

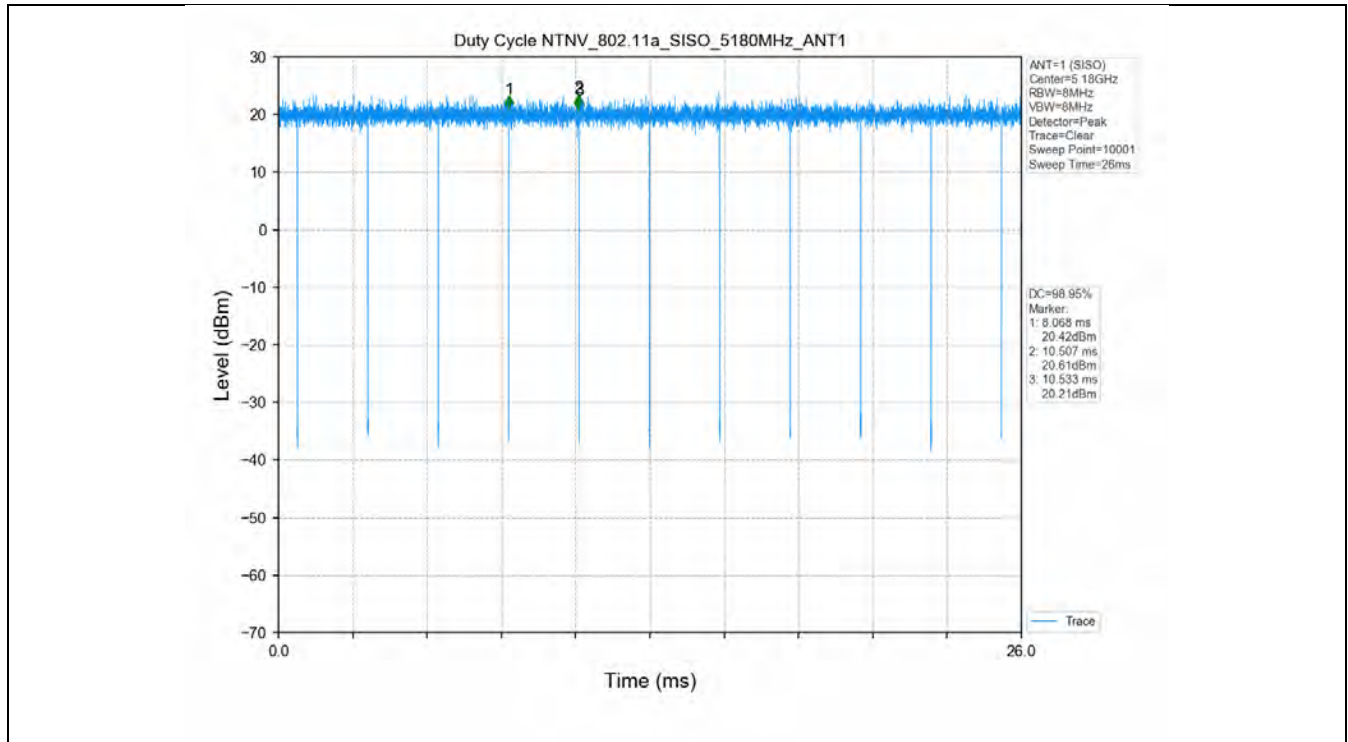
Appendix J for KSEM200900114502

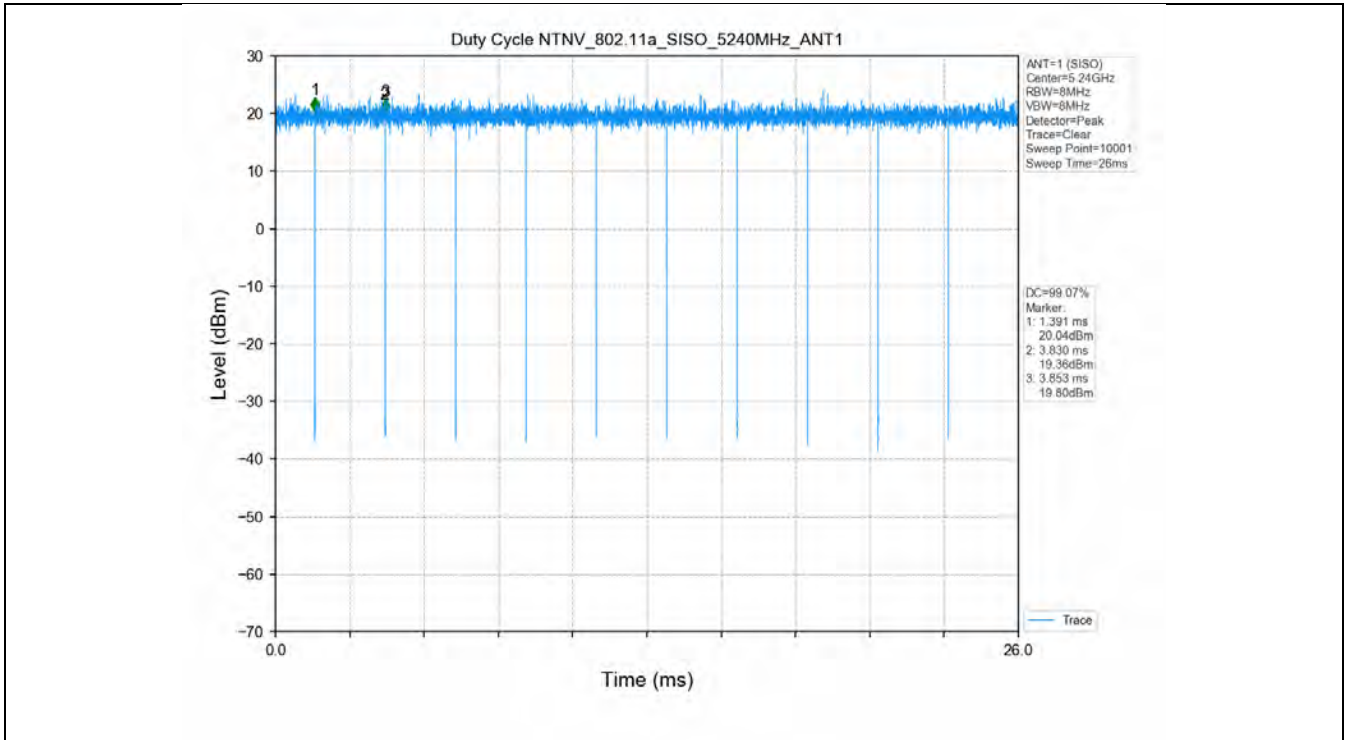
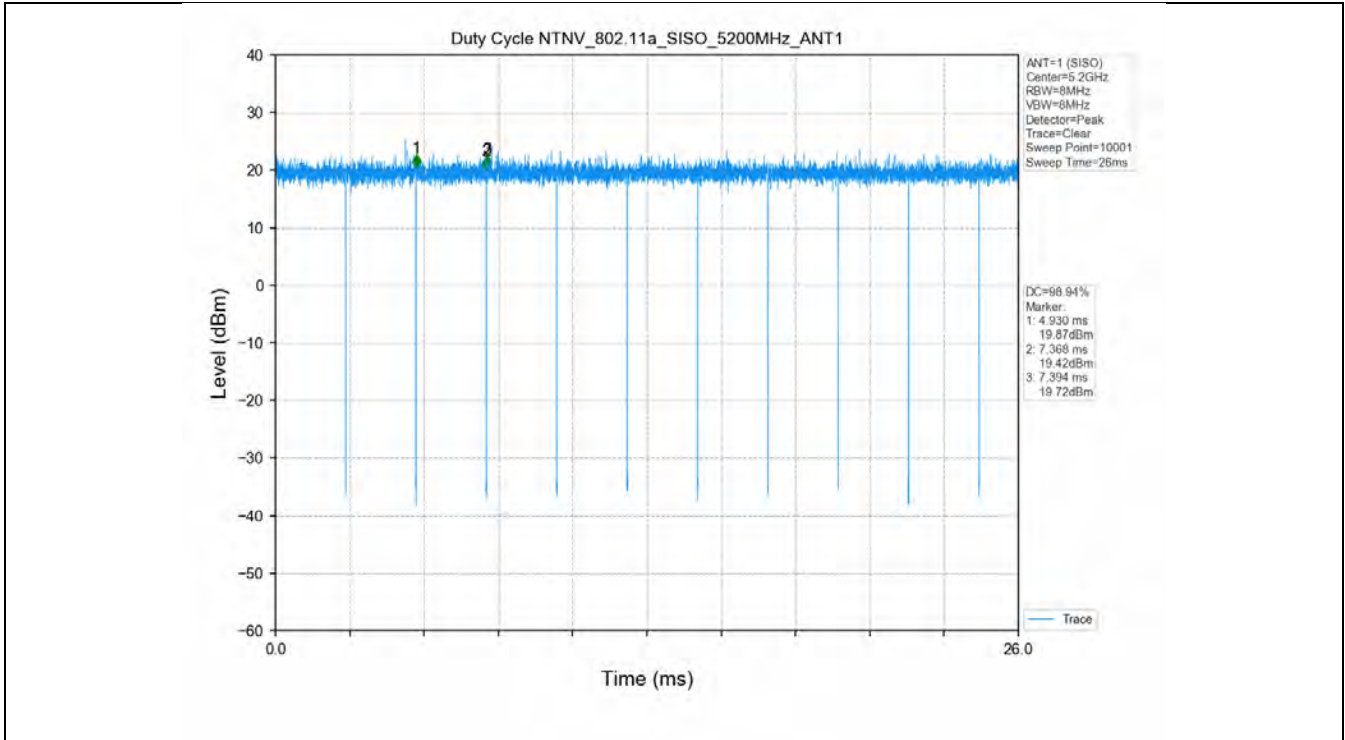
1. Duty Cycle

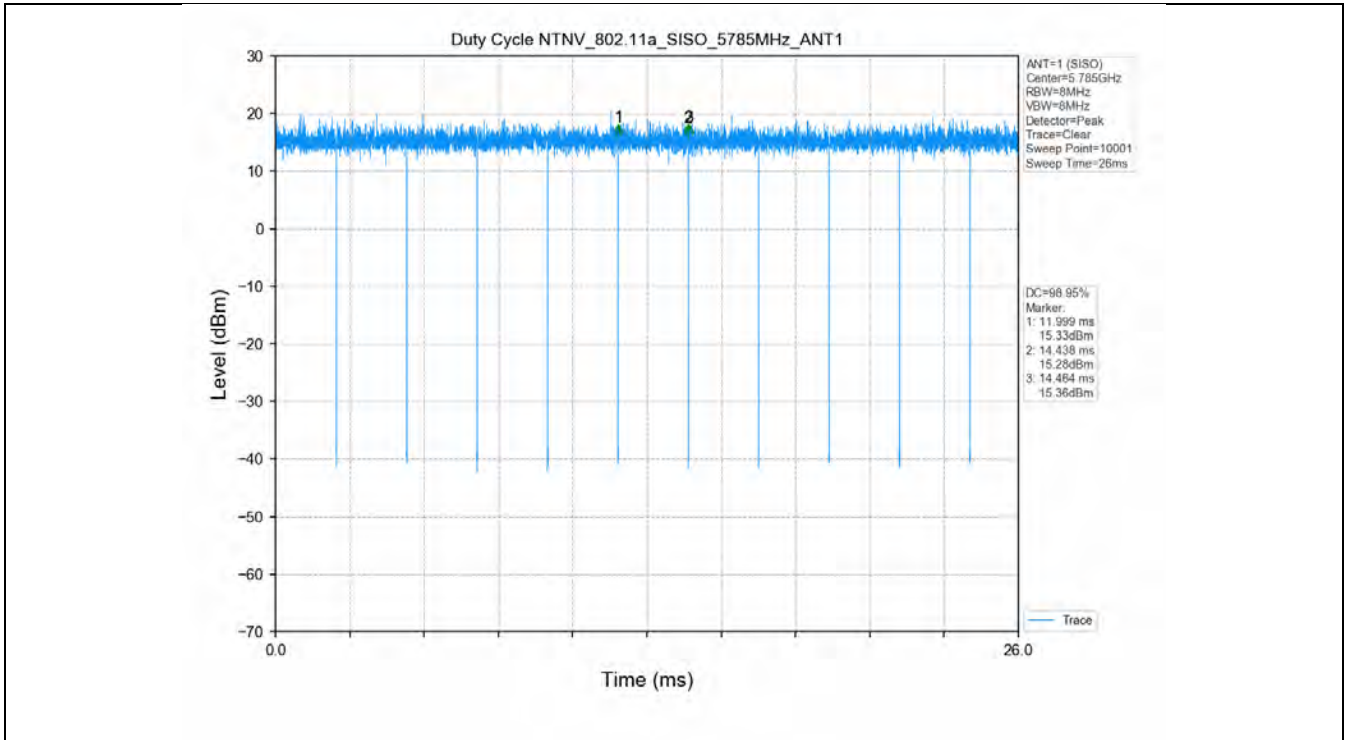
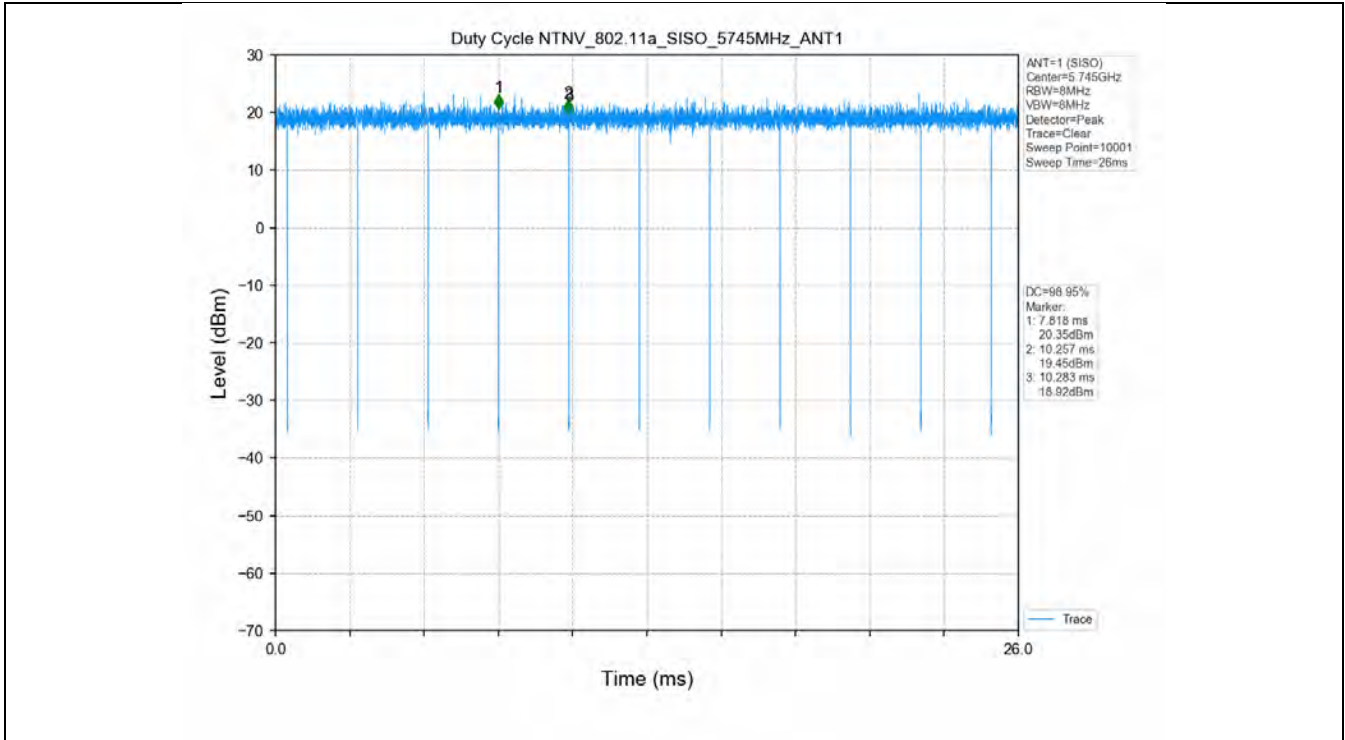
1.1 Test Result

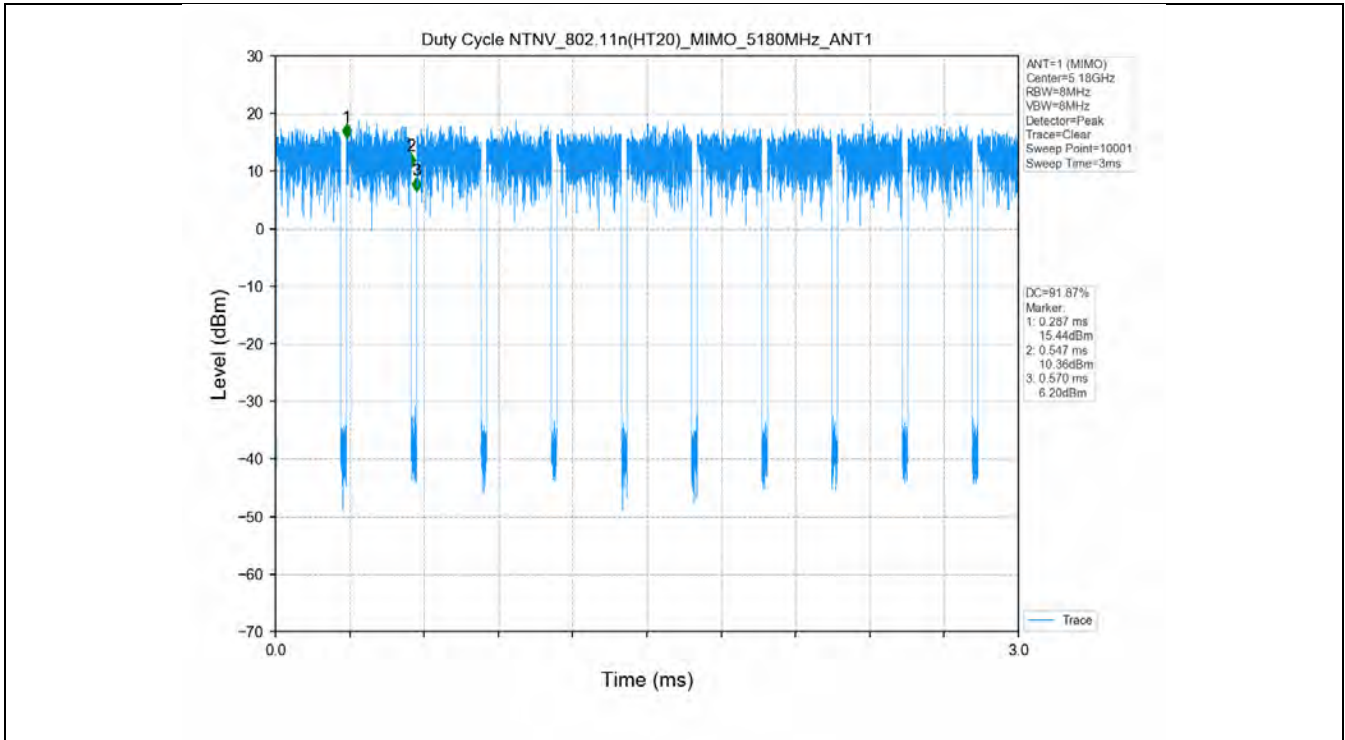
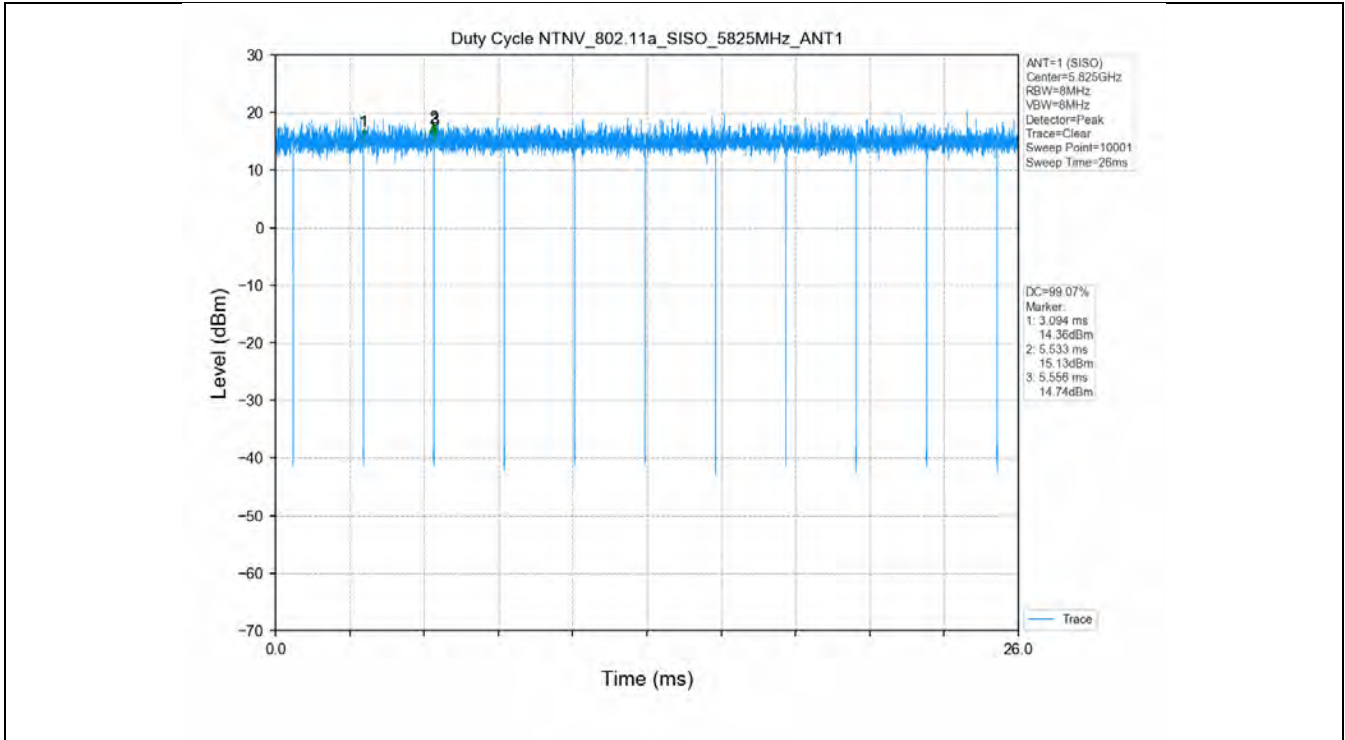
Test Mode	Channel Frequency (MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
802.11a	5180	SISO	1	2.439	2.465	98.95	0.05
	5200	SISO	1	2.438	2.464	98.94	0.05
	5240	SISO	1	2.439	2.462	99.07	0.04
	5745	SISO	1	2.439	2.465	98.95	0.05
	5785	SISO	1	2.439	2.465	98.95	0.05
	5825	SISO	1	2.439	2.462	99.07	0.04
802.11n(HT20)	5180	MIMO	1	0.260	0.283	91.87	0.37
	5200	MIMO	1	0.260	0.283	91.87	0.37
	5240	MIMO	1	0.259	0.283	91.52	0.38
	5745	MIMO	1	0.260	0.283	91.87	0.37
	5785	MIMO	1	0.259	0.283	91.52	0.38
	5825	MIMO	1	0.260	0.284	91.55	0.38
802.11n(HT40)	5190	MIMO	1	0.312	0.334	93.41	0.30
	5230	MIMO	1	0.311	0.334	93.11	0.31
	5755	MIMO	1	0.312	0.334	93.41	0.30
	5795	MIMO	1	0.312	0.334	93.41	0.30

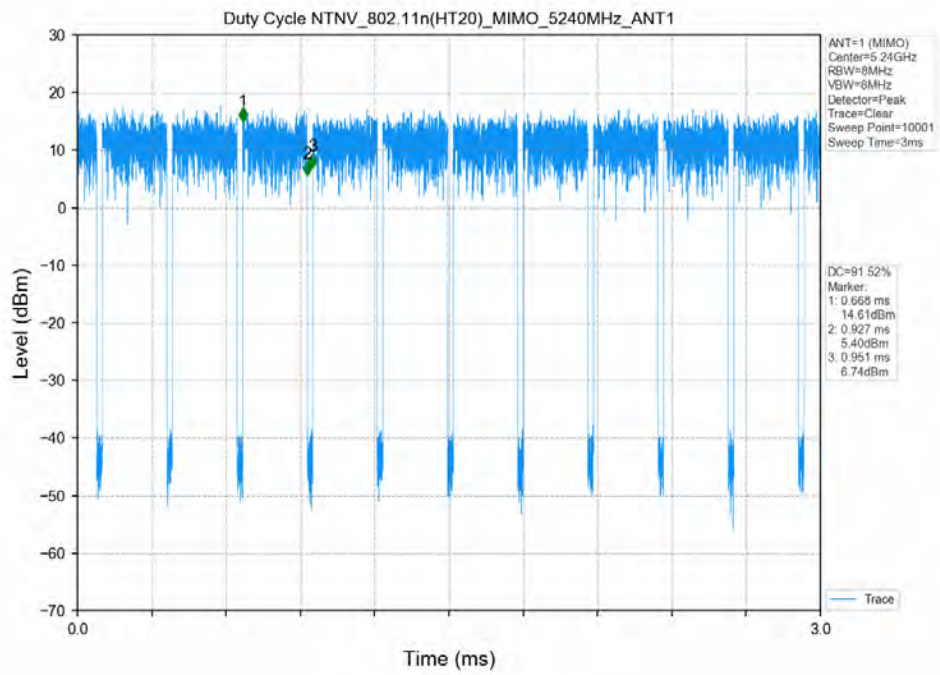
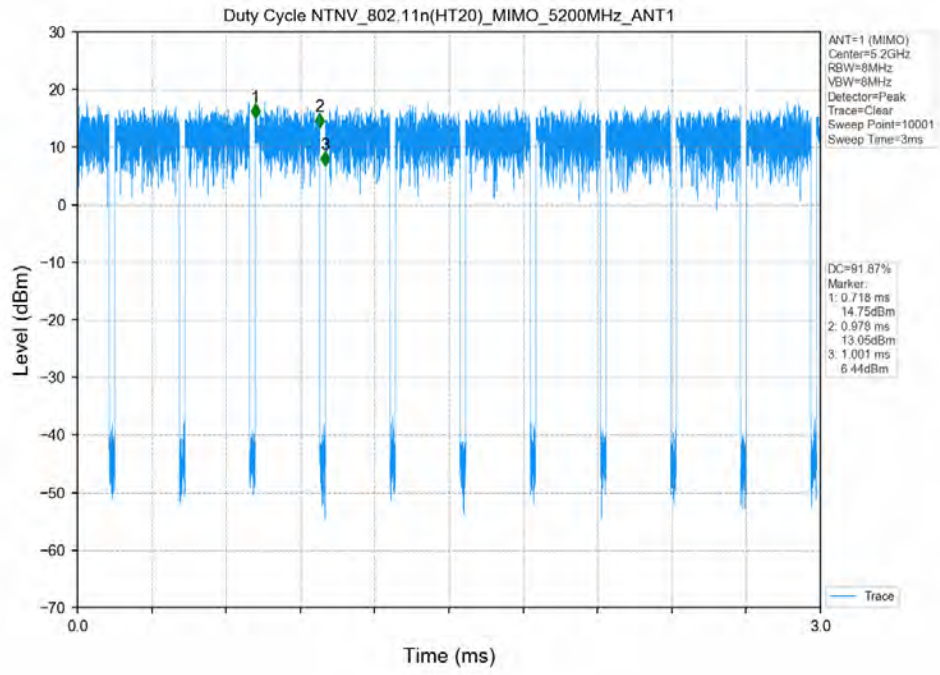
1.2 Test Graph

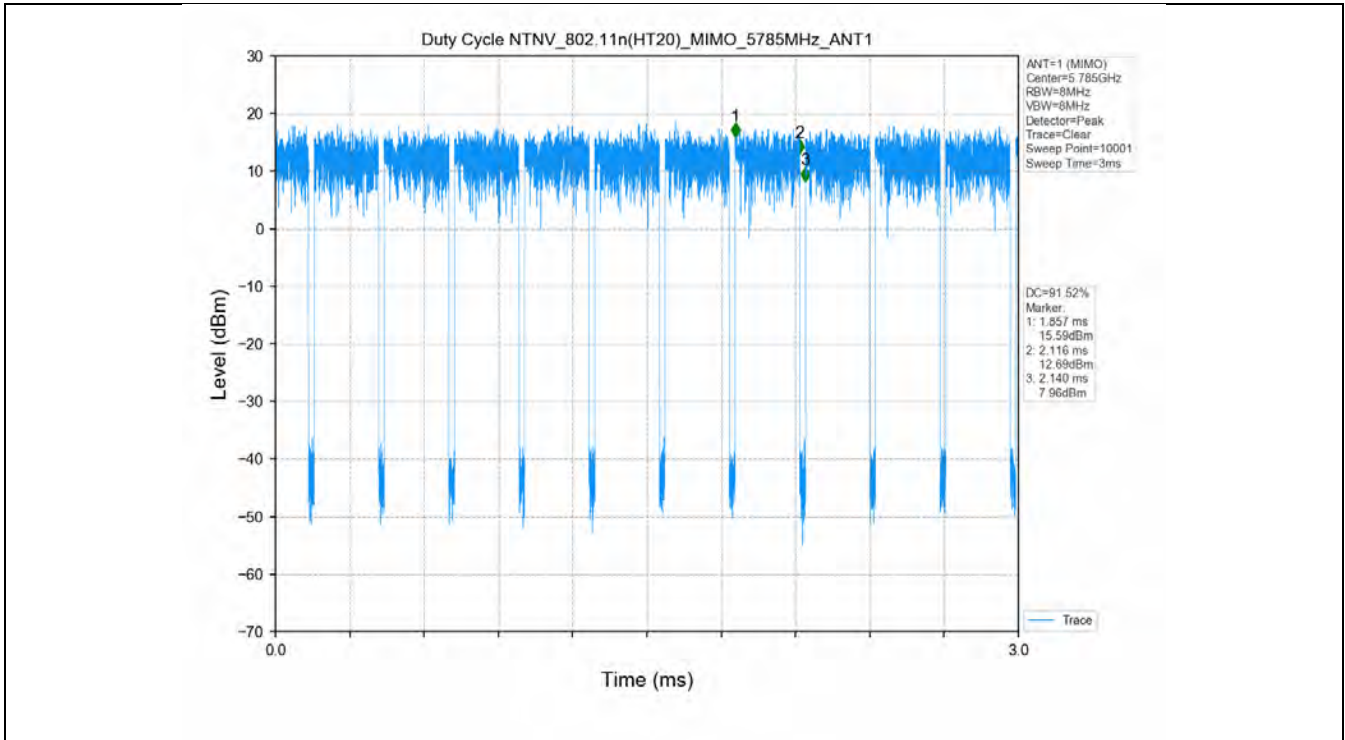
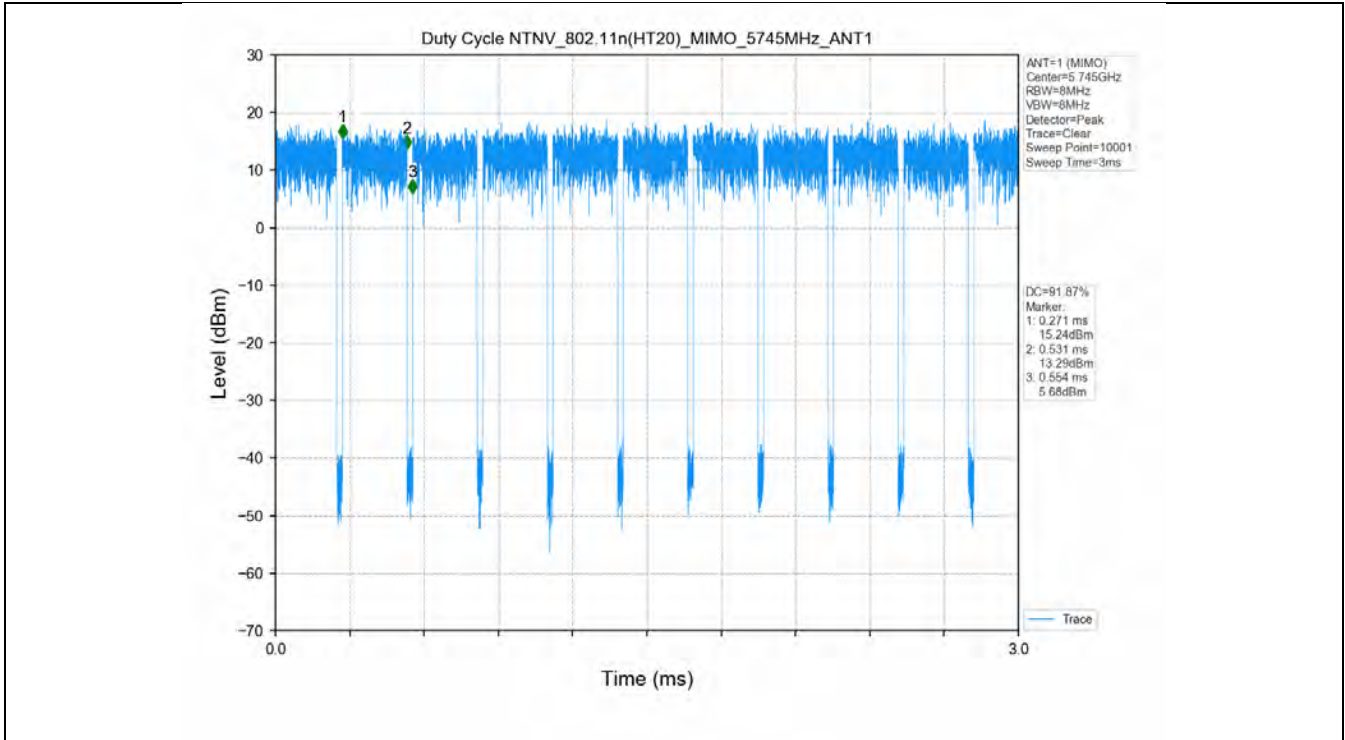


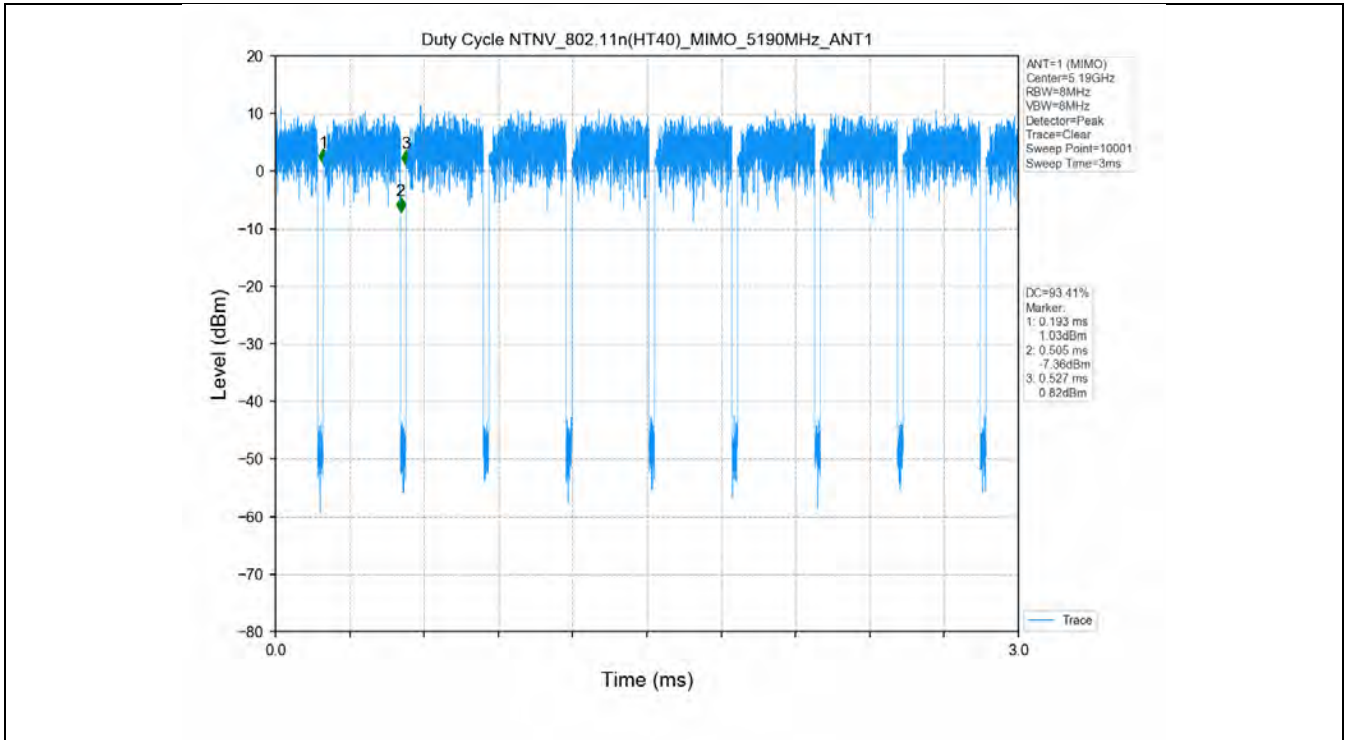
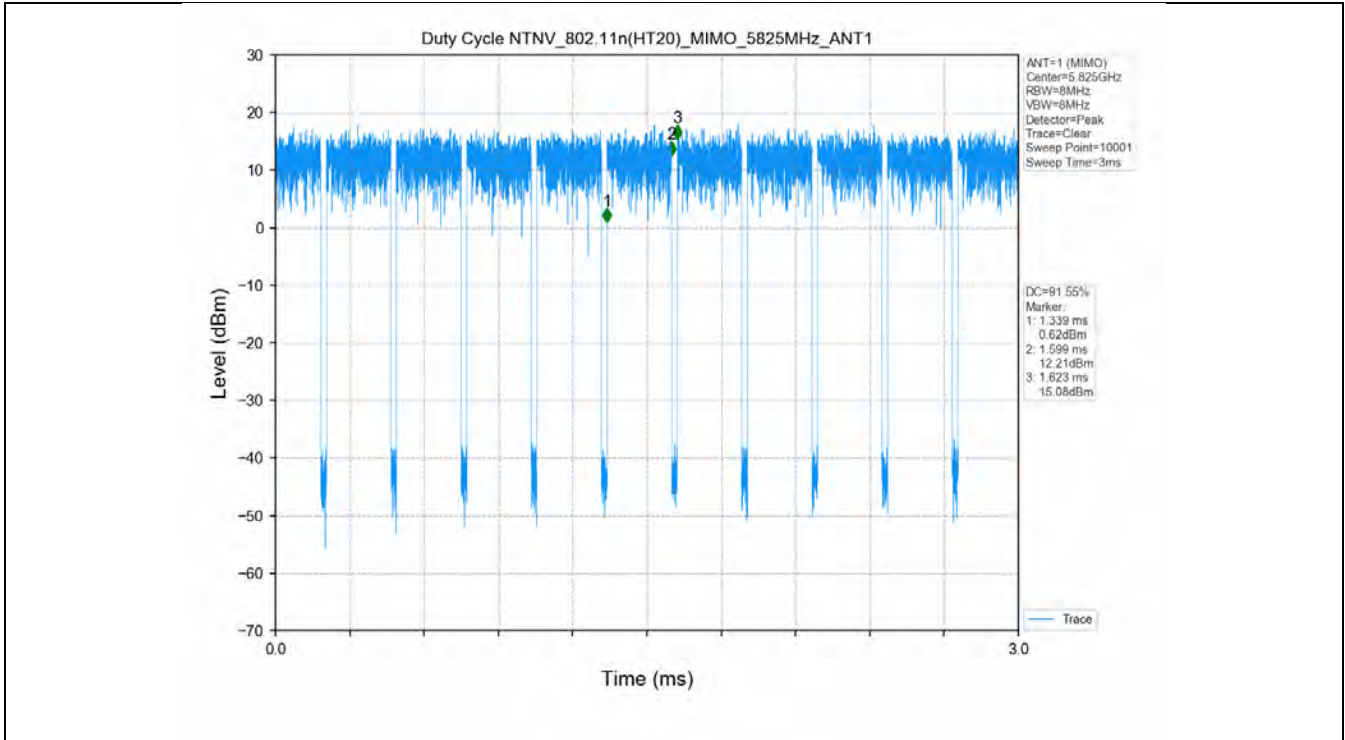


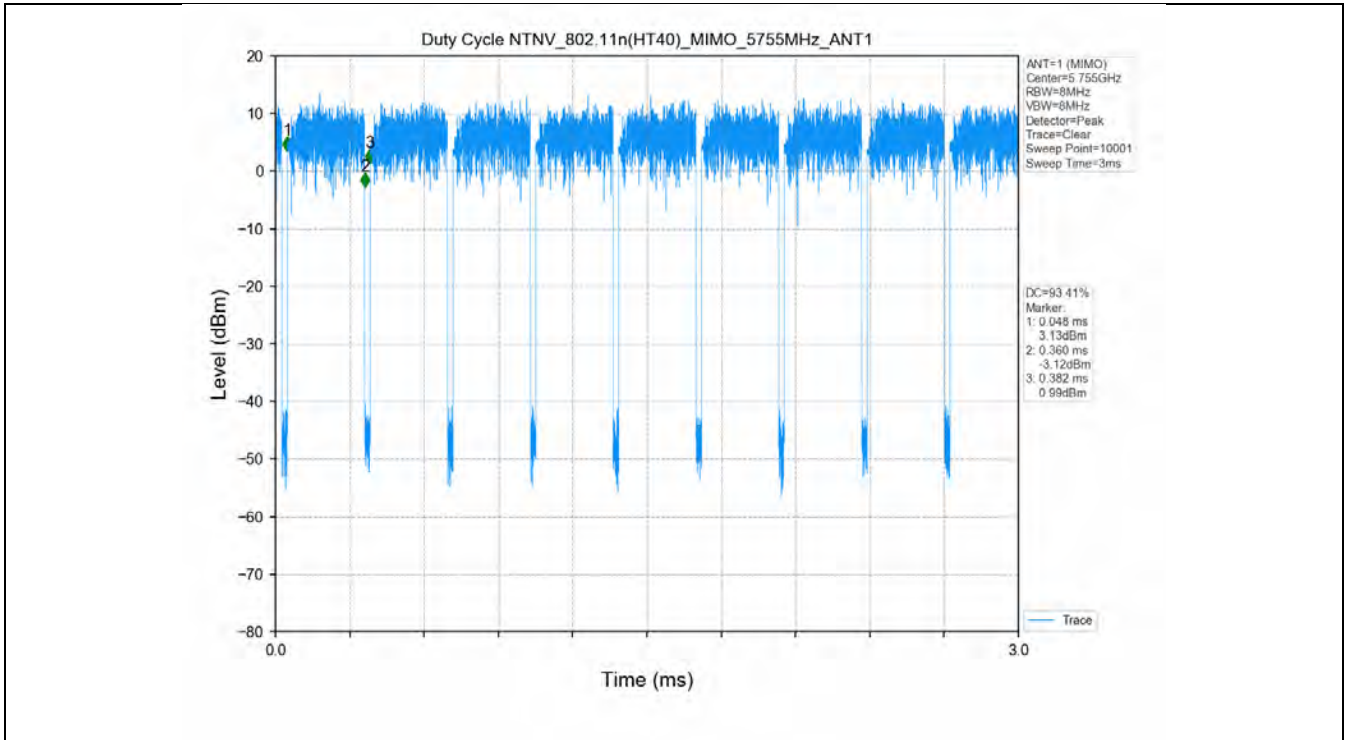
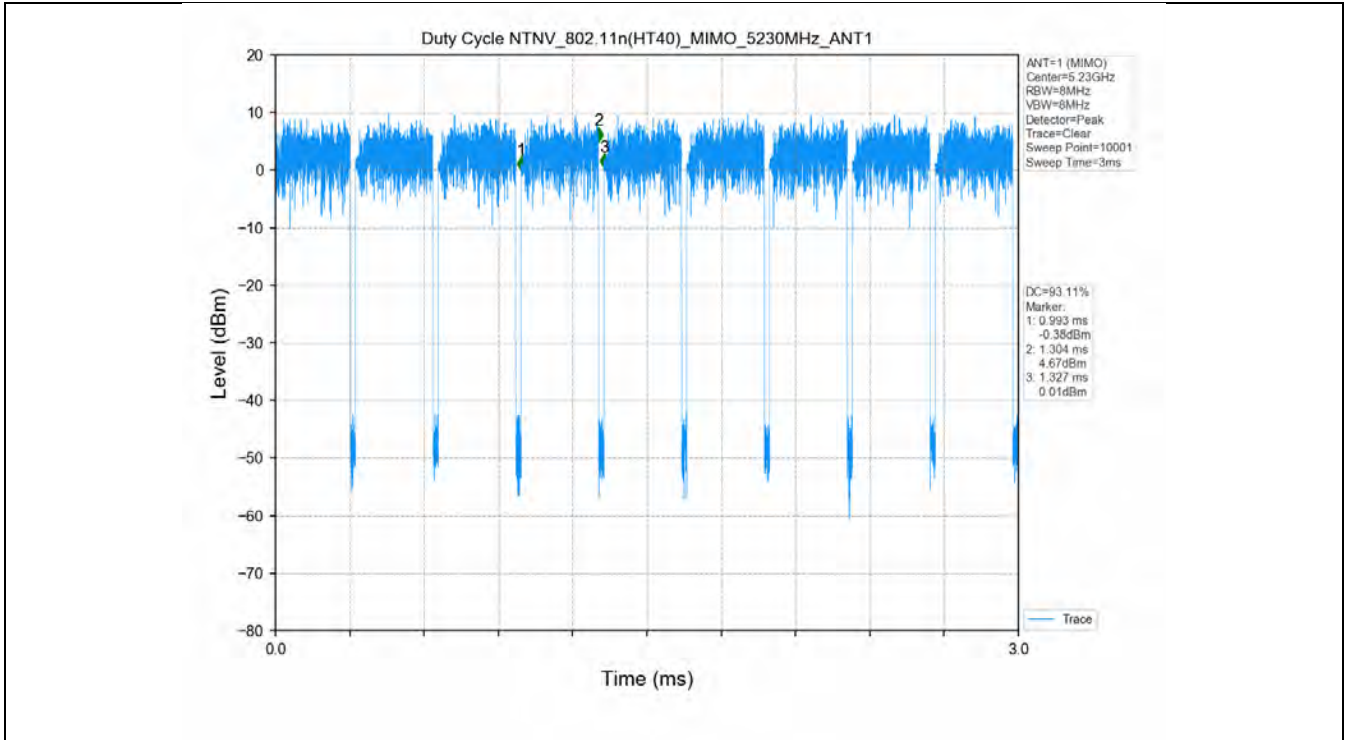


