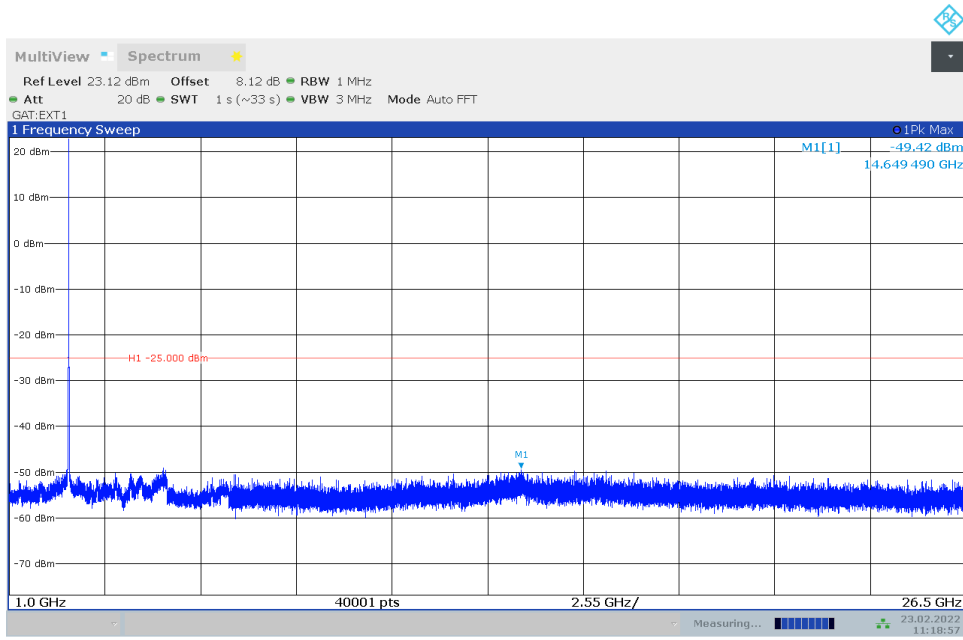
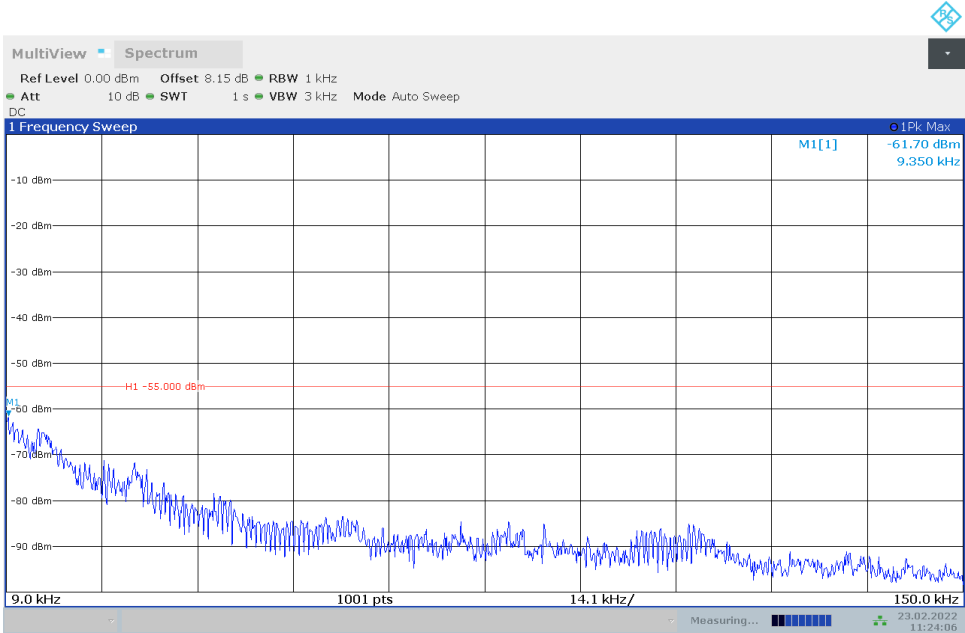


11:18:20 23.02.2022

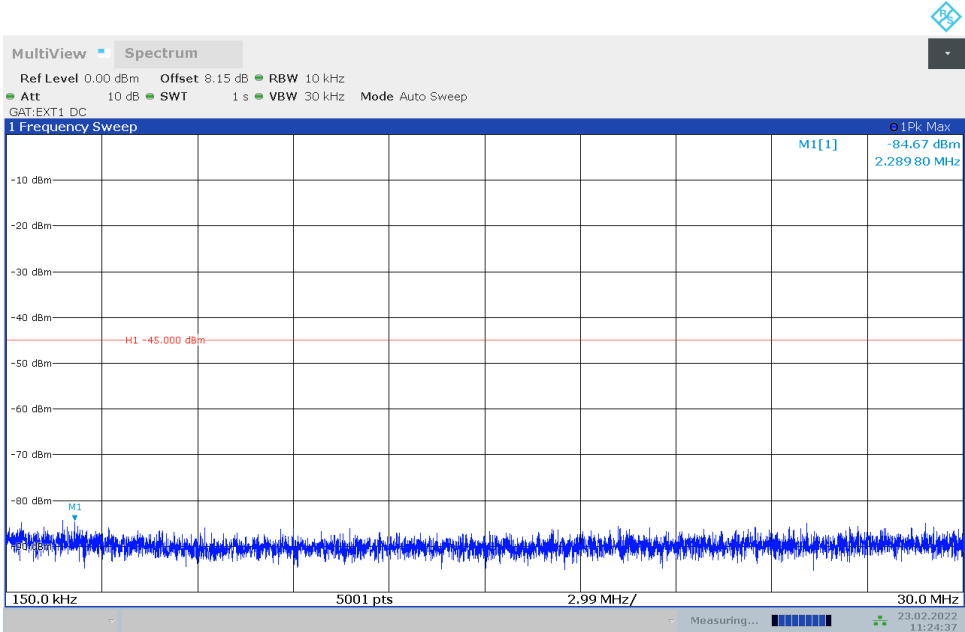


11:18:57 23.02.2022

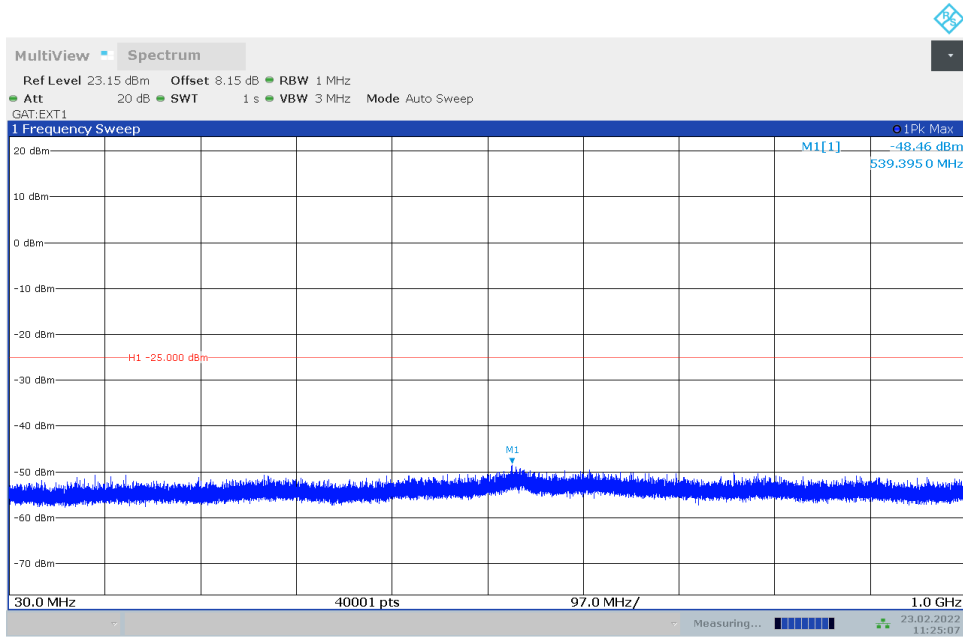
## 6.2.35 CA\_41C\_TM3\_HCH\_15MHZ\_15MHZ\_PCCRB75#0\_SCCRB75#0



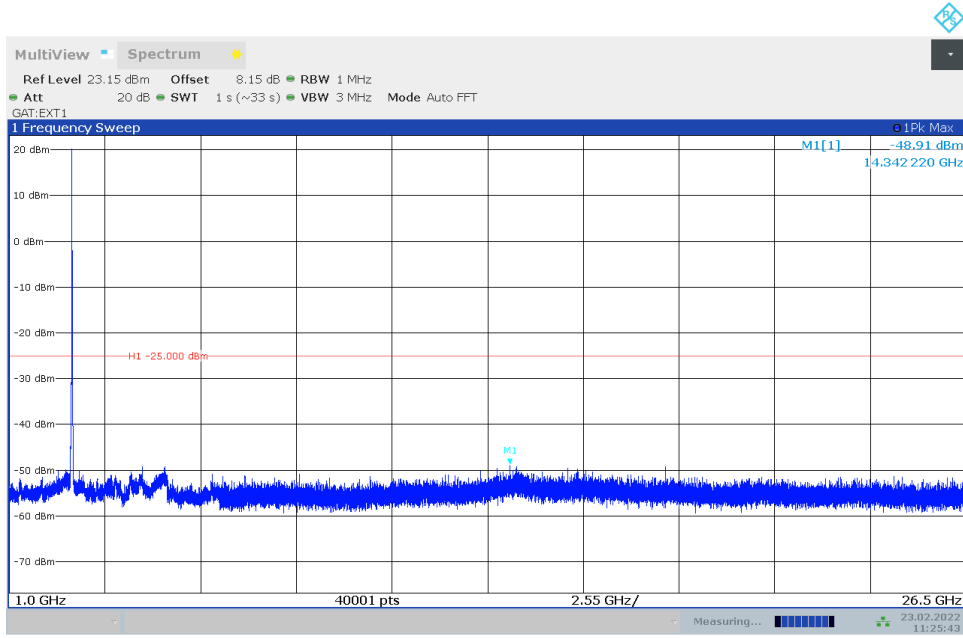
11:24:07 23.02.2022



11:24:37 23.02.2022

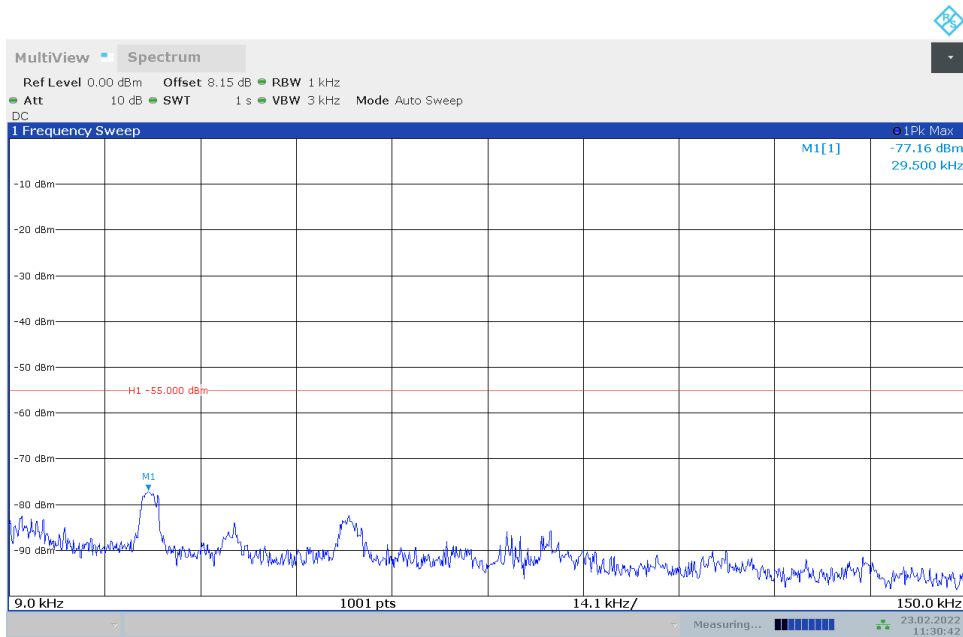


11:25:08 23.02.2022

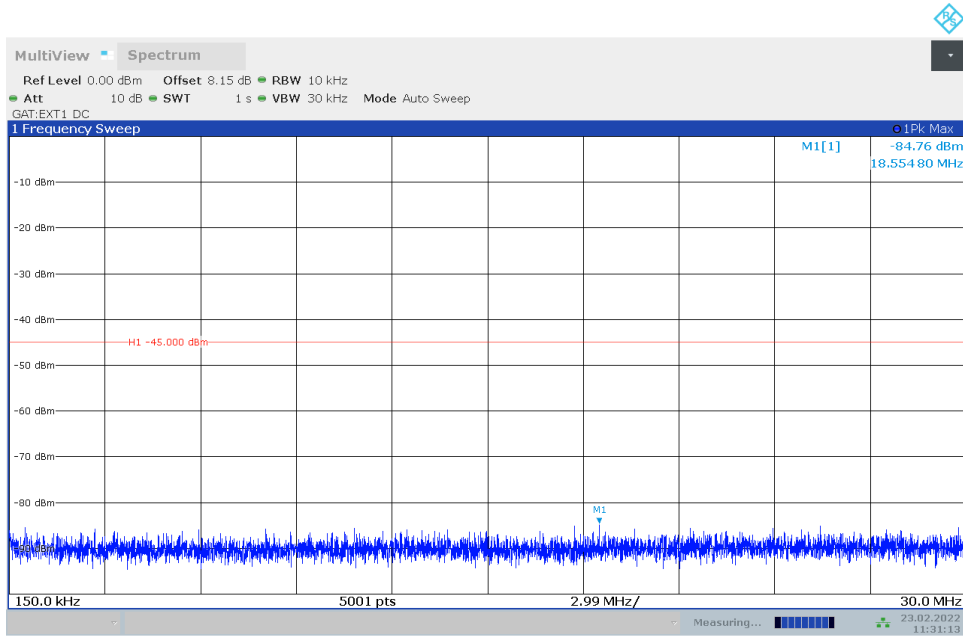


11:25:44 23.02.2022

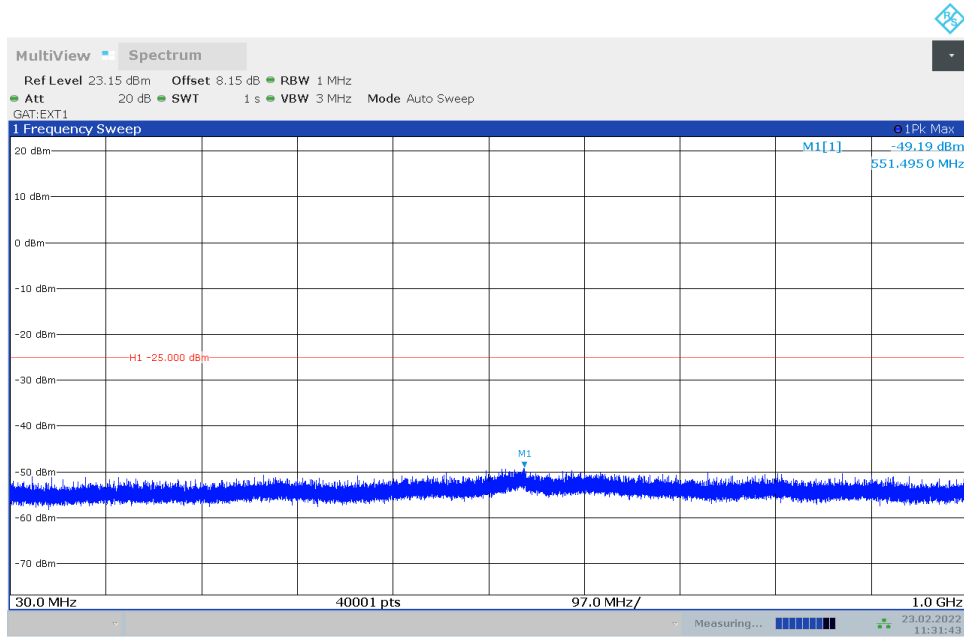
## 6.2.36 CA\_41C\_TM3\_HCH\_15MHZ\_15MHZ\_PCCRB1#0\_SCCRB0#0



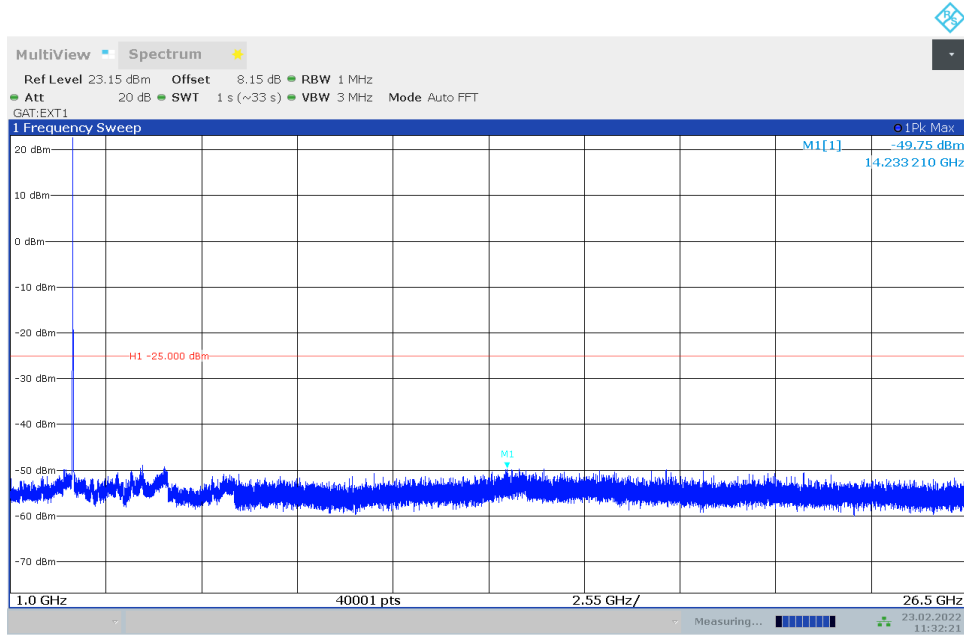
11:30:43 23.02.2022



11:31:14 23.02.2022



11:31:44 23.02.2022



11:32:22 23.02.2022

## 7. APPENDIX G - FREQUENCY STABILITY

### 7.1 TEST RESULTS

#### 7.1.1 FREQUENCY ERROR VS. VOLTAGE

Frequency Error vs. Voltage										
Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
CA_41C	TM1	20+20	LCH	QPSK	TN	VH	7.37	0.003	PASS	
				QPSK	TN	VN	1.96	0.001	PASS	
				QPSK	TN	VL	2.37	0.001	PASS	
			MCH	QPSK	TN	VH	7.11	0.003	PASS	
				QPSK	TN	VN	1.08	0	PASS	
				QPSK	TN	VL	11.08	0.004	PASS	
			HCH	QPSK	TN	VH	5.34	0.002	PASS	
				QPSK	TN	VN	-2.33	-0.001	PASS	
				QPSK	TN	VL	11.96	0.004	PASS	
		LCH		QPSK	TN	VH	13.25	0.005	PASS	
				QPSK	TN	VN	-5.77	-0.002	PASS	
				QPSK	TN	VL	2.08	0.001	PASS	
		15+15	MCH	QPSK	TN	VH	5.73	0.002	PASS	
				QPSK	TN	VN	2.84	0.001	PASS	
				QPSK	TN	VL	7.99	0.003	PASS	
			HCH	QPSK	TN	VH	-1.42	-0.001	PASS	
				QPSK	TN	VN	5.67	0.002	PASS	
				QPSK	TN	VL	-4.31	-0.002	PASS	
	TM2		20+20	LCH	16QAM	TN	VH	5.81	0.002	PASS
					16QAM	TN	VN	7.62	0.003	PASS
					16QAM	TN	VL	7.7	0.003	PASS
		MCH		16QAM	TN	VH	19.35	0.007	PASS	
				16QAM	TN	VN	-3.14	-0.001	PASS	
				16QAM	TN	VL	-3.58	-0.001	PASS	
		HCH		16QAM	TN	VH	19.93	0.007	PASS	
				16QAM	TN	VN	24.79	0.009	PASS	
				16QAM	TN	VL	-11.81	-0.004	PASS	
			LCH	16QAM	TN	VH	-2.77	-0.001	PASS	
				16QAM	TN	VN	-7.82	-0.003	PASS	
				16QAM	TN	VL	-0.57	0	PASS	
		15+15	MCH	16QAM	TN	VH	9.97	0.004	PASS	
				16QAM	TN	VN	2.53	0.001	PASS	
				16QAM	TN	VL	10.94	0.004	PASS	
			HCH	16QAM	TN	VH	1.06	0	PASS	
				16QAM	TN	VN	2.17	0.001	PASS	
				16QAM	TN	VL	7.38	0.003	PASS	

Frequency Error vs. Voltage										
Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
CA_41C	TM3	20+20	LCH	64QAM	TN	VH	2.75	0.001	PASS	
				64QAM	TN	VN	14.21	0.006	PASS	
				64QAM	TN	VL	5.25	0.002	PASS	
			MCH	64QAM	TN	VH	7.08	0.003	PASS	
				64QAM	TN	VN	0.58	0	PASS	
				64QAM	TN	VL	1.8	0.001	PASS	
			HCH	64QAM	TN	VH	-5.01	-0.002	PASS	
				64QAM	TN	VN	-12.18	-0.005	PASS	
				64QAM	TN	VL	-3.08	-0.001	PASS	
			15+15	LCH	64QAM	TN	VH	-2.99	-0.001	PASS
					64QAM	TN	VN	6.52	0.003	PASS
					64QAM	TN	VL	-0.69	0	PASS
		MCH		64QAM	TN	VH	-7.31	-0.003	PASS	
				64QAM	TN	VN	10.22	0.004	PASS	
				64QAM	TN	VL	-2.48	-0.001	PASS	
		HCH		64QAM	TN	VH	4.38	0.002	PASS	
				64QAM	TN	VN	-2.63	-0.001	PASS	
				64QAM	TN	VL	-0.03	0	PASS	

## 7.1.2 FREQUENCY ERROR VS. TEMPERATURE

Frequency Error vs. Temperature									
Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM1	20+20	LCH	QPSK	VN	-30	1.86	0.001	PASS
			MCH	QPSK	VN	-30	9.86	0.004	PASS
			HCH	QPSK	VN	-30	-0.64	0	PASS
		15+15	LCH	QPSK	VN	-30	-8.53	-0.003	PASS
			MCH	QPSK	VN	-30	12.78	0.005	PASS
			HCH	QPSK	VN	-30	0.6	0	PASS
		20+20	LCH	QPSK	VN	-20	1.13	0	PASS
			MCH	QPSK	VN	-20	-10.4	-0.004	PASS
			HCH	QPSK	VN	-20	-4.29	-0.002	PASS
		15+15	LCH	QPSK	VN	-20	4.02	0.002	PASS
			MCH	QPSK	VN	-20	4.46	0.002	PASS
			HCH	QPSK	VN	-20	-3.75	-0.001	PASS
		20+20	LCH	QPSK	VN	-10	-1.19	0	PASS
			MCH	QPSK	VN	-10	-8.62	-0.003	PASS
			HCH	QPSK	VN	-10	-0.34	0	PASS
		15+15	LCH	QPSK	VN	-10	-6.65	-0.003	PASS
			MCH	QPSK	VN	-10	-4.88	-0.002	PASS
			HCH	QPSK	VN	-10	1.98	0.001	PASS
		20+20	LCH	QPSK	VN	0	-3.3	-0.001	PASS
			MCH	QPSK	VN	0	-5.12	-0.002	PASS
			HCH	QPSK	VN	0	4.69	0.002	PASS
		15+15	LCH	QPSK	VN	0	-2.36	-0.001	PASS
			MCH	QPSK	VN	0	-2.77	-0.001	PASS
			HCH	QPSK	VN	0	5.62	0.002	PASS
		20+20	LCH	QPSK	VN	10	-10.06	-0.004	PASS
			MCH	QPSK	VN	10	-8.58	-0.003	PASS
			HCH	QPSK	VN	10	10.67	0.004	PASS
		15+15	LCH	QPSK	VN	10	7.27	0.003	PASS
			MCH	QPSK	VN	10	6.41	0.002	PASS
			HCH	QPSK	VN	10	-5.62	-0.002	PASS



## Frequency Error vs. Temperature

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM1	20+20	LCH	QPSK	VN	20	1.86	0.001	PASS
			MCH	QPSK	VN	20	-12.03	-0.005	PASS
			HCH	QPSK	VN	20	16.41	0.006	PASS
		15+15	LCH	QPSK	VN	20	-2.79	-0.001	PASS
			MCH	QPSK	VN	20	4.44	0.002	PASS
			HCH	QPSK	VN	20	3.04	0.001	PASS
		20+20	LCH	QPSK	VN	30	4.12	0.002	PASS
			MCH	QPSK	VN	30	1	0	PASS
			HCH	QPSK	VN	30	3.45	0.001	PASS
		15+15	LCH	QPSK	VN	30	1.75	0.001	PASS
			MCH	QPSK	VN	30	0.54	0	PASS
			HCH	QPSK	VN	30	-4.21	-0.002	PASS
		20+20	LCH	QPSK	VN	40	-2.84	-0.001	PASS
			MCH	QPSK	VN	40	5.74	0.002	PASS
			HCH	QPSK	VN	40	-2.08	-0.001	PASS
		15+15	LCH	QPSK	VN	40	2.24	0.001	PASS
			MCH	QPSK	VN	40	7.39	0.003	PASS
			HCH	QPSK	VN	40	-4.91	-0.002	PASS
		20+20	LCH	QPSK	VN	50	1.11	0	PASS
			MCH	QPSK	VN	50	0.66	0	PASS
			HCH	QPSK	VN	50	-7.67	-0.003	PASS
		15+15	LCH	QPSK	VN	50	-2.58	-0.001	PASS
			MCH	QPSK	VN	50	-7.31	-0.003	PASS
			HCH	QPSK	VN	50	-1.02	0	PASS

## Frequency Error vs. Temperature

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM2	20+20	LCH	16QAM	VN	-30	-2.6	-0.001	PASS
			MCH	16QAM	VN	-30	-14.25	-0.006	PASS
			HCH	16QAM	VN	-30	-4.52	-0.002	PASS
		15+15	LCH	16QAM	VN	-30	-1.63	-0.001	PASS
			MCH	16QAM	VN	-30	-5.89	-0.002	PASS
			HCH	16QAM	VN	-30	3.33	0.001	PASS
		20+20	LCH	16QAM	VN	-20	-5.06	-0.002	PASS
			MCH	16QAM	VN	-20	0.01	0	PASS
			HCH	16QAM	VN	-20	2.33	0.001	PASS
		15+15	LCH	16QAM	VN	-20	-1.16	0	PASS
			MCH	16QAM	VN	-20	-11.45	-0.004	PASS
			HCH	16QAM	VN	-20	0.79	0	PASS
		20+20	LCH	16QAM	VN	-10	6.85	0.003	PASS
			MCH	16QAM	VN	-10	1.05	0	PASS
			HCH	16QAM	VN	-10	3.83	0.001	PASS
		15+15	LCH	16QAM	VN	-10	-3.16	-0.001	PASS
			MCH	16QAM	VN	-10	-1.06	0	PASS
			HCH	16QAM	VN	-10	-0.83	0	PASS
		20+20	LCH	16QAM	VN	0	4.35	0.002	PASS
			MCH	16QAM	VN	0	11.41	0.004	PASS
			HCH	16QAM	VN	0	-2.66	-0.001	PASS
		15+15	LCH	16QAM	VN	0	1.73	0.001	PASS
			MCH	16QAM	VN	0	4.68	0.002	PASS
			HCH	16QAM	VN	0	-0.03	0	PASS
		20+20	LCH	16QAM	VN	10	-3.68	-0.001	PASS
			MCH	16QAM	VN	10	-6.25	-0.002	PASS
			HCH	16QAM	VN	10	2.56	0.001	PASS
		15+15	LCH	16QAM	VN	10	4.1	0.002	PASS
			MCH	16QAM	VN	10	-9.91	-0.004	PASS
			HCH	16QAM	VN	10	-4.3	-0.002	PASS

## Frequency Error vs. Temperature

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM2	20+20	LCH	16QAM	VN	20	-0.01	0	PASS
			MCH	16QAM	VN	20	-4.98	-0.002	PASS
			HCH	16QAM	VN	20	-7.24	-0.003	PASS
		15+15	LCH	16QAM	VN	20	0.07	0	PASS
			MCH	16QAM	VN	20	-9.89	-0.004	PASS
			HCH	16QAM	VN	20	-0.19	0	PASS
		20+20	LCH	16QAM	VN	30	2.62	0.001	PASS
			MCH	16QAM	VN	30	14.08	0.005	PASS
			HCH	16QAM	VN	30	15.76	0.006	PASS
		15+15	LCH	16QAM	VN	30	3.24	0.001	PASS
			MCH	16QAM	VN	30	-4.04	-0.002	PASS
			HCH	16QAM	VN	30	-2.94	-0.001	PASS
		20+20	LCH	16QAM	VN	40	7.82	0.003	PASS
			MCH	16QAM	VN	40	9.6	0.004	PASS
			HCH	16QAM	VN	40	-10.42	-0.004	PASS
		15+15	LCH	16QAM	VN	40	-6.1	-0.002	PASS
			MCH	16QAM	VN	40	-0.01	0	PASS
			HCH	16QAM	VN	40	-3.63	-0.001	PASS
		20+20	LCH	16QAM	VN	50	-0.52	0	PASS
			MCH	16QAM	VN	50	0.64	0	PASS
			HCH	16QAM	VN	50	16.53	0.006	PASS
		15+15	LCH	16QAM	VN	50	-8.66	-0.003	PASS
			MCH	16QAM	VN	50	-4.13	-0.002	PASS
			HCH	16QAM	VN	50	-1.08	0	PASS

## Frequency Error vs. Temperature

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM3	20+20	LCH	64QAM	VN	-30	-8.54	-0.003	PASS
			MCH	64QAM	VN	-30	-6.44	-0.002	PASS
			HCH	64QAM	VN	-30	-2.58	-0.001	PASS
		15+15	LCH	64QAM	VN	-30	-4.76	-0.002	PASS
			MCH	64QAM	VN	-30	0.87	0	PASS
			HCH	64QAM	VN	-30	4	0.001	PASS
		20+20	LCH	64QAM	VN	-20	3.56	0.001	PASS
			MCH	64QAM	VN	-20	-6.21	-0.002	PASS
			HCH	64QAM	VN	-20	10.24	0.004	PASS
		15+15	LCH	64QAM	VN	-20	-0.73	0	PASS
			MCH	64QAM	VN	-20	2.26	0.001	PASS
			HCH	64QAM	VN	-20	2.36	0.001	PASS
		20+20	LCH	64QAM	VN	-10	-2.42	-0.001	PASS
			MCH	64QAM	VN	-10	-11.08	-0.004	PASS
			HCH	64QAM	VN	-10	-8.99	-0.003	PASS
		15+15	LCH	64QAM	VN	-10	-7.45	-0.003	PASS
			MCH	64QAM	VN	-10	-3.59	-0.001	PASS
			HCH	64QAM	VN	-10	0.25	0	PASS
		20+20	LCH	64QAM	VN	0	3.06	0.001	PASS
			MCH	64QAM	VN	0	2.85	0.001	PASS
			HCH	64QAM	VN	0	1.39	0.001	PASS
		15+15	LCH	64QAM	VN	0	-0.82	0	PASS
			MCH	64QAM	VN	0	-6.59	-0.003	PASS
			HCH	64QAM	VN	0	2.01	0.001	PASS
		20+20	LCH	64QAM	VN	10	-1.06	0	PASS
			MCH	64QAM	VN	10	1.98	0.001	PASS
			HCH	64QAM	VN	10	16.58	0.006	PASS
		15+15	LCH	64QAM	VN	10	-6.6	-0.003	PASS
			MCH	64QAM	VN	10	-1.73	-0.001	PASS
			HCH	64QAM	VN	10	-3.06	-0.001	PASS

**Frequency Error vs. Temperature**

Test Band	Test Mode	Test Bandwidth (MHz)	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
CA_41C	TM3	20+20	LCH	64QAM	VN	20	-1.18	0	PASS
			MCH	64QAM	VN	20	-2.85	-0.001	PASS
			HCH	64QAM	VN	20	13.89	0.005	PASS
		15+15	LCH	64QAM	VN	20	-2.99	-0.001	PASS
			MCH	64QAM	VN	20	-5.79	-0.002	PASS
			HCH	64QAM	VN	20	-6.89	-0.003	PASS
		20+20	LCH	64QAM	VN	30	1.61	0.001	PASS
			MCH	64QAM	VN	30	6.65	0.003	PASS
			HCH	64QAM	VN	30	-10.35	-0.004	PASS
		15+15	LCH	64QAM	VN	30	4.88	0.002	PASS
			MCH	64QAM	VN	30	-0.89	0	PASS
			HCH	64QAM	VN	30	1.16	0	PASS
		20+20	LCH	64QAM	VN	40	-2.71	-0.001	PASS
			MCH	64QAM	VN	40	-7.57	-0.003	PASS
			HCH	64QAM	VN	40	-4.55	-0.002	PASS
		15+15	LCH	64QAM	VN	40	-0.12	0	PASS
			MCH	64QAM	VN	40	0.71	0	PASS
			HCH	64QAM	VN	40	4.26	0.002	PASS
		20+20	LCH	64QAM	VN	50	-6.66	-0.003	PASS
			MCH	64QAM	VN	50	-0.8	0	PASS
			HCH	64QAM	VN	50	4.02	0.002	PASS
		15+15	LCH	64QAM	VN	50	5.65	0.002	PASS
			MCH	64QAM	VN	50	-1.28	0	PASS
			HCH	64QAM	VN	50	0.13	0	PASS

**End of Test Report**