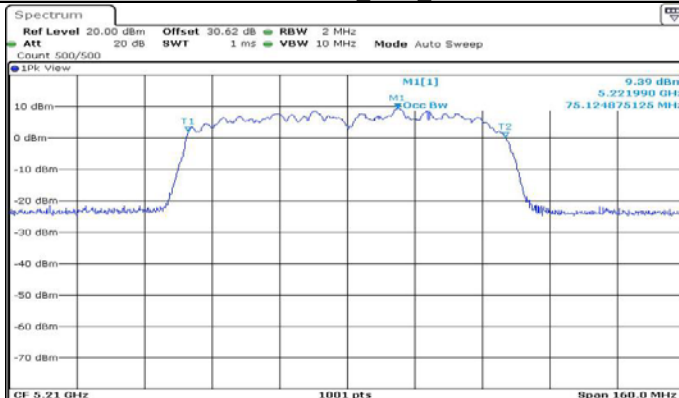


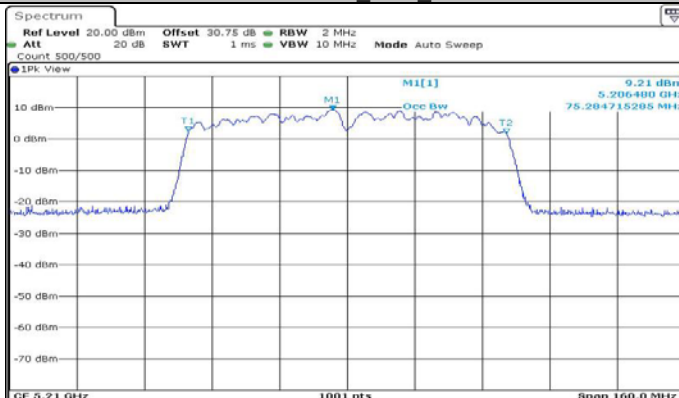


11AC80MIMO_Ant0_5210



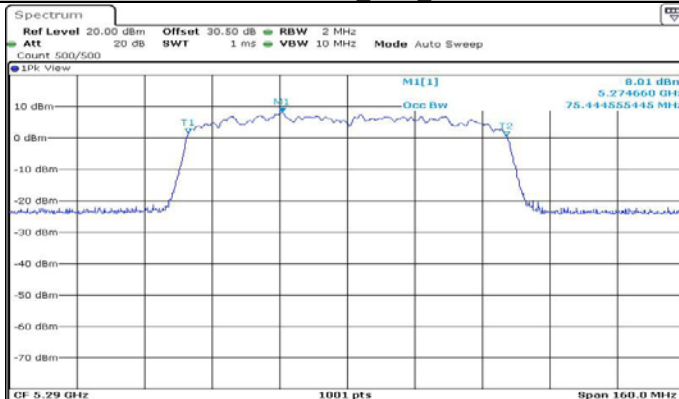
Date: 3.NOV.2021 23:40:30

11AC80MIMO_Ant1_5210

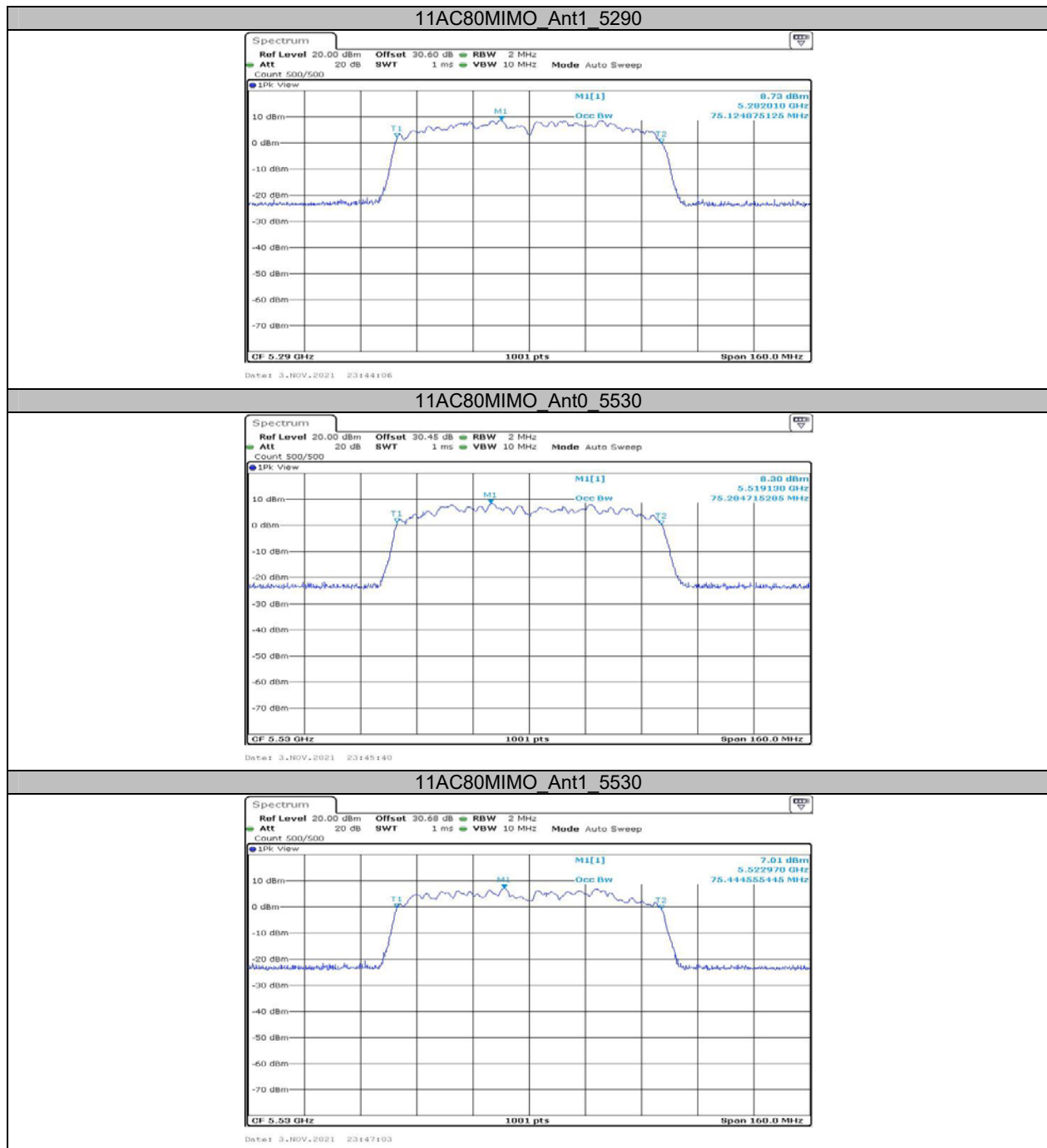


Date: 3.NOV.2021 23:41:42

11AC80MIMO_Ant0_5290



Date: 3.NOV.2021 23:43:09



11AC80MIMO_Ant0_5610



