



11N20MIMO_Ant1_5745



11N20MIMO_Ant2_5745



11N20MIMO Ant1 5785

















9. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth

9.1. Block Diagram of Test Setup

Same as section 8.1

9.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150 - 5250
	26 dB Bandwidth	5250 - 5350
	26 dB Bandwidth	For FCC: 5470 - 5725 For IC: 5470 - 5600 5650 - 5725
	Minimum 500 kHz 6 dB Bandwidth	5725 - 5850
	For reporting purposes only.	For IC: 5150 ~ 5825

9.3. Test Procedure

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

Center Frequency	The centre 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. For 99 % Occupied Bandwidth: approximately 1 % ~ 5 % of the OBW.
VBW	For 6 dB Bandwidth: VBW=300 kHz For 26 dB Bandwidth: >3*RBW For 99 % Bandwidth: >3*RBW
Trace	Max hold
Sweep	Auto couple

(2) 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 26 dB and 6 dB relative to the maximum level measured in the fundamental emission.

(3) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

9.4. Test Result

Test Mode	Ant.	Freq. (MHz)	OCB (MHz)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
11A	Ant1	5180	16.889	5171.4883	5188.3773	---	---
	Ant2	5180	16.721	5171.6161	5188.3371	---	---
	Ant1	5200	16.928	5191.5180	5208.4460	---	---
	Ant2	5200	16.829	5191.5435	5208.3725	---	---
	Ant1	5240	16.778	5231.5565	5248.3345	---	---
	Ant2	5240	16.736	5231.6450	5248.3810	---	---
	Ant1	5260	16.687	5251.6646	5268.3516	---	---
	Ant2	5260	16.890	5251.5008	5268.3908	---	---
	Ant1	5280	16.684	5271.6042	5288.2882	---	---
	Ant2	5280	16.937	5271.4798	5288.4168	---	---
	Ant1	5320	16.831	5311.5665	5328.3975	---	---
	Ant2	5320	16.874	5311.5529	5328.4269	---	---
	Ant1	5500	16.823	5491.5396	5508.3626	---	---
	Ant2	5500	16.782	5491.5335	5508.3155	---	---
	Ant1	5580	16.761	5571.5461	5588.3071	---	---
	Ant2	5580	16.778	5571.6094	5588.3874	---	---
	Ant1	5700	16.807	5691.5123	5708.3193	---	---
	Ant2	5700	16.821	5691.5479	5708.3689	---	---
	Ant1	5720	16.784	5711.5647	5728.3487	---	---

