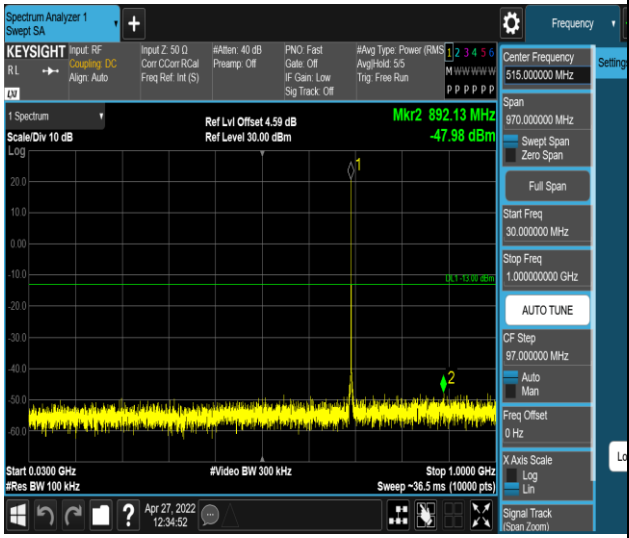
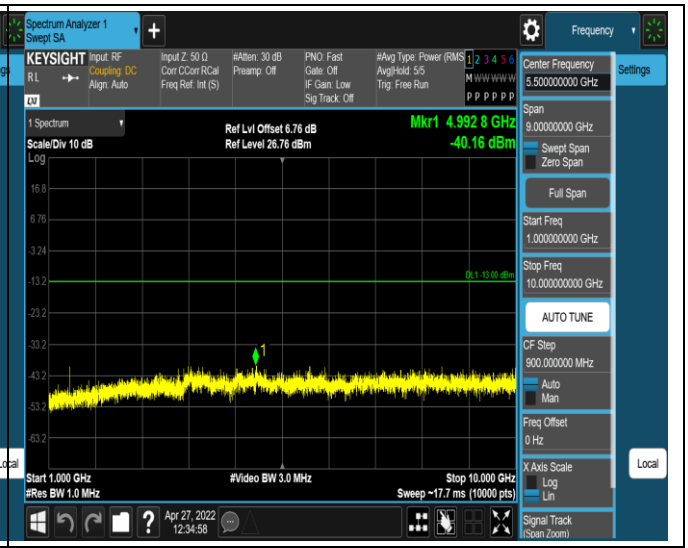
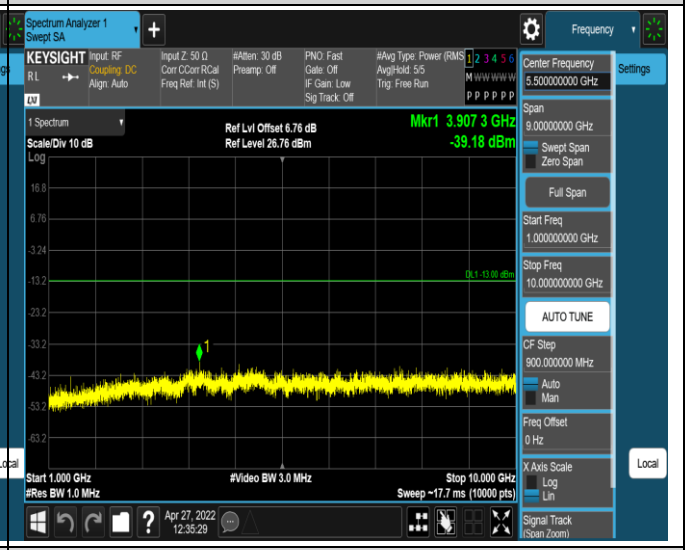


Band12-1.4MHz-16QAM-23095-1RB#0-Range1:30 ~1000MHz

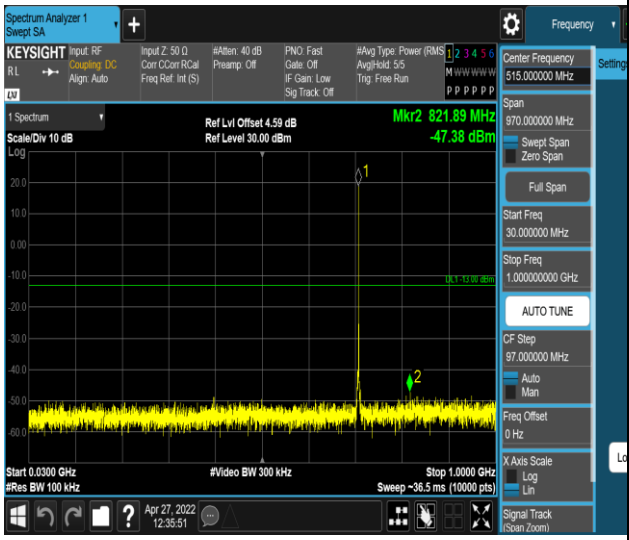


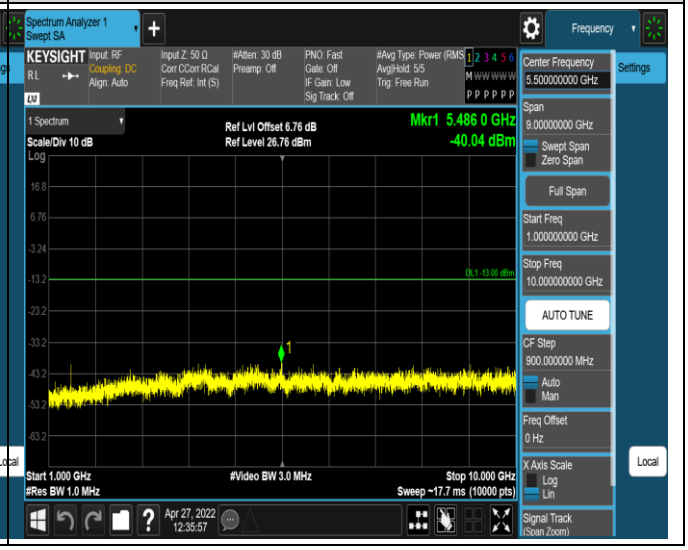
Band12-1.4MHz-16QAM-23095-1RB#0-Range2:1000 ~10000MHz

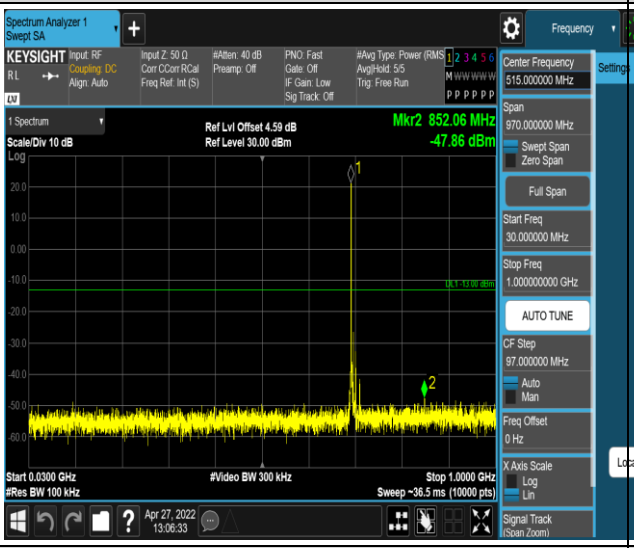
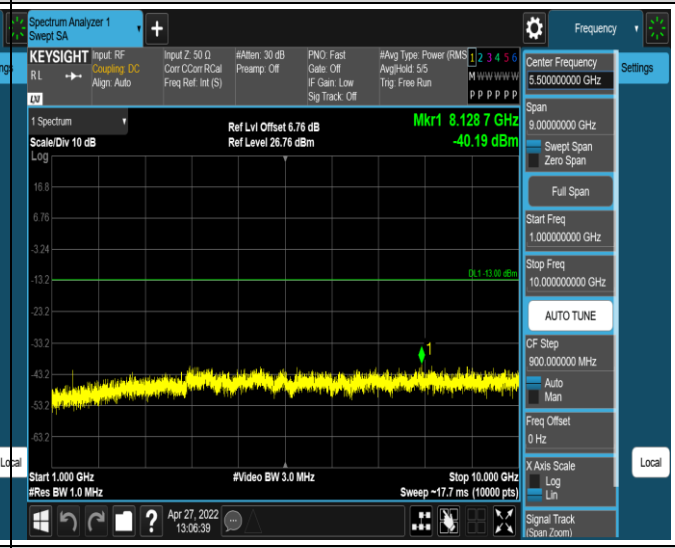
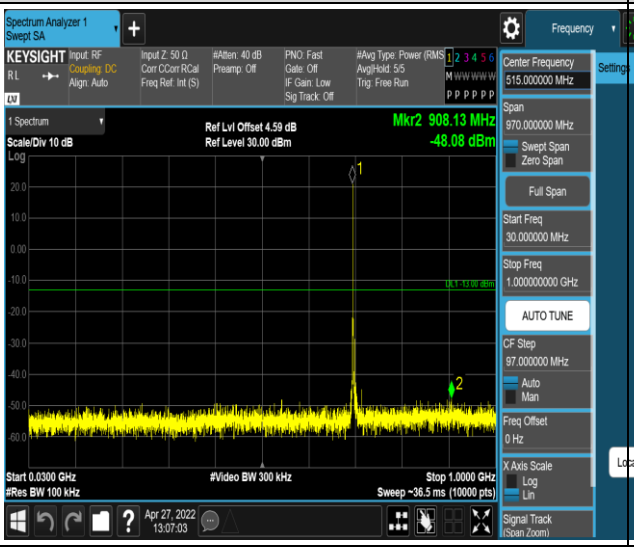
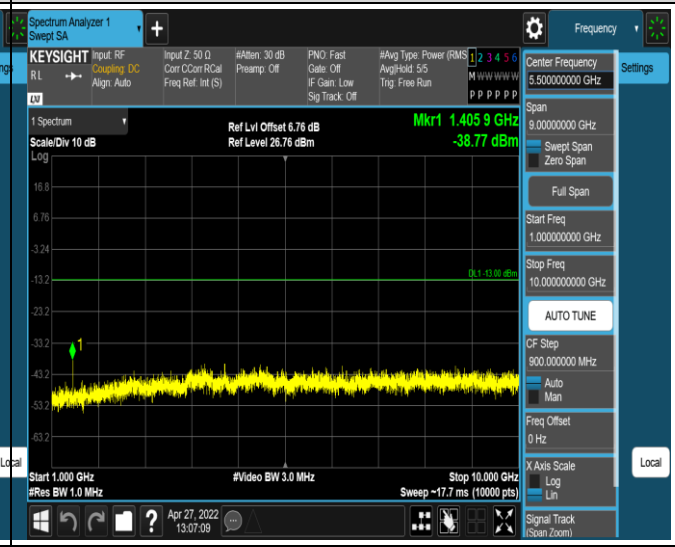
Band12-1.4MHz-16QAM-23173-1RB#0-Range1:30 ~1000MHz

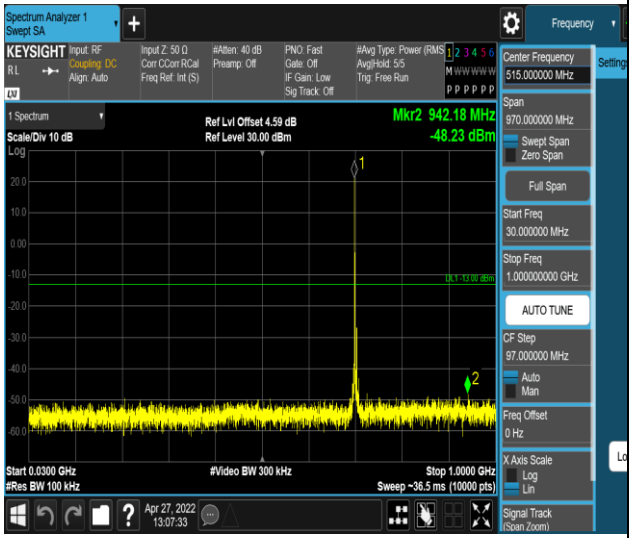


Band12-1.4MHz-16QAM-23173-1RB#0-Range2:1000 ~10000MHz

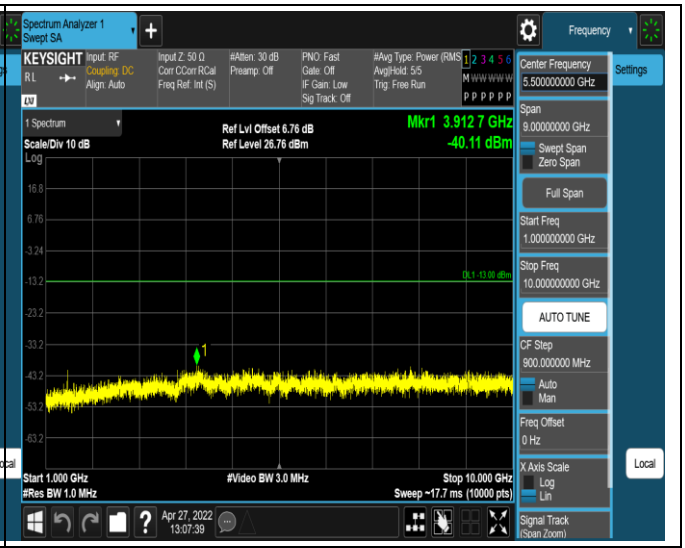




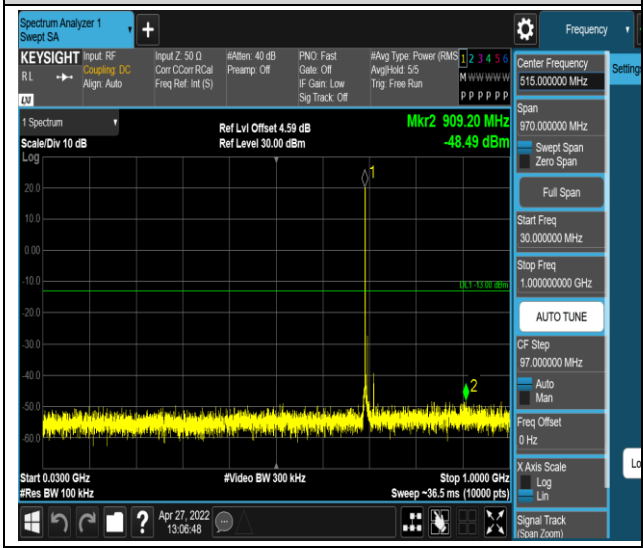
Band12-10MHz-QPSK-23060-1RB#0-Range1:30~1000MHz	Band12-10MHz-QPSK-23060-1RB#0-Range2:1000~10000MHz
	
Band12-10MHz-QPSK-23095-1RB#0-Range1:30~1000MHz	Band12-10MHz-QPSK-23095-1RB#0-Range2:1000~10000MHz
	
Band12-10MHz-QPSK-23130-1RB#0-Range1:30~1000MHz	Band12-10MHz-QPSK-23130-1RB#0-Range2:1000~10000MHz



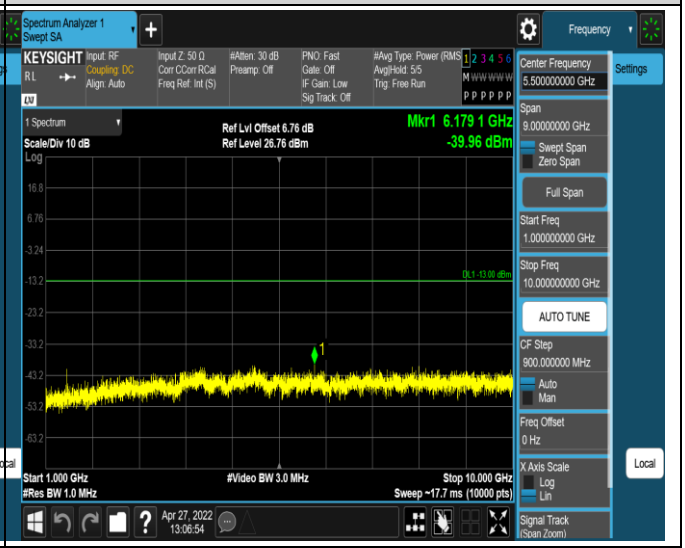
Band12-10MHz-16QAM-23060-1RB#0-Range1:30 ~1000MHz



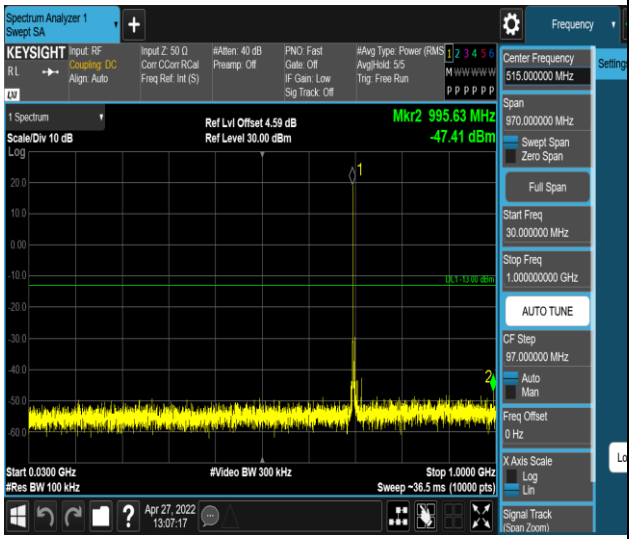
Band12-10MHz-16QAM-23060-1RB#0-Range2:1000~10000MHz

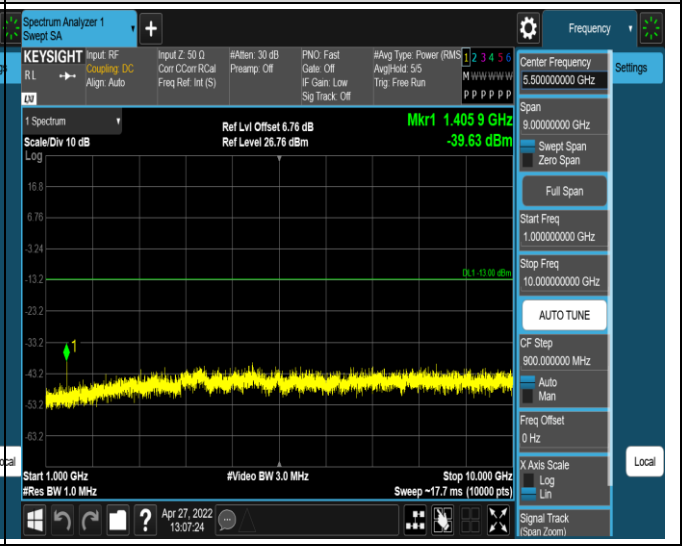


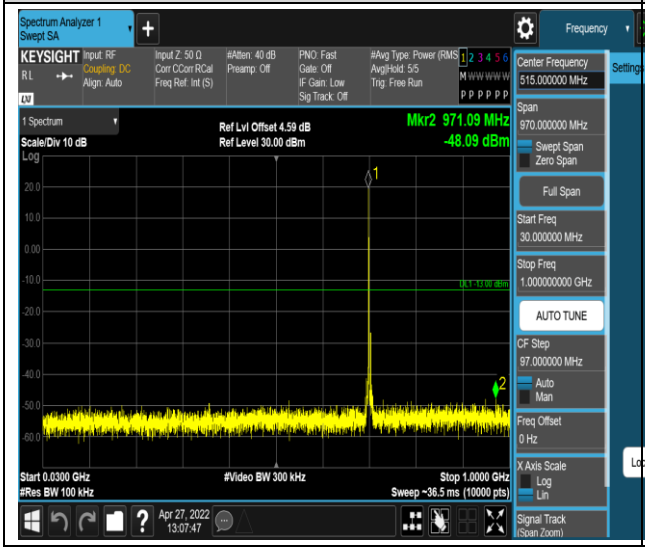
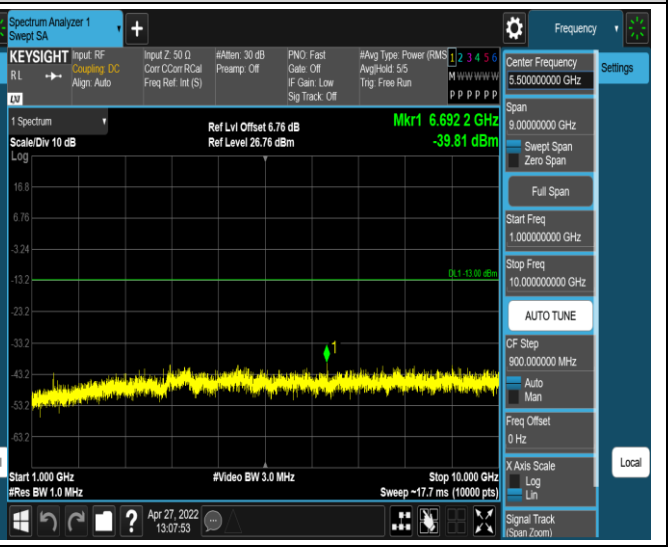
Band12-10MHz-16QAM-23095-1RB#0-Range1:30 ~1000MHz



Band12-10MHz-16QAM-23095-1RB#0-Range2:1000~10000MHz





Band12-10MHz-16QAM-23130-1RB#0-Range1:30~1000MHz	Band12-10MHz-16QAM-23130-1RB#0-Range2:1000~10000MHz
	

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					
3.70	-30	-7.38	-0.003926	Within authorized band for Band 2	Pass
	-20	-7.27	-0.003867		
	-10	-9.07	-0.004824		
	0	-6.49	-0.003452		
	10	-6.25	-0.003324		
	20	-6.35	-0.003378		
	30	-7.68	-0.004085		
	40	-6.21	-0.003303		
	50	-8.37	-0.004452		
16QAM					
3.70	-30	-5.59	-0.002973	Within authorized band for Band 2	Pass
	-20	-5.25	-0.002793		
	-10	-4.76	-0.002532		
	0	-5.51	-0.002931		
	10	-6.54	-0.003479		
	20	-5.79	-0.003080		
	30	-5.82	-0.003096		
	40	-5.16	-0.002745		
	50	-4.56	-0.002426		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-7.22	-0.003840	Within authorized band for Band 2	Pass
	3.70	-6.97	-0.003707		
	4.25	-7.22	-0.003840		
16QAM					
25	3.50	-4.96	-0.002638	Within authorized band for Band 2	Pass
	3.70	-4.43	-0.002356		
	4.25	-6.25	-0.003324		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-1.44	-0.000831	Within authorized band for Band 4	Pass
	-20	1.87	0.001079		
	-10	1.75	0.001010		
	0	2.10	0.001212		
	10	2.43	0.001403		
	20	3.50	0.002020		
	30	-1.72	-0.000993		
	40	-1.93	-0.001114		
	50	2.12	0.001224		
16QAM					
3.70	-30	1.79	0.001033	Within authorized band for Band 4	Pass
	-20	2.88	0.001662		
	-10	-1.97	-0.001137		
	0	-2.19	-0.001264		
	10	2.26	0.001304		
	20	-2.00	-0.001154		
	30	-3.35	-0.001934		
	40	2.16	0.001247		
	50	-2.52	-0.001455		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-2.93	-0.001691	Within authorized band for Band 4	Pass
	3.70	-2.27	-0.001310		
	4.25	2.69	0.001553		
16QAM					
25	3.50	3.05	0.001760	Within authorized band for Band 4	Pass
	3.70	-3.08	-0.001778		
	4.25	-1.46	-0.000843		
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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.70	-30	-1.47	-0.002078	Within authorized band for Band 12	Pass
	-20	-2.36	-0.003336		
	-10	-1.76	-0.002488		
	0	-1.75	-0.002473		
	10	-1.59	-0.002247		
	20	-1.87	-0.002643		
	30	-1.85	-0.002615		
	40	-2.05	-0.002898		
	50	1.29	0.001823		
16QAM					
3.70	-30	-1.23	-0.001739	Within authorized band for Band 12	Pass
	-20	1.39	0.001965		
	-10	1.04	0.001470		
	0	-1.89	-0.002671		
	10	-2.27	-0.003208		
	20	-2.68	-0.003788		
	30	-1.34	-0.001894		
	40	1.82	0.002572		
	50	2.47	0.003491		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.50	-2.17	-0.003067	Within authorized band for Band 12	Pass
	3.70	-2.62	-0.003703		
	4.25	-1.54	-0.002177		
16QAM					
25	3.50	-2.32	-0.003279	Within authorized band for Band 12	Pass
	3.70	1.83	0.002587		
	4.25	1.03	0.001456		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

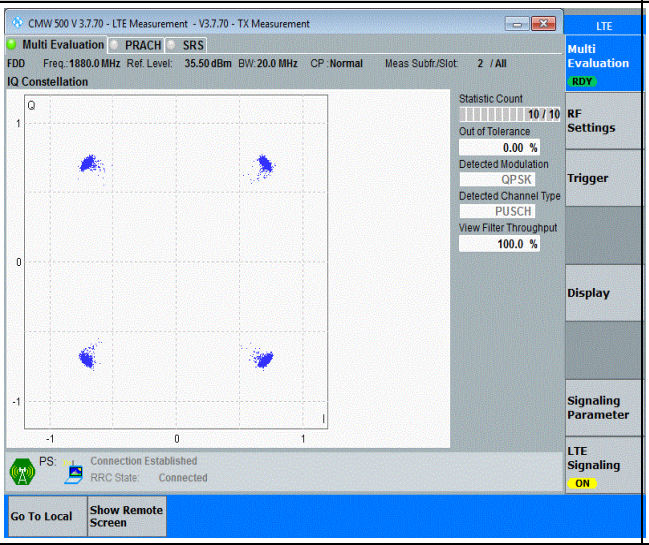
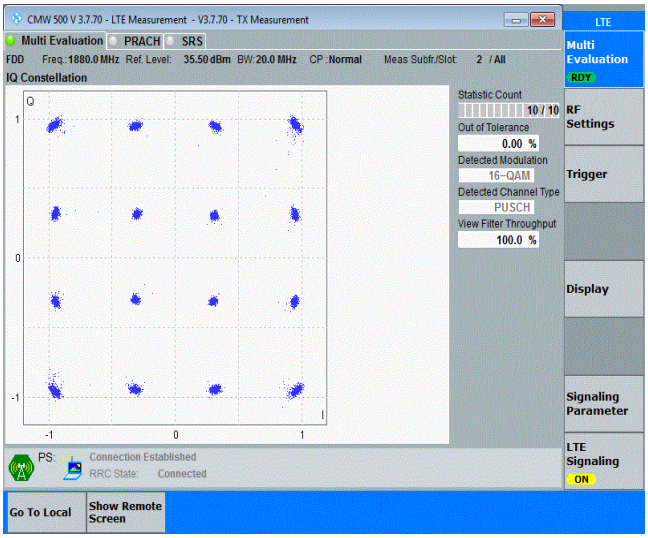
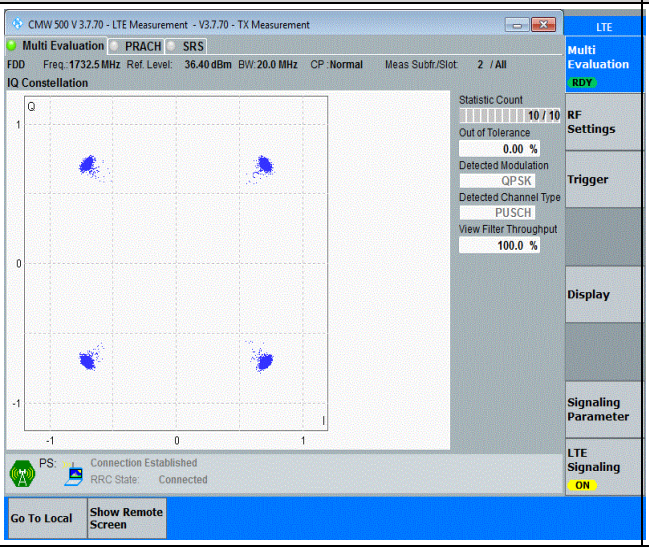
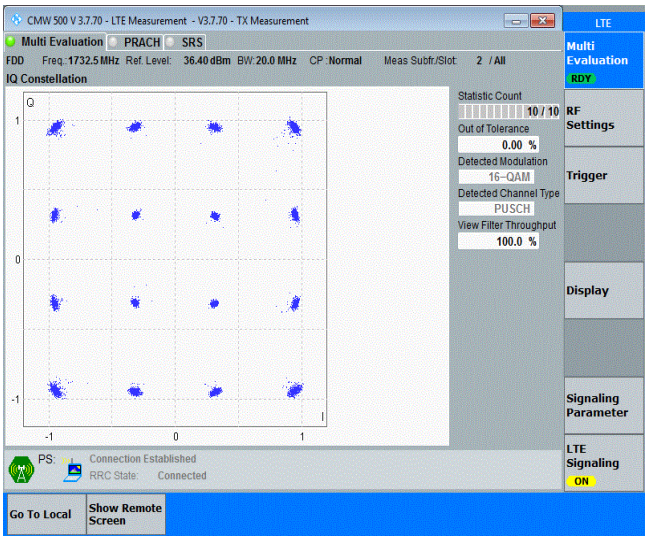
Appendix G: Modulation Characteristics

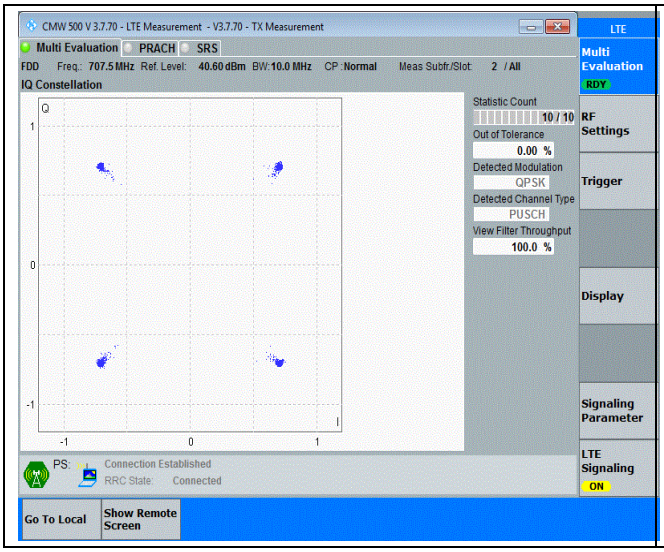
Test Result

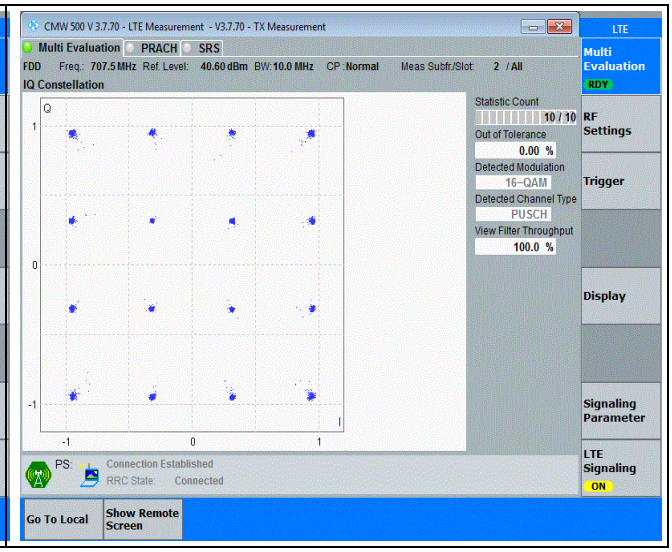
Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS	PASS
Band12	10MHz	16QAM	23095	50RB#0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

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

Test Graphs

Band2-20MHz-QPSK-18900-100RB#0	Band2-20MHz-16QAM-18900-100RB#0
	
Band4-20MHz-QPSK-20175-100RB#0	Band4-20MHz-16QAM-20175-100RB#0
	
Band12-10MHz-QPSK-23095-50RB#0	Band12-10MHz-16QAM-23095-50RB#0


CMW 500 V 3.7.70 - LTE Measurement - V3.7.70 - TX Measurement
Multi Evaluation
PRACH
SRS
FDD Freq.: 707.5 MHz Ref. Level: 40.60 dBm BW: 10.0 MHz CP: Normal Meas Subfr./Slot: 2 / All
IQ Constellation
Statistic Count
10 / 10
Out of Tolerance
0.00 %
Detected Modulation
QPSK
Detected Channel Type
PUSCH
View Filter Throughput
100.0 %
LTE
Multi Evaluation
RDY
RF Settings
Trigger
Display
Signaling Parameter
LTE Signaling
ON
PS:
Connection Established
RRC State: Connected
Go To Local
Show Remote Screen


CMW 500 V 3.7.70 - LTE Measurement - V3.7.70 - TX Measurement
Multi Evaluation
PRACH
SRS
FDD Freq.: 707.5 MHz Ref. Level: 40.60 dBm BW: 10.0 MHz CP: Normal Meas Subfr./Slot: 2 / All
IQ Constellation
Statistic Count
10 / 10
Out of Tolerance
0.00 %
Detected Modulation
16-QAM
Detected Channel Type
PUSCH
View Filter Throughput
100.0 %
LTE
Multi Evaluation
RDY
RF Settings
Trigger
Display
Signaling Parameter
LTE Signaling
ON
PS:
Connection Established
RRC State: Connected
Go To Local
Show Remote Screen