Date: 3.NOV.2021 23:48:38

11AC80MIMO_Ant1_5610

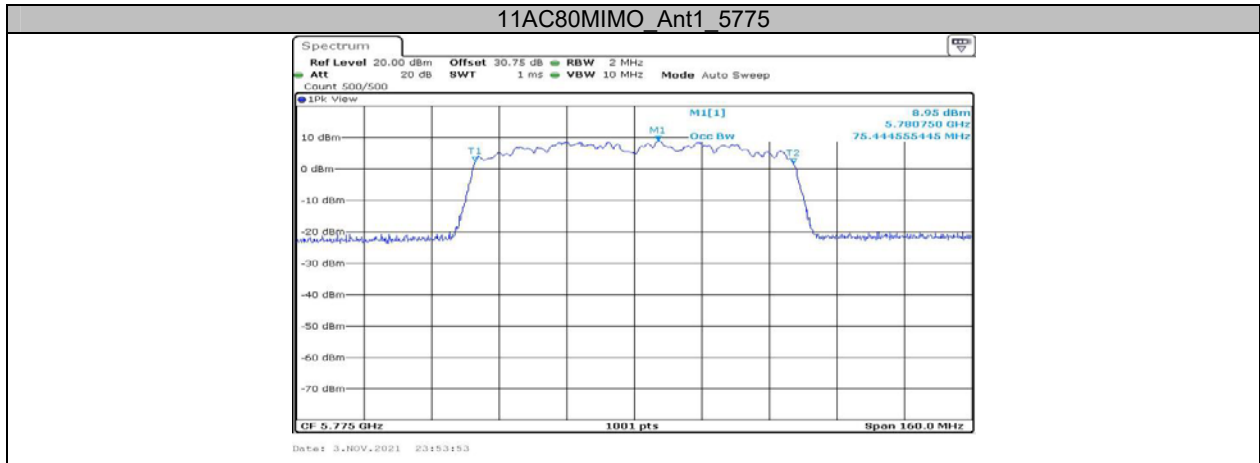


Date: 3.NOV.2021 23:49:39

11AC80MIMO_Ant0_5775



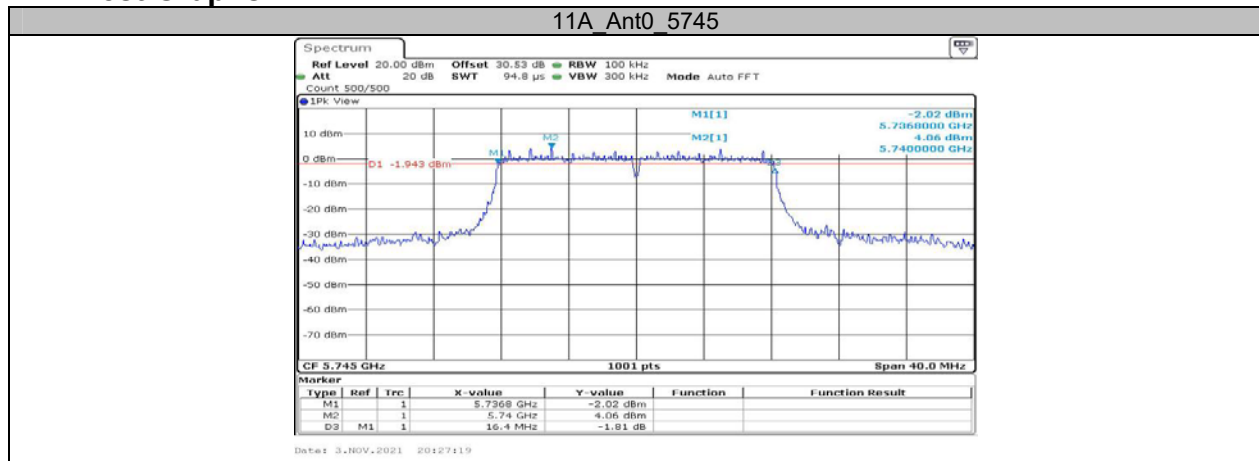
Date: 3.NOV.2021 23:52:44

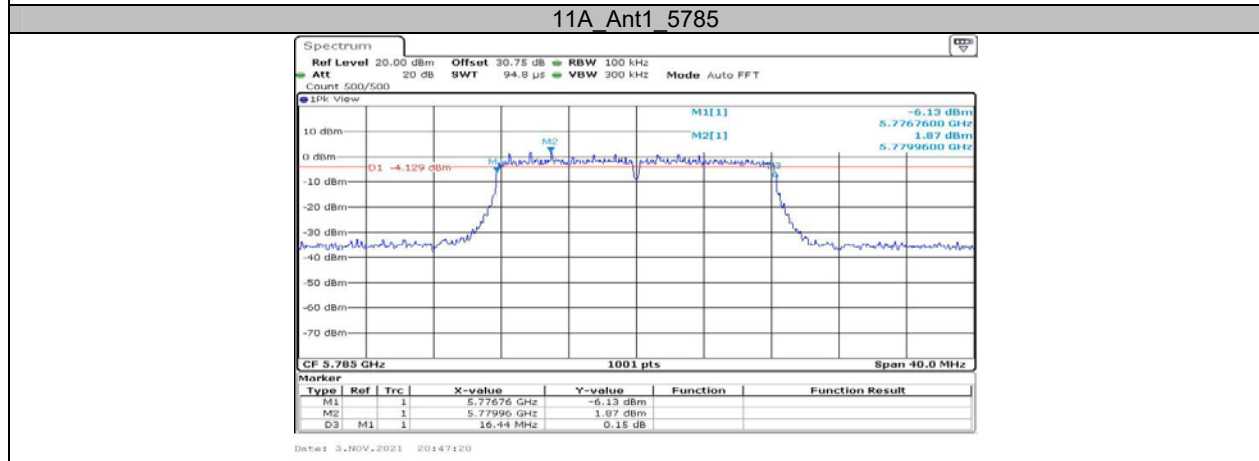
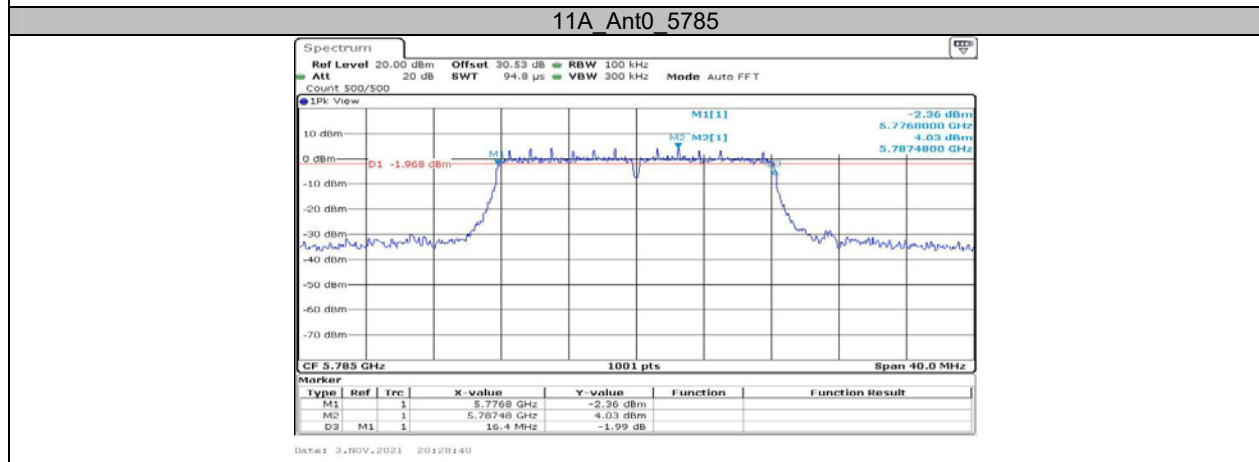
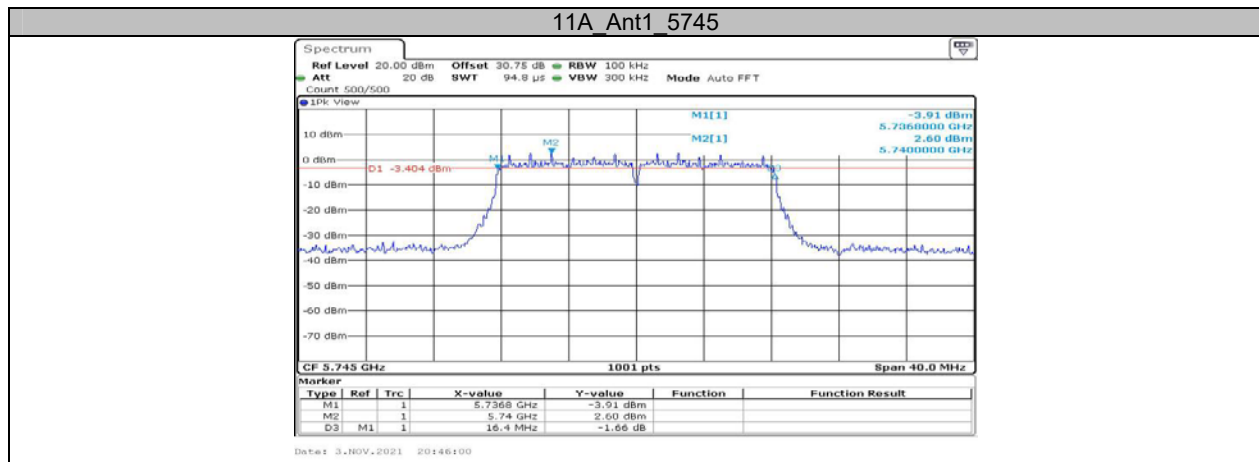


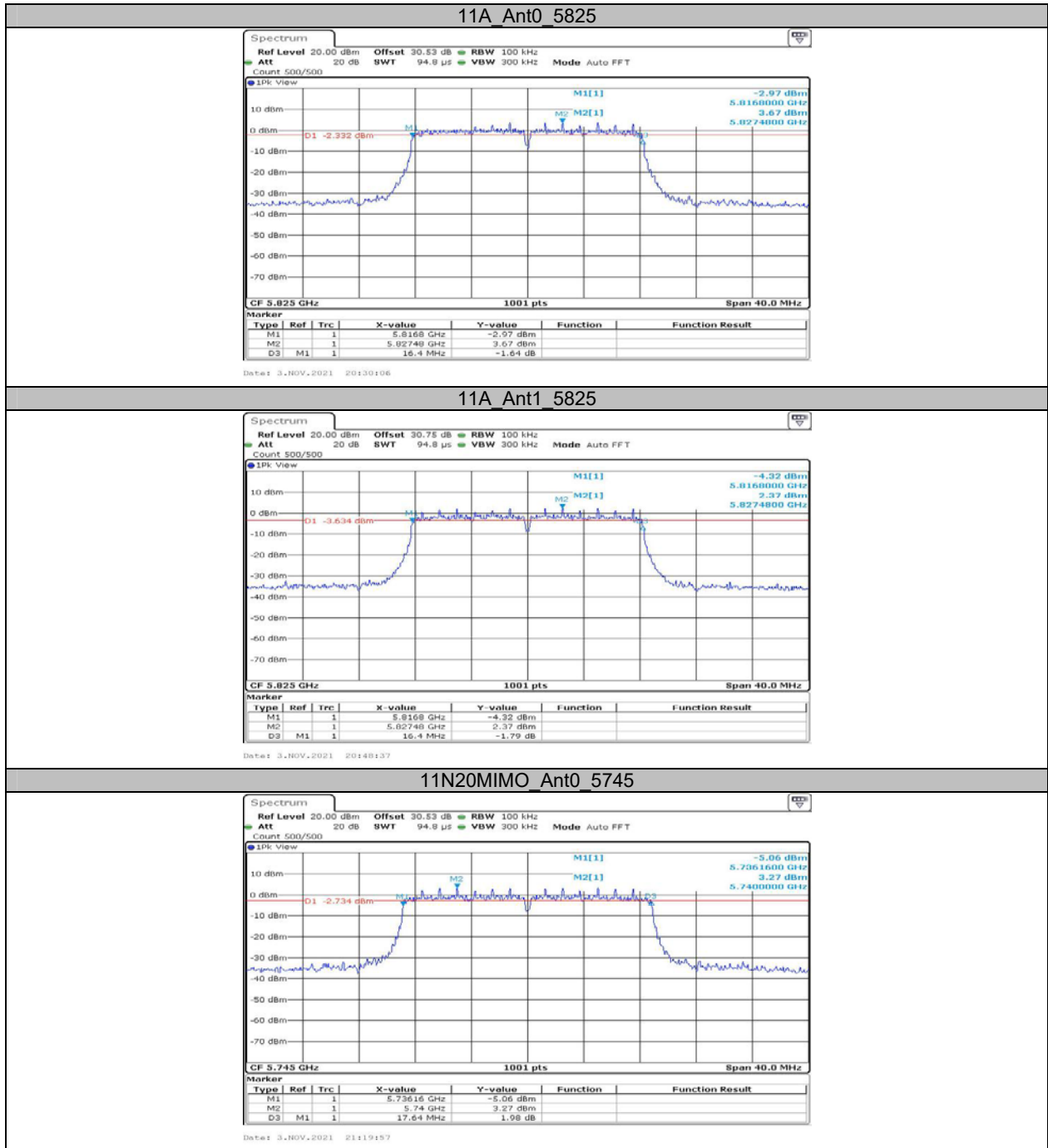
**Appendix A3: Min emission bandwidth
Test Result**

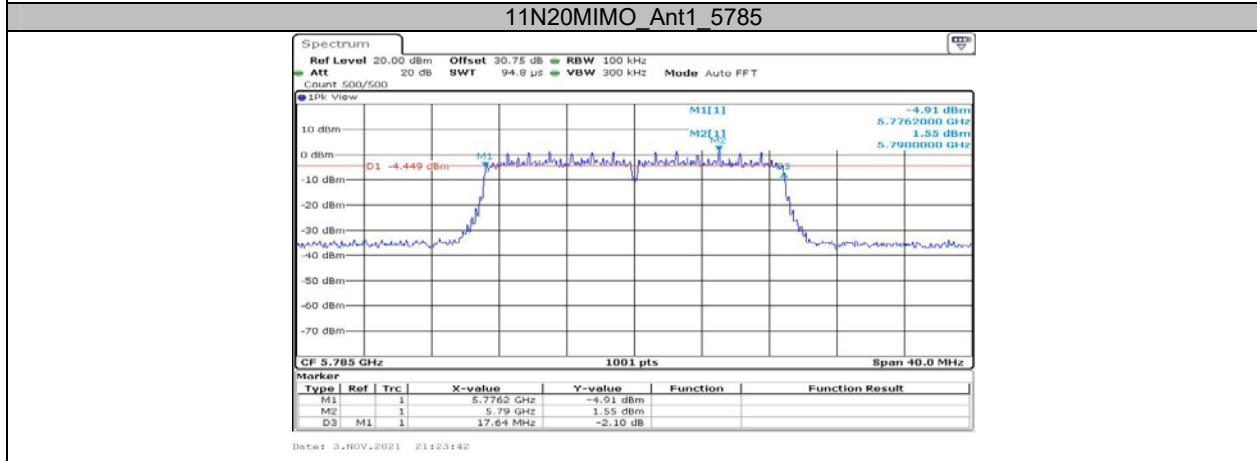
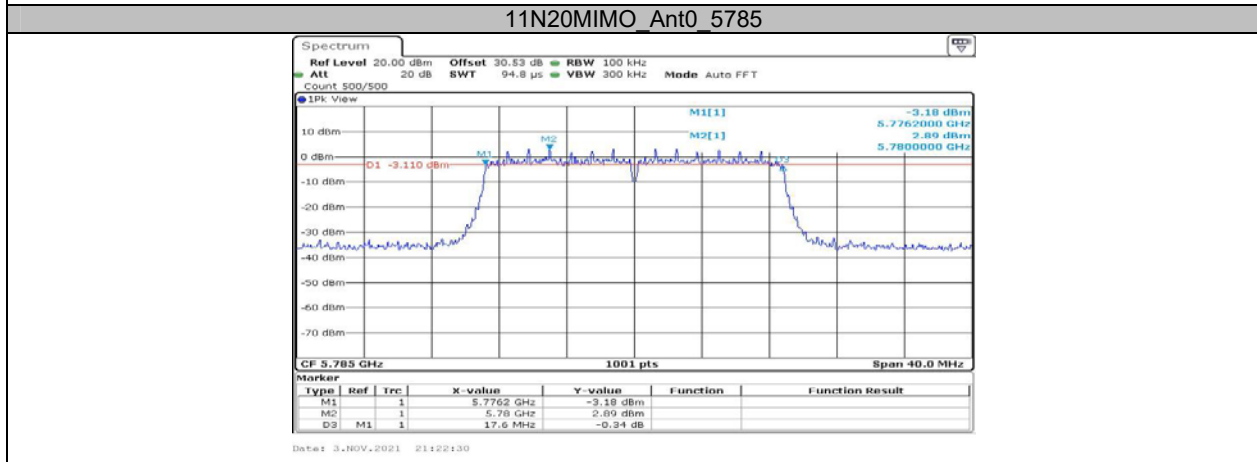
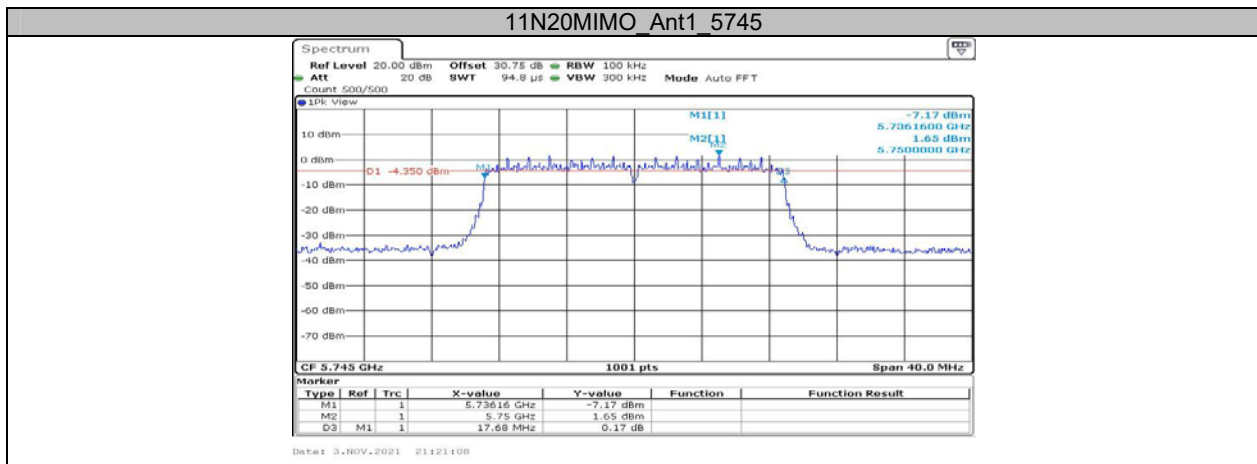
Test Mode	Antenna	Channel	6db EBW [MHz]	Limit[MHz]	Verdict
11A	Ant0	5745	16.400	0.5	PASS
	Ant1	5745	16.400	0.5	PASS
	Ant0	5785	16.400	0.5	PASS
	Ant1	5785	16.440	0.5	PASS
	Ant0	5825	16.400	0.5	PASS
	Ant1	5825	16.400	0.5	PASS
11N20MIMO	Ant0	5745	17.640	0.5	PASS
	Ant1	5745	17.680	0.5	PASS
	Ant0	5785	17.600	0.5	PASS
	Ant1	5785	17.640	0.5	PASS
	Ant0	5825	17.600	0.5	PASS
	Ant1	5825	17.640	0.5	PASS
11N40MIMO	Ant0	5755	35.280	0.5	PASS
	Ant1	5755	35.280	0.5	PASS
	Ant0	5795	35.280	0.5	PASS
	Ant1	5795	35.280	0.5	PASS
11AC20MIMO	Ant0	5745	17.680	0.5	PASS
	Ant1	5745	17.680	0.5	PASS
	Ant0	5785	17.680	0.5	PASS
	Ant1	5785	17.640	0.5	PASS
	Ant0	5825	17.640	0.5	PASS
	Ant1	5825	17.600	0.5	PASS
11AC40MIMO	Ant0	5755	35.280	0.5	PASS
	Ant1	5755	35.280	0.5	PASS
	Ant0	5795	35.280	0.5	PASS
	Ant1	5795	35.280	0.5	PASS
11AC80MIMO	Ant0	5775	75.520	0.5	PASS
	Ant1	5775	75.520	0.5	PASS

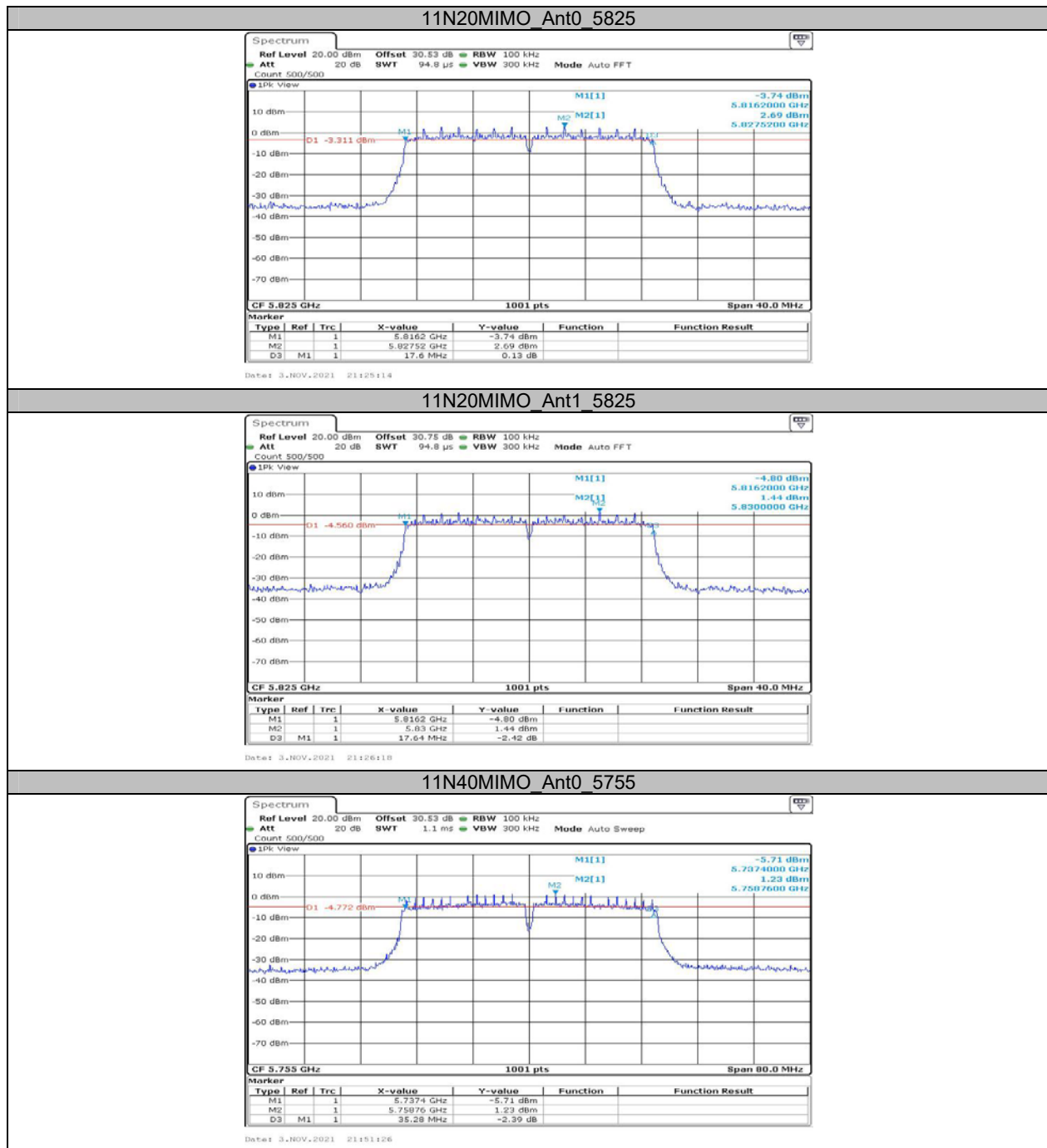
Test Graphs

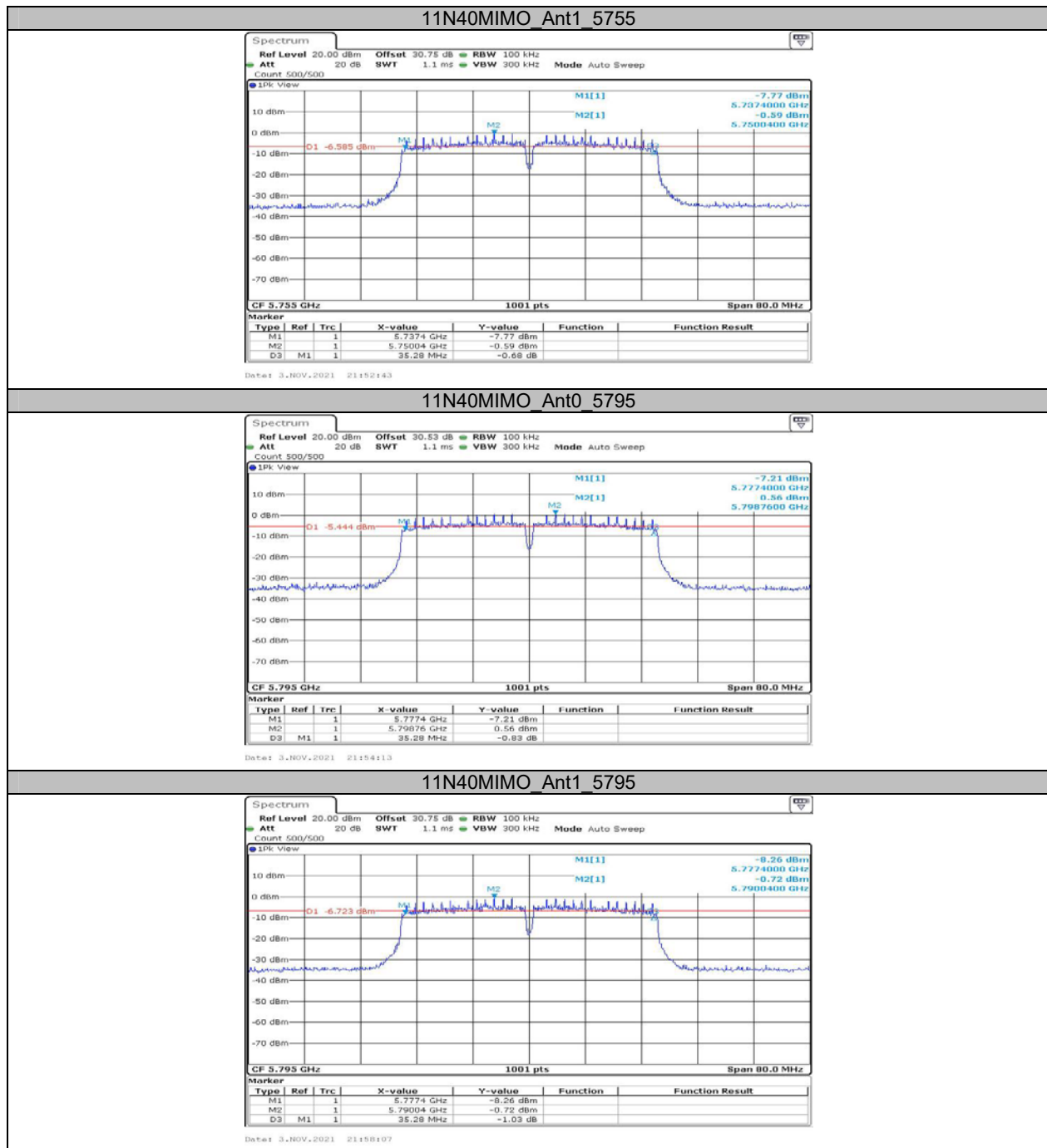


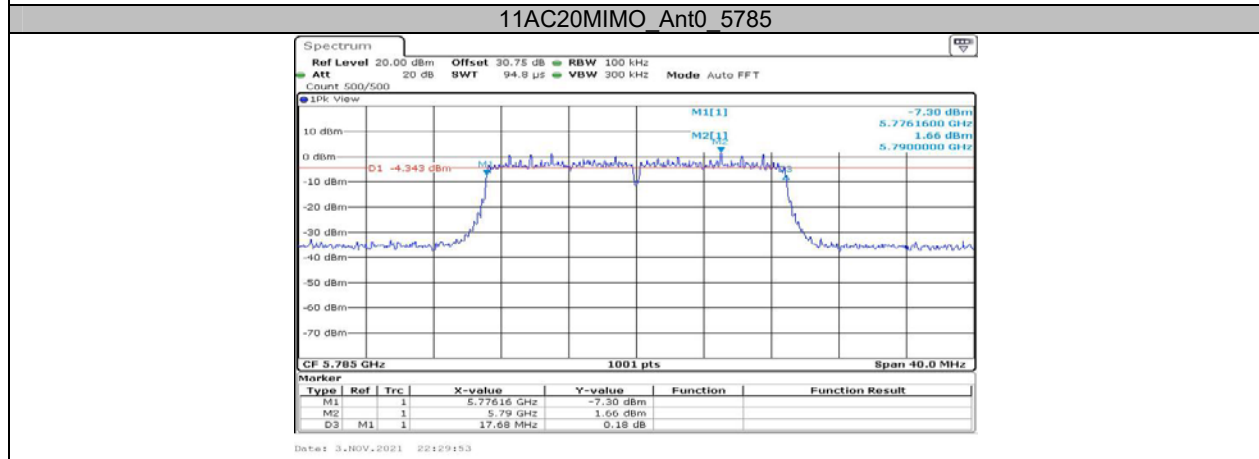
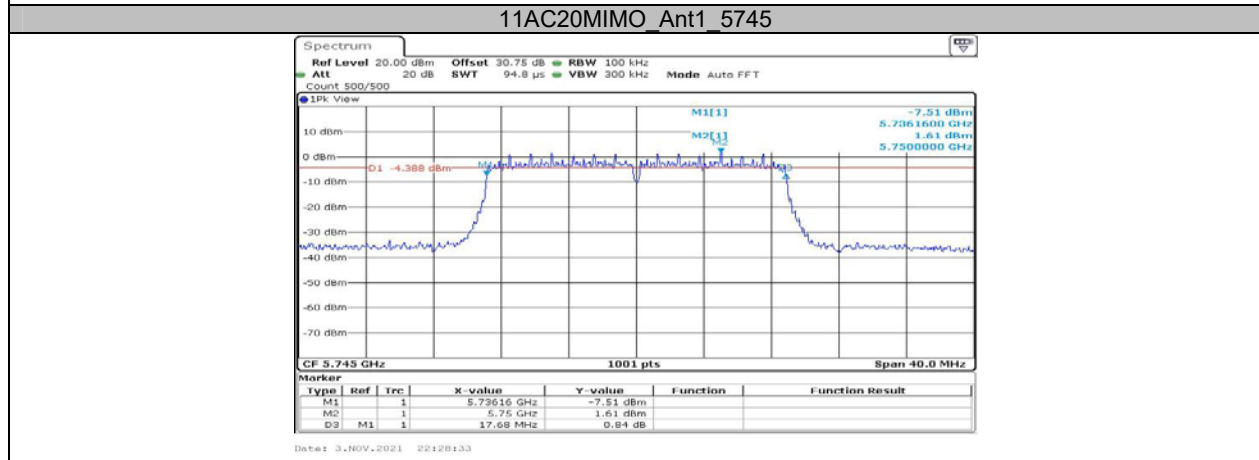
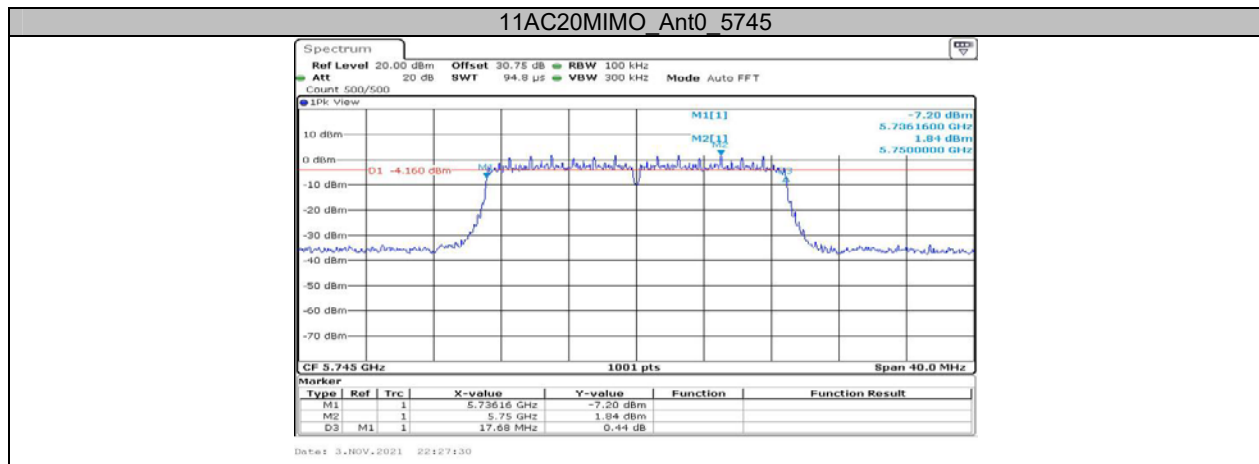


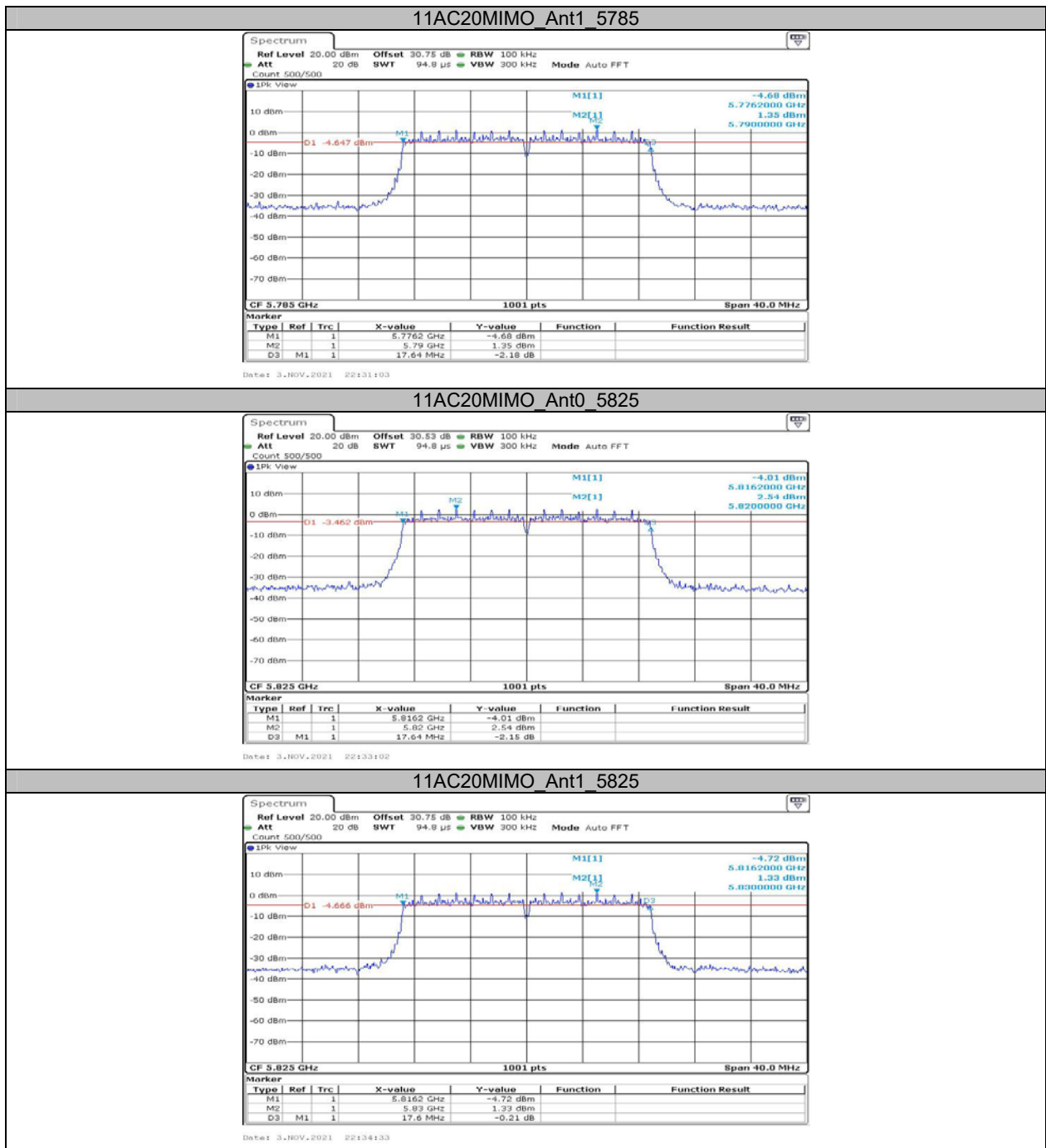


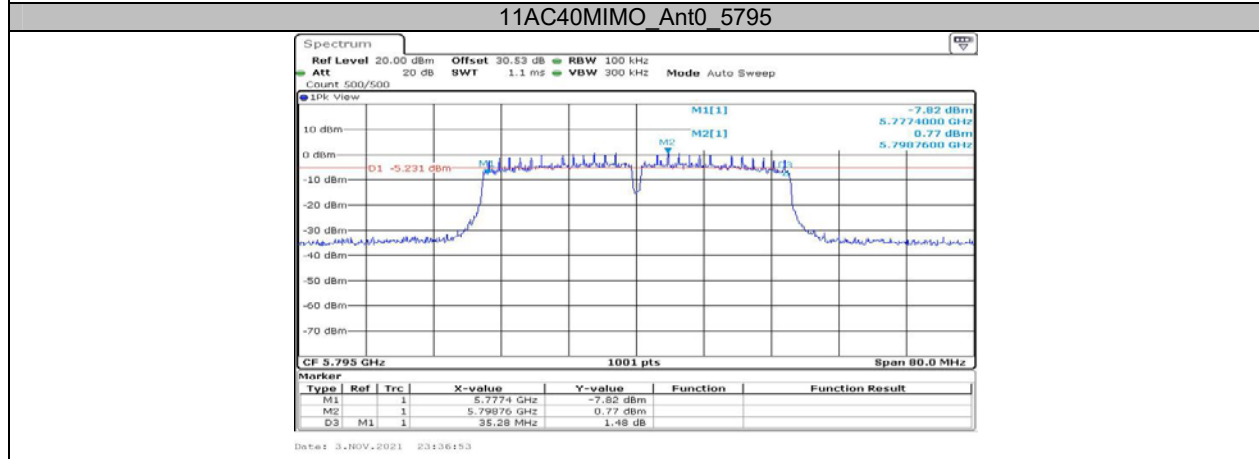
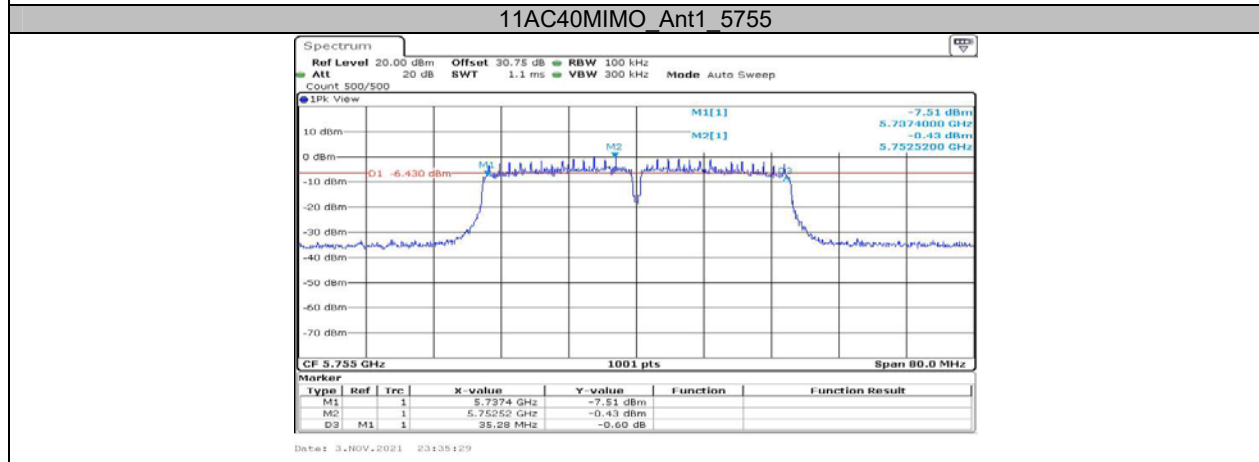
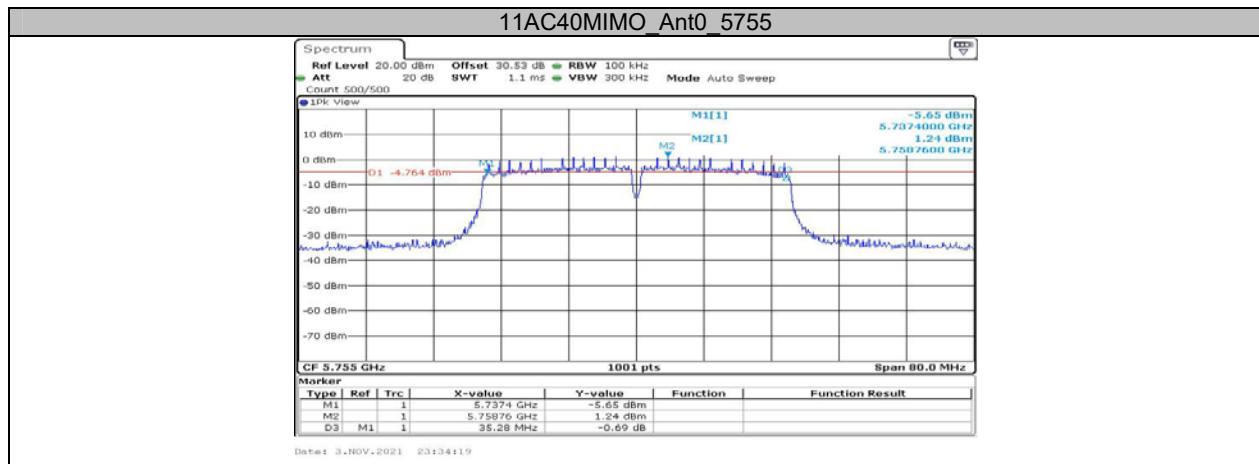


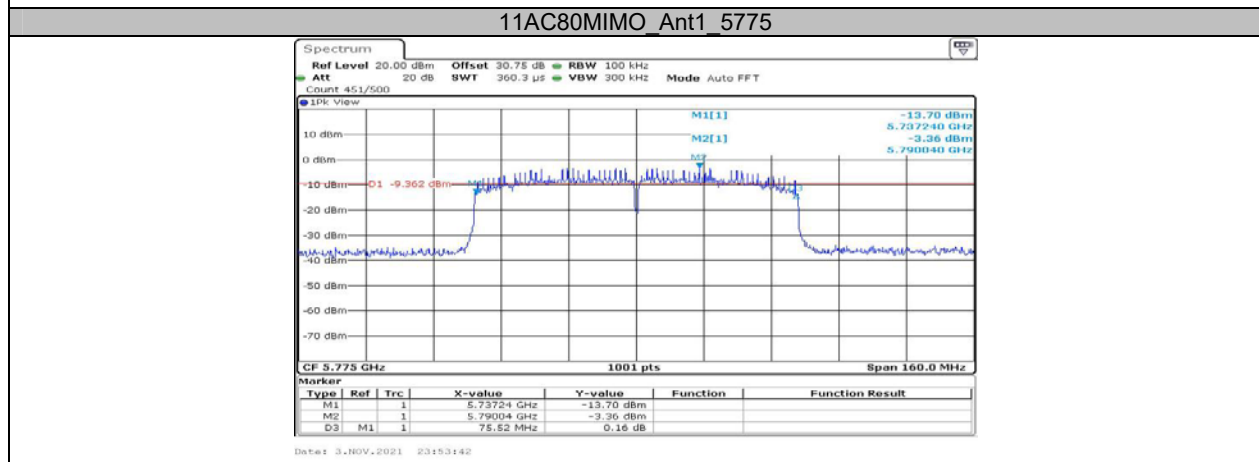
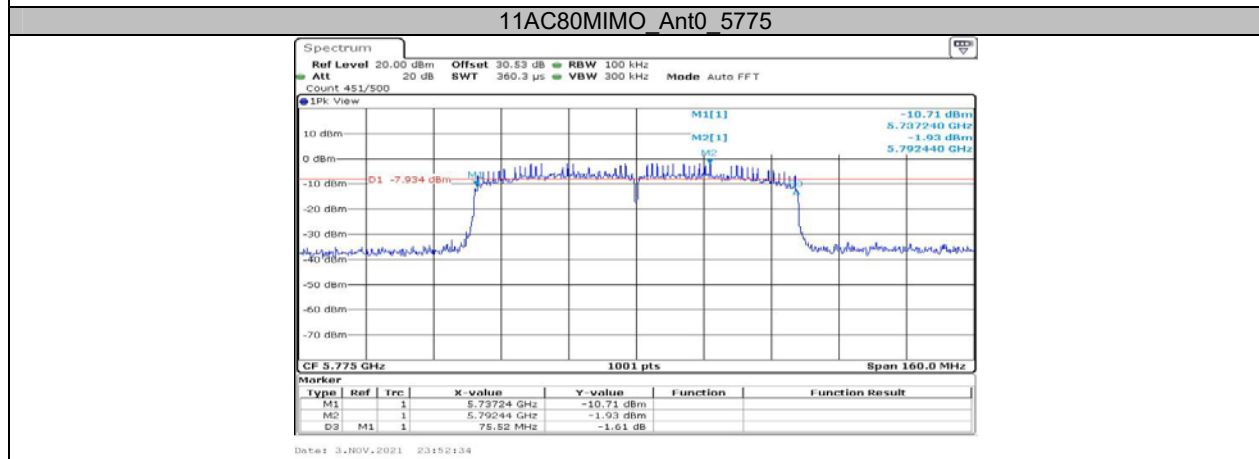
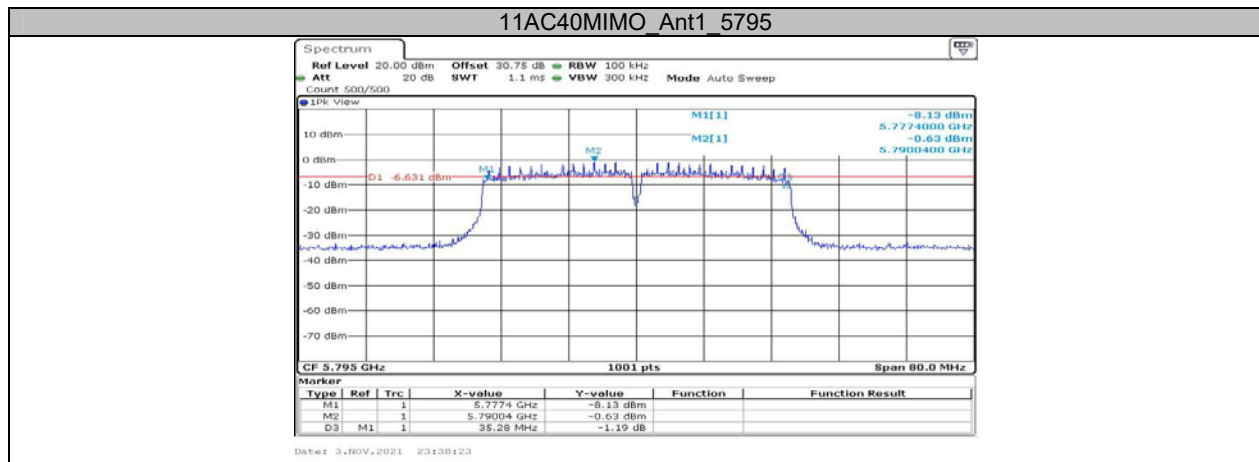












Appendix B: Maximum conducted average output power Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant0	5180	14.48	<=24	PASS
	Ant1	5180	15.02	<=24	PASS
	Ant0	5200	14.71	<=24	PASS
	Ant1	5200	15.21	<=24	PASS
	Ant0	5240	14.55	<=24	PASS
	Ant1	5240	15.30	<=24	PASS
	Ant0	5260	14.13	<=23.68	PASS
	Ant1	5260	14.82	<=23.72	PASS
	Ant0	5280	14.02	<=23.71	PASS
	Ant1	5280	14.99	<=23.65	PASS
	Ant0	5320	14.01	<=23.68	PASS
	Ant1	5320	15.05	<=23.70	PASS
	Ant0	5500	16.69	<=23.93	PASS
	Ant1	5500	16.39	<=23.71	PASS
	Ant0	5580	17.62	<=24	PASS
	Ant1	5580	16.40	<=23.70	PASS
	Ant0	5700	17.05	<=23.67	PASS
	Ant1	5700	15.35	<=23.43	PASS
	Ant0	5745	17.40	≤30	PASS
	Ant1	5745	15.86	≤30	PASS
Ant0	5785	16.88	≤30	PASS	
Ant1	5785	15.56	≤30	PASS	
Ant0	5825	16.44	≤30	PASS	
Ant1	5825	15.39	≤30	PASS	
11N20MIMO	Ant0	5180	12.57	<=24	PASS
	Ant1	5180	12.72	<=24	PASS
	total	5180	15.66	<=24	PASS
	Ant0	5200	12.46	<=24	PASS
	Ant1	5200	12.83	<=24	PASS
	total	5200	15.66	<=24	PASS
	Ant0	5240	12.29	<=24	PASS
	Ant1	5240	12.96	<=24	PASS
	total	5240	15.65	<=24	PASS
	Ant0	5260	12.90	<=23.85	PASS
	Ant1	5260	13.82	<=23.85	PASS
	total	5260	16.4	<=23.85	PASS
	Ant0	5280	12.93	<=23.89	PASS
	Ant1	5280	14.11	<=23.85	PASS
	total	5280	16.6	<=23.85	PASS
	Ant0	5320	12.85	<=23.88	PASS
	Ant1	5320	13.87	<=23.86	PASS
	total	5320	16.4	<=23.86	PASS
	Ant0	5500	15.32	<=23.86	PASS
	Ant1	5500	15.23	<=23.86	PASS
	total	5500	18.3	<=23.86	PASS
	Ant0	5580	17.01	<=24	PASS
	Ant1	5580	15.59	<=23.86	PASS
	total	5580	19.4	<=23.86	PASS
	Ant0	5700	16.20	<=23.90	PASS
	Ant1	5700	14.34	<=23.83	PASS
	total	5700	18.4	<=23.83	PASS
	Ant0	5745	16.29	≤30	PASS
	Ant1	5745	14.72	≤30	PASS

	total	5745	18.6	≤30	PASS	
	Ant0	5785	15.96	≤30	PASS	
	Ant1	5785	14.52	≤30	PASS	
	total	5785	18.3	≤30	PASS	
	Ant0	5825	15.41	≤30	PASS	
	Ant1	5825	14.42	≤30	PASS	
	total	5825	18.0	≤30	PASS	
11N40MIMO	Ant0	5190	13.75	≤24	PASS	
	Ant1	5190	14.44	≤24	PASS	
	total	5190	17.1	≤24	PASS	
	Ant0	5230	13.80	≤24	PASS	
	Ant1	5230	14.48	≤24	PASS	
	total	5230	17.2	≤24	PASS	
	Ant0	5270	13.38	≤24	PASS	
	Ant1	5270	14.29	≤24	PASS	
	total	5270	16.9	≤24	PASS	
	Ant0	5310	13.42	≤24	PASS	
	Ant1	5310	14.16	≤24	PASS	
	total	5310	16.8	≤24	PASS	
	Ant0	5510	13.91	≤24	PASS	
	Ant1	5510	13.24	≤24	PASS	
	total	5510	16.6	≤24	PASS	
	Ant0	5550	16.43	≤24	PASS	
	Ant1	5550	15.68	≤24	PASS	
	total	5550	19.1	≤24	PASS	
	Ant0	5670	16.58	≤24	PASS	
	Ant1	5670	14.79	≤24	PASS	
	total	5670	18.8	≤24	PASS	
	Ant0	5755	16.77	≤30	PASS	
	Ant1	5755	15.16	≤30	PASS	
	total	5755	19.0	≤30	PASS	
	Ant0	5795	16.09	≤30	PASS	
	Ant1	5795	14.87	≤30	PASS	
	total	5795	18.5	≤30	PASS	
	11AC20MIMO	Ant0	5180	14.28	≤24	PASS
		Ant1	5180	12.90	≤24	PASS
		total	5180	16.65	≤24	PASS
Ant0		5200	12.93	≤24	PASS	
Ant1		5200	13.14	≤24	PASS	
total		5200	16.05	≤24	PASS	
Ant0		5240	13.30	≤24	PASS	
Ant1		5240	13.25	≤24	PASS	
total		5240	16.29	≤24	PASS	
Ant0		5260	14.10	≤23.85	PASS	
Ant1		5260	14.09	≤23.87	PASS	
total		5260	17.1	≤23.85	PASS	
Ant0		5280	14.22	≤23.84	PASS	
Ant1		5280	14.09	≤23.86	PASS	
total		5280	17.2	≤23.84	PASS	
Ant0		5320	14.07	≤23.86	PASS	
Ant1		5320	14.10	≤23.82	PASS	
total		5320	17.1	≤23.82	PASS	
Ant0		5500	15.34	≤23.85	PASS	
Ant1		5500	15.18	≤23.85	PASS	
total		5500	18.3	≤23.85	PASS	
Ant0		5580	15.63	≤23.88	PASS	
Ant1		5580	15.44	≤23.86	PASS	
total		5580	18.5	≤23.86	PASS	
Ant0		5700	14.31	≤23.87	PASS	
Ant1		5700	14.39	≤23.87	PASS	

	total	5700	17.4	<=23.87	PASS
	Ant0	5745	14.83	≤30	PASS
	Ant1	5745	14.76	≤30	PASS
	total	5745	17.8	≤30	PASS
	Ant0	5785	14.51	≤30	PASS
	Ant1	5785	14.74	≤30	PASS
	total	5785	17.6	≤30	PASS
	Ant0	5825	15.57	≤30	PASS
	Ant1	5825	14.54	≤30	PASS
	total	5825	18.1	≤30	PASS
	Ant0	5190	14.15	<=24	PASS
	Ant1	5190	14.47	<=24	PASS
	total	5190	17.3	<=24	PASS
	Ant0	5230	14.11	<=24	PASS
	Ant1	5230	14.70	<=24	PASS
	total	5230	17.4	<=24	PASS
	Ant0	5270	13.39	<=24	PASS
	Ant1	5270	14.29	<=24	PASS
	total	5270	16.9	<=24	PASS
	Ant0	5310	13.34	<=24	PASS
	Ant1	5310	14.38	<=24	PASS
	total	5310	16.9	<=24	PASS
	Ant0	5510	14.01	<=24	PASS
	Ant1	5510	13.66	<=24	PASS
	total	5510	16.8	<=24	PASS
	Ant0	5550	16.61	<=24	PASS
	Ant1	5550	15.71	<=24	PASS
	total	5550	19.2	<=24	PASS
	Ant0	5670	16.54	<=24	PASS
	Ant1	5670	14.69	<=24	PASS
	total	5670	18.7	<=24	PASS
	Ant0	5755	16.72	≤30	PASS
	Ant1	5755	15.26	≤30	PASS
	total	5755	19.1	≤30	PASS
	Ant0	5795	15.95	≤30	PASS
	Ant1	5795	14.55	≤30	PASS
	total	5795	18.3	≤30	PASS
	Ant0	5210	14.25	<=24	PASS
	Ant1	5210	14.68	<=24	PASS
	total	5210	17.5	<=24	PASS
	Ant0	5290	13.86	<=24	PASS
	Ant1	5290	14.75	<=24	PASS
	total	5290	17.3	<=24	PASS
	Ant0	5530	13.75	<=24	PASS
	Ant1	5530	12.73	<=24	PASS
	total	5530	16.3	<=24	PASS
	Ant0	5610	17.38	<=24	PASS
	Ant1	5610	15.78	<=24	PASS
	total	5610	19.7	<=24	PASS
	Ant0	5775	17.02	≤30	PASS
	Ant1	5775	15.65	≤30	PASS
	total	5775	19.4	≤30	PASS

Note 1: This product is used for client device.

