











Appendix F: Frequency Stability for SA

Test Result

Frequency Error VS. Voltage

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
N12	15	5	CP-QPSK	L	Outer_Full	VL	NT	-5.01	-0.01	PASS
N12	15	5	CP-QPSK	L	Outer_Full	VN	NT	-8.34	-0.01	PASS
N12	15	5	CP-QPSK	L	Outer_Full	VH	NT	1.05	0.00	PASS
N12	15	5	CP-16QAM	L	Outer_Full	VL	NT	54.22	0.08	PASS
N12	15	5	CP-16QAM	L	Outer_Full	VN	NT	1.14	0.00	PASS
N12	15	5	CP-16QAM	L	Outer_Full	VH	NT	0.33	0.00	PASS
N12	15	5	CP-QPSK	M	Outer_Full	VL	NT	27.64	0.04	PASS
N12	15	5	CP-QPSK	M	Outer_Full	VN	NT	2.76	0.00	PASS
N12	15	5	CP-QPSK	M	Outer_Full	VH	NT	-5.16	-0.01	PASS
N12	15	5	CP-16QAM	M	Outer_Full	VL	NT	-7.23	-0.01	PASS
N12	15	5	CP-16QAM	M	Outer_Full	VN	NT	140.61	0.20	PASS
N12	15	5	CP-16QAM	M	Outer_Full	VH	NT	0.28	0.00	PASS
N12	15	5	CP-QPSK	H	Outer_Full	VL	NT	96.22	0.13	PASS
N12	15	5	CP-QPSK	H	Outer_Full	VN	NT	-0.23	0.00	PASS
N12	15	5	CP-QPSK	H	Outer_Full	VH	NT	-1.38	0.00	PASS
N12	15	5	CP-16QAM	H	Outer_Full	VL	NT	13.15	0.02	PASS
N12	15	5	CP-16QAM	H	Outer_Full	VN	NT	-2.02	0.00	PASS
N12	15	5	CP-16QAM	H	Outer_Full	VH	NT	83.99	0.12	PASS
N12	15	10	CP-QPSK	L	Outer_Full	VL	NT	175.17	0.25	PASS
N12	15	10	CP-QPSK	L	Outer_Full	VN	NT	24.52	0.03	PASS
N12	15	10	CP-QPSK	L	Outer_Full	VH	NT	15.75	0.02	PASS
N12	15	10	CP-16QAM	L	Outer_Full	VL	NT	7.31	0.01	PASS
N12	15	10	CP-16QAM	L	Outer_Full	VN	NT	-62.58	-0.09	PASS
N12	15	10	CP-16QAM	L	Outer_Full	VH	NT	-1.58	0.00	PASS
N12	15	10	CP-QPSK	M	Outer_Full	VL	NT	0.07	0.00	PASS
N12	15	10	CP-QPSK	M	Outer_Full	VN	NT	1.79	0.00	PASS
N12	15	10	CP-QPSK	M	Outer_Full	VH	NT	-51.09	-0.07	PASS
N12	15	10	CP-16QAM	M	Outer_Full	VL	NT	3.42	0.00	PASS
N12	15	10	CP-16QAM	M	Outer_Full	VN	NT	3.26	0.00	PASS
N12	15	10	CP-16QAM	M	Outer_Full	VH	NT	-5.54	-0.01	PASS
N12	15	10	CP-QPSK	H	Outer_Full	VL	NT	-38.98	-0.05	PASS
N12	15	10	CP-QPSK	H	Outer_Full	VN	NT	-2.28	0.00	PASS

N12	15	10	CP-QPSK	H	Outer_Full	VH	NT	0.88	0.00	PASS
N12	15	10	CP-16QAM	H	Outer_Full	VL	NT	-2.22	0.00	PASS
N12	15	10	CP-16QAM	H	Outer_Full	VN	NT	-2.95	0.00	PASS
N12	15	10	CP-16QAM	H	Outer_Full	VH	NT	-3.49	0.00	PASS
N12	15	15	CP-QPSK	L	Outer_Full	VL	NT	-2.92	0.00	PASS
N12	15	15	CP-QPSK	L	Outer_Full	VN	NT	68.43	0.10	PASS
N12	15	15	CP-QPSK	L	Outer_Full	VH	NT	-1.08	0.00	PASS
N12	15	15	CP-16QAM	L	Outer_Full	VL	NT	116.66	0.17	PASS
N12	15	15	CP-16QAM	L	Outer_Full	VN	NT	-28.18	-0.04	PASS
N12	15	15	CP-16QAM	L	Outer_Full	VH	NT	4.14	0.01	PASS
N12	15	15	CP-QPSK	M	Outer_Full	VL	NT	1.11	0.00	PASS
N12	15	15	CP-QPSK	M	Outer_Full	VN	NT	-75.47	-0.11	PASS
N12	15	15	CP-QPSK	M	Outer_Full	VH	NT	0.07	0.00	PASS
N12	15	15	CP-16QAM	M	Outer_Full	VL	NT	56.37	0.08	PASS
N12	15	15	CP-16QAM	M	Outer_Full	VN	NT	-69.72	-0.10	PASS
N12	15	15	CP-16QAM	M	Outer_Full	VH	NT	-3.19	0.00	PASS
N12	15	15	CP-QPSK	H	Outer_Full	VL	NT	0.92	0.00	PASS
N12	15	15	CP-QPSK	H	Outer_Full	VN	NT	-67.37	-0.10	PASS
N12	15	15	CP-QPSK	H	Outer_Full	VH	NT	-2.48	0.00	PASS
N12	15	15	CP-16QAM	H	Outer_Full	VL	NT	2.16	0.00	PASS
N12	15	15	CP-16QAM	H	Outer_Full	VN	NT	-2.36	0.00	PASS
N12	15	15	CP-16QAM	H	Outer_Full	VH	NT	-2.18	0.00	PASS

Frequency Error VS. Temperature

Voltage										
Band	SCS	Bandwidth	Modulation	Channel	RB Config	Voltage	Temperature	Deviation(Hz)	Deviation (ppm)	Verdict
N12	15	5	CP-QPSK	L	Outer_Full	NV	-30	0.442540	0.000631	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	-20	0.251942	0.000359	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	-10	-27.660912	-0.039431	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	0	0.330362	0.000471	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	10	136.453262	0.194516	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	20	-62.521206	-0.089125	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	30	0.257427	0.000367	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	40	-0.131019	-0.000187	PASS
N12	15	5	CP-QPSK	L	Outer_Full	NV	50	-0.602166	-0.000858	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	-30	5.007179	0.007138	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	-20	-2.669979	-0.003806	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	-10	-0.425784	-0.000607	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	0	-6.263893	-0.008929	PASS

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N12	15	5	CP-16QAM	L	Outer_Full	NV	10	2.696442	0.003844	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	20	0.729303	0.001040	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	30	-1.956175	-0.002789	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	40	-4.425320	-0.006308	PASS
N12	15	5	CP-16QAM	L	Outer_Full	NV	50	3.930548	0.005603	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	-30	13.978250	0.019757	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	-20	22.376770	0.031628	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	-10	84.637985	0.119630	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	0	141.031220	0.199337	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	10	82.757256	0.116971	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	20	-4.369068	-0.006175	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	30	-0.864576	-0.001222	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	40	2.710881	0.003832	PASS
N12	15	5	CP-QPSK	M	Outer_Full	NV	50	-2.830213	-0.004000	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	-30	-4.949454	-0.006996	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	-20	-1.161566	-0.001642	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	-10	-15.363773	-0.021716	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	0	-2.820294	-0.003986	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	10	1.217344	0.001721	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	20	-3.892004	-0.005501	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	30	-0.314807	-0.000445	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	40	-5.826800	-0.008236	PASS
N12	15	5	CP-16QAM	M	Outer_Full	NV	50	-0.774002	-0.001094	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	-30	-1.696920	-0.002378	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	-20	-1.123326	-0.001574	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	-10	54.809189	0.076817	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	0	1.301193	0.001824	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	10	61.674217	0.086439	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	20	-109.566231	-0.153562	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	30	-2.709116	-0.003797	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	40	-0.646111	-0.000906	PASS
N12	15	5	CP-QPSK	H	Outer_Full	NV	50	-15.855119	-0.022222	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	-30	-5.975074	-0.008374	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	-20	-16.570358	-0.023224	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	-10	-1.170309	-0.001640	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	0	-6.908307	-0.009682	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	10	-2.893118	-0.004055	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	20	-1.973999	-0.002767	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	30	0.678421	0.000951	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	40	12.077906	0.016928	PASS
N12	15	5	CP-16QAM	H	Outer_Full	NV	50	-3.313400	-0.004644	PASS

N12	15	10	CP-QPSK	L	Outer_Full	NV	-30	-83.802292	-0.119037	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	-20	7.036909	0.009996	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	-10	59.695843	0.084795	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	0	5.454093	0.007747	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	10	9.894753	0.014055	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	20	5.436591	0.007722	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	30	5.552317	0.007887	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	40	-4.539968	-0.006449	PASS
N12	15	10	CP-QPSK	L	Outer_Full	NV	50	6.530366	0.009276	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	-30	-0.713879	-0.001014	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	-20	76.689194	0.108934	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	-10	-57.158287	-0.081191	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	0	2.954839	0.004197	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	10	-11.229073	-0.015950	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	20	5.312158	0.007546	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	30	-10.621877	-0.015088	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	40	53.738575	0.076333	PASS
N12	15	10	CP-16QAM	L	Outer_Full	NV	50	-120.200668	-0.170740	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	-30	11.561621	0.016342	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	-20	0.107357	0.000152	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	-10	34.063187	0.048146	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	0	-118.905281	-0.168064	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	10	-56.274746	-0.079540	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	20	-4.797646	-0.006781	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	30	-5.141235	-0.007267	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	40	93.155319	0.131668	PASS
N12	15	10	CP-QPSK	M	Outer_Full	NV	50	-6.207555	-0.008774	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	-30	89.166519	0.126030	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	-20	-54.032887	-0.076372	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	-10	-4.372504	-0.006180	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	0	-3.863757	-0.005461	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	10	-3.277663	-0.004633	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	20	50.490093	0.071364	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	30	-2.249245	-0.003179	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	40	-1.394289	-0.001971	PASS
N12	15	10	CP-16QAM	M	Outer_Full	NV	50	8.380569	0.011845	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	-30	21.515047	0.030260	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	-20	37.158810	0.052263	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	-10	-56.151684	-0.078976	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	0	-26.617943	-0.037437	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	10	-5.357735	-0.007535	PASS

N12	15	10	CP-QPSK	H	Outer_Full	NV	20	-6.929836	-0.009747	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	30	1.021860	0.001437	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	40	-93.867638	-0.132022	PASS
N12	15	10	CP-QPSK	H	Outer_Full	NV	50	36.056049	0.050712	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	-30	-25.888941	-0.036412	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	-20	-4.546580	-0.006395	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	-10	-17.926868	-0.025214	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	0	25.897158	0.036424	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	10	72.065491	0.101358	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	20	-4.310521	-0.006063	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	30	-3.968915	-0.005582	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	40	112.296608	0.157942	PASS
N12	15	10	CP-16QAM	H	Outer_Full	NV	50	-3.332436	-0.004687	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	-30	32.678291	0.046254	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	-20	-2.042912	-0.002892	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	-10	3.507619	0.004965	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	0	0.525258	0.000743	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	10	148.155884	0.209704	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	20	-5.459740	-0.007728	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	30	109.829979	0.155456	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	40	0.760675	0.001077	PASS
N12	15	15	CP-QPSK	L	Outer_Full	NV	50	13.655792	0.019329	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	-30	-7.567048	-0.010711	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	-20	-11.743200	-0.016622	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	-10	-5.788526	-0.008193	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	0	-14.830412	-0.020991	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	10	-0.842134	-0.001192	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	20	-1.699128	-0.002405	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	30	2.381677	0.003371	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	40	-2.736708	-0.003874	PASS
N12	15	15	CP-16QAM	L	Outer_Full	NV	50	40.225891	0.056937	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	-30	9.573001	0.013531	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	-20	-25.746021	-0.036390	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	-10	-94.817940	-0.134018	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	0	-135.462692	-0.191467	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	10	-4.291537	-0.006066	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	20	2.227250	0.003148	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	30	-0.317067	-0.000448	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	40	-2.559163	-0.003617	PASS
N12	15	15	CP-QPSK	M	Outer_Full	NV	50	52.834934	0.074678	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	-30	64.255730	0.090821	PASS

N12	15	15	CP-16QAM	M	Outer_Full	NV	-20	15.237911	0.021538	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	-10	-22.253082	-0.031453	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	0	2.330255	0.003294	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	10	1.524157	0.002154	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	20	-80.679337	-0.114034	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	30	-56.349030	-0.079645	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	40	-2.006343	-0.002836	PASS
N12	15	15	CP-16QAM	M	Outer_Full	NV	50	-2.572004	-0.003635	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	-30	169.665085	0.239471	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	-20	2.655225	0.003748	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	-10	-1.481445	-0.002091	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	0	-126.148140	-0.178050	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	10	8.182189	0.011549	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	20	-121.964478	-0.172145	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	30	1.384607	0.001954	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	40	43.665554	0.061631	PASS
N12	15	15	CP-QPSK	H	Outer_Full	NV	50	5.383921	0.007599	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	-30	12.851542	0.018139	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	-20	-24.615366	-0.034743	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	-10	1.107918	0.001564	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	0	54.723972	0.077239	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	10	19.663080	0.027753	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	20	5.297394	0.007477	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	30	3.927008	0.005543	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	40	2.688902	0.003795	PASS
N12	15	15	CP-16QAM	H	Outer_Full	NV	50	44.575626	0.062915	PASS