4. Peak Power Spectral Density

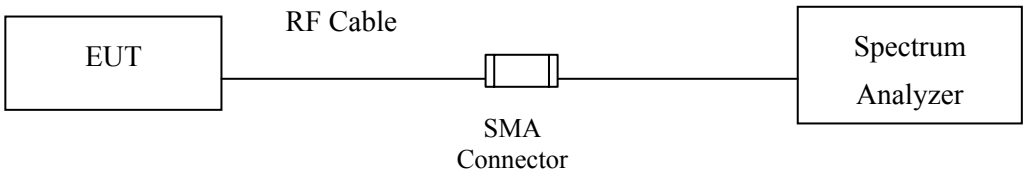
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2014

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup



4.3. Limits

(1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.
The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.
SA-1 method is selected to run the test.

4.5. Uncertainty

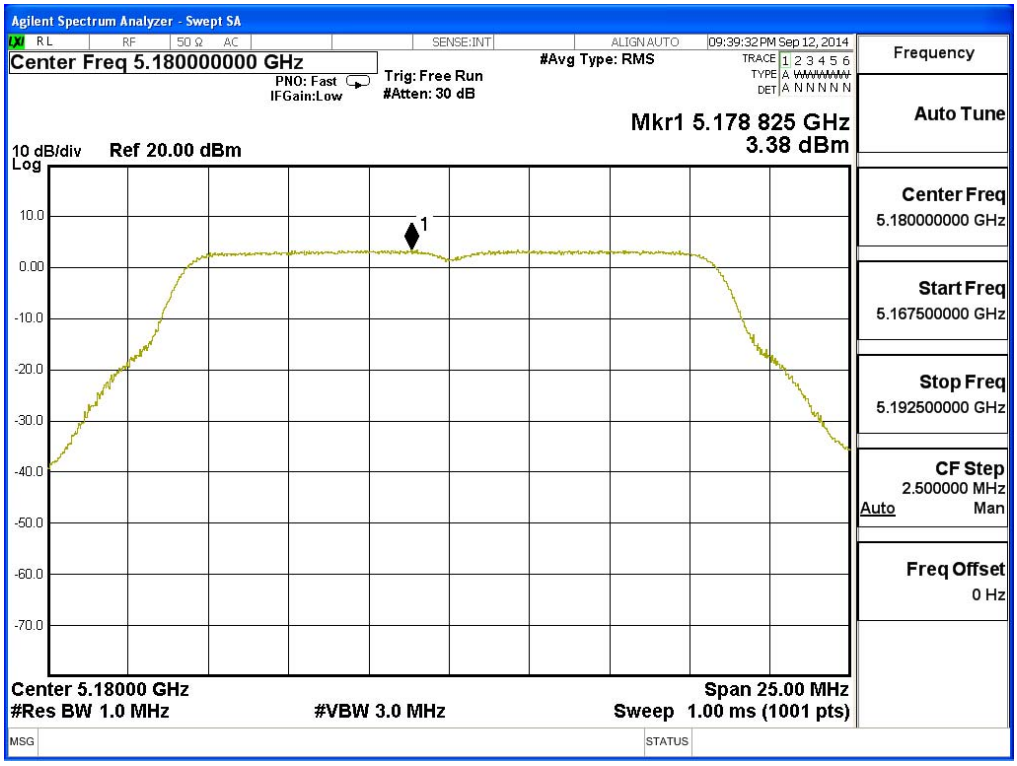
± 1.27 dB

4.6. Test Result of Peak Power Spectral Density

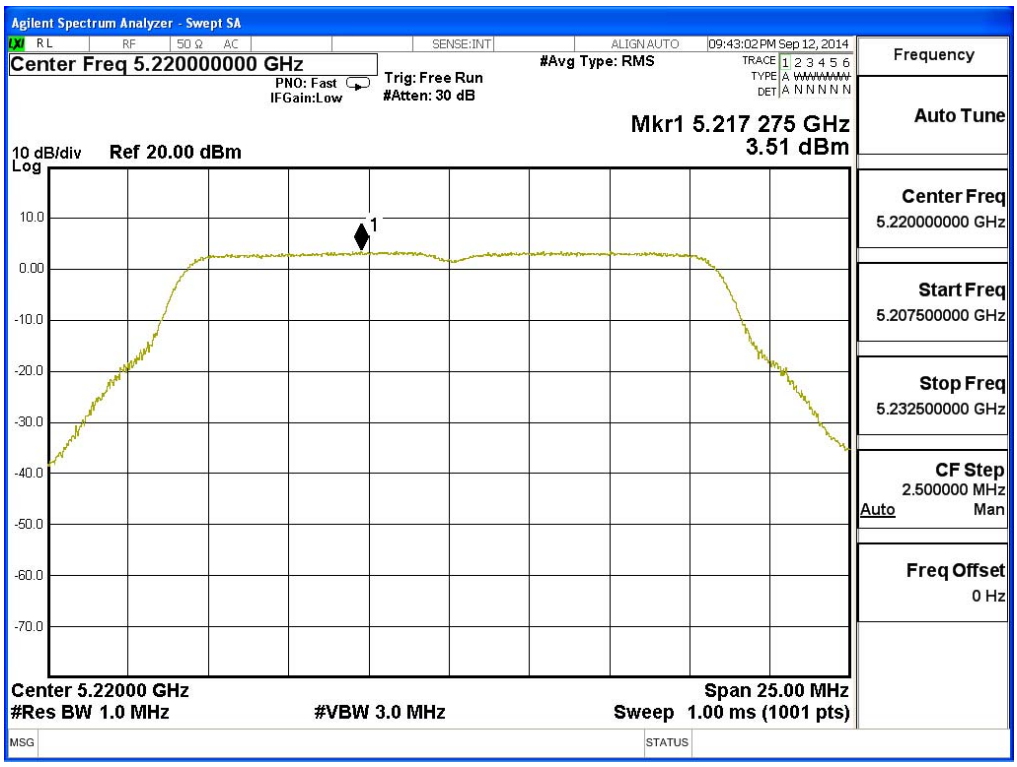
Product : Nexus Player
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	3.380	11	Pass
44	5220	6	3.510	11	Pass
48	5240	6	3.450	11	Pass
52	5260	6	2.480	11	Pass
60	5300	6	2.260	11	Pass
64	5320	6	2.210	11	Pass
100	5500	6	2.610	11	Pass
116	5580	6	2.800	11	Pass
140	5700	6	2.920	11	Pass

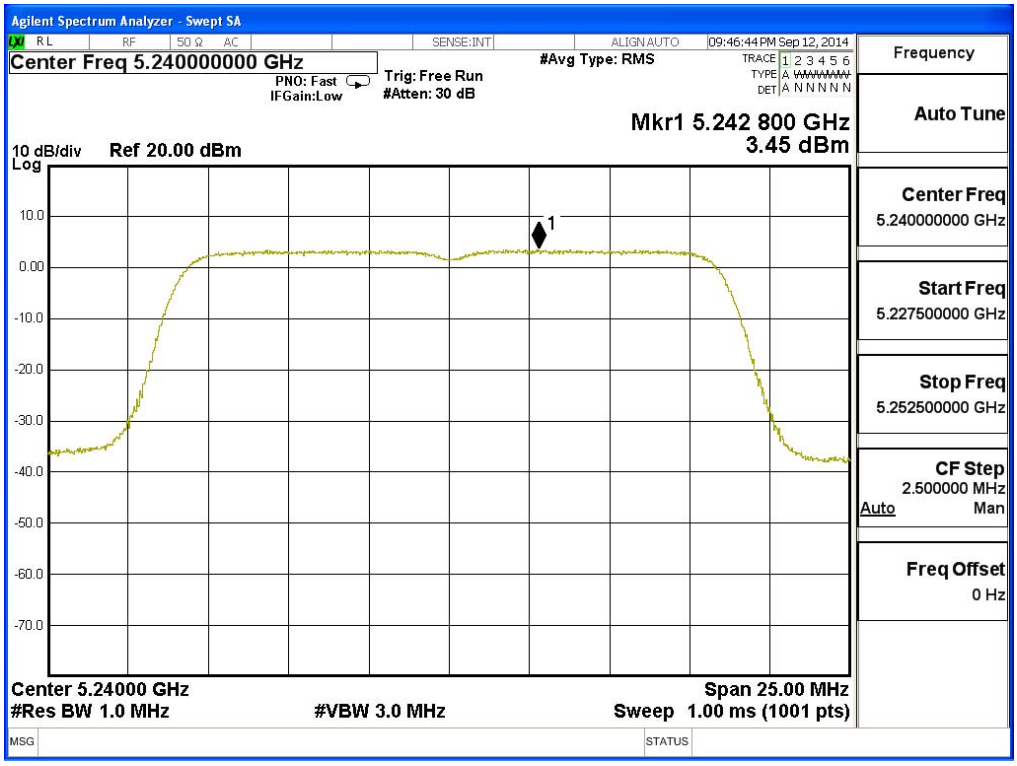
Channel 36:



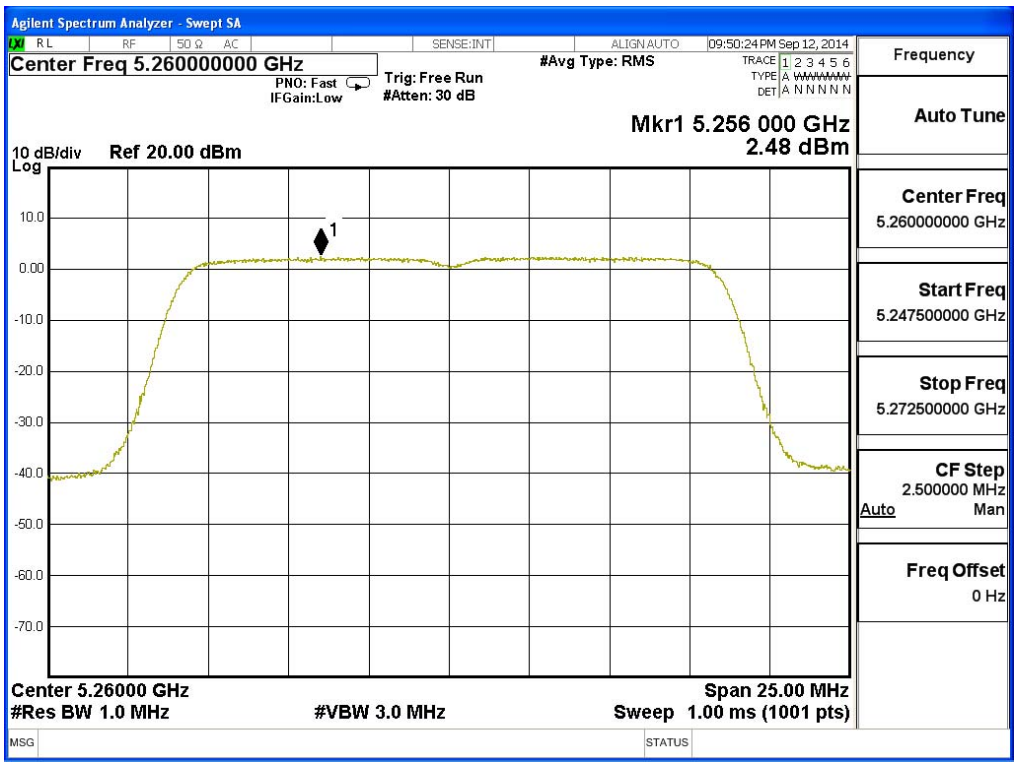
Channel 44:



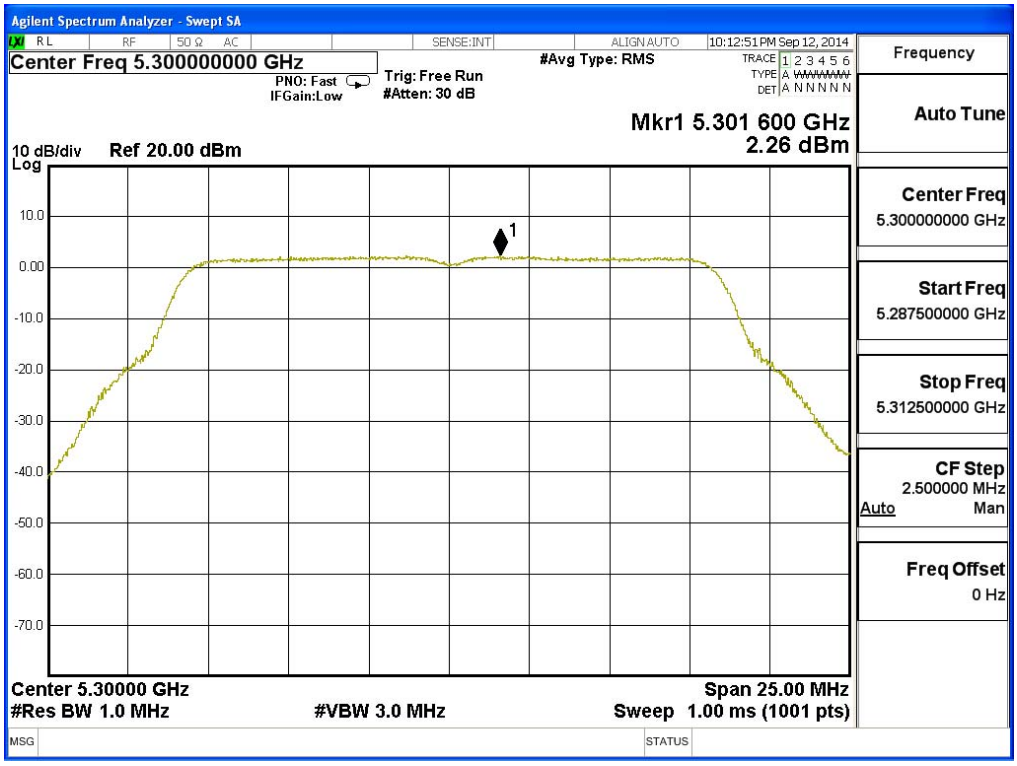
Channel 48:



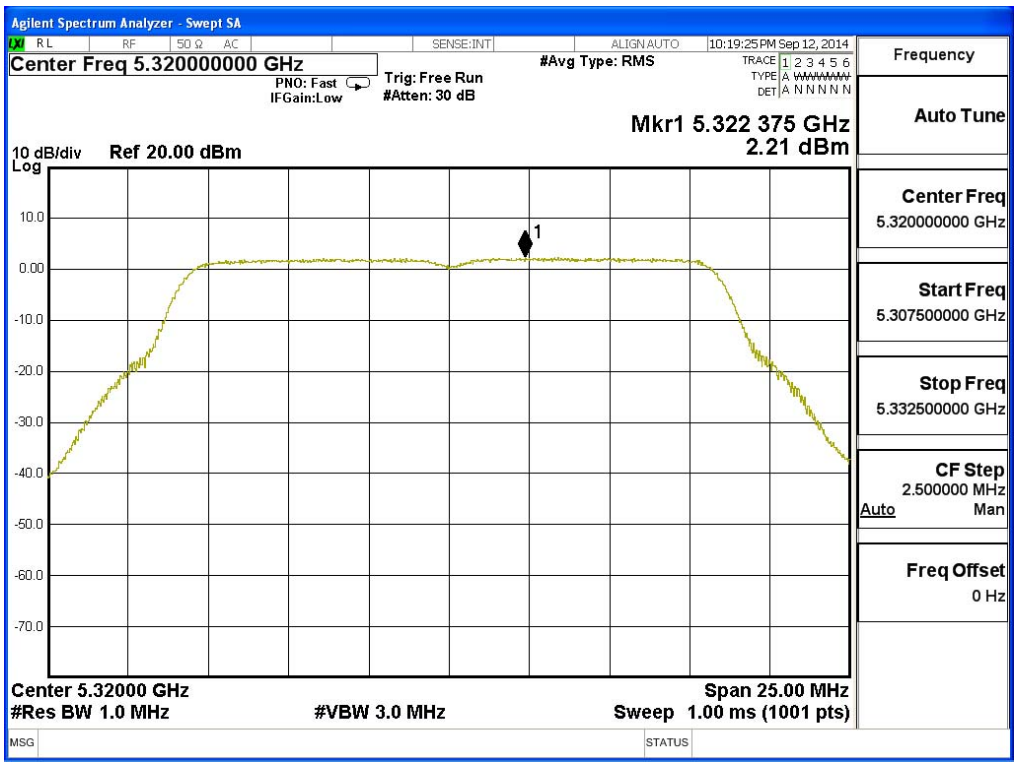
Channel 52:



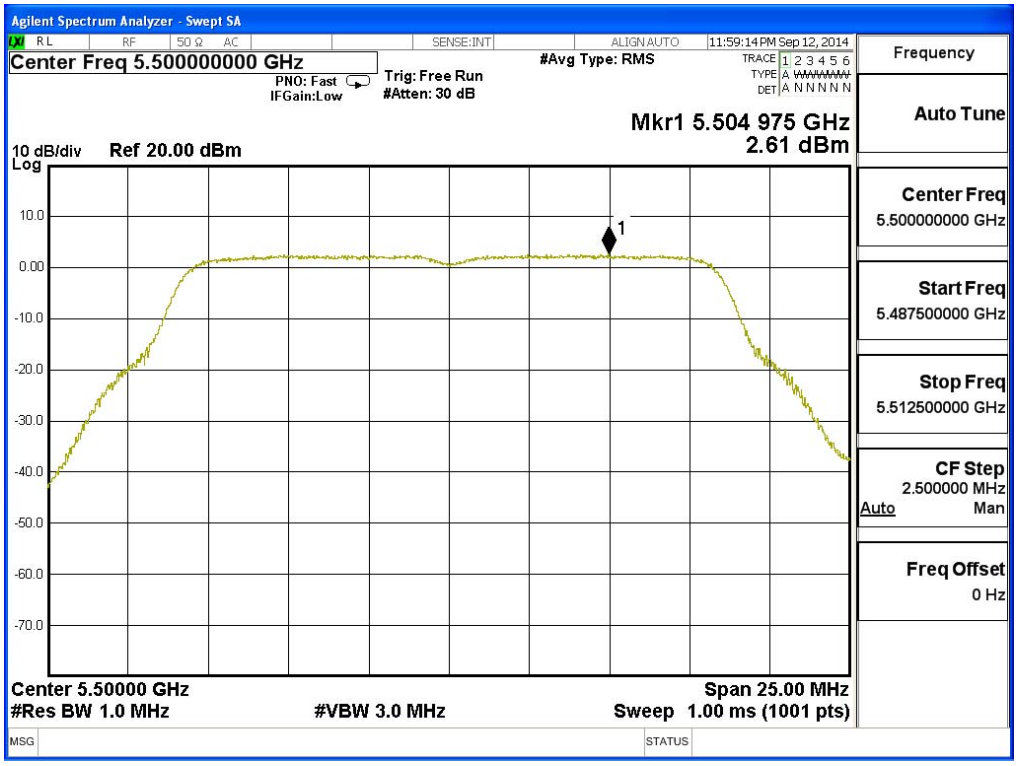
Channel 60:



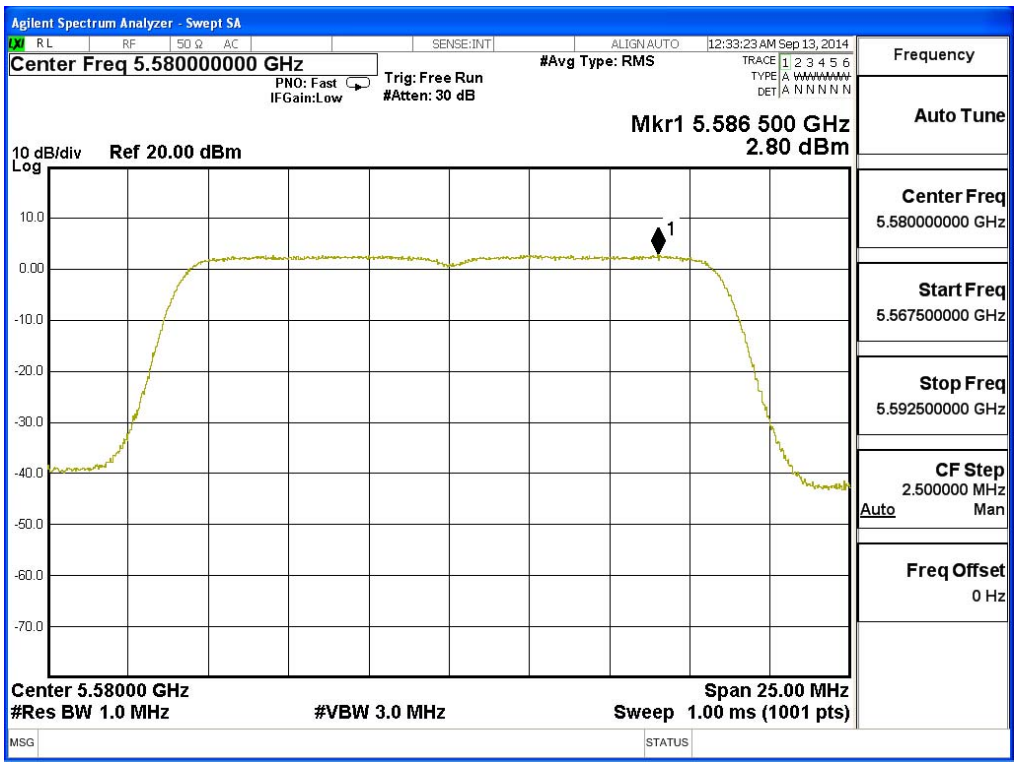
Channel 64:



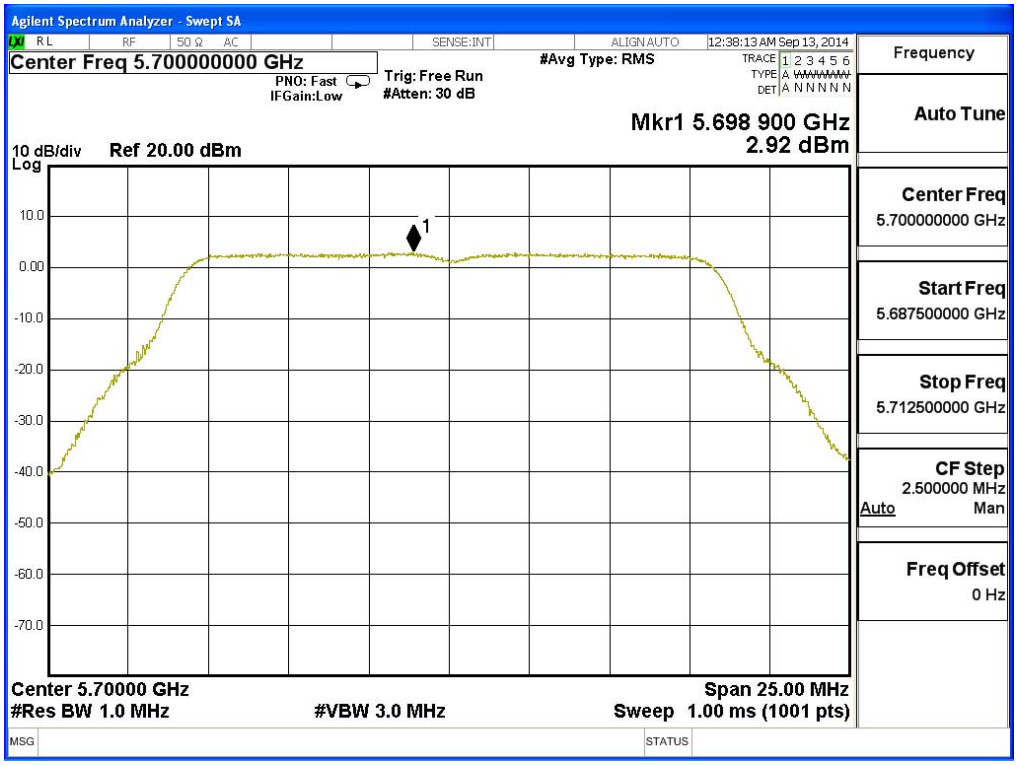
Channel 100:



Channel 116:



Channel 140:

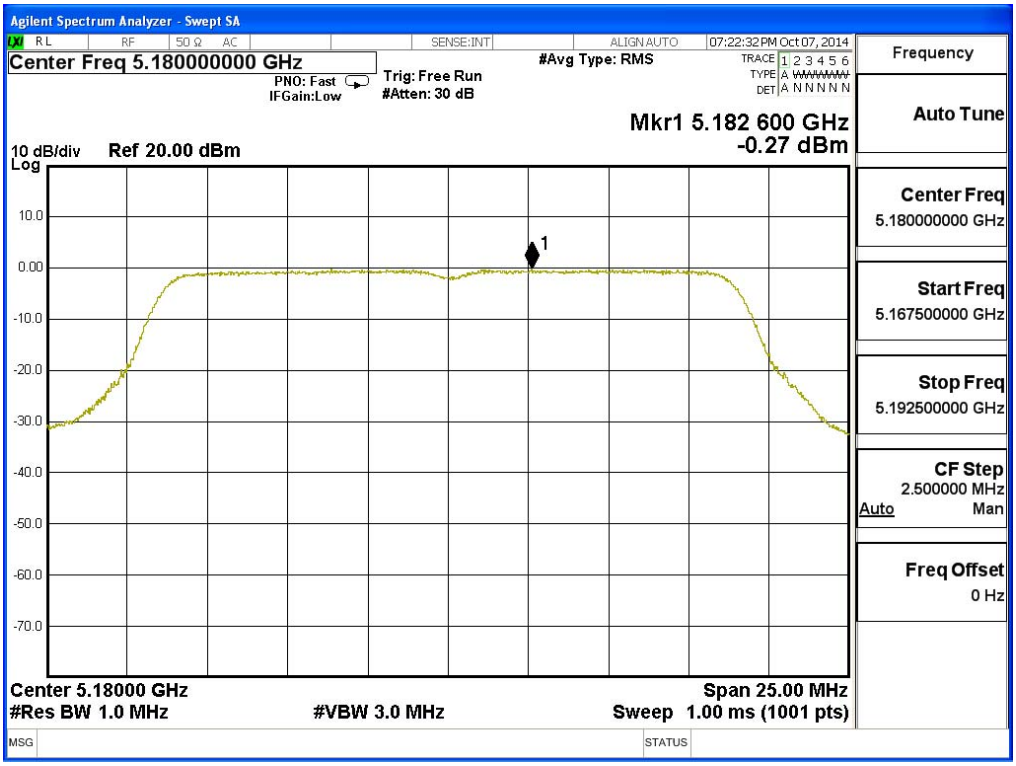

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
12:38:13 AM Sep 13, 2014
Center Freq 5.700000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET A N N N N N
Mkr1 5.698 900 GHz
2.92 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center 5.70000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.700000000 GHz
Start Freq
5.687500000 GHz
Stop Freq
5.712500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz

Product : Nexus Player
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

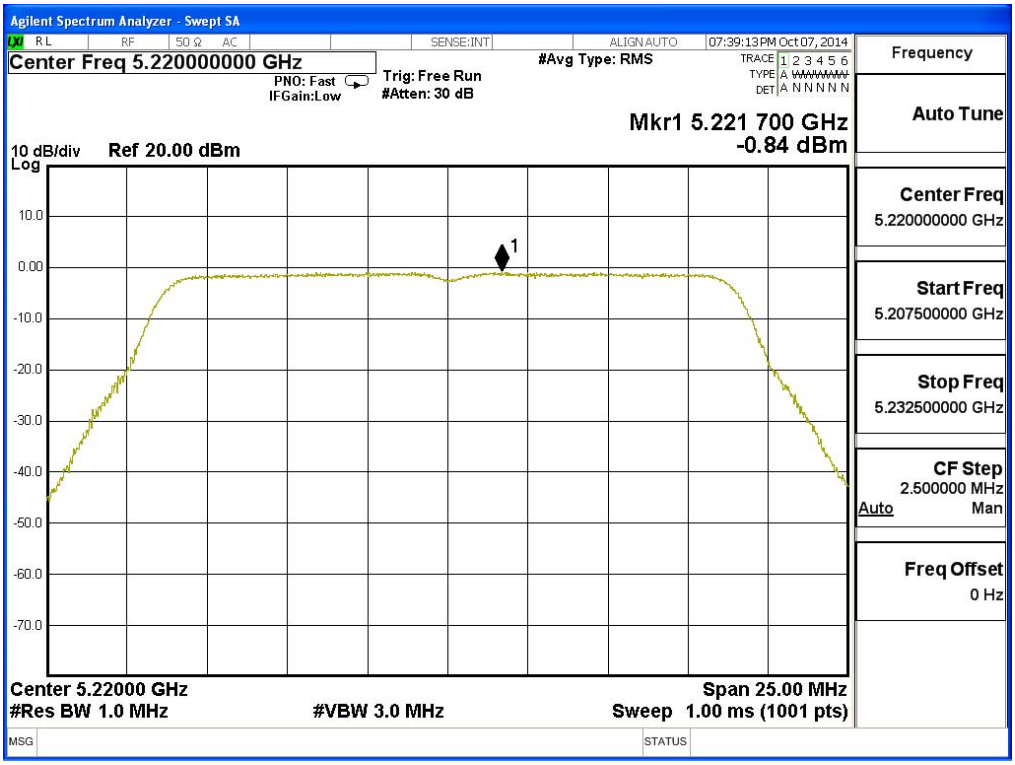
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)1	Required Limit (dBm)	Result
36	5180	A	-0.270	2.740	11	Pass
		B	-2.800	0.210	11	Pass
44	5220	A	-0.840	2.170	11	Pass
		B	-2.230	0.780	11	Pass
48	5240	A	-1.020	1.990	11	Pass
		B	-1.770	1.240	11	Pass
52	5260	A	-1.620	1.390	11	Pass
		B	-1.490	1.520	11	Pass
60	5300	A	-0.200	2.810	11	Pass
		B	-1.460	1.550	11	Pass
64	5320	A	-0.430	2.580	11	Pass
		B	-1.460	1.550	11	Pass
100	5500	A	-0.480	2.530	11	Pass
		B	-1.130	1.880	11	Pass
116	5580	A	-0.080	2.930	11	Pass
		B	-0.700	2.310	11	Pass
140	5700	A	-0.930	2.080	11	Pass
		B	-1.050	1.960	11	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

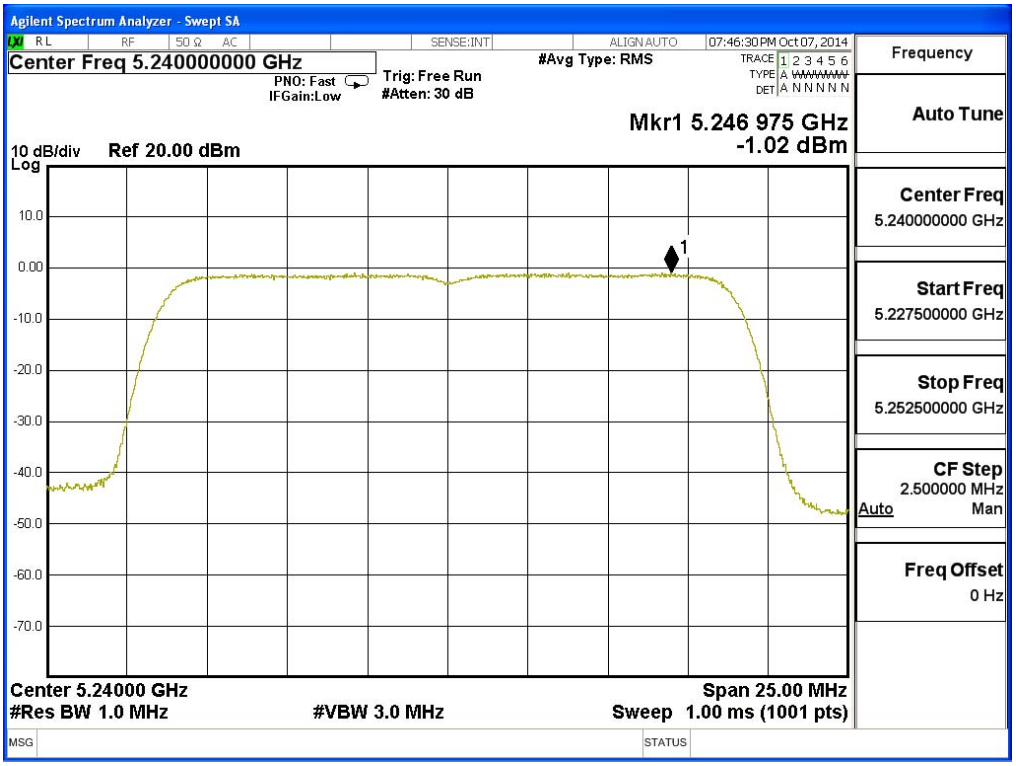
Channel 36 – Chain A



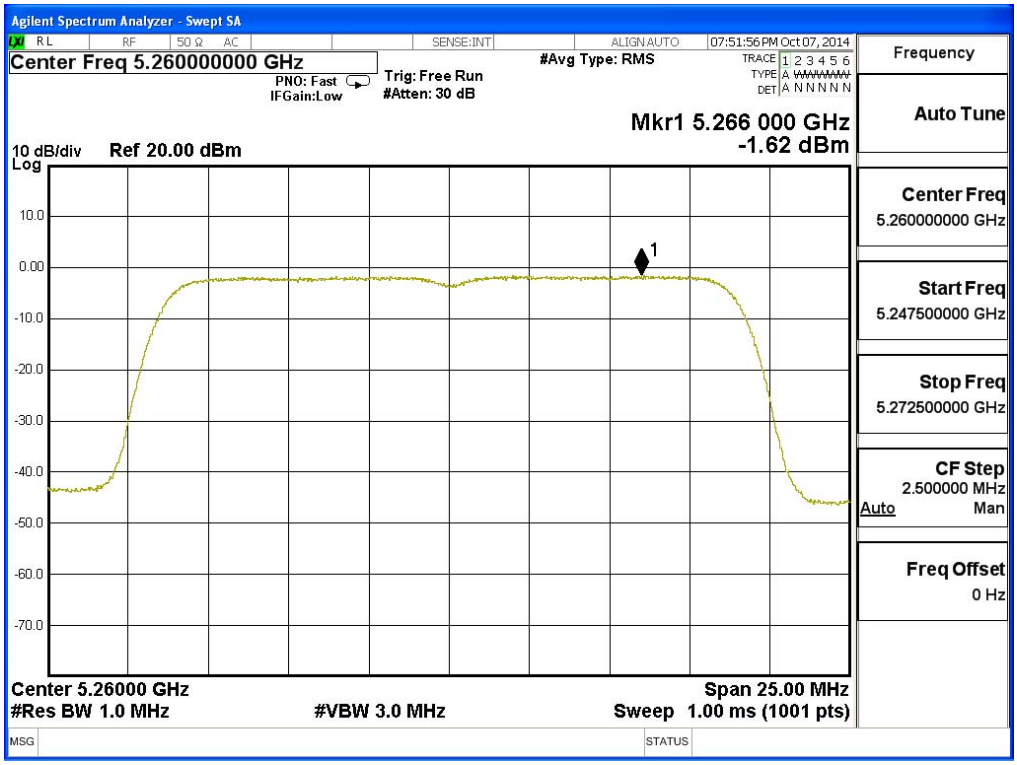
Channel 44 – Chain A



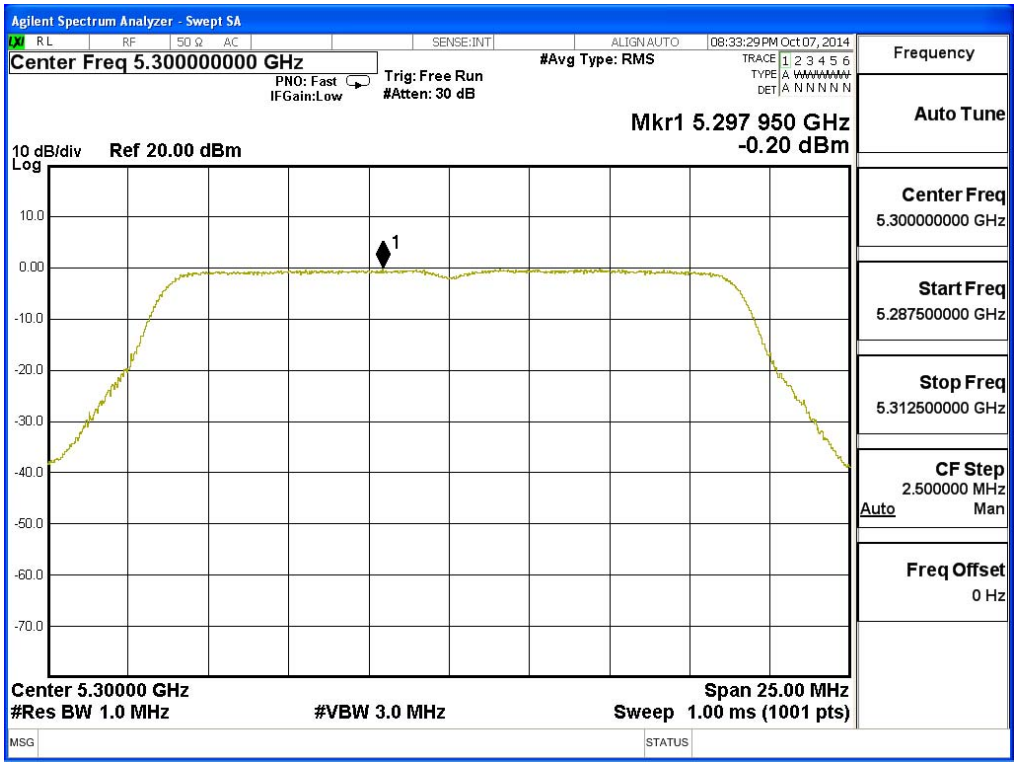
Channel 48 – Chain A



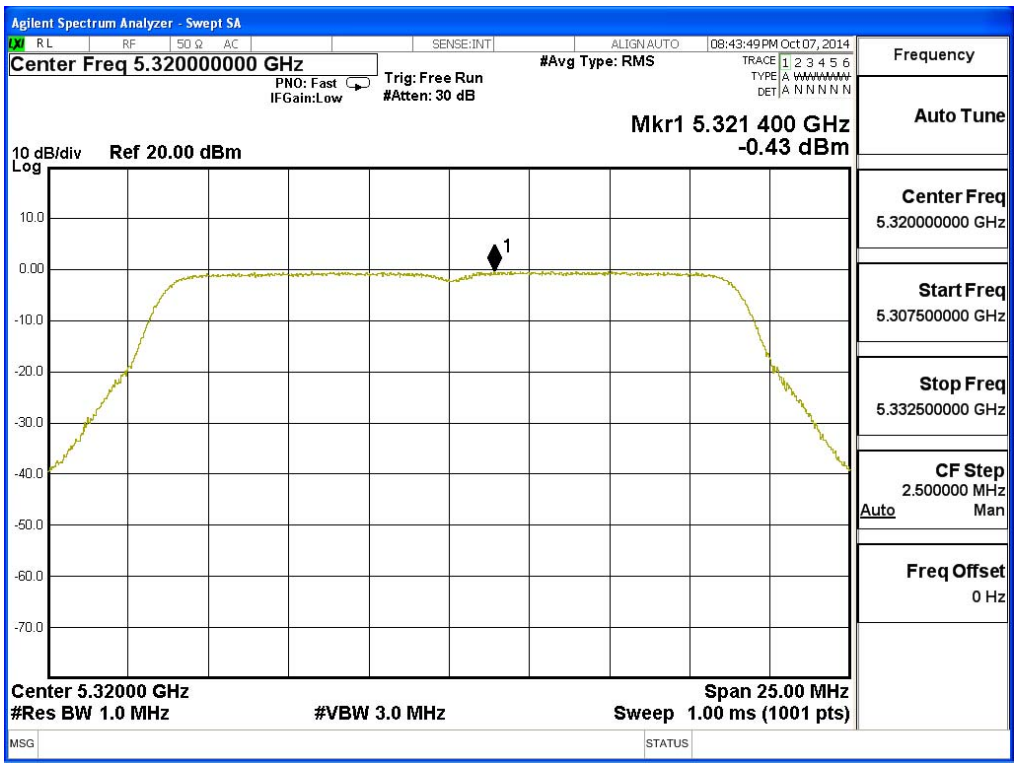
Channel 52 – Chain A



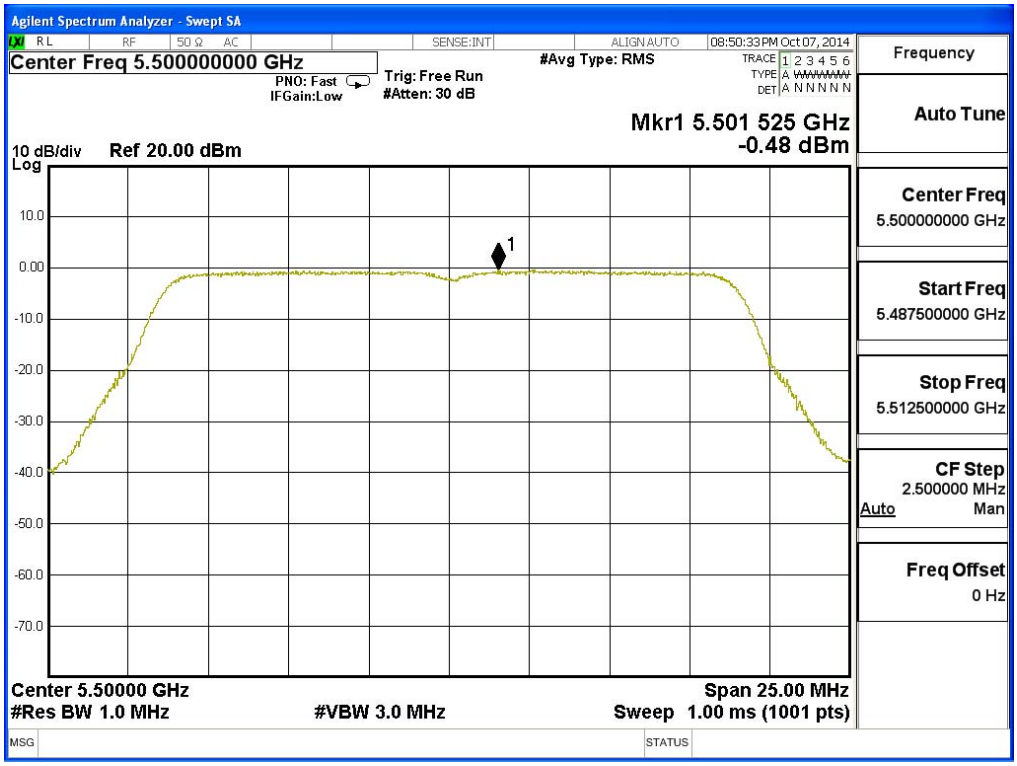
Channel 60 – Chain A



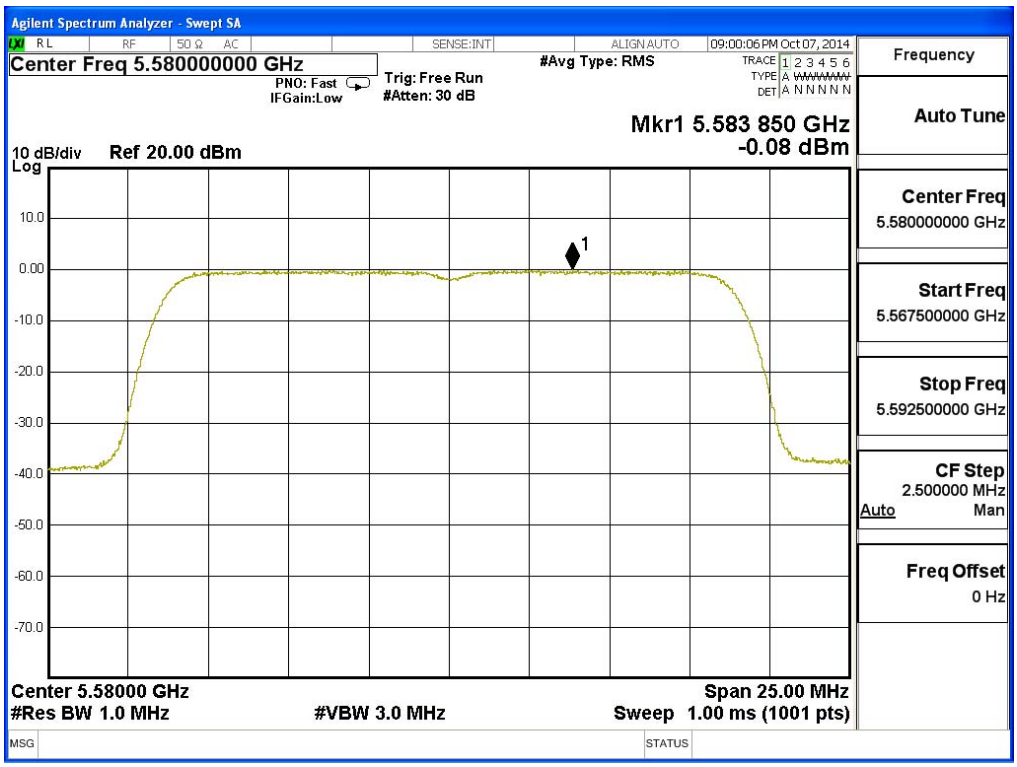
Channel 64 – Chain A



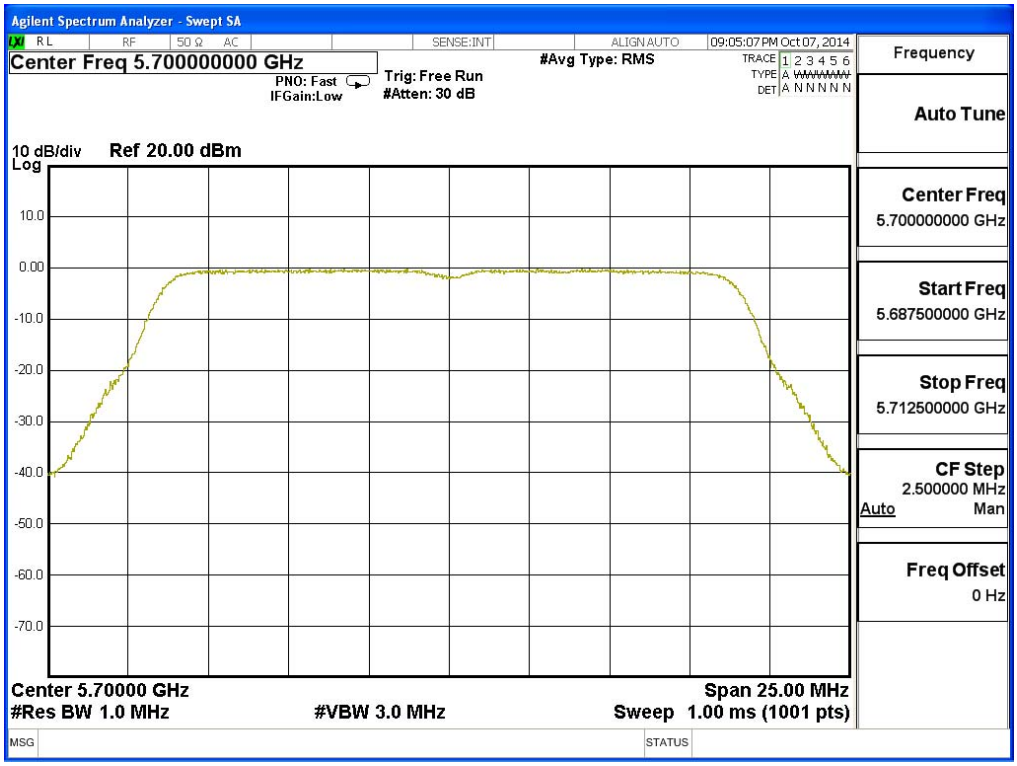
Channel 100 – Chain A



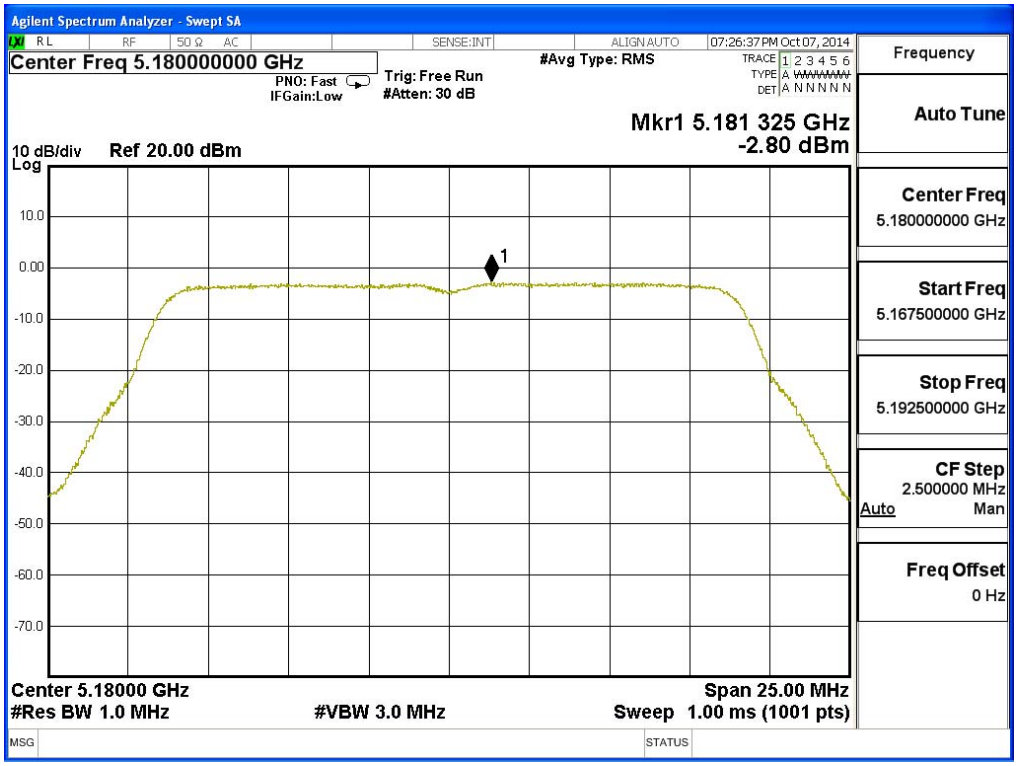
Channel 116 – Chain A



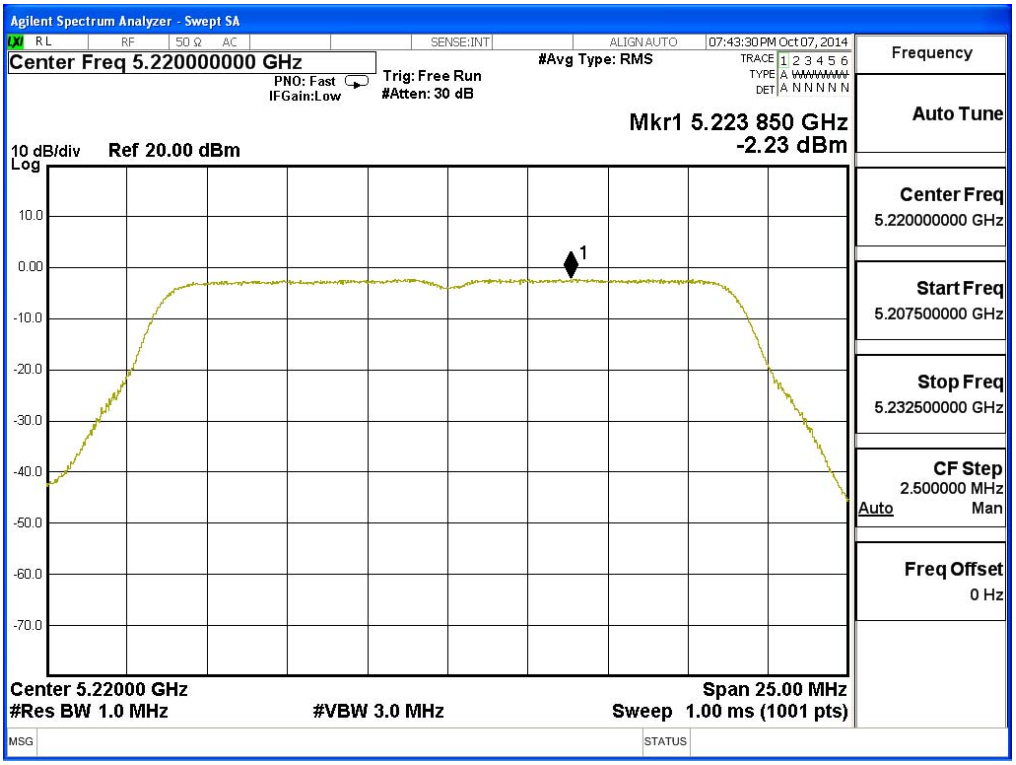
Channel 140 – Chain A



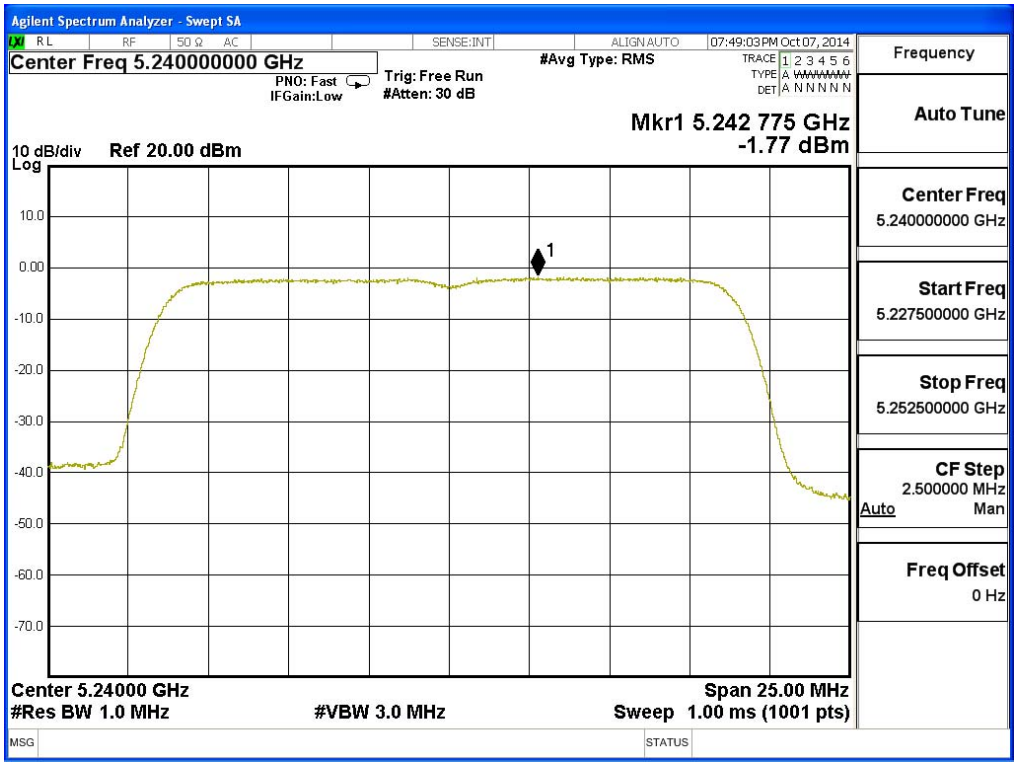
Channel 36 – Chain B



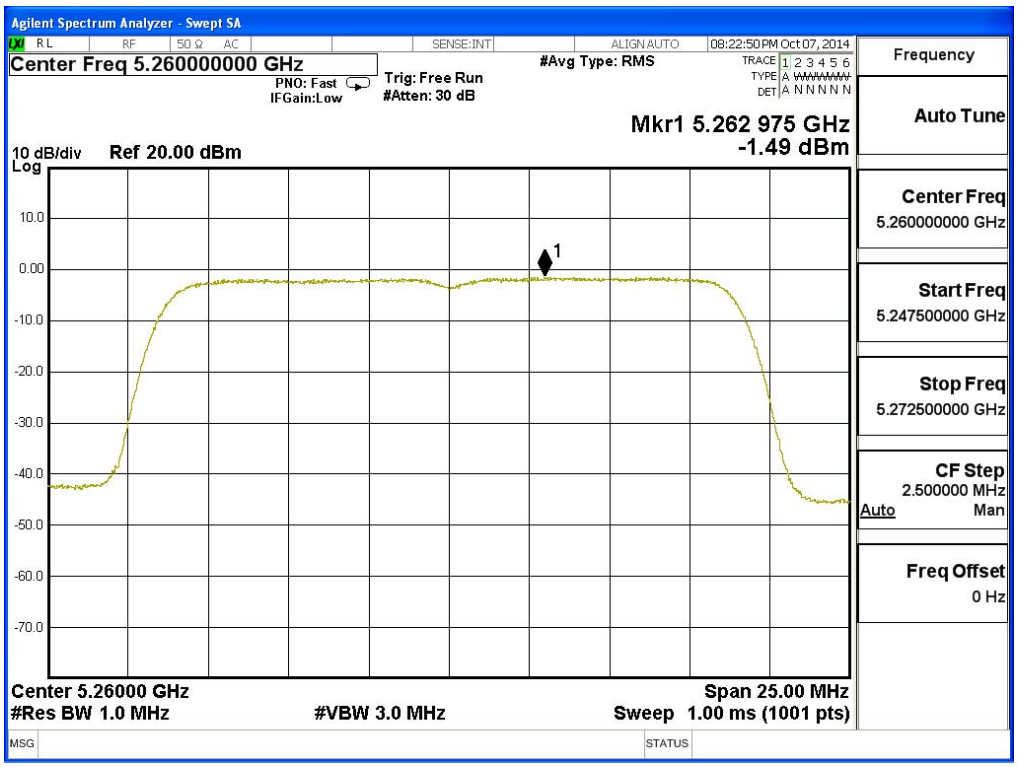
Channel 44 – Chain B



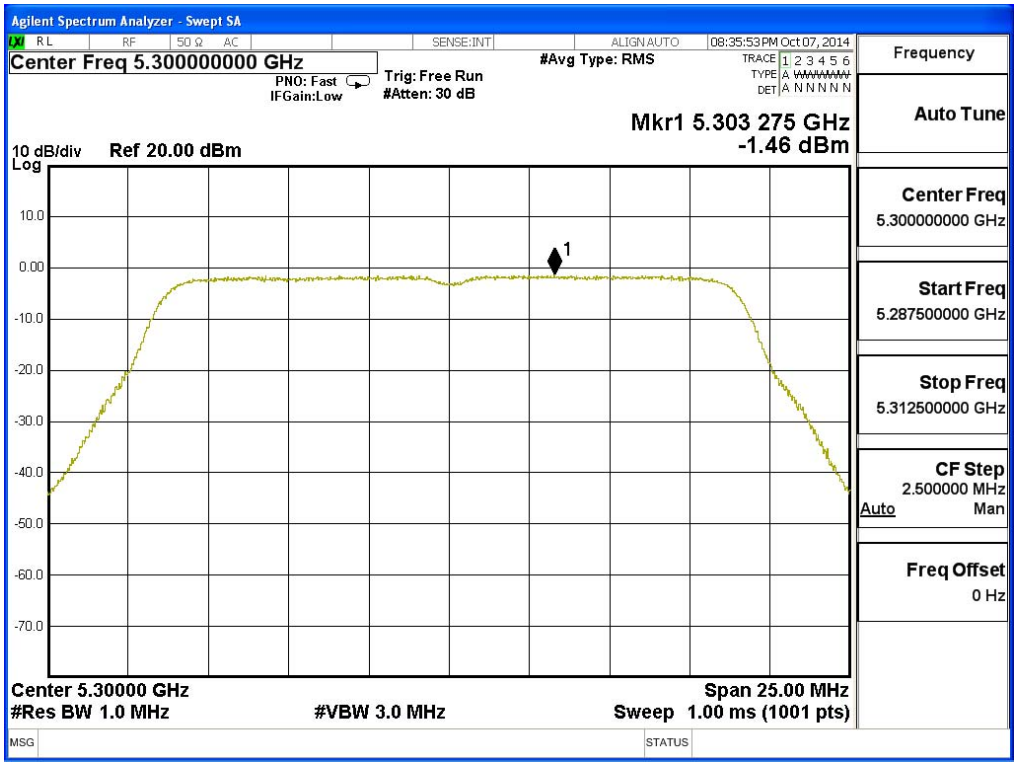
Channel 48 – Chain B



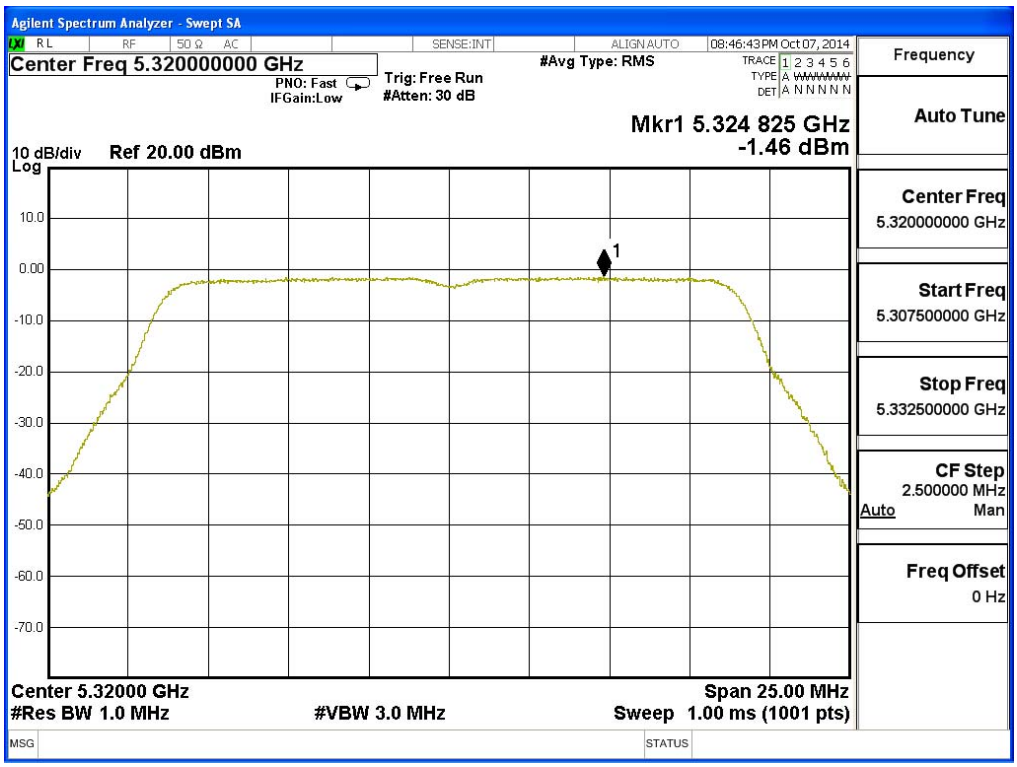
Channel 52 – Chain B



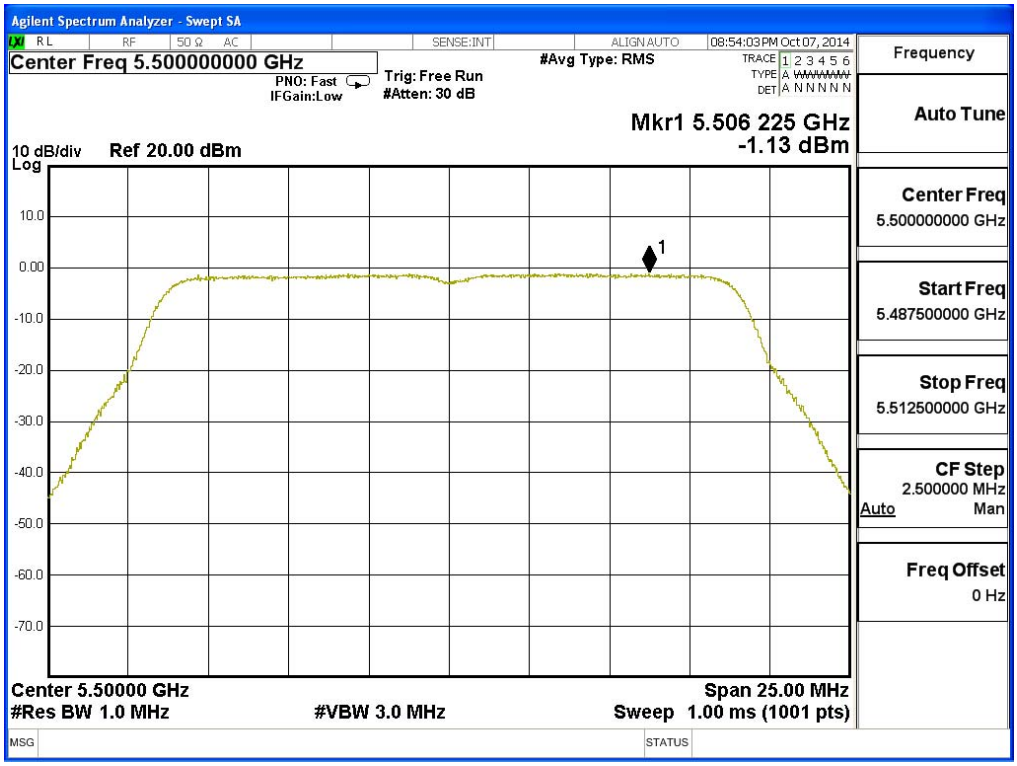
Channel 60 – Chain B



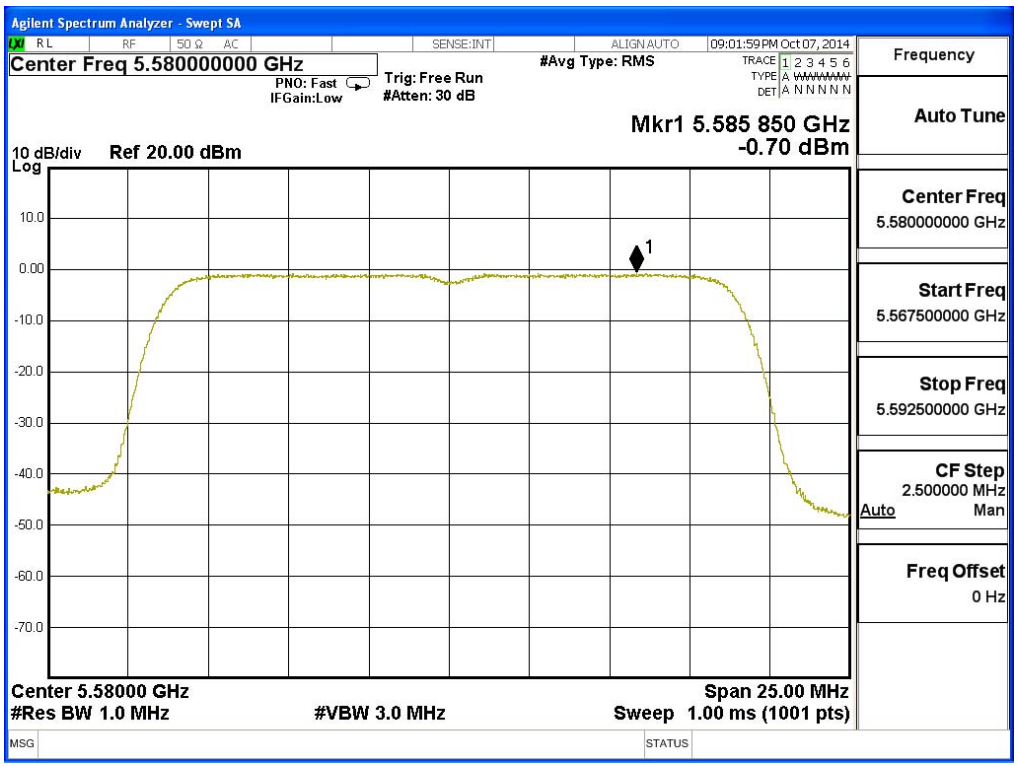
Channel 64 – Chain B



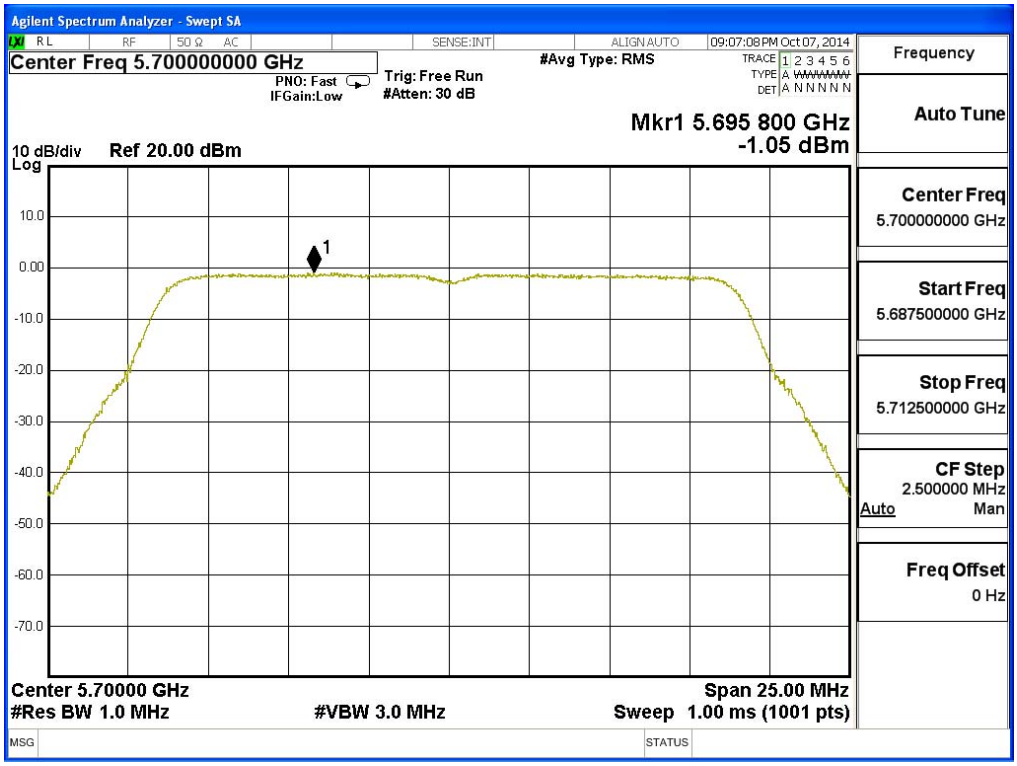
Channel 100 – Chain B



Channel 116 – Chain B



Channel 140 – Chain B

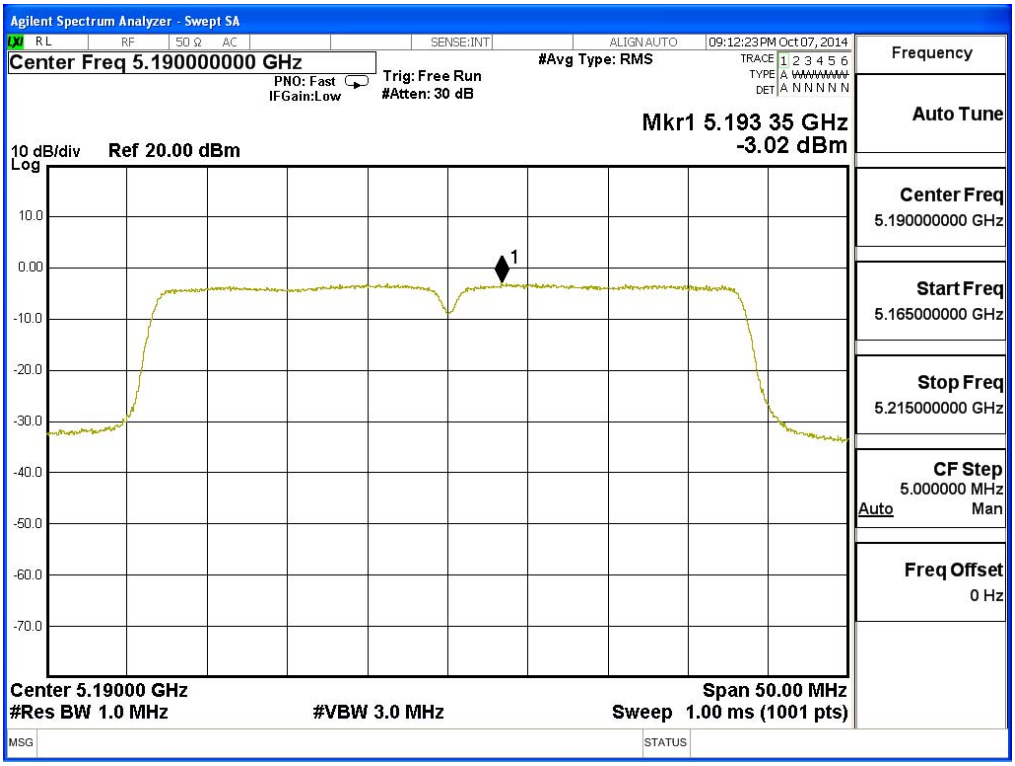


Product : Nexus Player
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

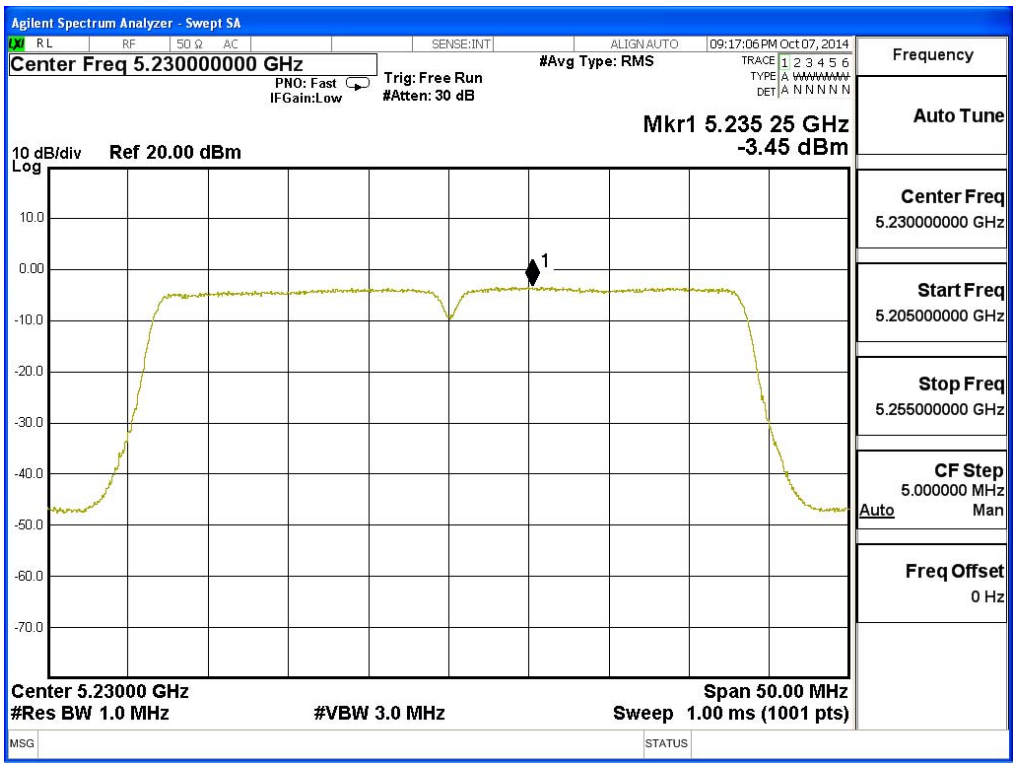
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)1	Required Limit (dBm)	Result
38	5190	A	-3.020	-0.010	11	Pass
		B	-5.250	-2.240	11	Pass
46	5230	A	-3.450	-0.440	11	Pass
		B	-4.580	-1.570	11	Pass
54	5270	A	-2.820	0.190	11	Pass
		B	-4.130	-1.120	11	Pass
62	5310	A	-3.140	-0.130	11	Pass
		B	-3.960	-0.950	11	Pass
102	5510	A	-3.180	-0.170	11	Pass
		B	-3.690	-0.680	11	Pass
110	5550	A	-3.210	-0.200	11	Pass
		B	-3.890	-0.880	11	Pass
134	5670	A	-2.720	0.290	11	Pass
		B	-3.770	-0.760	11	Pass

Note 1: The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

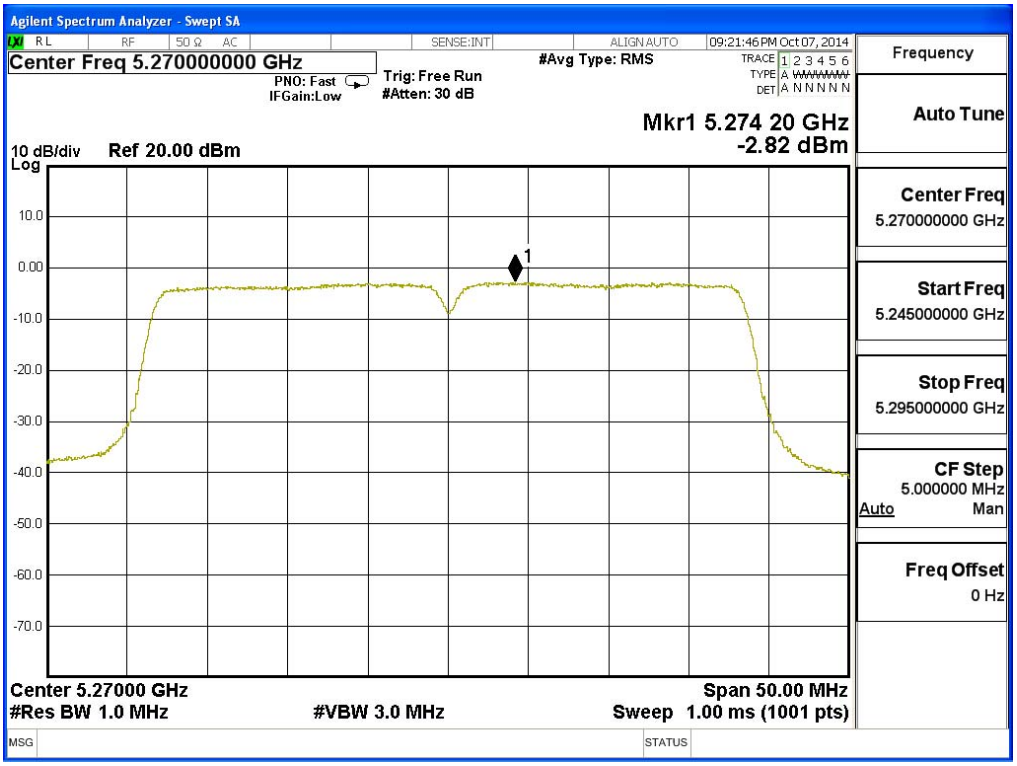
Channel 38 – Chain A



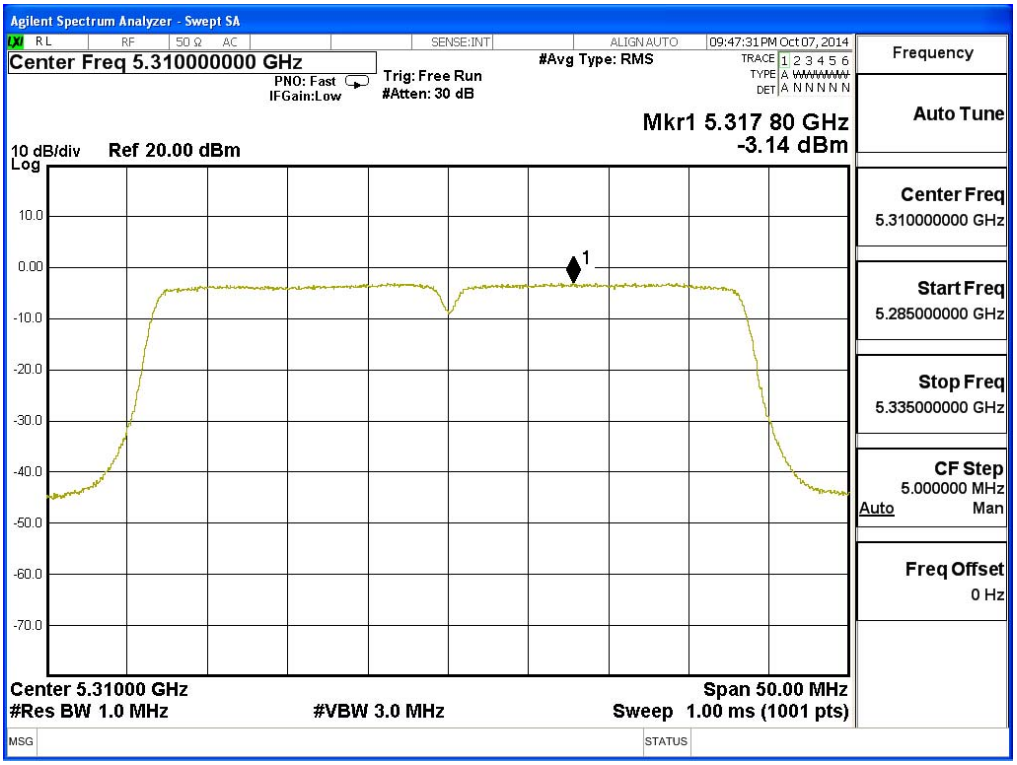
Channel 46 – Chain A



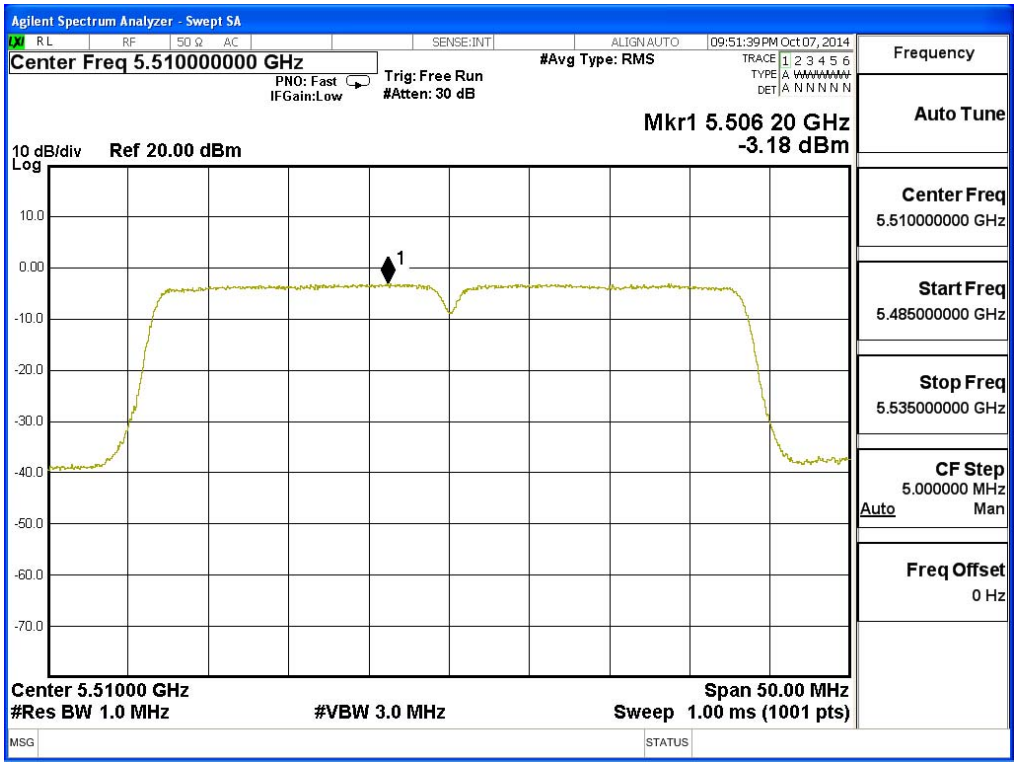
Channel 54 – Chain A



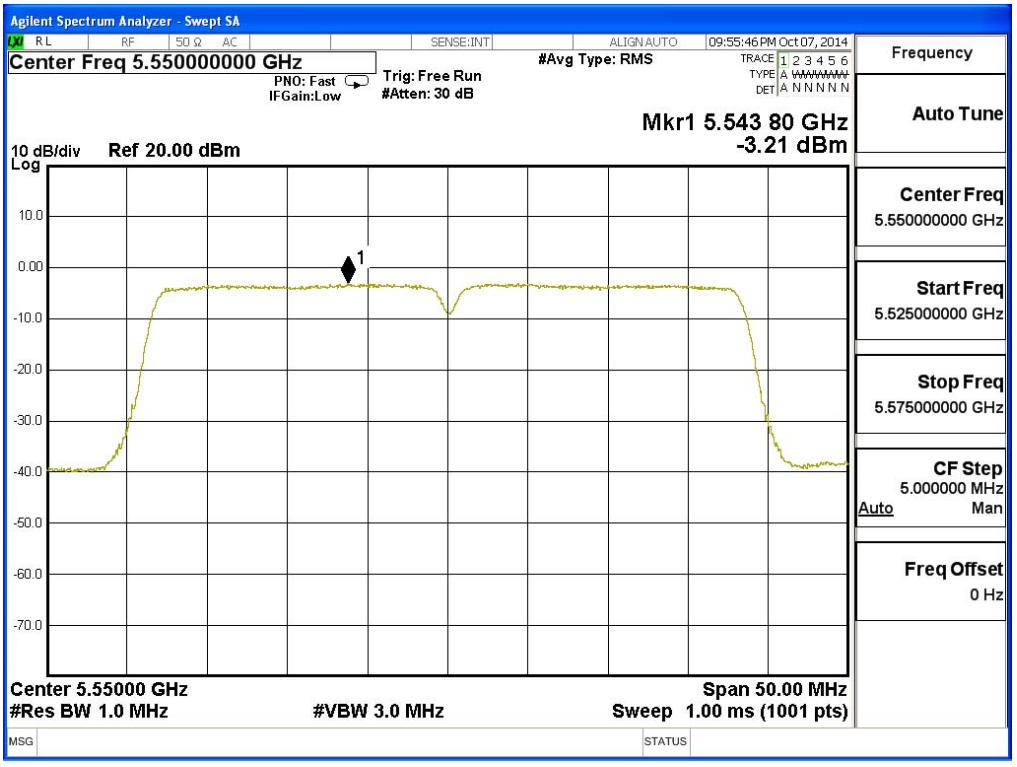
Channel 62 – Chain A



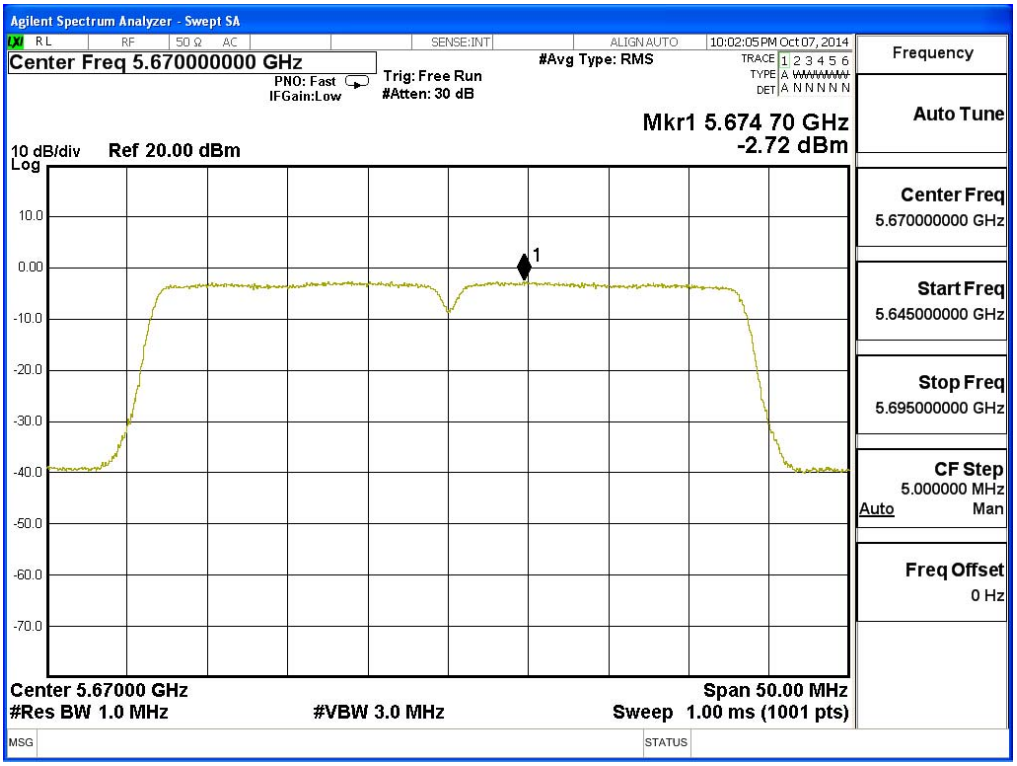
Channel 102 – Chain A



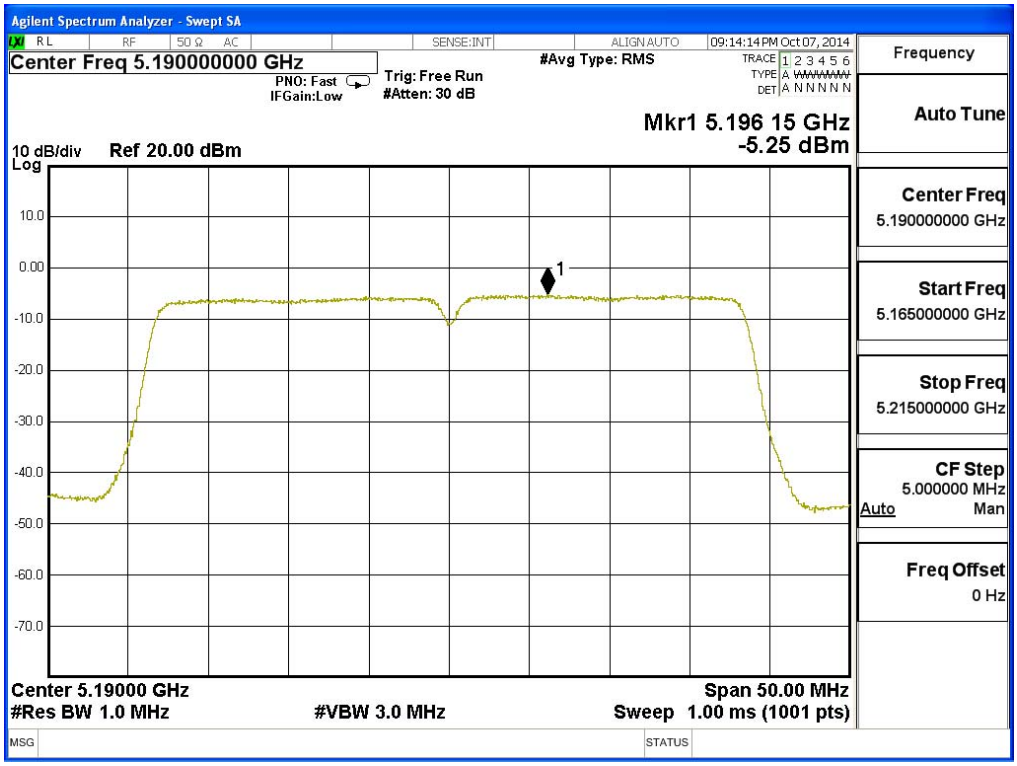
Channel 110 – Chain A



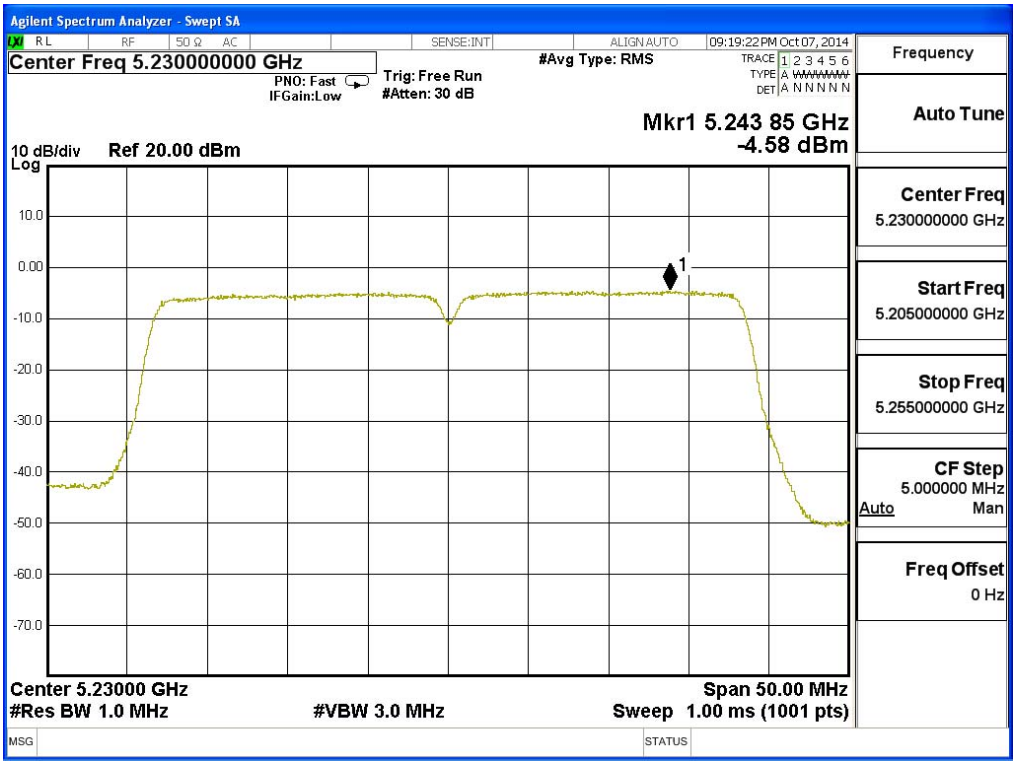
Channel 134 – Chain A



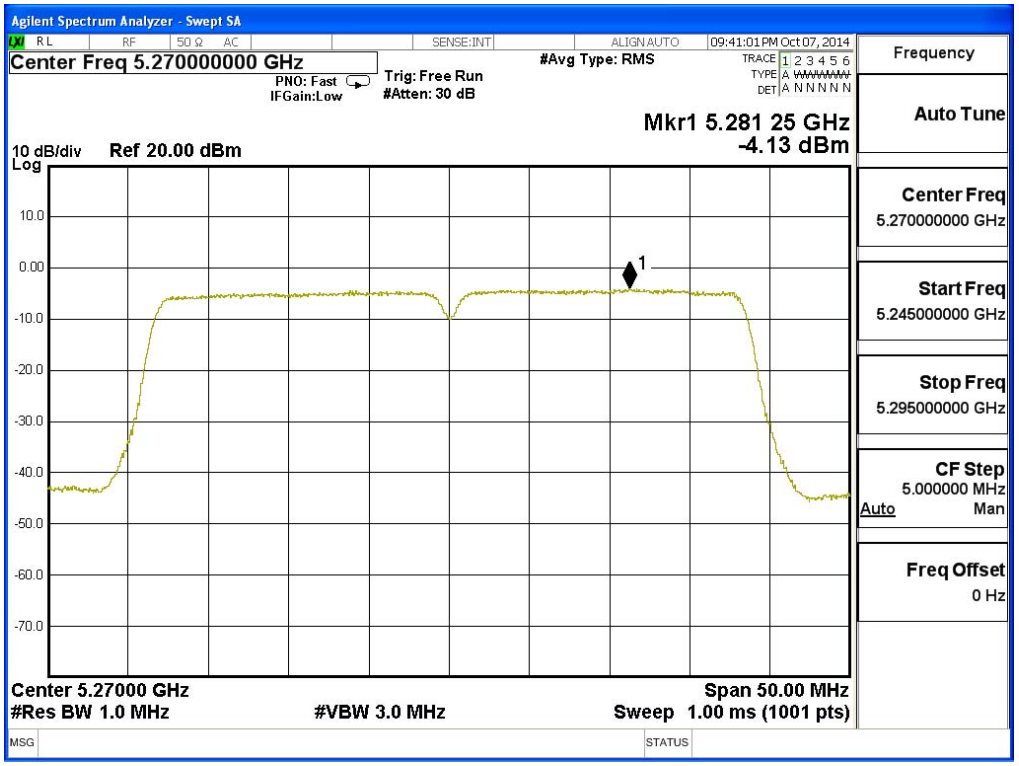
Channel 38 – Chain B



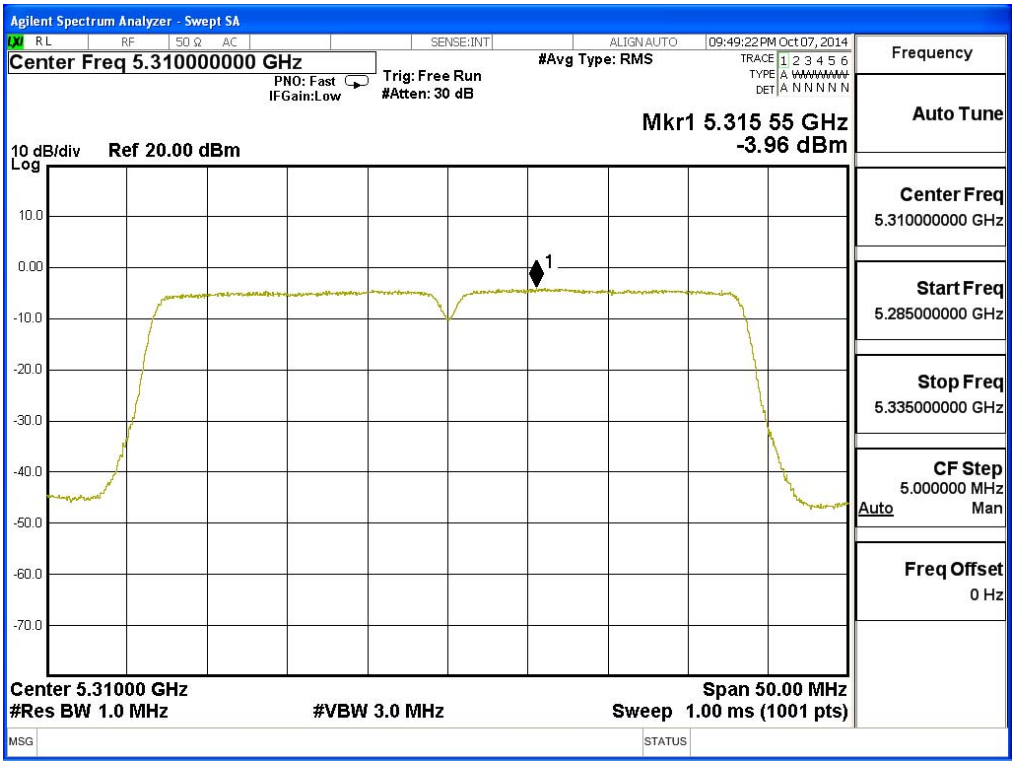
Channel 46 – Chain B



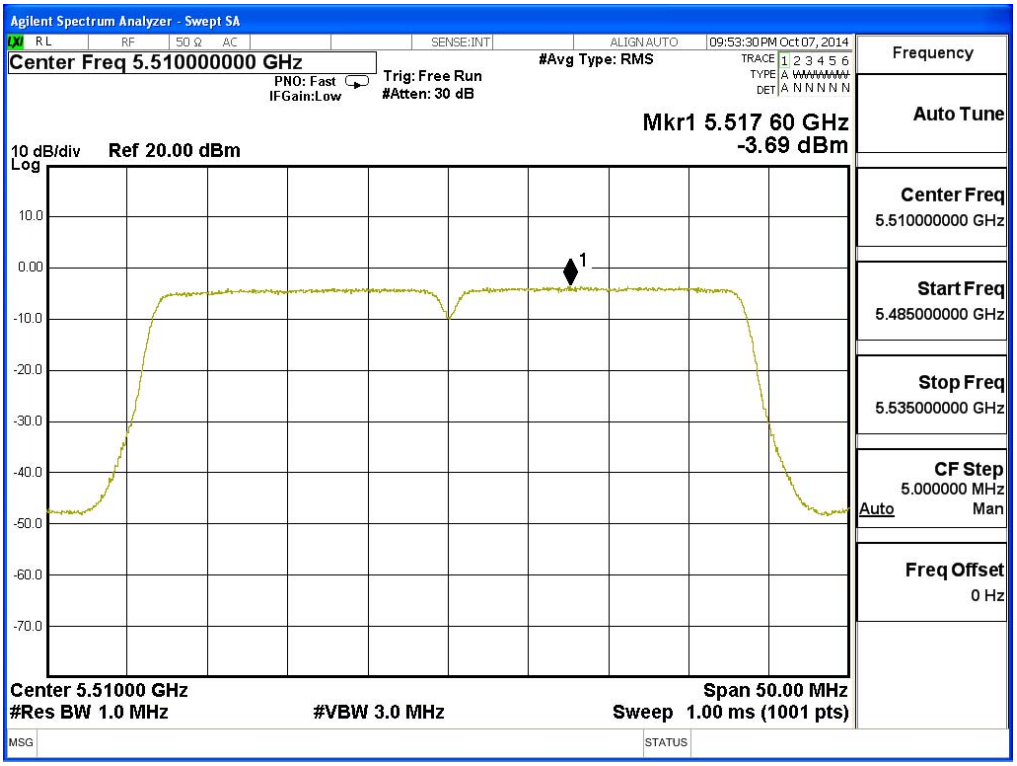
Channel 54 – Chain B



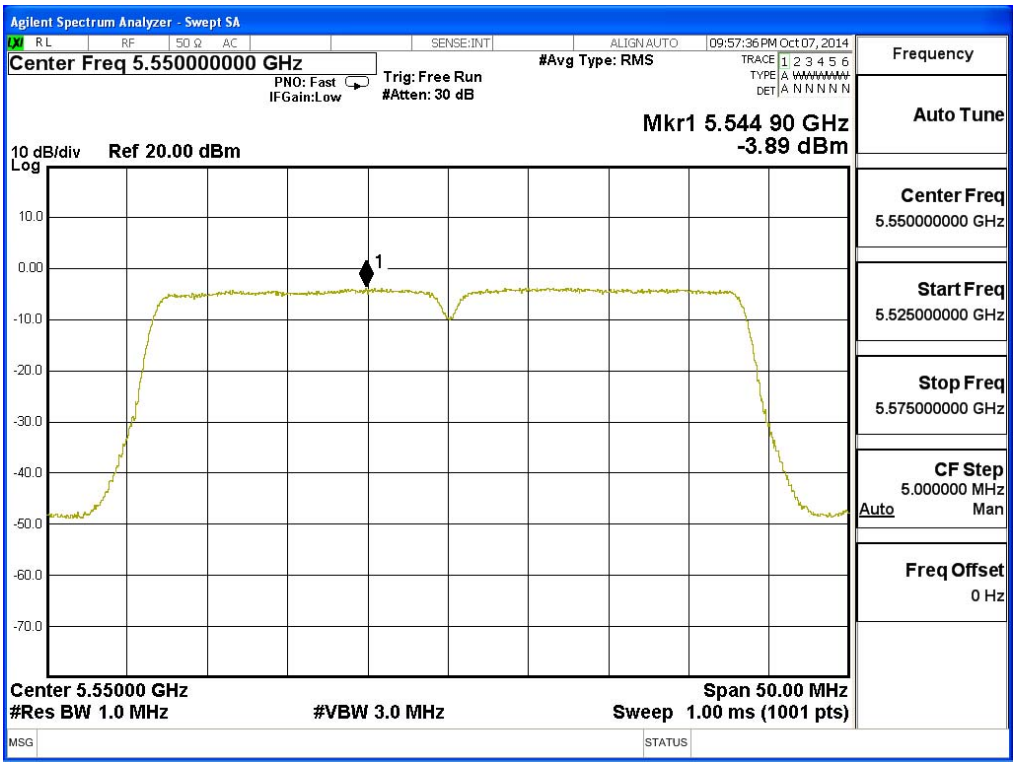
Channel 62 – Chain B



Channel 102 – Chain B



Channel 110 – Chain B



Channel 134 – Chain B