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.

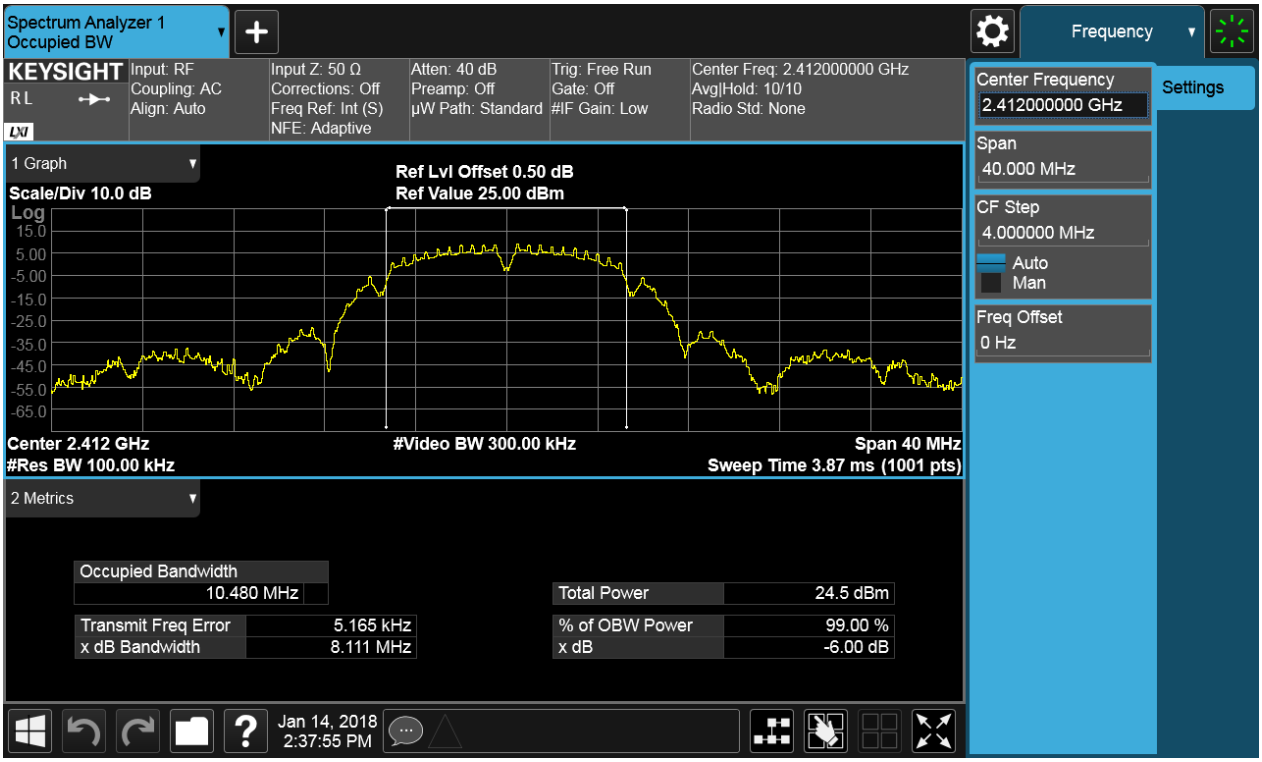
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

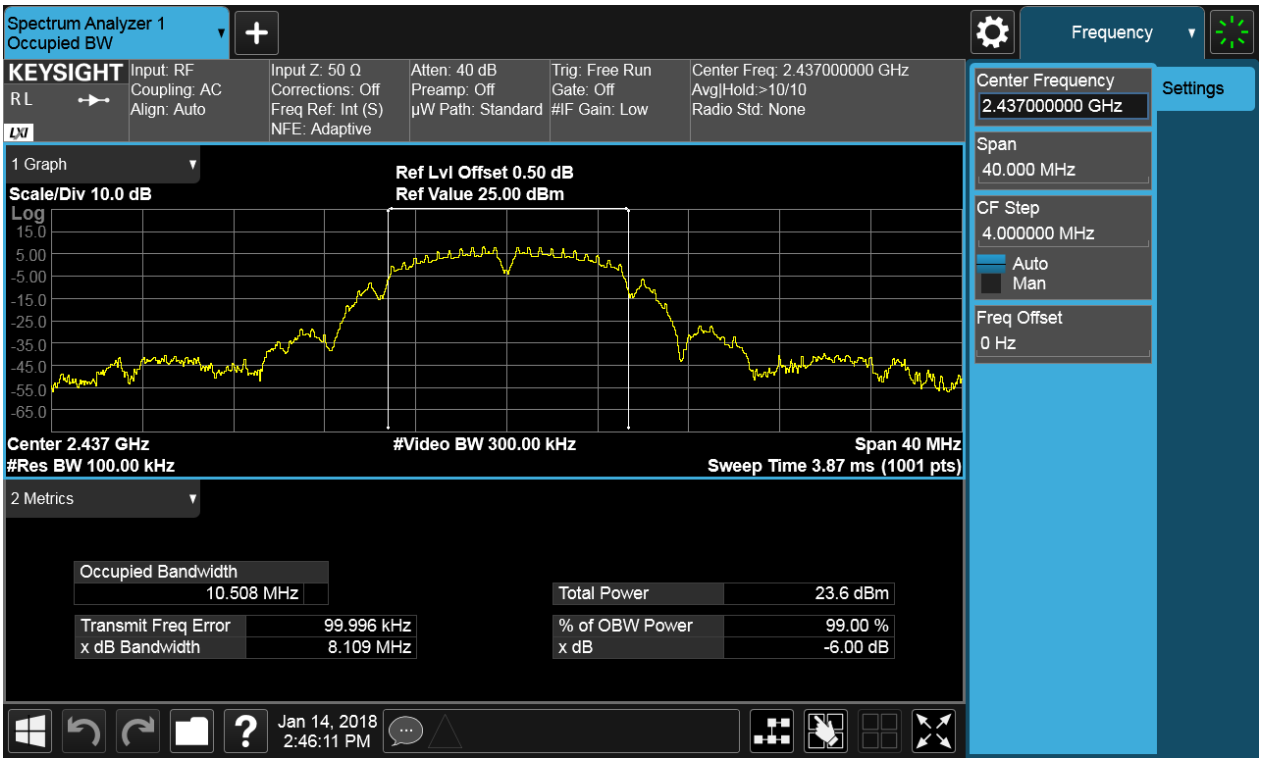
Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	8.11	pass
11B	M	2437	Ant 1	8.11	pass
11B	H	2462	Ant 1	8.12	pass
11G	L	2412	Ant 1	16.38	pass
11G	M	2437	Ant 1	16.37	pass
11G	H	2462	Ant 1	16.39	pass
11N20	L	2412	Ant 1	17.61	pass
11N20	M	2437	Ant 1	17.60	pass
11N20	H	2462	Ant 1	17.59	pass
11N40	L	2422	Ant 1	35.37	pass
11N40	M	2437	Ant 1	35.54	pass
11N40	H	2452	Ant 1	35.16	pass

