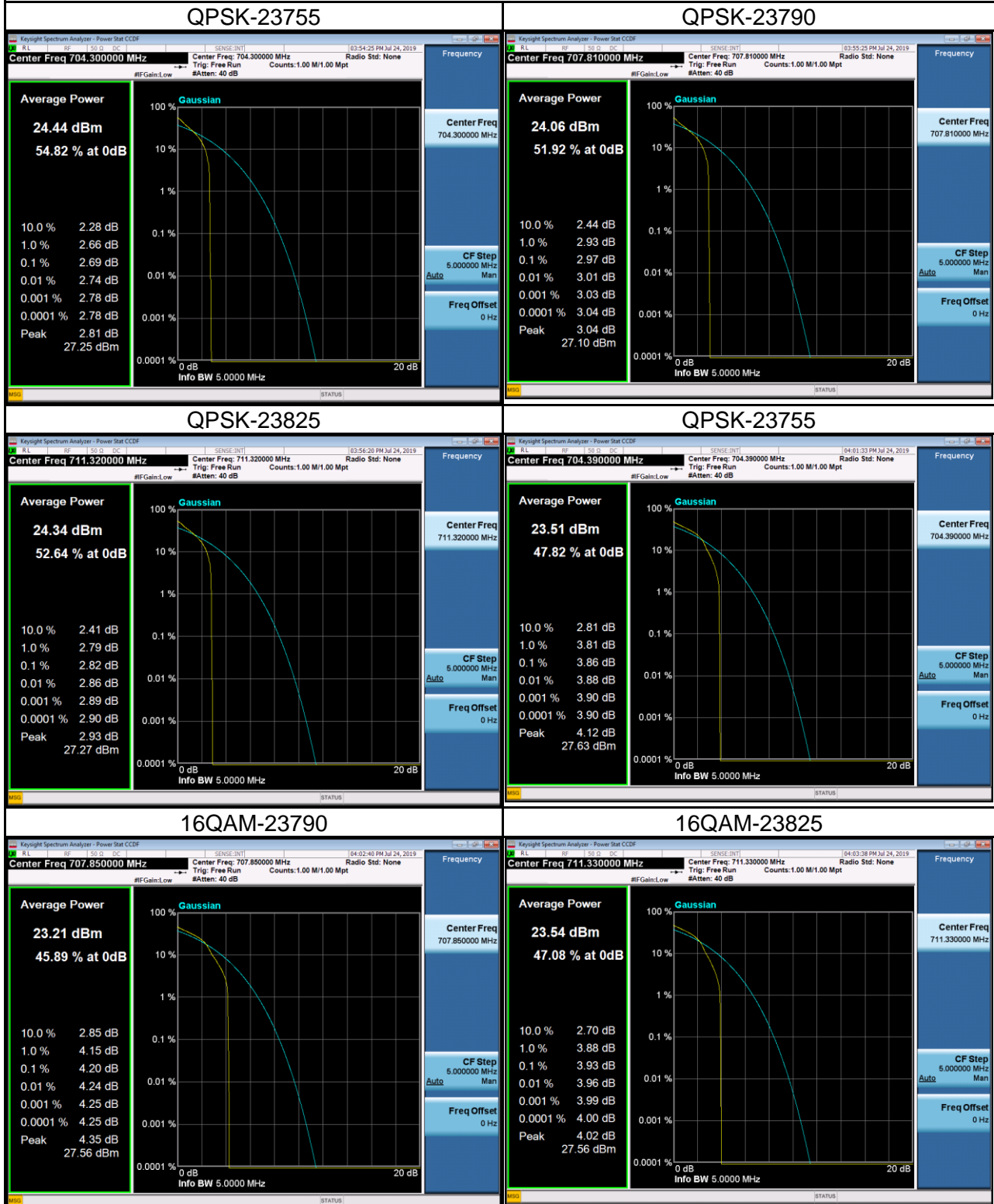
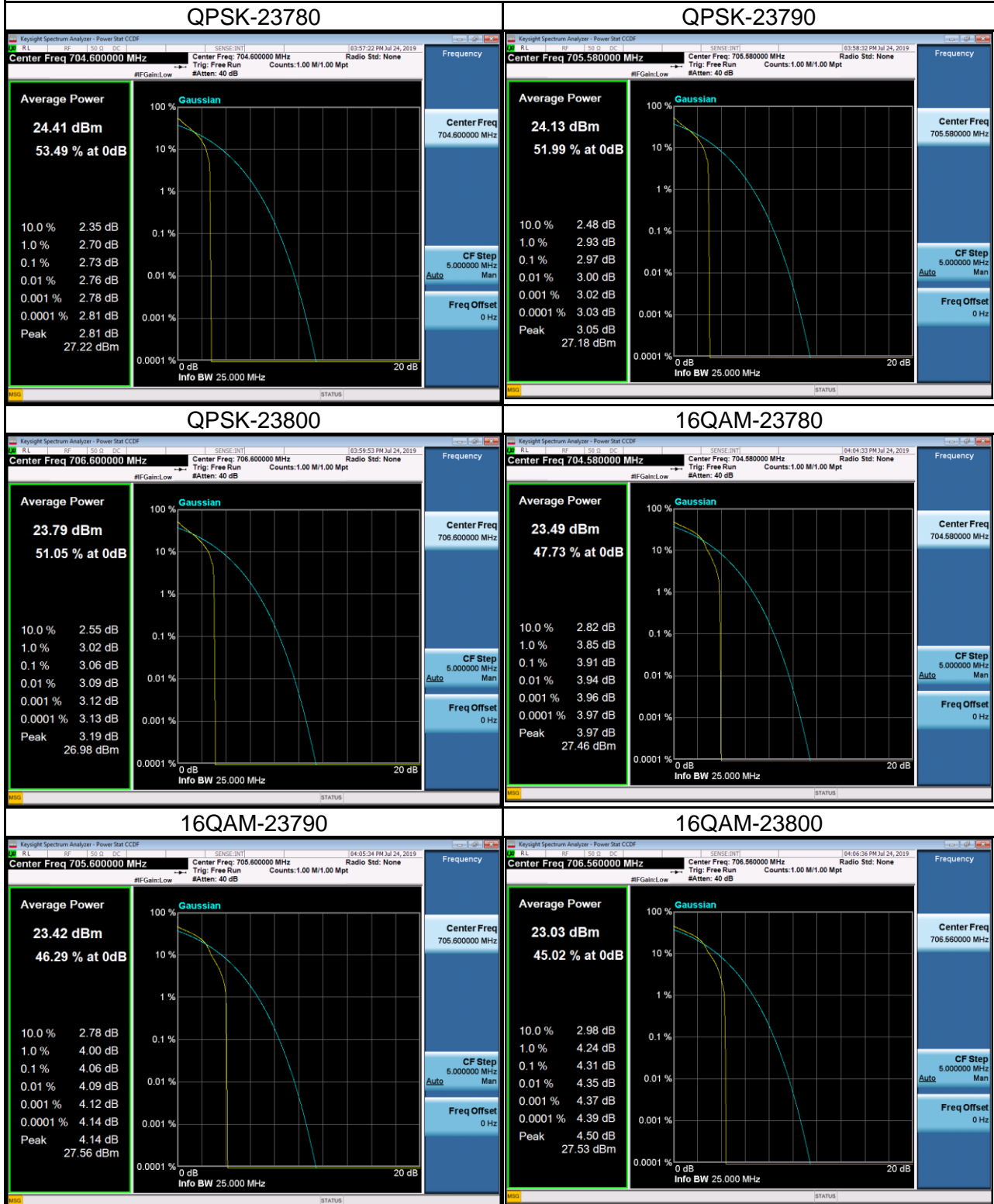


## LTE Band 17 Spectrum Plot\_5M



## LTE Band 17 Spectrum Plot\_10M



## APPENDIX I - FREQUENCY STABILITY

Test Mode:	WCDMA Band IV _CH1413
------------	-----------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	4.05	0.002337527	± 2.5
-10	-3.58	0.002066259	
0	2.17	0.001252453	
10	1.34	0.000773404	
20	3.21	0.001852707	
30	2.62	0.001512178	
40	3.49	0.002014314	
50	4.17	0.002406787	
Max. Deviation (ppm)	4.17	0.002406787	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.89	0.001668013	± 2.5
7.2	0.79	0.000455962	
8.4	1.83	0.001056216	
Max. Deviation (ppm)	2.89	0.001668013	

Test Mode:	LTE Band 4_CH20175_1.4M
------------	-------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	5.21	0.003007215	± 2.5
-10	4.56	0.002632035	
0	6.01	0.003468975	
10	4.12	0.002378066	
20	-3.11	-0.001795094	
30	-0.64	-0.000369408	
40	2.01	0.001160173	
50	0.99	0.000571429	
Max. Deviation (ppm)	6.01	0.003468975	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-3.41	-0.001968254	± 2.5
7.2	2.57	0.001483405	
8.4	-1.45	-0.000836941	
Max. Deviation (ppm)	-3.41	-0.001968254	

Test Mode:	LTE Band 4_CH20175_3M
------------	-----------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	4.31	0.002487734	± 2.5
-10	4.56	0.002632035	
0	2.94	0.00169697	
10	-0.62	-0.000357864	
20	5.57	0.003215007	
30	2.84	0.00163925	
40	-3.12	-0.001800866	
50	2.13	0.001229437	
Max. Deviation (ppm)	5.57	0.003215007	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-1.21	-0.000698413	± 2.5
7.2	4.26	0.002458874	
8.4	6.17	0.003561328	
Max. Deviation (ppm)	6.17	0.003561328	

Test Mode:	LTE Band 4_CH20175_5M
------------	-----------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	3.24	0.00187013	± 2.5
-10	4.13	0.002383838	
0	3.24	0.00187013	
10	4.07	0.002349206	
20	-3.01	-0.001737374	
30	4.37	0.002522367	
40	-2.79	-0.00161039	
50	-4.48	-0.002585859	
Max. Deviation (ppm)	-4.48	-0.002585859	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	1.56	0.000900433	± 2.5
7.2	-1.43	-0.000825397	
8.4	2.13	0.001229437	
Max. Deviation (ppm)	2.13	0.001229437	

Test Mode:	LTE Band 4_CH20175_10M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	6.64	0.003832612	± 2.5
-10	-5.47	-0.003157287	
0	6.64	0.003832612	
10	-2.75	-0.001587302	
20	4.48	0.002585859	
30	1.99	0.001148629	
40	2.16	0.001246753	
50	1.33	0.000767677	
Max. Deviation (ppm)	6.64	0.003832612	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-1.98	-0.001142857	± 2.5
7.2	5.16	0.002978355	
8.4	2.02	0.001165945	
Max. Deviation (ppm)	5.16	0.002978355	



Test Mode:	LTE Band 4_CH20175_15M
------------	------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	6.24	0.003601732	± 2.5
-10	-3.15	-0.001818182	
0	6.24	0.003601732	
10	2.07	0.001194805	
20	-1.91	-0.001102453	
30	2.16	0.001246753	
40	-2.75	-0.001587302	
50	-3.81	-0.002199134	
Max. Deviation (ppm)	6.24	0.003601732	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	4.78	0.002759019	± 2.5
7.2	-3.34	-0.00192785	
8.4	3.07	0.001772006	
Max. Deviation (ppm)	4.78	0.002759019	

Test Mode:	LTE Band 4_CH20175_20M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	7.65	0.004415584	± 2.5
-10	-4.11	-0.002372294	
0	7.65	0.004415584	
10	-2.54	-0.001466089	
20	2.64	0.00152381	
30	5.73	0.003307359	
40	-2.15	-0.001240981	
45	1.27	0.000733045	
Max. Deviation (ppm)	7.65	0.004415584	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	6.37	0.003676768	± 2.5
7.2	-3.80	-0.002193362	
8.4	2.46	0.001419913	
Max. Deviation (ppm)	6.37	0.003676768	

Test Mode:	LTE Band 7_CH21100_5M
------------	-----------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-3.45	-0.001360947	± 2.5
-10	-3.51	-0.001384615	
0	2.20	0.00086785	
10	-3.05	-0.001203156	
20	4.73	0.001865878	
30	-5.52	-0.002177515	
40	-1.00	-0.000394477	
50	4.13	0.001629191	
Max. Deviation (ppm)	-5.52	-0.002177515	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.00	0.000788955	± 2.5
7.2	-0.94	-0.000370809	
8.4	3.01	0.001187377	
Max. Deviation (ppm)	3.01	0.001187377	

Test Mode:	LTE Band 7_CH21100_10M
------------	------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-2.55	-0.001005917	± 2.5
-10	3.04	0.001199211	
0	5.13	0.002023669	
10	1.32	0.00052071	
20	-5.63	-0.002220907	
30	3.50	0.001380671	
40	-2.90	-0.001143984	
50	2.17	0.000856016	
Max. Deviation (ppm)	-5.63	-0.002220907	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	1.50	0.000591716	± 2.5
7.2	-3.42	-0.001349112	
8.4	3.52	0.00138856	
Max. Deviation (ppm)	3.52	0.00138856	

Test Mode:	LTE Band 7_CH21100_15M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-4.16	-0.001641026	± 2.5
-10	3.22	0.001270217	
0	-4.13	-0.001629191	
10	-3.55	-0.001400394	
20	2.18	0.000859961	
30	3.34	0.001317554	
40	6.01	0.002370809	
50	-2.09	-0.000824458	
Max. Deviation (ppm)	6.01	0.002370809	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.13	0.000840237	± 2.5
7.2	0.39	0.000153846	
8.4	-4.11	-0.001621302	
Max. Deviation (ppm)	-4.11	-0.001621302	

Test Mode:	LTE Band 7_CH21100_20M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	2.86	0.001128205	± 2.5
-10	2.65	0.001045365	
0	2.46	0.000970414	
10	3.77	0.001487179	
20	-6.99	-0.002757396	
30	1.49	0.000587771	
40	5.14	0.002027613	
50	-4.89	-0.001928994	
Max. Deviation (ppm)	-6.99	-0.002757396	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-2.19	-0.000863905	± 2.5
7.2	3.42	0.001349112	
8.4	1.84	0.000725838	
Max. Deviation (ppm)	3.42	0.001349112	

Test Mode:	LTE Band 12_CH23095_1.4M
------------	--------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	4.23	0.005978799	± 2.5
-10	-4.56	0.00644523	
0	5.34	0.007547703	
10	4.87	0.006883392	
20	7.14	0.010091873	
30	-4.51	0.006374558	
40	4.05	0.005724382	
50	-0.90	0.001272085	
Max. Deviation (ppm)	7.14	0.010091873	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-1.65	0.002332155	± 2.5
7.2	2.11	0.002982332	
8.4	3.04	0.00429682	
Max. Deviation (ppm)	-3.27	0.00429682	

Test Mode:	LTE Band 12_CH23095_3M
------------	------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	4.55	0.006431095	± 2.5
-10	-3.11	0.00439576	
0	2.10	0.002968198	
10	-2.45	0.003462898	
20	5.74	0.008113074	
30	1.95	0.002756184	
40	-6.28	0.008876325	
50	4.54	0.006416961	
Max. Deviation (ppm)	-6.28	0.008876325	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.55	0.00360424	± 2.5
7.2	-3.77	0.005328622	
8.4	1.34	0.001893993	
Max. Deviation (ppm)	-3.77	0.005328622	



Test Mode:	LTE Band 12_CH23095_5M
------------	------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-2.55	-0.00360424	± 2.5
-10	3.75	0.005300353	
0	6.42	0.009074205	
10	-3.16	-0.004466431	
20	2.18	0.003081272	
30	3.33	0.004706714	
40	7.16	0.010120141	
50	-2.19	-0.003095406	
Max. Deviation (ppm)	7.16	0.010120141	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	-2.14	-0.003024735	± 2.5
7.2	4.32	0.006106007	
8.4	-2.63	-0.003717314	
Max. Deviation (ppm)	4.32	0.006106007	

Test Mode:	LTE Band 12_CH23095_10M
------------	-------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	5.53	0.007816254	± 2.5
-10	-4.70	-0.00664311	
0	6.15	0.00869258	
10	-2.30	-0.003250883	
20	1.34	0.001893993	
30	2.65	0.003745583	
40	-4.73	-0.006685512	
50	3.61	0.005102473	
Max. Deviation (ppm)	6.15	0.00869258	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	0.90	0.001272085	± 2.5
7.2	-2.10	-0.002968198	
8.4	-1.75	-0.002473498	
Max. Deviation (ppm)	-2.10	-0.002968198	

Test Mode:	LTE Band 13_CH23230_5M
------------	------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-3.16	-0.004450704	±2.5
-10	-2.57	-0.003619718	
0	-2.45	-0.003450704	
10	3.19	0.004492958	
20	-4.52	-0.006366197	
30	3.23	0.004549296	
40	2.19	0.003084507	
50	1.31	0.00184507	
Max. Deviation (ppm)	-4.52	-0.006366197	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.45	0.003450704	±2.5
7.2	3.16	0.004450704	
8.4	-2.18	-0.003070423	
Max. Deviation (ppm)	3.16	0.004450704	

Test Mode:	LTE Band 13_CH23230_10M
------------	-------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	2.66	0.003746479	±2.5
-10	-4.16	-0.005859155	
0	3.40	0.004788732	
10	2.94	0.004140845	
20	-6.54	-0.009211268	
30	2.17	0.003056338	
40	-3.26	-0.004591549	
50	1.29	0.001816901	
Max. Deviation (ppm)	-6.54	-0.009211268	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	4.02	0.005661972	±2.5
7.2	-7.03	-0.009901408	
8.4	3.41	0.004802817	
Max. Deviation (ppm)	-7.03	-0.009901408	

Test Mode:	LTE Band 14_CH23330_5M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	4.31	0.006157143	± 2.5
-10	-3.16	-0.004514286	
0	2.84	0.004057143	
10	4.45	0.006357143	
20	-4.72	-0.006742857	
30	-3.76	-0.005371429	
40	-2.33	-0.003328571	
50	2.15	0.003071429	
Max. Deviation (ppm)	-4.72	-0.006742857	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	6.10	-0.005171429	± 2.5
7.2	-3.62	0.004014286	
8.4	2.81	0.008714286	
Max. Deviation (ppm)	6.10	-0.005171429	

Test Mode:	LTE Band 14_CH23330_10M
------------	-------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	-2.49	-0.003557143	±2.5
-10	2.37	0.003385714	
0	-3.54	-0.005057143	
10	3.78	0.0054	
20	6.22	0.008885714	
30	-1.98	-0.002828571	
40	2.81	0.004014286	
50	3.40	0.004857143	
Max. Deviation (ppm)	6.22	0.008885714	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	2.40	0.003428571	±2.5
7.2	4.72	0.006742857	
8.4	-3.43	-0.0049	
Max. Deviation (ppm)	4.72	0.006742857	

Test Mode:	LTE Band 17_CH23790_5M
------------	------------------------

**Temperature vs. Frequency Stability**

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	2.73	0.00384507	± 2.5
-10	-3.18	-0.004478873	
0	3.44	0.00484507	
10	2.39	0.003366197	
20	-6.20	-0.008732394	
30	-3.30	-0.004647887	
40	2.19	0.003084507	
50	3.40	0.004788732	
Max. Deviation (ppm)	-6.20	-0.008732394	

**Voltage vs. Frequency Stability**

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	4.61	0.006492958	± 2.5
7.2	-6.31	-0.008887324	
8.4	1.94	0.002732394	
Max. Deviation (ppm)	-6.31	-0.008887324	

Test Mode:	LTE Band 17_CH23790_10M
------------	-------------------------

### Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-20	2.65	0.003732394	± 2.5
-10	3.41	0.004802817	
0	-3.70	-0.005211268	
10	4.80	0.006760563	
20	5.11	0.007197183	
30	3.50	0.004929577	
40	-5.80	-0.008169014	
50	7.01	0.009873239	
Max. Deviation (ppm)	7.01	0.009873239	

### Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
6.6	4.59	0.006464789	± 2.5
7.2	-2.27	-0.003197183	
8.4	3.18	0.004478873	
Max. Deviation (ppm)	4.59	0.006464789	

End of Test Report