11AC40MIMO_Ant1_5710

11AC40MIMO_Ant2_5710

11AC40MIMO_Ant1_5755

11AC40MIMO_Ant2_5755

11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795

11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

11AC80MIMO_Ant1_5290

11AC80MIMO_Ant2_5290

11AC80MIMO_Ant1_5530

11AC80MIMO_Ant2_5530

11AC80MIMO_Ant1_5610

11AC80MIMO_Ant2_5610

11AC80MIMO_Ant1_5690

11AC80MIMO_Ant2_5690

11AC80MIMO_Ant1_5775

11AC80MIMO_Ant2_5775


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 30 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 40/40
Trig: Free Run
1 Spectrum
Ref Lvl Offset 16.02 dB
Ref Level 20.00 dBm
ΔMkr3 78.56 MHz
-0.10 dB
Scale/Div 10 dB
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.77500 GHz
#Res BW 820 kHz
#Video BW 2.7 MHz
Span 160.0 MHz
Sweep 1.00 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 5.735 80 GHz -24.05 dBm
2 N 1 f 5.780 44 GHz -1.005 dBm
3 Δ1 1 f (Δ) 78.56 MHz (Δ) -0.1039 dB
4
5
6
Oct 29, 2023
9:55:22 AM
Frequency
Settings
Center Frequency
5.775000000 GHz
Span
160.000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
5.695000000 GHz
Stop Freq
5.855000000 GHz
AUTO TUNE
CF Step
16.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)

6dB Bandwidth:

11A_Ant1_5745

11A_Ant2_5745

11A_Ant1_5785

11A_Ant2_5785

11A_Ant1_5825

11A_Ant2_5825

11N20MIMO_Ant1_5785

11N20MIMO_Ant2_5785

11N20MIMO_Ant1_5825

11N20MIMO_Ant2_5825

11N40MIMO_Ant1_5755

11N40MIMO_Ant2_5755

11N40MIMO_Ant1_5795

11N40MIMO_Ant2_5795

11AC20MIMO_Ant1_5745

11AC20MIMO_Ant1_5785

11AC20MIMO_Ant2_5785

11AC20MIMO_Ant1_5825

11AC20MIMO_Ant2_5825

11AC40MIMO_Ant1_5755

11AC40MIMO_Ant2_5755

11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795

11AC80MIMO_Ant1_5775

11AC80MIMO_Ant2_5775


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Frequency
Center Frequency
5.775000000 GHz
Settings
Span
160.000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
5.695000000 GHz
Stop Freq
5.855000000 GHz
AUTO TUNE
CF Step
16.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Local
1 Spectrum
Ref Lvl Offset 14.46 dB
Ref Level 20.00 dBm
ΔMkr3 63.84 MHz
-0.51 dB
Scale/Div 10 dB
Log
Center 5.77500 GHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 160.0 MHz
Sweep 5.93 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 5.743 64 GHz -6.34 dBm
2 N 1 f 5.767 48 GHz -3.20 dBm
3 Δ1 1 f (Δ) 63.84 MHz (Δ) -0.51 dB
Nov 22, 2023
8:21:05 PM

10. Maximum Output Power

10.1. Block Diagram of Test Setup

Same as section 8.1

10.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm)	5150-5250
	☐ Indoor Access Point: 1 W (30 dBm)	
	☐ Fixed Point-To-Point Access Points: 1 W (30 dBm)	
	☒ Client Devices: 250 mW (24 dBm)	
	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250-5350 5470-5725
	Shall not exceed 1 Watt (30 dBm).	5725-5850

ISED RSS-247 ISSUE 3		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power or e.i.r.p.	The maximum e.i.r.p. shall not exceed 200 mW (23 dBm) or 10 + 10 log10B, dBm, whichever power is less. B is the 99 % emission bandwidth in megahertz.	5150-5250
	a. The maximum conducted output power shall not exceed 250 mW (24 dBm) or 11 + 10 log10B dBm, whichever is less.	5250-5350
	b. The maximum e.i.r.p. shall not exceed 1.0 W (30 dBm) or 17 + 10 log10B dBm, whichever is less. B is the 99 % emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.	5250-5350 5470-5600 5650-5725
	Shall not exceed 1 Watt (30 dBm). The e.i.r.p. shall not exceed 4 W	5725-5850

Note: The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

10.3. Test Procedure

(1) Connect each EUT's antenna output to power meter by RF cable and attenuator

(2) Add each antenna port's results to get the total output power of EUT.

10.4. Test Result

Test Mode	Ant.	Freq. (MHz)	Channel Power (dBm)	DC Factor (dBm)	Result (dBm)	Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
11A	Ant1	5180	11.36	0.12	11.48	≤23.98	16.04	≤22.27	PASS
	Ant2	5180	11.45	0.12	11.57	≤23.98	14.37	≤22.22	PASS
	Ant1	5200	11.13	0.12	11.25	≤23.98	15.81	≤22.23	PASS
	Ant2	5200	11.27	0.15	11.42	≤23.98	14.22	≤22.25	PASS
	Ant1	5240	10.93	0.15	11.08	≤23.98	15.64	≤22.27	PASS
	Ant2	5240	11.47	0.12	11.59	≤23.98	14.39	≤22.26	PASS
	Ant1	5260	11.19	0.15	11.34	≤23.98	15.90	≤26.99	PASS
	Ant2	5260	11.55	0.12	11.67	≤23.94	14.47	≤26.99	PASS
	Ant1	5280	11.17	0.15	11.32	≤23.98	15.88	≤26.99	PASS
	Ant2	5280	11.43	0.12	11.55	≤23.98	14.35	≤26.99	PASS
	Ant1	5320	11.30	0.12	11.42	≤23.98	15.98	≤26.99	PASS
	Ant2	5320	11.30	0.12	11.42	≤23.97	14.22	≤26.99	PASS
	Ant1	5500	11.19	0.15	11.34	≤23.98	15.90	≤26.99	PASS
	Ant2	5500	11.15	0.12	11.27	≤23.98	14.07	≤26.99	PASS
	Ant1	5580	11.09	0.15	11.24	≤23.97	15.80	≤26.99	PASS
	Ant2	5580	10.85	0.15	11.00	≤23.96	13.80	≤26.99	PASS
	Ant1	5700	11.30	0.12	11.42	≤23.97	15.98	≤26.99	PASS
	Ant2	5700	10.98	0.15	11.13	≤23.98	13.93	≤26.99	PASS
	Ant1	5720_UNII-2C	10.61	0.12	10.73	≤22.64	15.29	≤26.99	PASS
	Ant2	5720_UNII-2C	10.21	0.15	10.36	≤22.73	13.16	≤26.99	PASS
	Ant1	5720_UNII-3	2.97	0.12	3.09	≤30.00	7.65	---	PASS
	Ant2	5720_UNII-3	2.51	0.15	2.66	≤30.00	5.46	---	PASS
	Ant1	5745	11.33	0.15	11.48	≤30.00	16.04	---	PASS
	Ant2	5745	10.86	0.12	10.98	≤30.00	13.78	---	PASS
	Ant1	5785	11.27	0.15	11.42	≤30.00	15.98	---	PASS
	Ant2	5785	10.97	0.15	11.12	≤30.00	13.92	---	PASS
	Ant1	5825	11.15	0.12	11.27	≤30.00	15.83	---	PASS
	Ant2	5825	10.85	0.15	11.00	≤30.00	13.80	---	PASS
11N20MIMO	Ant1	5180	5.58	0.13	5.71	≤23.98	10.27	≤22.49	PASS
	Ant2	5180	5.62	0.13	5.75	≤23.98	8.55	≤22.48	PASS
	total	5180	---	---	8.74	≤23.98	13.30	≤22.48	PASS
	Ant1	5200	6.39	0.17	6.56	≤23.98	11.12	≤22.49	PASS
	Ant2	5200	6.50	0.13	6.63	≤23.98	9.43	≤22.46	PASS
	total	5200	---	---	9.61	≤23.98	14.17	≤22.46	PASS
	Ant1	5240	6.31	0.13	6.44	≤23.98	11.00	≤22.49	PASS
	Ant2	5240	6.60	0.17	6.77	≤23.98	9.57	≤22.47	PASS
	total	5240	---	---	9.62	≤23.98	14.18	≤22.47	PASS
	Ant1	5260	6.42	0.13	6.55	≤23.98	11.11	≤26.99	PASS
	Ant2	5260	6.70	0.13	6.83	≤23.98	9.63	≤26.99	PASS
	total	5260	---	---	9.70	≤23.98	14.26	≤26.99	PASS
	Ant1	5280	6.32	0.17	6.49	≤23.98	11.05	≤26.99	PASS
	Ant2	5280	6.53	0.17	6.70	≤23.98	9.50	≤26.99	PASS
	total	5280	---	---	9.61	≤23.98	14.17	≤26.99	PASS
	Ant1	5320	6.31	0.17	6.48	≤23.98	11.04	≤26.99	PASS
	Ant2	5320	6.38	0.13	6.51	≤23.98	9.31	≤26.99	PASS
	total	5320	---	---	9.51	≤23.98	14.07	≤26.99	PASS
	Ant1	5500	6.24	0.13	6.37	≤23.98	10.93	≤26.99	PASS
	Ant2	5500	6.22	0.17	6.39	≤23.98	9.19	≤26.99	PASS
	total	5500	---	---	9.39	≤23.98	13.95	≤26.99	PASS
	Ant1	5580	6.48	0.13	6.61	≤23.98	11.17	≤26.99	PASS
	Ant2	5580	6.33	0.13	6.46	≤23.98	9.26	≤26.99	PASS
	total	5580	---	---	9.55	≤23.98	14.11	≤26.99	PASS

	Ant1	5700	6.82	0.13	6.95	≤23.98	11.51	≤26.99	PASS
	Ant2	5700	6.48	0.17	6.65	≤23.94	9.45	≤26.99	PASS
	total	5700	---	---	9.81	≤23.98	14.37	≤26.99	PASS
	Ant1	5720_UNII-2C	6.00	0.13	6.13	≤22.75	10.69	≤26.99	PASS
	Ant2	5720_UNII-2C	5.73	0.13	5.86	≤22.77	8.66	≤26.99	PASS
	total	5720_UNII-2C	---	---	9.01	≤23.98	13.57	≤26.99	PASS
	Ant1	5720_UNII-3	-1.17	0.13	-1.04	≤30.00	3.52	---	PASS
	Ant2	5720_UNII-3	-2.32	0.13	-2.19	≤30.00	0.61	---	PASS
	total	5720_UNII-3	---	---	1.43	≤30.00	5.99	---	PASS
	Ant1	5745	6.87	0.17	7.04	≤30.00	11.60	---	PASS
	Ant2	5745	6.40	0.17	6.57	≤30.00	9.37	---	PASS
	total	5745	---	---	9.82	≤30.00	14.38	---	PASS
	Ant1	5785	6.71	0.17	6.88	≤30.00	11.44	---	PASS
	Ant2	5785	6.50	0.13	6.63	≤30.00	9.43	---	PASS
	total	5785	---	---	9.77	≤30.00	14.33	---	PASS
	Ant1	5825	6.61	0.13	6.74	≤30.00	11.30	---	PASS
	Ant2	5825	6.34	0.17	6.51	≤30.00	9.31	---	PASS
	total	5825	---	---	9.64	≤30.00	14.20	---	PASS
11N40MIMO	Ant1	5190	6.97	0.26	7.23	≤23.98	11.79	≤23.01	PASS
	Ant2	5190	6.98	0.26	7.24	≤23.98	10.04	≤23.01	PASS
	total	5190	---	---	10.25	≤23.98	14.81	≤23.01	PASS
	Ant1	5230	6.84	0.26	7.10	≤23.98	11.66	≤23.01	PASS
	Ant2	5230	7.15	0.33	7.48	≤23.98	10.28	≤23.01	PASS
	total	5230	---	---	10.30	≤23.98	14.86	≤23.01	PASS
	Ant1	5270	6.78	0.26	7.04	≤23.98	11.60	≤26.99	PASS
	Ant2	5270	6.93	0.26	7.19	≤23.98	9.99	≤26.99	PASS
	total	5270	---	---	10.13	≤23.98	14.69	≤26.99	PASS
	Ant1	5310	6.75	0.33	7.08	≤23.98	11.64	≤26.99	PASS
	Ant2	5310	6.81	0.33	7.14	≤23.98	9.94	≤26.99	PASS
	total	5310	---	---	10.12	≤23.98	14.68	≤26.99	PASS
	Ant1	5510	6.58	0.26	6.84	≤23.98	11.40	≤26.99	PASS
	Ant2	5510	6.37	0.33	6.70	≤23.98	9.50	≤26.99	PASS
	total	5510	---	---	9.78	≤23.98	14.34	≤26.99	PASS
	Ant1	5550	6.73	0.33	7.06	≤23.98	11.62	≤26.99	PASS
	Ant2	5550	6.19	0.33	6.52	≤23.98	9.32	≤26.99	PASS
	total	5550	---	---	9.81	≤23.98	14.37	≤26.99	PASS
	Ant1	5670	6.81	0.26	7.07	≤23.98	11.63	≤26.99	PASS
	Ant2	5670	6.29	0.33	6.62	≤23.98	9.42	≤26.99	PASS
	total	5670	---	---	9.86	≤23.98	14.42	≤26.99	PASS
	Ant1	5710_UNII-2C	6.51	0.33	6.84	≤23.98	11.40	≤26.99	PASS
	Ant2	5710_UNII-2C	6.38	0.26	6.64	≤23.98	9.44	≤26.99	PASS
	total	5710_UNII-2C	---	---	9.75	≤23.98	14.31	≤26.99	PASS
	Ant1	5710_UNII-3	-5.98	0.33	-5.65	≤30.00	-1.09	---	PASS
	Ant2	5710_UNII-3	-7.54	0.26	-7.28	≤30.00	-4.48	---	PASS
	total	5710_UNII-3	---	---	-3.38	≤30.00	1.18	---	PASS
	Ant1	5755	6.80	0.33	7.13	≤30.00	11.69	---	PASS
	Ant2	5755	6.34	0.26	6.60	≤30.00	9.40	---	PASS
	total	5755	---	---	9.88	≤30.00	14.44	---	PASS
	Ant1	5795	6.80	0.33	7.13	≤30.00	11.69	---	PASS

	Ant2	5795	6.51	0.33	6.84	≤30.00	9.64	---	PASS
	total	5795	---	---	10.00	≤30.00	14.56	---	PASS
11AC20MIMO	Ant1	5180	6.71	0.25	6.96	≤23.98	11.52	≤22.48	PASS
	Ant2	5180	6.69	0.31	7.00	≤23.98	9.80	≤22.49	PASS
	total	5180	---	---	9.99	≤23.98	14.55	≤22.48	PASS
	Ant1	5200	6.54	0.25	6.79	≤23.98	11.35	≤22.50	PASS
	Ant2	5200	6.71	0.25	6.96	≤23.98	9.76	≤22.48	PASS
	total	5200	---	---	9.89	≤23.98	14.45	≤22.48	PASS
	Ant1	5240	6.41	0.25	6.66	≤23.98	11.22	≤22.49	PASS
	Ant2	5240	6.75	0.31	7.06	≤23.98	9.86	≤22.46	PASS
	total	5240	---	---	9.87	≤23.98	14.43	≤22.46	PASS
	Ant1	5260	6.62	0.31	6.93	≤23.97	11.49	≤26.99	PASS
	Ant2	5260	6.83	0.31	7.14	≤23.97	9.94	≤26.99	PASS
	total	5260	---	---	10.05	≤23.98	14.61	≤26.99	PASS
	Ant1	5280	6.46	0.25	6.71	≤23.96	11.27	≤26.99	PASS
	Ant2	5280	6.59	0.31	6.90	≤23.97	9.70	≤26.99	PASS
	total	5280	---	---	9.82	≤23.98	14.38	≤26.99	PASS
	Ant1	5320	6.48	0.25	6.73	≤23.98	11.29	≤26.99	PASS
	Ant2	5320	6.49	0.25	6.74	≤23.98	9.54	≤26.99	PASS
	total	5320	---	---	9.75	≤23.98	14.31	≤26.99	PASS
	Ant1	5500	6.37	0.25	6.62	≤23.97	11.18	≤26.99	PASS
	Ant2	5500	6.25	0.31	6.56	≤23.98	9.36	≤26.99	PASS
	total	5500	---	---	9.60	≤23.98	14.16	≤26.99	PASS
	Ant1	5580	6.26	0.31	6.57	≤23.98	11.13	≤26.99	PASS
	Ant2	5580	6.11	0.25	6.36	≤23.95	9.16	≤26.99	PASS
	total	5580	---	---	9.48	≤23.98	14.04	≤26.99	PASS
	Ant1	5700	6.45	0.25	6.70	≤23.98	11.26	≤26.99	PASS
	Ant2	5700	6.14	0.25	6.39	≤23.93	9.19	≤26.99	PASS
	total	5700	---	---	9.56	≤23.98	14.12	≤26.99	PASS
	Ant1	5720_UNII-2C	5.64	0.31	5.95	≤22.73	10.51	≤26.99	PASS
	Ant2	5720_UNII-2C	5.40	0.25	5.65	≤22.77	8.45	≤26.99	PASS
	total	5720_UNII-2C	---	---	8.81	≤23.98	13.37	≤26.99	PASS
	Ant1	5720_UNII-3	-1.76	0.31	-1.45	≤30.00	3.11	---	PASS
	Ant2	5720_UNII-3	-2.76	0.25	-2.51	≤30.00	0.29	---	PASS
	total	5720_UNII-3	---	---	1.06	≤30.00	5.62	---	PASS
	Ant1	5745	6.49	0.25	6.74	≤30.00	11.30	---	PASS
	Ant2	5745	6.03	0.31	6.34	≤30.00	9.14	---	PASS
	total	5745	---	---	9.55	≤30.00	14.11	---	PASS
	Ant1	5785	6.40	0.25	6.65	≤30.00	11.21	---	PASS
	Ant2	5785	6.16	0.25	6.41	≤30.00	9.21	---	PASS
	total	5785	---	---	9.54	≤30.00	14.10	---	PASS
	Ant1	5825	6.24	0.31	6.55	≤30.00	11.11	---	PASS
	Ant2	5825	5.96	0.25	6.21	≤30.00	9.01	---	PASS
	total	5825	---	---	9.39	≤30.00	13.95	---	PASS
11AC40MIMO	Ant1	5190	6.54	0.58	7.12	≤23.98	11.68	≤23.01	PASS
	Ant2	5190	6.62	0.58	7.20	≤23.98	10.00	≤23.01	PASS
	total	5190	---	---	10.17	≤23.98	14.73	≤23.01	PASS
	Ant1	5230	6.42	0.47	6.89	≤23.98	11.45	≤23.01	PASS
	Ant2	5230	6.79	0.58	7.37	≤23.98	10.17	≤23.01	PASS
	total	5230	---	---	10.15	≤23.98	14.71	≤23.01	PASS
	Ant1	5270	6.33	0.58	6.91	≤23.98	11.47	≤26.99	PASS
	Ant2	5270	6.51	0.47	6.98	≤23.98	9.78	≤26.99	PASS
	total	5270	---	---	9.96	≤23.98	14.52	≤26.99	PASS
	Ant1	5310	6.39	0.47	6.86	≤23.98	11.42	≤26.99	PASS
	Ant2	5310	6.47	0.47	6.94	≤23.98	9.74	≤26.99	PASS

	total	5310	---	---	9.91	≤23.98	14.47	≤26.99	PASS
	Ant1	5510	6.23	0.47	6.70	≤23.98	11.26	≤26.99	PASS
	Ant2	5510	6.12	0.47	6.59	≤23.98	9.39	≤26.99	PASS
	total	5510	---	---	9.66	≤23.98	14.22	≤26.99	PASS
	Ant1	5550	6.40	0.58	6.98	≤23.98	11.54	≤26.99	PASS
	Ant2	5550	5.89	0.58	6.47	≤23.98	9.27	≤26.99	PASS
	total	5550	---	---	9.74	≤23.98	14.30	≤26.99	PASS
	Ant1	5670	6.23	0.58	6.81	≤23.98	11.37	≤26.99	PASS
	Ant2	5670	5.80	0.58	6.38	≤23.98	9.18	≤26.99	PASS
	total	5670	---	---	9.61	≤23.98	14.17	≤26.99	PASS
	Ant1	5710_UNII-2C	5.88	0.47	6.35	≤23.98	10.91	≤26.99	PASS
	Ant2	5710_UNII-2C	5.49	0.58	6.07	≤23.98	8.87	≤26.99	PASS
	total	5710_UNII-2C	---	---	9.22	≤23.98	13.78	≤26.99	PASS
	Ant1	5710_UNII-3	-6.62	0.47	-6.15	≤30.00	-1.59	---	PASS
	Ant2	5710_UNII-3	-6.84	0.58	-6.26	≤30.00	-3.46	---	PASS
	total	5710_UNII-3	---	---	-3.19	≤30.00	1.37	---	PASS
	Ant1	5755	6.25	0.47	6.72	≤30.00	11.28	---	PASS
	Ant2	5755	5.91	0.58	6.49	≤30.00	9.29	---	PASS
	total	5755	---	---	9.62	≤30.00	14.18	---	PASS
	Ant1	5795	6.24	0.47	6.71	≤30.00	11.27	---	PASS
	Ant2	5795	6.19	0.58	6.77	≤30.00	9.57	---	PASS
	total	5795	---	---	9.75	≤30.00	14.31	---	PASS
11AC80MIMO	Ant1	5210	6.09	0.83	6.92	≤23.98	11.48	≤23.01	PASS
	Ant2	5210	6.29	1.06	7.35	≤23.98	10.15	≤23.01	PASS
	total	5210	---	---	10.15	≤23.98	14.71	≤23.01	PASS
	Ant1	5290	6.01	1.06	7.07	≤23.98	11.63	≤26.99	PASS
	Ant2	5290	6.08	1.06	7.14	≤23.98	9.94	≤26.99	PASS
	total	5290	---	---	10.12	≤23.98	14.68	≤26.99	PASS
	Ant1	5530	5.74	0.83	6.57	≤23.98	11.13	≤26.99	PASS
	Ant2	5530	5.37	0.83	6.20	≤23.98	9.00	≤26.99	PASS
	total	5530	---	---	9.40	≤23.98	13.96	≤26.99	PASS
	Ant1	5610	5.68	0.83	6.51	≤23.98	11.07	≤26.99	PASS
	Ant2	5610	5.45	0.83	6.28	≤23.98	9.08	≤26.99	PASS
	total	5610	---	---	9.41	≤23.98	13.97	≤26.99	PASS
	Ant1	5690_UNII-2C	5.69	0.83	6.52	≤23.98	11.08	≤26.99	PASS
	Ant2	5690_UNII-2C	5.76	1.06	6.82	≤23.98	9.62	≤26.99	PASS
	total	5690_UNII-2C	---	---	9.68	≤23.98	14.24	≤26.99	PASS
	Ant1	5690_UNII-3	-10.27	0.83	-9.44	≤30.00	-4.88	---	PASS
	Ant2	5690_UNII-3	-11.11	1.06	-10.05	≤30.00	-7.25	---	PASS
	total	5690_UNII-3	---	---	-6.72	≤30.00	-2.16	---	PASS
	Ant1	5775	6.33	1.06	7.39	≤30.00	11.95	---	PASS
	Ant2	5775	6.10	0.83	6.93	≤30.00	9.73	---	PASS
	total	5775	---	---	10.18	≤30.00	14.74	---	PASS

11. Power Spectral Density

11.1. Block Diagram of Test Setup

Same as section 8.1

11.2. Limits

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☐ Client Devices: 11 dBm/MHz	5150-5250
	11 dBm/MHz	5250-5350 5470-5725
	30 dBm/500 kHz	5725-5850

ISED RSS-247 ISSUE 3		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.	5150-5250
	The power spectral density shall not exceed 11 dBm inany 1.0 MHz band.	5250-5350 5470-5600 5650-5725
	30 dBm/500 kHz	5725-5850

Note: The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

11.3. Test Procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyzer and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Note:

1. For UNII-3, according to KdB publication 789033 D02 General U-NII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 1 MHz and VBW at 3 MHz if the spectrum analyzer does not have 500 kHz RBW.

2. The value measured with RBW=1MHz is to be added with 10log(500kHz/1MHz) which is - 3dB. For example, if the measured value is +30 dBm using RBW=500kHz (that is +30 dBm/500kHz), then the converted value will be +33 dBm/1MHz.

3. Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

11.4. Test Result

Test Mode	Ant.	Freq. (MHz)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	Ant1	5180	1.03	≤11.00	PASS
	Ant2	5180	1.22	≤11.00	PASS
	Ant1	5200	0.89	≤11.00	PASS
	Ant2	5200	0.90	≤11.00	PASS
	Ant1	5240	0.66	≤11.00	PASS
	Ant2	5240	1.32	≤11.00	PASS
	Ant1	5260	0.94	≤11.00	PASS
	Ant2	5260	1.28	≤11.00	PASS
	Ant1	5280	1.01	≤11.00	PASS
	Ant2	5280	1.21	≤11.00	PASS
	Ant1	5320	1.15	≤11.00	PASS
	Ant2	5320	1.00	≤11.00	PASS
	Ant1	5500	1.04	≤11.00	PASS
	Ant2	5500	0.97	≤11.00	PASS
	Ant1	5580	0.95	≤11.00	PASS
	Ant2	5580	0.70	≤11.00	PASS
	Ant1	5700	0.98	≤11.00	PASS
	Ant2	5700	0.70	≤11.00	PASS
	Ant1	5720_UNII-2C	0.99	≤11.00	PASS
	Ant2	5720_UNII-2C	0.72	≤11.00	PASS
	Ant1	5720_UNII-3	-3.46	≤30.00	PASS
	Ant2	5720_UNII-3	-4.04	≤30.00	PASS
	Ant1	5745	-1.62	≤30.00	PASS
	Ant2	5745	-2.11	≤30.00	PASS
	Ant1	5785	-1.73	≤30.00	PASS
	Ant2	5785	-1.96	≤30.00	PASS
	Ant1	5825	-2.00	≤30.00	PASS
	Ant2	5825	-2.12	≤30.00	PASS
11N20MIMO	Ant1	5180	-4.67	≤11.00	PASS
	Ant2	5180	-4.87	≤11.00	PASS
	total	5180	-1.76	≤11.00	PASS
	Ant1	5200	-4.05	≤11.00	PASS
	Ant2	5200	-3.77	≤11.00	PASS
	total	5200	-0.90	≤11.00	PASS
	Ant1	5240	-4.24	≤11.00	PASS
	Ant2	5240	-3.62	≤11.00	PASS
	total	5240	-0.91	≤11.00	PASS
	Ant1	5260	-3.99	≤11.00	PASS
	Ant2	5260	-3.80	≤11.00	PASS
	total	5260	-0.88	≤11.00	PASS
	Ant1	5280	-4.11	≤11.00	PASS
	Ant2	5280	-3.67	≤11.00	PASS
	total	5280	-0.87	≤11.00	PASS
	Ant1	5320	-4.05	≤11.00	PASS
	Ant2	5320	-3.97	≤11.00	PASS
	total	5320	-1.00	≤11.00	PASS
	Ant1	5500	-4.24	≤11.00	PASS
	Ant2	5500	-4.19	≤11.00	PASS
	total	5500	-1.20	≤11.00	PASS
	Ant1	5580	-3.92	≤11.00	PASS
	Ant2	5580	-4.15	≤11.00	PASS
	total	5580	-1.02	≤11.00	PASS
	Ant1	5700	-3.58	≤11.00	PASS
	Ant2	5700	-3.73	≤11.00	PASS
	total	5700	-0.64	≤11.00	PASS
	Ant1	5720_UNII-2C	-3.76	≤11.00	PASS
	Ant2	5720_UNII-2C	-4.08	≤11.00	PASS

	total	5720_UNII-2C	-0.91	≤11.00	PASS
	Ant1	5720_UNII-3	-8.21	≤30.00	PASS
	Ant2	5720_UNII-3	-9.29	≤30.00	PASS
	total	5720_UNII-3	-5.71	≤30.00	PASS
	Ant1	5745	-6.23	≤30.00	PASS
	Ant2	5745	-6.81	≤30.00	PASS
	total	5745	-3.50	≤30.00	PASS
	Ant1	5785	-6.42	≤30.00	PASS
	Ant2	5785	-6.54	≤30.00	PASS
	total	5785	-3.47	≤30.00	PASS
	Ant1	5825	-6.63	≤30.00	PASS
	Ant2	5825	-6.88	≤30.00	PASS
	total	5825	-3.74	≤30.00	PASS
11N40MIMO	Ant1	5190	-6.18	≤11.00	PASS
	Ant2	5190	-6.57	≤11.00	PASS
	total	5190	-3.36	≤11.00	PASS
	Ant1	5230	-6.42	≤11.00	PASS
	Ant2	5230	-5.48	≤11.00	PASS
	total	5230	-2.91	≤11.00	PASS
	Ant1	5270	-6.46	≤11.00	PASS
	Ant2	5270	-6.26	≤11.00	PASS
	total	5270	-3.35	≤11.00	PASS
	Ant1	5310	-6.37	≤11.00	PASS
	Ant2	5310	-6.01	≤11.00	PASS
	total	5310	-3.18	≤11.00	PASS
	Ant1	5510	-6.72	≤11.00	PASS
	Ant2	5510	-7.00	≤11.00	PASS
	total	5510	-3.85	≤11.00	PASS
	Ant1	5550	-6.45	≤11.00	PASS
	Ant2	5550	-6.67	≤11.00	PASS
	total	5550	-3.55	≤11.00	PASS
	Ant1	5670	-6.55	≤11.00	PASS
	Ant2	5670	-7.76	≤11.00	PASS
	total	5670	-4.10	≤11.00	PASS
	Ant1	5710_UNII-2C	-6.47	≤11.00	PASS
	Ant2	5710_UNII-2C	-6.36	≤11.00	PASS
	total	5710_UNII-2C	-3.40	≤11.00	PASS
	Ant1	5710_UNII-3	-12.57	≤30.00	PASS
	Ant2	5710_UNII-3	-13.81	≤30.00	PASS
	total	5710_UNII-3	-10.14	≤30.00	PASS
	Ant1	5755	-9.27	≤30.00	PASS
	Ant2	5755	-10.30	≤30.00	PASS
	total	5755	-6.74	≤30.00	PASS
	Ant1	5795	-9.28	≤30.00	PASS
	Ant2	5795	-9.34	≤30.00	PASS
	total	5795	-6.30	≤30.00	PASS
11AC20MIMO	Ant1	5180	-3.50	≤11.00	PASS
	Ant2	5180	-3.59	≤11.00	PASS
	total	5180	-0.53	≤11.00	PASS
	Ant1	5200	-3.79	≤11.00	PASS
	Ant2	5200	-3.38	≤11.00	PASS
	total	5200	-0.57	≤11.00	PASS
	Ant1	5240	-3.88	≤11.00	PASS
	Ant2	5240	-3.18	≤11.00	PASS
	total	5240	-0.51	≤11.00	PASS
	Ant1	5260	-3.48	≤11.00	PASS
	Ant2	5260	-3.50	≤11.00	PASS
	total	5260	-0.48	≤11.00	PASS
	Ant1	5280	-3.64	≤11.00	PASS
	Ant2	5280	-3.45	≤11.00	PASS

	total	5280	-0.53	≤11.00	PASS
	Ant1	5320	-3.83	≤11.00	PASS
	Ant2	5320	-3.53	≤11.00	PASS
	total	5320	-0.67	≤11.00	PASS
	Ant1	5500	-3.79	≤11.00	PASS
	Ant2	5500	-4.24	≤11.00	PASS
	total	5500	-1.00	≤11.00	PASS
	Ant1	5580	-3.90	≤11.00	PASS
	Ant2	5580	-4.23	≤11.00	PASS
	total	5580	-1.05	≤11.00	PASS
	Ant1	5700	-3.86	≤11.00	PASS
	Ant2	5700	-4.08	≤11.00	PASS
	total	5700	-0.96	≤11.00	PASS
	Ant1	5720_UNII-2C	-3.87	≤11.00	PASS
	Ant2	5720_UNII-2C	-4.08	≤11.00	PASS
	total	5720_UNII-2C	-0.96	≤11.00	PASS
	Ant1	5720_UNII-3	-8.08	≤30.00	PASS
	Ant2	5720_UNII-3	-9.37	≤30.00	PASS
	total	5720_UNII-3	-5.67	≤30.00	PASS
	Ant1	5745	-6.37	≤30.00	PASS
	Ant2	5745	-7.01	≤30.00	PASS
	total	5745	-3.67	≤30.00	PASS
	Ant1	5785	-6.74	≤30.00	PASS
	Ant2	5785	-6.97	≤30.00	PASS
	total	5785	-3.84	≤30.00	PASS
	Ant1	5825	-6.69	≤30.00	PASS
	Ant2	5825	-7.22	≤30.00	PASS
	total	5825	-3.94	≤30.00	PASS
11AC40MIMO	Ant1	5190	-6.55	≤11.00	PASS
	Ant2	5190	-6.54	≤11.00	PASS
	total	5190	-3.53	≤11.00	PASS
	Ant1	5230	-6.41	≤11.00	PASS
	Ant2	5230	-5.60	≤11.00	PASS
	total	5230	-2.98	≤11.00	PASS
	Ant1	5270	-6.47	≤11.00	PASS
	Ant2	5270	-6.43	≤11.00	PASS
	total	5270	-3.44	≤11.00	PASS
	Ant1	5310	-6.59	≤11.00	PASS
	Ant2	5310	-6.05	≤11.00	PASS
	total	5310	-3.30	≤11.00	PASS
	Ant1	5510	-6.77	≤11.00	PASS
	Ant2	5510	-7.00	≤11.00	PASS
	total	5510	-3.87	≤11.00	PASS
	Ant1	5550	-6.27	≤11.00	PASS
	Ant2	5550	-6.48	≤11.00	PASS
	total	5550	-3.36	≤11.00	PASS
	Ant1	5670	-6.91	≤11.00	PASS
	Ant2	5670	-7.81	≤11.00	PASS
	total	5670	-4.33	≤11.00	PASS
	Ant1	5710_UNII-2C	-7.03	≤11.00	PASS
	Ant2	5710_UNII-2C	-6.72	≤11.00	PASS
	total	5710_UNII-2C	-3.86	≤11.00	PASS
	Ant1	5710_UNII-3	-13.02	≤30.00	PASS
	Ant2	5710_UNII-3	-12.85	≤30.00	PASS
	total	5710_UNII-3	-9.92	≤30.00	PASS
	Ant1	5755	-9.57	≤30.00	PASS
	Ant2	5755	-9.76	≤30.00	PASS
	total	5755	-6.65	≤30.00	PASS
	Ant1	5795	-9.46	≤30.00	PASS
	Ant2	5795	-9.19	≤30.00	PASS

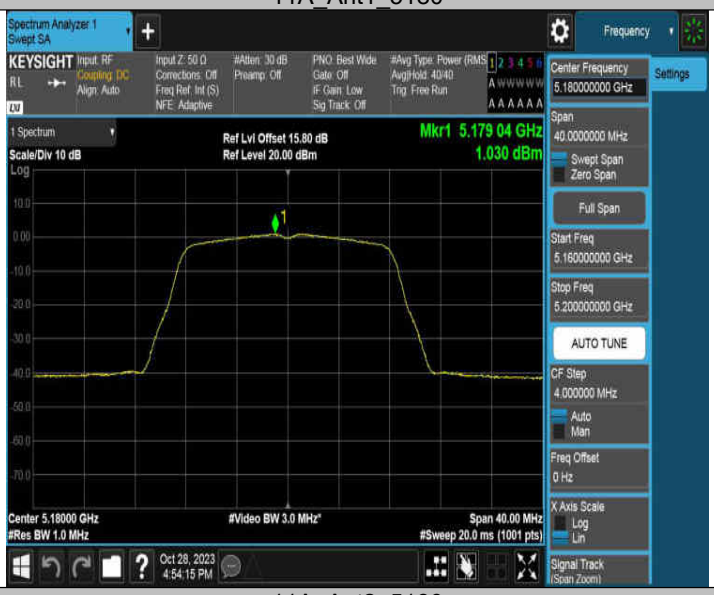
	total	5795	-6.31	≤30.00	PASS
11AC80MIMO	Ant1	5210	-9.43	≤11.00	PASS
	Ant2	5210	-7.78	≤11.00	PASS
	total	5210	-5.52	≤11.00	PASS
	Ant1	5290	-9.29	≤11.00	PASS
	Ant2	5290	-8.34	≤11.00	PASS
	total	5290	-5.78	≤11.00	PASS
	Ant1	5530	-9.59	≤11.00	PASS
	Ant2	5530	-9.39	≤11.00	PASS
	total	5530	-6.48	≤11.00	PASS
	Ant1	5610	-9.96	≤11.00	PASS
	Ant2	5610	-9.41	≤11.00	PASS
	total	5610	-6.67	≤11.00	PASS
	Ant1	5690_UNII-2C	-9.76	≤11.00	PASS
	Ant2	5690_UNII-2C	-8.45	≤11.00	PASS
	total	5690_UNII-2C	-6.05	≤11.00	PASS
	Ant1	5690_UNII-3	-15.69	≤30.00	PASS
	Ant2	5690_UNII-3	-15.20	≤30.00	PASS
	total	5690_UNII-3	-12.43	≤30.00	PASS
	Ant1	5775	-11.83	≤30.00	PASS
	Ant2	5775	-10.01	≤30.00	PASS
	total	5775	-7.82	≤30.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

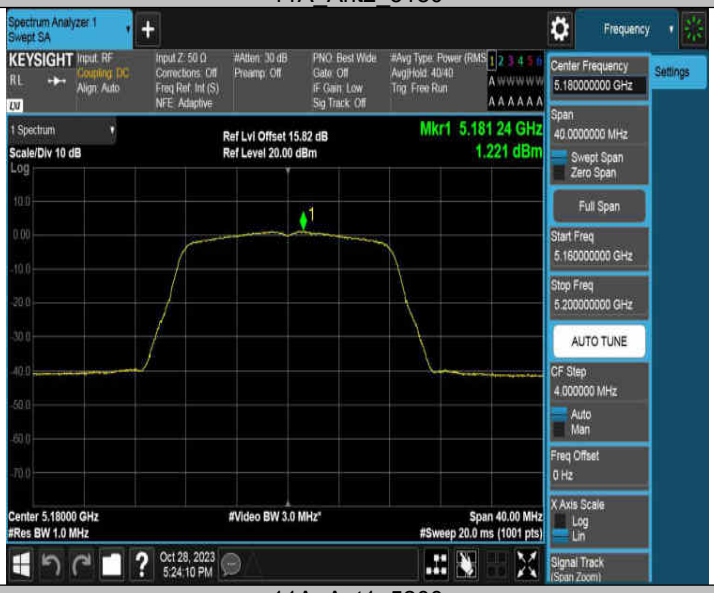
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

11.5. Original Test Data

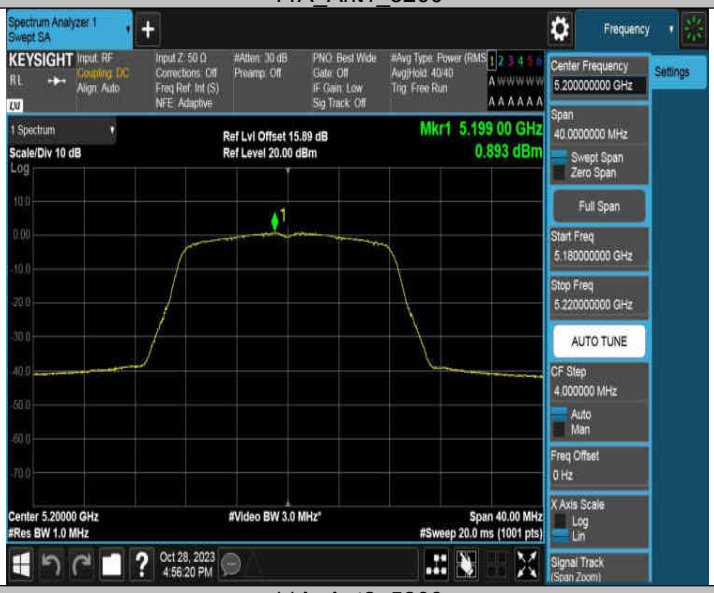
11A_Ant1_5180



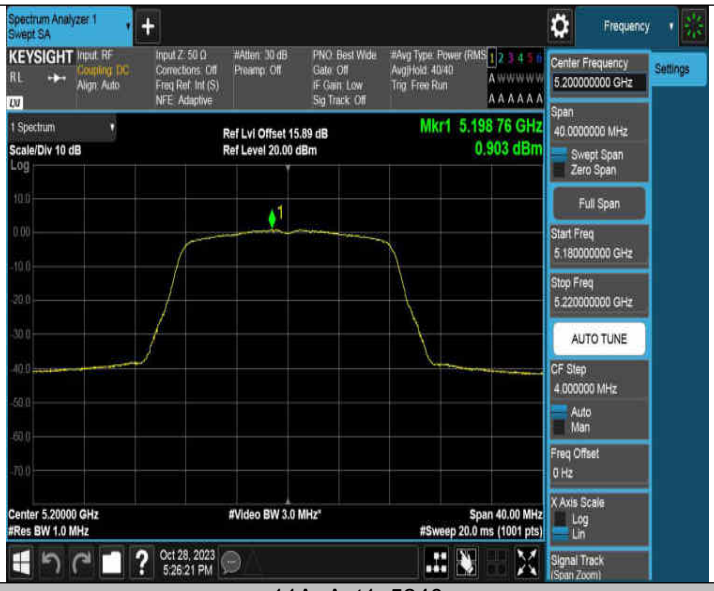
11A_Ant2_5180



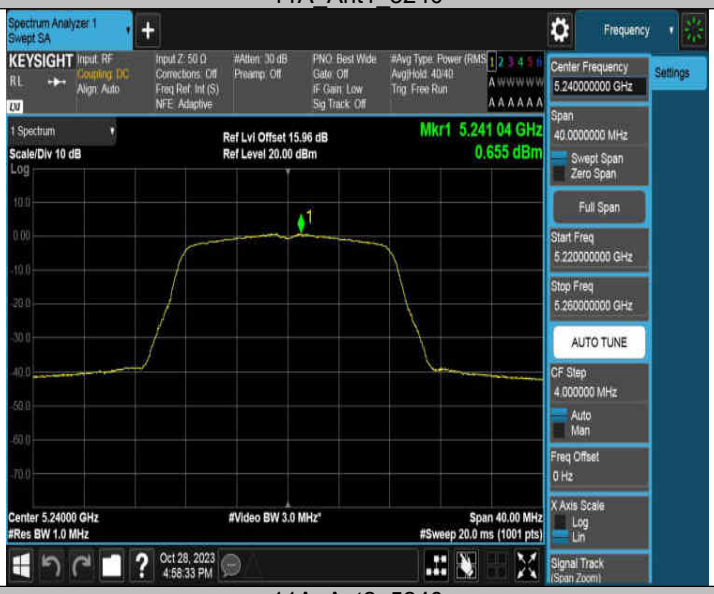
11A_Ant1_5200



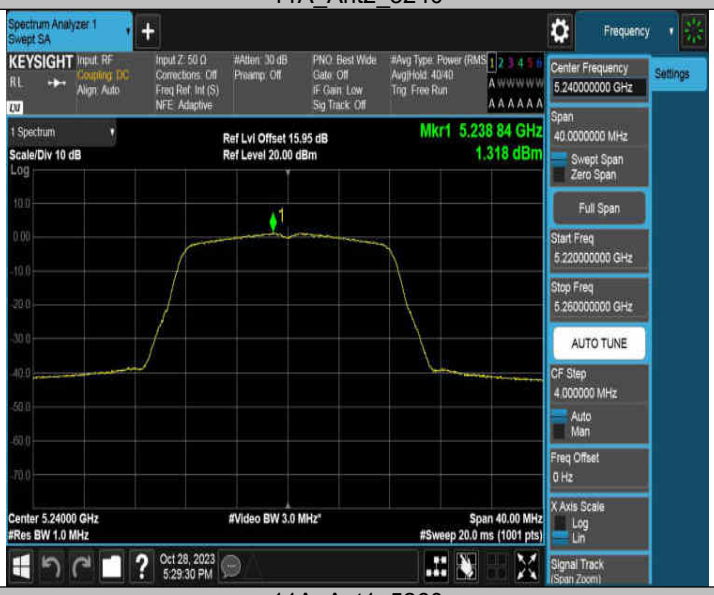
11A_Ant2_5200



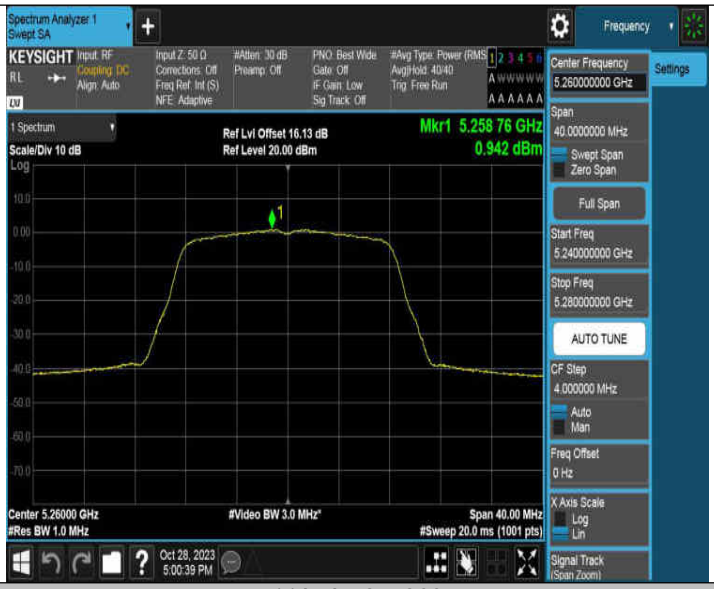
11A_Ant1_5240



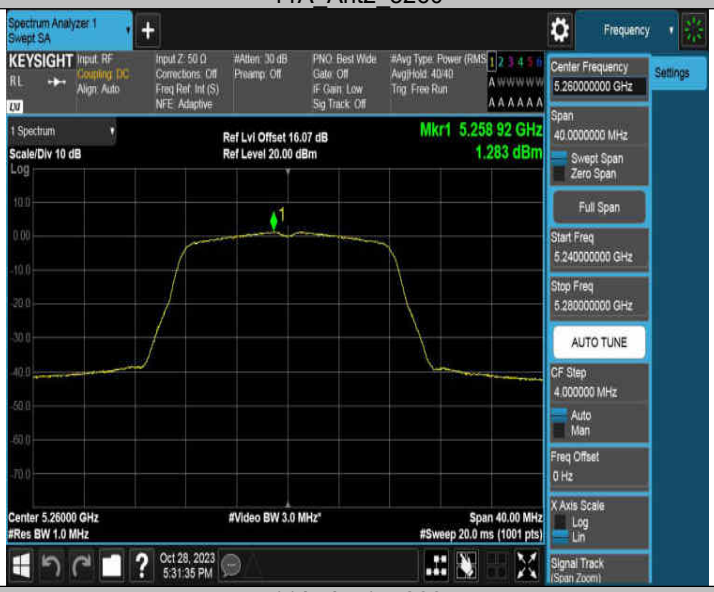
11A_Ant2_5240



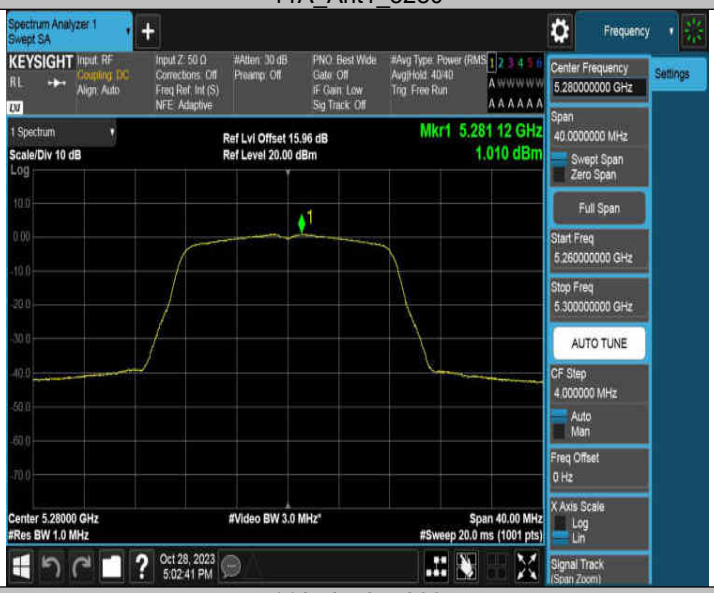
11A_Ant1_5260



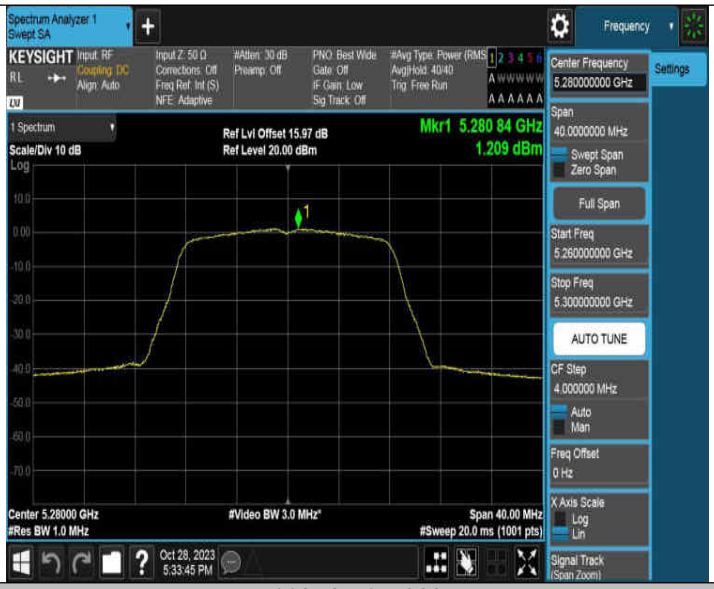
11A_Ant2_5260



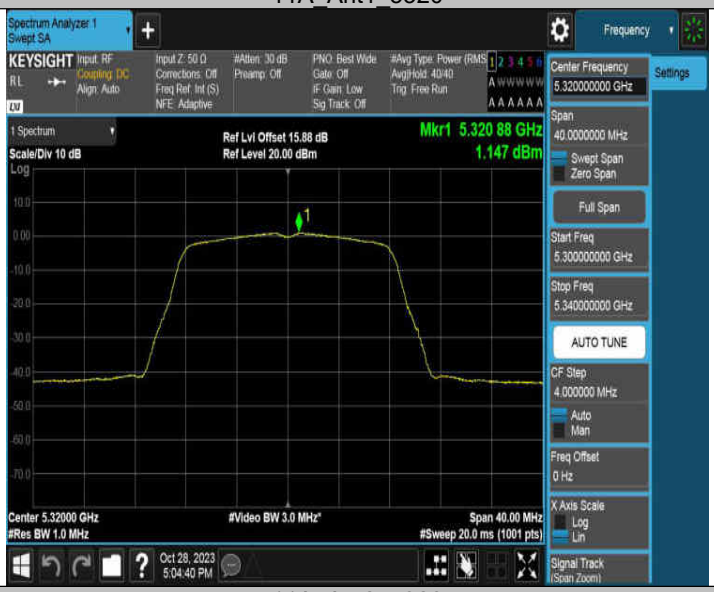
11A_Ant1_5280



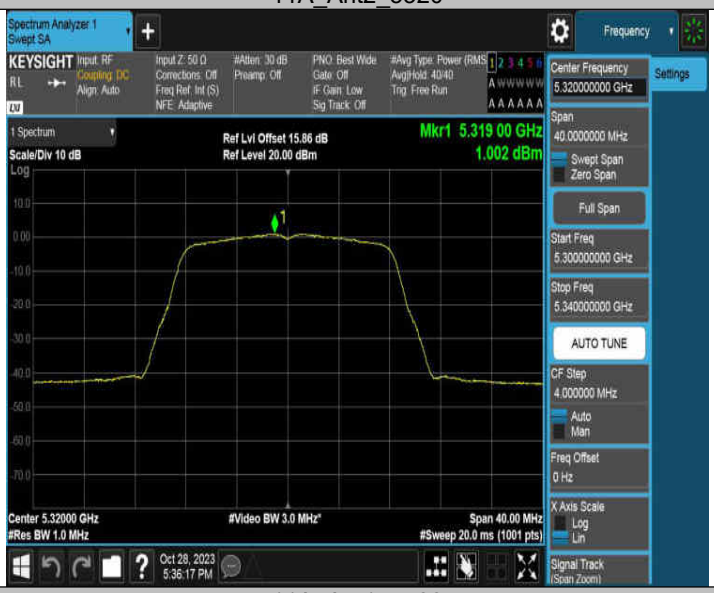
11A_Ant2_5280



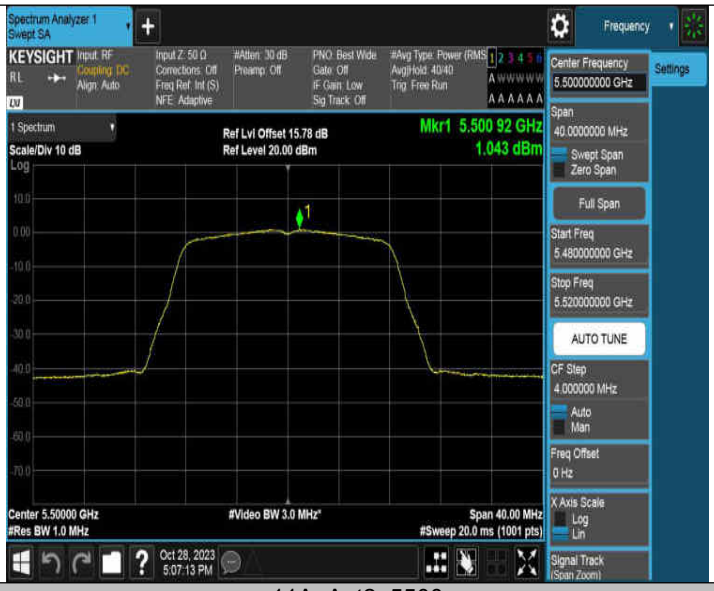
11A_Ant1_5320



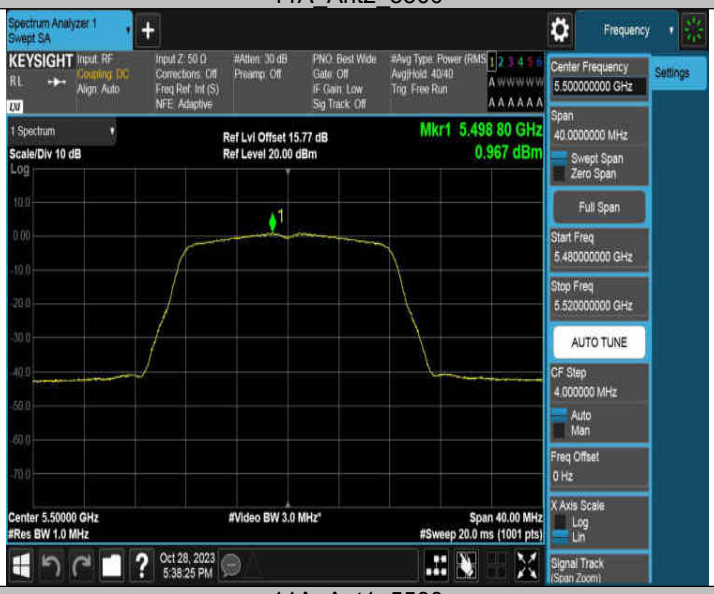
11A_Ant2_5320



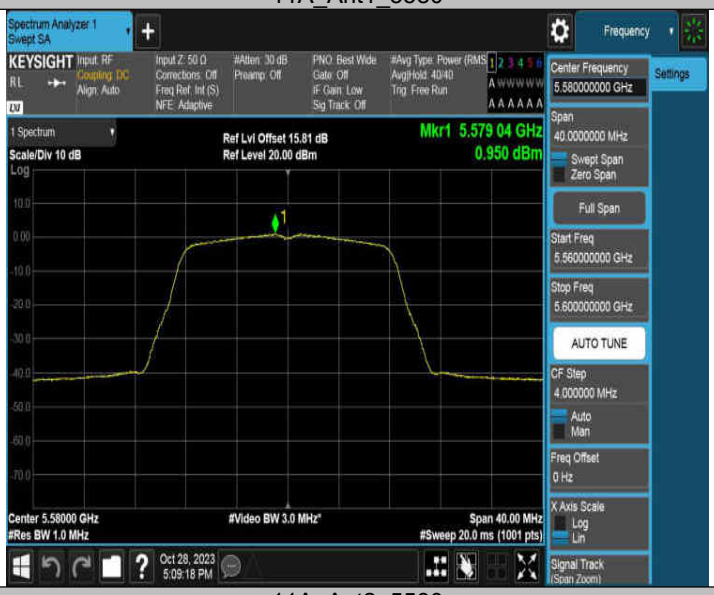
11A_Ant1_5500



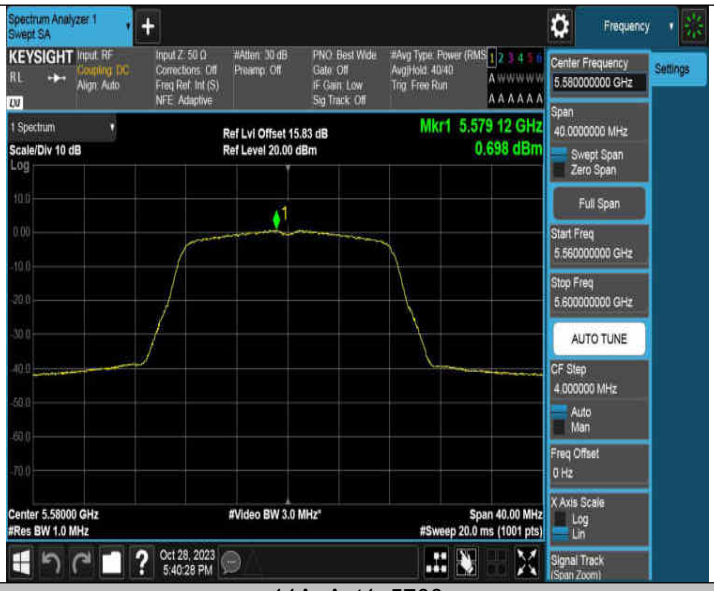
11A_Ant2_5500



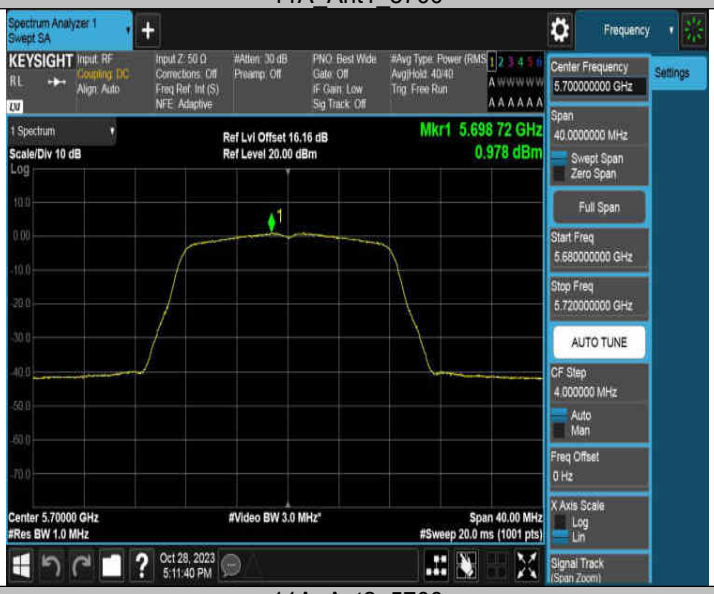
11A_Ant1_5580



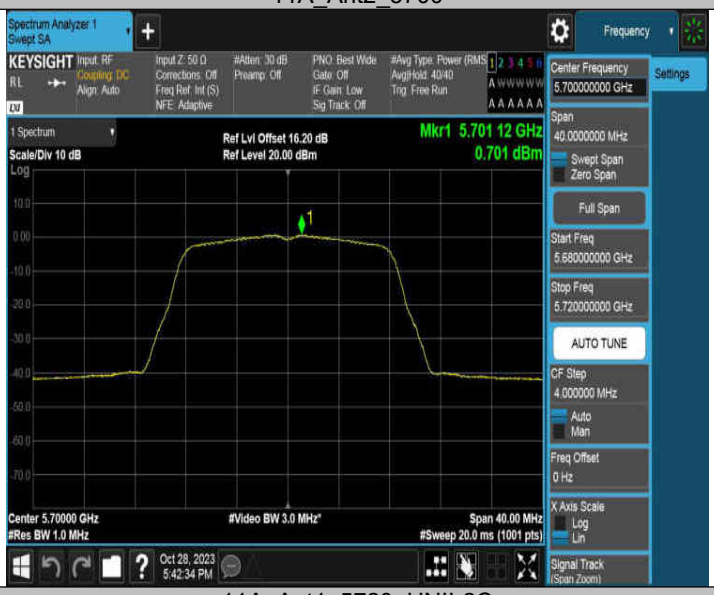
11A_Ant2_5580



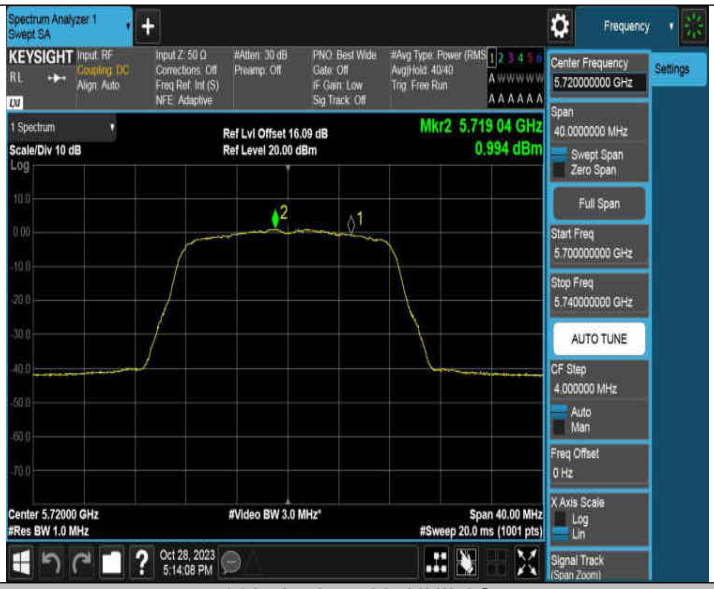
11A_Ant1_5700



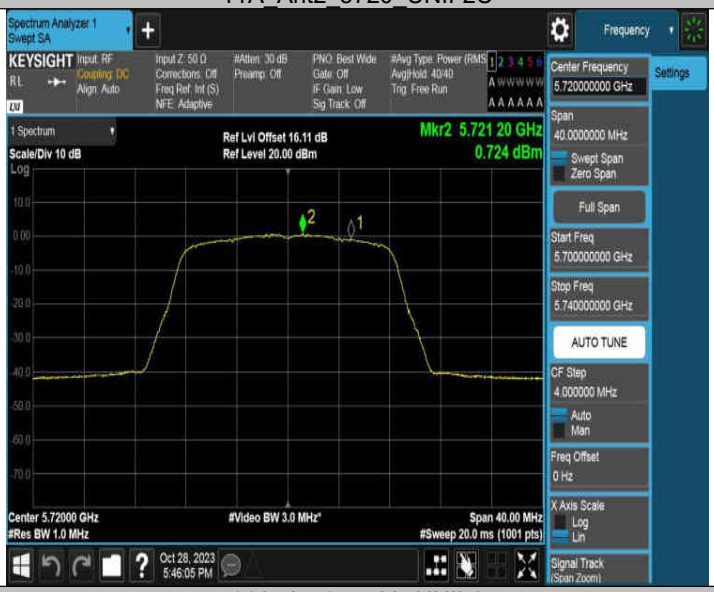
11A_Ant2_5700



11A_Ant1_5720_UNII-2C

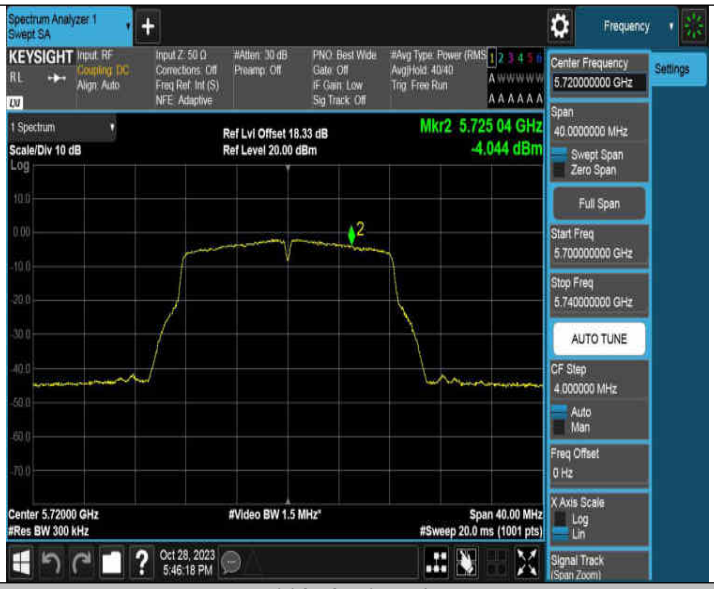


11A_Ant2_5720_UNII-2C



11A_Ant1_5720_UNII-3

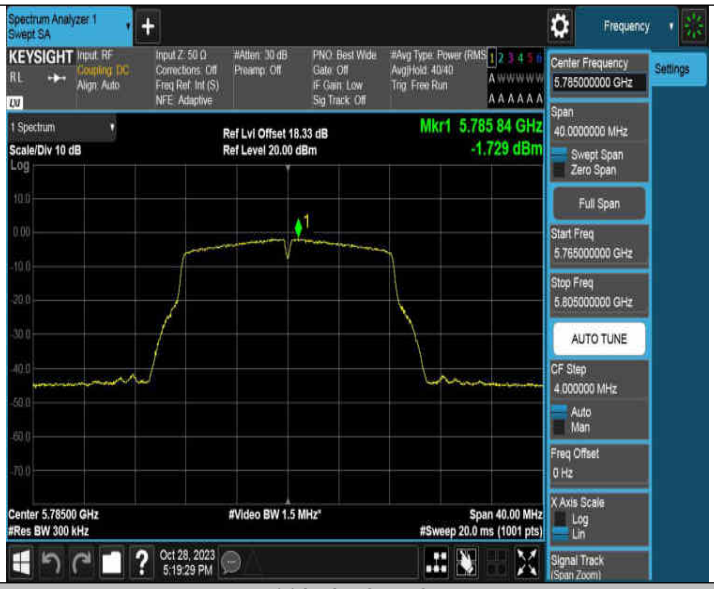
11A_Ant2_5720_UNII-3



11A_Ant1_5745

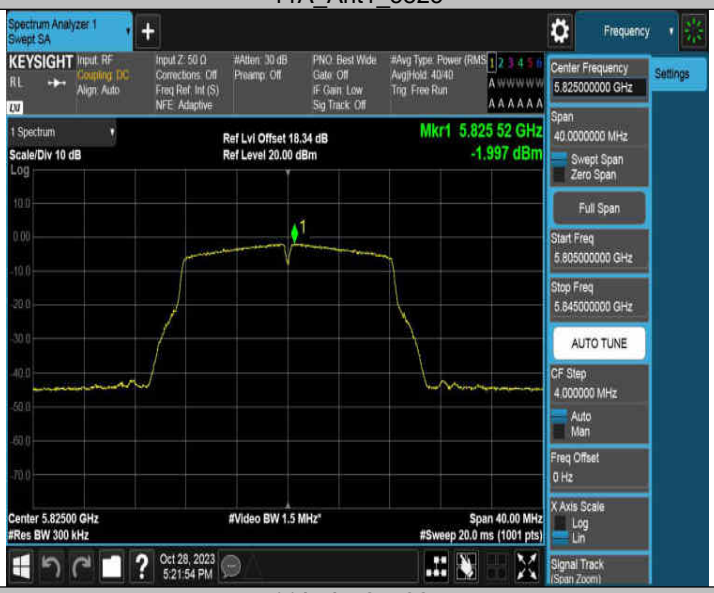
11A_Ant2_5745

11A_Ant1_5785

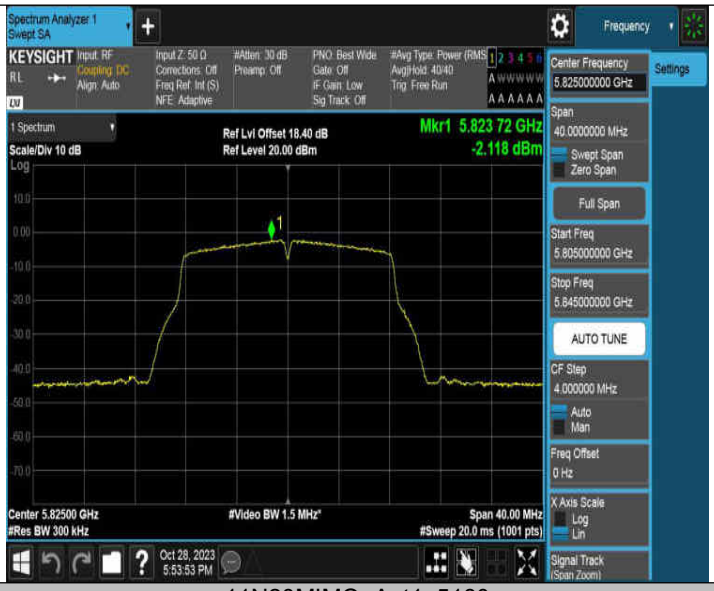


11A_Ant2_5785

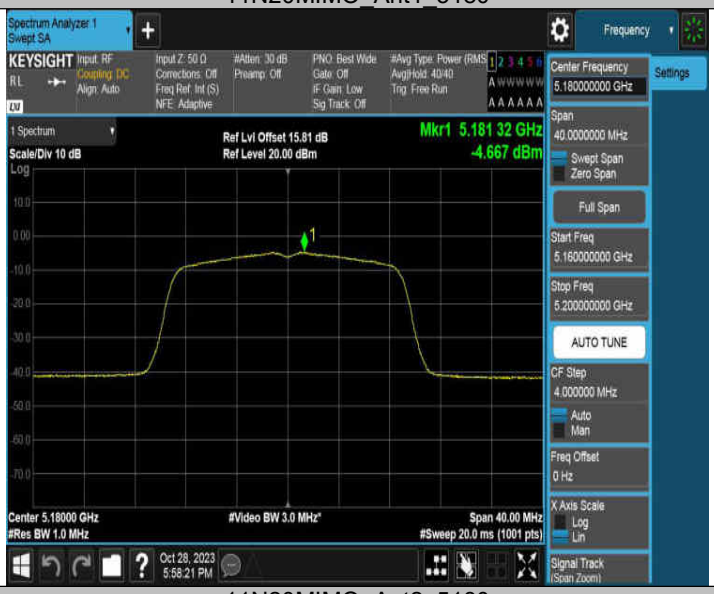
11A_Ant1_5825



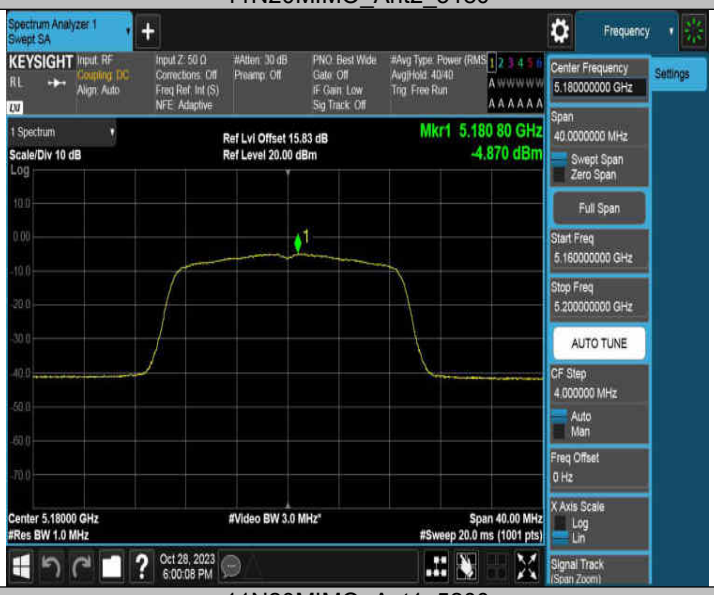
11A_Ant2_5825



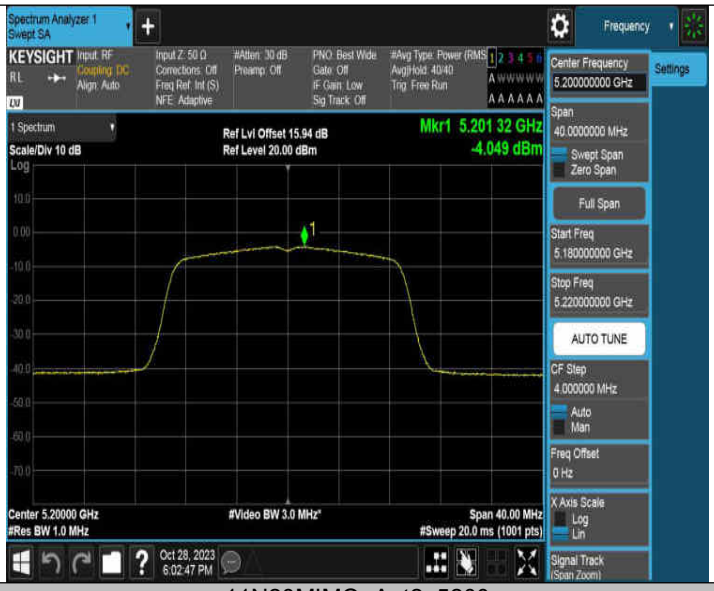
11N20MIMO_Ant1_5180



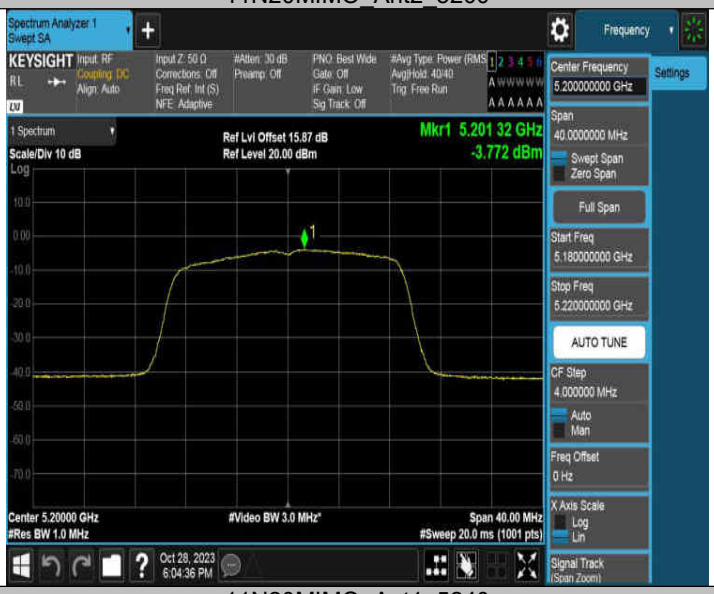
11N20MIMO_Ant2_5180



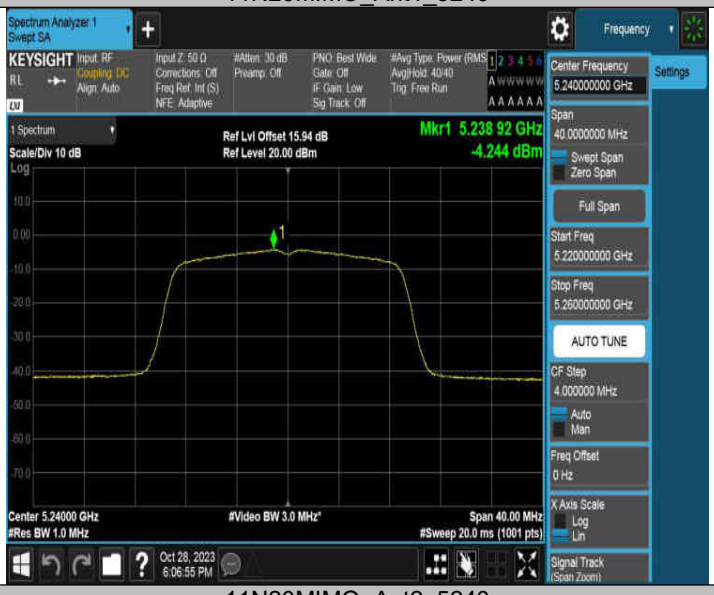
11N20MIMO_Ant1_5200



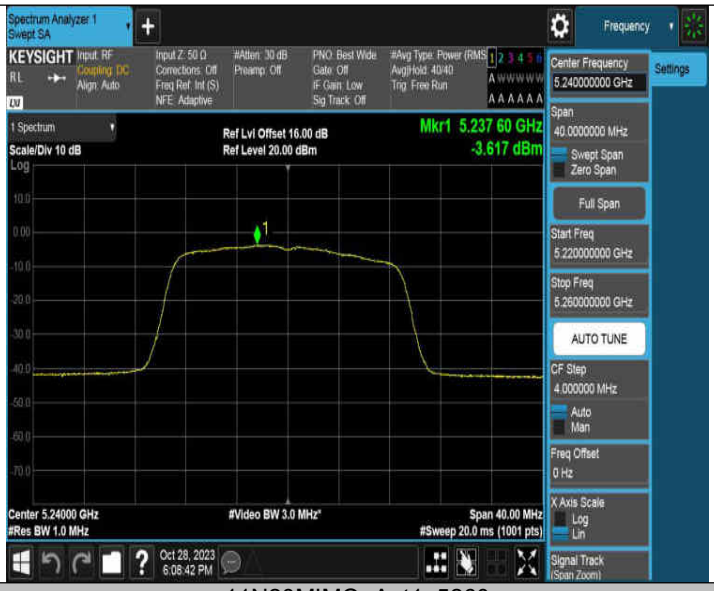
11N20MIMO_Ant2_5200



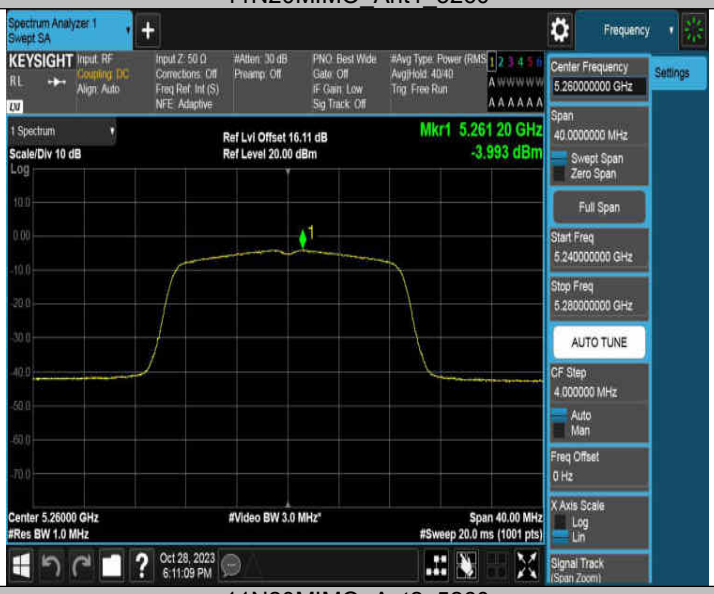
11N20MIMO_Ant1_5240



11N20MIMO_Ant2_5240

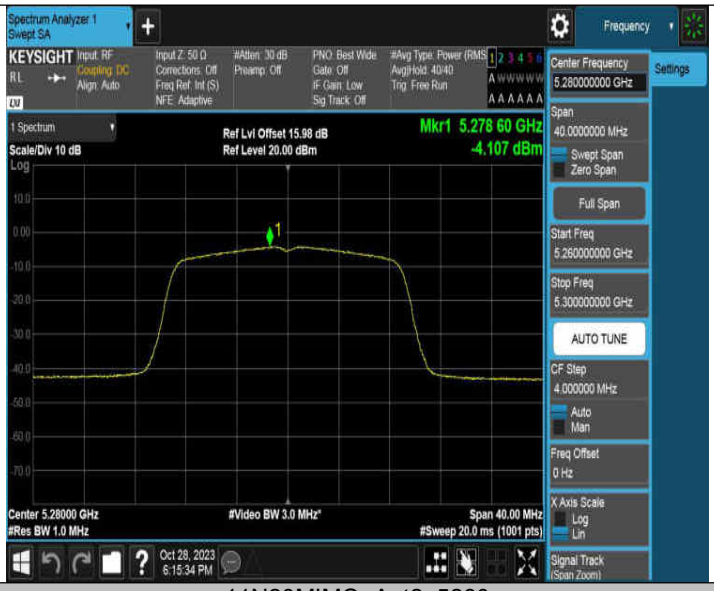


11N20MIMO_Ant1_5260

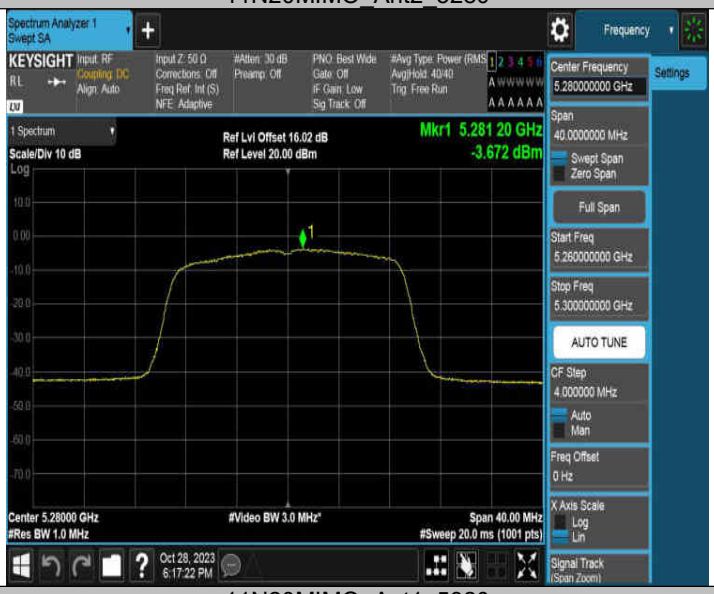


11N20MIMO_Ant2_5260

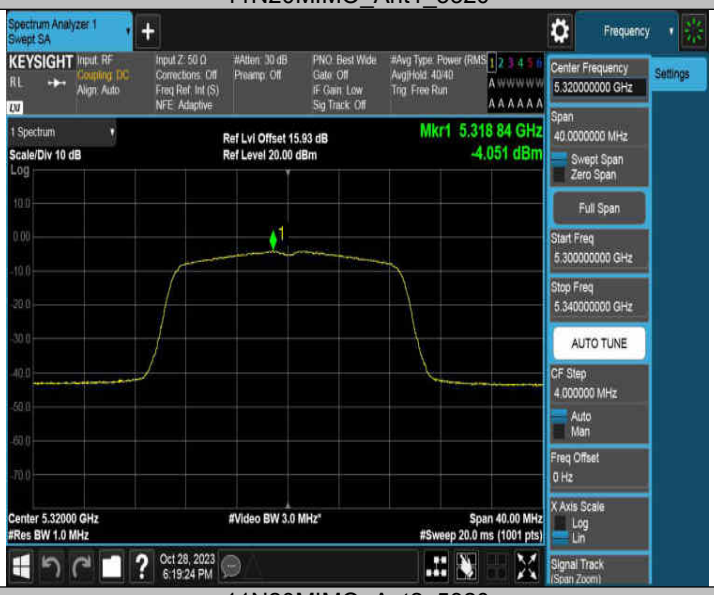
11N20MIMO_Ant1_5280



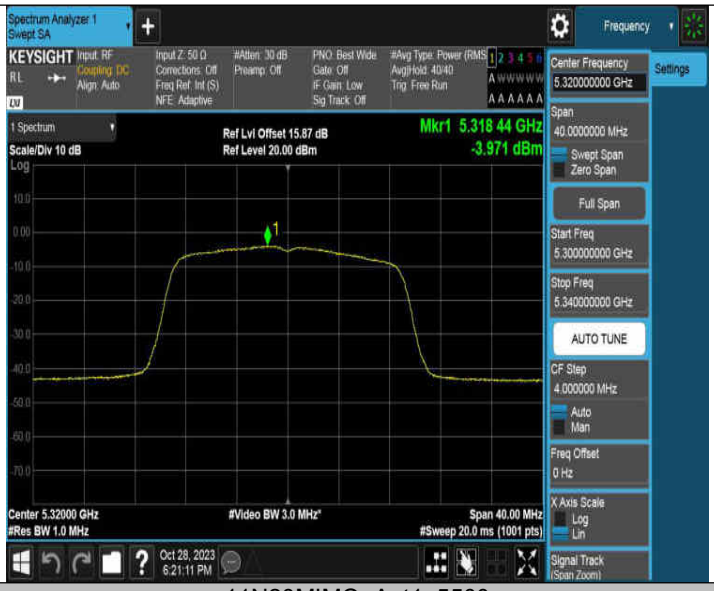
11N20MIMO_Ant2_5280



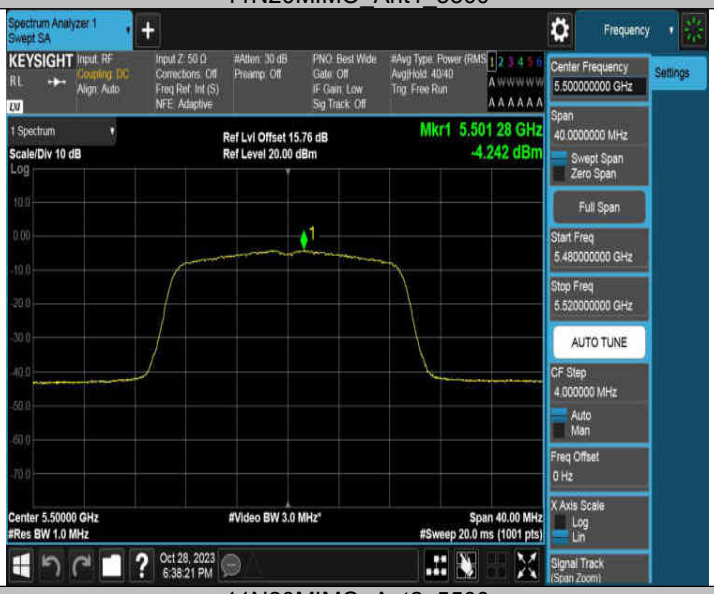
11N20MIMO_Ant1_5320



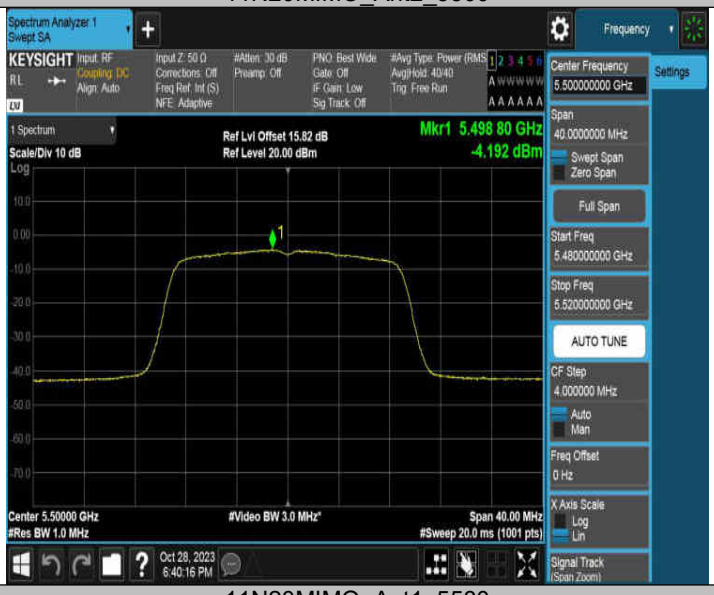
11N20MIMO_Ant2_5320



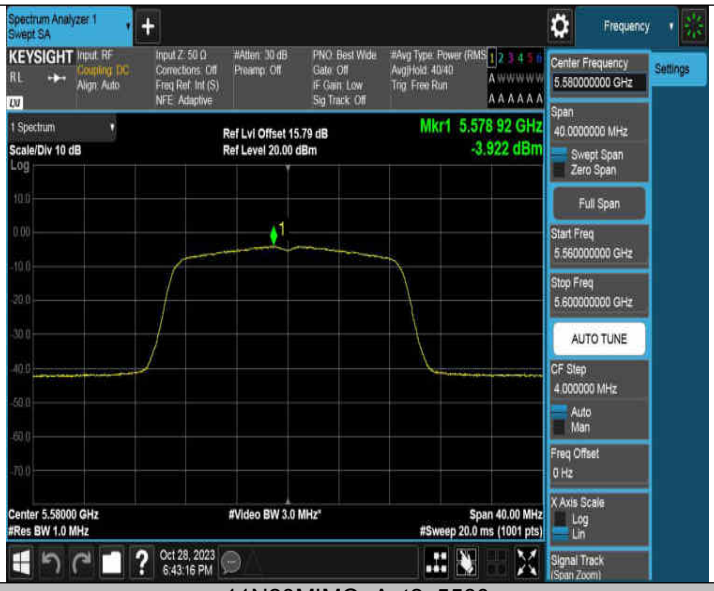
11N20MIMO_Ant1_5500



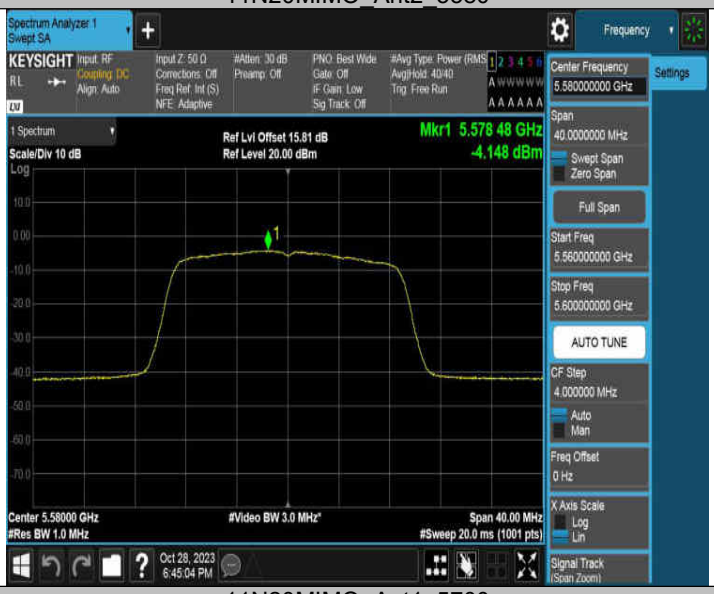
11N20MIMO_Ant2_5500



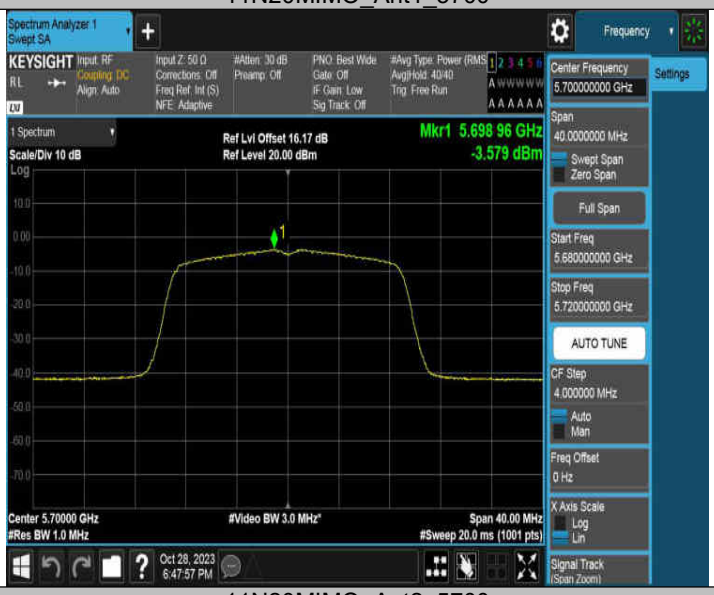
11N20MIMO_Ant1_5580



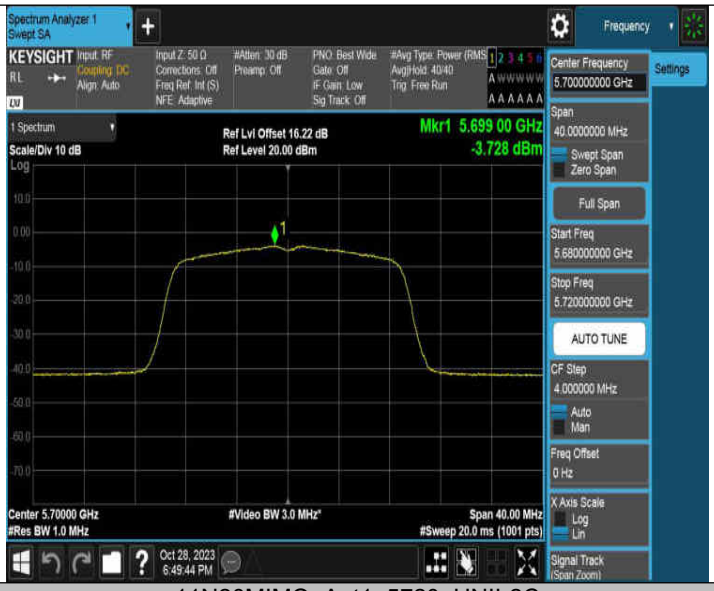
11N20MIMO_Ant2_5580



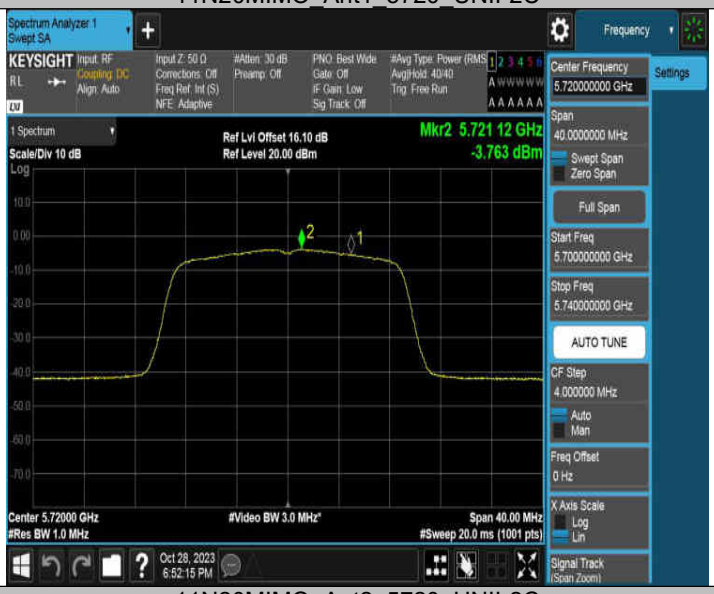
11N20MIMO_Ant1_5700



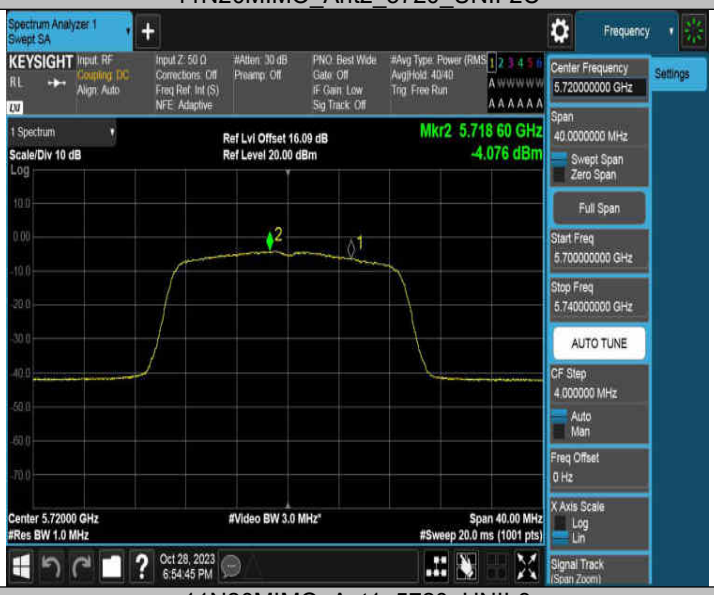
11N20MIMO_Ant2_5700



11N20MIMO_Ant1_5720_UNII-2C



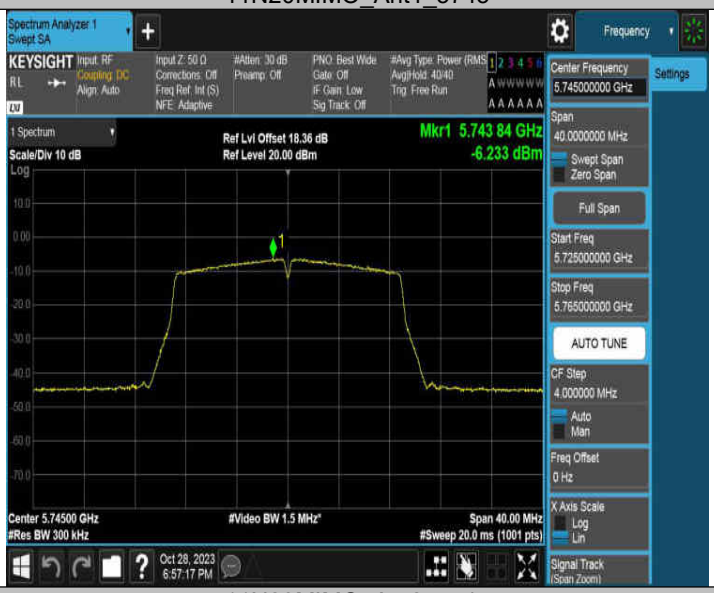
11N20MIMO_Ant2_5720_UNII-2C



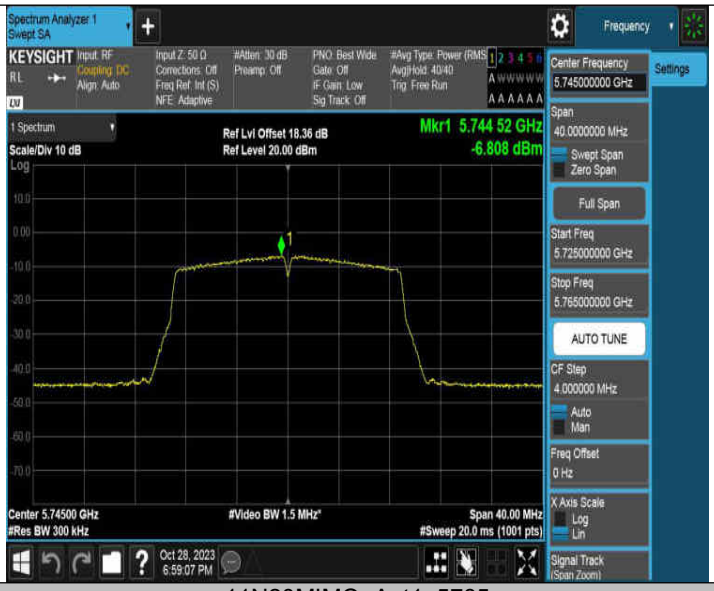
11N20MIMO_Ant1_5720_UNII-3

11N20MIMO_Ant2_5720_UNII-3

11N20MIMO_Ant1_5745

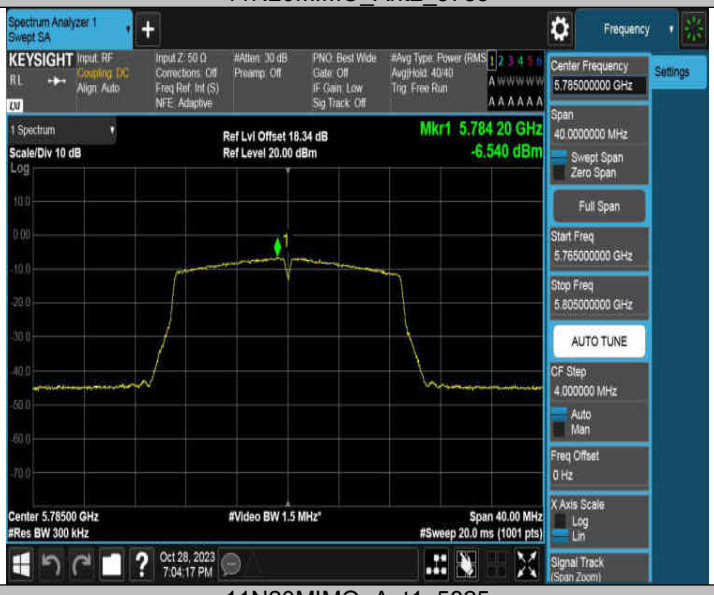


11N20MIMO_Ant2_5745

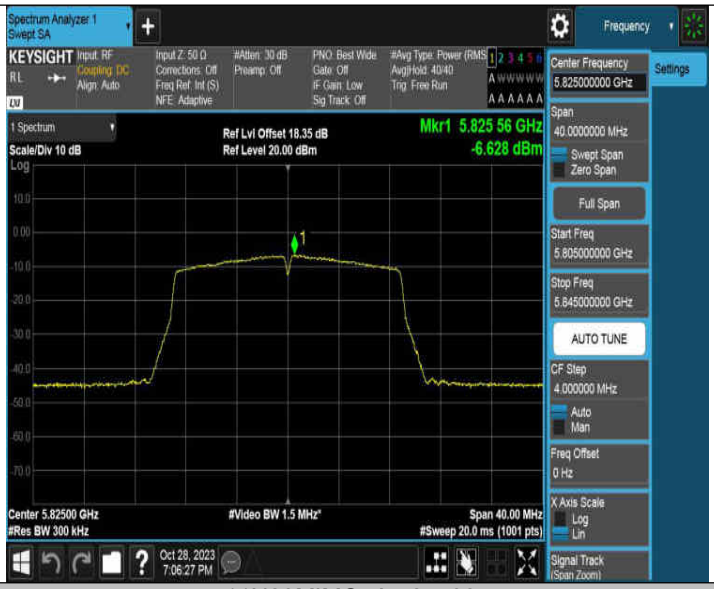


11N20MIMO_Ant1_5785

11N20MIMO_Ant2_5785

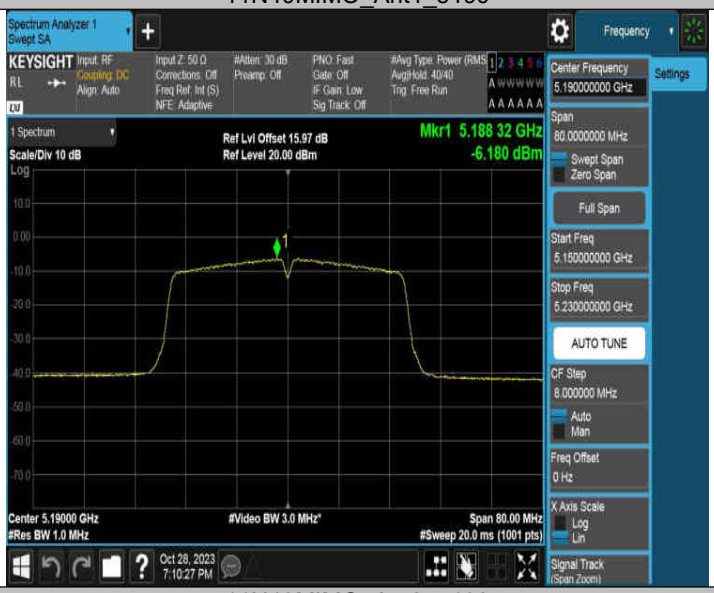


11N20MIMO_Ant1_5825



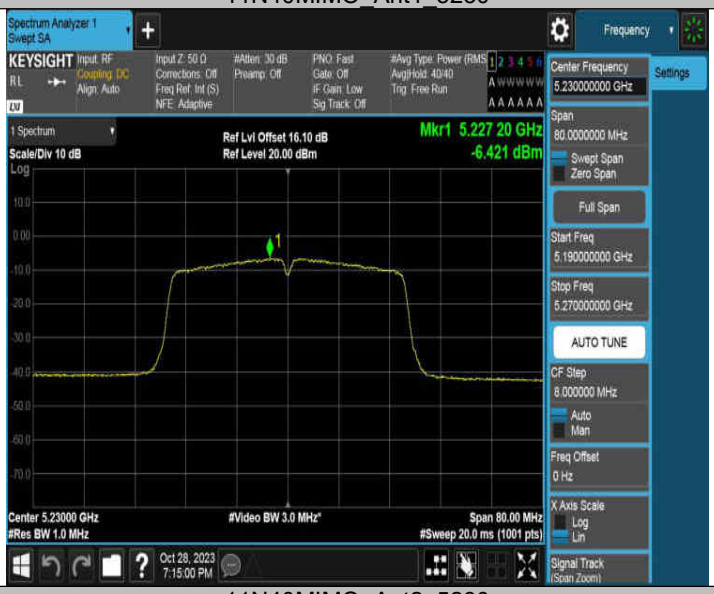
11N20MIMO_Ant2_5825

11N40MIMO_Ant1_5190

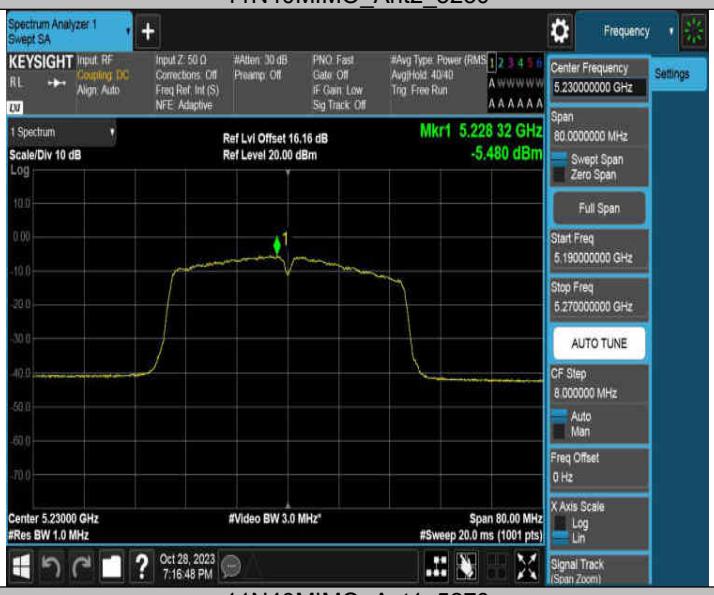


11N40MIMO_Ant2_5190

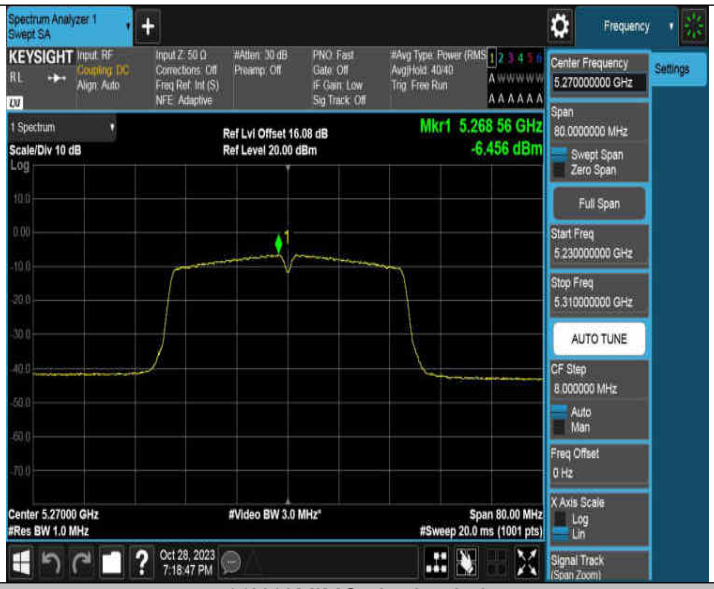
11N40MIMO_Ant1_5230



11N40MIMO_Ant2_5230



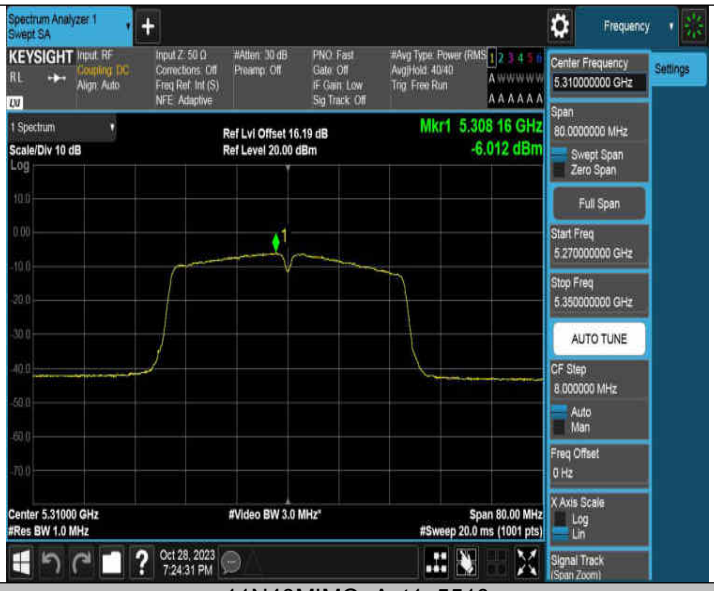
11N40MIMO_Ant1_5270



11N40MIMO_Ant2_5270

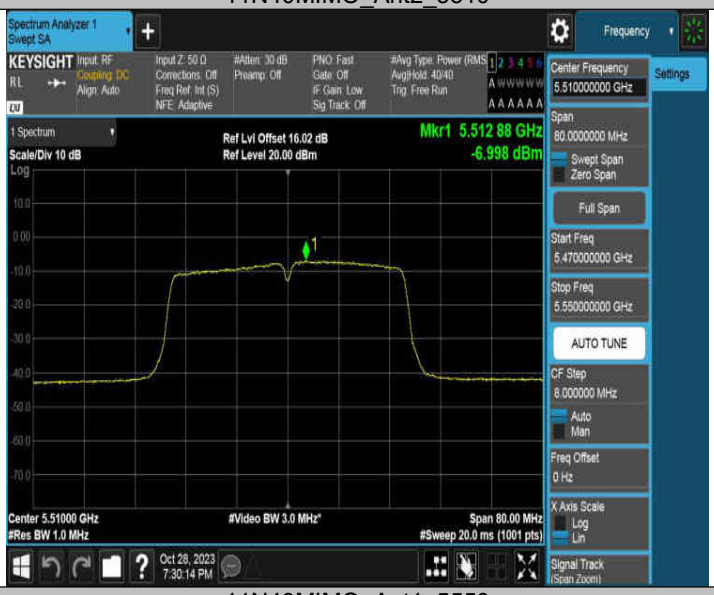
11N40MIMO_Ant1_5310

11N40MIMO_Ant2_5310

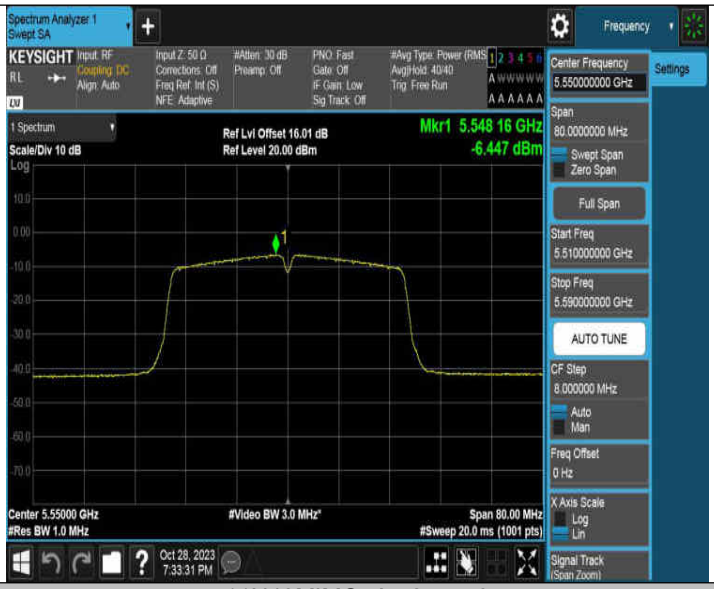


11N40MIMO_Ant1_5510

11N40MIMO_Ant2_5510

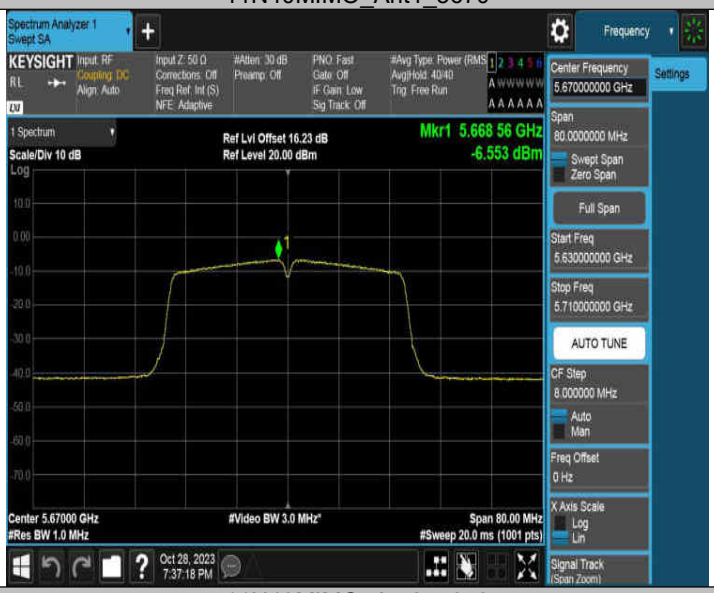


11N40MIMO_Ant1_5550



11N40MIMO_Ant2_5550

11N40MIMO_Ant1_5670



11N40MIMO_Ant2_5670