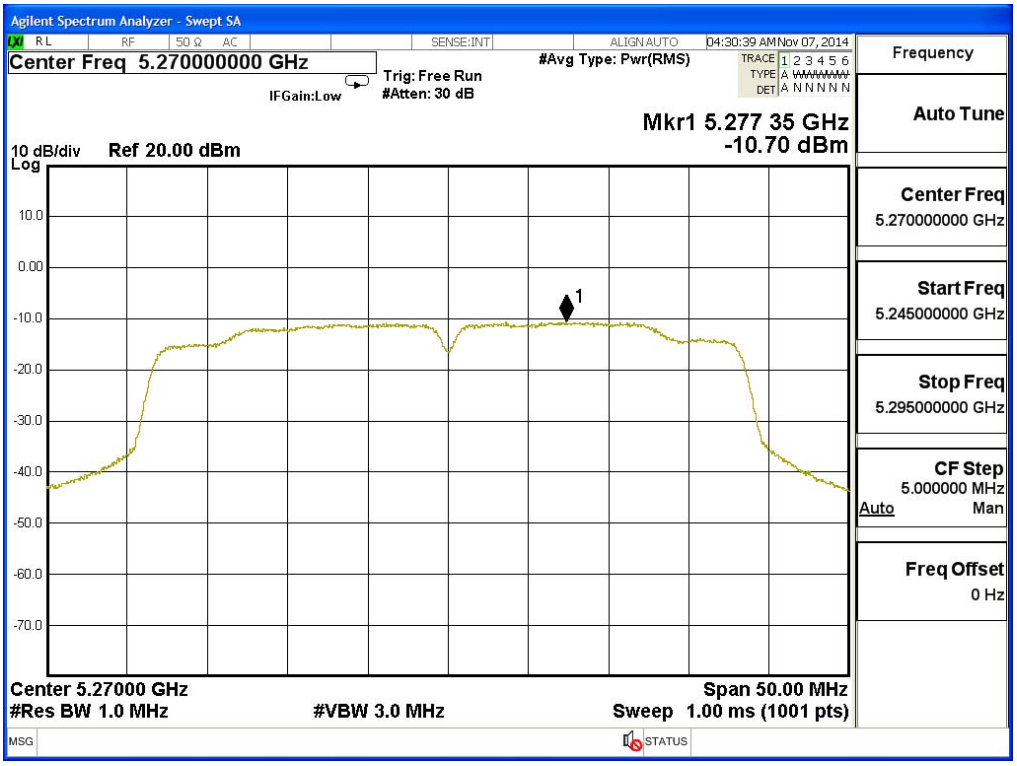
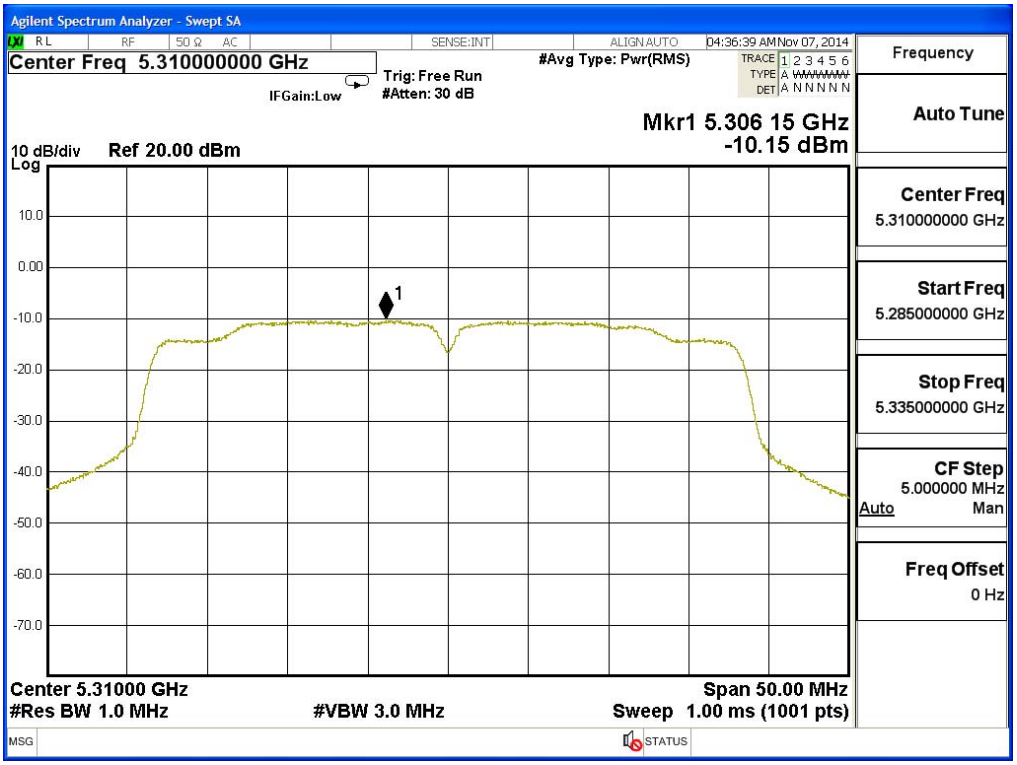
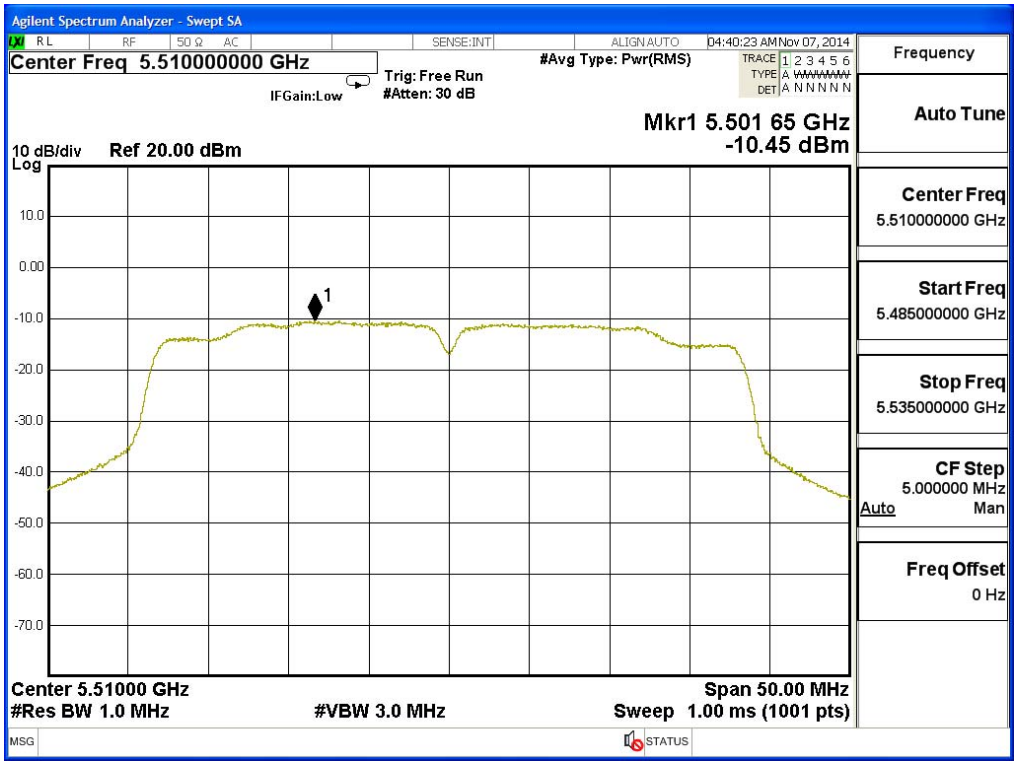
Channel 54 – Chain A



