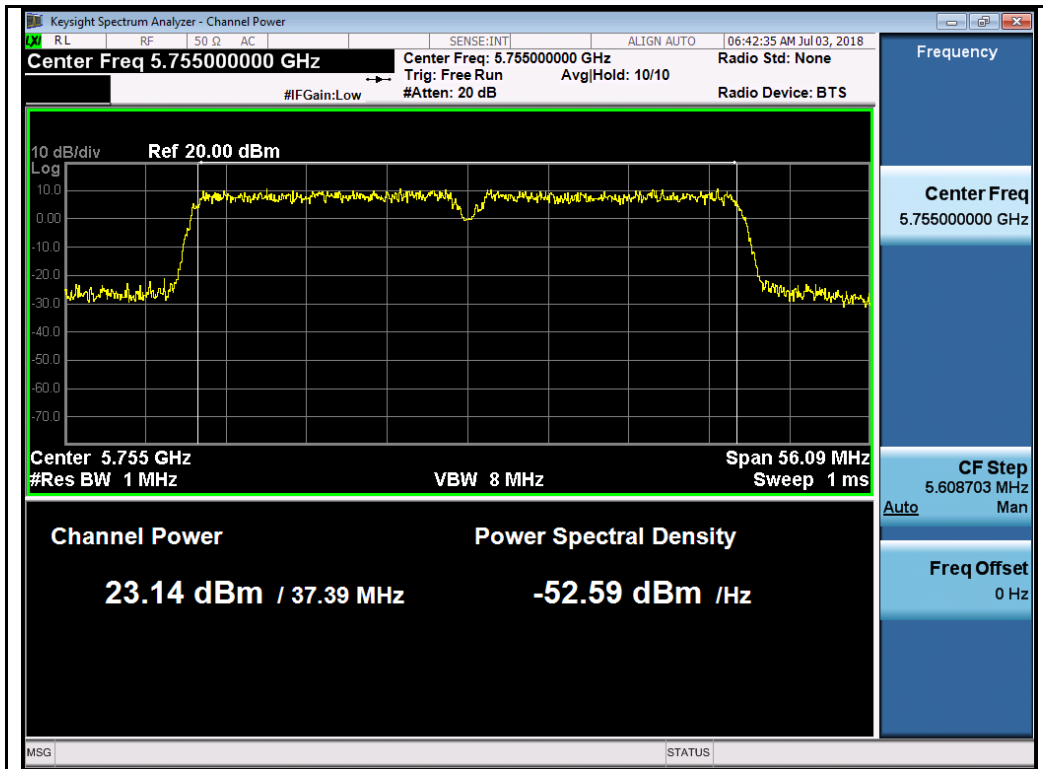
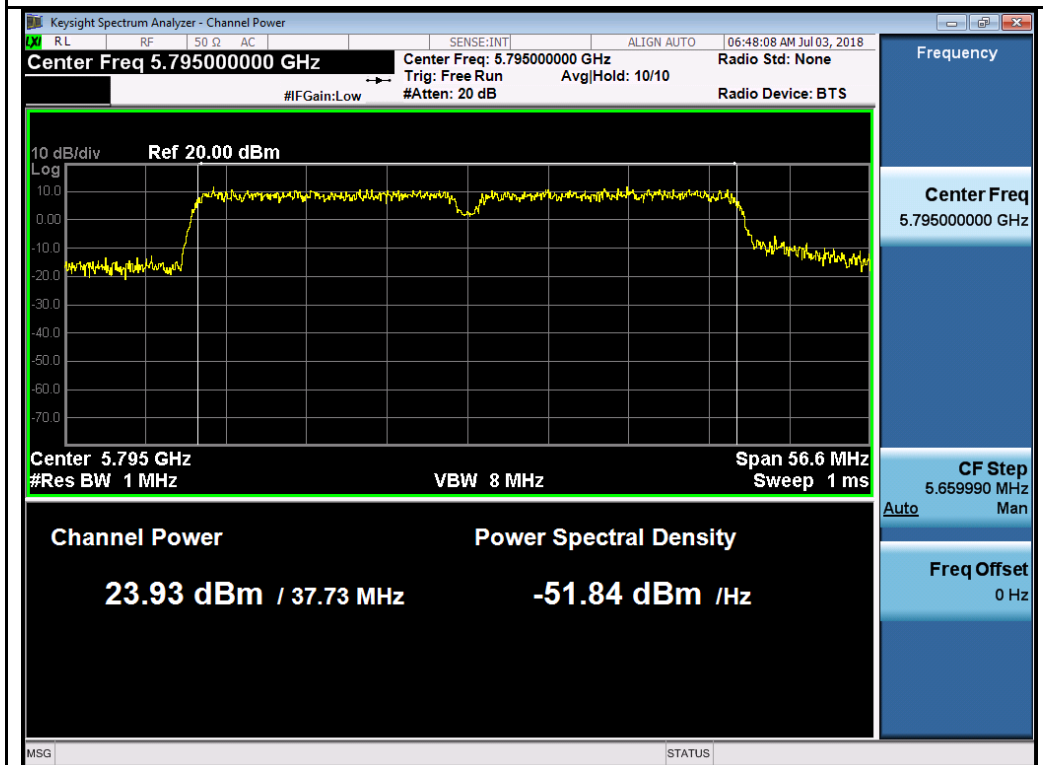


Chain 2:



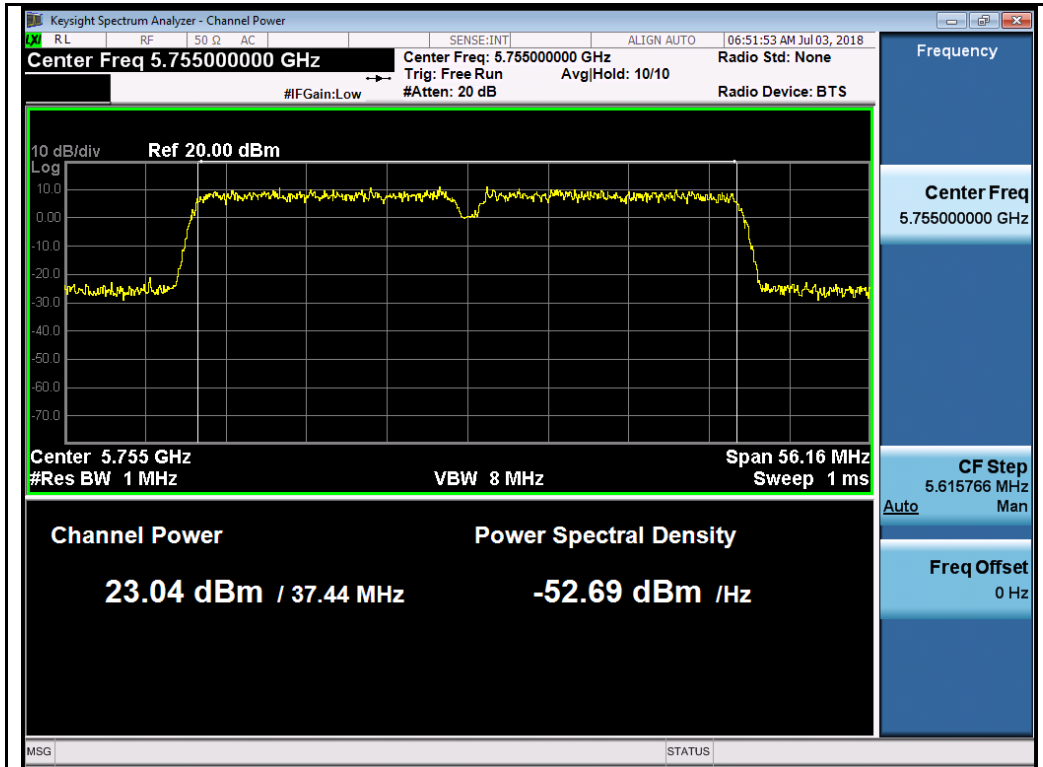
64QAM-5755MHz



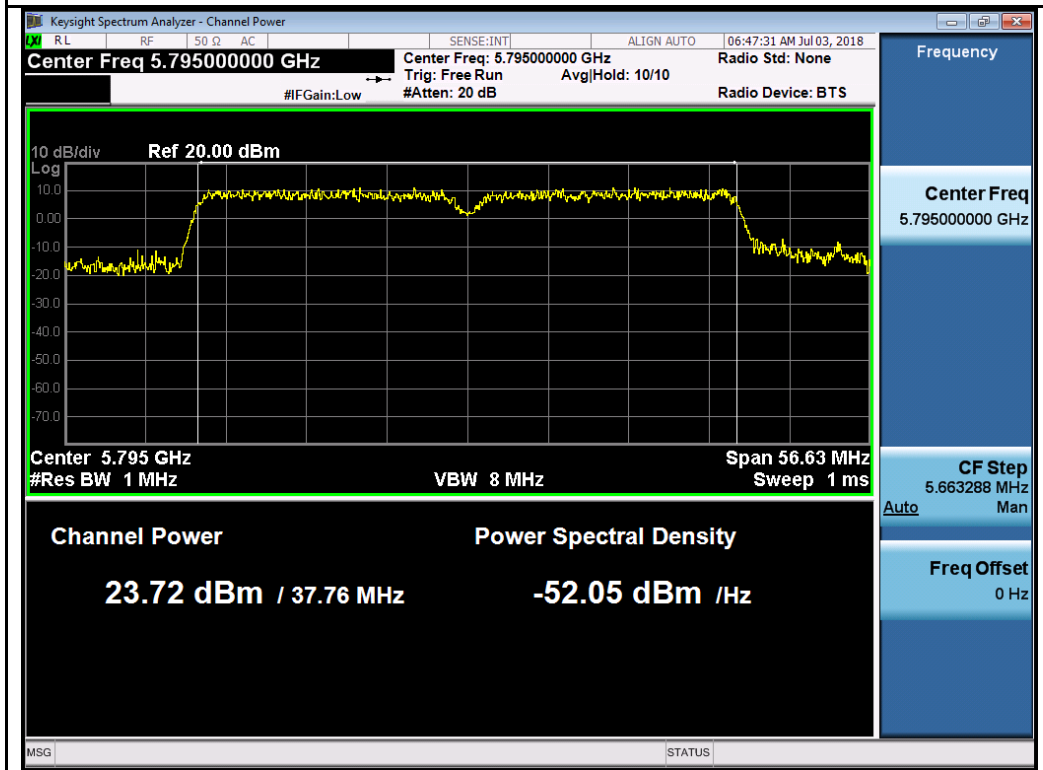
64QAM-5795MHz

Test Plot for W58 40MHz:

Chain 1:

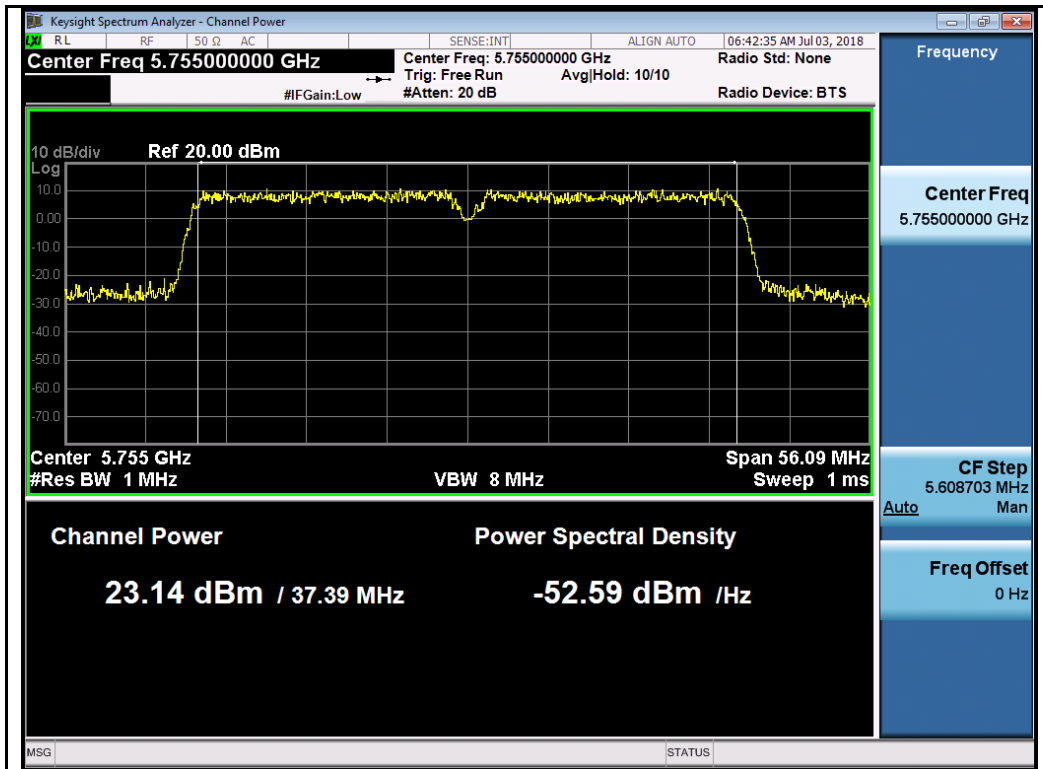


64QAM-5755MHz

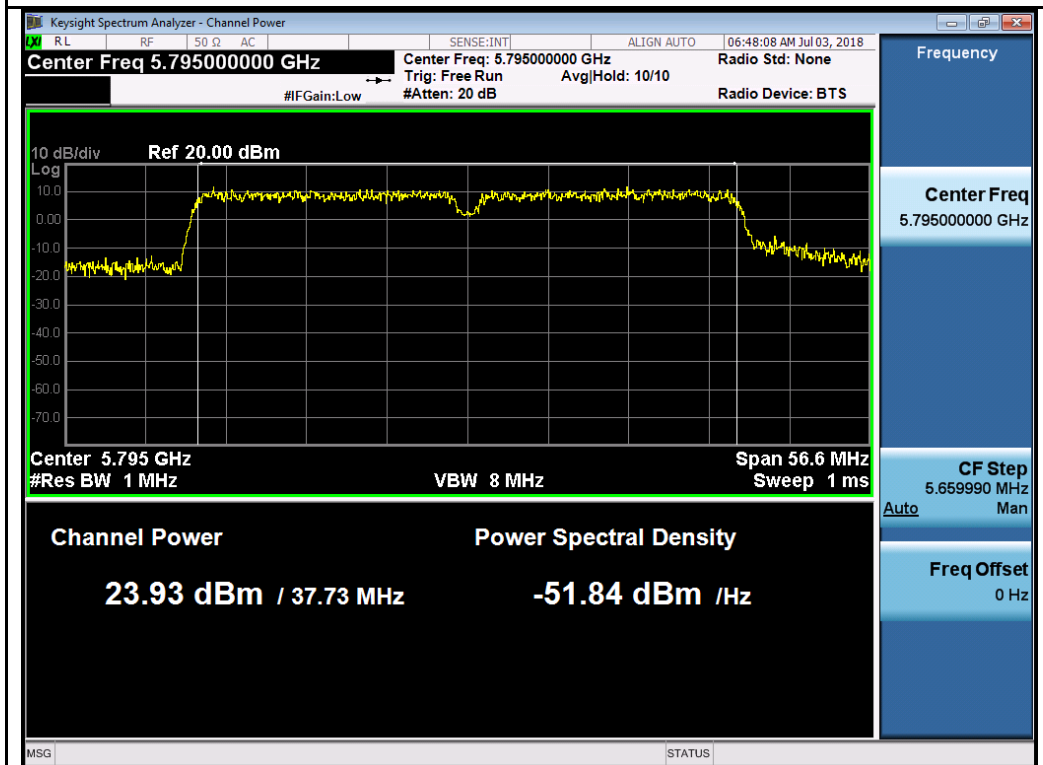


64QAM-5795MHz

Chain 2:




64QAM-5755MHz



64QAM-5795MHz

10.4 Peak Spectral Density

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	a)(1)(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.	<input checked="" type="checkbox"/>
	a)(3)	For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.	<input checked="" type="checkbox"/>
Test Setup			
Test Procedure	<p>789033 D02 General UNII Test Procedures New Rules v02, II.F. Method SA-1</p> <p><u>Maximum spectral density measurement procedure</u></p> <ul style="list-style-type: none"> - Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal. - Set RBW = 1 MHz - Set VBW ≥ 3 MHz - Detector = RMS. - Sweep time = auto couple. - Trace mode = max hold. - Trace average at least 100 traces in power averaging - Use the peak marker function to determine the maximum amplitude level within the RBW. <p>Apply correction to the result if different RBW is used.</p>		
Test Date	01/18/2017 – 02/10/2017	Environmental condition	Temperature 22°C Relative Humidity 42% Atmospheric Pressure 1020mbar
Remark	Two antennas are used for this band. The highest directional gain of the antenna is 6dBi, no limit adjust is required.		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

Test Data Yes N/A

Test Plot Yes (See below) N/A

Test was done by Chen Ge at RF test site.

PSD measurement result
20MHz:

Type	Test mode	Freq (MHz)	CH	Conducted PSD (dBm/MHz)			Limit (dBm/MHz)	Result
				Chain 1	Chain 2	Combined PSD		
PSD	QPSK	5160	Low	13.14	13.60	16.39	17	Pass
		5200	Mid	12.86	12.87	15.88	17	Pass
		5240	High	12.85	12.87	15.87	17	Pass
	64QAM	5160	Low	13.11	13.32	16.23	17	Pass
		5200	Mid	12.85	12.93	15.90	17	Pass
		5240	High	13.10	13.31	16.22	17	Pass

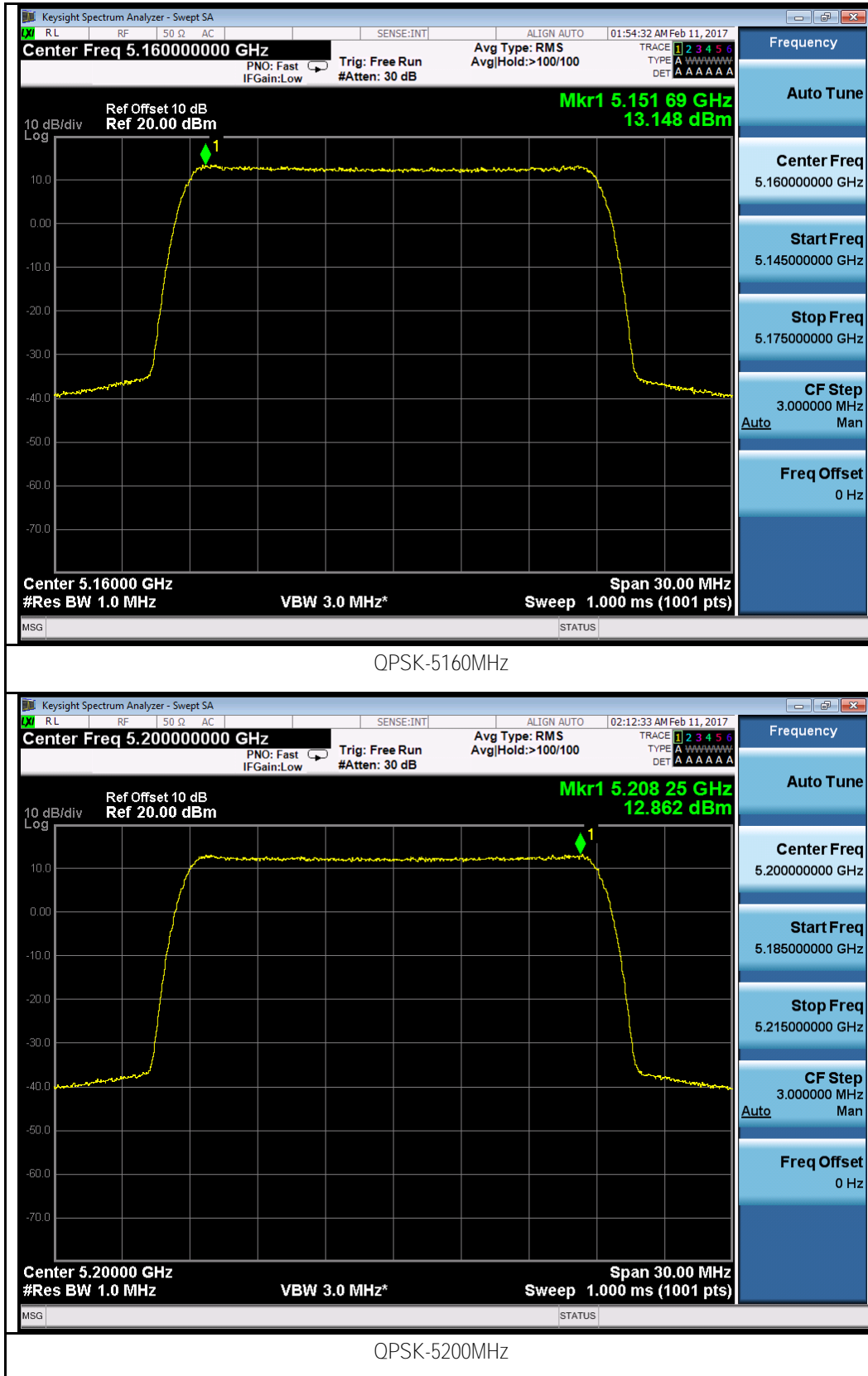
Type	Test mode	Freq (MHz)	CH	Conducted PSD (dBm/100kHz)			Combined PSD(dBm/500kHz)	Limit (dBm/500kHz)	Result
				Chain 1	Chain 2	correction factor (dB)			
PSD	QPSK	5735	Low	4.38	4.83	6.99	14.61	30	Pass
		5785	Mid	4.64	5.09	6.99	14.87	30	Pass
		5825	High	4.65	4.24	6.99	14.45	30	Pass
	64QAM	5735	Low	4.93	4.64	6.99	14.79	30	Pass
		5785	Mid	4.61	5.02	6.99	14.82	30	Pass
		5825	High	4.40	4.73	6.99	14.57	30	Pass
Note	BW correction factor = $10\log(500\text{kHz}/\text{RBW})$, RBW was set to 100kHz during test.								