Part II - Test Plots

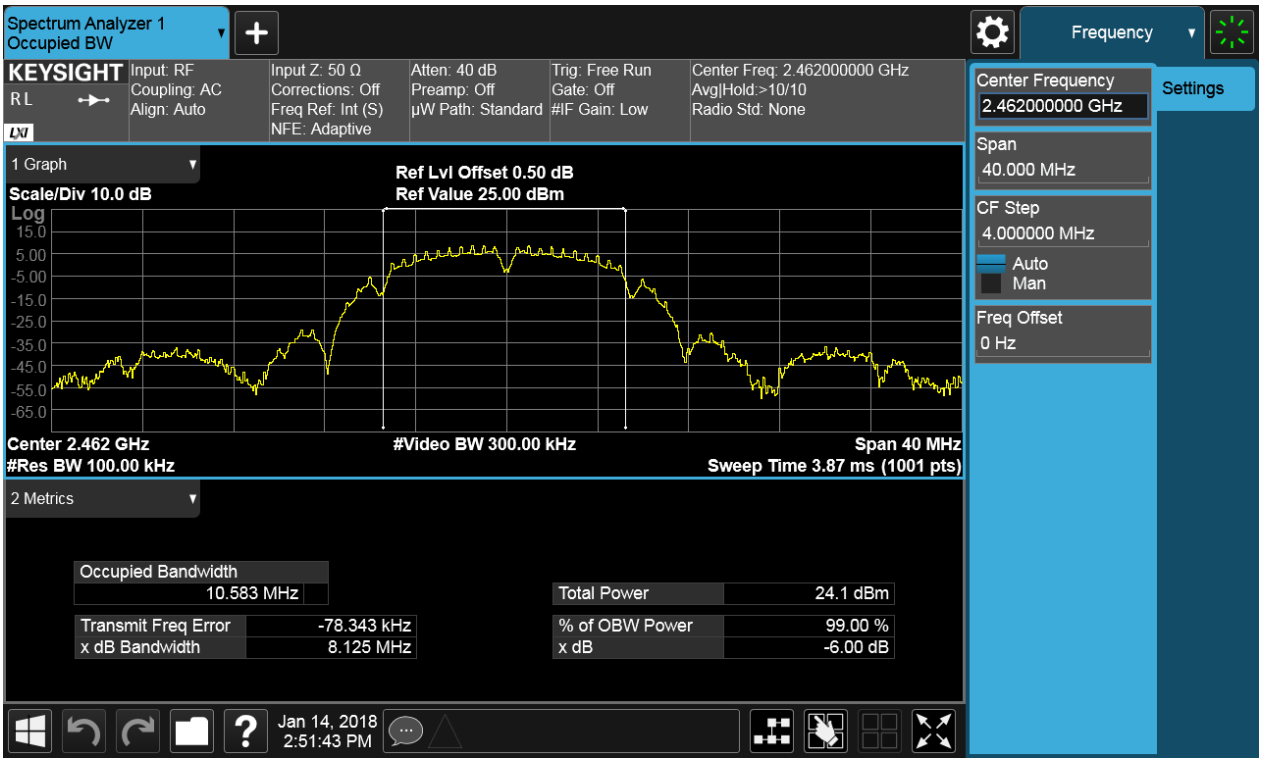
2.1 11B_L@Ant 1



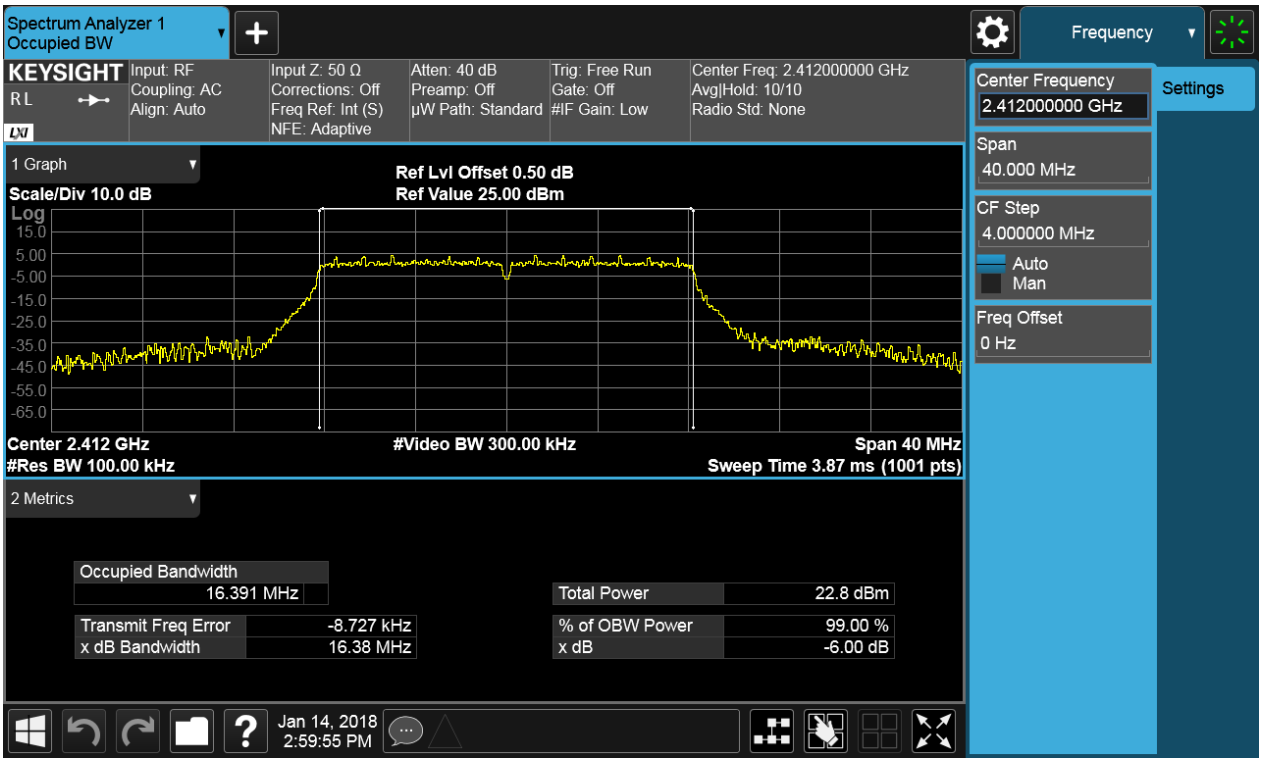
2.2 11B_M@Ant 1



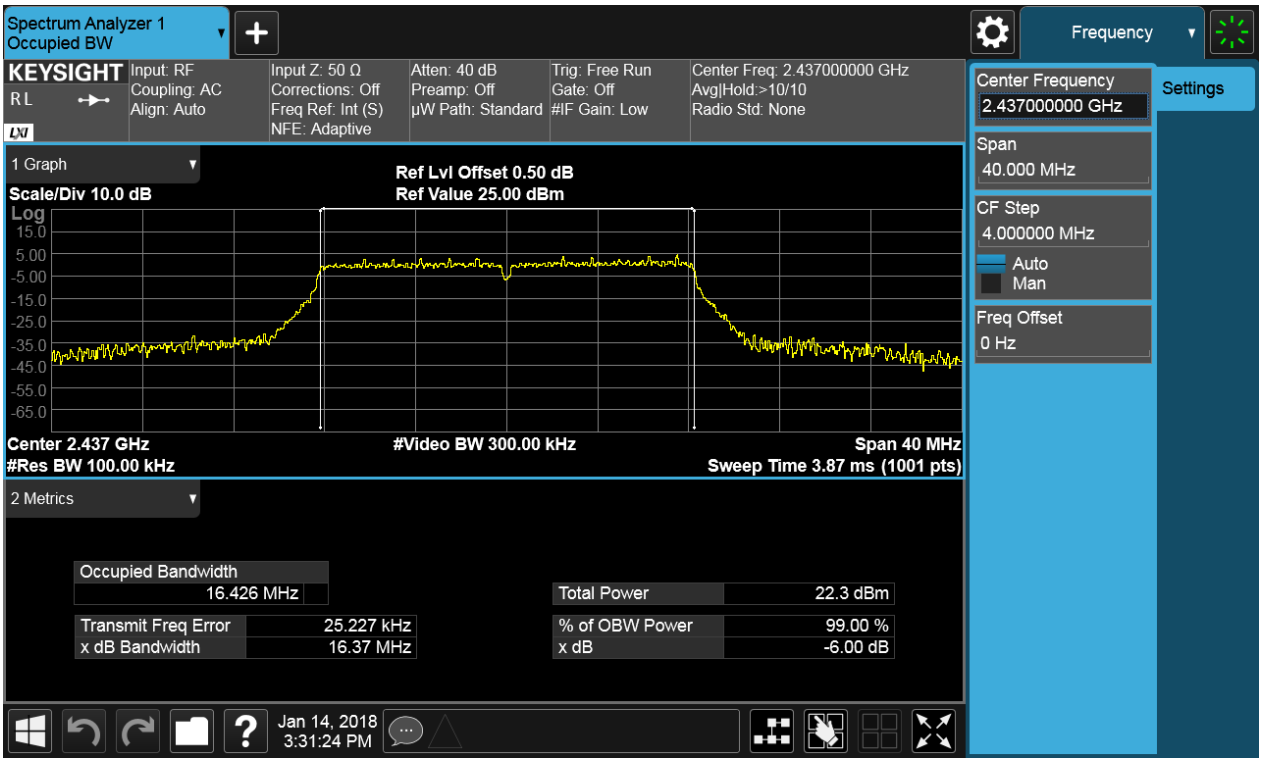
2.3 11B_H@Ant 1



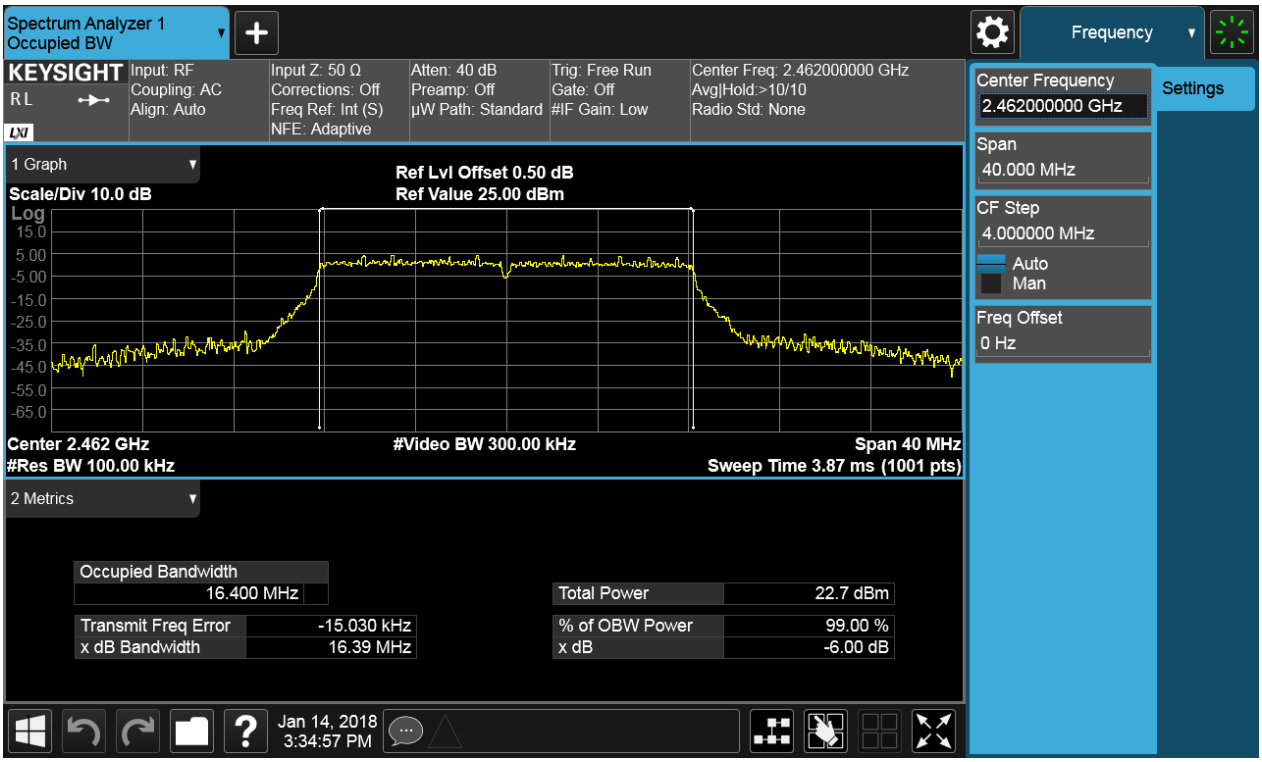
2.4 11G_L@Ant 1



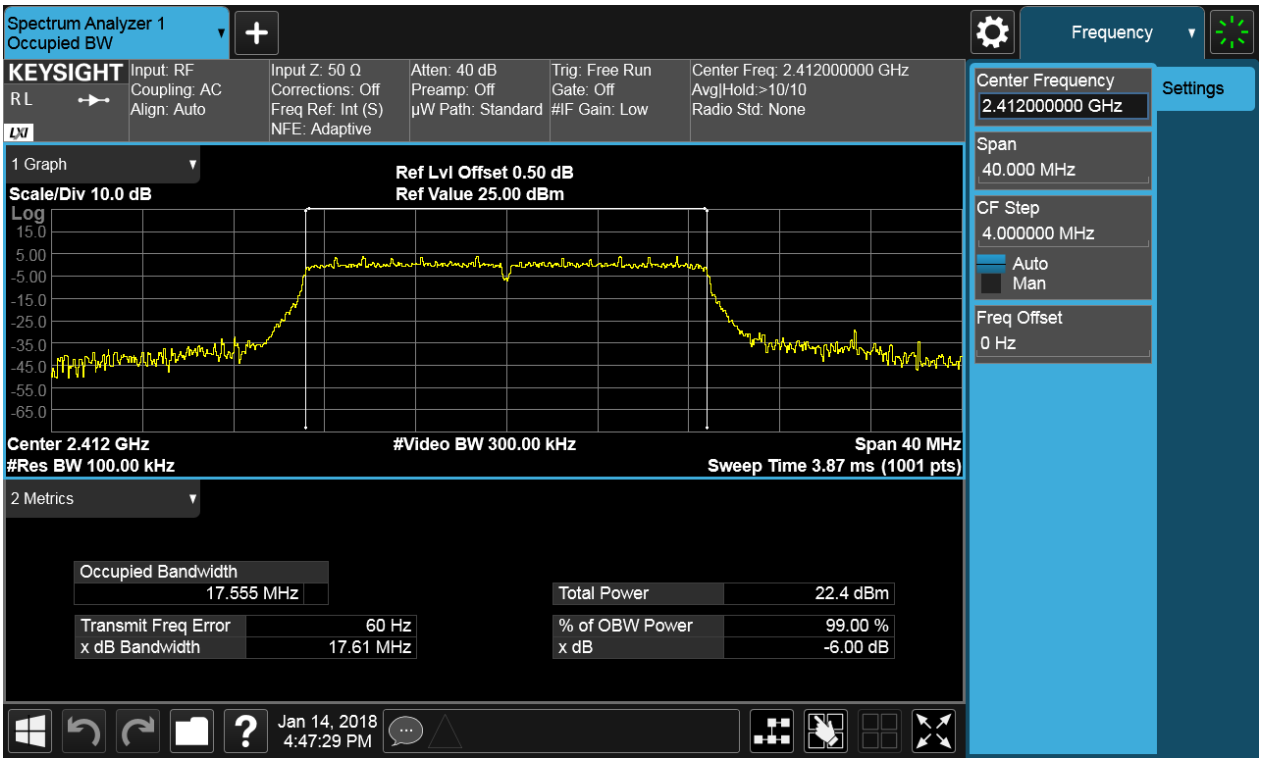
2.5 11G_M@Ant 1



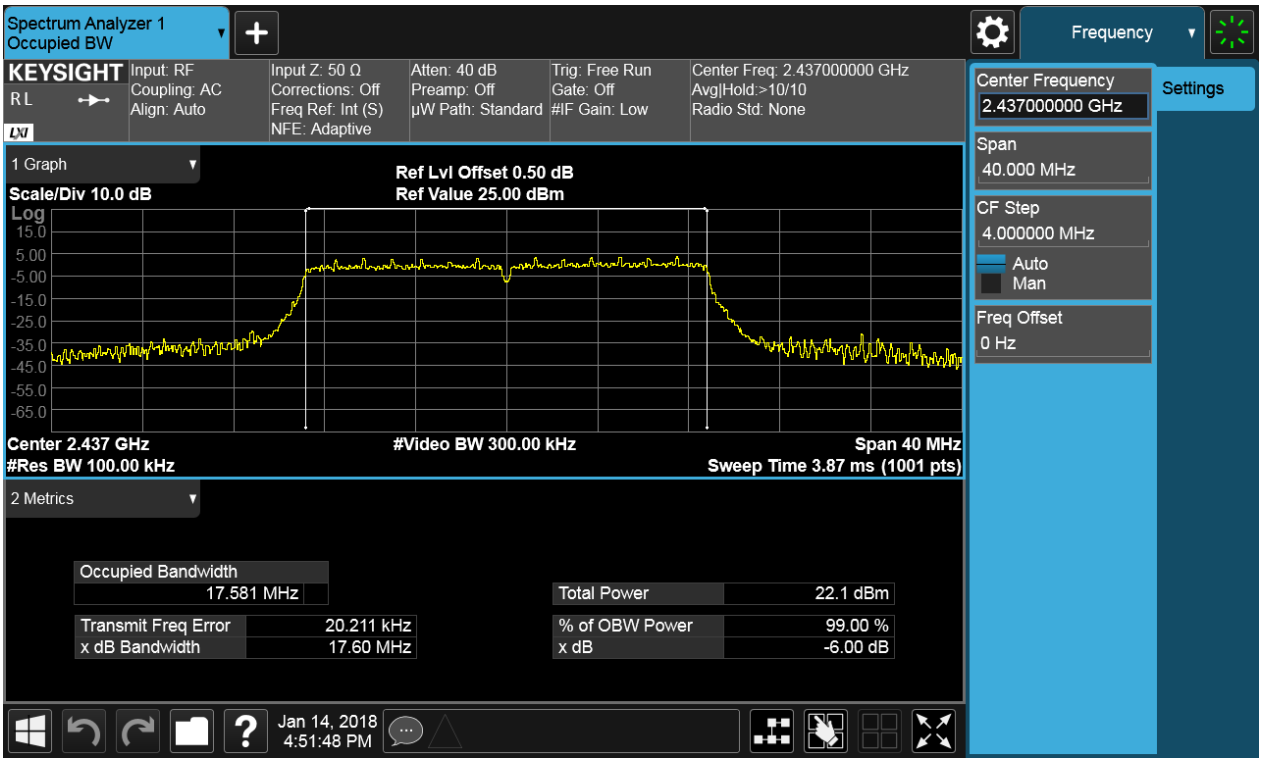
2.6 11G_H@Ant 1



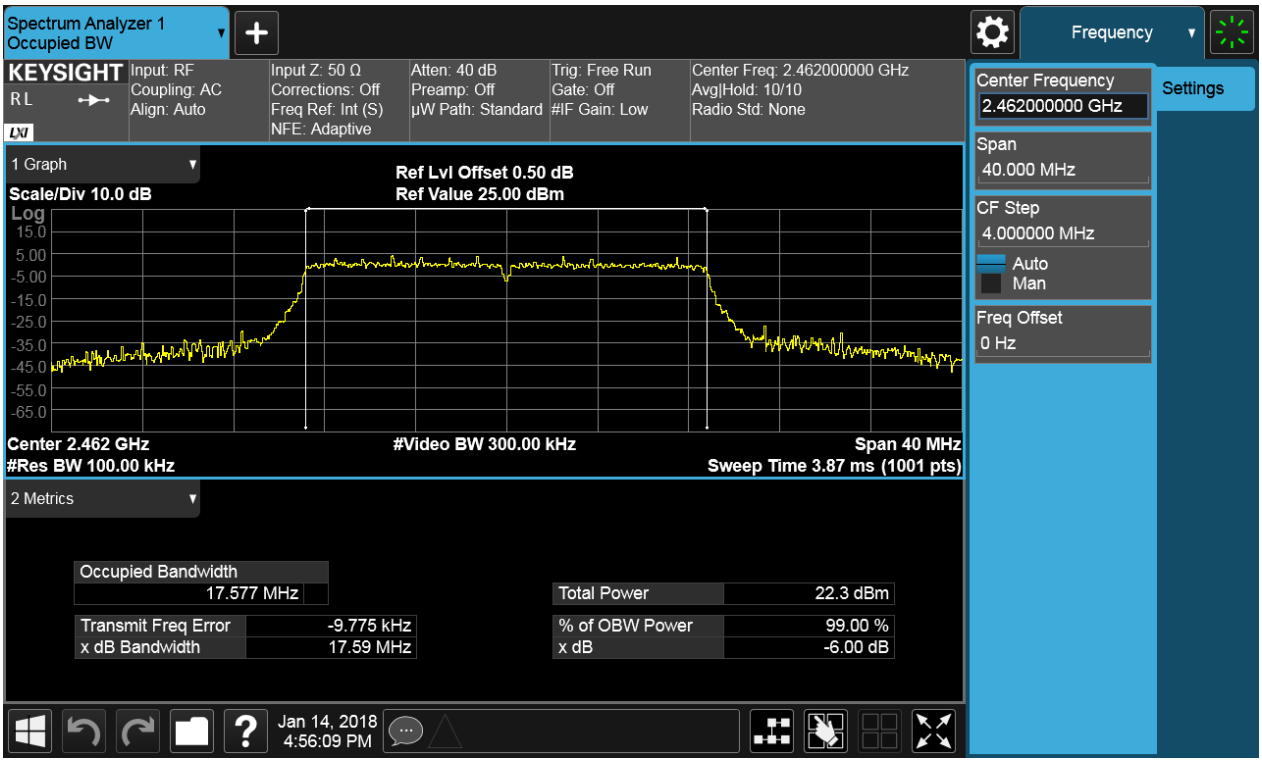
2.7 11N20_L@Ant 1



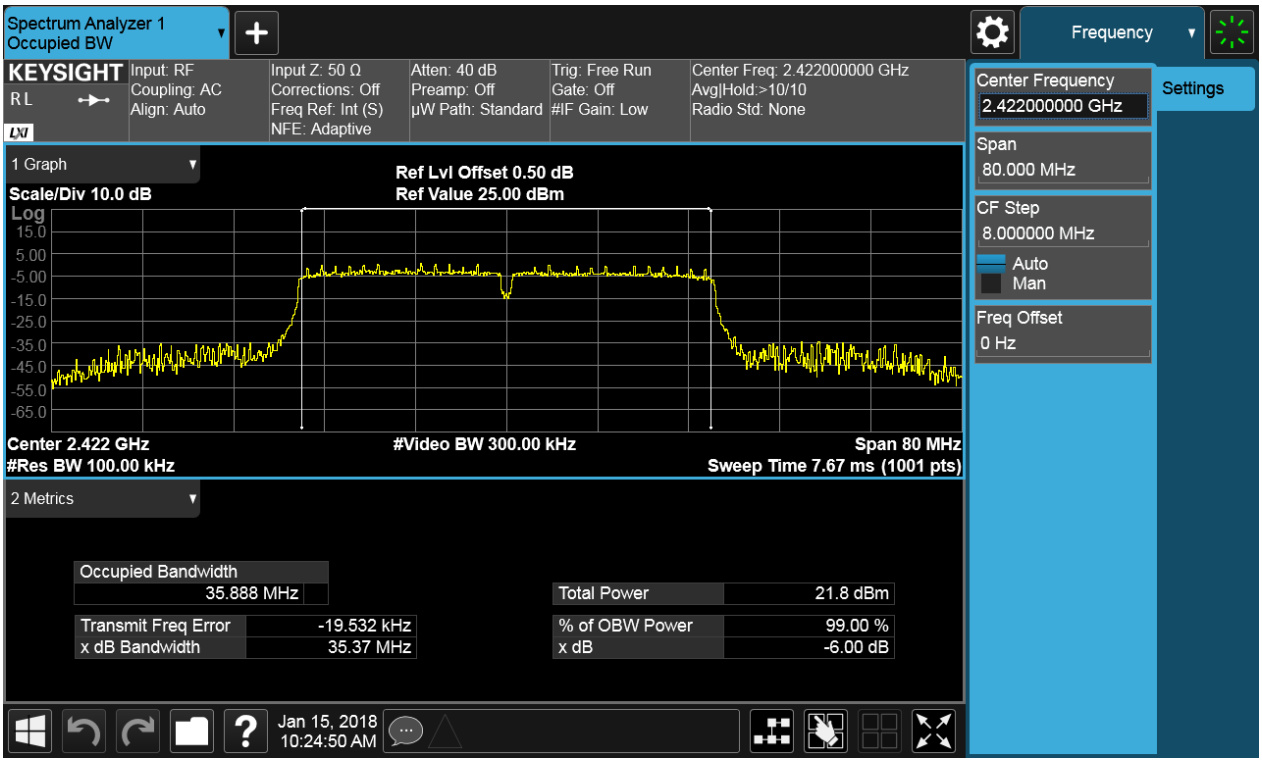
2.8 11N20_M@Ant 1



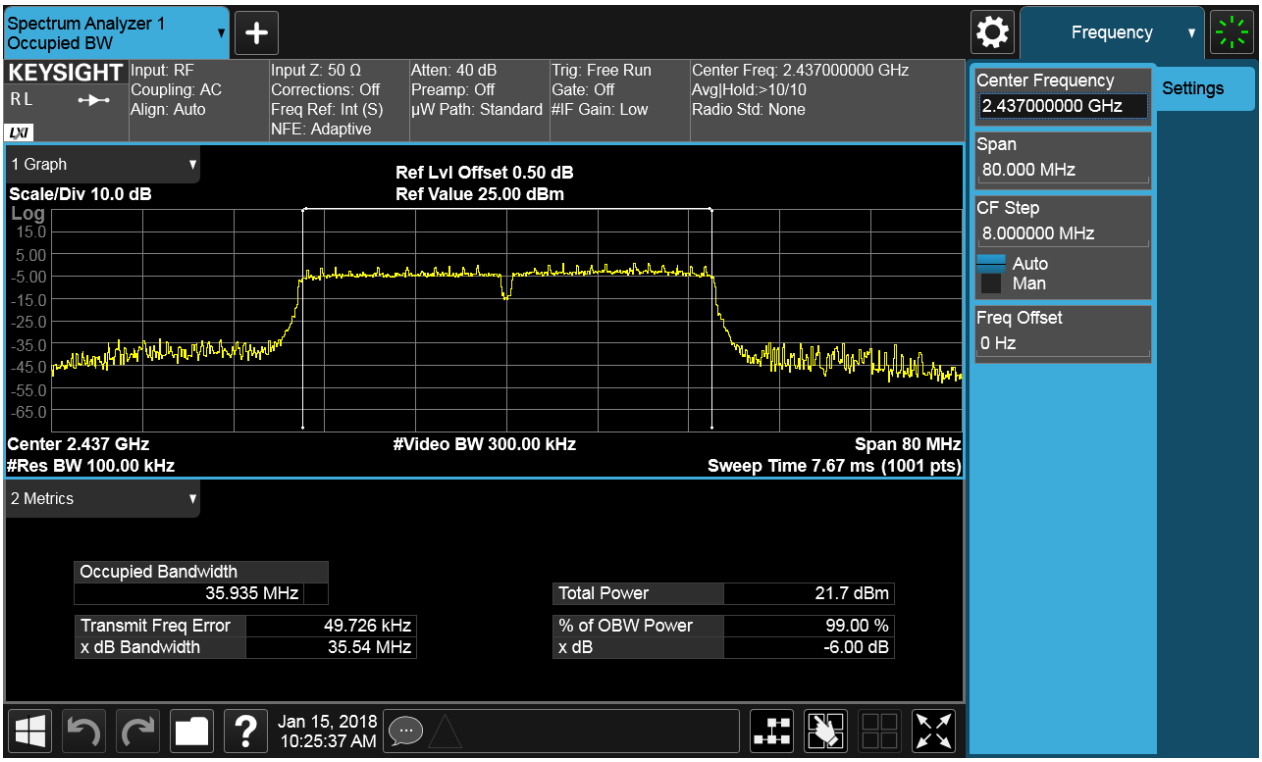
2.9 11N20_H@Ant 1



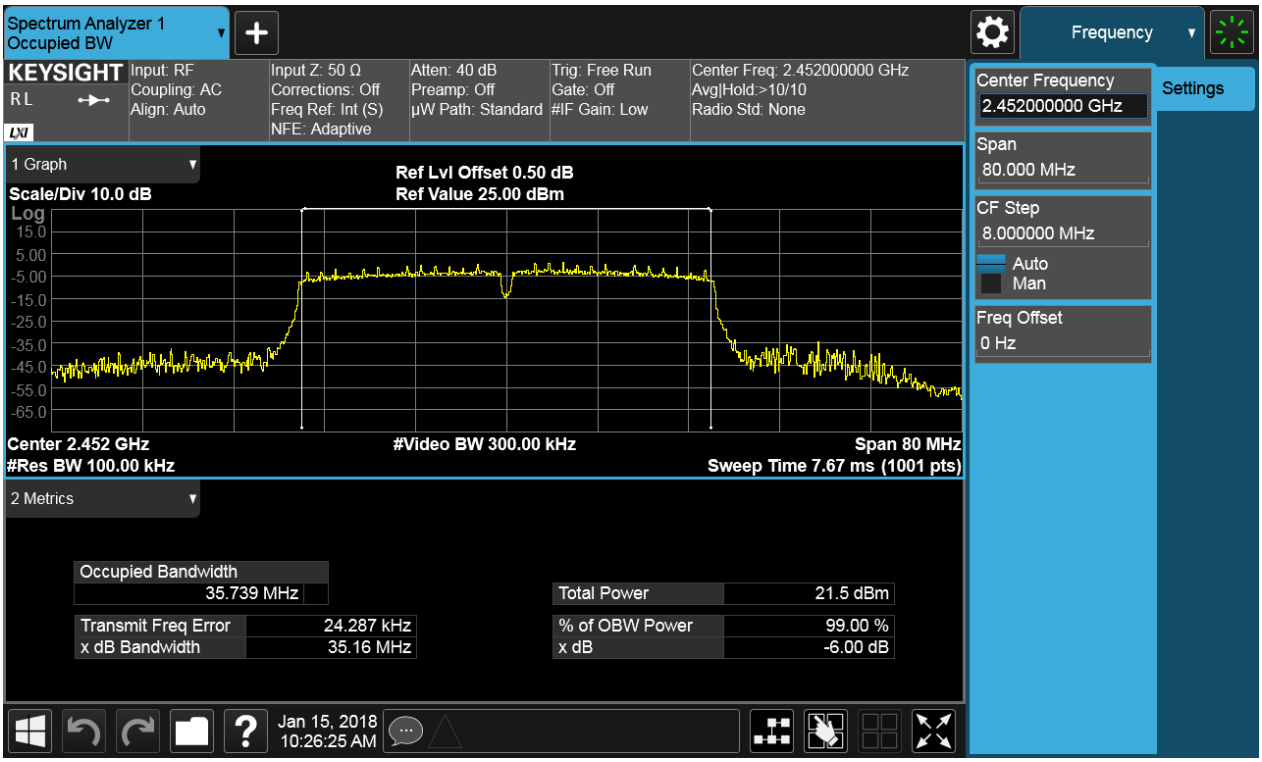
2.10 11N40_L@Ant 1



2.11 11N40_M@Ant 1



2.12 11N40_H@Ant 1



Appendix B: Occupied Bandwidth

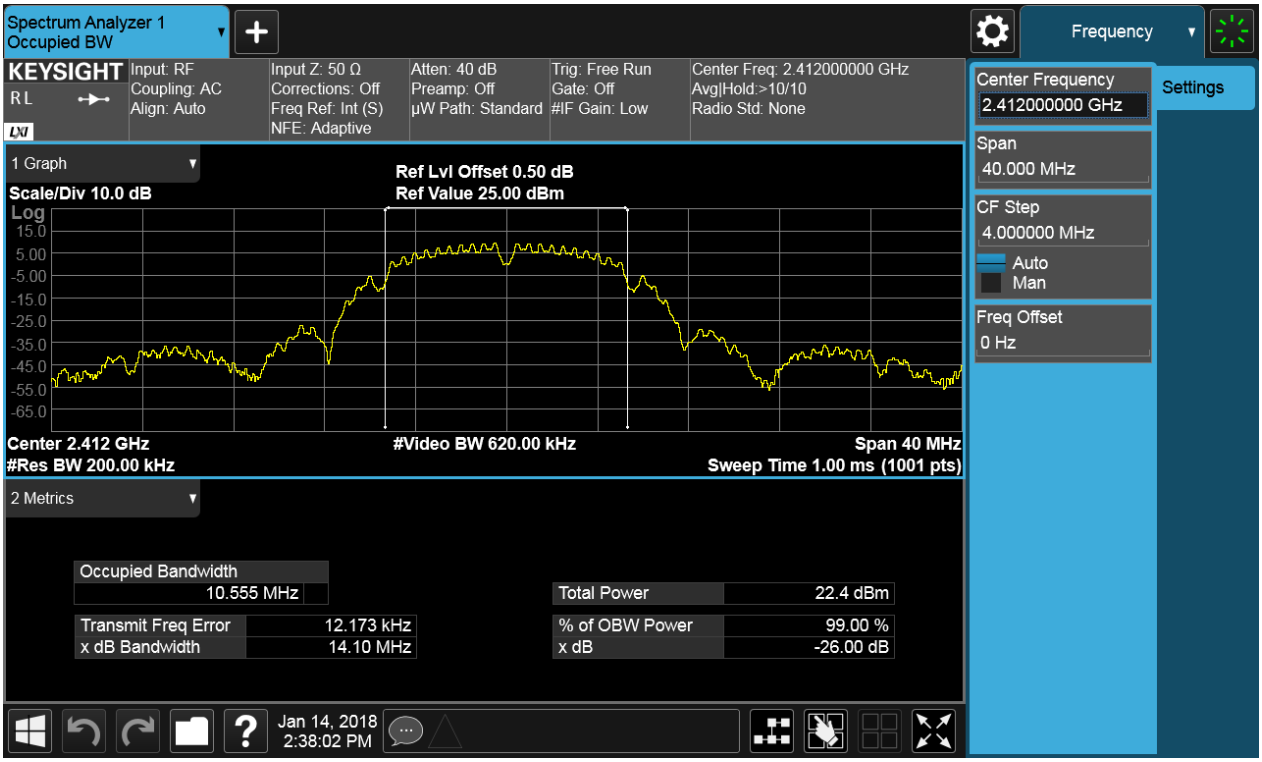
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

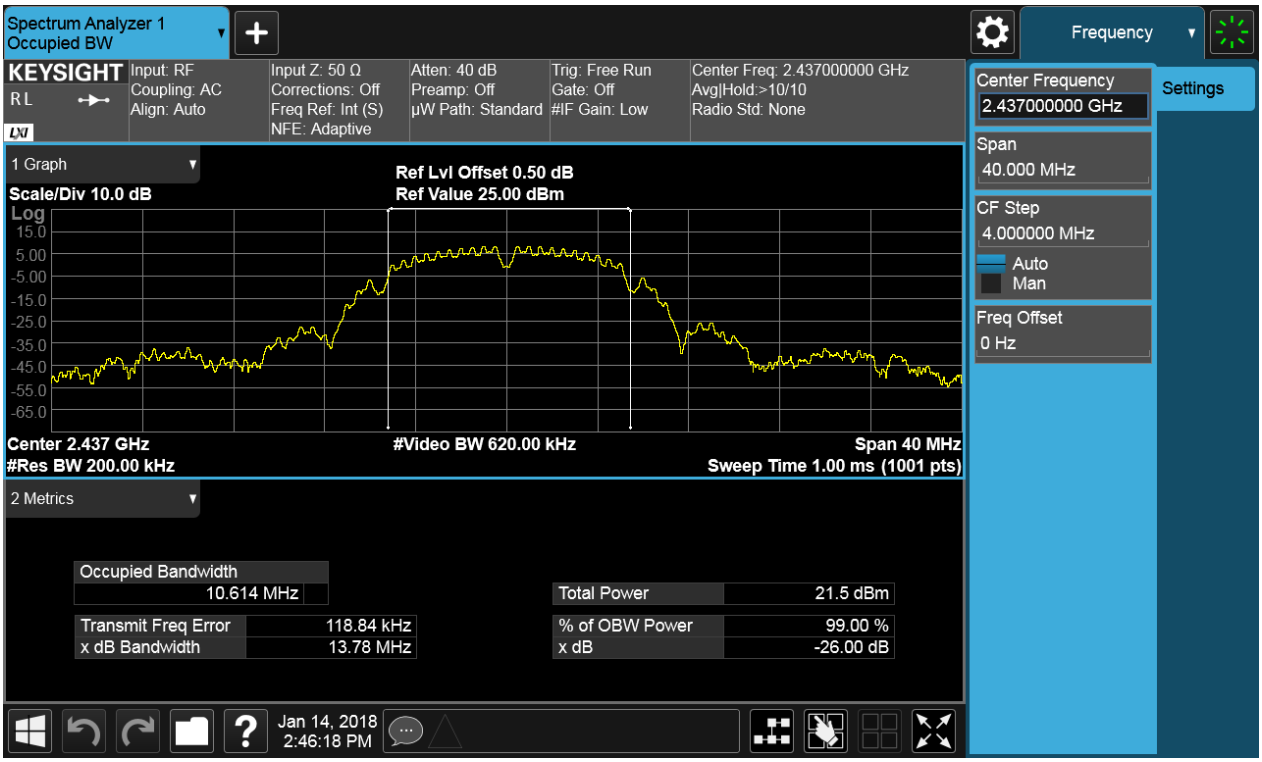
Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	10.55	pass
11B	M	2437	Ant 1	10.61	pass
11B	H	2462	Ant 1	10.70	pass
11G	L	2412	Ant 1	16.45	pass
11G	M	2437	Ant 1	16.52	pass
11G	H	2462	Ant 1	16.47	pass
11N20	L	2412	Ant 1	17.57	pass
11N20	M	2437	Ant 1	17.60	pass
11N20	H	2462	Ant 1	17.58	pass
11N40	L	2422	Ant 1	35.93	pass
11N40	M	2437	Ant 1	35.97	pass
11N40	H	2452	Ant 1	35.75	pass

Part II - Test Plots

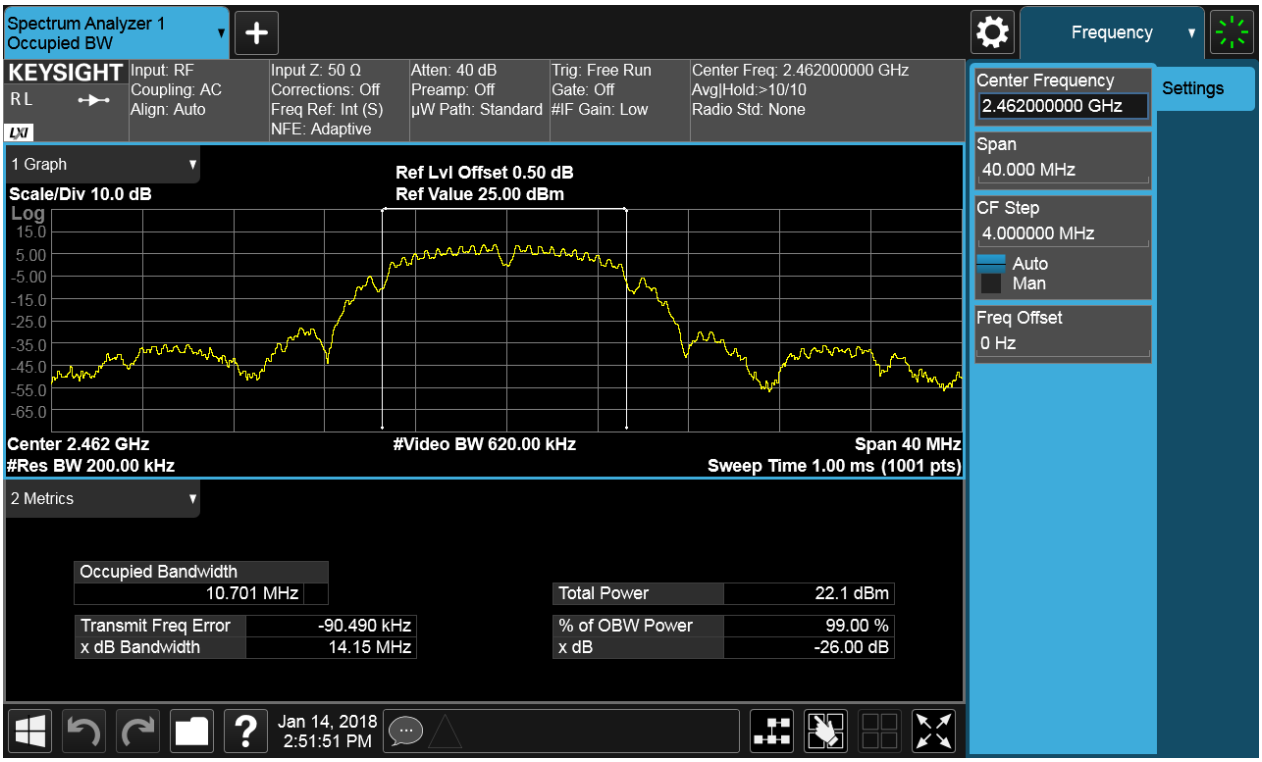
2.1 11B_L@Ant 1



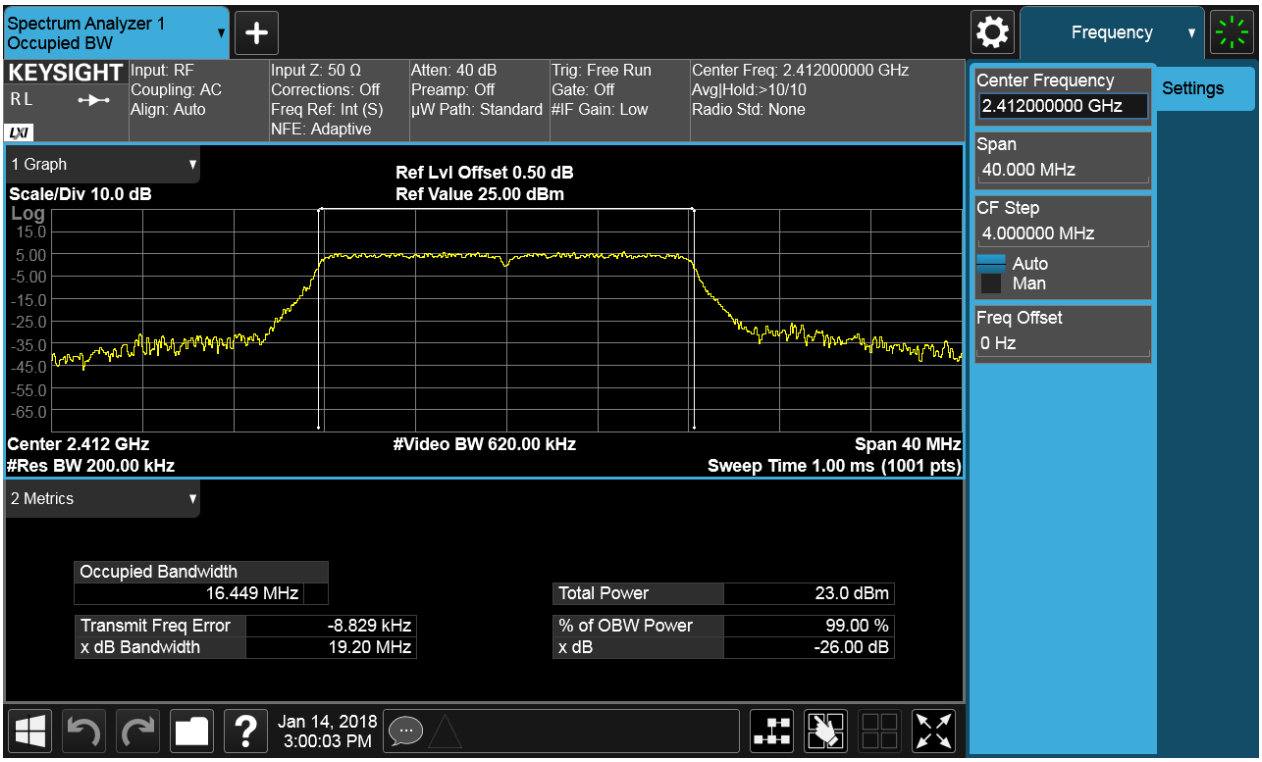
2.2 11B_M@Ant 1



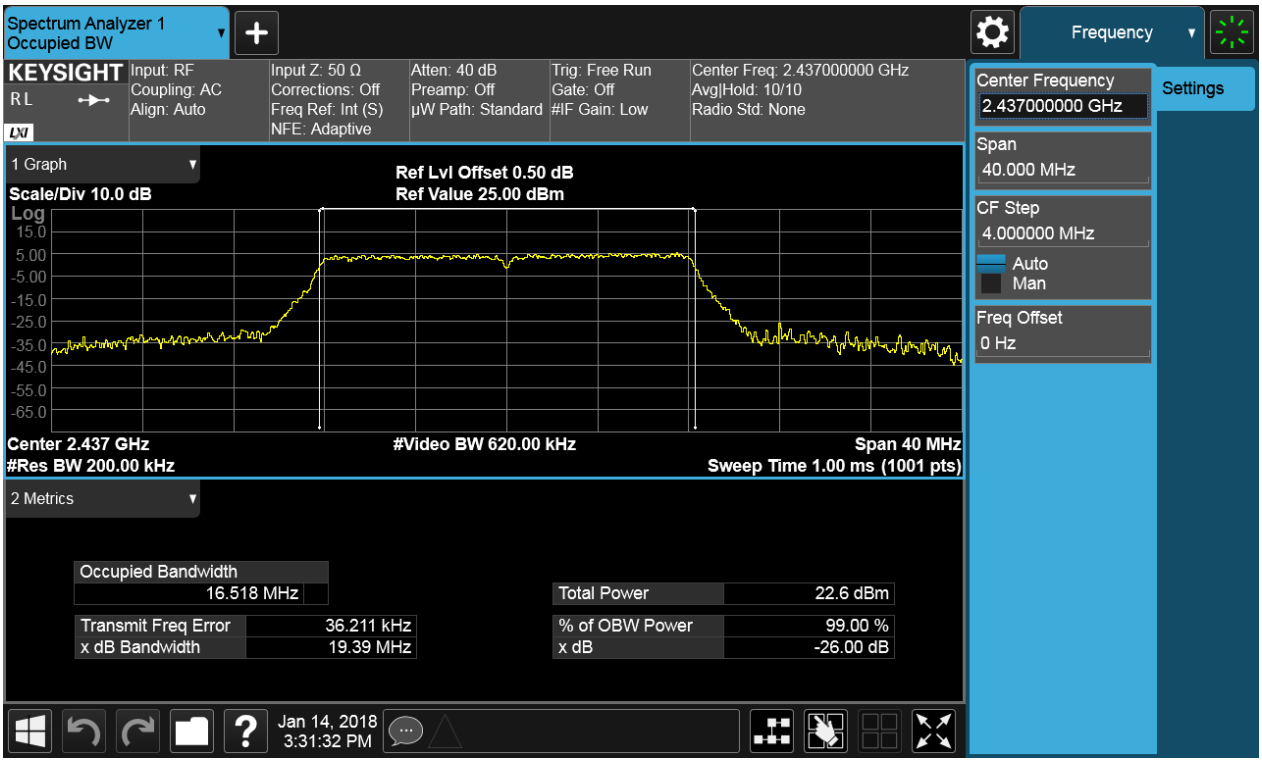
2.3 11B_H@Ant 1



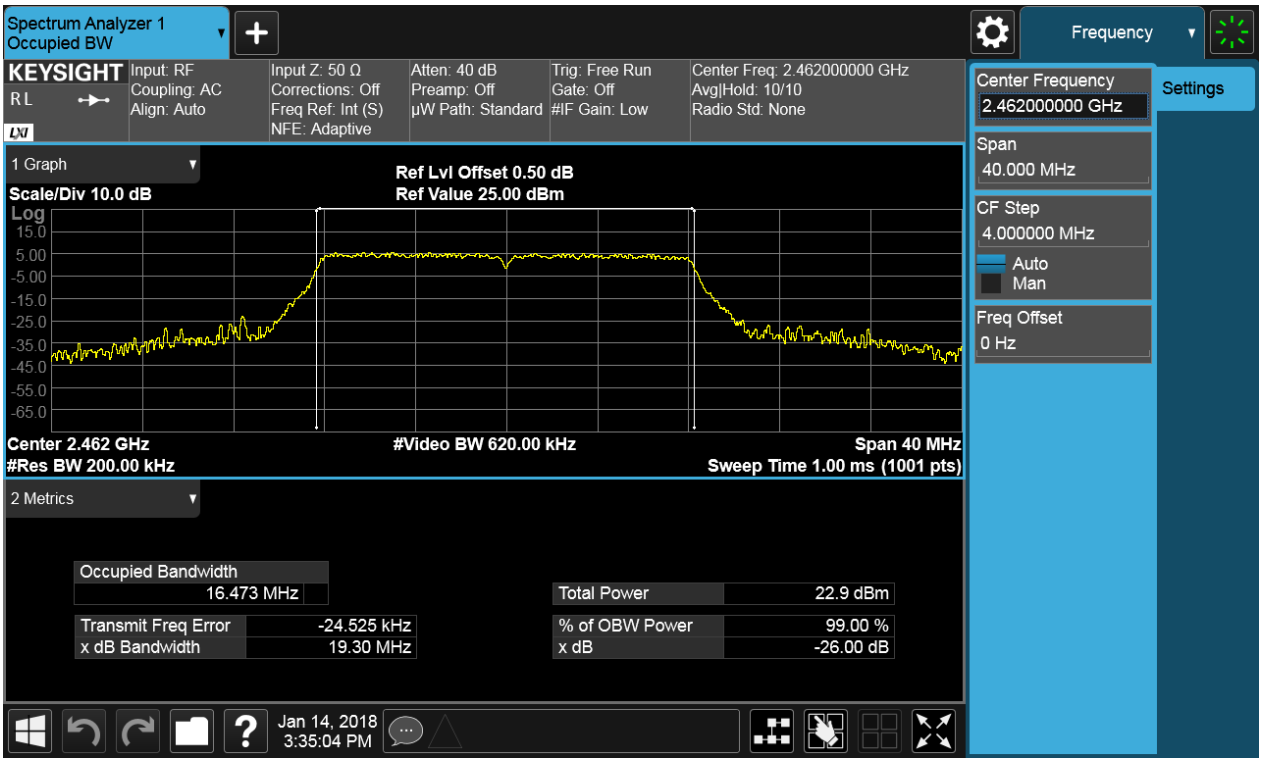
2.4 11G_L@Ant 1



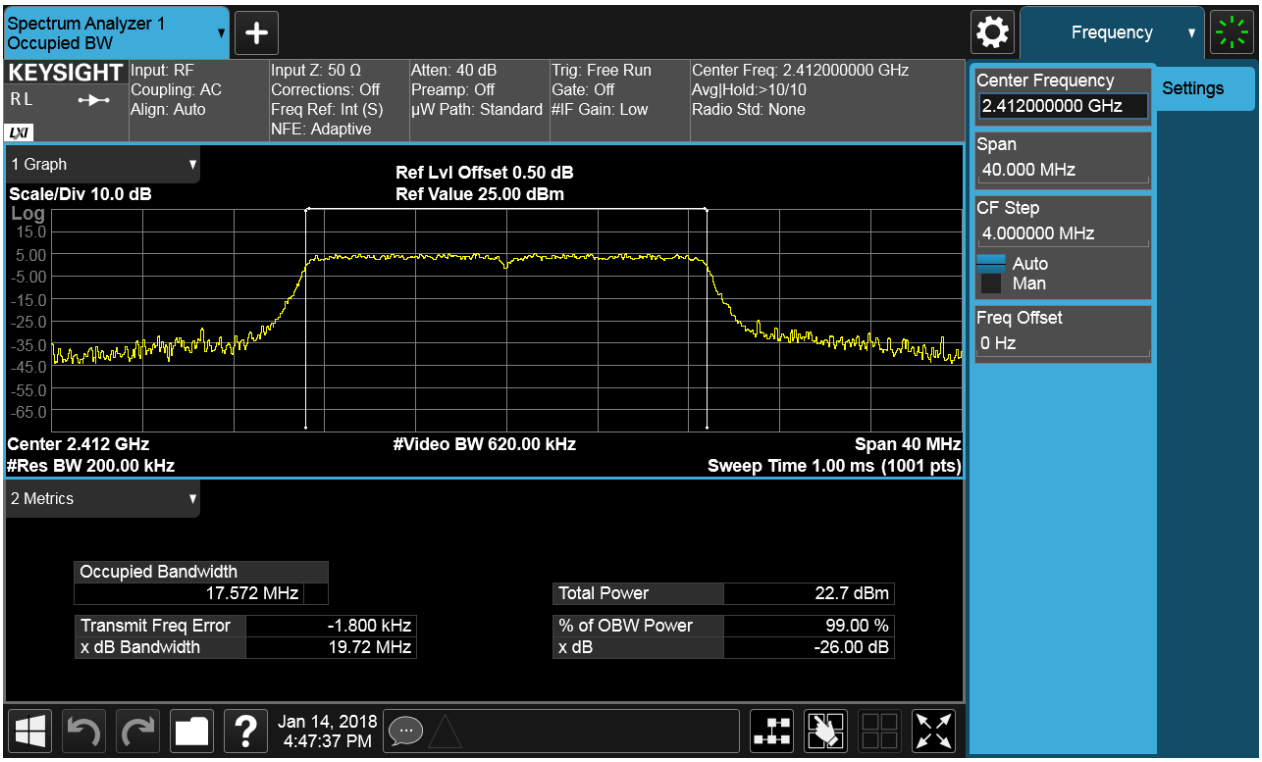
2.5 11G_M@Ant 1



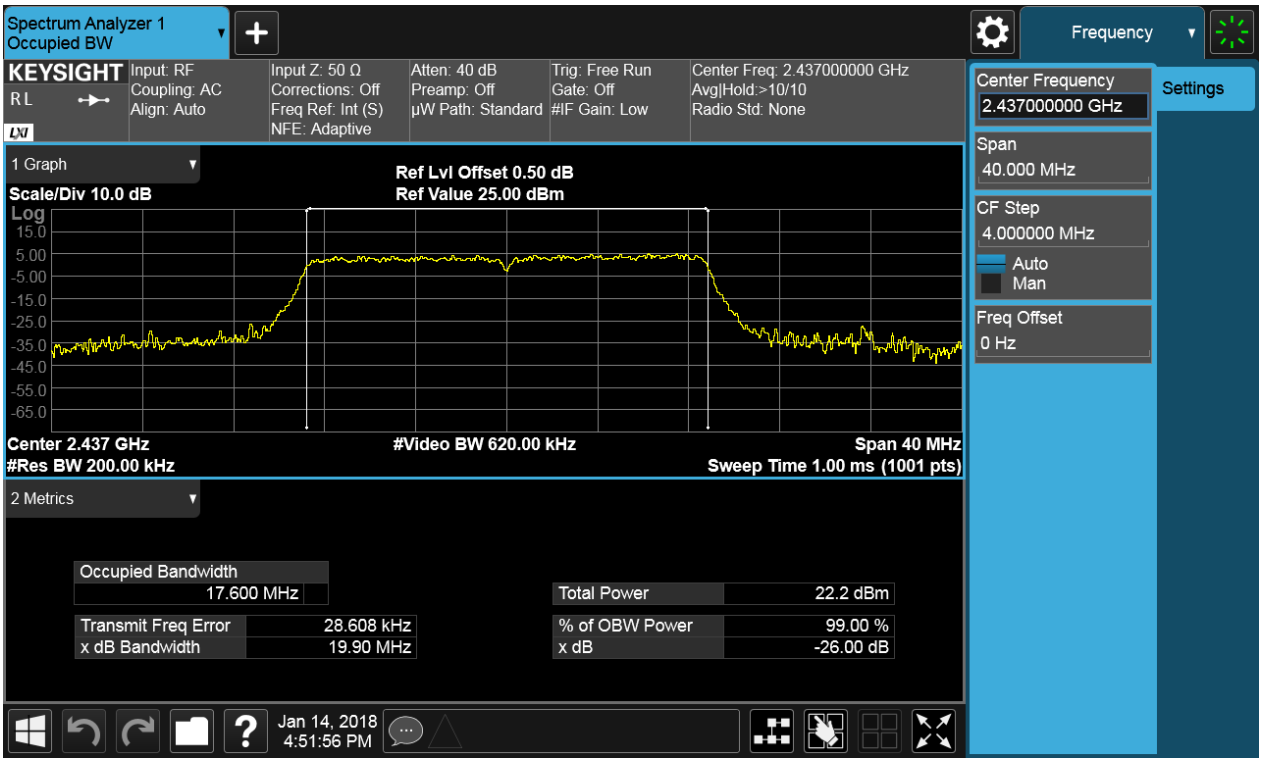
2.6 11G_H@Ant 1



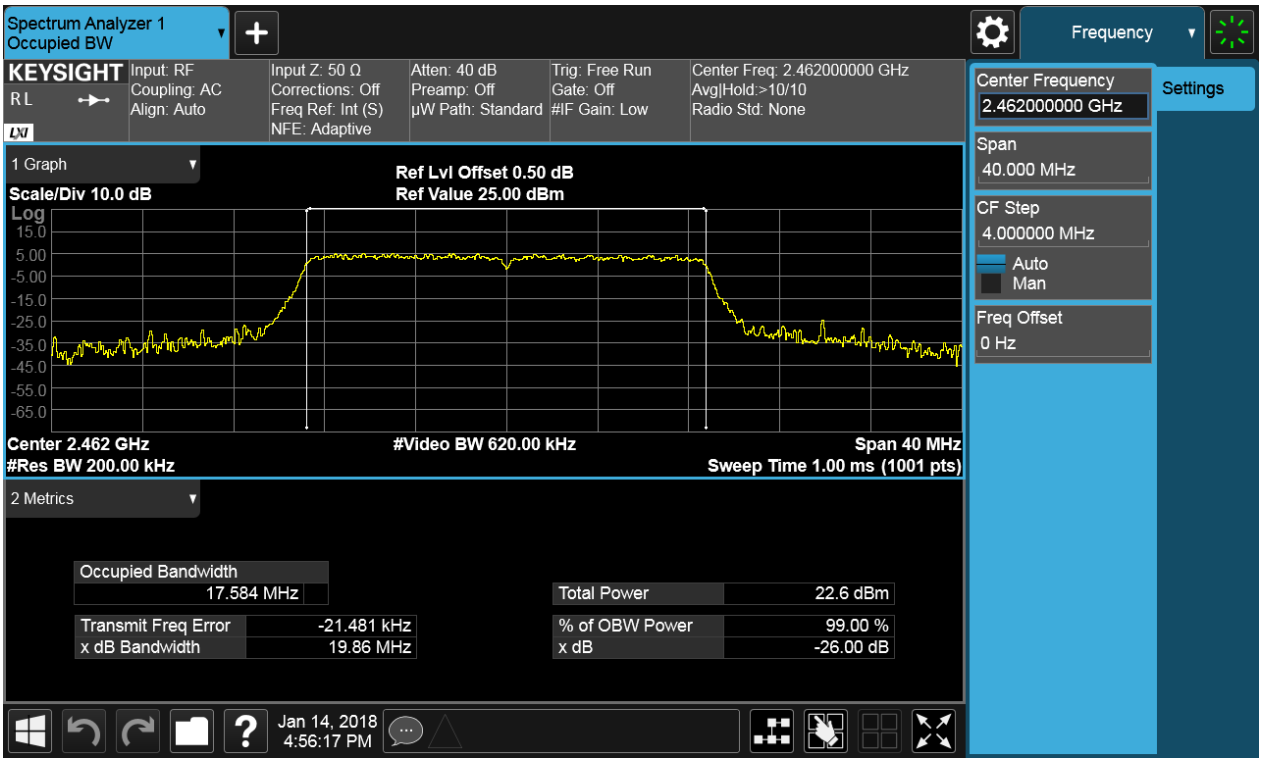
2.7 11N20_L@Ant 1



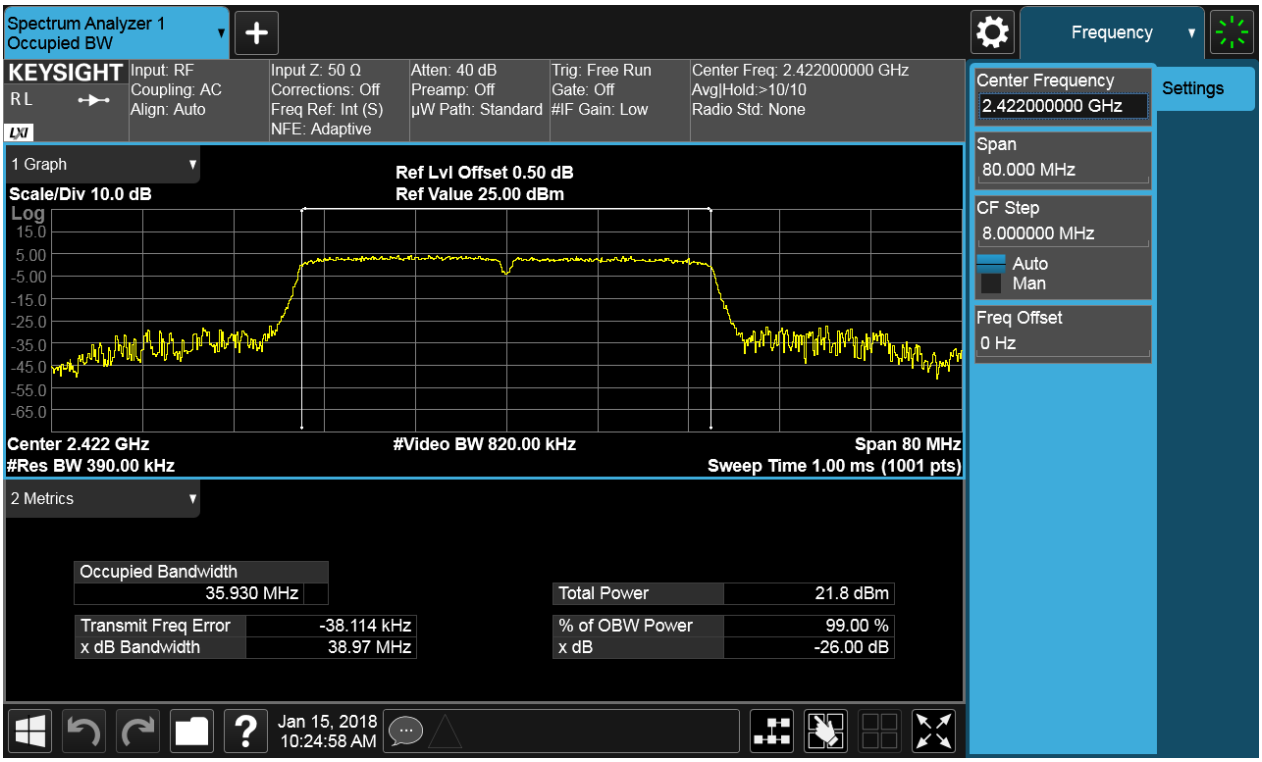
2.8 11N20_M@Ant 1



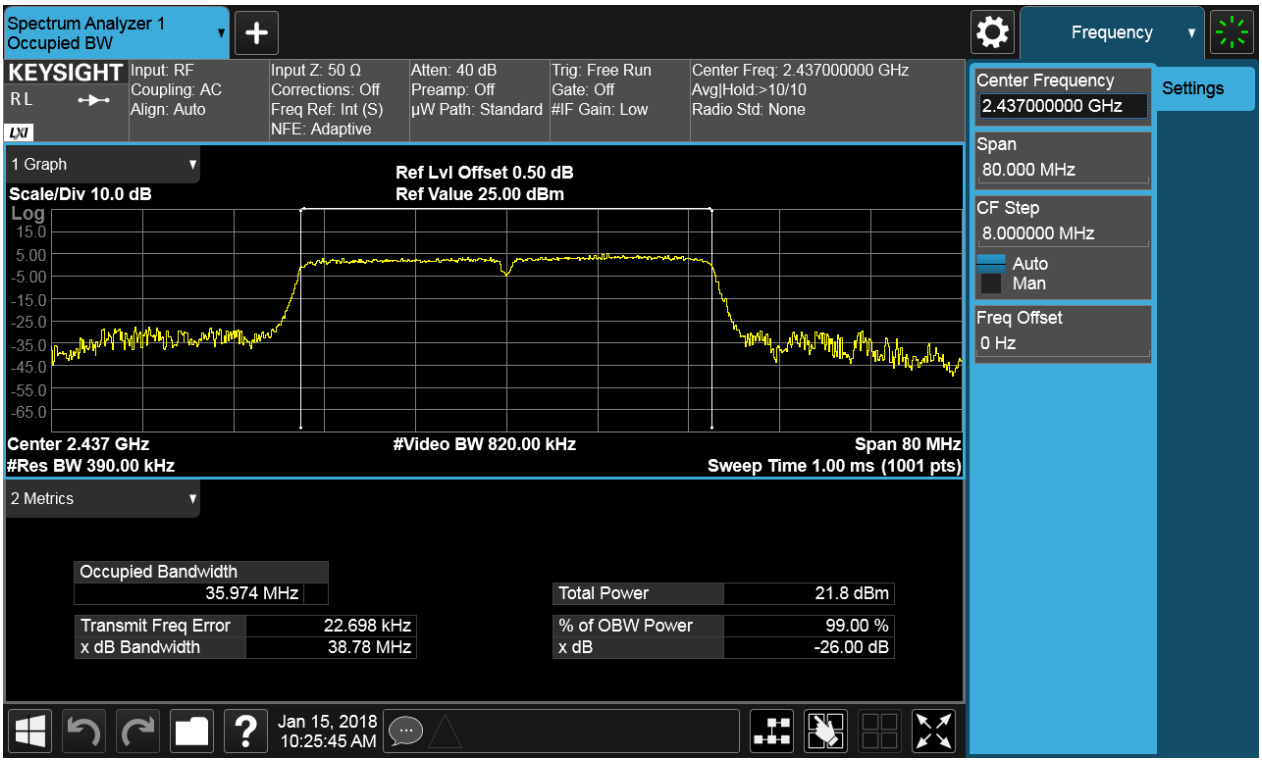
2.9 11N20_H@Ant 1



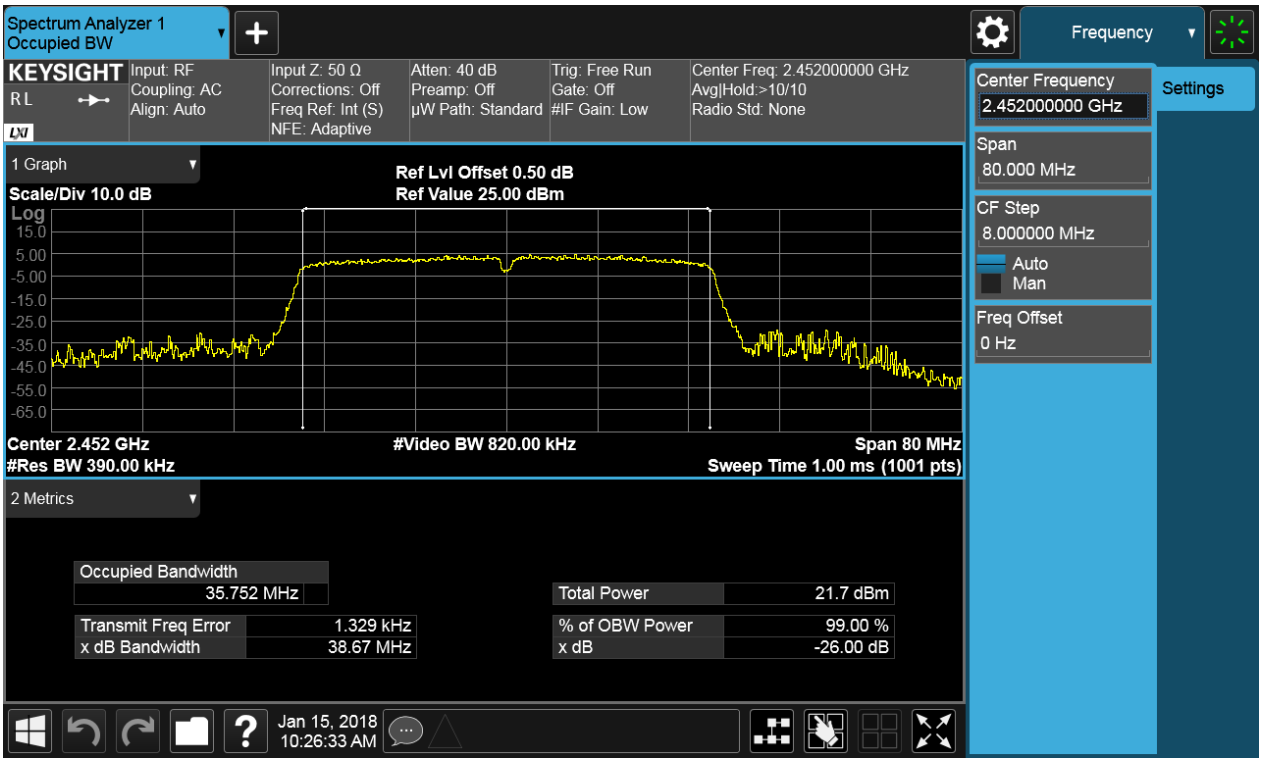
2.10 11N40_L@Ant 1



2.11 11N40_M@Ant 1



2.12 11N40_H@Ant 1



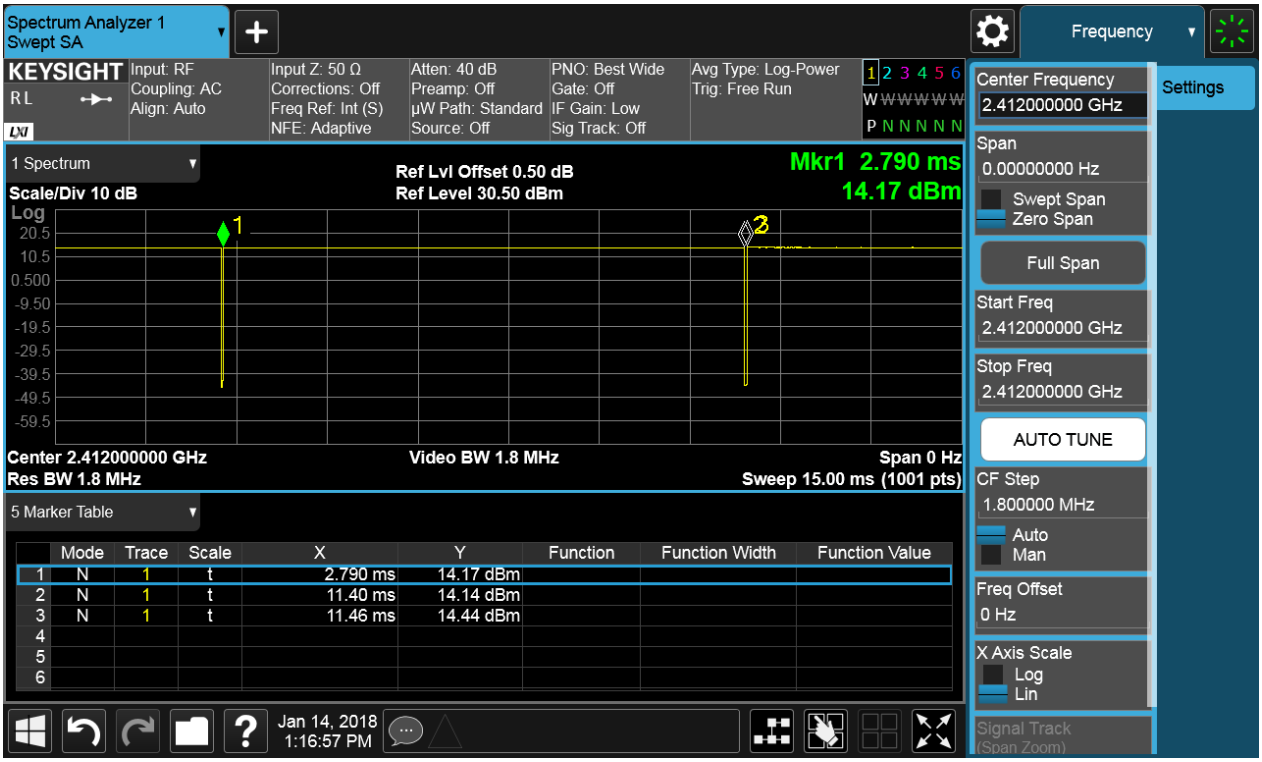
Appendix C: Duty Cycle

Part I - Test Results

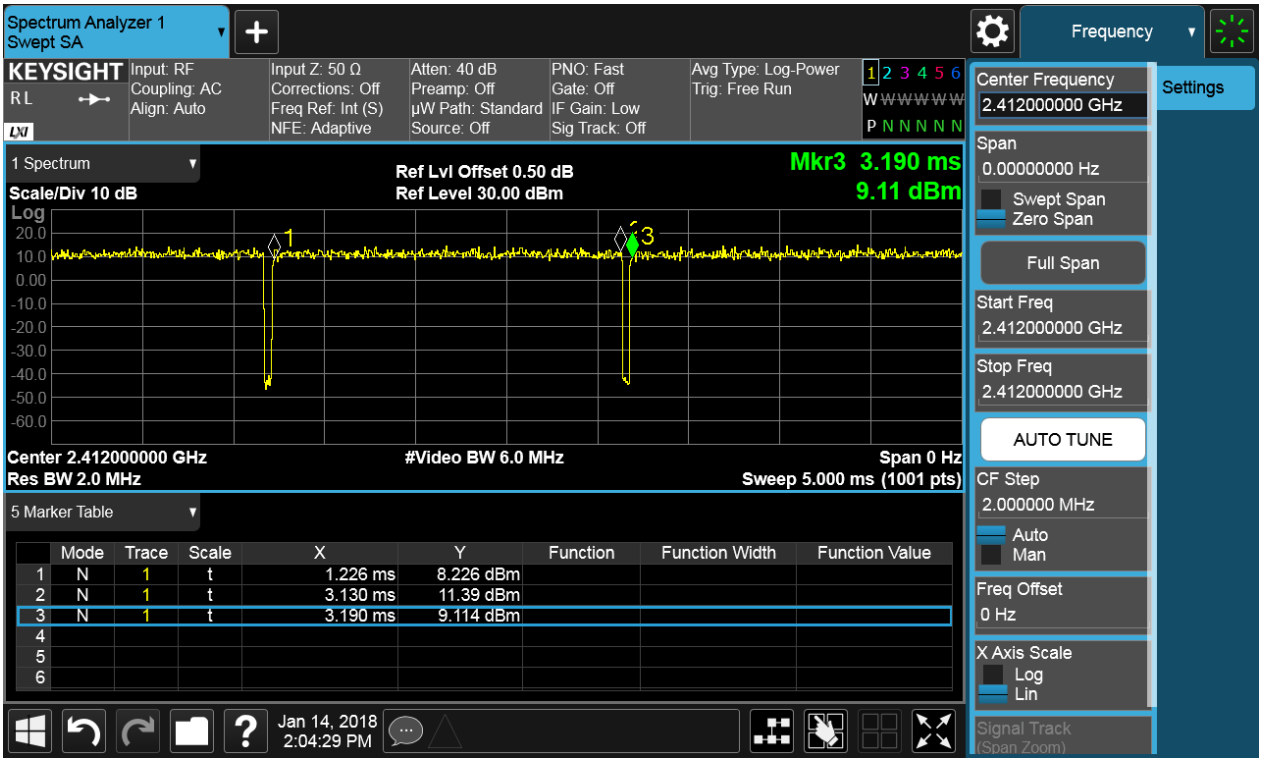
Test Mode	TX Freq. [MHz]	Ant	Duty cycle [%]
11B	CH1,CH6,CH11	Ant 1	99.3
11G	CH1,CH6,CH11	Ant 1	96.9
11N20SISO	CH1,CH6,CH11	Ant 1	97.5
11N40SISO	CH3, CH6,CH9	Ant 1	96.8

Part II - Test Plots

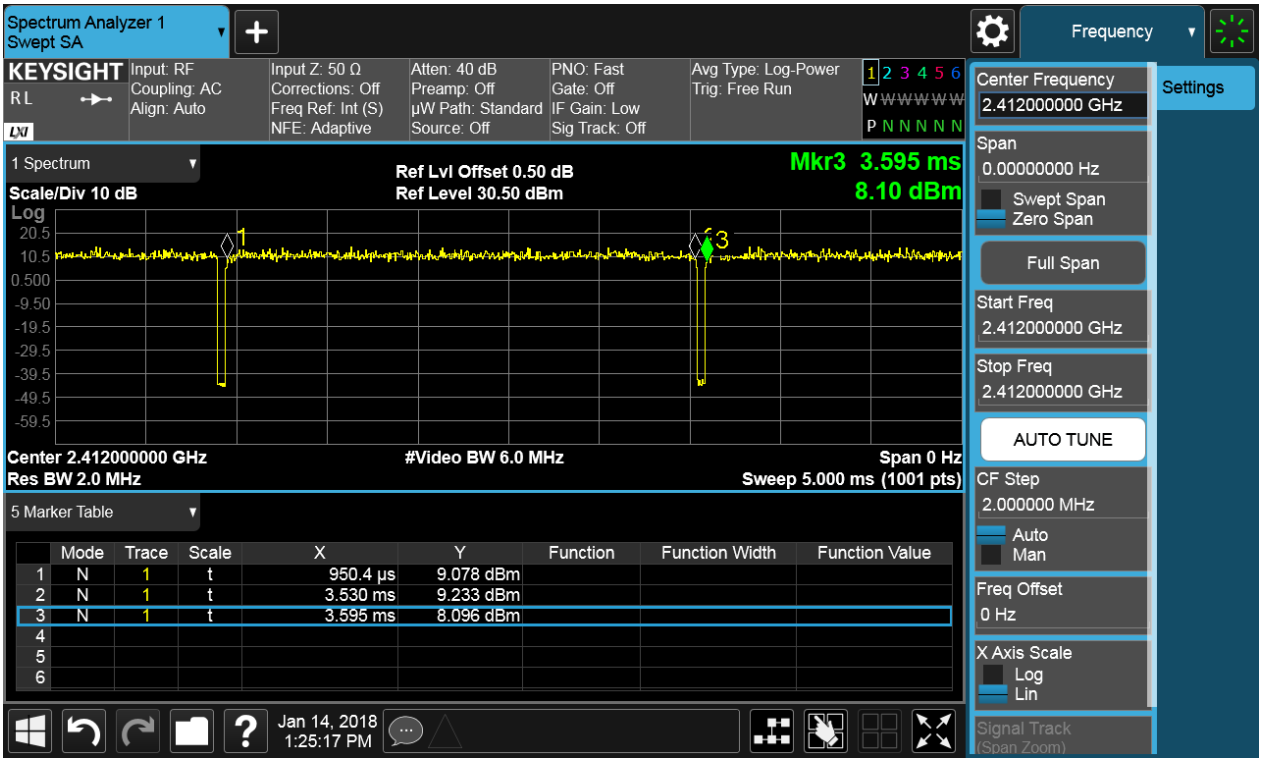
2.1 11B_L@Ant 1



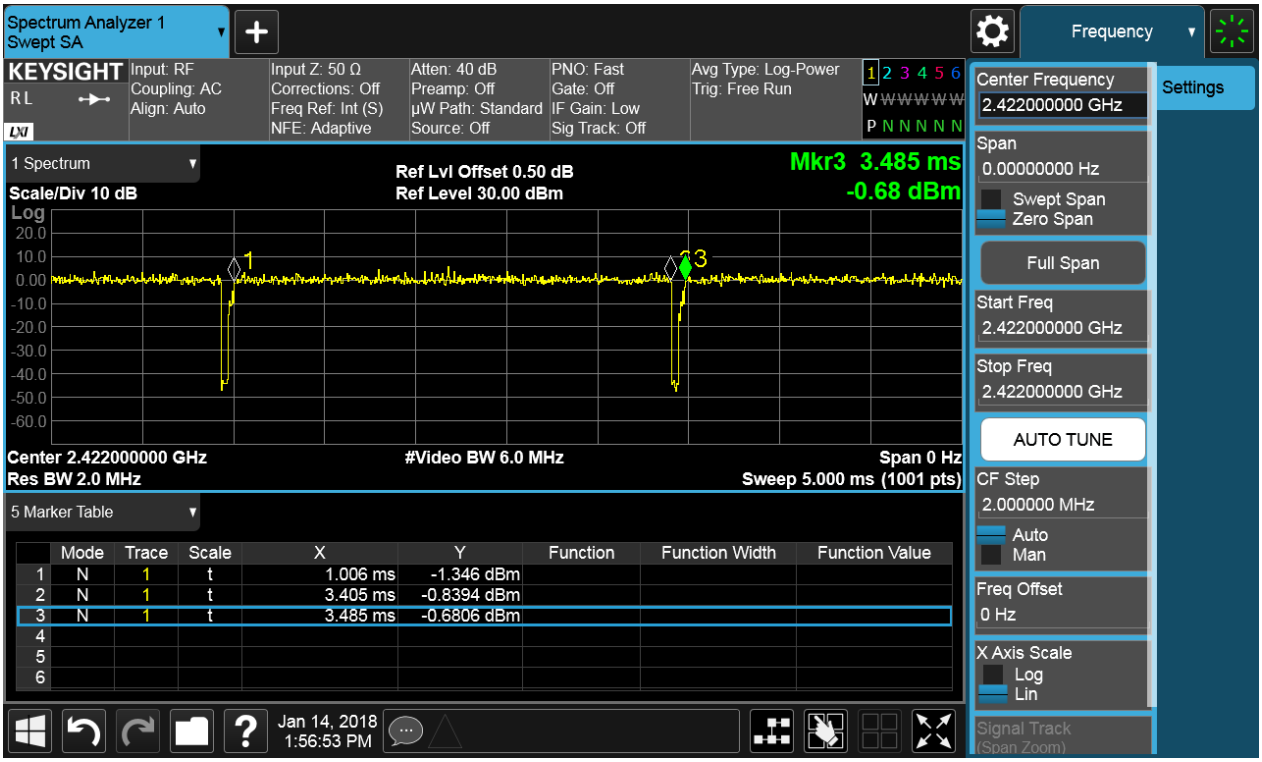
2.2 11G_L@Ant 1



2.3 11N20_L@Ant 1



2.4 11N40_L@Ant 1



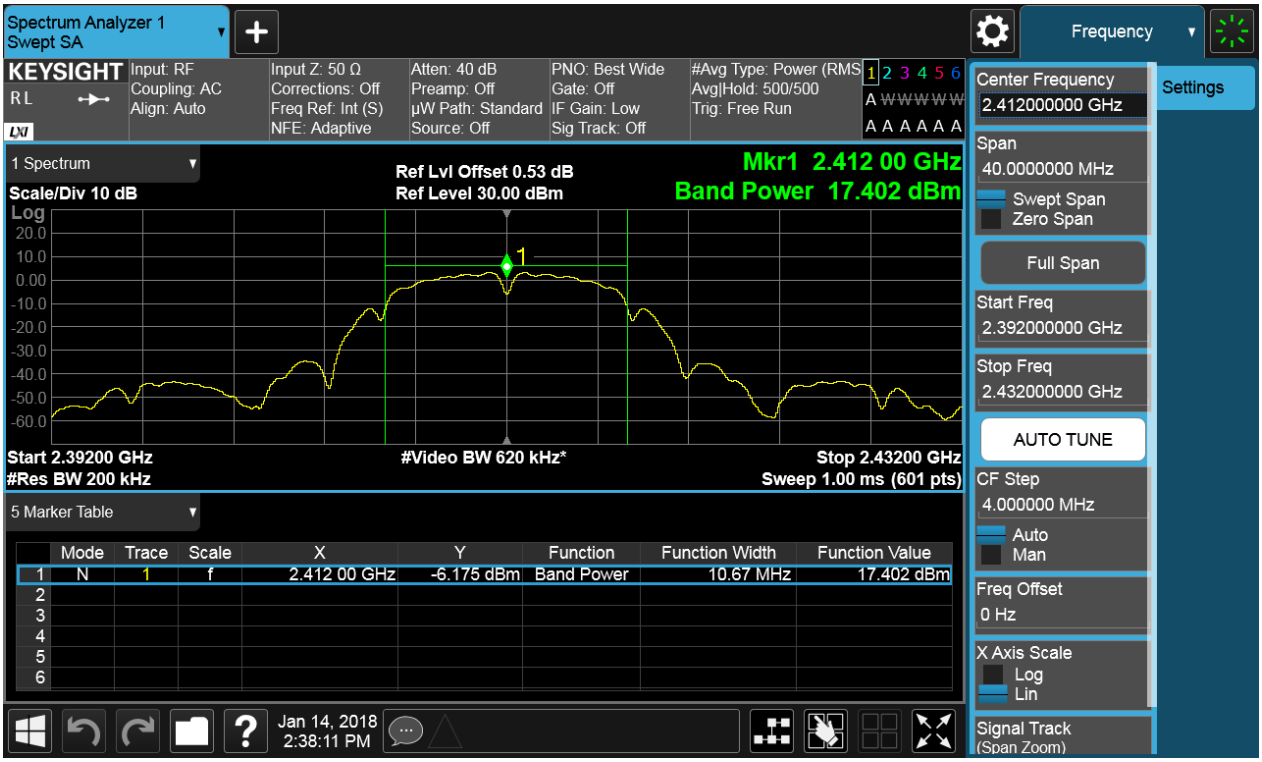
Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

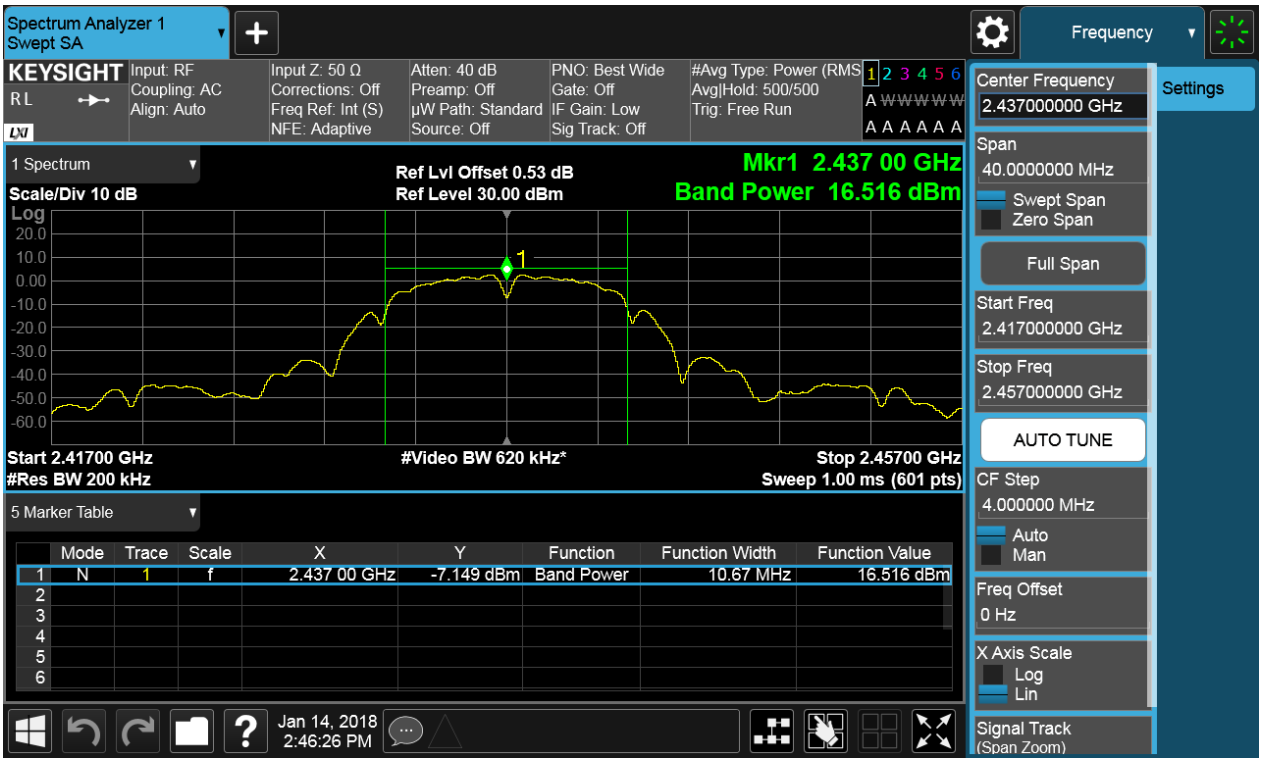
Test Mode	Test Channel	Frequency[MHz]	Ant	Duty Cycle [%]	Power[dBm]	Verdict
11B	L	2412	Ant 1	99.3	17.40	pass
11B	M	2437	Ant 1	99.3	16.52	pass
11B	H	2462	Ant 1	99.3	17.09	pass
11G	L	2412	Ant 1	96.9	16.17	pass
11G	M	2437	Ant 1	96.9	15.75	pass
11G	H	2462	Ant 1	96.9	16.10	pass
11N20	L	2412	Ant 1	97.5	15.26	pass
11N20	M	2437	Ant 1	97.5	15.32	pass
11N20	H	2462	Ant 1	97.5	15.14	pass
11N40	L	2422	Ant 1	96.8	14.71	pass
11N40	M	2437	Ant 1	96.8	14.70	pass
11N40	H	2452	Ant 1	96.8	14.51	pass

