This report contains sample performance data for SiT2001B-27MHz.

Conditions:

- Frequency 27 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	0.46	0.47	0.47	0.47	0.47
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.18	1.17	1.17	1.17	1.18
Random Phase jitter (900kHz - 20MHz)*	ps, rms	0.72	0.75	0.74	0.75	0.75
Random Phase jitter (12kHz - 20MHz)*	ps, rms	1.31	1.31	1.30	1.30	1.32
Period jitter	ps, rms	1.84	1.62	1.57	1.58	1.54
Period jitter (10,000 cycles)	ps, pk-pk	13.8	12.3	11.5	11.9	11.7
Duty cycle	%	50.0	49.9	50.1	50.3	50.5
Rise time (20% - 80%)	ns	1.25	1.03	0.94	0.99	0.94
Fall time (80% - 20%)	ns	1.26	0.99	0.91	0.96	0.92
Amplitude	V	1.78	2.48	2.77	3.00	3.30
Current consumption (no load, output enabled)	mA	3.68	3.83	3.89	3.93	4.00
Current consumption (no load, output disabled)	mA	3.45	3.52	3.58	3.62	3.69

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

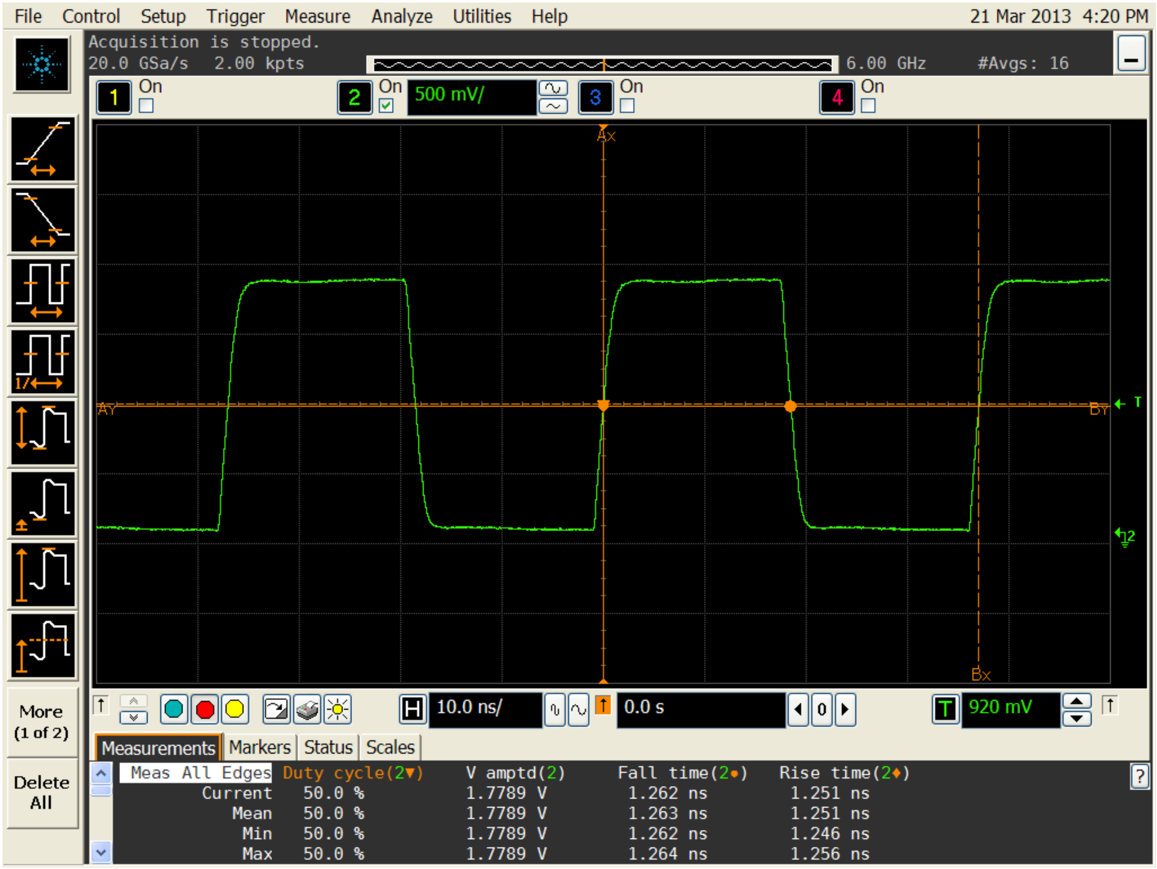

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

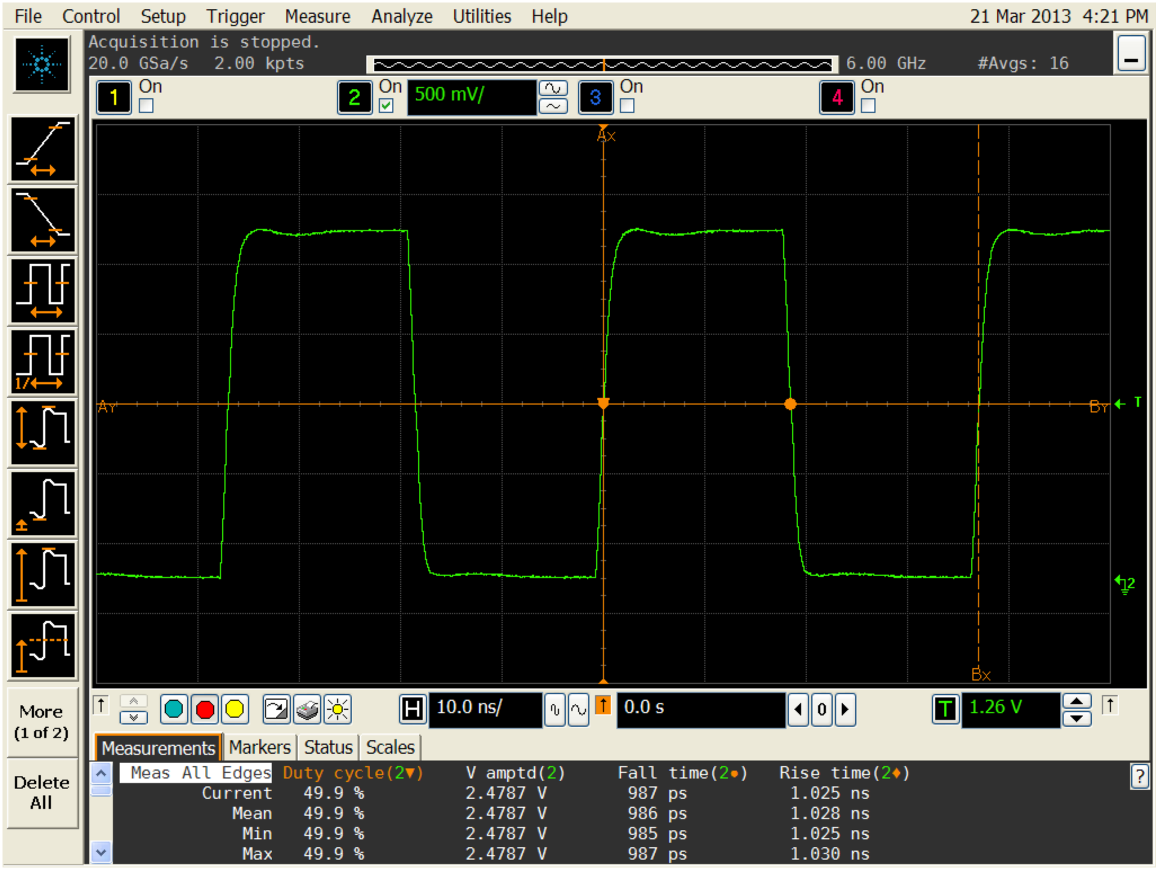

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

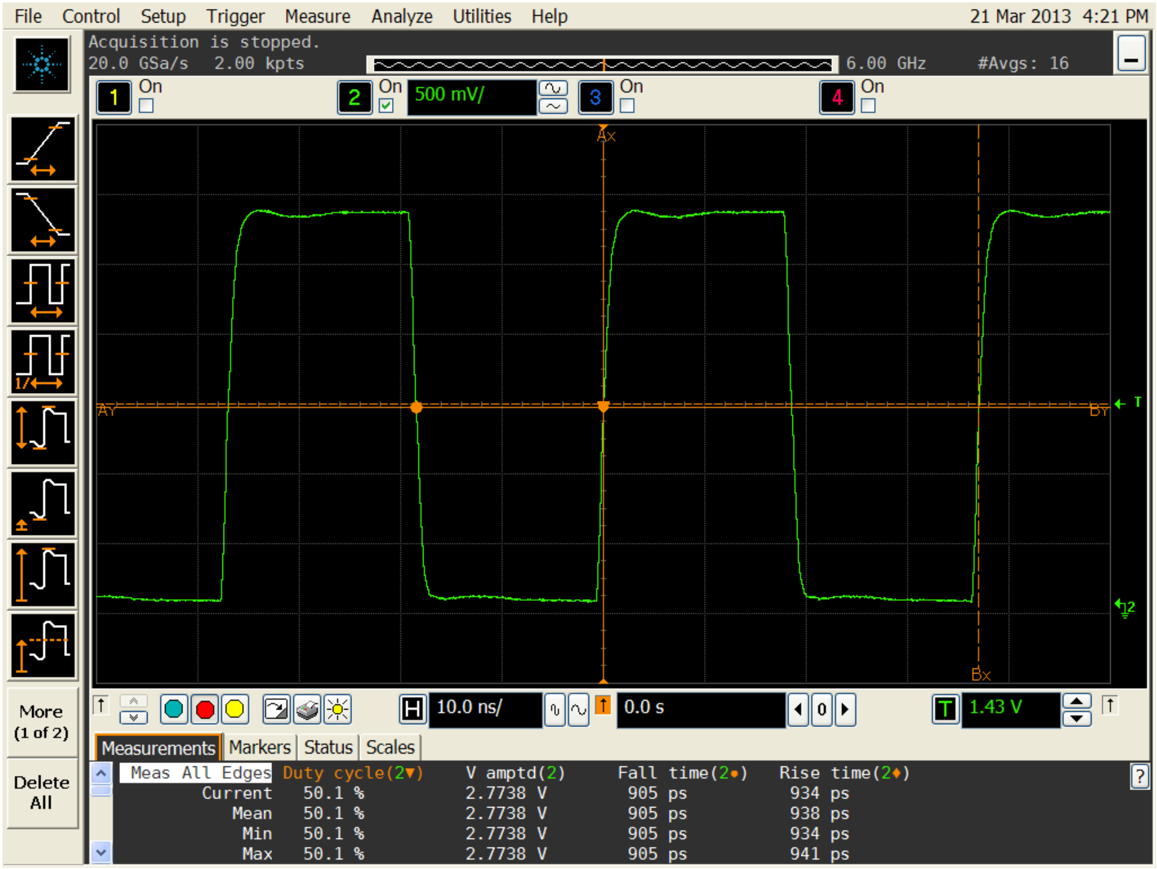

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

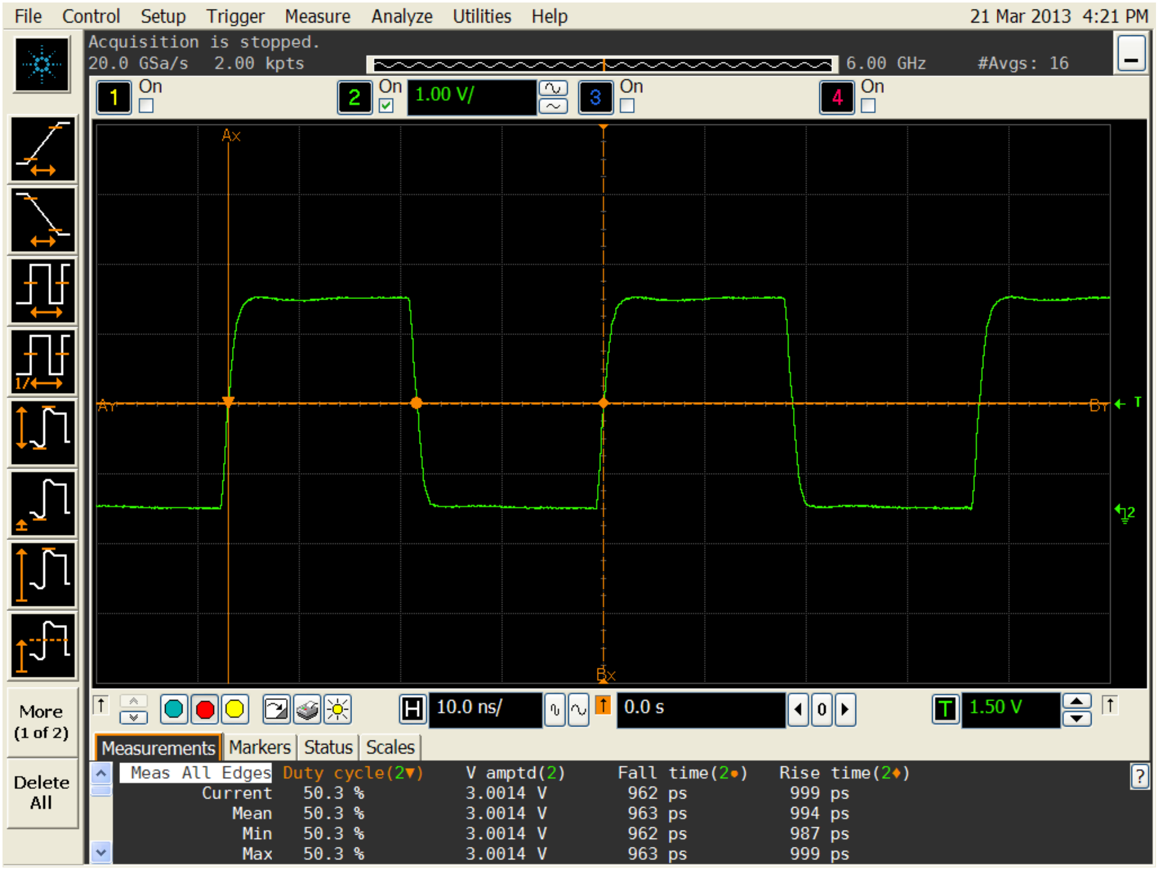

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

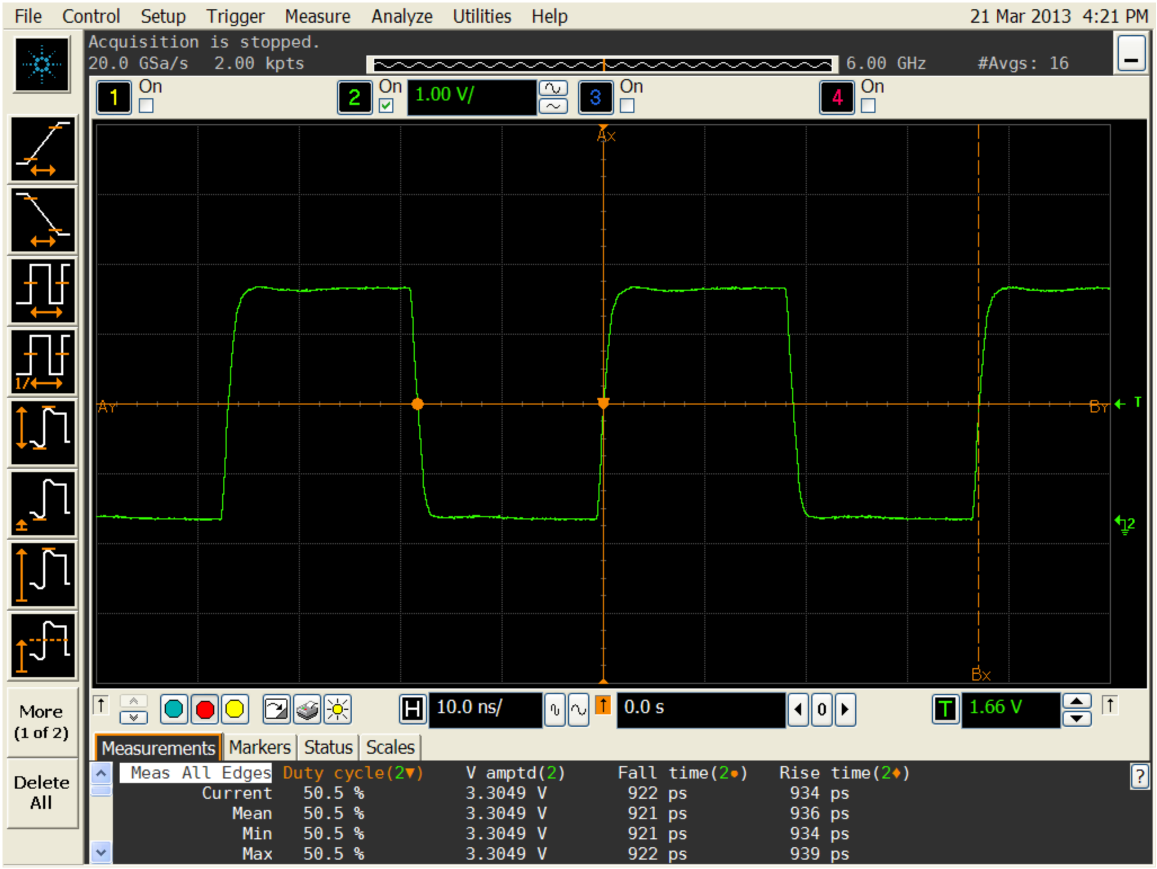

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

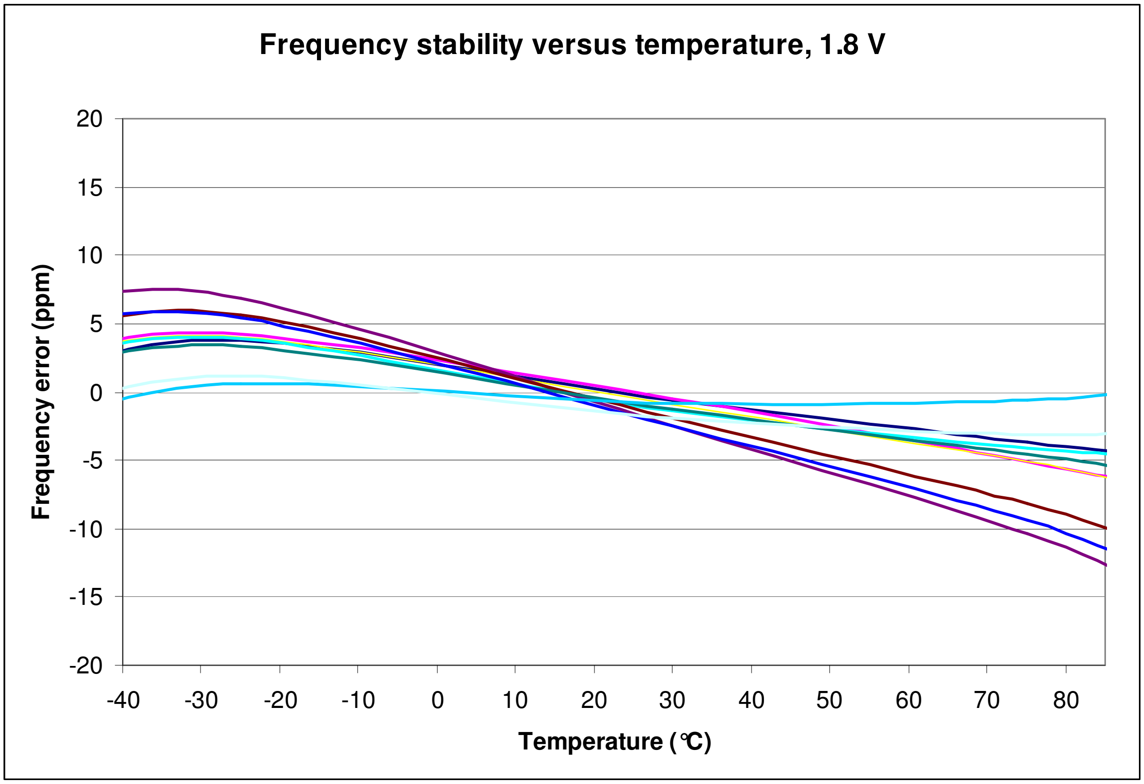

Figure 6. Frequency stability* versus temperature, 1.8 V

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

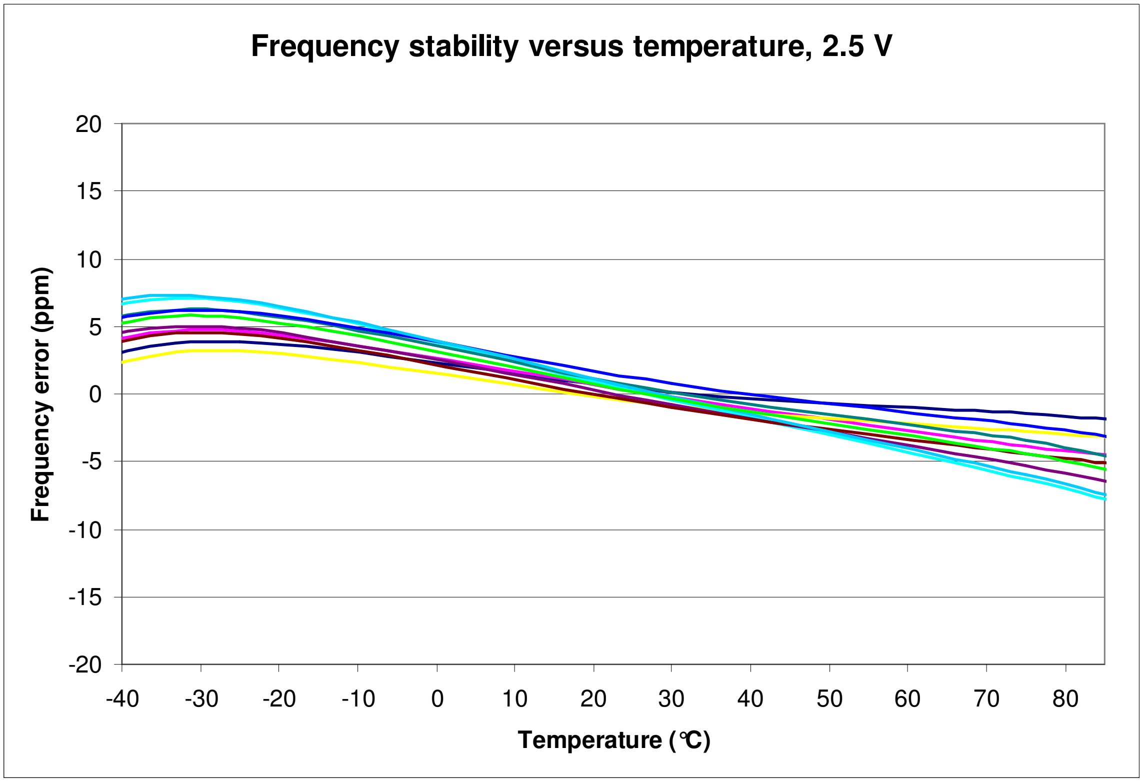

Figure 7. Frequency stability versus temperature, 2.5 V

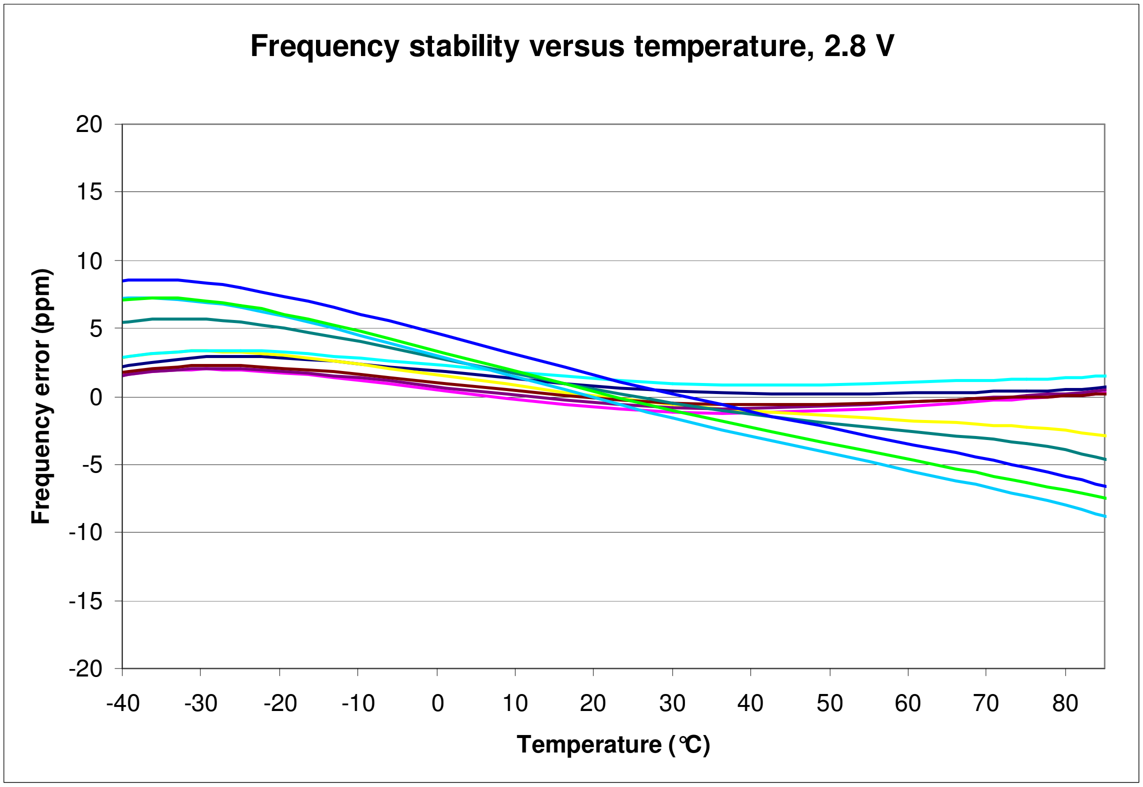

Figure 8. Frequency stability versus temperature, 2.8 V

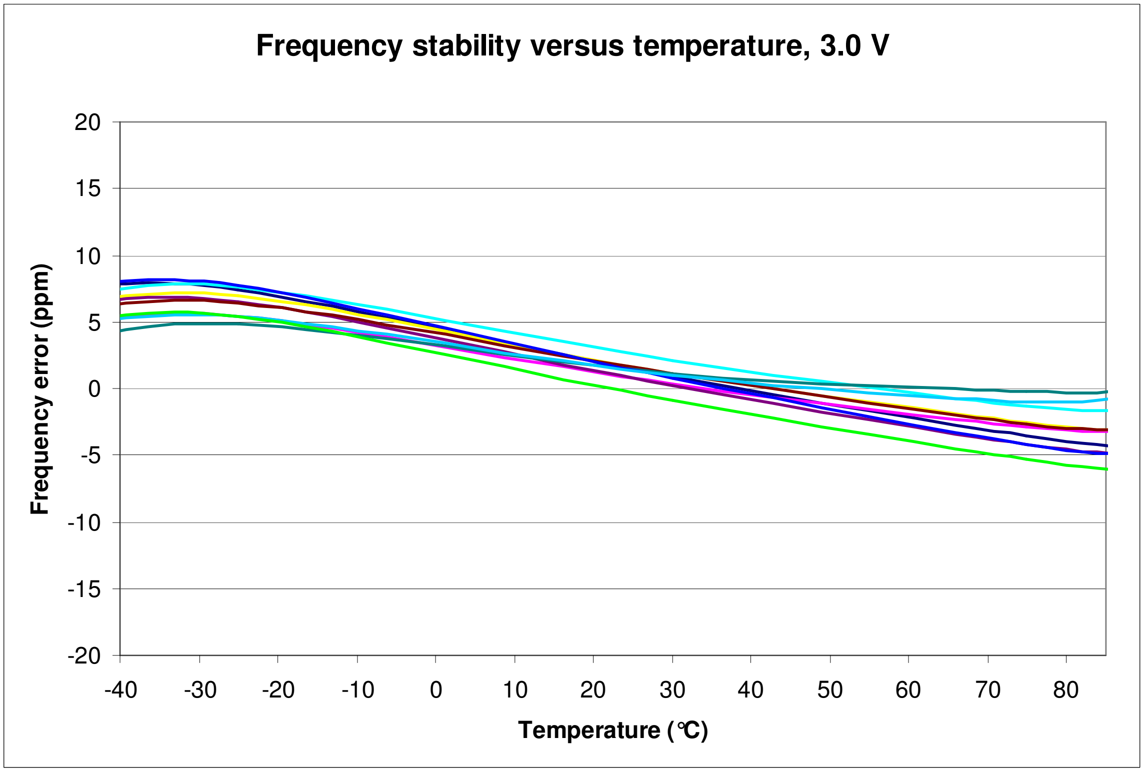

Figure 9. Frequency stability versus temperature, 3.0 V

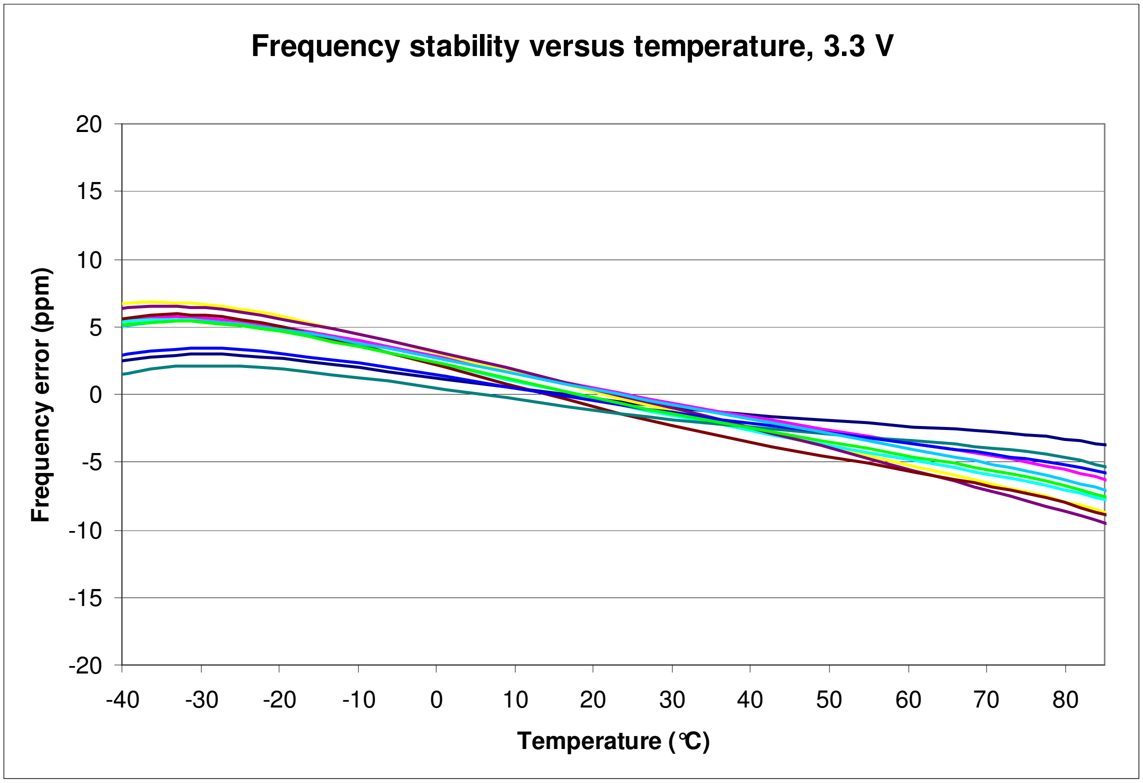

Figure 10. Frequency stability versus temperature, 3.3 V