	Ant2	5720	16.762	5711.5932	5728.3552	---	---
	Ant1	5720_UNII-2C	13.435	5711.5647	5725	---	---
	Ant2	5720_UNII-2C	13.407	5711.5932	5725	---	---
	Ant1	5720_UNII-3	3.349	5725	5728.3487	---	---
	Ant2	5720_UNII-3	3.355	5725	5728.3552	---	---
	Ant1	5745	16.735	5736.5583	5753.2933	---	---
	Ant2	5745	16.774	5736.5431	5753.3171	---	---
	Ant1	5785	16.799	5776.5311	5793.3301	---	---
	Ant2	5785	16.871	5776.5117	5793.3827	---	---
	Ant1	5825	16.848	5816.4921	5833.3401	---	---
11N20MIMO	Ant2	5825	16.870	5816.4487	5833.3187	---	---
	Ant1	5180	17.835	5171.0194	5188.8544	---	---
	Ant2	5180	17.895	5170.9661	5188.8611	---	---
	Ant1	5200	17.886	5191.0217	5208.9077	---	---
	Ant2	5200	17.901	5191.0218	5208.9228	---	---
	Ant1	5240	17.935	5230.9503	5248.8853	---	---
	Ant2	5240	17.801	5231.0769	5248.8779	---	---
	Ant1	5260	17.813	5251.0607	5268.8737	---	---
	Ant2	5260	17.757	5251.0795	5268.8365	---	---
	Ant1	5280	17.924	5271.0601	5288.9841	---	---
	Ant2	5280	17.765	5271.0521	5288.8171	---	---
	Ant1	5320	17.865	5311.0115	5328.8765	---	---
	Ant2	5320	17.899	5310.9994	5328.8984	---	---
	Ant1	5500	17.859	5491.0157	5508.8747	---	---
	Ant2	5500	17.793	5491.1078	5508.9008	---	---
	Ant1	5580	17.847	5571.0297	5588.8767	---	---
	Ant2	5580	17.932	5570.9598	5588.8918	---	---
	Ant1	5700	17.829	5691.0575	5708.8865	---	---
	Ant2	5700	17.860	5691.0626	5708.9226	---	---
	Ant1	5720	17.834	5710.9902	5728.8242	---	---
	Ant2	5720	17.755	5711.0530	5728.8080	---	---
	Ant1	5720_UNII-2C	14.01	5710.9902	5725	---	---
	Ant2	5720_UNII-2C	13.947	5711.0530	5725	---	---
	Ant1	5720_UNII-3	3.824	5725	5728.8242	---	---
	Ant2	5720_UNII-3	3.808	5725	5728.8080	---	---
	Ant1	5745	17.963	5735.9731	5753.9361	---	---
	Ant2	5745	17.975	5735.9099	5753.8849	---	---
	Ant1	5785	17.928	5775.9874	5793.9154	---	---
	Ant2	5785	17.807	5776.0363	5793.8433	---	---
	Ant1	5825	17.928	5815.9382	5833.8662	---	---
	Ant2	5825	17.975	5815.9459	5833.9209	---	---
11N40MIMO	Ant1	5190	36.891	5171.5035	5208.3945	---	---
	Ant2	5190	36.736	5171.6010	5208.3370	---	---
	Ant1	5230	36.628	5211.5887	5248.2167	---	---
	Ant2	5230	36.600	5211.6579	5248.2579	---	---
	Ant1	5270	36.549	5251.6667	5288.2157	---	---
	Ant2	5270	36.389	5251.7550	5288.1440	---	---
	Ant1	5310	36.565	5291.7216	5328.2866	---	---
	Ant2	5310	36.514	5291.7664	5328.2804	---	---
	Ant1	5510	36.368	5491.6673	5528.0353	---	---
	Ant2	5510	36.628	5491.6708	5528.2988	---	---
	Ant1	5550	36.629	5531.6134	5568.2424	---	---
	Ant2	5550	36.510	5531.6895	5568.1995	---	---
	Ant1	5670	36.549	5651.6843	5688.2333	---	---
	Ant2	5670	36.604	5651.6301	5688.2341	---	---
	Ant1	5710	36.481	5691.6209	5728.1019	---	---
	Ant2	5710	36.470	5691.6812	5728.1512	---	---
	Ant1	5710_UNII-2C	33.379	5691.6209	5725	---	---
	Ant2	5710_UNII-2C	33.319	5691.6812	5725	---	---
	Ant1	5710_UNII-3	3.102	5725	5728.1019	---	---
	Ant2	5710_UNII-3	3.151	5725	5728.1512	---	---
	Ant1	5755	36.695	5736.5622	5773.2572	---	---
	Ant2	5755	36.609	5736.7129	5773.3219	---	---
	Ant1	5795	36.378	5776.6589	5813.0369	---	---
	Ant2	5795	36.522	5776.6662	5813.1882	---	---

