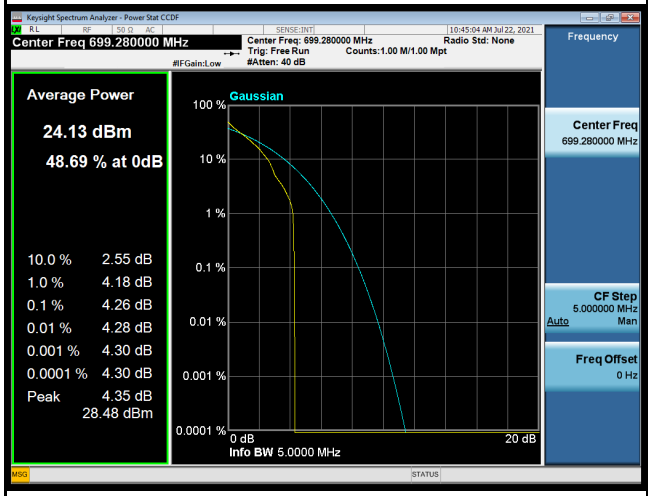
LTE Band 12 Spectrum Plot_5M

QPSK-23035



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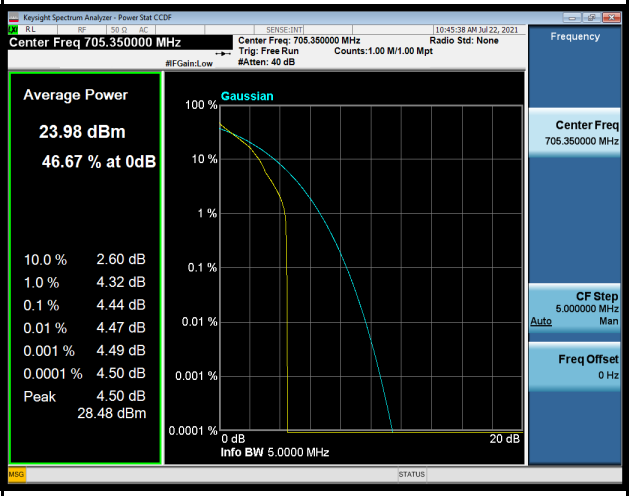

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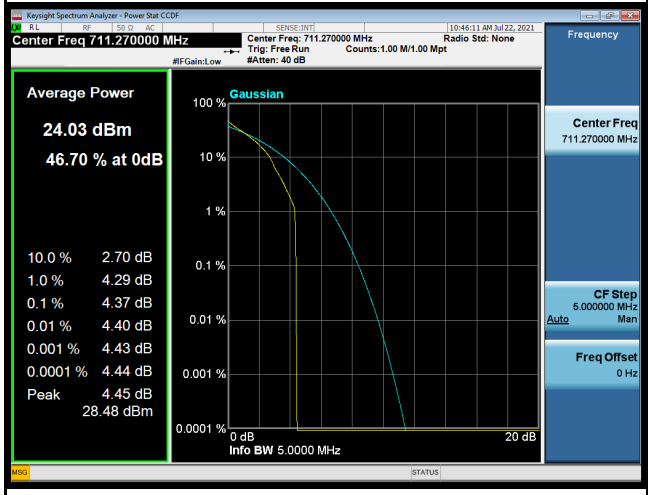

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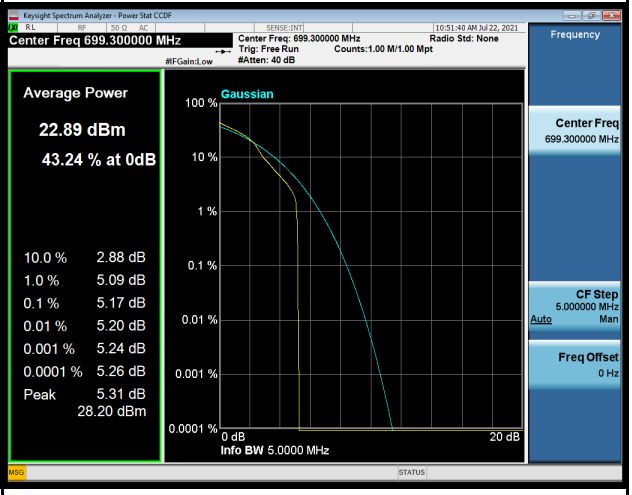

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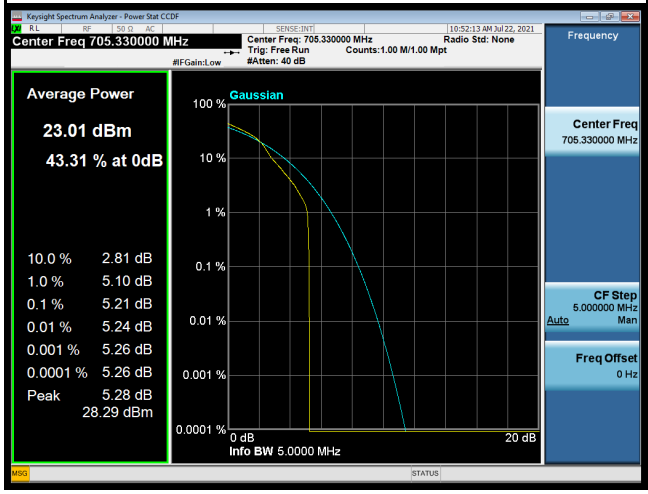

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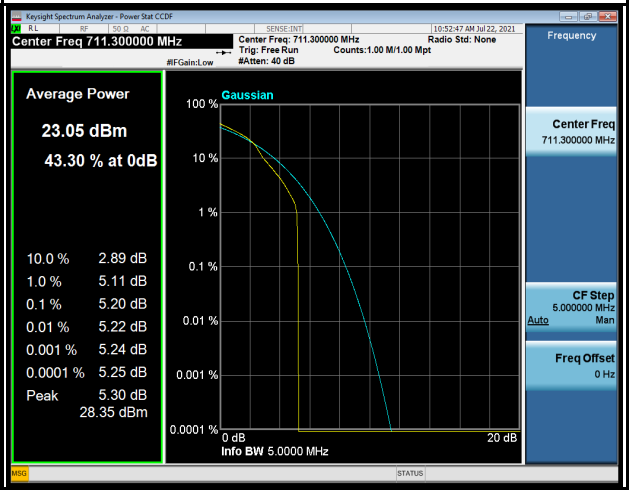
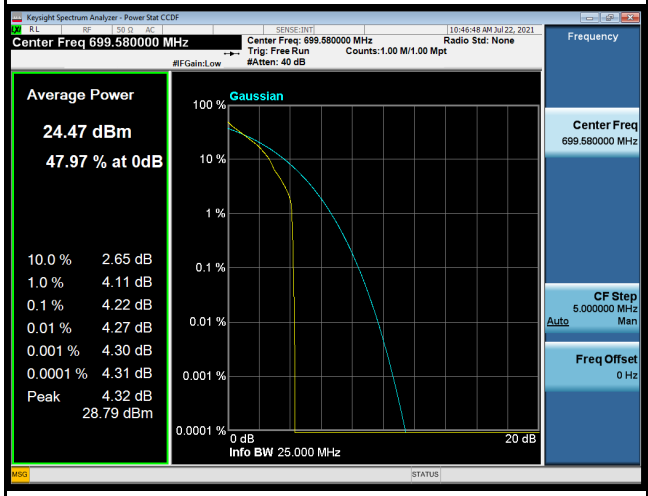


LTE Band 12 Spectrum Plot_10M

QPSK-23060



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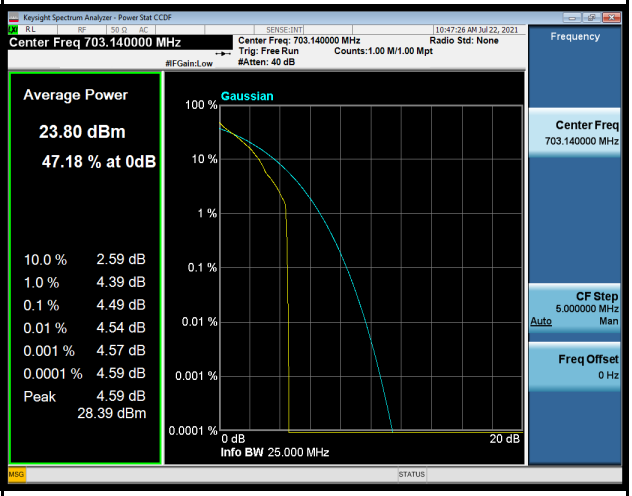

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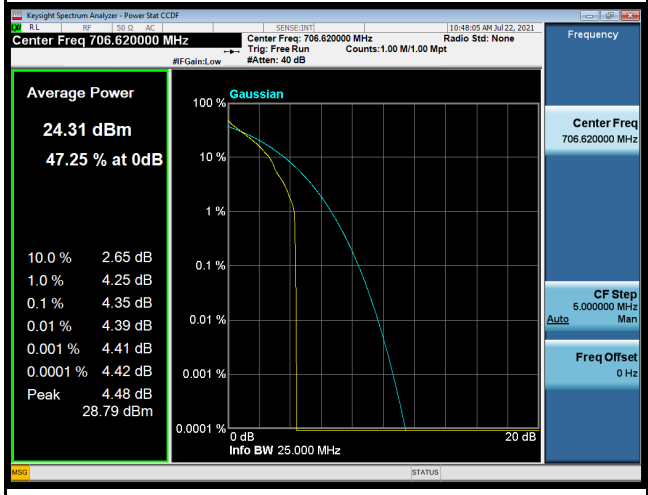

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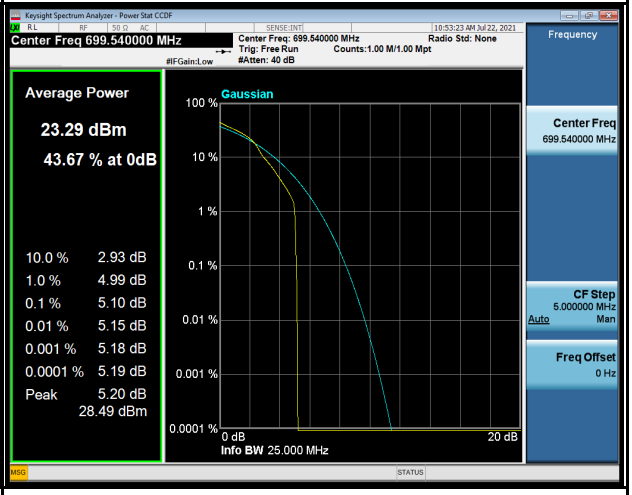

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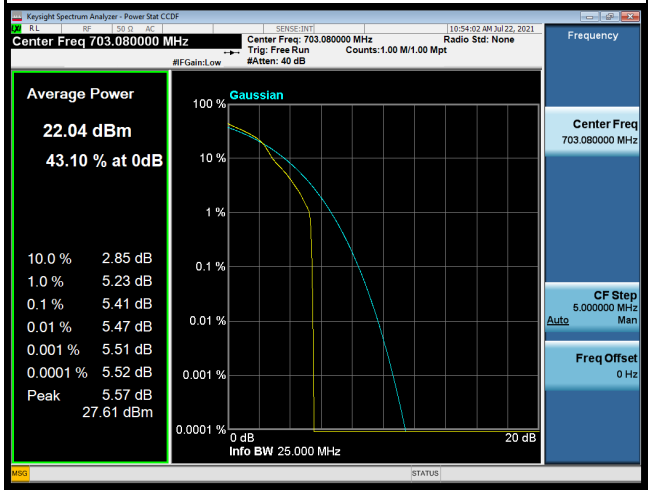

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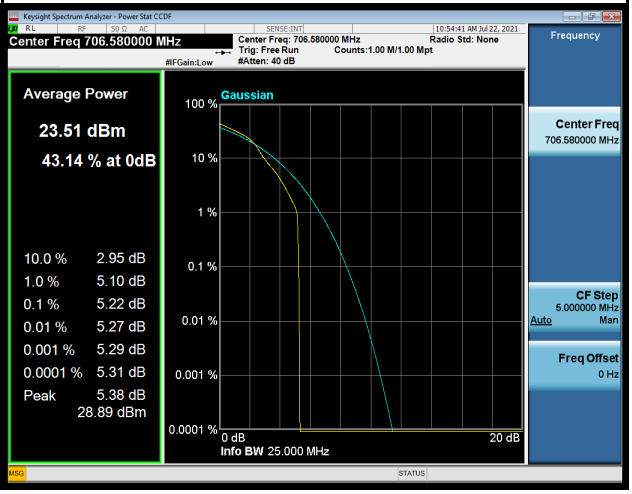
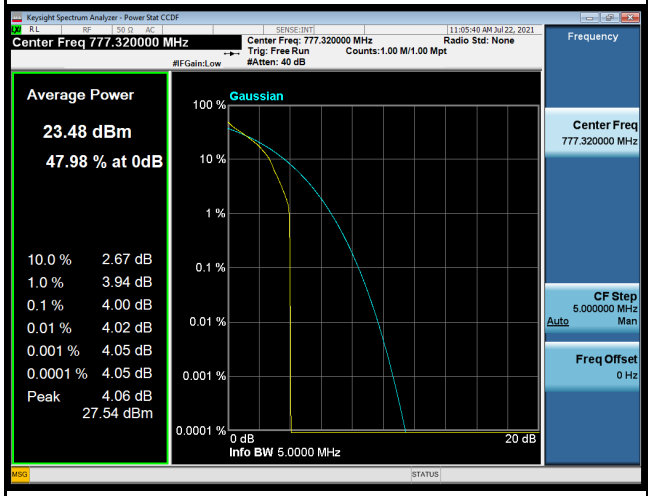


LTE Band 13 Spectrum Plot_5M

QPSK-23205



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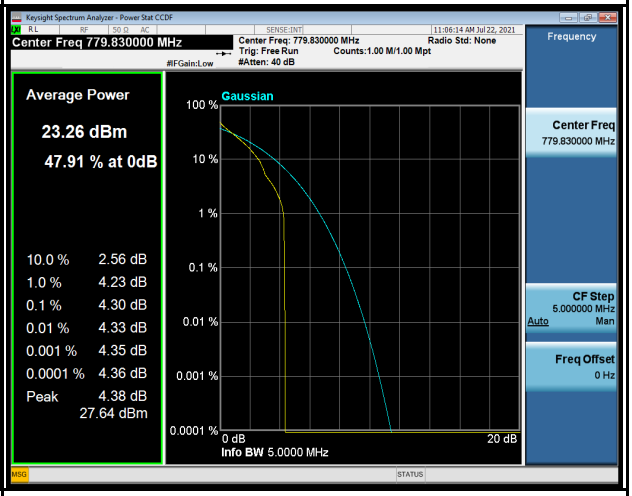

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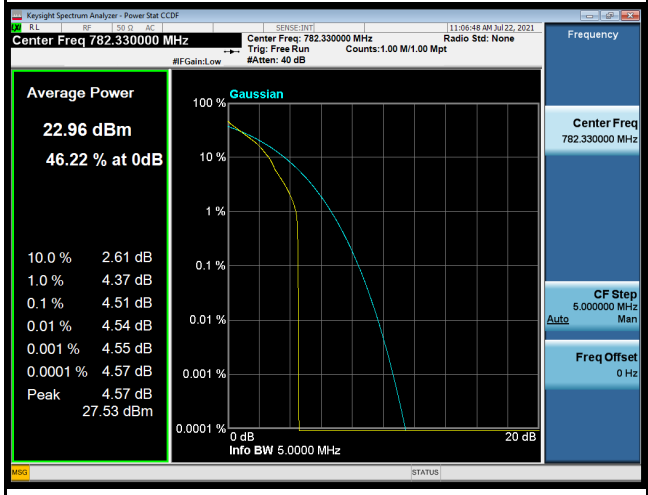

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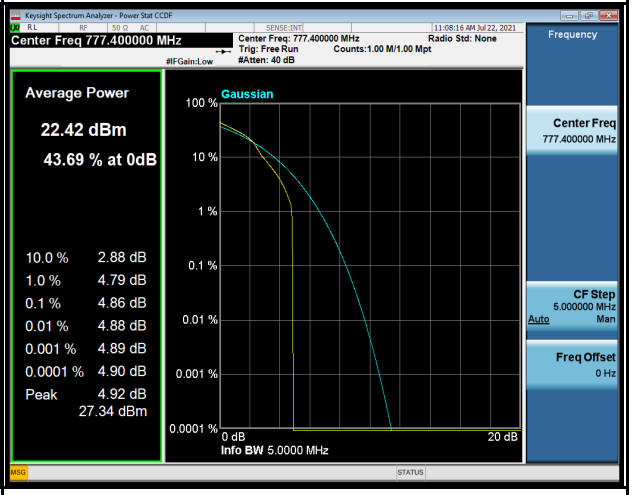

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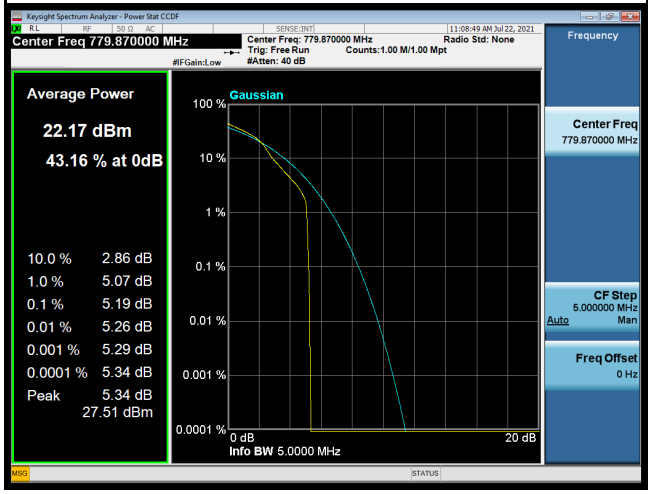

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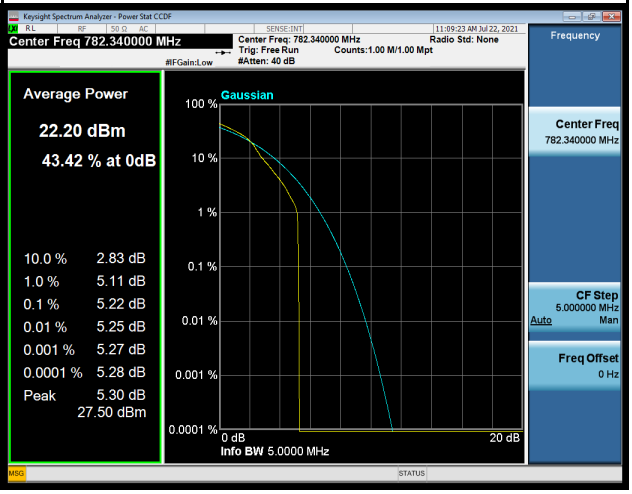

LTE Band 13 Spectrum Plot_10M	
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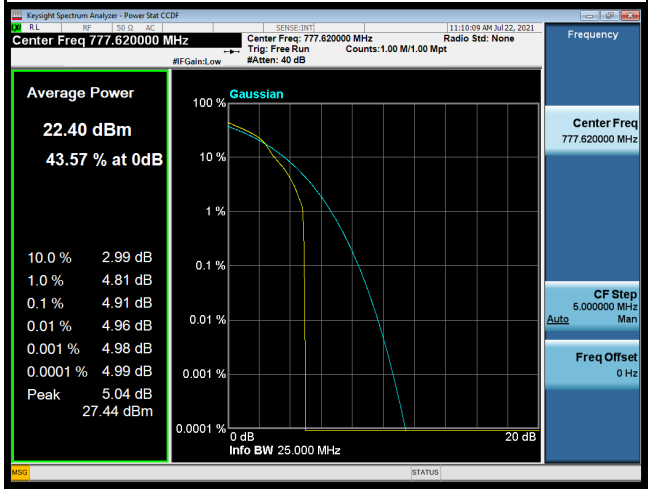	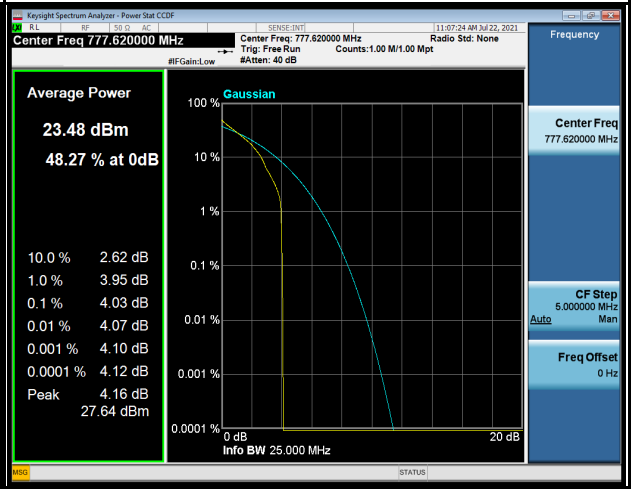

APPENDIX I - FREQUENCY STABILITY

Test Mode	WCDMA Band IV_CH1413

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	7.45	0.004299896	±2.5
-20	1.12	0.000646427	
-10	0.83	0.000479049	
0	0.39	0.000225095	
10	5.20	0.00300127	
20	4.78	0.00275886	
30	3.71	0.002141291	
40	4.19	0.002418331	
50	6.79	0.003918966	
Max. Deviation (ppm)	7.45	0.004299896	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	7.36	0.004247951	±2.5
120	2.46	0.001419831	
102	0.18	0.00010389	
Max. Deviation (ppm)	7.36	0.004247951	

Test Mode	LTE Band 4_CH20175_1.4M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-1.65	-0.000952381	±2.5
-20	-6.37	-0.003676768	
-10	3.83	0.002210678	
0	1.58	0.000911977	
10	-5.38	-0.003105339	
20	-4.40	-0.002539683	
30	6.26	0.003613276	
40	4.11	0.002372294	
50	8.30	0.004790765	
Max. Deviation (ppm)	8.3	0.004790765	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-5.66	-0.003266955	±2.5
120	-2.46	-0.001419913	
102	-5.61	-0.003238095	
Max. Deviation (ppm)	-5.66	-0.003266955	

Test Mode	LTE Band 4_CH20175_3M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-4.66	-0.002689755	±2.5
-20	-6.43	-0.0037114	
-10	-3.53	-0.002037518	
0	-4.36	-0.002516595	
10	7.52	0.004340548	
20	7.95	0.004588745	
30	2.47	0.001425685	
40	-7.29	-0.004207792	
50	-5.27	-0.003041847	
Max. Deviation (ppm)	7.95	0.004588745	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	7.96	0.004594517	±2.5
120	4.62	0.002666667	
102	-2.55	-0.001471861	
Max. Deviation (ppm)	7.96	0.004594517	

Test Mode	LTE Band 4_CH20175_5M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-2.94	-0.00169697	±2.5
-20	-5.07	-0.002926407	
-10	-6.20	-0.003578644	
0	6.12	0.003532468	
10	-6.79	-0.003919192	
20	5.89	0.003399711	
30	5.94	0.003428571	
40	-4.31	-0.002487734	
50	7.76	0.004479076	
Max. Deviation (ppm)	7.76	0.004479076	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	1.69	0.000975469	±2.5
120	2.91	0.001679654	
102	6.44	0.003717172	
Max. Deviation (ppm)	6.44	0.003717172	

Test Mode	LTE Band 4_CH20175_10M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	3.31	0.001910534	±2.5
-20	-5.55	-0.003203463	
-10	-2.29	-0.001321789	
0	-4.30	-0.002481962	
10	-6.34	-0.003659452	
20	2.97	0.001714286	
30	-2.62	-0.001512266	
40	0.89	0.000513709	
50	-0.60	-0.00034632	
Max. Deviation (ppm)	-6.34	-0.003659452	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-5.19	-0.002995671	±2.5
120	3.42	0.001974026	
102	-6.69	-0.003861472	
Max. Deviation (ppm)	-6.69	-0.003861472	

Test Mode	LTE Band 4_CH20175_15M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	6.32	0.003647908	±2.5
-20	3.97	0.002291486	
-10	3.51	0.002025974	
0	-0.13	-7.50361E-05	
10	7.94	0.004582973	
20	-6.04	-0.003486291	
30	1.79	0.001033189	
40	-1.42	-0.000819625	
50	5.71	0.003295815	
Max. Deviation (ppm)	7.94	0.004582973	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	5.35	0.003088023	±2.5
120	7.54	0.004352092	
102	-2.07	-0.001194805	
Max. Deviation (ppm)	7.54	0.004352092	

Test Mode	LTE Band 4_CH20175_20M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	0.63	0.000363636	±2.5
-20	-7.03	-0.00405772	
-10	2.37	0.001367965	
0	-4.69	-0.002707071	
10	-5.27	-0.003041847	
20	8.16	0.004709957	
30	8.34	0.004813853	
40	-2.76	-0.001593074	
50	-6.45	-0.003722944	
Max. Deviation (ppm)	8.34	0.004813853	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-4.09	-0.00236075	±2.5
120	-4.35	-0.002510823	
102	2.86	0.001650794	
Max. Deviation (ppm)	-4.35	-0.002510823	

Test Mode	LTE Band 12_CH23095_1.4M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	7.72	0.010911661	±2.5
-20	-5.85	0.008268551	
-10	1.67	0.002360424	
0	-5.12	0.007236749	
10	2.85	0.004028269	
20	1.08	0.001526502	
30	-7.29	0.010303887	
40	5.87	0.00829682	
50	-5.12	0.007236749	
Max. Deviation (ppm)	7.72	0.010911661	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	6.51	0.009201413	±2.5
120	-6.95	0.009823322	
102	-2.34	0.00330742	
Max. Deviation (ppm)	-6.95	0.009823322	

Test Mode	LTE Band 12_CH23095_3M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	6.52	0.009215548	±2.5
-20	5.07	0.007166078	
-10	-6.11	0.008636042	
0	5.82	0.008226148	
10	-3.09	0.004367491	
20	1.75	0.002473498	
30	8.14	0.0115053	
40	-1.54	0.002176678	
50	-6.95	0.009823322	
Max. Deviation (ppm)	8.14	0.0115053	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-3.39	0.004791519	±2.5
120	2.35	0.003321555	
102	7.02	0.009922261	
Max. Deviation (ppm)	7.02	0.009922261	

Test Mode	LTE Band 12_CH23095_5M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	3.32	0.00469258	±2.5
-20	-6.25	-0.008833922	
-10	5.72	0.008084806	
0	5.38	0.00760424	
10	-7.11	-0.01004947	
20	3.69	0.005215548	
30	6.12	0.008650177	
40	7.88	0.011137809	
50	-1.93	-0.002727915	
Max. Deviation (ppm)	7.88	0.011137809	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-6.81	-0.009625442	±2.5
120	1.21	0.001710247	
102	3.63	0.005130742	
Max. Deviation (ppm)	-6.81	-0.009625442	

Test Mode	LTE Band 12_CH23095_10M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-4.13	-0.005837456	±2.5
-20	-6.81	-0.009625442	
-10	-1.35	-0.001908127	
0	5.28	0.007462898	
10	-0.35	-0.0004947	
20	4.41	0.006233216	
30	4.83	0.006826855	
40	5.99	0.008466431	
50	-3.60	-0.005088339	
Max. Deviation (ppm)	-6.81	-0.009625442	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	5.35	0.007561837	±2.5
120	1.28	0.001809187	
102	-4.20	-0.005936396	
Max. Deviation (ppm)	5.35	0.007561837	

Test Mode	LTE Band 13_CH23230_5M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-2.84	-0.003631714	±2.5
-20	2.25	0.002877238	
-10	-2.01	-0.002570332	
0	5.71	0.00730179	
10	4.41	0.005639386	
20	-7.26	-0.009283887	
30	4.88	0.006240409	
40	-3.44	-0.004398977	
50	-3.96	-0.005063939	
Max. Deviation (ppm)	-7.26	-0.009283887	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	-5.37	-0.006867008	±2.5
120	-5.72	-0.007314578	
102	1.93	0.002468031	
Max. Deviation (ppm)	-5.72	-0.007314578	

Test Mode	LTE Band 13_CH23230_10M

Temperature vs. Frequency Stabiility

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	6.16	0.007877238	±2.5
-20	-2.52	-0.003222506	
-10	-6.17	-0.007890026	
0	-6.93	-0.008861893	
10	7.02	0.008976982	
20	1.28	0.001636829	
30	4.46	0.005703325	
40	3.85	0.004923274	
50	-0.19	-0.000242967	
Max. Deviation (ppm)	7.02	0.008976982	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
138	6.07	0.007762148	±2.5
120	1.45	0.00185422	
102	6.28	0.008030691	
Max. Deviation (ppm)	6.28	0.008030691	

End of Test Report