U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Antenna 1		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	15.78	15.78	16.66	16.66	19.25	23.79	PASS
	116/5580	16.33	16.33	16.64	16.64	19.50	23.79	PASS
	140/5700	11.83	11.83	12.70	12.70	15.30	23.79	PASS
	144/5720	15.50	15.50	15.01	15.01	18.27	23.79	PASS
802.11n HT40	102/5510	13.39	13.39	14.11	14.11	16.78	23.79	PASS
	110/5550	16.19	16.19	17.35	17.35	19.82	23.79	PASS
	134/5670	16.08	16.08	17.54	17.54	19.88	23.79	PASS
	142/5710	16.16	16.16	15.72	15.72	18.95	23.79	PASS
802.11ac VHT20	100/5500	15.78	15.78	17.14	17.14	19.52	23.79	PASS
	116/5580	15.73	15.73	16.62	16.62	19.21	23.79	PASS
	140/5700	15.67	15.67	16.91	16.91	19.34	23.79	PASS
	144/5720	15.45	15.45	14.98	14.98	18.23	23.79	PASS
802.11ac VHT40	102/5510	16.07	16.07	17.32	17.32	19.75	23.79	PASS
	110/5550	16.07	16.07	17.32	17.32	19.75	23.79	PASS
	134/5670	15.78	15.78	17.56	17.56	19.77	23.79	PASS
	142/5710	16.14	16.14	15.66	15.66	18.91	23.79	PASS
802.11ac VHT80	122/5610	11.89	11.89	12.78	12.78	15.37	23.79	PASS
	138/5690	16.48	16.48	16.04	16.04	19.28	23.79	PASS
802.11ac VHT160	114/5570	13.87	13.87	13.68	13.68	16.78	23.79	PASS
802.11ax HE20	100/5500	15.87	15.87	16.78	16.78	19.36	23.79	PASS
	116/5580	16.01	16.01	16.64	16.64	19.35	23.79	PASS
	140/5700	12.16	12.16	11.32	11.32	14.77	23.79	PASS
	144/5720	15.33	15.33	14.84	14.84	18.10	23.79	PASS
802.11ax HE40	102/5510	12.93	12.93	12.61	12.61	15.78	23.79	PASS
	110/5550	16.71	16.71	16.60	16.60	19.67	23.79	PASS
	134/5670	14.23	14.23	14.18	14.18	17.21	23.79	PASS
	142/5710	16.28	16.28	15.66	15.66	18.99	23.79	PASS
802.11ax HE80	122/5610	13.26	13.26	12.53	12.53	15.92	23.79	PASS
	138/5690	16.44	16.44	16.06	16.06	19.27	23.79	PASS
802.11ax HE160	114/5570	11.37	11.37	11.12	11.12	14.26	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 have the same gain,

Directional gain = G_{ANT} + 10 log(N_{ANT}/Nss)=3.20+10log (2/1)= 6.21 dBi > 6dBi. So the limit is 23.79 dBm.

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Antenna 1		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	10.07	10.07	9.73	9.73	12.91	30.00	PASS
	149/5745	16.57	16.57	16.16	16.16	19.38	30.00	PASS
	157/5785	16.27	16.27	15.90	15.90	19.10	30.00	PASS
	165/5825	16.24	16.24	15.42	15.42	18.86	30.00	PASS
802.11n HT40	142/5710	5.97	5.97	5.47	5.47	8.74	30.00	PASS
	151/5755	16.15	16.15	15.67	15.67	18.93	30.00	PASS
	159/5795	15.81	15.81	15.29	15.29	18.56	30.00	PASS
802.11ac VHT20	144/5720	10.09	10.09	9.71	9.71	12.92	30.00	PASS
	149/5745	16.65	16.65	16.11	16.11	19.40	30.00	PASS
	157/5785	16.32	16.32	15.73	15.73	19.05	30.00	PASS
	165/5825	16.22	16.22	15.38	15.38	18.83	30.00	PASS
802.11ac VHT40	142/5710	6.10	6.10	5.58	5.58	8.86	30.00	PASS
	151/5755	16.15	16.15	15.67	15.67	18.92	30.00	PASS
	159/5795	15.81	15.81	15.27	15.27	18.56	30.00	PASS
802.11ac VHT80	138/5690	2.19	2.19	1.75	1.75	4.98	30.00	PASS
	155/5775	16.26	16.26	15.75	15.75	19.02	30.00	PASS
802.11ax HE20	144/5720	10.54	10.54	10.08	10.08	13.33	30.00	PASS
	149/5745	16.67	16.67	16.08	16.08	19.39	30.00	PASS
	157/5785	16.32	16.32	15.73	15.73	19.04	30.00	PASS
	165/5825	16.26	16.26	15.42	15.42	18.87	30.00	PASS
802.11ax HE40	142/5710	6.64	6.64	6.15	6.15	9.41	30.00	PASS
	151/5755	15.99	15.99	15.57	15.57	18.80	30.00	PASS
	159/5795	15.70	15.70	15.21	15.21	18.48	30.00	PASS
802.11ax HE80	138/5690	3.12	3.12	2.67	2.67	5.91	30.00	PASS
	155/5775	15.91	15.91	15.36	15.36	18.65	30.00	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 = $G_{ANT\ MAX} + 10\log(N_{ANT}/Nss)=2.70+10\log(2/1)= 5.71$ dBi < 6dBi. So the limit is 30 dBm.

6.3. Frequency Stability

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.85	-30	5200.008658	5199.999984	5199.993264	5199.986123
3.85	-20	5200.018365	5199.997125	5199.989386	5199.984755
3.85	-10	5200.010588	5199.990907	5199.984643	5199.980223
3.85	0	5200.017434	5199.991642	5199.982018	5199.978705
3.85	10	5200.009345	5199.991525	5199.977219	5199.976470
3.85	20	5200.001936	5199.986698	5199.968046	5199.968995
3.85	30	5199.993078	5199.981990	5199.960252	5199.964278
3.85	40	5199.988981	5199.972668	5199.957803	5199.960004
3.85	50	5199.986635	5199.963745	5199.953372	5199.959954
3.2	20	5199.985719	5199.956242	5199.945028	5199.956459
4.4	20	5199.981811	5199.951991	5199.943071	5199.947399
Max. ΔMHz		-0.018189	-0.048009	-0.056929	-0.052601
PPM		-3.497885	-9.232500	-10.947885	-10.115577

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.85	-30	5299.998217	5299.988865	5299.987493	5299.983356
3.85	-20	5299.990507	5299.979097	5299.986649	5299.978031
3.85	-10	5299.987691	5299.971360	5299.979170	5299.973206
3.85	0	5299.985226	5299.978336	5299.977164	5299.968544
3.85	10	5299.981522	5299.976499	5299.974432	5299.968215
3.85	20	5299.981521	5299.975849	5299.970059	5299.965146
3.85	30	5299.978736	5299.970026	5299.965621	5299.955991
3.85	40	5299.977083	5299.964502	5299.964481	5299.946595
3.85	50	5299.968303	5299.961888	5299.963779	5299.939559
3.2	20	5299.966778	5299.958566	5299.956793	5299.931760
4.4	20	5299.963214	5299.955123	5299.947160	5299.927668
Max. ΔMHz		-0.036786	-0.044877	-0.052840	-0.072332
PPM		-6.940755	-8.467358	-9.969811	-13.647547

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.85	-30	5580.004049	5580.001841	5579.993663	5579.987841
3.85	-20	5579.996354	5579.994458	5579.992663	5579.986879
3.85	-10	5579.994105	5579.990860	5579.991889	5579.977908
3.85	0	5579.996074	5579.988338	5579.982814	5579.981489
3.85	10	5579.990975	5579.978814	5579.975319	5579.973506
3.85	20	5579.982177	5579.969837	5579.967285	5579.973447
3.85	30	5579.977631	5579.961738	5579.958786	5579.969067
3.85	40	5579.974911	5579.954157	5579.956166	5579.964550
3.85	50	5579.970769	5579.944812	5579.951959	5579.960707
3.2	20	5579.961508	5579.937104	5579.949290	5579.952619
4.4	20	5579.960017	5579.928153	5579.942965	5579.945904
Max. ΔMHz		-0.039983	-0.071847	-0.057035	-0.054096
PPM		-7.165412	-12.875806	-10.221326	-9.694624

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.85	-30	5784.995547	5784.995458	5784.990767	5784.983052
3.85	-20	5784.992326	5784.988860	5784.985511	5784.980828
3.85	-10	5784.983285	5784.979727	5784.979409	5784.977770
3.85	0	5784.991146	5784.979756	5784.977454	5784.980289
3.85	10	5784.989304	5784.977249	5784.975831	5784.978172
3.85	20	5784.983200	5784.972382	5784.966097	5784.970235
3.85	30	5784.980333	5784.963364	5784.962968	5784.969398
3.85	40	5784.978095	5784.954243	5784.961148	5784.960825
3.85	50	5784.977491	5784.948507	5784.952372	5784.953431
3.2	20	5784.975643	5784.940802	5784.948093	5784.952982
4.4	20	5784.965976	5784.935798	5784.938928	5784.951512
Max. ΔMHz		-0.034024	-0.064202	-0.061072	-0.048488
PPM		-5.881417	-11.098012	-10.556958	-8.381677

6.4. Power Spectral Density

CDD/MIMO

U-NII-1

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	6.72	6.72	7.44	7.44	10.11	10.89	PASS
	40/5200	6.69	6.69	7.67	7.67	10.22	10.89	PASS
	48/5240	6.53	6.53	7.15	7.15	9.86	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=$10\log(10^{(\text{PSD antenna1 in dBm/10})}+10^{(\text{PSD antenna2 in dBm/10})})$

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 dBi >6dBi. So the PSD limit is 10.89 dBm / MHz.

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	5.67	5.67	6.13	6.13	8.92	11.00	PASS
	40/5200	5.27	5.27	6.37	6.37	8.87	11.00	PASS
	48/5240	5.09	5.09	5.82	5.82	8.48	11.00	PASS
802.11n HT40	38/5190	-0.22	-0.22	0.81	0.81	3.34	11.00	PASS
	46/5230	2.59	2.59	3.05	3.05	5.84	11.00	PASS
802.11ac VHT20	36/5180	5.34	5.34	6.39	6.39	8.91	11.00	PASS
	40/5200	5.60	5.60	6.23	6.23	8.94	11.00	PASS
	48/5240	5.17	5.17	5.80	5.80	8.51	11.00	PASS
802.11ac VHT40	38/5190	0.41	0.41	1.28	1.28	3.88	11.00	PASS
	46/5230	2.47	2.47	3.05	3.05	5.78	11.00	PASS
802.11ac VHT80	42/5210	-3.63	-3.63	-2.81	-2.81	-0.19	11.00	PASS
802.11ax HE20	36/5180	4.83	4.83	5.64	5.64	8.26	11.00	PASS
	40/5200	4.91	4.91	5.61	5.61	8.28	11.00	PASS
	48/5240	4.61	4.61	5.11	5.11	7.88	11.00	PASS
802.11ax HE40	38/5190	0.75	0.75	0.87	0.87	3.82	11.00	PASS
	46/5230	1.91	1.91	2.44	2.44	5.19	11.00	PASS

802.11ax HE80	42/5210	-2.80	-2.80	-2.95	-2.95	0.13	11.00	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 = $10\log[(10^{G1/10} + 10^{G2/10})/2]$ = 2.72 dBi < 6dBi. So the PSD limit is 11 dBm.

U-NII-2A

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	6.99	6.99	7.19	7.19	10.10	10.89	PASS
	56/5280	6.67	6.67	6.96	6.96	9.83	10.89	PASS
	64/5320	6.32	6.32	6.88	6.88	9.62	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=$10\log(10^{(\text{PSD antenna1 in dBm/10})}+10^{(\text{PSD antenna2 in dBm/10})})$

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 dBi >6dBi. So the PSD limit is 10.89 dBm / MHz.

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	5.59	5.59	6.17	6.17	8.90	11.00	PASS
	56/5280	5.32	5.32	5.72	5.72	8.53	11.00	PASS
	64/5320	5.03	5.03	6.08	6.08	8.60	11.00	PASS
802.11n HT40	54/5270	2.54	2.54	2.83	2.83	5.70	11.00	PASS
	62/5310	-0.93	-0.93	-0.57	-0.57	2.26	11.00	PASS
802.11ac VHT20	52/5260	5.28	5.28	5.86	5.86	8.59	11.00	PASS
	56/5280	5.26	5.26	5.56	5.56	8.42	11.00	PASS
	64/5320	4.85	4.85	5.77	5.77	8.34	11.00	PASS
802.11ac VHT40	54/5270	2.61	2.61	3.18	3.18	5.91	11.00	PASS
	62/5310	2.19	2.19	3.18	3.18	5.72	11.00	PASS
802.11ac VHT80	58/5290	-3.28	-3.28	-3.11	-3.11	-0.18	11.00	PASS
802.11ac VHT160	50/5250	-6.11	-6.11	-6.41	-6.41	-3.25	11.00	PASS
802.11ax HE20	52/5260	4.97	4.97	5.34	5.34	8.17	11.00	PASS
	56/5280	5.01	5.01	5.02	5.02	8.03	11.00	PASS
	64/5320	4.50	4.50	5.15	5.15	7.85	11.00	PASS
802.11ax HE40	54/5270	1.93	1.93	2.46	2.46	5.21	11.00	PASS
	62/5310	0.79	0.79	0.37	0.37	3.60	11.00	PASS
802.11ax HE80	58/5290	-3.09	-3.09	-3.63	-3.63	-0.34	11.00	PASS

802.11ac VHT160	50/5250	-7.08	-7.08	-7.21	-7.21	-4.13	11.00	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 = $10\log[(10^{G1/10} + 10^{G2/10})/2]$ = 2.72 dBi < 6dBi. So the PSD limit is 11 dBm.

U-NII-2C

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	6.56	6.56	7.65	7.65	10.15	10.79	PASS
	116/5580	6.31	6.31	7.14	7.14	9.76	10.79	PASS
	140/5700	5.92	5.92	7.34	7.34	9.70	10.79	PASS
	144/5720	7.21	7.21	6.60	6.60	9.93	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): For Cyclic Delay Diversity (CDD) signals，

If antenna have the same gain，Directional gain = G_{ANT} + Array Gain,

For power Spectral density measurements on all devices,

Array Gain = $10\log(N_{ANT}/N_{SS})$ dB

So directional gain = G_{ANT} + Array Gain =3.20+3.01= 6.21 dBi<6dBi. So the power limit is 10.79 dBm/MHz.

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	5.03	5.03	6.44	6.44	8.80	11.00	PASS
	116/5580	4.89	4.89	5.86	5.86	8.41	11.00	PASS
	140/5700	0.63	0.63	2.06	2.06	4.41	11.00	PASS
	144/5720	5.69	5.69	5.32	5.32	8.52	11.00	PASS
802.11n HT40	102/5510	-0.56	-0.56	0.40	0.40	2.96	11.00	PASS
	110/5550	2.38	2.38	3.50	3.50	5.99	11.00	PASS
	134/5670	2.04	2.04	3.96	3.96	6.12	11.00	PASS
	142/5710	2.79	2.79	2.40	2.40	5.61	11.00	PASS
802.11ac VHT20	100/5500	4.77	4.77	6.26	6.26	8.59	11.00	PASS
	116/5580	5.06	5.06	6.06	6.06	8.60	11.00	PASS
	140/5700	4.70	4.70	6.18	6.18	8.51	11.00	PASS
	144/5720	5.91	5.91	5.25	5.25	8.60	11.00	PASS
802.11ac VHT40	102/5510	2.25	2.25	3.72	3.72	6.06	11.00	PASS
	110/5550	2.42	2.42	3.89	3.89	6.23	11.00	PASS
	134/5670	1.92	1.92	3.92	3.92	6.04	11.00	PASS
	142/5710	2.66	2.66	2.26	2.26	5.47	11.00	PASS
802.11ac VHT80	122/5610	-5.41	-5.41	-4.04	-4.04	-1.66	11.00	PASS
	138/5690	-0.30	-0.30	-0.65	-0.65	2.54	11.00	PASS
802.11ac VHT160	114/5570	-5.74	-5.74	-6.13	-6.13	-2.92	11.00	PASS
802.11ax HE20	100/5500	4.49	4.49	6.00	6.00	8.32	11.00	PASS
	116/5580	4.56	4.56	5.15	5.15	7.88	11.00	PASS
	140/5700	1.42	1.42	0.56	0.56	4.02	11.00	PASS

	144/5720	5.51	5.51	5.13	5.13	8.33	11.00	PASS
802.11ax HE40	102/5510	-0.46	-0.46	-0.98	-0.98	2.30	11.00	PASS
	110/5550	2.92	2.92	2.69	2.69	5.82	11.00	PASS
	134/5670	0.39	0.39	0.55	0.55	3.48	11.00	PASS
	142/5710	2.97	2.97	2.40	2.40	5.70	11.00	PASS
802.11ax HE80	122/5610	-3.44	-3.44	-4.26	-4.26	-0.82	11.00	PASS
	138/5690	-0.05	-0.05	-0.60	-0.60	2.69	11.00	PASS
802.11ax HE160	114/5570	-8.27	-8.27	-8.15	-8.15	-5.20	11.00	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 = $10\log[(10^{G1/10} + 10^{G2/10})/2]$ = 2.72 dBi < 6dBi. So the PSD limit is 11 dBm. 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 = $10\log[(10^{G1/10} + 10^{G2/10})/2]$ = 3.20 dBi < 6dBi. So the PSD limit is 11 dBm.

U-NII-3

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	3.82	4.09	3.26	3.53	6.83	30.00	PASS
	149/5745	2.60	2.87	2.49	2.76	5.83	30.00	PASS
	157/5785	2.53	2.80	2.08	2.35	5.59	30.00	PASS
	165/5825	2.29	2.56	1.70	1.97	5.29	30.00	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=$10\log(10^{(\text{PSD antenna1 in dBm/10})}+10^{(\text{PSD antenna2 in dBm/10})})$

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 dBi < 6dBi. So the PSD limit is 30 dBm / 500 kHz.

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	2.31	2.58	2.37	2.64	5.62	30.00	PASS
	149/5745	2.44	2.71	2.04	2.31	5.52	30.00	PASS
	157/5785	2.26	2.53	2.05	2.32	5.44	30.00	PASS
	165/5825	2.39	2.66	1.34	1.61	5.18	30.00	PASS
802.11n HT40	142/5710	-1.06	-0.79	-1.35	-1.08	2.08	30.00	PASS
	151/5755	-1.01	-0.74	-1.34	-1.07	2.11	30.00	PASS
	159/5795	-1.37	-1.10	-1.87	-1.60	1.67	30.00	PASS
802.11ac VHT20	144/5720	2.27	2.54	2.18	2.45	5.51	30.00	PASS
	149/5745	2.52	2.79	2.15	2.42	5.62	30.00	PASS
	157/5785	2.09	2.36	1.75	2.02	5.20	30.00	PASS
	165/5825	2.02	2.29	1.53	1.80	5.06	30.00	PASS
802.11ac VHT40	142/5710	-0.94	-0.67	-1.56	-1.29	2.04	30.00	PASS
	151/5755	-0.91	-0.64	-1.27	-1.00	2.19	30.00	PASS
	159/5795	-1.31	-1.04	-1.79	-1.52	1.74	30.00	PASS
802.11ac VHT80	138/5690	-4.71	-4.44	-5.13	-4.86	-1.63	30.00	PASS
	155/5775	-4.02	-3.75	-4.36	-4.09	-0.91	30.00	PASS
802.11ax HE20	144/5720	2.38	2.65	2.02	2.29	5.48	30.00	PASS
	149/5745	2.44	2.71	2.51	2.78	5.76	30.00	PASS
	157/5785	2.20	2.47	1.60	1.87	5.19	30.00	PASS
	165/5825	2.01	2.28	1.66	1.93	5.12	30.00	PASS
802.11ax	142/5710	-1.39	-1.12	-1.31	-1.04	1.93	30.00	PASS

HE40	151/5755	-1.27	-1.00	-1.47	-1.20	1.91	30.00	PASS
	159/5795	-1.49	-1.22	-1.95	-1.68	1.57	30.00	PASS
802.11ax	138/5690	-4.87	-4.60	-5.30	-5.03	-1.80	30.00	PASS
HE80	155/5775	-4.26	-3.99	-4.80	-4.53	-1.24	30.00	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 = $10\log[(10^{G1/10} + 10^{G2/10})/2]$ = 2.32 dBi < 6dBi. So the PSD limit is 11 dBm.

Beamforming

U-NII-1

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	5.67	5.67	6.13	6.13	8.92	10.89	PASS
	40/5200	5.27	5.27	6.37	6.37	8.87	10.89	PASS
	48/5240	5.09	5.09	5.82	5.82	8.48	10.89	PASS
802.11n HT40	38/5190	-0.22	-0.22	0.81	0.81	3.34	10.89	PASS
	46/5230	2.59	2.59	3.05	3.05	5.84	10.89	PASS
802.11ac VHT20	36/5180	5.34	5.34	6.39	6.39	8.91	10.89	PASS
	40/5200	5.60	5.60	6.23	6.23	8.94	10.89	PASS
	48/5240	5.17	5.17	5.80	5.80	8.51	10.89	PASS
802.11ac VHT40	38/5190	0.41	0.41	1.28	1.28	3.88	10.89	PASS
	46/5230	2.47	2.47	3.05	3.05	5.78	10.89	PASS
802.11ac VHT80	42/5210	-3.63	-3.63	-2.81	-2.81	-0.19	10.89	PASS
802.11ax HE20	36/5180	4.83	4.83	5.64	5.64	8.26	10.89	PASS
	40/5200	4.91	4.91	5.61	5.61	8.28	10.89	PASS
	48/5240	4.61	4.61	5.11	5.11	7.88	10.89	PASS
802.11ax HE40	38/5190	0.75	0.75	0.87	0.87	3.82	10.89	PASS
	46/5230	1.91	1.91	2.44	2.44	5.19	10.89	PASS
802.11ax HE80	42/5210	-2.80	-2.80	-2.95	-2.95	0.13	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)e)(ii): If antenna gains are not equal and each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the highest gain.

Directional gain = $G_{ANT\ MAX}$ +10log(N_{ANT}/ N_{SS}) dBi =3.10+3.01= 6.11 dBi >6dBi. So the PSD limit is 10.89 dBm/MHz.

U-NII-2A

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	5.59	5.59	6.17	6.17	8.90	10.89	PASS
	56/5280	5.32	5.32	5.72	5.72	8.53	10.89	PASS
	64/5320	5.03	5.03	6.08	6.08	8.60	10.89	PASS
802.11n HT40	54/5270	2.54	2.54	2.83	2.83	5.70	10.89	PASS
	62/5310	-0.93	-0.93	-0.57	-0.57	2.26	10.89	PASS
802.11ac VHT20	52/5260	5.28	5.28	5.86	5.86	8.59	10.89	PASS
	56/5280	5.26	5.26	5.56	5.56	8.42	10.89	PASS
	64/5320	4.85	4.85	5.77	5.77	8.34	10.89	PASS
802.11ac VHT40	54/5270	2.61	2.61	3.18	3.18	5.91	10.89	PASS
	62/5310	2.19	2.19	3.18	3.18	5.72	10.89	PASS
802.11ac VHT80	58/5290	-3.28	-3.28	-3.11	-3.11	-0.18	10.89	PASS
802.11ac VHT160	50/5250	-6.11	-6.11	-6.41	-6.41	-3.25	10.89	PASS
802.11ax HE20	52/5260	4.97	4.97	5.34	5.34	8.17	10.89	PASS
	56/5280	5.01	5.01	5.02	5.02	8.03	10.89	PASS
	64/5320	4.50	4.50	5.15	5.15	7.85	10.89	PASS
802.11ax HE40	54/5270	1.93	1.93	2.46	2.46	5.21	10.89	PASS
	62/5310	0.79	0.79	0.37	0.37	3.60	10.89	PASS
802.11ax HE80	58/5290	-3.09	-3.09	-3.63	-3.63	-0.34	10.89	PASS
802.11ac VHT160	50/5250	-7.08	-7.08	-7.21	-7.21	-4.13	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)e)(ii): If antenna gains are not equal and each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the highest gain.

Directional gain = $G_{ANT\ MAX}$ +10log(N_{ANT}/ N_{SS}) dBi =3.10+3.01= 6.11 dBi >6dBi. So the PSD limit is 10.89 dBm/MHz.

U-NII-2C

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	5.03	5.03	6.44	6.44	8.80	10.79	PASS
	116/5580	4.89	4.89	5.86	5.86	8.41	10.79	PASS
	140/5700	0.63	0.63	2.06	2.06	4.41	10.79	PASS
	144/5720	5.69	5.69	5.32	5.32	8.52	10.79	PASS
802.11n HT40	102/5510	-0.56	-0.56	0.40	0.40	2.96	10.79	PASS
	110/5550	2.38	2.38	3.50	3.50	5.99	10.79	PASS
	134/5670	2.04	2.04	3.96	3.96	6.12	10.79	PASS
	142/5710	2.79	2.79	2.40	2.40	5.61	10.79	PASS
802.11ac VHT20	100/5500	4.77	4.77	6.26	6.26	8.59	10.79	PASS
	116/5580	5.06	5.06	6.06	6.06	8.60	10.79	PASS
	140/5700	4.70	4.70	6.18	6.18	8.51	10.79	PASS
	144/5720	5.91	5.91	5.25	5.25	8.60	10.79	PASS
802.11ac VHT40	102/5510	2.25	2.25	3.72	3.72	6.06	10.79	PASS
	110/5550	2.42	2.42	3.89	3.89	6.23	10.79	PASS
	134/5670	1.92	1.92	3.92	3.92	6.04	10.79	PASS
	142/5710	2.66	2.66	2.26	2.26	5.47	10.79	PASS
802.11ac VHT80	122/5610	-5.41	-5.41	-4.04	-4.04	-1.66	10.79	PASS
	138/5690	-0.30	-0.30	-0.65	-0.65	2.54	10.79	PASS
802.11ac VHT160	114/5570	-5.74	-5.74	-6.13	-6.13	-2.92	10.79	PASS
802.11ax HE20	100/5500	4.49	4.49	6.00	6.00	8.32	10.79	PASS
	116/5580	4.56	4.56	5.15	5.15	7.88	10.79	PASS
	140/5700	1.42	1.42	0.56	0.56	4.02	10.79	PASS
	144/5720	5.51	5.51	5.13	5.13	8.33	10.79	PASS
802.11ax HE40	102/5510	-0.46	-0.46	-0.98	-0.98	2.30	10.79	PASS
	110/5550	2.92	2.92	2.69	2.69	5.82	10.79	PASS
	134/5670	0.39	0.39	0.55	0.55	3.48	10.79	PASS
	142/5710	2.97	2.97	2.40	2.40	5.70	10.79	PASS
802.11ax HE80	122/5610	-3.44	-3.44	-4.26	-4.26	-0.82	10.79	PASS
	138/5690	-0.05	-0.05	-0.60	-0.60	2.69	10.79	PASS
802.11ax HE160	114/5570	-8.27	-8.27	-8.15	-8.15	-5.20	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)e)(ii): If all antenna have the same gain,

Directional gain = G_{ANT} +10log(N_{ANT}/ N_{SS}) dBi =3.20+3.01= 6.21 dBi >6dBi. So the PSD limit is 10.79 dBm/MHz.

U-NII-3

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	2.31	2.58	2.37	2.64	5.62	30.00	PASS
	149/5745	2.44	2.71	2.04	2.31	5.52	30.00	PASS
	157/5785	2.26	2.53	2.05	2.32	5.44	30.00	PASS
	165/5825	2.39	2.66	1.34	1.61	5.18	30.00	PASS
802.11n HT40	142/5710	-1.06	-0.79	-1.35	-1.08	2.08	30.00	PASS
	151/5755	-1.01	-0.74	-1.34	-1.07	2.11	30.00	PASS
	159/5795	-1.37	-1.10	-1.87	-1.60	1.67	30.00	PASS
802.11ac VHT20	144/5720	2.27	2.54	2.18	2.45	5.51	30.00	PASS
	149/5745	2.52	2.79	2.15	2.42	5.62	30.00	PASS
	157/5785	2.09	2.36	1.75	2.02	5.20	30.00	PASS
	165/5825	2.02	2.29	1.53	1.80	5.06	30.00	PASS
802.11ac VHT40	142/5710	-0.94	-0.67	-1.56	-1.29	2.04	30.00	PASS
	151/5755	-0.91	-0.64	-1.27	-1.00	2.19	30.00	PASS
	159/5795	-1.31	-1.04	-1.79	-1.52	1.74	30.00	PASS
802.11ac VHT80	138/5690	-4.71	-4.44	-5.13	-4.86	-1.63	30.00	PASS
	155/5775	-4.02	-3.75	-4.36	-4.09	-0.91	30.00	PASS
802.11ax HE20	144/5720	2.38	2.65	2.02	2.29	5.48	30.00	PASS
	149/5745	2.44	2.71	2.51	2.78	5.76	30.00	PASS
	157/5785	2.20	2.47	1.60	1.87	5.19	30.00	PASS
	165/5825	2.01	2.28	1.66	1.93	5.12	30.00	PASS
802.11ax HE40	142/5710	-1.39	-1.12	-1.31	-1.04	1.93	30.00	PASS
	151/5755	-1.27	-1.00	-1.47	-1.20	1.91	30.00	PASS
	159/5795	-1.49	-1.22	-1.95	-1.68	1.57	30.00	PASS
802.11ax HE80	138/5690	-4.87	-4.60	-5.30	-5.03	-1.80	30.00	PASS
	155/5775	-4.26	-3.99	-4.80	-4.53	-1.24	30.00	PASS

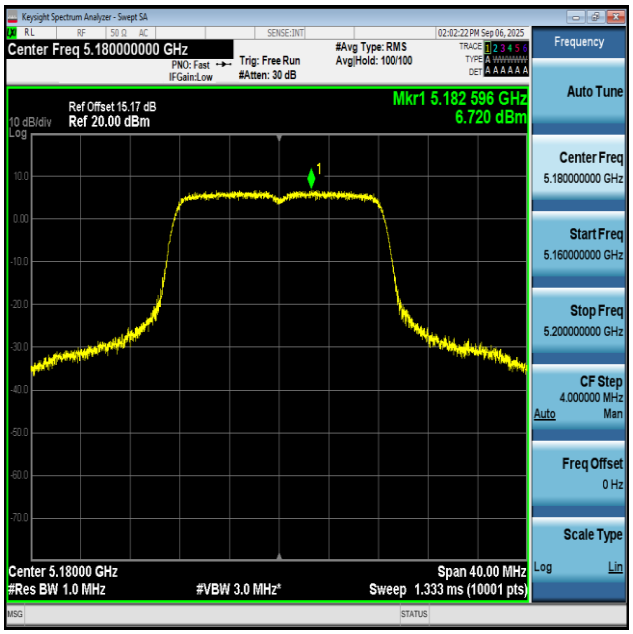
Note: 1. Power Spectral Density = Read Value+Duty cycle correction factor +10*log (500/470).

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

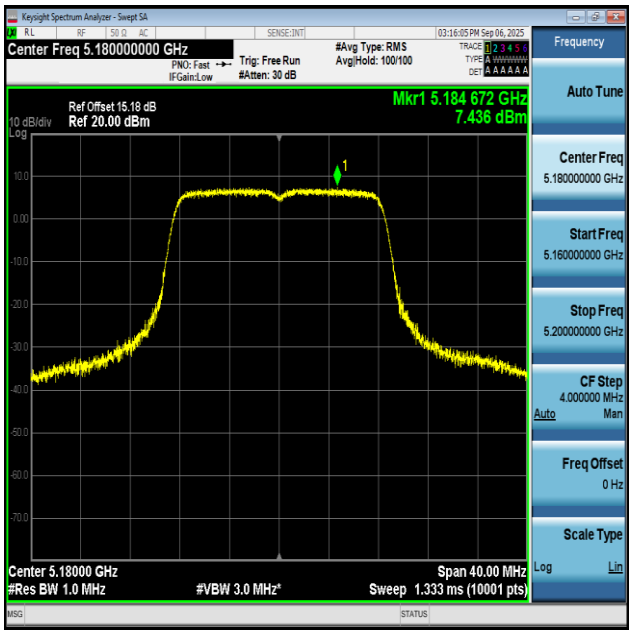
the power spectral density=$10\log(10^{(\text{PSD antenna 1 in dBm/10})}+10^{(\text{PSD antenna 2 in dBm/10})}$

3. According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)e)(ii): If antenna gains are not equal and each transmit antenna is driven by only one spatial stream: Directional gain may be calculated by using the highest gain.

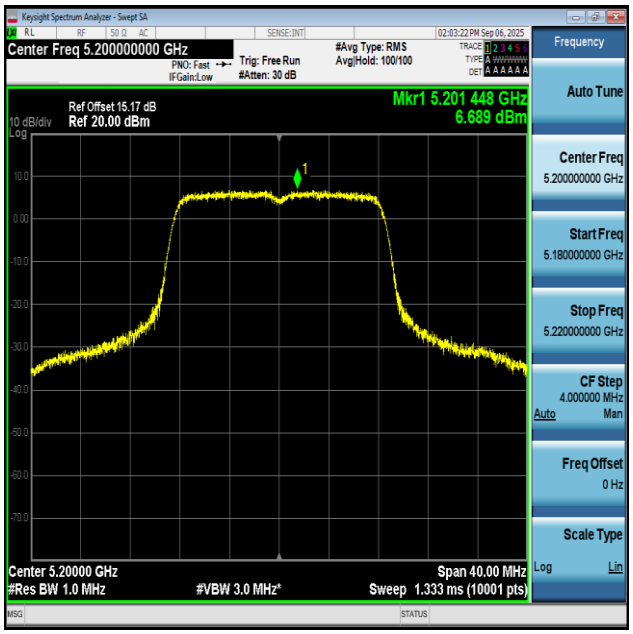
Directional gain = $G_{ANT\ MAX}$ +10log(N_{ANT}/ N_{SS}) dBi =2.70+3.01= 5.71 dBi >6dBi. So the PSD limit is 30 dBm/500kHz.



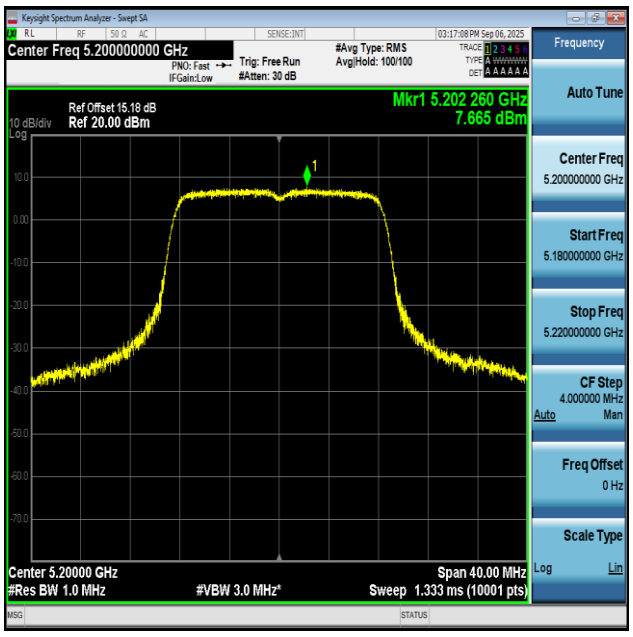
11A-Ant1-5180-PASS



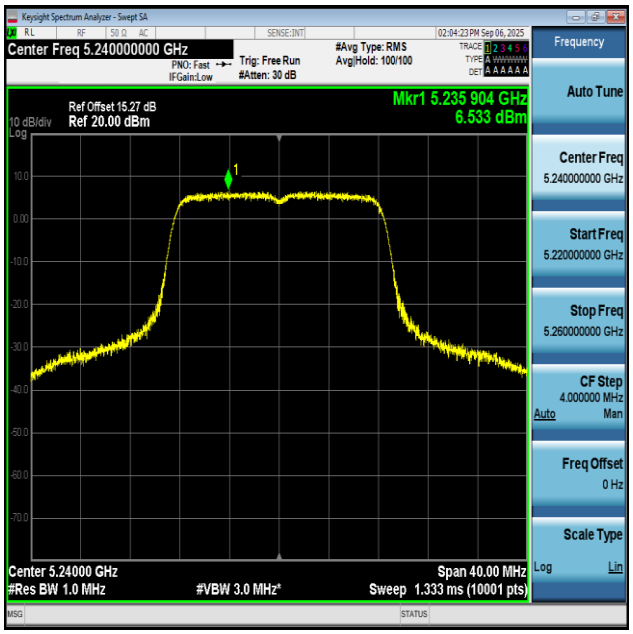
11A-Ant2-5180-PASS



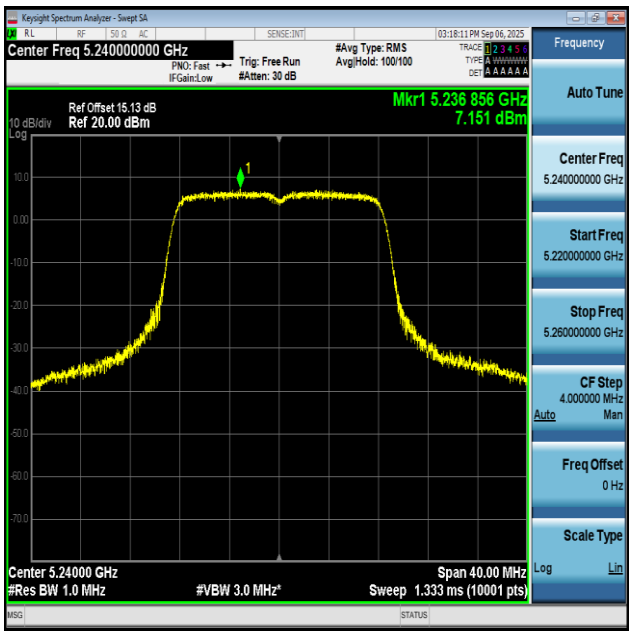
11A-Ant1-5200-PASS



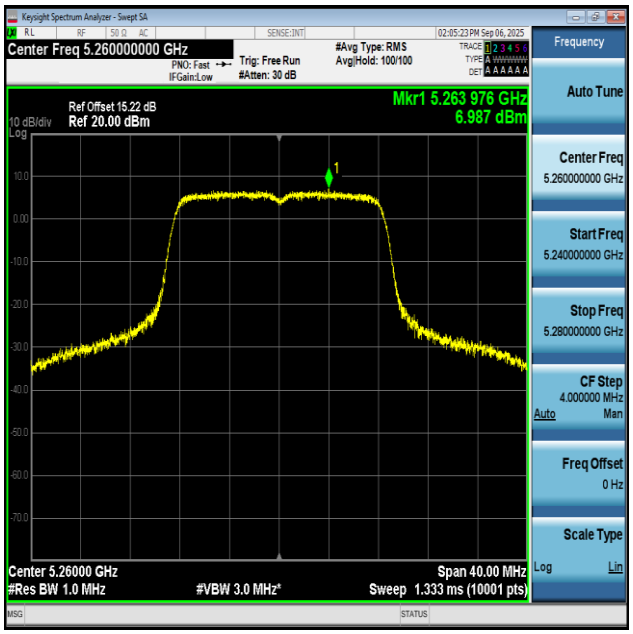
11A-Ant2-5200-PASS



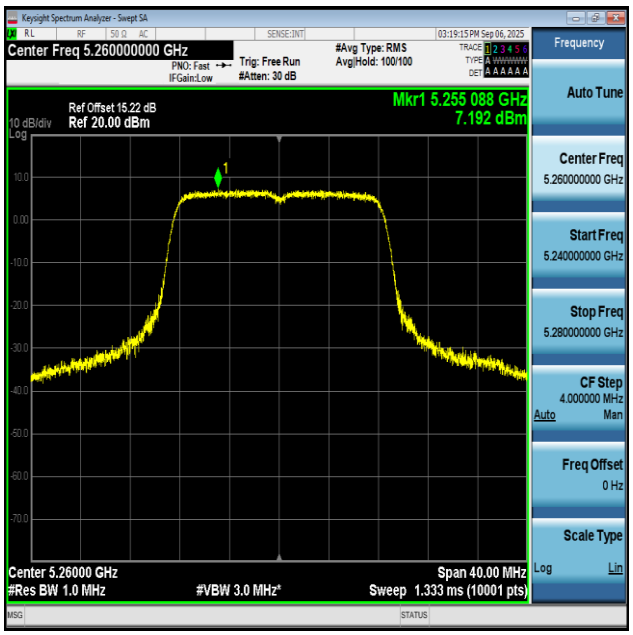
11A-Ant1-5240-PASS



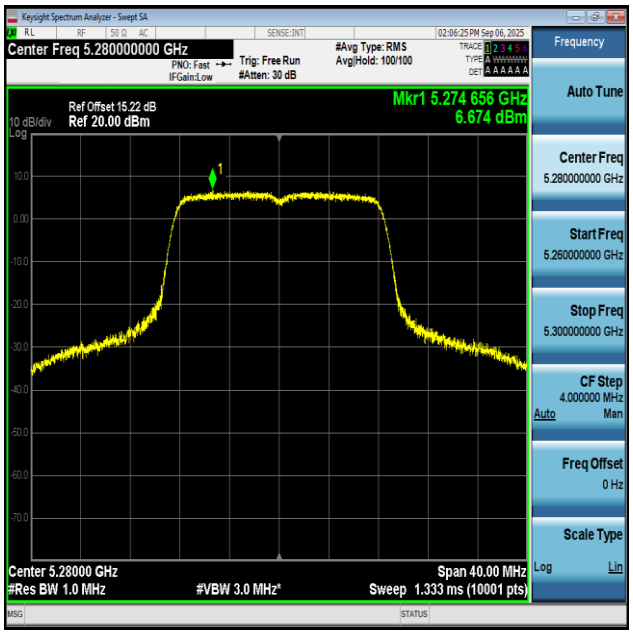
11A-Ant2-5240-PASS



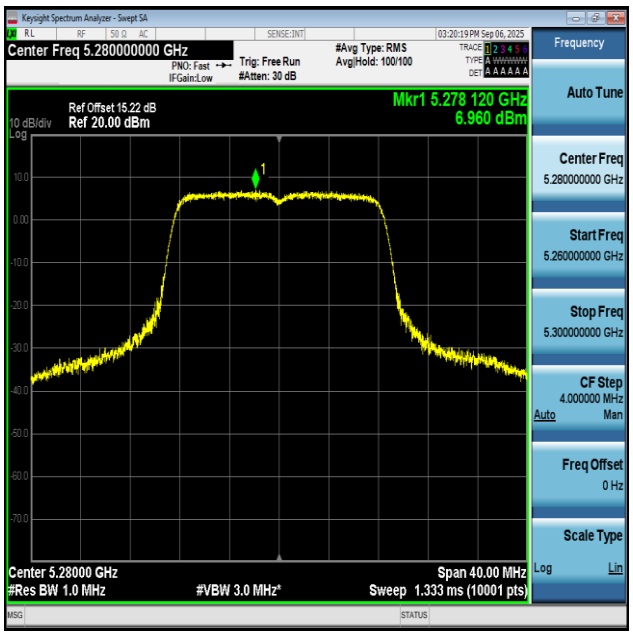
11A-Ant1-5260-PASS



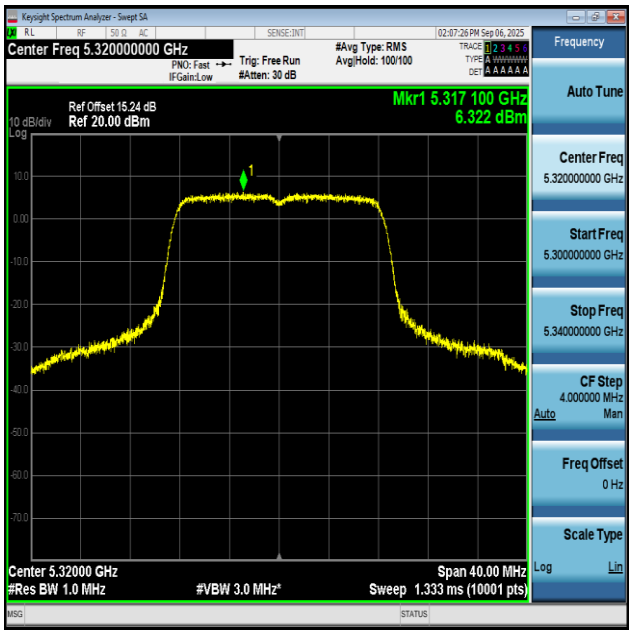
11A-Ant2-5260-PASS



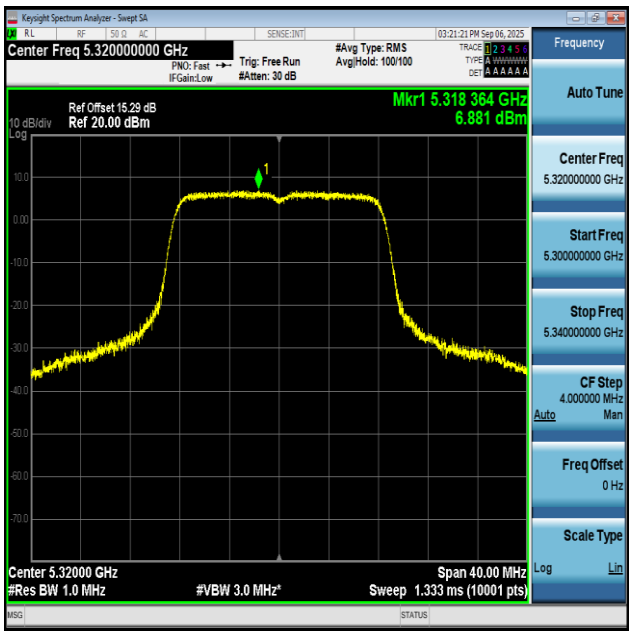
11A-Ant1-5280-PASS



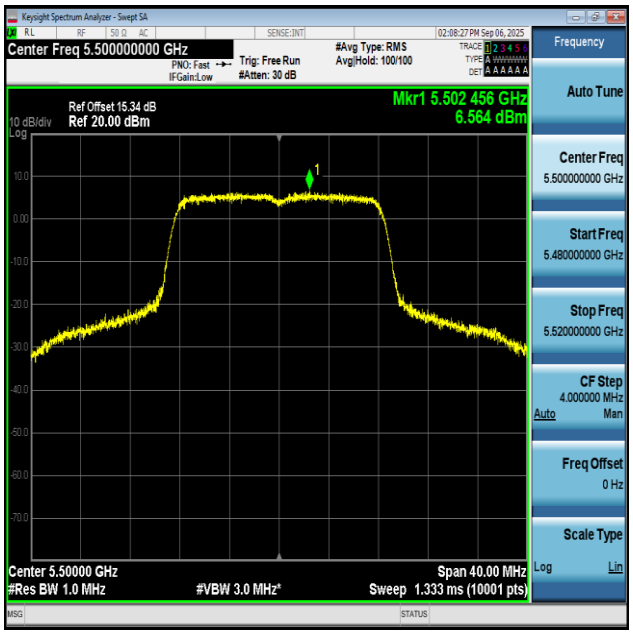
11A-Ant2-5280-PASS



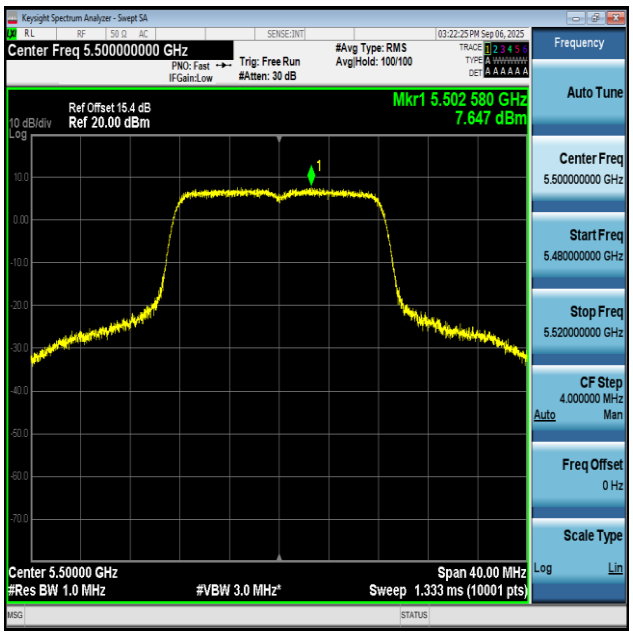
11A-Ant1-5320-PASS



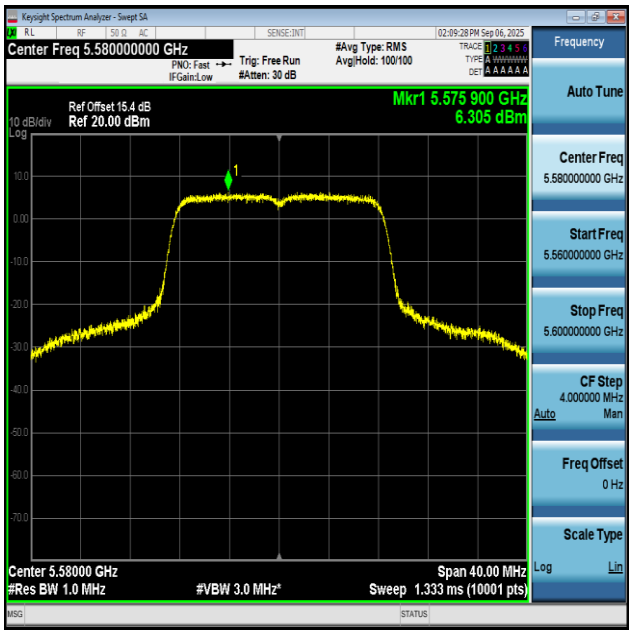
11A-Ant2-5320-PASS



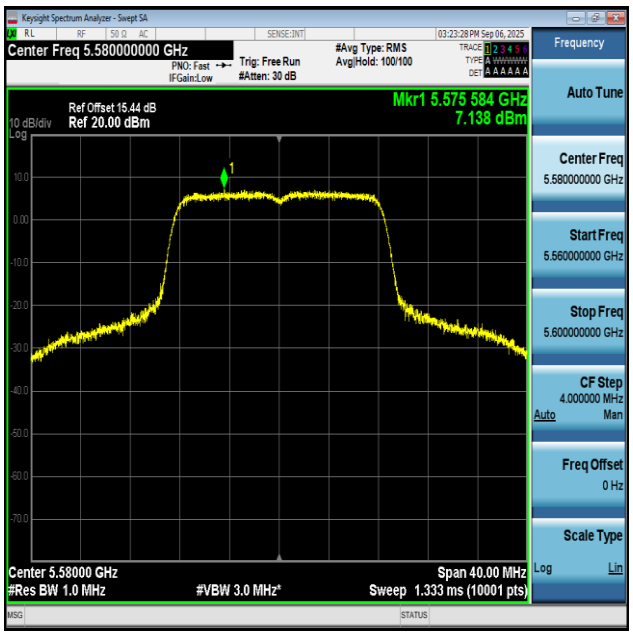
11A-Ant1-5500-PASS



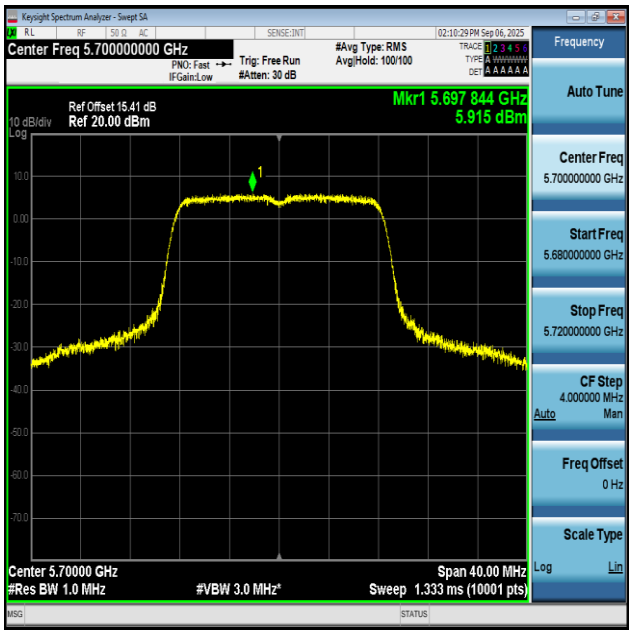
11A-Ant2-5500-PASS



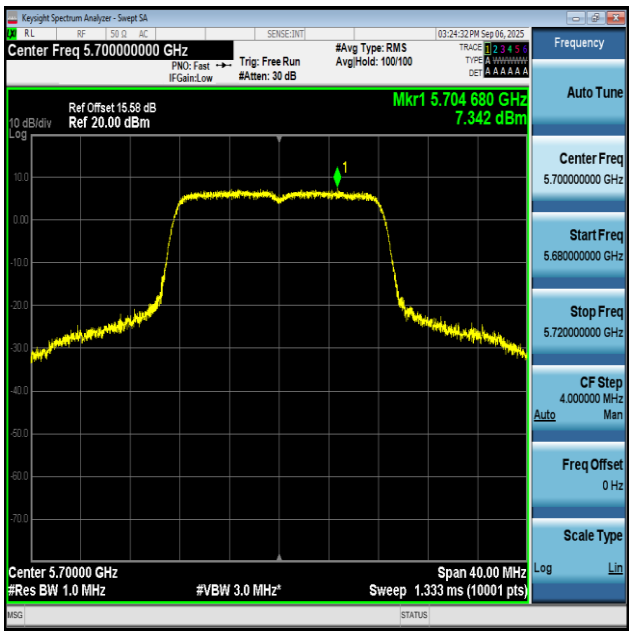
11A-Ant1-5580-PASS



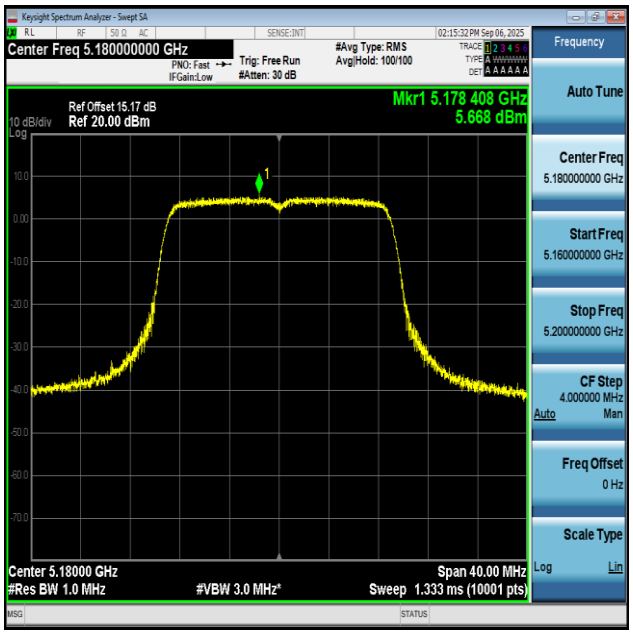
11A-Ant2-5580-PASS



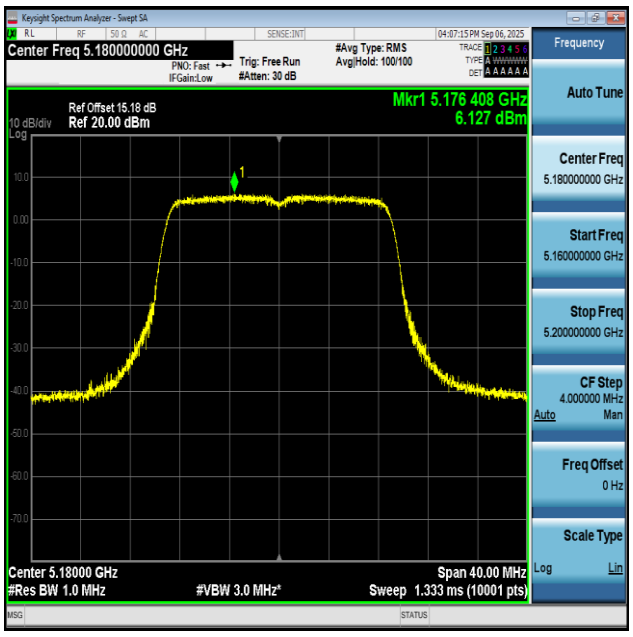
11A-Ant1-5700-PASS



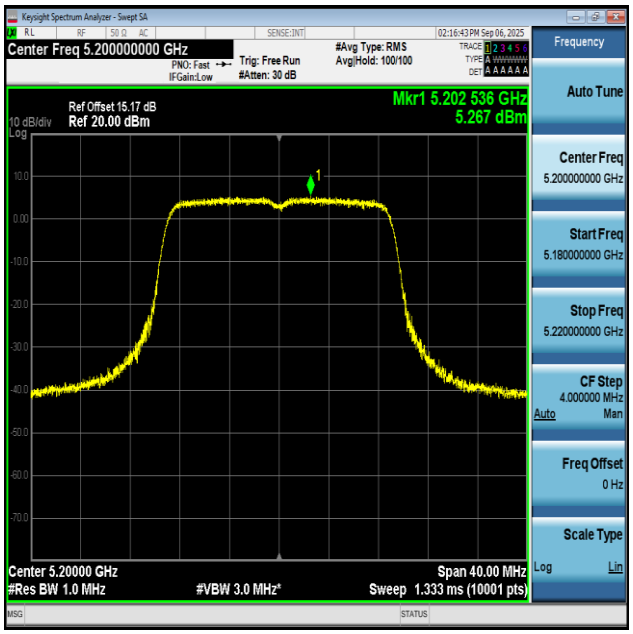
11A-Ant2-5700-PASS



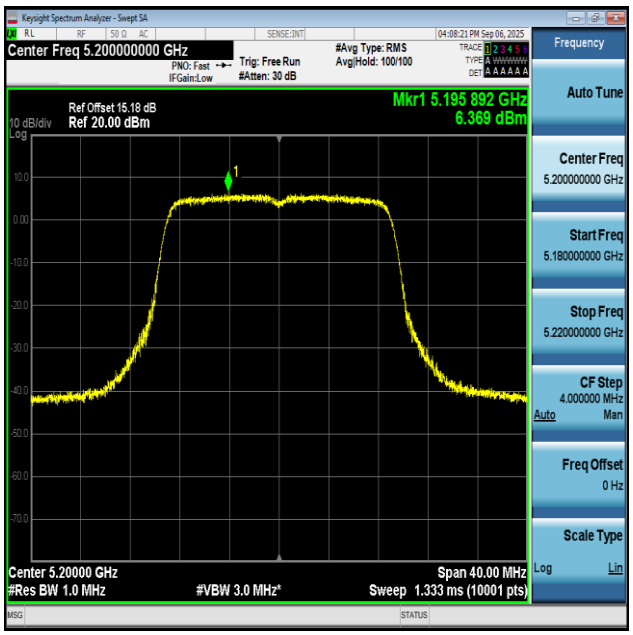
11N20SISO-Ant1-5180-PASS



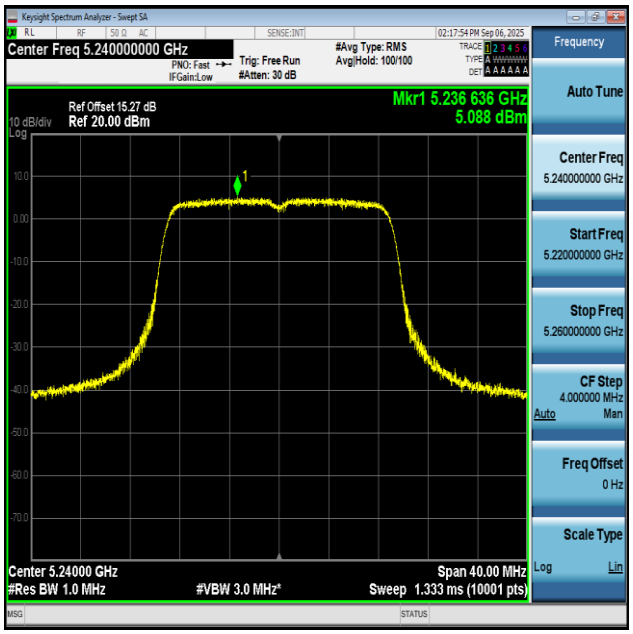
11N20SISO-Ant2-5180-PASS



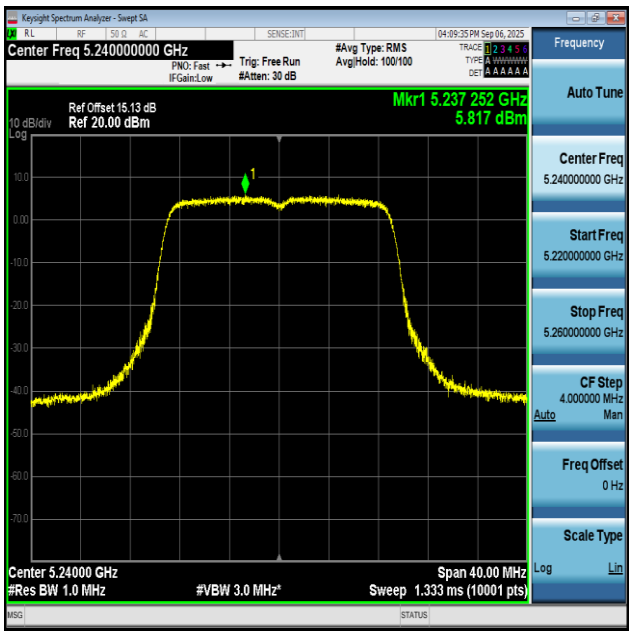
11N20SISO-Ant1-5200-PASS



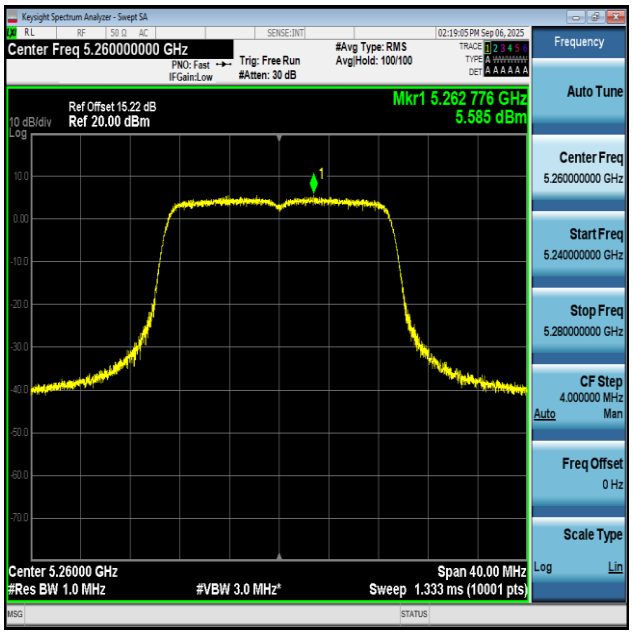
11N20SISO-Ant2-5200-PASS



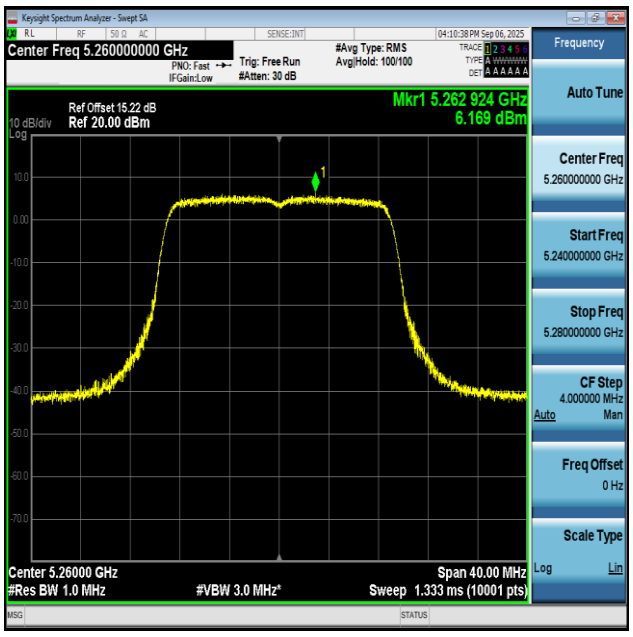
11N20SISO-Ant1-5240-PASS



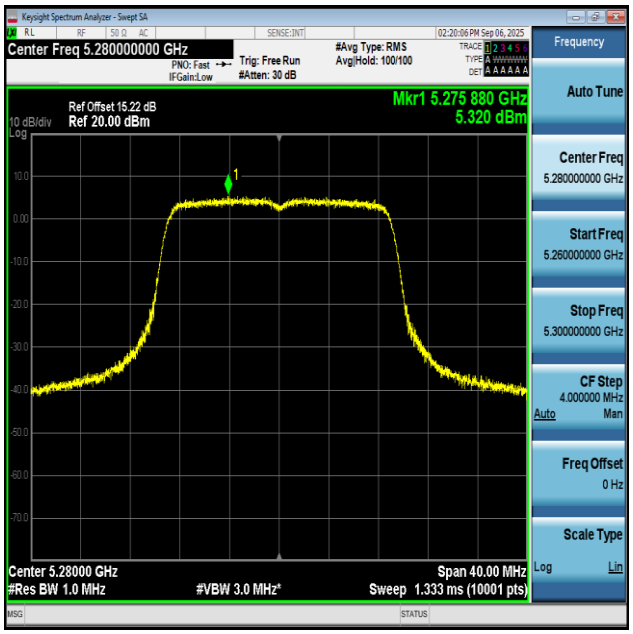
11N20SISO-Ant2-5240-PASS



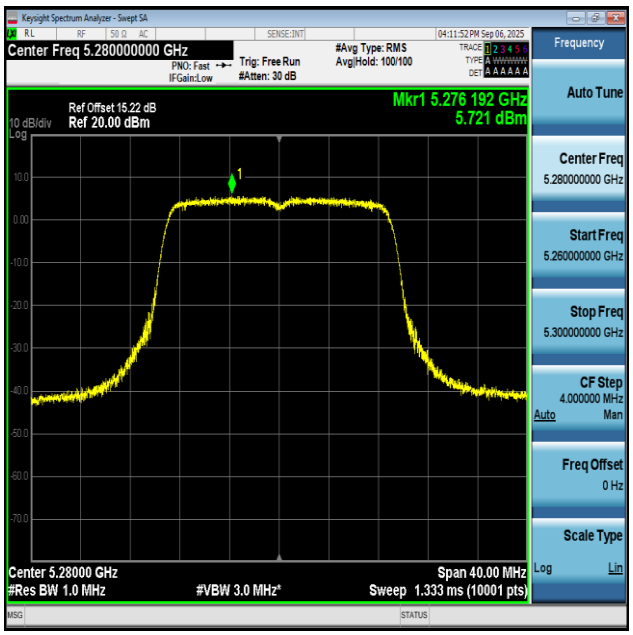
11N20SISO-Ant1-5260-PASS



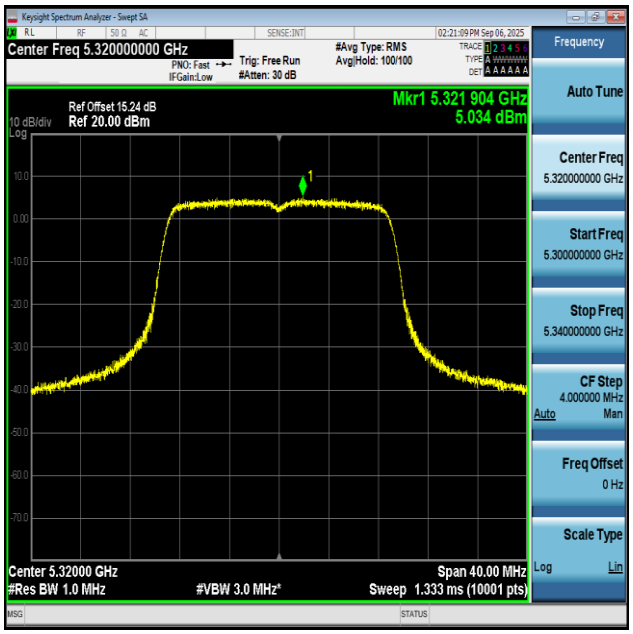
11N20SISO-Ant2-5260-PASS



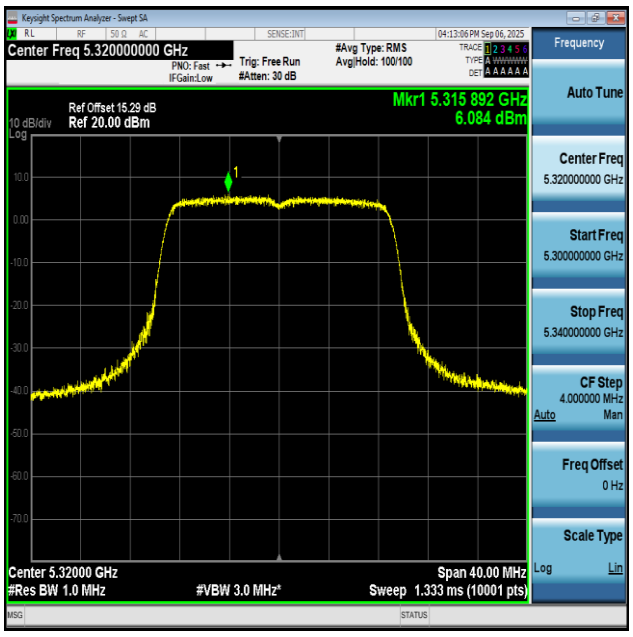
11N20SISO-Ant1-5280-PASS



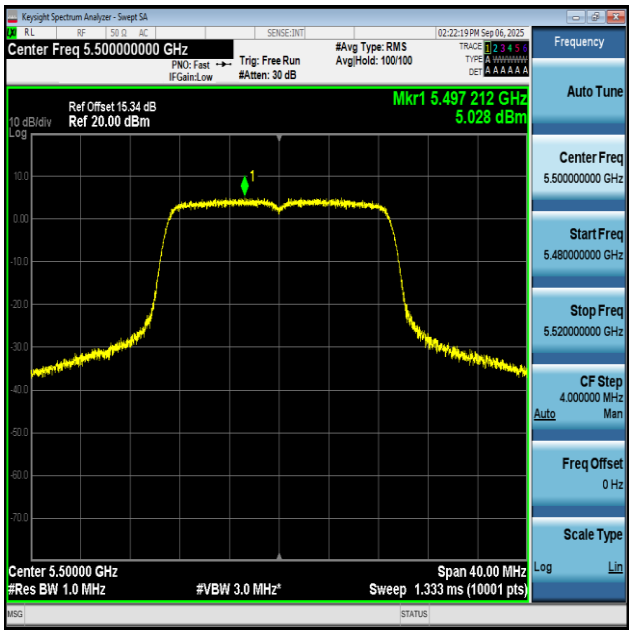
11N20SISO-Ant2-5280-PASS



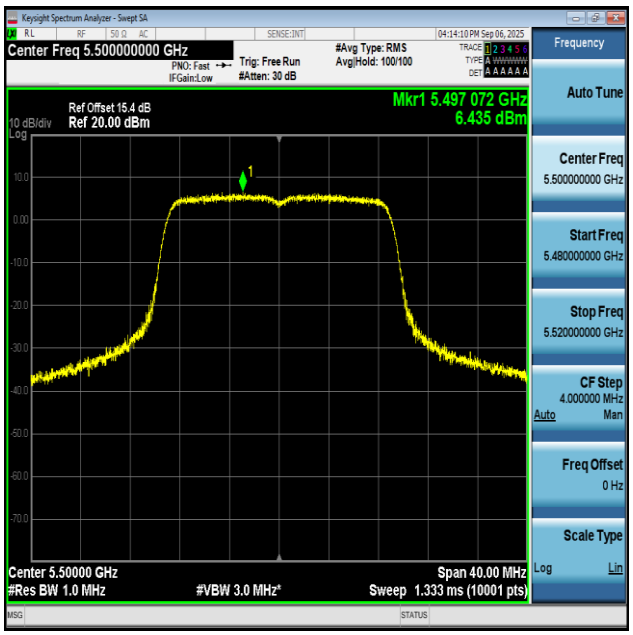
11N20SISO-Ant1-5320-PASS



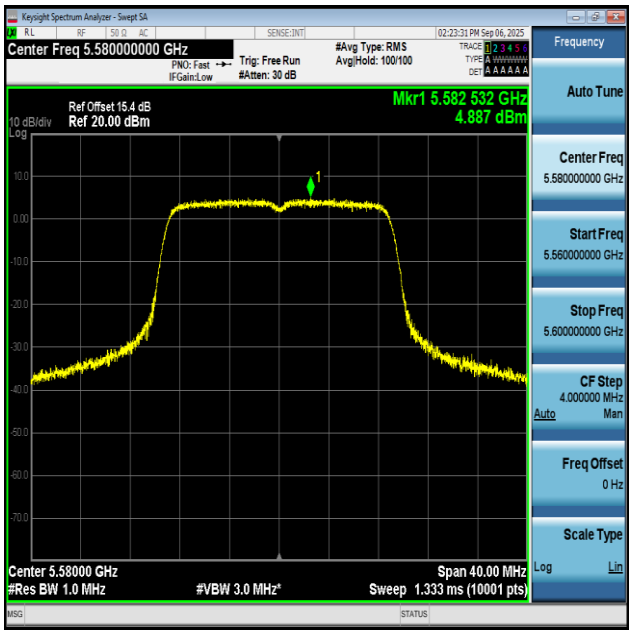
11N20SISO-Ant2-5320-PASS



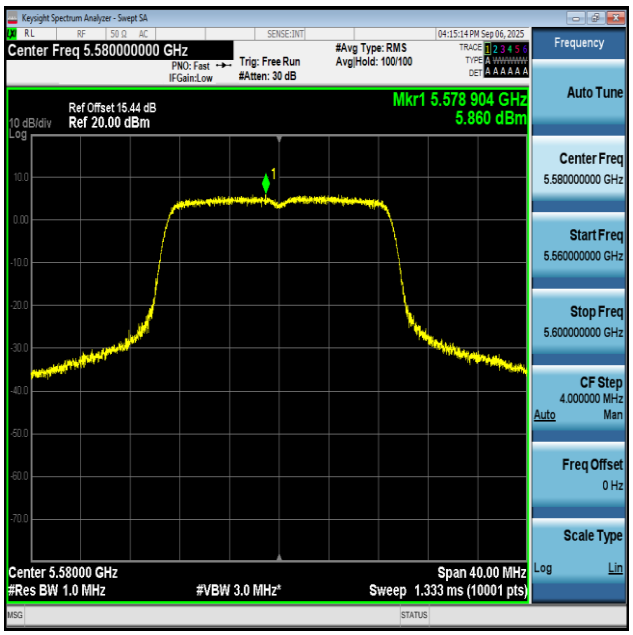
11N20SISO-Ant1-5500-PASS



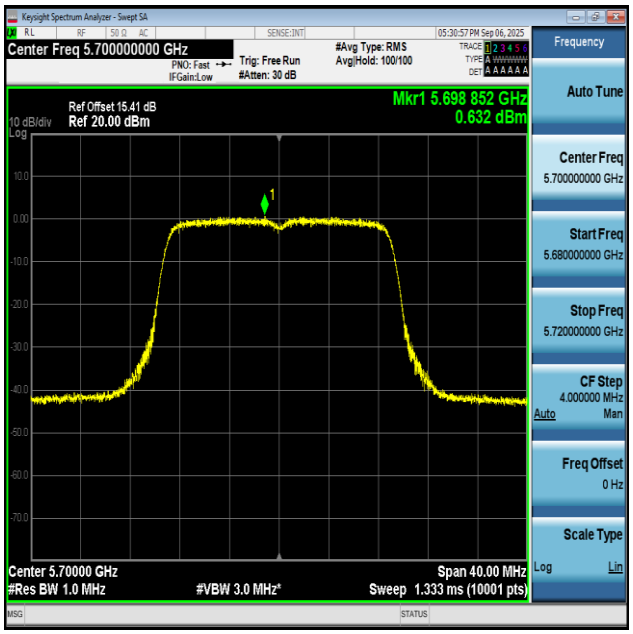
11N20SISO-Ant2-5500-PASS



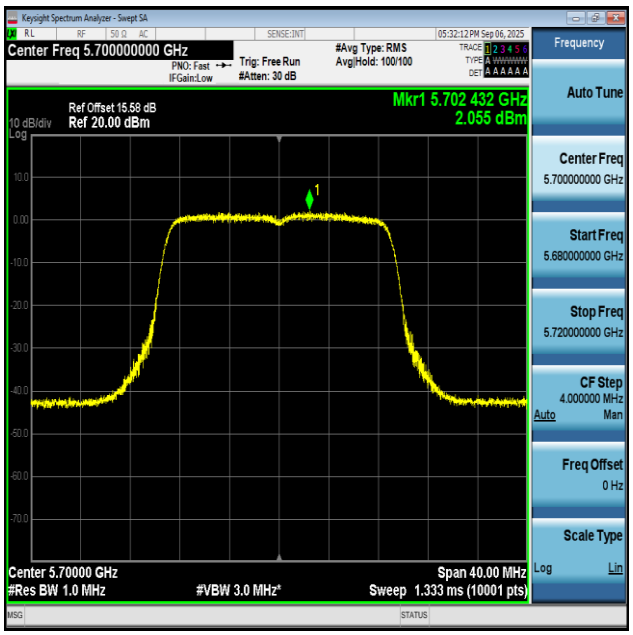
11N20SISO-Ant1-5580-PASS



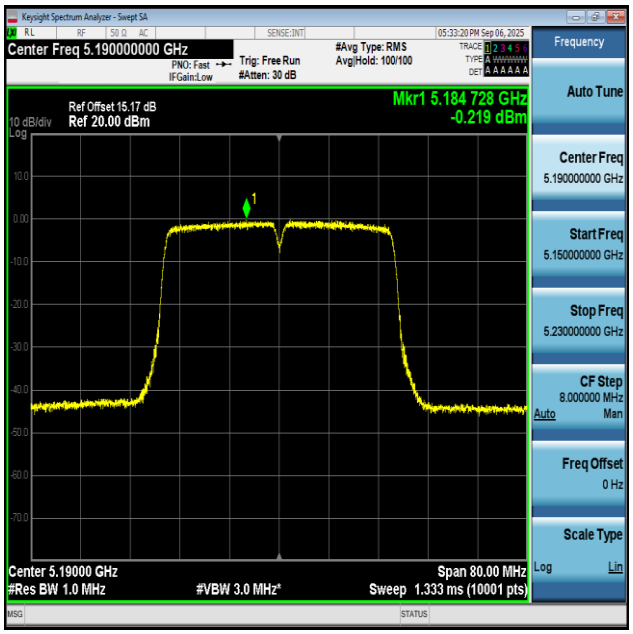
11N20SISO-Ant2-5580-PASS



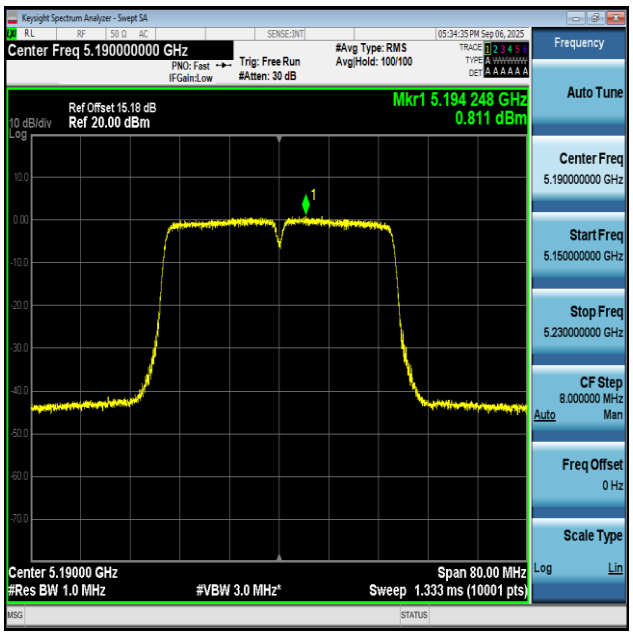
11N20SISO-Ant1-5700-PASS



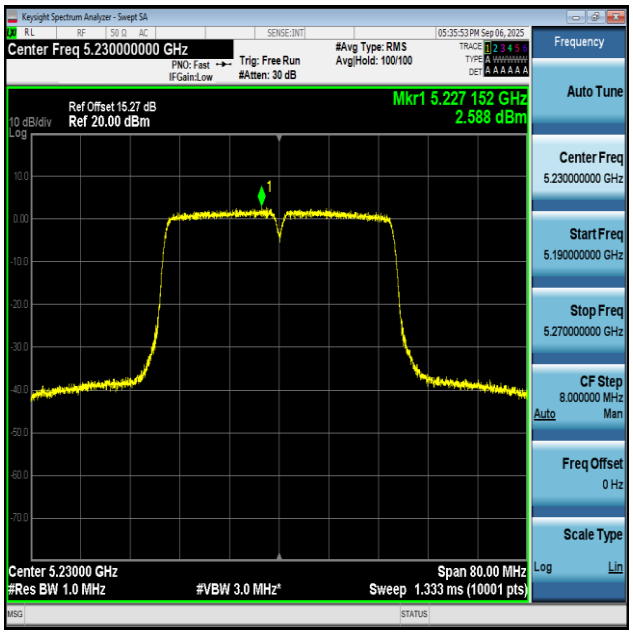
11N20SISO-Ant2-5700-PASS



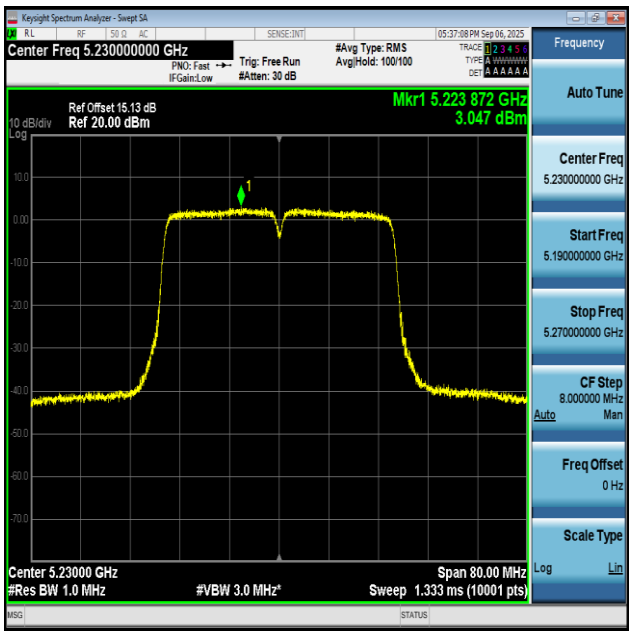
11N40SISO-Ant1-5190-PASS



11N40SISO-Ant2-5190-PASS



11N40MIMO-Ant1-5230-PASS



11N40MIMO-Ant2-5230-PASS