U-NII-2C

Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11n HT20	100/5500	15.25	15.25	14.55	14.55	17.93	23.79	PASS
	120/5600	16.59	16.59	15.15	15.15	18.94	23.79	PASS
	140/5700	12.38	12.38	11.73	11.73	15.08	23.79	PASS
	144/5720	15.50	15.50	14.75	14.75	18.15	23.79	PASS
802.11n HT40	102/5510	13.49	13.49	12.56	12.56	16.06	23.79	PASS
	118/5590	17.15	17.15	15.82	15.82	19.54	23.79	PASS
	134/5670	16.41	16.41	15.72	15.72	19.09	23.79	PASS
	142/5710	16.18	16.18	15.31	15.31	18.77	23.79	PASS
802.11ac VHT20	100/5500	16.36	16.36	15.67	15.67	19.04	23.79	PASS
	120/5600	16.56	16.56	15.16	15.16	18.93	23.79	PASS
	140/5700	16.44	16.44	15.55	15.55	19.03	23.79	PASS
	144/5720	15.49	15.49	14.76	14.76	18.15	23.79	PASS
802.11ac VHT40	102/5510	16.63	16.63	15.81	15.81	19.25	23.79	PASS
	118/5590	17.22	17.22	15.78	15.78	19.57	23.79	PASS
	134/5670	16.57	16.57	15.80	15.80	19.21	23.79	PASS
	142/5710	16.36	16.36	15.49	15.49	18.96	23.79	PASS
802.11ac VHT80	122/5610	13.13	13.13	11.77	11.77	15.51	23.79	PASS
	138/5690	16.38	16.38	15.58	15.58	19.01	23.79	PASS
802.11ac VHT160	144/5720	13.37	13.37	13.64	13.64	16.52	23.79	PASS
802.11ax HE20	100/5500	15.31	15.31	14.57	14.57	17.97	23.79	PASS
	120/5600	16.86	16.86	15.44	15.44	19.22	23.79	PASS
	140/5700	11.66	11.66	11.67	11.67	14.67	23.79	PASS
	144/5720	15.45	15.45	14.73	14.73	18.11	23.79	PASS
802.11ax HE40	102/5510	12.52	12.52	11.72	11.72	15.14	23.79	PASS
	118/5590	17.28	17.28	15.83	15.83	19.63	23.79	PASS
	134/5670	14.01	14.01	14.26	14.26	17.15	23.79	PASS
	142/5710	16.15	16.15	15.29	15.29	18.75	23.79	PASS
802.11ax HE80	122/5610	13.21	13.21	11.87	11.87	15.60	23.79	PASS
	138/5690	16.40	16.40	15.60	15.60	19.03	23.79	PASS
802.11ax HE160	114/5570	11.02	11.02	11.55	11.55	14.30	23.79	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power $=10\log(10^{(\text{Power antenna1 in dBm/10})}+10^{(\text{Power antenna2 in dBm/10})})$.

2. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)e)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Directional gain = $G_{ANT\ MAX} + 10\log(N_{ANT}/Nss)=3.20+10\log(2/1) =6.21$

So the power limit is 24-(directional gain-6 dBi) =24-(6.21-6) =23.79 dBm.

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Test Mode	Channel/ Frequency (MHz)	MIMO Antenna 1		MIMO Antenna 2		Total Power (dBm)	Limit (dBm)	Conclusion
		Average Power Measured (dBm)	Average Power with duty factor (dBm)	Average Power Measured (dBm)	Average Power with duty factor (dBm)			
802.11n HT20	144/5720	9.98	9.98	9.13	9.13	12.58	30	PASS
	149/5745	16.48	16.48	15.63	15.63	19.09	30	PASS
	157/5785	16.18	16.18	15.64	15.64	18.93	30	PASS
	165/5825	16.37	16.37	15.97	15.97	19.19	30	PASS
802.11n HT40	142/5710	6.00	6.00	5.04	5.04	8.56	30	PASS
	151/5755	16.19	16.19	15.40	15.40	18.82	30	PASS
	159/5795	15.96	15.96	15.49	15.49	18.74	30	PASS
802.11ac VHT20	144/5720	10.00	10.00	9.12	9.12	12.59	30	PASS
	149/5745	16.54	16.54	15.66	15.66	19.13	30	PASS
	157/5785	16.21	16.21	15.68	15.68	18.96	30	PASS
	165/5825	16.41	16.41	15.99	15.99	19.21	30	PASS
802.11ac VHT40	142/5710	5.96	5.96	5.09	5.09	8.56	30	PASS
	151/5755	16.14	16.14	15.34	15.34	18.77	30	PASS
	159/5795	15.97	15.97	15.50	15.50	18.75	30	PASS
802.11ac VHT80	138/5690	2.40	2.40	1.69	1.69	5.07	30	PASS
	155/5775	15.87	15.87	15.36	15.36	18.63	30	PASS
802.11ax HE20	144/5720	10.39	10.39	9.50	9.50	12.98	30	PASS
	149/5745	16.58	16.58	15.69	15.69	19.17	30	PASS
	157/5785	16.24	16.24	15.71	15.71	18.99	30	PASS
	165/5825	16.42	16.42	16.00	16.00	19.23	30	PASS
802.11ax HE40	142/5710	6.55	6.55	5.65	5.65	9.13	30	PASS
	151/5755	16.06	16.06	15.30	15.30	18.71	30	PASS
	159/5795	15.83	15.83	15.39	15.39	18.62	30	PASS
802.11ax HE80	138/5690	3.33	3.33	2.53	2.53	5.96	30	PASS
	155/5775	15.97	15.97	15.45	15.45	18.73	30	PASS

Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),

The Total Power =$10\log(10^{(\text{Power antenna1 in dBm/10})}+10^{(\text{Power antenna2 in dBm/10})})$.

2. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)e)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Directional gain = $G_{ANT\ MAX}$ + 10 log(N_{ANT}/Nss)= 2.70+10log (2/1) =5.71<6dBi. So the power limit is 30dBm

5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

Method of Measurement

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10°C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15°C to +25 °C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
c) Measure the frequency at each of the frequencies specified in 5.6.
d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936Hz

Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.85	-30	5200.006943	5199.999682	5199.996559	5199.993185
3.85	-20	5200.007380	5199.993591	5199.987914	5199.989548
3.85	-10	5200.016492	5199.988915	5199.987883	5199.985661
3.85	0	5200.002425	5199.990992	5199.985675	5199.982441
3.85	10	5199.997975	5199.989439	5199.979391	5199.980276
3.85	20	5199.990149	5199.979560	5199.972253	5199.977471
3.85	30	5199.982202	5199.975180	5199.970345	5199.975104
3.85	40	5199.979927	5199.974544	5199.965738	5199.971878
3.85	50	5199.976669	5199.966879	5199.961032	5199.964740
3.2	20	5199.970941	5199.965821	5199.952617	5199.955758
4.4	20	5199.965207	5199.961219	5199.949011	5199.950724
Max. ΔMHz		-0.034793	-0.038781	-0.050989	-0.049276
PPM		-6.690962	-7.457885	-9.805577	-9.476154

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.85	-30	5300.005926	5299.999728	5299.998882	5299.998259
3.85	-20	5299.998893	5299.995352	5299.990766	5299.994077
3.85	-10	5299.994063	5299.992359	5299.983214	5299.988386
3.85	0	5299.994561	5299.987324	5299.984776	5299.989199
3.85	10	5299.986436	5299.985217	5299.981465	5299.988921
3.85	20	5299.979187	5299.981045	5299.975934	5299.987267
3.85	30	5299.974612	5299.972064	5299.966033	5299.977818
3.85	40	5299.967770	5299.963585	5299.963266	5299.977134
3.85	50	5299.960868	5299.957689	5299.963217	5299.972319
3.2	20	5299.951052	5299.948771	5299.957073	5299.967875
4.4	20	5299.946002	5299.942568	5299.953995	5299.960954
Max. ΔMHz		-0.053998	-0.057432	-0.046005	-0.039046
PPM		-10.188302	-10.836226	-8.680189	-7.367170

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.85	-30	5579.998704	5579.995547	5579.992674	5579.989606
3.85	-20	5579.997752	5579.995458	5579.985537	5579.985025
3.85	-10	5579.991228	5579.990541	5579.982153	5579.979567
3.85	0	5579.992080	5579.994375	5579.982109	5579.983739
3.85	10	5579.987917	5579.984424	5579.976886	5579.977620
3.85	20	5579.981419	5579.976127	5579.972611	5579.972306
3.85	30	5579.977230	5579.967894	5579.967841	5579.969554
3.85	40	5579.976248	5579.962637	5579.958910	5579.968989
3.85	50	5579.968607	5579.954307	5579.949100	5579.962171
3.2	20	5579.962471	5579.945390	5579.941400	5579.958568
4.4	20	5579.954805	5579.941342	5579.938808	5579.950377
Max. ΔMHz		-0.045195	-0.058658	-0.061192	-0.049623
PPM		-8.099462	-10.512186	-10.966308	-8.893011

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.85	-30	5784.994934	5784.994855	5784.991866	5784.987710
3.85	-20	5784.994909	5784.989006	5784.985840	5784.981307
3.85	-10	5784.987736	5784.987980	5784.982197	5784.978063
3.85	0	5784.989118	5784.980273	5784.977734	5784.972898
3.85	10	5784.983120	5784.972733	5784.968942	5784.966334
3.85	20	5784.975967	5784.970935	5784.968137	5784.958353
3.85	30	5784.969772	5784.966110	5784.964846	5784.957352
3.85	40	5784.969441	5784.960230	5784.956168	5784.950855
3.85	50	5784.962841	5784.957722	5784.955359	5784.942697
3.2	20	5784.957838	5784.956662	5784.955266	5784.937633
4.4	20	5784.949088	5784.948965	5784.947831	5784.930174
Max. ΔMHz		-0.050912	-0.051035	-0.052169	-0.069826
PPM		-8.800691	-8.821953	-9.017978	-12.070182

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
15°C ~ 35°C	20% ~ 80%	86 kPa ~ 106 kPa

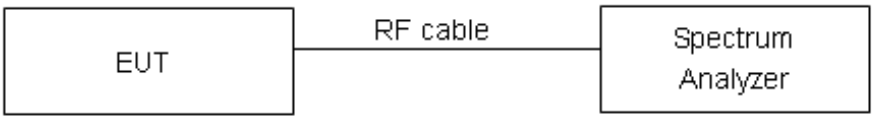
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz, 5.250-5.350GHz, 5.470-5.725GHz.
Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ FCC Part 15.407(a)(2) / FCC Part 15.407(a)(3)
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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the

amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/GHz	Limits
5.15-5.25	11dBm/MHz
5.25-5.35 and 5.47-5.725	11dBm/MHz
5.725-5.85	30dBm/500kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

SISO Antenna 1

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	6.90	6.90	11	PASS
	40/5200	6.66	6.66	11	PASS
	48/5240	6.81	6.81	11	PASS
802.11n HT20	36/5180	5.57	5.57	11	PASS
	40/5200	5.43	5.43	11	PASS
	48/5240	5.49	5.49	11	PASS
802.11n HT40	38/5190	2.54	2.54	11	PASS
	46/5230	2.75	2.75	11	PASS
802.11ac VHT20	36/5180	5.57	5.57	11	PASS
	40/5200	5.55	5.55	11	PASS
	48/5240	5.40	5.40	11	PASS
802.11ac VHT40	38/5190	2.50	2.50	11	PASS
	46/5230	2.59	2.59	11	PASS
802.11ac VHT80	42/5210	-0.46	-0.46	11	PASS
802.11ax HE20	36/5180	5.49	5.49	11	PASS
	40/5200	5.30	5.30	11	PASS
	48/5240	5.38	5.38	11	PASS
802.11ax HE40	38/5190	2.36	2.36	11	PASS
	46/5230	2.12	2.12	11	PASS
802.11ax HE80	42/5210	-0.18	-0.18	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

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Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52/5260	6.86	6.86	11	PASS
	60/5300	6.27	6.27	11	PASS
	64/5320	6.60	6.60	11	PASS
802.11n HT20	52/5260	5.76	5.76	11	PASS
	60/5300	5.17	5.17	11	PASS
	64/5320	5.44	5.44	11	PASS
802.11n HT40	54/5270	2.58	2.58	11	PASS
	62/5310	2.51	2.51	11	PASS
802.11ac VHT20	52/5260	5.47	5.47	11	PASS
	60/5300	4.87	4.87	11	PASS
	64/5320	5.26	5.26	11	PASS
802.11ac VHT40	54/5270	2.53	2.53	11	PASS
	62/5310	2.91	2.91	11	PASS
802.11ac VHT80	58/5290	-0.69	-0.69	11	PASS
802.11ac VHT160	50/5250	-5.35	-5.35	11	PASS
802.11ax HE20	52/5260	5.19	5.19	11	PASS
	60/5300	4.90	4.90	11	PASS
	64/5320	5.19	5.19	11	PASS
802.11ax HE40	54/5270	2.20	2.20	11	PASS
	62/5310	2.66	2.66	11	PASS
802.11ax HE80	58/5290	-0.38	-0.38	11	PASS
802.11ax HE160	50/5250	-5.20	-5.20	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100/5500	7.47	7.47	11	PASS
	120/5600	7.62	7.62	11	PASS
	140/5700	7.20	7.20	11	PASS
	144/5720	7.01	7.01	11	PASS
802.11n HT20	100/5500	6.21	6.21	11	PASS
	120/5600	6.24	6.24	11	PASS
	140/5700	5.89	5.89	11	PASS
	144/5720	6.08	6.08	11	PASS
802.11n HT40	102/5510	3.36	3.36	11	PASS
	118/5590	3.96	3.96	11	PASS
	134/5670	3.01	3.01	11	PASS
	142/5710	2.86	2.86	11	PASS
802.11ac VHT20	100/5500	6.25	6.25	11	PASS
	120/5600	6.45	6.45	11	PASS
	140/5700	6.12	6.12	11	PASS
	144/5720	5.62	5.62	11	PASS
802.11ac VHT40	102/5510	3.63	3.63	11	PASS
	118/5590	3.59	3.59	11	PASS
	134/5670	3.07	3.07	11	PASS
	142/5710	2.70	2.70	11	PASS
802.11ac VHT80	122/5610	0.48	0.48	11	PASS
	138/5690	-0.44	-0.44	11	PASS
802.11ac VHT160	114/5570	-3.09	-3.09	11	PASS
802.11ax HE20	100/5500	6.25	6.25	11	PASS
	120/5600	6.30	6.30	11	PASS
	140/5700	6.49	6.49	11	PASS
	144/5720	5.98	5.98	11	PASS
802.11ax HE40	102/5510	3.01	3.01	11	PASS
	118/5590	3.46	3.46	11	PASS
	134/5670	2.76	2.76	11	PASS
	142/5710	2.60	2.60	11	PASS
802.11ax HE80	122/5610	0.45	0.45	11	PASS
	138/5690	-0.32	-0.32	11	PASS
802.11ax HE160	114/5570	-4.54	-4.54	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	144/5720	3.10	3.37	30	PASS
	149/5745	3.02	3.29	30	PASS
	157/5785	3.12	3.39	30	PASS
	165/5825	3.19	3.46	30	PASS
802.11n HT20	144/5720	1.79	2.06	30	PASS
	149/5745	1.94	2.21	30	PASS
	157/5785	1.67	1.94	30	PASS
	165/5825	1.81	2.08	30	PASS
802.11n HT40	142/5720	-1.90	-1.63	30	PASS
	151/5755	-0.67	-0.40	30	PASS
	159/5795	-0.98	-0.71	30	PASS
802.11ac VHT20	144/5720	1.97	2.24	30	PASS
	149/5745	1.92	2.19	30	PASS
	157/5785	1.80	2.07	30	PASS
	165/5825	1.74	2.01	30	PASS
802.11ac VHT40	142/5710	-1.81	-1.54	30	PASS
	151/5755	-1.03	-0.76	30	PASS
	159/5795	-1.27	-1.00	30	PASS
802.11ac VHT80	138/5690	-5.80	-5.53	30	PASS
	155/5775	-4.19	-3.92	30	PASS
802.11ax HE20	144/5720	1.91	2.18	30	PASS
	149/5745	1.95	2.22	30	PASS
	157/5785	2.01	2.28	30	PASS
	165/5825	1.63	1.90	30	PASS
802.11ax HE40	142/5710	-2.01	-1.74	30	PASS
	151/5755	-1.01	-0.74	30	PASS
	159/5795	-1.08	-0.81	30	PASS
802.11ax HE80	138/5690	-5.55	-5.28	30	PASS
	155/5775	-4.15	-3.88	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)					

SISO Antenna 2

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Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	5.76	5.76	11	PASS
	40/5200	5.77	5.77	11	PASS
	48/5240	5.57	5.57	11	PASS
802.11n HT20	36/5180	5.65	5.65	11	PASS
	40/5200	5.13	5.13	11	PASS
	48/5240	5.02	5.02	11	PASS
802.11n HT40	38/5190	2.58	2.58	11	PASS
	46/5230	2.28	2.28	11	PASS
802.11ac VHT20	36/5180	5.50	5.50	11	PASS
	40/5200	5.88	5.88	11	PASS
	48/5240	5.15	5.15	11	PASS
802.11ac VHT40	38/5190	2.59	2.59	11	PASS
	46/5230	2.28	2.28	11	PASS
802.11ac VHT80	42/5210	-0.65	-0.65	11	PASS
802.11ax HE20	36/5180	5.35	5.35	11	PASS
	40/5200	5.13	5.13	11	PASS
	48/5240	5.23	5.23	11	PASS
802.11ax HE40	38/5190	2.29	2.29	11	PASS
	46/5230	2.03	2.03	11	PASS
802.11ax HE80	42/5210	-0.62	-0.62	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

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Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52/5260	5.26	5.26	11	PASS
	60/5300	5.22	5.22	11	PASS
	64/5320	5.32	5.32	11	PASS
802.11n HT20	52/5260	5.35	5.35	11	PASS
	60/5300	5.35	5.35	11	PASS
	64/5320	5.60	5.60	11	PASS
802.11n HT40	54/5270	2.35	2.35	11	PASS
	62/5310	2.88	2.88	11	PASS
802.11ac VHT20	52/5260	5.55	5.55	11	PASS
	60/5300	5.21	5.21	11	PASS
	64/5320	5.58	5.58	11	PASS
802.11ac VHT40	54/5270	2.19	2.19	11	PASS
	62/5310	2.65	2.65	11	PASS
802.11ac VHT80	58/5290	-0.71	-0.71	11	PASS
802.11ac VHT160	50/5250	-4.23	-4.23	11	PASS
802.11ax HE20	52/5260	5.04	5.04	11	PASS
	60/5300	4.94	4.94	11	PASS
	64/5320	5.15	5.15	11	PASS
802.11ax HE40	54/5270	2.17	2.17	11	PASS
	62/5310	2.37	2.37	11	PASS
802.11ax HE80	58/5290	-0.60	-0.60	11	PASS
802.11ax HE160	50/5250	-4.33	-4.33	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100/5500	5.69	5.69	11	PASS
	120/5600	5.77	5.77	11	PASS
	140/5700	5.94	5.94	11	PASS
	144/5720	6.90	6.90	11	PASS
802.11n HT20	100/5500	4.51	4.51	11	PASS
	120/5600	4.81	4.81	11	PASS
	140/5700	4.64	4.64	11	PASS
	144/5720	5.63	5.63	11	PASS
802.11n HT40	102/5510	1.78	1.78	11	PASS
	118/5590	2.28	2.28	11	PASS
	134/5670	2.01	2.01	11	PASS
	142/5710	2.74	2.74	11	PASS
802.11ac VHT20	100/5500	4.67	4.67	11	PASS
	120/5600	4.90	4.90	11	PASS
	140/5700	4.83	4.83	11	PASS
	144/5720	5.68	5.68	11	PASS
802.11ac VHT40	102/5510	1.69	1.69	11	PASS
	118/5590	2.24	2.24	11	PASS
	134/5670	1.65	1.65	11	PASS
	142/5710	2.97	2.97	11	PASS
802.11ac VHT80	122/5610	-1.38	-1.38	11	PASS
	138/5690	-0.55	-0.55	11	PASS
802.11ac VHT160	114/5570	-4.34	-4.34	11	PASS
802.11ax HE20	100/5500	4.76	4.76	11	PASS
	120/5600	4.96	4.96	11	PASS
	140/5700	4.61	4.61	11	PASS
	144/5720	5.73	5.73	11	PASS
802.11ax HE40	102/5510	1.38	1.38	11	PASS
	118/5590	1.91	1.91	11	PASS
	134/5670	1.91	1.91	11	PASS
	142/5710	2.89	2.89	11	PASS
802.11ax HE80	122/5610	-1.05	-1.05	11	PASS
	138/5690	-0.27	-0.27	11	PASS
802.11ax HE160	114/5570	-4.52	-4.52	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

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Test Mode	Channel/ Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	144/5720	3.56	3.83	30	PASS
	149/5745	3.49	3.76	30	PASS
	157/5785	3.15	3.42	30	PASS
	165/5825	3.00	3.27	30	PASS
802.11n HT20	144/5720	2.41	2.68	30	PASS
	149/5745	2.12	2.39	30	PASS
	157/5785	2.05	2.32	30	PASS
	165/5825	1.85	2.12	30	PASS
802.11n HT40	142/5720	-1.56	-1.29	30	PASS
	151/5755	-0.59	-0.32	30	PASS
	159/5795	-0.86	-0.59	30	PASS
802.11ac VHT20	144/5720	1.85	2.12	30	PASS
	149/5745	2.25	2.52	30	PASS
	157/5785	1.80	2.07	30	PASS
	165/5825	1.77	2.04	30	PASS
802.11ac VHT40	142/5710	-1.36	-1.09	30	PASS
	151/5755	-0.52	-0.25	30	PASS
	159/5795	-0.84	-0.57	30	PASS
802.11ac VHT80	138/5690	-5.45	-5.18	30	PASS
	155/5775	-3.92	-3.65	30	PASS
802.11ax HE20	144/5720	1.93	2.20	30	PASS
	149/5745	2.29	2.56	30	PASS
	157/5785	1.94	2.21	30	PASS
	165/5825	1.84	2.11	30	PASS
802.11ax HE40	142/5710	-1.69	-1.42	30	PASS
	151/5755	-0.75	-0.48	30	PASS
	159/5795	-0.58	-0.31	30	PASS
802.11ax HE80	138/5690	-5.28	-5.01	30	PASS
	155/5775	-4.06	-3.79	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)					

MIMO

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	36/5180	6.76	6.76	5.71	5.71	9.28	11	PASS
	44/5220	7.89	7.89	7.43	7.43	10.68	11	PASS
	48/5240	7.81	7.81	7.35	7.35	10.60	11	PASS
802.11n HT20	36/5180	6.99	6.99	5.94	5.94	9.51	11	PASS
	44/5220	6.87	6.87	5.91	5.91	9.43	11	PASS
	48/5240	6.57	6.57	5.77	5.77	9.20	11	PASS
802.11n HT40	38/5190	0.74	0.74	1.14	1.14	3.95	11	PASS
	46/5230	3.71	3.71	3.10	3.10	6.43	11	PASS
802.11ac VHT20	36/5180	6.83	6.83	-2.22	-2.22	7.34	11	PASS
	44/5220	6.84	6.84	5.87	5.87	9.39	11	PASS
	48/5240	6.62	6.62	6.21	6.21	9.43	11	PASS
802.11ac VHT40	38/5190	0.55	0.55	5.74	5.74	6.89	11	PASS
	46/5230	3.75	3.75	2.87	2.87	6.34	11	PASS
802.11ac VHT80	42/5210	-3.01	-3.01	2.73	2.73	3.76	11	PASS
802.11ax HE20	36/5180	6.66	6.66	-2.32	-2.32	7.18	11	PASS
	44/5220	6.65	6.65	6.14	6.14	9.41	11	PASS
	48/5240	6.48	6.48	6.06	6.06	9.29	11	PASS
802.11ax HE40	38/5190	0.46	0.46	1.15	1.15	3.83	11	PASS
	46/5230	3.80	3.80	1.38	1.38	5.77	11	PASS
802.11ax HE80	42/5210	-2.78	-2.78	3.06	3.06	4.07	11	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)d)(ii): If antenna gains are not equal, If all transmit signals are completely uncorrelated, then

Directional gain = $10\log[(10^{G1/10} + 10^{G2/10})/N_{ANT}]$ dBi = $10\log[(10^{2.30/10} + 10^{3.10/10})/2]$ = 2.72 dBi< 6dBi.

So the PSD limit is 11 dBm.

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	52/5260	7.91	7.91	7.04	7.04	10.51	11	PASS
	60/5300	7.61	7.61	7.22	7.22	10.43	11	PASS
	64/5320	7.93	7.93	7.16	7.16	10.57	11	PASS
802.11n HT20	52/5260	6.60	6.60	6.13	6.13	9.38	11	PASS
	60/5300	6.20	6.20	5.80	5.80	9.01	11	PASS
	64/5320	6.89	6.89	5.99	5.99	9.47	11	PASS
802.11n HT40	54/5270	3.93	3.93	3.08	3.08	6.54	11	PASS
	62/5310	-0.89	-0.89	0.12	0.12	2.65	11	PASS
802.11ac VHT20	52/5260	6.85	6.85	6.16	6.16	9.53	11	PASS
	60/5300	6.49	6.49	5.81	5.81	9.17	11	PASS
	64/5320	6.84	6.84	6.04	6.04	9.47	11	PASS
802.11ac VHT40	54/5270	3.81	3.81	2.89	2.89	6.38	11	PASS
	62/5310	3.76	3.76	3.13	3.13	6.47	11	PASS
802.11ac VHT80	58/5290	-3.06	-3.06	-2.05	-2.05	0.48	11	PASS
802.11ac VHT160	50/5250	-6.05	-6.05	-5.54	-5.54	-2.78	11	PASS
802.11ax HE20	52/5260	6.85	6.85	5.99	5.99	9.45	11	PASS
	60/5300	6.16	6.16	5.63	5.63	8.91	11	PASS
	64/5320	6.47	6.47	5.73	5.73	9.13	11	PASS
802.11ax HE40	54/5270	3.50	3.50	3.13	3.13	6.33	11	PASS
	62/5310	0.23	0.23	0.98	0.98	3.63	11	PASS
802.11ax HE80	58/5290	-3.73	-3.73	-2.73	-2.73	-0.19	11	PASS
802.11ax HE160	50/5250	-7.13	-7.13	-6.44	-6.44	-3.76	11	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)d)(ii): If antenna gains are not equal, If all transmit signals are completely uncorrelated, then

Directional gain = $10\log[(10^{G1/10} + 10^{G2/10})/N_{ANT}]$ dBi = $10\log[(10^{2.30/10} + 10^{3.10/10})/2]$ = 2.72 dBi< 6dBi.

So the PSD limit is 11 dBm.

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11a	100/5500	5.40	5.40	5.87	5.87	8.65	11	PASS
	120/5600	5.58	5.58	5.47	5.47	8.54	11	PASS
	140/5700	6.10	6.10	5.30	5.30	8.73	11	PASS
	144/5720	7.03	7.03	6.78	6.78	9.92	11	PASS
802.11n HT20	100/5500	4.61	4.61	3.84	3.84	7.25	11	PASS
	120/5600	6.22	6.22	5.07	5.07	8.69	11	PASS
	140/5700	1.39	1.39	0.97	0.97	4.20	11	PASS
	144/5720	5.78	5.78	5.25	5.25	8.53	11	PASS
802.11n HT40	102/5510	0.41	0.41	-0.37	-0.37	3.05	11	PASS
	118/5590	3.86	3.86	2.34	2.34	6.18	11	PASS
	134/5670	3.55	3.55	2.46	2.46	6.05	11	PASS
	142/5710	3.26	3.26	2.55	2.55	5.93	11	PASS
802.11ac VHT20	100/5500	6.41	6.41	5.18	5.18	8.85	11	PASS
	120/5600	6.29	6.29	5.36	5.36	8.86	11	PASS
	140/5700	6.19	6.19	5.46	5.46	8.85	11	PASS
	144/5720	5.87	5.87	5.40	5.40	8.65	11	PASS
802.11ac VHT40	102/5510	3.44	3.44	2.52	2.52	6.01	11	PASS
	118/5590	3.69	3.69	2.27	2.27	6.05	11	PASS
	134/5670	3.24	3.24	2.55	2.55	5.92	11	PASS
	142/5710	3.07	3.07	2.53	2.53	5.82	11	PASS
802.11ac VHT80	122/5610	-3.48	-3.48	-4.70	-4.70	-1.04	11	PASS
	138/5690	-0.03	-0.03	-0.49	-0.49	2.76	11	PASS
802.11ac VHT160	144/5720	-6.27	-6.27	-5.87	-5.87	-3.06	11	PASS
802.11ax HE20	100/5500	4.95	4.95	4.32	4.32	7.66	11	PASS
	120/5600	6.13	6.13	4.88	4.88	8.56	11	PASS
	140/5700	0.87	0.87	1.07	1.07	3.98	11	PASS
	144/5720	5.99	5.99	5.50	5.50	8.76	11	PASS
802.11ax HE40	102/5510	-0.86	-0.86	-1.43	-1.43	1.87	11	PASS
	118/5590	3.29	3.29	2.04	2.04	5.72	11	PASS

	134/5670	0.27	0.27	1.04	1.04	3.68	11	PASS
	142/5710	3.02	3.02	2.40	2.40	5.73	11	PASS
802.11ax HE80	122/5610	-3.61	-3.61	-4.92	-4.92	-1.21	11	PASS
	138/5690	0.03	0.03	-0.38	-0.38	2.84	11	PASS
802.11ax HE160	114/5570	-8.48	-8.48	-8.13	-8.13	-5.29	11	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)d)(ii): If antenna gains are not equal, If all transmit signals are completely uncorrelated, then

Directional gain = $10\log[(10^{G1/10} + 10^{G2/10})/N_{ANT}]$ dBi = $10\log[(10^{3.20/10} + 10^{3.20/10})/2]$ = 3.20 dBi< 6dBi.

So the PSD limit is 11 dBm.

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm/ 500kHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/ 500kHz)		
		Read Value (dBm/ 470kHz)	PSD (dBm/ 500kHz)	Read Value (dBm/ 470kHz)	PSD (dBm/ 500kHz)			
802.11a	144/5720	4.38	4.65	1.95	2.22	6.61	30	PASS
	149/5745	2.57	2.84	2.70	2.97	5.91	30	PASS
	157/5785	2.30	2.57	2.28	2.55	5.57	30	PASS
	165/5825	2.61	2.88	2.53	2.80	5.85	30	PASS
802.11n HT20	144/5720	3.31	3.58	0.73	1.00	5.49	30	PASS
	149/5745	2.46	2.73	2.21	2.48	5.62	30	PASS
	157/5785	2.40	2.67	2.38	2.65	5.67	30	PASS
	165/5825	1.96	2.23	1.51	1.78	5.02	30	PASS
802.11n HT40	142/5710	-0.39	-0.12	-3.05	-2.78	1.76	30	PASS
	151/5755	-1.21	-0.94	-1.19	-0.92	2.08	30	PASS
	159/5795	-1.32	-1.05	-1.51	-1.24	1.87	30	PASS
802.11ac VHT20	144/5720	3.19	3.46	0.45	0.72	5.31	30	PASS
	149/5745	2.45	2.72	2.12	2.39	5.57	30	PASS
	157/5785	2.08	2.35	1.88	2.15	5.26	30	PASS
	165/5825	2.02	2.29	1.51	1.78	5.05	30	PASS
802.11ac VHT40	142/5710	-0.31	-0.04	-2.89	-2.62	1.87	30	PASS
	151/5755	-1.12	-0.85	-1.15	-0.88	2.15	30	PASS
	159/5795	-1.32	-1.05	-1.60	-1.33	1.82	30	PASS
802.11ac VHT80	138/5690	-4.16	-3.89	-6.57	-6.30	-1.92	30	PASS
	155/5775	-4.20	-3.93	-4.35	-4.08	-0.99	30	PASS
802.11ax HE20	144/5720	3.21	3.48	0.93	1.20	5.50	30	PASS
	149/5745	2.29	2.56	2.01	2.28	5.43	30	PASS
	157/5785	1.85	2.12	1.36	1.63	4.89	30	PASS
	165/5825	1.21	1.48	0.95	1.22	4.36	30	PASS
802.11ax HE40	142/5710	-0.33	-0.06	-3.38	-3.11	1.69	30	PASS
	151/5755	-1.28	-1.01	-1.23	-0.96	2.03	30	PASS
	159/5795	-1.43	-1.16	-1.35	-1.08	1.89	30	PASS
802.11ax HE80	138/5690	-4.18	-3.91	-6.60	-6.33	-1.94	30	PASS
	155/5775	-4.32	-4.05	-4.09	-3.82	-0.92	30	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor +10*log (500/470).

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. Direction gain calculation according to KDB662911 D01 Multiple Transmitter Output v02r01 F)2)d)(ii): If antenna gains are not equal, If all transmit signals are completely uncorrelated, then

Directional gain = $10\log[(10^{G1/10} + 10^{G2/10})/N_{ANT}]$ dBi = $10\log[(10^{1.90/10} + 10^{2.70/10})/2]$ = 2.32 dBi <6dBi. So the PSD limit is 30dBm

Beamforming

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11n HT20	36/5180	6.25	6.25	5.80	5.80	9.04	10.89	PASS
	44/5220	6.20	6.20	5.79	5.79	9.01	10.89	PASS
	48/5240	6.57	6.57	6.03	6.03	9.32	10.89	PASS
802.11n HT40	38/5190	0.39	0.39	1.27	1.27	3.86	10.89	PASS
	46/5230	3.35	3.35	2.96	2.96	6.17	10.89	PASS
802.11ac VHT20	36/5180	6.12	6.12	5.79	5.79	8.97	10.89	PASS
	44/5220	6.37	6.37	5.70	5.70	9.06	10.89	PASS
	48/5240	6.09	6.09	5.91	5.91	9.01	10.89	PASS
802.11ac VHT40	38/5190	0.68	0.68	1.06	1.06	3.88	10.89	PASS
	46/5230	3.37	3.37	2.75	2.75	6.08	10.89	PASS
802.11ac VHT80	42/5210	-3.08	-3.08	-2.60	-2.60	0.18	10.89	PASS
802.11ax HE20	36/5180	6.19	6.19	5.70	5.70	8.96	10.89	PASS
	44/5220	6.01	6.01	5.67	5.67	8.85	10.89	PASS
	48/5240	6.09	6.09	5.67	5.67	8.90	10.89	PASS
802.11ax HE40	38/5190	0.43	0.43	1.52	1.52	4.02	10.89	PASS
	46/5230	3.33	3.33	2.77	2.77	6.07	10.89	PASS
802.11ax HE80	42/5210	-2.76	-2.76	-2.40	-2.40	0.43	10.89	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Directional gain = $G_{ANT\ MAX}$ + Array Gain, For PSD measurements on all devices, Array Gain=10log(Nant/Nss)dB,

so directional gain=$G_{ANT\ MAX}$ + Array Gain=3.10+10log(2/1)=6.11>6 dBi.

So the PSD limit is 11-(directional gain-6 dBi) =11-(6.11-6) =10.89 dBm.

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11n HT20	52/5260	6.35	6.35	5.79	5.79	9.09	10.89	PASS
	60/5300	6.03	6.03	5.54	5.54	8.80	10.89	PASS
	64/5320	6.60	6.60	5.56	5.56	9.12	10.89	PASS
802.11n HT40	54/5270	3.46	3.46	2.97	2.97	6.23	10.89	PASS
	62/5310	-0.77	-0.77	0.07	0.07	2.68	10.89	PASS
802.11ac VHT20	52/5260	6.09	6.09	6.15	6.15	9.13	10.89	PASS
	60/5300	5.94	5.94	5.36	5.36	8.67	10.89	PASS
	64/5320	6.19	6.19	5.55	5.55	8.89	10.89	PASS
802.11ac VHT40	54/5270	3.34	3.34	2.98	2.98	6.17	10.89	PASS
	62/5310	3.14	3.14	2.61	2.61	5.89	10.89	PASS
802.11ac VHT80	58/5290	-3.39	-3.39	-2.13	-2.13	0.30	10.89	PASS
802.11ac VHT160	50/5250	-5.97	-5.97	-5.54	-5.54	-2.74	10.89	PASS
802.11ax HE20	52/5260	6.38	6.38	5.82	5.82	9.12	10.89	PASS
	60/5300	5.94	5.94	5.64	5.64	8.80	10.89	PASS
	64/5320	6.01	6.01	5.62	5.62	8.83	10.89	PASS
802.11ax HE40	54/5270	3.12	3.12	2.72	2.72	5.93	10.89	PASS
	62/5310	-0.06	-0.06	0.94	0.94	3.48	10.89	PASS
802.11ax HE80	58/5290	-3.87	-3.87	-3.28	-3.28	-0.55	10.89	PASS
802.11ax HE160	50/5250	-7.34	-7.34	-6.46	-6.46	-3.87	10.89	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Directional gain = $G_{ANT\ MAX}$ + Array Gain, For PSD measurements on all devices, Array Gain=10log(Nant/Nss)dB,

so directional gain=$G_{ANT\ MAX}$ + Array Gain=3.10+10log(2/1)=6.11>6 dBi.

So the PSD limit is 11-(directional gain-6 dBi) =11-(6.11-6) =10.89 dBm.

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm /MHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/MHz)		
		Read Value (dBm/MHz)	PSD (dBm/MHz)	Read Value (dBm/MHz)	PSD (dBm/MHz)			
802.11n HT20	100/5500	4.48	4.48	3.83	3.83	7.18	10.79	PASS
	120/5600	5.90	5.90	4.57	4.57	8.30	10.79	PASS
	140/5700	1.67	1.67	1.25	1.25	4.48	10.79	PASS
	144/5720	5.95	5.95	5.30	5.30	8.65	10.79	PASS
802.11n HT40	102/5510	-0.10	-0.10	-1.10	-1.10	2.44	10.79	PASS
	118/5590	3.30	3.30	2.21	2.21	5.80	10.79	PASS
	134/5670	2.70	2.70	2.08	2.08	5.41	10.79	PASS
	142/5710	2.74	2.74	2.17	2.17	5.47	10.79	PASS
802.11ac VHT20	100/5500	5.71	5.71	5.24	5.24	8.49	10.79	PASS
	120/5600	6.02	6.02	4.49	4.49	8.33	10.79	PASS
	140/5700	5.75	5.75	4.98	4.98	8.39	10.79	PASS
	144/5720	5.83	5.83	5.16	5.16	8.52	10.79	PASS
802.11ac VHT40	102/5510	2.91	2.91	2.11	2.11	5.54	10.79	PASS
	118/5590	3.54	3.54	2.28	2.28	5.97	10.79	PASS
	134/5670	2.82	2.82	2.48	2.48	5.66	10.79	PASS
	142/5710	3.02	3.02	2.15	2.15	5.62	10.79	PASS
802.11ac VHT80	122/5610	-3.66	-3.66	-4.95	-4.95	-1.25	10.79	PASS
	138/5690	-0.13	-0.13	-0.94	-0.94	2.49	10.79	PASS
802.11ac VHT160	144/5720	-6.49	-6.49	-6.01	-6.01	-3.23	10.79	PASS
802.11ax HE20	100/5500	4.55	4.55	3.96	3.96	7.28	10.79	PASS
	120/5600	6.19	6.19	4.77	4.77	8.55	10.79	PASS
	140/5700	0.78	0.78	0.93	0.93	3.87	10.79	PASS
	144/5720	5.57	5.57	5.48	5.48	8.54	10.79	PASS
802.11ax HE40	102/5510	-1.40	-1.40	-1.97	-1.97	1.33	10.79	PASS
	118/5590	3.64	3.64	2.02	2.02	5.92	10.79	PASS
	134/5670	0.18	0.18	0.49	0.49	3.35	10.79	PASS
	142/5710	2.63	2.63	2.12	2.12	5.39	10.79	PASS
802.11ax HE80	122/5610	-3.82	-3.82	-4.83	-4.83	-1.29	10.79	PASS
	138/5690	-0.19	-0.19	-0.77	-0.77	2.54	10.79	PASS

802.11ax HE160	114/5570	-8.93	-8.93	-8.12	-8.12	-5.50	10.79	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Directional gain = $G_{ANT\ MAX}$ + Array Gain, For PSD measurements on all devices, Array Gain=10log(Nant/Nss)dB,

so directional gain=$G_{ANT\ MAX}$ + Array Gain=3.20+10log(2/1)=6.21>6 dBi.

So the PSD limit is 11-(directional gain-6 dBi) =11-(6.21-6)=10.79 dBm.

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Test Mode	Channel/ Frequency (MHz)	Power Spectral Density					Limit (dBm/ 500kHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD (dBm/ 500kHz)		
		Read Value (dBm/470kHz)	PSD (dBm/500kHz)	Read Value (dBm/470kHz)	PSD (dBm/500kHz)			
802.11n HT20	144/5720	1.73	2.00	2.21	2.48	5.26	30	PASS
	149/5745	1.96	2.23	2.35	2.62	5.44	30	PASS
	157/5785	1.87	2.14	1.76	2.03	5.10	30	PASS
	165/5825	1.78	2.05	1.61	1.88	4.98	30	PASS
802.11n HT40	142/5710	-2.38	-2.11	-2.29	-2.02	0.95	30	PASS
	151/5755	-1.34	-1.07	-1.06	-0.79	2.08	30	PASS
	159/5795	-1.45	-1.18	-1.22	-0.95	1.95	30	PASS
802.11ac VHT20	144/5720	1.73	2.00	2.13	2.40	5.21	30	PASS
	149/5745	2.08	2.35	2.29	2.56	5.47	30	PASS
	157/5785	1.59	1.86	1.94	2.21	5.05	30	PASS
	165/5825	1.69	1.96	1.77	2.04	5.01	30	PASS
802.11ac VHT40	142/5710	-2.31	-2.04	-2.45	-2.18	0.90	30	PASS
	151/5755	-1.19	-0.92	-1.17	-0.90	2.10	30	PASS
	159/5795	-1.61	-1.34	-1.48	-1.21	1.74	30	PASS
802.11ac VHT80	138/5690	-6.30	-6.03	-5.74	-5.47	-2.73	30	PASS
	155/5775	-4.63	-4.36	-4.72	-4.45	-1.39	30	PASS
802.11ax HE20	144/5720	1.66	1.93	1.67	1.94	4.95	30	PASS
	149/5745	1.77	2.04	2.19	2.46	5.27	30	PASS
	157/5785	1.72	1.99	1.82	2.09	5.05	30	PASS
	165/5825	1.70	1.97	1.71	1.98	4.99	30	PASS
802.11ax HE40	142/5710	-2.70	-2.43	-2.25	-1.98	0.81	30	PASS
	151/5755	-1.50	-1.23	-1.13	-0.86	1.97	30	PASS
	159/5795	-1.64	-1.37	-1.49	-1.22	1.72	30	PASS
802.11ax HE80	138/5690	-6.08	-5.81	-6.07	-5.80	-2.79	30	PASS
	155/5775	-4.72	-4.45	-4.60	-4.33	-1.38	30	PASS

Note: 1. Power Spectral Density =Read Value+Duty cycle correction factor+10*log(500/470).

2. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),

the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})})$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)f)(ii): If antenna gains are not equal, the user may use either of the following methods to calculate directional gain, provided that each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

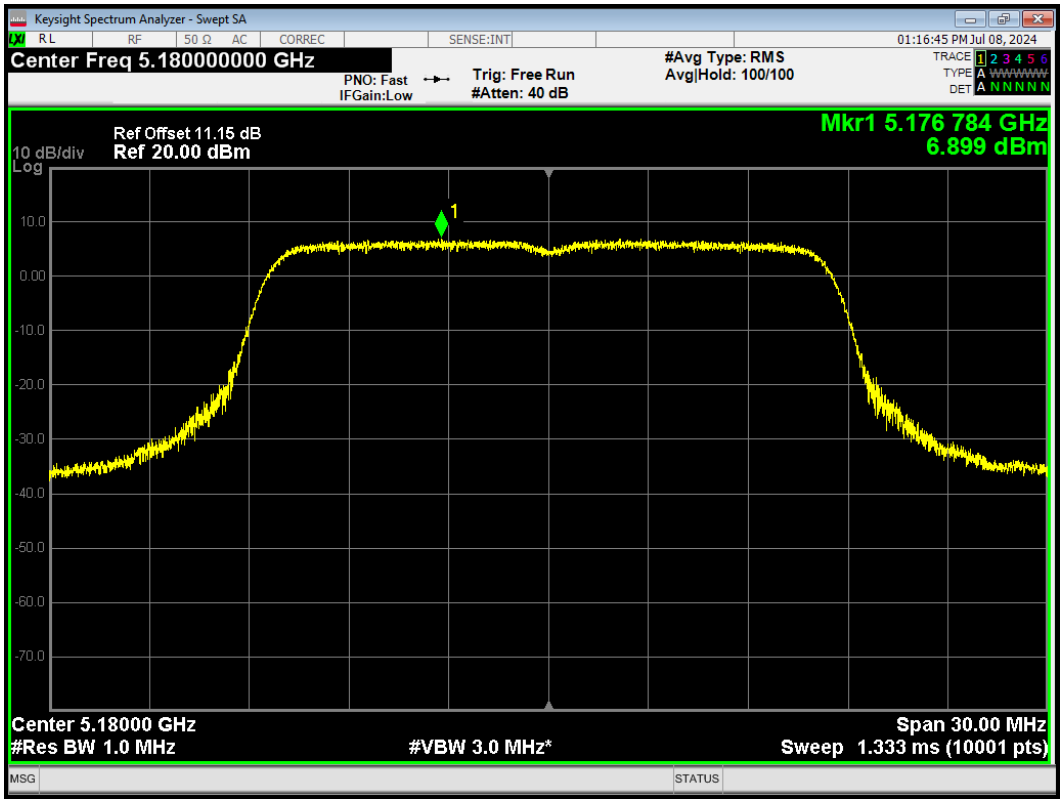
Directional gain = $G_{ANT\ MAX}$ + Array Gain, For PSD measurements on all devices, Array Gain=10log(Nant/Nss)dB,

So directional gain=$G_{ANT\ MAX}$ + Array Gain=2.70+10log(2/1)=5.71>6 dBi. So the PSD limit is 30 dBm.

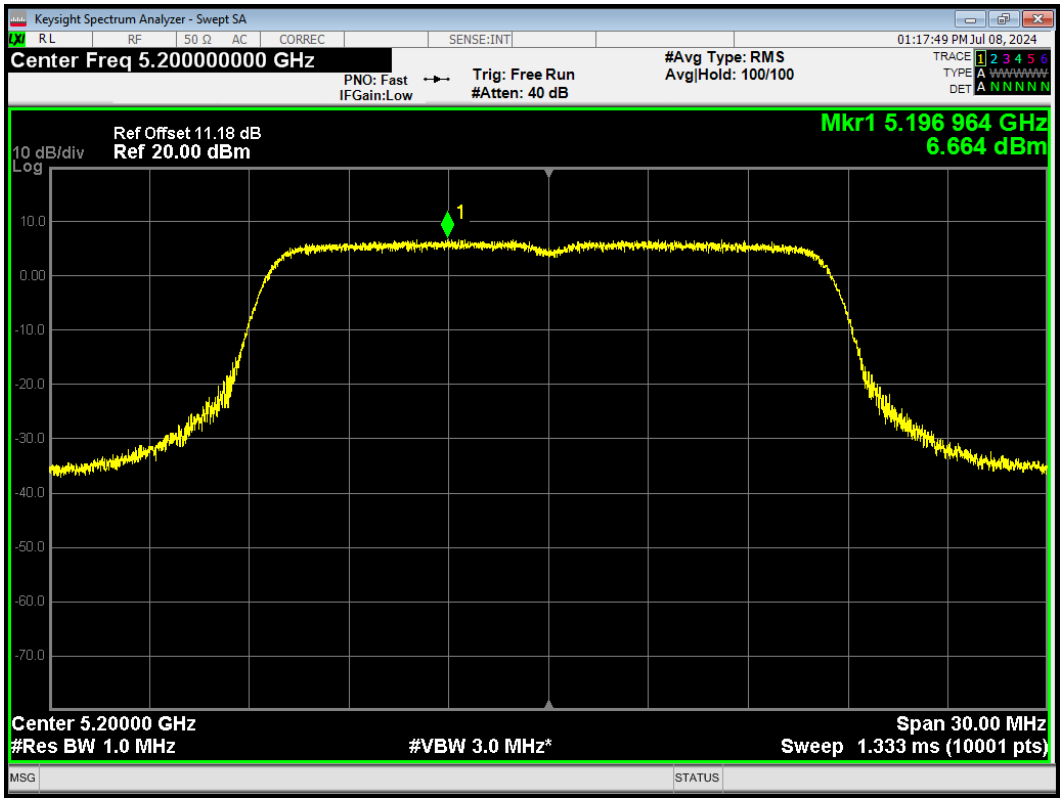
SISO Antenna 1

U-NII-1

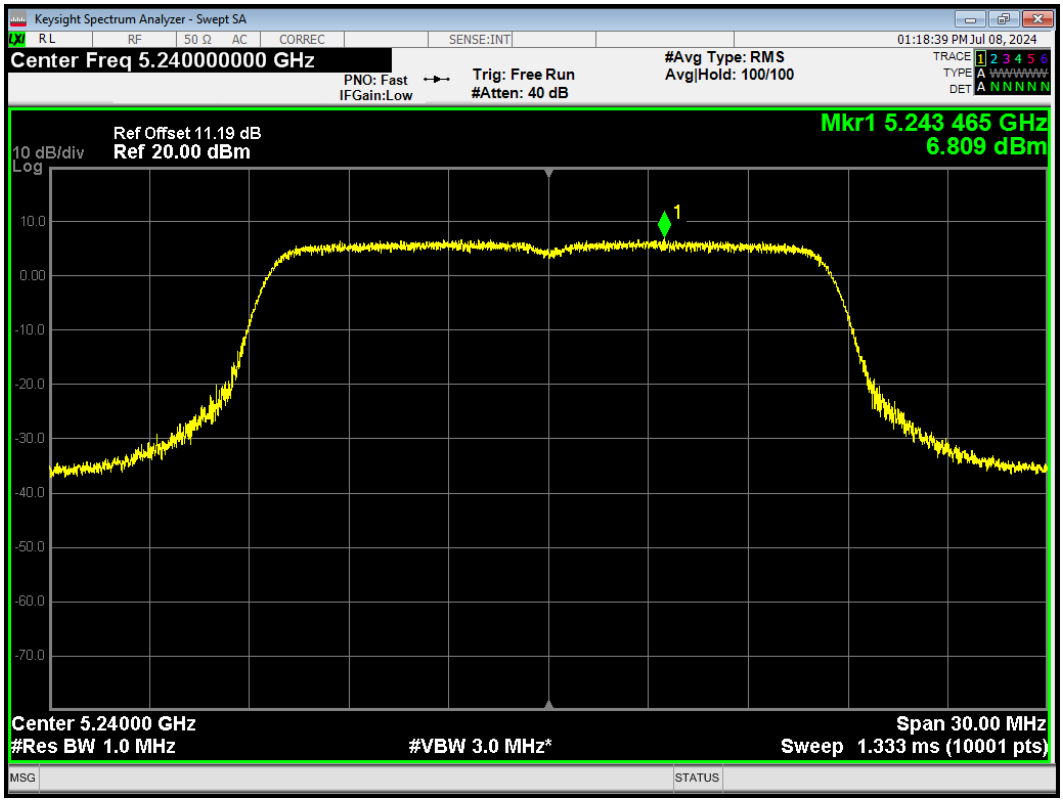
PSD 802.11a 5180MHz



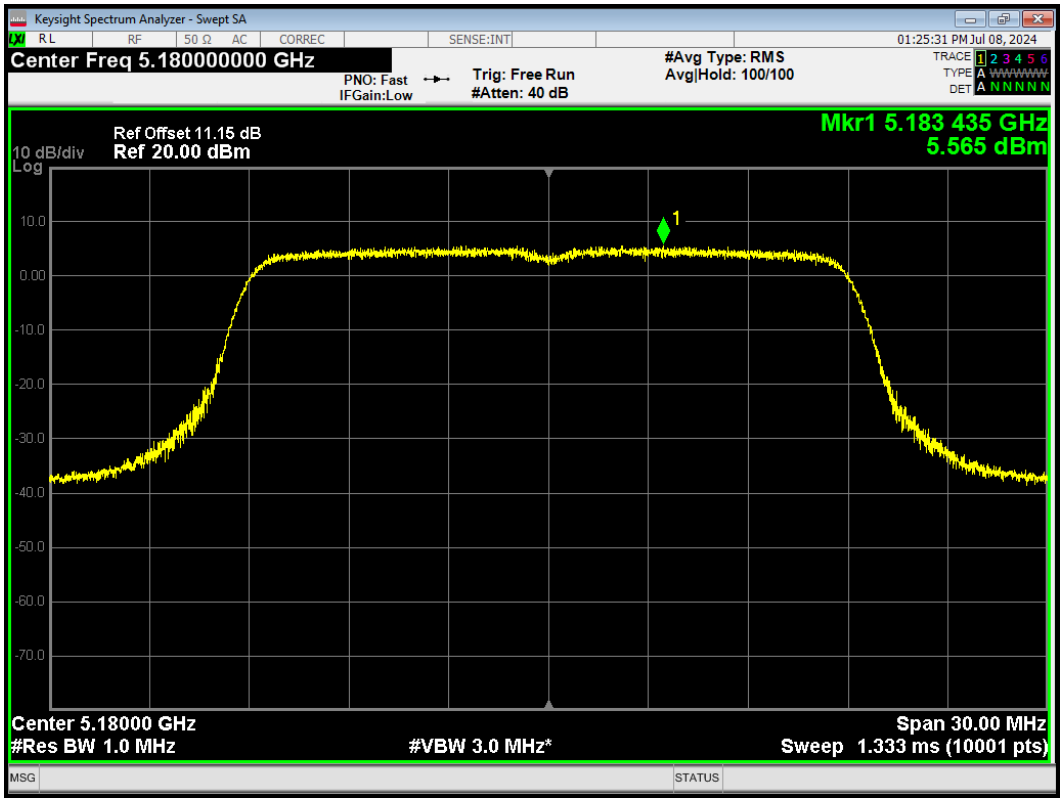
PSD 802.11a 5200MHz



PSD 802.11a 5240MHz



PSD 802.11ac(VHT20) 5180MHz



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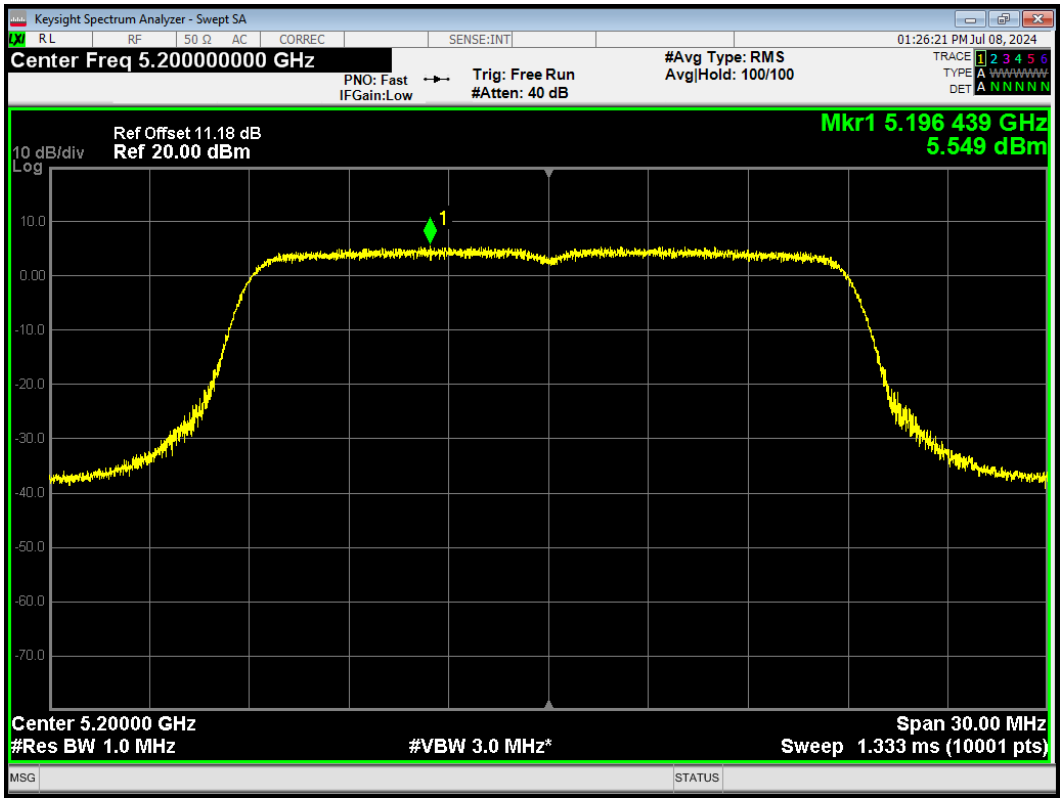
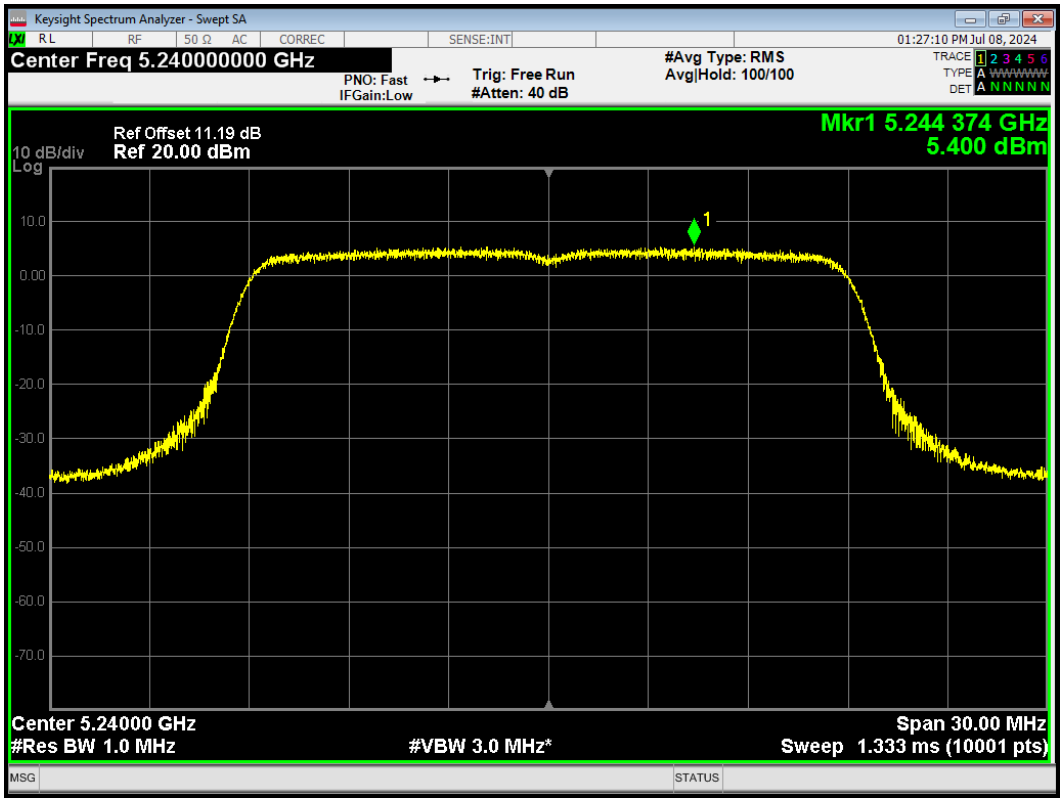
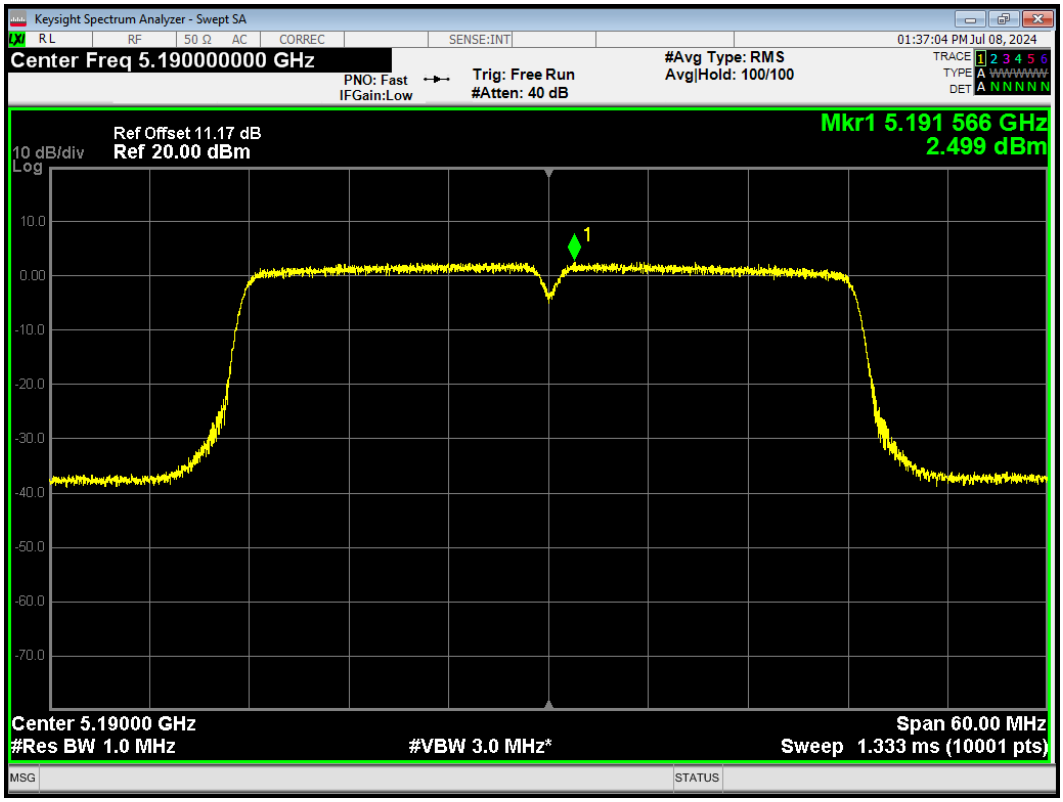


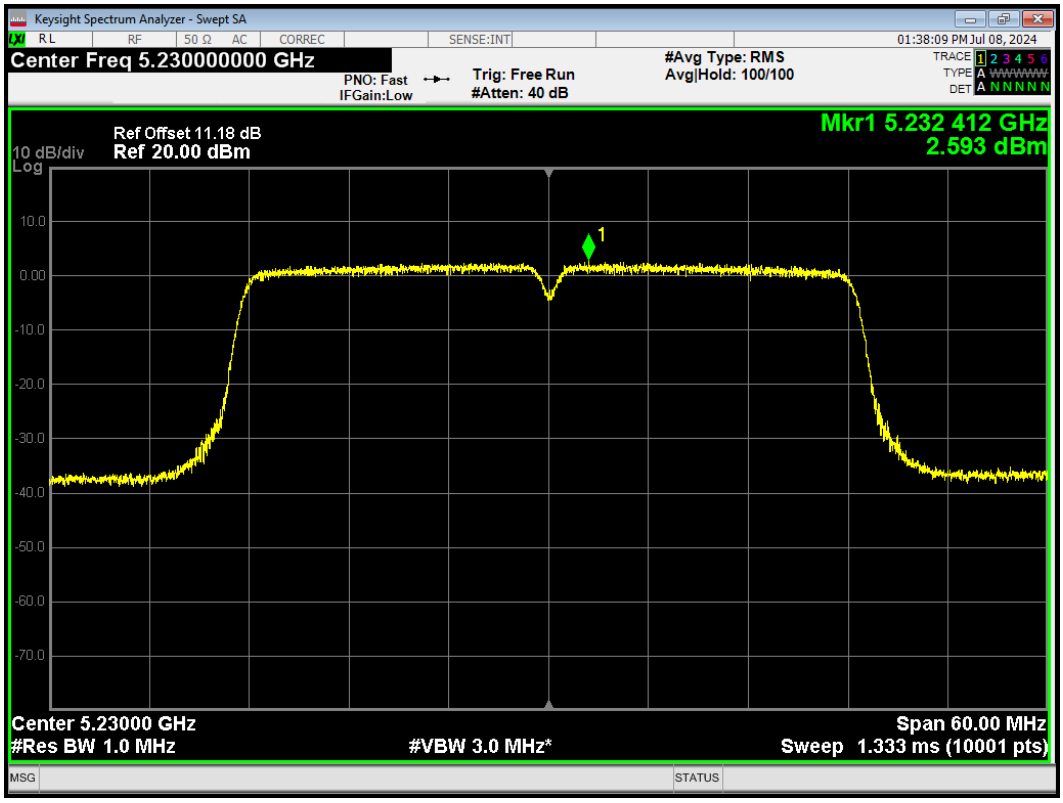
PSD 802.11ac(VHT20) 5240MHz



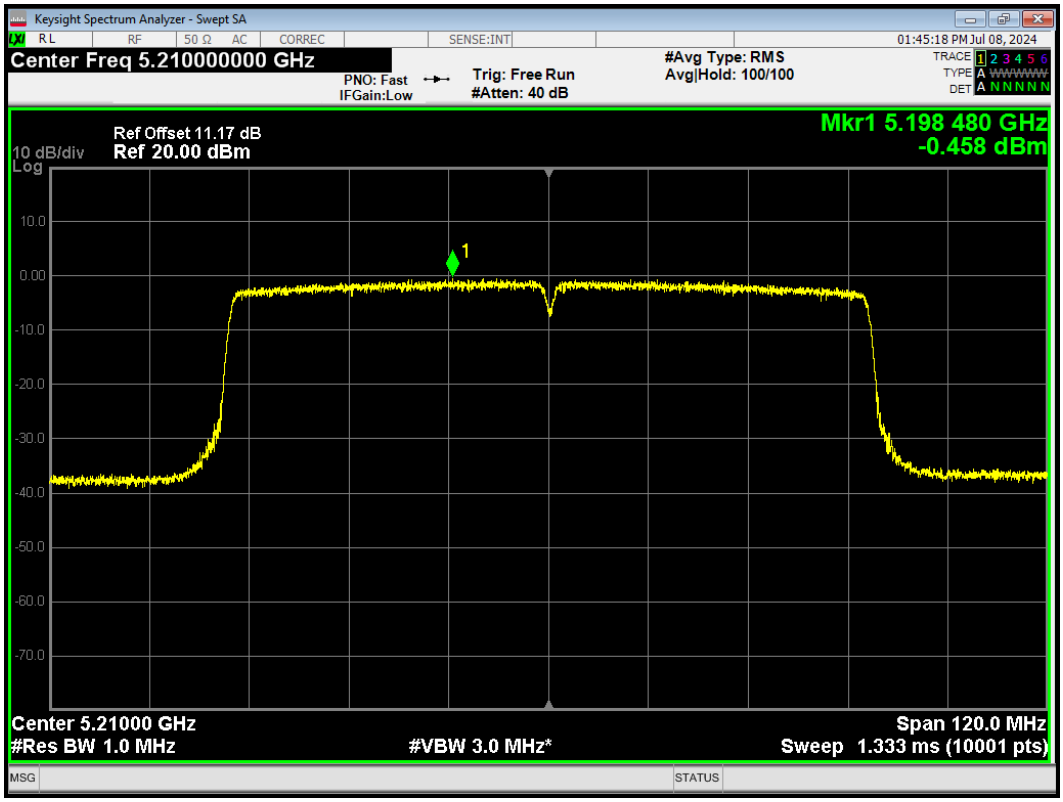
PSD 802.11ac(VHT40) 5190MHz



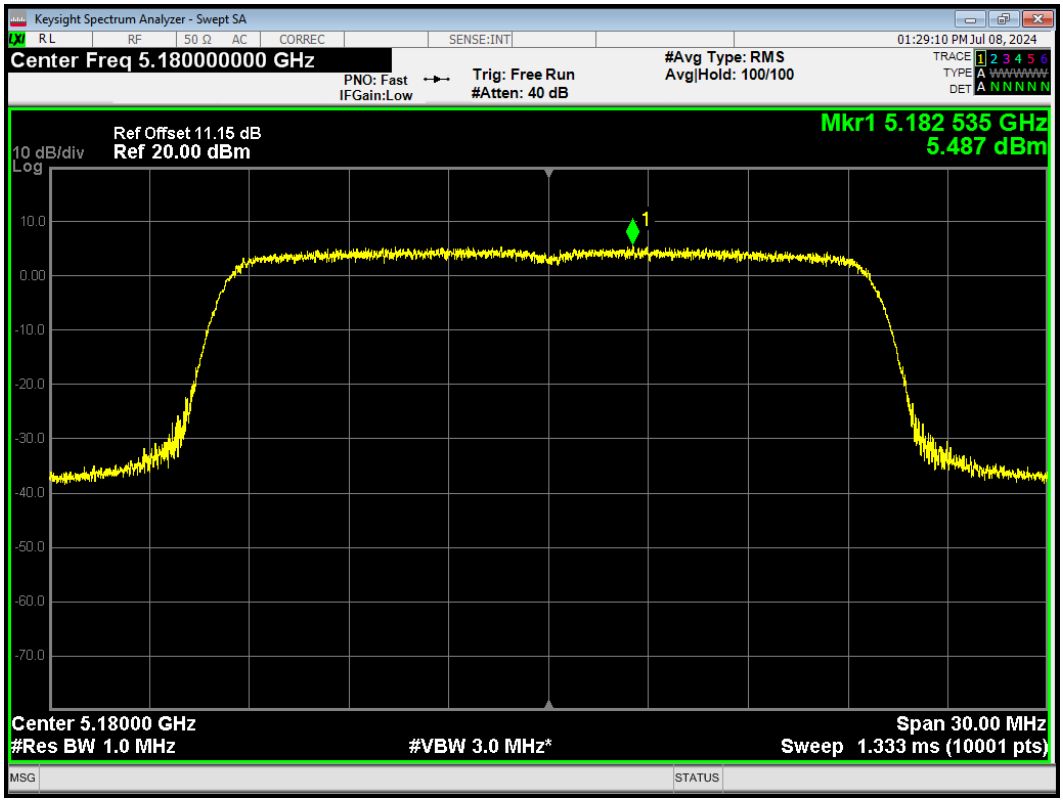
PSD 802.11ac(VHT40) 5230MHz



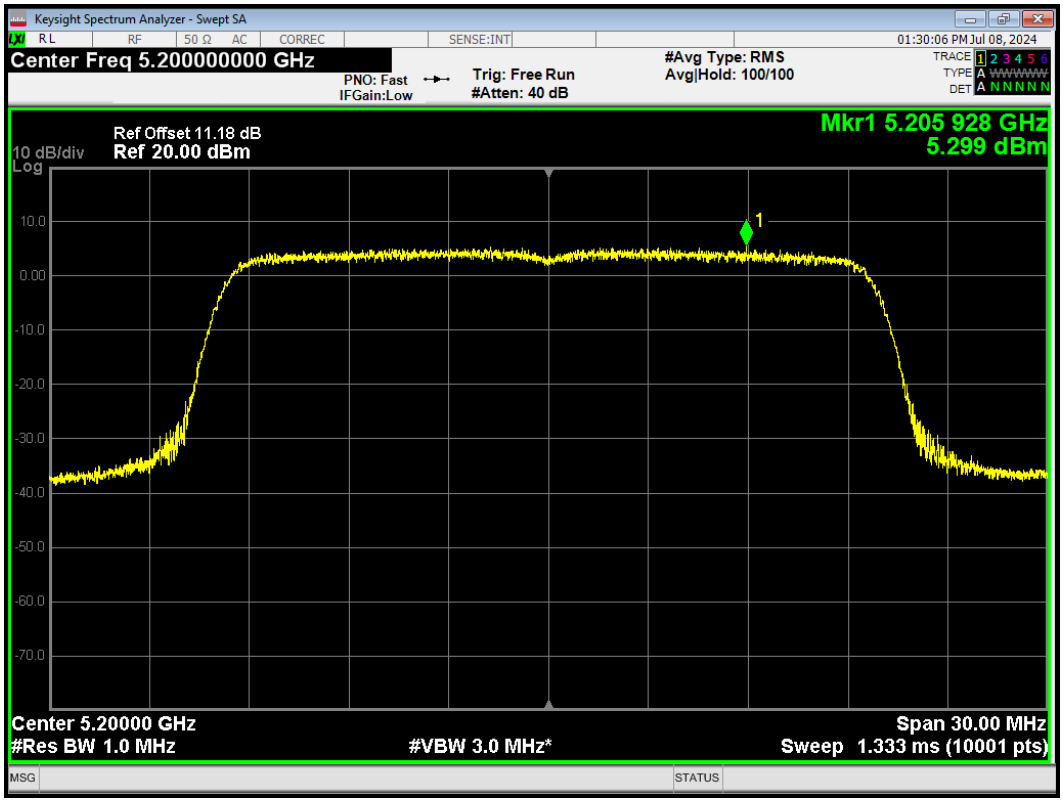
PSD 802.11ac(VHT80) 5210MHz



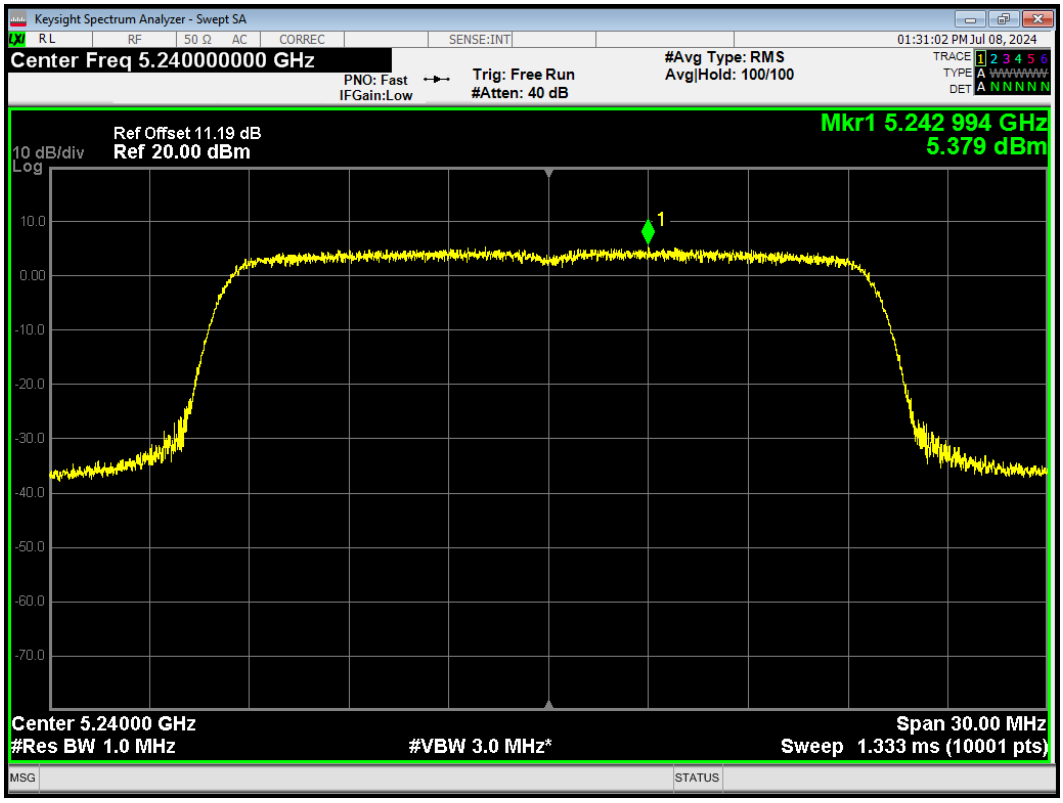
PSD 802.11ax(HE20) 5180MHz



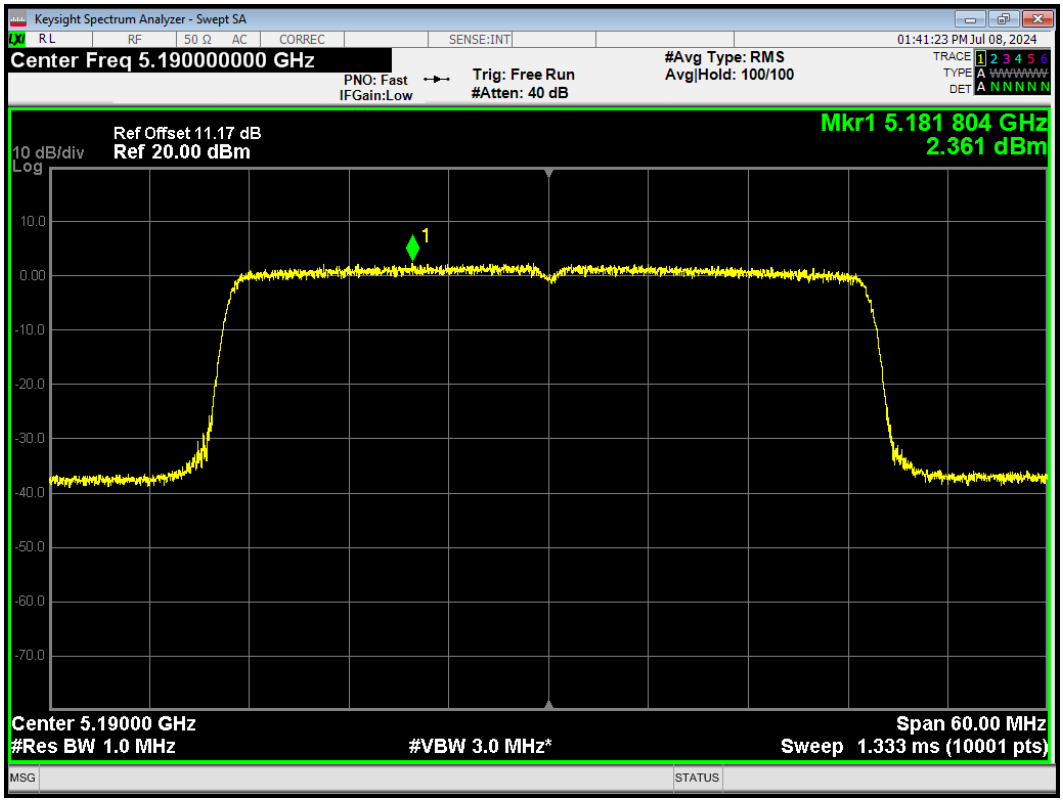
PSD 802.11ax(HE20) 5200MHz



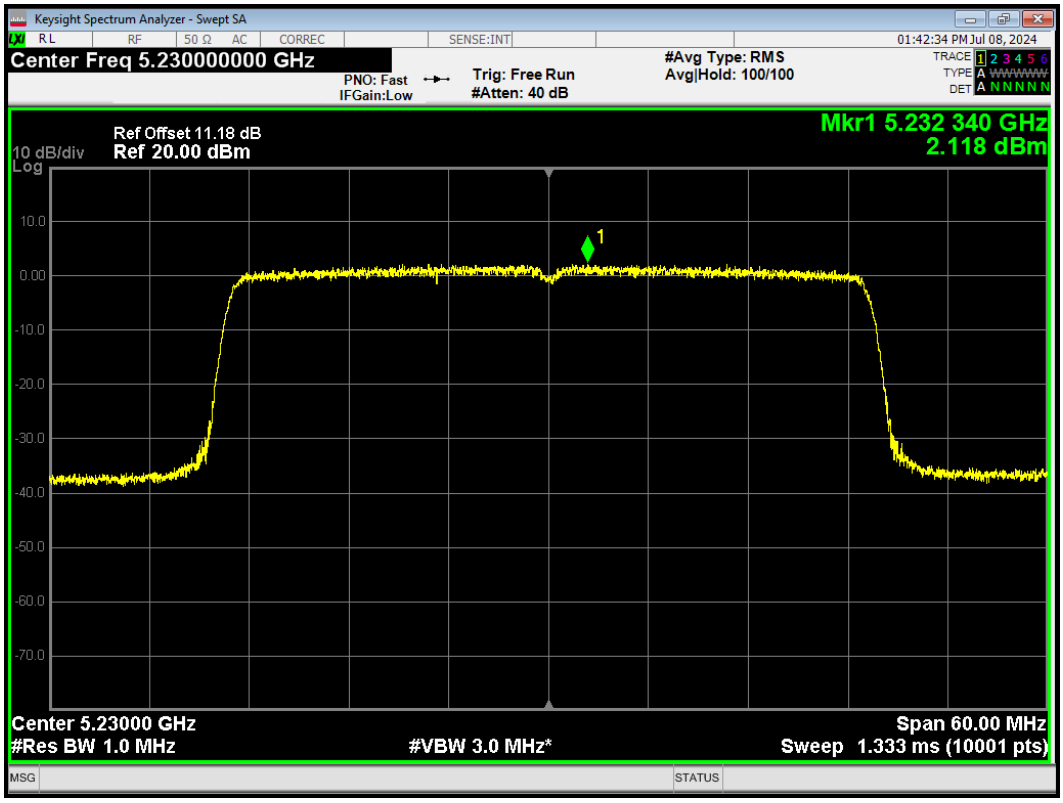
PSD 802.11ax(HE20) 5240MHz



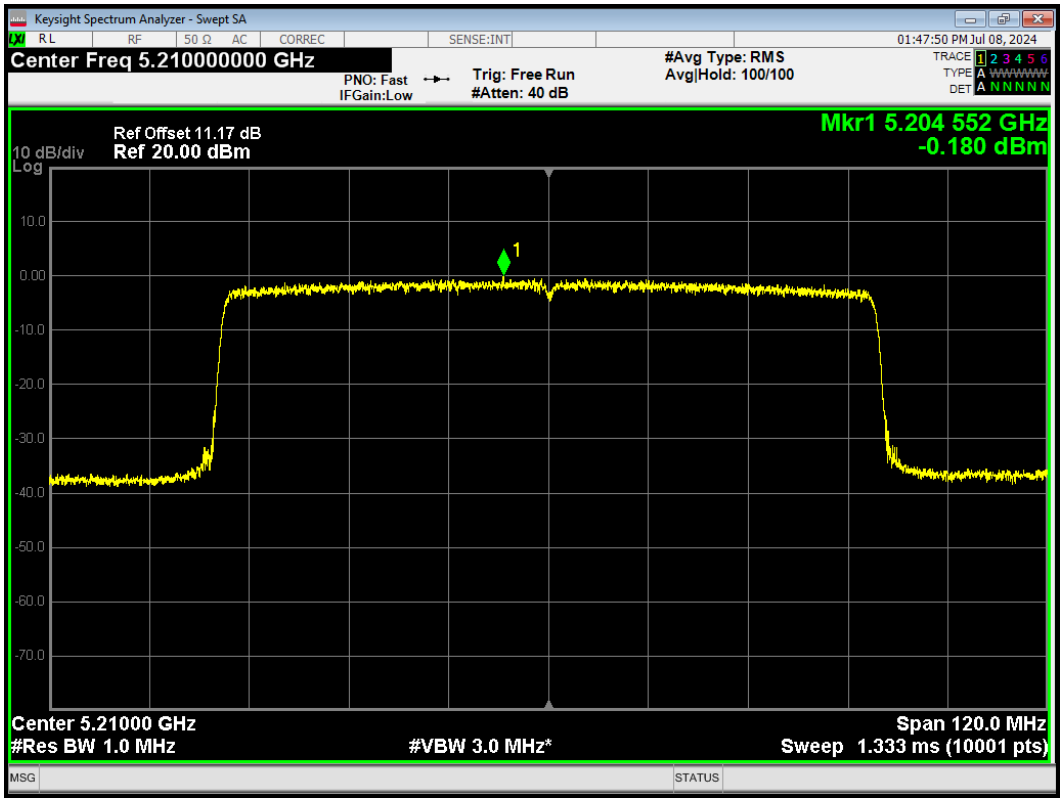
PSD 802.11ax(HE40) 5190MHz



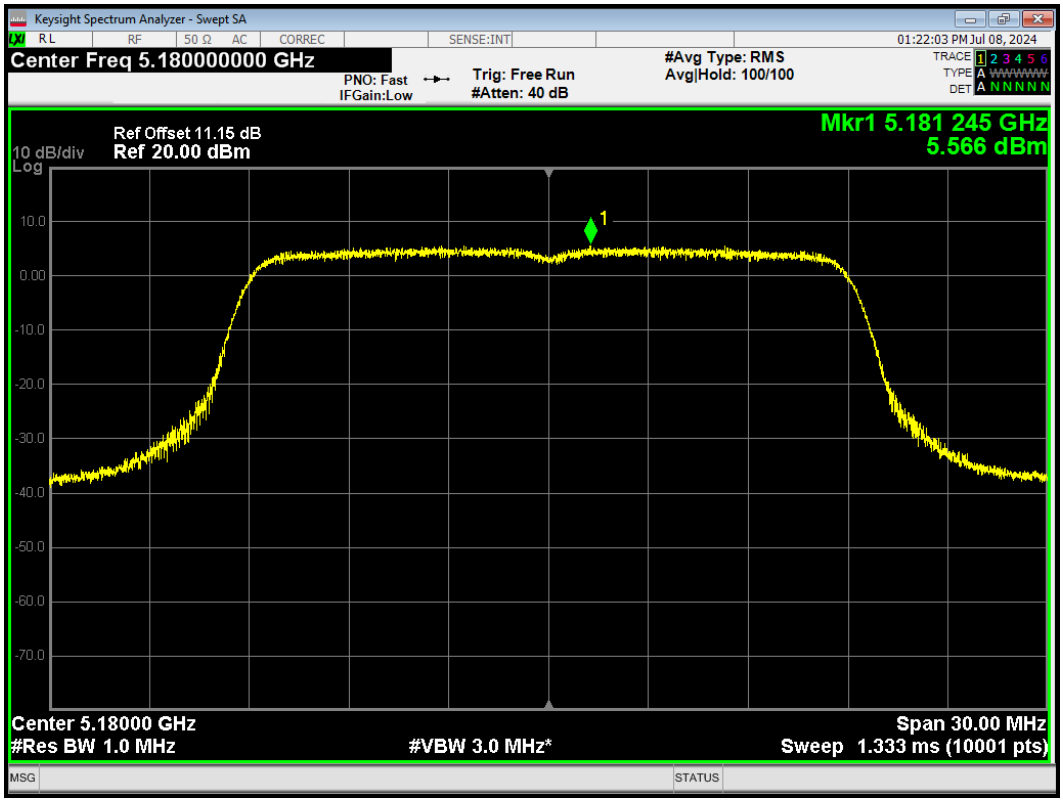
PSD 802.11ax(HE40) 5230MHz



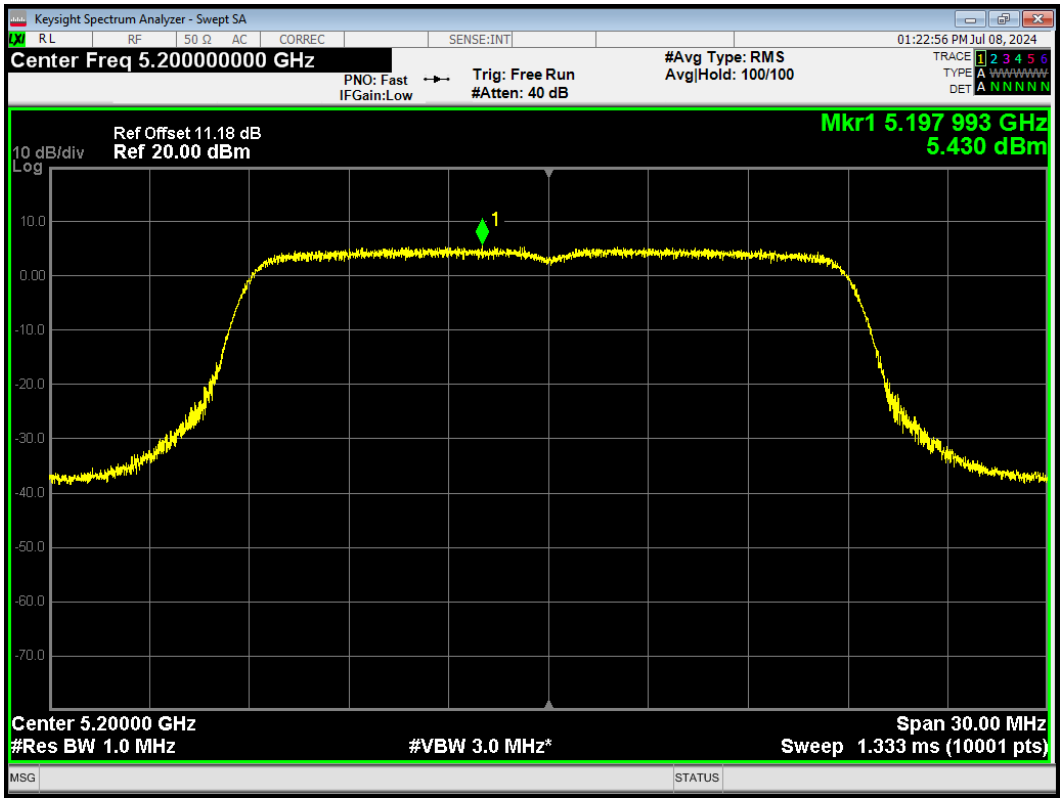
PSD 802.11ax(HE80) 5210MHz



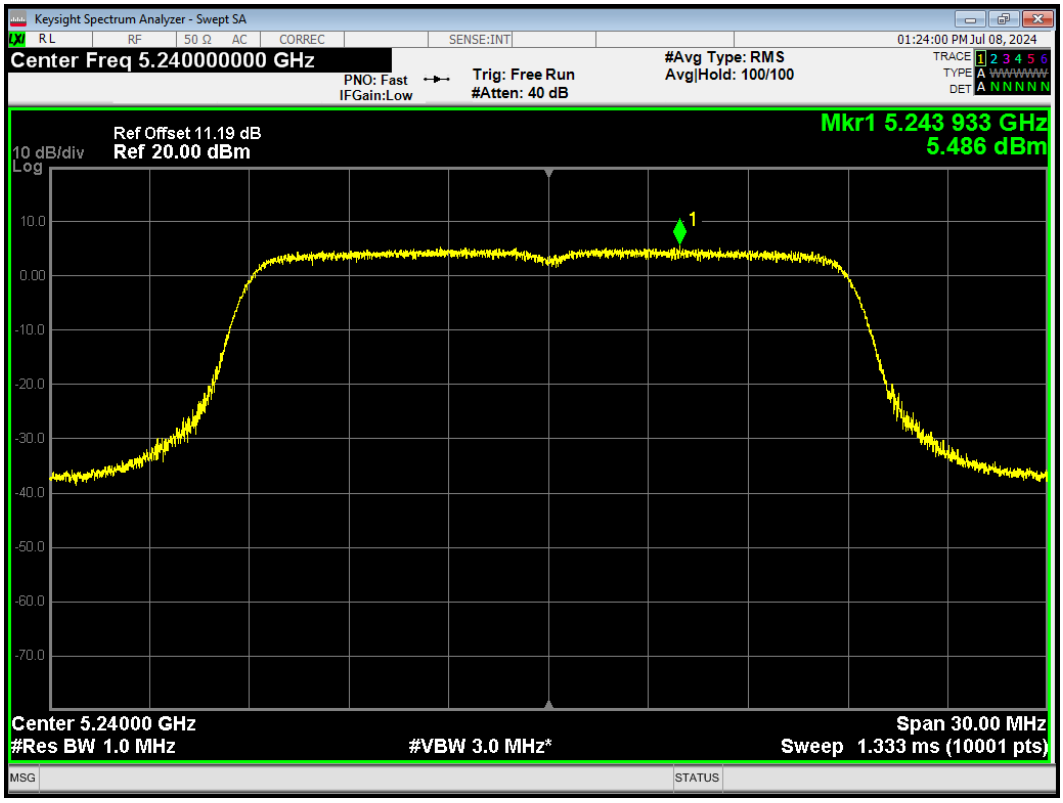
PSD 802.11n(HT20) 5180MHz



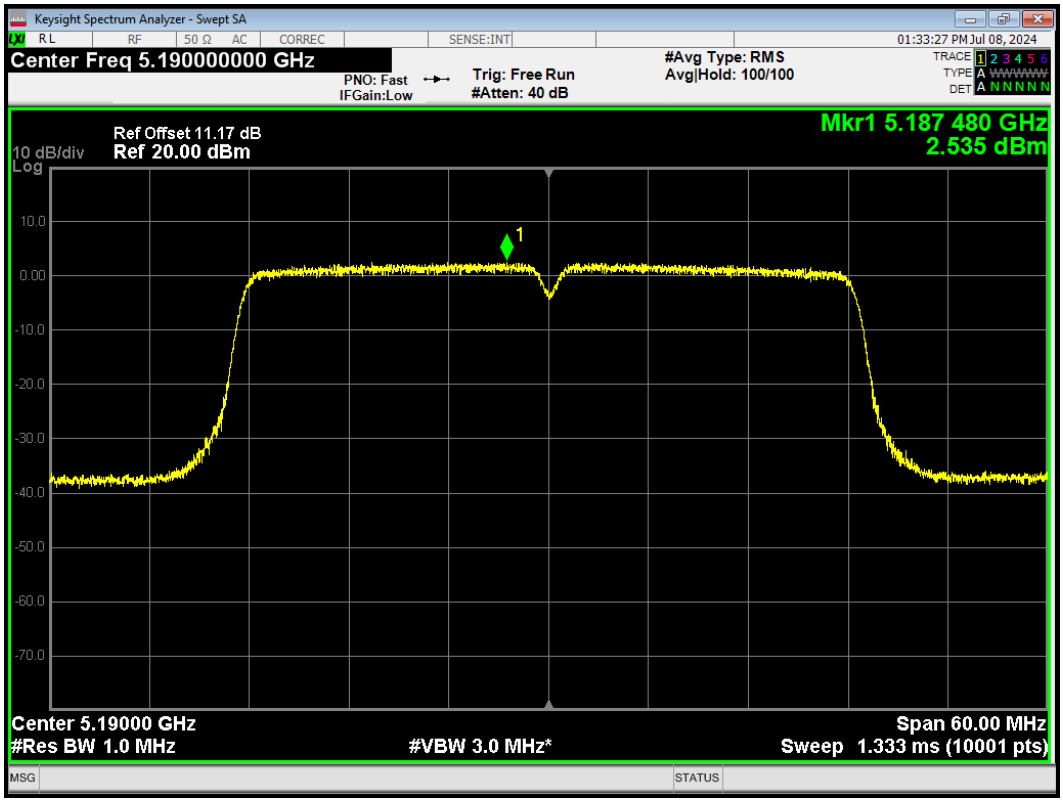
PSD 802.11n(HT20) 5200MHz



PSD 802.11n(HT20) 5240MHz



PSD 802.11n(HT40) 5190MHz



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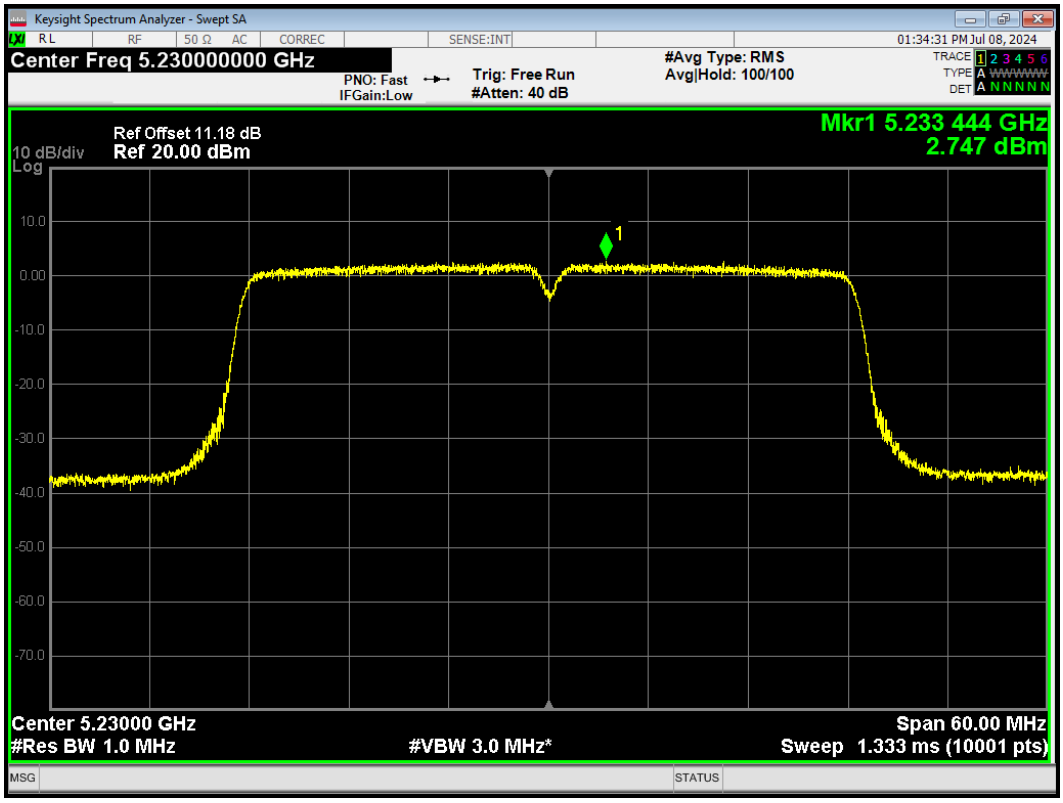
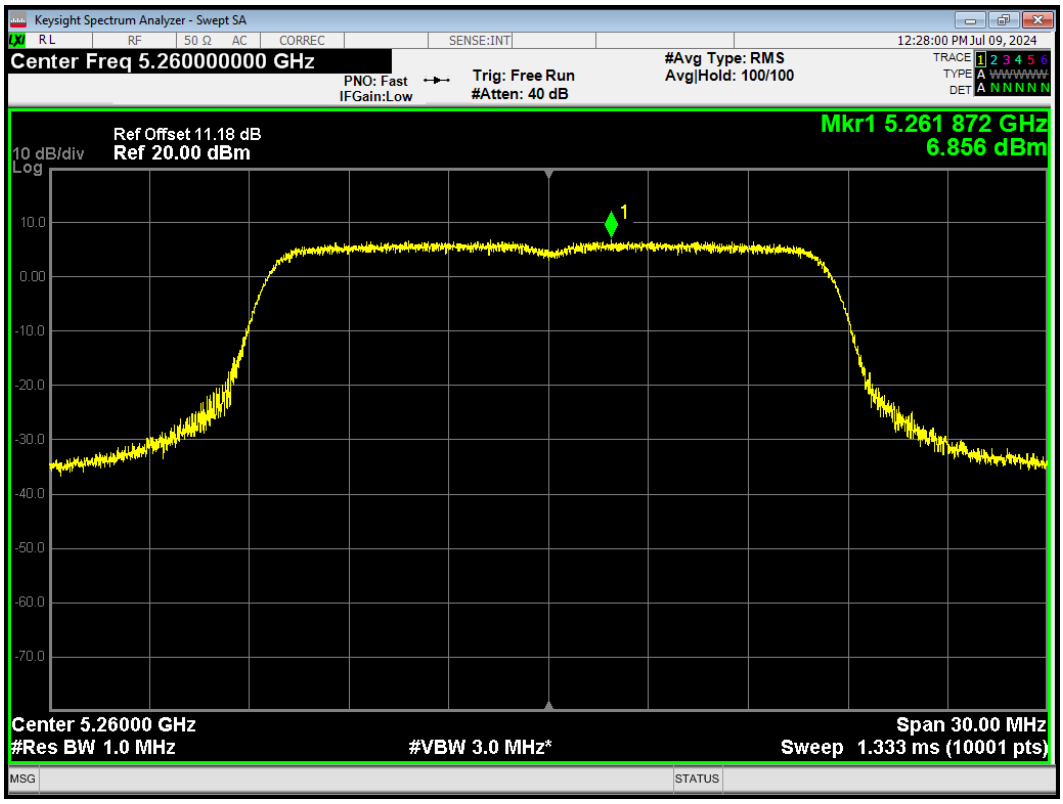
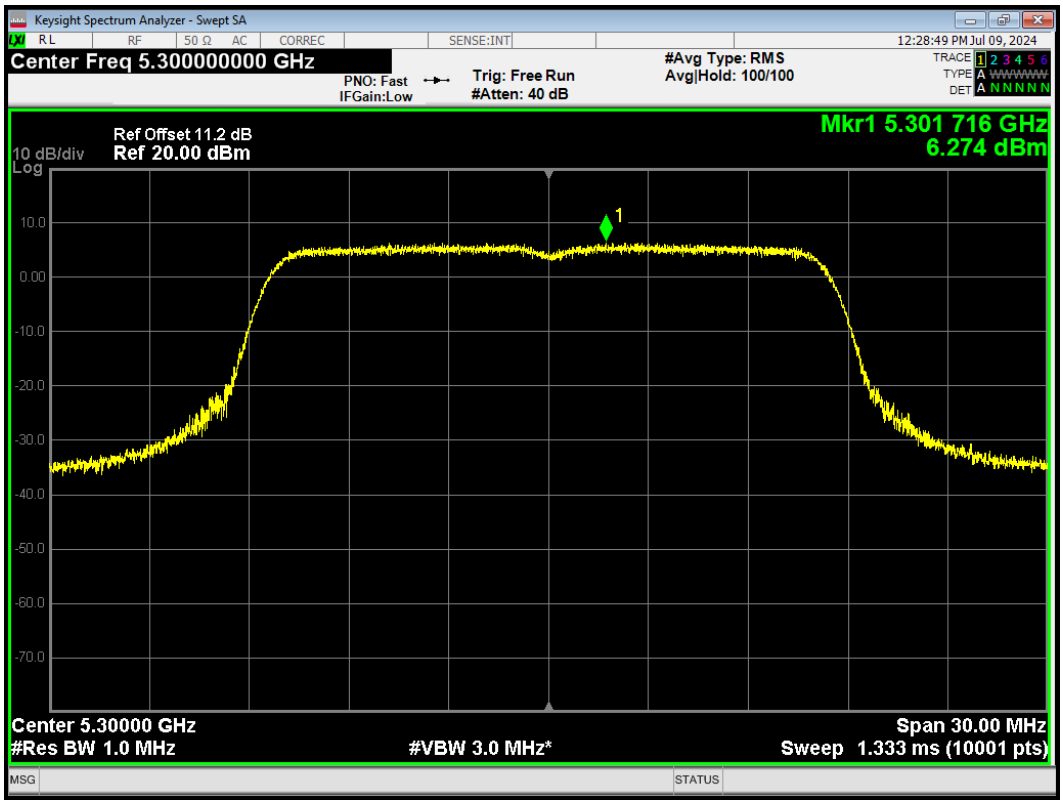


U-NII-2A

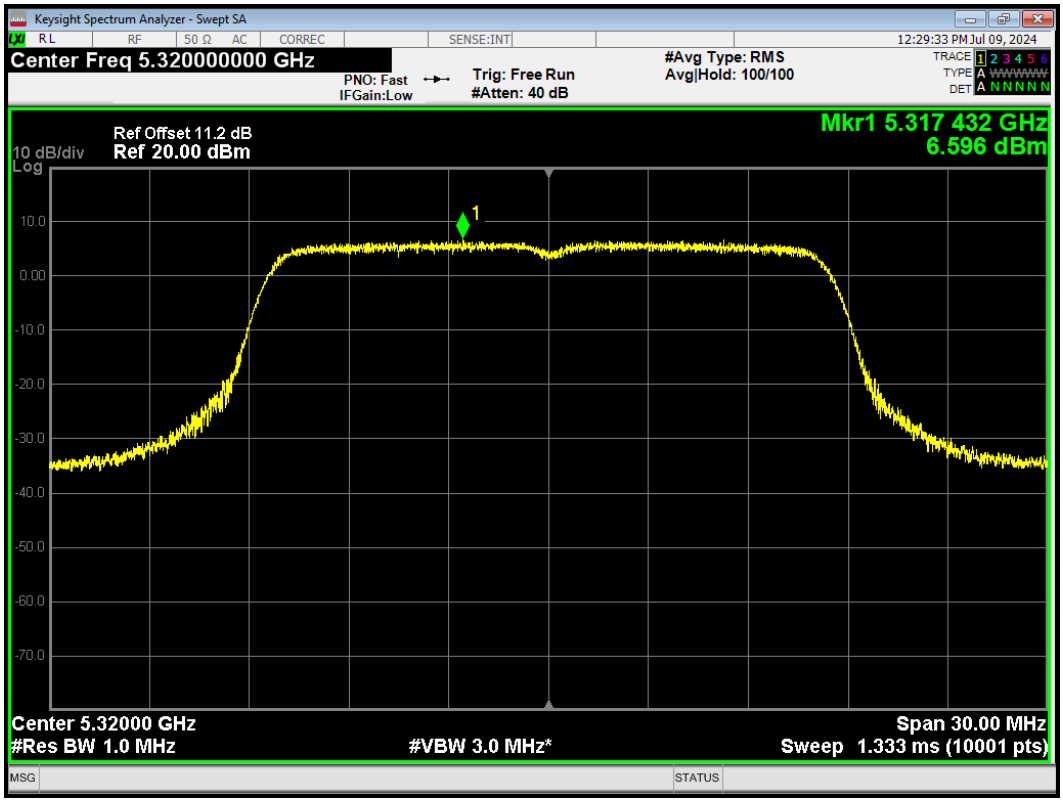
PSD 802.11a 5260MHz



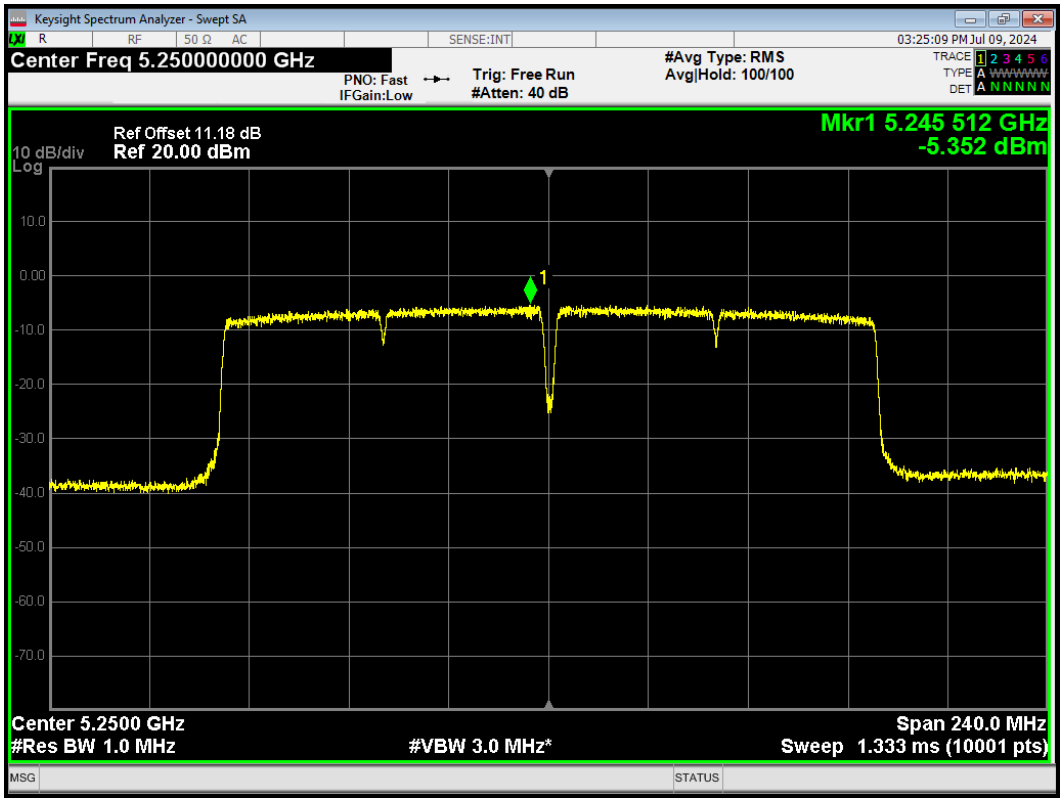
PSD 802.11a 5300MHz



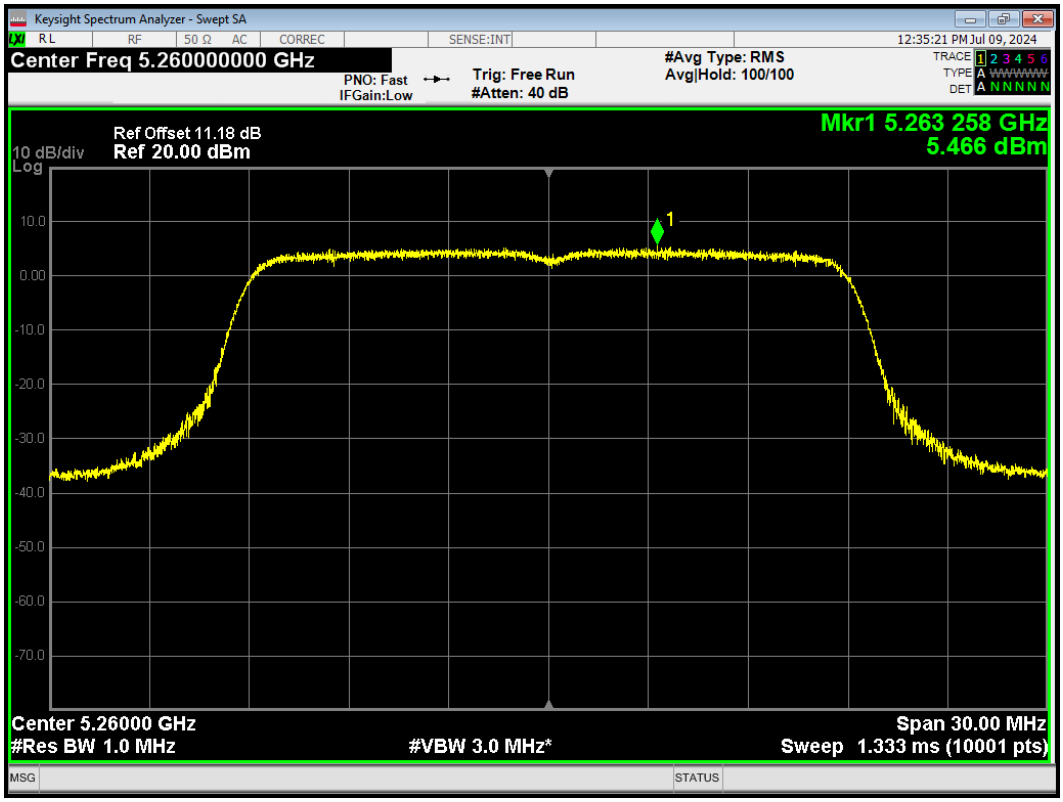
PSD 802.11a 5320MHz



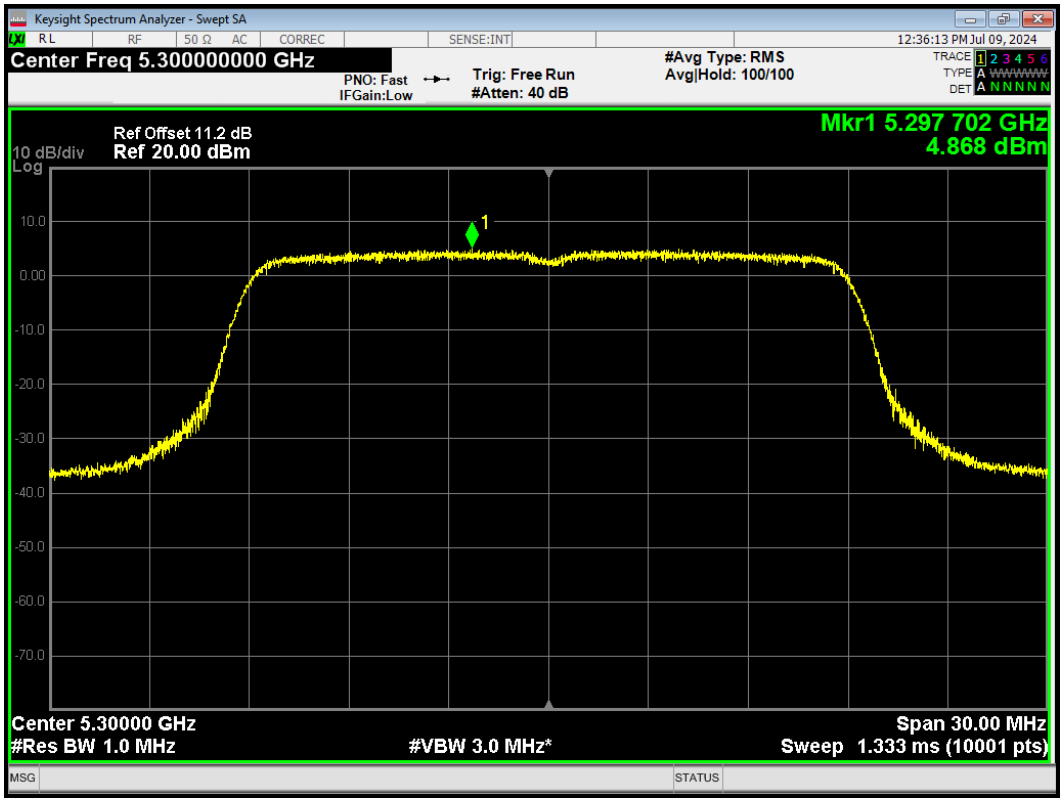
PSD 802.11ac(VHT160) 5250MHz



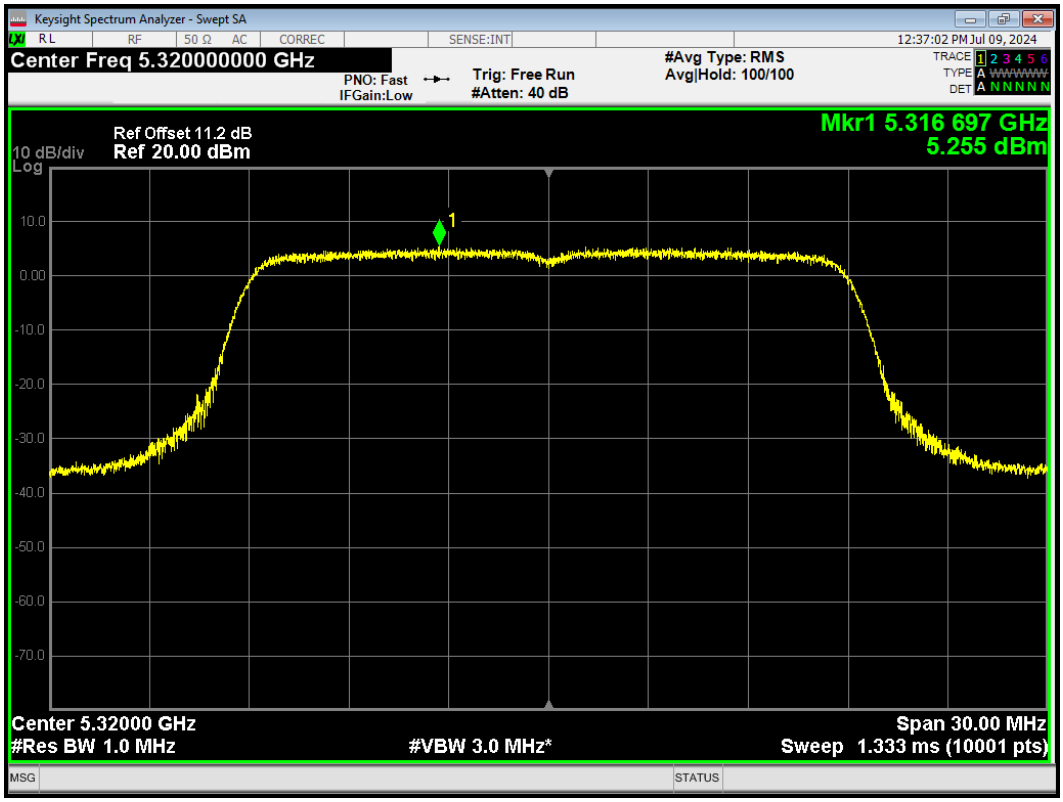
PSD 802.11ac(VHT20) 5260MHz



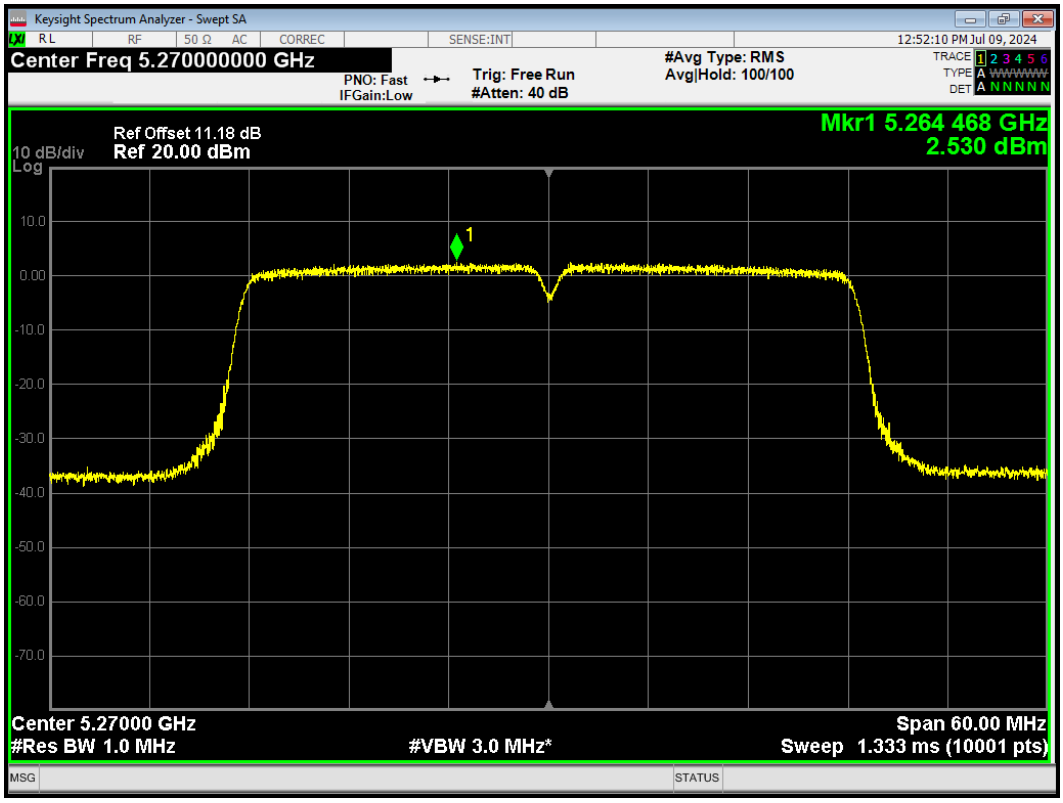
PSD 802.11ac(VHT20) 5300MHz



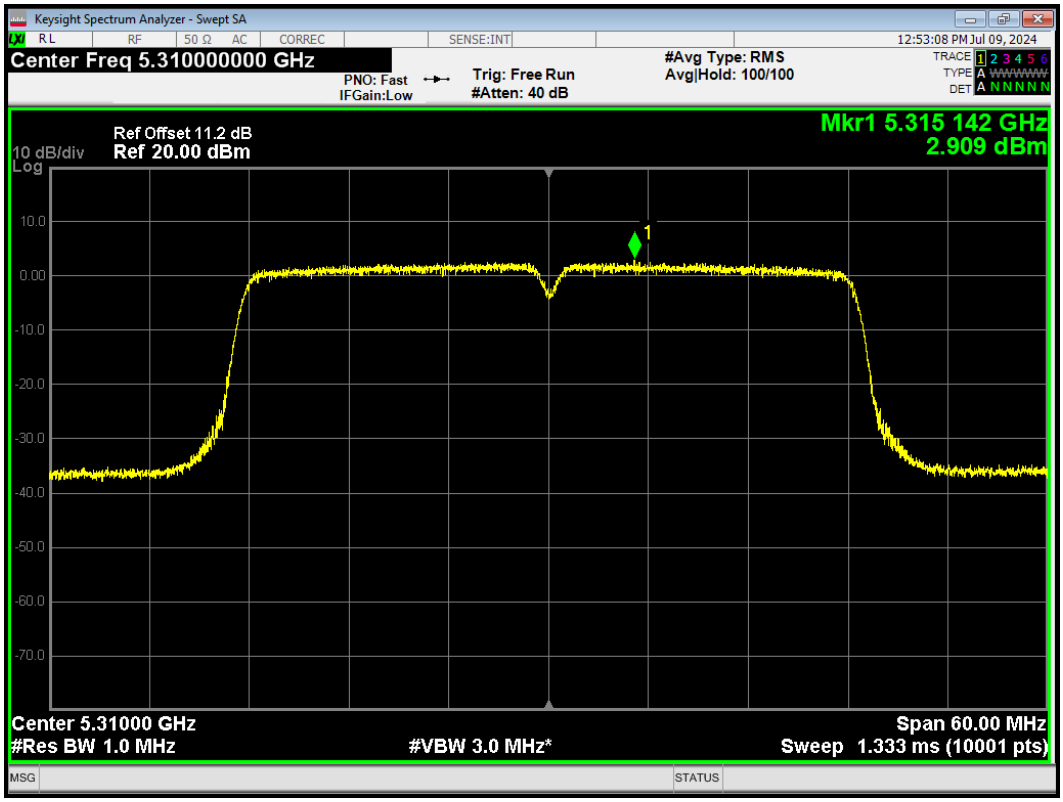
PSD 802.11ac(VHT20) 5320MHz



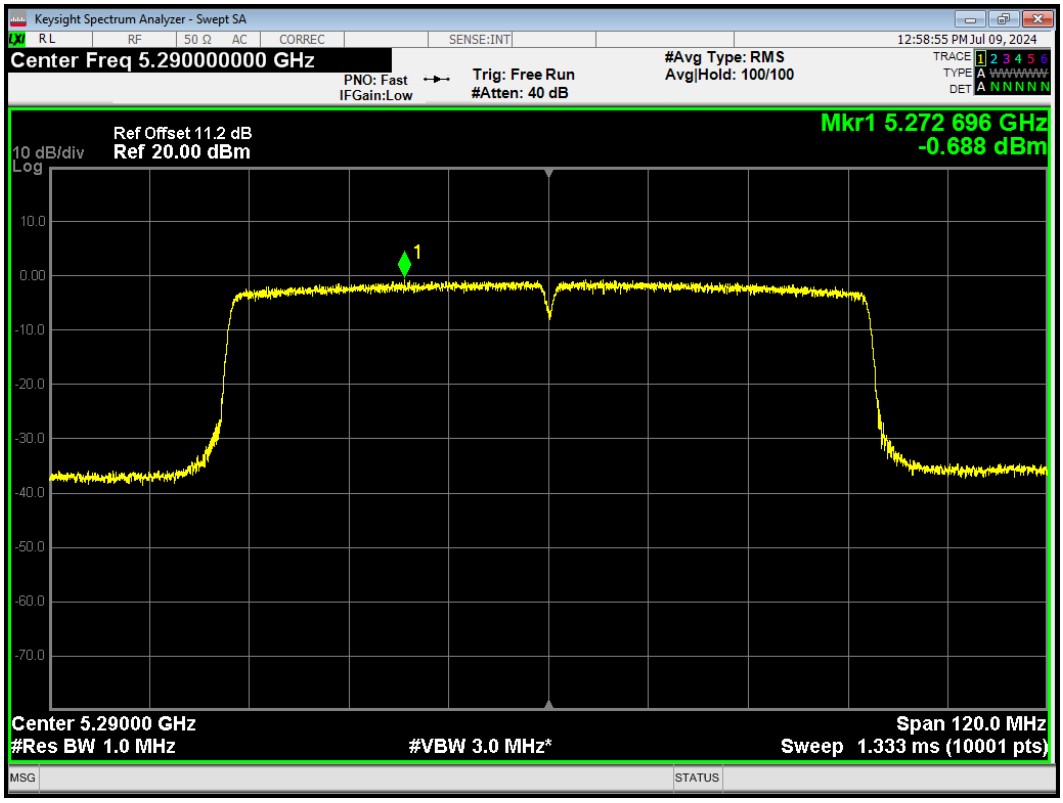
PSD 802.11ac(VHT40) 5270MHz



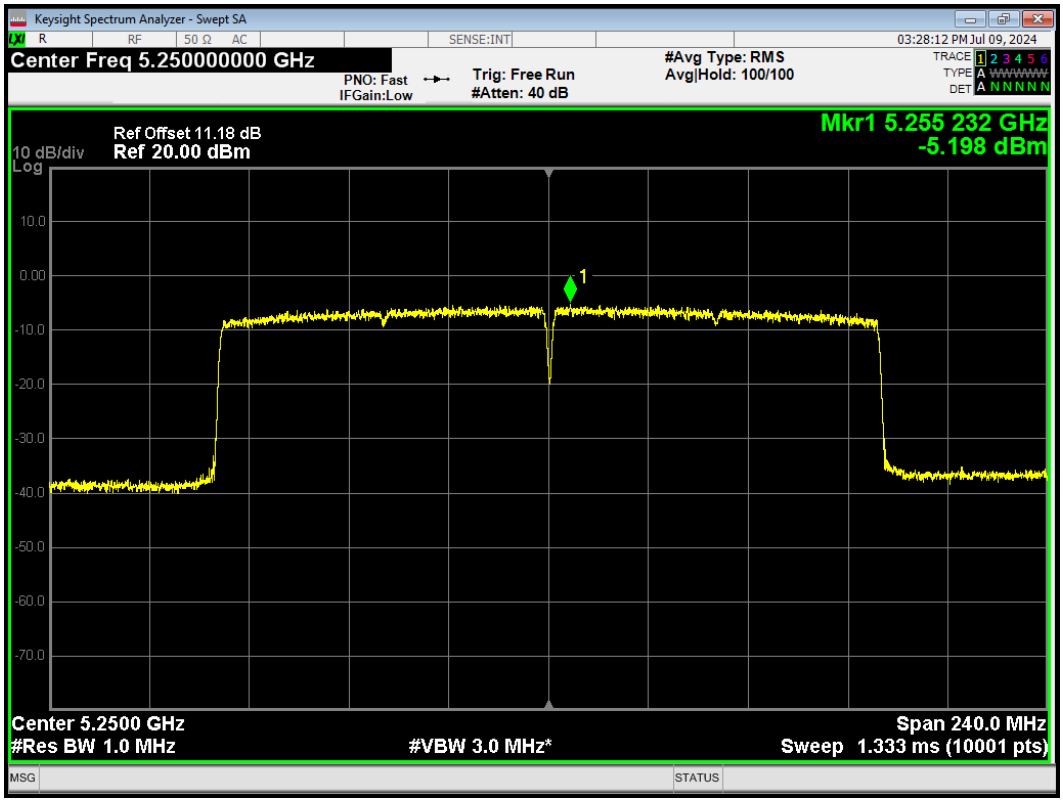
PSD 802.11ac(VHT40) 5310MHz



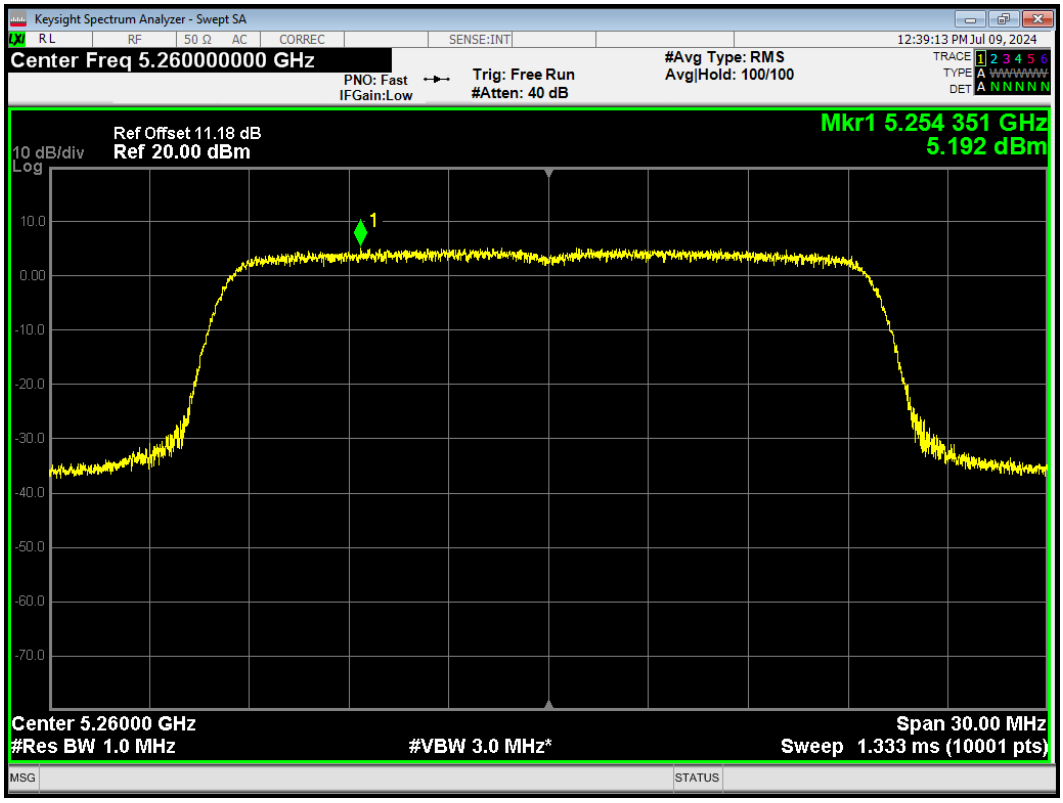
PSD 802.11ac(VHT80) 5290MHz



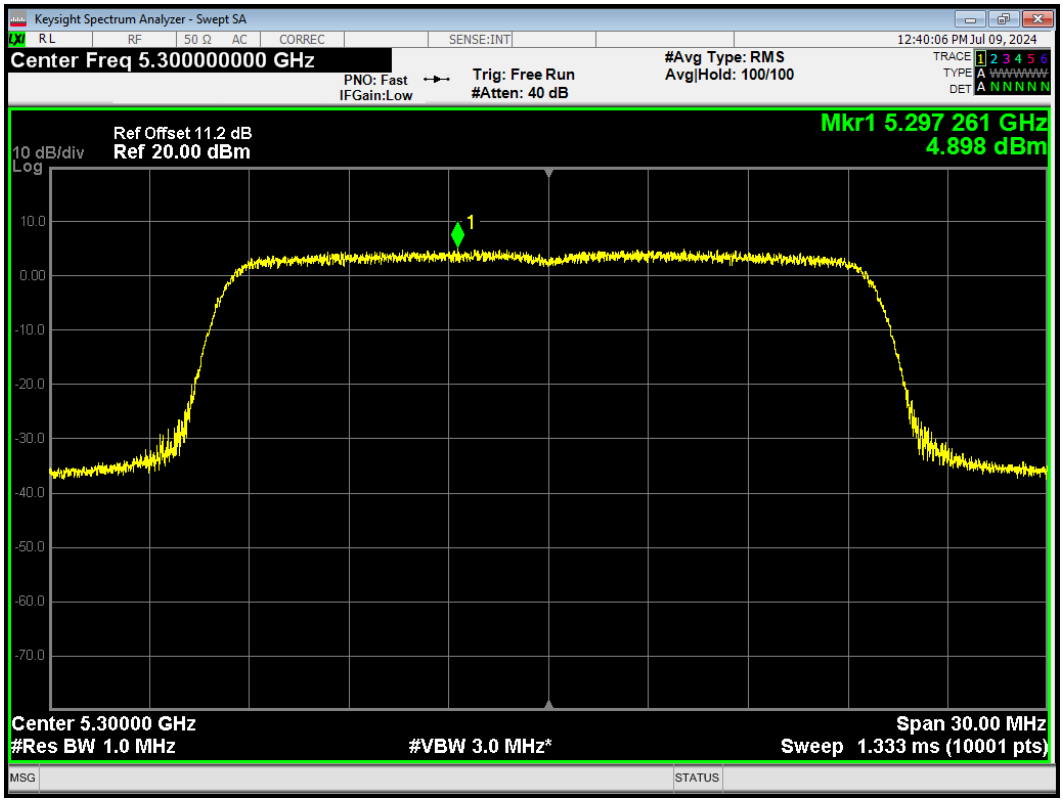
PSD 802.11ax(HE160) 5250MHz



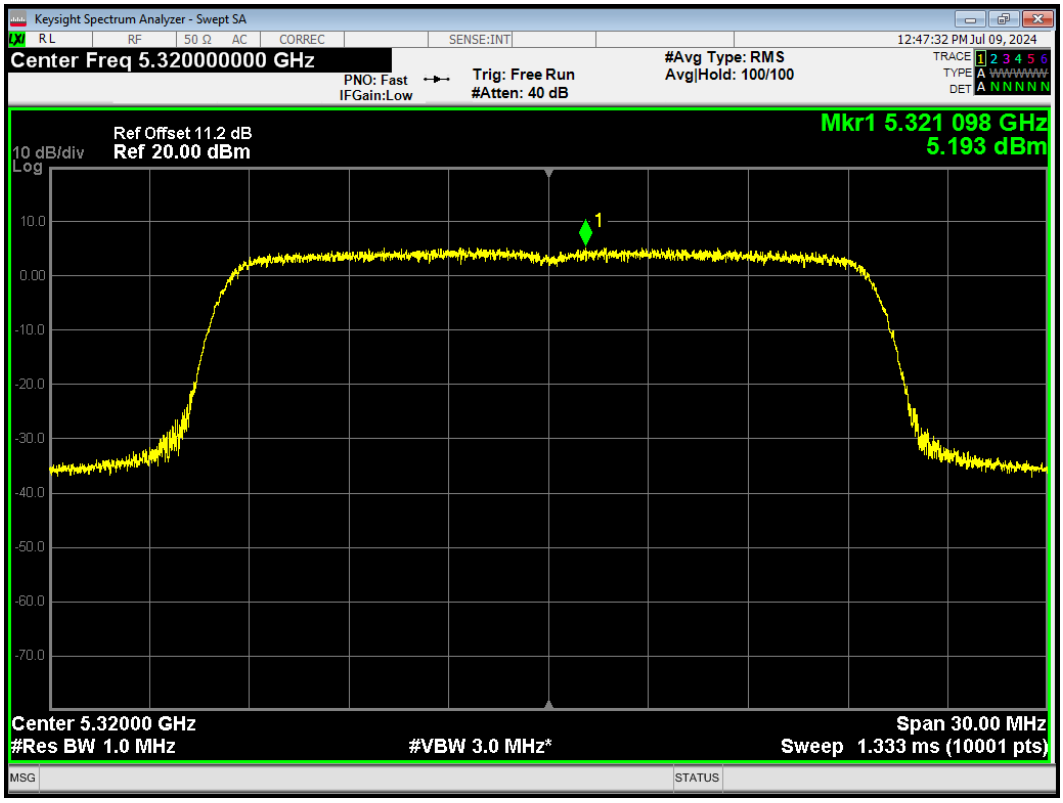
PSD 802.11ax(HE20) 5260MHz



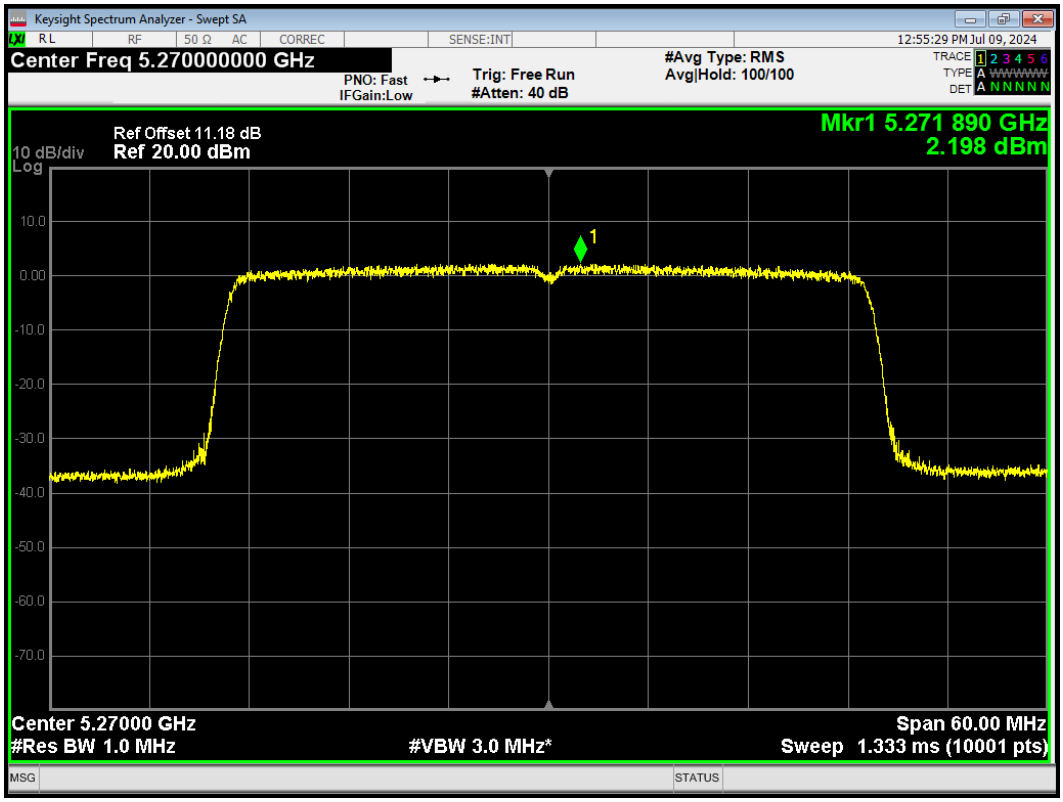
PSD 802.11ax(HE20) 5300MHz



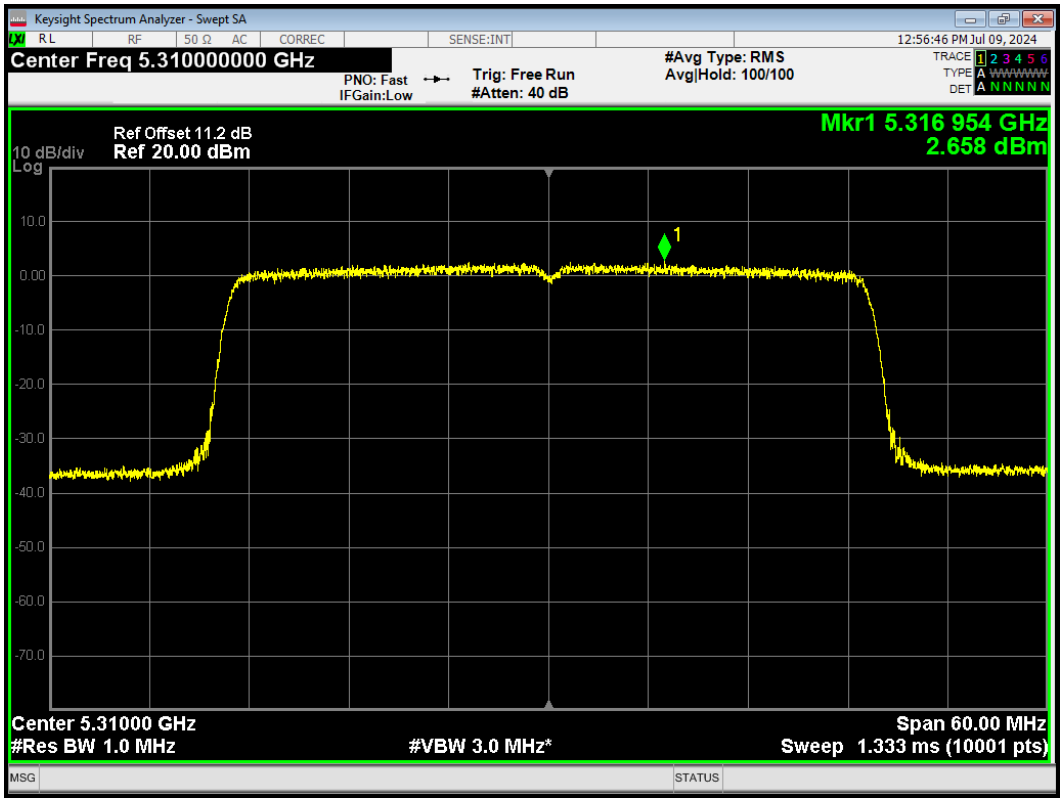
PSD 802.11ax(HE20) 5320MHz



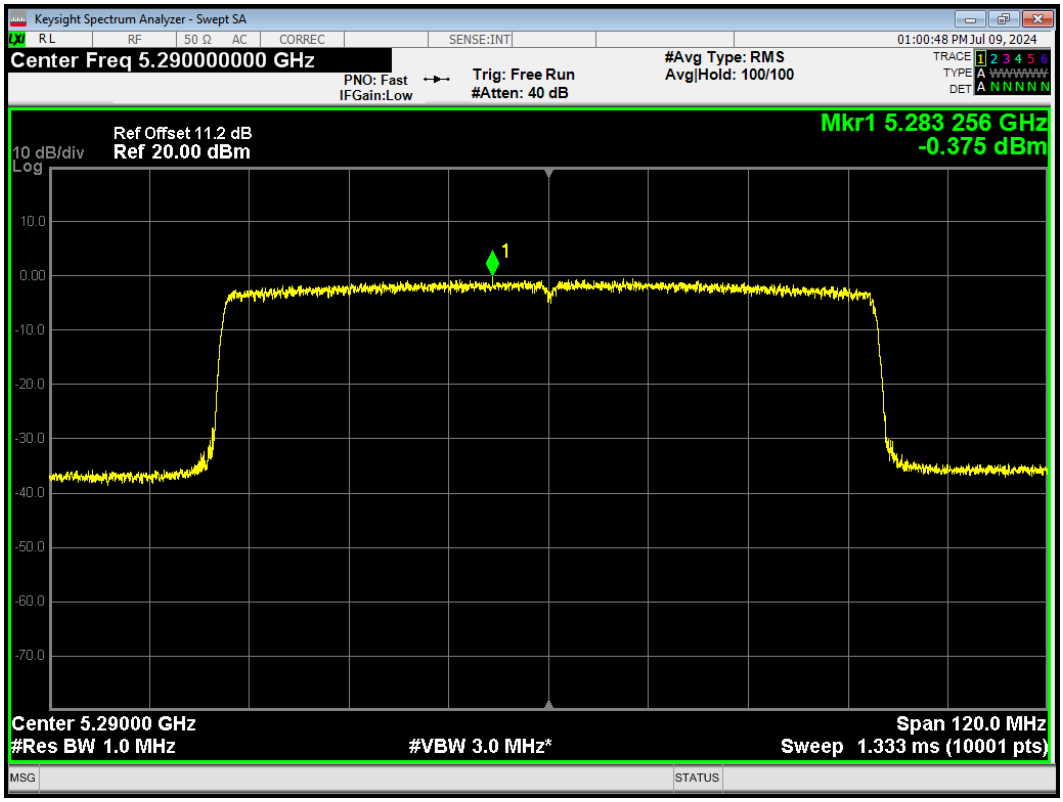
PSD 802.11ax(HE40) 5270MHz



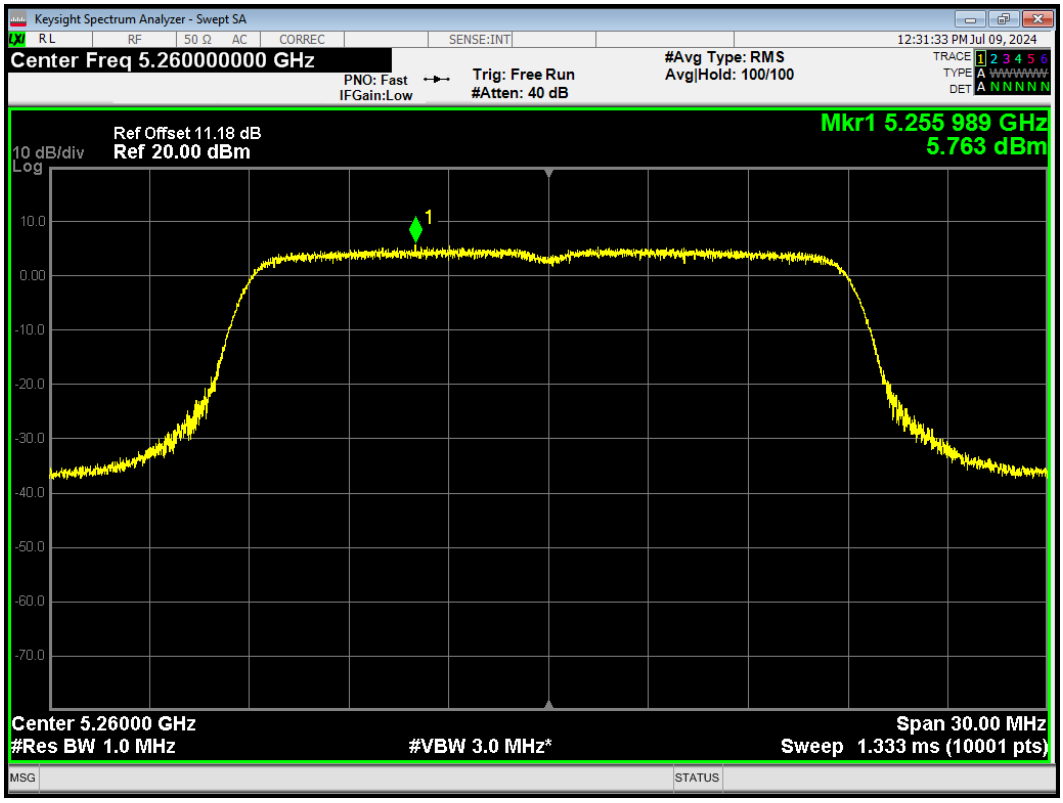
PSD 802.11ax(HE40) 5310MHz



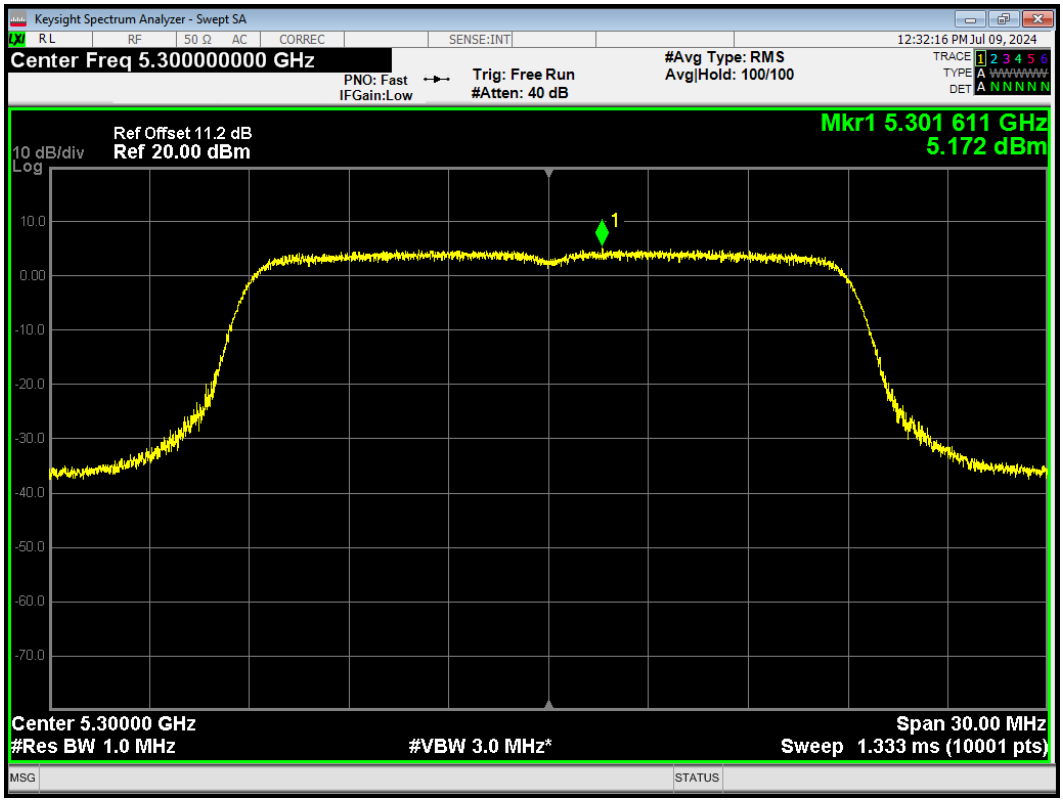
PSD 802.11ax(HE80) 5290MHz



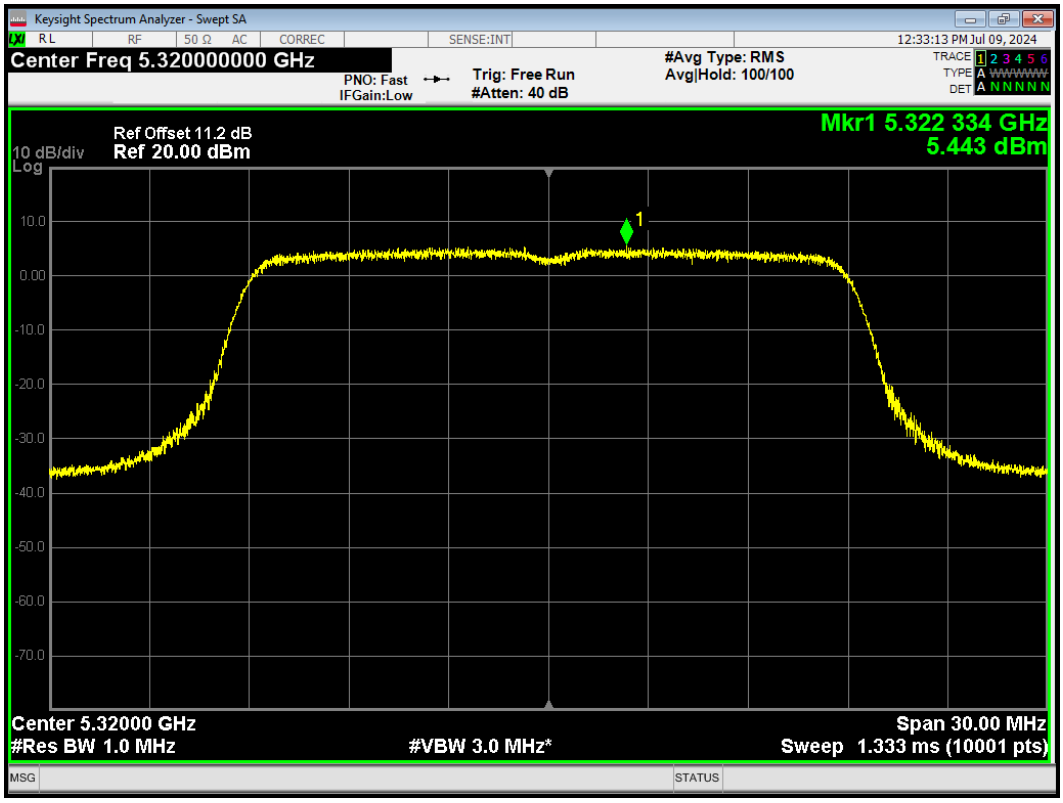
PSD 802.11n(HT20) 5260MHz



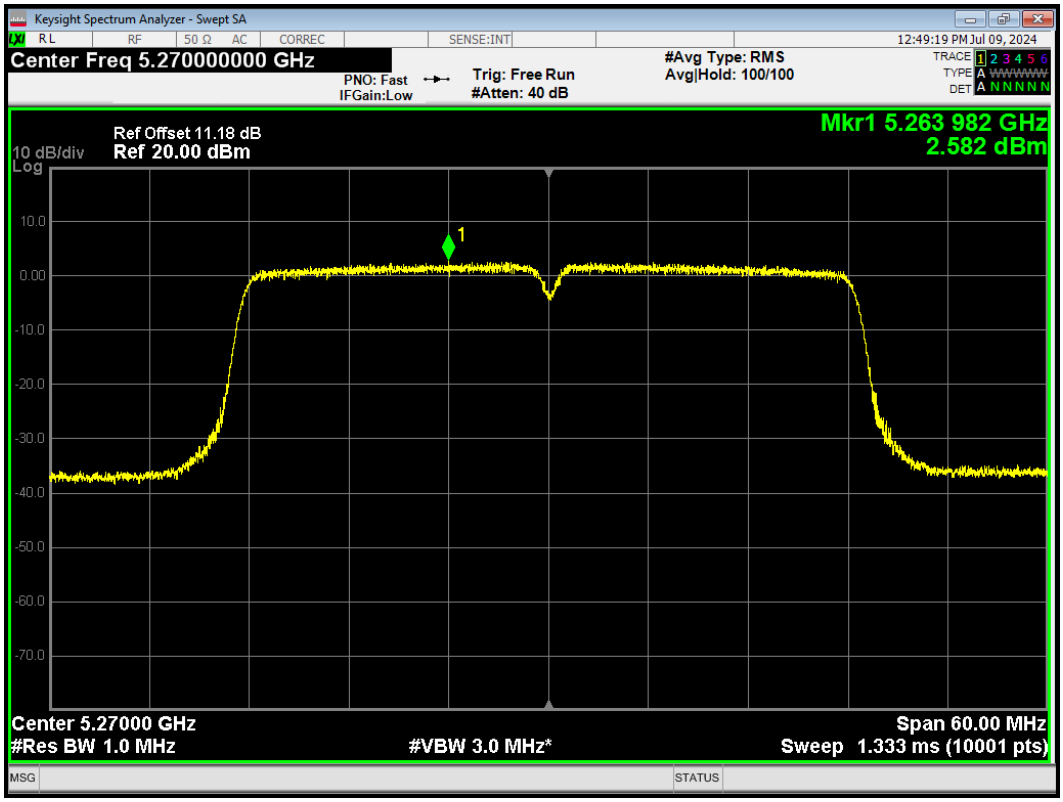
PSD 802.11n(HT20) 5300MHz



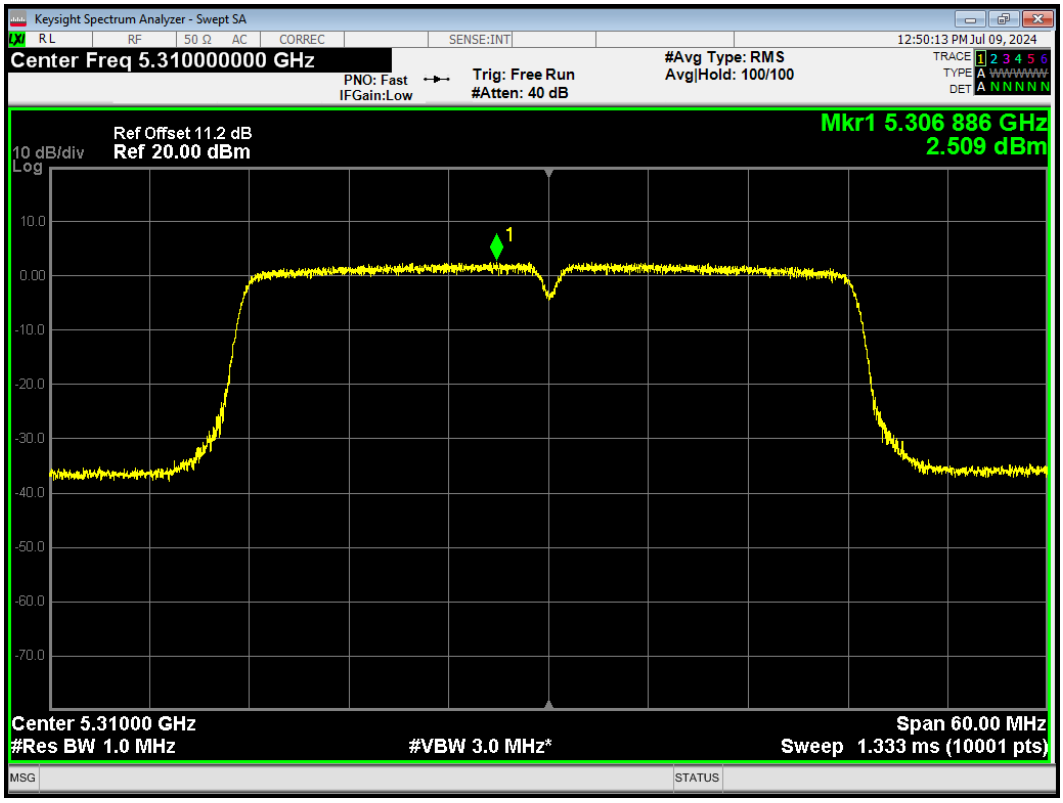
PSD 802.11n(HT20) 5320MHz



PSD 802.11n(HT40) 5270MHz

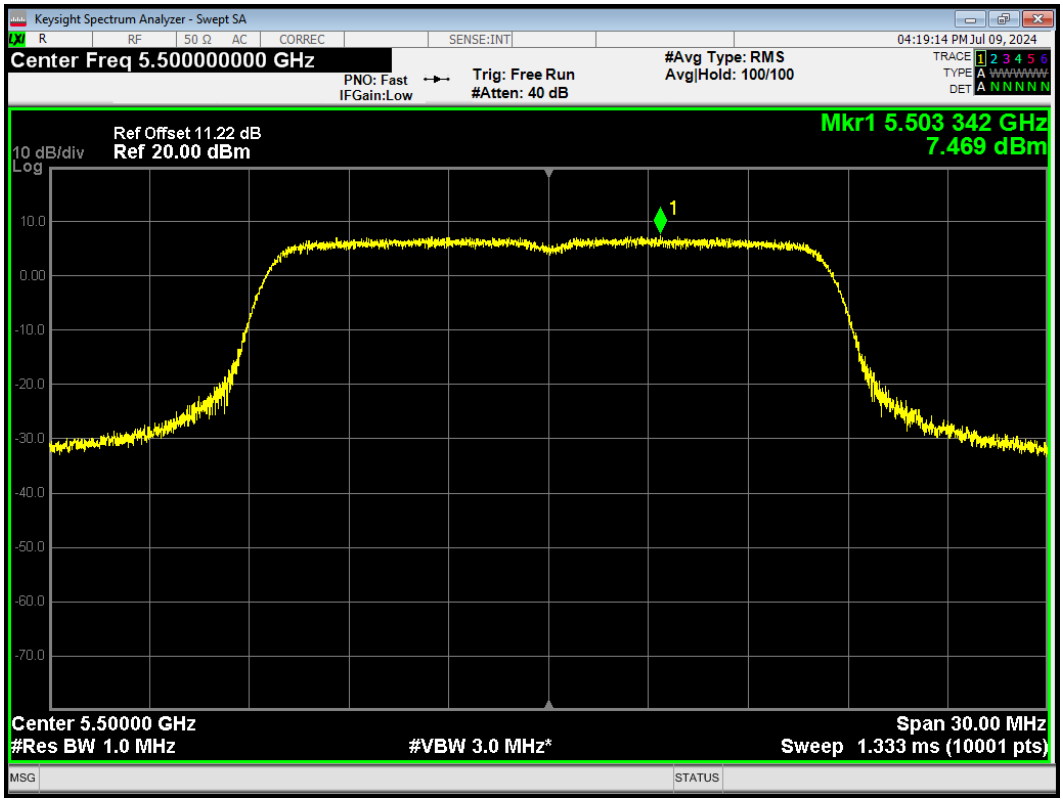


PSD 802.11n(HT40) 5310MHz

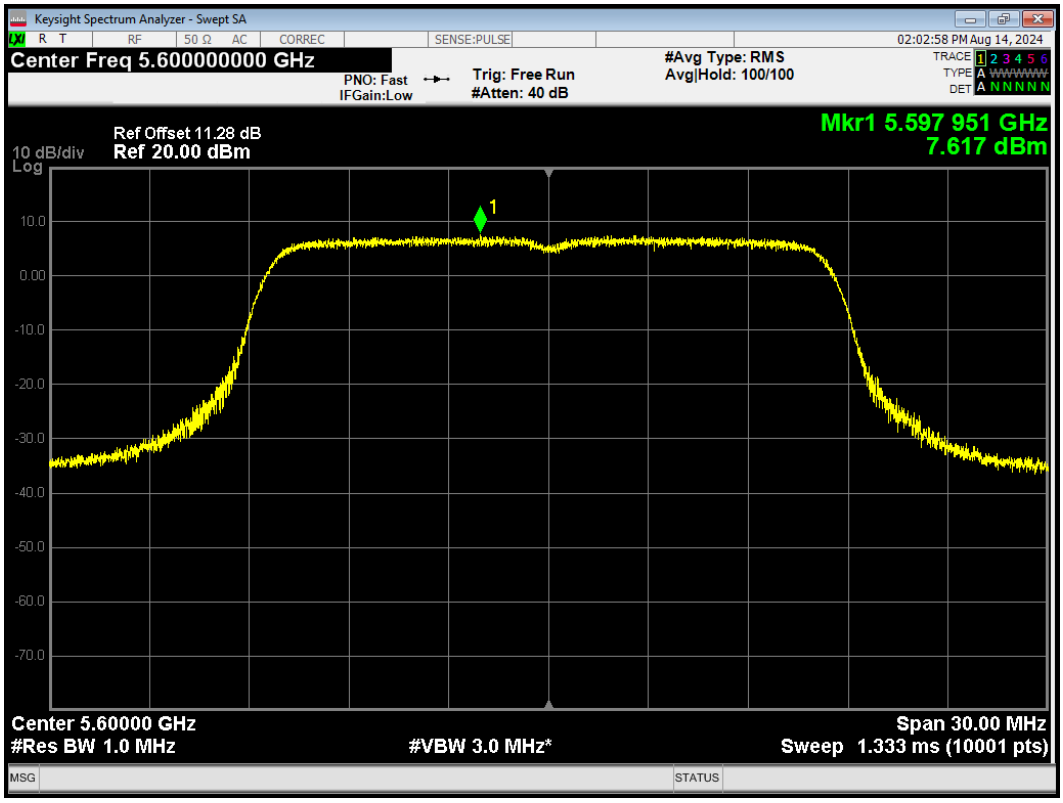


U-NII-2C

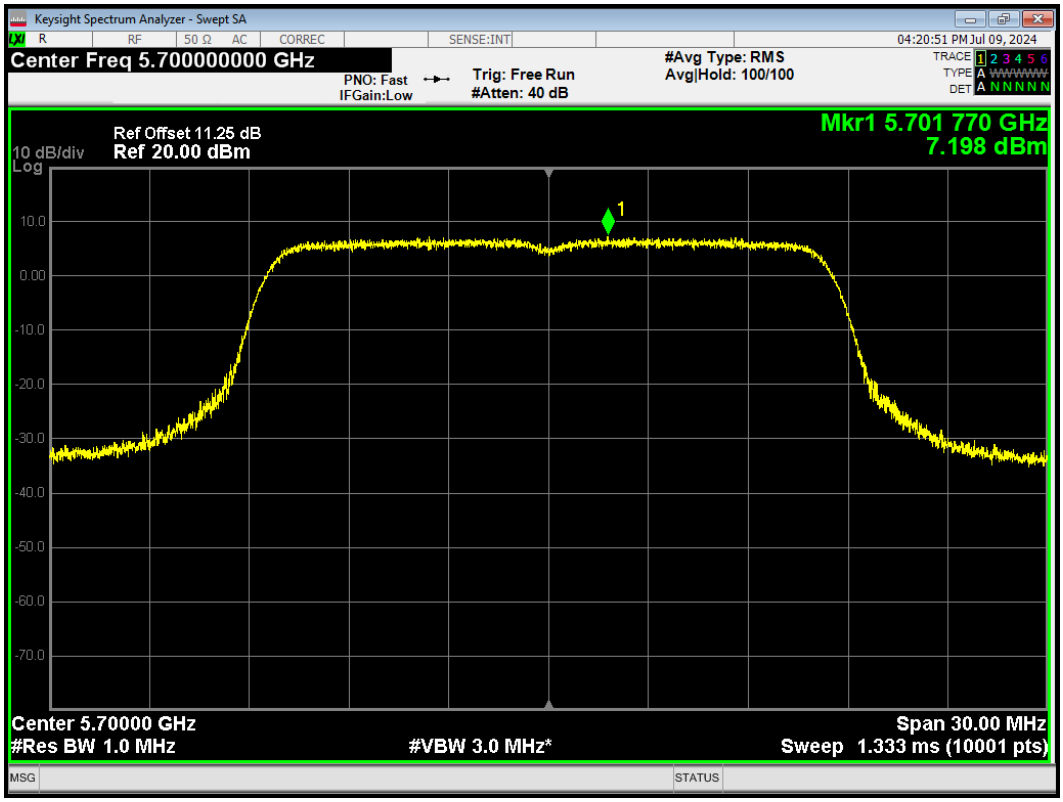
PSD 802.11a 5500MHz



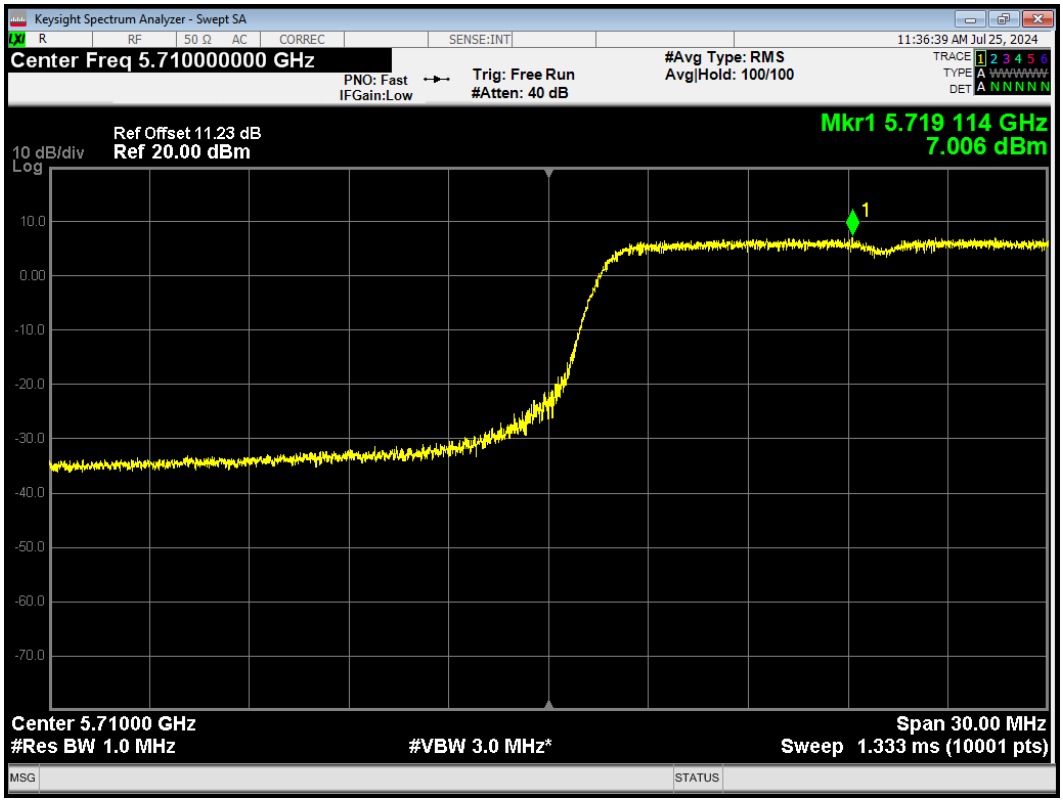
PSD 802.11a 5600MHz



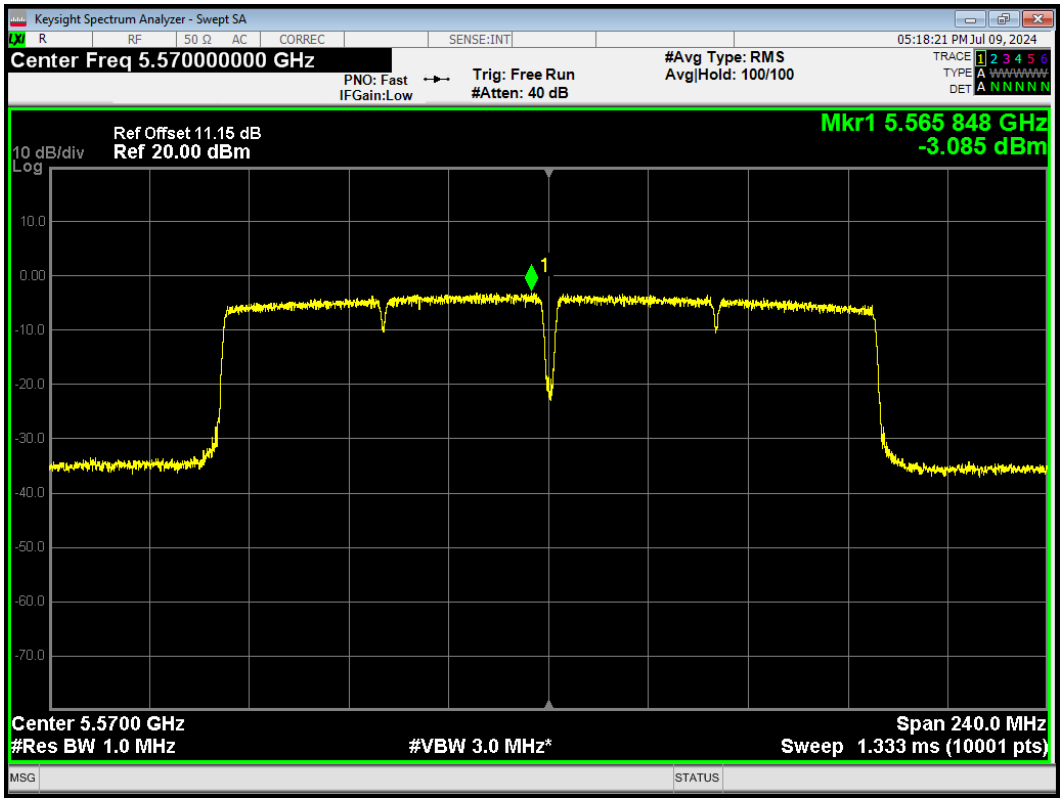
PSD 802.11a 5700MHz



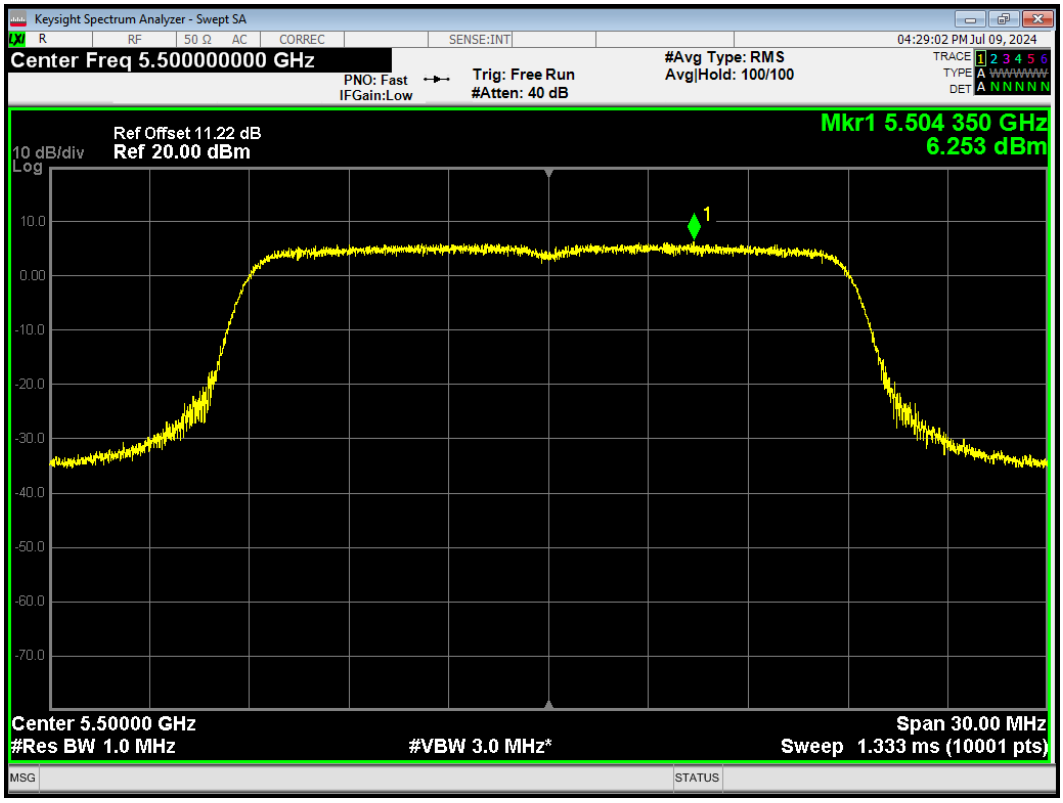
PSD 802.11a 5720MHz



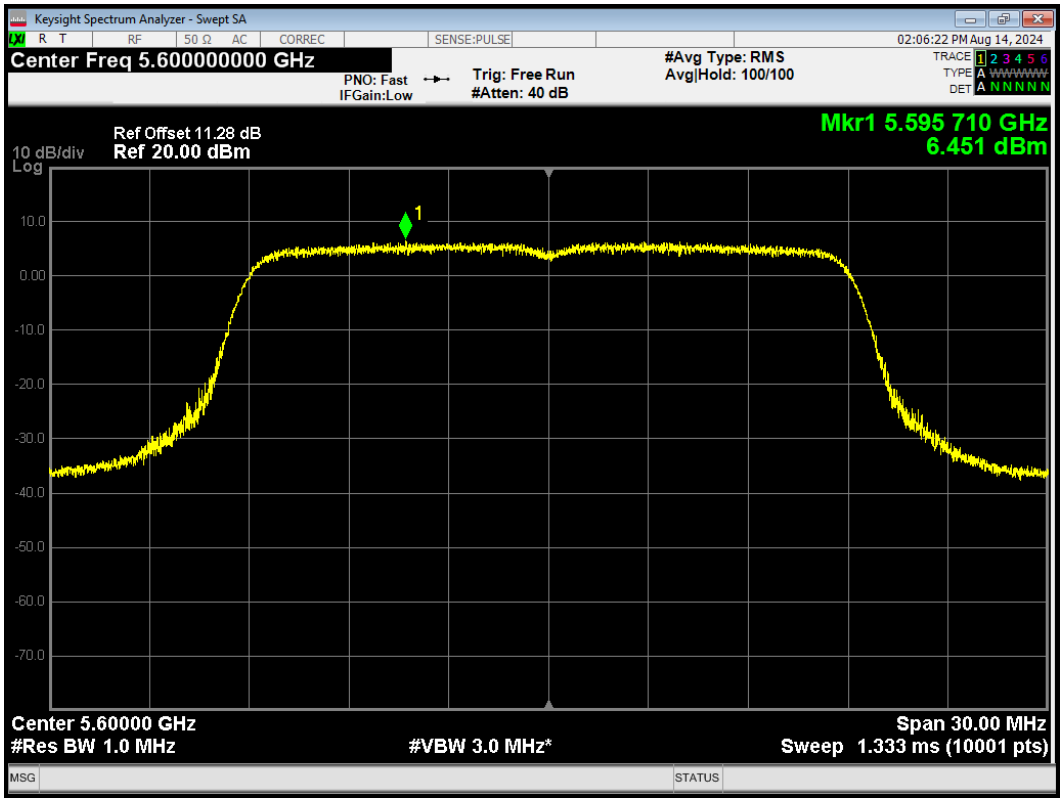
PSD 802.11ac(VHT160) 5570MHz



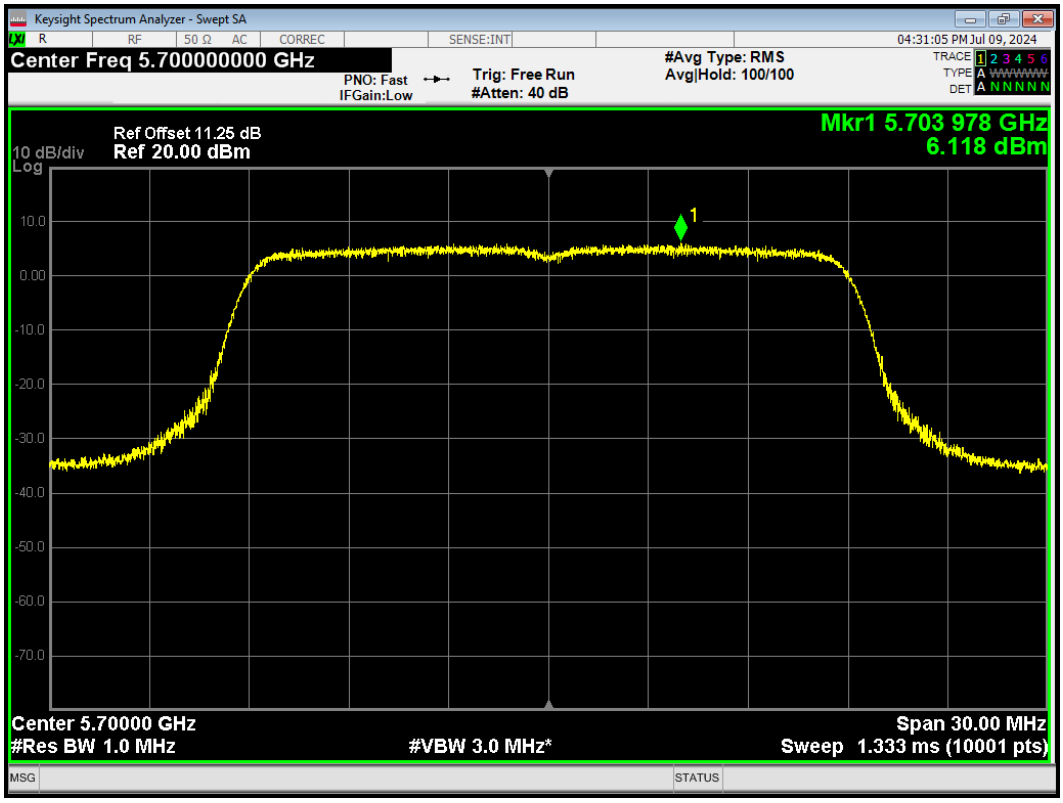
PSD 802.11ac(VHT20) 5500MHz



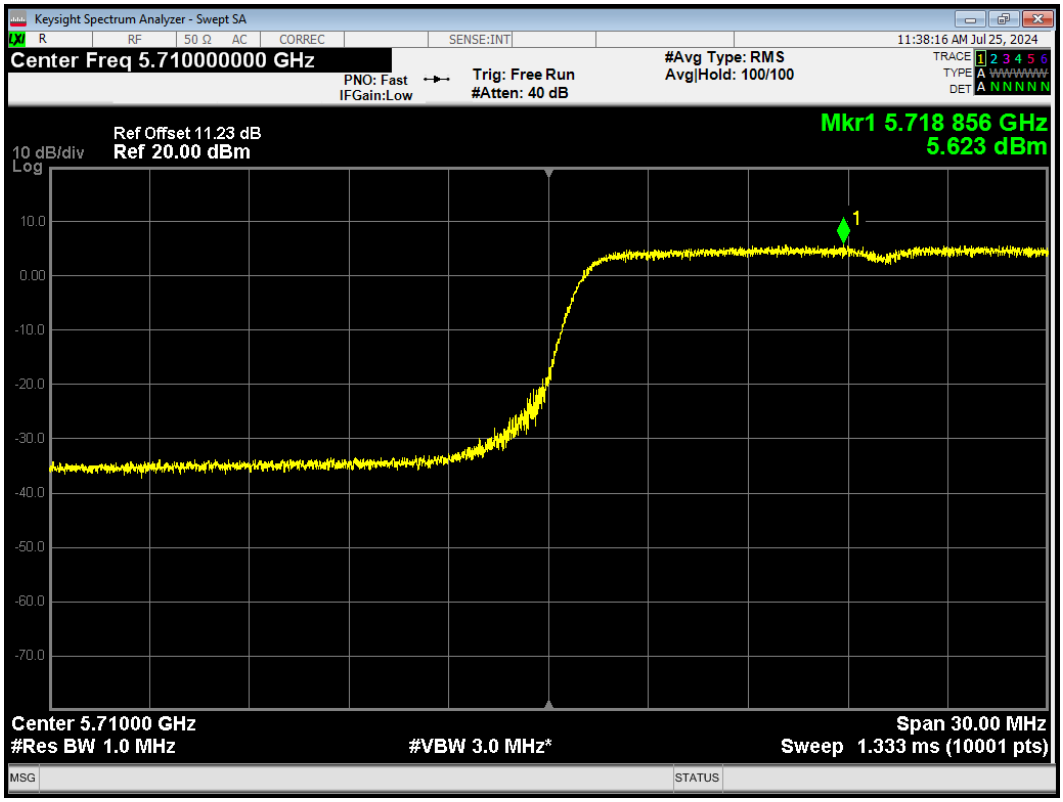
PSD 802.11ac(VHT20) 5600MHz



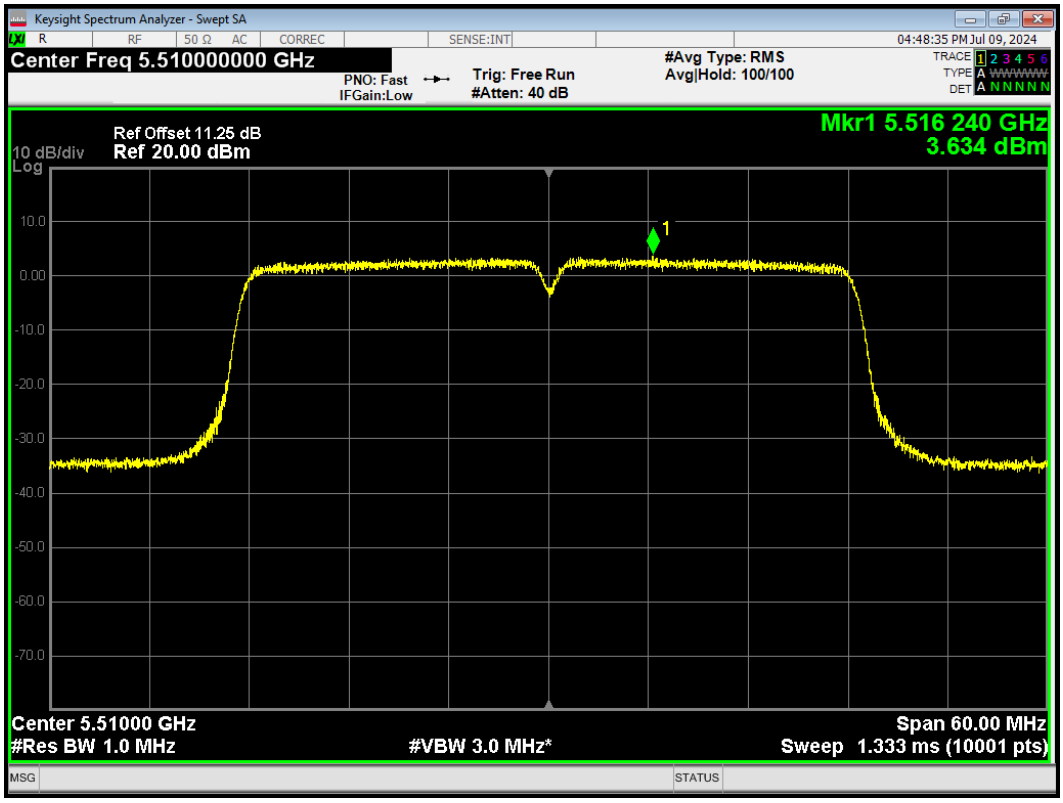
PSD 802.11ac(VHT20) 5700MHz



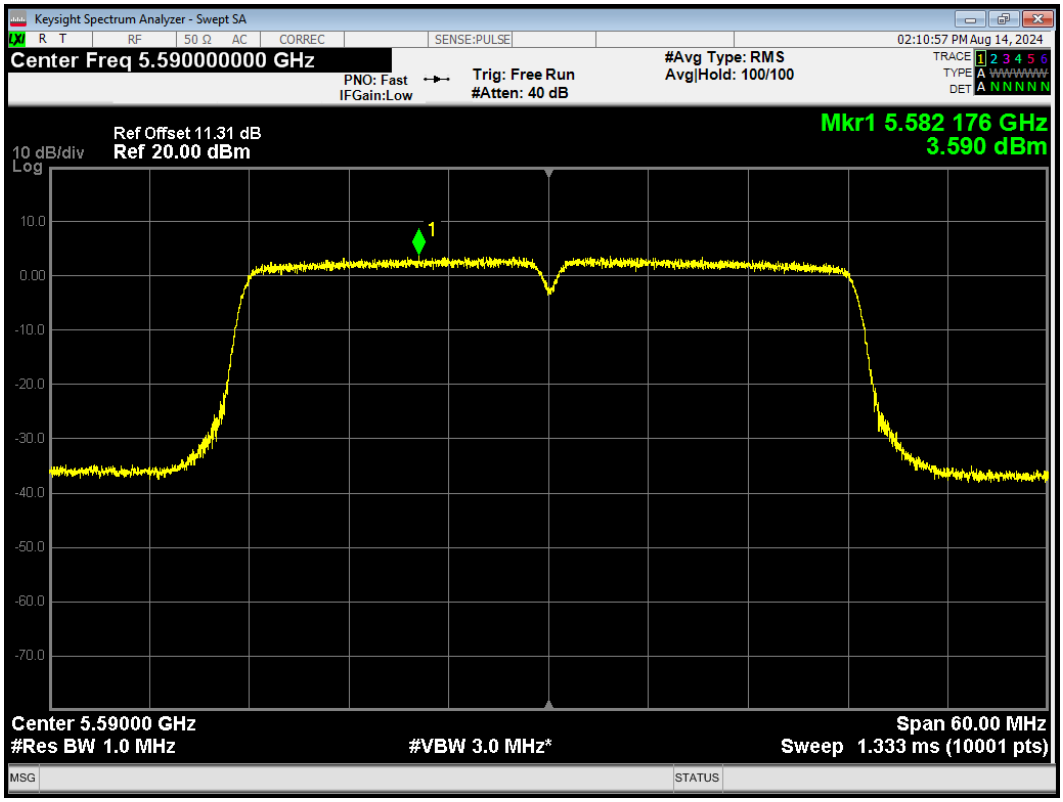
PSD 802.11ac(VHT20) 5720MHz



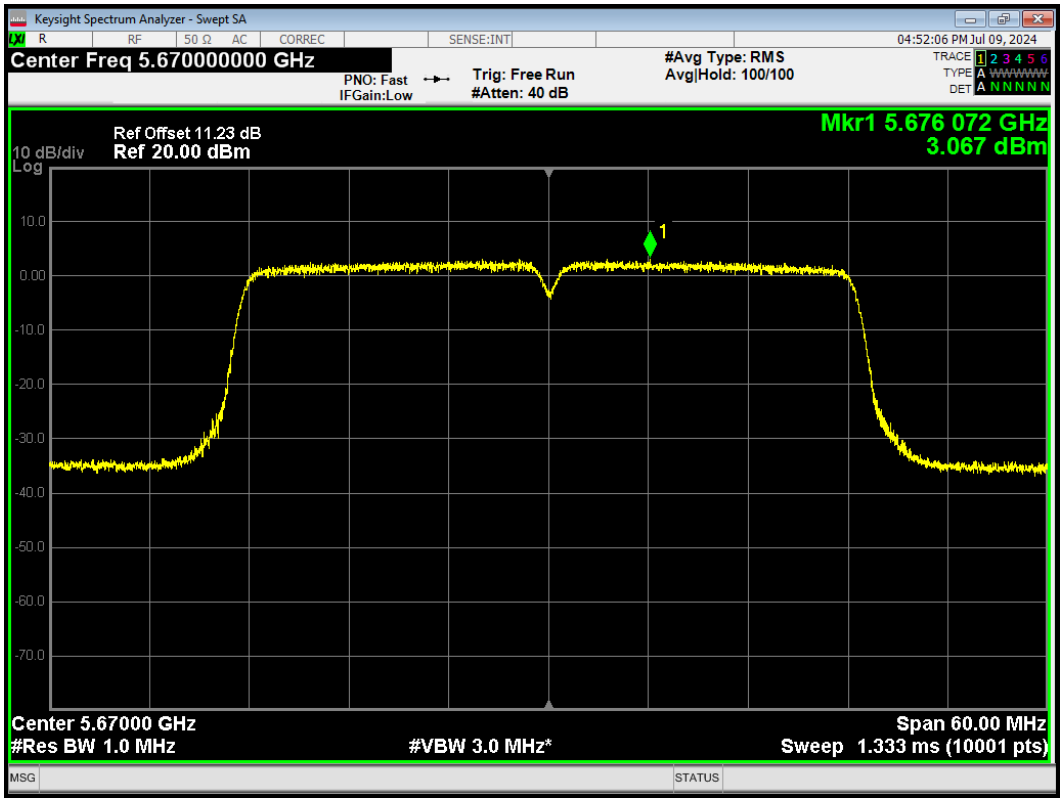
PSD 802.11ac(VHT40) 5510MHz



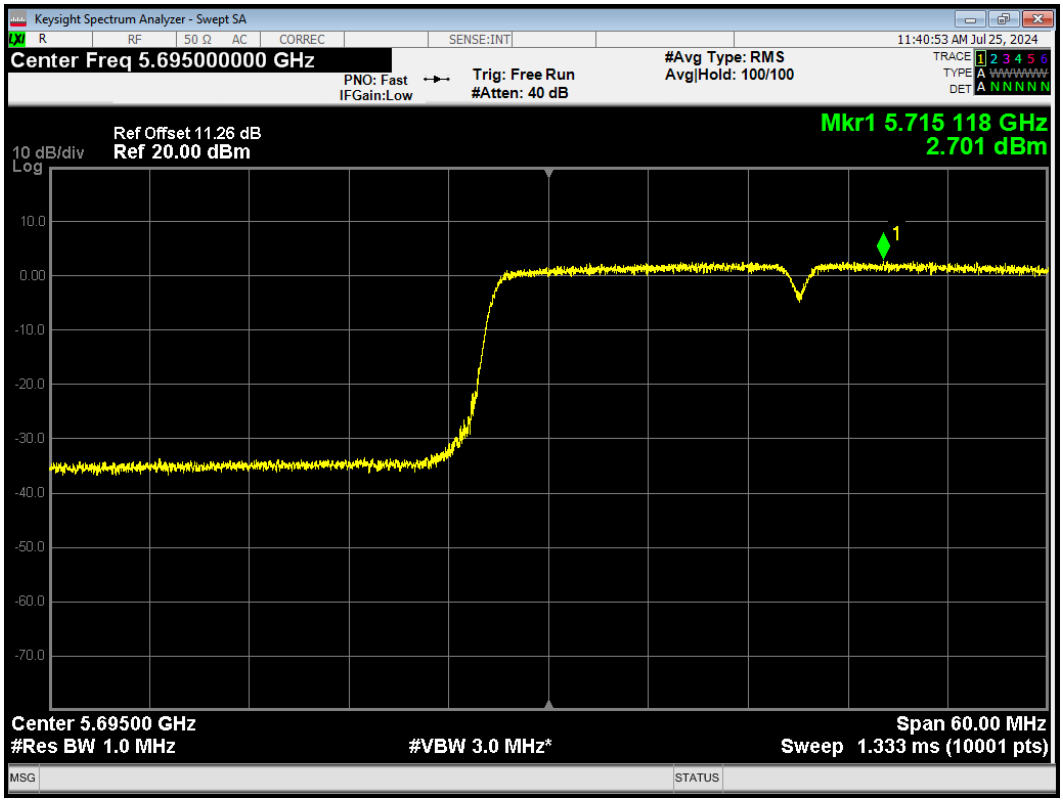
PSD 802.11ac(VHT40) 5590MHz



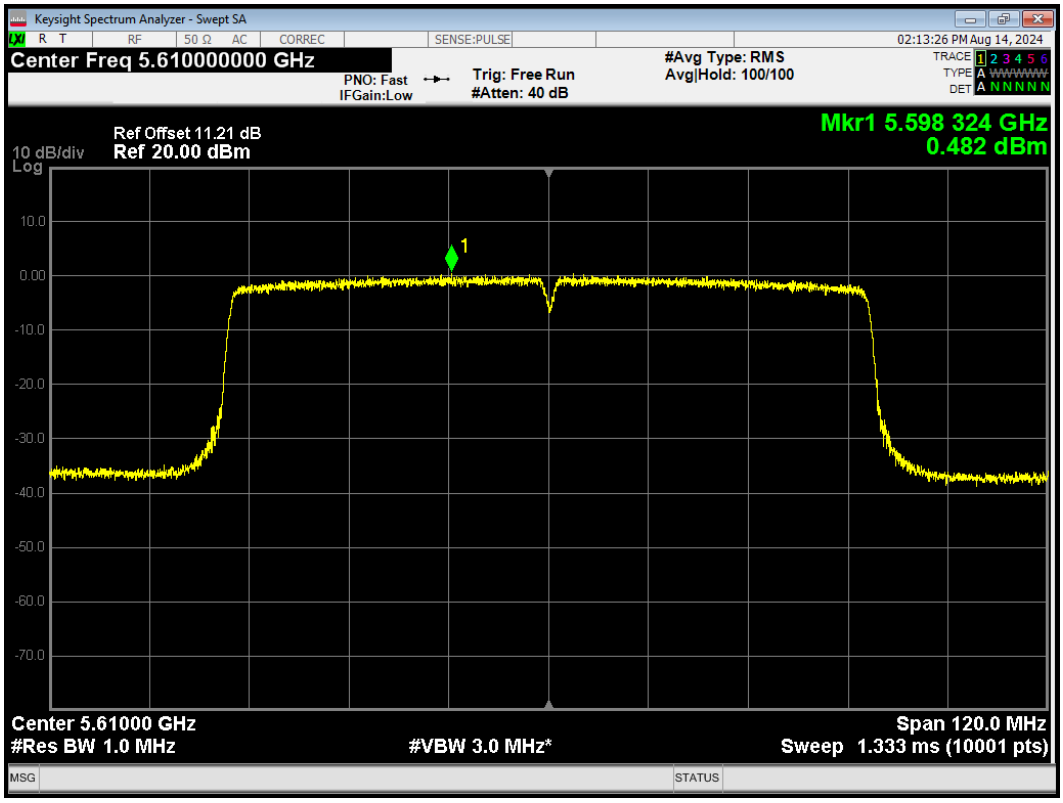
PSD 802.11ac(VHT40) 5670MHz



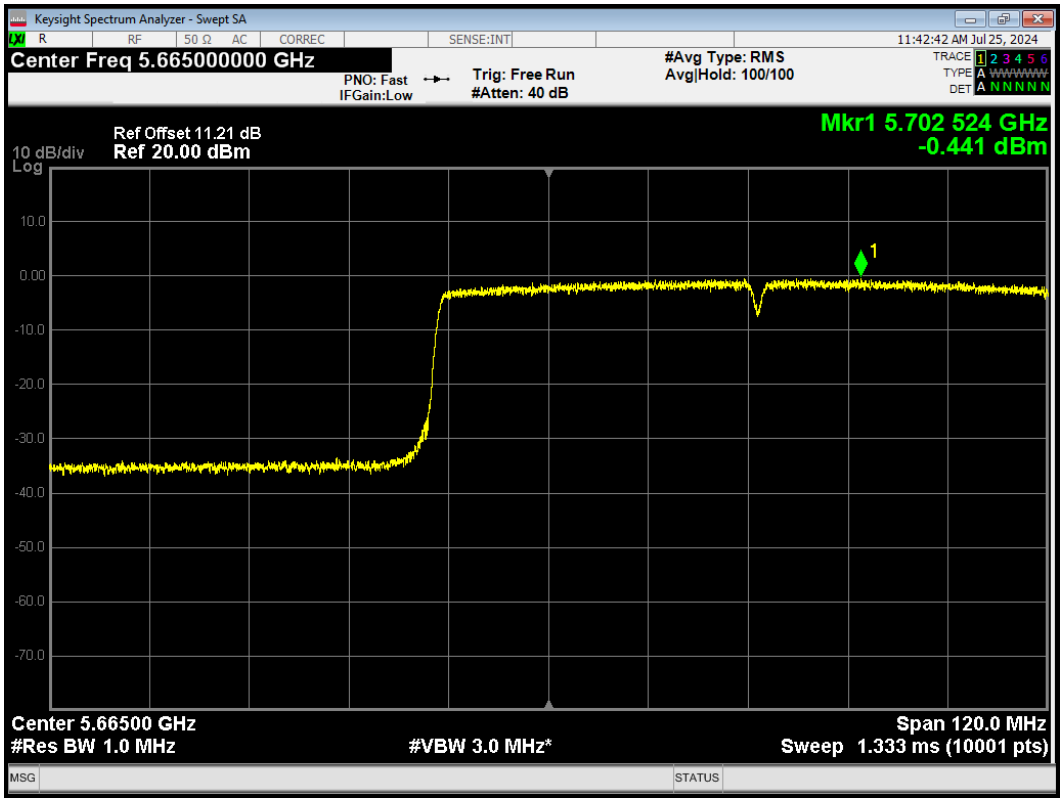
PSD 802.11ac(VHT40) 5710MHz



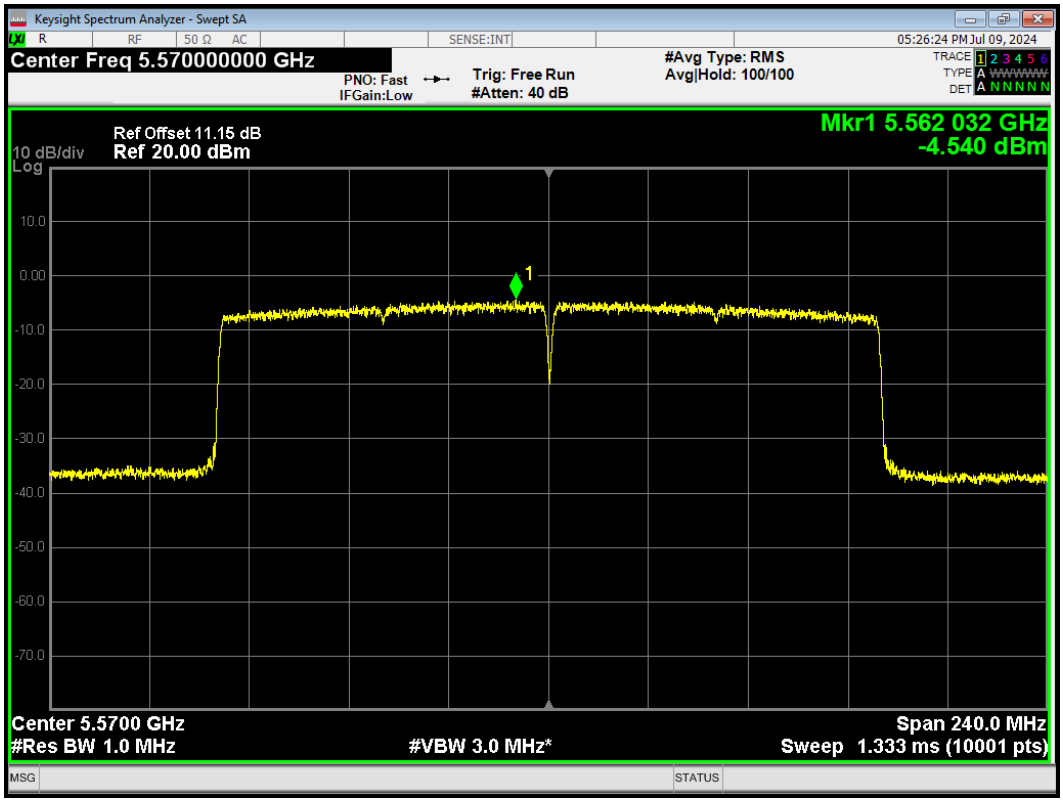
PSD 802.11ac(VHT80) 5610MHz



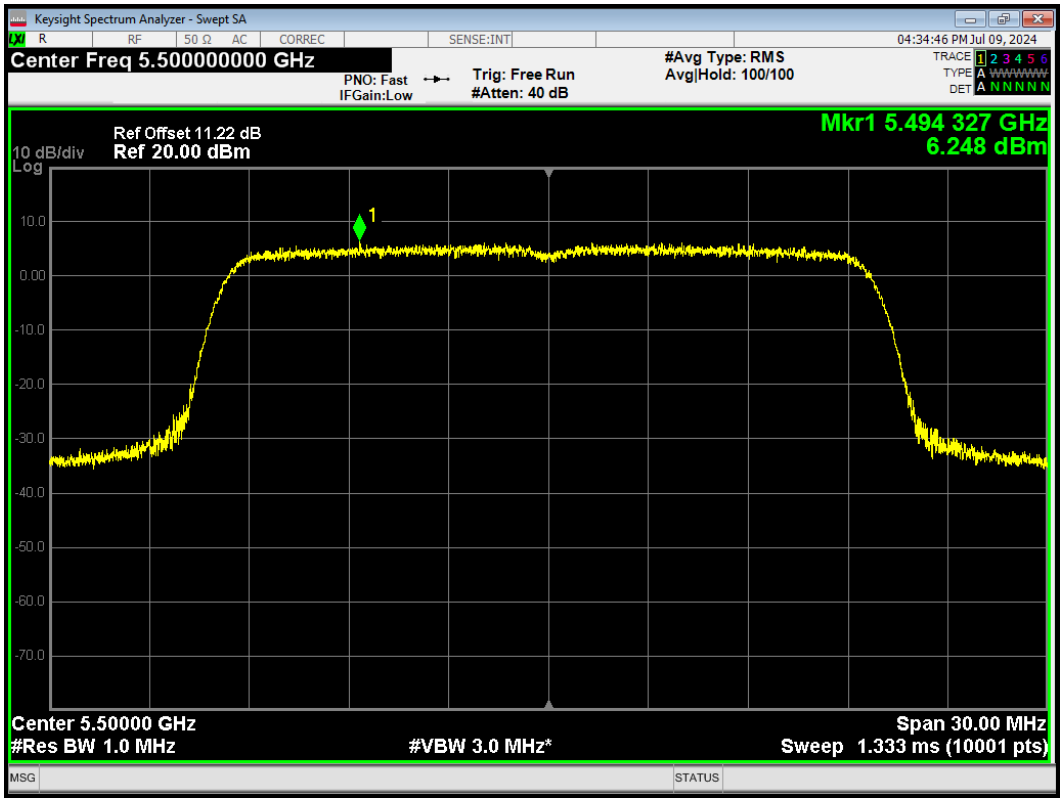
PSD 802.11ac(VHT80) 5690MHz



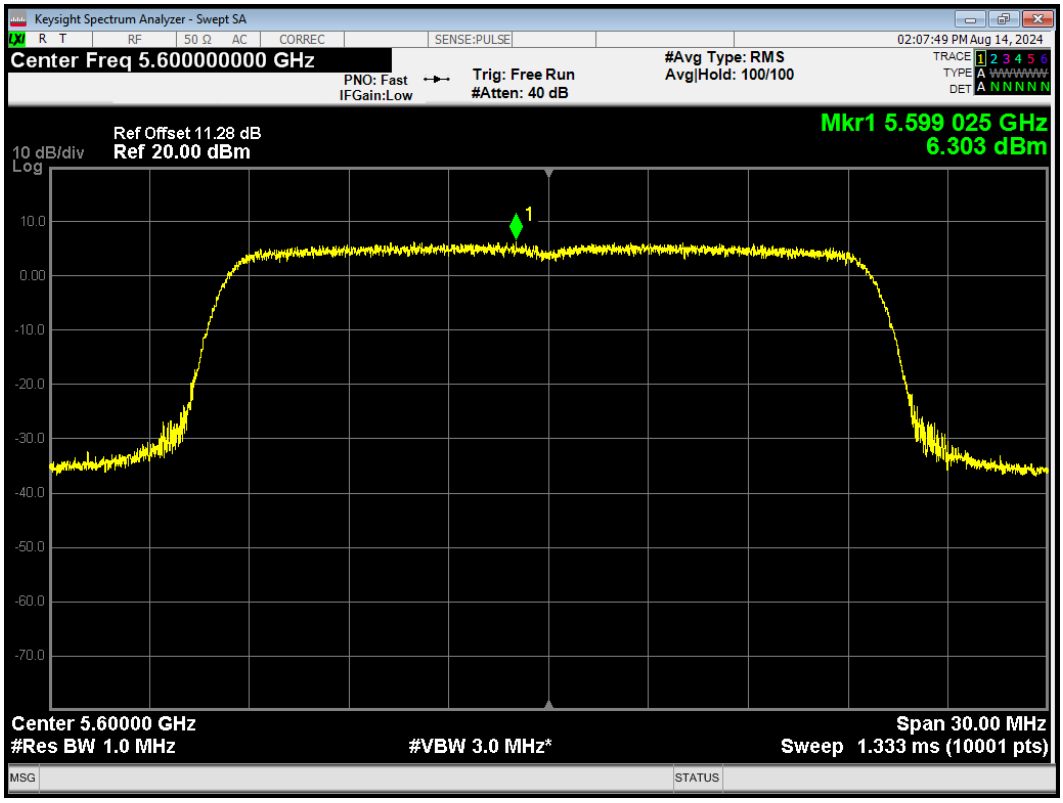
PSD 802.11ax(HE160) 5570MHz



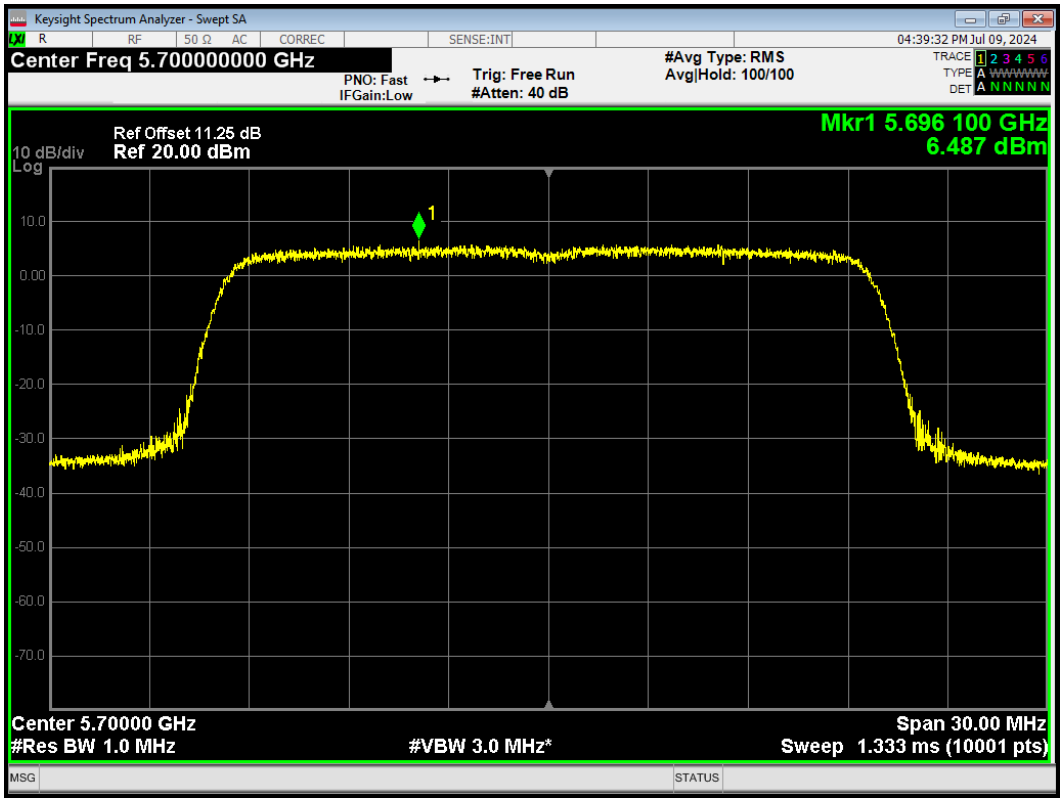
PSD 802.11ax(HE20) 5500MHz



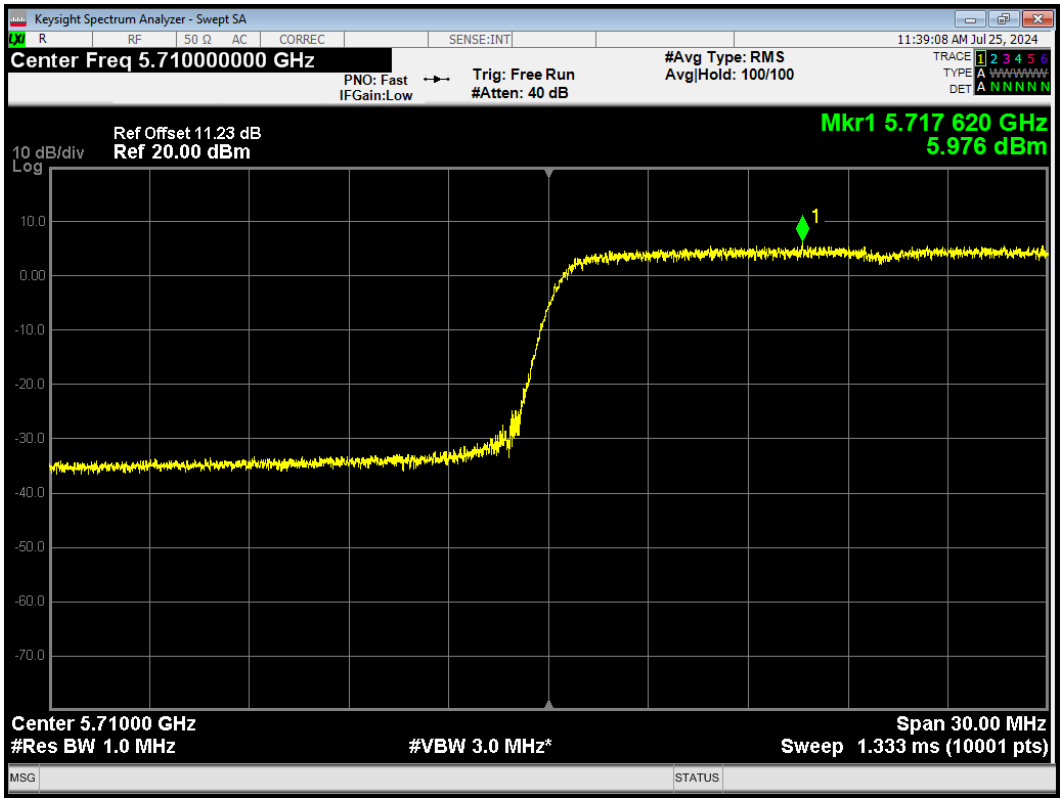
PSD 802.11ax(HE20) 5600MHz



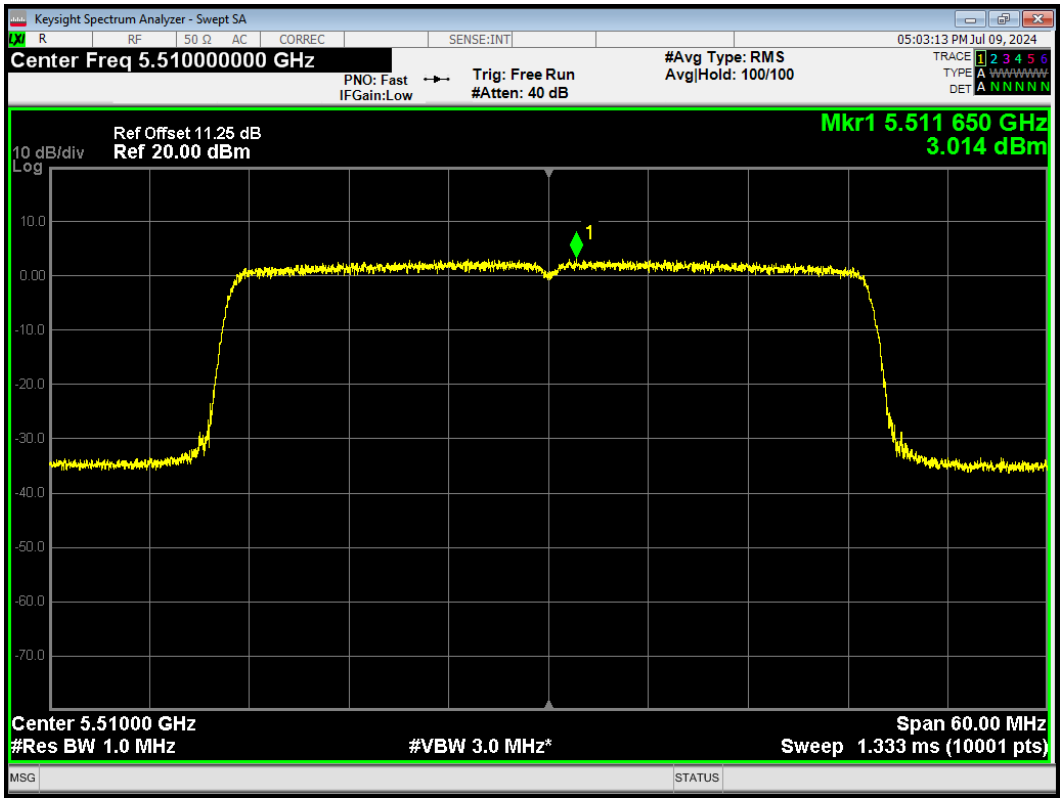
PSD 802.11ax(HE20) 5700MHz



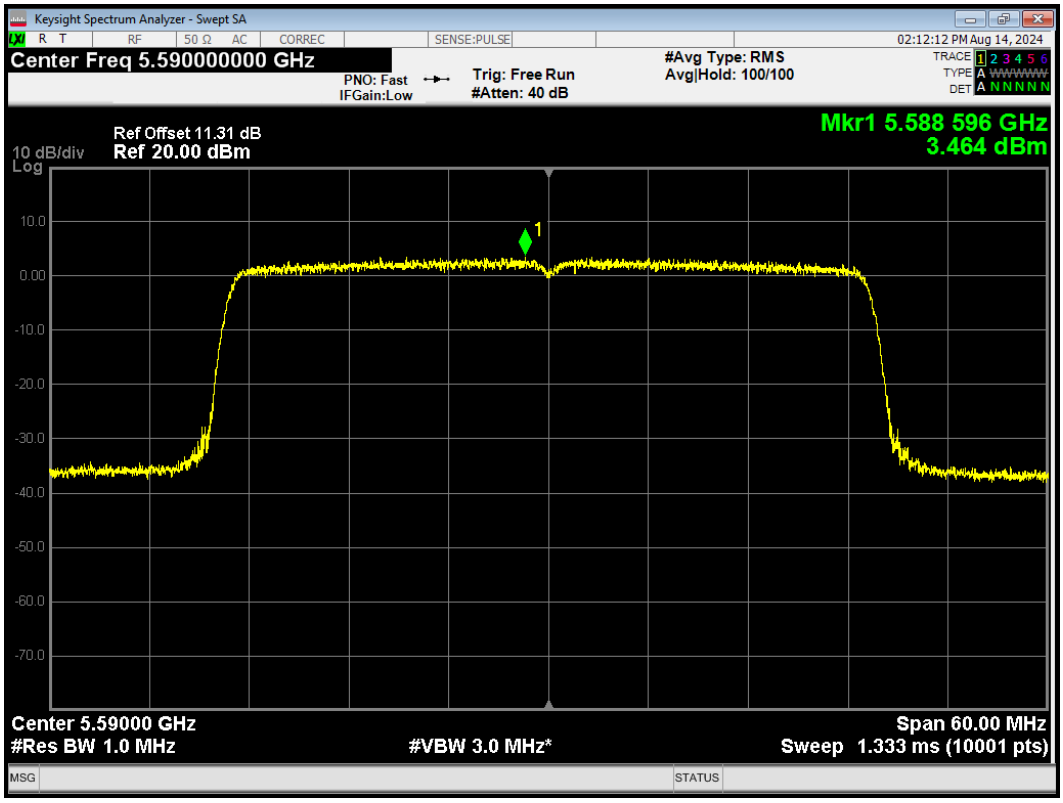
PSD 802.11ax(HE20) 5720MHz



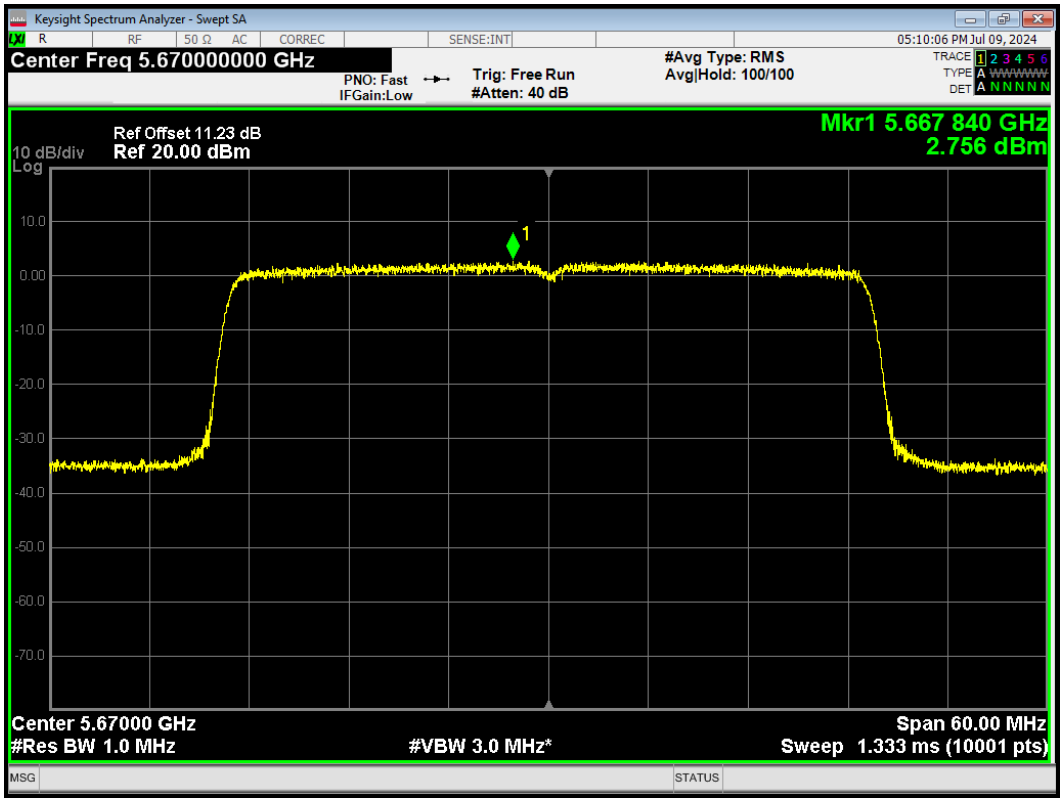
PSD 802.11ax(HE40) 5510MHz



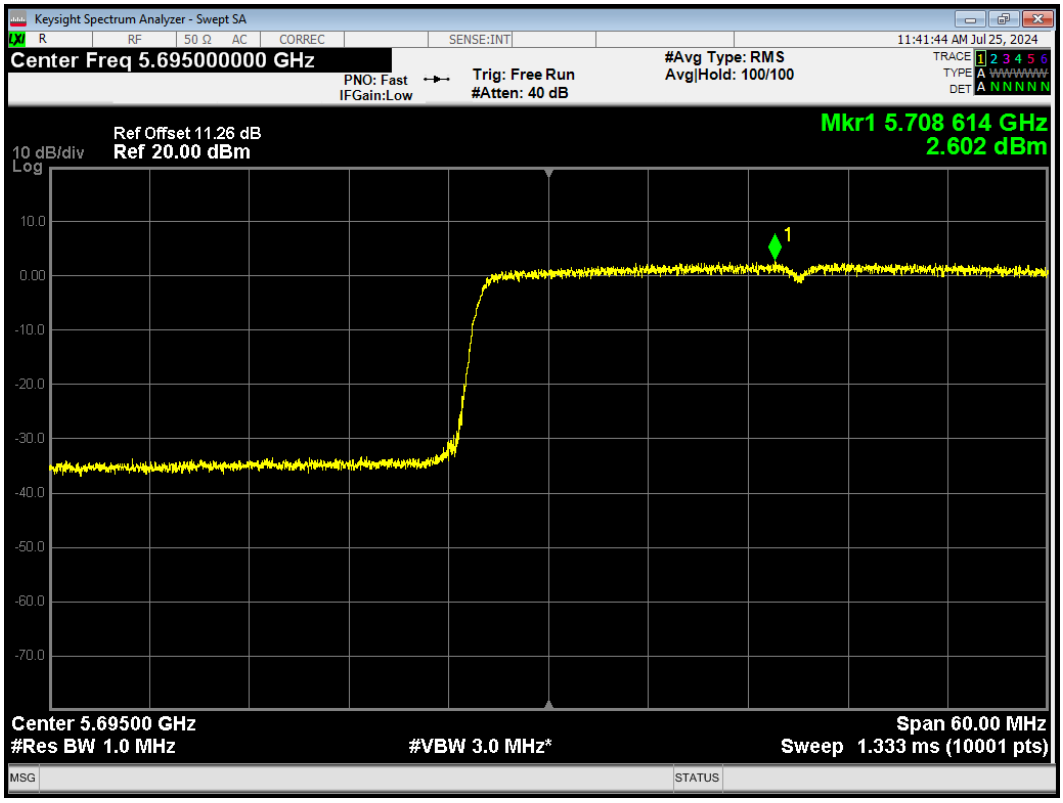
PSD 802.11ax(HE40) 5590MHz



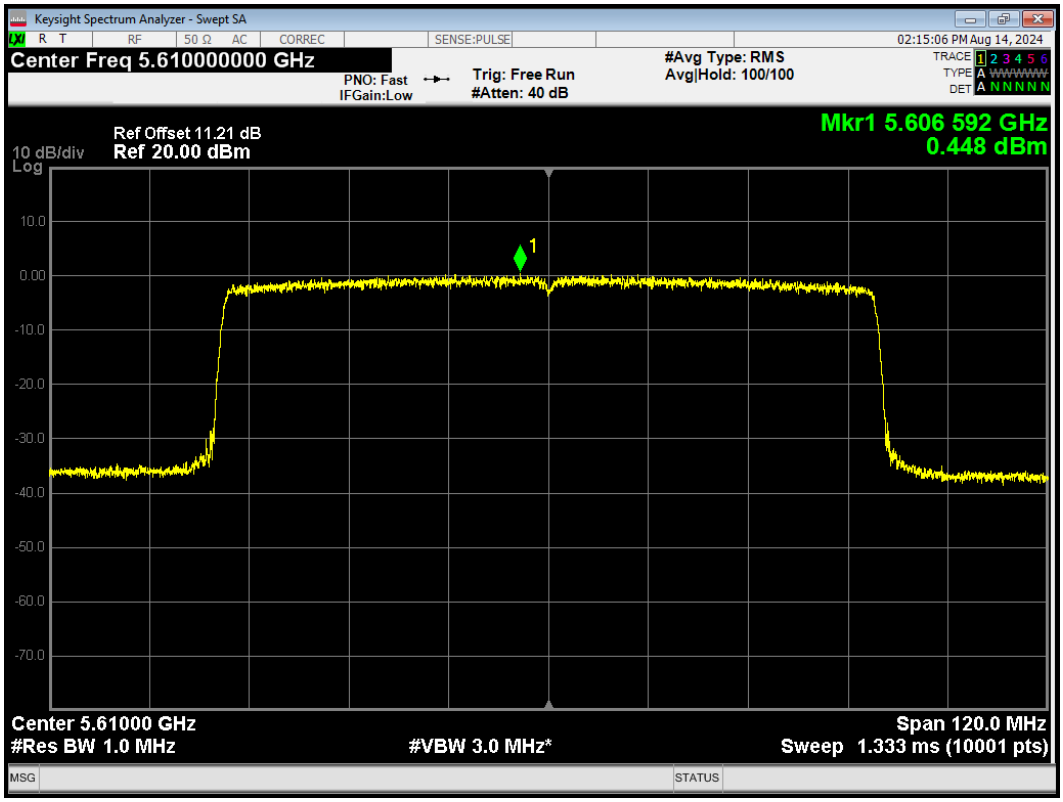
PSD 802.11ax(HE40) 5670MHz



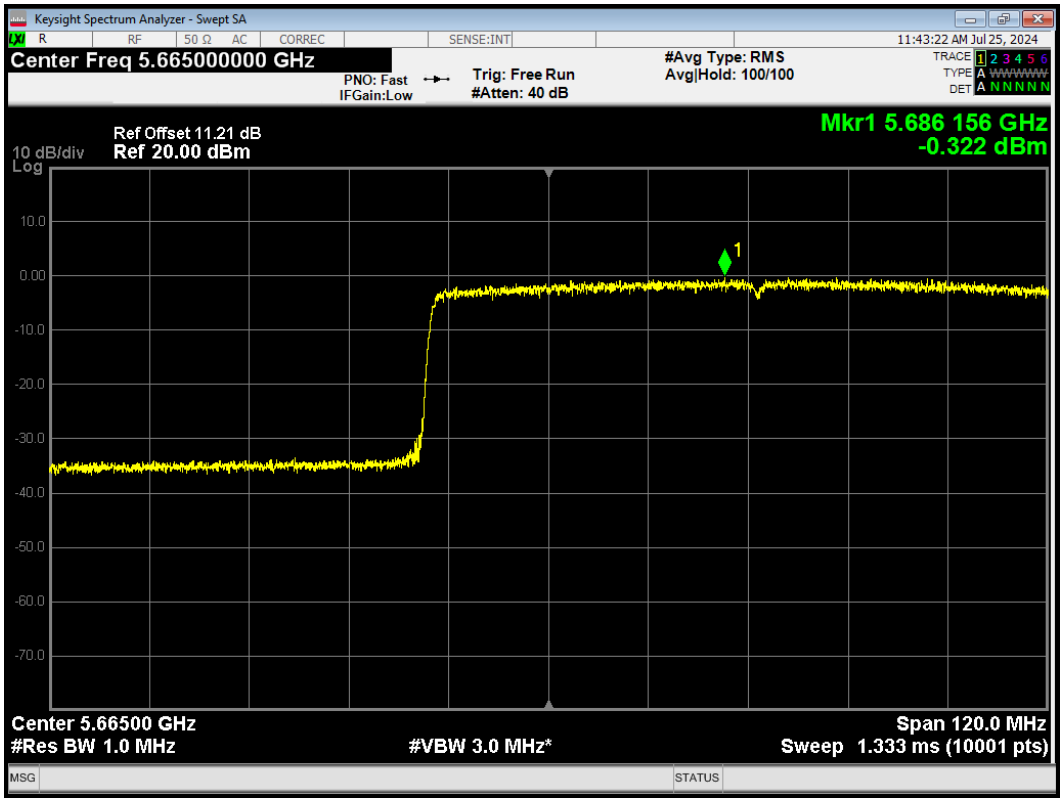
PSD 802.11ax(HE40) 5710MHz



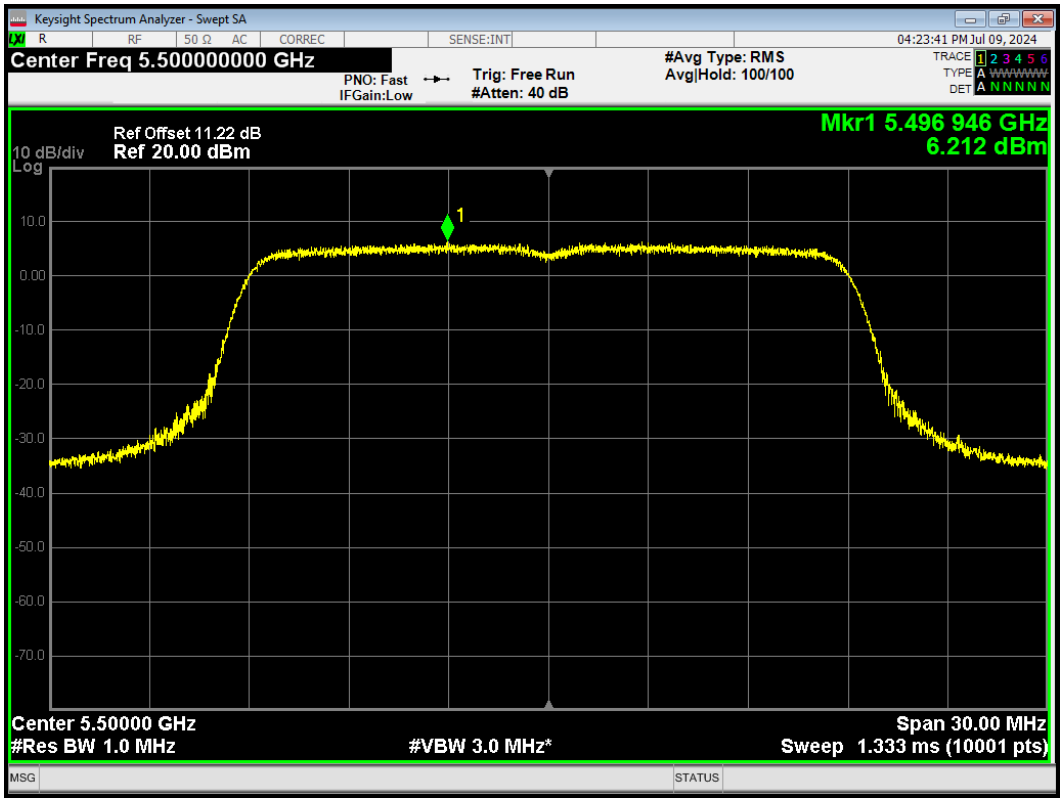
PSD 802.11ax(HE80) 5610MHz



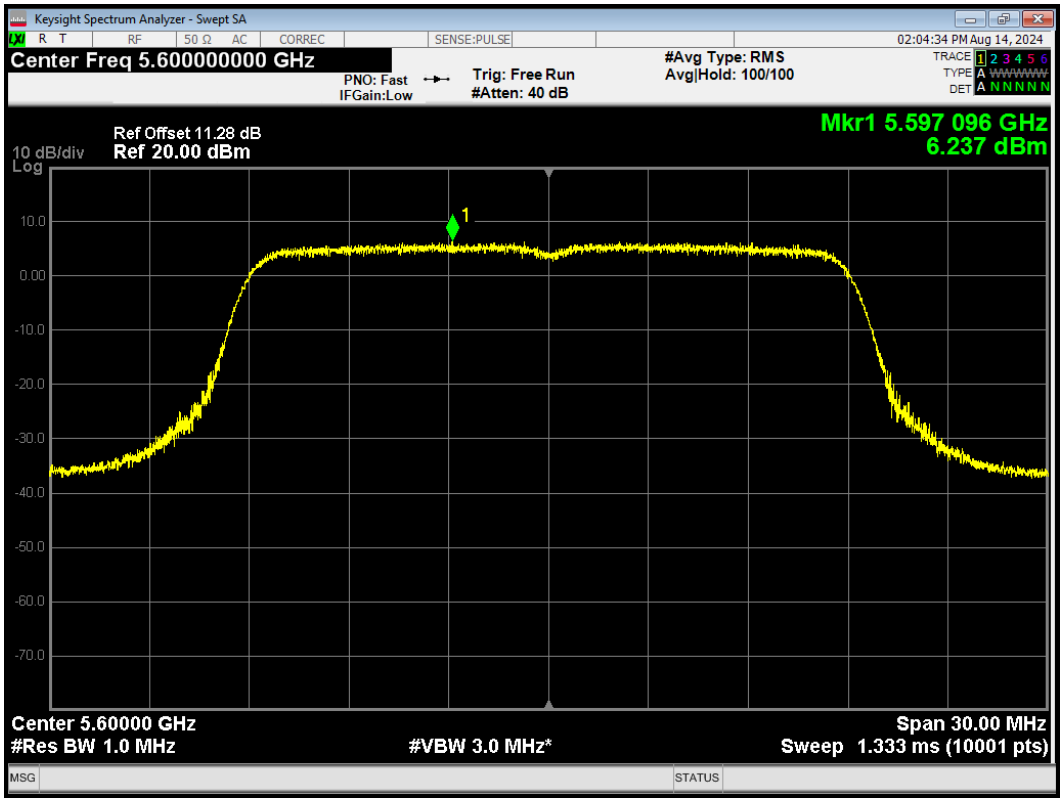
PSD 802.11ax(HE80) 5690MHz



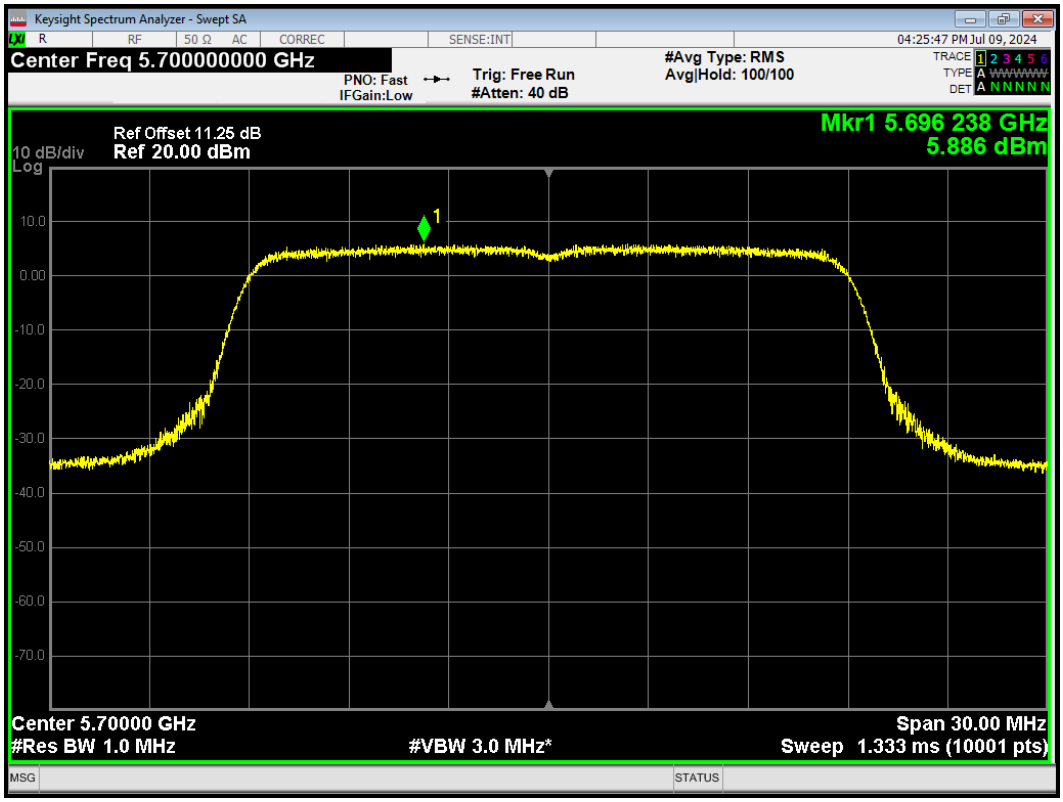
PSD 802.11n(HT20) 5500MHz



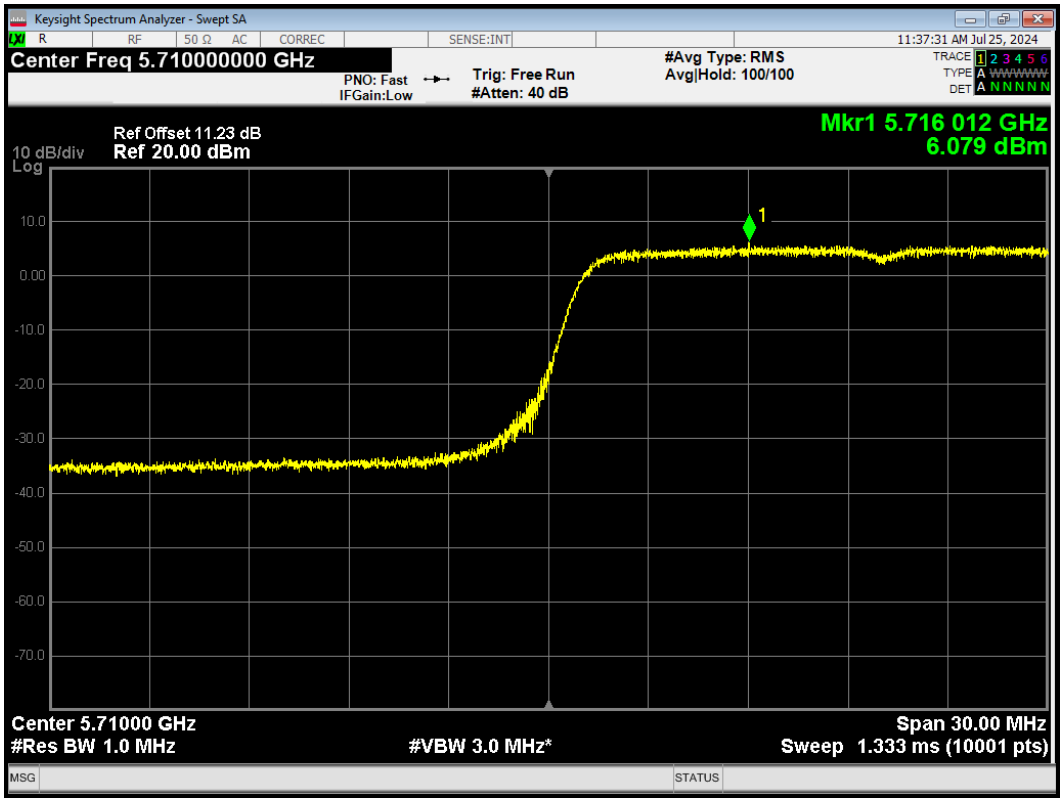
PSD 802.11n(HT20) 5600MHz



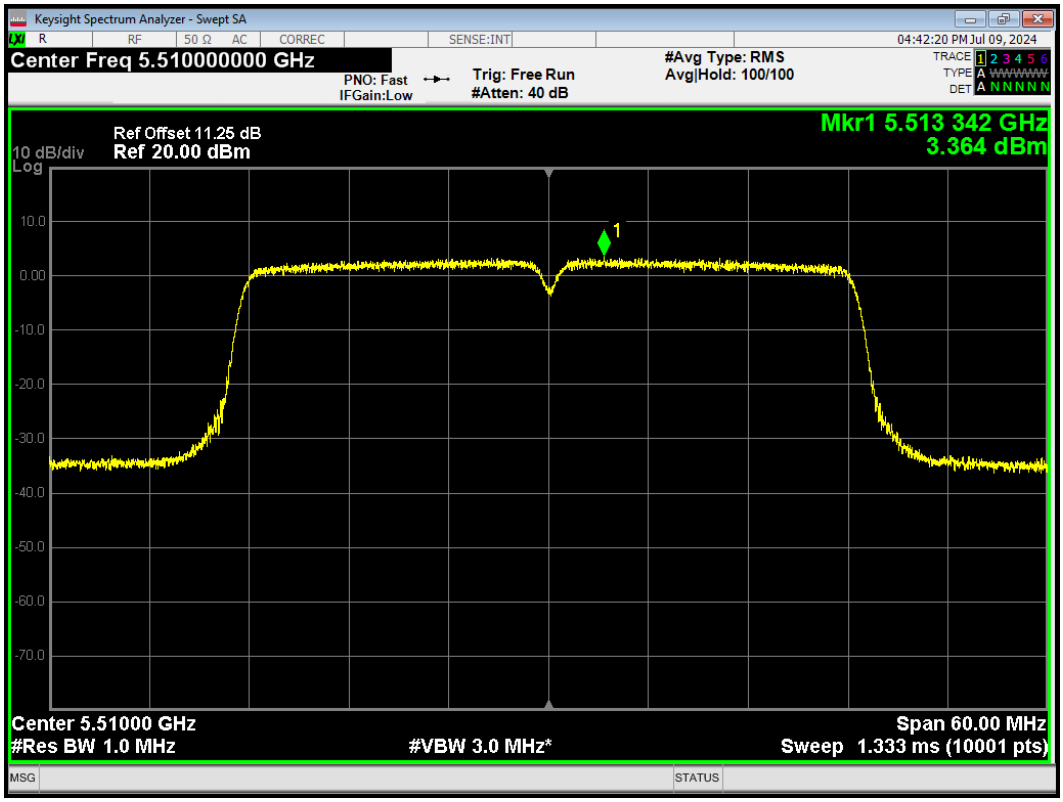
PSD 802.11n(HT20) 5700MHz



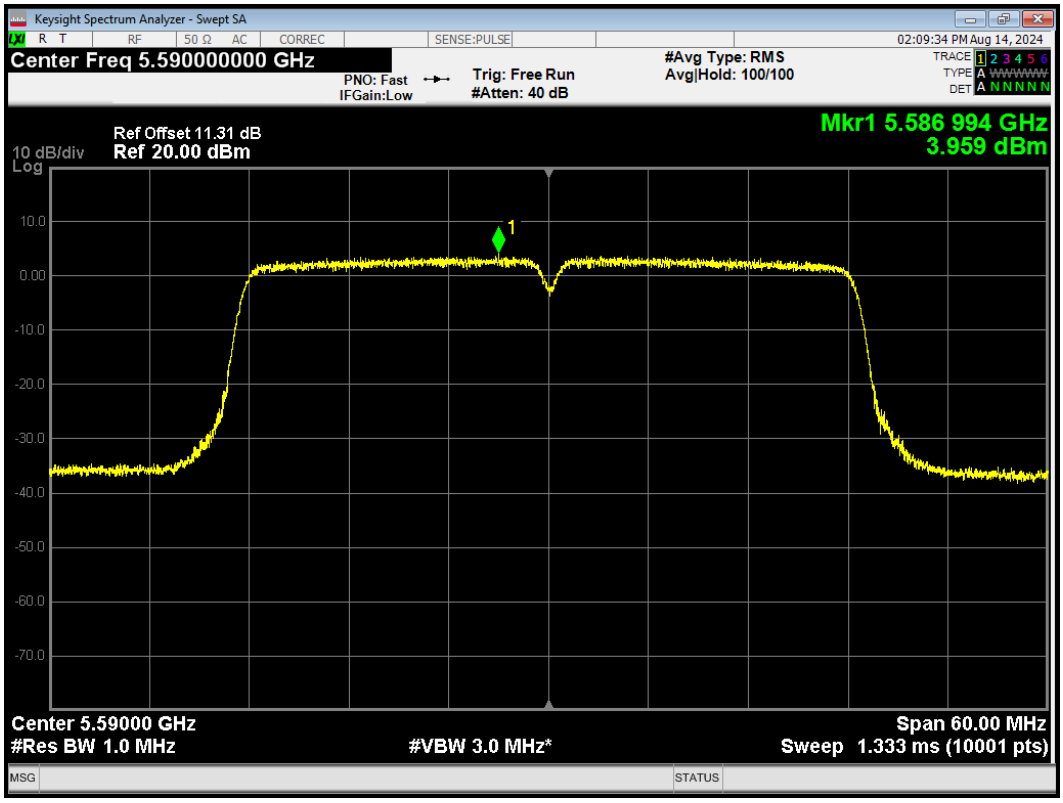
PSD 802.11n(HT20) 5720MHz



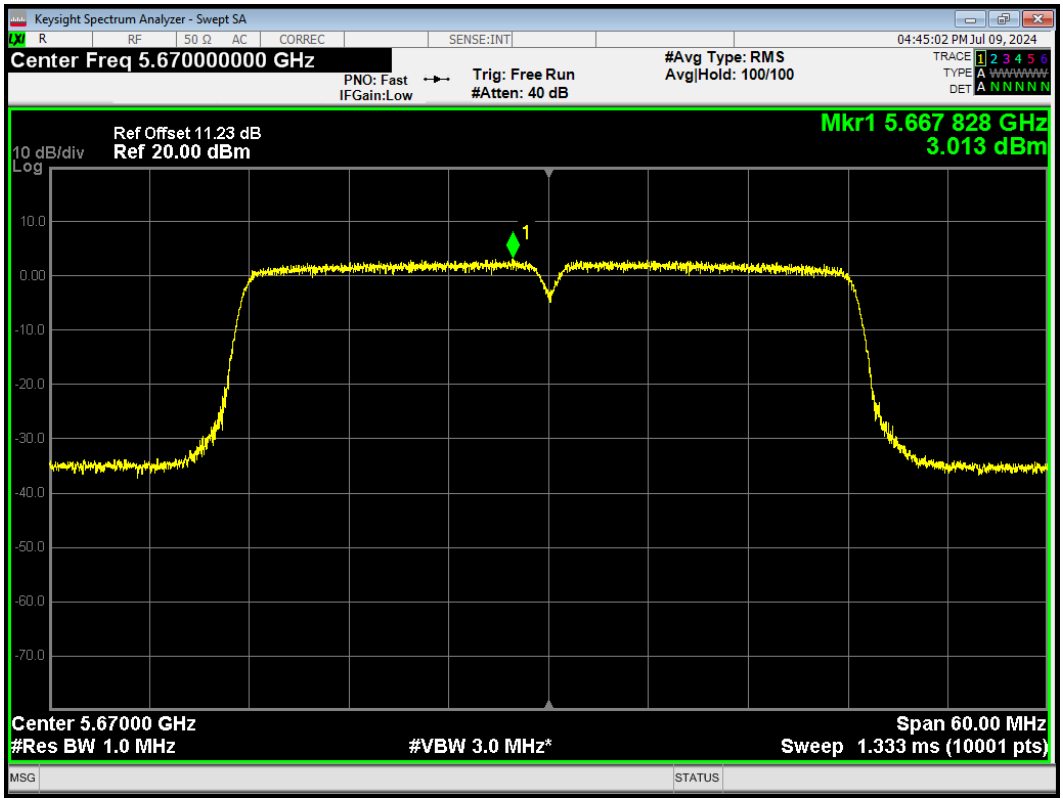
PSD 802.11n(HT40) 5510MHz



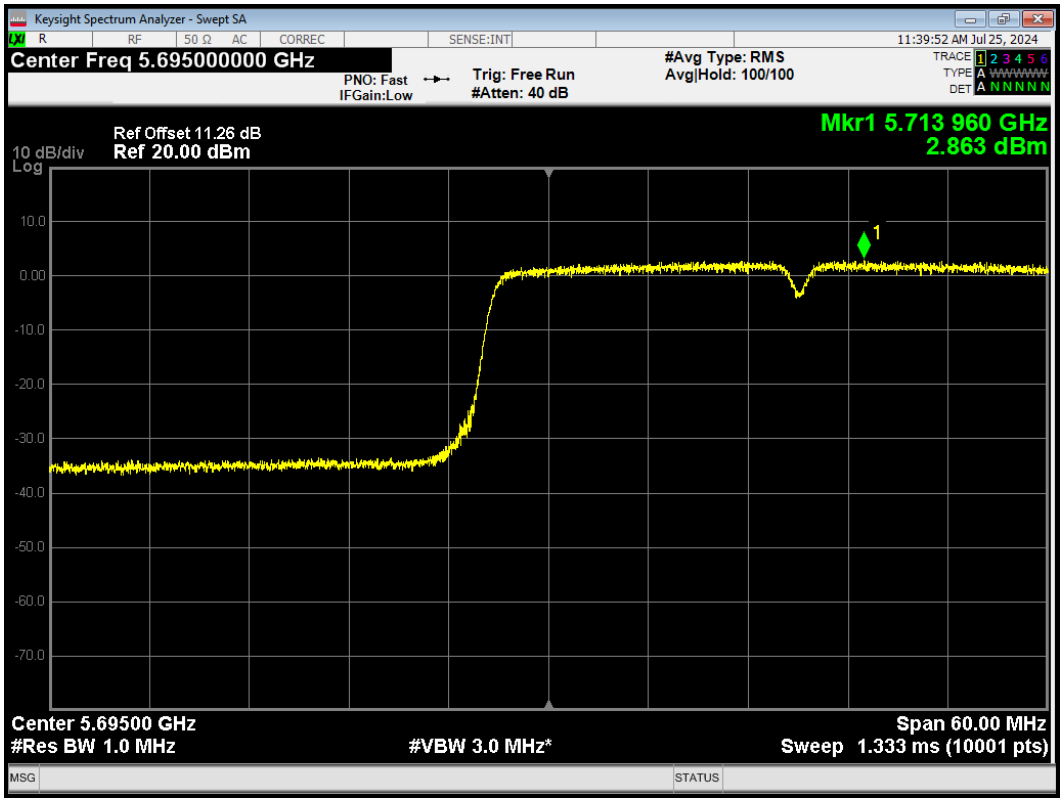
PSD 802.11n(HT40) 5590MHz



PSD 802.11n(HT40) 5670MHz

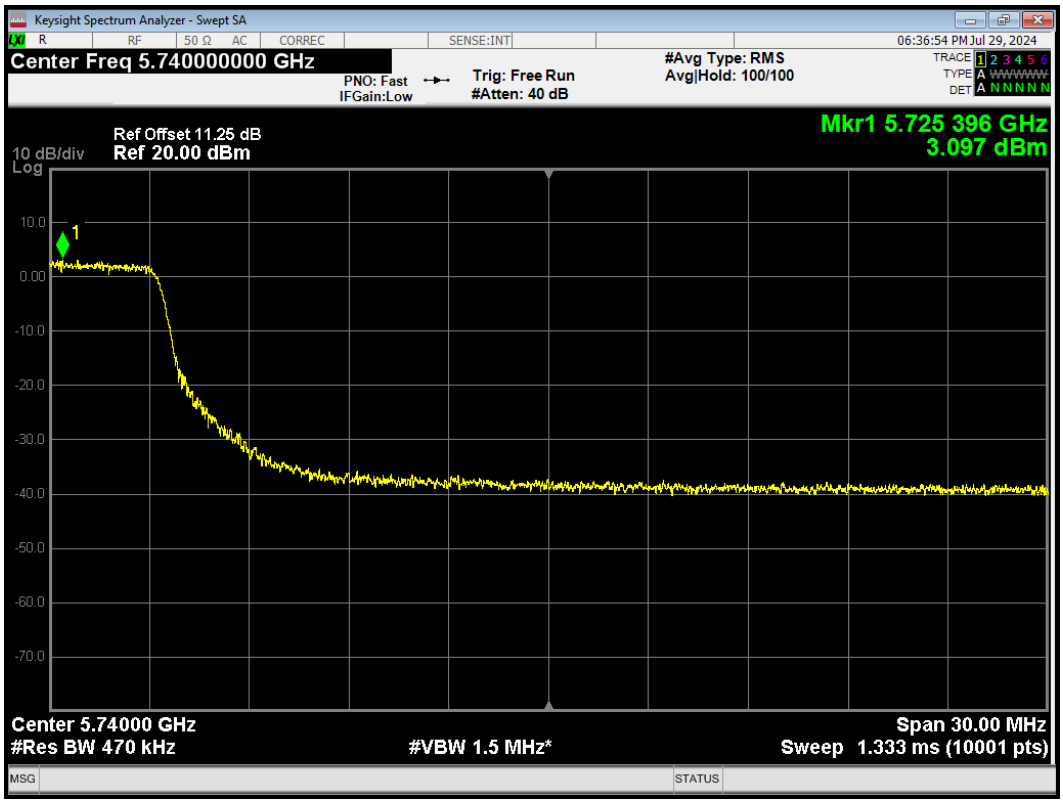


PSD 802.11n(HT40) 5710MHz

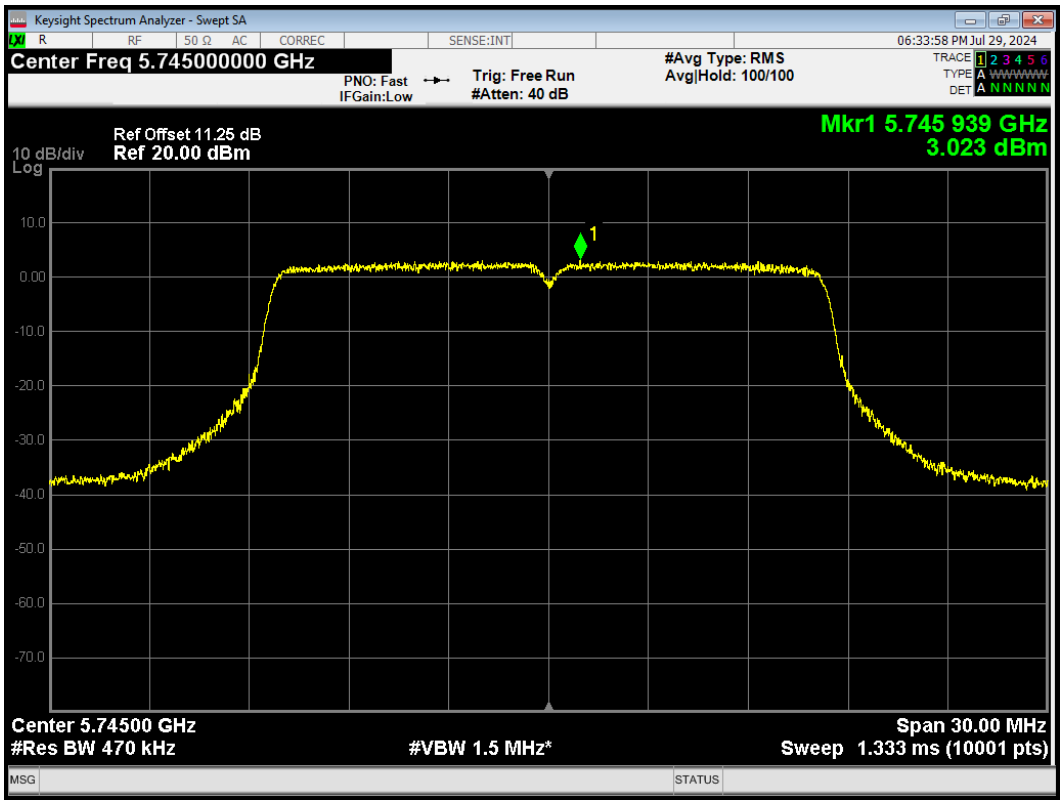


U-NII-3

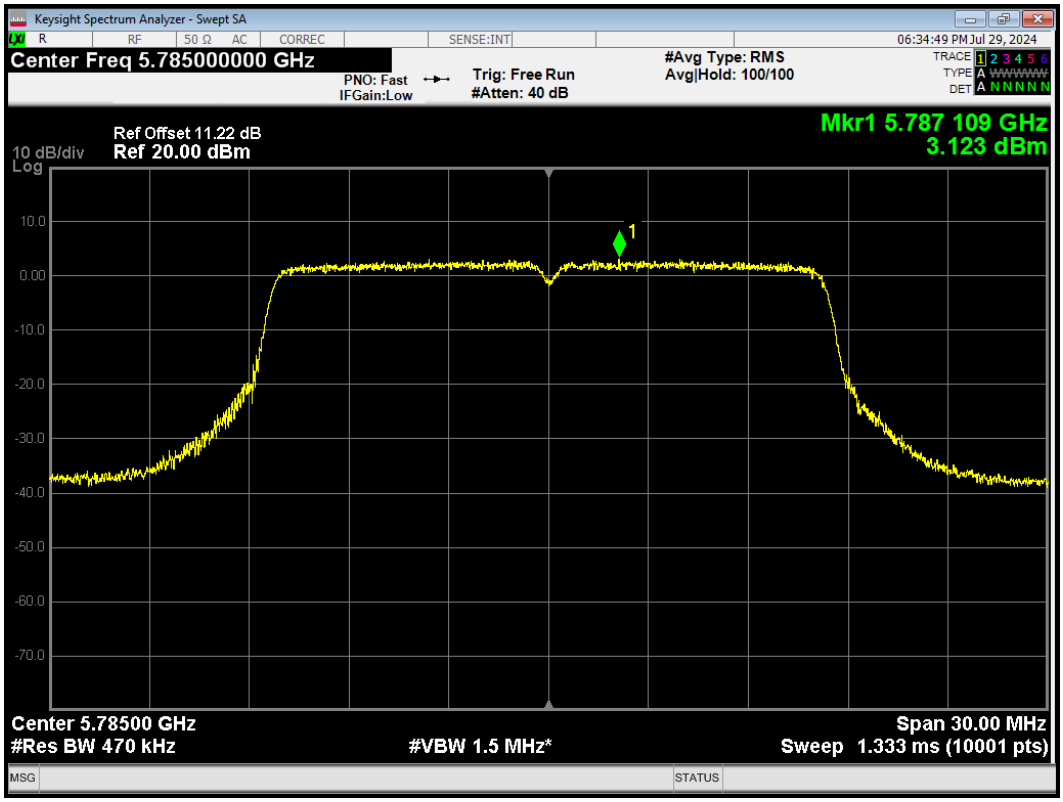
PSD 802.11a 5720MHz



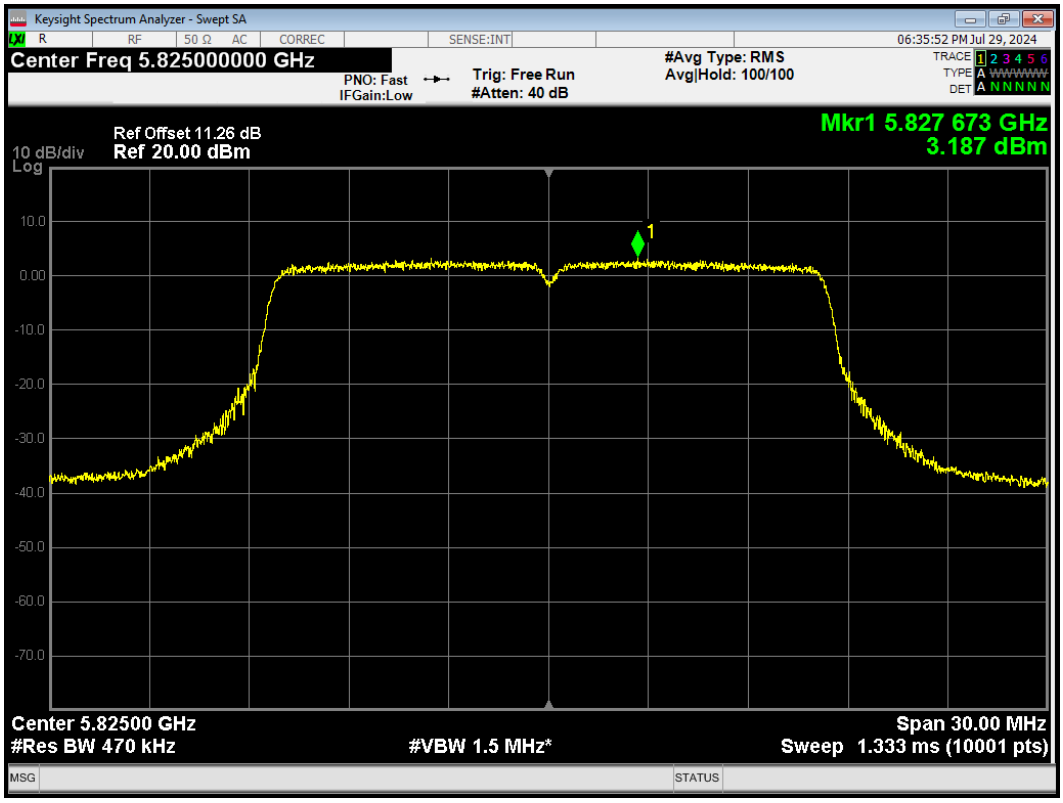
PSD 802.11a 5745MHz



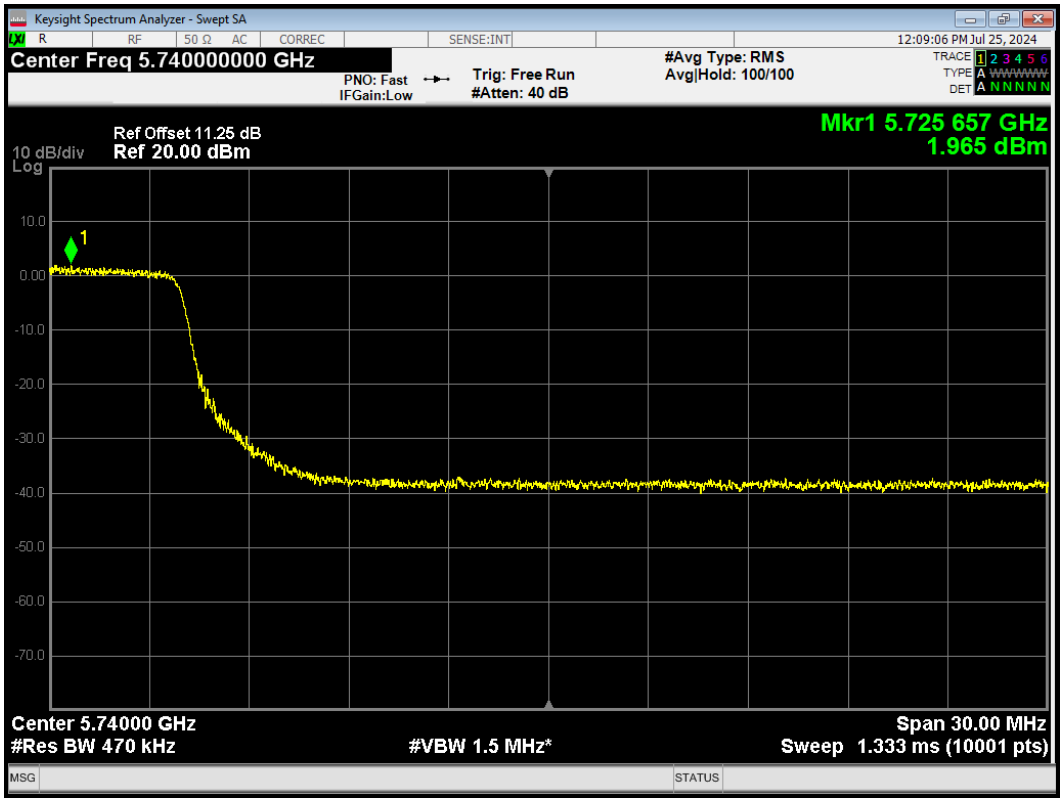
PSD 802.11a 5785MHz



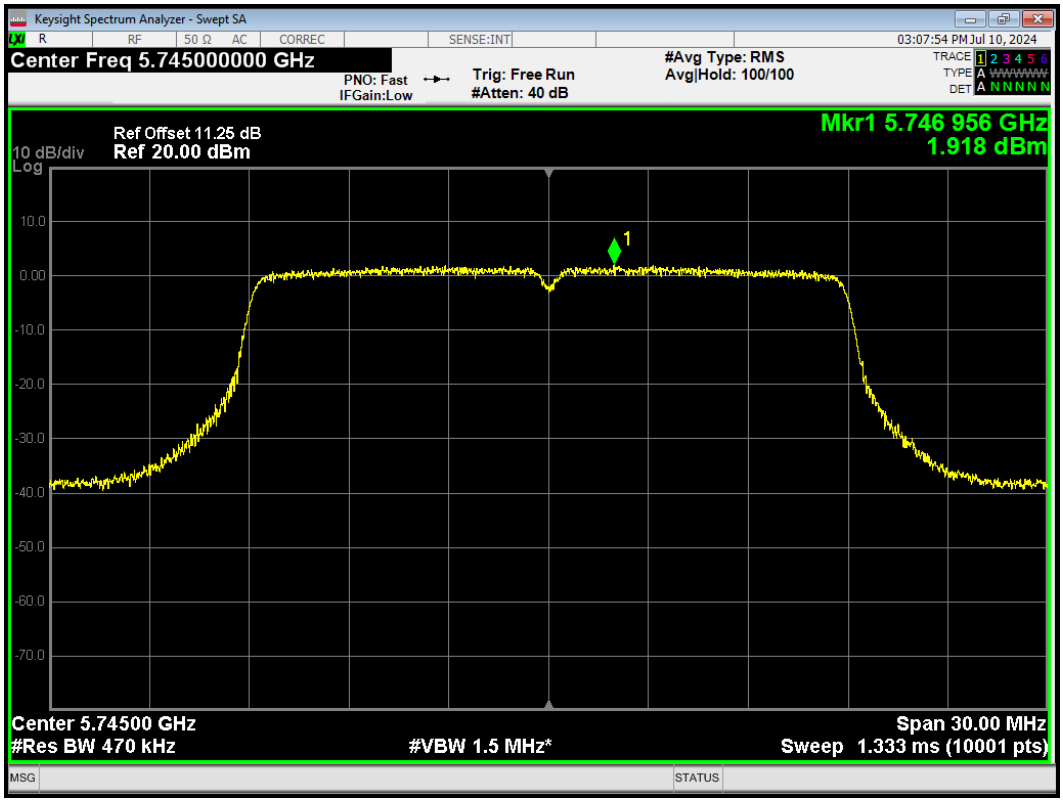
PSD 802.11a 5825MHz



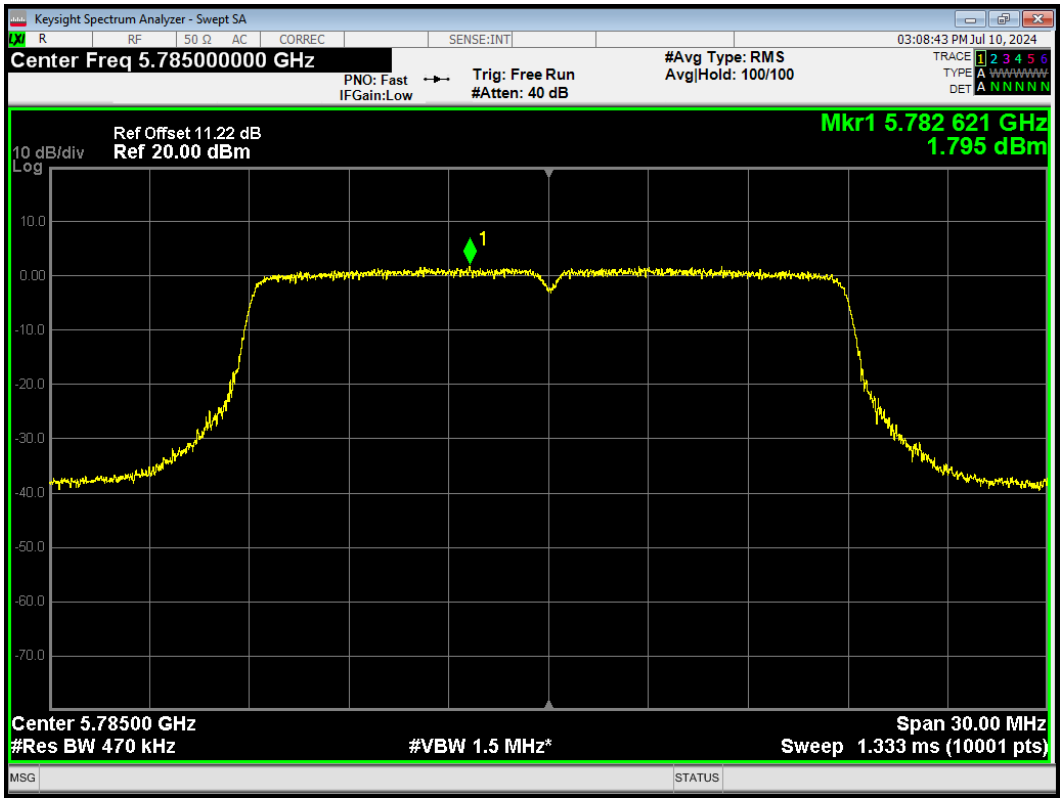
PSD 802.11ac(VHT20) 5720MHz



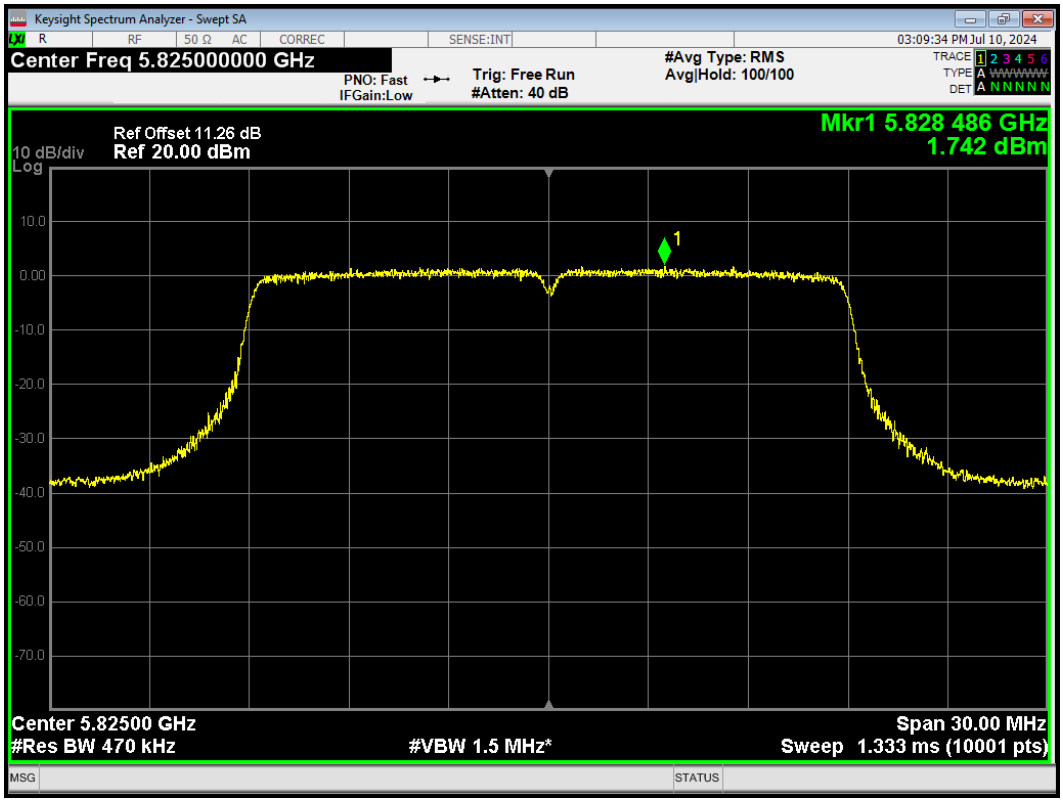
PSD 802.11ac(VHT20) 5745MHz



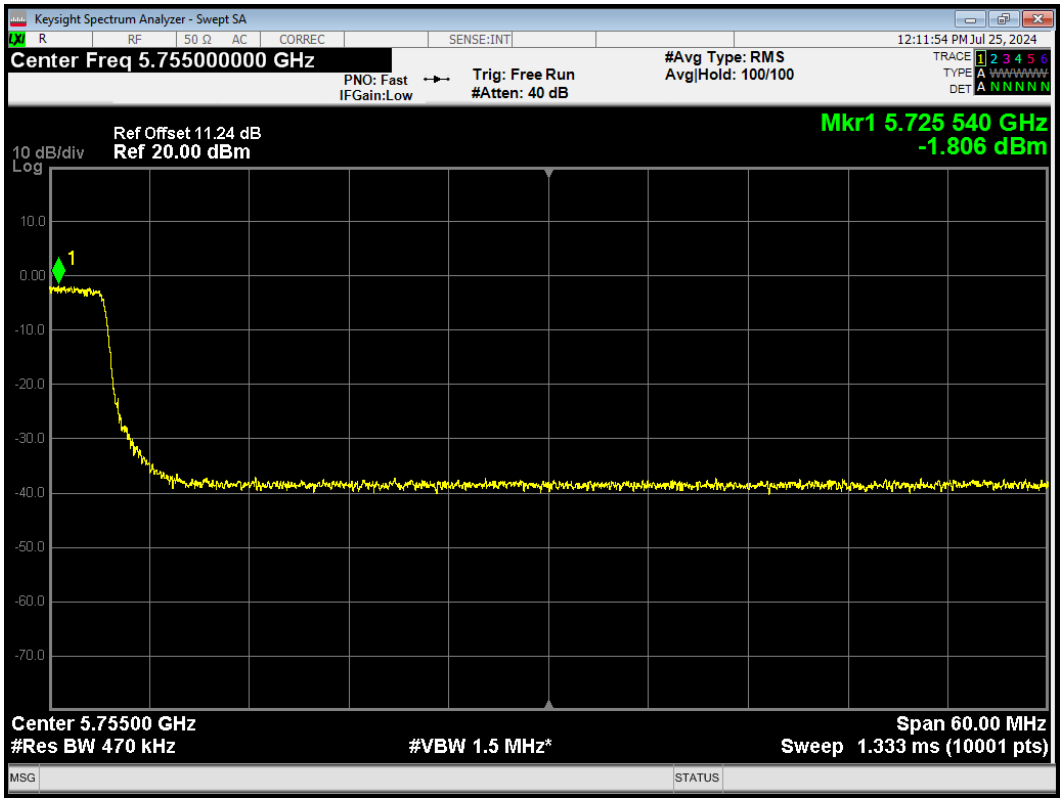
PSD 802.11ac(VHT20) 5785MHz



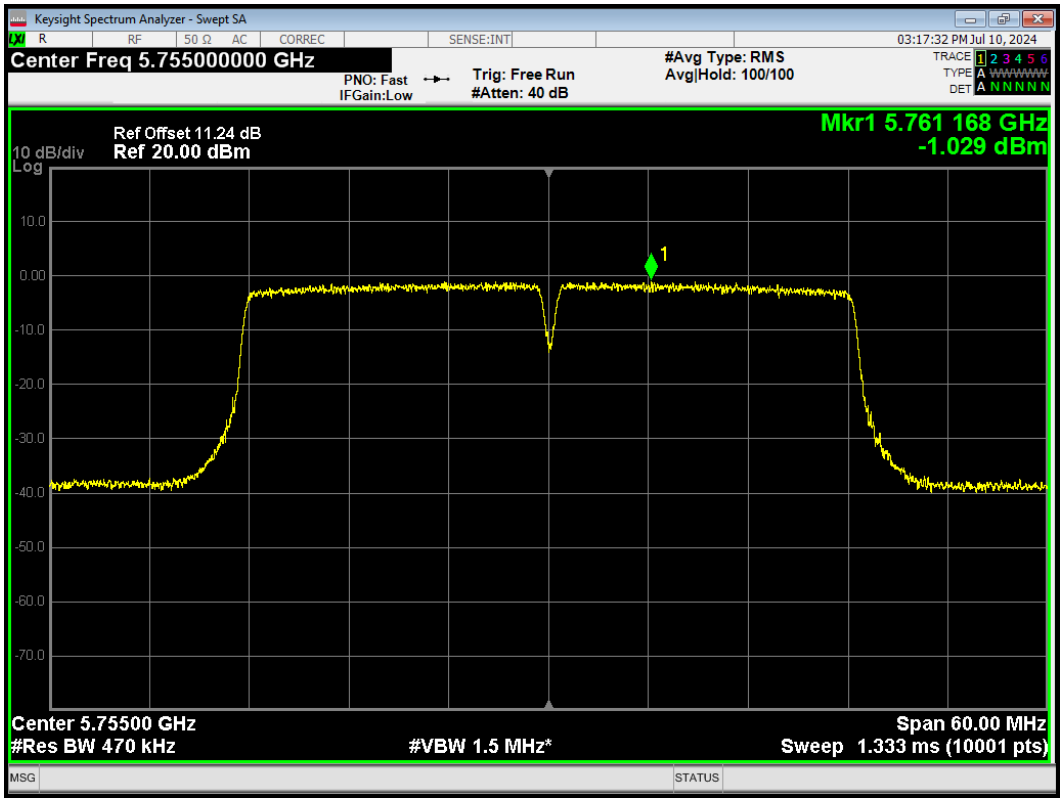
PSD 802.11ac(VHT20) 5825MHz



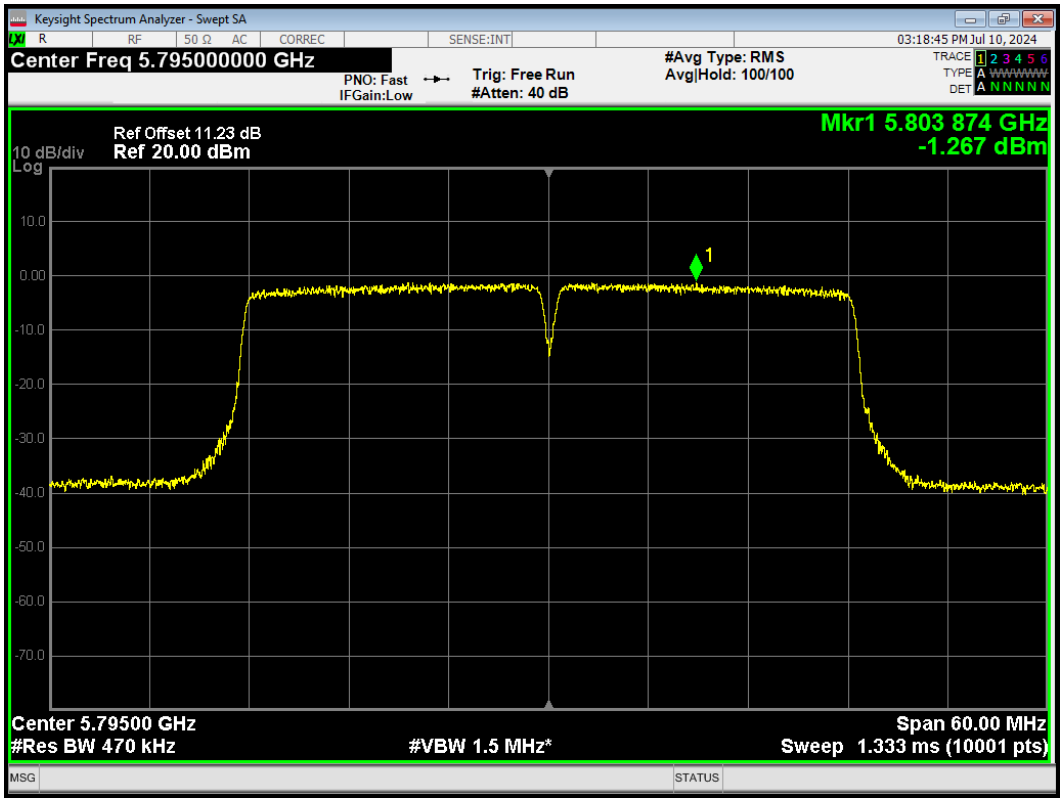
PSD 802.11ac(VHT40) 5710MHz



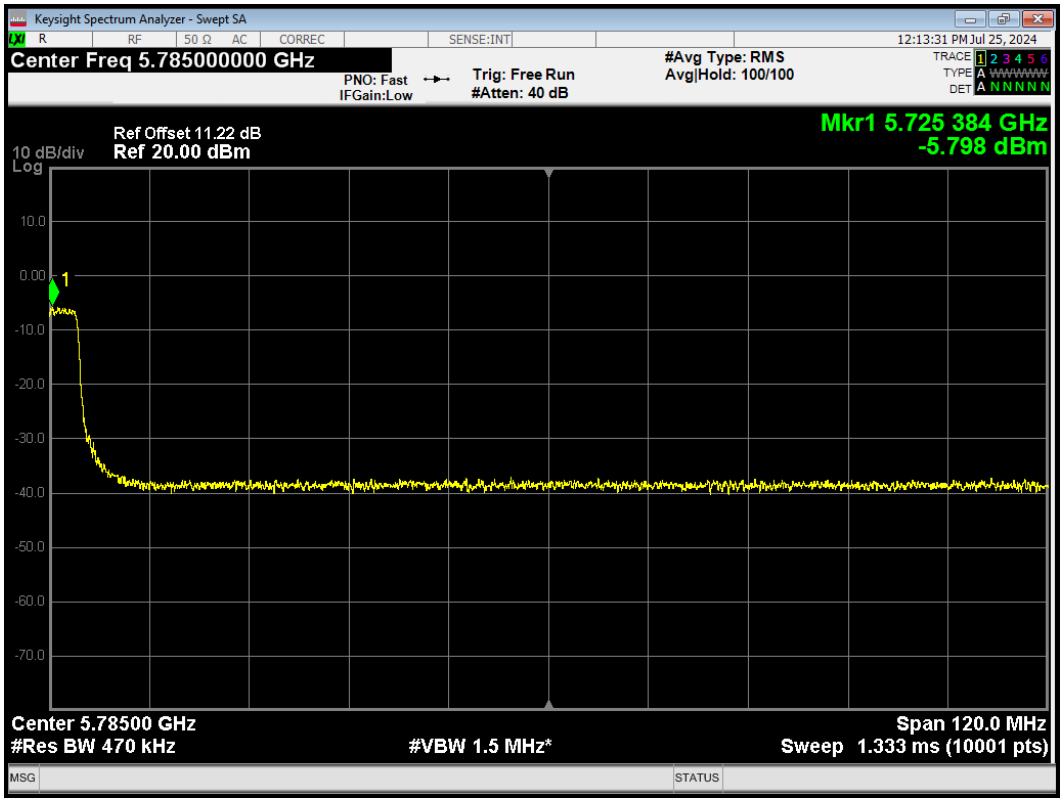
PSD 802.11ac(VHT40) 5755MHz



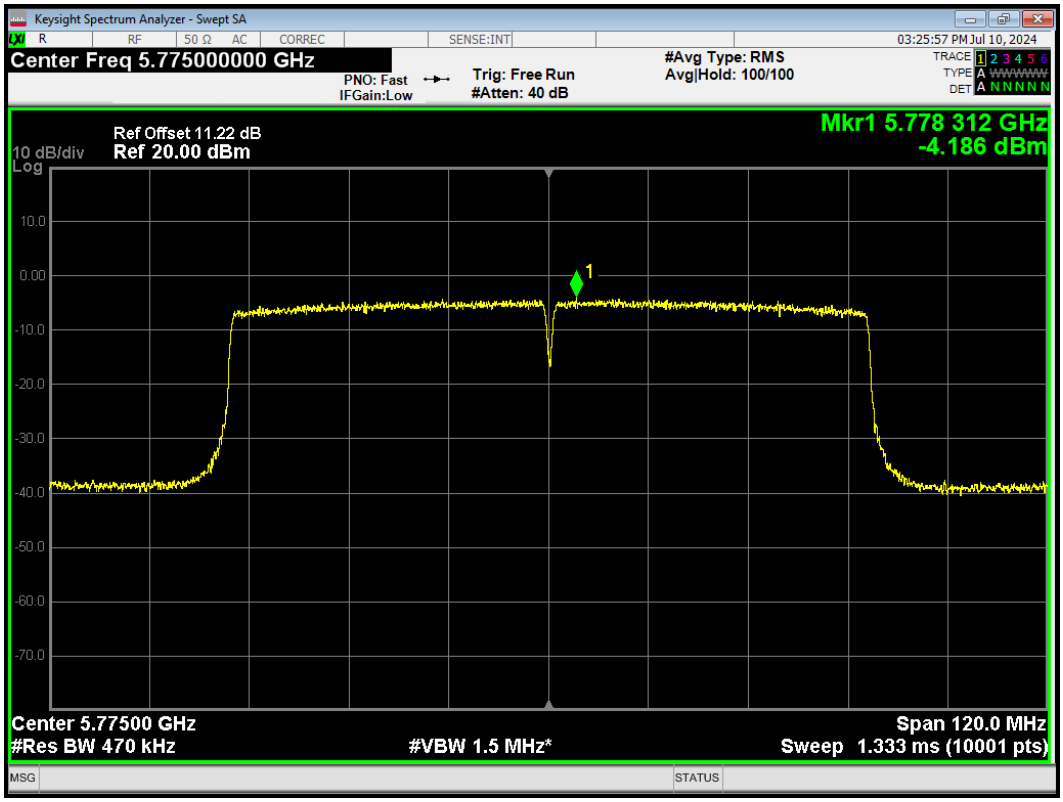
PSD 802.11ac(VHT40) 5795MHz



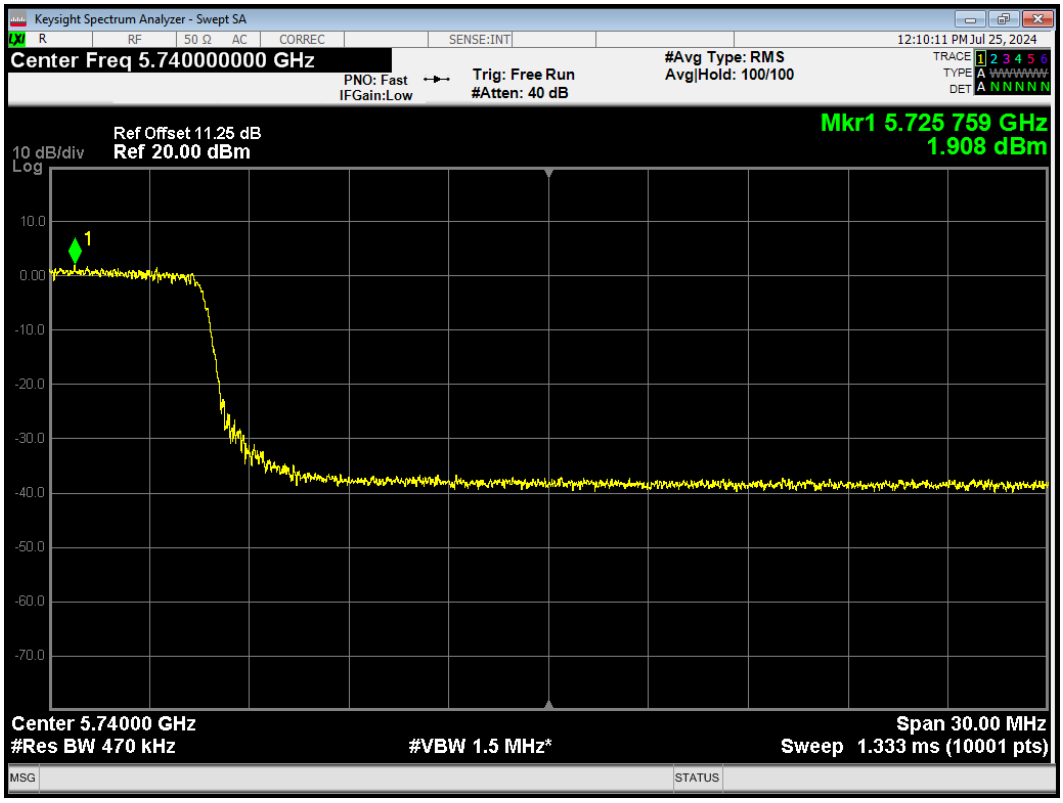
PSD 802.11ac(VHT80) 5690MHz



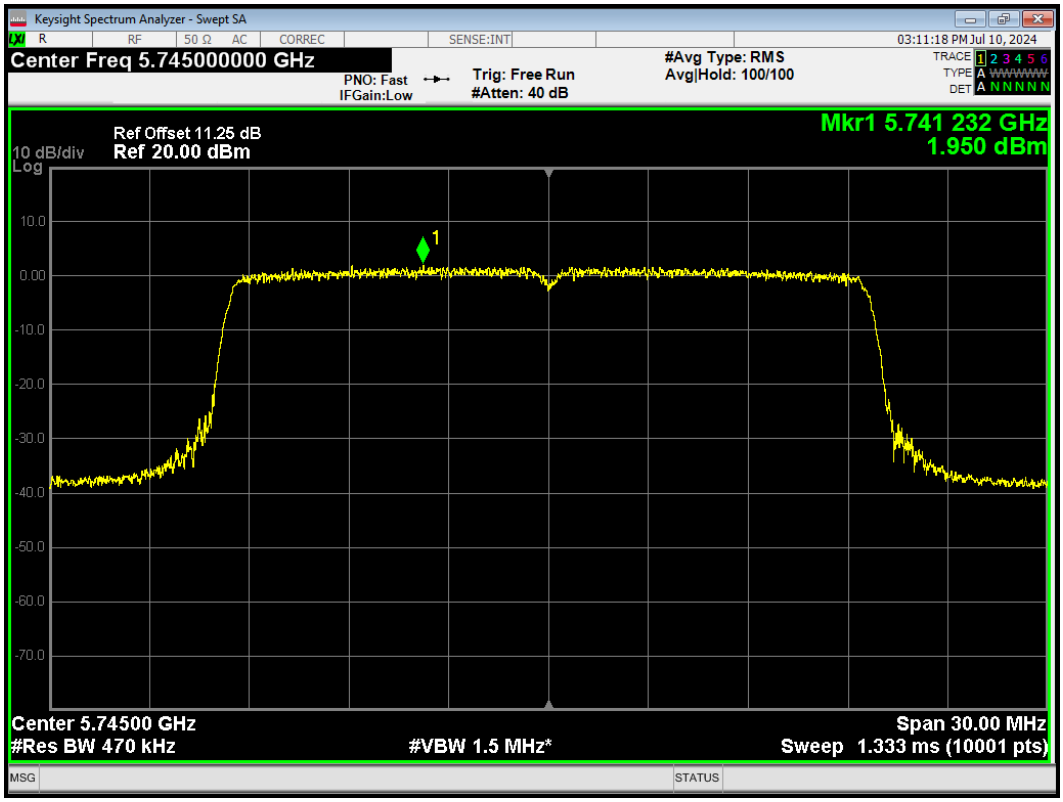
PSD 802.11ac(VHT80) 5775MHz



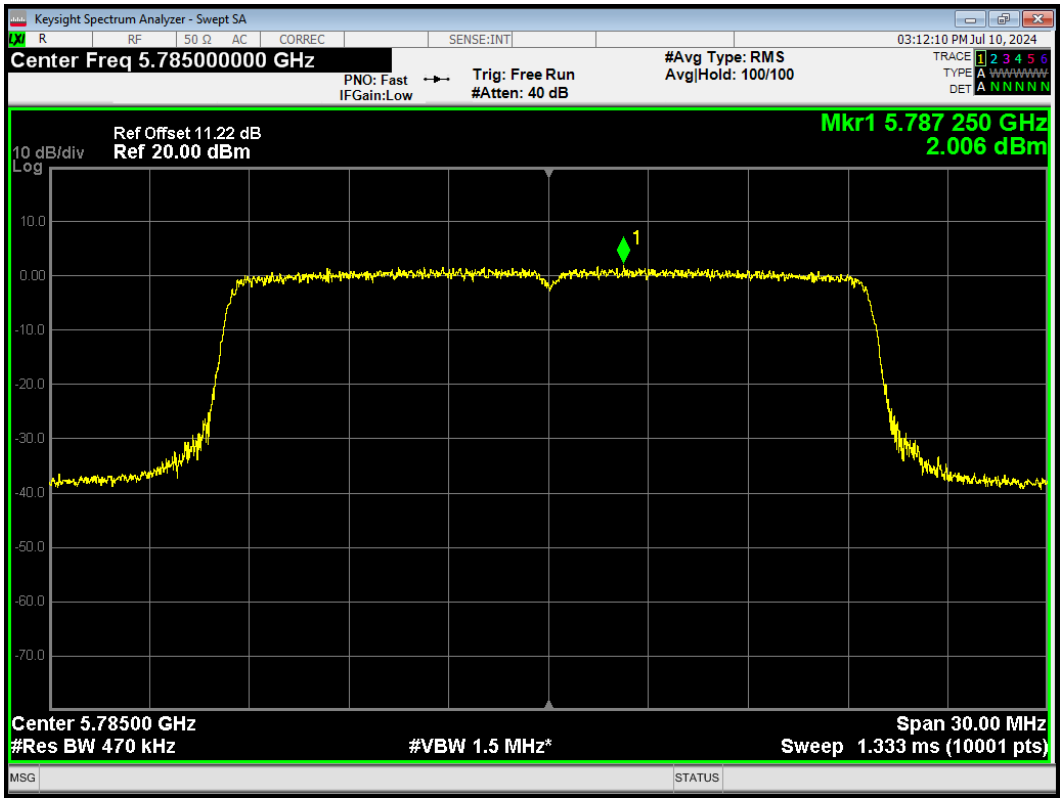
PSD 802.11ax(HE20) 5720MHz



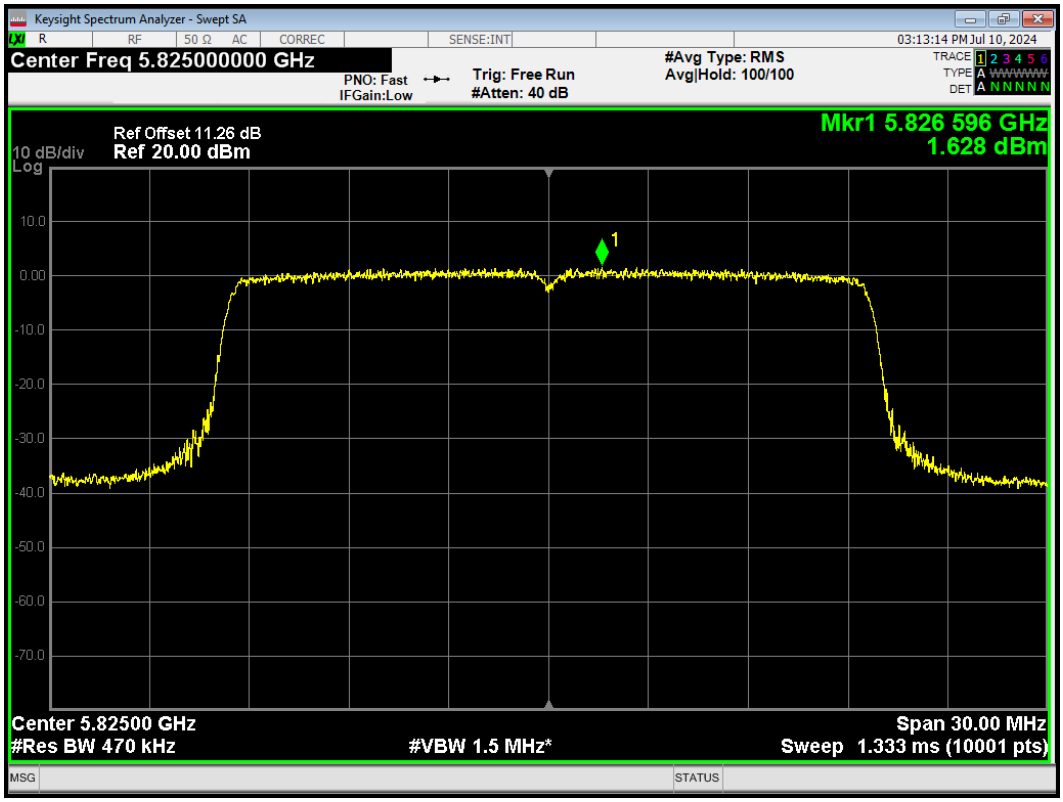
PSD 802.11ax(HE20) 5745MHz



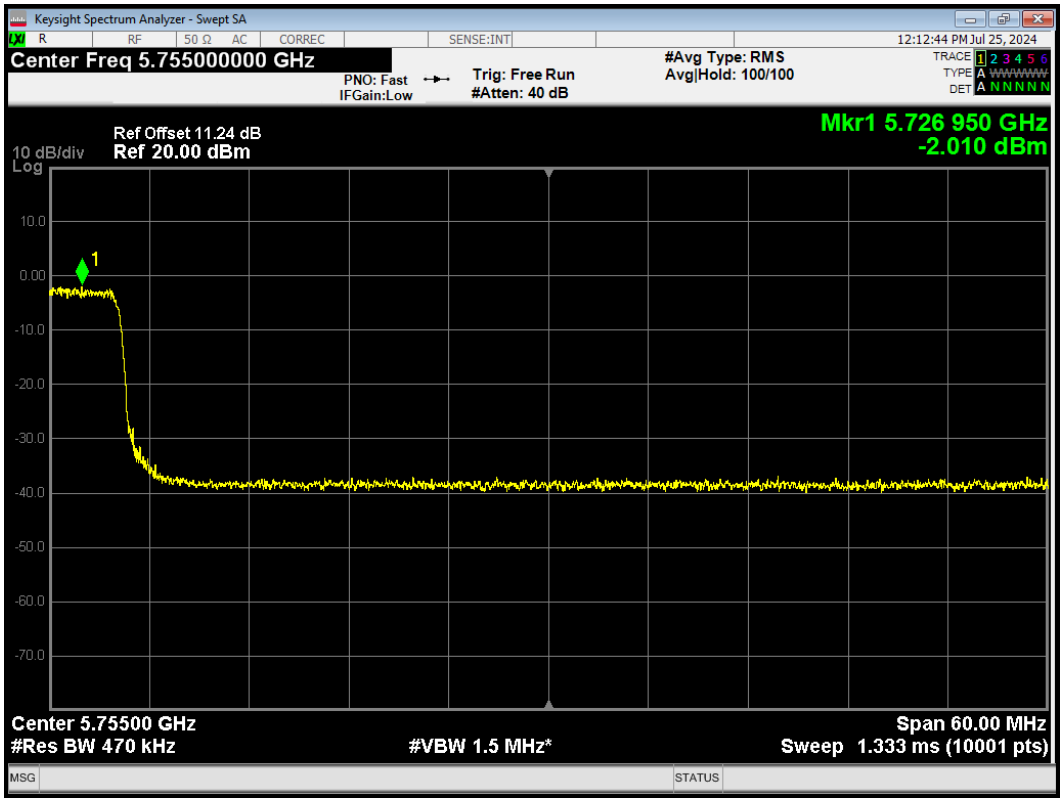
PSD 802.11ax(HE20) 5785MHz



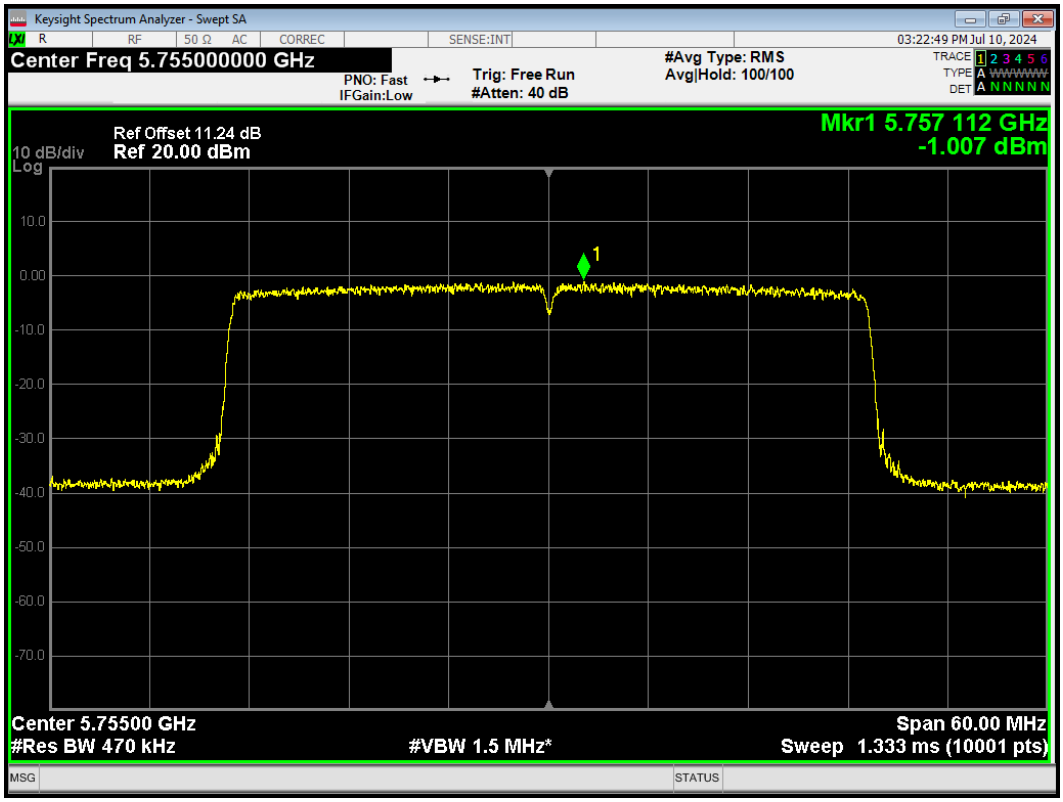
PSD 802.11ax(HE20) 5825MHz



PSD 802.11ax(HE40) 5710MHz



PSD 802.11ax(HE40) 5755MHz



PSD 802.11ax(HE40) 5795MHz