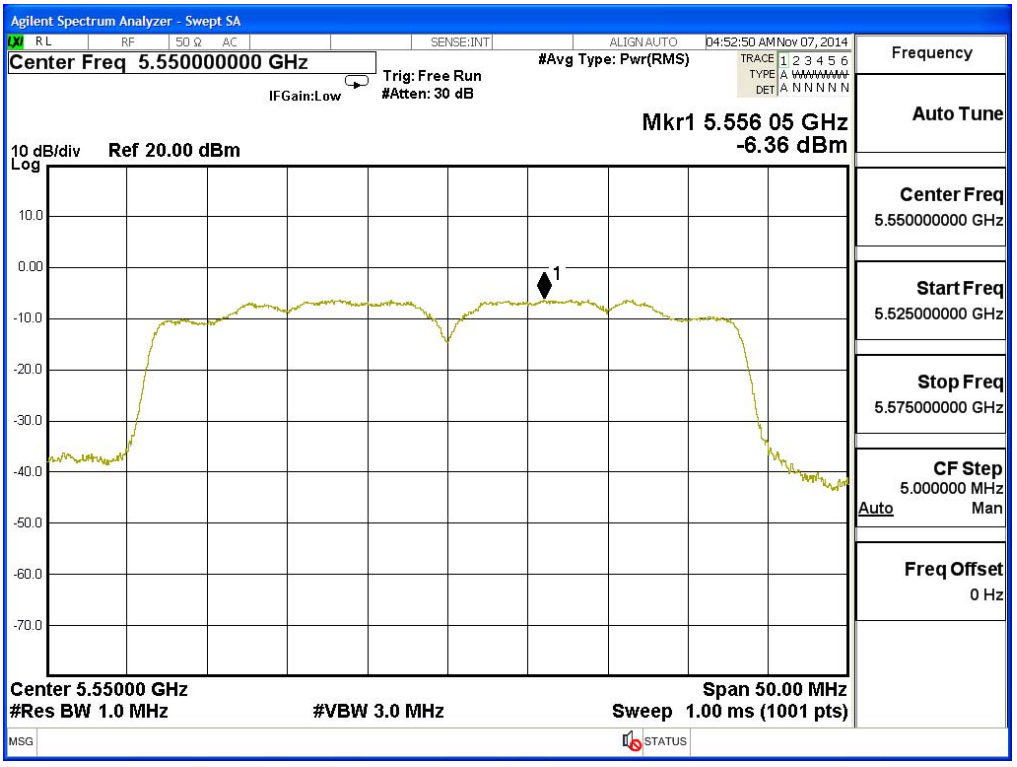
Channel 62 – Chain A



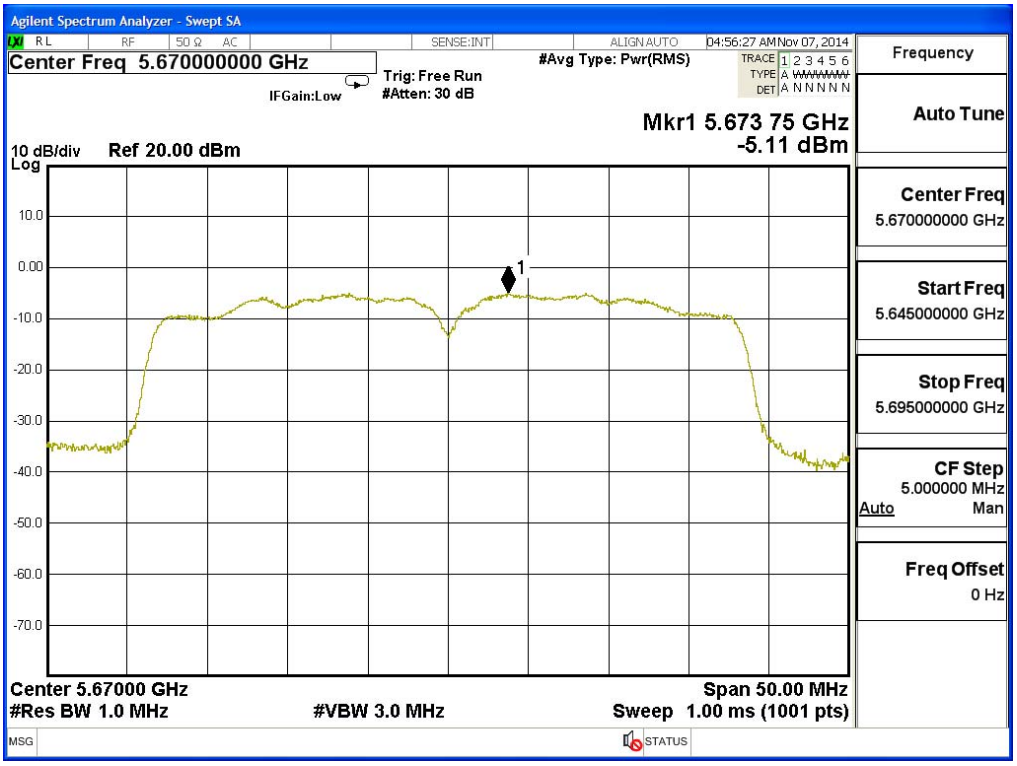
Channel 102 – Chain A



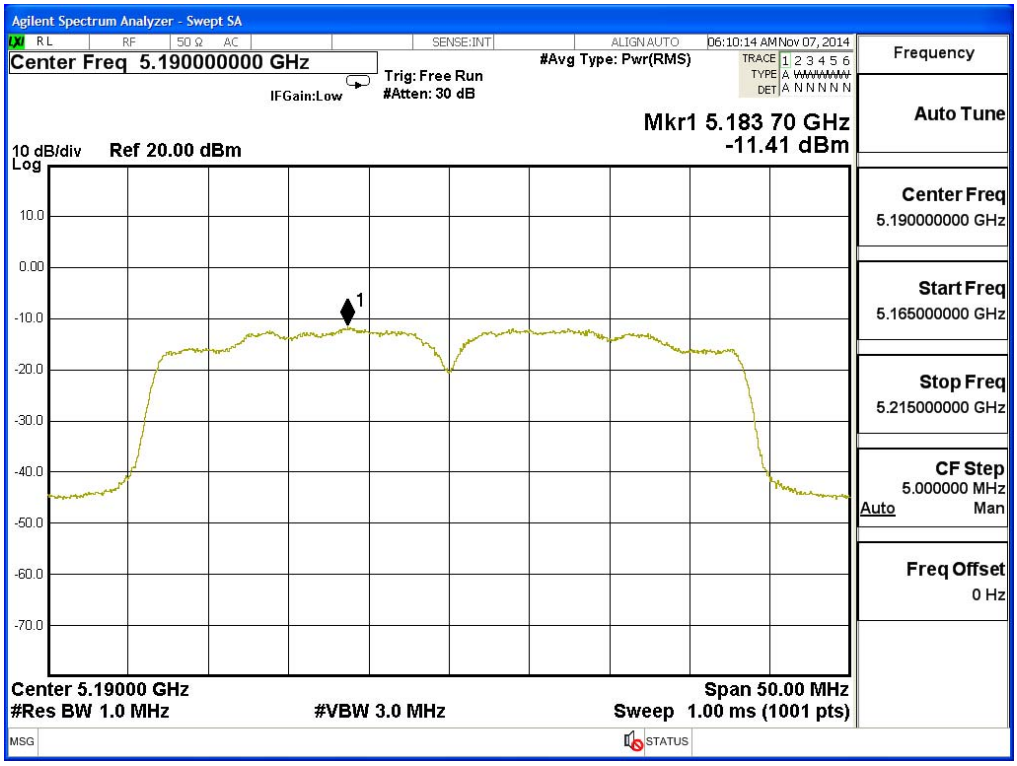
Channel 110 – Chain A



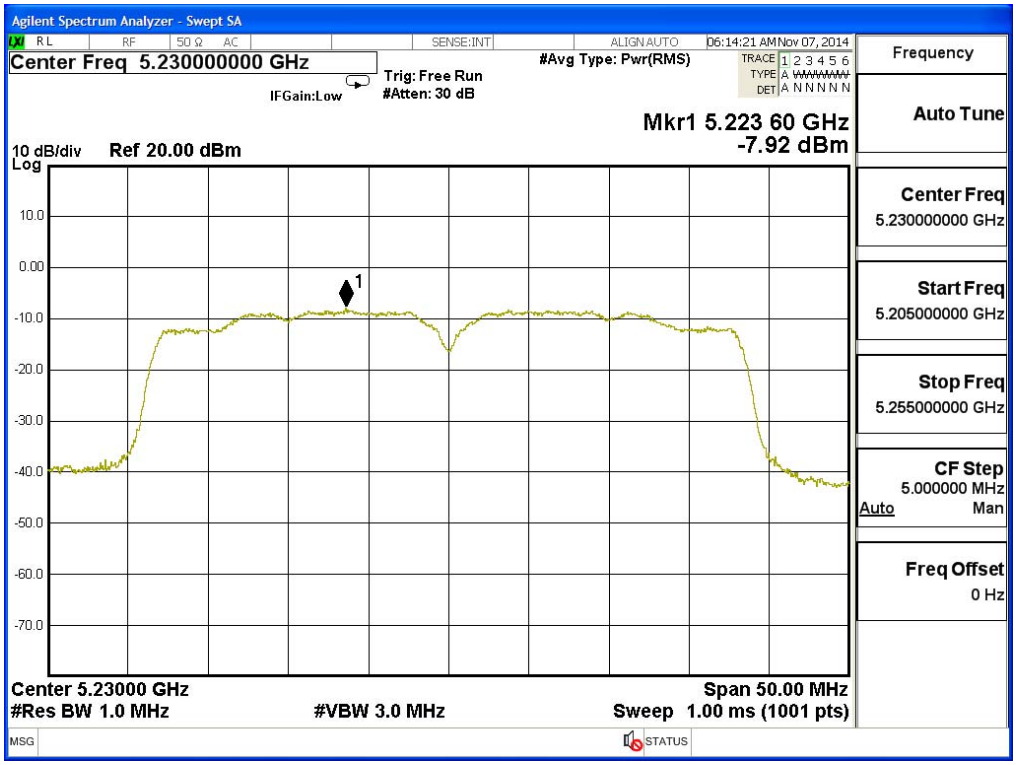
Channel 134 – Chain A



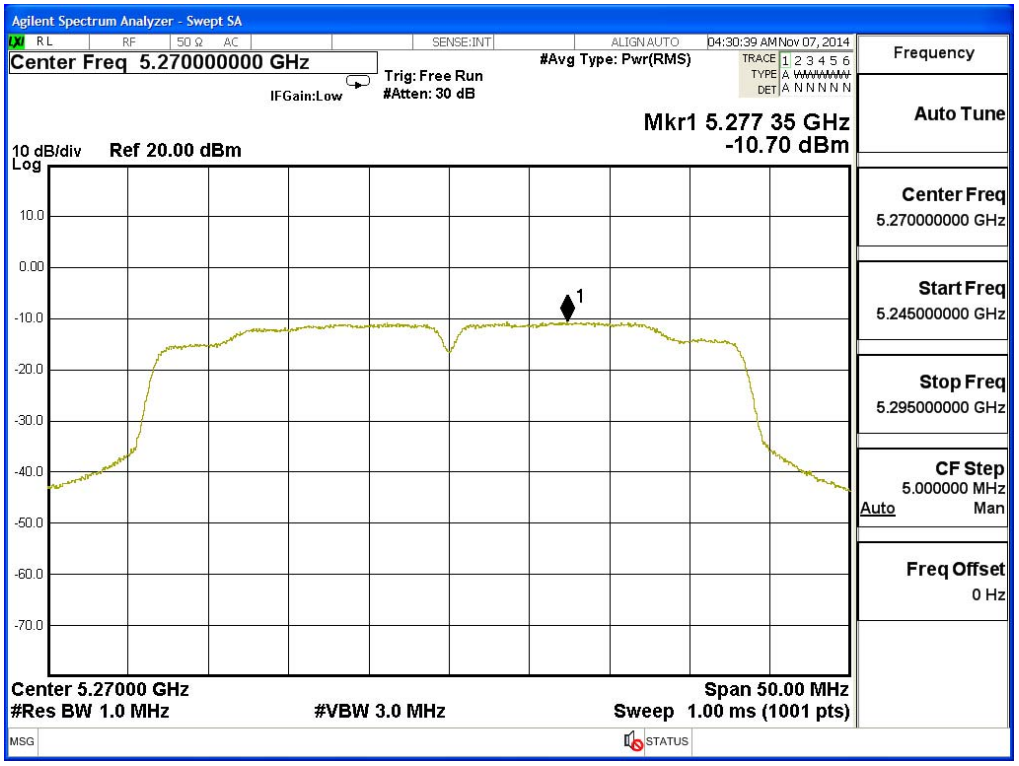
Channel 38 – Chain B



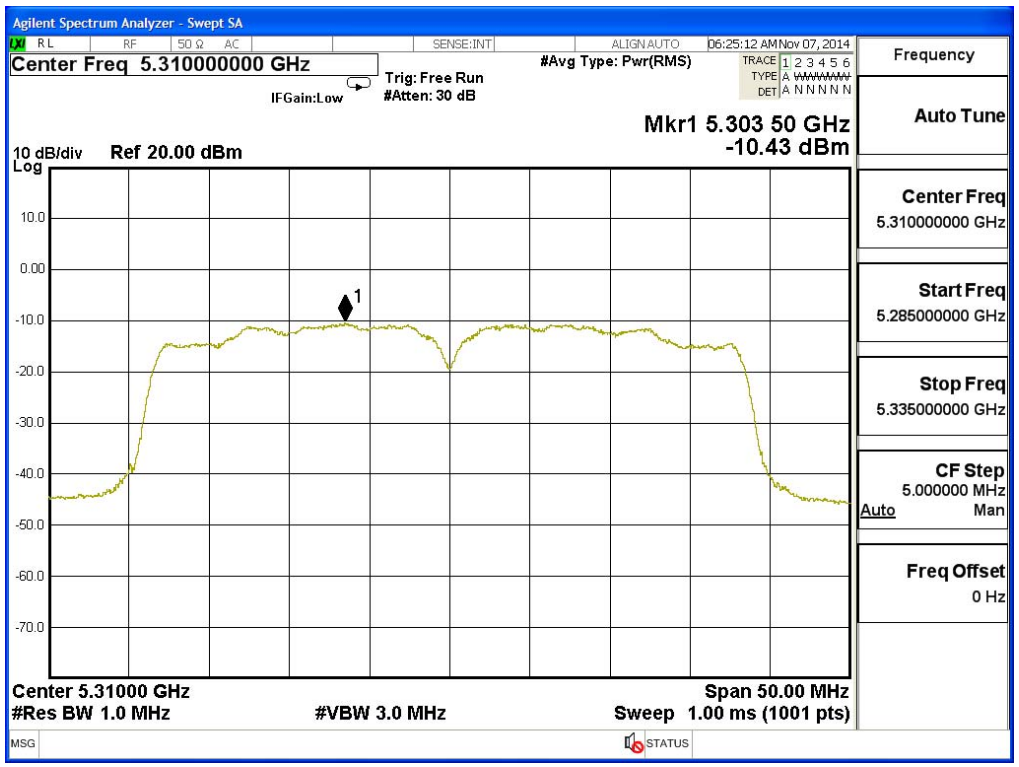
Channel 46 – Chain B



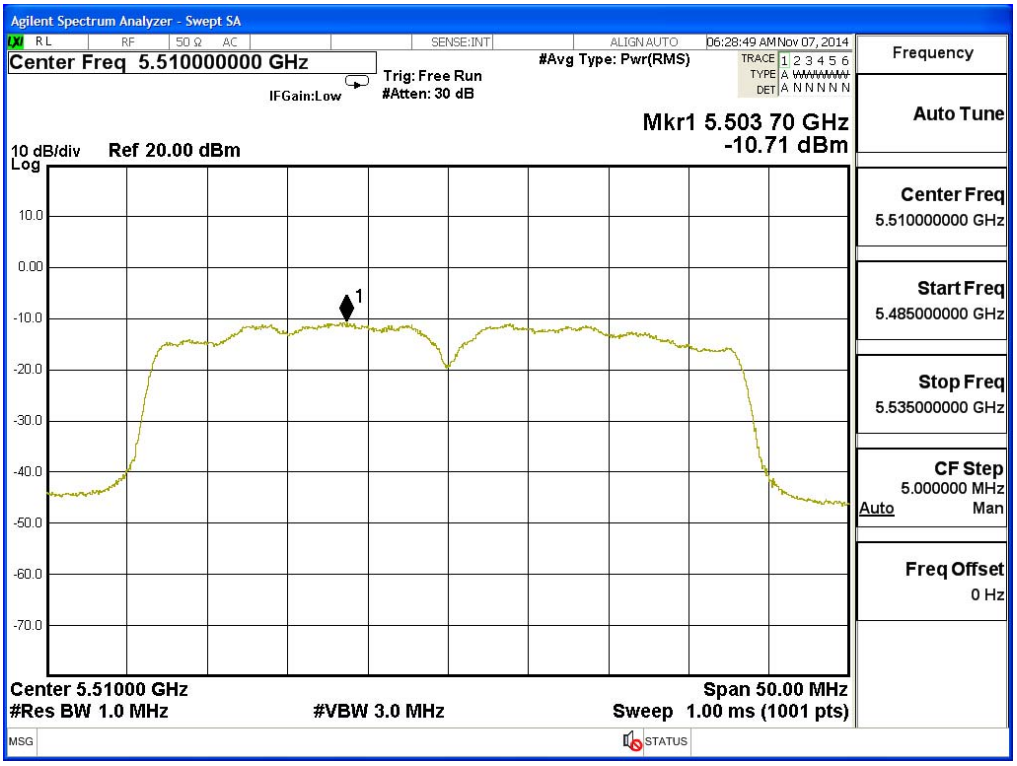
Channel 54 – Chain B



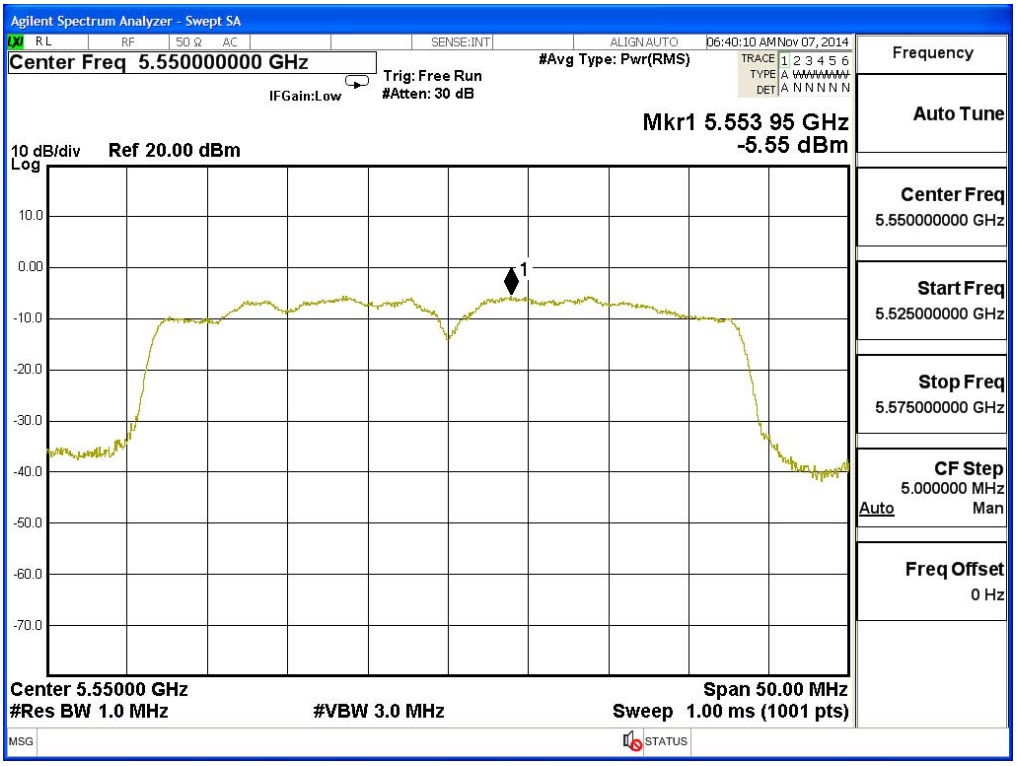
Channel 62 – Chain B