Test Mode	Ant.	Freq. (MHz)	26dB EBW (MHz)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
11A	Ant1	5180	20.960	5169.520	5190.480	---	---
	Ant2	5180	21.520	5169.120	5190.640	---	---
	Ant1	5200	24.440	5189.440	5213.880	---	---
	Ant2	5200	22.440	5189.400	5211.840	---	---
	Ant1	5240	21.200	5229.360	5250.560	---	---
	Ant2	5240	22.280	5229.240	5251.520	---	---
	Ant1	5260	22.000	5248.680	5270.680	---	---
	Ant2	5260	23.160	5247.840	5271.000	---	---
	Ant1	5280	22.240	5269.240	5291.480	---	---
	Ant2	5280	20.920	5269.400	5290.320	---	---
	Ant1	5320	22.200	5308.520	5330.720	---	---
	Ant2	5320	21.200	5309.840	5331.040	---	---
	Ant1	5500	21.160	5489.560	5510.720	---	---
	Ant2	5500	22.200	5488.720	5510.920	---	---
	Ant1	5580	22.480	5568.880	5591.360	---	---
	Ant2	5580	21.760	5569.160	5590.920	---	---
	Ant1	5700	21.320	5688.960	5710.280	---	---
	Ant2	5700	21.840	5689.200	5711.040	---	---
	Ant1	5720	21.040	5709.360	5730.400	---	---
	Ant2	5720	22.600	5708.080	5730.680	---	---
	Ant1	5720 UNII-2C	15.64	5709.360	5725	---	---
	Ant2	5720 UNII-2C	16.92	5708.080	5725	---	---
	Ant1	5720 UNII-3	5.4	5725	5730.400	---	---
	Ant2	5720 UNII-3	5.68	5725	5730.680	---	---
	Ant1	5745	21.640	5734.040	5755.680	---	---
	Ant2	5745	21.800	5734.040	5755.840	---	---
	Ant1	5785	22.000	5773.840	5795.840	---	---
	Ant2	5785	22.040	5773.480	5795.520	---	---
	Ant1	5825	20.960	5814.120	5835.080	---	---
	Ant2	5825	21.360	5813.960	5835.320	---	---
11N20MIMO	Ant1	5180	21.880	5169.480	5191.360	---	---
	Ant2	5180	21.880	5169.600	5191.480	---	---
	Ant1	5200	22.240	5189.000	5211.240	---	---
	Ant2	5200	22.280	5188.720	5211.000	---	---
	Ant1	5240	22.400	5228.840	5251.240	---	---
	Ant2	5240	22.960	5227.840	5250.800	---	---
	Ant1	5260	22.200	5249.240	5271.440	---	---
	Ant2	5260	21.840	5249.200	5271.040	---	---
	Ant1	5280	22.560	5268.560	5291.120	---	---
	Ant2	5280	22.520	5268.240	5290.760	---	---
	Ant1	5320	22.080	5309.080	5331.160	---	---
	Ant2	5320	21.560	5309.200	5330.760	---	---
	Ant1	5500	22.600	5488.440	5511.040	---	---
	Ant2	5500	22.160	5489.160	5511.320	---	---
	Ant1	5580	23.120	5568.760	5591.880	---	---
	Ant2	5580	22.320	5568.480	5590.800	---	---
	Ant1	5700	22.560	5688.120	5710.680	---	---
	Ant2	5700	22.320	5688.840	5711.160	---	---
	Ant1	5720	22.400	5708.720	5731.120	---	---
	Ant2	5720	22.360	5708.080	5730.440	---	---
	Ant1	5720 UNII-2C	16.28	5708.720	5725	---	---
	Ant2	5720 UNII-2C	16.92	5708.080	5725	---	---
	Ant1	5720 UNII-3	6.12	5725	5731.120	---	---
	Ant2	5720 UNII-3	5.44	5725	5730.440	---	---
	Ant1	5745	21.800	5733.920	5755.720	---	---
	Ant2	5745	22.240	5733.720	5755.960	---	---
	Ant1	5785	22.160	5774.120	5796.280	---	---
	Ant2	5785	22.600	5773.400	5796.000	---	---
	Ant1	5825	22.960	5813.640	5836.600	---	---
	Ant2	5825	22.960	5813.360	5836.320	---	---
11N40MIMO	Ant1	5190	42.960	5168.400	5211.360	---	---
	Ant2	5190	43.840	5168.080	5211.920	---	---
	Ant1	5230	43.440	5208.400	5251.840	---	---
	Ant2	5230	44.080	5208.320	5252.400	---	---
	Ant1	5270	42.960	5248.640	5291.600	---	---

	Ant2	5270	44.480	5248.560	5293.040	---	---
	Ant1	5310	42.800	5288.560	5331.360	---	---
	Ant2	5310	43.680	5288.240	5331.920	---	---
	Ant1	5510	42.000	5488.800	5530.800	---	---
	Ant2	5510	42.080	5489.360	5531.440	---	---
	Ant1	5550	43.280	5527.760	5571.040	---	---
	Ant2	5550	42.480	5527.840	5570.320	---	---
	Ant1	5670	43.520	5648.240	5691.760	---	---
	Ant2	5670	45.200	5647.600	5692.800	---	---
	Ant1	5710	43.520	5687.280	5730.800	---	---
	Ant2	5710	43.040	5687.440	5730.480	---	---
	Ant1	5710_UNII-2C	37.72	5687.280	5725	---	---
	Ant2	5710_UNII-2C	37.56	5687.440	5725	---	---
	Ant1	5710_UNII-3	5.8	5725	5730.800	---	---
	Ant2	5710_UNII-3	5.48	5725	5730.480	---	---
	Ant1	5755	41.600	5734.280	5775.880	---	---
	Ant2	5755	45.840	5732.040	5777.880	---	---
	Ant1	5795	42.960	5772.280	5815.240	---	---
	Ant2	5795	42.640	5773.160	5815.800	---	---

Test Mode	Ant.	Freq. (MHz)	6dB EBW (MHz)	FL (MHz)	FH (MHz)	Limit (MHz)	Verdict
11A	Ant1	5745	16.320	5736.800	5753.120	0.5	PASS
	Ant2	5745	16.320	5736.800	5753.120	0.5	PASS
	Ant1	5785	16.320	5776.800	5793.120	0.5	PASS
	Ant2	5785	16.440	5776.680	5793.120	0.5	PASS
	Ant1	5825	16.320	5816.800	5833.120	0.5	PASS
	Ant2	5825	16.360	5816.760	5833.120	0.5	PASS
11N20MIMO	Ant1	5745	17.280	5736.440	5753.720	0.5	PASS
	Ant2	5745	17.560	5736.160	5753.720	0.5	PASS
	Ant1	5785	17.080	5776.400	5793.480	0.5	PASS
	Ant2	5785	15.880	5777.440	5793.320	0.5	PASS
	Ant1	5825	17.560	5816.160	5833.720	0.5	PASS
	Ant2	5825	17.280	5816.200	5833.480	0.5	PASS
11N40MIMO	Ant1	5755	35.680	5736.840	5772.520	0.5	PASS
	Ant2	5755	35.920	5736.840	5772.760	0.5	PASS
	Ant1	5795	35.680	5776.840	5812.520	0.5	PASS
	Ant2	5795	36.080	5777.080	5813.160	0.5	PASS

9.5. Original Test Data

99% Bandwidth:





11A Ant1 5240

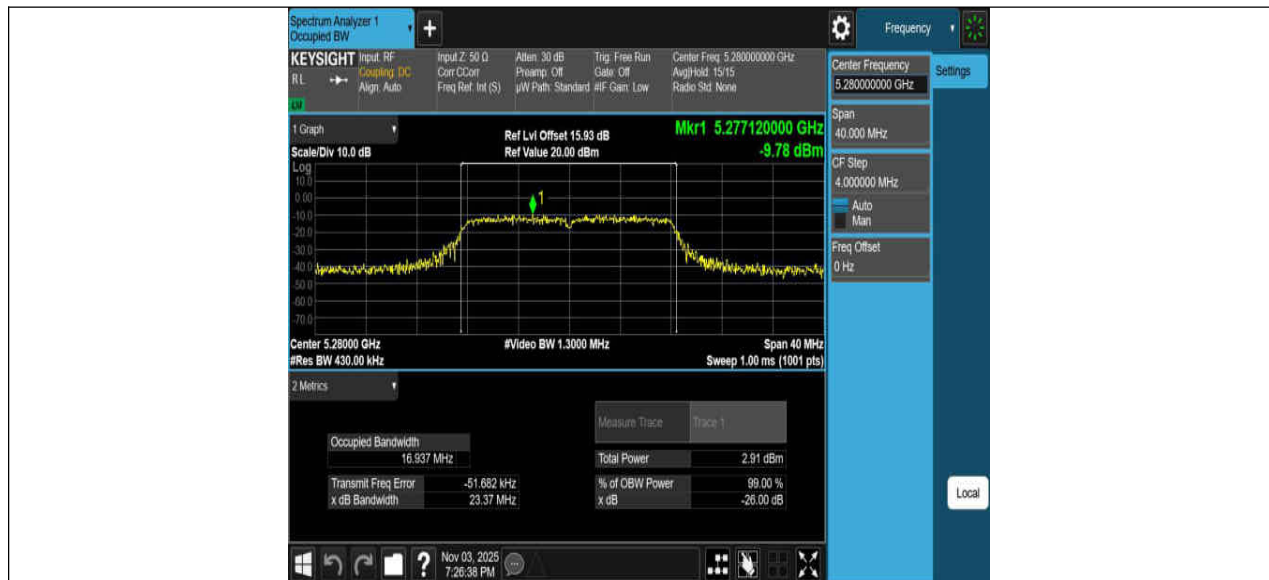


11A Ant2 5240



11A Ant1 5260

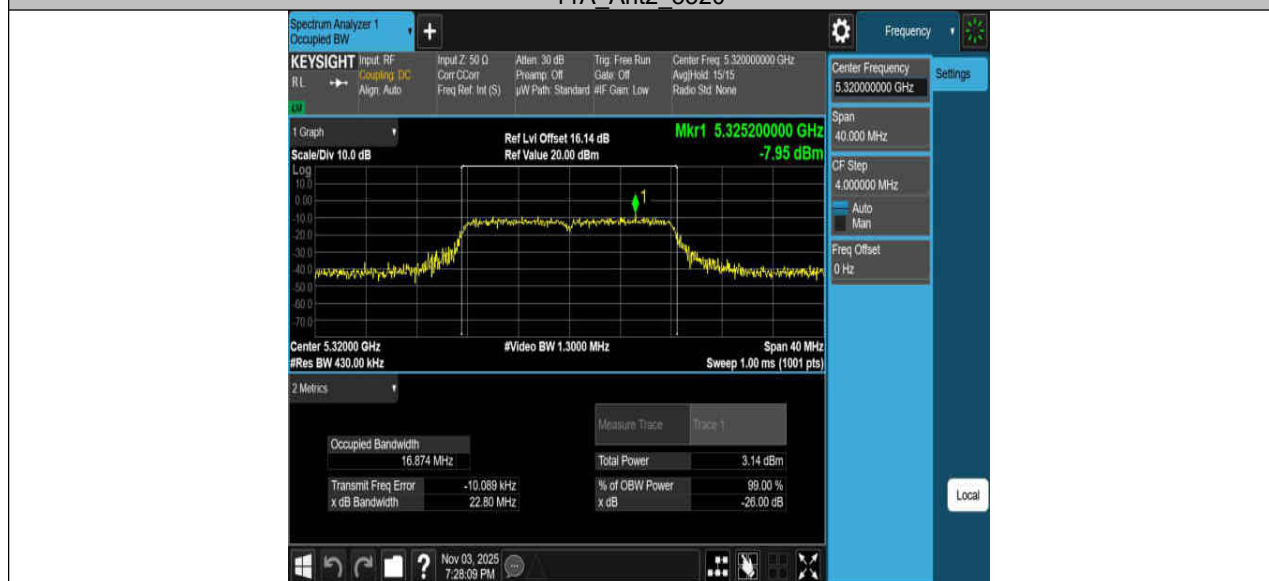




11A Ant1 5320



11A Ant2 5320



11A Ant1 5500

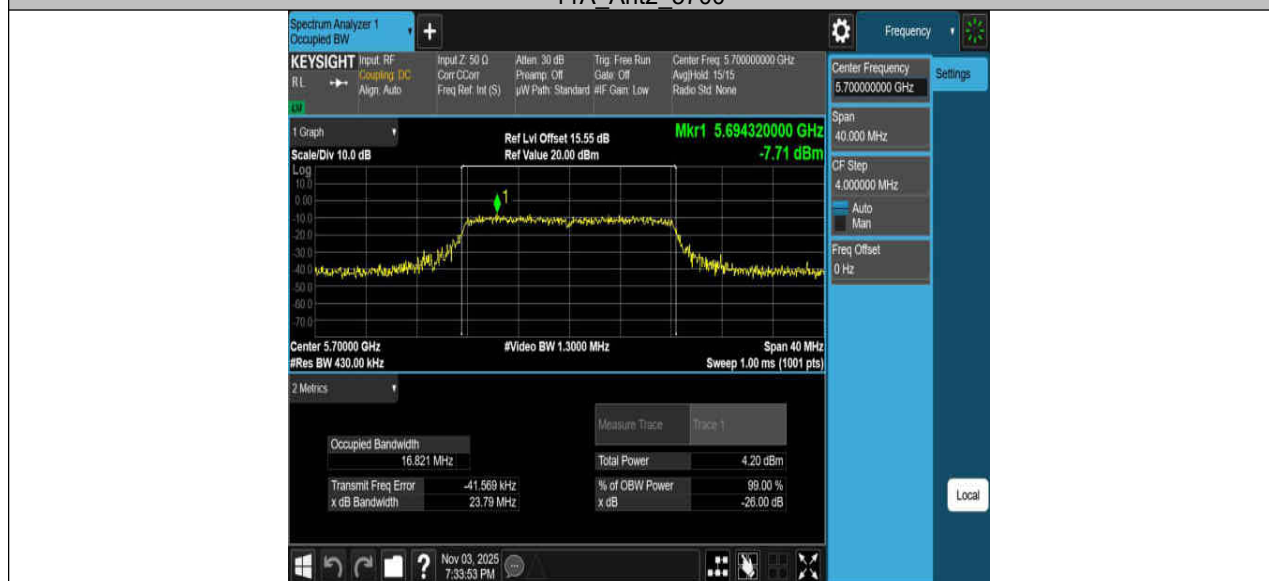




11A Ant1 5700



11A Ant2 5700



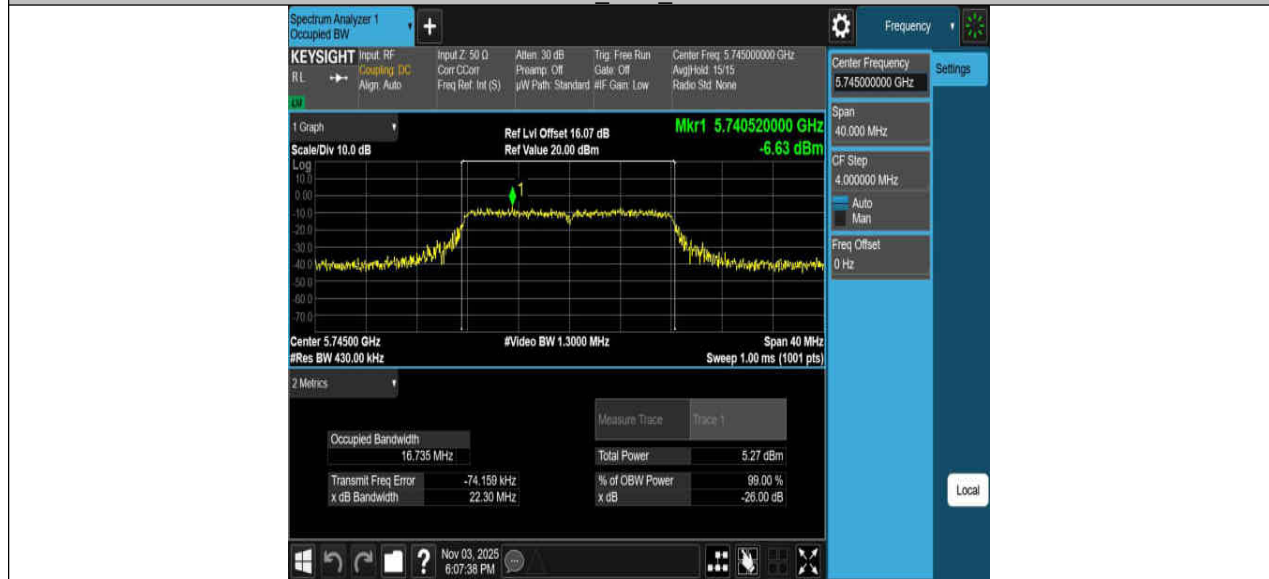
11A Ant1 5720



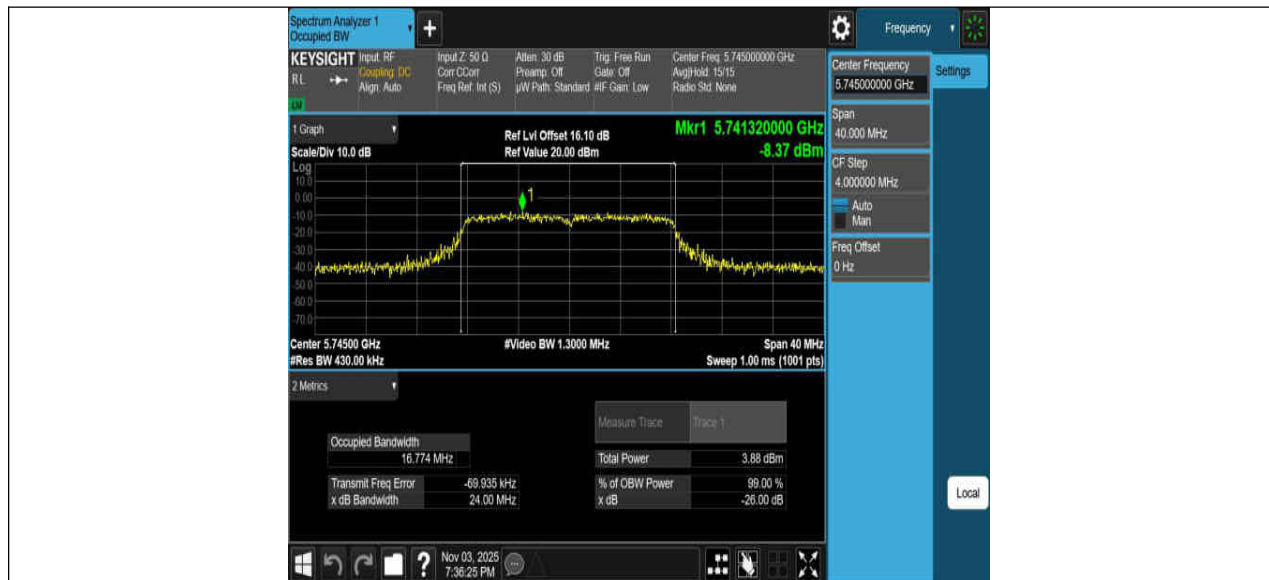
11A Ant2 5720



11A Ant1 5745



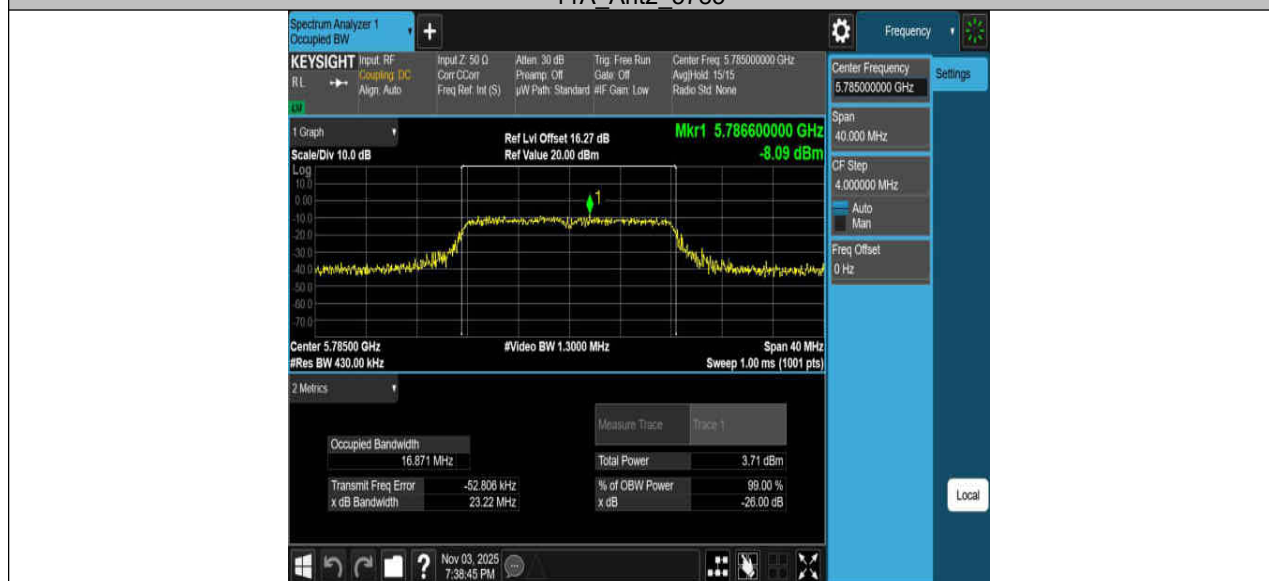
11A Ant2 5745



