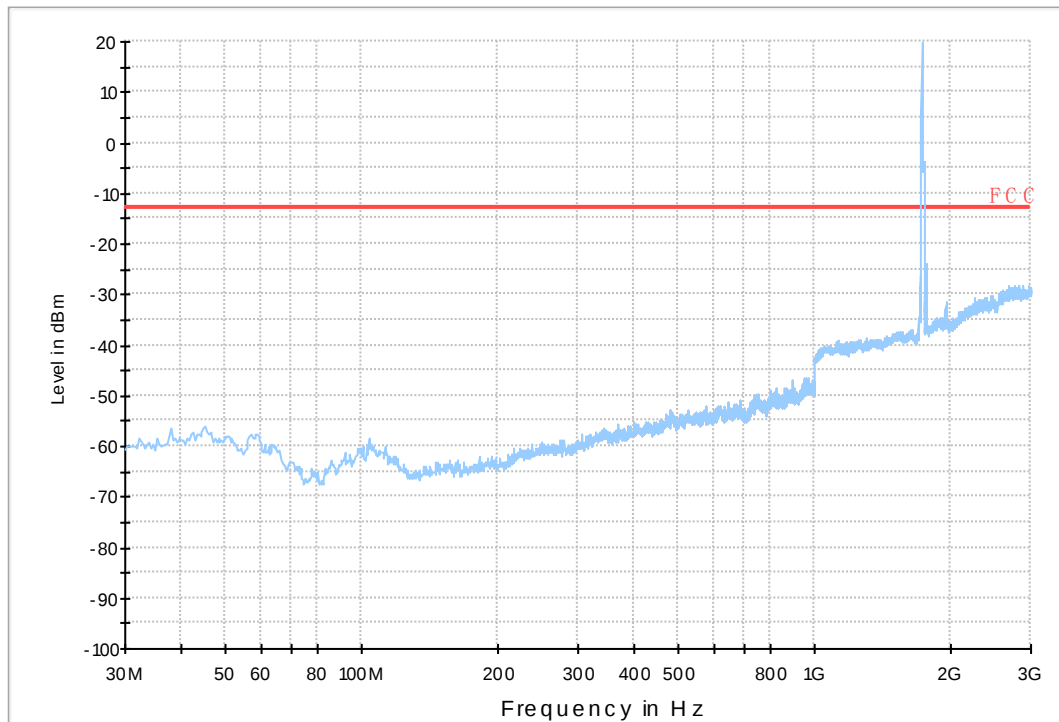
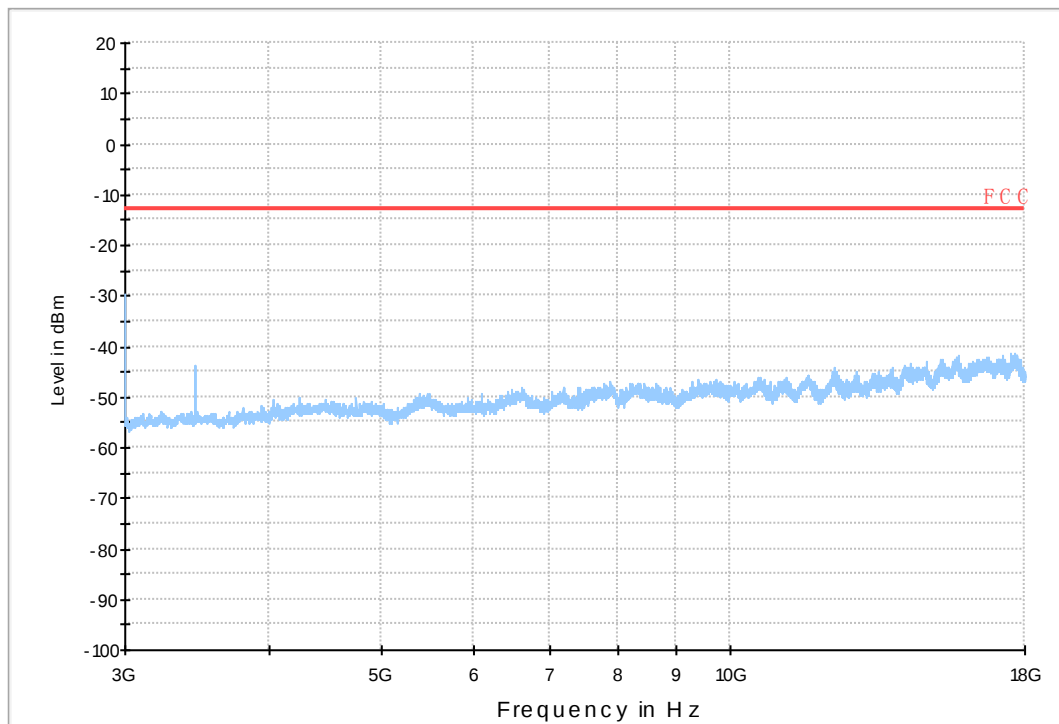


Copy of RSE-TX-DIRECTOR ABOVE 1.5G_L



Copy of RSE-TX-DIRECTOR ABOVE 1.5G_H



8Appendix_H: Frequency Stability

8.1 For LTE

8.1.1Frequency Error vs. Voltage:

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND4	LTE/TM1	1.4	LCH	TN	VL	0.67	0.00039	PASS
					VN	0.90	0.00053	PASS
					VH	3.09	0.00181	PASS
			MCH	TN	VL	-0.90	-0.00052	PASS
					VN	-0.11	-0.00006	PASS
					VH	0.51	0.00029	PASS
			HCH	TN	VL	1.53	0.00087	PASS
					VN	0.69	0.00039	PASS
					VH	0.20	0.00011	PASS
		3	LCH	TN	VL	8.55	0.005	PASS
					VN	7.25	0.00424	PASS
					VH	1.27	0.00074	PASS
			MCH	TN	VL	1.37	0.00079	PASS
					VN	-0.19	-0.00011	PASS
					VH	0.11	0.00006	PASS
			HCH	TN	VL	12.17	0.00694	PASS
					VN	8.88	0.00506	PASS
					VH	-2.29	-0.00131	PASS
		5	LCH	TN	VL	1.29	0.00075	PASS
					VN	1.06	0.00062	PASS
					VH	0.53	0.00031	PASS
			MCH	TN	VL	0.63	0.00036	PASS
					VN	0.27	0.00016	PASS
					VH	0.62	0.00036	PASS
			HCH	TN	VL	-0.40	-0.00023	PASS
					VN	4.32	0.00247	PASS
					VH	1.54	0.00088	PASS
		10	LCH	TN	VL	-7.77	-0.00453	PASS
					VN	-6.85	-0.00399	PASS
					VH	-2.66	-0.00155	PASS
			MCH	TN	VL	0.56	0.00032	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
			HCH	TN	VN	0.31	0.00018	PASS
					VH	-0.79	-0.00046	PASS
					VL	-0.24	-0.00014	PASS
					VN	1.40	0.0008	PASS
					VH	11.33	0.00647	PASS
		15	LCH	TN	VL	-2.47	-0.00144	PASS
					VN	4.29	0.0025	PASS
					VH	0.40	0.00023	PASS
			MCH	TN	VL	-0.26	-0.00015	PASS
					VN	-0.20	-0.00012	PASS
					VH	0.60	0.00035	PASS
			HCH	TN	VL	0.41	0.00023	PASS
					VN	10.83	0.0062	PASS
					VH	0.77	0.00044	PASS
		20	LCH	TN	VL	3.88	0.00226	PASS
					VN	-3.35	-0.00195	PASS
					VH	4.41	0.00256	PASS
			MCH	TN	VL	-0.11	-0.00006	PASS
					VN	0.47	0.00027	PASS
					VH	-0.14	-0.00008	PASS
			HCH	TN	VL	0.23	0.00013	PASS
					VN	0.67	0.00038	PASS
					VH	0.79	0.00045	PASS
	LTE/TM2	1.4	LCH	TN	VL	0.60	0.00035	PASS
					VN	0.89	0.00052	PASS
					VH	-0.01	-0.00001	PASS
			MCH	TN	VL	-0.21	-0.00012	PASS
					VN	-1.67	-0.00096	PASS
					VH	0.60	0.00035	PASS
			HCH	TN	VL	-0.29	-0.00017	PASS
					VN	-1.32	-0.00075	PASS
					VH	1.37	0.00078	PASS
		3	LCH	TN	VL	2.47	0.00144	PASS
					VN	-3.60	-0.0021	PASS
					VH	11.70	0.00684	PASS
			MCH	TN	VL	-1.47	-0.00085	PASS
					VN	-0.96	-0.00055	PASS
					VH	-0.97	-0.00056	PASS
			HCH	TN	VL	1.47	0.00084	PASS

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
					VN	-5.22	-0.00298	PASS
					VH	-6.27	-0.00358	PASS
		5	LCH	TN	VL	0.24	0.00014	PASS
					VN	-8.50	-0.00496	PASS
					VH	0.24	0.00014	PASS
					VL	0.39	0.00023	PASS
			MCH	TN	VN	-0.07	-0.00004	PASS
					VH	0.50	0.00029	PASS
					VL	1.09	0.00062	PASS
			HCH	TN	VN	-1.26	-0.00072	PASS
					VH	-11.54	-0.00658	PASS
					VL	-14.61	-0.00852	PASS
		10	LCH	TN	VN	-0.83	-0.00048	PASS
					VH	1.22	0.00071	PASS
					VL	-0.37	-0.00021	PASS
			MCH	TN	VN	-0.36	-0.00021	PASS
					VH	1.12	0.00065	PASS
					VL	8.33	0.00476	PASS
			HCH	TN	VN	8.73	0.00499	PASS
					VH	-2.69	-0.00154	PASS
					VL	5.06	0.00295	PASS
		15	LCH	TN	VN	-4.96	-0.00289	PASS
					VH	3.20	0.00186	PASS
					VL	-0.39	-0.00023	PASS
			MCH	TN	VN	-0.27	-0.00016	PASS
					VH	-0.03	-0.00002	PASS
					VL	-23.37	-0.01337	PASS
			HCH	TN	VN	1.20	0.00069	PASS
					VH	1.60	0.00092	PASS
					VL	-2.20	-0.00128	PASS
		20	LCH	TN	VN	-1.44	-0.00084	PASS
					VH	-1.87	-0.00109	PASS
					VL	0.04	0.00002	PASS
			MCH	TN	VN	0.01	0.00001	PASS
					VH	0.57	0.00033	PASS
					VL	2.03	0.00116	PASS
			HCH	TN	VN	0.60	0.00034	PASS
					VH	0.41	0.00023	PASS
					VL	-2.20	-0.00128	PASS

8.1.2 Frequency Error vs. Temperature:

Test Band	Test Temp.	Test Mode	Test Bandwidth (MHz)	Test Channel	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
BAND4	-30	LTE/TM1	1.4	LCH	VN	4.39	0.00257	PASS
				MCH	VN	2.27	0.00131	PASS
				HCH	VN	-0.24	-0.00014	PASS
			3	LCH	VN	10.90	0.00637	PASS
				MCH	VN	0.10	0.00006	PASS
				HCH	VN	1.43	0.00082	PASS
			5	LCH	VN	5.05	0.00295	PASS
				MCH	VN	0.27	0.00016	PASS
				HCH	VN	-11.97	-0.00683	PASS
			10	LCH	VN	2.29	0.00134	PASS
				MCH	VN	0.09	0.00005	PASS
				HCH	VN	-5.24	-0.00299	PASS
			15	LCH	VN	5.97	0.00348	PASS
				MCH	VN	0.43	0.00025	PASS
				HCH	VN	13.85	0.00793	PASS
			20	LCH	VN	-7.60	-0.00442	PASS
				MCH	VN	-0.16	-0.00009	PASS
				HCH	VN	0.19	0.00011	PASS
		LTE/TM2	1.4	LCH	VN	0.66	0.00039	PASS
				MCH	VN	-0.19	-0.00011	PASS
				HCH	VN	-1.90	-0.00108	PASS
			3	LCH	VN	-10.87	-0.00635	PASS
				MCH	VN	-0.84	-0.00048	PASS
				HCH	VN	-1.33	-0.00076	PASS
			5	LCH	VN	-6.69	-0.00391	PASS
				MCH	VN	0.29	0.00017	PASS
				HCH	VN	6.38	0.00364	PASS
			10	LCH	VN	-6.47	-0.00377	PASS
				MCH	VN	-0.76	-0.00044	PASS
				HCH	VN	6.79	0.00388	PASS
			15	LCH	VN	2.96	0.00172	PASS
				MCH	VN	-0.09	-0.00005	PASS
				HCH	VN	-13.18	-0.00754	PASS
			20	LCH	VN	-0.96	-0.00056	PASS
				MCH	VN	-0.30	-0.00017	PASS
				HCH	VN	0.41	0.00023	PASS



	-20	LTE/TM1	1.4	LCH	VN	-0.86	-0.0005	PASS
				MCH	VN	-0.03	-0.00002	PASS
				HCH	VN	-0.54	-0.00031	PASS
			3	LCH	VN	-21.64	-0.01264	PASS
				MCH	VN	0.20	0.00012	PASS
				HCH	VN	15.42	0.00879	PASS
			5	LCH	VN	-11.10	-0.00648	PASS
				MCH	VN	-0.43	-0.00025	PASS
				HCH	VN	-0.69	-0.00039	PASS
			10	LCH	VN	1.36	0.00079	PASS
				MCH	VN	0.77	0.00044	PASS
				HCH	VN	2.86	0.00163	PASS
			15	LCH	VN	3.89	0.00226	PASS
				MCH	VN	-0.11	-0.00006	PASS
				HCH	VN	-13.95	-0.00798	PASS
			20	LCH	VN	0.41	0.00024	PASS
				MCH	VN	0.47	0.00027	PASS
				HCH	VN	8.33	0.00477	PASS
		LTE/TM2	1.4	LCH	VN	0.33	0.00019	PASS
				MCH	VN	1.16	0.00067	PASS
				HCH	VN	1.37	0.00078	PASS
			3	LCH	VN	1.83	0.00107	PASS
				MCH	VN	1.60	0.00092	PASS
				HCH	VN	-2.09	-0.00119	PASS
			5	LCH	VN	5.26	0.00307	PASS
				MCH	VN	0.90	0.00052	PASS
				HCH	VN	-8.44	-0.00482	PASS
			10	LCH	VN	0.93	0.00054	PASS
				MCH	VN	0.64	0.00037	PASS
				HCH	VN	6.45	0.00369	PASS
			15	LCH	VN	3.62	0.00211	PASS
				MCH	VN	-0.37	-0.00021	PASS
				HCH	VN	3.92	0.00224	PASS
			20	LCH	VN	-5.56	-0.00323	PASS
				MCH	VN	0.63	0.00036	PASS
				HCH	VN	6.28	0.0036	PASS
	-10	LTE/TM1	1.4	LCH	VN	1.07	0.00063	PASS
				MCH	VN	0.21	0.00012	PASS
				HCH	VN	-1.20	-0.00068	PASS
			3	LCH	VN	-5.14	-0.003	PASS
				MCH	VN	-0.10	-0.00006	PASS
				HCH	VN	-3.35	-0.00191	PASS



			5	LCH	VN	-2.82	-0.00165	PASS
				MCH	VN	-0.36	-0.00021	PASS
				HCH	VN	-0.40	-0.00023	PASS
			10	LCH	VN	-3.71	-0.00216	PASS
				MCH	VN	-0.60	-0.00035	PASS
				HCH	VN	0.80	0.00046	PASS
			15	LCH	VN	0.73	0.00043	PASS
				MCH	VN	0.13	0.00008	PASS
				HCH	VN	9.08	0.0052	PASS
			20	LCH	VN	-2.53	-0.00147	PASS
				MCH	VN	-0.01	-0.00001	PASS
				HCH	VN	0.56	0.00032	PASS
		LTE/TM2	1.4	LCH	VN	2.42	0.00141	PASS
				MCH	VN	0.80	0.00046	PASS
				HCH	VN	0.60	0.00034	PASS
			3	LCH	VN	-3.96	-0.00231	PASS
				MCH	VN	-0.26	-0.00015	PASS
				HCH	VN	3.35	0.00191	PASS
			5	LCH	VN	0.59	0.00034	PASS
				MCH	VN	-0.11	-0.00006	PASS
				HCH	VN	-0.26	-0.00015	PASS
			10	LCH	VN	-11.84	-0.0069	PASS
				MCH	VN	-0.46	-0.00027	PASS
				HCH	VN	3.49	0.00199	PASS
			15	LCH	VN	6.07	0.00353	PASS
				MCH	VN	0.17	0.0001	PASS
				HCH	VN	3.19	0.00183	PASS
			20	LCH	VN	3.02	0.00176	PASS
				MCH	VN	-0.76	-0.00044	PASS
				HCH	VN	0.83	0.00048	PASS
	0	LTE/TM1	1.4	LCH	VN	3.35	0.00196	PASS
				MCH	VN	1.90	0.0011	PASS
				HCH	VN	-0.90	-0.00051	PASS
			3	LCH	VN	-16.21	-0.00947	PASS
				MCH	VN	-0.21	-0.00012	PASS
				HCH	VN	4.65	0.00265	PASS
			5	LCH	VN	-3.50	-0.00204	PASS
				MCH	VN	-0.04	-0.00002	PASS
				HCH	VN	-15.12	-0.00863	PASS
			10	LCH	VN	-0.16	-0.00009	PASS
				MCH	VN	-1.03	-0.00059	PASS
				HCH	VN	-1.32	-0.00075	PASS

			15	LCH	VN	1.43	0.00083	PASS
				MCH	VN	-0.73	-0.00042	PASS
				HCH	VN	-15.64	-0.00895	PASS
			20	LCH	VN	-8.04	-0.00467	PASS
				MCH	VN	-0.53	-0.00031	PASS
				HCH	VN	0.09	0.00005	PASS
		LTE/TM2	1.4	LCH	VN	0.20	0.00012	PASS
				MCH	VN	-1.69	-0.00098	PASS
				HCH	VN	-0.77	-0.00044	PASS
			3	LCH	VN	1.63	0.00095	PASS
				MCH	VN	-0.46	-0.00027	PASS
				HCH	VN	3.62	0.00206	PASS
			5	LCH	VN	0.14	0.00008	PASS
				MCH	VN	-0.72	-0.00042	PASS
				HCH	VN	-4.95	-0.00282	PASS
			10	LCH	VN	-2.47	-0.00144	PASS
				MCH	VN	-0.01	-0.00001	PASS
				HCH	VN	2.23	0.00127	PASS
			15	LCH	VN	-9.00	-0.00524	PASS
				MCH	VN	-0.26	-0.00015	PASS
				HCH	VN	1.20	0.00069	PASS
			20	LCH	VN	-6.14	-0.00357	PASS
				MCH	VN	0.00	0	PASS
				HCH	VN	0.46	0.00026	PASS
	10	LTE/TM1	1.4	LCH	VN	5.82	0.0034	PASS
				MCH	VN	2.17	0.00125	PASS
				HCH	VN	0.00	0	PASS
			3	LCH	VN	0.53	0.00031	PASS
				MCH	VN	-0.62	-0.00036	PASS
				HCH	VN	1.79	0.00102	PASS
			5	LCH	VN	1.14	0.00067	PASS
				MCH	VN	-0.69	-0.0004	PASS
				HCH	VN	1.43	0.00082	PASS
			10	LCH	VN	1.06	0.00062	PASS
				MCH	VN	-1.10	-0.00063	PASS
				HCH	VN	7.21	0.00412	PASS
			15	LCH	VN	3.45	0.00201	PASS
				MCH	VN	0.24	0.00014	PASS
				HCH	VN	1.24	0.00071	PASS
			20	LCH	VN	-4.96	-0.00288	PASS
				MCH	VN	-0.67	-0.00039	PASS
				HCH	VN	-0.43	-0.00025	PASS

		LTE/TM2	1.4	LCH	VN	4.31	0.00252	PASS
				MCH	VN	-0.24	-0.00014	PASS
				HCH	VN	-0.09	-0.00005	PASS
			3	LCH	VN	1.65	0.00096	PASS
				MCH	VN	0.62	0.00036	PASS
				HCH	VN	4.91	0.0028	PASS
			5	LCH	VN	0.69	0.0004	PASS
				MCH	VN	-0.20	-0.00012	PASS
				HCH	VN	1.95	0.00111	PASS
			10	LCH	VN	-8.73	-0.00509	PASS
				MCH	VN	0.33	0.00019	PASS
				HCH	VN	7.64	0.00437	PASS
			15	LCH	VN	-1.66	-0.00097	PASS
				MCH	VN	-0.57	-0.00033	PASS
				HCH	VN	15.36	0.00879	PASS
			20	LCH	VN	-1.82	-0.00106	PASS
				MCH	VN	-0.27	-0.00016	PASS
				HCH	VN	1.36	0.00078	PASS
	20	LTE/TM1	1.4	LCH	VN	5.64	0.0033	PASS
				MCH	VN	0.27	0.00016	PASS
				HCH	VN	0.56	0.00032	PASS
			3	LCH	VN	27.21	0.0159	PASS
				MCH	VN	-0.21	-0.00012	PASS
				HCH	VN	0.40	0.00023	PASS
			5	LCH	VN	2.99	0.00175	PASS
				MCH	VN	0.06	0.00003	PASS
				HCH	VN	9.17	0.00523	PASS
			10	LCH	VN	-7.15	-0.00417	PASS
				MCH	VN	0.87	0.0005	PASS
				HCH	VN	0.47	0.00027	PASS
			15	LCH	VN	-2.37	-0.00138	PASS
				MCH	VN	-0.94	-0.00054	PASS
				HCH	VN	-13.93	-0.00797	PASS
			20	LCH	VN	-3.50	-0.00203	PASS
				MCH	VN	-1.65	-0.00095	PASS
				HCH	VN	13.66	0.00783	PASS
		LTE/TM2	1.4	LCH	VN	-0.76	-0.00044	PASS
				MCH	VN	2.10	0.00121	PASS
				HCH	VN	-0.69	-0.00039	PASS
			3	LCH	VN	2.92	0.00171	PASS
				MCH	VN	-0.24	-0.00014	PASS
				HCH	VN	-2.98	-0.0017	PASS



			5	LCH	VN	0.50	0.00029	PASS
				MCH	VN	0.86	0.0005	PASS
				HCH	VN	0.07	0.00004	PASS
			10	LCH	VN	6.37	0.00371	PASS
				MCH	VN	-0.43	-0.00025	PASS
				HCH	VN	8.25	0.00471	PASS
			15	LCH	VN	0.19	0.00011	PASS
				MCH	VN	-0.09	-0.00005	PASS
				HCH	VN	1.37	0.00078	PASS
			20	LCH	VN	4.78	0.00278	PASS
				MCH	VN	-0.13	-0.00008	PASS
				HCH	VN	0.36	0.00021	PASS
	30	LTE/TM1	1.4	LCH	VN	-3.52	-0.00206	PASS
				MCH	VN	2.30	0.00133	PASS
				HCH	VN	-0.07	-0.00004	PASS
			3	LCH	VN	1.54	0.0009	PASS
				MCH	VN	-0.31	-0.00018	PASS
				HCH	VN	3.86	0.0022	PASS
			5	LCH	VN	0.73	0.00043	PASS
				MCH	VN	-1.89	-0.00109	PASS
				HCH	VN	1.82	0.00104	PASS
			10	LCH	VN	3.22	0.00188	PASS
				MCH	VN	-0.62	-0.00036	PASS
				HCH	VN	5.36	0.00306	PASS
			15	LCH	VN	4.46	0.0026	PASS
				MCH	VN	0.56	0.00032	PASS
				HCH	VN	-3.35	-0.00192	PASS
			20	LCH	VN	-2.93	-0.0017	PASS
				MCH	VN	-7.77	-0.00448	PASS
				HCH	VN	1.16	0.00066	PASS
		LTE/TM2	1.4	LCH	VN	-0.06	-0.00004	PASS
				MCH	VN	0.37	0.00021	PASS
				HCH	VN	-0.04	-0.00002	PASS
			3	LCH	VN	2.16	0.00126	PASS
				MCH	VN	-0.06	-0.00003	PASS
				HCH	VN	-2.53	-0.00144	PASS
			5	LCH	VN	0.40	0.00023	PASS
				MCH	VN	1.42	0.00082	PASS
				HCH	VN	-1.24	-0.00071	PASS
			10	LCH	VN	1.89	0.0011	PASS
				MCH	VN	-0.39	-0.00023	PASS
				HCH	VN	2.42	0.00138	PASS

	40	LTE/TM1	15	LCH	VN	0.57	0.00033	PASS
				MCH	VN	-0.60	-0.00035	PASS
				HCH	VN	0.60	0.00034	PASS
			20	LCH	VN	1.17	0.00068	PASS
				MCH	VN	-2.50	-0.00144	PASS
				HCH	VN	0.07	0.00004	PASS
			1.4	LCH	VN	3.02	0.00177	PASS
				MCH	VN	0.30	0.00017	PASS
				HCH	VN	1.23	0.0007	PASS
			3	LCH	VN	2.56	0.0015	PASS
				MCH	VN	0.00	0	PASS
				HCH	VN	0.19	0.00011	PASS
			5	LCH	VN	0.31	0.00018	PASS
				MCH	VN	-0.79	-0.00046	PASS
				HCH	VN	-0.73	-0.00042	PASS
			10	LCH	VN	-4.25	-0.00248	PASS
				MCH	VN	0.46	0.00027	PASS
				HCH	VN	2.98	0.0017	PASS
			15	LCH	VN	-1.50	-0.00087	PASS
				MCH	VN	0.09	0.00005	PASS
				HCH	VN	0.92	0.00053	PASS
			20	LCH	VN	3.03	0.00176	PASS
				MCH	VN	-0.36	-0.00021	PASS
				HCH	VN	0.29	0.00017	PASS
		LTE/TM2	1.4	LCH	VN	1.27	0.00074	PASS
				MCH	VN	-0.36	-0.00021	PASS
				HCH	VN	-1.43	-0.00082	PASS
			3	LCH	VN	20.38	0.01191	PASS
				MCH	VN	-1.26	-0.00073	PASS
				HCH	VN	9.40	0.00536	PASS
			5	LCH	VN	-0.03	-0.00002	PASS
				MCH	VN	1.26	0.00073	PASS
				HCH	VN	-1.59	-0.00091	PASS
			10	LCH	VN	-1.36	-0.00079	PASS
				MCH	VN	0.51	0.00029	PASS
				HCH	VN	7.70	0.0044	PASS
			15	LCH	VN	-3.38	-0.00197	PASS
				MCH	VN	-0.20	-0.00012	PASS
				HCH	VN	-22.53	-0.01289	PASS
			20	LCH	VN	-3.05	-0.00177	PASS
				MCH	VN	-1.90	-0.0011	PASS
				HCH	VN	-0.34	-0.00019	PASS

	50	LTE/TM1	1.4	LCH	VN	1.52	0.00089	PASS
				MCH	VN	-0.96	-0.00055	PASS
				HCH	VN	-0.26	-0.00015	PASS
			3	LCH	VN	-18.54	-0.01083	PASS
				MCH	VN	-0.17	-0.0001	PASS
				HCH	VN	5.74	0.00327	PASS
			5	LCH	VN	-11.69	-0.00683	PASS
				MCH	VN	1.04	0.0006	PASS
				HCH	VN	-4.39	-0.0025	PASS
			10	LCH	VN	-3.10	-0.00181	PASS
				MCH	VN	0.17	0.0001	PASS
				HCH	VN	-2.86	-0.00163	PASS
			15	LCH	VN	-2.43	-0.00141	PASS
				MCH	VN	0.29	0.00017	PASS
				HCH	VN	-6.69	-0.00383	PASS
			20	LCH	VN	-2.76	-0.0016	PASS
				MCH	VN	-0.20	-0.00012	PASS
				HCH	VN	1.12	0.00064	PASS
		LTE/TM2	1.4	LCH	VN	-1.85	-0.00108	PASS
				MCH	VN	-0.20	-0.00012	PASS
				HCH	VN	0.06	0.00003	PASS
			3	LCH	VN	-6.87	-0.00401	PASS
				MCH	VN	0.79	0.00046	PASS
				HCH	VN	-4.28	-0.00244	PASS
			5	LCH	VN	4.12	0.00241	PASS
				MCH	VN	-0.07	-0.00004	PASS
				HCH	VN	-0.16	-0.00009	PASS
			10	LCH	VN	10.04	0.00585	PASS
				MCH	VN	1.47	0.00085	PASS
				HCH	VN	2.93	0.00167	PASS
			15	LCH	VN	2.50	0.00146	PASS
				MCH	VN	-0.34	-0.0002	PASS
				HCH	VN	1.30	0.00074	PASS
			20	LCH	VN	3.43	0.00199	PASS
				MCH	VN	0.60	0.00035	PASS
				HCH	VN	-5.45	-0.00312	PASS

END