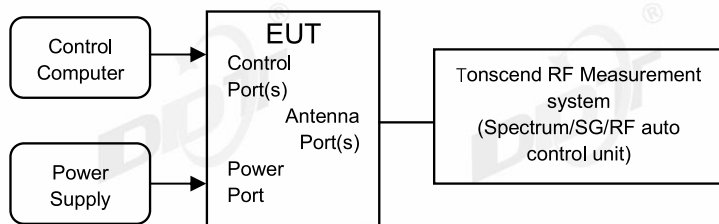


5. 6dB Bandwidth

5.1. Block diagram of test setup



5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
6 dB Bandwidth	Minimum 500 kHz	5725 - 5850

5.3. Test procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth: RBW=100 kHz For 26 dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6 dB Bandwidth: VBW=300 kHz For 26 dB Bandwidth: >3 RBW
Trace	Max hold
Sweep	Auto couple

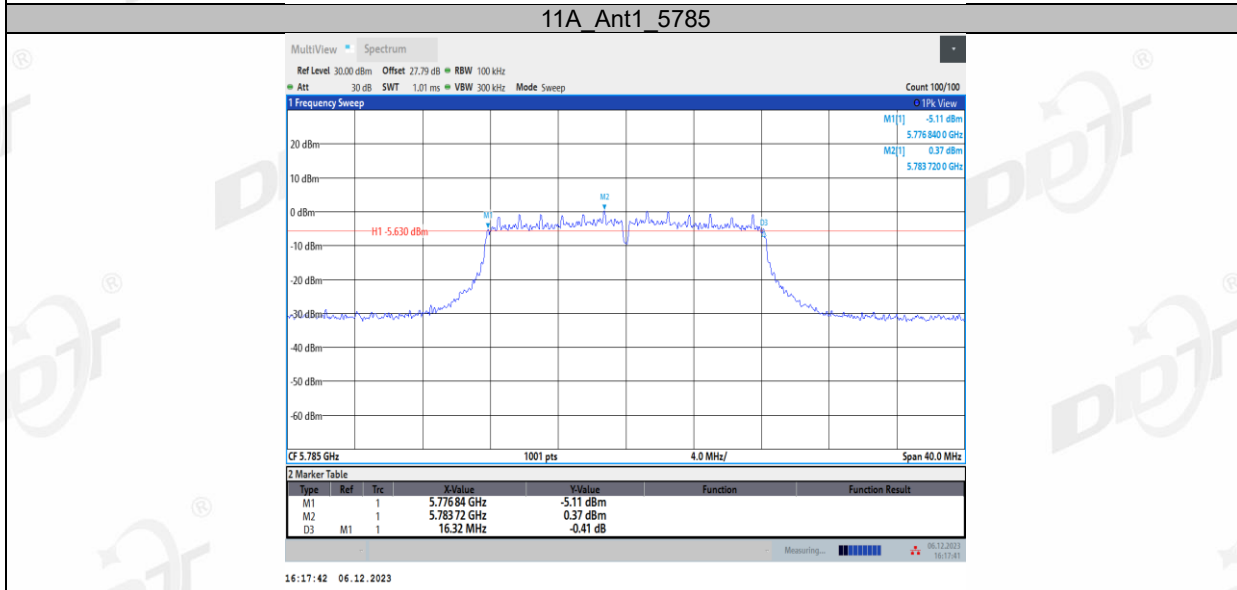
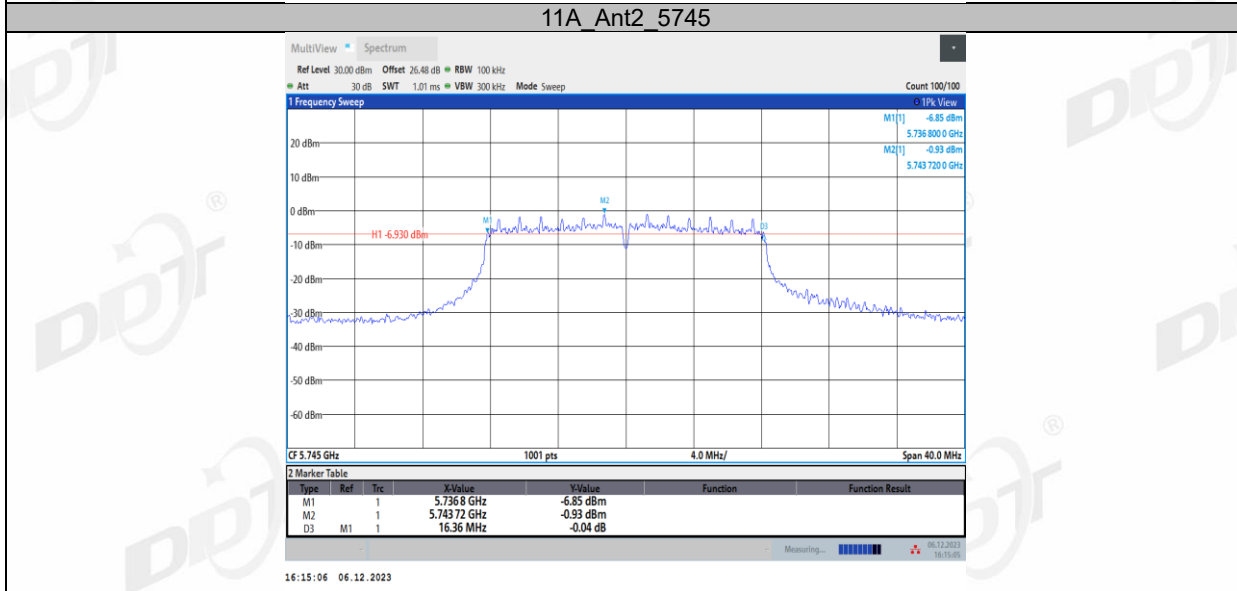
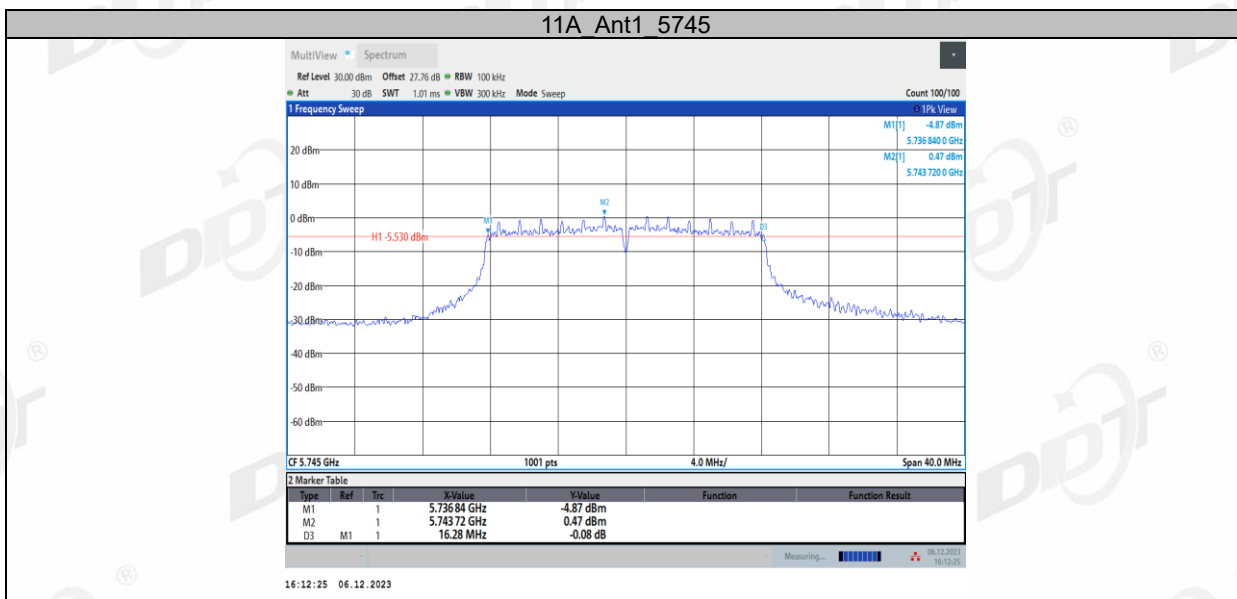
Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

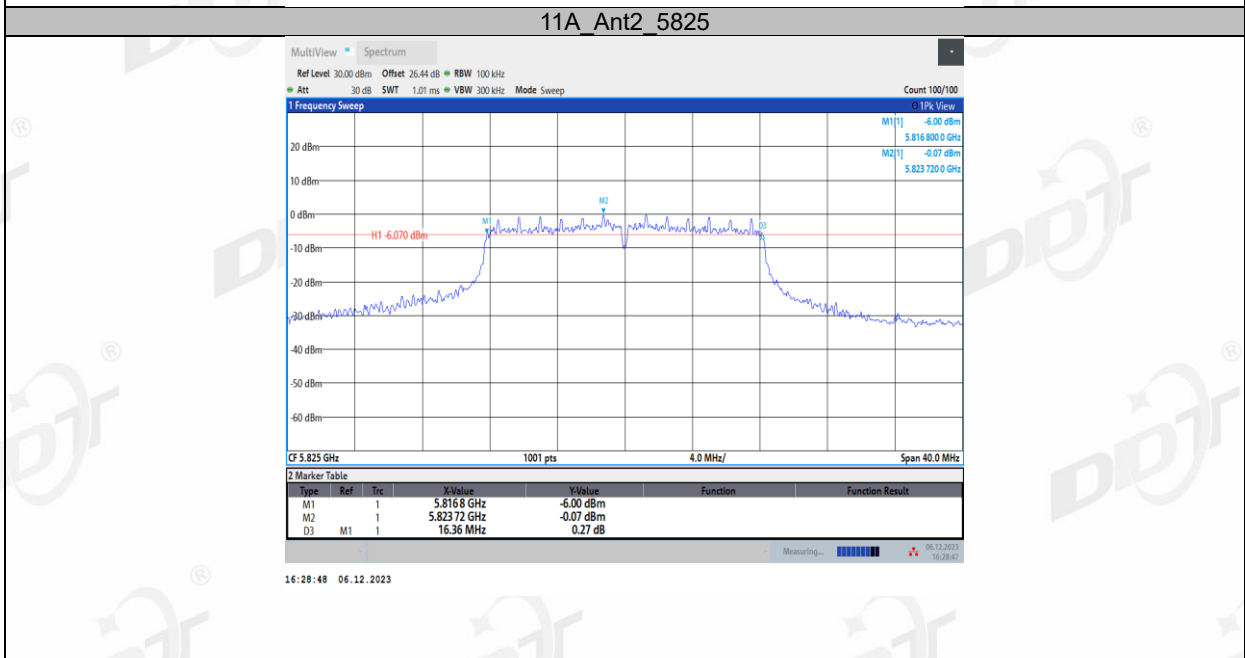
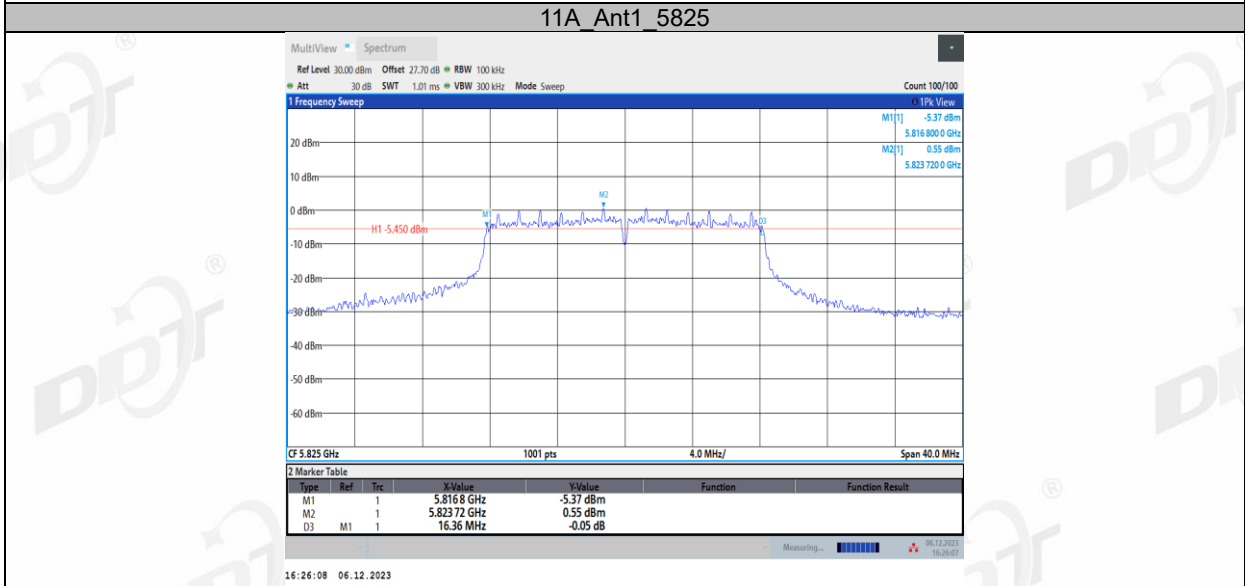
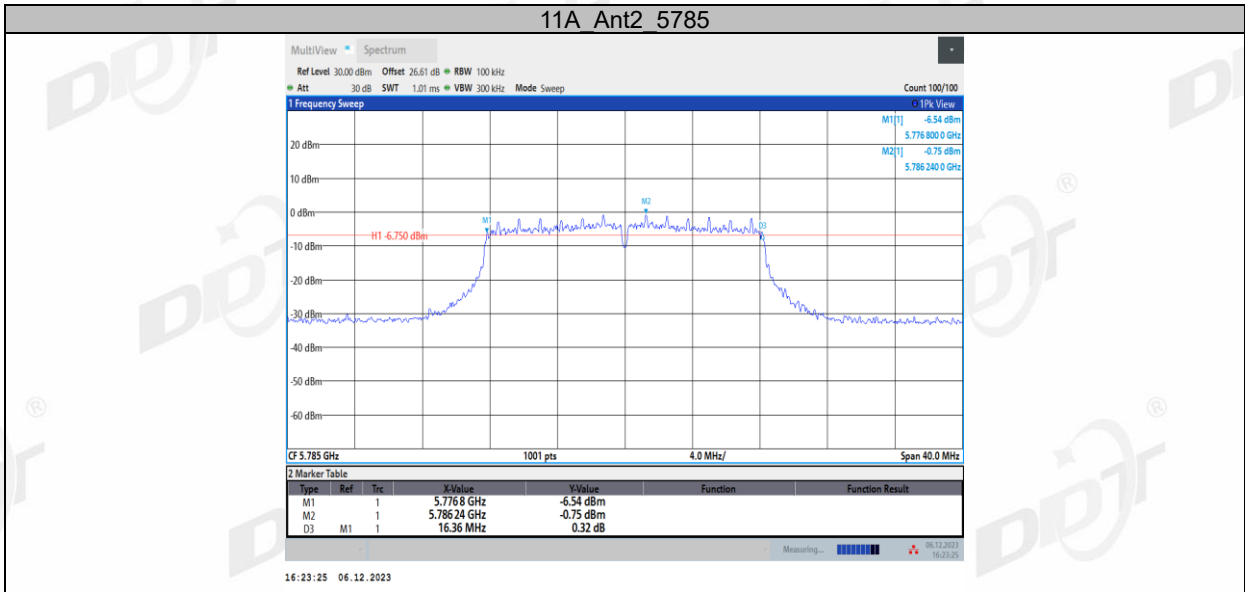
5.4. Test result B4

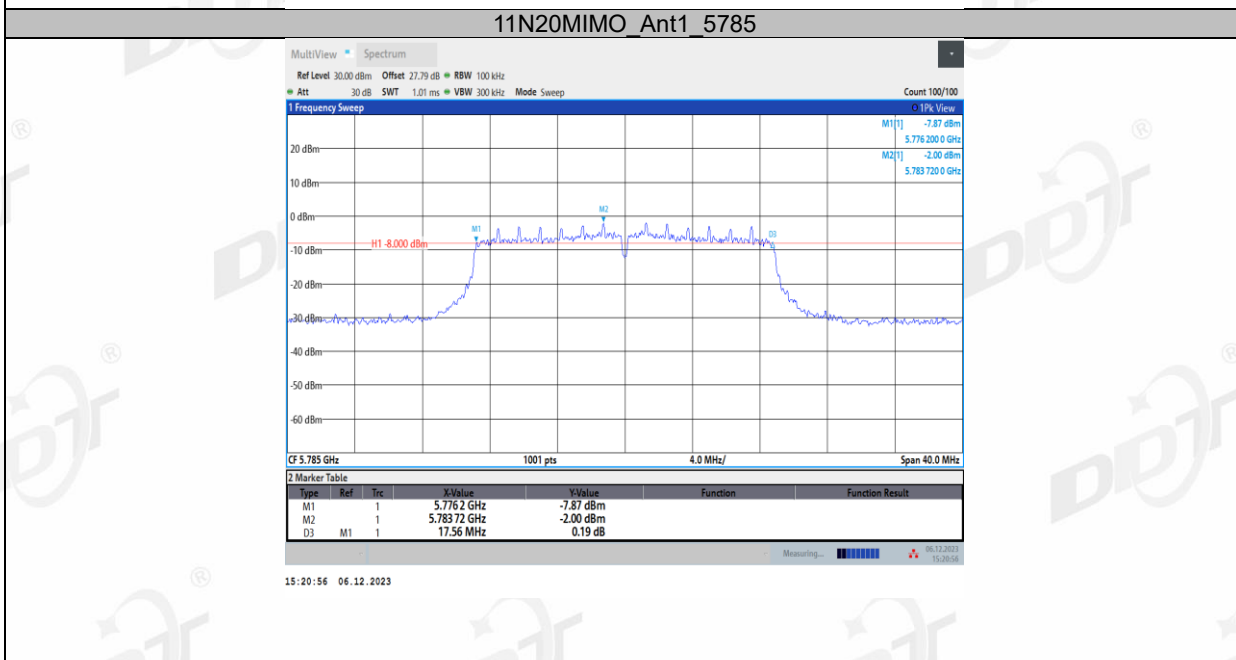
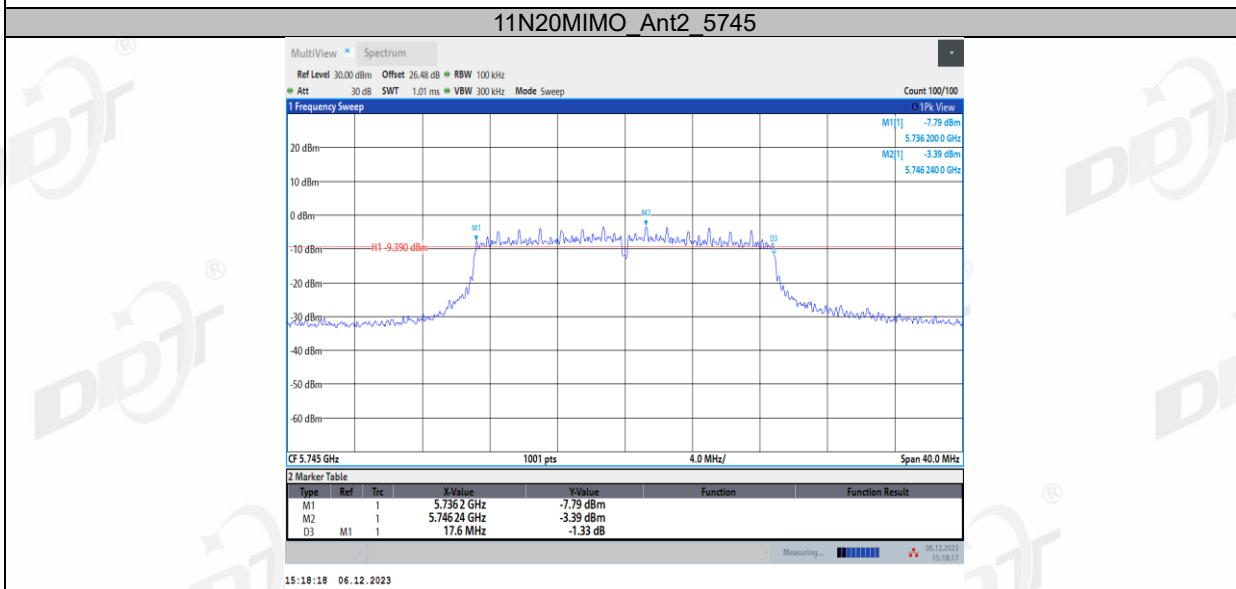
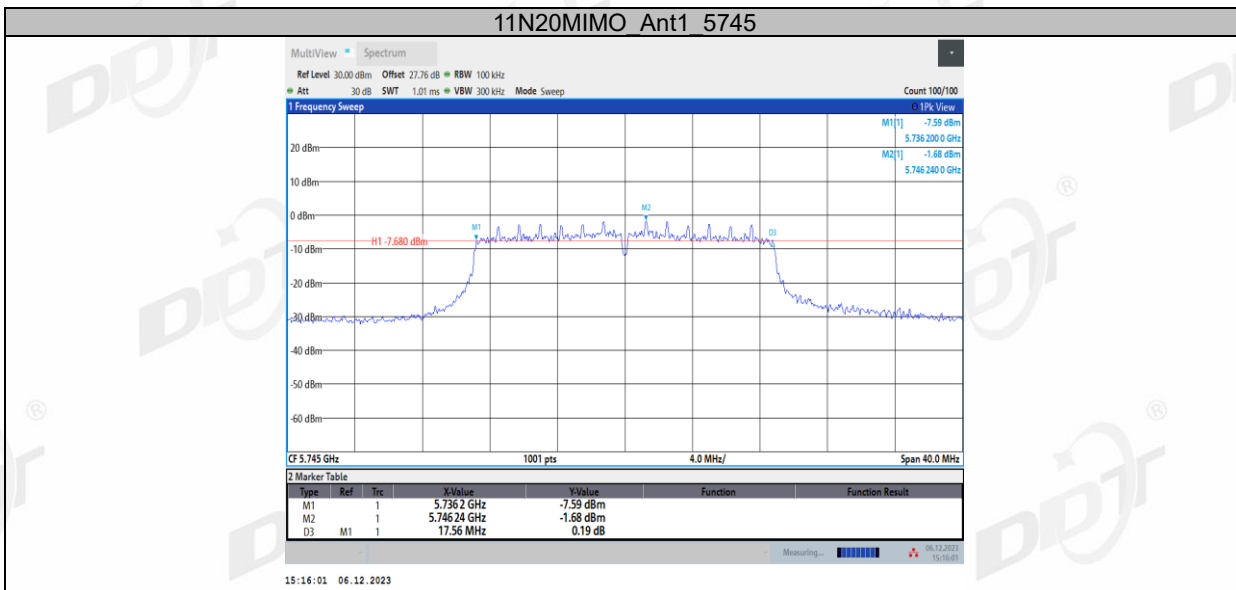
Test Engineer:	Zoe	Test Site:	RF Measurement System 4#
Ambient Condition:	20.6-23.2°C, 53.6-55.2%RH	Test Date:	2023.12.06-2024.02.29
Test Power Supply:	DC 12V from adapter	Sample Number:	S23111603-02

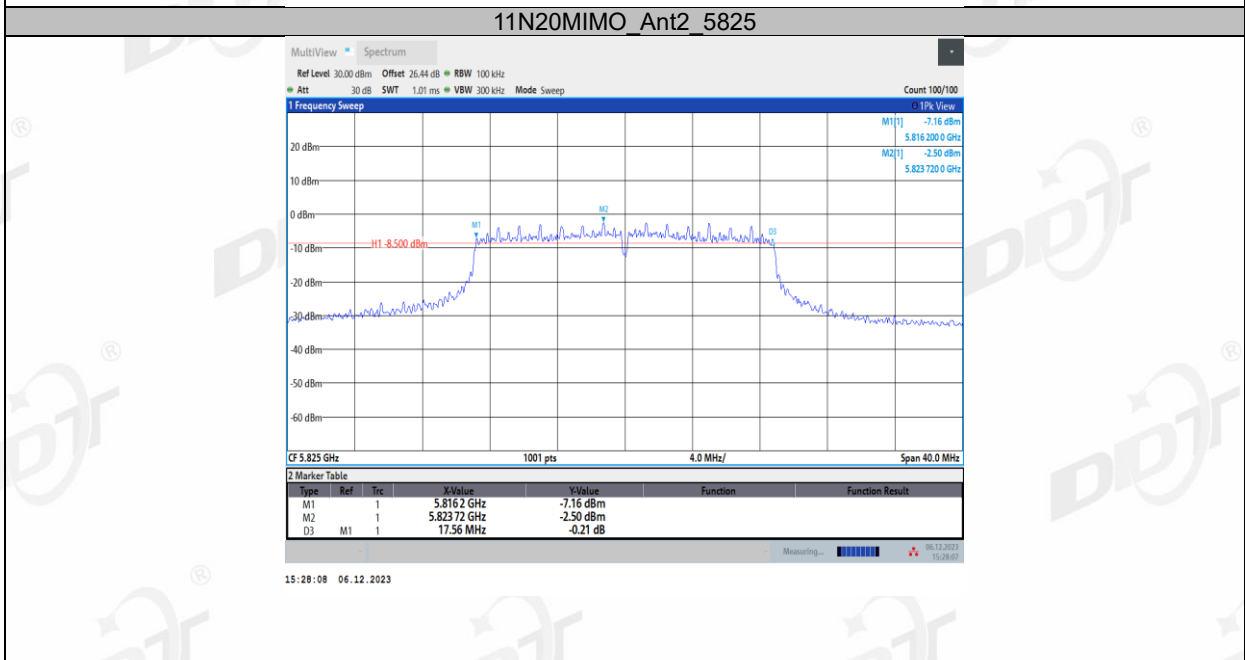
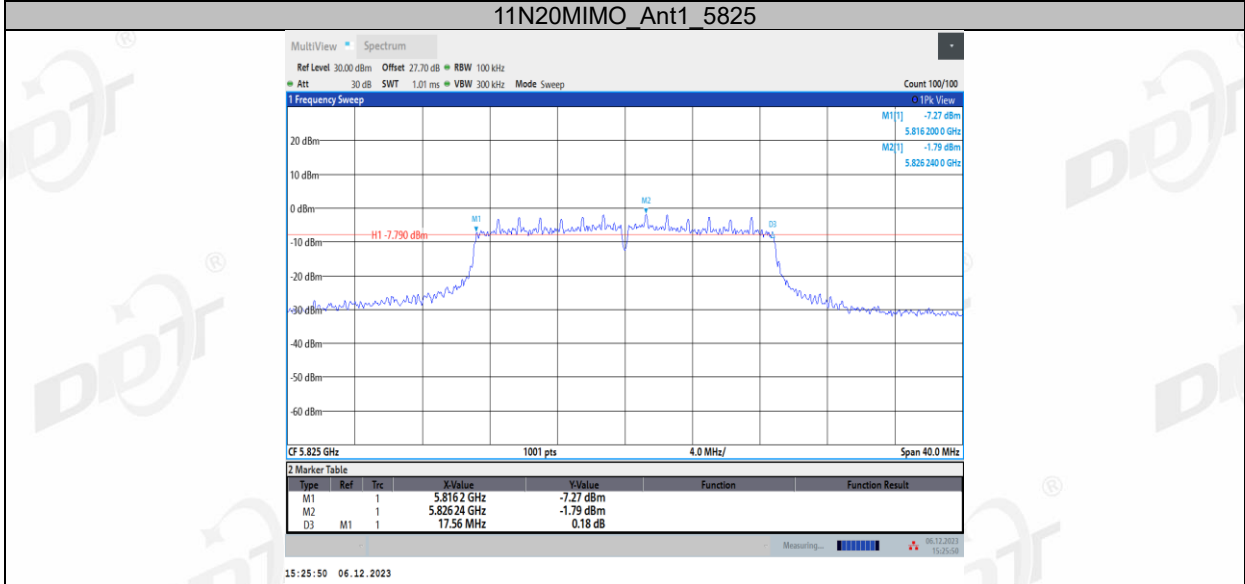
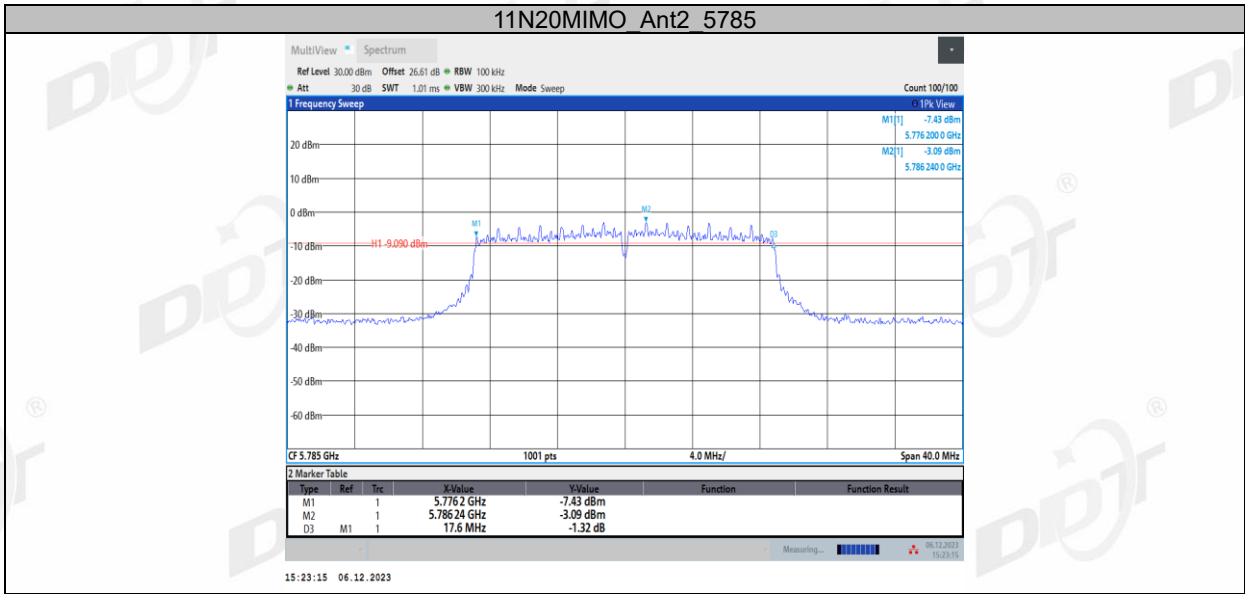
Test Mode	Antenna	Frequency [MHz]	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	16.28	5736.84	5753.12	0.5	PASS
	Ant2	5745	16.36	5736.80	5753.16	0.5	PASS
	Ant1	5785	16.32	5776.84	5793.16	0.5	PASS
	Ant2	5785	16.36	5776.80	5793.16	0.5	PASS
	Ant1	5825	16.36	5816.80	5833.16	0.5	PASS
	Ant2	5825	16.36	5816.80	5833.16	0.5	PASS
11N20MIMO	Ant1	5745	17.56	5736.20	5753.76	0.5	PASS
	Ant2	5745	17.60	5736.20	5753.80	0.5	PASS
	Ant1	5785	17.56	5776.20	5793.76	0.5	PASS
	Ant2	5785	17.60	5776.20	5793.80	0.5	PASS
	Ant1	5825	17.56	5816.20	5833.76	0.5	PASS
	Ant2	5825	17.56	5816.20	5833.76	0.5	PASS
11N40MIMO	Ant1	5755	35.12	5737.48	5772.60	0.5	PASS
	Ant2	5755	35.12	5737.48	5772.60	0.5	PASS
	Ant1	5795	35.12	5777.48	5812.60	0.5	PASS
	Ant2	5795	35.12	5777.48	5812.60	0.5	PASS
11AC20MIMO	Ant1	5745	17.56	5736.20	5753.76	0.5	PASS
	Ant2	5745	17.56	5736.20	5753.76	0.5	PASS
	Ant1	5785	17.56	5776.20	5793.76	0.5	PASS
	Ant2	5785	17.60	5776.20	5793.80	0.5	PASS
	Ant1	5825	17.56	5816.20	5833.76	0.5	PASS
	Ant2	5825	17.56	5816.20	5833.76	0.5	PASS
11AC40MIMO	Ant1	5755	35.12	5737.48	5772.60	0.5	PASS
	Ant2	5755	35.12	5737.48	5772.60	0.5	PASS
	Ant1	5795	35.12	5777.48	5812.60	0.5	PASS
	Ant2	5795	35.12	5777.48	5812.60	0.5	PASS
11AC80MIMO	Ant1	5775	75.20	5737.40	5812.60	0.5	PASS
	Ant2	5775	75.20	5737.40	5812.60	0.5	PASS
11AX20MIMO	Ant1	5745	18.68	5735.56	5754.24	0.5	PASS
	Ant2	5745	18.88	5735.64	5754.52	0.5	PASS
	Ant1	5785	18.84	5775.56	5794.40	0.5	PASS
	Ant2	5785	18.84	5775.64	5794.48	0.5	PASS
	Ant1	5825	18.76	5815.60	5834.36	0.5	PASS
	Ant2	5825	19.04	5815.44	5834.48	0.5	PASS
11AX40MIMO	Ant1	5755	37.68	5736.12	5773.80	0.5	PASS
	Ant2	5755	37.36	5736.20	5773.56	0.5	PASS
	Ant1	5795	36.80	5777.00	5813.80	0.5	PASS
	Ant2	5795	37.52	5776.28	5813.80	0.5	PASS
11AX80MIMO	Ant1	5775	76.64	5736.28	5812.92	0.5	PASS
	Ant2	5775	76.96	5736.44	5813.40	0.5	PASS

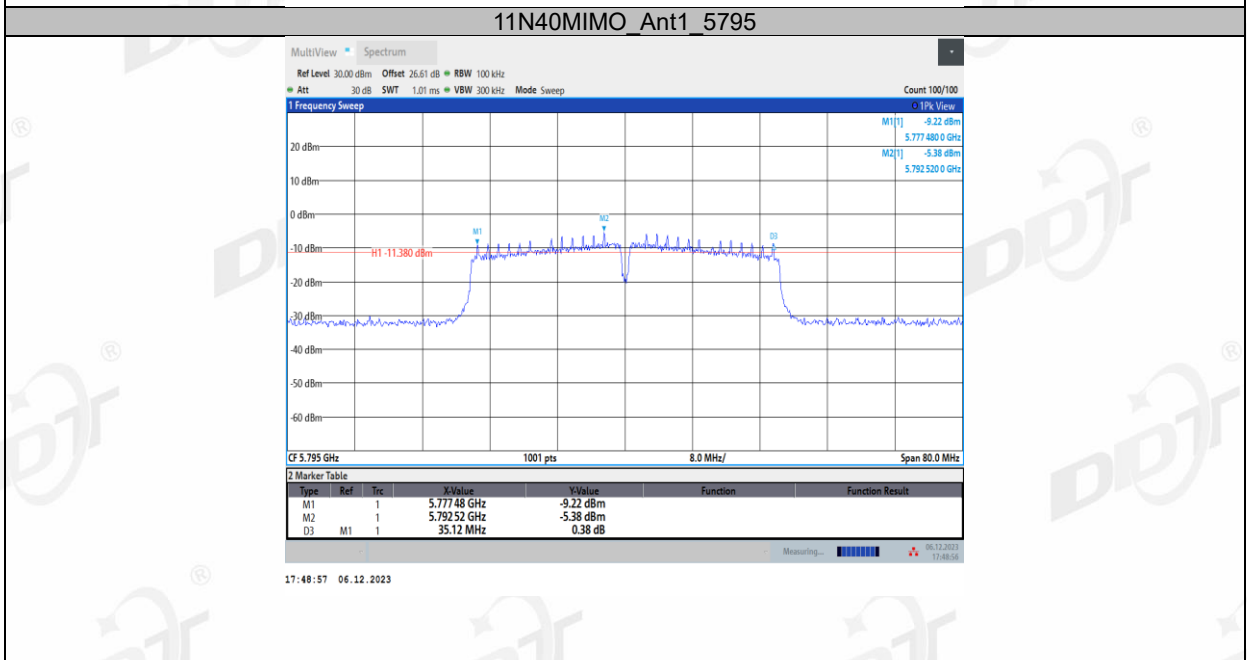
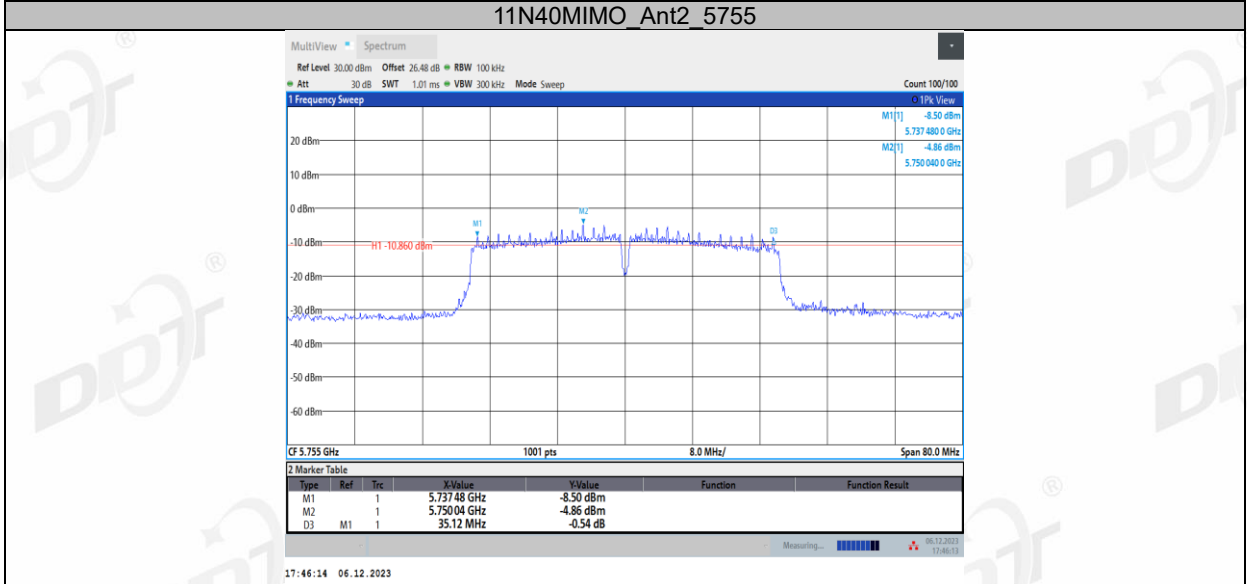
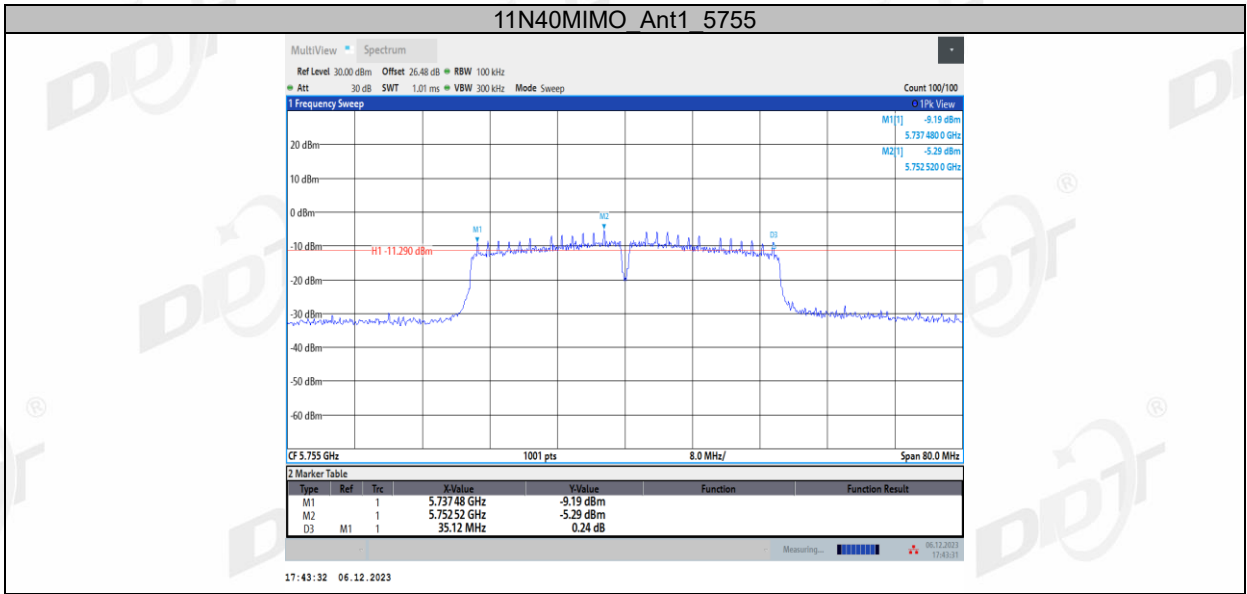
5.5. Test graphs B4

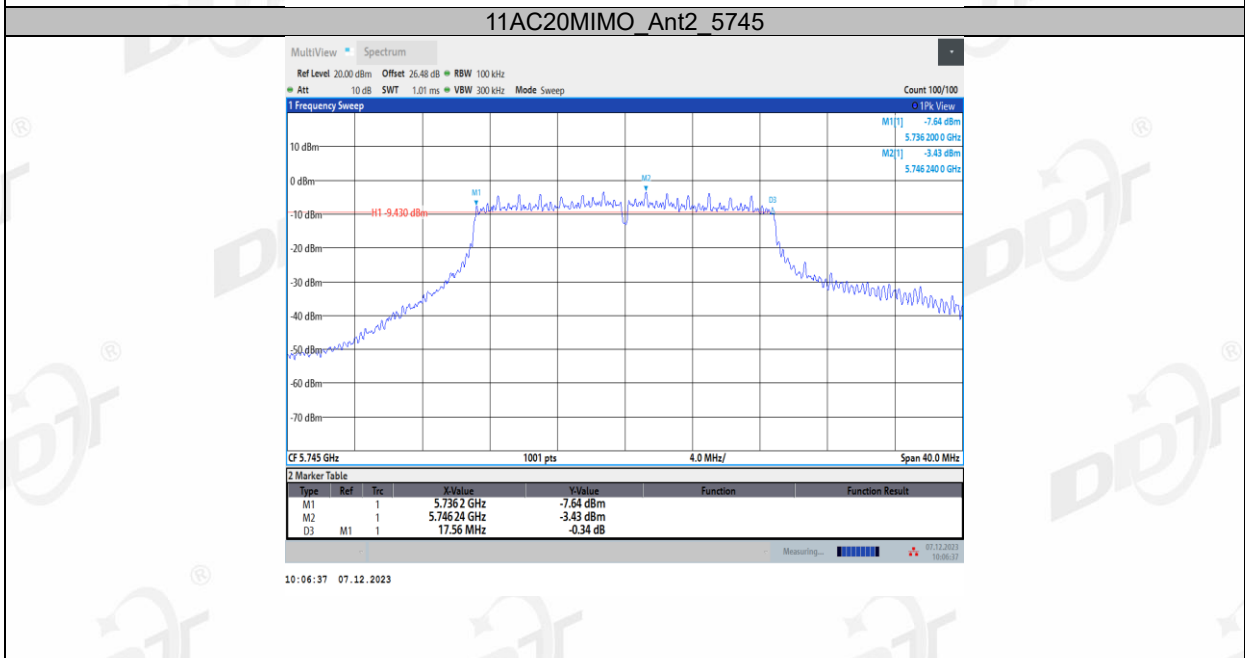
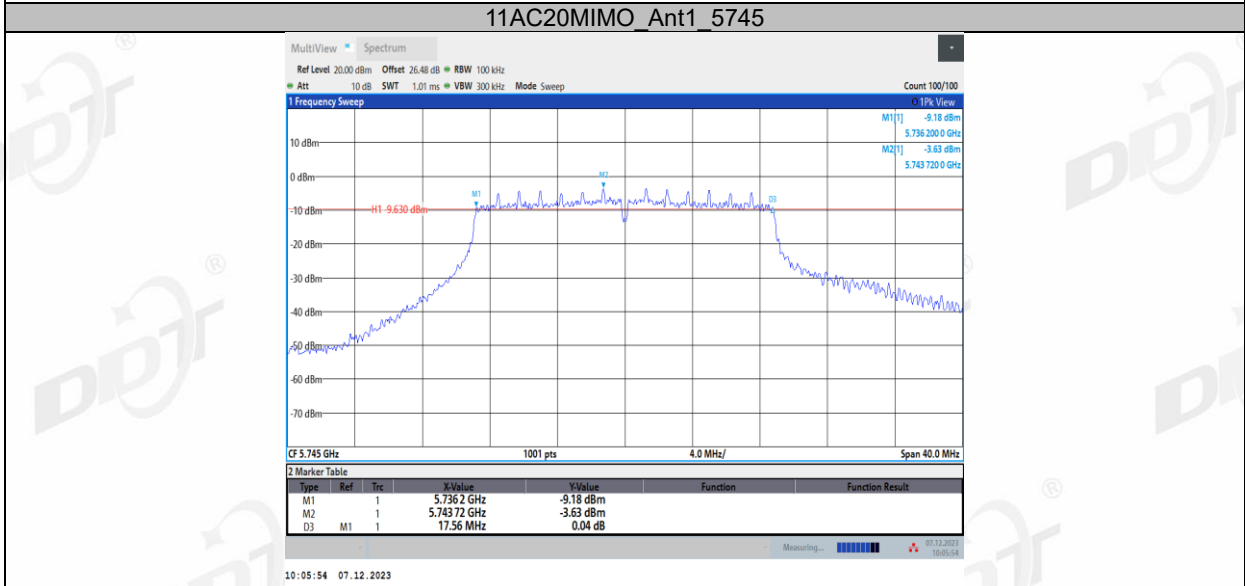
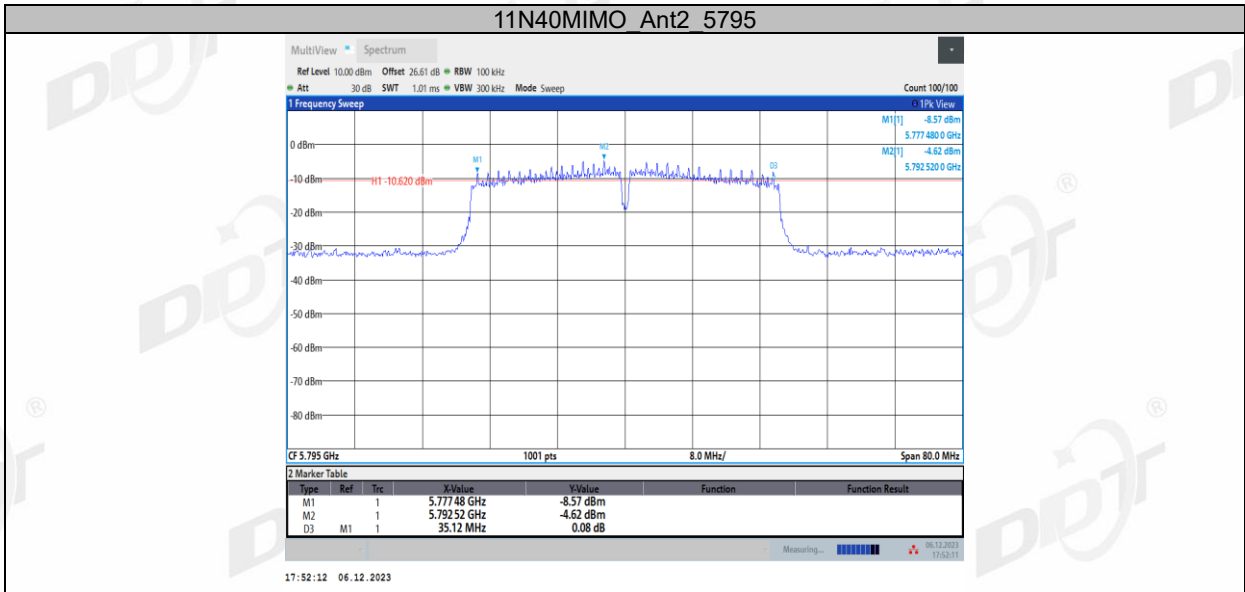


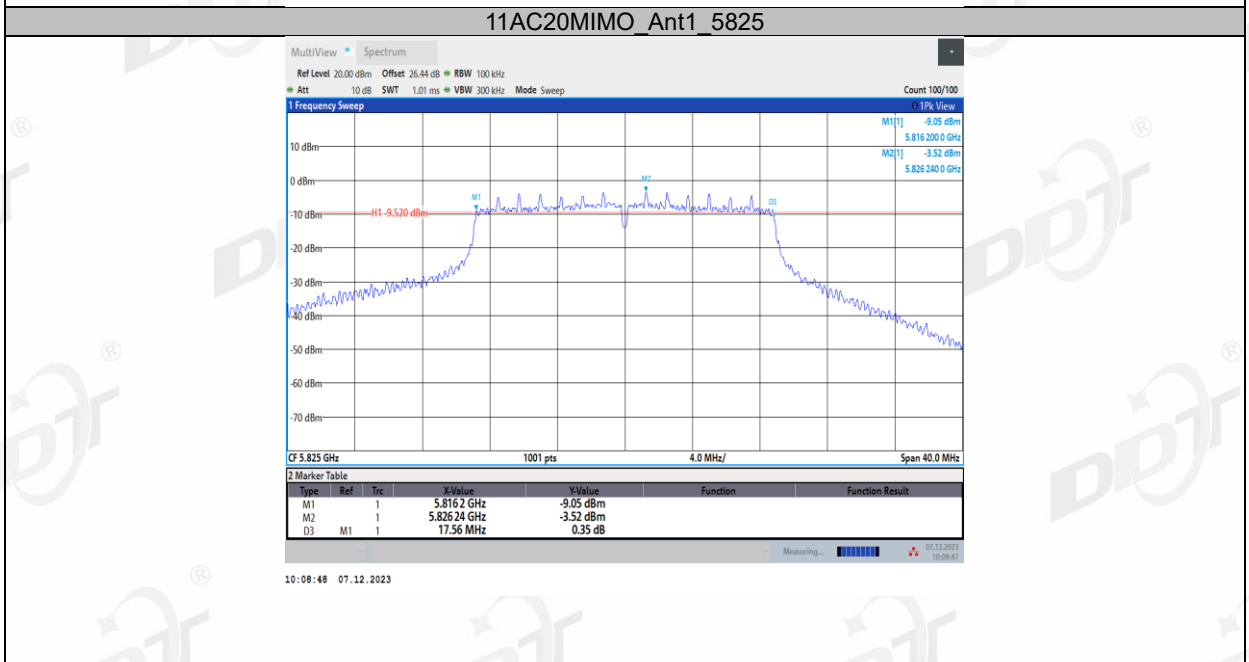
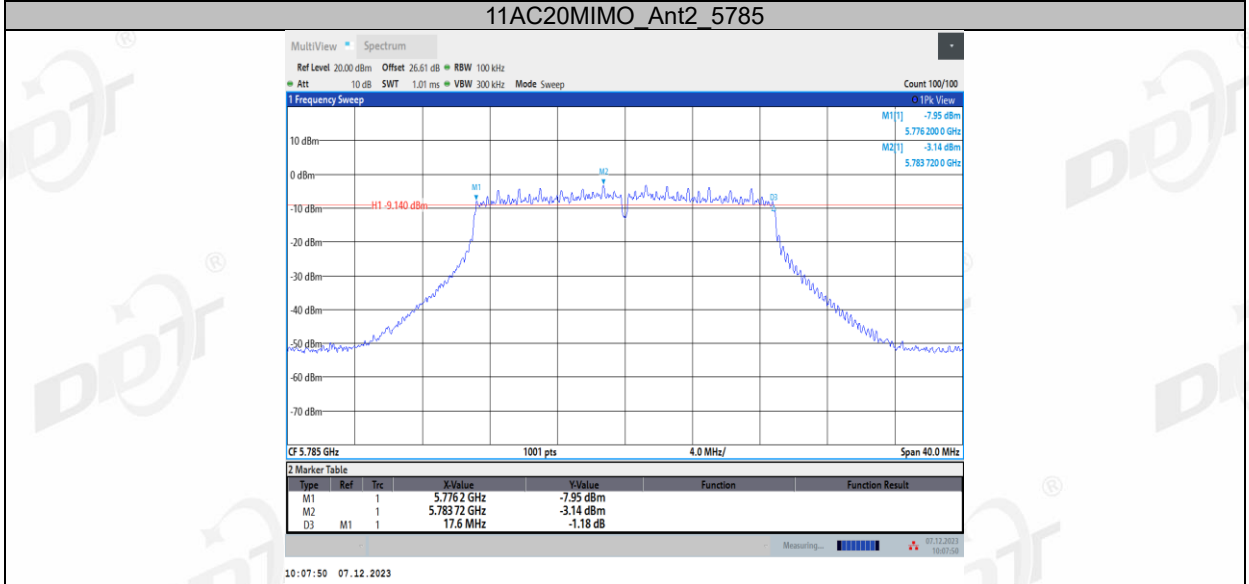
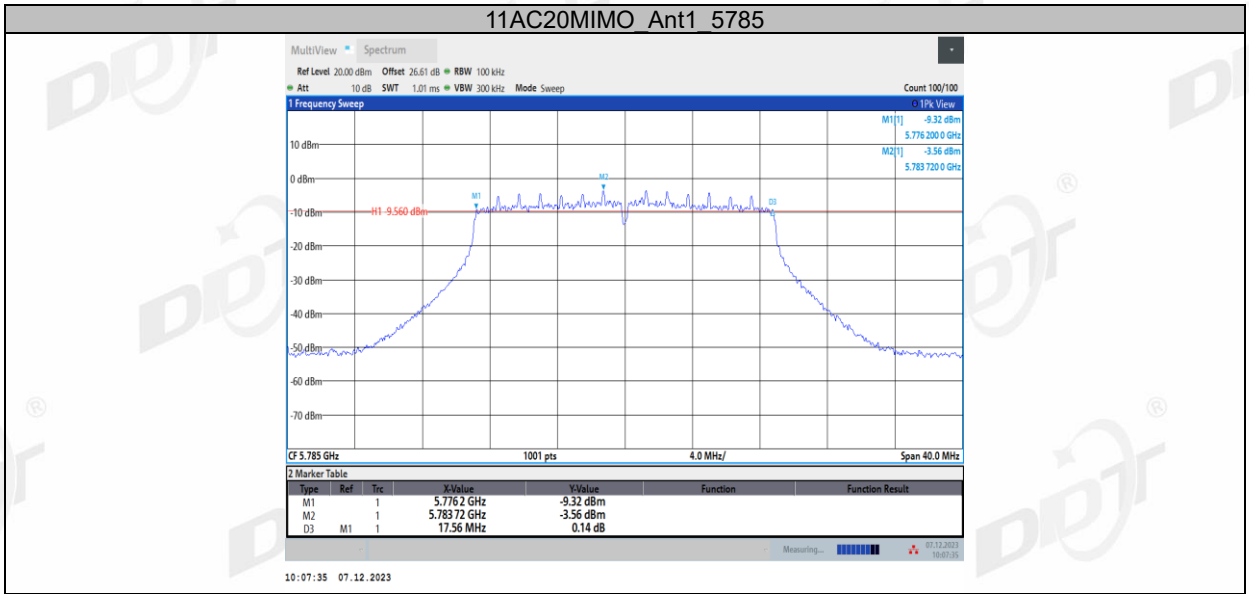


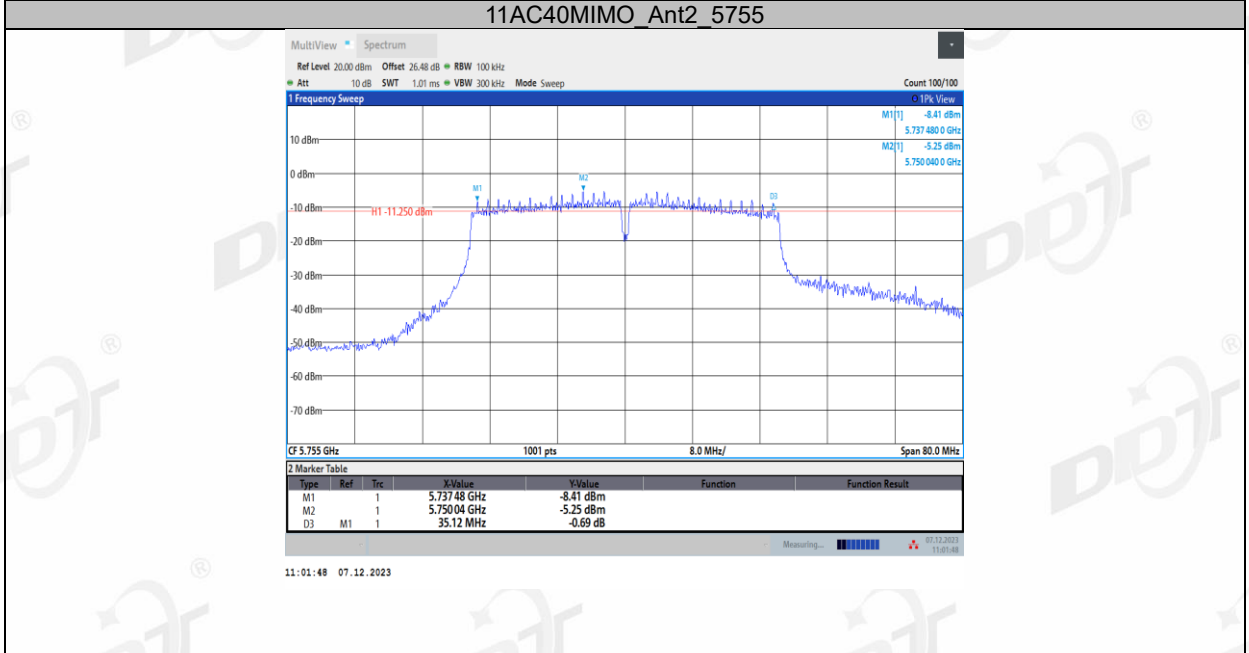
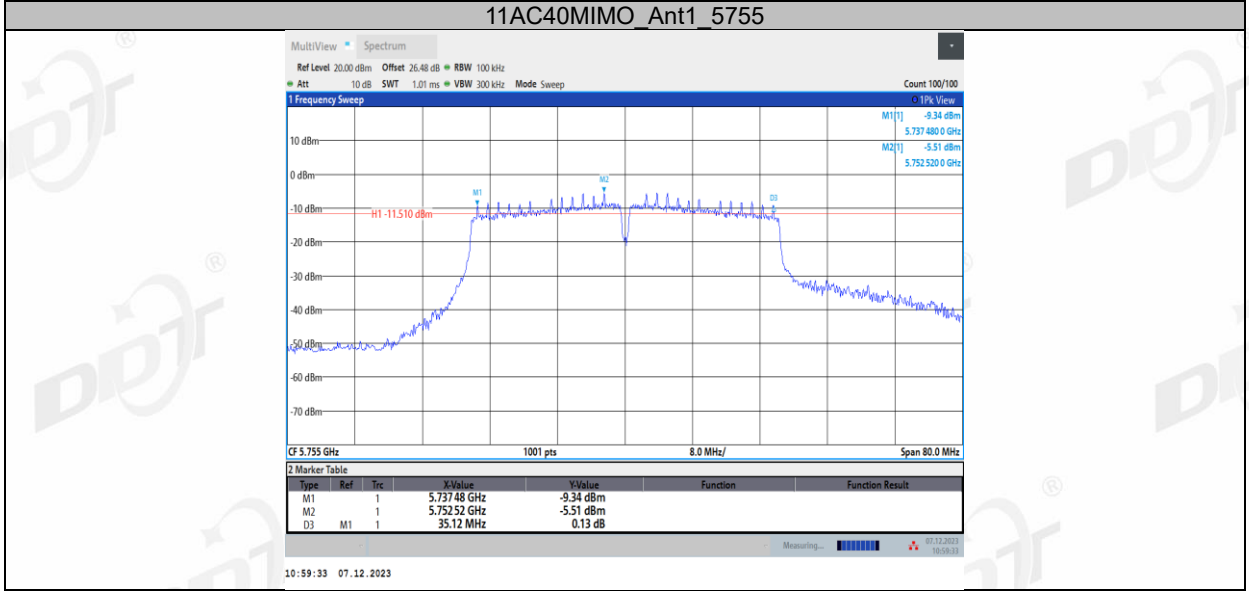
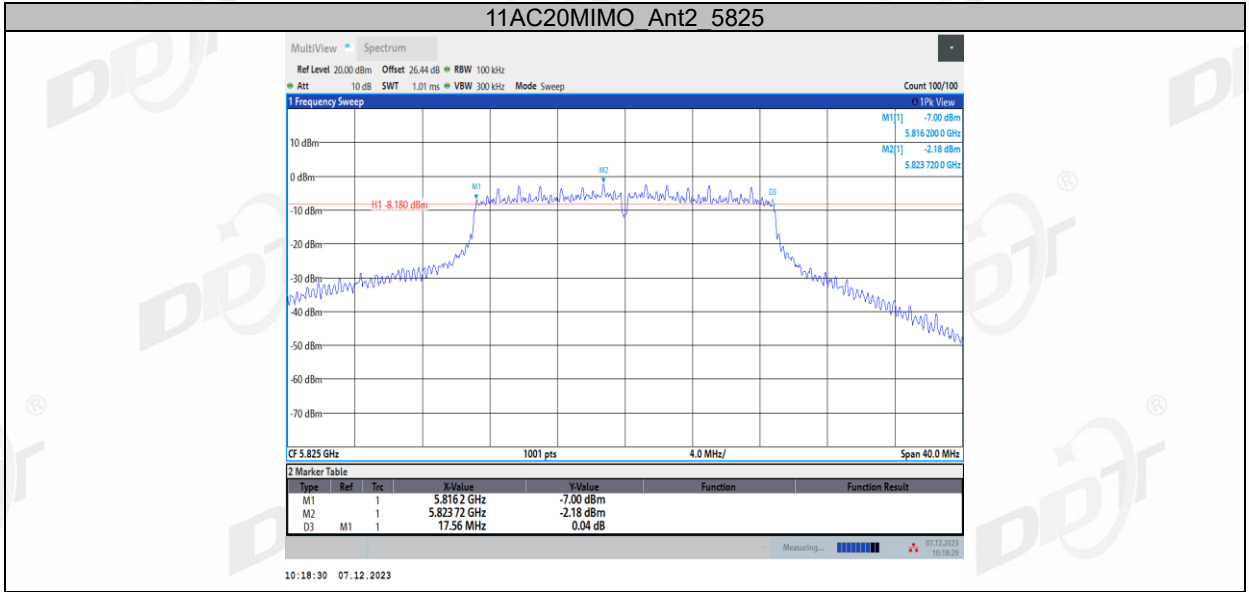


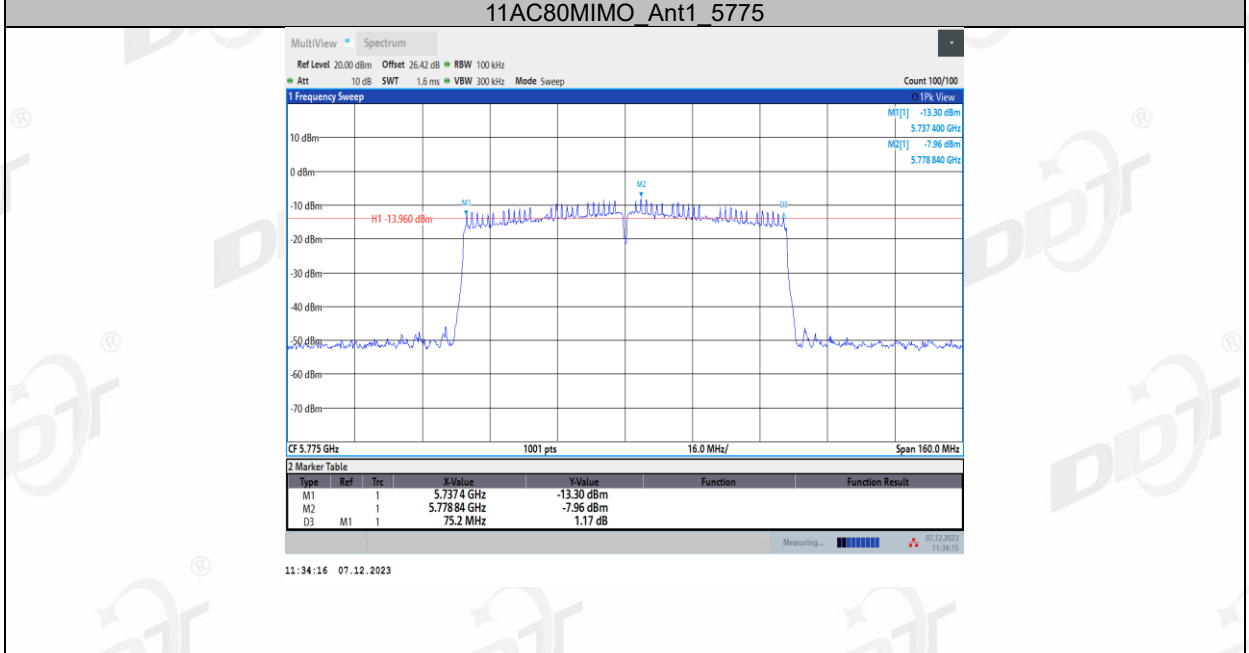
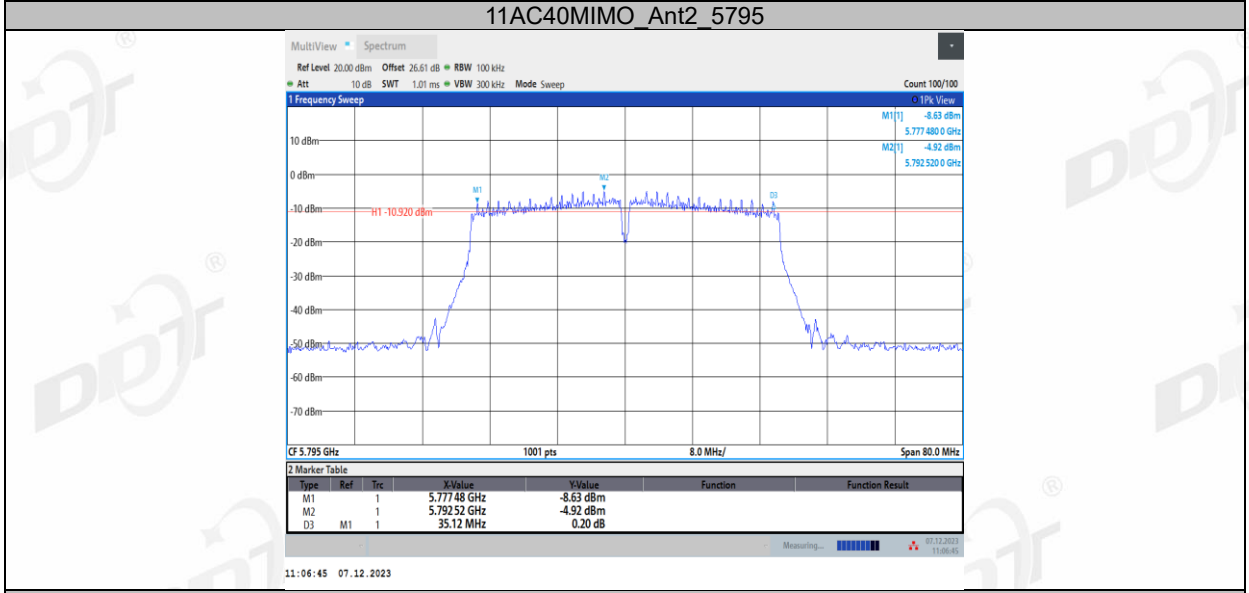
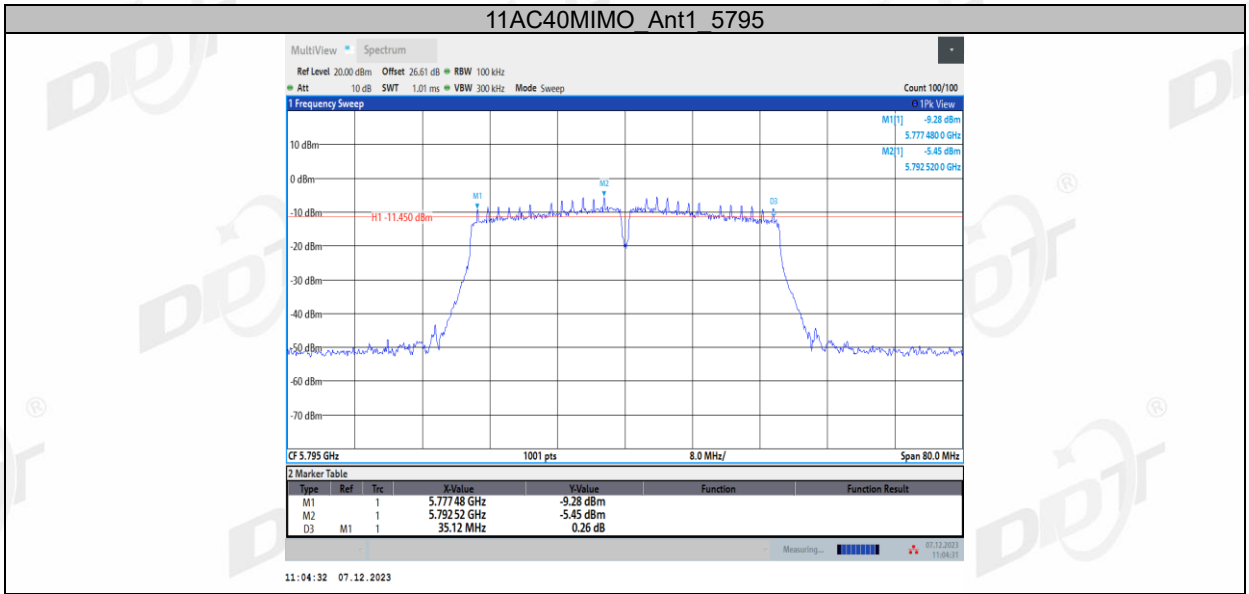


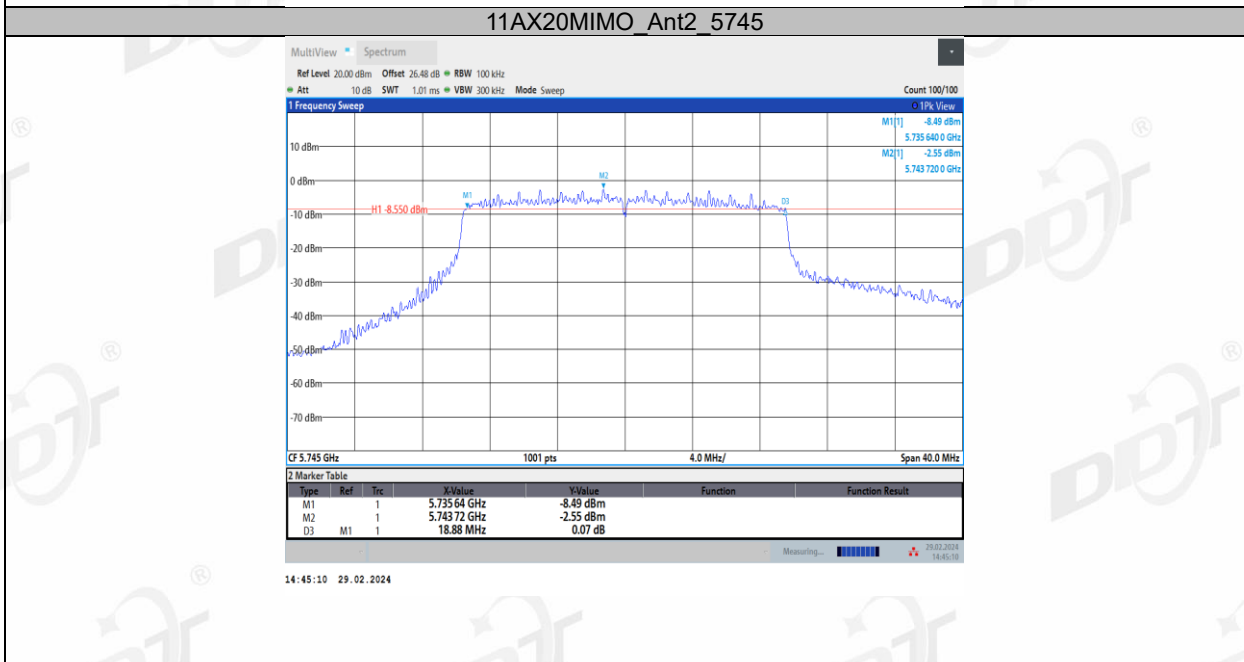
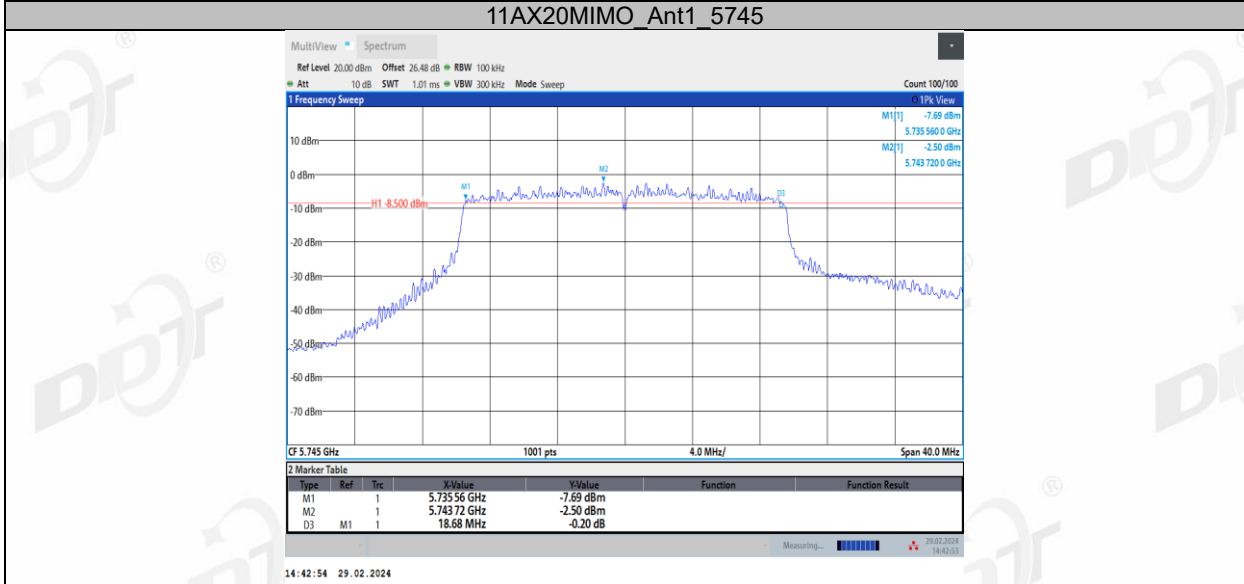
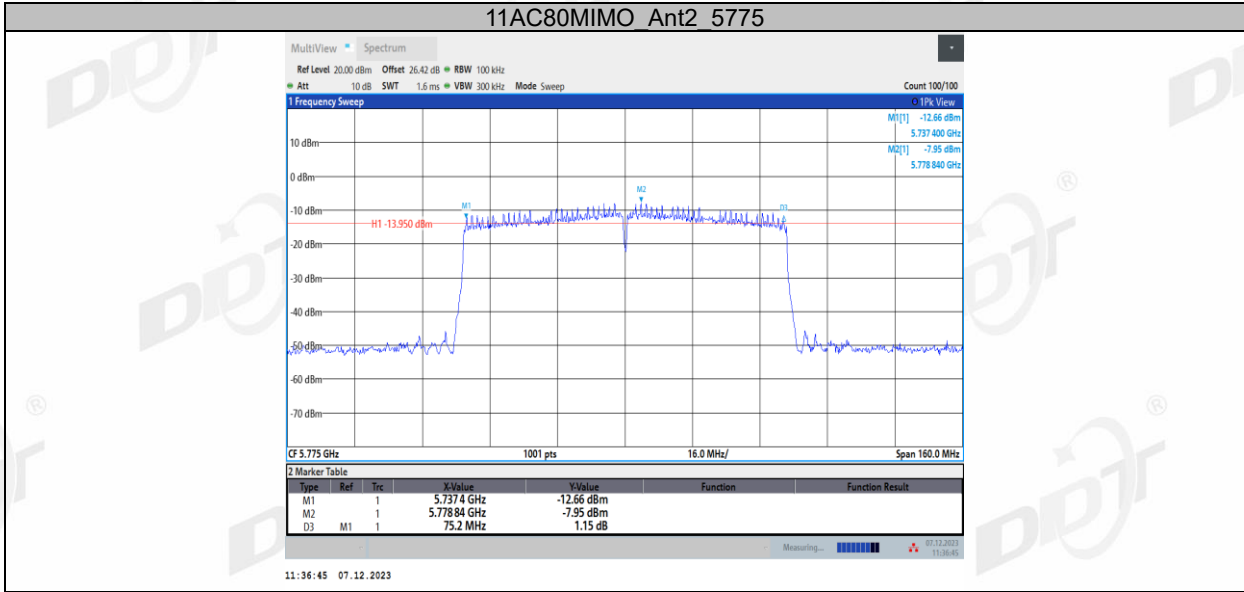


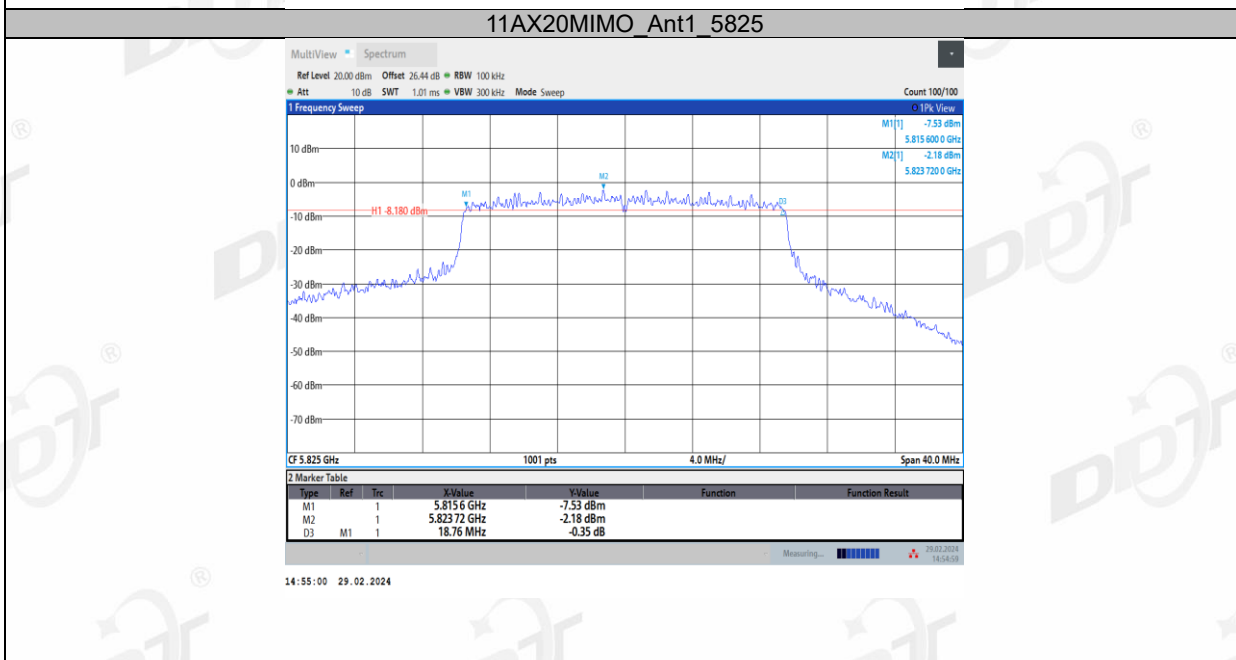
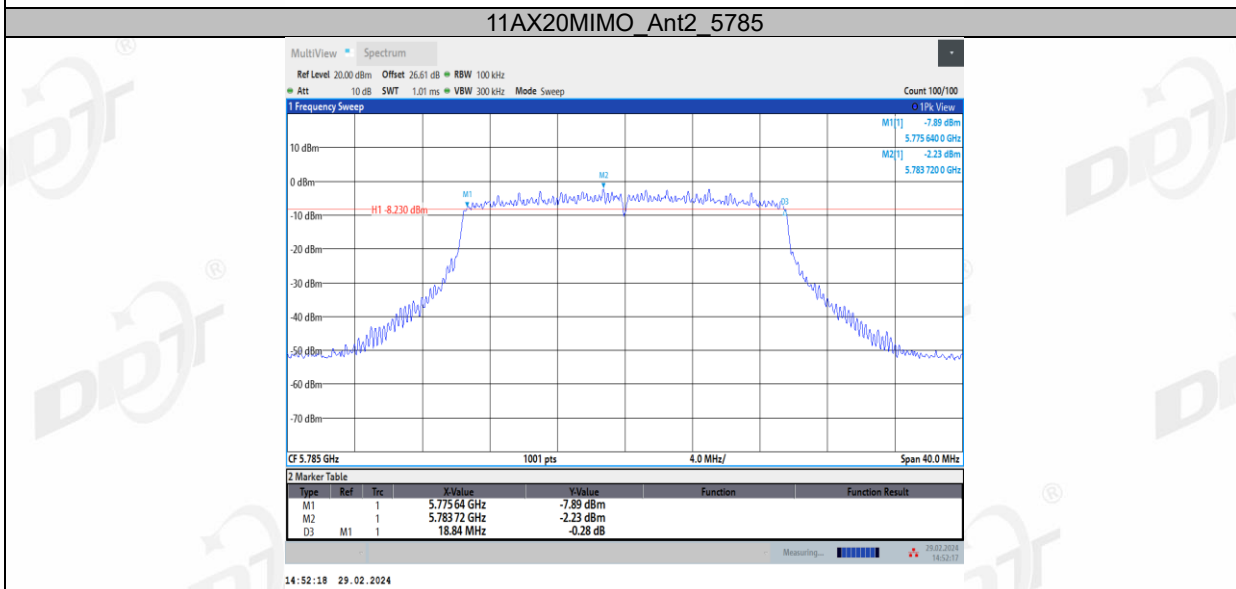
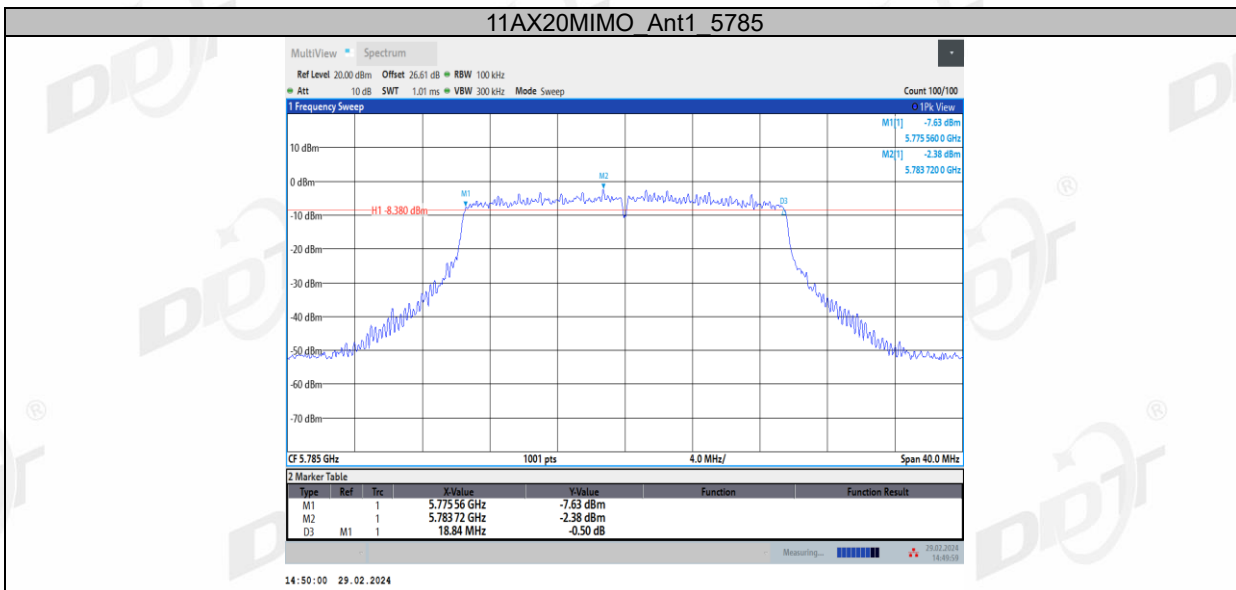


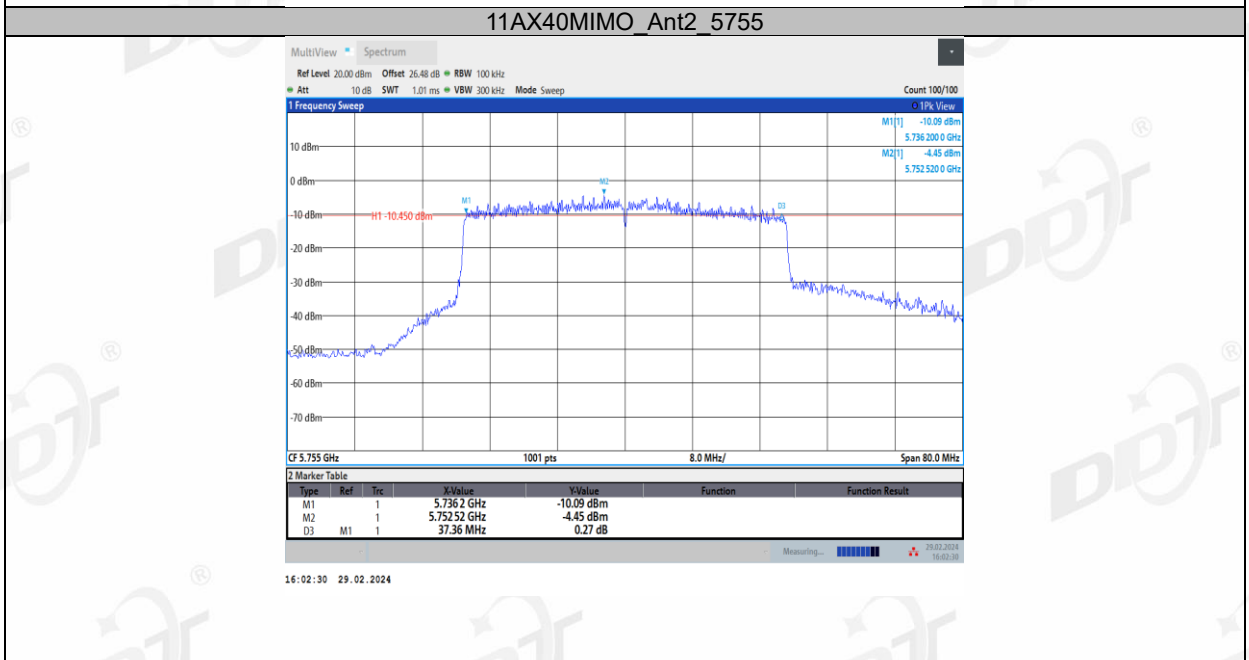
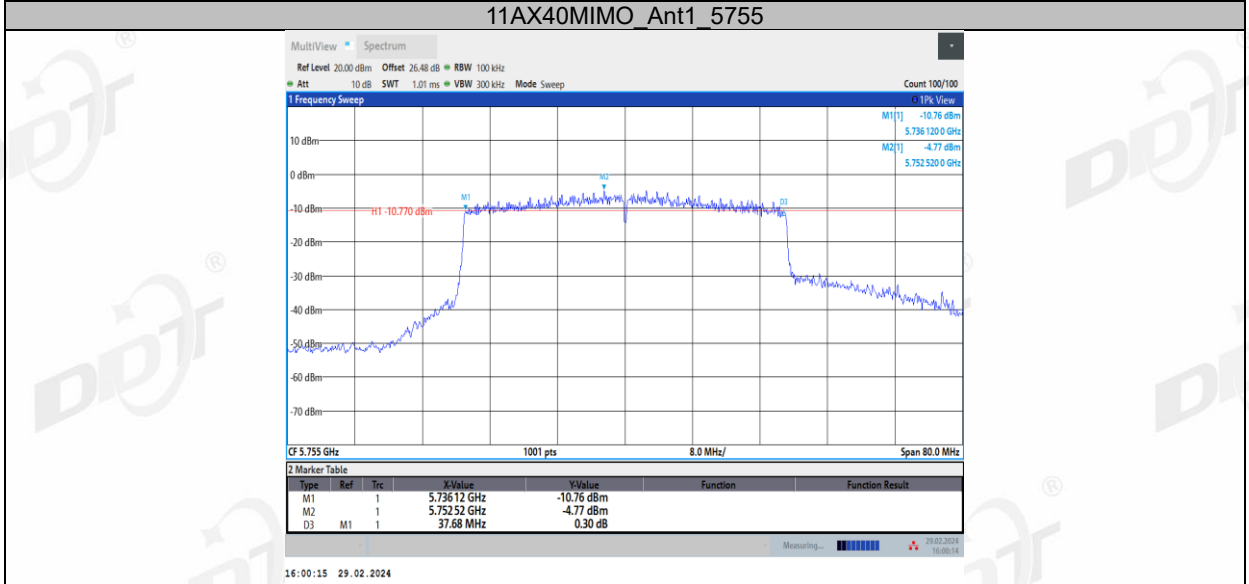
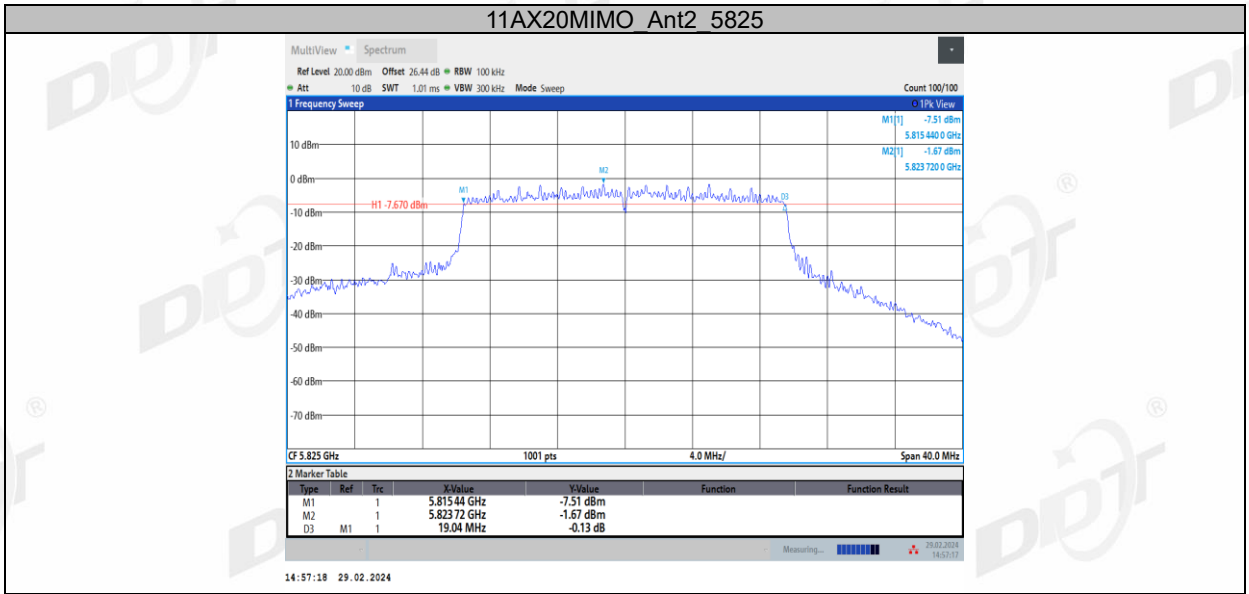


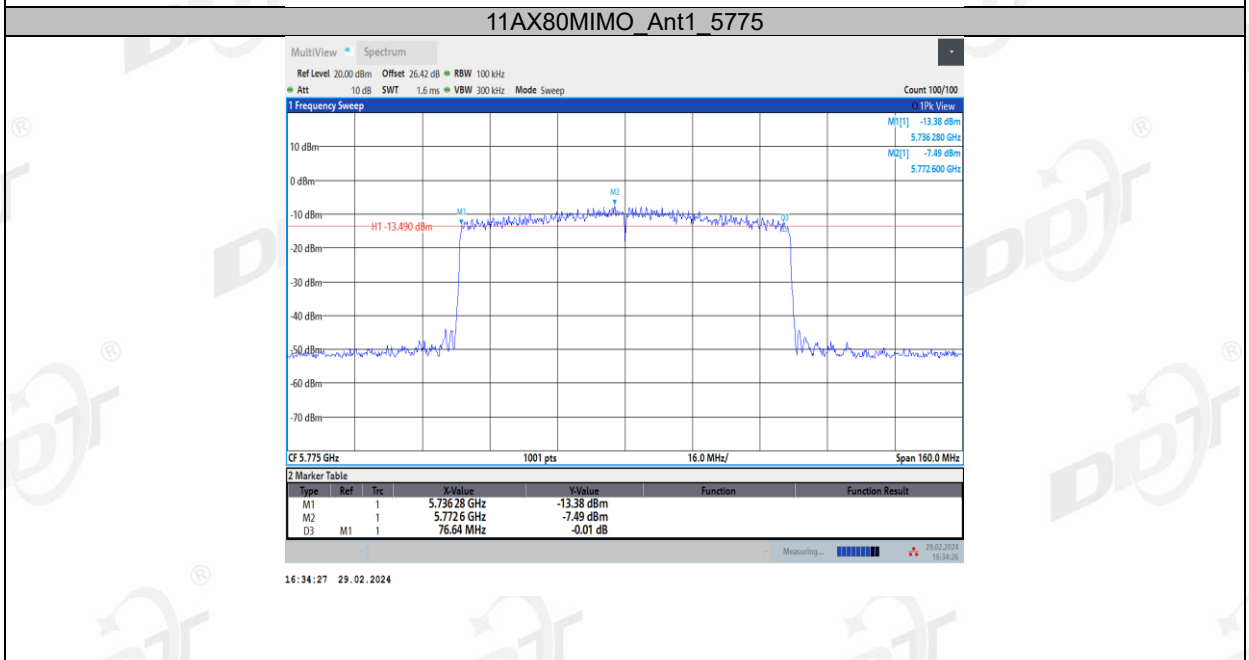
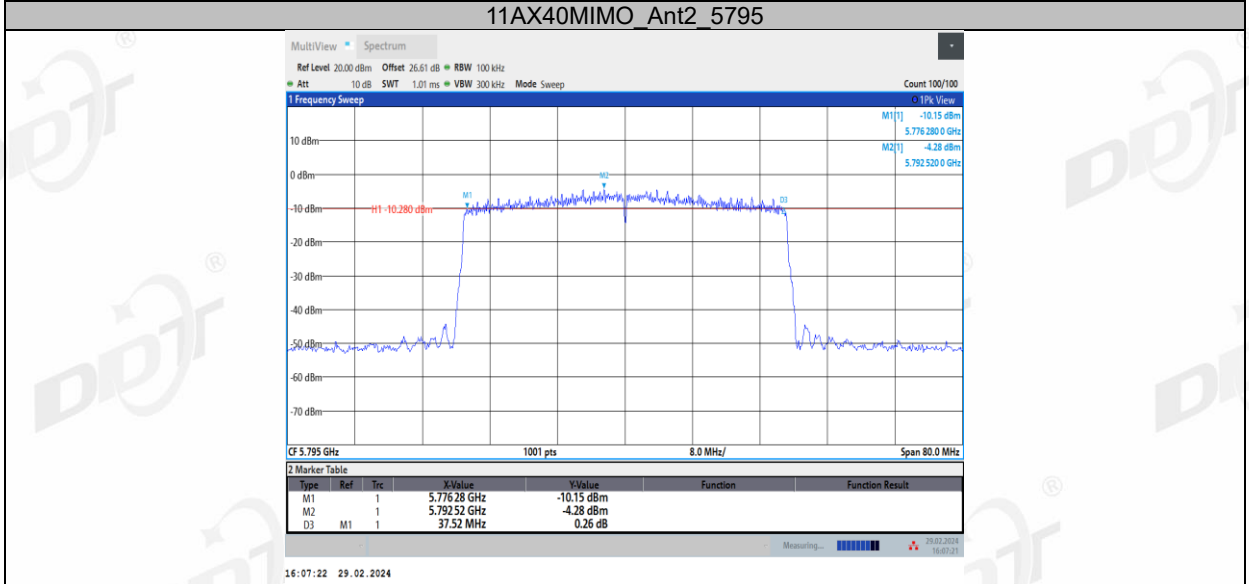
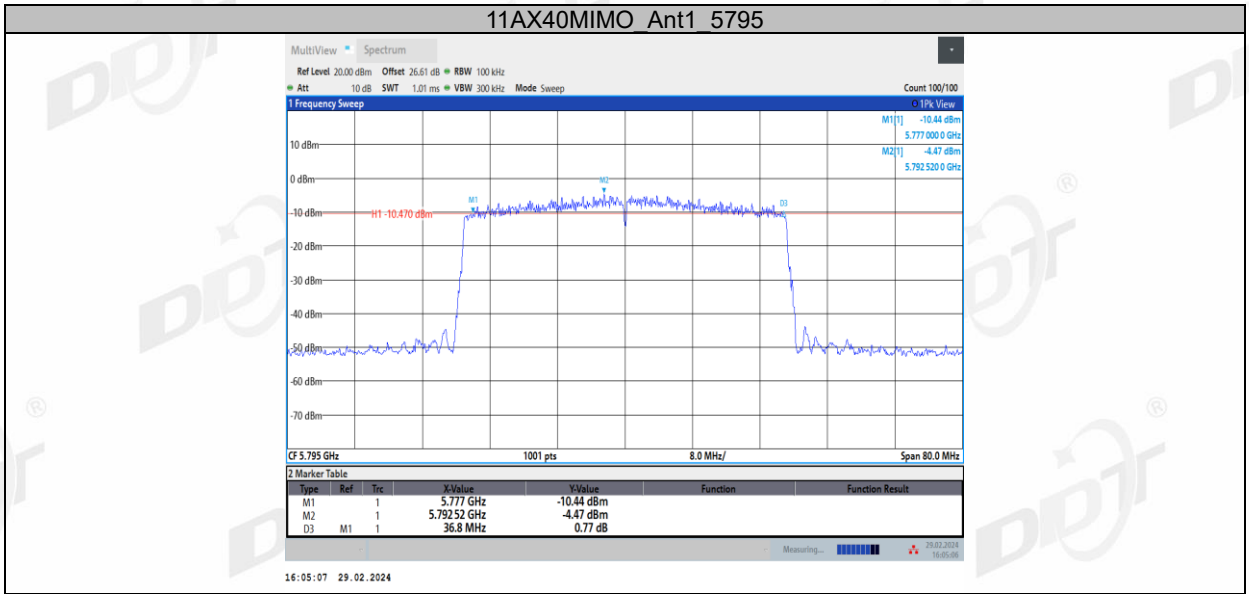


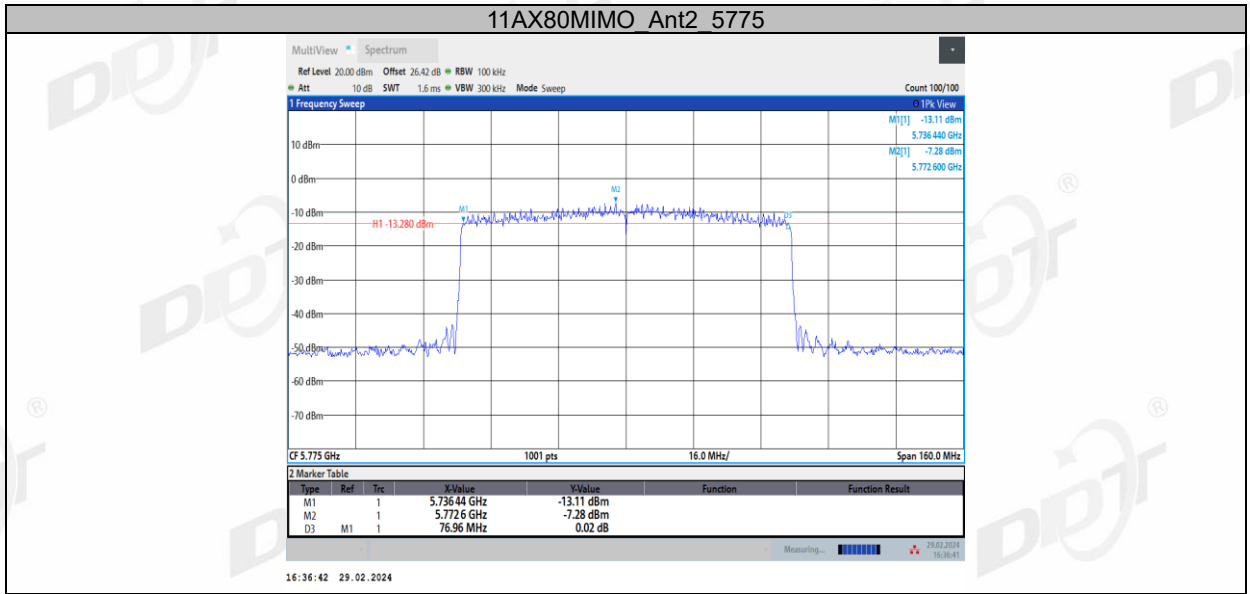






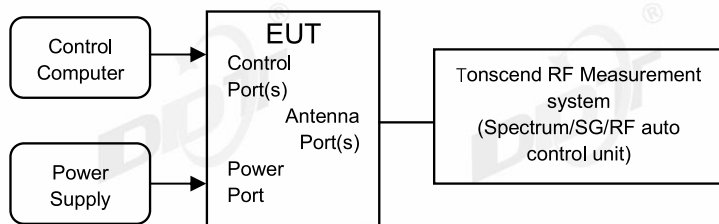






6. 99% Bandwidth

6.1. Block diagram of test setup



6.2. Limits

Just for Report.

6.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Trace	Max hold

Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

6.4. Test result

Test Engineer:	Zoe	Test Site:	RF Measurement System 4#
Ambient Condition:	20.6-23.2℃, 53.6-55.2%RH	Test Date:	2023.12.04-2024.04.18
Test Power Supply:	DC 12V from adapter	Sample Number:	S23111603-02

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict	
11A	Ant1	5180	17.740	5171.1892	5188.9296	---	---	
	Ant2	5180	17.818	5171.2458	5189.0635	---	---	
	Ant1	5200	17.708	5191.1325	5208.8405	---	---	
	Ant2	5200	17.778	5191.0928	5208.8706	---	---	
	Ant1	5240	17.299	5231.3658	5248.6651	---	---	
	Ant2	5240	17.268	5231.3435	5248.6119	---	---	
	Ant1	5260	17.191	5251.4042	5268.5955	---	---	
	Ant2	5260	17.184	5251.3768	5268.5606	---	---	
	Ant1	5280	17.225	5271.3757	5288.6011	---	---	
	Ant2	5280	17.158	5271.3744	5288.5324	---	---	
	Ant1	5320	17.724	5311.1215	5328.8451	---	---	
	Ant2	5320	17.785	5311.0060	5328.7914	---	---	
	Ant1	5500	17.738	5491.1462	5508.8837	---	---	
	Ant2	5500	17.724	5491.2038	5508.9280	---	---	
	Ant1	5580	17.234	5571.3562	5588.5898	---	---	
	Ant2	5580	17.221	5571.3724	5588.5930	---	---	
	Ant1	5700	17.555	5691.1107	5708.6652	---	---	
	Ant2	5700	17.541	5691.1182	5708.6596	---	---	
	Ant1	5720	17.179	5711.4068	5728.5858	---	---	
	Ant2	5720	17.213	5711.3505	5728.5634	---	---	
	Ant1	5720 UNII-2C	13.593	5711.4068	5725	---	---	
	Ant2	5720 UNII-2C	13.650	5711.3505	5725	---	---	
	Ant1	5720 UNII-3	3.586	5725	5728.5858	---	---	
	Ant2	5720 UNII-3	3.563	5725	5728.5634	---	---	
	Ant1	5745	17.568	5736.3585	5753.9262	---	---	
	Ant2	5745	17.507	5736.3347	5753.8417	---	---	
	Ant1	5785	17.151	5776.4091	5793.5603	---	---	
	Ant2	5785	17.171	5776.4273	5793.5983	---	---	
	Ant1	5825	17.645	5816.0200	5833.6654	---	---	
	Ant2	5825	17.621	5816.0408	5833.6619	---	---	
	11N20MIMO	Ant1	5180	18.789	5170.6954	5189.4846	---	---
		Ant2	5180	18.393	5170.9444	5189.3378	---	---
Ant1		5200	18.796	5190.5782	5209.3742	---	---	
Ant2		5200	18.353	5190.8597	5209.2130	---	---	
Ant1		5240	18.177	5230.9361	5249.1133	---	---	
Ant2		5240	17.898	5231.0479	5248.9463	---	---	
Ant1		5260	18.304	5250.8528	5269.1568	---	---	
Ant2		5260	17.912	5251.0272	5268.9395	---	---	
Ant1		5280	18.294	5270.8718	5289.1662	---	---	
Ant2		5280	17.932	5271.0255	5288.9578	---	---	
Ant1		5320	18.339	5310.7278	5329.0673	---	---	
Ant2		5320	18.312	5310.8155	5329.1275	---	---	
Ant1		5500	18.798	5490.6605	5509.4584	---	---	
Ant2		5500	18.328	5490.9044	5509.2324	---	---	
Ant1		5580	18.314	5570.8414	5589.1551	---	---	
Ant2		5580	17.944	5571.0336	5588.9776	---	---	
Ant1		5700	18.639	5690.6127	5709.2517	---	---	
Ant2		5700	18.224	5690.8196	5709.0441	---	---	
Ant1		5720	18.303	5710.8495	5729.1522	---	---	
Ant2		5720	17.950	5711.0067	5728.9569	---	---	
Ant1		5720 UNII-2C	14.150	5710.8495	5725	---	---	
Ant2		5720 UNII-2C	13.993	5711.0067	5725	---	---	
Ant1		5720 UNII-3	4.152	5725	5729.1522	---	---	
Ant2		5720 UNII-3	3.957	5725	5728.9569	---	---	
Ant1		5745	18.571	5735.8548	5754.4263	---	---	

	Ant2	5745	18.183	5736.0007	5754.1837	---	---	
	Ant1	5785	18.248	5775.8860	5794.1342	---	---	
	Ant2	5785	17.920	5776.0544	5793.9743	---	---	
	Ant1	5825	18.670	5815.5529	5834.2233	---	---	
	Ant2	5825	18.268	5815.7754	5834.0434	---	---	
11N40MIMO	Ant1	5190	36.747	5171.6633	5208.4102	---	---	
	Ant2	5190	36.703	5171.7210	5208.4242	---	---	
	Ant1	5230	36.469	5211.7908	5248.2598	---	---	
	Ant2	5230	36.420	5211.7774	5248.1974	---	---	
	Ant1	5270	36.423	5251.8579	5288.2805	---	---	
	Ant2	5270	36.424	5251.7674	5288.1913	---	---	
	Ant1	5310	36.863	5291.5503	5328.4131	---	---	
	Ant2	5310	36.906	5291.3860	5328.2919	---	---	
	Ant1	5510	36.828	5491.6623	5528.4904	---	---	
	Ant2	5510	36.876	5491.6742	5528.5505	---	---	
	Ant1	5550	36.453	5531.7037	5568.1568	---	---	
	Ant2	5550	36.361	5531.8091	5568.1704	---	---	
	Ant1	5670	37.237	5651.5742	5688.8110	---	---	
	Ant2	5670	37.040	5651.4413	5688.4816	---	---	
	Ant1	5710	36.464	5691.8383	5728.3018	---	---	
	Ant2	5710	36.448	5691.7003	5728.1488	---	---	
	Ant1	5710 UNII-2C	33.162	5691.8383	5725	---	---	
	Ant2	5710 UNII-2C	33.30	5691.7003	5725	---	---	
	Ant1	5710 UNII-3	3.302	5725	5728.3018	---	---	
	Ant2	5710 UNII-3	3.149	5725	5728.1488	---	---	
	Ant1	5755	36.809	5736.7681	5773.5774	---	---	
	Ant2	5755	36.761	5736.6890	5773.4498	---	---	
	Ant1	5795	36.410	5776.7444	5813.1548	---	---	
	Ant2	5795	36.345	5776.8344	5813.1799	---	---	
	11AC20MIMO	Ant1	5180	18.727	5170.7067	5189.4336	---	---
		Ant2	5180	18.430	5170.9467	5189.3765	---	---
		Ant1	5200	18.784	5190.5681	5209.3521	---	---
Ant2		5200	18.399	5190.8612	5209.2598	---	---	
Ant1		5240	18.189	5230.9222	5249.1117	---	---	
Ant2		5240	17.936	5231.0538	5248.9894	---	---	
Ant1		5260	18.325	5250.8550	5269.1801	---	---	
Ant2		5260	18.021	5250.9932	5269.0138	---	---	
Ant1		5280	18.331	5270.8329	5289.1638	---	---	
Ant2		5280	17.972	5271.0084	5288.9802	---	---	
Ant1		5320	18.777	5310.5960	5329.3725	---	---	
Ant2		5320	18.360	5310.8014	5329.1617	---	---	
Ant1		5500	18.754	5490.6750	5509.4288	---	---	
Ant2		5500	18.438	5490.8854	5509.3233	---	---	
Ant1		5580	18.360	5570.8058	5589.1657	---	---	
Ant2		5580	17.984	5571.0365	5589.0201	---	---	
Ant1		5700	18.639	5690.5988	5709.2374	---	---	
Ant2		5700	18.236	5690.8347	5709.0705	---	---	
Ant1		5720	18.336	5710.8364	5729.1721	---	---	
Ant2		5720	17.980	5711.0269	5729.0066	---	---	
Ant1		5720 UNII-2C	14.164	5710.8364	5725	---	---	
Ant2		5720 UNII-2C	13.973	5711.0269	5725	---	---	
Ant1		5720 UNII-3	4.172	5725	5729.1721	---	---	
Ant2		5720 UNII-3	4.007	5725	5729.0066	---	---	
Ant1		5745	18.619	5735.8106	5754.4293	---	---	
Ant2		5745	18.224	5735.9937	5754.2175	---	---	
Ant1		5785	18.271	5775.8452	5794.1164	---	---	
Ant2	5785	17.984	5776.0525	5794.0369	---	---		
Ant1	5825	18.676	5815.5325	5834.2082	---	---		
Ant2	5825	18.330	5815.7564	5834.0866	---	---		
11AC40MIMO	Ant1	5190	37.035	5171.6138	5208.6485	---	---	
	Ant2	5190	37.013	5171.6061	5208.6194	---	---	
	Ant1	5230	36.530	5211.8038	5248.3336	---	---	
	Ant2	5230	36.541	5211.7608	5248.3017	---	---	
	Ant1	5270	36.460	5251.8045	5288.2642	---	---	

	Ant2	5270	36.561	5251.7267	5288.2876	---	---
	Ant1	5310	37.116	5291.4268	5328.5430	---	---
	Ant2	5310	37.164	5291.2400	5328.4042	---	---
	Ant1	5510	37.054	5491.6224	5528.6762	---	---
	Ant2	5510	37.073	5491.6382	5528.7112	---	---
	Ant1	5550	36.434	5531.8070	5568.2412	---	---
	Ant2	5550	36.517	5531.8095	5568.3266	---	---
	Ant1	5670	37.447	5651.5494	5688.9960	---	---
	Ant2	5670	37.307	5651.3534	5688.6608	---	---
	Ant1	5710	36.407	5691.8835	5728.2904	---	---
	Ant2	5710	36.552	5691.7057	5728.2579	---	---
	Ant1	5710 UNII-2C	33.117	5691.8835	5725	---	---
	Ant2	5710 UNII-2C	33.294	5691.7057	5725	---	---
	Ant1	5710 UNII-3	3.290	5725	5728.2904	---	---
	Ant2	5710 UNII-3	3.258	5725	5728.2579	---	---
	Ant1	5755	36.988	5736.7421	5773.7297	---	---
	Ant2	5755	36.982	5736.6712	5773.6534	---	---
	Ant1	5795	36.400	5776.8149	5813.2145	---	---
	Ant2	5795	36.513	5776.7903	5813.3037	---	---
	11AC80MIMO	Ant1	5210	75.977	5172.1082	5248.0852	---
Ant2		5210	75.803	5172.2010	5248.0039	---	---
Ant1		5290	75.803	5252.0878	5327.8913	---	---
Ant2		5290	75.807	5251.8367	5327.6438	---	---
Ant1		5530	75.804	5492.1340	5567.9381	---	---
Ant2		5530	75.795	5492.2889	5568.0841	---	---
Ant1		5610	75.549	5572.3064	5647.8558	---	---
Ant2		5610	75.347	5572.2743	5647.6216	---	---
Ant1		5690	75.421	5652.4272	5727.8483	---	---
Ant2		5690	75.343	5652.2200	5727.5634	---	---
Ant1		5690 UNII-2C	72.573	5652.4272	5725	---	---
Ant2		5690 UNII-2C	72.78	5652.2200	5725	---	---
Ant1		5690 UNII-3	2.848	5725	5727.8483	---	---
Ant2		5690 UNII-3	2.563	5725	5727.5634	---	---
Ant1		5775	75.363	5737.2862	5812.6495	---	---
Ant2	5775	75.437	5737.2650	5812.7021	---	---	
11AC160MIMO	Ant1	5250	155.30	5172.8572	5328.1568	---	---
	Ant2	5250	154.355	5172.8085	5327.1636	---	---
	Ant1	5250 UNII-1	77.143	5172.8572	5250	---	---
	Ant2	5250 UNII-1	77.191	5172.8085	5250	---	---
	Ant1	5250 UNII-2A	78.157	5250	5328.1568	---	---
	Ant2	5250 UNII-2A	77.164	5250	5327.1636	---	---
	Ant1	5570	155.519	5491.8536	5647.3726	---	---
	Ant2	5570	155.052	5492.9847	5648.0369	---	---
11AX20MIMO	Ant1	5180	19.403	5170.3026	5189.7060	---	---
	Ant2	5180	19.369	5170.3502	5189.7193	---	---
	Ant1	5200	19.392	5190.2995	5209.6912	---	---
	Ant2	5200	19.397	5190.2990	5209.6961	---	---
	Ant1	5240	18.954	5230.5199	5249.4738	---	---
	Ant2	5240	18.933	5230.5150	5249.4476	---	---
	Ant1	5260	19.165	5250.4280	5269.5932	---	---
	Ant2	5260	19.177	5250.4132	5269.5898	---	---
	Ant1	5280	19.168	5270.4029	5289.5709	---	---
	Ant2	5280	19.140	5270.4033	5289.5431	---	---
	Ant1	5320	19.471	5310.2512	5329.7218	---	---
	Ant2	5320	19.406	5310.2429	5329.6485	---	---
	Ant1	5500	19.353	5490.2990	5509.6519	---	---
	Ant2	5500	19.373	5490.3316	5509.7044	---	---
	Ant1	5580	19.182	5570.3995	5589.5820	---	---
	Ant2	5580	19.135	5570.4340	5589.5686	---	---
	Ant1	5700	19.348	5690.2751	5709.6232	---	---
	Ant2	5700	19.295	5690.3104	5709.6058	---	---
	Ant1	5720	19.215	5710.3557	5729.5703	---	---
	Ant2	5720	19.177	5710.4227	5729.6001	---	---
Ant1	5720 UNII-2C	14.644	5710.3557	5725	---	---	

	Ant2	5720 UNII-2C	14.577	5710.4227	5725	---	---	
	Ant1	5720 UNII-3	4.570	5725	5729.5703	---	---	
	Ant2	5720 UNII-3	4.600	5725	5729.6001	---	---	
	Ant1	5745	19.299	5735.4017	5754.7005	---	---	
	Ant2	5745	19.247	5735.3751	5754.6220	---	---	
	Ant1	5785	19.191	5775.4116	5794.6025	---	---	
	Ant2	5785	19.164	5775.4384	5794.6020	---	---	
	Ant1	5825	19.347	5815.2694	5834.6160	---	---	
11AX40MIMO	Ant2	5825	19.291	5815.3306	5834.6212	---	---	
	Ant1	5190	38.013	5171.0014	5209.0143	---	---	
	Ant2	5190	37.958	5171.0553	5209.0137	---	---	
	Ant1	5230	37.690	5211.1829	5248.8730	---	---	
	Ant2	5230	37.685	5211.0945	5248.7796	---	---	
	Ant1	5270	37.588	5251.2251	5288.8129	---	---	
	Ant2	5270	37.705	5251.1268	5288.8321	---	---	
	Ant1	5310	37.943	5291.0333	5328.9764	---	---	
	Ant2	5310	37.954	5290.9126	5328.8671	---	---	
	Ant1	5510	37.987	5491.0150	5529.0021	---	---	
	Ant2	5510	37.957	5491.0469	5529.0042	---	---	
	Ant1	5550	37.669	5531.2012	5568.8701	---	---	
	Ant2	5550	37.711	5531.1101	5568.8216	---	---	
	Ant1	5670	38.053	5651.0837	5689.1367	---	---	
	Ant2	5670	38.054	5650.9544	5689.0082	---	---	
	Ant1	5710	37.663	5691.1854	5728.8486	---	---	
	Ant2	5710	37.690	5691.1268	5728.8170	---	---	
	Ant1	5710 UNII-2C	33.815	5691.1854	5725	---	---	
	Ant2	5710 UNII-2C	33.873	5691.1268	5725	---	---	
	Ant1	5710 UNII-3	3.849	5725	5728.8486	---	---	
	Ant2	5710 UNII-3	3.817	5725	5728.8170	---	---	
	Ant1	5755	37.840	5736.1484	5773.9881	---	---	
	Ant2	5755	37.929	5736.0258	5773.9552	---	---	
	Ant1	5795	37.759	5776.1386	5813.8971	---	---	
	Ant2	5795	37.741	5776.1210	5813.8623	---	---	
	11AX80MIMO	Ant1	5210	77.616	5171.3059	5248.9223	---	---
		Ant2	5210	77.498	5171.2306	5248.7287	---	---
		Ant1	5290	77.514	5251.2450	5328.7587	---	---
Ant2		5290	77.347	5251.1474	5328.4939	---	---	
Ant1		5530	77.606	5491.2006	5568.8063	---	---	
Ant2		5530	77.422	5491.4857	5568.9080	---	---	
Ant1		5610	76.927	5571.5836	5648.5104	---	---	
Ant2		5610	77.022	5571.4021	5648.4236	---	---	
Ant1		5690	76.625	5651.9828	5728.6083	---	---	
Ant2		5690	77.257	5651.2719	5728.5290	---	---	
Ant1		5690 UNII-2C	73.017	5651.9828	5725	---	---	
Ant2		5690 UNII-2C	73.728	5651.2719	5725	---	---	
Ant1		5690 UNII-3	3.608	5725	5728.6083	---	---	
Ant2		5690 UNII-3	3.529	5725	5728.5290	---	---	
Ant1		5775	77.01	5736.4872	5813.4976	---	---	
Ant2		5775	77.176	5736.4181	5813.5946	---	---	
11AX160MIMO		Ant1	5250	156.843	5172.2331	5329.0762	---	---
		Ant2	5250	156.399	5171.8874	5328.2864	---	---
	Ant1	5250 UNII-1	77.767	5172.2331	5250	---	---	
	Ant2	5250 UNII-1	78.113	5171.8874	5250	---	---	
	Ant1	5250 UNII-2A	79.076	5250	5329.0762	---	---	
	Ant2	5250 UNII-2A	78.286	5250	5328.2864	---	---	
	Ant1	5570	156.993	5490.9639	5647.9569	---	---	
	Ant2	5570	157.084	5492.0362	5649.1200	---	---	

6.5. Test graphs

