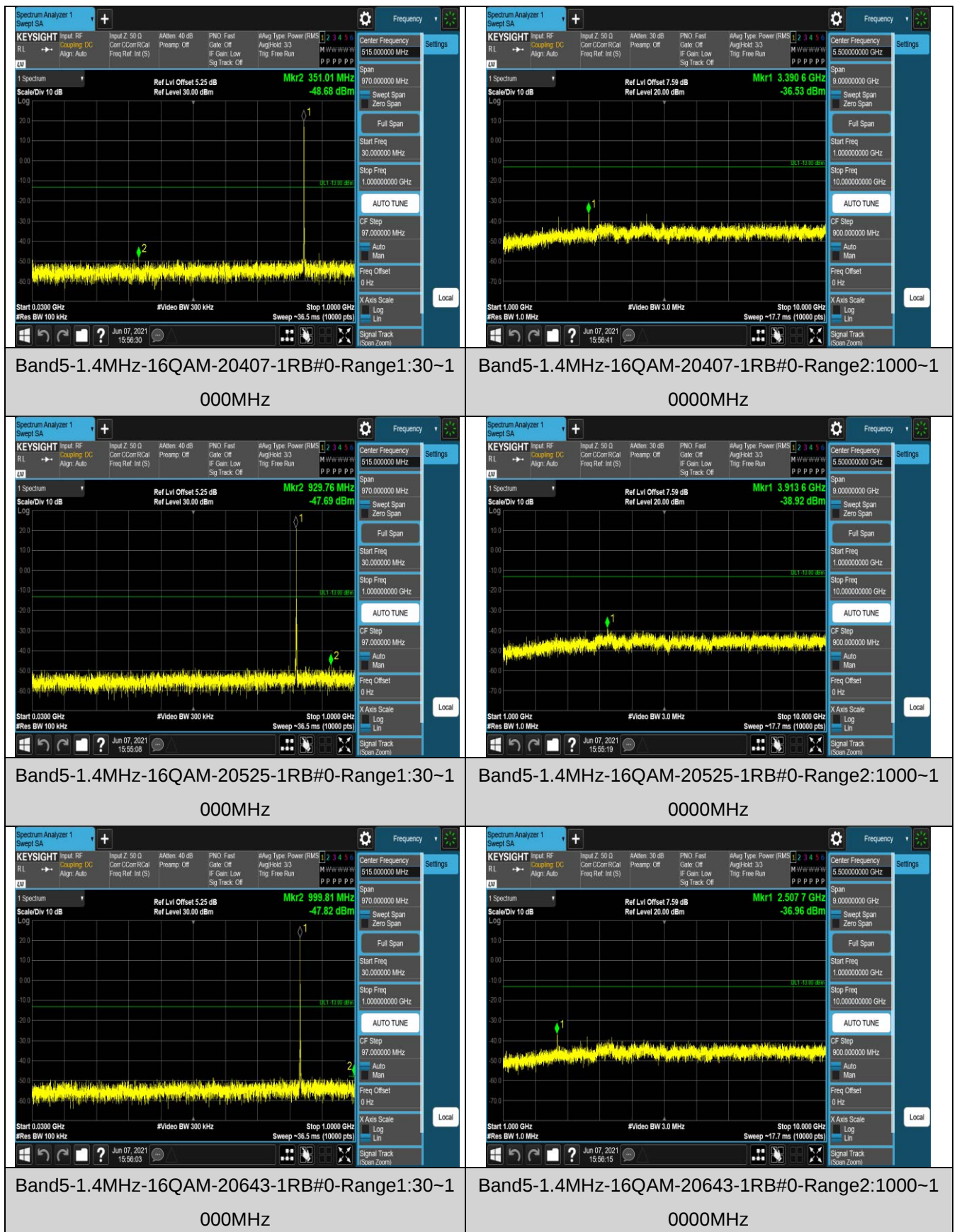
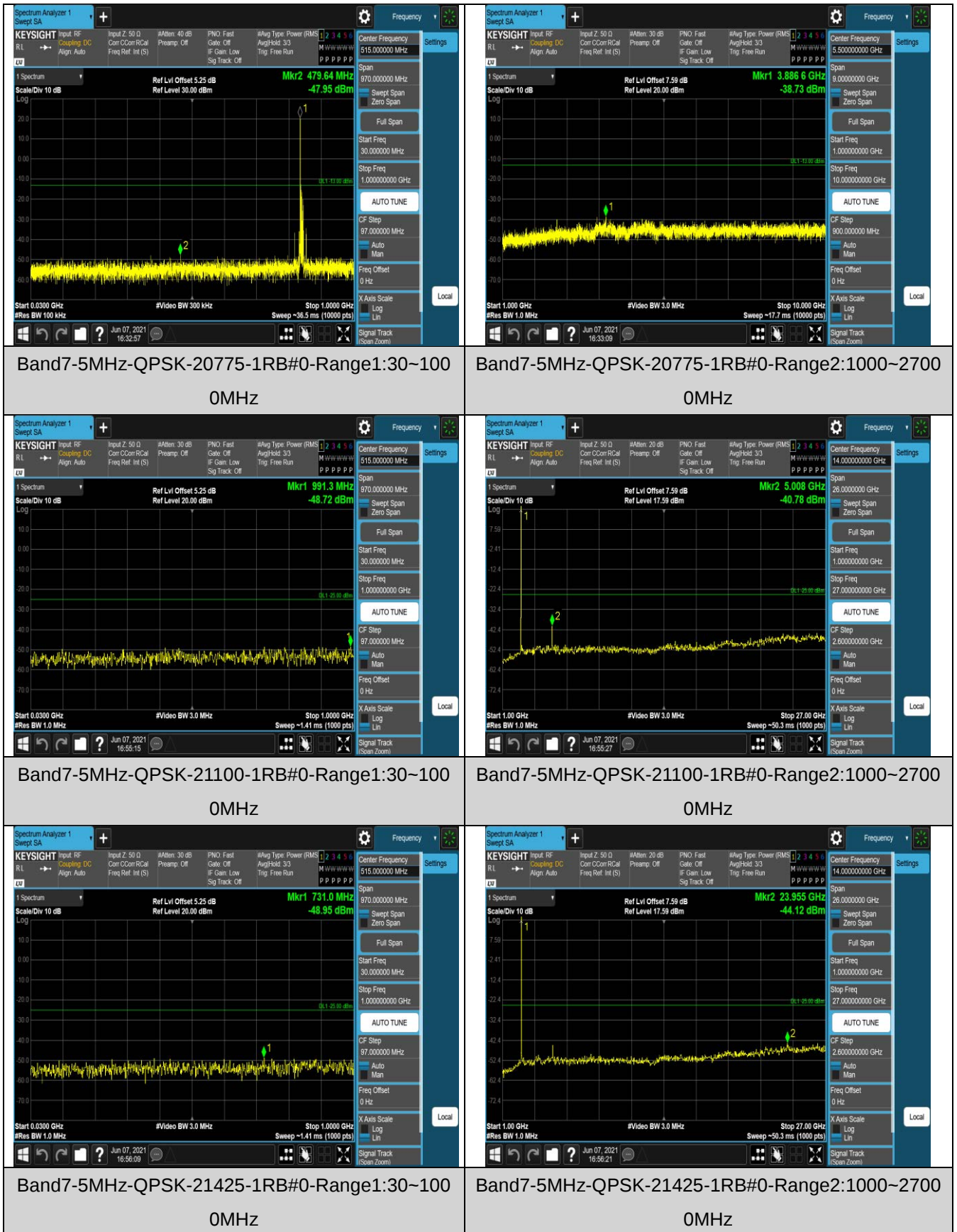
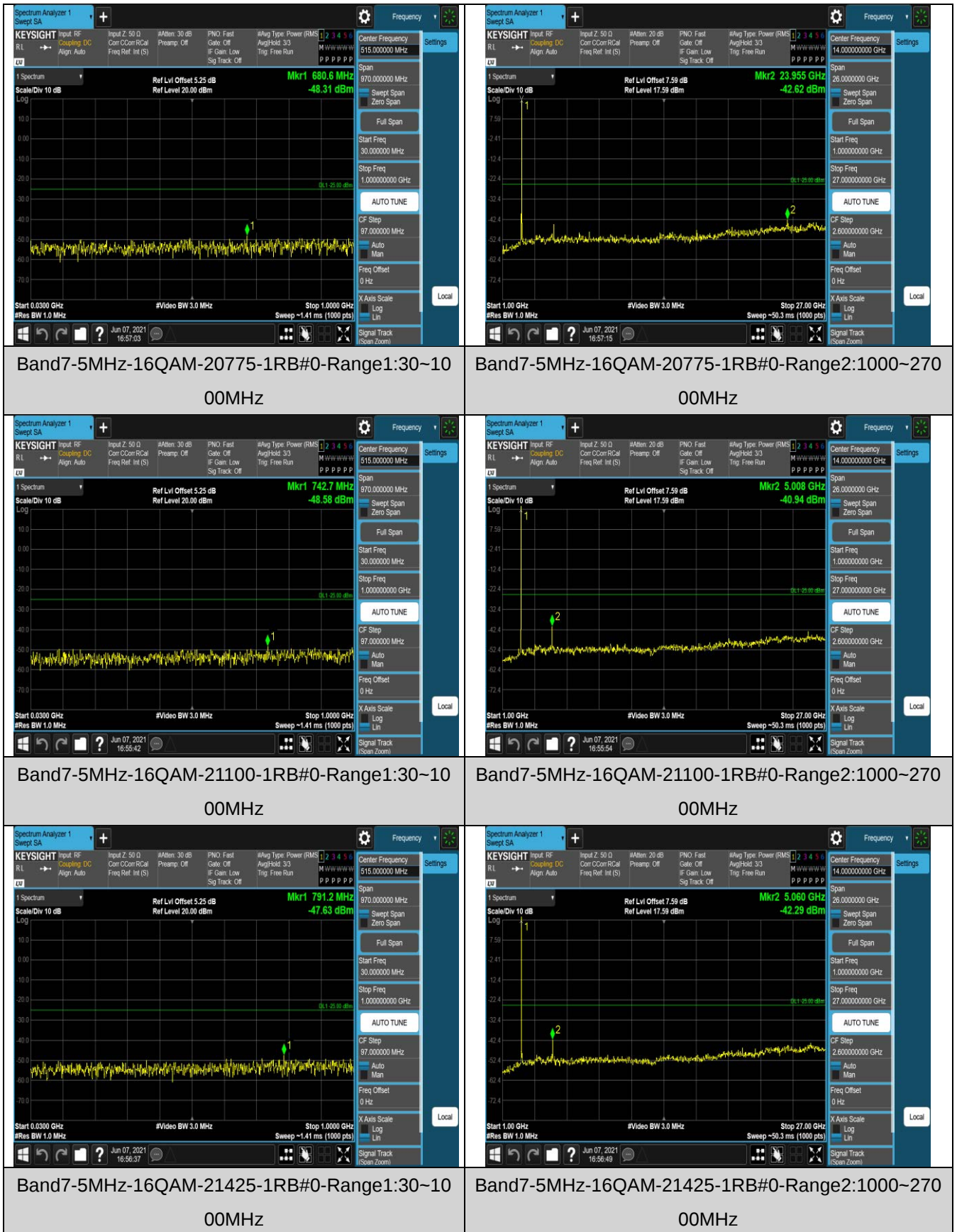




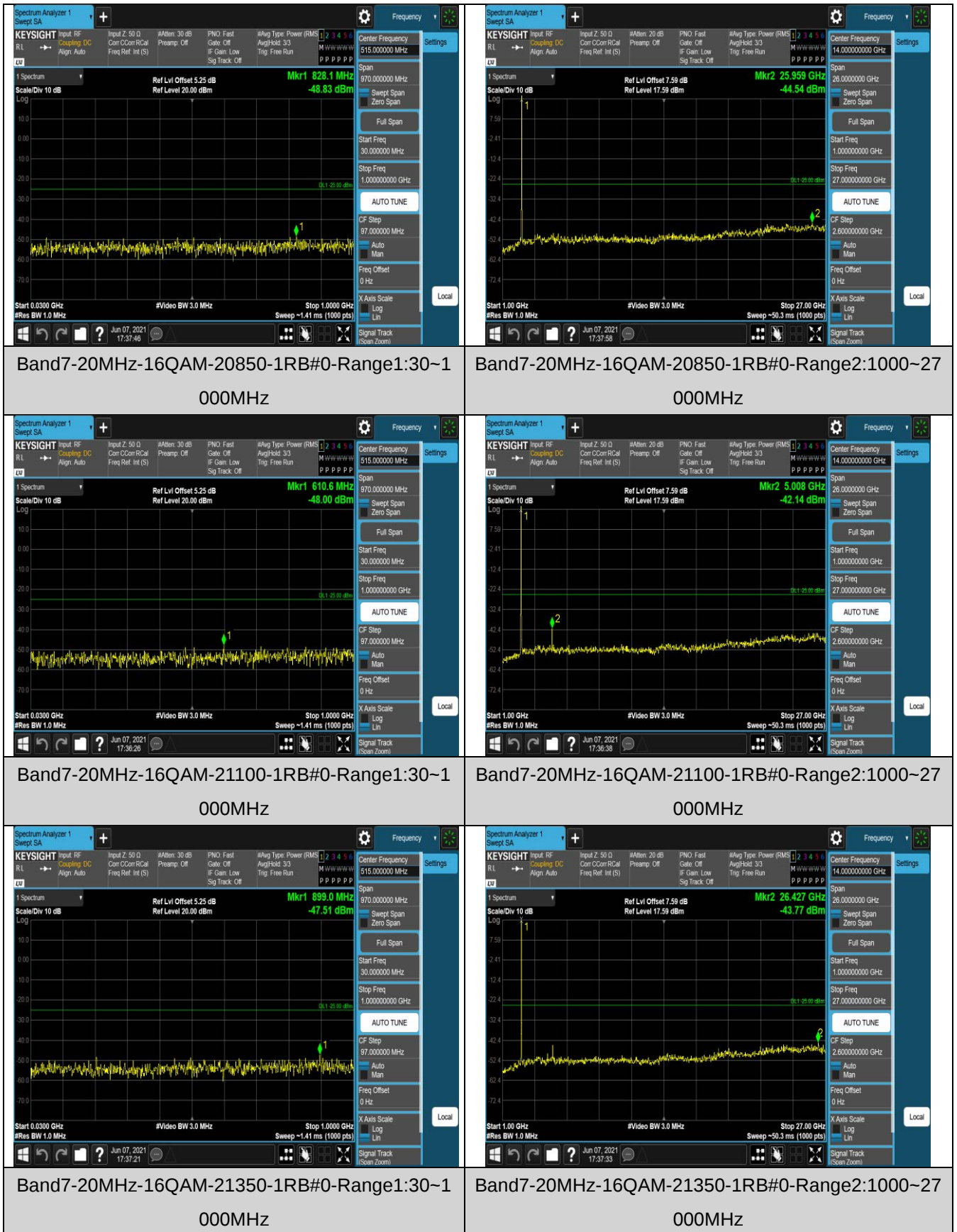


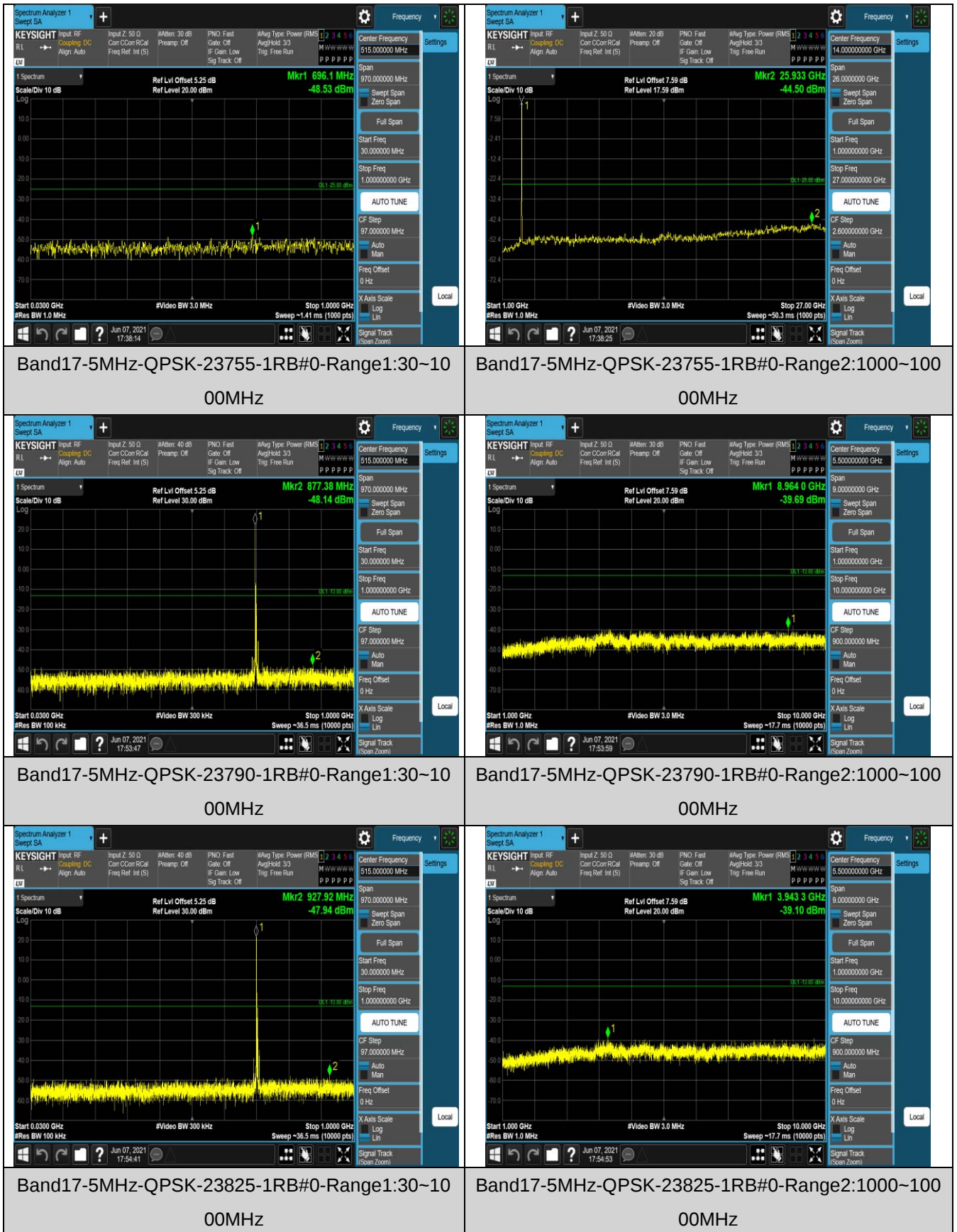


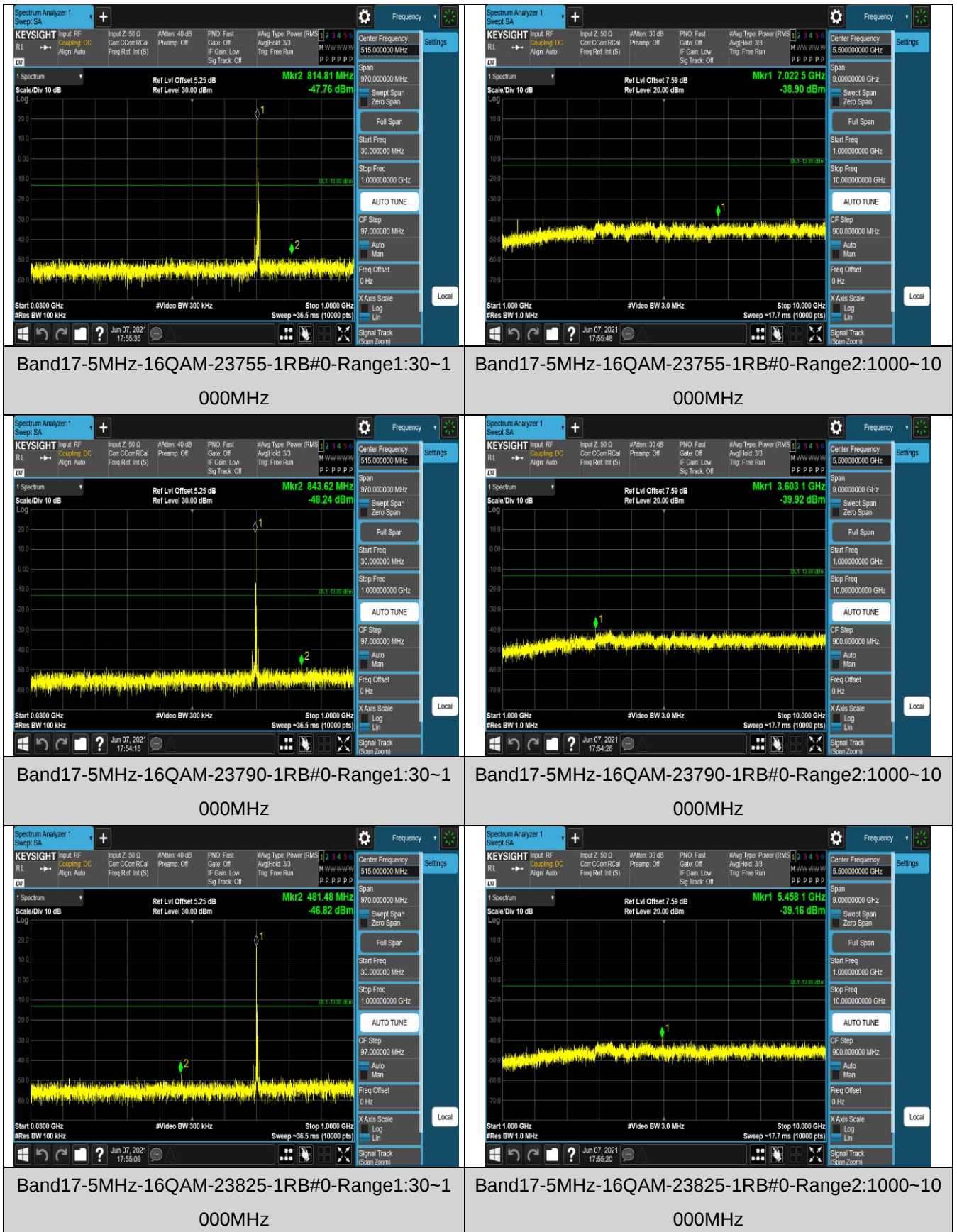


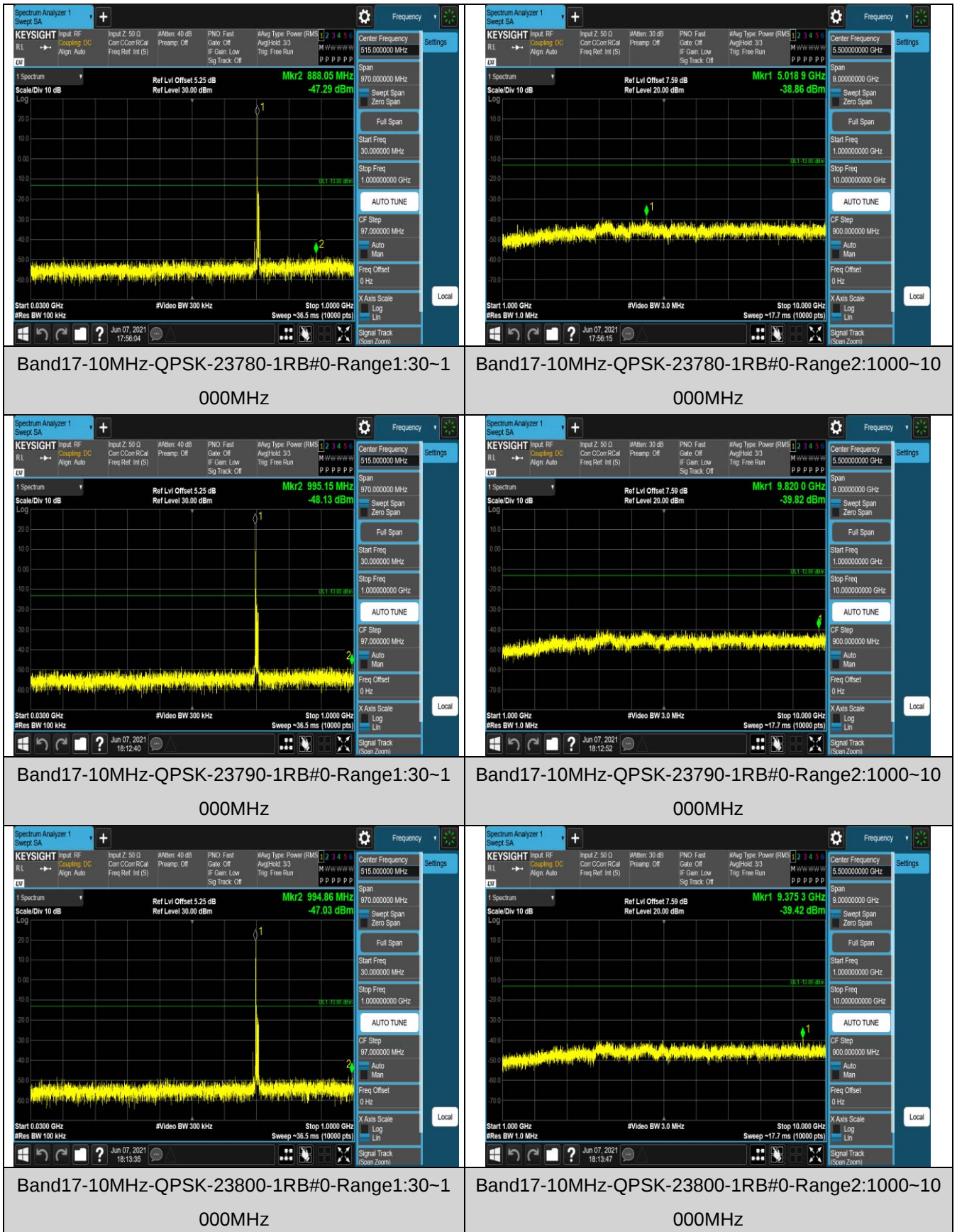




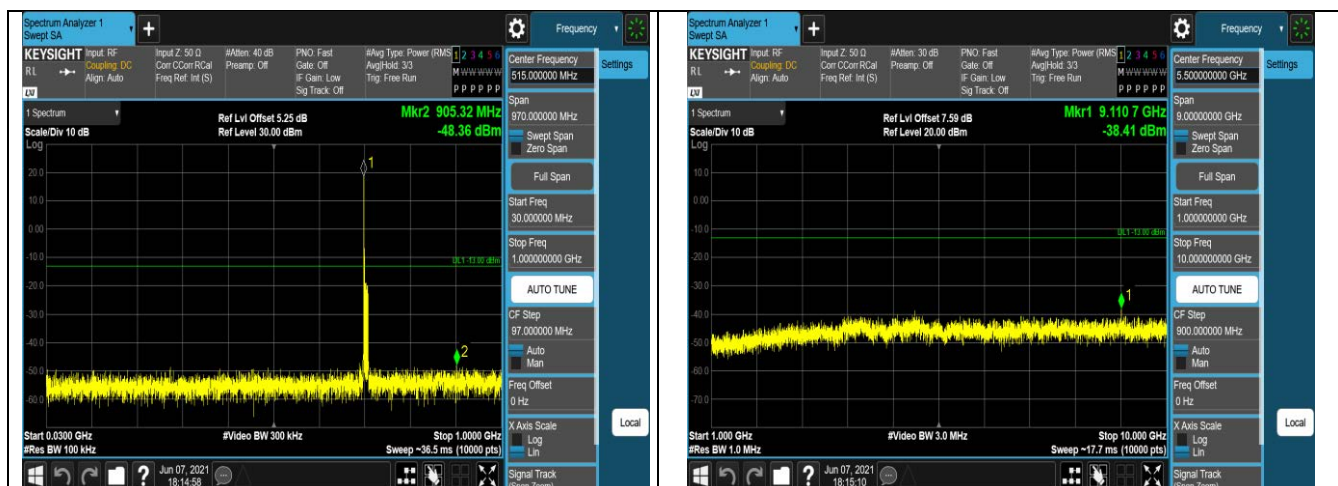












Appendix F: Frequency Stability

Test Result (Worst case):

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-25.69	-0.013665	Within authorized band for Band 2	Pass
	-20	-10.77	-0.005729		
	-10	-28.87	-0.015356		
	0	-23.73	-0.012622		
	10	-26.84	-0.014277		
	20	-28.00	-0.014894		
	30	-19.58	-0.010415		
	40	-28.27	-0.015037		
	50	-2.75	-0.001463		
16QAM					
3.85	-30	15.56	0.008277	Within authorized band for Band 2	Pass
	-20	15.16	0.008064		
	-10	41.50	0.022074		
	0	39.93	0.021239		
	10	32.27	0.017165		
	20	23.49	0.012495		
	30	10.77	0.005729		
	40	-8.61	-0.004580		
	50	34.85	0.018537		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-35.29	-0.018771	Within authorized band for Band 2	Pass
	3.85	-19.97	-0.010622		
	4.42	-20.30	-0.010798		
16QAM					
25	3.50	35.13	0.018686	Within authorized band for Band 2	Pass
	3.85	-4.85	-0.002580		
	4.42	35.19	0.018718		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	3.93	0.002268	Within authorized band for Band 4	Pass
	-20	-4.19	-0.002418		
	-10	-20.81	-0.012012		
	0	7.42	0.004283		
	10	8.91	0.005143		
	20	-9.54	-0.005506		
	30	-27.71	-0.015994		
	40	-13.28	-0.007665		
	50	-29.57	-0.017068		
16QAM					
3.85	-30	14.82	0.008554	Within authorized band for Band 4	Pass
	-20	31.43	0.018141		
	-10	22.33	0.012889		
	0	32.60	0.018817		
	10	28.00	0.016162		
	20	3.65	0.002107		
	30	-39.95	-0.023059		
	40	-24.72	-0.014268		
	50	-16.62	-0.009593		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-21.74	-0.012548	Within authorized band for Band 4	Pass
	3.85	-7.10	-0.004098		
	4.42	-48.35	-0.027908		
16QAM					
25	3.50	13.86	0.008000	Within authorized band for Band 4	Pass
	3.85	-45.82	-0.026447		
	4.42	-34.32	-0.019810		
Note: Only the worst case shown in the report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	3.86	0.004614	±2.5	Pass
	-20	-3.95	-0.004722		
	-10	-8.83	-0.010556		
	0	-11.69	-0.013975		
	10	-15.82	-0.018912		
	20	-16.16	-0.019319		
	30	-14.25	-0.017035		
	40	-17.38	-0.020777		
	50	-21.79	-0.026049		
16QAM					
3.85	-30	14.56	0.017406	±2.5	Pass
	-20	19.45	0.023252		
	-10	29.25	0.034967		
	0	38.21	0.045678		
	10	42.49	0.050795		
	20	43.70	0.052241		
	30	2.82	0.003371		
	40	-3.75	-0.004483		
	50	12.02	0.014369		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	5.09	0.006085	±2.5	Pass
	3.85	14.22	0.016999		
	4.42	2.22	0.002654		
16QAM					
25	3.50	-14.16	-0.016928	±2.5	Pass
	3.85	-27.11	-0.032409		
	4.42	4.59	0.005487		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-30.13	-0.011886	Within authorized band for Band 7	Pass
	-20	-38.07	-0.015018		
	-10	-27.38	-0.010801		
	0	-44.86	-0.017696		
	10	-19.73	-0.007783		
	20	11.92	0.004702		
	30	41.43	0.016343		
	40	44.00	0.017357		
	50	20.83	0.008217		
16QAM					
3.85	-30	15.99	0.006308	Within authorized band for Band 7	Pass
	-20	28.62	0.011290		
	-10	34.33	0.013542		
	0	8.44	0.003329		
	10	19.01	0.007499		
	20	19.61	0.007736		
	30	42.94	0.016939		
	40	55.30	0.021815		
	50	44.83	0.017684		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-24.02	-0.009475	Within authorized band for Band 7	Pass
	3.85	-70.44	-0.027787		
	4.42	7.27	0.002868		
16QAM					
25	3.50	35.79	0.014118	Within authorized band for Band 7	Pass
	3.85	-13.25	-0.005227		
	4.42	33.09	0.013053		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 Frequency=710.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-13.13	-0.018493	Within authorized band for Band 17	Pass
	-20	-23.82	-0.033549		
	-10	-36.64	-0.051606		
	0	-39.53	-0.055676		
	10	-44.30	-0.062394		
	20	-10.20	-0.014366		
	30	-12.87	-0.018127		
	40	-13.16	-0.018535		
	50	-13.23	-0.018634		
16QAM					
3.85	-30	9.56	0.013465	Within authorized band for Band 17	Pass
	-20	22.83	0.032155		
	-10	28.61	0.040296		
	0	35.33	0.049761		
	10	38.95	0.054859		
	20	41.60	0.058592		
	30	45.23	0.063704		
	40	11.43	0.016099		
	50	18.24	0.025690		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	9.23	0.013000	Within authorized band for Band 17	Pass
	3.85	15.69	0.022099		
	4.42	-5.34	-0.007521		
16QAM					
25	3.50	-8.38	-0.011803	Within authorized band for Band 17	Pass
	3.85	-16.01	-0.022549		
	4.42	6.38	0.008986		
Note: Only the worst case shown in the report.					