This report contains sample performance data for SiT1602B-12MHz.

Conditions:

- Frequency 12 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	0.53	0.55	0.56	0.55	0.56
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.36	1.37	1.38	1.38	1.39
Random Phase jitter (900kHz - 12MHz)*	ps, rms	0.74	0.76	0.77	0.76	0.77
Random Phase jitter (12kHz - 12MHz)*	ps, rms	1.45	1.47	1.47	1.47	1.49
Period jitter	ps, rms	1.68	1.49	1.43	1.45	1.40
Period jitter (10,000 cycles)	ps, pk-pk	13.0	11.9	11.8	11.4	10.9
Duty cycle	%	50.0	50.0	50.0	50.1	50.2
Rise time (20% - 80%)	ns	1.26	1.03	0.95	1.00	0.93
Fall time (80% - 20%)	ns	1.27	0.98	0.91	0.97	0.92
Amplitude	V	1.80	2.48	2.79	3.02	3.30
Current consumption (no load, output enabled)	mA	3.39	3.49	3.52	3.54	3.59
Current consumption (no load, output disabled)	mA	3.33	3.40	3.45	3.49	3.57

*Calculated by extending the noise floor of the phase noise from 5 MHz to 12 MHz

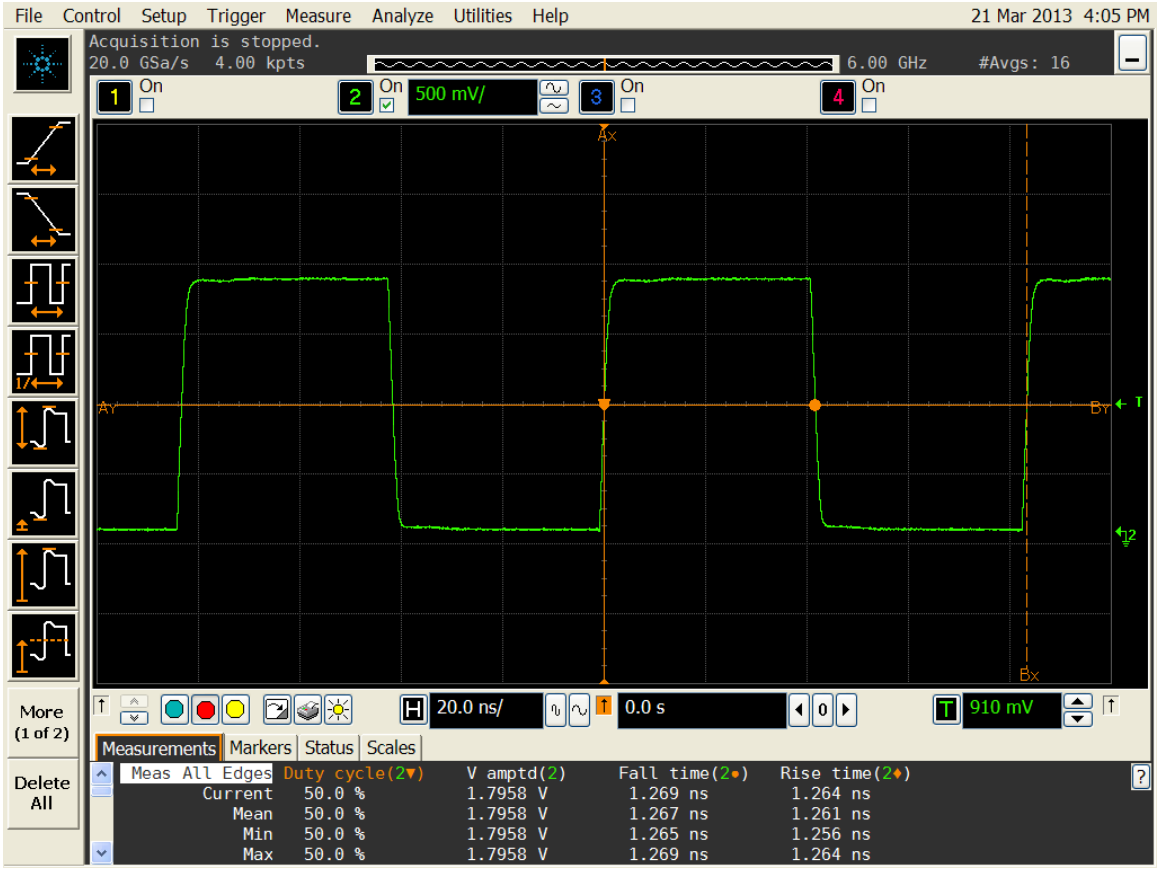

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

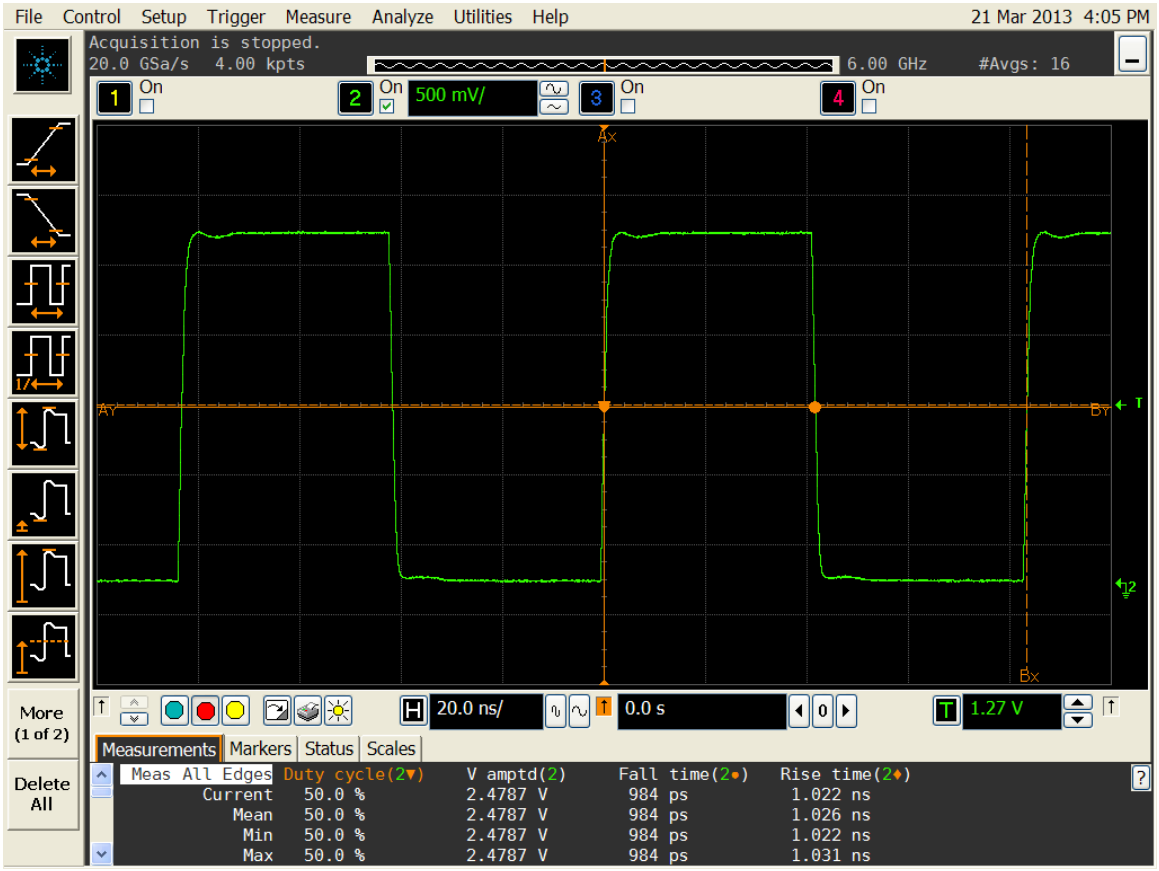

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

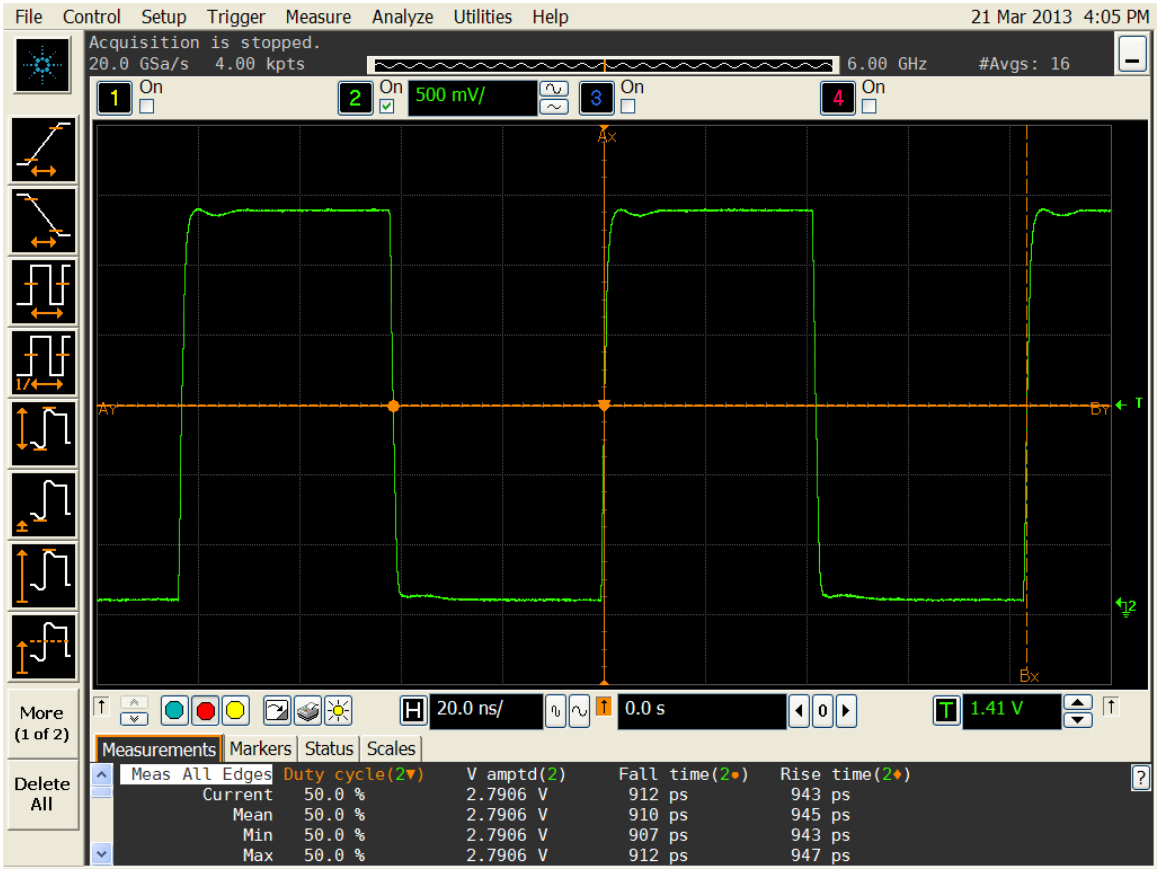

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

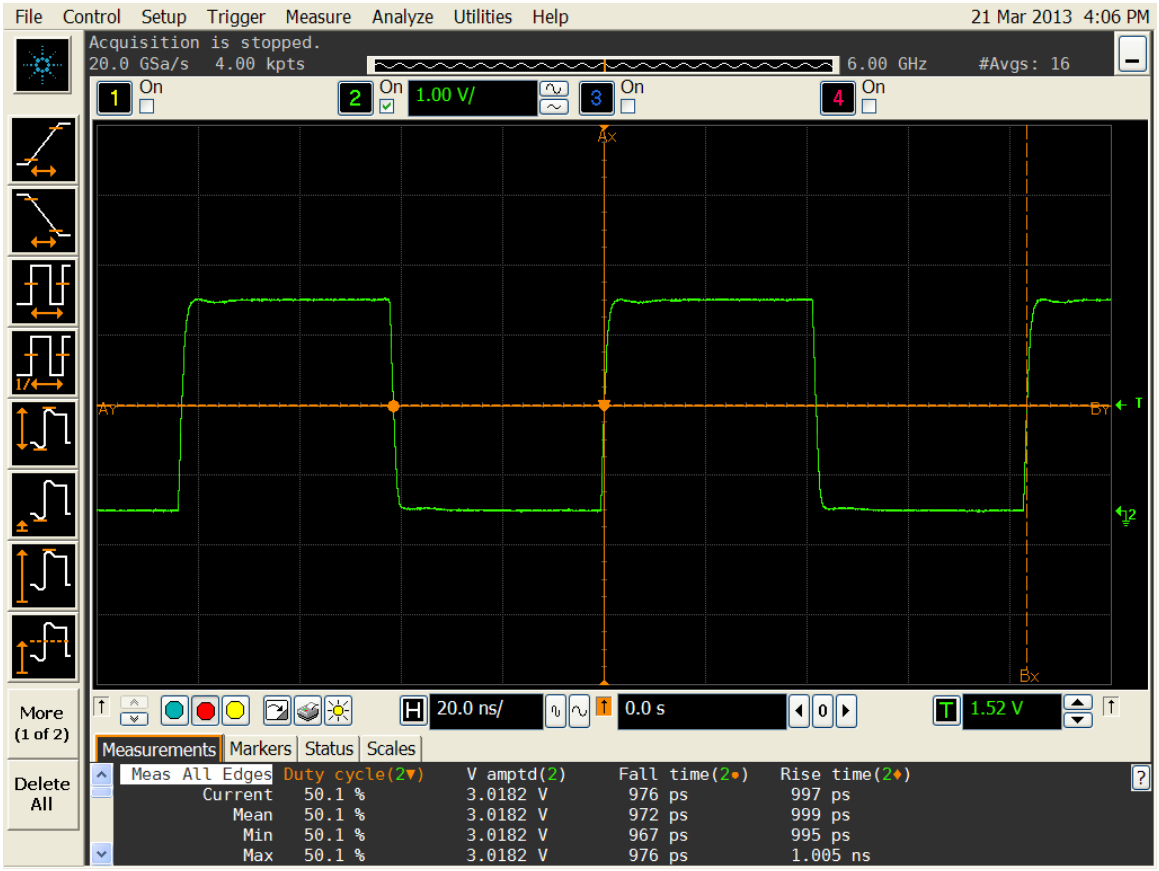

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

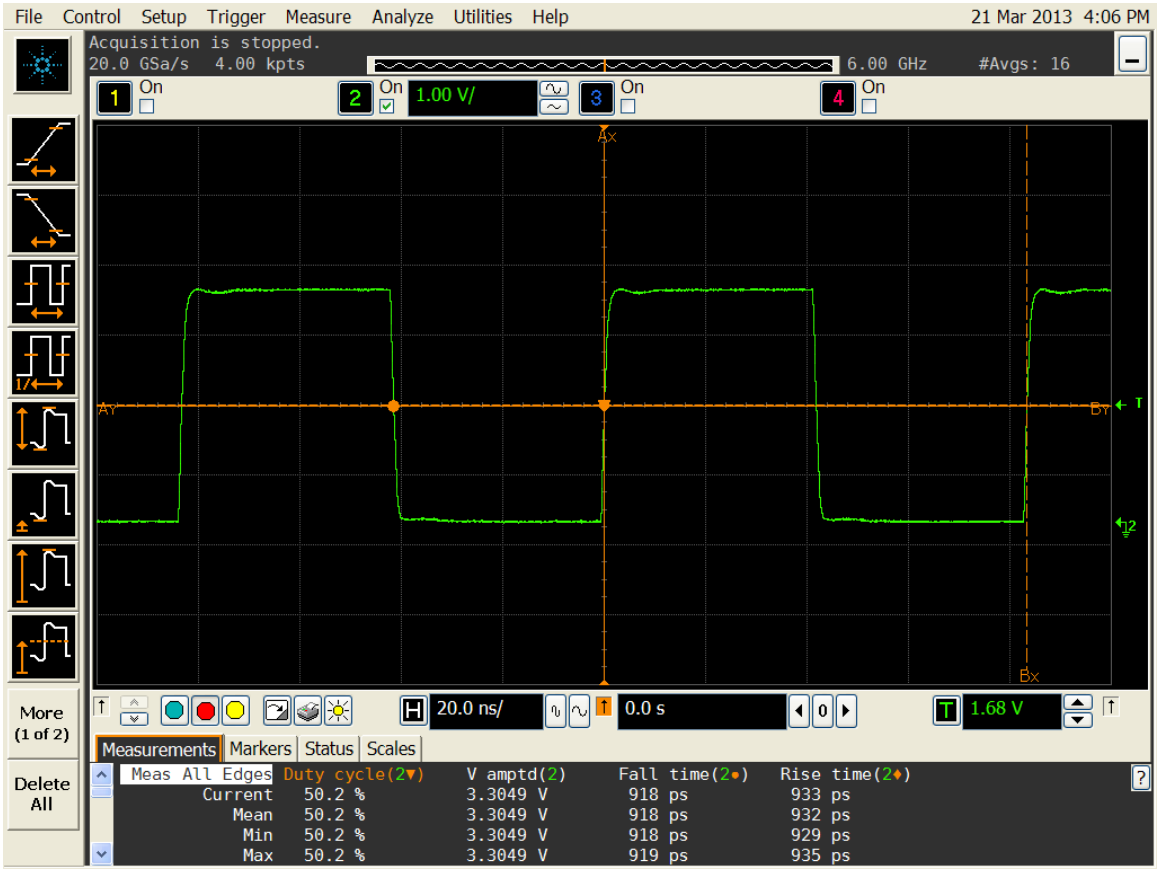

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

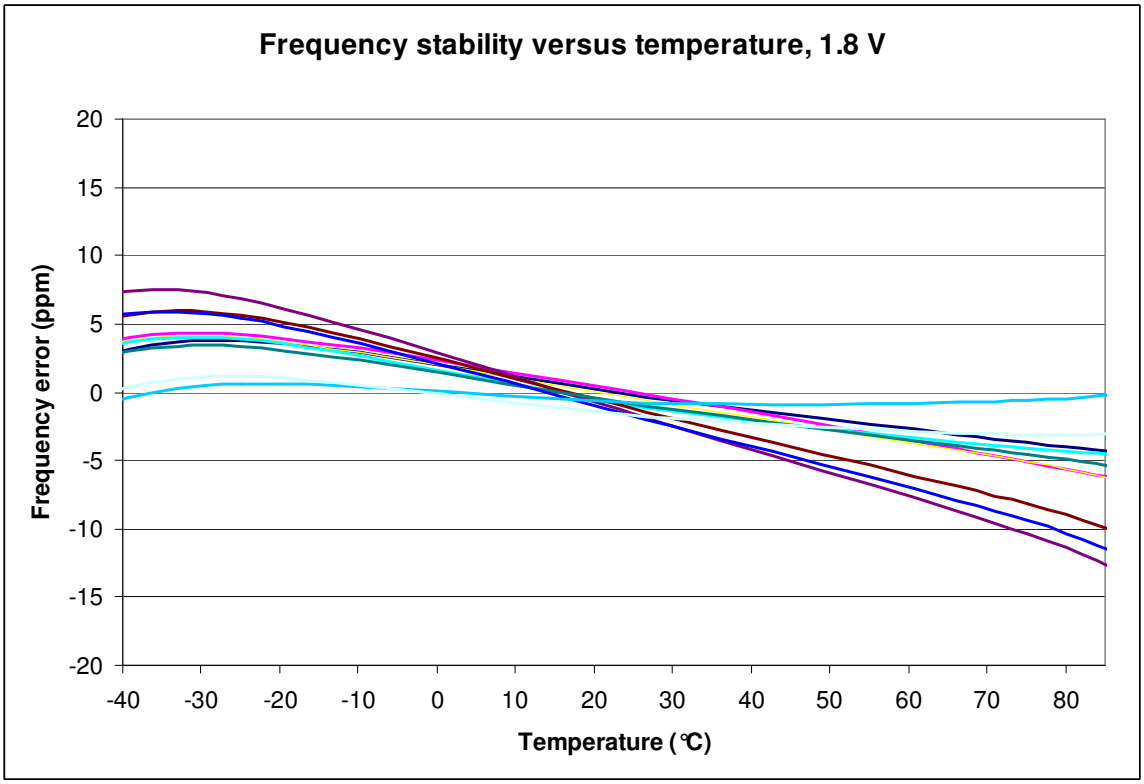

Figure 6. Frequency stability* versus temperature, 1.8 V

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

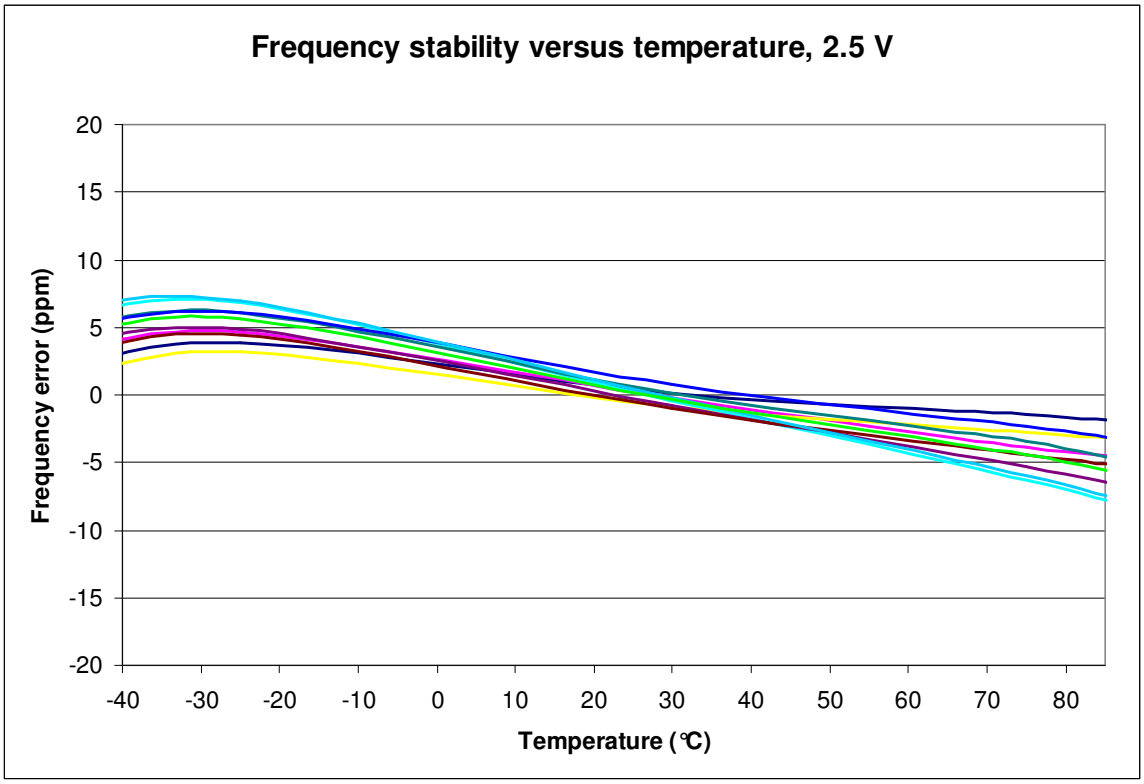

Figure 7. Frequency stability versus temperature, 2.5 V

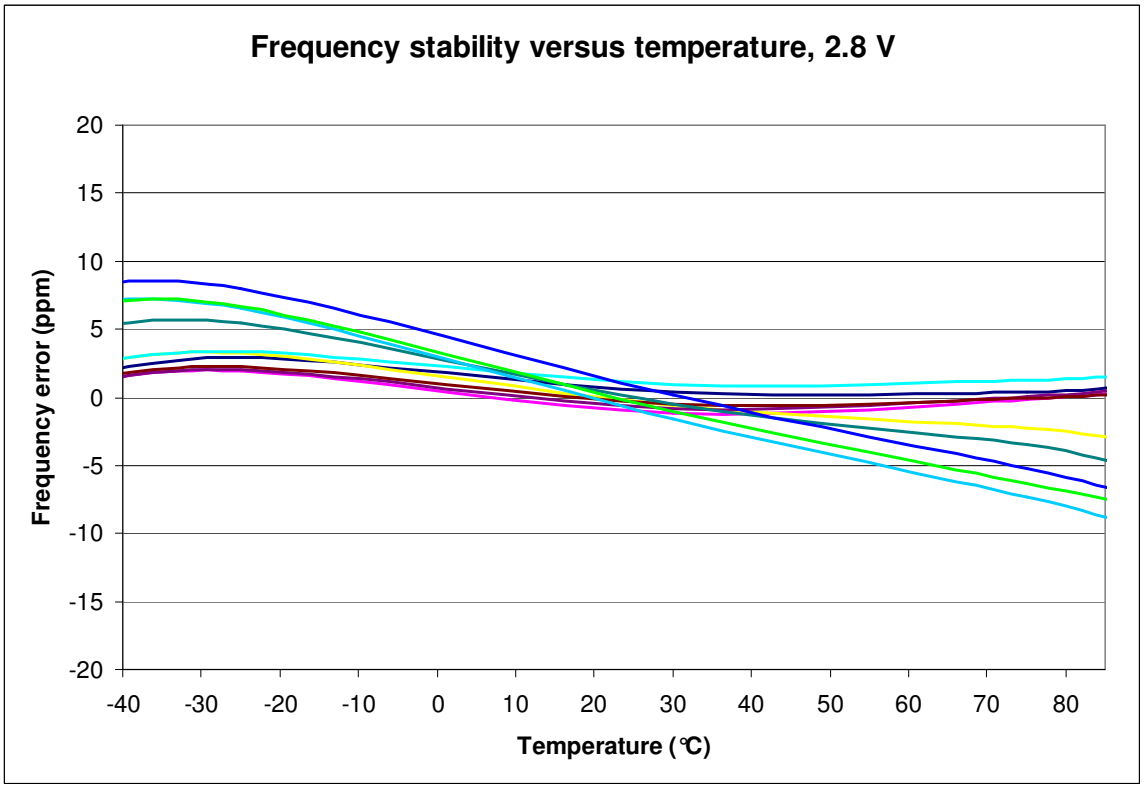

Figure 8. Frequency stability versus temperature, 2.8 V

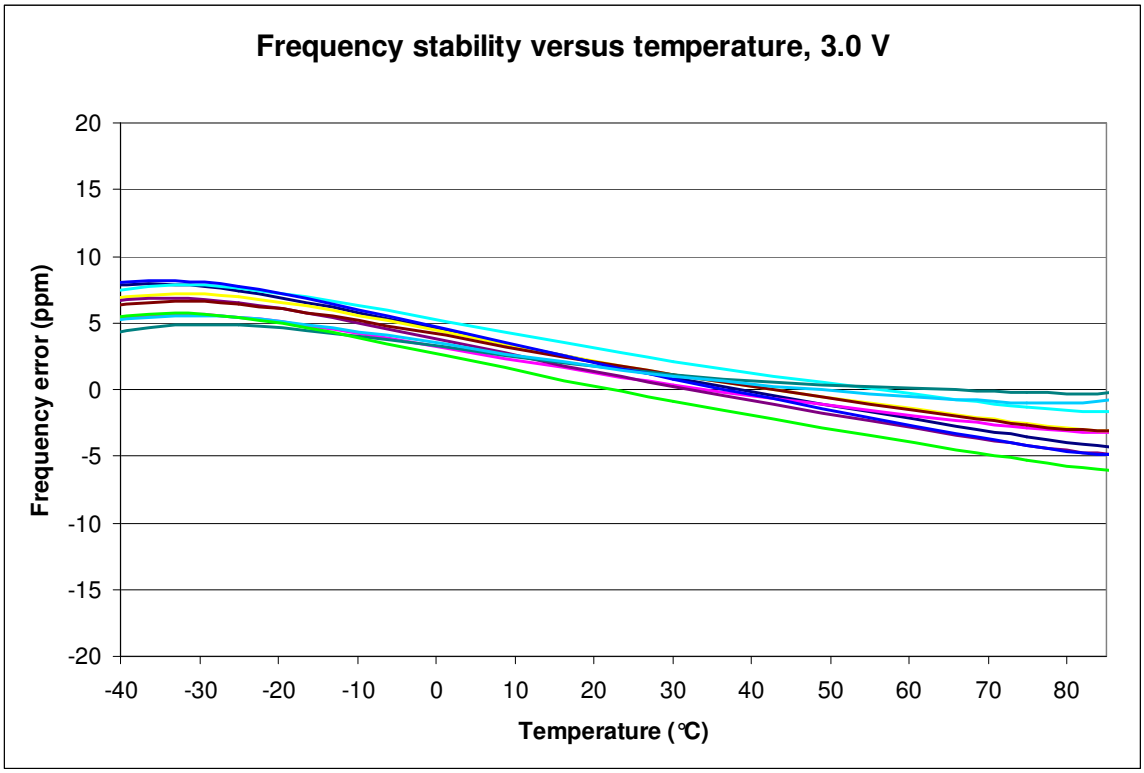

Figure 9. Frequency stability versus temperature, 3.0 V

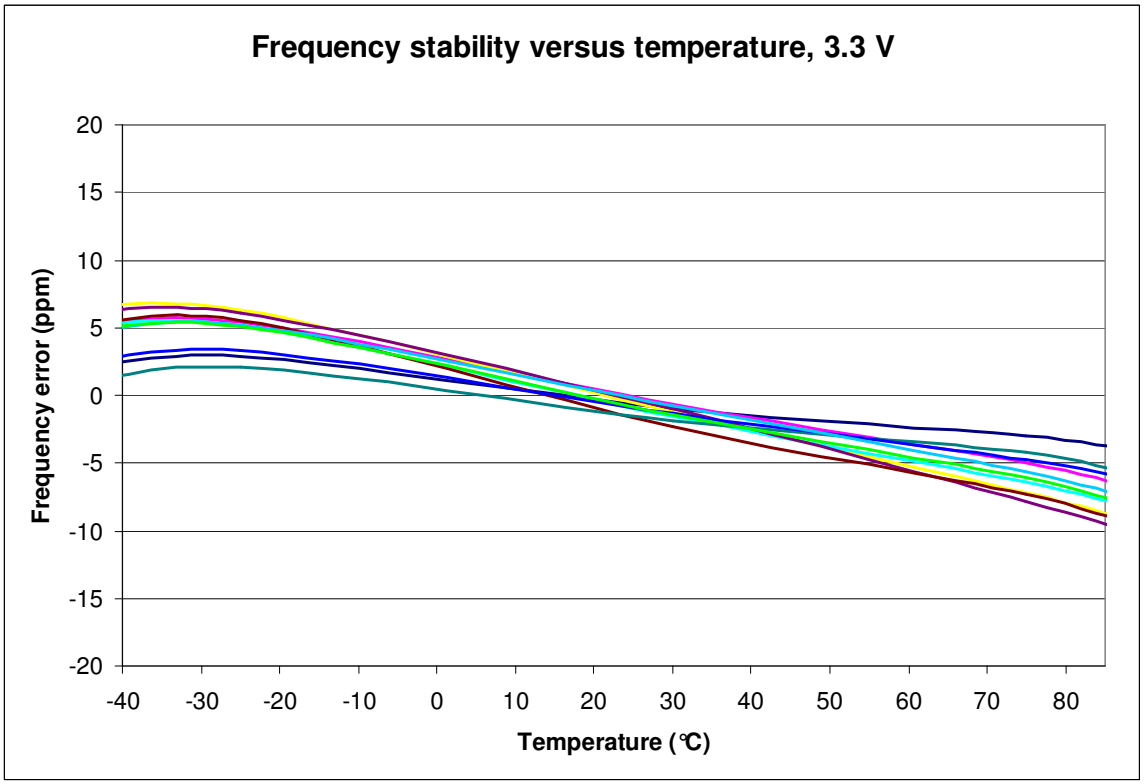

Figure 10. Frequency stability versus temperature, 3.3 V