This report contains sample performance data for SiT8008-66.6666MHz.

Conditions:

- Frequency 66.6666 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	0.61	0.69	0.69	0.69	0.70
Random Phase jitter (12kHz - 20MHz)	ps, rms	1.38	1.49	1.44	1.45	1.47
Period jitter	ps, rms	1.77	1.62	1.55	1.57	1.50
Period jitter (10,000 cycles)	ps, pk-pk	13.2	11.6	11.5	11.0	11.2
Duty cycle	%	49.9	49.8	50.3	50.6	51.0
Rise time	ns	1.25	1.03	0.94	1.00	0.94
Fall time	ns	1.26	0.99	0.92	0.98	0.93
Amplitude	V	1.77	2.44	2.72	2.97	3.25
Current consumption (no load, output enabled)	mA	3.96	4.30	4.43	4.49	4.63
Current consumption (no load, output disabled)	mA	3.29	3.42	3.47	3.51	3.58

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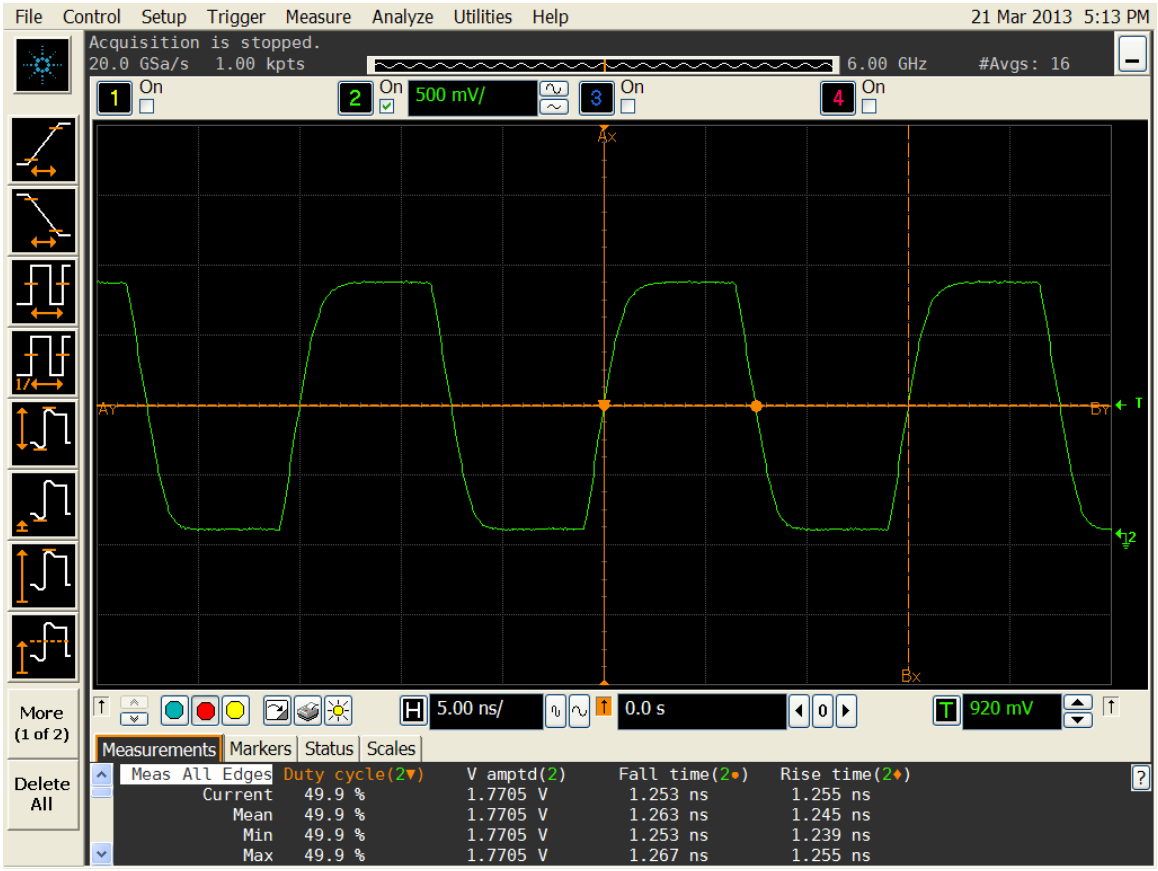

