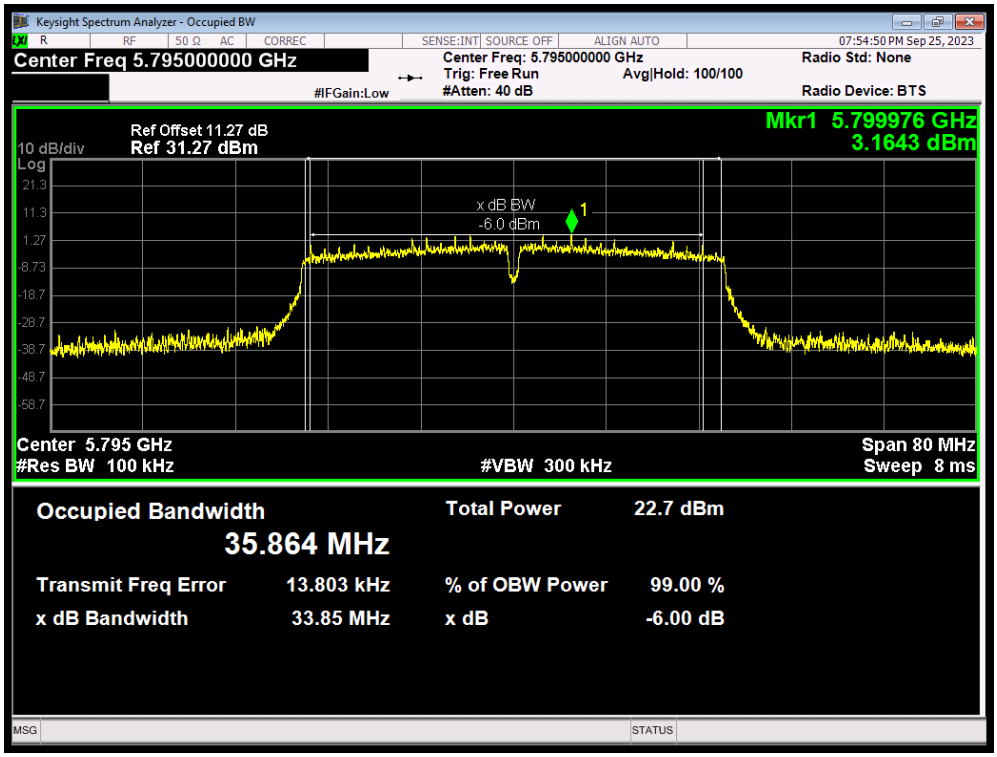
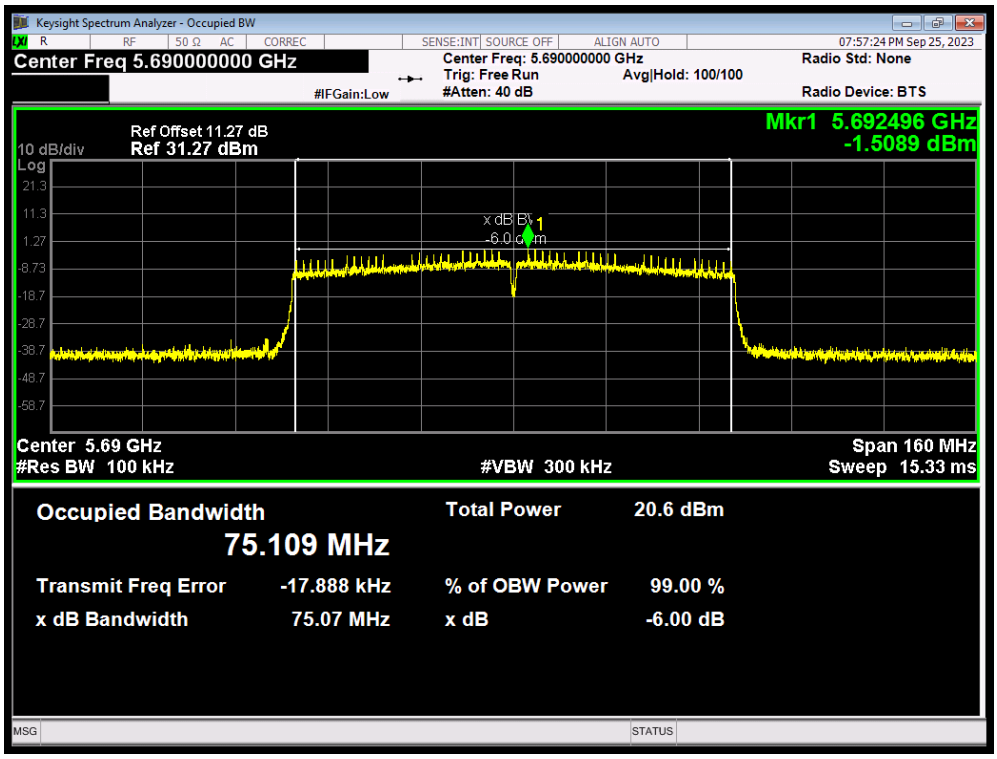
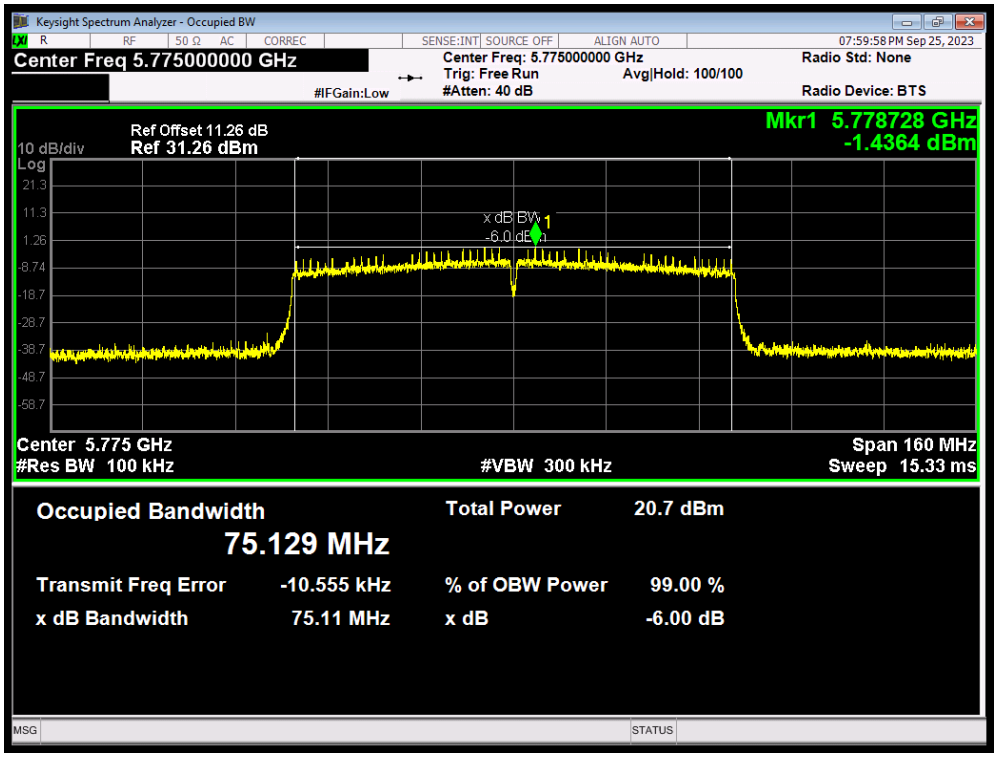
-6dB Bandwidth 802.11ac(VHT40) 5795MHz



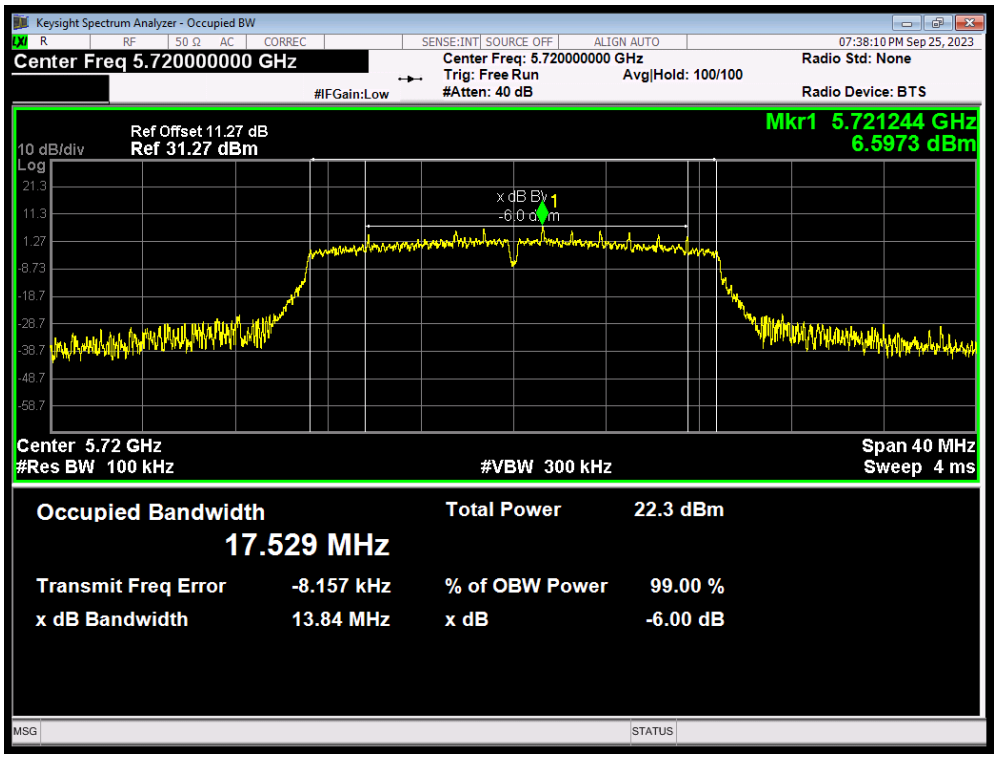
-6dB Bandwidth 802.11ac(VHT80) 5690MHz



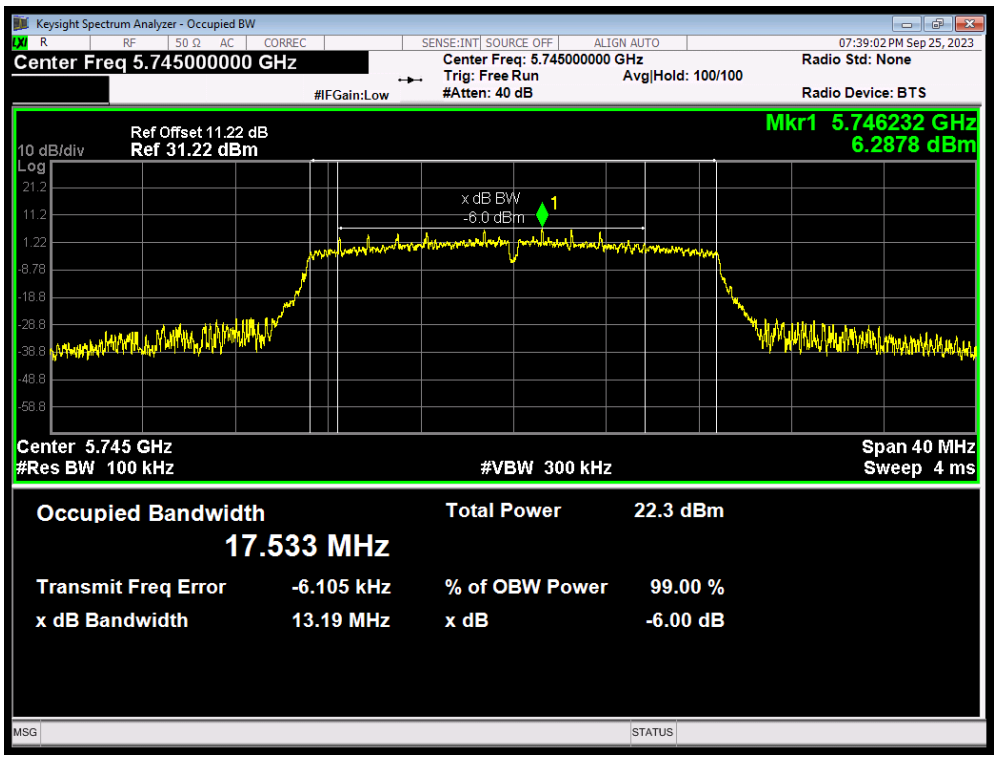
-6dB Bandwidth 802.11ac(VHT80) 5775MHz



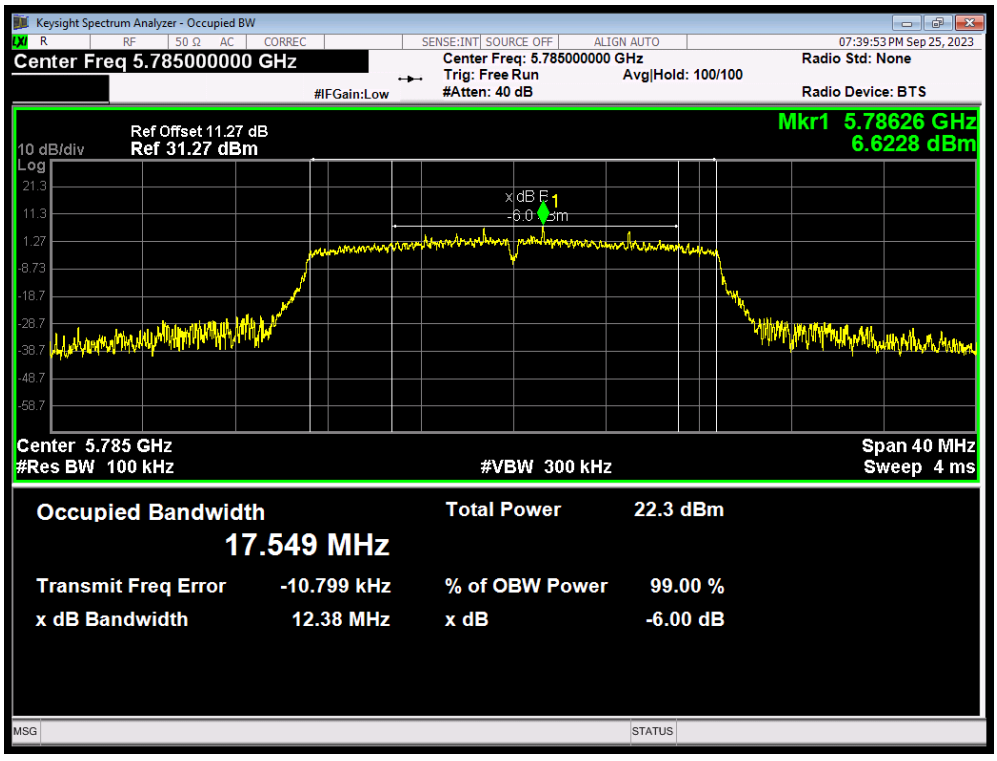
-6dB Bandwidth 802.11n(HT20) 5720MHz



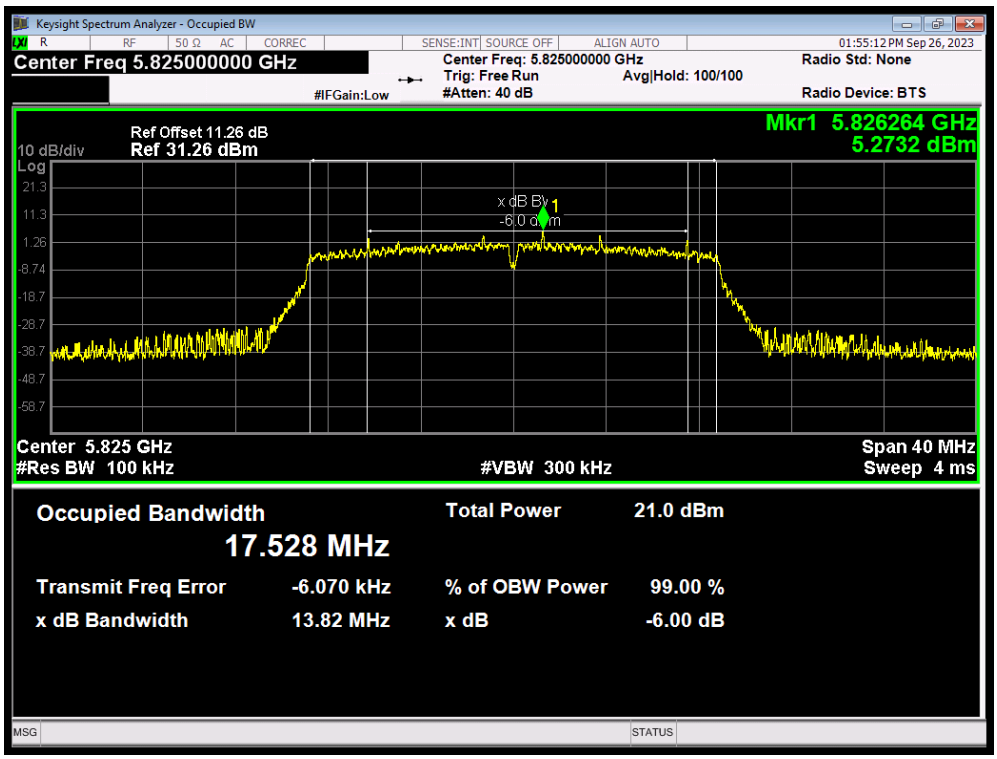
-6dB Bandwidth 802.11n(HT20) 5745MHz



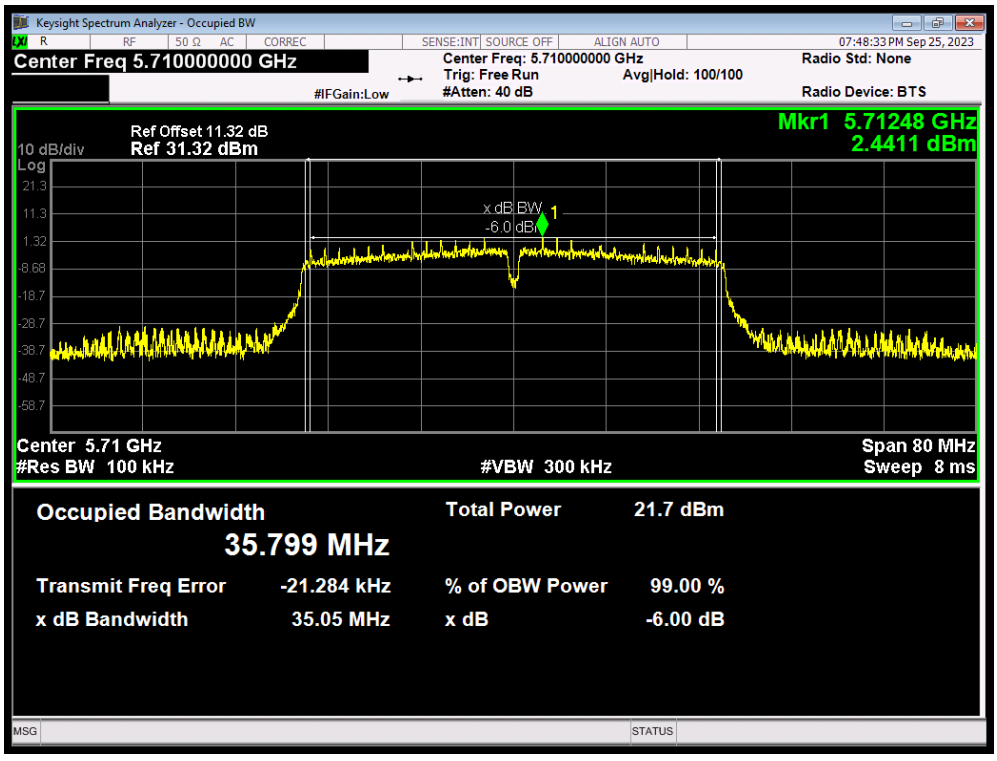
-6dB Bandwidth 802.11n(HT20) 5785MHz



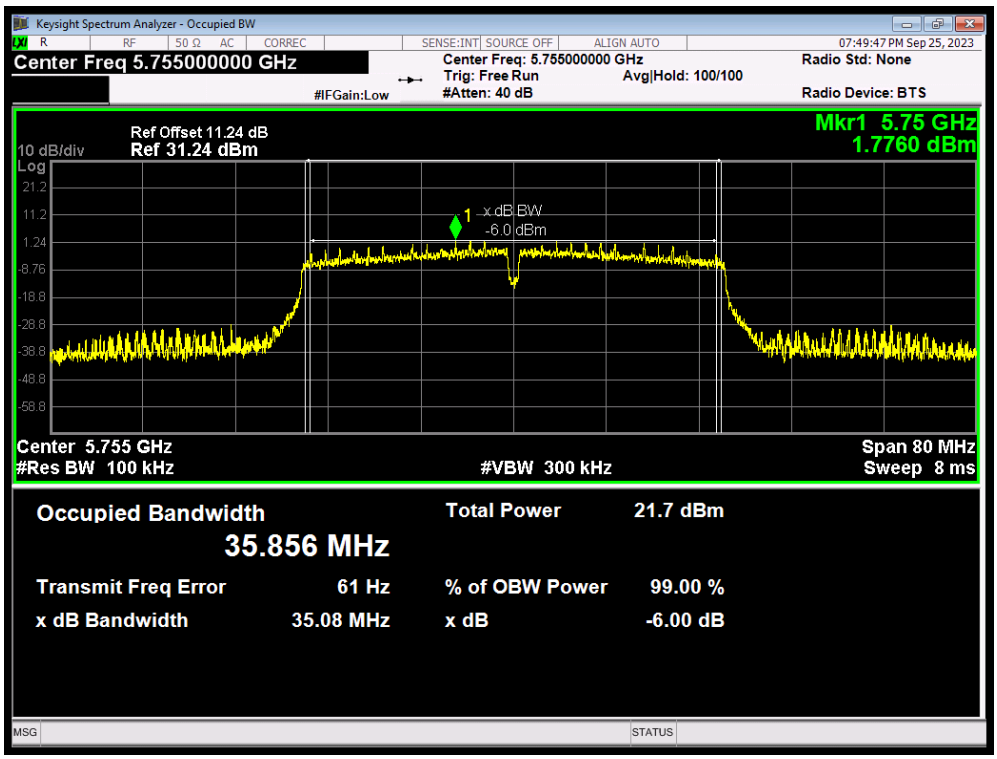
-6dB Bandwidth 802.11n(HT20) 5825MHz



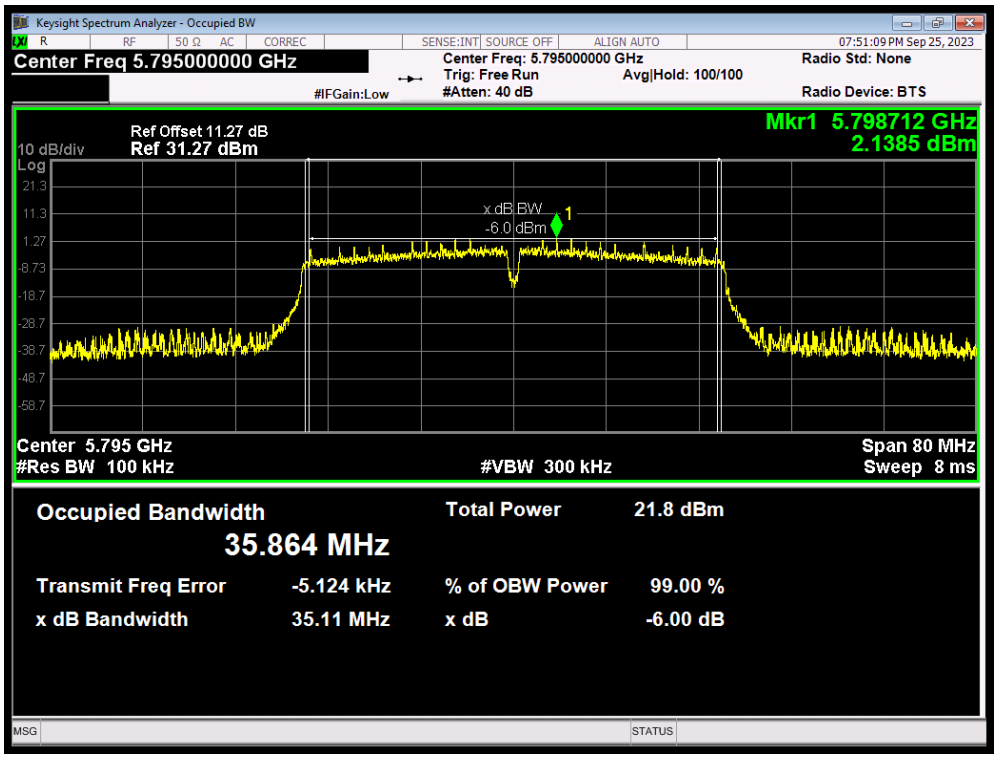
-6dB Bandwidth 802.11n(HT40) 5710MHz



-6dB Bandwidth 802.11n(HT40) 5755MHz



-6dB Bandwidth 802.11n(HT40) 5795MHz



5.2. Average Power Output

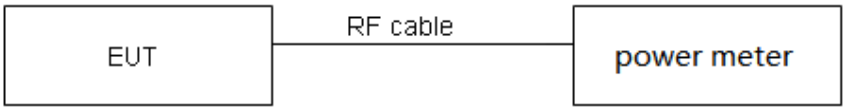
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

Test Setup



Limits

Rule FCC Part 15.407(a)(1) / FCC Part 15.407(a) (2) / FCC Part 15.407(a) (3)
(1) For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, 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.
(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude

the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
(iv) For 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.
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.
(3)For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, 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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

Test Results

Mode	Duty cycle	Duty cycle correction Factor (dB)
802.11a	0.974	0.11
802.11n HT20	0.974	0.11
802.11n HT40	0.949	0.23
802.11ac VHT20	0.974	0.11
802.11ac VHT40	0.950	0.22
802.11ac VHT80	0.905	0.43
Note: when Duty cycle≥0.98, Duty cycle correction Factor not required.		

Power Index								
Channel	802.11a	802.11n HT20	802.11ac VHT20	Channel	802.11n HT40	802.11ac VHT40	Channel	802.11ac VHT80
CH36	17	16	16	CH38	15	16	CH42	14
CH40	17	16	16	CH46	15	16	/	/
CH48	17	16	16	/	/	/	/	/
CH52	17	16	16	CH54	15	16	CH58	14
CH60	17	16	16	CH62	15	16	/	/
CH64	17	16	16	/	/	/	/	/
CH100	16	15	16	CH102	13	14	CH122	14
CH120	17	16	16	CH118	15	16	CH138	14
CH140	17	16	16	CH134	15	16	/	/
CH144	17	16	16	CH142	15	16	/	/
CH149	17	16	16	CH151	15	16	CH155	14
CH157	17	16	16	CH159	15	16	/	/
CH165	17	16	16	/	/	/	/	/

Test Mode		Channel/ Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit (dBm)
U-NII-2A	802.11a	52/5260	20.00	24.01 >24	24
		60/5300	20.75	24.17 >24	24
		64/5320	21.30	24.28 >24	24
	802.11n HT20	52/5260	21.51	24.33 >24	24
		60/5300	21.75	24.37 >24	24
		64/5320	20.82	24.19 >24	24
	802.11n HT40	54/5270	40.76	27.10 >24	24
		62/5310	40.43	27.07 >24	24
	802.11ac VHT20	52/5260	20.28	24.07 >24	24
		60/5300	20.26	24.07 >24	24
		64/5320	20.12	24.04 >24	24
	802.11ac VHT40	54/5270	40.49	27.07 >24	24
		62/5310	40.56	27.08 >24	24
	802.11ac VHT80	58/5290	80.69	30.07 >24	24
U-NII-2C	802.11a	100/5500	21.55	24.33 >24	24
		120/5600	23.14	24.64 >24	24
		140/5700	22.50	24.52 >24	24
		144/5720	22.56	24.53 >24	24
	802.11n HT20	100/5500	21.34	24.29 >24	24
		120/5600	23.35	24.68 >24	24
		140/5700	23.06	24.63 >24	24
		144/5720	22.48	24.52 >24	24
	802.11n HT40	102/5510	40.75	27.10 >24	24
		118/5590	40.06	27.03 >24	24
		134/5670	40.86	27.11 >24	24
		142/5710	40.85	27.11 >24	24
	802.11ac VHT20	100/5500	20.16	24.04 >24	24
		120/5600	20.18	24.05 >24	24
		140/5700	20.20	24.05 >24	24
		144/5720	20.41	24.10 >24	24
	802.11ac VHT40	102/5510	40.66	27.09 >24	24
		118/5590	40.21	27.04 >24	24
		134/5670	40.51	27.08 >24	24
		142/5710	40.77	27.10 >24	24
	802.11ac VHT80	122/5610	81.10	30.09 >24	24
		138/5690	80.85	30.08 >24	24
Note: 250mW=24dBm					

U-NII-1

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	36/5180	16.86	16.97	24	PASS
	40/5200	17.27	17.38	24	PASS
	48/5240	17.35	17.46	24	PASS
802.11n HT20	36/5180	16.24	16.35	24	PASS
	40/5200	16.19	16.30	24	PASS
	48/5240	16.26	16.37	24	PASS
802.11n HT40	38/5190	14.20	14.43	24	PASS
	46/5230	14.61	14.84	24	PASS
802.11ac VHT20	36/5180	16.27	16.38	24	PASS
	40/5200	16.19	16.30	24	PASS
	48/5240	16.27	16.38	24	PASS
802.11ac VHT40	38/5190	15.31	15.53	24	PASS
	46/5230	15.79	16.01	24	PASS
802.11ac VHT80	42/5210	13.43	13.86	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	52/5260	17.54	17.65	24	PASS
	60/5300	17.67	17.78	24	PASS
	64/5320	17.65	17.76	24	PASS
802.11n HT20	52/5260	16.43	16.54	24	PASS
	60/5300	16.56	16.67	24	PASS
	64/5320	16.52	16.63	24	PASS
802.11n HT40	54/5270	15.21	15.44	24	PASS
	62/5310	14.91	15.14	24	PASS
802.11ac VHT20	52/5260	16.41	16.52	24	PASS
	60/5300	16.04	16.15	24	PASS
	64/5320	16.42	16.53	24	PASS
802.11ac VHT40	54/5270	16.20	16.42	24	PASS
	62/5310	15.92	16.14	24	PASS
802.11ac VHT80	58/5290	13.94	14.37	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	100/5500	16.12	16.23	24	PASS
	120/5600	17.44	17.55	24	PASS
	140/5700	17.30	17.41	24	PASS
	144/5720	16.56	16.67	24	PASS
802.11n HT20	100/5500	14.98	15.09	24	PASS
	120/5600	16.32	16.43	24	PASS
	140/5700	16.17	16.28	24	PASS
	144/5720	15.34	15.45	24	PASS
802.11n HT40	102/5510	12.69	12.92	24	PASS
	118/5590	15.25	15.48	24	PASS
	134/5670	15.28	15.51	24	PASS
	142/5710	14.33	14.56	24	PASS
802.11ac VHT20	100/5500	16.06	16.17	24	PASS
	120/5600	16.33	16.44	24	PASS
	140/5700	15.61	15.72	24	PASS
	144/5720	15.28	15.39	24	PASS
802.11ac VHT40	102/5510	13.75	13.97	24	PASS
	118/5590	16.34	16.56	24	PASS
	134/5670	16.26	16.48	24	PASS
	142/5710	15.40	15.62	24	PASS
802.11ac VHT80	122/5610	13.77	14.20	24	PASS
	138/5690	12.81	13.24	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11a	144/5720	8.51	8.62	30	PASS
	149/5745	17.29	17.40	30	PASS
	157/5785	17.54	17.65	30	PASS
	165/5825	17.69	17.80	30	PASS
802.11n HT20	144/5720	8.19	8.30	30	PASS
	149/5745	16.18	16.29	30	PASS
	157/5785	16.34	16.45	30	PASS
	165/5825	16.48	16.59	30	PASS
802.11n HT40	142/5710	2.34	2.57	30	PASS
	151/5755	15.15	15.38	30	PASS
	159/5795	15.28	15.51	30	PASS
802.11ac VHT20	144/5720	8.25	8.36	30	PASS
	149/5745	16.20	16.31	30	PASS
	157/5785	16.34	16.45	30	PASS
	165/5825	16.49	16.60	30	PASS
802.11ac VHT40	142/5710	3.59	3.81	30	PASS
	151/5755	16.20	16.42	30	PASS
	159/5795	16.30	16.52	30	PASS
802.11ac VHT80	138/5690	3.91	4.34	30	PASS
	155/5775	13.80	14.23	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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
3.89	-30	5199.996517	5199.987859	5199.980125	5199.972658
3.89	-20	5200.005800	5199.986520	5199.971308	5199.968526
3.89	-10	5199.996133	5199.981133	5199.968808	5199.966904
3.89	0	5200.002310	5199.985448	5199.963850	5199.961400
3.89	10	5199.995964	5199.983814	5199.963693	5199.954063
3.89	20	5199.991485	5199.975958	5199.954540	5199.949087
3.89	30	5199.984504	5199.973806	5199.947888	5199.941664
3.89	40	5199.978786	5199.971450	5199.940741	5199.937392
3.89	50	5199.973138	5199.969965	5199.940670	5199.931200
3.6	20	5199.970702	5199.963916	5199.933248	5199.927639
4.48	20	5199.968872	5199.959037	5199.924955	5199.925006
Max. ΔMHz		-0.031128	-0.040963	-0.075045	-0.0749940
PPM		-5.986154	-7.877500	-14.431731	-14.421923

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.89	-30	5299.995314	5299.991785	5299.989337	5299.979547
3.89	-20	5299.986243	5299.982146	5299.985771	5299.976745
3.89	-10	5299.983241	5299.976614	5299.982632	5299.969308
3.89	0	5299.977863	5299.976196	5299.979554	5299.971572
3.89	10	5299.970916	5299.967536	5299.978218	5299.966209
3.89	20	5299.964425	5299.957807	5299.970066	5299.965426
3.89	30	5299.959736	5299.956523	5299.968449	5299.964578
3.89	40	5299.954357	5299.948121	5299.963274	5299.964161
3.89	50	5299.953340	5299.943032	5299.956107	5299.960006
3.6	20	5299.948914	5299.940338	5299.950827	5299.959325
4.48	20	5299.948001	5299.939990	5299.943061	5299.957729
Max. ΔMHz		-0.051999	-0.060010	-0.056939	-0.042271
PPM		-9.811132	-11.322642	-10.743208	-7.975660

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.89	-30	5579.991547	5579.985291	5579.980611	5579.971963
3.89	-20	5579.988362	5579.976681	5579.974462	5579.969081
3.89	-10	5579.978395	5579.975165	5579.970590	5579.968242
3.89	0	5579.986198	5579.976124	5579.964465	5579.965903
3.89	10	5579.983079	5579.974647	5579.955510	5579.964287
3.89	20	5579.982030	5579.971671	5579.946579	5579.961499
3.89	30	5579.975982	5579.963771	5579.945052	5579.960172
3.89	40	5579.967423	5579.956347	5579.940249	5579.958340
3.89	50	5579.965701	5579.946646	5579.930652	5579.954667
3.6	20	5579.957872	5579.940917	5579.923429	5579.948753
4.48	20	5579.956862	5579.938232	5579.920641	5579.940264
Max. ΔMHz		-0.0431380	-0.0617680	-0.0793590	-0.0597360
PPM		-7.730824	-11.069534	-14.222043	-10.705376

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.89	-30	5784.999687	5784.990652	5784.984114	5784.981767
3.89	-20	5784.992334	5784.984695	5784.977468	5784.972197
3.89	-10	5784.985805	5784.979921	5784.973822	5784.965204
3.89	0	5784.987328	5784.974697	5784.967614	5784.963665
3.89	10	5784.983650	5784.968435	5784.966172	5784.963575
3.89	20	5784.980741	5784.958809	5784.961053	5784.954440
3.89	30	5784.975085	5784.948877	5784.960047	5784.950604
3.89	40	5784.969592	5784.943340	5784.951870	5784.948274
3.89	50	5784.959898	5784.934033	5784.943911	5784.947563
3.6	20	5784.950852	5784.927828	5784.940636	5784.941748
4.48	20	5784.950145	5784.918116	5784.940422	5784.938481
Max. ΔMHz		-0.049855	-0.0818840	-0.0595780	-0.0615190
PPM		-8.617978	-14.154538	-10.298704	-10.634226

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

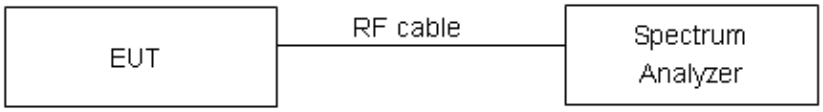
Method of Measurement

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:

U-NII-1

Mode	Channel/ Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36/5180	7.32	7.43	11	PASS
	40/5200	7.80	7.91	11	PASS
	48/5240	7.80	7.91	11	PASS
802.11n HT20	36/5180	6.79	6.90	11	PASS
	40/5200	6.28	6.39	11	PASS
	48/5240	6.51	6.62	11	PASS
802.11n HT40	38/5190	1.57	1.80	11	PASS
	46/5230	1.91	2.14	11	PASS
802.11ac VHT20	36/5180	6.53	6.64	11	PASS
	40/5200	6.74	6.85	11	PASS
	48/5240	6.39	6.50	11	PASS
802.11ac VHT40	38/5190	2.8	3.02	11	PASS
	46/5230	3.17	3.39	11	PASS
802.11ac VHT80	42/5210	-2.51	-2.08	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2A

Mode	Channel /Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52/5260	7.83	7.94	11	PASS
	60/5300	8.16	8.27	11	PASS
	64/5320	7.94	8.05	11	PASS
802.11n HT20	52/5260	6.55	6.66	11	PASS
	60/5300	6.83	6.94	11	PASS
	64/5320	6.84	6.95	11	PASS
802.11n HT40	54/5270	2.43	2.66	11	PASS
	62/5310	2.37	2.60	11	PASS
802.11ac VHT20	52/5260	6.56	6.67	11	PASS
	60/5300	6.09	6.20	11	PASS
	64/5320	6.76	6.87	11	PASS
802.11ac VHT40	54/5270	3.68	3.90	11	PASS
	62/5310	3.72	3.94	11	PASS
802.11ac VHT80	58/5290	-2.07	-1.64	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-2C

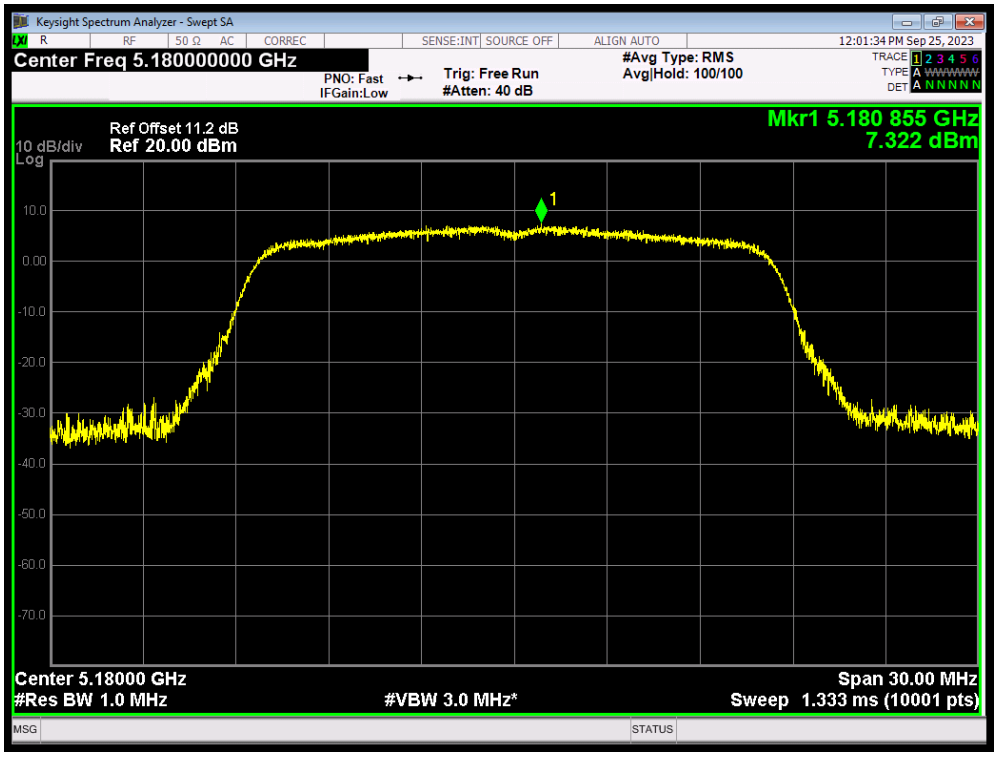
Mode	Channel /Frequency (MHz)	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100/5500	6.44	6.55	11	PASS
	120/5600	7.87	7.98	11	PASS
	140/5700	7.91	8.02	11	PASS
	144/5720	7.78	7.89	11	PASS
802.11n HT20	100/5500	5.40	5.51	11	PASS
	120/5600	6.61	6.72	11	PASS
	140/5700	6.54	6.65	11	PASS
	144/5720	6.48	6.59	11	PASS
802.11n HT40	102/5510	0.02	0.25	11	PASS
	118/5590	2.61	2.84	11	PASS
	134/5670	2.83	3.06	11	PASS
	142/5710	1.80	2.03	11	PASS
802.11ac VHT20	100/5500	6.34	6.45	11	PASS
	120/5600	6.59	6.70	11	PASS
	140/5700	5.89	6.00	11	PASS
	144/5720	6.38	6.49	11	PASS
802.11ac VHT40	102/5510	1.19	1.41	11	PASS
	118/5590	3.68	3.90	11	PASS
	134/5670	3.71	3.93	11	PASS
	142/5710	2.80	3.02	11	PASS
802.11ac VHT80	122/5610	-1.91	-1.48	11	PASS
	138/5690	-2.83	-2.40	11	PASS
Note: Power Spectral Density =Read Value+Duty cycle correction factor					

U-NII-3

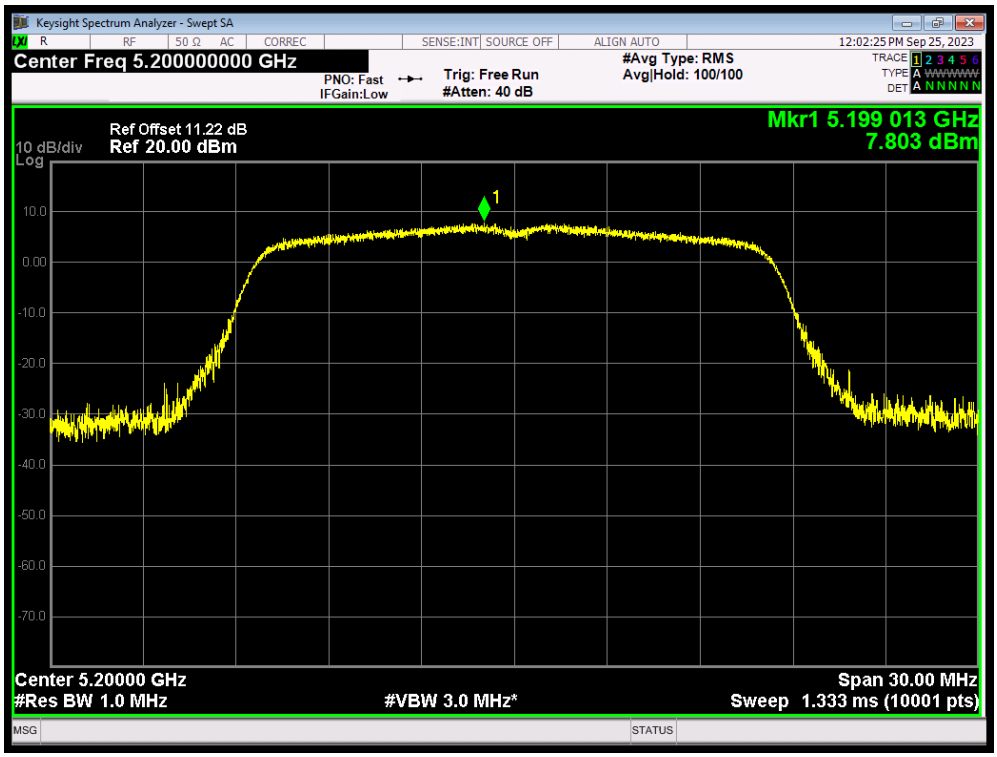
Mode	Channel /Frequency (MHz)	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	144/5720	1.73	2.11	30	PASS
	149/5745	4.37	4.75	30	PASS
	157/5785	4.65	5.03	30	PASS
	165/5825	5.05	5.43	30	PASS
802.11n HT20	144/5720	0.92	1.30	30	PASS
	149/5745	3.12	3.50	30	PASS
	157/5785	3.35	3.73	30	PASS
	165/5825	3.60	3.98	30	PASS
802.11n HT40	142/5710	-4.60	-4.10	30	PASS
	151/5755	-0.95	-0.45	30	PASS
	159/5795	-0.80	-0.30	30	PASS
802.11ac VHT20	144/5720	1.09	1.47	30	PASS
	149/5745	3.05	3.43	30	PASS
	157/5785	3.20	3.58	30	PASS
	165/5825	3.63	4.01	30	PASS
802.11ac VHT40	142/5710	-3.66	-3.17	30	PASS
	151/5755	0.22	0.71	30	PASS
	159/5795	0.20	0.69	30	PASS
802.11ac VHT80	138/5690	-9.23	-8.53	30	PASS
	155/5775	-5.14	-4.44	30	PASS
Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470)					

U-NII-1

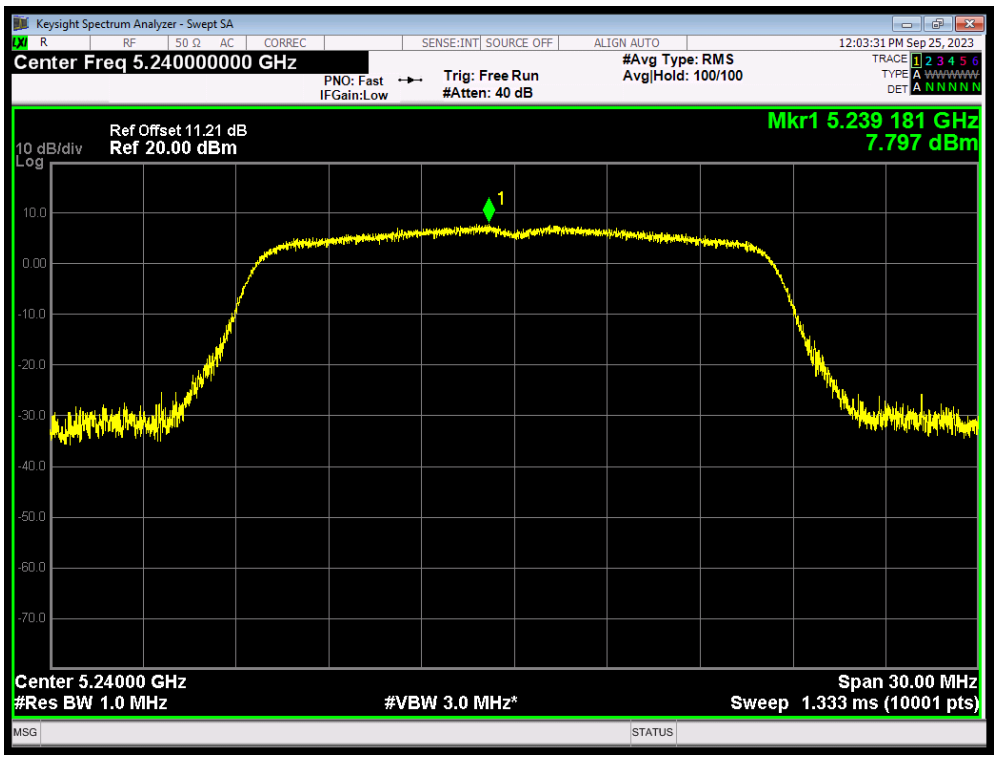
PSD 802.11a 5180MHz



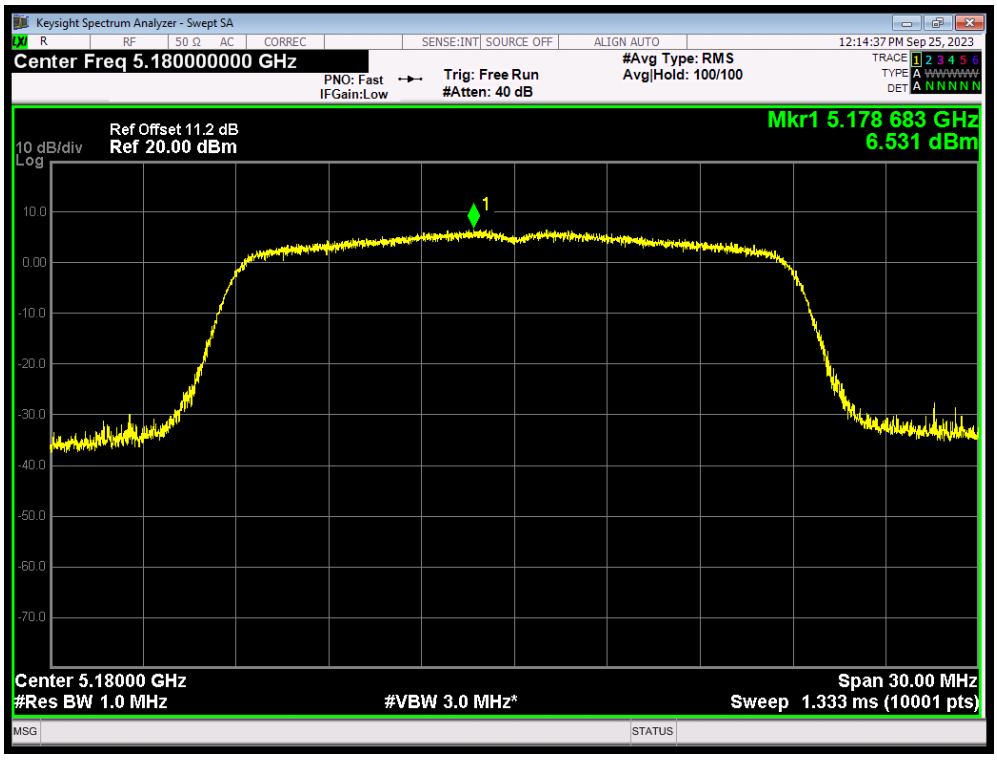
PSD 802.11a 5200MHz



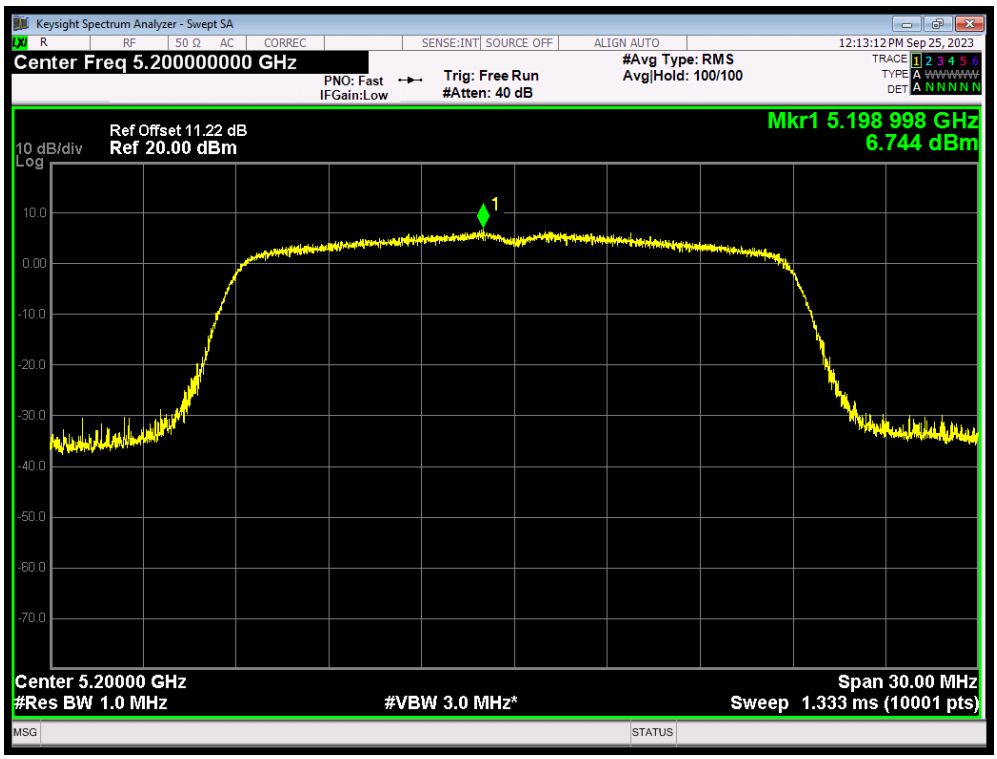
PSD 802.11a 5240MHz



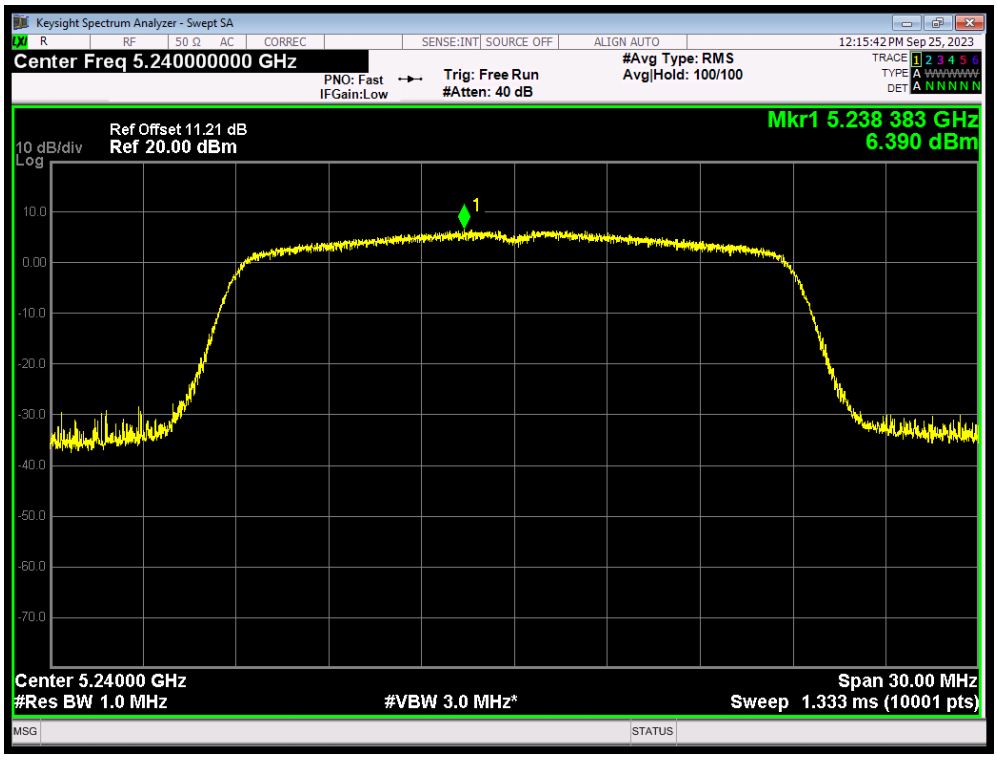
PSD 802.11ac(VHT20) 5180MHz



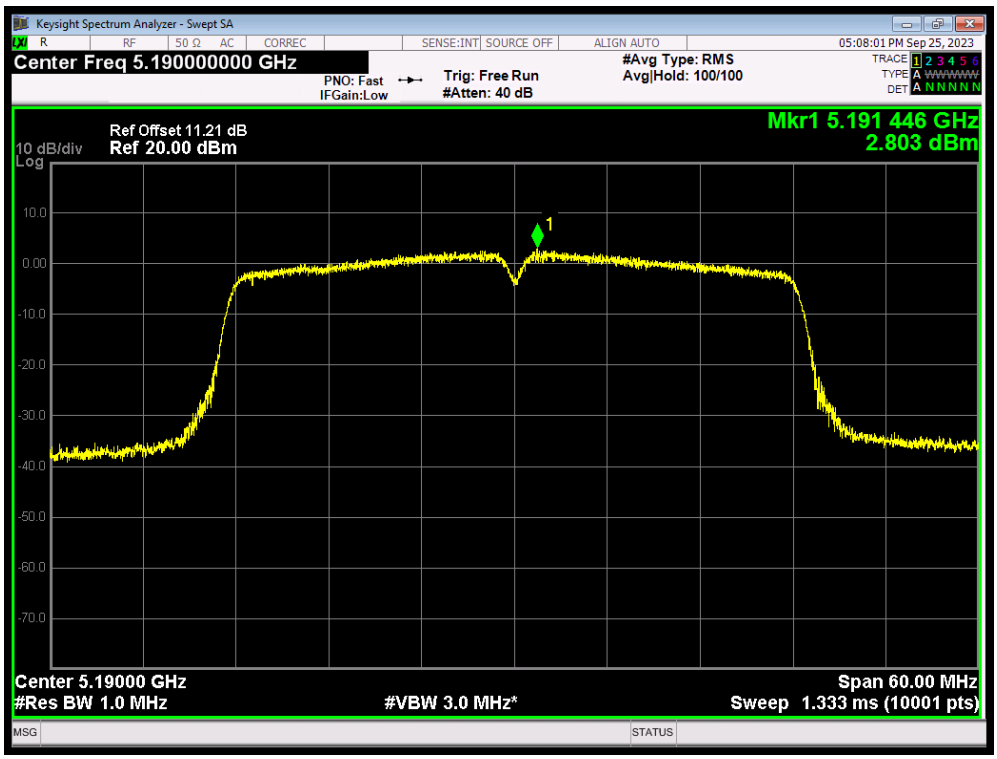
PSD 802.11ac(VHT20) 5200MHz



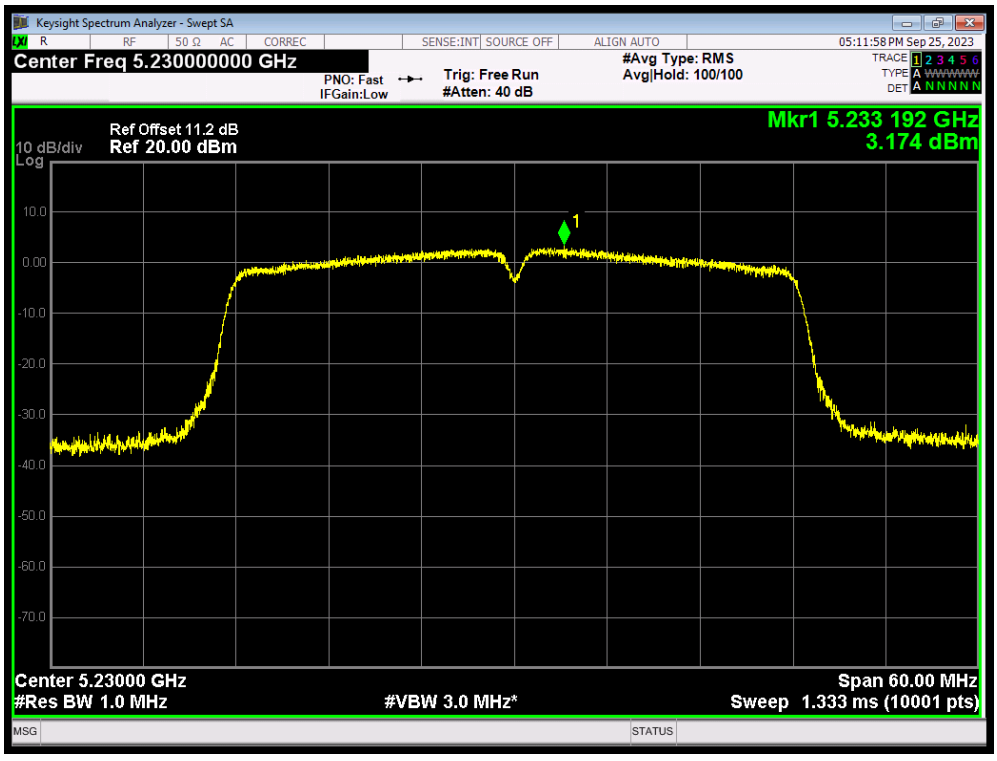
PSD 802.11ac(VHT20) 5240MHz



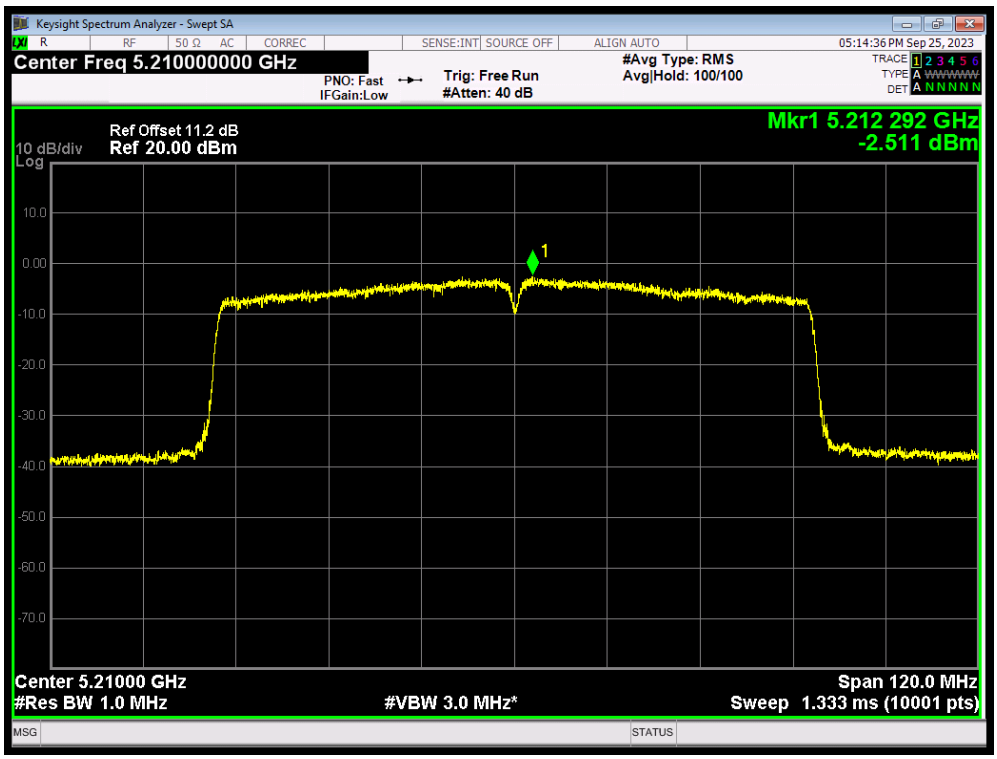
PSD 802.11ac(VHT40) 5190MHz



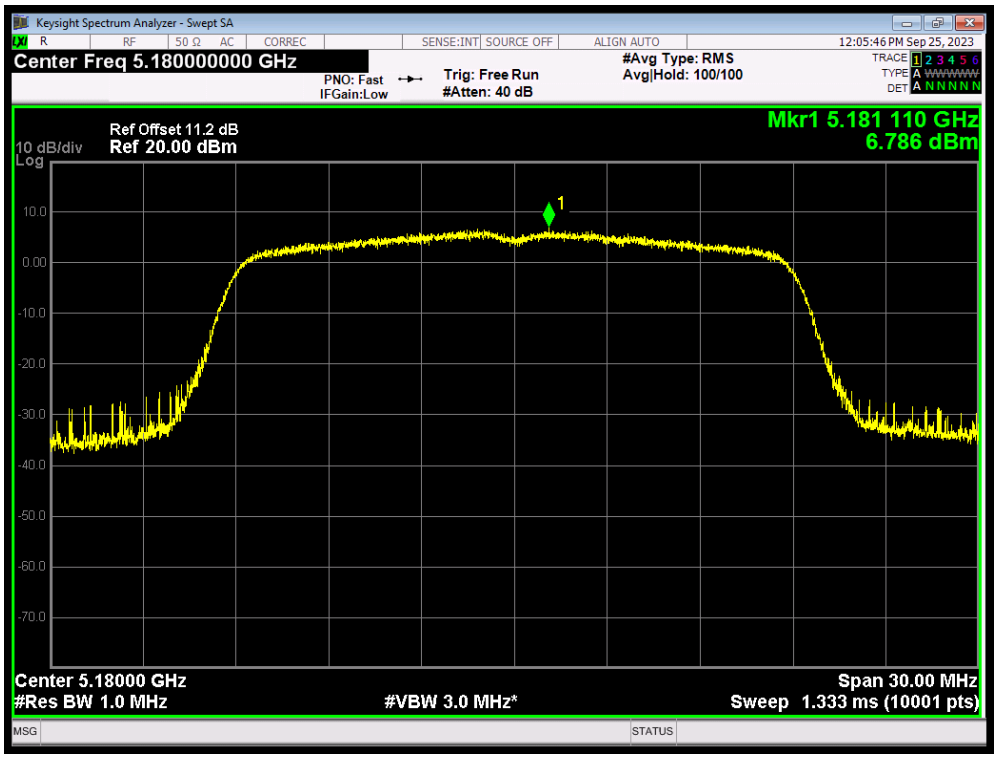
PSD 802.11ac(VHT40) 5230MHz



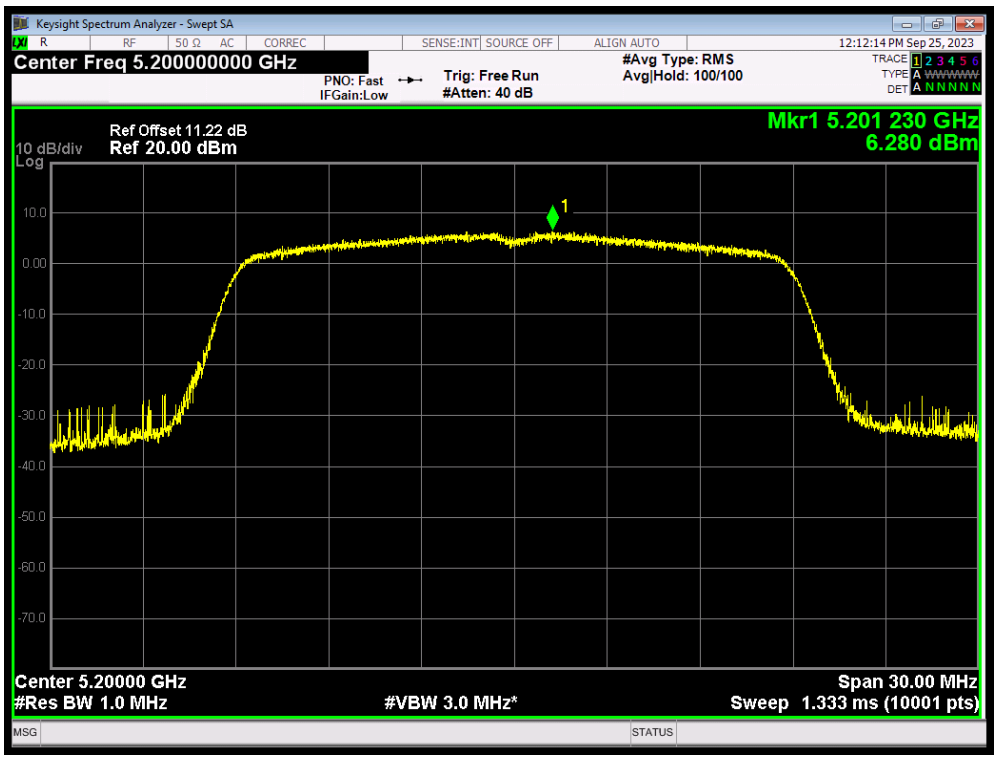
PSD 802.11ac(VHT80) 5210MHz



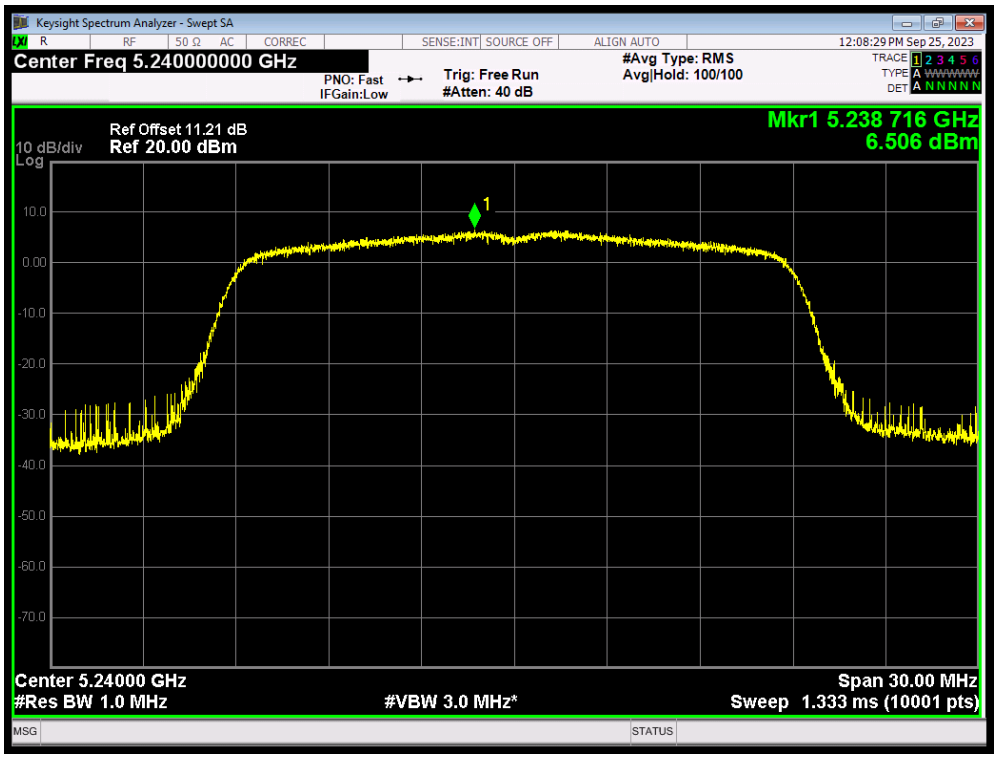
PSD 802.11n(HT20) 5180MHz



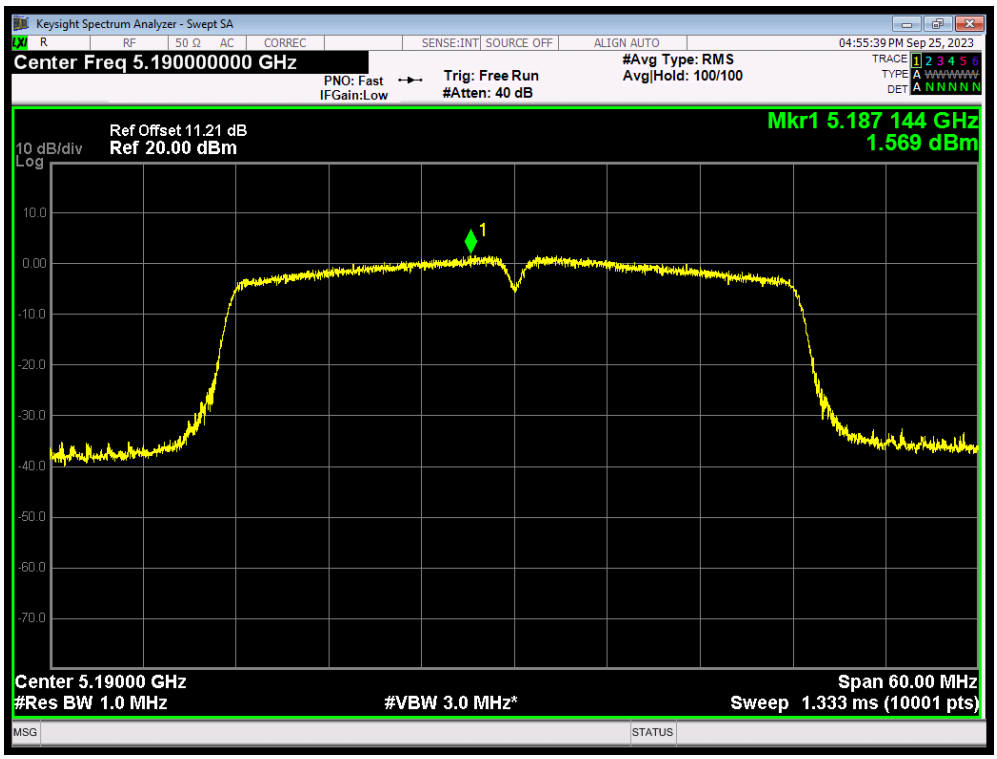
PSD 802.11n(HT20) 5200MHz



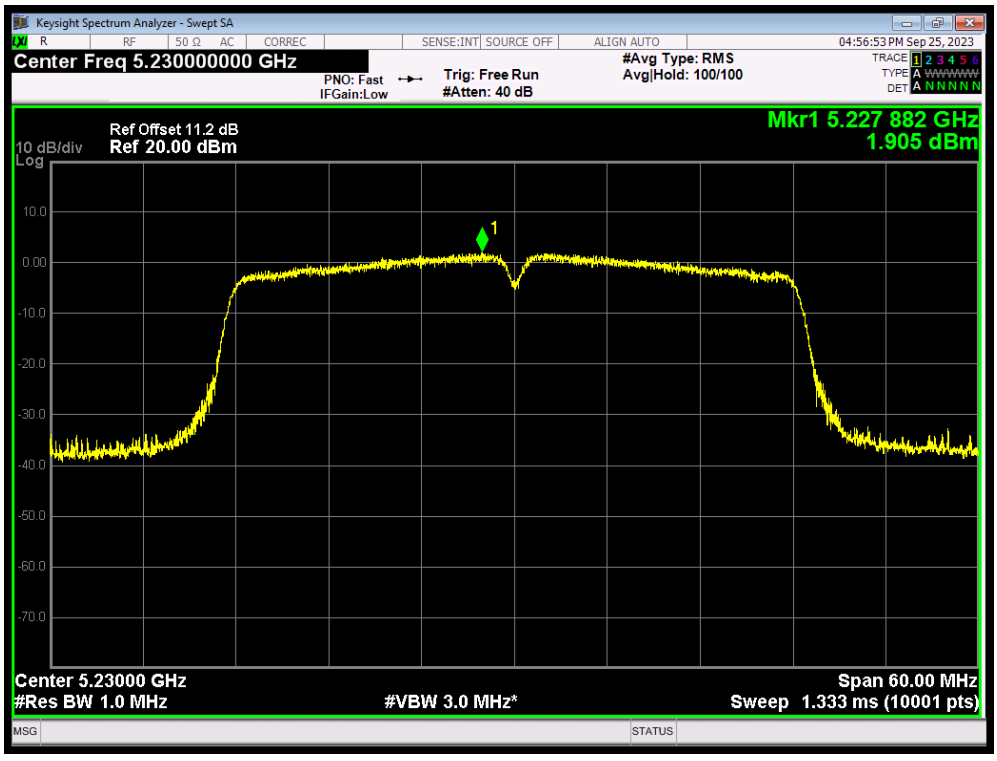
PSD 802.11n(HT20) 5240MHz



PSD 802.11n(HT40) 5190MHz

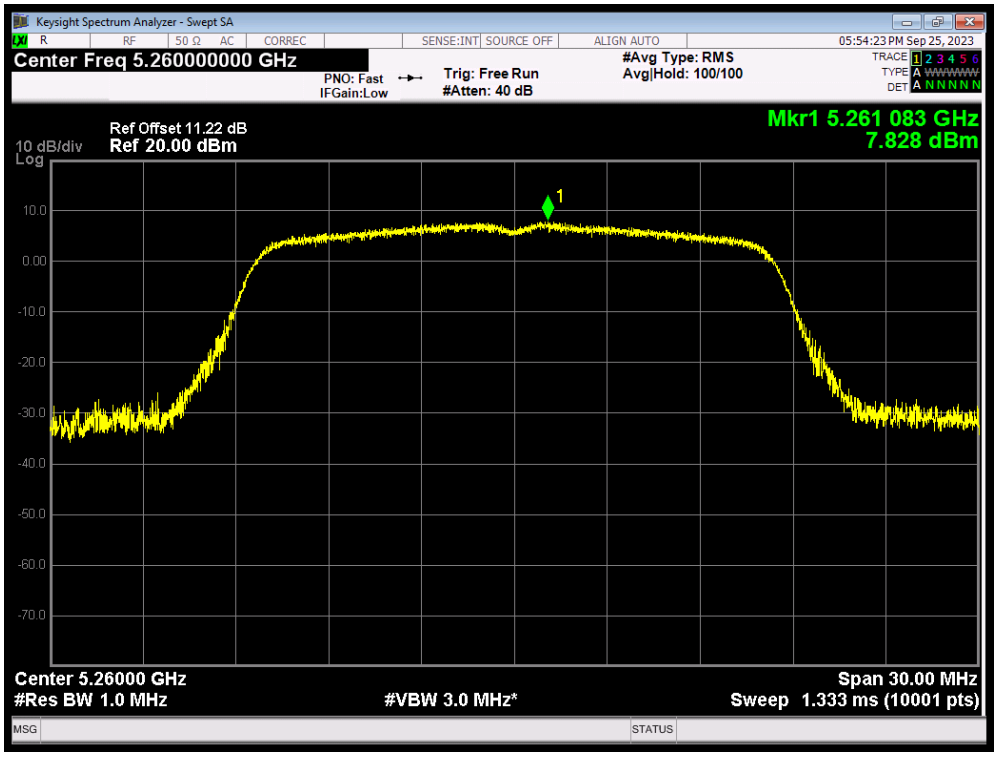


PSD 802.11n(HT40) 5230MHz

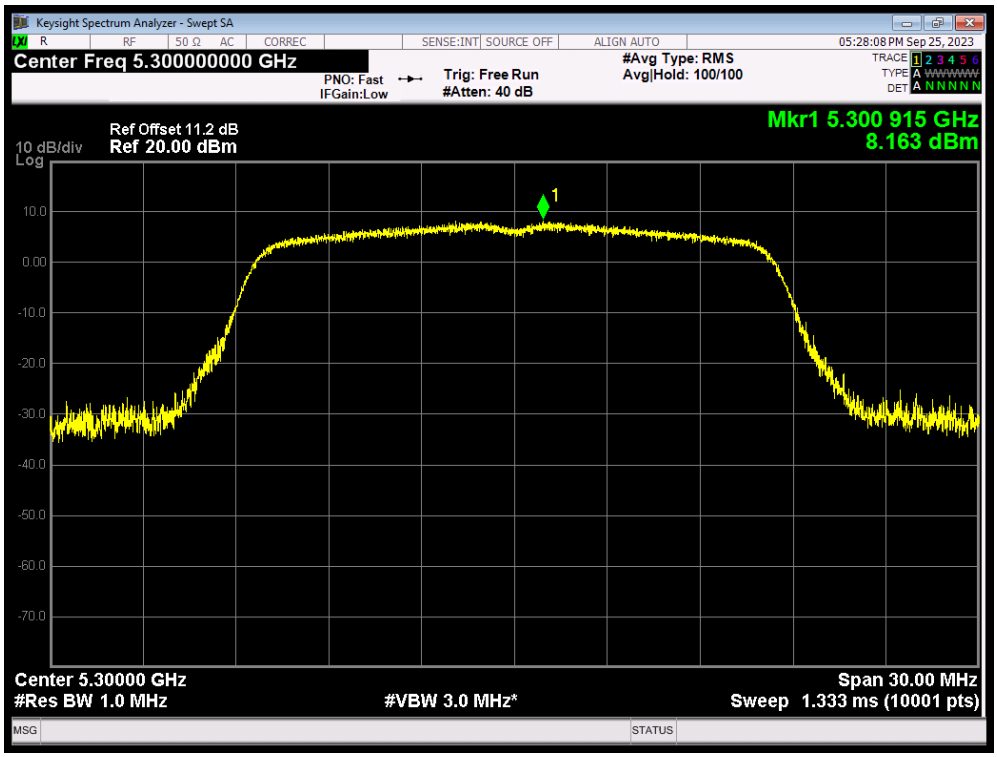


U-NII-2A

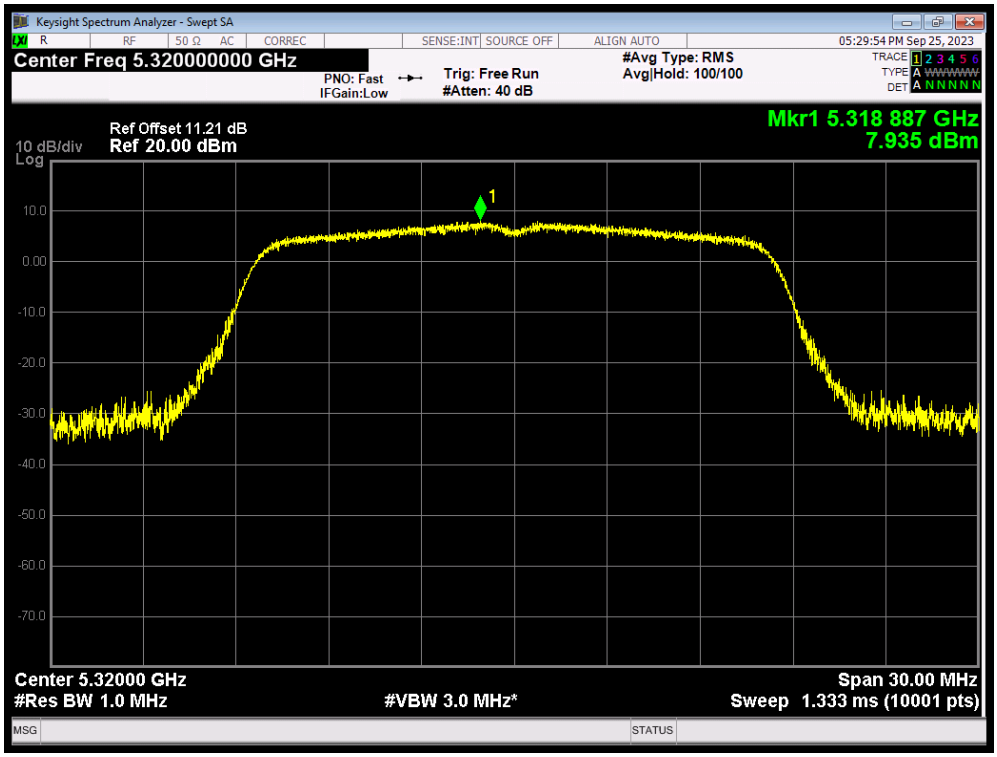
PSD 802.11a 5260MHz



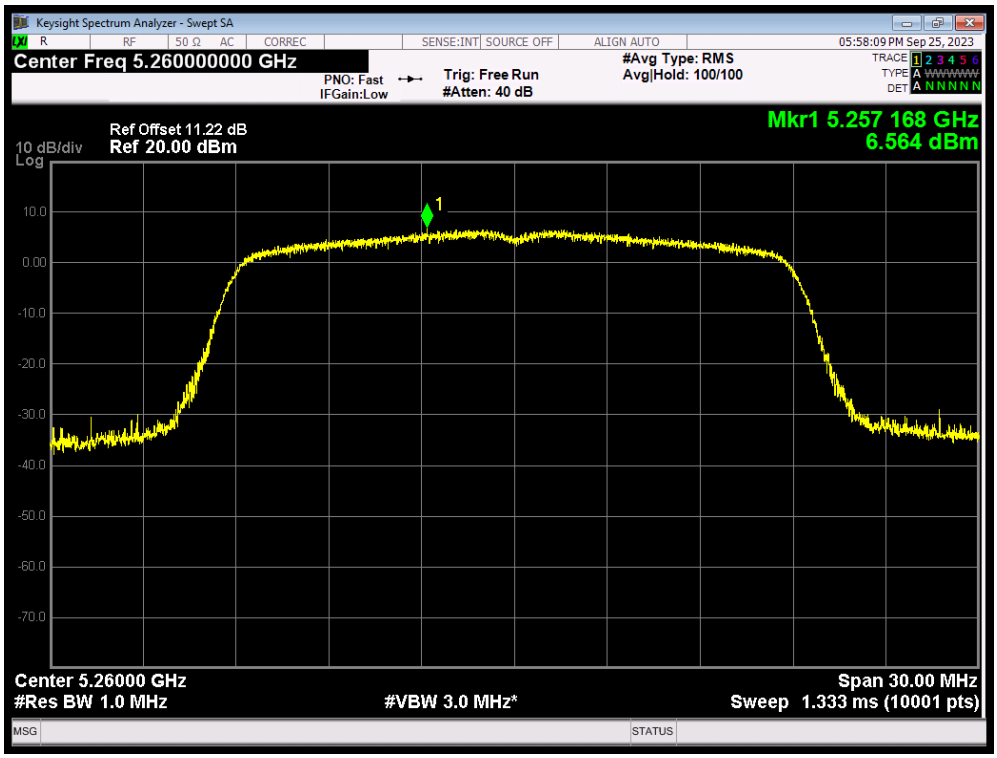
PSD 802.11a 5300MHz



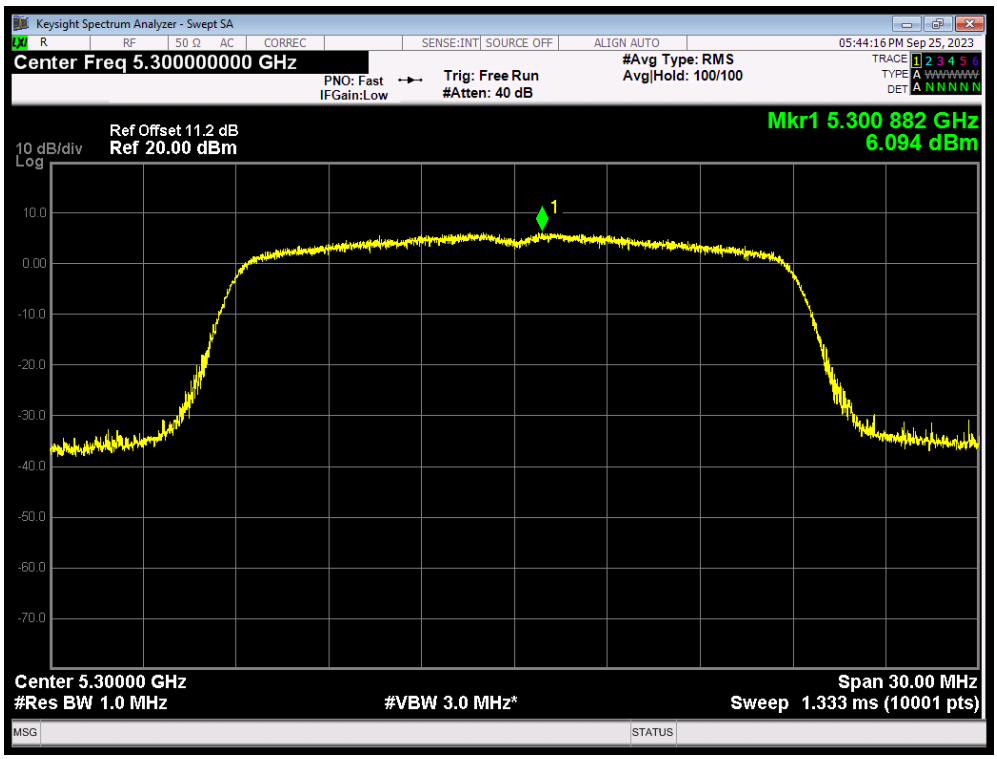
PSD 802.11a 5320MHz



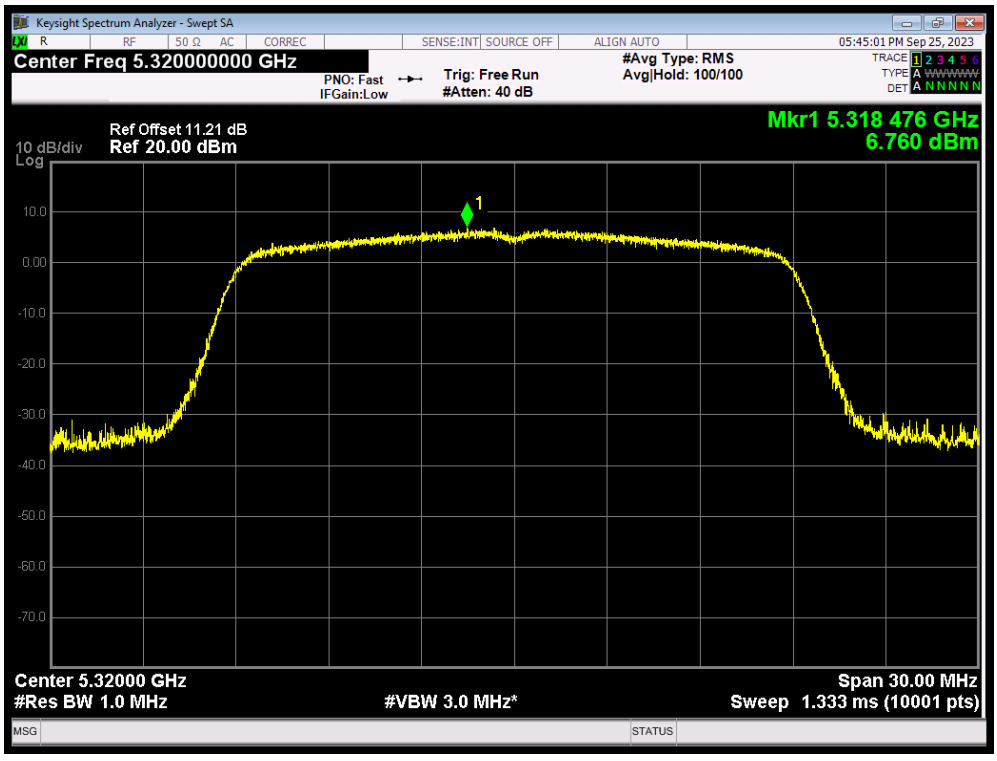
PSD 802.11ac(VHT20) 5260MHz



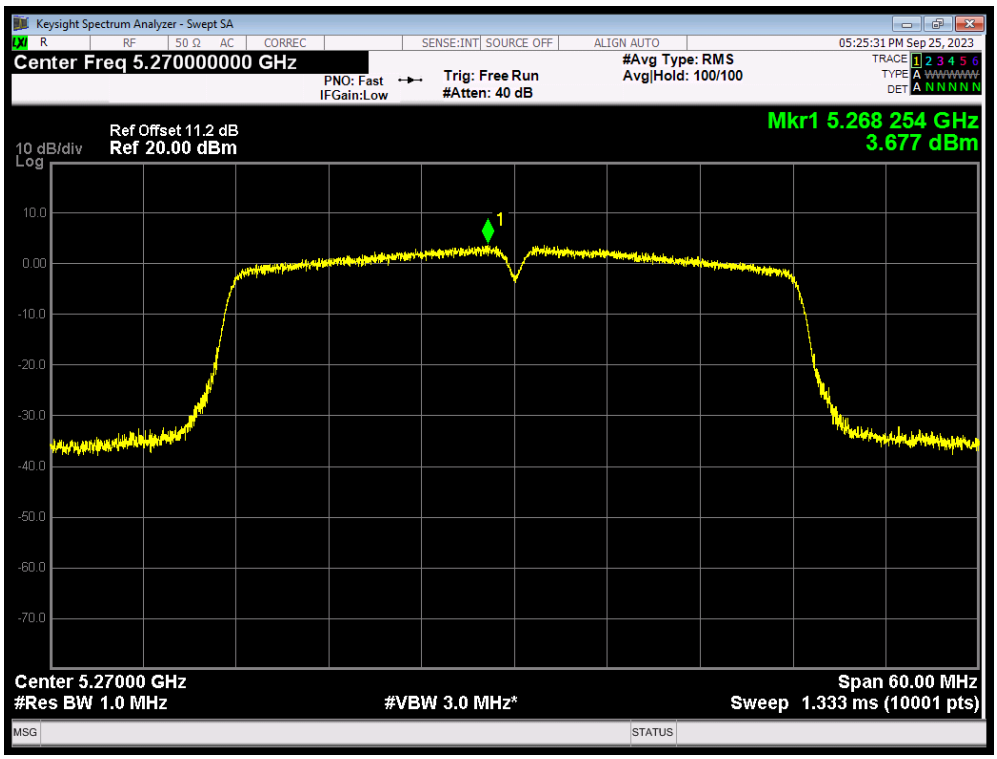
PSD 802.11ac(VHT20) 5300MHz



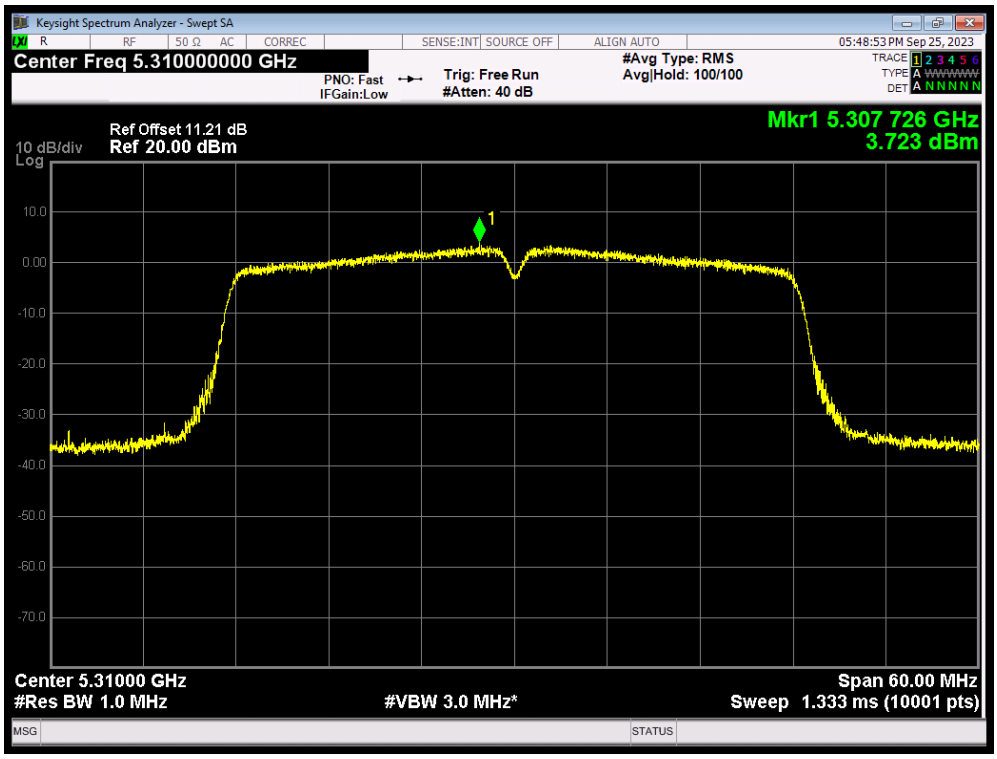
PSD 802.11ac(VHT20) 5320MHz



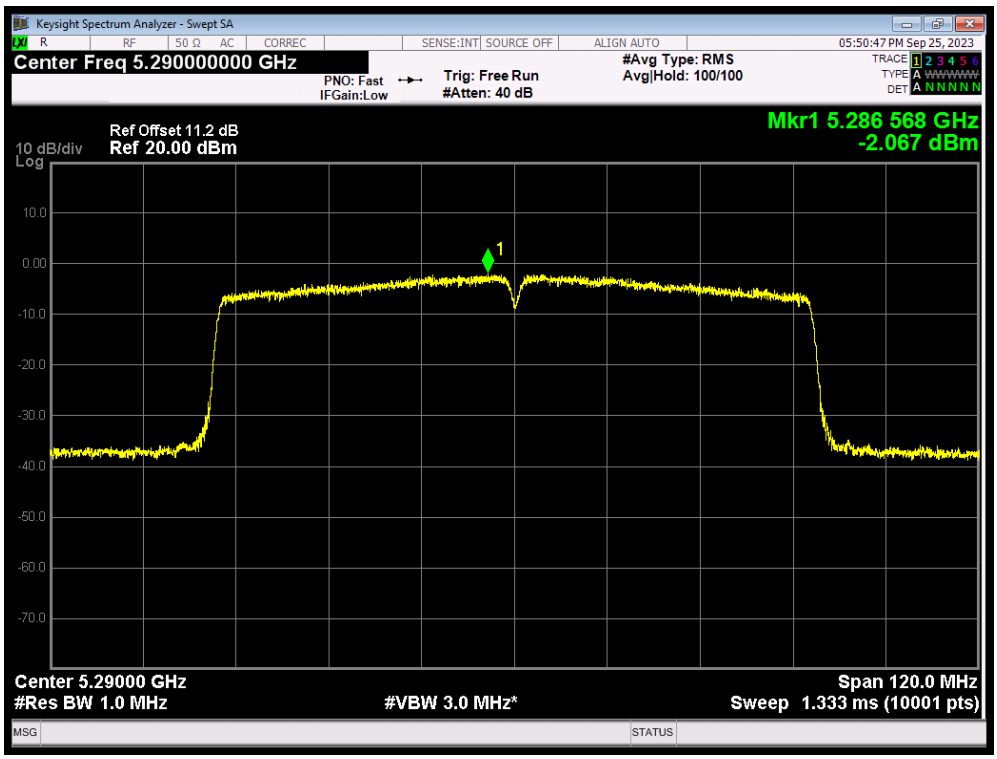
PSD 802.11ac(VHT40) 5270MHz



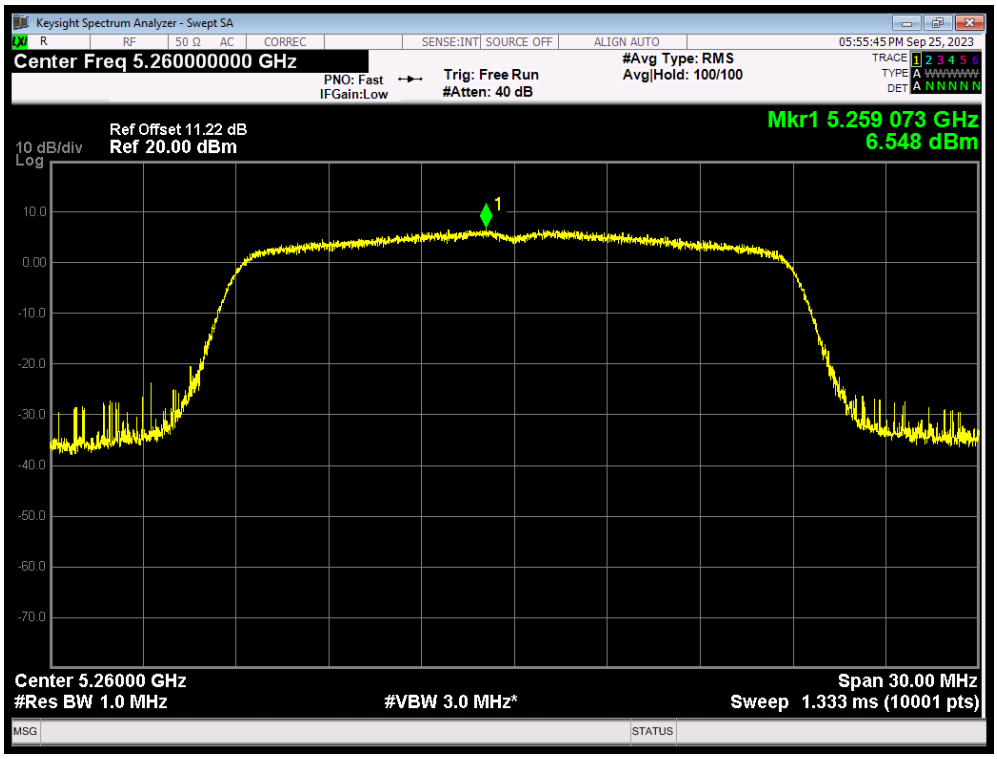
PSD 802.11ac(VHT40) 5310MHz



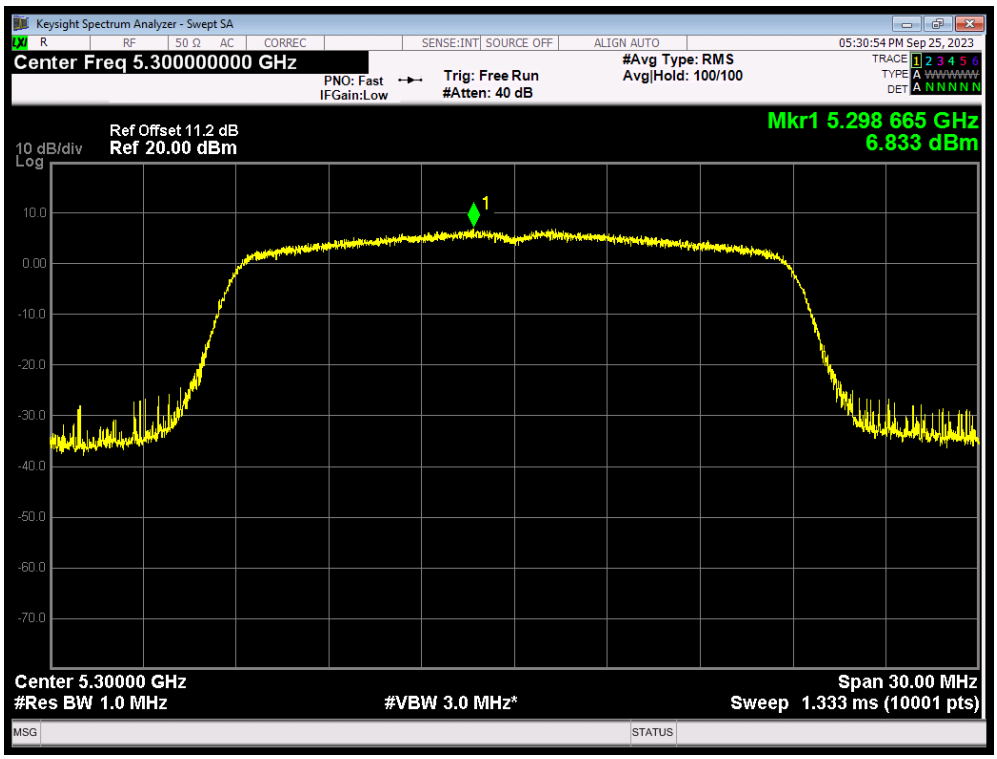
PSD 802.11ac(VHT80) 5290MHz



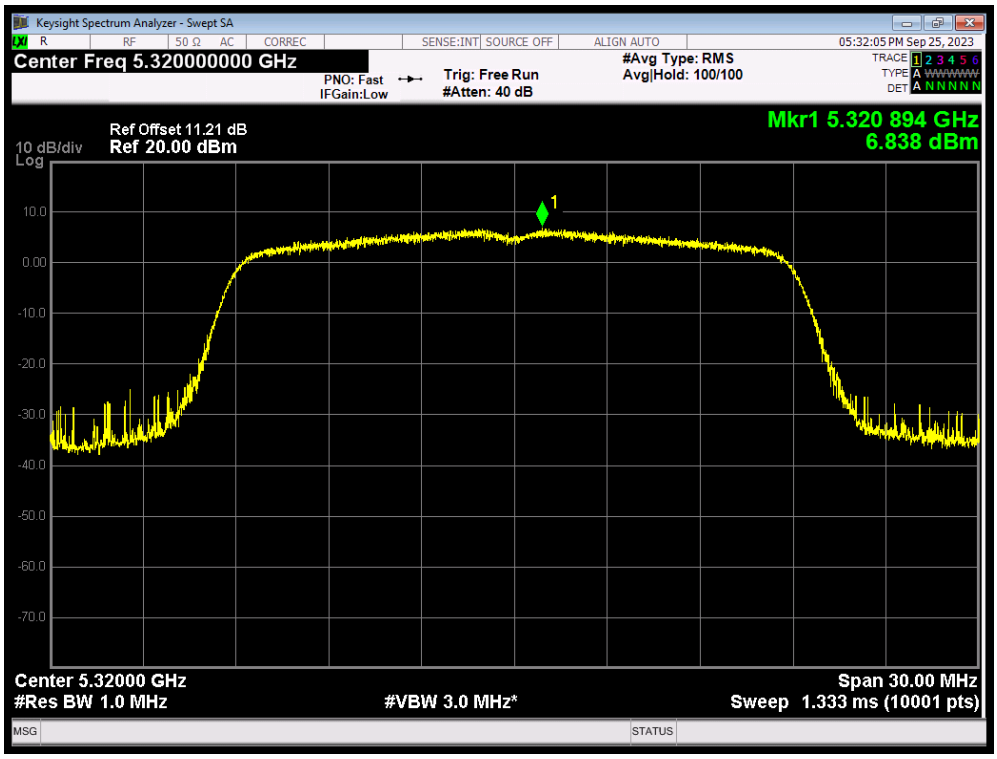
PSD 802.11n(HT20) 5260MHz



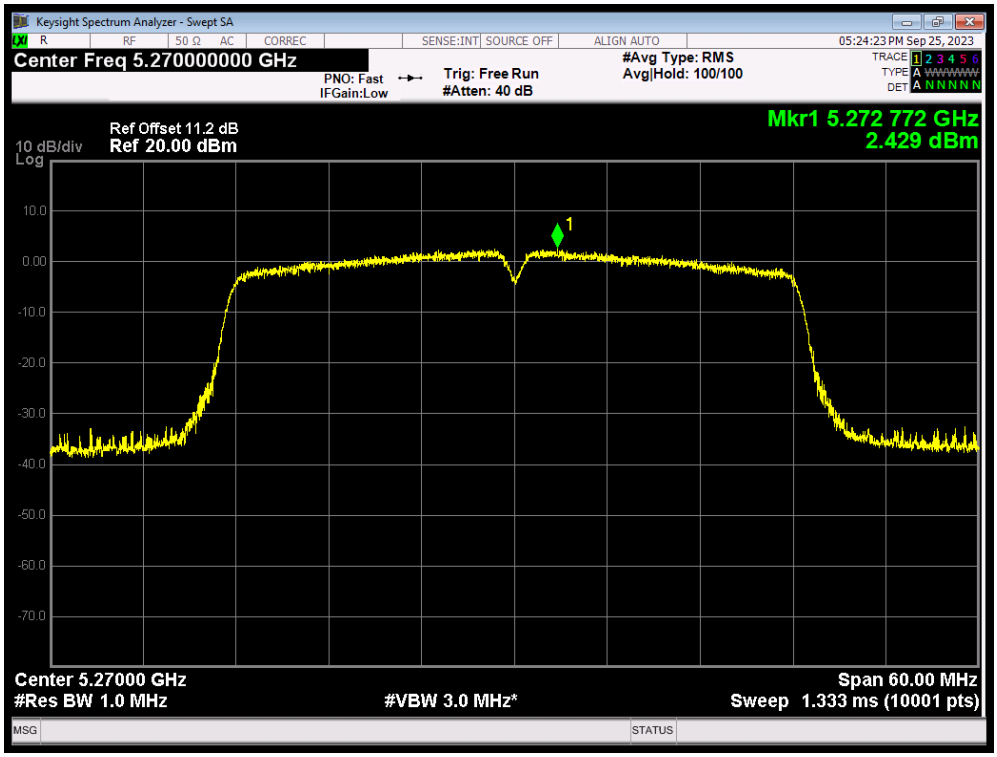
PSD 802.11n(HT20) 5300MHz



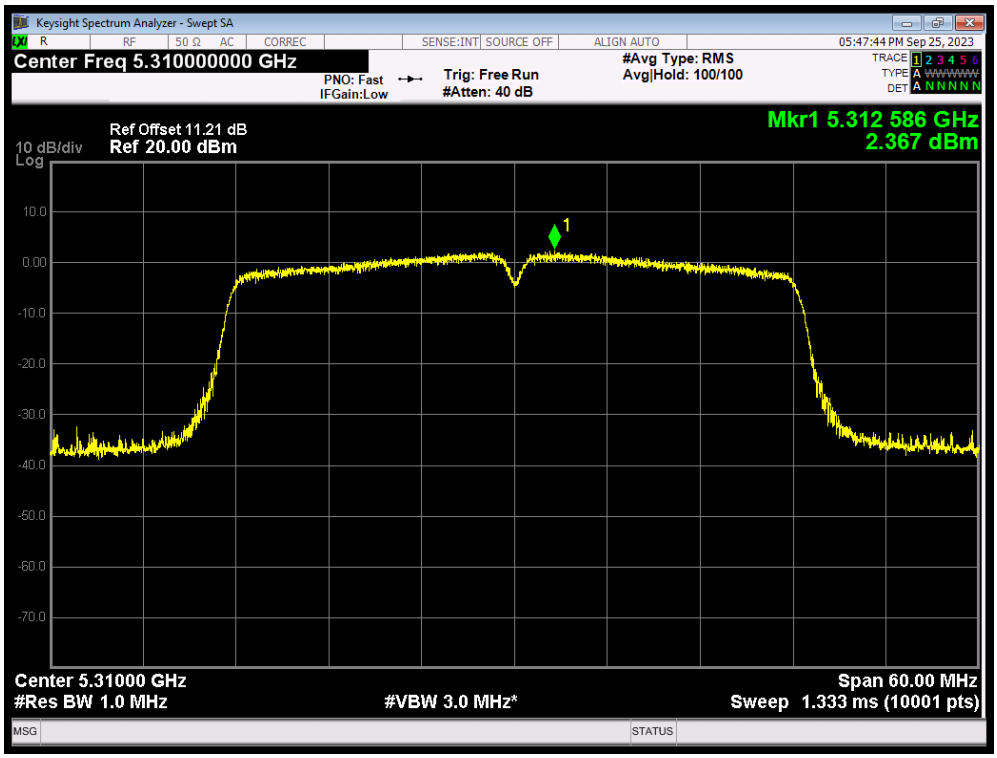
PSD 802.11n(HT20) 5320MHz



PSD 802.11n(HT40) 5270MHz

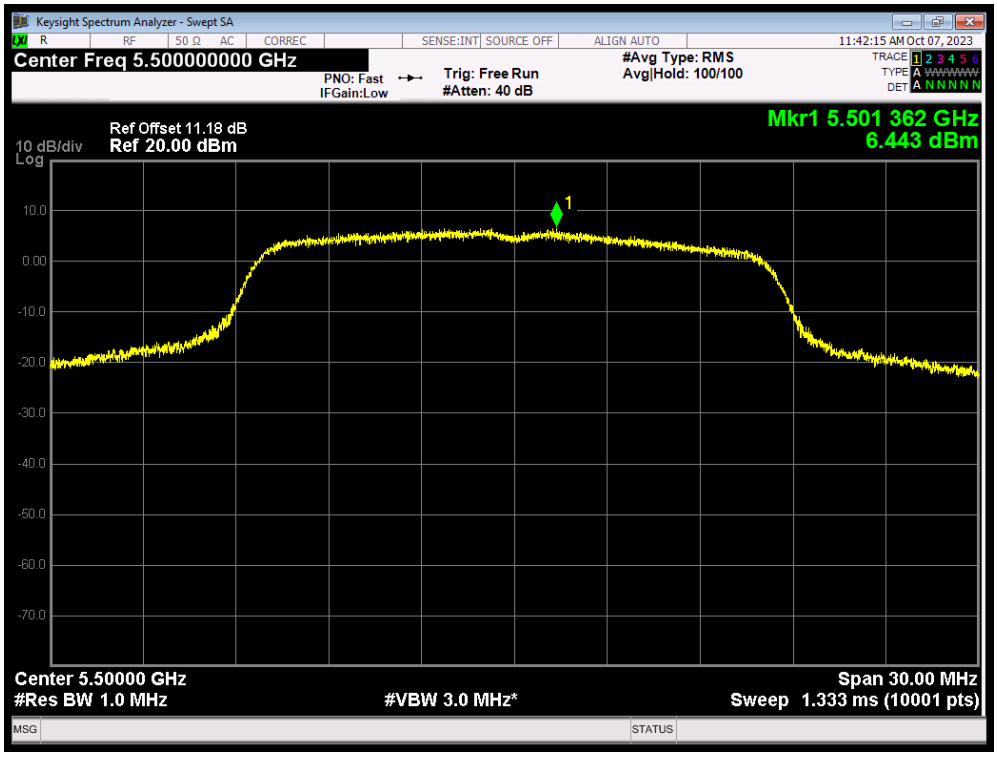


PSD 802.11n(HT40) 5310MHz

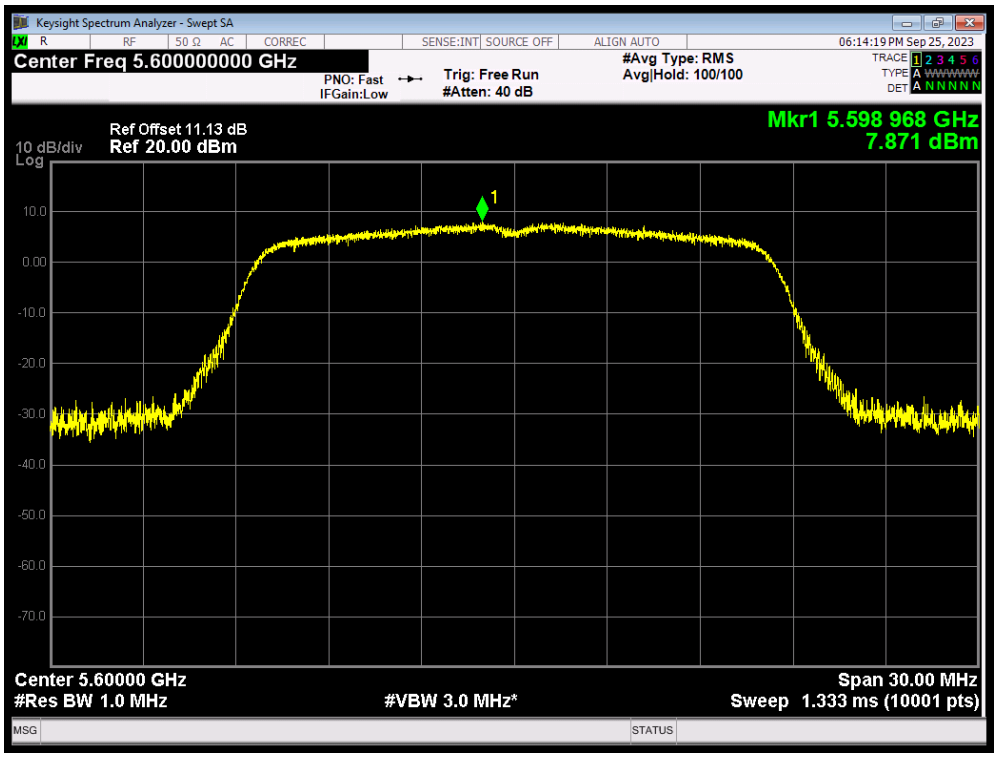


U-NII-2C

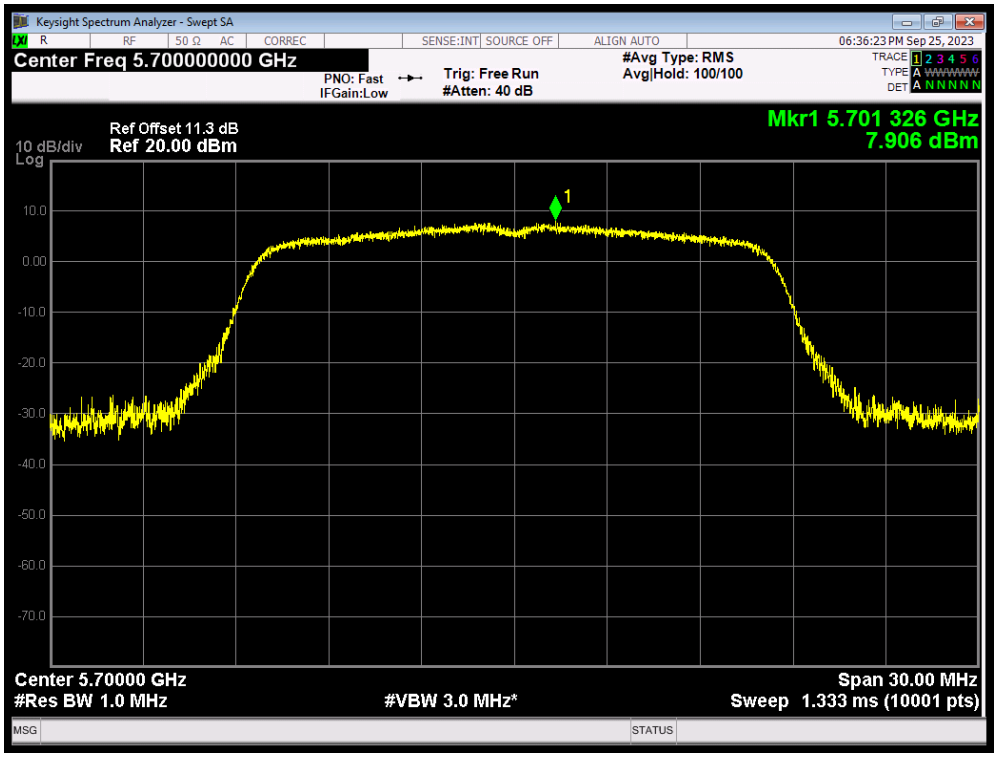
PSD 802.11a 5500MHz



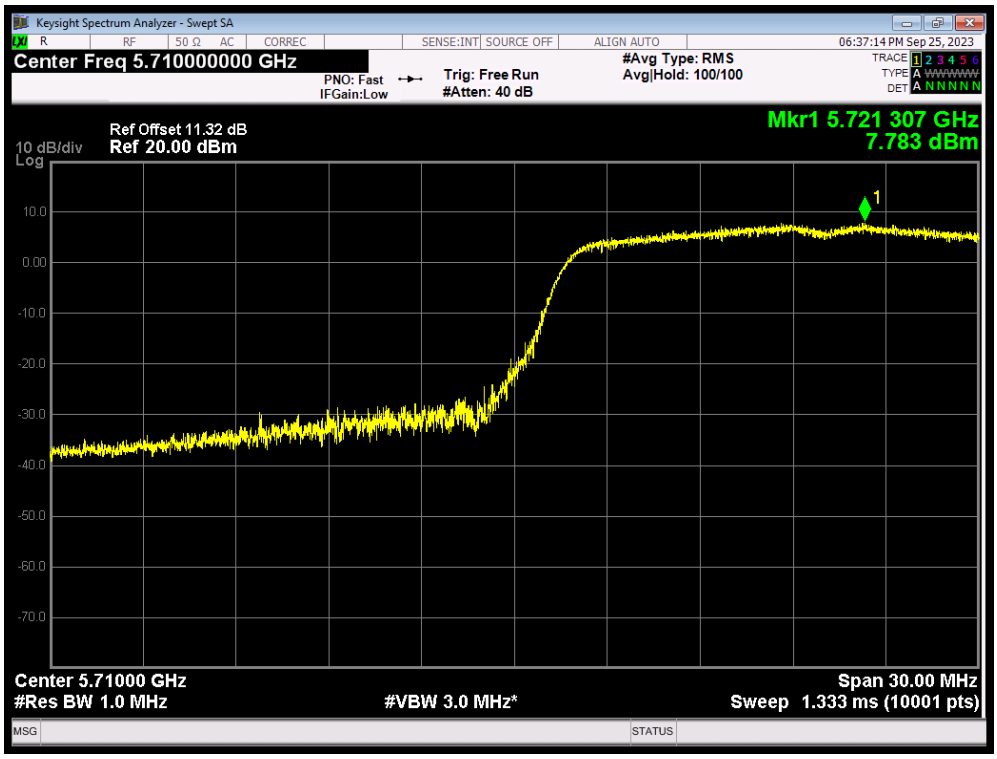
PSD 802.11a 5600MHz



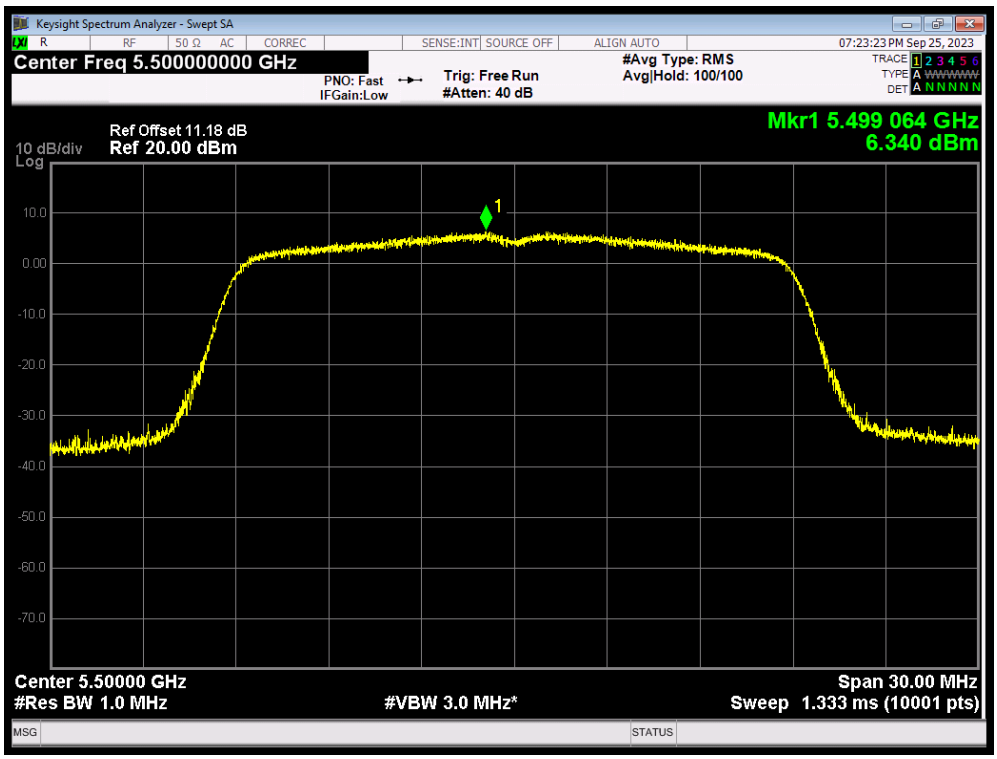
PSD 802.11a 5700MHz



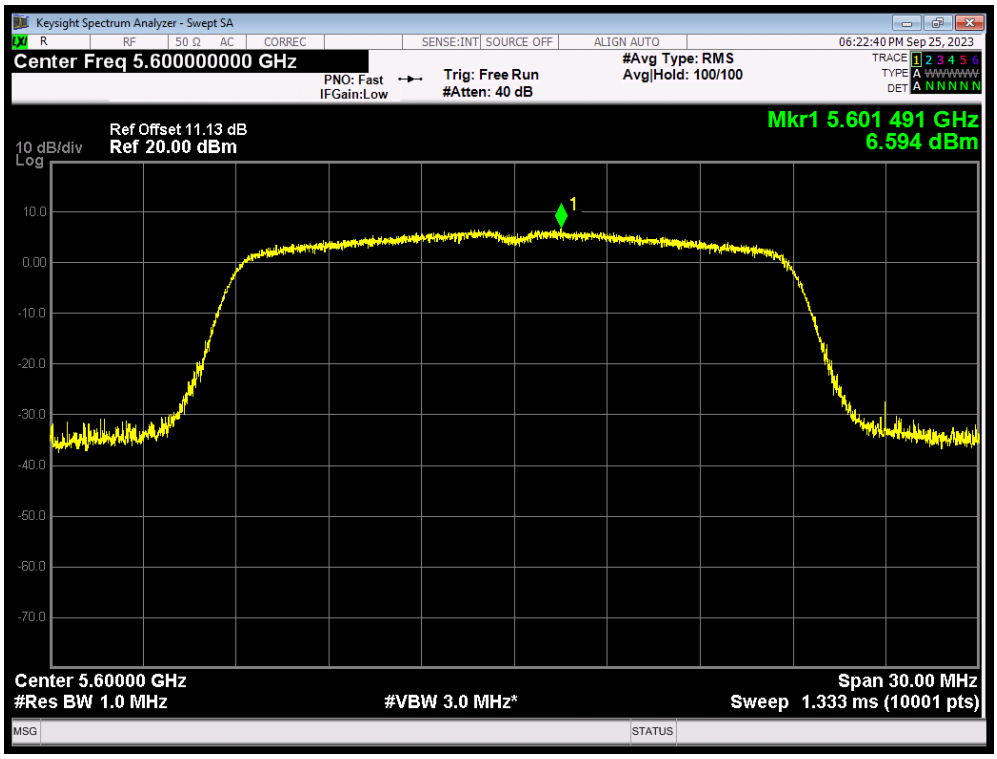
PSD 802.11a 5720MHz



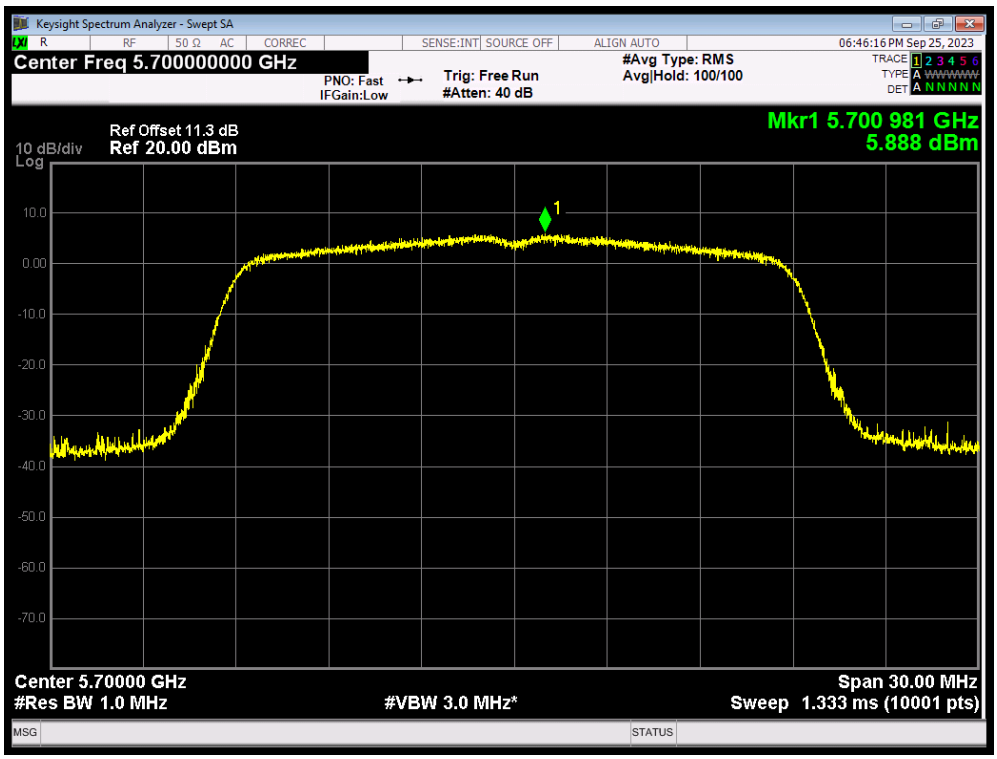
PSD 802.11ac(VHT20) 5500MHz



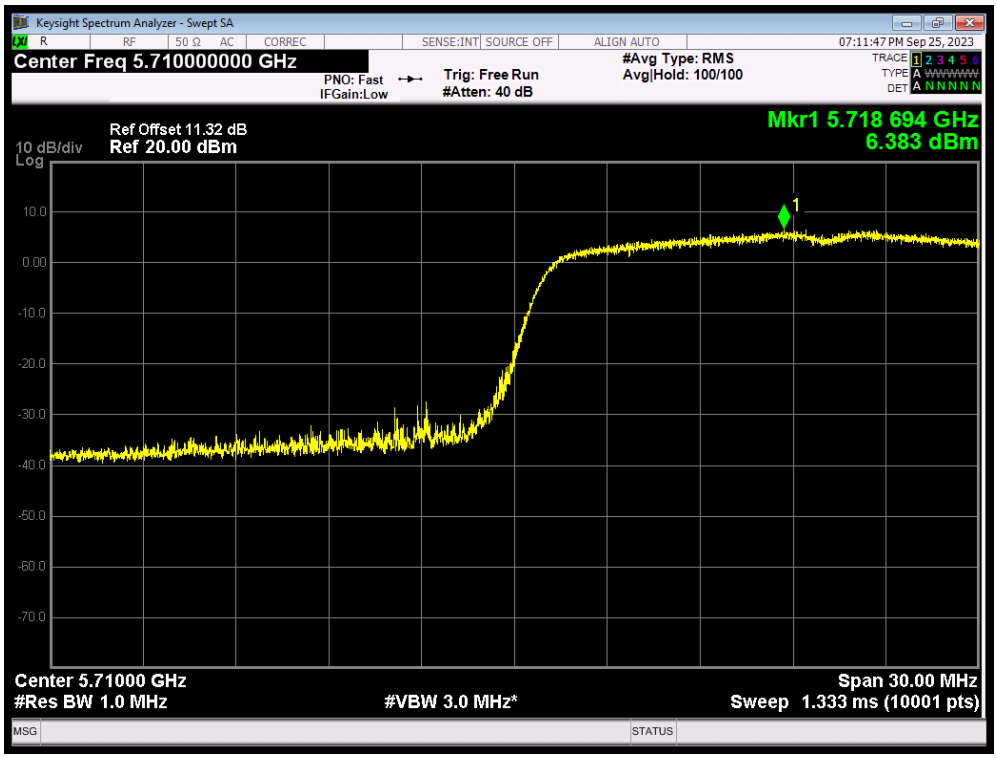
PSD 802.11ac(VHT20) 5600MHz



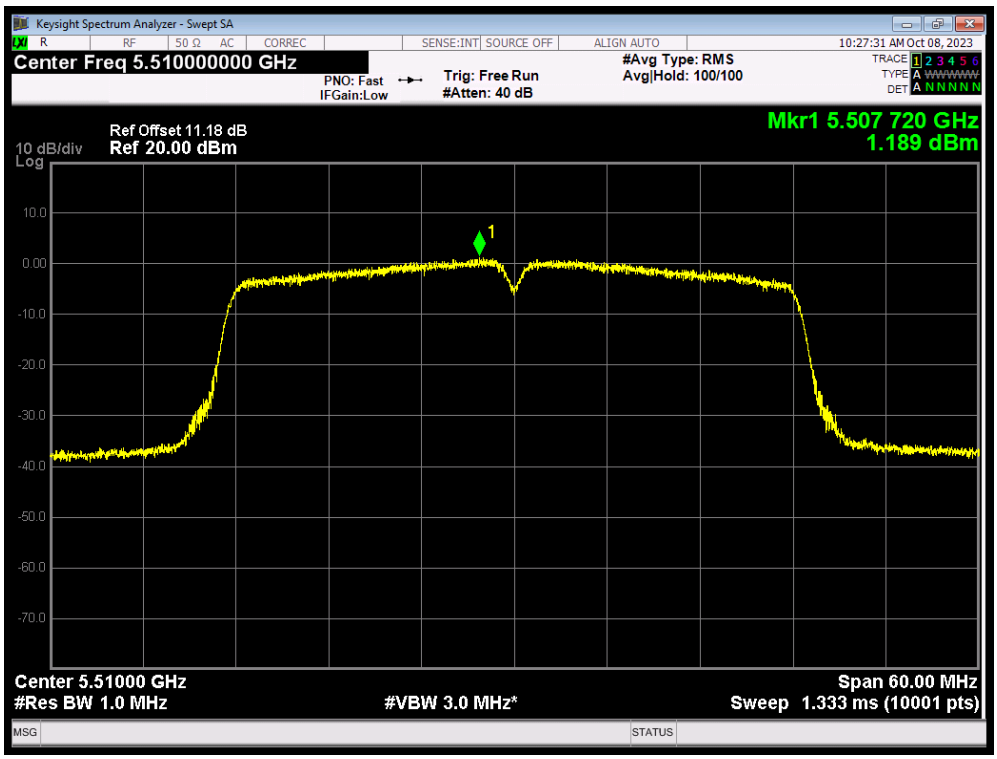
PSD 802.11ac(VHT20) 5700MHz



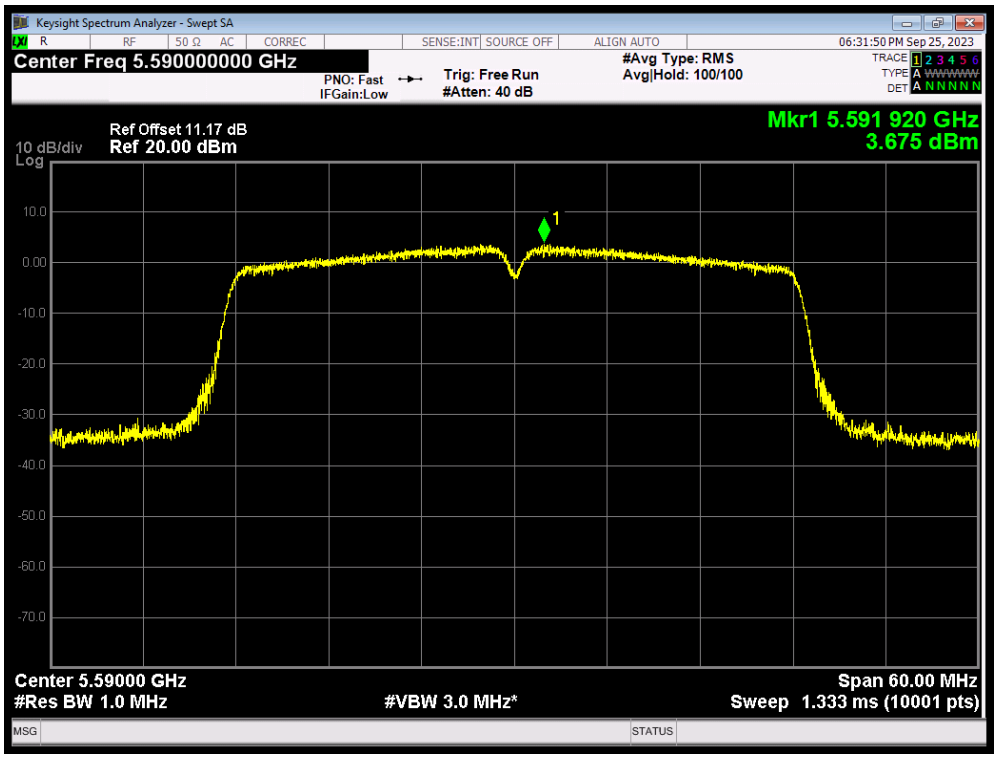
PSD 802.11ac(VHT20) 5720MHz



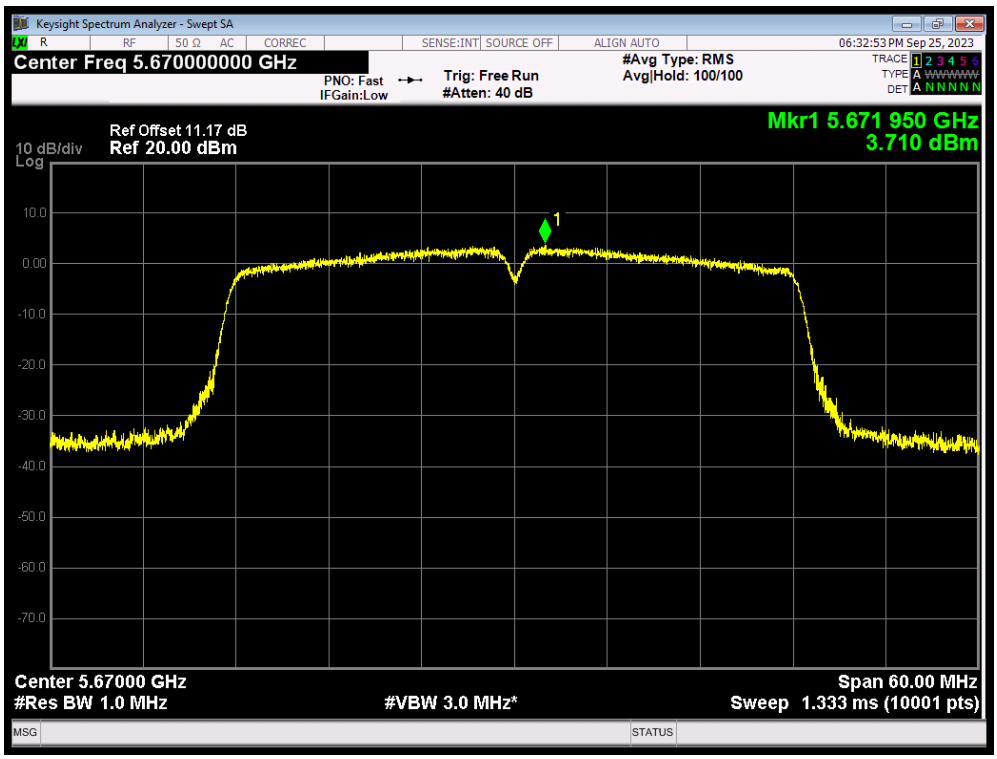
PSD 802.11ac(VHT40) 5510MHz



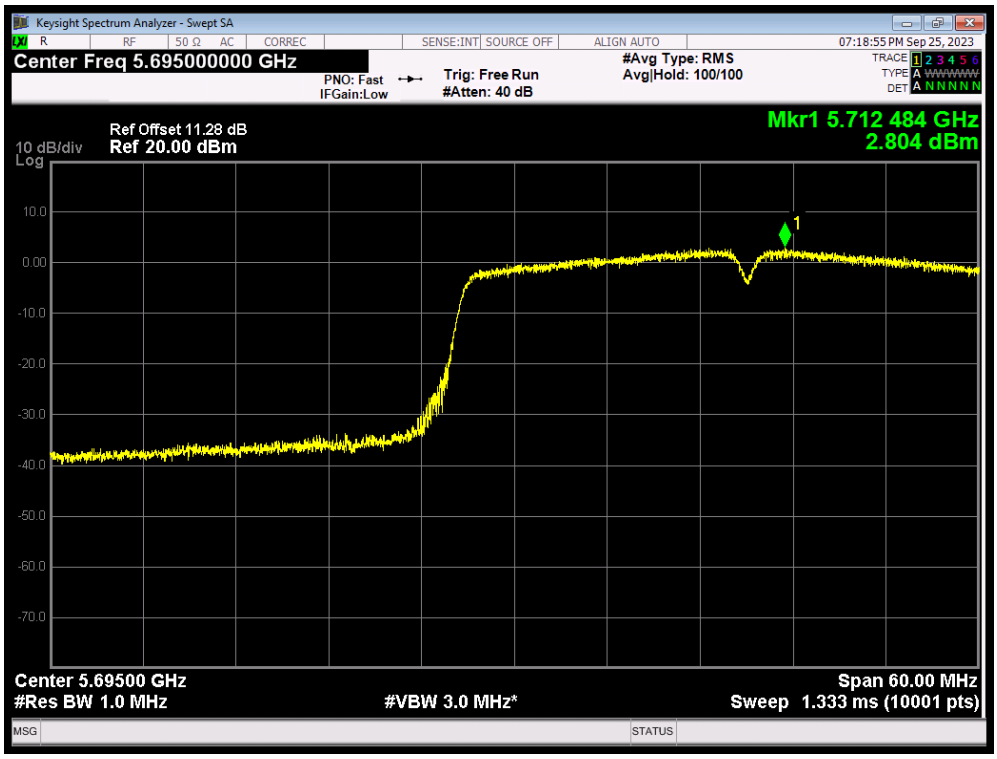
PSD 802.11ac(VHT40) 5590MHz



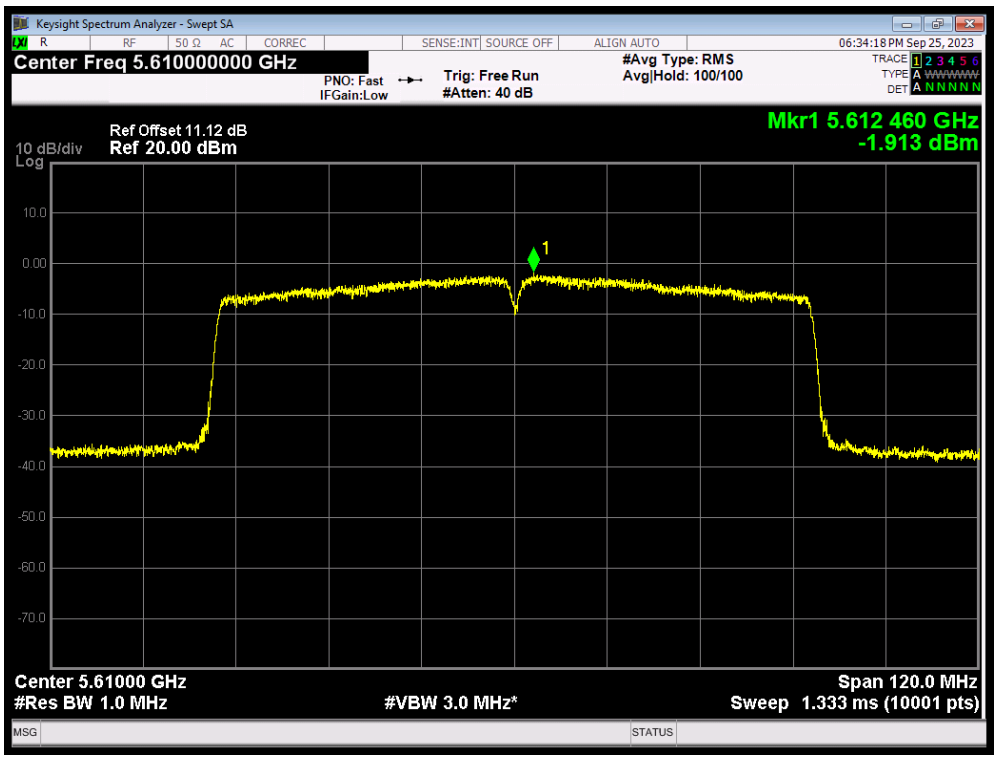
PSD 802.11ac(VHT40) 5670MHz



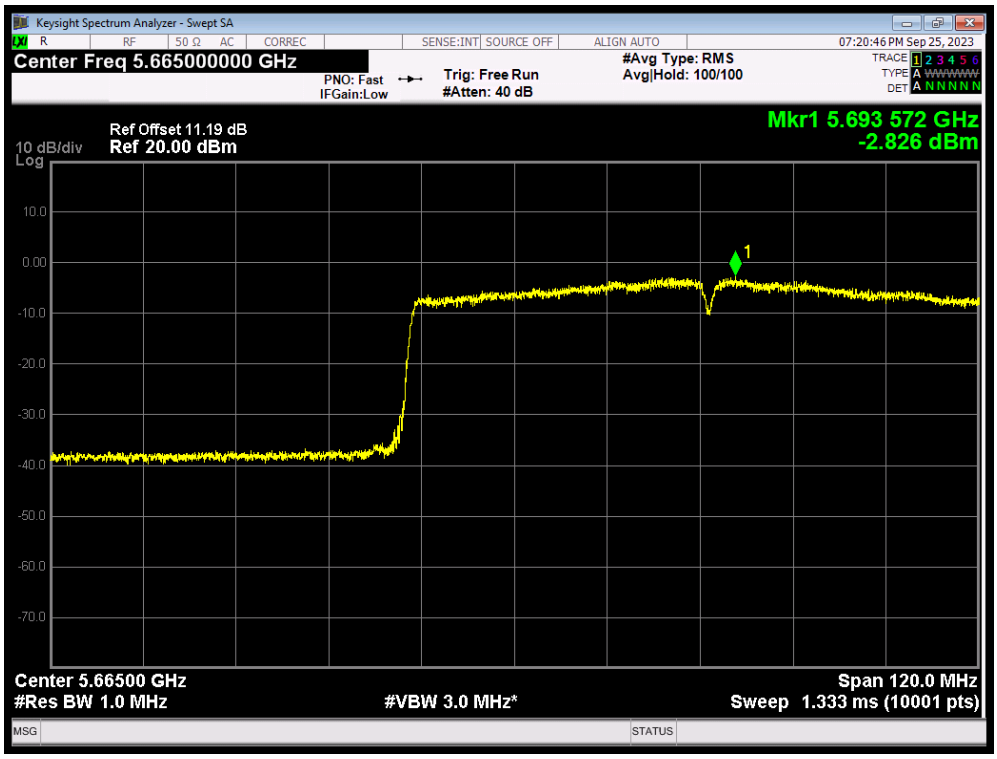
PSD 802.11ac(VHT40) 5710MHz



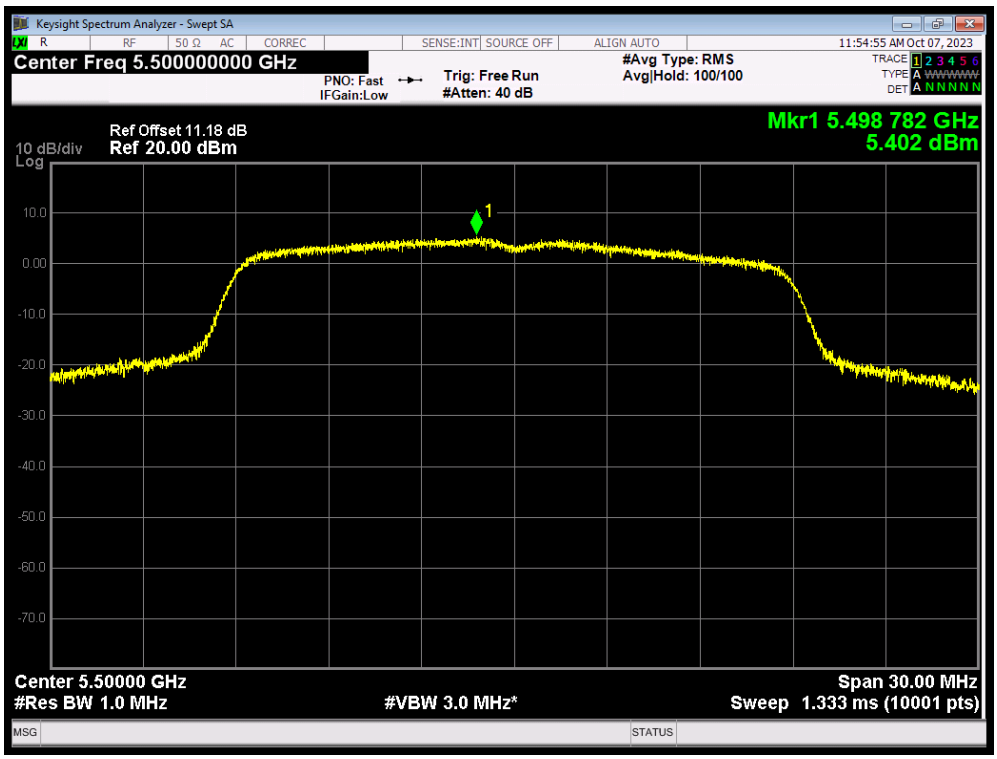
PSD 802.11ac(VHT80) 5610MHz



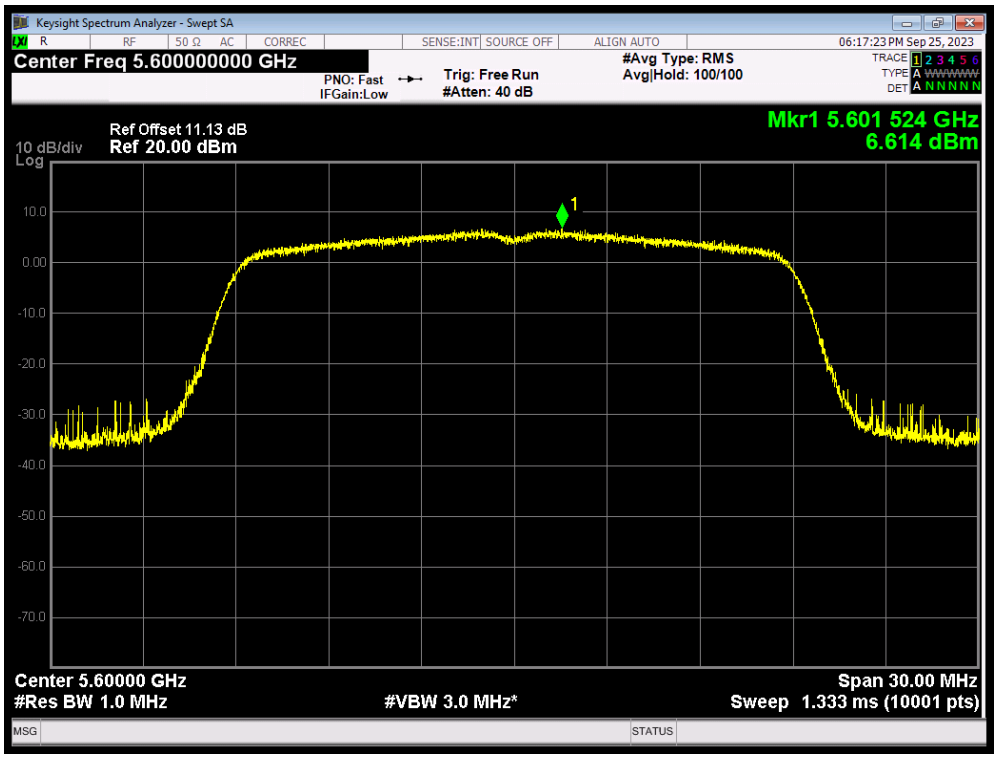
PSD 802.11ac(VHT80) 5690MHz



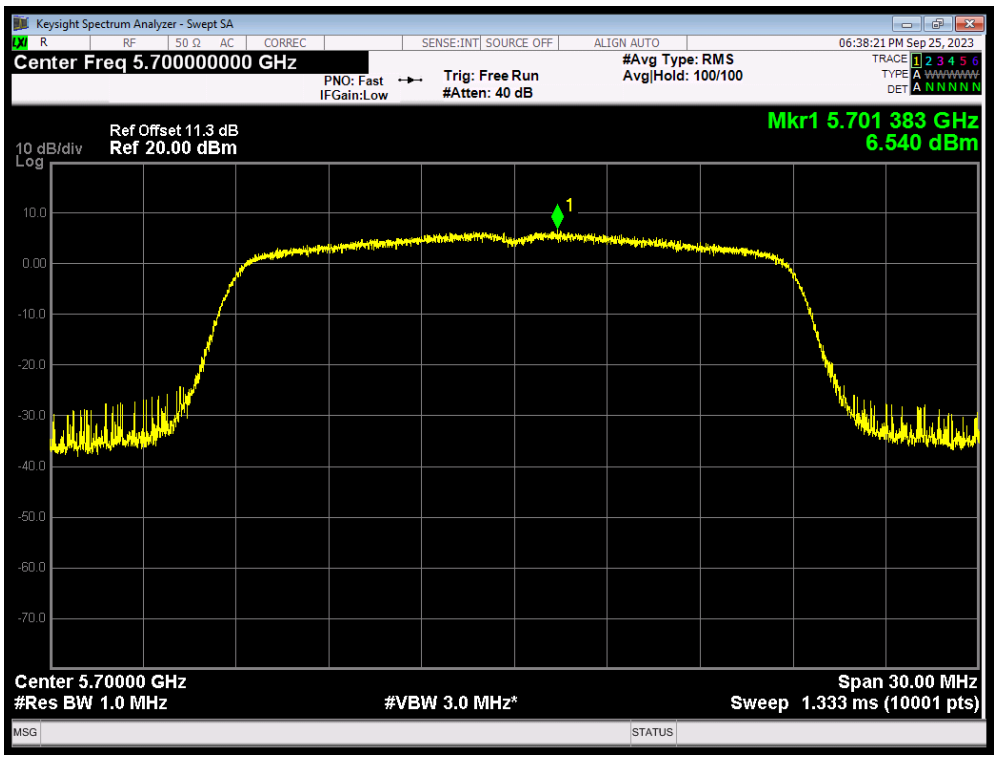
PSD 802.11n(HT20) 5500MHz



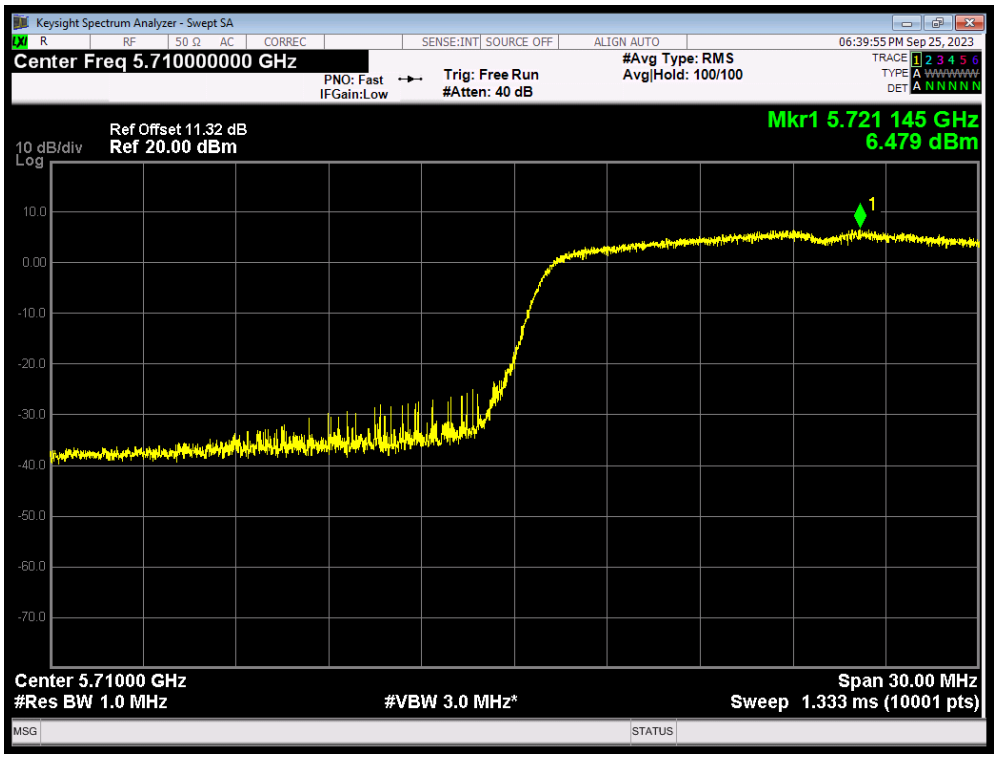
PSD 802.11n(HT20) 5600MHz



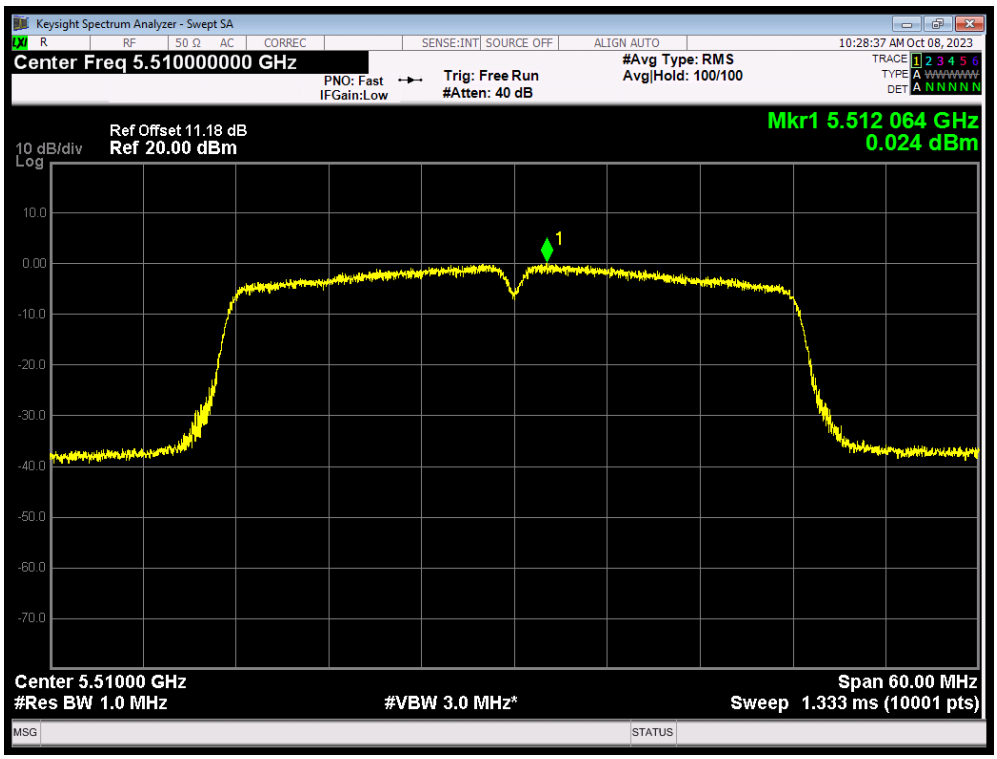
PSD 802.11n(HT20) 5700MHz



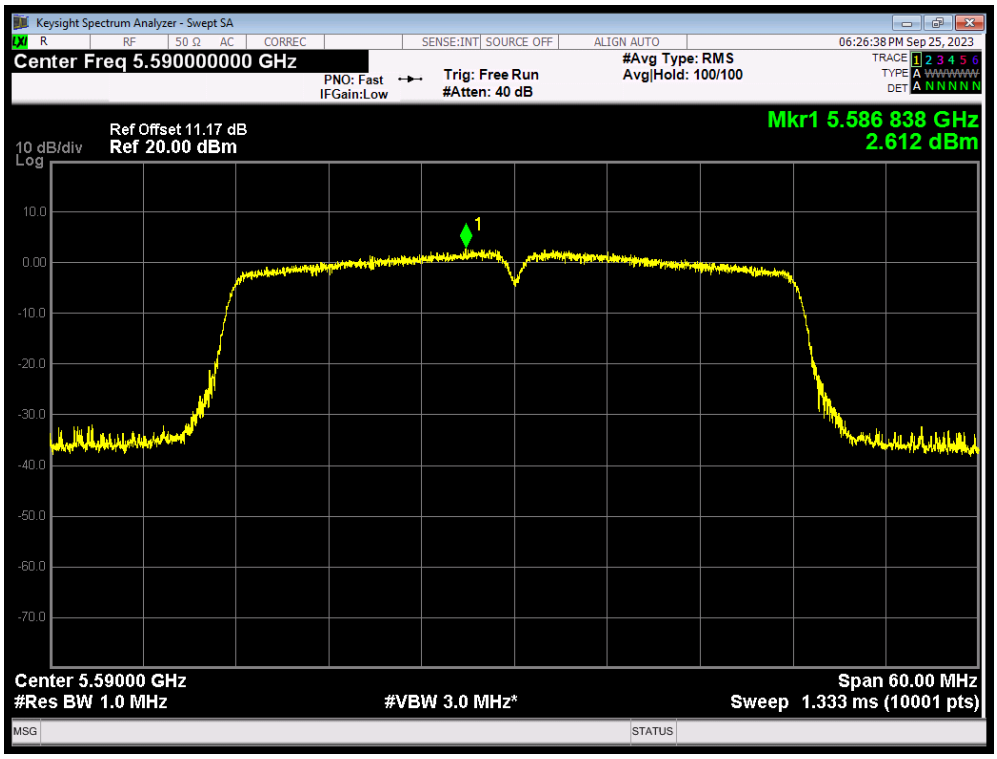
PSD 802.11n(HT20) 5720MHz



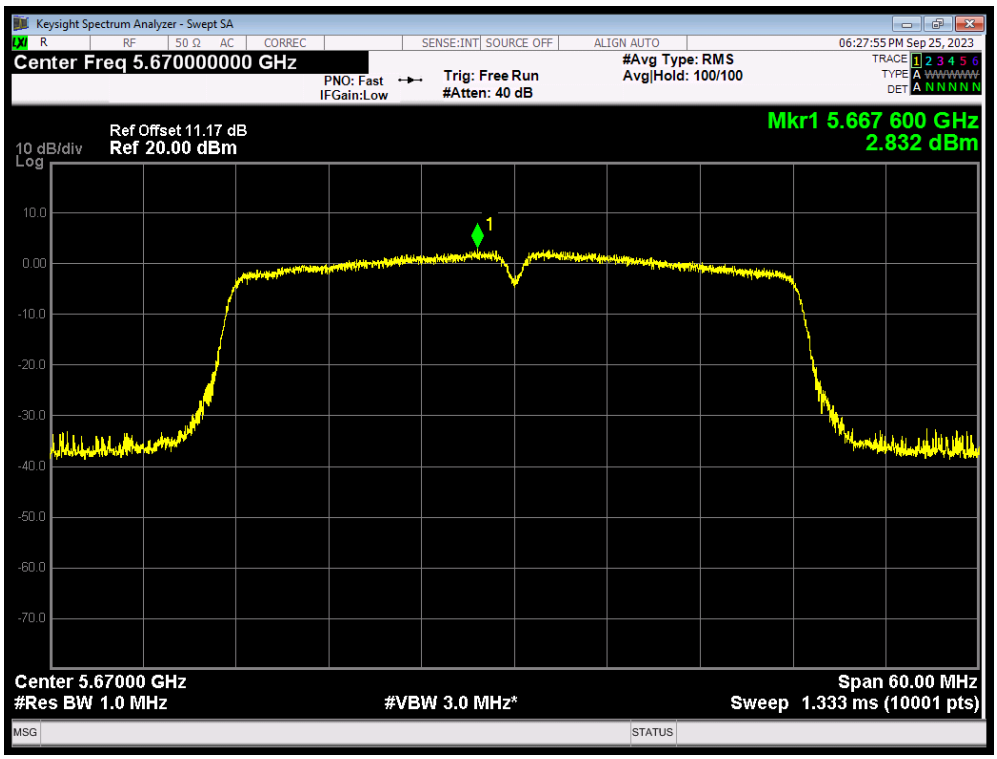
PSD 802.11n(HT40) 5510MHz



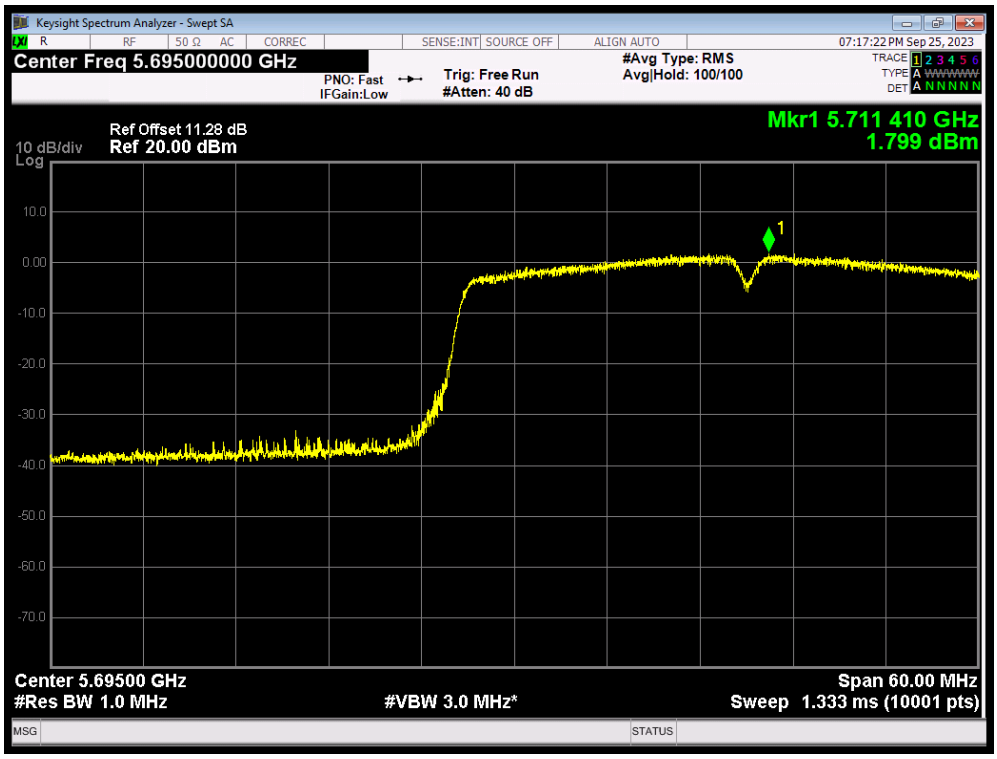
PSD 802.11n(HT40) 5590MHz



PSD 802.11n(HT40) 5670MHz

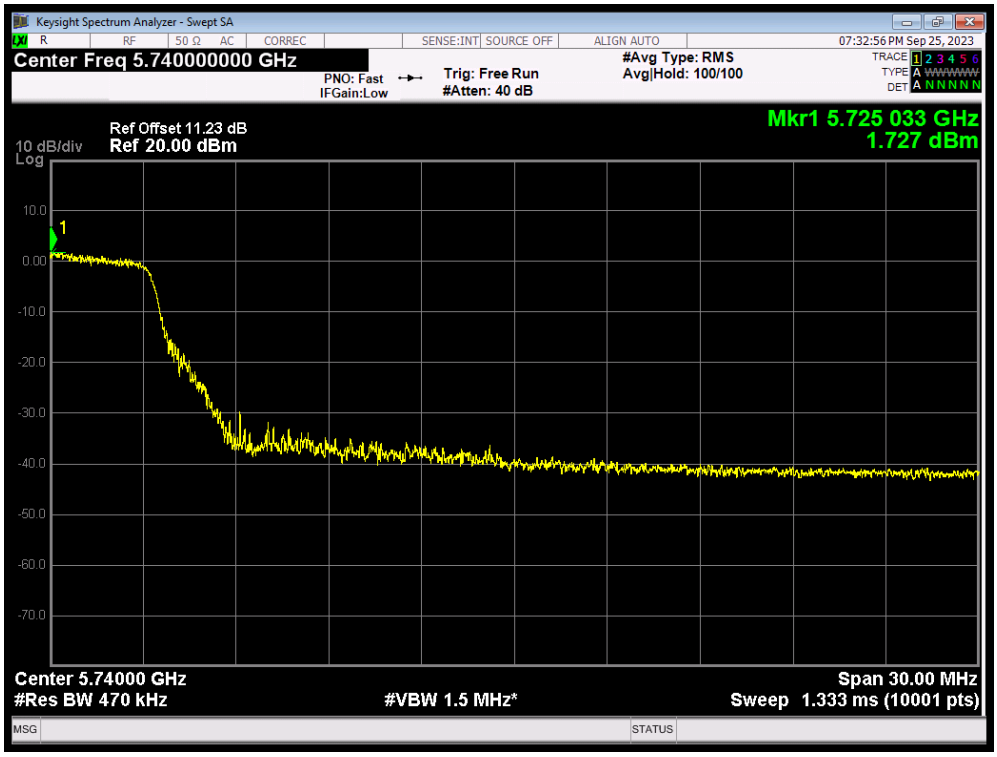


PSD 802.11n(HT40) 5710MHz

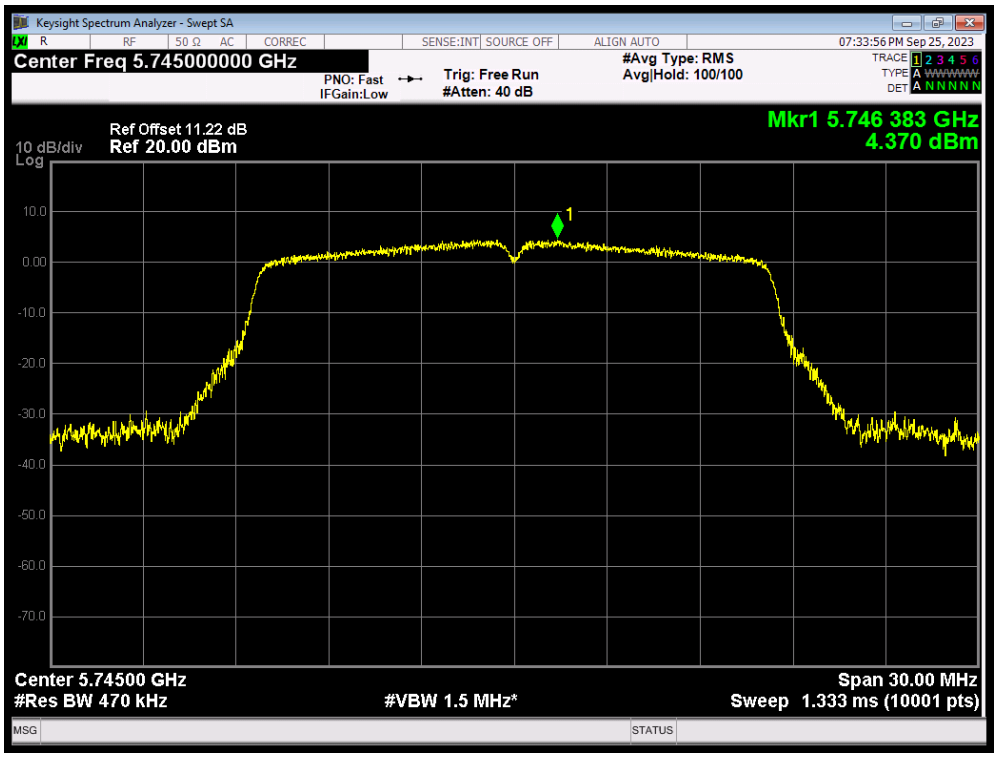


U-NII-3

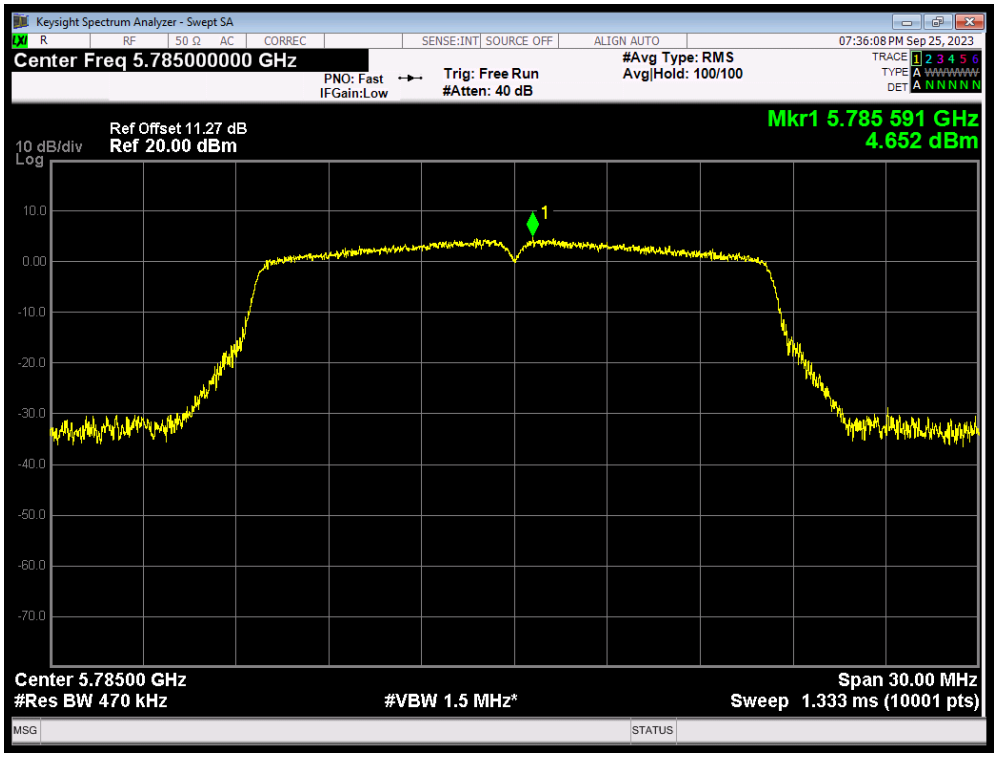
PSD 802.11a 5720MHz



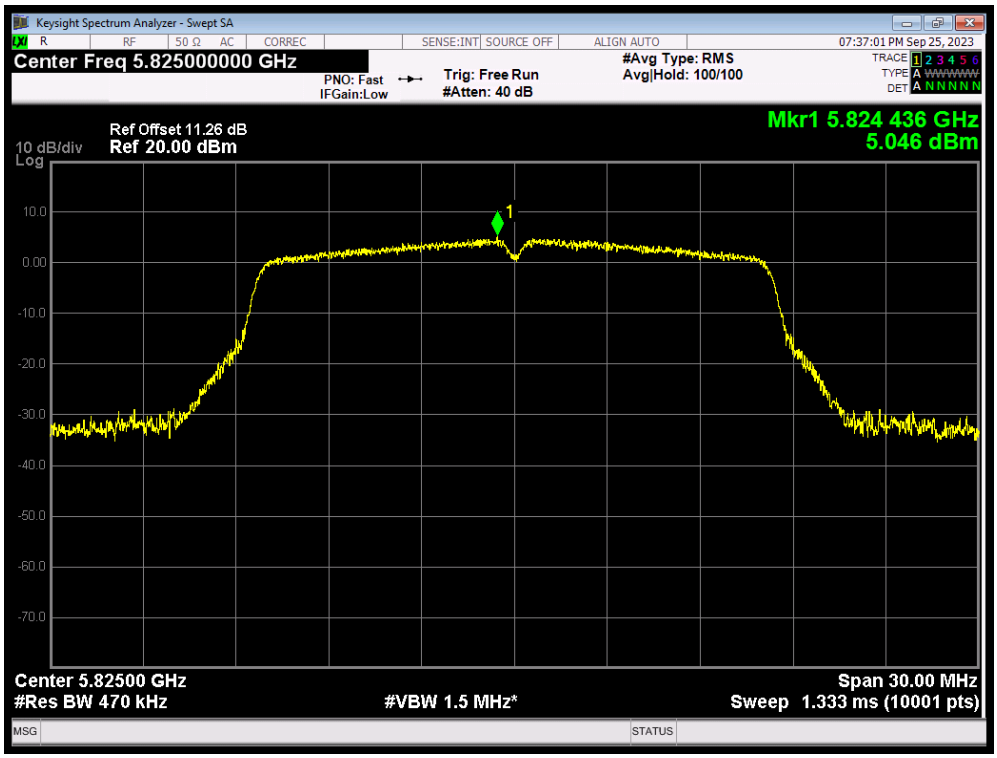
PSD 802.11a 5745MHz



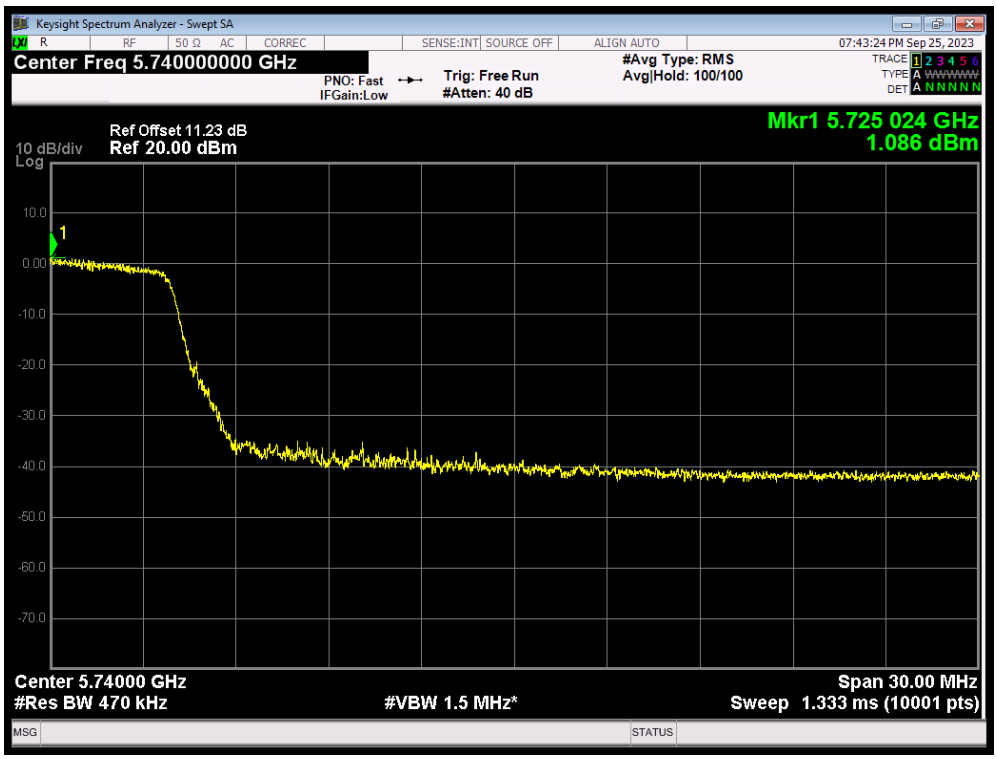
PSD 802.11a 5785MHz



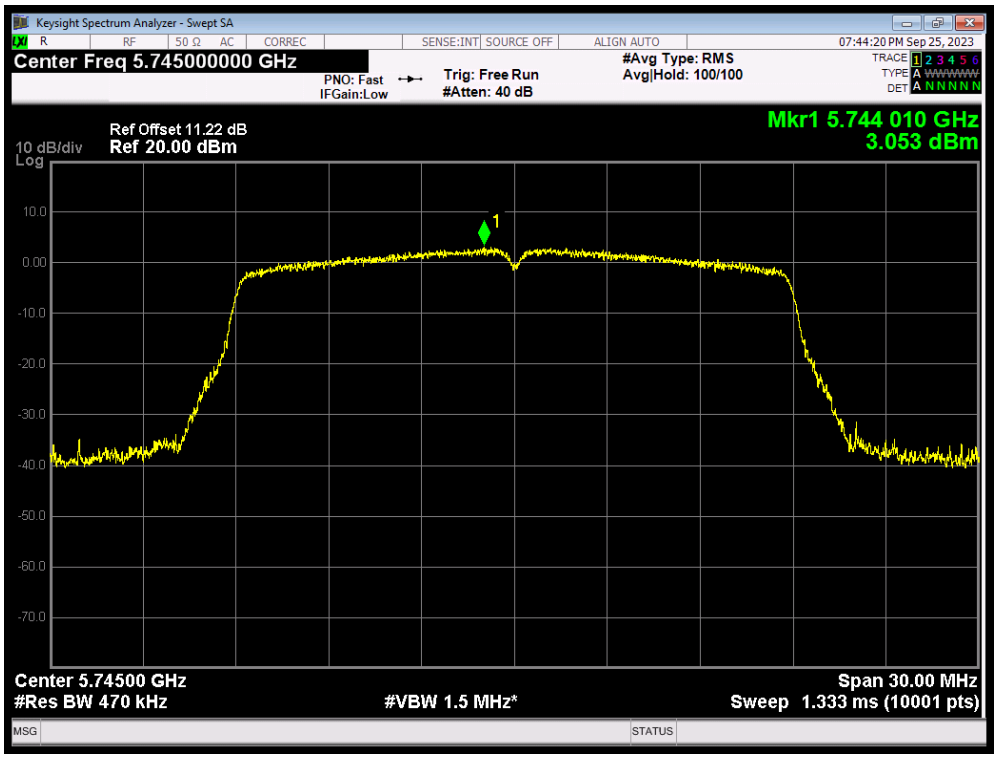
PSD 802.11a 5825MHz



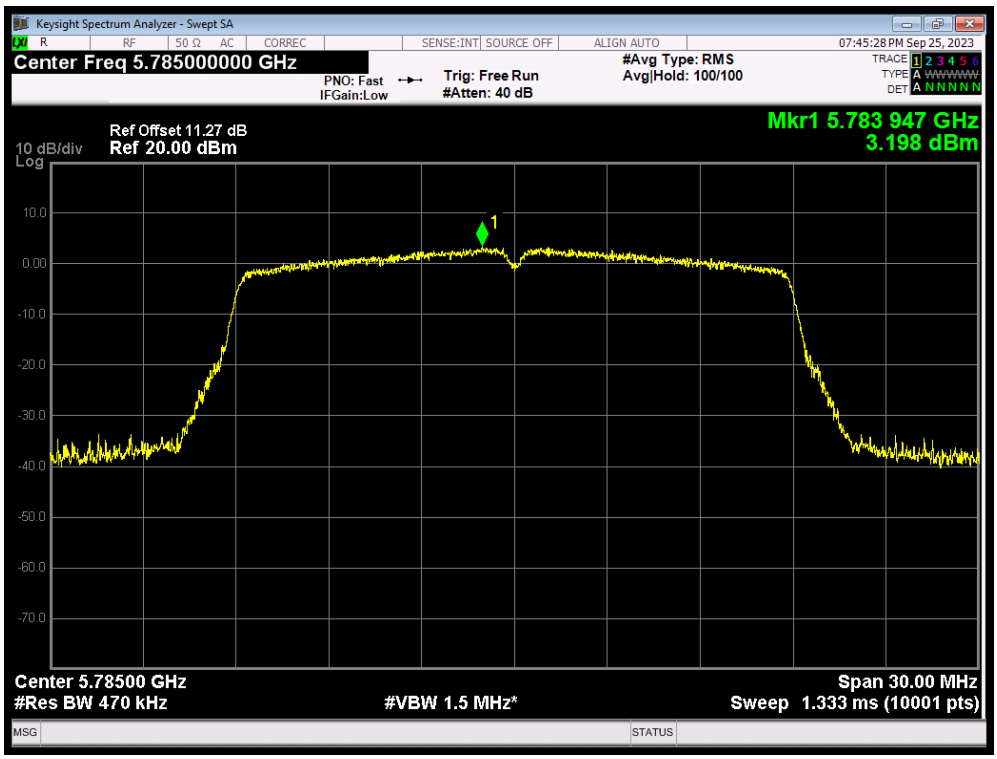
PSD 802.11ac(VHT20) 5720MHz



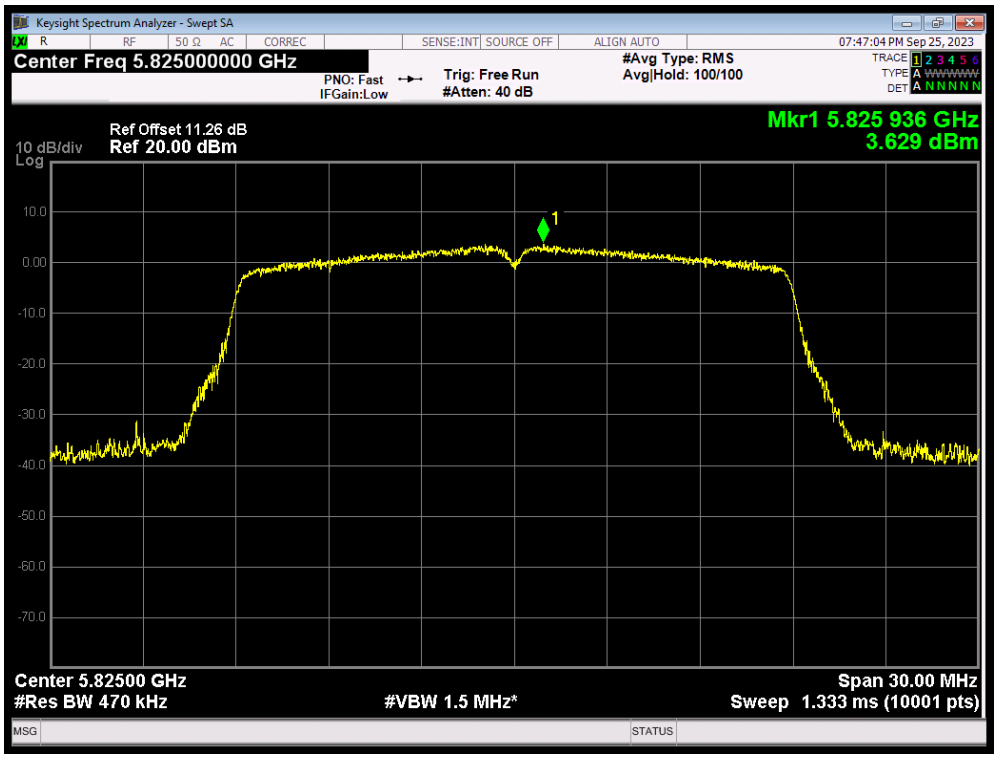
PSD 802.11ac(VHT20) 5745MHz



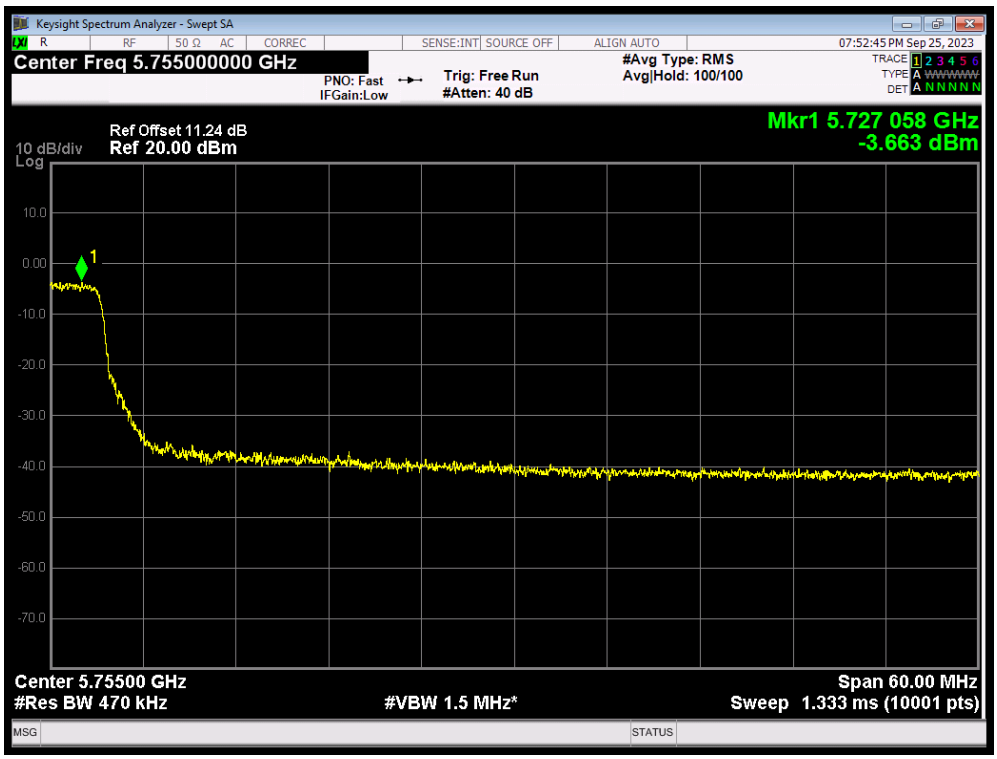
PSD 802.11ac(VHT20) 5785MHz



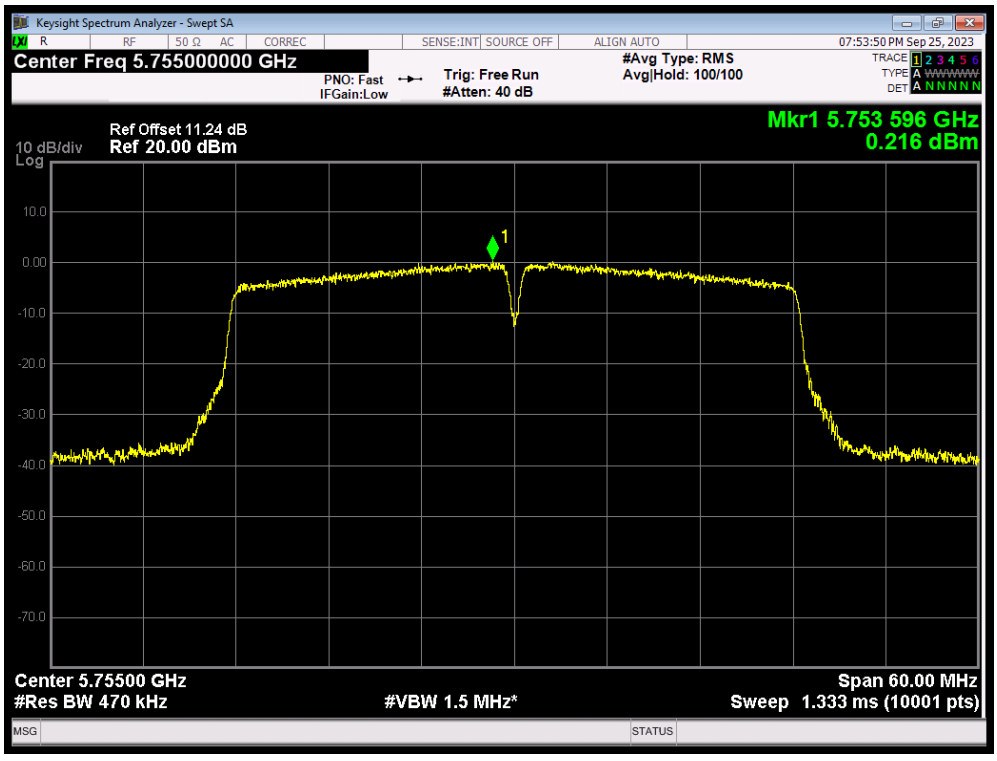
PSD 802.11ac(VHT20) 5825MHz



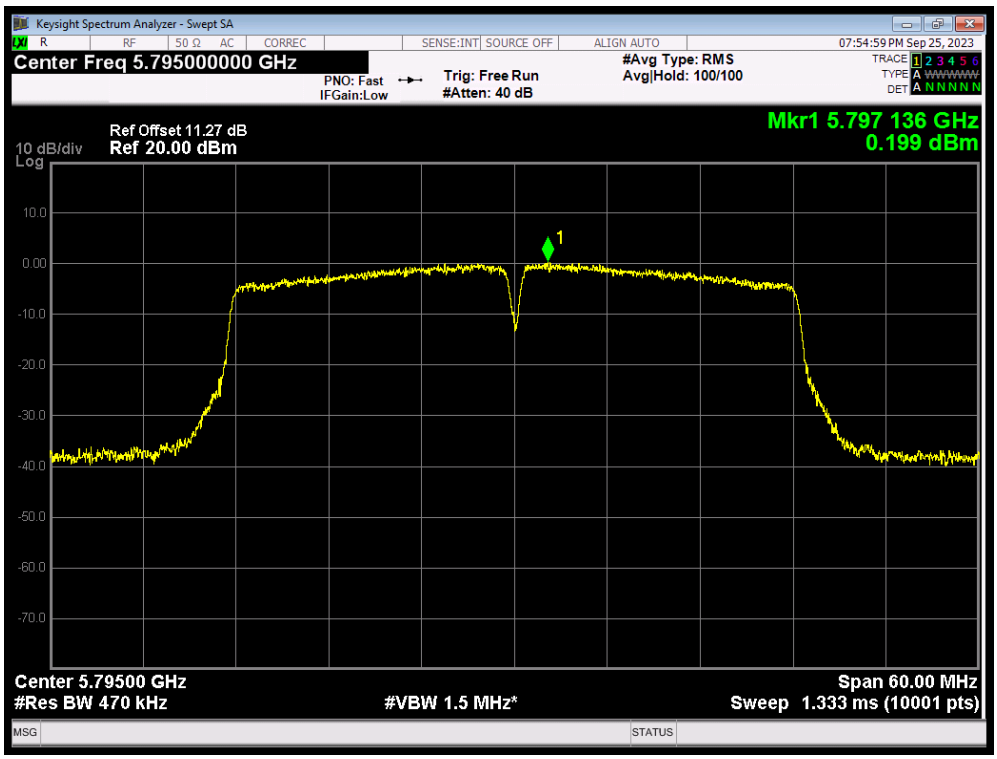
PSD 802.11ac(VHT40) 5710MHz



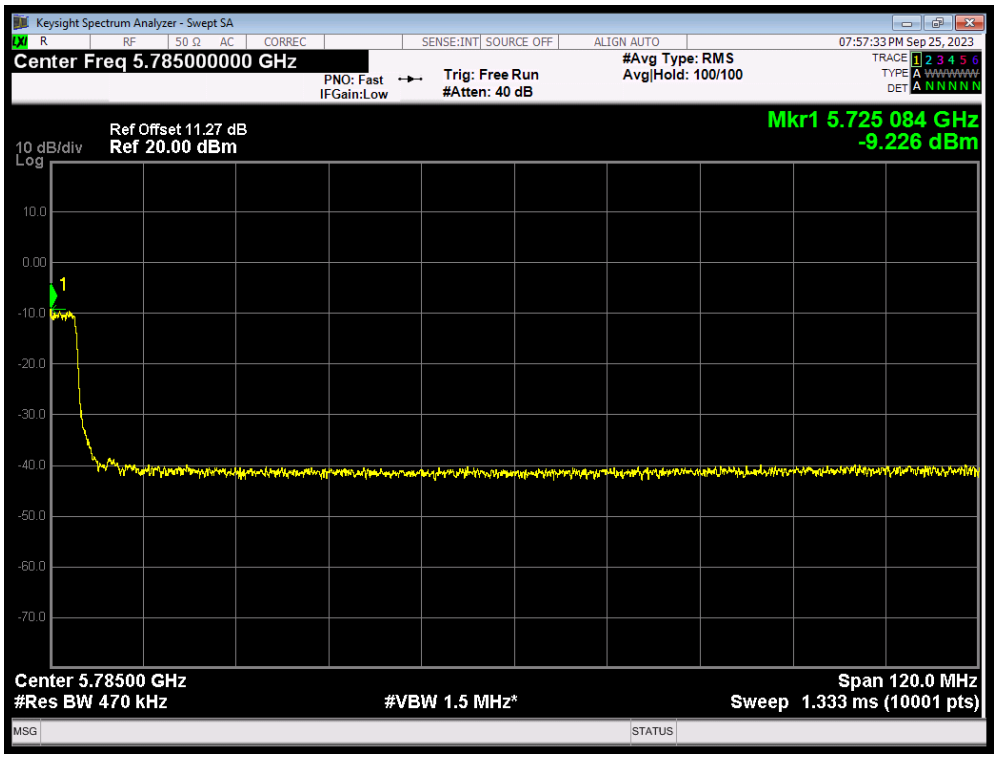
PSD 802.11ac(VHT40) 5755MHz



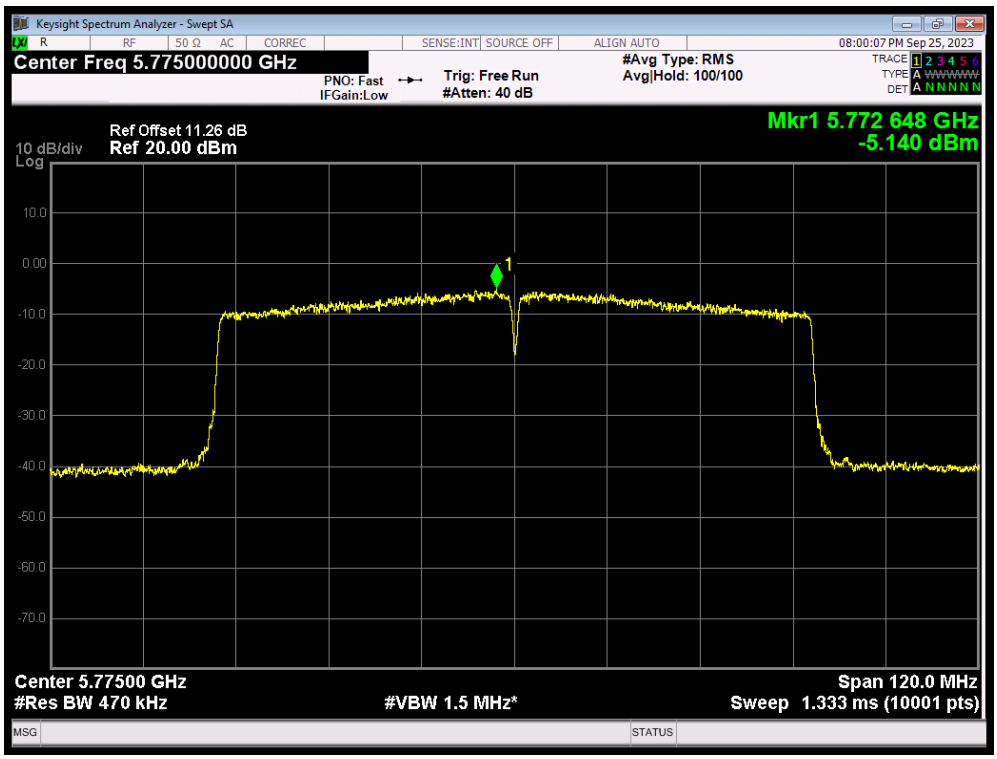
PSD 802.11ac(VHT40) 5795MHz



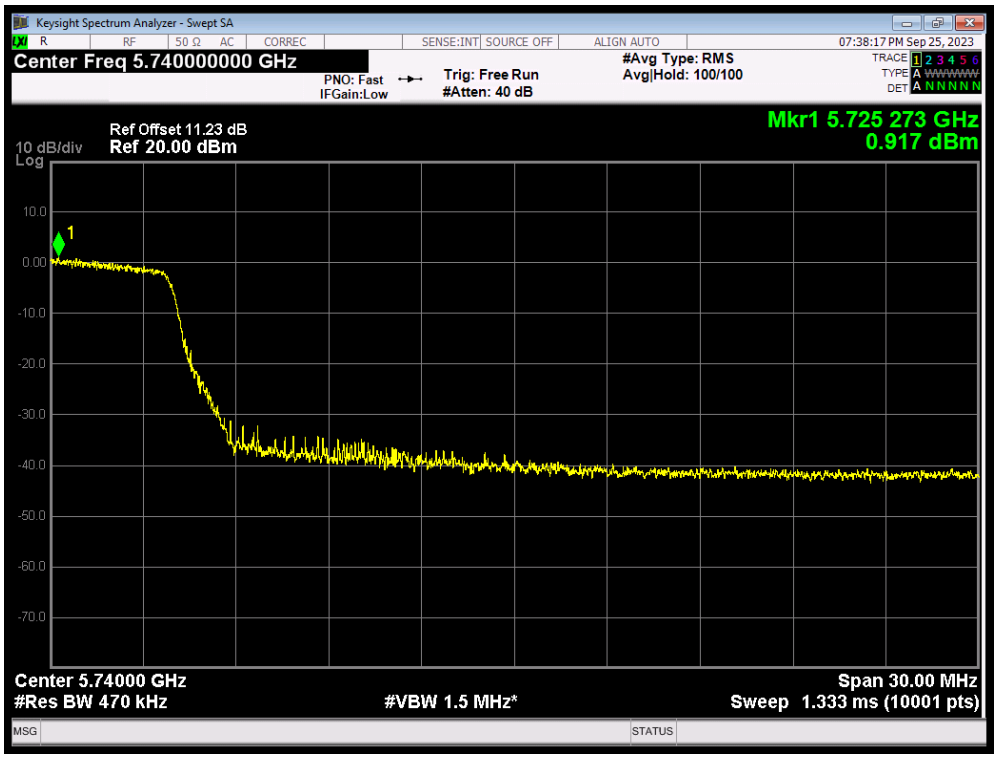
PSD 802.11ac(VHT80) 5690MHz



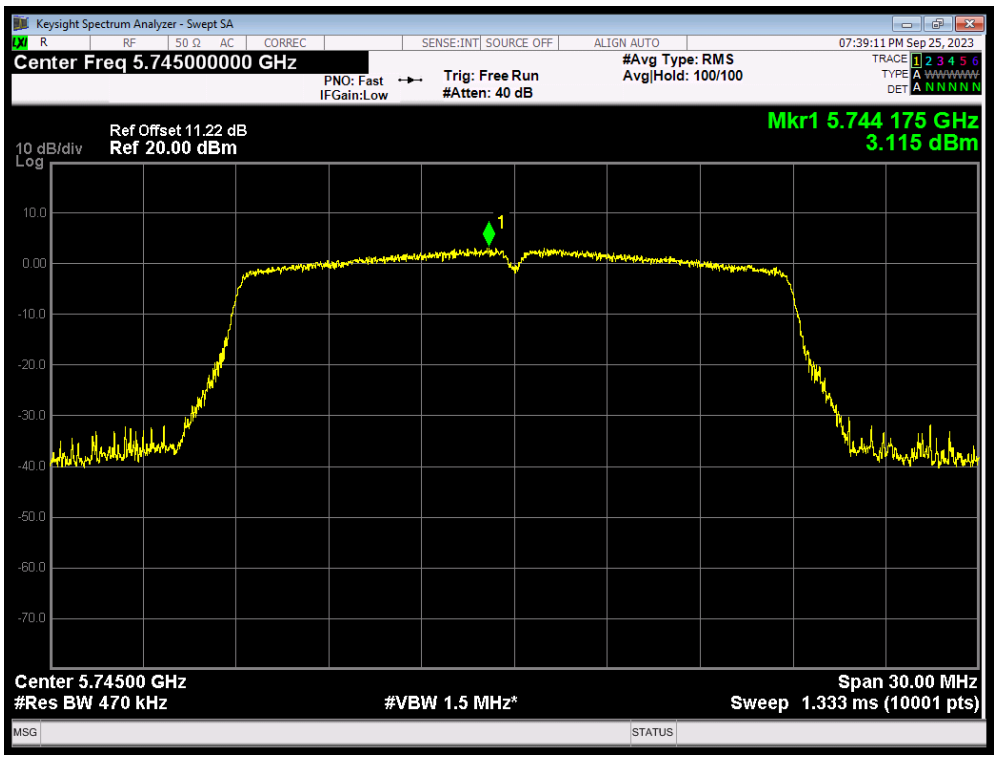
PSD 802.11ac(VHT80) 5775MHz



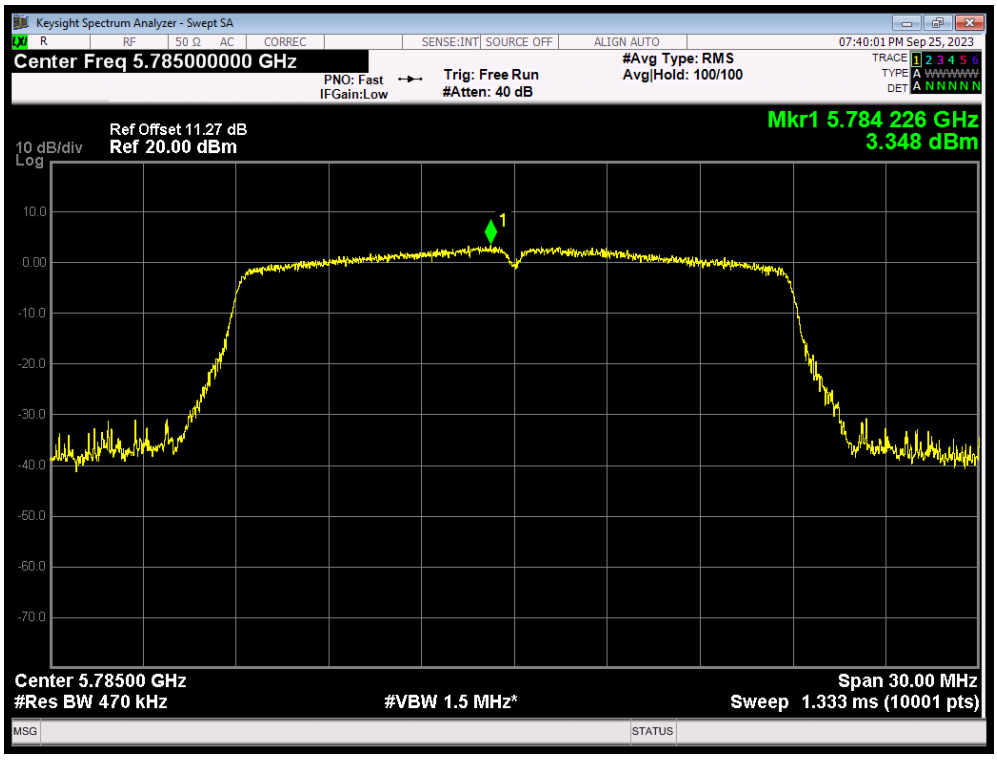
PSD 802.11n(HT20) 5720MHz



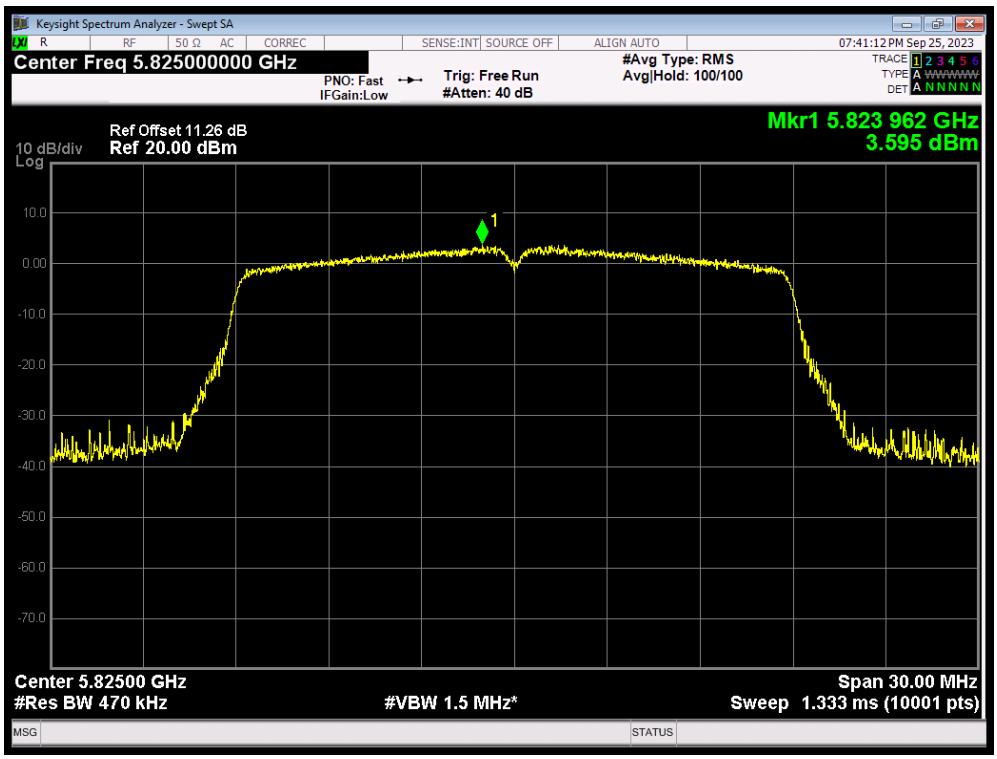
PSD 802.11n(HT20) 5745MHz



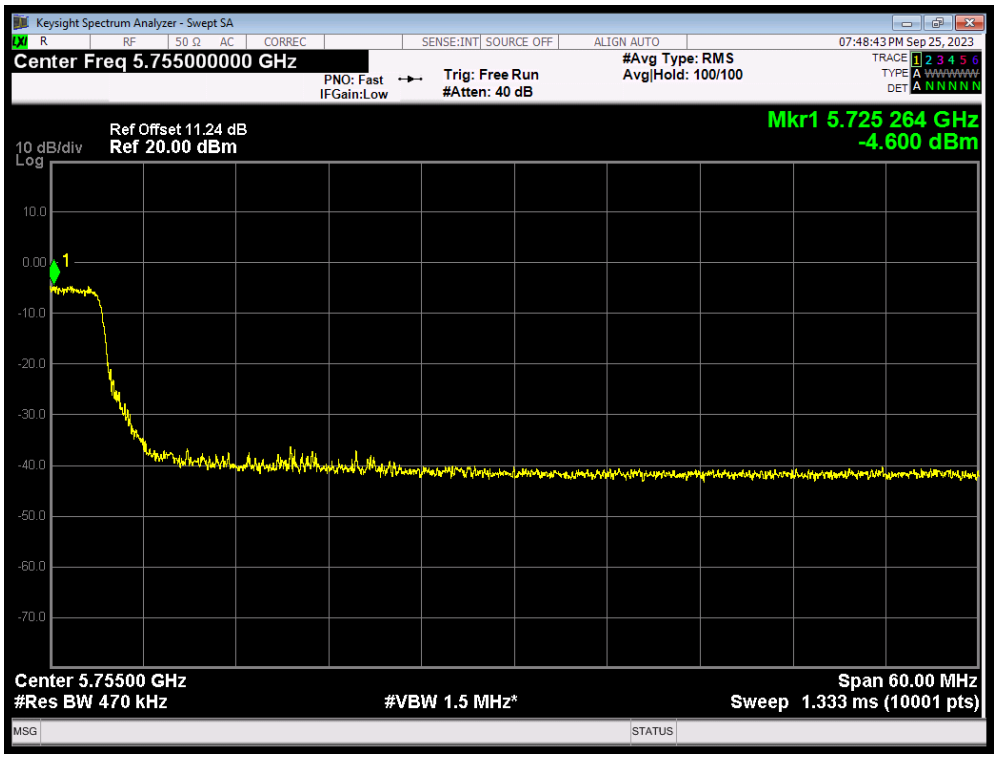
PSD 802.11n(HT20) 5785MHz



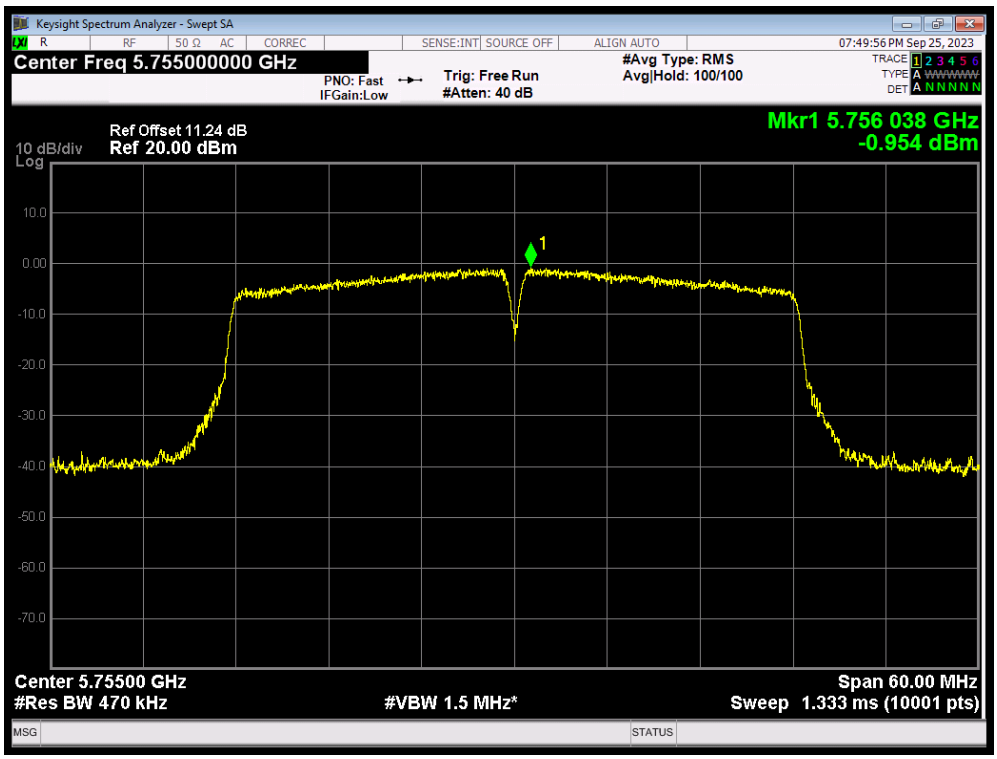
PSD 802.11n(HT20) 5825MHz



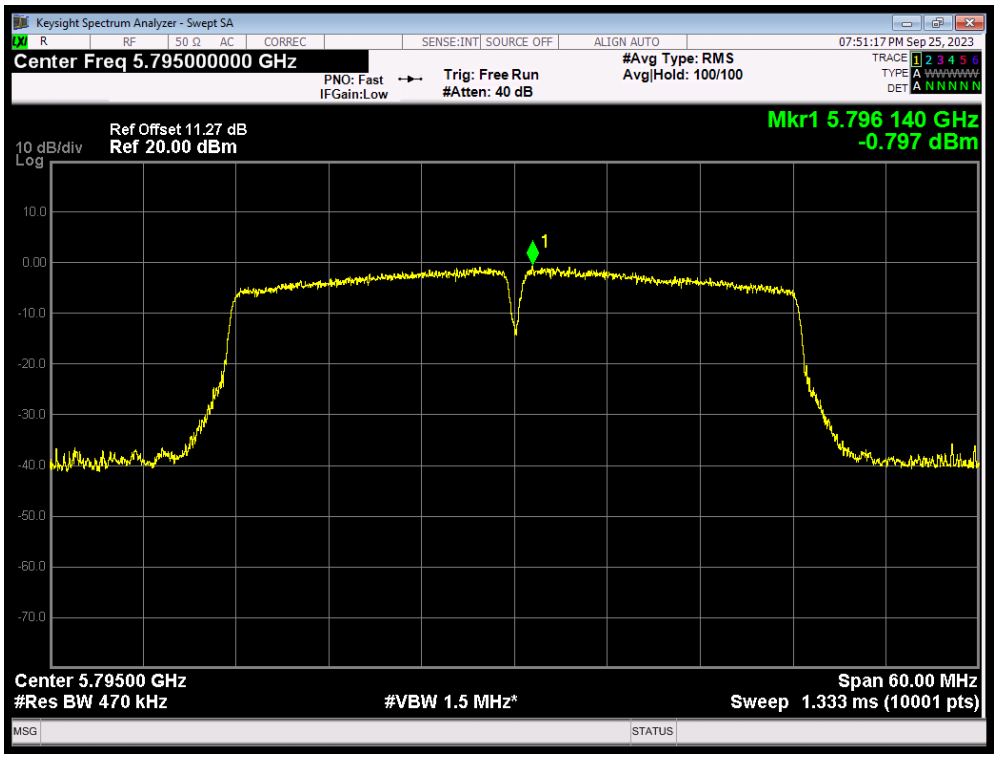
PSD 802.11n(HT40) 5710MHz



PSD 802.11n(HT40) 5755MHz



PSD 802.11n(HT40) 5795MHz



5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
9kHz~150 kHz
RBW=200Hz, VBW=1kHz/ Sweep=AUTO
150 kHz~30MHz
RBW=9KHz, VBW=30KHz,/ Sweep=AUTO
Below 1GHz
RBW=100kHz / VBW=300kHz / Sweep=AUTO
a) Peak emission levels are measured by setting the instrument as follows:
Above 1GHz
PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
b) Average emission levels are measured by setting the instrument as follows:
Above 1GHz
AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO
c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
e) Sweep time = auto.
f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and

OFF with the transmit cycle, at least 100 traces shall be averaged.)
g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

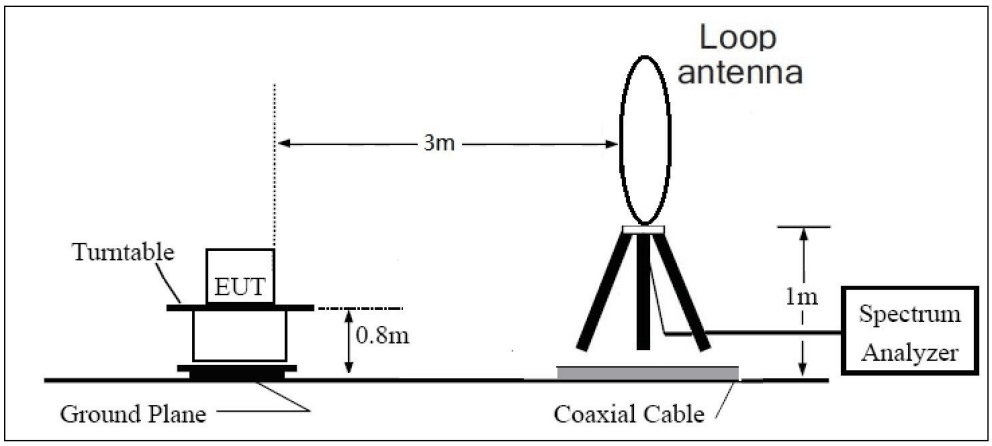
Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than [1 / (minimum transmitter on time)] and no less than 1 Hz.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

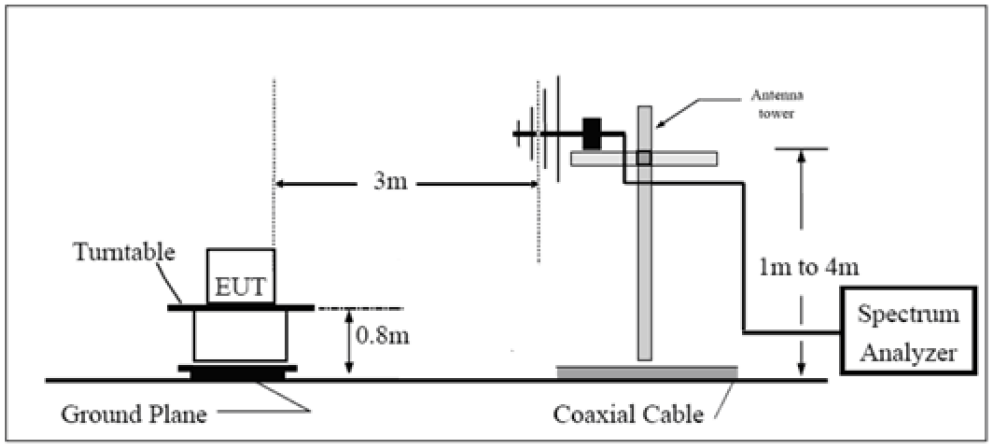
The test is in transmitting mode.

Test setup

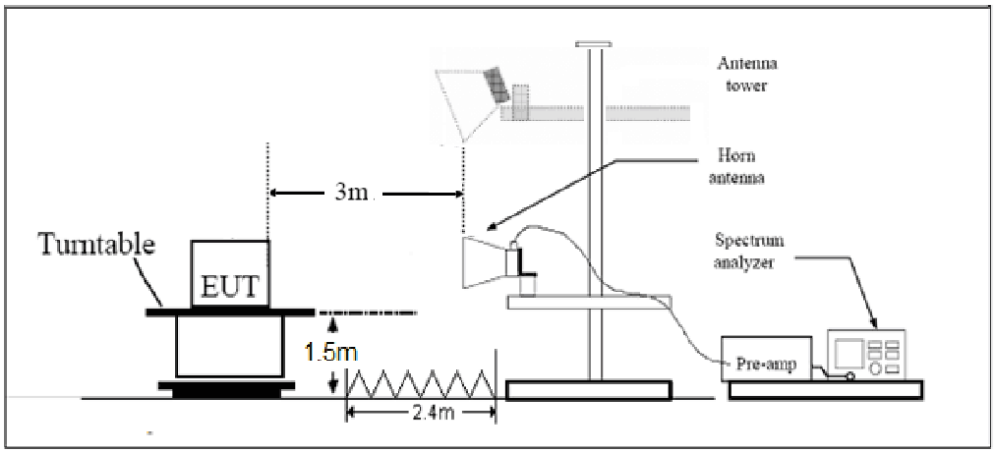
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

(1) For transmitters operating in the 5725-5850 MHz 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.

(2) 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 e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(3) 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 e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(4) 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 e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters

(5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(μV/m)	Field strength(dBμV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB

Test Results:

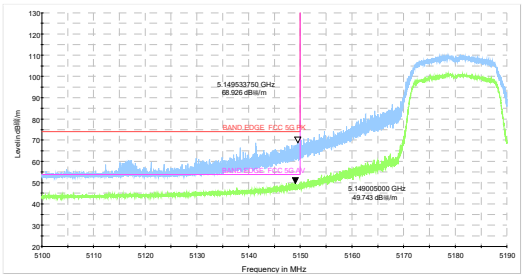
The modulation and bandwidth are similar for 802.11n mode for 20MHz and 802.11ac mode for V20MHz, therefore investigated worst case to representative mode in test report.

A symbol (dB㎷/m) in the test plot below means (dBμV/m)

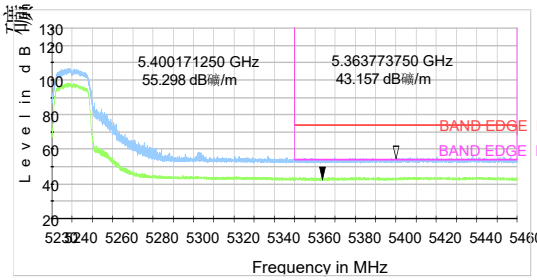
The signal beyond the limit is carrier.

U-NII-1

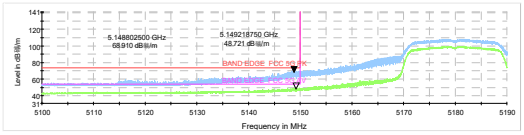
802.11a-Channel 36: Peak + Average



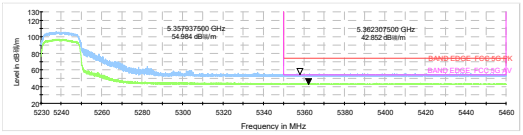
802.11a-Channel 48: Peak + Average



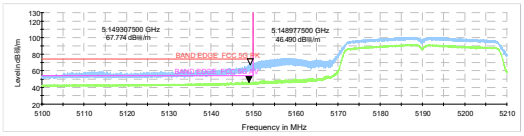
802.11n HT20-Channel 36: Peak + Average



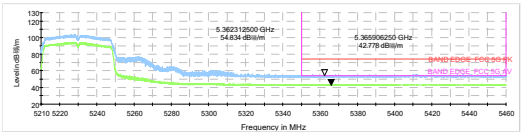
802.11n HT20-Channel 48: Peak + Average



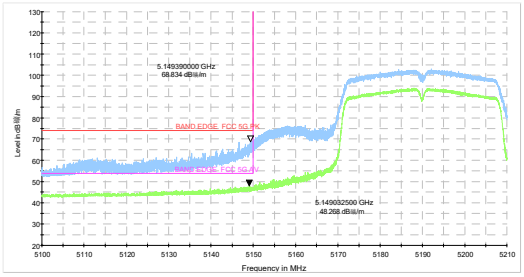
802.11n HT40-Channel 38: Peak + Average



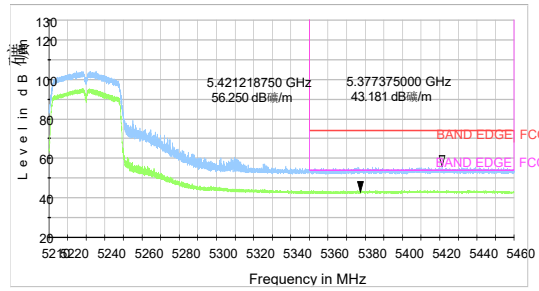
802.11n HT40-Channel 46: Peak + Average



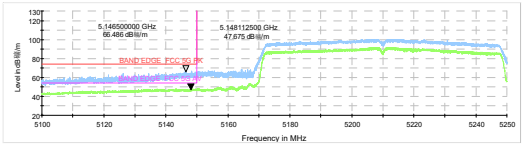
802.11ac VHT40-Channel 38: Peak + Average



802.11ac VHT40-Channel 46: Peak + Average

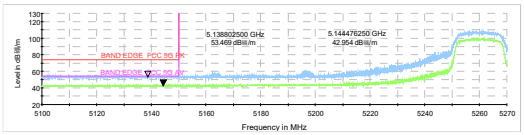


802.11ac VHT80 –Channel 42: Peak + Average

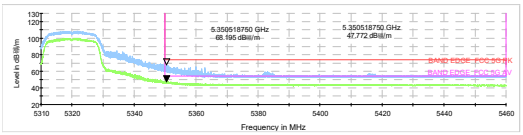


U-NII-2A

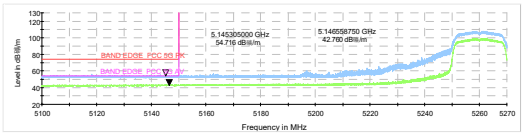
802.11a-Channel 52: Peak + Average



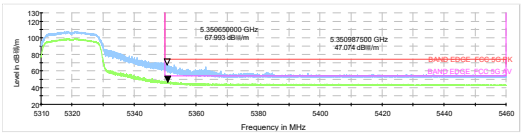
802.11a-Channel 64: Peak + Average



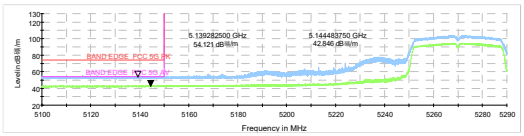
802.11n HT20-Channel 52: Peak + Average



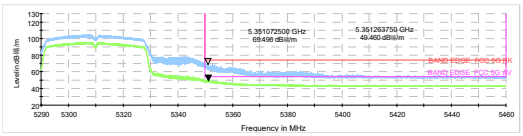
802.11n HT20-Channel 64: Peak + Average



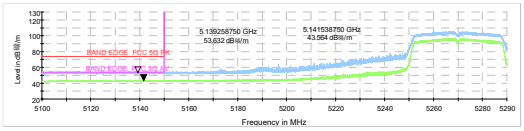
802.11n HT40-Channel 54: Peak + Average



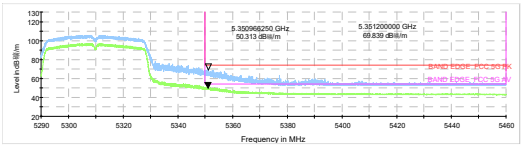
802.11n HT40-Channel 62: Peak + Average



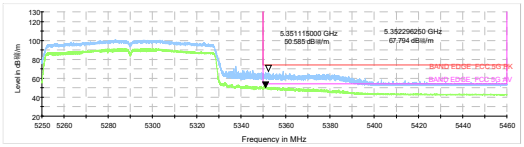
802.11ac VHT40-Channel 54: Peak + Average



802.11ac VHT40-Channel 62: Peak + Average

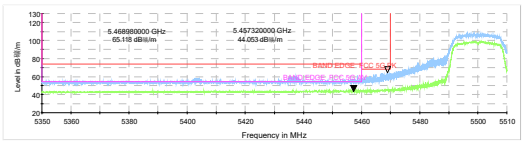


802.11ac VHT80 –Channel 58: Peak + Average

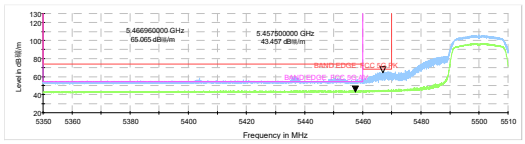


U-NII-2C

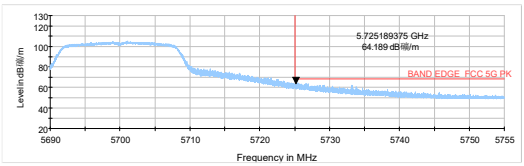
802.11a-Channel 100: Peak + Average



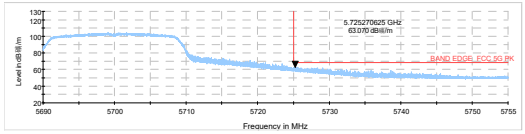
802.11n HT20-Channel 100: Peak + Average



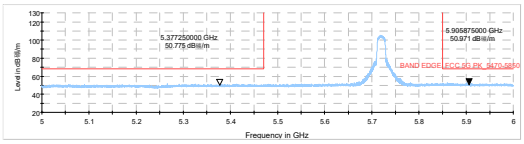
802.11a-Channel 140: Peak



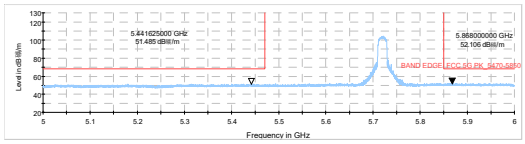
802.11n HT20-Channel 140: Peak



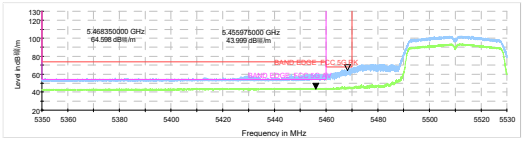
802.11a-Channel 144: Peak



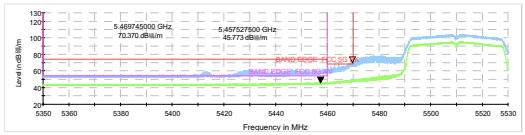
802.11a-Channel 144: Peak



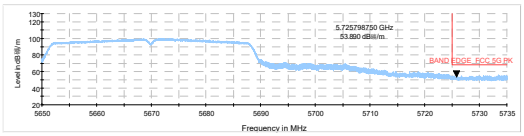
802.11n HT40-Channel 102: Peak + Average



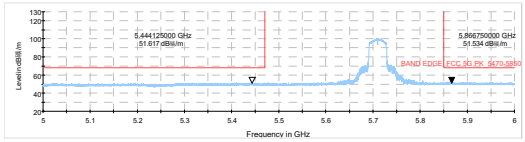
802.11ac VHT20 -Channel 100: Peak + Average



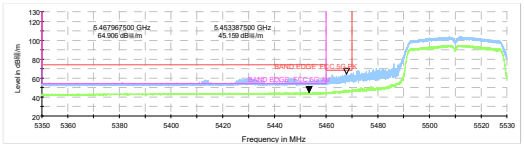
802.11n HT40-Channel 134: Peak



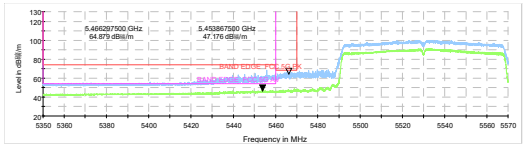
802.11n HT40-Channel 142: Peak



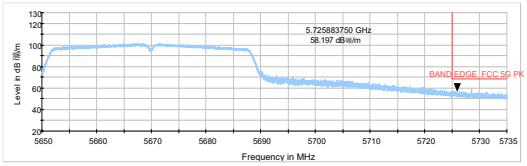
802.11ac VHT40-Channel 102: Peak + Average



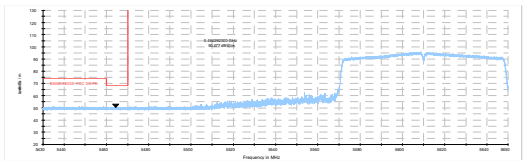
802.11ac VHT80-Channel 106: Peak + Average



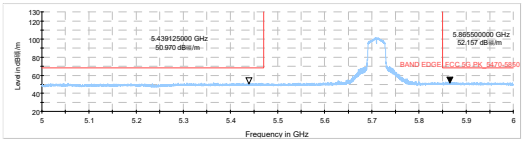
802.11ac VHT40-Channel 134: Peak



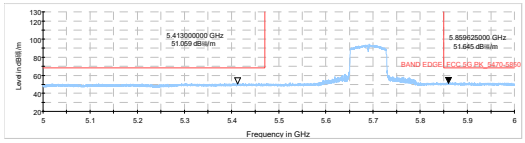
802.11ac VHT80-Channel 122: Peak



802.11ac VHT40-Channel 142: Peak

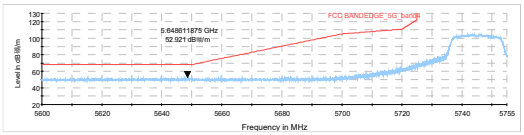


802.11ac VHT80-Channel 138: Peak

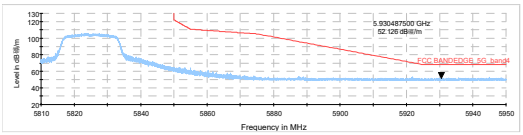


U-NII-3

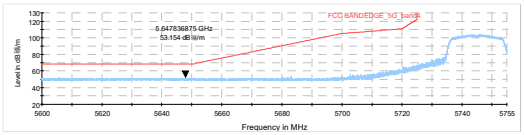
802.11a-Channel 149: Peak



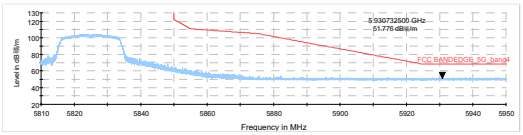
802.11a-Channel 165: Peak



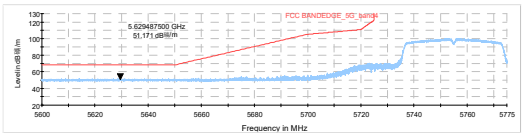
802.11n HT20-Channel 149: Peak



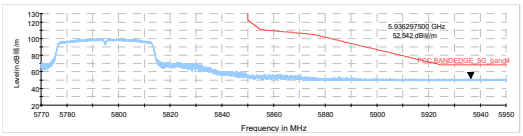
802.11n HT20-Channel 165: Peak



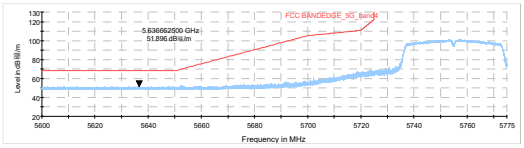
802.11n HT40-Channel 151: Peak



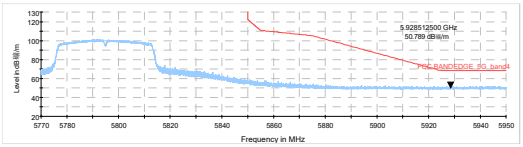
802.11n HT40-Channel 159: Peak



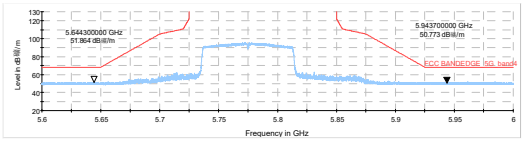
802.11ac VHT40-Channel 151: Peak



802.11ac VHT40-Channel 159: Peak



802.11ac VHT80- Channel 155: Peak



Result of RE

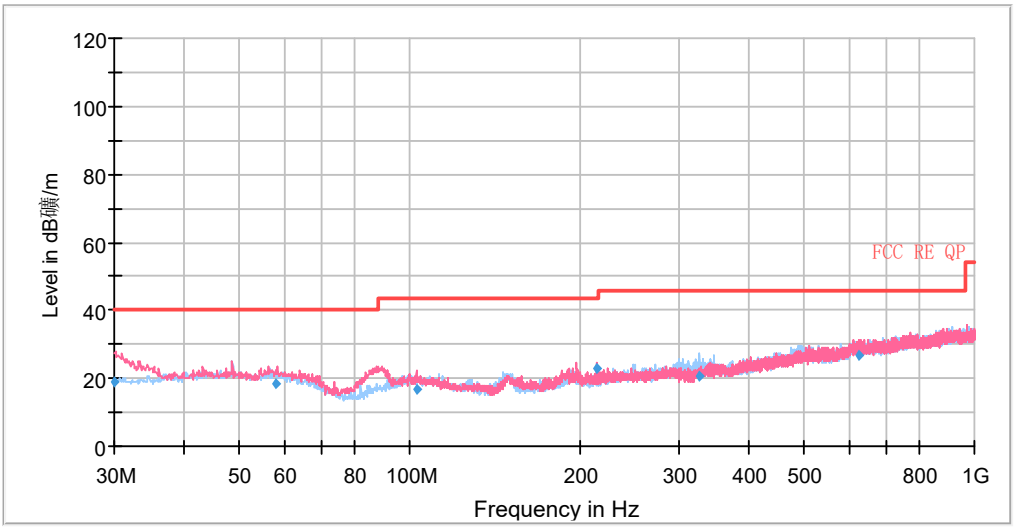
Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz are more than 20dB below the limit are not reported.

A symbol (dBμV/m) in the test plot below means (dBμV/m)

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11ac (VHT80), Channel 58 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



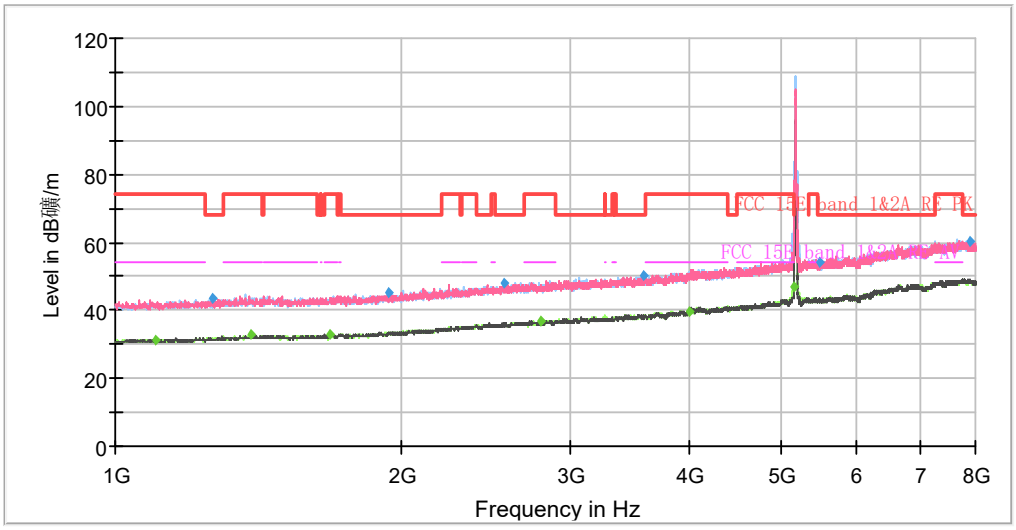
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
30.00	18.91	40.00	21.09	108.0	V	222.00	13
57.89	18.64	40.00	21.36	176.0	V	336.00	15
103.11	16.81	43.50	26.69	100.0	V	193.00	13
214.50	22.98	43.50	20.52	102.0	V	2.00	13
325.37	20.42	46.00	25.58	104.0	H	270.00	16
625.54	26.90	46.00	19.10	186.0	V	194.00	22

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

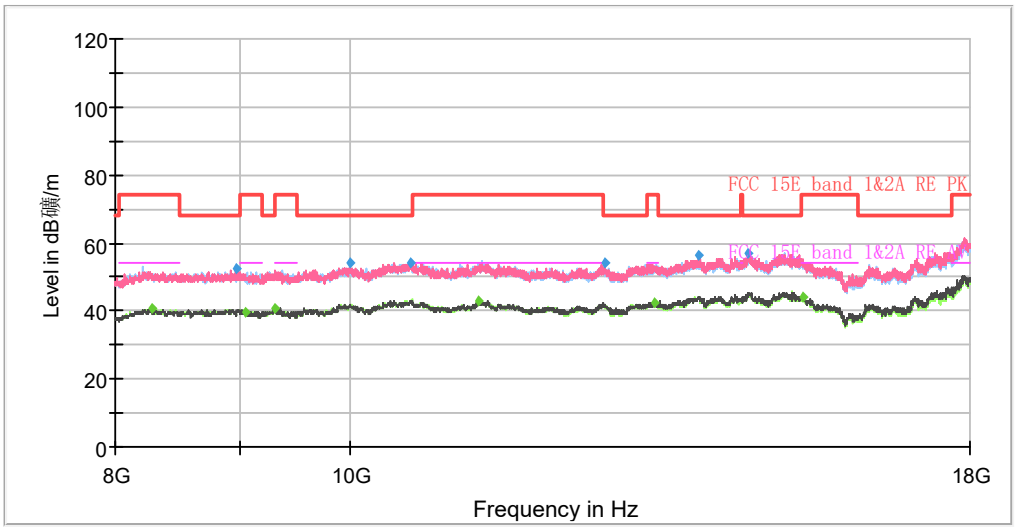
2. Margin = Limit – Quasi-Peak

802.11a CH36



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 8GHz



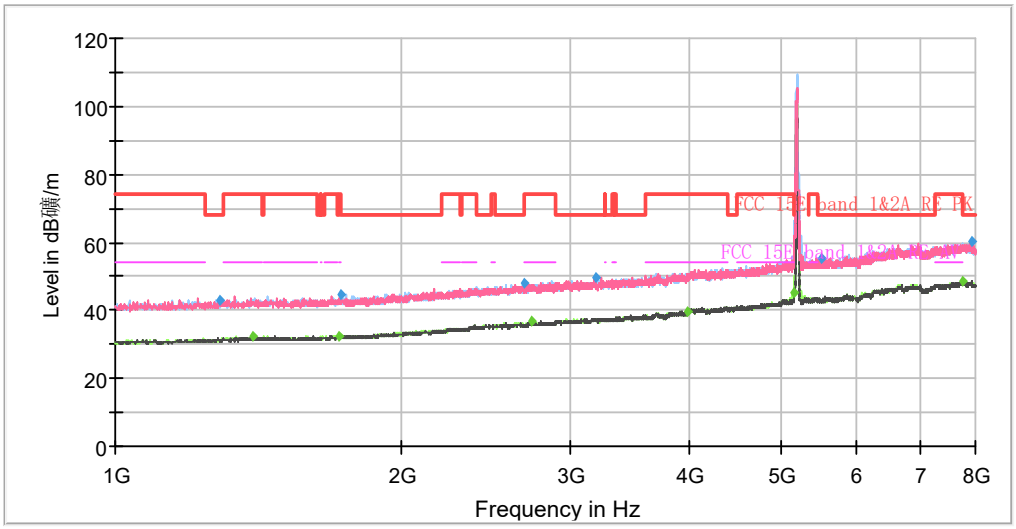
Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1101.50	---	31.35	54.00	22.65	500.00	200.0	V	314.00	-2
1266.88	43.28	---	68.20	24.92	500.00	100.0	V	180.00	-2
1391.13	---	32.66	54.00	21.34	500.00	100.0	V	0.00	-1
1682.50	---	33.01	54.00	20.99	500.00	100.0	V	293.00	0
1937.13	45.12	---	68.20	23.08	500.00	200.0	H	317.00	0
2559.25	48.04	---	68.20	20.16	500.00	100.0	V	200.00	4
2794.63	---	36.84	54.00	17.16	500.00	200.0	V	213.00	4
3588.25	50.37	---	68.20	17.83	500.00	200.0	V	200.00	5
3997.75	---	39.77	54.00	14.23	500.00	200.0	V	24.00	6
5149.25	---	47.10	54.00	6.90	500.00	100.0	H	184.00	10
5491.38	54.29	---	68.20	13.91	500.00	100.0	V	186.00	11
7896.75	60.48	---	68.20	7.72	500.00	100.0	V	227.00	17

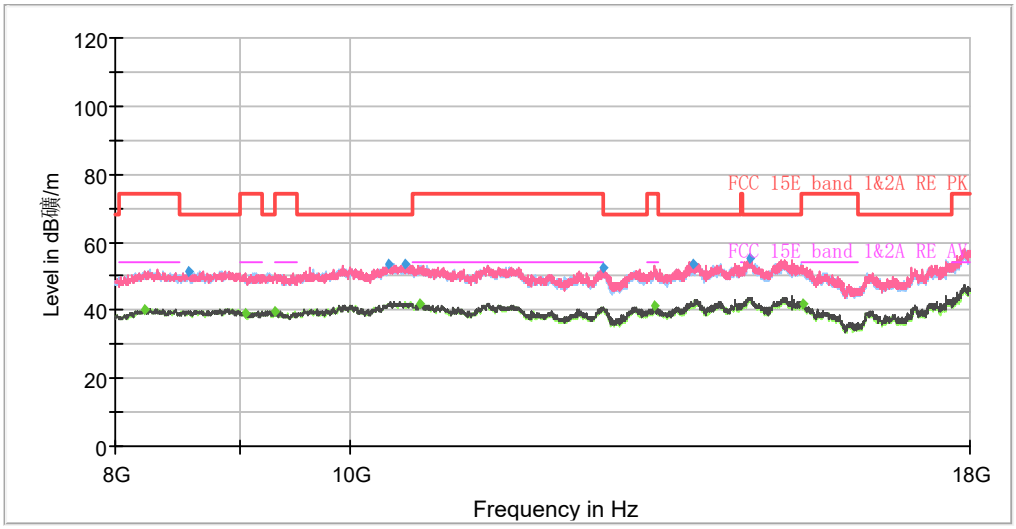
Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average

802.11a CH40



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 8GHz

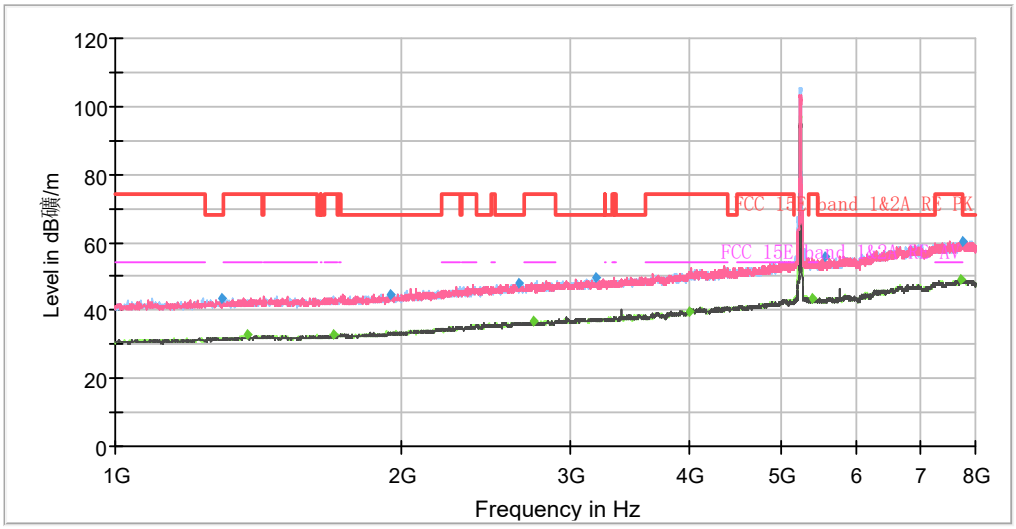


Radiates Emission from 8GHz to 18GHz

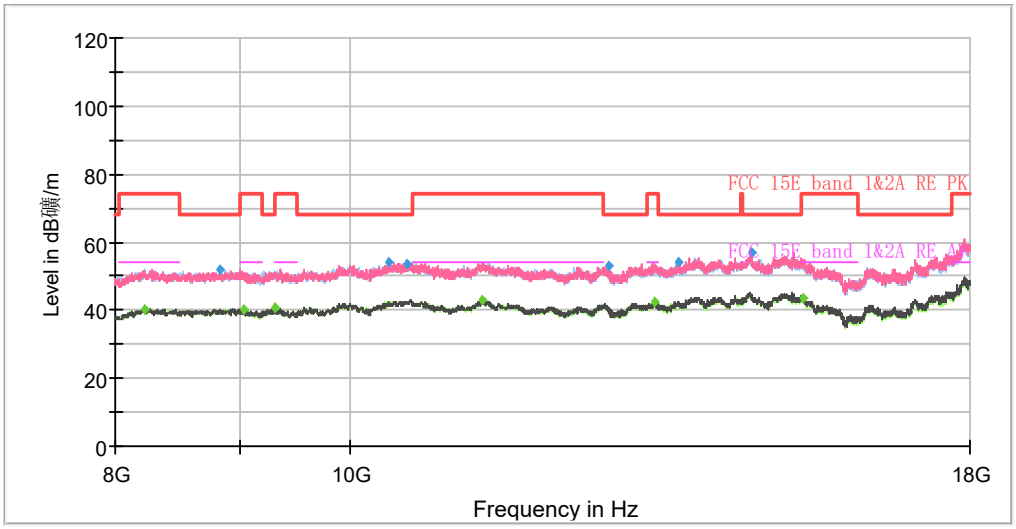
Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1285.25	43.12	---	68.20	25.08	500.00	200.0	V	324.00	-2
1392.88	---	32.20	54.00	21.80	500.00	200.0	H	73.00	-1
1720.13	---	32.47	54.00	21.53	500.00	100.0	V	128.00	0
1727.13	44.73	---	68.20	23.47	500.00	100.0	H	270.00	0
2684.38	47.74	---	68.20	20.46	500.00	200.0	V	204.00	4
2734.25	---	36.62	54.00	17.38	500.00	100.0	V	4.00	4
3192.75	49.91	---	68.20	18.29	500.00	200.0	H	348.00	5
3995.13	---	39.74	54.00	14.26	500.00	200.0	H	80.00	6
5148.38	---	45.29	54.00	8.71	500.00	100.0	H	174.00	10
5522.88	55.40	---	68.20	12.80	500.00	100.0	H	358.00	11
7747.13	---	48.49	54.00	5.51	500.00	100.0	V	189.00	17
7914.25	60.30	---	68.20	7.90	500.00	100.0	H	340.00	17

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit –MAX Peak/ Average

802.11a CH48



Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1294.88	43.68	---	68.20	24.52	500.00	100.0	H	98.00	-2
1377.13	---	32.70	54.00	21.30	500.00	200.0	H	60.00	-1
1696.50	---	33.06	54.00	20.94	500.00	200.0	H	314.00	0
1948.50	44.86	---	68.20	23.34	500.00	200.0	H	358.00	1
2646.75	47.74	---	68.20	20.46	500.00	200.0	H	0.00	4
2750.88	---	36.92	54.00	17.08	500.00	100.0	H	192.00	4
3196.25	49.62	---	68.20	18.58	500.00	200.0	H	141.00	5
3998.63	---	39.88	54.00	14.12	500.00	200.0	V	65.00	6
5389.00	---	43.45	54.00	10.55	500.00	200.0	H	174.00	11
5555.25	55.64	---	68.20	12.56	500.00	200.0	V	180.00	11
7728.75	---	48.90	54.00	5.10	500.00	200.0	V	24.00	17
7751.50	60.26	---	68.20	7.94	500.00	100.0	V	245.00	17

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average