LTE B48

1. Frequency Stability

1.1 B48_5MHz

1.1.1 Test Result

Band: 48 / Bandwidth: 5MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	3552.5	25	0	20	3.27	-1.044	-0.0003	-2.5 to 2.5	Pass
					3.85	2.604	0.0007	-2.5 to 2.5	Pass
					4.43	3.805	0.0011	-2.5 to 2.5	Pass
				-30	3.85	1.931	0.0005	-2.5 to 2.5	Pass
				-20	3.85	-2.146	-0.0006	-2.5 to 2.5	Pass
				-10	3.85	1.388	0.0004	-2.5 to 2.5	Pass
				0	3.85	2.961	0.0008	-2.5 to 2.5	Pass
				10	3.85	-1.388	-0.0004	-2.5 to 2.5	Pass
				30	3.85	-1.645	-0.0005	-2.5 to 2.5	Pass
				40	3.85	-1.044	-0.0003	-2.5 to 2.5	Pass
				50	3.85	1.860	0.0005	-2.5 to 2.5	Pass
	3625	25	0	20	3.27	3.777	0.0010	-2.5 to 2.5	Pass
					3.85	0.658	0.0002	-2.5 to 2.5	Pass
					4.43	-0.243	-0.0001	-2.5 to 2.5	Pass
				-30	3.85	0.272	0.0001	-2.5 to 2.5	Pass
				-20	3.85	2.947	0.0008	-2.5 to 2.5	Pass
				-10	3.85	3.405	0.0009	-2.5 to 2.5	Pass
				0	3.85	-0.243	-0.0001	-2.5 to 2.5	Pass
				10	3.85	3.419	0.0009	-2.5 to 2.5	Pass
				30	3.85	2.332	0.0006	-2.5 to 2.5	Pass
				40	3.85	1.245	0.0003	-2.5 to 2.5	Pass
				50	3.85	1.531	0.0004	-2.5 to 2.5	Pass
	3697.5	25	0	20	3.27	3.819	0.0010	-2.5 to 2.5	Pass
					3.85	1.931	0.0005	-2.5 to 2.5	Pass
					4.43	3.505	0.0009	-2.5 to 2.5	Pass
				-30	3.85	0.172	0.0000	-2.5 to 2.5	Pass
				-20	3.85	2.403	0.0006	-2.5 to 2.5	Pass
				-10	3.85	2.160	0.0006	-2.5 to 2.5	Pass
				0	3.85	1.917	0.0005	-2.5 to 2.5	Pass
				10	3.85	2.546	0.0007	-2.5 to 2.5	Pass
				30	3.85	0.501	0.0001	-2.5 to 2.5	Pass
				40	3.85	2.489	0.0007	-2.5 to 2.5	Pass
				50	3.85	1.702	0.0005	-2.5 to 2.5	Pass
16QAM	3552.5	25	0	20	3.27	3.905	0.0011	-2.5 to 2.5	Pass
					3.85	3.433	0.0010	-2.5 to 2.5	Pass
					4.43	2.146	0.0006	-2.5 to 2.5	Pass
				-30	3.85	0.687	0.0002	-2.5 to 2.5	Pass
				-20	3.85	2.489	0.0007	-2.5 to 2.5	Pass
				-10	3.85	-0.529	-0.0001	-2.5 to 2.5	Pass
				0	3.85	0.873	0.0002	-2.5 to 2.5	Pass
				10	3.85	-1.874	-0.0005	-2.5 to 2.5	Pass
				30	3.85	1.245	0.0004	-2.5 to 2.5	Pass
				40	3.85	-1.273	-0.0004	-2.5 to 2.5	Pass
				50	3.85	-1.359	-0.0004	-2.5 to 2.5	Pass
	3625	25	0	20	3.27	-0.200	-0.0001	-2.5 to 2.5	Pass
					3.85	1.917	0.0005	-2.5 to 2.5	Pass

					4.43	-0.672	-0.0002	-2.5 to 2.5	Pass
				-30	3.85	-0.730	-0.0002	-2.5 to 2.5	Pass
				-20	3.85	2.818	0.0008	-2.5 to 2.5	Pass
				-10	3.85	2.961	0.0008	-2.5 to 2.5	Pass
				0	3.85	0.072	0.0000	-2.5 to 2.5	Pass
				10	3.85	2.589	0.0007	-2.5 to 2.5	Pass
				30	3.85	0.358	0.0001	-2.5 to 2.5	Pass
				40	3.85	-0.229	-0.0001	-2.5 to 2.5	Pass
				50	3.85	-0.672	-0.0002	-2.5 to 2.5	Pass
	3697.5	25	0	20	3.27	2.303	0.0006	-2.5 to 2.5	Pass
					3.85	-0.200	-0.0001	-2.5 to 2.5	Pass
					4.43	2.217	0.0006	-2.5 to 2.5	Pass
				-30	3.85	4.449	0.0012	-2.5 to 2.5	Pass
				-20	3.85	0.887	0.0002	-2.5 to 2.5	Pass
				-10	3.85	2.933	0.0008	-2.5 to 2.5	Pass
				0	3.85	3.233	0.0009	-2.5 to 2.5	Pass
				10	3.85	0.229	0.0001	-2.5 to 2.5	Pass
				30	3.85	3.891	0.0011	-2.5 to 2.5	Pass
				40	3.85	1.760	0.0005	-2.5 to 2.5	Pass
				50	3.85	3.262	0.0009	-2.5 to 2.5	Pass

1.2 B48_10MHz

1.2.1 Test Result

Band: 48 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	3555	50	0	20	3.27	-3.333	-0.0009	-2.5 to 2.5	Pass
					3.85	-0.172	0.0000	-2.5 to 2.5	Pass
					4.43	-1.345	-0.0004	-2.5 to 2.5	Pass
				-30	3.85	-0.973	-0.0003	-2.5 to 2.5	Pass
				-20	3.85	1.030	0.0003	-2.5 to 2.5	Pass
				-10	3.85	0.458	0.0001	-2.5 to 2.5	Pass
				0	3.85	-2.961	-0.0008	-2.5 to 2.5	Pass
				10	3.85	-1.187	-0.0003	-2.5 to 2.5	Pass
				30	3.85	-2.675	-0.0008	-2.5 to 2.5	Pass
				40	3.85	-0.772	-0.0002	-2.5 to 2.5	Pass
				50	3.85	-2.747	-0.0008	-2.5 to 2.5	Pass
	3625	50	0	20	3.27	-0.100	0.0000	-2.5 to 2.5	Pass
					3.85	2.189	0.0006	-2.5 to 2.5	Pass
					4.43	-2.775	-0.0008	-2.5 to 2.5	Pass
				-30	3.85	-0.129	0.0000	-2.5 to 2.5	Pass
				-20	3.85	-4.377	-0.0012	-2.5 to 2.5	Pass
				-10	3.85	-1.116	-0.0003	-2.5 to 2.5	Pass
				0	3.85	0.787	0.0002	-2.5 to 2.5	Pass
				10	3.85	-3.104	-0.0009	-2.5 to 2.5	Pass
				30	3.85	-2.232	-0.0006	-2.5 to 2.5	Pass
				40	3.85	-1.173	-0.0003	-2.5 to 2.5	Pass
				50	3.85	-2.961	-0.0008	-2.5 to 2.5	Pass
	3695	50	0	20	3.27	1.287	0.0003	-2.5 to 2.5	Pass
					3.85	-1.531	-0.0004	-2.5 to 2.5	Pass
					4.43	0.973	0.0003	-2.5 to 2.5	Pass
				-30	3.85	-1.001	-0.0003	-2.5 to 2.5	Pass
				-20	3.85	-2.189	-0.0006	-2.5 to 2.5	Pass
				-10	3.85	-2.003	-0.0005	-2.5 to 2.5	Pass
				0	3.85	-2.131	-0.0006	-2.5 to 2.5	Pass

				10	3.85	1.130	0.0003	-2.5 to 2.5	Pass
				30	3.85	1.602	0.0004	-2.5 to 2.5	Pass
				40	3.85	-0.386	-0.0001	-2.5 to 2.5	Pass
				50	3.85	0.401	0.0001	-2.5 to 2.5	Pass
16QAM	3555	50	0	20	3.27	-0.257	-0.0001	-2.5 to 2.5	Pass
					3.85	-0.229	-0.0001	-2.5 to 2.5	Pass
					4.43	-1.445	-0.0004	-2.5 to 2.5	Pass
				-30	3.85	-3.147	-0.0009	-2.5 to 2.5	Pass
				-20	3.85	-3.119	-0.0009	-2.5 to 2.5	Pass
				-10	3.85	0.429	0.0001	-2.5 to 2.5	Pass
				0	3.85	-1.860	-0.0005	-2.5 to 2.5	Pass
				10	3.85	0.315	0.0001	-2.5 to 2.5	Pass
				30	3.85	-0.386	-0.0001	-2.5 to 2.5	Pass
				40	3.85	-2.089	-0.0006	-2.5 to 2.5	Pass
				50	3.85	0.930	0.0003	-2.5 to 2.5	Pass
	3625	50	0	20	3.27	-0.658	-0.0002	-2.5 to 2.5	Pass
					3.85	0.315	0.0001	-2.5 to 2.5	Pass
					4.43	-2.689	-0.0007	-2.5 to 2.5	Pass
				-30	3.85	0.114	0.0000	-2.5 to 2.5	Pass
				-20	3.85	0.558	0.0002	-2.5 to 2.5	Pass
				-10	3.85	-0.472	-0.0001	-2.5 to 2.5	Pass
				0	3.85	-0.472	-0.0001	-2.5 to 2.5	Pass
				10	3.85	1.988	0.0005	-2.5 to 2.5	Pass
				30	3.85	0.529	0.0001	-2.5 to 2.5	Pass
				40	3.85	-0.601	-0.0002	-2.5 to 2.5	Pass
				50	3.85	0.300	0.0001	-2.5 to 2.5	Pass
	3695	50	0	20	3.27	0.987	0.0003	-2.5 to 2.5	Pass
					3.85	-2.232	-0.0006	-2.5 to 2.5	Pass
					4.43	0.858	0.0002	-2.5 to 2.5	Pass
				-30	3.85	0.358	0.0001	-2.5 to 2.5	Pass
				-20	3.85	-2.546	-0.0007	-2.5 to 2.5	Pass
				-10	3.85	-0.429	-0.0001	-2.5 to 2.5	Pass
				0	3.85	1.445	0.0004	-2.5 to 2.5	Pass
				10	3.85	-3.276	-0.0009	-2.5 to 2.5	Pass
				30	3.85	-0.787	-0.0002	-2.5 to 2.5	Pass
				40	3.85	0.300	0.0001	-2.5 to 2.5	Pass
				50	3.85	2.003	0.0005	-2.5 to 2.5	Pass

1.3 B48_15MHz

1.3.1 Test Result

Band: 48 / Bandwidth: 15MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	3557.5	75	0	20	3.27	-1.216	-0.0003	-2.5 to 2.5	Pass
					3.85	-1.187	-0.0003	-2.5 to 2.5	Pass
					4.43	-0.215	-0.0001	-2.5 to 2.5	Pass
				-30	3.85	-4.106	-0.0012	-2.5 to 2.5	Pass
				-20	3.85	-3.419	-0.0010	-2.5 to 2.5	Pass
				-10	3.85	-0.243	-0.0001	-2.5 to 2.5	Pass
				0	3.85	-2.718	-0.0008	-2.5 to 2.5	Pass
				10	3.85	-1.059	-0.0003	-2.5 to 2.5	Pass
				30	3.85	-3.018	-0.0008	-2.5 to 2.5	Pass
				40	3.85	-0.887	-0.0002	-2.5 to 2.5	Pass
				50	3.85	-1.931	-0.0005	-2.5 to 2.5	Pass
	3625	75	0	20	3.27	-3.548	-0.0010	-2.5 to 2.5	Pass

					3.85	-2.546	-0.0007	-2.5 to 2.5	Pass
					4.43	-5.436	-0.0015	-2.5 to 2.5	Pass
				-30	3.85	-1.030	-0.0003	-2.5 to 2.5	Pass
				-20	3.85	-1.173	-0.0003	-2.5 to 2.5	Pass
				-10	3.85	-3.834	-0.0011	-2.5 to 2.5	Pass
				0	3.85	-0.601	-0.0002	-2.5 to 2.5	Pass
				10	3.85	-3.505	-0.0010	-2.5 to 2.5	Pass
				30	3.85	-3.676	-0.0010	-2.5 to 2.5	Pass
				40	3.85	-0.730	-0.0002	-2.5 to 2.5	Pass
				50	3.85	-2.146	-0.0006	-2.5 to 2.5	Pass
	3692.5	75	0		3.27	0.129	0.0000	-2.5 to 2.5	Pass
				20	3.85	0.744	0.0002	-2.5 to 2.5	Pass
					4.43	1.073	0.0003	-2.5 to 2.5	Pass
				-30	3.85	-2.804	-0.0008	-2.5 to 2.5	Pass
				-20	3.85	-1.445	-0.0004	-2.5 to 2.5	Pass
				-10	3.85	-2.303	-0.0006	-2.5 to 2.5	Pass
				0	3.85	-1.802	-0.0005	-2.5 to 2.5	Pass
				10	3.85	-0.358	-0.0001	-2.5 to 2.5	Pass
				30	3.85	-1.202	-0.0003	-2.5 to 2.5	Pass
				40	3.85	-2.890	-0.0008	-2.5 to 2.5	Pass
				50	3.85	-0.086	0.0000	-2.5 to 2.5	Pass
16QAM	3557.5	75	0		3.27	-2.260	-0.0006	-2.5 to 2.5	Pass
				20	3.85	-1.345	-0.0004	-2.5 to 2.5	Pass
					4.43	-4.449	-0.0013	-2.5 to 2.5	Pass
				-30	3.85	-1.373	-0.0004	-2.5 to 2.5	Pass
				-20	3.85	-3.963	-0.0011	-2.5 to 2.5	Pass
				-10	3.85	-4.520	-0.0013	-2.5 to 2.5	Pass
				0	3.85	-3.576	-0.0010	-2.5 to 2.5	Pass
				10	3.85	-3.204	-0.0009	-2.5 to 2.5	Pass
				30	3.85	1.559	0.0004	-2.5 to 2.5	Pass
				40	3.85	-1.302	-0.0004	-2.5 to 2.5	Pass
				50	3.85	-5.078	-0.0014	-2.5 to 2.5	Pass
	3625	75	0		3.27	-3.276	-0.0009	-2.5 to 2.5	Pass
				20	3.85	-0.644	-0.0002	-2.5 to 2.5	Pass
					4.43	-5.994	-0.0017	-2.5 to 2.5	Pass
				-30	3.85	-0.672	-0.0002	-2.5 to 2.5	Pass
				-20	3.85	-2.117	-0.0006	-2.5 to 2.5	Pass
				-10	3.85	-4.363	-0.0012	-2.5 to 2.5	Pass
				0	3.85	-0.701	-0.0002	-2.5 to 2.5	Pass
				10	3.85	-3.748	-0.0010	-2.5 to 2.5	Pass
				30	3.85	-3.505	-0.0010	-2.5 to 2.5	Pass
				40	3.85	-2.675	-0.0007	-2.5 to 2.5	Pass
				50	3.85	0.343	0.0001	-2.5 to 2.5	Pass
	3692.5	75	0		3.27	-1.845	-0.0005	-2.5 to 2.5	Pass
				20	3.85	-0.472	-0.0001	-2.5 to 2.5	Pass
					4.43	-0.372	-0.0001	-2.5 to 2.5	Pass
				-30	3.85	-0.200	-0.0001	-2.5 to 2.5	Pass
				-20	3.85	-0.215	-0.0001	-2.5 to 2.5	Pass
				-10	3.85	0.544	0.0001	-2.5 to 2.5	Pass
				0	3.85	-0.844	-0.0002	-2.5 to 2.5	Pass
				10	3.85	-0.100	0.0000	-2.5 to 2.5	Pass
				30	3.85	-0.858	-0.0002	-2.5 to 2.5	Pass
				40	3.85	0.143	0.0000	-2.5 to 2.5	Pass
				50	3.85	-0.758	-0.0002	-2.5 to 2.5	Pass

1.4 B48_20MHz

1.4.1 Test Result

Band: 48 / Bandwidth: 20MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	3560	100	0	20	3.27	0.257	0.0001	-2.5 to 2.5	Pass
					3.85	-1.030	-0.0003	-2.5 to 2.5	Pass
					4.43	-2.432	-0.0007	-2.5 to 2.5	Pass
				-30	3.85	0.558	0.0002	-2.5 to 2.5	Pass
				-20	3.85	-5.164	-0.0015	-2.5 to 2.5	Pass
				-10	3.85	-3.777	-0.0011	-2.5 to 2.5	Pass
				0	3.85	-6.266	-0.0018	-2.5 to 2.5	Pass
				10	3.85	-0.787	-0.0002	-2.5 to 2.5	Pass
				30	3.85	-6.337	-0.0018	-2.5 to 2.5	Pass
				40	3.85	-1.717	-0.0005	-2.5 to 2.5	Pass
				50	3.85	0.701	0.0002	-2.5 to 2.5	Pass
	3625	100	0	20	3.27	-1.330	-0.0004	-2.5 to 2.5	Pass
					3.85	-0.873	-0.0002	-2.5 to 2.5	Pass
					4.43	-0.887	-0.0002	-2.5 to 2.5	Pass
				-30	3.85	-0.973	-0.0003	-2.5 to 2.5	Pass
				-20	3.85	-2.704	-0.0007	-2.5 to 2.5	Pass
				-10	3.85	-1.731	-0.0005	-2.5 to 2.5	Pass
				0	3.85	-4.292	-0.0012	-2.5 to 2.5	Pass
				10	3.85	-0.901	-0.0002	-2.5 to 2.5	Pass
				30	3.85	-1.087	-0.0003	-2.5 to 2.5	Pass
				40	3.85	-1.073	-0.0003	-2.5 to 2.5	Pass
				50	3.85	-2.904	-0.0008	-2.5 to 2.5	Pass
	3690	100	0	20	3.27	-0.830	-0.0002	-2.5 to 2.5	Pass
					3.85	0.930	0.0003	-2.5 to 2.5	Pass
					4.43	-1.788	-0.0005	-2.5 to 2.5	Pass
				-30	3.85	-2.060	-0.0006	-2.5 to 2.5	Pass
				-20	3.85	0.386	0.0001	-2.5 to 2.5	Pass
				-10	3.85	-3.347	-0.0009	-2.5 to 2.5	Pass
				0	3.85	-0.544	-0.0001	-2.5 to 2.5	Pass
				10	3.85	-1.245	-0.0003	-2.5 to 2.5	Pass
				30	3.85	-2.675	-0.0007	-2.5 to 2.5	Pass
				40	3.85	-1.216	-0.0003	-2.5 to 2.5	Pass
				50	3.85	-1.001	-0.0003	-2.5 to 2.5	Pass
16QAM	3560	100	0	20	3.27	-2.017	-0.0006	-2.5 to 2.5	Pass
					3.85	-2.146	-0.0006	-2.5 to 2.5	Pass
					4.43	-1.388	-0.0004	-2.5 to 2.5	Pass
				-30	3.85	-0.973	-0.0003	-2.5 to 2.5	Pass
				-20	3.85	-0.958	-0.0003	-2.5 to 2.5	Pass
				-10	3.85	-2.217	-0.0006	-2.5 to 2.5	Pass
				0	3.85	-4.406	-0.0012	-2.5 to 2.5	Pass
				10	3.85	-2.017	-0.0006	-2.5 to 2.5	Pass
				30	3.85	-0.744	-0.0002	-2.5 to 2.5	Pass
				40	3.85	-4.134	-0.0012	-2.5 to 2.5	Pass
				50	3.85	-3.090	-0.0009	-2.5 to 2.5	Pass
	3625	100	0	20	3.27	-2.961	-0.0008	-2.5 to 2.5	Pass
					3.85	-4.306	-0.0012	-2.5 to 2.5	Pass
					4.43	-3.633	-0.0010	-2.5 to 2.5	Pass
				-30	3.85	-4.292	-0.0012	-2.5 to 2.5	Pass
				-20	3.85	-2.260	-0.0006	-2.5 to 2.5	Pass
				-10	3.85	-3.834	-0.0011	-2.5 to 2.5	Pass
				0	3.85	-2.246	-0.0006	-2.5 to 2.5	Pass
				10	3.85	-4.535	-0.0013	-2.5 to 2.5	Pass
				30	3.85	-0.615	-0.0002	-2.5 to 2.5	Pass
				40	3.85	1.044	0.0003	-2.5 to 2.5	Pass

				50	3.85	-1.459	-0.0004	-2.5 to 2.5	Pass
	3690	100	0	20	3.27	-0.858	-0.0002	-2.5 to 2.5	Pass
					3.85	1.030	0.0003	-2.5 to 2.5	Pass
					4.43	-0.758	-0.0002	-2.5 to 2.5	Pass
				-30	3.85	0.529	0.0001	-2.5 to 2.5	Pass
				-20	3.85	-1.259	-0.0003	-2.5 to 2.5	Pass
				-10	3.85	1.087	0.0003	-2.5 to 2.5	Pass
				0	3.85	-3.104	-0.0008	-2.5 to 2.5	Pass
				10	3.85	0.114	0.0000	-2.5 to 2.5	Pass
				30	3.85	-0.758	-0.0002	-2.5 to 2.5	Pass
				40	3.85	-2.289	-0.0006	-2.5 to 2.5	Pass
				50	3.85	0.386	0.0001	-2.5 to 2.5	Pass

UL 48C - LTE

Frequency Stability

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Verdict
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	VH	NT	54.20	0.028982	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	VL	NT	46.10	0.024651	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	VN	NT	42.50	0.022726	PASS
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Verdict
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	50	19.20	0.010267	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	40	20.60	0.011015	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	30	43.00	0.022993	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	20	26.70	0.014277	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	10	29.60	0.015828	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	0	30.40	0.016256	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	-10	46.30	0.024758	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	-20	34.00	0.018181	PASS
48-48	20MHz-20MHz	QPSK-QPSK	M	100RB#0-100RB#0	NV	-30	41.80	0.022352	PASS