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3. Maximum Conducted Output Power

3.1 Test Result

Test Mode	Frequency (MHz)	Tx Type	Power Setting	Measured Output Power (dBm)					Limit (dBm)	Verdict
				Ant 1	Ant 2	Ant 3	Ant 4	Total		
802.11a	5180	SISO	10	3.84	5.34	4.63	6.53	/	≤30.00	PASS
	5200	SISO	10	3.70	4.08	5.49	6.57	/	≤30.00	PASS
	5240	SISO	10	3.34	4.60	4.49	7.31	/	≤30.00	PASS
	5745	SISO	18	8.43	8.59	8.94	10.63	/	≤30.00	PASS
	5785	SISO	18	8.85	8.02	9.07	10.60	/	≤30.00	PASS
	5825	SISO	18	7.82	7.66	7.98	11.22	/	≤30.00	PASS
802.11n (HT20)	5180	MIMO	10	1.33	2.14	4.82	2.19	8.66	≤26.13	PASS
	5200	MIMO	10	1.12	2.09	4.02	2.05	8.48	≤26.13	PASS
	5240	MIMO	10	1.2	2.2	3.82	2.3	8.50	≤26.13	PASS
	5745	MIMO	18	4.62	3.65	6.1	7.56	11.76	≤26.13	PASS
	5785	MIMO	18	5.17	3.13	5.72	8.07	11.90	≤26.13	PASS
	5825	MIMO	18	6.02	4.43	6.14	7.89	12.31	≤26.13	PASS
802.11n (HT40)	5190	MIMO	10	2.13	6.46	8.6	7.3	12.71	≤26.13	PASS
	5230	MIMO	10	2.03	5.64	7.31	7.47	12.10	≤26.13	PASS
	5755	MIMO	18	10.18	7.93	10.33	11.71	16.26	≤26.13	PASS
	5795	MIMO	18	9.16	6.95	9.29	11.07	15.38	≤26.13	PASS
802.11ac (VHT20)	5180	MIMO	10	1.01	2.57	5.1	3.24	9.25	≤26.13	PASS
	5200	MIMO	10	1.06	5.24	5.66	3.56	10.24	≤26.13	PASS
	5240	MIMO	10	1.7	3.7	4.82	4.05	9.73	≤26.13	PASS
	5745	MIMO	18	5.95	3.52	6.81	9.58	13.02	≤26.13	PASS
	5785	MIMO	18	7.33	3.68	7.5	8	12.94	≤26.13	PASS
	5825	MIMO	18	5.73	3.48	7.31	8.64	12.71	≤26.13	PASS
802.11ac (VHT40)	5190	MIMO	10	1.88	7.36	9.16	6.41	12.92	≤26.13	PASS
	5230	MIMO	10	2.63	7.08	8.24	6.33	12.53	≤26.13	PASS
	5755	MIMO	18	7.83	6.81	9.29	11.6	15.29	≤26.13	PASS
	5795	MIMO	18	9.16	7.56	10.4	11.22	15.82	≤26.13	PASS
802.11ac (VHT80)	5210	MIMO	10	1.4	4.28	5.71	4.22	10.18	≤26.13	PASS
	5775	MIMO	18	3.68	1.35	3.84	5.59	9.89	≤26.13	PASS

Note: Directional gain = $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 3.85 + 10 \cdot \log(4/1) = 9.87\text{dBi}$.

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 1	Ant 2	Ant 3	Ant 4	Total		
802.11a	5180	SISO	-1.91	0.09	1.38	-0.43	/	≤17	PASS
	5200	SISO	-1.25	-1.09	0.05	1.41	/	≤17	PASS
	5240	SISO	-1.96	-2.03	-0.89	2.64	/	≤17	PASS
802.11n(HT20)	5180	MIMO	2.70	7.58	9.13	7.01	11.75	See note*	PASS
	5200	MIMO	2.31	6.94	8.75	7.01	11.03	See note*	PASS
	5240	MIMO	4.26	6.80	7.09	7.02	10.91	See note*	PASS
802.11n(HT40)	5190	MIMO	-1.37	3.20	4.25	2.41	7.71	See note*	PASS
	5230	MIMO	-2.09	1.04	3.66	2.52	6.73	See note*	PASS
802.11ac(VHT20)	5180	MIMO	2.47	7.62	7.43	7.52	11.62	See note*	PASS
	5200	MIMO	3.19	8.54	9.21	7.18	12.73	See note*	PASS
	5240	MIMO	2.54	6.96	8.43	7.10	11.83	See note*	PASS
802.11ac(VHT40)	5190	MIMO	-1.72	2.85	3.10	2.57	7.39	See note*	PASS
	5230	MIMO	-2.21	2.41	2.59	1.75	6.82	See note*	PASS
802.11ac(VHT80)	5210	MIMO	-5.25	-0.49	0.95	-0.86	3.90	See note*	PASS

Note: Directional gain = $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 3.85 + 10 \cdot \log(4/1) = 9.87\text{dBi}$.

So, the PSD limit for SISO mode of 802.11n/ac is 17dBm/MHz, the PSD limit for MIMO mode of 802.11n/ac is 13.13dBm/MHz.

Test Mode	Frequency (MHz)	Tx Type	Maximum Power Spectral Density (dBm/500kHz)					Limits (dBm/500kHz)	Verdict
			Ant 1	Ant 2	Ant 3	Ant 4	Total		
802.11a	5745	SISO	0.04	0.71	1.58	2.34	/	≤30	PASS
	5785	SISO	0.64	1.36	1.66	2.12	/	≤30	PASS
	5825	SISO	0.97	0.20	-0.98	4.90	/	≤30	PASS
802.11n(HT20)	5745	MIMO	7.55	5.53	9.24	11.24	13.45	See note*	PASS
	5785	MIMO	7.73	6.29	8.18	9.96	12.88	See note*	PASS
	5825	MIMO	8.99	3.60	8.22	12.16	14.85	See note*	PASS
802.11n(HT40)	5755	MIMO	1.19	0.70	2.20	4.40	7.91	See note*	PASS
	5795	MIMO	3.39	0.21	2.38	3.75	8.03	See note*	PASS
802.11ac(VHT20)	5745	MIMO	8.70	5.10	9.32	10.11	14.18	See note*	PASS
	5785	MIMO	8.05	4.74	7.80	11.02	13.62	See note*	PASS
	5825	MIMO	8.85	4.21	8.37	9.13	11.99	See note*	PASS
802.11ac(VHT40)	5755	MIMO	3.68	-0.17	3.52	4.02	8.14	See note*	PASS
	5795	MIMO	3.67	0.69	1.88	4.37	8.34	See note*	PASS
802.11ac(VHT80)	5775	MIMO	-3.09	-6.12	-3.77	-1.23	1.38	See note*	PASS

Note: Directional gain = $G_{ANT} + 10 \cdot \log(N_{ANT}/N_{SS}) = 3.85 + 10 \cdot \log(4/1) = 9.87\text{dBi}$.

So, the PSD limit for SISO mode of 802.11n/ac is 30dBm/500KHz, the PSD limit for MIMO mode of 802.11n/ac is 26.13dBm/500KHz.

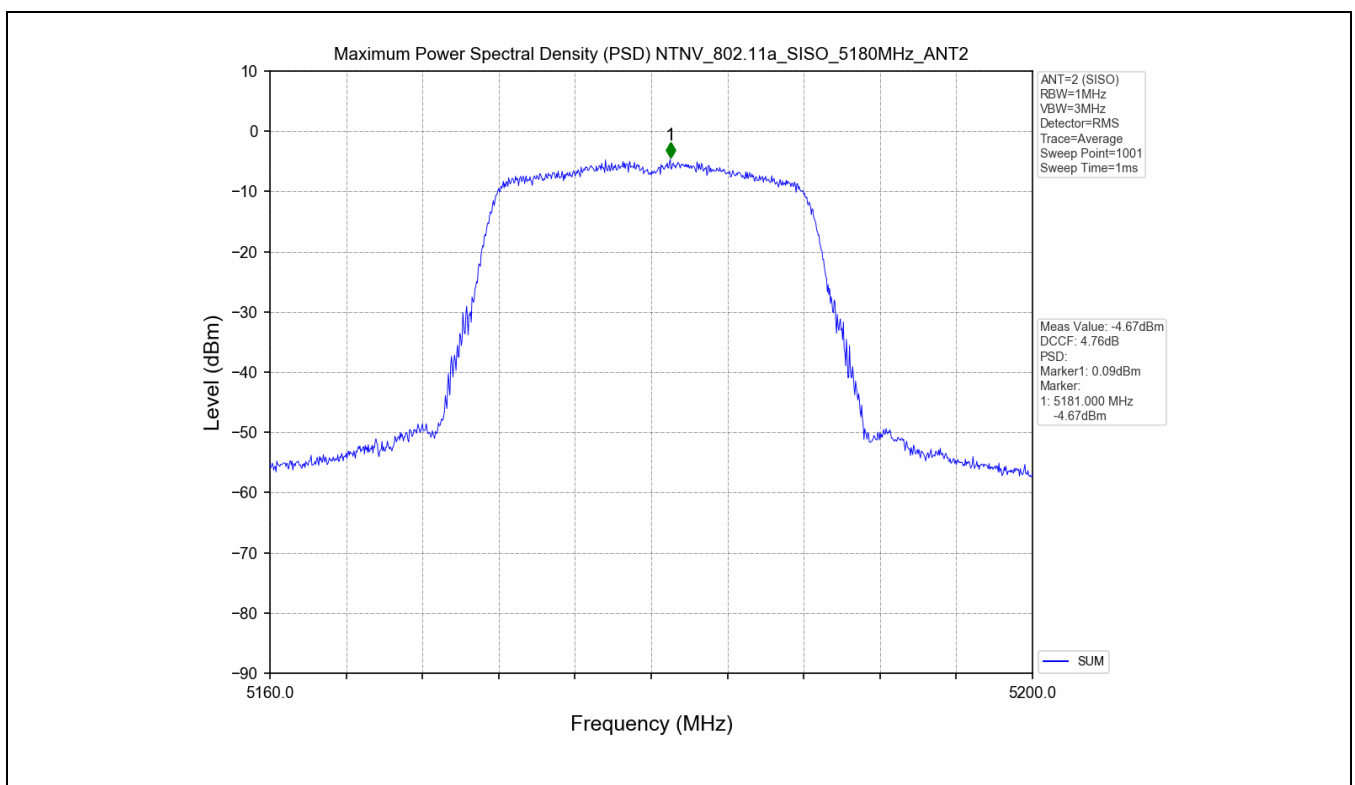
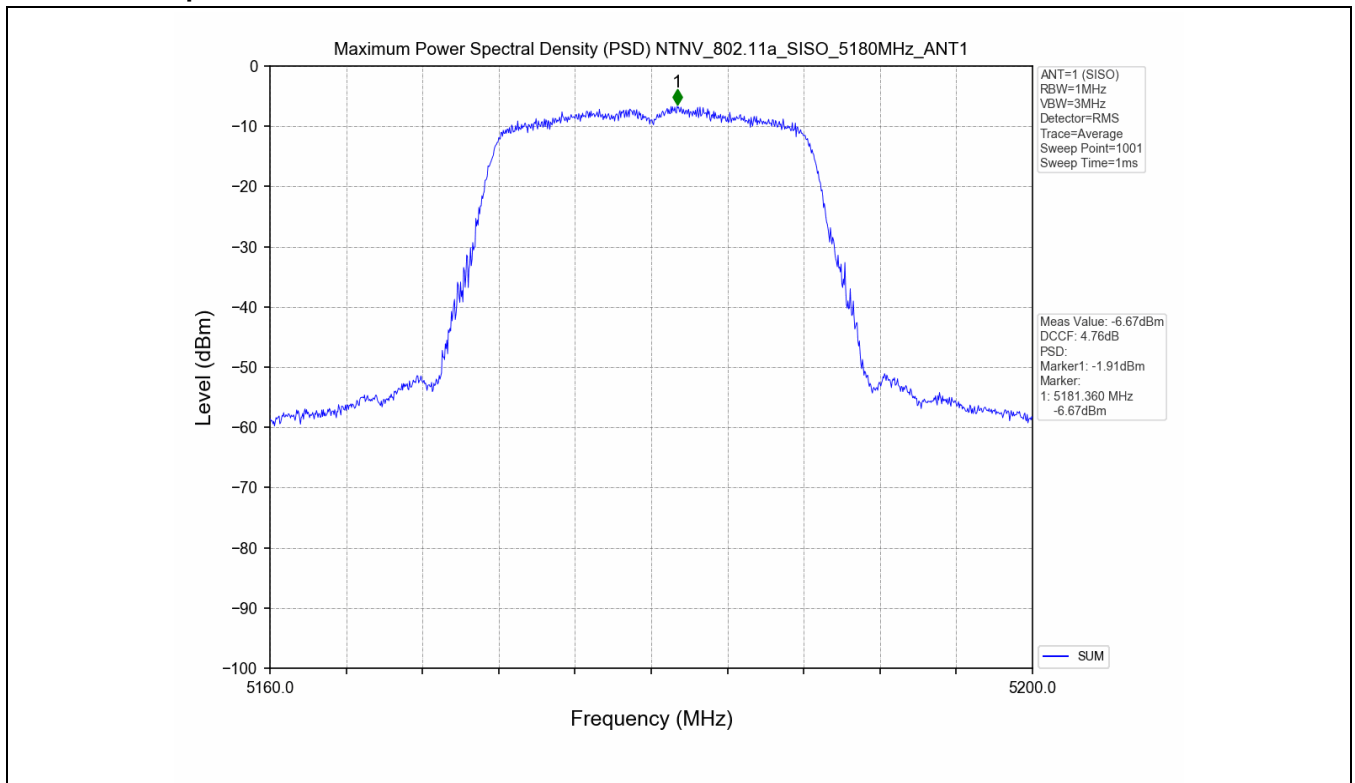


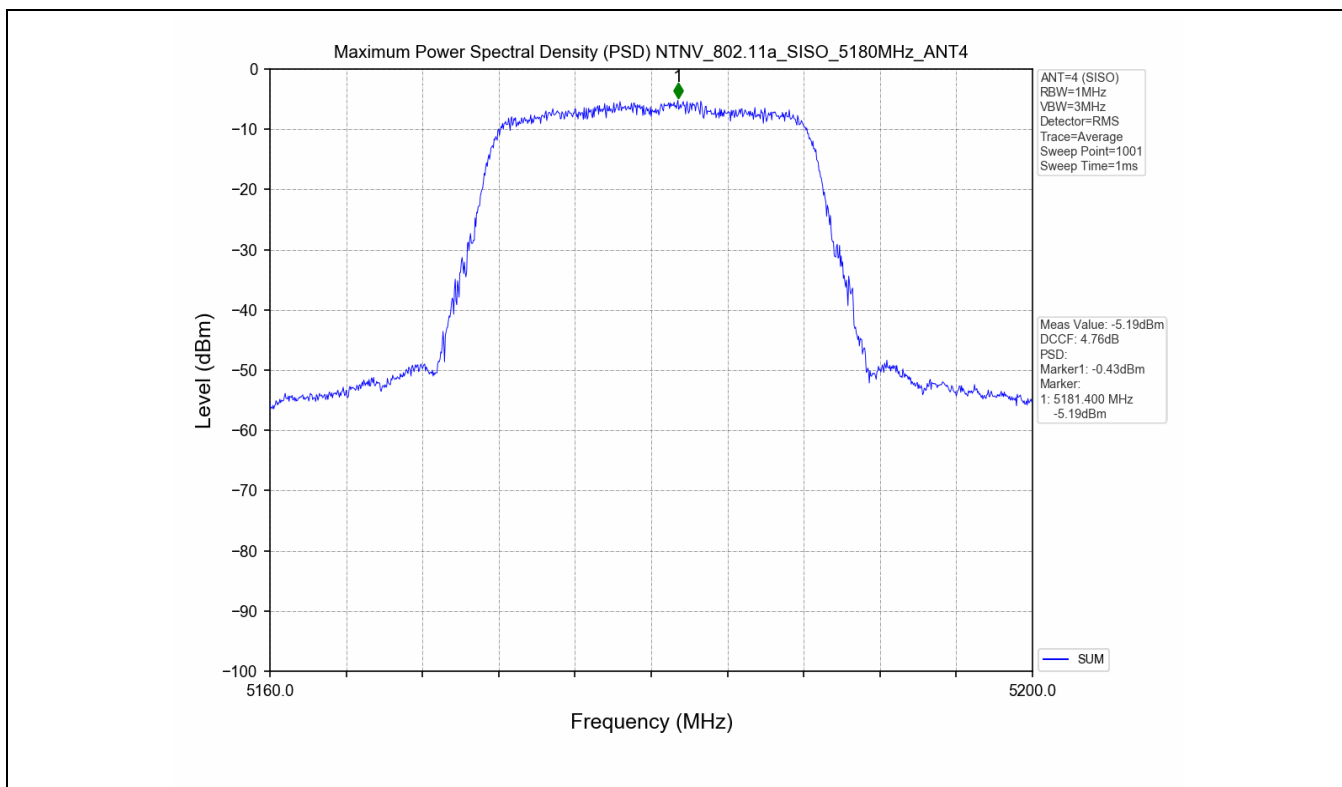
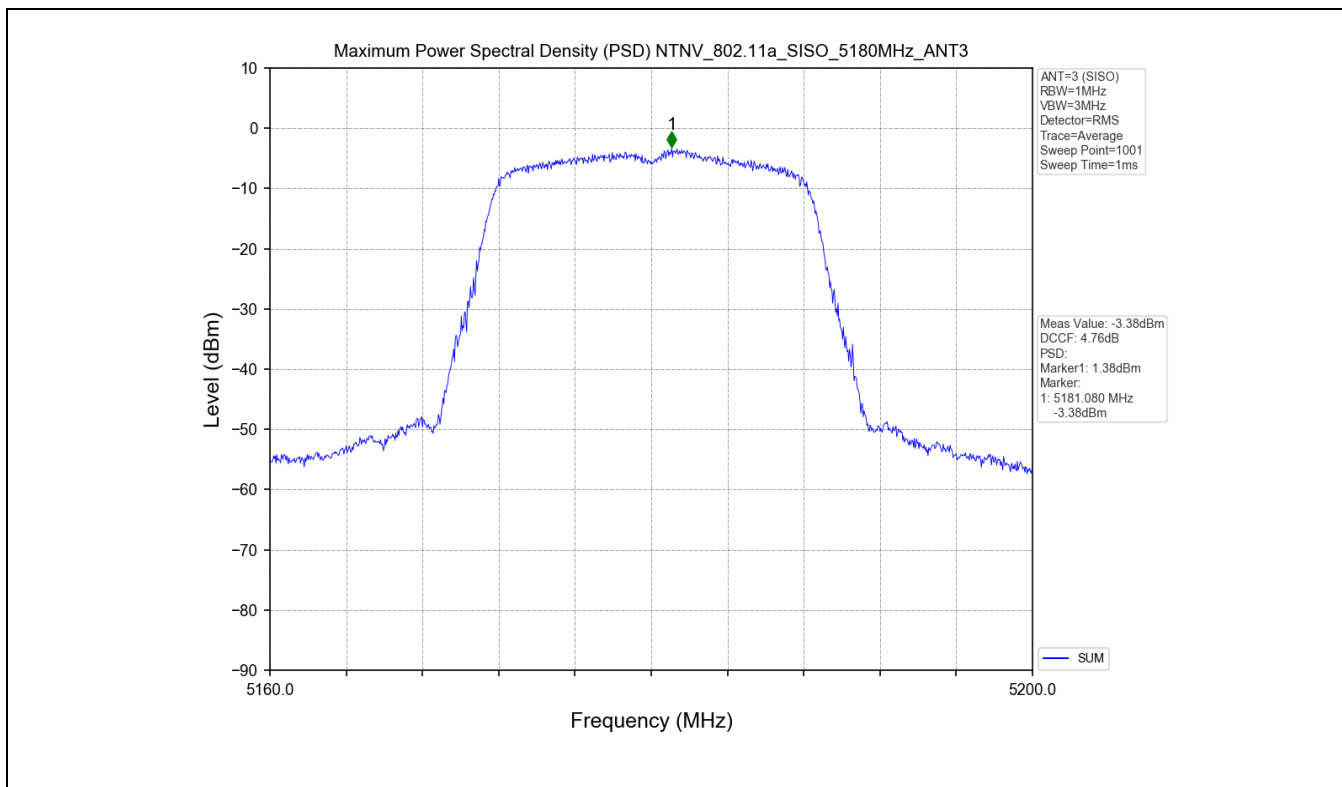
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4.2 Test Graph

