This report contains sample performance data for SiT1602B-54MHz.

Conditions:

- Frequency 54 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 - 20MHz)	ps, rms	0.65	0.68	0.69	0.69	0.69
Random Phase jitter (12kHz - 20MHz)	ps, rms	1.42	1.43	1.45	1.45	1.45
Period jitter	ps, rms	1.79	1.49	1.45	1.47	1.44
Period jitter (10,000 cycles)	ps, pk-pk	13.3	11.6	11.8	11.6	11.2
Duty cycle	%	49.9	49.8	50.2	50.5	50.9
Rise time (20% - 80%)	ns	1.24	1.02	0.92	0.98	0.93
Fall time (80% - 20%)	ns	1.26	0.98	0.90	0.95	0.92
Amplitude	V	1.77	2.45	2.73	2.95	3.27
Current consumption (no load, output enabled)	mA	4.01	4.23	4.35	4.41	4.53
Current consumption (no load, output disabled)	mA	3.46	3.53	3.58	3.63	3.70

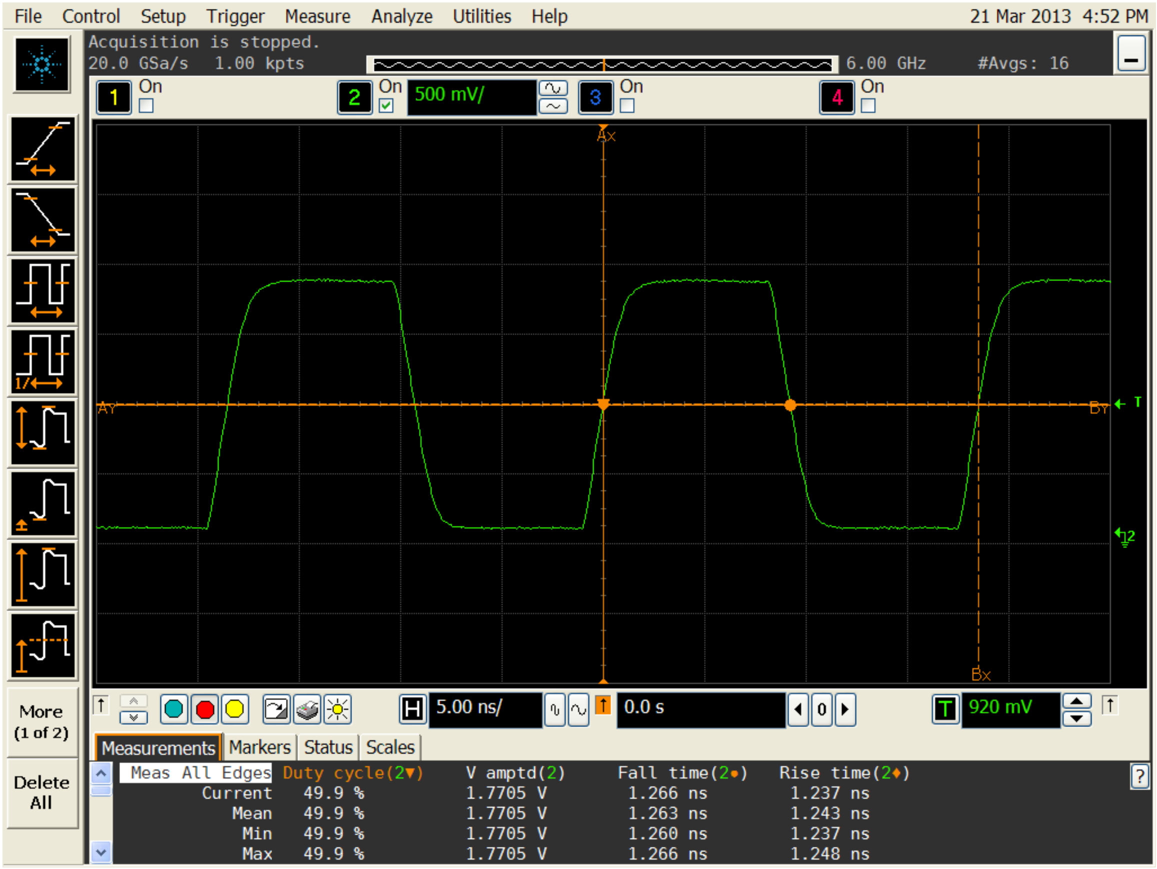

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

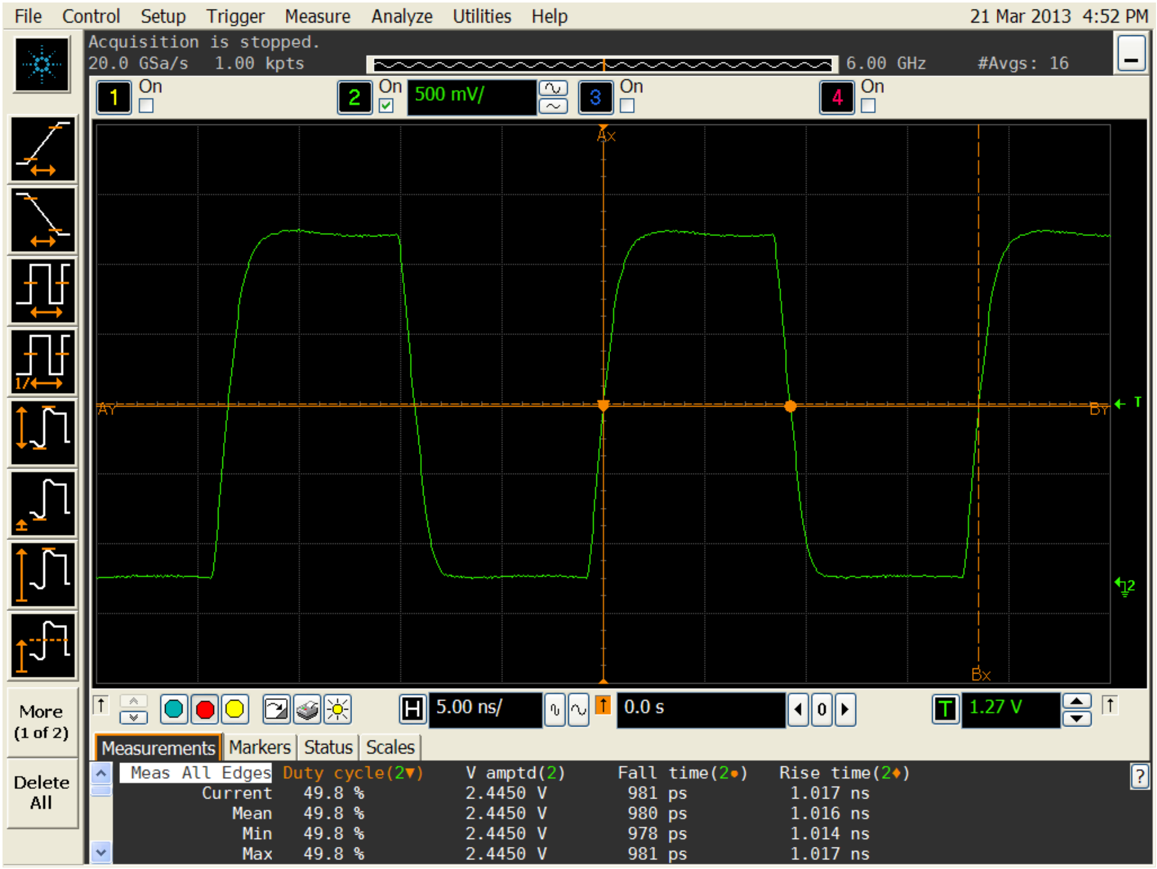

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

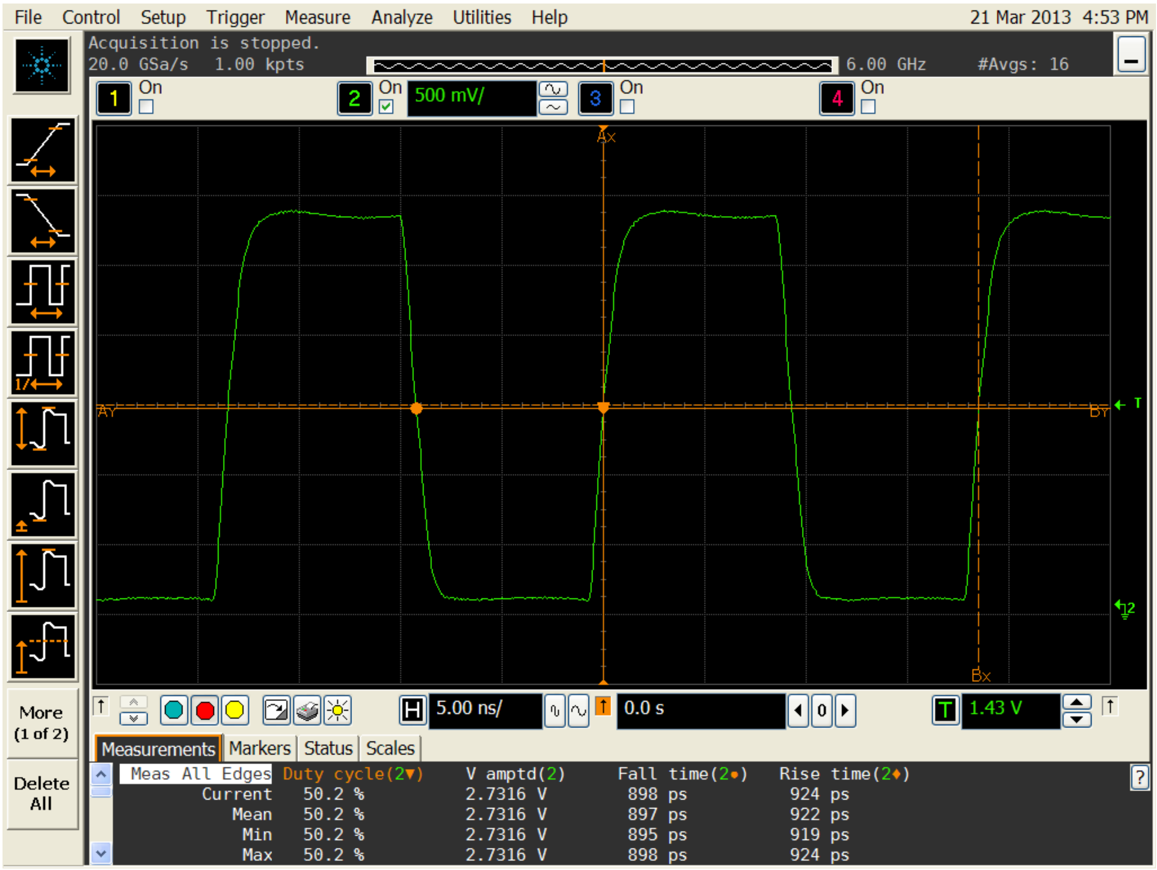

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

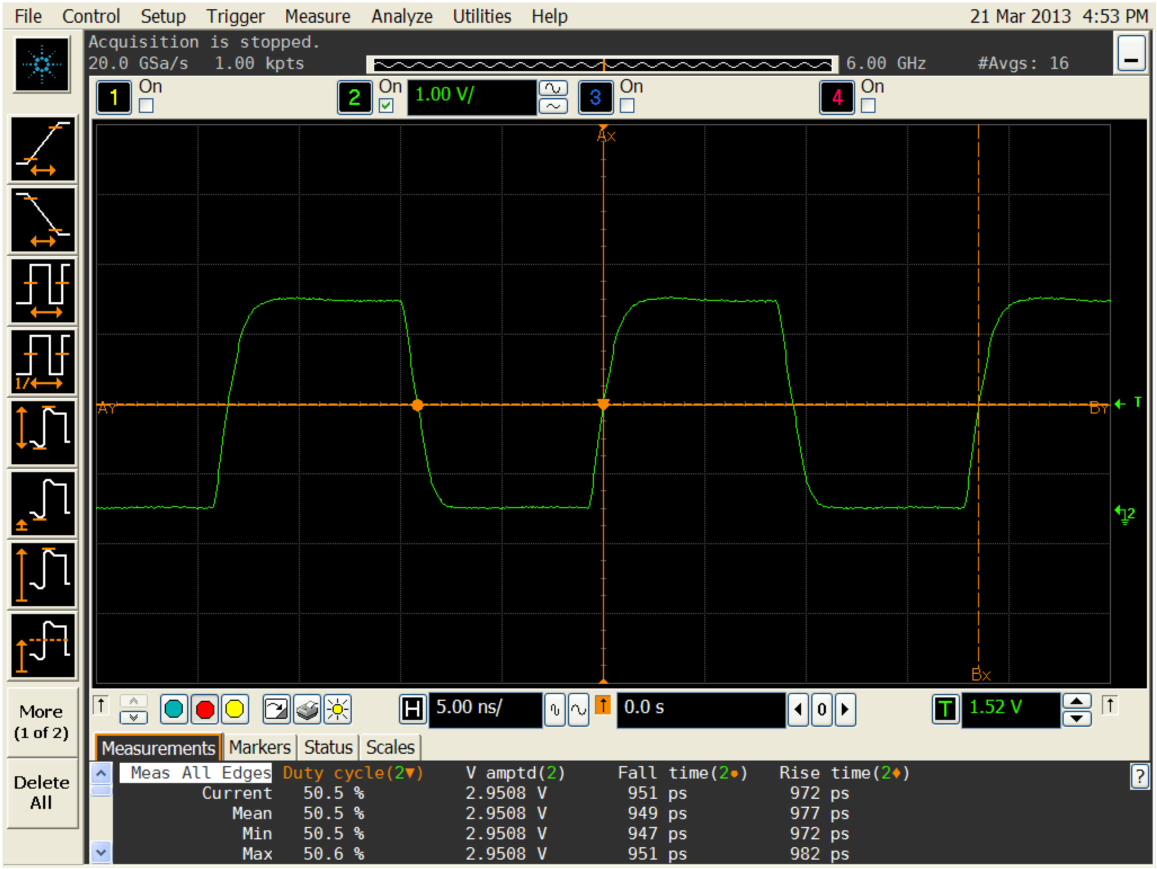

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

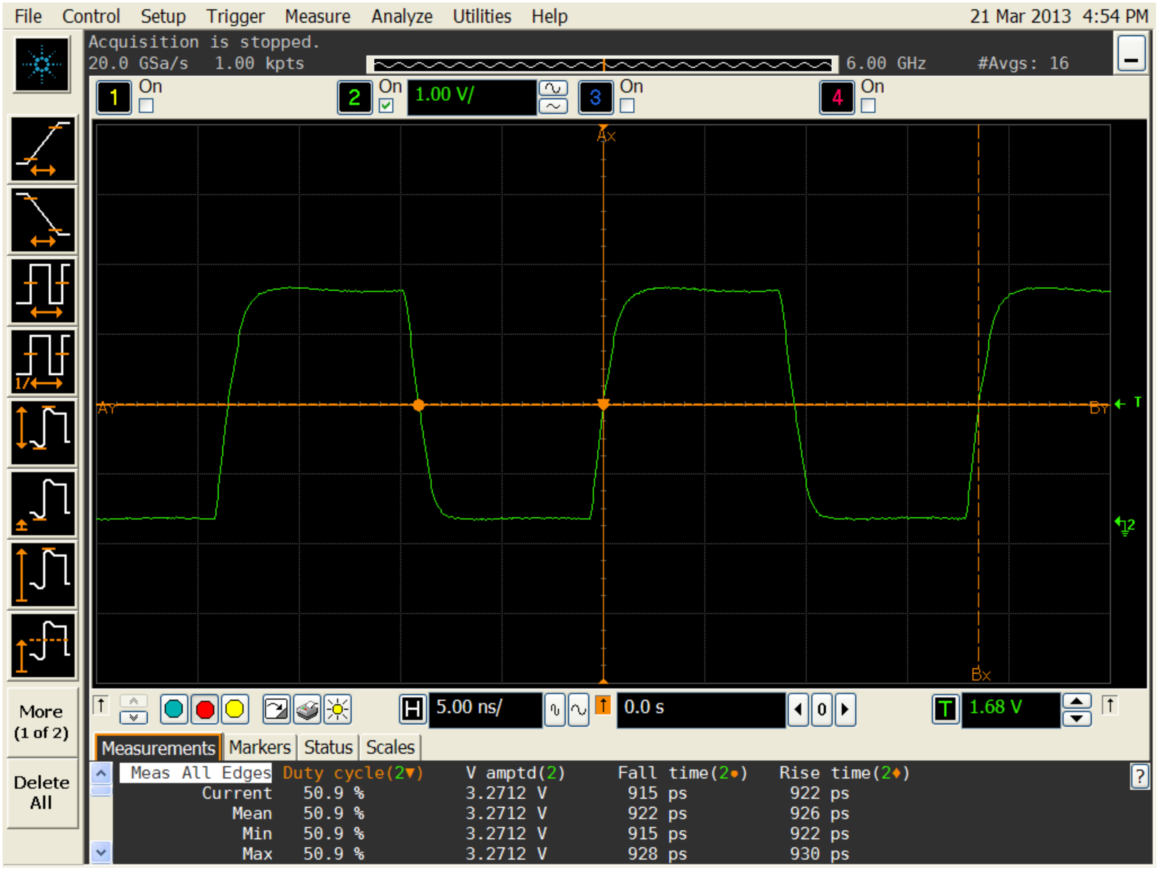

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

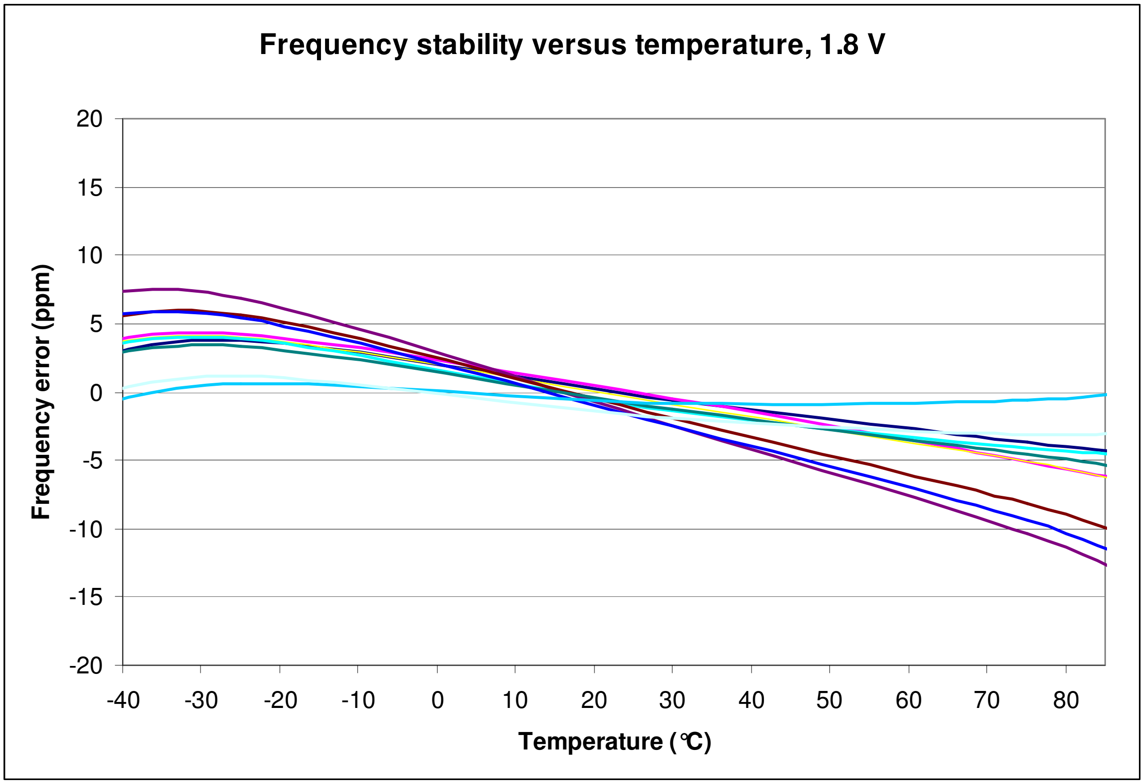

Figure 6. Frequency stability* versus temperature, 1.8 V

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

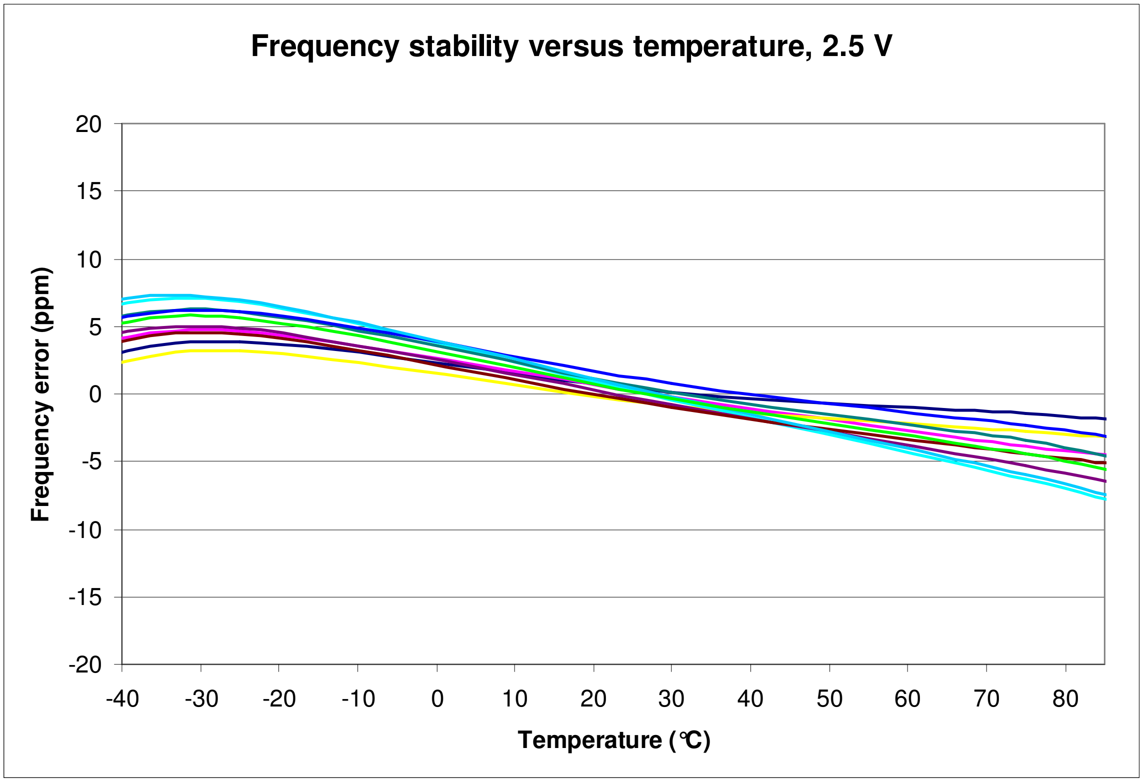

Figure 7. Frequency stability versus temperature, 2.5 V

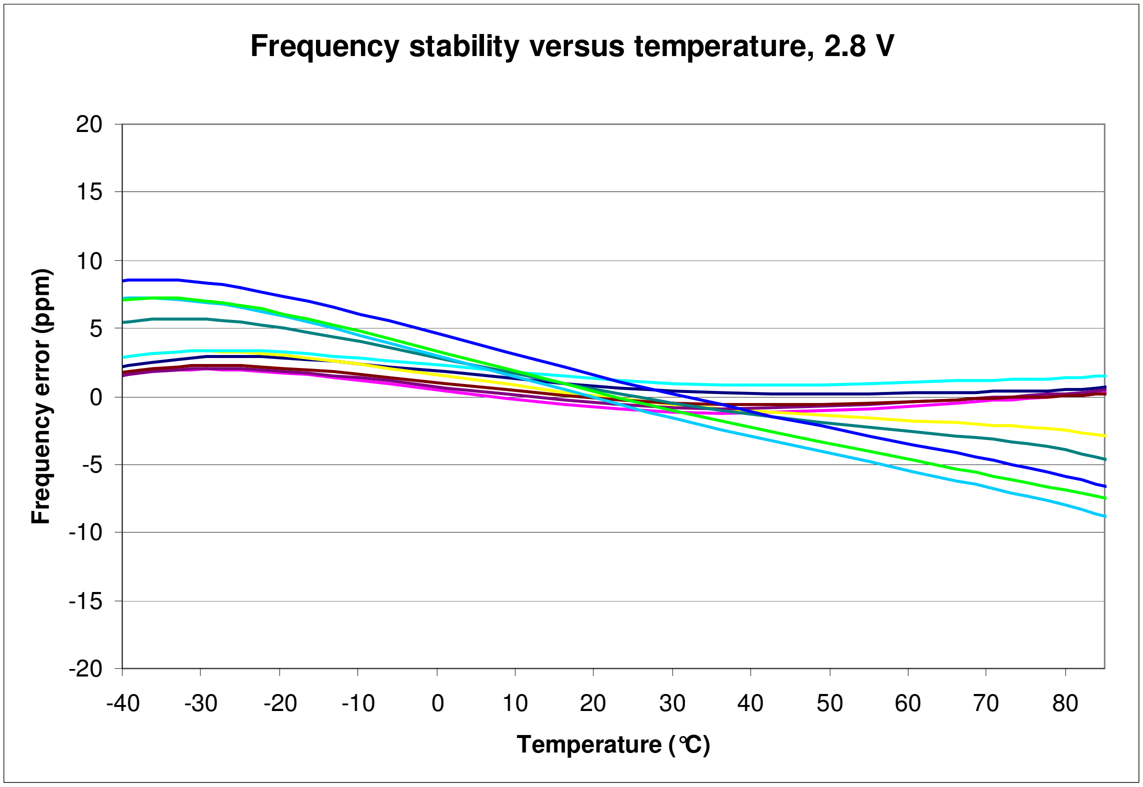

Figure 8. Frequency stability versus temperature, 2.8 V

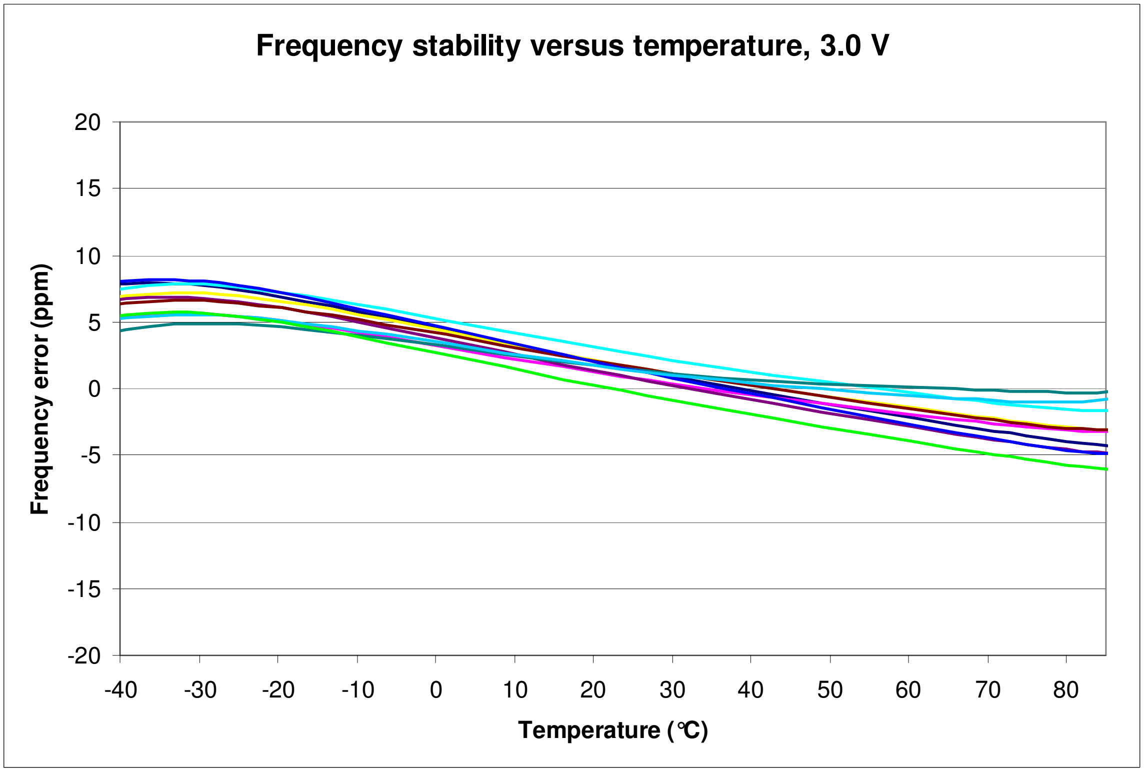

Figure 9. Frequency stability versus temperature, 3.0 V

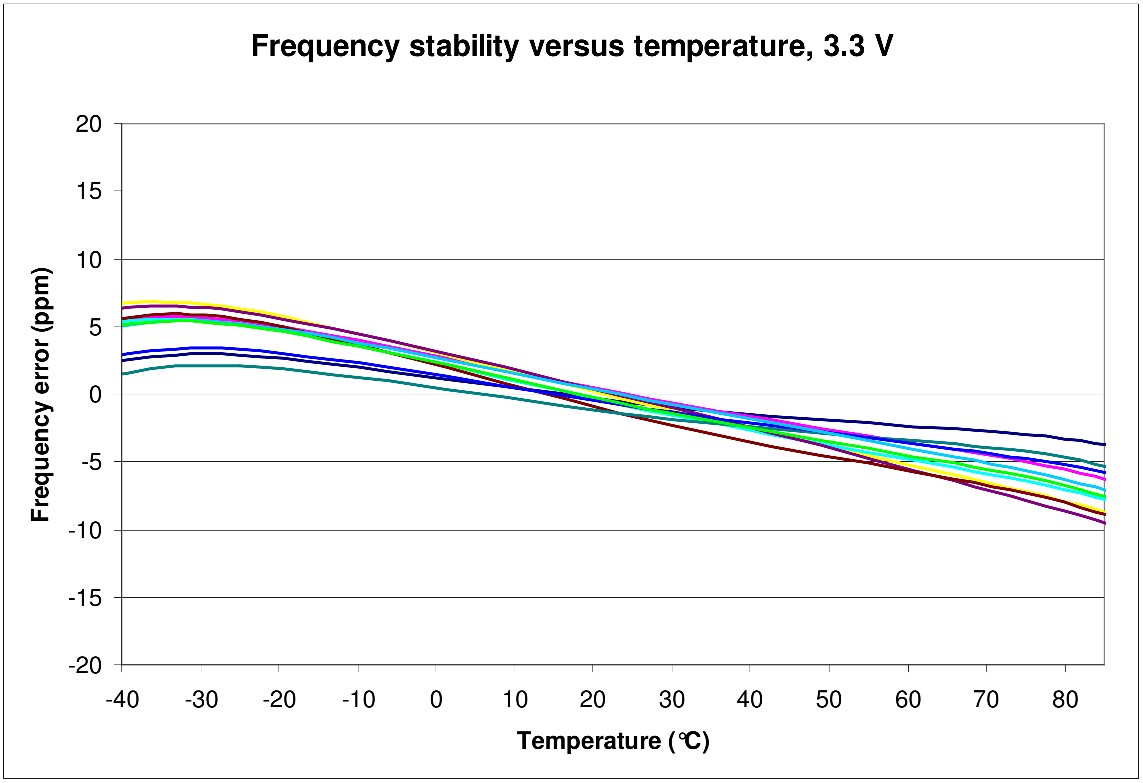

Figure 10. Frequency stability versus temperature, 3.3 V