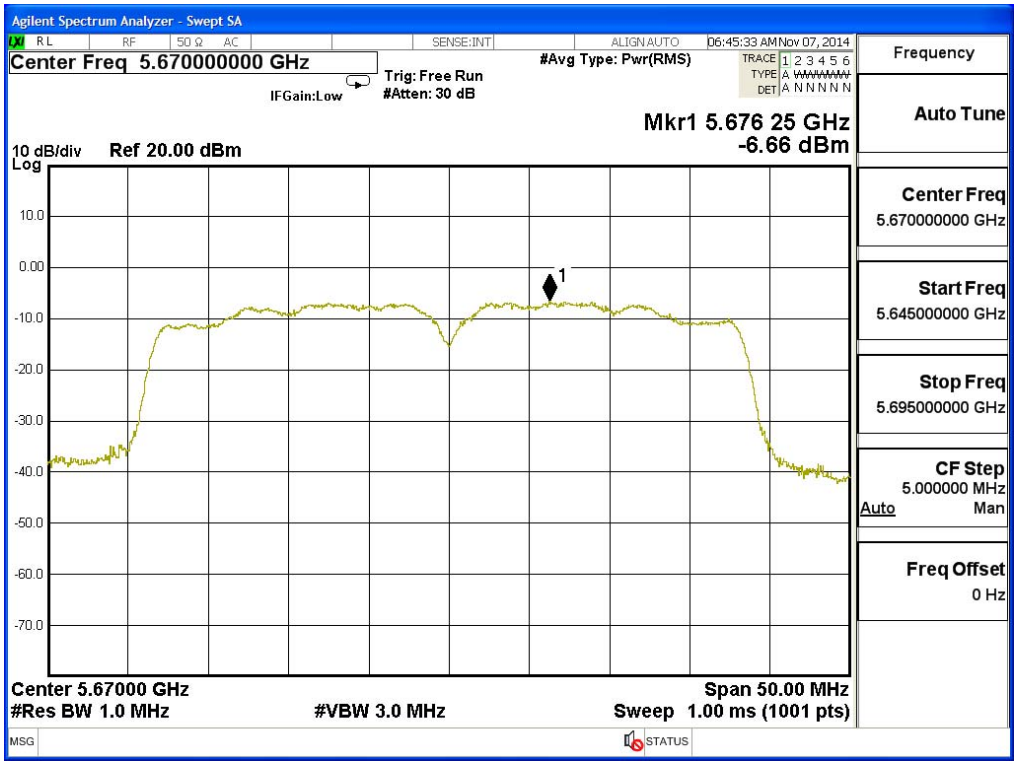
Channel 102 – Chain B



Channel 110 – Chain B



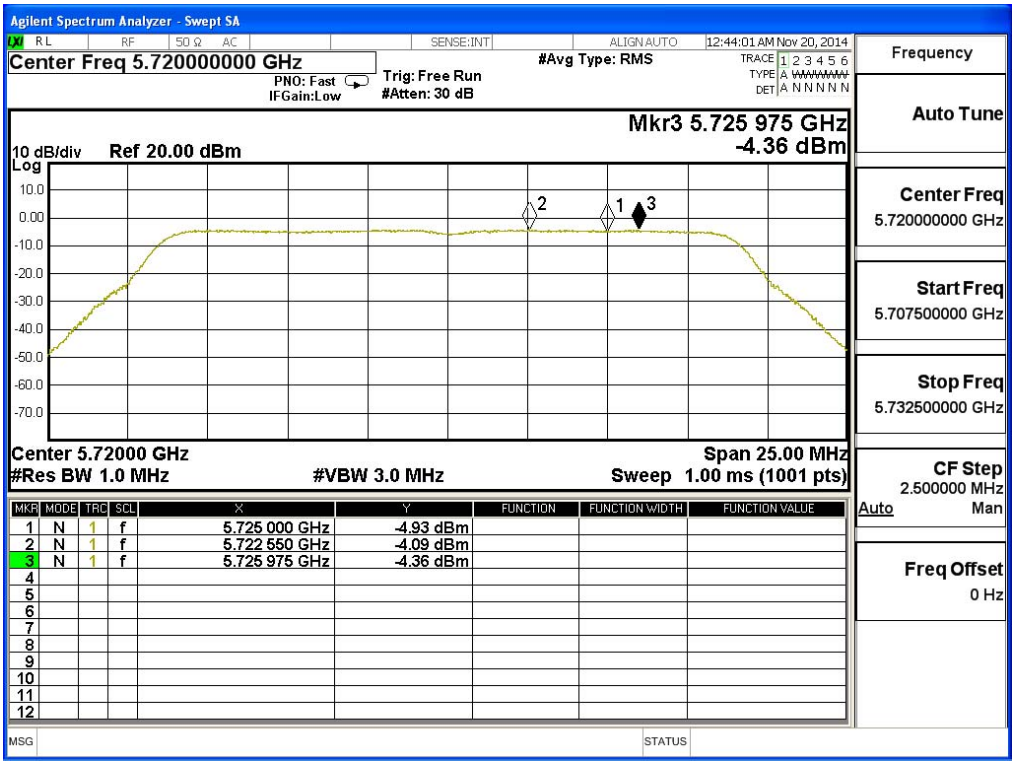
Channel 134 – Chain B



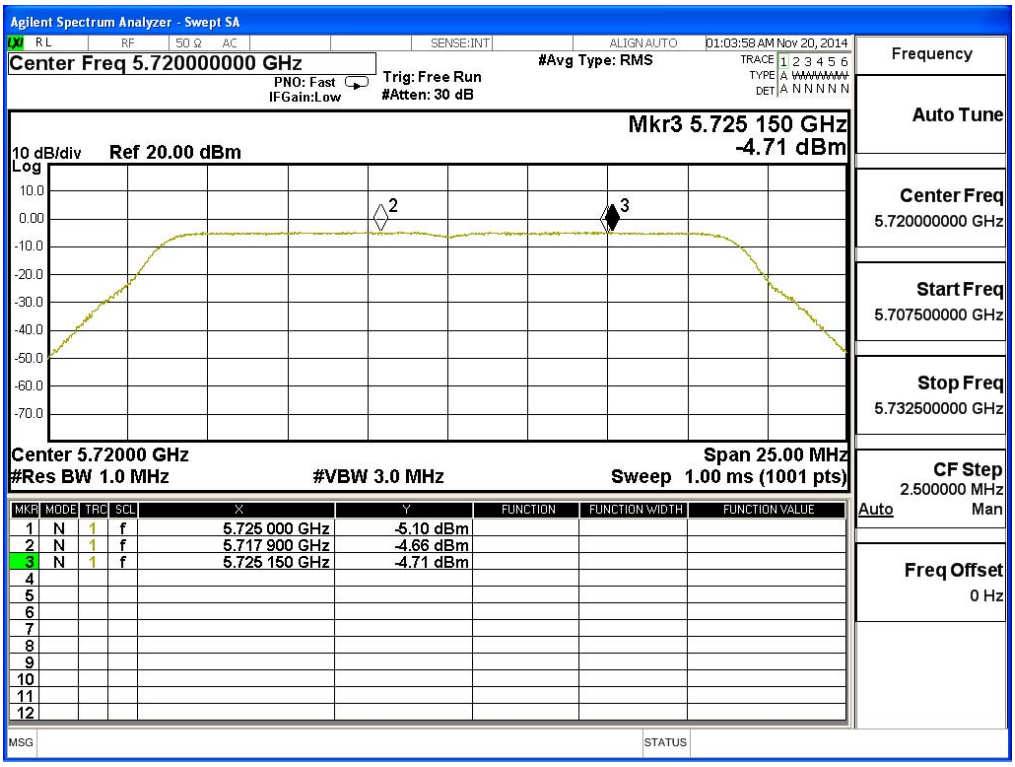
Product : FIELDBOOK
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-20BW-7.2Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)1	Required Limit (dBm)	Result
144	5720(Band3)	A	-4.090	-1.080	<11	Pass
		B	-4.660	-1.650	<11	Pass
144	5720(Band4)	A	-4.360	-1.350	<11	Pass
		B	-4.710	-1.700	<11	Pass