Note 2: The maximum antenna gain is 2.0 dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0dB (i.e., no array gain) For $N_{ANT} \leq 4$;

So: Directional gain=2.0dBi <6dBi

Appendix C: Maximum power spectral density Test Result

Test Mode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant0	5180	2.41	≤11	PASS
	Ant1	5180	2.65	≤11	PASS
	Ant0	5200	2.29	≤11	PASS
	Ant1	5200	2.79	≤11	PASS
	Ant0	5240	2.51	≤11	PASS
	Ant1	5240	2.86	≤11	PASS
	Ant0	5260	1.96	≤11	PASS
	Ant1	5260	2.27	≤11	PASS
	Ant0	5280	2.11	≤11	PASS
	Ant1	5280	2.77	≤11	PASS
	Ant0	5320	1.76	≤11	PASS
	Ant1	5320	2.51	≤11	PASS
	Ant0	5500	4.73	≤11	PASS
	Ant1	5500	3.96	≤11	PASS
	Ant0	5580	5.59	≤11	PASS
	Ant1	5580	3.78	≤11	PASS
	Ant0	5700	4.93	≤11	PASS
	Ant1	5700	2.88	≤11	PASS
	Ant0	5745	1.7	≤30	PASS
	Ant1	5745	-0.08	≤30	PASS
Ant0	5785	1.18	≤30	PASS	
Ant1	5785	-0.33	≤30	PASS	
Ant0	5825	1.05	≤30	PASS	
Ant1	5825	-0.27	≤30	PASS	
11N20MIMO	Ant0	5180	-2.03	≤11	PASS
	Ant1	5180	-1.13	≤11	PASS
	total	5180	1.45	≤11	PASS
	Ant0	5200	-2.4	≤11	PASS
	Ant1	5200	-1.59	≤11	PASS
	total	5200	1.03	≤11	PASS
	Ant0	5240	-2.01	≤11	PASS
	Ant1	5240	-1.11	≤11	PASS
	total	5240	1.47	≤11	PASS
	Ant0	5260	0.51	≤11	PASS
	Ant1	5260	1.22	≤11	PASS
	total	5260	3.89	≤11	PASS
	Ant0	5280	0.68	≤11	PASS
	Ant1	5280	1.69	≤11	PASS
	total	5280	4.22	≤11	PASS
	Ant0	5320	0.49	≤11	PASS
	Ant1	5320	1.14	≤11	PASS
	total	5320	3.84	≤11	PASS
	Ant0	5500	3.14	≤11	PASS
	Ant1	5500	2.65	≤11	PASS
	total	5500	5.91	≤11	PASS
	Ant0	5580	4.6	≤11	PASS
	Ant1	5580	2.73	≤11	PASS
	total	5580	6.78	≤11	PASS
Ant0	5700	3.76	≤11	PASS	
Ant1	5700	1.32	≤11	PASS	
total	5700	5.72	≤11	PASS	
Ant0	5745	0.6	≤30	PASS	

	Ant1	5745	-1.37	≤30	PASS	
	total	5745	2.74	≤30	PASS	
	Ant0	5785	-0.07	≤30	PASS	
	Ant1	5785	-1.38	≤30	PASS	
	total	5785	2.33	≤30	PASS	
	Ant0	5825	-0.27	≤30	PASS	
	Ant1	5825	-1.36	≤30	PASS	
	total	5825	2.23	≤30	PASS	
11N40MIMO	Ant0	5190	-1.43	≤11	PASS	
	Ant1	5190	-0.94	≤11	PASS	
	total	5190	1.83	≤11	PASS	
	Ant0	5230	-1.04	≤11	PASS	
	Ant1	5230	-0.24	≤11	PASS	
	total	5230	2.39	≤11	PASS	
	Ant0	5270	-1.88	≤11	PASS	
	Ant1	5270	-0.61	≤11	PASS	
	total	5270	1.81	≤11	PASS	
	Ant0	5310	-1.81	≤11	PASS	
	Ant1	5310	-0.93	≤11	PASS	
	total	5310	1.66	≤11	PASS	
	Ant0	5510	-1.31	≤11	PASS	
	Ant1	5510	-1.86	≤11	PASS	
	total	5510	1.43	≤11	PASS	
	Ant0	5550	1.8	≤11	PASS	
	Ant1	5550	0.27	≤11	PASS	
	total	5550	4.11	≤11	PASS	
	Ant0	5670	1.87	≤11	PASS	
	Ant1	5670	-0.33	≤11	PASS	
	total	5670	3.92	≤11	PASS	
	Ant0	5755	-1.46	≤30	PASS	
	Ant1	5755	-3.35	≤30	PASS	
	total	5755	0.71	≤30	PASS	
	Ant0	5795	-2.73	≤30	PASS	
	Ant1	5795	-3.8	≤30	PASS	
	total	5795	-0.22	≤30	PASS	
	11AC20MIMO	Ant0	5180	-1.92	≤11	PASS
		Ant1	5180	-0.91	≤11	PASS
		total	5180	1.62	≤11	PASS
		Ant0	5200	-2.31	≤11	PASS
		Ant1	5200	-1.19	≤11	PASS
total		5200	1.30	≤11	PASS	
Ant0		5240	-2.12	≤11	PASS	
Ant1		5240	-1.07	≤11	PASS	
total		5240	1.45	≤11	PASS	
Ant0		5260	1.26	≤11	PASS	
Ant1		5260	1.28	≤11	PASS	
total		5260	4.28	≤11	PASS	
Ant0		5280	1.72	≤11	PASS	
Ant1		5280	1.5	≤11	PASS	
total		5280	4.62	≤11	PASS	
Ant0		5320	1.39	≤11	PASS	
Ant1		5320	1.48	≤11	PASS	
total		5320	4.45	≤11	PASS	
Ant0		5500	2.86	≤11	PASS	
Ant1		5500	2.78	≤11	PASS	
total		5500	5.83	≤11	PASS	
Ant0		5580	2.7	≤11	PASS	
Ant1		5580	2.5	≤11	PASS	

	total	5580	5.61	≤11	PASS
	Ant0	5700	1.55	≤11	PASS
	Ant1	5700	1.46	≤11	PASS
	total	5700	4.52	≤11	PASS
	Ant0	5745	-1.31	≤30	PASS
	Ant1	5745	-1.22	≤30	PASS
	total	5745	1.75	≤30	PASS
	Ant0	5785	-1.52	≤30	PASS
	Ant1	5785	-1.29	≤30	PASS
	total	5785	1.61	≤30	PASS
	Ant0	5825	0	≤30	PASS
	Ant1	5825	-1.3	≤30	PASS
	total	5825	2.41	≤30	PASS
11AC40MIMO	Ant0	5190	-0.7	≤11	PASS
	Ant1	5190	-1.01	≤11	PASS
	total	5190	2.16	≤11	PASS
	Ant0	5230	-0.68	≤11	PASS
	Ant1	5230	-0.71	≤11	PASS
	total	5230	2.32	≤11	PASS
	Ant0	5270	-1.31	≤11	PASS
	Ant1	5270	-0.84	≤11	PASS
	total	5270	1.94	≤11	PASS
	Ant0	5310	-1.76	≤11	PASS
	Ant1	5310	-0.78	≤11	PASS
	total	5310	1.77	≤11	PASS
	Ant0	5510	-1.03	≤11	PASS
	Ant1	5510	-1.44	≤11	PASS
	total	5510	1.78	≤11	PASS
	Ant0	5550	1.63	≤11	PASS
	Ant1	5550	0.45	≤11	PASS
	total	5550	4.09	≤11	PASS
	Ant0	5670	2.15	≤11	PASS
	Ant1	5670	-0.37	≤11	PASS
	total	5670	4.08	≤11	PASS
	Ant0	5755	-1.68	≤30	PASS
	Ant1	5755	-3.44	≤30	PASS
	total	5755	0.54	≤30	PASS
	Ant0	5795	-1.89	≤30	PASS
	Ant1	5795	-3.67	≤30	PASS
	total	5795	0.32	≤30	PASS
	11AC80MIMO	Ant0	5210	-3.57	≤11
Ant1		5210	-3.66	≤11	PASS
total		5210	-0.60	≤11	PASS
Ant0		5290	-4	≤11	PASS
Ant1		5290	-3.26	≤11	PASS
total		5290	-0.60	≤11	PASS
Ant0		5530	-4.18	≤11	PASS
Ant1		5530	-5.41	≤11	PASS
total		5530	-1.74	≤11	PASS
Ant0		5610	-0.34	≤11	PASS
Ant1		5610	-2.16	≤11	PASS
total		5610	1.85	≤11	PASS
Ant0		5775	-4.46	≤30	PASS
Ant1		5775	-5.99	≤30	PASS
total		5775	-2.15	≤30	PASS

Note1: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Note 2: The maximum antenna gain is 2dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

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

$$\text{Directional gain} = G_{\text{ANT}} + \text{Array Gain} = 2 + 10 * \log(2/1) = 5 \text{dBi} < 6 \text{dBi}$$

Test Graphs