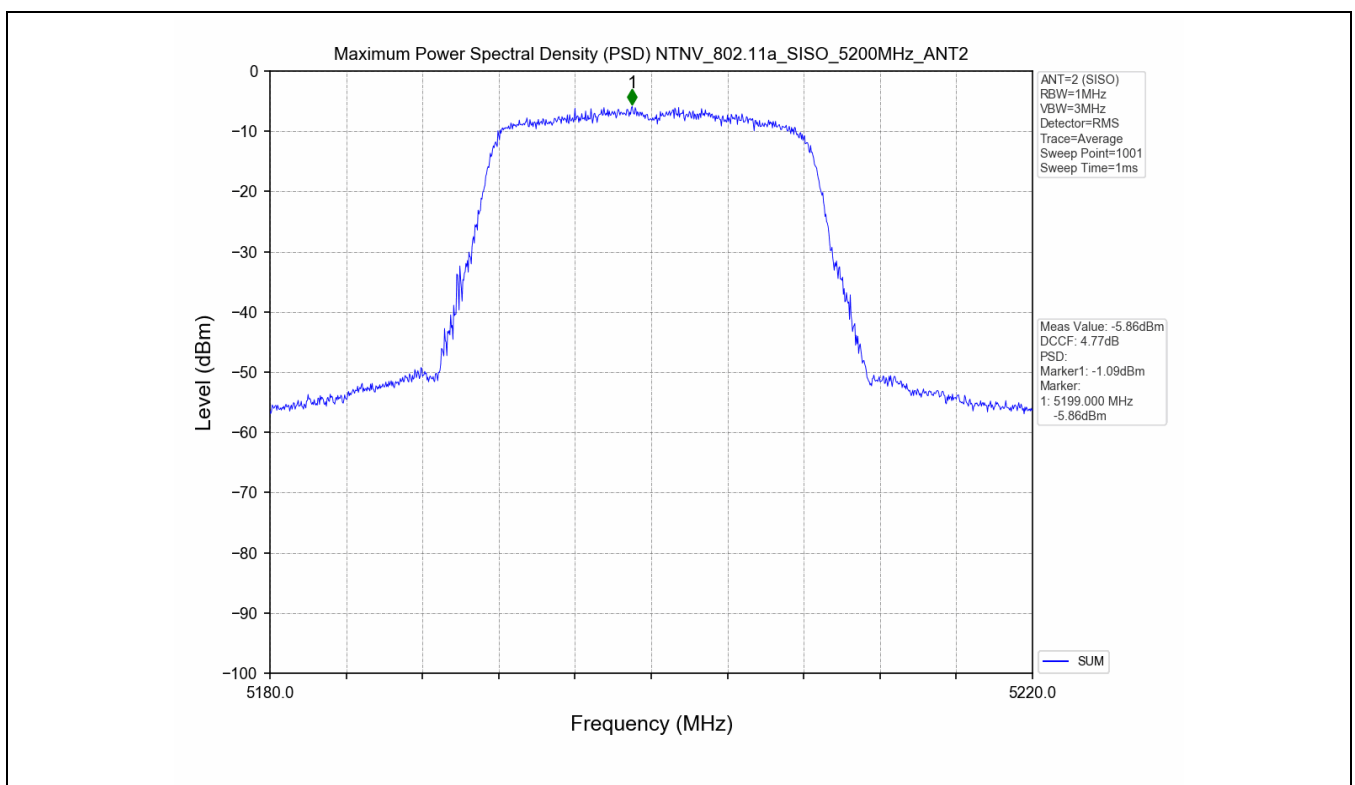
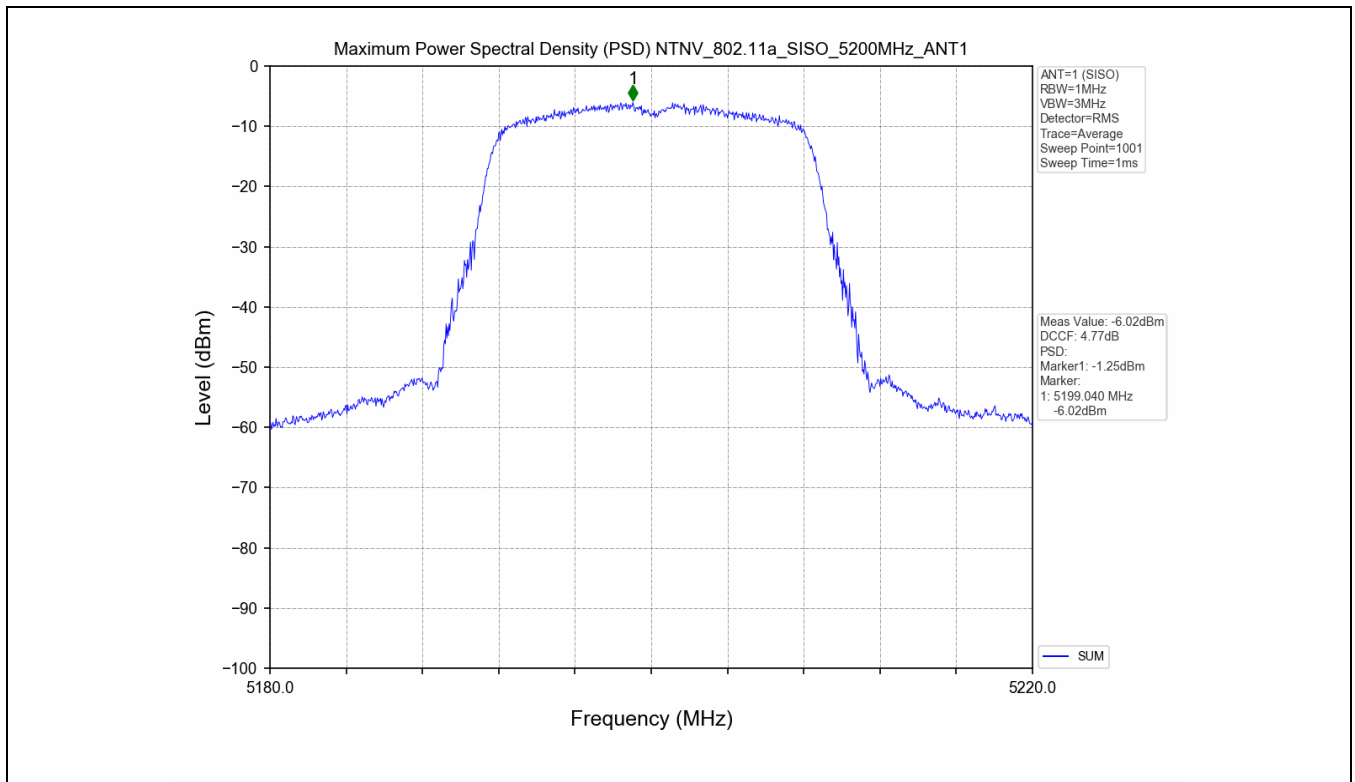


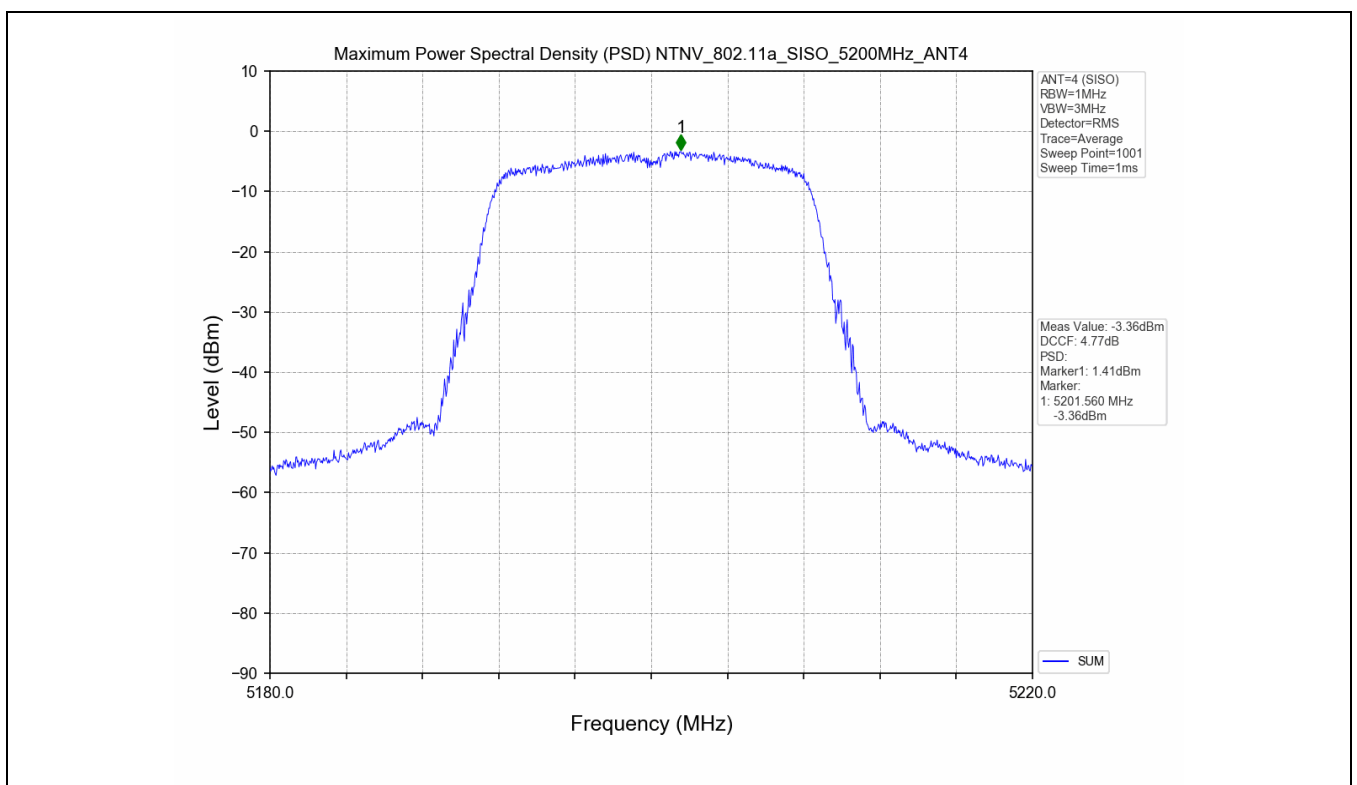
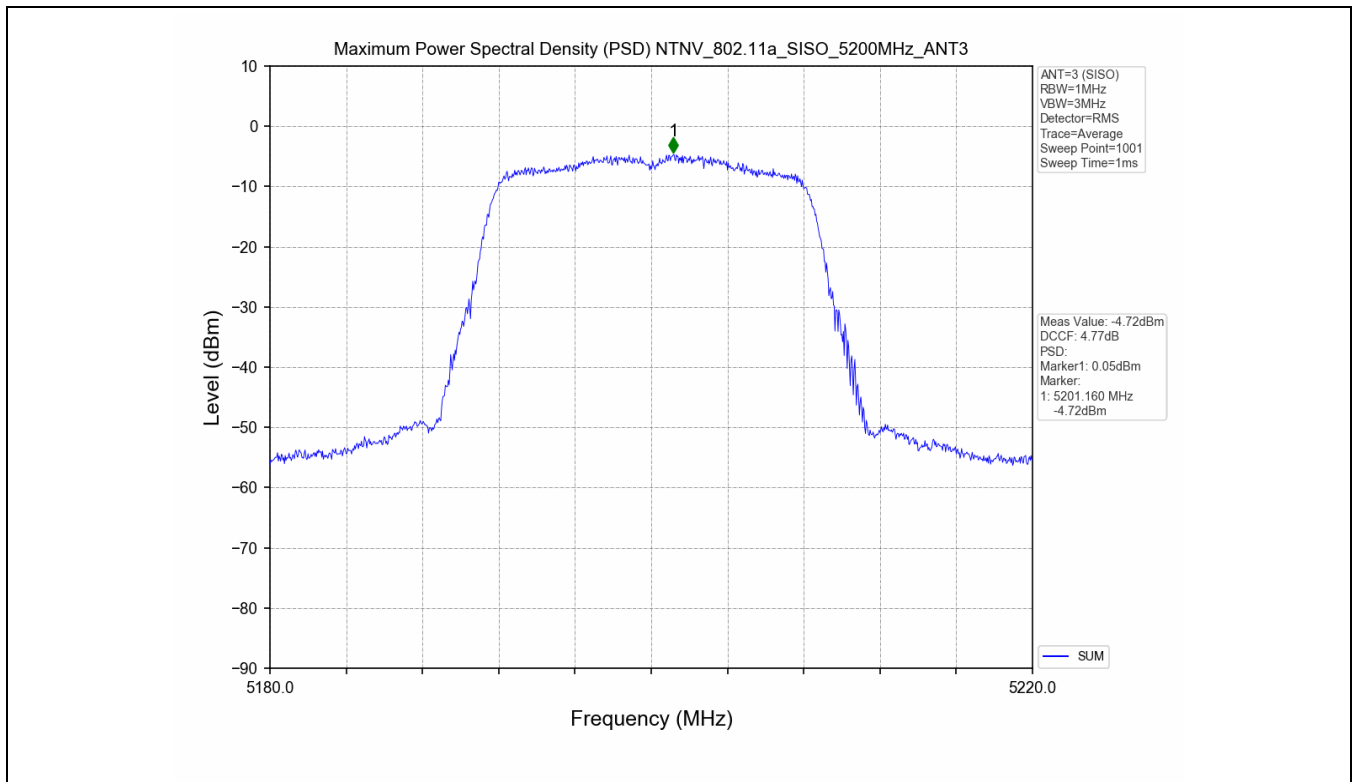


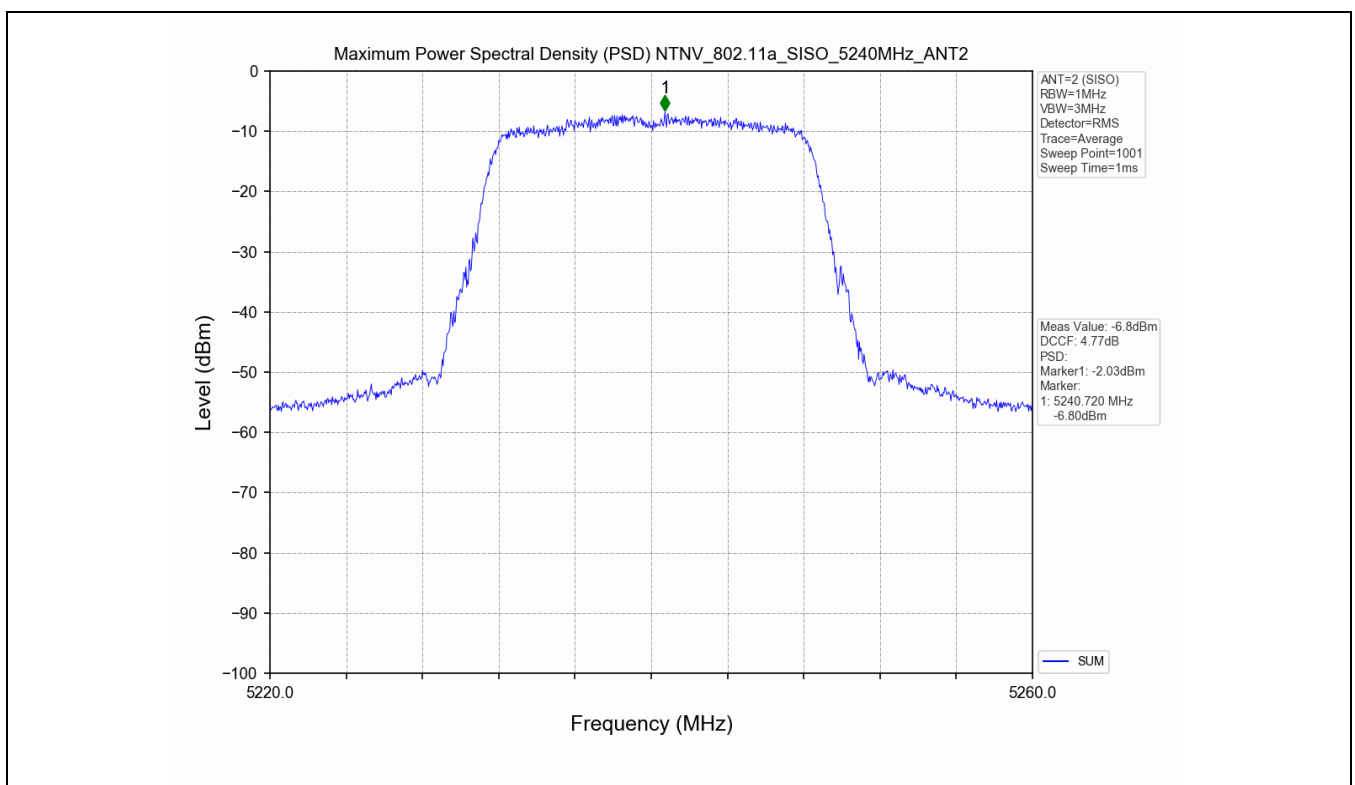
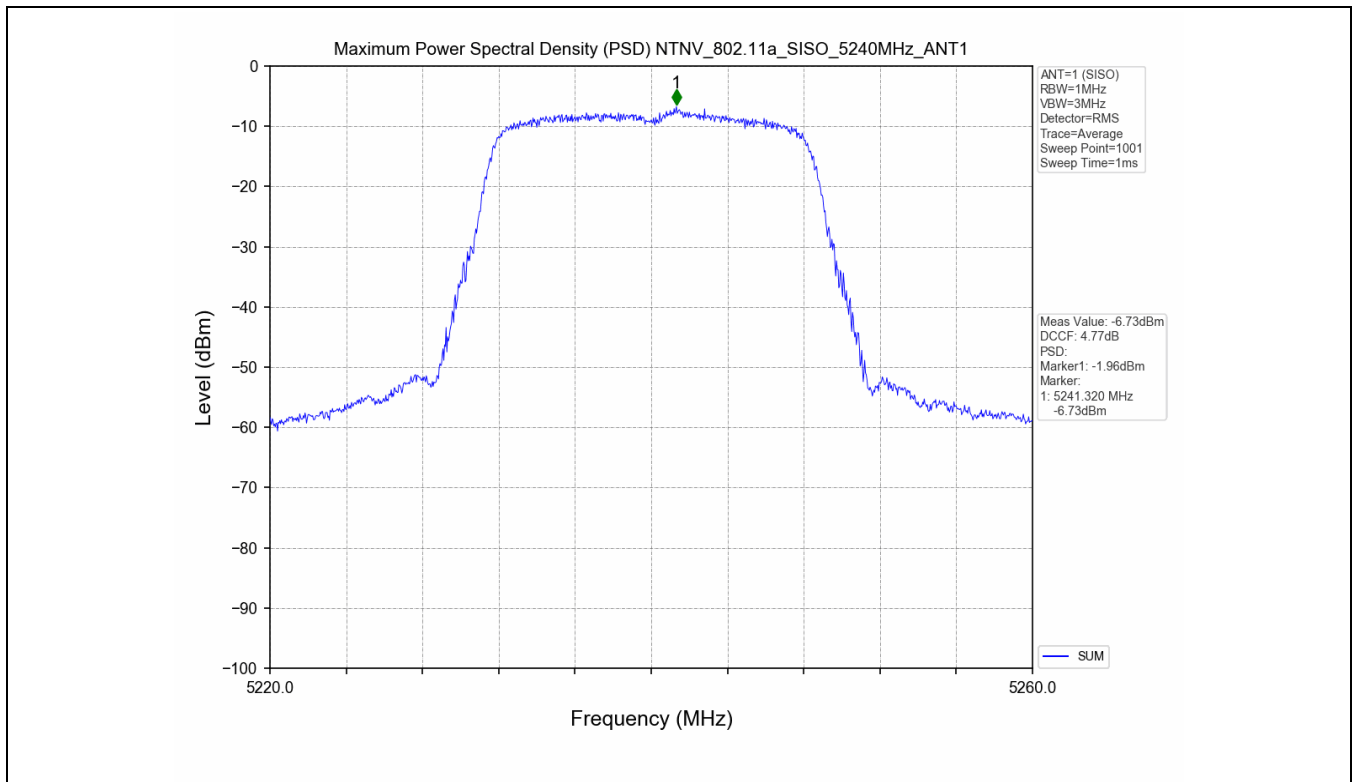
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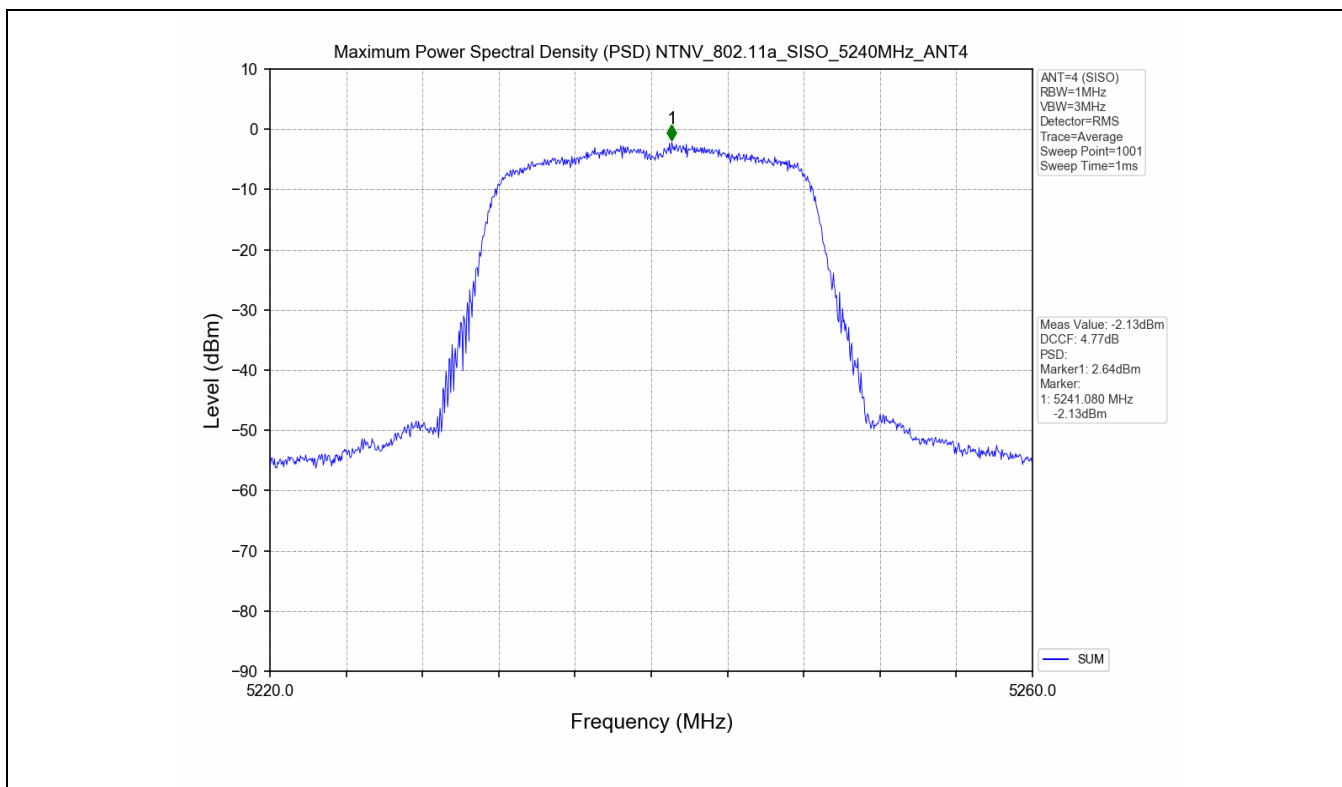
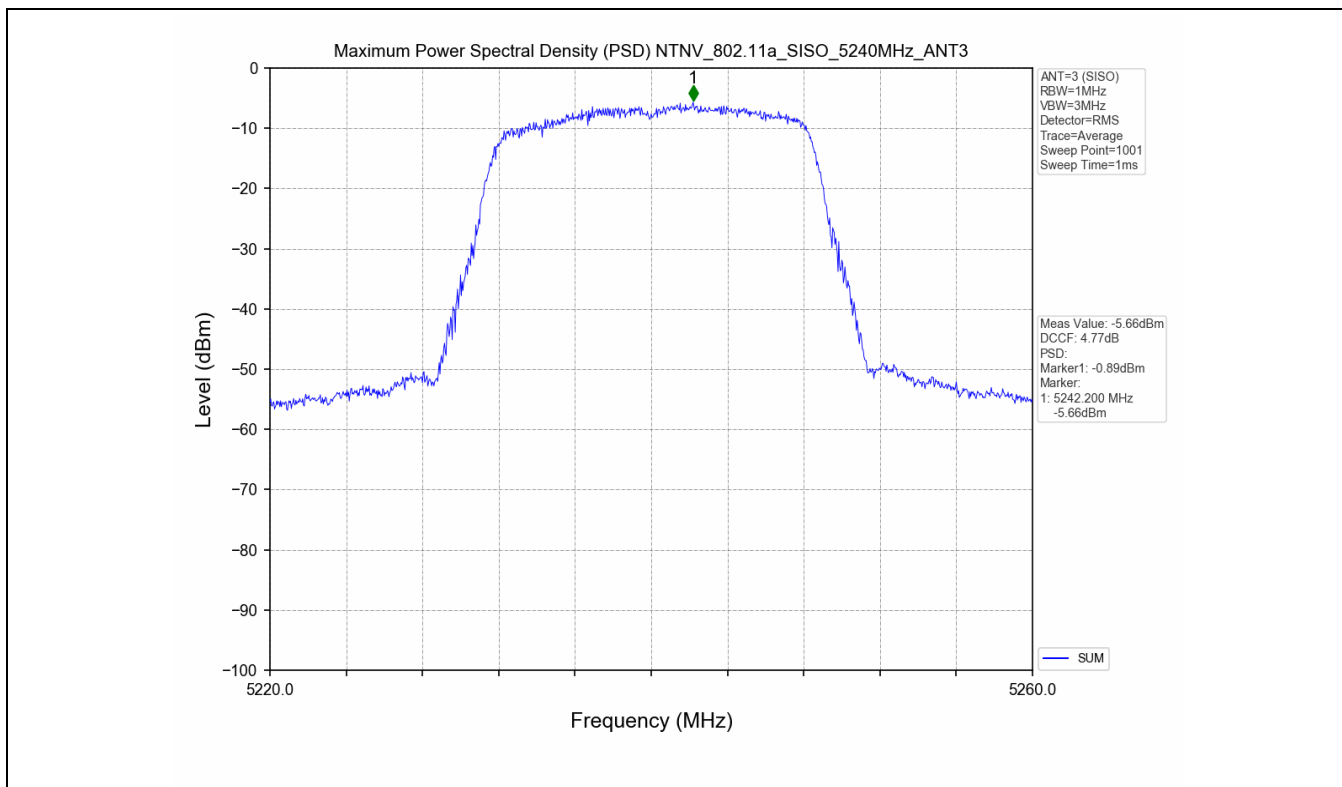
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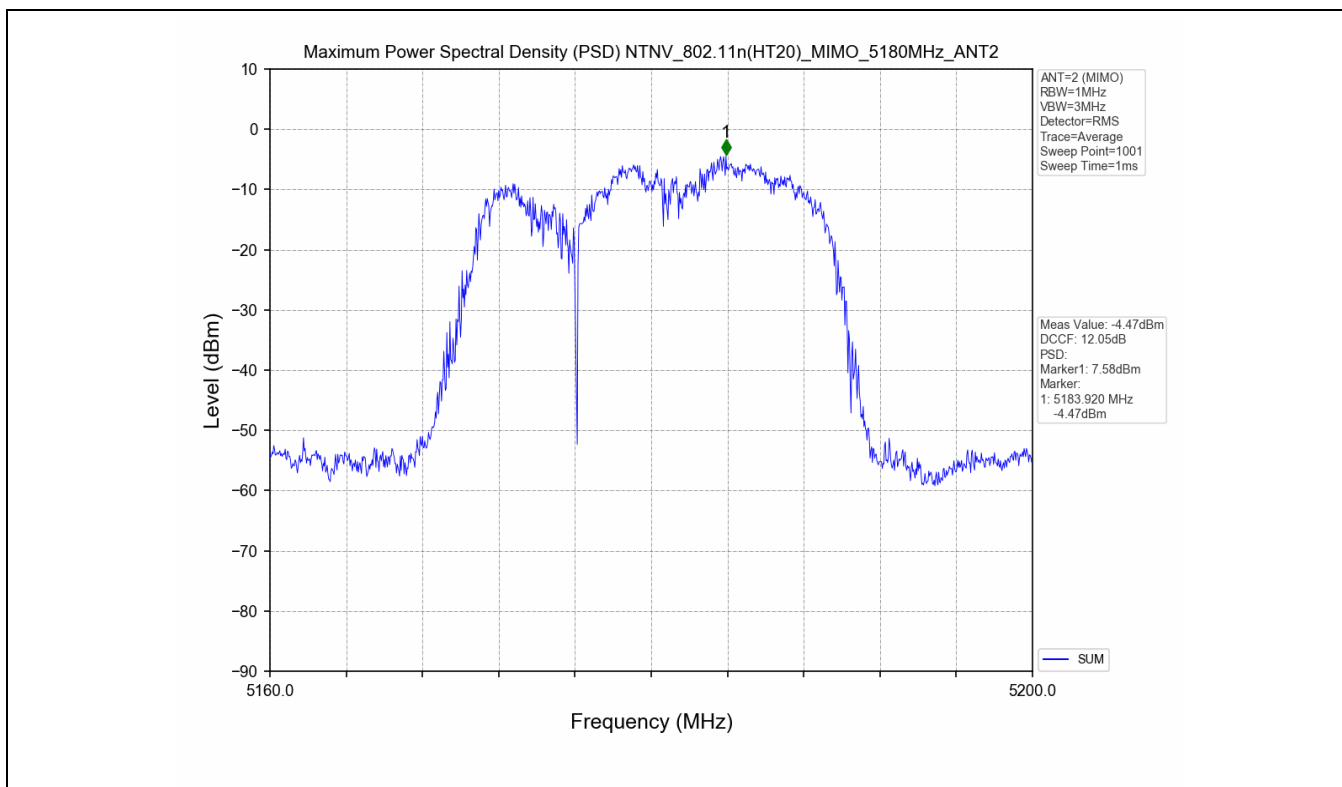
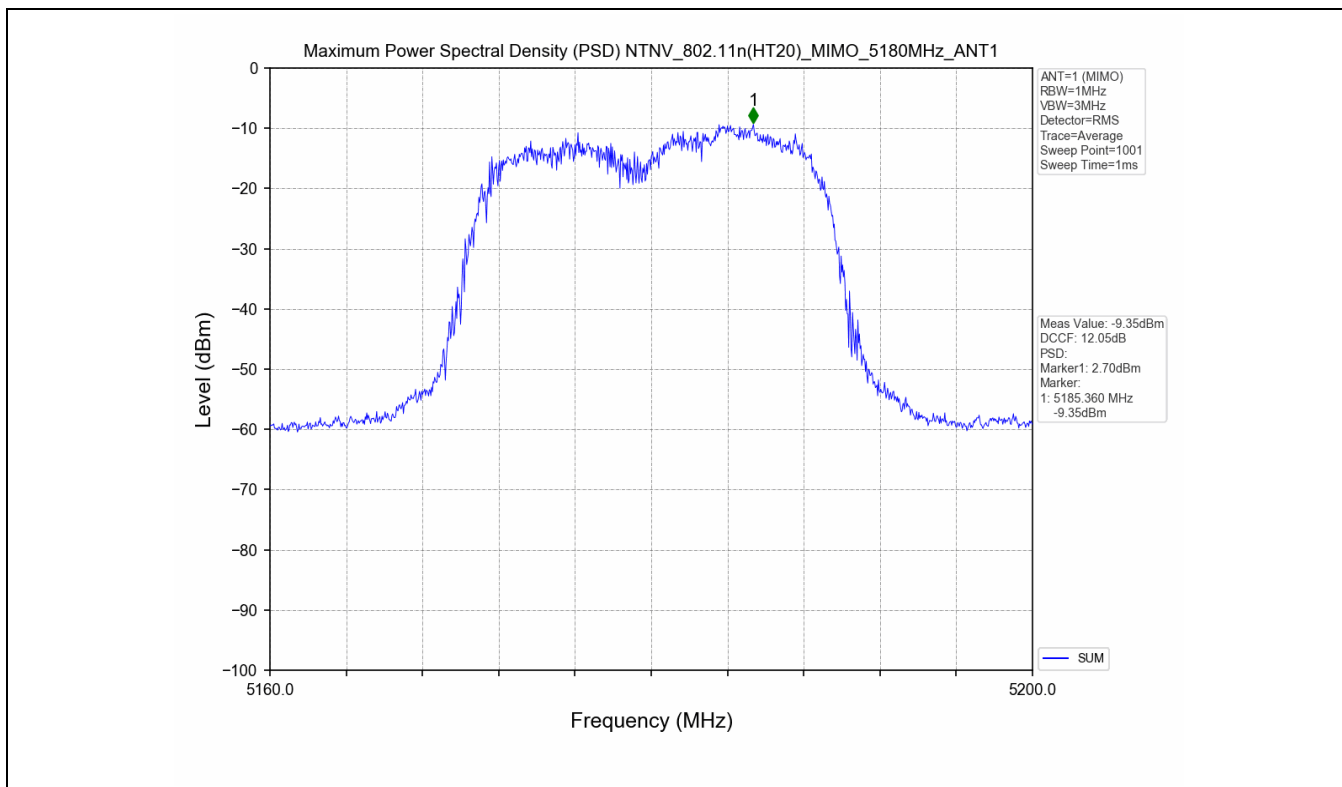
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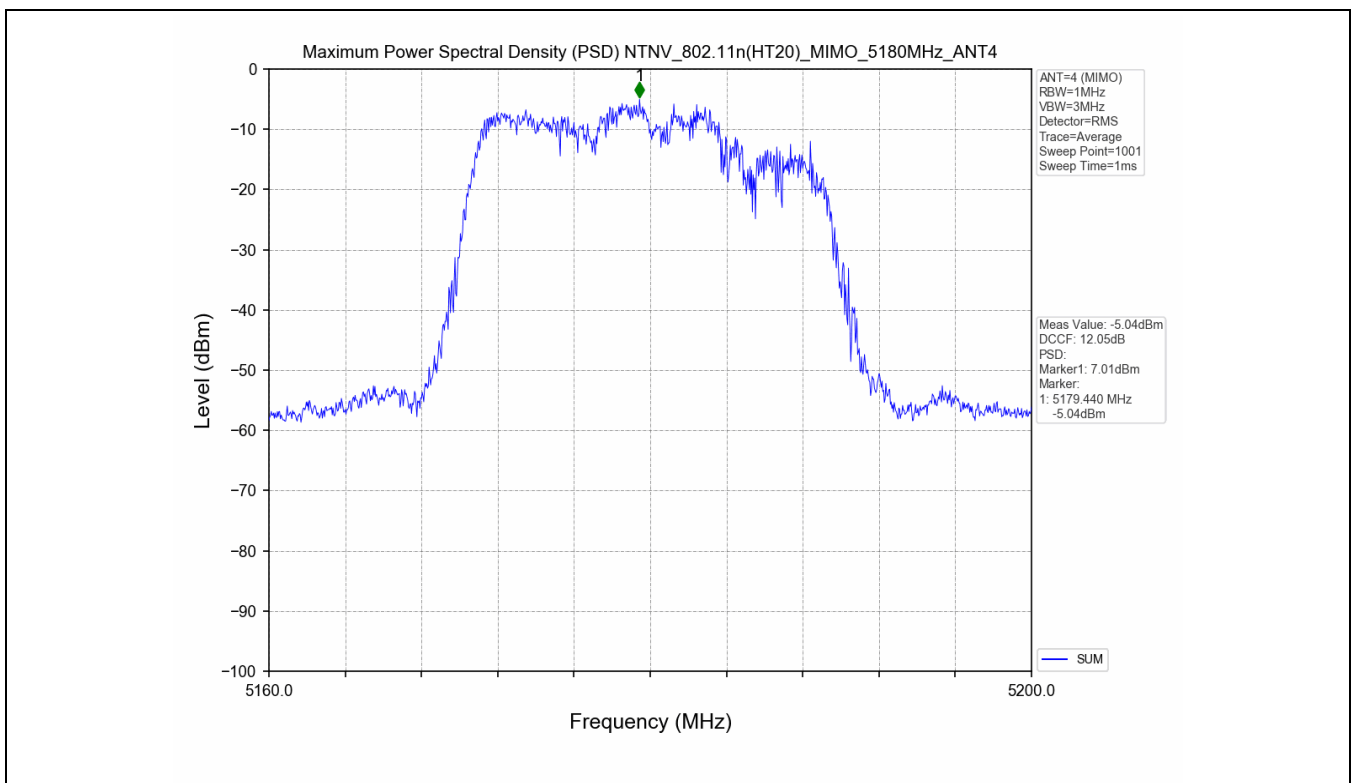
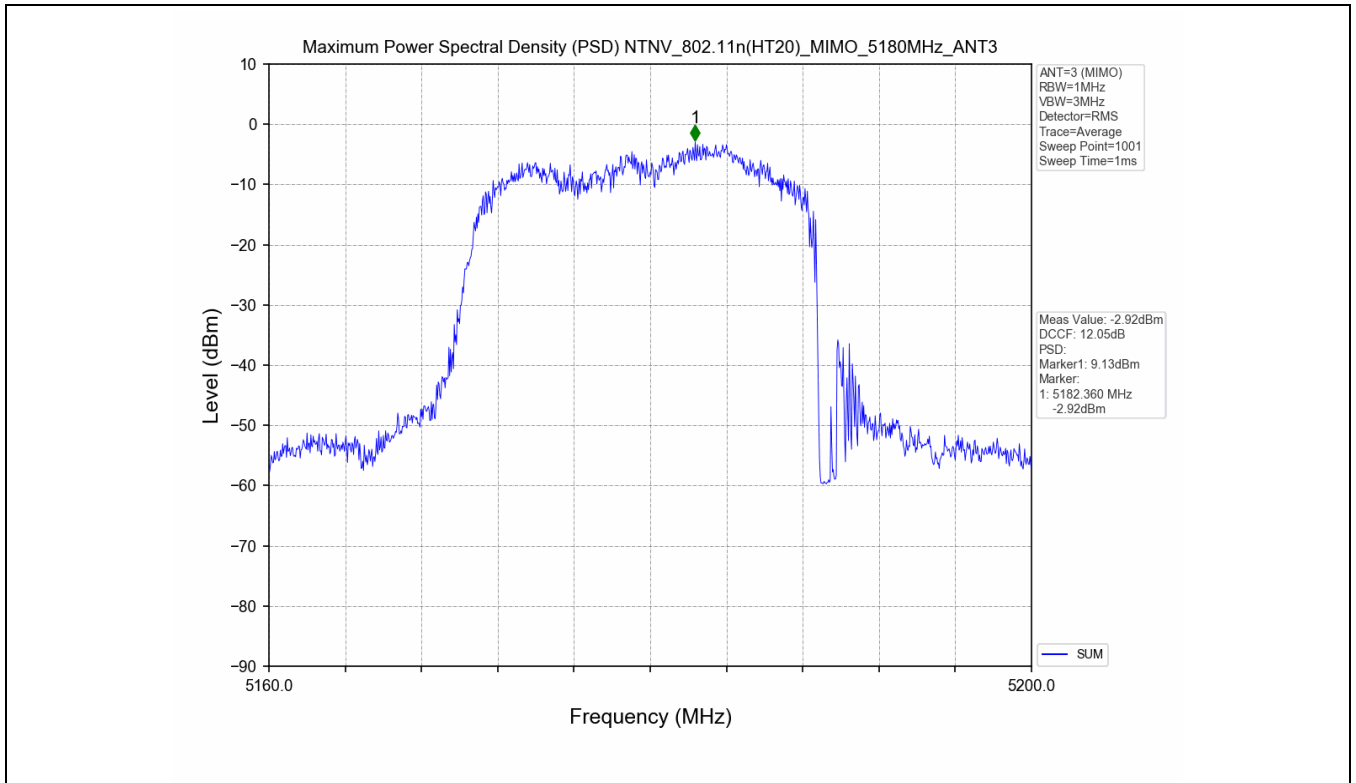


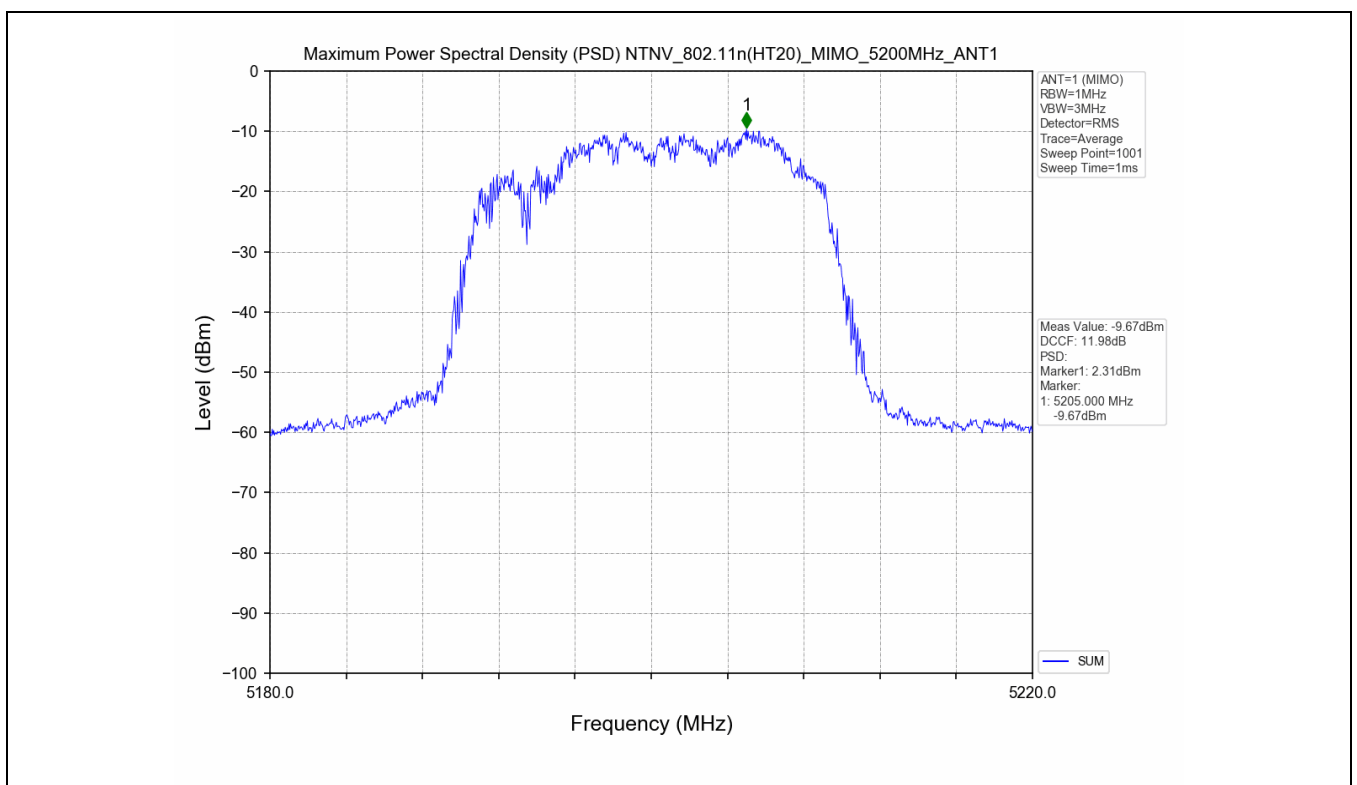
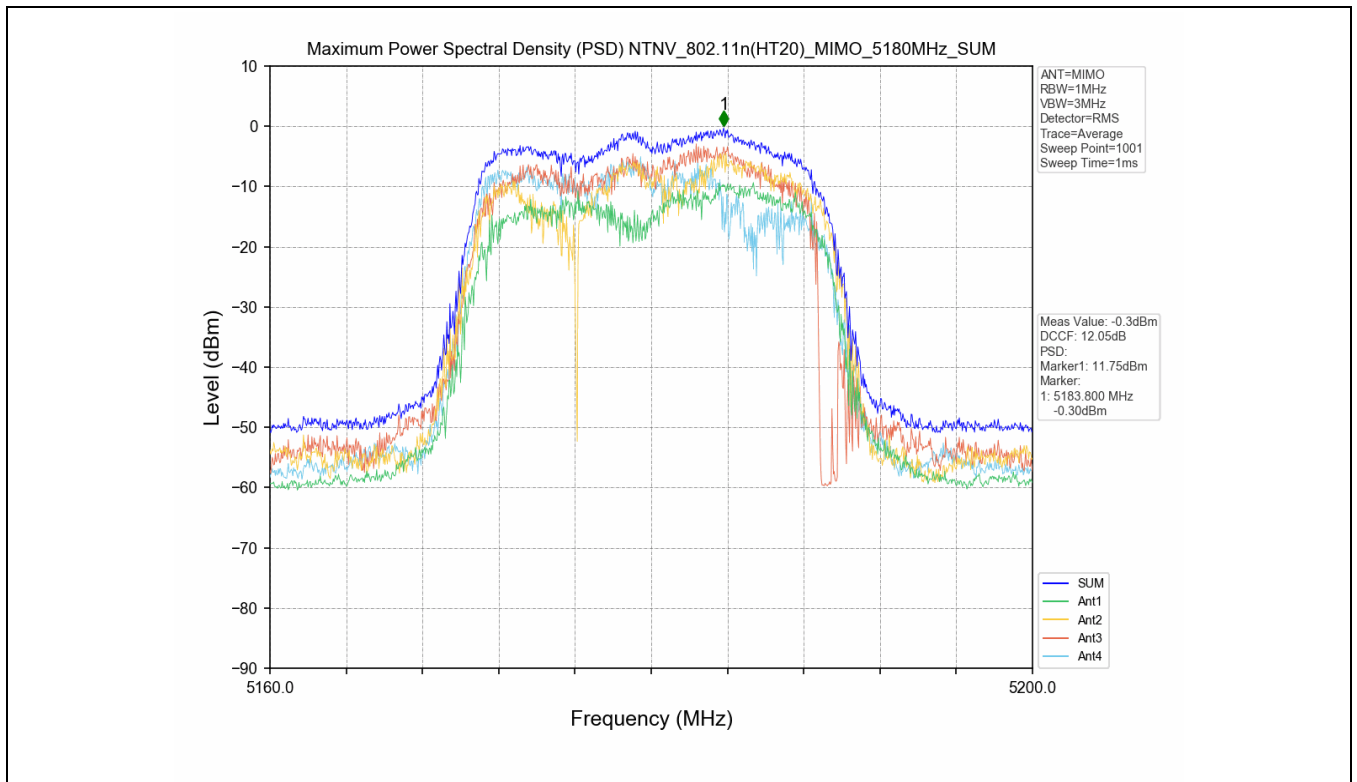


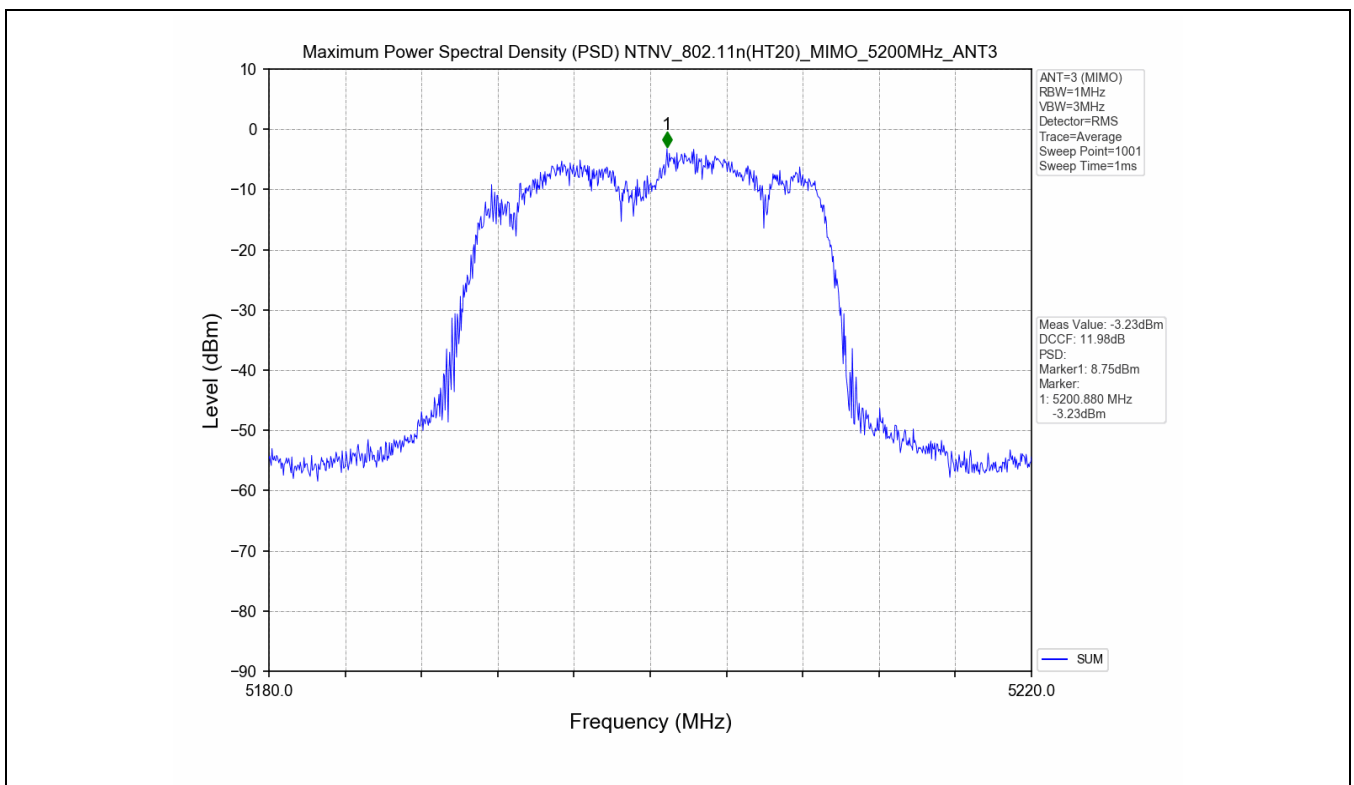
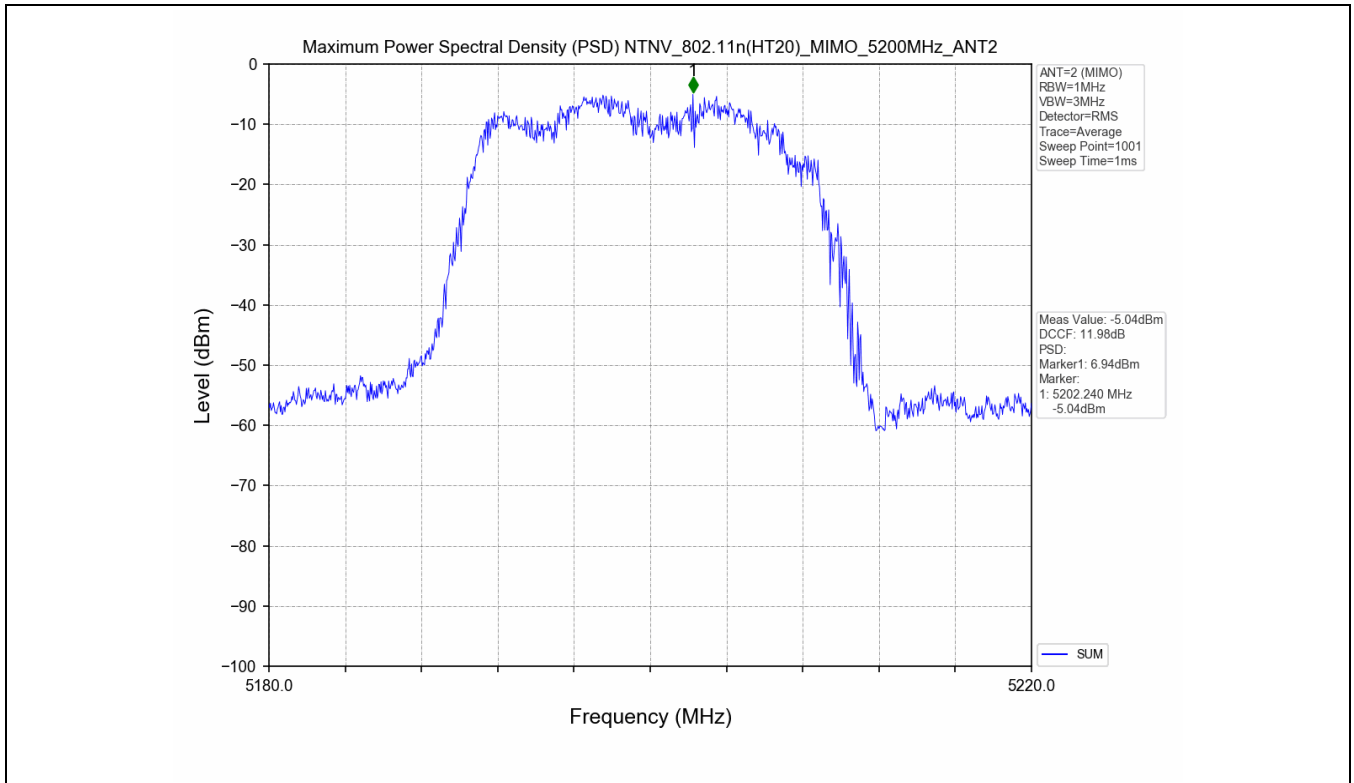


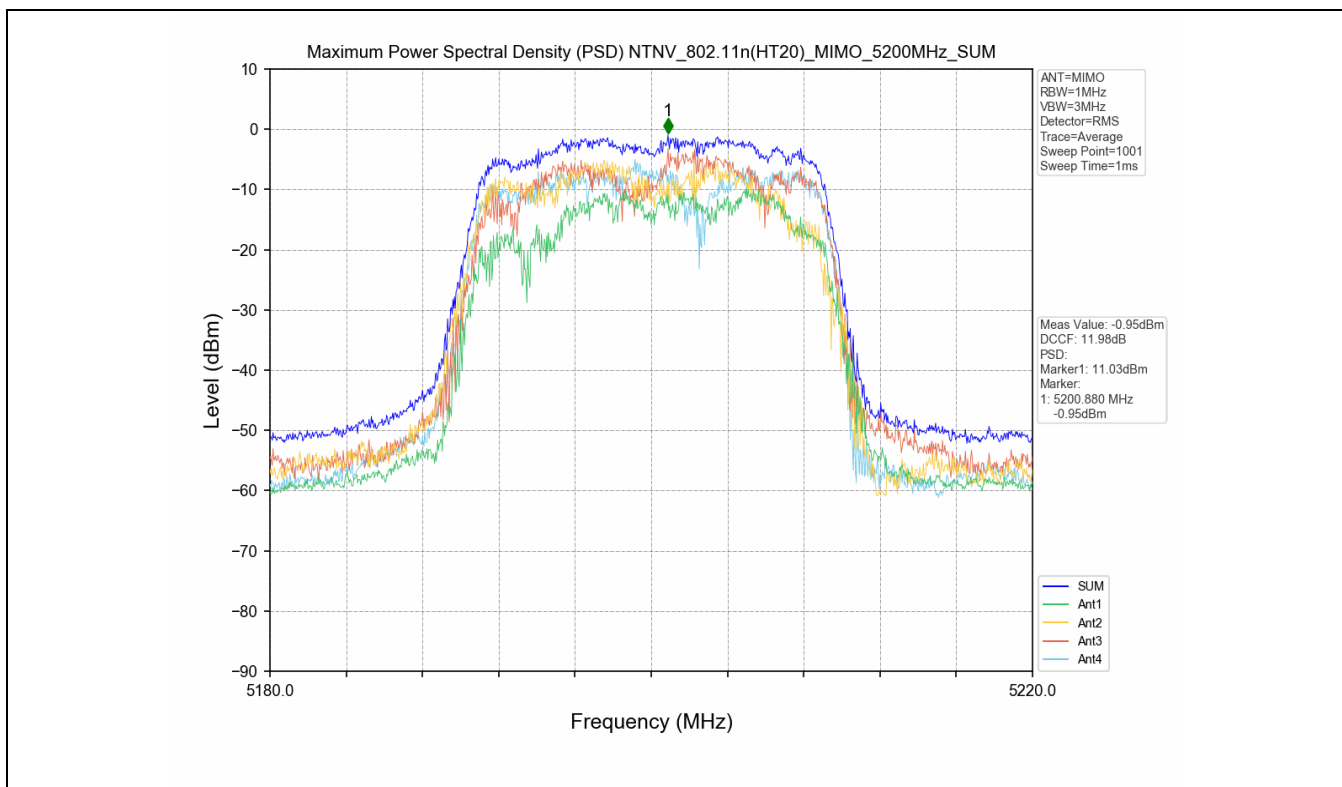
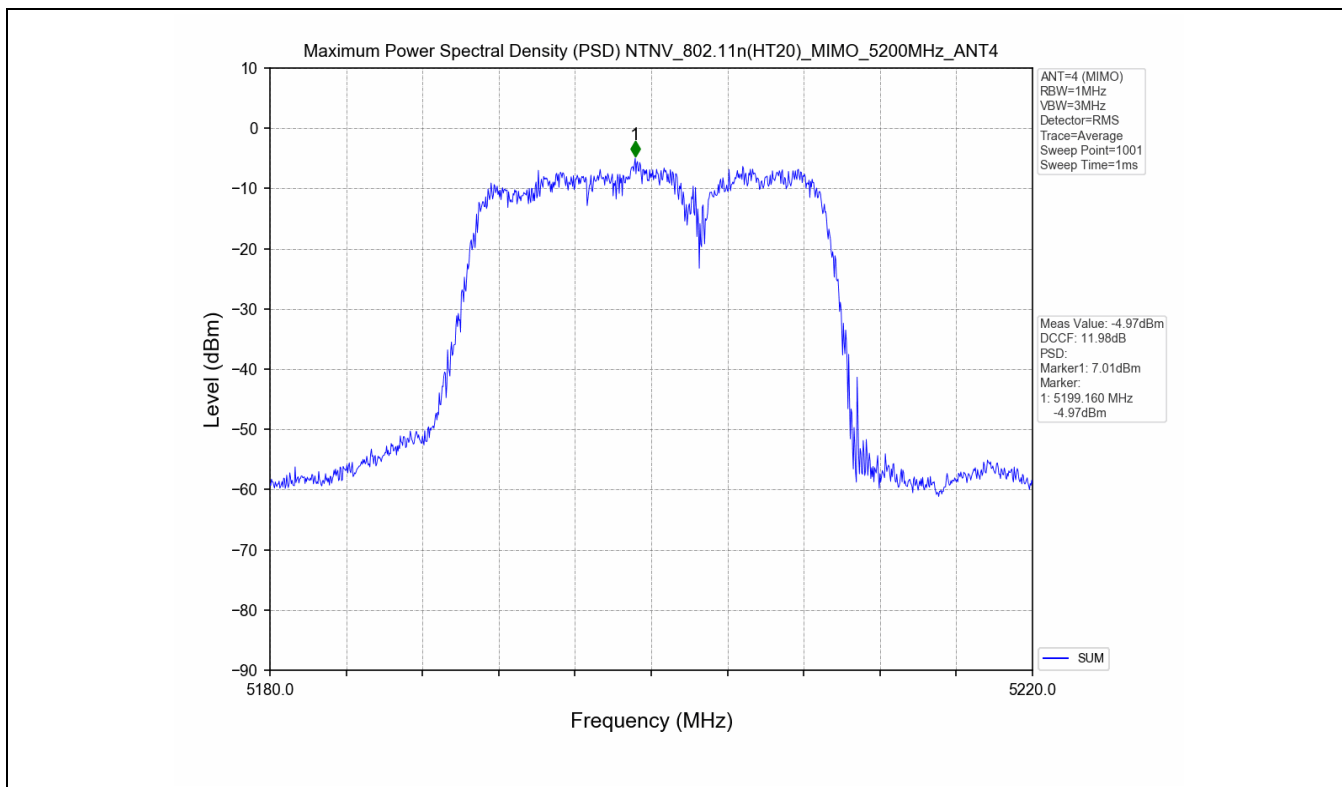


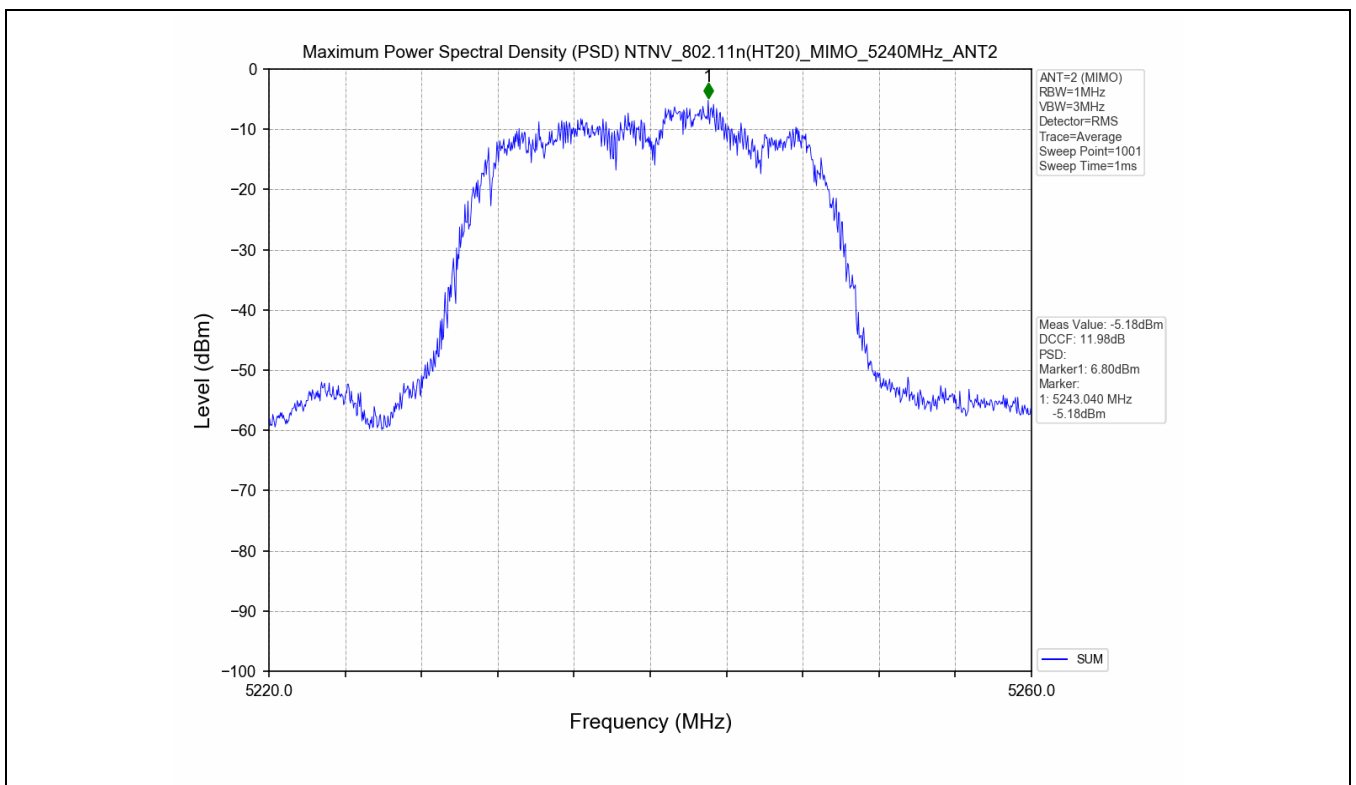
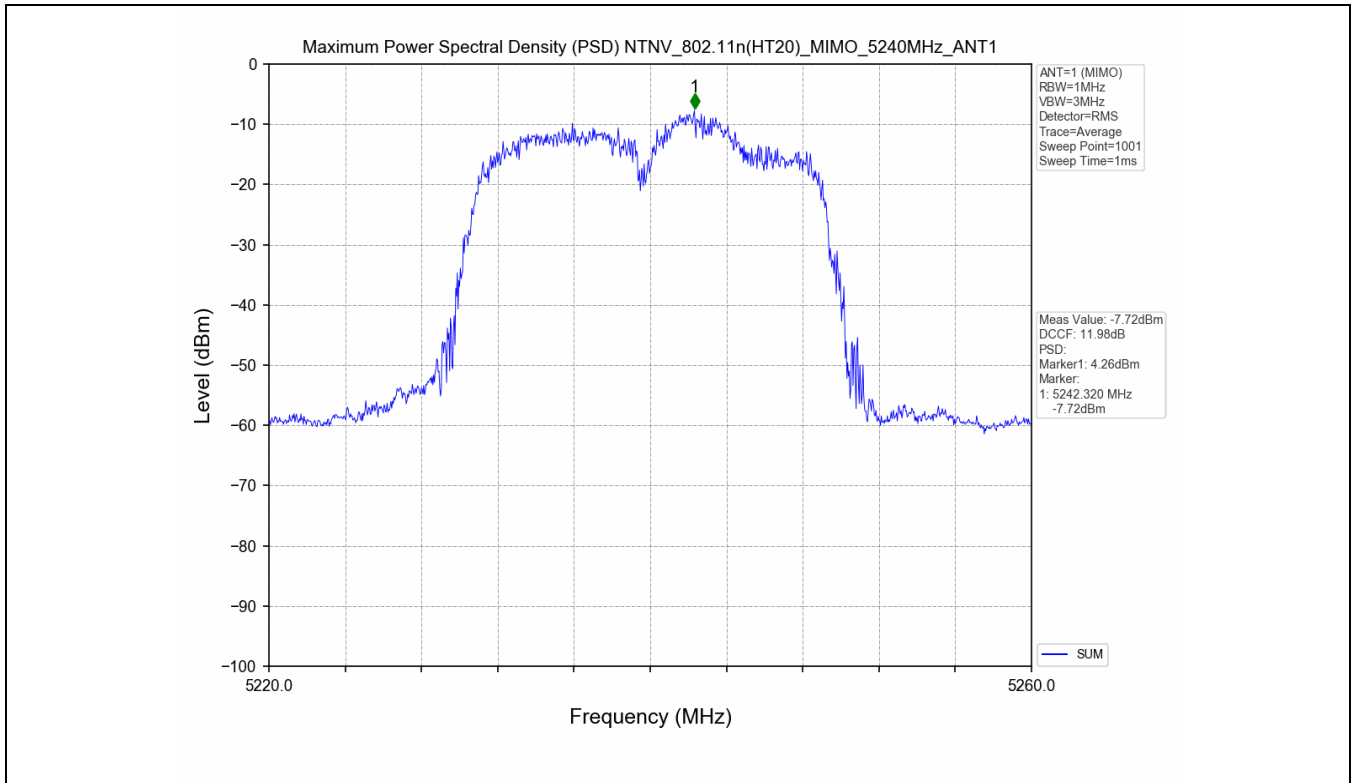


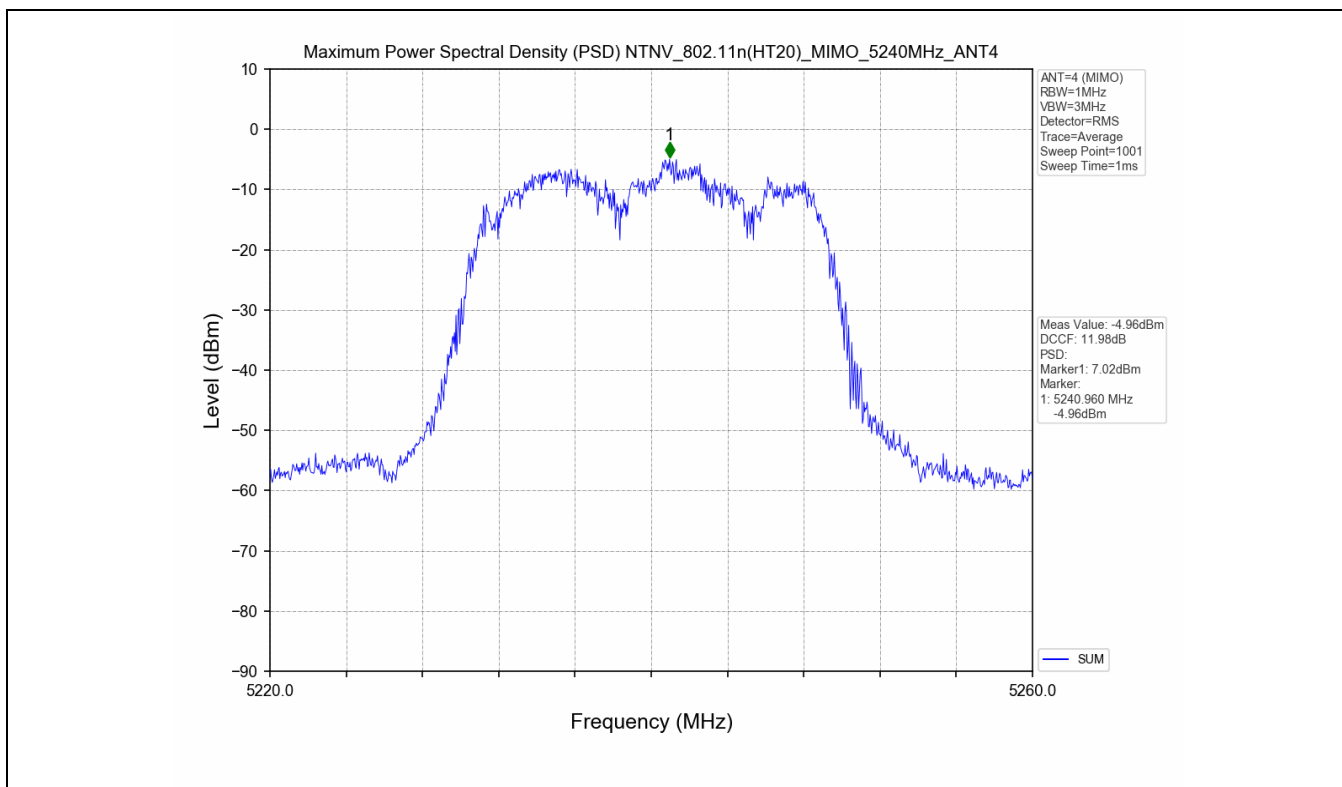
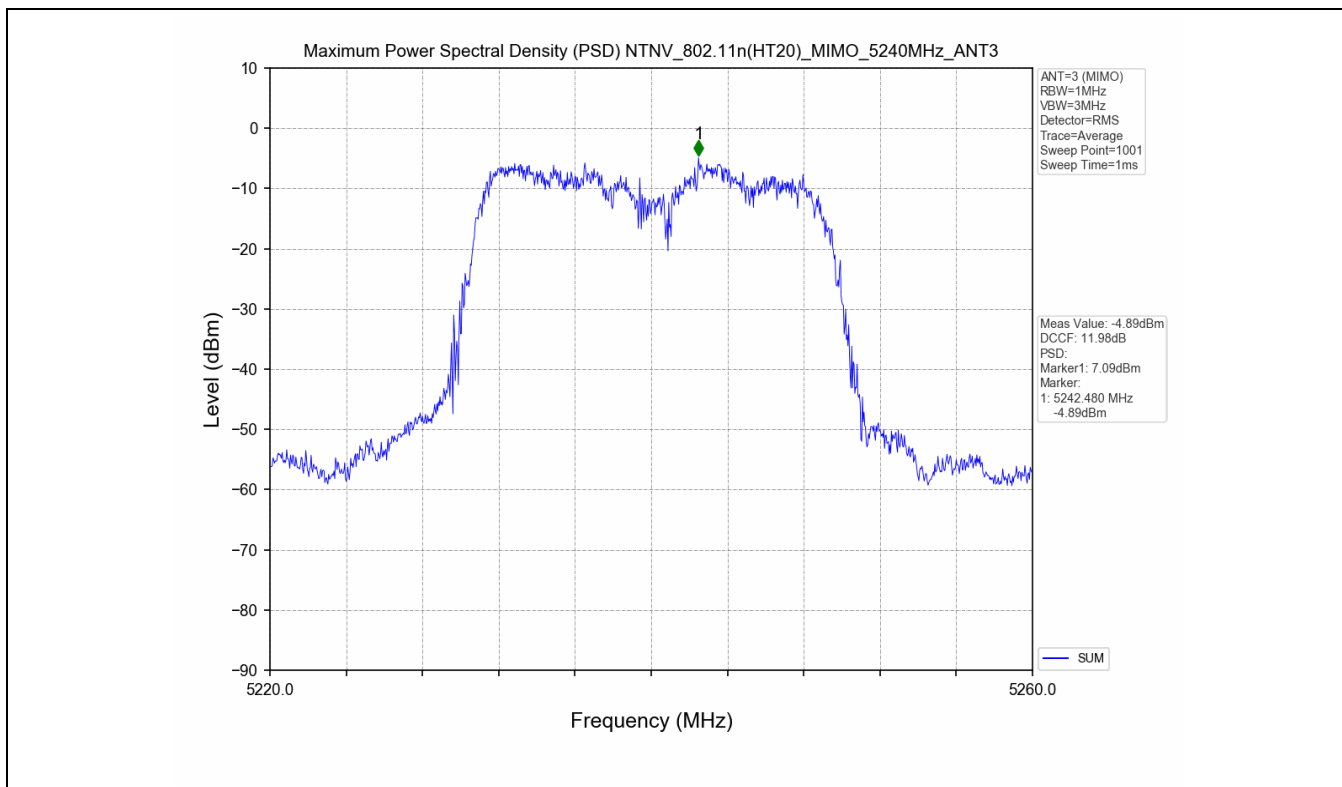


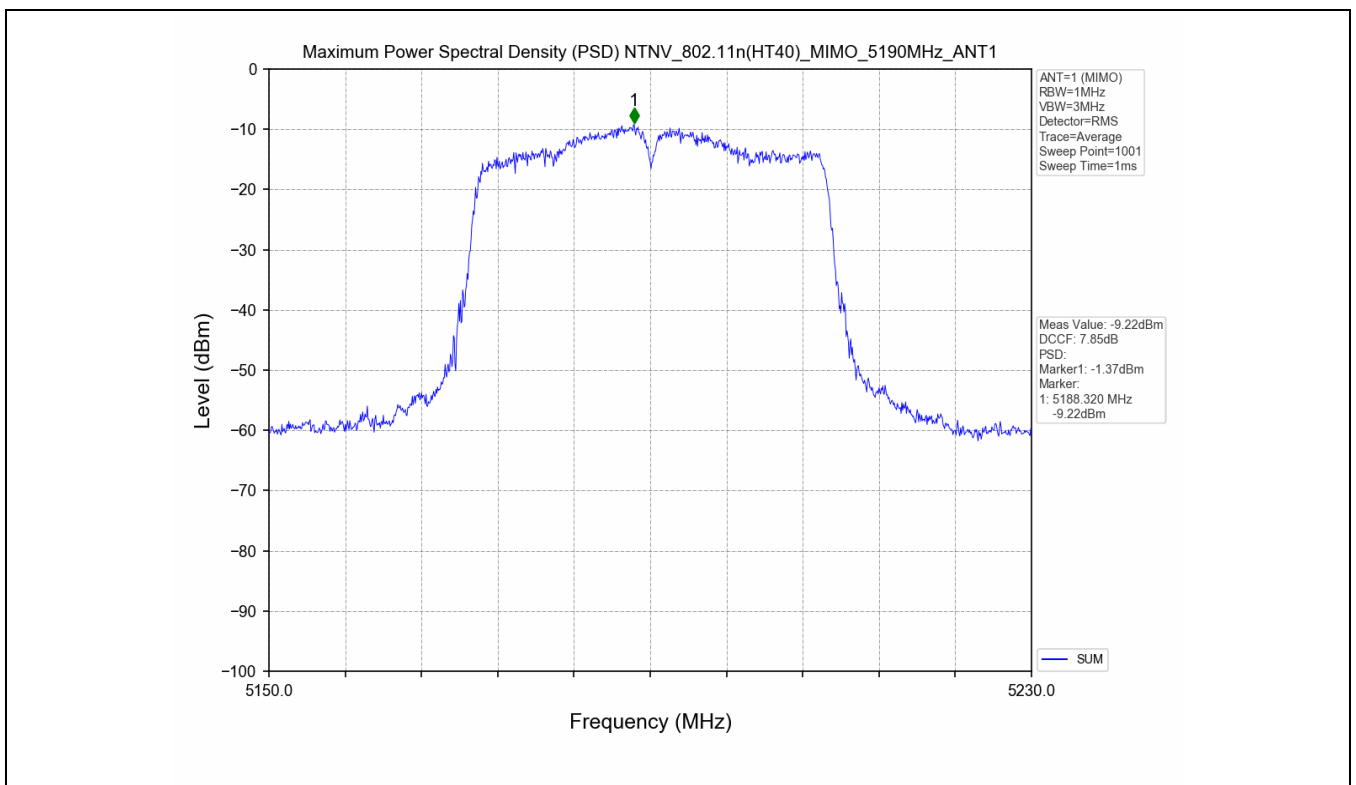
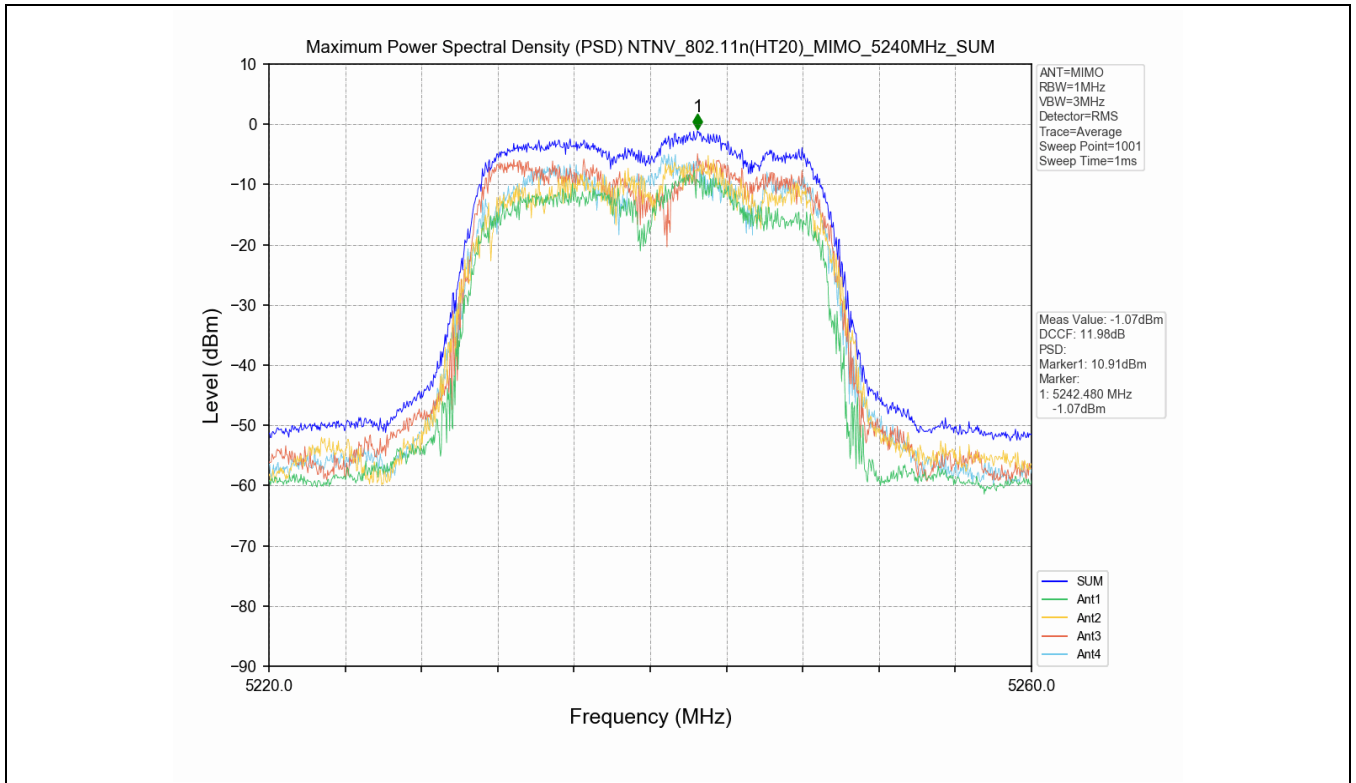


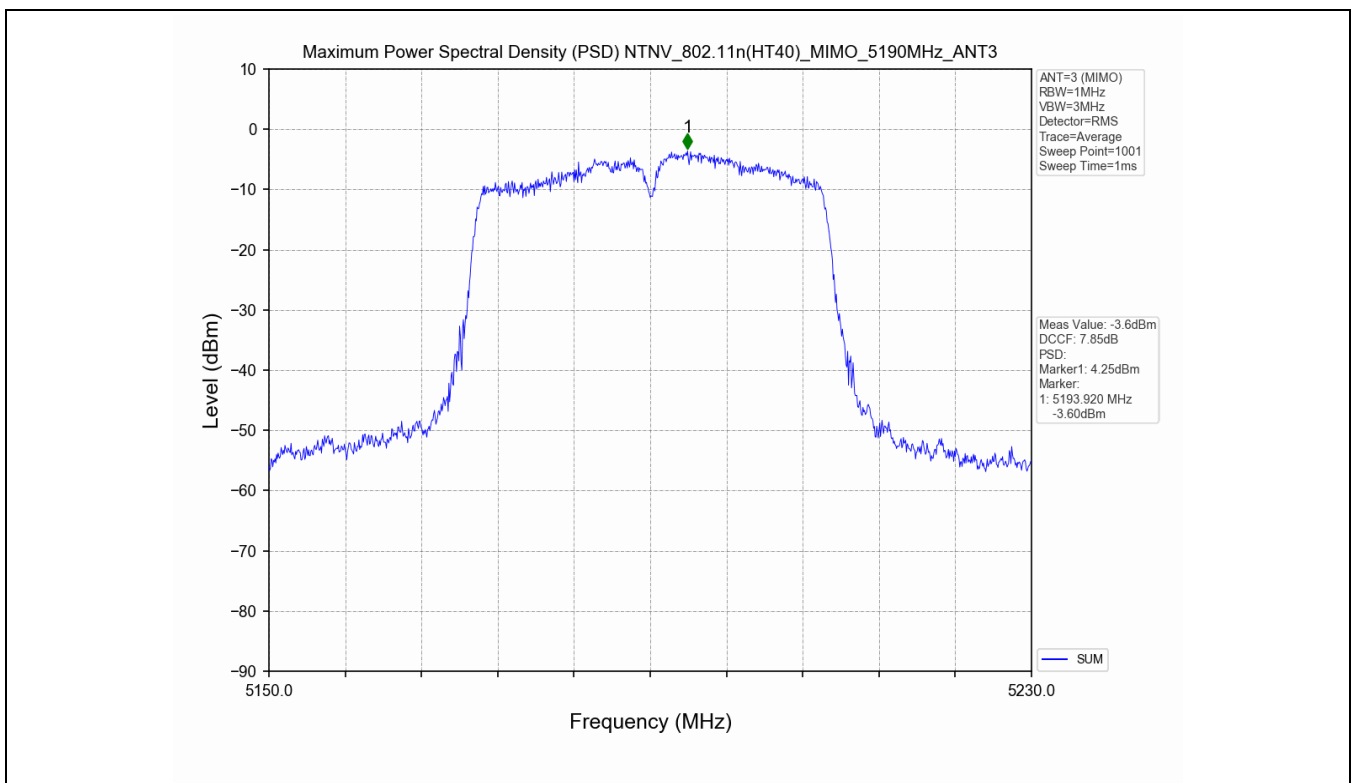
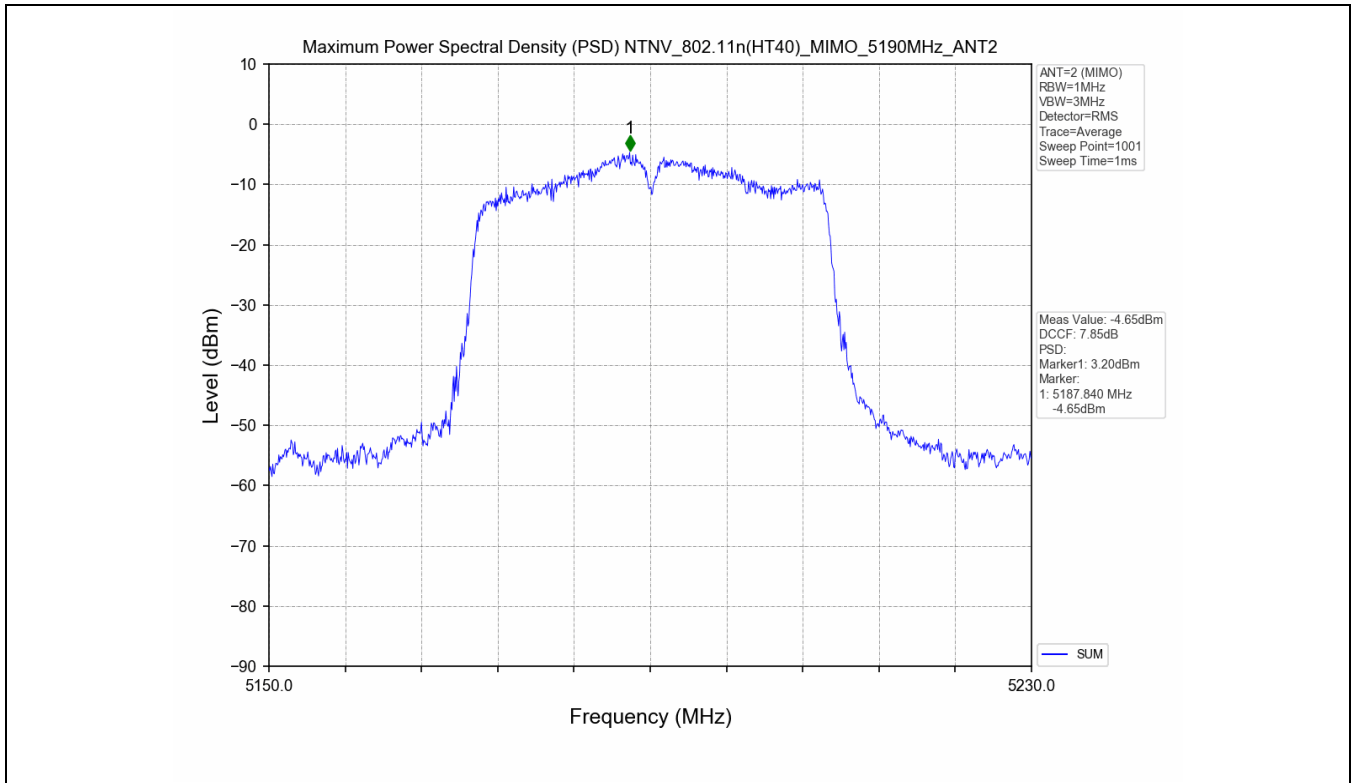


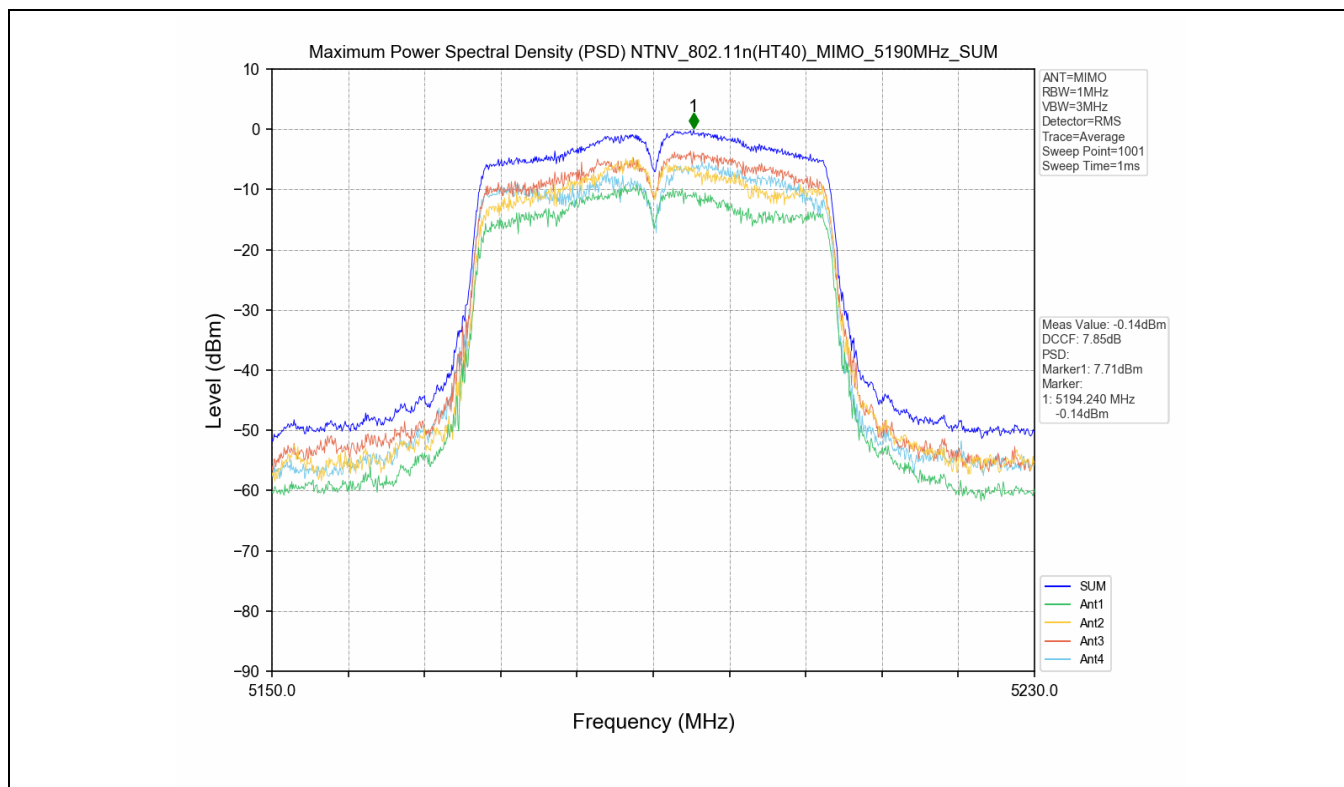
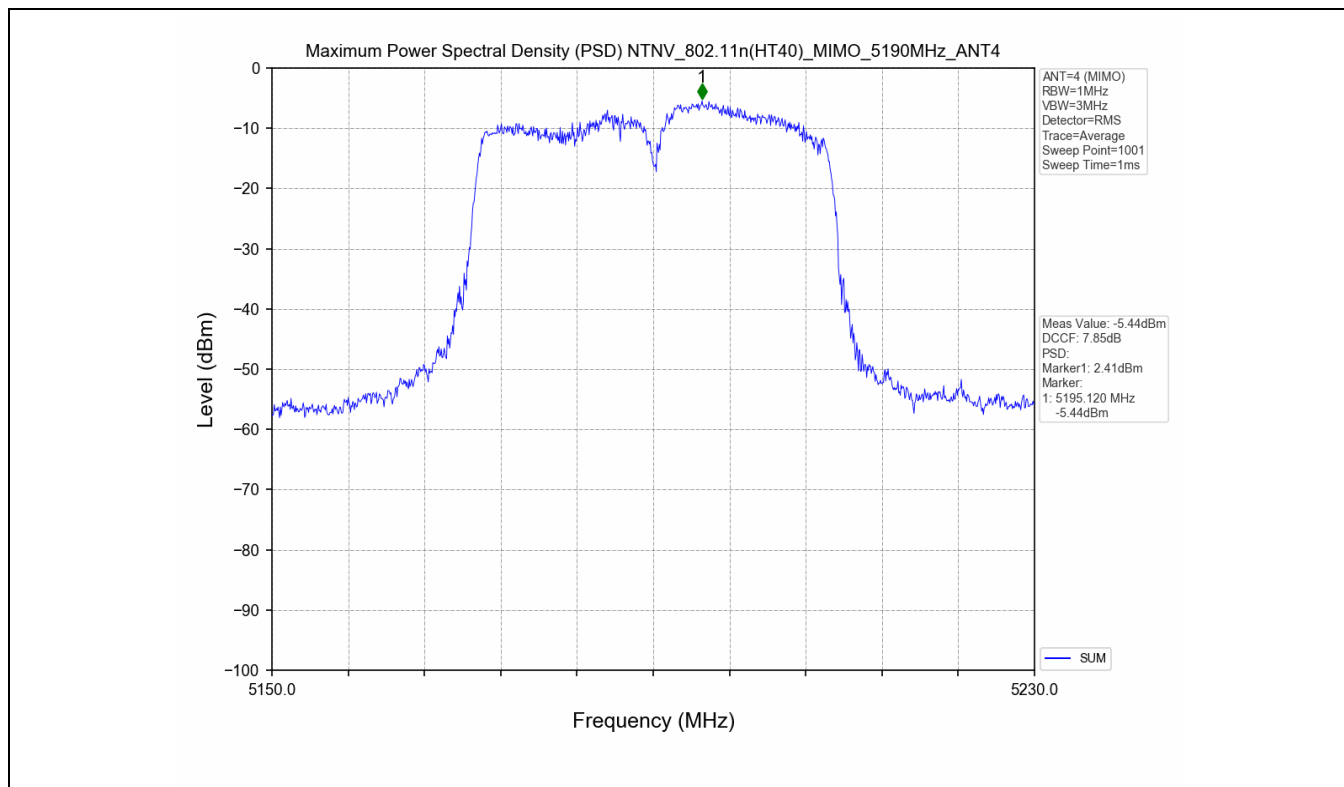


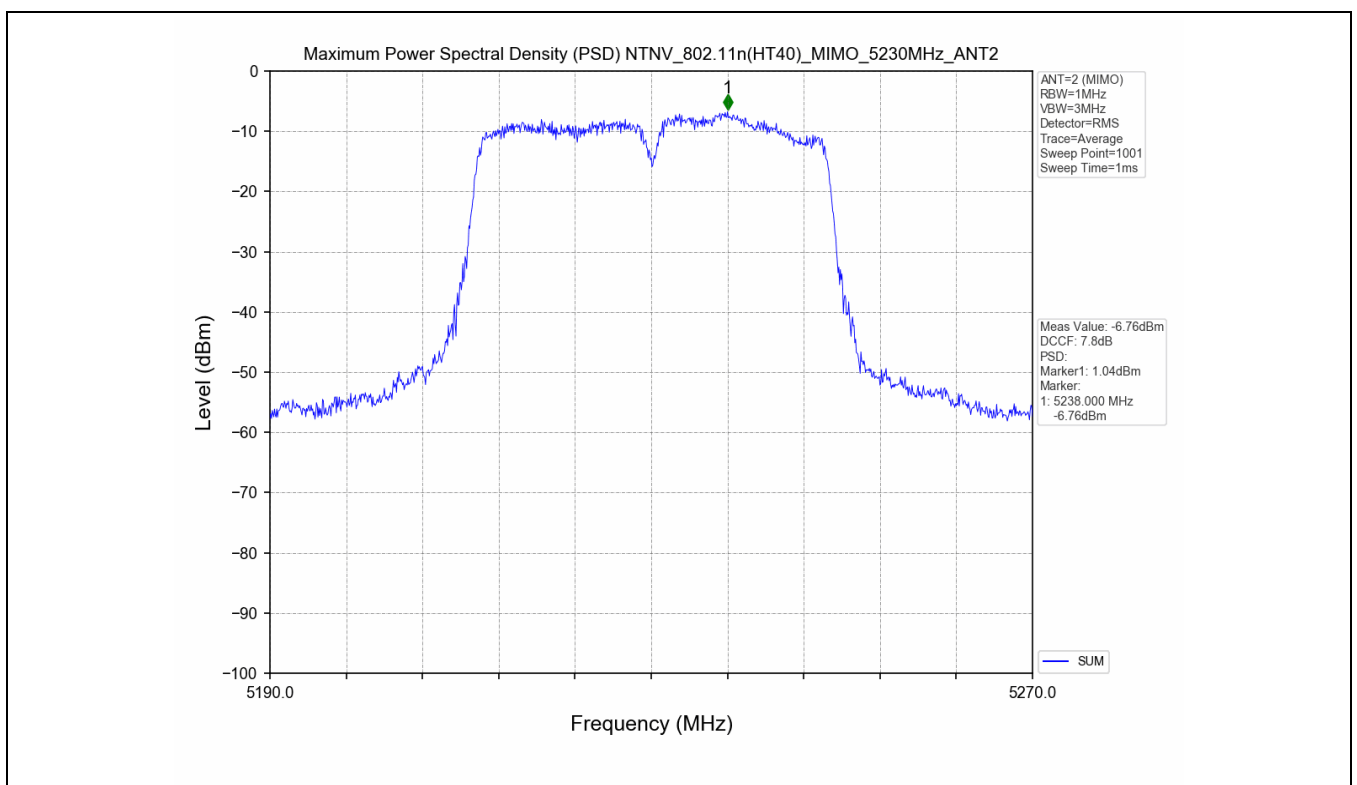
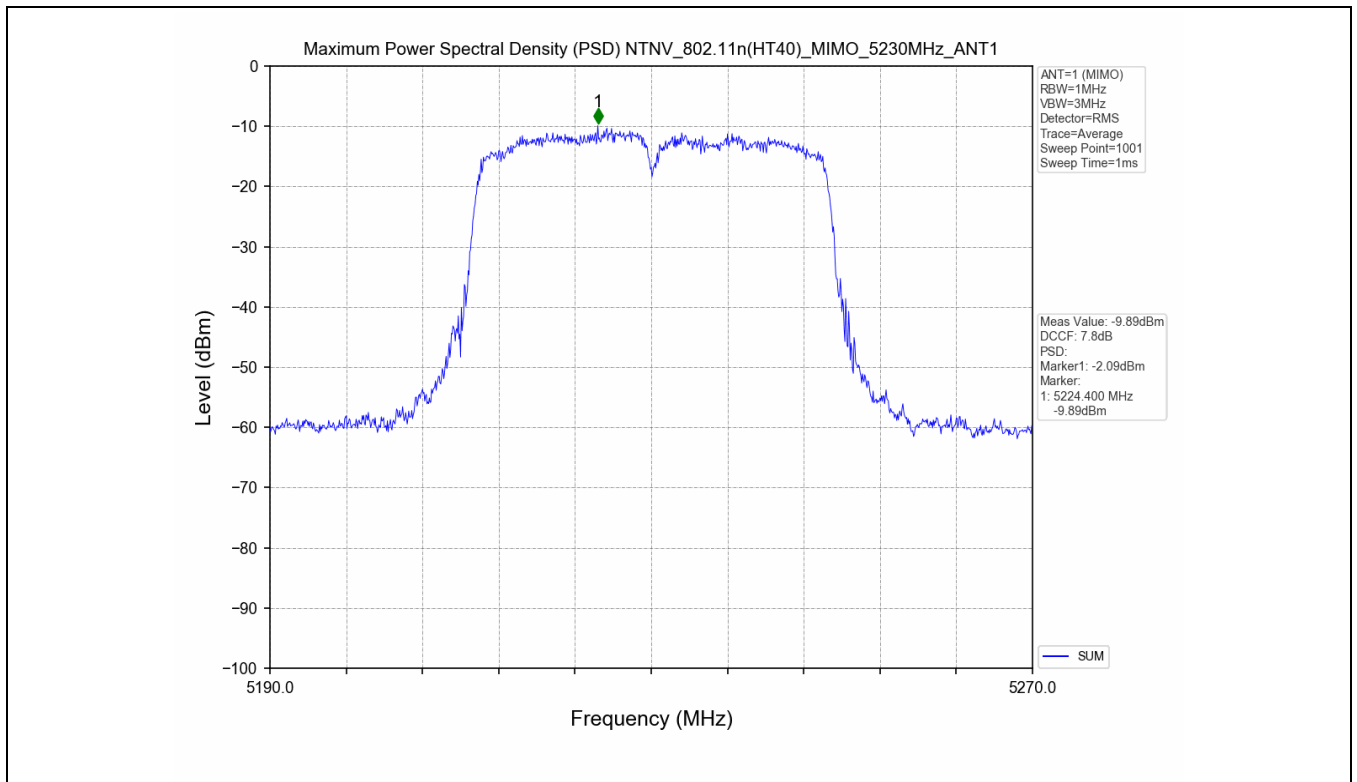


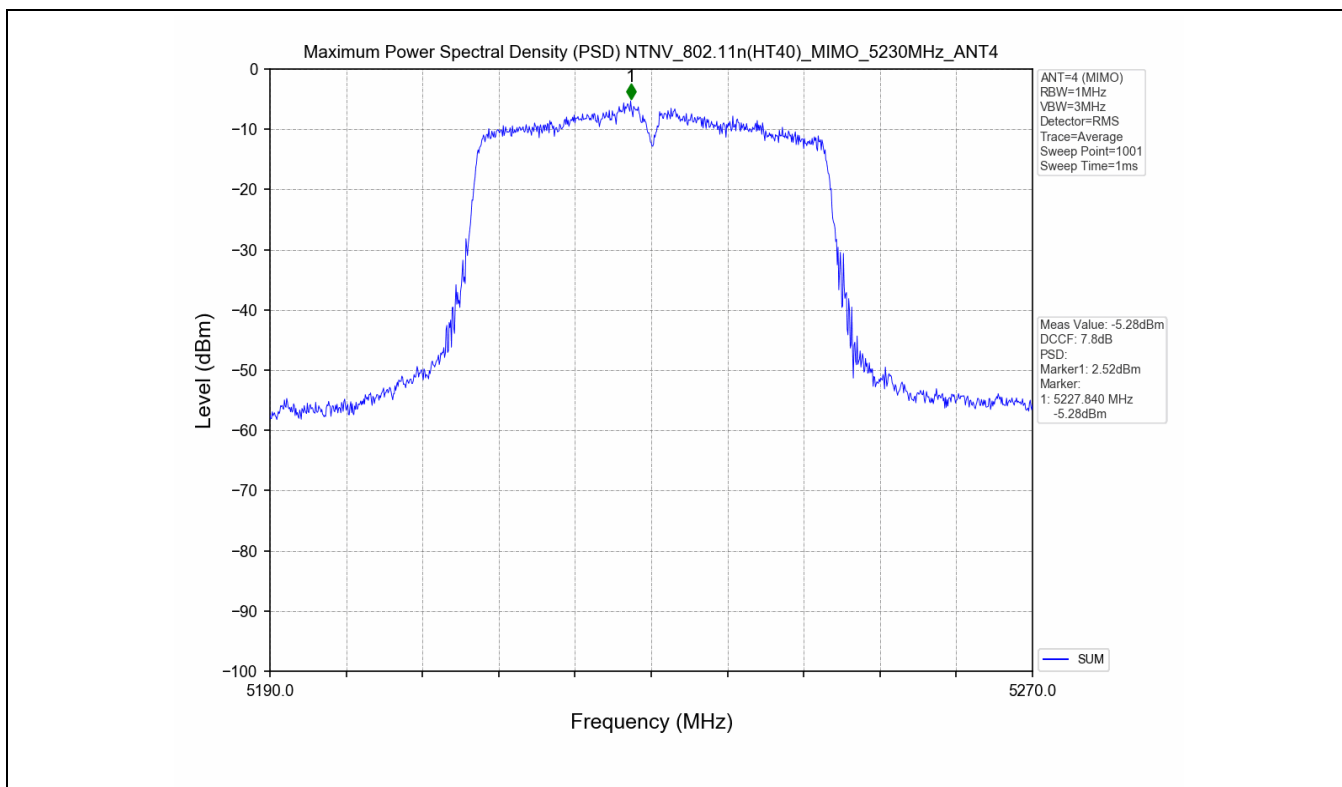
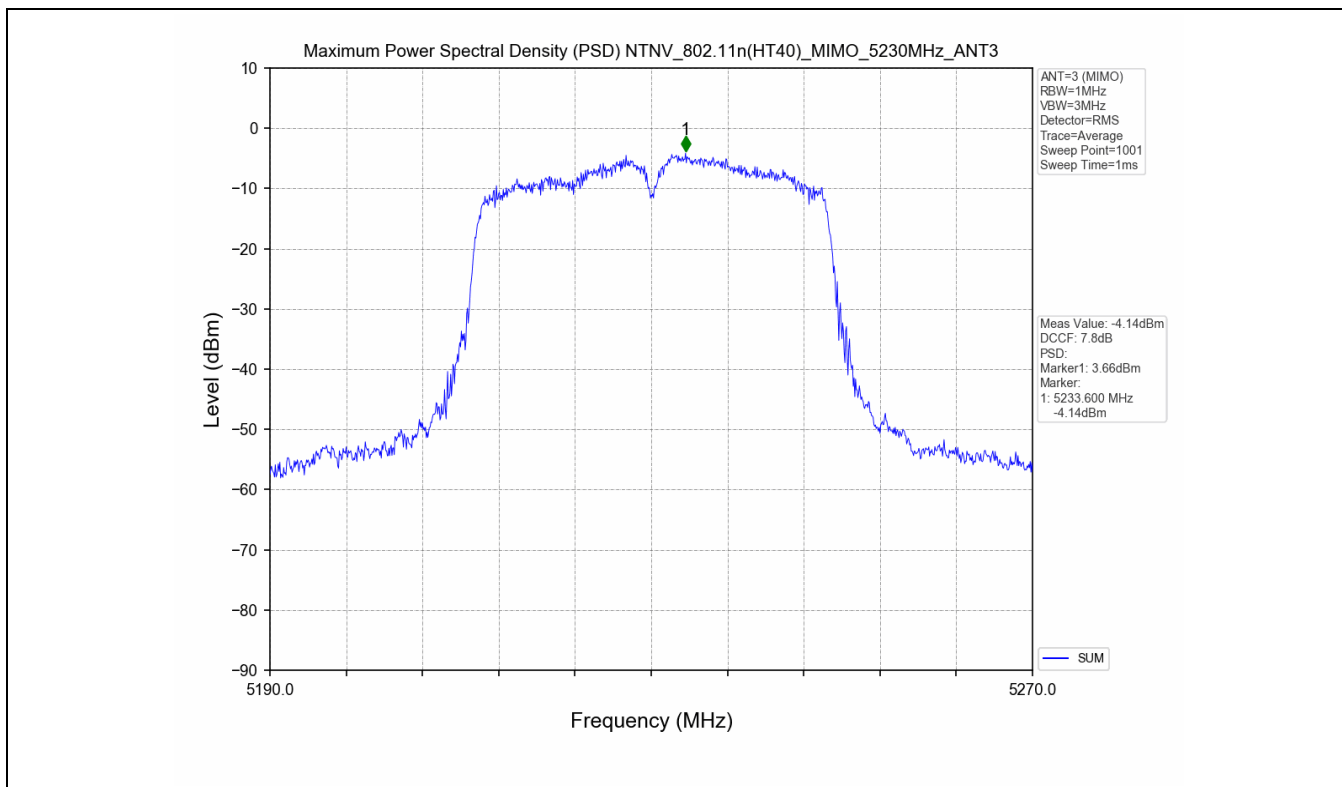


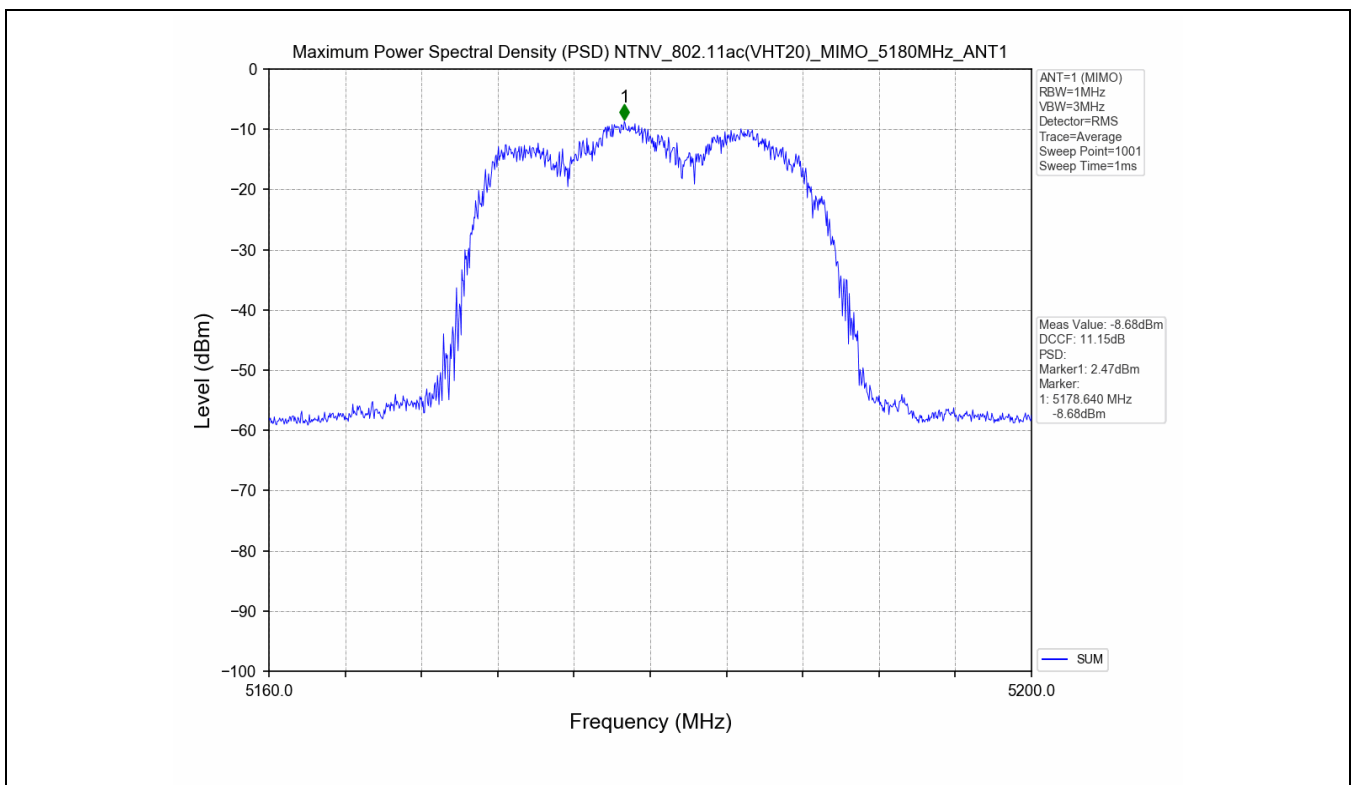
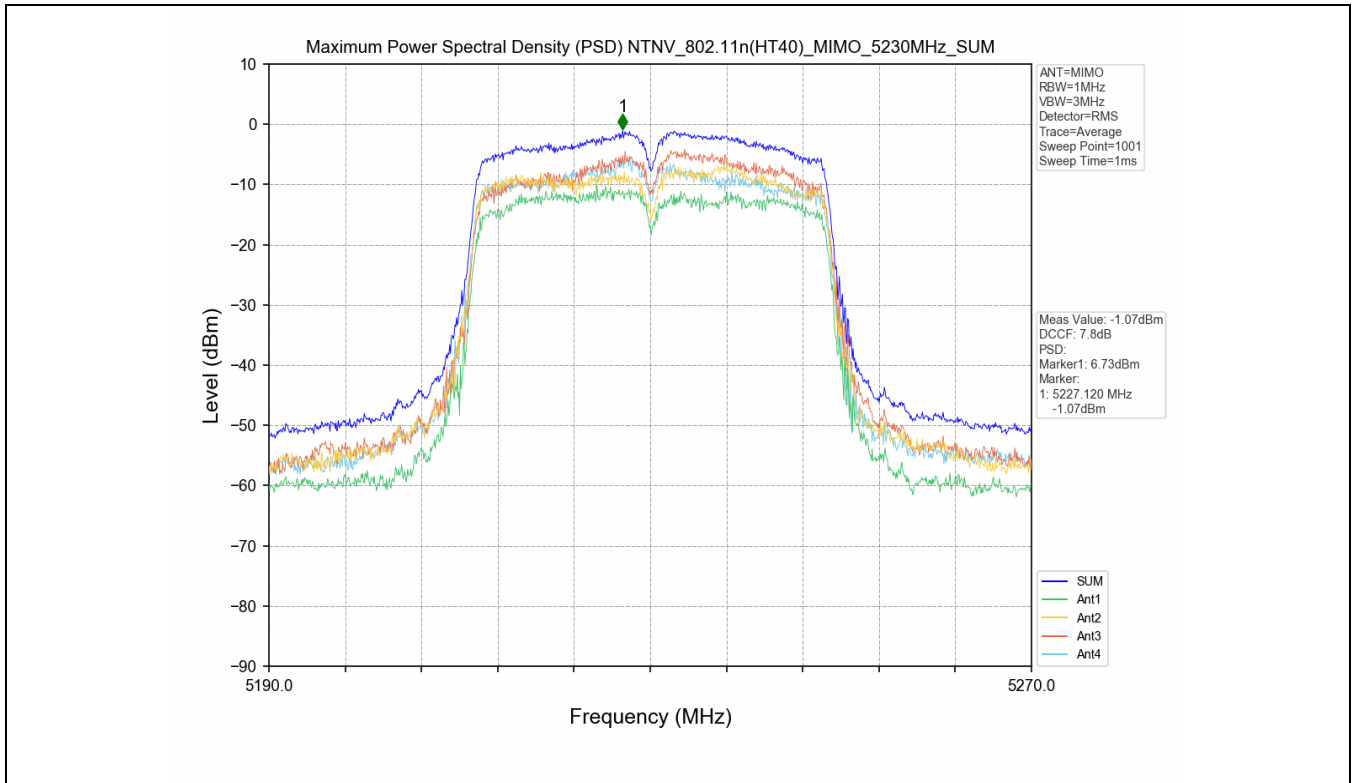


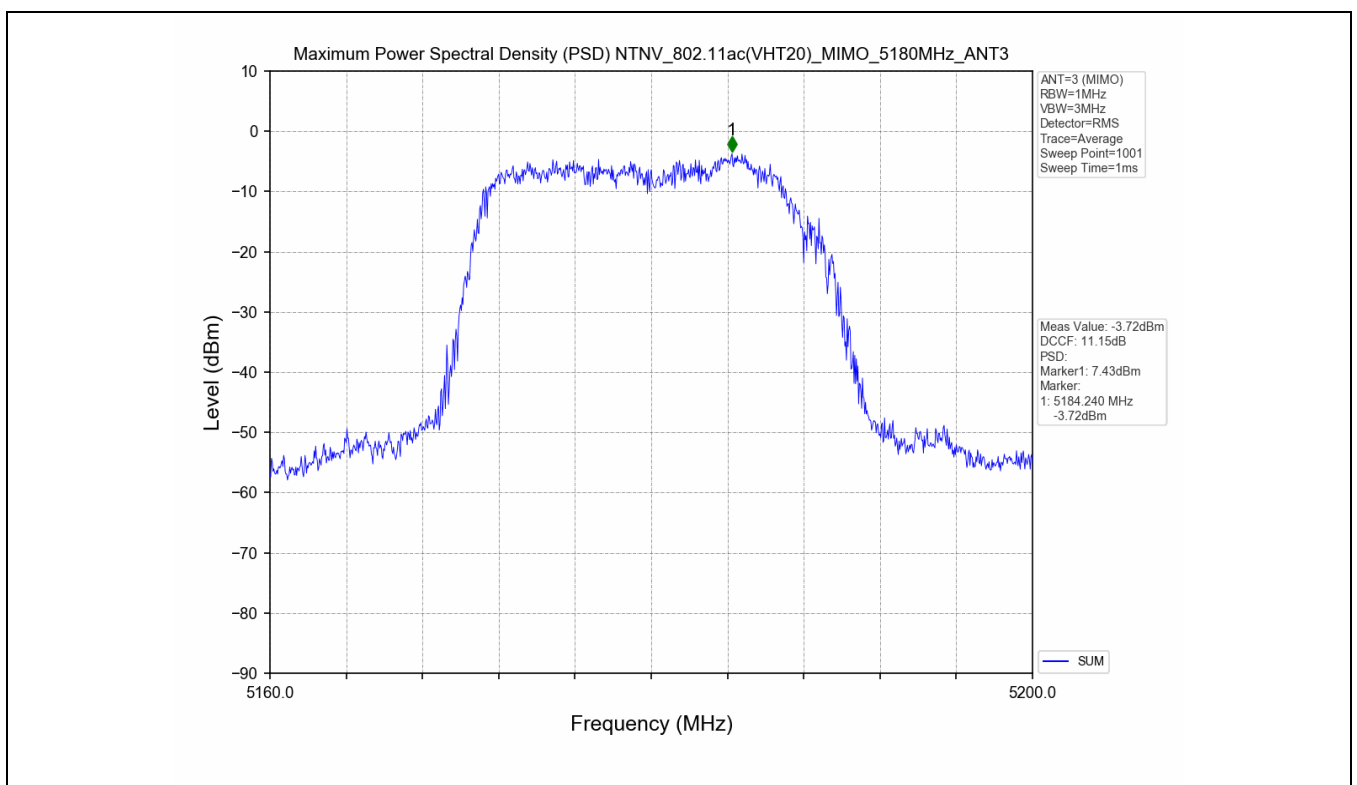
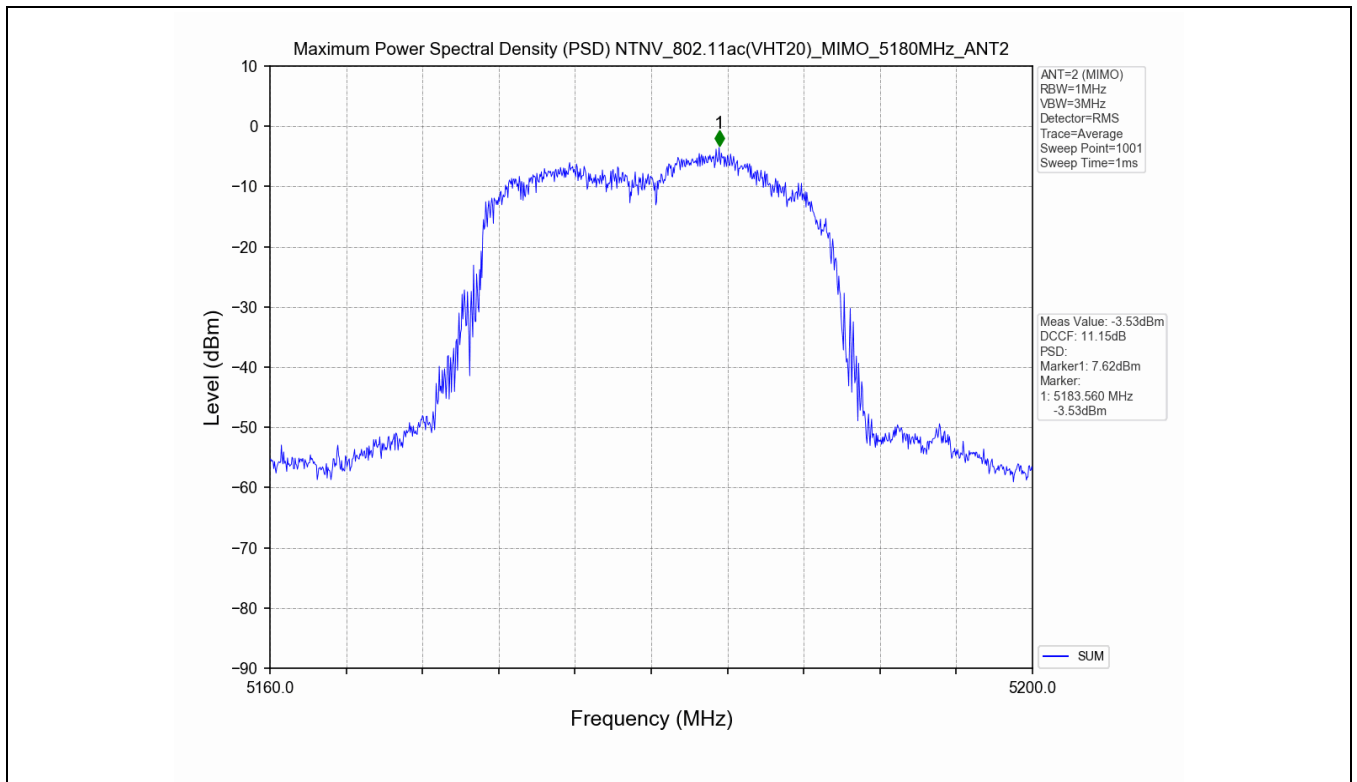


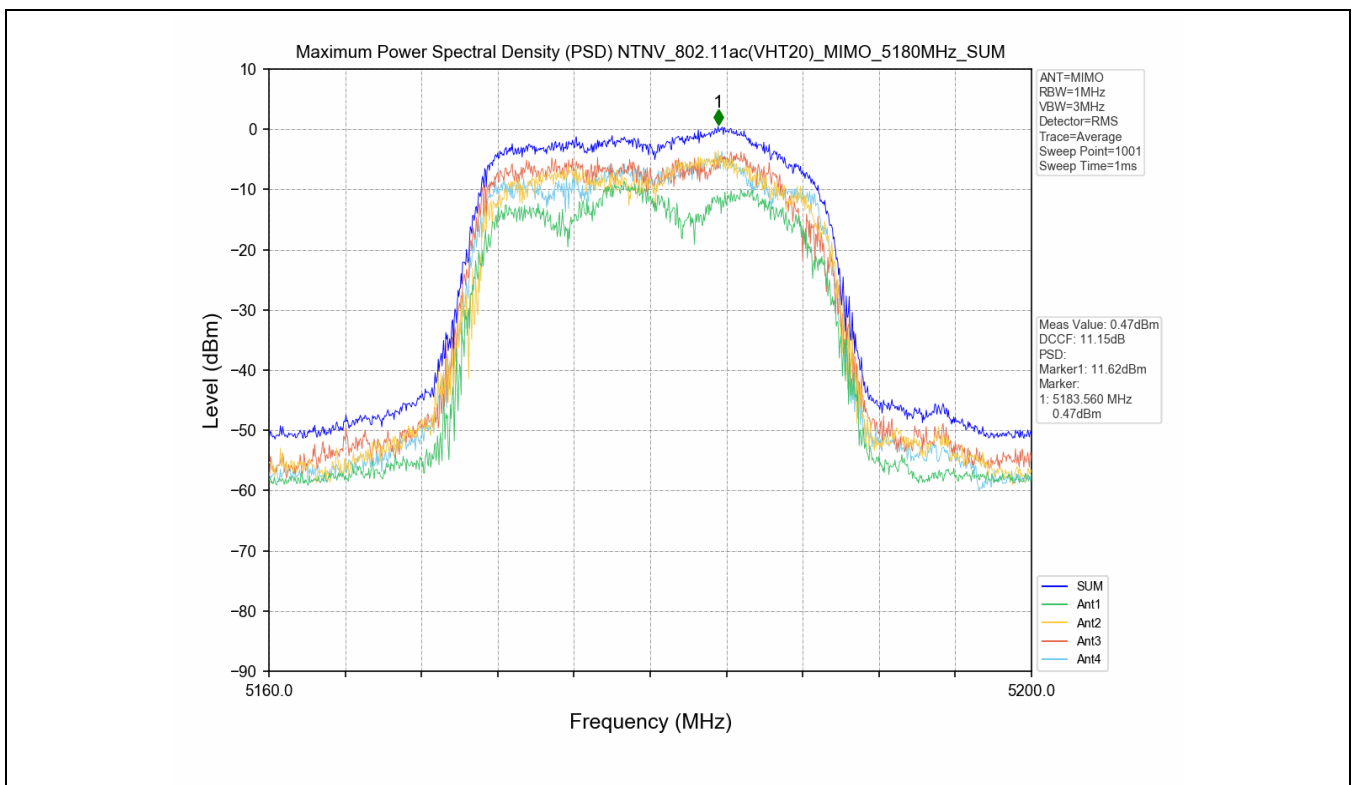
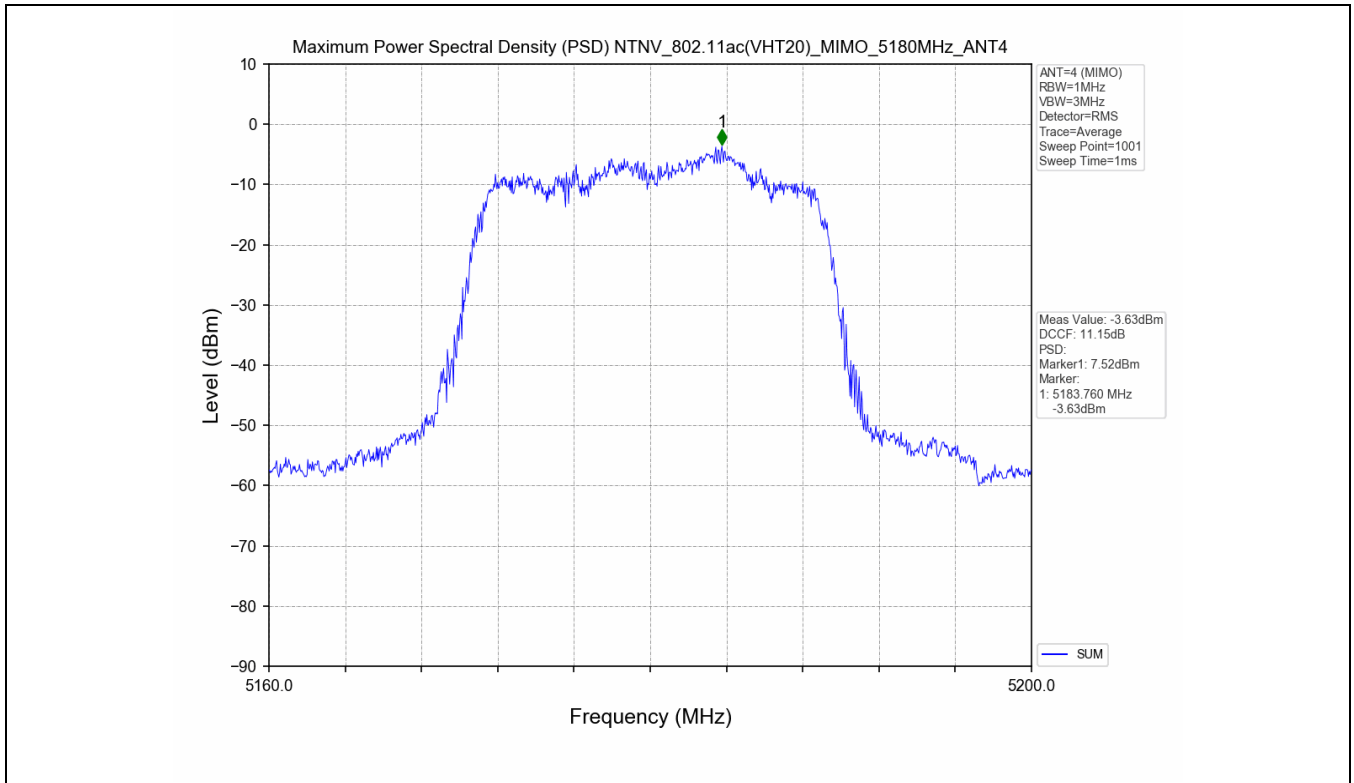


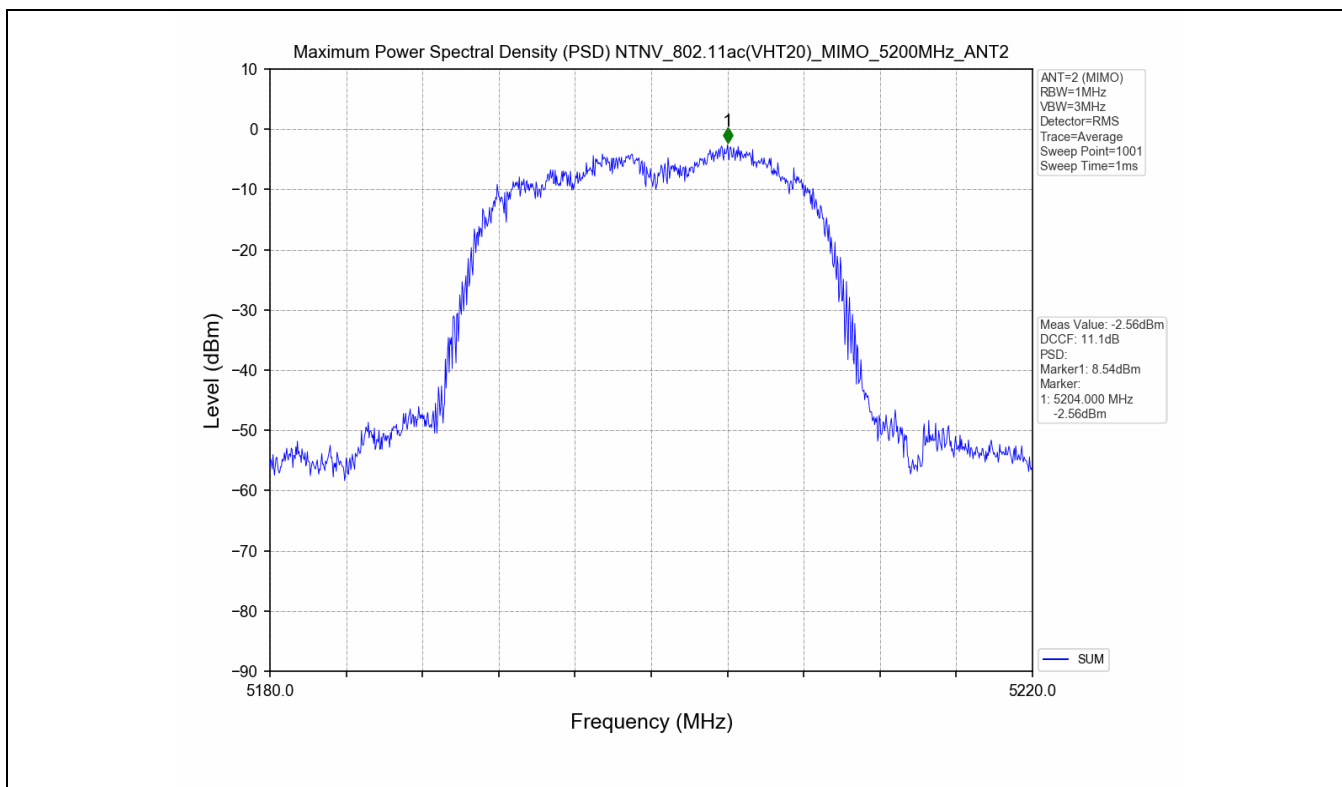
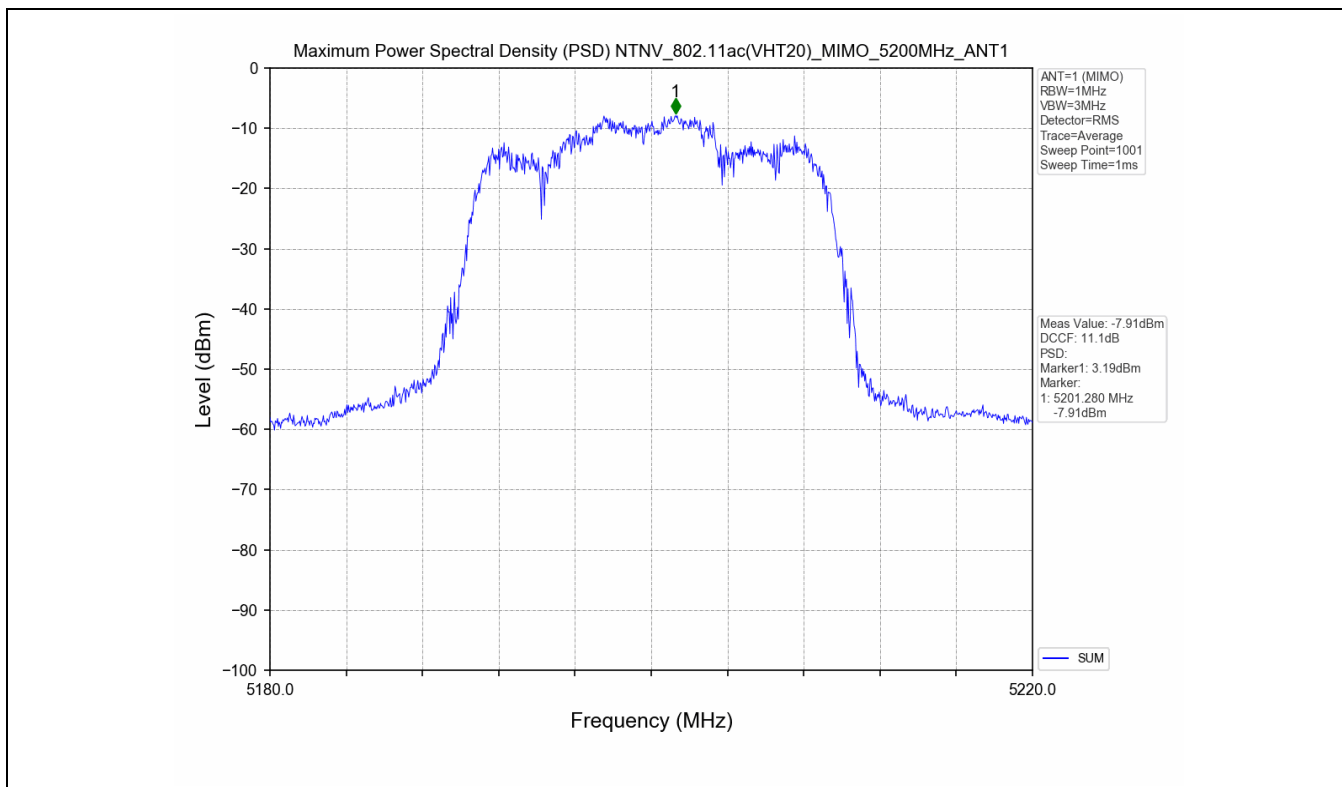






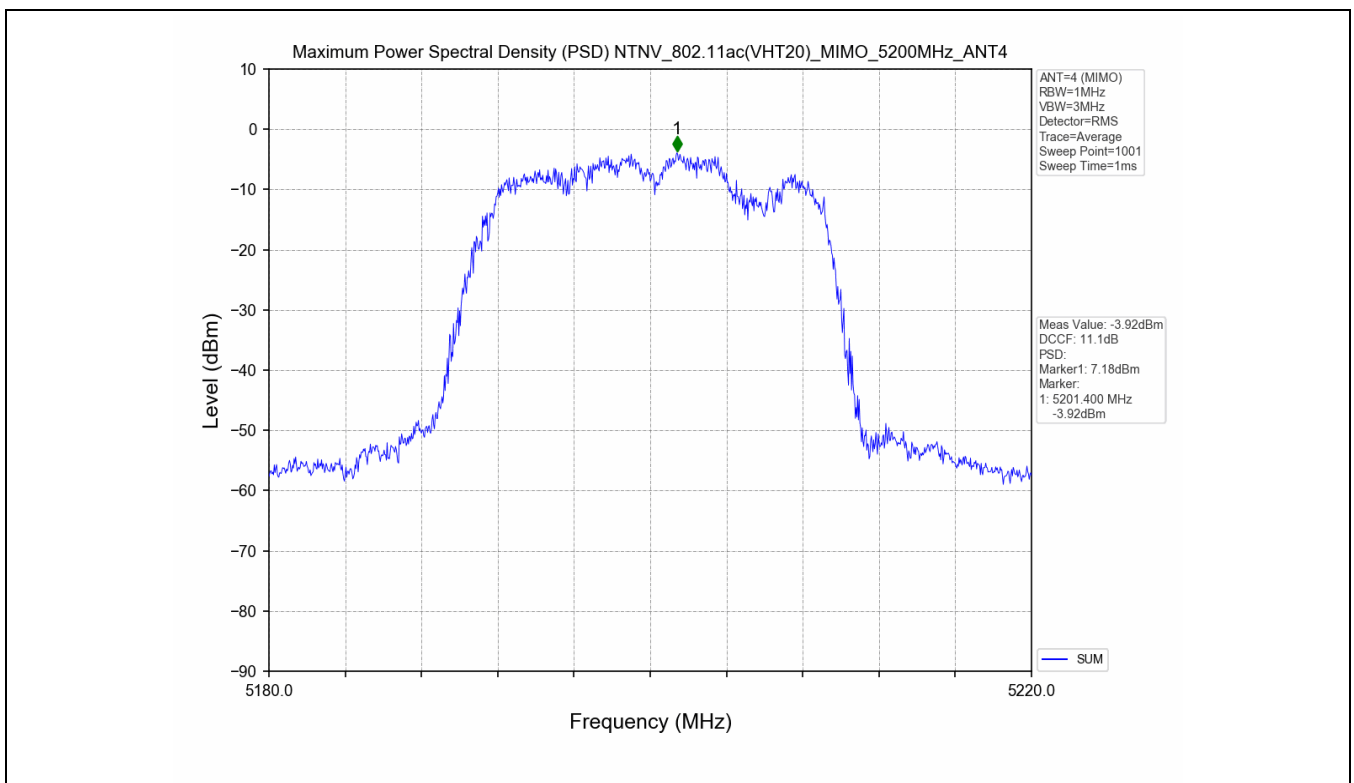
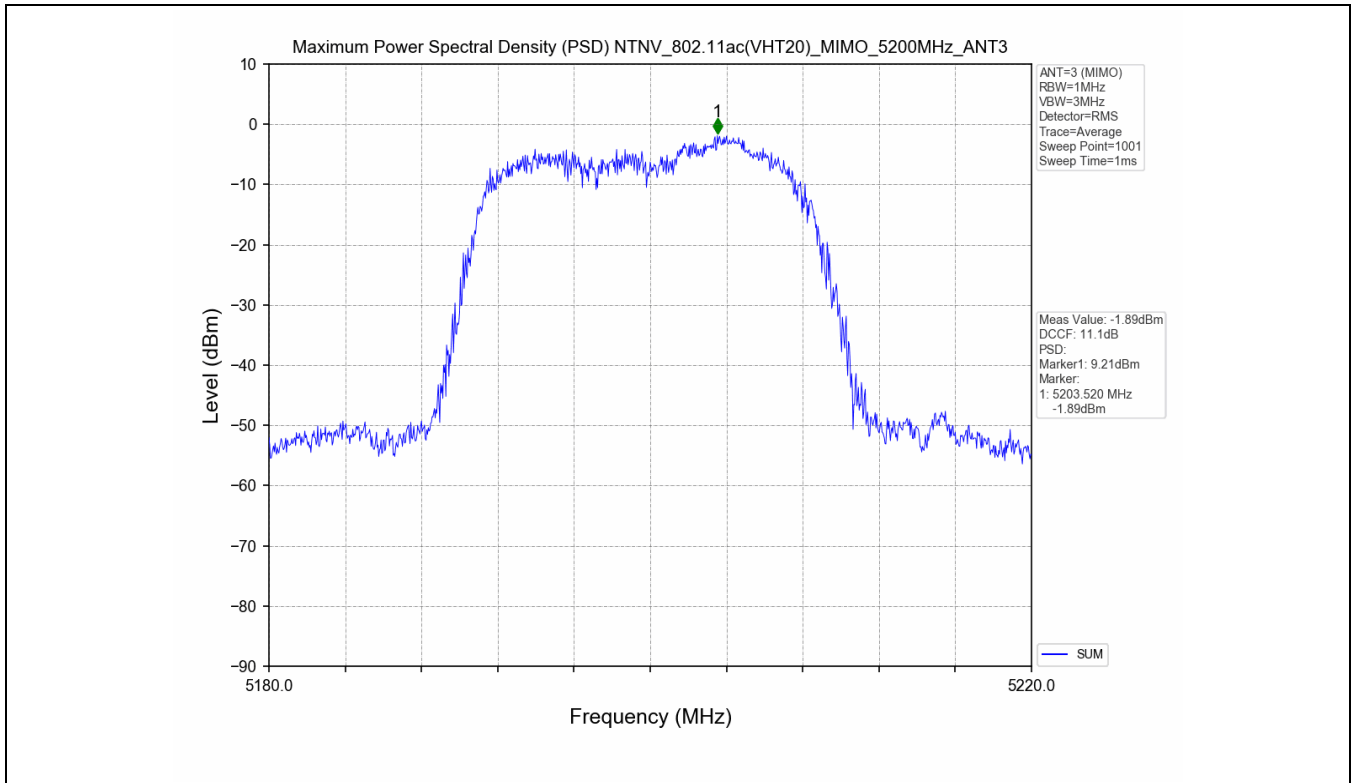


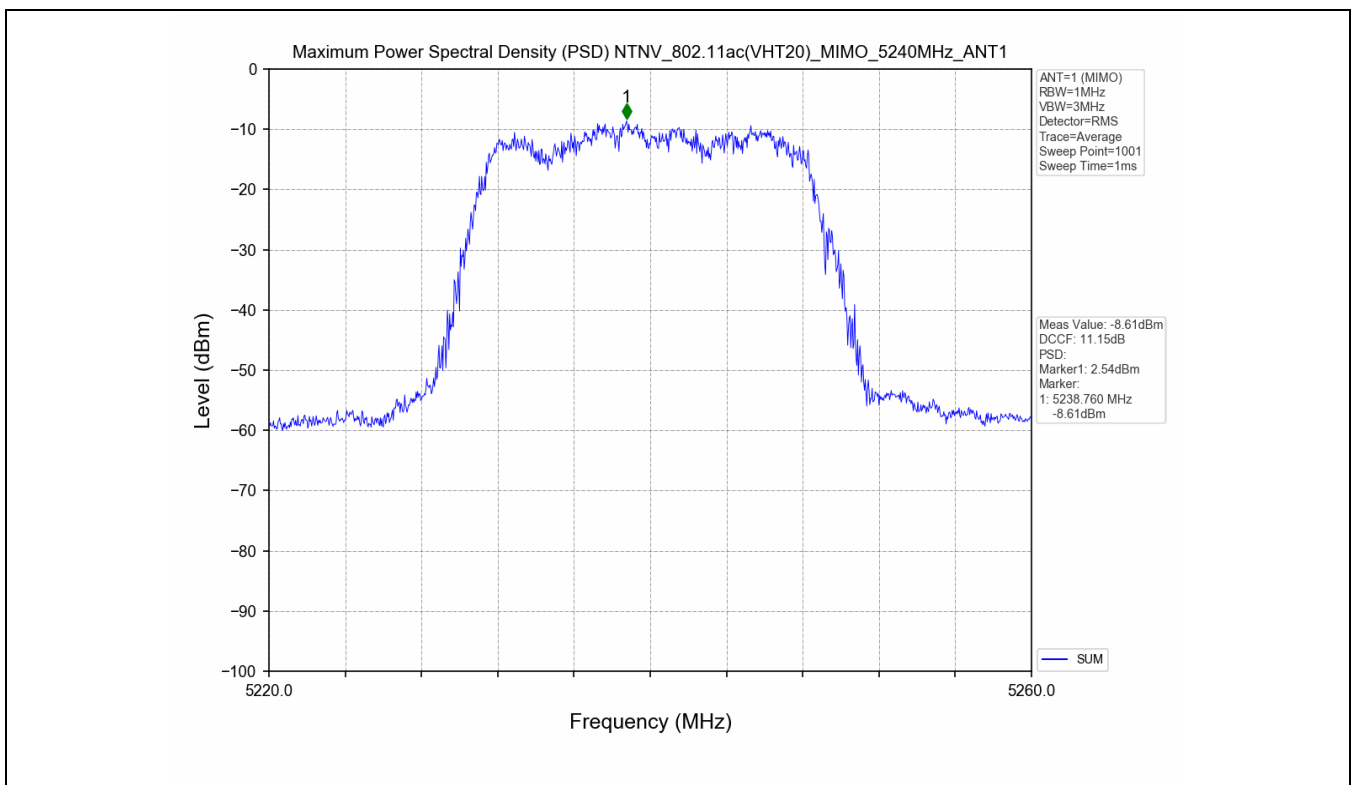
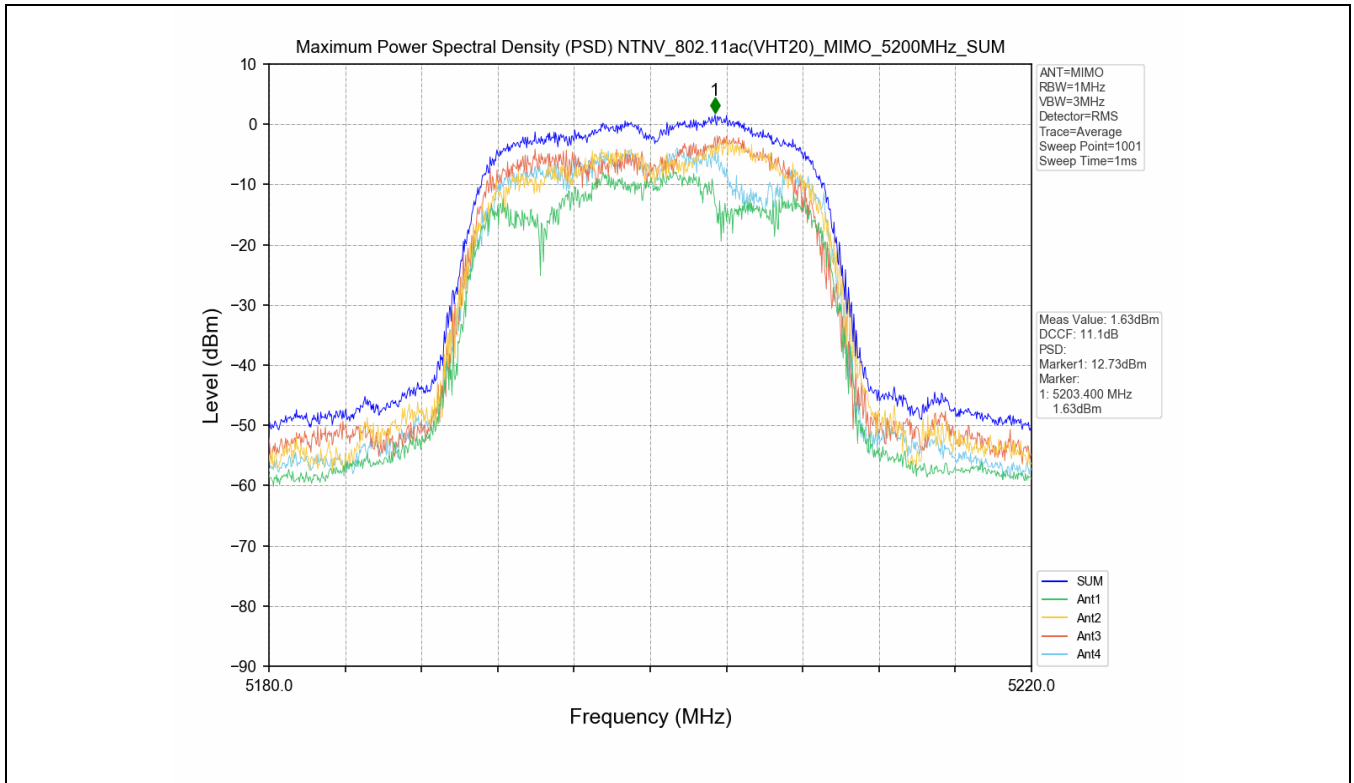


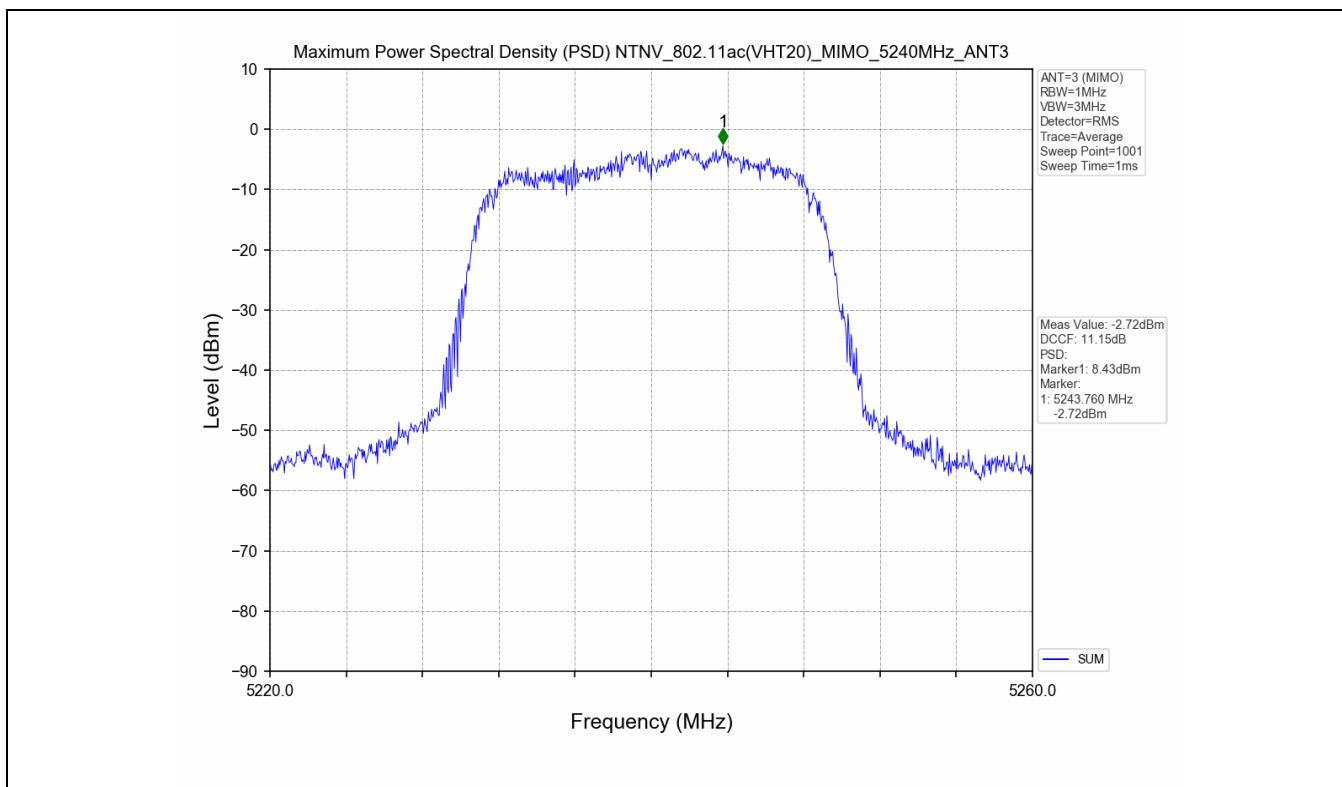
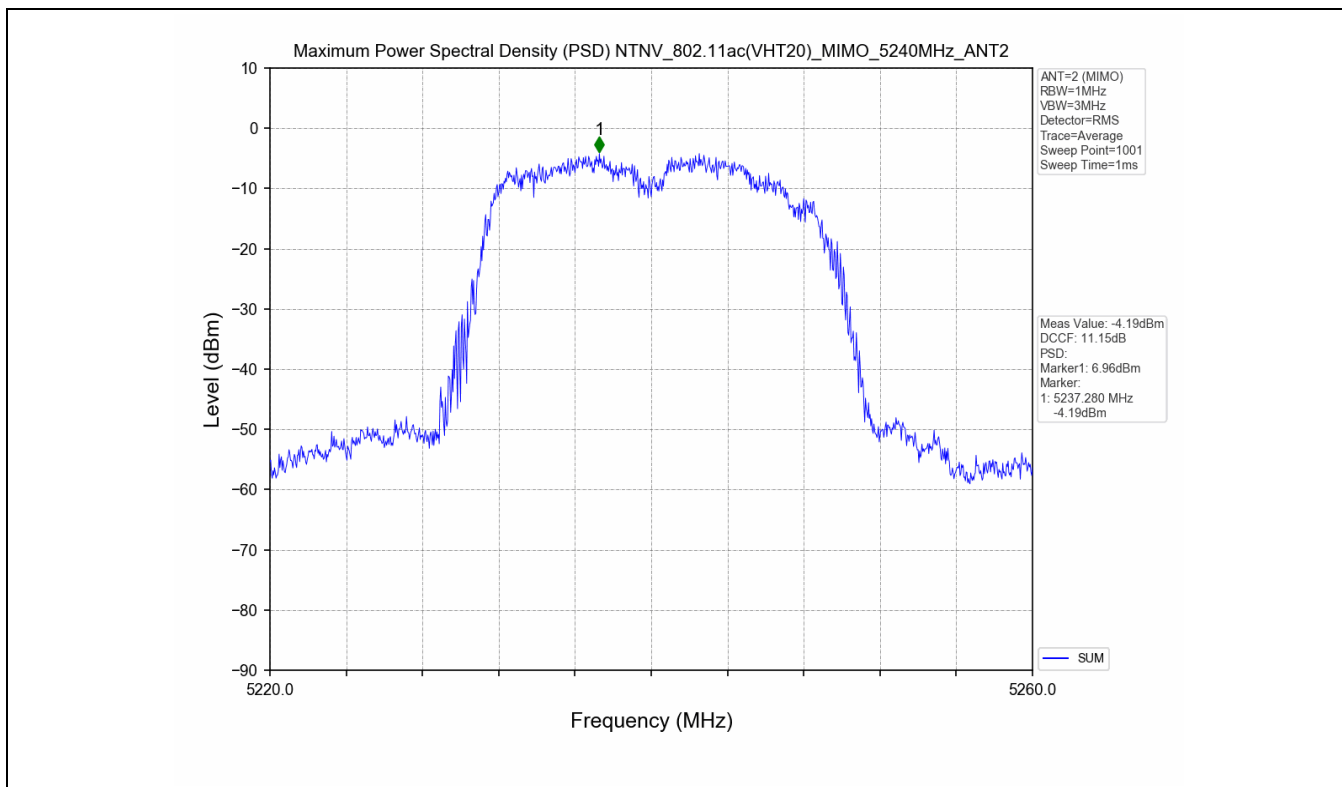


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