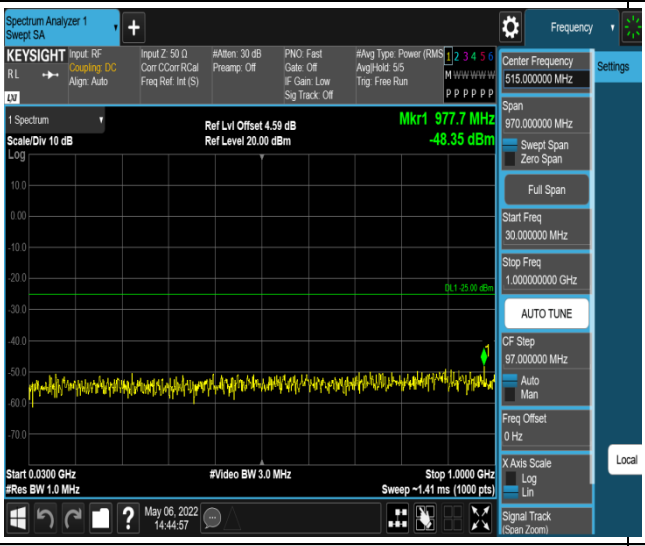
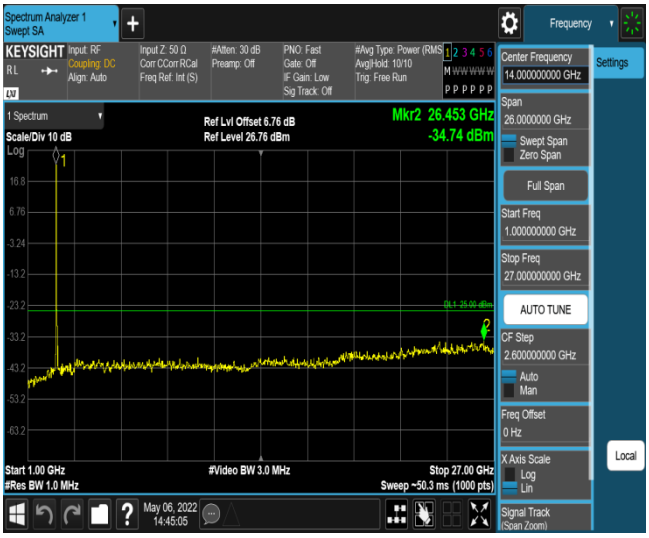
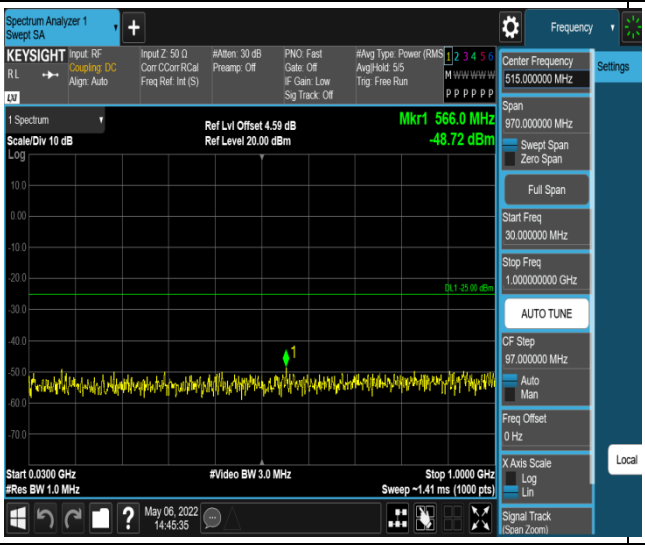
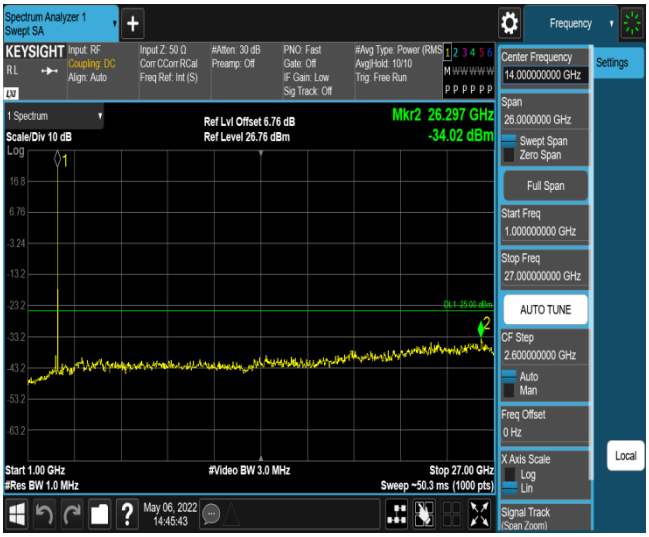
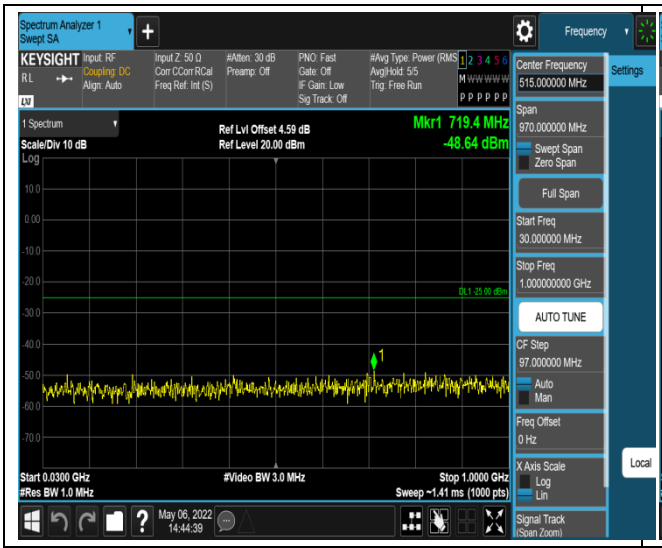
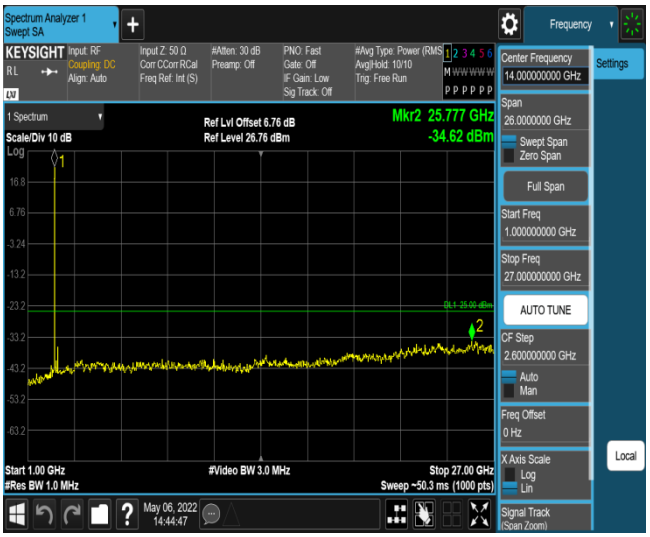
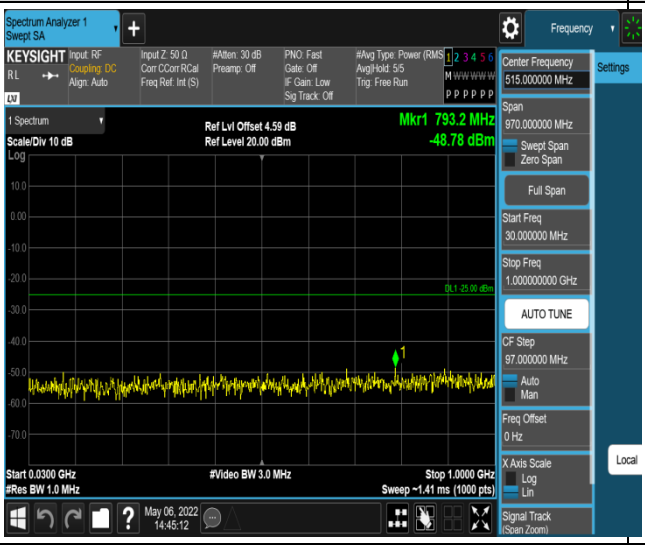
Band41-20MHz-QPSK-40620-1RB#0-Range1:30~1000MHz	Band41-20MHz-QPSK-40620-1RB#0-Range2:1000~27000MHz
	
Band41-20MHz-QPSK-41490-1RB#0-Range1:30~1000MHz	Band41-20MHz-QPSK-41490-1RB#0-Range2:1000~27000MHz
	
Band41-20MHz-16QAM-39750-1RB#0-Range1:30~1000MHz	Band41-20MHz-16QAM-39750-1RB#0-Range2:1000~27000MHz



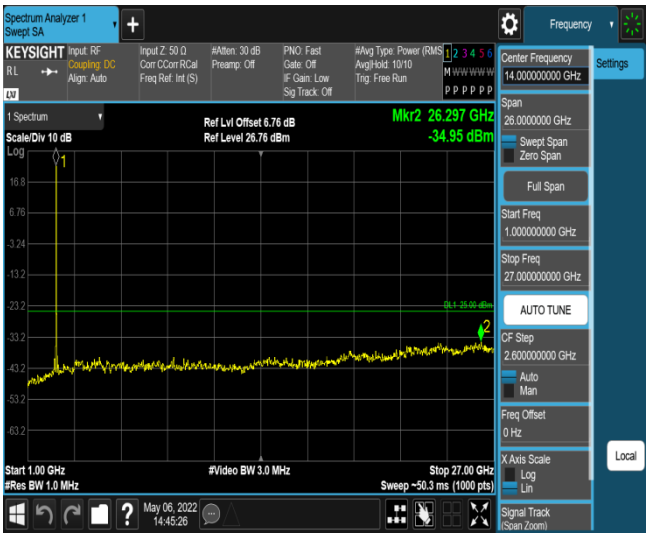
Band41-20MHz-16QAM-40620-1RB#0-Range1:30 ~1000MHz



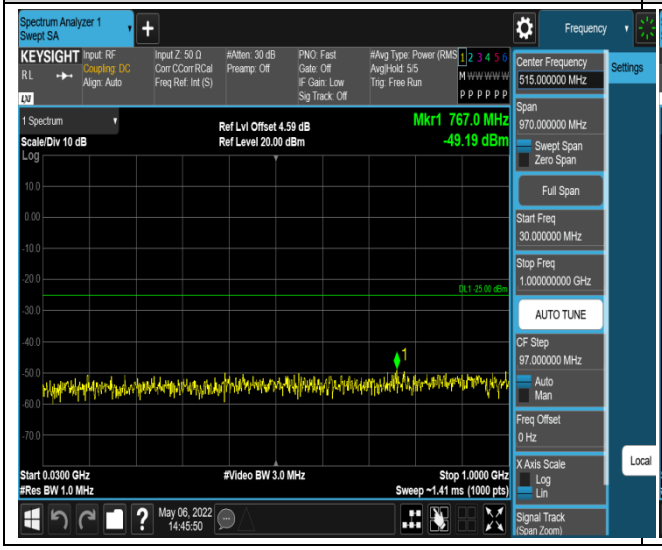
Band41-20MHz-16QAM-40620-1RB#0-Range2:1000~ 27000MHz

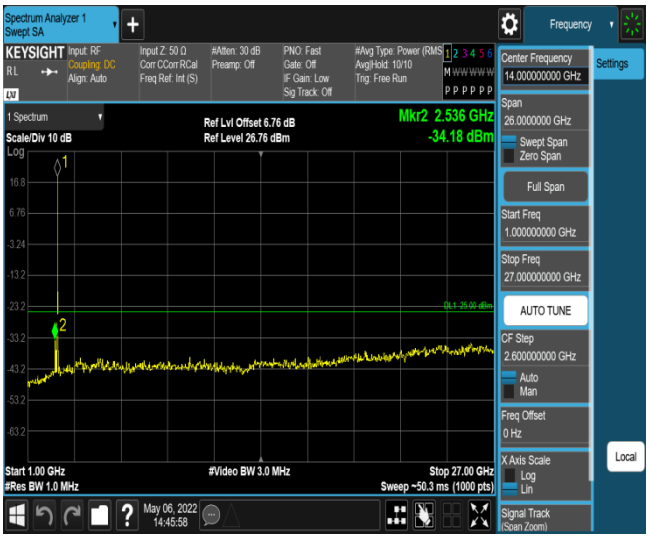


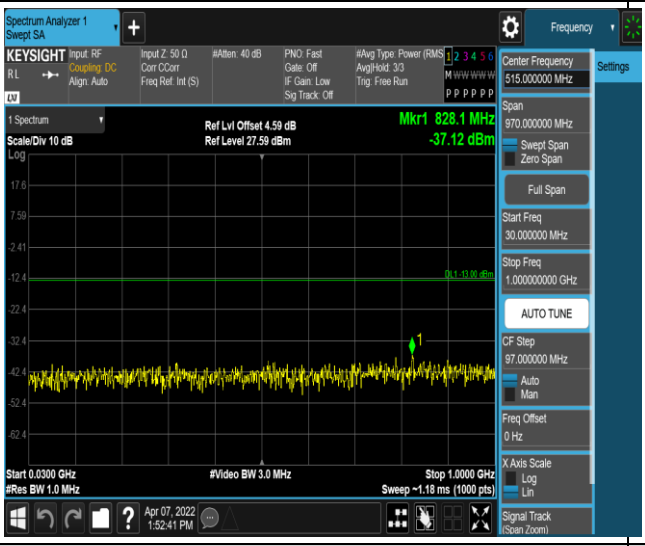
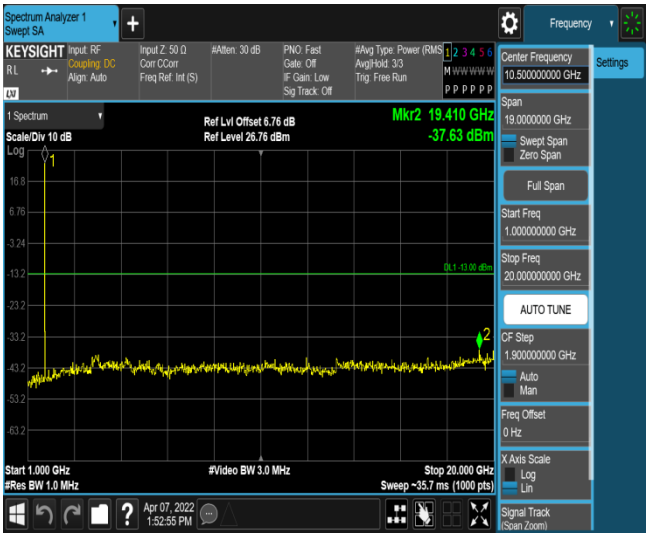
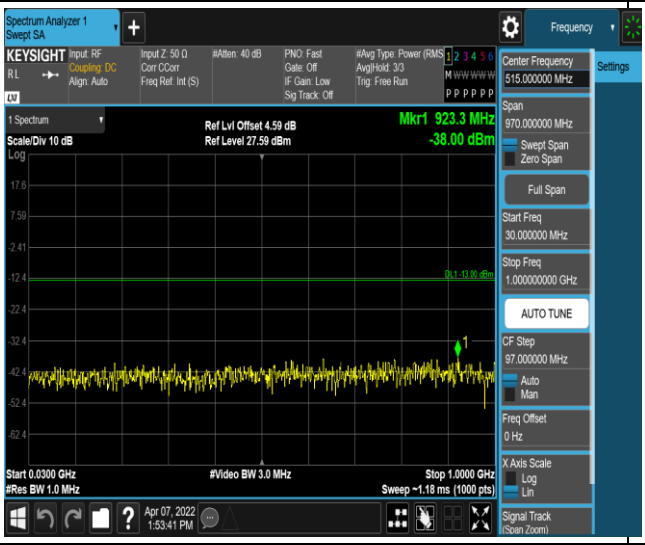
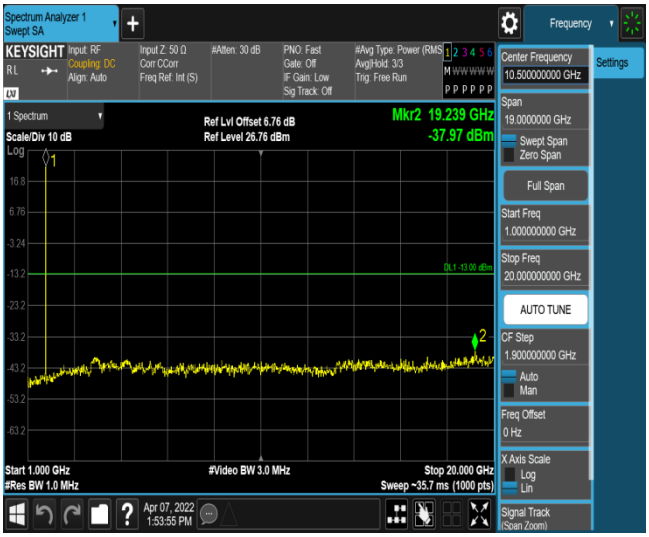
Band41-20MHz-16QAM-41490-1RB#0-Range1:30 ~1000MHz

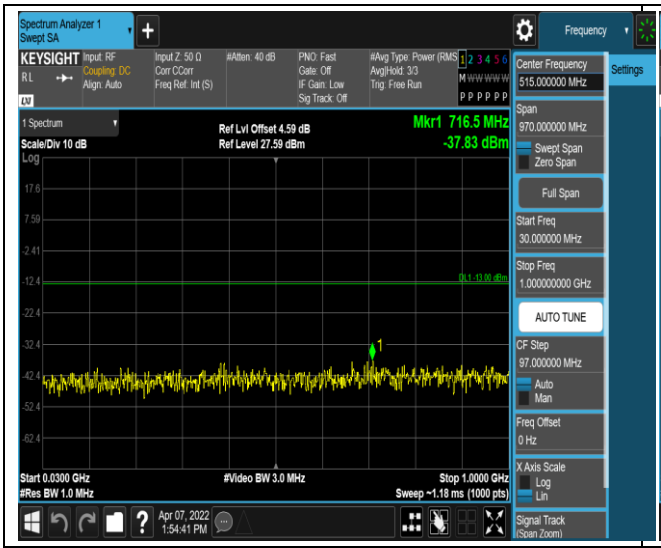


Band41-20MHz-16QAM-41490-1RB#0-Range2:1000~ 27000MHz

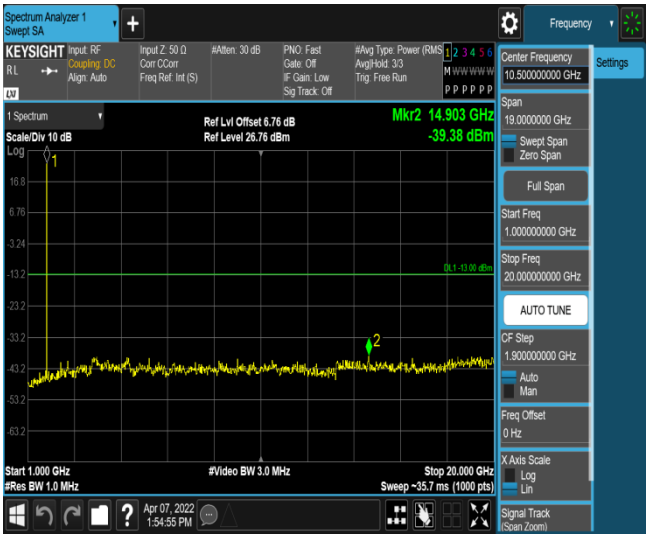




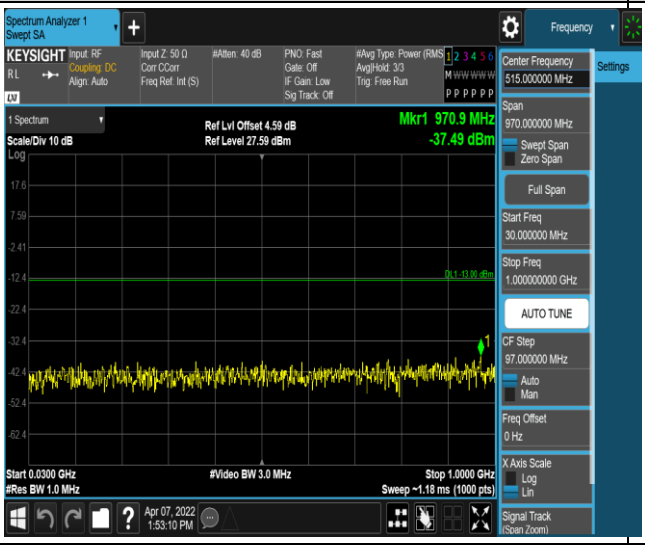
Band66-1.4MHz-QPSK-131979-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-QPSK-131979-1RB#0-Range2:1000~2000MHz
	
Band66-1.4MHz-QPSK-132322-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-QPSK-132322-1RB#0-Range2:1000~2000MHz
	
Band66-1.4MHz-QPSK-132665-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-QPSK-132665-1RB#0-Range2:1000~2000MHz



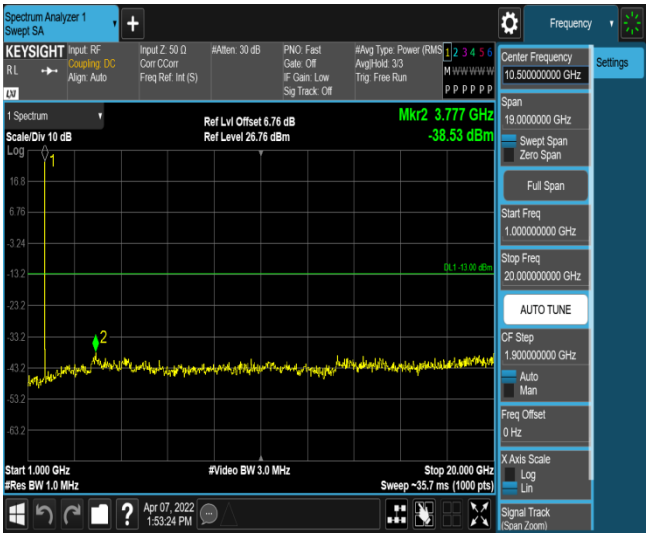
Band66-1.4MHz-16QAM-131979-1RB#0-Range1:30~1000MHz



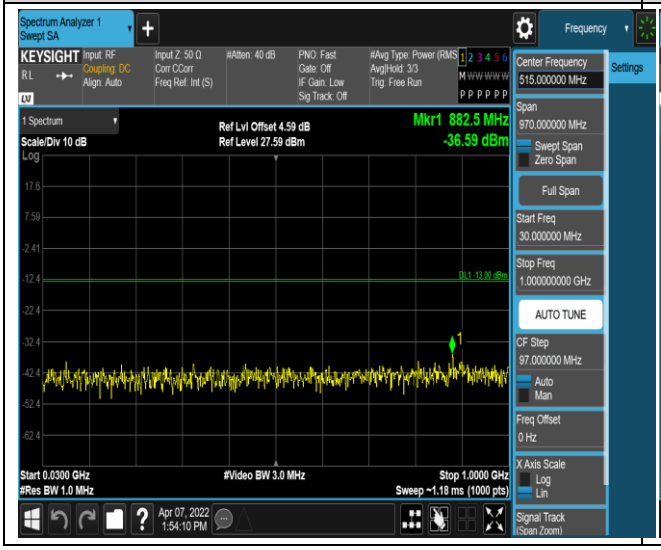
Band66-1.4MHz-16QAM-131979-1RB#0-Range2:1000~20000MHz

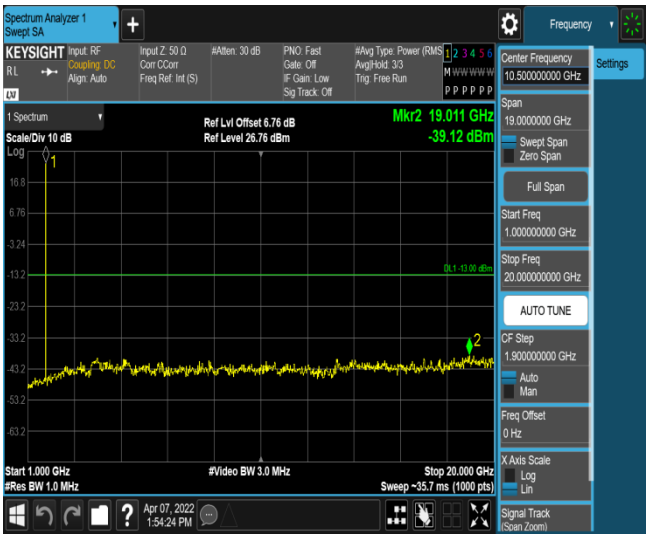


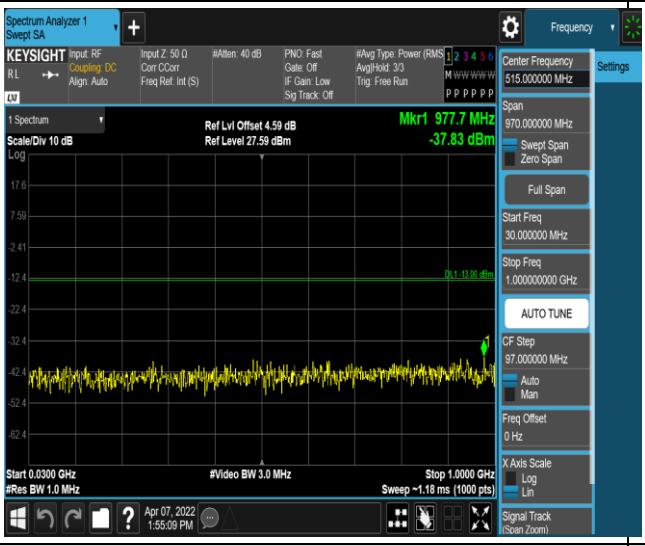
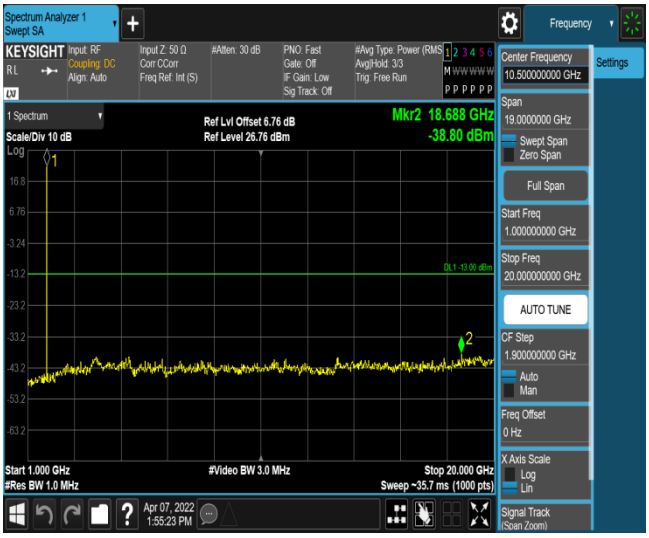
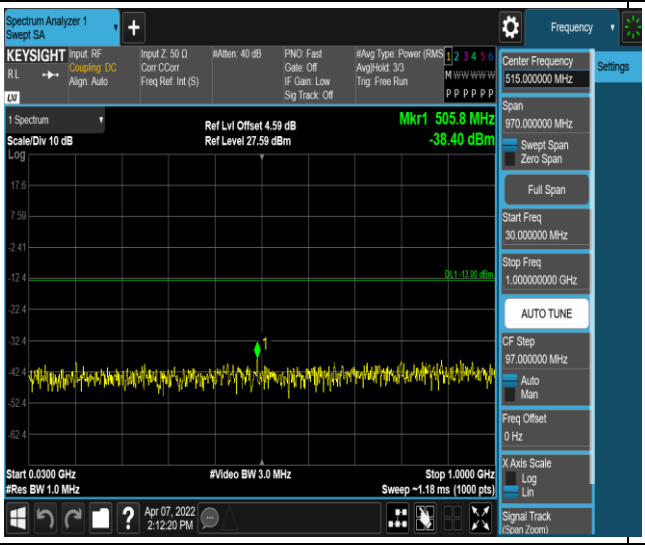
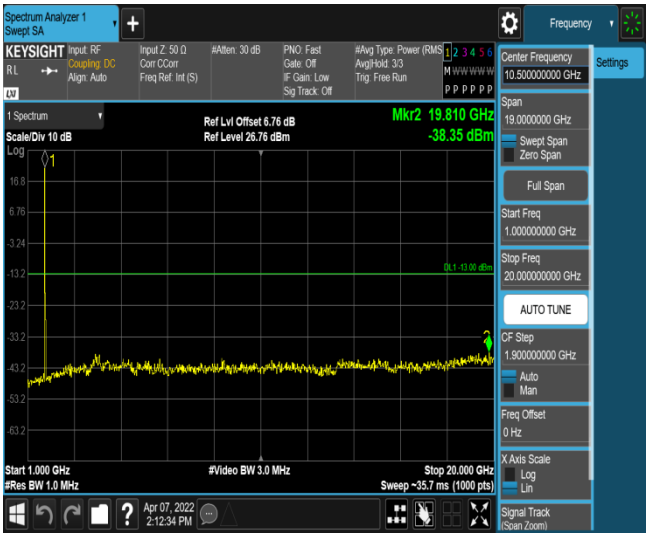
Band66-1.4MHz-16QAM-132322-1RB#0-Range1:30~1000MHz

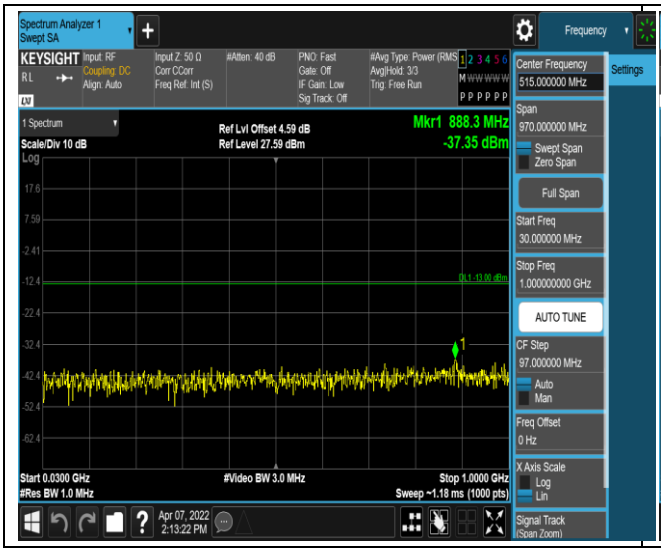


Band66-1.4MHz-16QAM-132322-1RB#0-Range2:1000~20000MHz

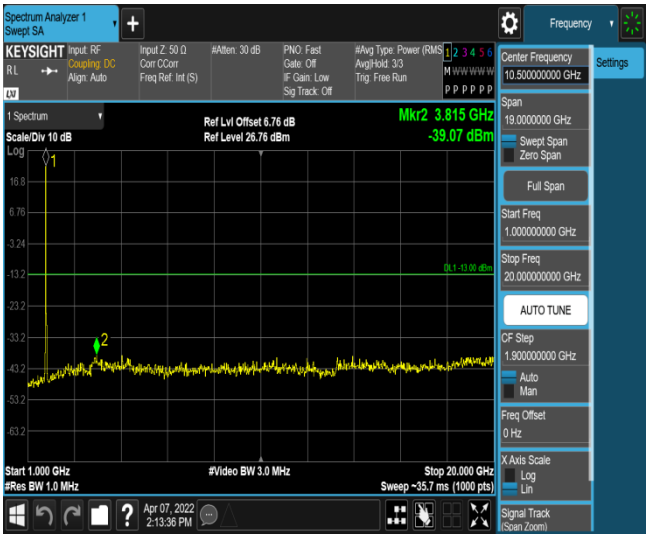




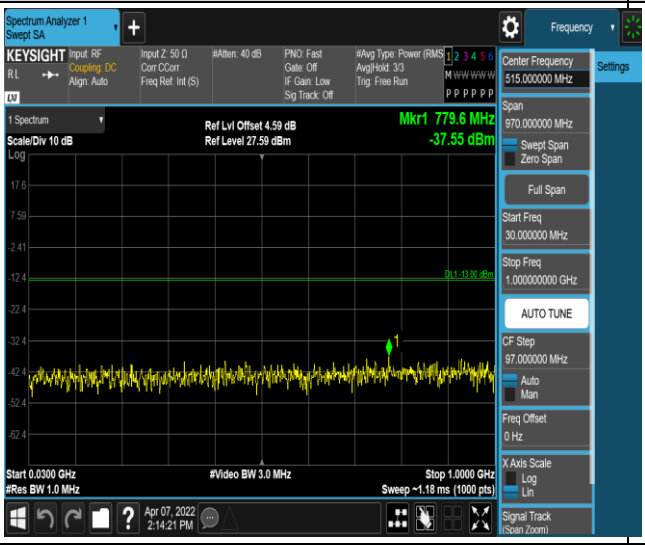
Band66-1.4MHz-16QAM-132665-1RB#0-Range1:30~1000MHz	Band66-1.4MHz-16QAM-132665-1RB#0-Range2:1000~20000MHz
	
Band66-20MHz-QPSK-132072-1RB#0-Range1:30~1000MHz	Band66-20MHz-QPSK-132072-1RB#0-Range2:1000~20000MHz
	
Band66-20MHz-QPSK-132322-1RB#0-Range1:30~1000MHz	Band66-20MHz-QPSK-132322-1RB#0-Range2:1000~20000MHz



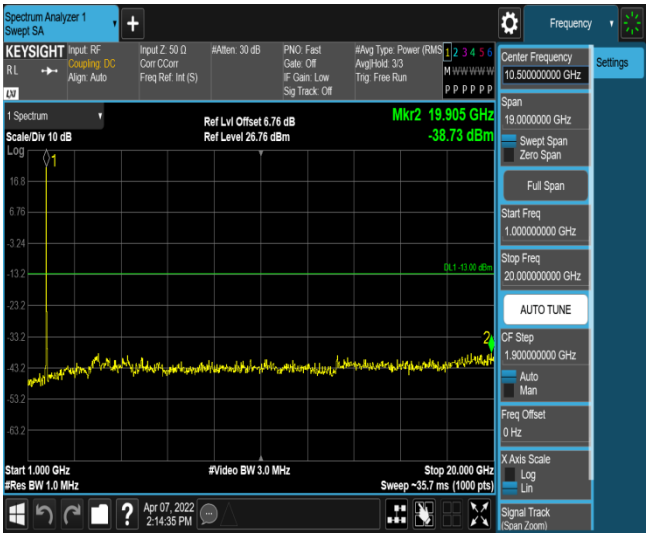
Band66-20MHz-QPSK-132572-1RB#0-Range1:30~1000 MHz



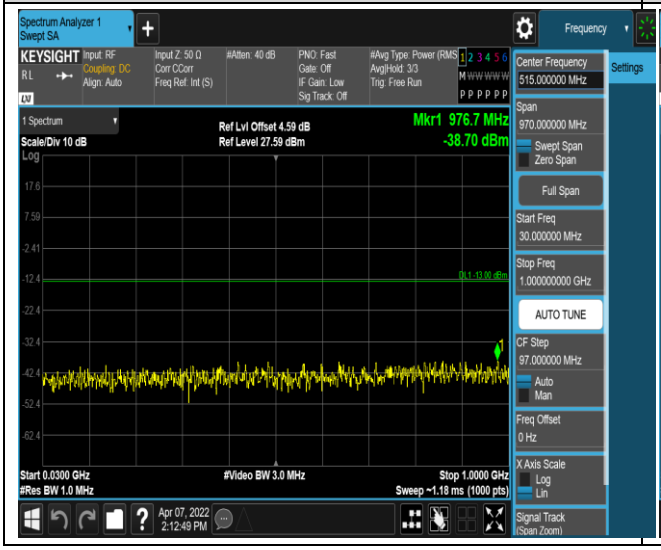
Band66-20MHz-QPSK-132572-1RB#0-Range2:1000~20000 MHz

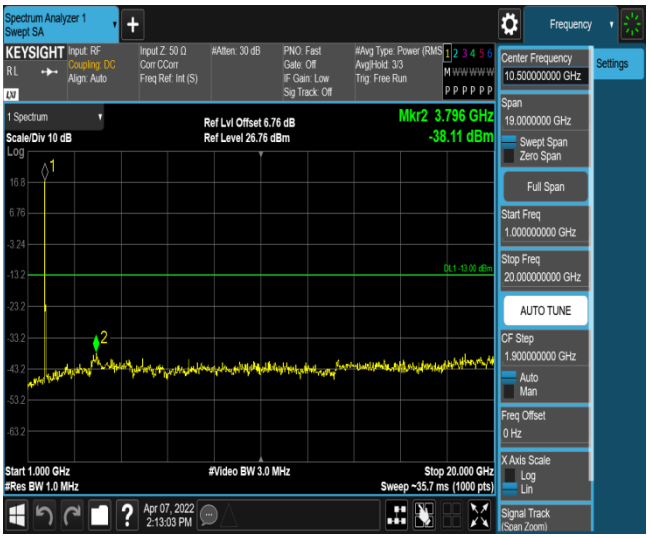


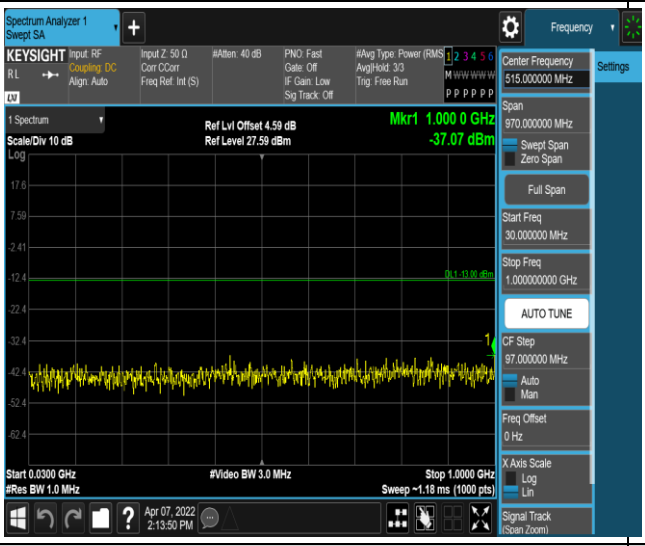
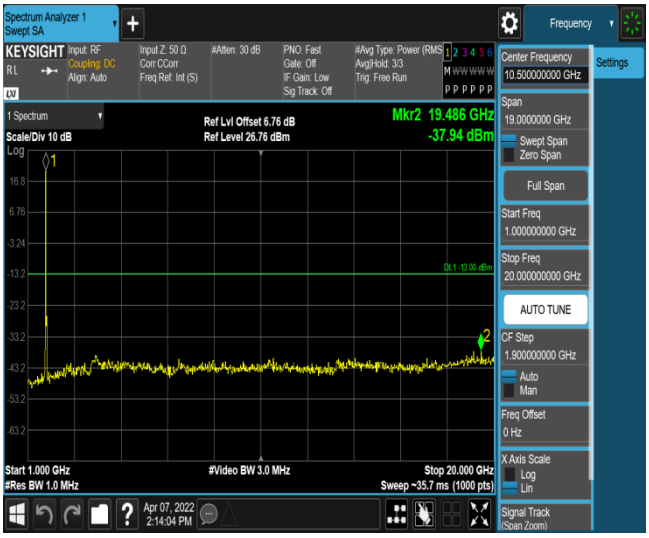
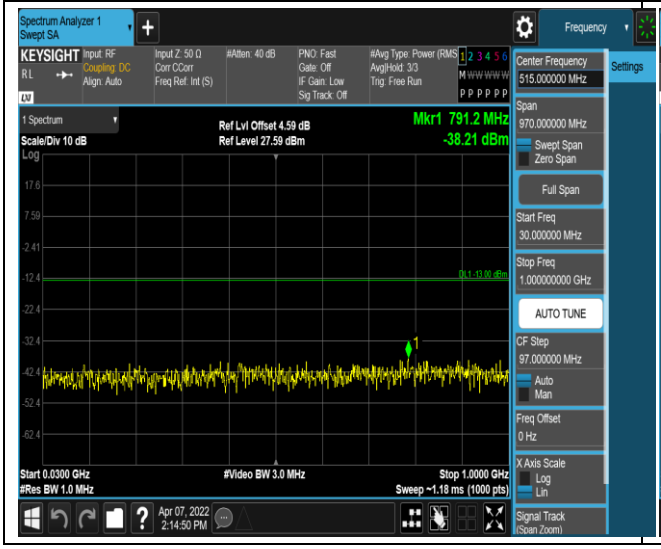
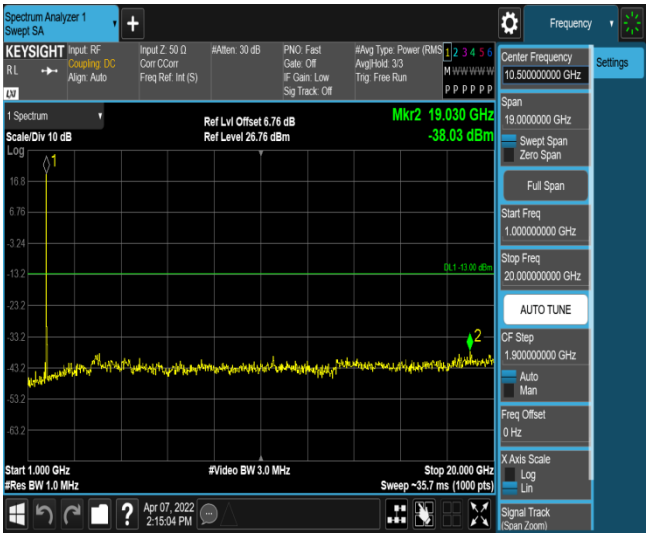
Band66-20MHz-16QAM-132072-1RB#0-Range1:30~1000MHz



Band66-20MHz-16QAM-132072-1RB#0-Range2:1000~20000MHz





Band66-20MHz-16QAM-132322-1RB#0-Range1:30~1000MHz	Band66-20MHz-16QAM-132322-1RB#0-Range2:1000~2000MHz
	
Band66-20MHz-16QAM-132572-1RB#0-Range1:30~1000MHz	Band66-20MHz-16QAM-132572-1RB#0-Range2:1000~2000MHz
	

Appendix F: Frequency Stability

Test Result

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	5.62	0.002989	Within authorized band for Band 2	Pass
	-20	17.68	0.009404		
	-10	-1.37	-0.000729		
	0	3.59	0.001910		
	10	3.09	0.001644		
	20	-9.54	-0.005074		
	30	15.48	0.008234		
	40	-7.54	-0.004011		
	50	-12.66	-0.006734		
16QAM					
3.85	-30	-3.38	-0.001798	Within authorized band for Band 2	Pass
	-20	2.33	0.001239		
	-10	3.98	0.002117		
	0	-5.15	-0.002739		
	10	12.13	0.006452		
	20	14.06	0.007479		
	30	-9.16	-0.004872		
	40	4.28	0.002277		
	50	8.96	0.004766		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	13.16	0.007000	Within authorized band for Band 2	Pass
	3.85	6.61	0.003516		
	4.40	6.34	0.003372		
16QAM					
25	3.50	1.89	0.001005	Within authorized band for Band 2	Pass
	3.85	6.11	0.003250		
	4.40	3.69	0.001963		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-5.29	-0.006324	±2.5	Pass
	-20	5.81	0.006946		
	-10	-1.19	-0.001423		
	0	-3.58	-0.004280		
	10	-7.01	-0.008380		
	20	1.93	0.002307		
	30	-2.00	-0.002391		
	40	1.66	0.001984		
	50	-4.66	-0.005571		
16QAM					
3.85	-30	-3.58	-0.004280	±2.5	Pass
	-20	-1.66	-0.001984		
	-10	-4.05	-0.004842		
	0	-3.30	-0.003945		
	10	-6.39	-0.007639		
	20	-5.81	-0.006946		
	30	2.37	0.002833		
	40	-4.46	-0.005332		
	50	-2.50	-0.002989		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-2.23	-0.002666	±2.5	Pass
	3.85	2.09	0.002499		
	4.40	-4.75	-0.005678		
16QAM					
25	3.50	2.56	0.003060	±2.5	Pass
	3.85	2.45	0.002929		
	4.40	-3.86	-0.004614		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	16.84	0.006643	Within authorized band for Band 7	Pass
	-20	-8.68	-0.003424		
	-10	4.12	0.001625		
	0	5.51	0.002174		
	10	6.78	0.002675		
	20	9.57	0.003775		
	30	5.32	0.002099		
	40	13.56	0.005349		
	50	11.27	0.004446		
16QAM					
3.85	-30	7.00	0.002761	Within authorized band for Band 7	Pass
	-20	-9.96	-0.003929		
	-10	-10.64	-0.004197		
	0	-4.75	-0.001874		
	10	-6.67	-0.002631		
	20	-6.81	-0.002686		
	30	11.36	0.004481		
	40	9.13	0.003602		
	50	-11.83	-0.004667		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	5.78	0.002280	Within authorized band for Band 7	Pass
	3.85	12.55	0.004951		
	4.40	7.08	0.002793		
16QAM					
25	3.50	10.79	0.004256	Within authorized band for Band 7	Pass
	3.85	5.52	0.002178		
	4.40	5.51	0.002174		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	5.29	0.007451	Within authorized band for Band 17	Pass
	-20	2.16	0.003042		
	-10	6.34	0.008930		
	0	-2.49	-0.003507		
	10	7.28	0.010254		
	20	-4.84	-0.006817		
	30	6.61	0.009310		
	40	1.43	0.002014		
	50	1.44	0.002028		
16QAM					
3.85	-30	-1.47	-0.002070	Within authorized band for Band 17	Pass
	-20	1.93	0.002718		
	-10	0.86	0.001211		
	0	4.03	0.005676		
	10	-4.21	-0.005930		
	20	1.77	0.002493		
	30	6.41	0.009028		
	40	3.59	0.005056		
	50	4.09	0.005761		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	1.79	0.002521	Within authorized band for Band 17	Pass
	3.85	-4.65	-0.006549		
	4.40	3.78	0.005324		
16QAM					
25	3.50	-3.12	-0.004394	Within authorized band for Band 17	Pass
	3.85	-8.31	-0.011704		
	4.40	-5.22	-0.007352		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 41 part:

Reference Frequency: LTE Band 41 (10MHz) Middle channel=40620 Frequency=2593.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	-10.71	-0.00413	Within authorized band for Band 41	Pass
	-20	8.05	0.003105		
	-10	7.01	0.002703		
	0	-7.87	-0.003035		
	10	9.81	0.003783		
	20	3.28	0.001265		
	30	-12.89	-0.004971		
	40	-7.00	-0.0027		
	50	-11.80	-0.004551		
16QAM					
3.85	-30	-5.81	-0.002241	Within authorized band for Band 41	Pass
	-20	-9.81	-0.003783		
	-10	-4.16	-0.001604		
	0	-5.32	-0.002052		
	10	10.00	0.003857		
	20	-14.39	-0.00555		
	30	10.06	0.00388		
	40	5.49	0.002117		
	50	-12.93	-0.004987		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-8.55	-0.003297	Within authorized band for Band 41	Pass
	3.85	7.60	0.002931		
	4.40	7.77	0.002997		
16QAM					
25	3.50	-8.03	-0.003097	Within authorized band for Band41	Pass
	3.85	-4.35	-0.001678		
	4.40	-6.98	-0.002692		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 66 part:

Reference Frequency: LTE Band 66 (10MHz) Middle channel=132322 Frequency=1745.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	4.03	0.002309	Within authorized band for Band 66	Pass
	-20	6.90	0.003954		
	-10	8.08	0.004630		
	0	11.97	0.006860		
	10	3.99	0.002287		
	20	10.41	0.005966		
	30	3.89	0.002229		
	40	13.76	0.007885		
	50	8.14	0.004665		
16QAM					
3.85	-30	5.26	0.003014	Within authorized band for Band 66	Pass
	-20	7.58	0.004344		
	-10	3.83	0.002195		
	0	4.55	0.002607		
	10	5.75	0.003295		
	20	4.11	0.002355		
	30	8.01	0.004590		
	40	8.30	0.004756		
	50	7.78	0.004458		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	2.26	0.001295	Within authorized band for Band 66	Pass
	3.85	12.80	0.007335		
	4.40	5.41	0.003100		
16QAM					
25	3.50	8.35	0.004785	Within authorized band for Band 66	Pass
	3.85	5.38	0.003083		
	4.40	8.07	0.004625		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

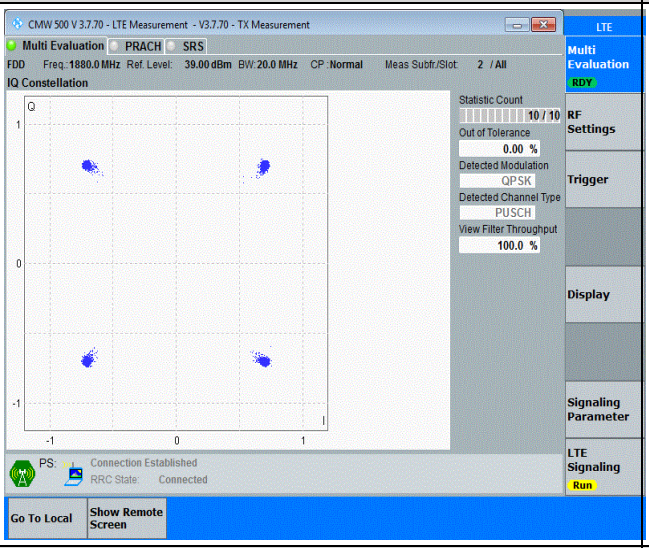
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band17	10MHz	QPSK	23790	50RB#0	PASS	PASS
Band17	10MHz	16QAM	23790	50RB#0	PASS	PASS
Band41	20MHz	QPSK	40620	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40620	100RB#0	PASS	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS	PASS

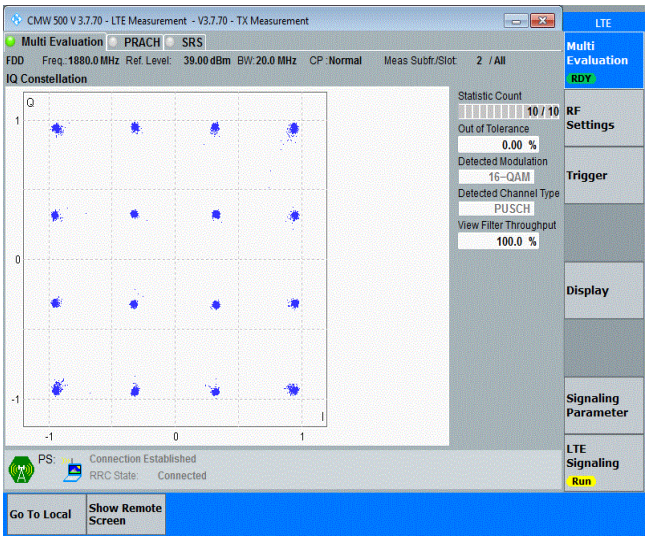
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

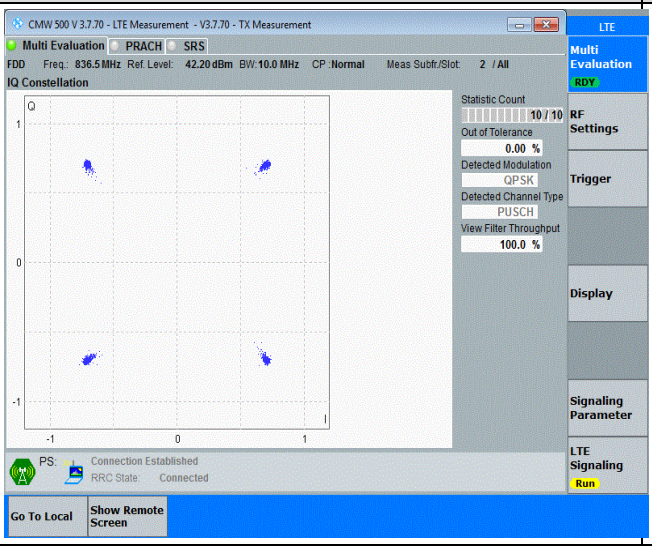
Band2-20MHz-QPSK-18900-100RB#0



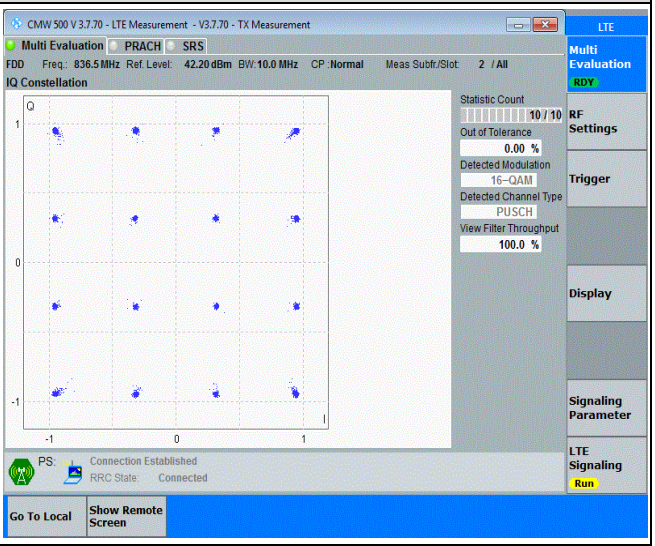
Band2-20MHz-16QAM-18900-100RB#0



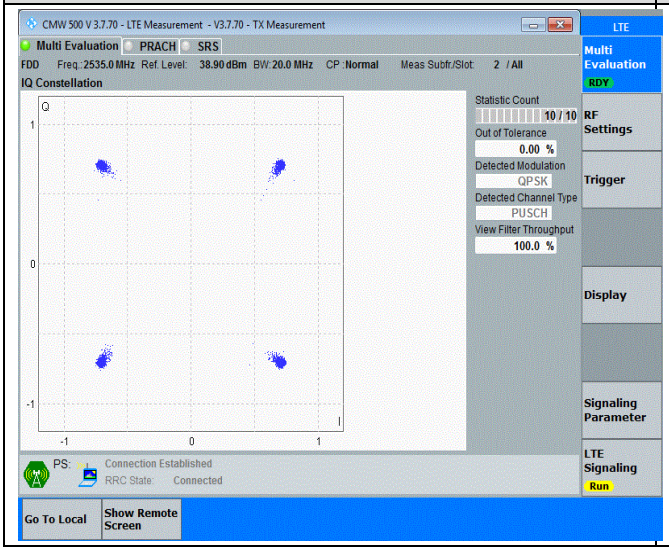
Band5-10MHz-QPSK-20525-50RB#0



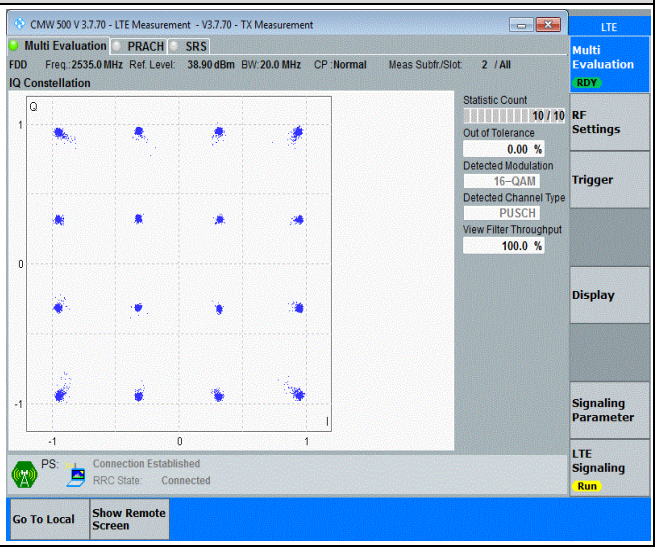
Band5-10MHz-16QAM-20525-50RB#0



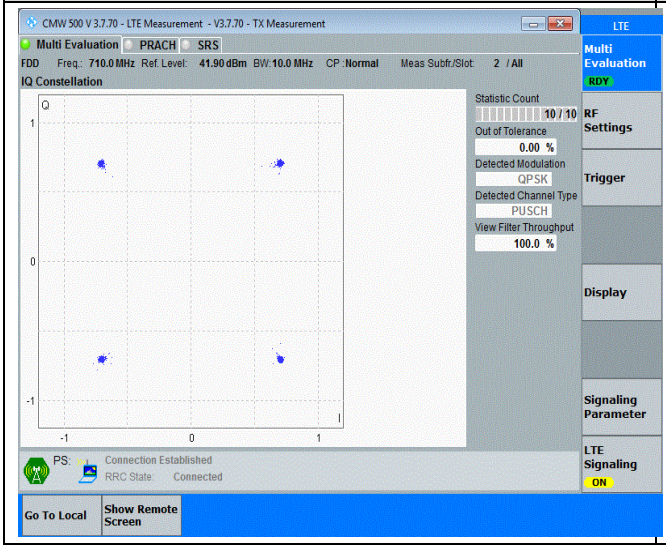
Band7-20MHz-QPSK-21100-100RB#0



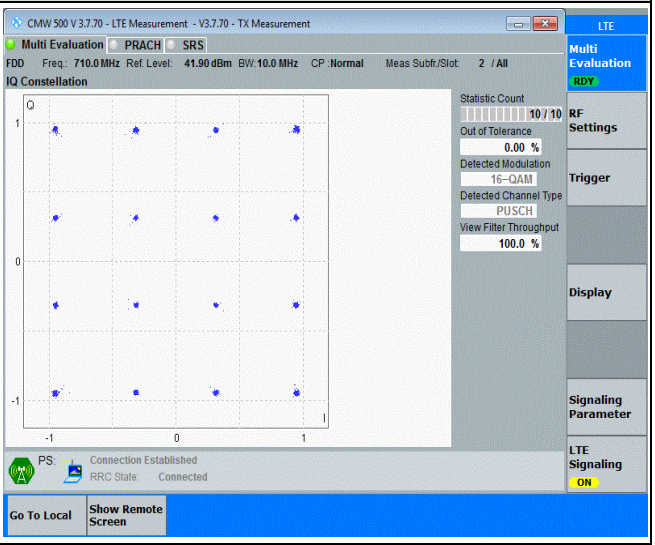
Band7-20MHz-16QAM-21100-100RB#0



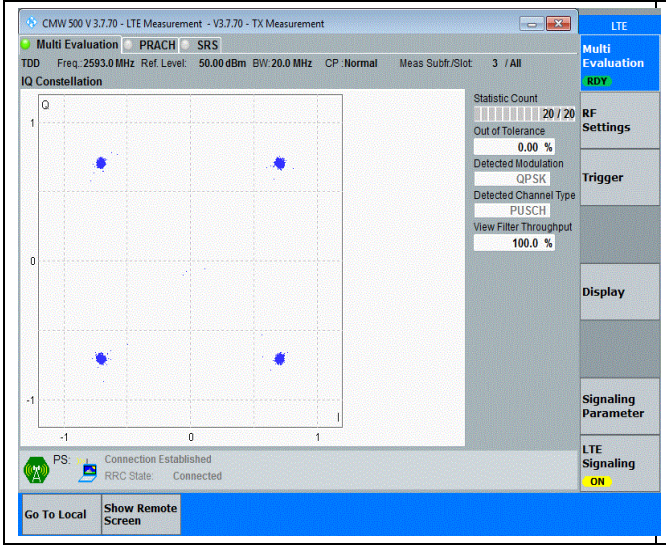
Band17-10MHz-QPSK-23790-50RB#0



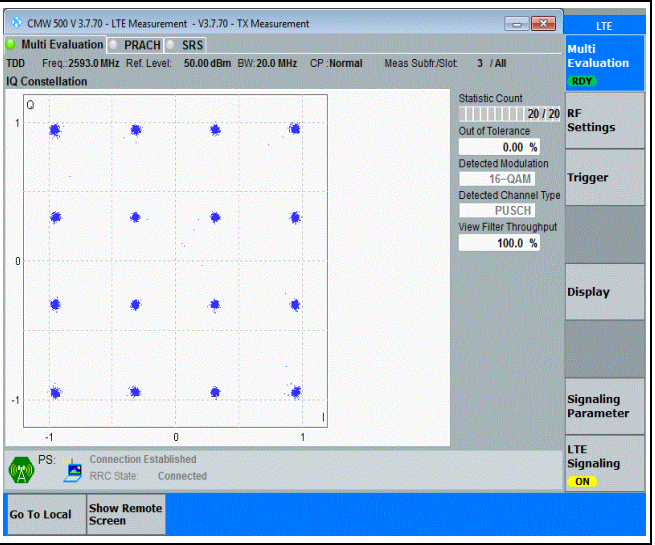
Band17-10MHz-16QAM-23790-50RB#0



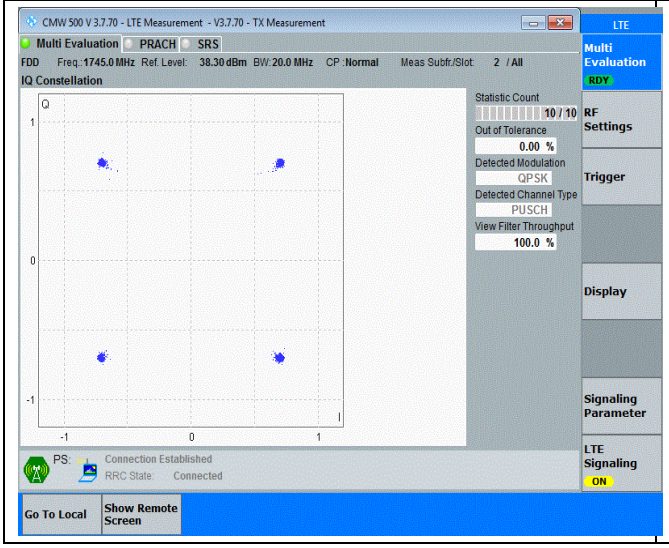
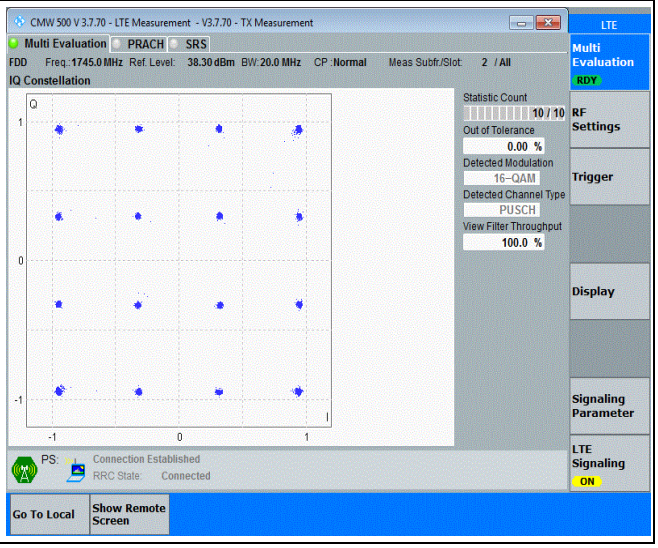
Band41-20MHz-QPSK-40620-100RB#0



Band41-20MHz-16QAM-40620-100RB#0



Band66-20MHz-QPSK-132322-100RB#0



Band66-20MHz-16QAM-132322-100RB#0