Channel 144 – Chain A



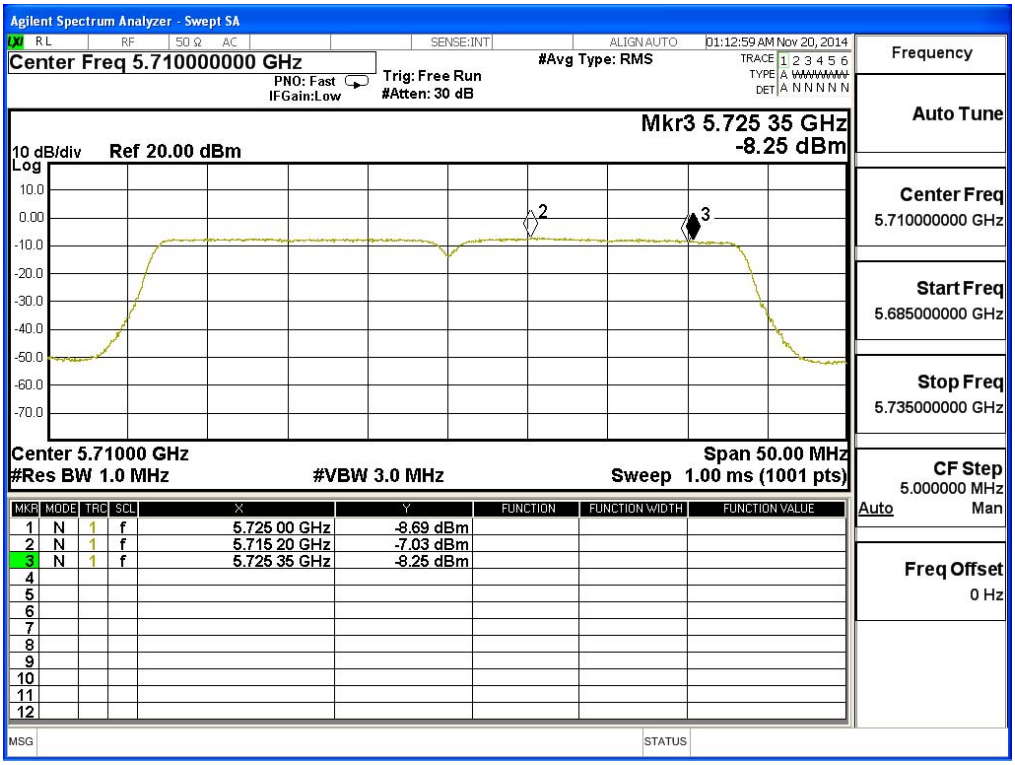
Channel 144 – Chain B



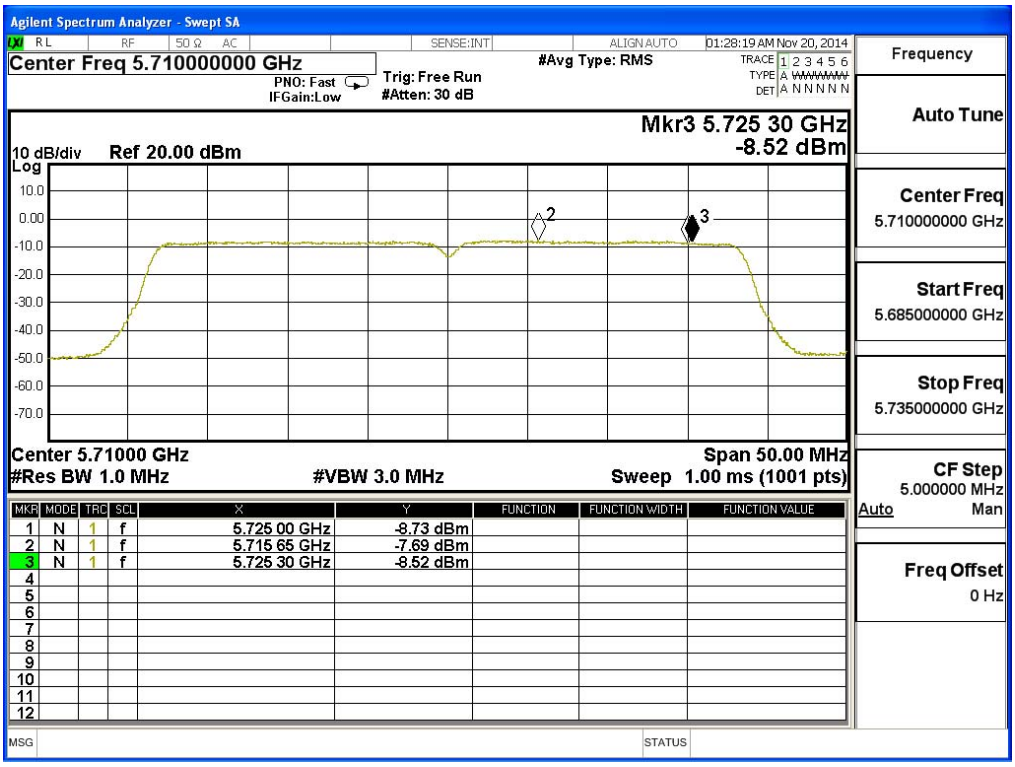
Product : FIELDBOOK
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit (802.11ac-40BW-15Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)1	Required Limit (dBm)	Result
142	5710(Band3)	A	-7.030	-4.020	<11	Pass
		B	-7.690	-4.680	<11	Pass
142	5710(Band4)	A	-8.250	-5.240	<11	Pass
		B	-8.520	-5.510	<11	Pass

Channel 142 – Chain A



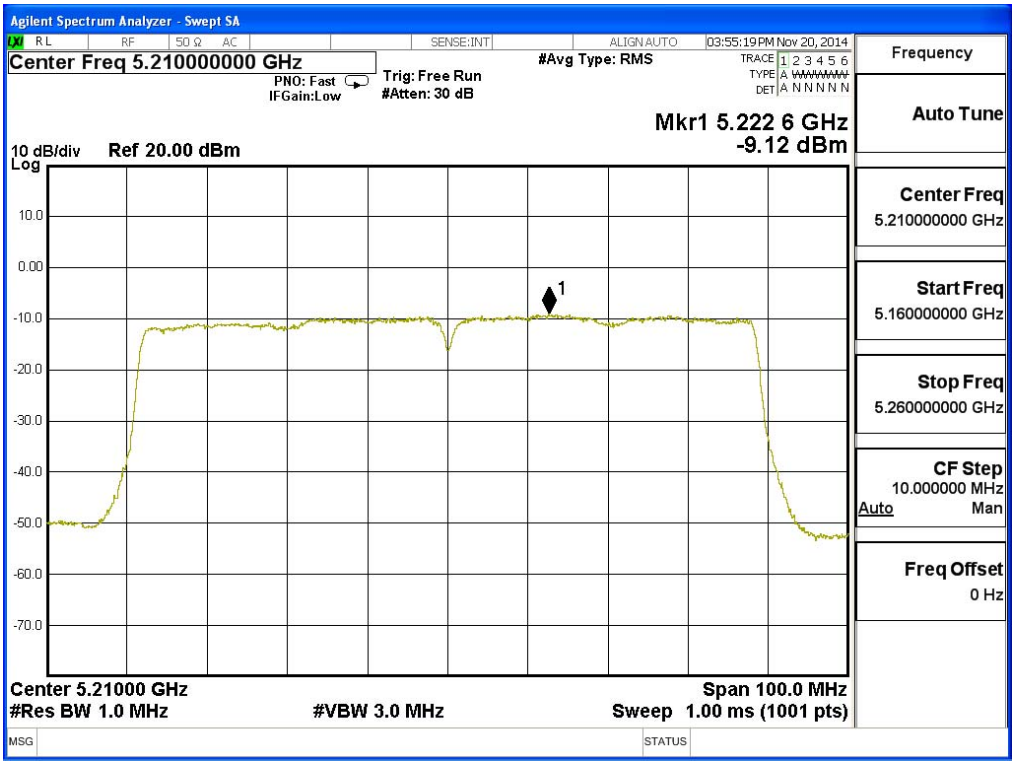
Channel 142 – Chain B



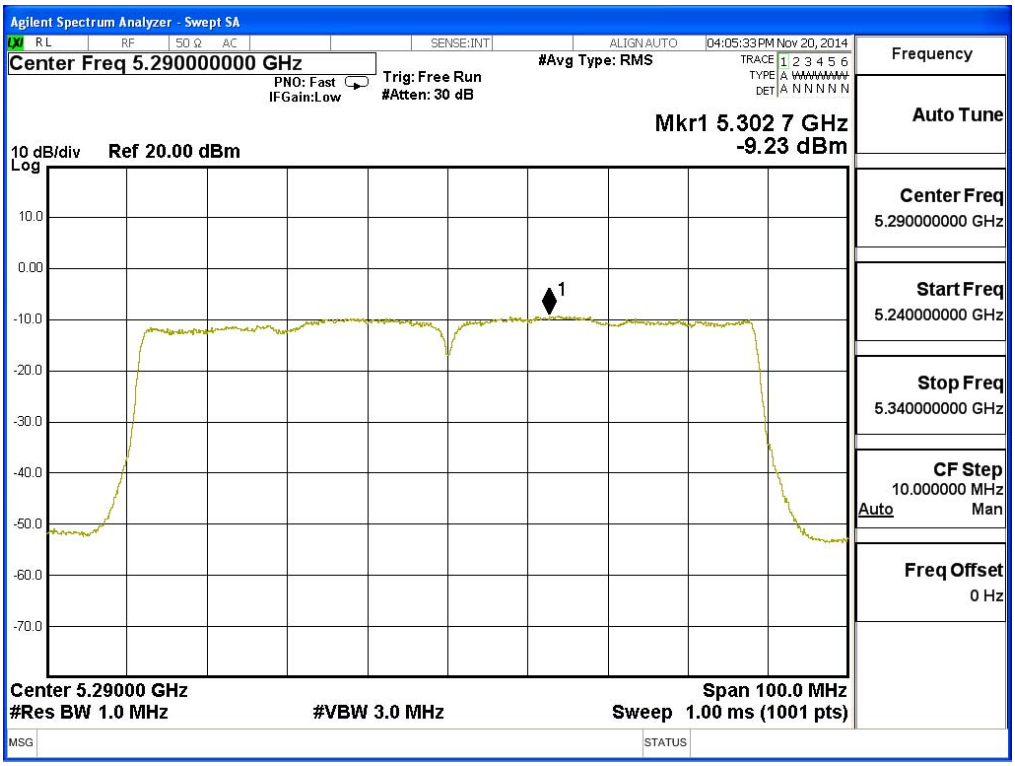
Product : FIELDBOOK
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)1	Required Limit (dBm)	Result
42	5210	A	-9.120	-6.110	<4	Pass
		B	-10.180	-7.170	<4	Pass
58	5290	A	-9.230	-6.220	<4	Pass
		B	-10.950	-7.940	<4	Pass
106	5530	A	-9.660	-6.650	<11	Pass
		B	-9.690	-6.680	<11	Pass
138	5690 (Band3)	A	-9.540	-6.530	<11	Pass
		B	-9.830	-6.820	<11	Pass
138	5690 (Band4)	A	-11.070	-8.060	<17	Pass
		B	-10.750	-7.740	<17	Pass

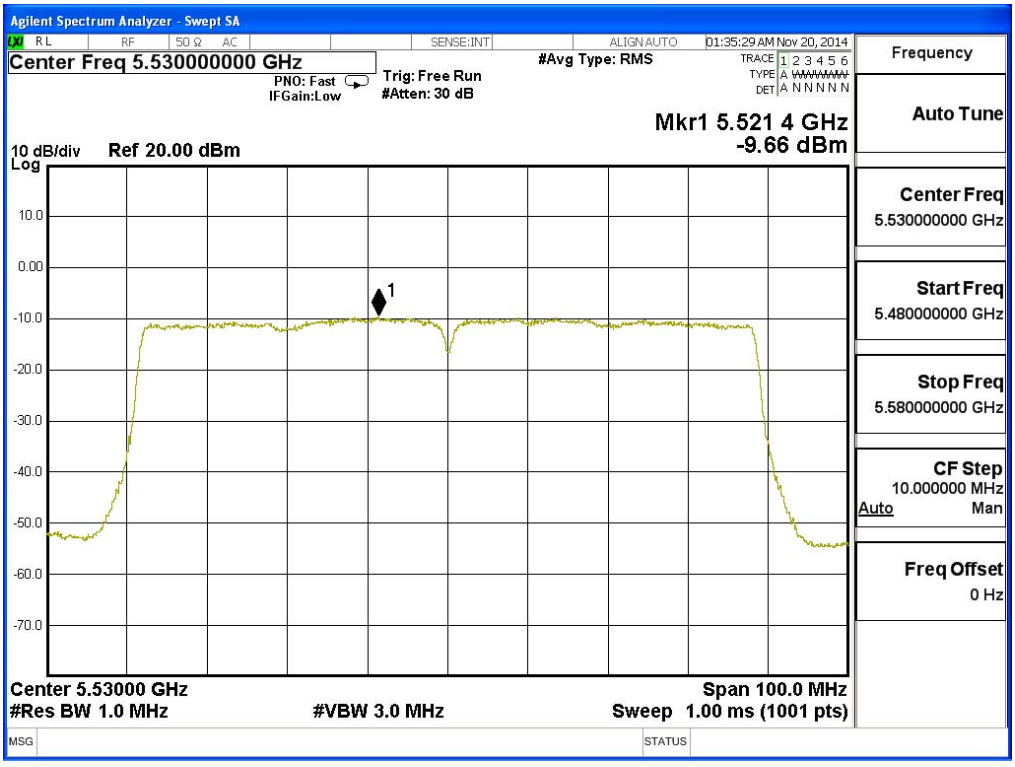
Channel 42 – Chain A



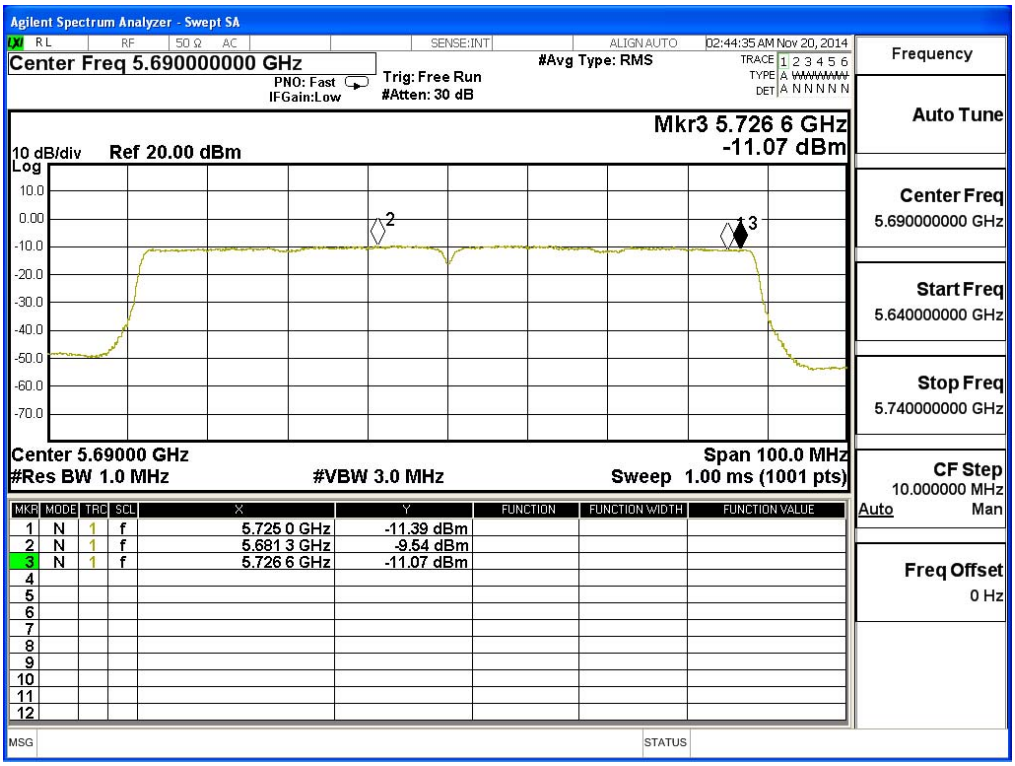
Channel 58 – Chain A



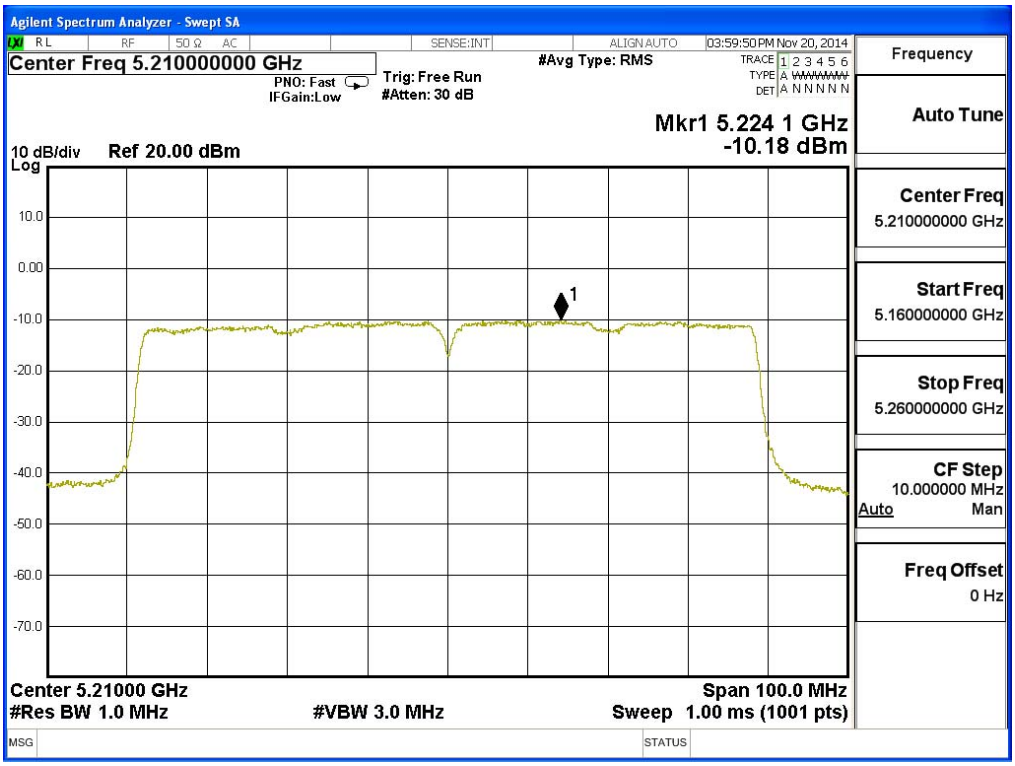
Channel 106 – Chain A



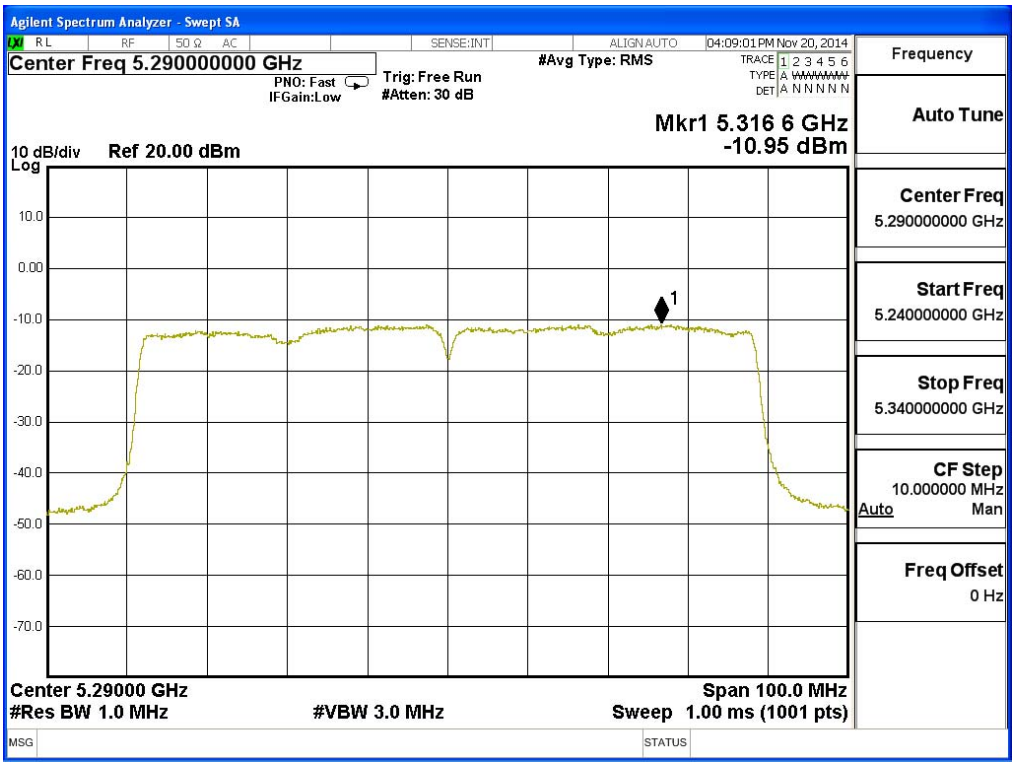
Channel 138 – Chain A



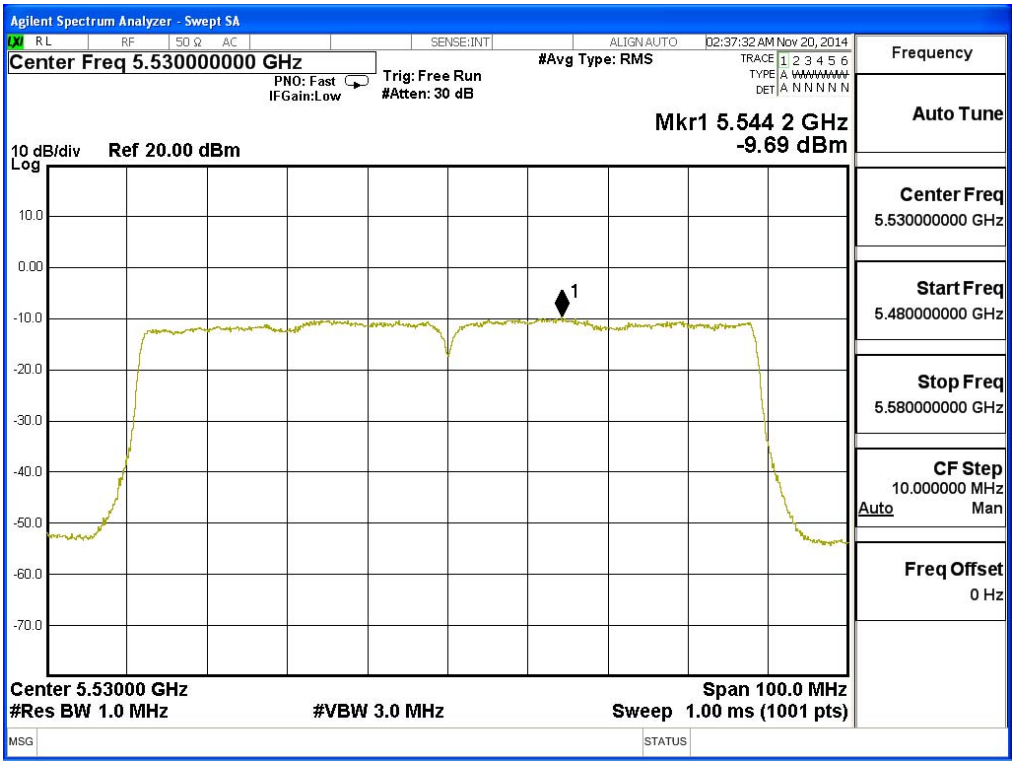
Channel 42 – Chain B



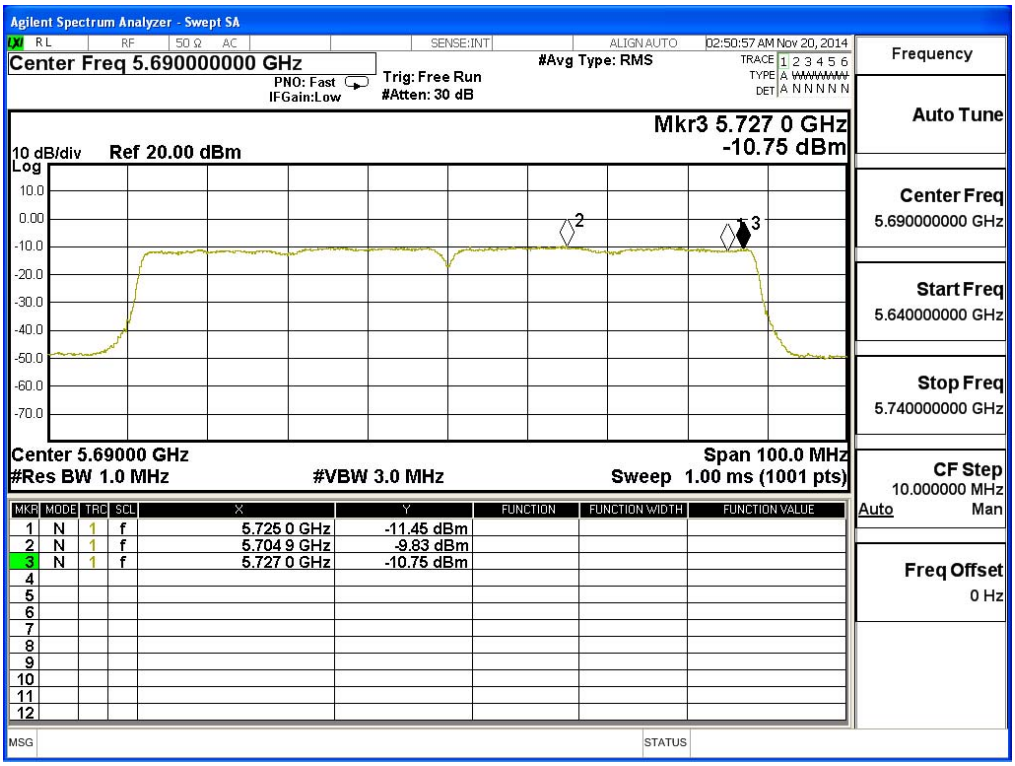
Channel 58 – Chain B



Channel 106 – Chain B



Channel 138 – Chain B



5. Peak Excursion

5.1. Test Equipment

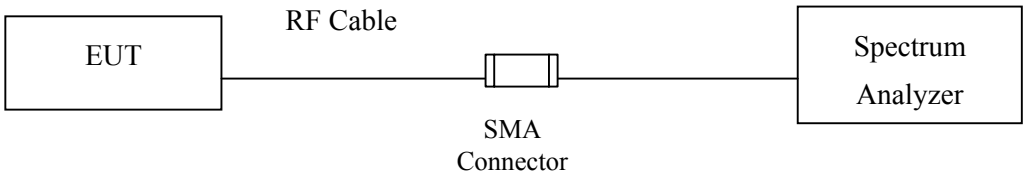
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

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.

5.2. Test Setup

Conduction Power Measurement



5.3. Limits

The ratio of the peak excursion of the modulation envelope (measured suing a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

5.4. 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.

Step 1: Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.
Step 2: Find the maximum of the peak-max-hold spectrum.
(Set RBW = 1 MHz, VBW ≥ 3 MHz, Detector = peak, Trace mode = max-hold, Allow the sweeps to continue until the trace stabilizes,Use the peak search function to find the peak of the spectrum.)
Step 3: Use the procedure found under KDB-789033 F) to measure the PPSD.
Step 4: Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

5.5. Uncertainty

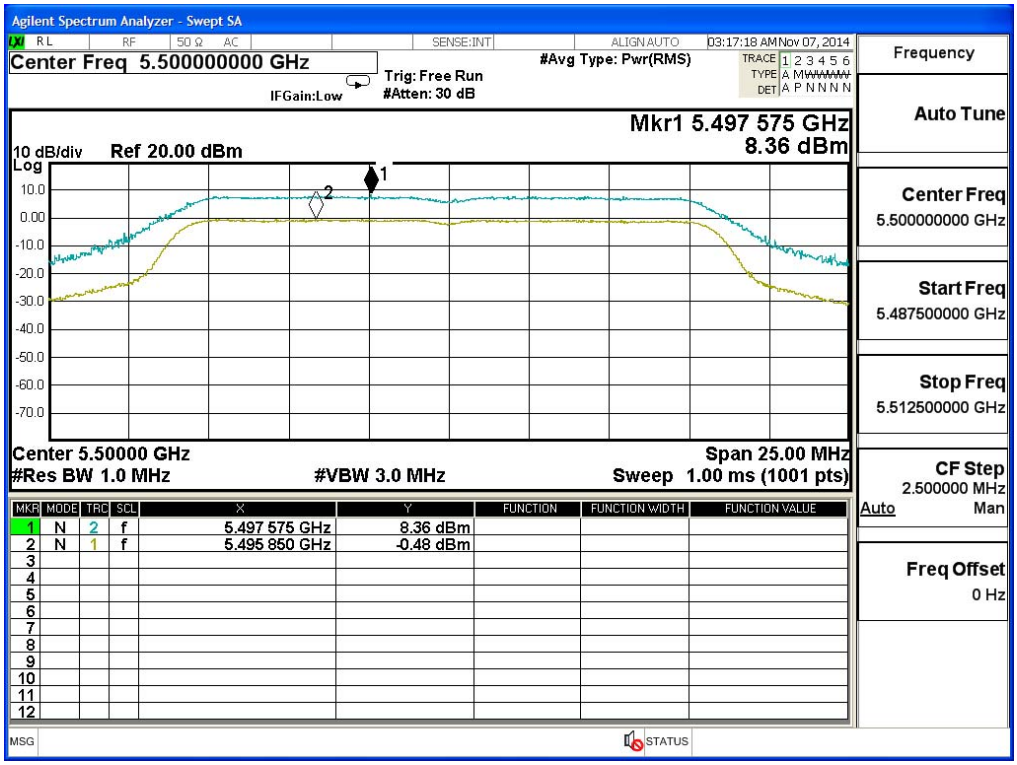
± 1.27 dB

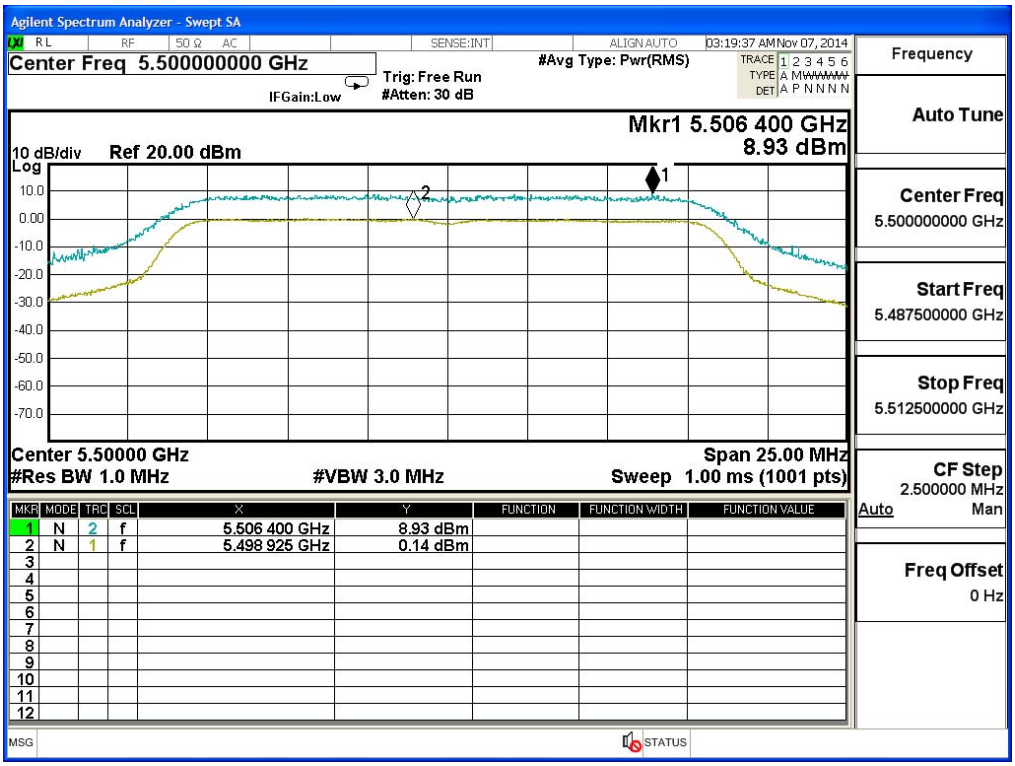
5.6. Test Result of Peak Excursion

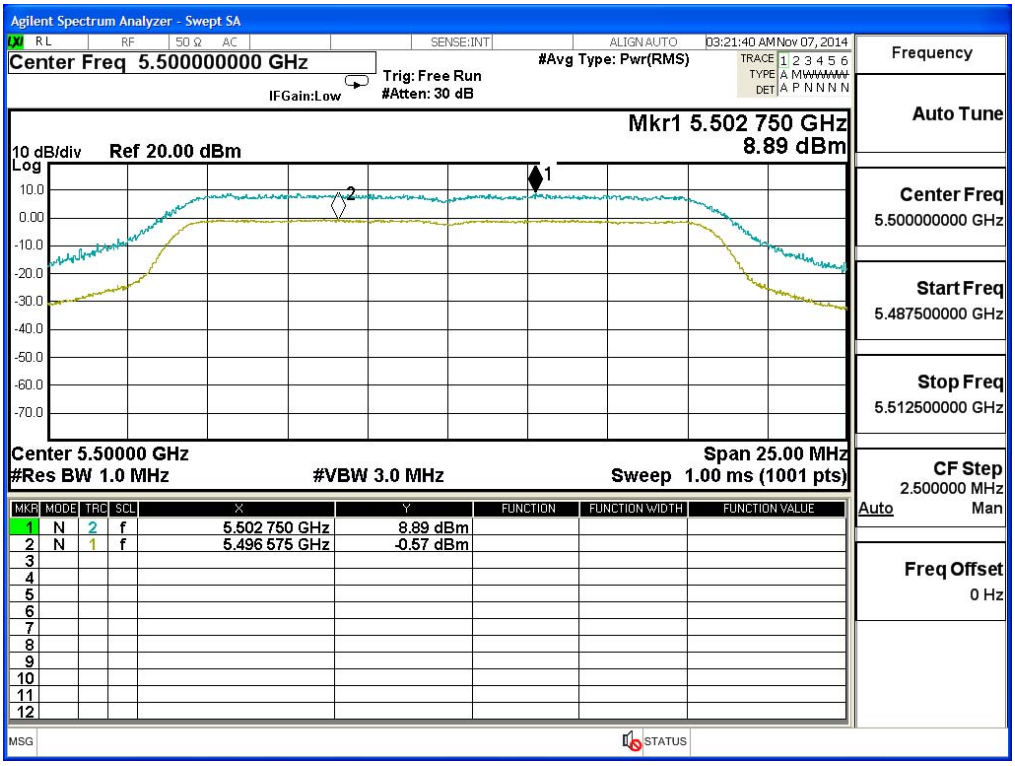
Product : FIELDBOOK
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

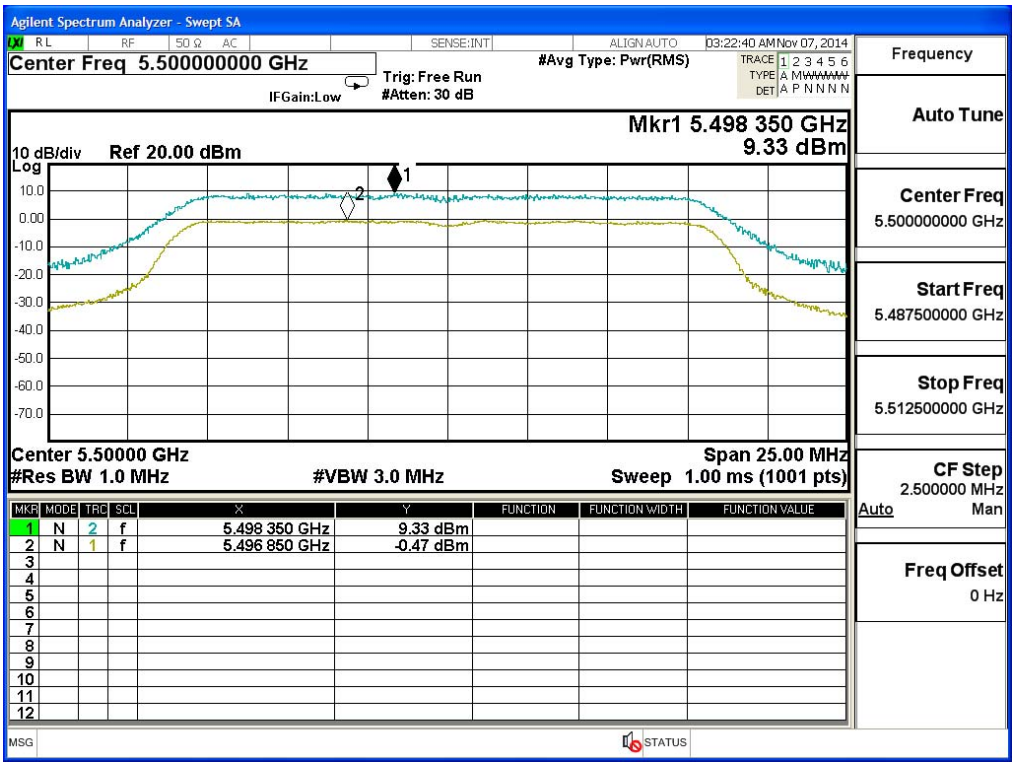
Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	MCS (0)	8.840	<13	Pass
		MCS (2)	8.790	<13	Pass
		MCS (4)	9.460	<13	Pass
		MCS (7)	9.800	<13	Pass

Channel 100:




Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
03:19:37 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A MWWWWW
DET A P N N N N
Mkr1 5.506 400 GHz
8.93 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
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.506 400 GHz 8.93 dBm
2 N 1 f 5.498 925 GHz 0.14 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
03:21:40 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A MWWWWW
DET A P N N N N
Mkr1 5.502 750 GHz
8.89 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
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.502 750 GHz 8.89 dBm
2 N 1 f 5.496 575 GHz -0.57 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

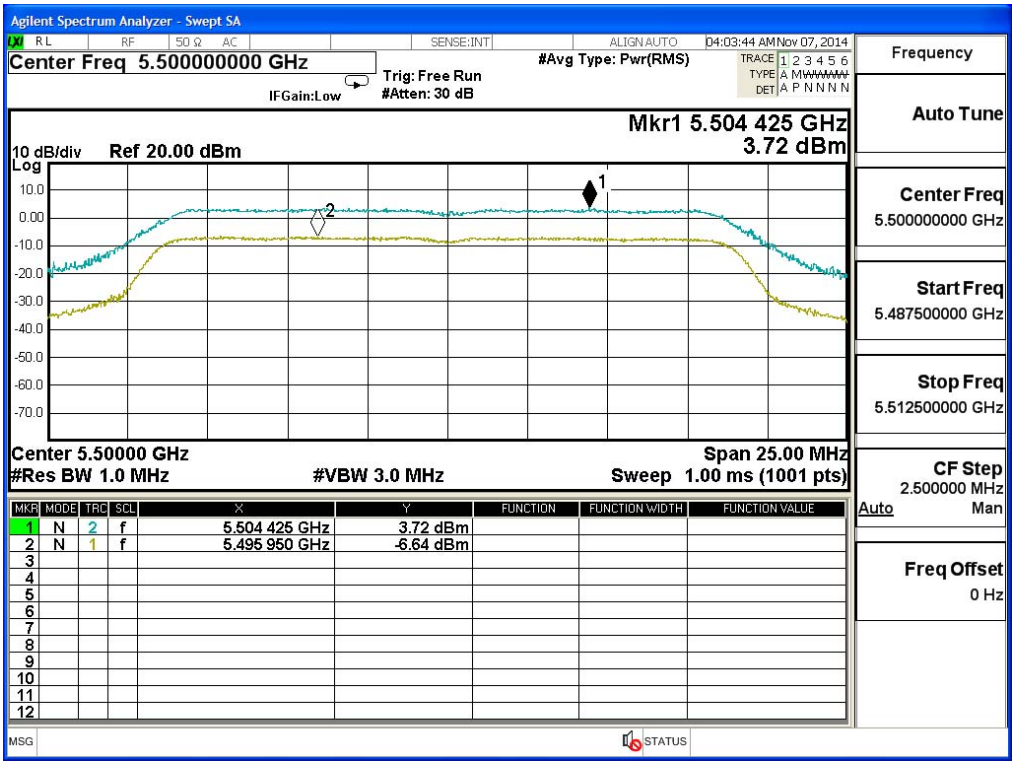

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
03:22:40 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A M
DET A P N N N N
Mkr1 5.498 350 GHz
9.33 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.498 350 GHz 9.33 dBm
2 N 1 f 5.496 850 GHz -0.47 dBm
3
4
5
6
7
8
9
10
11
12
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz

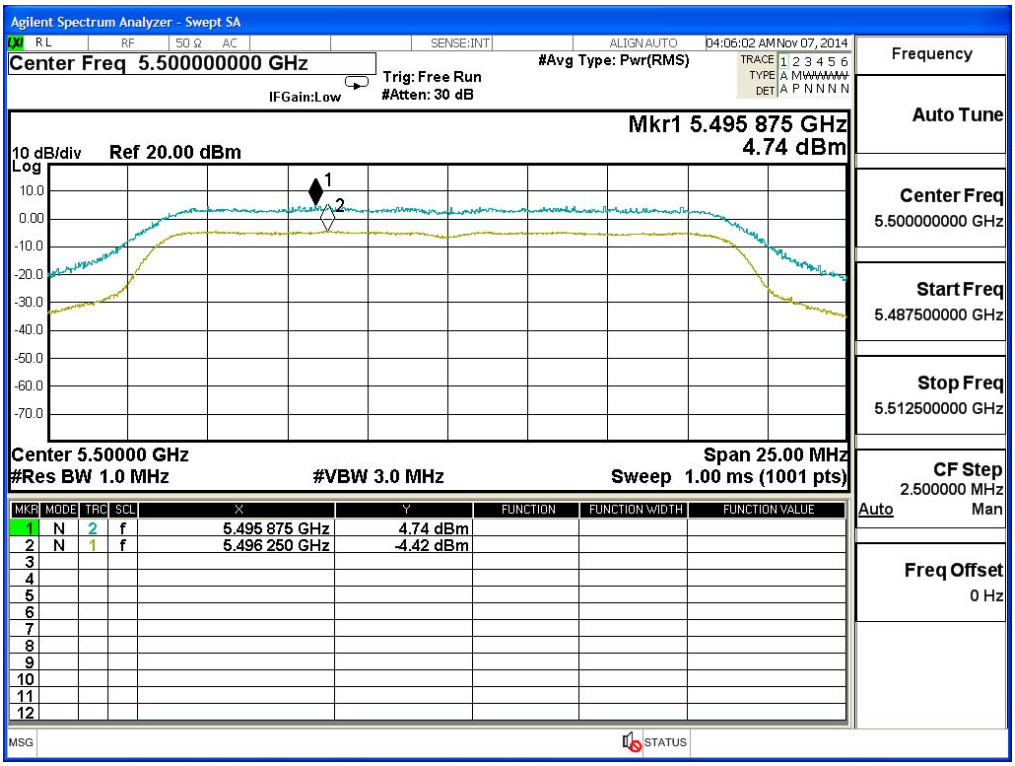
Product : FIELDBOOK
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

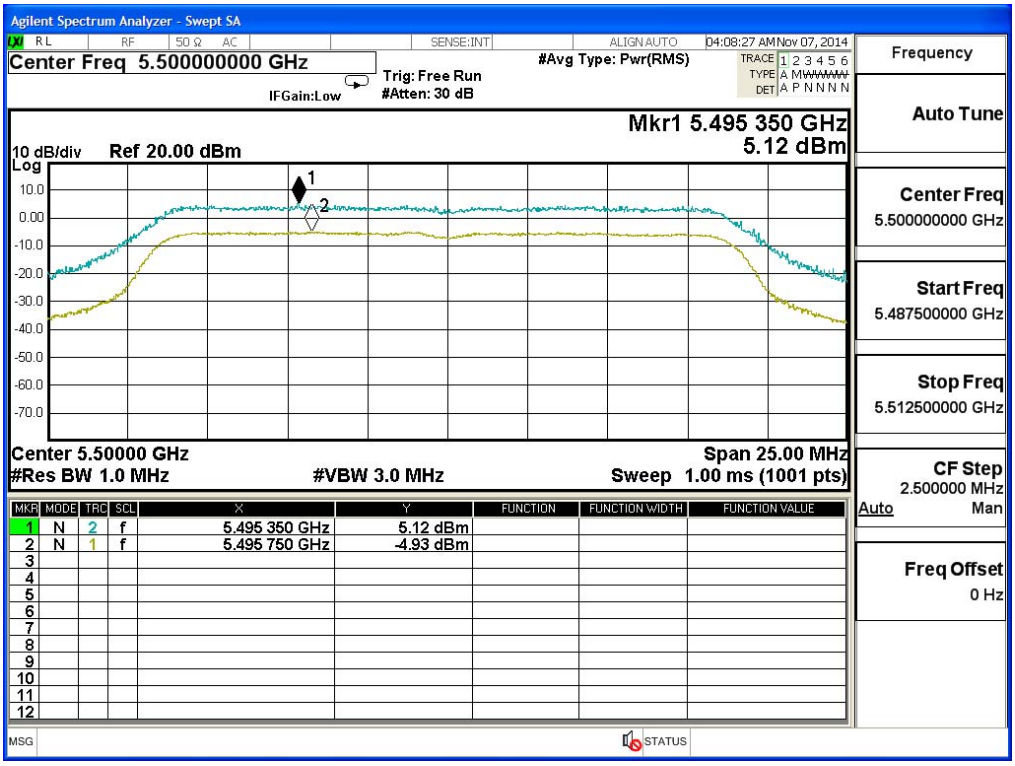
Chain A

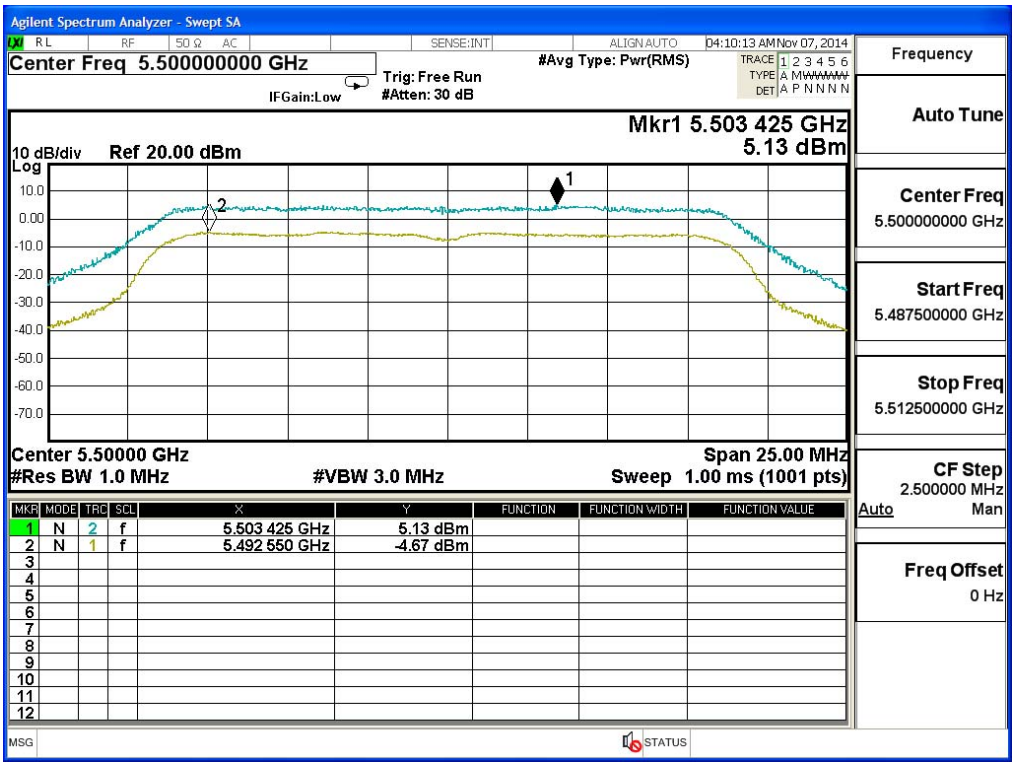
Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	MCS (0)	10.360	<13	Pass
		MCS (2)	9.160	<13	Pass
		MCS (4)	10.050	<13	Pass
		MCS (7)	9.800	<13	Pass

Channel 100:




Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
04:06:02 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A MWWWWW
DET A P N N N N
Mkr1 5.495 875 GHz
4.74 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
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.495 875 GHz 4.74 dBm
2 N 1 f 5.496 250 GHz -4.42 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