Part II - Test Plots

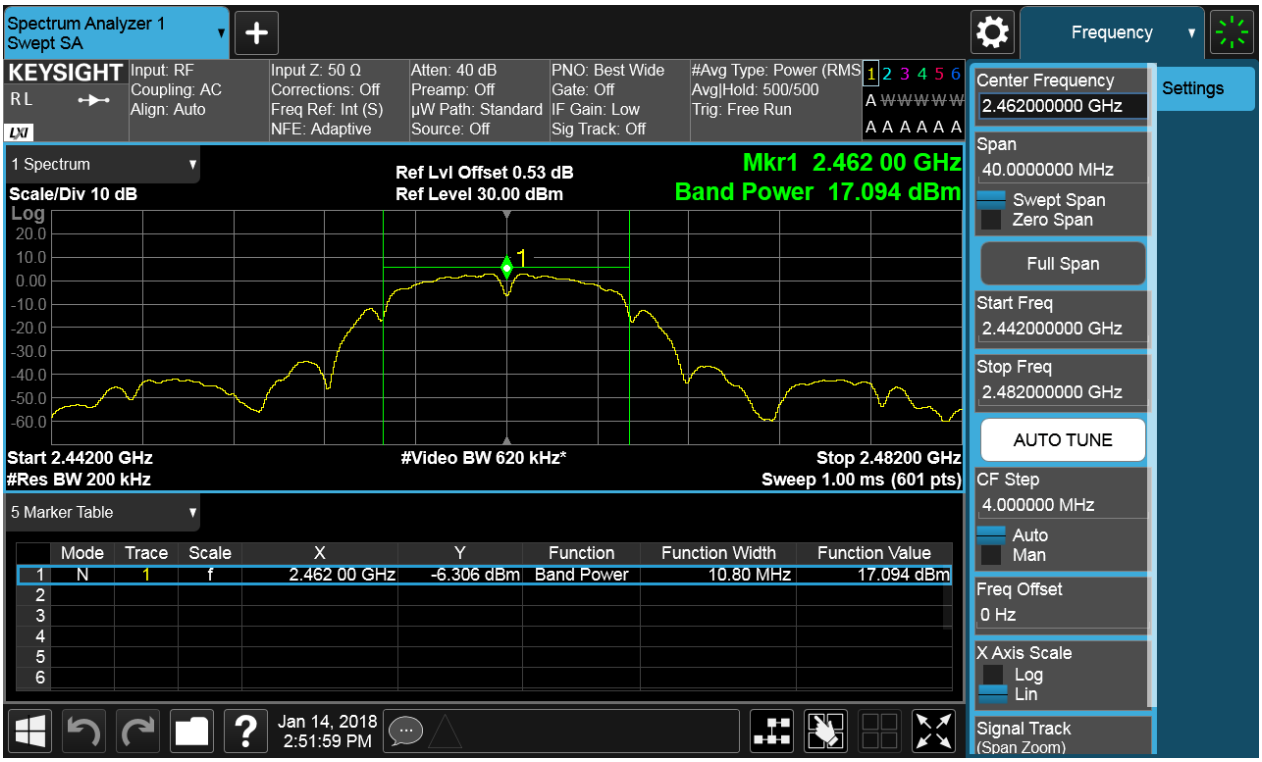
2.1 11B_L@Ant 1



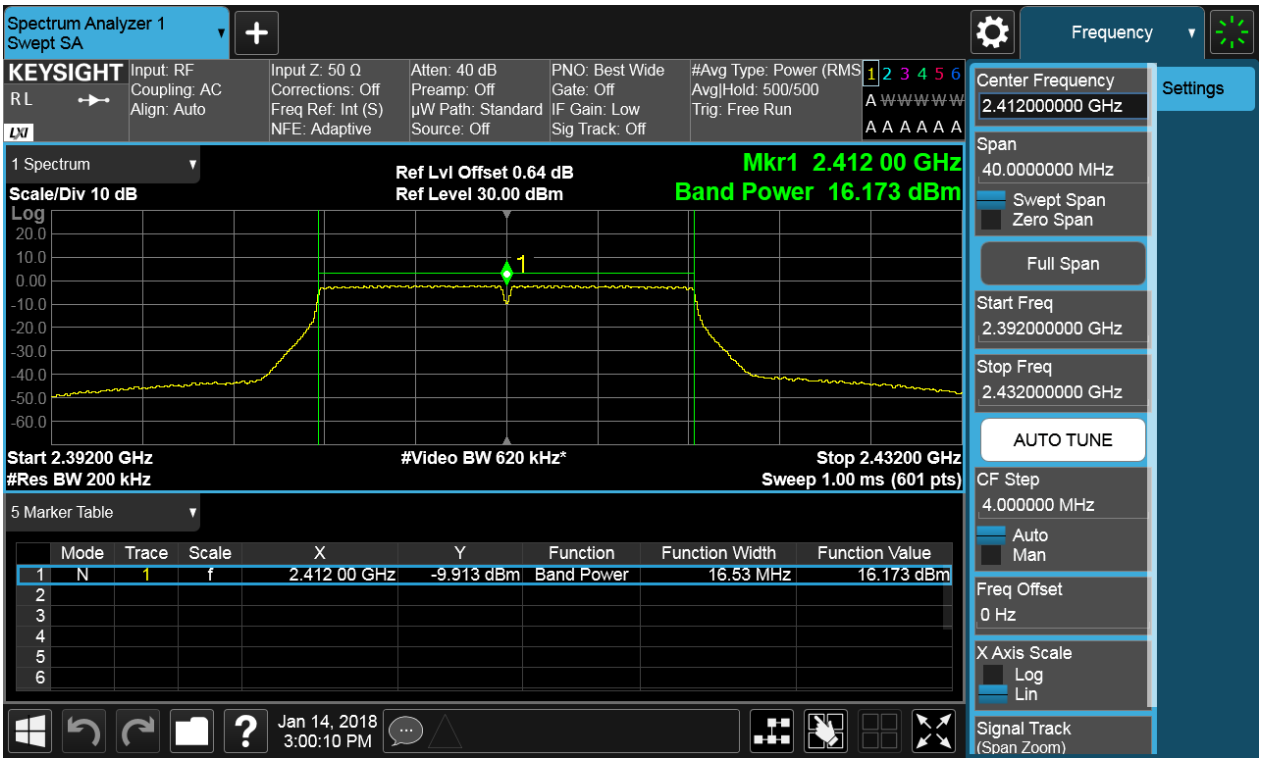
2.2 11B_M@Ant 1



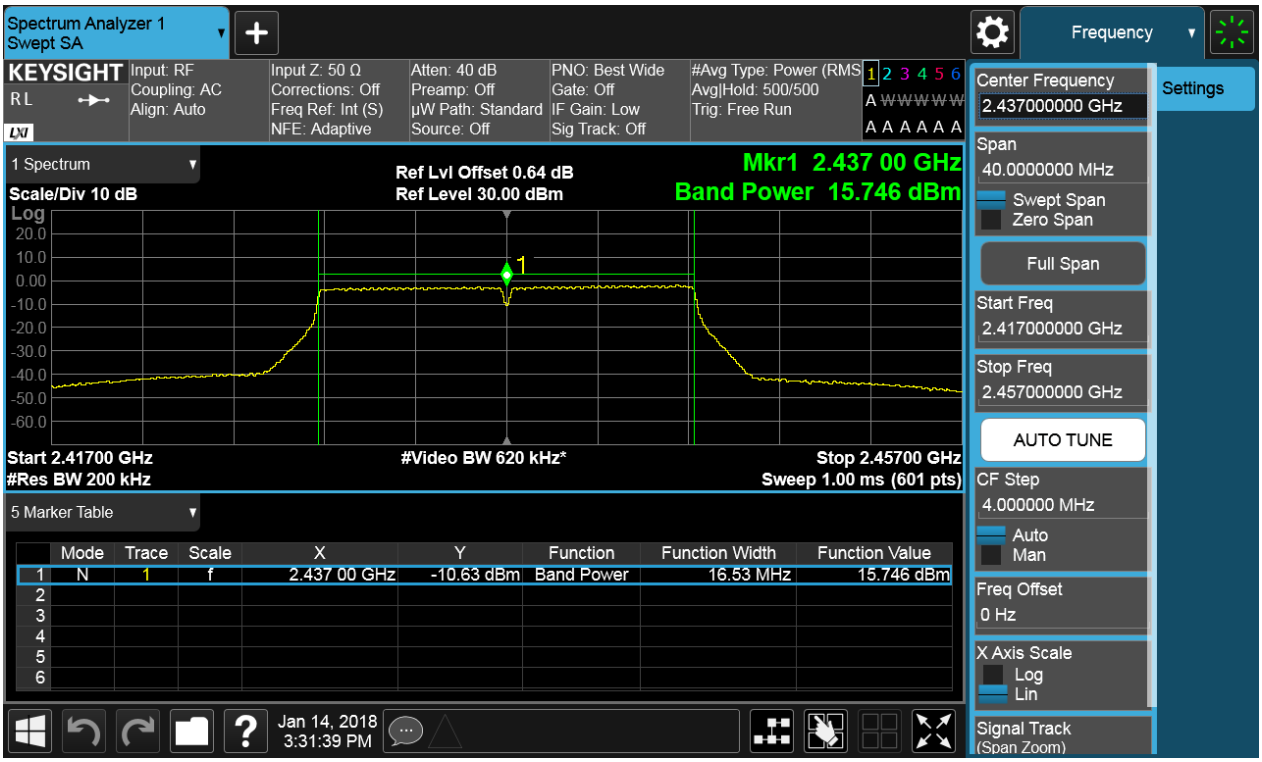
2.3 11B_H@Ant 1



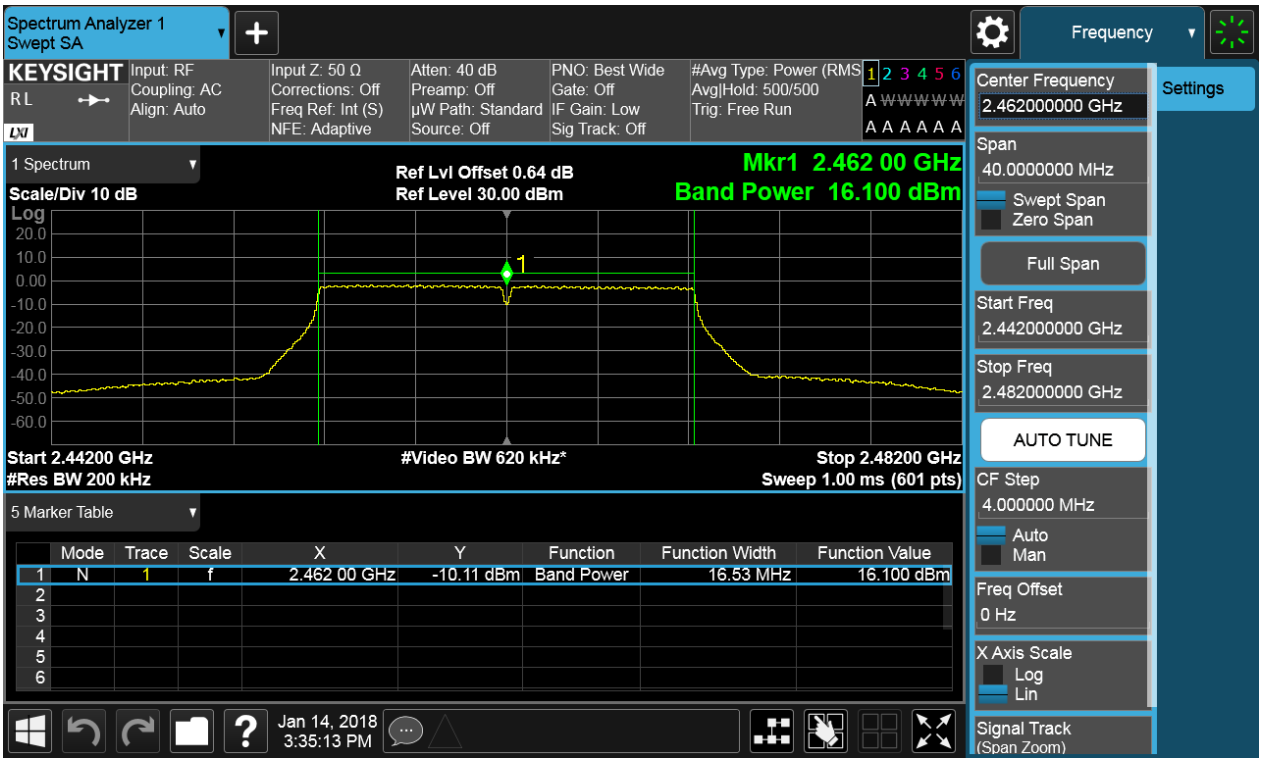
2.4 11G_L@Ant 1



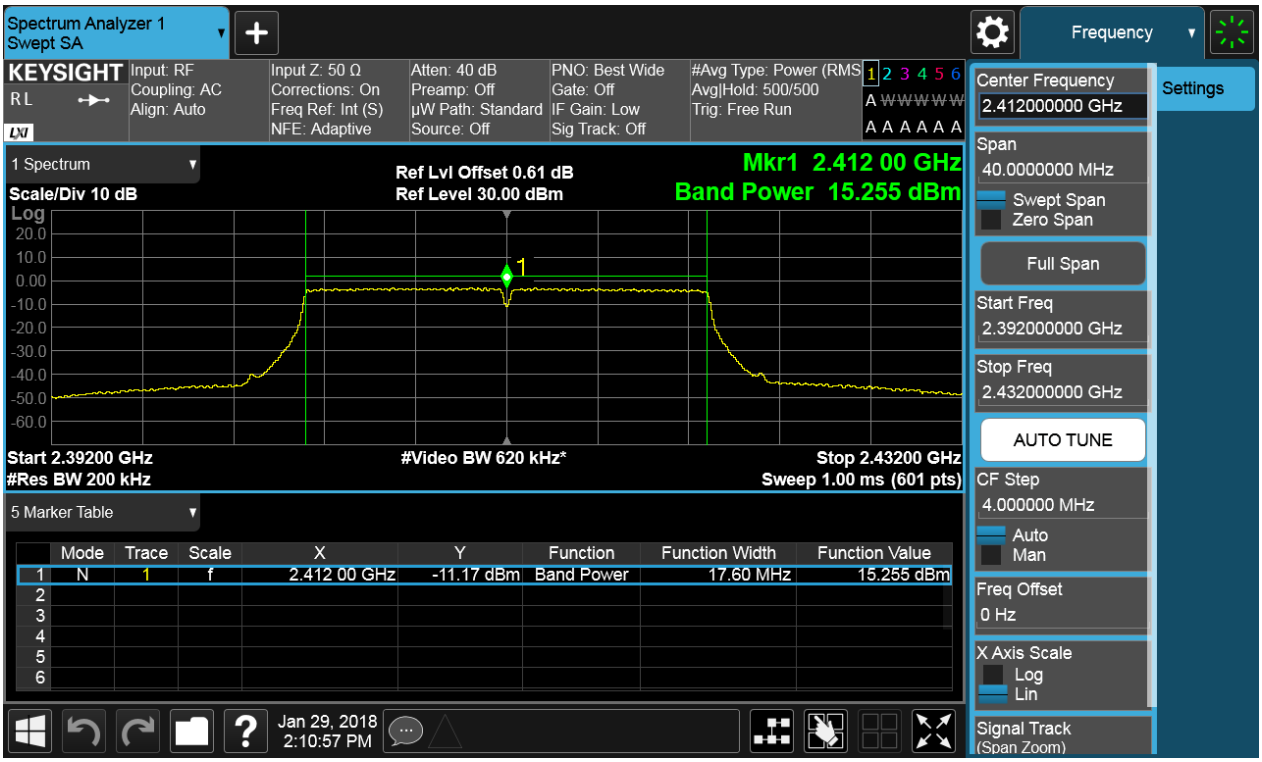
2.5 11G_M@Ant 1



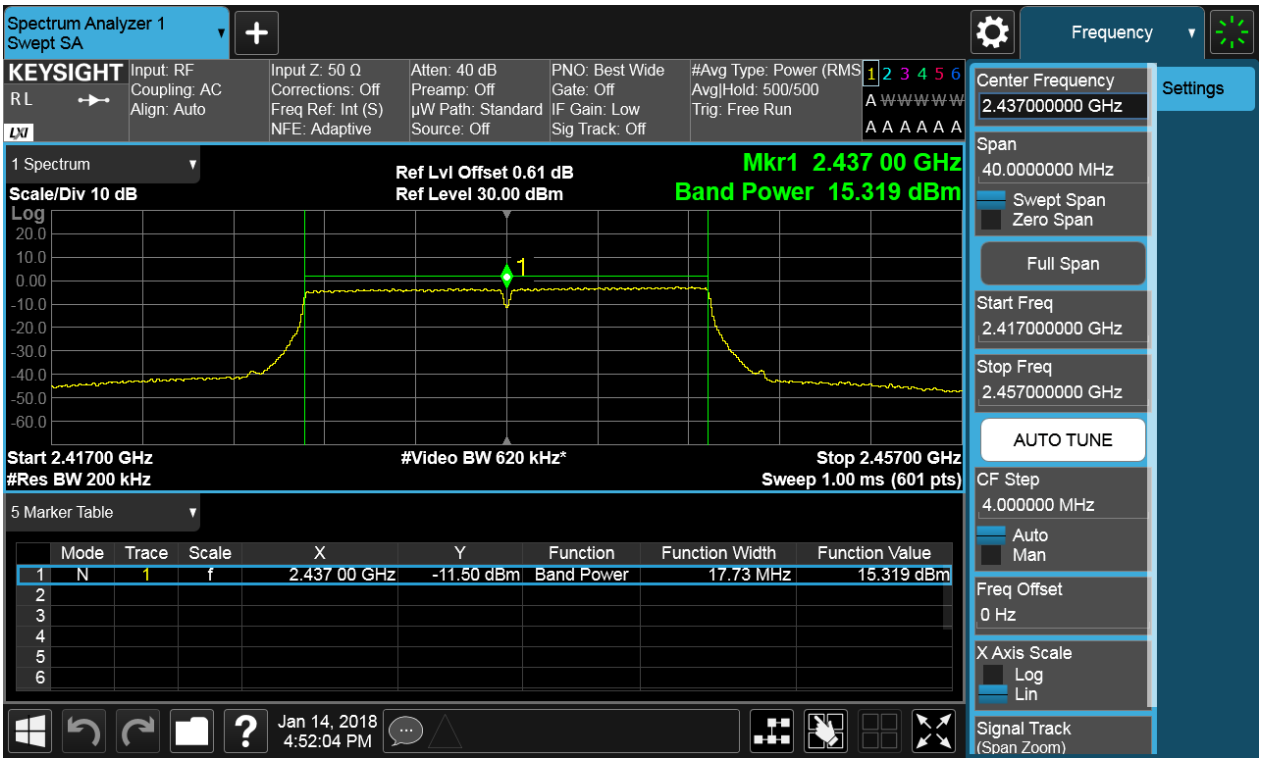
2.6 11G_H@Ant 1



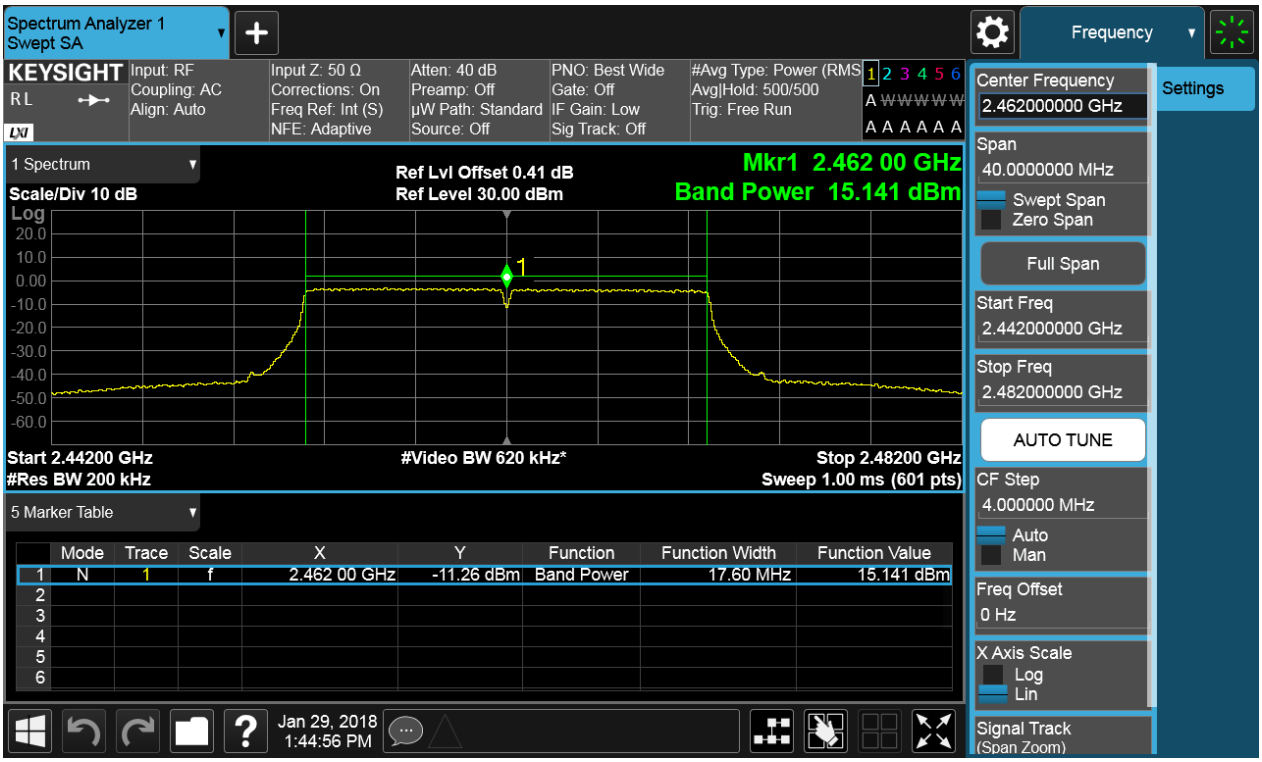
2.7 11N20_L@Ant 1



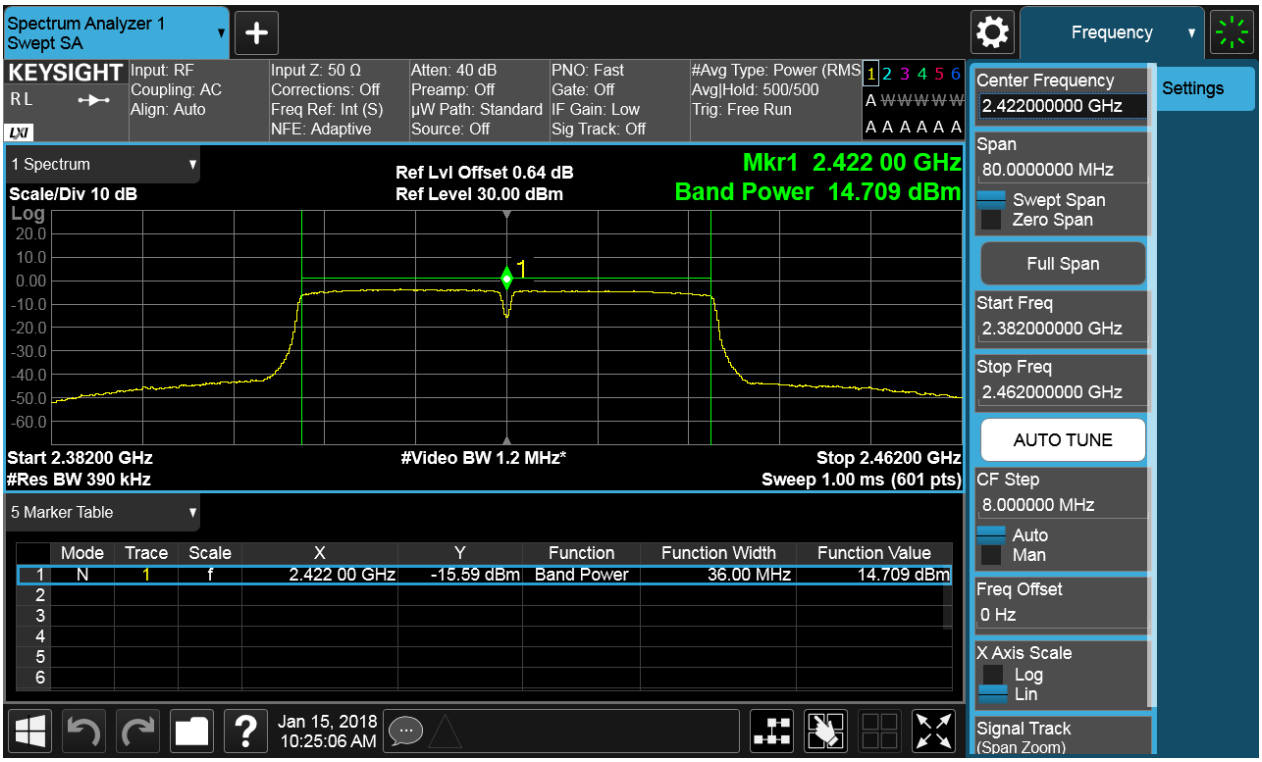
2.8 11N20_M@Ant 1



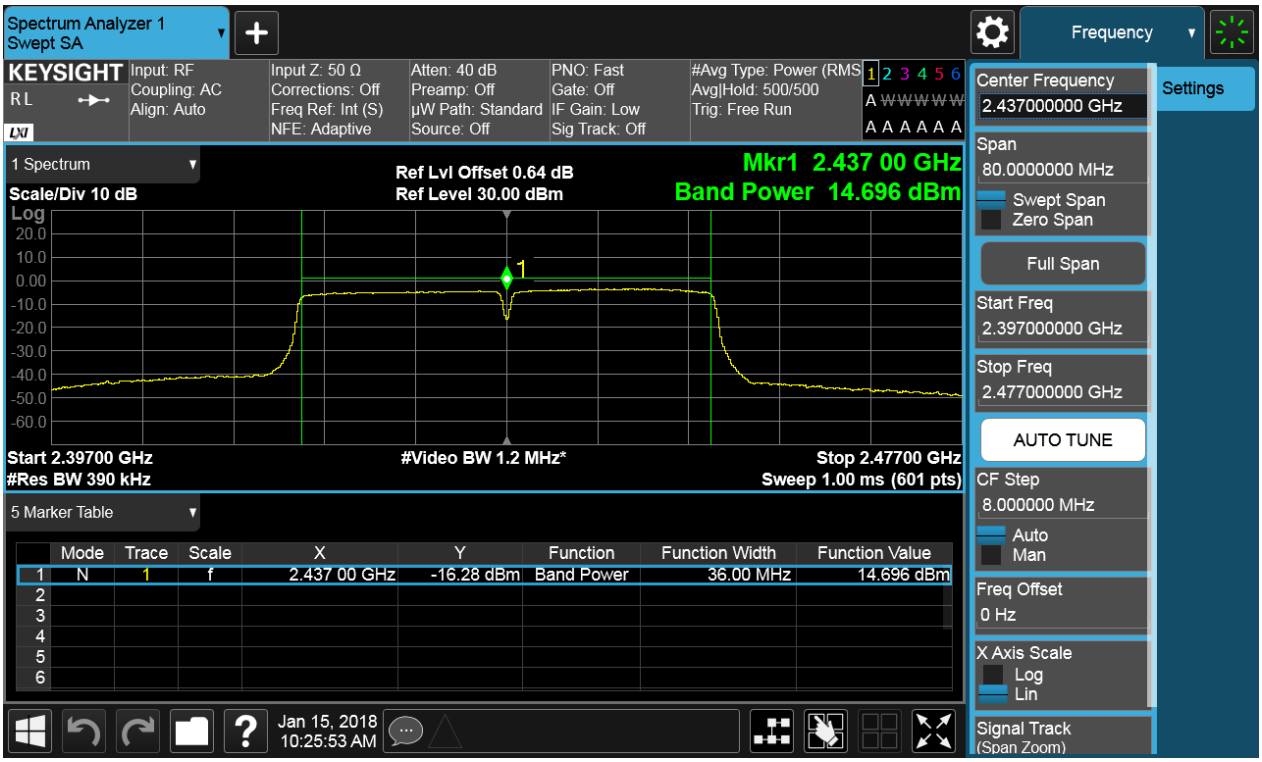
2.9 11N20_H@Ant 1



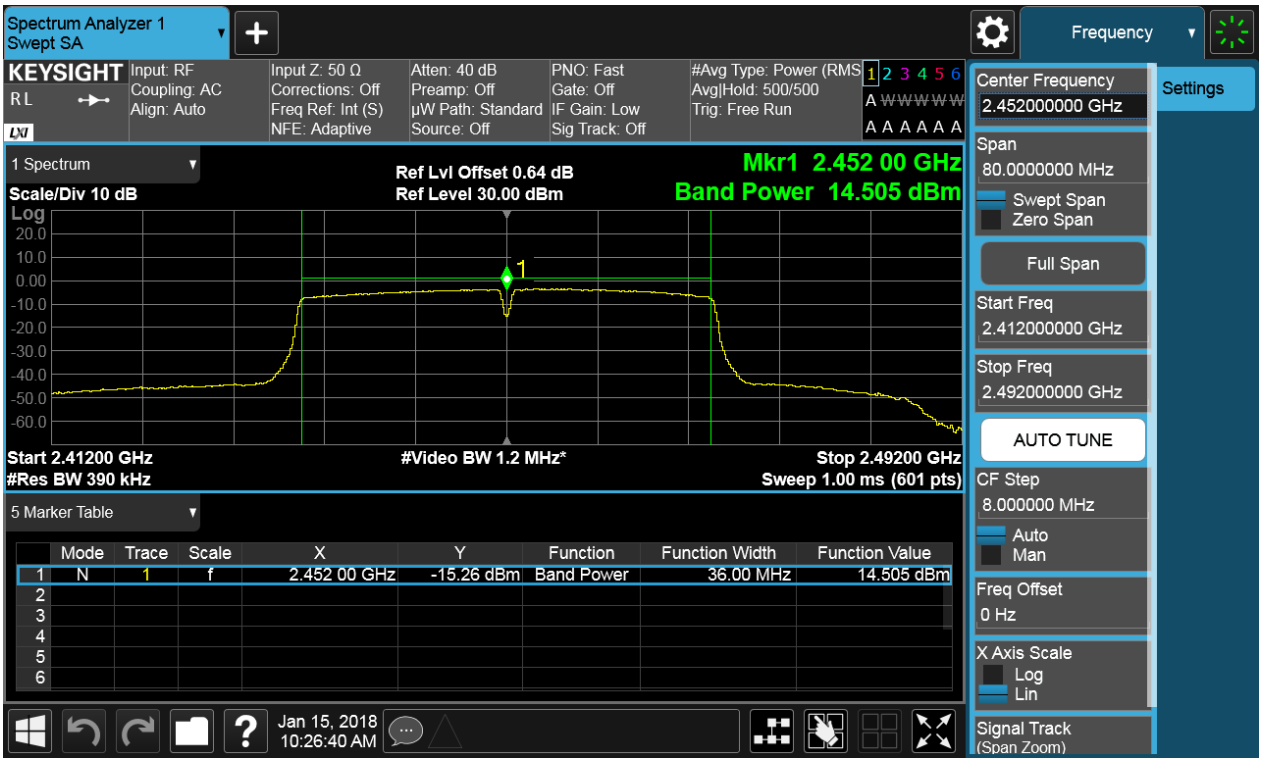
2.10 11N40_L@Ant 1



2.11 11N40_M@Ant 1



2.12 11N40_H@Ant 1



Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Duty Cycle [%]	Ant	PSD[dBm/10 kHz]	Verdict
11B	L	2412	99.3	Ant 1	-8.67	pass
11B	M	2437	99.3	Ant 1	-9.92	pass
11B	H	2462	99.3	Ant 1	-9.27	pass
11G	L	2412	96.9	Ant 1	-13.43	pass
11G	M	2437	96.9	Ant 1	-13.09	pass
11G	H	2462	96.9	Ant 1	-13.40	pass
11N20	L	2412	97.5	Ant 1	-13.41	pass
11N20	M	2437	97.5	Ant 1	-14.26	pass
11N20	H	2462	97.5	Ant 1	-14.01	pass
11N40	L	2422	96.8	Ant 1	-17.49	pass
11N40	M	2437	96.8	Ant 1	-17.40	pass
11N40	H	2452	96.8	Ant 1	-17.52	pass

Part II - Test Plots

2.1 11B_L@Ant 1

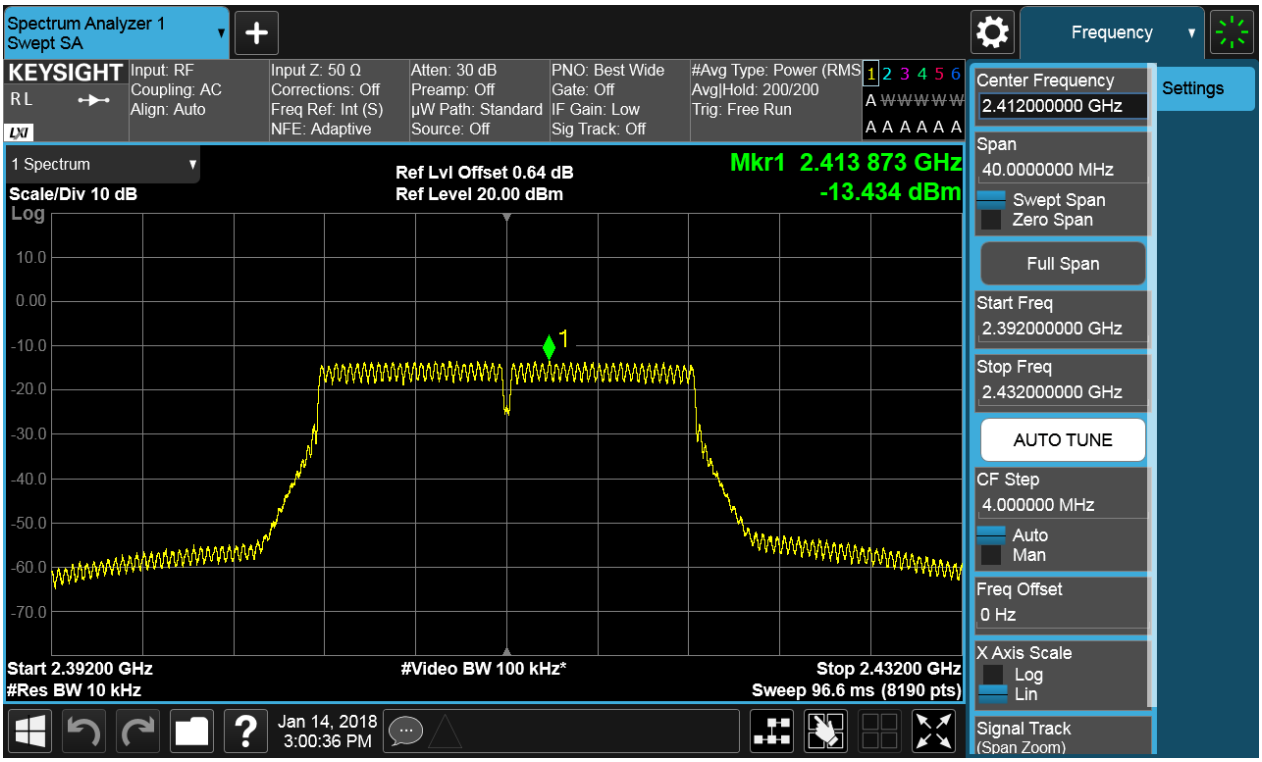
2.2 11B_M@Ant 1


Spectrum Analyzer 1
Swept SA
Frequency
KEYSIGHT
RL
Input: RF
Coupling: AC
Align: Auto
Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)
NFE: Adaptive
Atten: 30 dB
Preamp: Off
µW Path: Standard
Source: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 200/200
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 0.53 dB
Ref Level 20.00 dBm
Mkr1 2.437 882 GHz
-9.923 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.41700 GHz
#Res BW 10 kHz
#Video BW 100 kHz*
Stop 2.45700 GHz
Sweep 96.6 ms (8190 pts)
Jan 14, 2018
2:46:51 PM
Center Frequency
2.437000000 GHz
Span
40.0000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
2.417000000 GHz
Stop Freq
2.457000000 GHz
AUTO TUNE
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Settings

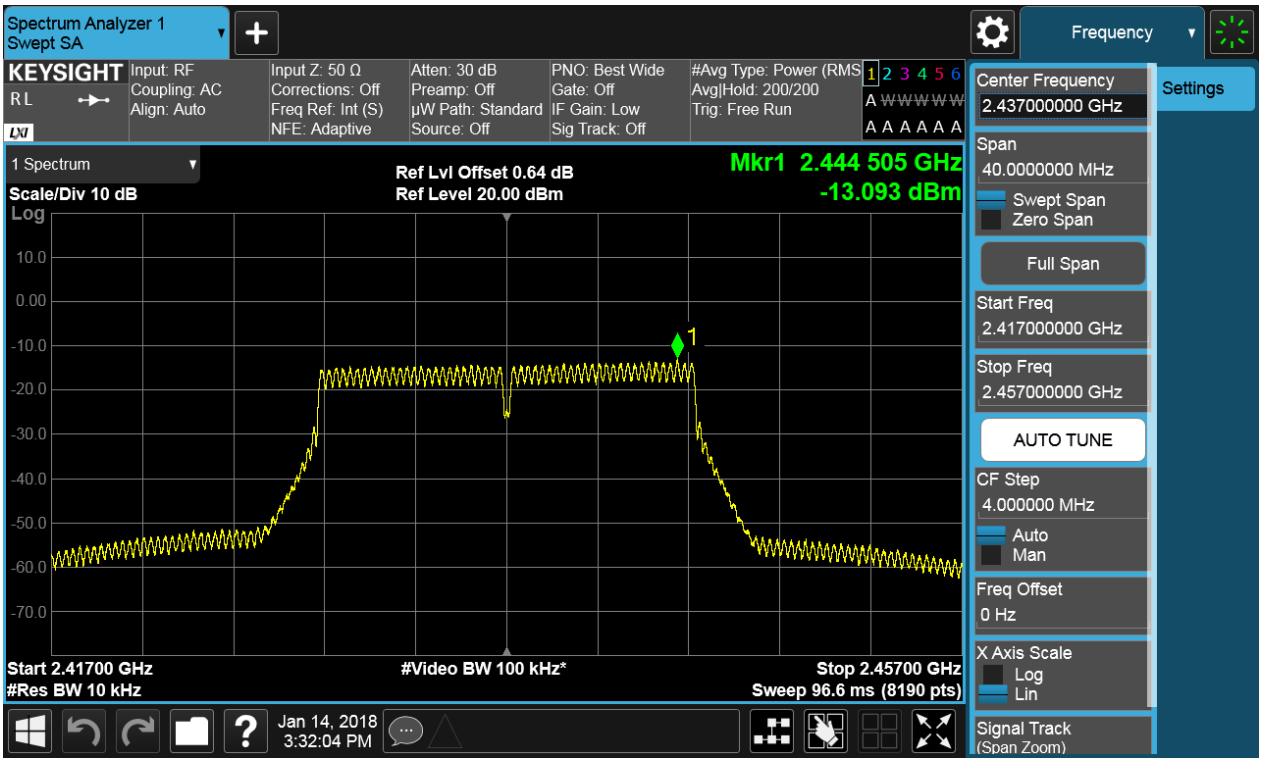
2.3 11B_H@Ant 1


Spectrum Analyzer 1
Swept SA
Frequency
KEYSIGHT
RL
Input: RF
Coupling: AC
Align: Auto
Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)
NFE: Adaptive
Atten: 30 dB
Preamp: Off
µW Path: Standard
Source: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 200/200
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 0.53 dB
Ref Level 20.00 dBm
Mkr1 2.462 613 GHz
-9.274 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.44200 GHz
#Res BW 10 kHz
#Video BW 100 kHz*
Stop 2.48200 GHz
Sweep 96.6 ms (8190 pts)
Jan 14, 2018
2:52:24 PM
Center Frequency
2.462000000 GHz
Span
40.0000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
2.442000000 GHz
Stop Freq
2.482000000 GHz
AUTO TUNE
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Settings

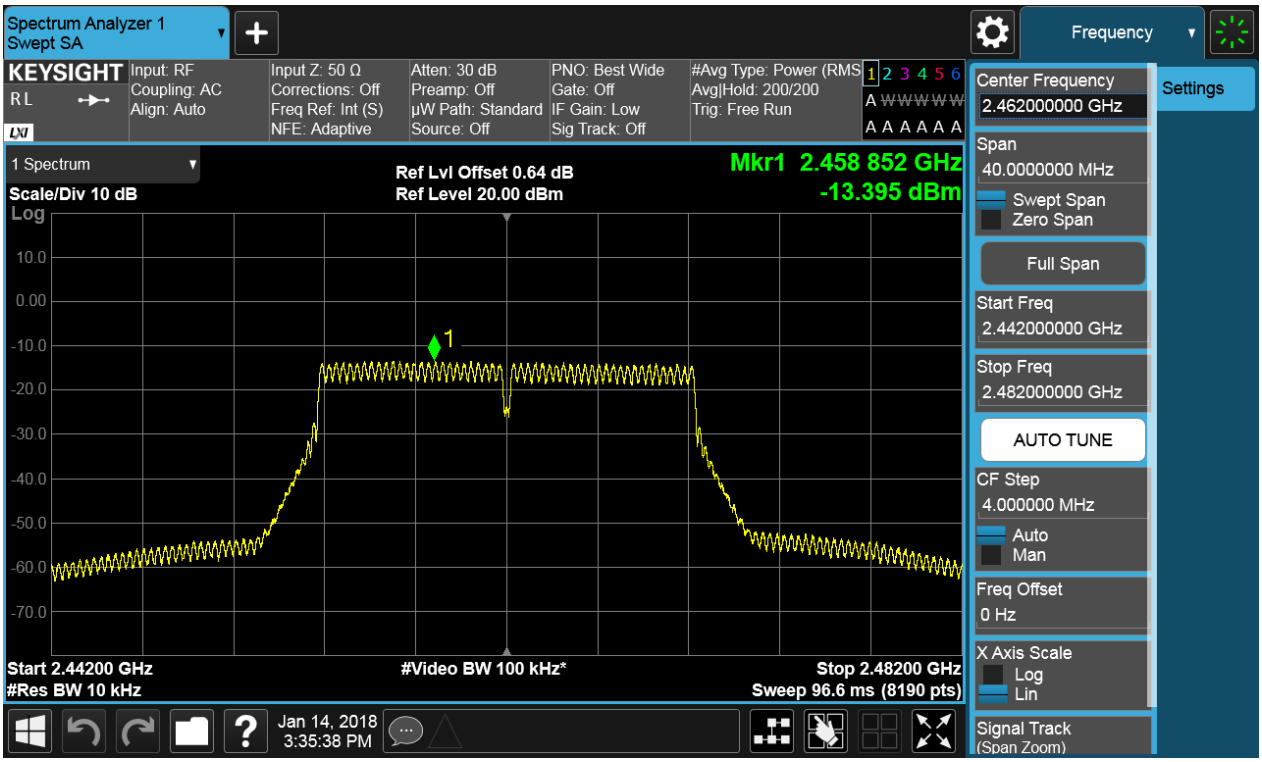
2.4 11G_L@Ant 1



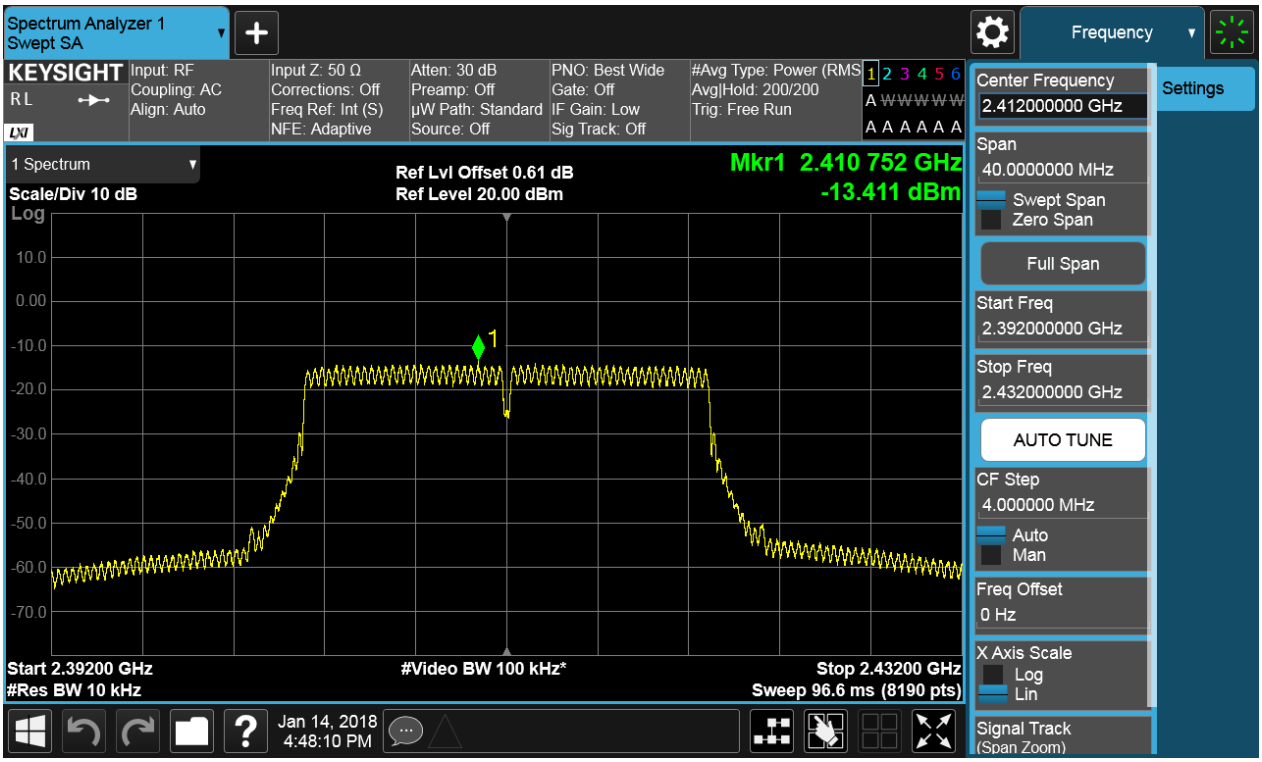
2.5 11G_M@Ant 1



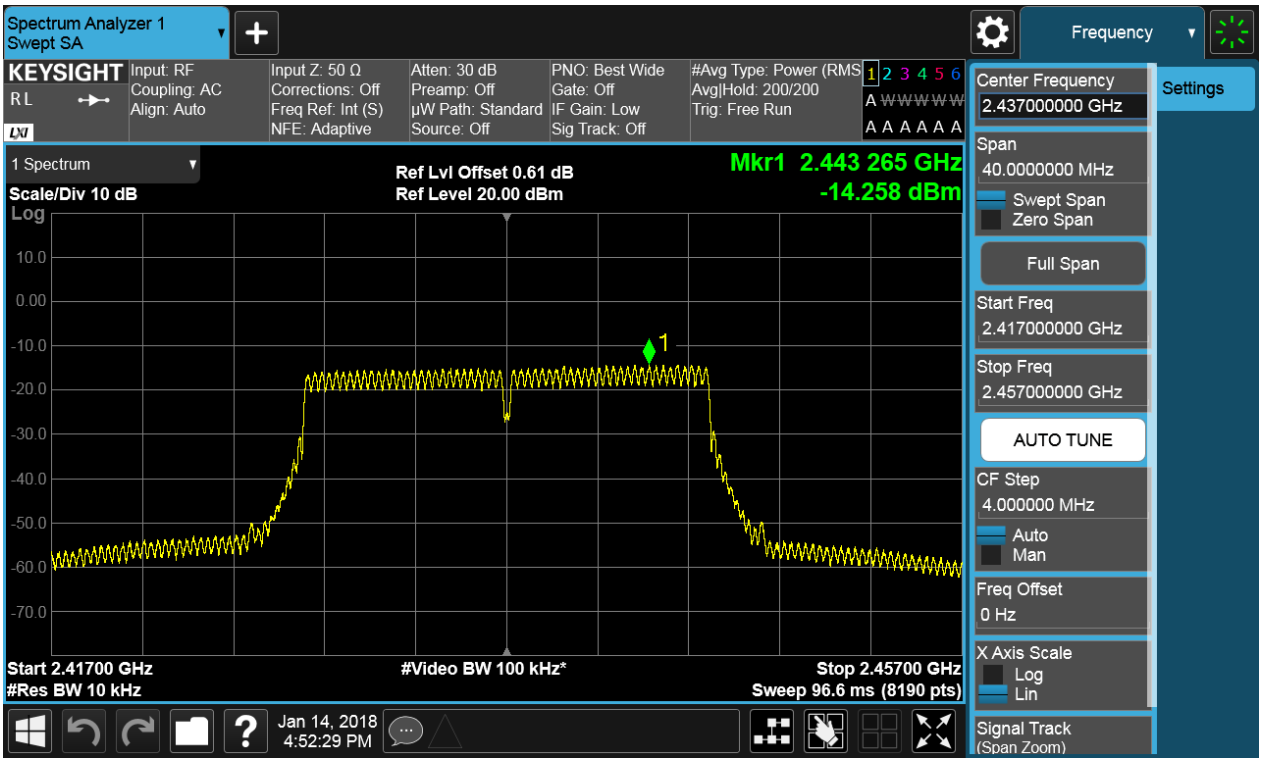
2.6 11G_H@Ant 1



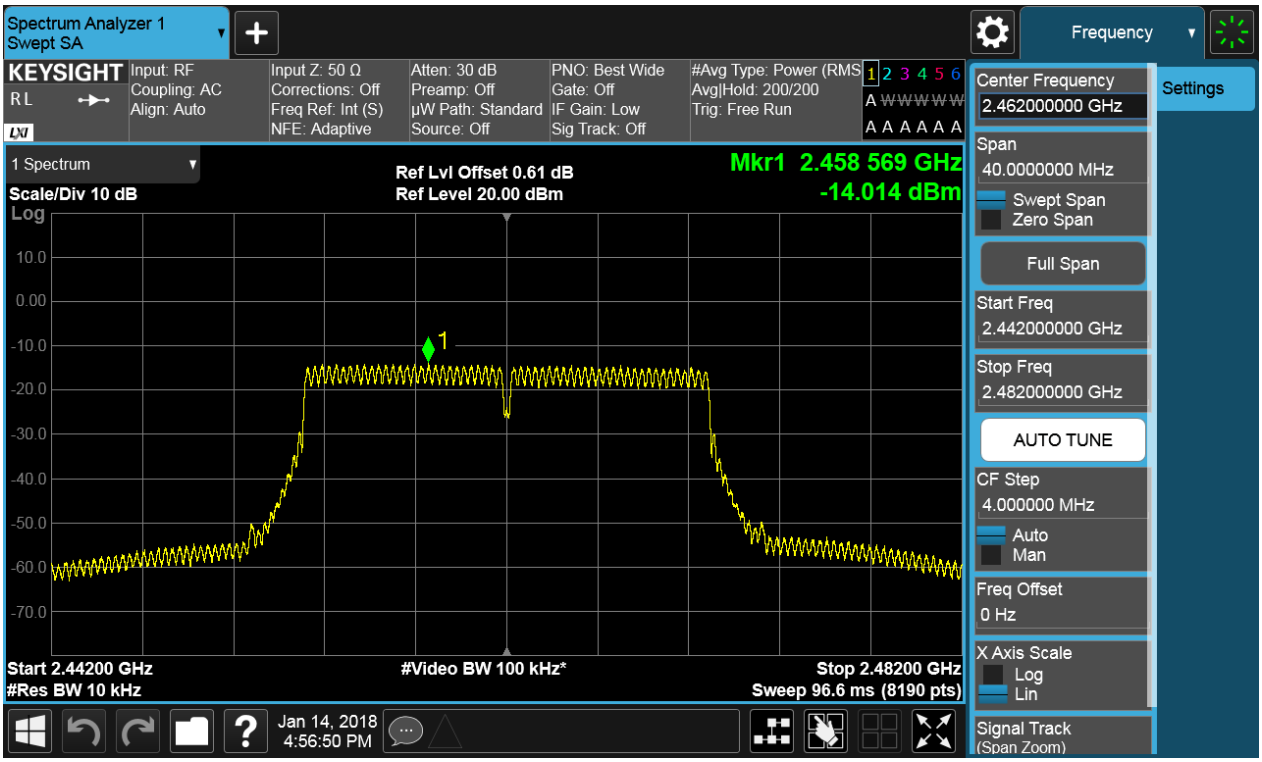
2.7 11N20_L@Ant 1



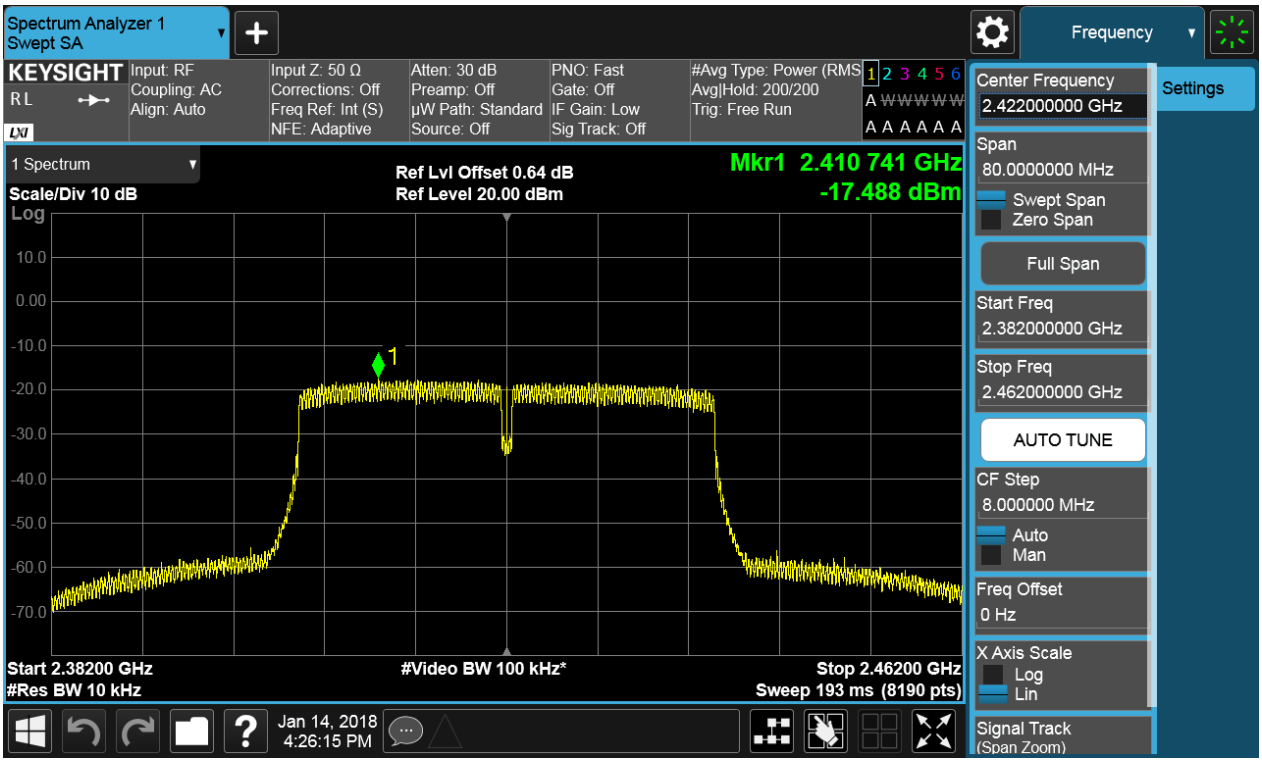
2.8 11N20_M@Ant 1



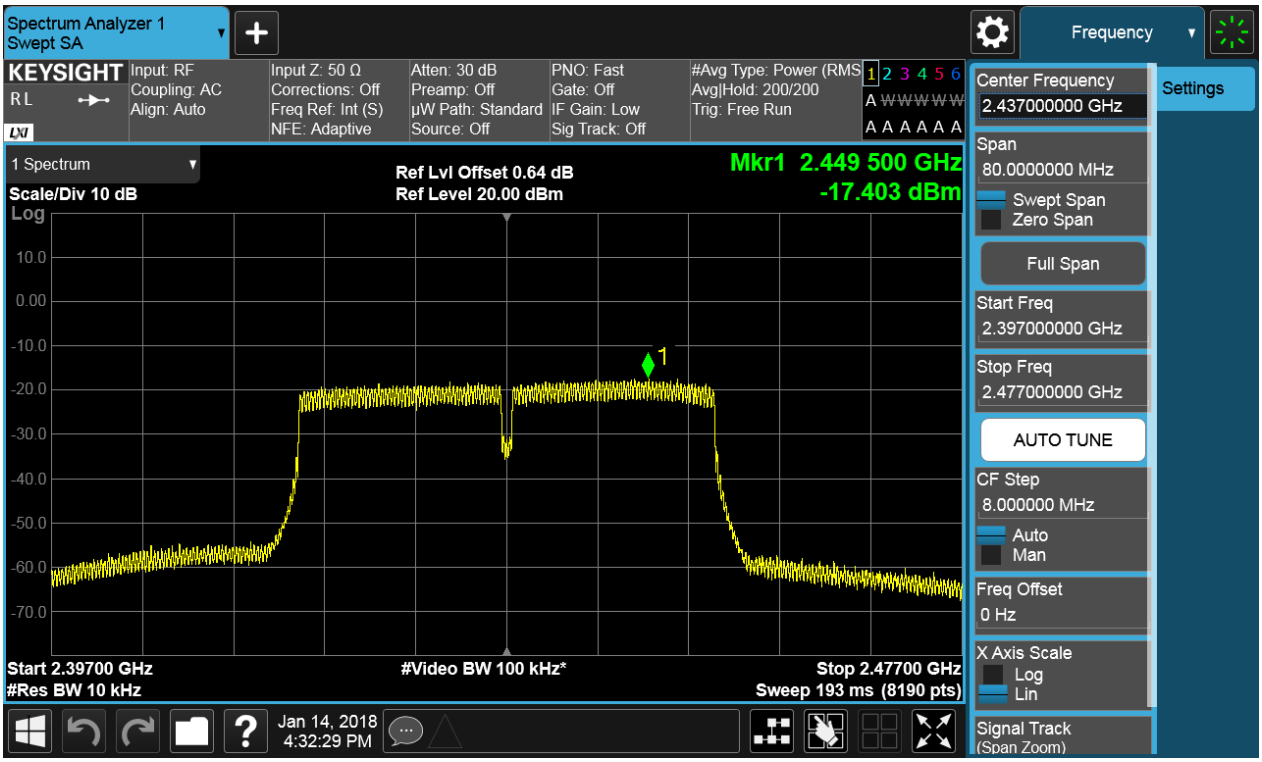
2.9 11N20_H@Ant 1



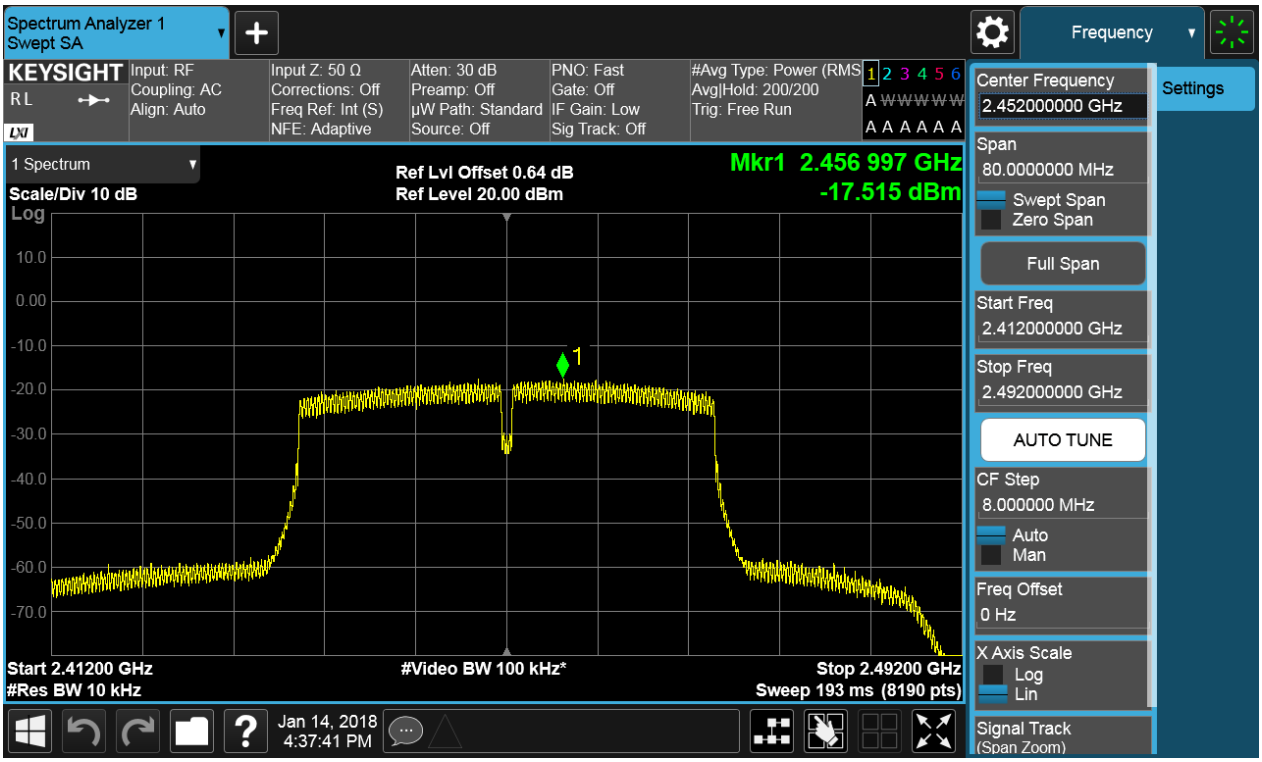
2.10 11N40_L@Ant 1



2.11 11N40_M@Ant 1



2.12 11N40_H@Ant 1



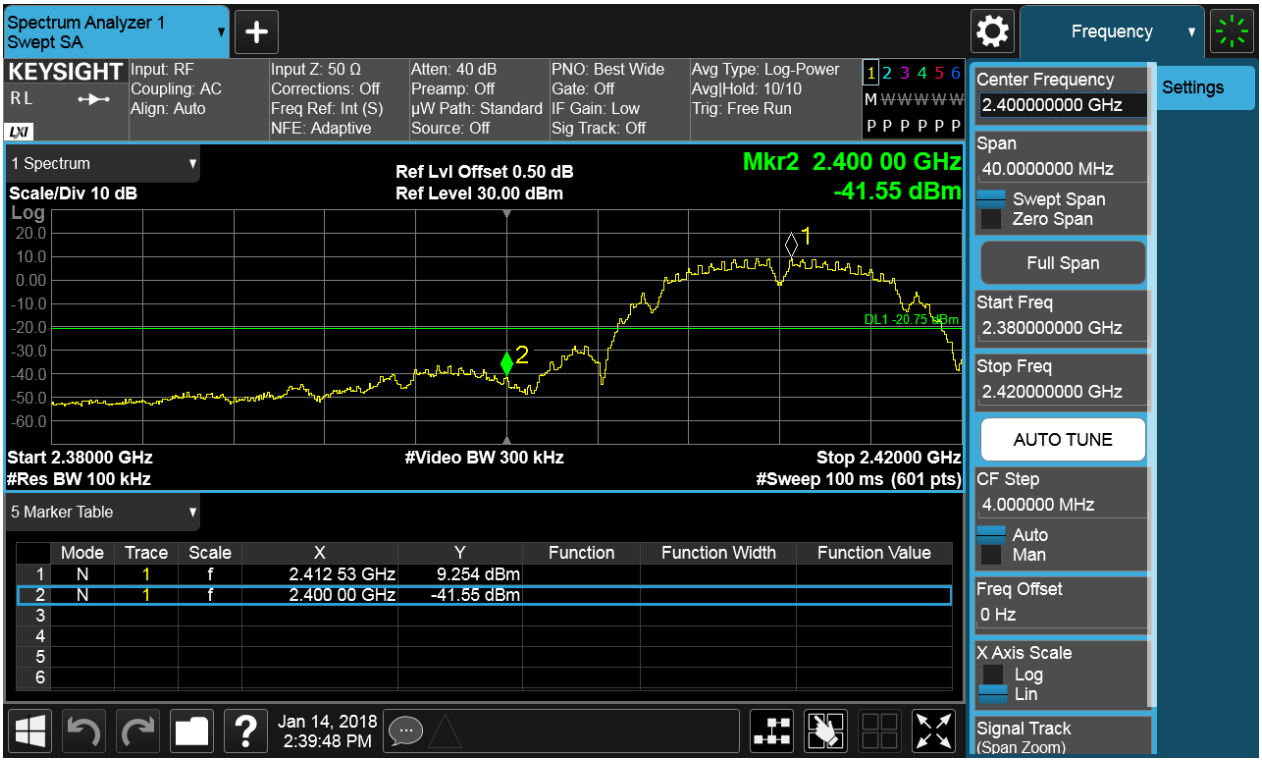
Appendix F: Band Edges Compliance

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	Ant 1	9.25	-41.55	pass
11B	H	2462	Ant 1	8.92	-44.20	pass
11G	L	2412	Ant 1	4.53	-33.31	pass
11G	H	2462	Ant 1	4.74	-41.65	pass
11N20	L	2412	Ant 1	4.10	-37.36	pass
11N20	H	2462	Ant 1	4.44	-40.31	pass
11N40	L	2422	Ant 1	0.82	-39.04	pass
11N40	H	2452	Ant 1	0.82	-39.65	pass

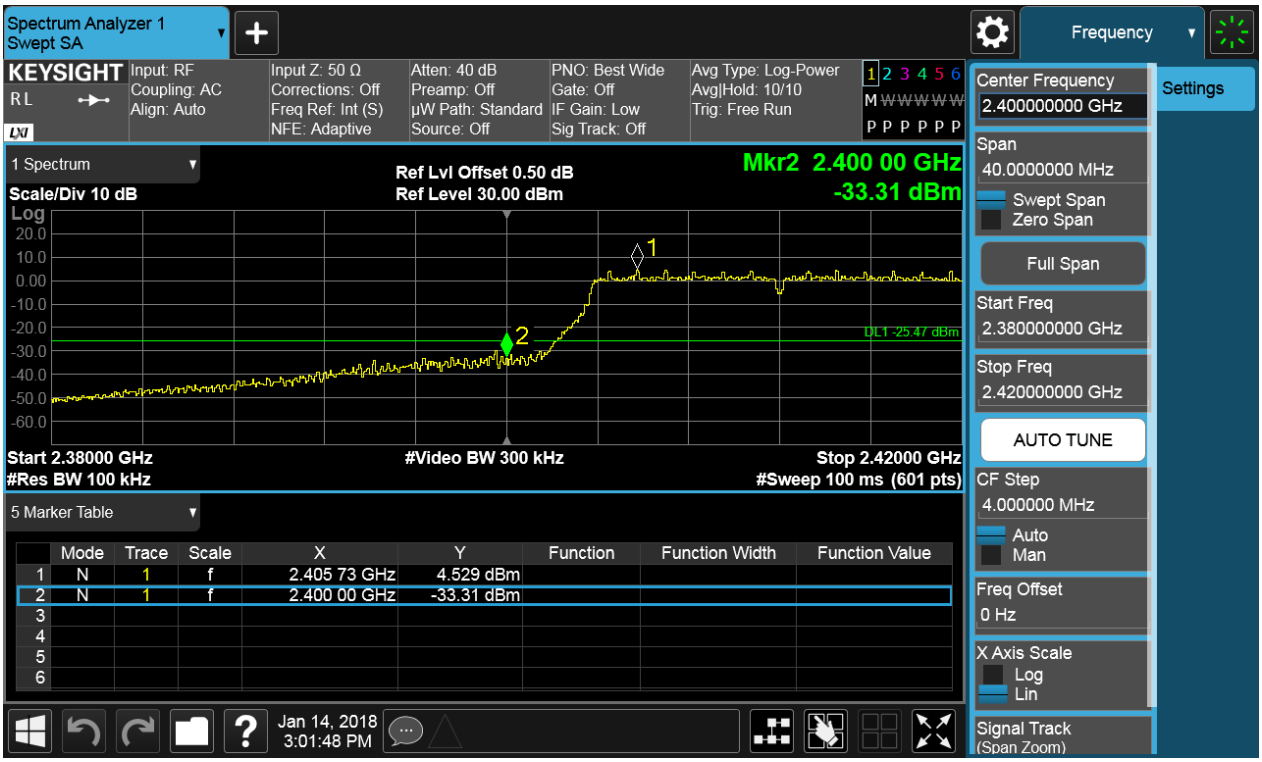
Part II - Test Plots

2.1 11B_L@Ant 1

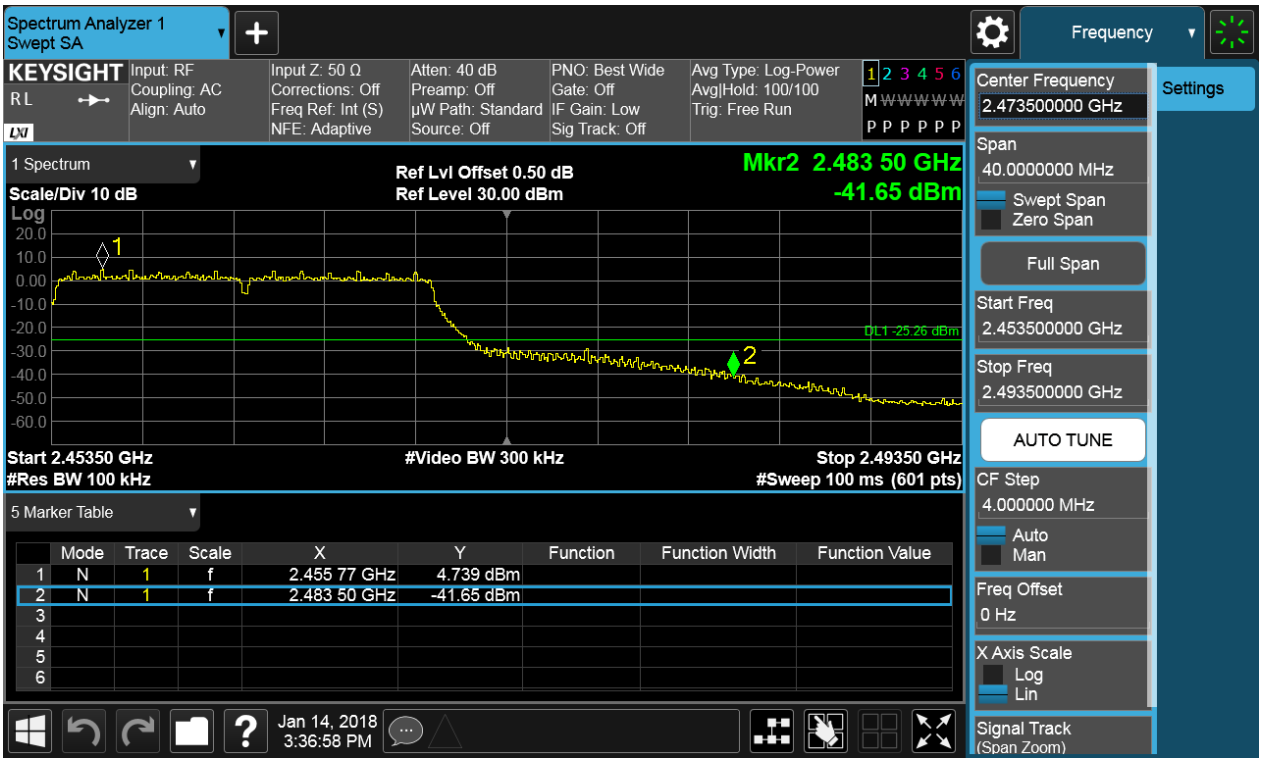


2.2 11B_H@Ant 1

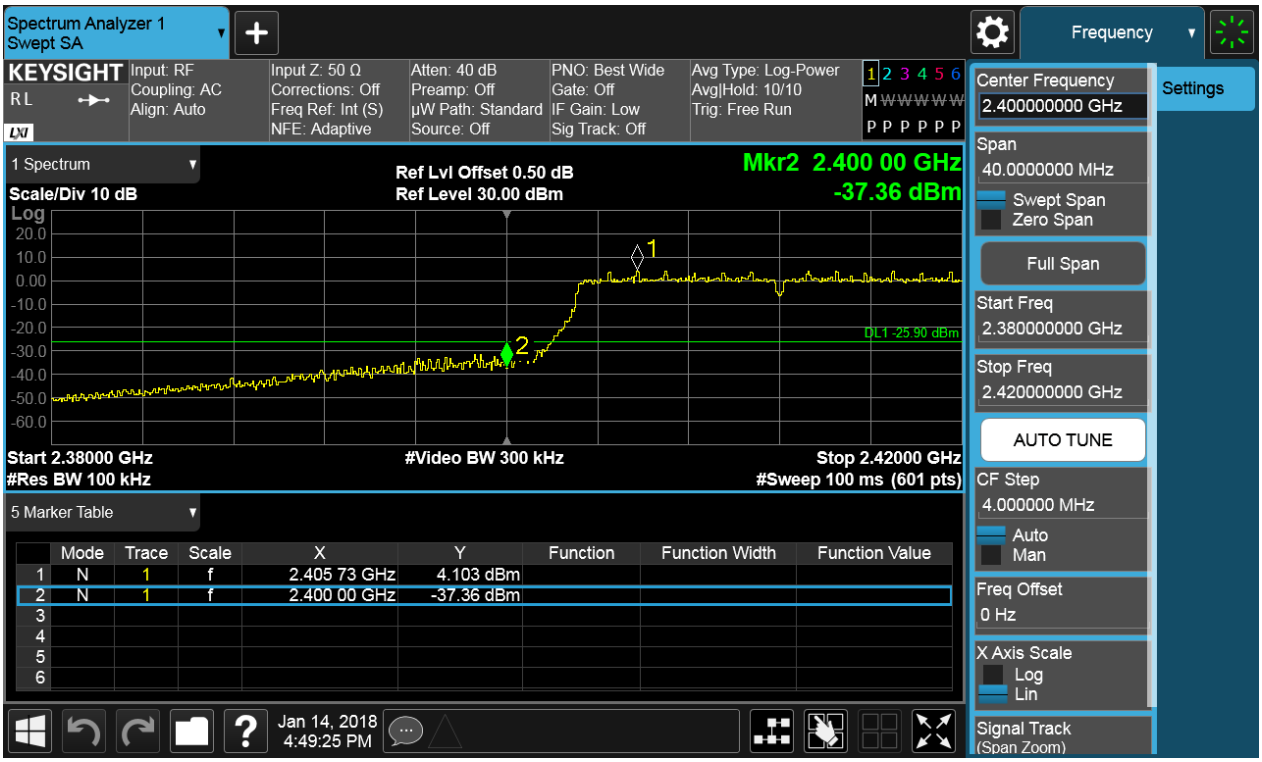
2.3 11G_L@Ant 1



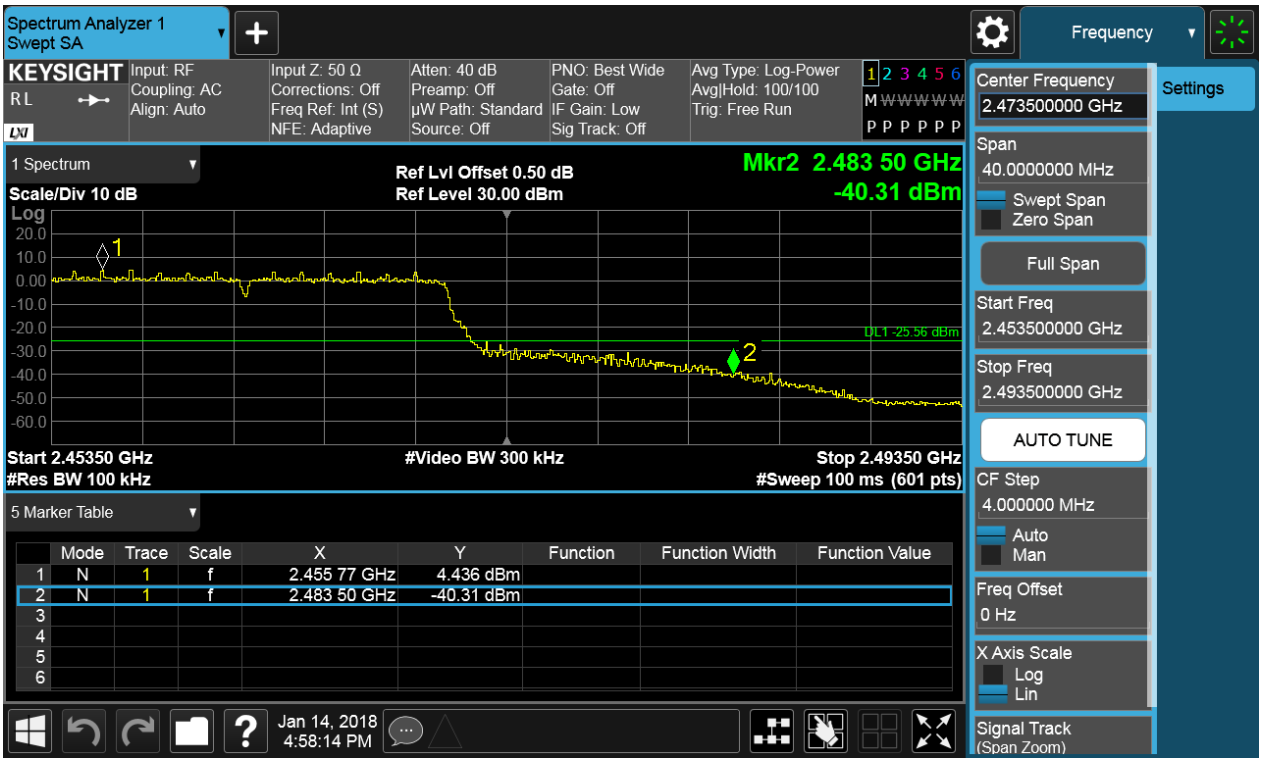
2.4 11G_H@Ant 1



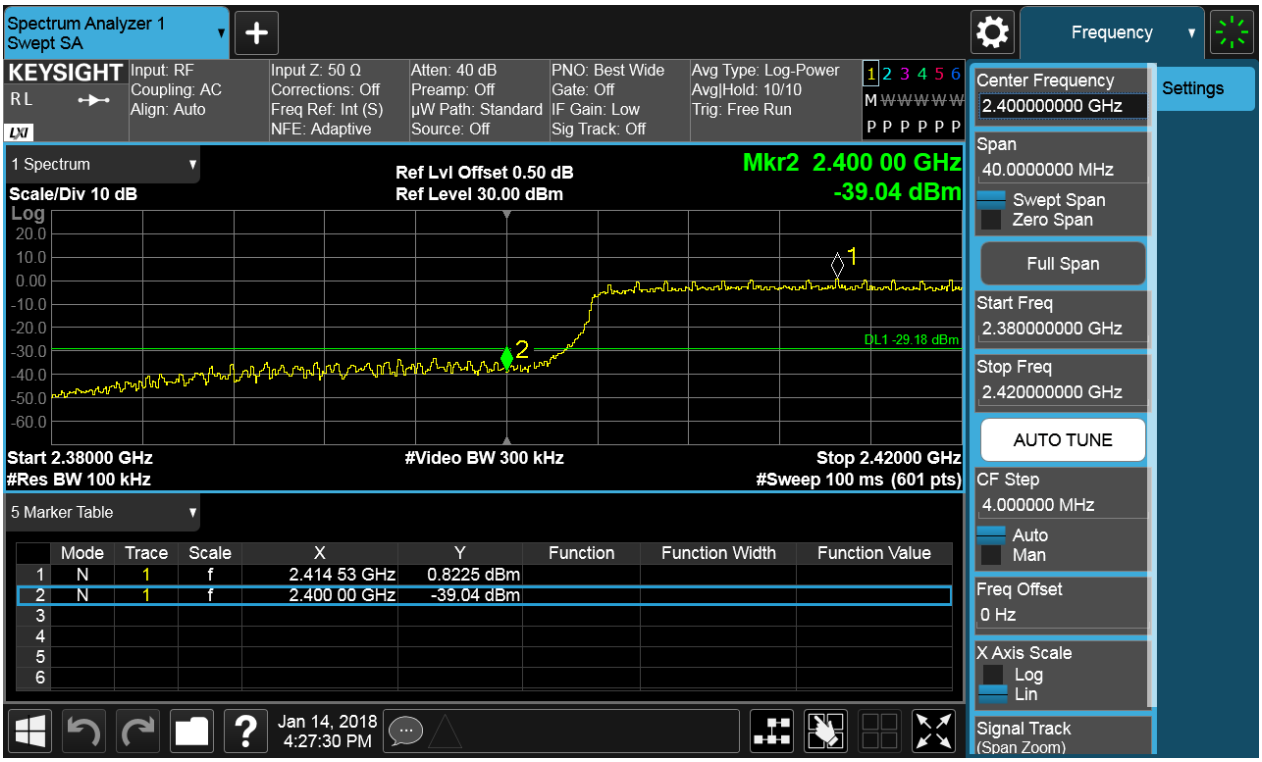
2.5 11N20_L@Ant 1



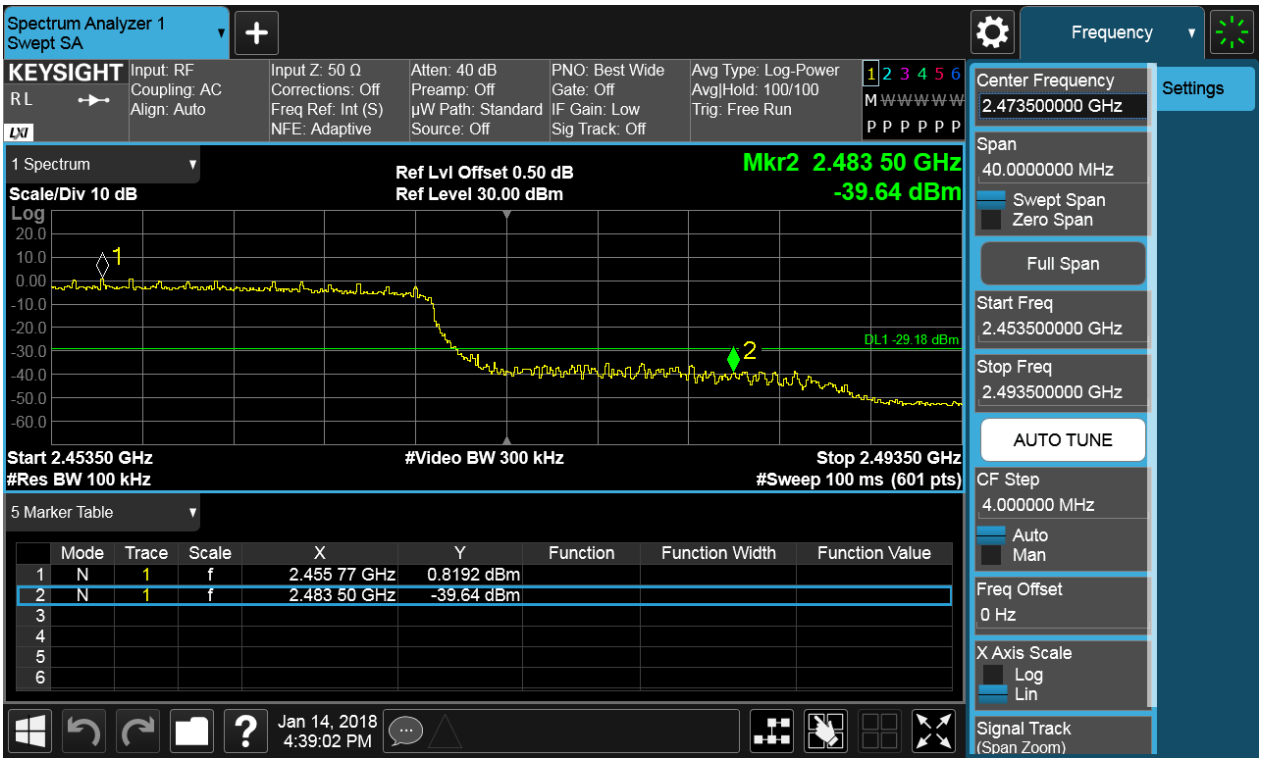
2.6 11N20_H@Ant 1



2.7 11N40_L@Ant 1



2.8 11N40_H@Ant 1



Appendix G: Unwanted Emissions into Non-Restricted Frequency Bands

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

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

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

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

Part I - Test Results

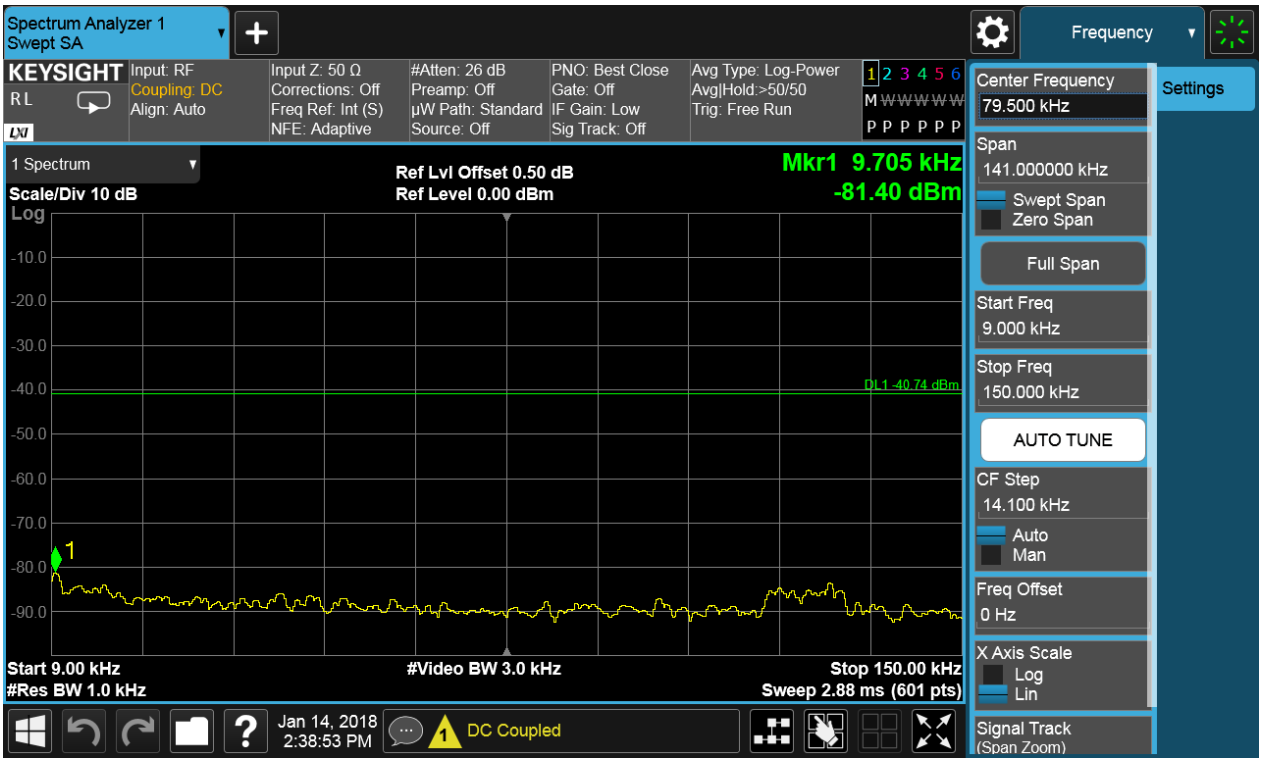
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	9.26	<limit	pass
11B	M	2437	Ant 1	8.26	<limit	pass
11B	H	2462	Ant 1	8.95	<limit	pass
11G	L	2412	Ant 1	4.59	<limit	pass
11G	M	2437	Ant 1	3.94	<limit	pass
11G	H	2462	Ant 1	4.72	<limit	pass
11N20	L	2412	Ant 1	4.06	<limit	pass
11N20	M	2437	Ant 1	4.14	<limit	pass
11N20	H	2462	Ant 1	4.48	<limit	pass
11N40	L	2422	Ant 1	0.79	<limit	pass
11N40	M	2437	Ant 1	0.67	<limit	pass
11N40	H	2452	Ant 1	0.85	<limit	pass

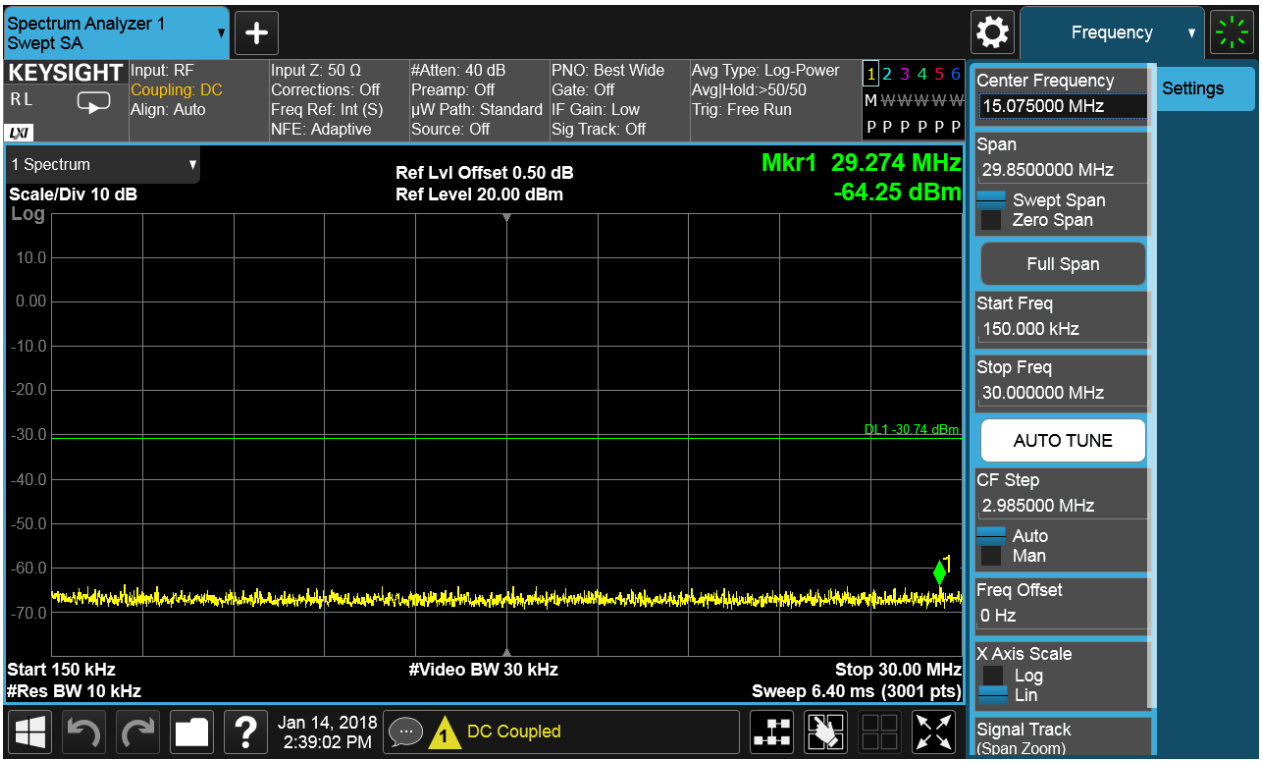
Part II - Test Plots

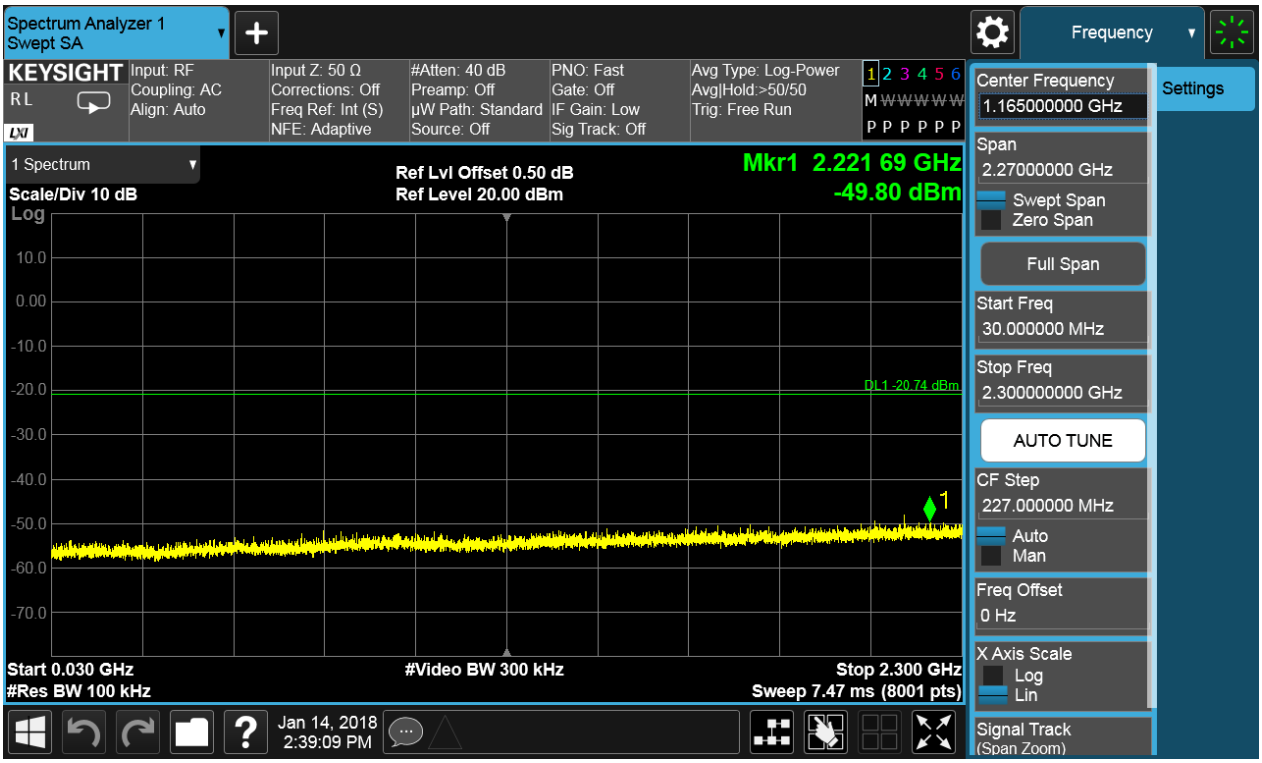
2.1 11B_L@Ant 1

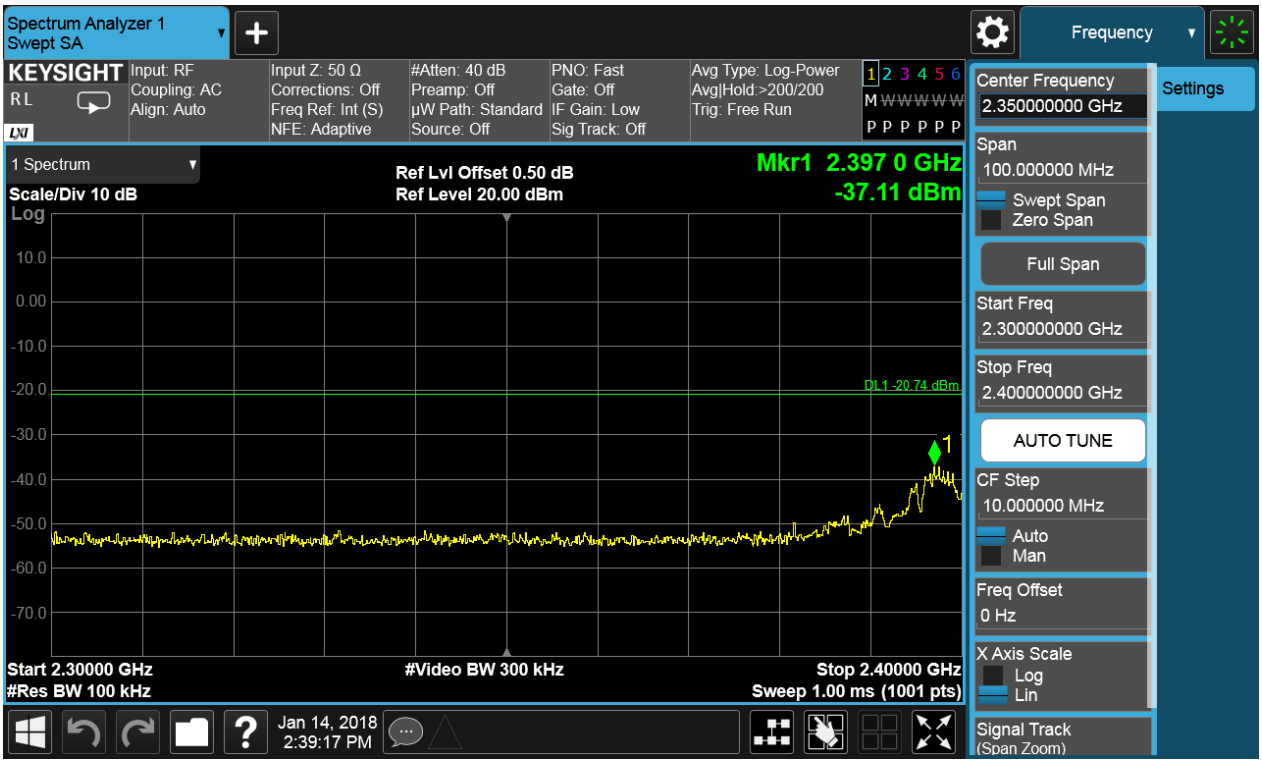
Pref:

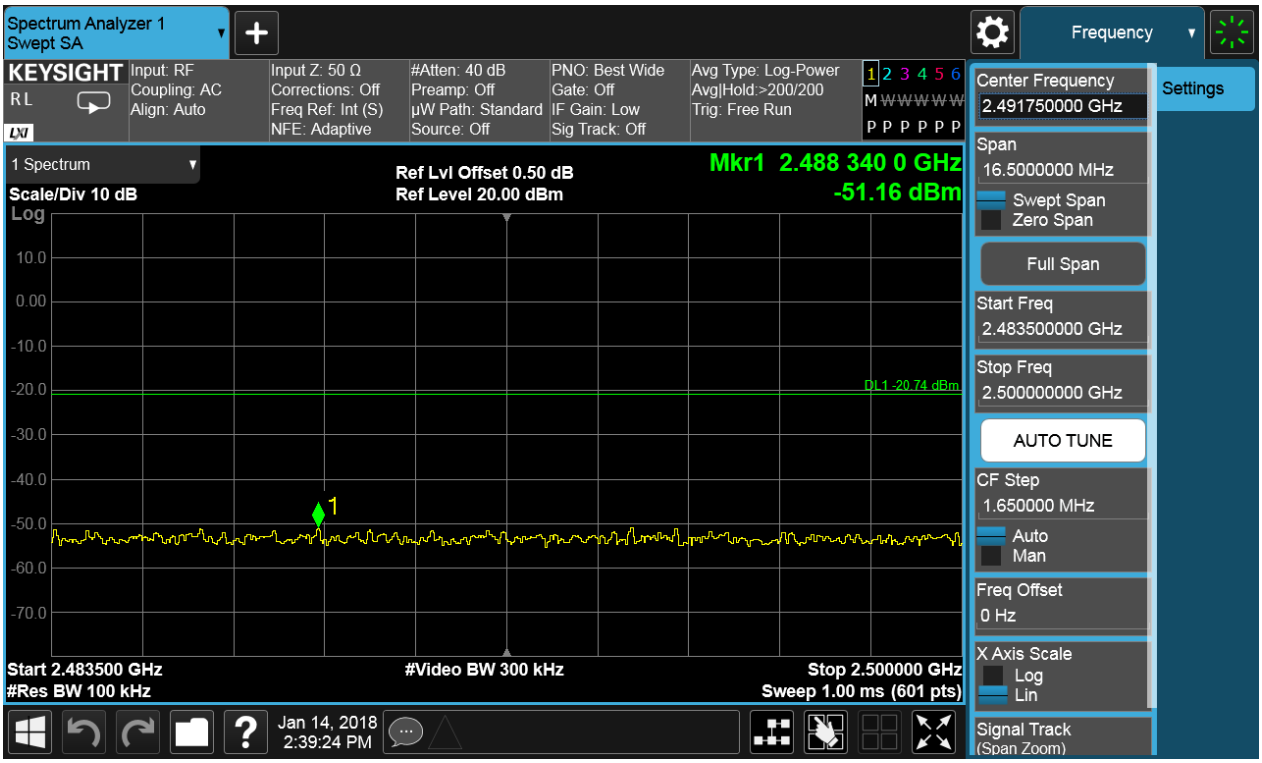
Puw:

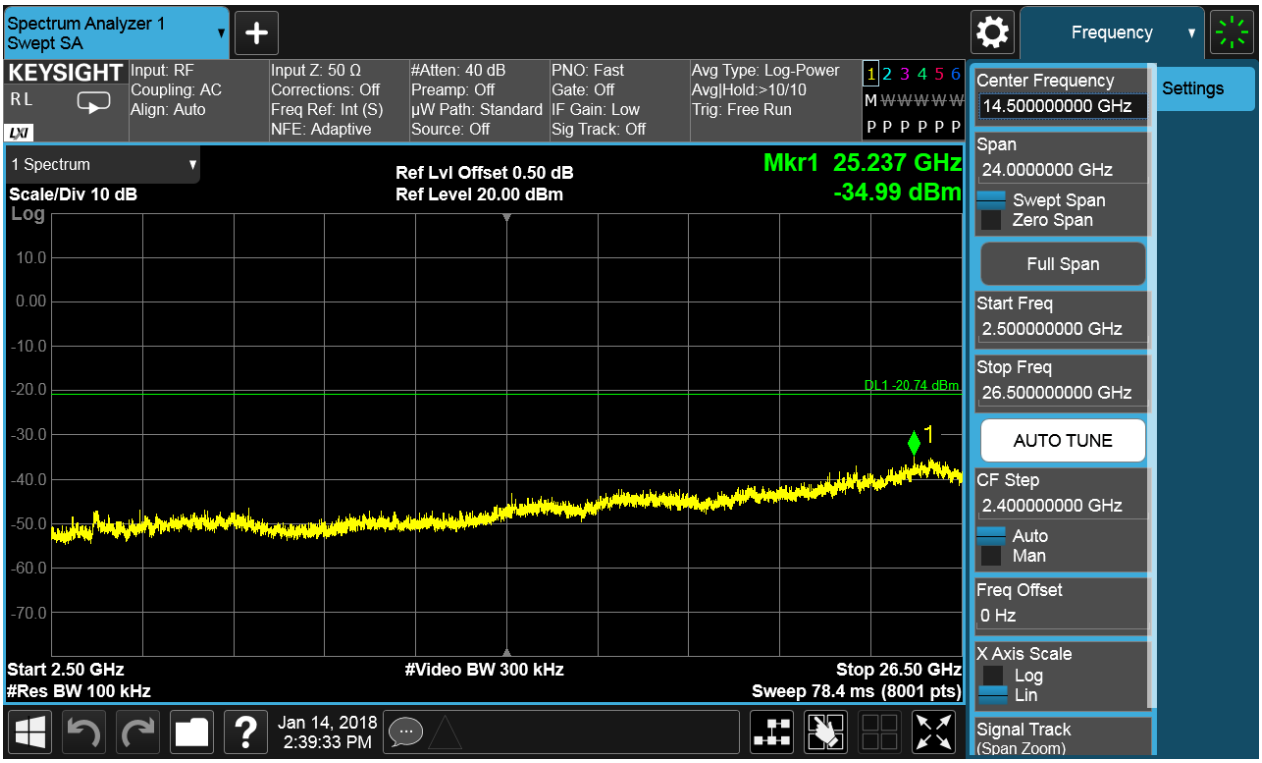












2.2 11B_M@Ant 1

Pref:

Puw: