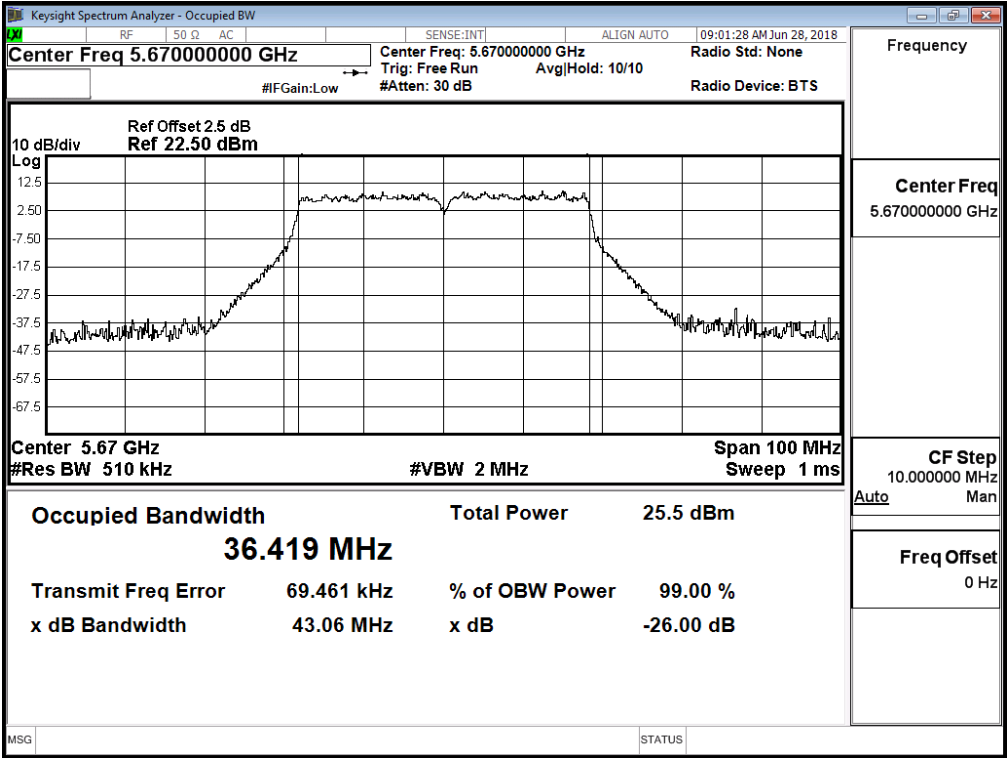


Channel 134 – Chain D



Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Date : 2018/08/11
 Test Mode : Mode 4: Transmit (802.11ac-20BW-28.8Mbps) (Antenna No.19)

Chain A

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	11.35	11.25	11.19	11.1	11.01	10.94	10.86	10.79	10.74	<21.5dBm
144 (Band4)	5720	5.55	5.48	5.42	5.32	5.25	5.16	5.07	5.02	4.97	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	11.23	11.17	11.09	11.02	10.93	10.87	10.77	10.71	10.62	<21.5dBm
144 (Band4)	5720	5.5	5.42	5.37	5.3	5.24	5.17	5.1	5.02	4.92	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain C

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	11.34	11.27	11.21	11.13	11.04	10.96	10.89	10.81	10.73	<21.5dBm
144 (Band4)	5720	5.46	5.37	5.28	5.19	5.11	5.02	4.97	4.9	4.8	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain D

Cable loss=1dB		Maximum conducted output power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	11.29	11.19	11.11	11.04	10.97	10.87	10.82	10.77	10.67	<21.5dBm
144 (Band4)	5720	5.47	5.41	5.36	5.28	5.18	5.1	5	4.91	4.84	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:**(CHAIN A+ B+C+D)**

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Output Power Limit		Result
								(dBm)	dBm+10log(BW)	
144(Band3)	5720	13.937	11.350	11.230	11.340	11.290	17.31	21.5	19.94	Pass
144(Band4)	5720	--	5.550	5.500	5.460	5.470	11.52	27.5	--	Pass

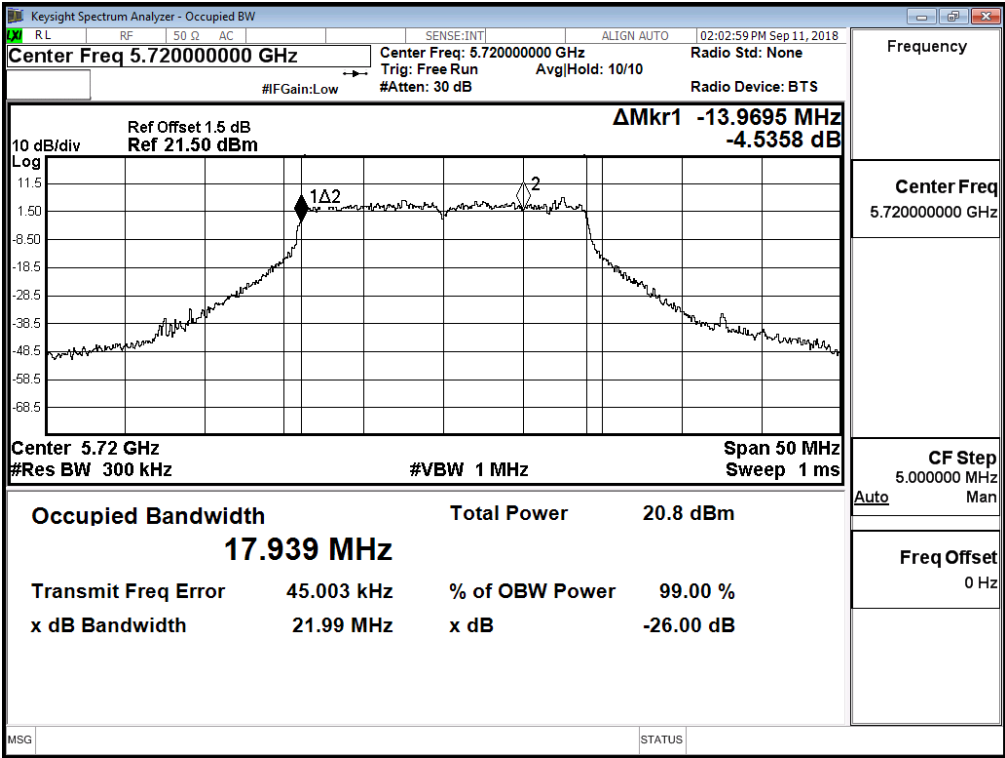
Note:

1. Output Power (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW) + Chain C (mW) + Chain D (mW))
2. 26 dB Bandwidth is the bandwidth of chain A, chain B, chain C or chain D whichever is less bandwidth, output power limitation is more stringent.

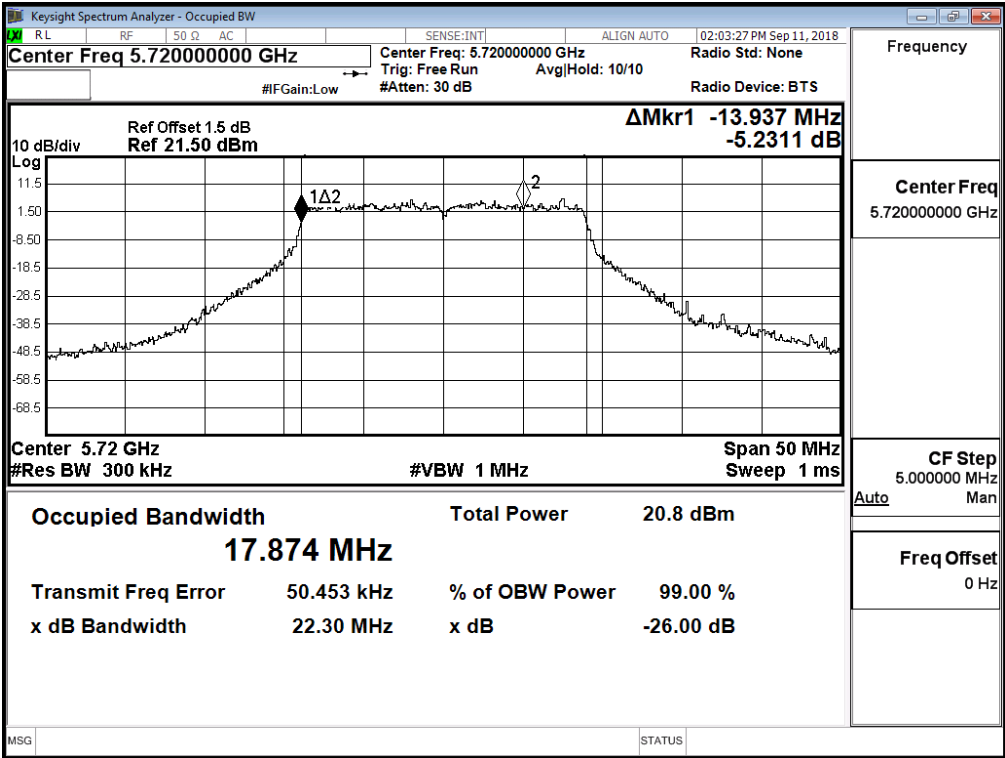
Maximum conducted output power Measurement with Transmit power Control (TPC)**(CHAIN A+ B+C+D)**

Channel No	Frequency Range (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Result
144(Band3)	5720	5.130	4.940	5.050	5.090	11.04	Pass

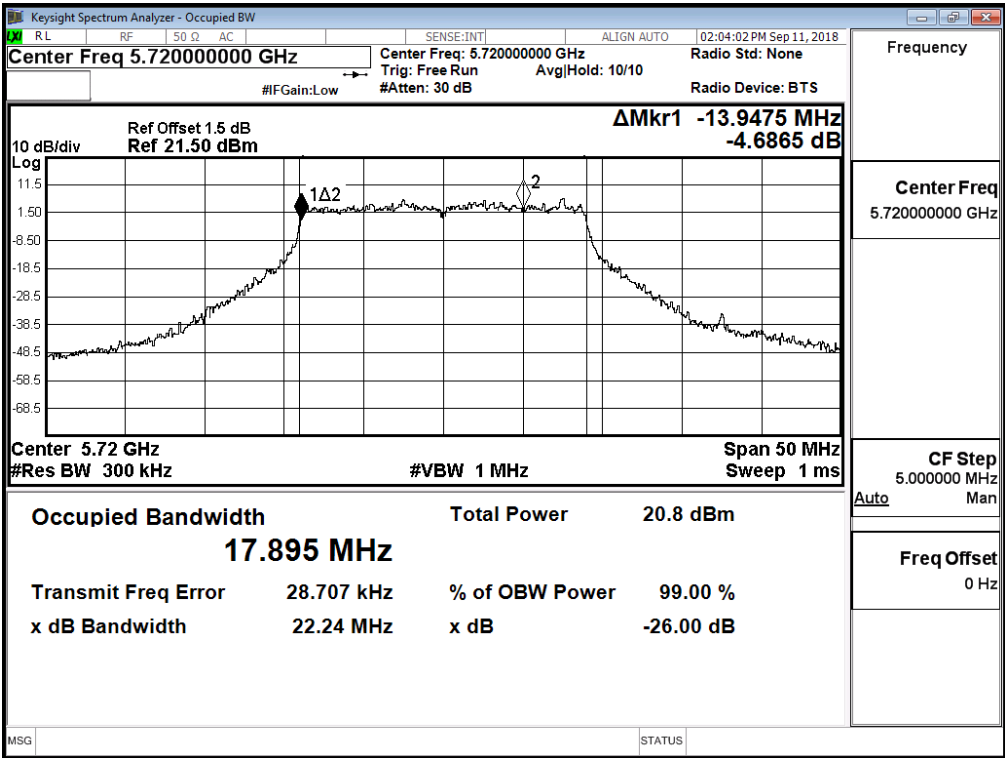
99% Bandwidth:
Channel 144 – Chain A



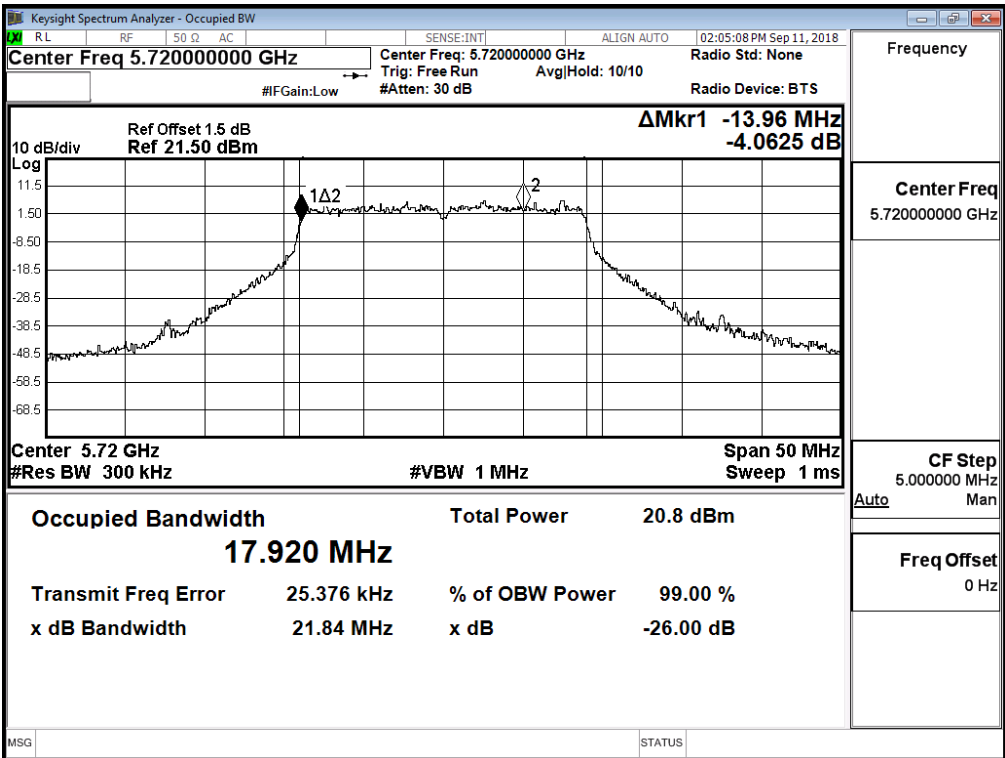
99% Bandwidth:
Channel 144 – Chain B

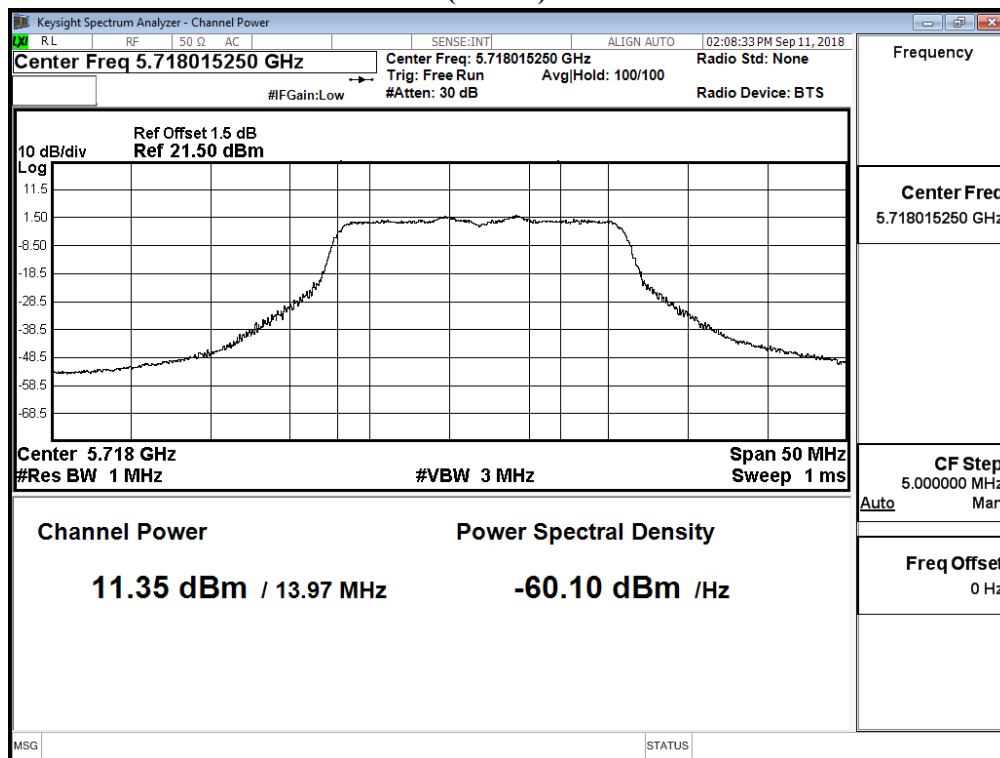
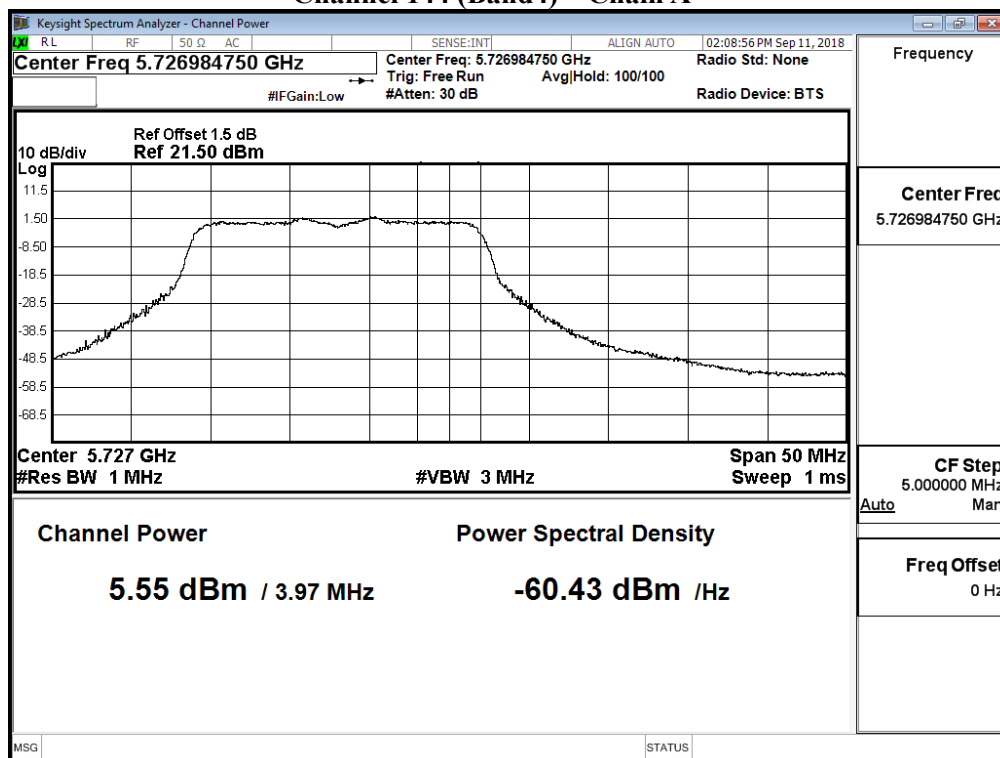


99% Bandwidth:
Channel 144 – Chain C

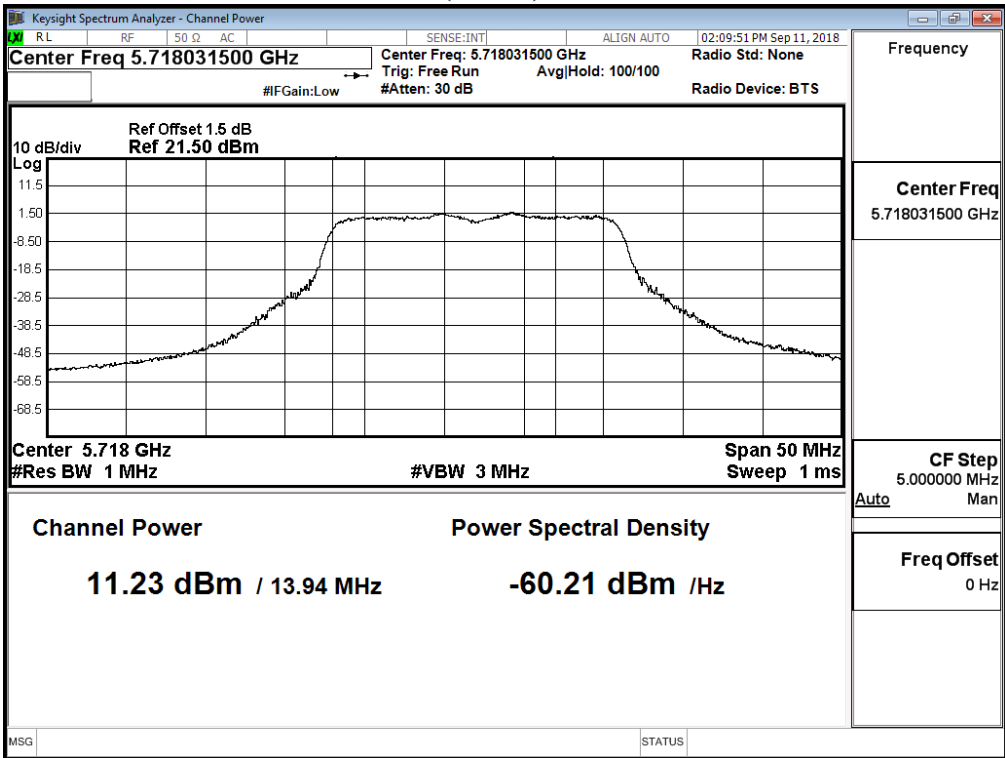


99% Bandwidth:
Channel 144 – Chain D

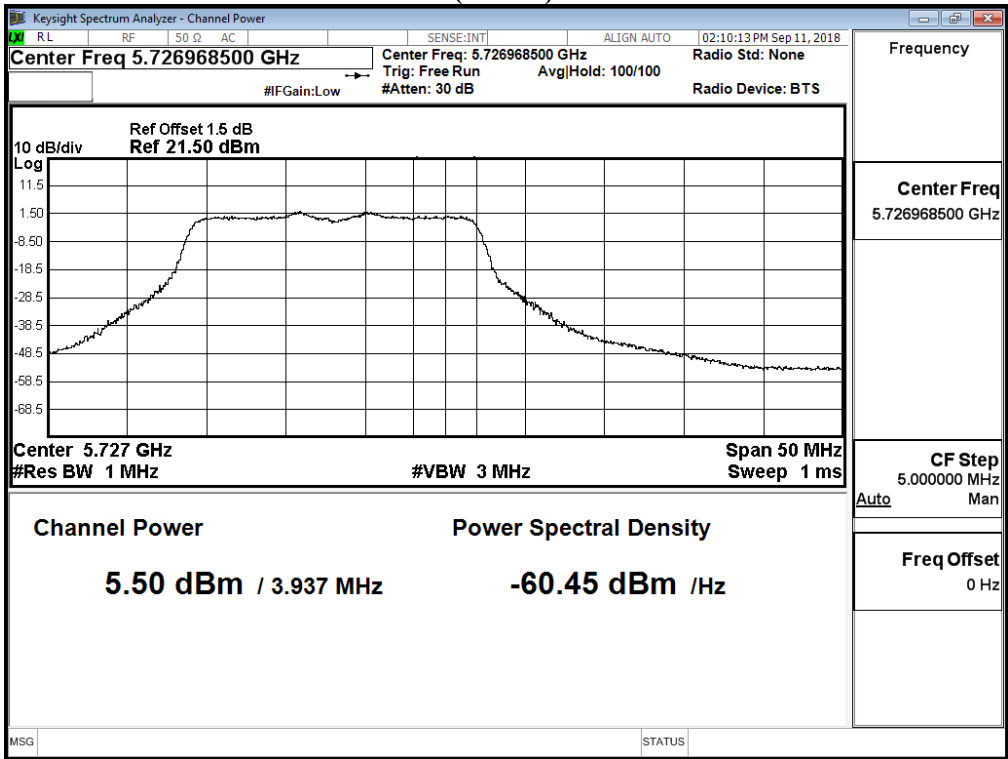


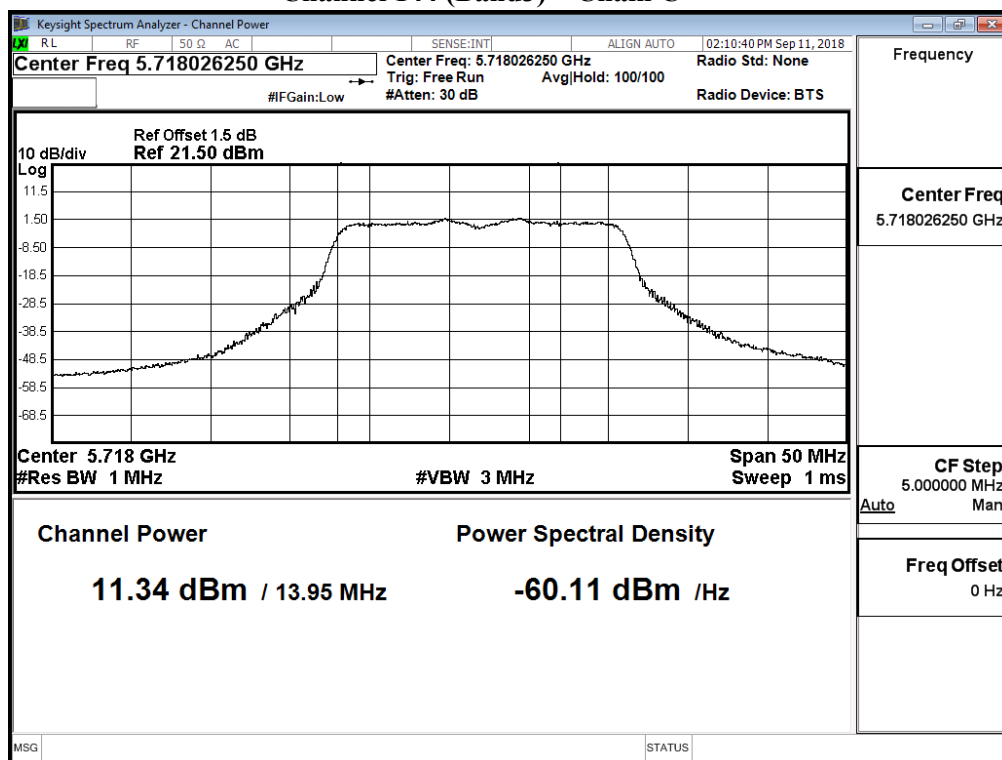
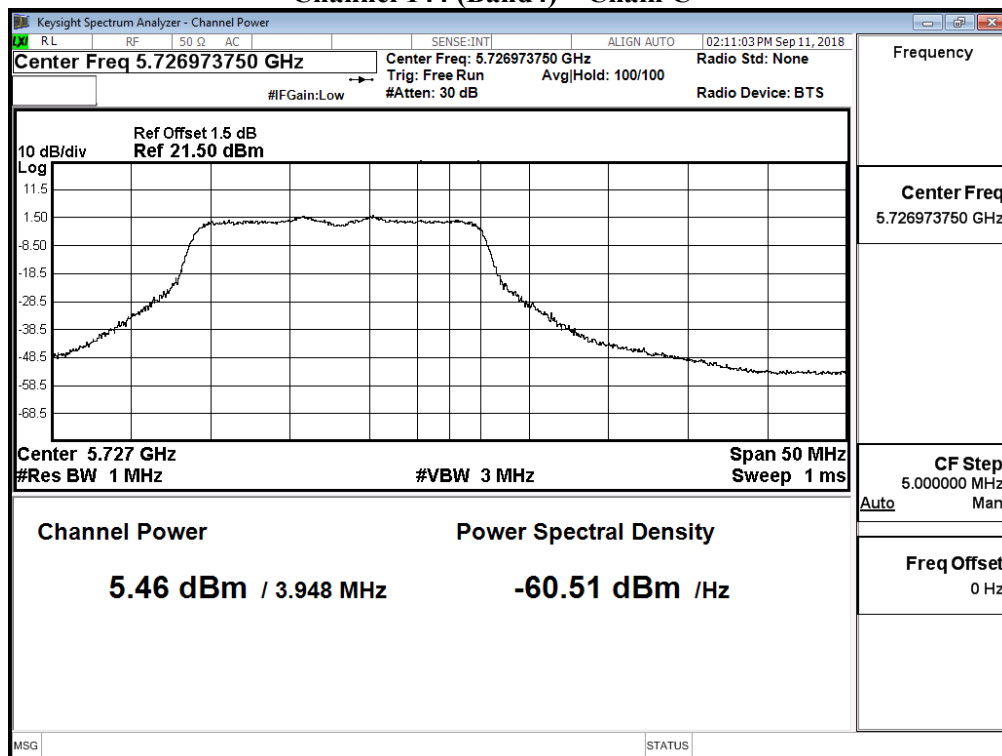
Maximum conducted output power:**Channel 144 (Band3) – Chain A****Channel 144 (Band4) – Chain A**

Maximum conducted output power:
Channel 144 (Band3) – Chain B

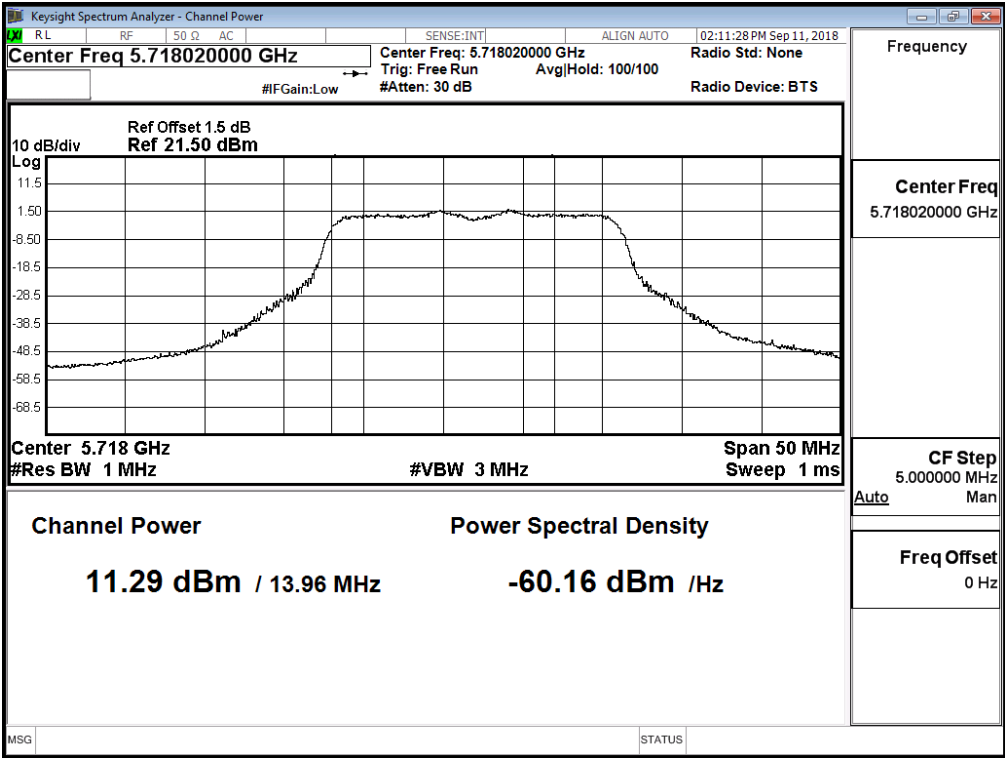


Channel 144 (Band4) – Chain B

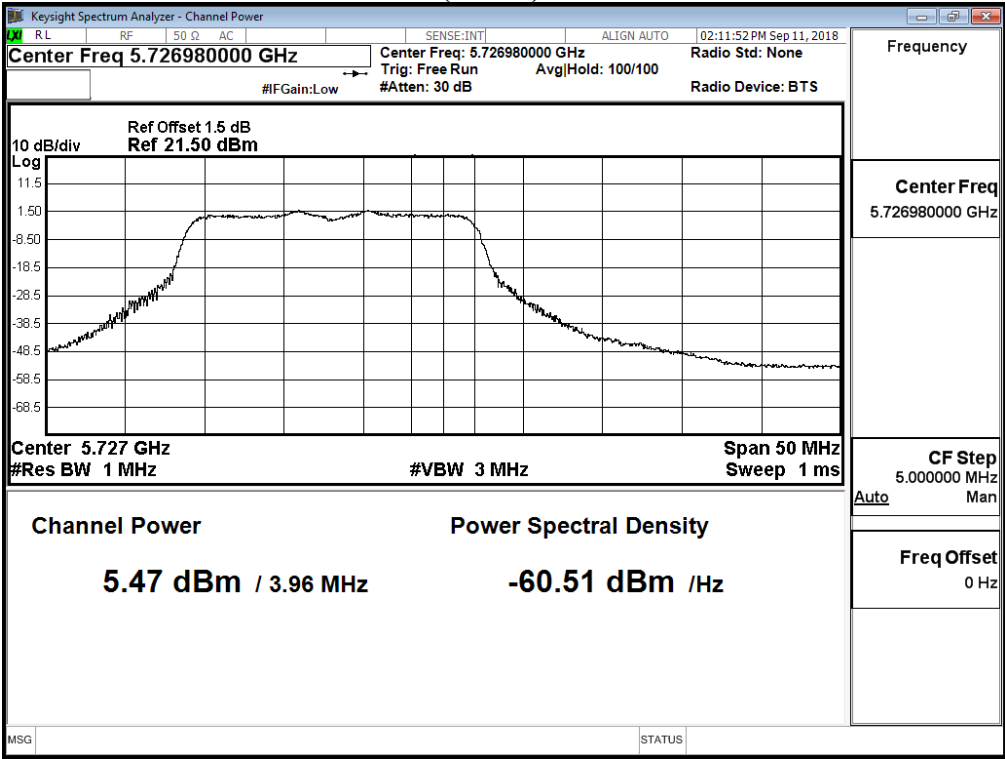


Maximum conducted output power:**Channel 144 (Band3) – Chain C****Channel 144 (Band4) – Chain C**

Maximum conducted output power:
Channel 144 (Band3) – Chain D



Channel 144 (Band4) – Chain D



Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Date : 2018/08/11
 Test Mode : Mode 5: Transmit (802.11ac-40BW-60Mbps) (Antenna No.19)

Chain A

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	14.13	14.04	13.97	13.89	13.79	13.7	13.62	13.52	13.44	13.34	<21.5dBm
142F(Band4)	5710	4.03	3.94	3.86	3.77	3.72	3.67	3.61	3.56	3.48	3.42	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	14.09	13.99	13.94	13.89	13.79	13.7	13.6	13.55	13.46	13.36	<21.5dBm
142F(Band4)	5710	4.15	4.05	3.96	3.9	3.82	3.75	3.65	3.6	3.5	3.42	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain C

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	14.09	14.02	13.96	13.88	13.82	13.72	13.65	13.55	13.49	13.44	<21.5dBm
142F(Band4)	5710	4.08	3.99	3.92	3.85	3.8	3.7	3.6	3.55	3.47	3.4	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain D

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	14.17	14.11	14.06	14.01	13.95	13.87	13.77	13.67	13.58	13.49	<21.5dBm
142F(Band4)	5710	4.34	4.28	4.19	4.14	4.08	3.99	3.93	3.87	3.78	3.68	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:**(CHAIN A+ B+C+D)**

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Output Power Limit		Result
								(dBm)	$\text{dBm} + 10\log(\text{BW})$	
142F(Band3)	5710	33.227	14.130	14.090	14.09	14.17	20.14	21.5	23.71	Pass
142F(Band4)	5710	--	4.030	4.150	4.08	4.34	10.17	27.5	--	Pass

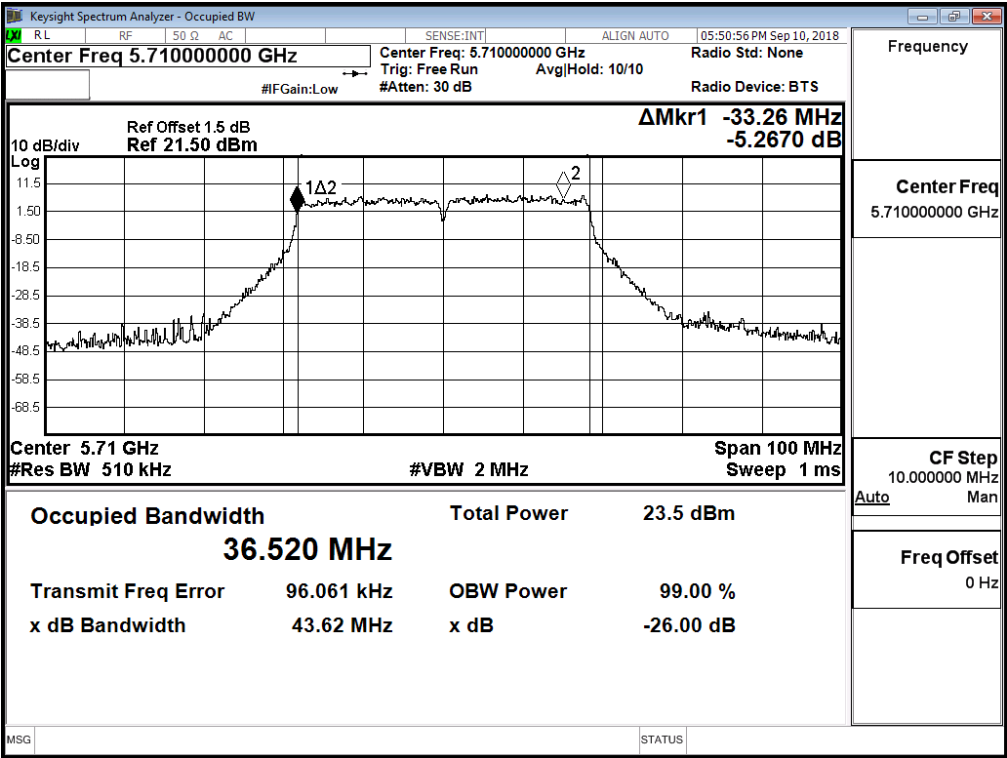
Note:

1. Output Power (dBm) = $10 \cdot \text{LOG} (\text{Chain A (mW)} + \text{Chain B (mW)} + \text{Chain C (mW)} + \text{Chain D (mW)})$
2. 26 dB Bandwidth is the bandwidth of chain A, chain B, chain C or chain D whichever is less bandwidth, output power limitation is more stringent.

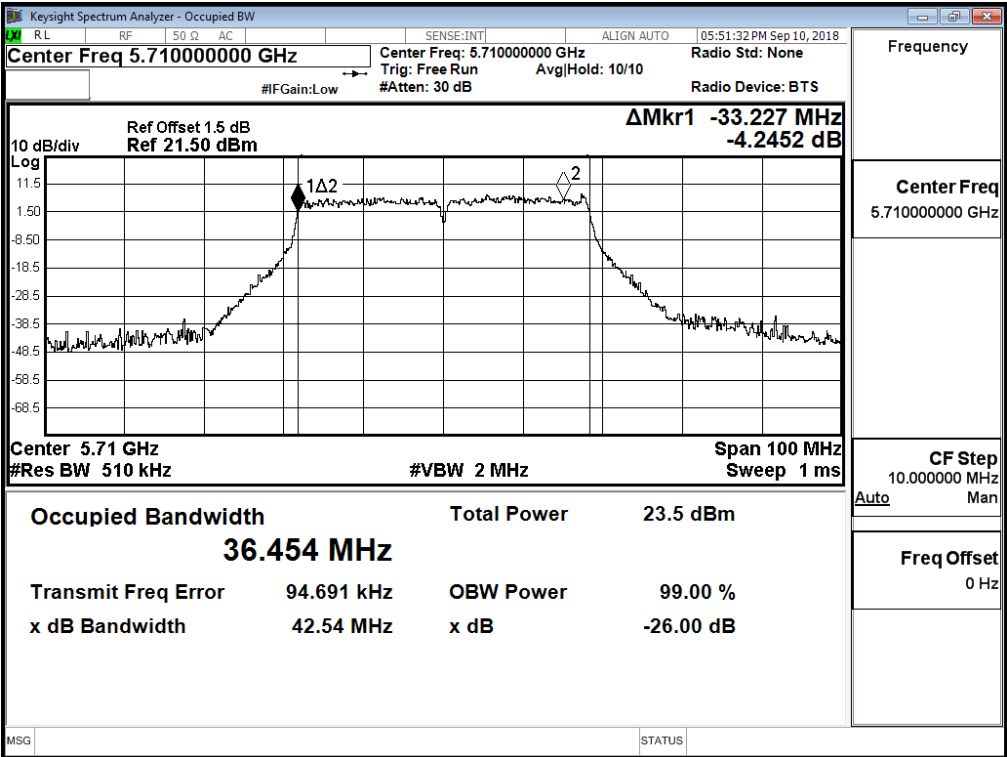
Maximum conducted output power Measurement with Transmit power Control (TPC)**(CHAIN A+ B+C+D)**

Channel No	Frequency Range (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Result
142(Band3)	5710	7.830	7.860	7.86	8.07	13.93	Pass

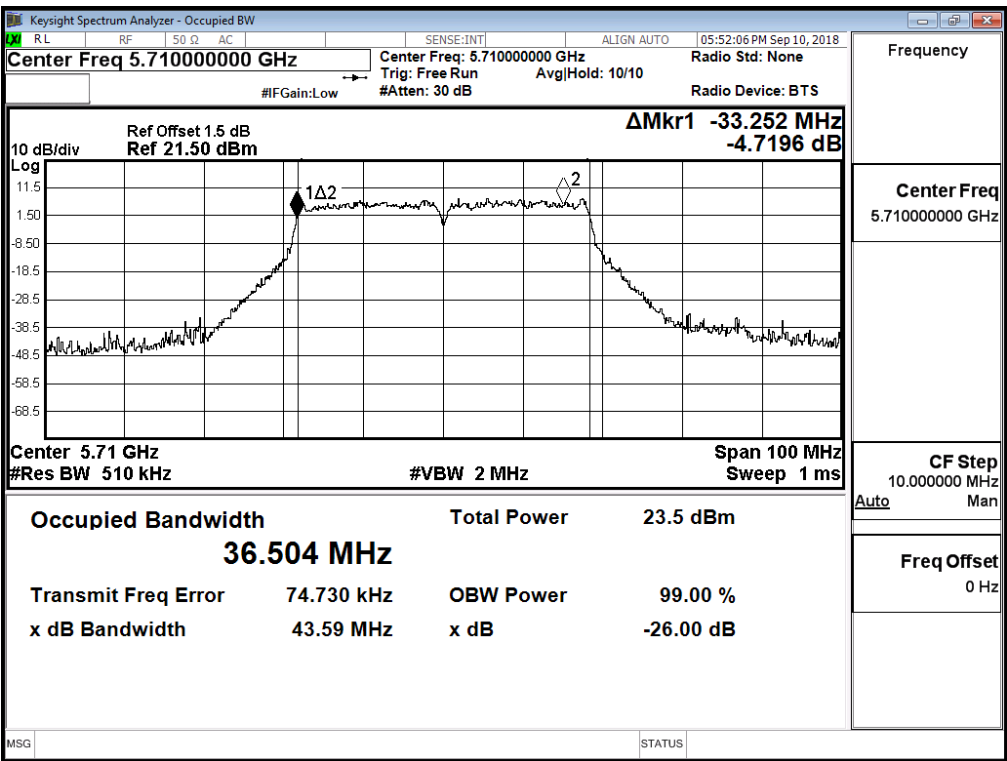
99% Bandwidth:
Channel 142 – Chain A



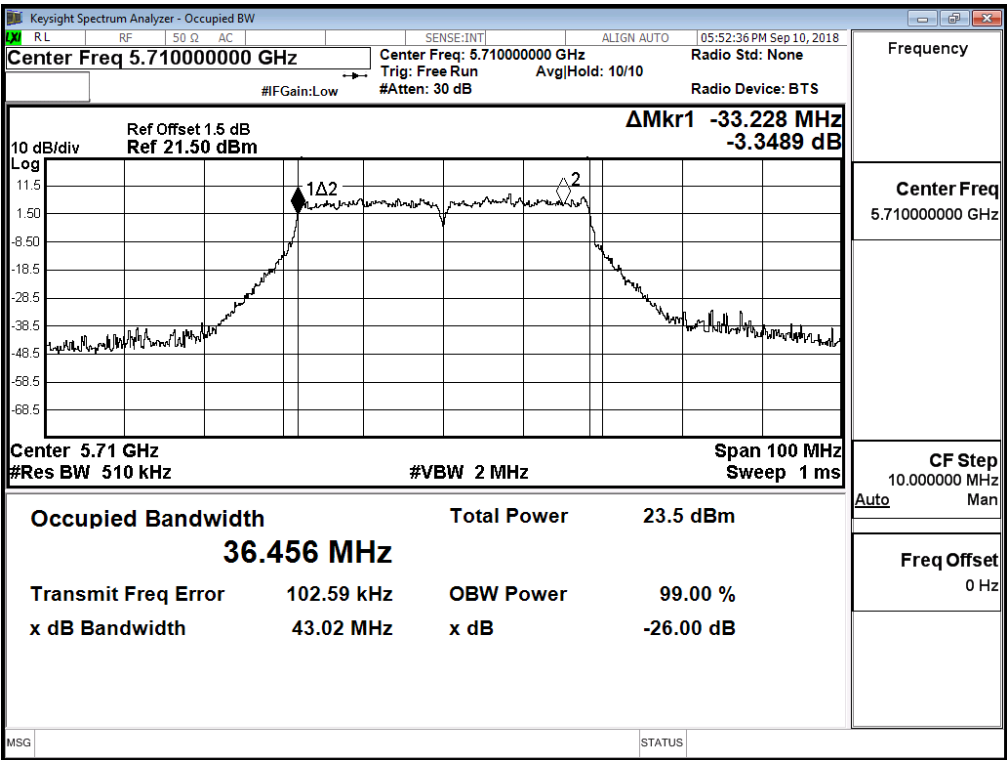
99% Bandwidth:
Channel 142 – Chain B



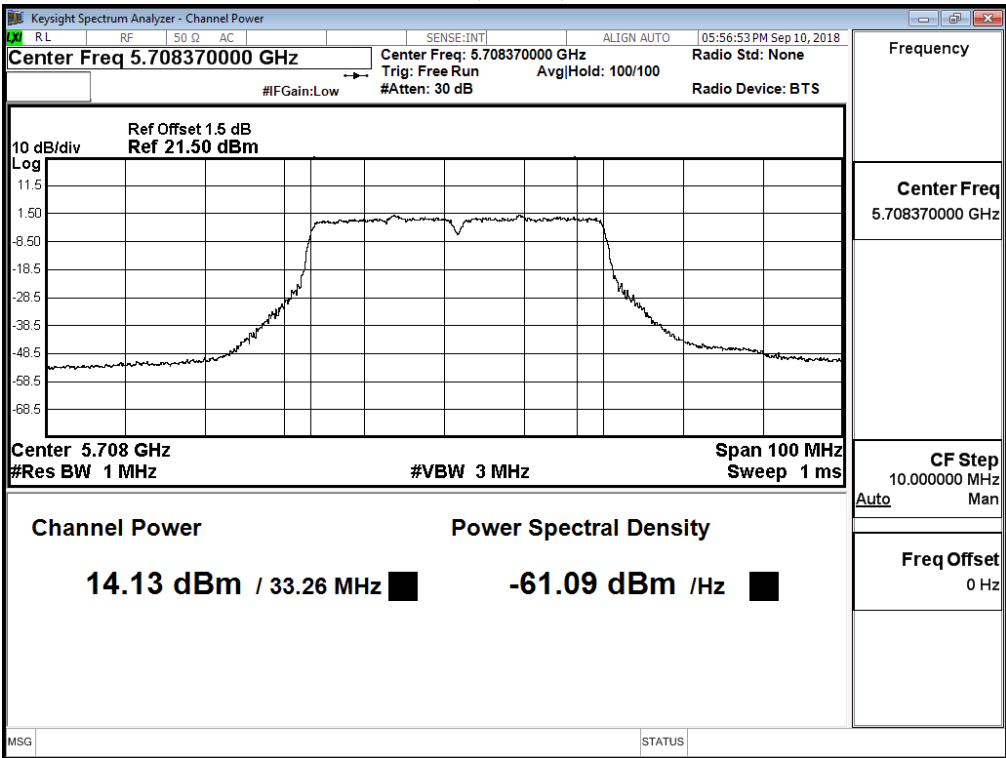
99% Bandwidth:
Channel 142 – Chain C



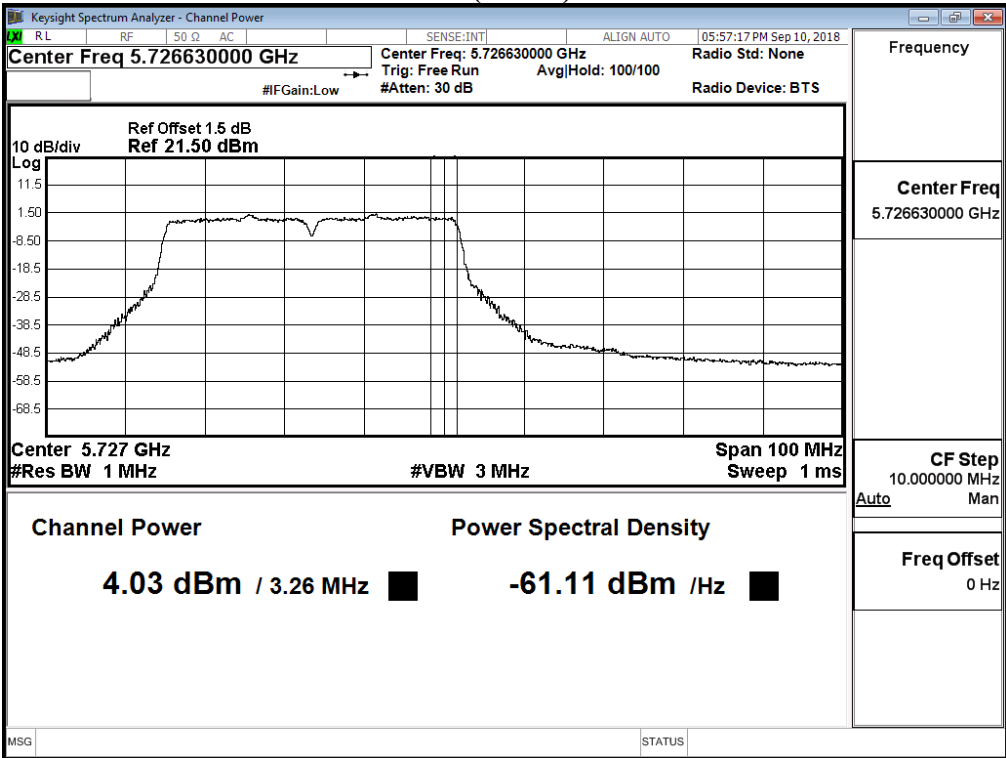
99% Bandwidth:
Channel 142 – Chain D



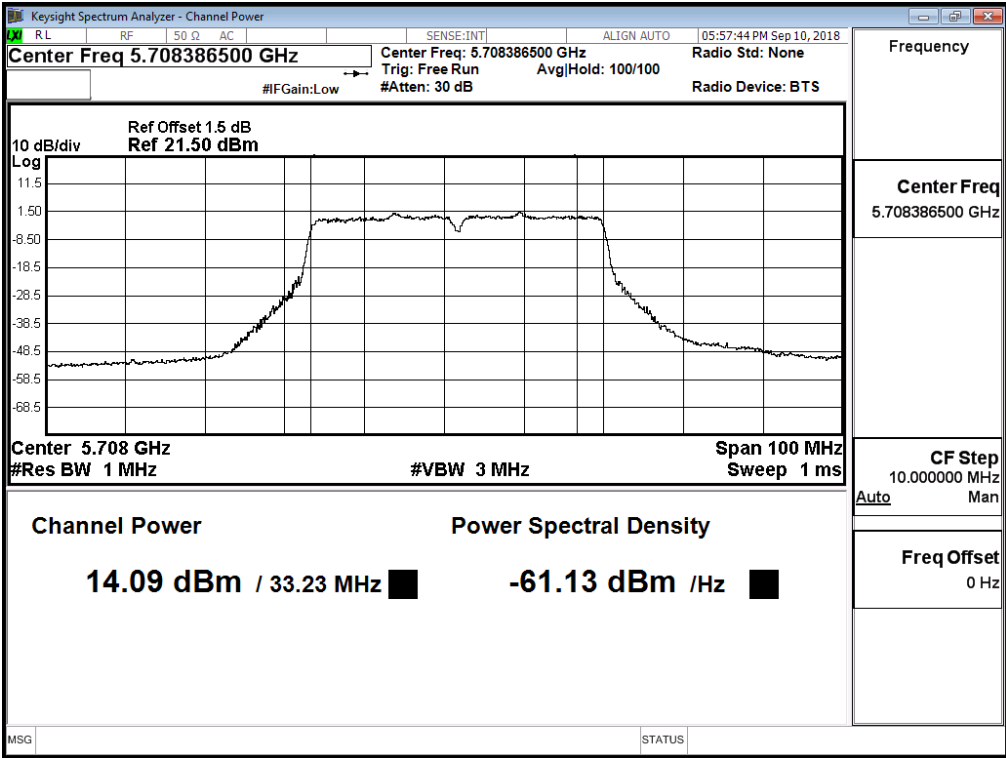
Maximum conducted output power:
Channel 142 (Band3) – Chain A



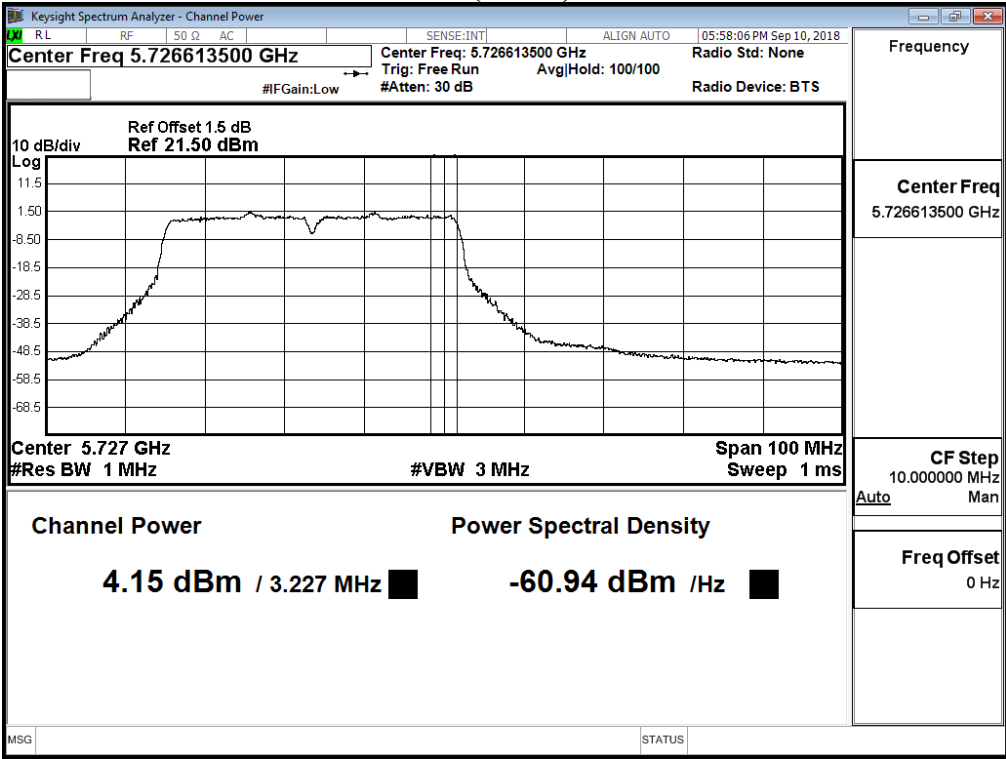
Channel 142 (Band4) – Chain A



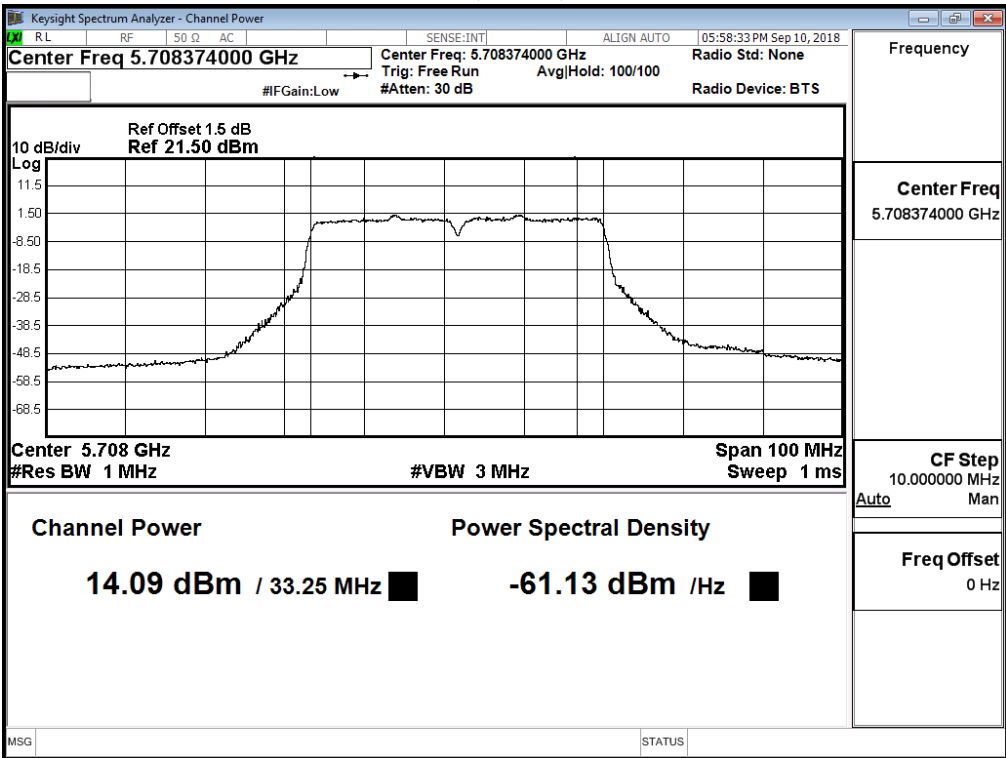
Maximum conducted output power:
Channel 142 (Band3) – Chain B



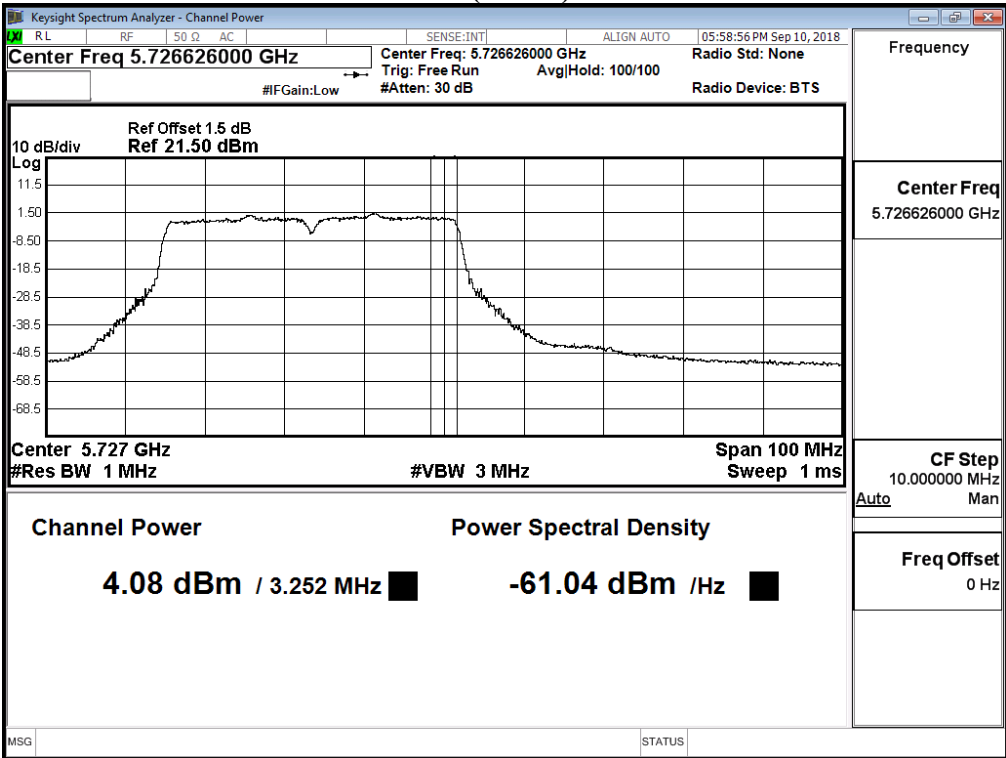
Channel 142 (Band4) – Chain B



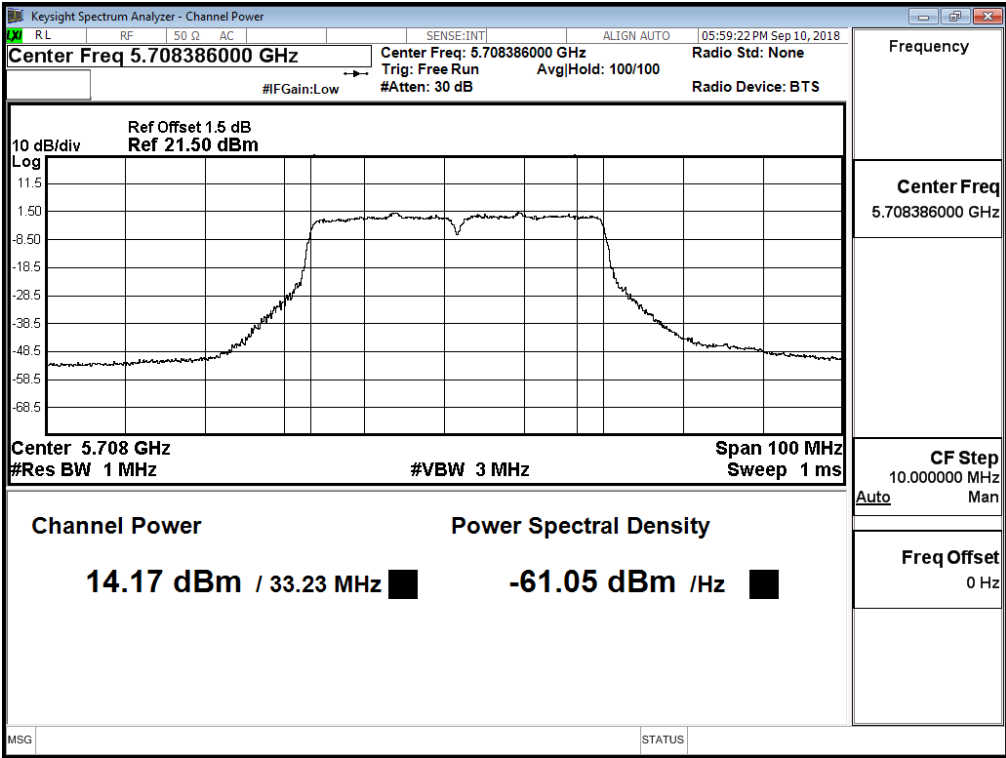
Maximum conducted output power:
Channel 142 (Band3) – Chain C



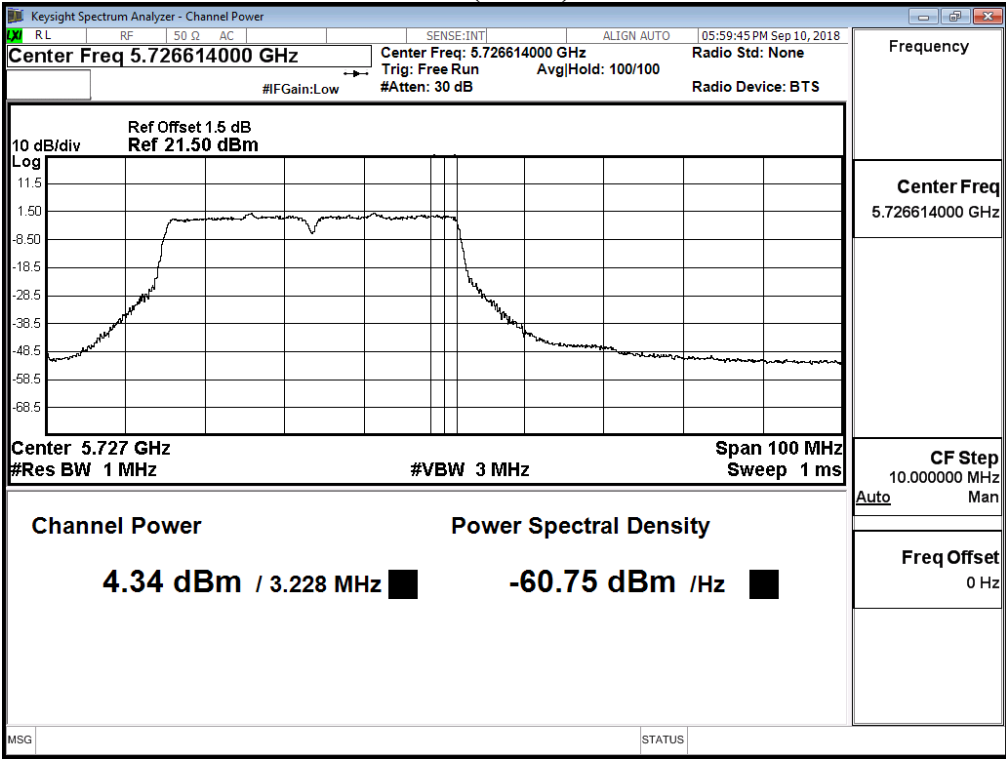
Channel 142 (Band4) – Chain C



Maximum conducted output power:
Channel 142 (Band3) – Chain D



Channel 142 (Band4) – Chain D



Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 6: Transmit (802.11ac-80BW-130Mbps) (Antenna No.19)

Chain A

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	15.45	15.4	15.32	15.25	15.20	15.1	15.00	14.93	14.87	14.78	<21.5dBm
58	5290	14.22	14.17	14.12	14.04	13.98	13.89	13.83	13.74	13.65	13.60	<21.5dBm
106	5530	14.17	--	--	--	--	--	--	--	--	--	<21.5dBm
122	5610	14.77	14.72	14.66	14.56	14.48	14.41	14.33	14.24	14.18	14.11	<21.5dBm
138(Band3)	5690	13.52	--	--	--	--	--	--	--	--	--	<21.5dBm
138(Band4)	5690	0.21	--	--	--	--	--	--	--	--	--	<27.5dBm
155	5775	17.87	17.77	17.72	17.66	17.59	17.52	17.46	17.38	17.31	17.24	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain B

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	14.97	14.87	14.82	14.73	14.63	14.58	14.53	14.43	14.36	14.26	<21.5dBm
58	5290	14.55	14.46	14.37	14.32	14.22	14.13	14.06	13.96	13.88	13.81	<21.5dBm
106	5530	14.32	--	--	--	--	--	--	--	--	--	<21.5dBm
122	5610	14.85	14.75	14.69	14.63	14.58	14.53	14.45	14.36	14.31	14.22	<21.5dBm
138(Band3)	5690	16.03	--	--	--	--	--	--	--	--	--	<21.5dBm
138(Band4)	5690	3.27	--	--	--	--	--	--	--	--	--	<27.5dBm
155	5775	18.15	18.06	18	17.93	17.83	17.73	17.66	17.56	17.47	17.38	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain C

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	16.03	15.93	15.85	15.8	15.70	15.62	15.55	15.5	15.42	15.35	<21.5dBm
58	5290	14.79	14.73	14.63	14.55	14.47	14.39	14.30	14.21	14.14	14.09	<21.5dBm
106	5530	14.24	--	--	--	--	--	--	--	--	--	<21.5dBm
122	5610	15.68	15.6	15.54	15.48	15.40	15.34	15.24	15.14	15.08	15.01	<21.5dBm
138(Band3)	5690	14.19	--	--	--	--	--	--	--	--	--	<21.5dBm
138(Band4)	5690	0.25	--	--	--	--	--	--	--	--	--	<27.5dBm
155	5775	18.27	18.21	18.12	18.07	17.99	17.94	17.84	17.75	17.70	17.64	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Chain D

Cable loss=1dB		Maximum conducted output power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	15.11	15.05	14.96	14.9	14.82	14.72	14.62	14.56	14.49	14.4	<21.5dBm
58	5290	13.87	13.79	13.74	13.65	13.60	13.50	13.43	13.33	13.23	13.15	<21.5dBm
106	5530	14.42	--	--	--	--	--	--	--	--	--	<21.5dBm
122	5610	15.78	15.69	15.61	15.51	15.46	15.36	15.31	15.24	15.18	15.10	<21.5dBm
138(Band3)	5690	16.36	--	--	--	--	--	--	--	--	--	<21.5dBm
138(Band4)	5690	2.44	--	--	--	--	--	--	--	--	--	<27.5dBm
155	5775	18.68	18.58	18.5	18.40	18.33	18.23	18.16	18.06	17.99	17.93	<27.5dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

**Maximum conducted output power Measurement
(CHAIN A+ B+C+D)**

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Output Power Limit		Result
								(dBm)	dBm+10log(BW)	
42	5210	--	15.450	14.970	16.030	15.110	21.43	21.5	--	Pass
58	5290	75.679	14.220	14.550	14.790	13.870	20.39	21.5	27.29	Pass
106	5530	75.751	14.170	14.320	14.240	14.420	20.31	21.5	27.29	Pass
122	5610	75.751	14.770	14.850	15.680	15.780	21.32	21.5	27.29	Pass
138	5690	72.876	13.520	16.030	14.190	16.360	21.21	21.5	27.13	Pass
138ac80(Band4)	5690	2.876	0.210	3.270	0.250	2.440	7.77	27.5	13.09	Pass
155	5775	--	17.870	18.150	18.270	18.680	24.27	27.5	--	Pass

Note:

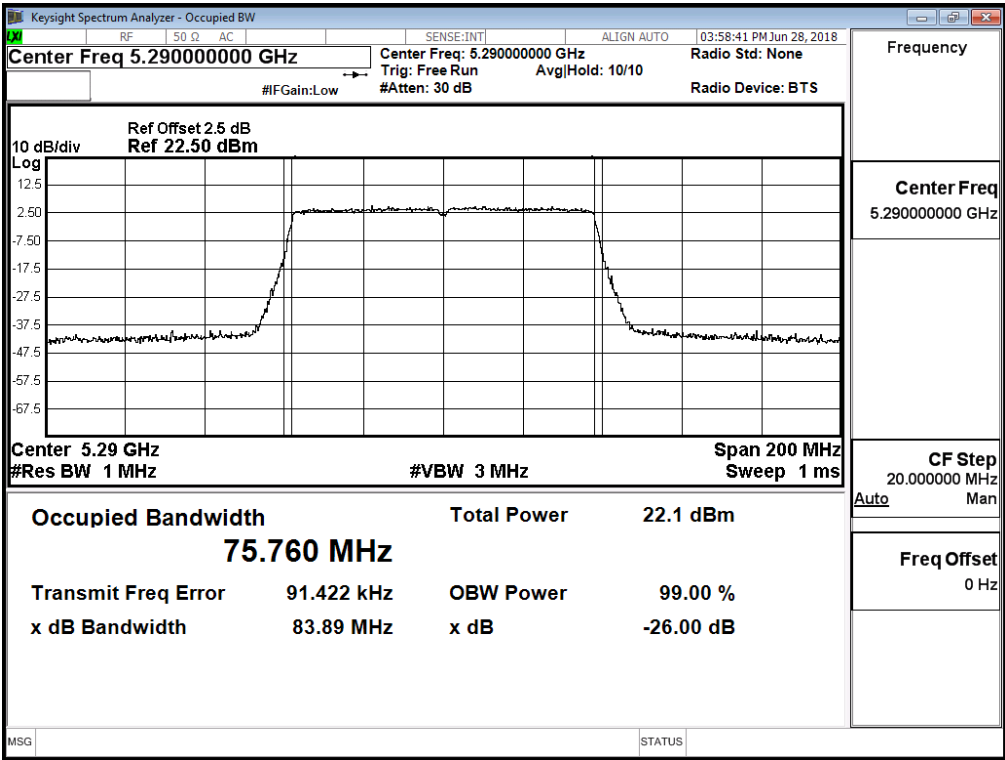
1. Output Power (dBm) = 10*LOG (Chain A (mW)+ Chain B (mW) + Chain C (mW) + Chain D (mW))
2. 26 dB Bandwidth is the bandwidth of chain A, chain B, chain C or chain D whichever is less bandwidth, output power limitation is more stringent.

**Maximum conducted output power Measurement with Transmit power Control (TPC)
(CHAIN A+ B+C+D)**

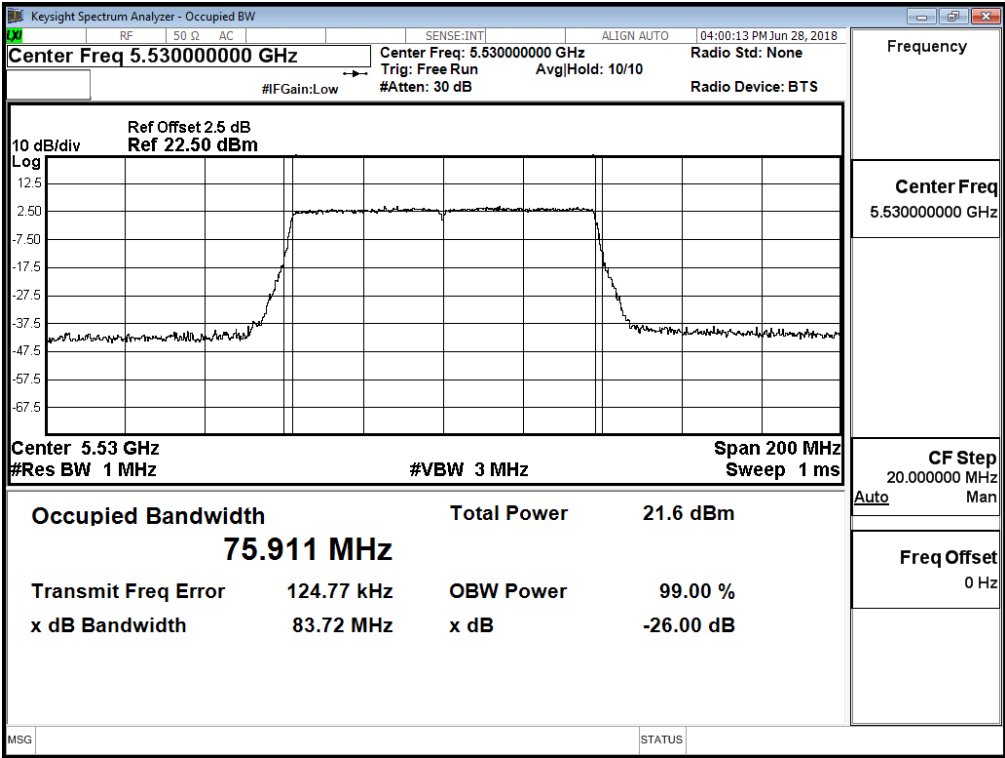
Channel No	Frequency Range (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Chain D Power (dBm)	Output Power (dBm)	Result
58	5290	8.000	8.260	8.600	7.500	14.13	Pass
106	5530	7.880	7.930	7.950	8.030	13.97	Pass
122	5610	8.470	8.720	9.480	9.650	15.13	Pass
138	5690	7.410	9.650	7.890	10.170	14.95	Pass

99% Bandwidth:

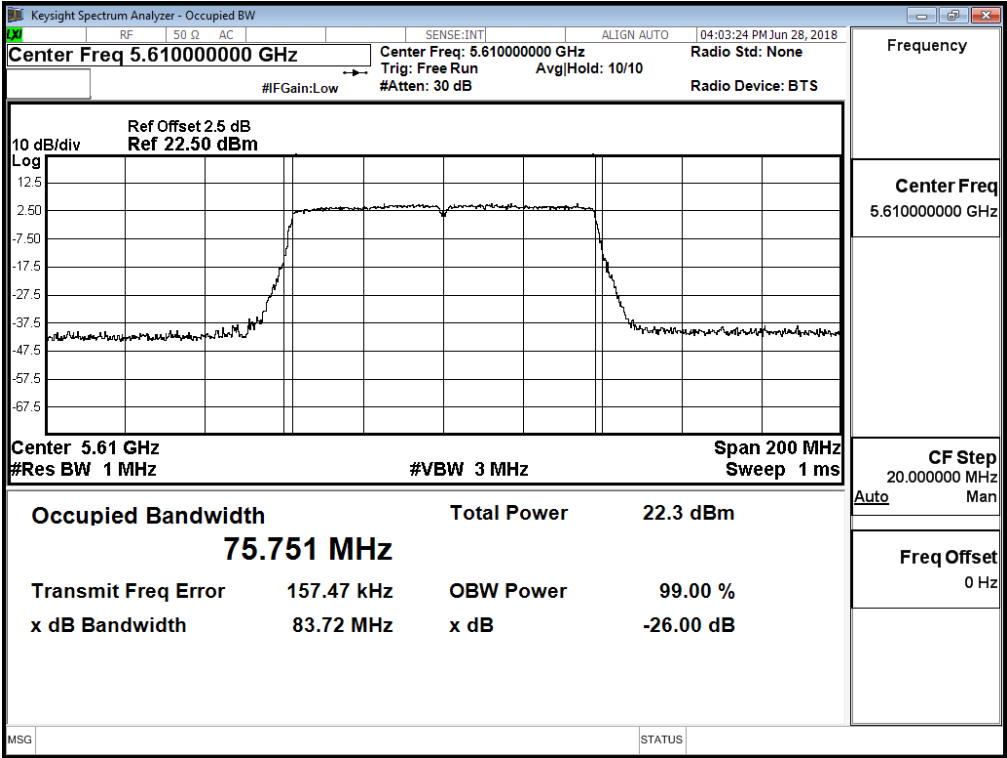
Channel 58 – Chain A



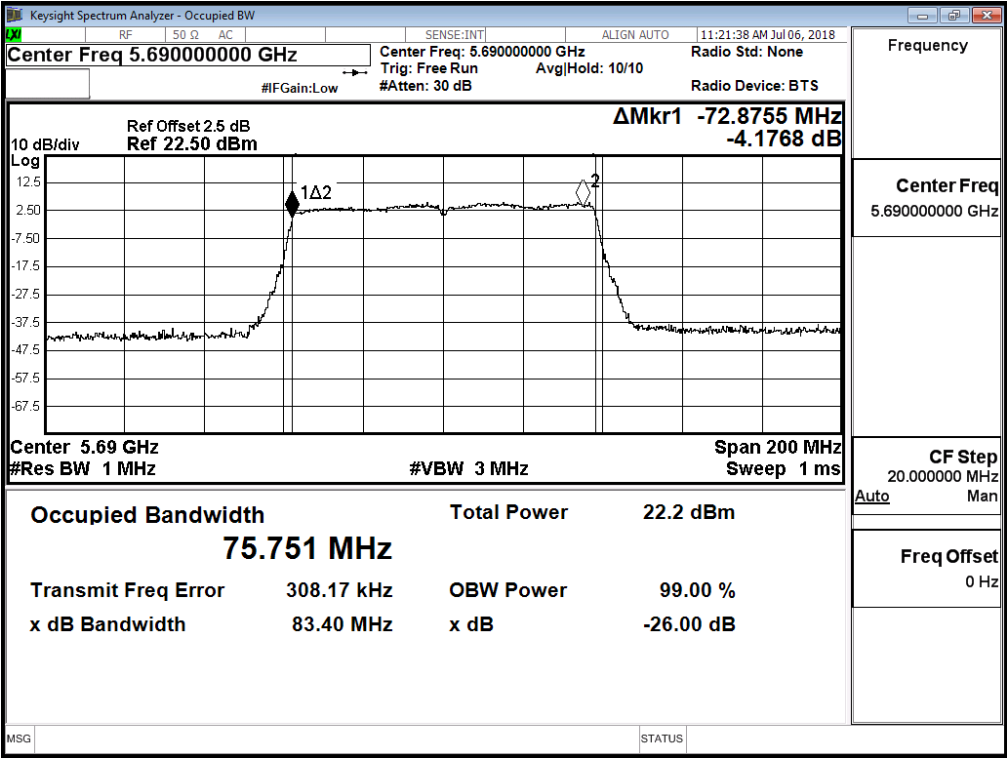
Channel 106 – Chain A



Channel 122 – Chain A

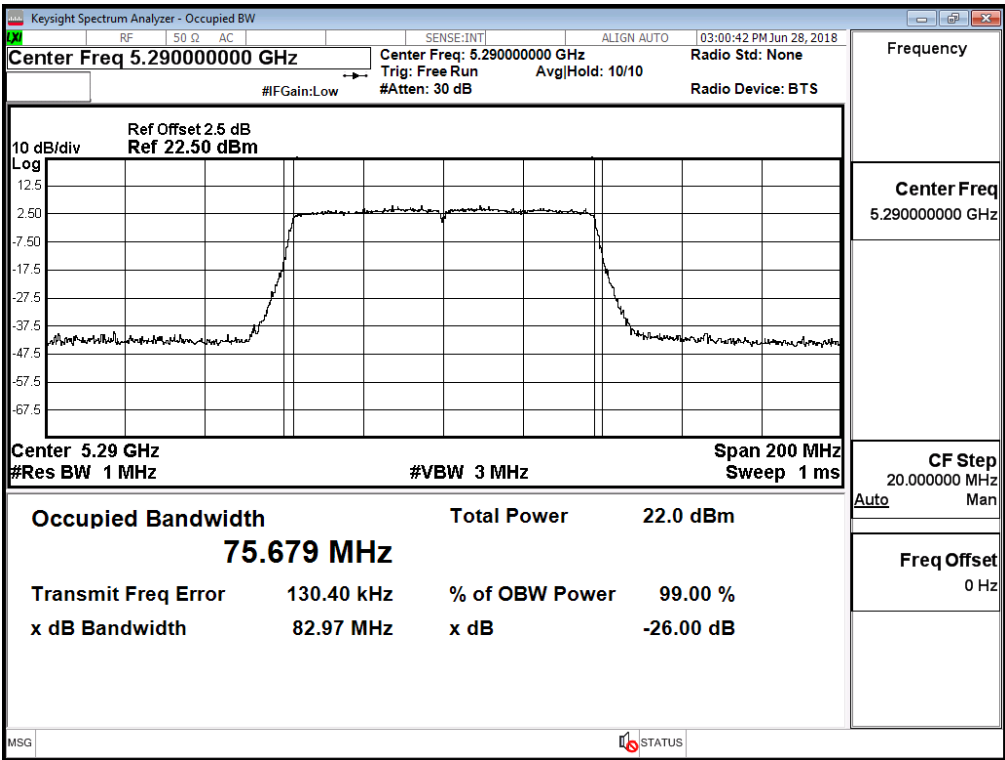


Channel 138 – Chain A

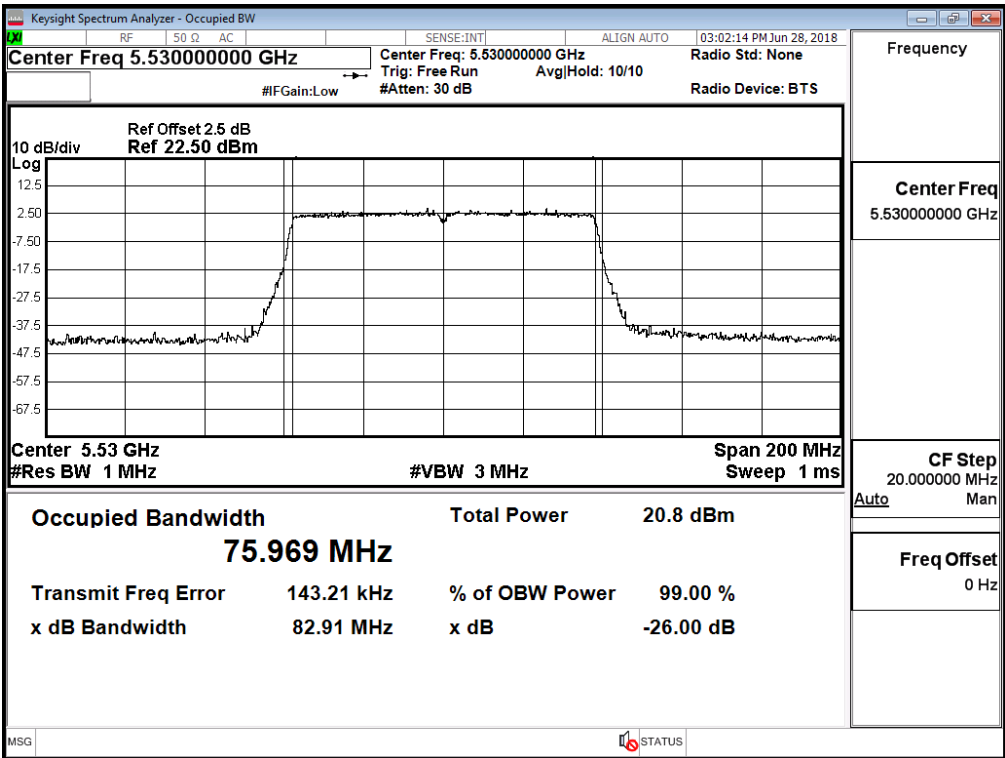


99% Bandwidth:

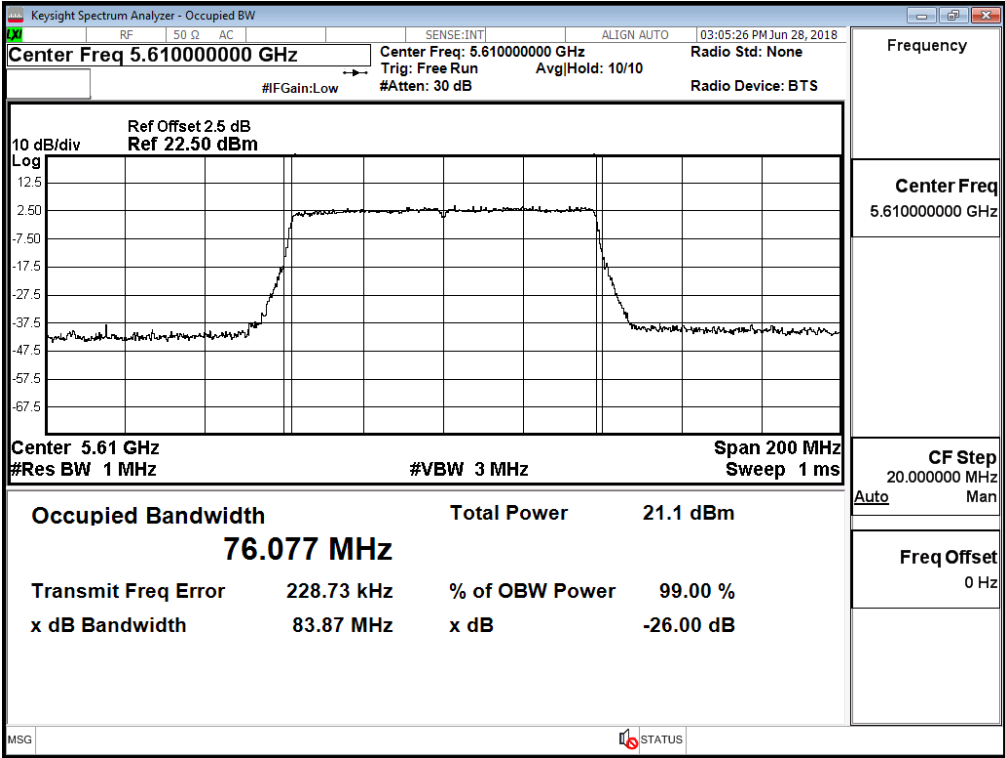
Channel 58 – Chain B



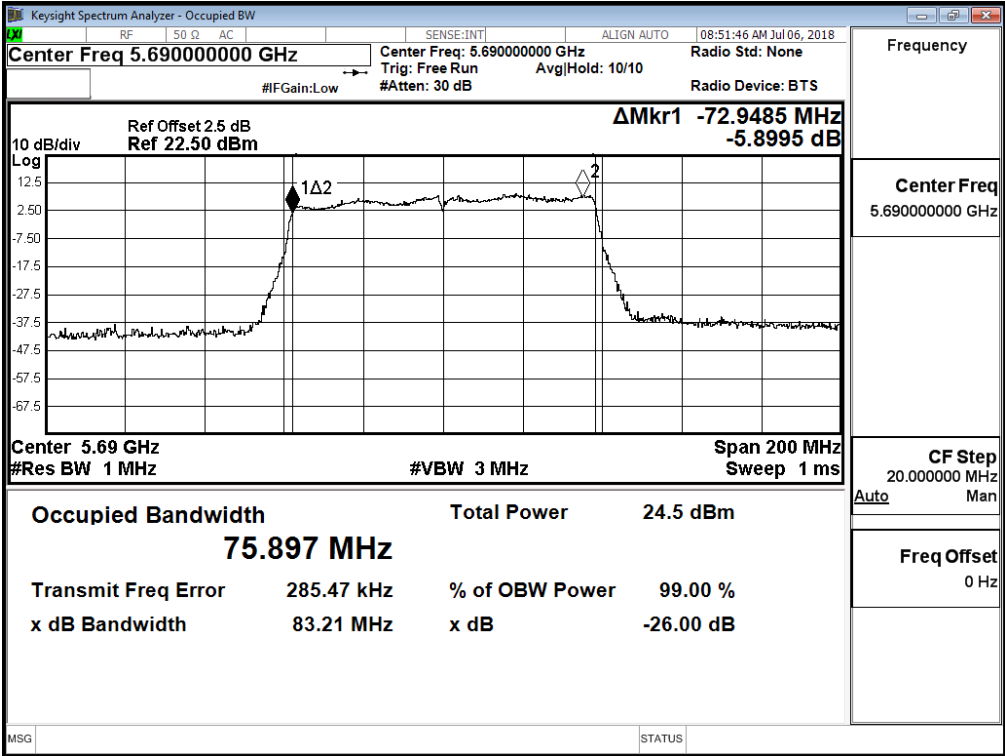
Channel 106 – Chain B



Channel 122 – Chain B

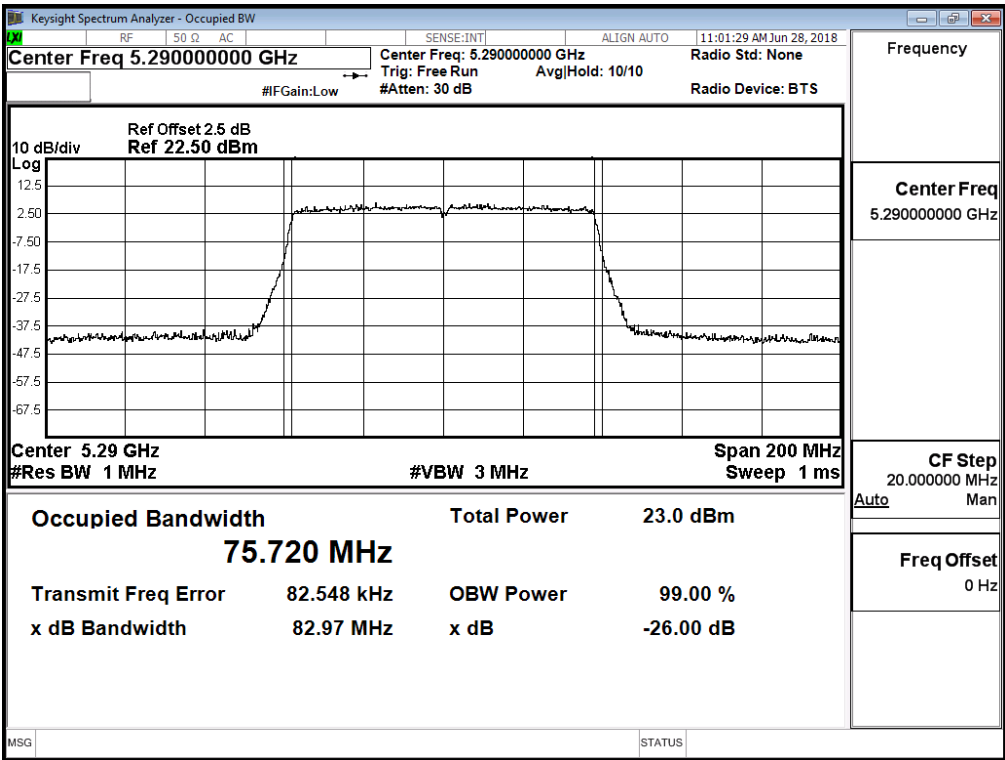


Channel 138 – Chain B

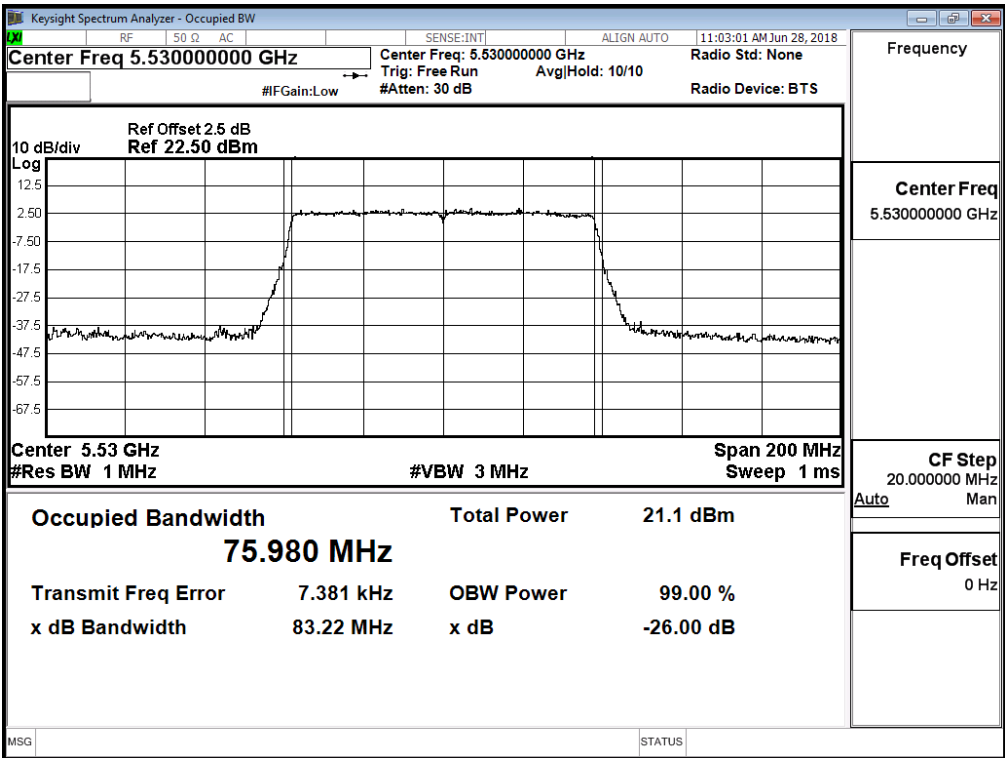


99% Bandwidth:

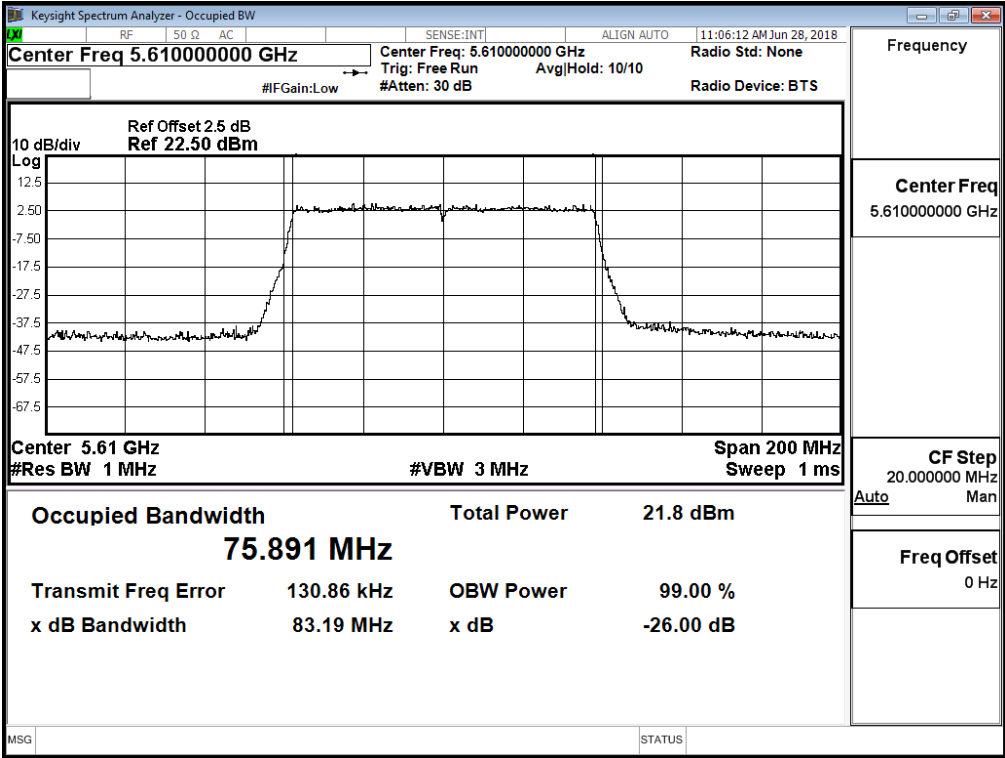
Channel 58 – Chain C



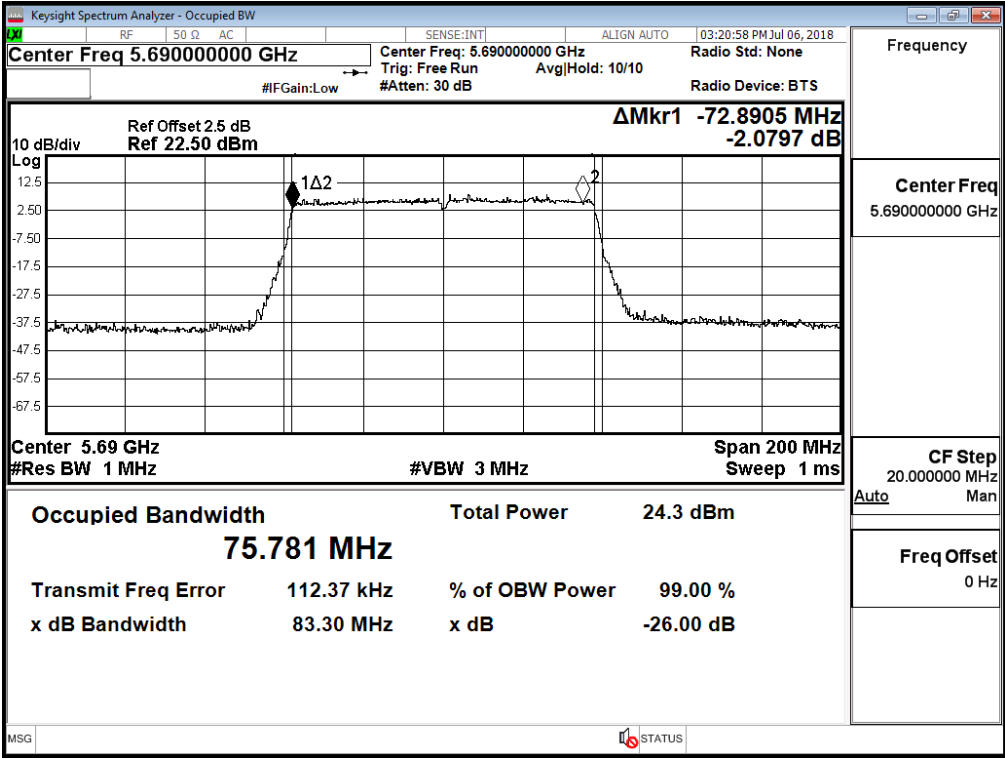
Channel 106 – Chain C



Channel 122 – Chain C

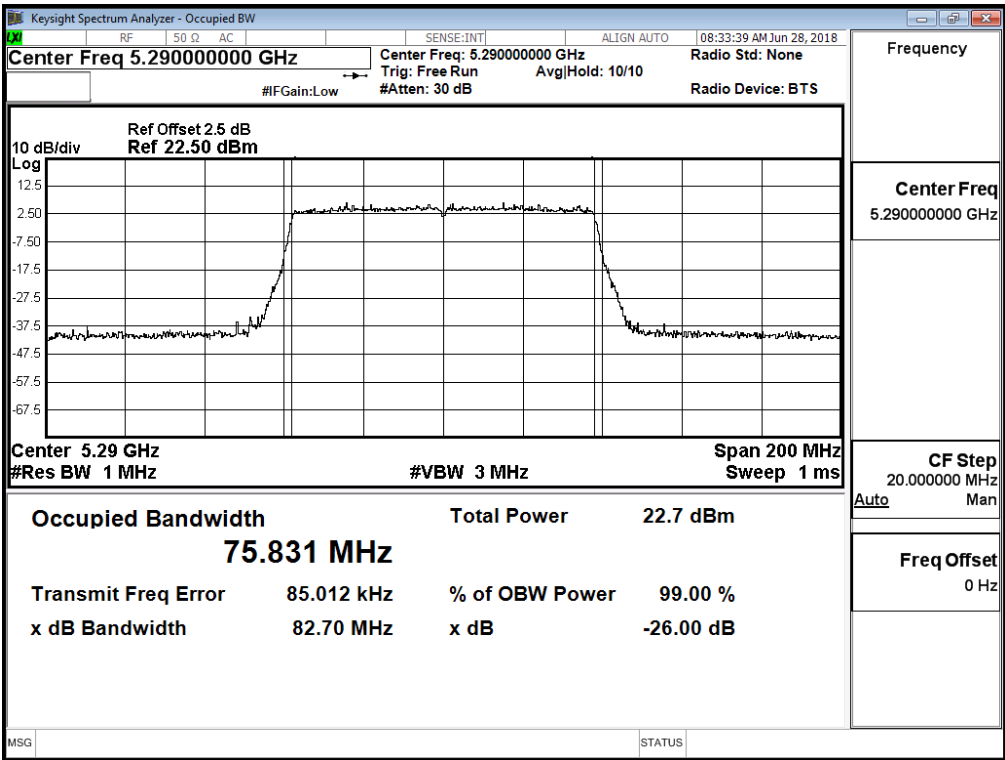


Channel 138 – Chain C

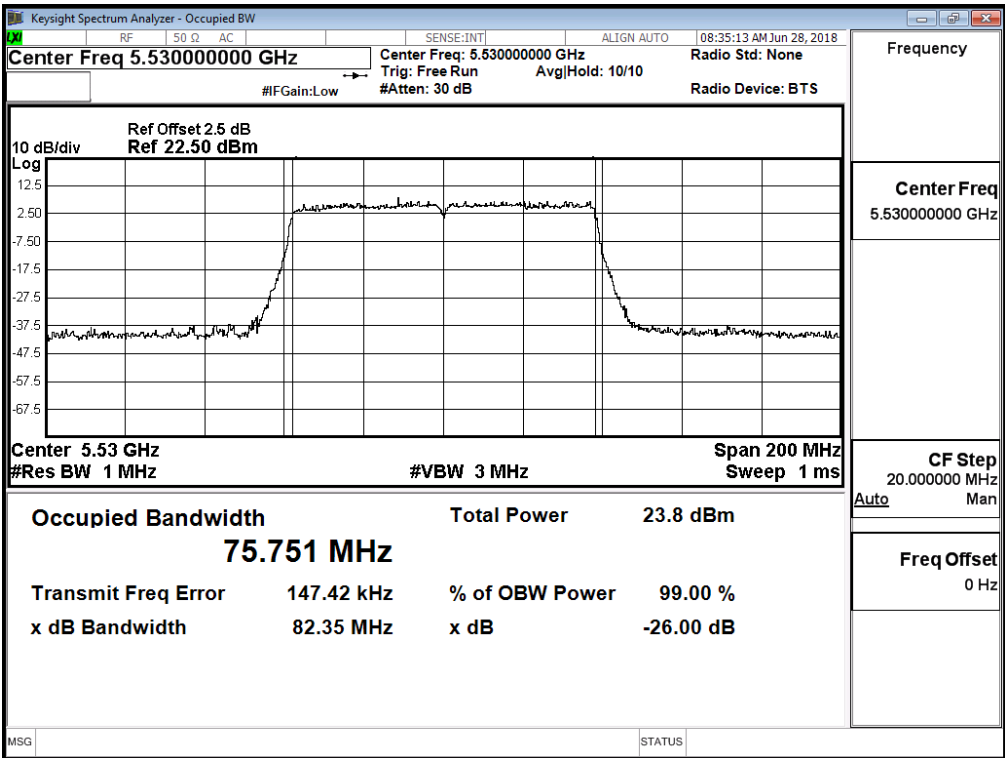


99% Bandwidth:

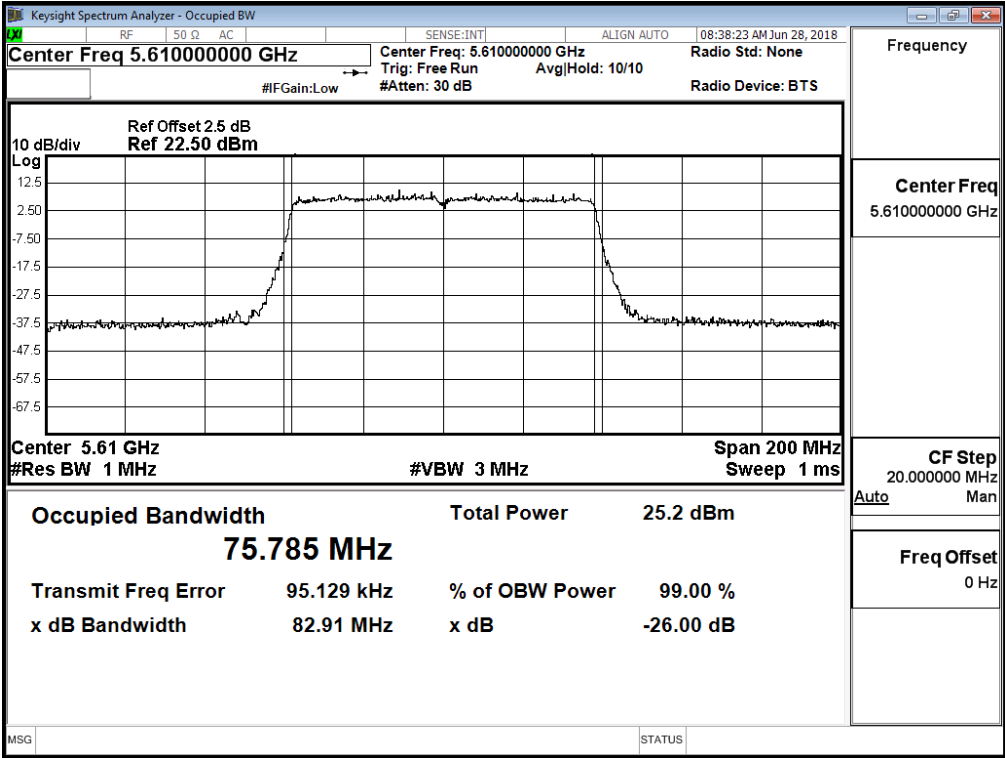
Channel 58 – Chain D



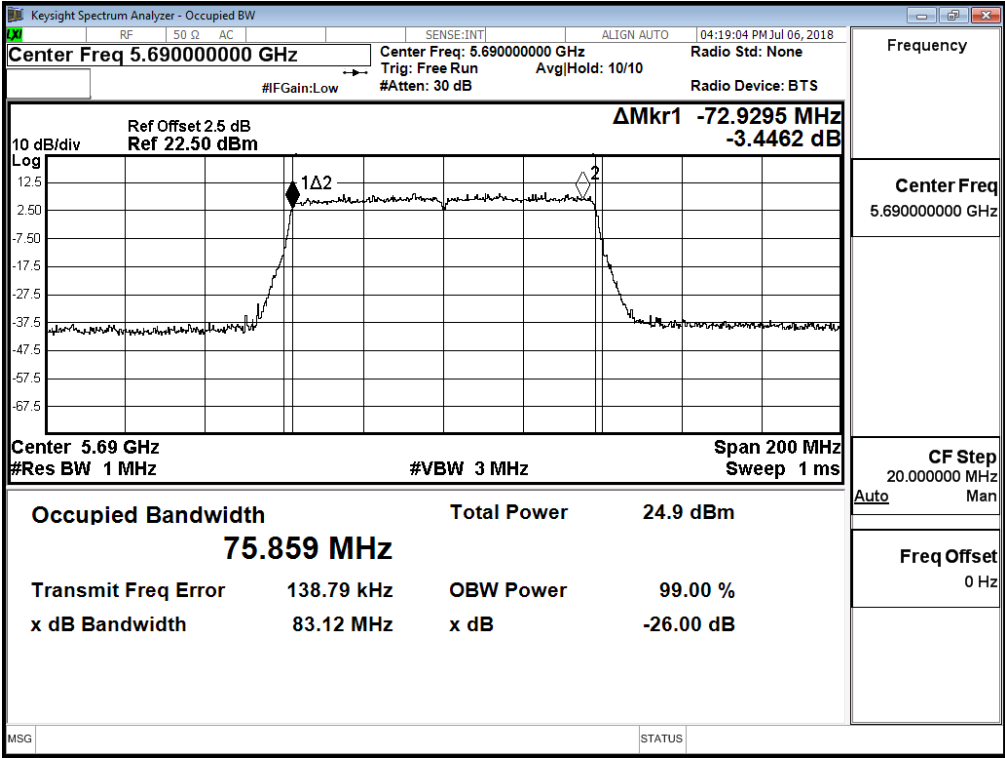
Channel 106 – Chain D



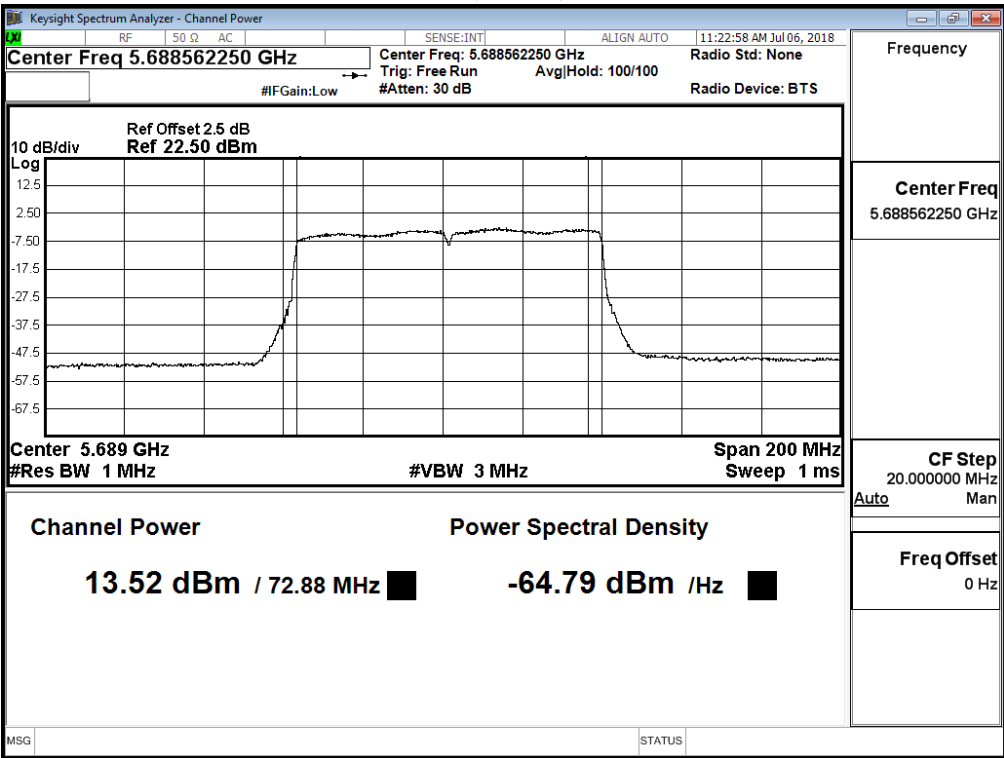
Channel 122 – Chain D



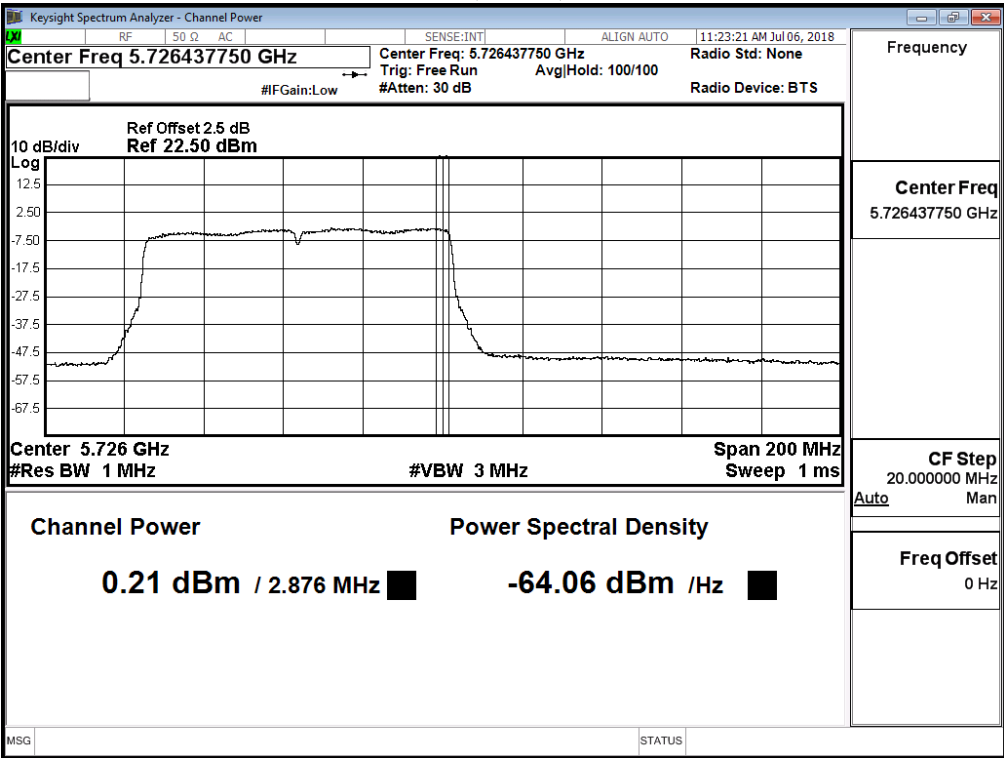
Channel 138 – Chain D



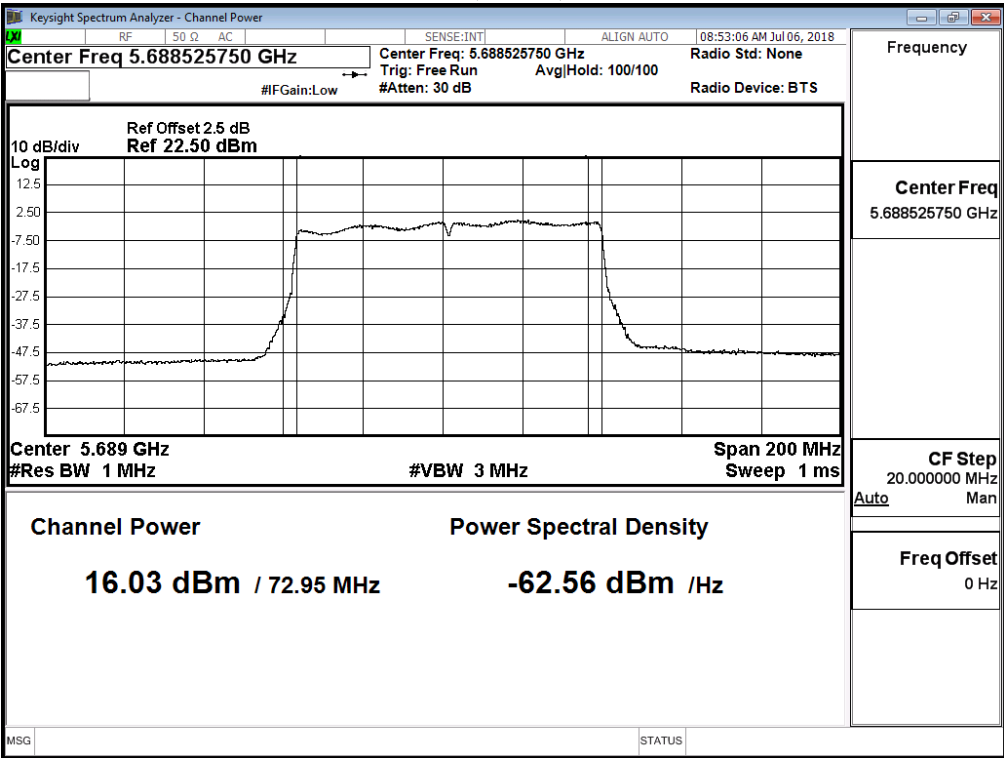
Maximum conducted output power:
Channel 138 (Band3) – Chain A



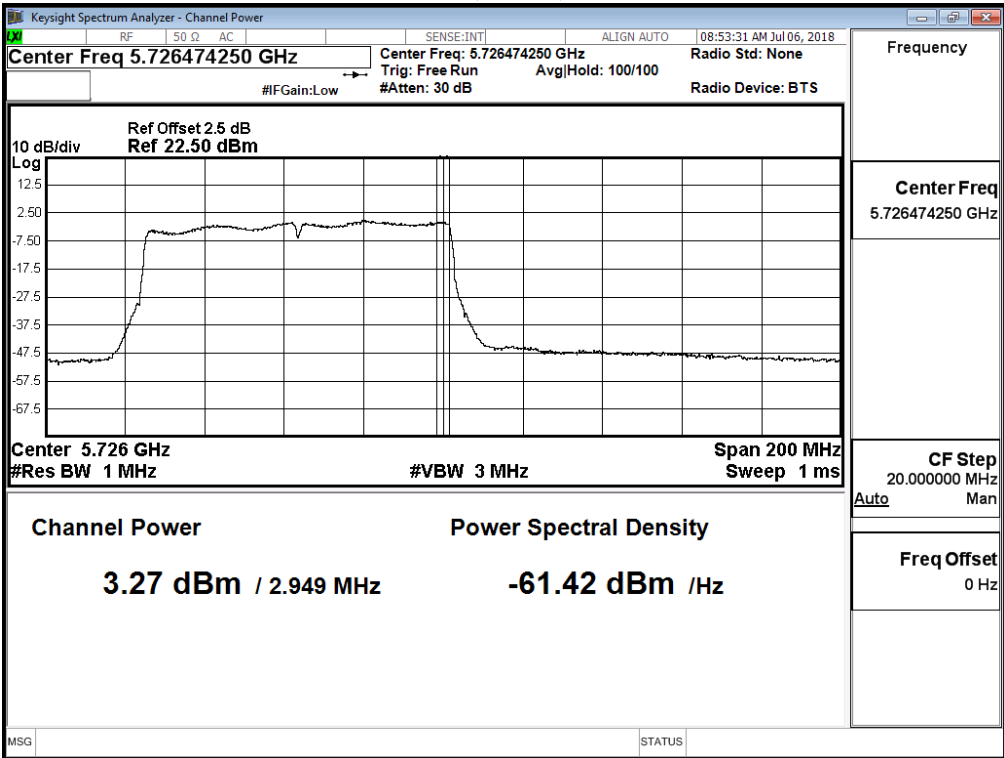
Maximum conducted output power:
Channel 138 (Band4) – Chain A

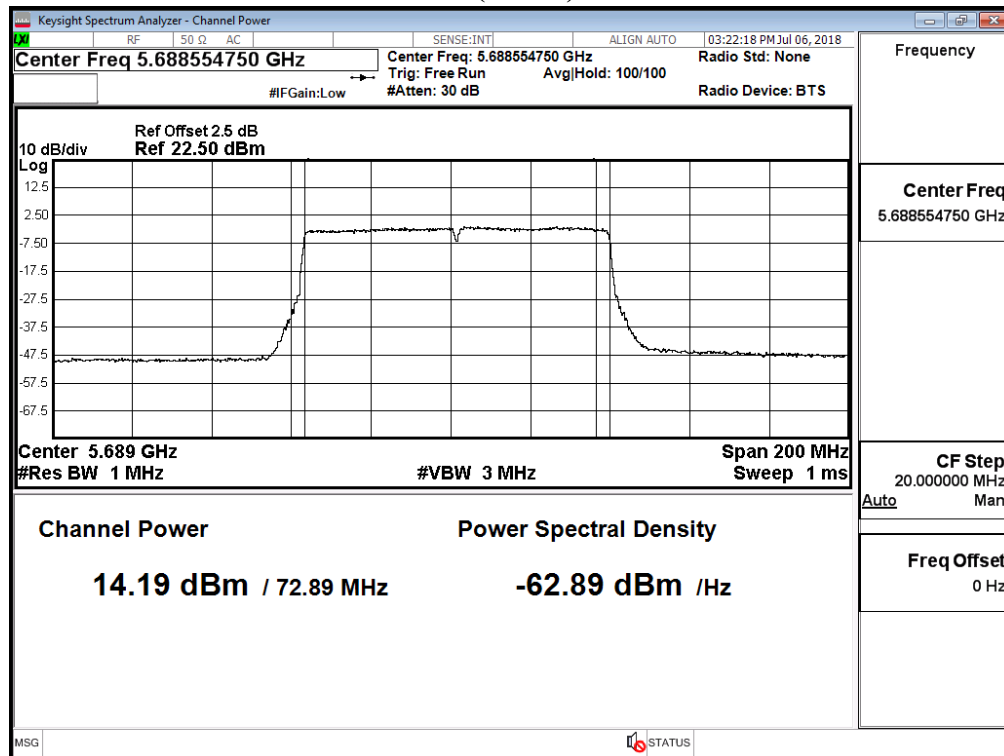
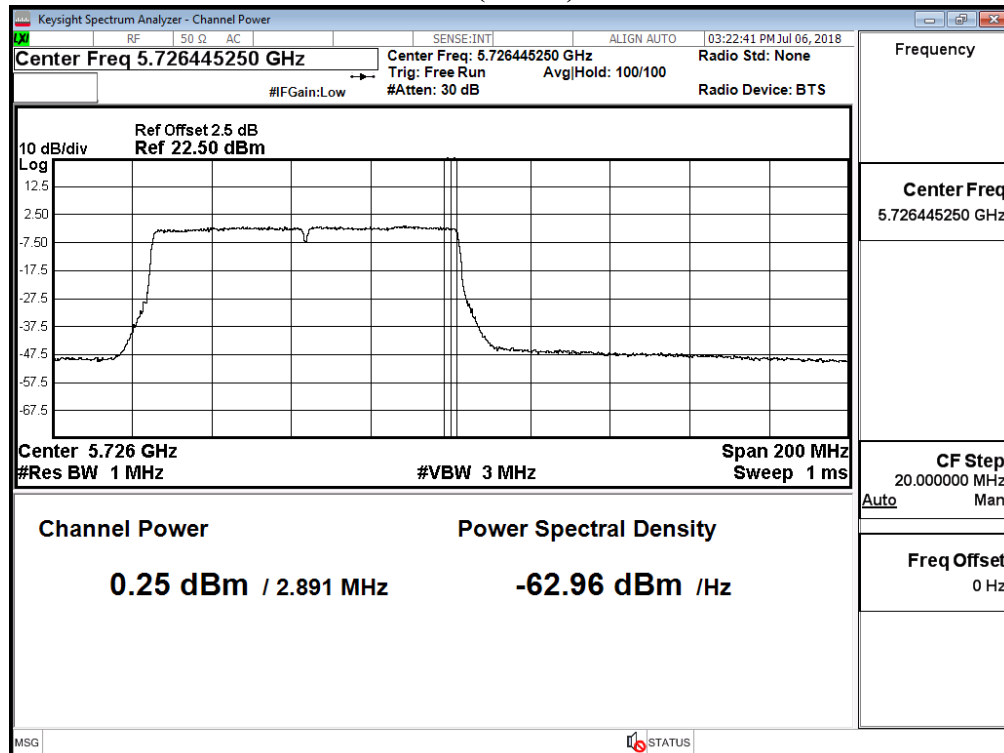


Maximum conducted output power:
Channel 138 (Band3) – Chain B

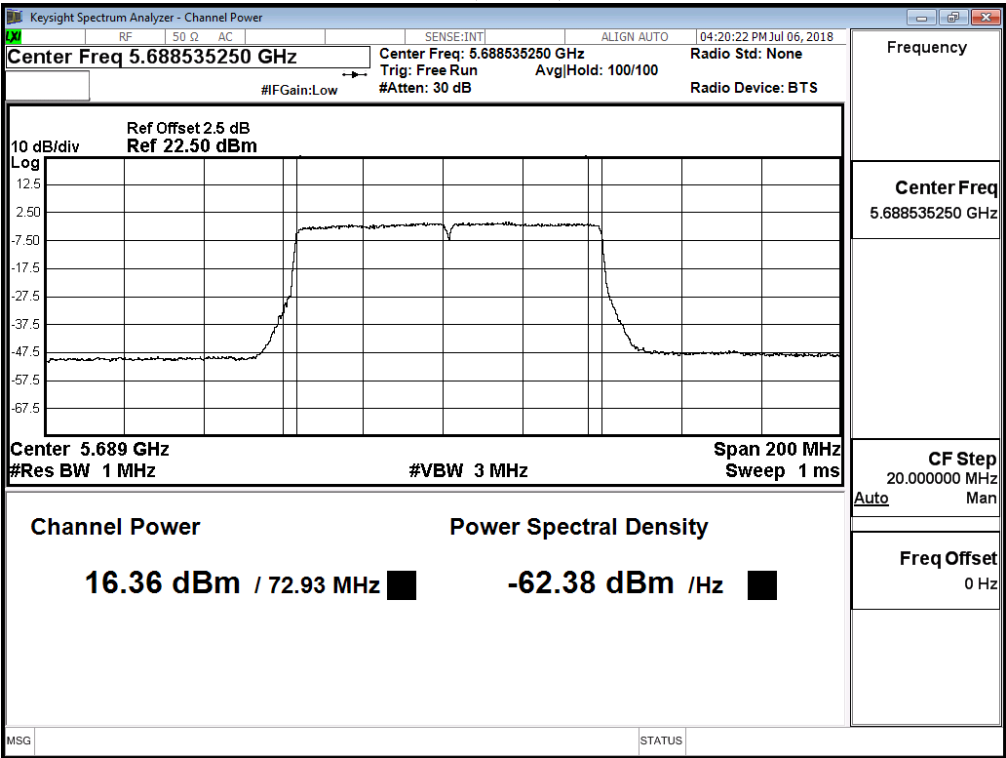


Maximum conducted output power:
Channel 138 (Band4) – Chain B

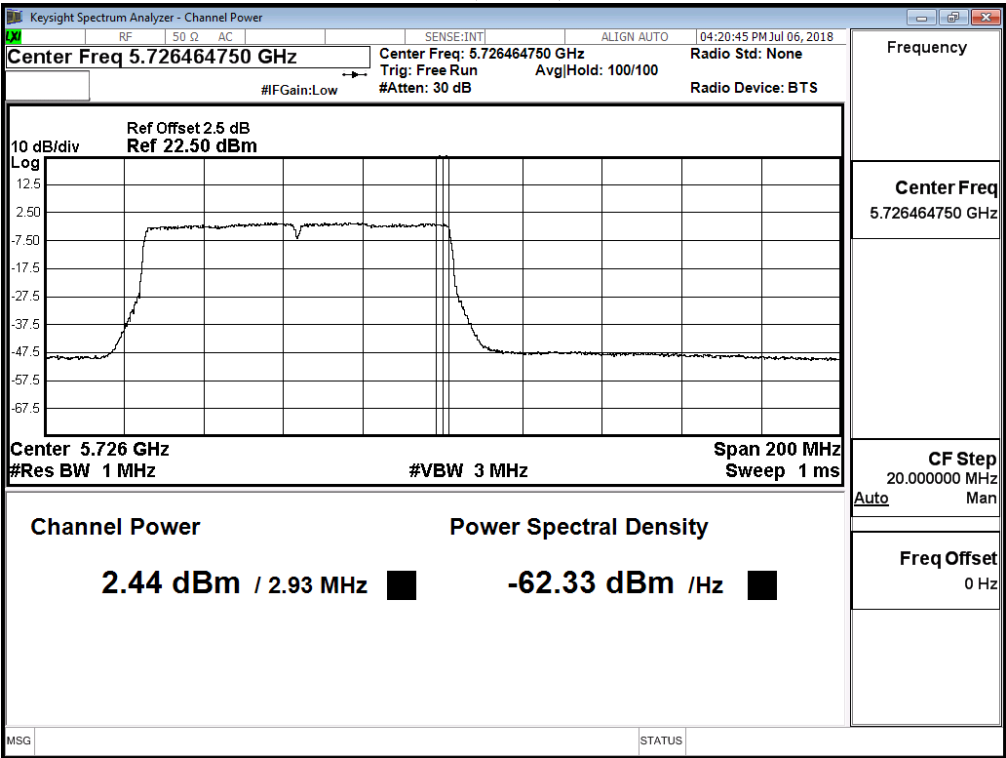


Maximum conducted output power:**Channel 138 (Band3) – Chain C****Maximum conducted output power:****Channel 138 (Band4) – Chain C**

Maximum conducted output power:
Channel 138 (Band3) – Chain D

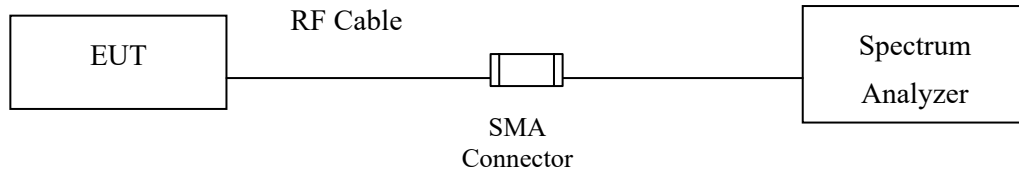


Maximum conducted output power:
Channel 138 (Band4) – Chain D



4. Peak Power Spectral Density

4.1. Test Setup



4.2. Limits

- (1) For the band 5.15-5.25 GHz,
 - (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
 - (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the

maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.3. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII 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.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/100\text{ kHz}) = 6.98\text{ dB}$.

4.4. Uncertainty

$\pm 1.62\text{ dB}$

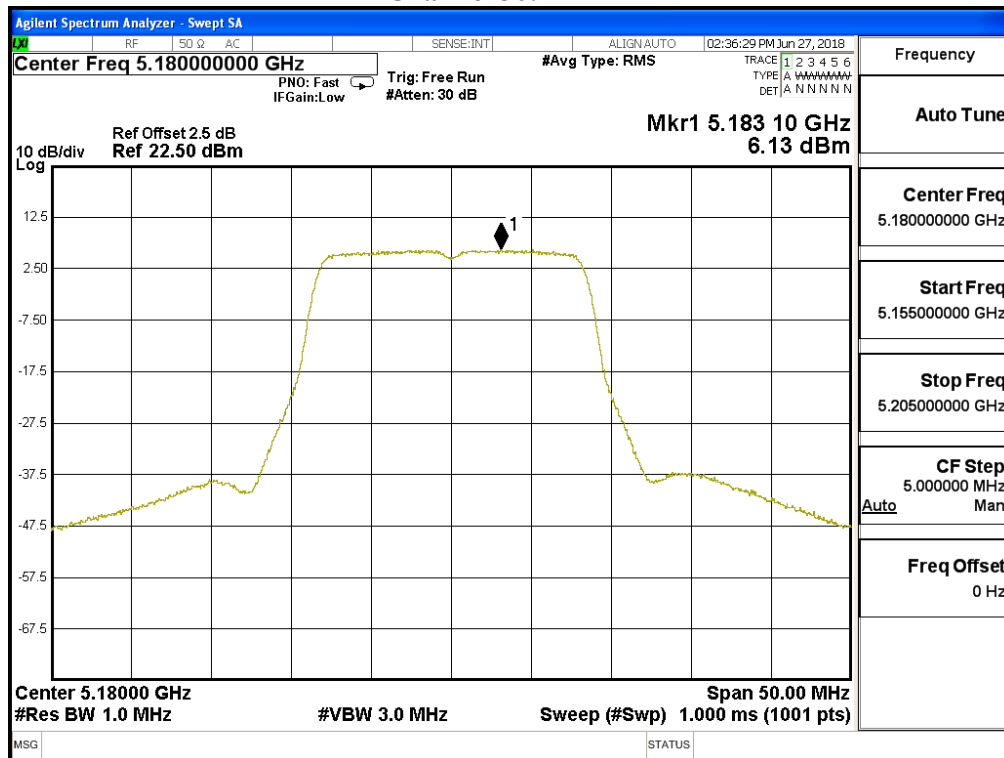
4.5. Test Result of Peak Power Spectral Density

Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Date : 2018/07/20
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (Antenna No.1)

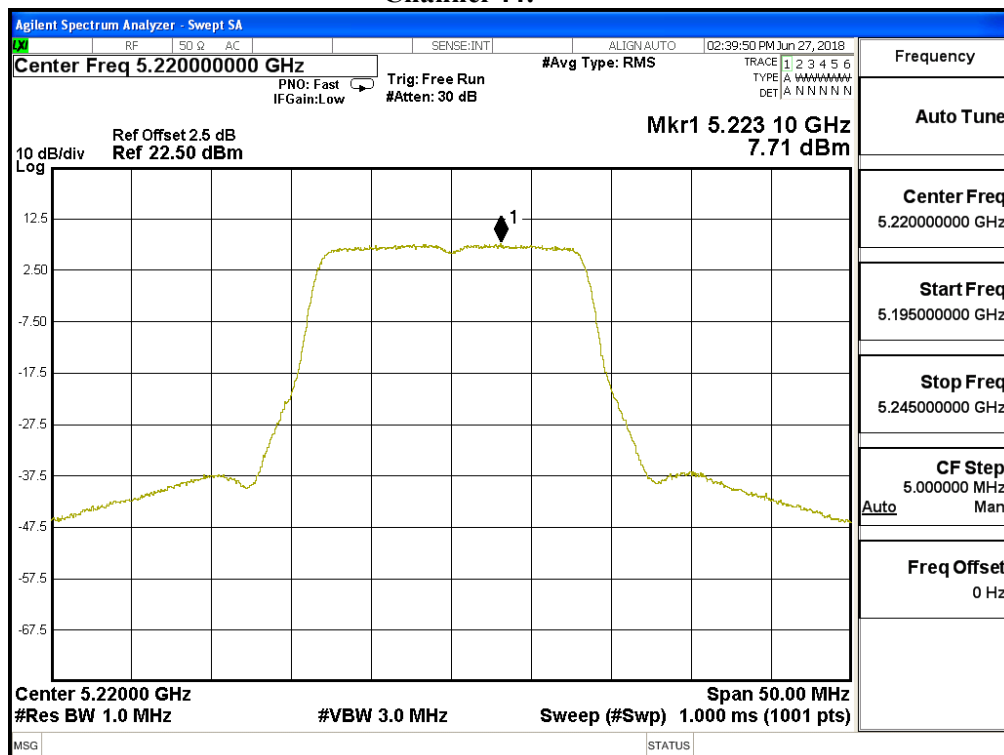
Channel Number	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	6.13	8.23	Pass
44	5220	6	7.71	8.23	Pass
48	5240	6	7.16	8.23	Pass
52	5260	6	6.02	8.23	Pass
60	5300	6	6.14	8.23	Pass
64	5320	6	6.44	8.23	Pass
100	5500	6	6.03	8.5	Pass
116	5580	6	6.53	8.5	Pass
140	5700	6	5.49	8.5	Pass

Channel Number	Frequency (MHz)	Data Rate (Mbps)	PPSD (dBm)	BWCF (dB)	Total PSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-0.05	6.98	12.95	<27.82	Pass
157	5785	6	0.32	6.98	13.32	<27.82	Pass
165	5825	6	0.00	6.98	13.00	<27.82	Pass

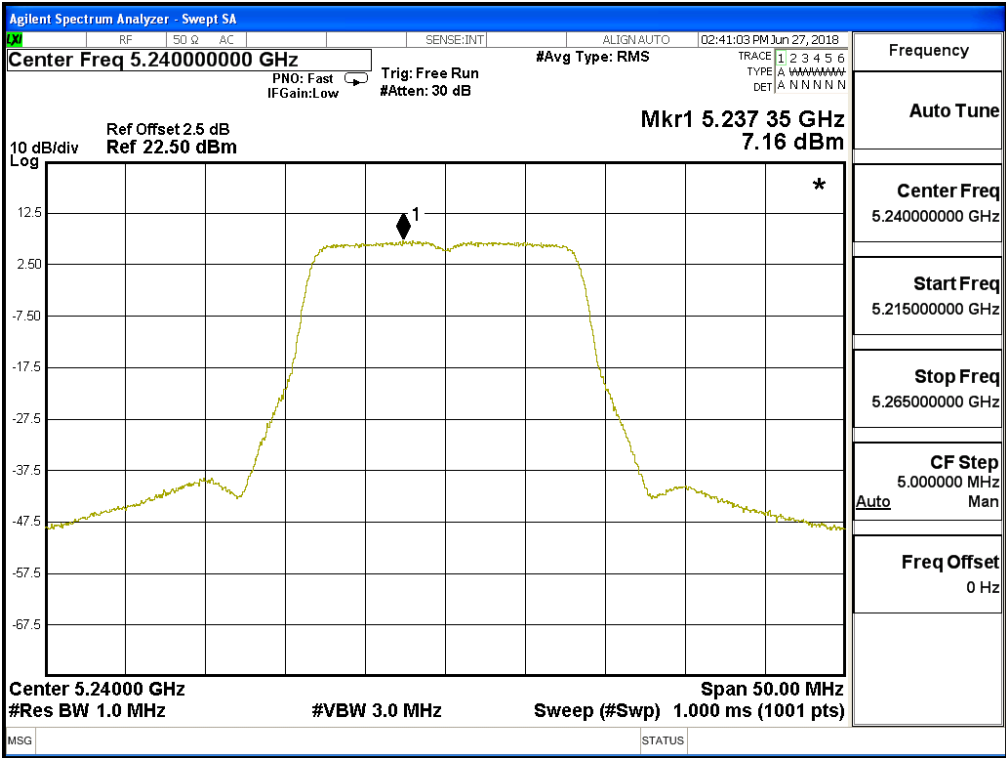
Channel 36:



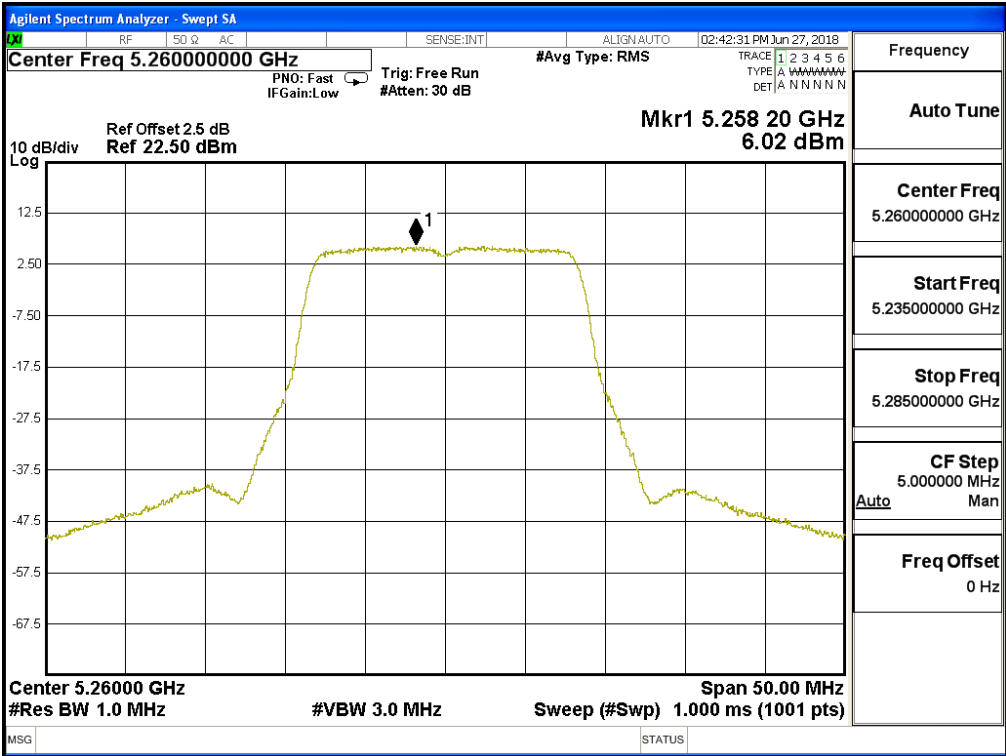
Channel 44:



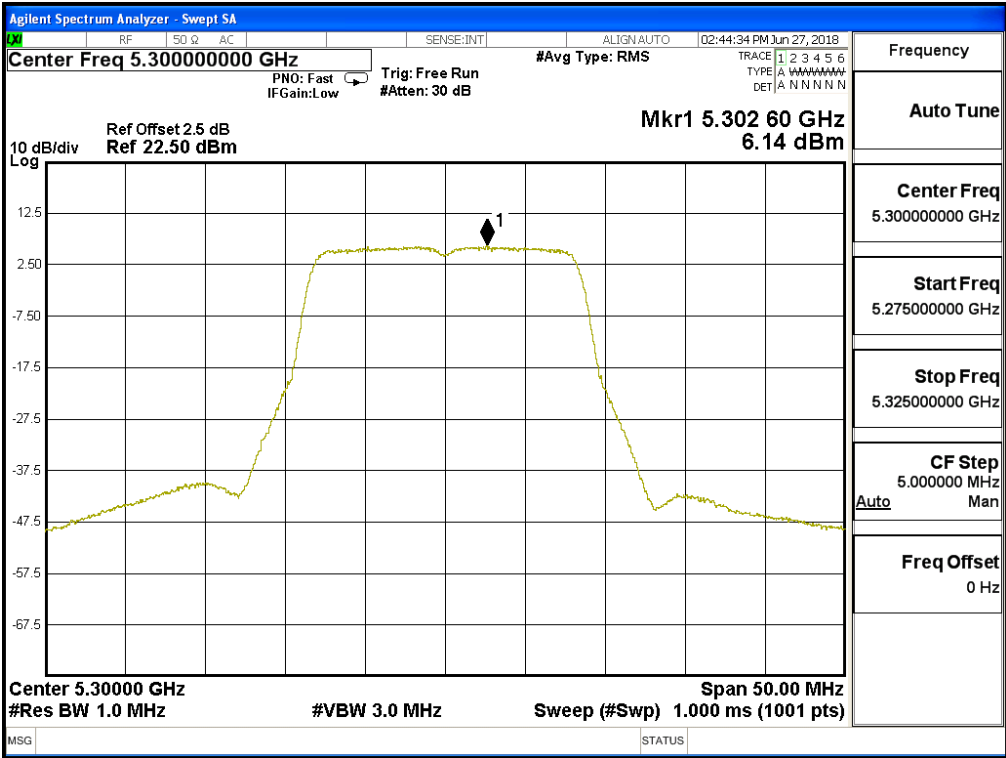
Channel 48:



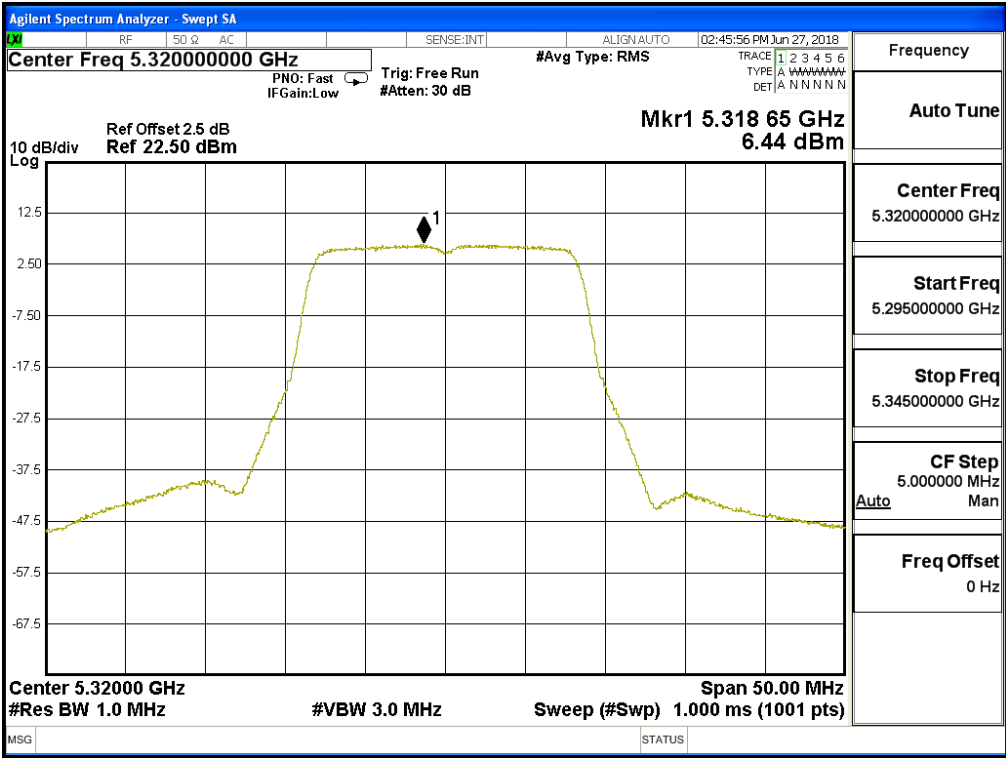
Channel 52:



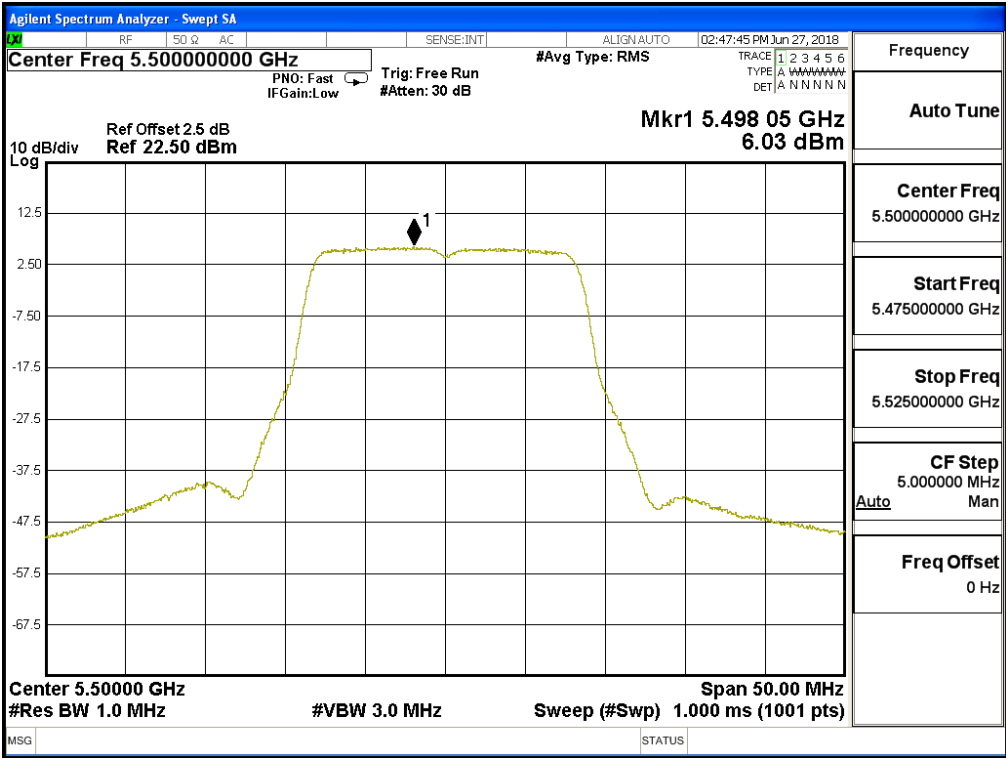
Channel 60:



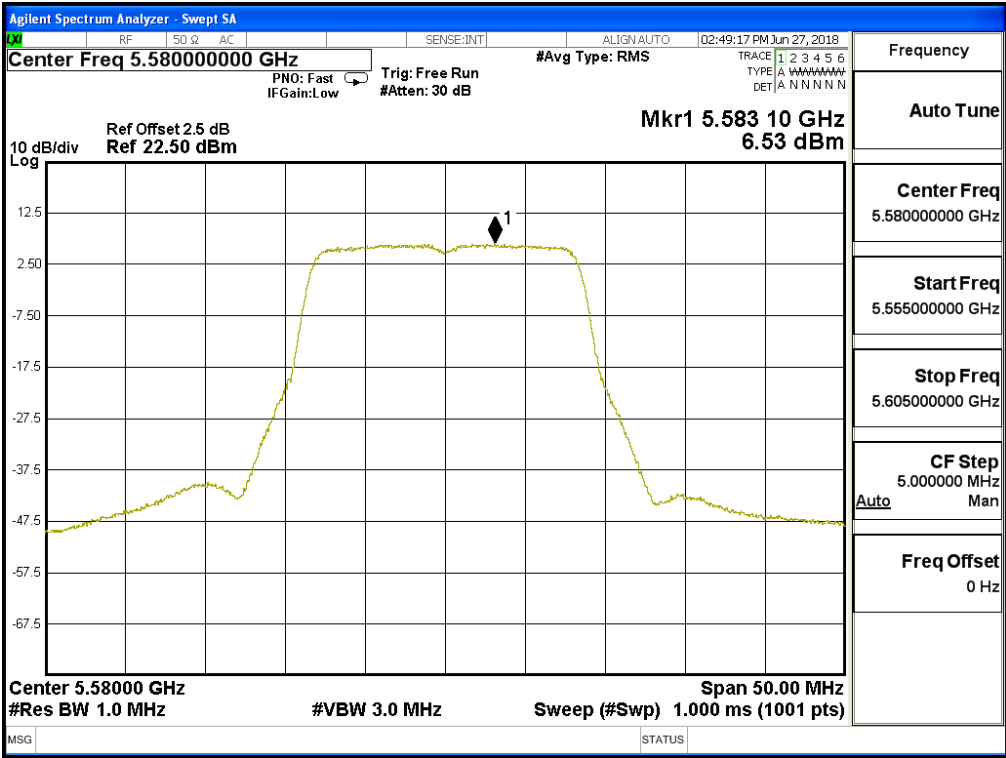
Channel 64:



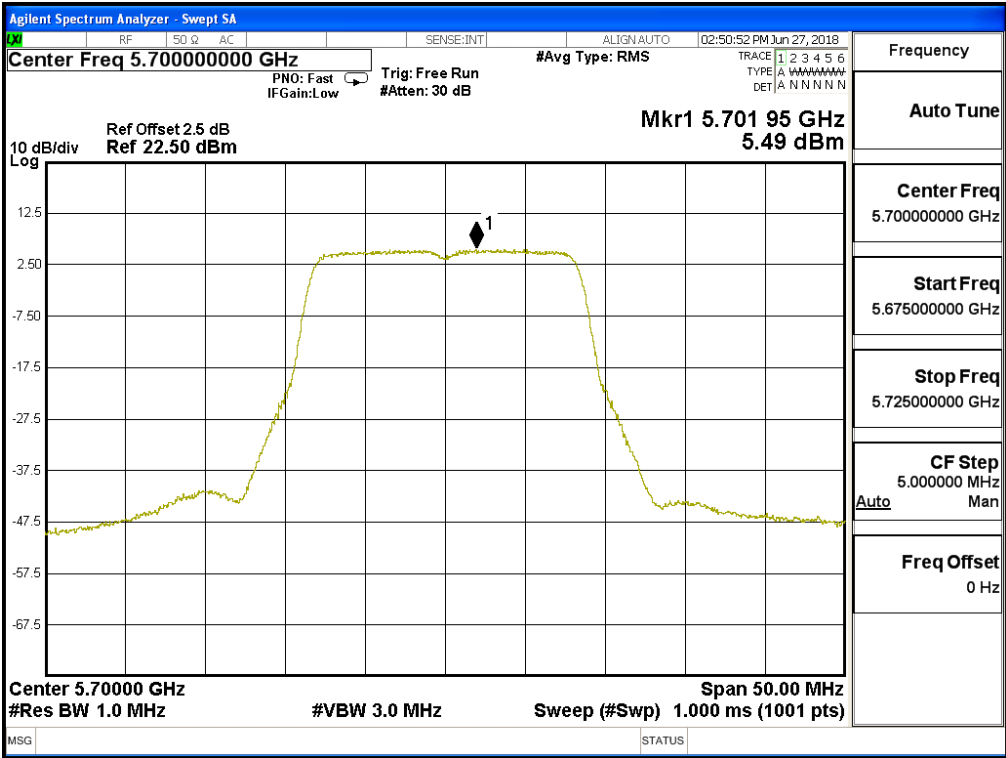
Channel 100:



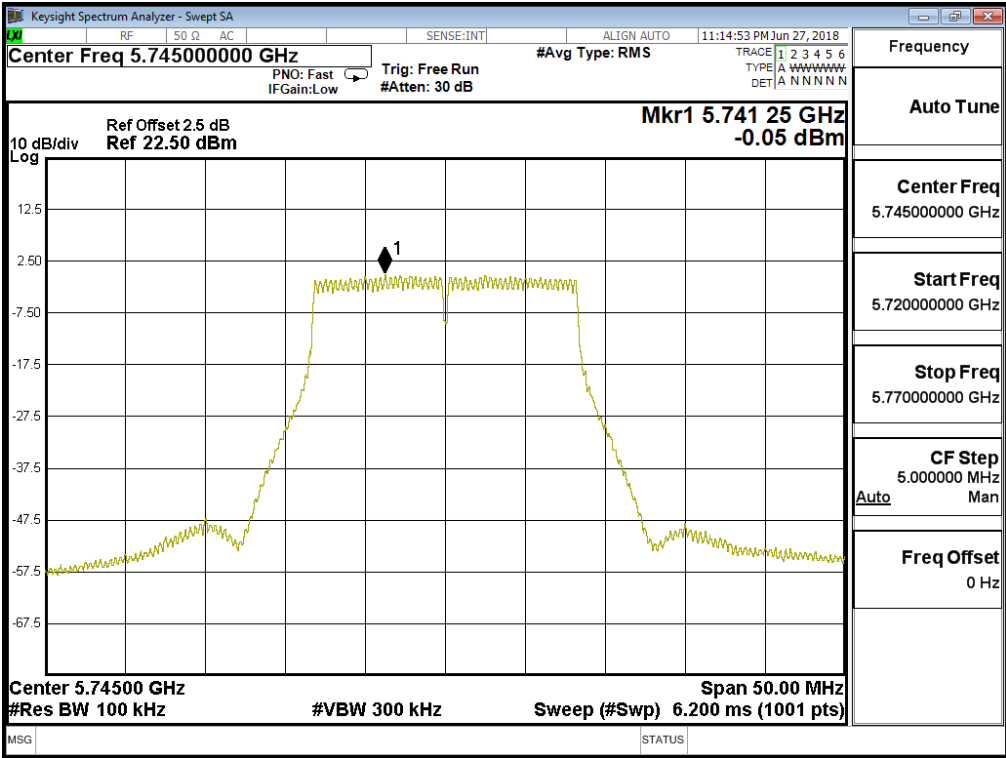
Channel 116:



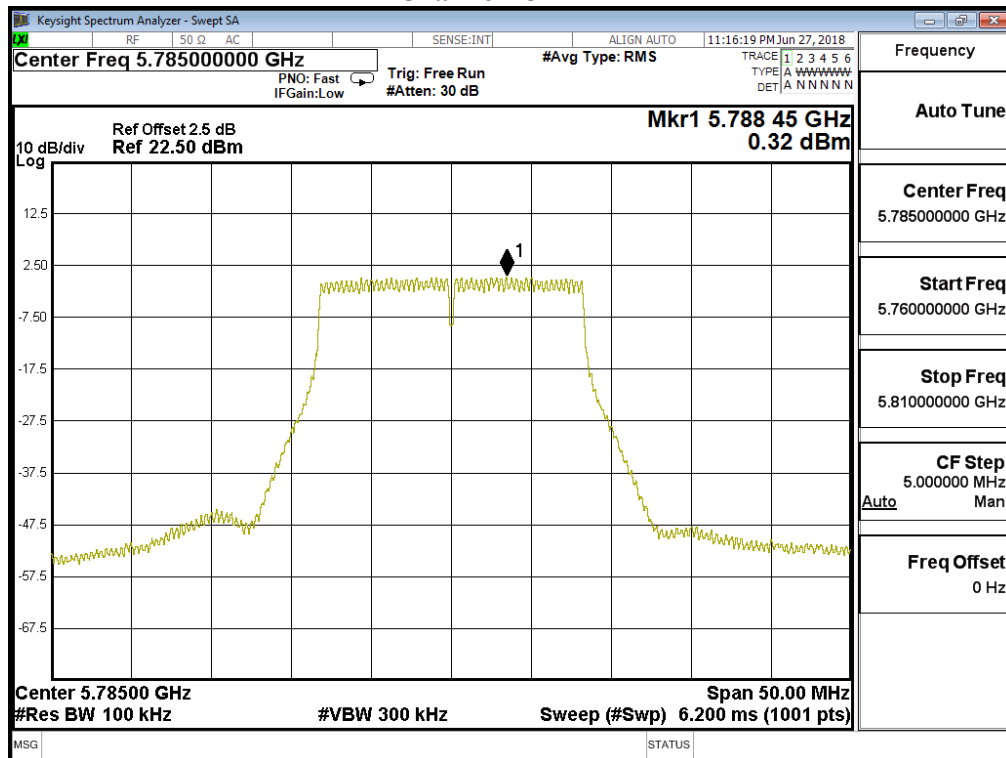
Channel 140:



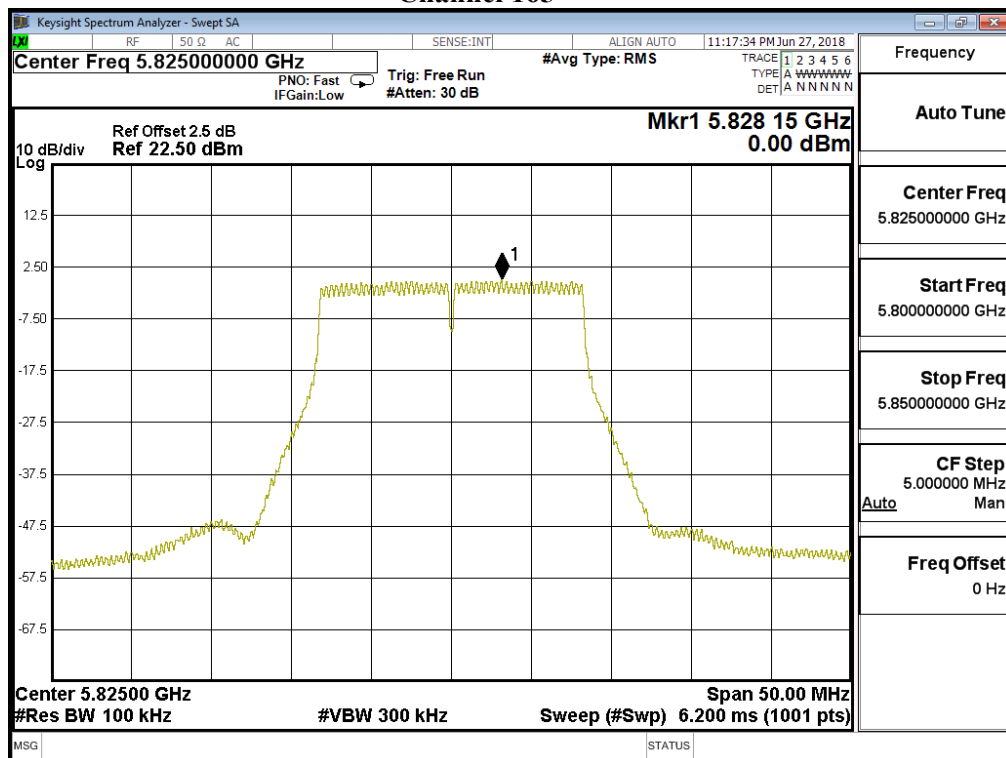
Channel 149



Channel 157



Channel 165



Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Date : 2018/07/20
 Test Mode : Mode 2: Transmit (802.11n-20BW 28.8Mbps) (Antenna No.1)

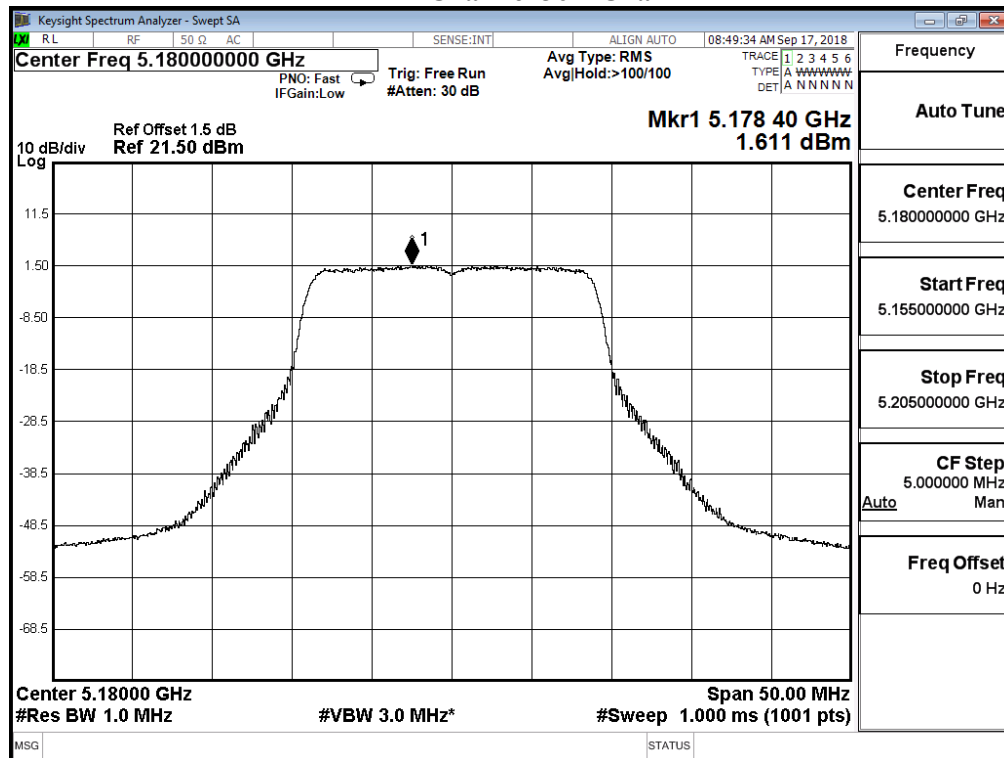
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm)1	Required Limit (dBm)	Result
36	5180	A	1.61	7.63	8.23	Pass
		B	1.37	7.39	8.23	Pass
		C	1.87	7.89	8.23	Pass
		D	0.63	6.65	8.23	Pass
44	5220	A	1.64	7.66	8.23	Pass
		B	1.40	7.42	8.23	Pass
		C	1.76	7.78	8.23	Pass
		D	0.95	6.97	8.23	Pass
48	5240	A	1.51	7.53	8.23	Pass
		B	1.20	7.22	8.23	Pass
		C	1.99	8.01	8.23	Pass
		D	0.89	6.91	8.23	Pass
52	5260	A	1.32	7.34	8.23	Pass
		B	0.76	6.78	8.23	Pass
		C	1.84	7.86	8.23	Pass
		D	0.15	6.17	8.23	Pass
60	5300	A	0.48	6.50	8.23	Pass
		B	0.85	6.87	8.23	Pass
		C	1.90	7.92	8.23	Pass
		D	-0.01	6.01	8.23	Pass
64	5320	A	-0.06	5.96	8.23	Pass
		B	0.86	6.88	8.23	Pass
		C	1.68	7.70	8.23	Pass
		D	0.06	6.08	8.23	Pass
100	5500	A	0.88	6.90	8.5	Pass
		B	1.51	7.53	8.5	Pass
		C	1.93	7.95	8.5	Pass

		D	1.59	7.61	8.5	Pass
116	5580	A	-0.61	5.41	8.5	Pass
		B	1.17	7.19	8.5	Pass
		C	1.75	7.77	8.5	Pass
		D	1.30	7.32	8.5	Pass
140	5700	A	-0.29	5.73	8.5	Pass
		B	1.70	7.72	8.5	Pass
		C	1.26	7.28	8.5	Pass
		D	1.68	7.70	8.5	Pass

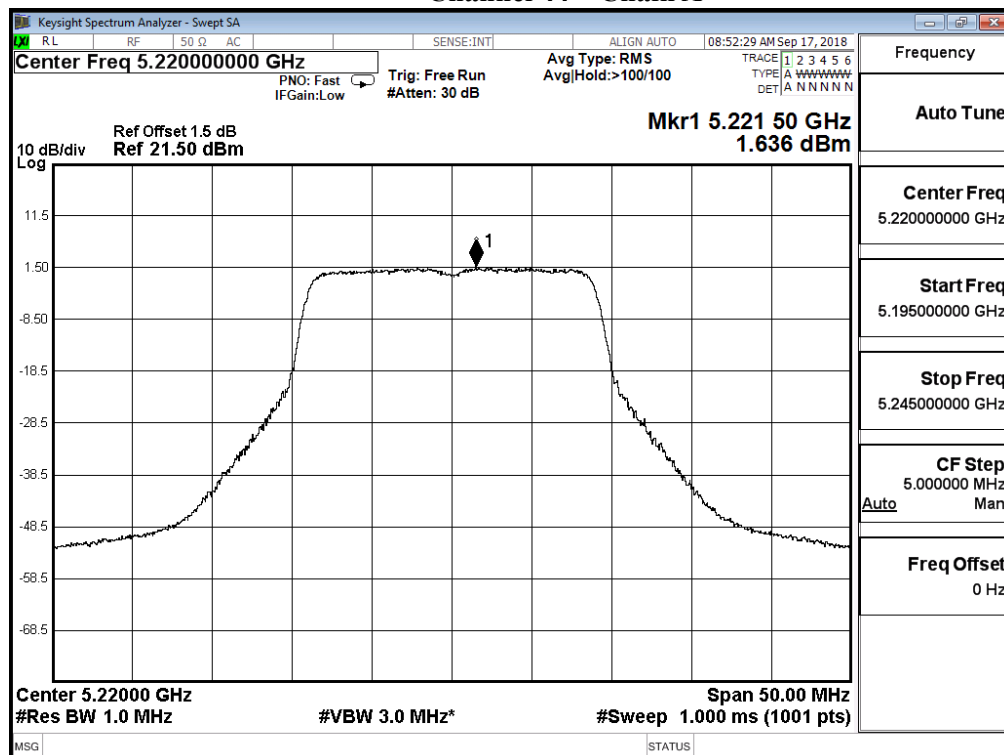
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PSD (dBm) ₁	Required Limit (dBm)	Result
149	5745	A	-1.95	6.98	11.05	<27.82	Pass
		B	-2.75	6.98	10.25	<27.82	Pass
		C	-3.41	6.98	9.59	<27.82	Pass
		D	0.44	6.98	13.44	<27.82	Pass
157	5785	A	-1.56	6.98	11.44	<27.82	Pass
		B	-2.74	6.98	10.26	<27.82	Pass
		C	-3.36	6.98	9.64	<27.82	Pass
		D	0.69	6.98	13.69	<27.82	Pass
165	5825	A	-1.79	6.98	11.21	<27.82	Pass
		B	-2.94	6.98	10.06	<27.82	Pass
		C	-3.72	6.98	9.28	<27.82	Pass
		D	0.42	6.98	13.42	<27.82	Pass

Note 1: The quantity $10 \cdot \log 4$ (four antennas) is added to the spectrum peak value according to document 662911 D01.

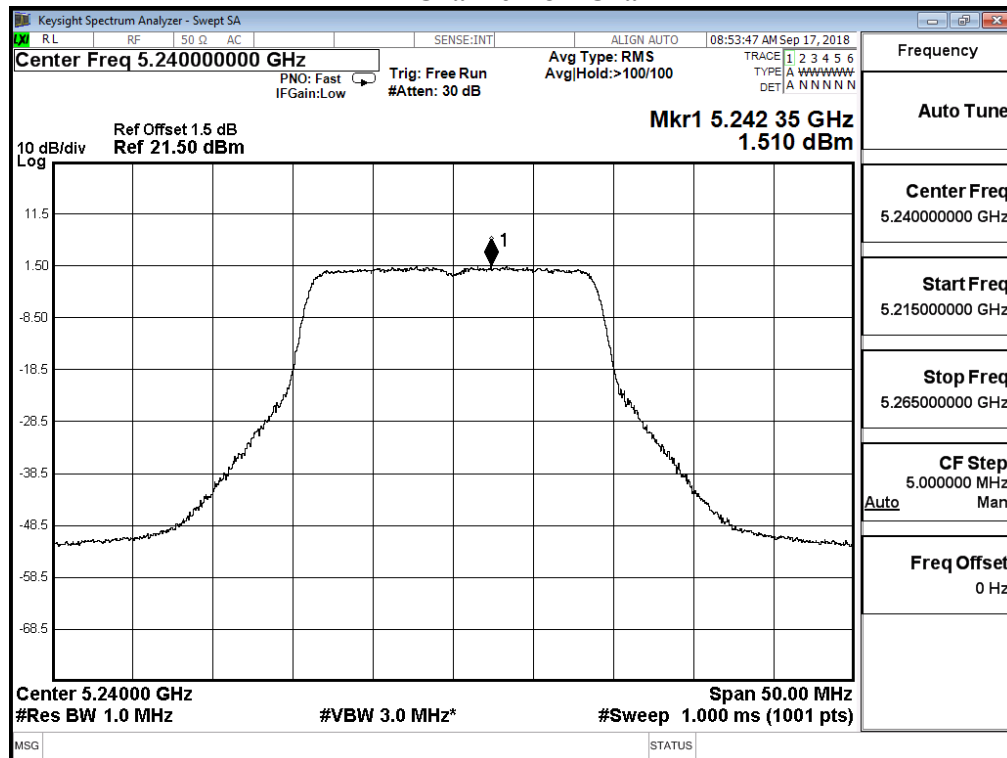
Channel 36 – Chain A



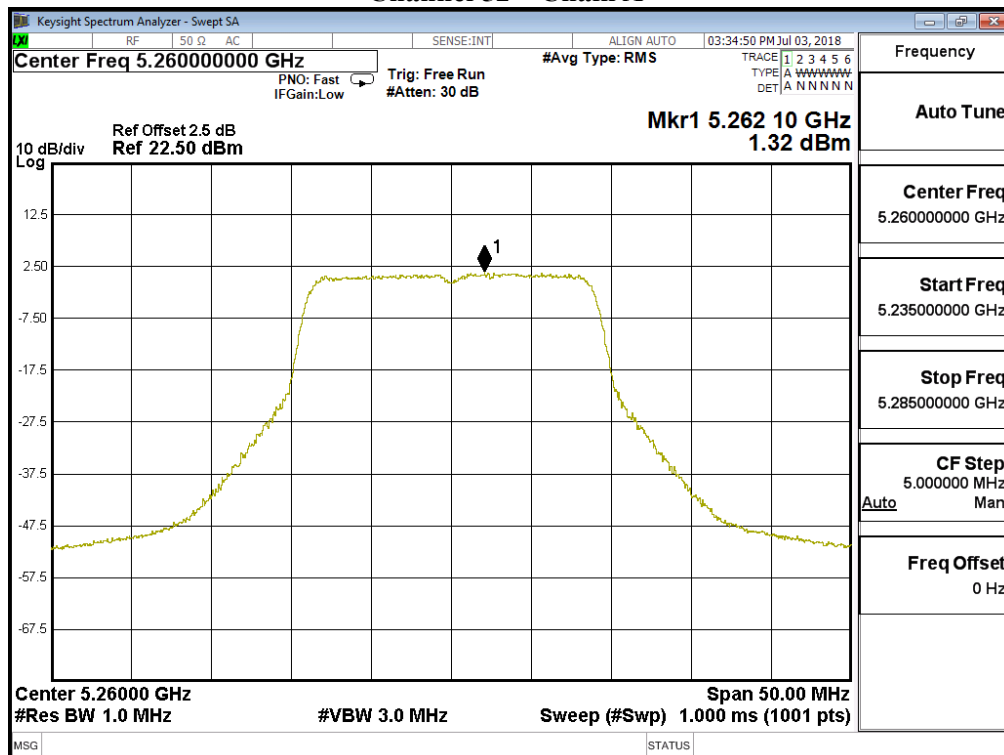
Channel 44 – Chain A



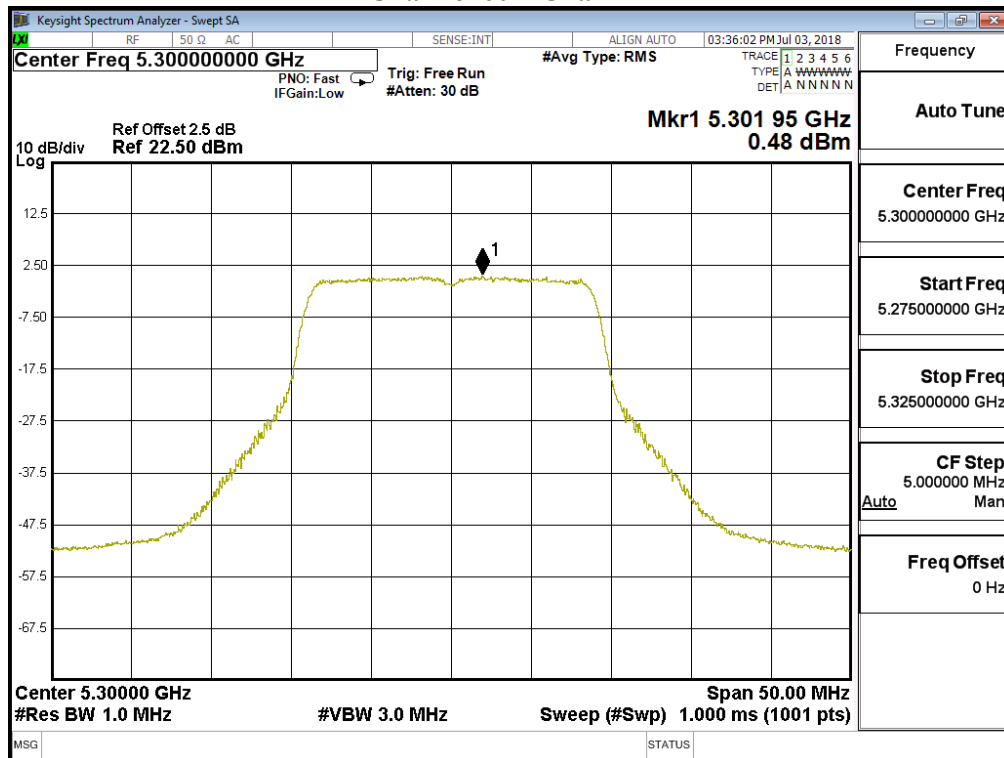
Channel 48 – Chain A



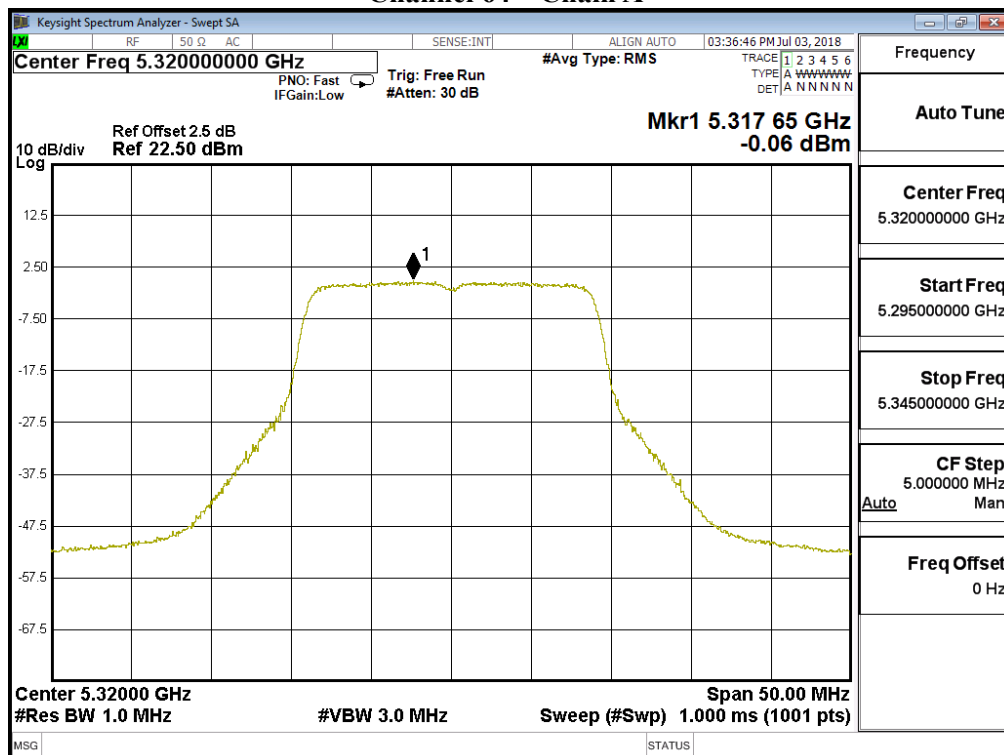
Channel 52 – Chain A



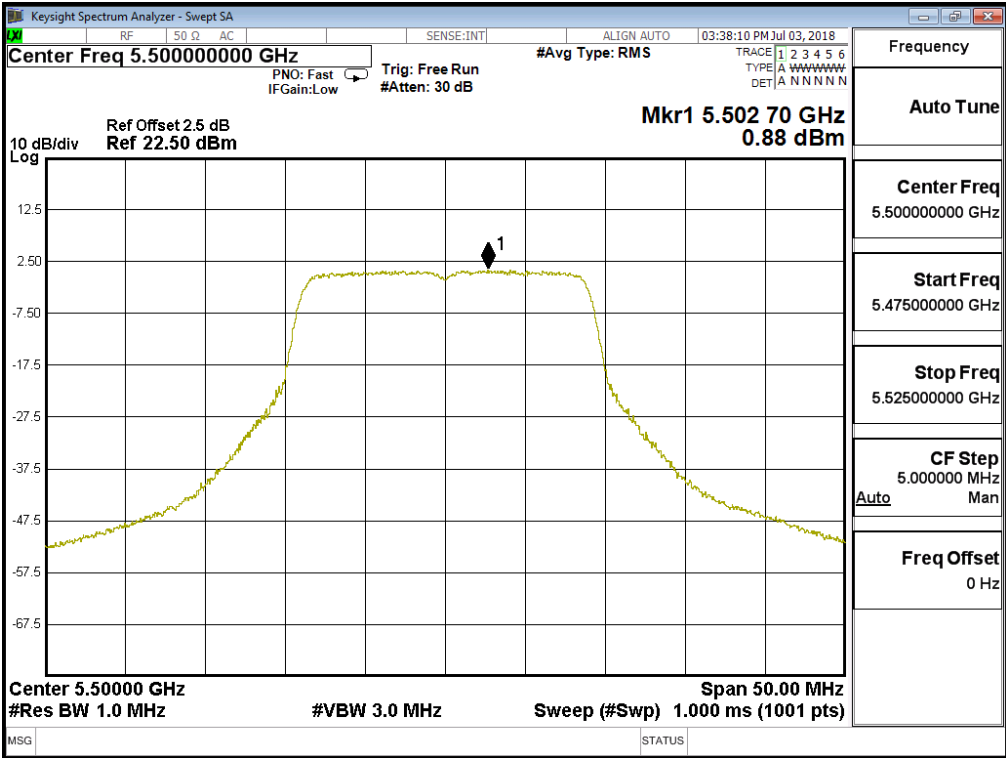
Channel 60 – Chain A



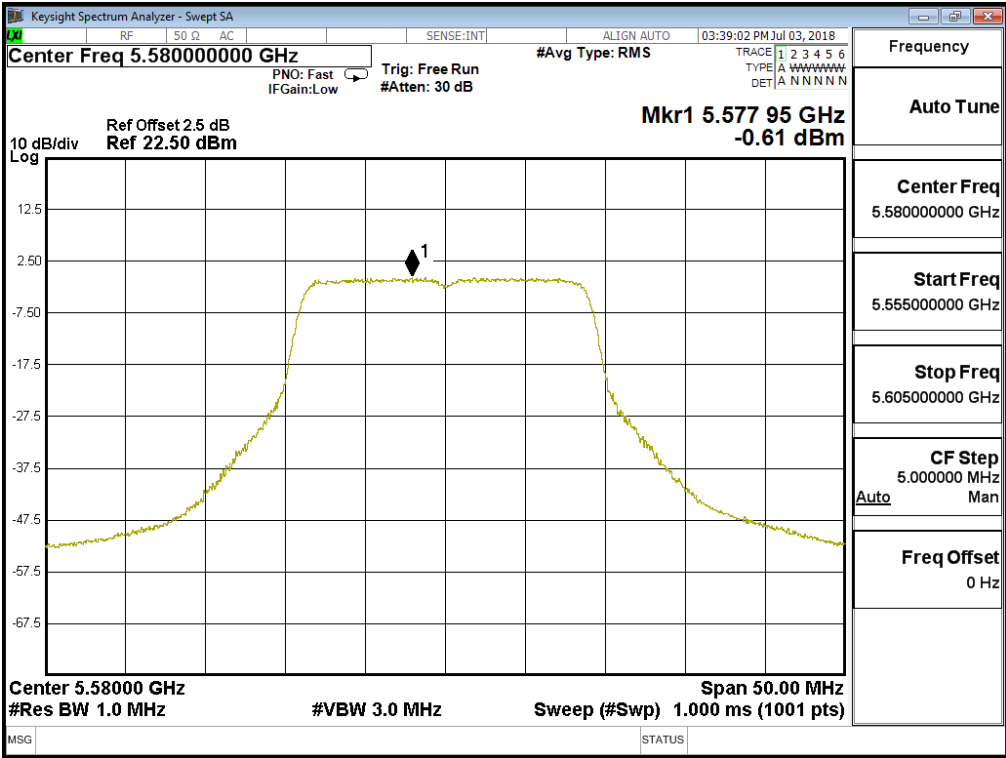
Channel 64 – Chain A



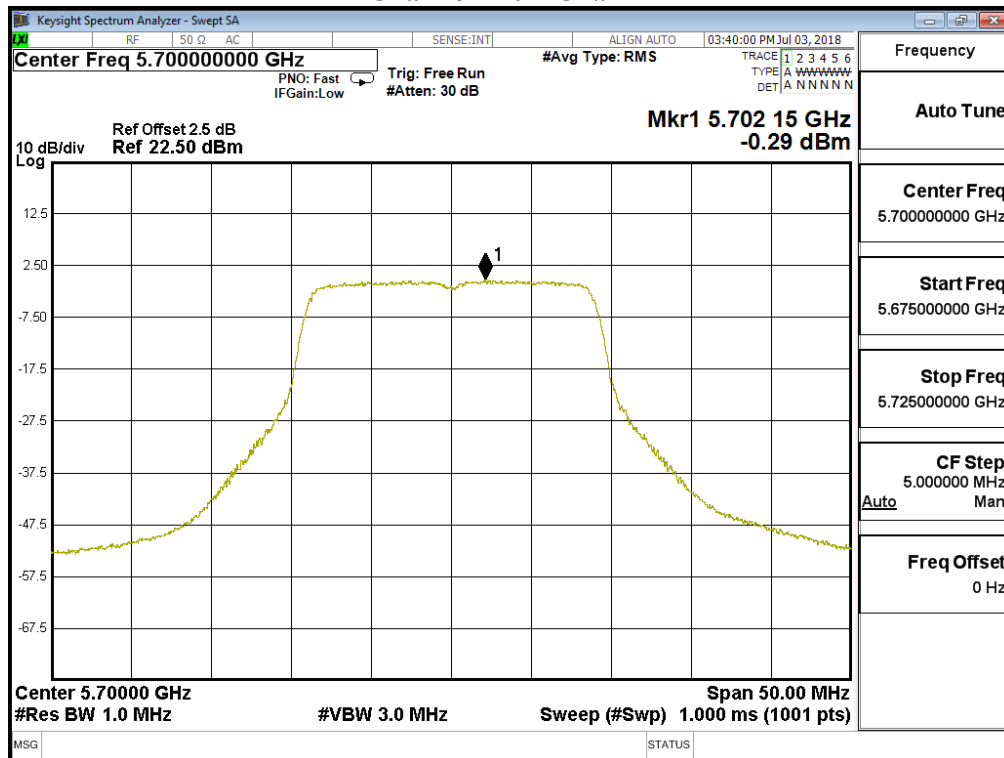
Channel 100 – Chain A



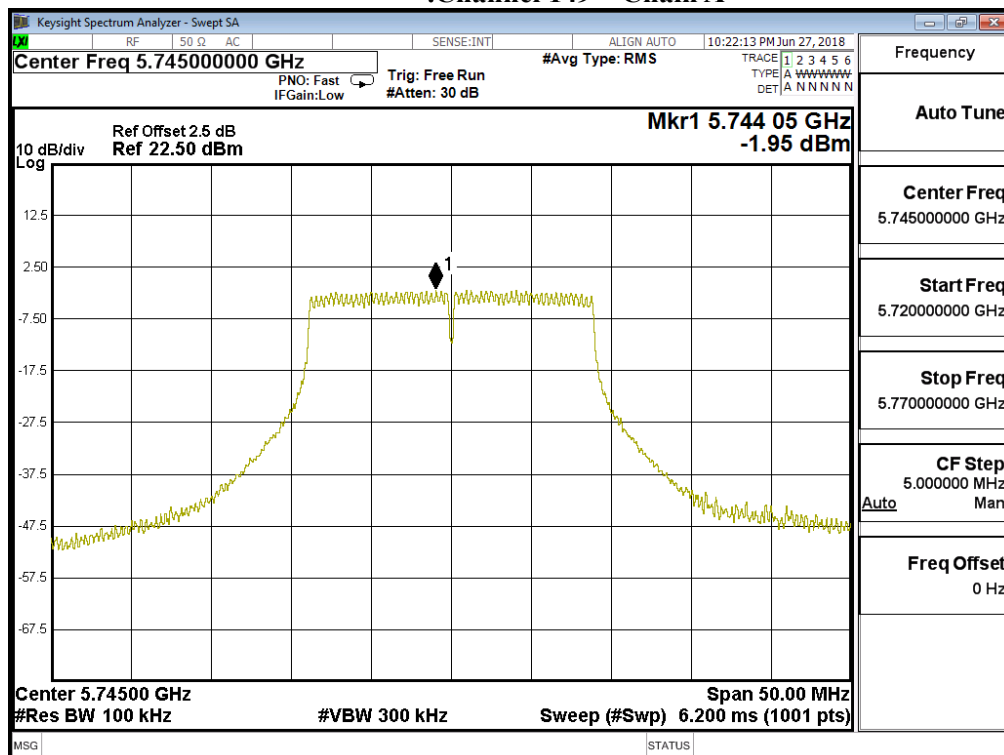
Channel 116 – Chain A



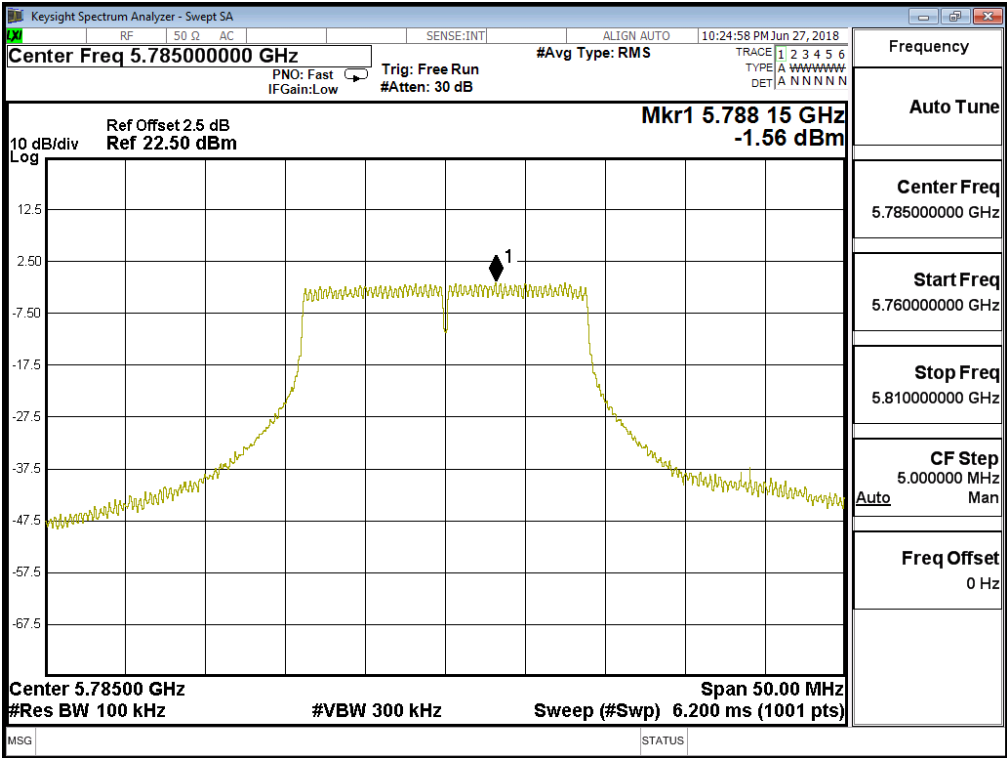
Channel 140 – Chain A



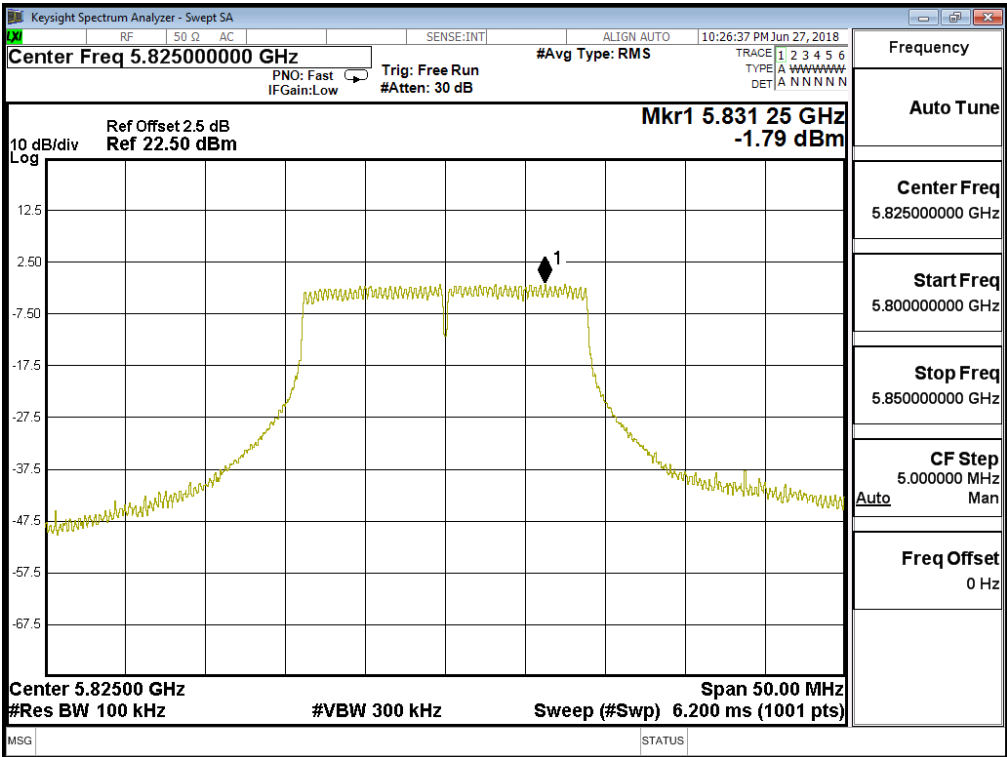
.Channel 149 – Chain A



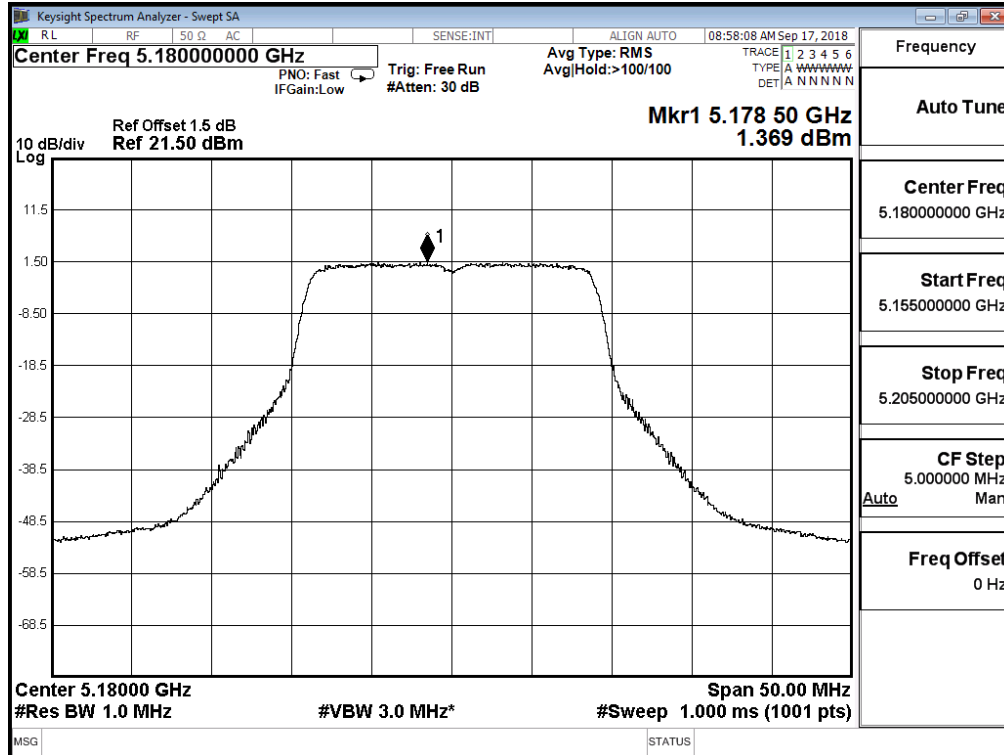
Channel 157 – Chain A



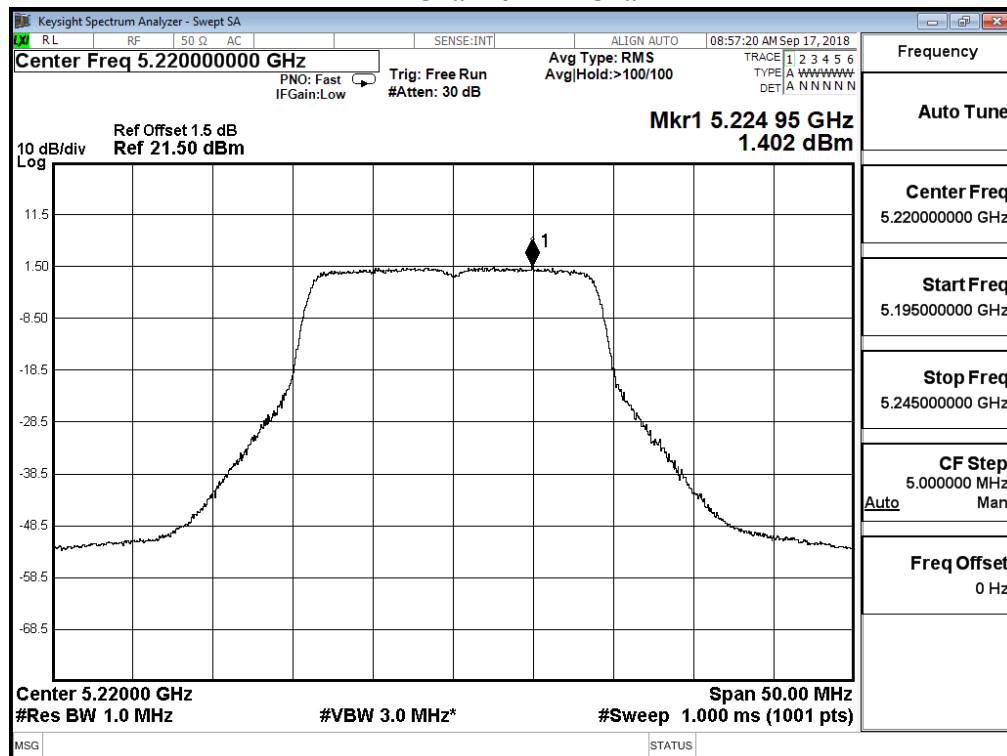
Channel 165 – Chain A



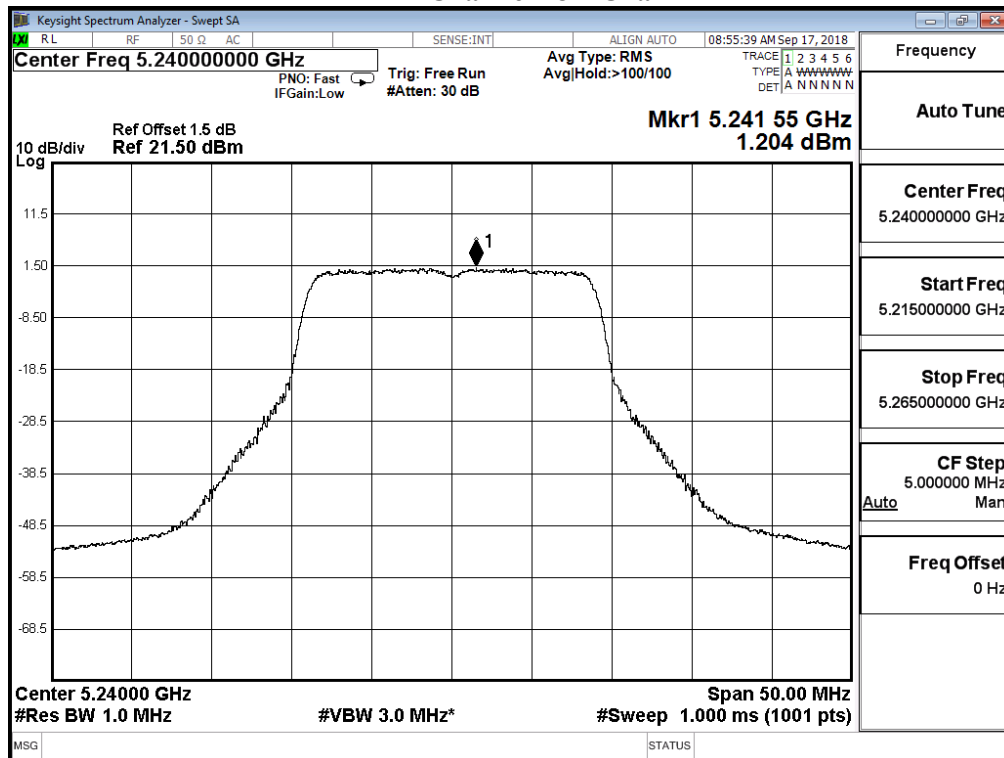
Channel 36 – Chain B



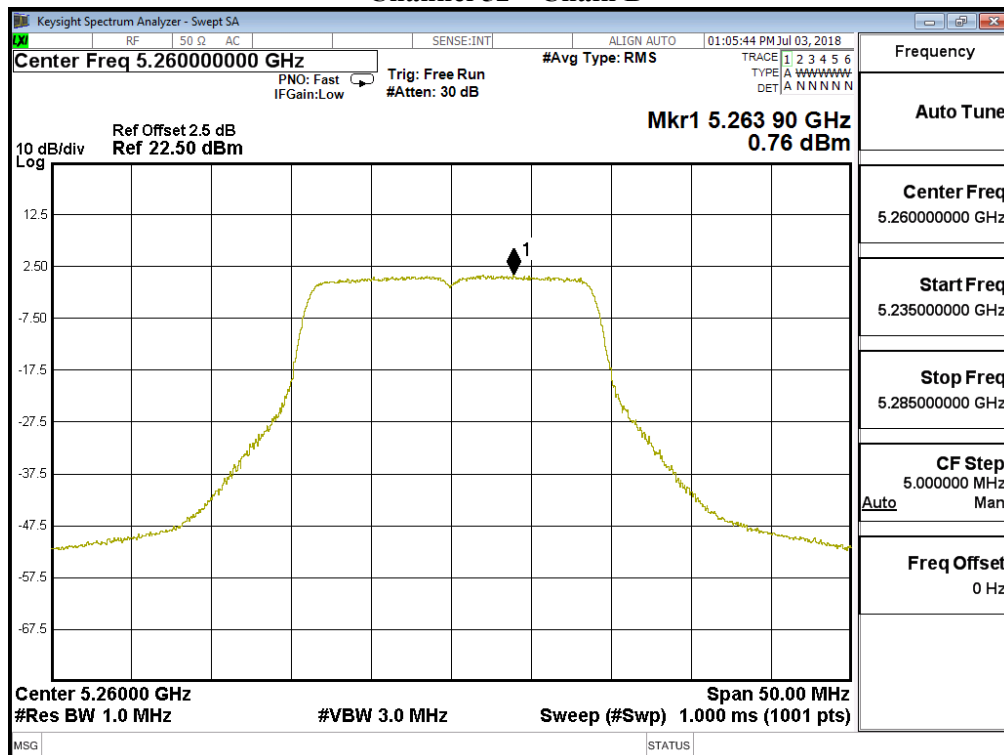
Channel 44 – Chain B



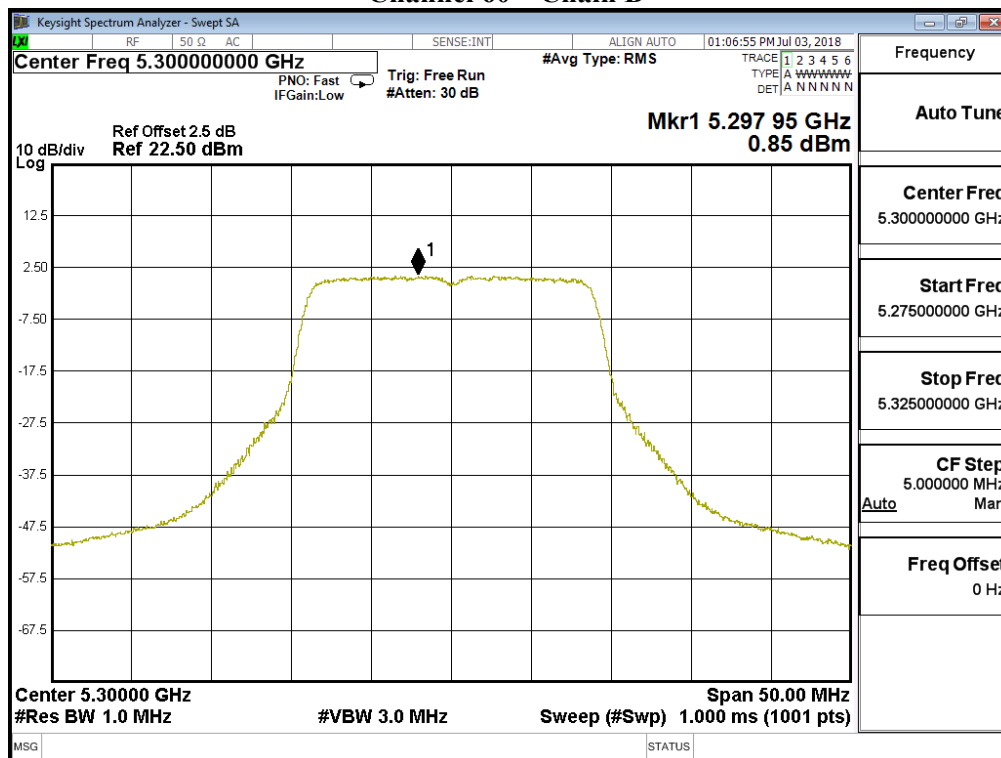
Channel 48 – Chain B



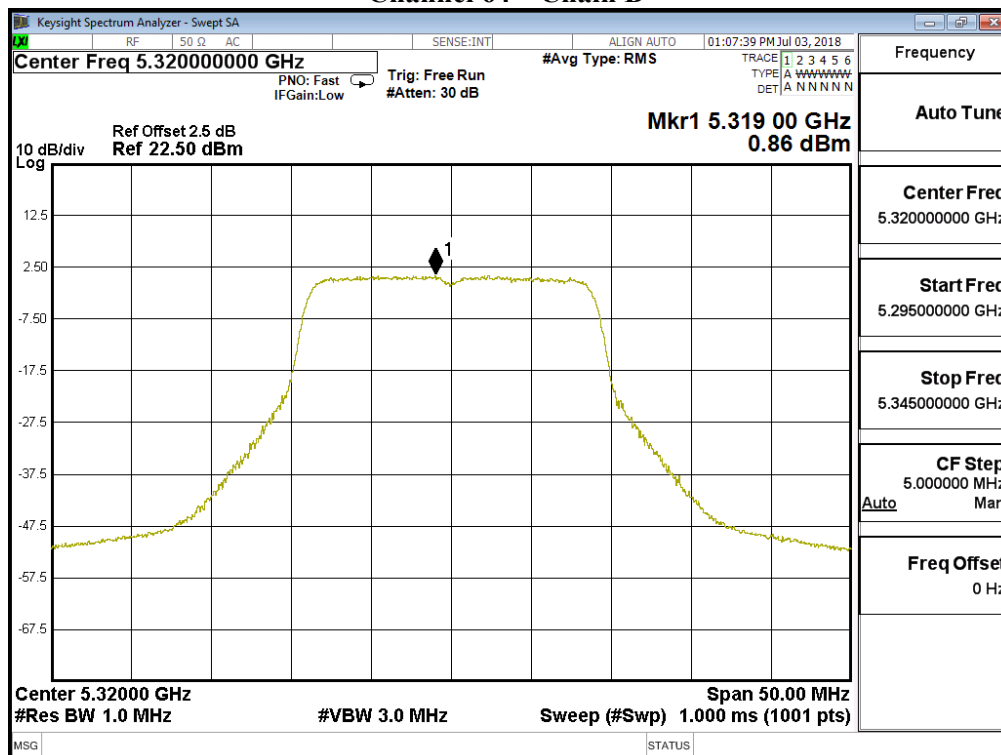
Channel 52 – Chain B



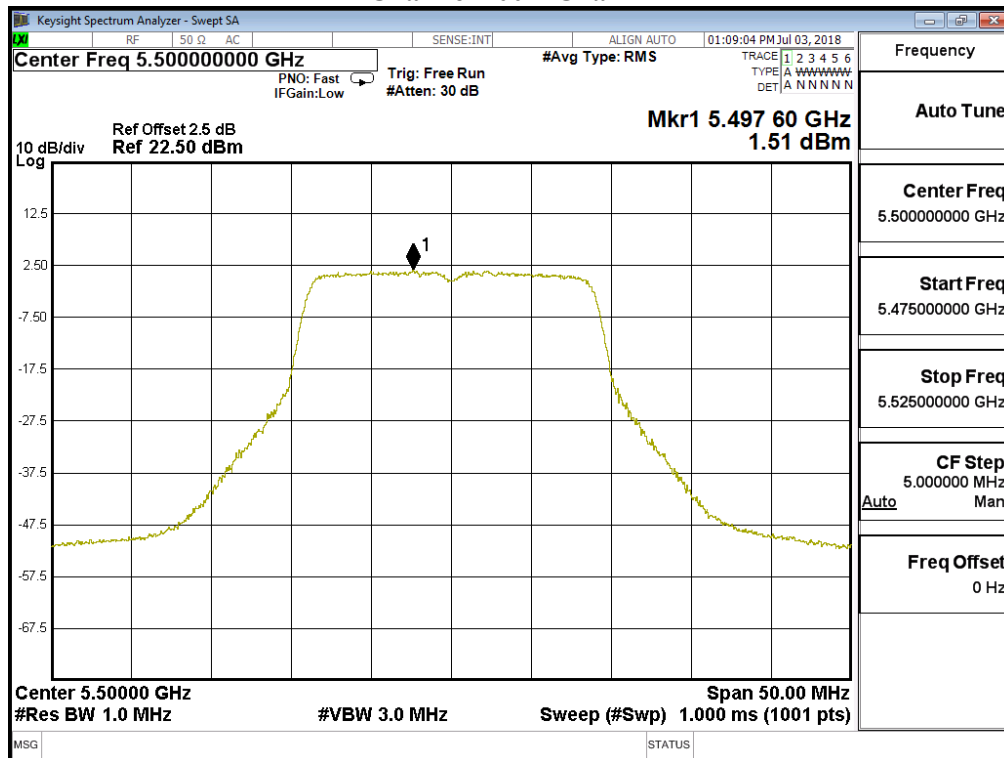
Channel 60 – Chain B



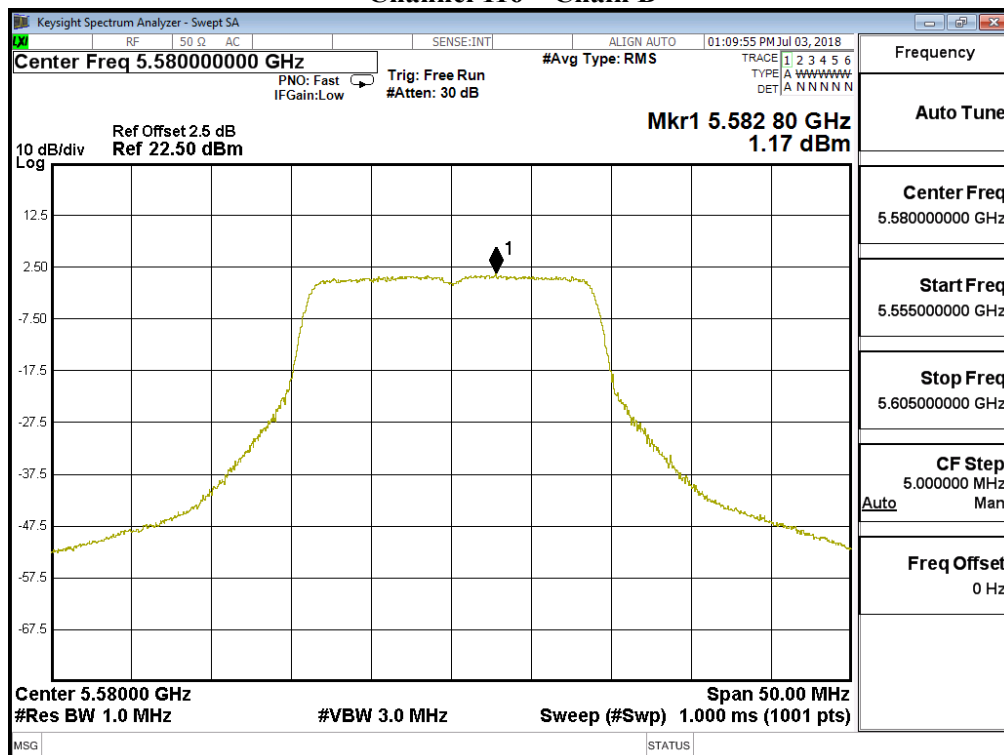
Channel 64 – Chain B



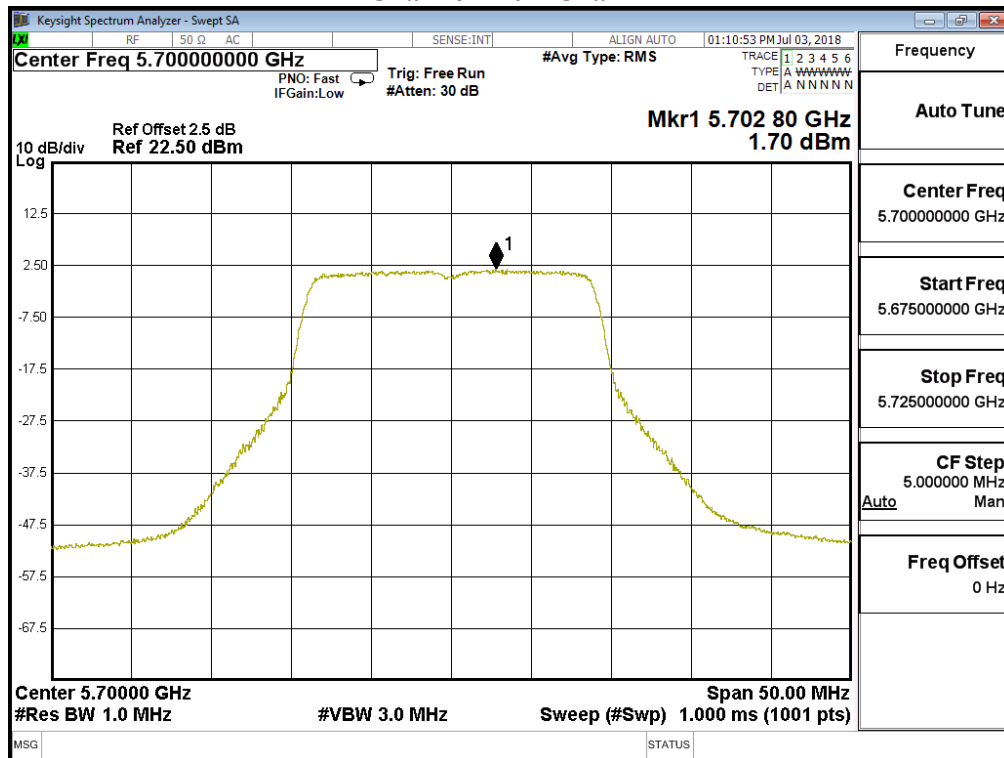
Channel 100 – Chain B



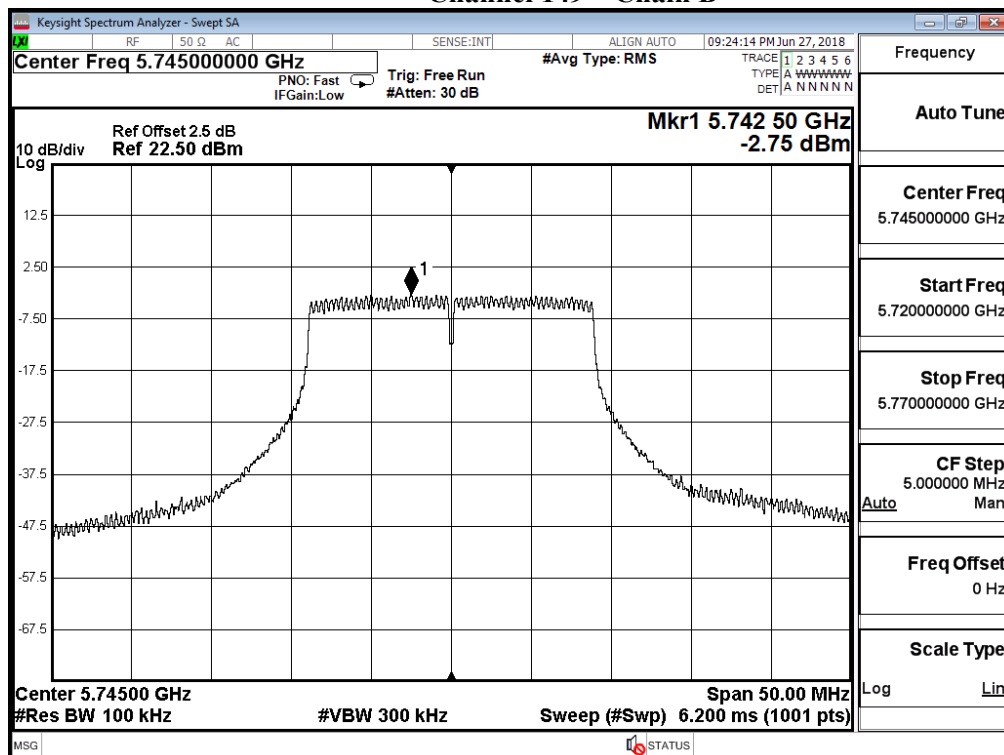
Channel 116 – Chain B



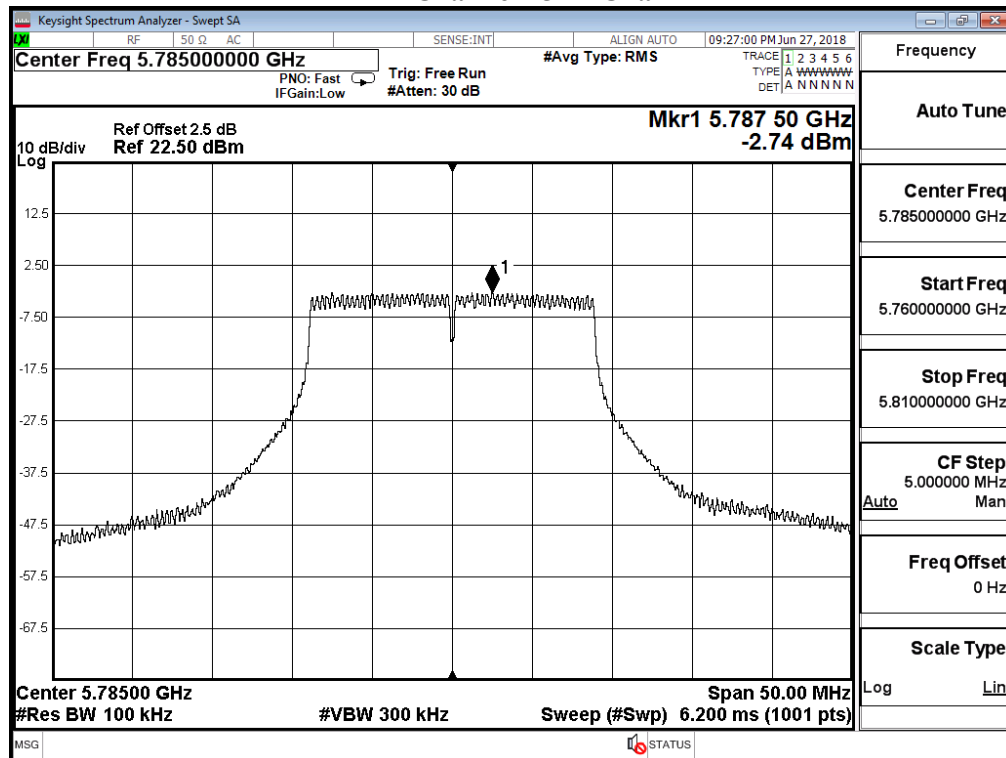
Channel 140 – Chain B



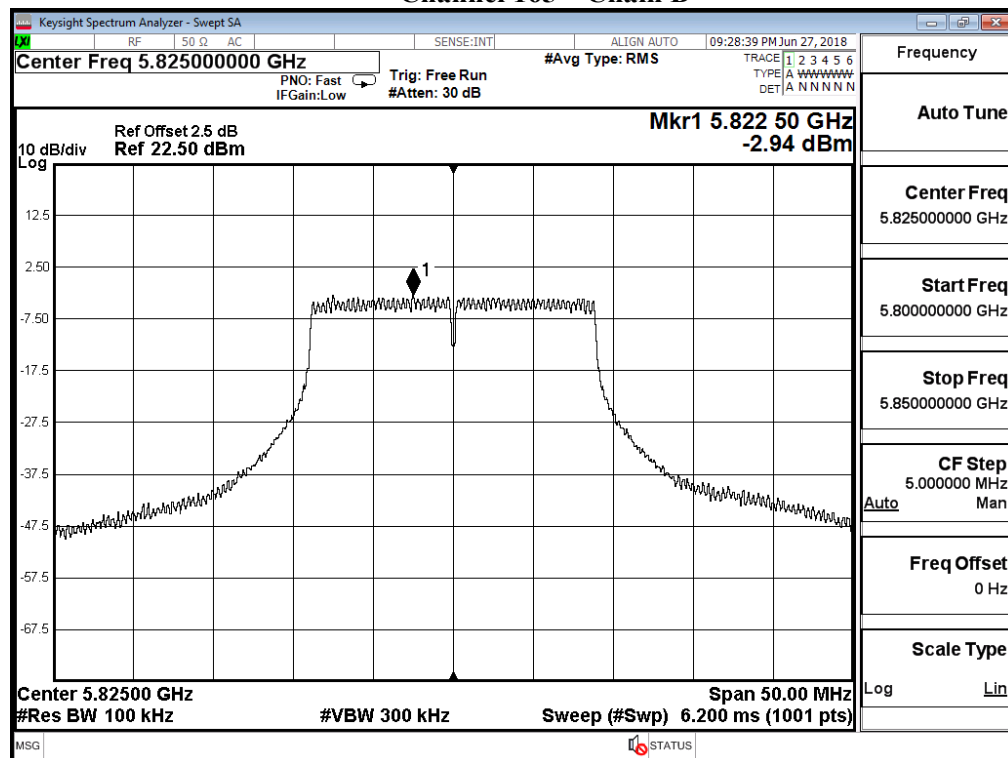
Channel 149 – Chain B



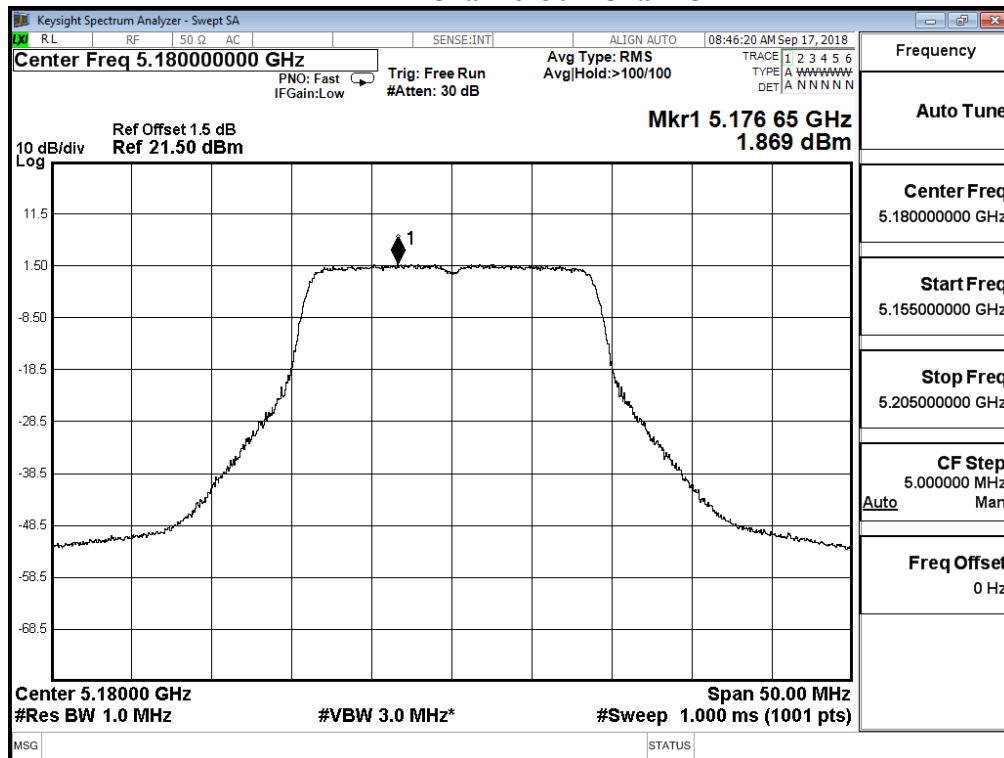
Channel 157 – Chain B



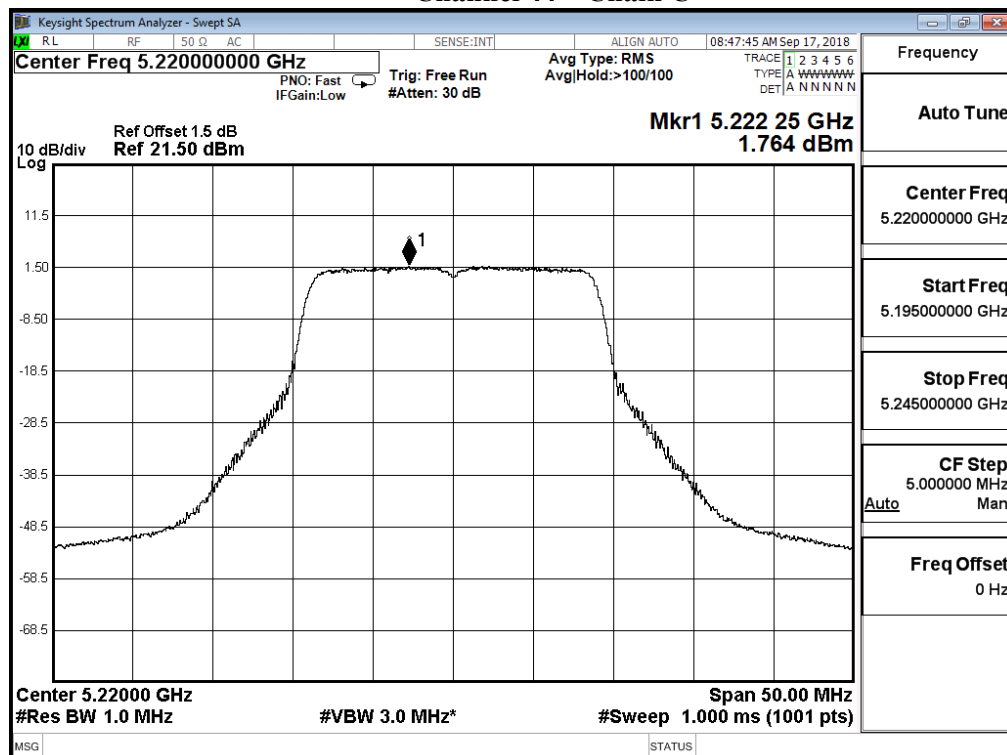
Channel 165 – Chain B



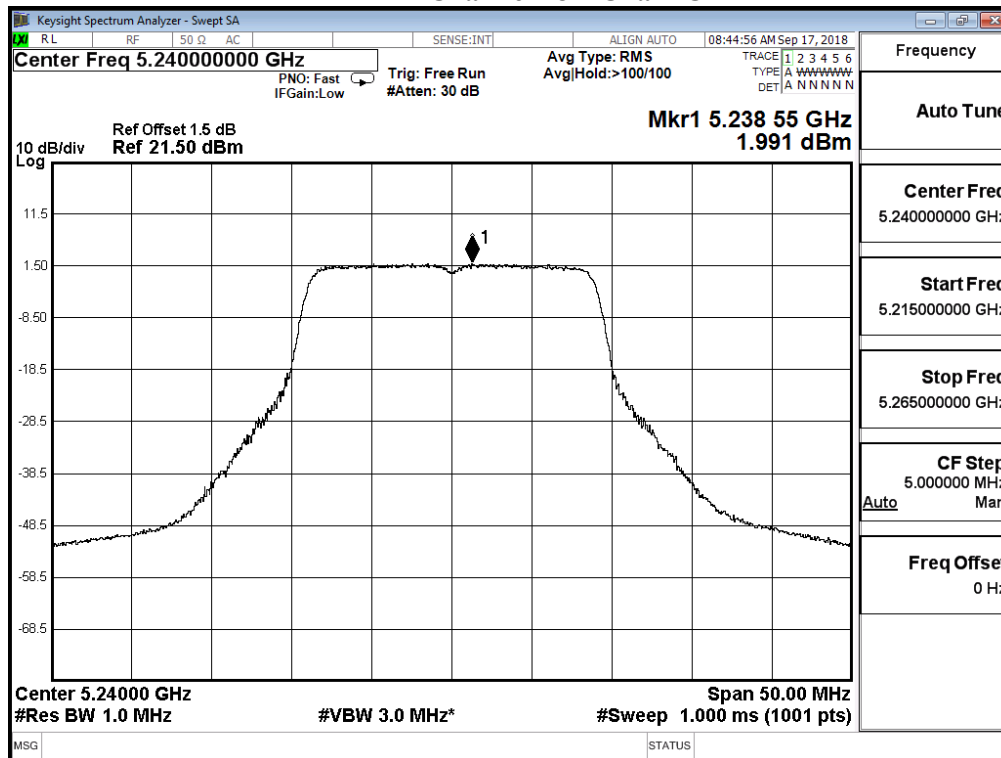
Channel 36 – Chain C



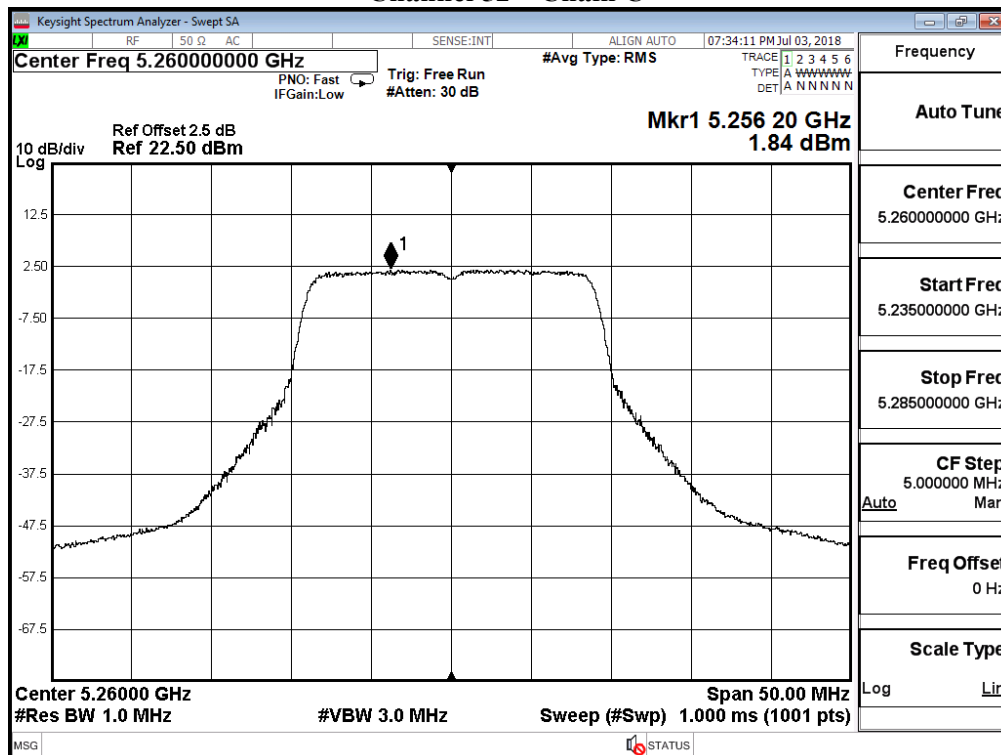
Channel 44 – Chain C



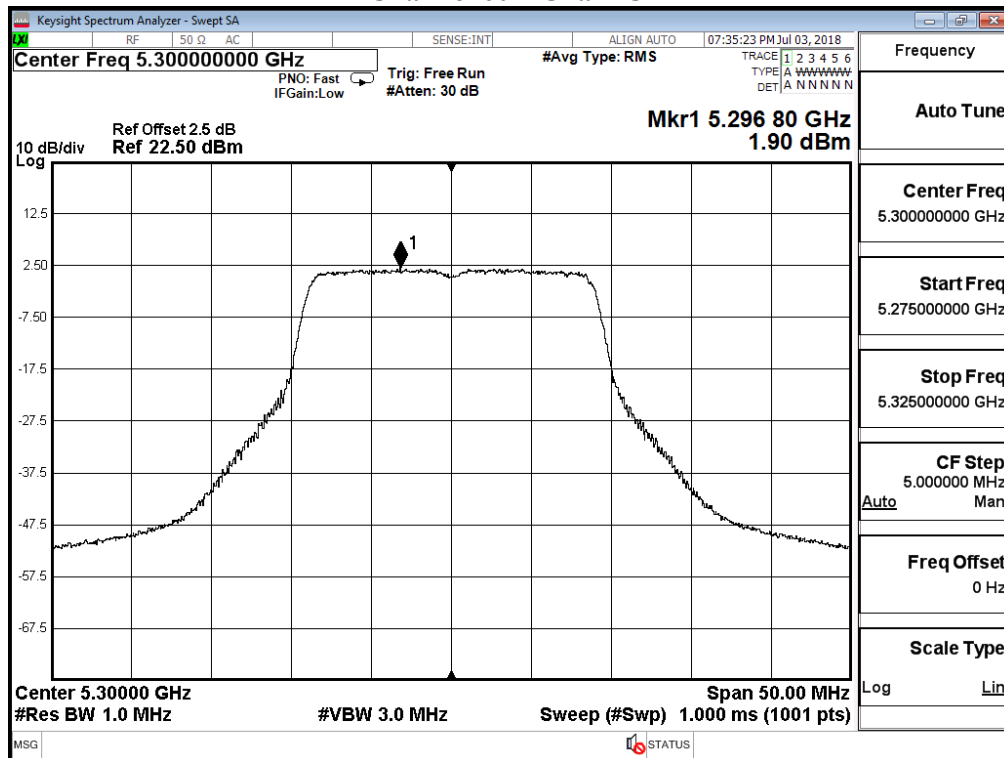
Channel 48 – Chain C



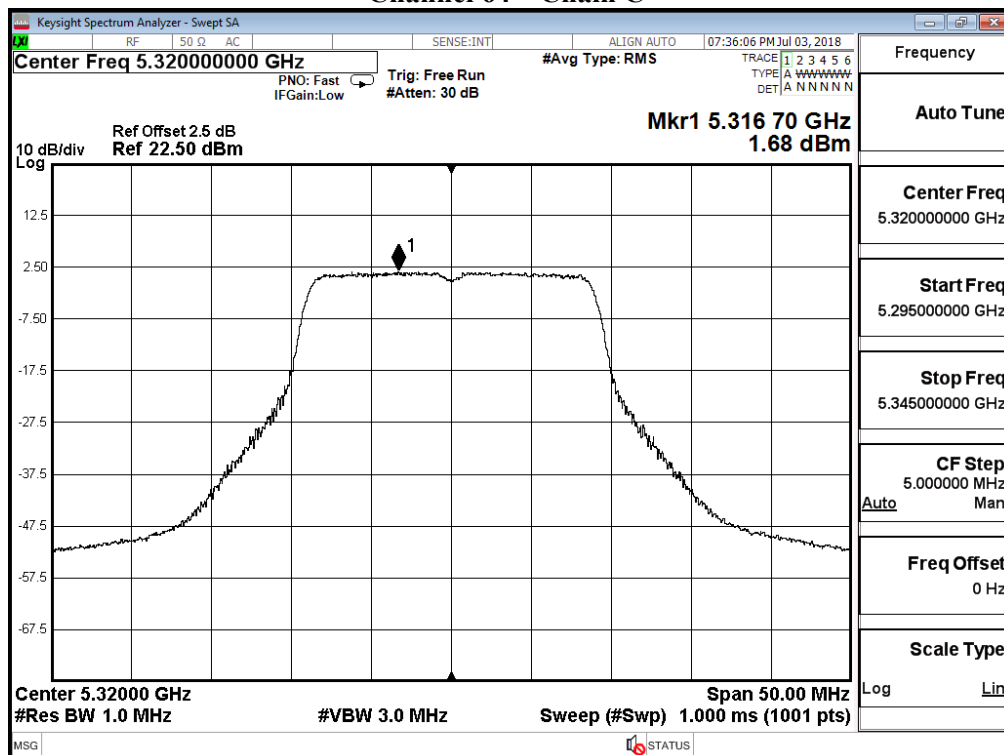
Channel 52 – Chain C



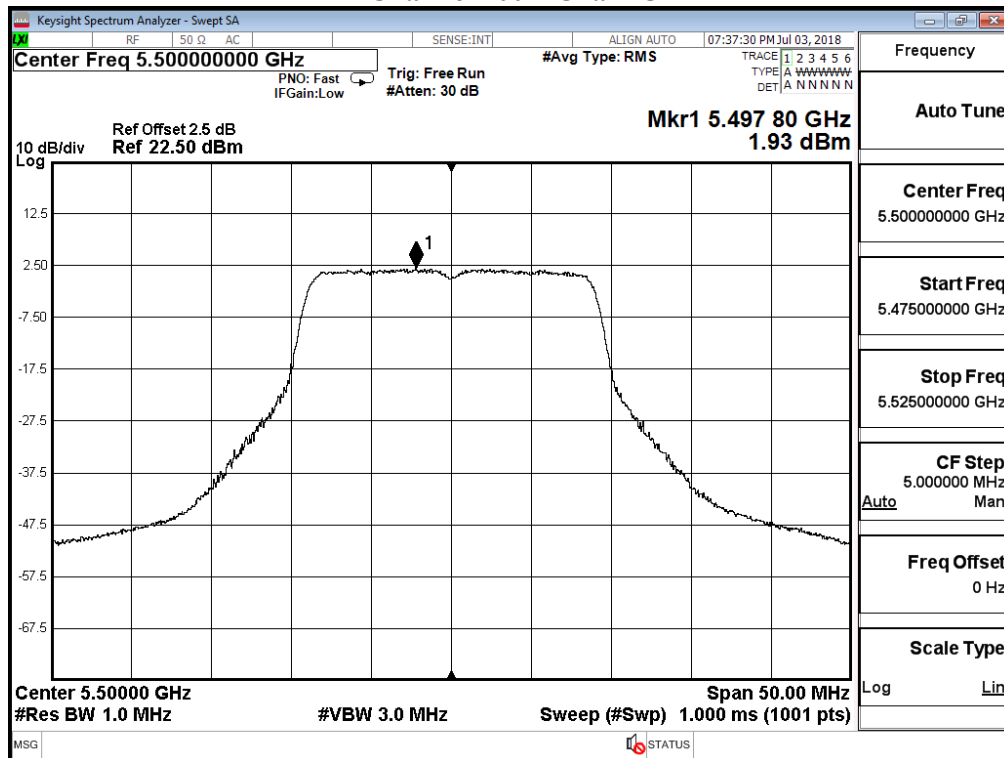
Channel 60 – Chain C



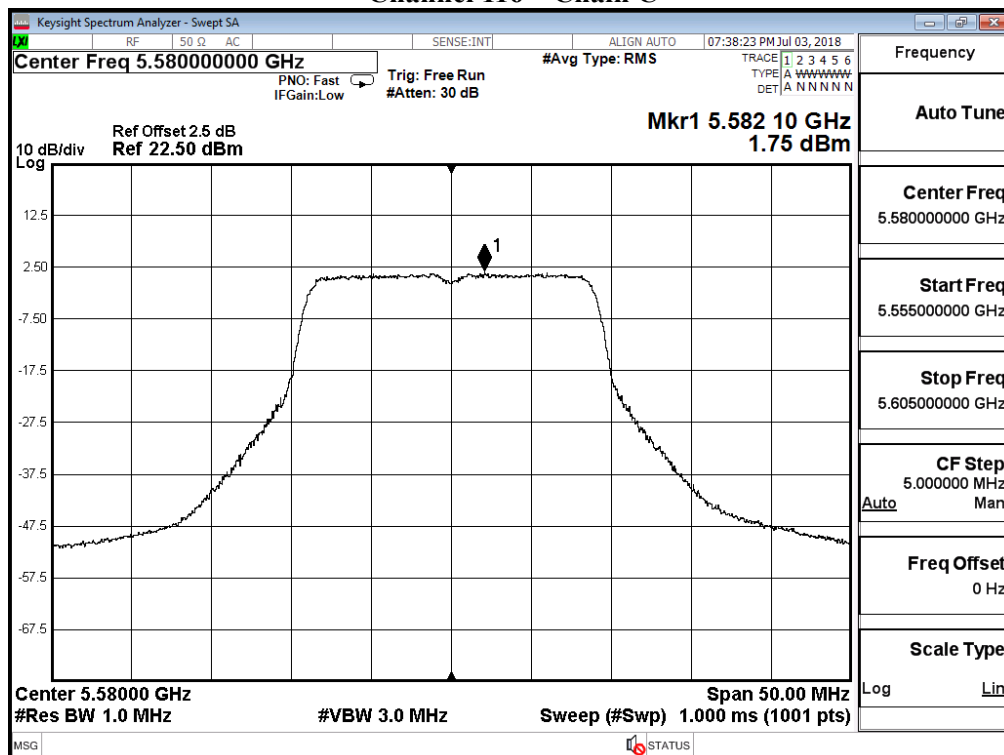
Channel 64 – Chain C



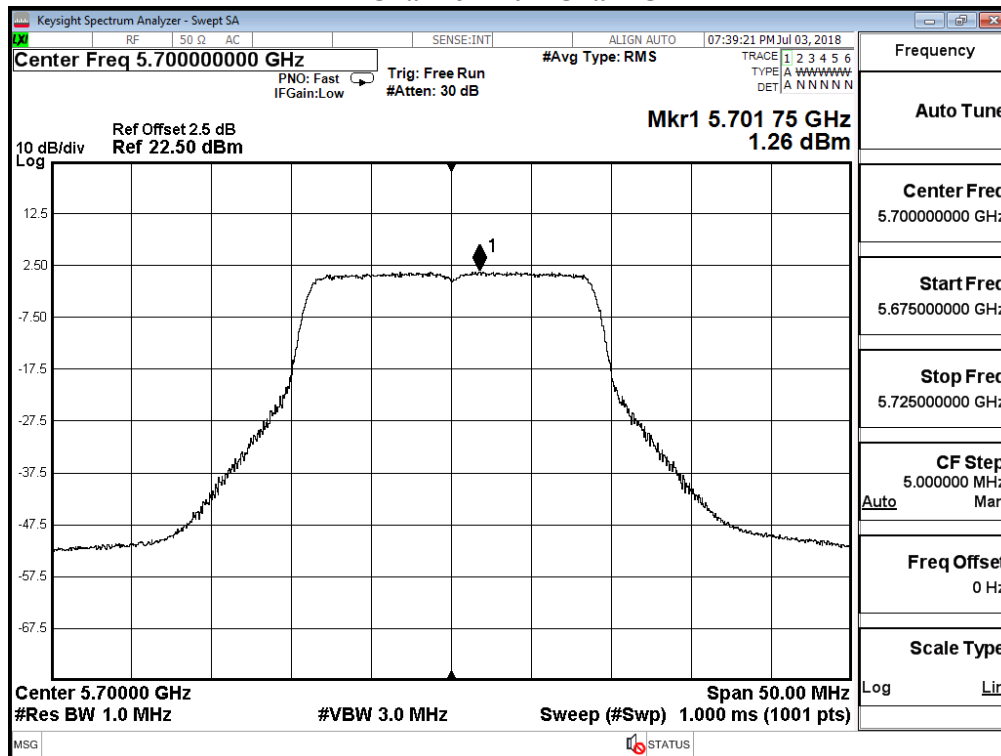
Channel 100 – Chain C



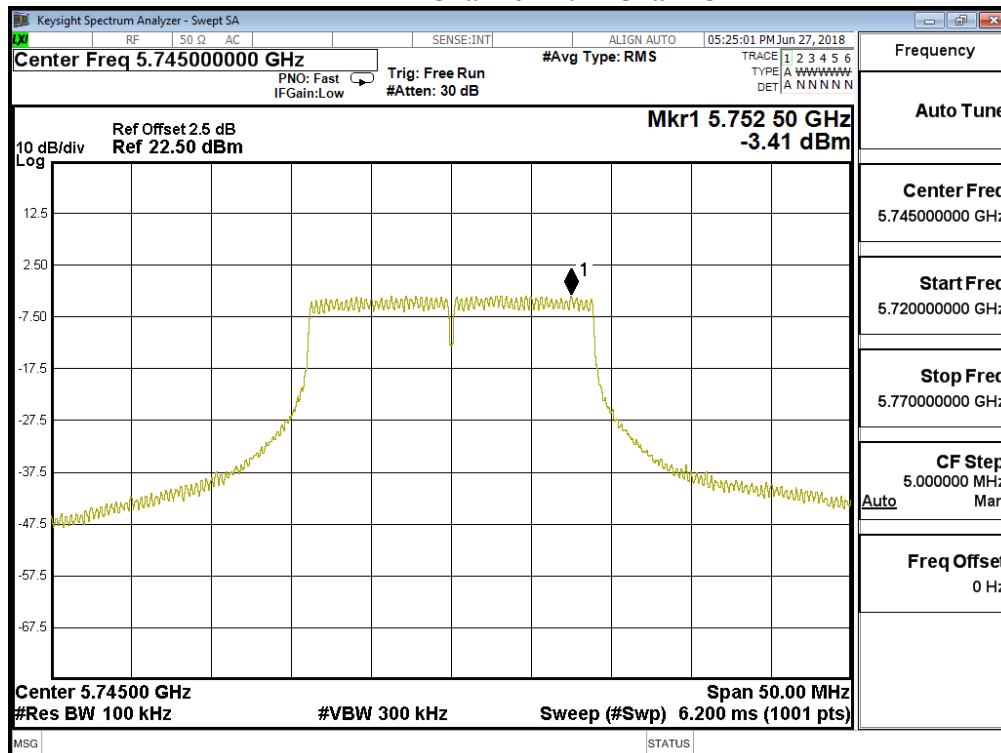
Channel 116 – Chain C



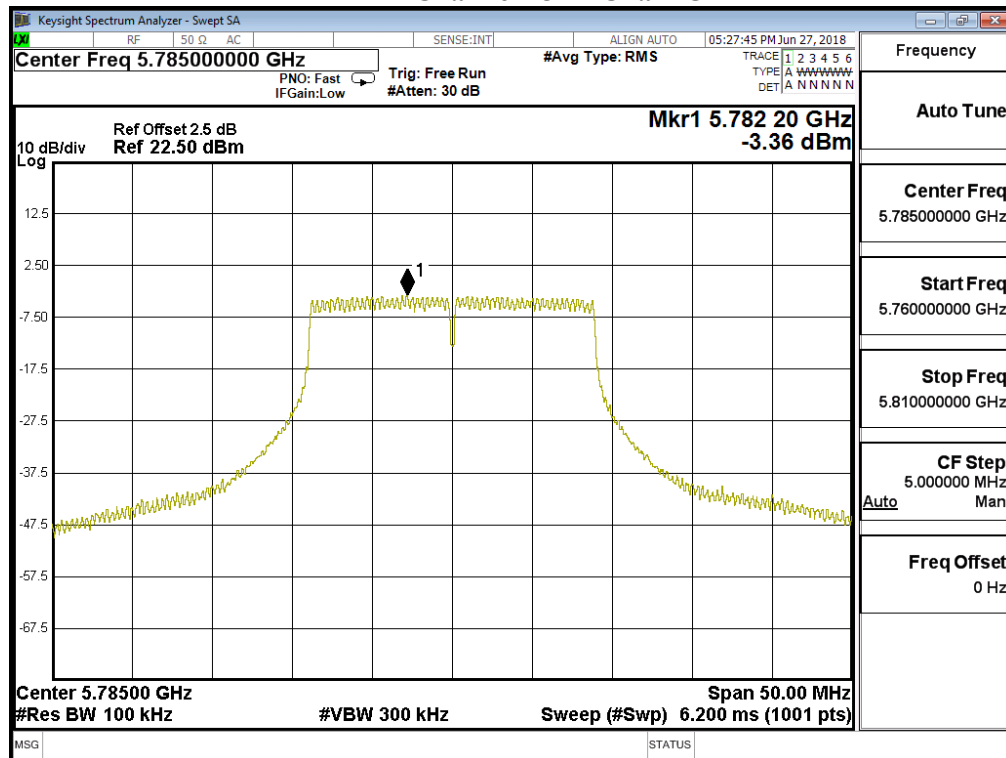
Channel 140 – Chain C



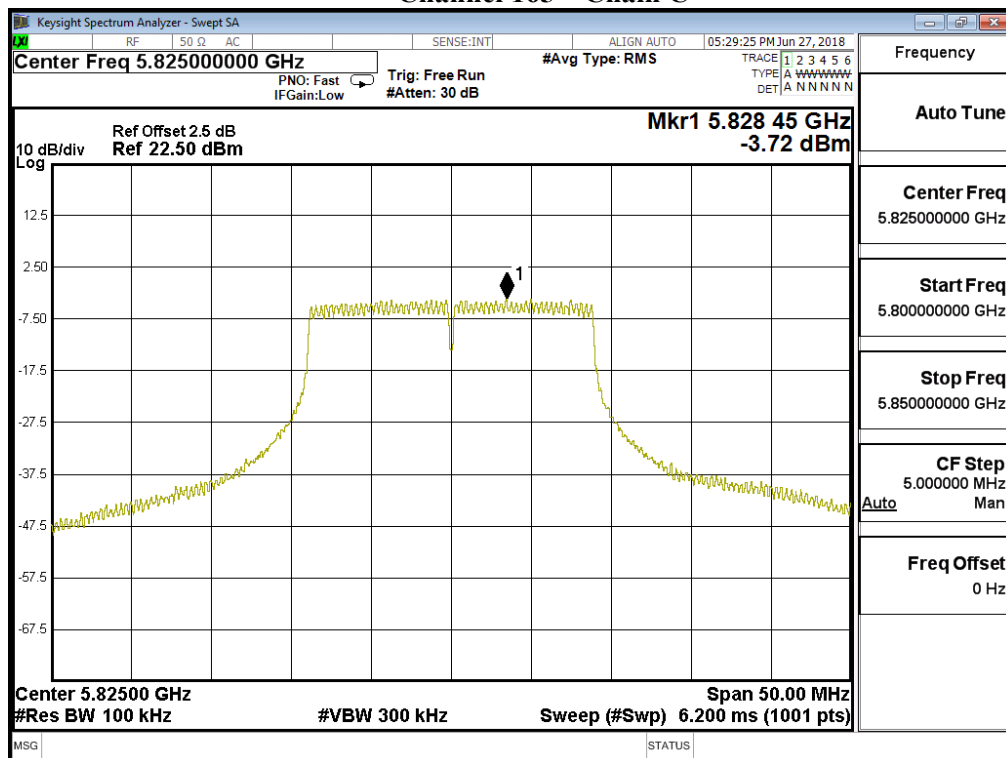
Channel 149 – Chain C



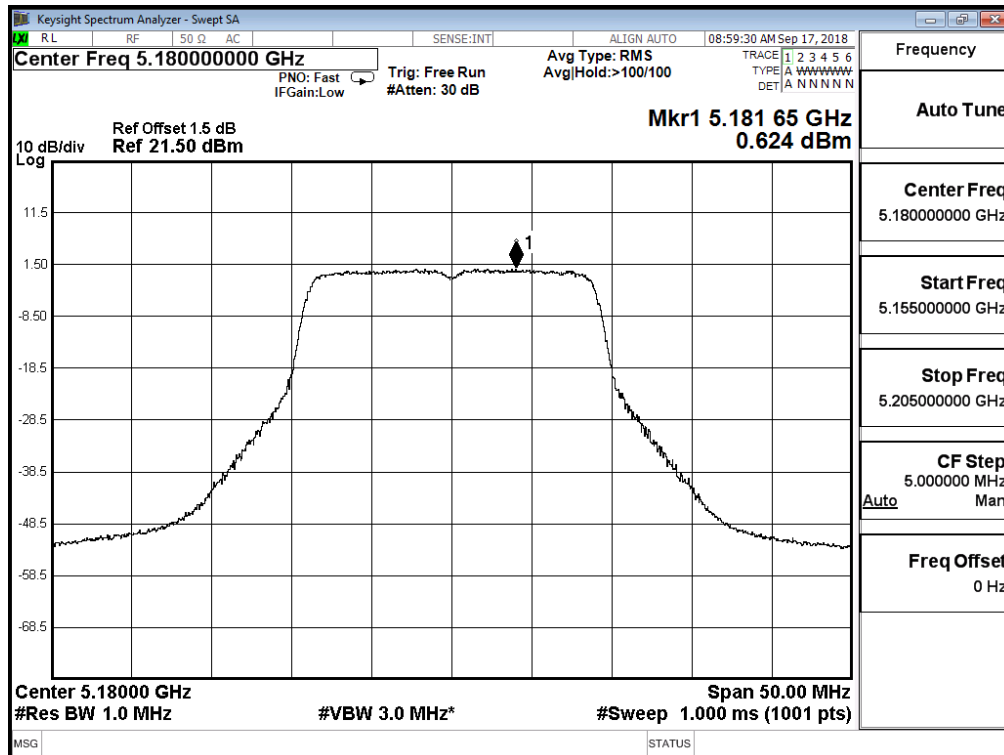
Channel 157 – Chain C



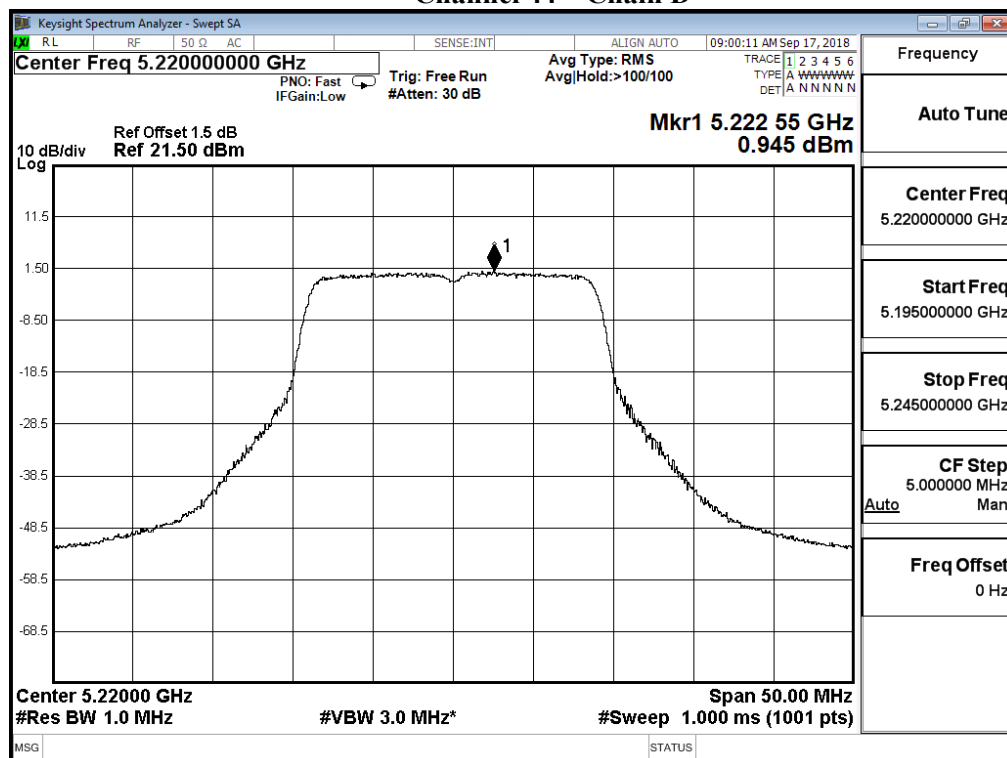
Channel 165 – Chain C



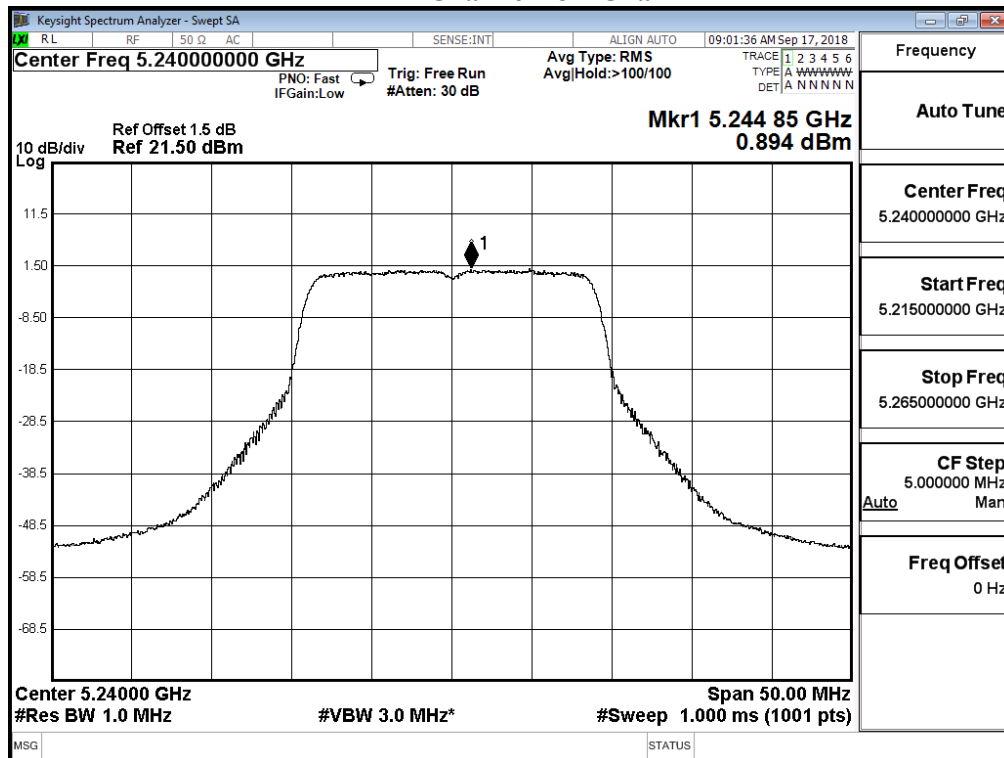
Channel 36 – Chain D



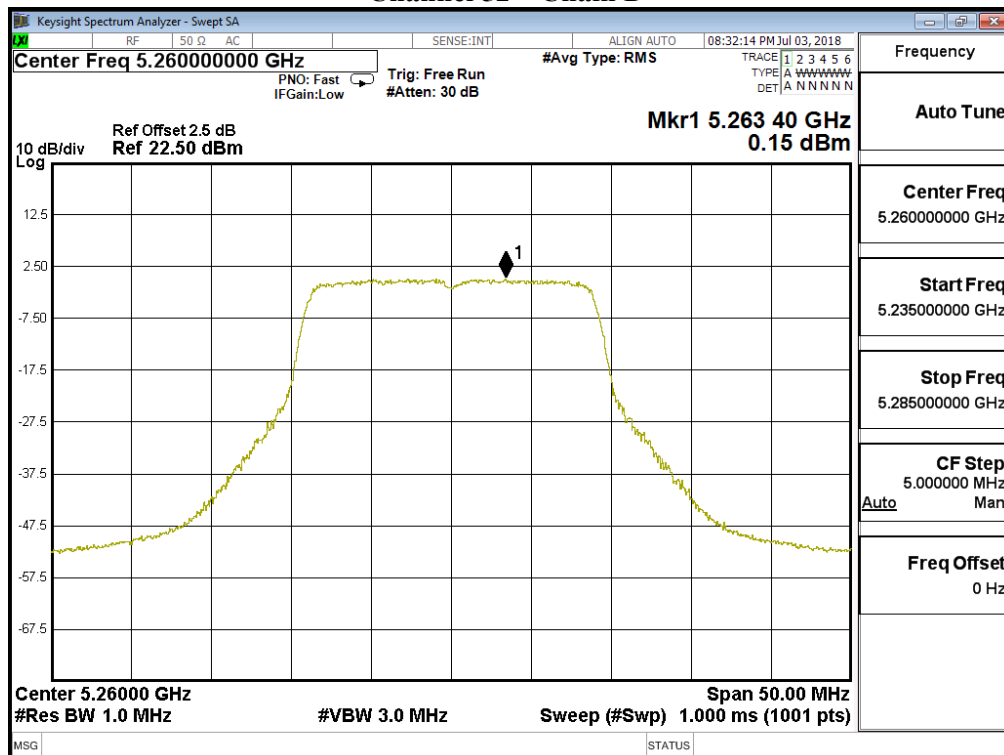
Channel 44 – Chain D



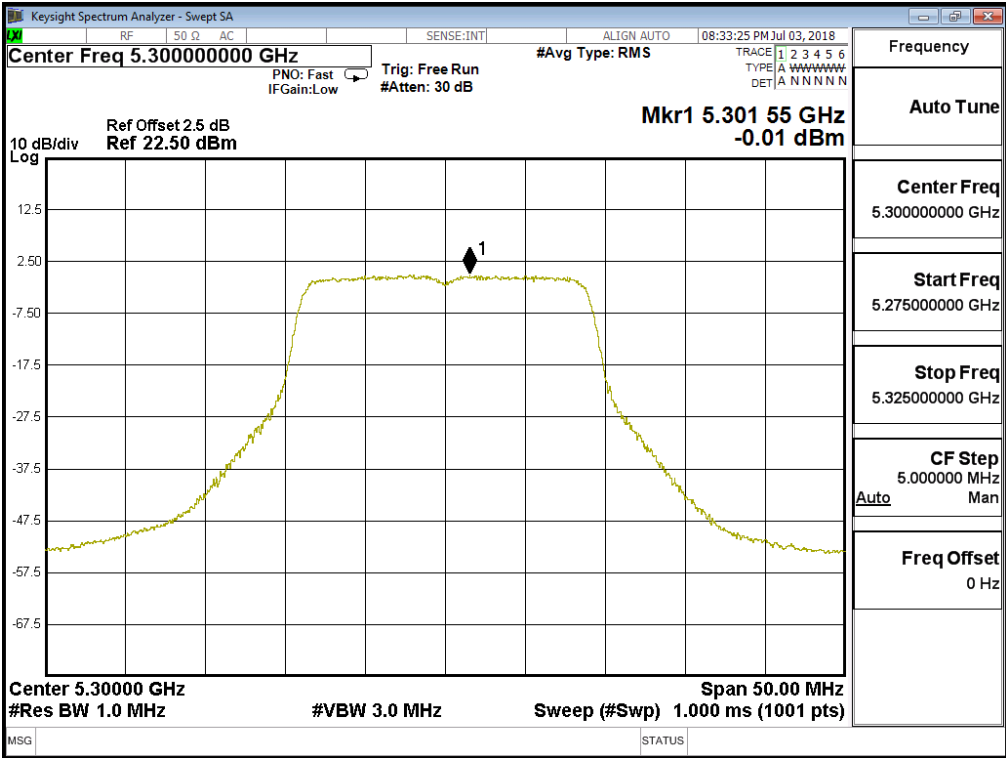
Channel 48 – Chain D



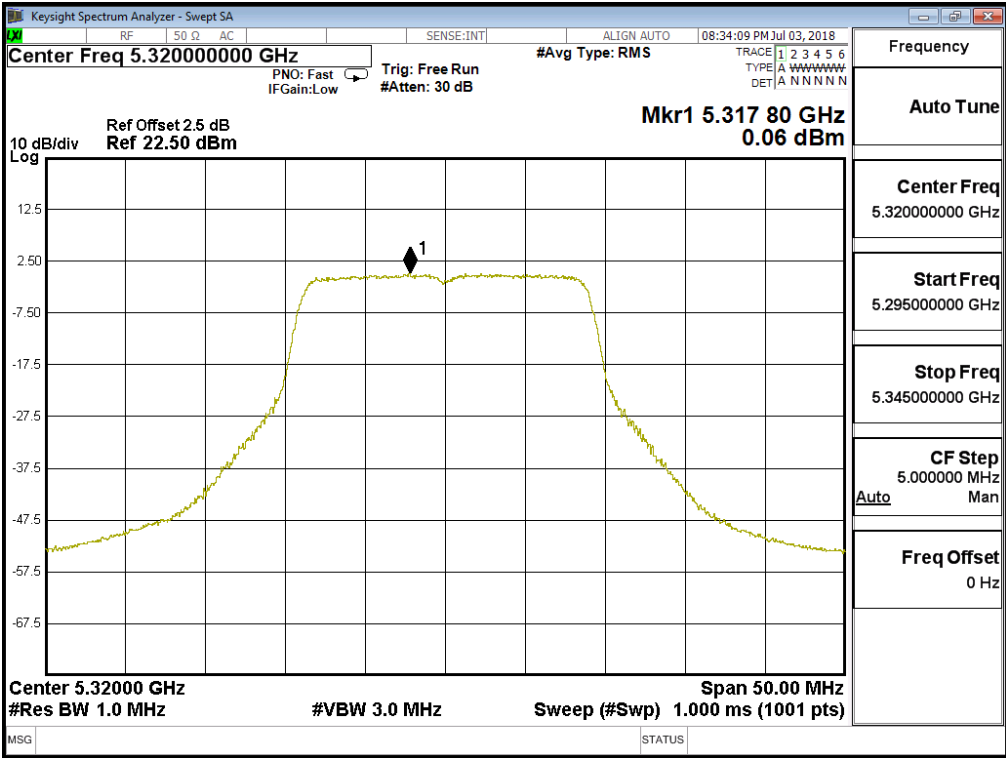
Channel 52 – Chain D



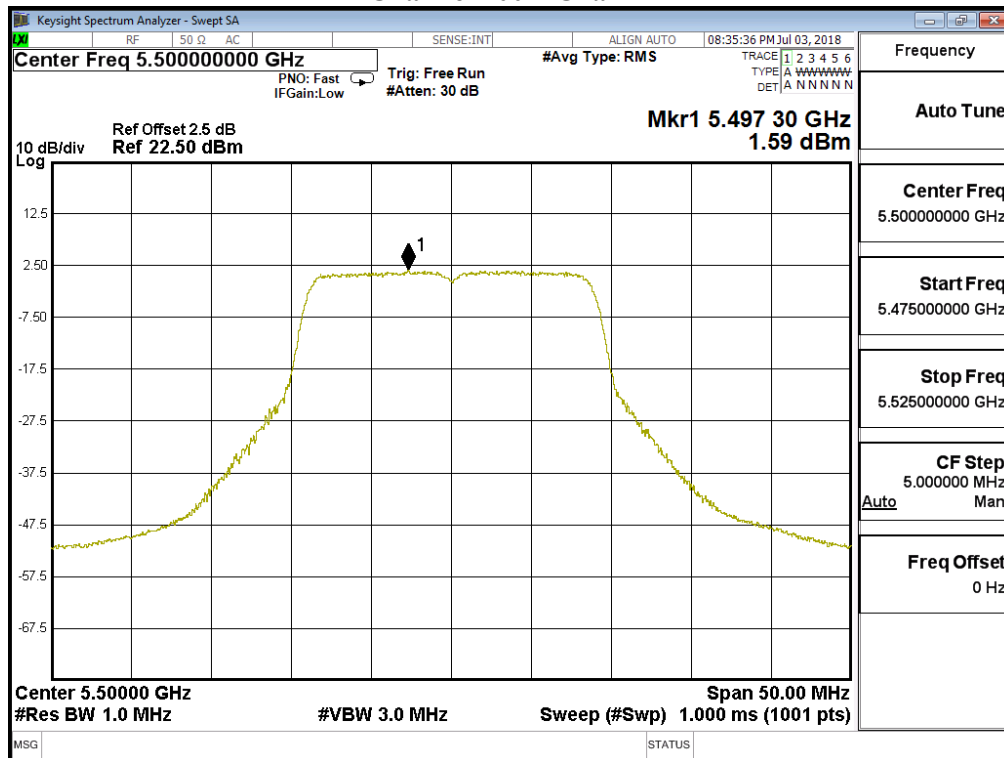
Channel 60 – Chain D



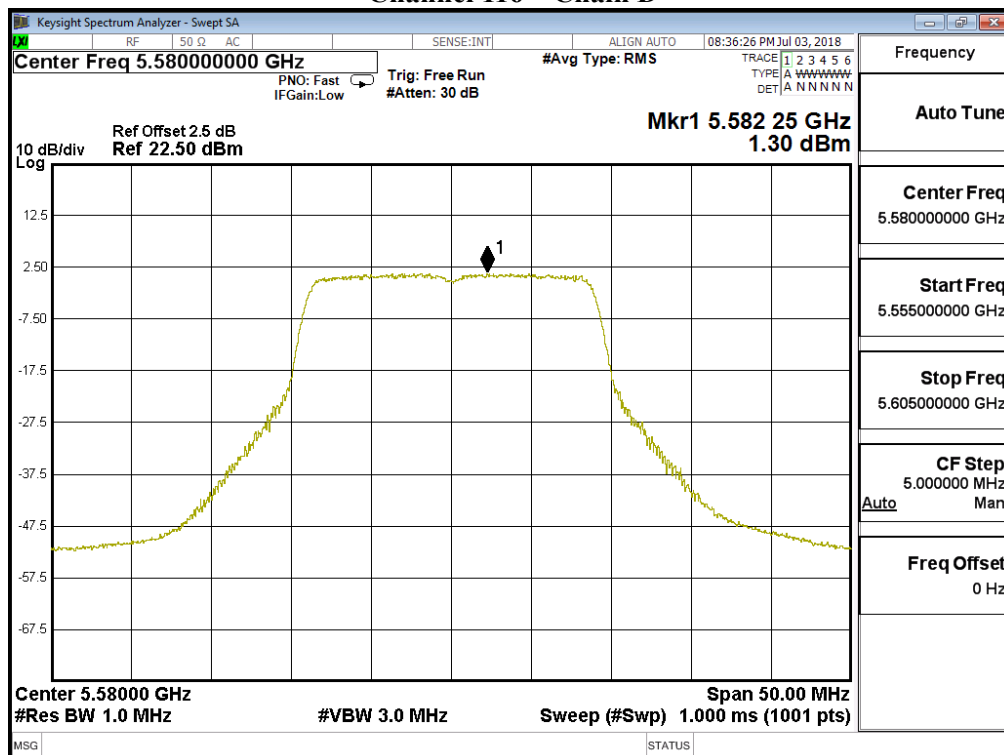
Channel 64 – Chain D



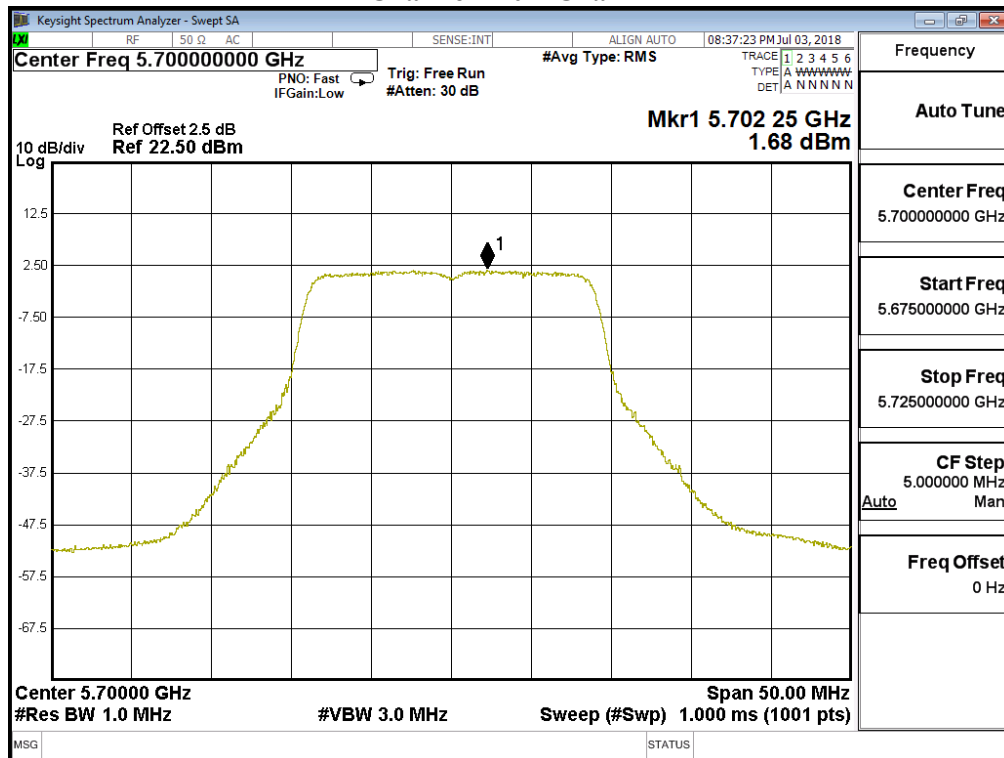
Channel 100 – Chain D



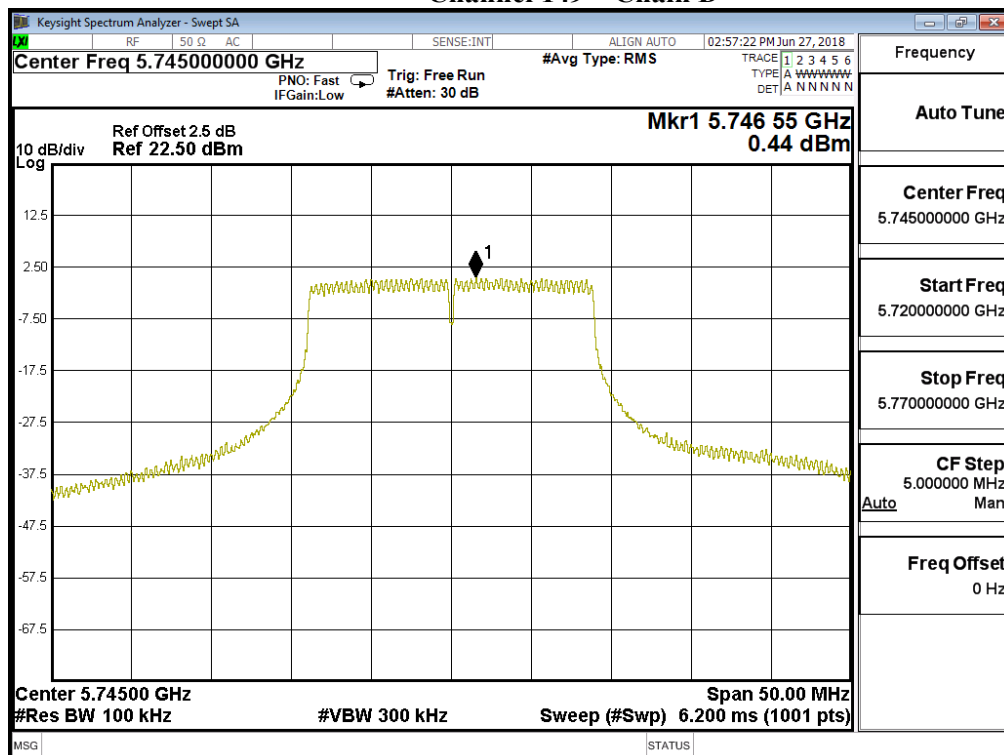
Channel 116 – Chain D



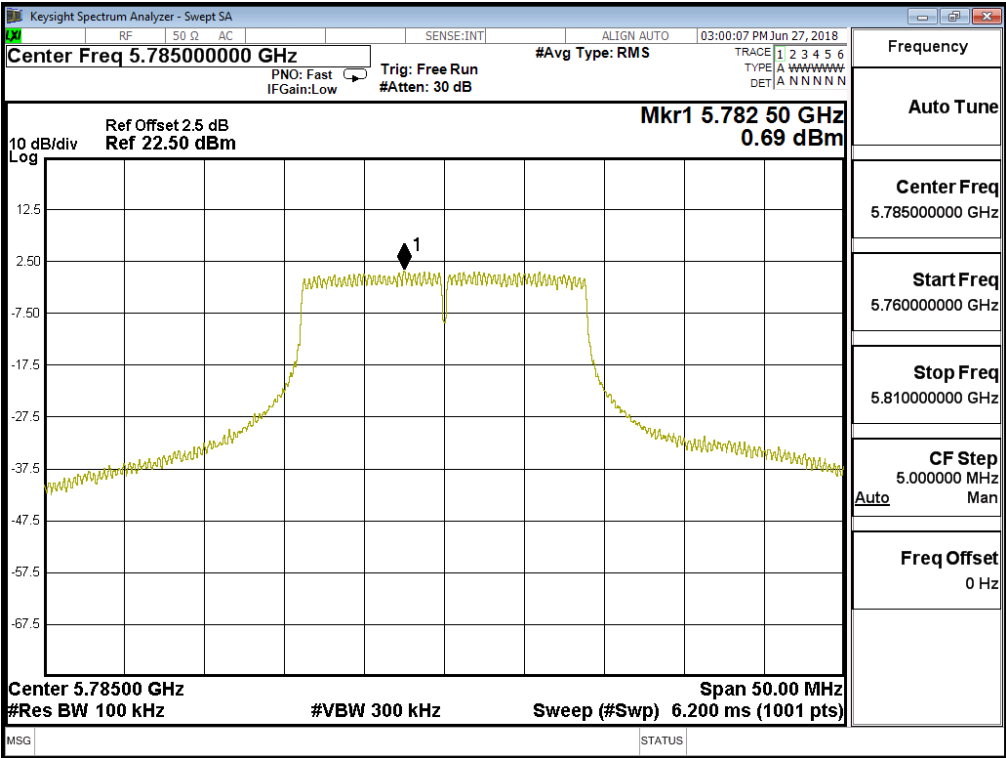
Channel 140 – Chain D



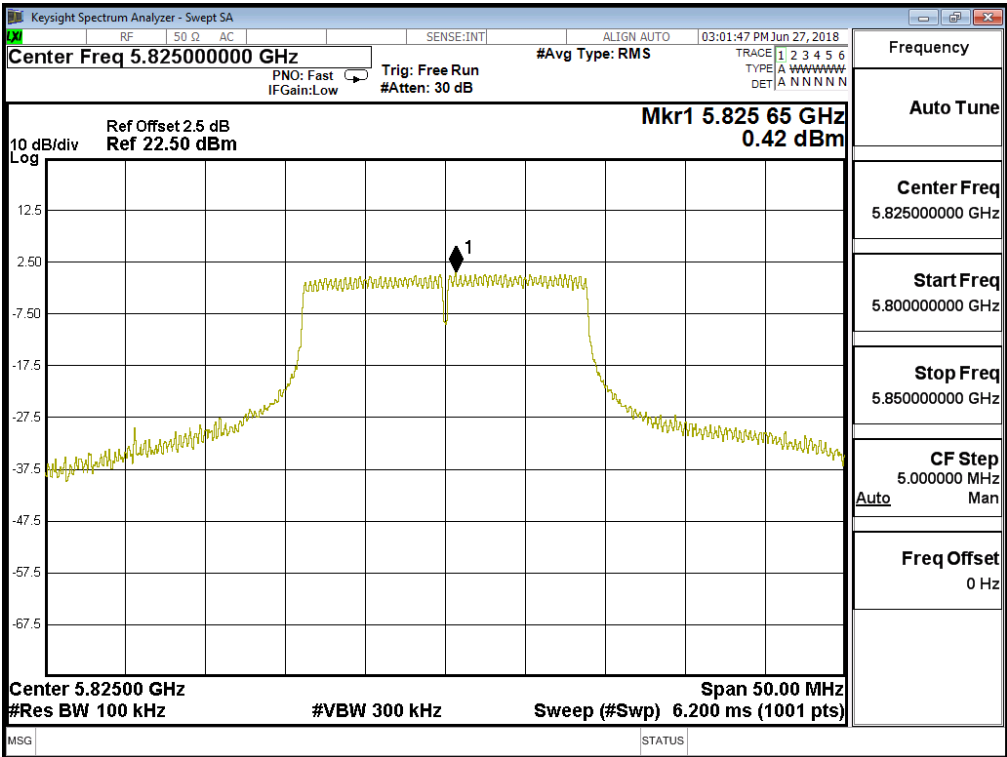
Channel 149 – Chain D



Channel 157 – Chain D



Channel 165 – Chain D



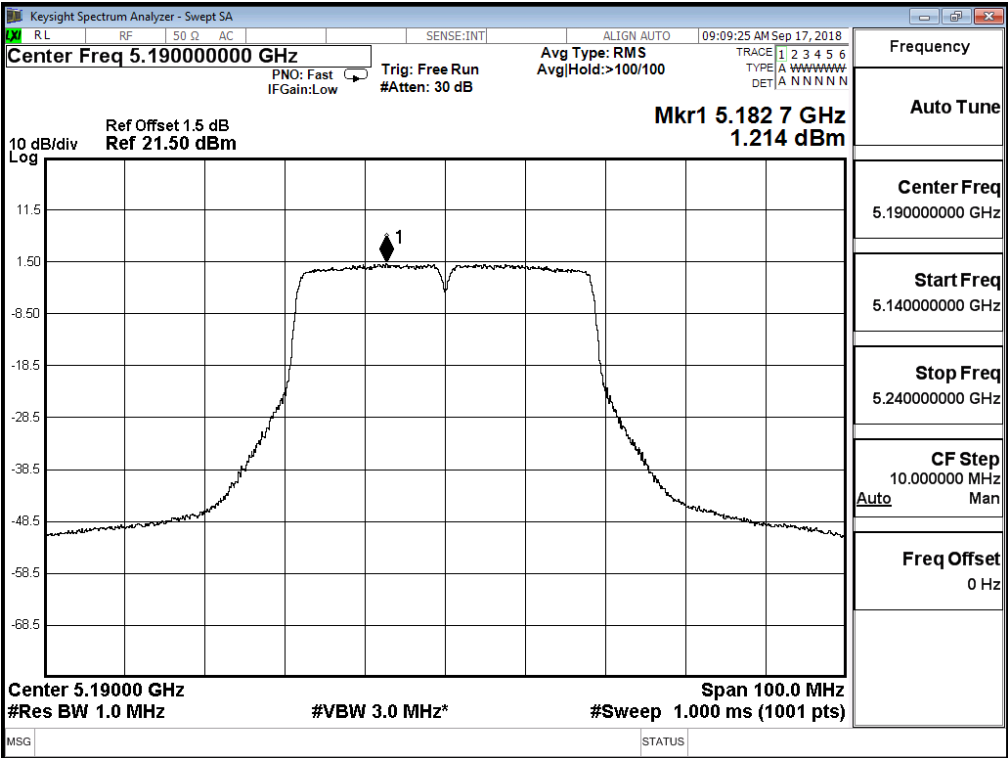
Product : MOXA IEEE 802.11a/n/ac 4*4 module
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Date : 2018/07/20
 Test Mode : Mode 3: Transmit (802.11n-40BW 60Mbps) (Antenna No.1)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Total PPSD (dBm)	Required Limit (dBm)	Result
38	5190	A	1.21	7.23	8.23	Pass
		B	0.78	6.80	8.23	Pass
		C	1.22	7.24	8.23	Pass
		D	0.05	6.07	8.23	Pass
46	5230	A	0.61	6.63	8.23	Pass
		B	0.49	6.51	8.23	Pass
		C	0.91	6.93	8.23	Pass
		D	0.09	6.11	8.23	Pass
54	5270	A	-0.33	5.69	8.23	Pass
		B	0.01	6.03	8.23	Pass
		C	0.86	6.88	8.23	Pass
		D	0.11	6.13	8.23	Pass
62	5310	A	0.39	6.41	8.23	Pass
		B	-0.06	5.96	8.23	Pass
		C	0.43	6.45	8.23	Pass
		D	0.16	6.18	8.23	Pass
102	5510	A	-0.67	5.35	8.50	Pass
		B	-1.53	4.49	8.50	Pass
		C	-1.11	4.91	8.50	Pass
		D	1.14	7.16	8.50	Pass
110	5550	A	0.20	6.22	8.50	Pass
		B	-1.39	4.63	8.50	Pass
		C	-0.89	5.13	8.50	Pass
		D	1.50	7.52	8.50	Pass
134	5670	A	-0.87	5.15	8.50	Pass
		B	-1.56	4.46	8.50	Pass
		C	-2.19	3.83	8.50	Pass
		D	1.50	7.52	8.50	Pass

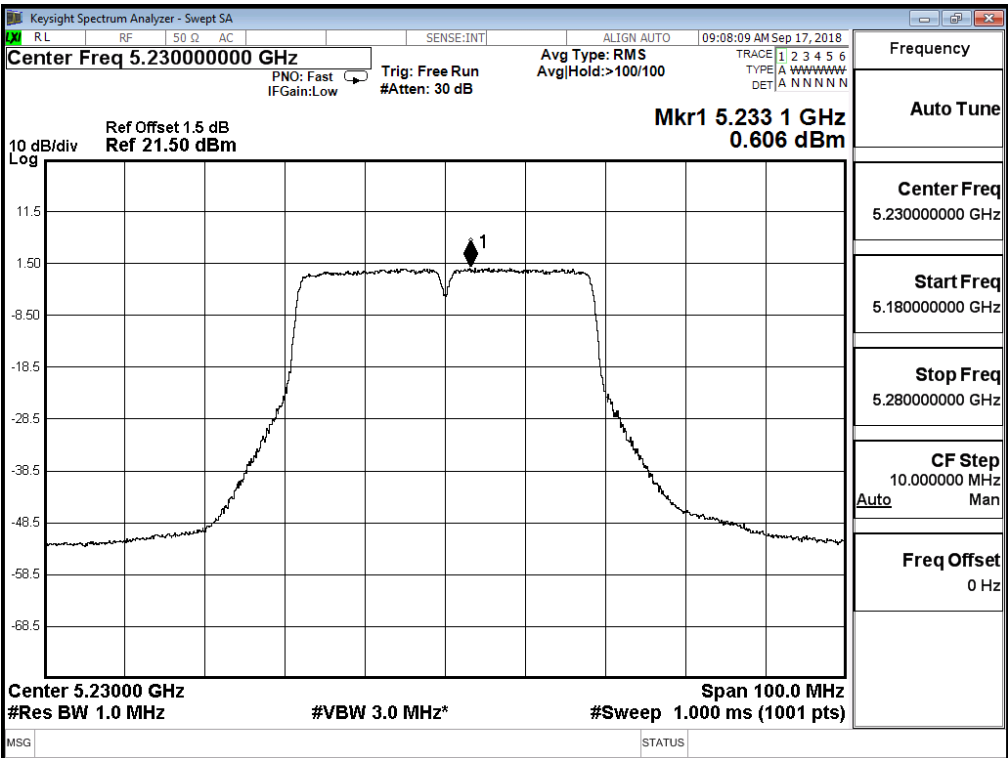
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PSD (dBm) ₁	Required Limit (dBm)	Result
151	5755	A	-5.67	6.98	7.33	<27.82	Pass
		B	-5.57	6.98	7.43	<27.82	Pass
		C	-6.66	6.98	6.34	<27.82	Pass
		D	-2.97	6.98	10.03	<27.82	Pass
159	5795	A	-4.42	6.98	8.58	<27.82	Pass
		B	-5.46	6.98	7.54	<27.82	Pass
		C	-6.32	6.98	6.68	<27.82	Pass
		D	-2.60	6.98	10.40	<27.82	Pass

Note 1: The quantity $10 \cdot \log 4$ (four antennas) is added to the spectrum peak value according to document 662911 D01.

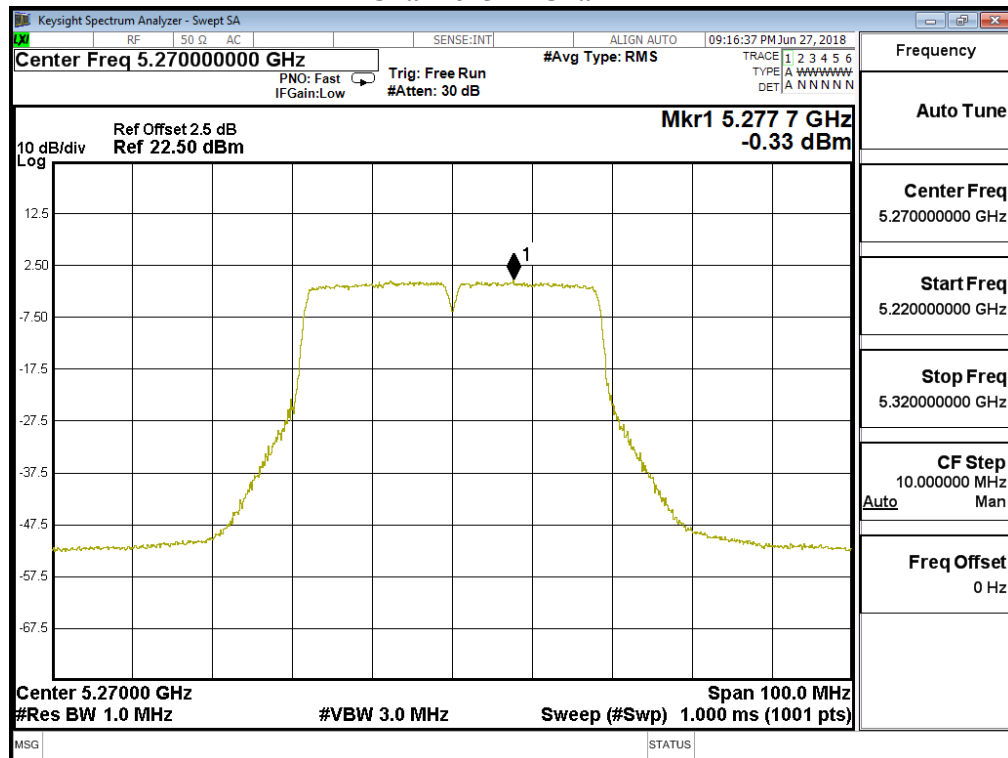
Channel 38 – Chain A



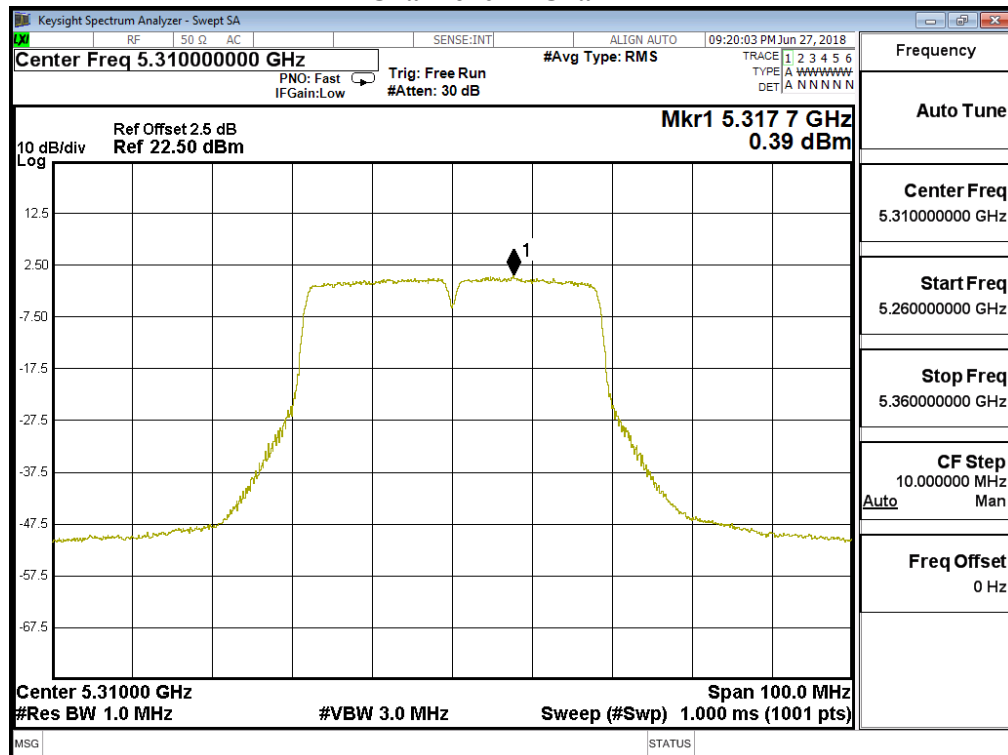
Channel 46 – Chain A



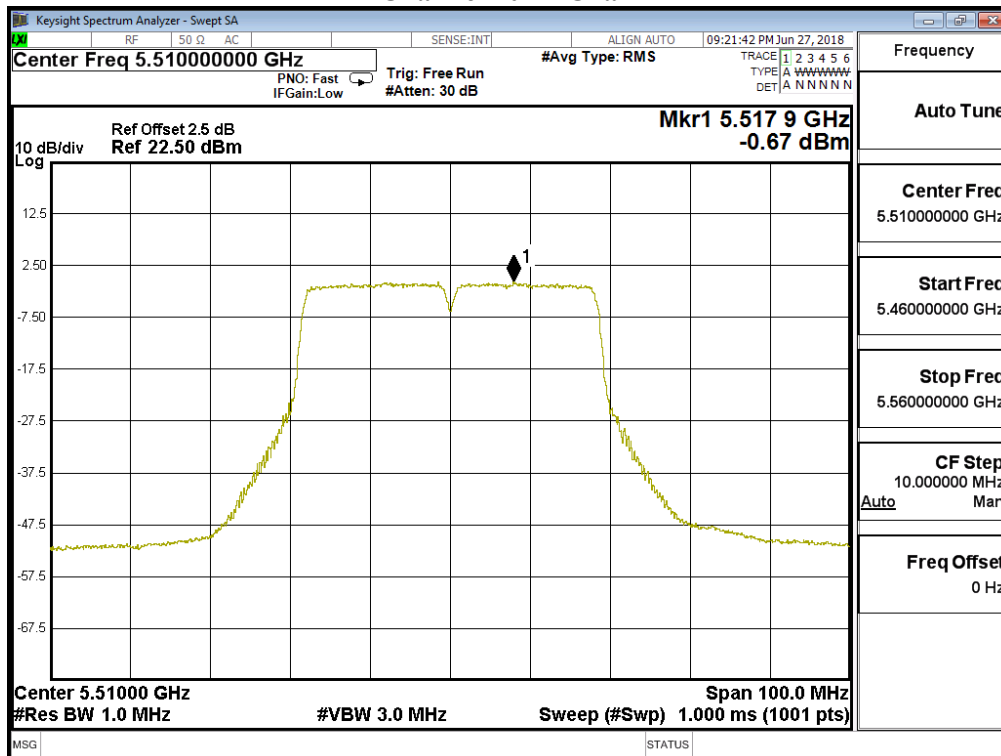
Channel 54 – Chain A



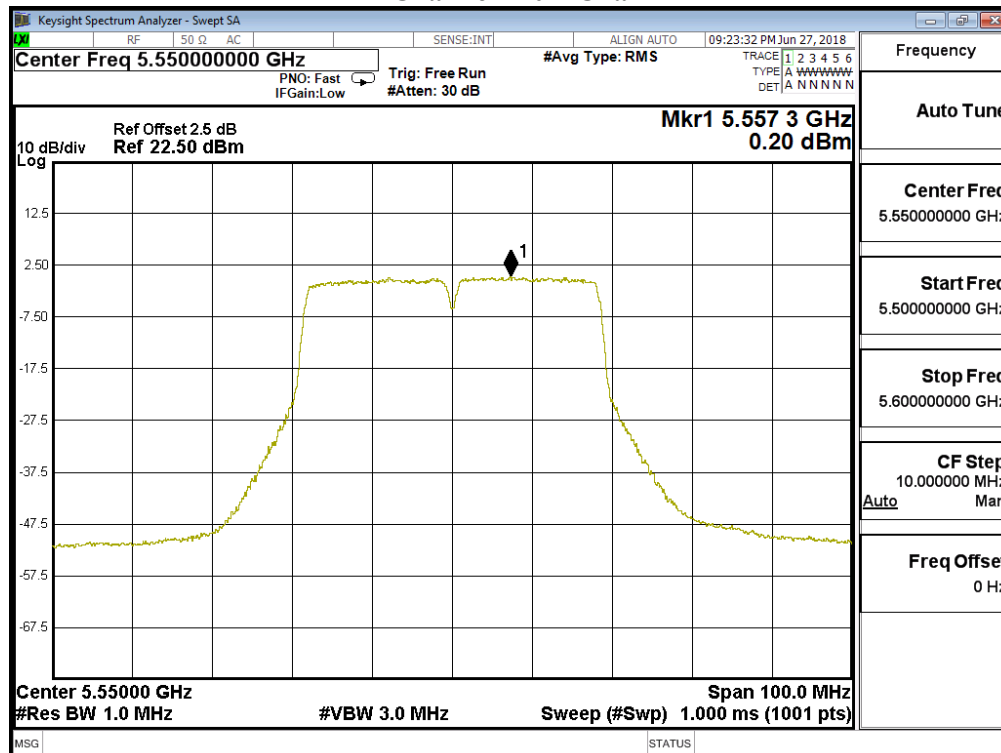
Channel 62 – Chain A



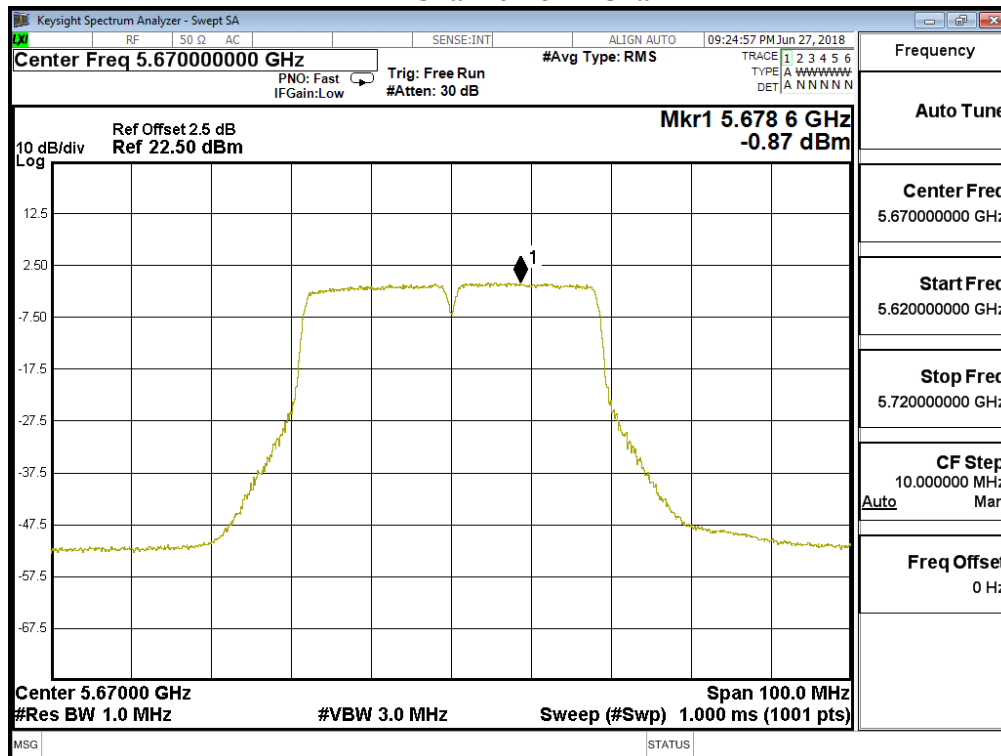
Channel 102 – Chain A



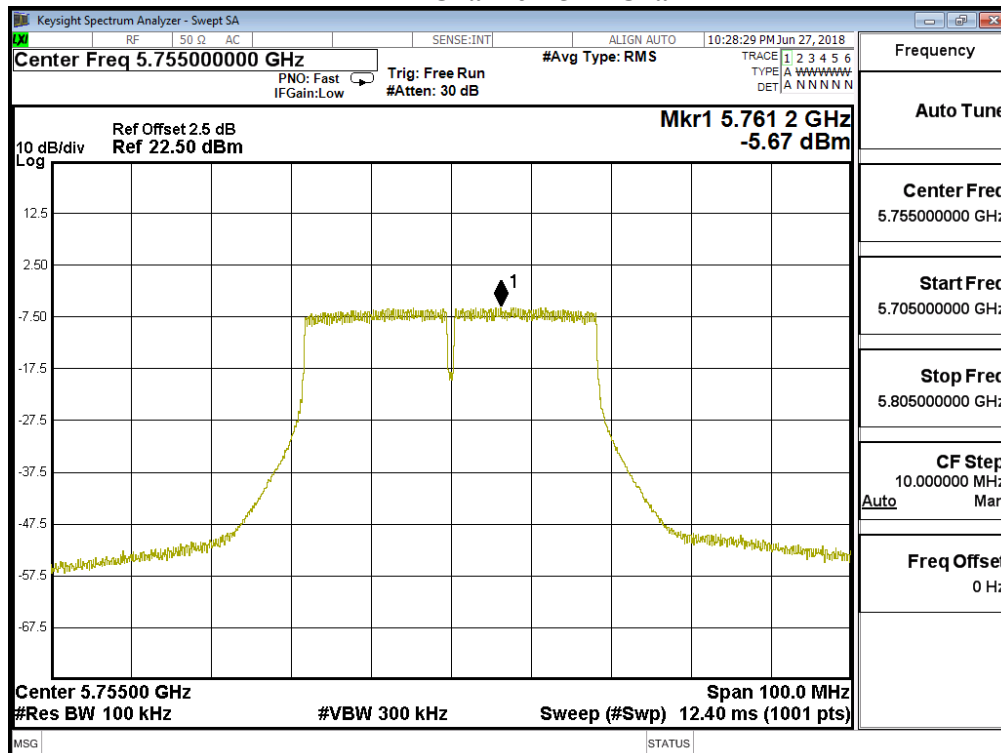
Channel 110 – Chain A



Channel 134 – Chain A



Channel 151 – Chain A



Channel 159 – Chain A