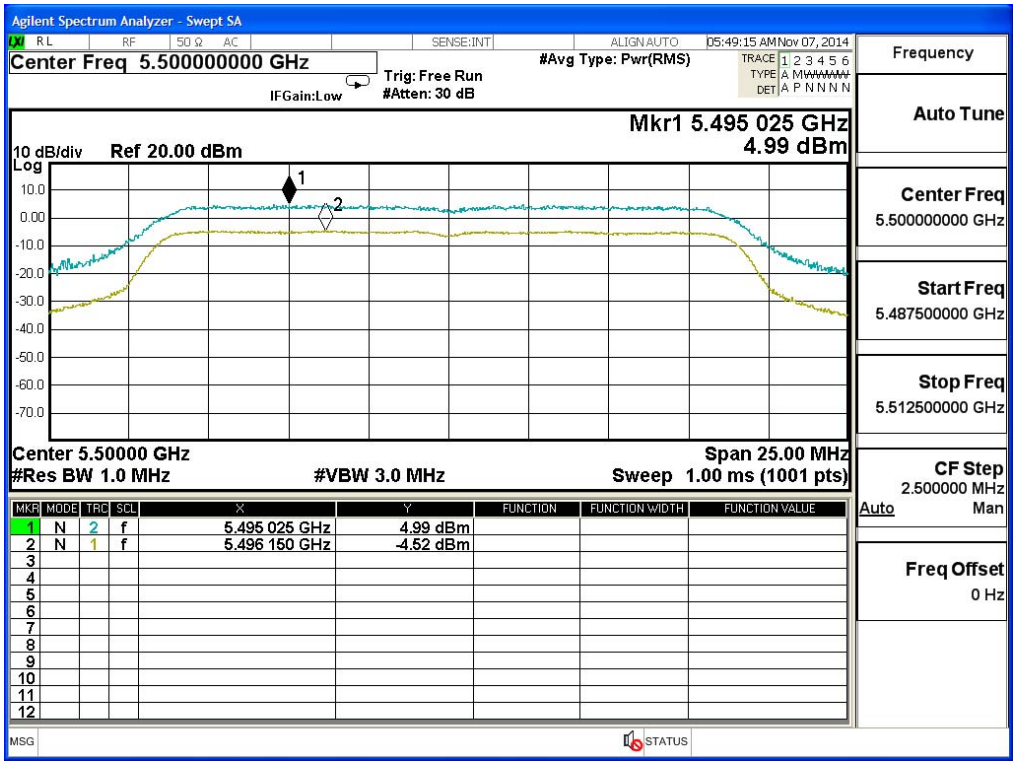

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
04:08:27 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A MWWWWW
DET A P N N N N
Mkr1 5.495 350 GHz
5.12 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.495 350 GHz 5.12 dBm
2 N 1 f 5.495 750 GHz -4.93 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

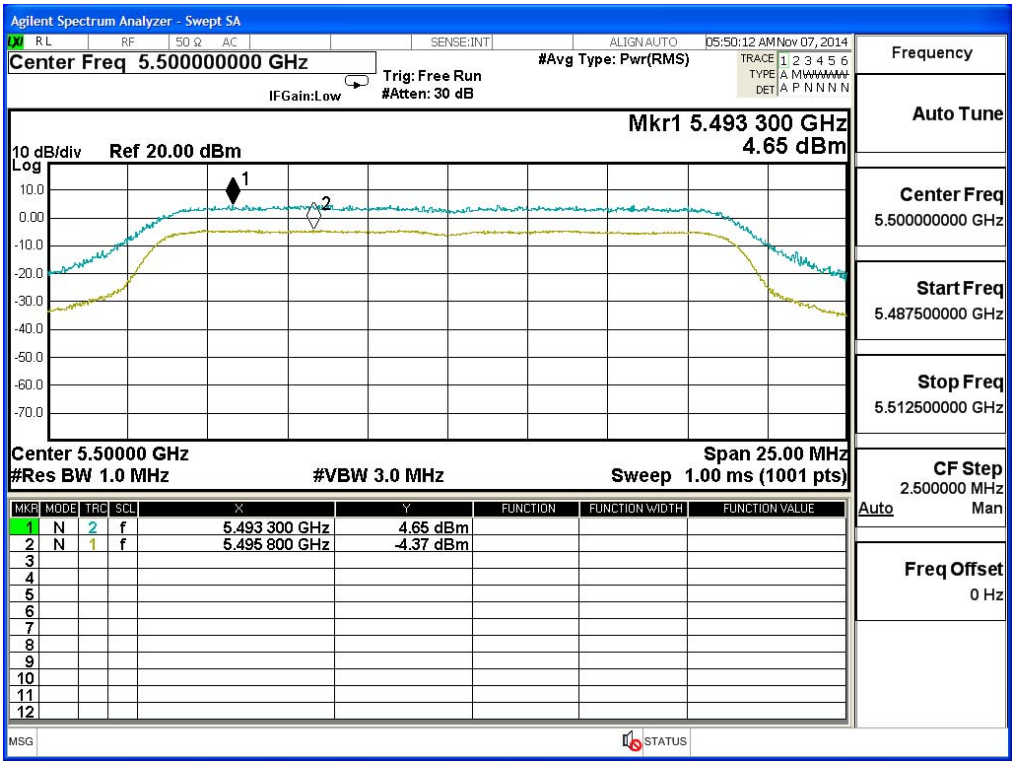

Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
04:10:13 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A M
DET A P N N N N
Mkr1 5.503 425 GHz
5.13 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.503 425 GHz 5.13 dBm
2 N 1 f 5.492 550 GHz -4.67 dBm
3
4
5
6
7
8
9
10
11
12
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz

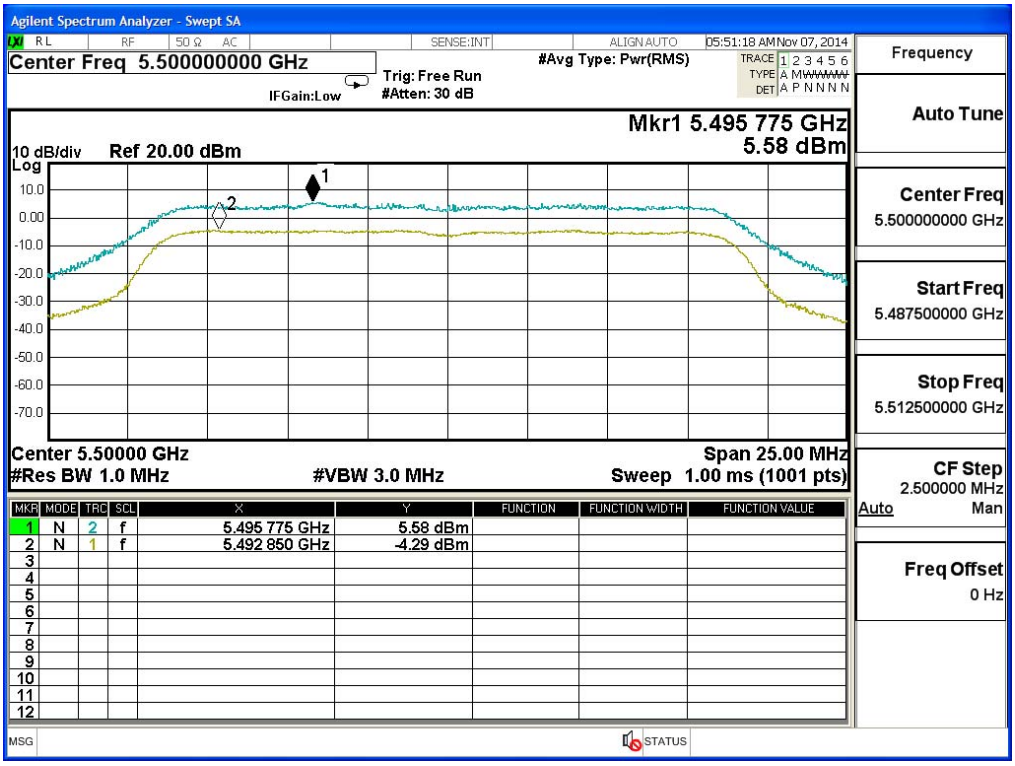
Chain B

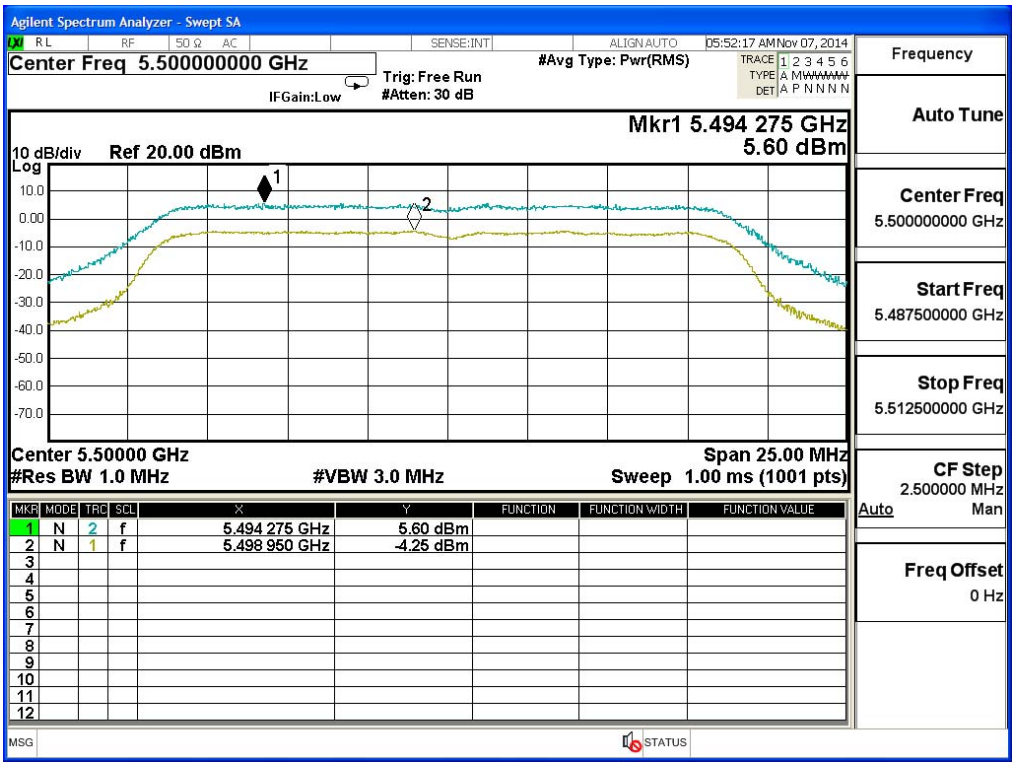
Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	MCS (0)	9.510	<13	Pass
		MCS (2)	9.020	<13	Pass
		MCS (4)	9.870	<13	Pass
		MCS (7)	9.850	<13	Pass

Channel 100:




Agilent Spectrum Analyzer - Swept SA
Center Freq 5.500000000 GHz
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
05:50:12 AM Nov 07, 2014
IFGain:Low
Mkr1 5.493 300 GHz
4.65 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
1 N 2 f 5.493 300 GHz 4.65 dBm
2 N 1 f 5.495 800 GHz -4.37 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.500000000 GHz
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
05:51:18 AM Nov 07, 2014
IFGain:Low
Mkr1 5.495 775 GHz
5.58 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
1 N 2 f 5.495 775 GHz 5.58 dBm
2 N 1 f 5.492 850 GHz -4.29 dBm
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
05:52:17 AM Nov 07, 2014
Center Freq 5.500000000 GHz
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: Pwr(RMS)
TRACE 1 2 3 4 5 6
TYPE A MWWWWW
DET A P N N N N
Mkr1 5.494 275 GHz
5.60 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
Center 5.50000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 25.00 MHz
Sweep 1.00 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 2 f 5.494 275 GHz 5.60 dBm
2 N 1 f 5.498 950 GHz -4.25 dBm
3
4
5
6
7
8
9
10
11
12
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.500000000 GHz
Start Freq
5.487500000 GHz
Stop Freq
5.512500000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz

Product : FIELDBOOK
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

Chain A

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
102	5510	MCS (0)	9.340	<13	Pass
		MCS (2)	9.200	<13	Pass
		MCS (4)	10.690	<13	Pass
		MCS (7)	9.590	<13	Pass

Channel 102: