This report contains sample performance data for SiT1602B-24.576MHz.

Conditions:

- Frequency 24.576 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	0.48	0.49	0.51	0.49	0.50
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.21	1.21	1.22	1.22	1.22
Random Phase jitter (900kHz - 20MHz)*	ps, rms	0.74	0.77	0.79	0.78	0.78
Random Phase jitter (12kHz - 20MHz)*	ps, rms	1.34	1.35	1.35	1.36	1.35
Period jitter	ps, rms	1.53	1.43	1.40	1.39	1.38
Period jitter (10,000 cycles)	ps, pk-pk	12.2	11.2	11.1	11.1	10.8
Duty cycle	%	49.9	49.9	50.1	50.2	50.4
Rise time (20% - 80%)	ns	1.26	1.02	0.93	0.99	0.93
Fall time (80% - 20%)	ns	1.27	0.98	0.91	0.96	0.93
Amplitude	V	1.79	2.48	2.77	3.00	3.30
Current consumption (no load, output enabled)	mA	3.61	3.74	3.81	3.83	3.91
Current consumption (no load, output disabled)	mA	3.40	3.47	3.53	3.57	3.64

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

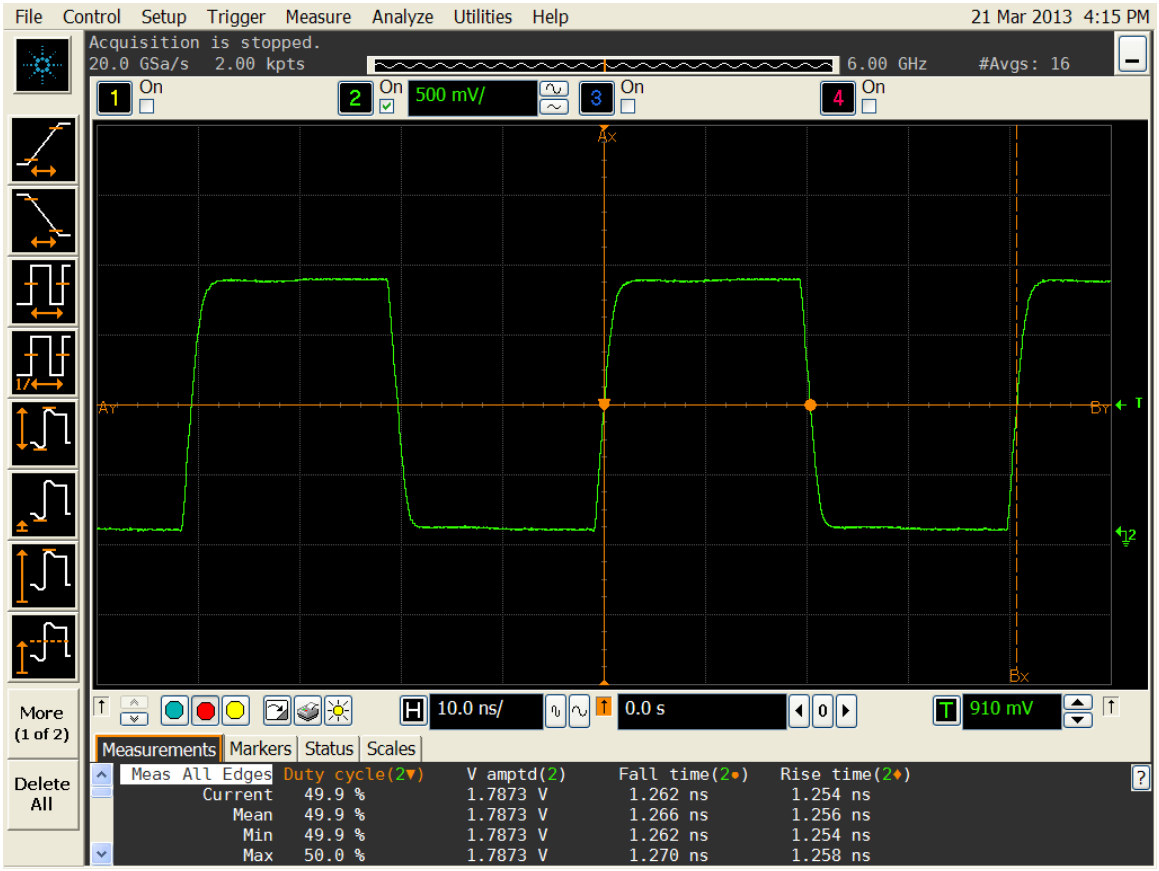

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

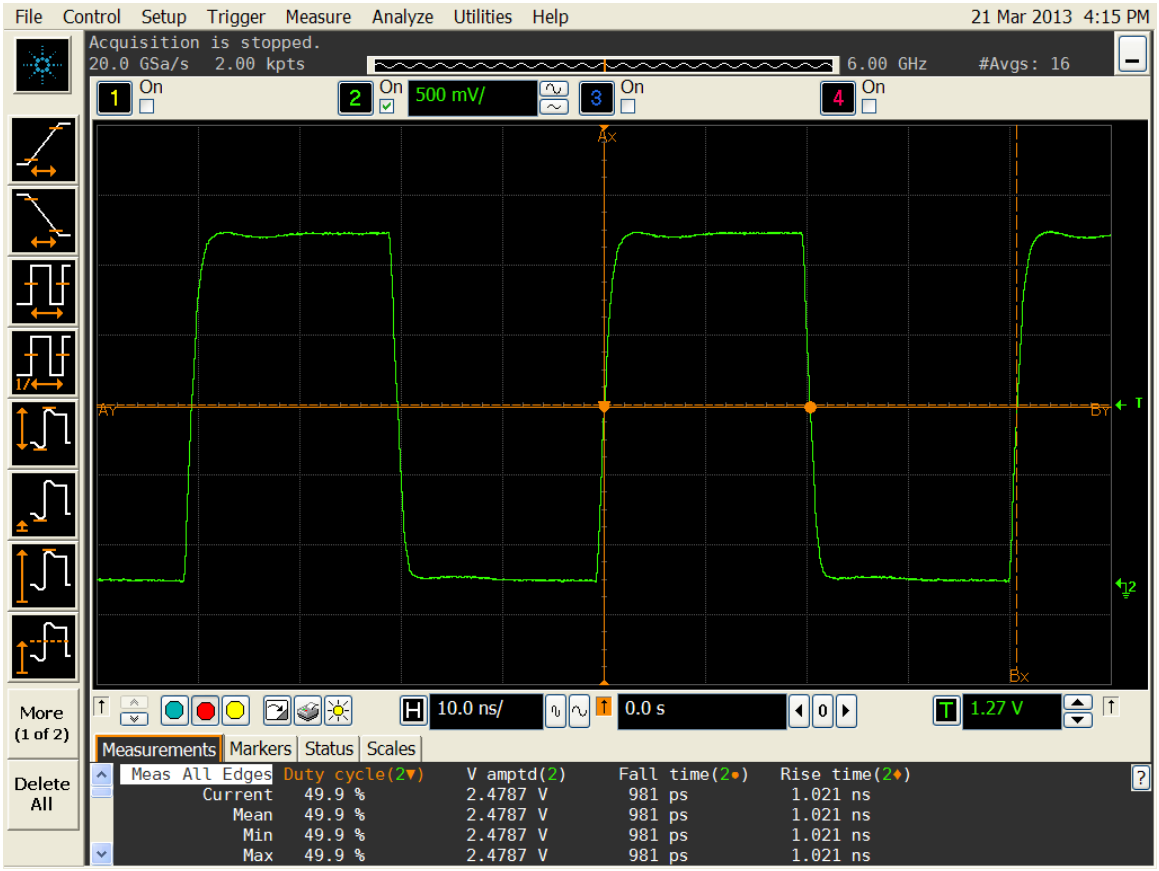

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

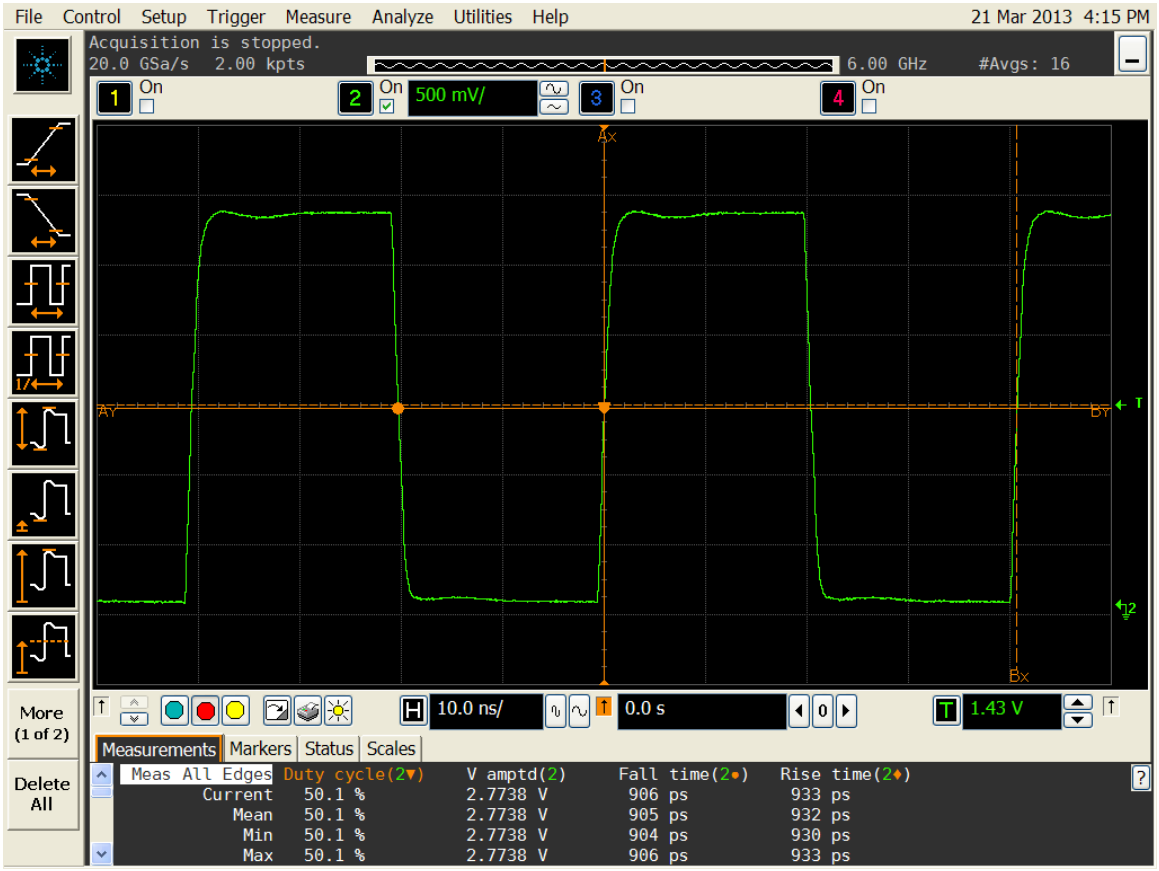

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

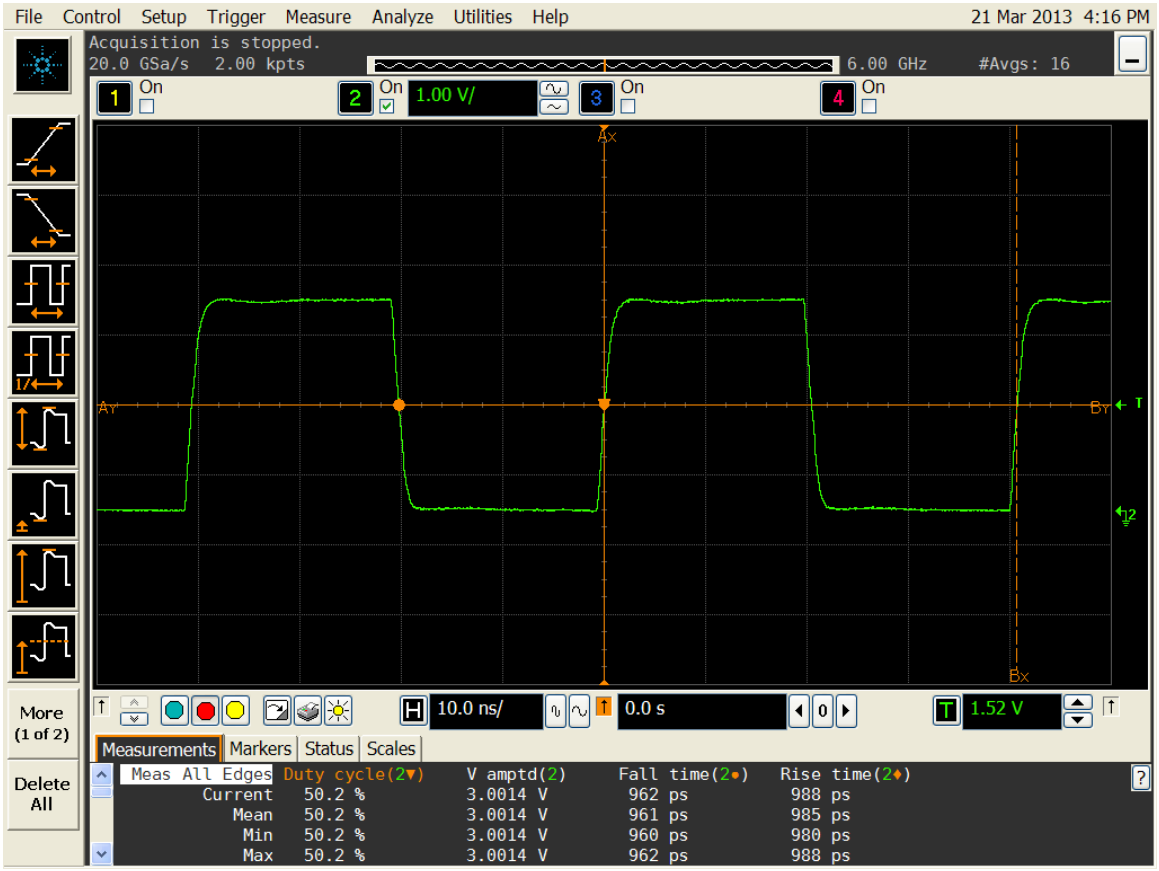

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

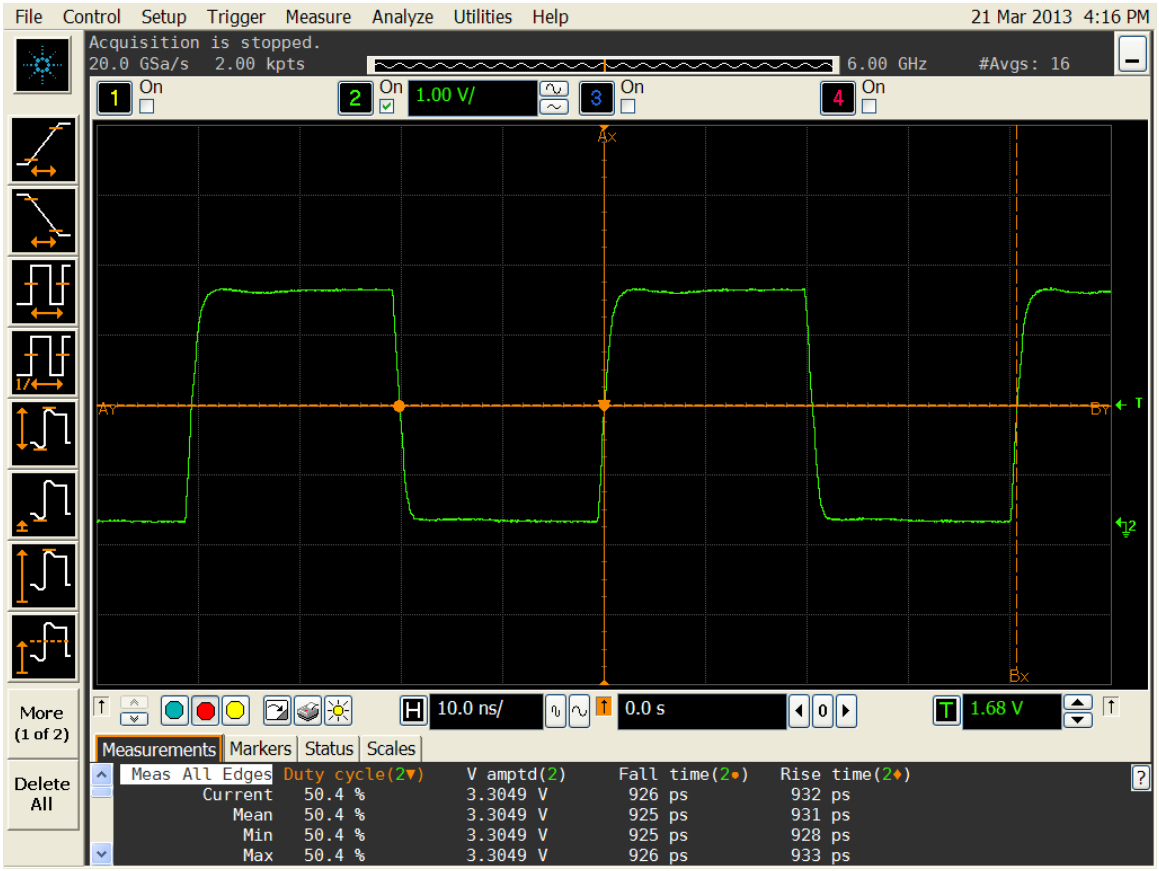

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

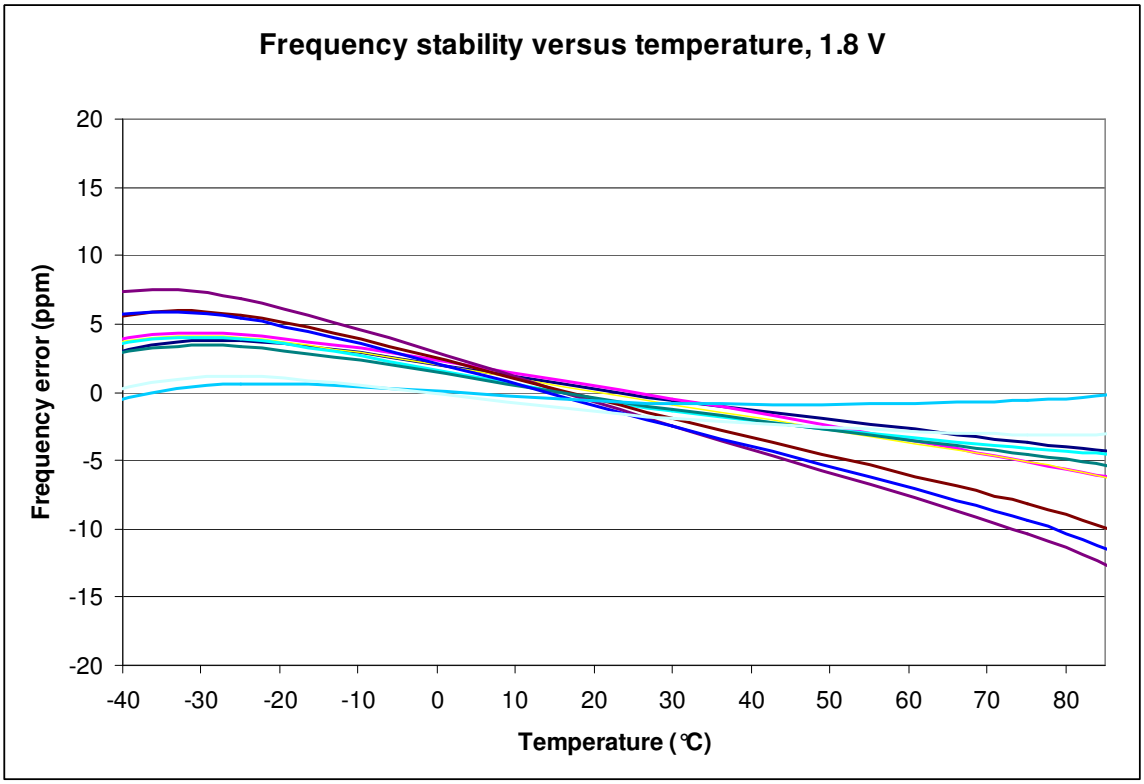

Figure 6. Frequency stability* versus temperature, 1.8 V

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

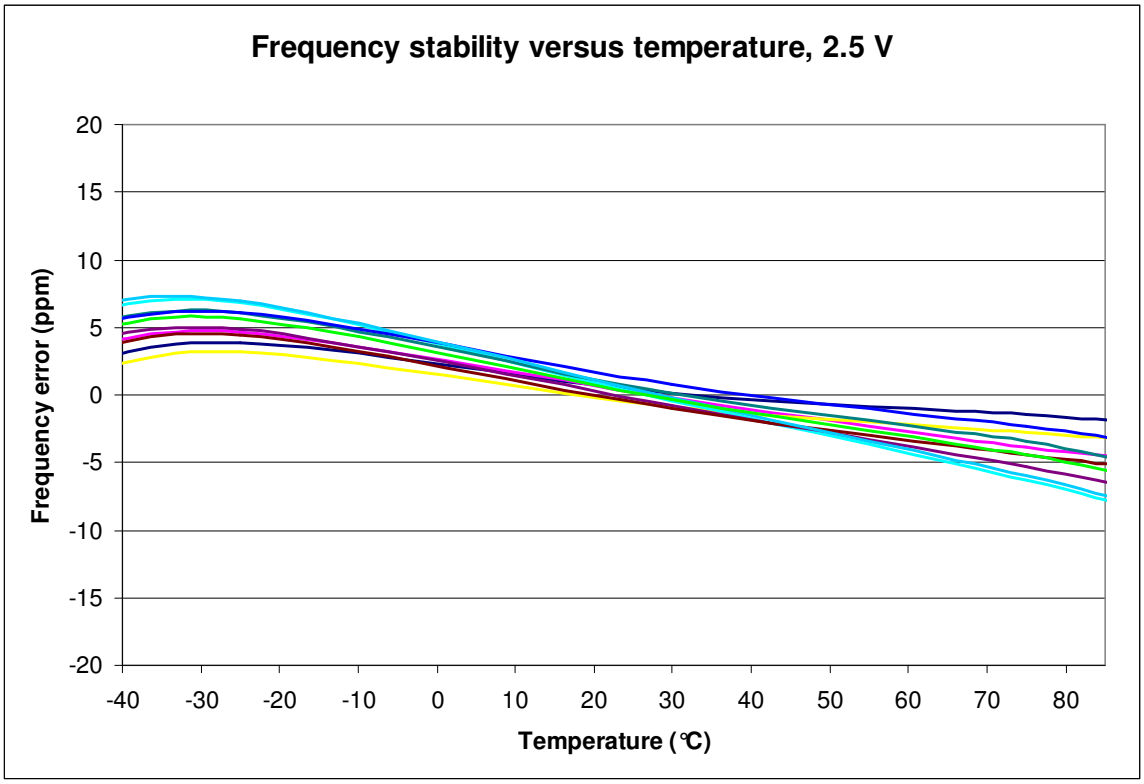

Figure 7. Frequency stability versus temperature, 2.5 V

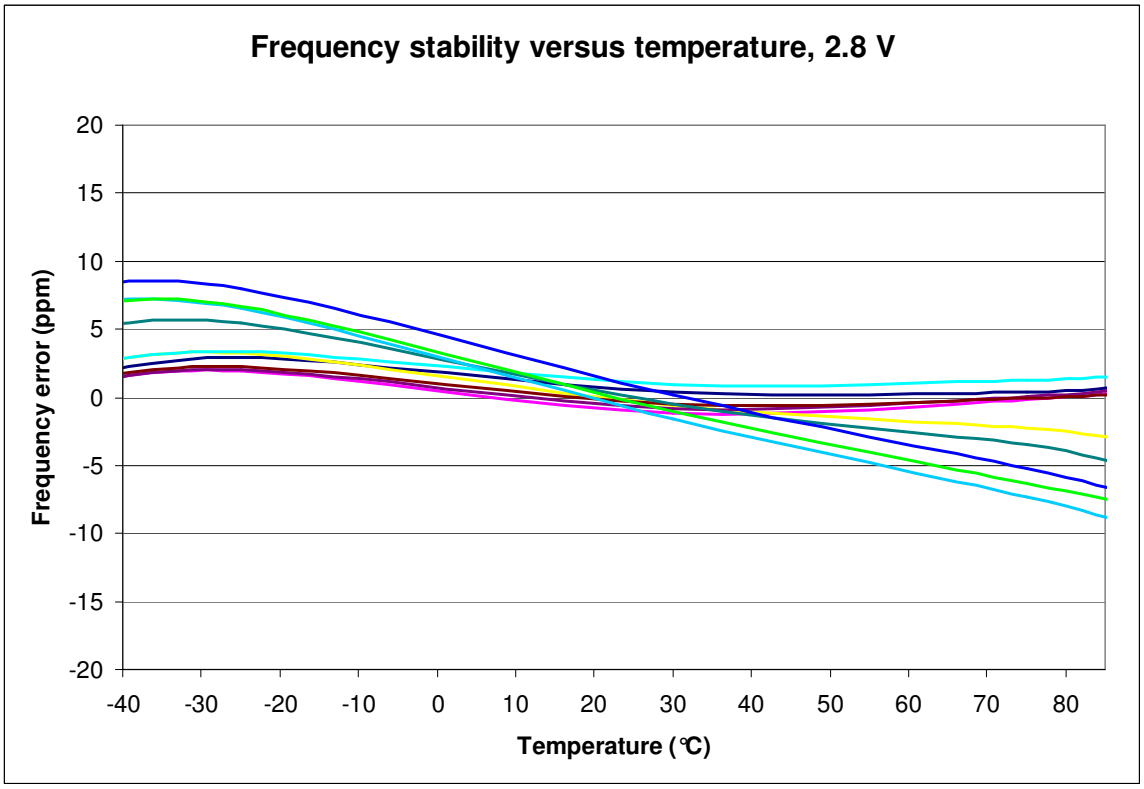

Figure 8. Frequency stability versus temperature, 2.8 V

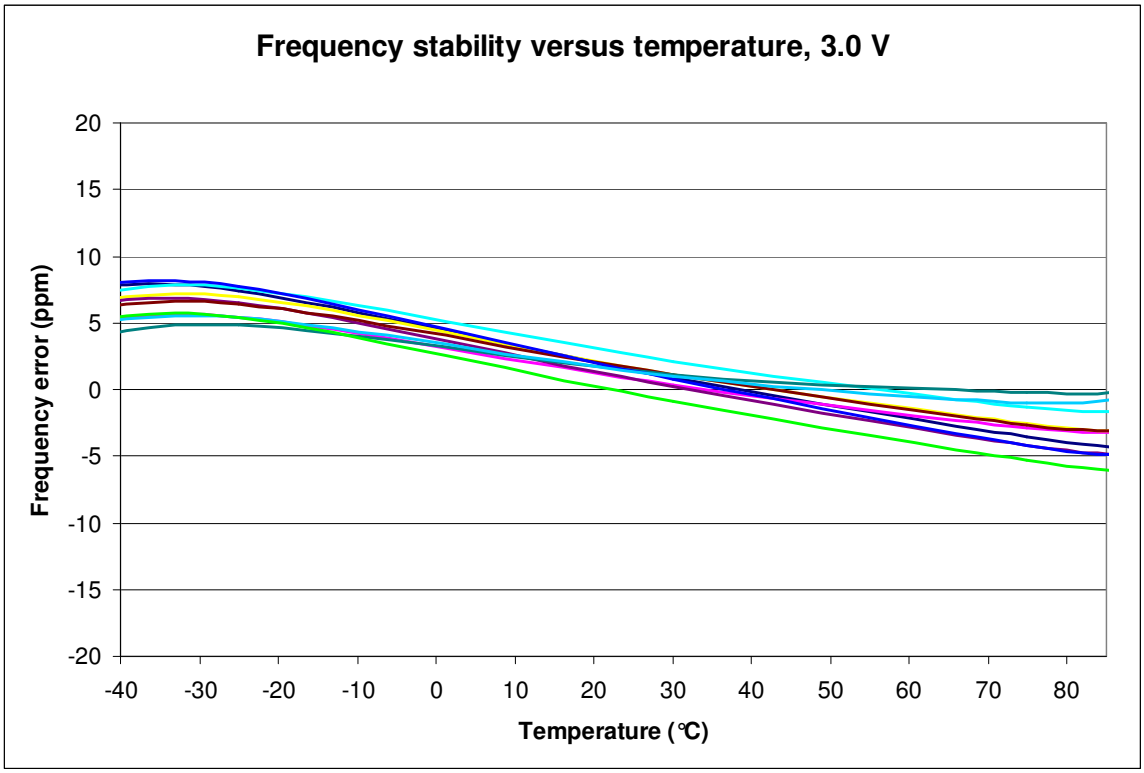

Figure 9. Frequency stability versus temperature, 3.0 V

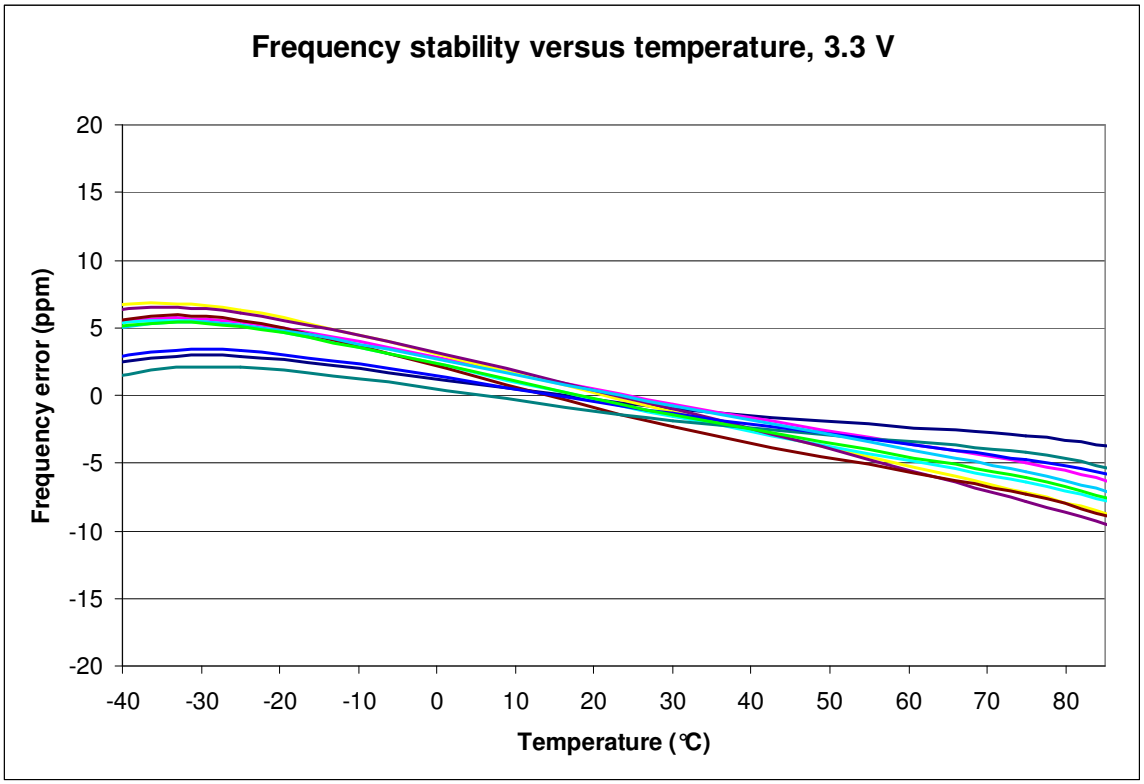

Figure 10. Frequency stability versus temperature, 3.3 V