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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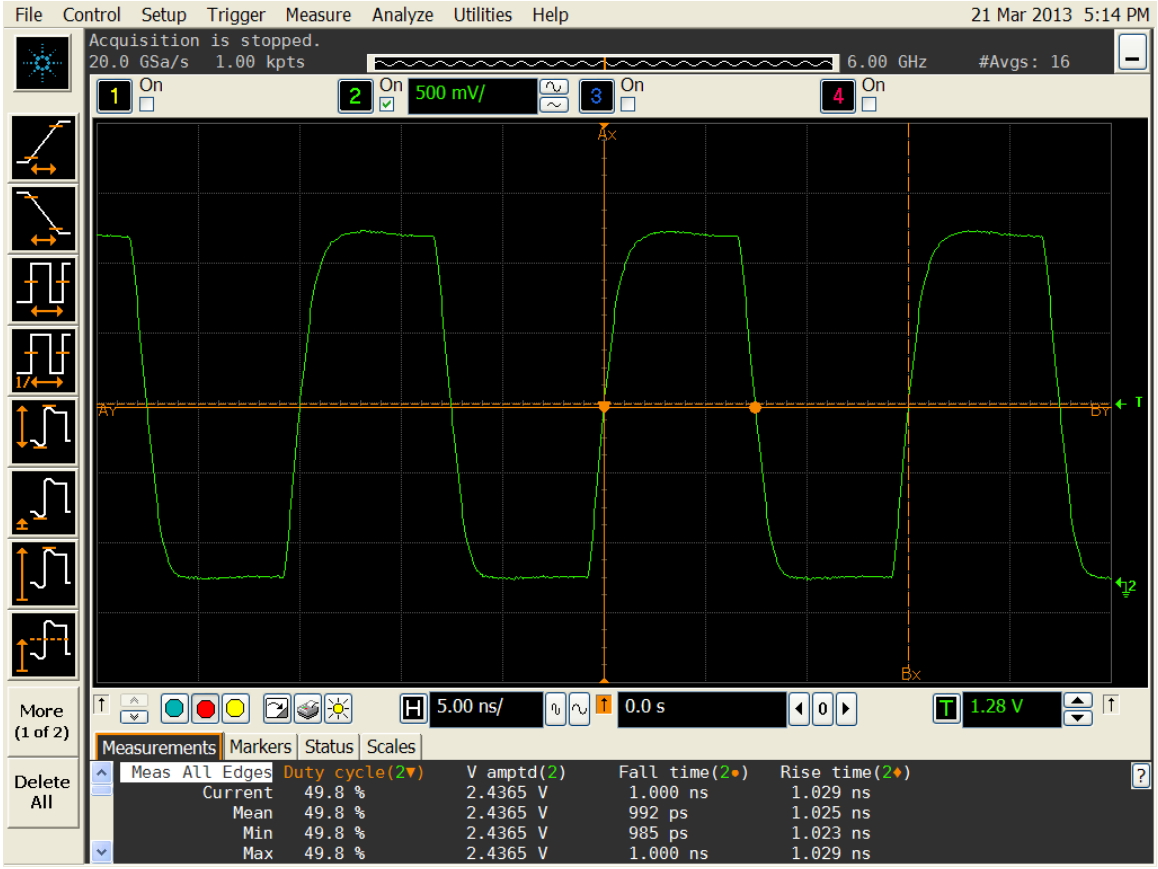

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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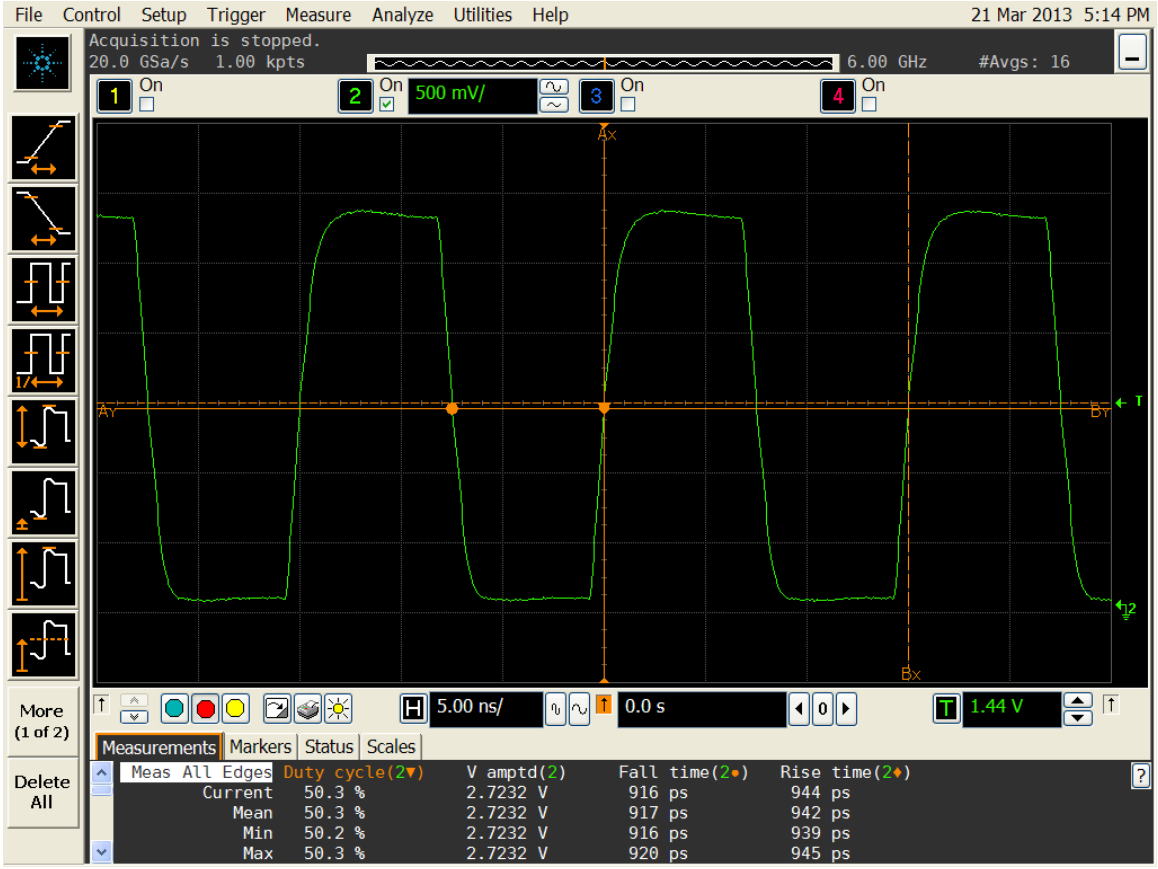

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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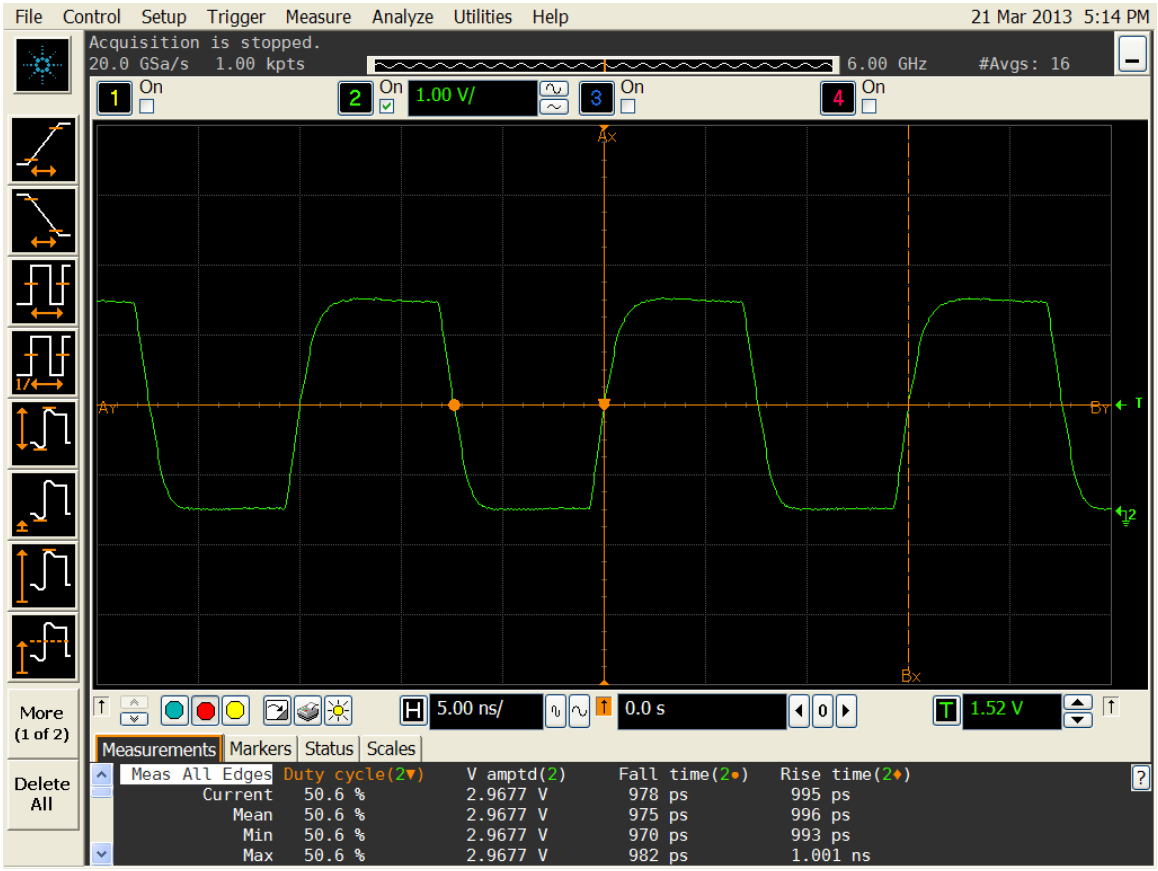

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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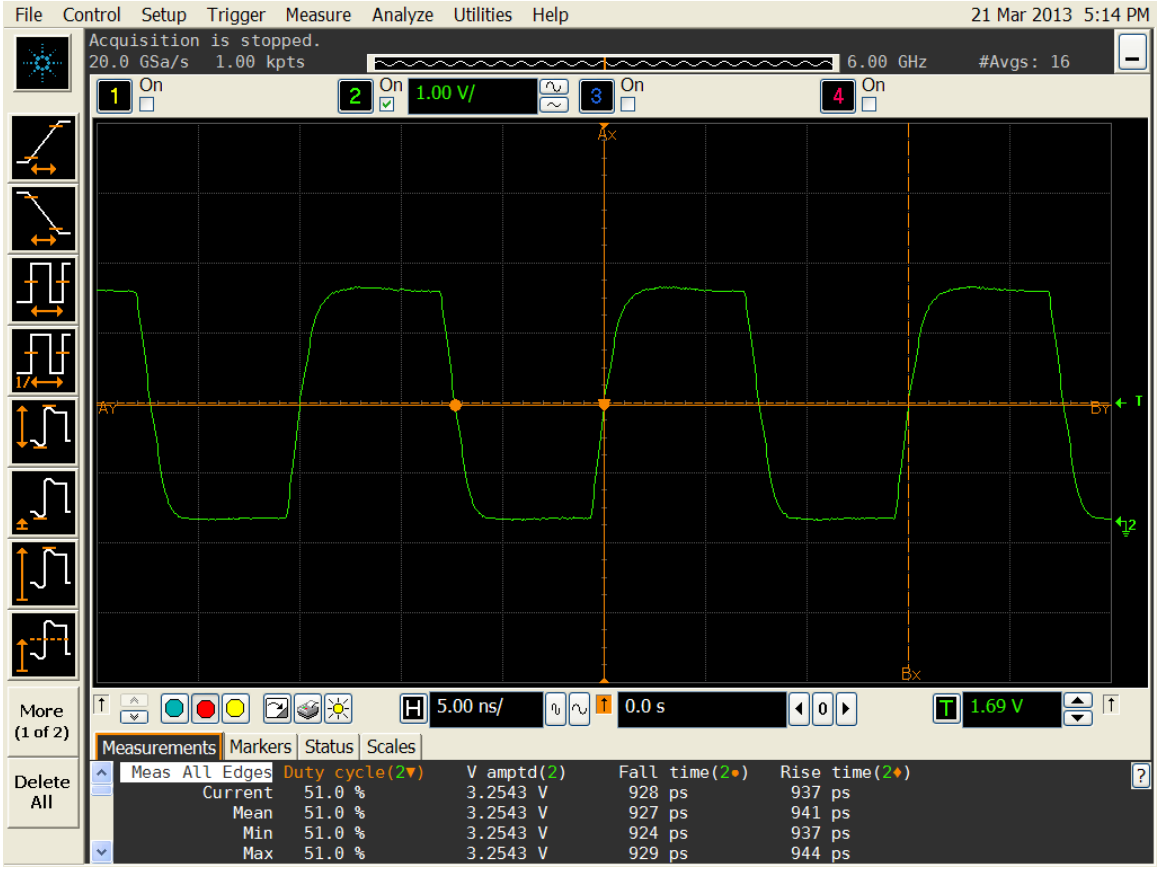

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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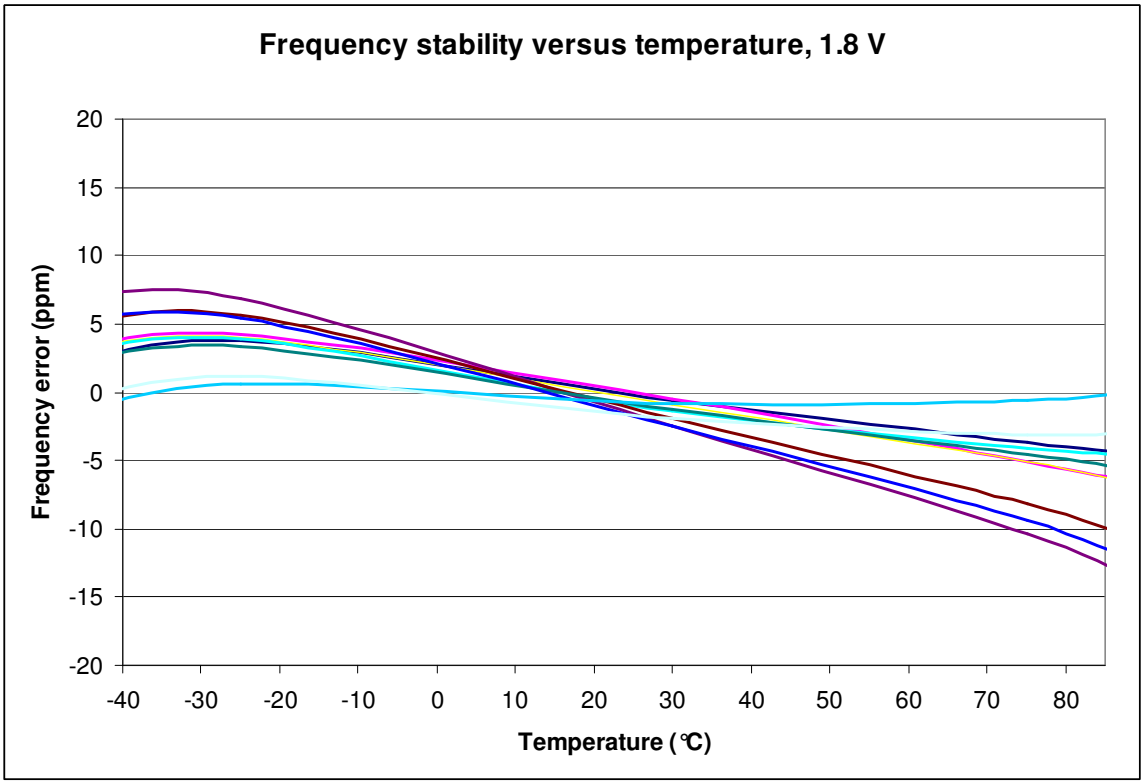

Figure 6. Frequency stability* versus temperature, 1.8 V

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

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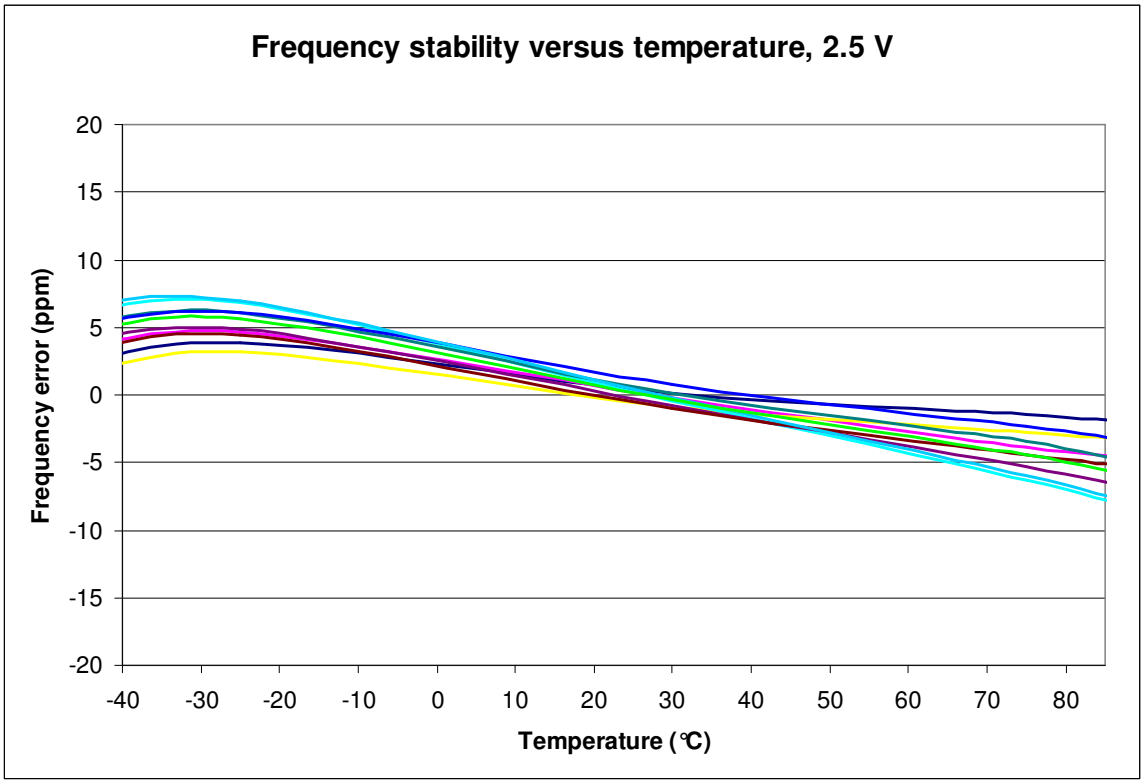

Figure 7. Frequency stability versus temperature, 2.5 V

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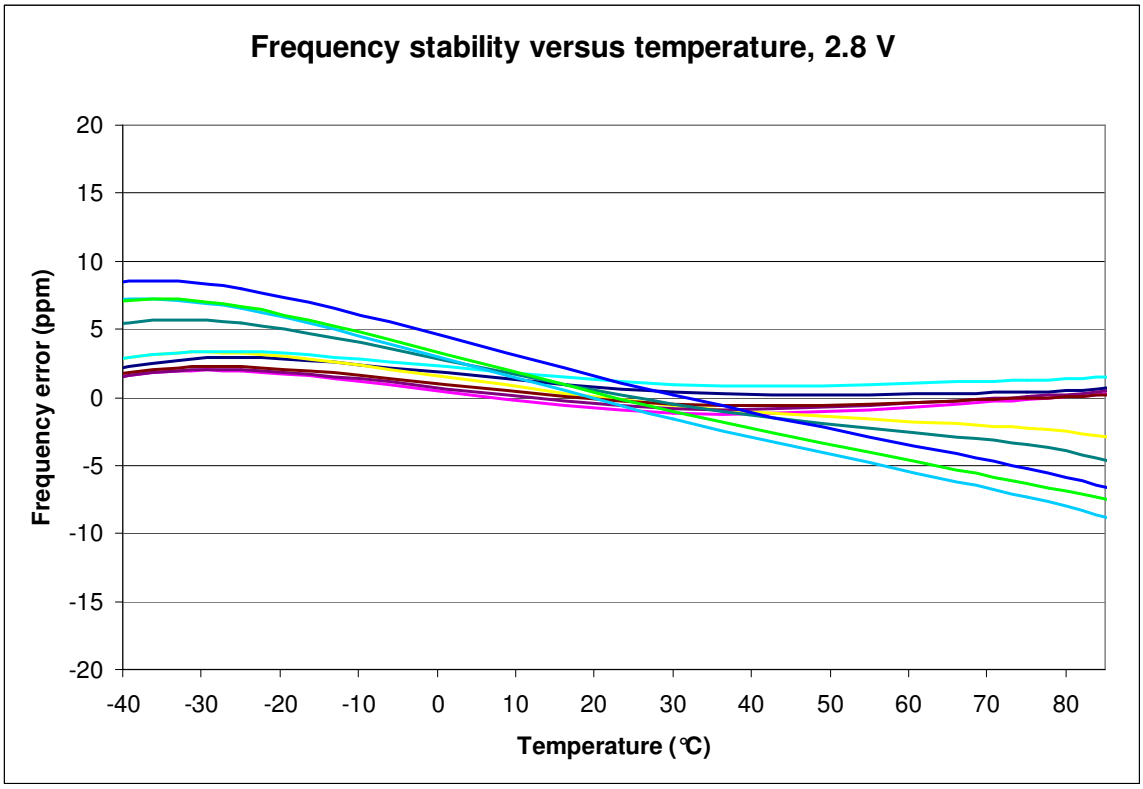

Figure 8. Frequency stability versus temperature, 2.8 V

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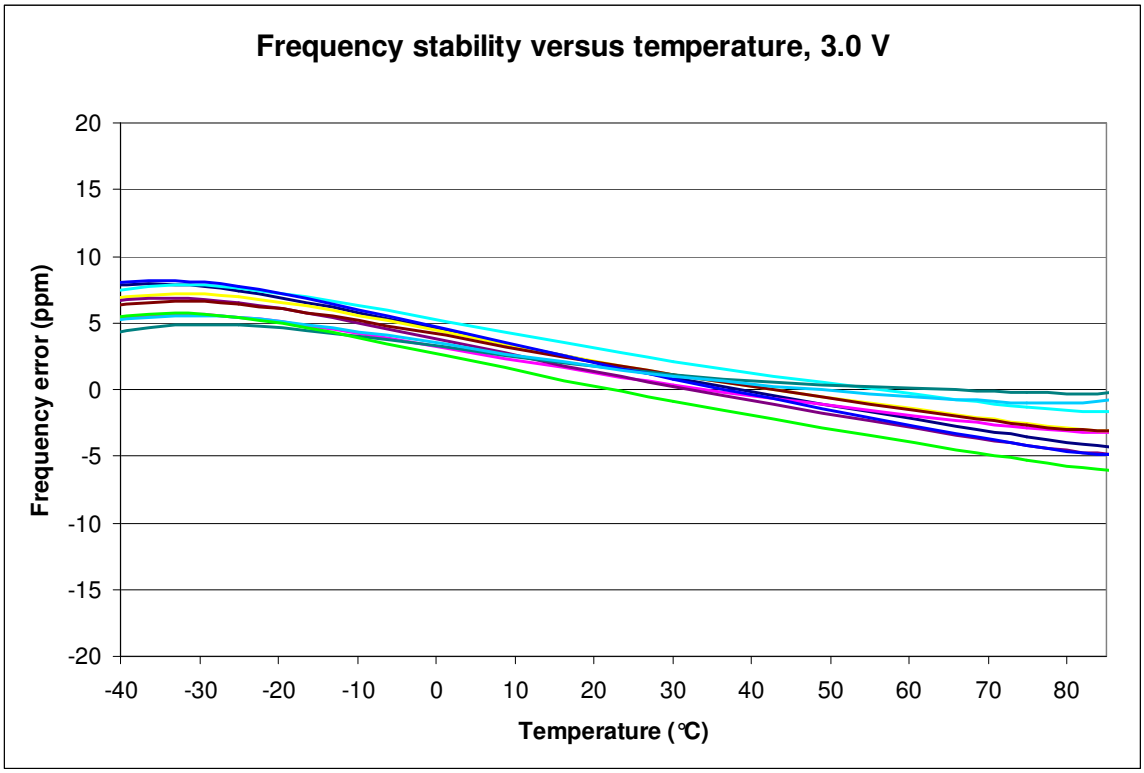

Figure 9. Frequency stability versus temperature, 3.0 V

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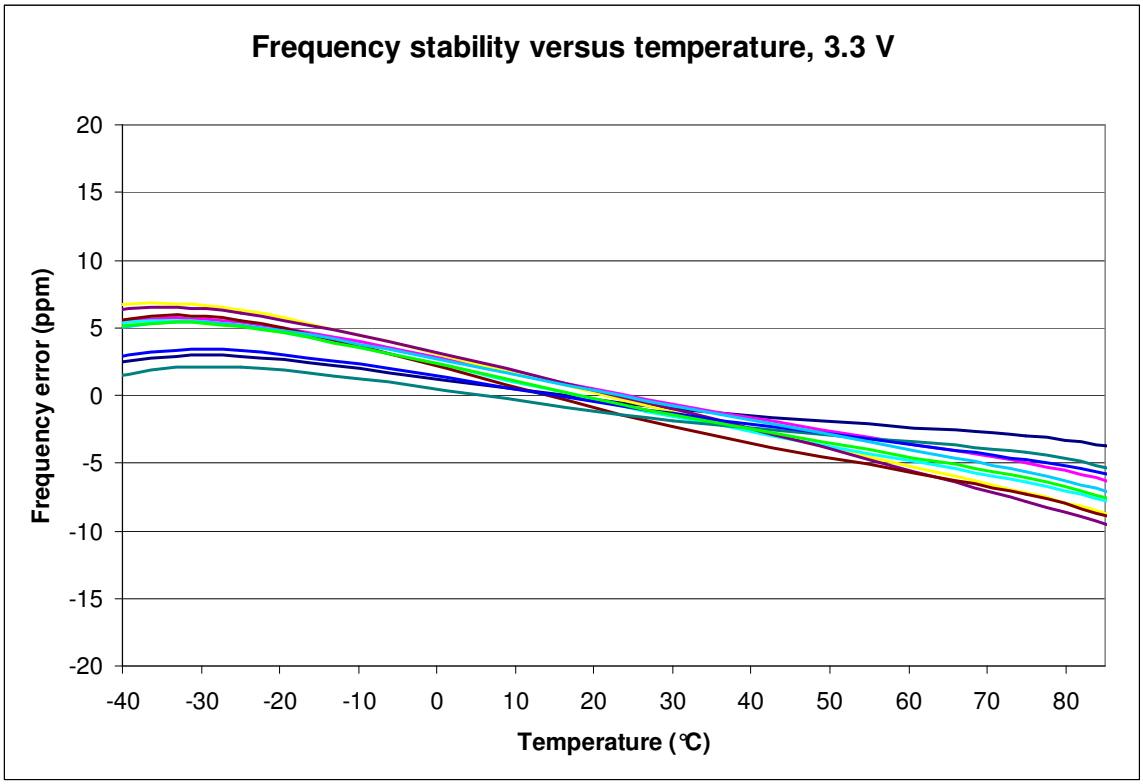

Figure 10. Frequency stability versus temperature, 3.3 V

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