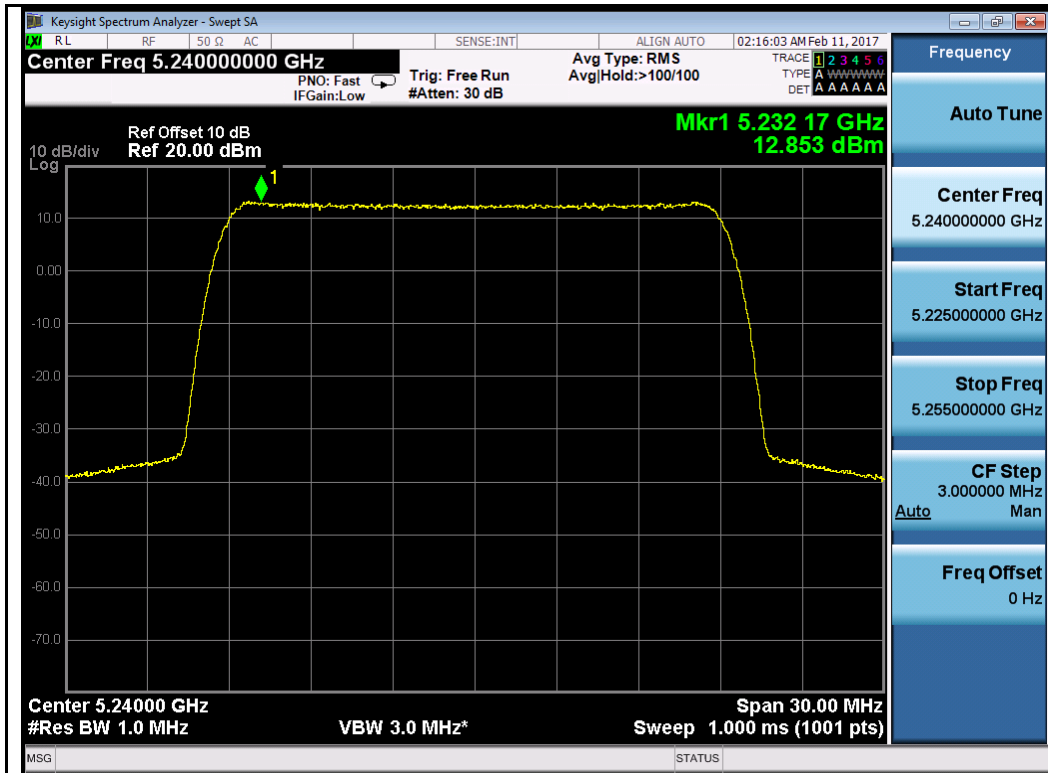
40MHz:

Type	Test mode	Freq (MHz)	CH	Conducted PSD (dBm/MHz)			Limit (dBm/MHz)	Result
				Chain 1	Chain 2	Combined PSD		
PSD	64QAM	5190	Low	9.20	8.61	11.93	17	Pass
		5230	High	8.93	8.64	11.80	17	Pass

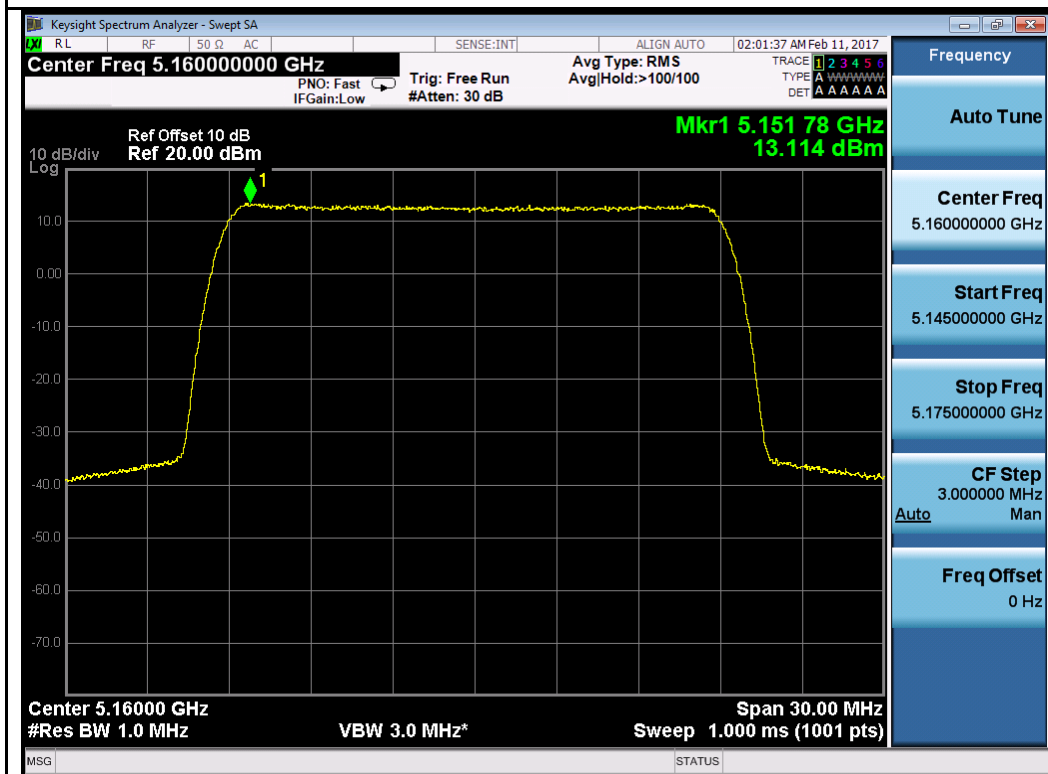
Type	Test mode	Freq (MHz)	CH	Conducted PSD (dBm/100kHz)			Combined PSD(dBm/500kHz)	Limit (dBm/500kHz)	Result
				Chain 1	Chain 2	correction factor (dB)			
PSD	64QAM	5755	Low	-0.11	0.08	6.99	9.99	30	Pass
		5795	High	0.16	-0.30	6.99	9.94	30	Pass
Note	BW correction factor = $10\log(500\text{kHz}/\text{RBW})$, RBW was set to 100kHz during test.								

Test Plot for W52 20MHz:
Chain 1:

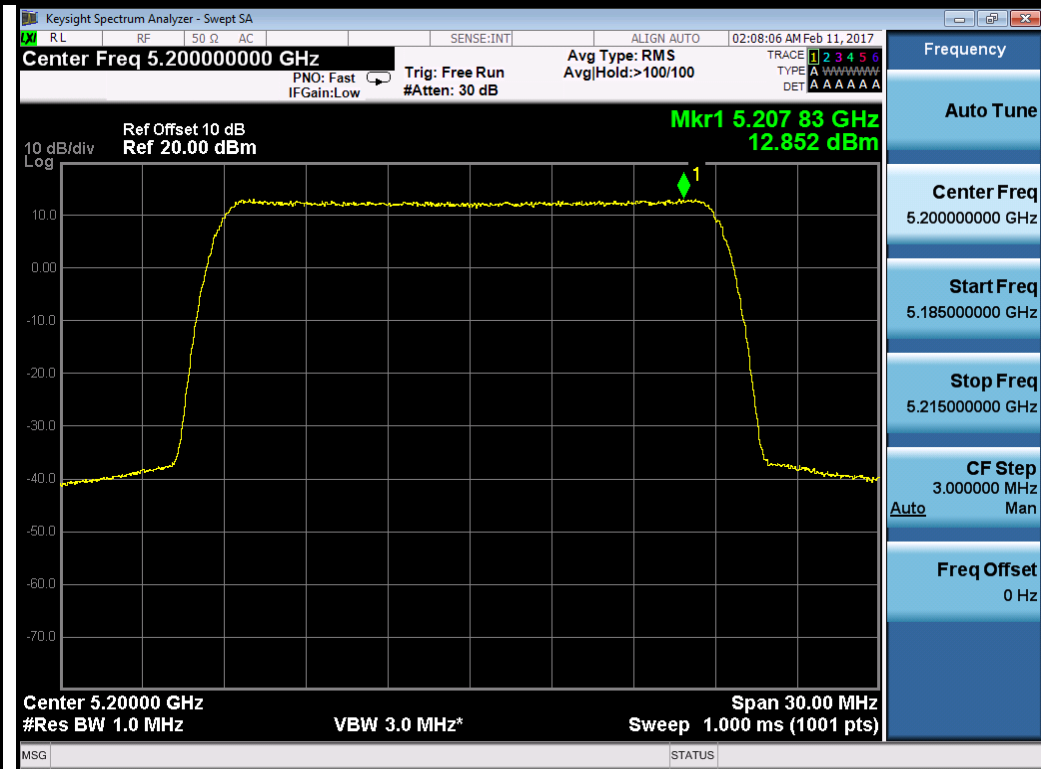




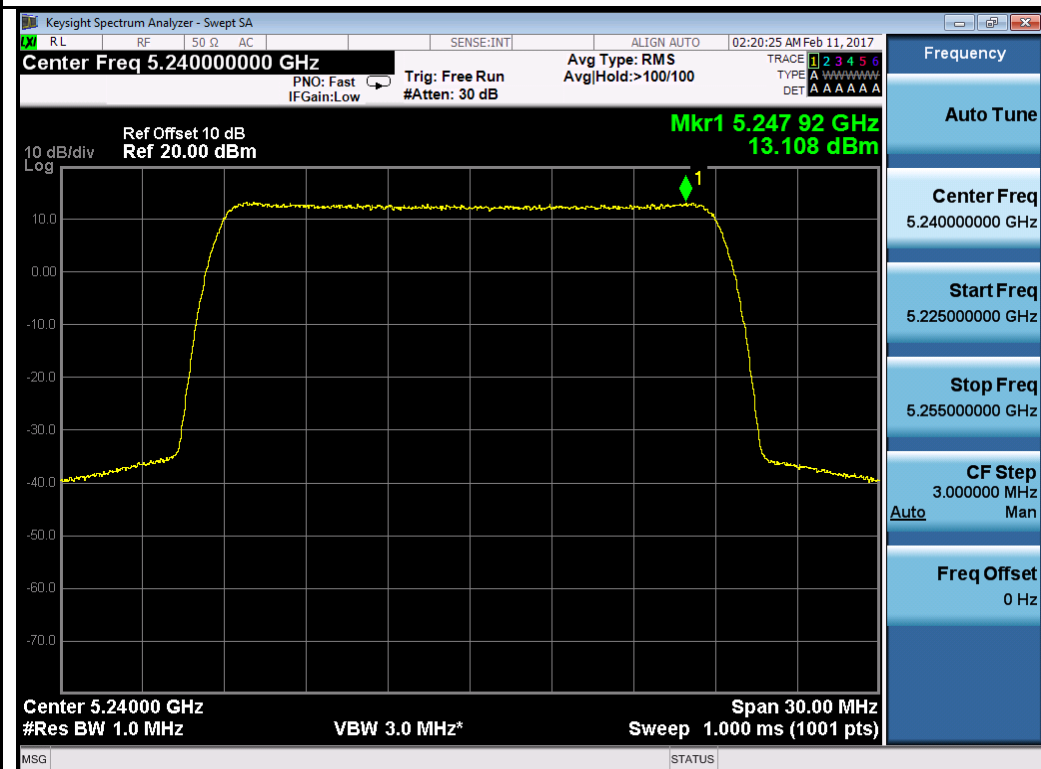
QPSK-5240MHz



64QAM-5160MHz

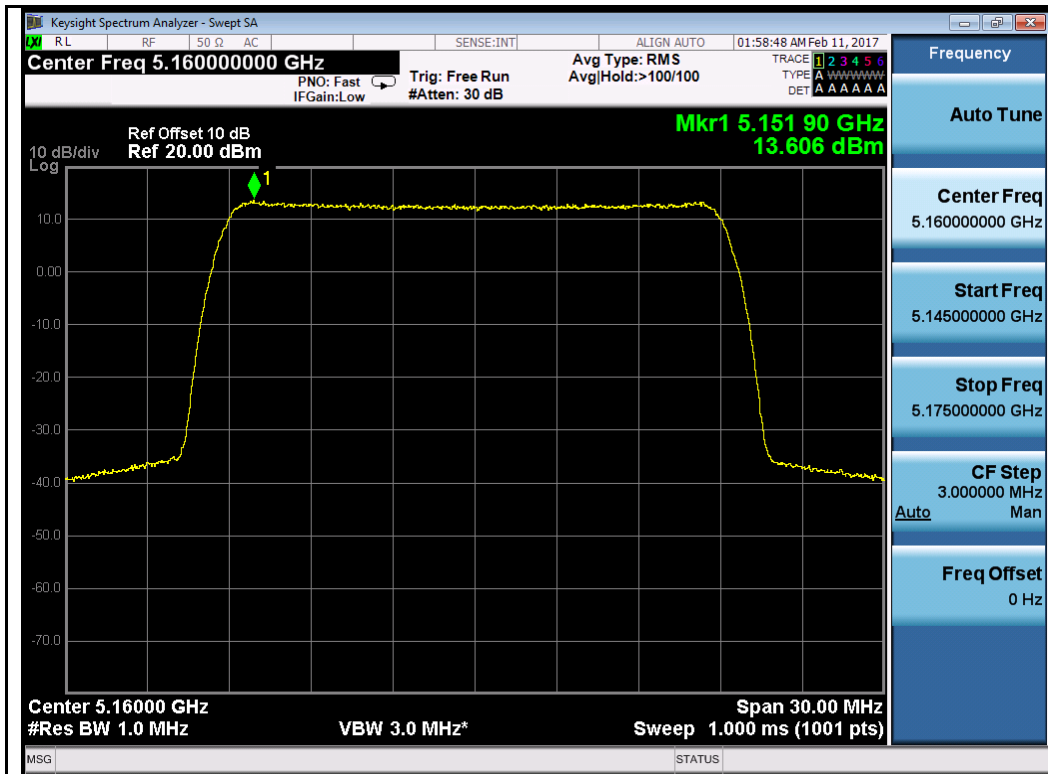


64QAM-5200MHz

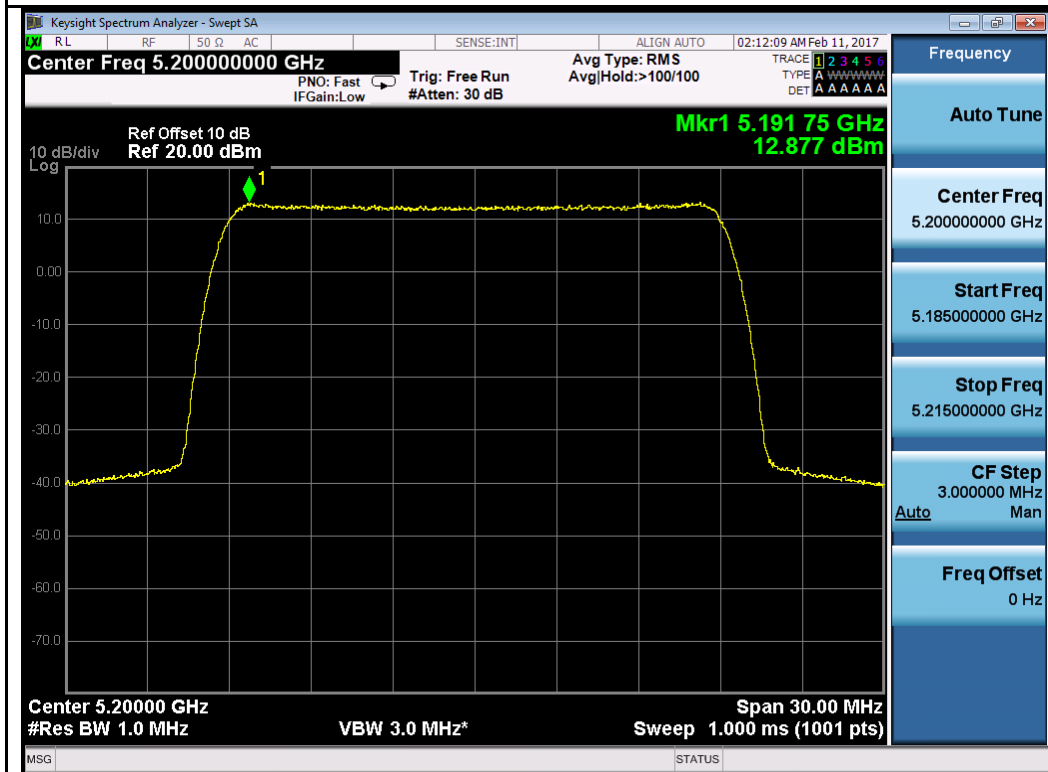


64QAM-5240MHz

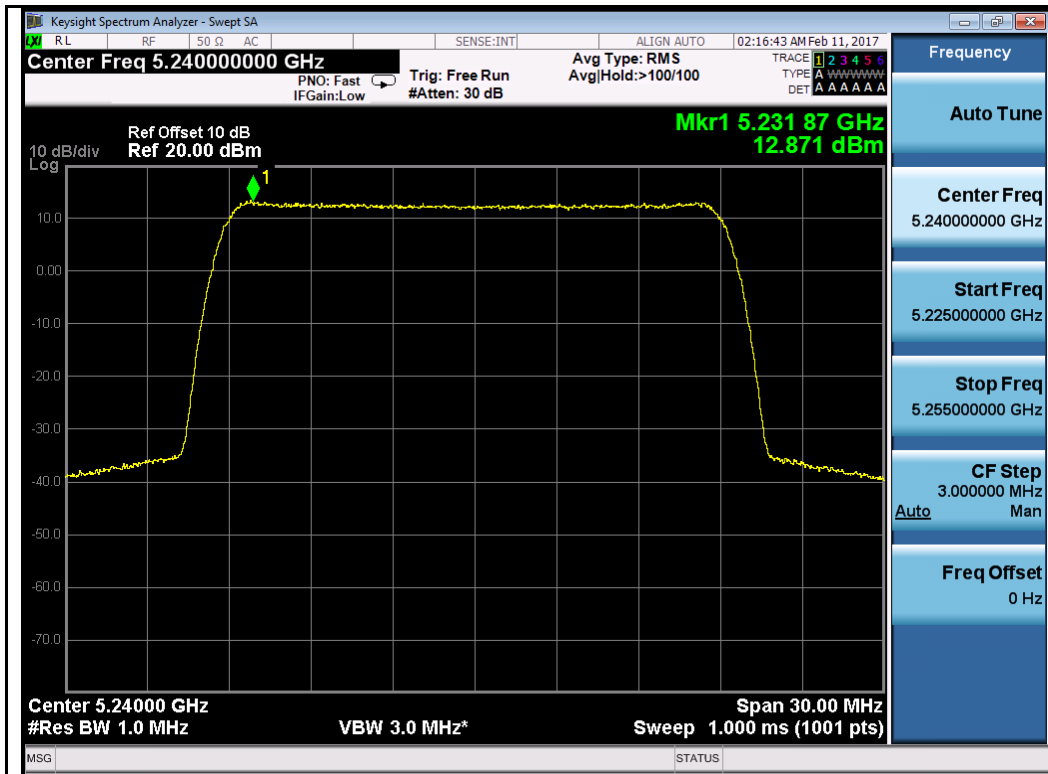
Chain 2:



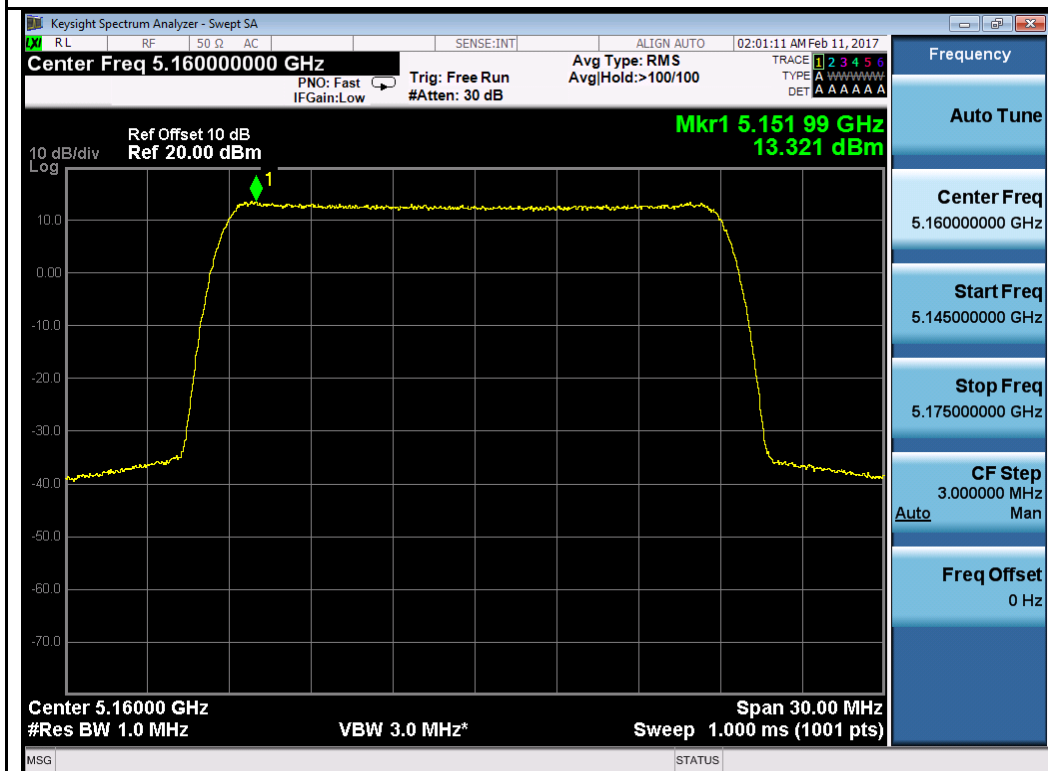
QPSK-5160MHz



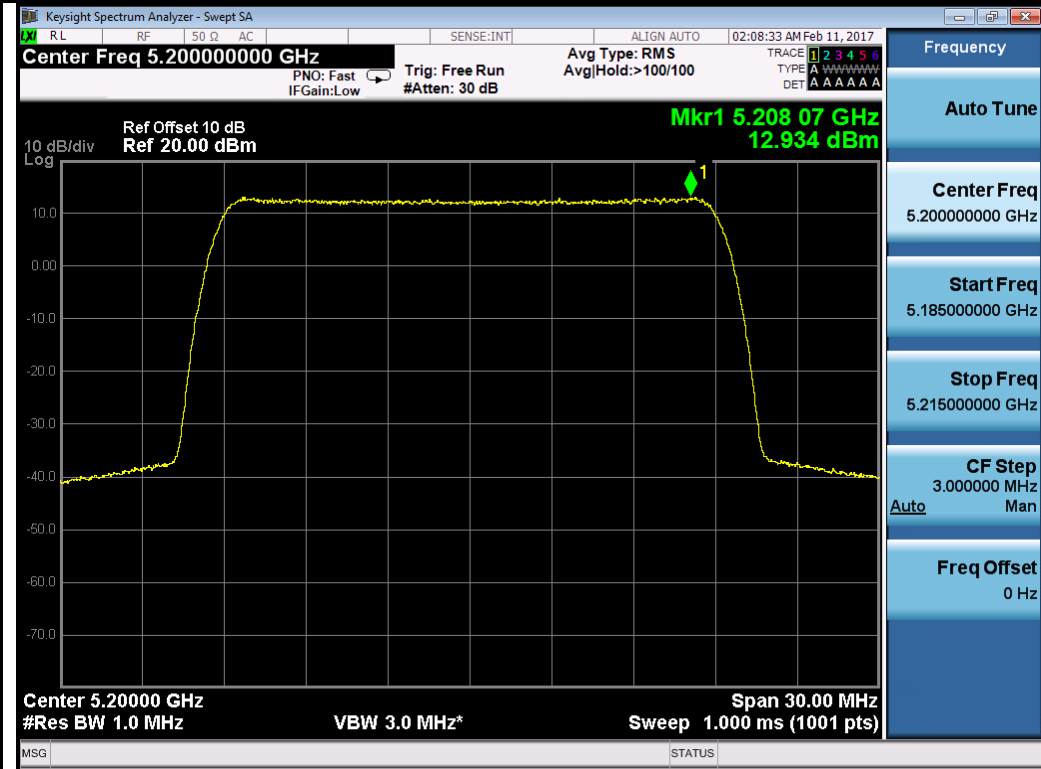
QPSK-5200MHz



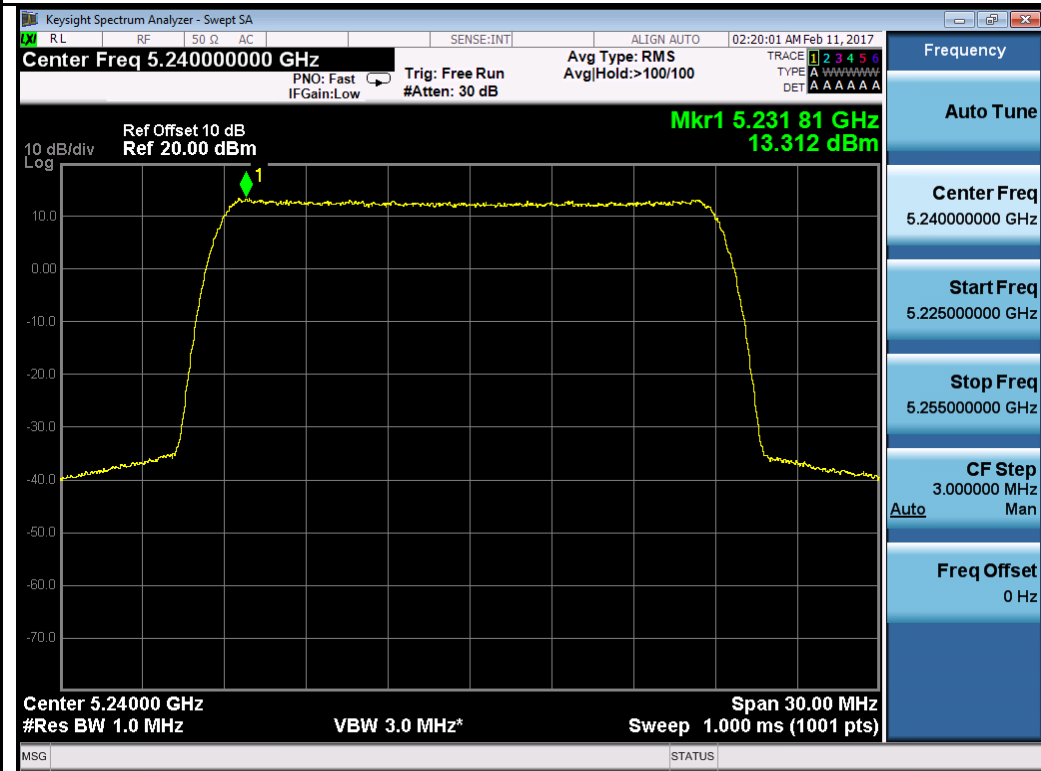
OPK-5240MHz



64QAM-5160MHz

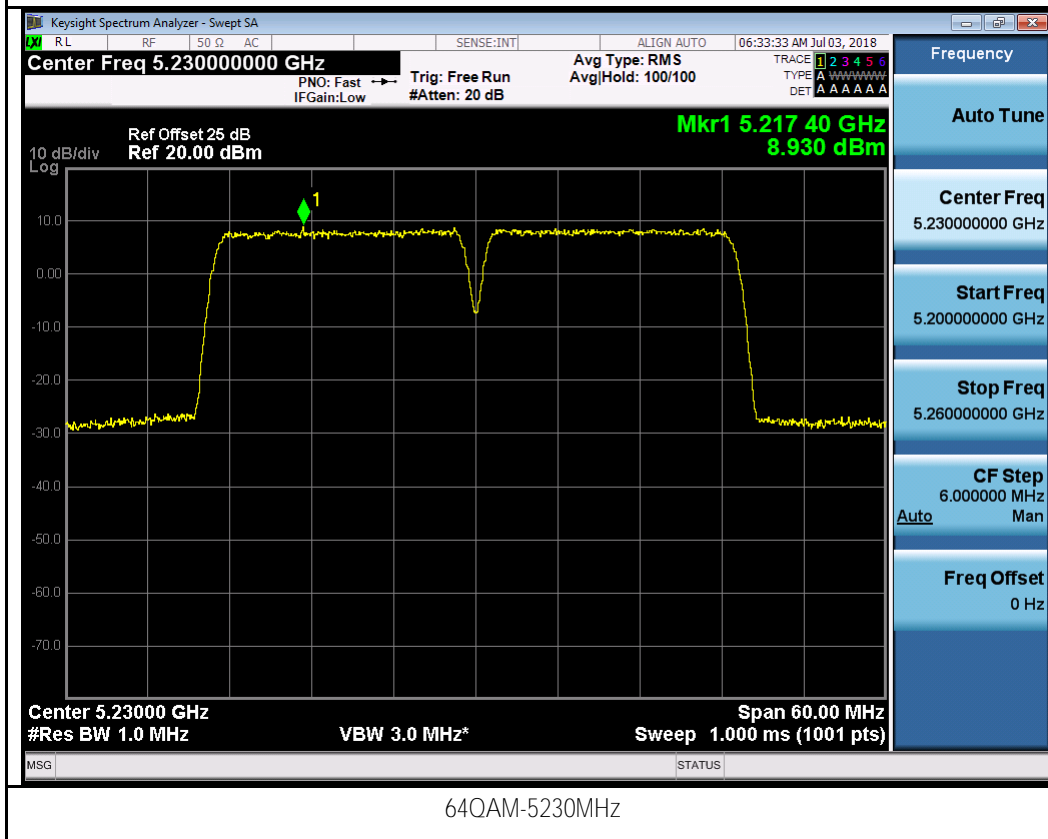
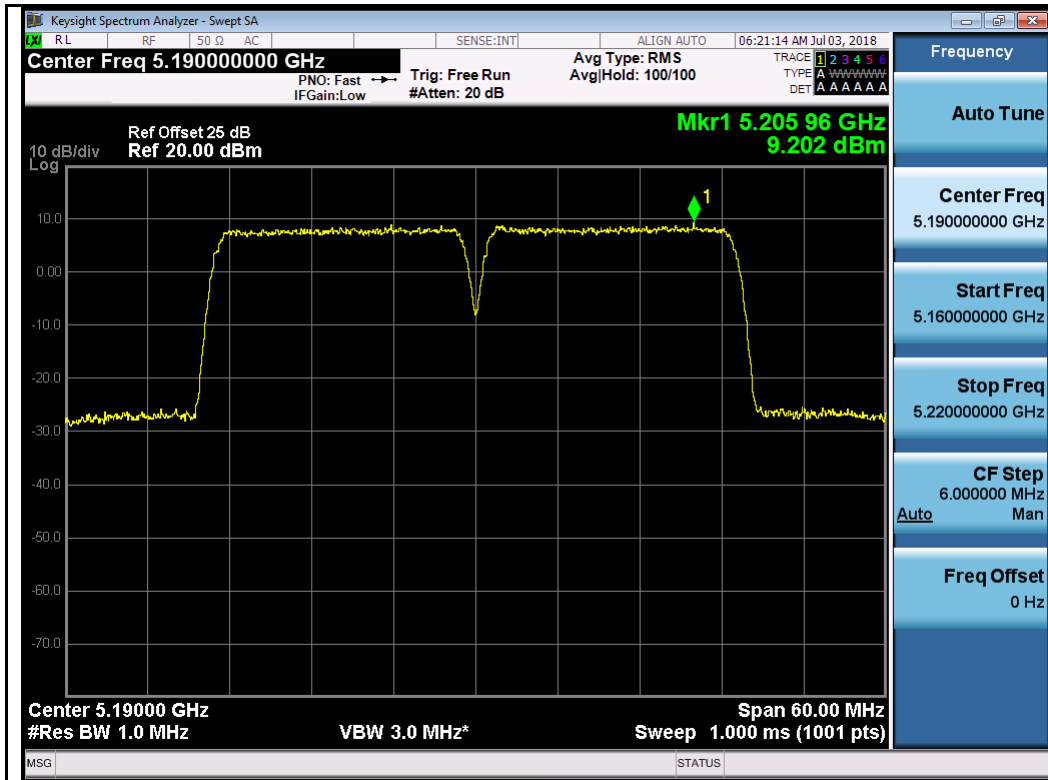


64QAM-5200MHz

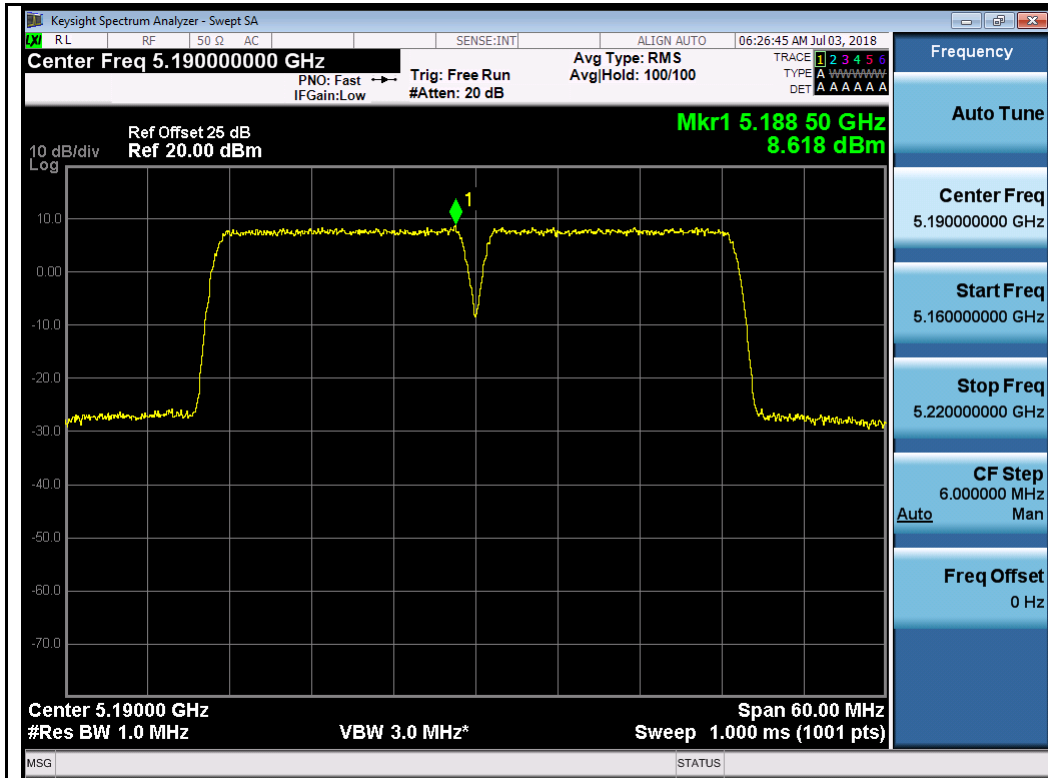


64QAM-5240MHz

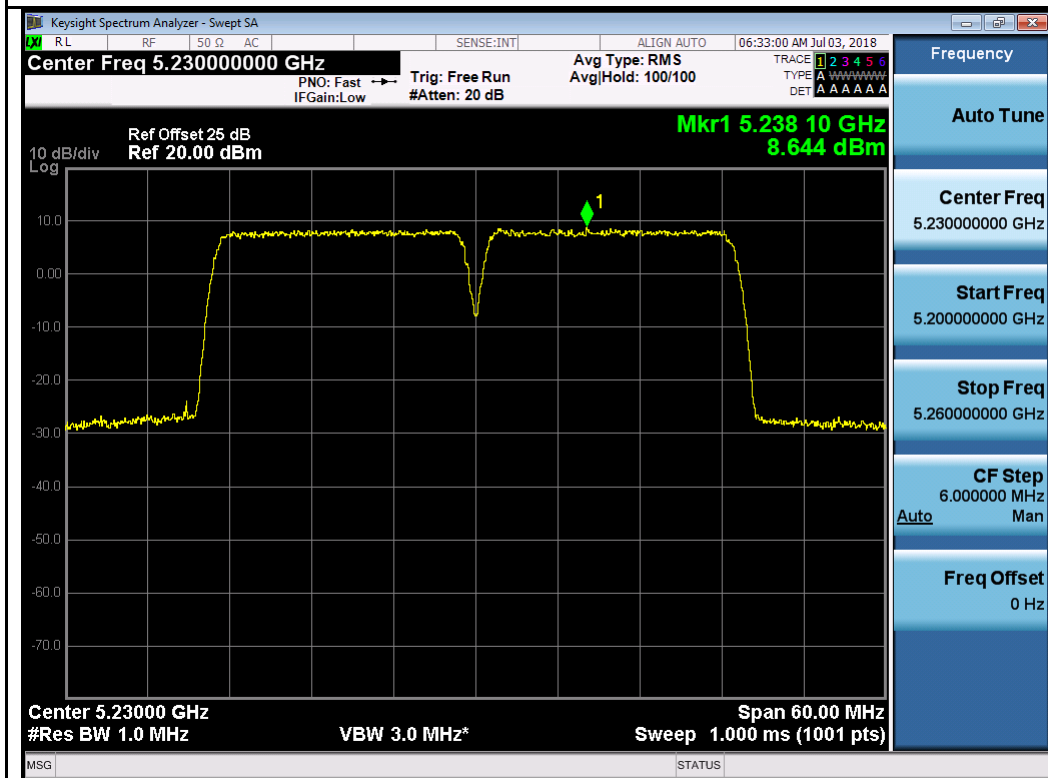
Test Plot for W52 40MHz:
Chain 1:



Chain 2:



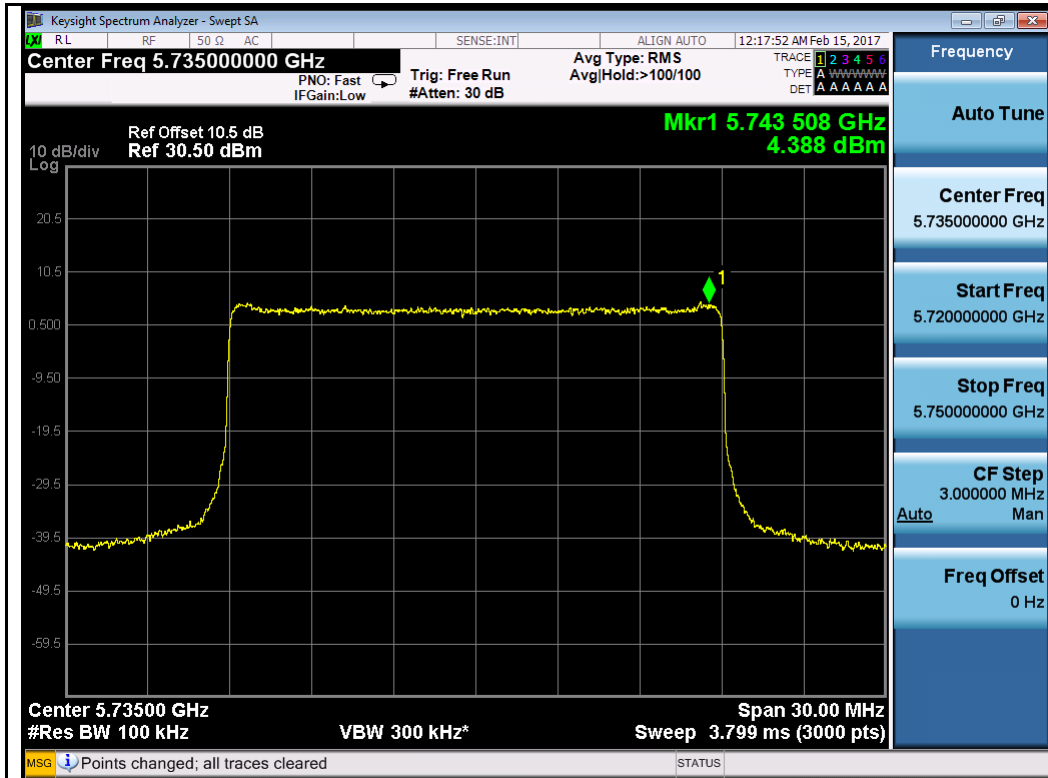
64QAM-5190MHz



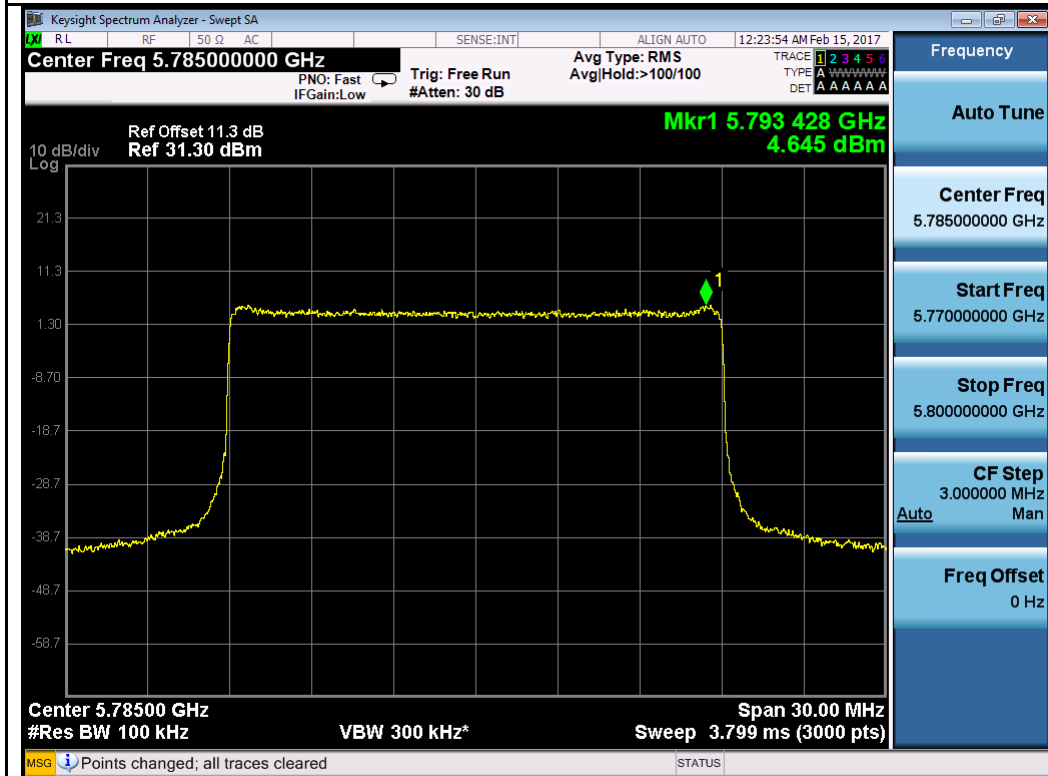
64QAM-5230MHz

Test Plot for W58 20MHz:

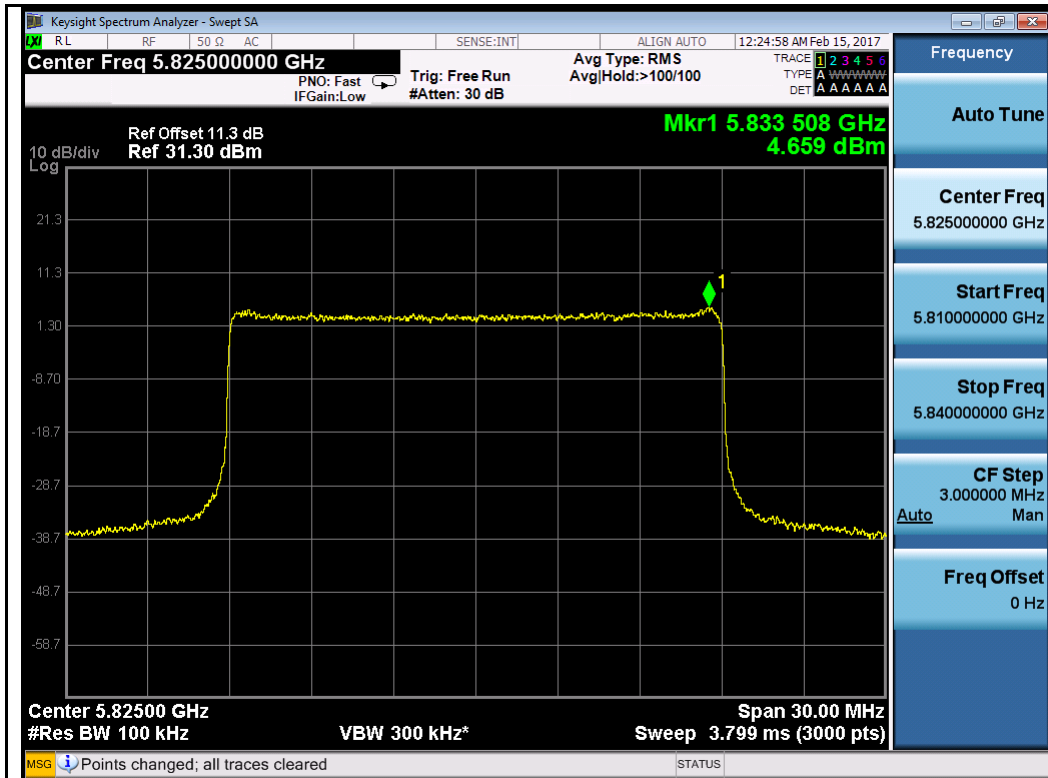
Chain 1:



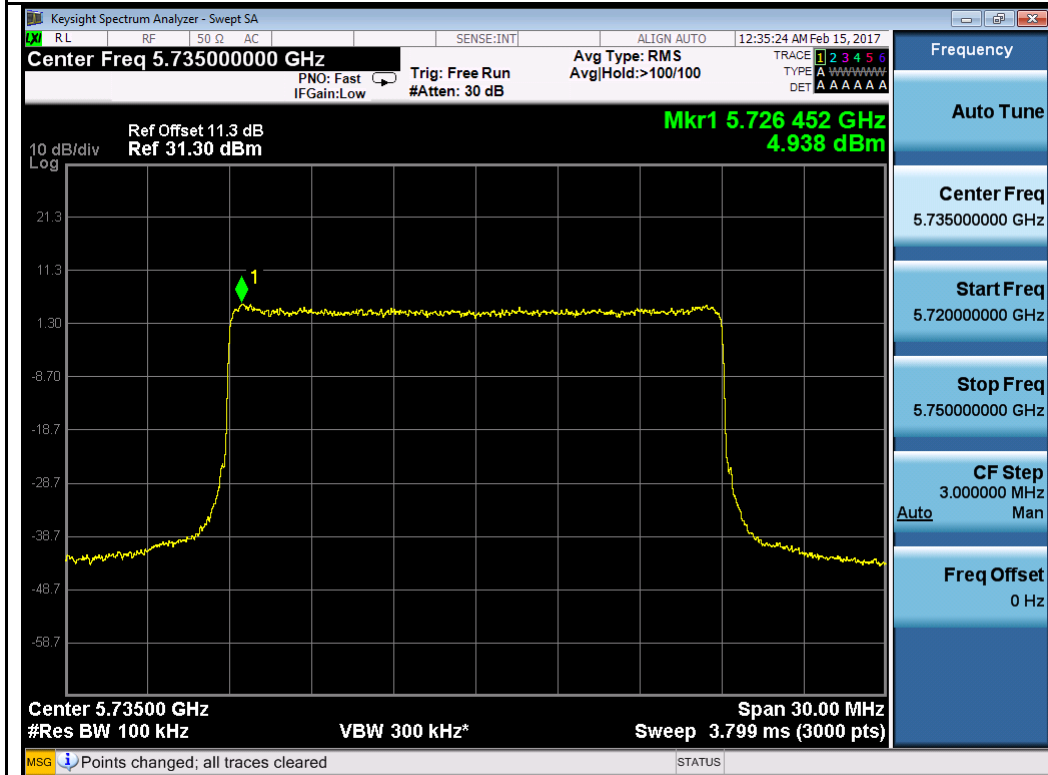
QPSK-5735MHz



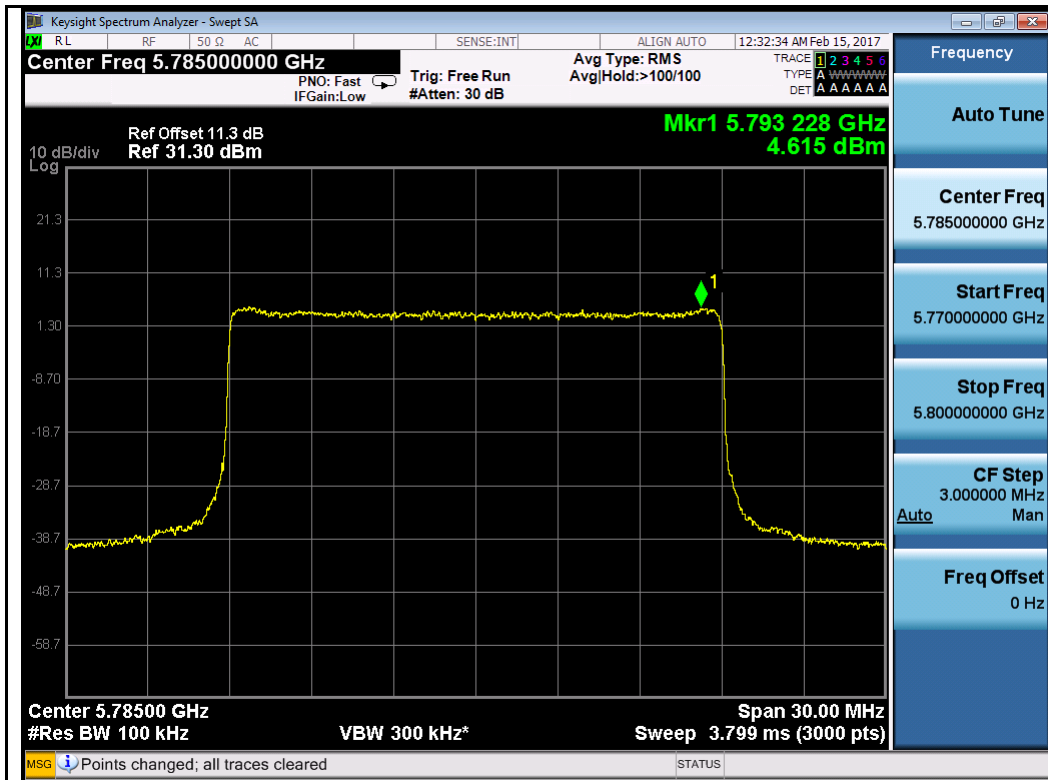
QPSK-5785MHz



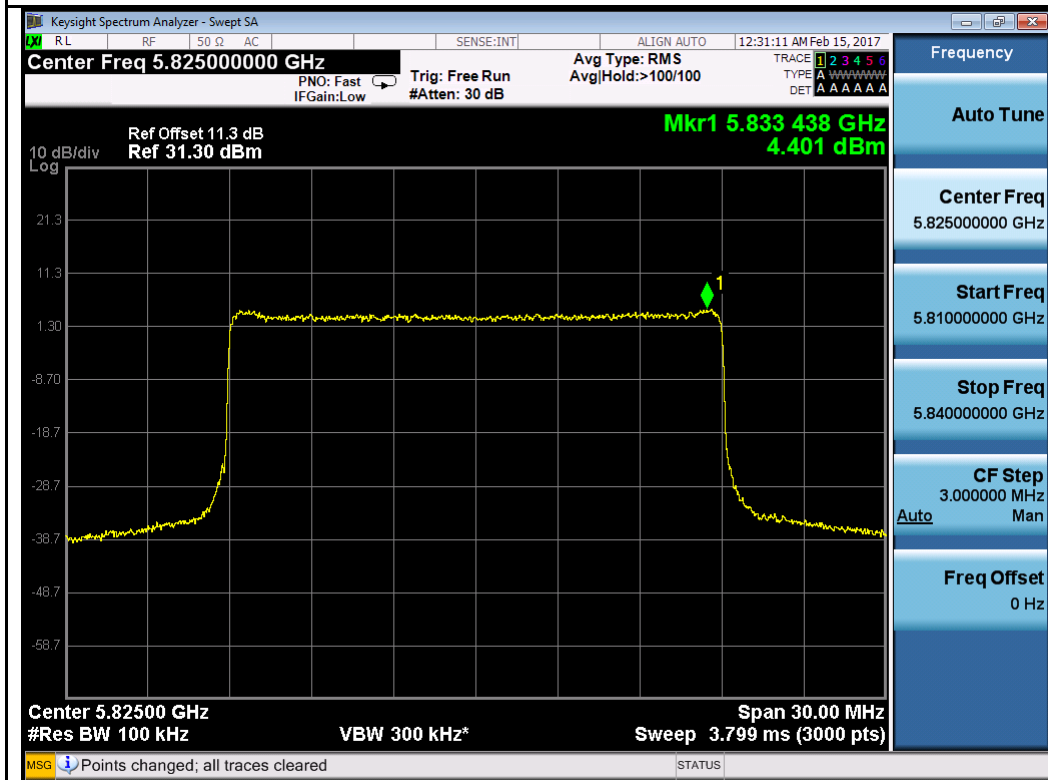
QPSK-5825MHz



64QAM-5735MHz

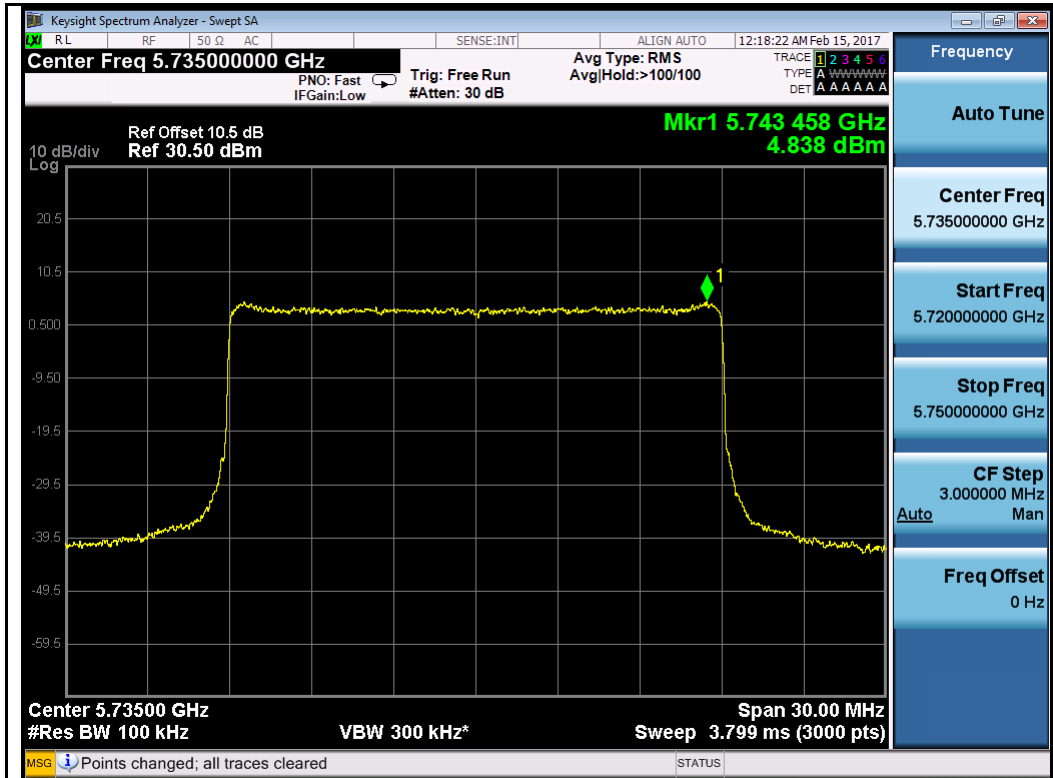


64QAM-5785MHz

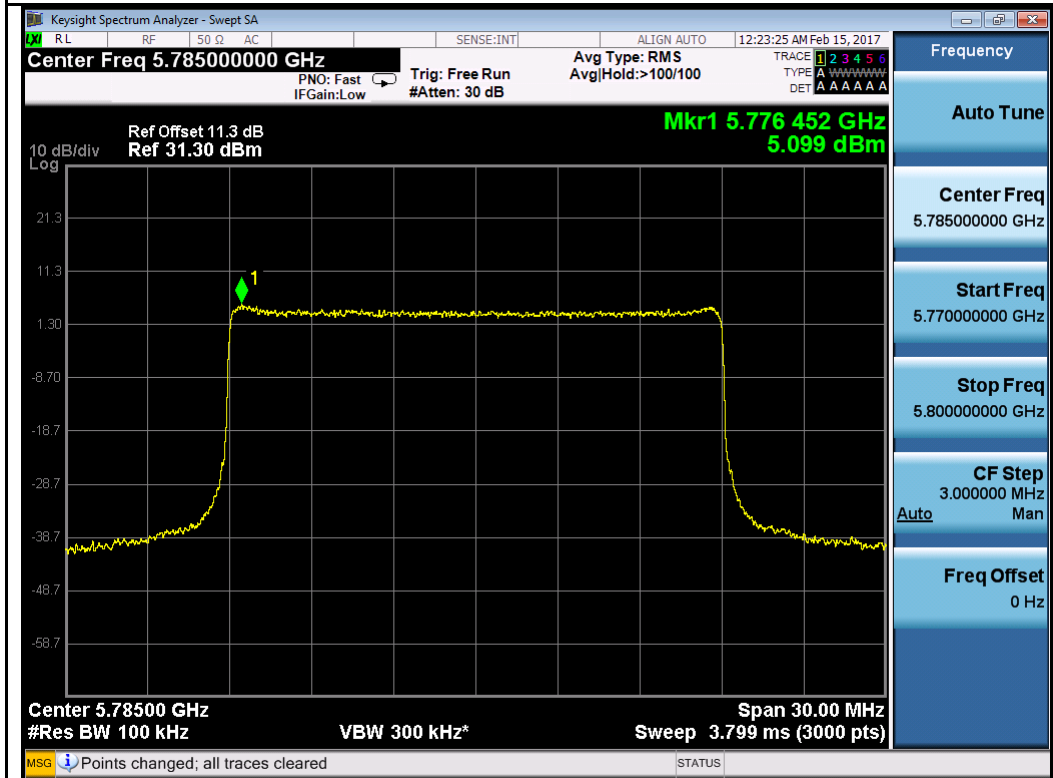


64QAM-5825MHz

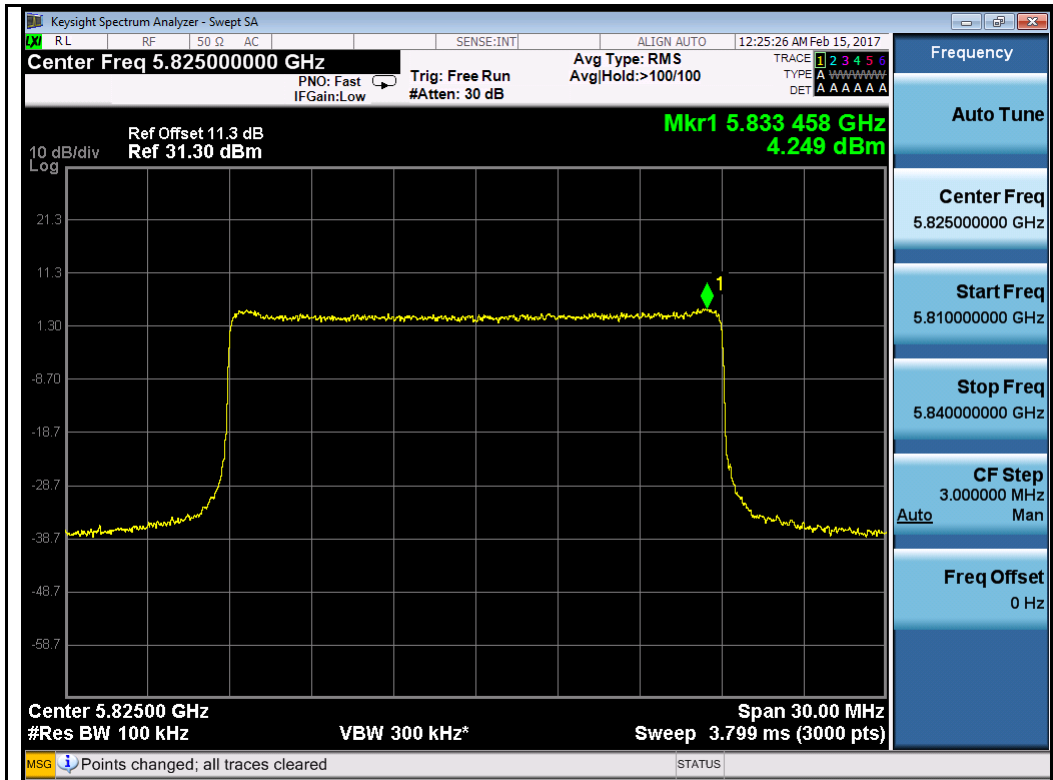
Chain 2:



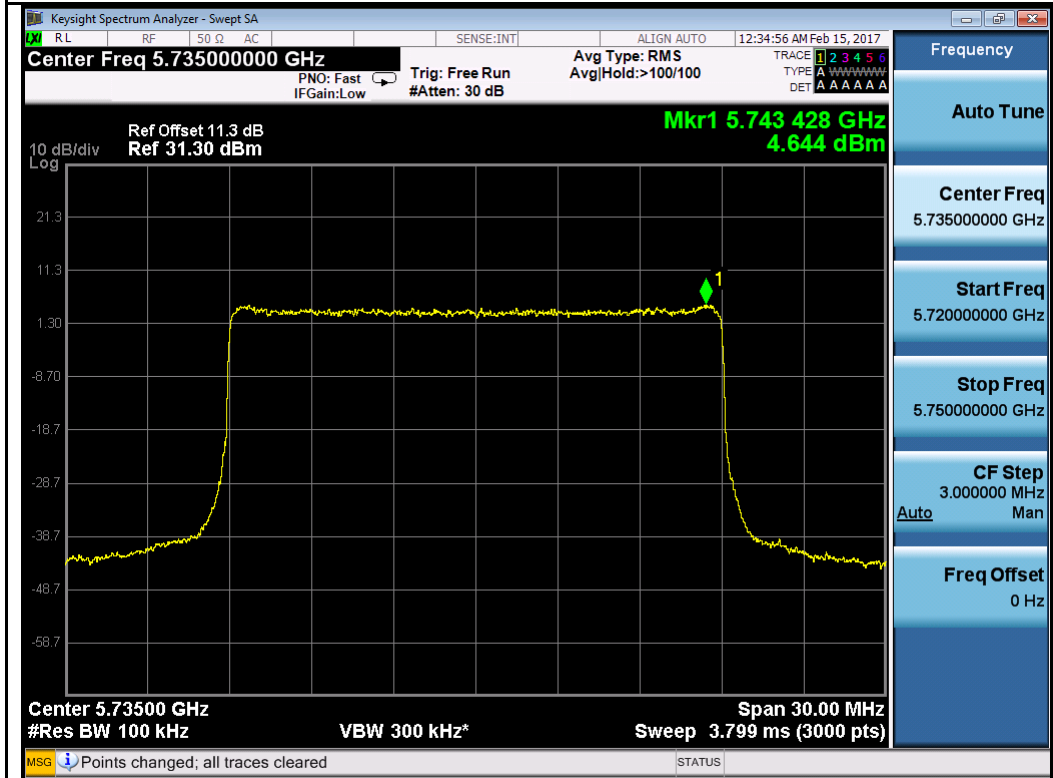
QPSK-5735MHz



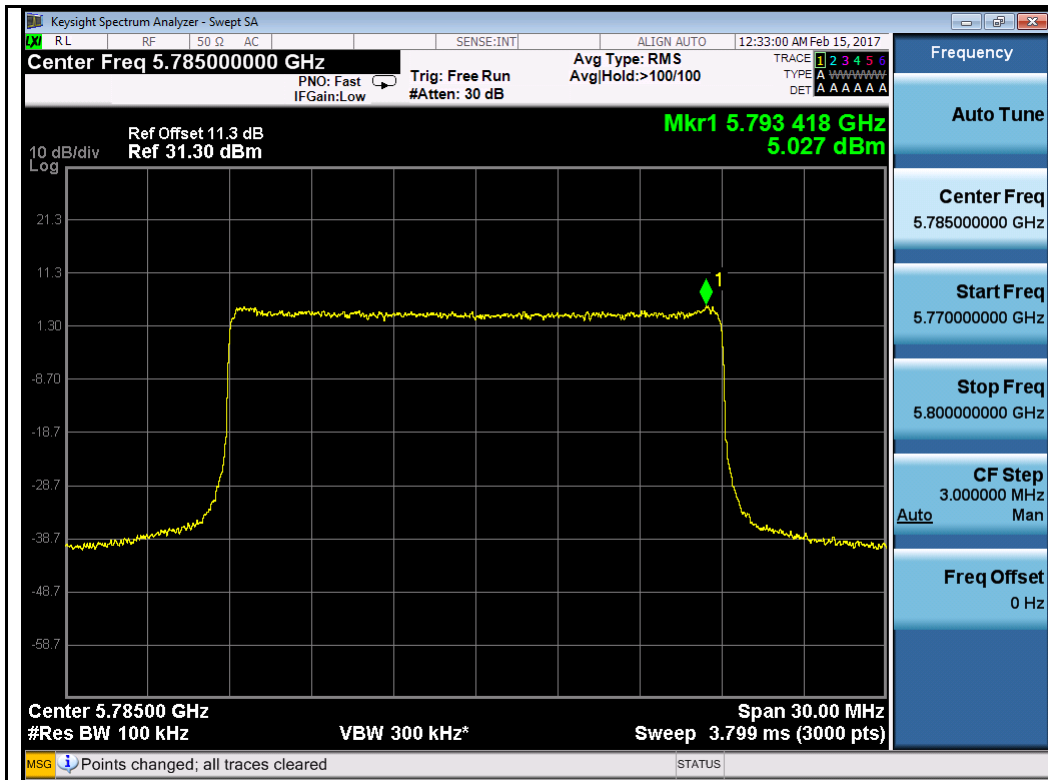
QPSK-5785MHz



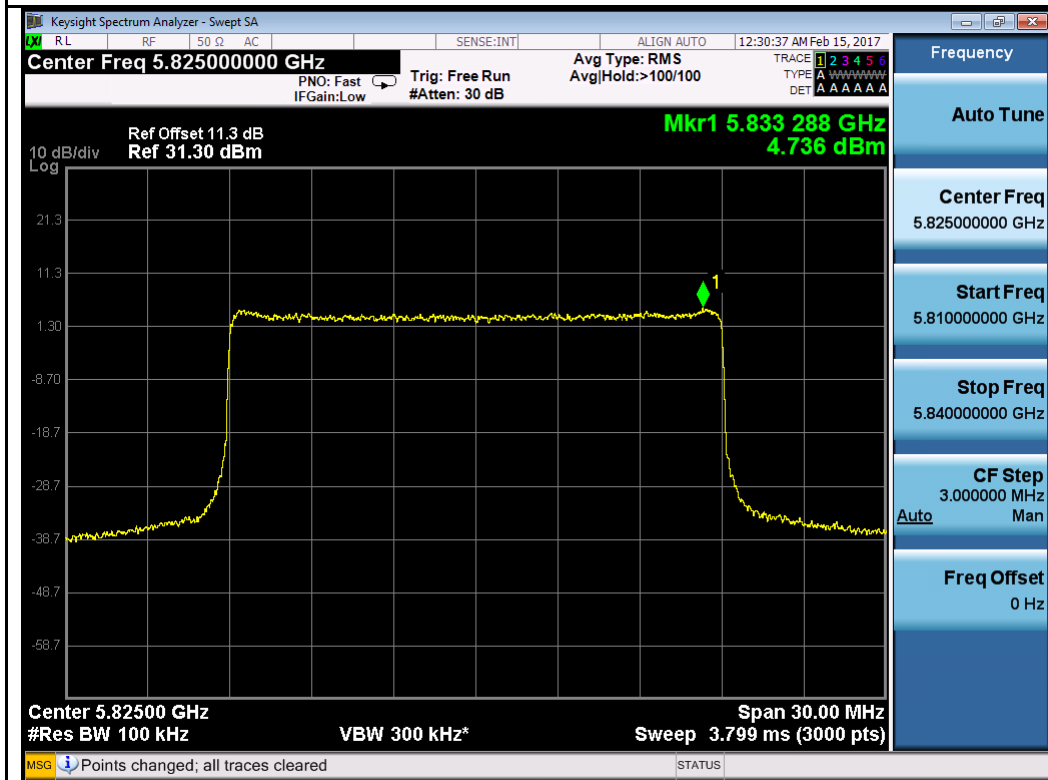
QPSK-5825MHz



64QAM-5735MHz



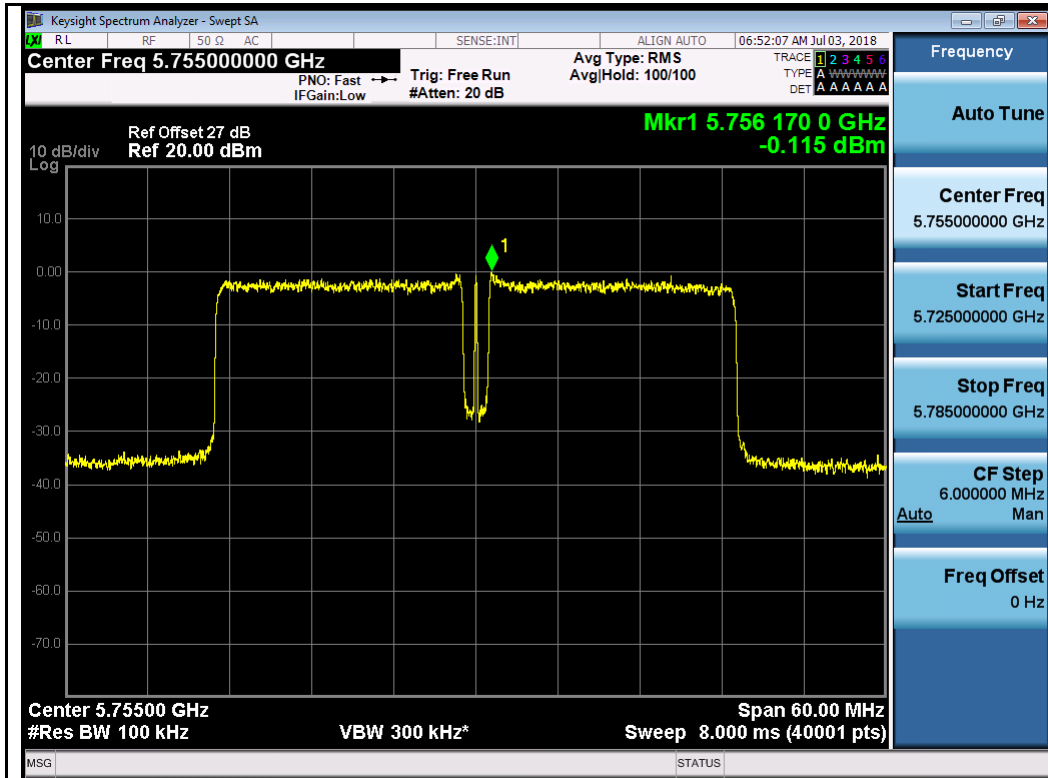
64QAM-5785MHz



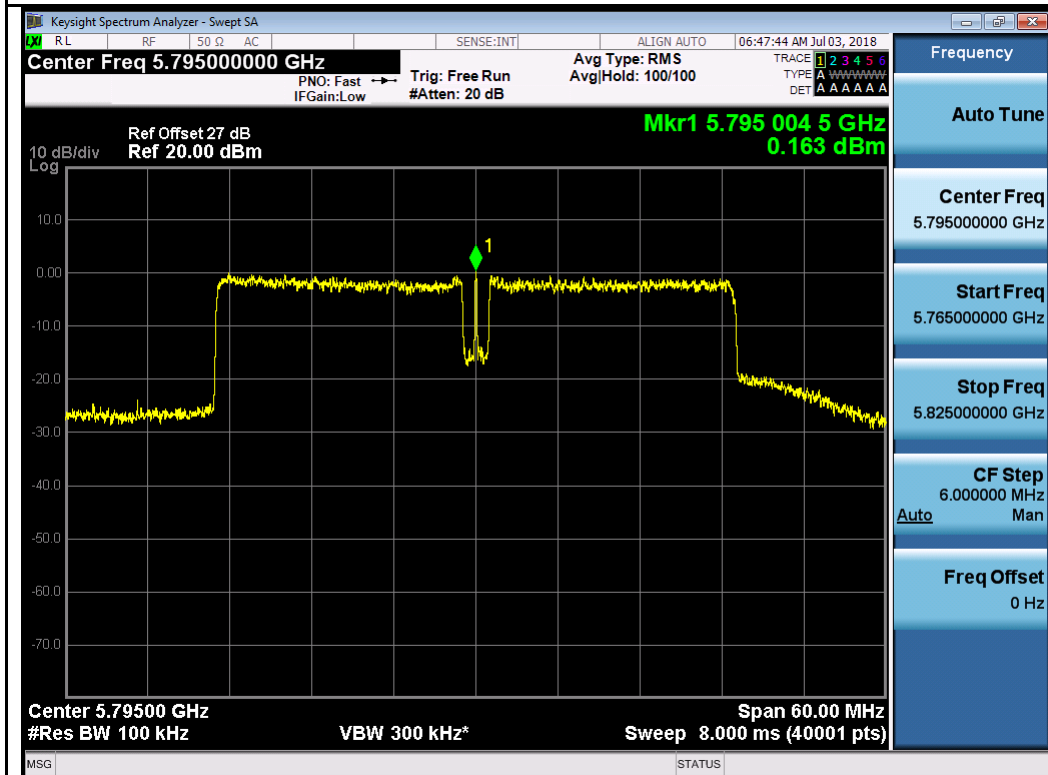
64QAM-5825MHz

Test Plot for W58 40MHz:

Chain 1:

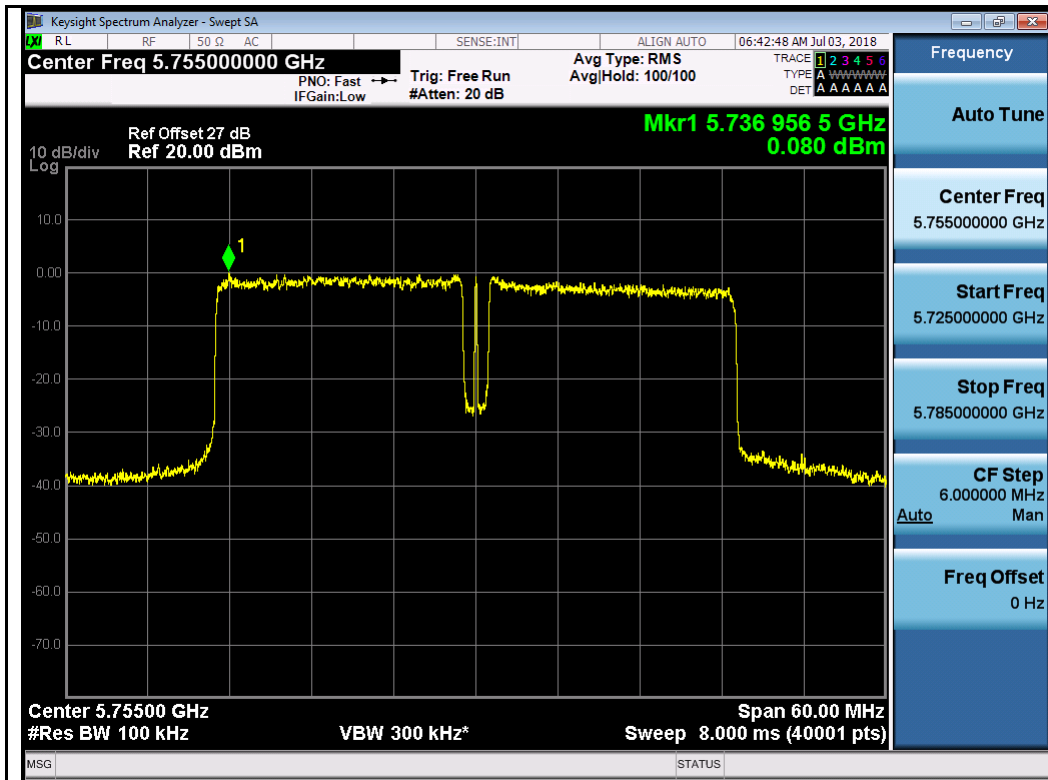


64QAM-5755MHz

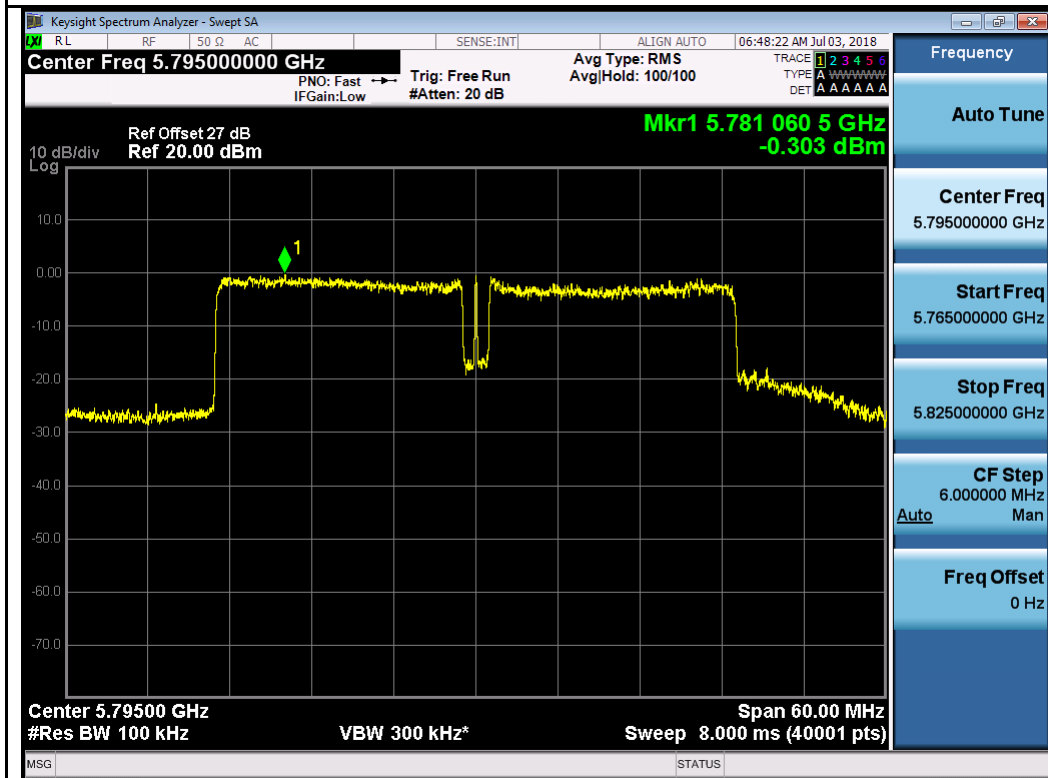


QPSK-5795MHz

Chain 2:



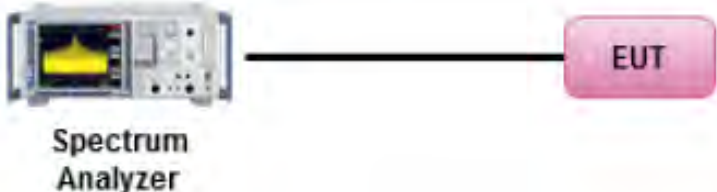
64QAM-5755MHz



QPSK-5795MHz

10.5 Band Edge and Emission Mask Measurement

Requirement(s):

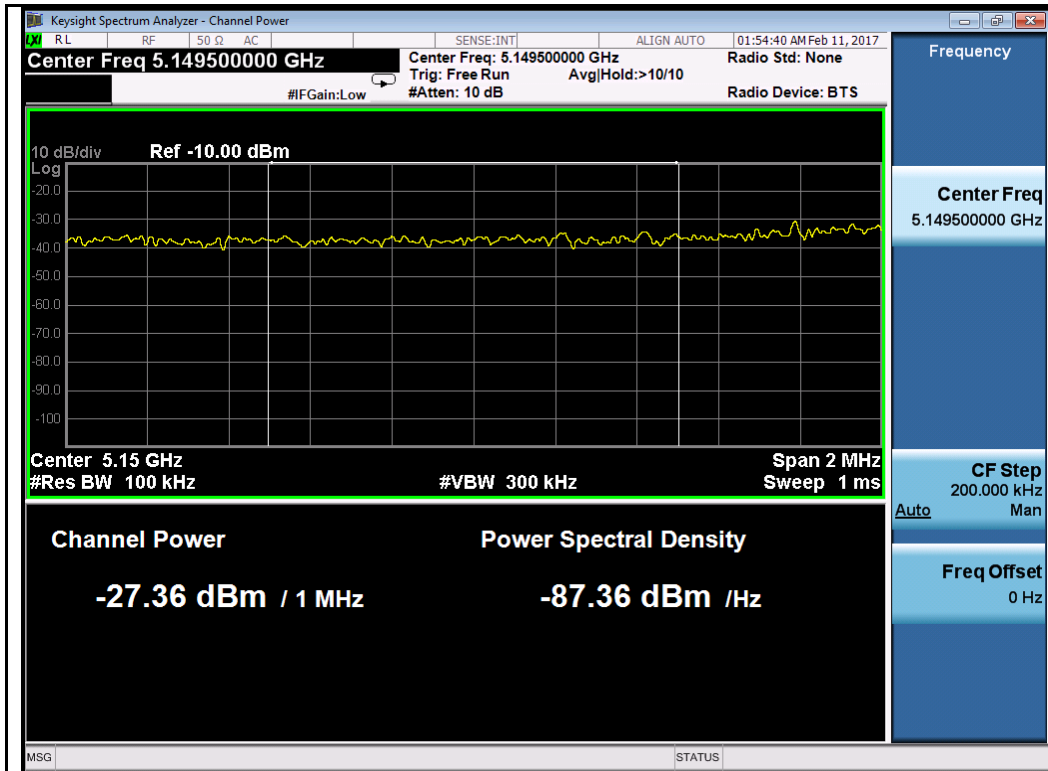
Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6)	(1)	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.	<input checked="" type="checkbox"/>
	(4)	For transmitters operating in the 5.725-5.825 GHz band: all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	<input checked="" type="checkbox"/>
Test Setup	 <p>The diagram shows a Spectrum Analyzer on the left connected by a black line to a pink rectangular box labeled 'EUT' on the right.</p>		
Procedure	<p>789033 D02 General UNII Test Procedures New Rules v02, II.F. Method SA-1</p> <p><u>Band Edge measurement:</u></p> <ul style="list-style-type: none"> - For average emissions measurements, follow the procedures described in section II.G.6., "Procedures for Average Unwanted Emissions Measurements above 1000 MHz", except for the following changes: - Set RBW=100kHz - Set VBW=300kHz - Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured. 		
Remark	Antenna gain was added to the offset.		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

Test Data Yes (See below) N/A

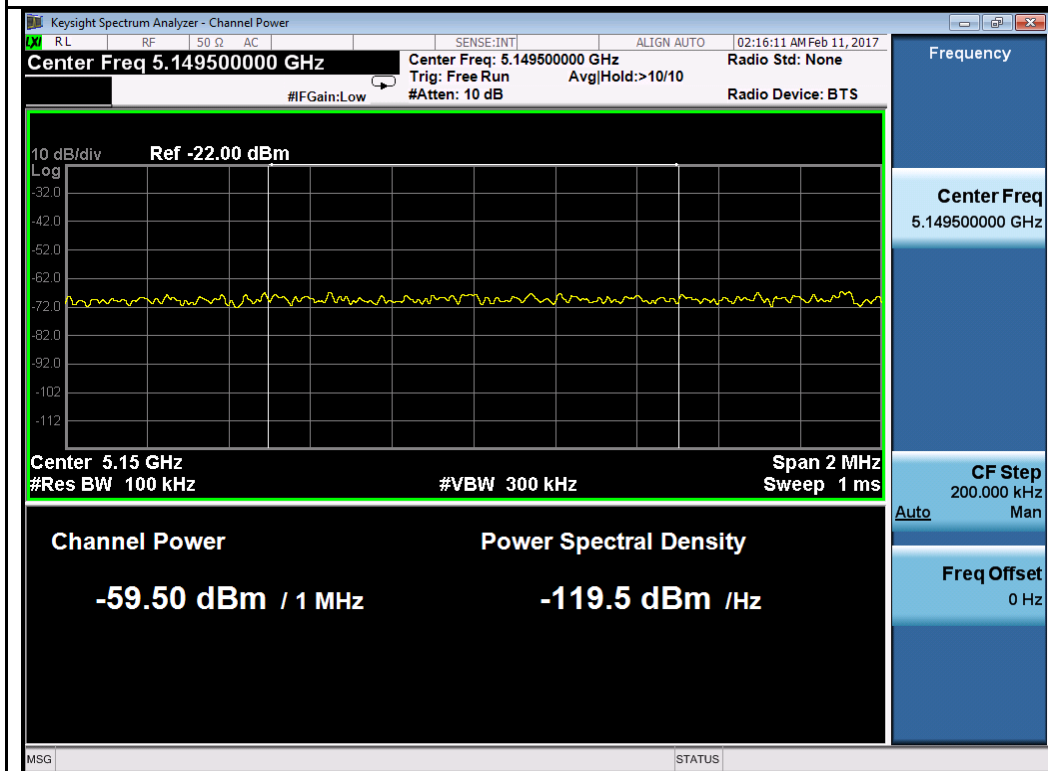
Test Plot Yes (See below) N/A

Test was done by Chen Ge at RF test site.

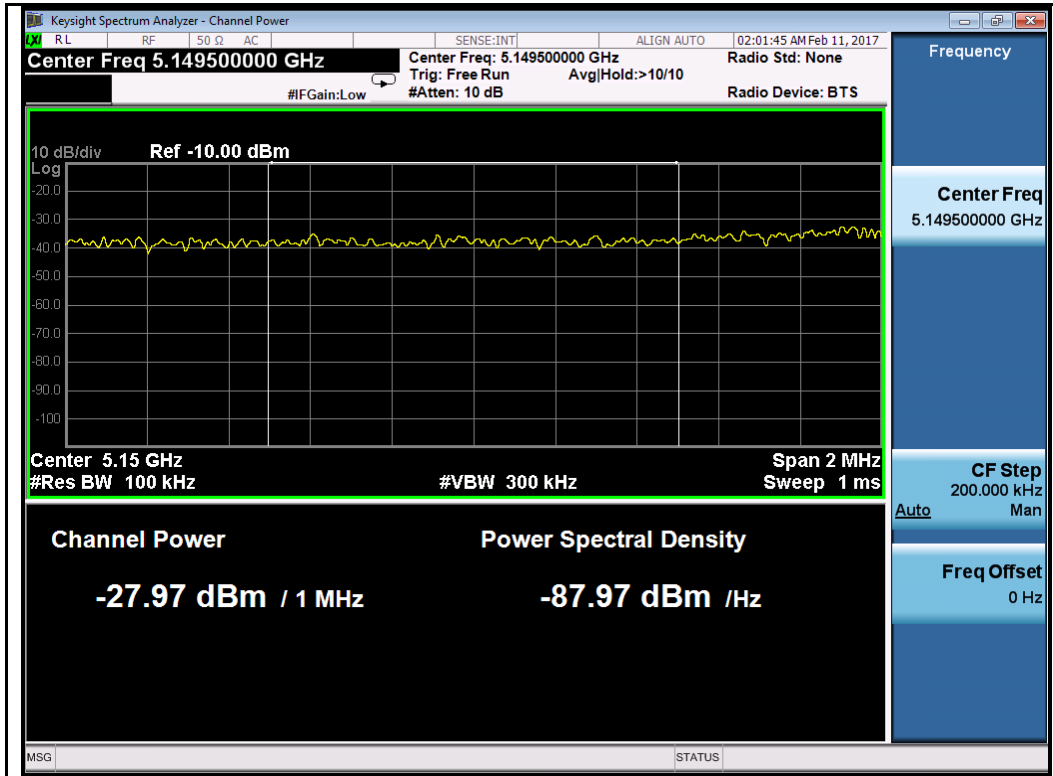
Test Plot for W52 20MHz:
Chain 1:



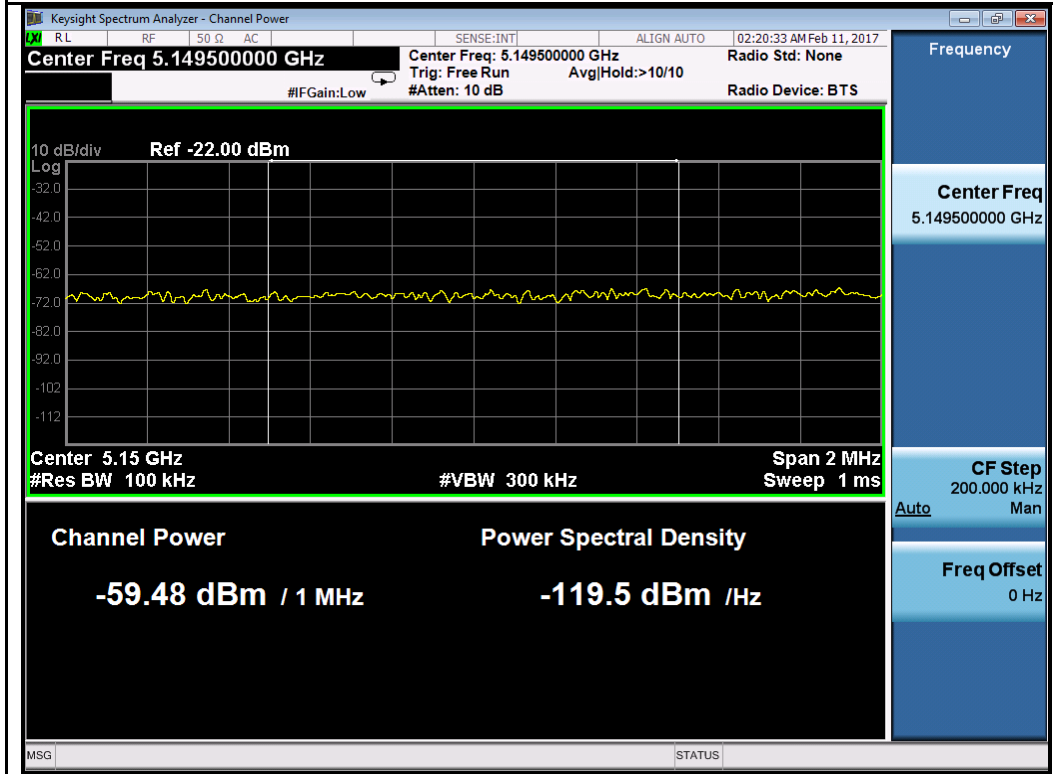
QPSK-5160MHz



QPSK-5240MHz

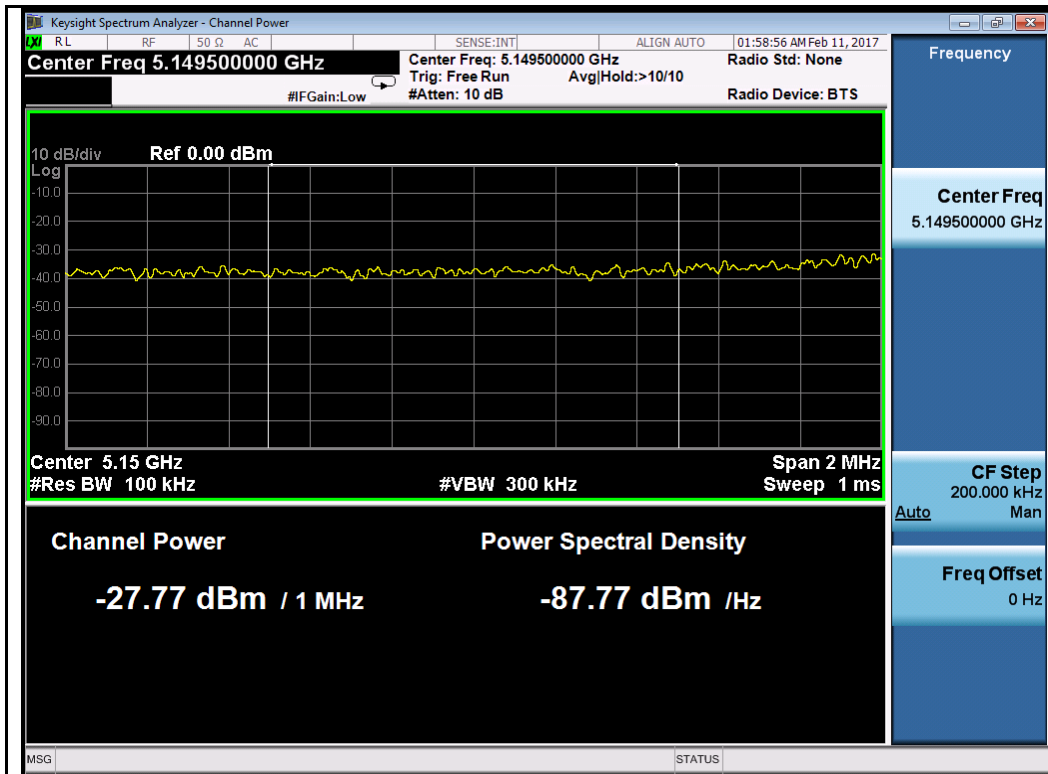


64QAM-5160MHz

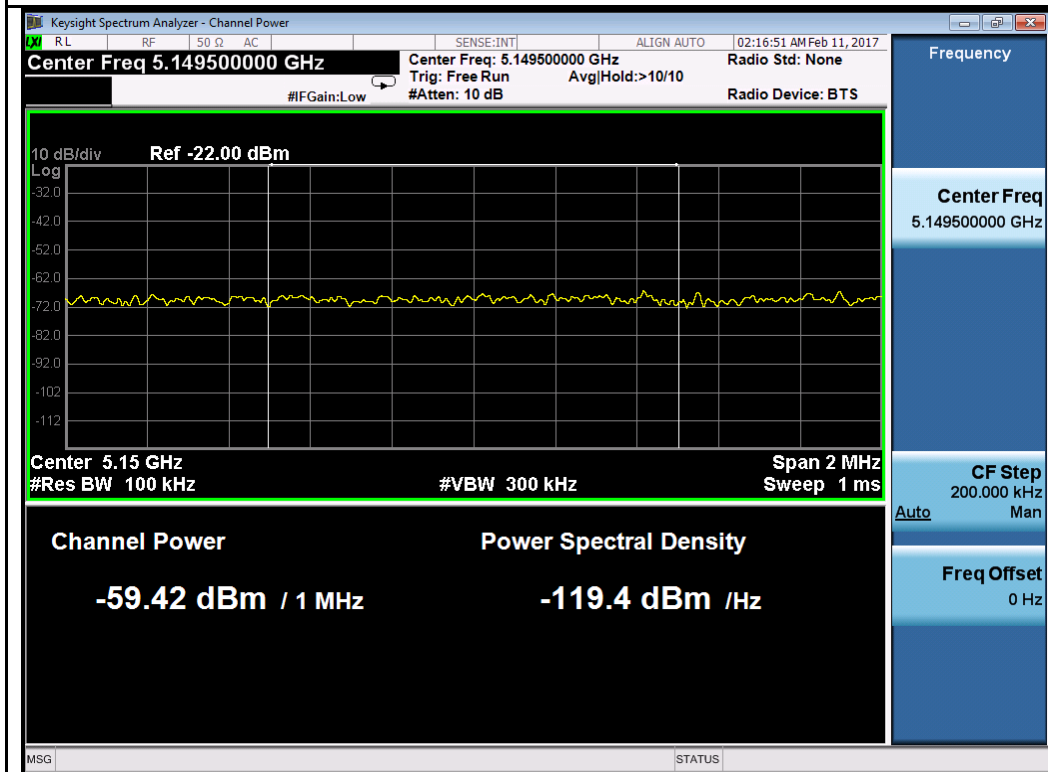


64QAM-5240MHz

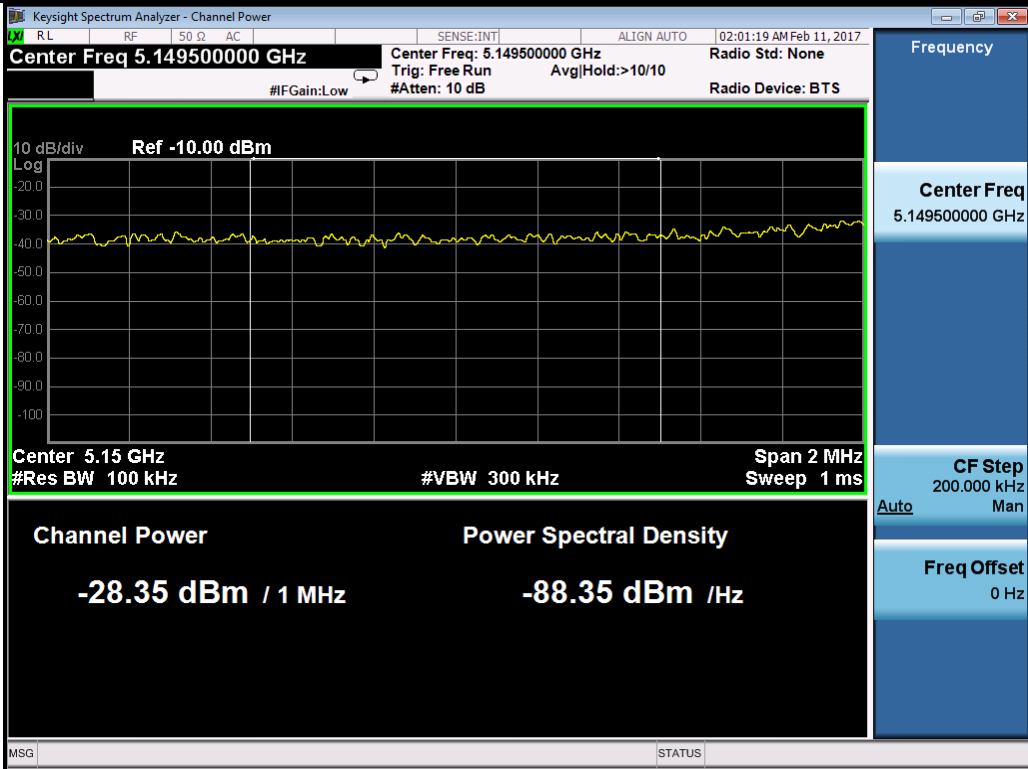
Chain 2:



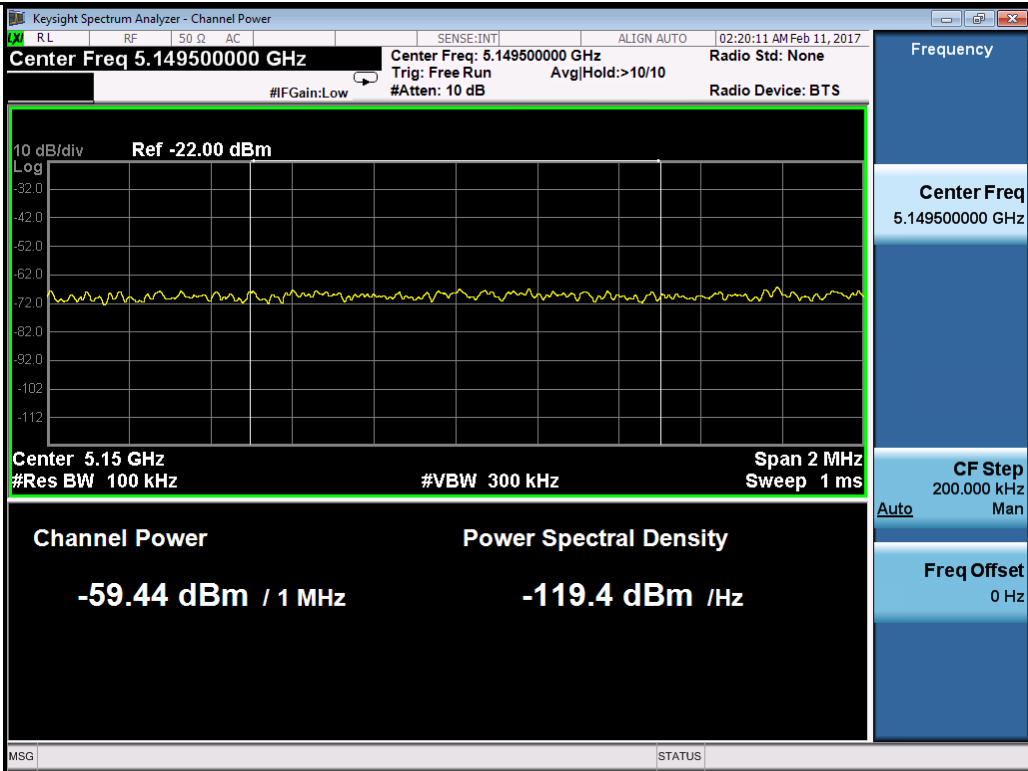
QPSK-5160MHz



QPSK-5240MHz

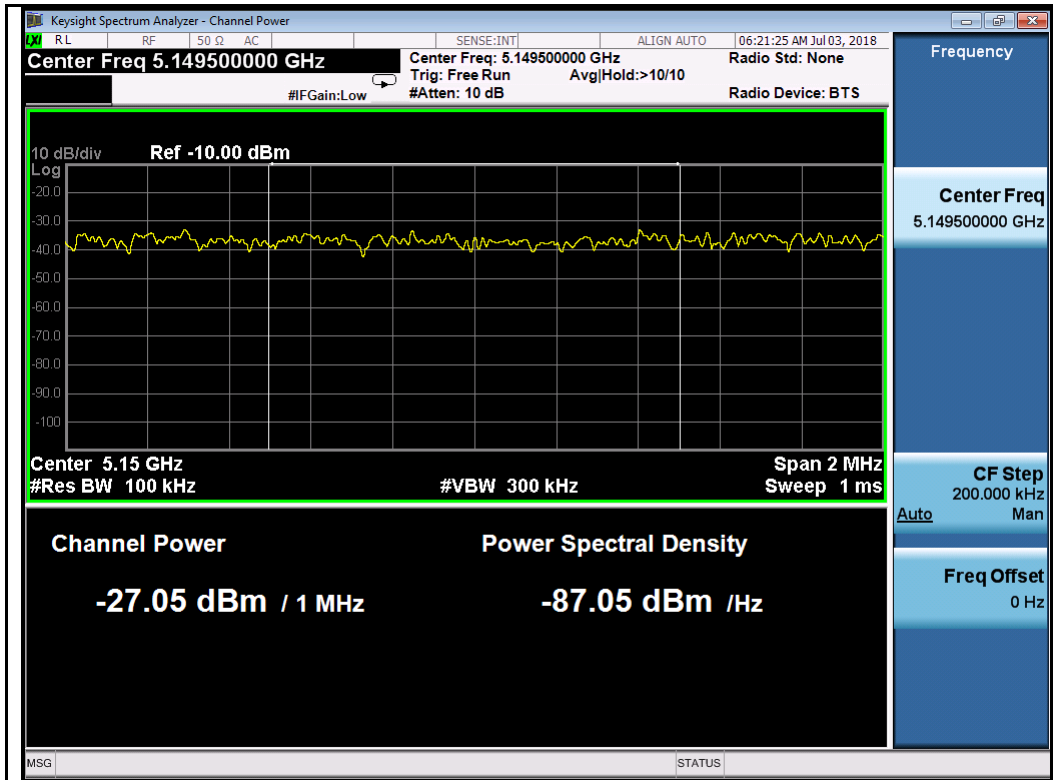


64QAM-5160MHz

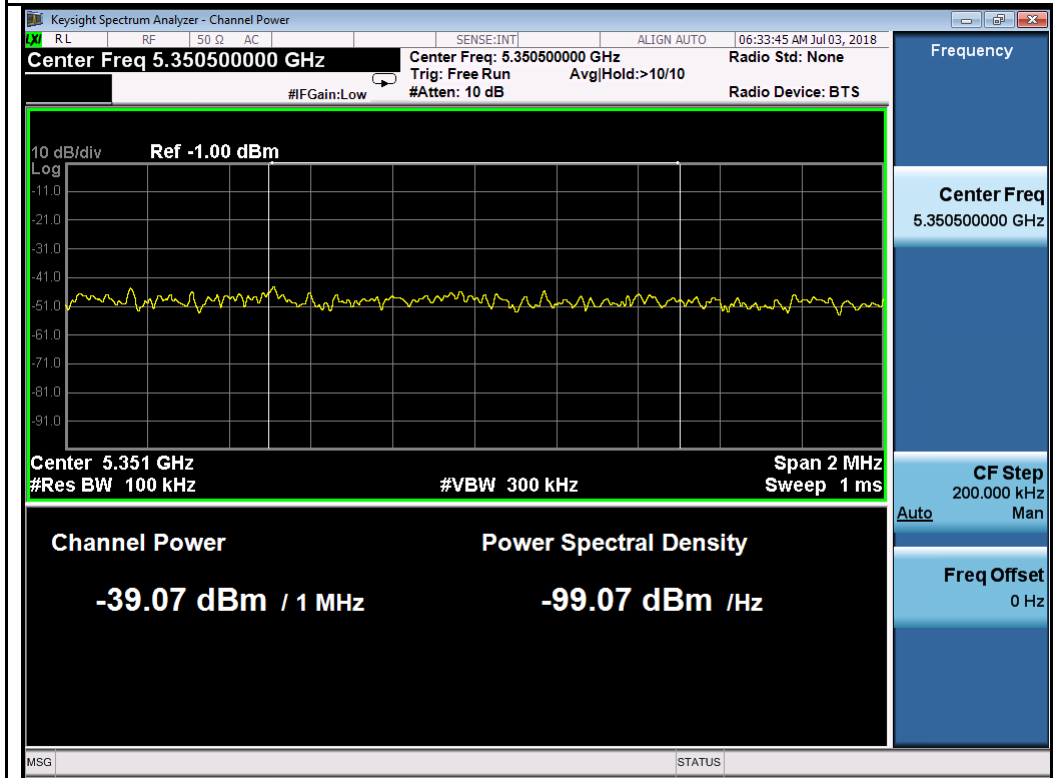


64QAM-5240MHz

Test Plot for W52 40MHz:
Chain 1:

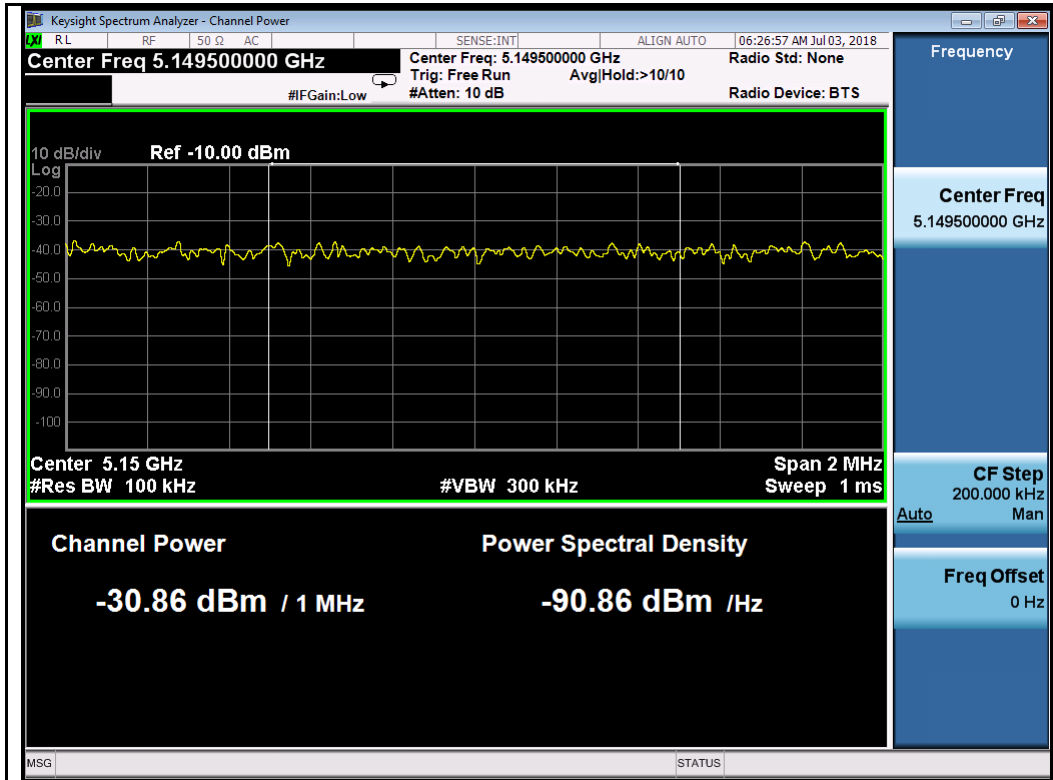


64QAM-5190MHz

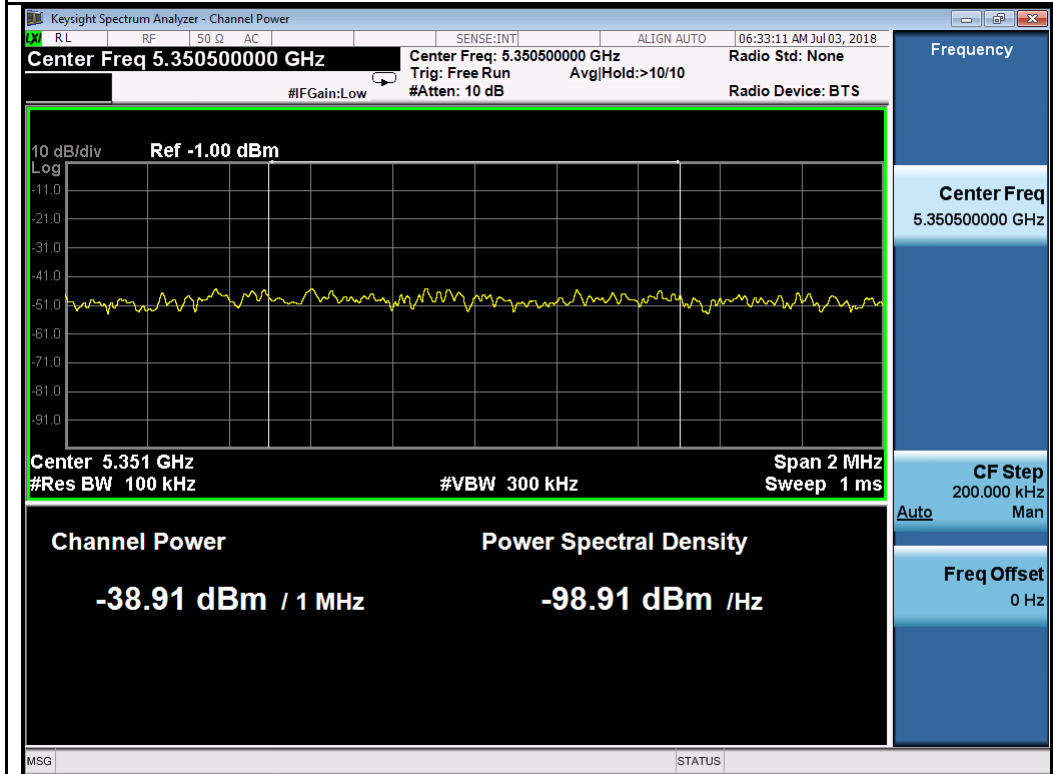


64QAM-5230MHz

Chain 2:



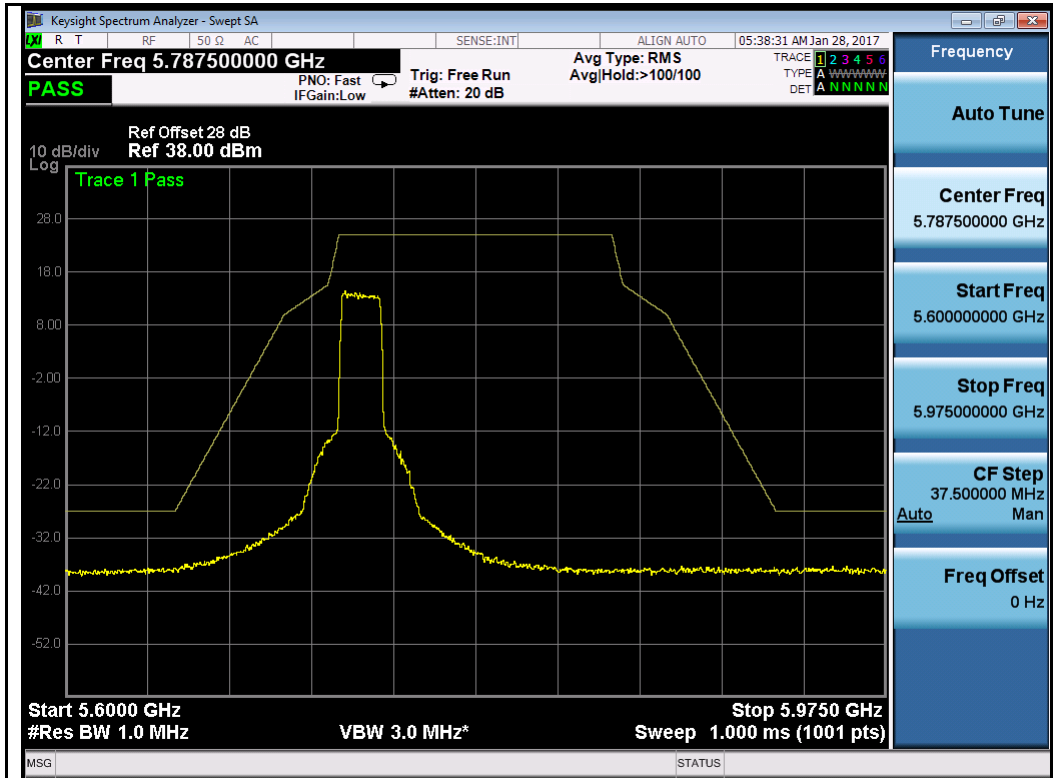
64QAM-5190MHz



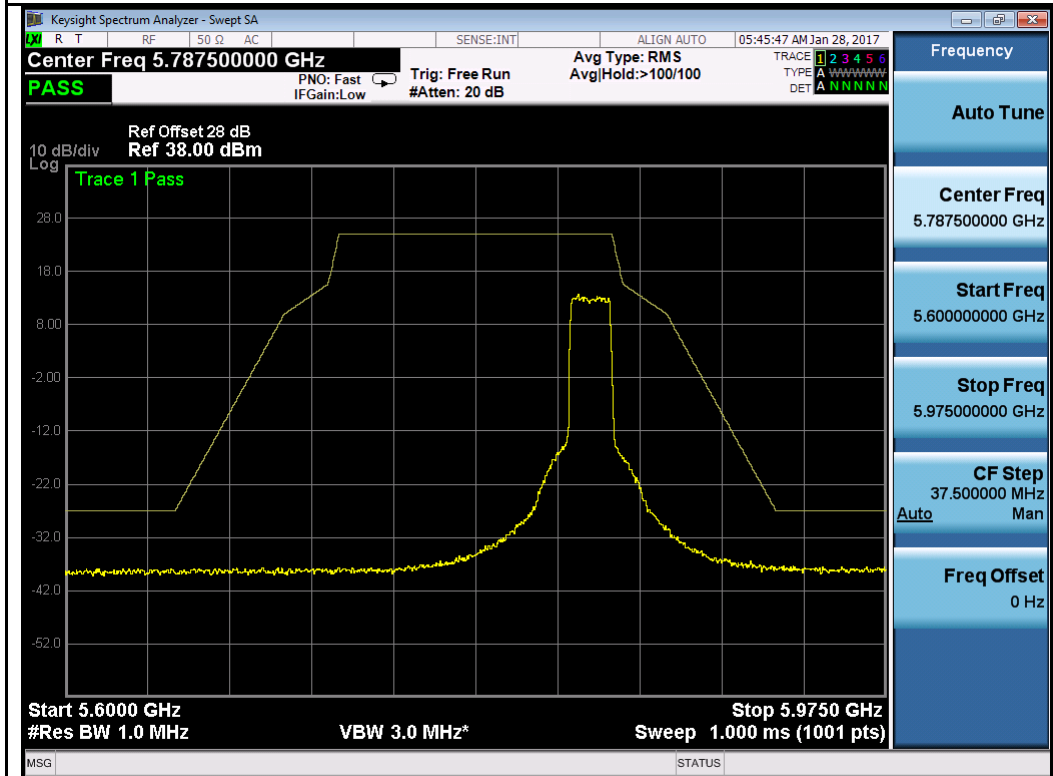
64QAM-5230MHz

Test Plot for W58 20MHz:

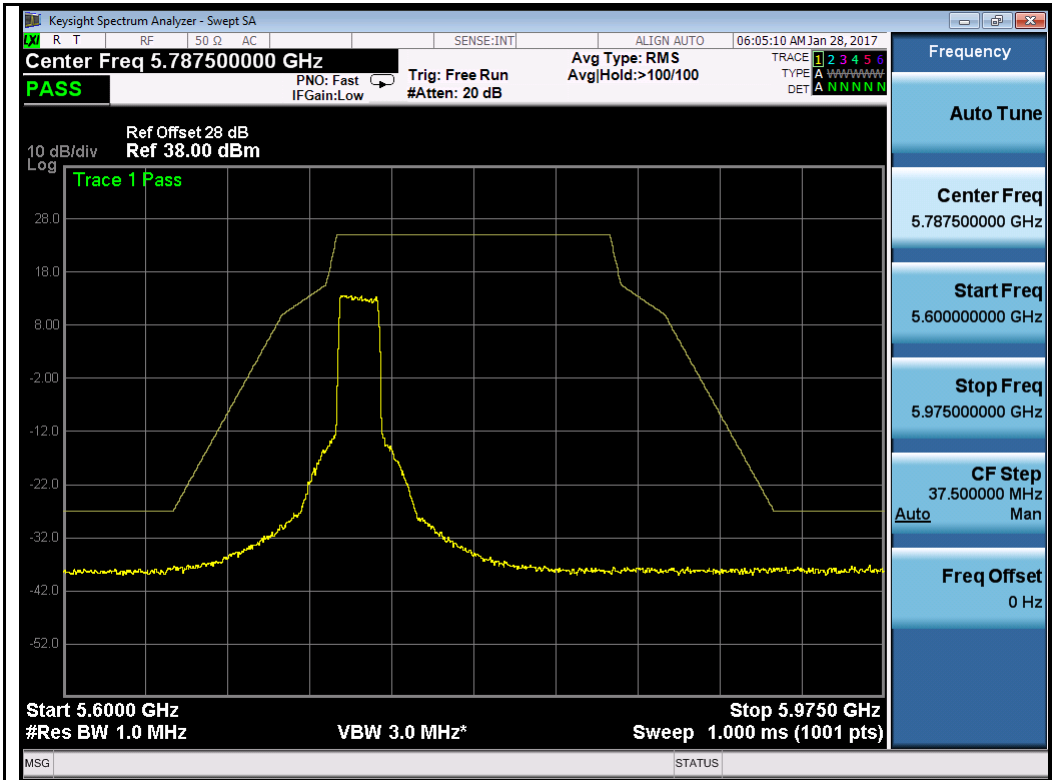
Chain 1:



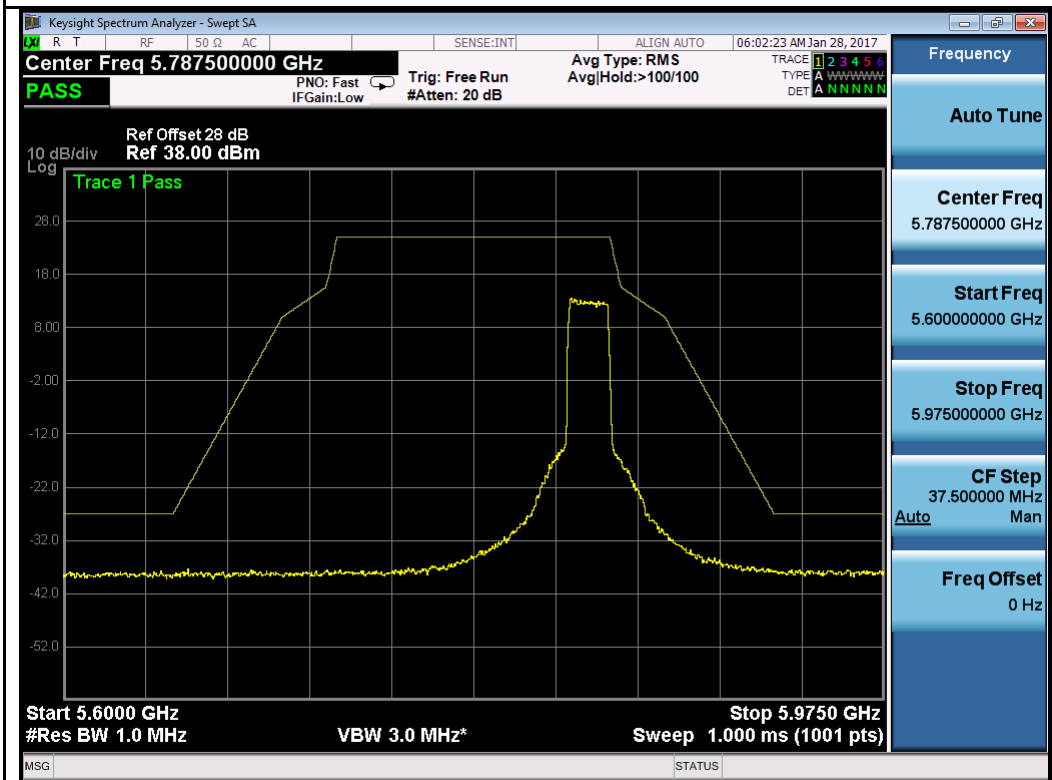
QPSK-5735MHz



QPSK-5825MHz

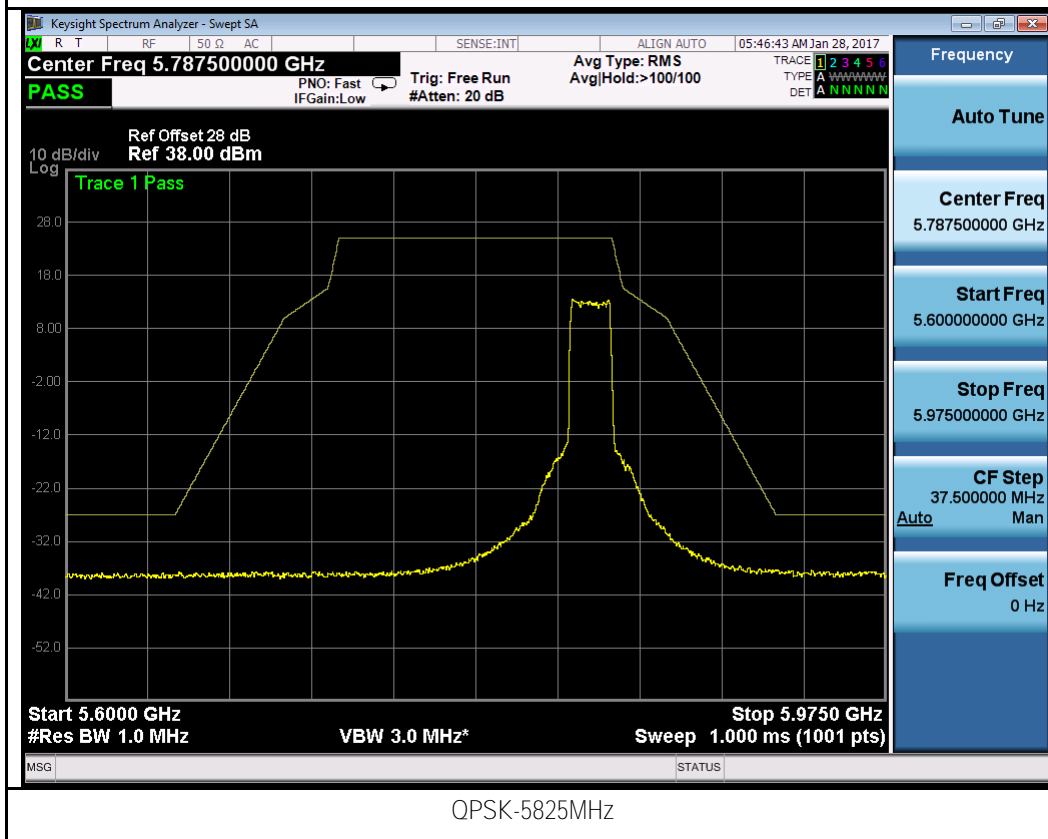
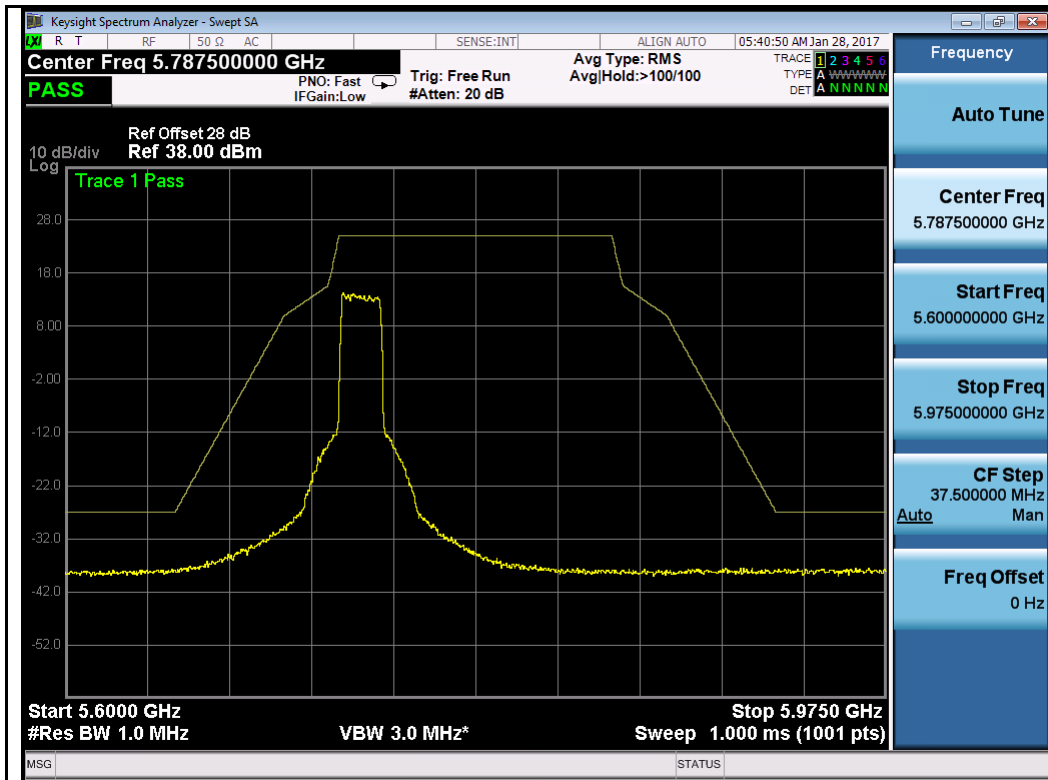


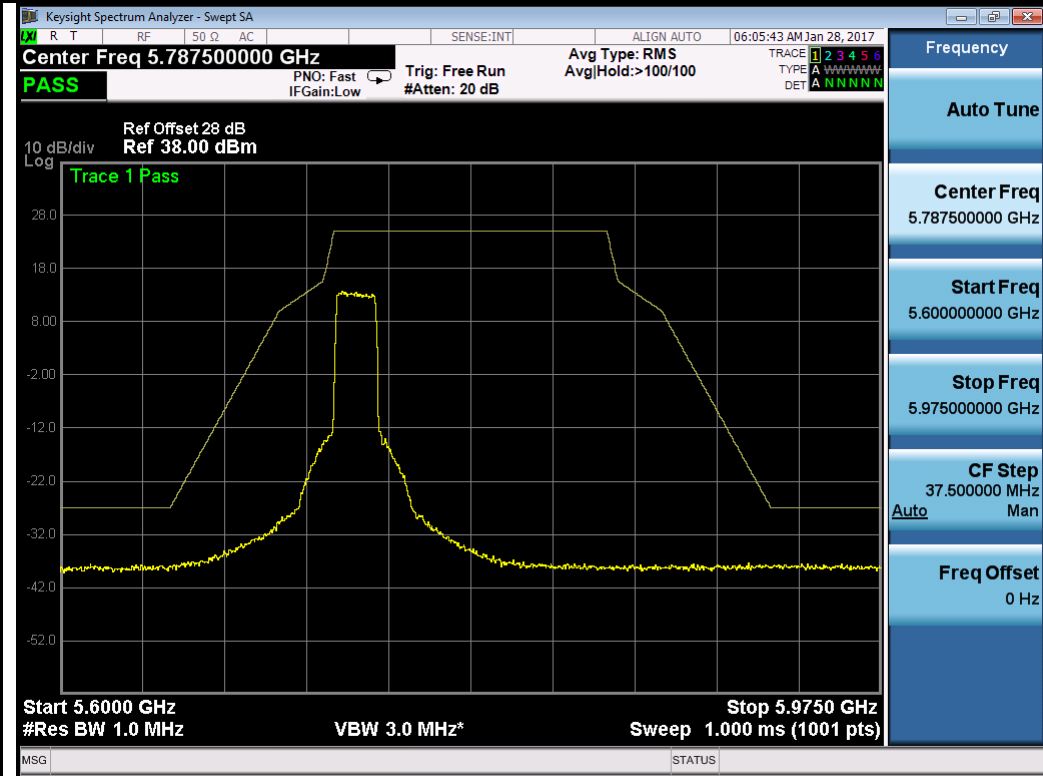
64QAM-5735MHz



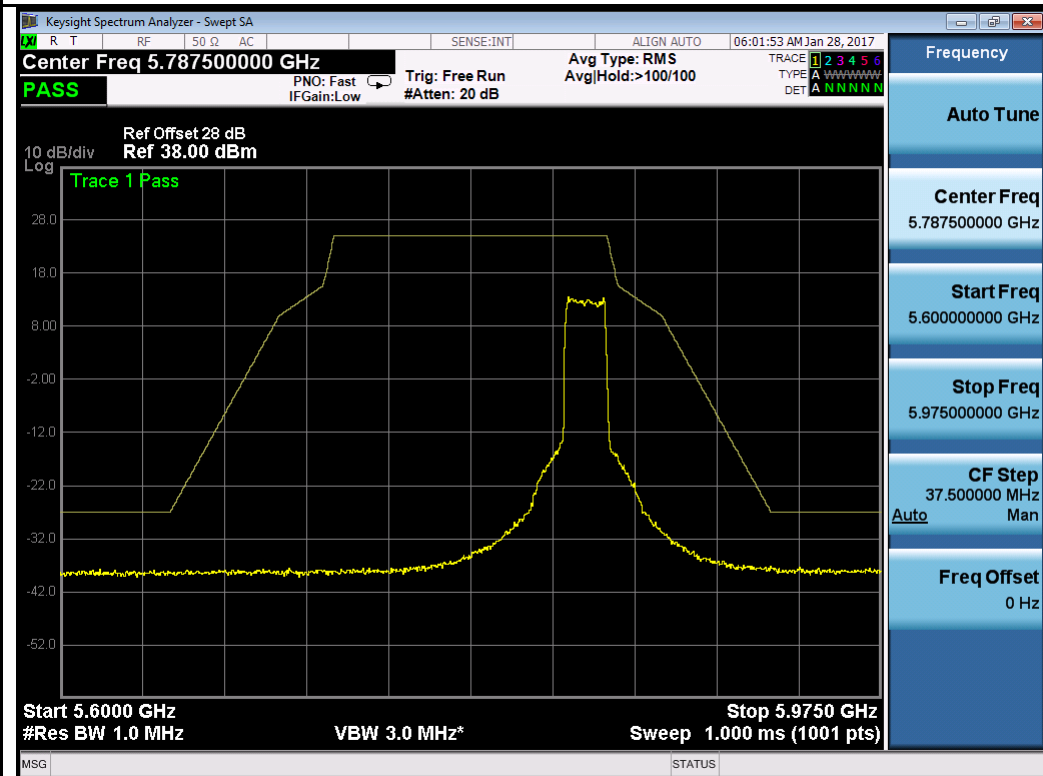
64QAM-5825MHz

Chain 2:





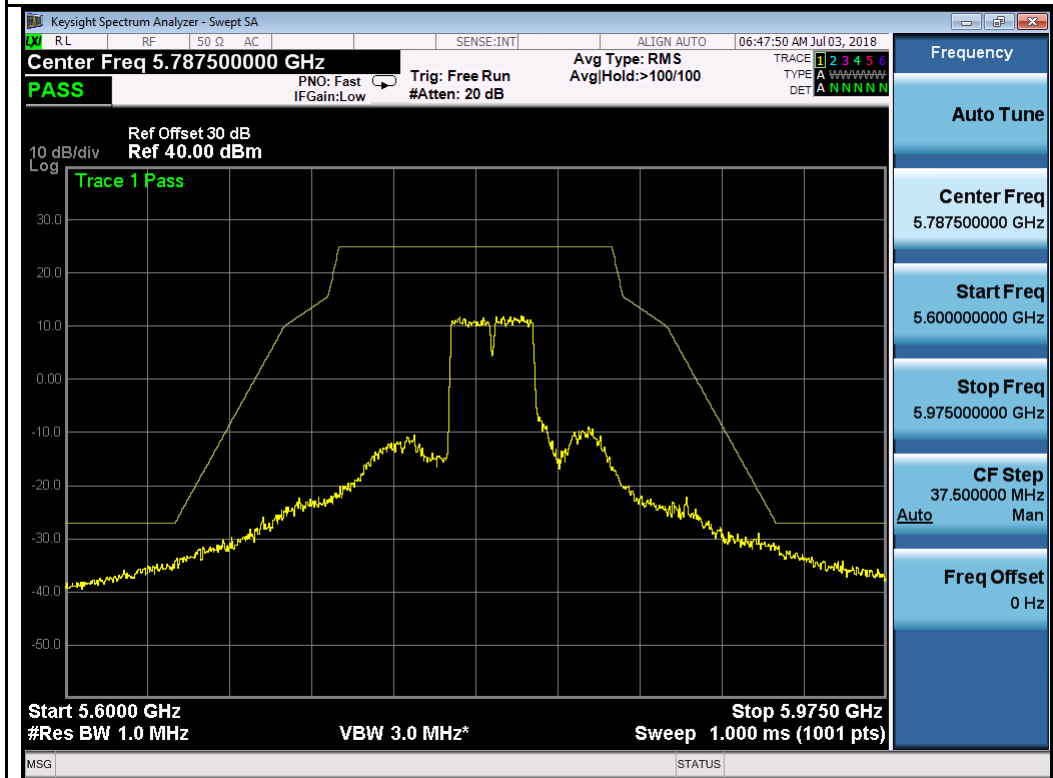
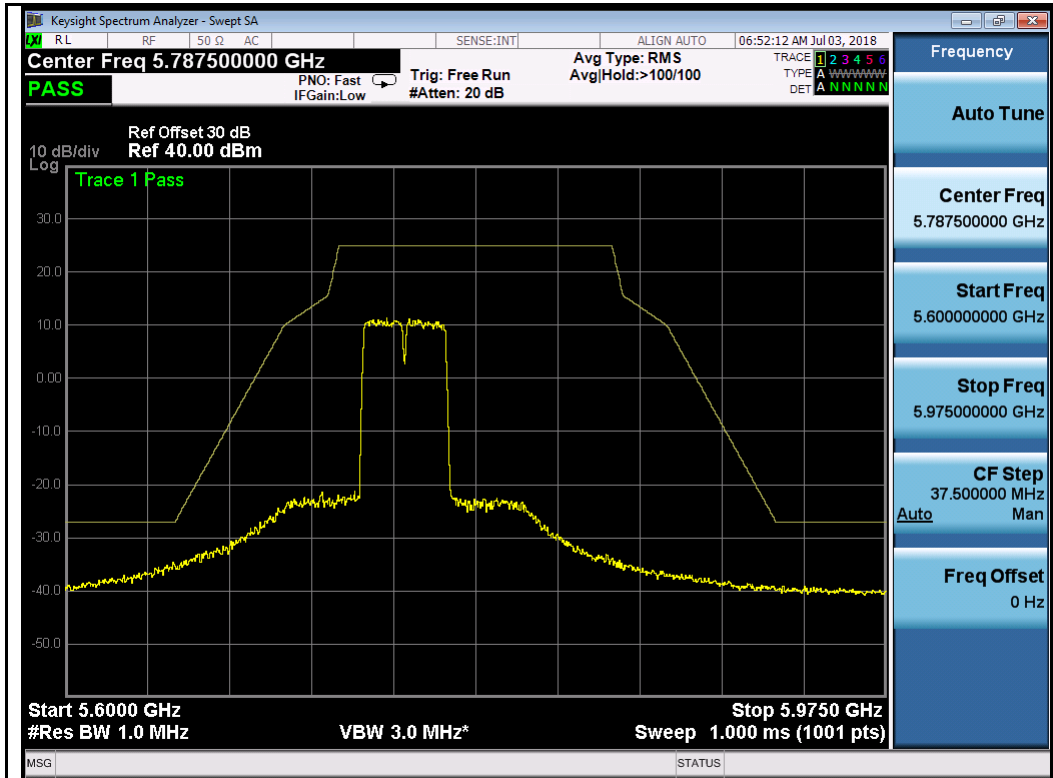
64QAM-5735MHz



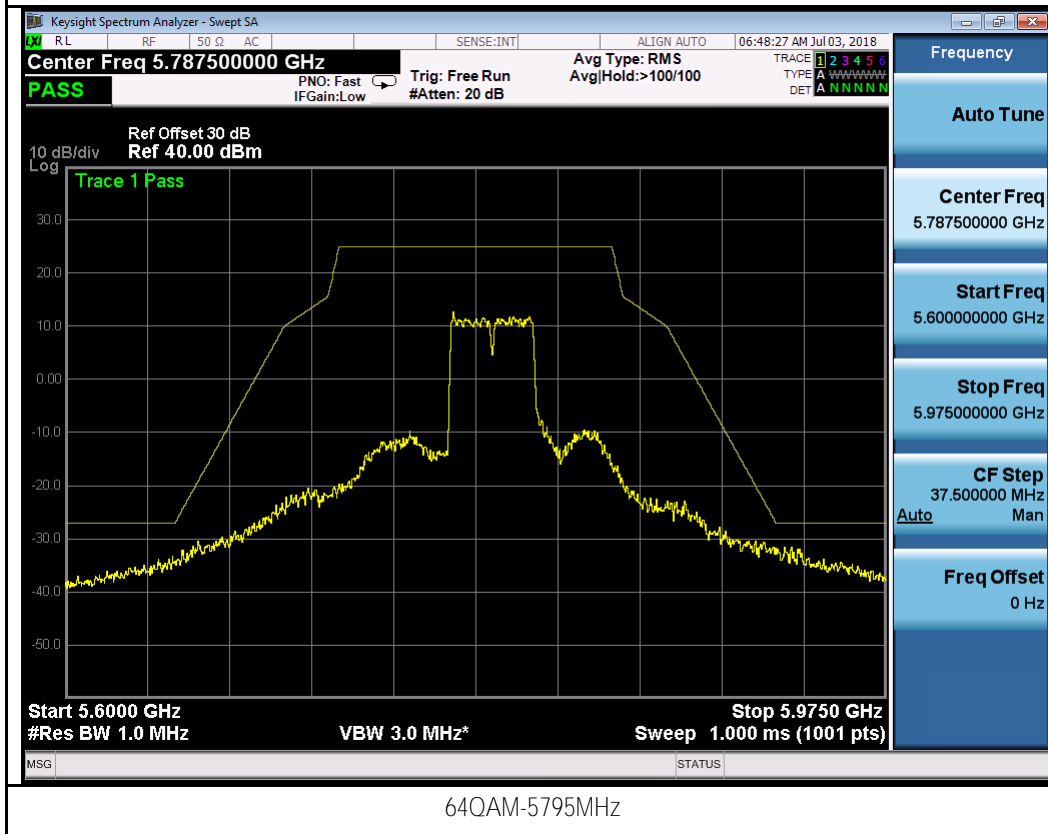
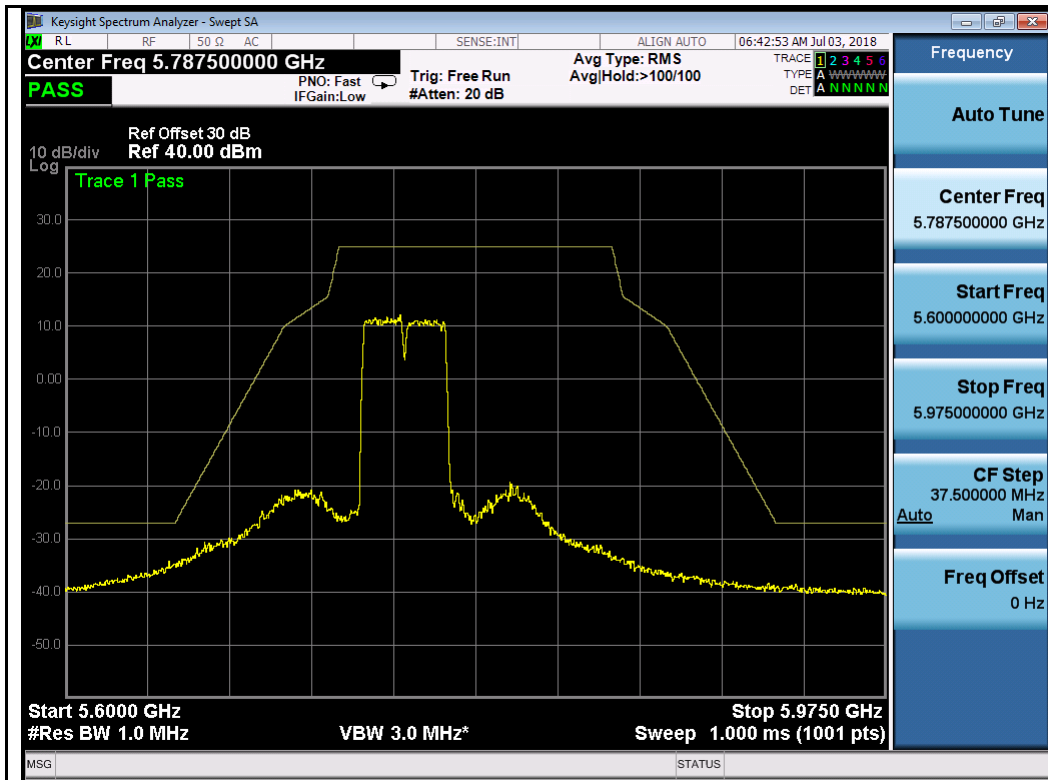
64QAM-5825MHz

Test Plot for W58 40MHz:

Chain 1:

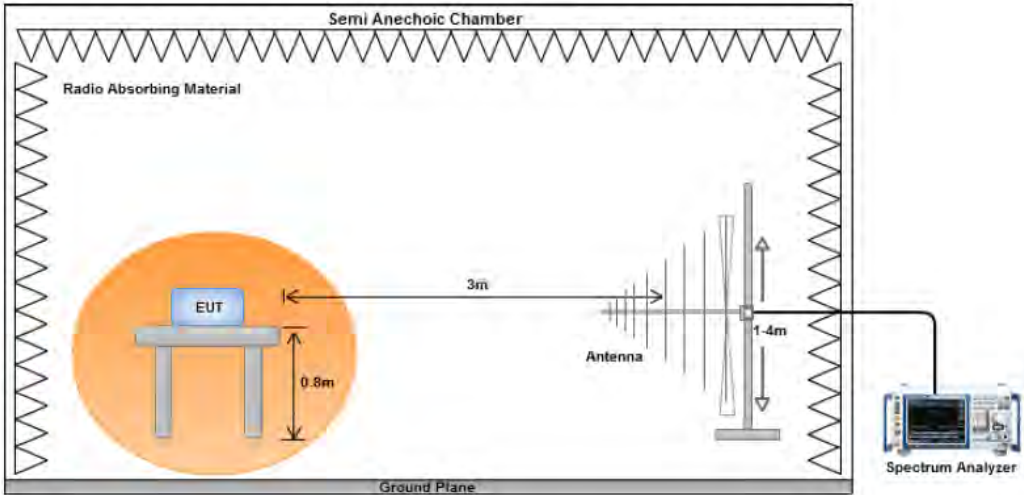


Chain 1:



10.6 Radiated Emissions below 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47CFRS 15.407(b) 15.209 (a)	<p>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (uV/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table>	Frequency range (MHz)	Field Strength (uV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	☒
Frequency range (MHz)	Field Strength (uV/m)											
30 – 88	100											
88 – 216	150											
216 960	200											
Above 960	500											
Test Setup												
Procedure	<ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. A Quasi-peak measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. 											
Remark	The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.											
Result	☒ Pass ☐ Fail											

Test Data ☒ Yes (See below) ☐ N/A

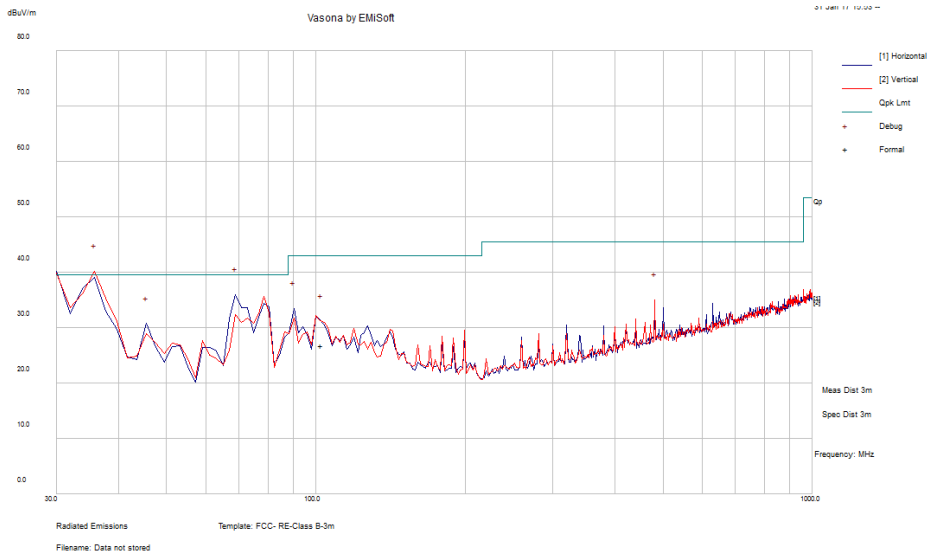
Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Gary Chou at 10m chamber.

Radiated Emission Test Results (Below 1GHz)

Internal Antenna:

Test specification	below 1GHz			Result	Pass
Environmental Conditions:	Temp (°C):	26			
	Humidity (%)	47			
	Atmospheric (mbar):	1020			
Mains Power:	120VAC, 60Hz				
Tested by:	Gary Chou				
Test Date:	01/31/2017				
Remarks:	20MHz BW, 5200MHz				

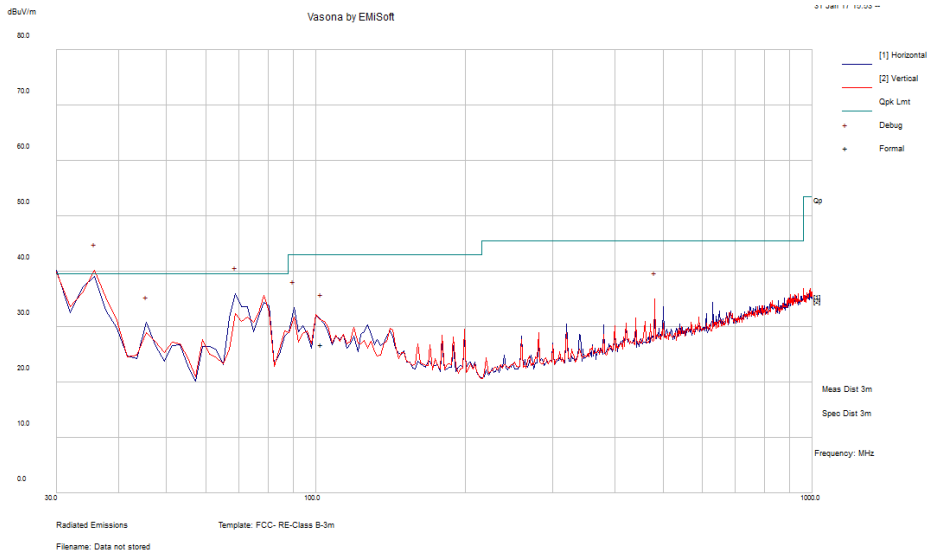


Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
102.40	36.46	1.68	-11.35	26.78	Quasi Max	V	116	337	43	-16.22	Pass
35.67	31.99	1.1	-4.56	28.53	Quasi Max	V	391	258	39.5	-10.97	Pass
69.10	39.47	1.47	-14.04	26.9	Quasi Max	H	99	276	39.5	-12.6	Pass
45.34	29.37	1.25	-11.26	19.36	Quasi Max	H	99	118	39.5	-20.14	Pass
90.01	49.39	1.59	-13.99	36.98	Quasi Max	H	301	357	43	-6.02	Pass
481.14	24.37	3.54	-4.49	23.41	Quasi Max	V	253	119	45.5	-22.09	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

External Antenna:

Test specification	below 1GHz			Result	Pass
Environmental Conditions:	Temp (°C):	26			
	Humidity (%)	47			
	Atmospheric (mbar):	1020			
Mains Power:	120VAC, 60Hz				
Tested by:	Gary Chou				
Test Date:	01/31/2017				
Remarks:	20MHz BW, 5200MHz				



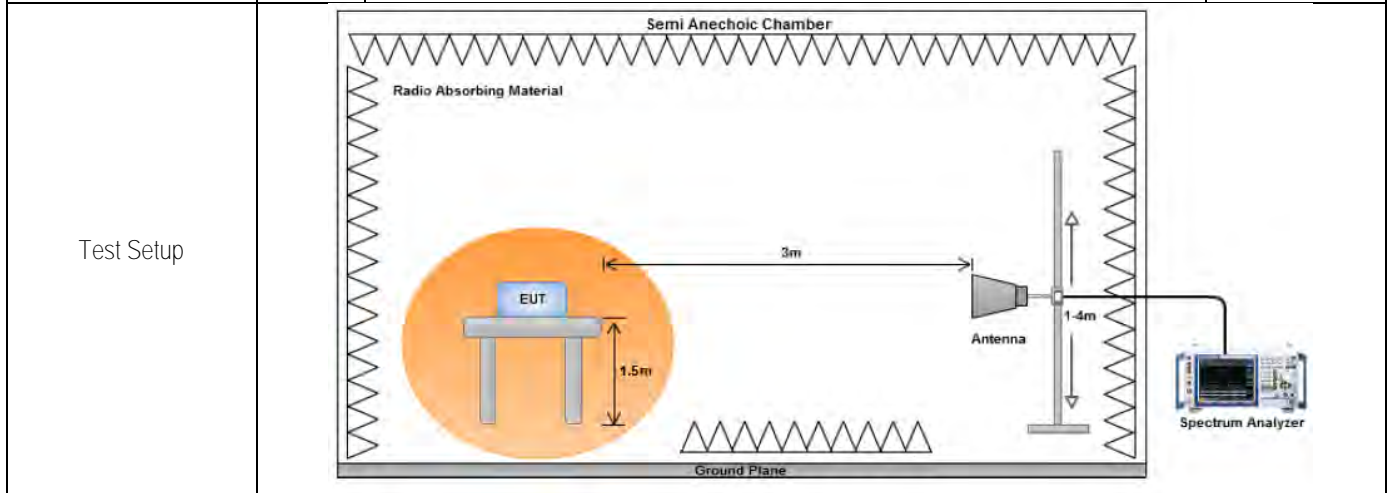
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
69.12	41.77	1.47	-14.04	29.19	Quasi Max	H	99	250	39.5	-10.31	Pass
90.01	49.79	1.59	-14	37.38	Quasi Max	V	342	346	43	-5.62	Pass
53.51	30.15	1.37	-14.13	17.39	Quasi Max	H	315	280	39.5	-22.11	Pass
100.00	39.9	1.65	-12.01	29.55	Quasi Max	V	184	49	43	-13.45	Pass
119.67	31.1	1.8	-8.69	24.21	Quasi Max	V	395	198	43	-18.79	Pass
490.57	24.12	3.58	-4.43	23.27	Quasi Max	H	182	343	45.5	-22.23	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

10.7 Radiated Spurious Emissions above 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6)	(1)	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.	<input checked="" type="checkbox"/>
	(2)	For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.	<input type="checkbox"/>
	(3)	For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.	<input type="checkbox"/>
	(4)	For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.	<input checked="" type="checkbox"/>
	(5)	Restricted band, emission must also comply with the radiated emission limits specified in 15.209	<input checked="" type="checkbox"/>



Procedure	<ol style="list-style-type: none"> 1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. An average measurement was then made for that frequency point. 4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
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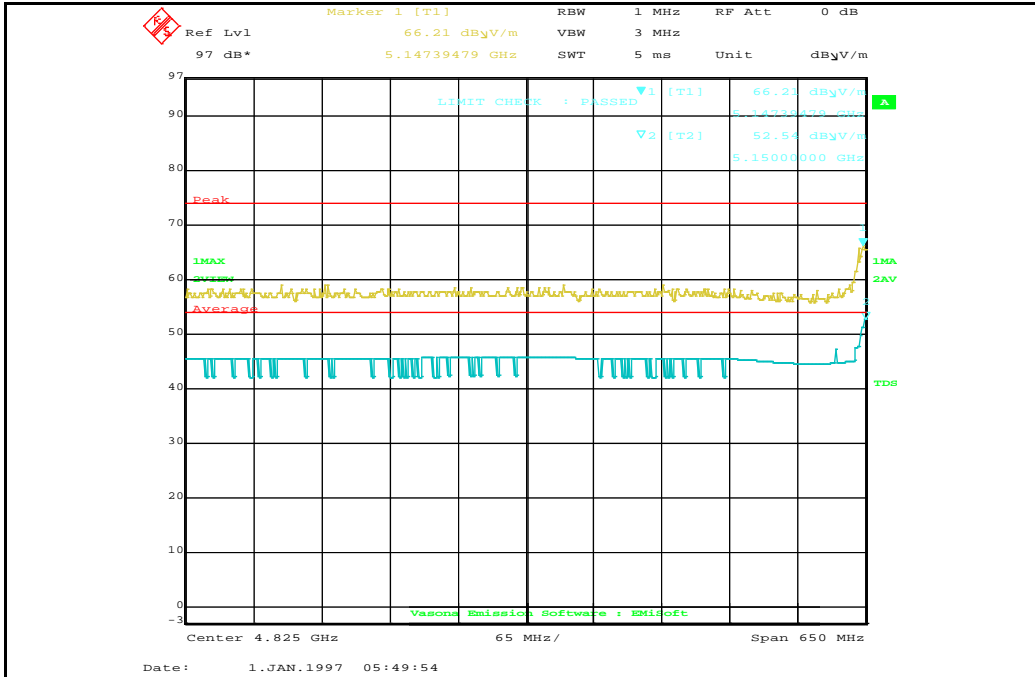
Remark	The EUT was scanned up to 40GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data Yes (See below) N/A

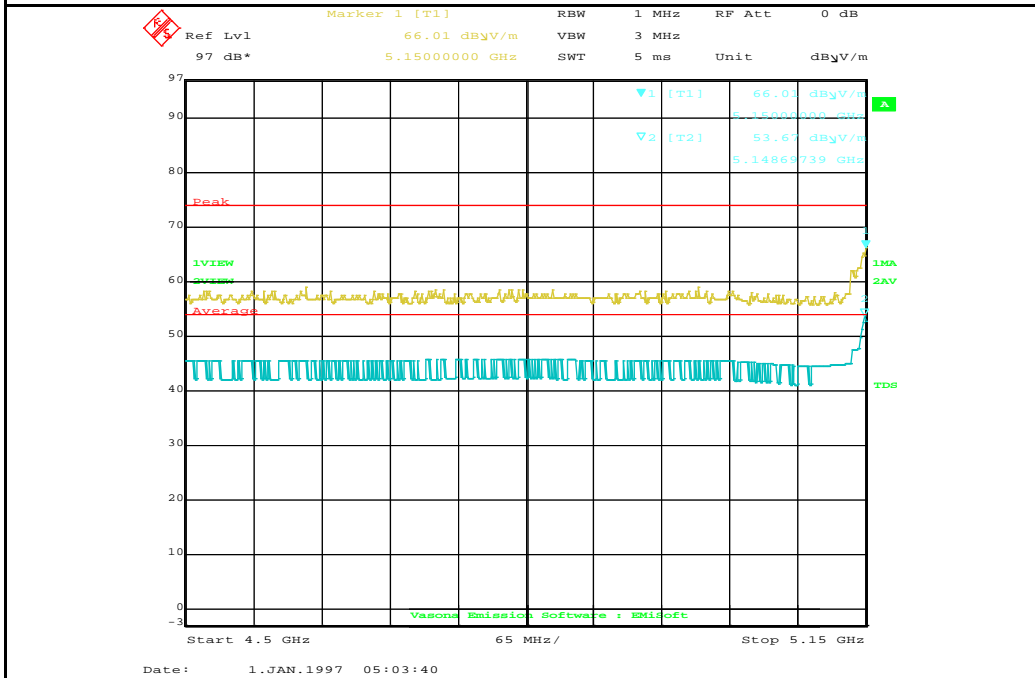
Test Plot Yes (See below) N/A

Test was done by Gary Chou at 3m and 10m chamber.

Restricted Band Measurement Plots:
20MHz:

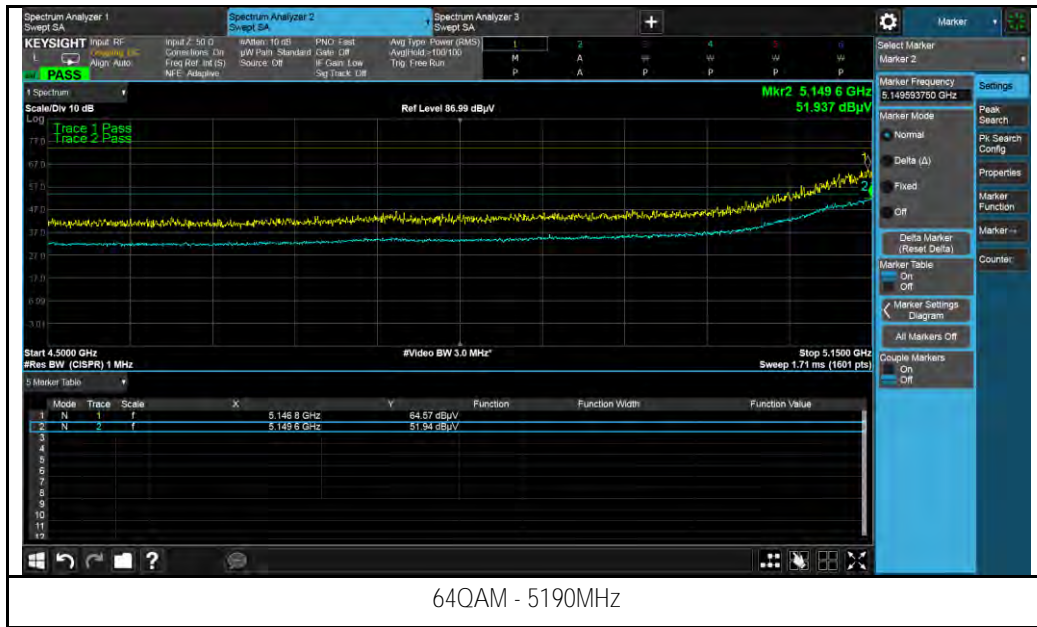


QPSK - 5180MHz



64QAM - 5180MHz

40MHz



Radiated Emission Test Results (Above 1GHz)

Internal Antenna 20MHz:

1GHz-40GHz – 5160MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1885.25	44.99	3.15	-12.38	35.75	Peak Max	V	164	338	74	-38.25	Pass
3550.57	43.35	4.31	-7.2	40.47	Peak Max	V	180	72	74	-33.53	Pass
10320.20	39.84	7.88	2.1	49.83	Peak Max	V	120	72	74	-24.17	Pass
1885.25	33.48	3.15	-12.38	24.24	Average Max	V	164	338	54	-29.76	Pass
3550.57	31.54	4.31	-7.2	28.66	Average Max	V	180	72	54	-25.35	Pass
10320.20	28.29	7.88	2.1	38.28	Average Max	V	120	72	54	-15.72	Pass

1GHz-40GHz – 5200MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1884.03	45.45	3.15	-12.39	36.21	Peak Max	V	194	283	74	-37.79	Pass
3552.64	43.26	4.31	-7.19	40.38	Peak Max	V	190	42	74	-33.62	Pass
10400.53	40.57	7.68	2.36	50.61	Peak Max	V	107	19	74	-23.39	Pass
1884.03	33.52	3.15	-12.39	24.27	Average Max	V	194	283	54	-29.73	Pass
3552.64	31.84	4.31	-7.19	28.96	Average Max	V	190	42	54	-25.04	Pass
10400.53	29.03	7.68	2.36	39.07	Average Max	V	107	19	54	-14.93	Pass

1GHz-40GHz – 5240MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1869.92	45.17	3.13	-12.49	35.81	Peak Max	V	137	132	74	-38.19	Pass
3552.99	43.67	4.31	-7.19	40.79	Peak Max	V	126	326	74	-33.21	Pass
10480.61	41.24	7.61	1.86	50.71	Peak Max	V	171	290	74	-23.29	Pass
1869.92	33.18	3.13	-12.49	23.82	Average Max	V	137	132	54	-30.18	Pass
3552.99	31.62	4.31	-7.19	28.74	Average Max	V	126	326	54	-25.26	Pass
10480.61	28.86	7.61	1.86	38.34	Average Max	V	171	290	54	-15.67	Pass

1GHz-40GHz – 5735MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1869.92	45.17	3.13	-12.49	35.81	Peak Max	V	137	132	74	-38.19	Pass
3550.51	43.2	4.31	-7.2	40.32	Peak Max	V	145	187	74	-33.69	Pass
11470.65	40.06	7.56	1.98	49.6	Peak Max	V	182	276	74	-24.4	Pass
1869.92	33.18	3.13	-12.49	23.82	Average Max	V	137	132	54	-30.18	Pass
3550.51	31.46	4.31	-7.2	28.58	Average Max	V	145	187	54	-25.42	Pass
11470.65	28.44	7.56	1.98	37.98	Average Max	V	182	276	54	-16.02	Pass

1GHz-40GHz – 5785MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1915.66	45.09	3.18	-12.2	36.07	Peak Max	V	175	356	74	-37.93	Pass
3551.22	44.08	4.31	-7.2	41.19	Peak Max	V	198	296	74	-32.81	Pass
11575.66	39.22	7.52	1.88	48.62	Peak Max	V	110	126	74	-25.39	Pass
1915.66	33.17	3.18	-12.2	24.15	Average Max	V	175	356	54	-29.85	Pass
3551.22	31.92	4.31	-7.2	29.03	Average Max	V	198	296	54	-24.97	Pass
11575.66	27.79	7.52	1.88	37.18	Average Max	V	110	126	54	-16.82	Pass

1GHz-40GHz – 5825MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1918.23	44.16	3.18	-12.19	35.15	Peak Max	V	115	213	74	-38.85	Pass
3533.48	43.76	4.3	-7.25	40.8	Peak Max	V	172	271	74	-33.2	Pass
11680.98	39.99	7.24	0.17	47.4	Peak Max	V	150	336	74	-26.6	Pass
1918.23	33	3.18	-12.19	24	Average Max	V	115	213	54	-30.01	Pass
3533.48	31.88	4.3	-7.25	28.92	Average Max	V	172	271	54	-25.08	Pass
11680.98	28.23	7.24	0.17	35.63	Average Max	V	150	336	54	-18.37	Pass

40MHz:

1GHz-40GHz – 5190MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17586.85	38.66	8.03	11.47	58.15	Peak Max	V	241	31	74	-15.85	Pass
10393.66	46.63	6.71	2.07	55.41	Peak Max	V	197	127	74	-18.60	Pass
6916.63	38.83	5.21	0.69	44.73	Peak Max	V	165	65	74	-29.27	Pass
17586.85	26.65	8.03	11.47	46.14	Average Max	V	241	31	54	-7.86	Pass
10393.66	34.24	6.71	2.07	43.01	Average Max	V	197	127	54	-10.99	Pass
6916.63	26.31	5.21	0.69	32.21	Average Max	V	165	65	54	-21.80	Pass

1GHz-40GHz – 5230MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17990.91	39.83	8.19	11.77	59.78	Peak Max	V	379	50	74	-14.22	Pass
10456.74	48.85	6.74	2.13	57.72	Peak Max	V	199	133	74	-16.28	Pass
6966.73	38.28	5.22	0.80	44.30	Peak Max	V	375	229	74	-29.70	Pass
17990.91	27.00	8.19	11.77	46.96	Average Max	V	379	50	54	-7.04	Pass
10456.74	36.05	6.74	2.13	44.92	Average Max	V	199	133	54	-9.08	Pass
6966.73	26.17	5.22	0.80	32.20	Average Max	V	375	229	54	-21.80	Pass

1GHz-40GHz – 5755MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17337.37	38.36	8.07	10.06	56.49	Peak Max	V	108	164	74	-17.51	Pass
12413.97	38.85	6.73	4.44	50.01	Peak Max	V	304	326	74	-23.99	Pass
7223.01	38.46	5.32	0.83	44.60	Peak Max	V	102	289	74	-29.40	Pass
17337.37	26.44	8.07	10.06	44.57	Average Max	V	108	164	54	-9.43	Pass
12413.97	26.28	6.73	4.44	37.44	Average Max	V	304	326	54	-16.56	Pass
7223.01	26.10	5.32	0.83	32.25	Average Max	V	102	289	54	-21.75	Pass

1GHz-40GHz – 5795MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17938.07	38.79	8.17	12.03	58.99	Peak Max	V	104	219	74	-15.01	Pass
11700.67	38.08	7.85	2.44	48.37	Peak Max	V	307	88	74	-25.63	Pass
7262.10	37.97	5.33	0.84	44.14	Peak Max	V	208	316	74	-29.86	Pass
17938.07	26.95	8.17	12.03	47.15	Average Max	V	104	219	54	-6.85	Pass
11700.67	26.06	7.85	2.44	36.35	Average Max	V	307	88	54	-17.65	Pass
7262.10	25.99	5.33	0.84	32.16	Average Max	V	208	316	54	-21.84	Pass

External Antenna:
1GHz-40GHz – 5160MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1105.98	60.55	2.29	-16.55	46.29	Peak Max	H	173	220	74	-27.71	Pass
1597.44	57.81	2.82	-15.06	45.57	Peak Max	V	232	334	74	-28.44	Pass
3749.90	46.4	4.47	-6.54	44.33	Peak Max	V	100	308	74	-29.67	Pass
1105.98	58.78	2.29	-16.55	44.53	Average Max	H	173	220	54	-9.47	Pass
1597.44	55.49	2.82	-15.06	43.25	Average Max	V	232	334	54	-10.75	Pass
3749.90	40.66	4.47	-6.54	38.59	Average Max	V	100	308	54	-15.41	Pass

1GHz-40GHz – 5200MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15599.99	38.6	8.51	3.27	50.38	Peak Max	V	313	298	74	-23.62	Pass
10400.16	40.26	7.24	0.14	47.64	Peak Max	H	127	352	74	-26.36	Pass
1351.69	54.09	2.56	-14.86	41.79	Peak Max	H	240	112	74	-32.21	Pass
15599.99	26.17	8.51	3.27	37.95	Average Max	H	174	221	54	-16.05	Pass
10400.16	28.01	7.24	0.14	35.39	Average Max	H	127	352	54	-18.61	Pass
1351.69	50.47	2.56	-14.86	38.17	Average Max	H	240	112	54	-15.83	Pass

1GHz-40GHz – 5240MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15722.19	38.85	8.53	2.89	50.26	Peak Max	H	230	210	74	-23.74	Pass
10482.31	41.02	7.23	0.34	48.6	Peak Max	V	158	102	74	-25.41	Pass
6336.153	40.09	5.48	-2.72	42.85	Peak Max	V	229	152	74	-31.15	Pass
15722.19	26.62	8.53	2.89	38.04	Average Max	V	154	155	54	-15.96	Pass
10482.31	27.99	7.23	0.34	35.56	Average Max	V	158	102	54	-18.44	Pass
6336.153	28.13	5.48	-2.72	30.89	Average Max	H	345	258	54	-23.11	Pass

1GHz-40GHz – 5735MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17205.07	38.55	8.99	5.2	52.74	Peak Max	H	255	156	74	-21.26	Pass
11468.03	41.29	7.62	1.98	50.89	Peak Max	V	208	218	74	-23.11	Pass
8451.14	40.9	6.62	-0.07	47.45	Peak Max	H	175	298	74	-26.55	
17205.07	26.65	8.99	5.2	40.84	Average Max	V	113	348	54	-13.16	Pass
11468.03	28.68	7.62	1.98	38.29	Average Max	H	100	303	54	-15.71	Pass
8451.14	29.1	6.62	-0.07	35.65	Average Max	H	175	298	54	-18.35	Pass

1GHz-40GHz – 5785MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17365.47	38.84	9.01	7.57	55.42	Peak Max	V	164	163	74	-18.58	Pass
11575.36	41.26	7.56	1.99	50.81	Peak Max	H	282	49	74	-23.19	Pass
4225.02	41.77	4.85	-5.8	40.81	Peak Max	V	145	252	74	-33.19	Pass
17365.47	26.72	9.01	7.57	43.3	Average Max	H	168	356	54	-10.7	Pass
11575.36	28.37	7.56	1.99	37.92	Average Max	H	282	49	54	-16.08	Pass
4225.02	29.27	4.85	-5.8	28.32	Average Max	H	111	335	54	-25.68	Pass
















1GHz-40GHz – 5825MHz








Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17505.65	38.21	9.03	7.2	54.44	Peak Max	V	165	151	74	-19.57	Pass
11669.97	40.24	7.51	1.81	49.56	Peak Max	H	147	209	74	-24.44	Pass
8577.825	40.52	6.79	-0.05	47.25	Peak Max	H	106	74	74	-26.75	Pass
17505.65	25.95	9.03	7.2	42.18	Average Max	H	231	273	54	-11.82	Pass
11669.97	27.78	7.51	1.81	37.1	Average Max	H	147	209	54	-16.9	Pass
4286.77	28.93	4.9	-5.74	28.1	Average Max	V	247	135	54	-25.9	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	06/08/2018	1 Year	06/08/2019	<input checked="" type="checkbox"/>
CHASE LISN	MN2050B	1018	08/07/2017	1 Year	08/07/2018	<input checked="" type="checkbox"/>
Radiated Emissions						
Spectrum Analyzer	N9010A	10SL0219	08/20/2017	1 Year	08/20/2018	<input checked="" type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	08/12/2017	1 Year	08/12/2018	<input checked="" type="checkbox"/>
Horn Antenna (1GHz~26GHz)	3115	100059	08/25/2017	1 Year	08/25/2018	<input checked="" type="checkbox"/>
Horn Antenna (26GHz~40GHz)	AH-840	101013	08/28/2017	1 Year	08/28/2018	<input checked="" type="checkbox"/>
Pre-Amp (30MHz~40GHz)	LPA-6-30	11140711	02/10/2018	1 Year	02/10/2019	<input checked="" type="checkbox"/>
RF Conducted Measurement						
Spectrum Analyzer	N9010A	10SL0219	08/20/2017	1 Year	08/20/2018	<input checked="" type="checkbox"/>

Annex B. SIEMIC Accreditation

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
Singapore iDA CB(Certification Body)		Phase I, Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
Hong Kong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

Japan Recognized Certification Body Designation		Radio: A1. Terminal equipment for purpose of calling Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
Korea CAB Accreditation		EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS
		Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68 Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measurement
Australia CAB Recognition		EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4 Radio communications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771 Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1
		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2