This report contains sample performance data for SiT8008B-24MHz.

Conditions:

- Frequency 24 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25℃
- Termination:
  - No load for IDD
  - 50Ω to GND for phase noise
  - 15pF for other tests

Equipment:

- Agilent DSA90604 oscilloscope (6GHz, 20Gsps)
  - Period jitter, waveform, rise/fall time, duty cycle, amplitude
- Agilent E5052B Signal Source Analyzer
  - Phase noise, integrated phase jitter
- Power supply current
  - Agilent 34401A DMM

Data:

- Random Phase jitter, Period Jitter, Duty cycle, Rise/Fall time, Amplitude, Idd
- Output waveforms
- Frequency stability versus temperature

Table 1. Performance data

Parameter	Units	Voltage				
		1.8 V	2.5 V	2.8 V	3.0 V	3.3 V
Random Phase jitter (900kHz - 5MHz)	ps, rms	0.44	0.45	0.44	0.44	0.44
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.21	1.21	1.20	1.21	1.22
Random Phase jitter (900kHz - 20MHz)*	ps, rms	0.69	0.71	0.69	0.69	0.71
Random Phase jitter (12kHz - 20MHz)*	ps, rms	1.32	1.33	1.32	1.32	1.34
Period jitter	ps, rms	1.61	1.44	1.41	1.38	1.37
Period jitter (10,000 cycles)	ps, pk-pk	12.4	11.3	11.0	11.1	10.9
Duty cycle	%	49.9	49.9	50.1	50.2	50.4
Rise time (20% - 80%)	ns	1.26	1.03	0.94	1.00	0.93
Fall time (80% - 20%)	ns	1.27	0.98	0.91	0.97	0.92
Amplitude	V	1.79	2.48	2.78	3.02	3.30
Current consumption (no load, output enabled)	mA	3.58	3.71	3.77	3.79	3.87
Current consumption (no load, output disabled)	mA	3.38	3.45	3.50	3.53	3.62

*Calculated by extending the noise floor of the phase noise from 5 MHz to 20 MHz

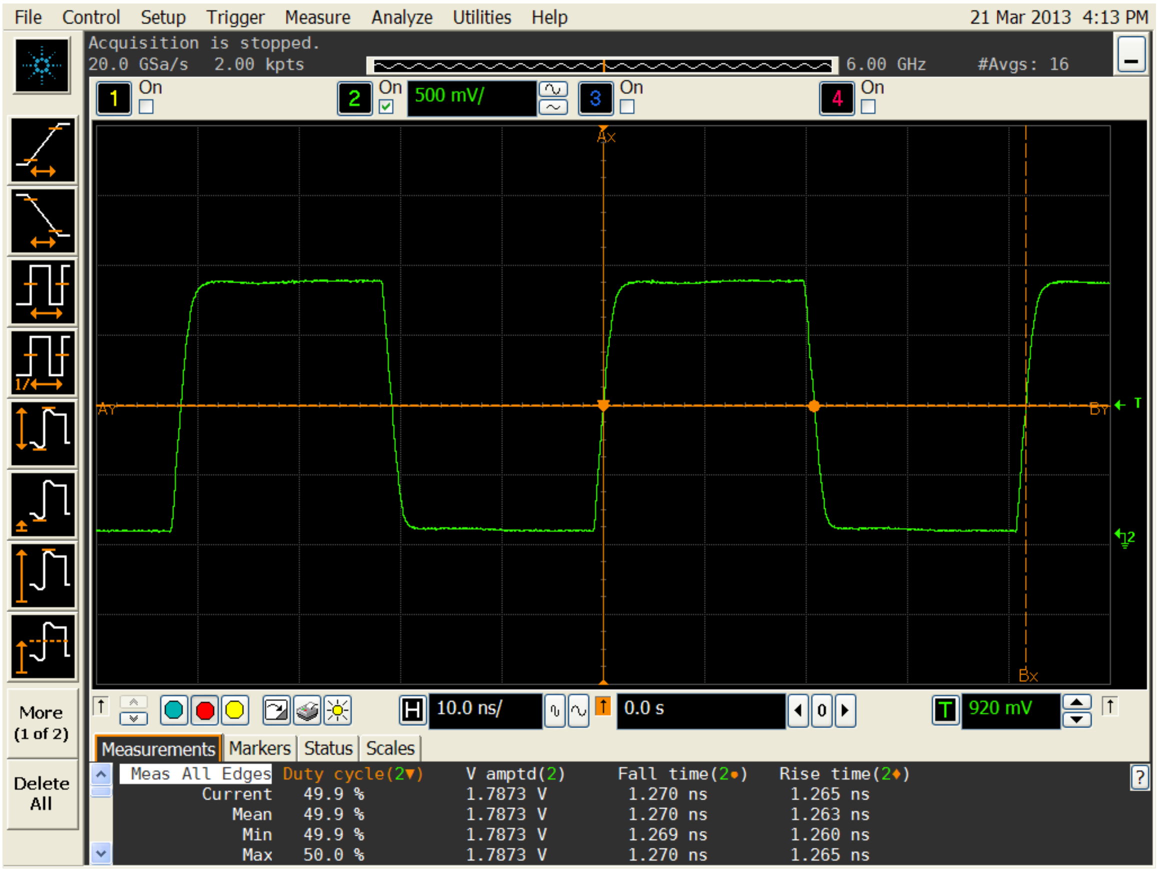

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

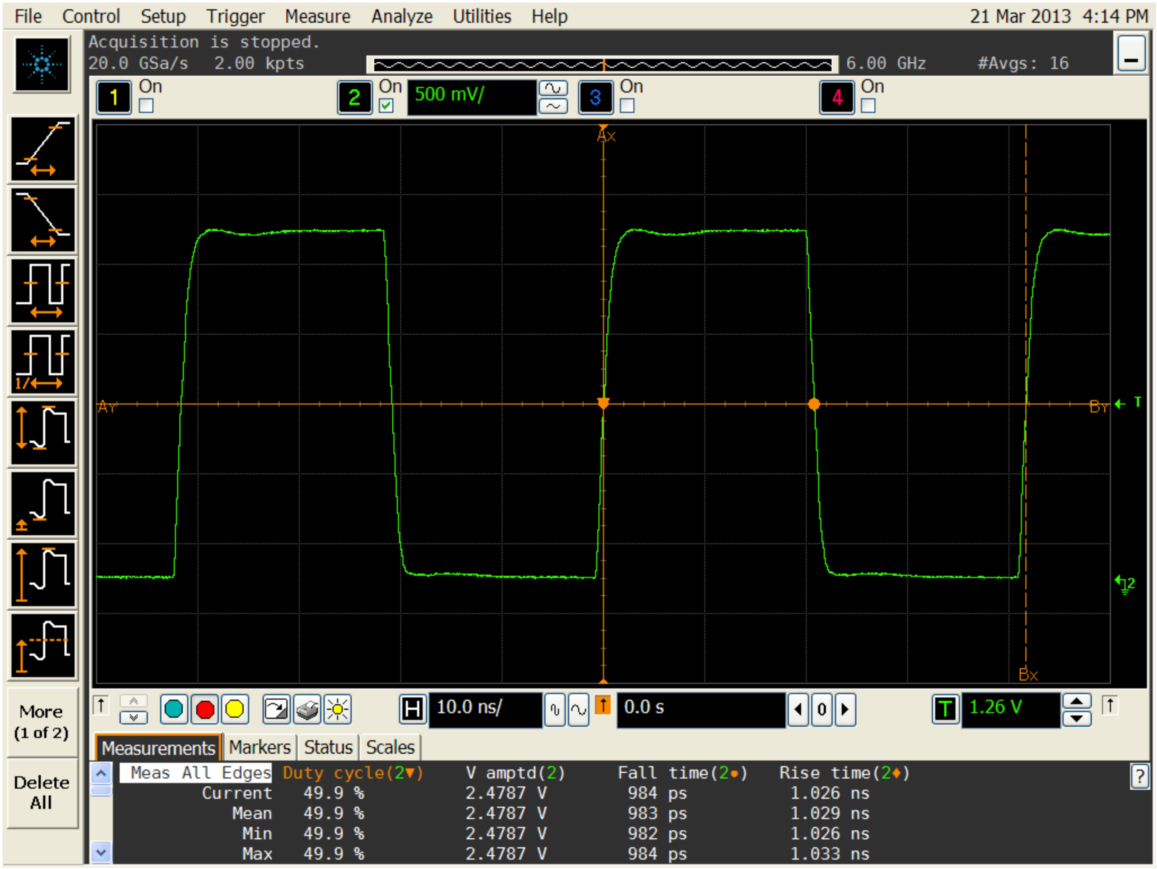

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

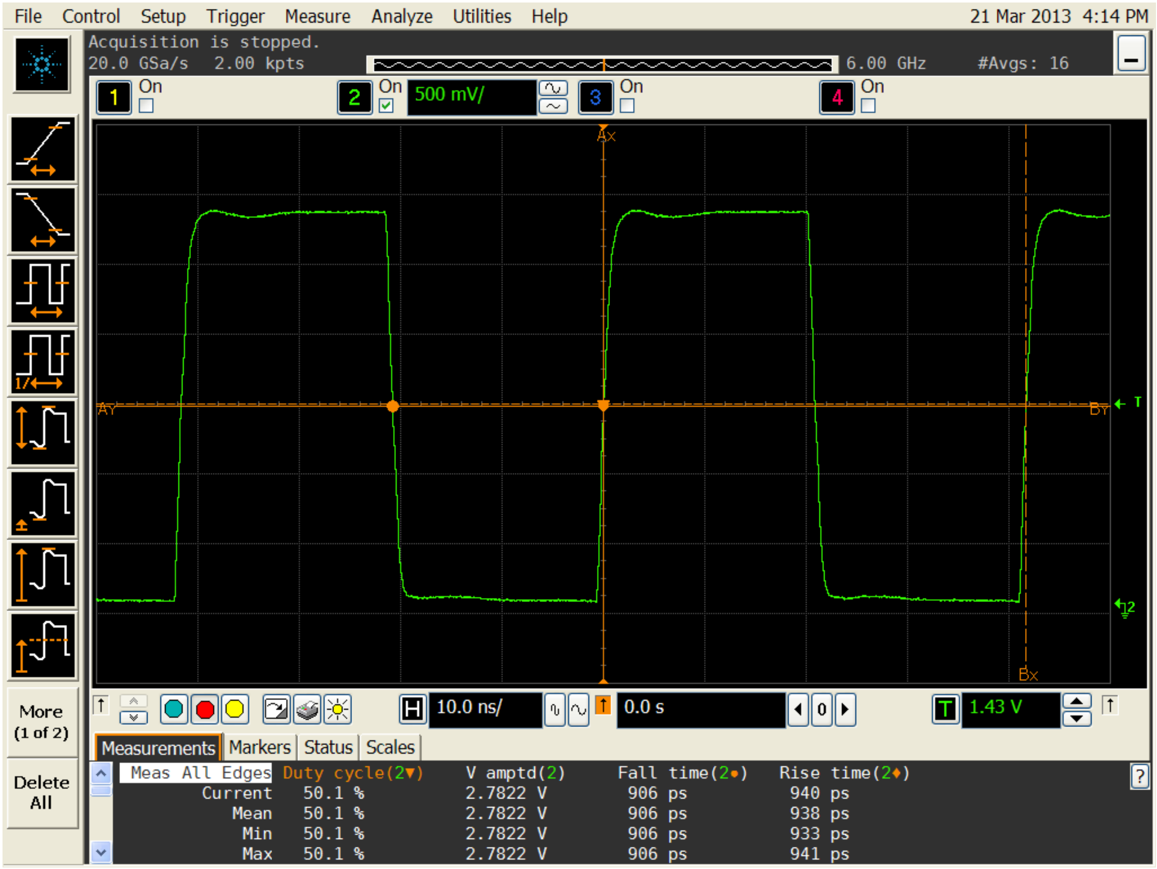

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

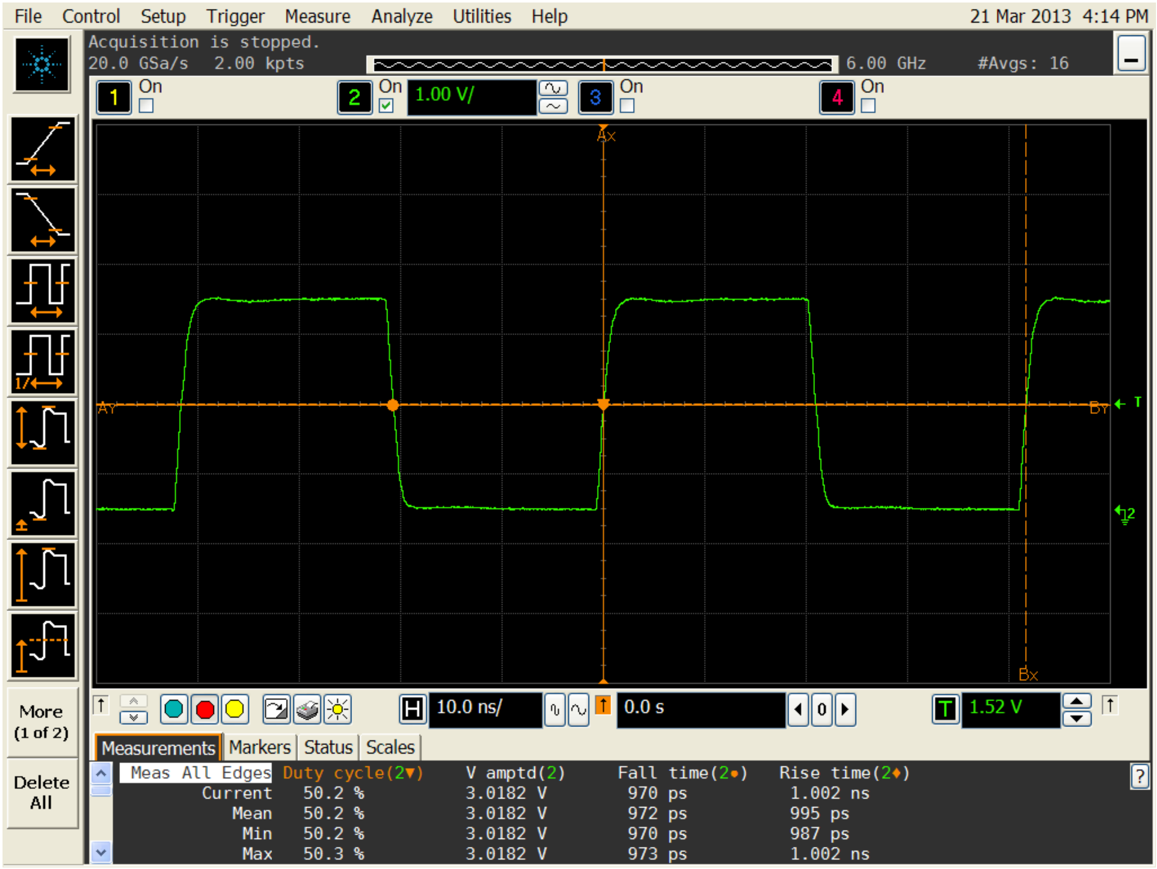

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

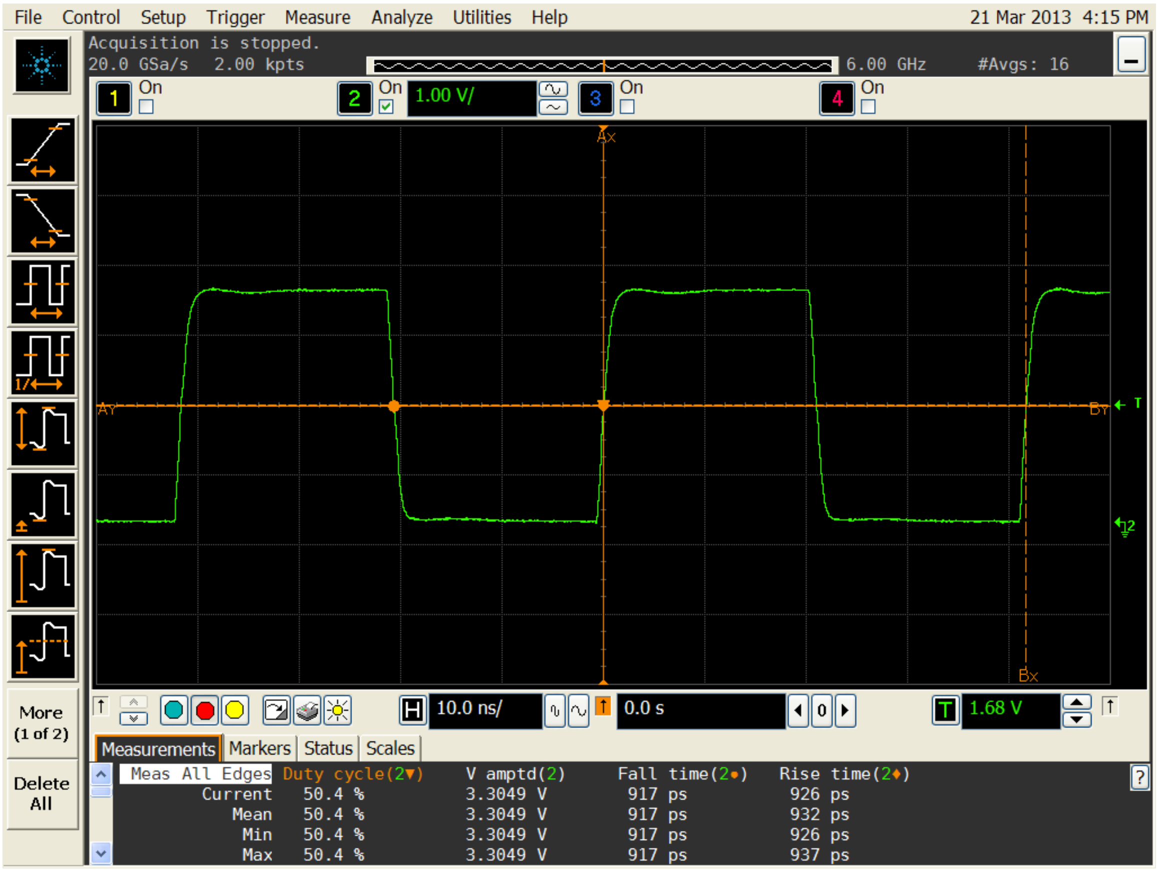

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

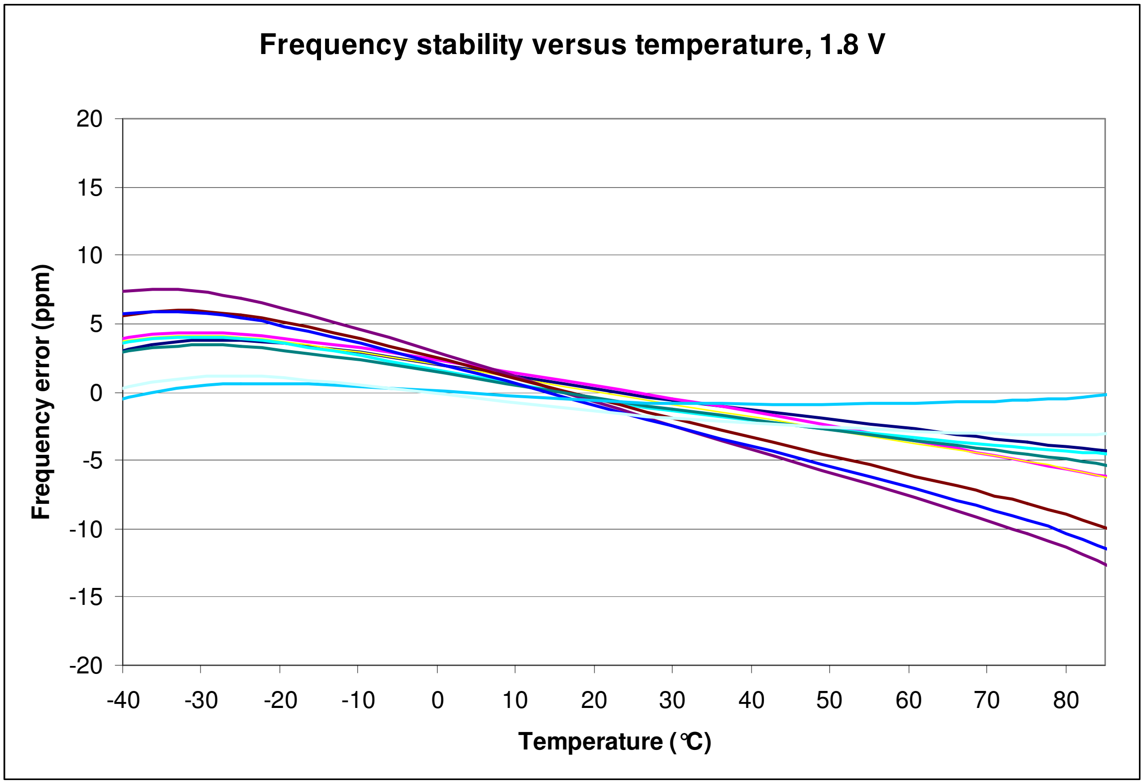

Figure 6. Frequency stability* versus temperature, 1.8 V

*Please note that frequency stability in SiTime devices is not depended on output frequency.

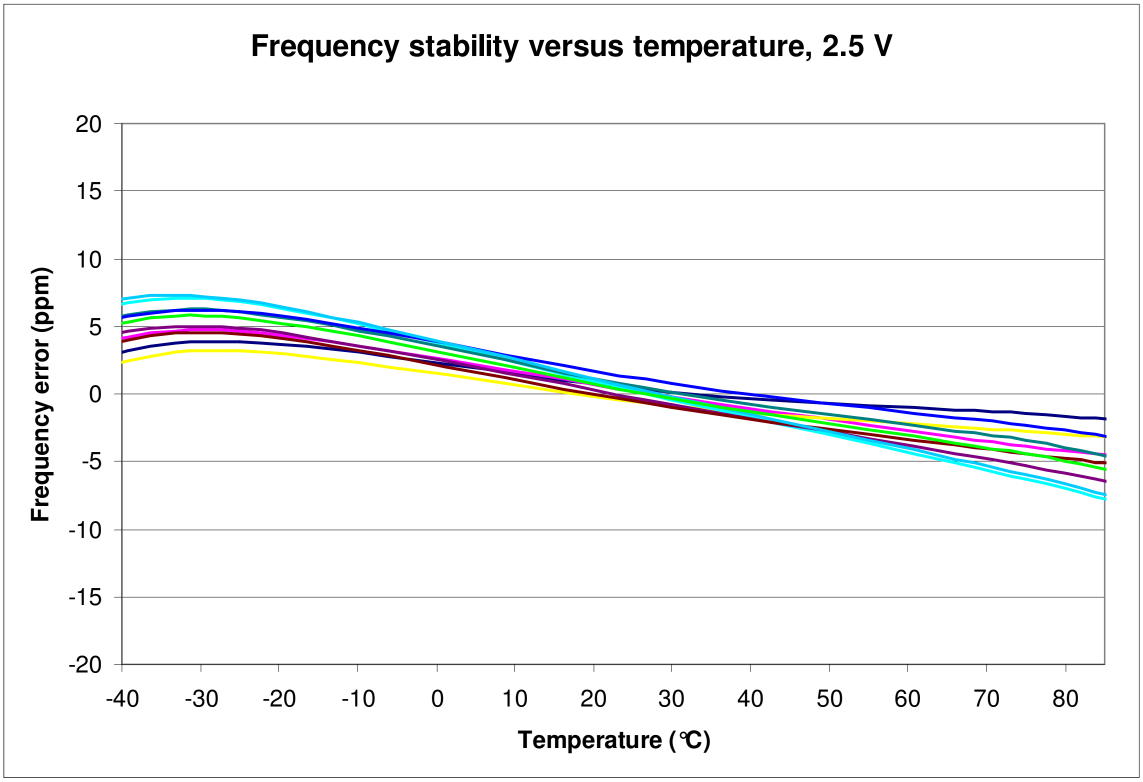

Figure 7. Frequency stability versus temperature, 2.5 V

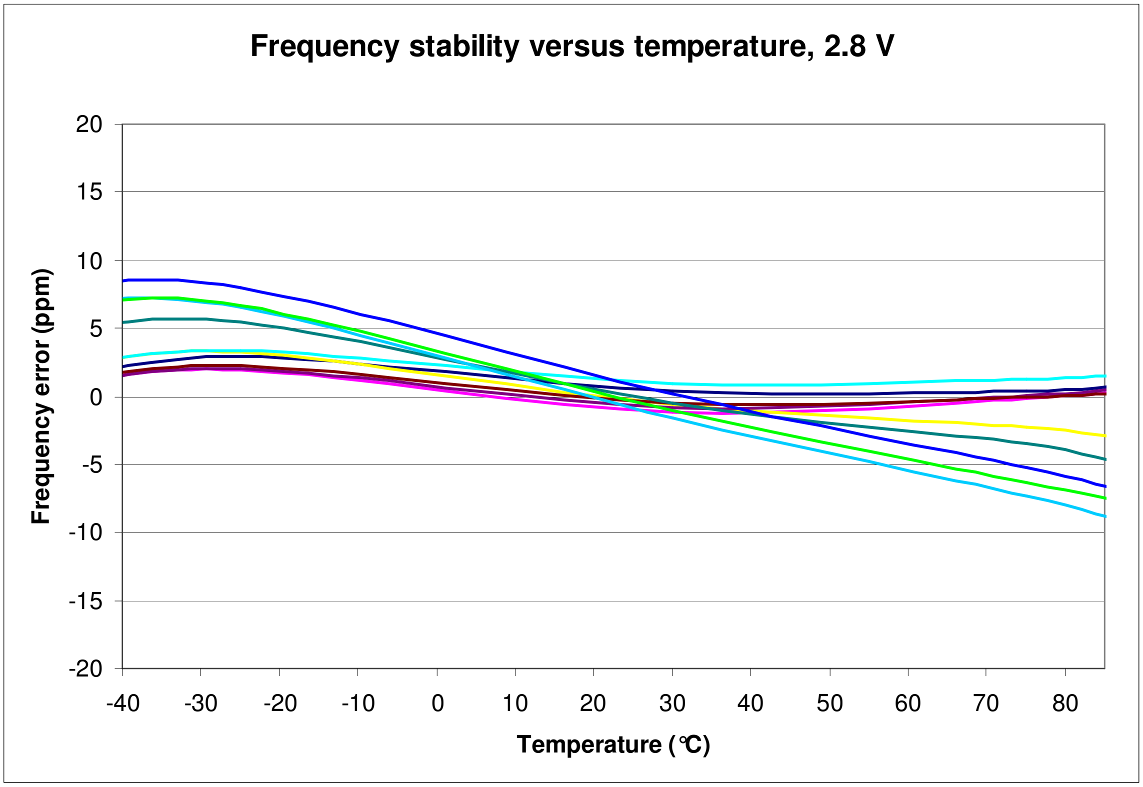

Figure 8. Frequency stability versus temperature, 2.8 V

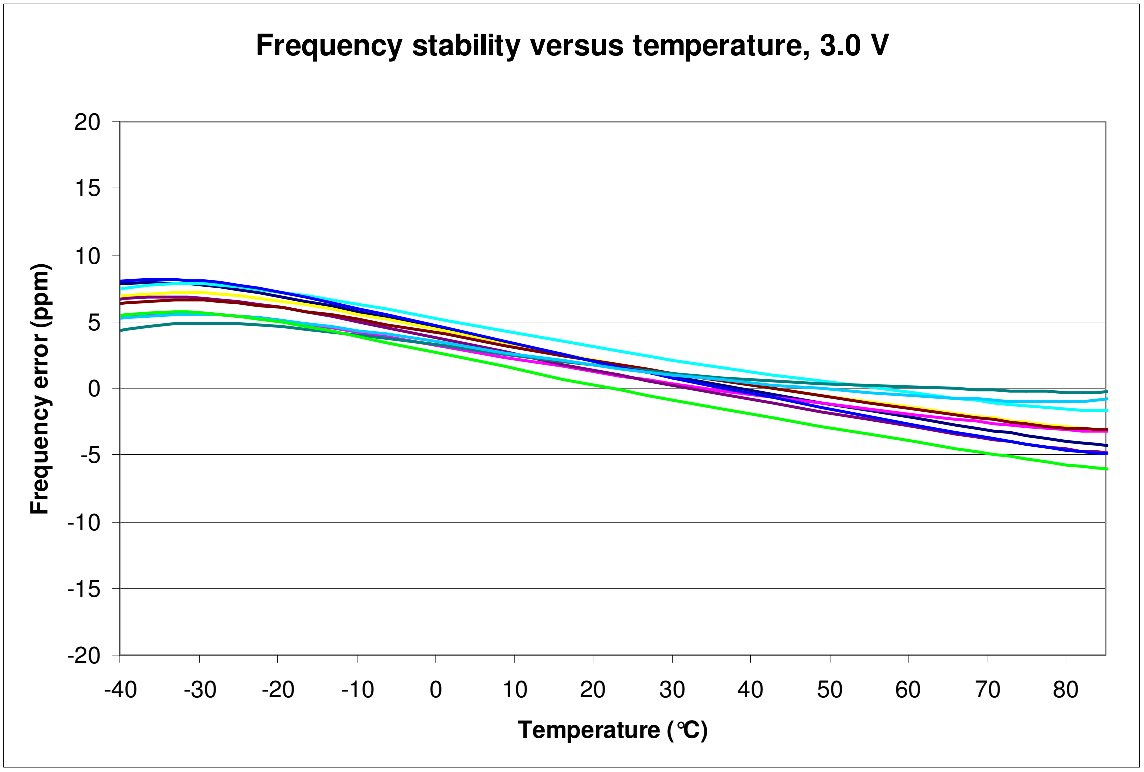

Figure 9. Frequency stability versus temperature, 3.0 V

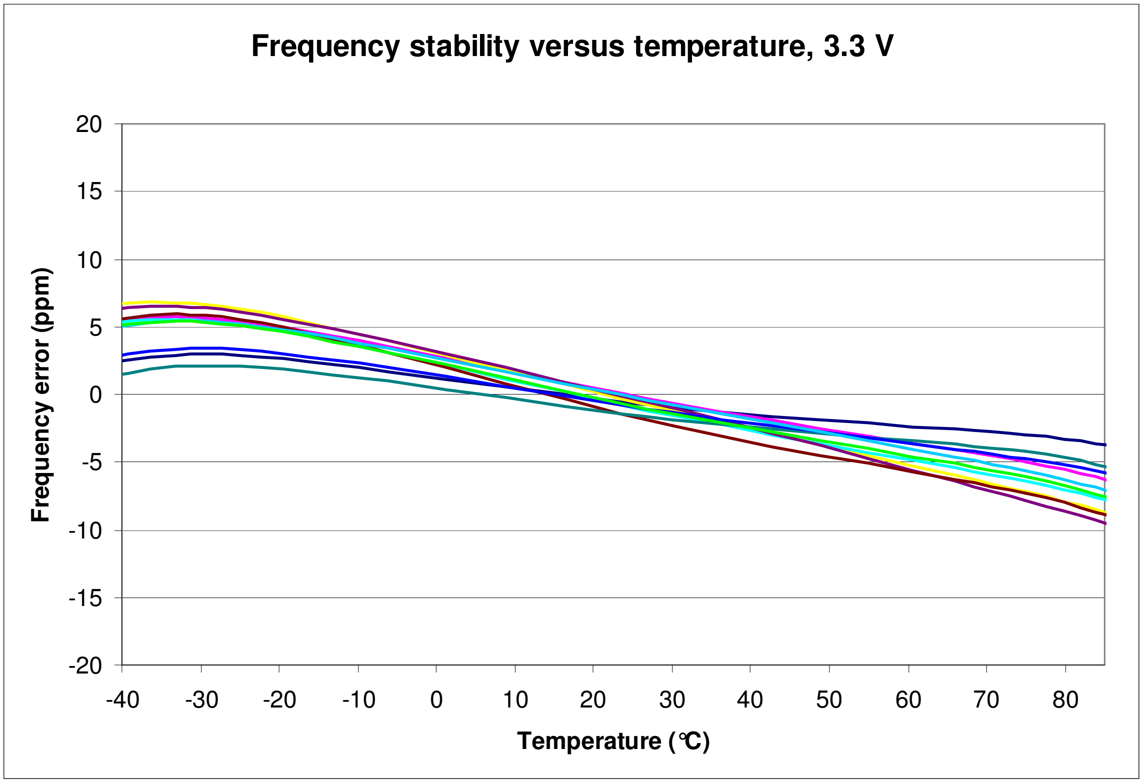

Figure 10. Frequency stability versus temperature, 3.3 V