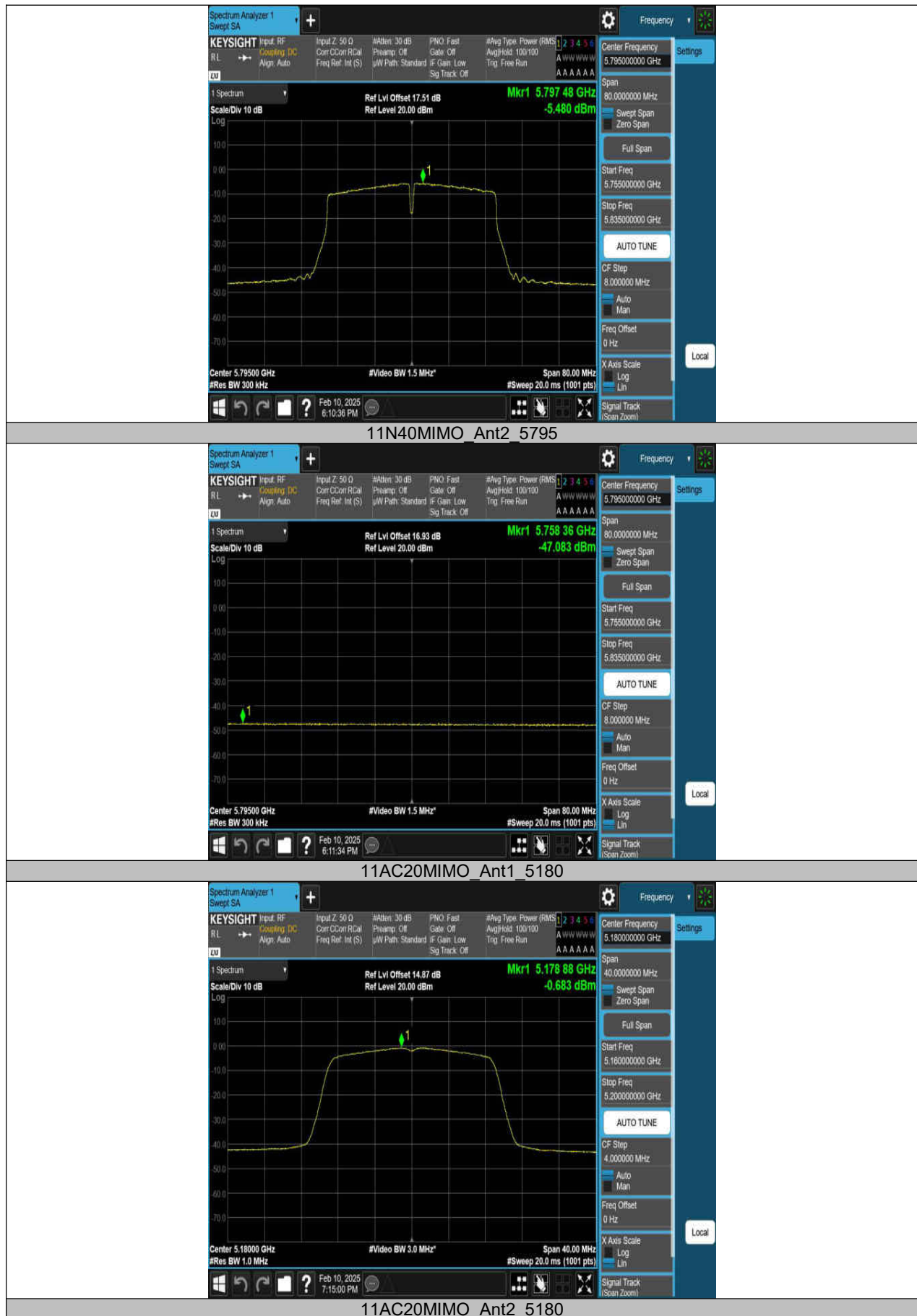
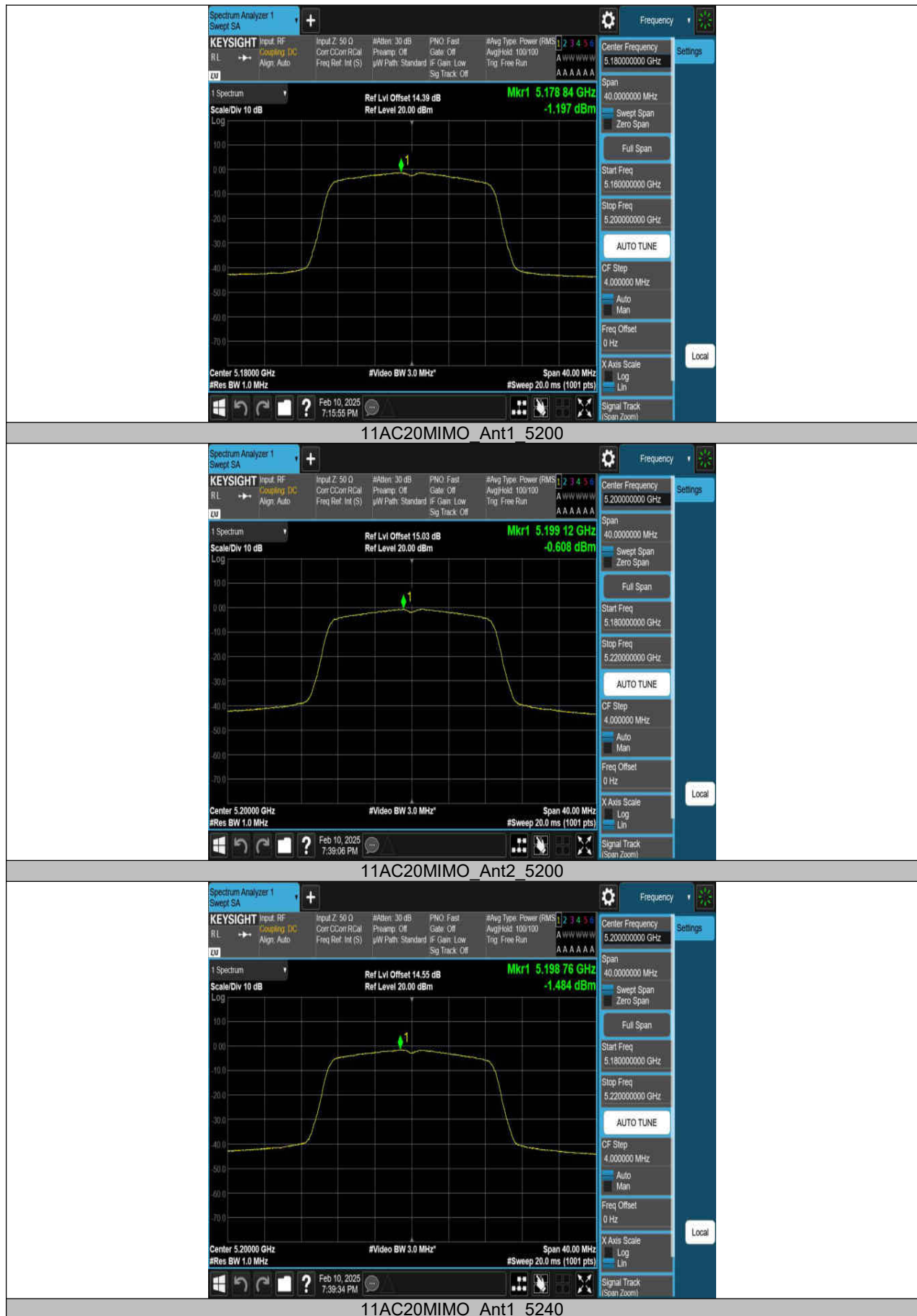
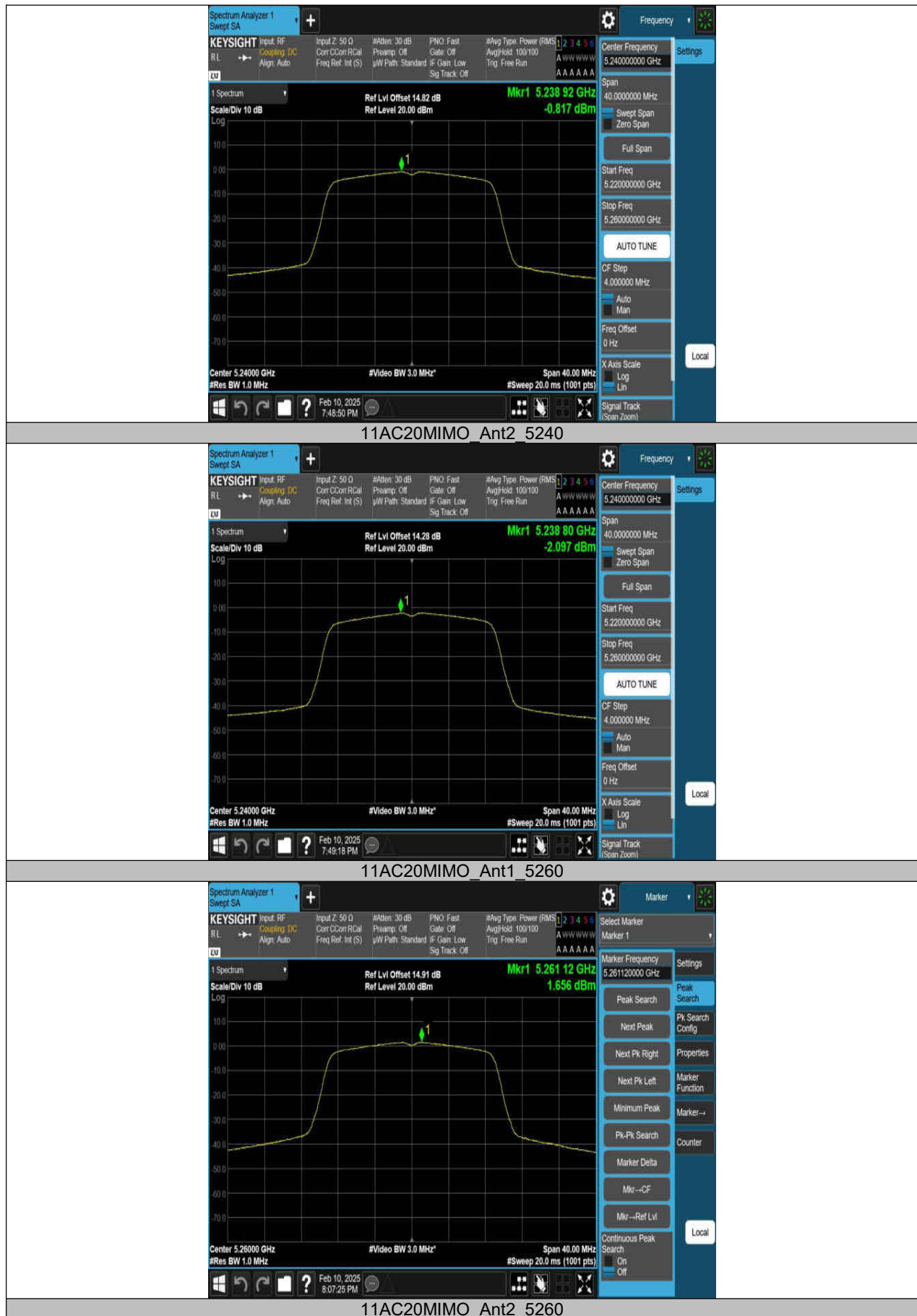
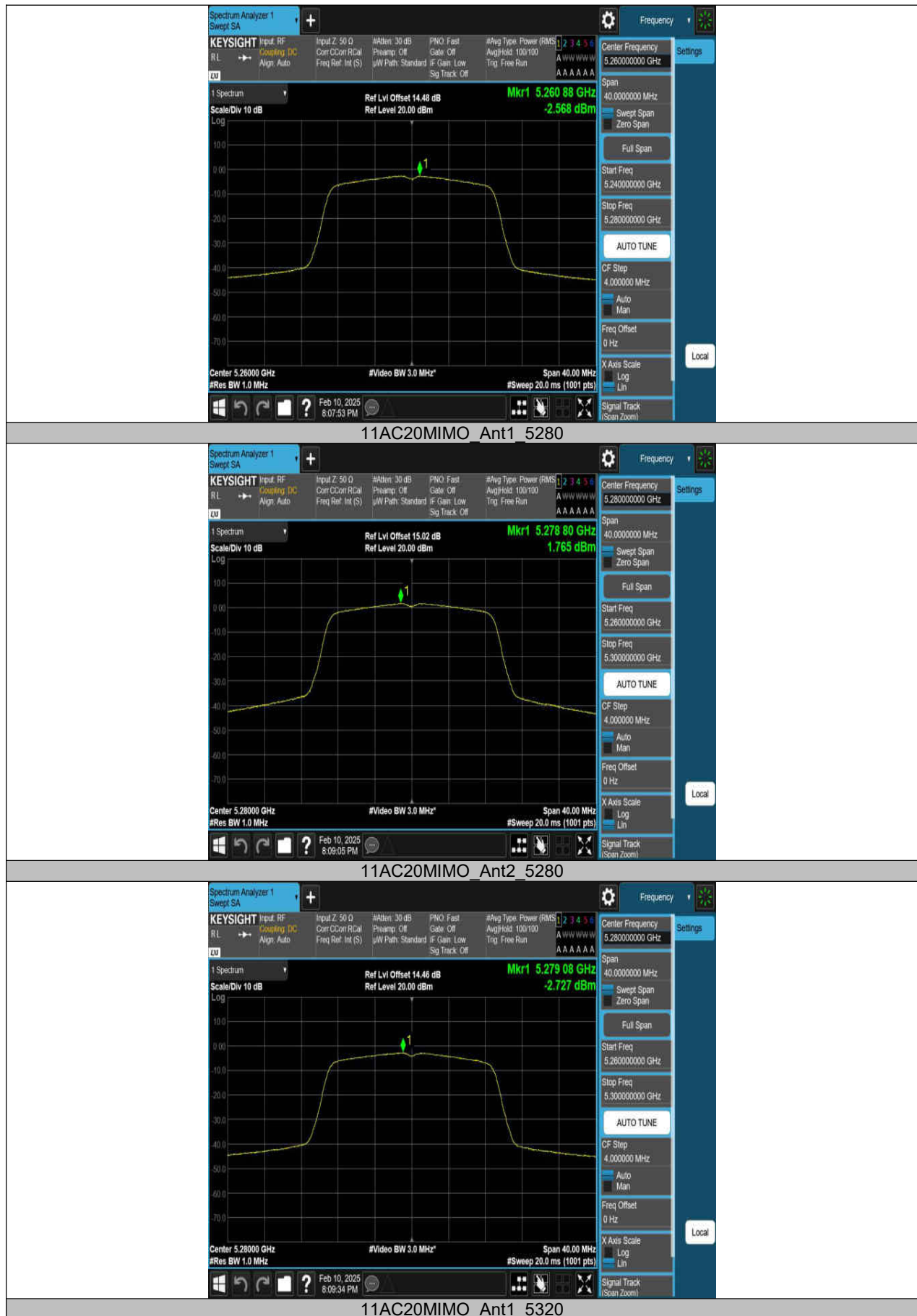
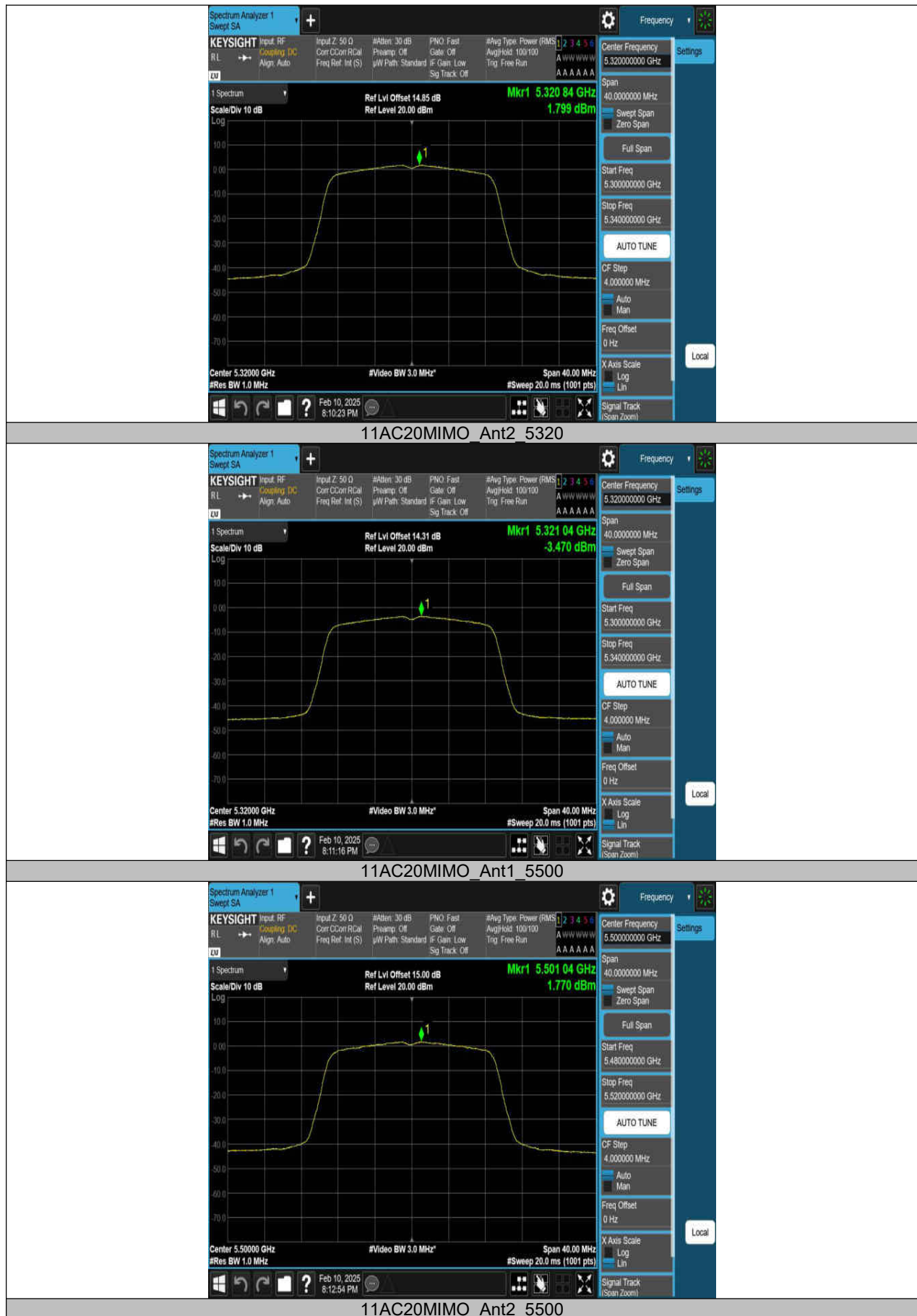


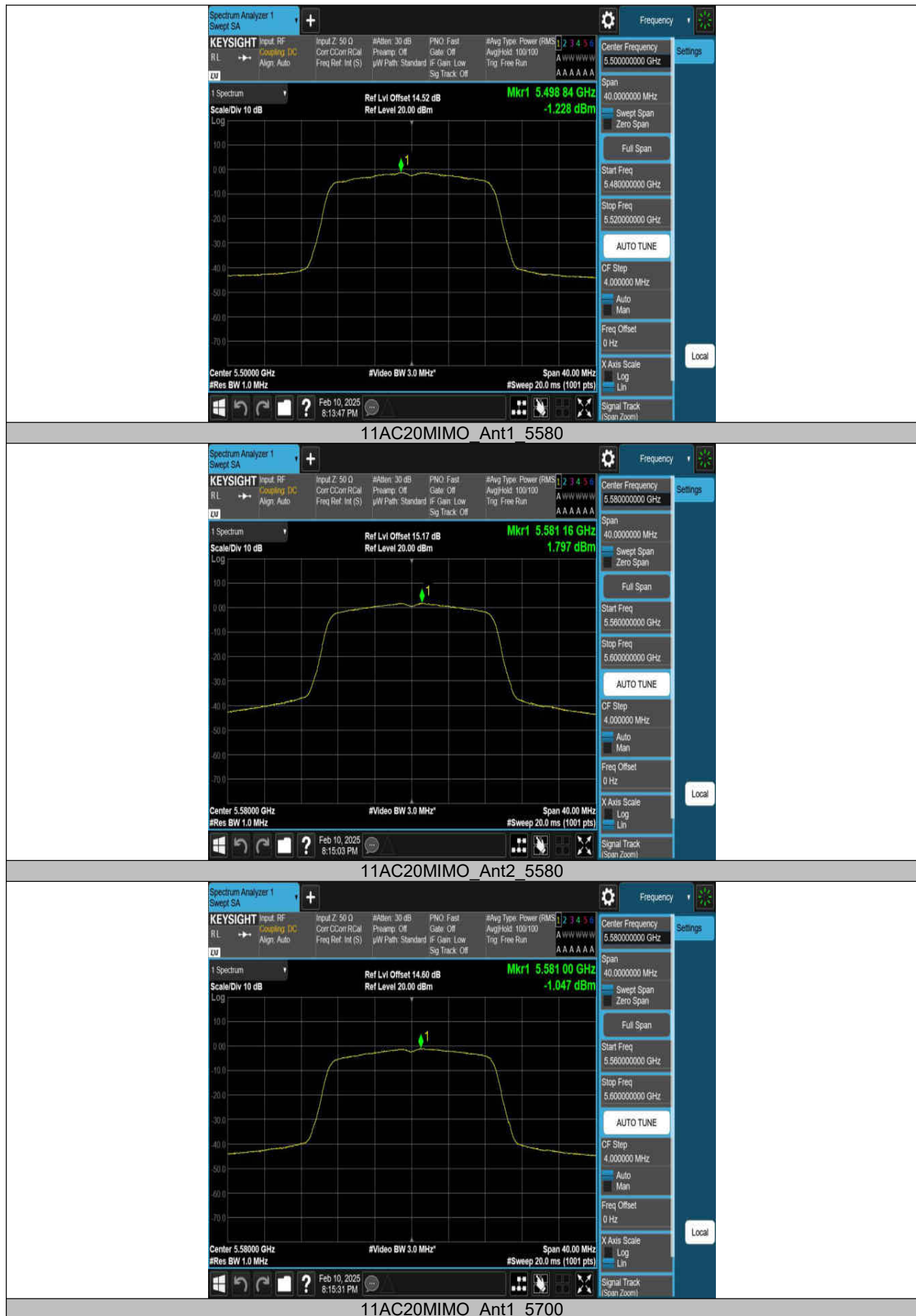


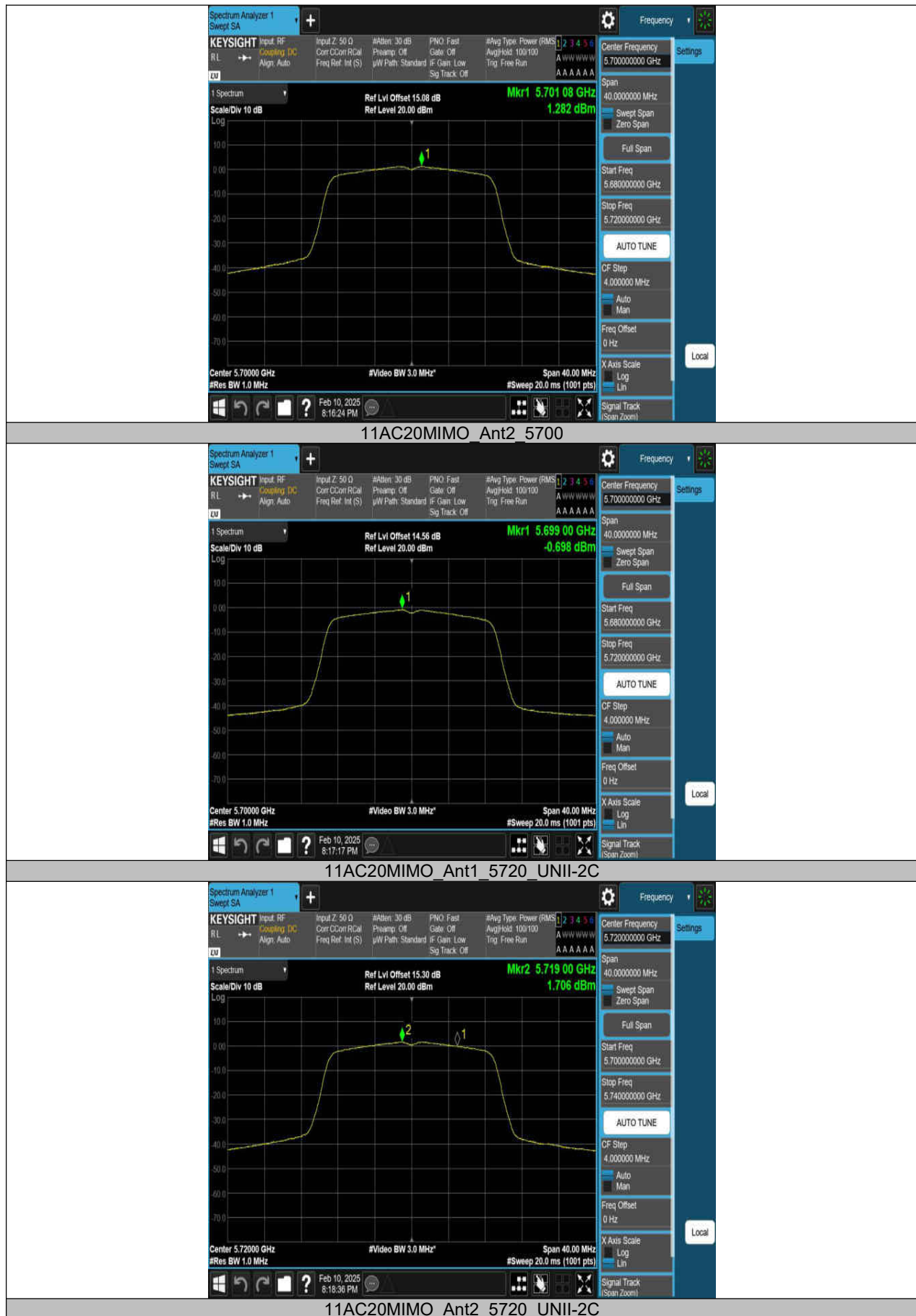




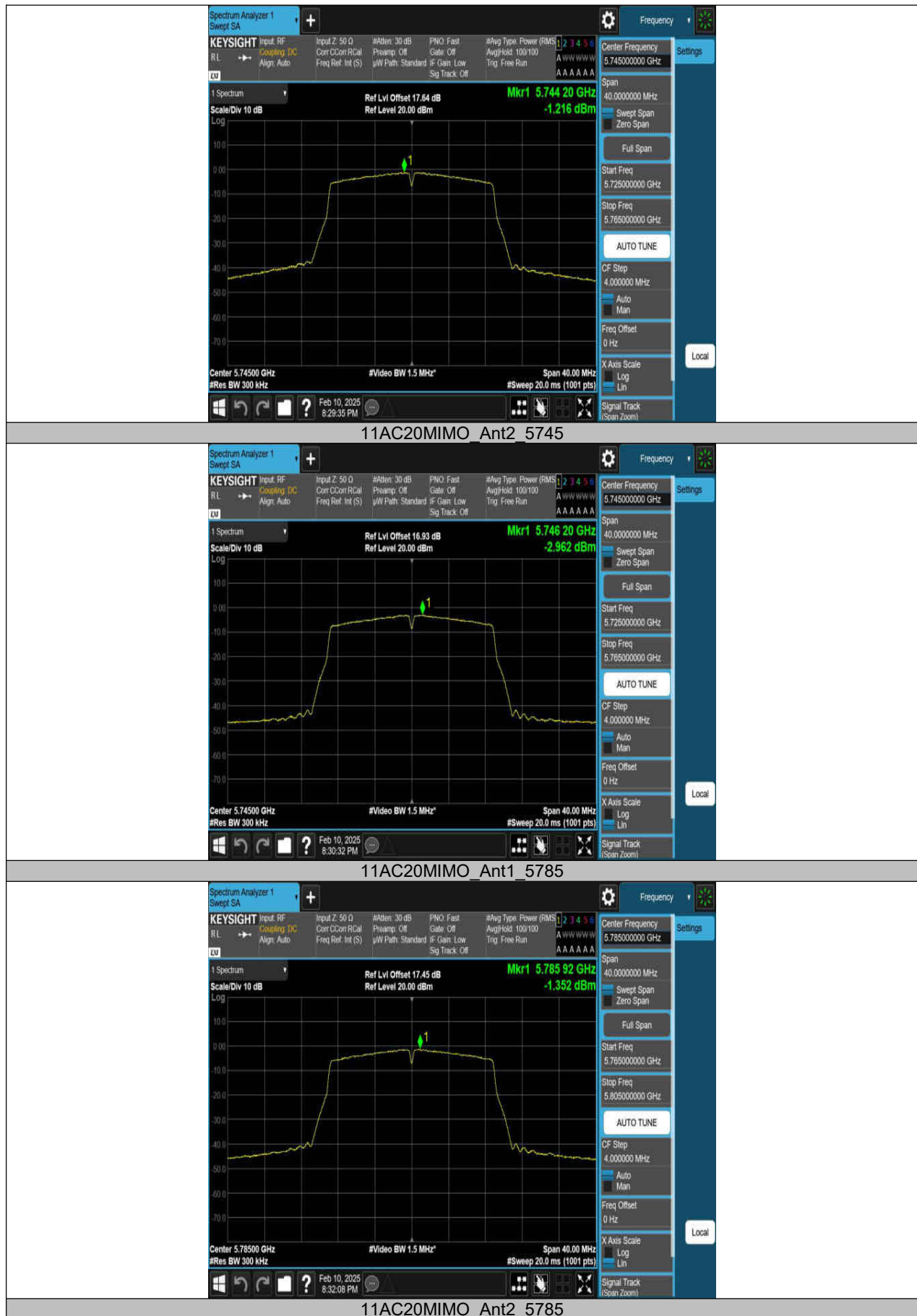


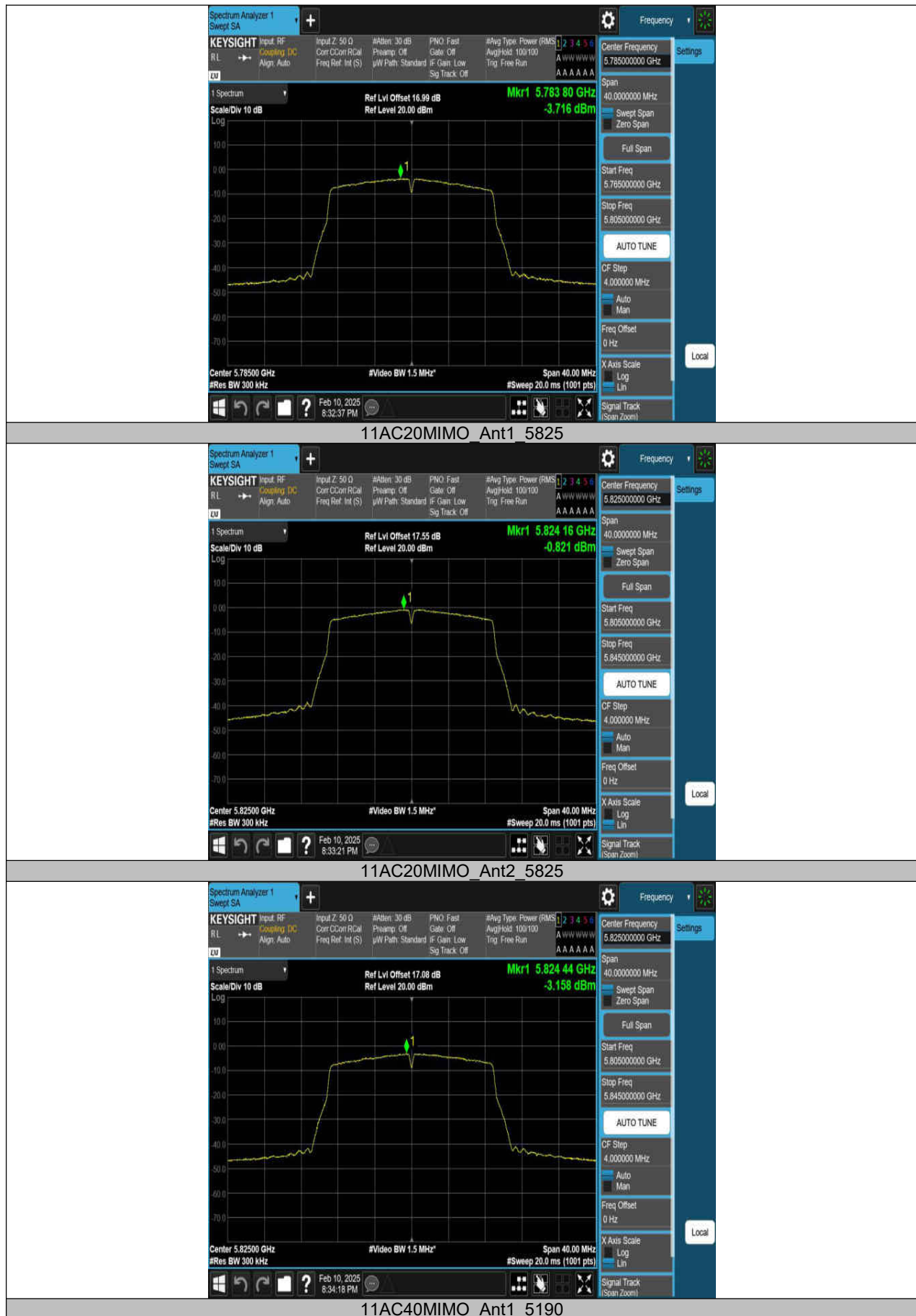


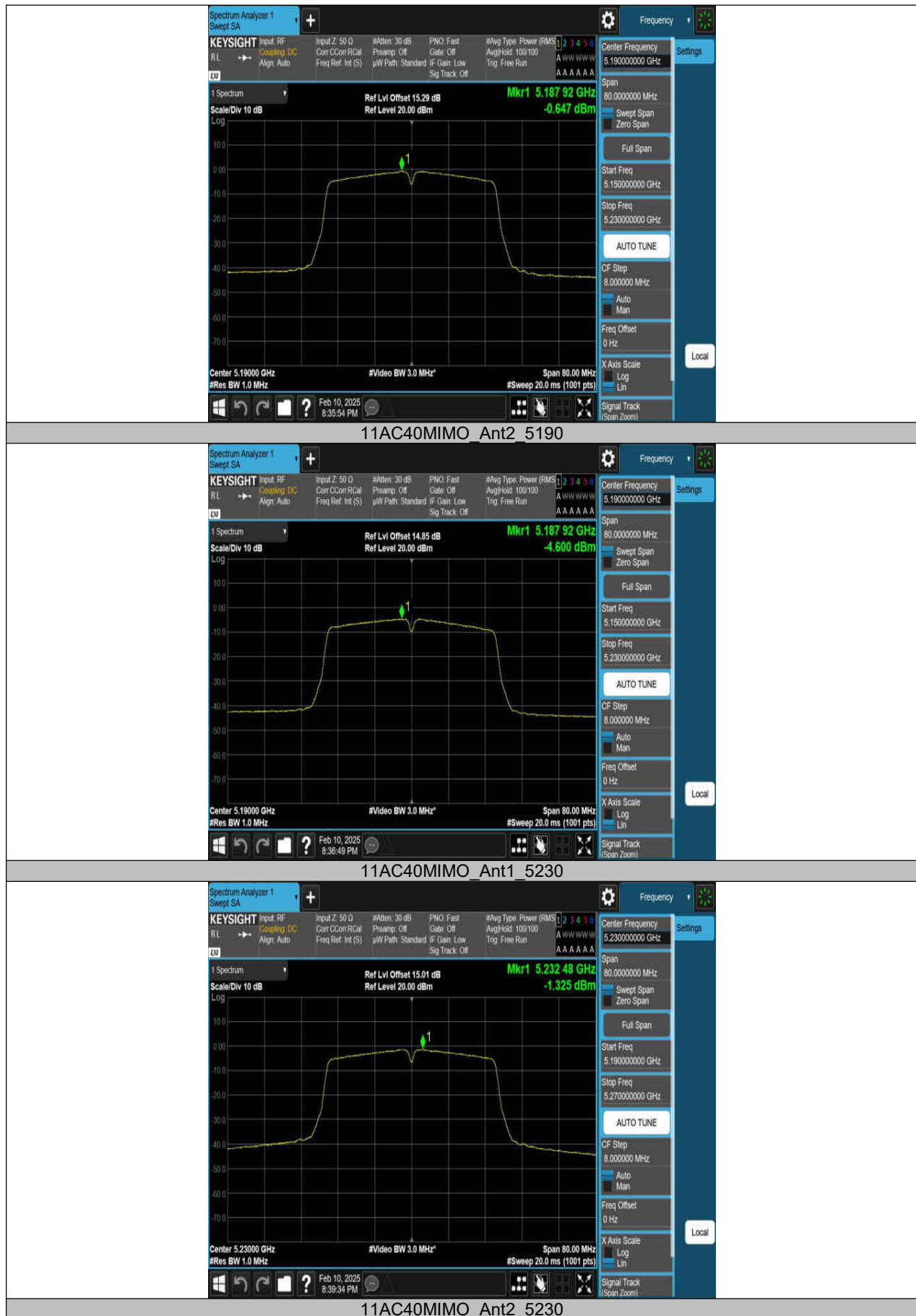


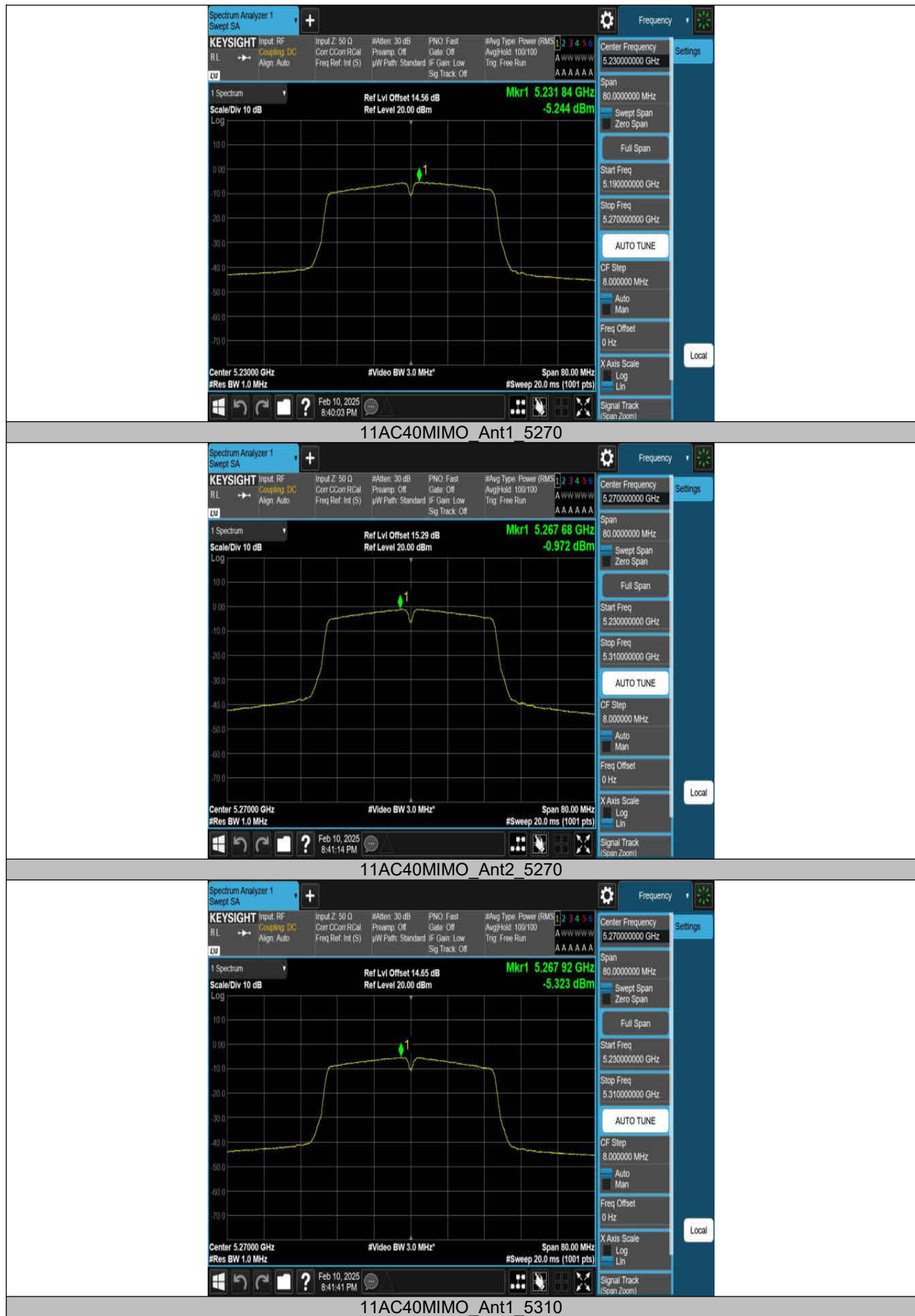


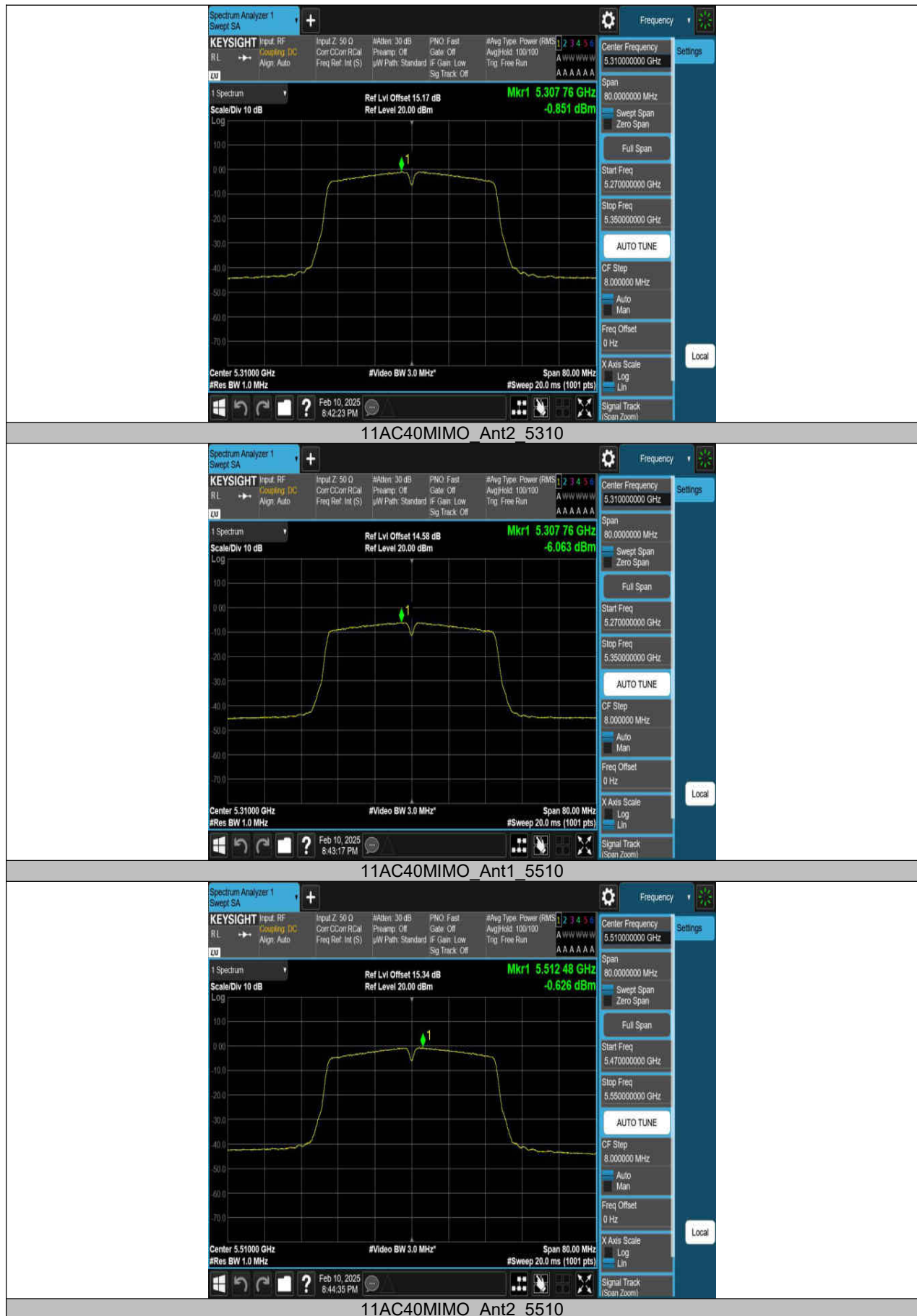


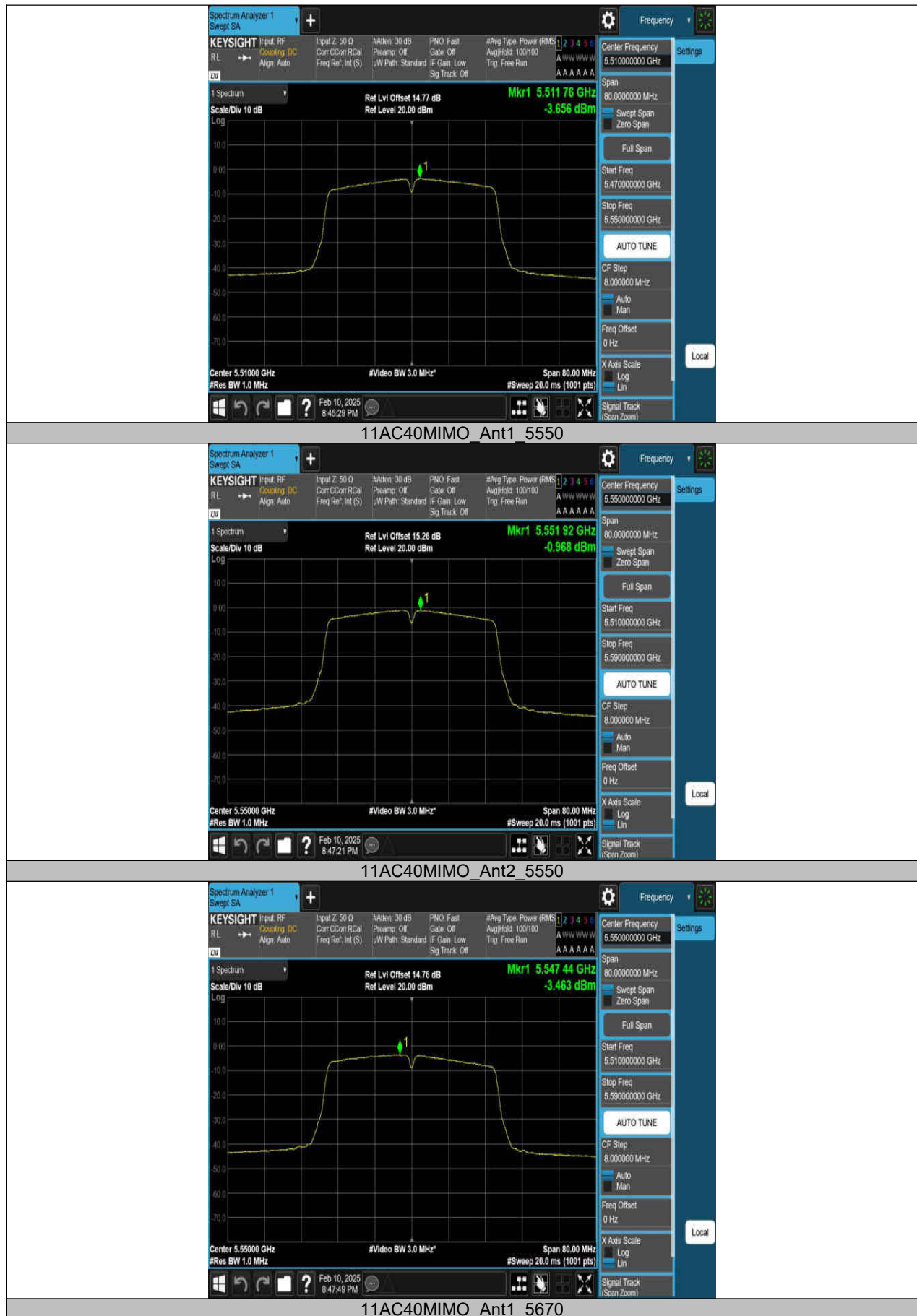


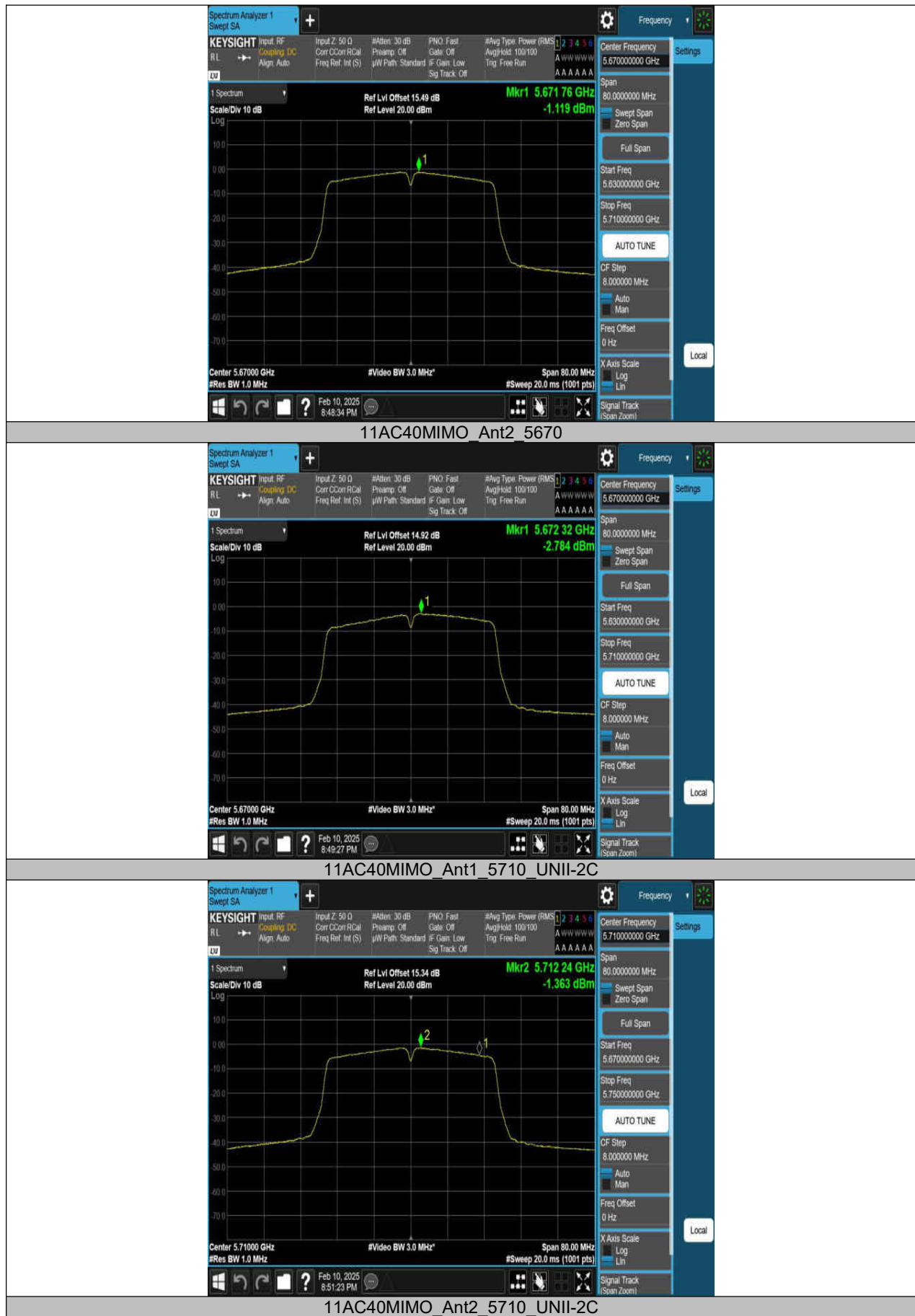


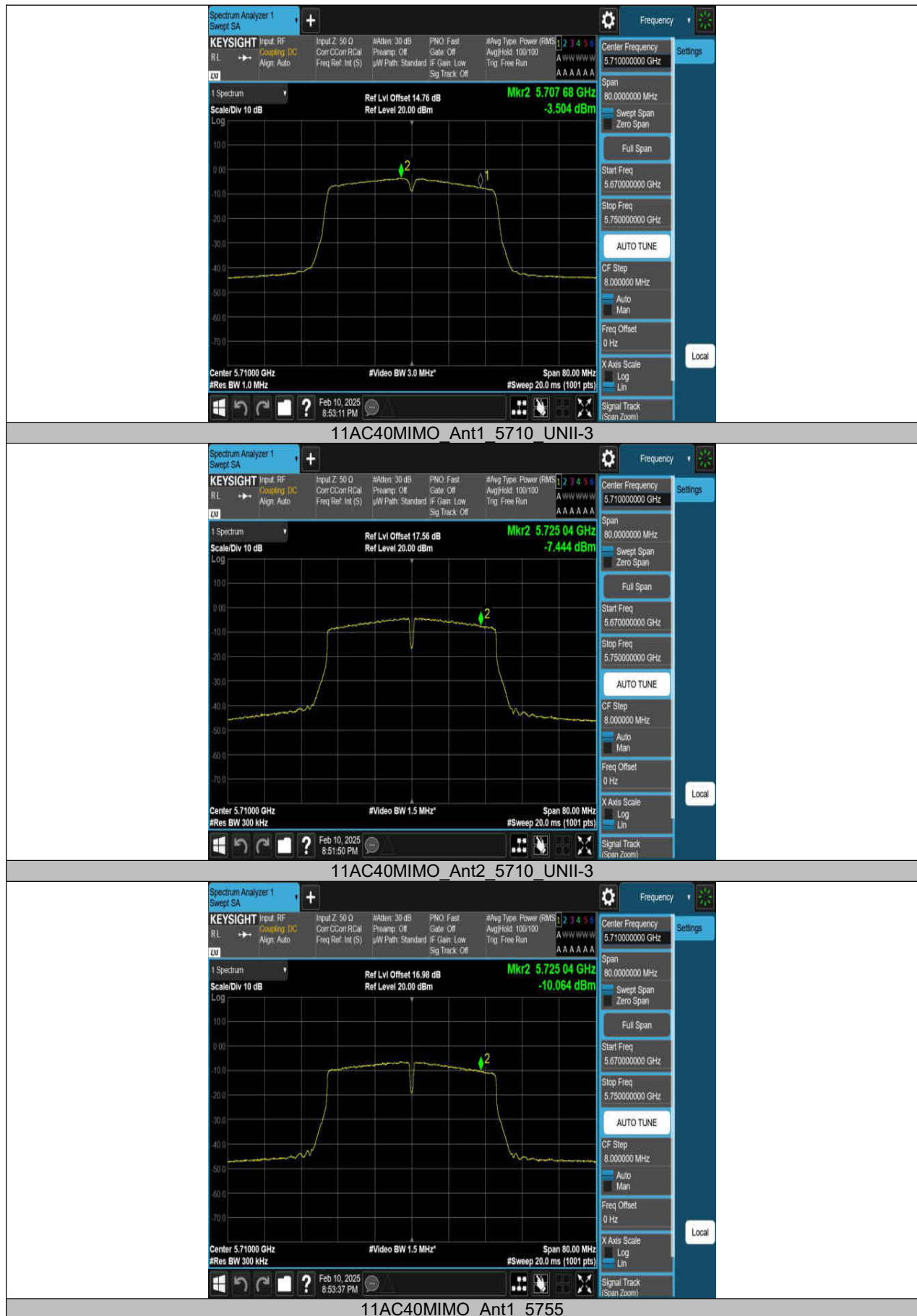


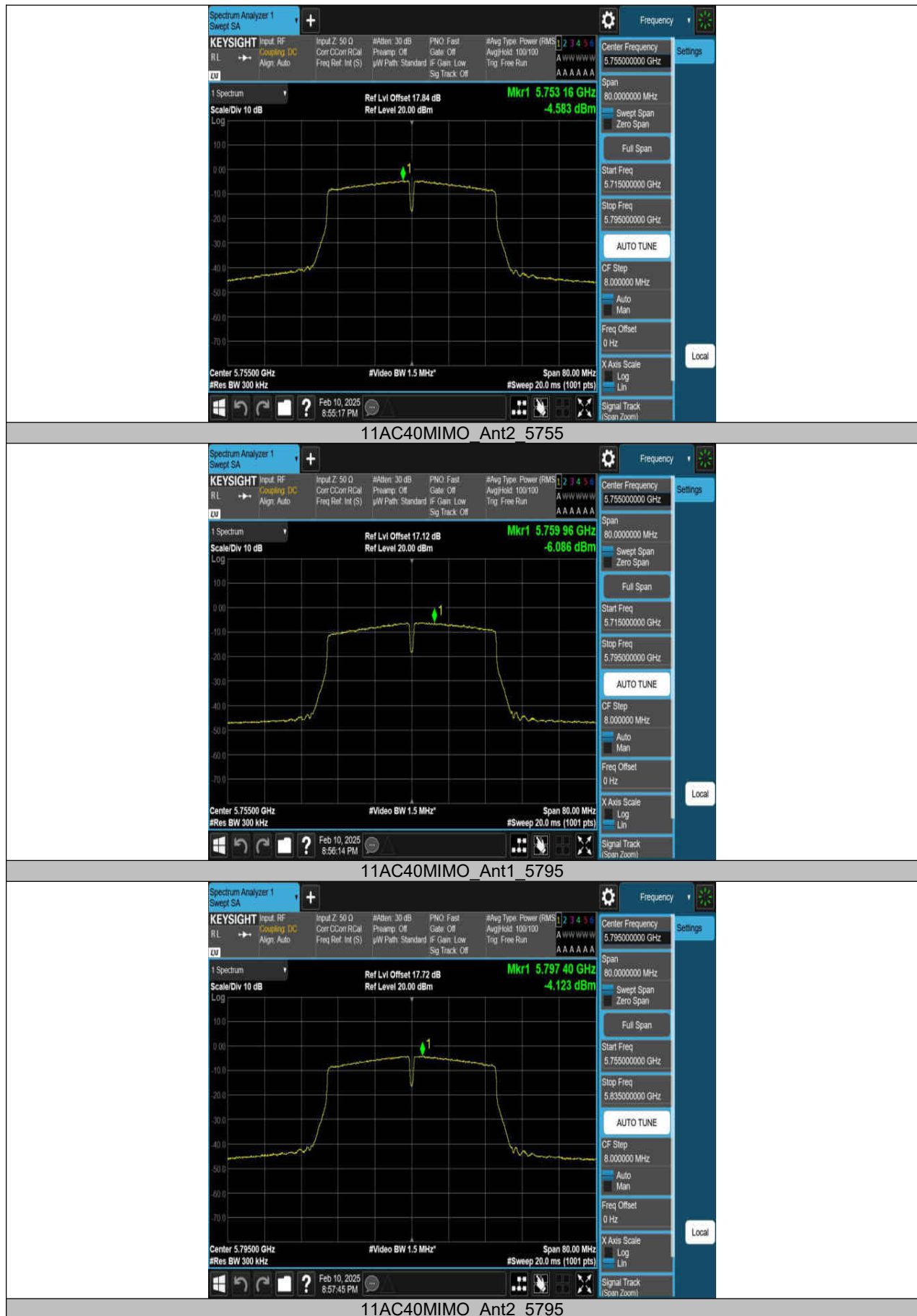


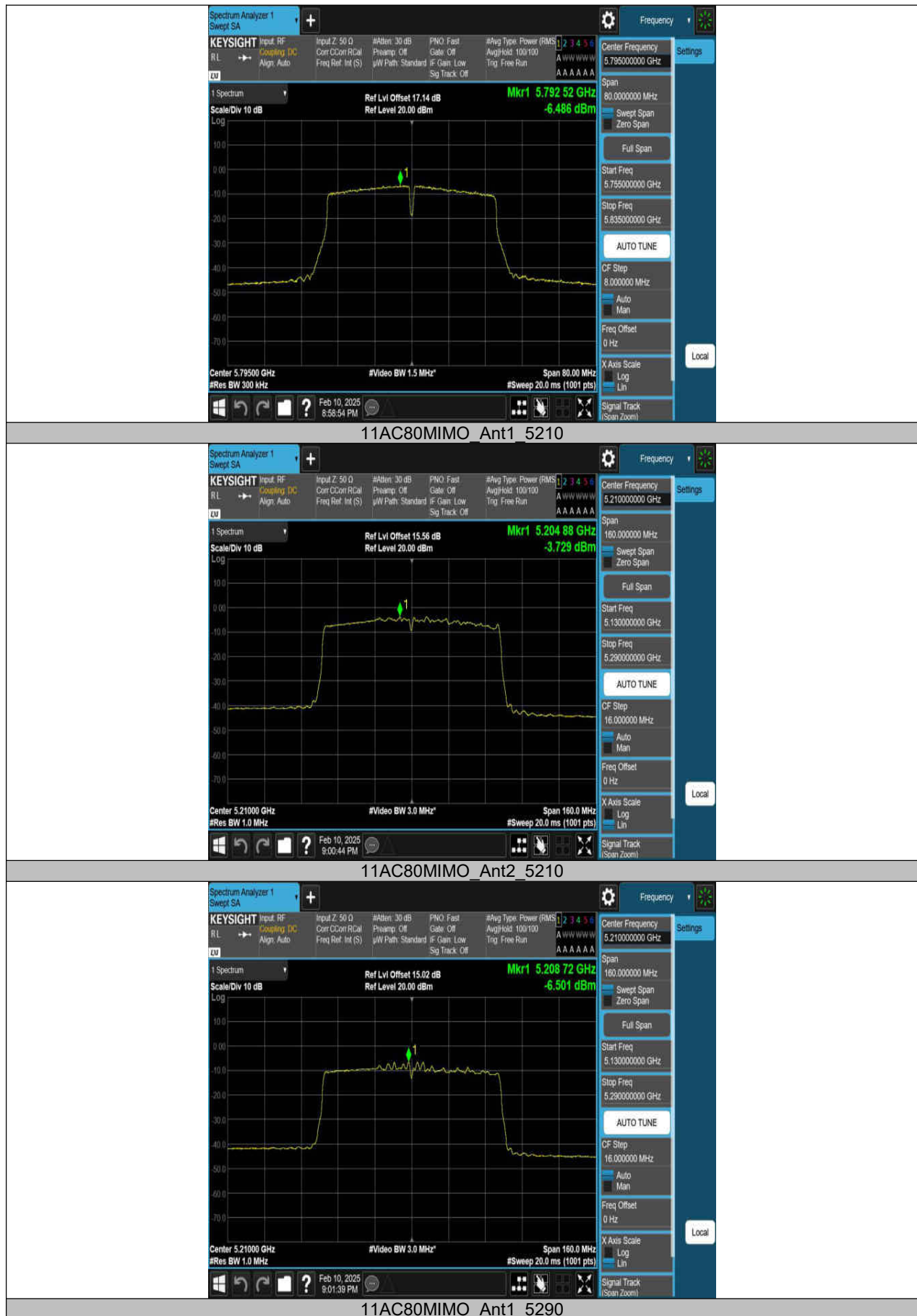


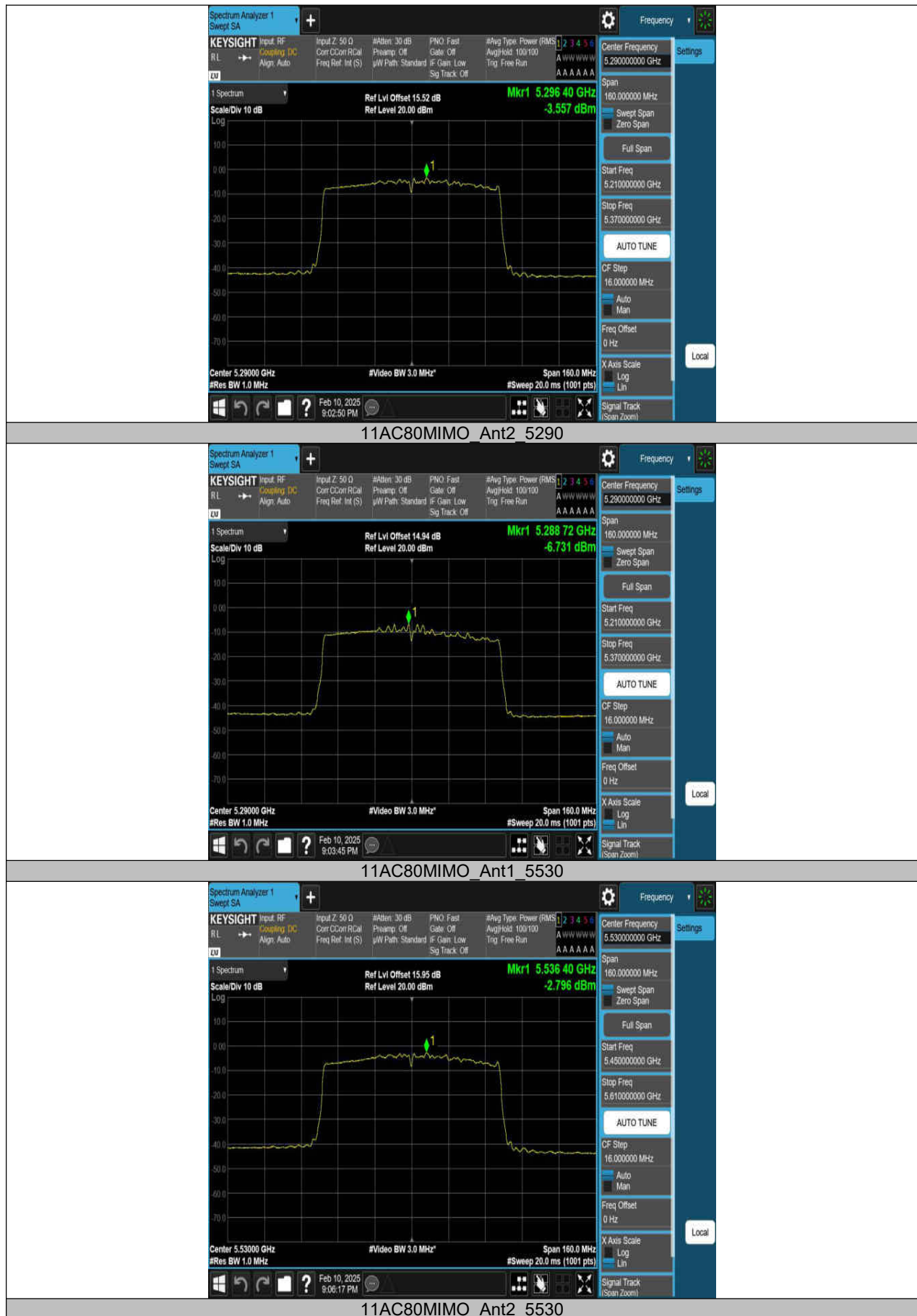


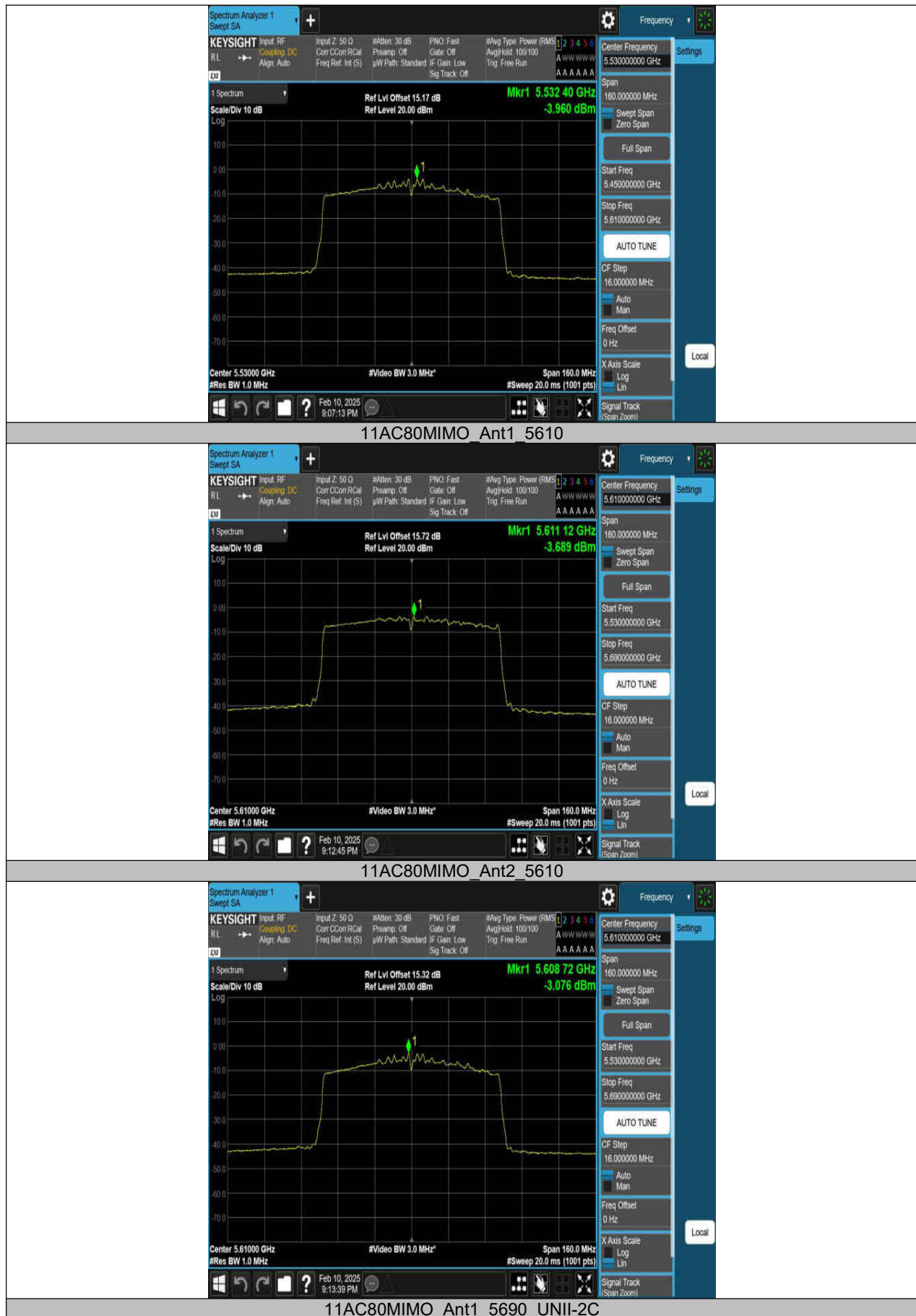


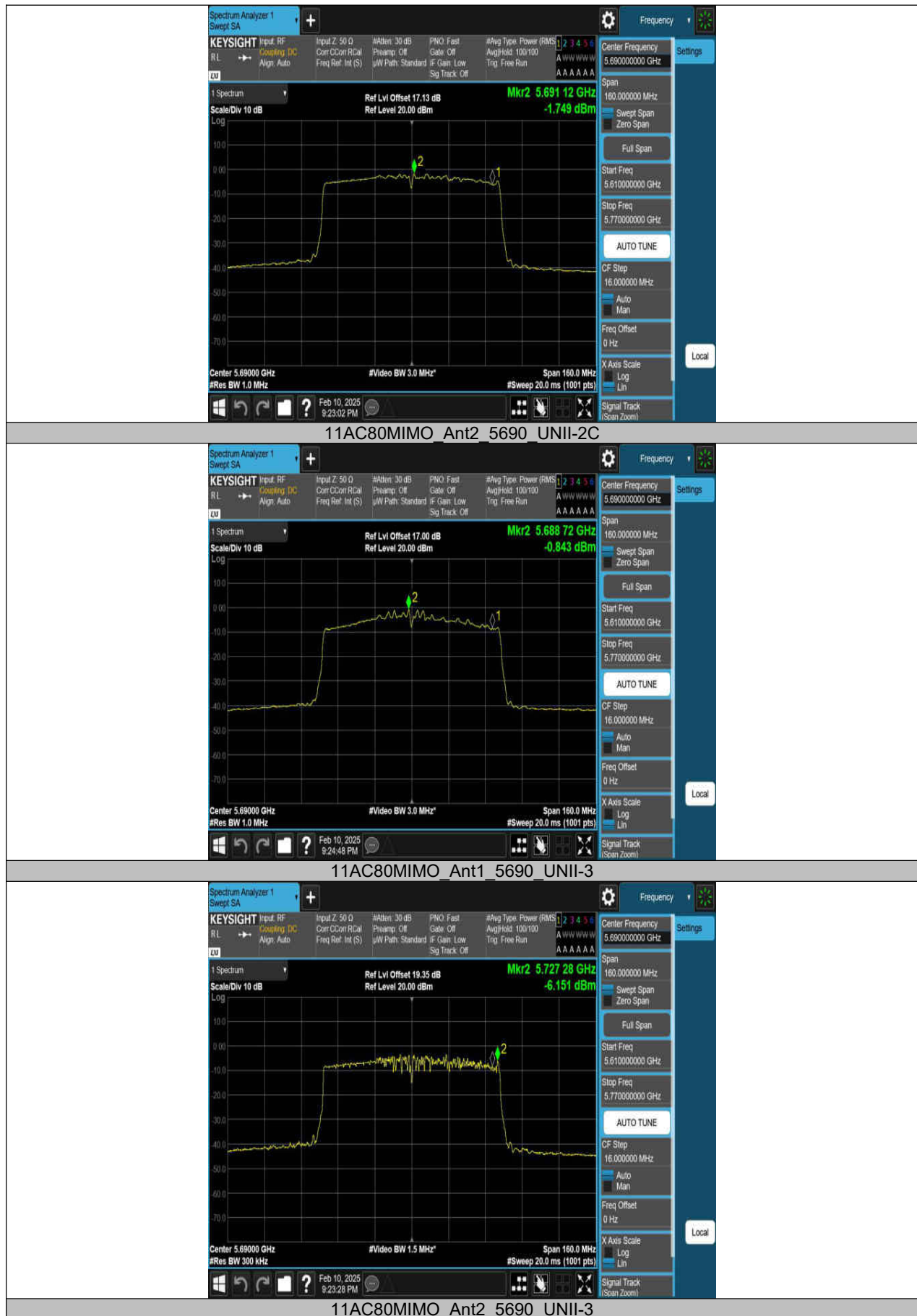














12. Frequency Stability Measurement

12.1. Block Diagram of Test Setup

Same as section 8.1

12.2. Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

12.3. Test Procedures

(1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

(2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.

(3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

12.4. Test Result

Voltage								
Test Mode	Ant.	Freq. (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-10000.00	-1.930502	20	PASS
			LV	NT	-10000.00	-1.930502	20	PASS
			HV	NT	-9000.00	-1.737452	20	PASS
		5200	NV	NT	2000.00	0.384615	20	PASS
			LV	NT	-2000.00	-0.384615	20	PASS
			HV	NT	-3000.00	-0.576923	20	PASS
		5240	NV	NT	-6000.00	-1.145038	20	PASS
			LV	NT	-6000.00	-1.145038	20	PASS
			HV	NT	-9000.00	-1.717557	20	PASS
		5260	NV	NT	-7000.00	-1.330798	20	PASS
			LV	NT	-8000.00	-1.520913	20	PASS
			HV	NT	-9000.00	-1.711027	20	PASS
		5280	NV	NT	-8000.00	-1.515152	20	PASS
			LV	NT	-8000.00	-1.515152	20	PASS
			HV	NT	-9000.00	-1.704545	20	PASS
		5320	NV	NT	-10000.00	-1.879699	20	PASS
			LV	NT	-11000.00	-2.067669	20	PASS
			HV	NT	-11000.00	-2.067669	20	PASS
		5500	NV	NT	-7000.00	-1.272727	20	PASS
			LV	NT	-9000.00	-1.636364	20	PASS
			HV	NT	-8000.00	-1.454545	20	PASS
		5580	NV	NT	-5000.00	-0.896057	20	PASS
			LV	NT	-7000.00	-1.254480	20	PASS
			HV	NT	-6000.00	-1.075269	20	PASS
		5700	NV	NT	-5000.00	-0.877193	20	PASS
			LV	NT	-7000.00	-1.228070	20	PASS
			HV	NT	-7000.00	-1.228070	20	PASS
		5720	NV	NT	-6000.00	-1.048951	20	PASS
			LV	NT	-7000.00	-1.223776	20	PASS
			HV	NT	-9000.00	-1.573427	20	PASS
		5745	NV	NT	-6000.00	-1.044386	20	PASS
			LV	NT	-7000.00	-1.218451	20	PASS

			HV	NT	-7000.00	-1.218451	20	PASS
		5785	NV	NT	-7000.00	-1.210026	20	PASS
			LV	NT	-7000.00	-1.210026	20	PASS
			HV	NT	-8000.00	-1.382887	20	PASS
		5825	NV	NT	-4000.00	-0.686695	20	PASS
			LV	NT	-5000.00	-0.858369	20	PASS
			HV	NT	-4000.00	-0.686695	20	PASS
11N20MI MO	Ant1	5180	NV	NT	-10000.00	-1.930502	20	PASS
			LV	NT	-10000.00	-1.930502	20	PASS
			HV	NT	-9000.00	-1.737452	20	PASS
		5200	NV	NT	-9000.00	-1.730769	20	PASS
			LV	NT	-12000.00	-2.307692	20	PASS
			HV	NT	-12000.00	-2.307692	20	PASS
		5240	NV	NT	-9000.00	-1.717557	20	PASS
			LV	NT	-12000.00	-2.290076	20	PASS
			HV	NT	-13000.00	-2.480916	20	PASS
		5260	NV	NT	-12000.00	-2.281369	20	PASS
			LV	NT	-13000.00	-2.471483	20	PASS
			HV	NT	-11000.00	-2.091255	20	PASS
		5280	NV	NT	-8000.00	-1.515152	20	PASS
			LV	NT	-8000.00	-1.515152	20	PASS
			HV	NT	-8000.00	-1.515152	20	PASS
		5320	NV	NT	-10000.00	-1.879699	20	PASS
			LV	NT	-10000.00	-1.879699	20	PASS
			HV	NT	-9000.00	-1.691729	20	PASS
		5500	NV	NT	-10000.00	-1.818182	20	PASS
			LV	NT	-9000.00	-1.636364	20	PASS
			HV	NT	-10000.00	-1.818182	20	PASS
		5580	NV	NT	-13000.00	-2.329749	20	PASS
			LV	NT	-10000.00	-1.792115	20	PASS
			HV	NT	-11000.00	-1.971326	20	PASS
		5700	NV	NT	-11000.00	-1.929825	20	PASS
			LV	NT	-9000.00	-1.578947	20	PASS
			HV	NT	-12000.00	-2.105263	20	PASS
		5720	NV	NT	-5000.00	-0.874126	20	PASS
			LV	NT	-8000.00	-1.398601	20	PASS
			HV	NT	-7000.00	-1.223776	20	PASS
		5745	NV	NT	-6000.00	-1.044386	20	PASS
			LV	NT	-6000.00	-1.044386	20	PASS
			HV	NT	-7000.00	-1.218451	20	PASS
		5785	NV	NT	-9000.00	-1.555748	20	PASS
			LV	NT	-10000.00	-1.728608	20	PASS
			HV	NT	-10000.00	-1.728608	20	PASS
		5825	NV	NT	-6000.00	-1.030043	20	PASS
			LV	NT	-7000.00	-1.201717	20	PASS
			HV	NT	-7000.00	-1.201717	20	PASS
		11N40MI MO	Ant1	5190	NV	NT	-1000.00	-0.192678
LV	NT				-4000.00	-0.770713	20	PASS
HV	NT				-7000.00	-1.348748	20	PASS
5230	NV			NT	-11000.00	-2.103250	20	PASS
	LV			NT	-11000.00	-2.103250	20	PASS
	HV			NT	-11000.00	-2.103250	20	PASS
5270	NV			NT	-11000.00	-2.087287	20	PASS
	LV			NT	-9000.00	-1.707780	20	PASS
	HV			NT	-10000.00	-1.897533	20	PASS
5310	NV			NT	-12000.00	-2.259887	20	PASS
	LV			NT	-11000.00	-2.071563	20	PASS
	HV			NT	-10000.00	-1.883239	20	PASS
5510	NV			NT	-11000.00	-1.996370	20	PASS
	LV			NT	-12000.00	-2.177858	20	PASS

11AC80 MIMO	Ant1	5550	HV	NT	-11000.00	-1.996370	20	PASS
			NV	NT	-11000.00	-1.981982	20	PASS
			LV	NT	-9000.00	-1.621622	20	PASS
		5670	HV	NT	-10000.00	-1.801802	20	PASS
			NV	NT	-11000.00	-1.940035	20	PASS
			LV	NT	-9000.00	-1.587302	20	PASS
		5710	HV	NT	-8000.00	-1.410935	20	PASS
			NV	NT	-8000.00	-1.401051	20	PASS
			LV	NT	-9000.00	-1.576182	20	PASS
		5755	HV	NT	-6000.00	-1.050788	20	PASS
			NV	NT	-10000.00	-1.737619	20	PASS
			LV	NT	-9000.00	-1.563858	20	PASS
		5795	HV	NT	-8000.00	-1.390096	20	PASS
			NV	NT	-10000.00	-1.725626	20	PASS
			LV	NT	-9000.00	-1.553063	20	PASS
11AC80 MIMO	Ant1	5210	HV	NT	-8000.00	-1.380500	20	PASS
			NV	NT	-7000.00	-1.343570	20	PASS
			LV	NT	-9000.00	-1.727447	20	PASS
		5290	HV	NT	-10000.00	-1.919386	20	PASS
			NV	NT	-11000.00	-2.079395	20	PASS
			LV	NT	-12000.00	-2.268431	20	PASS
		5530	HV	NT	-11000.00	-2.079395	20	PASS
			NV	NT	-10000.00	-1.808318	20	PASS
			LV	NT	-11000.00	-1.989150	20	PASS
		5610	HV	NT	-12000.00	-2.169982	20	PASS
			NV	NT	-11000.00	-1.960784	20	PASS
			LV	NT	-12000.00	-2.139037	20	PASS
		5690	HV	NT	-13000.00	-2.317291	20	PASS
			NV	NT	-8000.00	-1.405975	20	PASS
			LV	NT	-9000.00	-1.581722	20	PASS
		5775	HV	NT	-8000.00	-1.405975	20	PASS
			NV	NT	3000.00	0.519481	20	PASS
			LV	NT	4000.00	0.692641	20	PASS
			HV	NT	4000.00	0.692641	20	PASS

Temperature								
Test Mode	Antenna	Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	-11000.00	-2.123552	20	PASS
			NV	-20	-11000.00	-2.123552	20	PASS
			NV	-10	-10000.00	-1.930502	20	PASS
			NV	0	-10000.00	-1.930502	20	PASS
			NV	10	-10000.00	-1.930502	20	PASS
			NV	20	-11000.00	-2.123552	20	PASS
			NV	30	-10000.00	-1.930502	20	PASS
			NV	40	-11000.00	-2.123552	20	PASS
		5200	NV	50	-11000.00	-2.123552	20	PASS
			NV	-30	-5000.00	-0.961538	20	PASS
			NV	-20	-5000.00	-0.961538	20	PASS
			NV	-10	-6000.00	-1.153846	20	PASS
			NV	0	-6000.00	-1.153846	20	PASS
			NV	10	-7000.00	-1.346154	20	PASS
			NV	20	-7000.00	-1.346154	20	PASS
			NV	30	-8000.00	-1.538462	20	PASS
			NV	40	-7000.00	-1.346154	20	PASS
			NV	50	-7000.00	-1.346154	20	PASS
		5240	NV	-30	-8000.00	-1.526718	20	PASS
			NV	-20	-9000.00	-1.717557	20	PASS
			NV	-10	-9000.00	-1.717557	20	PASS

			NV	0	-9000.00	-1.717557	20	PASS
			NV	10	-9000.00	-1.717557	20	PASS
			NV	20	-9000.00	-1.717557	20	PASS
			NV	30	-9000.00	-1.717557	20	PASS
			NV	40	-9000.00	-1.717557	20	PASS
			NV	50	-10000.00	-1.908397	20	PASS
5260	NV	-30	-9000.00	-1.711027	20	PASS		
	NV	-20	-10000.00	-1.901141	20	PASS		
	NV	-10	-9000.00	-1.711027	20	PASS		
	NV	0	-9000.00	-1.711027	20	PASS		
	NV	10	-10000.00	-1.901141	20	PASS		
	NV	20	-10000.00	-1.901141	20	PASS		
	NV	30	-10000.00	-1.901141	20	PASS		
	NV	40	-10000.00	-1.901141	20	PASS		
5280	NV	50	-10000.00	-1.901141	20	PASS		
	NV	-30	-11000.00	-2.083333	20	PASS		
	NV	-20	-9000.00	-1.704545	20	PASS		
	NV	-10	-10000.00	-1.893939	20	PASS		
	NV	0	-10000.00	-1.893939	20	PASS		
	NV	10	-10000.00	-1.893939	20	PASS		
	NV	20	-9000.00	-1.704545	20	PASS		
	NV	30	-10000.00	-1.893939	20	PASS		
5320	NV	40	-10000.00	-1.893939	20	PASS		
	NV	50	-10000.00	-1.893939	20	PASS		
	NV	-30	-10000.00	-1.879699	20	PASS		
	NV	-20	-9000.00	-1.691729	20	PASS		
	NV	-10	-11000.00	-2.067669	20	PASS		
	NV	0	-10000.00	-1.879699	20	PASS		
	NV	10	-11000.00	-2.067669	20	PASS		
	NV	20	-10000.00	-1.879699	20	PASS		
5500	NV	30	-10000.00	-1.879699	20	PASS		
	NV	40	-10000.00	-1.879699	20	PASS		
	NV	50	-9000.00	-1.691729	20	PASS		
	NV	-30	-8000.00	-1.454545	20	PASS		
	NV	-20	-8000.00	-1.454545	20	PASS		
	NV	-10	-10000.00	-1.818182	20	PASS		
	NV	0	-9000.00	-1.636364	20	PASS		
	NV	10	-9000.00	-1.636364	20	PASS		
5580	NV	20	-10000.00	-1.818182	20	PASS		
	NV	30	-11000.00	-2.000000	20	PASS		
	NV	40	-10000.00	-1.818182	20	PASS		
	NV	50	-10000.00	-1.818182	20	PASS		
	NV	-30	-8000.00	-1.433692	20	PASS		
	NV	-20	-9000.00	-1.612903	20	PASS		
	NV	-10	-8000.00	-1.433692	20	PASS		
	NV	0	-9000.00	-1.612903	20	PASS		
5700	NV	10	-8000.00	-1.433692	20	PASS		
	NV	20	-9000.00	-1.612903	20	PASS		
	NV	30	-9000.00	-1.612903	20	PASS		
	NV	40	-10000.00	-1.792115	20	PASS		
	NV	50	-10000.00	-1.792115	20	PASS		
	NV	-30	-7000.00	-1.228070	20	PASS		
	NV	-20	-7000.00	-1.228070	20	PASS		
	NV	-10	-9000.00	-1.578947	20	PASS		
	NV	0	-9000.00	-1.578947	20	PASS		
	NV	10	-10000.00	-1.754386	20	PASS		
NV	20	-9000.00	-1.578947	20	PASS			
NV	30	-8000.00	-1.403509	20	PASS			
NV	40	-9000.00	-1.578947	20	PASS			
NV	50	-9000.00	-1.578947	20	PASS			

		5720	NV	-30	-9000.00	-1.573427	20	PASS
			NV	-20	-8000.00	-1.398601	20	PASS
			NV	-10	-9000.00	-1.573427	20	PASS
			NV	0	-8000.00	-1.398601	20	PASS
			NV	10	-9000.00	-1.573427	20	PASS
			NV	20	-11000.00	-1.923077	20	PASS
			NV	30	-10000.00	-1.748252	20	PASS
			NV	40	-9000.00	-1.573427	20	PASS
			NV	50	-10000.00	-1.748252	20	PASS
		5745	NV	-30	-8000.00	-1.392515	20	PASS
			NV	-20	-9000.00	-1.566580	20	PASS
			NV	-10	-8000.00	-1.392515	20	PASS
			NV	0	-9000.00	-1.566580	20	PASS
			NV	10	-9000.00	-1.566580	20	PASS
			NV	20	-10000.00	-1.740644	20	PASS
			NV	30	-10000.00	-1.740644	20	PASS
			NV	40	-10000.00	-1.740644	20	PASS
			NV	50	-10000.00	-1.740644	20	PASS
		5785	NV	-30	-8000.00	-1.382887	20	PASS
			NV	-20	-10000.00	-1.728608	20	PASS
			NV	-10	-9000.00	-1.555748	20	PASS
			NV	0	-9000.00	-1.555748	20	PASS
			NV	10	-9000.00	-1.555748	20	PASS
			NV	20	-10000.00	-1.728608	20	PASS
			NV	30	-10000.00	-1.728608	20	PASS
			NV	40	-10000.00	-1.728608	20	PASS
			NV	50	-9000.00	-1.555748	20	PASS
		5825	NV	-30	-6000.00	-1.030043	20	PASS
			NV	-20	-6000.00	-1.030043	20	PASS
			NV	-10	-5000.00	-0.858369	20	PASS
			NV	0	-6000.00	-1.030043	20	PASS
			NV	10	-7000.00	-1.201717	20	PASS
			NV	20	-6000.00	-1.030043	20	PASS
			NV	30	-7000.00	-1.201717	20	PASS
			NV	40	-7000.00	-1.201717	20	PASS
			NV	50	-7000.00	-1.201717	20	PASS
11N20MIMO	Ant1	5180	NV	-30	-9000.00	-1.737452	20	PASS
			NV	-20	-8000.00	-1.544402	20	PASS
			NV	-10	-8000.00	-1.544402	20	PASS
			NV	0	-7000.00	-1.351351	20	PASS
			NV	10	-6000.00	-1.158301	20	PASS
			NV	20	-6000.00	-1.158301	20	PASS
			NV	30	-5000.00	-0.965251	20	PASS
			NV	40	-5000.00	-0.965251	20	PASS
			NV	50	-4000.00	-0.772201	20	PASS
		5200	NV	-30	-12000.00	-2.307692	20	PASS
			NV	-20	-11000.00	-2.115385	20	PASS
			NV	-10	-12000.00	-2.307692	20	PASS
			NV	0	-12000.00	-2.307692	20	PASS
			NV	10	-11000.00	-2.115385	20	PASS
			NV	20	-12000.00	-2.307692	20	PASS
			NV	30	-14000.00	-2.692308	20	PASS
			NV	40	-12000.00	-2.307692	20	PASS
			NV	50	-12000.00	-2.307692	20	PASS
		5240	NV	-30	-13000.00	-2.480916	20	PASS
			NV	-20	-12000.00	-2.290076	20	PASS
			NV	-10	-11000.00	-2.099237	20	PASS
			NV	0	-11000.00	-2.099237	20	PASS
			NV	10	-10000.00	-1.908397	20	PASS
			NV	20	-11000.00	-2.099237	20	PASS

			NV	30	-10000.00	-1.908397	20	PASS
			NV	40	-10000.00	-1.908397	20	PASS
			NV	50	-10000.00	-1.908397	20	PASS
		5260	NV	-30	-13000.00	-2.471483	20	PASS
			NV	-20	-11000.00	-2.091255	20	PASS
			NV	-10	-11000.00	-2.091255	20	PASS
			NV	0	-10000.00	-1.901141	20	PASS
			NV	10	-11000.00	-2.091255	20	PASS
			NV	20	-10000.00	-1.901141	20	PASS
			NV	30	-10000.00	-1.901141	20	PASS
			NV	40	-9000.00	-1.711027	20	PASS
			NV	50	-9000.00	-1.711027	20	PASS
		5280	NV	-30	-8000.00	-1.515152	20	PASS
			NV	-20	-8000.00	-1.515152	20	PASS
			NV	-10	-8000.00	-1.515152	20	PASS
			NV	0	-7000.00	-1.325758	20	PASS
			NV	10	-7000.00	-1.325758	20	PASS
			NV	20	-6000.00	-1.136364	20	PASS
			NV	30	-6000.00	-1.136364	20	PASS
			NV	40	-6000.00	-1.136364	20	PASS
		5320	NV	50	-6000.00	-1.136364	20	PASS
			NV	-30	-8000.00	-1.503759	20	PASS
			NV	-20	-10000.00	-1.879699	20	PASS
			NV	-10	-8000.00	-1.503759	20	PASS
			NV	0	-6000.00	-1.127820	20	PASS
			NV	10	-7000.00	-1.315789	20	PASS
			NV	20	-6000.00	-1.127820	20	PASS
			NV	30	-6000.00	-1.127820	20	PASS
		5500	NV	40	-5000.00	-0.939850	20	PASS
			NV	50	-6000.00	-1.127820	20	PASS
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			NV	10	-9000.00	-1.636364	20	PASS
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		5580	NV	30	-7000.00	-1.272727	20	PASS
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			NV	50	-7000.00	-1.272727	20	PASS
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			NV	0	-9000.00	-1.612903	20	PASS
			NV	10	-8000.00	-1.433692	20	PASS
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			NV	30	-8000.00	-1.433692	20	PASS
			NV	40	-7000.00	-1.254480	20	PASS
			NV	50	-6000.00	-1.075269	20	PASS
			NV	-30	-10000.00	-1.754386	20	PASS
			NV	-20	-11000.00	-1.929825	20	PASS
			NV	-10	-9000.00	-1.578947	20	PASS
			NV	0	-11000.00	-1.929825	20	PASS
		5720	NV	10	-11000.00	-1.929825	20	PASS
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			NV	30	-12000.00	-2.105263	20	PASS
			NV	40	-10000.00	-1.754386	20	PASS
			NV	50	-9000.00	-1.578947	20	PASS
			NV	-30	-9000.00	-1.573427	20	PASS
			NV	-20	-8000.00	-1.398601	20	PASS
			NV	-10	-8000.00	-1.398601	20	PASS

			NV	0	-8000.00	-1.398601	20	PASS
			NV	10	-9000.00	-1.573427	20	PASS
			NV	20	-9000.00	-1.573427	20	PASS
			NV	30	-8000.00	-1.398601	20	PASS
			NV	40	-9000.00	-1.573427	20	PASS
			NV	50	-8000.00	-1.398601	20	PASS
		5745	NV	-30	-8000.00	-1.392515	20	PASS
			NV	-20	-8000.00	-1.392515	20	PASS
			NV	-10	-8000.00	-1.392515	20	PASS
			NV	0	-9000.00	-1.566580	20	PASS
			NV	10	-9000.00	-1.566580	20	PASS
			NV	20	-9000.00	-1.566580	20	PASS
			NV	30	-9000.00	-1.566580	20	PASS
			NV	40	-9000.00	-1.566580	20	PASS
			NV	50	-9000.00	-1.566580	20	PASS
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			NV	0	-10000.00	-1.728608	20	PASS
			NV	10	-10000.00	-1.728608	20	PASS
			NV	20	-10000.00	-1.728608	20	PASS
			NV	30	-10000.00	-1.728608	20	PASS
			NV	40	-10000.00	-1.728608	20	PASS
			NV	50	-10000.00	-1.728608	20	PASS
		5825	NV	-30	-8000.00	-1.373391	20	PASS
			NV	-20	-8000.00	-1.373391	20	PASS
			NV	-10	-8000.00	-1.373391	20	PASS
			NV	0	-8000.00	-1.373391	20	PASS
			NV	10	-9000.00	-1.545064	20	PASS
			NV	20	-9000.00	-1.545064	20	PASS
			NV	30	-9000.00	-1.545064	20	PASS
			NV	40	-9000.00	-1.545064	20	PASS
			NV	50	-9000.00	-1.545064	20	PASS
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			NV	-20	-10000.00	-1.926782	20	PASS
			NV	-10	-11000.00	-2.119461	20	PASS
			NV	0	-11000.00	-2.119461	20	PASS
			NV	10	-12000.00	-2.312139	20	PASS
			NV	20	-12000.00	-2.312139	20	PASS
			NV	30	-12000.00	-2.312139	20	PASS
			NV	40	-12000.00	-2.312139	20	PASS
			NV	50	-12000.00	-2.312139	20	PASS
		5230	NV	-30	-10000.00	-1.912046	20	PASS
			NV	-20	-10000.00	-1.912046	20	PASS
			NV	-10	-9000.00	-1.720841	20	PASS
			NV	0	-9000.00	-1.720841	20	PASS
			NV	10	-8000.00	-1.529637	20	PASS
			NV	20	-8000.00	-1.529637	20	PASS
			NV	30	-8000.00	-1.529637	20	PASS
			NV	40	-7000.00	-1.338432	20	PASS
			NV	50	-6000.00	-1.147228	20	PASS
		5270	NV	-30	-10000.00	-1.897533	20	PASS
			NV	-20	-9000.00	-1.707780	20	PASS
			NV	-10	-8000.00	-1.518027	20	PASS
			NV	0	-7000.00	-1.328273	20	PASS
			NV	10	-8000.00	-1.518027	20	PASS
			NV	20	-7000.00	-1.328273	20	PASS
			NV	30	-6000.00	-1.138520	20	PASS
			NV	40	-5000.00	-0.948767	20	PASS
			NV	50	-5000.00	-0.948767	20	PASS

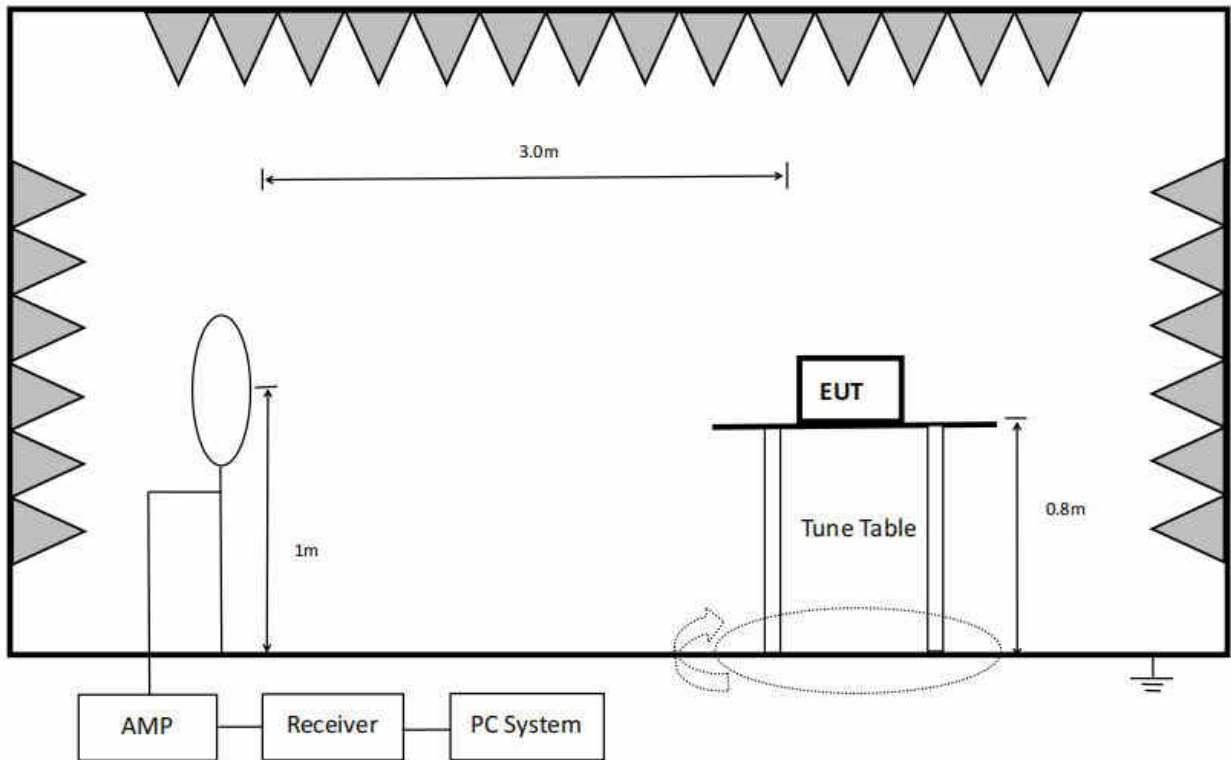
		5310	NV	-30	-9000.00	-1.694915	20	PASS
			NV	-20	-10000.00	-1.883239	20	PASS
			NV	-10	-9000.00	-1.694915	20	PASS
			NV	0	-8000.00	-1.506591	20	PASS
			NV	10	-8000.00	-1.506591	20	PASS
			NV	20	-8000.00	-1.506591	20	PASS
			NV	30	-6000.00	-1.129944	20	PASS
			NV	40	-7000.00	-1.318267	20	PASS
		5510	NV	50	-6000.00	-1.129944	20	PASS
			NV	-30	-11000.00	-1.996370	20	PASS
			NV	-20	-11000.00	-1.996370	20	PASS
			NV	-10	-9000.00	-1.633394	20	PASS
			NV	0	-10000.00	-1.814882	20	PASS
			NV	10	-9000.00	-1.633394	20	PASS
			NV	20	-10000.00	-1.814882	20	PASS
			NV	30	-8000.00	-1.451906	20	PASS
		5550	NV	40	-8000.00	-1.451906	20	PASS
			NV	50	-8000.00	-1.451906	20	PASS
			NV	-30	-9000.00	-1.621622	20	PASS
			NV	-20	-9000.00	-1.621622	20	PASS
			NV	-10	-7000.00	-1.261261	20	PASS
			NV	0	-7000.00	-1.261261	20	PASS
			NV	10	-7000.00	-1.261261	20	PASS
			NV	20	-8000.00	-1.441441	20	PASS
		5670	NV	30	-7000.00	-1.261261	20	PASS
			NV	40	-4000.00	-0.720721	20	PASS
			NV	50	-5000.00	-0.900901	20	PASS
			NV	-30	-9000.00	-1.587302	20	PASS
			NV	-20	-7000.00	-1.234568	20	PASS
			NV	-10	-6000.00	-1.058201	20	PASS
			NV	0	-6000.00	-1.058201	20	PASS
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		5710	NV	20	-5000.00	-0.881834	20	PASS
			NV	30	-5000.00	-0.881834	20	PASS
			NV	40	-4000.00	-0.705467	20	PASS
			NV	50	-3000.00	-0.529101	20	PASS
			NV	-30	-7000.00	-1.225919	20	PASS
			NV	-20	-6000.00	-1.050788	20	PASS
			NV	-10	-6000.00	-1.050788	20	PASS
			NV	0	-5000.00	-0.875657	20	PASS
		5755	NV	10	-4000.00	-0.700525	20	PASS
			NV	20	-4000.00	-0.700525	20	PASS
			NV	30	-4000.00	-0.700525	20	PASS
			NV	40	-4000.00	-0.700525	20	PASS
			NV	50	-4000.00	-0.700525	20	PASS
			NV	-30	-8000.00	-1.390096	20	PASS
			NV	-20	-6000.00	-1.042572	20	PASS
			NV	-10	-6000.00	-1.042572	20	PASS
		5795	NV	0	-5000.00	-0.868810	20	PASS
			NV	10	-4000.00	-0.695048	20	PASS
			NV	20	-3000.00	-0.521286	20	PASS
			NV	30	-3000.00	-0.521286	20	PASS
			NV	40	-2000.00	-0.347524	20	PASS
			NV	50	-1000.00	-0.173762	20	PASS
			NV	-30	-8000.00	-1.380500	20	PASS
			NV	-20	-8000.00	-1.380500	20	PASS
		5795	NV	-10	-6000.00	-1.035375	20	PASS
			NV	0	-5000.00	-0.862813	20	PASS
			NV	10	-4000.00	-0.690250	20	PASS
			NV	20	-4000.00	-0.690250	20	PASS

			NV	30	-3000.00	-0.517688	20	PASS
			NV	40	-2000.00	-0.345125	20	PASS
			NV	50	-2000.00	-0.345125	20	PASS
			NV	-30	-11000.00	-2.111324	20	PASS
11AC80MIM O	Ant1	5210	NV	-20	-11000.00	-2.111324	20	PASS
			NV	-10	-12000.00	-2.303263	20	PASS
			NV	0	-11000.00	-2.111324	20	PASS
			NV	10	-11000.00	-2.111324	20	PASS
			NV	20	-11000.00	-2.111324	20	PASS
			NV	30	-11000.00	-2.111324	20	PASS
			NV	40	-10000.00	-1.919386	20	PASS
			NV	50	-10000.00	-1.919386	20	PASS
		5290	NV	-30	-9000.00	-1.701323	20	PASS
			NV	-20	-11000.00	-2.079395	20	PASS
			NV	-10	-10000.00	-1.890359	20	PASS
			NV	0	-10000.00	-1.890359	20	PASS
			NV	10	-9000.00	-1.701323	20	PASS
			NV	20	-10000.00	-1.890359	20	PASS
			NV	30	-8000.00	-1.512287	20	PASS
			NV	40	-9000.00	-1.701323	20	PASS
			NV	50	-9000.00	-1.701323	20	PASS
		5530	NV	-30	-11000.00	-1.989150	20	PASS
			NV	-20	-11000.00	-1.989150	20	PASS
			NV	-10	-11000.00	-1.989150	20	PASS
			NV	0	-10000.00	-1.808318	20	PASS
			NV	10	-11000.00	-1.989150	20	PASS
			NV	20	-10000.00	-1.808318	20	PASS
			NV	30	-10000.00	-1.808318	20	PASS
			NV	40	-10000.00	-1.808318	20	PASS
		5610	NV	50	-10000.00	-1.808318	20	PASS
			NV	-30	-12000.00	-2.139037	20	PASS
			NV	-20	-11000.00	-1.960784	20	PASS
			NV	-10	-11000.00	-1.960784	20	PASS
			NV	0	-10000.00	-1.782531	20	PASS
			NV	10	-9000.00	-1.604278	20	PASS
			NV	20	-10000.00	-1.782531	20	PASS
			NV	30	-10000.00	-1.782531	20	PASS
		5690	NV	40	-8000.00	-1.426025	20	PASS
			NV	50	-9000.00	-1.604278	20	PASS
			NV	-30	-8000.00	-1.405975	20	PASS
			NV	-20	-7000.00	-1.230228	20	PASS
			NV	-10	-6000.00	-1.054482	20	PASS
			NV	0	-5000.00	-0.878735	20	PASS
			NV	10	-5000.00	-0.878735	20	PASS
			NV	20	-5000.00	-0.878735	20	PASS
		5775	NV	30	-3000.00	-0.527241	20	PASS
			NV	40	-5000.00	-0.878735	20	PASS
			NV	50	-3000.00	-0.527241	20	PASS
			NV	-30	4000.00	0.692641	20	PASS
			NV	-20	4000.00	0.692641	20	PASS
			NV	-10	4000.00	0.692641	20	PASS
			NV	0	5000.00	0.865801	20	PASS
			NV	10	5000.00	0.865801	20	PASS
			NV	20	5000.00	0.865801	20	PASS
			NV	30	5000.00	0.865801	20	PASS
			NV	40	6000.00	1.038961	20	PASS
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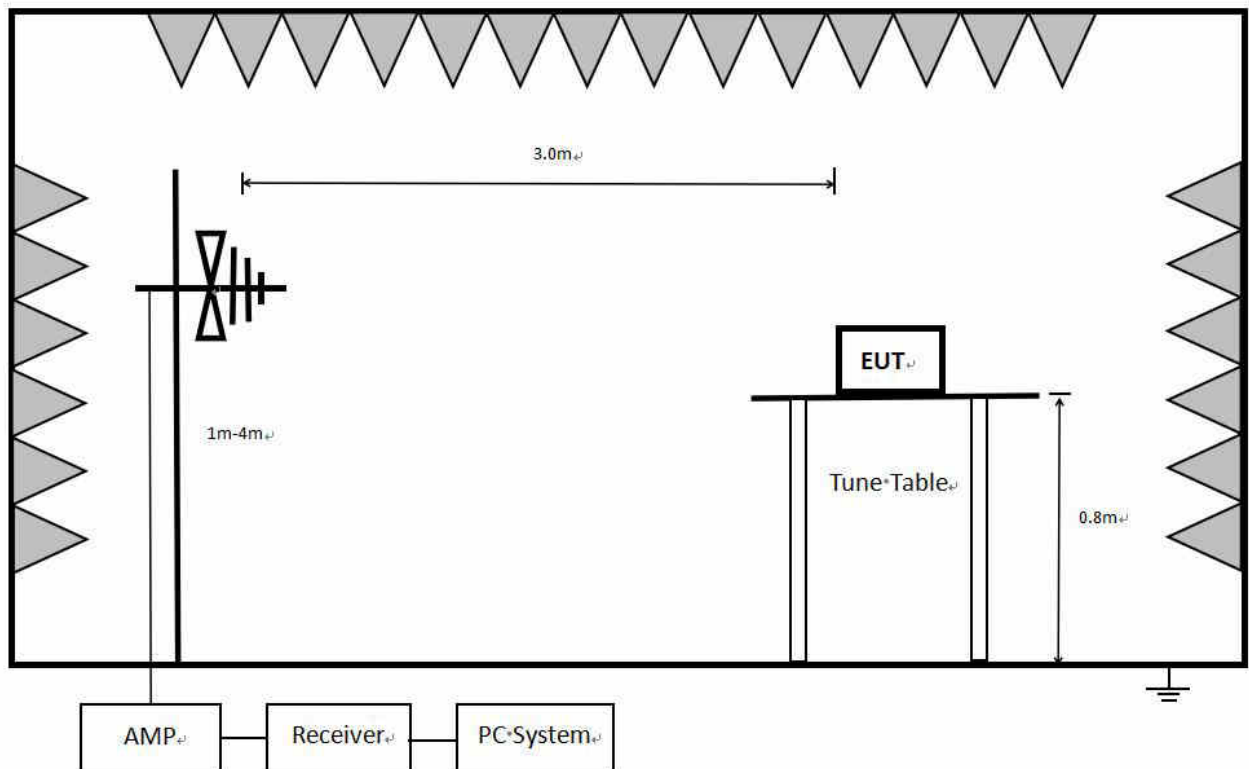
13. Radiated Emission

13.1. Block Diagram of Test Setup

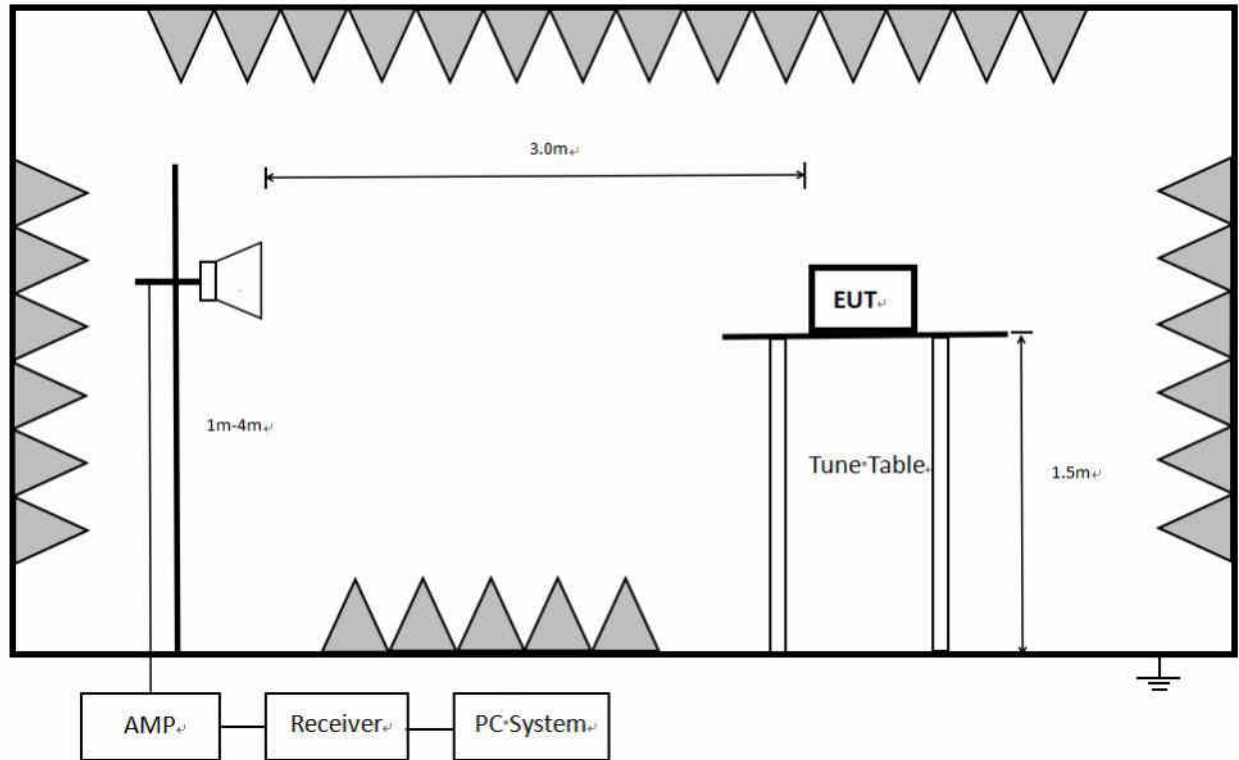
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

13.2. Limit

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

(2) FCC 15.209 Limit.

Frequency MHz	Distance Meters	Field strengths limit	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm / MHz.

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(6) The provisions of §15.205 apply to intentional radiators operating under this section.

-27 dBm/MHz Limit=95.2+EIRP (dBm)=95.2-27=68.2 dB $\mu\text{V}/\text{m}$

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30\text{m}}(\text{dB}\mu\text{V}/\text{m}) + 40\text{Log}(30\text{m}/3\text{m})$$

(3) Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions or comply with 15.209 limits.

13.3. Test Procedure

Below 30 MHz:

The setting of the spectrum Analyzer

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of 1 meter height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KdB 414788.

Below 1 GHz and above 30 MHz:

The setting of the spectrum Analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz:

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video

bandwidth with peak detector for AVG measurements. For the Duty Cycle please refer to clause 8.1.ON TIME AND DUTY CYCLE.

7. Restriction band: Investigated frequency range from 5.15-5.25 GHz, 5250-5350 GHz, 5470-5725 GHz, 5.725-5.85 GHz.

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT does not support simultaneous transmission.

Note 3: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

13.4. Test Result

PASS. (See below detailed test result)

All the emissions except fundamental emission from 9kHz to 40GHz were comply with 15.209 limit.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11A mode.

Note3: For below test data, when the limit tabular marked “/” means this frequency point is the fundamental emission and no need comply with this limit.

Note 4: As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit

Note 5: For emissions Above 1 GHz, all mode have been tested, 11A mode of ANT1 is worse case and recorded in report.

13.5. Original Test Data

Below 1 GHz and above 30 MHz test data Refer to appendix A

Above 1 GHz test data Refer to appendix B









