

**Appendix G-Frequency Stability**

**Test Data:**

Frequency Stability vs temperature:

1. Test for 406.1-420MHz (middle channel=413.05MHz)

Channel Bandwidth (kHz)	Temperature (°C)	Voltage (V ac)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	50	120	57.85	0.14	2.5
	40	120	29.85	0.07	2.5
	30	120	25.85	0.06	2.5
	20	120	31.55	0.08	2.5
	10	120	16.07	0.04	2.5
	0	120	23.21	0.06	2.5
	-10	120	55.82	0.14	2.5
	-20	120	53.51	0.13	2.5
	-30	120	16.26	0.04	2.5
	-40	120	39.57	0.10	2.5
12.5kHz	50	120	20.77	0.05	2.5
	40	120	10.99	0.03	2.5
	30	120	27.79	0.07	2.5
	20	120	32.50	0.08	2.5
	10	120	13.83	0.03	2.5
	0	120	59.45	0.14	2.5
	-10	120	39.99	0.10	2.5
	-20	120	57.73	0.14	2.5
	-30	120	57.49	0.14	2.5
	-40	120	12.86	0.03	2.5



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**2. Test for 421-430MHz (middle channel=425.5MHz)**

Channel Bandwidth (kHz)	Temperature (°C)	Voltage (V ac)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	50	120	56.71	0.13	2.5
	40	120	27.75	0.06	2.5
	30	120	23.52	0.05	2.5
	20	120	29.62	0.07	2.5
	10	120	14.68	0.03	2.5
	0	120	20.59	0.05	2.5
	-10	120	54.98	0.13	2.5
	-20	120	51.69	0.12	2.5
	-30	120	14.09	0.03	2.5
	-40	120	37.80	0.09	2.5
12.5kHz	50	120	20.22	0.05	2.5
	40	120	8.98	0.02	2.5
	30	120	25.45	0.06	2.5
	20	120	31.82	0.07	2.5
	10	120	13.38	0.03	2.5
	0	120	59.24	0.14	2.5
	-10	120	39.83	0.09	2.5
	-20	120	57.27	0.13	2.5
	-30	120	56.45	0.13	2.5
	-40	120	10.61	0.02	2.5



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3. Test for 450-470MHz (middle channel=460MHz)

Channel Bandwidth (kHz)	Temperature (°C)	Voltage (V ac)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	50	120	56.95	0.12	2.5
	40	120	29.28	0.06	2.5
	30	120	25.32	0.06	2.5
	20	120	32.23	0.07	2.5
	10	120	17.47	0.04	2.5
	0	120	22.40	0.05	2.5
	-10	120	56.81	0.12	2.5
	-20	120	52.09	0.11	2.5
	-30	120	15.70	0.03	2.5
	-40	120	40.57	0.09	2.5
12.5kHz	50	120	20.41	0.04	2.5
	40	120	9.45	0.02	2.5
	30	120	27.15	0.06	2.5
	20	120	34.72	0.08	2.5
	10	120	13.79	0.03	2.5
	0	120	59.73	0.13	2.5
	-10	120	42.98	0.09	2.5
	-20	120	57.33	0.12	2.5
	-30	120	57.61	0.13	2.5
	-40	120	12.33	0.03	2.5



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**4. Test for 470-512MHz (middle channel=491MHz)**

Channel Bandwidth (kHz)	Temperature (°C)	Voltage (V ac)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	50	120	58.77	0.12	2.5
	40	120	28.22	0.06	2.5
	30	120	24.43	0.05	2.5
	20	120	31.14	0.06	2.5
	10	120	15.75	0.03	2.5
	0	120	21.35	0.04	2.5
	-10	120	56.94	0.12	2.5
	-20	120	51.78	0.11	2.5
	-30	120	14.30	0.03	2.5
	-40	120	37.95	0.08	2.5
12.5kHz	50	120	21.61	0.04	2.5
	40	120	11.29	0.02	2.5
	30	120	28.34	0.06	2.5
	20	120	34.96	0.07	2.5
	10	120	13.40	0.03	2.5
	0	120	61.45	0.13	2.5
	-10	120	42.86	0.09	2.5
	-20	120	59.70	0.12	2.5
	-30	120	58.31	0.12	2.5
	-40	120	10.71	0.02	2.5



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Frequency Stability vs voltage:

## 1. Test for 406.1-420MHz (middle channel=413.05MHz)

Channel Bandwidth (kHz)	Voltage (V ac)	Temperature (°C)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	102	20	41.39	0.10	2.5
	120	20	54.69	0.13	2.5
	138	20	58.14	0.14	2.5
12.5kHz	102	20	56.84	0.14	2.5
	120	20	25.20	0.06	2.5
	138	20	26.20	0.06	2.5

## 2. Test for 421-430MHz (middle channel=425.5MHz)

Channel Bandwidth (kHz)	Voltage (V ac)	Temperature (°C)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	102	20	40.30	0.09	2.5
	120	20	52.92	0.12	2.5
	138	20	55.56	0.13	2.5
12.5kHz	102	20	55.33	0.13	2.5
	120	20	24.83	0.06	2.5
	138	20	26.07	0.06	2.5

## 3. Test for 450-470MHz (middle channel=460MHz)

Channel Bandwidth (kHz)	Voltage (V ac)	Temperature (°C)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	102	20	40.51	0.09	2.5
	120	20	55.95	0.12	2.5
	138	20	56.33	0.12	2.5
12.5kHz	102	20	55.51	0.12	2.5
	120	20	26.01	0.06	2.5
	138	20	26.45	0.06	2.5

## 4. Test for 470-512MHz (middle channel=491MHz)

Channel Bandwidth (kHz)	Voltage (V ac)	Temperature (°C)	Frequency Error (Hz)	Tolerance (ppm)	Limit (ppm)
6.25kHz	102	20	42.09	0.09	2.5
	120	20	55.40	0.11	2.5
	138	20	58.66	0.12	2.5
12.5kHz	102	20	55.73	0.11	2.5
	120	20	27.37	0.06	2.5
	138	20	27.68	0.06	2.5



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