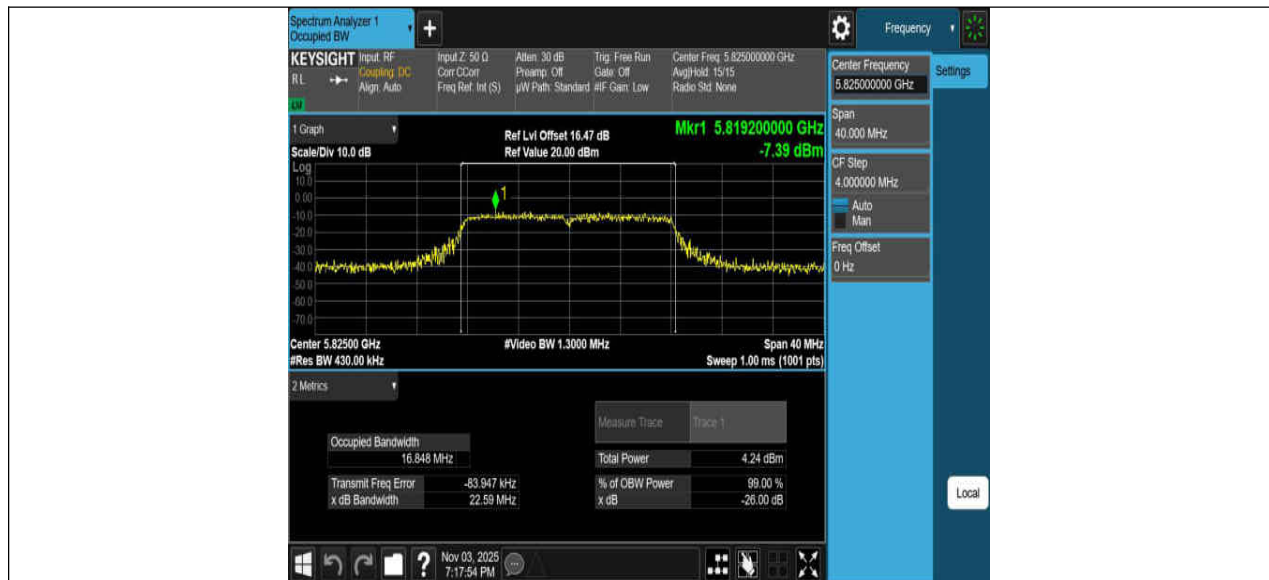
11A Ant1 5785



11A Ant2 5785



11A Ant1 5825



11A Ant2 5825



11N20MIMO Ant1 5180



11N20MIMO Ant2 5180