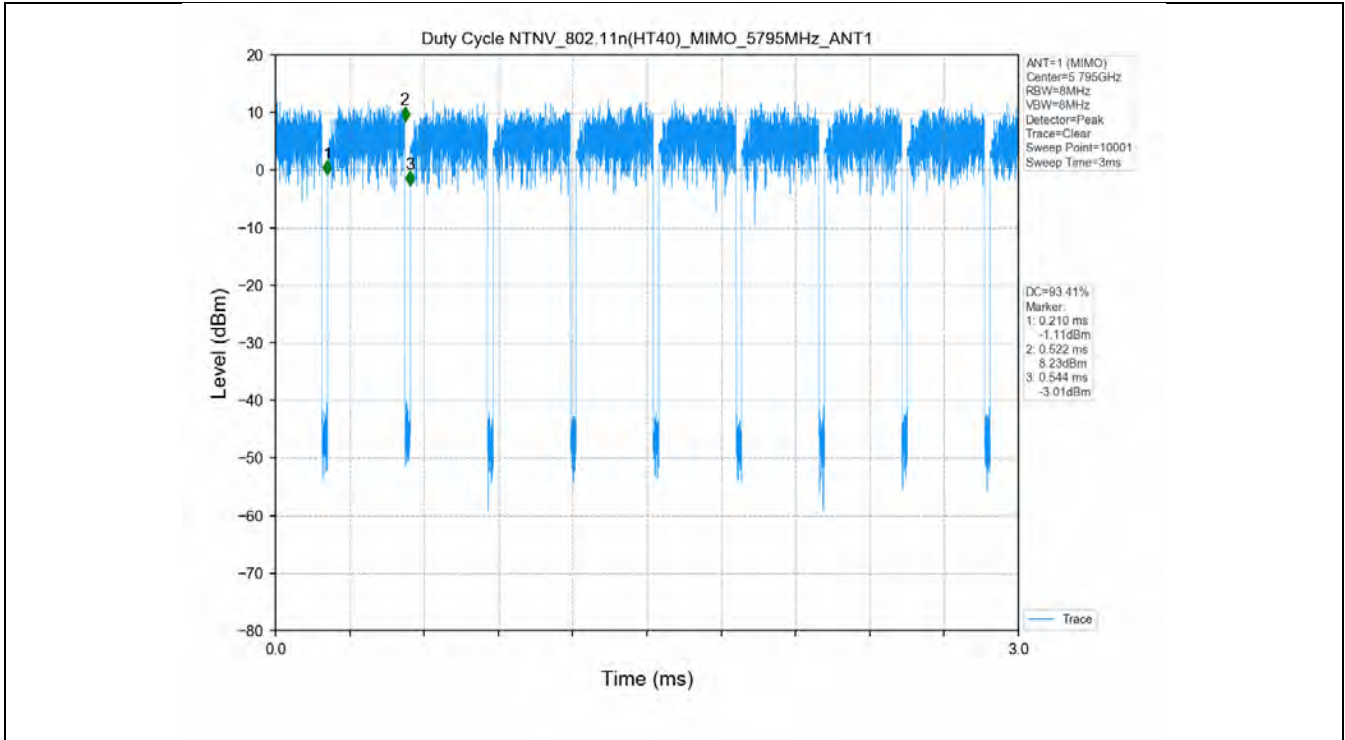












2. Bandwidth

2.1 Test Result

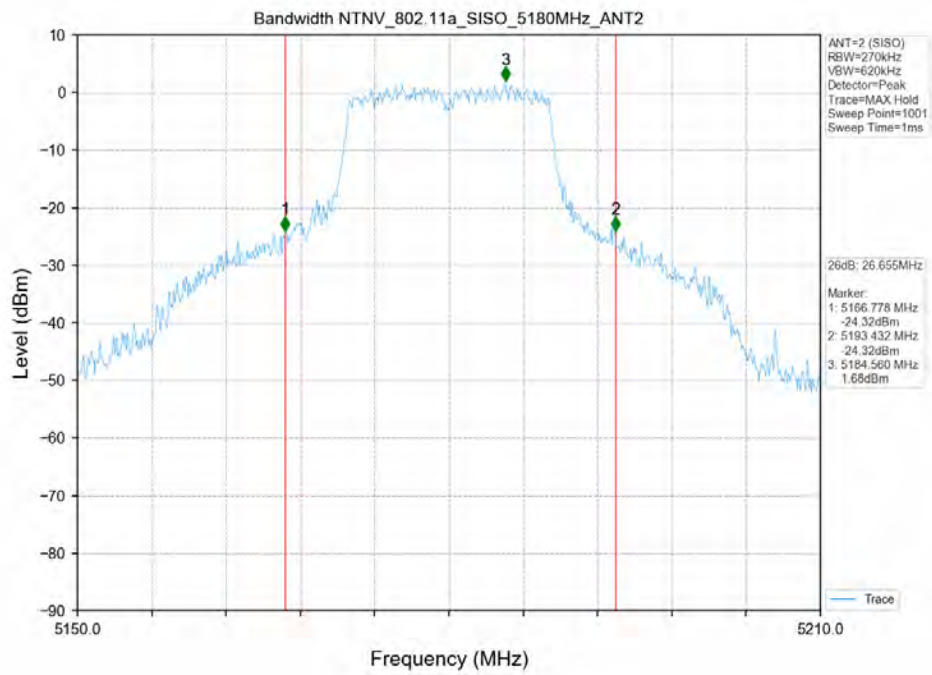
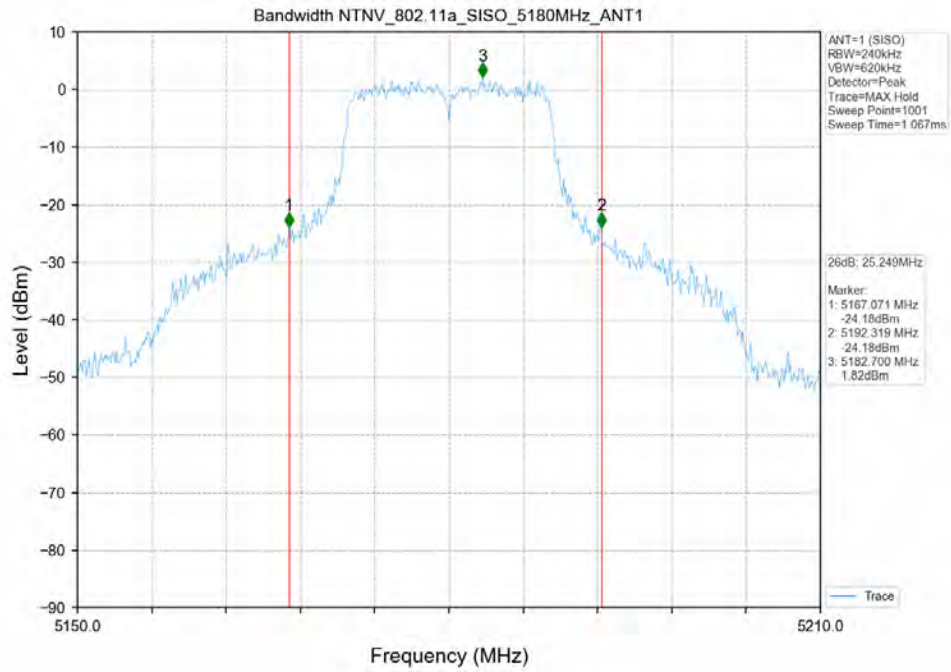
Test Mode	Frequency (MHz)	TX Type	ANT No.	-26dB Occupied Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
802.11a	5180	SISO	1	25.249	Only for Report Use	PASS
			2	26.655	Only for Report Use	PASS
	5200	SISO	1	25.229	Only for Report Use	PASS
			2	26.317	Only for Report Use	PASS
	5240	SISO	1	25.715	Only for Report Use	PASS
			2	28.335	Only for Report Use	PASS
802.11n(HT20)	5180	MIMO	1	22.880	Only for Report Use	PASS
			2	24.844	Only for Report Use	PASS
	5200	MIMO	1	22.389	Only for Report Use	PASS
			2	22.228	Only for Report Use	PASS
	5240	MIMO	1	22.612	Only for Report Use	PASS
			2	26.116	Only for Report Use	PASS
802.11n(HT40)	5190	MIMO	1	43.107	Only for Report Use	PASS
			2	43.300	Only for Report Use	PASS
	5230	MIMO	1	45.053	Only for Report Use	PASS
			2	44.216	Only for Report Use	PASS

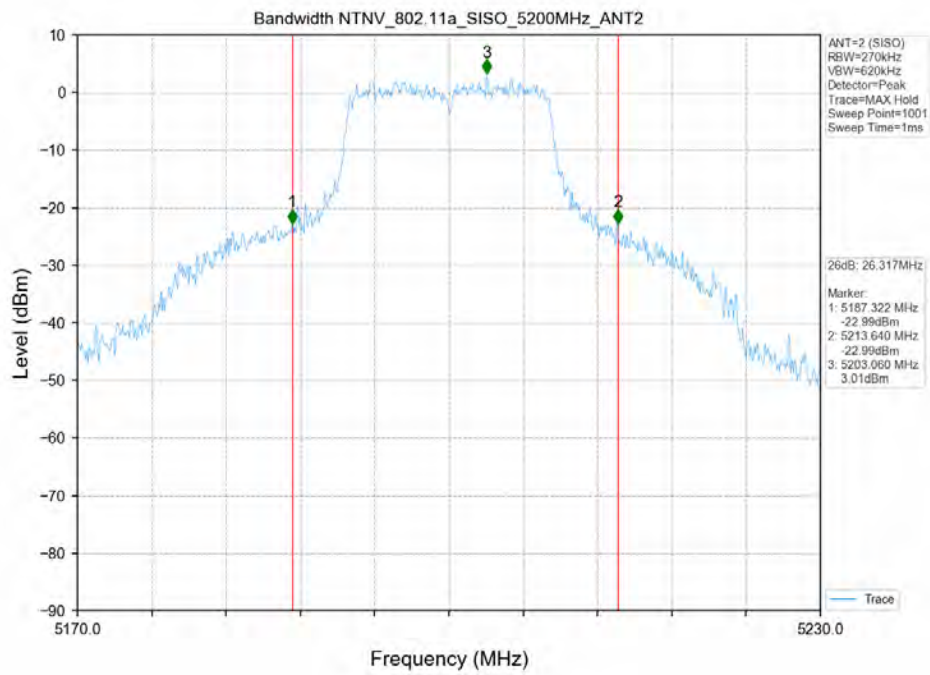
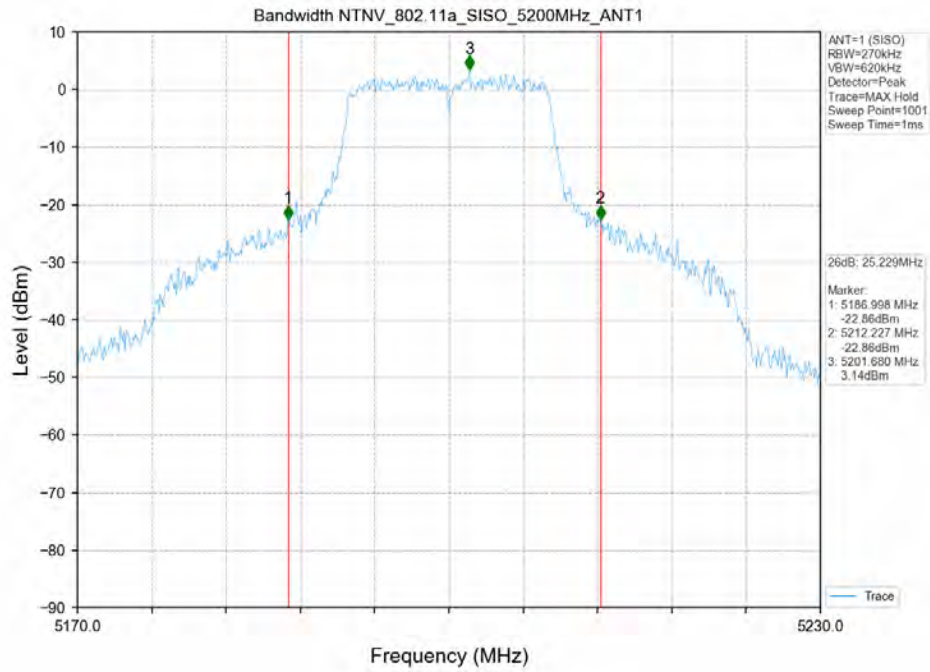
Test Mode	Frequency (MHz)	TX Type	ANT No.	-6dB Occupied Bandwidth		Verdict
				Test Result (MHz)	Limits (MHz)	
802.11a	5745	SISO	1	16.366	≥0.5	PASS
			2	16.374	≥0.5	PASS
	5785	SISO	1	16.338	≥0.5	PASS
			2	16.033	≥0.5	PASS
	5825	SISO	1	15.985	≥0.5	PASS

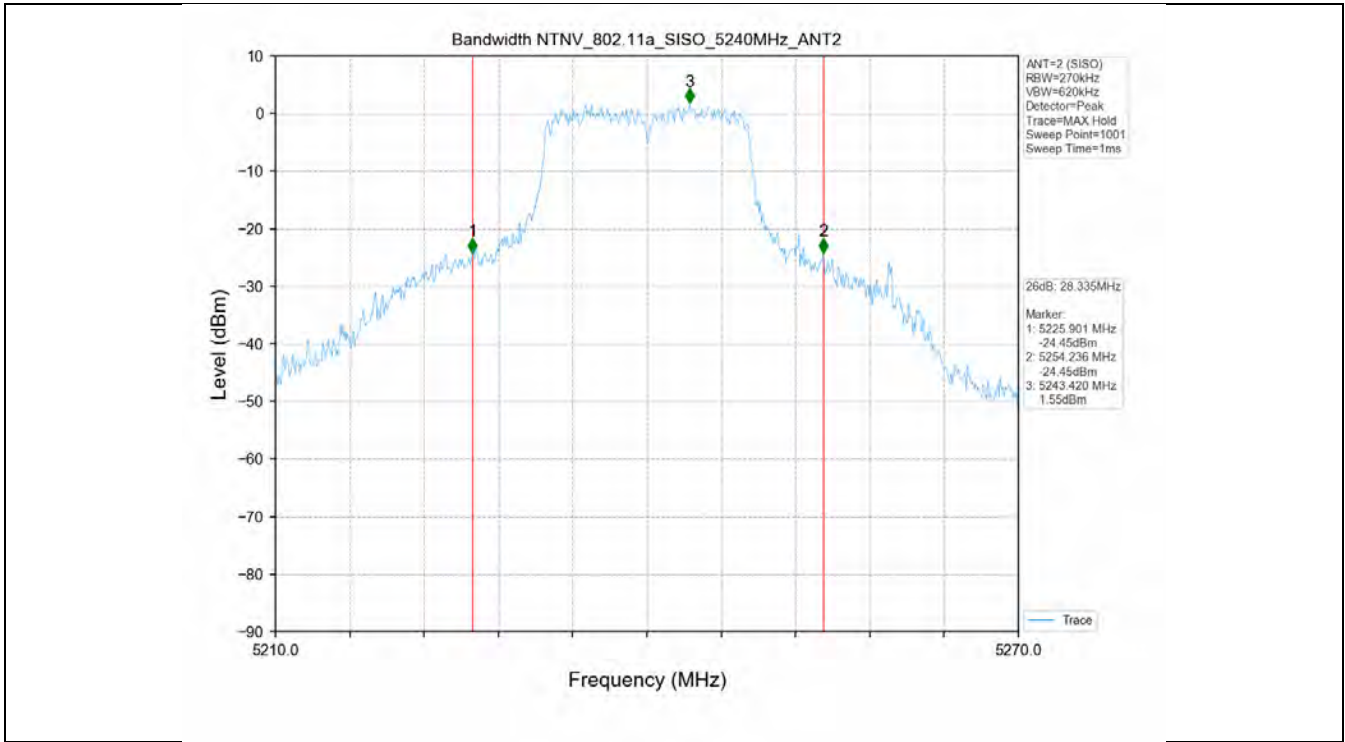
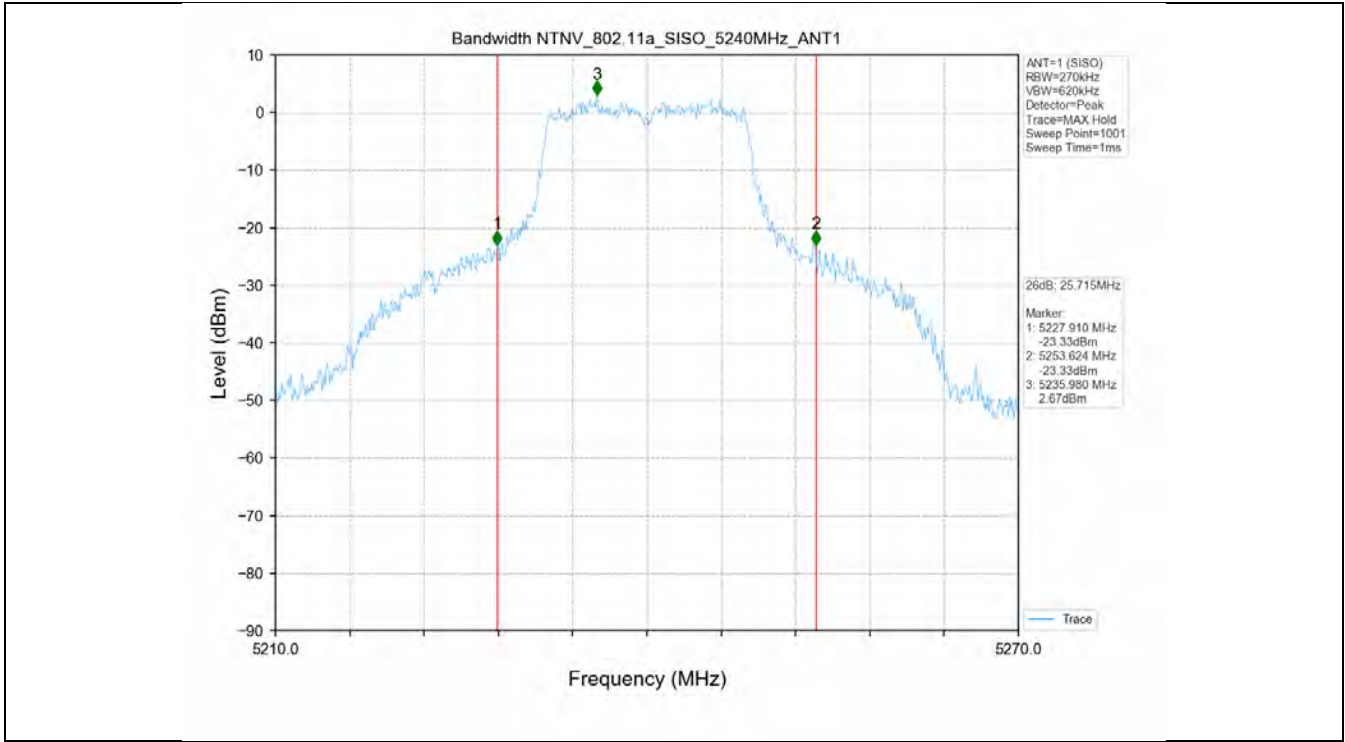
			2	16.373	≥0.5	PASS
802.11n(HT20)	5745	MIMO	1	17.493	≥0.5	PASS
			2	17.019	≥0.5	PASS
	5785	MIMO	1	17.464	≥0.5	PASS
			2	17.596	≥0.5	PASS
	5825	MIMO	1	17.316	≥0.5	PASS
			2	17.338	≥0.5	PASS
802.11n(HT40)	5755	MIMO	1	35.695	≥0.5	PASS
			2	35.507	≥0.5	PASS
	5795	MIMO	1	35.625	≥0.5	PASS
			2	35.577	≥0.5	PASS

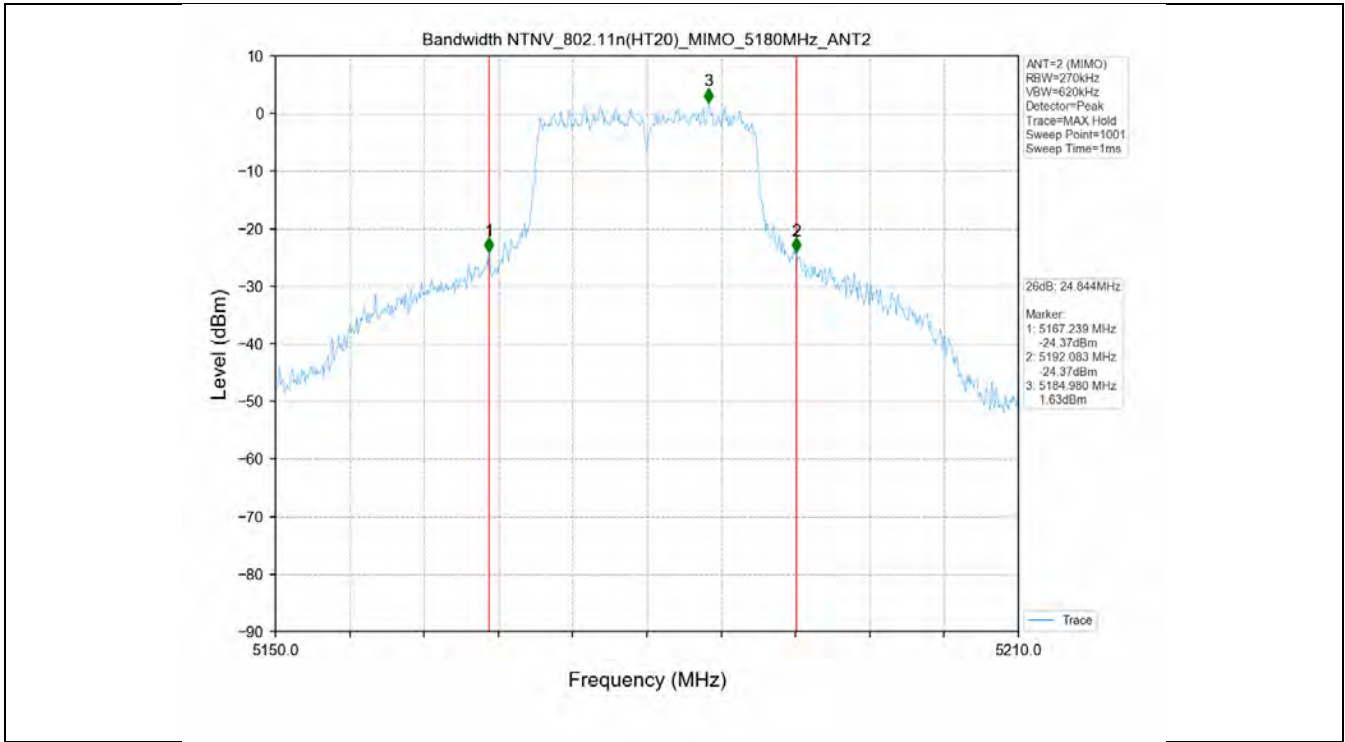
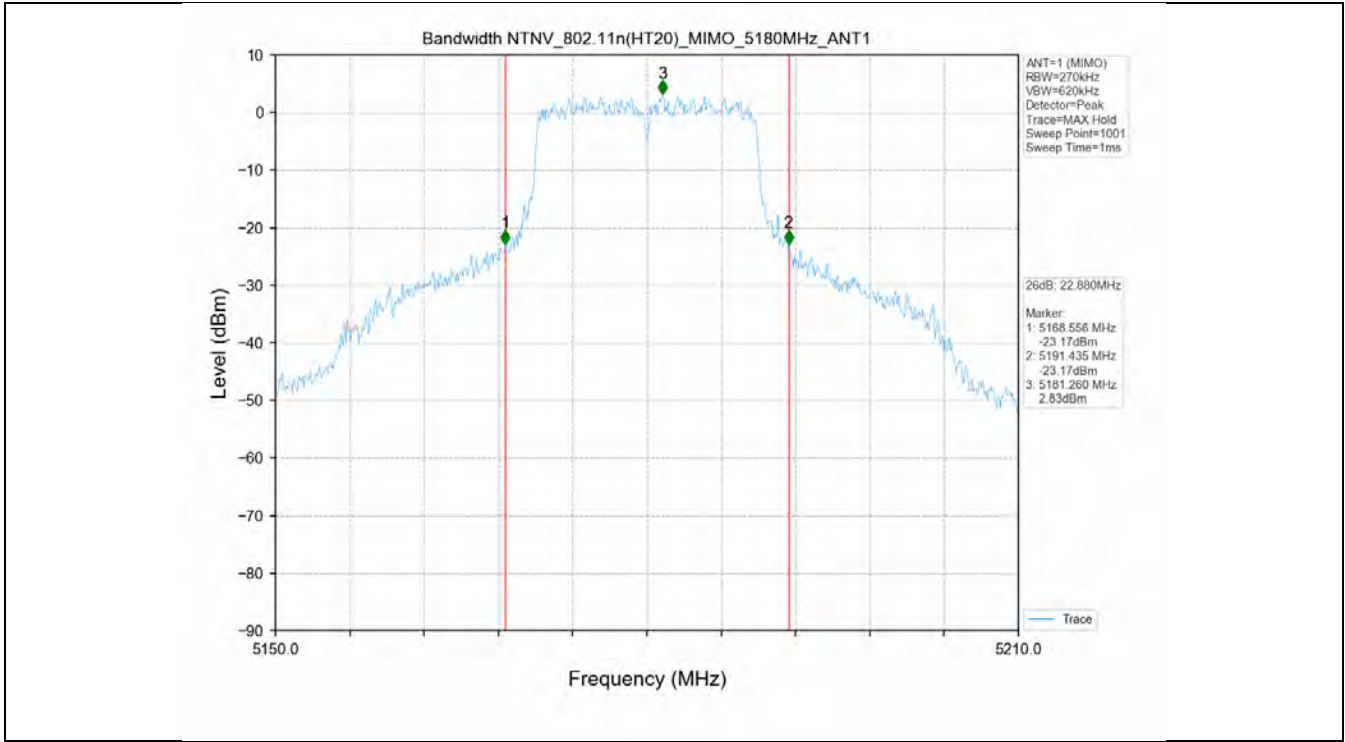
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
802.11a	5180	SISO	1	16.947	Only for Report Use
			2	16.912	Only for Report Use
	5200	SISO	1	17.123	Only for Report Use
			2	16.915	Only for Report Use
	5240	SISO	1	16.935	Only for Report Use
			2	17.023	Only for Report Use
	5745	SISO	1	17.065	Only for Report Use
			2	17.499	Only for Report Use
	5785	SISO	1	17.067	Only for Report Use
			2	17.602	Only for Report Use
	5825	SISO	1	18.181	Only for Report Use
			2	18.859	Only for Report Use
802.11n(HT20)	5180	MIMO	1	17.869	Only for Report Use
			2	17.907	Only for Report Use
	5200	MIMO	1	17.908	Only for Report Use
			2	17.892	Only for Report Use
	5240	MIMO	1	17.854	Only for Report Use
			2	17.993	Only for Report Use
	5745	MIMO	1	17.909	Only for Report Use
			2	18.274	Only for Report Use
	5785	MIMO	1	17.968	Only for Report Use
			2	18.986	Only for Report Use
	5825	MIMO	1	18.014	Only for Report Use
			2	18.621	Only for Report Use
802.11n(HT40)	5190	MIMO	1	37.226	Only for Report Use
			2	36.919	Only for Report Use
	5230	MIMO	1	37.200	Only for Report Use
			2	36.843	Only for Report Use
	5755	MIMO	1	37.362	Only for Report Use
			2	37.451	Only for Report Use
	5795	MIMO	1	37.464	Only for Report Use
			2	37.903	Only for Report Use

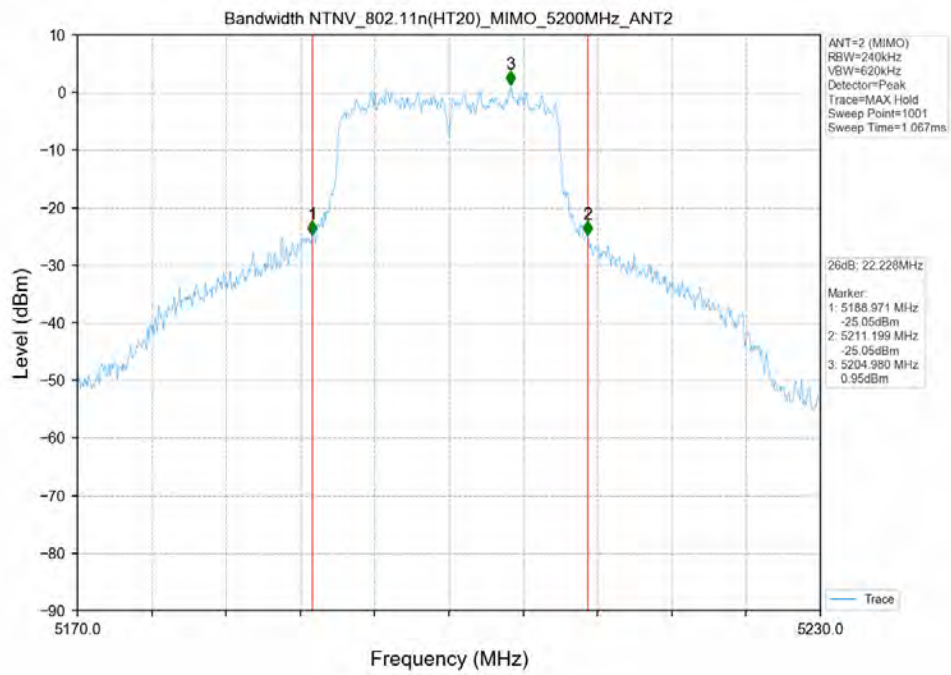
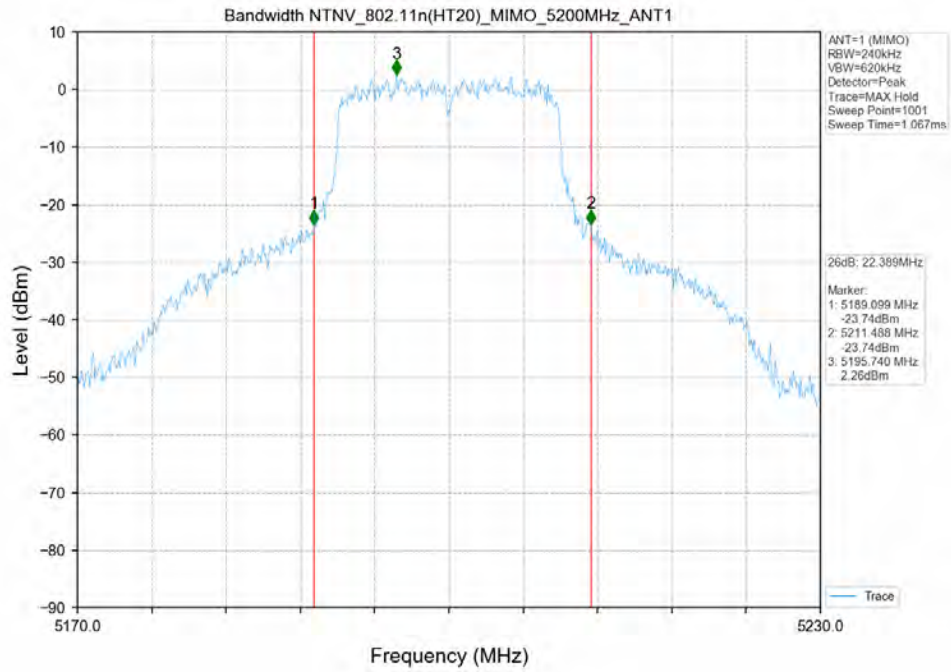
2.2 Test Graph - Emission Bandwidth

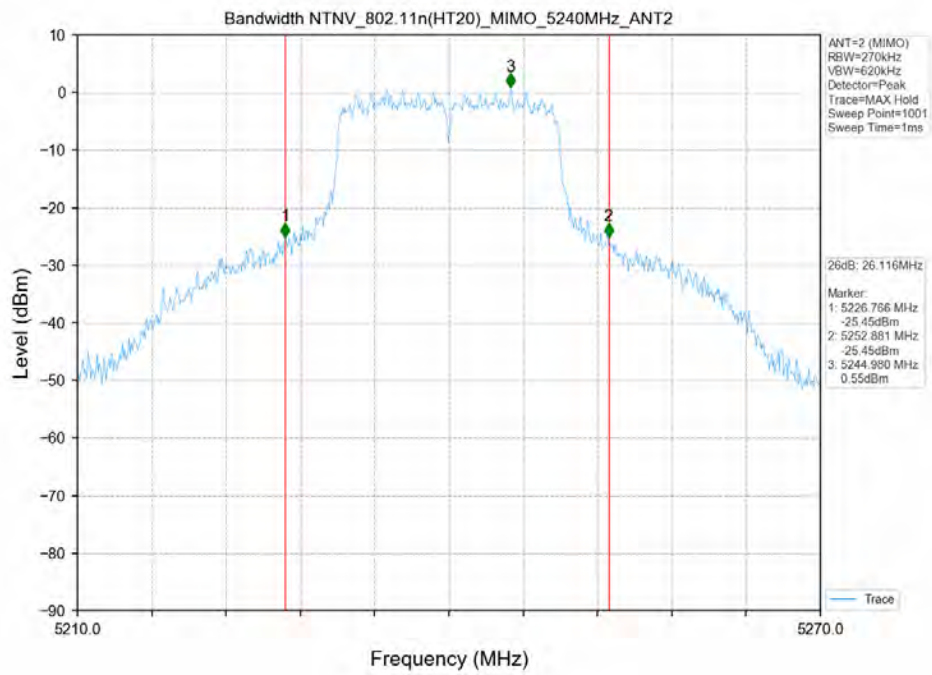
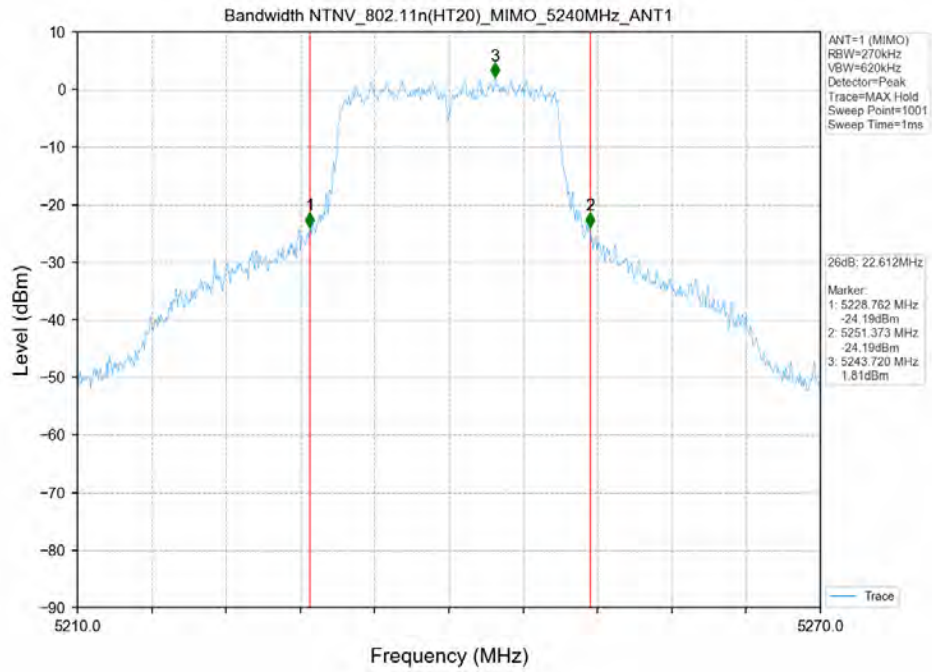


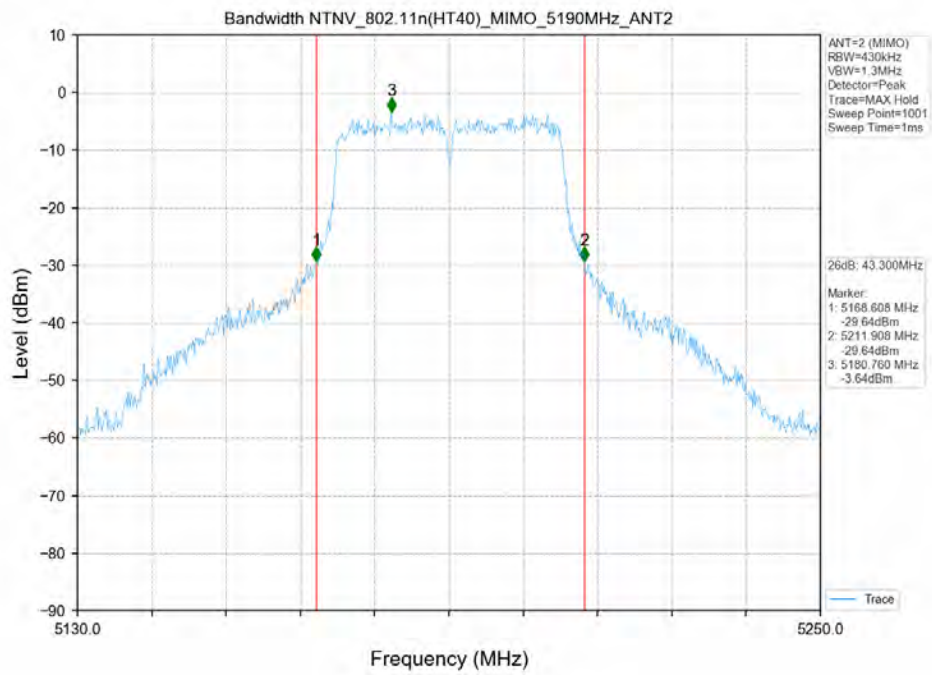
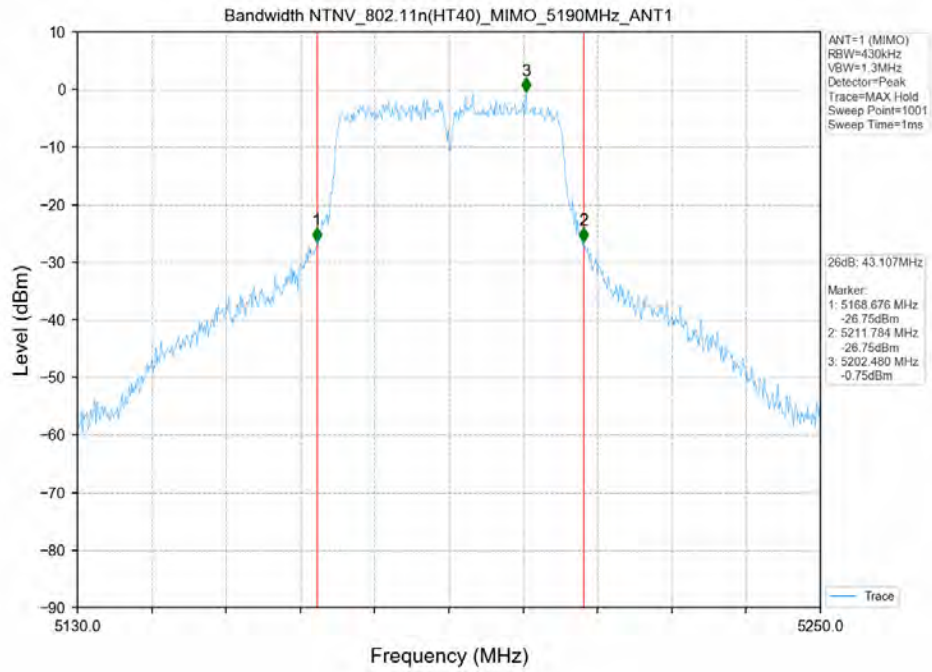


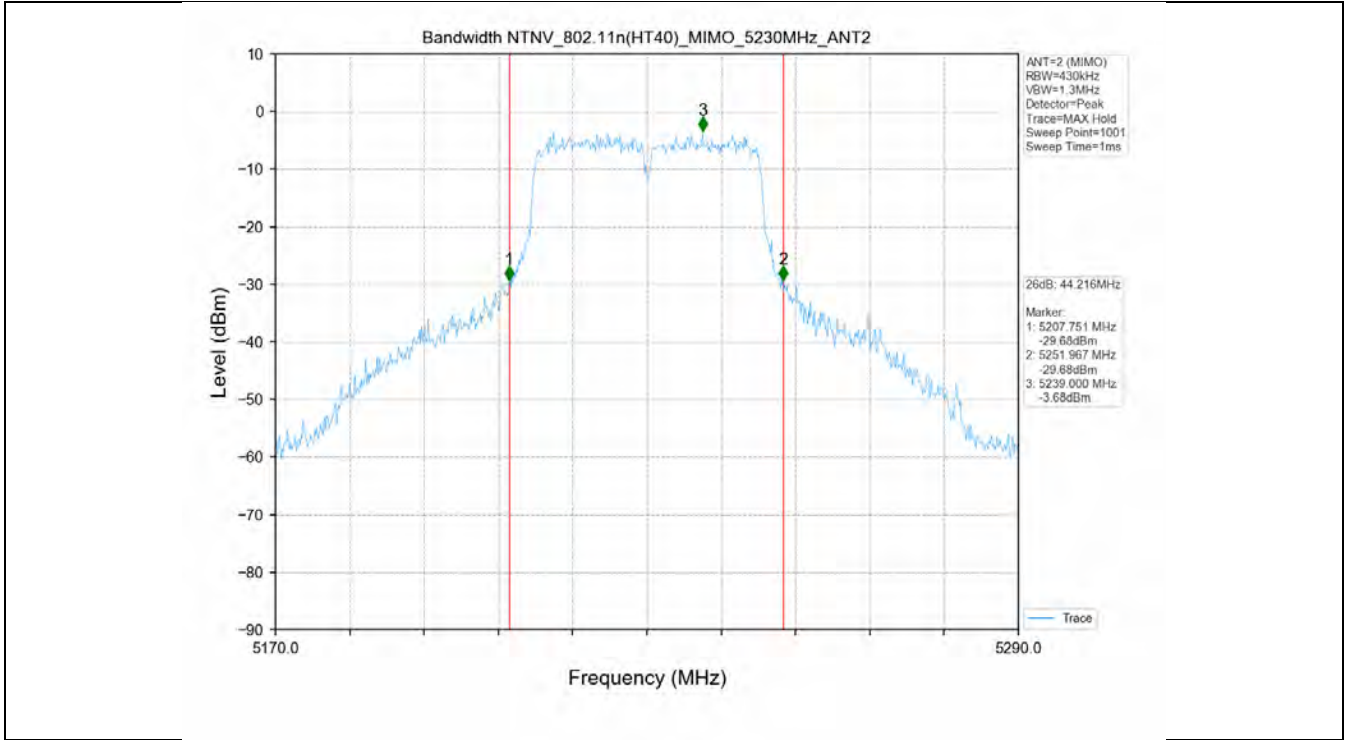
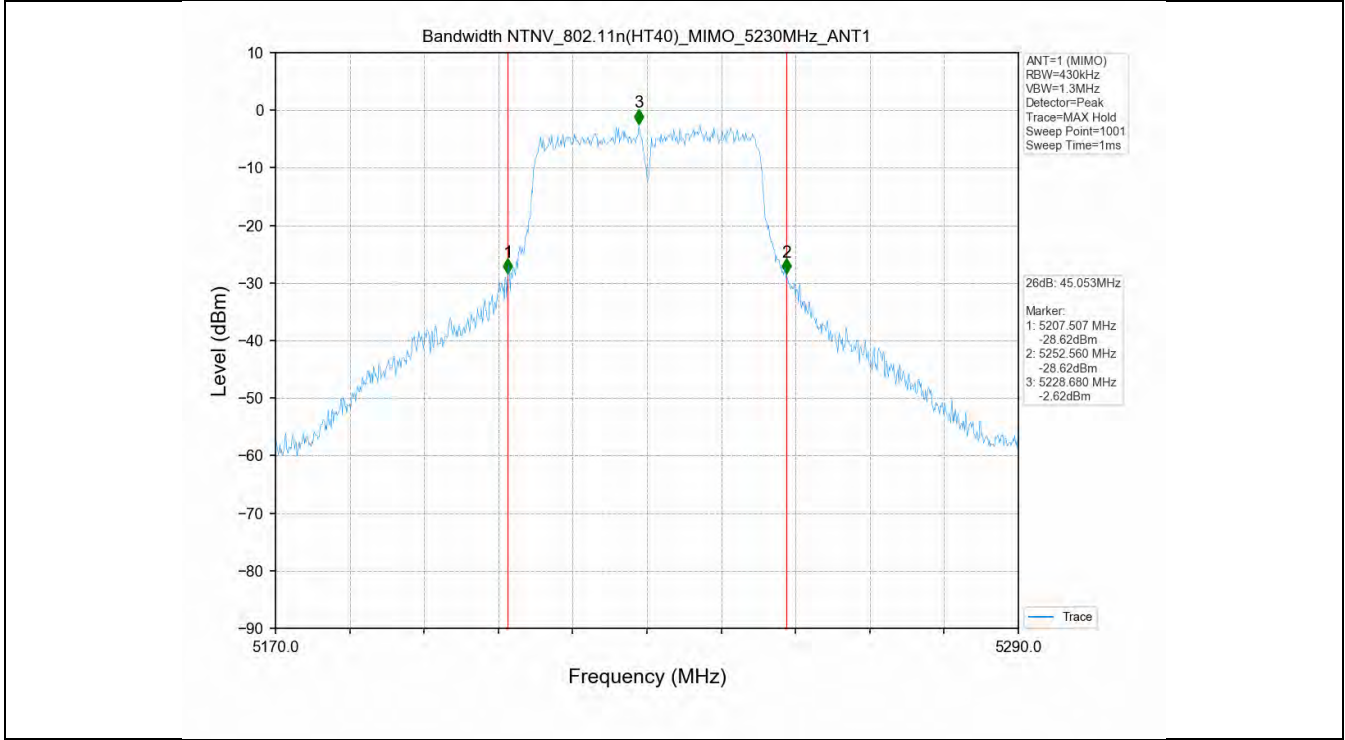


