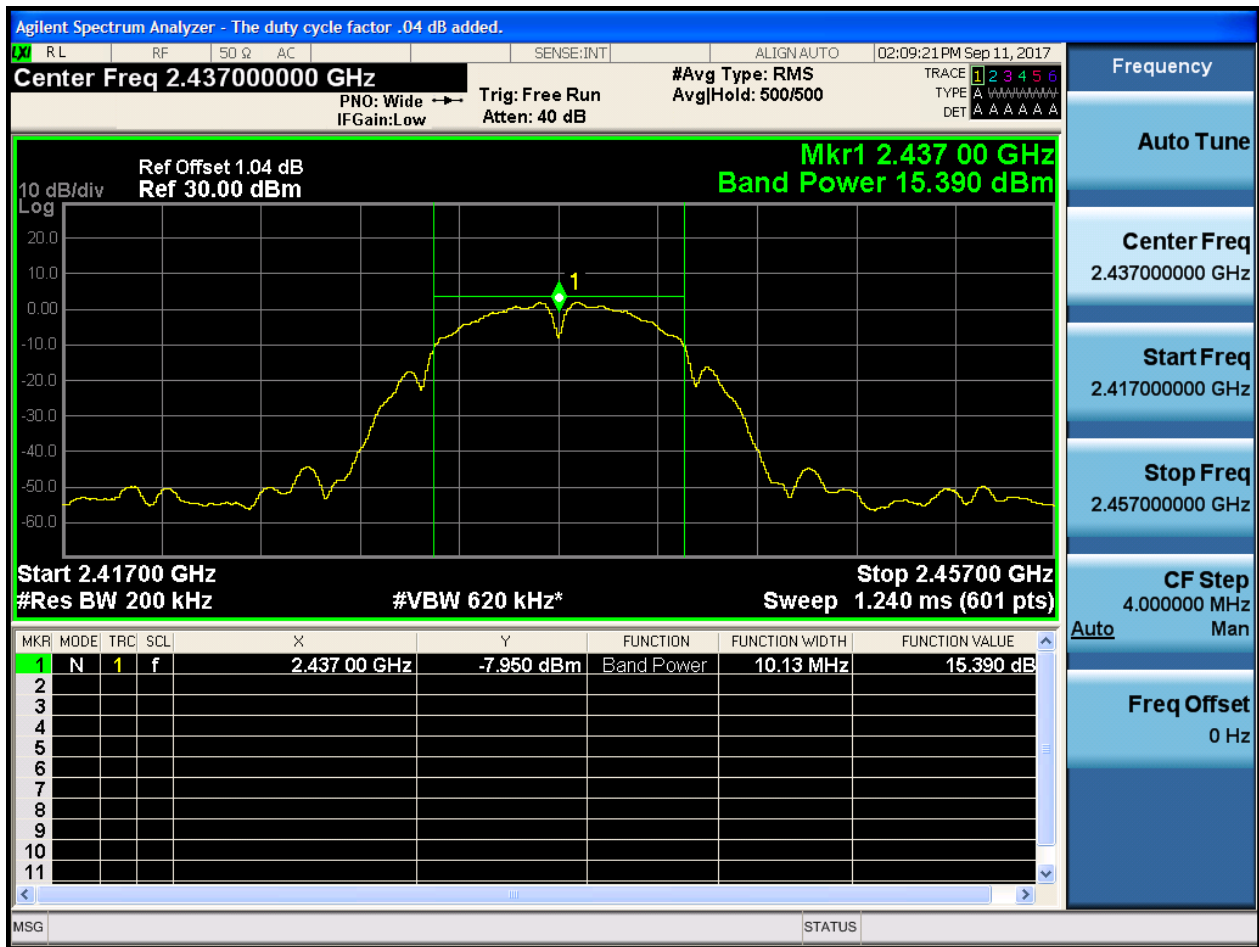


2.2 11B_L@Ant 2



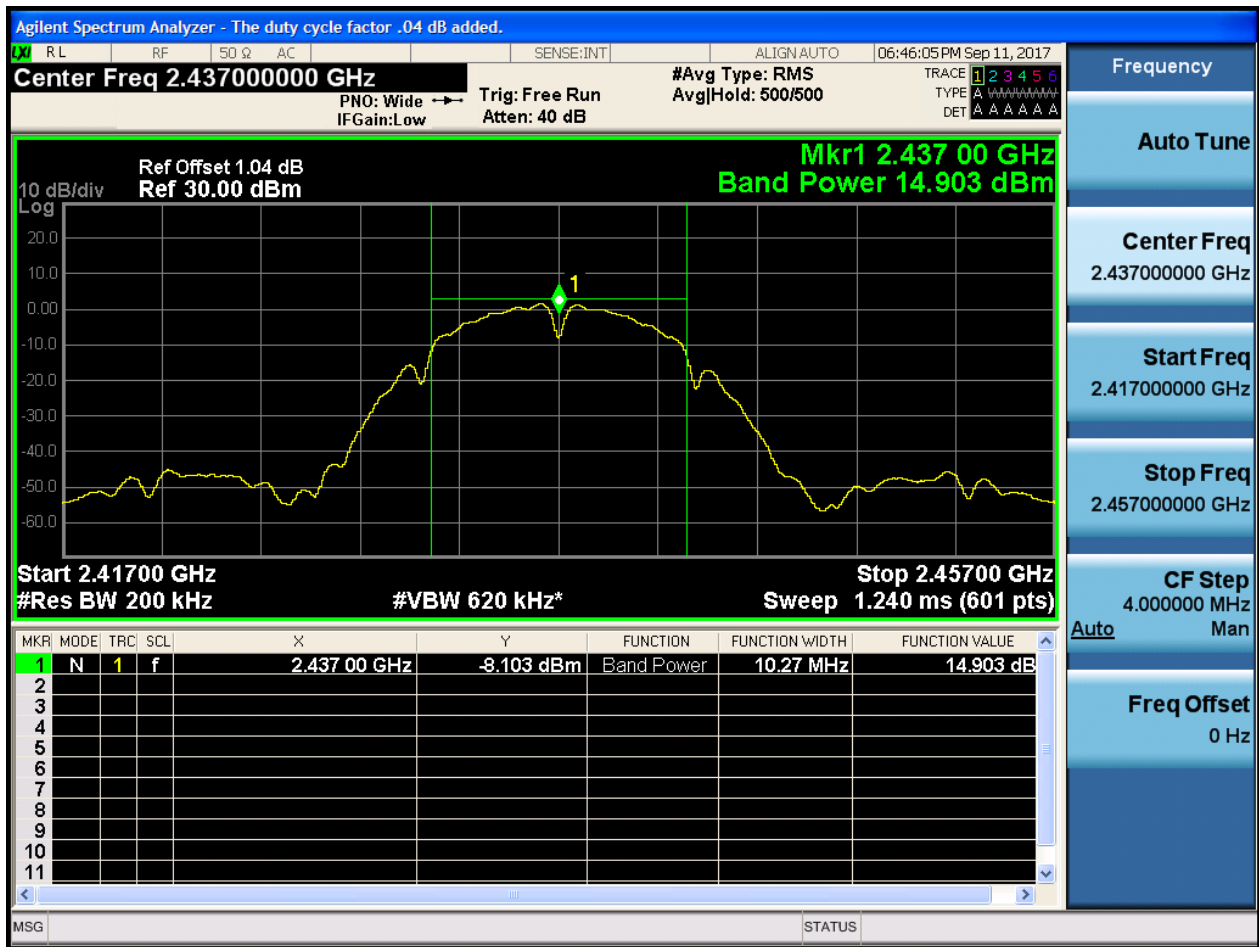


2.3 11B_M@Ant 1





2.4 11B_M@Ant 2





Agilent Spectrum Analyzer - The duty cycle factor .04 dB added.

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 02:14:47 PM Sep 11, 2017

Center Freq 2.46200000 GHz #Avg Type: RMS AvgHold: 500/500
 PNO: Wide → Trig: Free Run
 IFGain:Low Atten: 40 dB

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

Ref Offset 1.04 dB
 Ref 30.00 dBm

Mkr1 2.462 00 GHz
Band Power 15.119 dBm

10 dB/div Log

Start 2.44200 GHz #Res BW 200 kHz #VBW 620 kHz* Stop 2.48200 GHz Sweep 1.240 ms (601 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.462 00 GHz	-7.719 dBm	Band Power	10.13 MHz	15.119 dB
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency

Auto Tune

Center Freq
2.46200000 GHz

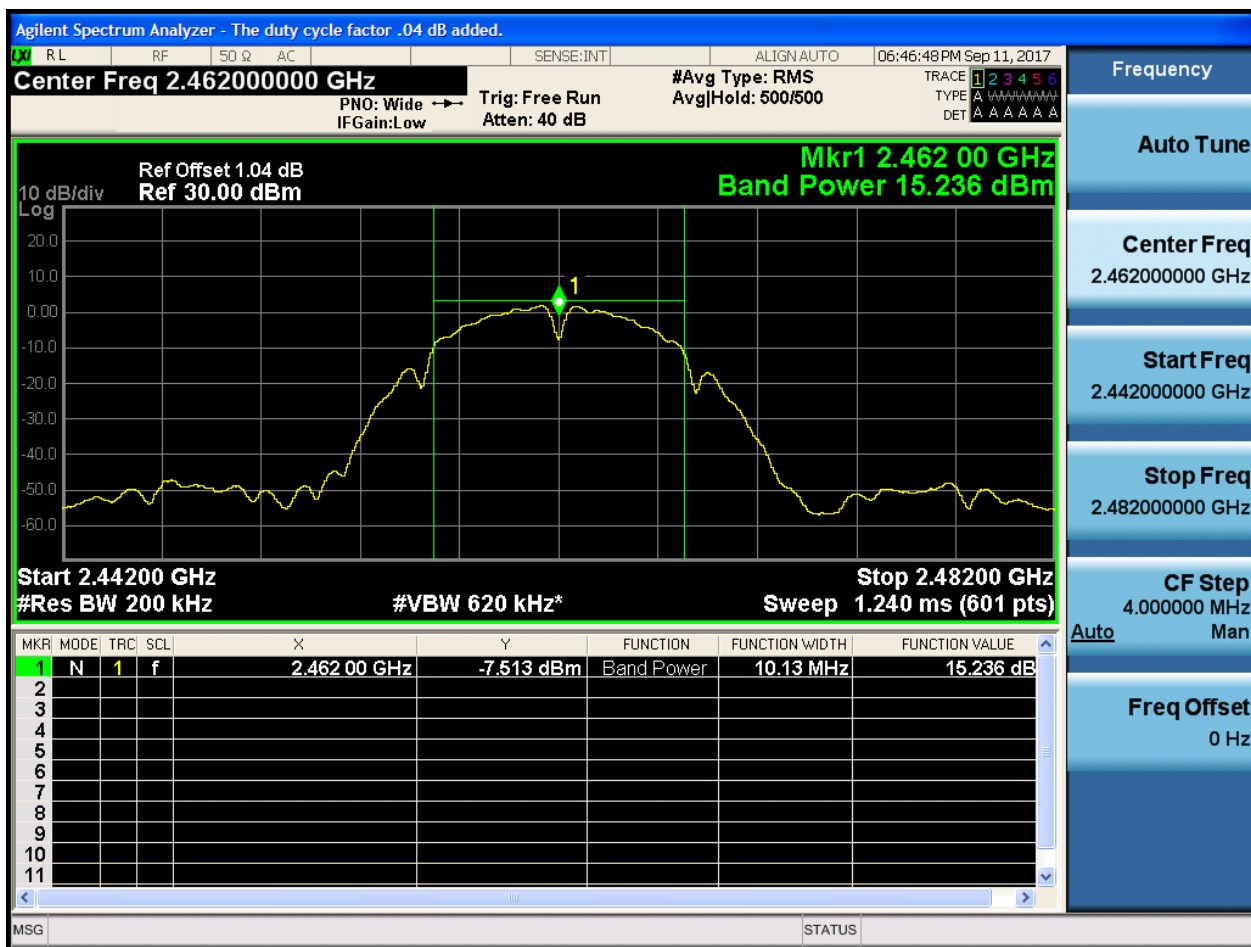
Start Freq
2.44200000 GHz

Stop Freq
2.48200000 GHz

CF Step
4.000000 MHz
Man

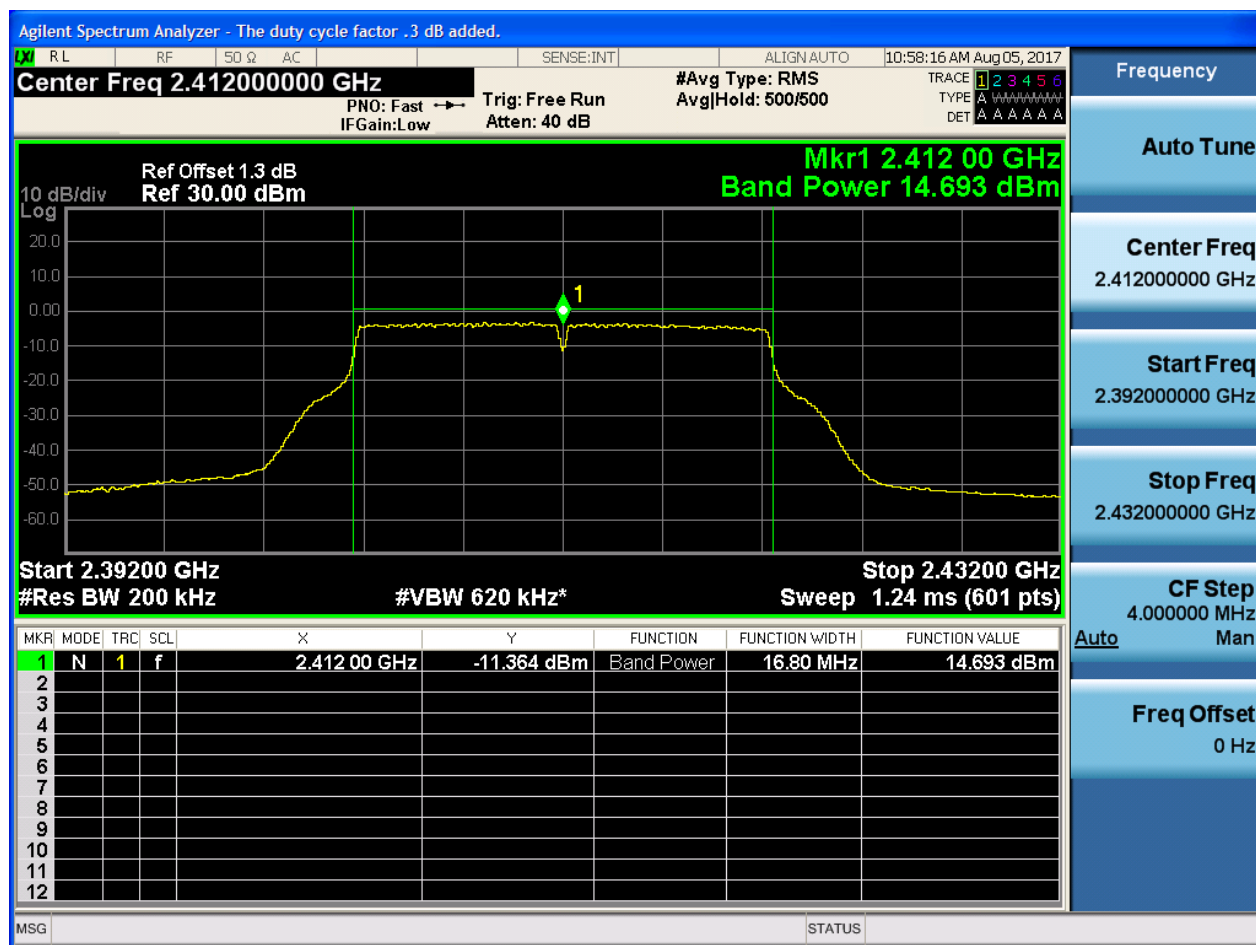
Freq Offset
0 Hz

2.6 11B_H@Ant 2



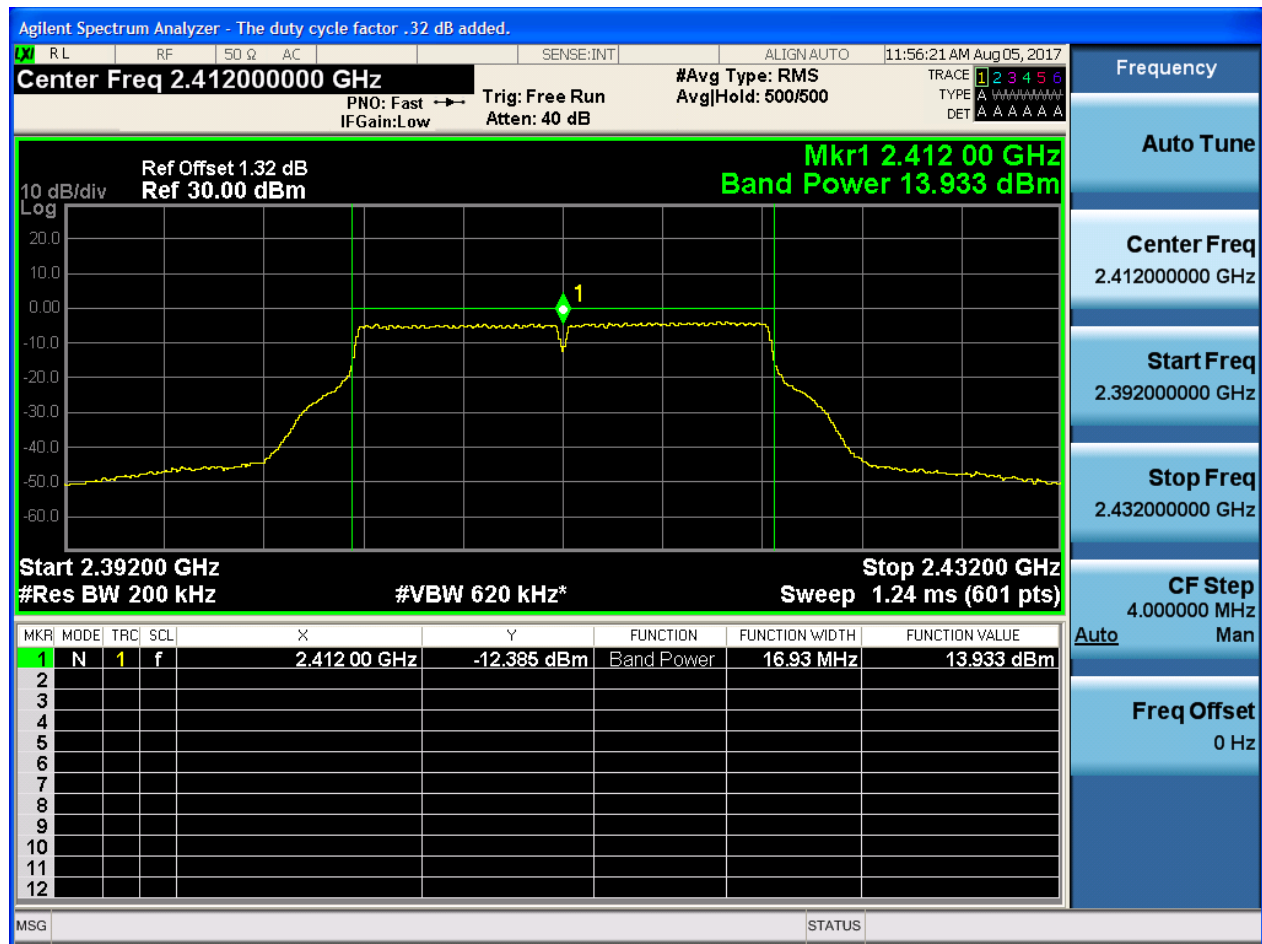


2.7 11G_L@Ant 1



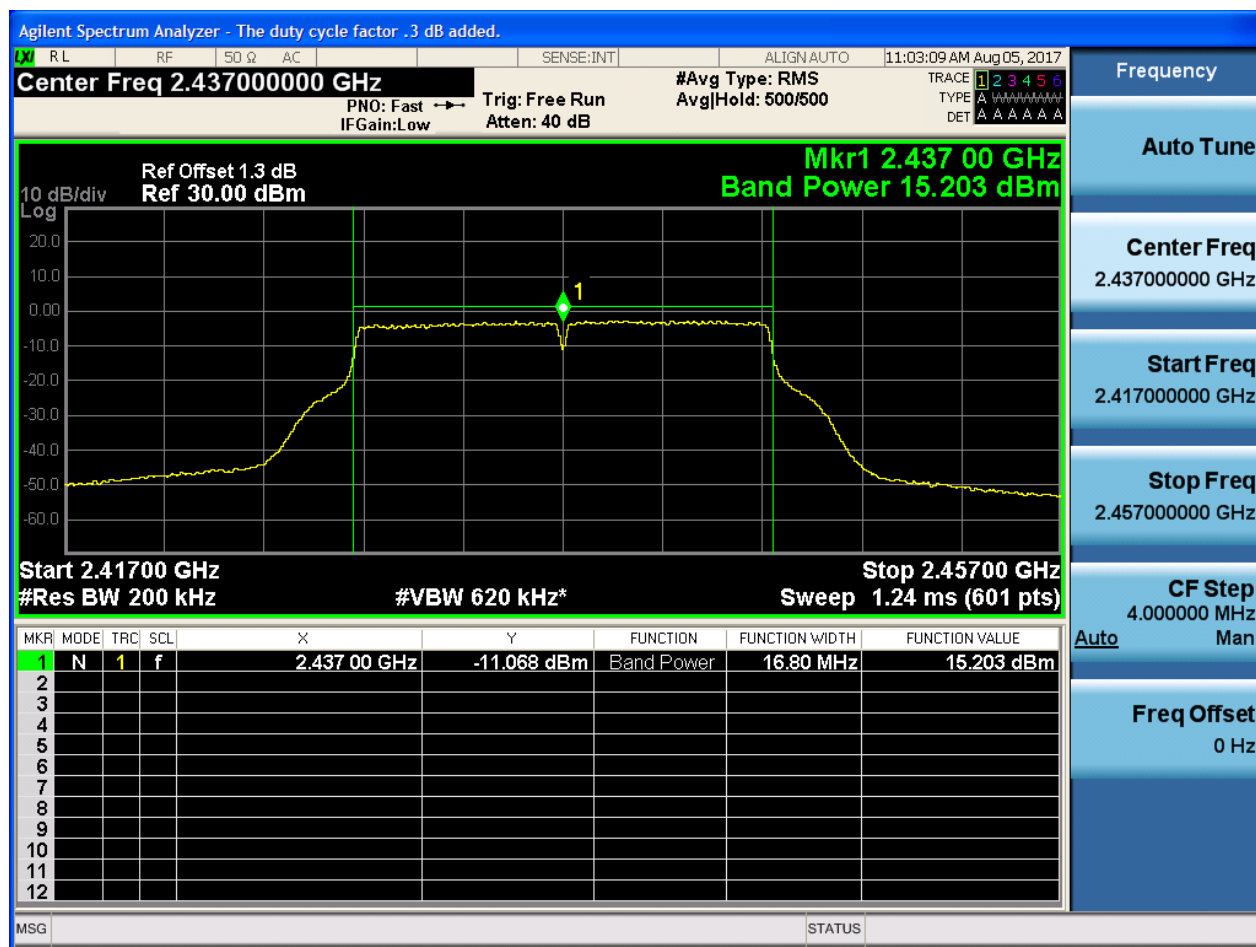


2.8 11G_L@Ant 2



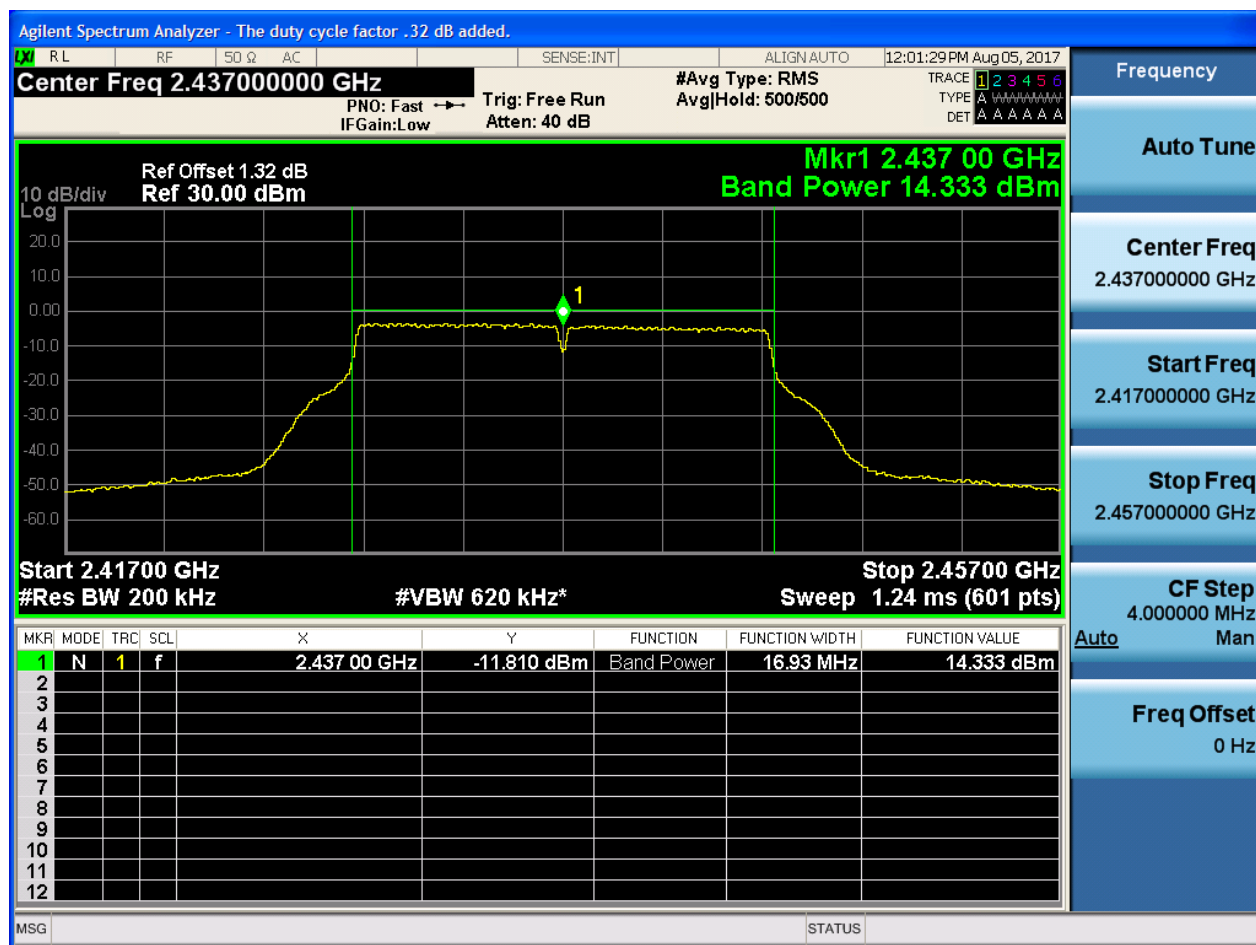


2.9 11G_M@Ant 1



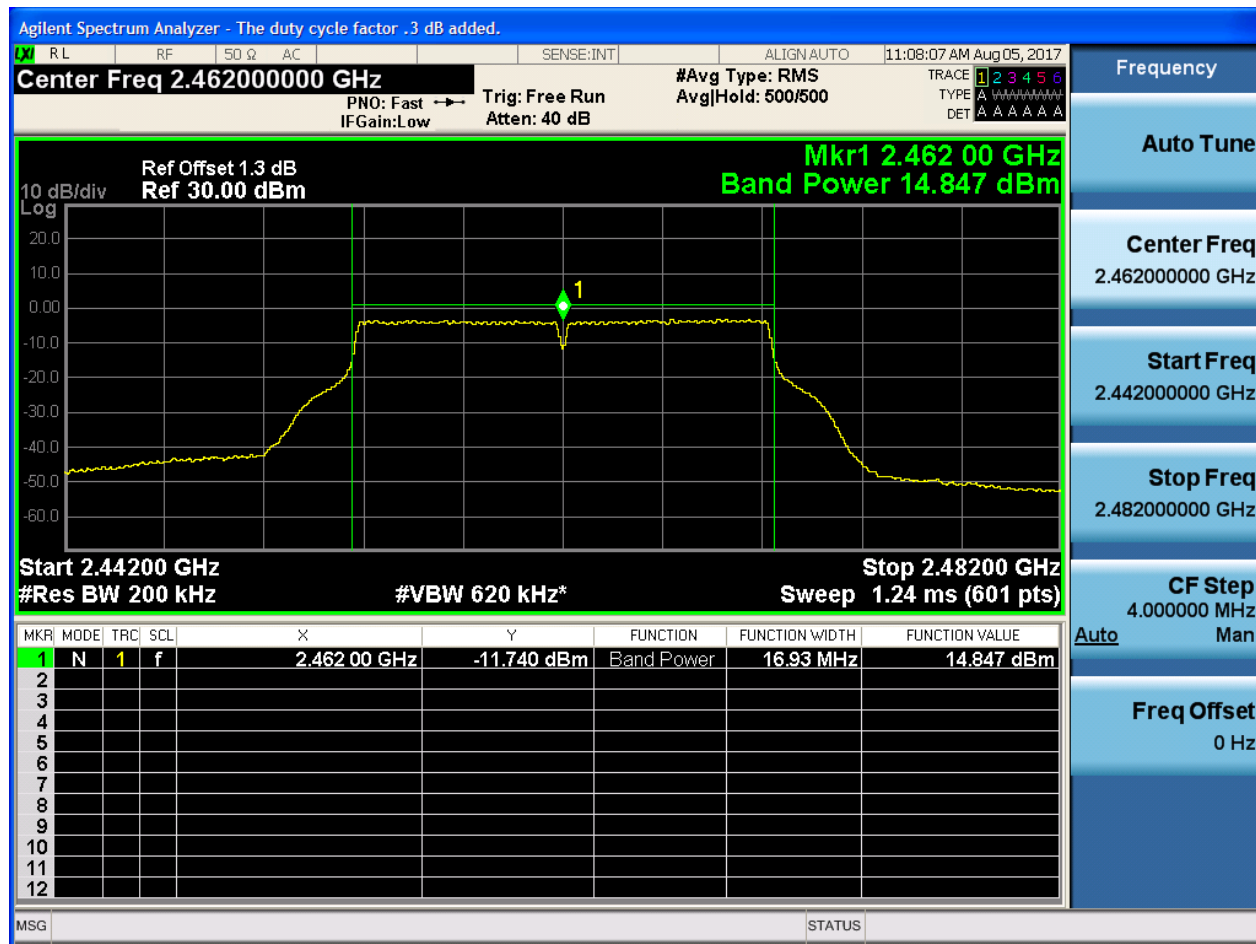


2.10 11G_M@Ant 2



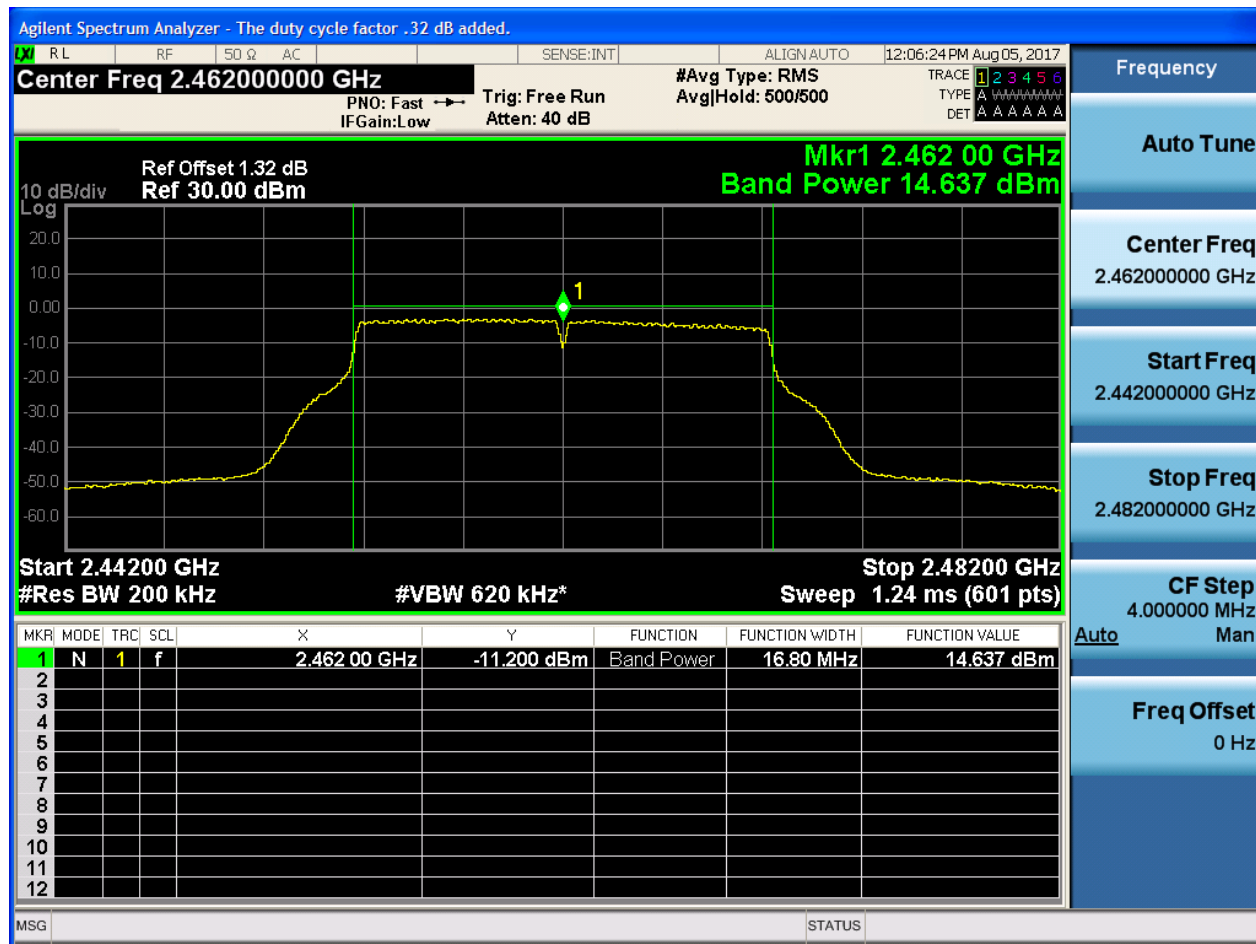


2.11 11G_H@Ant 1



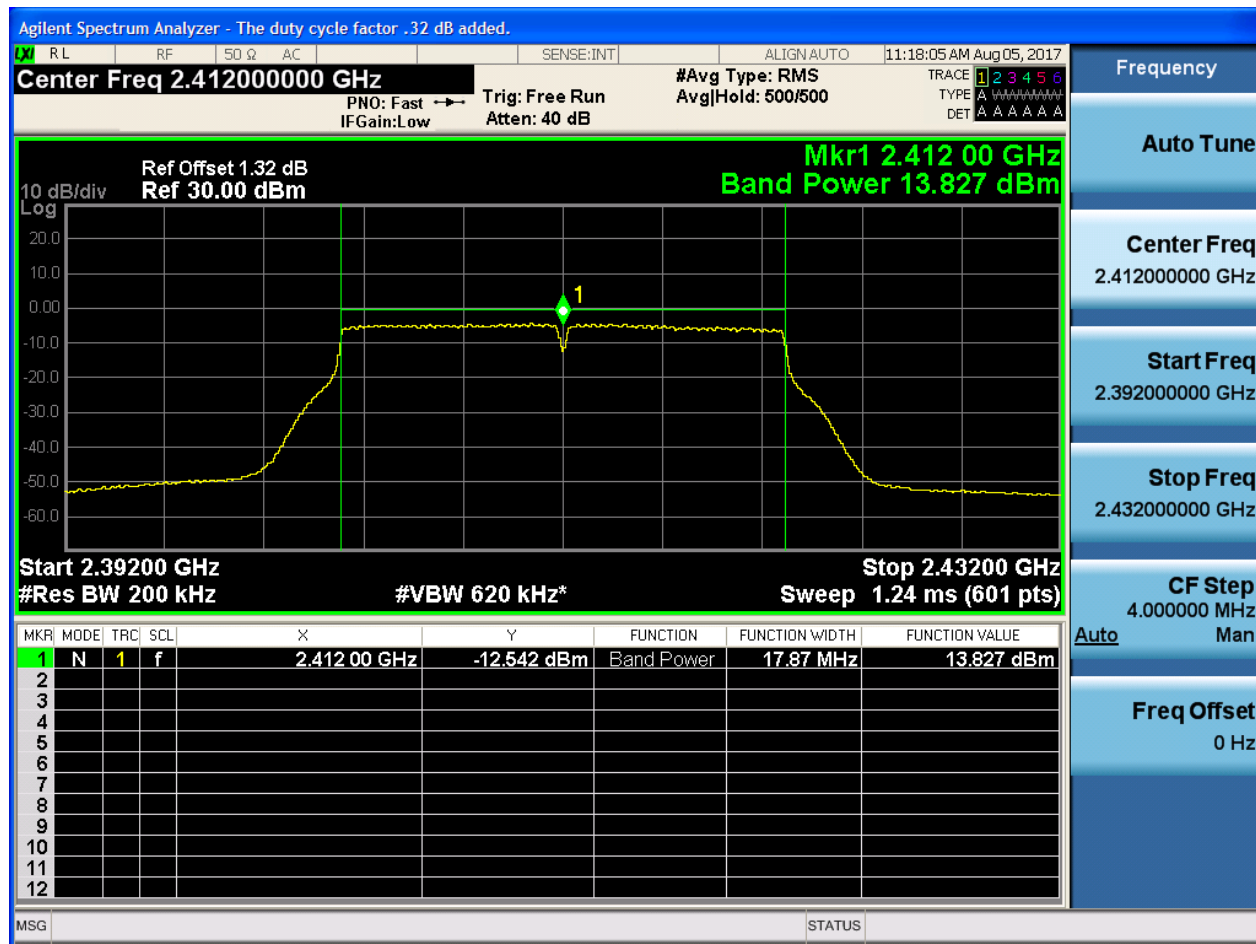


2.12 11G_H@Ant 2



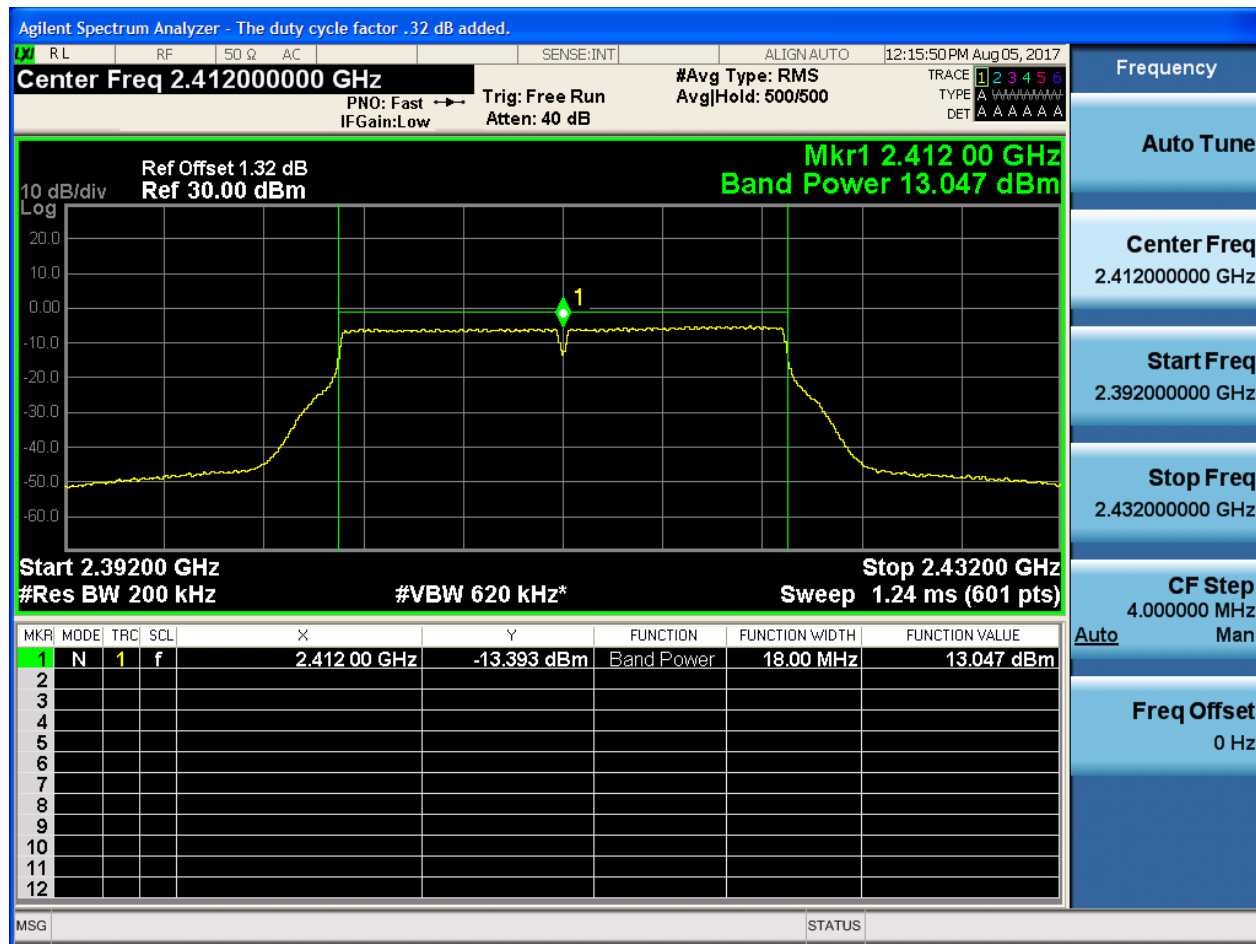


2.13 11N20_L@Ant 1



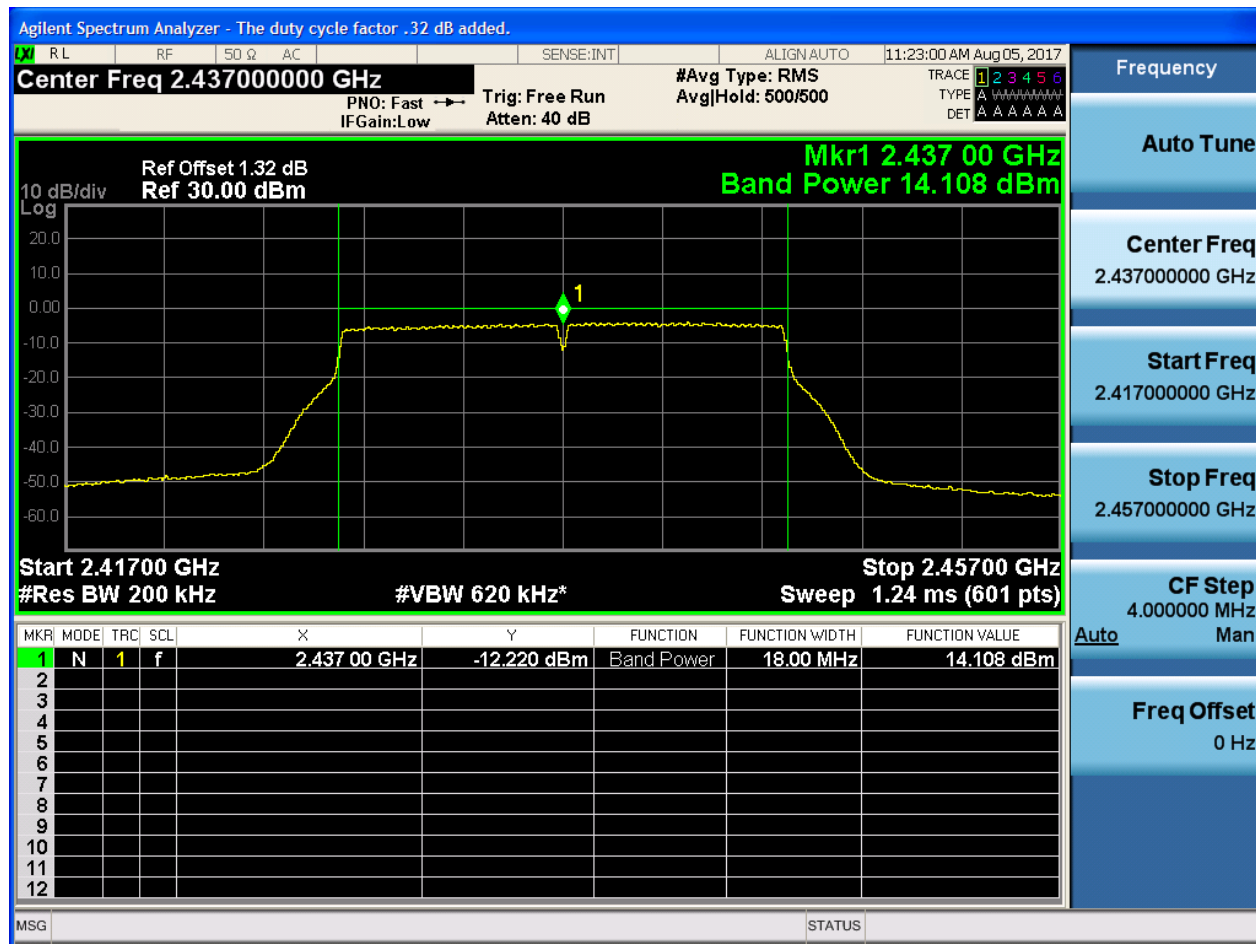


2.14 11N20_L@Ant 2



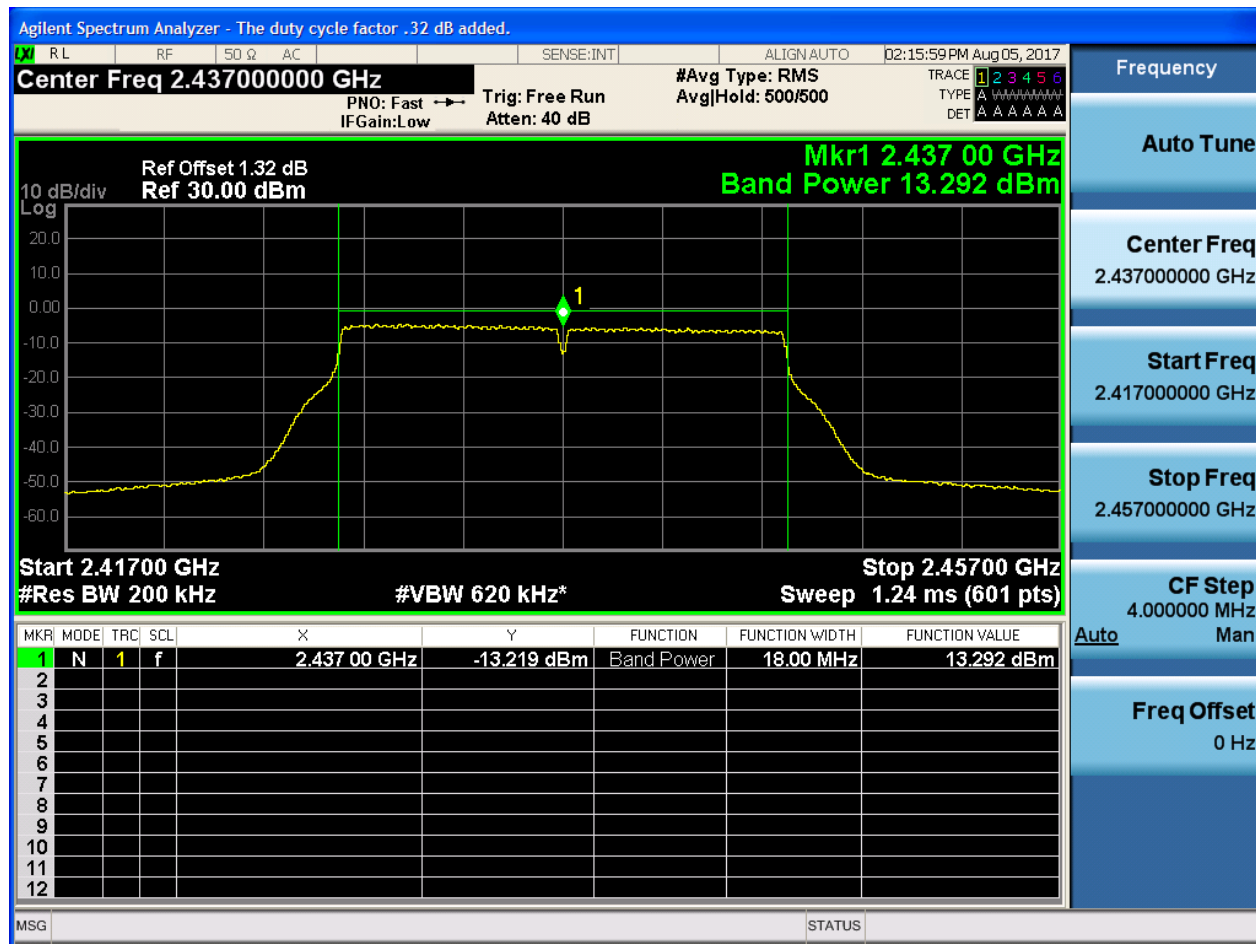


2.15 11N20_M@Ant 1



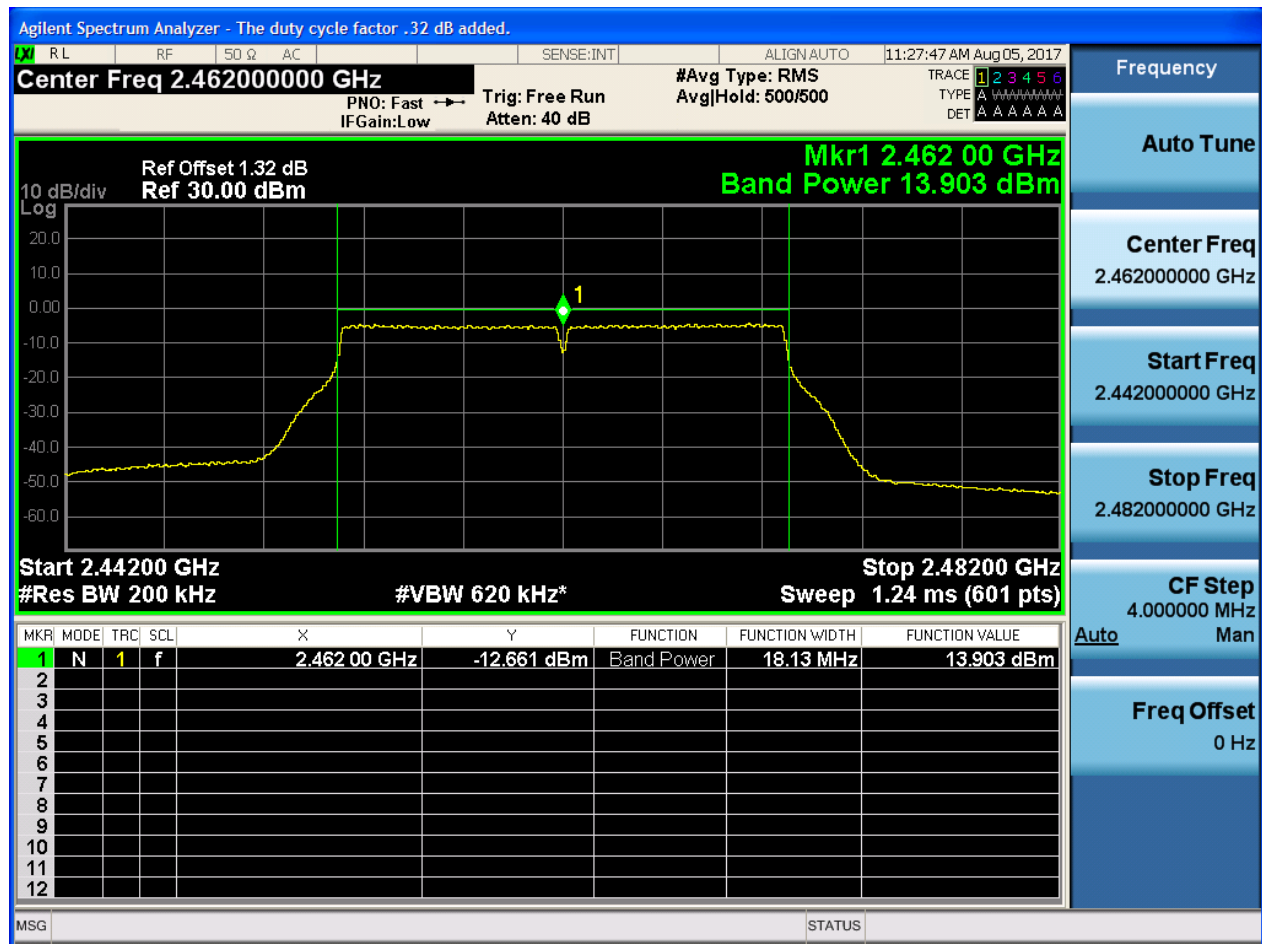


2.16 11N20_M@Ant 2



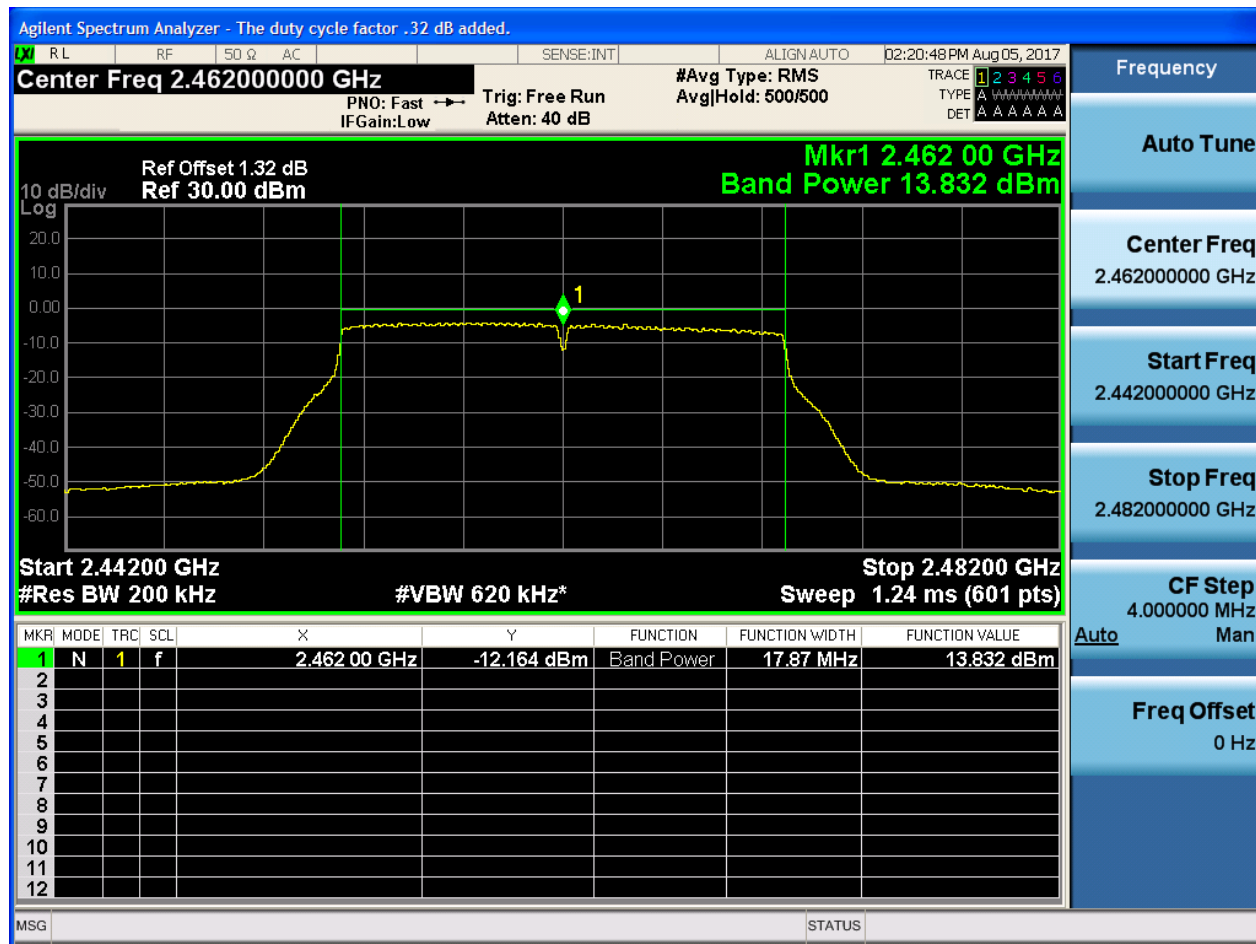


2.17 11N20_H@Ant 1



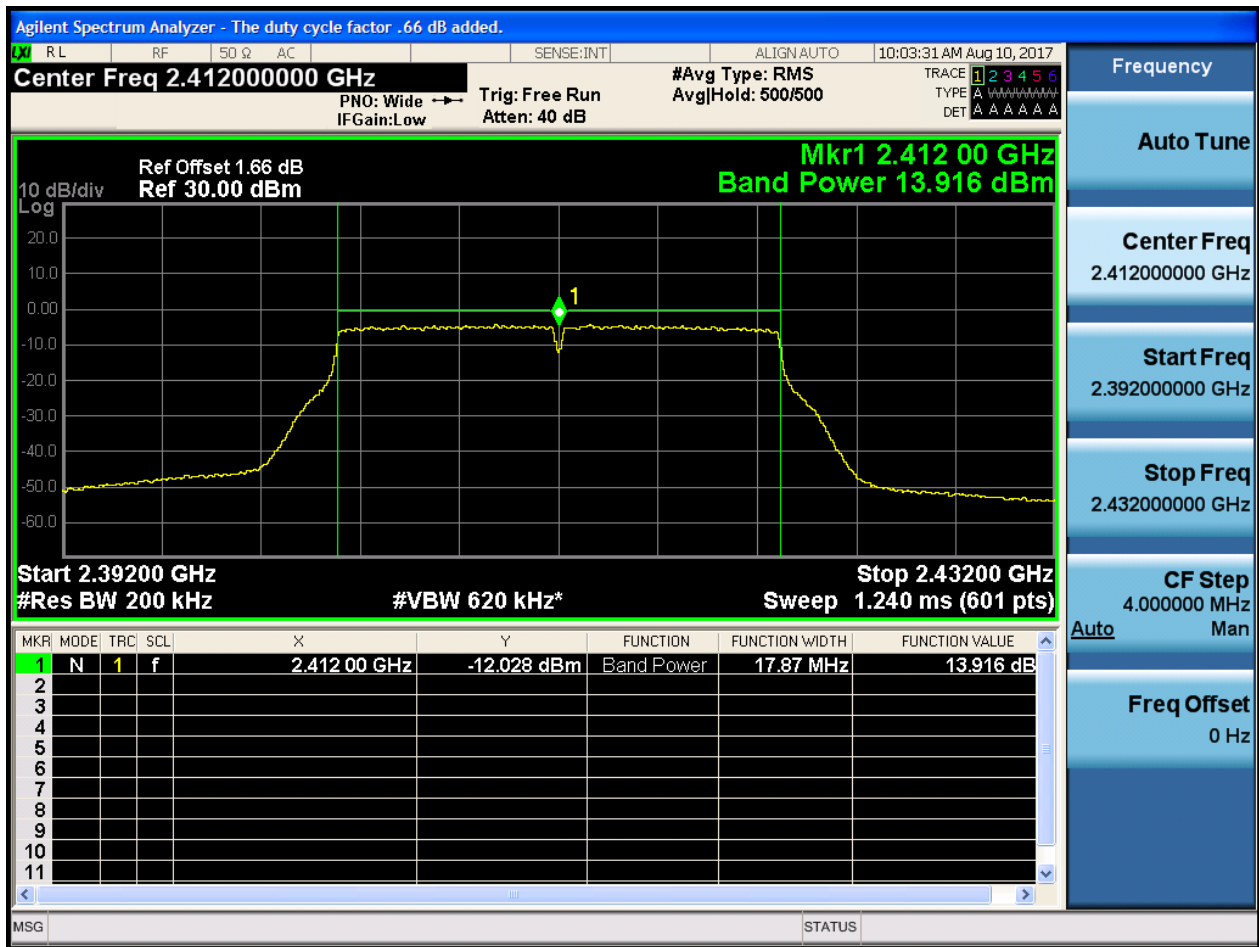


2.18 11N20_H@Ant 2



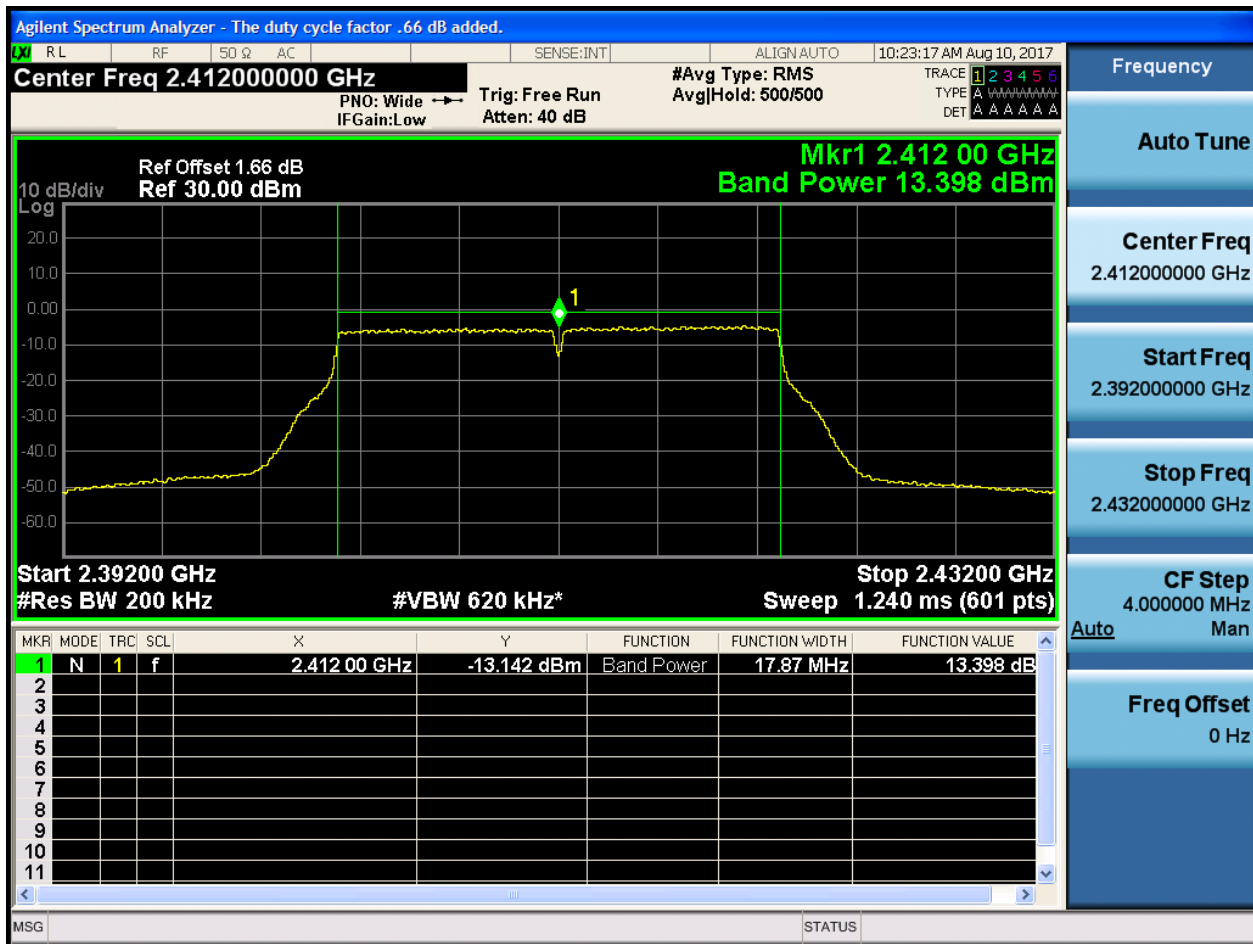


2.19 11N20m_L@Ant 1





2.20 11N20m_L@Ant 2





Agilent Spectrum Analyzer - The duty cycle factor .66 dB added.

Center Freq 2.43700000 GHz #Avg Type: RMS
 PNO: Wide Trg: Free Run Avg|Hold: 500/500
 IFGain:Low Atten: 40 dB

10 dB/div Log Ref Offset 1.66 dB Ref 30.00 dBm

Mkr1 2.437 00 GHz Band Power 14.305 dBm

Start 2.41700 GHz #Res BW 200 kHz
 Stop 2.45700 GHz Sweep 1.240 ms (601 pts)
 #VBW 620 kHz*

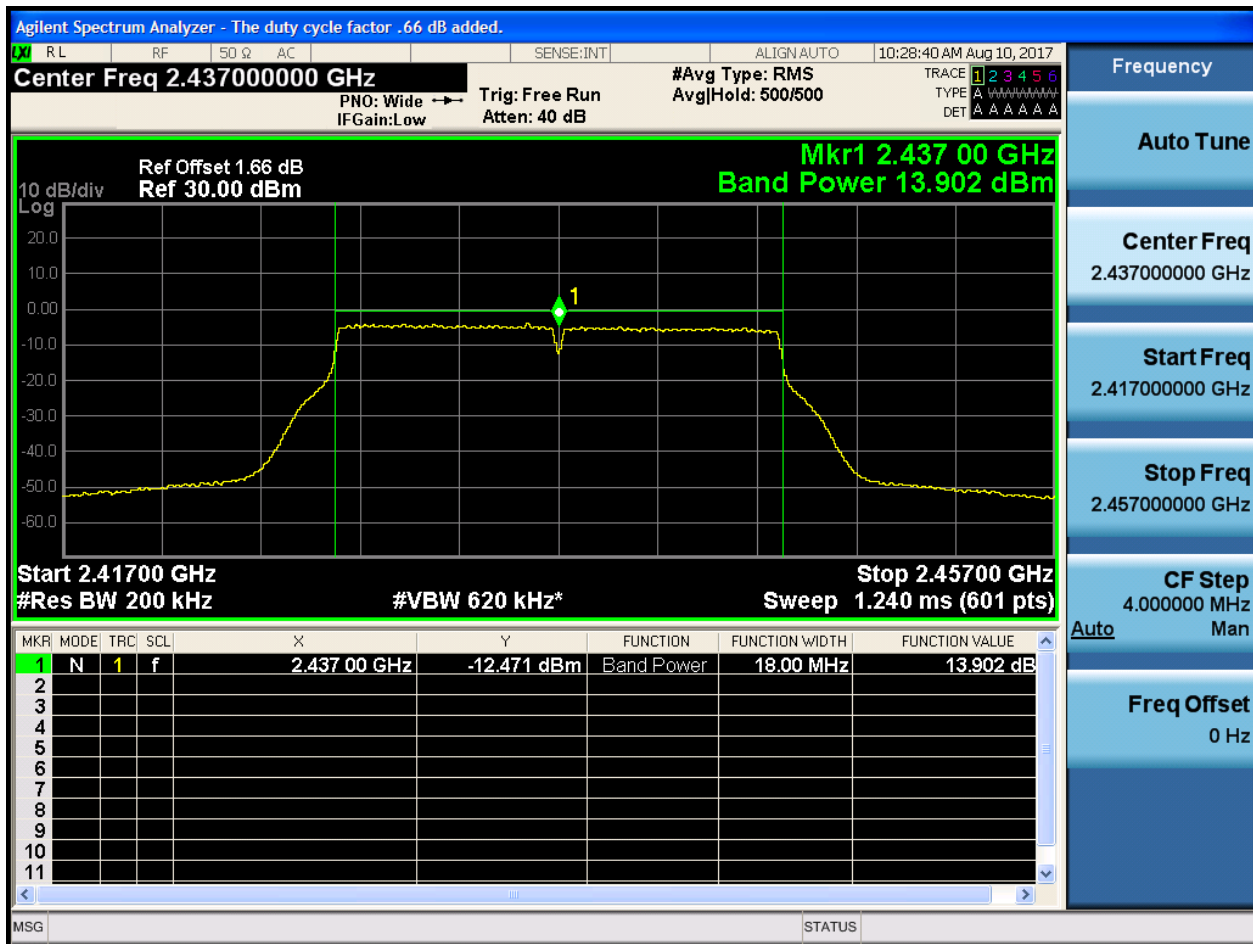
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.437 00 GHz	-11.882 dBm	Band Power	18.00 MHz	14.305 dB
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

Frequency Auto Tune Center Freq 2.43700000 GHz Start Freq 2.41700000 GHz Stop Freq 2.45700000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz

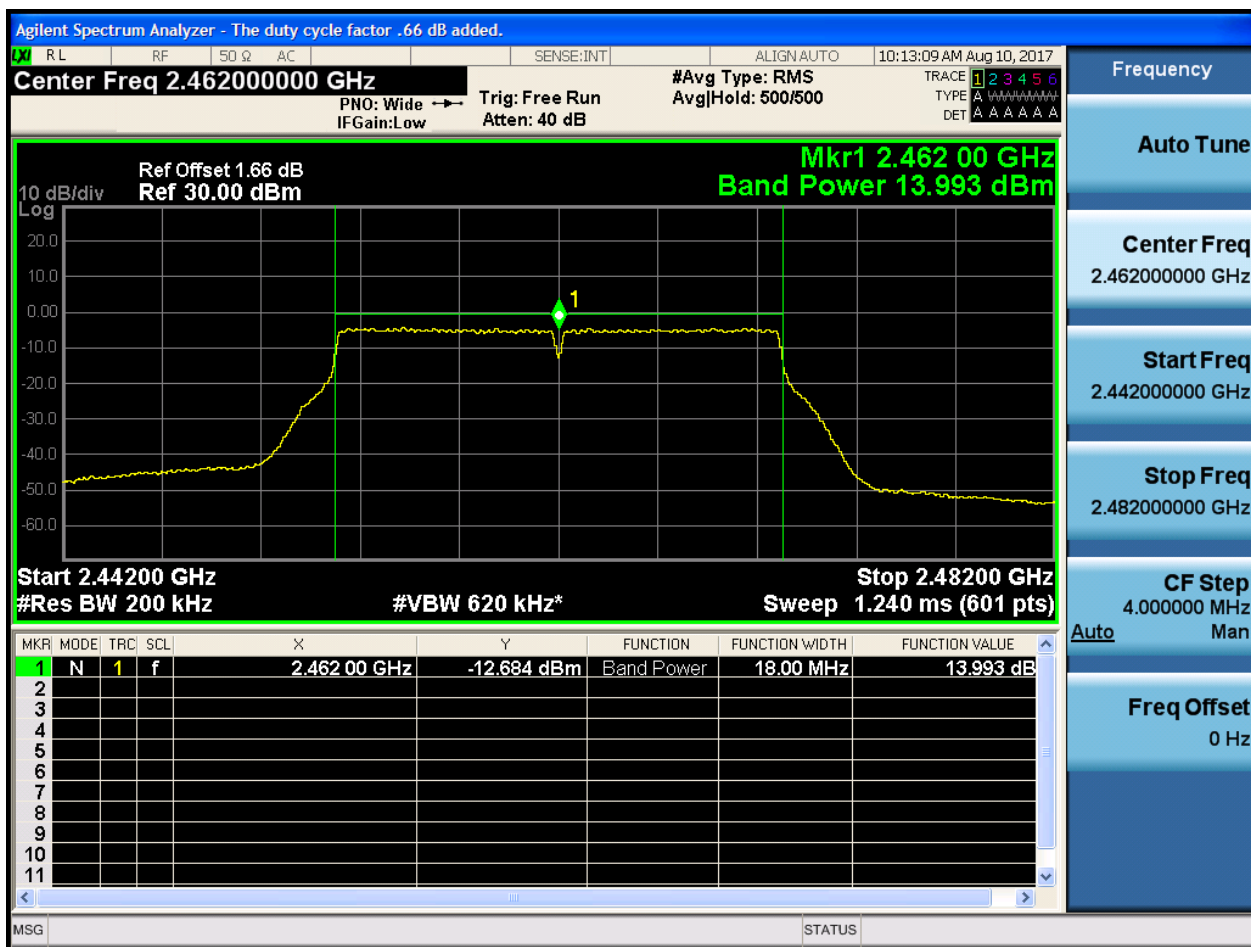
MSG STATUS



2.22 11N20m_M@Ant 2



2.23 11N20m_H@Ant 1





Agilent Spectrum Analyzer - The duty cycle factor .66 dB added.

Center Freq 2.46200000 GHz

Ref Offset 1.66 dB
Ref 30.00 dBm

Mkr1 2.462 00 GHz
Band Power 14.094 dBm

10 dB/div
Log

Start 2.44200 GHz
#Res BW 200 kHz

#VBW 620 kHz*

Stop 2.48200 GHz
Sweep 1.240 ms (601 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.462 00 GHz	-12.469 dBm	Band Power	17.87 MHz	14.094 dB
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
2.46200000 GHz

Start Freq
2.44200000 GHz

Stop Freq
2.48200000 GHz

CF Step
4.000000 MHz
Man

Auto

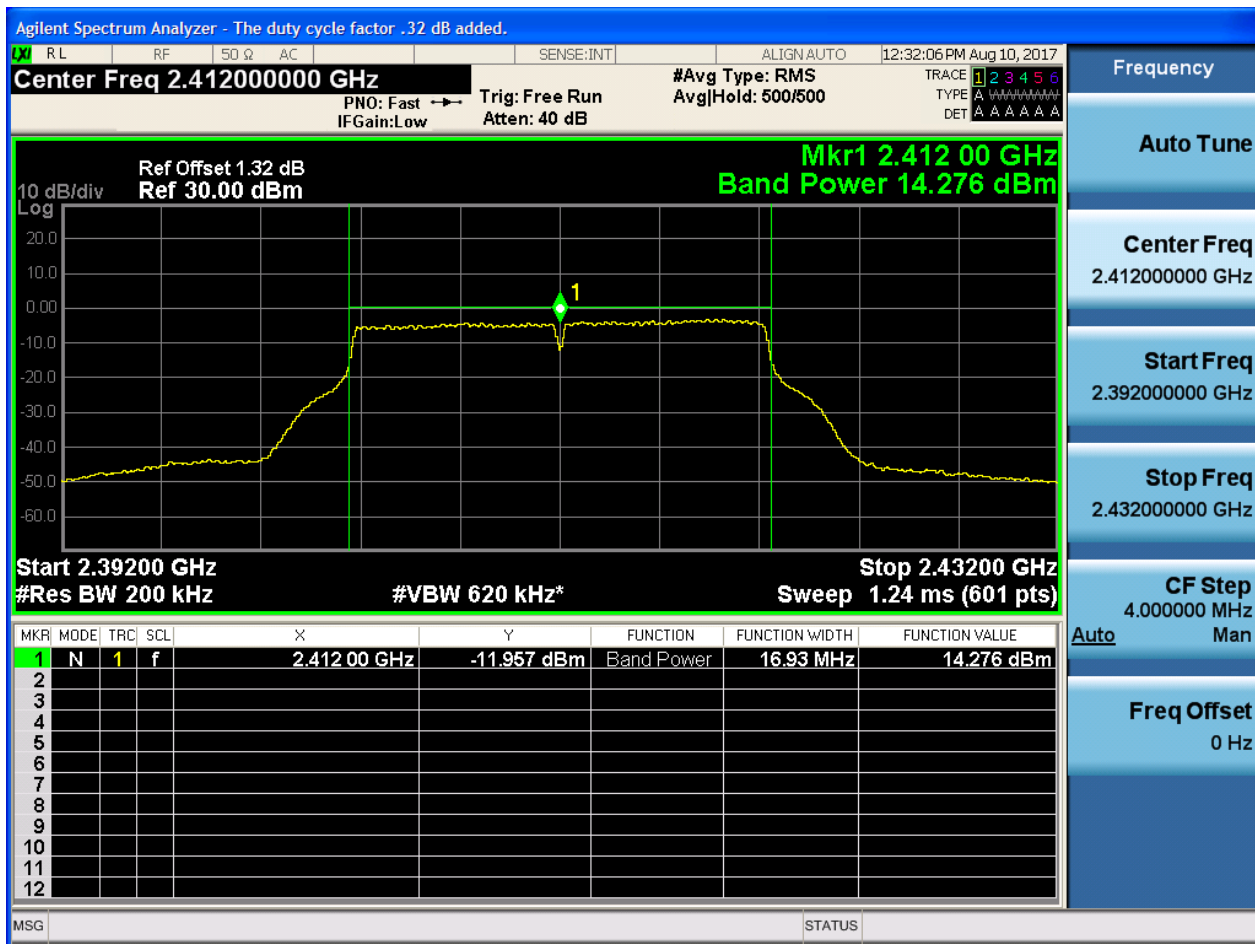
Freq Offset
0 Hz

MSG

STATUS

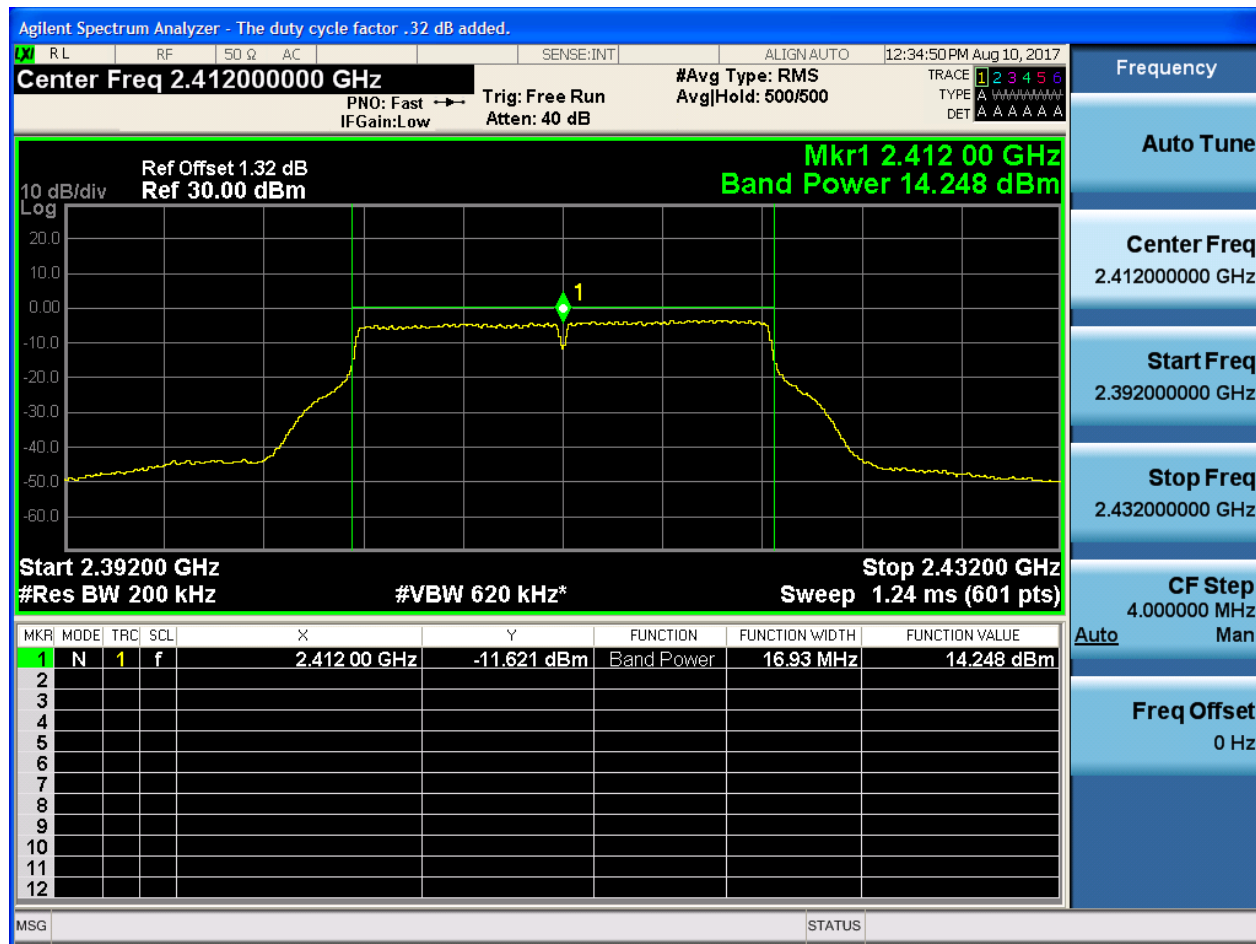


2.25 11G CDD L@Ant 1



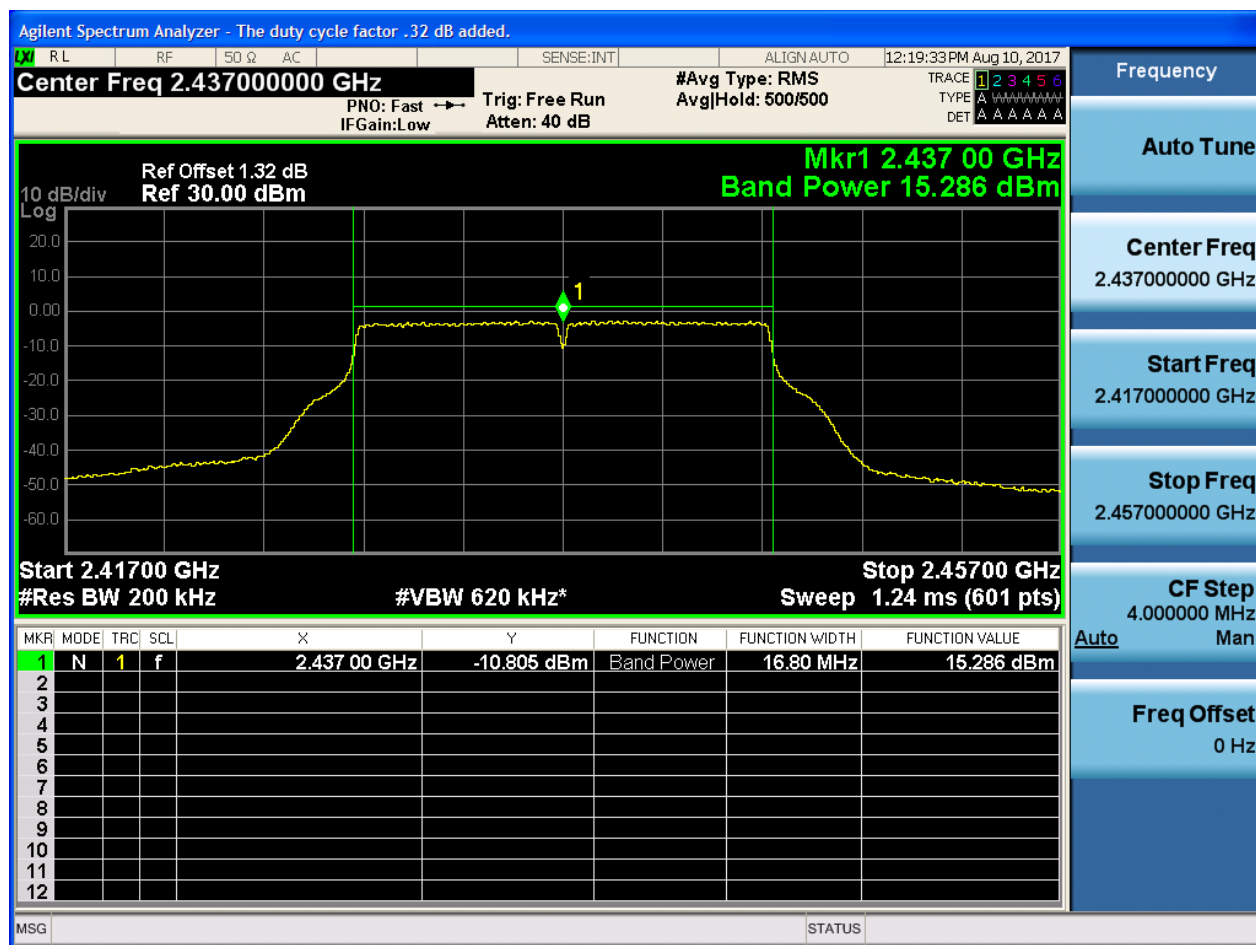


2.26 11G CDD L@Ant 2



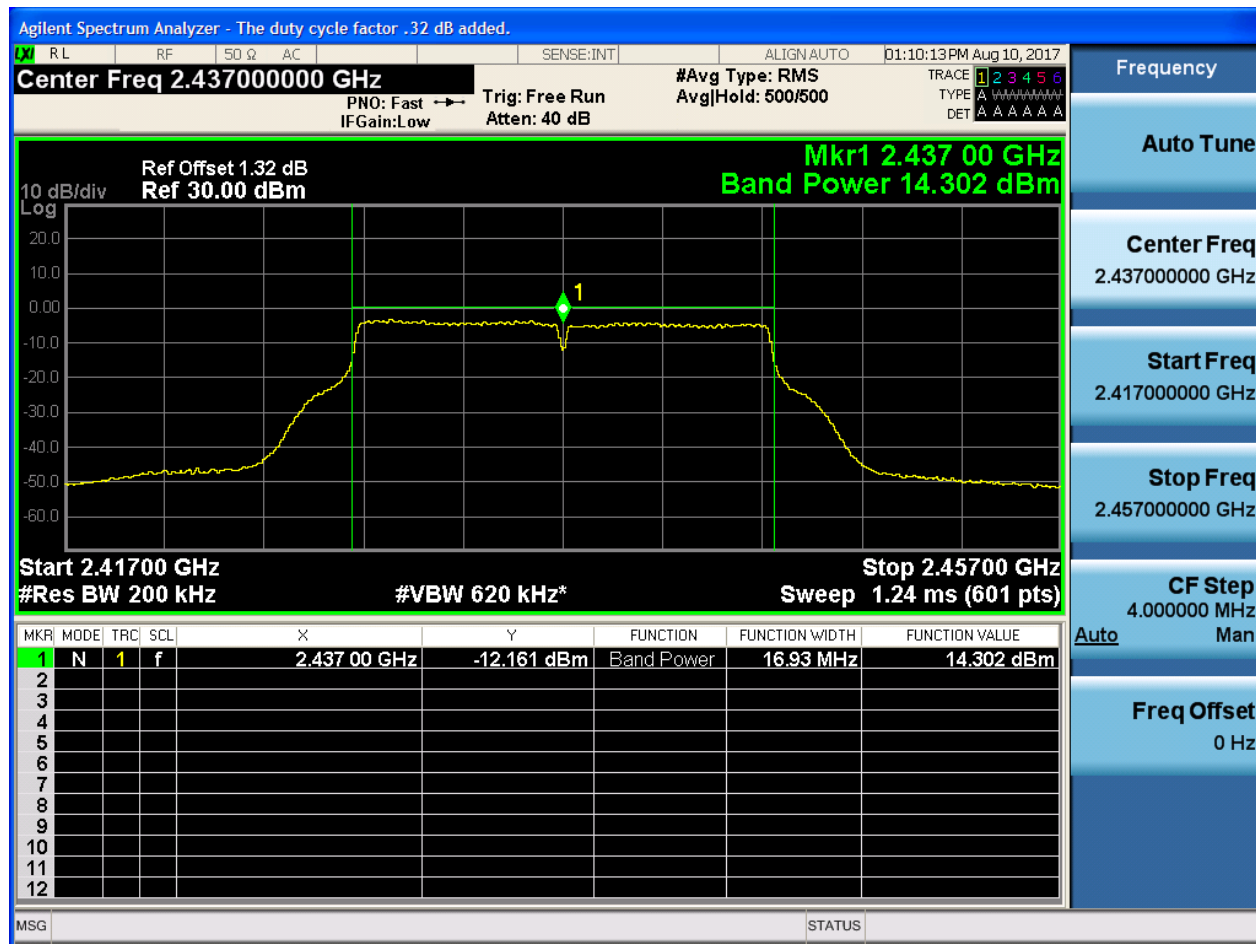


2.27 11G CDD M@Ant 1



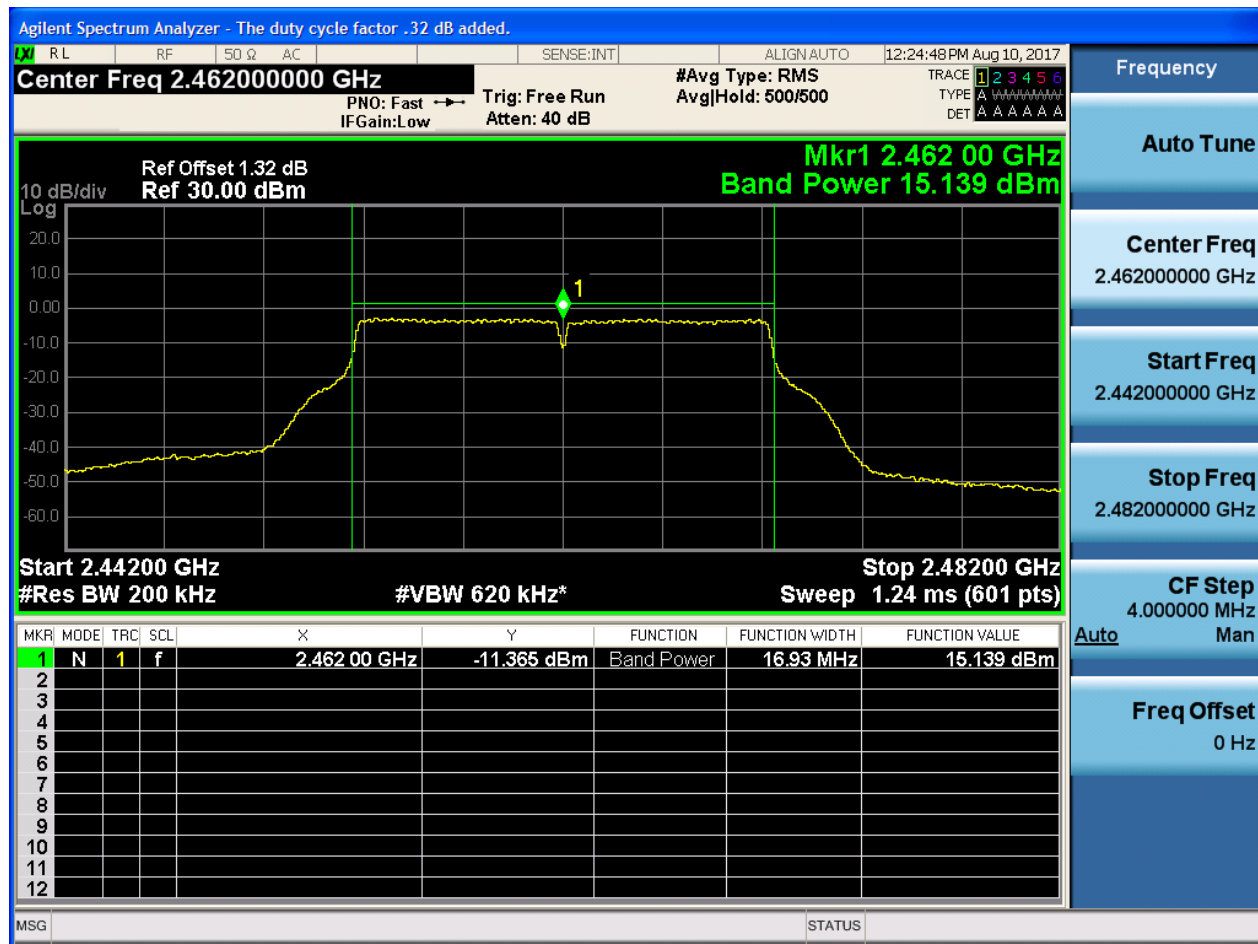


2.28 11G CDD M@Ant 2



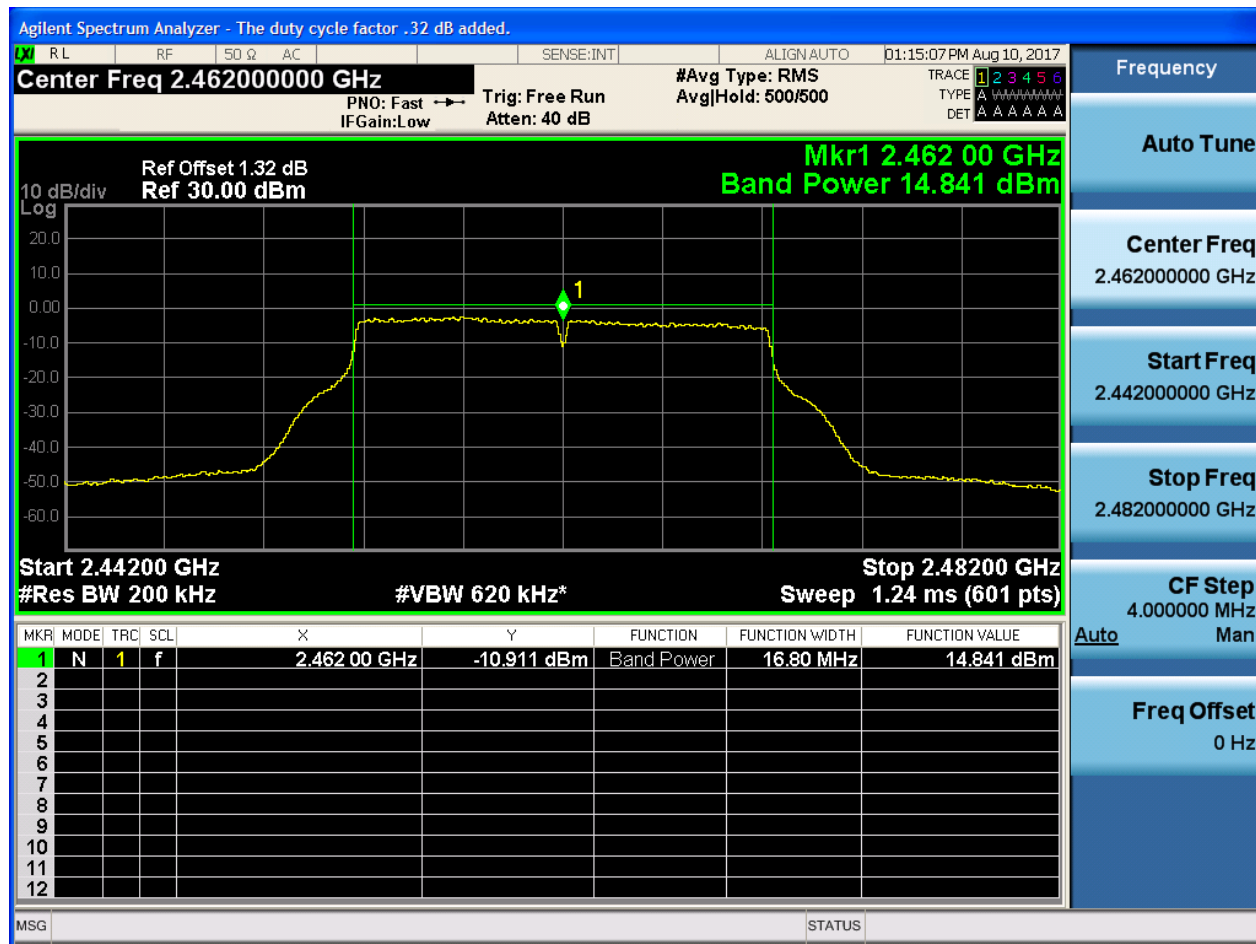


2.29 11G CDD H@Ant 1





2.30 11G CDD H@Ant 2



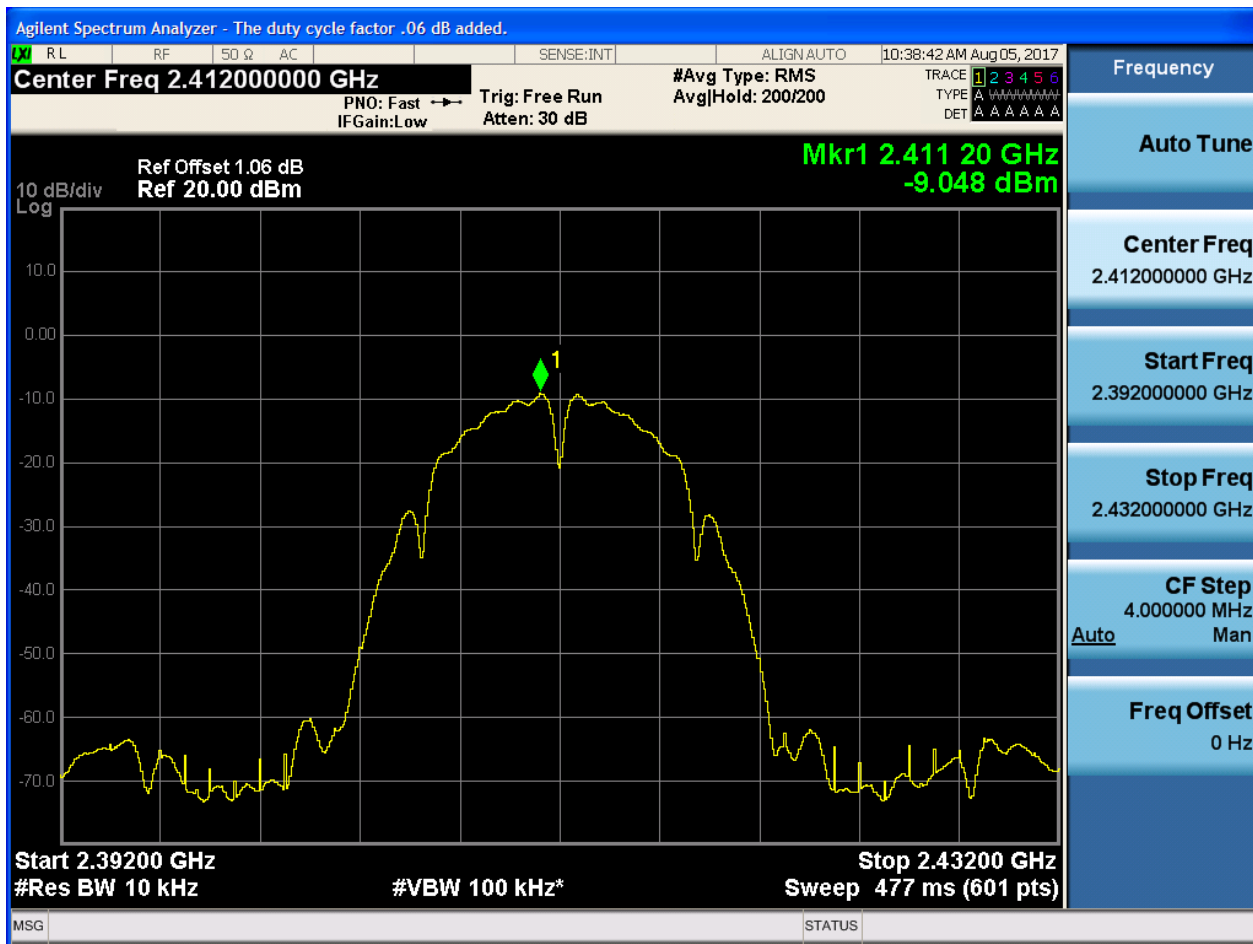
Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
11B	L	2412	Ant 1	-9.05	pass
11B	L	2412	Ant 2	-10.64	pass
11B	M	2437	Ant 1	-8.76	pass
11B	M	2437	Ant 2	-10.13	pass
11B	H	2462	Ant 1	-9.54	pass
11B	H	2462	Ant 2	-9.17	pass
11G	L	2412	Ant 1	-14.25	pass
11G	L	2412	Ant 2	-15.47	pass
11G	M	2437	Ant 1	-14.19	pass
11G	M	2437	Ant 2	-14.77	pass
11G	H	2462	Ant 1	-14.62	pass
11G	H	2462	Ant 2	-14.09	pass
11N20	L	2412	Ant 1	-16.11	pass
11N20	L	2412	Ant 2	-16.99	pass
11N20	M	2437	Ant 1	-15.67	pass
11N20	M	2437	Ant 2	-16.50	pass
11N20	H	2462	Ant 1	-15.95	pass
11N20	H	2462	Ant 2	-15.97	pass
11N20m	L	2412	Ant 1	-16.07	pass
11N20m	L	2412	Ant 2	-15.85	pass
11N20m	L	2412	SUM	-12.95	pass
11N20m	M	2437	Ant 1	-15.48	pass
11N20m	M	2437	Ant 2	-15.49	pass
11N20m	M	2437	SUM	-12.47	pass
11N20m	H	2462	Ant 1	-15.72	pass
11N20m	H	2462	Ant 2	-15.23	pass
11N20m	H	2462	SUM	-12.46	pass
11G CDD	L	2412	Ant 1	-14.31	pass
11G CDD	L	2412	Ant 2	-14.87	pass
11G CDD	L	2412	SUM	-11.57	pass
11G CDD	M	2437	Ant 1	-14.05	pass
11G CDD	M	2437	Ant 2	-15.01	pass
11G CDD	M	2437	SUM	-11.49	pass
11G CDD	H	2462	Ant 1	-14.02	pass
11G CDD	H	2462	Ant 2	-13.90	pass
11G CDD	H	2462	SUM	-10.52	pass

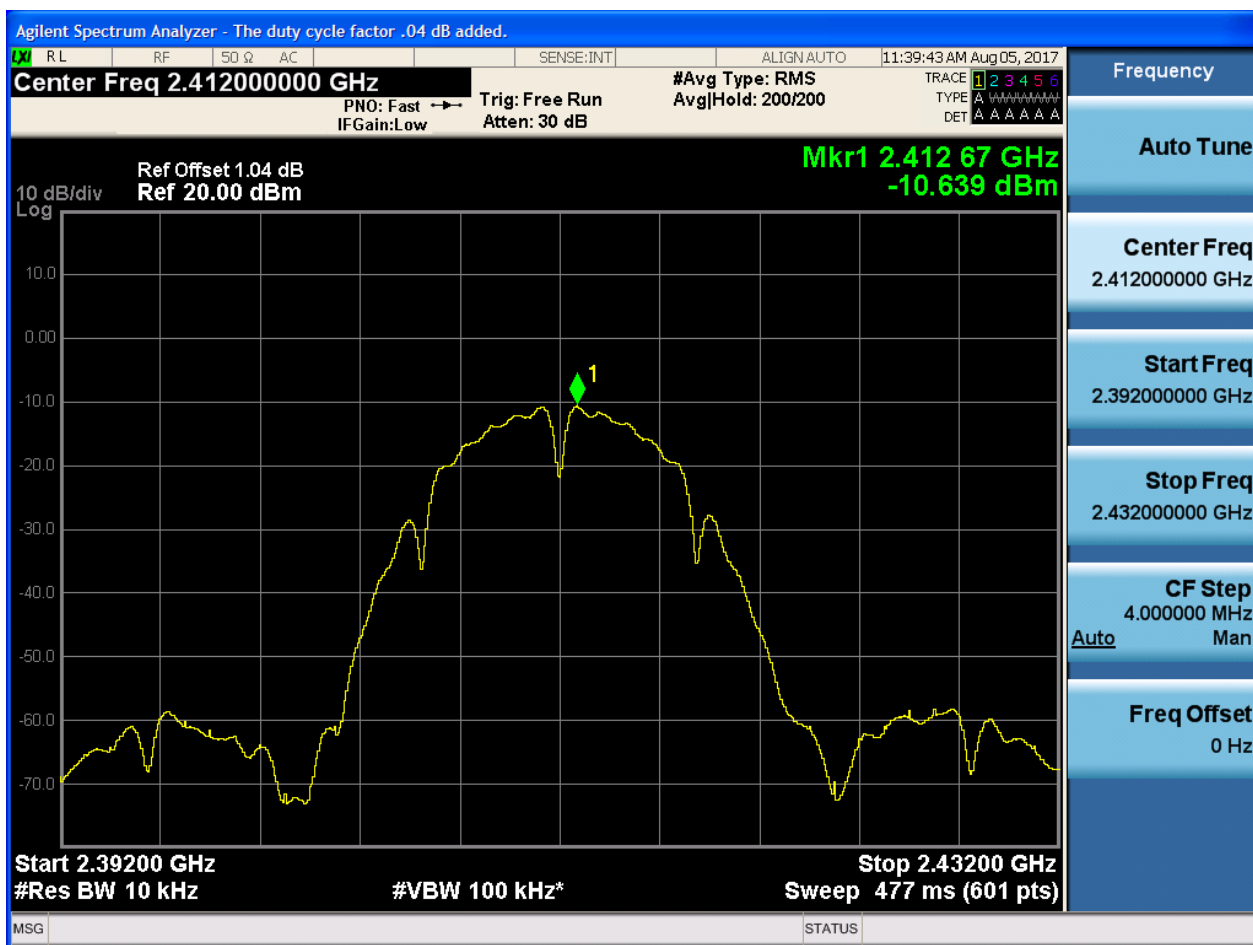
Part II - Test Plots

2.1 11B_L@Ant 1



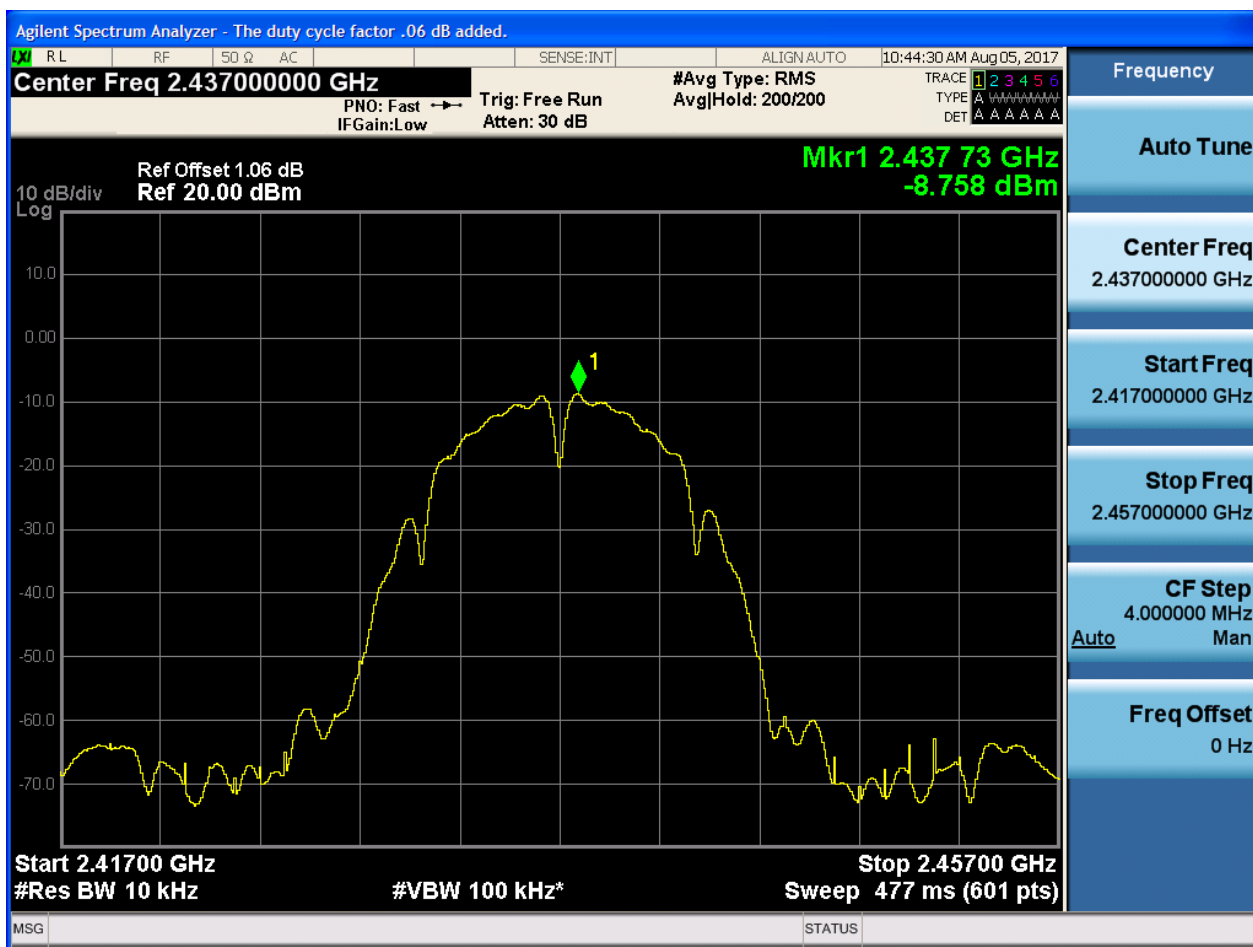


2.2 11B_L@Ant 2



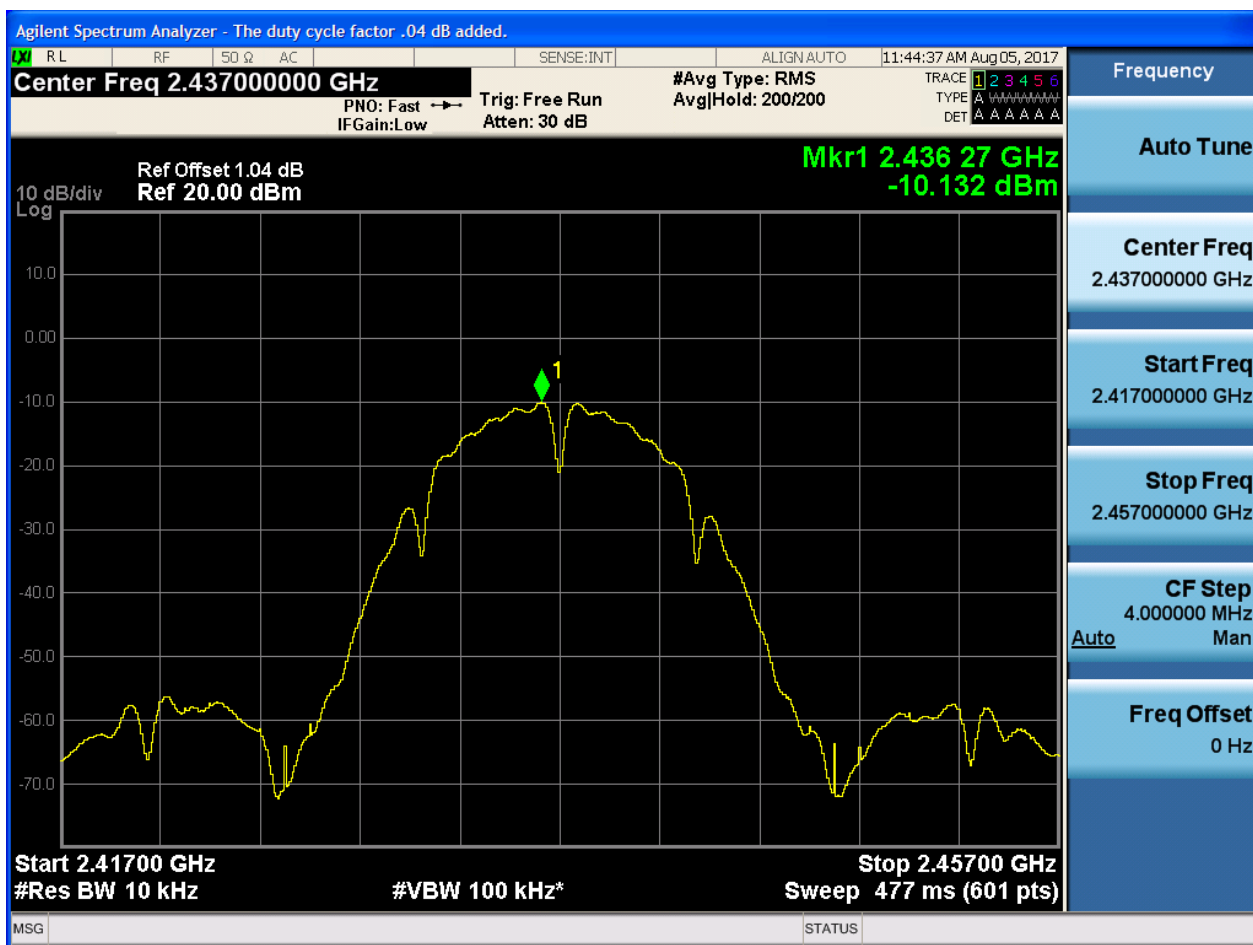


2.3 11B_M@Ant 1



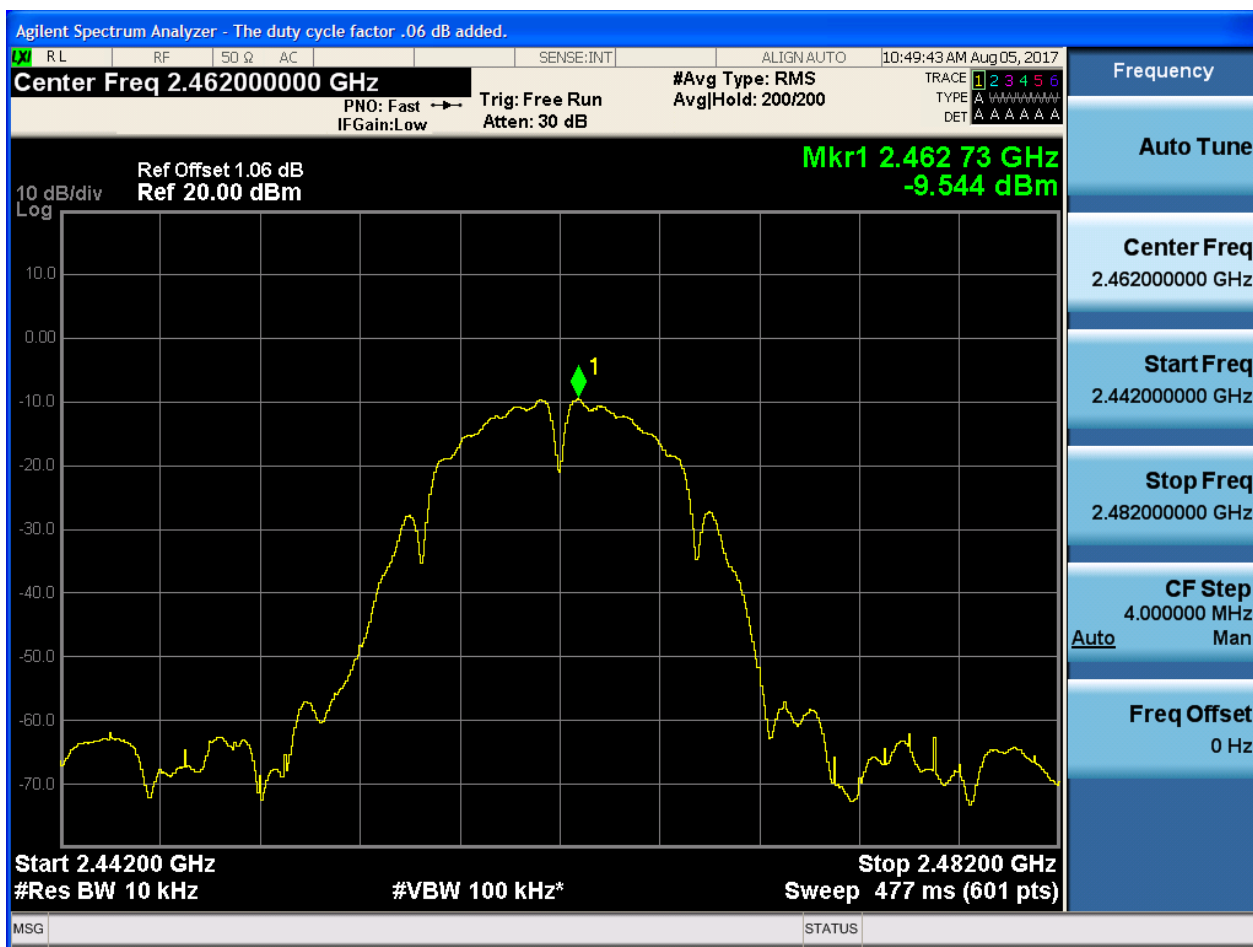


2.4 11B_M@Ant 2



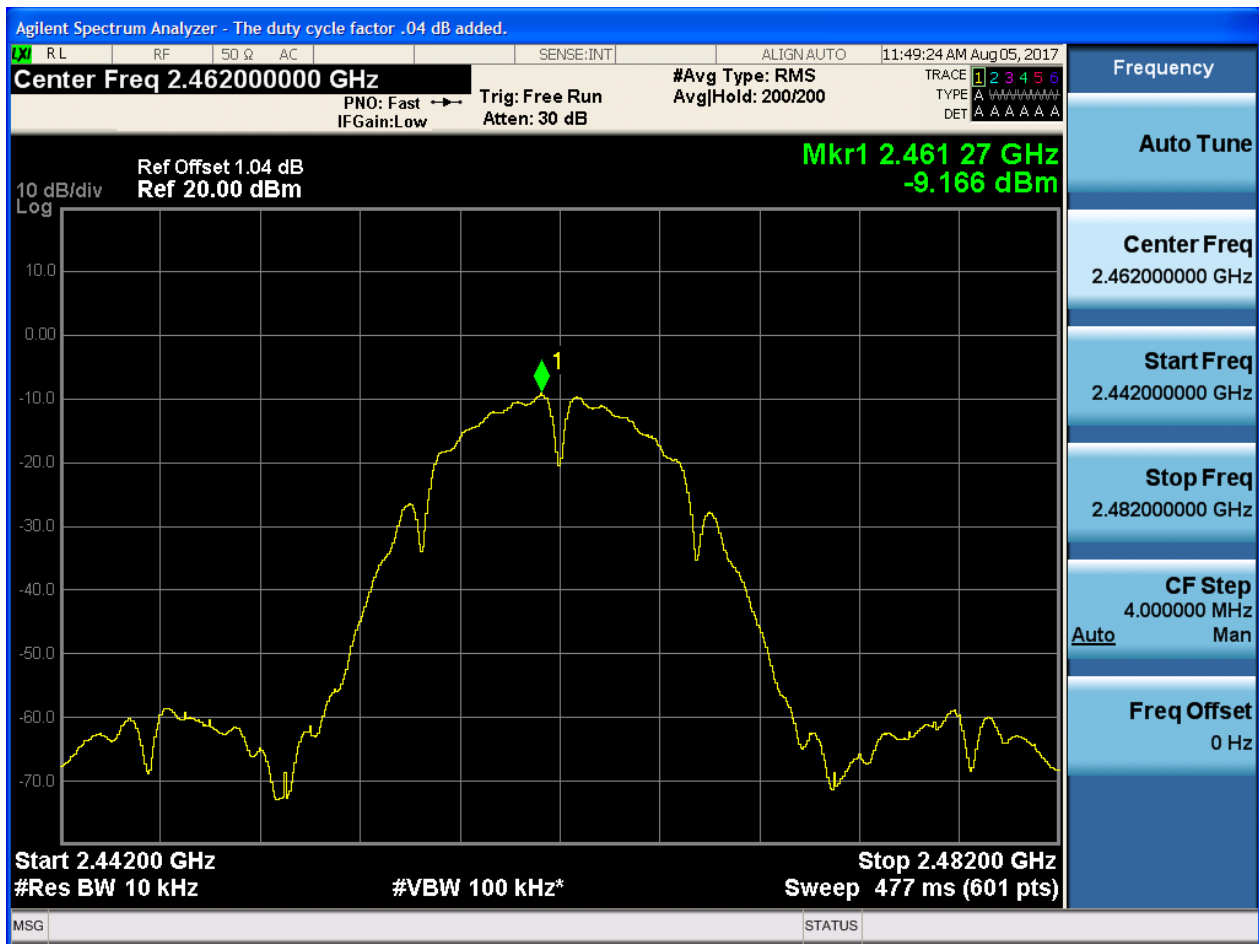


2.5 11B_H@Ant 1



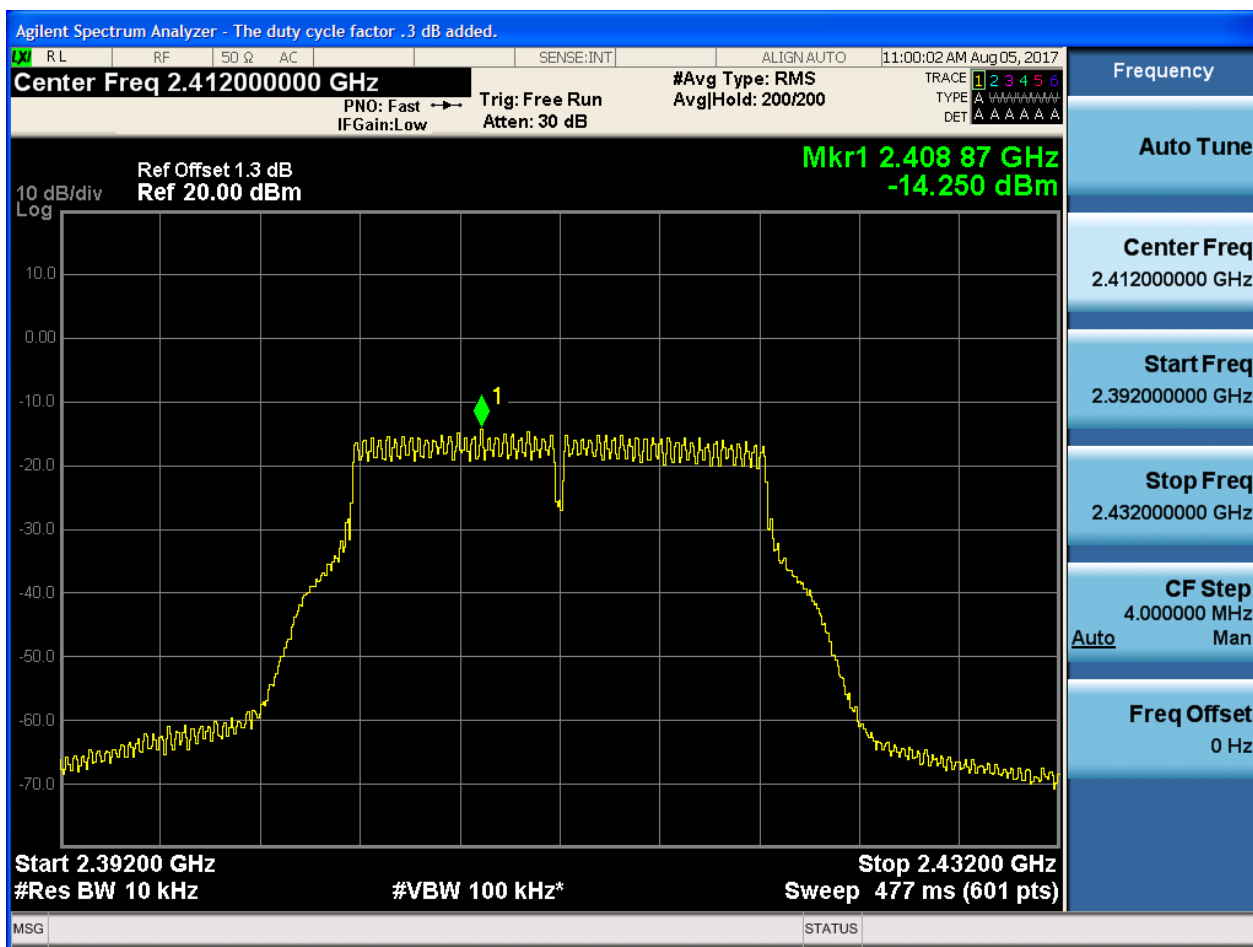


2.6 11B_H@Ant 2



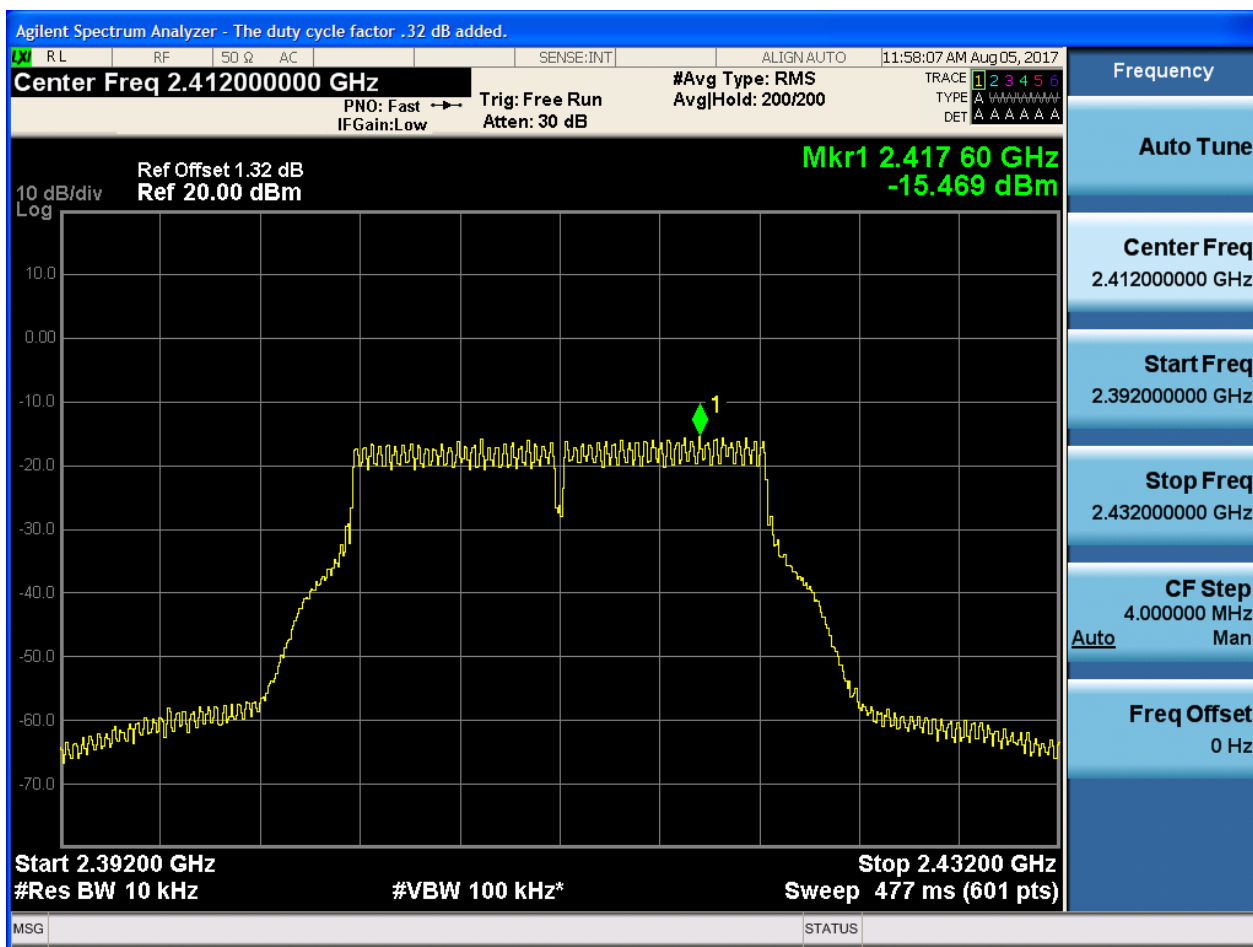


2.7 11G_L@Ant 1



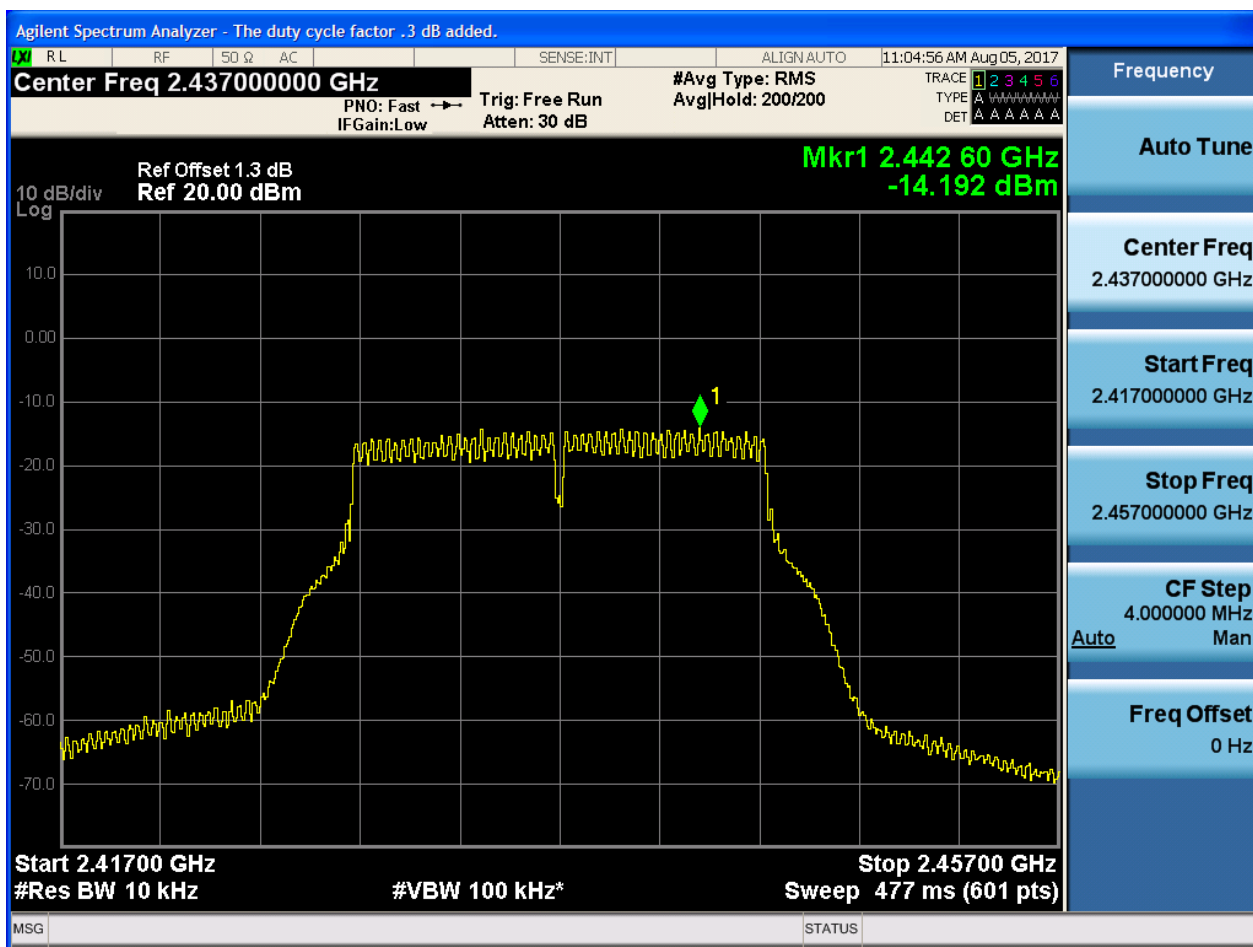


2.8 11G_L@Ant 2



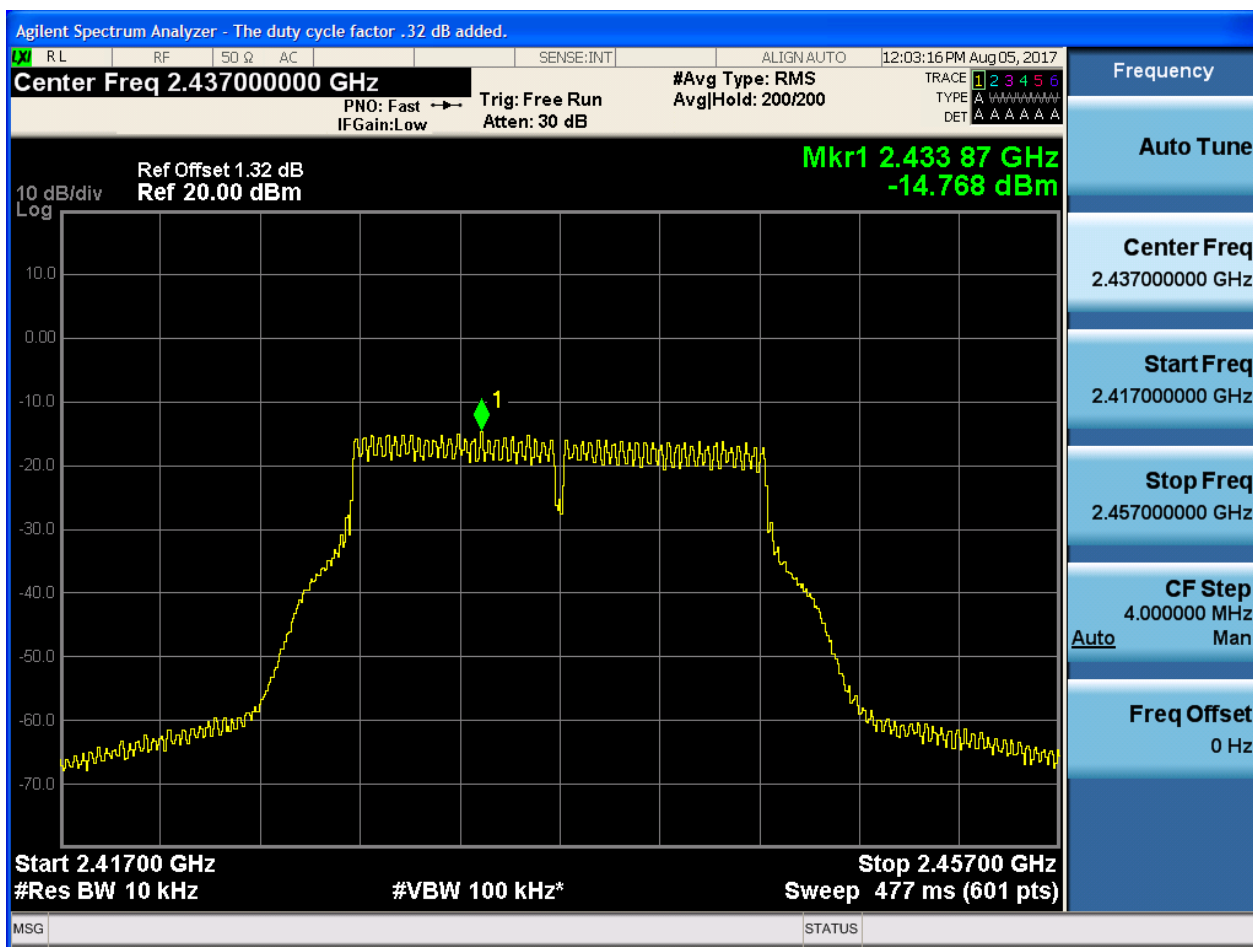


2.9 11G_M@Ant 1



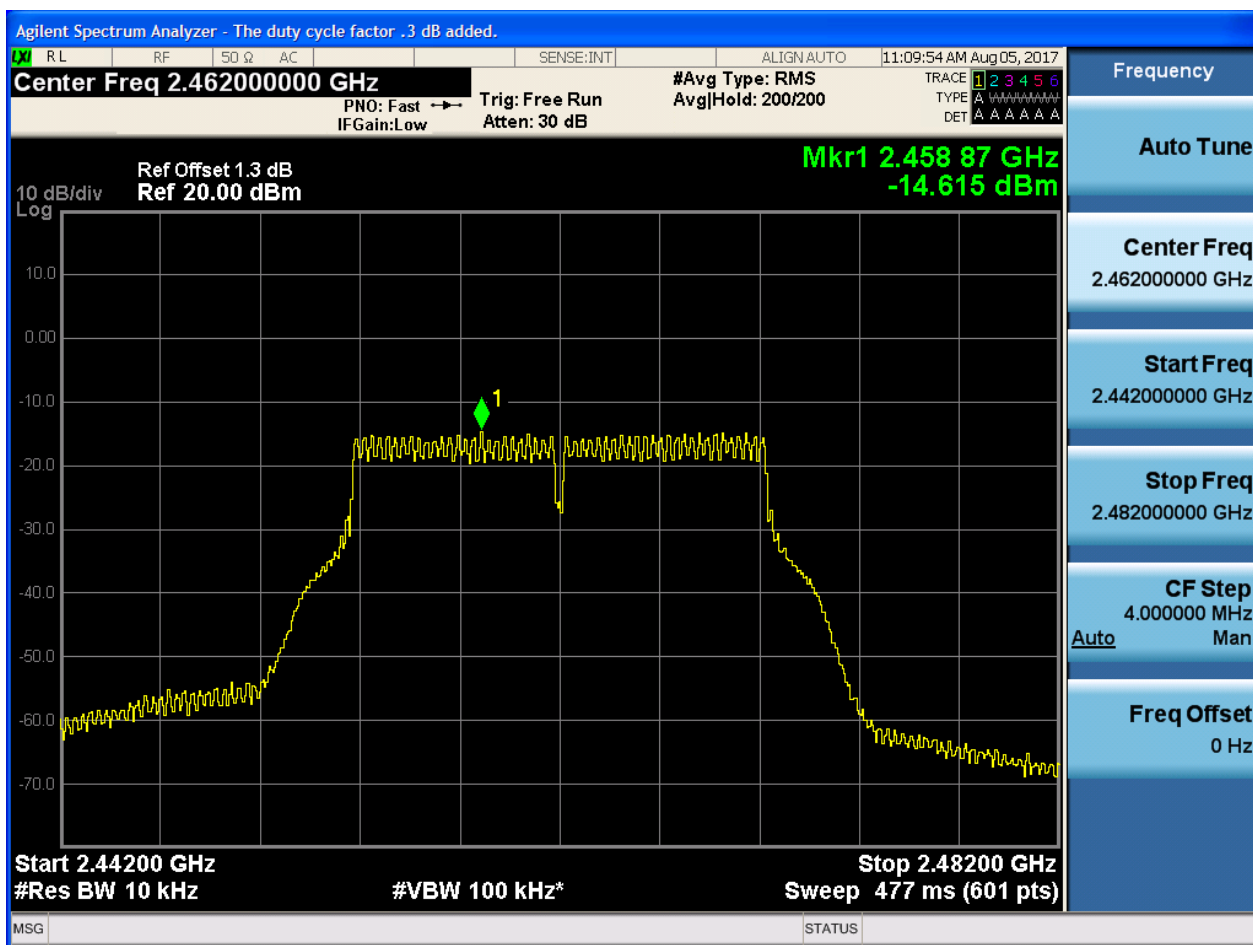


2.10 11G_M@Ant 2



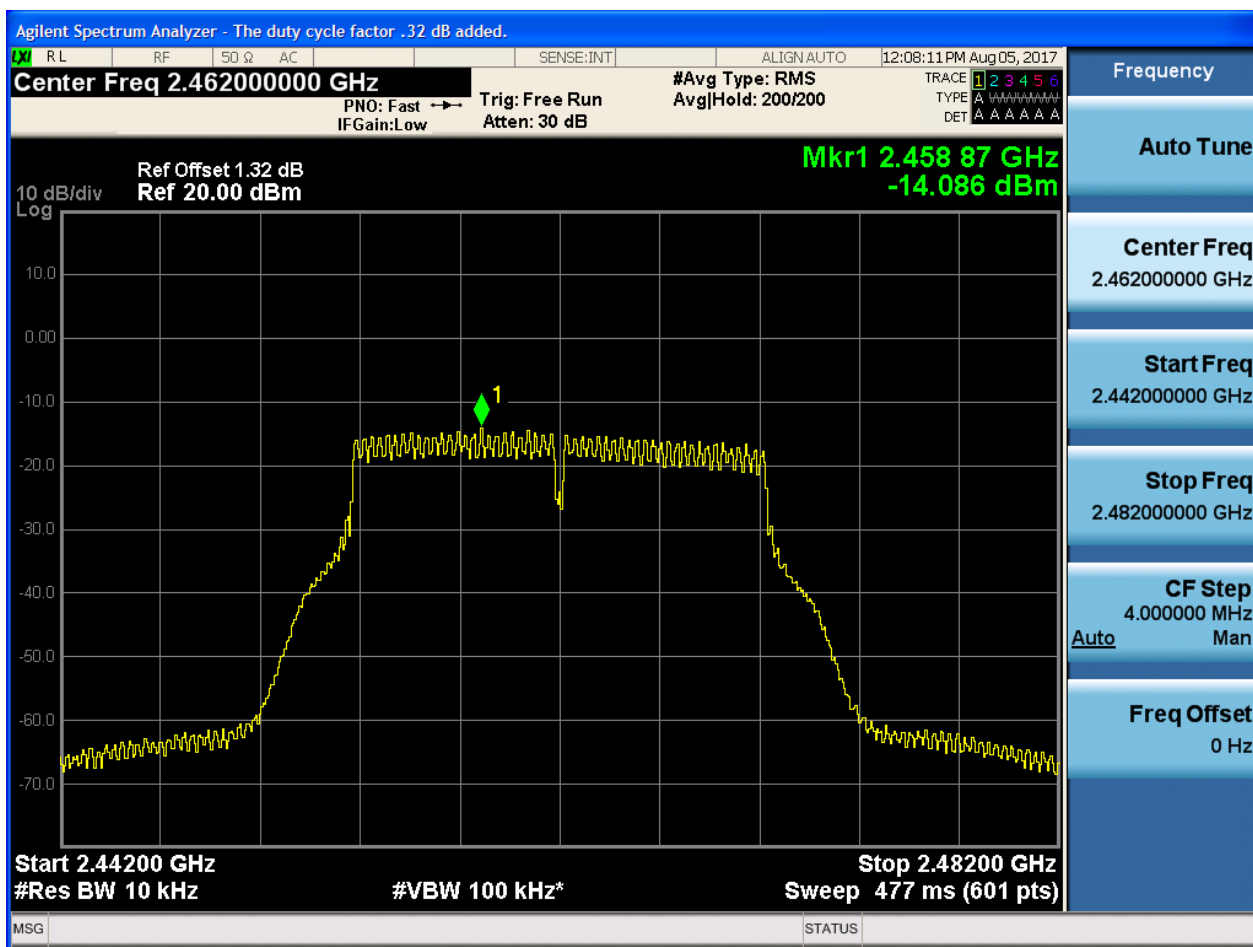


2.11 11G_H@Ant 1



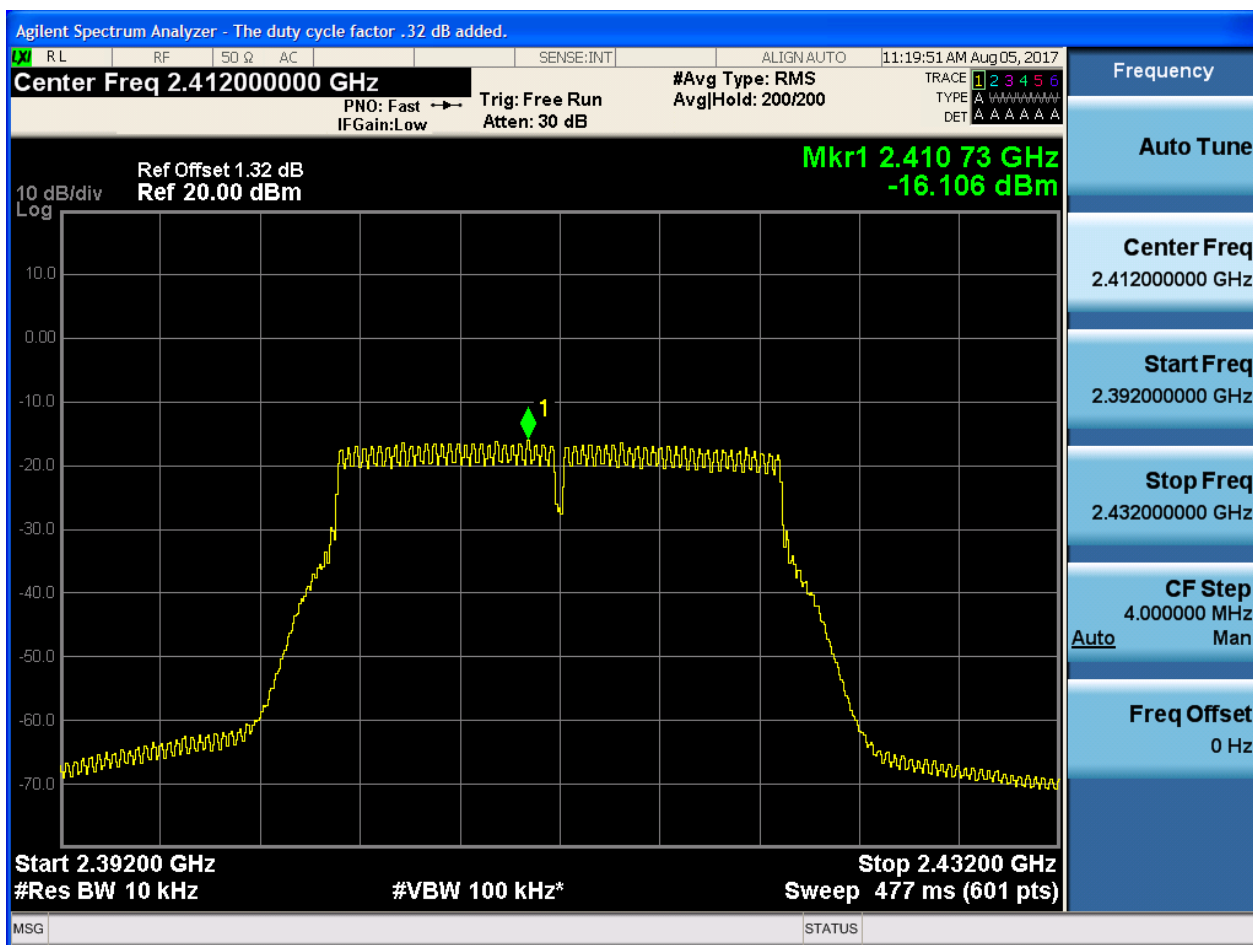


2.12 11G_H@Ant 2



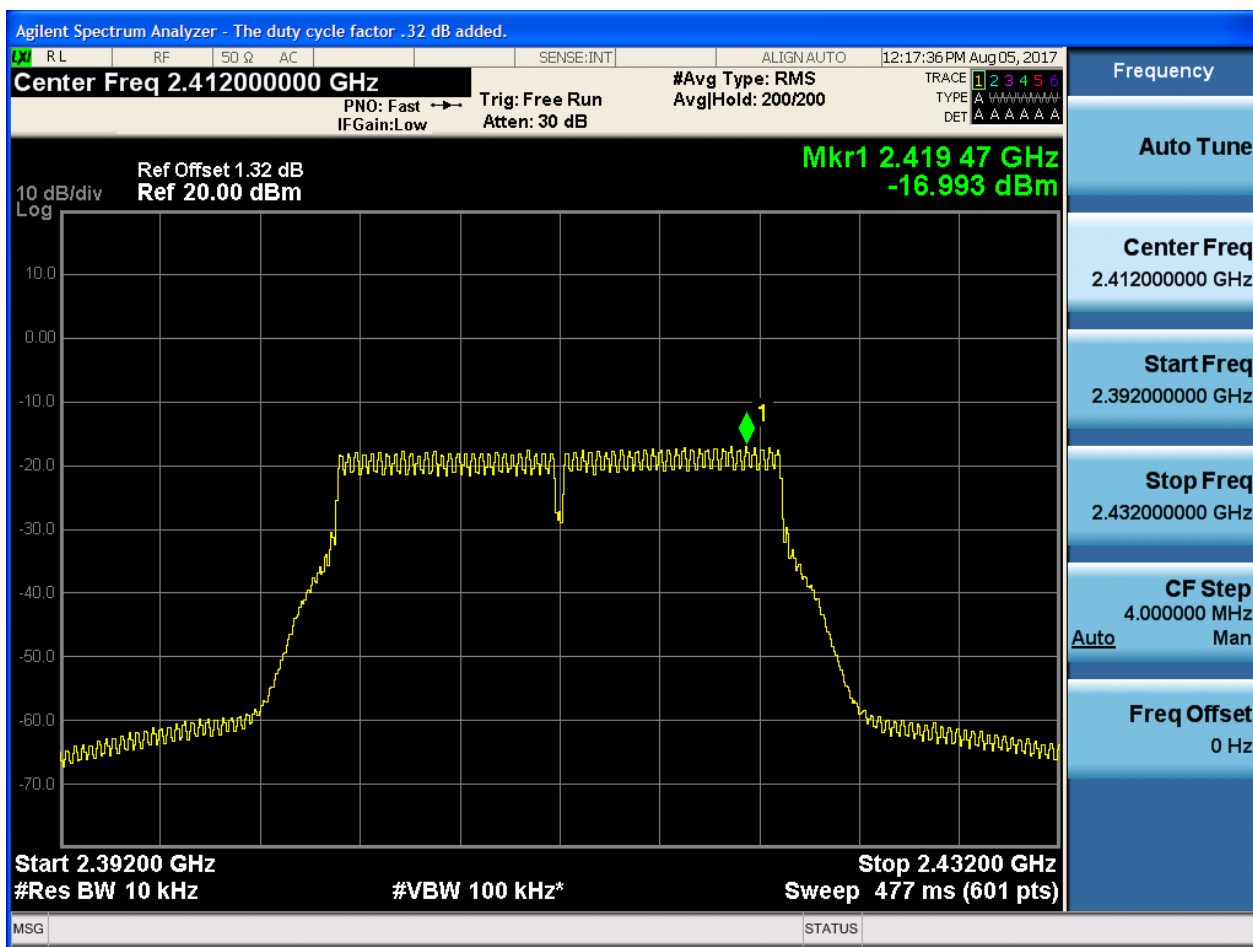


2.13 11N20_L@Ant 1



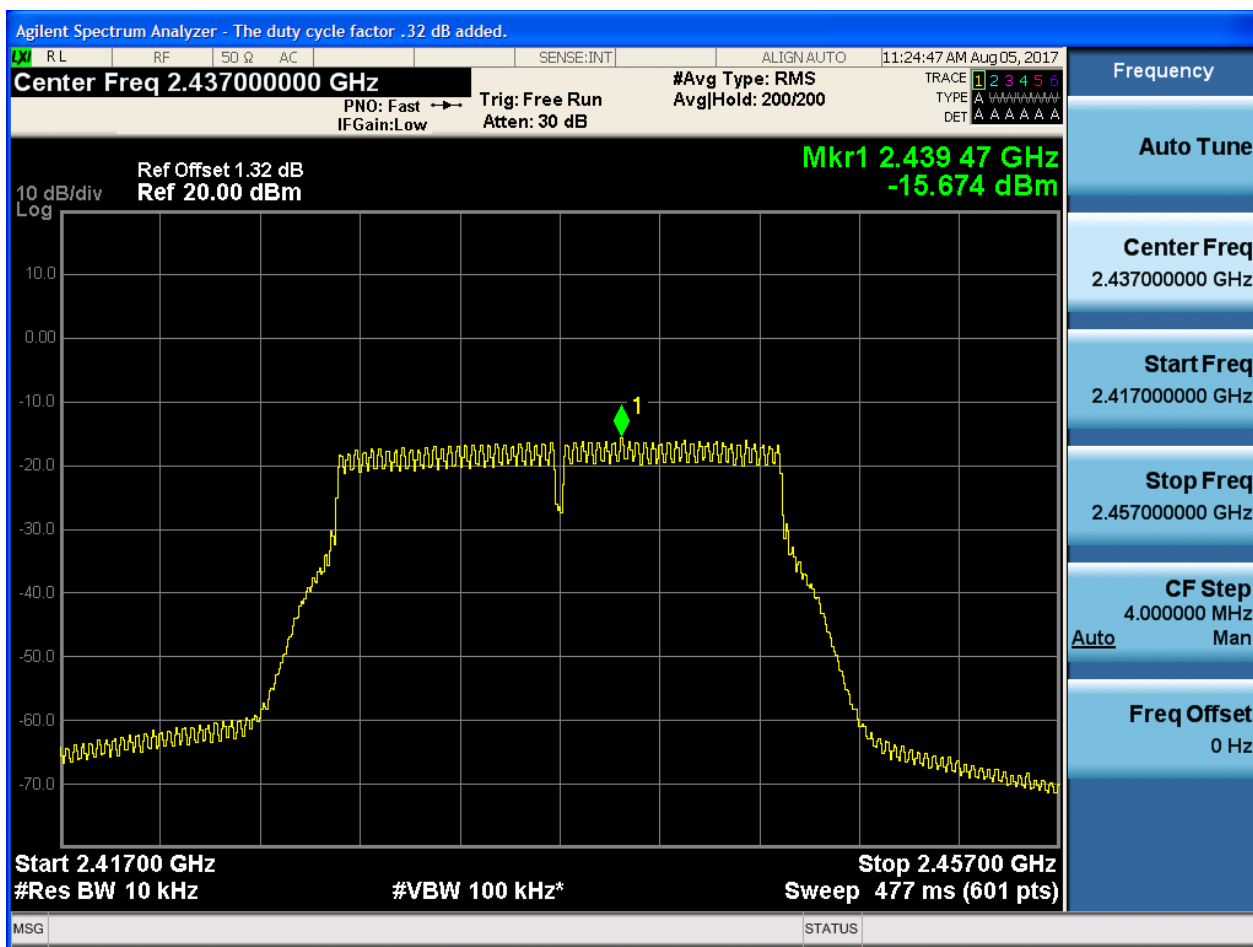


2.14 11N20_L@Ant 2



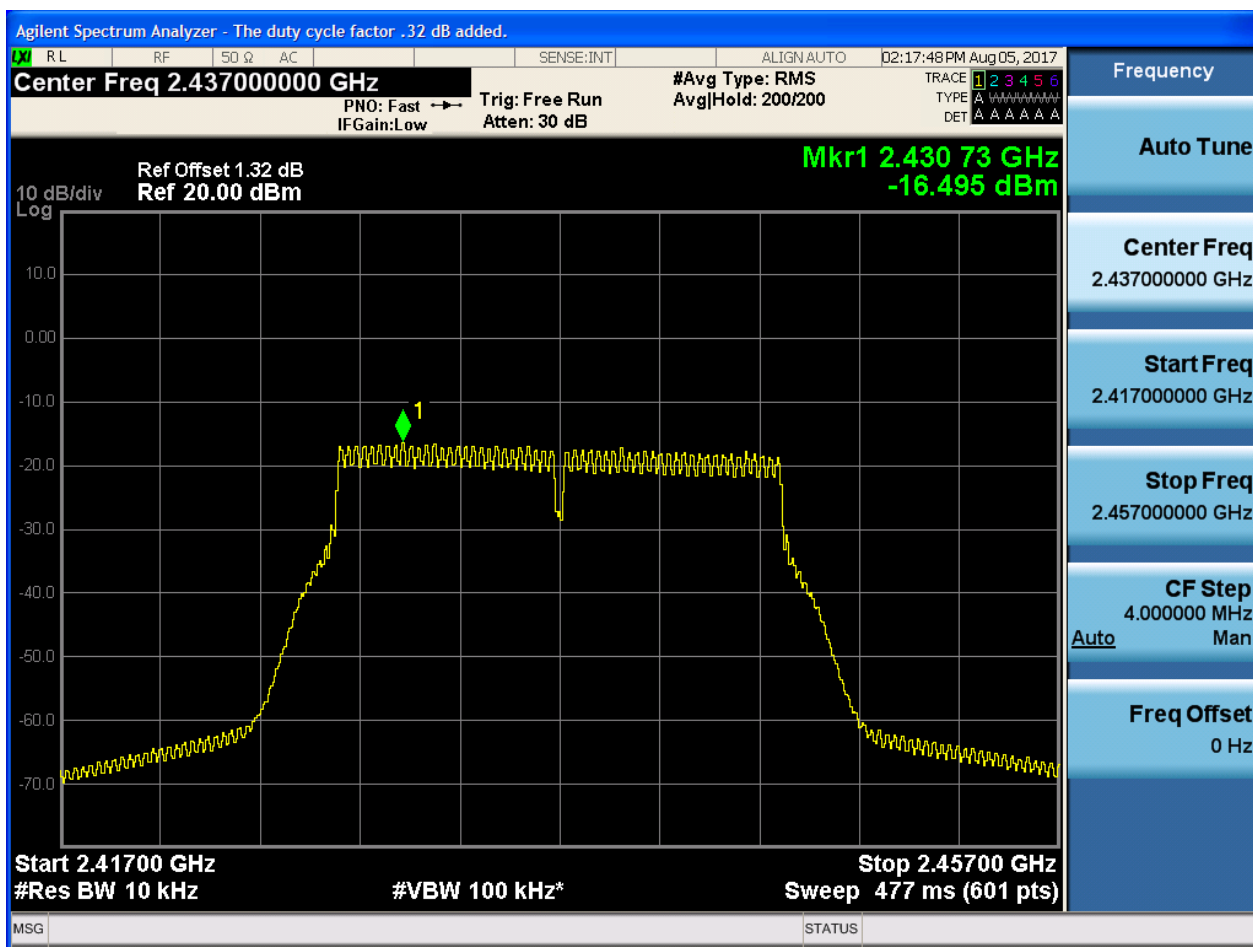


2.15 11N20_M@Ant 1



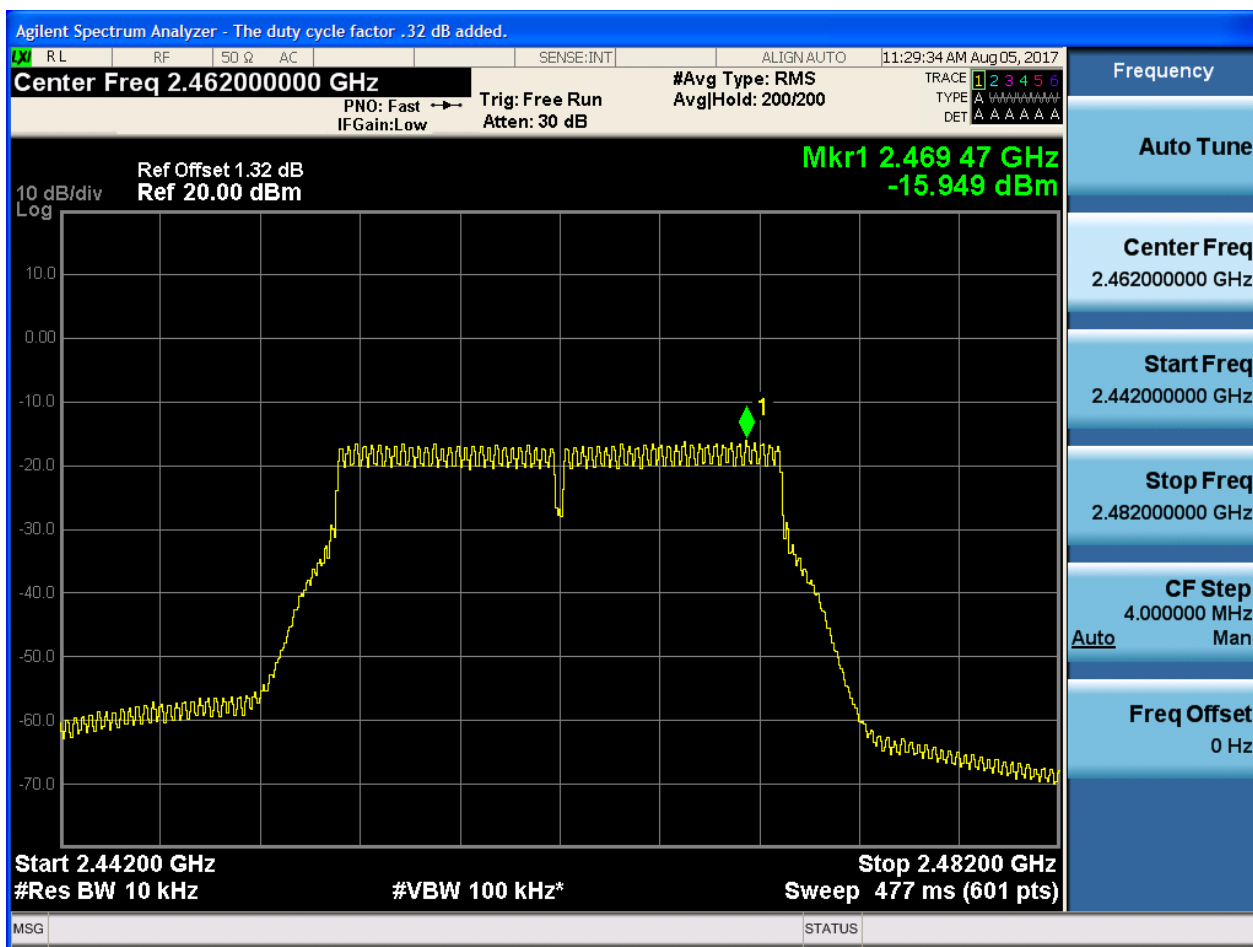


2.16 11N20_M@Ant 2



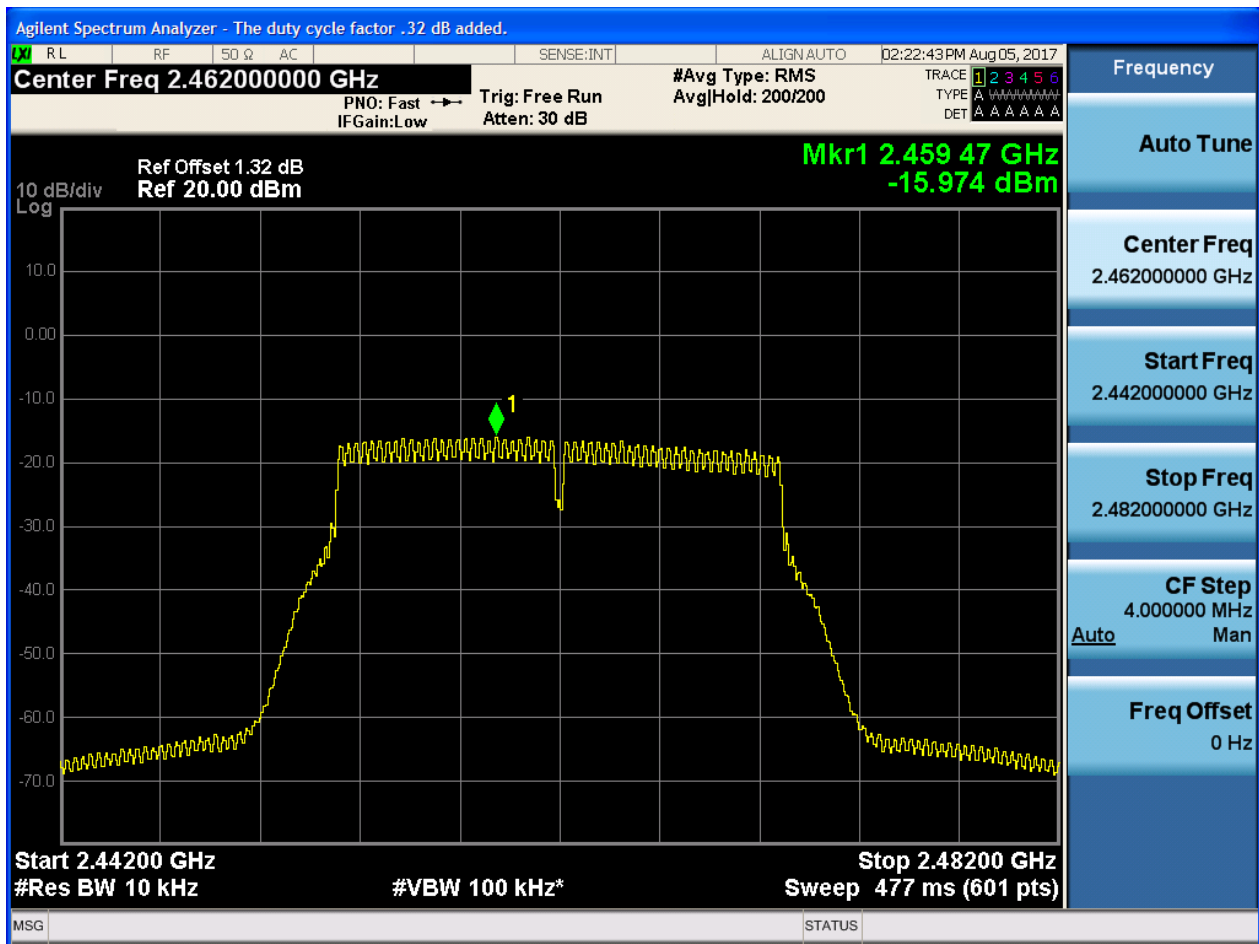


2.17 11N20_H@Ant 1



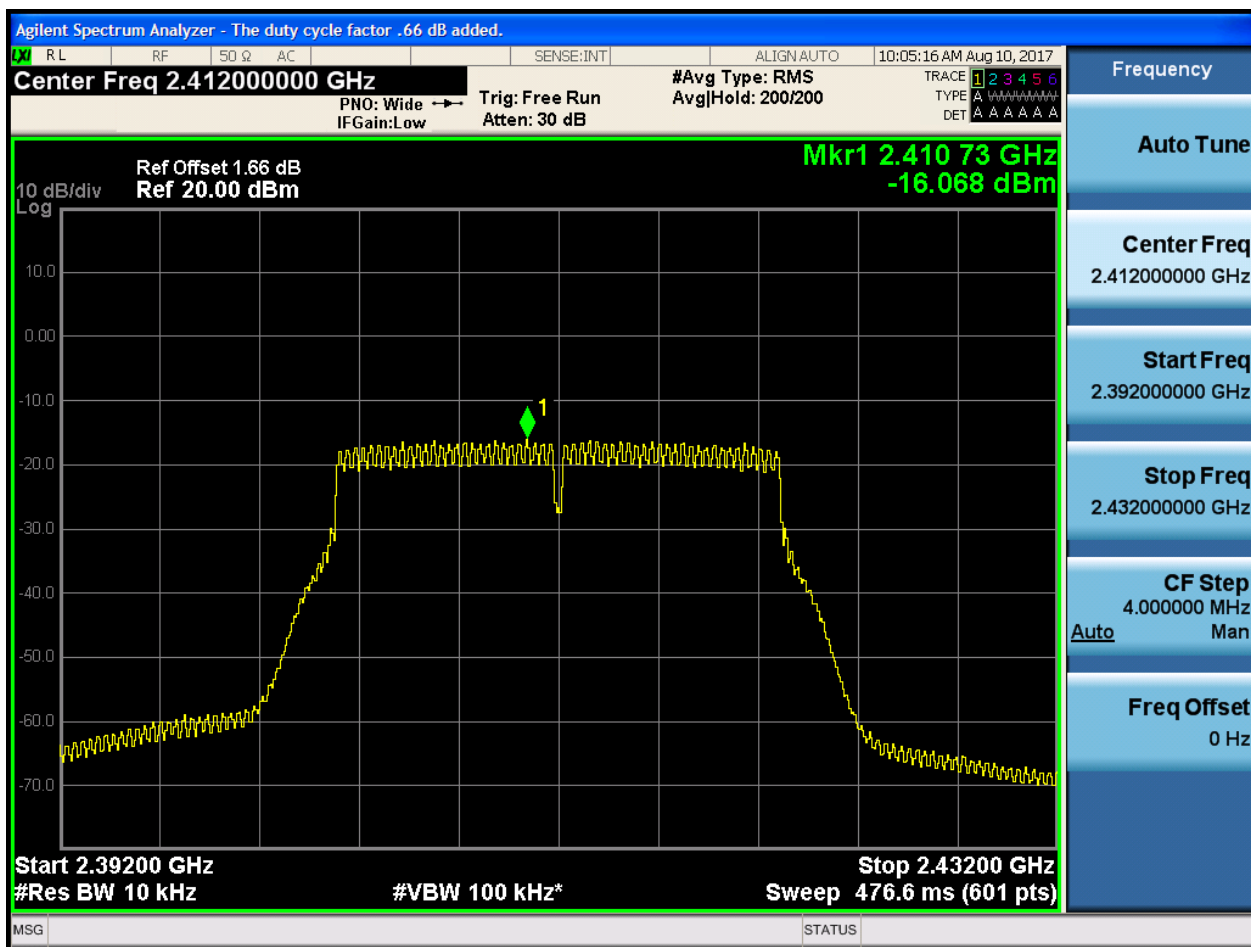


2.18 11N20_H@Ant 2



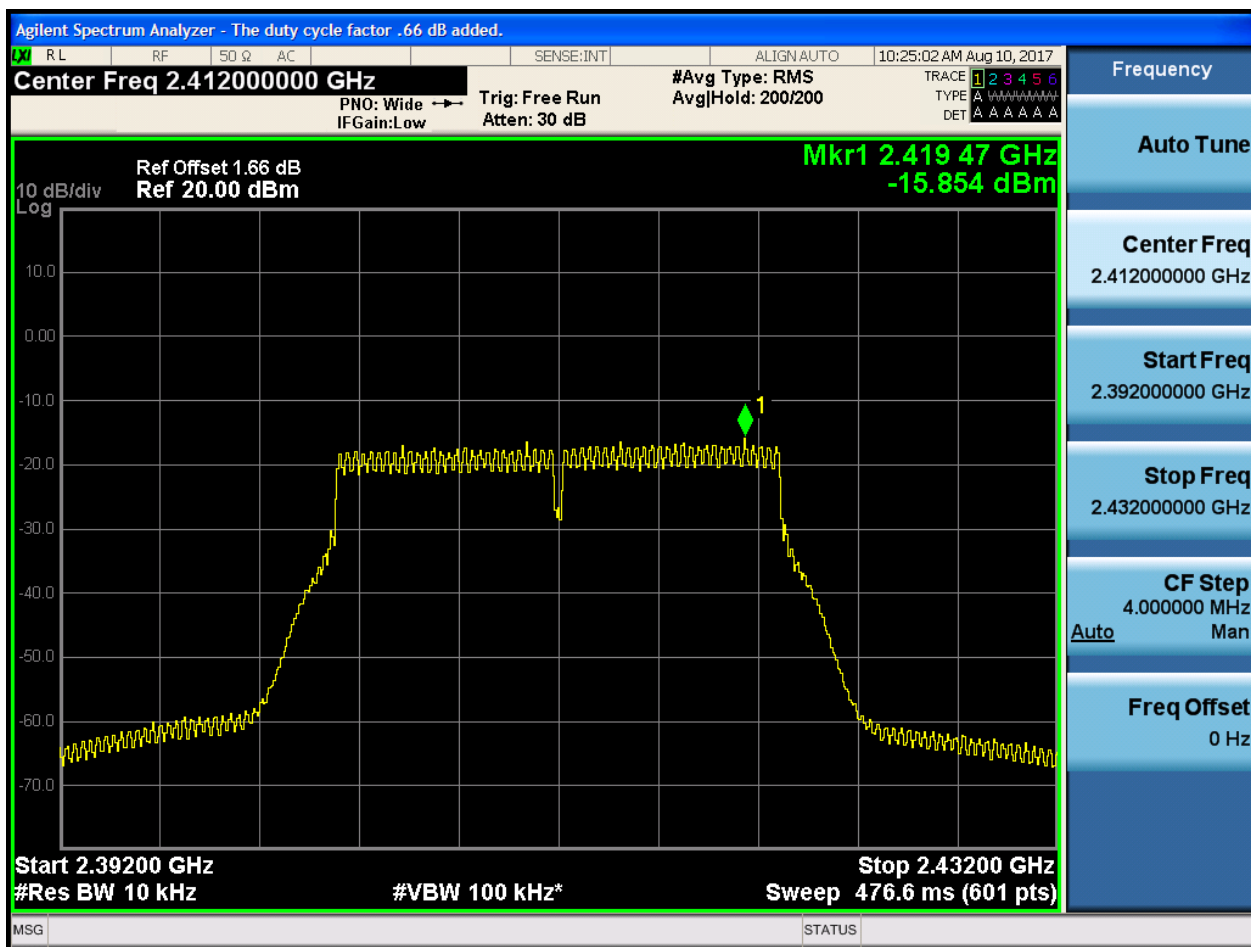


2.19 11N20m_L@Ant 1



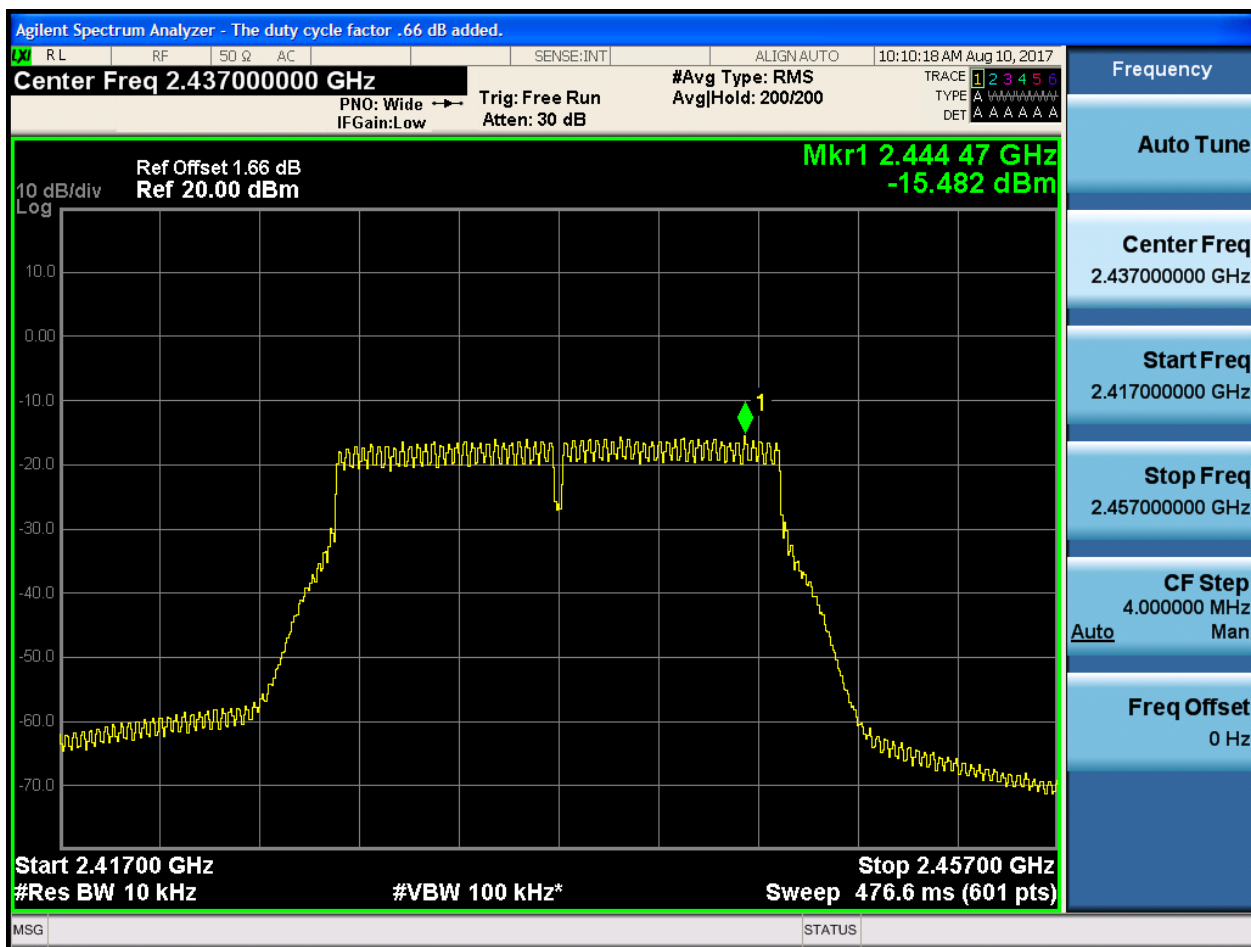


2.20 11N20m_L@Ant 2



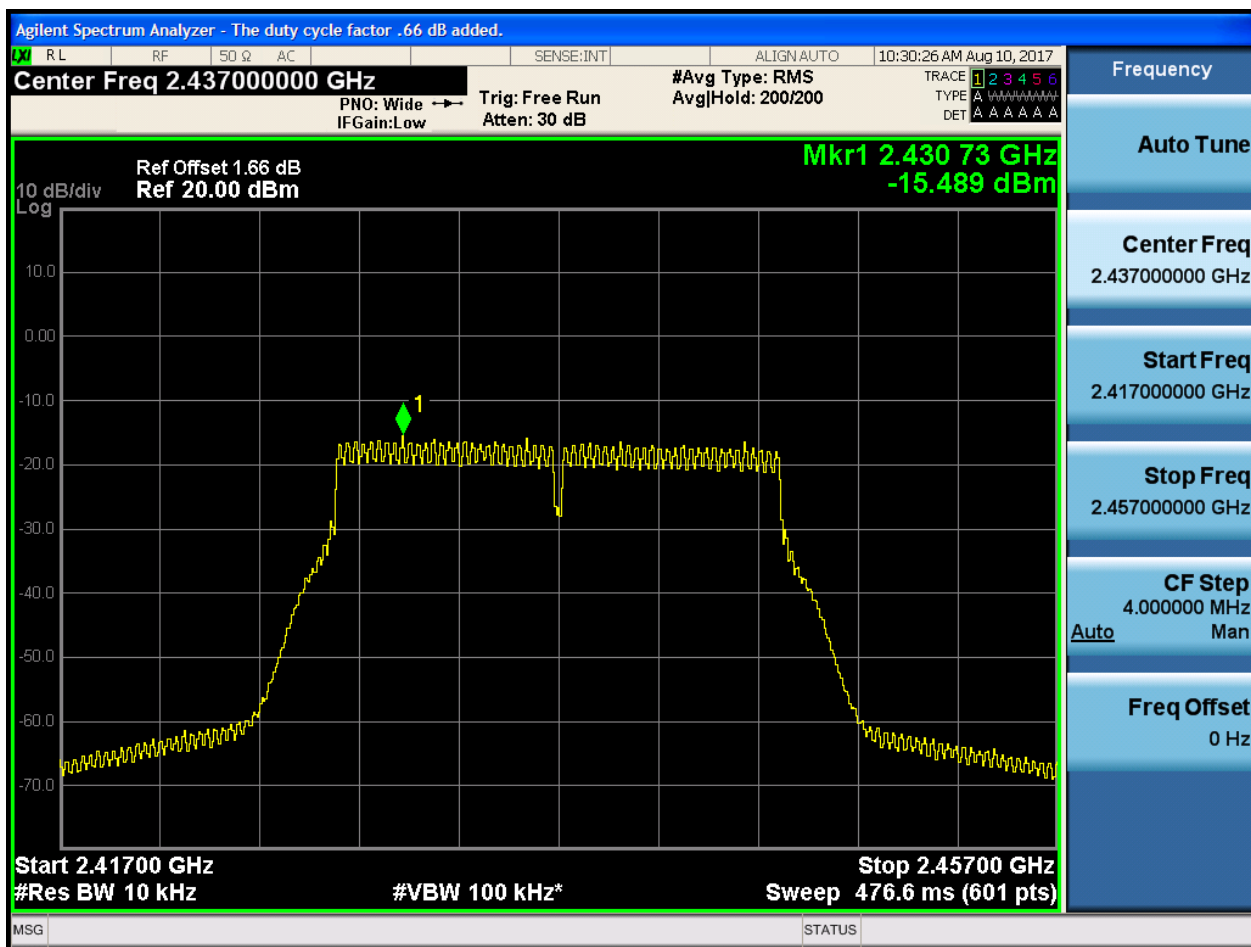


2.21 11N20m_M@Ant 1



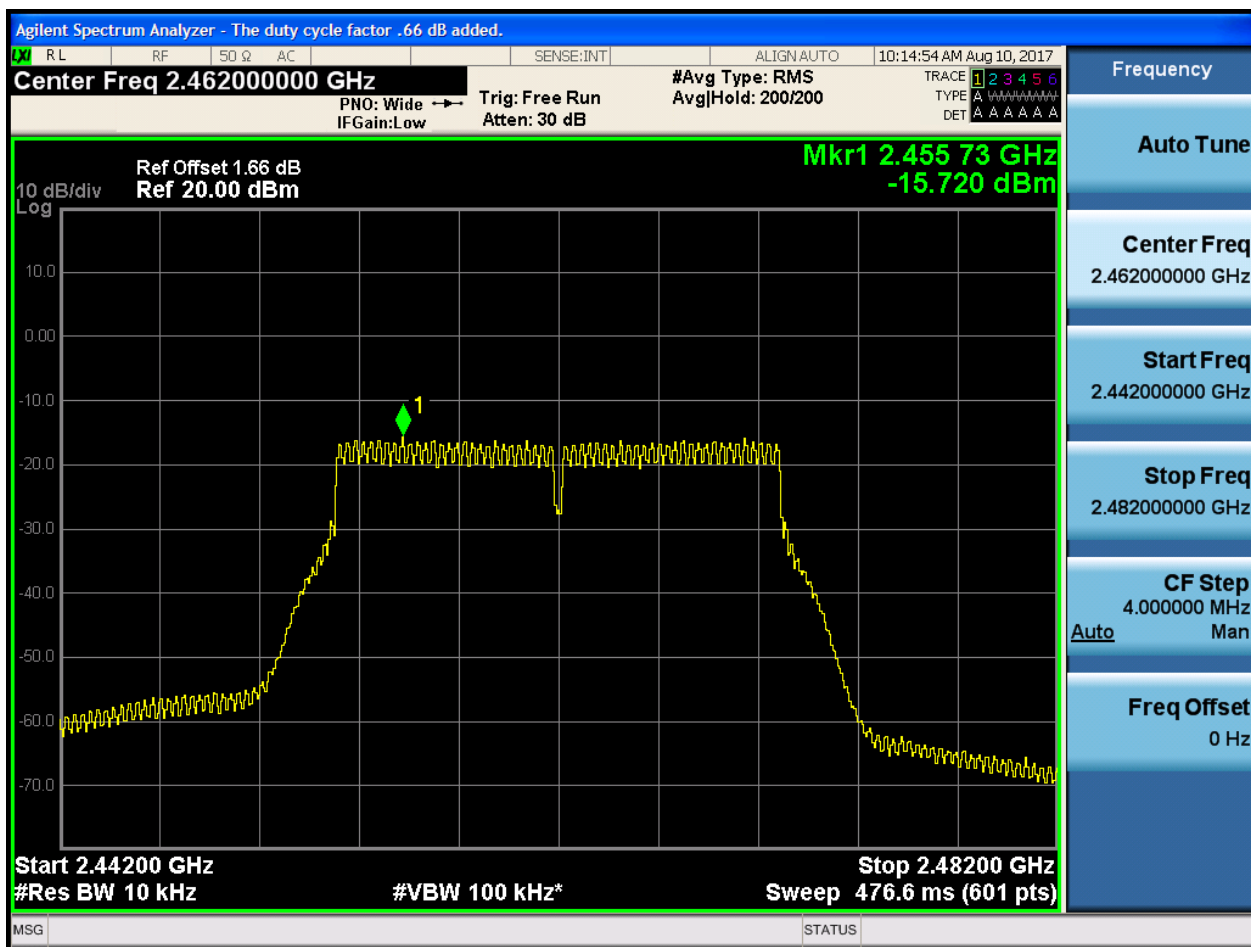


2.22 11N20m_M@Ant 2



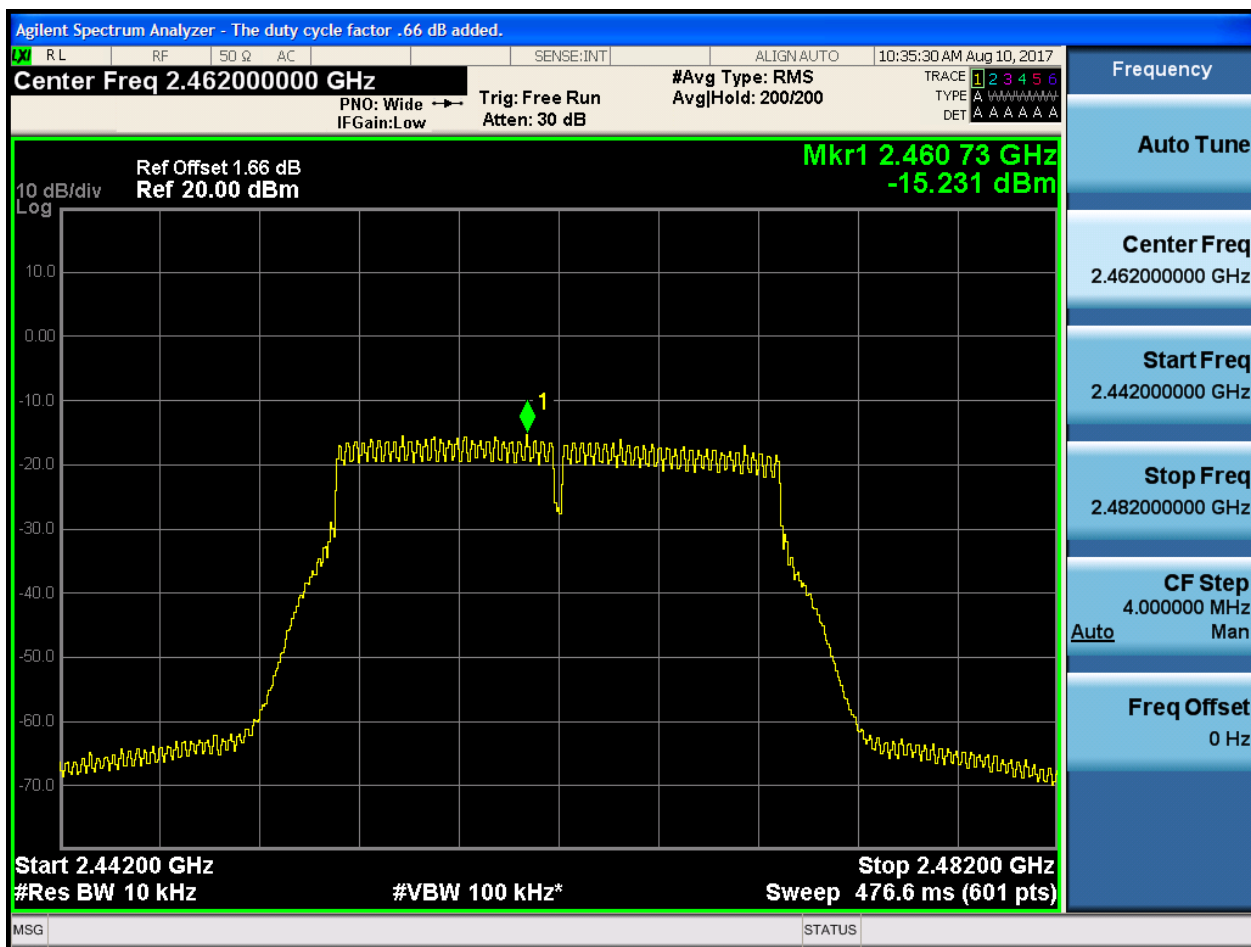


2.23 11N20m_H@Ant 1





2.24 11N20m_H@Ant 2





2.25 11G CDD L@Ant 1

