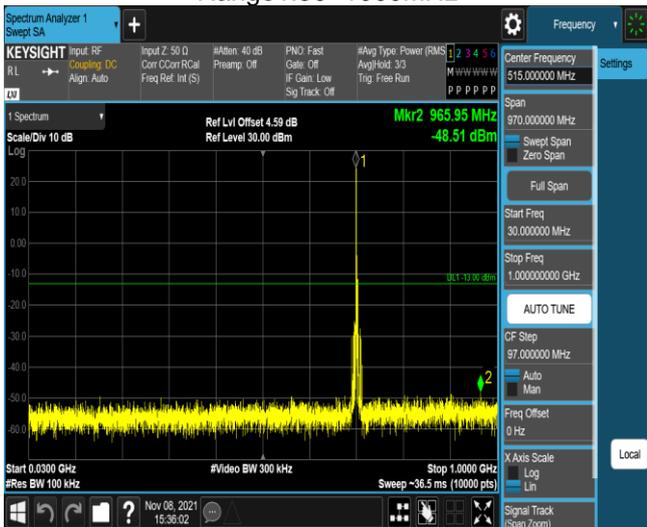




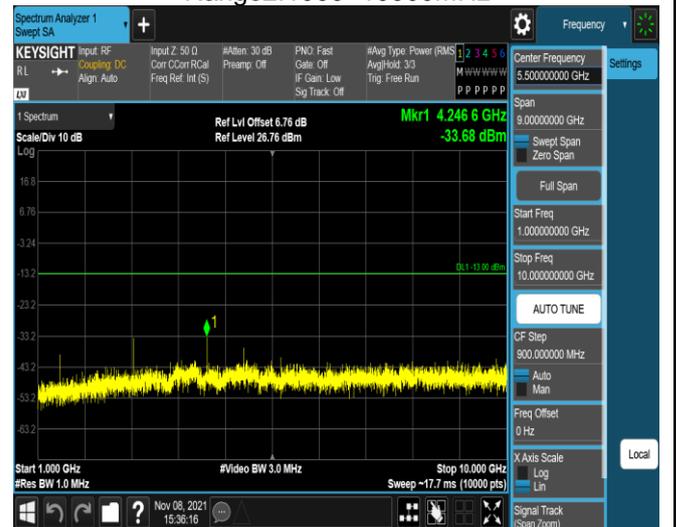
Band17-5MHz-16QAM-23755-1RB#0-  
Range1:30~1000MHz



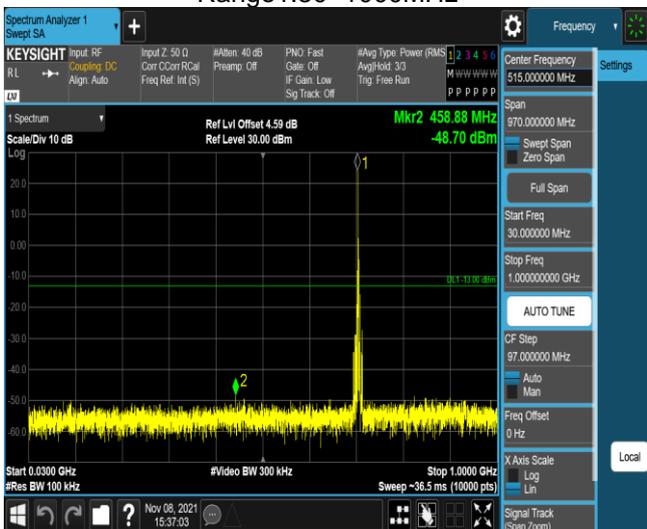
Band17-5MHz-16QAM-23755-1RB#0-  
Range2:1000~10000MHz



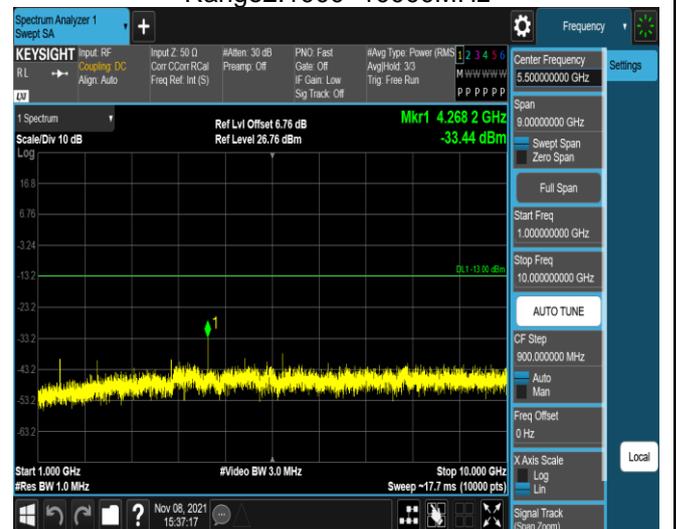
Band17-5MHz-16QAM-23790-1RB#0-  
Range1:30~1000MHz



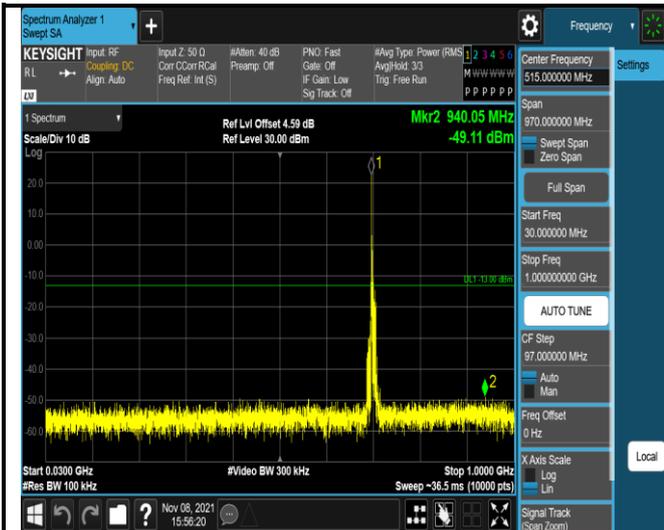
Band17-5MHz-16QAM-23790-1RB#0-  
Range2:1000~10000MHz



Band17-5MHz-16QAM-23825-1RB#0-  
Range1:30~1000MHz



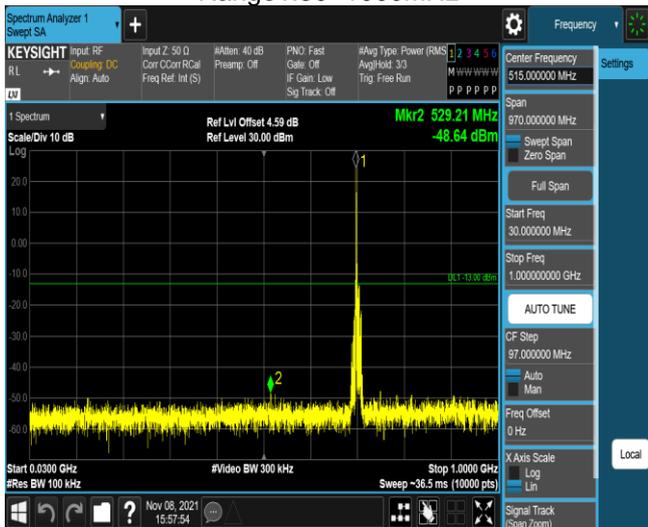
Band17-5MHz-16QAM-23825-1RB#0-  
Range2:1000~10000MHz



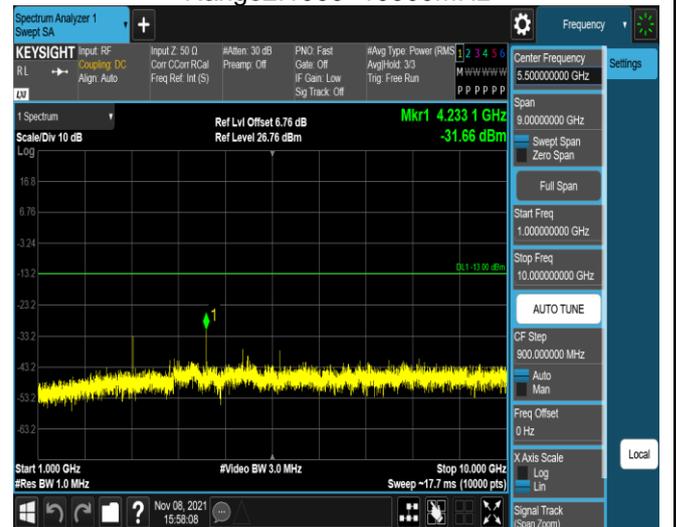
Band17-10MHz-QPSK-23780-1RB#0-  
Range1:30~1000MHz



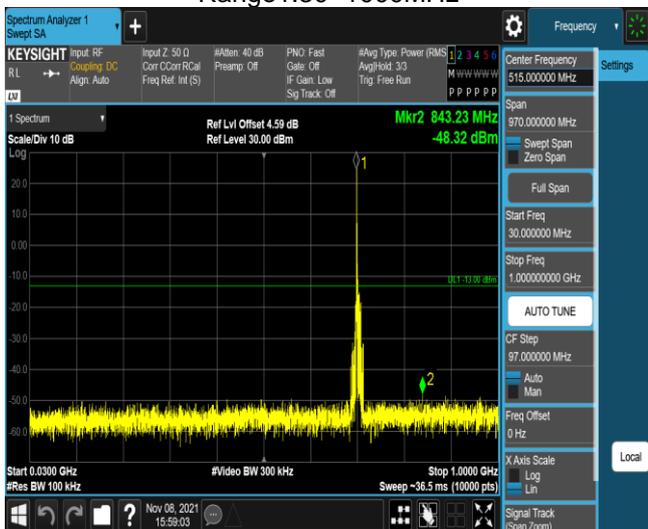
Band17-10MHz-QPSK-23780-1RB#0-  
Range2:1000~10000MHz



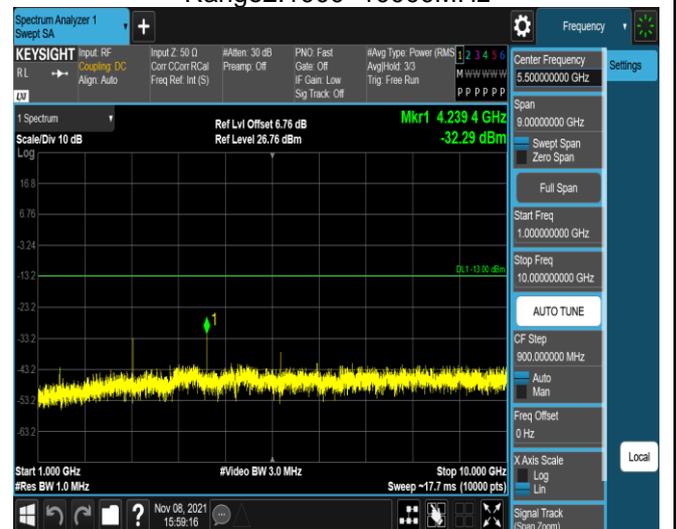
Band17-10MHz-QPSK-23790-1RB#0-  
Range1:30~1000MHz



Band17-10MHz-QPSK-23790-1RB#0-  
Range2:1000~10000MHz



Band17-10MHz-QPSK-23800-1RB#0-  
Range1:30~1000MHz



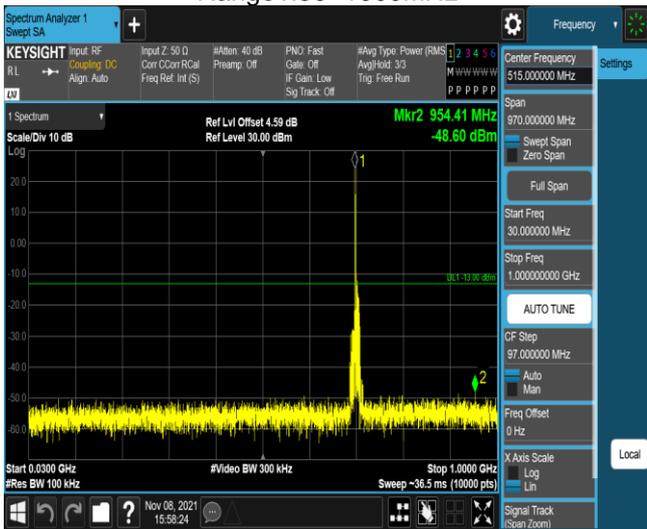
Band17-10MHz-QPSK-23800-1RB#0-  
Range2:1000~10000MHz



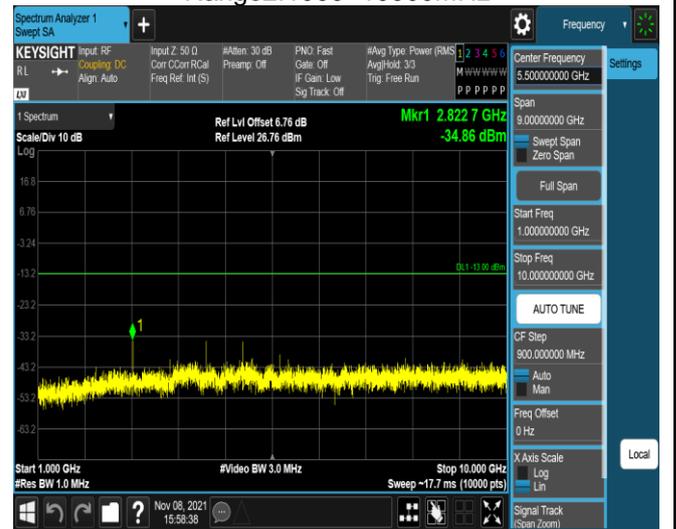
Band17-10MHz-16QAM-23780-1RB#0-  
Range1:30~1000MHz



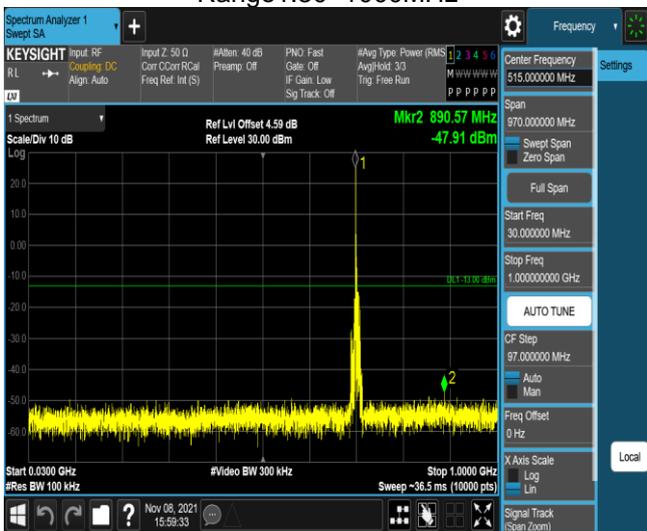
Band17-10MHz-16QAM-23780-1RB#0-  
Range2:1000~10000MHz



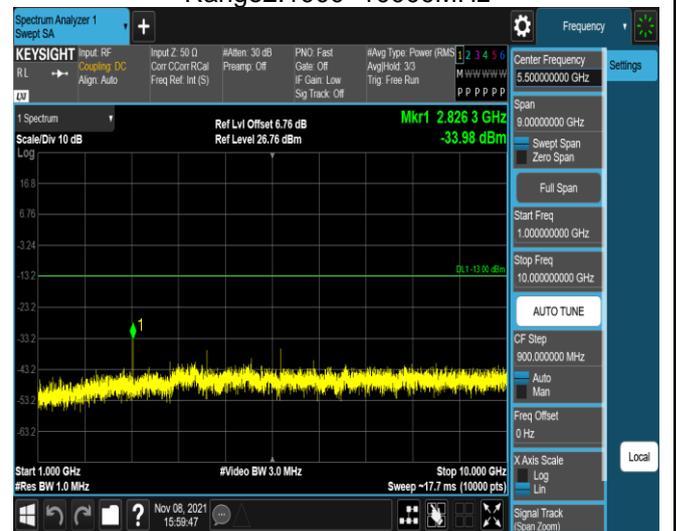
Band17-10MHz-16QAM-23790-1RB#0-  
Range1:30~1000MHz



Band17-10MHz-16QAM-23790-1RB#0-  
Range2:1000~10000MHz



Band17-10MHz-16QAM-23800-1RB#0-  
Range1:30~1000MHz



Band17-10MHz-16QAM-23800-1RB#0-  
Range2:1000~10000MHz

## Appendix F: Frequency Stability

**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					
3.80	-30	-3.29	-0.001750	Within authorized band for Band 2	Pass
	-20	17.50	0.009309		
	-10	-5.22	-0.002777		
	0	38.52	0.020489		
	10	29.57	0.015729		
	20	6.37	0.003388		
	30	31.51	0.016761		
	40	50.48	0.026851		
	50	17.22	0.009160		
16QAM					
3.80	-30	29.70	0.015798	Within authorized band for Band 2	Pass
	-20	28.37	0.015090		
	-10	21.76	0.011574		
	0	24.56	0.013064		
	10	29.81	0.015856		
	20	29.35	0.015612		
	30	29.11	0.015484		
	40	27.62	0.014691		
	50	28.28	0.015043		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	6.34	0.003372	Within authorized band for Band 2	Pass
	3.80	-22.80	-0.012128		
	4.35	35.99	0.019144		
16QAM					
25	3.50	37.88	0.020149	Within authorized band for Band 2	Pass
	3.80	30.47	0.016207		
	4.35	31.84	0.016936		

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this 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					
3.80	-30	-23.65	-0.013651	Within authorized band for Band 4	Pass
	-20	-30.97	-0.017876		
	-10	-39.63	-0.022874		
	0	-11.42	-0.006592		
	10	-15.03	-0.008675		
	20	-22.49	-0.012981		
	30	-28.50	-0.016450		
	40	-28.84	-0.016646		
	50	-31.11	-0.017957		
16QAM					
3.80	-30	-37.32	-0.021541	Within authorized band for Band 4	Pass
	-20	-45.75	-0.026407		
	-10	16.88	0.009743		
	0	10.17	0.005870		
	10	7.04	0.004063		
	20	-6.64	-0.003833		
	30	-11.84	-0.006834		
	40	-10.61	-0.006124		
	50	-16.59	-0.009576		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-33.62	-0.019405	Within authorized band for Band 4	Pass
	3.80	-26.74	-0.015434		
	4.35	-9.53	-0.005501		
16QAM					
25	3.50	-49.08	-0.028329	Within authorized band for Band 4	Pass
	3.80	-35.19	-0.020312		
	4.35	-17.55	-0.010130		

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this 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					
3.80	-30	42.10	0.050329	±2.5	Pass
	-20	19.53	0.023347		
	-10	37.02	0.044256		
	0	12.43	0.014860		
	10	28.21	0.033724		
	20	41.34	0.049420		
	30	49.92	0.059677		
	40	10.43	0.012469		
	50	18.77	0.022439		
16QAM					
3.80	-30	-26.35	-0.031500	±2.5	Pass
	-20	-9.57	-0.011441		
	-10	-37.97	-0.045392		
	0	-13.16	-0.015732		
	10	-34.99	-0.041829		
	20	-3.18	-0.003802		
	30	-18.61	-0.022247		
	40	-35.32	-0.042224		
	50	-47.88	-0.057238		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	18.21	0.021769	±2.5	Pass
	3.80	-26.46	-0.031632		
	4.35	14.33	0.017131		
16QAM					
25	3.50	-21.44	-0.025631	±2.5	Pass
	3.80	26.24	0.031369		
	4.35	-27.27	-0.032600		

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

**LTE Band 12 part:**

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	6.07	0.008580	Within authorized band for Band 12	Pass
	-20	46.65	0.065936		
	-10	36.19	0.051152		
	0	19.70	0.027845		
	10	46.92	0.066318		
	20	18.51	0.026163		
	30	40.96	0.057894		
	40	15.81	0.022346		
	50	35.12	0.049640		
16QAM					
3.80	-30	3.50	0.004947	Within authorized band for Band 12	Pass
	-20	4.11	0.005809		
	-10	6.85	0.009682		
	0	10.87	0.015364		
	10	16.22	0.022926		
	20	19.54	0.027618		
	30	24.33	0.034389		
	40	29.77	0.042078		
	50	34.92	0.049357		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	42.60	0.060212	Within authorized band for Band 12	Pass
	3.80	-43.12	-0.060947		
	4.35	12.09	0.017088		
16QAM					
25	3.50	6.59	0.009314	Within authorized band for Band 12	Pass
	3.80	5.46	0.007717		
	4.35	2.33	0.003293		

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

**LTE Band 13 part:**

Reference Frequency: LTE Band 13(10MHz) Middle channel=23230 channel=782.00MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	18.34	0.023453	Within authorized band for Band 13	Pass
	-20	32.34	0.041355		
	-10	44.22	0.056547		
	0	2.68	0.003427		
	10	10.74	0.013734		
	20	17.88	0.022864		
	30	29.20	0.037340		
	40	38.60	0.049361		
	50	47.42	0.060639		
16QAM					
3.80	-30	-11.50	-0.014706	Within authorized band for Band 13	Pass
	-20	-24.59	-0.031445		
	-10	-36.18	-0.046266		
	0	-41.51	-0.053082		
	10	-49.12	-0.062813		
	20	-52.70	-0.067391		
	30	-1.66	-0.002123		
	40	-3.43	-0.004386		
	50	-3.35	-0.004284		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-18.55	-0.023721	Within authorized band for Band 13	Pass
	3.80	-20.27	-0.025921		
	4.35	2.15	0.002749		
16QAM					
25	3.50	-10.89	-0.013926	Within authorized band for Band 13	Pass
	3.80	6.44	0.008235		
	4.35	-39.31	-0.050269		

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

**LTE Band 17 part:**

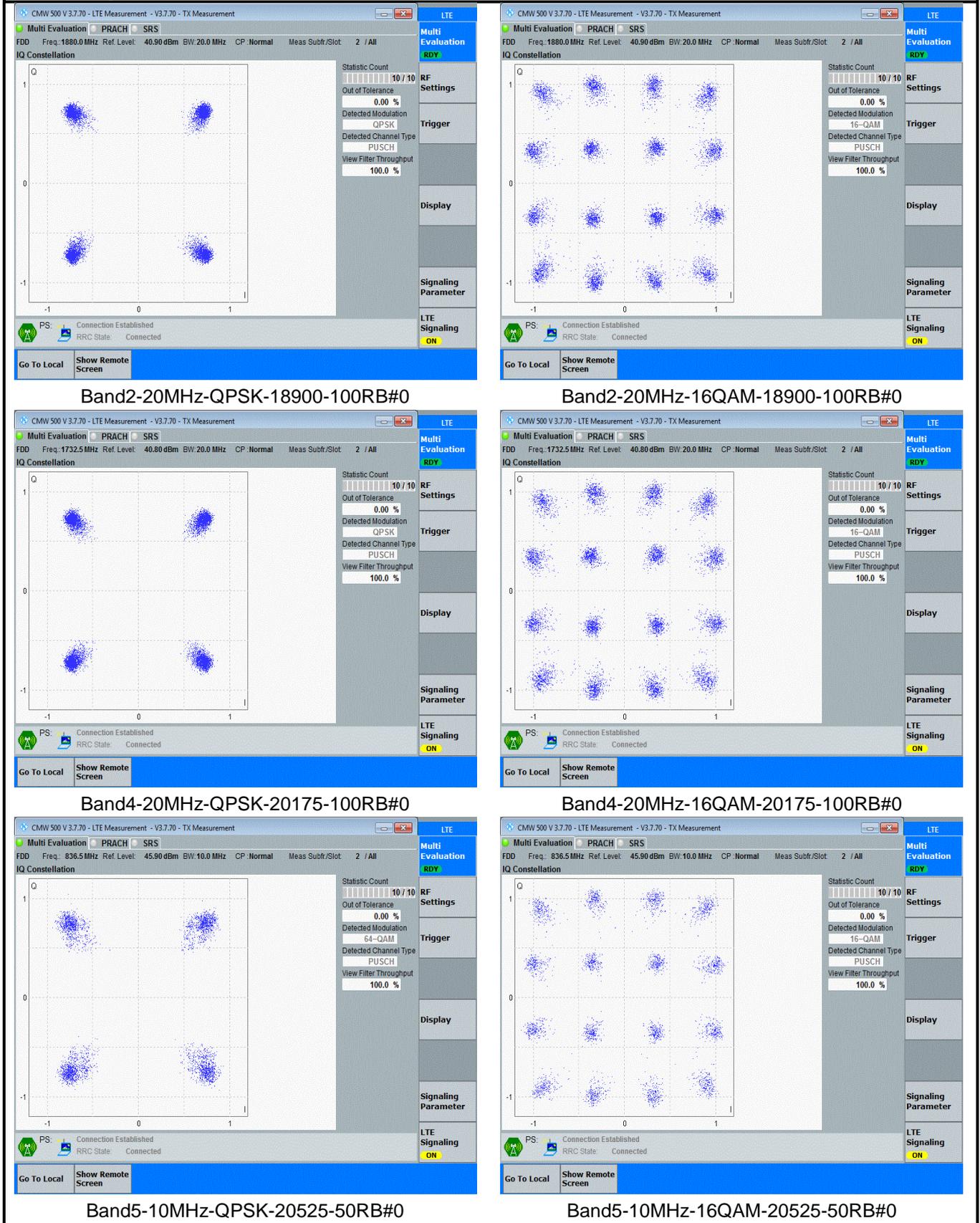
Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 Frequency=710.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	9.33	0.013141	Within authorized band for Band 17	Pass
	-20	-5.49	-0.007732		
	-10	30.74	0.043296		
	0	13.38	0.018845		
	10	36.79	0.051817		
	20	14.23	0.020042		
	30	33.63	0.047366		
	40	3.13	0.004408		
	50	18.10	0.025493		
16QAM					
3.80	-30	39.84	0.056113	Within authorized band for Band 17	Pass
	-20	23.20	0.032676		
	-10	-3.03	-0.004268		
	0	25.81	0.036352		
	10	48.97	0.068972		
	20	20.28	0.028563		
	30	38.65	0.054437		
	40	11.92	0.016789		
	50	30.97	0.043620		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-3.95	-0.005563	Within authorized band for Band 17	Pass
	3.80	-43.77	-0.061648		
	4.35	13.73	0.019338		
16QAM					
25	3.50	11.87	0.016718	Within authorized band for Band 17	Pass
	3.80	34.58	0.048704		
	4.35	6.04	0.008507		
<b>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</b>					

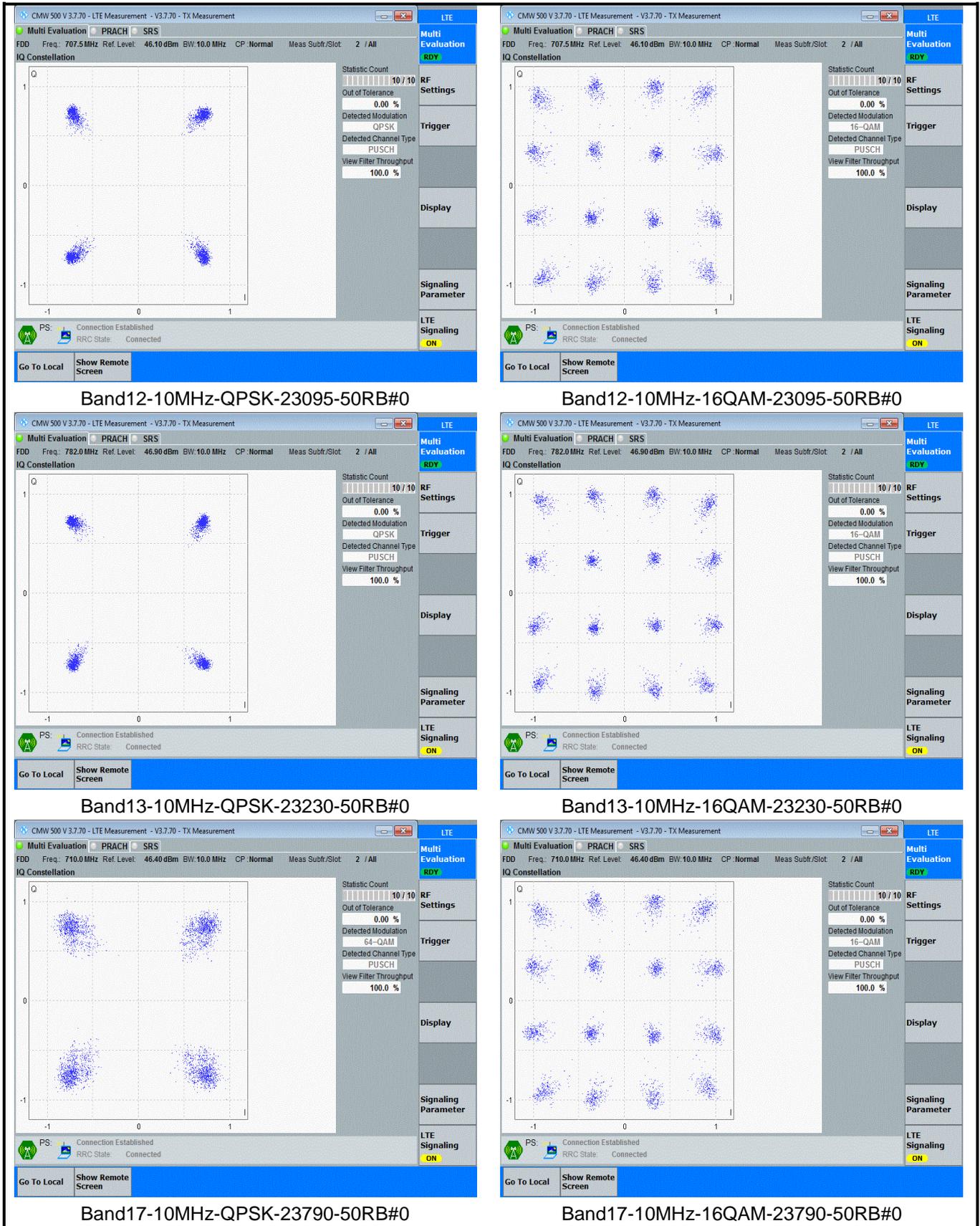
### Appendix G: Modulation Characteristics

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS	PASS
Band13	10MHz	QPSK	23230	50RB#0	PASS	PASS
Band13	10MHz	16QAM	23230	50RB#0	PASS	PASS
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS

**Remark:** All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs:





-----End of report-----