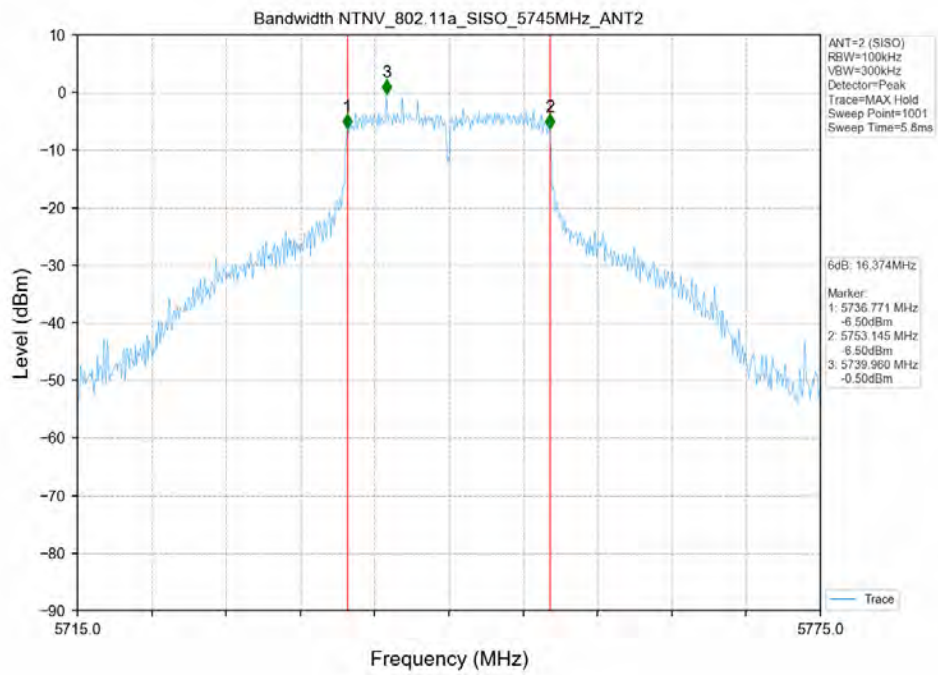
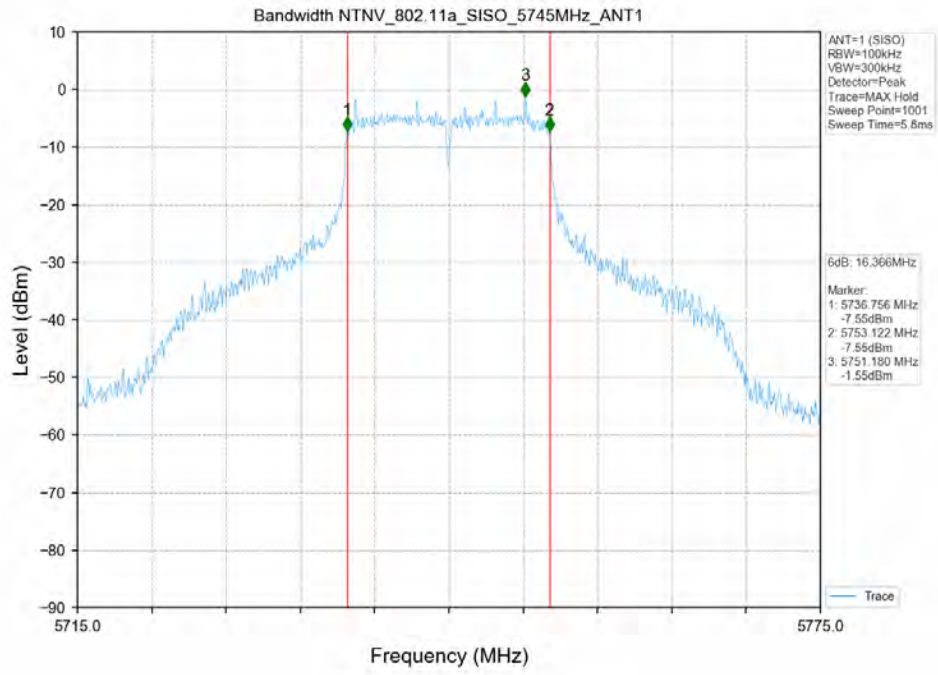


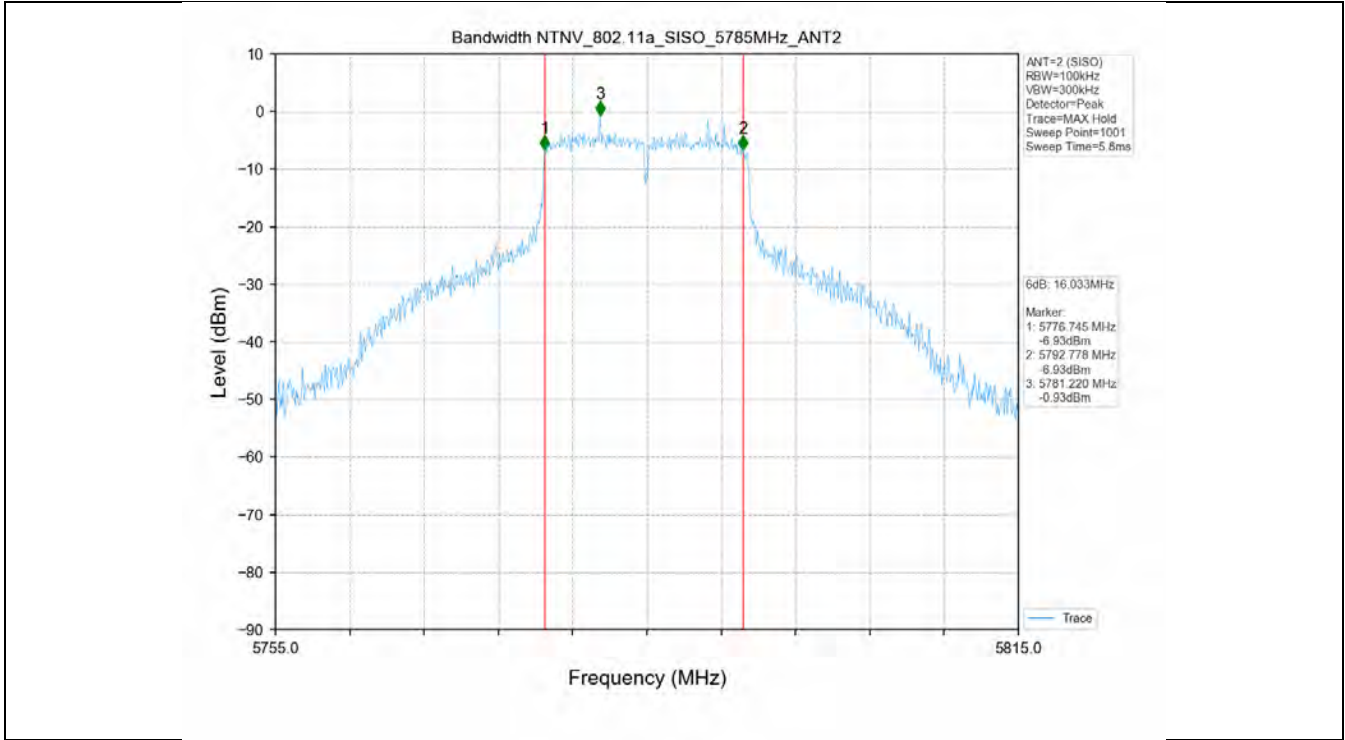
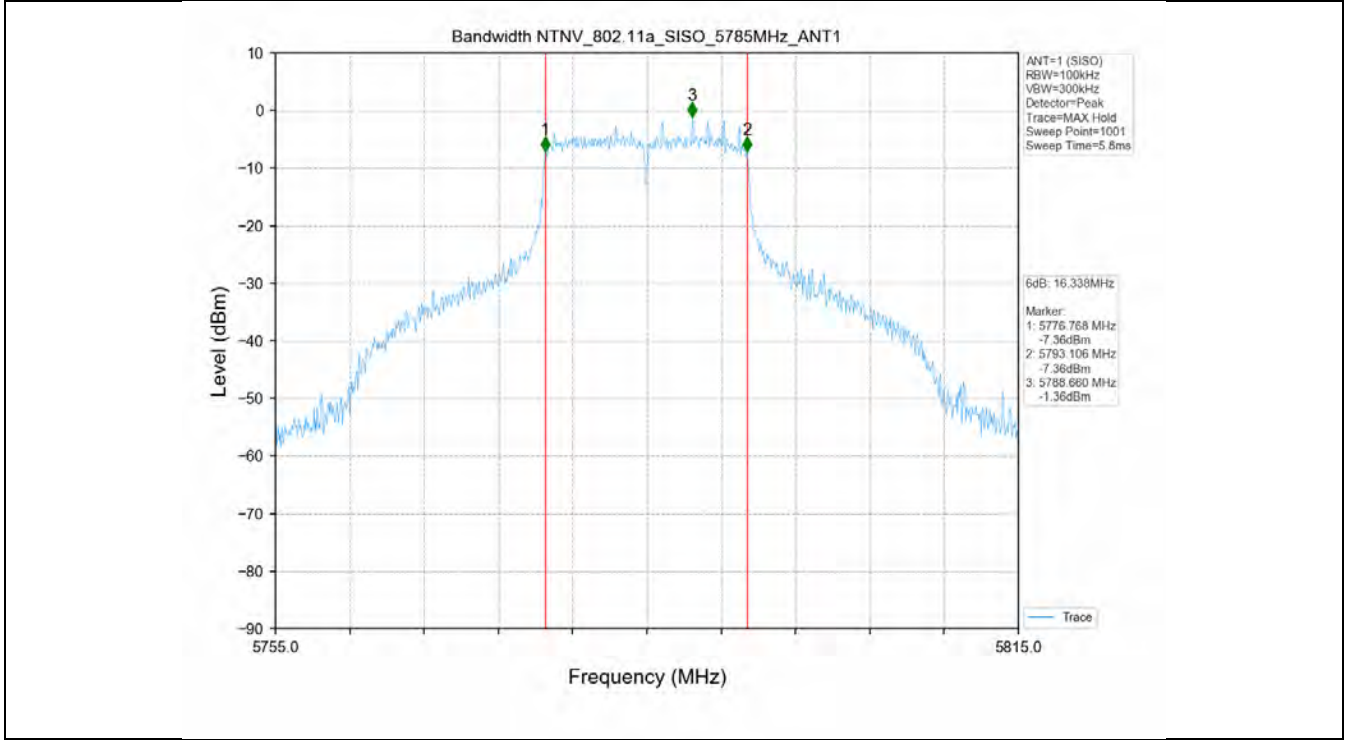


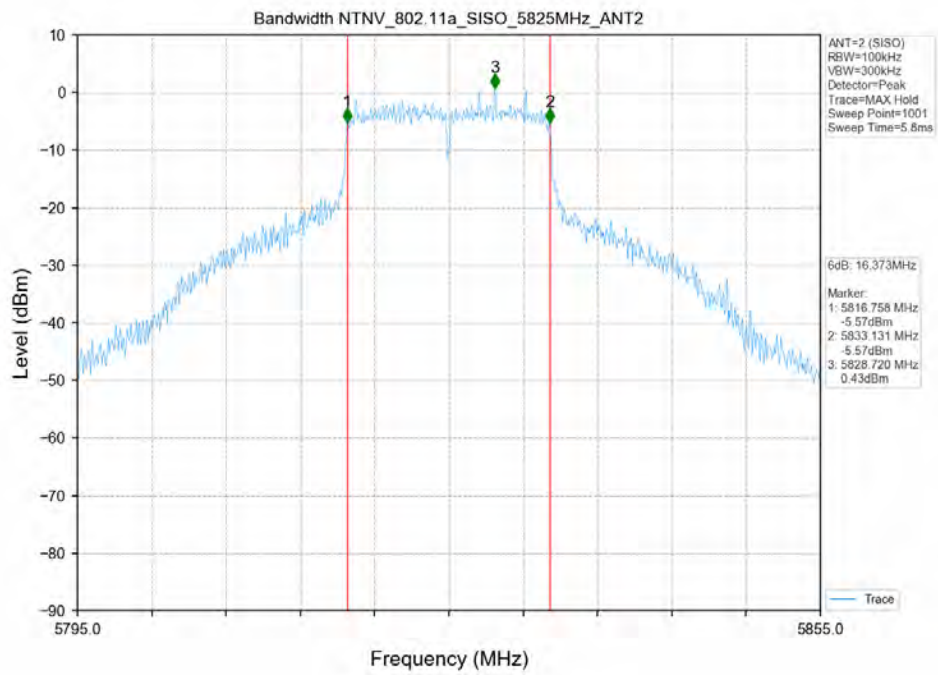
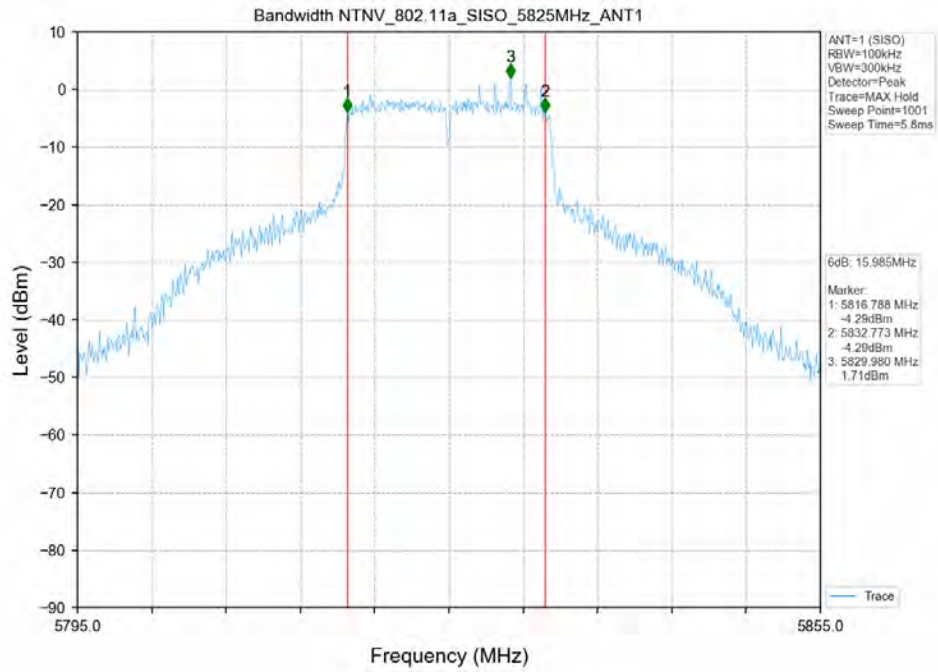


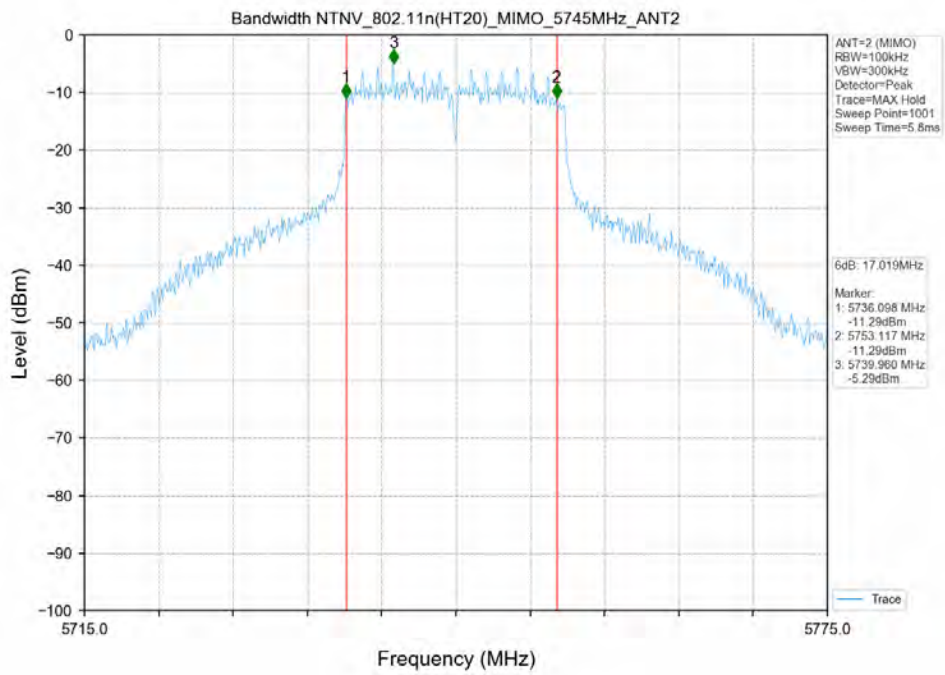
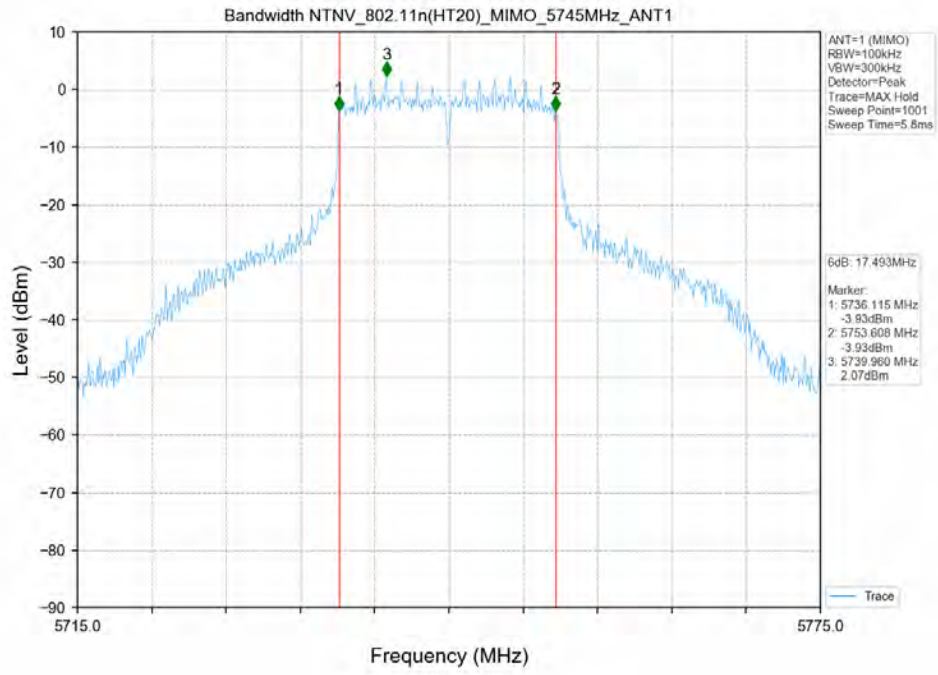


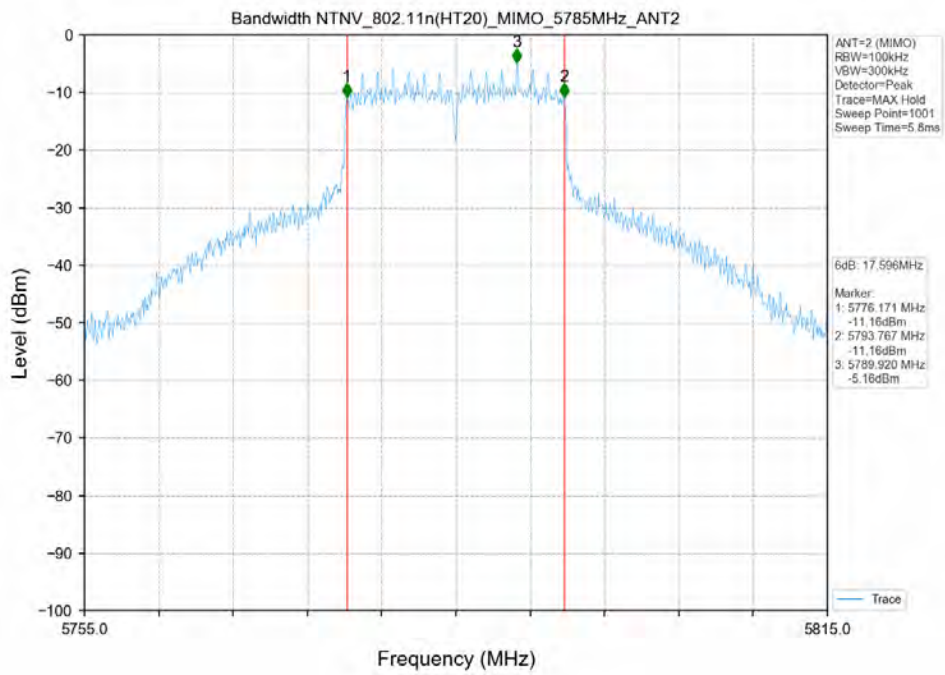
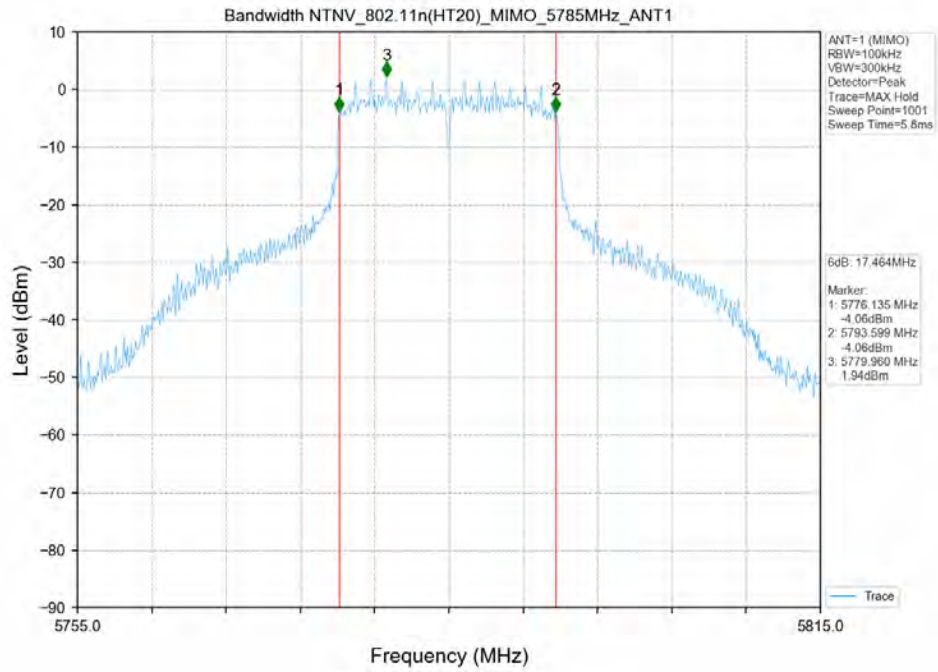


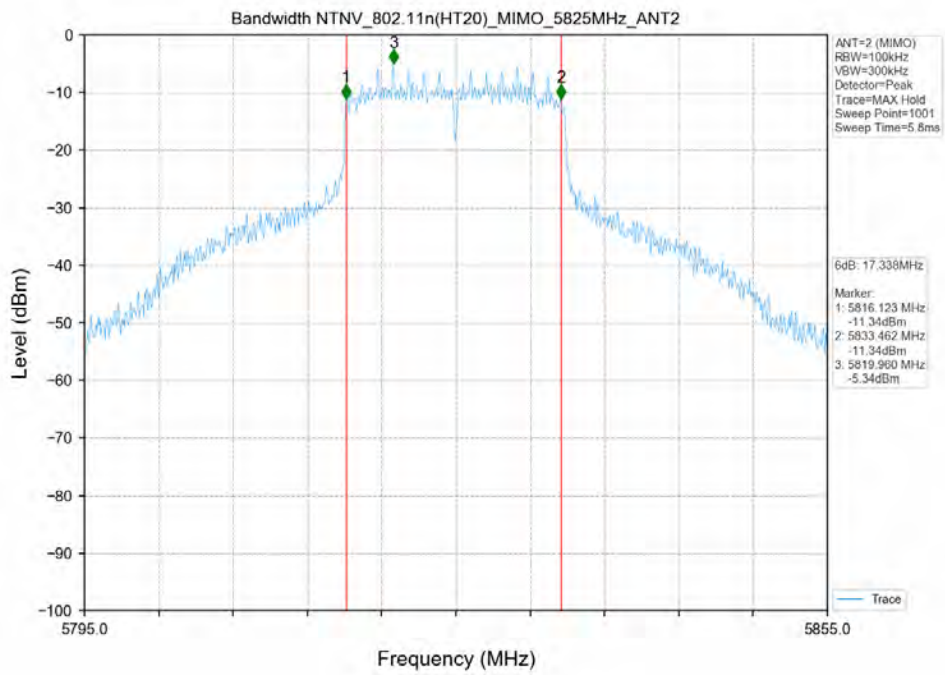
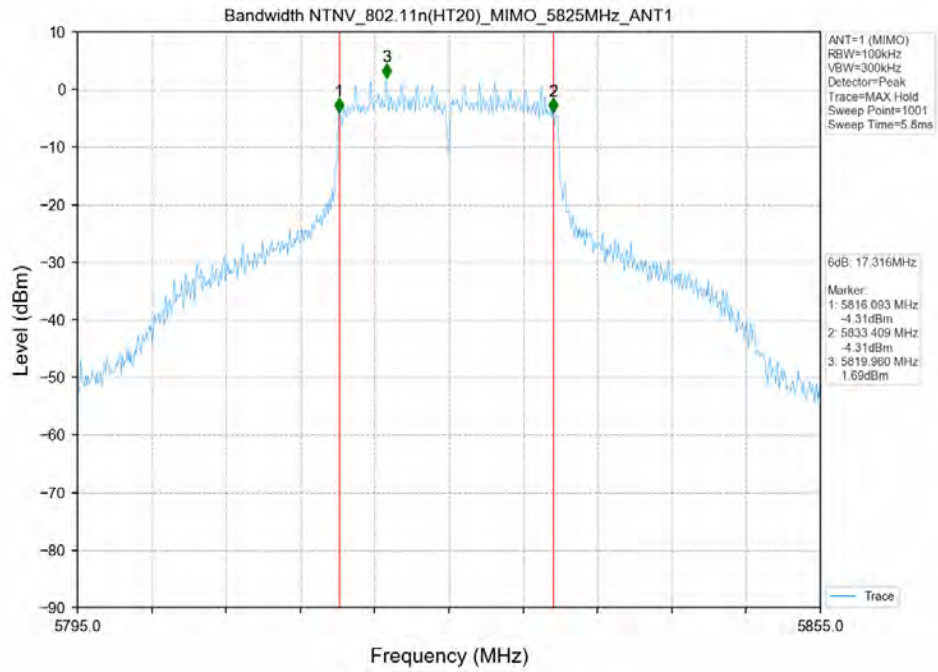


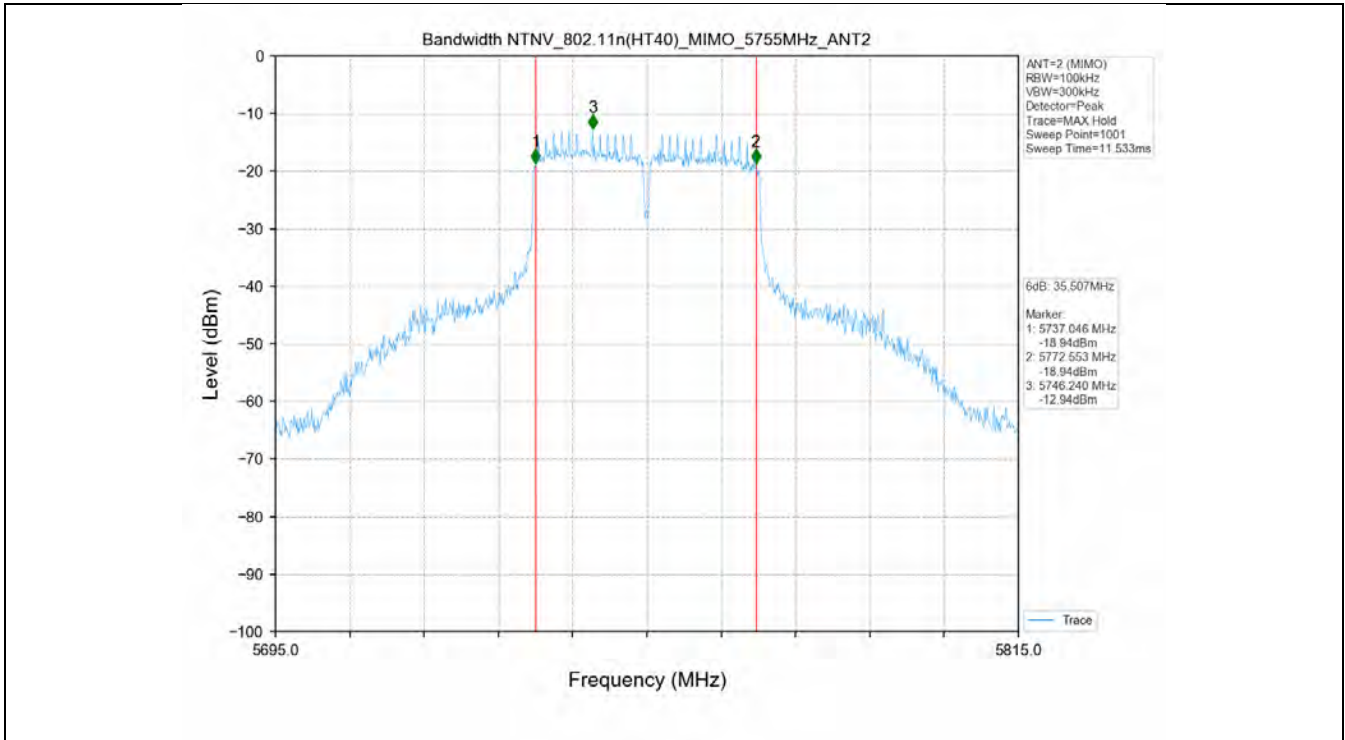
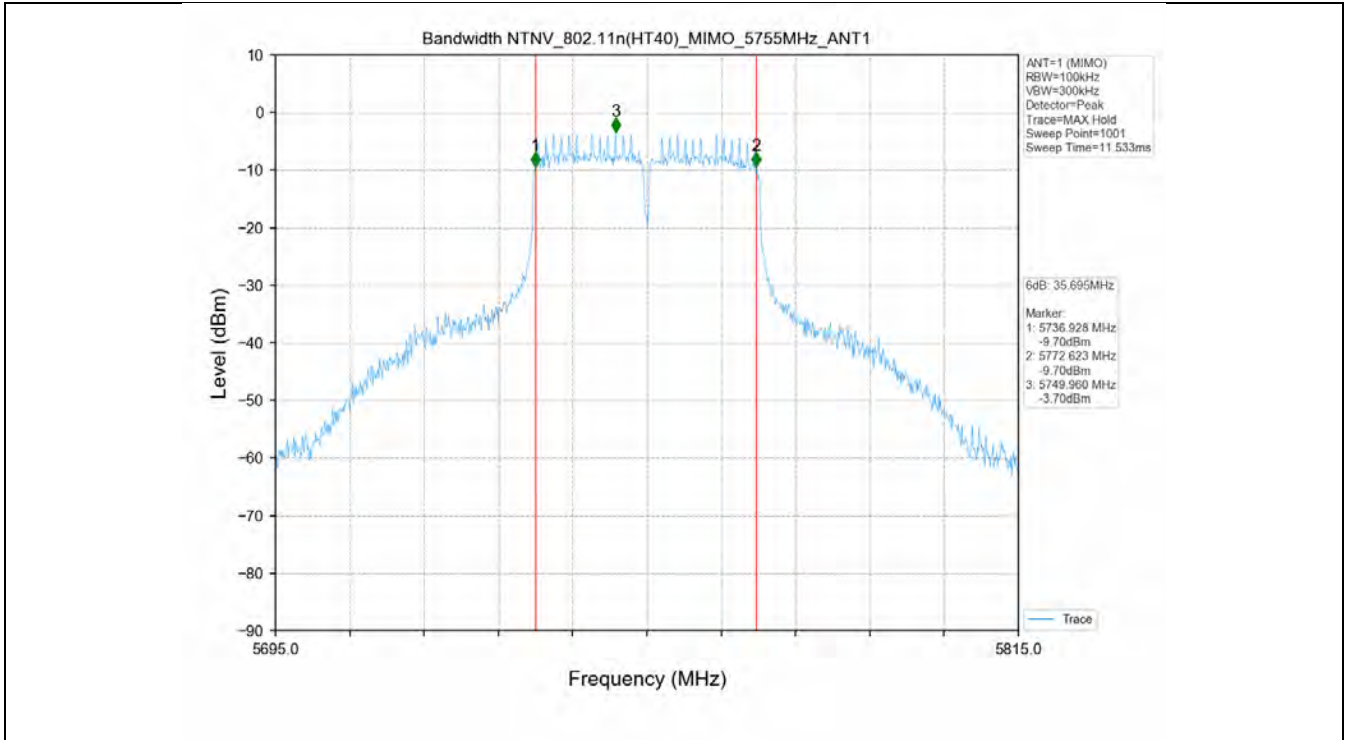


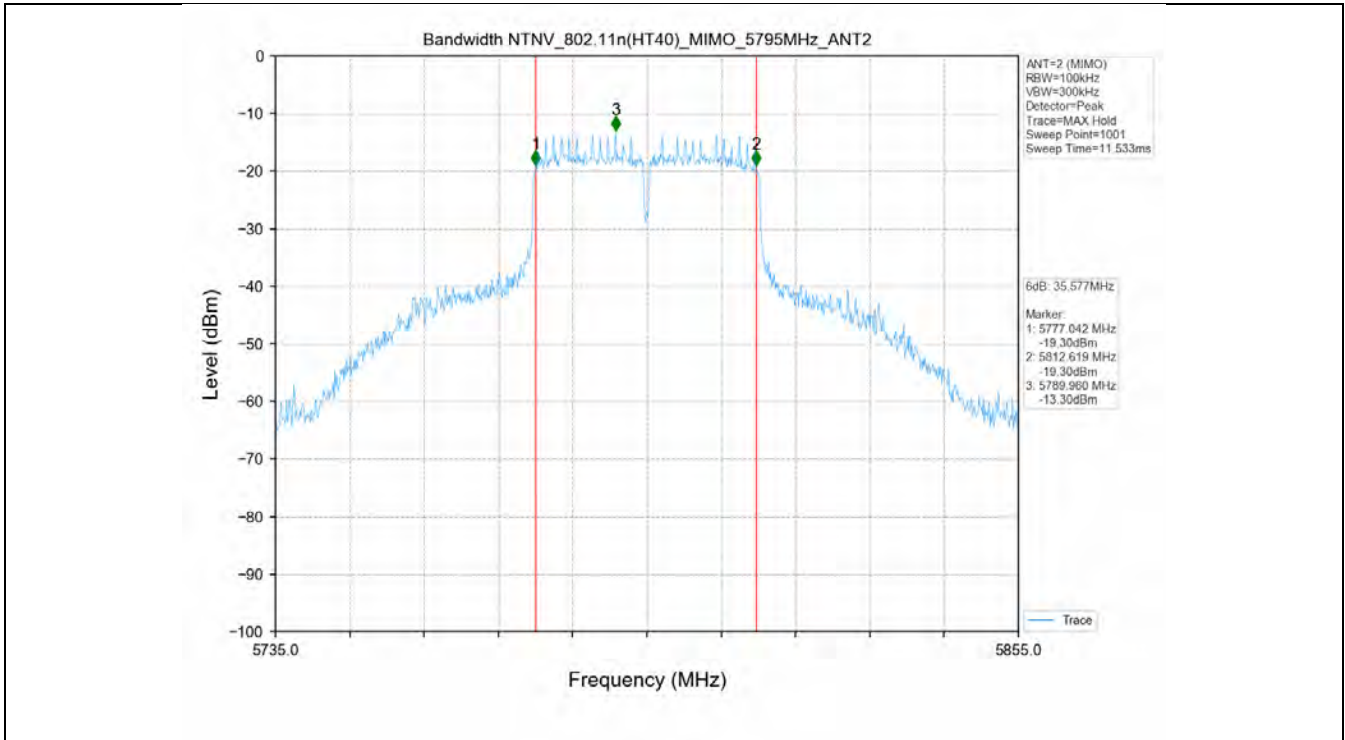
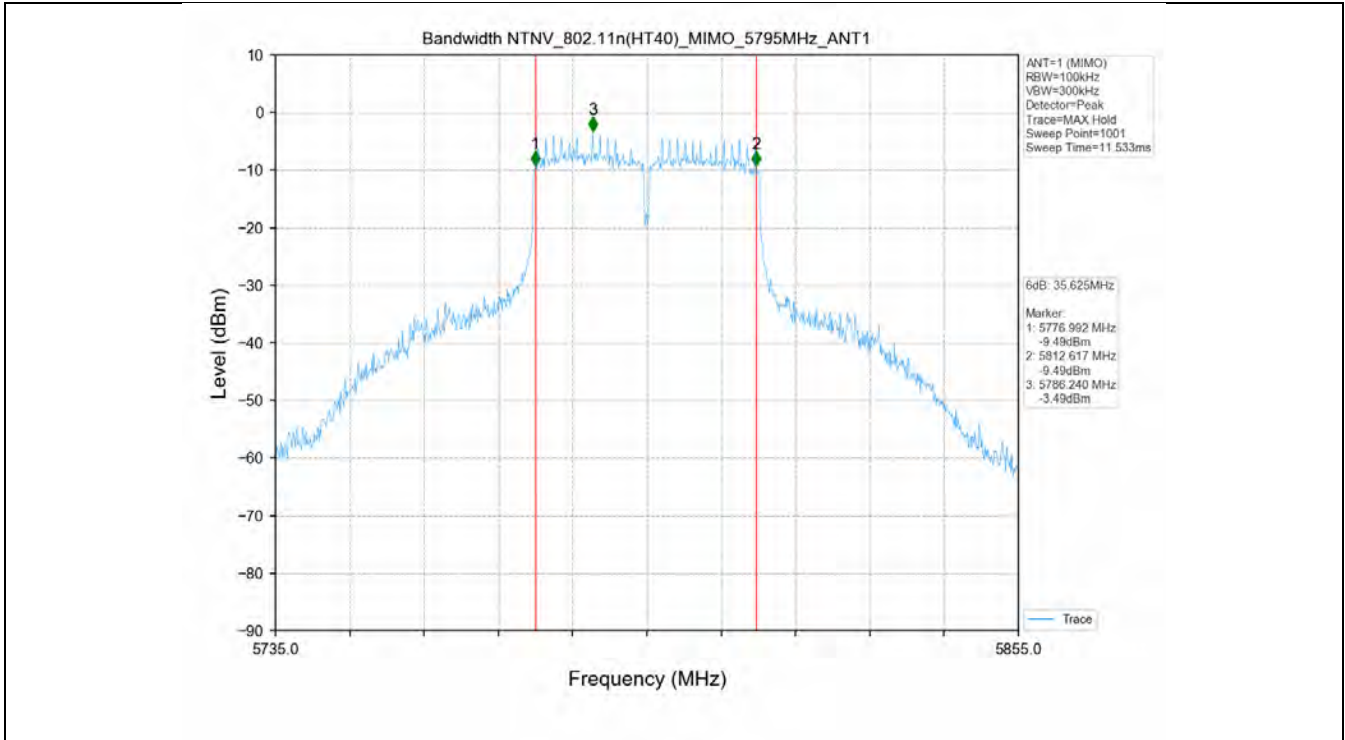




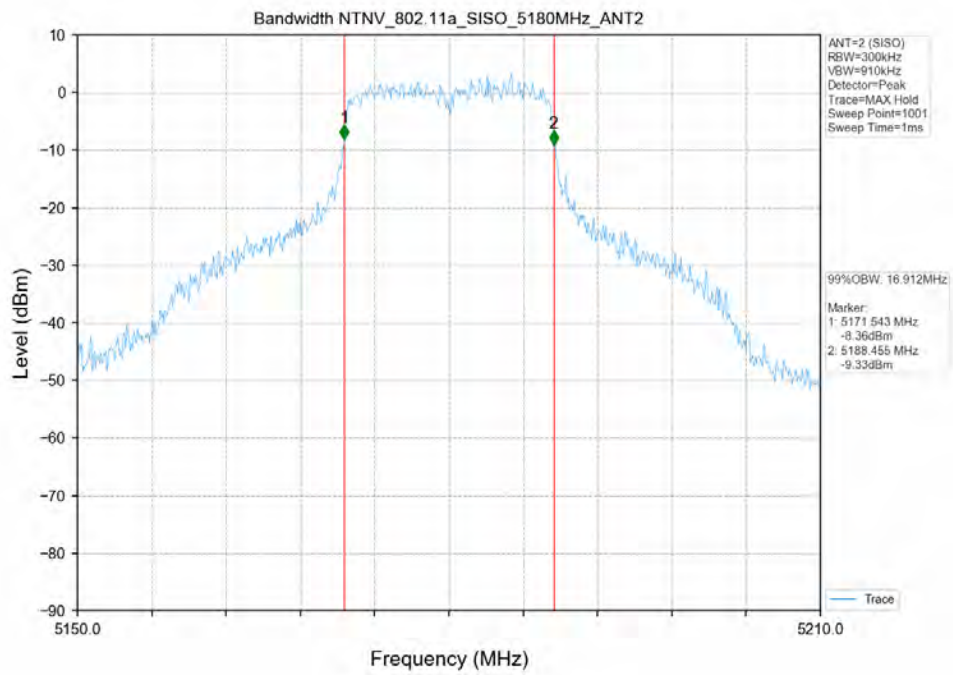
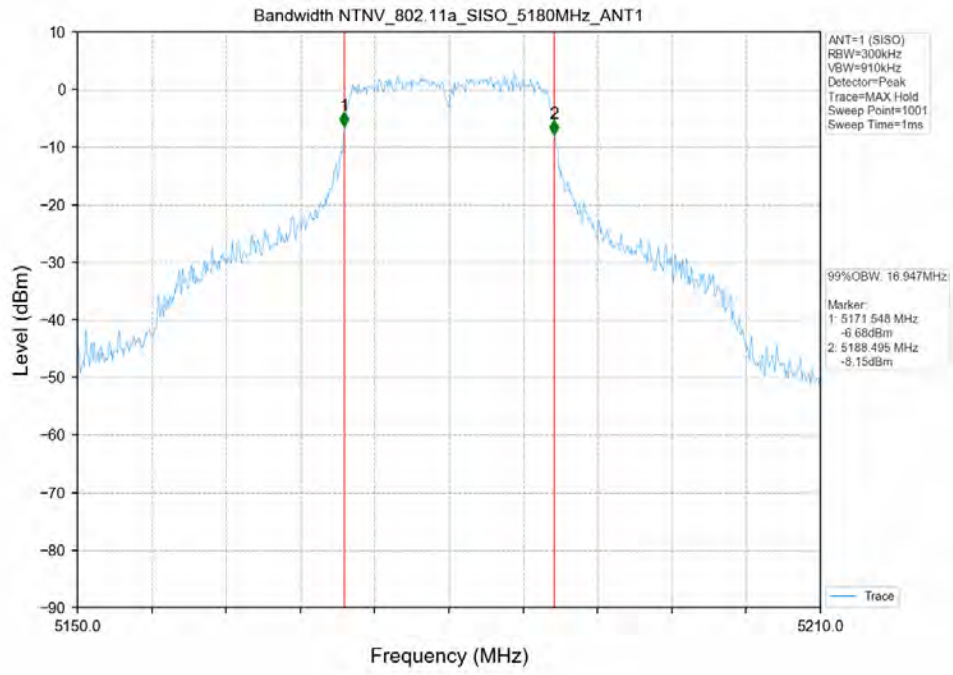


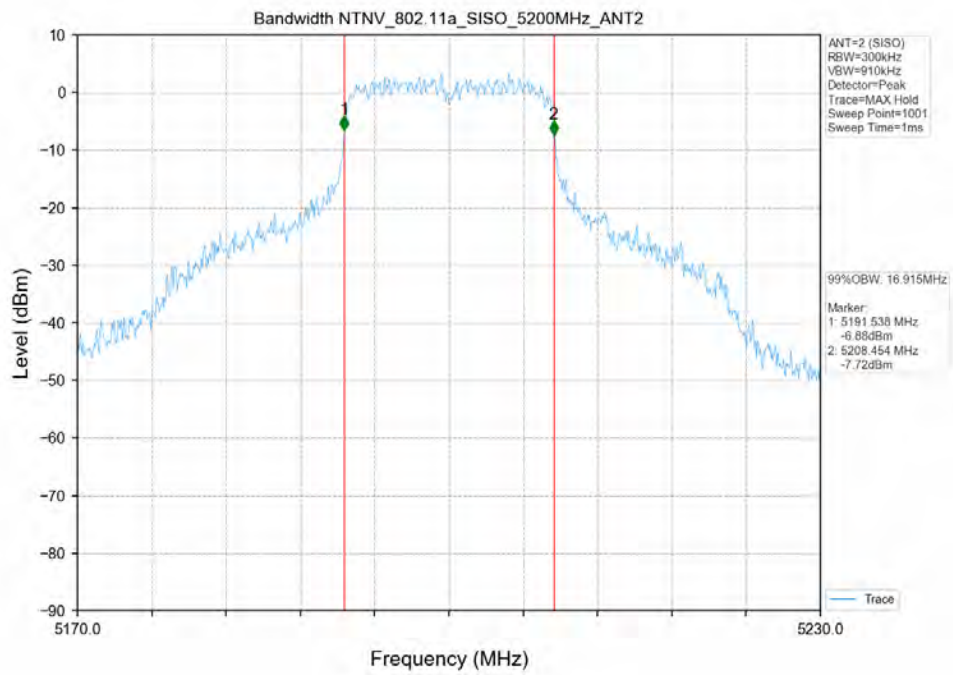
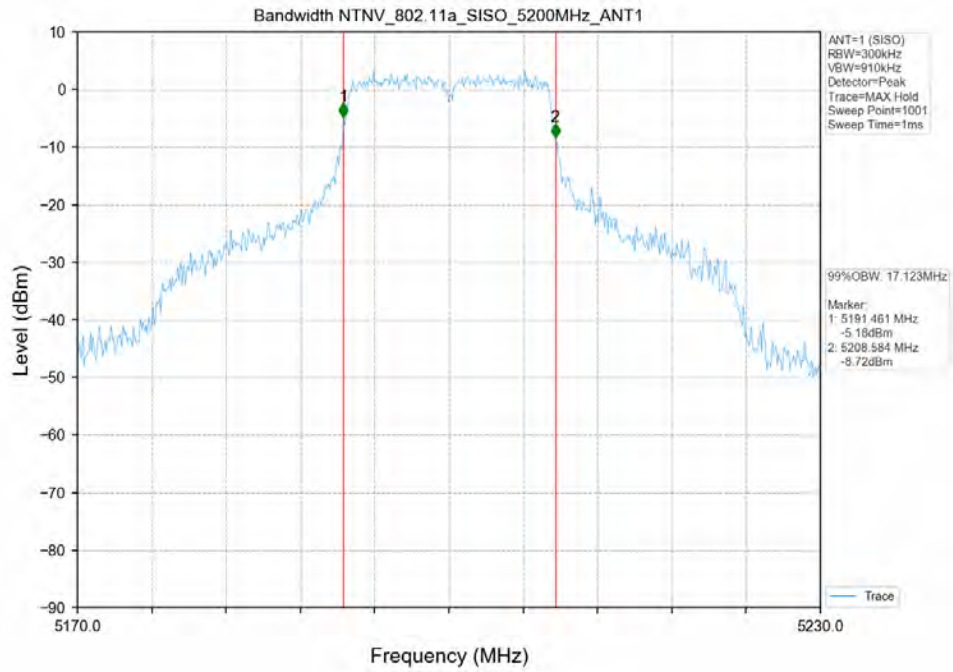


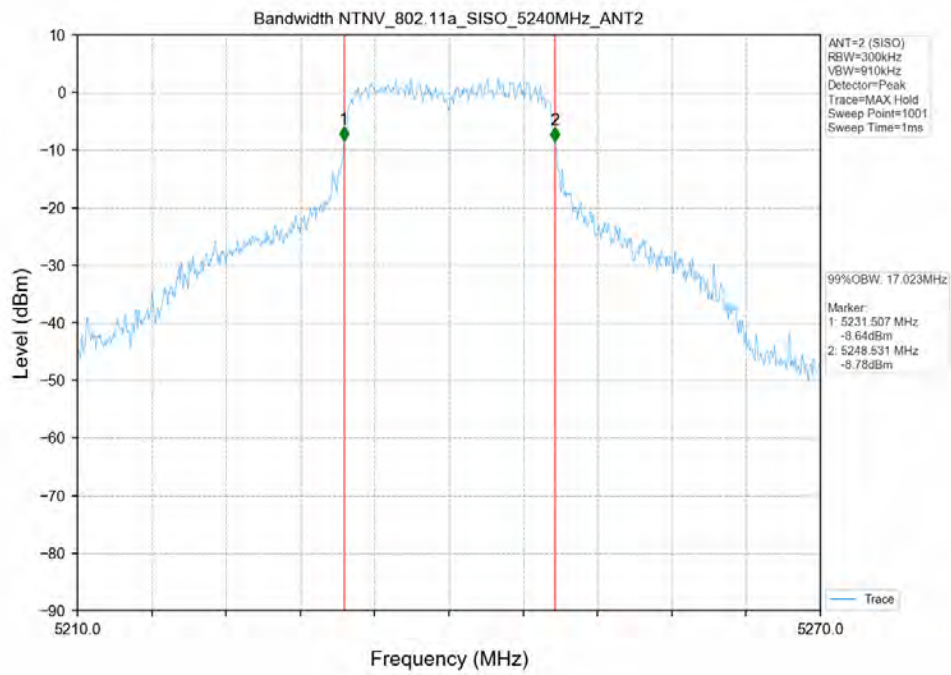
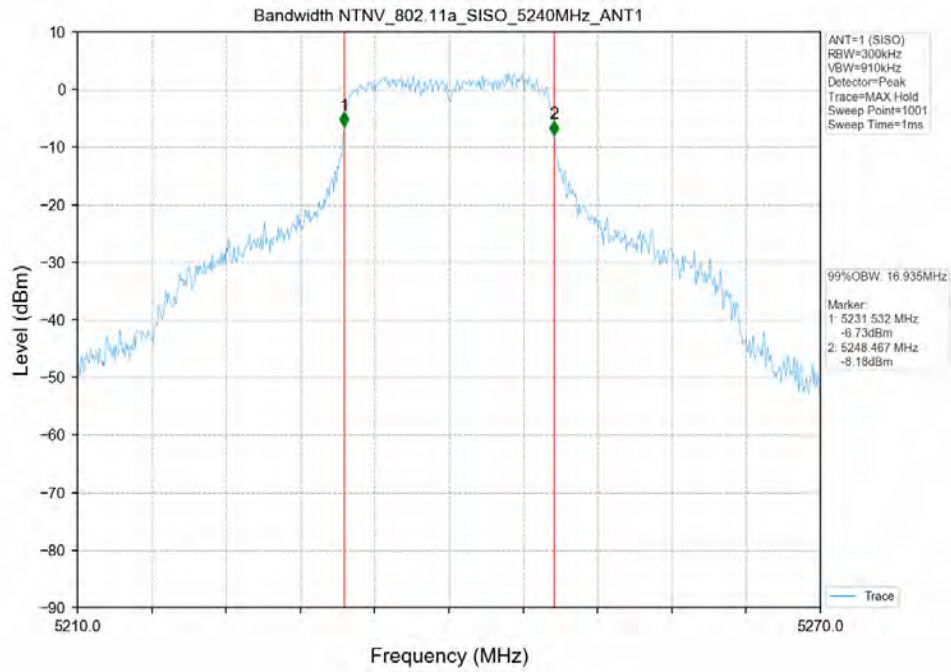


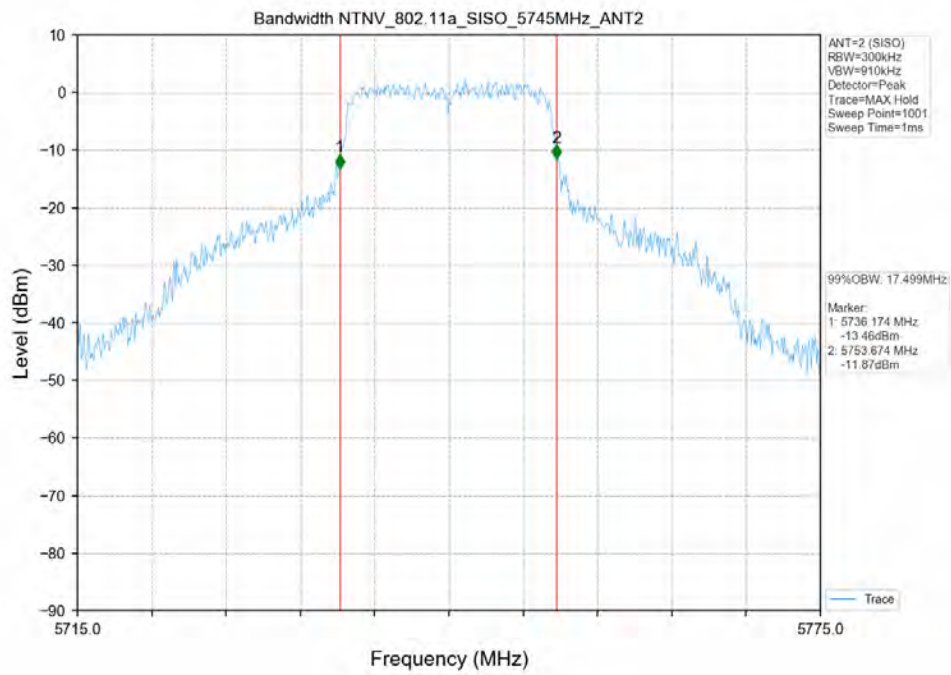
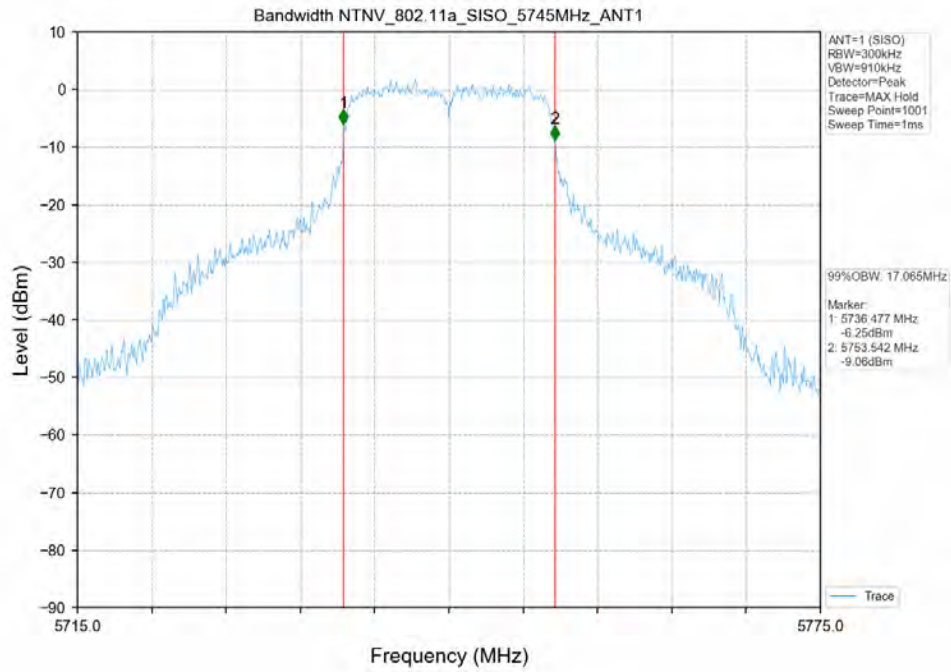


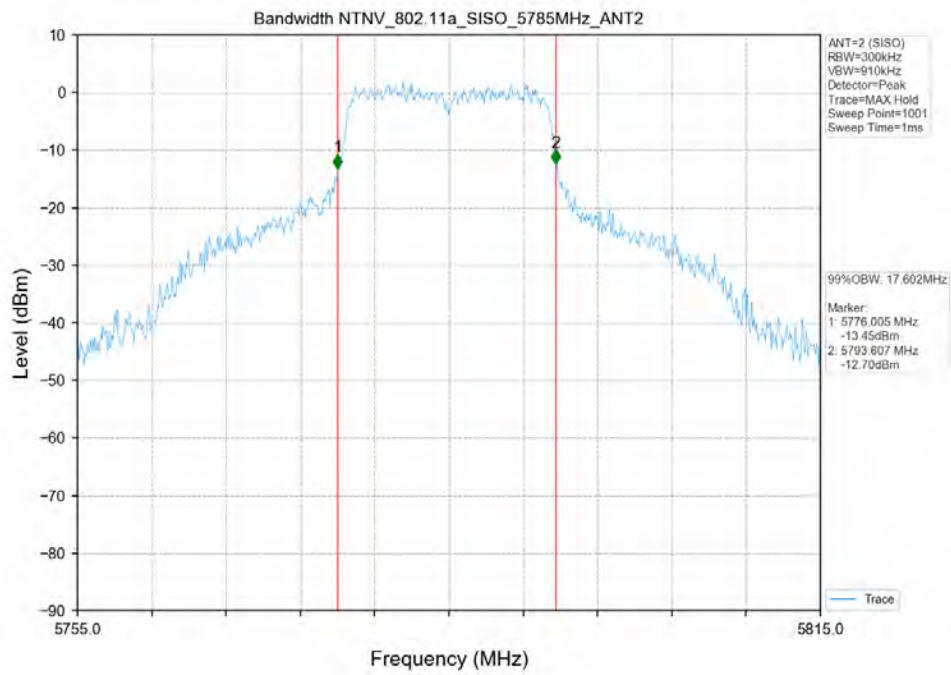
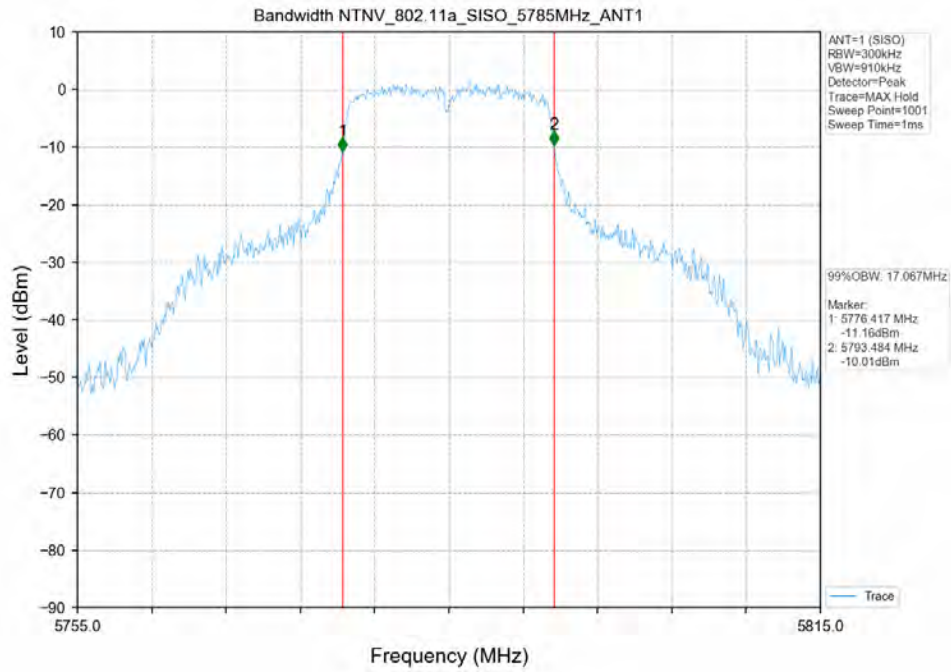
2.3 Test Graph - 99% Occupied Bandwidth

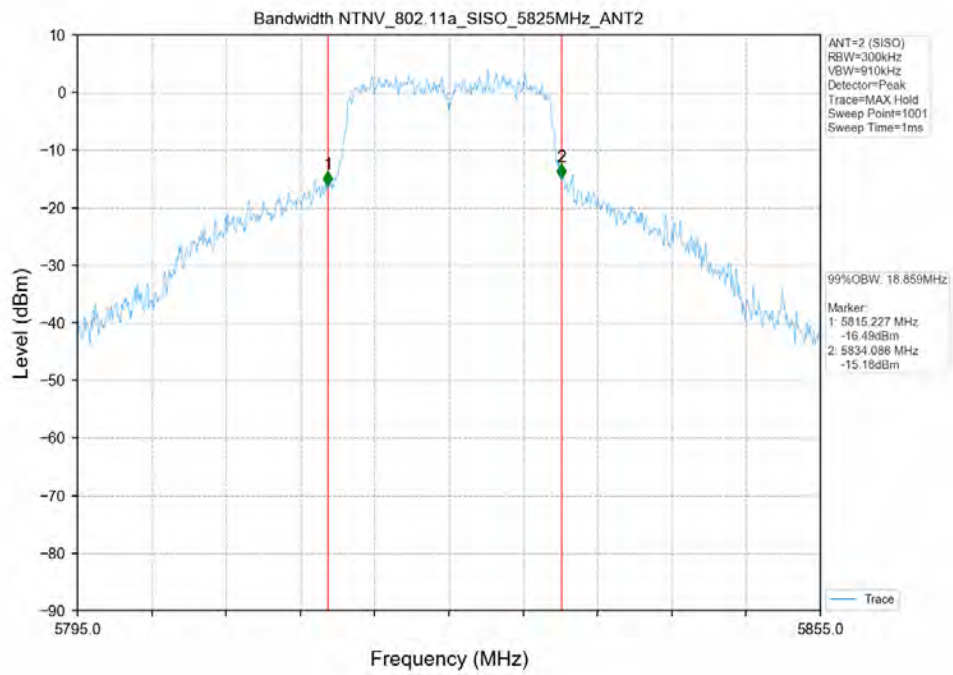
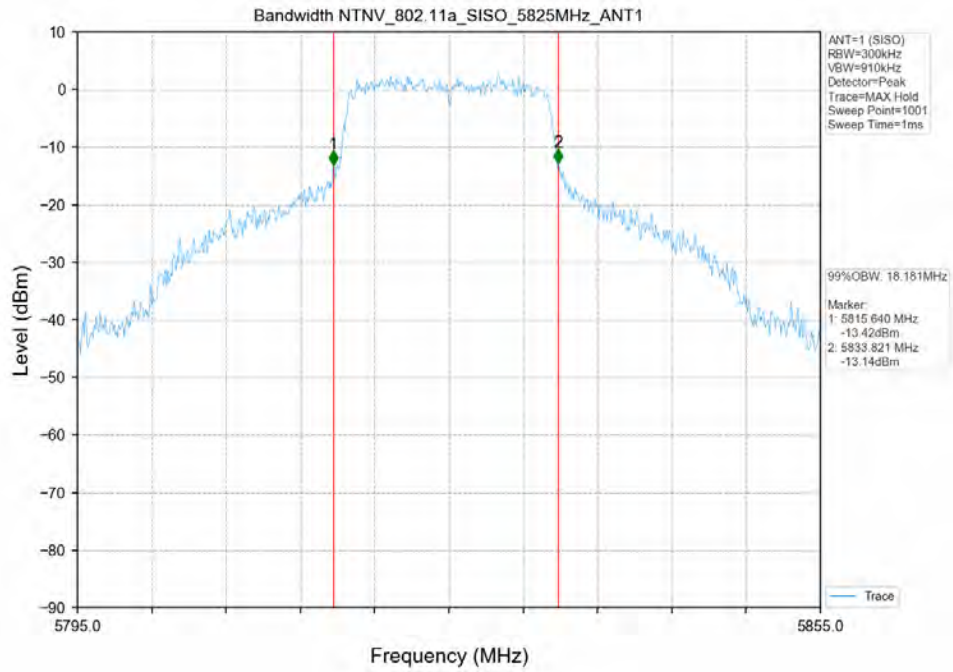


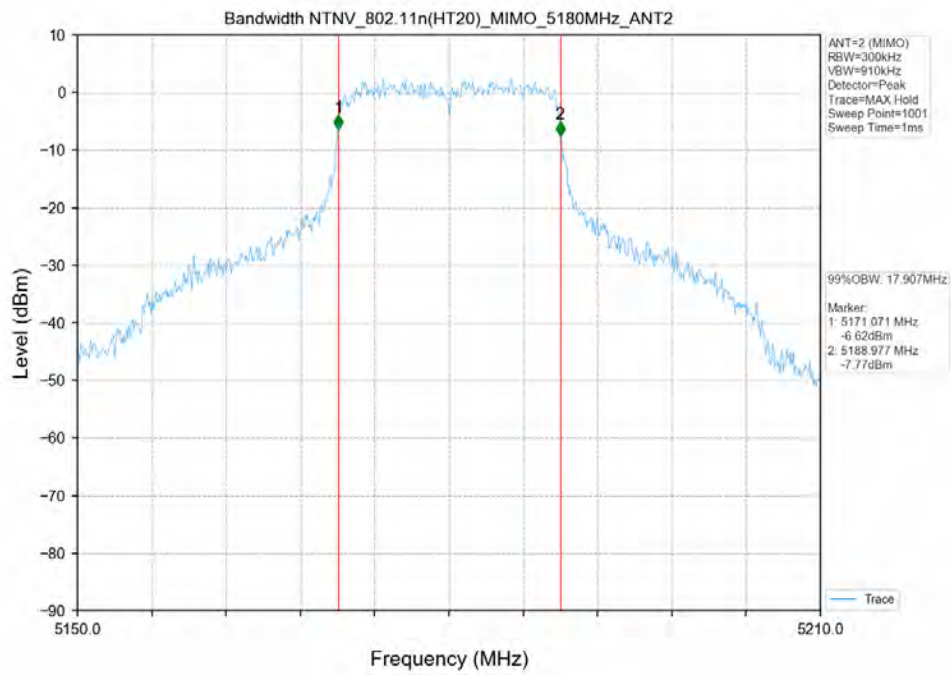
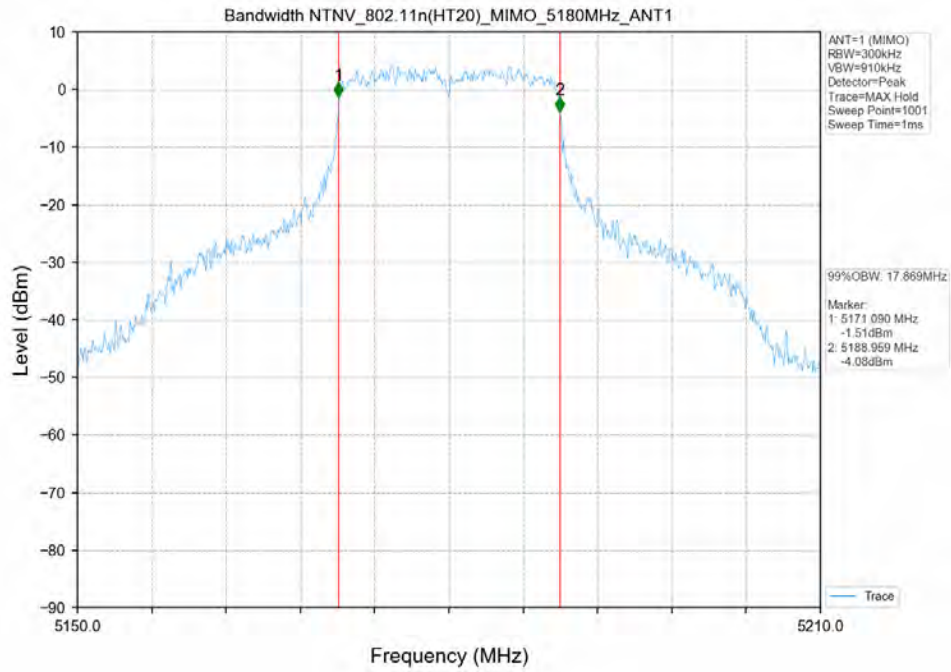


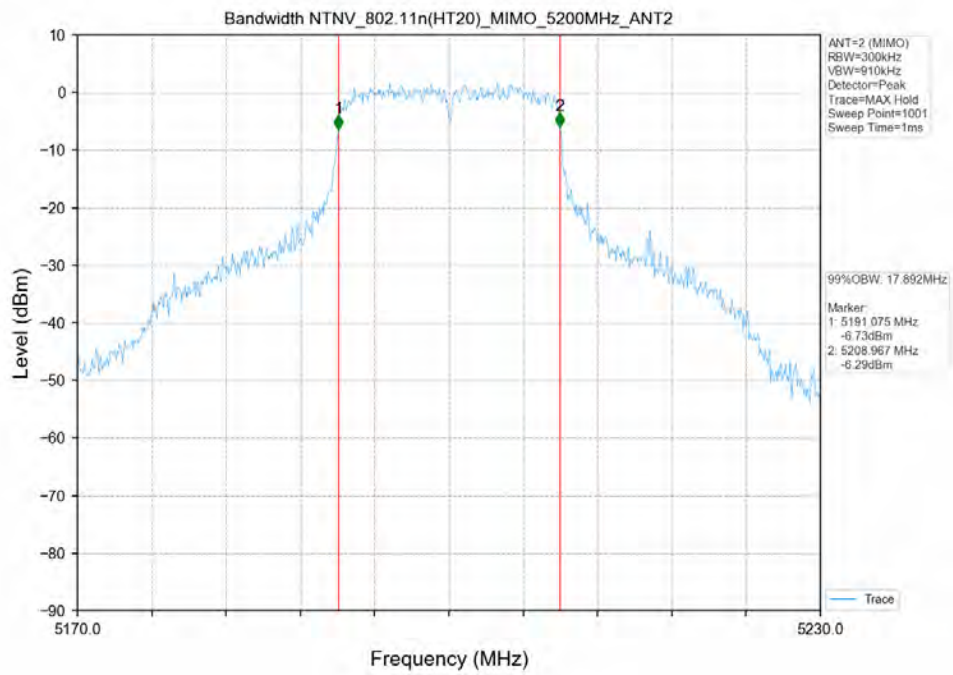
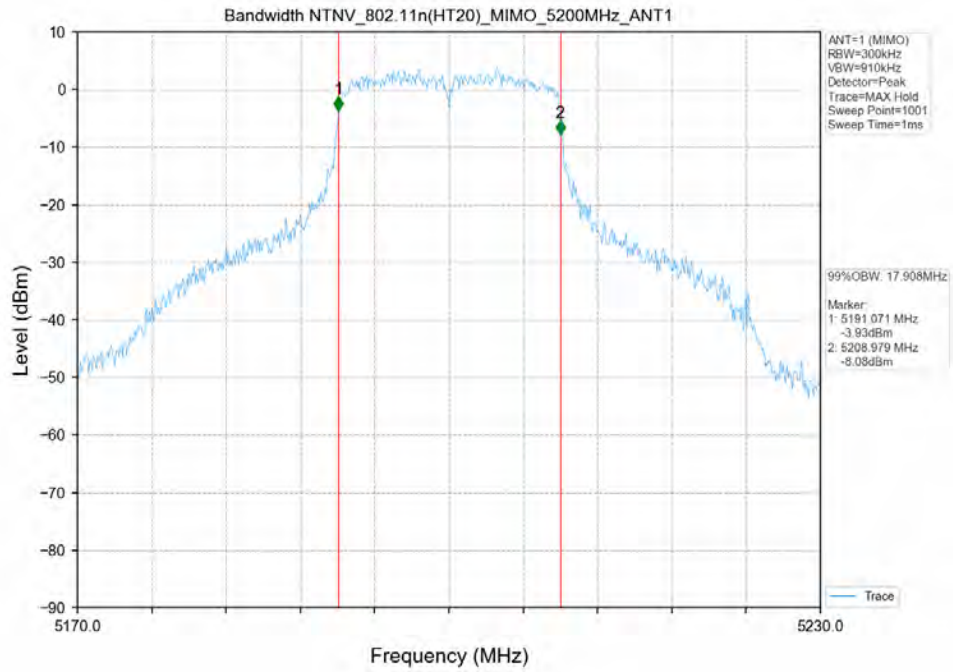


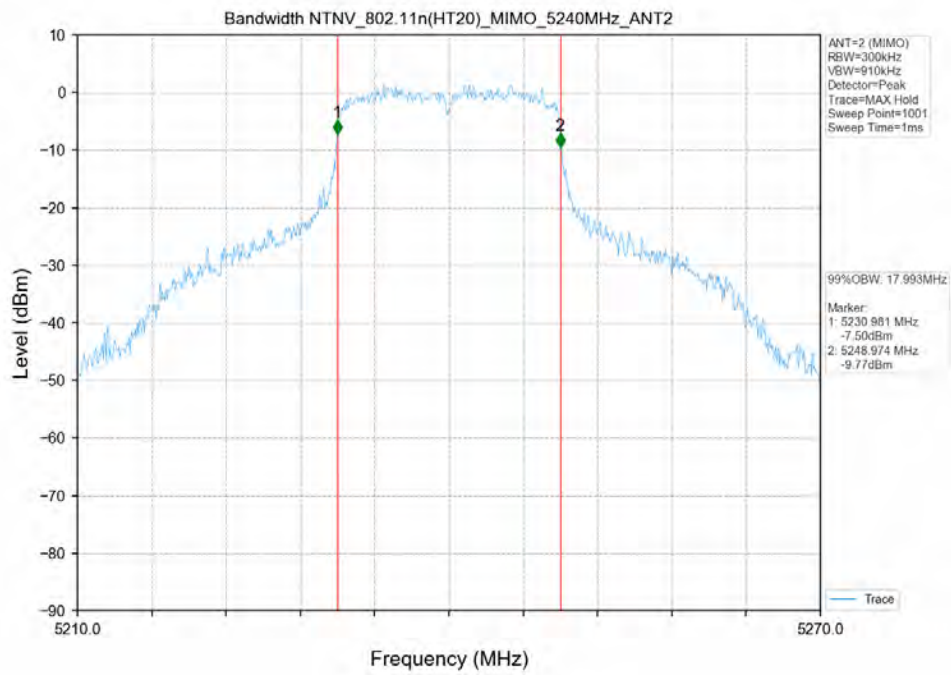
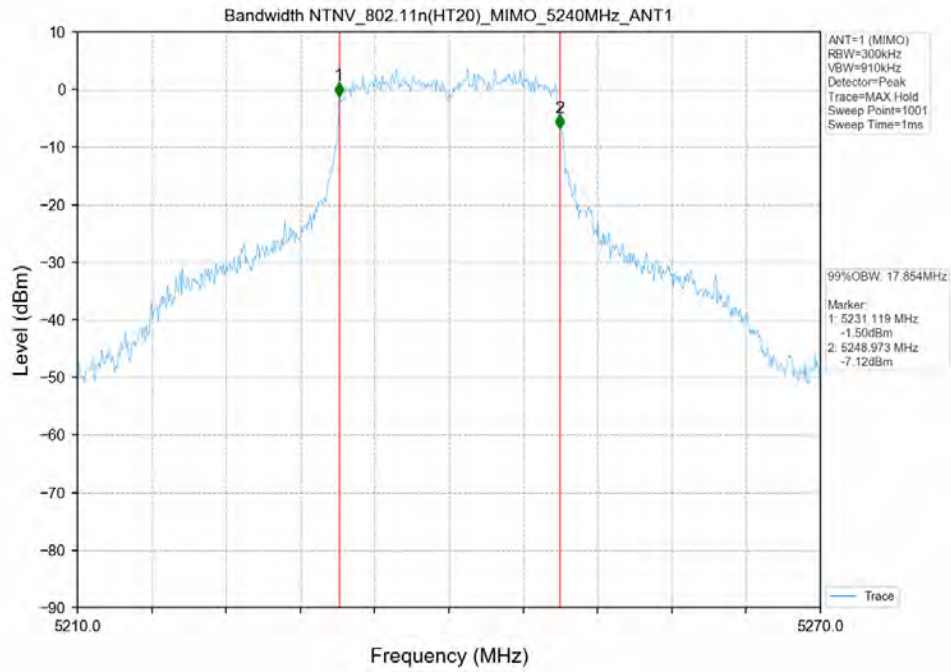


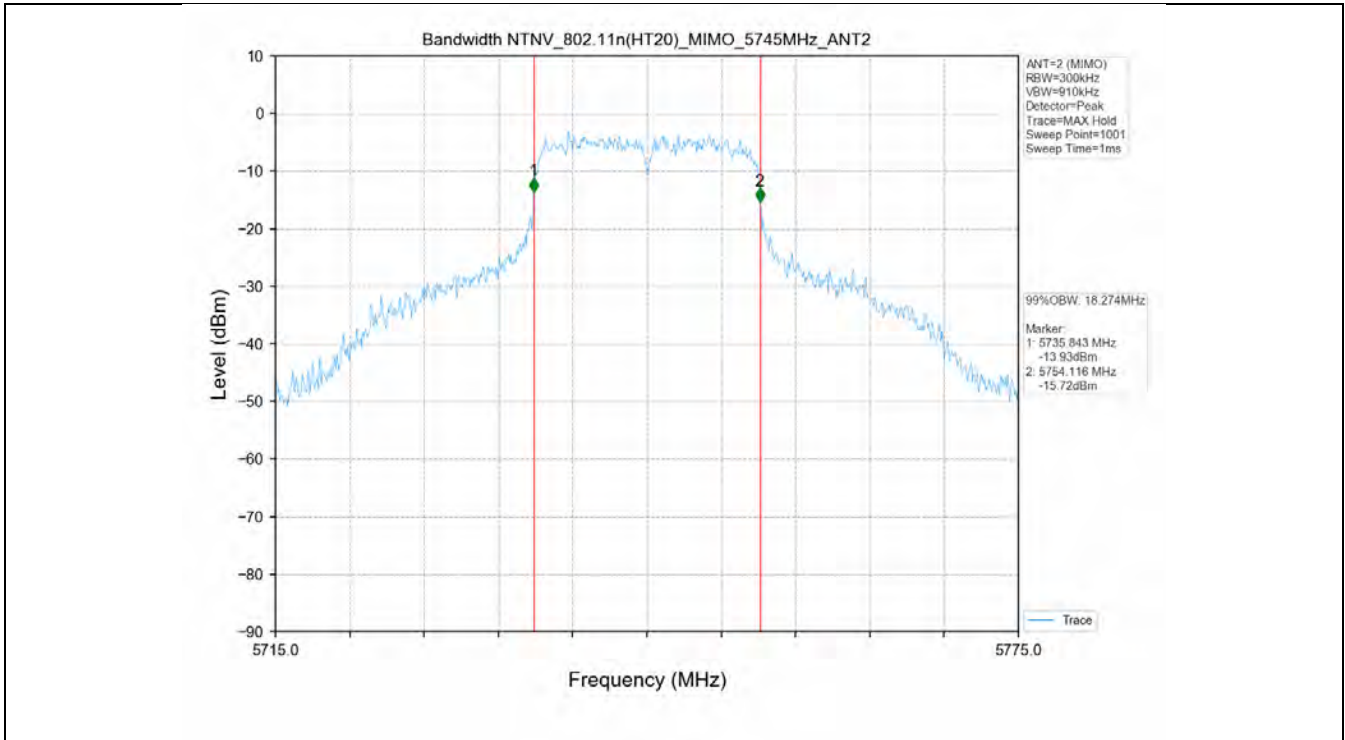
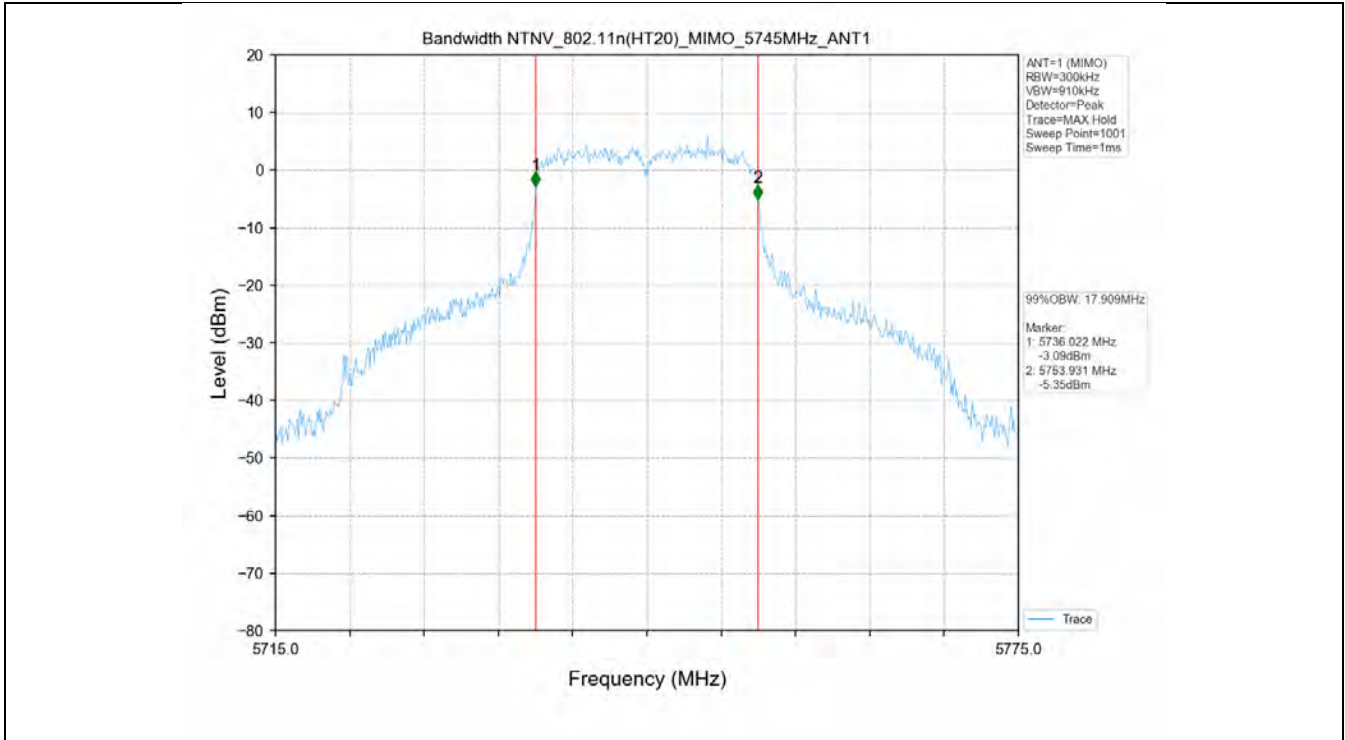


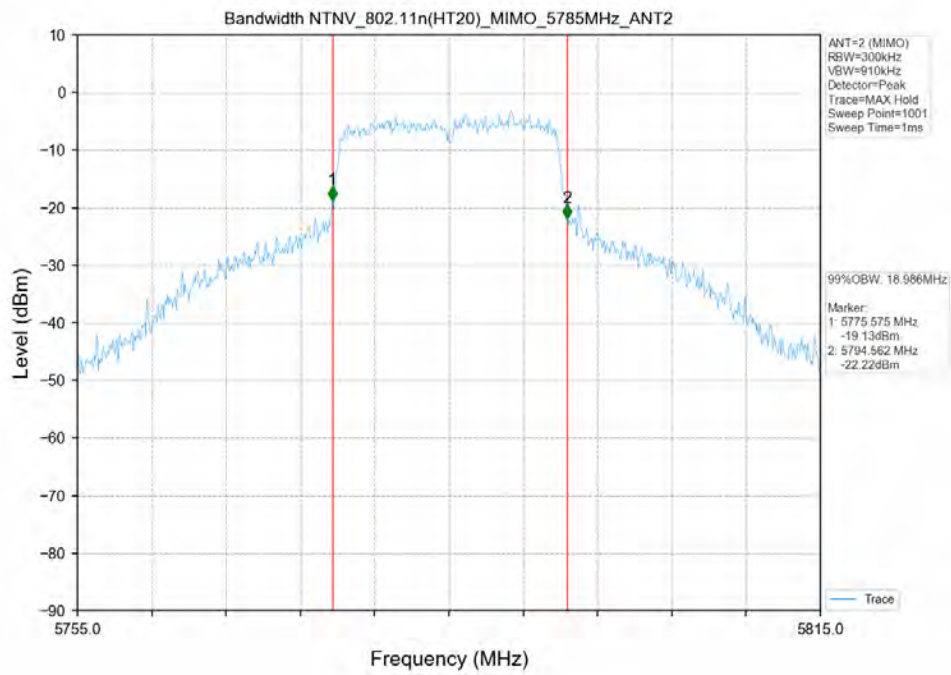
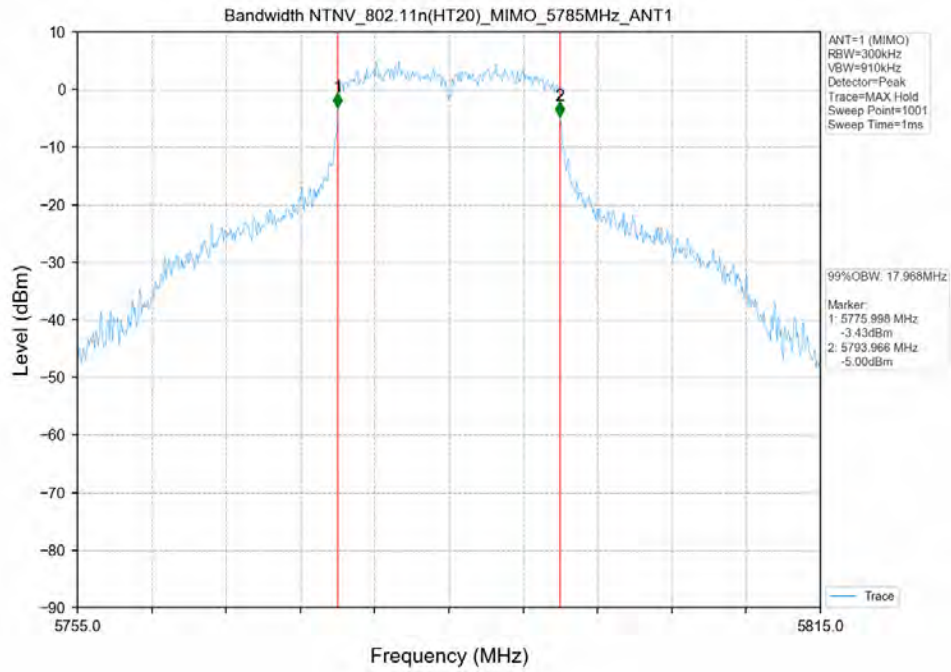


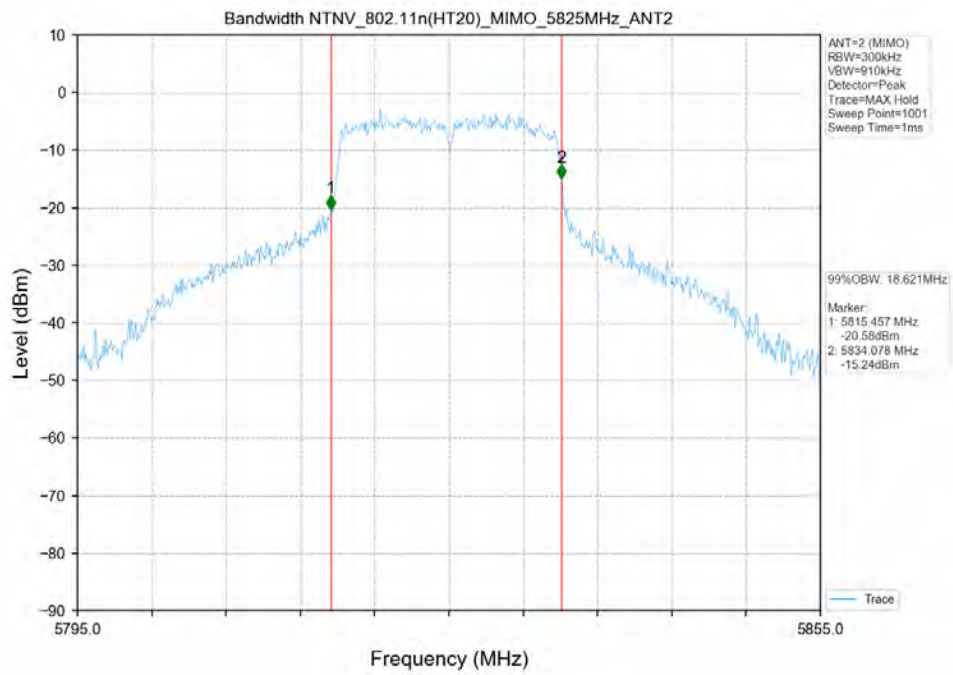
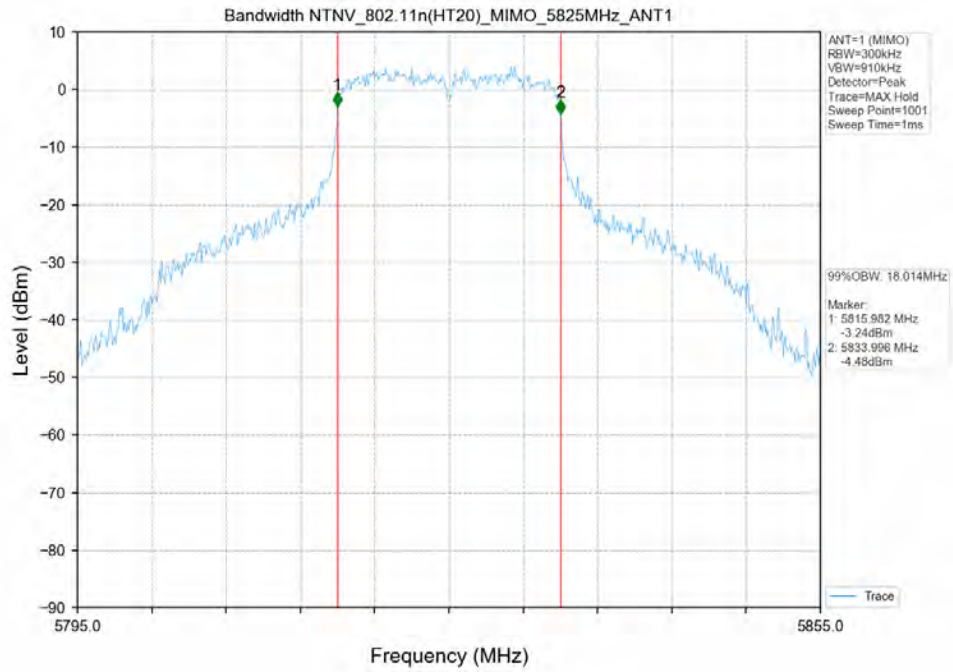


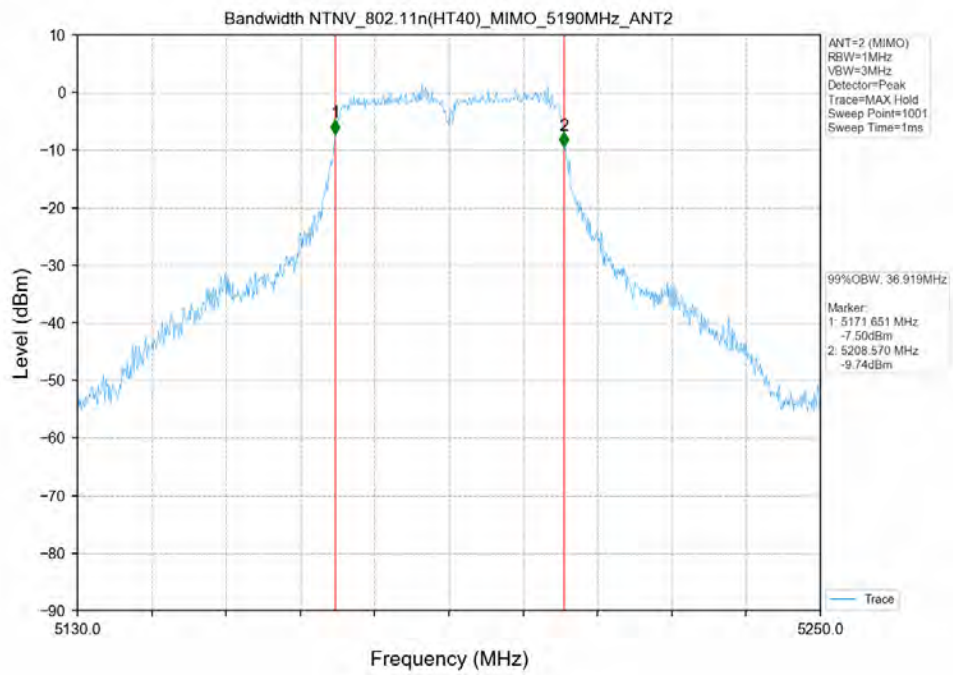
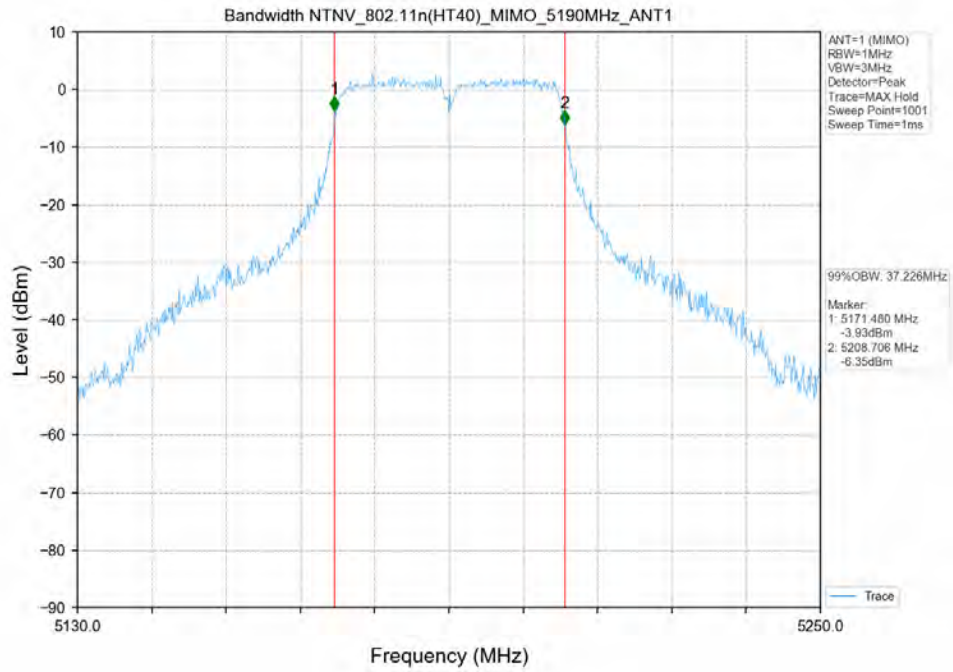


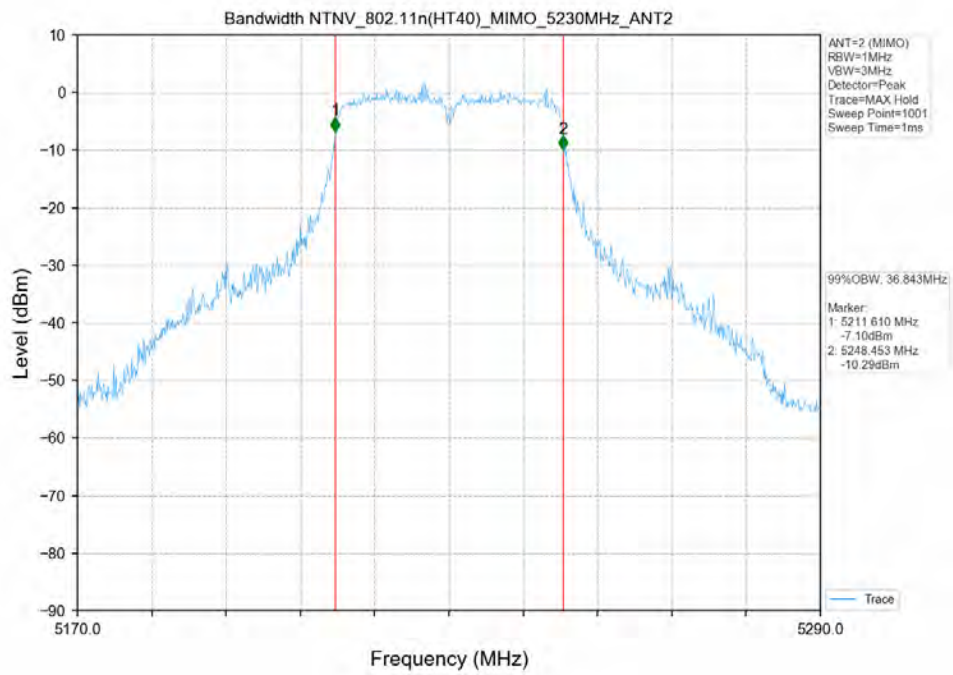
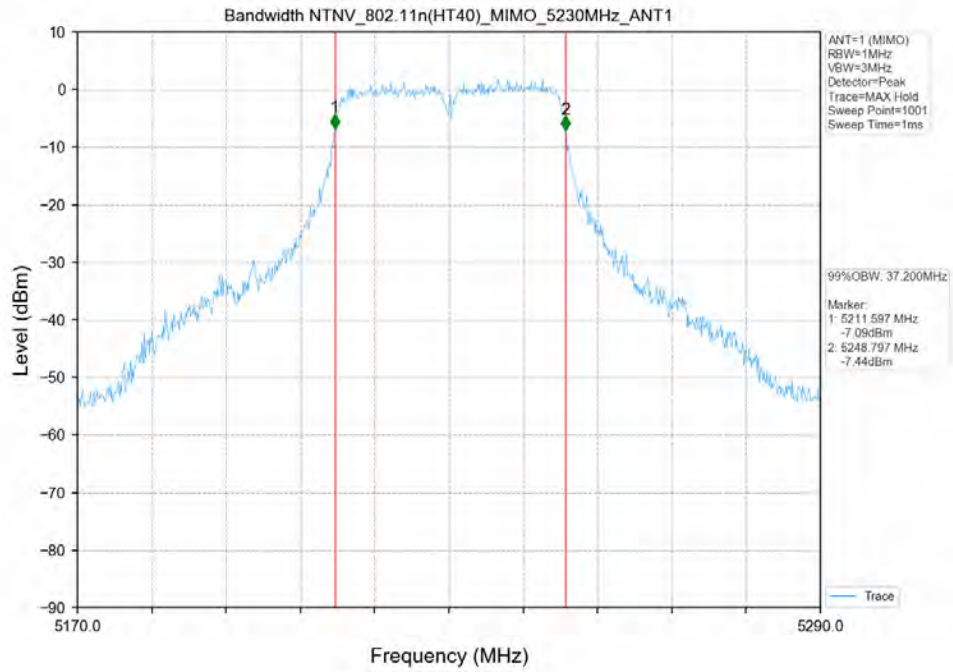


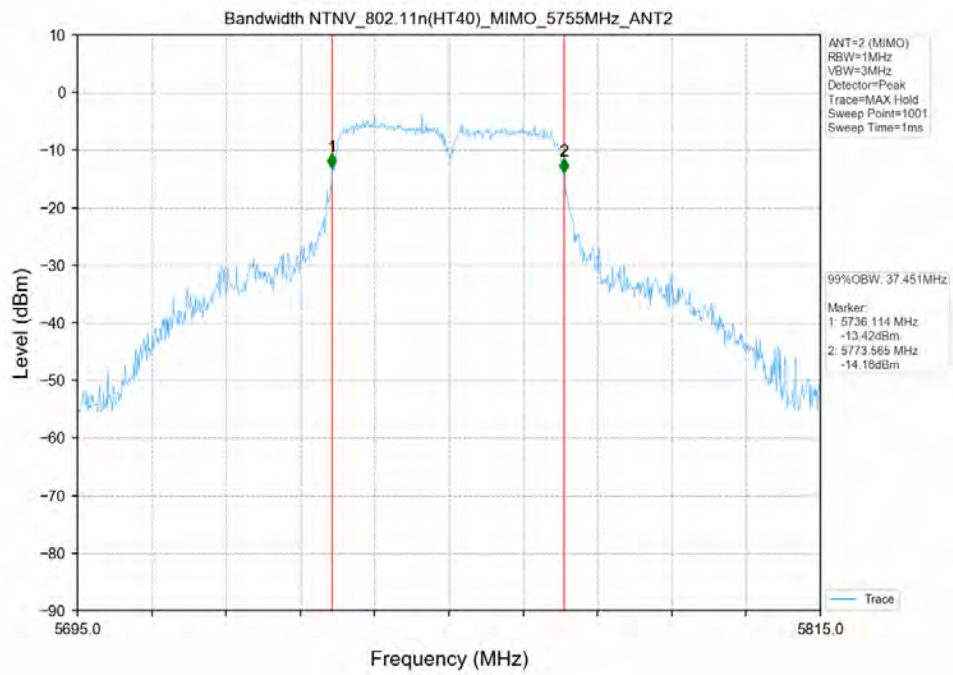
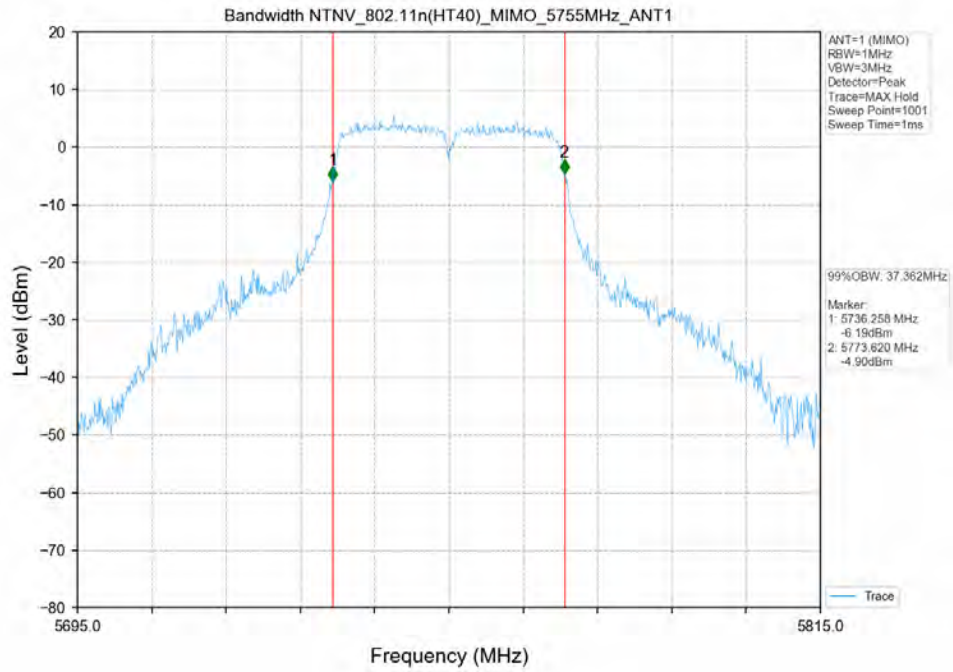


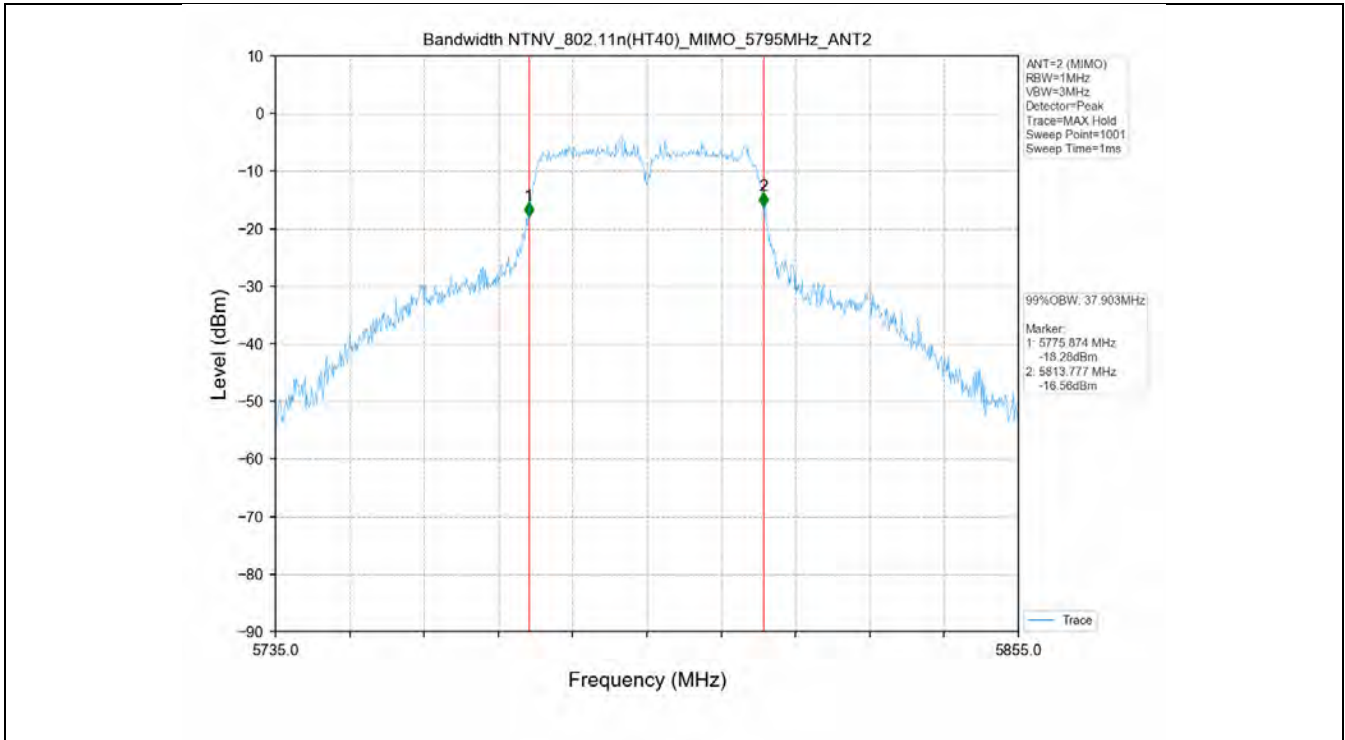
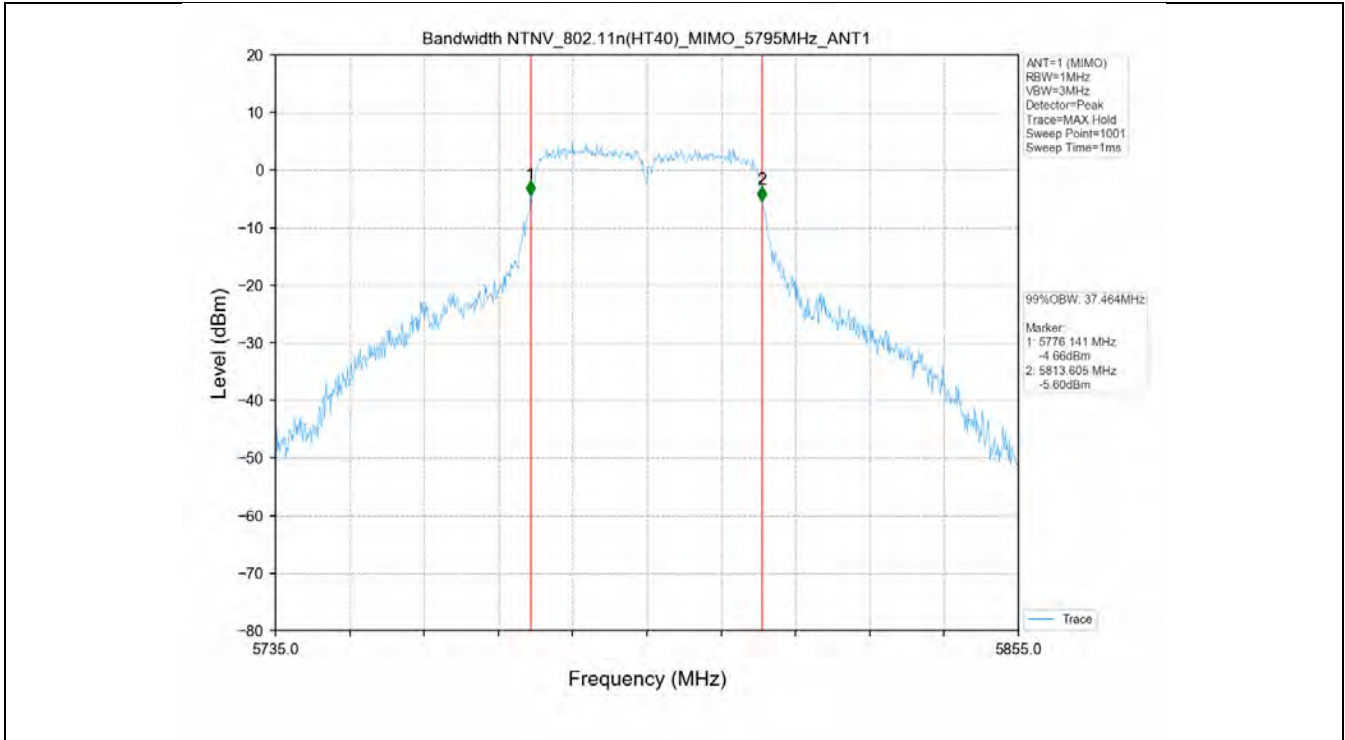










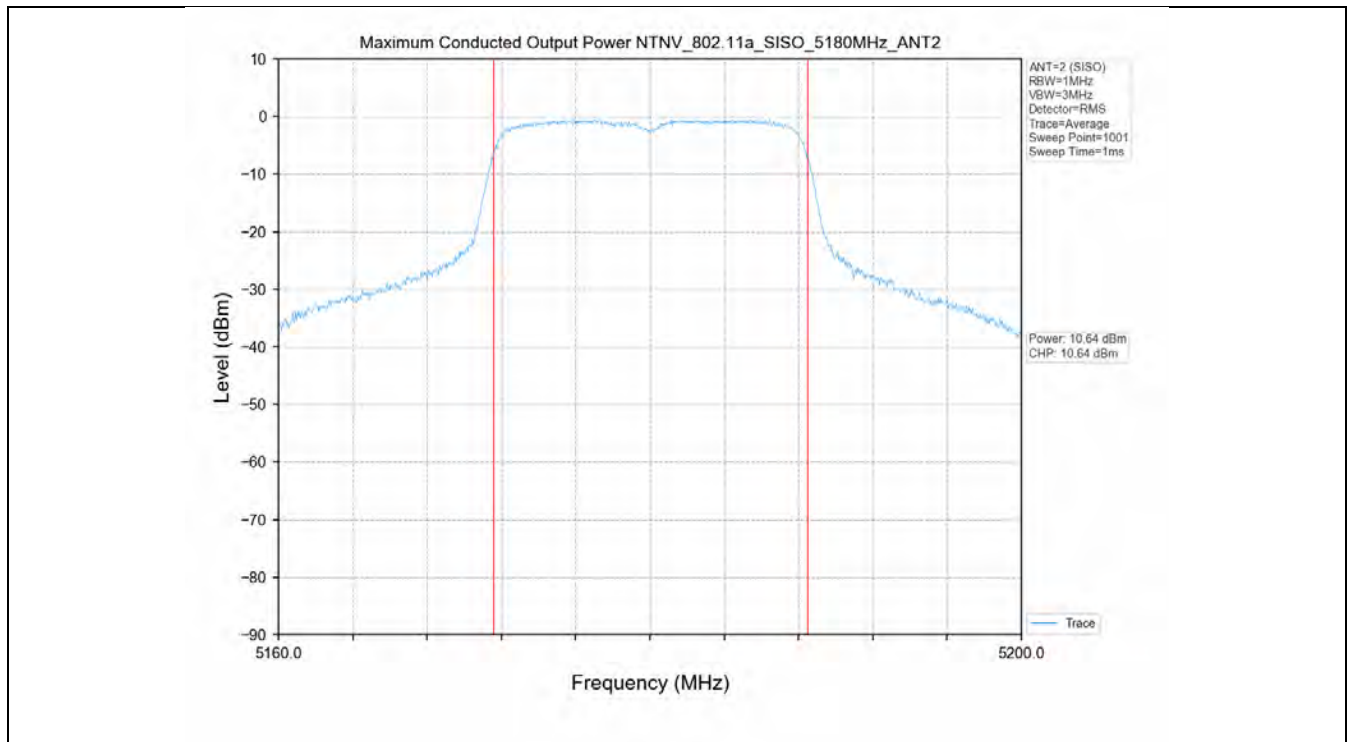


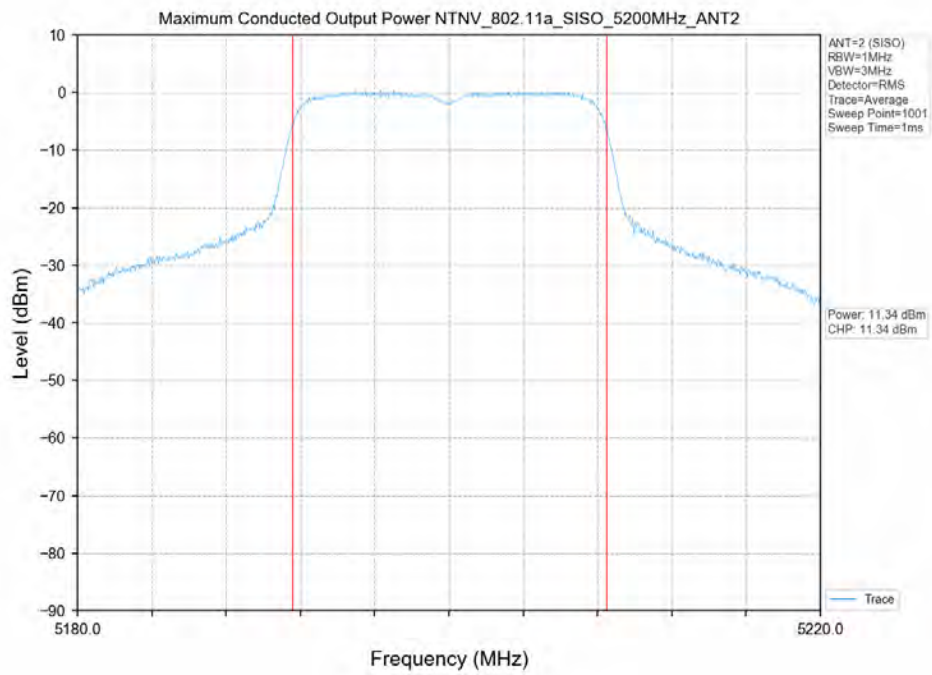
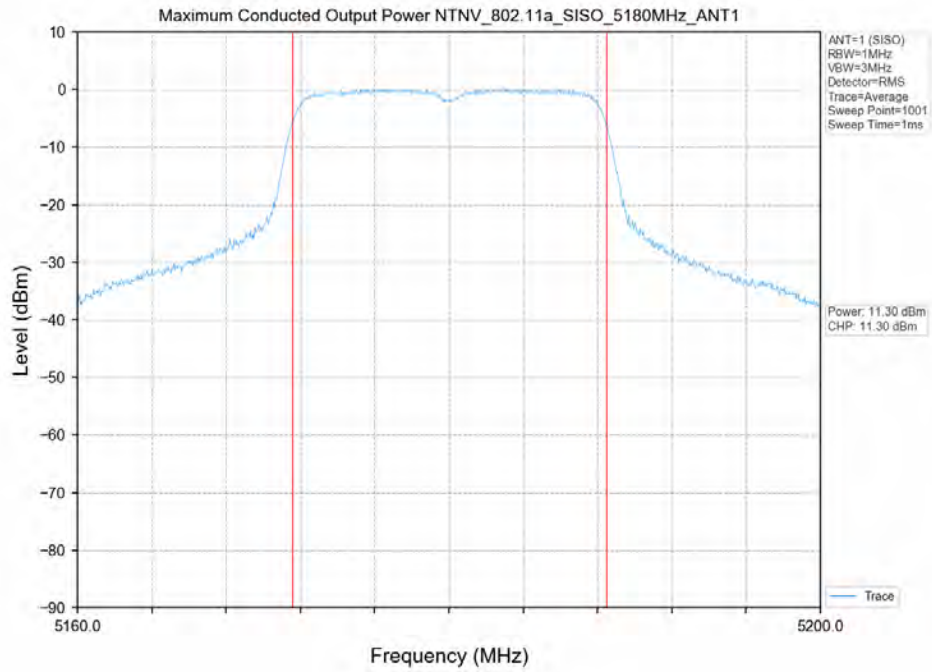
3. Maximum Conducted Output Power

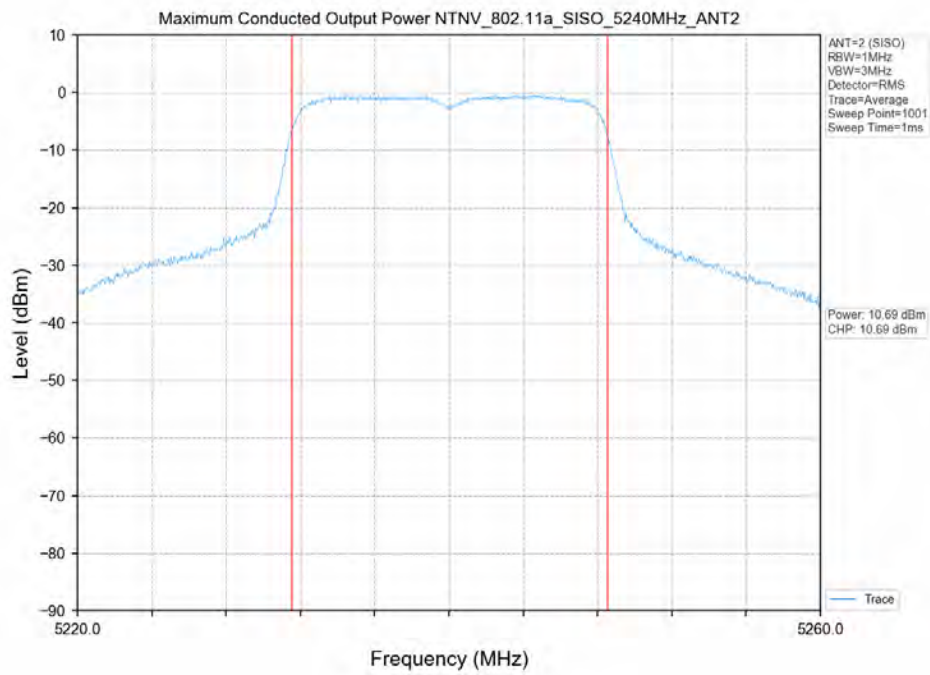
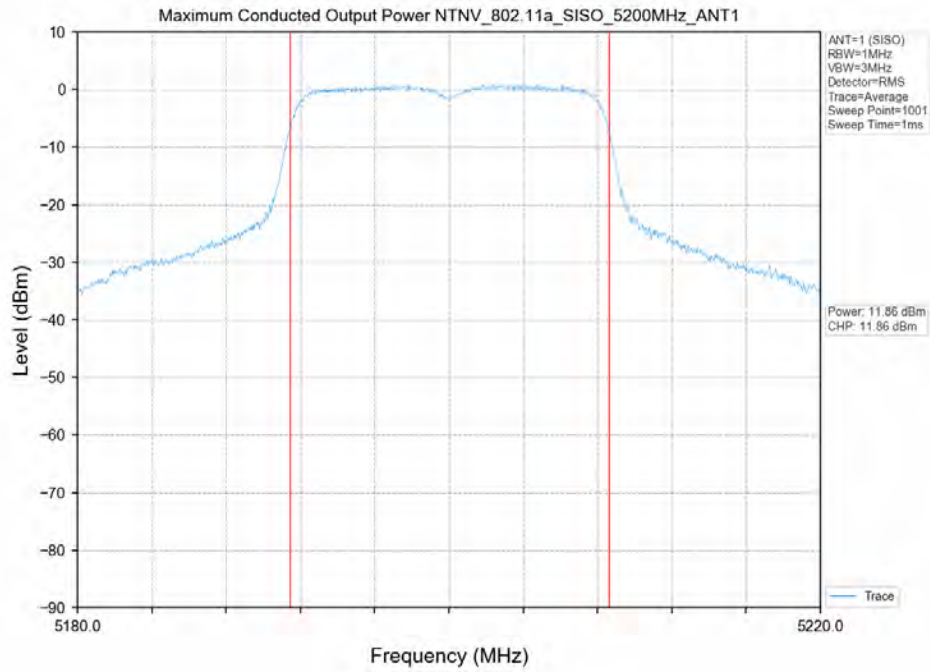
3.1 Test Result

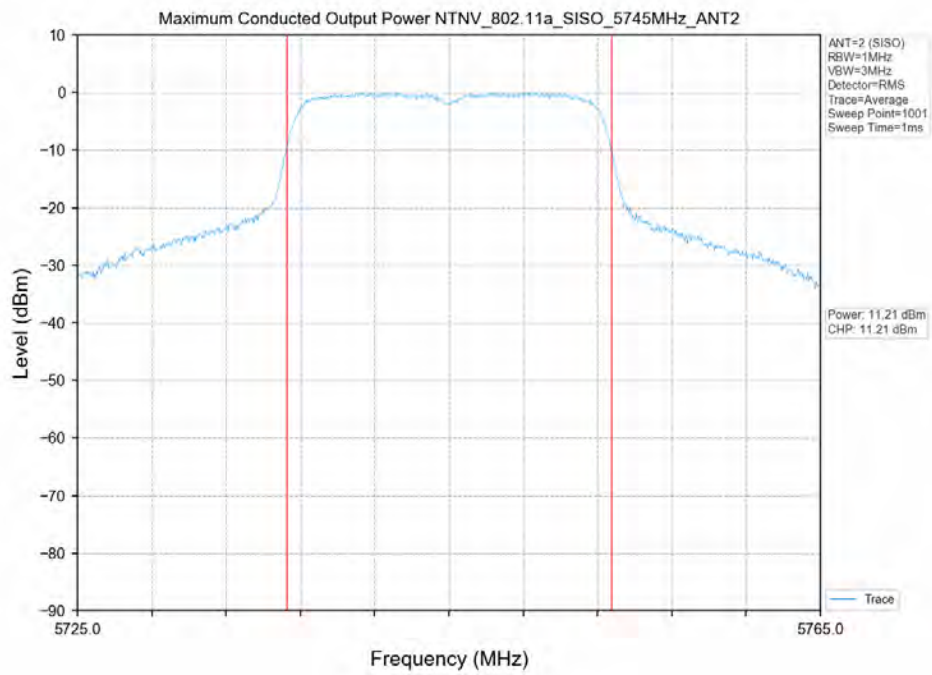
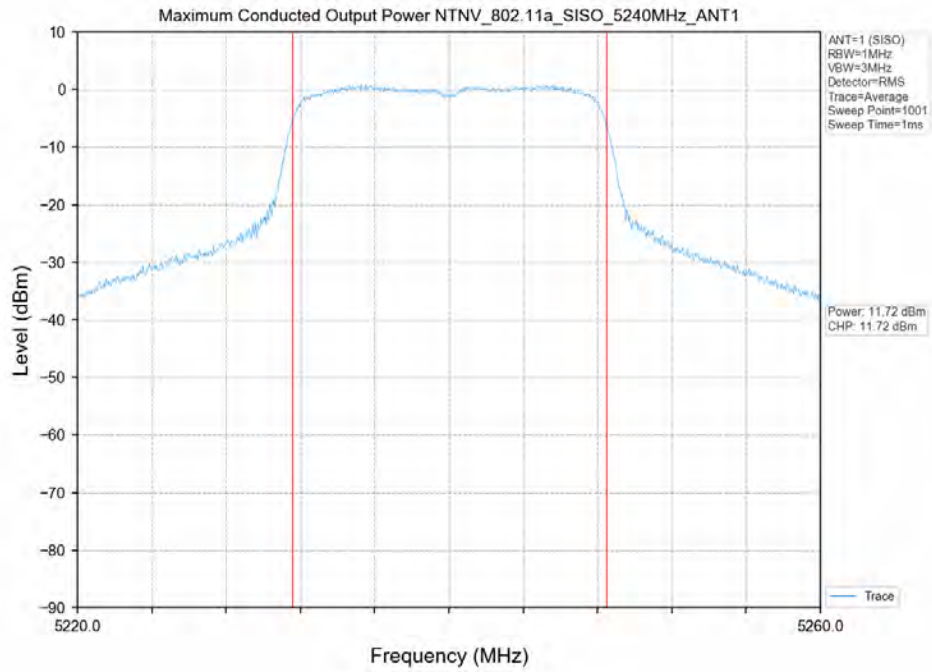
Test Mode	Frequency (MHz)	Tx Type	Measured Output Power (dBm)			Limit (dBm)	Verdict
			Ant 2	Ant 1	Total		
802.11a	5180	SISO	10.64	11.30	/	≤23.98	PASS
	5200	SISO	11.34	11.86	/	≤23.98	PASS
	5240	SISO	10.69	11.72	/	≤23.98	PASS
	5745	SISO	11.21	11.76	/	≤30.00	PASS
	5785	SISO	10.83	12.08	/	≤30.00	PASS
802.11n(HT20)	5825	SISO	11.47	11.88	/	≤30.00	PASS
	5180	MIMO	10.23	10.31	13.28	≤23.98	PASS
	5200	MIMO	14.62	10.05	15.92	≤23.98	PASS
	5240	MIMO	9.65	10.67	13.20	≤23.98	PASS
	5745	MIMO	12.06	12.53	15.31	≤30.00	PASS
	5785	MIMO	12.00	12.45	15.24	≤30.00	PASS
802.11n(HT40)	5825	MIMO	11.43	12.03	14.75	≤30.00	PASS
	5190	MIMO	9.73	9.68	12.72	≤23.98	PASS
	5230	MIMO	11.65	10.44	14.10	≤23.98	PASS
	5755	MIMO	11.60	11.82	14.72	≤30.00	PASS
	5795	MIMO	11.30	11.78	14.56	≤30.00	PASS

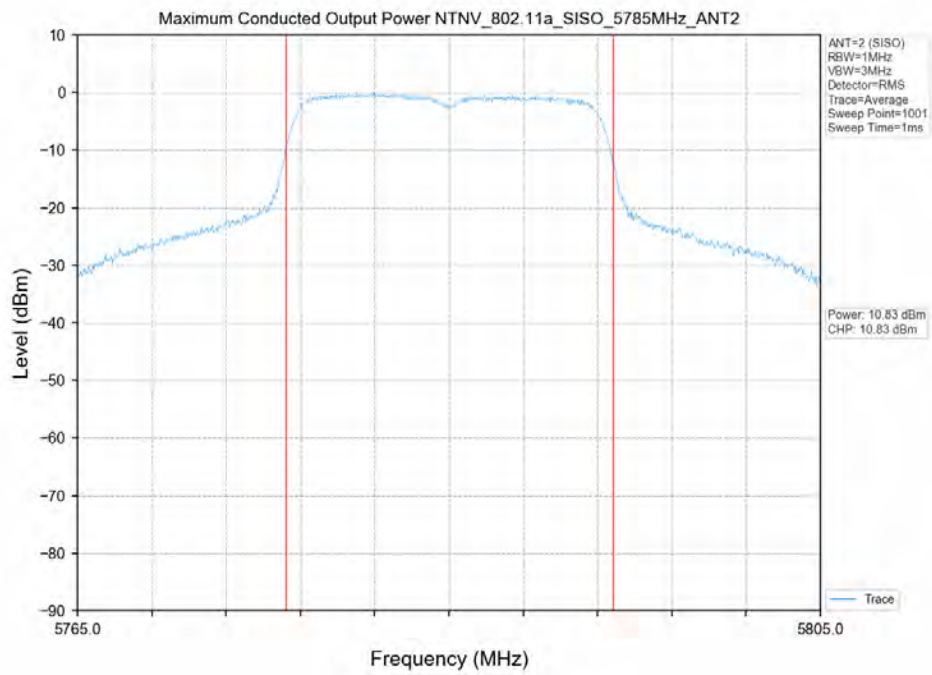
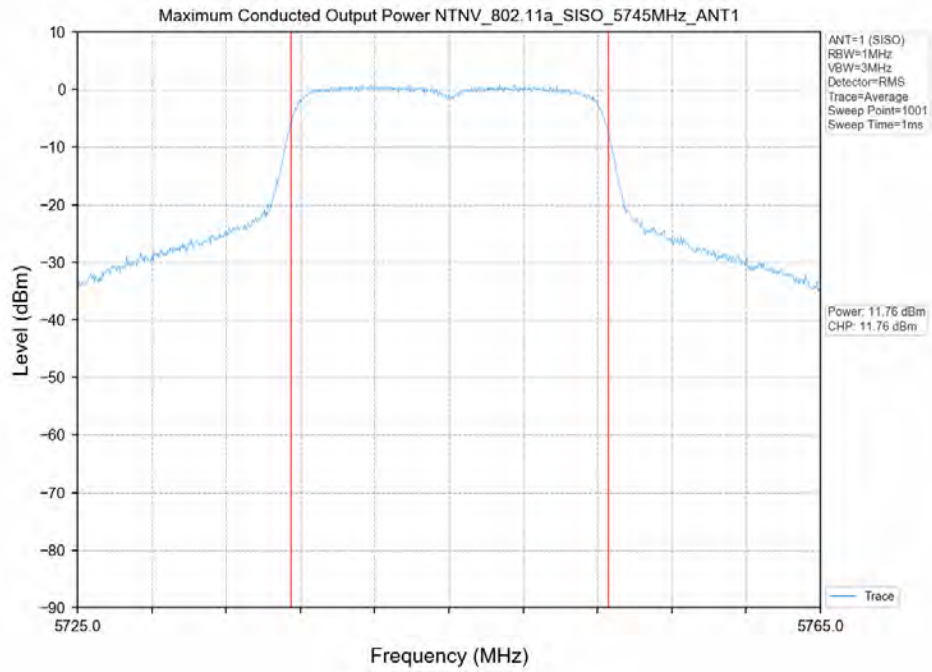
3.2 Test Graph

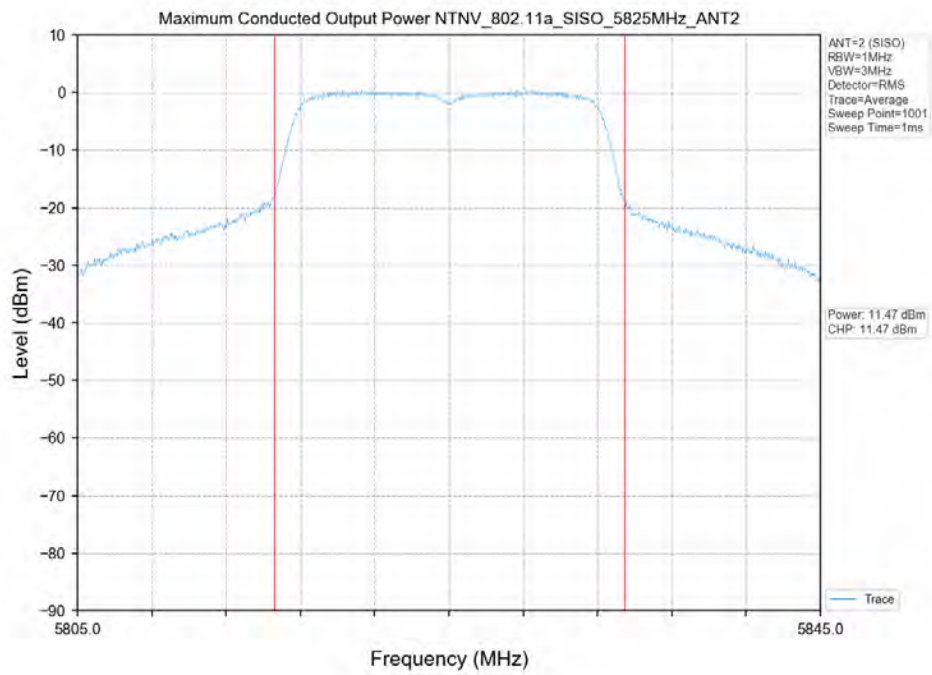
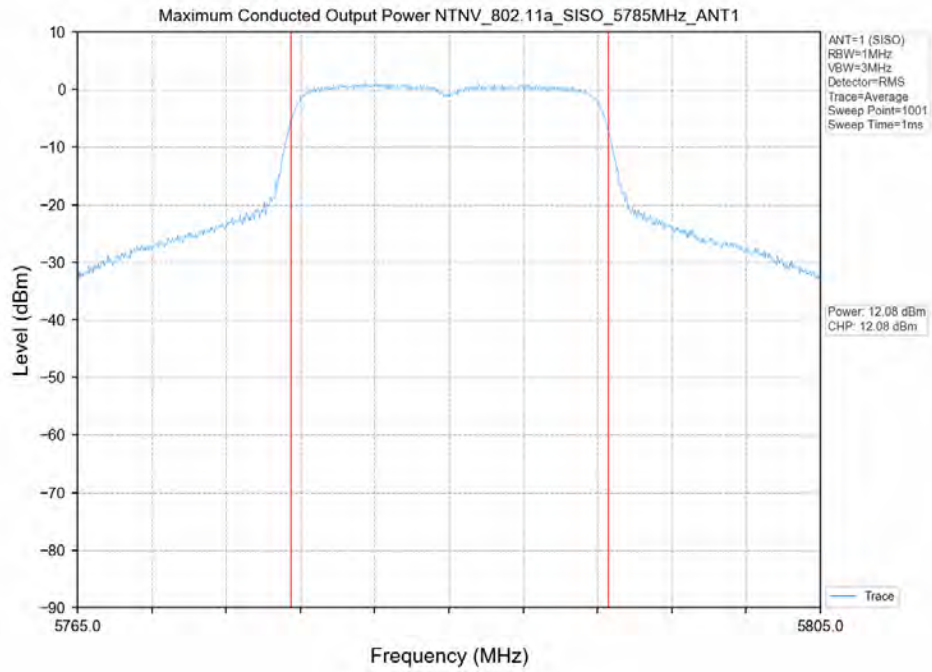


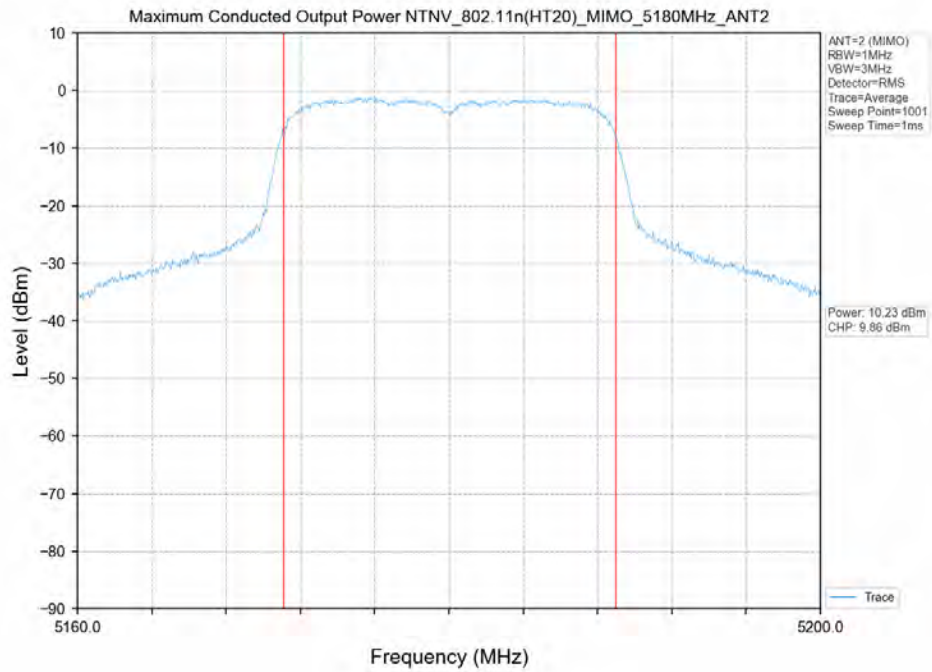
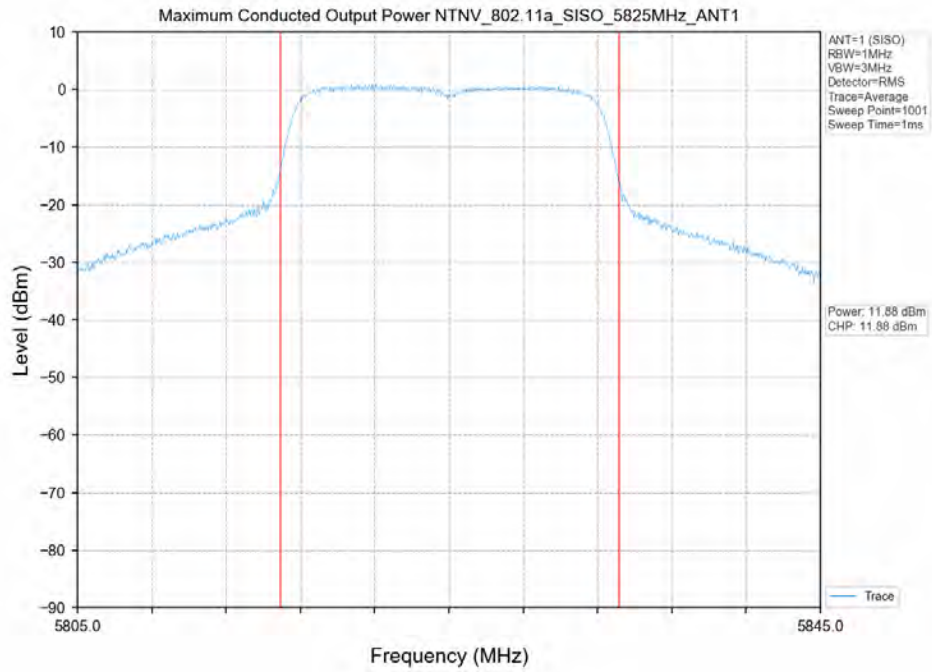


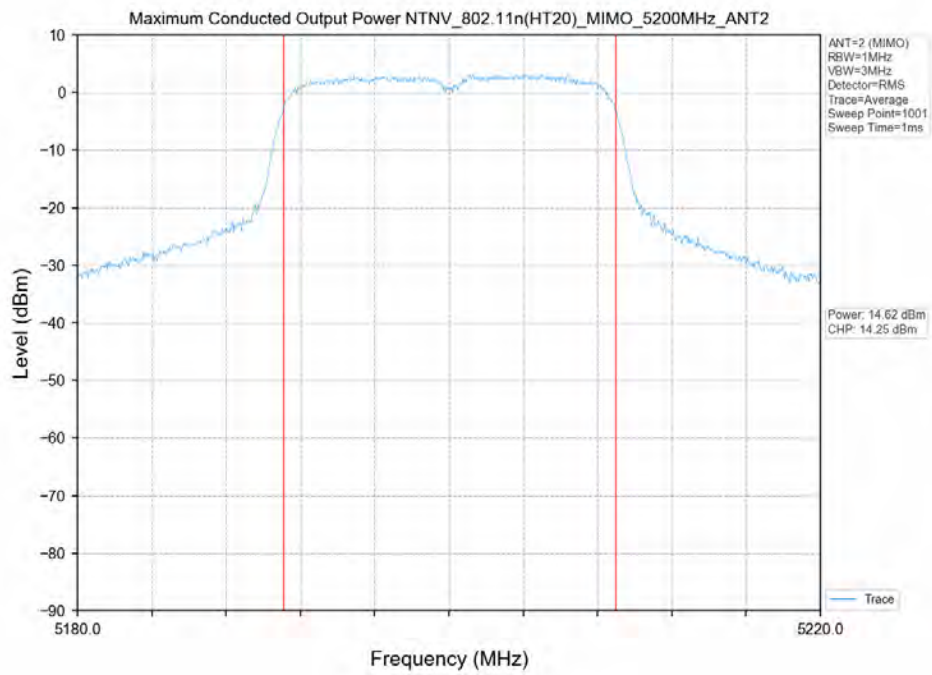
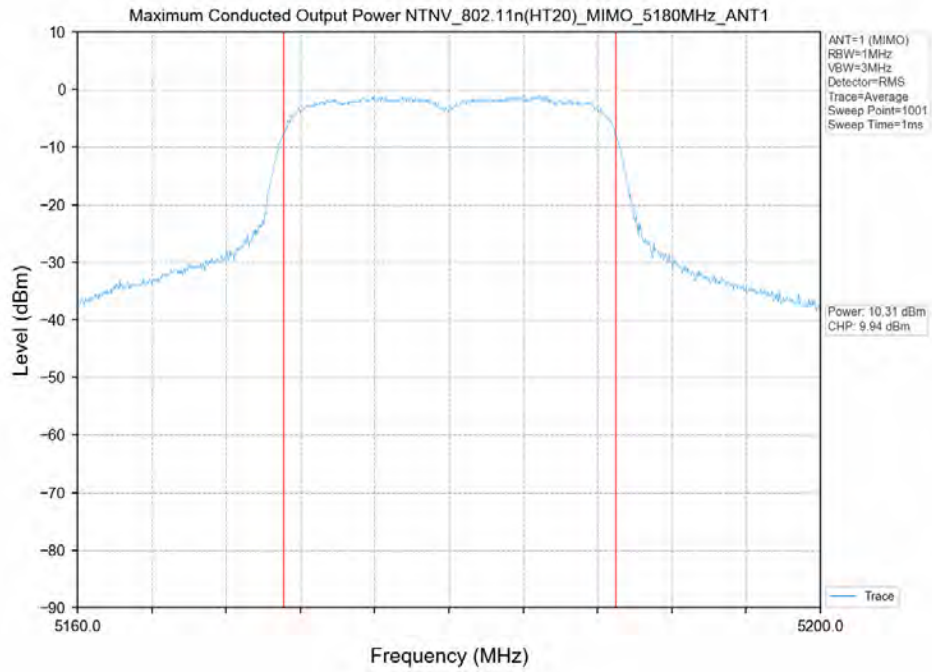


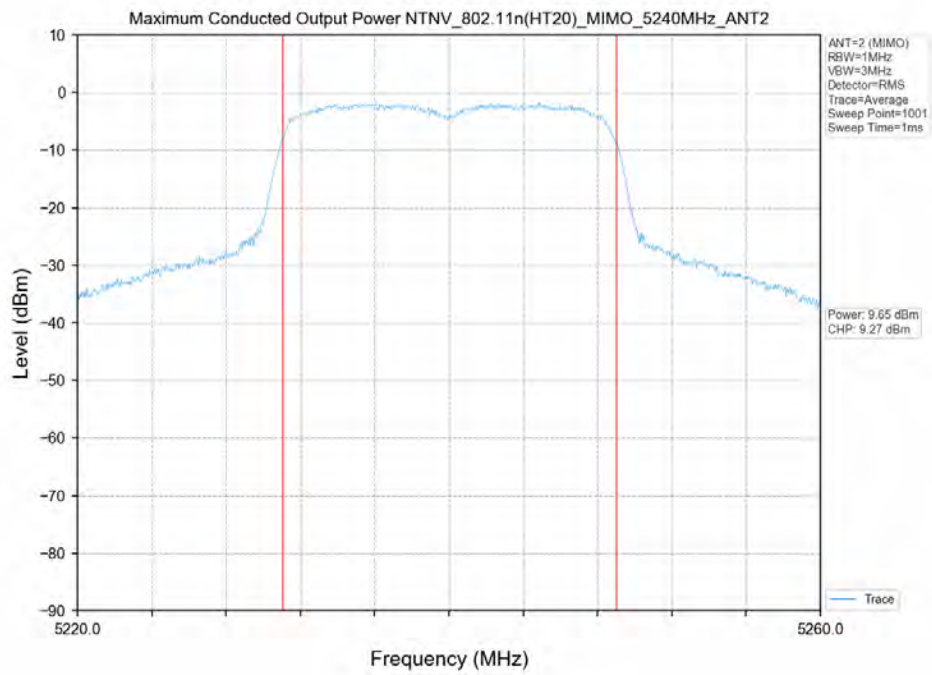
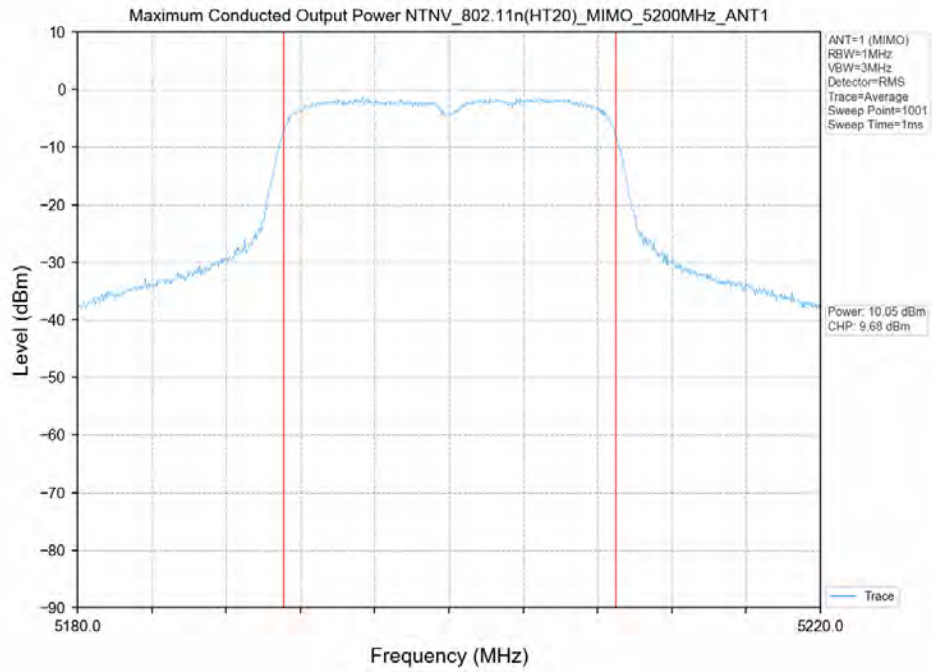


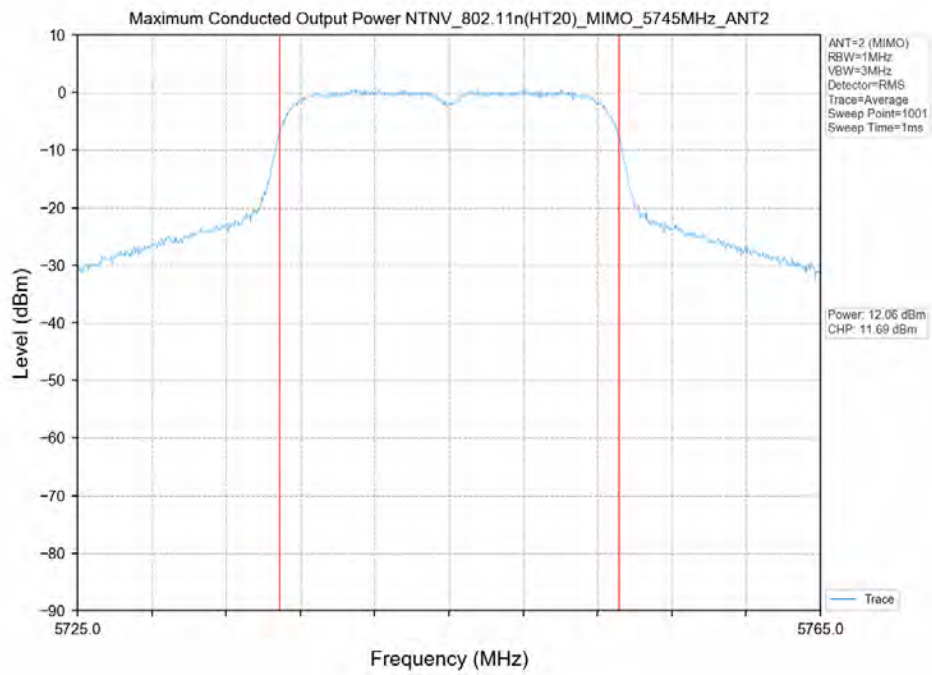
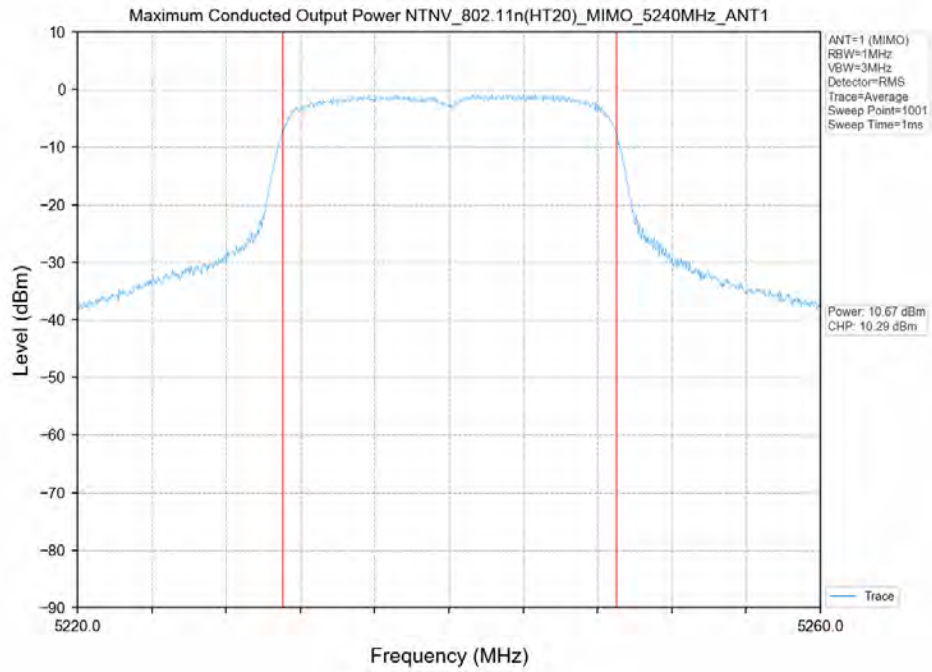


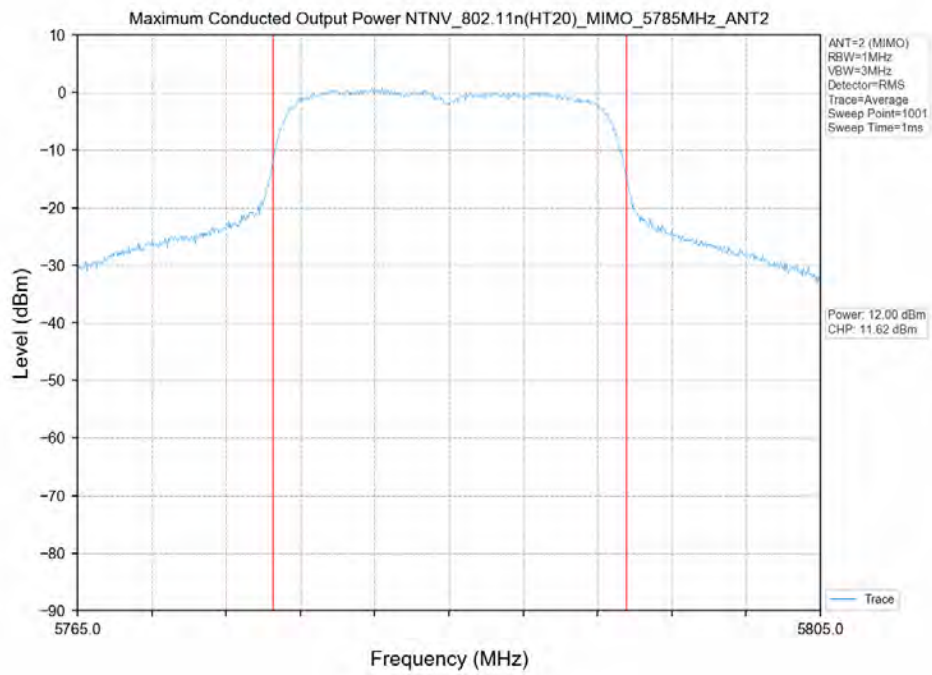
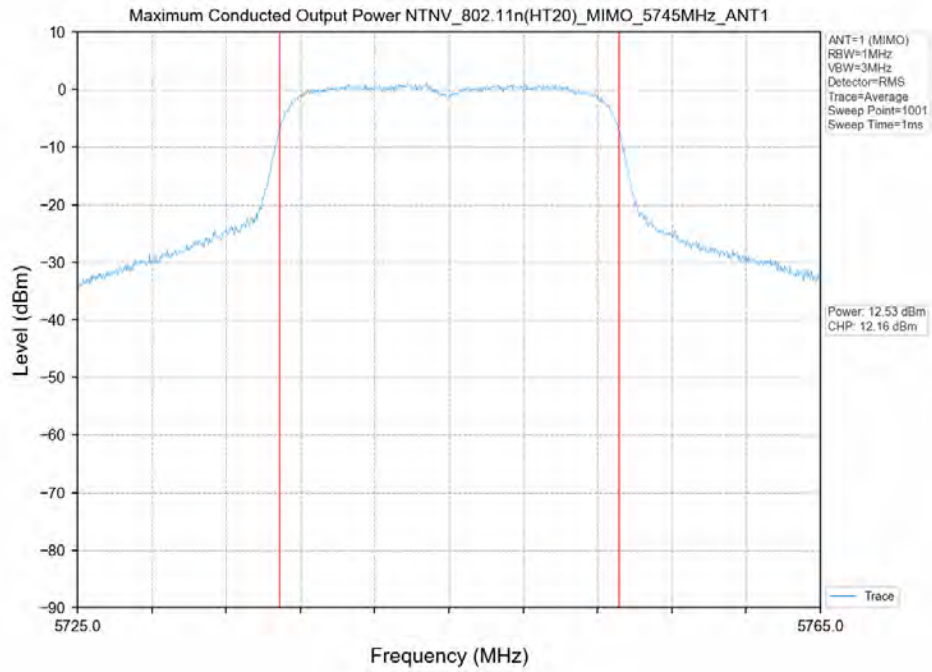


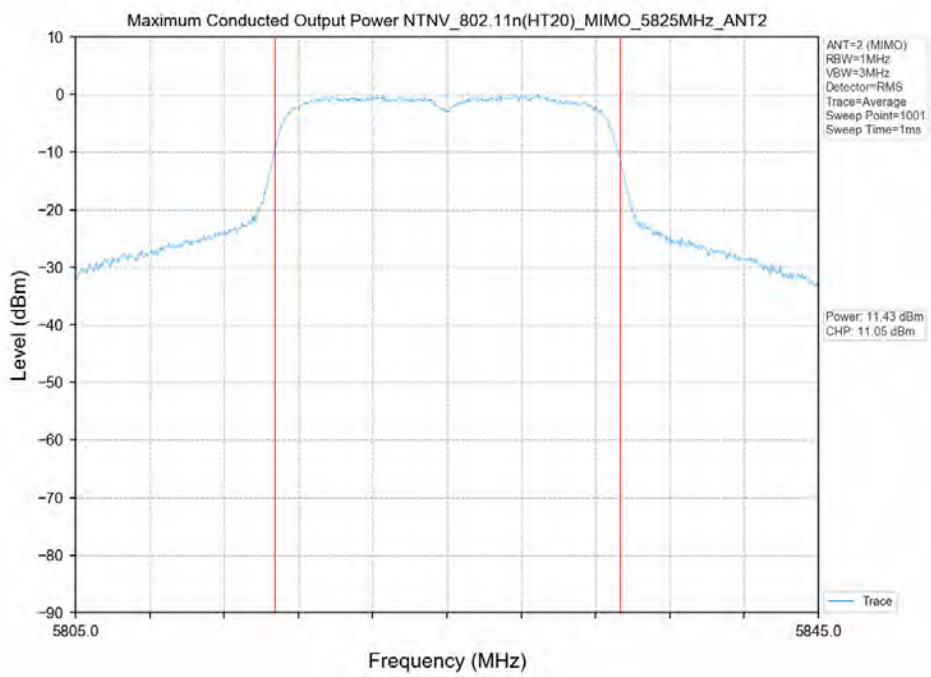
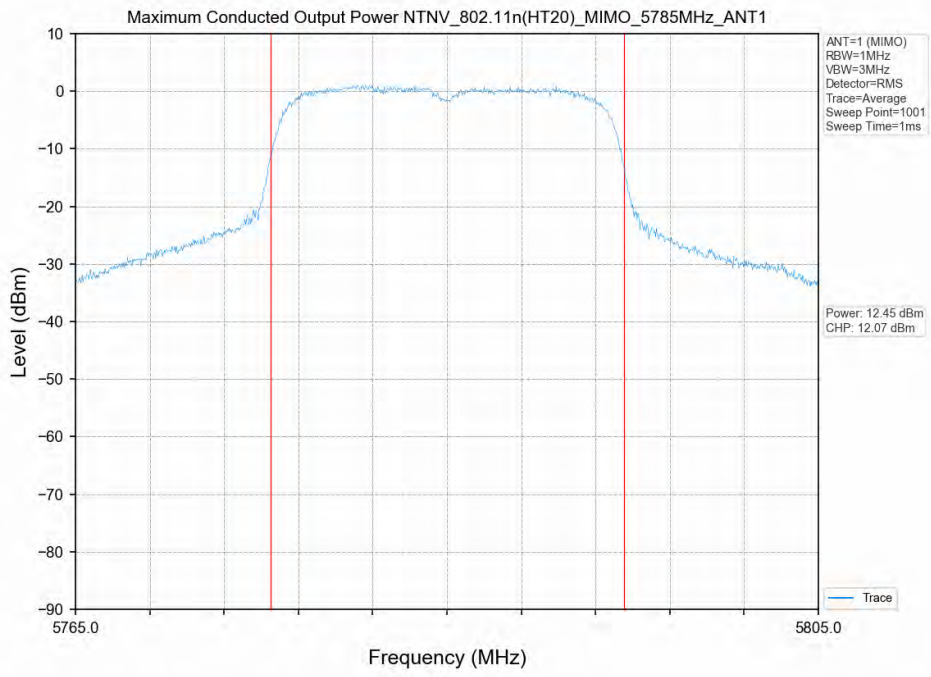


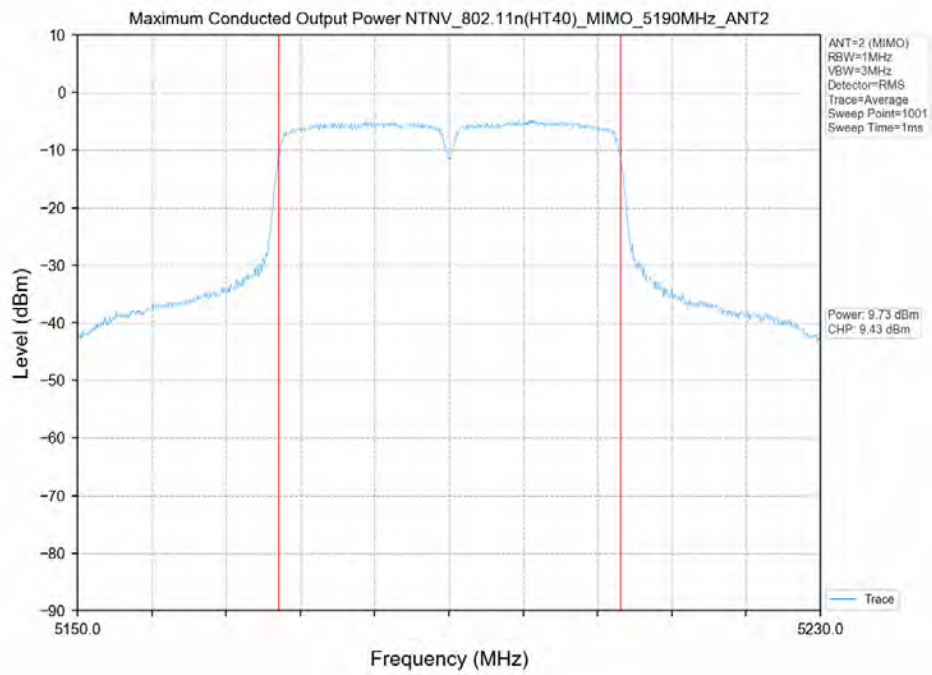
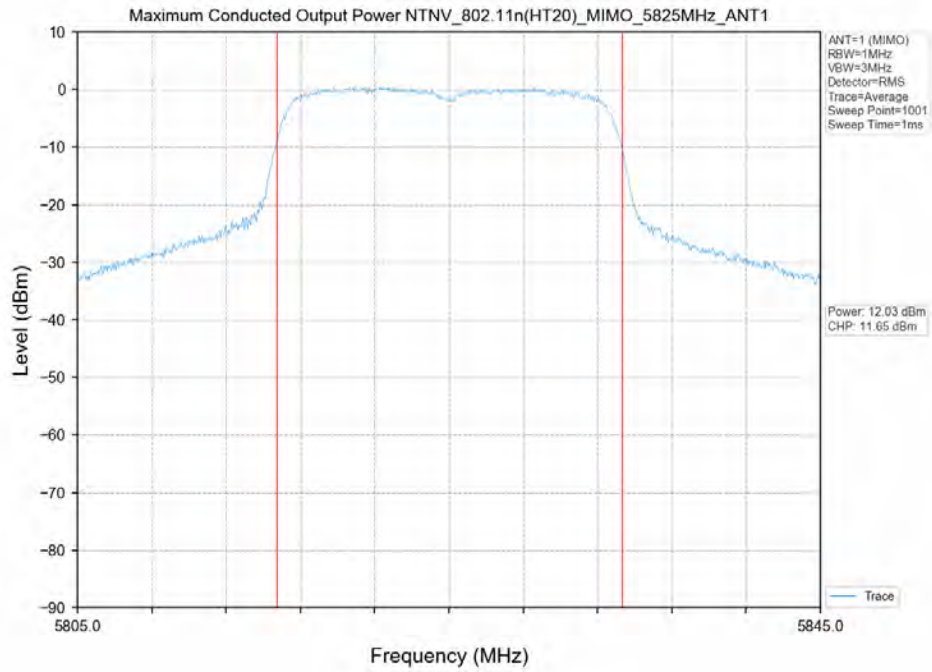


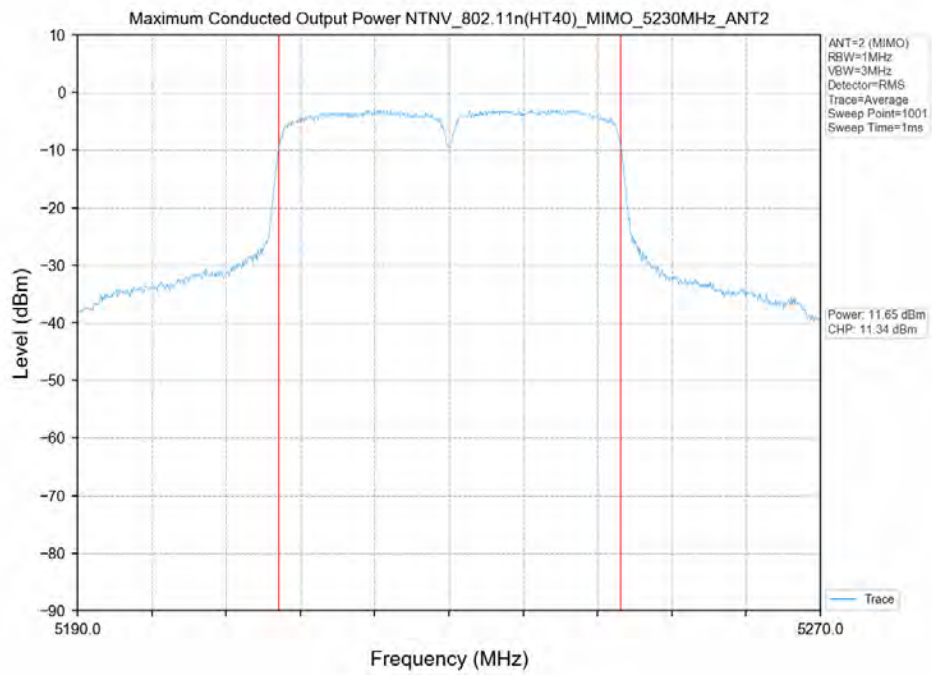
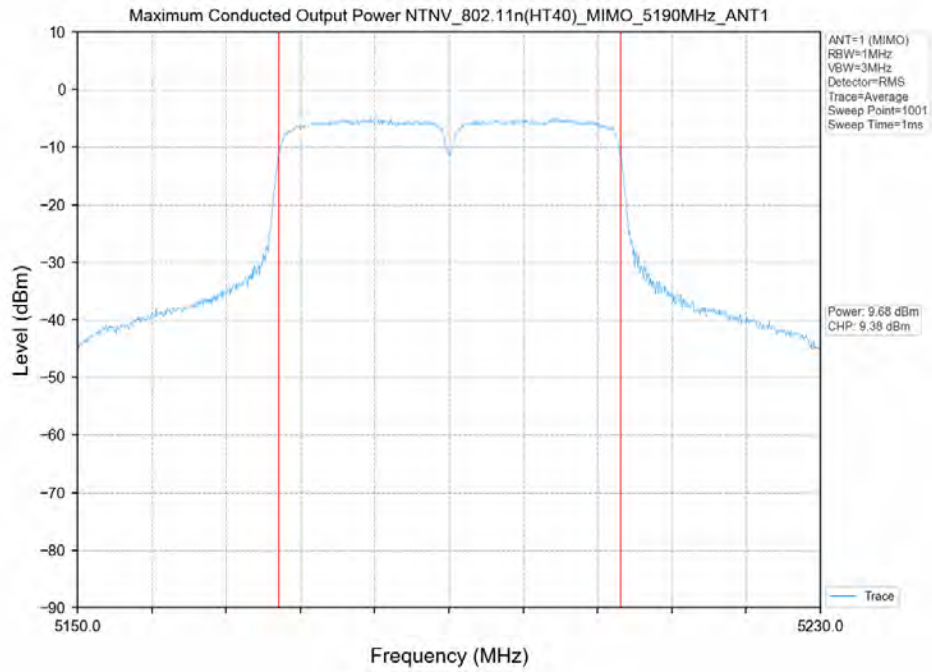


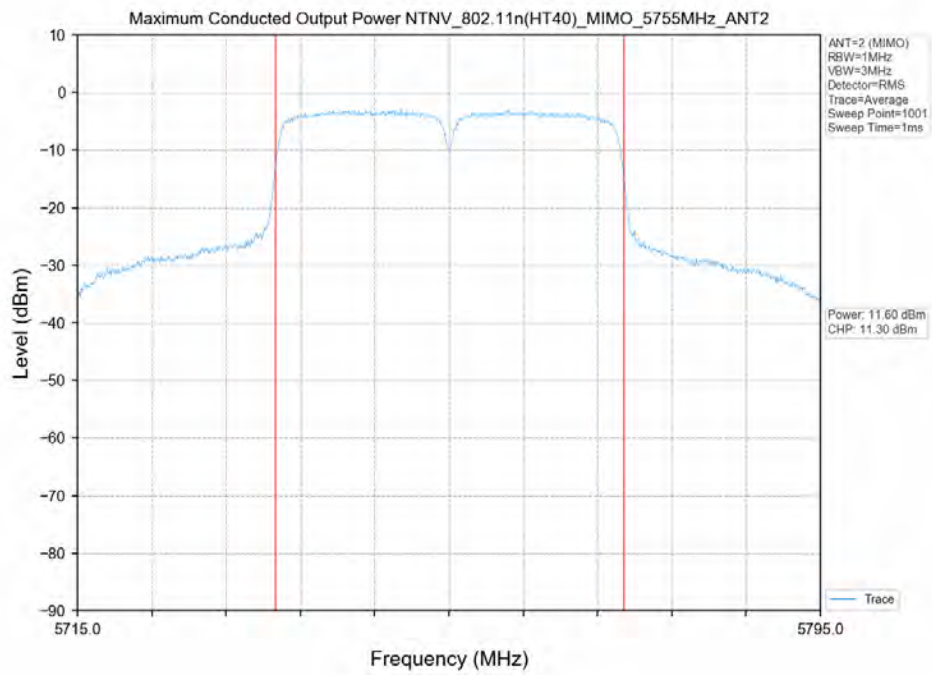
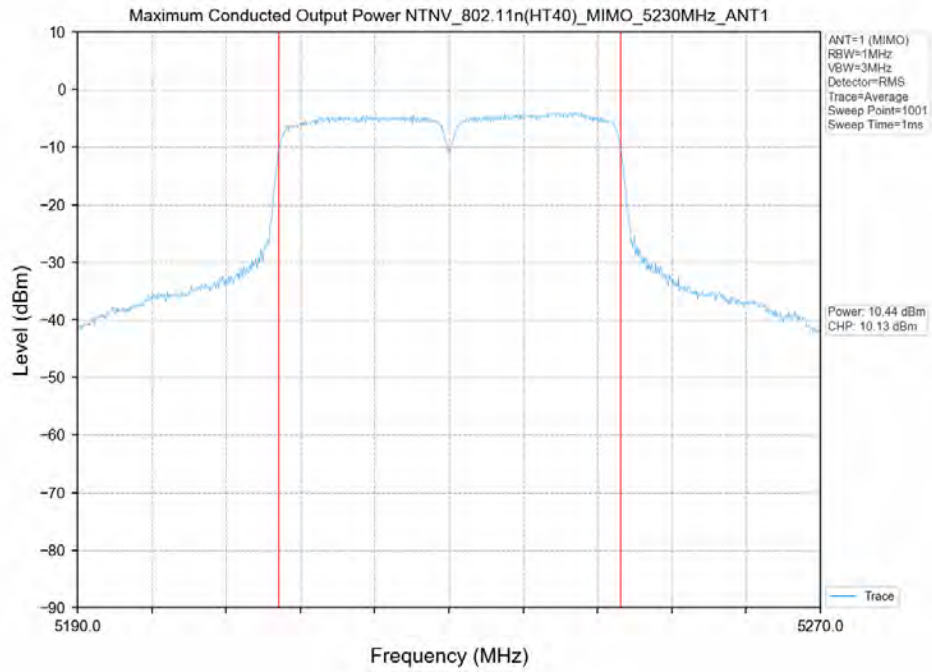


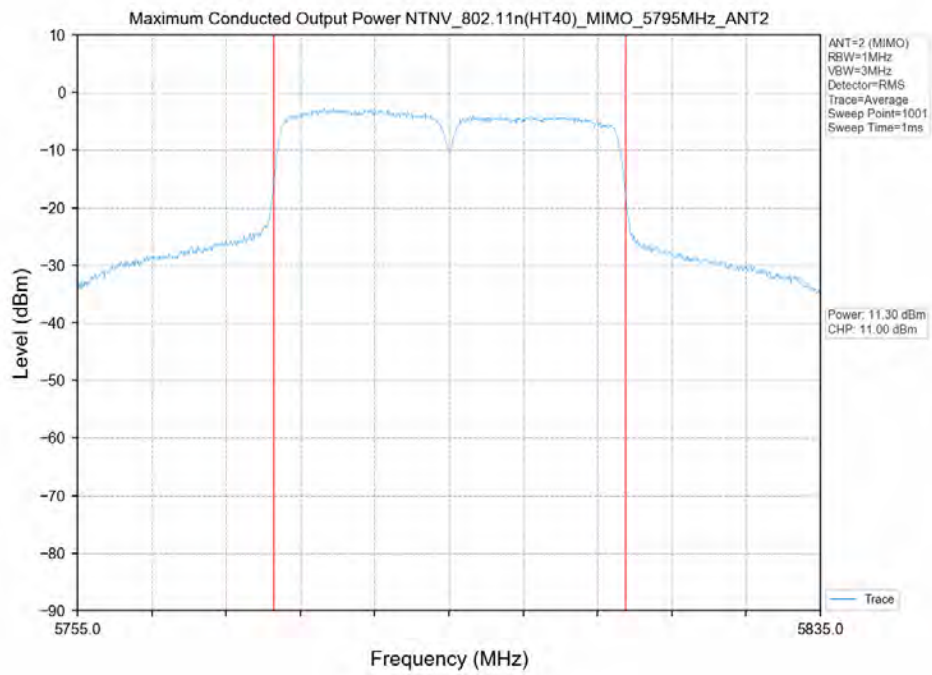
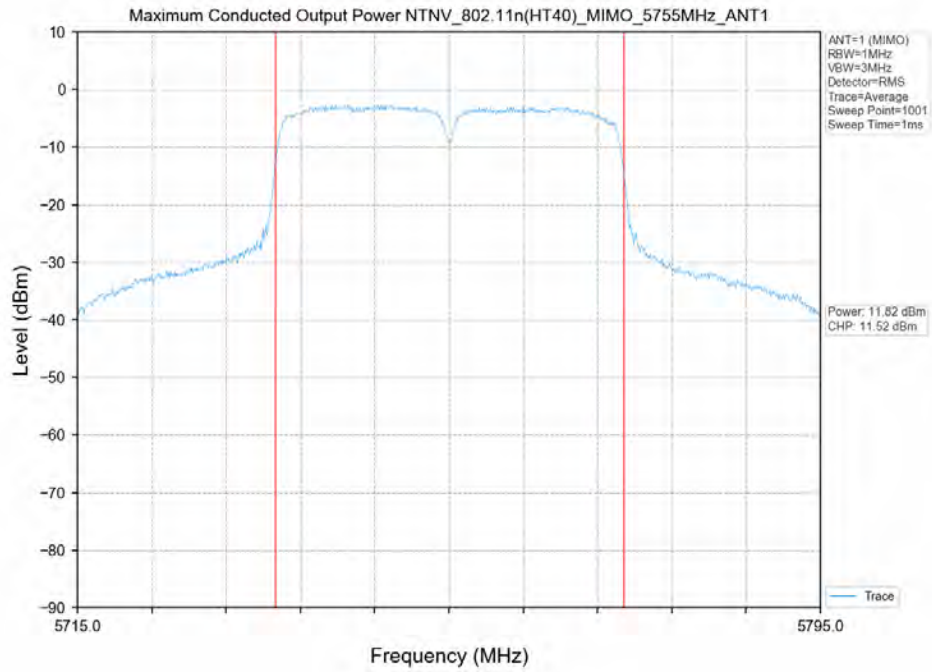


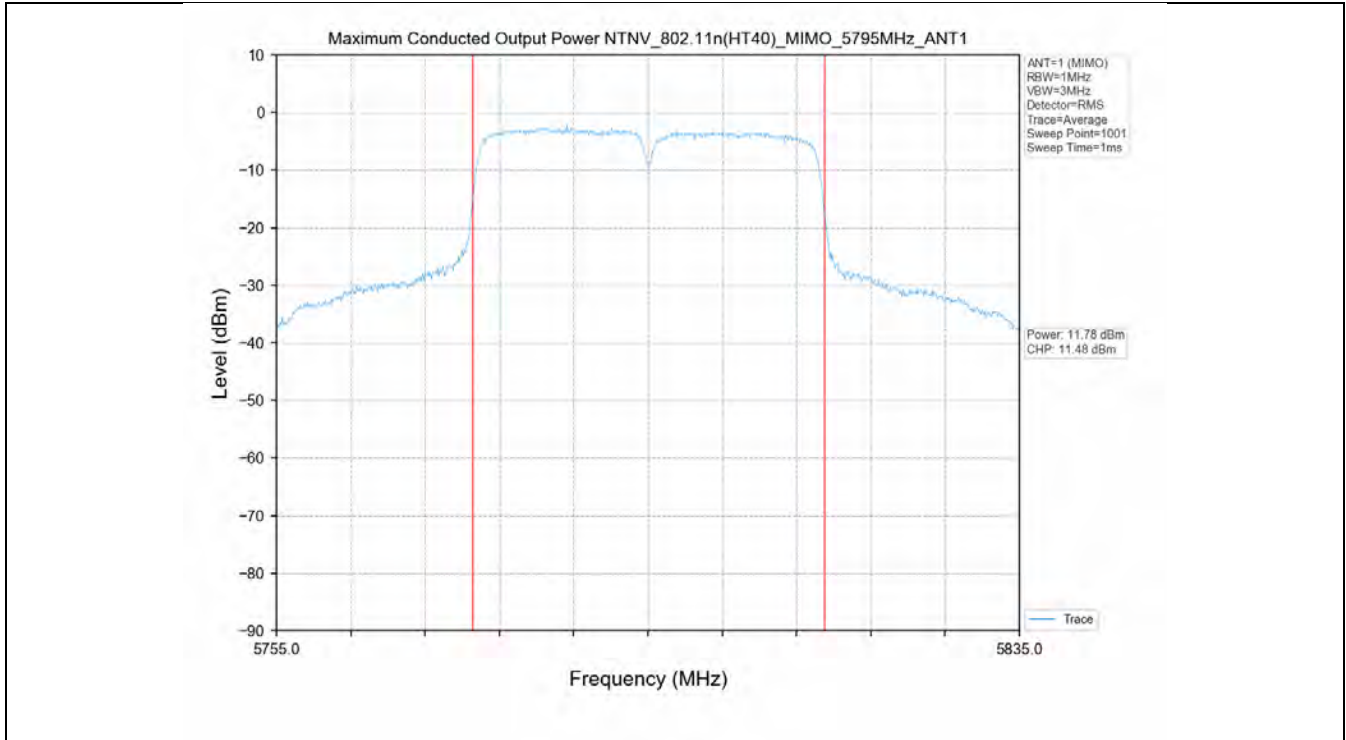












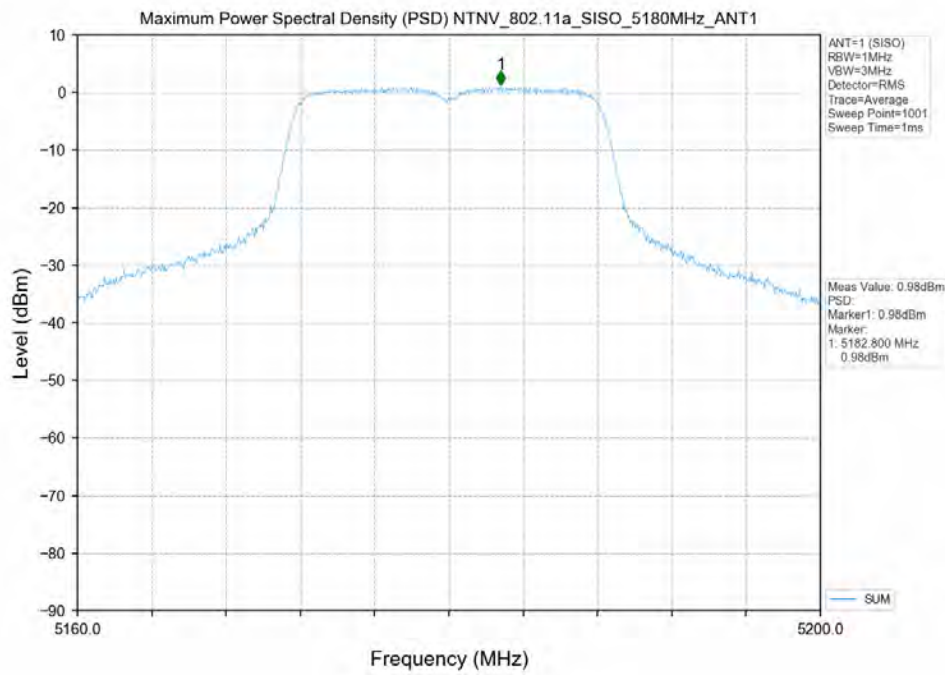
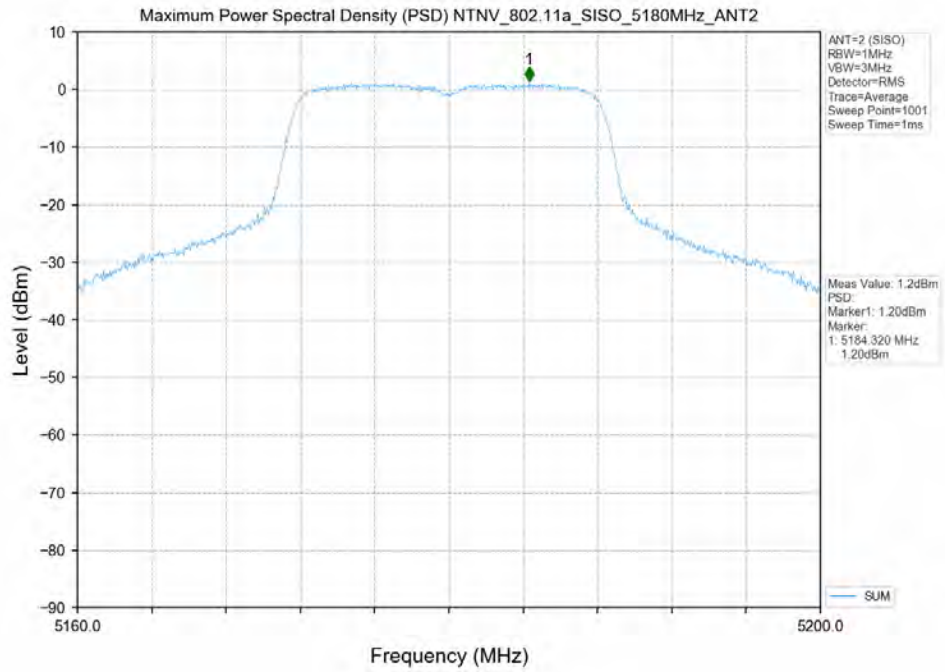
4. Maximum Power Spectral Density (PSD)

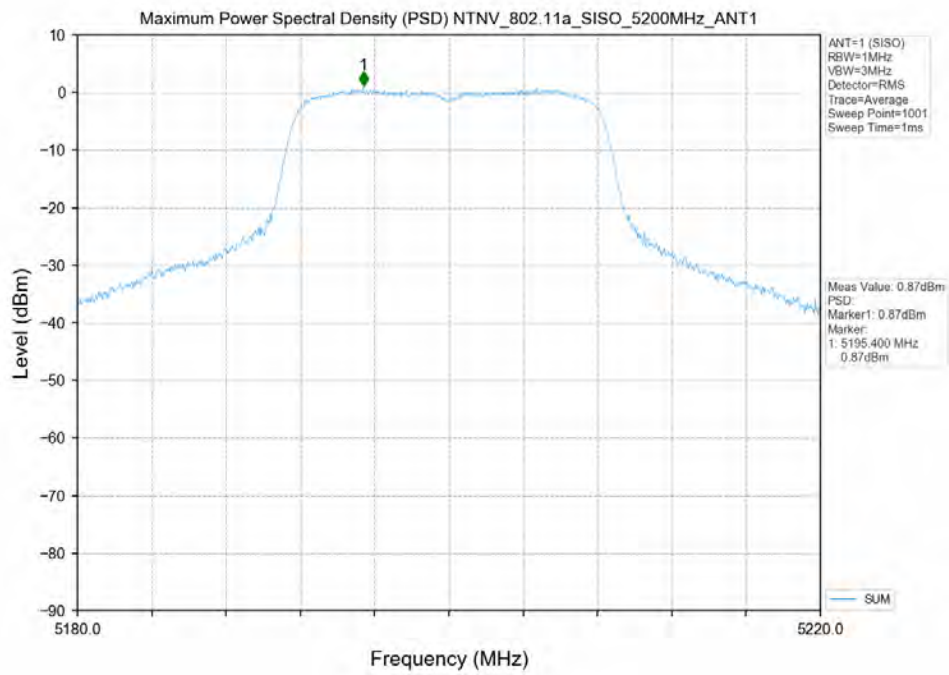
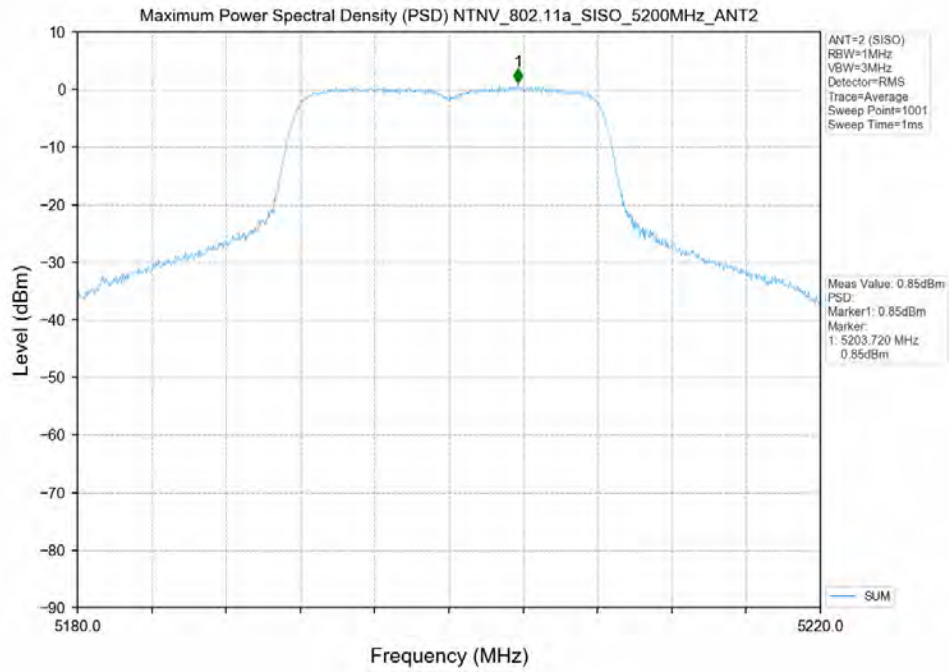
4.1 Test Result

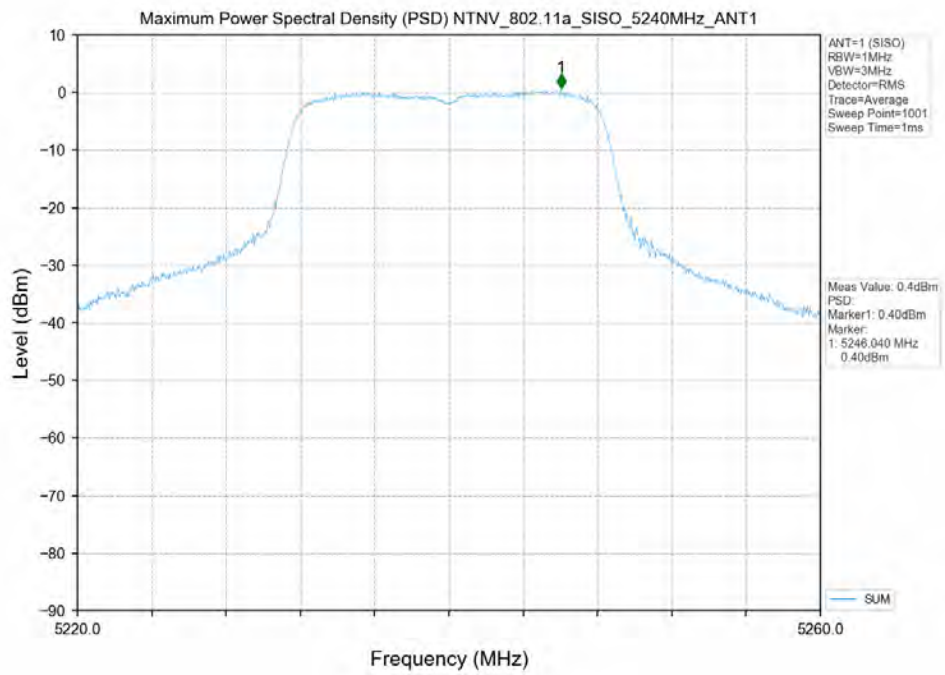
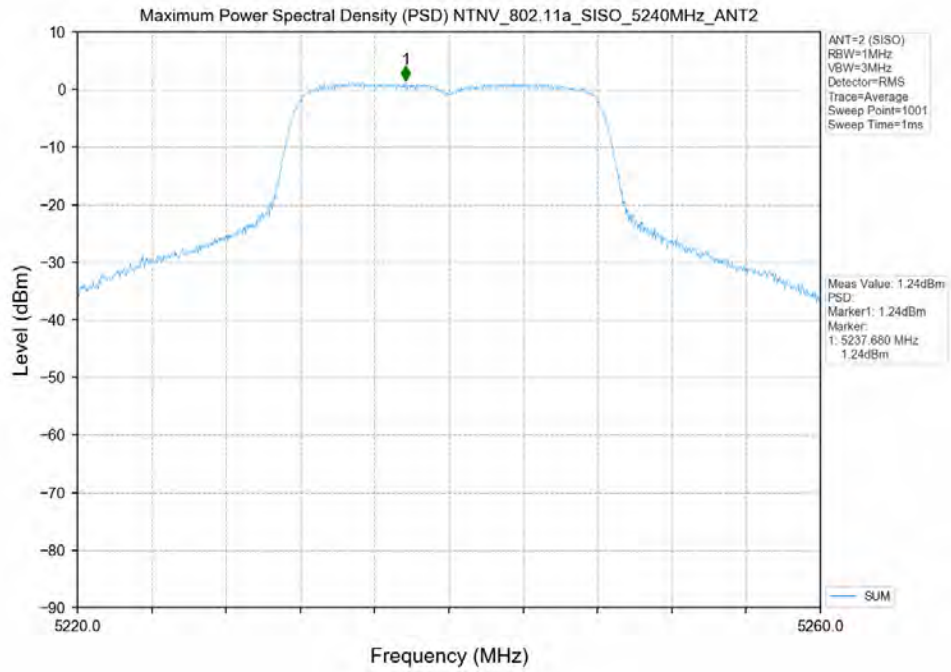
Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/MHz)			Limits (dBm/MHz)	Verdict
			Ant 2	Ant 1	Total		
802.11a	5180	SISO	1.20	0.98	/	≤17	PASS
	5200	SISO	0.85	0.87	/	≤17	PASS
	5240	SISO	1.24	0.40	/	≤17	PASS
802.11n(HT20)	5180	MIMO	-0.51	-0.30	2.31	≤17	PASS
	5200	MIMO	-0.80	-0.18	2.44	≤17	PASS
	5240	MIMO	-0.89	-0.41	2.27	≤17	PASS
802.11n(HT40)	5190	MIMO	-4.55	-4.41	-1.51	≤17	PASS
	5230	MIMO	-2.26	-3.60	-0.12	≤17	PASS

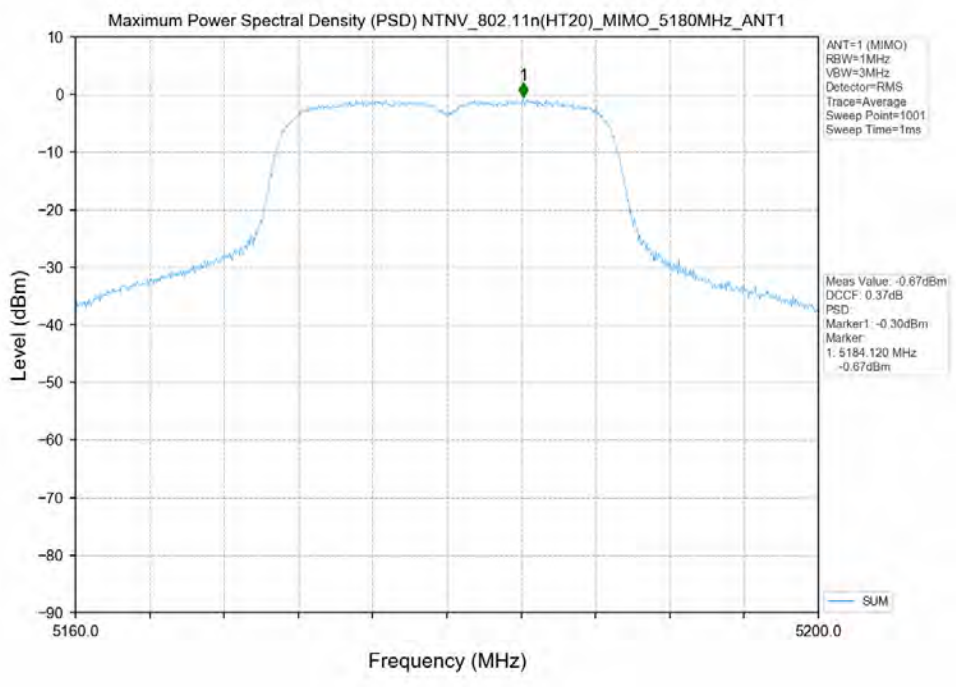
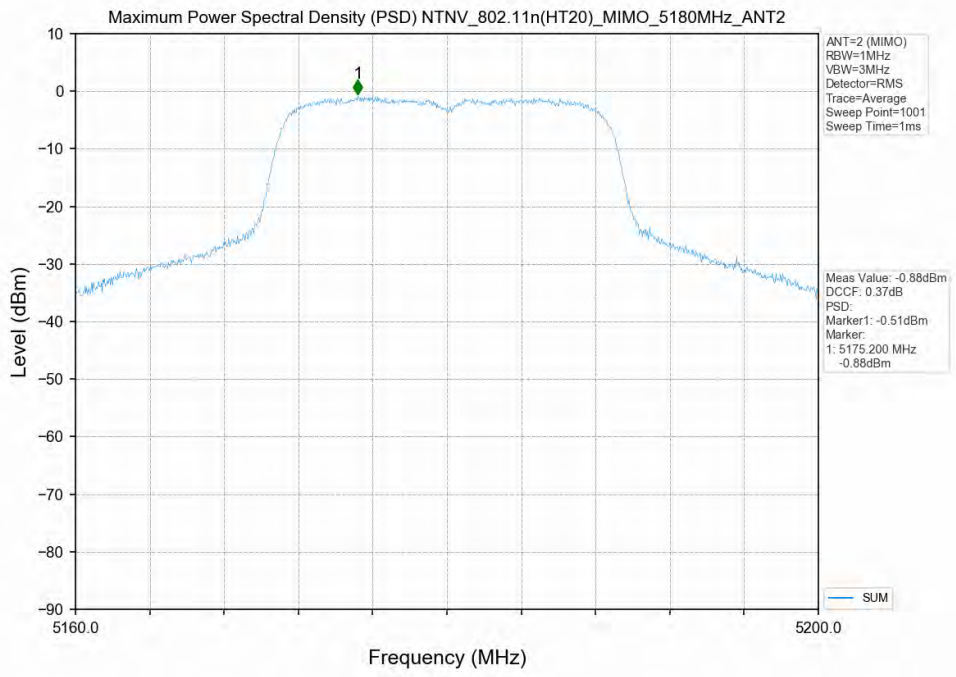
Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/500kHz)			Limits (dBm/500kHz)	Verdict
			Ant 2	Ant 1	Total		
802.11a	5745	SISO	-2.13	-1.57	/	≤30	PASS
	5785	SISO	-1.87	-1.52	/	≤30	PASS
	5825	SISO	-2.42	-1.67	/	≤30	PASS
802.11n(HT20)	5745	MIMO	-1.35	-0.56	2.00	≤30	PASS
	5785	MIMO	-1.50	-1.32	1.43	≤30	PASS
	5825	MIMO	-2.12	-1.52	1.17	≤30	PASS
802.11n(HT40)	5755	MIMO	-4.74	-5.00	-2.12	≤30	PASS
	5795	MIMO	-4.99	-4.60	-2.10	≤30	PASS

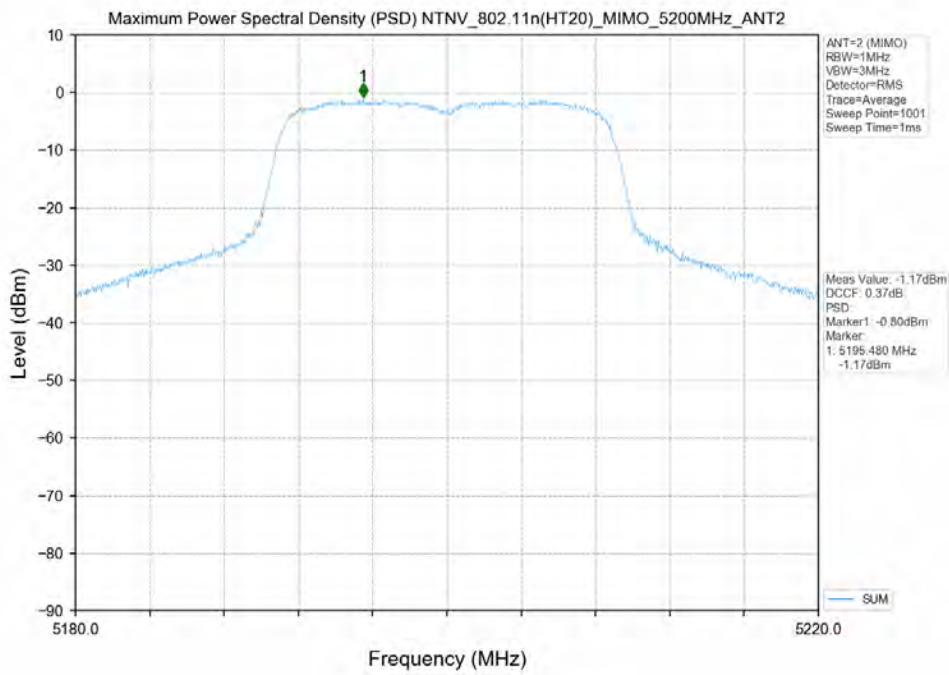
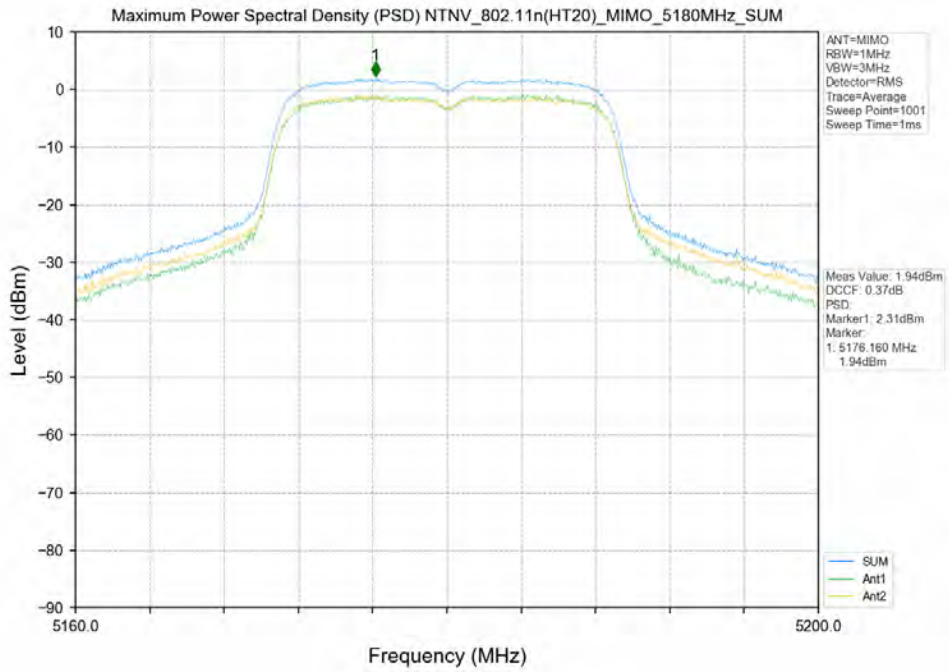
4.2 Test Graph

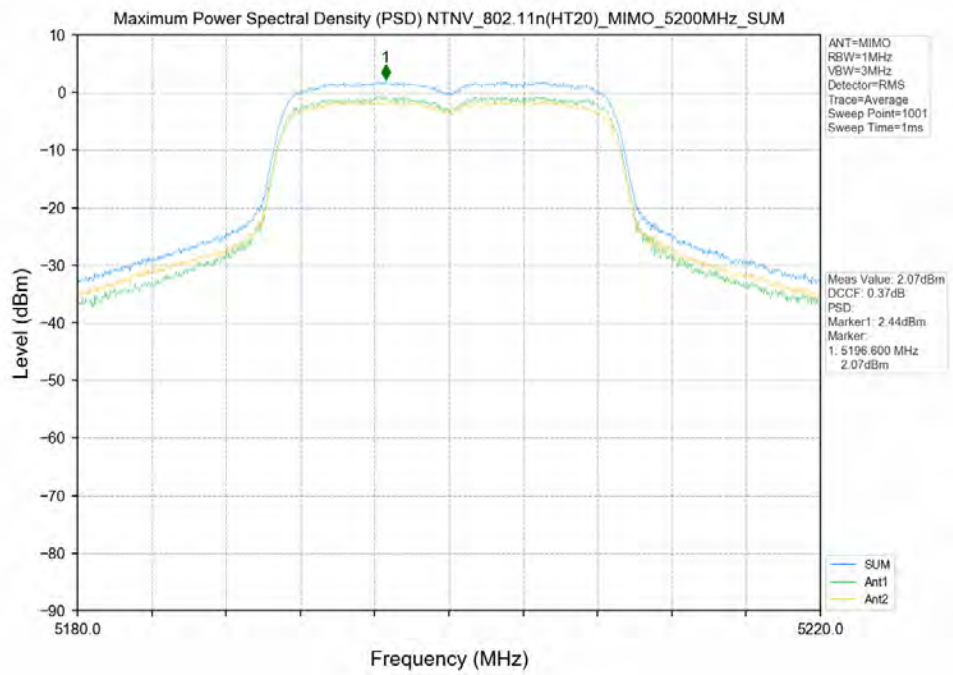
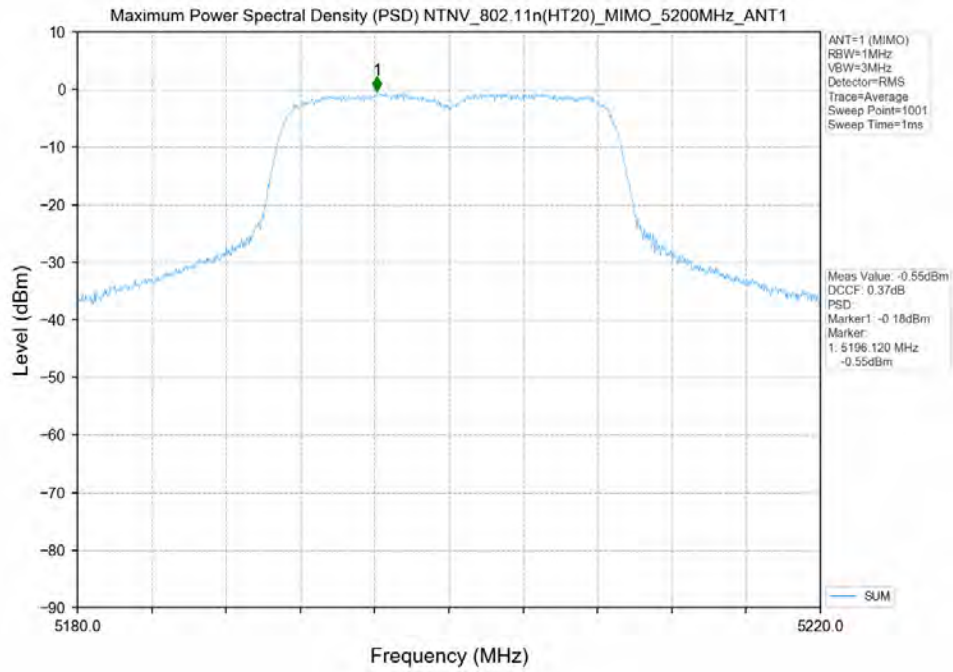


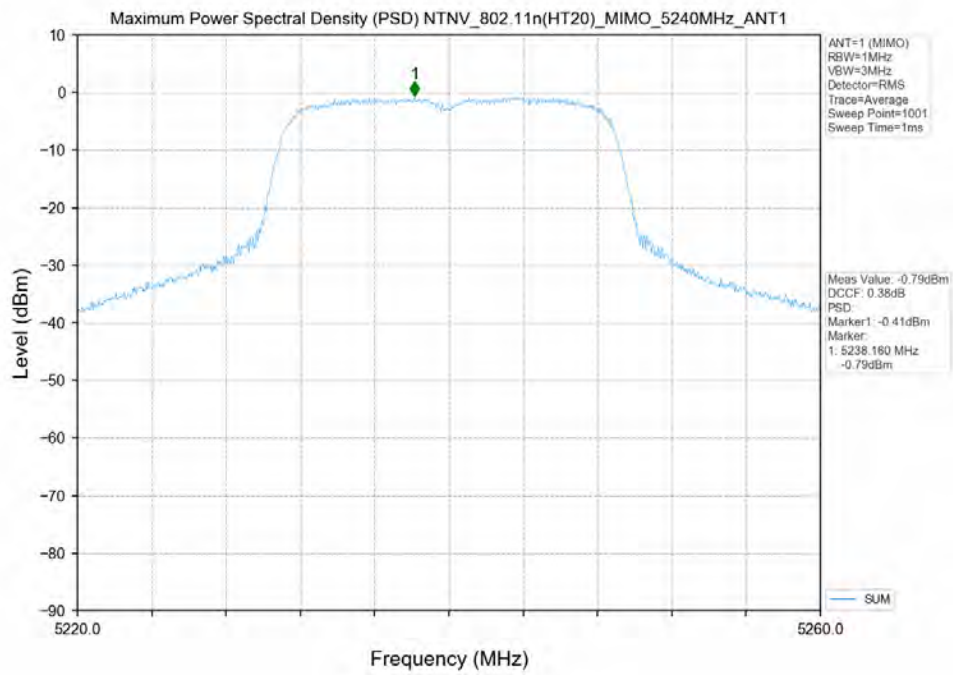
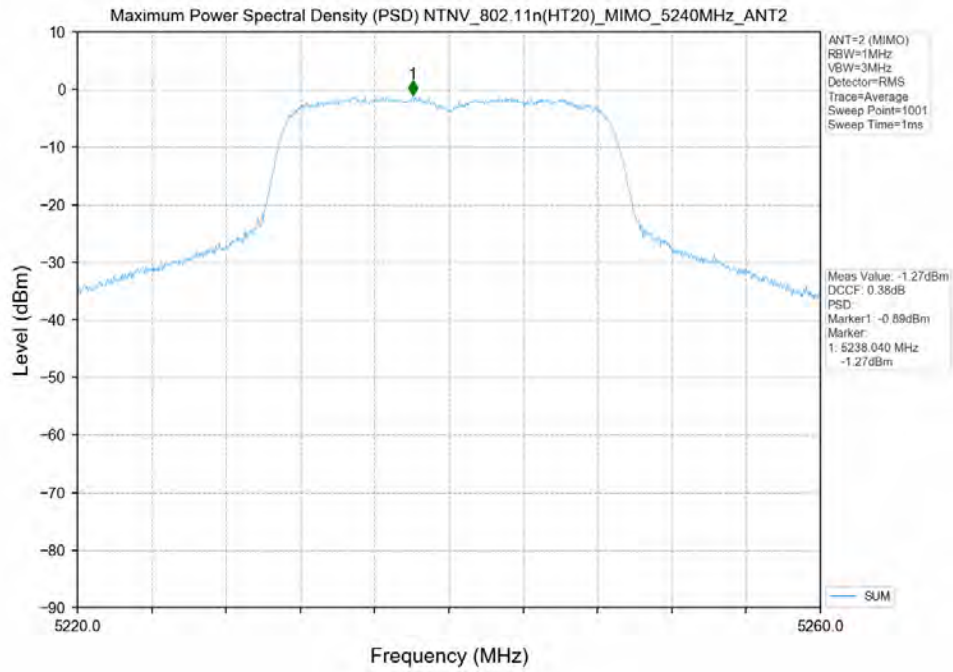


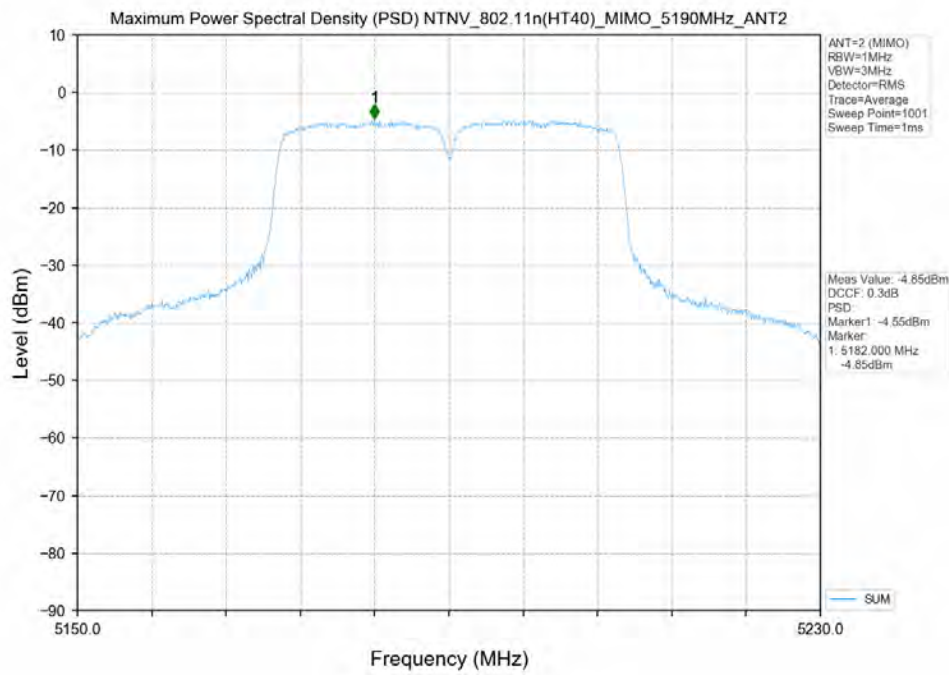
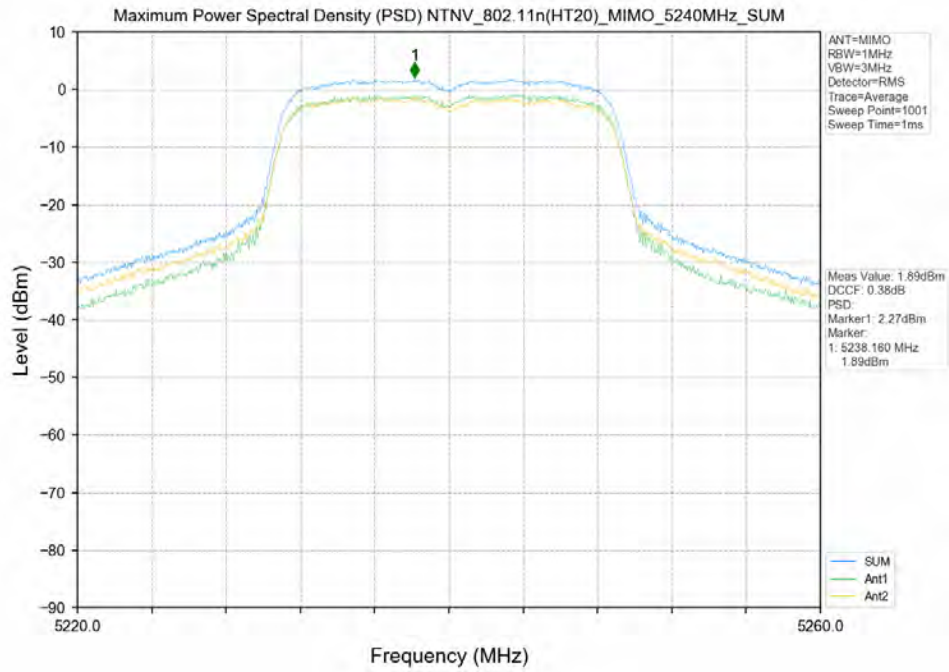


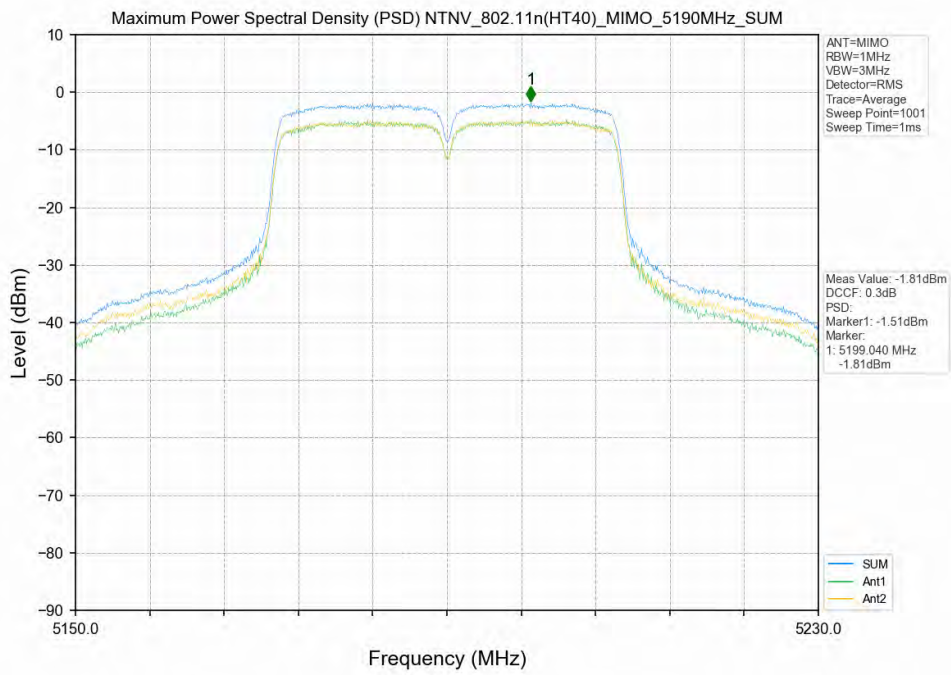
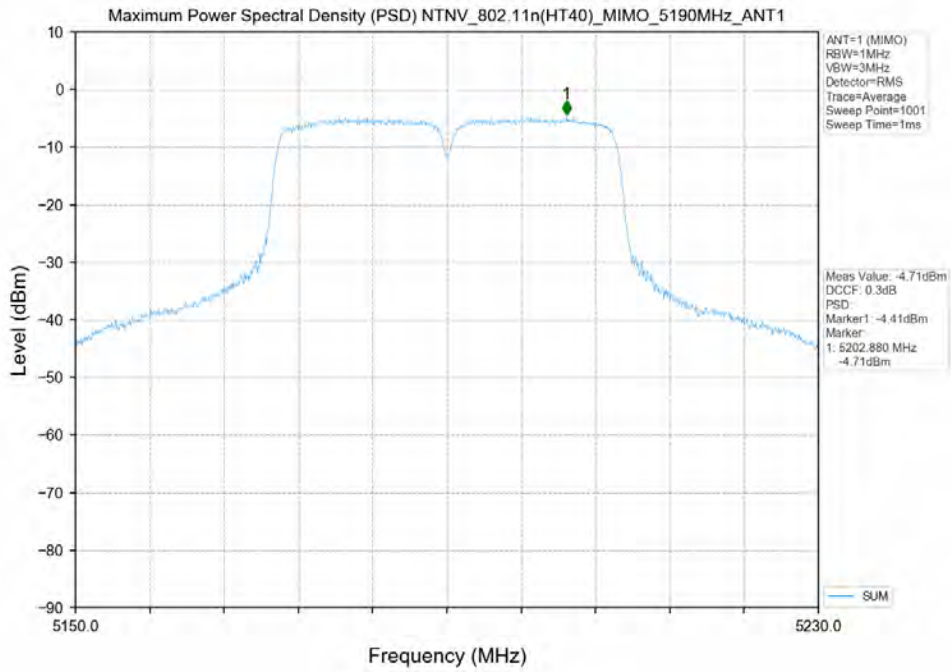


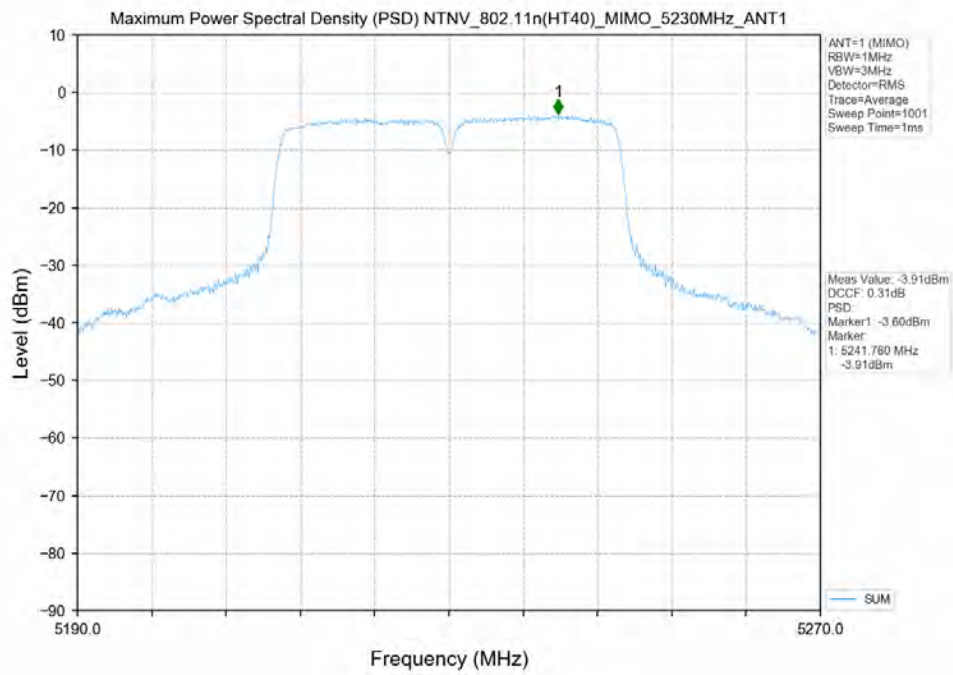
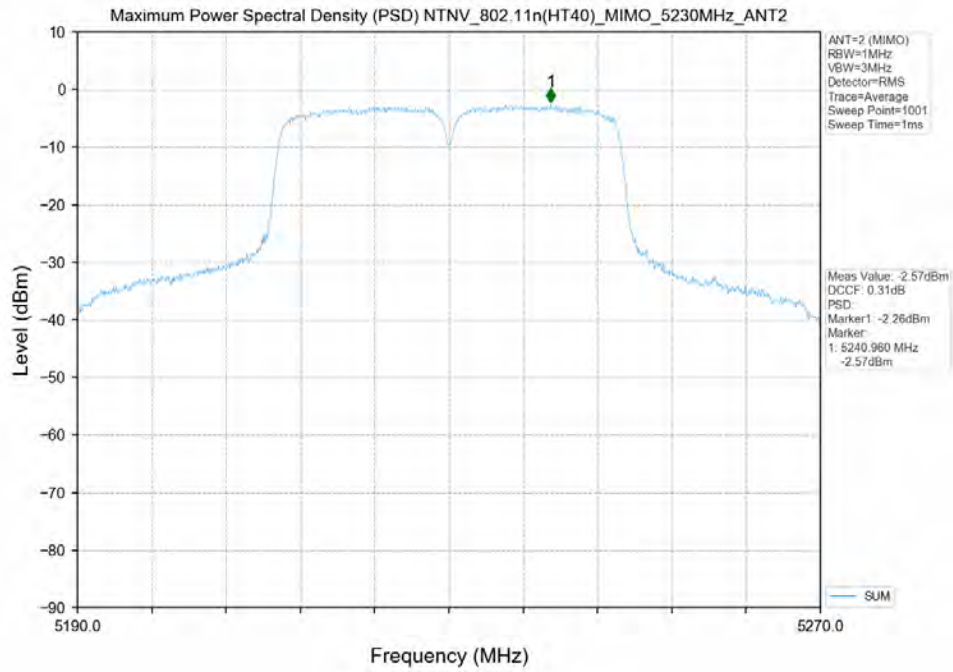


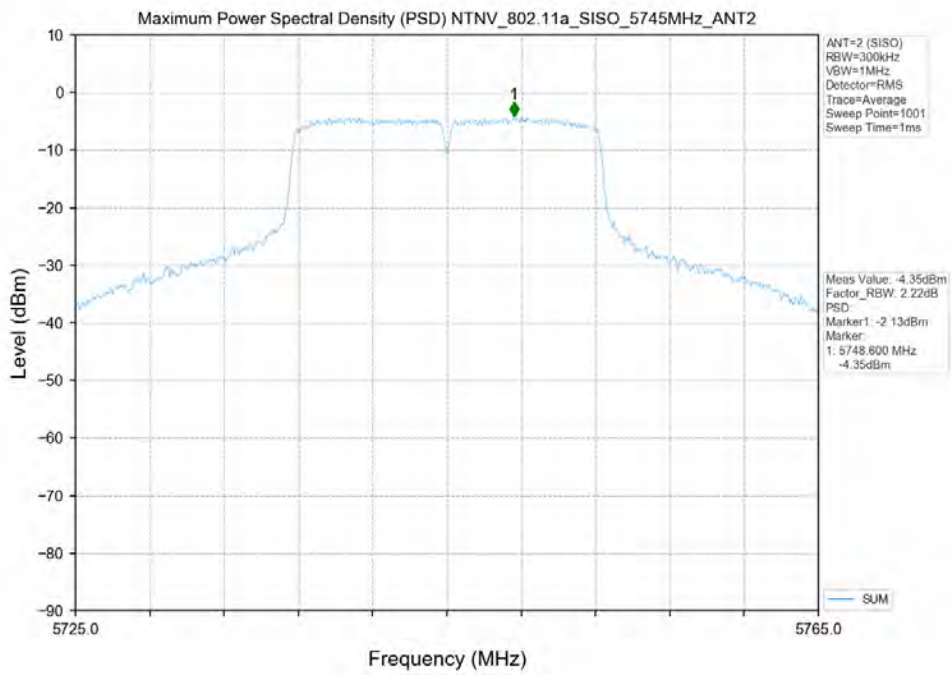
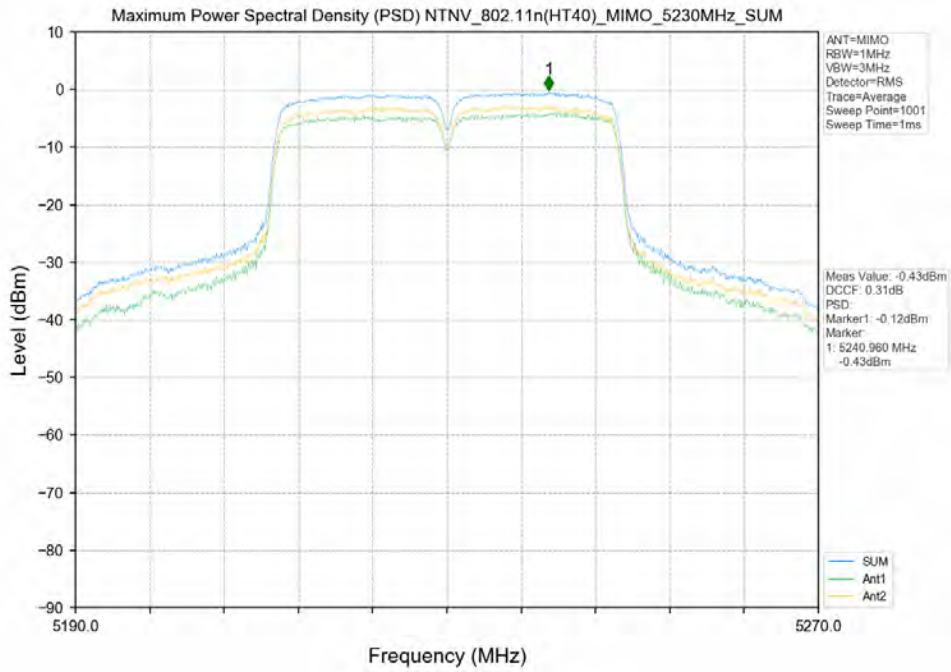


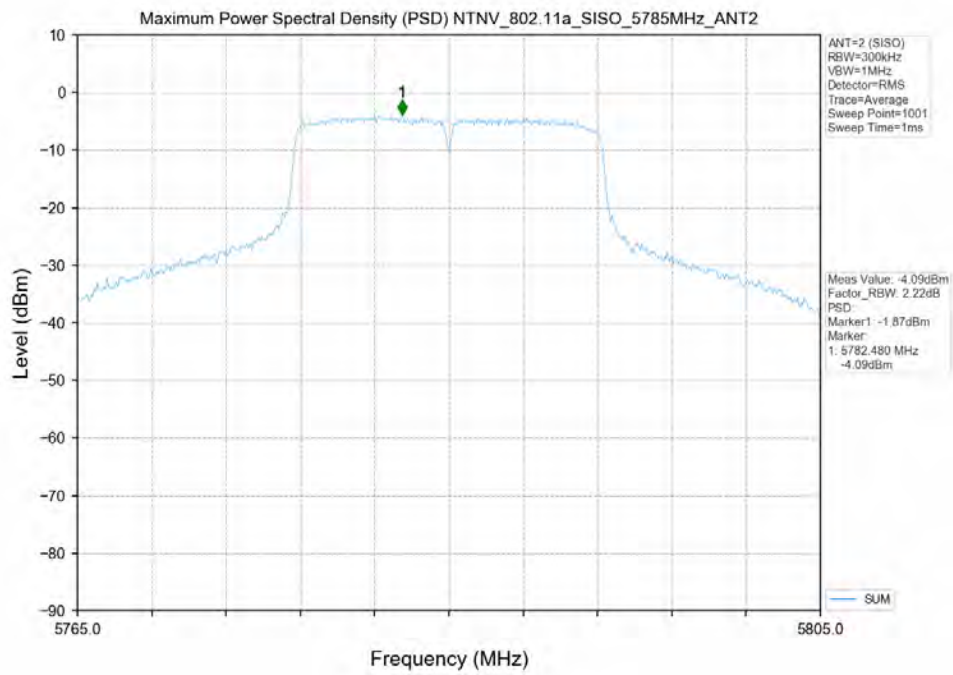
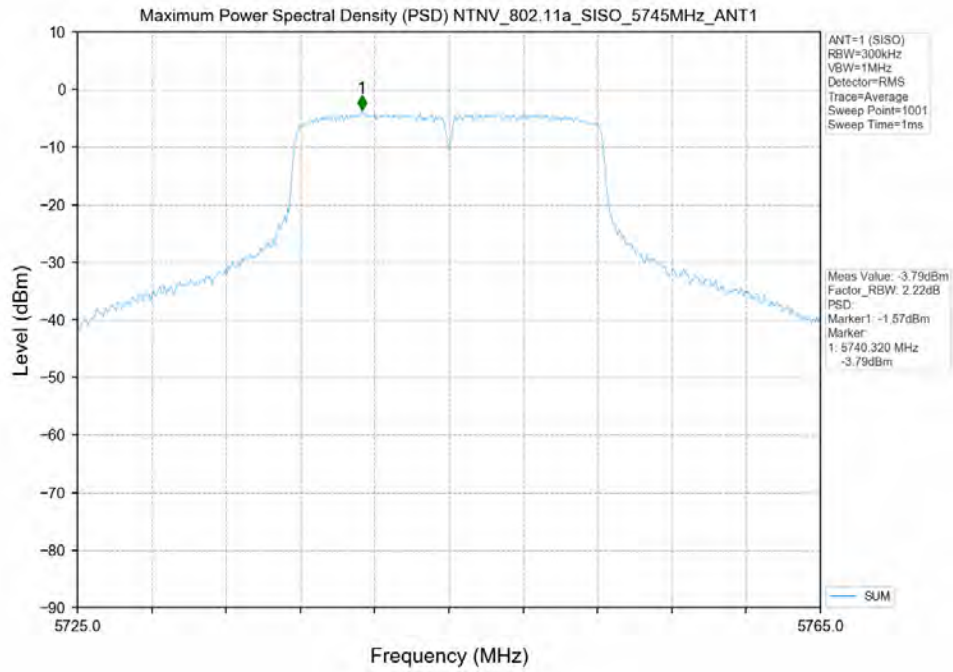


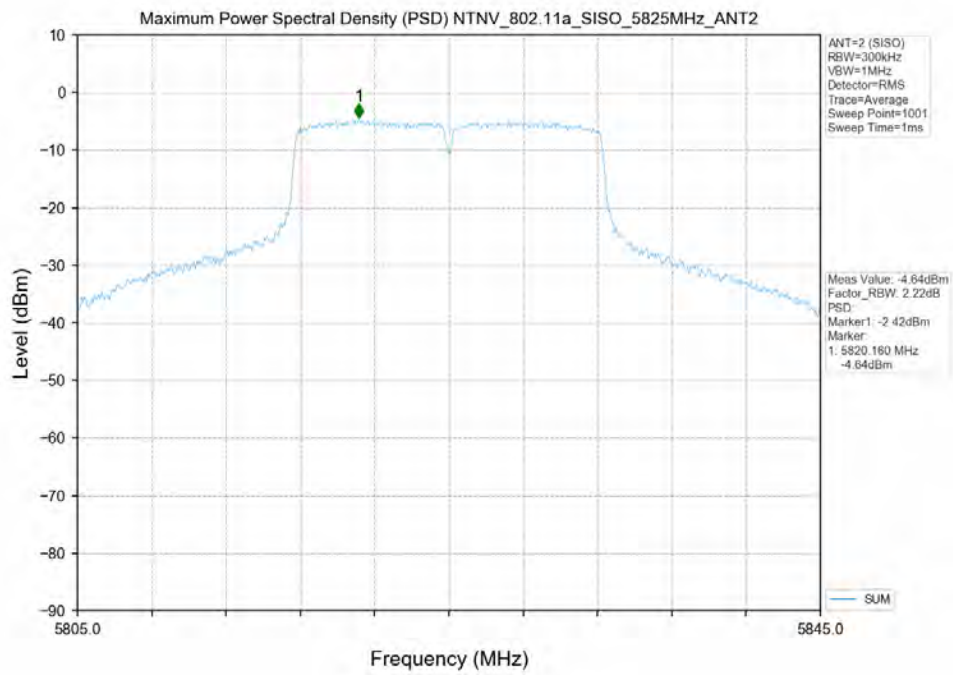
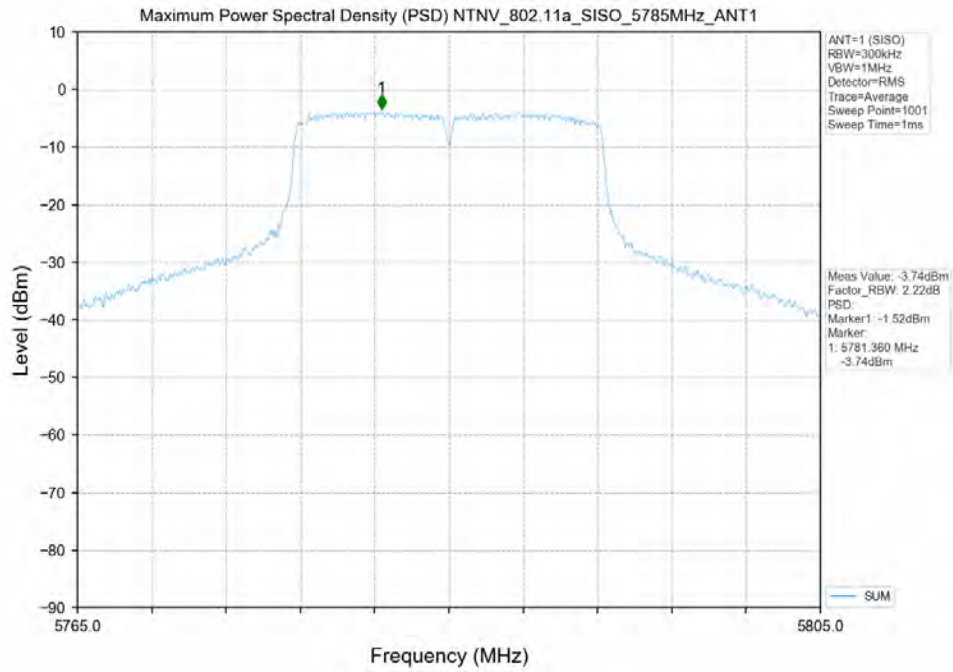


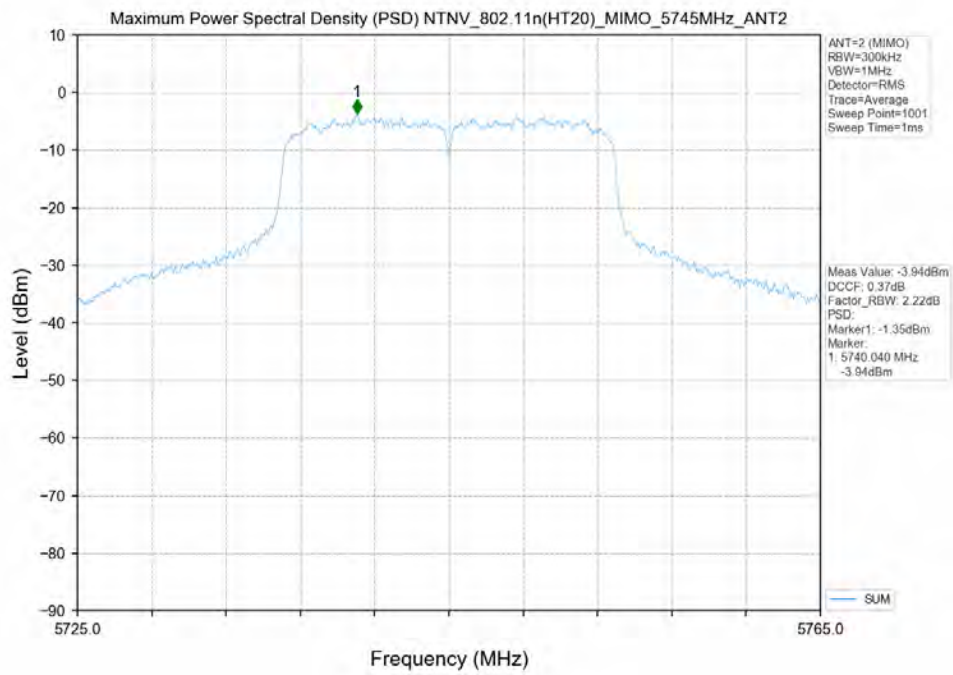
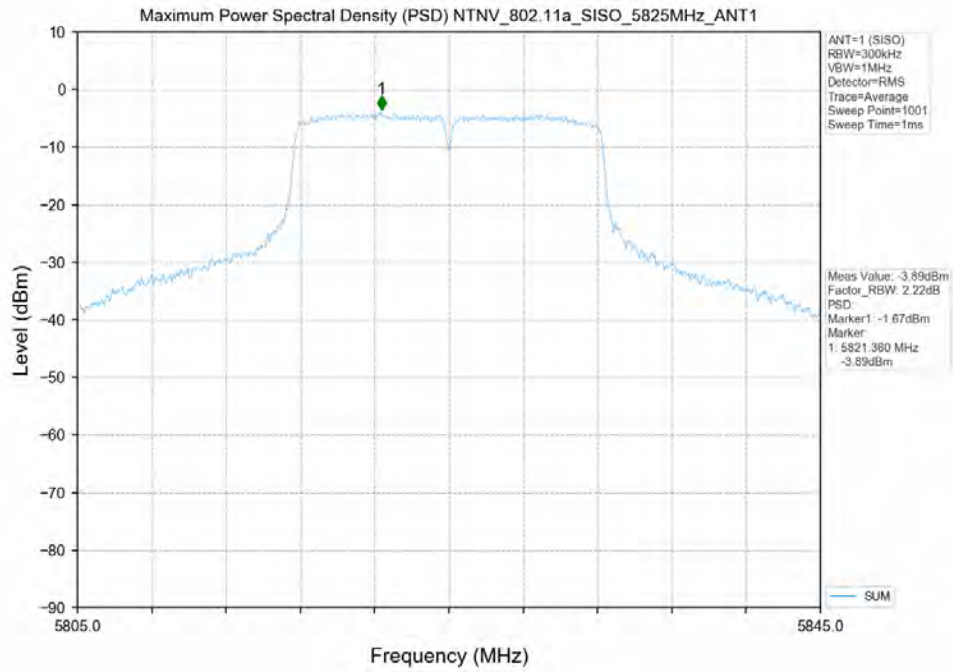


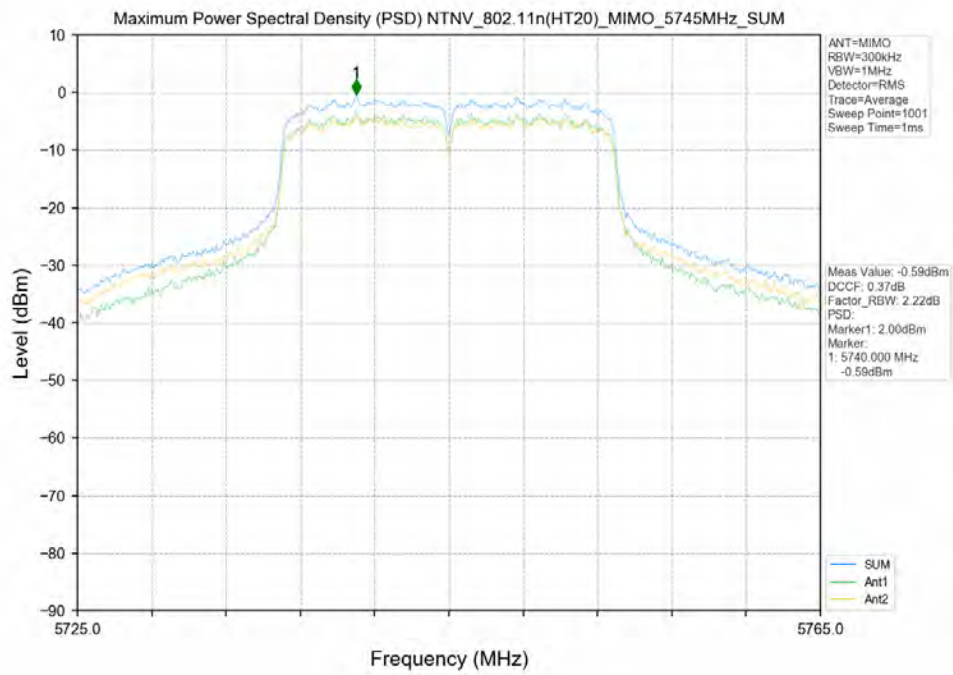
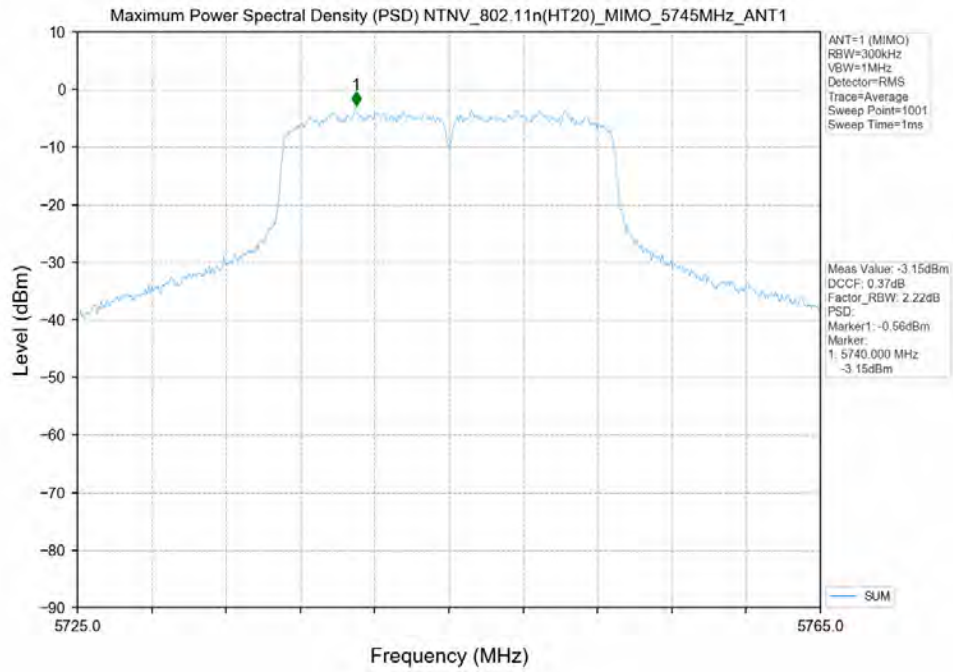


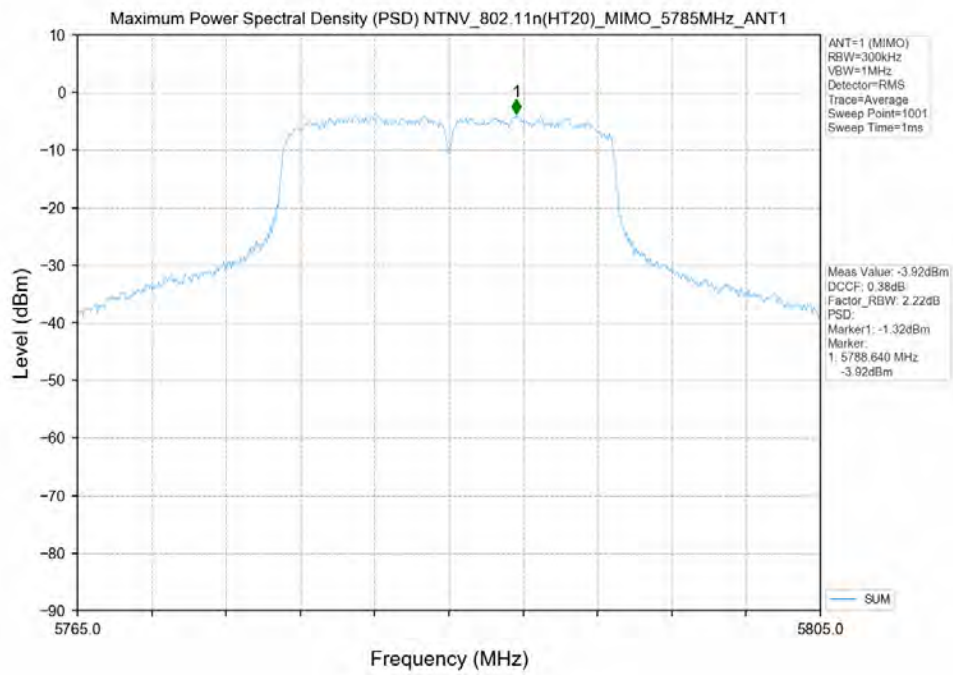
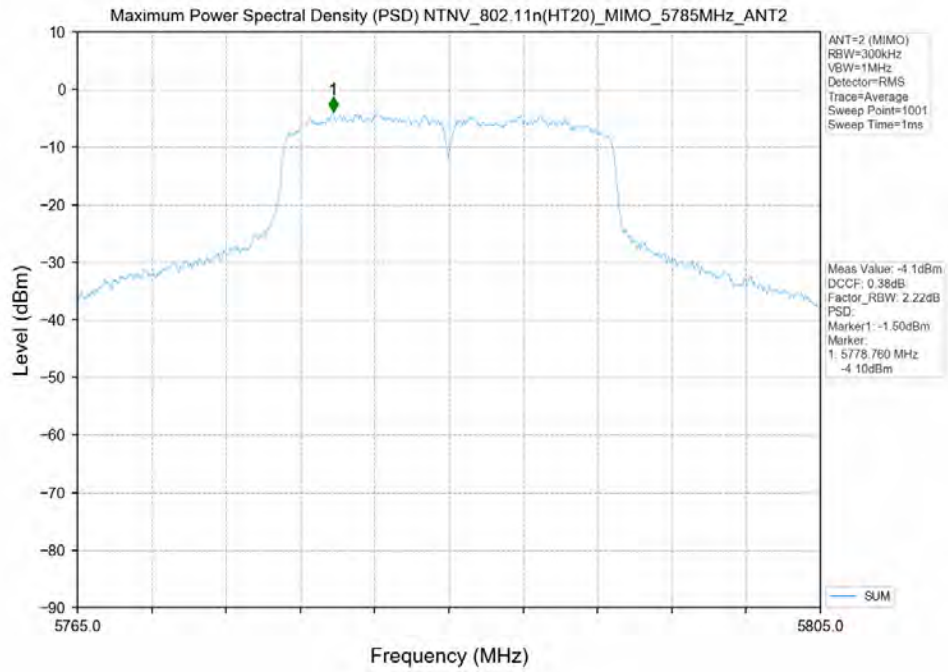


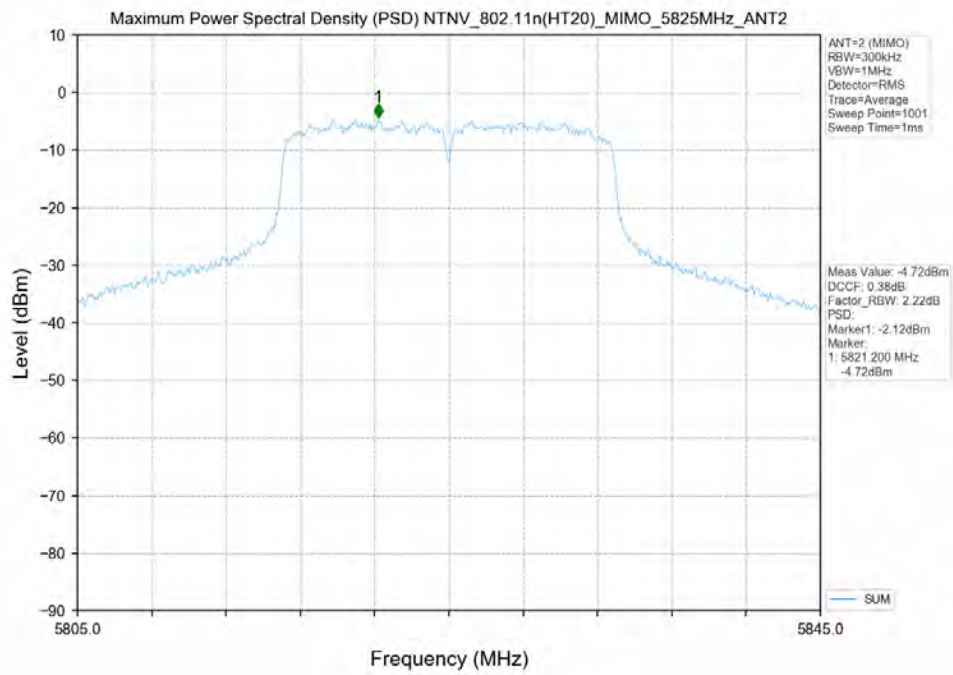
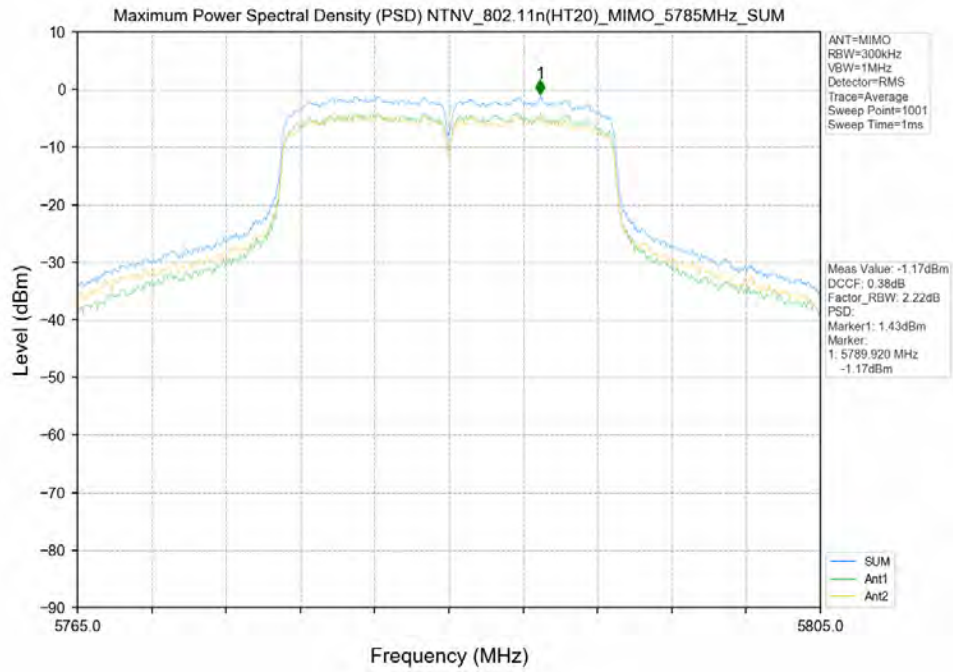


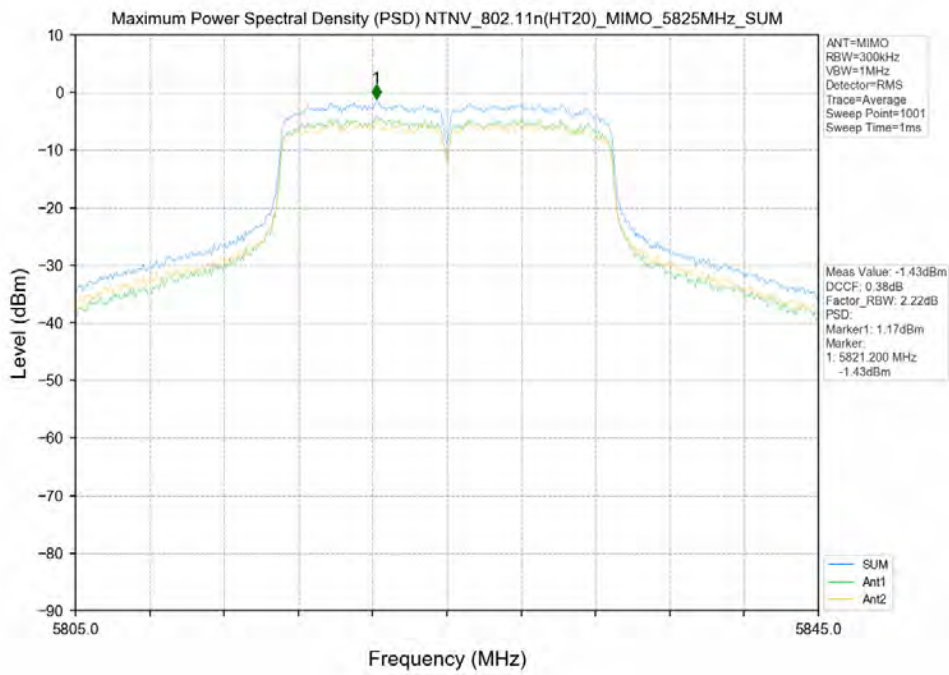
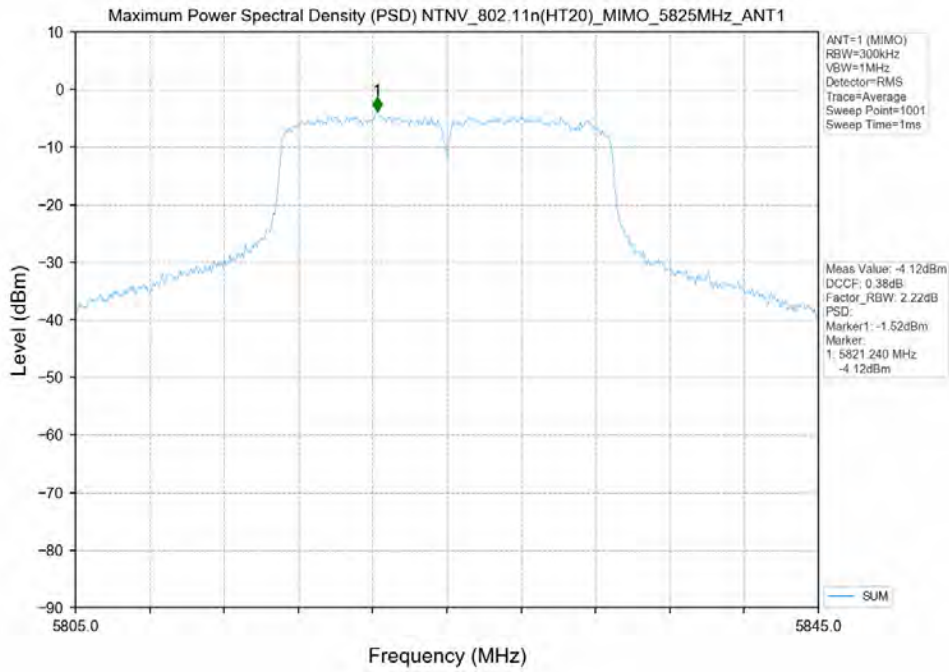


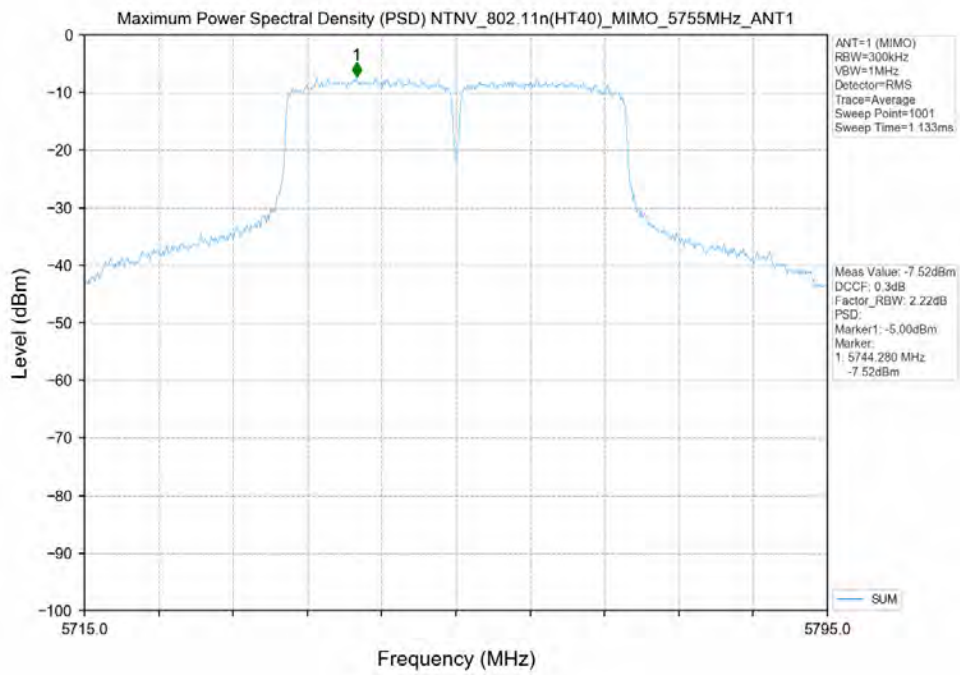
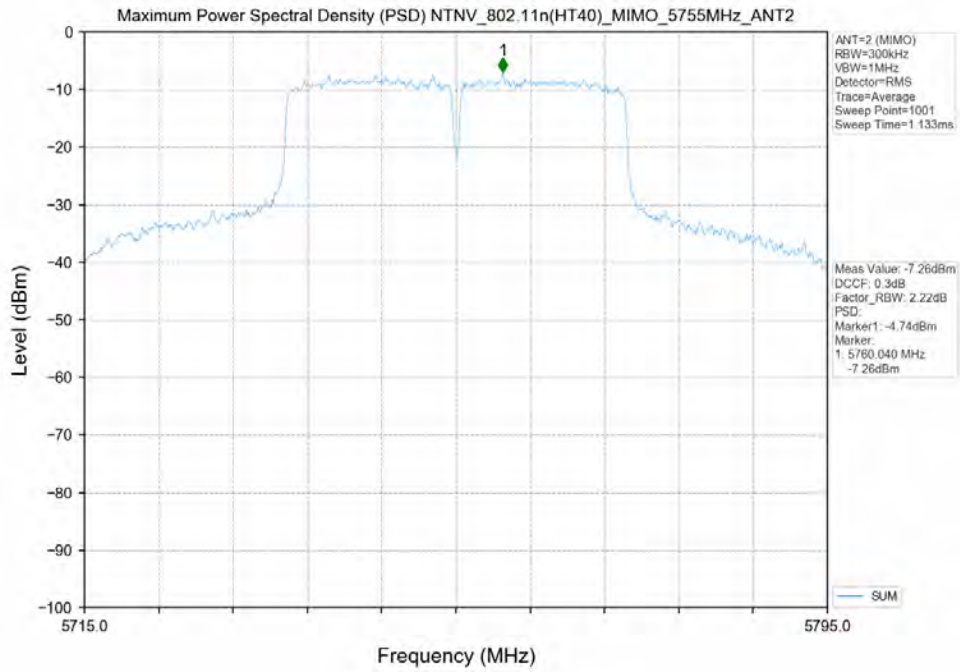


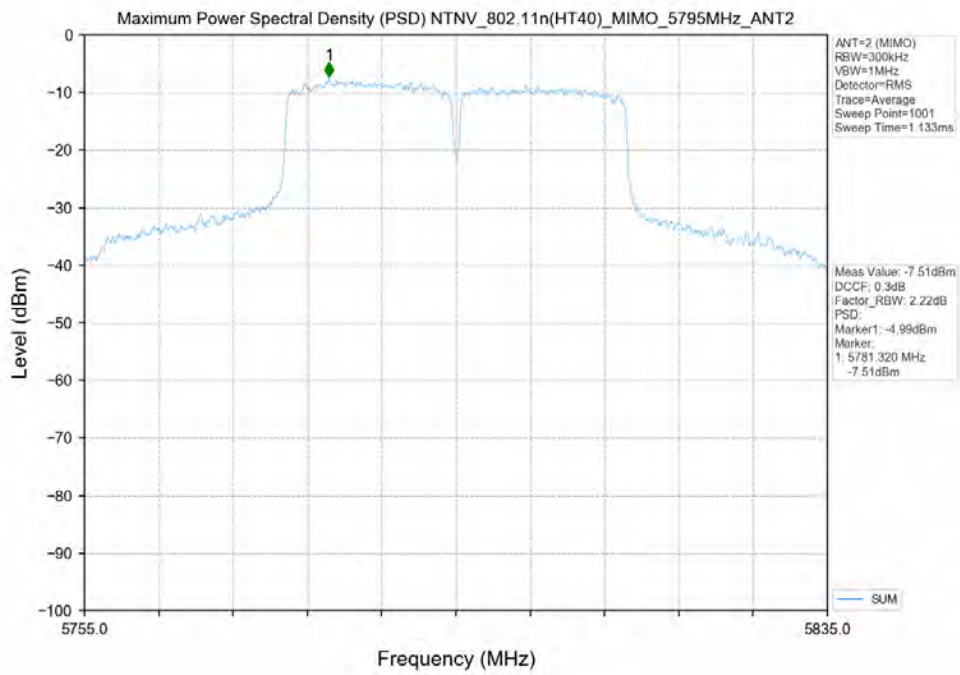
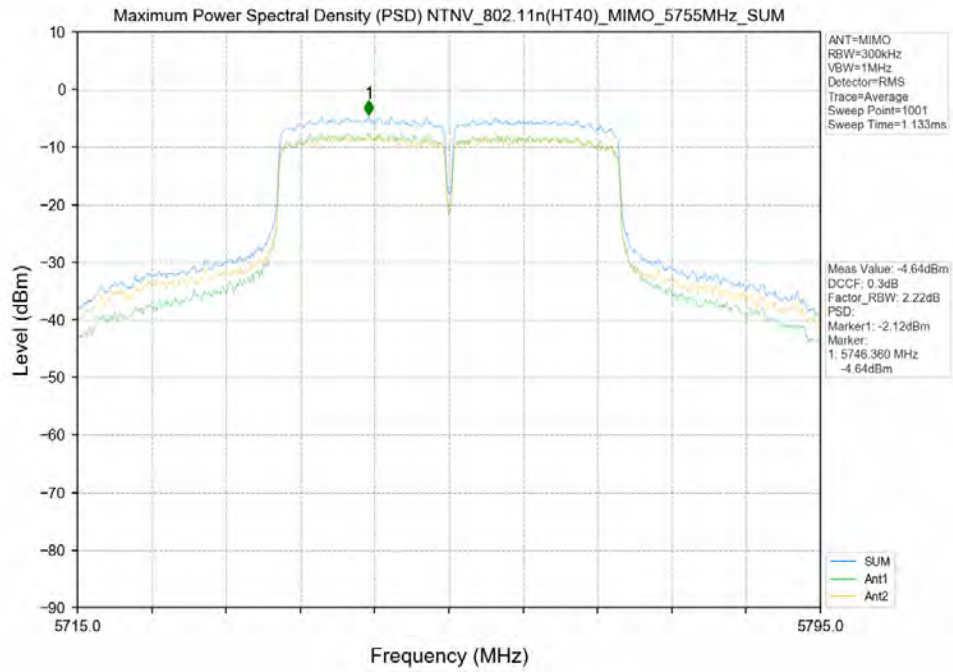


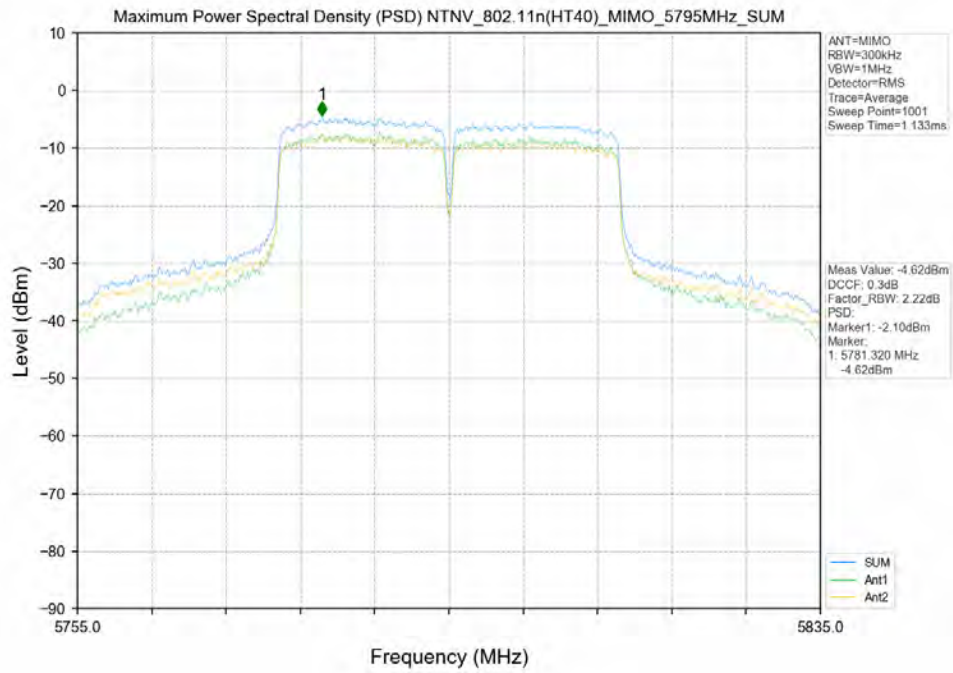
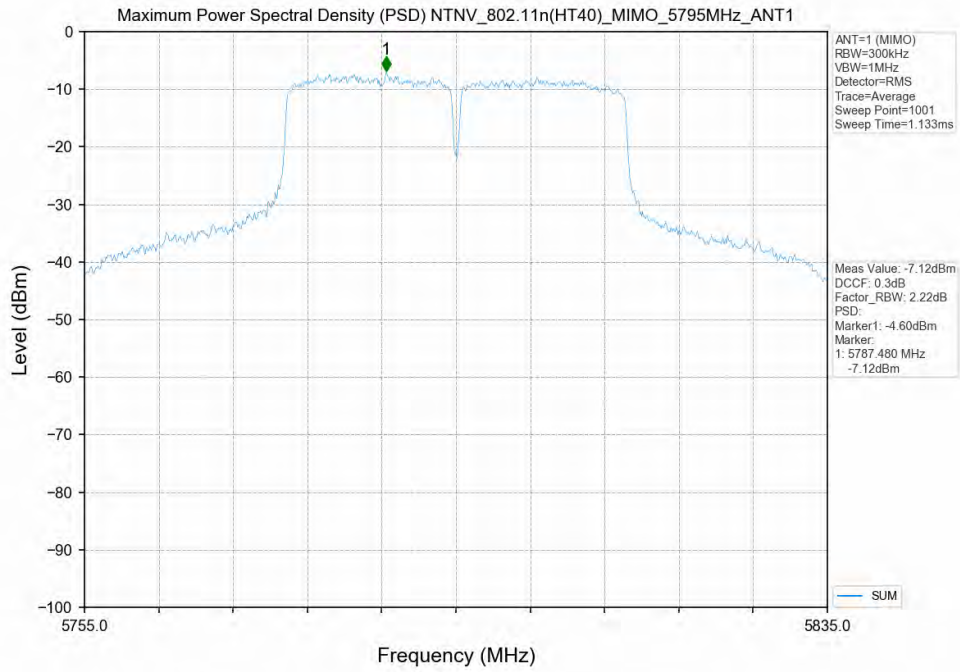












5. Frequency Stability

5.1 Test result

Band	Test Conditions		Operation Frequency (MHz)	Test Frequency (MHz)	Freq. Dev. (MHz)	Limit (GHz)	Result	
	Volt (V VC)	Temp (°C)		ANT1	ANT1			
Band U-NII 1	Normal(120)	Extreme(-20)	5180	5180.0543	0.0543	5.150-5.250	pass	
		Extreme(-10)		5180.0667	0.0667		pass	
		Extreme(0)		5180.1291	0.1291		pass	
		Extreme(+10)		5180.0774	0.0774		pass	
		Extreme(+20)		5180.0498	0.0498		pass	
		Extreme(+30)		5180.0703	0.0703		pass	
		Extreme(+40)		5180.0484	0.0484		pass	
		Extreme(+50)		5180.1484	0.1484		pass	
		Extreme(+60)		5180.1000	0.1000		pass	
		Extreme(+70)		5180.0154	0.0154		pass	
		Extreme(102)		Extreme(+20)	5180.0904		0.0904	pass
		Extreme(138)			5180.0683		0.0683	pass
	Normal(120)	Extreme(-20)	5240	5240.0548	0.0548		pass	
		Extreme(-10)		5240.0558	0.0558		pass	
		Extreme(0)		5240.1368	0.1368		pass	
		Extreme(+10)		5240.0400	0.0400		pass	
		Extreme(+20)		5240.0559	0.0559		pass	
		Extreme(+30)		5240.0438	0.0438		pass	
		Extreme(+40)		5240.1173	0.1173		pass	
		Extreme(+50)		5240.1314	0.1314		pass	
		Extreme(+60)		5240.1373	0.1373		pass	
		Extreme(+70)		5240.1263	0.1263		pass	
		Extreme(102)		Extreme(+20)	5240.0626		0.0626	pass
		Extreme(138)			5240.0821		0.0821	pass

Band	Test Conditions		Operation Frequency (MHz)	Test Frequency (MHz)	Freq. Dev. (MHz)	Limit (GHz)	Result	
	Volt (V VC)	Temp (°C)		ANT1	ANT1			
Band U-NII 3	Normal(120)	Extreme(-20)	5745	5745.0710	0.0710	5.725-5.850	pass	
		Extreme(-10)		5745.0973	0.0973		pass	
		Extreme(0)		5745.1114	0.1114		pass	
		Extreme(+10)		5745.0543	0.0543		pass	
		Extreme(+20)		5745.1006	0.1006		pass	
		Extreme(+30)		5745.0847	0.0847		pass	
		Extreme(+40)		5745.0651	0.0651		pass	
		Extreme(+50)		5745.1339	0.1339		pass	
		Extreme(+60)		5745.0937	0.0937		pass	
		Extreme(+70)		5745.0494	0.0494		pass	
		Extreme(102)		Extreme(+20)	5745.0662		0.0662	pass
		Extreme(138)			5745.0357		0.0357	pass
	Normal(120)	5825	Extreme(-20)	5825.0452	0.0452		pass	
			Extreme(-10)	5825.0951	0.0951		pass	
			Extreme(0)	5825.1323	0.1323		pass	
			Extreme(+10)	5825.0637	0.0637		pass	
			Extreme(+20)	5825.0867	0.0867		pass	
			Extreme(+30)	5825.1174	0.1174		pass	
			Extreme(+40)	5825.1411	0.1411		pass	
			Extreme(+50)	5825.0748	0.0748		pass	
			Extreme(+60)	5825.0885	0.0885		pass	
			Extreme(+70)	5825.0714	0.0714		pass	
			Extreme(102)	Extreme(+20)	5825.0475		0.0475	pass
			Extreme(138)		5825.0438		0.0438	pass

Remark: Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested